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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| superior conj | 3100 May 15 23:55 | 25°♄24'13 | -0°44'21 | minimum elong | 3102 Oct 03 02:44 | 9°♁19'04 | 8°31'42 |
| minimum elong | 3100 May 16 08:38 | 25°♄51'08 | 0°43'59 | min. Earth dist. | 3102 Oct 03 17:07 | 8°♁56'51 | 0.28366 AU |
| max. Earth dist. | 3100 May 18 20:15 | 28°♄55'10 | 1.72971 AU | morning rise | 3102 Oct 06 12:05 | 7°♁14'51 | |
| | 3100 May 19 17:15 | 0°♂ | | direct | 3102 Oct 24 06:38 | 1°♁15'15 | |
| asc. node | 3100 Jun 04 10:56 | 19°♂24'12 | | greatest brilliancy | 3102 Nov 04 10:28 | 3°♁33'32 | -4.8m |
| | 3100 Jun 13 01:37 | 0°♄ | | asc. node | 3102 Nov 20 05:46 | 12°♁51'54 | |
| evening rise | 3100 Jun 22 10:38 | 11°♄31'14 | | | 3102 Dec 09 17:00 | 0°♂ | |
| | 3100 Jul 07 12:07 | 0°♂ | | morning max el | 3102 Dec 13 17:56 | 4°♂01'34 | 46°43'28 |
| | 3100 Aug 01 00:45 | 0°♄ | | | 3103 Jan 06 19:26 | 0°♄ | |
| | 3100 Aug 25 16:29 | 0°♁ | | | 3103 Feb 01 14:12 | 0°♄ | |
| | 3100 Sep 19 13:02 | 0°♂ | | | 3103 Feb 26 12:43 | 0°♁ | |
| desc. node | 3100 Sep 24 00:41 | 5°♂22'47 | | desc. node | 3103 Mar 11 19:47 | 16°♁11'28 | |
| | 3100 Oct 14 16:45 | 0°♄ | | | 3103 Mar 23 02:45 | 0°♄ | |
| | 3100 Nov 09 08:11 | 0°♄ | | | 3103 Apr 16 13:29 | 0°♄ | |
| | 3100 Dec 06 00:39 | 0°♁ | | | 3103 May 10 23:34 | 0°♄ | |
| evening max el | 3100 Dec 20 00:01 | 14°♁42'31 | 47°14'17 | | 3103 Jun 04 10:08 | 0°♂ | |
| | 3101 Jan 05 01:43 | 0°♄ | | morning set | 3103 Jun 17 19:48 | 16°♂26'30 | |
| asc. node | 3101 Jan 15 03:36 | 8°♄05'46 | | | 3103 Jun 28 20:57 | 0°♄ | |
| greatest brilliancy | 3101 Jan 29 17:46 | 16°♄21'19 | -4.9m | asc. node | 3103 Jul 02 22:47 | 5°♄00'14 | |
| retrograde | 3101 Feb 08 21:32 | 18°♄20'14 | | | 3103 Jul 23 07:07 | 0°♂ | |
| evening set | 3101 Feb 26 06:52 | 12°♄28'05 | | max. Earth dist. | 3103 Jul 23 09:48 | 0°♂08'13 | 1.73533 AU |
| min. Earth dist. | 3101 Feb 28 23:39 | 10°♄48'52 | 0.27244 AU | | | | |
| inferior conj | 3101 Mar 01 16:38 | 10°♄22'27 | 8°39'11 | superior conj | 3103 Jul 24 13:31 | 1°♂33'27 | 0°48'29 |
| minimum elong | 3101 Mar 01 11:12 | 10°♄30'54 | 8°38'45 | minimum elong | 3103 Jul 24 05:13 | 1°♂07'57 | 0°48'09 |
| morning rise | 3101 Mar 04 15:43 | 8°♄33'08 | | | 3103 Aug 16 15:58 | 0°♄ | |
| direct | 3101 Mar 22 06:14 | 2°♄34'37 | | evening rise | 3103 Aug 29 10:51 | 15°♄46'02 | |
| greatest brilliancy | 3101 Mar 31 09:15 | 4°♄08'16 | -4.8m | | 3103 Sep 09 23:47 | 0°♁ | |
| desc. node | 3101 May 06 17:19 | 29°♄55'15 | | | 3103 Oct 04 07:33 | 0°♂ | |
| | 3101 May 06 19:19 | 0°♄ | | desc. node | 3103 Oct 22 12:34 | 22°♂25'34 | |
| morning max el | 3101 May 10 20:09 | 3°♄52'58 | 46°15'31 | | 3103 Oct 28 16:17 | 0°♄ | |
| | 3101 Jun 04 22:52 | 0°♄ | | | 3103 Nov 22 02:44 | 0°♄ | |
| | 3101 Jul 01 18:05 | 0°♂ | | | 3103 Dec 16 16:28 | 0°♁ | |
| | 3101 Jul 27 14:17 | 0°♄ | | | 3104 Jan 10 14:11 | 0°♄ | |
| | 3101 Aug 21 20:11 | 0°♂ | | | 3104 Feb 05 07:51 | 0°♄ | |
| asc. node | 3101 Aug 27 20:28 | 7°♂13'51 | | asc. node | 3104 Feb 12 15:27 | 8°♄11'45 | |
| | 3101 Sep 15 14:47 | 0°♄ | | evening max el | 3104 Mar 02 00:29 | 27°♄43'08 | 46°45'42 |
| | 3101 Oct 10 00:18 | 0°♁ | | | 3104 Mar 04 07:16 | 0°♄ | |
| | 3101 Nov 03 03:22 | 0°♂ | | greatest brilliancy | 3104 Apr 10 14:13 | 28°♄07'05 | -4.8m |
| morning set | 3101 Nov 04 15:57 | 1°♂54'11 | | | 3104 Apr 17 17:36 | 0°♂ | |
| | 3101 Nov 27 02:37 | 0°♄ | | retrograde | 3104 Apr 21 07:28 | 0°♂15'06 | |
| max. Earth dist. | 3101 Dec 12 12:51 | 19°♄21'50 | 1.71289 AU | | 3104 Apr 24 19:43 | 30°♄ | |
| | | | | evening set | 3104 May 07 09:13 | 25°♄10'21 | |
| superior conj | 3101 Dec 14 00:25 | 21°♄13'32 | 0°08'12 | inferior conj | 3104 May 12 12:13 | 22°♄02'06 | 4°56'15 |
| minimum elong | 3101 Dec 14 02:31 | 21°♄20'10 | 0°08'06 | minimum elong | 3104 May 12 21:28 | 21°♄47'35 | 4°53'56 |
| behind sun begin | 3101 Dec 13 03:54 | 20°♄09'06 | | min. Earth dist. | 3104 May 12 10:24 | 22°♄04'58 | 0.28391 AU |
| behind sun end | 3101 Dec 15 01:08 | 22°♄31'13 | | morning rise | 3104 May 18 10:11 | 18°♄28'16 | |
| desc. node | 3101 Dec 17 10:11 | 25°♄30'26 | | direct | 3104 Jun 02 18:17 | 13°♄54'28 | |
| | 3101 Dec 20 23:59 | 0°♄ | | desc. node | 3104 Jun 03 05:02 | 13°♄54'42 | |
| | 3102 Jan 13 20:43 | 0°♁ | | greatest brilliancy | 3104 Jun 12 14:49 | 15°♄41'10 | -4.7m |
| evening rise | 3102 Jan 24 02:48 | 12°♁53'14 | | | 3104 Jul 06 00:57 | 0°♂ | |
| | 3102 Feb 06 17:57 | 0°♄ | | morning max el | 3104 Jul 21 14:16 | 13°♂49'08 | 45°43'49 |
| | 3102 Mar 02 17:27 | 0°♄ | | | 3104 Aug 06 17:55 | 0°♄ | |
| | 3102 Mar 26 21:47 | 0°♄ | | | 3104 Sep 03 05:31 | 0°♂ | |
| asc. node | 3102 Apr 09 13:18 | 16°♄45'38 | | asc. node | 3104 Sep 24 08:24 | 24°♂22'44 | |
| | 3102 Apr 20 10:07 | 0°♂ | | | 3104 Sep 29 02:52 | 0°♄ | |
| | 3102 May 15 10:20 | 0°♄ | | | 3104 Oct 24 02:21 | 0°♁ | |
| | 3102 Jun 10 05:09 | 0°♂ | | | 3104 Nov 17 12:18 | 0°♂ | |
| | 3102 Jul 07 10:51 | 0°♄ | | | 3104 Dec 11 14:31 | 0°♄ | |
| evening max el | 3102 Jul 25 00:55 | 17°♄44'59 | 45°30'38 | | 3105 Jan 04 12:53 | 0°♄ | |
| desc. node | 3102 Jul 30 02:53 | 22°♄30'08 | | desc. node | 3105 Jan 13 22:05 | 11°♄47'31 | |
| | 3102 Aug 07 16:46 | 0°♁ | | morning set | 3105 Jan 18 10:52 | 17°♄29'23 | |
| greatest brilliancy | 3102 Sep 02 04:35 | 15°♁46'09 | -4.7m | | 3105 Jan 28 09:42 | 0°♁ | |
| retrograde | 3102 Sep 11 17:51 | 17°♁25'02 | | | 3105 Feb 21 06:30 | 0°♄ | |
| evening set | 3102 Sep 29 17:09 | 11°♁23'36 | | | | | |
| inferior conj | 3102 Oct 02 22:36 | 9°♁25'27 | -8°31'56 | superior conj | 3105 Mar 01 00:24 | 9°♄43'17 | -1°22'57 |

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|---------------------|-------------------|---------------------------|------------|---------------------|-------------------|-----------------------|------------|
| minimum elong | 3105 Feb 28 17:49 | 9° H 22'40 | 1°22'52 | greatest brilliancy | 3107 Aug 23 09:14 | 23° G 11'03 | -4.7m |
| max. Earth dist. | 3105 Mar 04 08:59 | 13° H 56'00 | 1.71442 AU | | 3107 Sep 05 11:05 | 0° Q | |
| | 3105 Mar 17 04:48 | 0° Y | | morning max el | 3107 Oct 01 01:11 | 21° Q 26'37 | 45°58'19 |
| evening rise | 3105 Apr 10 08:24 | 0° B 06'55 | | | 3107 Oct 09 14:42 | 0° M | |
| | 3105 Apr 10 06:11 | 0° B | | asc. node | 3107 Oct 22 20:05 | 14° M 01'45 | |
| | 3105 May 04 11:59 | 0° II | | | 3107 Nov 06 02:41 | 0° Q | |
| asc. node | 3105 May 07 01:08 | 3° II 08'17 | | | 3107 Dec 01 16:10 | 0° M | |
| | 3105 May 28 23:10 | 0° G | | | 3107 Dec 26 08:35 | 0° X | |
| | 3105 Jun 22 16:49 | 0° Q | | | 3108 Jan 19 15:00 | 0° Z | |
| | 3105 Jul 17 19:13 | 0° M | | desc. node | 3108 Feb 11 09:58 | 28° Z 23'00 | |
| | 3105 Aug 12 11:13 | 0° Q | | | 3108 Feb 12 17:04 | 0° \approx | |
| desc. node | 3105 Aug 26 14:47 | 16° Q 06'15 | | | 3108 Mar 07 17:47 | 0° H | |
| | 3105 Sep 08 03:17 | 0° M | | | 3108 Mar 31 19:01 | 0° Y | |
| evening max el | 3105 Oct 05 18:16 | 28° M 43'59 | 46°22'39 | morning set | 3108 Apr 04 23:13 | 5° Y 11'58 | |
| | 3105 Oct 07 01:44 | 0° X | | | 3108 Apr 24 22:09 | 0° B | |
| greatest brilliancy | 3105 Nov 14 21:32 | 28° X 11'56 | -4.9m | | | | |
| retrograde | 3105 Nov 24 08:56 | 29° X 51'42 | | superior conj | 3108 May 13 15:23 | 23° B 10'51 | -0°47'17 |
| evening set | 3105 Dec 08 19:54 | 25° X 46'33 | | minimum elong | 3108 May 14 00:30 | 23° B 39'02 | 0°46'54 |
| inferior conj | 3105 Dec 14 22:50 | 22° X 12'20 | -0°43'21 | max. Earth dist. | 3108 May 16 12:14 | 26° B 43'32 | 1.72923 AU |
| minimum elong | 3105 Dec 15 00:30 | 22° X 09'48 | 0°42'49 | | 3108 May 19 03:52 | 0° II | |
| min. Earth dist. | 3105 Dec 15 05:25 | 22° X 02'17 | 0.26605 AU | asc. node | 3108 Jun 03 13:00 | 18° II 57'54 | |
| asc. node | 3105 Dec 17 17:44 | 20° X 31'10 | | | 3108 Jun 12 12:13 | 0° G | |
| morning rise | 3105 Dec 21 04:44 | 18° X 33'45 | | evening rise | 3108 Jun 20 04:22 | 9° G 25'42 | |
| direct | 3106 Jan 04 11:50 | 14° X 30'50 | | | 3108 Jul 06 22:49 | 0° Q | |
| greatest brilliancy | 3106 Jan 14 21:24 | 16° X 33'38 | -4.9m | | 3108 Jul 31 11:43 | 0° M | |
| | 3106 Feb 05 02:08 | 0° Z | | | 3108 Aug 25 03:52 | 0° Q | |
| morning max el | 3106 Feb 24 00:50 | 17° Z 36'19 | 46°55'33 | | 3108 Sep 19 01:04 | 0° M | |
| | 3106 Mar 07 22:05 | 0° \approx | | desc. node | 3108 Sep 23 02:40 | 4° M 52'15 | |
| | 3106 Apr 03 18:59 | 0° H | | | 3108 Oct 14 05:49 | 0° X | |
| desc. node | 3106 Apr 08 07:40 | 5° H 13'18 | | | 3108 Nov 08 23:02 | 0° Z | |
| | 3106 Apr 29 11:32 | 0° Y | | | 3108 Dec 05 19:23 | 0° \approx | |
| | 3106 May 24 16:26 | 0° B | | evening max el | 3108 Dec 17 13:44 | 12° \approx 18'43 | 47°13'48 |
| | 3106 Jun 18 15:39 | 0° II | | | 3109 Jan 05 11:01 | 0° H | |
| | 3106 Jul 13 10:52 | 0° G | | asc. node | 3109 Jan 14 05:41 | 6° H 45'52 | |
| asc. node | 3106 Jul 30 10:41 | 20° G 40'48 | | greatest brilliancy | 3109 Jan 27 07:20 | 13° H 56'17 | -4.9m |
| | 3106 Aug 07 01:49 | 0° Q | | retrograde | 3109 Feb 06 11:35 | 15° H 55'50 | |
| morning set | 3106 Aug 24 17:08 | 21° Q 38'25 | | evening set | 3109 Feb 23 16:50 | 10° H 09'00 | |
| | 3106 Aug 31 12:01 | 0° M | | min. Earth dist. | 3109 Feb 26 12:33 | 8° H 25'41 | 0.27199 AU |
| | 3106 Sep 24 17:58 | 0° Q | | inferior conj | 3109 Feb 27 06:03 | 7° H 58'33 | 8°33'00 |
| max. Earth dist. | 3106 Sep 27 00:44 | 2° Q 49'57 | 1.72610 AU | minimum elong | 3109 Feb 26 23:50 | 8° H 08'11 | 8°32'24 |
| | | | | morning rise | 3109 Mar 02 07:01 | 6° H 06'41 | |
| superior conj | 3106 Sep 30 07:10 | 6° Q 53'27 | 1°23'51 | direct | 3109 Mar 19 19:06 | 0° H 11'14 | |
| minimum elong | 3106 Sep 30 10:21 | 7° Q 03'23 | 1°23'50 | greatest brilliancy | 3109 Mar 28 22:10 | 1° H 45'15 | -4.9m |
| | 3106 Oct 18 20:59 | 0° M | | desc. node | 3109 May 05 19:19 | 29° H 01'54 | |
| evening rise | 3106 Nov 07 06:47 | 24° M 11'41 | | | 3109 May 06 19:28 | 0° Y | |
| | 3106 Nov 11 22:28 | 0° X | | morning max el | 3109 May 08 10:49 | 1° Y 35'38 | 46°17'09 |
| desc. node | 3106 Nov 19 00:27 | 8° X 50'19 | | | 3109 Jun 04 15:11 | 0° B | |
| | 3106 Dec 05 23:20 | 0° Z | | | 3109 Jul 01 07:38 | 0° II | |
| | 3106 Dec 30 00:19 | 0° \approx | | | 3109 Jul 27 02:27 | 0° G | |
| | 3107 Jan 23 03:04 | 0° H | | | 3109 Aug 21 07:36 | 0° Q | |
| | 3107 Feb 16 11:00 | 0° Y | | asc. node | 3109 Aug 26 22:29 | 6° Q 45'53 | |
| asc. node | 3107 Mar 12 03:21 | 28° Y 40'14 | | | 3109 Sep 15 01:48 | 0° M | |
| | 3107 Mar 13 06:05 | 0° B | | | 3109 Oct 09 11:07 | 0° Q | |
| | 3107 Apr 07 22:44 | 0° II | | morning set | 3109 Nov 02 06:43 | 29° Q 36'55 | |
| | 3107 May 05 13:09 | 0° G | | | 3109 Nov 02 14:07 | 0° M | |
| evening max el | 3107 May 12 22:11 | 7° G 22'19 | 45°43'43 | | 3109 Nov 26 13:22 | 0° X | |
| | 3107 Jun 09 01:43 | 0° Q | | max. Earth dist. | 3109 Dec 10 00:21 | 16° X 53'19 | 1.71314 AU |
| greatest brilliancy | 3107 Jun 19 22:42 | 5° Q 37'39 | -4.7m | | | | |
| retrograde | 3107 Jun 30 21:04 | 7° Q 47'30 | | superior conj | 3109 Dec 11 11:57 | 18° X 45'08 | 0°12'02 |
| desc. node | 3107 Jul 01 17:07 | 7° Q 46'41 | | minimum elong | 3109 Dec 11 15:01 | 18° X 54'45 | 0°11'53 |
| evening set | 3107 Jul 16 08:31 | 3° Q 12'08 | | behind sun begin | 3109 Dec 10 21:14 | 17° X 58'53 | |
| | 3107 Jul 21 16:52 | 30° R G | | behind sun end | 3109 Dec 12 08:48 | 19° X 50'38 | |
| inferior conj | 3107 Jul 22 10:05 | 29° G 33'00 | -4°38'15 | desc. node | 3109 Dec 16 12:20 | 25° X 03'18 | |
| minimum elong | 3107 Jul 22 01:16 | 29° G 46'51 | 4°36'03 | | 3109 Dec 20 10:47 | 0° Z | |
| min. Earth dist. | 3107 Jul 22 05:16 | 29° G 40'33 | 0.29020 AU | | 3110 Jan 13 07:34 | 0° \approx | |
| morning rise | 3107 Jul 27 17:58 | 26° G 18'13 | | evening rise | 3110 Jan 21 13:28 | 10° \approx 21'51 | |
| direct | 3107 Aug 13 00:35 | 21° G 16'00 | | | 3110 Feb 06 04:52 | 0° H | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3110 Mar 02 04:28 | 0°♿ | | asc. node | 3112 Sep 23 10:20 | 23°♊51'11 | |
| | 3110 Mar 26 09:01 | 0°♄ | | | 3112 Sep 28 15:20 | 0°♎ | |
| asc. node | 3110 Apr 08 15:15 | 16°♄16'35 | | | 3112 Oct 23 14:04 | 0°♈ | |
| | 3110 Apr 19 21:46 | 0°♂ | | | 3112 Nov 16 23:40 | 0°♍ | |
| | 3110 May 14 22:45 | 0°♌ | | | 3112 Dec 11 01:42 | 0°♈ | |
| | 3110 Jun 09 19:06 | 0°♎ | | | 3113 Jan 03 23:58 | 0°♄ | |
| | 3110 Jul 07 04:25 | 0°♎ | | desc. node | 3113 Jan 13 00:05 | 11°♄19'01 | |
| evening max el | 3110 Jul 22 16:50 | 15°♎34'50 | 45°29'54 | morning set | 3113 Jan 15 20:43 | 14°♄54'44 | |
| desc. node | 3110 Jul 29 04:59 | 21°♎37'31 | | | 3113 Jan 27 20:44 | 0°♌ | |
| | 3110 Aug 08 01:01 | 0°♈ | | | 3113 Feb 20 17:29 | 0°♋ | |
| greatest brilliancy | 3110 Aug 30 17:25 | 13°♈31'19 | -4.7m | | | | |
| retrograde | 3110 Sep 09 08:35 | 15°♈11'21 | | superior conj | 3113 Feb 26 11:09 | 7°♋12'04 | -1°21'45 |
| evening set | 3110 Sep 27 08:49 | 9°♈08'18 | | minimum elong | 3113 Feb 26 03:40 | 6°♋48'35 | 1°21'38 |
| inferior conj | 3110 Sep 30 13:35 | 7°♈10'53 | -8°35'23 | max. Earth dist. | 3113 Mar 01 16:48 | 11°♋15'38 | 1.71397 AU |
| minimum elong | 3110 Sep 30 16:56 | 7°♈05'42 | 8°35'12 | | 3113 Mar 16 15:44 | 0°♿ | |
| min. Earth dist. | 3110 Oct 01 06:53 | 6°♈44'07 | 0.28423 AU | evening rise | 3113 Apr 07 21:03 | 27°♿43'06 | |
| morning rise | 3110 Oct 04 00:51 | 5°♈03'25 | | | 3113 Apr 09 17:05 | 0°♄ | |
| | 3110 Oct 14 22:23 | 30°♋♎ | | | 3113 May 03 22:56 | 0°♂ | |
| direct | 3110 Oct 21 22:49 | 29°♎00'08 | | asc. node | 3113 May 06 03:14 | 2°♂41'01 | |
| | 3110 Oct 29 04:11 | 0°♈ | | | 3113 May 28 10:19 | 0°♌ | |
| greatest brilliancy | 3110 Nov 02 00:46 | 1°♈16'42 | -4.8m | | 3113 Jun 22 04:22 | 0°♎ | |
| asc. node | 3110 Nov 19 07:55 | 11°♈41'39 | | | 3113 Jul 17 07:31 | 0°♎ | |
| | 3110 Dec 09 15:59 | 0°♍ | | | 3113 Aug 12 00:56 | 0°♈ | |
| morning max el | 3110 Dec 11 09:25 | 1°♍44'08 | 46°42'07 | desc. node | 3113 Aug 25 16:42 | 15°♈29'44 | |
| | 3111 Jan 06 11:38 | 0°♈ | | | 3113 Sep 07 19:54 | 0°♍ | |
| | 3111 Feb 01 04:00 | 0°♄ | | evening max el | 3113 Oct 03 06:49 | 26°♍20'45 | 46°20'16 |
| | 3111 Feb 26 01:19 | 0°♌ | | | 3113 Oct 07 02:30 | 0°♈ | |
| desc. node | 3111 Mar 10 21:45 | 15°♌40'26 | | greatest brilliancy | 3113 Nov 12 11:23 | 25°♈47'05 | -4.9m |
| | 3111 Mar 22 14:36 | 0°♋ | | retrograde | 3113 Nov 21 20:30 | 27°♈25'10 | |
| | 3111 Apr 16 00:50 | 0°♿ | | evening set | 3113 Dec 06 09:41 | 23°♈18'04 | |
| | 3111 May 10 10:34 | 0°♄ | | inferior conj | 3113 Dec 12 11:23 | 19°♈45'51 | -1°07'31 |
| | 3111 Jun 03 20:54 | 0°♂ | | minimum elong | 3113 Dec 12 13:58 | 19°♈41'54 | 1°06'40 |
| morning set | 3111 Jun 15 13:22 | 14°♂20'21 | | min. Earth dist. | 3113 Dec 12 19:54 | 19°♈32'50 | 0.26639 AU |
| | 3111 Jun 28 07:36 | 0°♌ | | asc. node | 3113 Dec 16 19:49 | 17°♈09'45 | |
| asc. node | 3111 Jul 02 00:54 | 4°♌34'08 | | morning rise | 3113 Dec 18 17:42 | 16°♈06'19 | |
| max. Earth dist. | 3111 Jul 21 07:52 | 28°♌15'59 | 1.73538 AU | direct | 3114 Jan 02 00:12 | 12°♈03'21 | |
| | | | | greatest brilliancy | 3114 Jan 12 12:42 | 14°♈08'29 | -4.9m |
| superior conj | 3111 Jul 22 07:45 | 29°♌29'24 | 0°45'51 | | 3114 Feb 05 12:37 | 0°♄ | |
| minimum elong | 3111 Jul 21 23:42 | 29°♌04'41 | 0°45'31 | morning max el | 3114 Feb 21 13:30 | 15°♄08'49 | 46°56'10 |
| | 3111 Jul 22 17:42 | 0°♎ | | | 3114 Mar 07 17:14 | 0°♌ | |
| | 3111 Aug 16 02:34 | 0°♎ | | | 3114 Apr 03 10:07 | 0°♋ | |
| evening rise | 3111 Aug 27 04:59 | 13°♎41'02 | | desc. node | 3114 Apr 07 09:37 | 4°♋36'15 | |
| | 3111 Sep 09 10:32 | 0°♈ | | | 3114 Apr 29 00:51 | 0°♿ | |
| | 3111 Oct 03 18:35 | 0°♍ | | | 3114 May 24 04:41 | 0°♄ | |
| desc. node | 3111 Oct 21 14:33 | 21°♍56'50 | | | 3114 Jun 18 03:14 | 0°♂ | |
| | 3111 Oct 28 03:44 | 0°♈ | | | 3114 Jul 12 22:01 | 0°♌ | |
| | 3111 Nov 21 14:43 | 0°♄ | | asc. node | 3114 Jul 29 12:39 | 20°♌13'21 | |
| | 3111 Dec 16 05:10 | 0°♌ | | | 3114 Aug 06 12:42 | 0°♎ | |
| | 3112 Jan 10 04:01 | 0°♋ | | morning set | 3114 Aug 22 10:49 | 19°♎31'52 | |
| | 3112 Feb 04 24:00 | 0°♿ | | | 3114 Aug 30 22:49 | 0°♎ | |
| asc. node | 3112 Feb 11 17:30 | 7°♿29'57 | | | 3114 Sep 24 04:48 | 0°♈ | |
| evening max el | 3112 Feb 28 16:04 | 25°♿26'57 | 46°47'49 | max. Earth dist. | 3114 Sep 24 18:39 | 0°♈42'59 | 1.72661 AU |
| | 3112 Mar 04 06:13 | 0°♄ | | | | | |
| greatest brilliancy | 3112 Apr 08 07:11 | 25°♄54'52 | -4.8m | superior conj | 3114 Sep 28 00:05 | 4°♈43'18 | 1°24'21 |
| retrograde | 3112 Apr 18 23:24 | 28°♄01'43 | | minimum elong | 3114 Sep 28 02:33 | 4°♈50'59 | 1°24'19 |
| evening set | 3112 May 05 03:46 | 22°♄53'35 | | | 3114 Oct 18 07:55 | 0°♍ | |
| inferior conj | 3112 May 10 03:55 | 19°♄49'08 | 5°13'30 | evening rise | 3114 Nov 04 20:42 | 21°♍51'02 | |
| minimum elong | 3112 May 10 13:27 | 19°♄34'08 | 5°11'10 | | 3114 Nov 11 09:33 | 0°♈ | |
| min. Earth dist. | 3112 May 10 01:57 | 19°♄52'14 | 0.28361 AU | desc. node | 3114 Nov 18 02:34 | 8°♈22'09 | |
| morning rise | 3112 May 15 23:38 | 16°♄18'11 | | | 3114 Dec 05 10:36 | 0°♄ | |
| direct | 3112 May 31 09:51 | 11°♄42'12 | | | 3114 Dec 29 11:51 | 0°♌ | |
| desc. node | 3112 Jun 02 07:11 | 11°♄46'21 | | | 3115 Jan 22 14:57 | 0°♋ | |
| greatest brilliancy | 3112 Jun 10 05:00 | 13°♄27'40 | -4.7m | | 3115 Feb 15 23:24 | 0°♿ | |
| | 3112 Jul 06 08:08 | 0°♂ | | asc. node | 3115 Mar 11 05:19 | 28°♿06'38 | |
| morning max el | 3112 Jul 19 05:26 | 11°♂37'20 | 45°44'03 | | 3115 Mar 12 19:22 | 0°♄ | |
| | 3112 Aug 06 11:27 | 0°♌ | | | 3115 Apr 07 13:48 | 0°♂ | |
| | 3112 Sep 02 19:31 | 0°♎ | | | 3115 May 05 09:02 | 0°♌ | |

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| evening max el | 3115 May 10 13:17 | 5°08'32 | 45°45'32 | morning set | 3117 Oct 30 21:43 | 27°19'27 | |
| | 3115 Jun 10 07:51 | 0°0 | | | 3117 Nov 02 01:11 | 0°11 | |
| greatest brilliancy | 3115 Jun 17 14:23 | 3°02'55 | -4.7m | | 3117 Nov 26 00:28 | 0°17 | |
| retrograde | 3115 Jun 28 13:51 | 5°03'09 | | max. Earth dist. | 3117 Dec 07 09:30 | 14°16'21 | 1.71346 AU |
| desc. node | 3115 Jun 30 19:07 | 5°03'18 | | | | | |
| evening set | 3115 Jul 13 23:20 | 1°05'32 | | superior conj | 3117 Dec 08 23:33 | 16°15'47 | 0°15'50 |
| | 3115 Jul 15 21:11 | 30°08 | | minimum elong | 3117 Dec 09 03:31 | 16°18'16 | 0°15'38 |
| inferior conj | 3115 Jul 20 02:36 | 27°02'42 | -4°21'26 | behind sun begin | 3117 Dec 08 20:21 | 16°18'05'45 | |
| minimum elong | 3115 Jul 19 18:07 | 27°03'37'38 | 4°19'17 | behind sun end | 3117 Dec 09 10:42 | 16°18'50'46 | |
| min. Earth dist. | 3115 Jul 19 21:38 | 27°03'32'08 | 0.29009 AU | desc. node | 3117 Dec 15 14:22 | 24°18'34'32 | |
| morning rise | 3115 Jul 25 12:51 | 24°06'23 | | | 3117 Dec 19 21:59 | 0°0 | |
| direct | 3115 Aug 10 16:33 | 19°07'18 | | | 3118 Jan 12 18:51 | 0°0 | |
| greatest brilliancy | 3115 Aug 21 01:38 | 21°02'44 | -4.7m | evening rise | 3118 Jan 18 23:44 | 7°04'49 | |
| | 3115 Sep 06 06:12 | 0°0 | | | 3118 Feb 05 16:13 | 0°0 | |
| morning max el | 3115 Sep 28 17:13 | 19°01'54'0 | 45°57'05 | | 3118 Mar 01 15:56 | 0°0 | |
| | 3115 Oct 09 09:47 | 0°0 | | | 3118 Mar 25 20:42 | 0°0 | |
| asc. node | 3115 Oct 21 22:14 | 13°02'22'27 | | asc. node | 3118 Apr 07 17:23 | 15°04'46'50 | |
| | 3115 Nov 05 17:30 | 0°0 | | | 3118 Apr 19 09:52 | 0°0 | |
| | 3115 Dec 01 05:20 | 0°0 | | | 3118 May 14 11:40 | 0°0 | |
| | 3115 Dec 25 20:56 | 0°0 | | | 3118 Jun 09 09:38 | 0°0 | |
| | 3116 Jan 19 02:53 | 0°0 | | | 3118 Jul 06 22:53 | 0°0 | |
| desc. node | 3116 Feb 10 11:55 | 27°05'25'57 | | evening max el | 3118 Jul 20 08:33 | 13°02'22'58 | 45°29'14 |
| | 3116 Feb 12 04:38 | 0°0 | | desc. node | 3118 Jul 28 06:58 | 20°02'42'24 | |
| | 3116 Mar 07 05:08 | 0°0 | | | 3118 Aug 08 12:49 | 0°0 | |
| | 3116 Mar 31 06:13 | 0°0 | | greatest brilliancy | 3118 Aug 28 06:59 | 11°01'16'33 | -4.7m |
| morning set | 3116 Apr 02 11:52 | 2°01'47'07 | | retrograde | 3118 Sep 06 23:02 | 12°01'57'05 | |
| | 3116 Apr 24 09:13 | 0°0 | | evening set | 3118 Sep 25 00:17 | 6°01'53'13 | |
| | | | | inferior conj | 3118 Sep 28 04:42 | 4°01'56'02 | -8°37'56 |
| superior conj | 3116 May 11 06:39 | 20°08'55'41 | -0°50'09 | minimum elong | 3118 Sep 28 07:16 | 4°01'52'04 | 8°37'50 |
| minimum elong | 3116 May 11 16:08 | 21°08'25'00 | 0°49'46 | min. Earth dist. | 3118 Sep 28 21:00 | 4°01'30'44 | 0.28474 AU |
| max. Earth dist. | 3116 May 14 04:02 | 24°08'30'09 | 1.72877 AU | morning rise | 3118 Oct 01 14:04 | 2°01'51'09 | |
| | 3116 May 18 14:51 | 0°0 | | | 3118 Oct 06 18:35 | 30°08'00 | |
| asc. node | 3116 Jun 02 15:07 | 18°02'30'38 | | direct | 3118 Oct 19 14:46 | 26°02'44'52 | |
| | 3116 Jun 11 23:11 | 0°0 | | greatest brilliancy | 3118 Oct 30 15:17 | 28°02'59'43 | -4.8m |
| evening rise | 3116 Jun 17 22:04 | 7°01'18'57 | | | 3118 Nov 02 00:11 | 0°0 | |
| | 3116 Jul 06 09:52 | 0°0 | | asc. node | 3118 Nov 18 09:58 | 10°01'32'38 | |
| | 3116 Jul 30 22:59 | 0°0 | | morning max el | 3118 Dec 08 23:52 | 29°01'23'27 | 46°40'36 |
| | 3116 Aug 24 15:34 | 0°0 | | | 3118 Dec 09 14:18 | 0°0 | |
| | 3116 Sep 18 13:27 | 0°0 | | | 3119 Jan 06 03:52 | 0°0 | |
| desc. node | 3116 Sep 22 04:41 | 4°02'20'46 | | | 3119 Jan 31 18:03 | 0°0 | |
| | 3116 Oct 13 19:21 | 0°0 | | | 3119 Feb 25 14:14 | 0°0 | |
| | 3116 Nov 08 14:33 | 0°0 | | desc. node | 3119 Mar 09 23:48 | 15°00'08'24 | |
| | 3116 Dec 05 15:13 | 0°0 | | | 3119 Mar 22 02:49 | 0°0 | |
| evening max el | 3116 Dec 15 04:23 | 9°00'55'51 | 47°13'10 | | 3119 Apr 15 12:33 | 0°0 | |
| | 3117 Jan 06 00:25 | 0°0 | | | 3119 May 09 21:57 | 0°0 | |
| asc. node | 3117 Jan 13 07:40 | 5°01'21'22 | | | 3119 Jun 03 08:02 | 0°0 | |
| greatest brilliancy | 3117 Jan 24 20:20 | 11°01'28'39 | -4.9m | morning set | 3119 Jun 13 06:34 | 12°01'12'02 | |
| retrograde | 3117 Feb 04 01:44 | 13°01'29'01 | | | 3119 Jun 27 18:34 | 0°0 | |
| evening set | 3117 Feb 21 02:16 | 7°01'48'02 | | asc. node | 3119 Jul 01 02:50 | 4°01'06'26 | |
| min. Earth dist. | 3117 Feb 24 00:57 | 6°01'00'30 | 0.27151 AU | max. Earth dist. | 3119 Jul 19 04:25 | 26°01'18'07 | 1.73542 AU |
| inferior conj | 3117 Feb 24 19:09 | 5°01'32'19 | 8°25'41 | | | | |
| minimum elong | 3117 Feb 24 12:12 | 5°01'43'05 | 8°24'57 | superior conj | 3119 Jul 20 01:48 | 27°01'23'50 | 0°43'08 |
| morning rise | 3117 Feb 27 22:22 | 3°01'37'25 | | minimum elong | 3119 Jul 19 18:04 | 27°01'00'04 | 0°42'49 |
| | 3117 Mar 06 21:27 | 30°08 | | | 3119 Jul 22 04:36 | 0°0 | |
| direct | 3117 Mar 17 08:09 | 27°00'45'45 | | | 3119 Aug 15 13:31 | 0°0 | |
| greatest brilliancy | 3117 Mar 26 10:22 | 29°00'19'34 | -4.9m | evening rise | 3119 Aug 24 23:08 | 11°01'35'06 | |
| | 3117 Mar 28 07:24 | 0°0 | | | 3119 Sep 08 21:37 | 0°0 | |
| desc. node | 3117 May 04 21:30 | 28°01'08'43 | | | 3119 Oct 03 05:56 | 0°0 | |
| morning max el | 3117 May 06 01:37 | 29°01'17'15 | 46°18'42 | desc. node | 3119 Oct 20 16:43 | 21°01'27'53 | |
| | 3117 May 06 19:03 | 0°0 | | | 3119 Oct 27 15:26 | 0°0 | |
| | 3117 Jun 04 07:39 | 0°0 | | | 3119 Nov 21 02:56 | 0°0 | |
| | 3117 Jun 30 21:28 | 0°0 | | | 3119 Dec 15 18:07 | 0°0 | |
| | 3117 Jul 26 14:58 | 0°0 | | | 3120 Jan 09 18:13 | 0°0 | |
| | 3117 Aug 20 19:23 | 0°0 | | | 3120 Feb 04 16:47 | 0°0 | |
| asc. node | 3117 Aug 26 00:29 | 6°01'16'48 | | asc. node | 3120 Feb 10 19:27 | 6°01'46'19 | |
| | 3117 Sep 14 13:09 | 0°0 | | evening max el | 3120 Feb 26 06:41 | 23°01'06'53 | 46°49'40 |
| | 3117 Oct 08 22:16 | 0°0 | | | 3120 Mar 04 06:47 | 0°0 | |

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|---------------------|-------------------|----------------------|------------|---------------------|-------------------|----------------------|------------|
| greatest brilliancy | 3120 Apr 06 00:18 | 23° ♁ 40'49 | -4.8m | superior conj | 3122 Sep 25 16:47 | 2° ♁ 32'44 | 1°24'42 |
| retrograde | 3120 Apr 16 14:37 | 25° ♁ 46'08 | | minimum elong | 3122 Sep 25 18:31 | 2° ♁ 38'07 | 1°24'42 |
| evening set | 3120 May 02 22:04 | 20° ♁ 34'28 | | | 3122 Oct 17 18:47 | 0° ♁ | |
| inferior conj | 3120 May 07 19:21 | 17° ♁ 34'07 | 5°30'20 | evening rise | 3122 Nov 02 10:39 | 19° ♁ 30'42 | |
| minimum elong | 3120 May 08 05:06 | 17° ♁ 18'45 | 5°28'02 | | 3122 Nov 10 20:35 | 0° ♁ | |
| min. Earth dist. | 3120 May 07 17:32 | 17° ♁ 36'59 | 0.28330 AU | desc. node | 3122 Nov 17 04:33 | 7° ♁ 53'46 | |
| morning rise | 3120 May 13 12:33 | 14° ♁ 06'19 | | | 3122 Dec 04 21:50 | 0° ♁ | |
| direct | 3120 May 29 00:35 | 9° ♁ 27'50 | | | 3122 Dec 28 23:18 | 0° ♁ | |
| desc. node | 3120 Jun 01 09:10 | 9° ♁ 40'47 | | | 3123 Jan 22 02:42 | 0° ♁ | |
| greatest brilliancy | 3120 Jun 07 19:26 | 11° ♁ 12'42 | -4.7m | | 3123 Feb 15 11:37 | 0° ♁ | |
| | 3120 Jul 06 13:39 | 0° ♁ | | asc. node | 3123 Mar 10 07:27 | 27° ♁ 34'18 | |
| morning max el | 3120 Jul 16 19:44 | 9° ♁ 22'21 | 45°44'27 | | 3123 Mar 12 08:27 | 0° ♁ | |
| | 3120 Aug 06 04:54 | 0° ♁ | | | 3123 Apr 07 04:47 | 0° ♁ | |
| | 3120 Sep 02 09:36 | 0° ♁ | | | 3123 May 05 05:17 | 0° ♁ | |
| asc. node | 3120 Sep 22 12:26 | 23° ♁ 19'33 | | evening max el | 3123 May 08 05:12 | 2° ♁ 57'24 | 45°47'13 |
| | 3120 Sep 28 03:56 | 0° ♁ | | | 3123 Jun 12 04:01 | 0° ♁ | |
| | 3120 Oct 23 01:56 | 0° ♁ | | greatest brilliancy | 3123 Jun 15 05:41 | 1° ♁ 18'02 | -4.7m |
| | 3120 Nov 16 11:09 | 0° ♁ | | retrograde | 3123 Jun 26 06:48 | 3° ♁ 30'49 | |
| | 3120 Dec 10 12:59 | 0° ♁ | | desc. node | 3123 Jun 29 21:07 | 3° ♁ 15'22 | |
| | 3121 Jan 03 11:08 | 0° ♁ | | | 3123 Jul 09 15:55 | 30° ♁ | |
| desc. node | 3121 Jan 12 02:05 | 10° ♁ 50'18 | | evening set | 3123 Jul 11 14:15 | 28° ♁ 58'53 | |
| morning set | 3121 Jan 13 07:01 | 12° ♁ 21'16 | | inferior conj | 3123 Jul 17 18:59 | 25° ♁ 15'41 | -4°04'09 |
| | 3121 Jan 27 07:48 | 0° ♁ | | minimum elong | 3123 Jul 17 10:54 | 25° ♁ 28'20 | 4°02'03 |
| | 3121 Feb 20 04:32 | 0° ♁ | | min. Earth dist. | 3123 Jul 17 13:37 | 25° ♁ 24'05 | 0.29000 AU |
| | | | | morning rise | 3123 Jul 23 07:36 | 21° ♁ 54'43 | |
| superior conj | 3121 Feb 23 22:00 | 4° ♁ 40'51 | -1°20'23 | direct | 3123 Aug 08 09:01 | 16° ♁ 58'44 | |
| minimum elong | 3121 Feb 23 13:41 | 4° ♁ 14'46 | 1°20'14 | greatest brilliancy | 3123 Aug 18 17:31 | 18° ♁ 54'06 | -4.7m |
| max. Earth dist. | 3121 Feb 26 22:21 | 8° ♁ 27'52 | 1.71361 AU | | 3123 Sep 06 20:16 | 0° ♁ | |
| | 3121 Mar 16 02:46 | 0° ♁ | | morning max el | 3123 Sep 26 09:42 | 17° ♁ 06'25 | 45°55'51 |
| evening rise | 3121 Apr 05 09:20 | 25° ♁ 17'41 | | | 3123 Oct 09 04:12 | 0° ♁ | |
| | 3121 Apr 09 04:09 | 0° ♁ | | asc. node | 3123 Oct 21 00:20 | 12° ♁ 43'56 | |
| | 3121 May 03 10:04 | 0° ♁ | | | 3123 Nov 05 07:56 | 0° ♁ | |
| asc. node | 3121 May 05 05:17 | 2° ♁ 13'01 | | | 3123 Nov 30 18:12 | 0° ♁ | |
| | 3121 May 27 21:38 | 0° ♁ | | | 3123 Dec 25 09:00 | 0° ♁ | |
| | 3121 Jun 21 16:06 | 0° ♁ | | | 3124 Jan 18 14:29 | 0° ♁ | |
| | 3121 Jul 16 20:03 | 0° ♁ | | desc. node | 3124 Feb 09 13:59 | 27° ♁ 24'00 | |
| | 3121 Aug 11 14:57 | 0° ♁ | | | 3124 Feb 11 15:57 | 0° ♁ | |
| desc. node | 3121 Aug 24 18:46 | 14° ♁ 52'55 | | | 3124 Mar 06 16:12 | 0° ♁ | |
| | 3121 Sep 07 13:00 | 0° ♁ | | | 3124 Mar 30 17:05 | 0° ♁ | |
| evening max el | 3121 Sep 30 19:09 | 23° ♁ 56'56 | 46°17'59 | morning set | 3124 Mar 31 00:50 | 0° ♁ 24'11 | |
| | 3121 Oct 07 04:44 | 0° ♁ | | | 3124 Apr 23 19:54 | 0° ♁ | |
| greatest brilliancy | 3121 Nov 10 00:47 | 23° ♁ 21'41 | -4.9m | | | | |
| retrograde | 3121 Nov 19 08:28 | 24° ♁ 58'54 | | superior conj | 3124 May 08 22:07 | 18° ♁ 42'12 | -0°52'55 |
| evening set | 3121 Dec 03 23:38 | 20° ♁ 49'15 | | minimum elong | 3124 May 09 07:55 | 19° ♁ 12'30 | 0°52'33 |
| inferior conj | 3121 Dec 09 23:53 | 17° ♁ 19'24 | -1°31'28 | max. Earth dist. | 3124 May 11 22:25 | 22° ♁ 25'47 | 1.72833 AU |
| minimum elong | 3121 Dec 10 03:22 | 17° ♁ 14'05 | 1°30'21 | | 3124 May 18 01:27 | 0° ♁ | |
| min. Earth dist. | 3121 Dec 10 10:09 | 17° ♁ 03'46 | 0.26673 AU | asc. node | 3124 Jun 01 17:03 | 18° ♁ 03'55 | |
| asc. node | 3121 Dec 15 21:45 | 13° ♁ 51'15 | | | 3124 Jun 11 09:48 | 0° ♁ | |
| morning rise | 3121 Dec 16 06:28 | 13° ♁ 39'33 | | evening rise | 3124 Jun 15 15:52 | 5° ♁ 13'36 | |
| direct | 3121 Dec 30 12:43 | 9° ♁ 35'52 | | | 3124 Jul 05 20:37 | 0° ♁ | |
| greatest brilliancy | 3122 Jan 10 03:44 | 11° ♁ 43'28 | -4.9m | | 3124 Jul 30 10:00 | 0° ♁ | |
| | 3122 Feb 05 20:10 | 0° ♁ | | | 3124 Aug 24 03:01 | 0° ♁ | |
| morning max el | 3122 Feb 19 02:58 | 12° ♁ 43'46 | 46°56'50 | | 3124 Sep 18 01:37 | 0° ♁ | |
| | 3122 Mar 07 11:42 | 0° ♁ | | desc. node | 3124 Sep 21 06:48 | 3° ♁ 50'25 | |
| | 3122 Apr 03 00:56 | 0° ♁ | | | 3124 Oct 13 08:42 | 0° ♁ | |
| desc. node | 3122 Apr 06 11:49 | 4° ♁ 00'33 | | | 3124 Nov 08 05:59 | 0° ♁ | |
| | 3122 Apr 28 13:59 | 0° ♁ | | | 3124 Dec 05 11:18 | 0° ♁ | |
| | 3122 May 23 16:51 | 0° ♁ | | evening max el | 3124 Dec 12 19:36 | 7° ♁ 35'21 | 47°12'23 |
| | 3122 Jun 17 14:46 | 0° ♁ | | | 3125 Jan 06 17:47 | 0° ♁ | |
| | 3122 Jul 12 09:08 | 0° ♁ | | asc. node | 3125 Jan 12 09:44 | 3° ♁ 54'57 | |
| asc. node | 3122 Jul 28 14:42 | 19° ♁ 46'13 | | greatest brilliancy | 3125 Jan 22 09:26 | 9° ♁ 02'02 | -4.9m |
| | 3122 Aug 05 23:34 | 0° ♁ | | retrograde | 3125 Feb 01 15:44 | 11° ♁ 02'45 | |
| morning set | 3122 Aug 20 04:12 | 17° ♁ 24'33 | | evening set | 3125 Feb 18 11:32 | 5° ♁ 28'09 | |
| | 3122 Aug 30 09:34 | 0° ♁ | | min. Earth dist. | 3125 Feb 21 13:23 | 3° ♁ 35'58 | 0.27098 AU |
| max. Earth dist. | 3122 Sep 22 13:55 | 28° ♁ 40'27 | 1.72710 AU | inferior conj | 3125 Feb 22 08:12 | 3° ♁ 06'52 | 8°17'31 |
| | 3122 Sep 23 15:34 | 0° ♁ | | minimum elong | 3125 Feb 22 00:33 | 3° ♁ 18'42 | 8°16'36 |
| | | | | morning rise | 3125 Feb 25 13:49 | 1° ♁ 08'31 | |

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|---------------------|-------------------|-----|---------------------|-------------------|-----|-------------------|
| | 3125 Feb 27 13:17 | 30° | evening rise | 3127 Aug 22 17:41 | 9° | 31'46" |
| direct | 3125 Mar 14 21:26 | 25° | | 3127 Sep 08 08:18 | 0° | |
| greatest brilliancy | 3125 Mar 23 22:25 | 26° | | 3127 Oct 02 16:56 | 0° | |
| | 3125 Mar 31 01:26 | 0° | desc. node | 3127 Oct 19 18:41 | 20° | 59'14" |
| morning max el | 3125 May 03 15:48 | 26° | | 3127 Oct 27 02:52 | 0° | |
| desc. node | 3125 May 03 23:26 | 27° | | 3127 Nov 20 14:54 | 0° | |
| | 3125 May 06 17:07 | 0° | | 3127 Dec 15 06:52 | 0° | |
| | 3125 Jun 03 23:19 | 0° | | 3128 Jan 09 08:16 | 0° | |
| | 3125 Jun 30 10:41 | 0° | | 3128 Feb 04 09:34 | 0° | |
| | 3125 Jul 26 02:58 | 0° | asc. node | 3128 Feb 09 21:35 | 6° | 03'37" |
| | 3125 Aug 20 06:43 | 0° | evening max el | 3128 Feb 23 20:17 | 20° | 45'04" 46°51'35" |
| asc. node | 3125 Aug 25 02:35 | 5° | | 3128 Mar 04 08:12 | 0° | |
| | 3125 Sep 14 00:07 | 0° | greatest brilliancy | 3128 Apr 03 17:21 | 21° | 27'28" -4.8m |
| | 3125 Oct 08 09:03 | 0° | retrograde | 3128 Apr 14 05:48 | 23° | 31'37" |
| morning set | 3125 Oct 28 12:41 | 25° | evening set | 3128 Apr 30 16:25 | 18° | 16'00" |
| | 3125 Nov 01 11:54 | 0° | inferior conj | 3128 May 05 10:47 | 15° | 20'03" 5°46'45" |
| | 3125 Nov 25 11:13 | 0° | minimum elong | 3128 May 05 20:42 | 15° | 04'25" 5°44'29" |
| max. Earth dist. | 3125 Dec 04 16:39 | 11° | min. Earth dist. | 3128 May 05 09:15 | 15° | 22'27" 0.28299 AU |
| | | | morning rise | 3128 May 11 01:19 | 11° | 55'45" |
| superior conj | 3125 Dec 06 11:14 | 13° | direct | 3128 May 26 14:56 | 7° | 14'09" |
| minimum elong | 3125 Dec 06 16:04 | 14° | desc. node | 3128 May 31 11:10 | 7° | 40'45" |
| desc. node | 3125 Dec 14 16:19 | 24° | greatest brilliancy | 3128 Jun 05 10:24 | 8° | 59'12" -4.7m |
| | 3125 Dec 19 08:48 | 0° | | 3128 Jul 06 16:50 | 0° | |
| | 3126 Jan 12 05:46 | 0° | morning max el | 3128 Jul 14 10:18 | 7° | 08'56" 45°45'07" |
| evening rise | 3126 Jan 16 09:59 | 5° | | 3128 Aug 05 21:32 | 0° | |
| | 3126 Feb 05 03:13 | 0° | | 3128 Sep 01 23:07 | 0° | |
| | 3126 Mar 01 03:03 | 0° | asc. node | 3128 Sep 21 14:29 | 22° | 04'07" |
| | 3126 Mar 25 08:01 | 0° | | 3128 Sep 27 16:05 | 0° | |
| asc. node | 3126 Apr 06 19:24 | 15° | | 3128 Oct 22 13:26 | 0° | |
| | 3126 Apr 18 21:35 | 0° | | 3128 Nov 15 22:21 | 0° | |
| | 3126 May 14 00:09 | 0° | | 3128 Dec 10 00:03 | 0° | |
| | 3126 Jun 08 23:46 | 0° | | 3129 Jan 02 22:07 | 0° | |
| | 3126 Jul 06 17:12 | 0° | morning set | 3129 Jan 10 17:03 | 9° | 47'26" |
| evening max el | 3126 Jul 17 23:29 | 11° | desc. node | 3129 Jan 11 04:13 | 10° | 22'29" |
| desc. node | 3126 Jul 27 09:01 | 19° | | 3129 Jan 26 18:44 | 0° | |
| | 3126 Aug 09 03:44 | 0° | | 3129 Feb 19 15:24 | 0° | |
| greatest brilliancy | 3126 Aug 25 21:02 | 9° | | | | |
| retrograde | 3126 Sep 04 13:13 | 10° | superior conj | 3129 Feb 21 08:24 | 2° | 08'44" -1°18'50" |
| evening set | 3126 Sep 22 15:29 | 4° | minimum elong | 3129 Feb 20 23:18 | 1° | 40'12" 1°18'39" |
| inferior conj | 3126 Sep 25 20:00 | 2° | max. Earth dist. | 3129 Feb 24 02:06 | 5° | 34'56" 1.71326 AU |
| minimum elong | 3126 Sep 25 21:43 | 2° | | 3129 Mar 15 13:37 | 0° | |
| min. Earth dist. | 3126 Sep 26 11:36 | 2° | evening rise | 3129 Apr 02 21:20 | 22° | 51'57" |
| morning rise | 3126 Sep 29 03:47 | 0° | | 3129 Apr 08 15:00 | 0° | |
| | 3126 Sep 30 06:49 | 30° | | 3129 May 02 21:00 | 0° | |
| direct | 3126 Oct 17 06:24 | 24° | asc. node | 3129 May 04 07:14 | 1° | 45'20" |
| greatest brilliancy | 3126 Oct 28 06:39 | 26° | | 3129 May 27 08:46 | 0° | |
| | 3126 Nov 04 00:41 | 0° | | 3129 Jun 21 03:40 | 0° | |
| asc. node | 3126 Nov 17 11:53 | 9° | | 3129 Jul 16 08:24 | 0° | |
| morning max el | 3126 Dec 06 13:31 | 27° | | 3129 Aug 11 04:48 | 0° | |
| | 3126 Dec 09 11:25 | 0° | desc. node | 3129 Aug 23 20:54 | 14° | 16'56" |
| | 3127 Jan 05 19:29 | 0° | | 3129 Sep 07 06:05 | 0° | |
| | 3127 Jan 31 07:35 | 0° | evening max el | 3129 Sep 28 07:59 | 21° | 35'34" 46°15'42" |
| | 3127 Feb 25 02:42 | 0° | | 3129 Oct 07 08:04 | 0° | |
| desc. node | 3127 Mar 09 01:54 | 14° | greatest brilliancy | 3129 Nov 07 13:25 | 20° | 56'35" -4.8m |
| | 3127 Mar 21 14:36 | 0° | retrograde | 3129 Nov 16 20:54 | 22° | 33'42" |
| | 3127 Apr 14 23:52 | 0° | evening set | 3129 Dec 01 13:49 | 18° | 21'03" |
| | 3127 May 09 08:55 | 0° | inferior conj | 3129 Dec 07 12:26 | 14° | 53'34" -1°55'04" |
| | 3127 Jun 02 18:45 | 0° | minimum elong | 3129 Dec 07 16:47 | 14° | 46'57" 1°53'42" |
| morning set | 3127 Jun 10 23:58 | 10° | min. Earth dist. | 3129 Dec 08 00:02 | 14° | 35'56" 0.26718 AU |
| | 3127 Jun 27 05:06 | 0° | morning rise | 3129 Dec 13 19:06 | 11° | 13'52" |
| asc. node | 3127 Jun 30 04:54 | 3° | asc. node | 3129 Dec 14 23:51 | 10° | 36'40" |
| max. Earth dist. | 3127 Jul 17 00:24 | 24° | direct | 3129 Dec 28 01:59 | 7° | 08'57" |
| | | | greatest brilliancy | 3130 Jan 07 18:31 | 9° | 18'30" -4.9m |
| superior conj | 3127 Jul 17 20:11 | 25° | | 3130 Feb 06 01:30 | 0° | |
| minimum elong | 3127 Jul 17 12:48 | 24° | morning max el | 3130 Feb 16 17:25 | 10° | 21'10" 46°57'19" |
| | 3127 Jul 21 15:04 | 0° | | 3130 Mar 07 05:47 | 0° | |
| | 3127 Aug 15 00:01 | 0° | | 3130 Apr 02 15:36 | 0° | |

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|---------------------|-------------------|---------------------------|---------------------|--|-------------------|---------------------------|------------|
| desc. node | 3130 Apr 05 13:46 | 3° H 24'19 | | | 3132 Nov 07 21:47 | 0° Z | |
| | 3130 Apr 28 03:00 | 0° Y | | | 3132 Dec 05 08:06 | 0° \approx | |
| | 3130 May 23 04:54 | 0° B | evening max el | | 3132 Dec 10 10:37 | 5° \approx 14'14 | 47°11'30 |
| | 3130 Jun 17 02:11 | 0° II | | | 3133 Jan 07 17:13 | 0° H | |
| | 3130 Jul 11 20:09 | 0° E | asc. node | | 3133 Jan 11 11:47 | 2° H 25'25 | |
| asc. node | 3130 Jul 27 16:48 | 19° E 19'26 | greatest brilliancy | | 3133 Jan 19 22:55 | 6° H 35'52 | -4.9m |
| | 3130 Aug 05 10:21 | 0° Ω | retrograde | | 3133 Jan 30 05:23 | 8° H 36'15 | |
| morning set | 3130 Aug 17 21:56 | 15° Ω 18'37 | evening set | | 3133 Feb 15 20:52 | 3° H 08'22 | |
| | 3130 Aug 29 20:15 | 0° M | min. Earth dist. | | 3133 Feb 19 02:11 | 1° H 10'57 | 0.27051 AU |
| max. Earth dist. | 3130 Sep 20 09:38 | 26° M 39'41 | inferior conj | | 3133 Feb 19 21:21 | 0° H 41'17 | 8°08'25 |
| | | | minimum elong | | 3133 Feb 19 13:06 | 0° H 54'04 | 8°07'19 |
| superior conj | 3130 Sep 23 10:01 | 0° E 24'08 | | | 3133 Feb 21 00:05 | 30° R \approx | |
| minimum elong | 3130 Sep 23 11:02 | 0° E 27'19 | | | 3133 Feb 23 05:37 | 28° \approx 38'59 | |
| | 3130 Sep 23 02:14 | 0° E | morning rise | | 3133 Mar 12 10:44 | 22° \approx 56'45 | |
| | 3130 Oct 17 05:33 | 0° M | direct | | 3133 Mar 21 11:03 | 24° \approx 29'27 | -4.9m |
| evening rise | 3130 Oct 31 01:12 | 17° M 12'43 | greatest brilliancy | | 3133 Apr 01 18:27 | 0° H | |
| | 3130 Nov 10 07:30 | 0° A | | | 3133 May 01 05:08 | 24° H 36'41 | 46°21'49 |
| desc. node | 3130 Nov 16 06:34 | 7° A 25'50 | morning max el | | 3133 May 03 01:28 | 26° H 26'06 | |
| | 3130 Dec 04 08:59 | 0° Z | desc. node | | 3133 May 06 14:46 | 0° Y | |
| | 3130 Dec 28 10:45 | 0° \approx | | | 3133 Jun 03 15:08 | 0° B | |
| | 3131 Jan 21 14:32 | 0° H | | | 3133 Jun 30 00:13 | 0° II | |
| | 3131 Feb 14 23:59 | 0° Y | | | 3133 Jul 25 15:18 | 0° E | |
| asc. node | 3131 Mar 09 09:27 | 27° Y 00'53 | | | 3133 Aug 19 18:21 | 0° Ω | |
| | 3131 Mar 11 21:47 | 0° B | asc. node | | 3133 Aug 24 04:35 | 5° Ω 20'24 | |
| | 3131 Apr 06 20:10 | 0° II | | | 3133 Sep 13 11:23 | 0° M | |
| | 3131 May 05 02:27 | 0° E | | | 3133 Oct 07 20:07 | 0° E | |
| evening max el | 3131 May 05 21:36 | 0° E 46'53 | morning set | | 3133 Oct 26 03:43 | 22° E 45'52 | |
| greatest brilliancy | 3131 Jun 12 21:14 | 29° E 08'02 | | | 3133 Oct 31 22:56 | 0° M | |
| | 3131 Jun 15 09:38 | 0° Ω | | | 3133 Nov 24 22:16 | 0° A | |
| retrograde | 3131 Jun 23 23:45 | 1° Ω 21'47 | max. Earth dist. | | 3133 Dec 01 22:47 | 8° A 48'24 | 1.71409 AU |
| desc. node | 3131 Jun 28 23:13 | 0° Ω 52'03 | | | | | |
| | 3131 Jul 02 05:41 | 30° R E | superior conj | | 3133 Dec 03 23:21 | 11° A 20'44 | 0°23'15 |
| evening set | 3131 Jul 09 05:19 | 26° E 51'37 | minimum elong | | 3133 Dec 04 05:01 | 11° A 38'29 | 0°22'59 |
| inferior conj | 3131 Jul 15 11:17 | 23° E 06'24 | desc. node | | 3133 Dec 13 18:29 | 23° A 38'41 | |
| minimum elong | 3131 Jul 15 03:39 | 23° E 18'20 | | | 3133 Dec 18 19:54 | 0° Z | |
| min. Earth dist. | 3131 Jul 15 05:24 | 23° E 15'35 | | | 3134 Jan 11 16:54 | 0° \approx | |
| morning rise | 3131 Jul 21 02:09 | 19° E 42'29 | evening rise | | 3134 Jan 13 20:39 | 2° \approx 42'35 | |
| direct | 3131 Aug 06 01:46 | 14° E 49'46 | | | 3134 Feb 04 14:25 | 0° H | |
| greatest brilliancy | 3131 Aug 16 08:45 | 16° E 44'17 | | | 3134 Feb 28 14:23 | 0° Y | |
| | 3131 Sep 07 06:52 | 0° Ω | | | 3134 Mar 24 19:38 | 0° B | |
| morning max el | 3131 Sep 24 02:07 | 14° Ω 56'55 | asc. node | | 3134 Apr 05 21:20 | 14° B 47'49 | |
| | 3131 Oct 08 22:13 | 0° M | | | 3134 Apr 18 09:41 | 0° II | |
| asc. node | 3131 Oct 20 02:12 | 12° M 05'03 | | | 3134 May 13 13:08 | 0° E | |
| | 3131 Nov 04 22:14 | 0° E | | | 3134 Jun 08 14:34 | 0° Ω | |
| | 3131 Nov 30 06:58 | 0° M | | | 3134 Jul 06 12:37 | 0° M | |
| | 3131 Dec 24 21:02 | 0° A | evening max el | | 3134 Jul 15 13:28 | 8° M 54'44 | 45°27'54 |
| | 3132 Jan 18 02:07 | 0° Z | desc. node | | 3134 Jul 26 11:07 | 18° M 50'39 | |
| desc. node | 3132 Feb 08 16:04 | 26° Z 54'52 | | | 3134 Aug 10 00:50 | 0° E | |
| | 3132 Feb 11 03:20 | 0° \approx | greatest brilliancy | | 3134 Aug 23 11:03 | 6° E 49'37 | -4.7m |
| | 3132 Mar 06 03:26 | 0° H | retrograde | | 3134 Sep 02 03:21 | 8° E 30'54 | |
| morning set | 3132 Mar 28 13:12 | 27° H 58'33 | evening set | | 3134 Sep 20 06:13 | 2° E 26'44 | |
| | 3132 Mar 30 04:09 | 0° Y | inferior conj | | 3134 Sep 23 11:12 | 0° E 28'30 | -8°40'31 |
| | 3132 Apr 23 06:51 | 0° B | minimum elong | | 3134 Sep 23 12:05 | 0° E 27'08 | 8°40'30 |
| | | | min. Earth dist. | | 3134 Sep 24 02:13 | 0° E 05'07 | 0.28579 AU |
| superior conj | 3132 May 06 12:53 | 16° B 25'36 | | | 3134 Sep 24 05:31 | 30° R M | |
| minimum elong | 3132 May 06 22:55 | 16° B 56'40 | morning rise | | 3134 Sep 26 17:45 | 28° M 27'22 | |
| max. Earth dist. | 3132 May 09 17:18 | 20° B 22'03 | direct | | 3134 Oct 14 21:31 | 22° M 15'55 | |
| | 3132 May 17 12:19 | 0° II | greatest brilliancy | | 3134 Oct 25 22:22 | 24° M 29'39 | -4.8m |
| asc. node | 3132 May 31 19:07 | 17° II 36'50 | | | 3134 Nov 05 09:46 | 0° E | |
| | 3132 Jun 10 20:40 | 0° E | asc. node | | 3134 Nov 16 14:03 | 8° E 20'49 | |
| evening rise | 3132 Jun 13 09:05 | 3° E 05'39 | morning max el | | 3134 Dec 04 03:06 | 24° E 38'52 | 46°37'47 |
| | 3132 Jul 05 07:37 | 0° Ω | | | 3134 Dec 09 08:17 | 0° M | |
| | 3132 Jul 29 21:15 | 0° M | | | 3135 Jan 05 11:14 | 0° A | |
| | 3132 Aug 23 14:44 | 0° E | | | 3135 Jan 30 21:20 | 0° Z | |
| | 3132 Sep 17 14:04 | 0° M | | | 3135 Feb 24 15:22 | 0° \approx | |
| desc. node | 3132 Sep 20 08:45 | 3° M 18'46 | desc. node | | 3135 Mar 08 03:53 | 14° \approx 06'07 | |
| | 3132 Oct 12 22:20 | 0° A | | | 3135 Mar 21 02:36 | 0° H | |

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|---------------------|-------------------|-----------|---------------------|---------------------|-------------------|----------------------|
| | 3135 Apr 14 11:26 | 0°♄ | evening set | 3137 Nov 29 04:11 | 15°♄51'43 | |
| | 3135 May 08 20:11 | 0°♂ | inferior conj | 3137 Dec 05 00:54 | 12°♄26'36 | -2°18'30 |
| | 3135 Jun 02 05:48 | 0°♂ | minimum elong | 3137 Dec 05 06:05 | 12°♄18'44 | 2°16'53 |
| morning set | 3135 Jun 08 17:09 | 7°♂57'10 | min. Earth dist. | 3137 Dec 05 13:29 | 12°♄07'30 | 0.26762 AU |
| | 3135 Jun 26 16:02 | 0°♄ | morning rise | 3137 Dec 11 07:25 | 8°♄47'26 | |
| asc. node | 3135 Jun 29 07:01 | 3°♄13'25 | asc. node | 3137 Dec 14 01:55 | 7°♄25'03 | |
| max. Earth dist. | 3135 Jul 14 19:09 | 22°♄16'34 | 1.73547 AU | direct | 3137 Dec 25 15:35 | 4°♄41'15 |
| | | | greatest brilliancy | 3138 Jan 05 08:31 | 6°♄51'47 | -4.9m |
| superior conj | 3135 Jul 15 14:18 | 23°♄15'25 | 0°37'35 | 3138 Feb 06 05:20 | 0°♄ | |
| minimum elong | 3135 Jul 15 07:16 | 22°♄53'51 | 0°37'16 | morning max el | 3138 Feb 14 08:05 | 7°♄58'25 46°57'41 |
| | 3135 Jul 21 01:56 | 0°♂ | | 3138 Mar 06 23:41 | 0°♄ | |
| | 3135 Aug 14 10:57 | 0°♄ | | 3138 Apr 02 06:19 | 0°♄ | |
| evening rise | 3135 Aug 20 11:57 | 7°♄26'23 | desc. node | 3138 Apr 04 15:47 | 2°♄47'53 | |
| | 3135 Sep 07 19:26 | 0°♄ | | 3138 Apr 27 16:07 | 0°♄ | |
| | 3135 Oct 02 04:22 | 0°♄ | | 3138 May 22 17:04 | 0°♄ | |
| desc. node | 3135 Oct 18 20:41 | 20°♄29'32 | | 3138 Jun 16 13:44 | 0°♂ | |
| | 3135 Oct 26 14:43 | 0°♄ | | 3138 Jul 11 07:18 | 0°♄ | |
| | 3135 Nov 20 03:19 | 0°♄ | | asc. node | 3138 Jul 26 18:46 | 18°♄51'50 |
| | 3135 Dec 14 20:05 | 0°♄ | | 3138 Aug 04 21:17 | 0°♂ | |
| | 3136 Jan 08 22:50 | 0°♄ | | morning set | 3138 Aug 15 15:48 | 13°♂12'37 |
| | 3136 Feb 04 03:01 | 0°♄ | | 3138 Aug 29 07:07 | 0°♄ | |
| asc. node | 3136 Feb 08 23:36 | 5°♄19'11 | max. Earth dist. | 3138 Sep 18 03:54 | 24°♄33'44 | 1.72798 AU |
| evening max el | 3136 Feb 21 09:50 | 18°♄22'19 | 46°53'40 | | | |
| | 3136 Mar 04 11:22 | 0°♄ | | superior conj | 3138 Sep 21 03:12 | 28°♄14'43 1°25'03 |
| greatest brilliancy | 3136 Apr 01 09:55 | 19°♄12'59 | -4.8m | minimum elong | 3138 Sep 21 03:30 | 28°♄15'39 1°25'02 |
| retrograde | 3136 Apr 11 21:21 | 21°♄16'54 | | | 3138 Sep 22 13:09 | 0°♄ |
| evening set | 3136 Apr 28 10:54 | 15°♄56'54 | | | 3138 Oct 16 16:34 | 0°♄ |
| inferior conj | 3136 May 03 02:22 | 13°♄05'32 | 6°02'33 | evening rise | 3138 Oct 28 15:30 | 14°♄53'06 |
| minimum elong | 3136 May 03 12:23 | 12°♄49'45 | 6°00'20 | | 3138 Nov 09 18:41 | 0°♄ |
| min. Earth dist. | 3136 May 03 00:52 | 13°♄07'52 | 0.28272 AU | desc. node | 3138 Nov 15 08:42 | 6°♄57'27 |
| morning rise | 3136 May 08 14:09 | 9°♄45'09 | | | 3138 Dec 03 20:23 | 0°♄ |
| direct | 3136 May 24 05:28 | 4°♄59'52 | | | 3138 Dec 27 22:26 | 0°♄ |
| desc. node | 3136 May 30 13:19 | 5°♄44'50 | | | 3139 Jan 21 02:34 | 0°♄ |
| greatest brilliancy | 3136 Jun 03 01:29 | 6°♄45'21 | -4.8m | | 3139 Feb 14 12:34 | 0°♄ |
| | 3136 Jul 06 18:52 | 0°♂ | | asc. node | 3139 Mar 08 11:25 | 26°♄26'50 |
| morning max el | 3136 Jul 12 01:37 | 4°♂56'18 | 45°45'38 | | 3139 Mar 11 11:21 | 0°♄ |
| | 3136 Aug 05 14:17 | 0°♄ | | | 3139 Apr 06 11:53 | 0°♂ |
| | 3136 Sep 01 12:57 | 0°♂ | | evening max el | 3139 May 03 14:21 | 28°♂36'58 45°50'59 |
| asc. node | 3136 Sep 20 16:27 | 22°♂17'11 | | | 3139 May 05 00:30 | 0°♄ |
| | 3136 Sep 27 04:38 | 0°♄ | | greatest brilliancy | 3139 Jun 10 13:39 | 26°♄59'13 -4.7m |
| | 3136 Oct 22 01:19 | 0°♄ | | retrograde | 3139 Jun 21 16:40 | 29°♄13'00 |
| | 3136 Nov 15 09:54 | 0°♄ | | desc. node | 3139 Jun 28 01:14 | 28°♄24'30 |
| | 3136 Dec 09 11:25 | 0°♄ | | evening set | 3139 Jul 06 20:47 | 24°♄44'42 |
| | 3137 Jan 02 09:23 | 0°♄ | | inferior conj | 3139 Jul 13 03:46 | 20°♄57'38 -3°28'39 |
| morning set | 3137 Jan 08 03:10 | 7°♄12'54 | | minimum elong | 3139 Jul 12 20:38 | 21°♄08'48 3°26'43 |
| desc. node | 3137 Jan 10 06:14 | 9°♄53'24 | | min. Earth dist. | 3139 Jul 12 21:31 | 21°♄07'24 0.28968 AU |
| | 3137 Jan 26 05:57 | 0°♄ | | morning rise | 3139 Jul 18 20:44 | 17°♄30'44 |
| | | | | direct | 3139 Aug 03 18:39 | 12°♄41'31 |
| superior conj | 3137 Feb 18 18:46 | 29°♄35'29 | -1°17'07 | greatest brilliancy | 3139 Aug 13 23:51 | 14°♄34'39 -4.7m |
| minimum elong | 3137 Feb 18 08:58 | 29°♄04'40 | 1°16'53 | | 3139 Sep 07 14:33 | 0°♂ |
| | 3137 Feb 19 02:35 | 0°♄ | | morning max el | 3139 Sep 21 17:44 | 12°♂45'36 45°53'28 |
| max. Earth dist. | 3137 Feb 21 06:18 | 2°♄42'25 | 1.71292 AU | | 3139 Oct 08 15:52 | 0°♄ |
| | 3137 Mar 15 00:46 | 0°♄ | | asc. node | 3139 Oct 19 04:23 | 11°♄27'08 |
| evening rise | 3137 Mar 31 09:30 | 20°♄25'48 | | | 3139 Nov 04 12:30 | 0°♄ |
| | 3137 Apr 08 02:07 | 0°♄ | | | 3139 Nov 29 19:51 | 0°♄ |
| | 3137 May 02 08:11 | 0°♂ | | | 3139 Dec 24 09:12 | 0°♄ |
| asc. node | 3137 May 03 09:22 | 1°♂17'28 | | | 3140 Jan 17 13:53 | 0°♄ |
| | 3137 May 26 20:10 | 0°♄ | | desc. node | 3140 Feb 07 18:04 | 26°♄25'08 |
| | 3137 Jun 20 15:32 | 0°♂ | | | 3140 Feb 10 14:49 | 0°♄ |
| | 3137 Jul 15 21:08 | 0°♄ | | | 3140 Mar 05 14:42 | 0°♄ |
| | 3137 Aug 10 19:11 | 0°♄ | | morning set | 3140 Mar 26 01:24 | 25°♄32'22 |
| desc. node | 3137 Aug 22 22:50 | 13°♄38'51 | | | 3140 Mar 29 15:14 | 0°♄ |
| | 3137 Sep 07 00:02 | 0°♄ | | | 3140 Apr 22 17:47 | 0°♄ |
| evening max el | 3137 Sep 25 21:45 | 19°♄15'25 | 46°13'27 | | | |
| | 3137 Oct 07 13:49 | 0°♄ | | superior conj | 3140 May 04 03:42 | 14°♄09'05 -0°58'19 |
| greatest brilliancy | 3137 Nov 05 01:40 | 18°♄30'07 | -4.8m | minimum elong | 3140 May 04 13:54 | 14°♄40'42 0°57'56 |
| retrograde | 3137 Nov 14 09:40 | 20°♄07'19 | | max. Earth dist. | 3140 May 07 13:01 | 18°♄20'50 1.72735 AU |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3140 May 16 23:11 | 0°♂ | | greatest brilliancy | 3142 Oct 23 14:24 | 22°♏16'44 | -4.8m |
| asc. node | 3140 May 30 21:14 | 17°♏09'56 | | | 3142 Nov 06 08:33 | 0°♂ | |
| | 3140 Jun 10 07:32 | 0°♏ | | asc. node | 3142 Nov 15 16:05 | 7°♂18'14 | |
| evening rise | 3140 Jun 11 02:25 | 0°♏58'03 | | morning max el | 3142 Dec 01 17:35 | 22°♂19'42 | 46°36'19 |
| | 3140 Jul 04 18:34 | 0°♏ | | | 3142 Dec 09 04:00 | 0°♏ | |
| | 3140 Jul 29 08:27 | 0°♏ | | | 3143 Jan 05 02:26 | 0°♏ | |
| | 3140 Aug 23 02:23 | 0°♂ | | | 3143 Jan 30 10:43 | 0°♏ | |
| | 3140 Sep 17 02:31 | 0°♏ | | | 3143 Feb 24 03:47 | 0°♏ | |
| desc. node | 3140 Sep 19 10:49 | 2°♏47'35 | | desc. node | 3143 Mar 07 05:56 | 13°♏35'12 | |
| | 3140 Oct 12 12:05 | 0°♏ | | | 3143 Mar 20 14:25 | 0°♏ | |
| | 3140 Nov 07 13:54 | 0°♏ | | | 3143 Apr 13 22:48 | 0°♏ | |
| | 3140 Dec 05 05:49 | 0°♏ | | | 3143 May 08 07:13 | 0°♏ | |
| evening max el | 3140 Dec 08 00:42 | 2°♏50'13 | 47°10'21 | | 3143 Jun 01 16:36 | 0°♏ | |
| | 3141 Jan 09 02:18 | 0°♏ | | morning set | 3143 Jun 06 10:08 | 5°♏48'50 | |
| asc. node | 3141 Jan 10 13:47 | 0°♏51'45 | | | 3143 Jun 26 02:40 | 0°♏ | |
| greatest brilliancy | 3141 Jan 17 12:59 | 4°♏09'26 | -4.9m | asc. node | 3143 Jun 28 08:57 | 2°♏46'43 | |
| retrograde | 3141 Jan 27 18:26 | 6°♏08'39 | | max. Earth dist. | 3143 Jul 12 15:18 | 20°♏18'32 | 1.73548 AU |
| evening set | 3141 Feb 13 05:54 | 0°♏47'52 | | | | | |
| | 3141 Feb 14 14:01 | 30°♏ | | superior conj | 3143 Jul 13 08:24 | 21°♏11'03 | 0°34'42 |
| min. Earth dist. | 3141 Feb 16 15:17 | 28°♏44'25 | 0.26999 AU | minimum elong | 3143 Jul 13 01:47 | 20°♏50'44 | 0°34'25 |
| inferior conj | 3141 Feb 17 10:19 | 28°♏14'57 | 7°58'14 | | 3143 Jul 20 12:31 | 0°♏ | |
| minimum elong | 3141 Feb 17 01:30 | 28°♏28'36 | 7°56'57 | | 3143 Aug 13 21:35 | 0°♏ | |
| morning rise | 3141 Feb 20 21:24 | 26°♏08'21 | | evening rise | 3143 Aug 18 06:32 | 5°♏23'02 | |
| direct | 3141 Mar 09 23:10 | 20°♏31'22 | | | 3143 Sep 07 06:14 | 0°♂ | |
| greatest brilliancy | 3141 Mar 19 00:05 | 22°♏04'12 | -4.9m | | 3143 Oct 01 15:27 | 0°♏ | |
| | 3141 Apr 02 23:05 | 0°♏ | | desc. node | 3143 Oct 17 22:51 | 20°♏01'28 | |
| morning max el | 3141 Apr 28 17:22 | 22°♏12'00 | 46°23'25 | | 3143 Oct 26 02:11 | 0°♏ | |
| desc. node | 3141 May 02 03:40 | 25°♏36'22 | | | 3143 Nov 19 15:20 | 0°♏ | |
| | 3141 May 06 11:33 | 0°♏ | | | 3143 Dec 14 08:58 | 0°♏ | |
| | 3141 Jun 03 06:35 | 0°♏ | | | 3144 Jan 08 13:12 | 0°♏ | |
| | 3141 Jun 29 13:27 | 0°♏ | | | 3144 Feb 03 20:34 | 0°♏ | |
| | 3141 Jul 25 03:23 | 0°♏ | | asc. node | 3144 Feb 08 01:34 | 4°♏34'41 | |
| | 3141 Aug 19 05:47 | 0°♏ | | evening max el | 3144 Feb 18 23:58 | 16°♏01'31 | 46°55'29 |
| asc. node | 3141 Aug 23 06:36 | 4°♏52'16 | | | 3144 Mar 04 16:09 | 0°♏ | |
| | 3141 Sep 12 22:25 | 0°♏ | | greatest brilliancy | 3144 Mar 30 01:43 | 16°♏57'20 | -4.8m |
| | 3141 Oct 07 06:58 | 0°♂ | | retrograde | 3144 Apr 09 13:07 | 19°♏01'38 | |
| morning set | 3141 Oct 23 19:09 | 20°♂30'41 | | evening set | 3144 Apr 26 05:07 | 13°♏37'02 | |
| | 3141 Oct 31 09:45 | 0°♏ | | inferior conj | 3144 Apr 30 17:35 | 10°♏50'20 | 6°17'55 |
| | 3141 Nov 24 09:09 | 0°♏ | | minimum elong | 3144 May 01 03:41 | 10°♏34'29 | 6°15'46 |
| max. Earth dist. | 3141 Nov 29 07:04 | 6°♏09'42 | 1.71452 AU | min. Earth dist. | 3144 Apr 30 15:51 | 10°♏53'04 | 0.28243 AU |
| | | | | morning rise | 3144 May 06 02:30 | 7°♏34'25 | |
| superior conj | 3141 Dec 01 11:39 | 8°♏54'34 | 0°26'52 | direct | 3144 May 21 19:59 | 2°♏45'01 | |
| minimum elong | 3141 Dec 01 18:04 | 9°♏14'43 | 0°26'33 | desc. node | 3144 May 29 15:17 | 3°♏52'53 | |
| desc. node | 3141 Dec 12 20:30 | 23°♏10'38 | | greatest brilliancy | 3144 May 31 15:45 | 4°♏30'39 | -4.8m |
| | 3141 Dec 18 06:53 | 0°♏ | | | 3144 Jul 06 19:18 | 0°♏ | |
| evening rise | 3142 Jan 11 07:05 | 0°♏09'45 | | morning max el | 3144 Jul 09 17:30 | 2°♏45'47 | 45°46'21 |
| | 3142 Jan 11 03:58 | 0°♏ | | | 3144 Aug 05 06:21 | 0°♏ | |
| | 3142 Feb 04 01:35 | 0°♏ | | | 3144 Sep 01 02:17 | 0°♏ | |
| | 3142 Feb 28 01:41 | 0°♏ | | asc. node | 3144 Sep 19 18:33 | 21°♏46'55 | |
| | 3142 Mar 24 07:11 | 0°♏ | | | 3144 Sep 26 16:42 | 0°♏ | |
| asc. node | 3142 Apr 04 23:30 | 14°♏18'43 | | | 3144 Oct 21 12:45 | 0°♂ | |
| | 3142 Apr 17 21:40 | 0°♏ | | | 3144 Nov 14 21:01 | 0°♏ | |
| | 3142 May 13 02:00 | 0°♏ | | greatest brilliancy | 3144 Dec 06 05:07 | 26°♏35'52 | -3.9m |
| | 3142 Jun 08 05:18 | 0°♏ | | | 3144 Dec 08 22:22 | 0°♏ | |
| | 3142 Jul 06 08:16 | 0°♏ | | | 3145 Jan 01 20:14 | 0°♏ | |
| evening max el | 3142 Jul 13 03:26 | 6°♏39'43 | 45°27'33 | morning set | 3145 Jan 05 13:55 | 4°♏41'47 | |
| desc. node | 3142 Jul 25 13:06 | 17°♏52'57 | | desc. node | 3145 Jan 09 08:12 | 9°♏25'34 | |
| | 3142 Aug 11 04:53 | 0°♂ | | | 3145 Jan 25 16:44 | 0°♏ | |
| greatest brilliancy | 3142 Aug 21 01:01 | 4°♂36'54 | -4.7m | | | | |
| retrograde | 3142 Aug 30 18:15 | 6°♂19'23 | | superior conj | 3145 Feb 16 05:14 | 27°♏03'42 | -1°15'13 |
| evening set | 3142 Sep 17 20:53 | 0°♂15'32 | | minimum elong | 3145 Feb 15 18:48 | 26°♏30'55 | 1°14'58 |
| | 3142 Sep 18 07:13 | 30°♏ | | max. Earth dist. | 3145 Feb 18 13:46 | 0°♏01'16 | 1.71268 AU |
| inferior conj | 3142 Sep 21 02:43 | 28°♏16'09 | -8°40'34 | | 3145 Feb 18 13:22 | 0°♏ | |
| minimum elong | 3142 Sep 21 02:47 | 28°♏16'03 | 8°40'34 | | 3145 Mar 14 11:33 | 0°♏ | |
| min. Earth dist. | 3142 Sep 21 17:04 | 27°♏53'50 | 0.28627 AU | evening rise | 3145 Mar 28 21:28 | 17°♏59'59 | |
| morning rise | 3142 Sep 24 08:30 | 26°♏16'15 | | | 3145 Apr 07 12:57 | 0°♏ | |
| direct | 3142 Oct 12 12:54 | 20°♏02'46 | | | 3145 May 01 19:06 | 0°♏ | |

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|---------------------|-------------------|--------------------------------|------------|---------------------|-------------------|---------------------------------|
| asc. node | 3145 May 02 11:23 | 0° Π 50'07 | | | 3148 Jan 17 01:20 | 0° Ξ |
| | 3145 May 26 07:18 | 0° Ξ | | desc. node | 3148 Feb 06 20:06 | 25° Ξ 56'24 |
| | 3145 Jun 20 03:08 | 0° Ω | | | 3148 Feb 10 02:02 | 0° \approx |
| | 3145 Jul 15 09:37 | 0° \P | | | 3148 Mar 05 01:41 | 0° H |
| | 3145 Aug 10 09:20 | 0° $\underline{\Omega}$ | | morning set | 3148 Mar 23 13:43 | 23° H 07'15 |
| desc. node | 3145 Aug 22 00:55 | 13° $\underline{\Omega}$ 02'03 | | | 3148 Mar 29 02:02 | 0° Υ |
| | 3145 Sep 06 17:56 | 0° \mathbb{M} | | | 3148 Apr 22 04:28 | 0° B |
| evening max el | 3145 Sep 23 12:20 | 16° \mathbb{M} 58'45 | 46°11'15 | | | |
| | 3145 Oct 07 21:08 | 0° A | | superior conj | 3148 May 01 18:39 | 11° B 53'46 -1°00'51 |
| greatest brilliancy | 3145 Nov 02 14:14 | 16° A 06'01 | -4.8m | minimum elong | 3148 May 02 04:58 | 12° B 25'43 1°00'30 |
| retrograde | 3145 Nov 11 22:37 | 17° A 42'52 | | max. Earth dist. | 3148 May 05 08:25 | 16° B 19'21 1.72683 AU |
| evening set | 3145 Nov 26 19:00 | 13° A 24'28 | | | 3148 May 16 09:49 | 0° Π |
| inferior conj | 3145 Dec 02 13:36 | 10° A 01'46 | -2°41'29 | asc. node | 3148 May 29 23:11 | 16° Π 43'11 |
| minimum elong | 3145 Dec 02 19:34 | 9° A 52'41 | 2°39'38 | evening rise | 3148 Jun 08 19:42 | 28° Π 50'48 |
| min. Earth dist. | 3145 Dec 03 03:03 | 9° A 41'19 | 0.26804 AU | | 3148 Jun 09 18:12 | 0° Ξ |
| morning rise | 3145 Dec 08 19:39 | 6° A 23'14 | | | 3148 Jul 04 05:23 | 0° Ω |
| asc. node | 3145 Dec 13 03:51 | 4° A 20'23 | | | 3148 Jul 28 19:33 | 0° \P |
| direct | 3145 Dec 23 05:27 | 2° A 15'53 | | | 3148 Aug 22 13:58 | 0° $\underline{\Omega}$ |
| greatest brilliancy | 3146 Jan 02 22:16 | 4° A 26'31 | -4.9m | | 3148 Sep 16 14:54 | 0° \mathbb{M} |
| | 3146 Feb 06 06:58 | 0° Ξ | | desc. node | 3148 Sep 18 12:55 | 2° \mathbb{M} 16'45 |
| morning max el | 3146 Feb 11 22:30 | 5° Ξ 36'34 | 46°57'56 | | 3148 Oct 12 01:49 | 0° A |
| | 3146 Mar 06 16:42 | 0° \approx | | | 3148 Nov 07 06:07 | 0° Ξ |
| | 3146 Apr 01 20:24 | 0° H | | | 3148 Dec 05 04:10 | 0° \approx |
| desc. node | 3146 Apr 03 17:56 | 2° H 13'22 | | evening max el | 3148 Dec 05 13:44 | 0° \approx 24'10 47°09'12 |
| | 3146 Apr 27 04:47 | 0° Υ | | asc. node | 3149 Jan 09 15:51 | 29° \approx 15'03 |
| | 3146 May 22 04:53 | 0° B | | | 3149 Jan 11 03:13 | 0° H |
| | 3146 Jun 16 00:59 | 0° Π | | greatest brilliancy | 3149 Jan 15 03:18 | 1° H 43'35 -4.9m |
| | 3146 Jul 10 18:11 | 0° Ξ | | retrograde | 3149 Jan 25 07:04 | 3° H 41'28 |
| asc. node | 3146 Jul 25 20:50 | 18° Ξ 25'20 | | | 3149 Feb 07 19:47 | 30° R \approx |
| | 3146 Aug 04 07:56 | 0° Ω | | evening set | 3149 Feb 10 14:47 | 28° \approx 27'32 |
| morning set | 3146 Aug 13 09:30 | 11° Ω 07'05 | | min. Earth dist. | 3149 Feb 14 04:40 | 26° \approx 17'41 0.26952 AU |
| | 3146 Aug 28 17:41 | 0° \P | | inferior conj | 3149 Feb 14 23:15 | 25° \approx 48'54 7°47'02 |
| max. Earth dist. | 3146 Sep 15 20:59 | 22° \P 25'17 | 1.72840 AU | minimum elong | 3149 Feb 14 13:55 | 26° \approx 03'21 7°45'33 |
| | | | | morning rise | 3149 Feb 18 13:18 | 23° \approx 37'50 |
| superior conj | 3146 Sep 18 20:24 | 26° \P 06'31 | 1°25'01 | direct | 3149 Mar 07 11:09 | 18° \approx 05'53 |
| minimum elong | 3146 Sep 18 19:58 | 26° \P 05'10 | 1°25'01 | greatest brilliancy | 3149 Mar 16 13:39 | 19° \approx 39'41 -4.9m |
| | 3146 Sep 21 23:43 | 0° $\underline{\Omega}$ | | | 3149 Apr 03 19:49 | 0° H |
| | 3146 Oct 16 03:15 | 0° \mathbb{M} | | morning max el | 3149 Apr 26 05:30 | 19° H 47'11 46°25'11 |
| evening rise | 3146 Oct 26 05:58 | 12° \mathbb{M} 35'12 | | desc. node | 3149 May 01 05:34 | 24° H 47'03 |
| | 3146 Nov 09 05:33 | 0° A | | | 3149 May 06 07:32 | 0° Υ |
| desc. node | 3146 Nov 14 10:40 | 6° A 29'35 | | | 3149 Jun 02 21:40 | 0° B |
| | 3146 Dec 03 07:29 | 0° Ξ | | | 3149 Jun 29 02:30 | 0° Π |
| | 3146 Dec 27 09:48 | 0° \approx | | | 3149 Jul 24 15:22 | 0° Ξ |
| | 3147 Jan 20 14:17 | 0° H | | | 3149 Aug 18 17:09 | 0° Ω |
| | 3147 Feb 14 00:49 | 0° Υ | | asc. node | 3149 Aug 22 08:43 | 4° Ω 24'26 |
| asc. node | 3147 Mar 07 13:35 | 25° Υ 54'21 | | | 3149 Sep 12 09:27 | 0° \P |
| | 3147 Mar 11 00:39 | 0° B | | | 3149 Oct 06 17:50 | 0° $\underline{\Omega}$ |
| | 3147 Apr 06 03:30 | 0° Π | | morning set | 3149 Oct 21 10:25 | 18° $\underline{\Omega}$ 14'53 |
| evening max el | 3147 May 01 06:33 | 26° Π 26'21 | 45°52'40 | | 3149 Oct 30 20:35 | 0° \mathbb{M} |
| | 3147 May 04 23:08 | 0° Ξ | | | 3149 Nov 23 20:02 | 0° A |
| greatest brilliancy | 3147 Jun 08 06:34 | 24° Ξ 51'15 | -4.7m | max. Earth dist. | 3149 Nov 26 18:05 | 3° A 39'37 1.71491 AU |
| retrograde | 3147 Jun 19 08:56 | 27° Ξ 04'19 | | | | |
| desc. node | 3147 Jun 27 03:13 | 25° Ξ 52'15 | | superior conj | 3149 Nov 28 23:52 | 6° A 28'13 0°30'26 |
| evening set | 3147 Jul 04 12:16 | 22° Ξ 37'46 | | minimum elong | 3149 Nov 29 06:59 | 6° A 50'34 0°30'05 |
| inferior conj | 3147 Jul 10 20:08 | 18° Ξ 49'08 | -3°10'19 | desc. node | 3149 Dec 11 22:28 | 22° A 42'31 |
| minimum elong | 3147 Jul 10 13:32 | 18° Ξ 59'30 | 3°08'30 | | 3149 Dec 17 17:50 | 0° Ξ |
| min. Earth dist. | 3147 Jul 10 13:56 | 18° Ξ 58'52 | 0.28950 AU | evening rise | 3150 Jan 08 17:35 | 27° Ξ 37'20 |
| morning rise | 3147 Jul 16 15:05 | 15° Ξ 19'12 | | | 3150 Jan 10 15:01 | 0° \approx |
| direct | 3147 Aug 01 11:03 | 10° Ξ 33'29 | | | 3150 Feb 03 12:45 | 0° H |
| greatest brilliancy | 3147 Aug 11 15:16 | 12° Ξ 25'29 | -4.7m | | 3150 Feb 27 13:01 | 0° Υ |
| | 3147 Sep 07 19:46 | 0° Ω | | | 3150 Mar 23 18:46 | 0° B |
| morning max el | 3147 Sep 19 08:32 | 10° Ω 32'48 | 45°52'21 | asc. node | 3150 Apr 04 01:30 | 13° B 48'57 |
| | 3147 Oct 08 08:55 | 0° \P | | | 3150 Apr 17 09:43 | 0° Π |
| asc. node | 3147 Oct 18 06:26 | 10° \P 49'53 | | | 3150 May 12 14:58 | 0° Ξ |
| | 3147 Nov 04 02:20 | 0° $\underline{\Omega}$ | | | 3150 Jun 07 20:14 | 0° Ω |
| | 3147 Nov 29 08:20 | 0° \mathbb{M} | | | 3150 Jul 06 04:36 | 0° \P |
| | 3147 Dec 23 21:02 | 0° A | | evening max el | 3150 Jul 10 17:48 | 4° \P 25'36 45°27'13 |

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|---------------------|-------------------|--------------------------------------|------------|---------------------|-------------------|--------------------------------------|------------|
| desc. node | 3150 Jul 24 15:10 | 16° \mathbb{M} 53'47 | | desc. node | 3153 Jan 08 10:21 | 8° \mathfrak{Z} 56'58 | |
| | 3150 Aug 12 21:52 | 0° $\underline{\mathfrak{A}}$ | | | 3153 Jan 25 03:57 | 0° \approx | |
| greatest brilliancy | 3150 Aug 18 14:06 | 2° $\underline{\mathfrak{A}}$ 22'47 | -4.7m | | | | |
| retrograde | 3150 Aug 28 09:26 | 4° $\underline{\mathfrak{A}}$ 07'12 | | superior conj | 3153 Feb 13 15:14 | 24° \approx 29'09 | -1°13'10 |
| | 3150 Sep 12 01:05 | 30° \mathfrak{R} \mathbb{M} | | minimum elong | 3153 Feb 13 04:17 | 23° \approx 54'44 | 1°12'52 |
| evening set | 3150 Sep 15 10:58 | 28° \mathbb{M} 04'02 | | max. Earth dist. | 3153 Feb 15 22:38 | 27° \approx 23'13 | 1.71239 AU |
| inferior conj | 3150 Sep 18 18:05 | 26° \mathbb{M} 02'53 | -8°39'44 | | 3153 Feb 18 00:32 | 0° \mathfrak{H} | |
| minimum elong | 3150 Sep 18 17:19 | 26° \mathbb{M} 04'03 | 8°39'44 | | 3153 Mar 13 22:42 | 0° \mathbb{Y} | |
| min. Earth dist. | 3150 Sep 19 07:28 | 25° \mathbb{M} 42'05 | 0.28678 AU | evening rise | 3153 Mar 26 09:05 | 15° \mathbb{Y} 31'55 | |
| morning rise | 3150 Sep 21 23:28 | 24° \mathbb{M} 03'42 | | | 3153 Apr 07 00:06 | 0° \mathfrak{B} | |
| direct | 3150 Oct 10 04:33 | 17° \mathbb{M} 48'40 | | | 3153 May 01 06:21 | 0° \mathbb{I} | |
| greatest brilliancy | 3150 Oct 21 06:07 | 20° \mathbb{M} 02'45 | -4.8m | asc. node | 3153 May 01 13:21 | 0° \mathbb{I} 21'30 | |
| | 3150 Nov 07 01:46 | 0° $\underline{\mathfrak{A}}$ | | | 3153 May 25 18:50 | 0° \mathfrak{G} | |
| asc. node | 3150 Nov 14 18:02 | 6° $\underline{\mathfrak{A}}$ 16'06 | | | 3153 Jun 19 15:09 | 0° Ω | |
| morning max el | 3150 Nov 29 08:59 | 20° $\underline{\mathfrak{A}}$ 02'17 | 46°34'55 | | 3153 Jul 14 22:33 | 0° \mathbb{M} | |
| | 3150 Dec 08 23:26 | 0° \mathbb{M} | | | 3153 Aug 10 00:02 | 0° $\underline{\mathfrak{A}}$ | |
| | 3151 Jan 04 17:36 | 0° \mathfrak{X} | | desc. node | 3153 Aug 21 03:02 | 12° $\underline{\mathfrak{A}}$ 23'57 | |
| | 3151 Jan 30 00:08 | 0° \mathfrak{Z} | | | 3153 Sep 06 12:40 | 0° \mathbb{M} | |
| | 3151 Feb 23 16:15 | 0° \approx | | evening max el | 3153 Sep 21 02:45 | 14° \mathbb{M} 40'49 | 46°08'58 |
| desc. node | 3151 Mar 06 08:03 | 13° \approx 04'15 | | | 3153 Oct 08 07:40 | 0° \mathfrak{X} | |
| | 3151 Mar 20 02:18 | 0° \mathfrak{H} | | greatest brilliancy | 3153 Oct 31 03:07 | 13° \mathfrak{X} 41'25 | -4.8m |
| | 3151 Apr 13 10:17 | 0° \mathbb{Y} | | retrograde | 3153 Nov 09 10:58 | 15° \mathfrak{X} 17'13 | |
| | 3151 May 07 18:25 | 0° \mathfrak{B} | | evening set | 3153 Nov 24 09:55 | 10° \mathfrak{X} 55'59 | |
| | 3151 Jun 01 03:33 | 0° \mathbb{I} | | inferior conj | 3153 Nov 30 02:17 | 7° \mathfrak{X} 35'54 | -3°03'59 |
| morning set | 3151 Jun 04 03:04 | 3° \mathbb{I} 39'48 | | minimum elong | 3153 Nov 30 09:00 | 7° \mathfrak{X} 25'41 | 3°01'57 |
| | 3151 Jun 25 13:27 | 0° \mathfrak{G} | | min. Earth dist. | 3153 Nov 30 16:50 | 7° \mathfrak{X} 13'44 | 0.26854 AU |
| asc. node | 3151 Jun 27 11:03 | 2° \mathfrak{G} 20'01 | | morning rise | 3153 Dec 06 07:35 | 3° \mathfrak{X} 57'57 | |
| max. Earth dist. | 3151 Jul 10 13:13 | 18° \mathfrak{G} 25'18 | 1.73546 AU | asc. node | 3153 Dec 12 05:59 | 1° \mathfrak{X} 19'05 | |
| | | | | | 3153 Dec 17 20:22 | 30° \mathfrak{R} \mathbb{M} | |
| superior conj | 3151 Jul 11 02:28 | 19° \mathfrak{G} 06'04 | 0°31'47 | direct | 3153 Dec 20 19:07 | 29° \mathbb{M} 49'18 | |
| minimum elong | 3151 Jul 10 20:19 | 18° \mathfrak{G} 47'08 | 0°31'30 | | 3153 Dec 23 18:41 | 0° \mathfrak{X} | |
| | 3151 Jul 19 23:15 | 0° Ω | | greatest brilliancy | 3153 Dec 31 12:22 | 2° \mathfrak{X} 00'10 | -4.9m |
| | 3151 Aug 13 08:24 | 0° \mathbb{M} | | | 3154 Feb 06 07:59 | 0° \mathfrak{Z} | |
| evening rise | 3151 Aug 16 01:12 | 3° \mathbb{M} 19'26 | | morning max el | 3154 Feb 09 12:04 | 3° \mathfrak{Z} 10'49 | 46°58'03 |
| | 3151 Sep 06 17:15 | 0° $\underline{\mathfrak{A}}$ | | | 3154 Mar 06 09:56 | 0° \approx | |
| | 3151 Oct 01 02:48 | 0° \mathbb{M} | | | 3154 Apr 01 10:52 | 0° \mathfrak{H} | |
| desc. node | 3151 Oct 17 00:47 | 19° \mathbb{M} 31'47 | | desc. node | 3154 Apr 02 19:53 | 1° \mathfrak{H} 37'00 | |
| | 3151 Oct 25 13:59 | 0° \mathfrak{X} | | | 3154 Apr 26 17:49 | 0° \mathbb{Y} | |
| | 3151 Nov 19 03:45 | 0° \mathfrak{Z} | | | 3154 May 21 17:02 | 0° \mathfrak{B} | |
| | 3151 Dec 13 22:17 | 0° \approx | | | 3154 Jun 15 12:35 | 0° \mathbb{I} | |
| | 3152 Jan 08 04:03 | 0° \mathfrak{H} | | | 3154 Jul 10 05:25 | 0° \mathfrak{G} | |
| | 3152 Feb 03 14:49 | 0° \mathbb{Y} | | asc. node | 3154 Jul 24 22:55 | 17° \mathfrak{G} 57'48 | |
| asc. node | 3152 Feb 07 03:43 | 3° \mathbb{Y} 49'11 | | | 3154 Aug 03 18:58 | 0° Ω | |
| evening max el | 3152 Feb 16 14:52 | 13° \mathbb{Y} 41'56 | 46°57'24 | morning set | 3154 Aug 11 03:15 | 9° Ω 00'33 | |
| | 3152 Mar 04 23:25 | 0° \mathfrak{B} | | | 3154 Aug 28 04:37 | 0° \mathbb{M} | |
| greatest brilliancy | 3152 Mar 27 17:05 | 14° \mathfrak{B} 40'19 | -4.8m | max. Earth dist. | 3154 Sep 13 12:51 | 20° \mathbb{M} 12'03 | 1.72880 AU |
| retrograde | 3152 Apr 07 05:14 | 16° \mathfrak{B} 45'11 | | | | | |
| evening set | 3152 Apr 23 23:19 | 11° \mathfrak{B} 16'00 | | superior conj | 3154 Sep 16 13:53 | 23° \mathbb{M} 58'09 | 1°24'52 |
| inferior conj | 3152 Apr 28 08:42 | 8° \mathfrak{B} 33'53 | 6°32'44 | minimum elong | 3154 Sep 16 12:45 | 23° \mathbb{M} 54'38 | 1°24'53 |
| minimum elong | 3152 Apr 28 18:48 | 8° \mathfrak{B} 18'04 | 6°30'42 | | 3154 Sep 21 10:40 | 0° $\underline{\mathfrak{A}}$ | |
| min. Earth dist. | 3152 Apr 28 06:22 | 8° \mathfrak{B} 37'33 | 0.28214 AU | | 3154 Oct 15 14:17 | 0° \mathbb{M} | |
| morning rise | 3152 May 03 14:34 | 5° \mathfrak{B} 22'41 | | evening rise | 3154 Oct 23 20:48 | 10° \mathbb{M} 17'24 | |
| direct | 3152 May 19 10:53 | 0° \mathfrak{B} 29'02 | | | 3154 Nov 08 16:46 | 0° \mathfrak{X} | |
| desc. node | 3152 May 28 17:20 | 2° \mathfrak{B} 04'01 | | desc. node | 3154 Nov 13 12:42 | 6° \mathfrak{X} 00'50 | |
| greatest brilliancy | 3152 May 29 05:21 | 2° \mathfrak{B} 14'05 | -4.8m | | 3154 Dec 02 18:57 | 0° \mathfrak{Z} | |
| | 3152 Jul 06 18:59 | 0° \mathbb{I} | | | 3154 Dec 26 21:35 | 0° \approx | |
| morning max el | 3152 Jul 07 09:51 | 0° \mathbb{I} 35'27 | 45°47'06 | | 3155 Jan 20 02:28 | 0° \mathfrak{H} | |
| | 3152 Aug 04 22:27 | 0° \mathfrak{G} | | | 3155 Feb 13 13:36 | 0° \mathbb{Y} | |
| | 3152 Aug 31 15:46 | 0° Ω | | asc. node | 3155 Mar 06 15:32 | 25° \mathbb{Y} 19'31 | |
| asc. node | 3152 Sep 18 20:37 | 21° Ω 15'49 | | | 3155 Mar 10 14:33 | 0° \mathfrak{B} | |
| | 3152 Sep 26 05:00 | 0° \mathbb{M} | | | 3155 Apr 05 19:53 | 0° \mathbb{I} | |
| | 3152 Oct 21 00:29 | 0° $\underline{\mathfrak{A}}$ | | evening max el | 3155 Apr 28 21:48 | 24° \mathbb{I} 11'56 | 45°54'35 |
| | 3152 Nov 14 08:27 | 0° \mathbb{M} | | | 3155 May 04 23:22 | 0° \mathfrak{G} | |
| | 3152 Dec 08 09:40 | 0° \mathfrak{X} | | greatest brilliancy | 3155 Jun 05 23:47 | 22° \mathfrak{G} 42'21 | -4.7m |
| greatest brilliancy | 3152 Dec 18 17:53 | 12° \mathfrak{X} 57'48 | -3.9m | retrograde | 3155 Jun 17 00:54 | 24° \mathfrak{G} 54'35 | |
| | 3153 Jan 01 07:29 | 0° \mathfrak{Z} | | desc. node | 3155 Jun 26 05:20 | 23° \mathfrak{G} 14'07 | |
| morning set | 3153 Jan 03 00:24 | 2° \mathfrak{Z} 08'34 | | evening set | 3155 Jul 02 03:55 | 20° \mathfrak{G} 29'19 | |

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|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|--|
| inferior conj | 3155 Jul 08 12:32 | 16°☿39'37 -2°51'49 | desc. node | 3157 Dec 11 00:37 | 22°♊14'33 | |
| minimum elong | 3155 Jul 08 06:30 | 16°☿49'06 2°50'08 | | 3157 Dec 17 04:55 | 0°♊ | |
| min. Earth dist. | 3155 Jul 08 06:42 | 16°☿48'49 0.28931 AU | evening rise | 3158 Jan 06 04:28 | 25°♊05'53 | |
| morning rise | 3155 Jul 14 09:19 | 13°☿06'44 | | 3158 Jan 10 02:10 | 0°♊ | |
| direct | 3155 Jul 30 02:57 | 8°☿24'15 | | 3158 Feb 02 23:58 | 0°♊ | |
| greatest brilliancy | 3155 Aug 09 07:13 | 10°☿15'47 -4.7m | | 3158 Feb 27 00:24 | 0°♊ | |
| | 3155 Sep 07 23:37 | 0°♊ | | 3158 Mar 23 06:26 | 0°♊ | |
| morning max el | 3155 Sep 16 23:02 | 8°♊18'15 45°51'23 | asc. node | 3158 Apr 03 03:27 | 13°♊18'52 | |
| | 3155 Oct 08 01:58 | 0°♊ | | 3158 Apr 16 21:53 | 0°♊ | |
| asc. node | 3155 Oct 17 08:20 | 10°♊11'30 | | 3158 May 12 04:07 | 0°☿ | |
| | 3155 Nov 03 16:22 | 0°♊ | | 3158 Jun 07 11:31 | 0°♊ | |
| | 3155 Nov 28 21:04 | 0°♊ | | 3158 Jul 06 01:47 | 0°♊ | |
| | 3155 Dec 23 09:06 | 0°♊ | evening max el | 3158 Jul 08 09:16 | 2°♊13'55 45°27'05 | |
| | 3156 Jan 16 13:04 | 0°♊ | desc. node | 3158 Jul 23 17:14 | 15°♊52'57 | |
| desc. node | 3156 Feb 05 22:11 | 25°♊26'54 | | 3158 Aug 15 17:02 | 0°♊ | |
| | 3156 Feb 09 13:32 | 0°♊ | greatest brilliancy | 3158 Aug 16 02:57 | 0°♊08'38 -4.7m | |
| | 3156 Mar 04 13:00 | 0°♊ | retrograde | 3158 Aug 26 01:07 | 1°♊55'16 | |
| morning set | 3156 Mar 21 01:33 | 20°♊39'23 | | 3158 Sep 04 21:48 | 30°♊♊ | |
| | 3156 Mar 28 13:12 | 0°♊ | evening set | 3158 Sep 13 00:55 | 25°♊53'26 | |
| | 3156 Apr 21 15:31 | 0°♊ | inferior conj | 3158 Sep 16 09:34 | 23°♊49'58 -8°38'12 | |
| | | | minimum elong | 3158 Sep 16 08:01 | 23°♊52'23 8°38'10 | |
| superior conj | 3156 Apr 29 09:09 | 9°♊35'48 -1°03'20 | min. Earth dist. | 3158 Sep 16 21:37 | 23°♊31'16 0.28724 AU | |
| minimum elong | 3156 Apr 29 19:30 | 10°♊07'54 1°02'59 | morning rise | 3158 Sep 19 14:55 | 21°♊50'57 | |
| max. Earth dist. | 3156 May 03 00:49 | 14°♊07'25 1.72628 AU | direct | 3158 Oct 07 20:45 | 15°♊35'11 | |
| | 3156 May 15 20:48 | 0°♊ | greatest brilliancy | 3158 Oct 18 21:16 | 17°♊48'34 -4.8m | |
| asc. node | 3156 May 29 01:15 | 16°♊15'49 | | 3158 Nov 07 14:32 | 0°♊ | |
| evening rise | 3156 Jun 06 12:29 | 26°♊41'06 | asc. node | 3158 Nov 13 20:12 | 5°♊16'02 | |
| | 3156 Jun 09 05:12 | 0°☿ | morning max el | 3158 Nov 27 01:10 | 17°♊47'14 46°33'22 | |
| | 3156 Jul 03 16:29 | 0°♊ | | 3158 Dec 08 18:18 | 0°♊ | |
| | 3156 Jul 28 06:57 | 0°♊ | | 3159 Jan 04 08:34 | 0°♊ | |
| | 3156 Aug 22 01:53 | 0°♊ | | 3159 Jan 29 13:26 | 0°♊ | |
| | 3156 Sep 16 03:41 | 0°♊ | | 3159 Feb 23 04:37 | 0°♊ | |
| desc. node | 3156 Sep 17 14:51 | 1°♊44'24 | desc. node | 3159 Mar 05 09:59 | 12°♊33'00 | |
| | 3156 Oct 11 15:59 | 0°♊ | | 3159 Mar 19 14:04 | 0°♊ | |
| | 3156 Nov 06 22:53 | 0°♊ | | 3159 Apr 12 21:39 | 0°♊ | |
| evening max el | 3156 Dec 03 02:27 | 27°♊56'53 47°08'04 | | 3159 May 07 05:28 | 0°♊ | |
| | 3156 Dec 05 03:39 | 0°♊ | | 3159 May 31 14:24 | 0°♊ | |
| asc. node | 3157 Jan 08 17:54 | 27°♊34'16 | morning set | 3159 Jun 01 20:05 | 1°♊31'16 | |
| greatest brilliancy | 3157 Jan 12 17:20 | 29°♊16'58 -4.9m | | 3159 Jun 25 00:10 | 0°☿ | |
| | 3157 Jan 14 20:32 | 0°♊ | asc. node | 3159 Jun 26 13:08 | 1°☿53'31 | |
| retrograde | 3157 Jan 22 19:51 | 1°♊14'11 | | | | |
| | 3157 Jan 30 13:30 | 30°♊♊ | superior conj | 3159 Jul 08 20:27 | 17°☿00'53 0°28'49 | |
| evening set | 3157 Feb 07 23:42 | 26°♊06'34 | minimum elong | 3159 Jul 08 14:46 | 16°☿43'27 0°28'32 | |
| min. Earth dist. | 3157 Feb 11 18:03 | 23°♊50'35 0.26909 AU | max. Earth dist. | 3159 Jul 08 12:02 | 16°☿35'01 1.73545 AU | |
| inferior conj | 3157 Feb 12 12:13 | 23°♊22'31 7°34'58 | | 3159 Jul 19 09:56 | 0°♊ | |
| minimum elong | 3157 Feb 12 02:27 | 23°♊37'38 7°33'17 | | 3159 Aug 12 19:09 | 0°♊ | |
| morning rise | 3157 Feb 16 05:25 | 21°♊06'59 | evening rise | 3159 Aug 13 19:46 | 1°♊15'45 | |
| direct | 3157 Mar 04 23:07 | 15°♊39'49 | | 3159 Sep 06 04:12 | 0°♊ | |
| greatest brilliancy | 3157 Mar 14 03:26 | 17°♊14'58 -4.9m | | 3159 Sep 30 14:03 | 0°♊ | |
| | 3157 Apr 04 11:30 | 0°♊ | desc. node | 3159 Oct 16 02:49 | 19°♊02'43 | |
| morning max el | 3157 Apr 23 18:34 | 17°♊23'51 46°26'49 | | 3159 Oct 25 01:42 | 0°♊ | |
| desc. node | 3157 Apr 30 07:37 | 23°♊58'12 | | 3159 Nov 18 16:06 | 0°♊ | |
| | 3157 May 06 03:12 | 0°♊ | | 3159 Dec 13 11:35 | 0°♊ | |
| | 3157 Jun 02 12:52 | 0°♊ | | 3160 Jan 07 18:59 | 0°♊ | |
| | 3157 Jun 28 15:44 | 0°♊ | | 3160 Feb 03 09:23 | 0°♊ | |
| | 3157 Jul 24 03:31 | 0°☿ | asc. node | 3160 Feb 06 05:43 | 3°♊03'04 | |
| | 3157 Aug 18 04:40 | 0°♊ | evening max el | 3160 Feb 14 06:53 | 11°♊25'31 46°59'16 | |
| asc. node | 3157 Aug 21 10:41 | 3°♊55'45 | | 3160 Mar 05 09:01 | 0°♊ | |
| | 3157 Sep 11 20:37 | 0°♊ | greatest brilliancy | 3160 Mar 25 08:39 | 12°♊24'23 -4.9m | |
| | 3157 Oct 06 04:51 | 0°♊ | retrograde | 3160 Apr 04 21:28 | 14°♊29'29 | |
| morning set | 3157 Oct 19 01:49 | 15°♊59'11 | evening set | 3160 Apr 21 17:40 | 8°♊56'04 | |
| | 3157 Oct 30 07:35 | 0°♊ | inferior conj | 3160 Apr 25 23:56 | 6°♊18'25 6°46'59 | |
| | 3157 Nov 23 07:04 | 0°♊ | minimum elong | 3160 Apr 26 09:57 | 6°♊02'44 6°45'03 | |
| max. Earth dist. | 3157 Nov 24 06:26 | 1°♊13'12 1.71529 AU | min. Earth dist. | 3160 Apr 25 20:49 | 6°♊23'20 0.28180 AU | |
| | | | morning rise | 3160 May 01 02:35 | 3°♊12'02 | |
| superior conj | 3157 Nov 26 12:23 | 4°♊02'19 0°33'54 | | 3160 May 07 18:04 | 30°♊♊ | |
| minimum elong | 3157 Nov 26 20:09 | 4°♊26'41 0°33'33 | direct | 3160 May 17 02:09 | 28°♊14'21 | |

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| | 3160 May 26 20:47 | 0°♄ | | | 3162 Nov 08 03:40 | 0°♁ | |
| greatest brilliancy | 3160 May 26 18:34 | 29°♃58'05 | -4.8m | desc. node | 3162 Nov 12 14:49 | 5°♁33'24 | |
| desc. node | 3160 May 27 19:26 | 0°♄20'17 | | | 3162 Dec 02 06:06 | 0°♄ | |
| morning max el | 3160 Jul 05 01:58 | 28°♄25'26 | 45°47'43 | | 3162 Dec 26 09:02 | 0°♁ | |
| | 3160 Jul 06 17:17 | 0°♂ | | | 3163 Jan 19 14:18 | 0°♁ | |
| | 3160 Aug 04 14:01 | 0°♄ | | | 3163 Feb 13 02:05 | 0°♃ | |
| | 3160 Aug 31 04:57 | 0°♂ | | asc. node | 3163 Mar 05 17:31 | 24°♃45'38 | |
| asc. node | 3160 Sep 17 22:33 | 20°♂45'03 | | | 3163 Mar 10 04:13 | 0°♄ | |
| | 3160 Sep 25 17:03 | 0°♄ | | | 3163 Apr 05 12:12 | 0°♂ | |
| | 3160 Oct 20 11:57 | 0°♄ | | evening max el | 3163 Apr 26 12:29 | 21°♂57'02 | 45°56'33 |
| | 3160 Nov 13 19:38 | 0°♂ | | | 3163 May 05 00:24 | 0°♄ | |
| | 3160 Dec 07 20:42 | 0°♁ | | greatest brilliancy | 3163 Jun 03 16:51 | 20°♄34'16 | -4.7m |
| greatest brilliancy | 3160 Dec 19 14:45 | 14°♁44'05 | -3.9m | retrograde | 3163 Jun 14 16:58 | 22°♄46'15 | |
| morning set | 3160 Dec 31 11:01 | 29°♁36'41 | | desc. node | 3163 Jun 25 07:20 | 20°♄32'58 | |
| | 3160 Dec 31 18:27 | 0°♄ | | evening set | 3163 Jun 29 19:44 | 18°♄21'43 | |
| desc. node | 3161 Jan 07 12:20 | 8°♄28'44 | | inferior conj | 3163 Jul 06 05:00 | 14°♄31'27 | -2°33'02 |
| | 3161 Jan 24 14:54 | 0°♁ | | minimum elong | 3163 Jul 05 23:33 | 14°♄39'59 | 2°31'29 |
| | | | | min. Earth dist. | 3163 Jul 05 23:39 | 14°♄39'50 | 0.28911 AU |
| superior conj | 3161 Feb 11 01:15 | 21°♁55'23 | -1°10'57 | morning rise | 3163 Jul 12 03:31 | 10°♄55'54 | |
| minimum elong | 3161 Feb 10 13:53 | 21°♁19'38 | 1°10'37 | direct | 3163 Jul 27 18:33 | 6°♄16'14 | |
| max. Earth dist. | 3161 Feb 13 06:51 | 24°♁43'50 | 1.71213 AU | greatest brilliancy | 3163 Aug 06 23:41 | 8°♄08'06 | -4.7m |
| | 3161 Feb 17 11:28 | 0°♁ | | | 3163 Sep 08 01:16 | 0°♂ | |
| | 3161 Mar 13 09:36 | 0°♃ | | morning max el | 3163 Sep 14 13:44 | 6°♂05'35 | 45°50'28 |
| evening rise | 3161 Mar 23 20:38 | 13°♃04'15 | | | 3163 Oct 07 18:13 | 0°♄ | |
| | 3161 Apr 06 11:00 | 0°♄ | | asc. node | 3163 Oct 16 10:31 | 9°♄35'27 | |
| asc. node | 3161 Apr 30 15:29 | 29°♄54'20 | | | 3163 Nov 03 05:53 | 0°♄ | |
| | 3161 Apr 30 17:19 | 0°♂ | | | 3163 Nov 28 09:25 | 0°♂ | |
| | 3161 May 25 06:02 | 0°♄ | | | 3163 Dec 22 20:52 | 0°♁ | |
| | 3161 Jun 19 02:52 | 0°♂ | | | 3164 Jan 16 00:28 | 0°♄ | |
| | 3161 Jul 14 11:13 | 0°♄ | | desc. node | 3164 Feb 05 00:11 | 24°♄58'07 | |
| | 3161 Aug 09 14:34 | 0°♄ | | | 3164 Feb 09 00:41 | 0°♁ | |
| desc. node | 3161 Aug 20 04:56 | 11°♄45'44 | | | 3164 Mar 03 23:58 | 0°♁ | |
| | 3161 Sep 06 07:34 | 0°♂ | | morning set | 3164 Mar 18 13:00 | 18°♁11'17 | |
| evening max el | 3161 Sep 18 16:42 | 12°♂22'37 | 46°06'37 | | 3164 Mar 28 00:01 | 0°♃ | |
| | 3161 Oct 08 21:14 | 0°♁ | | | 3164 Apr 21 02:14 | 0°♄ | |
| greatest brilliancy | 3161 Oct 28 16:38 | 11°♁18'45 | -4.8m | | | | |
| retrograde | 3161 Nov 06 22:48 | 12°♁53'02 | | superior conj | 3164 Apr 26 23:27 | 7°♄18'11 | -1°05'43 |
| evening set | 3161 Nov 22 01:06 | 8°♁28'46 | | minimum elong | 3164 Apr 27 09:47 | 7°♄50'13 | 1°05'23 |
| inferior conj | 3161 Nov 27 15:09 | 5°♁11'37 | -3°25'55 | max. Earth dist. | 3164 Apr 30 15:00 | 11°♄49'33 | 1.72575 AU |
| minimum elong | 3161 Nov 27 22:31 | 5°♁00'21 | 3°23'44 | | 3164 May 15 07:29 | 0°♂ | |
| min. Earth dist. | 3161 Nov 28 07:01 | 4°♁47'23 | 0.26904 AU | asc. node | 3164 May 28 03:20 | 15°♂49'23 | |
| morning rise | 3161 Dec 03 19:23 | 1°♁34'30 | | evening rise | 3164 Jun 04 05:12 | 24°♂32'01 | |
| | 3161 Dec 07 00:12 | 30°♄ | | | 3164 Jun 08 15:54 | 0°♄ | |
| asc. node | 3161 Dec 11 07:59 | 28°♄24'40 | | | 3164 Jul 03 03:18 | 0°♂ | |
| direct | 3161 Dec 18 08:27 | 27°♄24'13 | | | 3164 Jul 27 18:02 | 0°♄ | |
| greatest brilliancy | 3161 Dec 29 03:06 | 29°♄35'55 | -4.9m | | 3164 Aug 21 13:29 | 0°♄ | |
| | 3161 Dec 30 02:53 | 0°♁ | | | 3164 Sep 15 16:08 | 0°♂ | |
| | 3162 Feb 06 07:25 | 0°♄ | | desc. node | 3164 Sep 16 16:56 | 1°♂13'29 | |
| morning max el | 3162 Feb 07 00:46 | 0°♄43'55 | 46°58'04 | | 3164 Oct 11 05:56 | 0°♁ | |
| | 3162 Mar 06 02:29 | 0°♁ | | | 3164 Nov 06 15:39 | 0°♄ | |
| | 3162 Apr 01 00:50 | 0°♁ | | evening max el | 3164 Nov 30 15:30 | 25°♄31'19 | 47°06'47 |
| desc. node | 3162 Apr 01 21:54 | 1°♁02'02 | | | 3164 Dec 05 03:59 | 0°♁ | |
| | 3162 Apr 26 06:25 | 0°♃ | | asc. node | 3165 Jan 07 19:53 | 25°♁49'39 | |
| | 3162 May 21 04:48 | 0°♄ | | greatest brilliancy | 3165 Jan 10 06:43 | 26°♁49'39 | -4.9m |
| | 3162 Jun 14 23:46 | 0°♂ | | retrograde | 3165 Jan 20 08:55 | 28°♁46'53 | |
| | 3162 Jul 09 16:15 | 0°♄ | | evening set | 3165 Feb 05 08:25 | 23°♁45'13 | |
| asc. node | 3162 Jul 24 00:52 | 17°♄31'09 | | min. Earth dist. | 3165 Feb 09 07:04 | 21°♁23'29 | 0.26867 AU |
| | 3162 Aug 03 05:35 | 0°♂ | | inferior conj | 3165 Feb 10 00:57 | 20°♁55'55 | 7°21'48 |
| morning set | 3162 Aug 08 21:11 | 6°♂55'48 | | minimum elong | 3165 Feb 09 14:50 | 21°♁11'32 | 7°19'55 |
| | 3162 Aug 27 15:10 | 0°♄ | | morning rise | 3165 Feb 13 21:27 | 18°♁35'53 | |
| max. Earth dist. | 3162 Sep 11 05:24 | 18°♄02'02 | 1.72926 AU | direct | 3165 Mar 02 11:12 | 13°♁13'32 | |
| | | | | greatest brilliancy | 3165 Mar 11 16:45 | 14°♁49'58 | -4.9m |
| superior conj | 3162 Sep 14 07:32 | 21°♄51'30 | 1°24'37 | | 3165 Apr 04 22:59 | 0°♁ | |
| minimum elong | 3162 Sep 14 05:43 | 21°♄45'52 | 1°24'36 | morning max el | 3165 Apr 21 08:21 | 15°♁02'54 | 46°28'28 |
| | 3162 Sep 20 21:15 | 0°♄ | | desc. node | 3165 Apr 29 09:48 | 23°♁11'12 | |
| | 3162 Oct 15 01:00 | 0°♂ | | | 3165 May 05 22:02 | 0°♃ | |
| evening rise | 3162 Oct 21 11:45 | 8°♂01'05 | | | 3165 Jun 02 03:33 | 0°♄ | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|------------|------------|
| | 3165 Jun 28 04:35 | 0°♂ | | evening max el | 3168 Feb 11 22:40 | 9°♂08'22 | 47°00'48 |
| | 3165 Jul 23 15:21 | 0°♂ | | | 3168 Mar 05 22:09 | 0°♂ | |
| | 3165 Aug 17 15:53 | 0°♂ | | greatest brilliancy | 3168 Mar 23 00:30 | 10°♂08'00 | -4.9m |
| asc. node | 3165 Aug 20 12:43 | 3°♂28'05 | | retrograde | 3168 Apr 02 13:02 | 12°♂12'29 | |
| | 3165 Sep 11 07:29 | 0°♂ | | evening set | 3168 Apr 19 11:52 | 6°♂35'02 | |
| | 3165 Oct 05 15:34 | 0°♂ | | inferior conj | 3168 Apr 23 14:58 | 4°♂01'50 | 7°00'42 |
| morning set | 3165 Oct 16 17:38 | 13°♂45'49 | | minimum elong | 3168 Apr 24 00:50 | 3°♂46'21 | 6°58'52 |
| | 3165 Oct 29 18:17 | 0°♂ | | min. Earth dist. | 3168 Apr 23 11:14 | 4°♂07'42 | 0.28146 AU |
| max. Earth dist. | 3165 Nov 21 19:58 | 28°♂51'29 | 1.71571 AU | morning rise | 3168 Apr 28 14:10 | 1°♂00'18 | |
| | 3165 Nov 22 17:50 | 0°♂ | | | 3168 Apr 30 09:45 | 30°♂♂ | |
| | | | | direct | 3168 May 14 17:11 | 25°♂♂58'37 | |
| superior conj | 3165 Nov 24 01:10 | 1°♂38'10 | 0°37'17 | greatest brilliancy | 3168 May 24 07:44 | 27°♂♂40'56 | -4.8m |
| minimum elong | 3165 Nov 24 09:30 | 2°♂04'18 | 0°36'55 | desc. node | 3168 May 26 21:25 | 28°♂♂39'14 | |
| desc. node | 3165 Dec 10 02:37 | 21°♂46'52 | | | 3168 May 29 20:30 | 0°♂ | |
| | 3165 Dec 16 15:47 | 0°♂ | | morning max el | 3168 Jul 02 17:06 | 26°♂12'26 | 45°48'23 |
| evening rise | 3166 Jan 03 15:18 | 22°♂34'48 | | | 3168 Jul 06 14:56 | 0°♂ | |
| | 3166 Jan 09 13:08 | 0°♂ | | | 3168 Aug 04 05:28 | 0°♂ | |
| | 3166 Feb 02 11:04 | 0°♂ | | | 3168 Aug 30 18:07 | 0°♂ | |
| | 3166 Feb 26 11:40 | 0°♂ | | asc. node | 3168 Sep 17 00:40 | 20°♂14'42 | |
| | 3166 Mar 22 17:58 | 0°♂ | | | 3168 Sep 25 05:09 | 0°♂ | |
| asc. node | 3166 Apr 02 05:36 | 12°♂49'41 | | | 3168 Oct 19 23:30 | 0°♂ | |
| | 3166 Apr 16 09:57 | 0°♂ | | | 3168 Nov 13 06:53 | 0°♂ | |
| | 3166 May 11 17:13 | 0°♂ | | | 3168 Dec 07 07:47 | 0°♂ | |
| | 3166 Jun 07 02:52 | 0°♂ | | greatest brilliancy | 3168 Dec 19 19:04 | 15°♂38'13 | -3.9m |
| evening max el | 3166 Jul 05 23:37 | 0°♂ | | morning set | 3168 Dec 28 22:08 | 27°♂06'13 | |
| desc. node | 3166 Jul 06 01:21 | 0°♂04'10 | 45°26'58 | | 3168 Dec 31 05:27 | 0°♂ | |
| | 3166 Jul 22 19:13 | 14°♂50'51 | | desc. node | 3169 Jan 06 14:21 | 8°♂00'31 | |
| greatest brilliancy | 3166 Aug 13 16:02 | 27°♂55'19 | -4.7m | | 3169 Jan 24 01:52 | 0°♂ | |
| retrograde | 3166 Aug 23 16:44 | 29°♂43'43 | | | | | |
| evening set | 3166 Sep 10 14:38 | 23°♂43'56 | | superior conj | 3169 Feb 08 11:38 | 19°♂22'43 | -1°08'36 |
| inferior conj | 3166 Sep 14 01:03 | 21°♂37'39 | -8°35'58 | minimum elong | 3169 Feb 07 23:56 | 18°♂45'58 | 1°08'14 |
| minimum elong | 3166 Sep 13 22:43 | 21°♂41'17 | 8°35'53 | max. Earth dist. | 3169 Feb 10 14:36 | 22°♂02'55 | 1.71188 AU |
| min. Earth dist. | 3166 Sep 14 11:39 | 21°♂21'10 | 0.28763 AU | | 3169 Feb 16 22:25 | 0°♂ | |
| morning rise | 3166 Sep 17 06:40 | 19°♂38'14 | | | 3169 Mar 12 20:33 | 0°♂ | |
| direct | 3166 Oct 05 13:14 | 13°♂22'34 | | evening rise | 3169 Mar 21 08:11 | 10°♂36'17 | |
| greatest brilliancy | 3166 Oct 16 11:46 | 15°♂34'24 | -4.8m | | 3169 Apr 05 22:00 | 0°♂ | |
| | 3166 Nov 07 23:40 | 0°♂ | | asc. node | 3169 Apr 29 17:29 | 29°♂26'14 | |
| asc. node | 3166 Nov 12 22:12 | 4°♂17'40 | | | 3169 Apr 30 04:27 | 0°♂ | |
| morning max el | 3166 Nov 24 17:00 | 15°♂32'12 | 46°31'49 | | 3169 May 24 17:27 | 0°♂ | |
| | 3166 Dec 08 12:25 | 0°♂ | | | 3169 Jun 18 14:50 | 0°♂ | |
| | 3167 Jan 03 23:08 | 0°♂ | | | 3169 Jul 14 00:11 | 0°♂ | |
| | 3167 Jan 29 02:28 | 0°♂ | | | 3169 Aug 09 05:31 | 0°♂ | |
| | 3167 Feb 22 16:50 | 0°♂ | | desc. node | 3169 Aug 19 07:04 | 11°♂07'06 | |
| desc. node | 3167 Mar 04 12:04 | 12°♂02'32 | | | 3169 Sep 06 03:18 | 0°♂ | |
| | 3167 Mar 19 01:46 | 0°♂ | | evening max el | 3169 Sep 16 05:34 | 10°♂01'12 | 46°04'18 |
| | 3167 Apr 12 08:58 | 0°♂ | | | 3169 Oct 09 15:48 | 0°♂ | |
| | 3167 May 06 16:30 | 0°♂ | | greatest brilliancy | 3169 Oct 26 06:22 | 8°♂55'43 | -4.8m |
| morning set | 3167 May 30 12:43 | 29°♂21'39 | | retrograde | 3169 Nov 04 10:30 | 10°♂28'33 | |
| | 3167 May 31 01:12 | 0°♂ | | evening set | 3169 Nov 19 16:22 | 6°♂00'40 | |
| | 3167 Jun 24 10:50 | 0°♂ | | inferior conj | 3169 Nov 25 04:01 | 2°♂46'55 | -3°47'31 |
| asc. node | 3167 Jun 25 15:02 | 1°♂26'39 | | minimum elong | 3169 Nov 25 12:00 | 2°♂34'41 | 3°45'12 |
| | | | | min. Earth dist. | 3169 Nov 25 21:25 | 2°♂20'18 | 0.26956 AU |
| superior conj | 3167 Jul 06 14:08 | 14°♂54'58 | 0°25'46 | | 3169 Nov 29 19:39 | 30°♂♂ | |
| minimum elong | 3167 Jul 06 08:58 | 14°♂39'08 | 0°25'31 | morning rise | 3169 Dec 01 06:58 | 29°♂11'01 | |
| max. Earth dist. | 3167 Jul 06 11:17 | 14°♂46'15 | 1.73539 AU | asc. node | 3169 Dec 10 09:59 | 25°♂35'09 | |
| | 3167 Jul 18 20:35 | 0°♂ | | direct | 3169 Dec 15 21:22 | 24°♂58'24 | |
| evening rise | 3167 Aug 11 14:17 | 29°♂11'56 | | greatest brilliancy | 3169 Dec 26 18:19 | 27°♂11'46 | -4.9m |
| | 3167 Aug 12 05:54 | 0°♂ | | | 3170 Jan 01 15:45 | 0°♂ | |
| | 3167 Sep 05 15:09 | 0°♂ | | morning max el | 3170 Feb 04 13:22 | 28°♂16'14 | 46°58'21 |
| | 3167 Sep 30 01:18 | 0°♂ | | | 3170 Feb 06 06:01 | 0°♂ | |
| desc. node | 3167 Oct 15 04:58 | 18°♂34'05 | | | 3170 Mar 05 18:49 | 0°♂ | |
| | 3167 Oct 24 13:23 | 0°♂ | | | 3170 Mar 31 14:45 | 0°♂ | |
| | 3167 Nov 18 04:24 | 0°♂ | | desc. node | 3170 Apr 01 00:04 | 0°♂27'31 | |
| | 3167 Dec 13 00:51 | 0°♂ | | | 3170 Apr 25 19:04 | 0°♂ | |
| | 3168 Jan 07 09:59 | 0°♂ | | | 3170 May 20 16:41 | 0°♂ | |
| | 3168 Feb 03 04:23 | 0°♂ | | | 3170 Jun 14 11:10 | 0°♂ | |
| asc. node | 3168 Feb 05 07:42 | 2°♂16'18 | | | 3170 Jul 09 03:20 | 0°♂ | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| asc. node | 3170 Jul 23 02:57 | 17°☿04'02 | | min. Earth dist. | 3173 Feb 06 19:43 | 18°♊55'17 | 0.26825 AU |
| | 3170 Aug 02 16:29 | 0°♌ | | inferior conj | 3173 Feb 07 13:34 | 18°♊27'51 | 7°07'37 |
| morning set | 3170 Aug 06 14:54 | 4°♌49'31 | | minimum elong | 3173 Feb 07 03:10 | 18°♊43'50 | 7°05'35 |
| | 3170 Aug 27 01:59 | 0°♍ | | morning rise | 3173 Feb 11 13:28 | 16°♊03'18 | |
| max. Earth dist. | 3170 Sep 08 23:31 | 15°♍56'08 | 1.72971 AU | direct | 3173 Feb 27 23:51 | 10°♊45'53 | |
| | | | | greatest brilliancy | 3173 Mar 09 05:33 | 12°♊23'03 | -4.9m |
| superior conj | 3170 Sep 12 01:03 | 19°♍43'38 | 1°24'13 | | 3173 Apr 05 07:55 | 0°♋ | |
| minimum elong | 3170 Sep 11 22:32 | 19°♍35'51 | 1°24'12 | morning max el | 3173 Apr 18 22:45 | 12°♋42'29 | 46°30'15 |
| | 3170 Sep 20 08:06 | 0°♌ | | desc. node | 3173 Apr 28 11:41 | 22°♋23'19 | |
| | 3170 Oct 14 11:58 | 0°♍ | | | 3173 May 05 16:42 | 0°♌ | |
| evening rise | 3170 Oct 19 02:45 | 5°♍44'14 | | | 3173 Jun 01 18:19 | 0°♍ | |
| | 3170 Nov 07 14:52 | 0°♎ | | | 3173 Jun 27 17:34 | 0°♎ | |
| desc. node | 3170 Nov 11 16:46 | 5°♎04'30 | | | 3173 Jul 23 03:22 | 0°☿ | |
| | 3170 Dec 01 17:34 | 0°♏ | | | 3173 Aug 17 03:21 | 0°♌ | |
| | 3170 Dec 25 20:48 | 0°♐ | | asc. node | 3173 Aug 19 14:49 | 2°♌59'53 | |
| | 3171 Jan 19 02:26 | 0°♋ | | | 3173 Sep 10 18:39 | 0°♍ | |
| | 3171 Feb 12 14:50 | 0°♌ | | | 3173 Oct 05 02:38 | 0°♌ | |
| asc. node | 3171 Mar 04 19:42 | 24°♌11'41 | | morning set | 3173 Oct 14 09:31 | 11°♌31'39 | |
| | 3171 Mar 09 18:11 | 0°♍ | | | 3173 Oct 29 05:20 | 0°♍ | |
| | 3171 Apr 05 04:58 | 0°♎ | | max. Earth dist. | 3173 Nov 19 07:55 | 26°♍23'51 | 1.71610 AU |
| evening max el | 3171 Apr 24 03:05 | 19°♎41'28 | 45°58'31 | | | | |
| | 3171 May 05 03:02 | 0°☿ | | superior conj | 3173 Nov 21 13:59 | 29°♍13'11 | 0°40'36 |
| greatest brilliancy | 3171 Jun 01 09:18 | 18°☿24'50 | -4.7m | minimum elong | 3173 Nov 21 22:49 | 29°♍40'50 | 0°40'12 |
| retrograde | 3171 Jun 12 09:25 | 20°☿37'26 | | | 3173 Nov 22 04:56 | 0°♎ | |
| desc. node | 3171 Jun 24 09:21 | 17°☿47'04 | | desc. node | 3173 Dec 09 04:36 | 21°♎18'10 | |
| evening set | 3171 Jun 27 11:45 | 16°☿13'04 | | | 3173 Dec 16 02:57 | 0°♏ | |
| inferior conj | 3171 Jul 03 21:29 | 12°☿22'29 | -2°13'54 | evening rise | 3174 Jan 01 02:02 | 20°♏02'30 | |
| minimum elong | 3171 Jul 03 16:41 | 12°☿30'01 | 2°12'32 | | 3174 Jan 09 00:24 | 0°♐ | |
| min. Earth dist. | 3171 Jul 03 16:29 | 12°☿30'20 | 0.28897 AU | | 3174 Feb 01 22:29 | 0°♋ | |
| morning rise | 3171 Jul 09 21:42 | 8°☿44'38 | | | 3174 Feb 25 23:17 | 0°♌ | |
| direct | 3171 Jul 25 10:17 | 4°☿07'14 | | | 3174 Mar 22 05:53 | 0°♍ | |
| greatest brilliancy | 3171 Aug 04 16:26 | 5°☿59'52 | -4.7m | asc. node | 3174 Apr 01 07:35 | 12°♍18'55 | |
| | 3171 Sep 08 02:04 | 0°♌ | | | 3174 Apr 15 22:22 | 0°♎ | |
| morning max el | 3171 Sep 12 05:21 | 3°♌54'10 | 45°49'35 | | 3174 May 11 06:40 | 0°☿ | |
| | 3171 Oct 07 10:34 | 0°♍ | | | 3174 Jun 06 18:41 | 0°♌ | |
| asc. node | 3171 Oct 15 12:33 | 8°♍58'16 | | evening max el | 3174 Jul 03 17:39 | 27°♌54'28 | 45°26'52 |
| | 3171 Nov 02 19:37 | 0°♌ | | | 3174 Jul 05 22:32 | 0°♍ | |
| | 3171 Nov 27 22:01 | 0°♍ | | desc. node | 3174 Jul 21 21:19 | 13°♍47'04 | |
| | 3171 Dec 22 08:53 | 0°♎ | | greatest brilliancy | 3174 Aug 11 05:44 | 25°♍42'39 | -4.7m |
| | 3172 Jan 15 12:11 | 0°♏ | | retrograde | 3174 Aug 21 08:08 | 27°♍32'10 | |
| desc. node | 3172 Feb 04 02:14 | 24°♏28'38 | | evening set | 3174 Sep 08 04:17 | 21°♍35'08 | |
| | 3172 Feb 08 12:09 | 0°♐ | | inferior conj | 3174 Sep 11 16:46 | 19°♍25'26 | -8°32'54 |
| | 3172 Mar 03 11:14 | 0°♋ | | minimum elong | 3174 Sep 11 13:41 | 19°♍30'14 | 8°32'46 |
| morning set | 3172 Mar 16 00:34 | 15°♋42'30 | | min. Earth dist. | 3174 Sep 12 02:03 | 19°♍11'00 | 0.28802 AU |
| | 3172 Mar 27 11:07 | 0°♌ | | morning rise | 3174 Sep 14 22:58 | 17°♍24'59 | |
| | 3172 Apr 20 13:12 | 0°♍ | | direct | 3174 Oct 03 05:59 | 11°♍10'09 | |
| | | | | greatest brilliancy | 3174 Oct 14 02:29 | 13°♍20'04 | -4.8m |
| superior conj | 3172 Apr 24 14:01 | 5°♍00'32 | -1°07'58 | | 3174 Nov 08 06:37 | 0°♌ | |
| minimum elong | 3172 Apr 25 00:15 | 5°♍32'18 | 1°07'39 | asc. node | 3174 Nov 12 00:09 | 3°♌19'36 | |
| max. Earth dist. | 3172 Apr 28 05:16 | 9°♍31'11 | 1.72520 AU | morning max el | 3174 Nov 22 08:09 | 13°♌14'36 | 46°30'07 |
| | 3172 May 14 18:24 | 0°♎ | | | 3174 Dec 08 06:30 | 0°♍ | |
| asc. node | 3172 May 27 05:17 | 15°♎21'51 | | | 3175 Jan 03 13:53 | 0°♎ | |
| evening rise | 3172 Jun 01 22:12 | 22°♎23'10 | | | 3175 Jan 28 15:44 | 0°♏ | |
| | 3172 Jun 08 02:50 | 0°☿ | | | 3175 Feb 22 05:16 | 0°♐ | |
| | 3172 Jul 02 14:23 | 0°♌ | | desc. node | 3175 Mar 03 14:10 | 11°♐31'25 | |
| | 3172 Jul 27 05:26 | 0°♍ | | | 3175 Mar 18 13:41 | 0°♋ | |
| | 3172 Aug 21 01:28 | 0°♌ | | | 3175 Apr 11 20:31 | 0°♌ | |
| | 3172 Sep 15 05:03 | 0°♍ | | | 3175 May 06 03:45 | 0°♍ | |
| desc. node | 3172 Sep 15 19:01 | 0°♍41'21 | | morning set | 3175 May 28 05:31 | 27°♍11'42 | |
| | 3172 Oct 10 20:23 | 0°♎ | | | 3175 May 30 12:13 | 0°♎ | |
| | 3172 Nov 06 09:09 | 0°♏ | | | 3175 Jun 23 21:42 | 0°☿ | |
| evening max el | 3172 Nov 28 05:23 | 23°♏06'58 | 47°05'29 | asc. node | 3175 Jun 24 17:10 | 0°☿59'49 | |
| | 3172 Dec 05 06:01 | 0°♐ | | | | | |
| asc. node | 3173 Jan 06 21:57 | 23°♐59'47 | | superior conj | 3175 Jul 04 08:08 | 12°☿49'26 | 0°22'42 |
| greatest brilliancy | 3173 Jan 07 19:26 | 24°♐20'27 | -4.9m | minimum elong | 3175 Jul 04 03:32 | 12°☿35'19 | 0°22'30 |
| retrograde | 3173 Jan 17 22:19 | 26°♐18'14 | | max. Earth dist. | 3175 Jul 04 09:50 | 12°☿54'40 | 1.73525 AU |
| evening set | 3173 Feb 02 17:08 | 21°♐22'20 | | | 3175 Jul 18 07:24 | 0°♌ | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| evening rise | 3175 Aug 09 09:09 | 27°♎08'51 | | greatest brilliancy | 3177 Dec 24 09:58 | 24°♎49'08 | -4.9m |
| | 3175 Aug 11 16:48 | 0°♎ | | | 3178 Jan 03 05:54 | 0°♎ | |
| | 3175 Sep 05 02:15 | 0°♎ | | morning max el | 3178 Feb 02 02:48 | 25°♎50'36 | 46°58'17 |
| | 3175 Sep 29 12:45 | 0°♎ | | | 3178 Feb 06 03:48 | 0°♎ | |
| desc. node | 3175 Oct 14 06:54 | 18°♎04'09 | | | 3178 Mar 05 10:59 | 0°♎ | |
| | 3175 Oct 24 01:19 | 0°♎ | | desc. node | 3178 Mar 31 01:59 | 29°♎52'08 | |
| | 3175 Nov 17 17:02 | 0°♎ | | | 3178 Mar 31 04:38 | 0°♎ | |
| | 3175 Dec 12 14:31 | 0°♎ | | | 3178 Apr 25 07:43 | 0°♎ | |
| | 3176 Jan 07 01:30 | 0°♎ | | | 3178 May 20 04:33 | 0°♎ | |
| | 3176 Feb 03 00:16 | 0°♎ | | | 3178 Jun 13 22:32 | 0°♎ | |
| asc. node | 3176 Feb 04 09:50 | 1°♎28'23 | | | 3178 Jul 08 14:21 | 0°♎ | |
| evening max el | 3176 Feb 09 13:29 | 6°♎47'39 | 47°02'19 | asc. node | 3178 Jul 22 05:02 | 16°♎37'08 | |
| | 3176 Mar 06 16:15 | 0°♎ | | | 3178 Aug 02 03:19 | 0°♎ | |
| greatest brilliancy | 3176 Mar 20 16:51 | 7°♎51'15 | -4.9m | morning set | 3178 Aug 04 08:38 | 2°♎43'31 | |
| retrograde | 3176 Mar 31 04:04 | 9°♎54'31 | | | 3178 Aug 26 12:42 | 0°♎ | |
| evening set | 3176 Apr 17 06:00 | 4°♎13'10 | | max. Earth dist. | 3178 Sep 06 19:23 | 13°♎55'57 | 1.73010 AU |
| inferior conj | 3176 Apr 21 05:57 | 1°♎44'29 | 7°13'45 | | | | |
| minimum elong | 3176 Apr 21 15:36 | 1°♎29'19 | 7°12'03 | superior conj | 3178 Sep 09 18:49 | 17°♎36'55 | 1°23'42 |
| min. Earth dist. | 3176 Apr 21 01:54 | 1°♎50'52 | 0.28110 AU | minimum elong | 3178 Sep 09 15:39 | 17°♎27'06 | 1°23'41 |
| | 3176 Apr 24 01:05 | 30°♎ | | | 3178 Sep 19 18:49 | 0°♎ | |
| morning rise | 3176 Apr 26 01:33 | 28°♎47'52 | | | 3178 Oct 13 22:48 | 0°♎ | |
| direct | 3176 May 12 07:48 | 23°♎42'03 | | evening rise | 3178 Oct 16 18:17 | 3°♎29'38 | |
| greatest brilliancy | 3176 May 21 21:21 | 25°♎23'24 | -4.8m | | 3178 Nov 07 01:53 | 0°♎ | |
| desc. node | 3176 May 25 23:27 | 27°♎01'09 | | desc. node | 3178 Nov 10 18:50 | 4°♎36'33 | |
| | 3176 May 31 15:48 | 0°♎ | | | 3178 Dec 01 04:51 | 0°♎ | |
| morning max el | 3176 Jun 30 07:25 | 23°♎56'47 | 45°49'16 | | 3178 Dec 25 08:24 | 0°♎ | |
| | 3176 Jul 06 11:59 | 0°♎ | | | 3179 Jan 18 14:30 | 0°♎ | |
| | 3176 Aug 03 20:48 | 0°♎ | | | 3179 Feb 12 03:37 | 0°♎ | |
| | 3176 Aug 30 07:16 | 0°♎ | | asc. node | 3179 Mar 03 21:37 | 23°♎36'42 | |
| asc. node | 3176 Sep 16 02:41 | 19°♎44'02 | | | 3179 Mar 09 08:18 | 0°♎ | |
| | 3176 Sep 24 17:14 | 0°♎ | | | 3179 Apr 04 22:10 | 0°♎ | |
| | 3176 Oct 19 11:03 | 0°♎ | | evening max el | 3179 Apr 21 17:58 | 17°♎26'25 | 46°00'41 |
| | 3176 Nov 12 18:10 | 0°♎ | | | 3179 May 05 07:28 | 0°♎ | |
| | 3176 Dec 06 18:59 | 0°♎ | | greatest brilliancy | 3179 May 30 01:12 | 16°♎14'21 | -4.7m |
| greatest brilliancy | 3176 Dec 19 13:57 | 16°♎02'22 | -3.9m | retrograde | 3179 Jun 10 02:09 | 18°♎28'01 | |
| morning set | 3176 Dec 26 09:03 | 24°♎34'37 | | desc. node | 3179 Jun 23 11:26 | 14°♎56'31 | |
| | 3176 Dec 30 16:37 | 0°♎ | | evening set | 3179 Jun 25 03:42 | 14°♎03'36 | |
| desc. node | 3177 Jan 05 16:30 | 7°♎32'13 | | inferior conj | 3179 Jul 01 13:42 | 10°♎12'51 | -1°54'31 |
| | 3177 Jan 23 13:01 | 0°♎ | | minimum elong | 3179 Jul 01 09:33 | 10°♎19'21 | 1°53'19 |
| | | | | min. Earth dist. | 3179 Jul 01 08:43 | 10°♎20'39 | 0.28878 AU |
| superior conj | 3177 Feb 05 21:33 | 16°♎48'03 | -1°06'04 | morning rise | 3179 Jul 07 15:32 | 6°♎33'04 | |
| minimum elong | 3177 Feb 05 09:39 | 16°♎10'39 | 1°05'41 | direct | 3179 Jul 23 02:06 | 1°♎57'41 | |
| max. Earth dist. | 3177 Feb 07 17:48 | 19°♎07'10 | 1.71165 AU | greatest brilliancy | 3179 Aug 02 08:27 | 3°♎50'47 | -4.7m |
| | 3177 Feb 16 09:33 | 0°♎ | | | 3179 Sep 08 01:32 | 0°♎ | |
| | 3177 Mar 12 07:39 | 0°♎ | | morning max el | 3179 Sep 09 21:38 | 1°♎44'55 | 45°48'52 |
| evening rise | 3177 Mar 18 19:12 | 8°♎06'08 | | | 3179 Oct 07 02:24 | 0°♎ | |
| | 3177 Apr 05 09:07 | 0°♎ | | asc. node | 3179 Oct 14 14:27 | 8°♎21'41 | |
| asc. node | 3177 Apr 28 19:28 | 28°♎57'46 | | | 3179 Nov 02 08:59 | 0°♎ | |
| | 3177 Apr 29 15:43 | 0°♎ | | | 3179 Nov 27 10:15 | 0°♎ | |
| | 3177 May 24 05:00 | 0°♎ | | | 3179 Dec 21 20:34 | 0°♎ | |
| | 3177 Jun 18 02:55 | 0°♎ | | | 3180 Jan 14 23:32 | 0°♎ | |
| | 3177 Jul 13 13:16 | 0°♎ | | desc. node | 3180 Feb 03 04:19 | 24°♎00'12 | |
| | 3177 Aug 08 20:37 | 0°♎ | | | 3180 Feb 07 23:18 | 0°♎ | |
| desc. node | 3177 Aug 18 09:09 | 10°♎28'13 | | | 3180 Mar 02 22:13 | 0°♎ | |
| | 3177 Sep 05 23:28 | 0°♎ | | morning set | 3180 Mar 13 11:48 | 13°♎13'17 | |
| evening max el | 3177 Sep 13 17:55 | 7°♎39'18 | 46°02'12 | | 3180 Mar 26 22:00 | 0°♎ | |
| | 3177 Oct 10 16:19 | 0°♎ | | | 3180 Apr 20 00:01 | 0°♎ | |
| greatest brilliancy | 3177 Oct 23 19:54 | 6°♎33'42 | -4.8m | | | | |
| retrograde | 3177 Nov 01 22:44 | 8°♎05'48 | | superior conj | 3180 Apr 22 03:55 | 2°♎41'13 | -1°10'08 |
| evening set | 3177 Nov 17 08:00 | 3°♎33'40 | | minimum elong | 3180 Apr 22 14:00 | 3°♎12'31 | 1°09'51 |
| inferior conj | 3177 Nov 22 17:11 | 0°♎23'33 | -4°08'15 | max. Earth dist. | 3180 Apr 25 19:07 | 7°♎11'49 | 1.72470 AU |
| minimum elong | 3177 Nov 23 01:44 | 0°♎10'29 | 4°05'50 | | 3180 May 14 05:09 | 0°♎ | |
| | 3177 Nov 23 08:35 | 30°♎ | | asc. node | 3180 May 26 07:23 | 14°♎55'14 | |
| min. Earth dist. | 3177 Nov 23 11:55 | 29°♎54'54 | 0.27017 AU | evening rise | 3180 May 30 14:32 | 20°♎12'42 | |
| morning rise | 3177 Nov 28 18:42 | 26°♎49'24 | | | 3180 Jun 07 13:36 | 0°♎ | |
| asc. node | 3177 Dec 09 12:05 | 22°♎52'45 | | | 3180 Jul 02 01:18 | 0°♎ | |
| direct | 3177 Dec 13 10:37 | 22°♎33'42 | | | 3180 Jul 26 16:40 | 0°♎ | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|--|
| | 3180 Aug 20 13:16 | 0°♄ | | | 3183 Apr 11 07:36 | 0°♿ | | |
| desc. node | 3180 Sep 14 20:57 | 0°♌09'20 | | | 3183 May 05 14:33 | 0°♄ | | |
| | 3180 Sep 14 17:47 | 0°♌ | | morning set | 3183 May 25 22:15 | 25°♄02'48 | | |
| | 3180 Oct 10 10:43 | 0°♊ | | | 3183 May 29 22:50 | 0°♌ | | |
| | 3180 Nov 06 02:36 | 0°♋ | | | 3183 Jun 23 08:14 | 0°♌ | | |
| evening max el | 3180 Nov 25 20:09 | 20°♋46'21 | 47°04'15 | asc. node | 3183 Jun 23 19:14 | 0°♌33'49 | | |
| | 3180 Dec 05 08:54 | 0°♌ | | | | | | |
| greatest brilliancy | 3181 Jan 05 08:00 | 21°♌52'56 | -4.9m | superior conj | 3183 Jul 02 01:55 | 10°♌44'16 | 0°19'37 | |
| asc. node | 3181 Jan 06 00:00 | 22°♌07'21 | | minimum elong | 3183 Jul 01 21:54 | 10°♌31'57 | 0°19'24 | |
| retrograde | 3181 Jan 15 11:59 | 23°♌51'21 | | max. Earth dist. | 3183 Jul 02 06:17 | 10°♌57'44 | 1.73517 AU | |
| evening set | 3181 Jan 31 02:12 | 19°♌01'13 | | | 3183 Jul 17 17:56 | 0°♌ | | |
| min. Earth dist. | 3181 Feb 04 08:18 | 16°♌29'12 | 0.26786 AU | evening rise | 3183 Aug 07 03:40 | 25°♌05'30 | | |
| inferior conj | 3181 Feb 05 02:20 | 16°♌01'32 | 6°52'42 | | 3183 Aug 11 03:26 | 0°♌ | | |
| minimum elong | 3181 Feb 04 15:45 | 16°♌17'47 | 6°50'30 | | 3183 Sep 04 13:05 | 0°♌ | | |
| morning rise | 3181 Feb 09 05:37 | 13°♌32'24 | | | 3183 Sep 28 23:55 | 0°♌ | | |
| direct | 3181 Feb 25 13:02 | 8°♌20'18 | | desc. node | 3183 Oct 13 08:57 | 17°♌35'21 | | |
| greatest brilliancy | 3181 Mar 06 18:06 | 9°♌57'24 | -4.9m | | 3183 Oct 23 12:59 | 0°♊ | | |
| | 3181 Apr 05 13:50 | 0°♊ | | | 3183 Nov 17 05:25 | 0°♋ | | |
| morning max el | 3181 Apr 16 13:02 | 10°♊22'51 | 46°31'36 | | 3183 Dec 12 04:00 | 0°♌ | | |
| desc. node | 3181 Apr 27 13:47 | 21°♊37'42 | | | 3184 Jan 06 16:54 | 0°♊ | | |
| | 3181 May 05 10:34 | 0°♿ | | | 3184 Feb 02 20:20 | 0°♿ | | |
| | 3181 Jun 01 08:41 | 0°♄ | | asc. node | 3184 Feb 03 11:50 | 0°♿40'22 | | |
| | 3181 Jun 27 06:15 | 0°♌ | | evening max el | 3184 Feb 07 03:25 | 4°♿25'43 | 47°03'52 | |
| | 3181 Jul 22 15:06 | 0°♌ | | | 3184 Mar 07 16:01 | 0°♄ | | |
| | 3181 Aug 16 14:31 | 0°♌ | | greatest brilliancy | 3184 Mar 18 09:28 | 5°♄35'58 | -4.9m | |
| asc. node | 3181 Aug 18 16:49 | 2°♌32'10 | | retrograde | 3184 Mar 28 18:55 | 7°♄37'58 | | |
| | 3181 Sep 10 05:31 | 0°♌ | | evening set | 3184 Apr 15 00:07 | 1°♄52'43 | | |
| | 3181 Oct 04 13:22 | 0°♌ | | | 3184 Apr 18 01:05 | 30°♿ | | |
| morning set | 3181 Oct 12 01:15 | 9°♌18'08 | | inferior conj | 3184 Apr 18 21:02 | 29°♿28'35 | 7°26'04 | |
| | 3181 Oct 28 16:04 | 0°♌ | | minimum elong | 3184 Apr 19 06:23 | 29°♿13'52 | 7°24'32 | |
| max. Earth dist. | 3181 Nov 16 17:23 | 23°♌49'32 | 1.71648 AU | min. Earth dist. | 3184 Apr 18 16:47 | 29°♿35'16 | 0.28072 AU | |
| | | | | morning rise | 3184 Apr 23 12:56 | 26°♿37'07 | | |
| superior conj | 3181 Nov 19 03:00 | 26°♌49'56 | 0°43'49 | direct | 3184 May 09 21:58 | 21°♿26'50 | | |
| minimum elong | 3181 Nov 19 12:15 | 27°♌18'52 | 0°43'25 | greatest brilliancy | 3184 May 19 11:26 | 23°♿07'45 | -4.8m | |
| | 3181 Nov 21 15:42 | 0°♊ | | desc. node | 3184 May 25 01:34 | 25°♿28'02 | | |
| desc. node | 3181 Dec 08 06:45 | 20°♊51'00 | | | 3184 Jun 01 20:43 | 0°♄ | | |
| | 3181 Dec 15 13:47 | 0°♋ | | morning max el | 3184 Jun 27 21:17 | 21°♄41'06 | 45°50'05 | |
| evening rise | 3181 Dec 29 13:00 | 17°♋32'03 | | | 3184 Jul 06 07:53 | 0°♌ | | |
| | 3182 Jan 08 11:19 | 0°♌ | | | 3184 Aug 03 11:36 | 0°♌ | | |
| | 3182 Feb 01 09:30 | 0°♊ | | | 3184 Aug 29 20:04 | 0°♌ | | |
| | 3182 Feb 25 10:28 | 0°♿ | | asc. node | 3184 Sep 15 04:40 | 19°♌13'59 | | |
| | 3182 Mar 21 17:22 | 0°♄ | | | 3184 Sep 24 05:04 | 0°♌ | | |
| asc. node | 3182 Mar 31 09:35 | 11°♄49'24 | | | 3184 Oct 18 22:23 | 0°♌ | | |
| | 3182 Apr 15 10:26 | 0°♌ | | | 3184 Nov 12 05:14 | 0°♌ | | |
| | 3182 May 10 19:54 | 0°♌ | | | 3184 Dec 06 05:55 | 0°♊ | | |
| | 3182 Jun 06 10:29 | 0°♌ | | greatest brilliancy | 3184 Dec 18 16:20 | 15°♊35'35 | -3.9m | |
| evening max el | 3182 Jul 01 09:19 | 25°♌43'42 | 45°26'45 | morning set | 3184 Dec 23 19:55 | 22°♊03'41 | | |
| | 3182 Jul 05 22:16 | 0°♌ | | | 3184 Dec 30 03:31 | 0°♋ | | |
| desc. node | 3182 Jul 20 23:22 | 12°♌42'04 | | desc. node | 3185 Jan 04 18:27 | 7°♋04'08 | | |
| greatest brilliancy | 3182 Aug 08 20:05 | 23°♌31'04 | -4.7m | | 3185 Jan 22 23:55 | 0°♌ | | |
| retrograde | 3182 Aug 18 23:04 | 25°♌20'59 | | | | | | |
| evening set | 3182 Sep 05 17:32 | 19°♌27'19 | | superior conj | 3185 Feb 03 07:25 | 14°♌14'01 | -1°03'24 | |
| inferior conj | 3182 Sep 09 08:23 | 17°♌13'49 | -8°29'06 | minimum elong | 3185 Feb 02 19:24 | 13°♌36'13 | 1°02'59 | |
| minimum elong | 3182 Sep 09 04:32 | 17°♌19'49 | 8°28'54 | max. Earth dist. | 3185 Feb 04 19:01 | 16°♌05'55 | 1.71146 AU | |
| min. Earth dist. | 3182 Sep 09 16:38 | 17°♌00'57 | 0.28836 AU | | 3185 Feb 15 20:26 | 0°♊ | | |
| morning rise | 3182 Sep 12 15:25 | 15°♌11'49 | | | 3185 Mar 11 18:31 | 0°♿ | | |
| direct | 3182 Sep 30 22:02 | 8°♌58'22 | | evening rise | 3185 Mar 16 06:16 | 5°♿36'49 | | |
| greatest brilliancy | 3182 Oct 11 17:19 | 11°♌06'36 | -4.8m | | 3185 Apr 04 20:00 | 0°♄ | | |
| | 3182 Nov 08 11:05 | 0°♌ | | asc. node | 3185 Apr 27 21:36 | 28°♄30'33 | | |
| asc. node | 3182 Nov 11 02:21 | 2°♌24'13 | | | 3185 Apr 29 02:42 | 0°♌ | | |
| morning max el | 3182 Nov 19 22:11 | 10°♌55'18 | 46°28'28 | | 3185 May 23 16:16 | 0°♌ | | |
| | 3182 Dec 07 23:47 | 0°♌ | | | 3185 Jun 17 14:45 | 0°♌ | | |
| | 3183 Jan 03 04:04 | 0°♊ | | | 3185 Jul 13 02:11 | 0°♌ | | |
| | 3183 Jan 28 04:31 | 0°♋ | | | 3185 Aug 08 11:46 | 0°♌ | | |
| | 3183 Feb 21 17:15 | 0°♌ | | desc. node | 3185 Aug 17 11:04 | 9°♌48'50 | | |
| desc. node | 3183 Mar 02 16:06 | 11°♌01'08 | | | 3185 Sep 05 20:16 | 0°♌ | | |
| | 3183 Mar 18 01:08 | 0°♊ | | evening max el | 3185 Sep 11 06:33 | 5°♌18'25 | 46°00'03 | |

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| | 3185 Oct 12 02:45 | 0°♊ | | morning set | 3188 Mar 10 22:48 | 10°♋42'51 | |
| greatest brilliancy | 3185 Oct 21 08:47 | 4°♊10'54 | -4.8m | | 3188 Mar 26 09:00 | 0°♌ | |
| retrograde | 3185 Oct 30 11:19 | 5°♊42'55 | | | 3188 Apr 19 10:56 | 0°♍ | |
| evening set | 3185 Nov 14 23:33 | 1°♊06'12 | | | | | |
| | 3185 Nov 16 22:09 | 30°♋♌ | | superior conj | 3188 Apr 19 17:42 | 0°♋21'02 | -1°12'13 |
| inferior conj | 3185 Nov 20 06:08 | 27°♌59'51 | -4°28'29 | minimum elong | 3188 Apr 20 03:33 | 0°♋51'38 | 1°11'56 |
| minimum elong | 3185 Nov 20 15:11 | 27°♌46'03 | 4°26'01 | max. Earth dist. | 3188 Apr 23 11:08 | 4°♋58'46 | 1.72418 AU |
| min. Earth dist. | 3185 Nov 21 01:55 | 27°♌29'40 | 0.27079 AU | | 3188 May 13 16:02 | 0°♎ | |
| morning rise | 3185 Nov 26 06:03 | 24°♌28'01 | | asc. node | 3188 May 25 09:26 | 14°♎28'03 | |
| asc. node | 3185 Dec 08 14:06 | 20°♌15'53 | | evening rise | 3188 May 28 06:55 | 18°♎01'59 | |
| direct | 3185 Dec 11 00:05 | 20°♌08'43 | | | 3188 Jun 07 00:31 | 0°♏ | |
| greatest brilliancy | 3185 Dec 22 01:01 | 22°♌25'55 | -4.9m | | 3188 Jul 01 12:20 | 0°♐ | |
| | 3186 Jan 04 08:41 | 0°♊ | | | 3188 Jul 26 04:02 | 0°♑ | |
| morning max el | 3186 Jan 30 16:59 | 23°♊27'18 | 46°58'17 | | 3188 Aug 20 01:12 | 0°♒ | |
| | 3186 Feb 06 00:40 | 0°♋ | | desc. node | 3188 Sep 13 23:04 | 29°♒37'28 | |
| | 3186 Mar 05 02:43 | 0°♌ | | | 3188 Sep 14 06:43 | 0°♓ | |
| desc. node | 3186 Mar 30 04:03 | 29°♌17'55 | | | 3188 Oct 10 01:21 | 0°♊ | |
| | 3186 Mar 30 18:14 | 0°♋ | | | 3188 Nov 05 20:45 | 0°♌ | |
| | 3186 Apr 24 20:08 | 0°♌ | | evening max el | 3188 Nov 23 10:56 | 18°♌24'43 | 47°02'32 |
| | 3186 May 19 16:13 | 0°♍ | | | 3188 Dec 05 14:03 | 0°♎ | |
| | 3186 Jun 13 09:43 | 0°♎ | | greatest brilliancy | 3189 Jan 02 20:49 | 19°♎23'53 | -4.9m |
| | 3186 Jul 08 01:13 | 0°♏ | | asc. node | 3189 Jan 05 01:59 | 20°♎08'16 | |
| asc. node | 3186 Jul 21 06:59 | 16°♏10'20 | | retrograde | 3189 Jan 13 01:06 | 21°♎21'53 | |
| | 3186 Aug 01 13:59 | 0°♐ | | evening set | 3189 Jan 28 11:05 | 16°♎37'46 | |
| morning set | 3186 Aug 02 02:37 | 0°♐38'43 | | min. Earth dist. | 3189 Feb 01 20:58 | 14°♎00'13 | 0.26746 AU |
| | 3186 Aug 25 23:19 | 0°♑ | | inferior conj | 3189 Feb 02 14:44 | 13°♎32'56 | 6°36'47 |
| max. Earth dist. | 3186 Sep 04 16:52 | 12°♑01'04 | 1.73053 AU | minimum elong | 3189 Feb 02 04:03 | 13°♎49'20 | 6°34'26 |
| | | | | morning rise | 3189 Feb 06 21:25 | 10°♎59'01 | |
| superior conj | 3186 Sep 07 12:38 | 15°♑30'36 | 1°23'04 | direct | 3189 Feb 23 01:48 | 5°♎52'33 | |
| minimum elong | 3186 Sep 07 08:50 | 15°♑18'51 | 1°23'02 | greatest brilliancy | 3189 Mar 04 06:35 | 7°♎29'33 | -4.9m |
| | 3186 Sep 19 05:30 | 0°♒ | | | 3189 Apr 05 18:22 | 0°♋ | |
| | 3186 Oct 13 09:39 | 0°♓ | | morning max el | 3189 Apr 14 02:10 | 7°♋59'02 | 46°33'08 |
| evening rise | 3186 Oct 14 09:46 | 1°♓14'52 | | desc. node | 3189 Apr 26 15:55 | 20°♋51'52 | |
| | 3186 Nov 06 12:59 | 0°♊ | | | 3189 May 05 04:23 | 0°♌ | |
| desc. node | 3186 Nov 09 20:56 | 4°♊08'34 | | | 3189 May 31 23:08 | 0°♍ | |
| | 3186 Nov 30 16:12 | 0°♌ | | | 3189 Jun 26 19:06 | 0°♎ | |
| | 3186 Dec 24 20:04 | 0°♍ | | | 3189 Jul 22 03:01 | 0°♏ | |
| | 3187 Jan 18 02:37 | 0°♋ | | | 3189 Aug 16 01:54 | 0°♐ | |
| | 3187 Feb 11 16:28 | 0°♌ | | asc. node | 3189 Aug 17 18:50 | 2°♐03'56 | |
| asc. node | 3187 Mar 02 23:38 | 23°♌01'50 | | | 3189 Sep 09 16:36 | 0°♑ | |
| | 3187 Mar 08 22:34 | 0°♍ | | | 3189 Oct 04 00:19 | 0°♒ | |
| | 3187 Apr 04 15:41 | 0°♎ | | morning set | 3189 Oct 09 17:29 | 7°♒05'34 | |
| evening max el | 3187 Apr 19 09:53 | 15°♎14'00 | 46°02'56 | | 3189 Oct 28 03:00 | 0°♓ | |
| | 3187 May 05 13:50 | 0°♏ | | max. Earth dist. | 3189 Nov 14 03:03 | 21°♓15'13 | 1.71694 AU |
| greatest brilliancy | 3187 May 27 17:13 | 14°♏04'26 | -4.8m | | | | |
| retrograde | 3187 Jun 07 19:19 | 16°♏19'01 | | superior conj | 3189 Nov 16 16:33 | 24°♓27'40 | 0°46'54 |
| evening set | 3187 Jun 22 20:01 | 11°♏54'34 | | minimum elong | 3189 Nov 17 02:08 | 24°♓57'40 | 0°46'30 |
| desc. node | 3187 Jun 22 13:27 | 12°♏03'31 | | | 3189 Nov 21 02:42 | 0°♊ | |
| inferior conj | 3187 Jun 29 06:03 | 8°♏03'40 | -1°35'01 | desc. node | 3189 Dec 07 08:44 | 20°♊22'26 | |
| minimum elong | 3187 Jun 29 02:35 | 8°♏09'05 | 1°34'00 | | 3189 Dec 15 00:54 | 0°♌ | |
| min. Earth dist. | 3187 Jun 29 00:50 | 8°♏11'48 | 0.28855 AU | evening rise | 3189 Dec 27 00:02 | 15°♌00'49 | |
| morning rise | 3187 Jul 05 09:23 | 4°♏22'12 | | | 3190 Jan 07 22:35 | 0°♍ | |
| | 3187 Jul 17 16:44 | 30°♋♌ | | | 3190 Jan 31 20:56 | 0°♋ | |
| direct | 3187 Jul 20 18:32 | 29°♌48'49 | | | 3190 Feb 24 22:06 | 0°♌ | |
| | 3187 Jul 23 21:35 | 0°♏ | | | 3190 Mar 21 05:18 | 0°♍ | |
| greatest brilliancy | 3187 Jul 30 23:54 | 1°♏41'36 | -4.7m | asc. node | 3190 Mar 30 11:42 | 11°♍18'58 | |
| morning max el | 3187 Sep 07 14:14 | 29°♏36'48 | 45°48'01 | | 3190 Apr 14 22:57 | 0°♎ | |
| | 3187 Sep 07 23:55 | 0°♐ | | | 3190 May 10 09:37 | 0°♏ | |
| | 3187 Oct 06 17:58 | 0°♑ | | | 3190 Jun 06 02:55 | 0°♐ | |
| asc. node | 3187 Oct 13 16:39 | 7°♑46'12 | | evening max el | 3190 Jun 29 00:16 | 23°♐30'22 | 45°26'49 |
| | 3187 Nov 01 22:19 | 0°♒ | | | 3190 Jul 05 23:34 | 0°♑ | |
| | 3187 Nov 26 22:36 | 0°♓ | | desc. node | 3190 Jul 20 01:20 | 11°♑34'30 | |
| | 3187 Dec 21 08:25 | 0°♊ | | greatest brilliancy | 3190 Aug 06 11:05 | 21°♑19'42 | -4.7m |
| | 3188 Jan 14 11:05 | 0°♌ | | retrograde | 3190 Aug 16 14:03 | 23°♑09'53 | |
| desc. node | 3188 Feb 02 06:17 | 23°♌30'51 | | evening set | 3190 Sep 03 06:50 | 17°♑19'46 | |
| | 3188 Feb 07 10:37 | 0°♍ | | inferior conj | 3190 Sep 07 00:16 | 15°♑02'20 | -8°24'40 |
| | 3188 Mar 02 09:21 | 0°♋ | | minimum elong | 3190 Sep 06 19:41 | 15°♑09'29 | 8°24'21 |

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|---------------------|-------------------|---------------------------------|------------|---------------------|-------------------|----------------------------------|------------|
| min. Earth dist. | 3190 Sep 07 07:50 | 14° \cap 50'29 | 0.28865 AU | | 3193 Feb 15 07:32 | 0° H | |
| morning rise | 3190 Sep 10 08:24 | 12° \cap 58'25 | | | 3193 Mar 11 05:38 | 0° Υ | |
| direct | 3190 Sep 28 13:46 | 6° \cap 46'31 | | evening rise | 3193 Mar 13 17:34 | 3° Υ 07'20 | |
| greatest brilliancy | 3190 Oct 09 08:56 | 8° \cap 53'52 | -4.8m | | 3193 Apr 04 07:12 | 0° B | |
| | 3190 Nov 08 14:02 | 0° $\underline{\text{L}}$ | | asc. node | 3193 Apr 26 23:34 | 28° B 01'41 | |
| asc. node | 3190 Nov 10 04:17 | 1° $\underline{\text{L}}$ 28'56 | | | 3193 Apr 28 14:04 | 0° II | |
| morning max el | 3190 Nov 17 11:56 | 8° $\underline{\text{L}}$ 34'46 | 46°26'55 | | 3193 May 23 03:58 | 0° G | |
| | 3190 Dec 07 16:56 | 0° M | | | 3193 Jun 17 03:01 | 0° Ω | |
| | 3191 Jan 02 18:22 | 0° Z | | | 3193 Jul 12 15:35 | 0° \cap | |
| | 3191 Jan 27 17:32 | 0° Z | | | 3193 Aug 08 03:29 | 0° $\underline{\text{L}}$ | |
| | 3191 Feb 21 05:35 | 0° \approx | | desc. node | 3193 Aug 16 13:11 | 9° $\underline{\text{L}}$ 08'43 | |
| desc. node | 3191 Mar 01 18:11 | 10° \approx 30'10 | | | 3193 Sep 05 18:08 | 0° M | |
| | 3191 Mar 17 13:01 | 0° H | | evening max el | 3193 Sep 08 20:06 | 2° M 59'15 | 45°58'05 |
| | 3191 Apr 10 19:08 | 0° Υ | | | 3193 Oct 14 07:05 | 0° Z | |
| | 3191 May 05 01:48 | 0° B | | greatest brilliancy | 3193 Oct 18 21:14 | 1° Z 47'32 | -4.8m |
| morning set | 3191 May 23 14:33 | 22° B 51'09 | | retrograde | 3193 Oct 28 00:31 | 3° Z 19'56 | |
| | 3191 May 29 09:52 | 0° II | | | 3193 Nov 10 01:03 | 30° R M | |
| asc. node | 3191 Jun 22 21:09 | 0° G 06'12 | | evening set | 3193 Nov 12 15:23 | 28° M 38'33 | |
| | 3191 Jun 22 19:08 | 0° G | | inferior conj | 3193 Nov 17 19:14 | 25° M 35'55 | -4°48'13 |
| | | | | minimum elong | 3193 Nov 18 04:42 | 25° M 21'29 | 4°45'41 |
| superior conj | 3191 Jun 29 19:31 | 8° G 37'25 | 0°16'28 | min. Earth dist. | 3193 Nov 18 15:39 | 25° M 04'48 | 0.27142 AU |
| minimum elong | 3191 Jun 29 16:07 | 8° G 26'58 | 0°16'17 | morning rise | 3193 Nov 23 17:19 | 22° M 06'48 | |
| max. Earth dist. | 3191 Jun 30 01:38 | 8° G 56'14 | 1.73502 AU | asc. node | 3193 Dec 07 16:04 | 17° M 44'43 | |
| | 3191 Jul 17 04:50 | 0° Ω | | direct | 3193 Dec 08 14:12 | 17° M 43'41 | |
| evening rise | 3191 Aug 04 22:16 | 23° Ω 01'23 | | greatest brilliancy | 3193 Dec 19 15:34 | 20° M 01'49 | -4.9m |
| | 3191 Aug 10 14:26 | 0° \cap | | | 3194 Jan 05 04:32 | 0° Z | |
| | 3191 Sep 04 00:18 | 0° $\underline{\text{L}}$ | | morning max el | 3194 Jan 28 08:11 | 21° Z 06'10 | 46°58'17 |
| | 3191 Sep 28 11:27 | 0° M | | | 3194 Feb 05 21:03 | 0° Z | |
| desc. node | 3191 Oct 12 11:04 | 17° M 05'44 | | | 3194 Mar 04 18:22 | 0° \approx | |
| | 3191 Oct 23 01:00 | 0° Z | | desc. node | 3194 Mar 29 06:10 | 28° \approx 43'40 | |
| | 3191 Nov 16 18:09 | 0° Z | | | 3194 Mar 30 07:52 | 0° H | |
| | 3191 Dec 11 17:51 | 0° \approx | | | 3194 Apr 24 08:39 | 0° Υ | |
| | 3192 Jan 06 08:50 | 0° H | | | 3194 May 19 04:04 | 0° B | |
| asc. node | 3192 Feb 02 13:48 | 29° H 50'28 | | | 3194 Jun 12 21:08 | 0° II | |
| | 3192 Feb 02 17:30 | 0° Υ | | | 3194 Jul 07 12:20 | 0° G | |
| evening max el | 3192 Feb 04 16:35 | 2° Υ 00'32 | 47°05'06 | asc. node | 3194 Jul 20 09:05 | 15° G 43'09 | |
| | 3192 Mar 09 02:38 | 0° B | | morning set | 3194 Jul 30 20:24 | 28° G 32'38 | |
| greatest brilliancy | 3192 Mar 16 01:41 | 3° B 18'09 | -4.9m | | 3194 Aug 01 00:54 | 0° Ω | |
| retrograde | 3192 Mar 26 09:38 | 5° B 19'21 | | | 3194 Aug 25 10:09 | 0° \cap | |
| | 3192 Apr 11 21:44 | 30° R Υ | | max. Earth dist. | 3194 Sep 02 13:47 | 10° \cap 03'51 | 1.73089 AU |
| evening set | 3192 Apr 12 17:59 | 29° Υ 29'54 | | | | | |
| inferior conj | 3192 Apr 16 11:54 | 27° Υ 10'27 | 7°37'46 | superior conj | 3194 Sep 05 06:17 | 13° \cap 23'14 | 1°22'20 |
| minimum elong | 3192 Apr 16 20:54 | 26° Υ 56'18 | 7°36'22 | minimum elong | 3194 Sep 05 01:53 | 13° \cap 09'36 | 1°22'16 |
| min. Earth dist. | 3192 Apr 16 07:33 | 27° Υ 17'19 | 0.28039 AU | | 3194 Sep 18 16:22 | 0° $\underline{\text{L}}$ | |
| morning rise | 3192 Apr 21 00:03 | 24° Υ 24'25 | | evening rise | 3194 Oct 12 01:17 | 28° $\underline{\text{L}}$ 59'48 | |
| direct | 3192 May 07 11:39 | 19° Υ 09'07 | | | 3194 Oct 12 20:40 | 0° M | |
| greatest brilliancy | 3192 May 17 01:40 | 20° Υ 50'15 | -4.8m | | 3194 Nov 06 00:13 | 0° Z | |
| desc. node | 3192 May 24 03:31 | 23° Υ 56'05 | | desc. node | 3194 Nov 08 22:52 | 3° Z 39'31 | |
| | 3192 Jun 02 18:40 | 0° B | | | 3194 Nov 30 03:43 | 0° Z | |
| morning max el | 3192 Jun 25 11:36 | 19° B 24'48 | 45°51'08 | | 3194 Dec 24 07:54 | 0° \approx | |
| | 3192 Jul 06 03:44 | 0° II | | | 3195 Jan 17 14:53 | 0° H | |
| | 3192 Aug 03 02:38 | 0° G | | | 3195 Feb 11 05:29 | 0° Υ | |
| | 3192 Aug 29 09:09 | 0° Ω | | asc. node | 3195 Mar 02 01:47 | 22° Υ 27'03 | |
| asc. node | 3192 Sep 14 06:47 | 18° Ω 43'32 | | | 3195 Mar 08 13:00 | 0° B | |
| | 3192 Sep 23 17:11 | 0° \cap | | | 3195 Apr 04 09:37 | 0° II | |
| | 3192 Oct 18 09:59 | 0° $\underline{\text{L}}$ | | evening max el | 3195 Apr 17 02:22 | 13° II 02'48 | 46°05'02 |
| | 3192 Nov 11 16:34 | 0° M | | | 3195 May 05 22:49 | 0° G | |
| | 3192 Dec 05 17:08 | 0° Z | | greatest brilliancy | 3195 May 25 09:29 | 11° G 54'27 | -4.8m |
| greatest brilliancy | 3192 Dec 18 01:28 | 15° Z 29'09 | -3.9m | retrograde | 3195 Jun 05 12:19 | 14° G 09'15 | |
| morning set | 3192 Dec 21 07:30 | 19° Z 34'10 | | evening set | 3195 Jun 20 12:29 | 9° G 44'52 | |
| | 3192 Dec 29 14:40 | 0° Z | | desc. node | 3195 Jun 21 15:27 | 9° G 07'00 | |
| desc. node | 3193 Jan 03 20:28 | 6° Z 35'29 | | inferior conj | 3195 Jun 26 22:19 | 5° G 53'49 | -1°15'13 |
| | 3193 Jan 22 11:03 | 0° \approx | | minimum elong | 3195 Jun 26 19:33 | 5° G 58'09 | 1°14'24 |
| | | | | min. Earth dist. | 3195 Jun 26 16:54 | 6° G 02'18 | 0.28836 AU |
| superior conj | 3193 Jan 31 17:44 | 11° \approx 40'32 | -1°00'37 | morning rise | 3195 Jul 03 03:00 | 2° G 10'42 | |
| minimum elong | 3193 Jan 31 05:41 | 11° \approx 02'39 | 1°00'11 | | 3195 Jul 07 13:37 | 30° R II | |
| max. Earth dist. | 3193 Feb 01 23:21 | 13° \approx 13'41 | 1.71134 AU | direct | 3195 Jul 18 11:09 | 27° II 39'27 | |

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|---------------------|-------------------|------------|------------|---------------------|-------------------|------------|------------|
| greatest brilliancy | 3195 Jul 28 14:55 | 29°II31'13 | -4.7m | | 3198 Mar 20 17:03 | 0°8 | |
| | 3195 Jul 29 22:08 | 0°6 | | asc. node | 3198 Mar 29 13:39 | 10°848'34 | |
| morning max el | 3195 Sep 05 06:34 | 27°627'34 | 45°47'11 | | 3198 Apr 14 11:19 | 0°II | |
| | 3195 Sep 07 21:38 | 0°9 | | | 3198 May 09 23:13 | 0°6 | |
| | 3195 Oct 06 09:27 | 0°n | | | 3198 Jun 05 19:22 | 0°9 | |
| asc. node | 3195 Oct 12 18:38 | 7°n10'05 | | evening max el | 3198 Jun 26 14:39 | 21°916'30 | 45°26'58 |
| | 3195 Nov 01 11:37 | 0°u | | | 3198 Jul 06 01:54 | 0°n | |
| | 3195 Nov 26 10:55 | 0°m | | desc. node | 3198 Jul 19 03:27 | 10°n26'17 | |
| | 3195 Dec 20 20:14 | 0°x | | greatest brilliancy | 3198 Aug 04 01:36 | 19°n08'39 | -4.7m |
| | 3196 Jan 13 22:35 | 0°3 | | retrograde | 3198 Aug 14 05:05 | 20°n59'50 | |
| desc. node | 3196 Feb 01 08:22 | 23°301'51 | | evening set | 3198 Aug 31 19:52 | 15°n13'13 | |
| | 3196 Feb 06 21:54 | 0°≈ | | inferior conj | 3198 Sep 04 16:08 | 12°n51'40 | -8°19'23 |
| | 3196 Mar 01 20:29 | 0°H | | minimum elong | 3198 Sep 04 10:53 | 12°n59'53 | 8°18'58 |
| morning set | 3196 Mar 08 09:51 | 8°H12'34 | | min. Earth dist. | 3198 Sep 04 23:08 | 12°n40'44 | 0.28899 AU |
| | 3196 Mar 25 20:00 | 0°Y | | morning rise | 3198 Sep 08 01:42 | 10°n45'31 | |
| | | | | direct | 3198 Sep 26 05:20 | 4°n35'16 | |
| superior conj | 3196 Apr 17 07:32 | 28°Y01'01 | -1°14'09 | greatest brilliancy | 3198 Oct 07 01:06 | 6°n42'34 | -4.8m |
| minimum elong | 3196 Apr 17 17:03 | 28°Y30'37 | 1°13'54 | | 3198 Nov 08 15:20 | 0°u | |
| | 3196 Apr 18 21:49 | 0°8 | | asc. node | 3198 Nov 09 06:17 | 0°u35'23 | |
| max. Earth dist. | 3196 Apr 21 04:43 | 2°850'35 | 1.72363 AU | morning max el | 3198 Nov 15 02:10 | 6°u16'01 | 46°25'22 |
| | 3196 May 13 02:51 | 0°II | | | 3198 Dec 07 09:36 | 0°m | |
| asc. node | 3196 May 24 11:23 | 14°II00'42 | | | 3199 Jan 02 08:21 | 0°x | |
| evening rise | 3196 May 25 23:17 | 15°II51'17 | | | 3199 Jan 27 06:16 | 0°3 | |
| | 3196 Jun 06 11:22 | 0°6 | | | 3199 Feb 20 17:36 | 0°≈ | |
| | 3196 Jun 30 23:23 | 0°9 | | desc. node | 3199 Feb 28 20:18 | 10°≈00'13 | |
| | 3196 Jul 25 15:26 | 0°n | | | 3199 Mar 17 00:34 | 0°H | |
| | 3196 Aug 19 13:14 | 0°u | | | 3199 Apr 10 06:19 | 0°Y | |
| desc. node | 3196 Sep 13 01:07 | 29°u05'11 | | | 3199 May 04 12:43 | 0°8 | |
| | 3196 Sep 13 19:45 | 0°m | | morning set | 3199 May 21 06:47 | 20°840'04 | |
| | 3196 Oct 09 16:09 | 0°x | | | 3199 May 28 20:36 | 0°II | |
| | 3196 Nov 05 15:16 | 0°3 | | asc. node | 3199 Jun 21 23:17 | 29°II40'07 | |
| evening max el | 3196 Nov 21 01:10 | 16°302'03 | 47°00'52 | | 3199 Jun 22 05:45 | 0°6 | |
| | 3196 Dec 05 21:10 | 0°≈ | | | | | |
| greatest brilliancy | 3196 Dec 31 10:16 | 16°≈56'04 | -4.9m | superior conj | 3199 Jun 27 13:13 | 6°631'47 | 0°13'17 |
| asc. node | 3197 Jan 04 04:03 | 18°≈04'53 | | minimum elong | 3199 Jun 27 10:27 | 6°623'15 | 0°13'09 |
| retrograde | 3197 Jan 10 13:46 | 18°≈52'50 | | behind sun begin | 3199 Jun 26 21:35 | 5°643'44 | |
| evening set | 3197 Jan 25 20:12 | 14°≈14'38 | | behind sun end | 3199 Jun 27 23:18 | 7°602'46 | |
| min. Earth dist. | 3197 Jan 30 10:07 | 11°≈31'15 | 0.26707 AU | max. Earth dist. | 3199 Jun 27 20:27 | 6°654'00 | 1.73487 AU |
| inferior conj | 3197 Jan 31 03:12 | 11°≈04'59 | 6°20'01 | | 3199 Jul 16 15:25 | 0°9 | |
| minimum elong | 3197 Jan 30 16:32 | 11°≈21'23 | 6°17'34 | evening rise | 3199 Aug 02 17:05 | 20°959'03 | |
| morning rise | 3197 Feb 04 13:14 | 8°≈26'07 | | | 3199 Aug 10 01:06 | 0°n | |
| direct | 3197 Feb 20 14:07 | 3°≈25'19 | | | 3199 Sep 03 11:11 | 0°u | |
| greatest brilliancy | 3197 Mar 01 19:45 | 5°≈02'43 | -4.9m | | 3199 Sep 27 22:43 | 0°m | |
| | 3197 Apr 05 21:02 | 0°H | | desc. node | 3199 Oct 11 13:01 | 16°m36'24 | |
| morning max el | 3197 Apr 11 14:33 | 5°H33'36 | 46°34'42 | | 3199 Oct 22 12:49 | 0°x | |
| desc. node | 3197 Apr 25 17:49 | 20°H06'34 | | | 3199 Nov 16 06:45 | 0°3 | |
| | 3197 May 04 21:37 | 0°Y | | | 3199 Dec 11 07:37 | 0°≈ | |
| | 3197 May 31 13:14 | 0°8 | | | 3200 Jan 06 00:46 | 0°H | |
| | 3197 Jun 26 07:39 | 0°II | | asc. node | 3200 Feb 01 15:58 | 29°H01'00 | |
| | 3197 Jul 21 14:42 | 0°6 | | evening max el | 3200 Feb 02 06:04 | 29°H36'57 | 47°06'36 |
| | 3197 Aug 15 13:05 | 0°9 | | | 3200 Feb 02 15:08 | 0°Y | |
| asc. node | 3197 Aug 16 20:56 | 1°936'29 | | | 3200 Mar 11 06:36 | 0°8 | |
| | 3197 Sep 09 03:32 | 0°n | | greatest brilliancy | 3200 Mar 13 17:21 | 1°800'30 | -4.9m |
| | 3197 Oct 03 11:10 | 0°u | | retrograde | 3200 Mar 24 00:44 | 3°801'44 | |
| morning set | 3197 Oct 07 09:31 | 4°u52'43 | | | 3200 Apr 05 05:55 | 30°R°Y | |
| | 3197 Oct 27 13:50 | 0°m | | evening set | 3200 Apr 10 11:43 | 27°Y07'53 | |
| max. Earth dist. | 3197 Nov 11 12:31 | 18°m40'47 | 1.71738 AU | inferior conj | 3200 Apr 14 02:44 | 24°Y53'06 | 7°48'41 |
| | | | | minimum elong | 3200 Apr 14 11:20 | 24°Y39'36 | 7°47'27 |
| superior conj | 3197 Nov 14 06:01 | 22°m05'38 | 0°49'55 | min. Earth dist. | 3200 Apr 13 21:59 | 25°Y00'34 | 0.28005 AU |
| minimum elong | 3197 Nov 14 15:52 | 22°m36'28 | 0°49'30 | morning rise | 3200 Apr 18 11:08 | 22°Y12'45 | |
| | 3197 Nov 20 13:35 | 0°x | | direct | 3200 May 05 01:27 | 16°Y52'07 | |
| desc. node | 3197 Dec 06 10:45 | 19°x54'28 | | greatest brilliancy | 3200 May 14 15:37 | 18°Y33'29 | -4.8m |
| | 3197 Dec 14 11:51 | 0°3 | | desc. node | 3200 May 23 05:37 | 22°Y28'33 | |
| evening rise | 3197 Dec 24 10:59 | 12°330'01 | | | 3200 Jun 03 10:26 | 0°8 | |
| | 3198 Jan 07 09:39 | 0°≈ | | morning max el | 3200 Jun 23 02:51 | 17°811'49 | 45°52'13 |
| | 3198 Jan 31 08:10 | 0°H | | | 3200 Jul 05 22:37 | 0°II | |
| | 3198 Feb 24 09:31 | 0°Y | | | 3200 Aug 02 17:05 | 0°6 | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3200 Aug 28 21:45 | 0°♋ | | asc. node | 3203 Mar 01 03:42 | 21°♍51'51 | |
| asc. node | 3200 Sep 13 08:46 | 18°♋13'55 | | | 3203 Mar 08 03:28 | 0°♌ | |
| | 3200 Sep 23 04:52 | 0°♍ | | | 3203 Apr 04 03:52 | 0°♍ | |
| | 3200 Oct 17 21:11 | 0°♎ | | evening max el | 3203 Apr 14 18:49 | 10°♍51'45 | 46°07'14 |
| | 3200 Nov 11 03:33 | 0°♏ | | | 3203 May 06 10:46 | 0°♎ | |
| | 3200 Dec 05 04:03 | 0°♐ | | greatest brilliancy | 3203 May 23 02:30 | 9°♎45'47 | -4.8m |
| greatest brilliancy | 3200 Dec 17 12:04 | 15°♐28'11 | -3.9m | retrograde | 3203 Jun 03 04:58 | 11°♎59'52 | |
| morning set | 3200 Dec 18 18:57 | 17°♐05'10 | | evening set | 3203 Jun 18 05:09 | 7°♎35'36 | |
| | 3200 Dec 29 01:35 | 0°♑ | | desc. node | 3203 Jun 20 17:33 | 6°♎08'32 | |
| desc. node | 3201 Jan 02 22:37 | 6°♑07'57 | | inferior conj | 3203 Jun 24 14:37 | 3°♎44'38 | -0°55'20 |
| | 3201 Jan 21 21:57 | 0°♒ | | minimum elong | 3203 Jun 24 12:35 | 3°♎47'50 | 0°54'44 |
| | | | | min. Earth dist. | 3203 Jun 24 09:14 | 3°♎53'05 | 0.28811 AU |
| superior conj | 3201 Jan 29 03:28 | 9°♒05'57 | -0°57'40 | morning rise | 3203 Jun 30 20:27 | 29°♒59'49 | |
| minimum elong | 3201 Jan 28 15:31 | 8°♒28'20 | 0°57'13 | | 3203 Jun 30 20:19 | 30°♒♐ | |
| max. Earth dist. | 3201 Jan 30 05:10 | 10°♒26'47 | 1.71122 AU | direct | 3203 Jul 16 03:34 | 25°♒30'49 | |
| | 3201 Feb 14 18:25 | 0°♓ | | greatest brilliancy | 3203 Jul 26 05:56 | 27°♒21'21 | -4.7m |
| | 3201 Mar 10 16:30 | 0°♑ | | | 3203 Aug 01 08:32 | 0°♎ | |
| evening rise | 3201 Mar 11 04:22 | 0°♑37'09 | | morning max el | 3203 Sep 02 22:11 | 25°♎17'21 | 45°46'23 |
| | 3201 Apr 03 18:06 | 0°♌ | | | 3203 Sep 07 18:18 | 0°♋ | |
| asc. node | 3201 Apr 26 01:34 | 27°♌33'52 | | | 3203 Oct 06 00:27 | 0°♍ | |
| | 3201 Apr 28 01:08 | 0°♍ | | asc. node | 3203 Oct 11 20:34 | 6°♍34'48 | |
| | 3201 May 22 15:20 | 0°♎ | | | 3203 Nov 01 00:36 | 0°♎ | |
| | 3201 Jun 16 15:00 | 0°♋ | | | 3203 Nov 25 22:59 | 0°♏ | |
| | 3201 Jul 12 04:43 | 0°♍ | | | 3203 Dec 20 07:47 | 0°♐ | |
| | 3201 Aug 07 19:04 | 0°♎ | | | 3204 Jan 13 09:50 | 0°♑ | |
| desc. node | 3201 Aug 15 15:16 | 8°♎29'12 | | desc. node | 3204 Jan 31 10:25 | 22°♑33'31 | |
| | 3201 Sep 05 16:24 | 0°♏ | | | 3204 Feb 06 08:58 | 0°♒ | |
| evening max el | 3201 Sep 06 10:38 | 0°♏43'48 | 45°56'09 | | 3204 Mar 01 07:26 | 0°♓ | |
| greatest brilliancy | 3201 Oct 16 09:29 | 29°♏25'42 | -4.8m | morning set | 3204 Mar 05 20:46 | 5°♓42'20 | |
| | 3201 Oct 18 08:23 | 0°♐ | | | 3204 Mar 25 06:51 | 0°♑ | |
| retrograde | 3201 Oct 25 13:48 | 0°♐58'25 | | | | | |
| | 3201 Nov 01 13:00 | 30°♏♌ | | superior conj | 3204 Apr 14 21:03 | 25°♑40'16 | -1°15'58 |
| evening set | 3201 Nov 10 07:25 | 26°♏12'34 | | minimum elong | 3204 Apr 15 06:10 | 26°♑08'38 | 1°15'45 |
| inferior conj | 3201 Nov 15 08:25 | 23°♏13'33 | -5°07'11 | | 3204 Apr 18 08:36 | 0°♌ | |
| minimum elong | 3201 Nov 15 18:15 | 22°♏58'34 | 5°04'38 | max. Earth dist. | 3204 Apr 18 21:24 | 0°♌39'47 | 1.72308 AU |
| min. Earth dist. | 3201 Nov 16 05:11 | 22°♏41'53 | 0.27207 AU | | 3204 May 12 13:35 | 0°♍ | |
| morning rise | 3201 Nov 21 04:28 | 19°♏47'17 | | evening rise | 3204 May 23 15:11 | 13°♍39'16 | |
| direct | 3201 Dec 06 04:44 | 15°♏20'24 | | asc. node | 3204 May 23 13:31 | 13°♍34'08 | |
| asc. node | 3201 Dec 06 18:11 | 15°♏20'47 | | | 3204 Jun 05 22:08 | 0°♎ | |
| greatest brilliancy | 3201 Dec 17 05:42 | 17°♏38'32 | -4.9m | | 3204 Jun 30 10:19 | 0°♋ | |
| | 3202 Jan 05 18:52 | 0°♐ | | | 3204 Jul 25 02:45 | 0°♍ | |
| morning max el | 3202 Jan 25 23:20 | 18°♐45'47 | 46°57'56 | | 3204 Aug 19 01:11 | 0°♎ | |
| | 3202 Feb 05 16:33 | 0°♑ | | desc. node | 3204 Sep 12 03:03 | 28°♎32'51 | |
| | 3202 Mar 04 09:35 | 0°♒ | | | 3204 Sep 13 08:45 | 0°♏ | |
| desc. node | 3202 Mar 28 08:05 | 28°♒09'34 | | | 3204 Oct 09 07:02 | 0°♐ | |
| | 3202 Mar 29 21:11 | 0°♓ | | | 3204 Nov 05 10:07 | 0°♑ | |
| | 3202 Apr 23 20:53 | 0°♑ | | evening max el | 3204 Nov 18 14:46 | 13°♑38'19 | 46°59'10 |
| | 3202 May 18 15:37 | 0°♌ | | | 3204 Dec 06 06:34 | 0°♒ | |
| | 3202 Jun 12 08:13 | 0°♍ | | greatest brilliancy | 3204 Dec 29 00:21 | 14°♒29'49 | -4.9m |
| | 3202 Jul 06 23:06 | 0°♎ | | asc. node | 3205 Jan 03 06:06 | 15°♒57'25 | |
| asc. node | 3202 Jul 19 11:07 | 15°♎16'47 | | retrograde | 3205 Jan 08 02:08 | 16°♒25'00 | |
| morning set | 3202 Jul 28 14:17 | 26°♎27'46 | | evening set | 3205 Jan 23 05:41 | 11°♒52'14 | |
| | 3202 Jul 31 11:30 | 0°♋ | | min. Earth dist. | 3205 Jan 27 23:50 | 9°♒02'59 | 0.26671 AU |
| | 3202 Aug 24 20:42 | 0°♍ | | inferior conj | 3205 Jan 28 15:53 | 8°♒38'18 | 6°02'33 |
| max. Earth dist. | 3202 Aug 31 09:05 | 8°♍02'34 | 1.73123 AU | minimum elong | 3205 Jan 28 05:17 | 8°♒54'36 | 6°00'01 |
| | | | | morning rise | 3205 Feb 02 05:12 | 5°♒54'34 | |
| superior conj | 3202 Sep 03 00:12 | 11°♍17'34 | 1°21'28 | direct | 3205 Feb 18 02:11 | 0°♒59'03 | |
| minimum elong | 3202 Sep 02 19:13 | 11°♍02'09 | 1°21'24 | greatest brilliancy | 3205 Feb 27 09:44 | 2°♒37'39 | -4.9m |
| | 3202 Sep 18 02:58 | 0°♎ | | | 3205 Apr 05 22:05 | 0°♓ | |
| evening rise | 3202 Oct 09 17:10 | 26°♎46'47 | | morning max el | 3205 Apr 09 02:40 | 3°♓07'44 | 46°36'09 |
| | 3202 Oct 12 07:24 | 0°♏ | | desc. node | 3205 Apr 24 19:57 | 19°♓22'51 | |
| | 3202 Nov 05 11:10 | 0°♐ | | | 3205 May 04 14:26 | 0°♑ | |
| desc. node | 3202 Nov 08 00:57 | 3°♐11'53 | | | 3205 May 31 03:10 | 0°♌ | |
| | 3202 Nov 29 14:56 | 0°♑ | | | 3205 Jun 25 20:09 | 0°♍ | |
| | 3202 Dec 23 19:28 | 0°♒ | | | 3205 Jul 21 02:22 | 0°♎ | |
| | 3203 Jan 17 02:58 | 0°♓ | | | 3205 Aug 15 00:15 | 0°♋ | |
| | 3203 Feb 10 18:23 | 0°♑ | | asc. node | 3205 Aug 15 22:54 | 1°♋08'41 | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3205 Sep 08 14:26 | 0°♎ | | | 3208 Mar 15 15:18 | 0°♎ | |
| | 3205 Oct 02 21:57 | 0°♏ | | retrograde | 3208 Mar 21 16:19 | 0°♎43'12 | |
| morning set | 3205 Oct 05 01:38 | 2°♏40'17 | | | 3208 Mar 27 13:35 | 30°♎♎ | |
| | 3205 Oct 27 00:38 | 0°♎ | | evening set | 3208 Apr 08 05:19 | 24°♎45'04 | |
| max. Earth dist. | 3205 Nov 09 00:09 | 16°♎13'06 | 1.71787 AU | inferior conj | 3208 Apr 11 17:31 | 22°♎34'46 | 7°58'49 |
| | | | | minimum elong | 3208 Apr 12 01:38 | 22°♎22'02 | 7°57'45 |
| superior conj | 3205 Nov 11 19:44 | 19°♎44'28 | 0°52'49 | min. Earth dist. | 3208 Apr 11 12:01 | 22°♎43'23 | 0.27968 AU |
| minimum elong | 3205 Nov 12 05:47 | 20°♎15'53 | 0°52'25 | morning rise | 3208 Apr 15 22:10 | 20°♎00'18 | |
| | 3205 Nov 20 00:27 | 0°♎ | | direct | 3208 May 02 15:41 | 14°♎34'19 | |
| desc. node | 3205 Dec 05 12:53 | 19°♎26'48 | | greatest brilliancy | 3208 May 12 04:55 | 16°♎15'22 | -4.8m |
| | 3205 Dec 13 22:50 | 0°♎ | | desc. node | 3208 May 22 07:41 | 21°♎03'26 | |
| evening rise | 3205 Dec 21 22:17 | 10°♎00'19 | | | 3208 Jun 03 22:26 | 0°♎ | |
| | 3206 Jan 06 20:45 | 0°♎ | | morning max el | 3208 Jun 20 18:48 | 14°♎59'59 | 45°53'18 |
| | 3206 Jan 30 19:23 | 0°♎ | | | 3208 Jul 05 17:12 | 0°♎ | |
| | 3206 Feb 23 20:56 | 0°♎ | | | 3208 Aug 02 07:37 | 0°♎ | |
| | 3206 Mar 20 04:48 | 0°♎ | | | 3208 Aug 28 10:34 | 0°♎ | |
| asc. node | 3206 Mar 28 15:41 | 10°♎18'25 | | asc. node | 3208 Sep 12 10:46 | 17°♎43'32 | |
| | 3206 Apr 13 23:43 | 0°♎ | | | 3208 Sep 22 16:49 | 0°♎ | |
| | 3206 May 09 12:59 | 0°♎ | | | 3208 Oct 17 08:40 | 0°♎ | |
| | 3206 Jun 05 12:16 | 0°♎ | | | 3208 Nov 10 14:49 | 0°♎ | |
| evening max el | 3206 Jun 24 05:18 | 19°♎03'01 | 45°27'14 | | 3208 Dec 04 15:13 | 0°♎ | |
| | 3206 Jul 06 06:02 | 0°♎ | | morning set | 3208 Dec 16 06:37 | 14°♎36'08 | |
| desc. node | 3206 Jul 18 05:29 | 9°♎15'45 | | | 3208 Dec 28 12:44 | 0°♎ | |
| greatest brilliancy | 3206 Aug 01 15:43 | 16°♎56'56 | -4.7m | desc. node | 3209 Jan 02 00:35 | 5°♎39'04 | |
| retrograde | 3206 Aug 11 20:44 | 18°♎49'54 | | | 3209 Jan 21 09:06 | 0°♎ | |
| evening set | 3206 Aug 29 08:48 | 13°♎06'48 | | | | | |
| inferior conj | 3206 Sep 02 08:07 | 10°♎40'58 | -8°13'18 | superior conj | 3209 Jan 26 13:12 | 6°♎30'25 | -0°54'35 |
| minimum elong | 3206 Sep 02 02:12 | 10°♎50'12 | 8°12'47 | minimum elong | 3209 Jan 26 01:28 | 5°♎53'30 | 0°54'08 |
| min. Earth dist. | 3206 Sep 02 14:18 | 10°♎31'18 | 0.28929 AU | max. Earth dist. | 3209 Jan 27 13:55 | 7°♎48'12 | 1.71116 AU |
| morning rise | 3206 Sep 05 19:23 | 8°♎32'22 | | | 3209 Feb 14 05:34 | 0°♎ | |
| direct | 3206 Sep 23 21:07 | 2°♎24'01 | | evening rise | 3209 Mar 08 15:10 | 28°♎05'49 | |
| greatest brilliancy | 3206 Oct 04 17:19 | 4°♎31'31 | -4.8m | | 3209 Mar 10 03:40 | 0°♎ | |
| asc. node | 3206 Nov 08 08:28 | 29°♎43'12 | | | 3209 Apr 03 05:20 | 0°♎ | |
| | 3206 Nov 08 15:27 | 0°♎ | | asc. node | 3209 Apr 25 03:43 | 27°♎05'32 | |
| morning max el | 3206 Nov 12 17:19 | 3°♎59'37 | 46°23'46 | | 3209 Apr 27 12:31 | 0°♎ | |
| | 3206 Dec 07 02:01 | 0°♎ | | | 3209 May 22 03:02 | 0°♎ | |
| | 3207 Jan 01 22:18 | 0°♎ | | | 3209 Jun 16 03:18 | 0°♎ | |
| | 3207 Jan 26 19:02 | 0°♎ | | | 3209 Jul 11 18:16 | 0°♎ | |
| | 3207 Feb 20 05:42 | 0°♎ | | | 3209 Aug 07 11:15 | 0°♎ | |
| desc. node | 3207 Feb 27 22:12 | 9°♎29'21 | | desc. node | 3209 Aug 14 17:11 | 7°♎47'51 | |
| | 3207 Mar 16 12:11 | 0°♎ | | evening max el | 3209 Sep 04 01:42 | 28°♎28'43 | 45°54'06 |
| | 3207 Apr 09 17:35 | 0°♎ | | | 3209 Sep 05 16:04 | 0°♎ | |
| | 3207 May 03 23:43 | 0°♎ | | greatest brilliancy | 3209 Oct 13 22:10 | 27°♎03'41 | -4.8m |
| morning set | 3207 May 18 23:08 | 18°♎28'57 | | retrograde | 3209 Oct 23 02:49 | 28°♎36'09 | |
| | 3207 May 28 07:25 | 0°♎ | | evening set | 3209 Nov 07 23:42 | 23°♎46'04 | |
| asc. node | 3207 Jun 21 01:20 | 29°♎13'23 | | inferior conj | 3209 Nov 12 21:47 | 20°♎50'42 | -5°25'23 |
| | 3207 Jun 21 16:30 | 0°♎ | | minimum elong | 3209 Nov 13 07:52 | 20°♎35'16 | 5°22'52 |
| | | | | min. Earth dist. | 3209 Nov 13 18:53 | 20°♎18'27 | 0.27271 AU |
| superior conj | 3207 Jun 25 06:57 | 4°♎25'44 | 0°10'07 | morning rise | 3209 Nov 18 15:29 | 17°♎27'20 | |
| minimum elong | 3207 Jun 25 04:49 | 4°♎19'12 | 0°10'00 | direct | 3209 Dec 03 19:22 | 12°♎56'47 | |
| behind sun begin | 3207 Jun 24 10:54 | 3°♎24'06 | | asc. node | 3209 Dec 05 20:12 | 13°♎01'47 | |
| behind sun end | 3207 Jun 25 22:44 | 5°♎14'17 | | greatest brilliancy | 3209 Dec 14 19:51 | 15°♎14'30 | -4.9m |
| max. Earth dist. | 3207 Jun 25 16:30 | 4°♎55'06 | 1.73475 AU | | 3210 Jan 06 05:56 | 0°♎ | |
| | 3207 Jul 16 02:11 | 0°♎ | | morning max el | 3210 Jan 23 13:41 | 16°♎22'30 | 46°57'28 |
| evening rise | 3207 Jul 31 11:56 | 18°♎56'17 | | | 3210 Feb 05 11:49 | 0°♎ | |
| | 3207 Aug 09 11:59 | 0°♎ | | | 3210 Mar 04 00:54 | 0°♎ | |
| | 3207 Sep 02 22:16 | 0°♎ | | desc. node | 3210 Mar 27 10:12 | 27°♎35'16 | |
| | 3207 Sep 27 10:10 | 0°♎ | | | 3210 Mar 29 10:43 | 0°♎ | |
| desc. node | 3207 Oct 10 15:05 | 16°♎06'52 | | | 3210 Apr 23 09:25 | 0°♎ | |
| | 3207 Oct 22 00:50 | 0°♎ | | | 3210 May 18 03:30 | 0°♎ | |
| | 3207 Nov 15 19:35 | 0°♎ | | | 3210 Jun 11 19:39 | 0°♎ | |
| | 3207 Dec 10 21:44 | 0°♎ | | | 3210 Jul 06 10:13 | 0°♎ | |
| | 3208 Jan 05 17:14 | 0°♎ | | asc. node | 3210 Jul 18 13:07 | 14°♎49'14 | |
| evening max el | 3208 Jan 30 20:43 | 27°♎15'39 | 47°07'58 | morning set | 3210 Jul 26 08:23 | 24°♎22'40 | |
| asc. node | 3208 Jan 31 17:56 | 28°♎09'27 | | | 3210 Jul 30 22:25 | 0°♎ | |
| | 3208 Feb 02 13:54 | 0°♎ | | | 3210 Aug 24 07:33 | 0°♎ | |
| greatest brilliancy | 3208 Mar 11 08:26 | 28°♎41'19 | -4.9m | max. Earth dist. | 3210 Aug 29 03:36 | 5°♎58'01 | 1.73158 AU |

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|---------------------|-------------------|------------------------|------------|---------------------|--|-------------------|------------------------|------------|
| superior conj | 3210 Aug 31 18:20 | 9° \mathbb{M} 11'43 | 1°20'29 | | | 3213 Feb 07 00:58 | 30° \mathbb{R} 3 | |
| minimum elong | 3210 Aug 31 12:49 | 8° \mathbb{M} 54'41 | 1°20'25 | direct | | 3213 Feb 15 13:49 | 28° \mathbb{Z} 30'31 | |
| | 3210 Sep 17 13:54 | 0° \mathbb{L} | | | | 3213 Feb 24 10:38 | 0° \approx | |
| evening rise | 3210 Oct 07 09:10 | 24° \mathbb{L} 33'07 | | greatest brilliancy | | 3213 Feb 24 23:58 | 0° \approx 11'07 | -4.9m |
| | 3210 Oct 11 18:31 | 0° \mathbb{M} | | | | 3213 Apr 05 22:25 | 0° \mathbb{H} | |
| | 3210 Nov 04 22:30 | 0° \mathbb{Z} | | morning max el | | 3213 Apr 06 14:52 | 0° \mathbb{H} 40'43 | 46°37'43 |
| desc. node | 3210 Nov 07 03:03 | 2° \mathbb{Z} 43'08 | | desc. node | | 3213 Apr 23 22:04 | 18° \mathbb{H} 38'46 | |
| | 3210 Nov 29 02:33 | 0° \mathbb{Z} | | | | 3213 May 04 07:14 | 0° \mathbb{Y} | |
| | 3210 Dec 23 07:27 | 0° \approx | | | | 3213 May 30 17:14 | 0° \mathbb{B} | |
| | 3211 Jan 16 15:28 | 0° \mathbb{H} | | | | 3213 Jun 25 08:48 | 0° \mathbb{H} | |
| | 3211 Feb 10 07:45 | 0° \mathbb{Y} | | | | 3213 Jul 20 14:13 | 0° \mathbb{L} | |
| asc. node | 3211 Feb 28 05:45 | 21° \mathbb{Y} 15'38 | | | | 3213 Aug 14 11:37 | 0° \mathbb{L} | |
| | 3211 Mar 07 18:30 | 0° \mathbb{B} | | asc. node | | 3213 Aug 15 00:57 | 0° \mathbb{L} 40'28 | |
| | 3211 Apr 03 23:04 | 0° \mathbb{H} | | | | 3213 Sep 08 01:32 | 0° \mathbb{M} | |
| evening max el | 3211 Apr 12 10:31 | 8° \mathbb{H} 37'21 | 46°09'19 | | | 3213 Oct 02 08:55 | 0° \mathbb{L} | |
| | 3211 May 07 03:40 | 0° \mathbb{L} | | morning set | | 3213 Oct 02 18:02 | 0° \mathbb{L} 28'15 | |
| greatest brilliancy | 3211 May 20 19:56 | 7° \mathbb{L} 36'01 | -4.8m | | | 3213 Oct 26 11:35 | 0° \mathbb{M} | |
| retrograde | 3211 May 31 20:58 | 9° \mathbb{L} 48'53 | | max. Earth dist. | | 3213 Nov 06 15:08 | 13° \mathbb{M} 55'36 | 1.71834 AU |
| evening set | 3211 Jun 15 21:51 | 5° \mathbb{L} 24'32 | | | | | | |
| desc. node | 3211 Jun 19 19:33 | 3° \mathbb{L} 06'41 | | superior conj | | 3213 Nov 09 09:46 | 17° \mathbb{M} 23'55 | 0°55'35 |
| inferior conj | 3211 Jun 22 06:49 | 1° \mathbb{L} 34'05 | -0°35'20 | minimum elong | | 3213 Nov 09 19:56 | 17° \mathbb{M} 55'44 | 0°55'12 |
| minimum elong | 3211 Jun 22 05:31 | 1° \mathbb{L} 36'08 | 0°34'56 | | | 3213 Nov 19 11:27 | 0° \mathbb{Z} | |
| min. Earth dist. | 3211 Jun 22 01:51 | 1° \mathbb{L} 41'53 | 0.28784 AU | desc. node | | 3213 Dec 04 14:51 | 18° \mathbb{Z} 58'12 | |
| | 3211 Jun 24 19:09 | 30° \mathbb{R} II | | | | 3213 Dec 13 09:57 | 0° \mathbb{Z} | |
| morning rise | 3211 Jun 28 13:35 | 27° \mathbb{H} 47'35 | | evening rise | | 3213 Dec 19 09:47 | 7° \mathbb{Z} 30'52 | |
| direct | 3211 Jul 13 19:30 | 23° \mathbb{H} 20'47 | | | | 3214 Jan 06 08:01 | 0° \approx | |
| greatest brilliancy | 3211 Jul 23 21:20 | 25° \mathbb{H} 10'36 | -4.7m | | | 3214 Jan 30 06:50 | 0° \mathbb{H} | |
| | 3211 Aug 02 22:21 | 0° \mathbb{L} | | | | 3214 Feb 23 08:35 | 0° \mathbb{Y} | |
| morning max el | 3211 Aug 31 12:50 | 23° \mathbb{L} 03'53 | 45°45'46 | | | 3214 Mar 19 16:49 | 0° \mathbb{B} | |
| | 3211 Sep 07 14:38 | 0° \mathbb{L} | | asc. node | | 3214 Mar 27 17:48 | 9° \mathbb{B} 47'48 | |
| | 3211 Oct 05 15:34 | 0° \mathbb{M} | | | | 3214 Apr 13 12:25 | 0° \mathbb{H} | |
| asc. node | 3211 Oct 10 22:47 | 5° \mathbb{M} 59'42 | | | | 3214 May 09 03:05 | 0° \mathbb{L} | |
| | 3211 Oct 31 13:49 | 0° \mathbb{L} | | | | 3214 Jun 05 05:43 | 0° \mathbb{L} | |
| | 3211 Nov 25 11:19 | 0° \mathbb{M} | | evening max el | | 3214 Jun 21 20:24 | 16° \mathbb{L} 50'07 | 45°27'40 |
| | 3211 Dec 19 19:41 | 0° \mathbb{Z} | | | | 3214 Jul 06 12:27 | 0° \mathbb{M} | |
| | 3212 Jan 12 21:27 | 0° \mathbb{Z} | | desc. node | | 3214 Jul 17 07:28 | 8° \mathbb{M} 02'30 | |
| desc. node | 3212 Jan 30 12:25 | 22° \mathbb{Z} 03'51 | | greatest brilliancy | | 3214 Jul 30 05:15 | 14° \mathbb{M} 44'03 | -4.7m |
| | 3212 Feb 05 20:23 | 0° \approx | | retrograde | | 3214 Aug 09 12:46 | 16° \mathbb{M} 39'17 | |
| | 3212 Feb 29 18:42 | 0° \mathbb{H} | | evening set | | 3214 Aug 26 21:30 | 10° \mathbb{M} 59'52 | |
| morning set | 3212 Mar 03 07:16 | 3° \mathbb{H} 09'45 | | inferior conj | | 3214 Aug 30 23:56 | 8° \mathbb{M} 29'33 | -8°06'36 |
| | 3212 Mar 24 18:00 | 0° \mathbb{Y} | | minimum elong | | 3214 Aug 30 17:24 | 8° \mathbb{M} 39'44 | 8°05'57 |
| | | | | min. Earth dist. | | 3214 Aug 31 05:02 | 8° \mathbb{M} 21'36 | 0.28954 AU |
| superior conj | 3212 Apr 12 10:20 | 23° \mathbb{Y} 17'48 | -1°17'40 | morning rise | | 3214 Sep 03 13:06 | 6° \mathbb{M} 18'18 | |
| minimum elong | 3212 Apr 12 18:59 | 23° \mathbb{Y} 44'42 | 1°17'29 | direct | | 3214 Sep 21 13:12 | 0° \mathbb{M} 12'13 | |
| max. Earth dist. | 3212 Apr 16 12:52 | 28° \mathbb{Y} 24'14 | 1.72252 AU | greatest brilliancy | | 3214 Oct 02 08:57 | 2° \mathbb{M} 19'33 | -4.8m |
| | 3212 Apr 17 19:40 | 0° \mathbb{B} | | asc. node | | 3214 Nov 07 10:25 | 28° \mathbb{M} 51'24 | |
| | 3212 May 12 00:37 | 0° \mathbb{H} | | | | 3214 Nov 08 14:33 | 0° \mathbb{L} | |
| evening rise | 3212 May 21 06:50 | 11° \mathbb{H} 25'30 | | morning max el | | 3214 Nov 10 09:07 | 1° \mathbb{L} 45'03 | 46°22'21 |
| asc. node | 3212 May 22 15:32 | 13° \mathbb{H} 06'16 | | | | 3214 Dec 06 18:08 | 0° \mathbb{M} | |
| | 3212 Jun 05 09:14 | 0° \mathbb{L} | | | | 3215 Jan 01 12:04 | 0° \mathbb{Z} | |
| | 3212 Jun 29 21:36 | 0° \mathbb{L} | | | | 3215 Jan 26 07:43 | 0° \mathbb{Z} | |
| | 3212 Jul 24 14:23 | 0° \mathbb{M} | | | | 3215 Feb 19 17:45 | 0° \approx | |
| | 3212 Aug 18 13:26 | 0° \mathbb{L} | | desc. node | | 3215 Feb 27 00:19 | 8° \approx 59'08 | |
| desc. node | 3212 Sep 11 05:11 | 28° \mathbb{L} 00'13 | | | | 3215 Mar 15 23:50 | 0° \mathbb{H} | |
| | 3212 Sep 12 22:05 | 0° \mathbb{M} | | | | 3215 Apr 09 04:54 | 0° \mathbb{Y} | |
| | 3212 Oct 08 22:20 | 0° \mathbb{Z} | | | | 3215 May 03 10:47 | 0° \mathbb{B} | |
| | 3212 Nov 05 05:48 | 0° \mathbb{Z} | | morning set | | 3215 May 16 14:59 | 16° \mathbb{B} 15'58 | |
| evening max el | 3212 Nov 16 03:19 | 11° \mathbb{Z} 11'10 | 46°57'15 | | | 3215 May 27 18:18 | 0° \mathbb{H} | |
| | 3212 Dec 06 19:48 | 0° \approx | | asc. node | | 3215 Jun 20 03:16 | 28° \mathbb{H} 46'09 | |
| greatest brilliancy | 3212 Dec 26 14:10 | 12° \approx 01'34 | -4.9m | | | 3215 Jun 21 03:17 | 0° \mathbb{L} | |
| asc. node | 3213 Jan 02 08:05 | 13° \approx 42'47 | | | | | | |
| retrograde | 3213 Jan 05 14:04 | 13° \approx 55'24 | | superior conj | | 3215 Jun 23 00:10 | 2° \mathbb{L} 18'01 | 0°06'53 |
| evening set | 3213 Jan 20 14:59 | 9° \approx 27'23 | | minimum elong | | 3215 Jun 22 22:43 | 2° \mathbb{L} 13'33 | 0°06'48 |
| min. Earth dist. | 3213 Jan 25 13:29 | 6° \approx 32'24 | 0.26642 AU | behind sun begin | | 3215 Jun 22 01:51 | 1° \mathbb{L} 09'21 | |
| inferior conj | 3213 Jan 26 04:18 | 6° \approx 09'40 | 5°44'09 | behind sun end | | 3215 Jun 23 19:36 | 3° \mathbb{L} 17'45 | |
| minimum elong | 3213 Jan 25 17:50 | 6° \approx 25'44 | 5°41'31 | max. Earth dist. | | 3215 Jun 23 13:56 | 3° \mathbb{L} 00'22 | 1.73460 AU |
| morning rise | 3213 Jan 30 20:55 | 3° \approx 21'13 | | | | 3215 Jul 15 12:58 | 0° \mathbb{L} | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| evening rise | 3215 Jul 29 06:32 | 16°♌52'44 | | desc. node | 3218 Mar 26 12:16 | 27°♊02'21 | |
| | 3215 Aug 08 22:52 | 0°♍ | | | 3218 Mar 28 23:42 | 0°♋ | |
| | 3215 Sep 02 09:23 | 0°♊ | | | 3218 Apr 22 21:27 | 0°♍ | |
| | 3215 Sep 26 21:39 | 0°♎ | | | 3218 May 17 14:56 | 0°♉ | |
| desc. node | 3215 Oct 09 17:11 | 15°♎37'29 | | | 3218 Jun 11 06:40 | 0°♊ | |
| | 3215 Oct 21 12:51 | 0°♈ | | | 3218 Jul 05 20:58 | 0°♎ | |
| | 3215 Nov 15 08:24 | 0°♉ | | asc. node | 3218 Jul 17 15:12 | 14°♎22'59 | |
| | 3215 Dec 10 11:47 | 0°♊ | | morning set | 3218 Jul 24 02:15 | 22°♎17'49 | |
| | 3216 Jan 05 09:45 | 0°♋ | | | 3218 Jul 30 09:00 | 0°♌ | |
| evening max el | 3216 Jan 28 12:03 | 24°♋56'31 | 47°09'06 | | 3218 Aug 23 18:05 | 0°♍ | |
| asc. node | 3216 Jan 30 19:57 | 27°♋17'41 | | max. Earth dist. | 3218 Aug 26 20:40 | 3°♍50'04 | 1.73192 AU |
| | 3216 Feb 02 13:27 | 0°♍ | | | | | |
| greatest brilliancy | 3216 Mar 08 22:57 | 26°♍21'31 | -4.9m | superior conj | 3218 Aug 29 12:16 | 7°♍06'20 | 1°19'24 |
| retrograde | 3216 Mar 19 07:53 | 28°♍24'09 | | minimum elong | 3218 Aug 29 06:15 | 6°♍47'45 | 1°19'18 |
| evening set | 3216 Apr 05 22:38 | 22°♍22'03 | | | 3218 Sep 17 00:30 | 0°♊ | |
| inferior conj | 3216 Apr 09 08:05 | 20°♍15'56 | 8°08'17 | evening rise | 3218 Oct 05 01:04 | 22°♊20'17 | |
| minimum elong | 3216 Apr 09 15:41 | 20°♍04'02 | 8°07'22 | | 3218 Oct 11 05:17 | 0°♎ | |
| min. Earth dist. | 3216 Apr 09 01:35 | 20°♍26'07 | 0.27934 AU | | 3218 Nov 04 09:31 | 0°♈ | |
| morning rise | 3216 Apr 13 08:58 | 17°♍47'18 | | desc. node | 3218 Nov 06 04:59 | 2°♈14'52 | |
| direct | 3216 Apr 30 06:12 | 12°♍16'11 | | | 3218 Nov 28 13:51 | 0°♉ | |
| greatest brilliancy | 3216 May 09 17:41 | 13°♍56'17 | -4.8m | | 3218 Dec 22 19:08 | 0°♊ | |
| desc. node | 3216 May 21 09:39 | 19°♍40'50 | | | 3219 Jan 16 03:40 | 0°♋ | |
| | 3216 Jun 04 07:22 | 0°♉ | | | 3219 Feb 09 20:47 | 0°♍ | |
| morning max el | 3216 Jun 18 10:42 | 12°♉47'59 | 45°54'20 | asc. node | 3219 Feb 27 07:54 | 20°♍40'58 | |
| | 3216 Jul 05 11:18 | 0°♊ | | | 3219 Mar 07 09:12 | 0°♉ | |
| | 3216 Aug 01 21:54 | 0°♎ | | | 3219 Apr 03 18:09 | 0°♊ | |
| | 3216 Aug 27 23:11 | 0°♌ | | evening max el | 3219 Apr 10 01:18 | 6°♊22'14 | 46°11'29 |
| asc. node | 3216 Sep 11 12:54 | 17°♌14'04 | | | 3219 May 08 01:20 | 0°♎ | |
| | 3216 Sep 22 04:34 | 0°♍ | | greatest brilliancy | 3219 May 18 13:25 | 5°♎28'04 | -4.8m |
| | 3216 Oct 16 19:58 | 0°♊ | | retrograde | 3219 May 29 12:54 | 7°♎40'02 | |
| | 3216 Nov 10 01:53 | 0°♎ | | evening set | 3219 Jun 13 14:51 | 3°♎15'02 | |
| | 3216 Dec 04 02:12 | 0°♈ | | desc. node | 3219 Jun 18 21:33 | 0°♎05'47 | |
| morning set | 3216 Dec 13 18:37 | 12°♈08'50 | | | 3219 Jun 19 01:14 | 30°♎11 | |
| | 3216 Dec 27 23:40 | 0°♉ | | inferior conj | 3219 Jun 19 23:13 | 29°♊25'28 | -0°15'18 |
| desc. node | 3217 Jan 01 02:37 | 5°♉11'08 | | minimum elong | 3219 Jun 19 22:39 | 29°♊26'21 | 0°15'08 |
| | 3217 Jan 20 19:59 | 0°♊ | | transit middle | 3219 Jun 19 22:39 | 29°♊26'21 | 0°15'08 |
| | | | | transit begin | 3219 Jun 19 21:10 | 29°♊28'41 | |
| superior conj | 3217 Jan 23 23:19 | 3°♊57'01 | -0°51'26 | transit end | 3219 Jun 20 00:08 | 29°♊24'01 | |
| minimum elong | 3217 Jan 23 11:54 | 3°♊21'05 | 0°50'57 | min. Earth dist. | 3219 Jun 19 18:49 | 29°♊32'22 | 0.28762 AU |
| max. Earth dist. | 3217 Jan 24 23:11 | 5°♊12'05 | 1.71104 AU | morning rise | 3219 Jun 26 06:47 | 25°♊37'31 | |
| | 3217 Feb 13 16:25 | 0°♋ | | direct | 3219 Jul 11 11:13 | 21°♊12'27 | |
| evening rise | 3217 Mar 06 02:13 | 25°♋36'09 | | greatest brilliancy | 3219 Jul 21 13:34 | 23°♊02'18 | -4.7m |
| | 3217 Mar 09 14:33 | 0°♍ | | | 3219 Aug 04 00:03 | 0°♎ | |
| | 3217 Apr 02 16:18 | 0°♉ | | morning max el | 3219 Aug 29 03:31 | 20°♎51'35 | 45°45'07 |
| asc. node | 3217 Apr 24 05:41 | 26°♉37'26 | | | 3219 Sep 07 09:54 | 0°♌ | |
| | 3217 Apr 26 23:39 | 0°♊ | | | 3219 Oct 05 06:06 | 0°♍ | |
| | 3217 May 21 14:31 | 0°♎ | | asc. node | 3219 Oct 10 00:44 | 5°♍25'10 | |
| | 3217 Jun 15 15:27 | 0°♌ | | | 3219 Oct 31 02:34 | 0°♊ | |
| | 3217 Jul 11 07:42 | 0°♍ | | | 3219 Nov 24 23:14 | 0°♎ | |
| | 3217 Aug 07 03:30 | 0°♊ | | | 3219 Dec 19 07:08 | 0°♈ | |
| desc. node | 3217 Aug 13 19:20 | 7°♊07'21 | | | 3220 Jan 12 08:39 | 0°♉ | |
| evening max el | 3217 Sep 01 15:58 | 26°♊12'23 | 45°52'05 | desc. node | 3220 Jan 29 14:29 | 21°♉35'36 | |
| | 3217 Sep 05 16:36 | 0°♎ | | | 3220 Feb 05 07:25 | 0°♊ | |
| greatest brilliancy | 3217 Oct 11 11:18 | 24°♎42'59 | -4.8m | | 3220 Feb 29 05:36 | 0°♋ | |
| retrograde | 3217 Oct 20 15:16 | 26°♎14'39 | | morning set | 3220 Feb 29 17:42 | 0°♋37'56 | |
| evening set | 3217 Nov 05 16:00 | 21°♎20'18 | | | 3220 Mar 24 04:46 | 0°♍ | |
| inferior conj | 3217 Nov 10 11:06 | 18°♎28'43 | -5°43'00 | | | | |
| minimum elong | 3217 Nov 10 21:22 | 18°♎12'58 | 5°40'32 | superior conj | 3220 Apr 09 23:47 | 20°♍57'07 | -1°19'13 |
| min. Earth dist. | 3217 Nov 11 08:46 | 17°♎55'32 | 0.27334 AU | minimum elong | 3220 Apr 10 07:53 | 21°♍22'19 | 1°19'03 |
| morning rise | 3217 Nov 16 02:13 | 15°♎08'24 | | max. Earth dist. | 3220 Apr 14 02:16 | 26°♍03'33 | 1.72190 AU |
| direct | 3217 Dec 01 09:32 | 10°♎33'55 | | | 3220 Apr 17 06:18 | 0°♉ | |
| asc. node | 3217 Dec 04 22:12 | 10°♎48'45 | | | 3220 May 11 11:12 | 0°♊ | |
| greatest brilliancy | 3217 Dec 12 10:19 | 12°♎51'32 | -4.9m | evening rise | 3220 May 18 22:41 | 9°♊13'47 | |
| | 3218 Jan 06 13:47 | 0°♈ | | asc. node | 3220 May 21 17:31 | 12°♊39'43 | |
| morning max el | 3218 Jan 21 03:04 | 13°♈57'33 | 46°57'11 | | 3220 Jun 04 19:51 | 0°♎ | |
| | 3218 Feb 05 06:12 | 0°♉ | | | 3220 Jun 29 08:25 | 0°♌ | |
| | 3218 Mar 03 15:36 | 0°♊ | | | 3220 Jul 24 01:37 | 0°♍ | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|--|
| | 3220 Aug 18 01:21 | 0°♄ | | | 3223 Jan 25 20:14 | 0°♄ | | |
| desc. node | 3220 Sep 10 07:12 | 27°♄28'13 | | | 3223 Feb 19 05:39 | 0°♄ | | |
| | 3220 Sep 12 11:09 | 0°♄ | | desc. node | 3223 Feb 26 02:24 | 8°♄29'15 | | |
| | 3220 Oct 08 13:30 | 0°♄ | | | 3223 Mar 15 11:18 | 0°♄ | | |
| | 3220 Nov 05 01:42 | 0°♄ | | | 3223 Apr 08 16:03 | 0°♄ | | |
| evening max el | 3220 Nov 13 15:45 | 8°♄45'02 | 46°55'26 | | 3223 May 02 21:42 | 0°♄ | | |
| | 3220 Dec 07 12:49 | 0°♄ | | morning set | 3223 May 14 06:47 | 14°♄03'13 | | |
| greatest brilliancy | 3220 Dec 24 03:25 | 9°♄33'44 | -4.9m | | 3223 May 27 05:03 | 0°♄ | | |
| asc. node | 3221 Jan 01 10:09 | 11°♄23'41 | | asc. node | 3223 Jun 19 05:25 | 28°♄19'58 | | |
| retrograde | 3221 Jan 03 02:17 | 11°♄27'04 | | | | | | |
| evening set | 3221 Jan 18 00:27 | 7°♄03'00 | | superior conj | 3223 Jun 20 17:31 | 0°♄11'00 | 0°03'37 | |
| min. Earth dist. | 3221 Jan 23 02:54 | 4°♄02'59 | 0.26617 AU | minimum elong | 3223 Jun 20 16:44 | 0°♄08'35 | 0°03'35 | |
| inferior conj | 3221 Jan 23 16:39 | 3°♄41'55 | 5°24'58 | behind sun begin | 3223 Jun 19 18:17 | 28°♄59'33 | | |
| minimum elong | 3221 Jan 23 06:26 | 3°♄57'34 | 5°22'18 | behind sun end | 3223 Jun 21 15:10 | 1°♄17'38 | | |
| morning rise | 3221 Jan 28 12:34 | 0°♄49'06 | | | 3223 Jun 20 13:56 | 0°♄ | | |
| | 3221 Jan 30 00:27 | 30°♄♄ | | max. Earth dist. | 3223 Jun 21 12:19 | 1°♄08'50 | 1.73437 AU | |
| direct | 3221 Feb 13 01:38 | 26°♄02'40 | | | 3223 Jul 14 23:35 | 0°♄ | | |
| greatest brilliancy | 3221 Feb 22 13:58 | 27°♄45'17 | -4.9m | evening rise | 3223 Jul 27 01:24 | 14°♄50'29 | | |
| | 3221 Feb 27 21:08 | 0°♄ | | | 3223 Aug 08 09:34 | 0°♄ | | |
| morning max el | 3221 Apr 04 04:06 | 28°♄17'12 | 46°39'23 | | 3223 Sep 01 20:20 | 0°♄ | | |
| | 3221 Apr 05 21:16 | 0°♄ | | | 3223 Sep 26 09:01 | 0°♄ | | |
| desc. node | 3221 Apr 22 23:56 | 17°♄55'37 | | desc. node | 3223 Oct 08 19:07 | 15°♄07'57 | | |
| | 3221 May 03 23:21 | 0°♄ | | | 3223 Oct 21 00:50 | 0°♄ | | |
| | 3221 May 30 06:45 | 0°♄ | | | 3223 Nov 14 21:16 | 0°♄ | | |
| | 3221 Jun 24 20:58 | 0°♄ | | | 3223 Dec 10 02:02 | 0°♄ | | |
| | 3221 Jul 20 01:36 | 0°♄ | | | 3224 Jan 05 02:41 | 0°♄ | | |
| | 3221 Aug 13 22:34 | 0°♄ | | evening max el | 3224 Jan 26 03:39 | 22°♄37'40 | 47°10'09 | |
| asc. node | 3221 Aug 14 03:03 | 0°♄13'38 | | asc. node | 3224 Jan 29 22:04 | 26°♄24'49 | | |
| | 3221 Sep 07 12:15 | 0°♄ | | | 3224 Feb 02 14:17 | 0°♄ | | |
| morning set | 3221 Sep 30 10:30 | 28°♄17'28 | | greatest brilliancy | 3224 Mar 06 13:40 | 24°♄01'28 | -4.9m | |
| | 3221 Oct 01 19:34 | 0°♄ | | retrograde | 3224 Mar 16 23:09 | 26°♄04'14 | | |
| | 3221 Oct 25 22:15 | 0°♄ | | evening set | 3224 Apr 03 15:45 | 19°♄58'39 | | |
| max. Earth dist. | 3221 Nov 04 06:20 | 11°♄39'35 | 1.71882 AU | inferior conj | 3224 Apr 06 22:32 | 17°♄56'28 | 8°17'03 | |
| | | | | minimum elong | 3224 Apr 07 05:33 | 17°♄45'28 | 8°16'16 | |
| superior conj | 3221 Nov 06 23:46 | 15°♄04'06 | 0°58'16 | min. Earth dist. | 3224 Apr 06 15:00 | 18°♄08'15 | 0.27894 AU | |
| minimum elong | 3221 Nov 07 10:00 | 15°♄36'06 | 0°57'53 | morning rise | 3224 Apr 10 19:37 | 15°♄33'31 | | |
| | 3221 Nov 18 22:12 | 0°♄ | | direct | 3224 Apr 27 20:47 | 9°♄57'38 | | |
| desc. node | 3221 Dec 03 16:53 | 18°♄30'39 | | greatest brilliancy | 3224 May 07 06:08 | 11°♄36'20 | -4.8m | |
| | 3221 Dec 12 20:50 | 0°♄ | | desc. node | 3224 May 20 11:44 | 18°♄20'50 | | |
| evening rise | 3221 Dec 16 21:11 | 5°♄02'02 | | | 3224 Jun 04 13:51 | 0°♄ | | |
| | 3222 Jan 05 19:03 | 0°♄ | | morning max el | 3224 Jun 16 01:49 | 10°♄33'53 | 45°55'26 | |
| | 3222 Jan 29 18:01 | 0°♄ | | | 3224 Jul 05 04:59 | 0°♄ | | |
| | 3222 Feb 22 20:00 | 0°♄ | | | 3224 Aug 01 12:01 | 0°♄ | | |
| | 3222 Mar 19 04:37 | 0°♄ | | | 3224 Aug 27 11:40 | 0°♄ | | |
| asc. node | 3222 Mar 26 19:45 | 9°♄17'19 | | asc. node | 3224 Sep 10 14:51 | 16°♄44'15 | | |
| | 3222 Apr 13 00:56 | 0°♄ | | | 3224 Sep 21 16:13 | 0°♄ | | |
| | 3222 May 08 17:03 | 0°♄ | | | 3224 Oct 16 07:12 | 0°♄ | | |
| | 3222 Jun 04 23:10 | 0°♄ | | | 3224 Nov 09 12:56 | 0°♄ | | |
| evening max el | 3222 Jun 19 12:30 | 14°♄40'56 | 45°28'17 | | 3224 Dec 03 13:13 | 0°♄ | | |
| | 3222 Jul 06 20:39 | 0°♄ | | morning set | 3224 Dec 11 06:45 | 9°♄41'46 | | |
| desc. node | 3222 Jul 16 09:34 | 6°♄48'47 | | | 3224 Dec 27 10:41 | 0°♄ | | |
| greatest brilliancy | 3222 Jul 27 18:52 | 12°♄33'02 | -4.7m | desc. node | 3224 Dec 31 04:45 | 4°♄43'08 | | |
| retrograde | 3222 Aug 07 05:11 | 14°♄30'29 | | | 3225 Jan 20 07:01 | 0°♄ | | |
| evening set | 3222 Aug 24 10:29 | 8°♄54'58 | | | | | | |
| inferior conj | 3222 Aug 28 16:02 | 6°♄19'57 | -7°59'16 | superior conj | 3225 Jan 21 09:11 | 1°♄22'17 | -0°48'07 | |
| minimum elong | 3222 Aug 28 08:57 | 6°♄30'59 | 7°58'29 | minimum elong | 3225 Jan 20 22:11 | 0°♄47'41 | 0°47'39 | |
| min. Earth dist. | 3222 Aug 28 19:41 | 6°♄14'14 | 0.28979 AU | max. Earth dist. | 3225 Jan 22 04:15 | 2°♄22'16 | 1.71098 AU | |
| morning rise | 3222 Sep 01 07:17 | 4°♄05'42 | | | 3225 Feb 13 03:28 | 0°♄ | | |
| | 3222 Sep 09 08:12 | 30°♄♄ | | evening rise | 3225 Mar 03 12:38 | 23°♄03'48 | | |
| direct | 3222 Sep 19 06:03 | 28°♄02'25 | | | 3225 Mar 09 01:38 | 0°♄ | | |
| | 3222 Sep 29 14:43 | 0°♄ | | | 3225 Apr 02 03:28 | 0°♄ | | |
| greatest brilliancy | 3222 Sep 30 00:12 | 0°♄08'41 | -4.8m | asc. node | 3225 Apr 23 07:40 | 26°♄08'51 | | |
| asc. node | 3222 Nov 06 12:25 | 28°♄01'25 | | | 3225 Apr 26 10:59 | 0°♄ | | |
| morning max el | 3222 Nov 08 01:23 | 29°♄32'35 | 46°20'36 | | 3225 May 21 02:12 | 0°♄ | | |
| | 3222 Nov 08 12:25 | 0°♄ | | | 3225 Jun 15 03:51 | 0°♄ | | |
| | 3222 Dec 06 09:49 | 0°♄ | | | 3225 Jul 10 21:27 | 0°♄ | | |
| | 3223 Jan 01 01:37 | 0°♄ | | | 3225 Aug 06 20:11 | 0°♄ | | |

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|---------------------|-------------------|----------------------|------------|---------------------|-------------------|----------------------|------------|
| desc. node | 3225 Aug 12 21:22 | 6° Ω 25'46 | | | 3228 Jan 11 20:06 | 0° Ξ | |
| evening max el | 3225 Aug 30 05:32 | 23° Ω 54'19 | 45°50'15 | desc. node | 3228 Jan 28 16:32 | 21° Ξ 06'27 | |
| | 3225 Sep 05 18:29 | 0° Π | | | 3228 Feb 04 18:42 | 0° \approx | |
| greatest brilliancy | 3225 Oct 09 01:03 | 22° Π 23'38 | -4.8m | morning set | 3228 Feb 27 04:09 | 28° \approx 05'10 | |
| retrograde | 3225 Oct 18 03:45 | 23° Π 54'22 | | | 3228 Feb 28 16:47 | 0° H | |
| evening set | 3225 Nov 03 08:37 | 18° Π 55'29 | | | 3228 Mar 23 15:53 | 0° Υ | |
| inferior conj | 3225 Nov 08 00:48 | 16° Π 07'53 | -5°59'42 | | | | |
| minimum elong | 3225 Nov 08 11:11 | 15° Π 51'56 | 5°57'18 | superior conj | 3228 Apr 07 12:54 | 18° Υ 34'02 | -1°20'38 |
| min. Earth dist. | 3225 Nov 08 23:09 | 15° Π 33'34 | 0.27401 AU | minimum elong | 3228 Apr 07 20:22 | 18° Υ 57'19 | 1°20'30 |
| morning rise | 3225 Nov 13 13:10 | 12° Π 50'50 | | max. Earth dist. | 3228 Apr 11 13:08 | 23° Υ 33'40 | 1.72138 AU |
| direct | 3225 Nov 28 23:33 | 8° Π 12'00 | | | 3228 Apr 16 17:22 | 0° B | |
| asc. node | 3225 Dec 04 00:18 | 8° Π 41'43 | | | 3228 May 10 22:14 | 0° Π | |
| greatest brilliancy | 3225 Dec 10 01:33 | 10° Π 30'06 | -4.9m | evening rise | 3228 May 16 13:58 | 6° Π 58'49 | |
| | 3226 Jan 06 19:23 | 0° A | | asc. node | 3228 May 20 19:37 | 12° Π 12'05 | |
| morning max el | 3226 Jan 18 15:55 | 11° A 30'45 | 46°56'35 | | 3228 Jun 04 06:58 | 0° E | |
| | 3226 Feb 05 00:22 | 0° Ξ | | | 3228 Jun 28 19:45 | 0° Ω | |
| | 3226 Mar 03 06:27 | 0° \approx | | | 3228 Jul 23 13:21 | 0° Π | |
| desc. node | 3226 Mar 25 14:12 | 26° \approx 27'59 | | | 3228 Aug 17 13:47 | 0° Ω | |
| | 3226 Mar 28 12:59 | 0° H | | desc. node | 3228 Sep 09 09:09 | 26° Ω 54'31 | |
| | 3226 Apr 22 09:48 | 0° Υ | | | 3228 Sep 12 00:47 | 0° Π | |
| | 3226 May 17 02:41 | 0° B | | | 3228 Oct 08 05:21 | 0° A | |
| | 3226 Jun 10 17:59 | 0° Π | | | 3228 Nov 04 22:41 | 0° Ξ | |
| | 3226 Jul 05 07:59 | 0° E | | evening max el | 3228 Nov 11 05:01 | 6° Ξ 20'07 | 46°53'45 |
| asc. node | 3226 Jul 16 17:14 | 13° E 55'42 | | | 3228 Dec 08 12:12 | 0° \approx | |
| morning set | 3226 Jul 21 19:58 | 20° E 11'38 | | greatest brilliancy | 3228 Dec 21 16:16 | 7° \approx 04'54 | -4.9m |
| | 3226 Jul 29 19:51 | 0° Ω | | retrograde | 3228 Dec 31 15:16 | 8° \approx 58'24 | |
| | 3226 Aug 23 04:55 | 0° Π | | asc. node | 3228 Dec 31 12:13 | 8° \approx 58'23 | |
| max. Earth dist. | 3226 Aug 24 14:23 | 1° Π 43'13 | 1.73225 AU | evening set | 3229 Jan 15 10:17 | 4° \approx 37'52 | |
| | | | | min. Earth dist. | 3229 Jan 20 16:03 | 1° \approx 33'36 | 0.26591 AU |
| superior conj | 3226 Aug 27 06:22 | 5° Π 00'38 | 1°18'13 | inferior conj | 3229 Jan 21 05:05 | 1° \approx 13'41 | 5°05'06 |
| minimum elong | 3226 Aug 26 23:51 | 4° Π 40'33 | 1°18'05 | minimum elong | 3229 Jan 20 19:12 | 1° \approx 28'48 | 5°02'26 |
| | 3226 Sep 16 11:23 | 0° Ω | | | 3229 Jan 23 05:33 | 30° R Ξ | |
| evening rise | 3226 Oct 02 17:24 | 20° Ω 08'09 | | morning rise | 3229 Jan 26 04:16 | 28° Ξ 16'46 | |
| | 3226 Oct 10 16:19 | 0° Π | | direct | 3229 Feb 10 14:04 | 23° Ξ 34'31 | |
| | 3226 Nov 03 20:45 | 0° A | | greatest brilliancy | 3229 Feb 20 03:26 | 25° Ξ 18'31 | -4.9m |
| desc. node | 3226 Nov 05 07:04 | 1° A 46'25 | | | 3229 Mar 01 20:12 | 0° \approx | |
| | 3226 Nov 28 01:22 | 0° Ξ | | morning max el | 3229 Apr 01 18:08 | 25° \approx 55'01 | 46°40'47 |
| | 3226 Dec 22 07:03 | 0° \approx | | | 3229 Apr 05 19:28 | 0° H | |
| | 3227 Jan 15 16:11 | 0° H | | desc. node | 3229 Apr 22 02:06 | 17° H 12'58 | |
| | 3227 Feb 09 10:15 | 0° Υ | | | 3229 May 03 15:31 | 0° Υ | |
| asc. node | 3227 Feb 26 09:47 | 20° Υ 04'04 | | | 3229 May 29 20:32 | 0° B | |
| | 3227 Mar 07 00:33 | 0° B | | | 3229 Jun 24 09:31 | 0° Π | |
| | 3227 Apr 03 14:25 | 0° Π | | | 3229 Jul 19 13:25 | 0° E | |
| evening max el | 3227 Apr 07 15:18 | 4° Π 03'27 | 46°13'40 | asc. node | 3229 Aug 13 05:00 | 29° E 45'02 | |
| | 3227 May 09 08:58 | 0° E | | | 3229 Aug 13 09:56 | 0° Ω | |
| greatest brilliancy | 3227 May 16 06:31 | 3° E 17'32 | -4.8m | | 3229 Sep 06 23:23 | 0° Π | |
| retrograde | 3227 May 27 04:53 | 5° E 29'06 | | morning set | 3229 Sep 28 02:50 | 26° Π 05'15 | |
| evening set | 3227 Jun 11 07:43 | 1° E 02'55 | | | 3229 Oct 01 06:36 | 0° Ω | |
| | 3227 Jun 13 03:52 | 30° R Π | | | 3229 Oct 25 09:17 | 0° Π | |
| inferior conj | 3227 Jun 17 15:22 | 27° Π 14'40 | 0°04'57 | max. Earth dist. | 3229 Nov 01 20:45 | 9° Π 20'07 | 1.71928 AU |
| minimum elong | 3227 Jun 17 15:33 | 27° Π 14'23 | 0°04'53 | | | | |
| transit middle | 3227 Jun 17 15:33 | 27° Π 14'23 | 0°04'53 | superior conj | 3229 Nov 04 13:50 | 12° Π 43'24 | 1°00'50 |
| transit begin | 3227 Jun 17 11:41 | 27° Π 20'27 | | minimum elong | 3229 Nov 05 00:02 | 13° Π 15'17 | 1°00'28 |
| transit end | 3227 Jun 17 19:25 | 27° Π 08'18 | | | 3229 Nov 18 09:19 | 0° A | |
| min. Earth dist. | 3227 Jun 17 11:34 | 27° Π 20'38 | 0.28739 AU | desc. node | 3229 Dec 02 19:00 | 18° A 02'11 | |
| desc. node | 3227 Jun 17 23:39 | 27° Π 01'38 | | | 3229 Dec 12 08:04 | 0° Ξ | |
| morning rise | 3227 Jun 23 23:37 | 23° Π 25'39 | | evening rise | 3229 Dec 14 08:44 | 2° Ξ 32'31 | |
| direct | 3227 Jul 09 02:26 | 19° Π 01'49 | | | 3230 Jan 05 06:24 | 0° \approx | |
| greatest brilliancy | 3227 Jul 19 05:51 | 20° Π 52'18 | -4.7m | | 3230 Jan 29 05:30 | 0° H | |
| | 3227 Aug 04 19:42 | 0° E | | | 3230 Feb 22 07:40 | 0° Υ | |
| morning max el | 3227 Aug 26 18:29 | 18° E 38'40 | 45°44'40 | | 3230 Mar 18 16:40 | 0° B | |
| | 3227 Sep 07 05:07 | 0° Ω | | asc. node | 3230 Mar 25 21:47 | 8° B 46'23 | |
| | 3227 Oct 04 20:52 | 0° Π | | | 3230 Apr 12 13:47 | 0° Π | |
| asc. node | 3227 Oct 09 02:42 | 4° Π 49'50 | | | 3230 May 08 07:28 | 0° E | |
| | 3227 Oct 30 15:36 | 0° Ω | | | 3230 Jun 04 17:30 | 0° Ω | |
| | 3227 Nov 24 11:25 | 0° Π | | evening max el | 3230 Jun 17 05:02 | 12° Ω 31'23 | 45°28'43 |
| | 3227 Dec 18 18:52 | 0° A | | | 3230 Jul 07 08:42 | 0° Π | |

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|---------------------|-------------------|---------------------------------|------------|---------------------|-------------------|------------------------------------|
| desc. node | 3230 Jul 15 11:36 | 5° \mathbb{M} 31'01 | | 3232 Dec 26 21:47 | 0° \mathcal{Z} | |
| greatest brilliancy | 3230 Jul 25 08:58 | 10° \mathbb{M} 20'54 | -4.7m | desc. node | 3232 Dec 30 06:42 | 4° \mathcal{Z} 14'24 |
| retrograde | 3230 Aug 04 21:18 | 12° \mathbb{M} 19'39 | | | | |
| evening set | 3230 Aug 21 23:13 | 6° \mathbb{M} 48'37 | | superior conj | 3233 Jan 18 19:03 | 28° \mathcal{Z} 47'28 -0°44'43 |
| inferior conj | 3230 Aug 26 07:56 | 4° \mathbb{M} 08'36 | -7°51'07 | minimum elong | 3233 Jan 18 08:33 | 28° \mathcal{Z} 14'29 0°44'16 |
| minimum elong | 3230 Aug 26 00:21 | 4° \mathbb{M} 20'25 | 7°50'13 | max. Earth dist. | 3233 Jan 19 07:08 | 29° \mathcal{Z} 25'30 1.71095 AU |
| min. Earth dist. | 3230 Aug 26 10:16 | 4° \mathbb{M} 04'57 | 0.28999 AU | | 3233 Jan 19 18:06 | 0° \approx |
| morning rise | 3230 Aug 30 01:25 | 1° \mathbb{M} 51'01 | | | 3233 Feb 12 14:34 | 0° \mathcal{H} |
| | 3230 Sep 02 07:33 | 30° \mathcal{R} \mathcal{L} | | evening rise | 3233 Feb 28 23:04 | 20° \mathcal{H} 31'14 |
| direct | 3230 Sep 16 22:48 | 25° \mathcal{L} 51'07 | | | 3233 Mar 08 12:46 | 0° \mathcal{Y} |
| greatest brilliancy | 3230 Sep 27 14:45 | 27° \mathcal{L} 55'34 | -4.8m | | 3233 Apr 01 14:40 | 0° \mathcal{B} |
| | 3230 Oct 02 08:37 | 0° \mathbb{M} | | asc. node | 3233 Apr 22 09:49 | 25° \mathcal{B} 40'43 |
| morning max el | 3230 Nov 05 16:57 | 27° \mathbb{M} 17'26 | 46°18'54 | | 3233 Apr 25 22:20 | 0° \mathbb{I} |
| asc. node | 3230 Nov 05 14:36 | 27° \mathbb{M} 11'37 | | | 3233 May 20 13:53 | 0° \mathcal{G} |
| | 3230 Nov 08 09:54 | 0° \mathcal{L} | | | 3233 Jun 14 16:13 | 0° \mathcal{L} |
| | 3230 Dec 06 01:36 | 0° \mathbb{M} | | | 3233 Jul 10 11:16 | 0° \mathbb{M} |
| | 3230 Dec 31 15:20 | 0° \mathcal{X} | | | 3233 Aug 06 13:12 | 0° \mathcal{L} |
| | 3231 Jan 25 08:57 | 0° \mathcal{Z} | | desc. node | 3233 Aug 11 23:19 | 5° \mathcal{L} 43'24 |
| | 3231 Feb 18 17:45 | 0° \approx | | evening max el | 3233 Aug 27 18:19 | 21° \mathcal{L} 34'20 45°48'15 |
| desc. node | 3231 Feb 25 04:19 | 7° \approx 58'10 | | | 3233 Sep 05 21:59 | 0° \mathbb{M} |
| | 3231 Mar 14 22:57 | 0° \mathcal{H} | | greatest brilliancy | 3233 Oct 06 14:40 | 20° \mathbb{M} 03'43 -4.8m |
| | 3231 Apr 08 03:22 | 0° \mathcal{Y} | | retrograde | 3233 Oct 15 16:13 | 21° \mathbb{M} 33'48 |
| | 3231 May 02 08:46 | 0° \mathcal{B} | | evening set | 3233 Nov 01 01:07 | 16° \mathbb{M} 30'01 |
| morning set | 3231 May 11 22:48 | 11° \mathcal{B} 50'36 | | inferior conj | 3233 Nov 05 14:24 | 13° \mathbb{M} 46'37 -6°15'38 |
| | 3231 May 26 15:58 | 0° \mathbb{I} | | minimum elong | 3233 Nov 06 00:49 | 13° \mathbb{M} 30'36 6°13'20 |
| | | | | min. Earth dist. | 3233 Nov 06 13:33 | 13° \mathbb{M} 11'03 0.27471 AU |
| superior conj | 3231 Jun 18 10:51 | 28° \mathbb{I} 03'19 | 0°00'21 | morning rise | 3233 Nov 10 23:53 | 10° \mathbb{M} 33'17 |
| minimum elong | 3231 Jun 18 10:47 | 28° \mathbb{I} 03'08 | 0°00'21 | direct | 3233 Nov 26 13:09 | 5° \mathbb{M} 49'25 |
| behind sun begin | 3231 Jun 17 11:56 | 26° \mathbb{I} 52'50 | | asc. node | 3233 Dec 03 02:17 | 6° \mathbb{M} 39'01 |
| behind sun end | 3231 Jun 19 09:38 | 29° \mathbb{I} 13'25 | | greatest brilliancy | 3233 Dec 07 17:04 | 8° \mathbb{M} 08'46 -4.9m |
| asc. node | 3231 Jun 18 07:25 | 27° \mathbb{I} 52'43 | | | 3234 Jan 06 23:14 | 0° \mathcal{X} |
| max. Earth dist. | 3231 Jun 19 11:16 | 29° \mathbb{I} 18'27 | 1.73419 AU | morning max el | 3234 Jan 16 05:06 | 9° \mathcal{X} 04'42 46°56'09 |
| | 3231 Jun 20 00:47 | 0° \mathcal{G} | | | 3234 Feb 04 18:06 | 0° \mathcal{Z} |
| | 3231 Jul 14 10:27 | 0° \mathcal{L} | | | 3234 Mar 02 21:02 | 0° \approx |
| evening rise | 3231 Jul 24 20:08 | 12° \mathcal{L} 47'03 | | desc. node | 3234 Mar 24 16:19 | 25° \approx 54'43 |
| | 3231 Aug 07 20:33 | 0° \mathbb{M} | | | 3234 Mar 28 02:04 | 0° \mathcal{H} |
| | 3231 Sep 01 07:35 | 0° \mathcal{L} | | | 3234 Apr 21 22:00 | 0° \mathcal{Y} |
| | 3231 Sep 25 20:41 | 0° \mathbb{M} | | | 3234 May 16 14:16 | 0° \mathcal{B} |
| desc. node | 3231 Oct 07 21:12 | 14° \mathbb{M} 38'02 | | | 3234 Jun 10 05:08 | 0° \mathbb{I} |
| | 3231 Oct 20 13:07 | 0° \mathcal{X} | | | 3234 Jul 04 18:49 | 0° \mathcal{G} |
| | 3231 Nov 14 10:26 | 0° \mathcal{Z} | | asc. node | 3234 Jul 15 19:13 | 13° \mathcal{G} 28'49 |
| | 3231 Dec 09 16:38 | 0° \approx | | morning set | 3234 Jul 19 14:02 | 18° \mathcal{G} 07'01 |
| | 3232 Jan 04 20:10 | 0° \mathcal{H} | | | 3234 Jul 29 06:32 | 0° \mathcal{L} |
| evening max el | 3232 Jan 23 18:55 | 20° \mathcal{H} 17'17 | 47°11'07 | max. Earth dist. | 3234 Aug 22 10:50 | 29° \mathcal{L} 45'24 1.73261 AU |
| asc. node | 3232 Jan 29 00:02 | 25° \mathcal{H} 30'02 | | | 3234 Aug 22 15:34 | 0° \mathbb{M} |
| | 3232 Feb 02 16:38 | 0° \mathcal{Y} | | | | |
| greatest brilliancy | 3232 Mar 04 05:06 | 21° \mathcal{Y} 41'53 | -4.9m | superior conj | 3234 Aug 25 00:44 | 2° \mathbb{M} 56'23 1°16'55 |
| retrograde | 3232 Mar 14 14:08 | 23° \mathcal{Y} 43'59 | | minimum elong | 3234 Aug 24 17:48 | 2° \mathbb{M} 34'57 1°16'47 |
| evening set | 3232 Apr 01 08:47 | 17° \mathcal{Y} 35'33 | | | 3234 Sep 15 22:08 | 0° \mathcal{L} |
| min. Earth dist. | 3232 Apr 04 04:43 | 15° \mathcal{Y} 50'04 | 0.27848 AU | evening rise | 3234 Sep 30 10:02 | 17° \mathcal{L} 57'22 |
| inferior conj | 3232 Apr 04 13:05 | 15° \mathcal{Y} 36'57 | 8°24'55 | | 3234 Oct 10 03:14 | 0° \mathbb{M} |
| minimum elong | 3232 Apr 04 19:28 | 15° \mathcal{Y} 26'57 | 8°24'18 | | 3234 Nov 03 07:55 | 0° \mathcal{X} |
| morning rise | 3232 Apr 08 06:25 | 13° \mathcal{Y} 19'29 | | desc. node | 3234 Nov 04 09:11 | 1° \mathcal{X} 18'17 |
| direct | 3232 Apr 25 11:11 | 7° \mathcal{Y} 39'14 | | | 3234 Nov 27 12:52 | 0° \mathcal{Z} |
| greatest brilliancy | 3232 May 04 18:50 | 9° \mathcal{Y} 16'33 | -4.8m | | 3234 Dec 21 18:57 | 0° \approx |
| desc. node | 3232 May 19 13:48 | 17° \mathcal{Y} 03'21 | | | 3235 Jan 15 04:39 | 0° \mathcal{H} |
| | 3232 Jun 04 18:17 | 0° \mathcal{B} | | | 3235 Feb 08 23:41 | 0° \mathcal{Y} |
| morning max el | 3232 Jun 13 15:59 | 8° \mathcal{B} 17'22 | 45°56'32 | asc. node | 3235 Feb 25 11:52 | 19° \mathcal{Y} 27'58 |
| | 3232 Jul 04 22:18 | 0° \mathbb{I} | | | 3235 Mar 06 15:55 | 0° \mathcal{B} |
| | 3232 Aug 01 02:02 | 0° \mathcal{G} | | | 3235 Apr 03 11:05 | 0° \mathbb{I} |
| | 3232 Aug 27 00:13 | 0° \mathcal{L} | | evening max el | 3235 Apr 05 05:36 | 1° \mathbb{I} 46'09 46°16'02 |
| asc. node | 3232 Sep 09 16:53 | 16° \mathcal{L} 14'15 | | | 3235 May 11 07:16 | 0° \mathcal{G} |
| | 3232 Sep 21 04:00 | 0° \mathbb{M} | | greatest brilliancy | 3235 May 13 23:16 | 1° \mathcal{G} 07'28 -4.8m |
| | 3232 Oct 15 18:35 | 0° \mathcal{L} | | retrograde | 3235 May 24 21:28 | 3° \mathcal{G} 19'22 |
| | 3232 Nov 09 00:09 | 0° \mathbb{M} | | | 3235 Jun 06 20:31 | 30° \mathcal{R} \mathbb{I} |
| | 3232 Dec 03 00:20 | 0° \mathcal{X} | | evening set | 3235 Jun 09 00:53 | 28° \mathbb{I} 51'36 |
| morning set | 3232 Dec 08 18:50 | 7° \mathcal{X} 14'17 | | inferior conj | 3235 Jun 15 07:38 | 25° \mathbb{I} 04'55 0°25'07 |

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|---------------------|-------------------|------------|------------|---------------------|--|-------------------|----------------------|
| minimum elong | 3235 Jun 15 08:34 | 25°II03'28 | 0°24'51 | | | 3237 Nov 17 20:01 | 0°♊ |
| min. Earth dist. | 3235 Jun 15 04:12 | 25°II10'19 | 0.28715 AU | desc. node | | 3237 Dec 01 20:59 | 17°♊34'35 |
| desc. node | 3235 Jun 17 01:39 | 23°II59'11 | | evening rise | | 3237 Dec 11 20:40 | 0°♊05'29 |
| morning rise | 3235 Jun 21 16:29 | 21°II15'17 | | | | 3237 Dec 11 18:55 | 0°♊ |
| direct | 3235 Jul 06 17:52 | 16°II52'13 | | | | 3238 Jan 04 17:25 | 0°♊ |
| greatest brilliancy | 3235 Jul 16 22:00 | 18°II43'23 | -4.7m | | | 3238 Jan 28 16:42 | 0°♊ |
| | 3235 Aug 05 09:45 | 0°♊ | | | | 3238 Feb 21 19:08 | 0°♊ |
| morning max el | 3235 Aug 24 10:26 | 16°♊29'20 | 45°44'20 | | | 3238 Mar 18 04:34 | 0°♊ |
| | 3235 Sep 06 23:24 | 0°♊ | | asc. node | | 3238 Mar 24 23:55 | 8°♊16'17 |
| | 3235 Oct 04 11:06 | 0°♊ | | | | 3238 Apr 12 02:27 | 0°♊ |
| asc. node | 3235 Oct 08 04:53 | 4°♊16'19 | | | | 3238 May 07 21:47 | 0°♊ |
| | 3235 Oct 30 04:14 | 0°♊ | | | | 3238 Jun 04 11:55 | 0°♊ |
| | 3235 Nov 23 23:19 | 0°♊ | | evening max el | | 3238 Jun 14 21:27 | 10°♊22'33 45°29'19 |
| | 3235 Dec 18 06:22 | 0°♊ | | | | 3238 Jul 08 00:07 | 0°♊ |
| | 3236 Jan 11 07:23 | 0°♊ | | desc. node | | 3238 Jul 14 13:35 | 4°♊12'04 |
| desc. node | 3236 Jan 27 18:32 | 20°♊37'41 | | greatest brilliancy | | 3238 Jul 22 24:00 | 8°♊11'17 -4.7m |
| | 3236 Feb 04 05:50 | 0°♊ | | retrograde | | 3238 Aug 02 13:12 | 10°♊10'31 |
| morning set | 3236 Feb 24 14:10 | 25°♊31'32 | | evening set | | 3238 Aug 19 12:11 | 4°♊44'13 |
| | 3236 Feb 28 03:47 | 0°♊ | | inferior conj | | 3238 Aug 24 00:04 | 1°♊59'11 -7°42'27 |
| | 3236 Mar 23 02:45 | 0°♊ | | minimum elong | | 3238 Aug 23 16:01 | 2°♊11'46 7°41'25 |
| | | | | min. Earth dist. | | 3238 Aug 24 01:25 | 1°♊57'05 0.29012 AU |
| superior conj | 3236 Apr 05 01:40 | 16°♊10'37 | -1°21'54 | | | 3238 Aug 27 05:09 | 30°♊ |
| minimum elong | 3236 Apr 05 08:29 | 16°♊31'49 | 1°21'49 | morning rise | | 3238 Aug 27 19:48 | 29°♊37'59 |
| max. Earth dist. | 3236 Apr 09 00:08 | 21°♊04'53 | 1.72083 AU | direct | | 3238 Sep 14 15:28 | 23°♊41'49 |
| | 3236 Apr 16 04:08 | 0°♊ | | greatest brilliancy | | 3238 Sep 25 05:36 | 25°♊44'23 -4.8m |
| | 3236 May 10 08:59 | 0°♊ | | | | 3238 Oct 03 23:58 | 0°♊ |
| evening rise | 3236 May 14 05:13 | 4°♊44'38 | | morning max el | | 3238 Nov 03 07:53 | 25°♊02'16 46°17'19 |
| asc. node | 3236 May 19 21:38 | 11°♊45'08 | | asc. node | | 3238 Nov 04 16:31 | 26°♊23'27 |
| | 3236 Jun 03 17:48 | 0°♊ | | | | 3238 Nov 08 06:06 | 0°♊ |
| | 3236 Jun 28 06:47 | 0°♊ | | | | 3238 Dec 05 16:39 | 0°♊ |
| | 3236 Jul 23 00:46 | 0°♊ | | | | 3238 Dec 31 04:30 | 0°♊ |
| | 3236 Aug 17 01:53 | 0°♊ | | | | 3239 Jan 24 21:12 | 0°♊ |
| desc. node | 3236 Sep 08 11:19 | 26°♊22'33 | | | | 3239 Feb 18 05:27 | 0°♊ |
| | 3236 Sep 11 14:05 | 0°♊ | | desc. node | | 3239 Feb 24 06:28 | 7°♊28'53 |
| | 3236 Oct 07 20:59 | 0°♊ | | | | 3239 Mar 14 10:17 | 0°♊ |
| | 3236 Nov 04 20:00 | 0°♊ | | | | 3239 Apr 07 14:25 | 0°♊ |
| evening max el | 3236 Nov 08 19:02 | 3°♊58'22 | 46°51'44 | | | 3239 May 01 19:36 | 0°♊ |
| | 3236 Dec 09 20:08 | 0°♊ | | morning set | | 3239 May 09 14:20 | 9°♊37'05 |
| greatest brilliancy | 3236 Dec 19 04:36 | 4°♊35'58 | -4.9m | | | 3239 May 26 02:38 | 0°♊ |
| retrograde | 3236 Dec 29 04:16 | 6°♊29'39 | | | | | |
| asc. node | 3236 Dec 30 14:11 | 6°♊27'12 | | superior conj | | 3239 Jun 16 03:54 | 25°♊55'35 -0°02'58 |
| evening set | 3237 Jan 12 20:10 | 2°♊12'31 | | minimum elong | | 3239 Jun 16 04:31 | 25°♊57'30 0°02'57 |
| | 3237 Jan 16 16:06 | 30°♊ | | behind sun begin | | 3239 Jun 15 05:49 | 24°♊47'42 |
| min. Earth dist. | 3237 Jan 18 04:55 | 29°♊04'11 | 0.26571 AU | behind sun end | | 3239 Jun 17 03:12 | 27°♊07'17 |
| inferior conj | 3237 Jan 18 17:18 | 28°♊45'18 | 4°44'26 | asc. node | | 3239 Jun 17 09:23 | 27°♊26'19 |
| minimum elong | 3237 Jan 18 07:48 | 28°♊59'46 | 4°41'48 | max. Earth dist. | | 3239 Jun 17 09:01 | 27°♊25'10 1.73391 AU |
| morning rise | 3237 Jan 23 19:40 | 25°♊44'21 | | | | 3239 Jun 19 11:21 | 0°♊ |
| direct | 3237 Feb 08 02:49 | 21°♊06'20 | | | | 3239 Jul 13 21:01 | 0°♊ |
| greatest brilliancy | 3237 Feb 17 16:26 | 22°♊51'06 | -4.9m | evening rise | | 3239 Jul 22 14:43 | 10°♊44'06 |
| | 3237 Mar 03 03:59 | 0°♊ | | | | 3239 Aug 07 07:15 | 0°♊ |
| morning max el | 3237 Mar 30 08:17 | 23°♊33'30 | 46°42'12 | | | 3239 Aug 31 18:32 | 0°♊ |
| | 3237 Apr 05 16:40 | 0°♊ | | | | 3239 Sep 25 08:03 | 0°♊ |
| desc. node | 3237 Apr 21 04:11 | 16°♊31'11 | | desc. node | | 3239 Oct 06 23:17 | 14°♊09'05 |
| | 3237 May 03 07:09 | 0°♊ | | | | 3239 Oct 20 01:06 | 0°♊ |
| | 3237 May 29 09:52 | 0°♊ | | | | 3239 Nov 13 23:17 | 0°♊ |
| | 3237 Jun 23 21:39 | 0°♊ | | | | 3239 Dec 09 06:57 | 0°♊ |
| | 3237 Jul 19 00:50 | 0°♊ | | | | 3240 Jan 04 13:32 | 0°♊ |
| asc. node | 3237 Aug 12 07:04 | 29°♊17'57 | | evening max el | | 3240 Jan 21 09:05 | 17°♊55'11 47°11'47 |
| | 3237 Aug 12 20:55 | 0°♊ | | asc. node | | 3240 Jan 28 02:05 | 24°♊35'31 |
| | 3237 Sep 06 10:07 | 0°♊ | | | | 3240 Feb 02 20:03 | 0°♊ |
| morning set | 3237 Sep 25 19:46 | 23°♊56'14 | | greatest brilliancy | | 3240 Mar 01 20:51 | 19°♊23'14 -4.9m |
| | 3237 Sep 30 17:13 | 0°♊ | | retrograde | | 3240 Mar 12 04:33 | 21°♊24'06 |
| | 3237 Oct 24 19:54 | 0°♊ | | evening set | | 3240 Mar 30 01:26 | 15°♊13'13 |
| max. Earth dist. | 3237 Oct 30 10:36 | 7°♊00'16 | 1.71973 AU | inferior conj | | 3240 Apr 02 03:33 | 13°♊17'50 8°31'58 |
| | | | | minimum elong | | 3240 Apr 02 09:13 | 13°♊08'56 8°31'29 |
| superior conj | 3237 Nov 02 04:36 | 10°♊26'21 | 1°03'15 | min. Earth dist. | | 3240 Apr 01 18:43 | 13°♊31'43 0.27809 AU |
| minimum elong | 3237 Nov 02 14:42 | 10°♊57'52 | 1°02'54 | morning rise | | 3240 Apr 05 17:13 | 11°♊05'37 |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|----------------------|
| direct | 3240 Apr 23 00:57 | 5°Υ20'55 | | 3242 Nov 27 00:20 | 0°Ξ | |
| greatest brilliancy | 3240 May 02 08:12 | 6°Υ57'31 | -4.8m | 3242 Dec 21 06:52 | 0°≈ | |
| desc. node | 3240 May 18 15:47 | 15°Υ48'14 | | 3243 Jan 14 17:10 | 0°Ϡ | |
| | 3240 Jun 04 20:55 | 0°Ϡ | | 3243 Feb 08 13:11 | 0°Υ | |
| morning max el | 3240 Jun 11 05:31 | 5°Ϡ59'22 | 45°57'45 | asc. node | 3243 Feb 24 14:01 | 18°Υ51'54 |
| | 3240 Jul 04 15:06 | 0°Π | | 3243 Mar 06 07:27 | 0°Ϡ | |
| | 3240 Jul 31 15:44 | 0°Ϣ | | evening max el | 3243 Apr 02 20:43 | 29°Ϡ30'55 46°18'23 |
| | 3240 Aug 26 12:27 | 0°Ω | | 3243 Apr 03 08:27 | 0°Π | |
| asc. node | 3240 Sep 08 19:01 | 15°Ω45'25 | | greatest brilliancy | 3243 May 11 15:23 | 28°Π56'36 -4.8m |
| | 3240 Sep 20 15:29 | 0°൬ | | 3243 May 14 18:51 | 0°Ϣ | |
| | 3240 Oct 15 05:41 | 0°♁ | | retrograde | 3243 May 22 14:19 | 1°Ϣ09'16 |
| | 3240 Nov 08 11:05 | 0°Π | | 3243 May 30 03:25 | 30°ϠΠ | |
| | 3240 Dec 02 11:12 | 0°Ϡ | | evening set | 3243 Jun 06 18:06 | 26°Π39'43 |
| morning set | 3240 Dec 06 07:19 | 4°Ϡ48'50 | | inferior conj | 3243 Jun 12 23:47 | 22°Π54'37 0°45'20 |
| | 3240 Dec 26 08:36 | 0°Ξ | | minimum elong | 3243 Jun 13 01:27 | 22°Π52'00 0°44'50 |
| desc. node | 3240 Dec 29 08:45 | 3°Ξ46'47 | | min. Earth dist. | 3243 Jun 12 20:24 | 22°Π59'54 0.28695 AU |
| | | | | desc. node | 3243 Jun 16 03:41 | 20°Π56'58 |
| superior conj | 3241 Jan 16 05:23 | 26°Ξ15'01 | -0°41'16 | morning rise | 3243 Jun 19 09:06 | 19°Π04'43 |
| minimum elong | 3241 Jan 15 19:29 | 25°Ξ43'52 | 0°40'49 | direct | 3243 Jul 04 09:43 | 14°Π42'04 |
| max. Earth dist. | 3241 Jan 16 09:54 | 26°Ξ29'14 | 1.71094 AU | greatest brilliancy | 3243 Jul 14 13:34 | 16°Π33'23 -4.7m |
| | 3241 Jan 19 04:55 | 0°≈ | | 3243 Aug 05 20:25 | 0°Ϣ | |
| | 3241 Feb 12 01:24 | 0°Ϡ | | morning max el | 3243 Aug 22 03:12 | 14°Ϣ21'31 45°43'56 |
| evening rise | 3241 Feb 26 09:49 | 18°Ϡ00'34 | | 3243 Sep 06 17:27 | 0°Ω | |
| | 3241 Mar 07 23:38 | 0°Υ | | 3243 Oct 04 01:22 | 0°൬ | |
| | 3241 Apr 01 01:38 | 0°Ϡ | | asc. node | 3243 Oct 07 06:50 | 3°൬41'48 |
| asc. node | 3241 Apr 21 11:46 | 25°Ϡ12'31 | | 3243 Oct 29 16:58 | 0°♁ | |
| | 3241 Apr 25 09:31 | 0°Π | | 3243 Nov 23 11:16 | 0°Π | |
| | 3241 May 20 01:28 | 0°Ϣ | | 3243 Dec 17 17:56 | 0°Ϡ | |
| | 3241 Jun 14 04:34 | 0°Ω | | 3244 Jan 10 18:43 | 0°Ξ | |
| | 3241 Jul 10 01:06 | 0°൬ | | desc. node | 3244 Jan 26 20:37 | 20°Ξ08'54 |
| | 3241 Aug 06 06:26 | 0°♁ | | 3244 Feb 03 17:02 | 0°≈ | |
| desc. node | 3241 Aug 11 01:29 | 5°♁01'29 | | morning set | 3244 Feb 22 00:13 | 22°≈57'41 |
| evening max el | 3241 Aug 25 07:06 | 19°♁15'02 | 45°46'35 | 3244 Feb 27 14:52 | 0°Ϡ | |
| | 3241 Sep 06 03:03 | 0°Π | | 3244 Mar 22 13:44 | 0°Υ | |
| greatest brilliancy | 3241 Oct 04 03:55 | 17°Π44'29 | -4.8m | | | |
| retrograde | 3241 Oct 13 05:17 | 19°Π14'41 | | superior conj | 3244 Apr 02 14:27 | 13°Υ46'40 -1°23'03 |
| evening set | 3241 Oct 29 17:46 | 14°Π05'36 | | minimum elong | 3244 Apr 02 20:31 | 14°Υ05'35 1°22'58 |
| inferior conj | 3241 Nov 03 04:10 | 11°Π26'31 | -6°30'45 | max. Earth dist. | 3244 Apr 06 12:12 | 18°Υ38'57 1.72028 AU |
| minimum elong | 3241 Nov 03 14:33 | 11°Π10'34 | 6°28'35 | 3244 Apr 15 15:02 | 0°Ϡ | |
| min. Earth dist. | 3241 Nov 04 03:51 | 10°Π50'09 | 0.27541 AU | 3244 May 09 19:52 | 0°Π | |
| morning rise | 3241 Nov 08 10:41 | 8°Π17'19 | | evening rise | 3244 May 11 20:31 | 2°Π30'13 |
| direct | 3241 Nov 24 03:11 | 3°Π27'53 | | asc. node | 3244 May 18 23:38 | 11°Π17'45 |
| asc. node | 3241 Dec 02 04:19 | 4°Π42'03 | | 3244 Jun 03 04:45 | 0°Ϣ | |
| greatest brilliancy | 3241 Dec 05 08:40 | 5°Π48'40 | -4.9m | 3244 Jun 27 17:58 | 0°Ω | |
| | 3242 Jan 07 01:13 | 0°Ϡ | | 3244 Jul 22 12:24 | 0°൬ | |
| morning max el | 3242 Jan 13 19:31 | 6°Ϡ42'32 | 46°55'44 | 3244 Aug 16 14:16 | 0°♁ | |
| | 3242 Feb 04 11:15 | 0°Ξ | | desc. node | 3244 Sep 07 13:19 | 25°♁49'06 |
| | 3242 Mar 02 11:16 | 0°≈ | | 3244 Sep 11 03:47 | 0°Π | |
| desc. node | 3242 Mar 23 18:23 | 25°≈22'00 | | 3244 Oct 07 13:12 | 0°Ϡ | |
| | 3242 Mar 27 14:51 | 0°Ϡ | | 3244 Nov 04 18:26 | 0°Ξ | |
| | 3242 Apr 21 09:57 | 0°Υ | | evening max el | 3244 Nov 06 09:45 | 1°Ξ37'45 46°49'49 |
| | 3242 May 16 01:41 | 0°Ϡ | | 3244 Dec 11 19:42 | 0°≈ | |
| | 3242 Jun 09 16:11 | 0°Π | | greatest brilliancy | 3244 Dec 16 17:08 | 2°≈06'55 -4.9m |
| | 3242 Jul 04 05:38 | 0°Ϣ | | retrograde | 3244 Dec 26 17:11 | 4°≈00'15 |
| asc. node | 3242 Jul 14 21:19 | 13°Ϣ02'19 | | asc. node | 3244 Dec 29 16:17 | 3°≈49'25 |
| morning set | 3242 Jul 17 07:49 | 16°Ϣ01'34 | | 3245 Jan 09 20:20 | 30°ϠΞ | |
| | 3242 Jul 28 17:12 | 0°Ω | | evening set | 3245 Jan 10 06:24 | 29°Ξ46'31 |
| max. Earth dist. | 3242 Aug 20 08:01 | 27°Ω49'52 | 1.73291 AU | min. Earth dist. | 3245 Jan 15 17:53 | 26°Ξ34'09 0.26551 AU |
| | 3242 Aug 22 02:13 | 0°൬ | | inferior conj | 3245 Jan 16 05:31 | 26°Ξ16'23 4°23'16 |
| | | | | minimum elong | 3245 Jan 15 20:32 | 26°Ξ30'06 4°20'41 |
| superior conj | 3242 Aug 22 18:49 | 0°൬51'12 | 1°15'30 | morning rise | 3245 Jan 21 10:56 | 23°Ξ11'25 |
| minimum elong | 3242 Aug 22 11:28 | 0°൬28'35 | 1°15'20 | direct | 3245 Feb 05 15:41 | 18°Ξ37'50 |
| | 3242 Sep 15 08:51 | 0°♁ | | greatest brilliancy | 3245 Feb 15 05:22 | 20°Ξ22'53 -4.9m |
| evening rise | 3242 Sep 28 02:33 | 15°♁46'27 | | 3245 Mar 04 03:11 | 0°≈ | |
| | 3242 Oct 09 14:07 | 0°Π | | morning max el | 3245 Mar 27 22:04 | 21°≈10'18 46°43'29 |
| | 3242 Nov 02 19:03 | 0°Ϡ | | 3245 Apr 05 13:23 | 0°Ϡ | |
| desc. node | 3242 Nov 03 11:05 | 0°Ϡ49'40 | | desc. node | 3245 Apr 20 06:06 | 15°Ϡ48'43 |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3245 May 02 22:47 | 0°♄ | | | 3247 Oct 19 13:31 | 0°♁ | |
| | 3245 May 28 23:21 | 0°♂ | | | 3247 Nov 13 12:41 | 0°♂ | |
| | 3245 Jun 23 09:57 | 0°♂ | | | 3247 Dec 08 21:58 | 0°♁ | |
| | 3245 Jul 18 12:27 | 0°♂ | | | 3248 Jan 04 07:55 | 0°♂ | |
| asc. node | 3245 Aug 11 09:10 | 28°♂50'12 | | evening max el | 3248 Jan 18 22:28 | 15°♂29'20 | 47°12'31 |
| | 3245 Aug 12 08:08 | 0°♂ | | asc. node | 3248 Jan 27 04:12 | 23°♂38'16 | |
| | 3245 Sep 05 21:08 | 0°♂ | | | 3248 Feb 03 02:04 | 0°♄ | |
| morning set | 3245 Sep 23 12:29 | 21°♂45'32 | | greatest brilliancy | 3248 Feb 28 12:40 | 17°♄02'43 | -4.9m |
| | 3245 Sep 30 04:10 | 0°♂ | | retrograde | 3248 Mar 09 18:41 | 19°♄02'28 | |
| | 3245 Oct 24 06:52 | 0°♂ | | evening set | 3248 Mar 27 17:43 | 12°♄49'19 | |
| max. Earth dist. | 3245 Oct 27 21:23 | 4°♂29'47 | 1.72020 AU | inferior conj | 3248 Mar 30 17:53 | 10°♄56'59 | 8°38'13 |
| | | | | minimum elong | 3248 Mar 30 22:47 | 10°♄49'16 | 8°37'51 |
| superior conj | 3245 Oct 30 19:12 | 8°♂07'40 | 1°05'33 | min. Earth dist. | 3248 Mar 30 08:45 | 11°♄11'20 | 0.27766 AU |
| minimum elong | 3245 Oct 31 05:07 | 8°♂38'38 | 1°05'15 | morning rise | 3248 Apr 03 04:04 | 8°♄49'53 | |
| | 3245 Nov 17 07:06 | 0°♁ | | direct | 3248 Apr 20 14:05 | 3°♄00'42 | |
| desc. node | 3245 Nov 30 23:02 | 17°♁06'09 | | greatest brilliancy | 3248 Apr 29 21:48 | 4°♄37'18 | -4.8m |
| evening rise | 3245 Dec 09 08:17 | 27°♁36'23 | | desc. node | 3248 May 17 17:54 | 14°♄34'20 | |
| | 3245 Dec 11 06:08 | 0°♂ | | | 3248 Jun 04 22:35 | 0°♂ | |
| | 3246 Jan 04 04:46 | 0°♁ | | morning max el | 3248 Jun 08 19:04 | 3°♂40'06 | 45°59'03 |
| | 3246 Jan 28 04:13 | 0°♂ | | | 3248 Jul 04 07:58 | 0°♂ | |
| | 3246 Feb 21 06:56 | 0°♄ | | | 3248 Jul 31 05:39 | 0°♂ | |
| | 3246 Mar 17 16:49 | 0°♂ | | | 3248 Aug 26 00:59 | 0°♂ | |
| asc. node | 3246 Mar 24 01:50 | 7°♂44'34 | | asc. node | 3248 Sep 07 20:57 | 15°♂15'02 | |
| | 3246 Apr 11 15:33 | 0°♂ | | | 3248 Sep 20 03:16 | 0°♂ | |
| | 3246 May 07 12:36 | 0°♂ | | | 3248 Oct 14 17:05 | 0°♂ | |
| | 3246 Jun 04 07:13 | 0°♂ | | | 3248 Nov 07 22:19 | 0°♂ | |
| evening max el | 3246 Jun 12 13:15 | 8°♂11'12 | 45°29'59 | | 3248 Dec 01 22:24 | 0°♁ | |
| | 3246 Jul 08 21:33 | 0°♂ | | morning set | 3248 Dec 03 19:52 | 2°♁22'31 | |
| desc. node | 3246 Jul 13 15:43 | 2°♂49'51 | | | 3248 Dec 25 19:48 | 0°♂ | |
| greatest brilliancy | 3246 Jul 20 15:23 | 6°♂01'07 | -4.7m | desc. node | 3248 Dec 28 10:53 | 3°♂18'16 | |
| retrograde | 3246 Jul 31 04:40 | 8°♂00'34 | | | | | |
| evening set | 3246 Aug 17 01:08 | 2°♂38'58 | | superior conj | 3249 Jan 13 15:21 | 23°♂40'03 | -0°37'41 |
| | 3246 Aug 21 09:15 | 30°♂♂ | | minimum elong | 3249 Jan 13 06:06 | 23°♂11'00 | 0°37'15 |
| inferior conj | 3246 Aug 21 16:14 | 29°♂49'03 | -7°33'11 | max. Earth dist. | 3249 Jan 13 13:45 | 23°♂35'03 | 1.71101 AU |
| minimum elong | 3246 Aug 21 07:46 | 0°♂02'19 | 7°31'59 | | 3249 Jan 18 16:08 | 0°♁ | |
| min. Earth dist. | 3246 Aug 21 16:56 | 29°♂47'58 | 0.29026 AU | | 3249 Feb 11 12:39 | 0°♂ | |
| morning rise | 3246 Aug 25 14:18 | 27°♂24'03 | | evening rise | 3249 Feb 23 20:05 | 15°♂26'59 | |
| direct | 3246 Sep 12 07:39 | 21°♂31'41 | | | 3249 Mar 07 10:55 | 0°♄ | |
| greatest brilliancy | 3246 Sep 22 21:00 | 23°♂32'53 | -4.8m | | 3249 Mar 31 12:59 | 0°♂ | |
| | 3246 Oct 05 03:51 | 0°♂ | | asc. node | 3249 Apr 20 13:48 | 24°♂43'30 | |
| morning max el | 3246 Oct 31 22:03 | 22°♂44'00 | 46°15'36 | | 3249 Apr 24 21:03 | 0°♂ | |
| asc. node | 3246 Nov 03 18:35 | 25°♂35'07 | | | 3249 May 19 13:24 | 0°♂ | |
| | 3246 Nov 08 02:10 | 0°♂ | | | 3249 Jun 13 17:19 | 0°♂ | |
| | 3246 Dec 05 08:00 | 0°♂ | | | 3249 Jul 09 15:27 | 0°♂ | |
| | 3246 Dec 30 18:03 | 0°♁ | | | 3249 Aug 06 00:25 | 0°♂ | |
| | 3247 Jan 24 09:50 | 0°♂ | | desc. node | 3249 Aug 10 03:30 | 4°♂17'39 | |
| | 3247 Feb 17 17:31 | 0°♁ | | evening max el | 3249 Aug 22 20:49 | 16°♂57'23 | 45°45'03 |
| desc. node | 3247 Feb 23 08:31 | 6°♁58'13 | | | 3249 Sep 06 10:40 | 0°♂ | |
| | 3247 Mar 13 21:56 | 0°♂ | | greatest brilliancy | 3249 Oct 01 16:36 | 15°♂24'25 | -4.8m |
| | 3247 Apr 07 01:47 | 0°♄ | | retrograde | 3249 Oct 10 18:57 | 16°♂55'28 | |
| | 3247 May 01 06:46 | 0°♂ | | evening set | 3249 Oct 27 10:31 | 11°♂41'03 | |
| morning set | 3247 May 07 05:42 | 7°♂21'57 | | inferior conj | 3249 Oct 31 18:02 | 9°♂06'10 | -6°45'04 |
| | 3247 May 25 13:40 | 0°♂ | | minimum elong | 3249 Nov 01 04:19 | 8°♂50'24 | 6°43'02 |
| | | | | min. Earth dist. | 3249 Nov 01 17:50 | 8°♂29'41 | 0.27613 AU |
| superior conj | 3247 Jun 13 20:55 | 23°♂46'37 | -0°06'15 | morning rise | 3249 Nov 05 21:31 | 6°♂01'27 | |
| minimum elong | 3247 Jun 13 22:15 | 23°♂50'45 | 0°06'12 | direct | 3249 Nov 21 17:54 | 1°♂06'18 | |
| behind sun begin | 3247 Jun 13 00:49 | 22°♂44'48 | | asc. node | 3249 Dec 01 06:25 | 2°♂49'18 | |
| behind sun end | 3247 Jun 14 19:41 | 24°♂56'42 | | greatest brilliancy | 3249 Dec 02 23:50 | 3°♂27'56 | -4.9m |
| max. Earth dist. | 3247 Jun 15 04:47 | 25°♂24'41 | 1.73362 AU | | 3250 Jan 07 02:08 | 0°♁ | |
| asc. node | 3247 Jun 16 11:32 | 26°♂59'16 | | morning max el | 3250 Jan 11 10:47 | 4°♁21'56 | 46°55'02 |
| | 3247 Jun 18 22:18 | 0°♂ | | | 3250 Feb 04 04:20 | 0°♂ | |
| | 3247 Jul 13 07:57 | 0°♂ | | | 3250 Mar 02 01:41 | 0°♁ | |
| evening rise | 3247 Jul 20 09:20 | 8°♂40'10 | | desc. node | 3250 Mar 22 20:18 | 24°♁47'54 | |
| | 3247 Aug 06 18:17 | 0°♂ | | | 3250 Mar 27 03:57 | 0°♂ | |
| | 3247 Aug 31 05:51 | 0°♂ | | | 3250 Apr 20 22:13 | 0°♄ | |
| | 3247 Sep 24 19:50 | 0°♂ | | | 3250 May 15 13:22 | 0°♂ | |
| desc. node | 3247 Oct 06 01:14 | 13°♂38'32 | | | 3250 Jun 09 03:27 | 0°♂ | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3250 Jul 03 16:38 | 0°☿ | | | 3253 Jan 01 20:22 | 30°♊ | |
| asc. node | 3250 Jul 13 23:21 | 12°☿35'02 | | evening set | 3253 Jan 07 17:00 | 27°♊21'04 | |
| morning set | 3250 Jul 15 01:35 | 13°☿55'23 | | inferior conj | 3253 Jan 13 17:51 | 23°♊48'26 | 4°01'32 |
| | 3250 Jul 28 04:04 | 0°♌ | | minimum elong | 3253 Jan 13 09:25 | 24°♊01'18 | 3°59'04 |
| max. Earth dist. | 3250 Aug 18 05:58 | 25°♌56'08 | 1.73320 AU | min. Earth dist. | 3253 Jan 13 07:21 | 24°♊04'29 | 0.26530 AU |
| | | | | morning rise | 3253 Jan 19 02:07 | 20°♊39'23 | |
| superior conj | 3250 Aug 20 12:55 | 28°♌45'34 | 1°13'59 | direct | 3253 Feb 03 04:18 | 16°♊10'19 | |
| minimum elong | 3250 Aug 20 05:14 | 28°♌21'49 | 1°13'48 | greatest brilliancy | 3253 Feb 12 18:49 | 17°♊55'56 | -4.9m |
| | 3250 Aug 21 13:04 | 0°♍ | | | 3253 Mar 04 19:59 | 0°♋ | |
| | 3250 Sep 14 19:47 | 0°♎ | | morning max el | 3253 Mar 25 10:52 | 18°♋45'18 | 46°44'42 |
| evening rise | 3250 Sep 25 19:20 | 13°♎35'45 | | | 3253 Apr 05 09:09 | 0°♌ | |
| | 3250 Oct 09 01:12 | 0°♏ | | desc. node | 3253 Apr 19 08:15 | 15°♌08'06 | |
| | 3250 Nov 02 06:21 | 0°♐ | | | 3253 May 02 13:58 | 0°♍ | |
| desc. node | 3250 Nov 02 13:12 | 0°♐21'12 | | | 3253 May 28 12:32 | 0°♎ | |
| | 3250 Nov 26 11:58 | 0°♑ | | | 3253 Jun 22 22:04 | 0°♏ | |
| | 3250 Dec 20 18:56 | 0°♒ | | | 3253 Jul 17 23:55 | 0°♐ | |
| | 3251 Jan 14 05:53 | 0°♓ | | asc. node | 3253 Aug 10 11:08 | 28°♐22'33 | |
| | 3251 Feb 08 02:58 | 0°♑ | | | 3253 Aug 11 19:11 | 0°♑ | |
| asc. node | 3251 Feb 23 15:54 | 18°♑14'06 | | | 3253 Sep 05 07:56 | 0°♒ | |
| | 3251 Mar 05 23:29 | 0°♓ | | morning set | 3253 Sep 21 05:09 | 19°♒35'27 | |
| evening max el | 3251 Mar 31 12:46 | 27°♓17'09 | 46°20'42 | | 3253 Sep 29 14:52 | 0°♓ | |
| | 3251 Apr 03 06:59 | 0°♈ | | | 3253 Oct 23 17:37 | 0°♏ | |
| greatest brilliancy | 3251 May 09 07:35 | 26°♈44'52 | -4.8m | max. Earth dist. | 3253 Oct 25 08:31 | 2°♏01'17 | 1.72071 AU |
| retrograde | 3251 May 20 07:15 | 28°♈57'57 | | | | | |
| evening set | 3251 Jun 04 11:26 | 24°♈26'46 | | superior conj | 3253 Oct 28 09:59 | 5°♏50'26 | 1°07'45 |
| inferior conj | 3251 Jun 10 15:48 | 20°♈43'17 | 1°05'39 | minimum elong | 3253 Oct 28 19:40 | 6°♏20'39 | 1°07'28 |
| minimum elong | 3251 Jun 10 18:13 | 20°♈39'30 | 1°04'56 | | 3253 Nov 16 17:58 | 0°♐ | |
| min. Earth dist. | 3251 Jun 10 12:19 | 20°♈48'44 | 0.28669 AU | desc. node | 3253 Nov 30 01:07 | 16°♐38'30 | |
| desc. node | 3251 Jun 15 05:46 | 17°♈55'04 | | evening rise | 3253 Dec 06 20:08 | 25°♐08'46 | |
| morning rise | 3251 Jun 17 01:24 | 16°♈53'21 | | | 3253 Dec 10 17:08 | 0°♑ | |
| direct | 3251 Jul 02 01:48 | 12°♈31'12 | | | 3254 Jan 03 15:54 | 0°♒ | |
| greatest brilliancy | 3251 Jul 12 04:27 | 14°♈21'59 | -4.7m | | 3254 Jan 27 15:30 | 0°♓ | |
| | 3251 Aug 06 04:24 | 0°♉ | | | 3254 Feb 20 18:27 | 0°♑ | |
| morning max el | 3251 Aug 19 19:52 | 12°♉13'19 | 45°43'30 | | 3254 Mar 17 04:47 | 0°♓ | |
| | 3251 Sep 06 11:08 | 0°♊ | | asc. node | 3254 Mar 23 03:55 | 7°♓14'11 | |
| | 3251 Oct 03 15:31 | 0°♋ | | | 3254 Apr 11 04:23 | 0°♈ | |
| asc. node | 3251 Oct 06 08:50 | 3°♋07'32 | | | 3254 May 07 03:15 | 0°♉ | |
| | 3251 Oct 29 05:38 | 0°♌ | | | 3254 Jun 04 02:43 | 0°♊ | |
| | 3251 Nov 22 23:13 | 0°♍ | | evening max el | 3254 Jun 10 04:23 | 5°♊59'02 | 45°30'36 |
| | 3251 Dec 17 05:28 | 0°♎ | | | 3254 Jul 10 02:33 | 0°♋ | |
| | 3252 Jan 10 06:01 | 0°♏ | | desc. node | 3254 Jul 12 17:42 | 1°♋25'33 | |
| desc. node | 3252 Jan 25 22:39 | 19°♏40'10 | | greatest brilliancy | 3254 Jul 18 06:56 | 3°♋51'57 | -4.7m |
| | 3252 Feb 03 04:12 | 0°♐ | | retrograde | 3254 Jul 28 20:08 | 5°♋51'52 | |
| morning set | 3252 Feb 19 10:32 | 20°♐24'46 | | evening set | 3254 Aug 14 14:11 | 0°♋34'40 | |
| | 3252 Feb 27 01:55 | 0°♑ | | | 3254 Aug 15 13:46 | 30°♋♌ | |
| | 3252 Mar 22 00:41 | 0°♒ | | inferior conj | 3254 Aug 19 08:32 | 27°♌40'08 | -7°23'11 |
| | | | | minimum elong | 3254 Aug 18 23:42 | 27°♌53'58 | 7°21'51 |
| superior conj | 3252 Mar 31 03:05 | 11°♒22'10 | -1°24'02 | min. Earth dist. | 3254 Aug 19 08:52 | 27°♌39'36 | 0.29038 AU |
| minimum elong | 3252 Mar 31 08:19 | 11°♒38'31 | 1°23'58 | morning rise | 3254 Aug 23 09:04 | 25°♌11'15 | |
| max. Earth dist. | 3252 Apr 04 01:49 | 16°♒17'41 | 1.71979 AU | direct | 3254 Sep 09 23:34 | 19°♌22'36 | |
| | 3252 Apr 15 01:56 | 0°♓ | | greatest brilliancy | 3254 Sep 20 13:12 | 21°♌23'26 | -4.8m |
| evening rise | 3252 May 09 11:26 | 0°♈14'25 | | | 3254 Oct 05 23:36 | 0°♍ | |
| | 3252 May 09 06:45 | 0°♉ | | morning max el | 3254 Oct 29 12:07 | 20°♍26'41 | 46°13'59 |
| asc. node | 3252 May 18 01:45 | 10°♉50'41 | | asc. node | 3254 Nov 02 20:44 | 24°♍48'49 | |
| | 3252 Jun 02 15:44 | 0°♊ | | | 3254 Nov 07 21:15 | 0°♎ | |
| | 3252 Jun 27 05:10 | 0°♋ | | | 3254 Dec 04 22:46 | 0°♏ | |
| | 3252 Jul 22 00:01 | 0°♌ | | | 3254 Dec 30 07:09 | 0°♐ | |
| | 3252 Aug 16 02:39 | 0°♍ | | | 3255 Jan 23 22:03 | 0°♑ | |
| desc. node | 3252 Sep 06 15:16 | 25°♍15'32 | | | 3255 Feb 17 05:12 | 0°♒ | |
| | 3252 Sep 10 17:33 | 0°♎ | | desc. node | 3255 Feb 22 10:26 | 6°♒28'11 | |
| | 3252 Oct 07 05:38 | 0°♏ | | | 3255 Mar 13 09:14 | 0°♓ | |
| evening max el | 3252 Nov 04 00:26 | 29°♏17'24 | 46°47'45 | | 3255 Apr 06 12:47 | 0°♑ | |
| | 3252 Nov 04 17:43 | 0°♑ | | | 3255 Apr 30 17:32 | 0°♓ | |
| greatest brilliancy | 3252 Dec 14 06:22 | 29°♑39'19 | -4.9m | morning set | 3255 May 04 21:14 | 5°♓08'25 | |
| | 3252 Dec 15 06:29 | 0°♒ | | | 3255 May 25 00:17 | 0°♈ | |
| retrograde | 3252 Dec 24 05:48 | 1°♒31'26 | | | | | |
| asc. node | 3252 Dec 28 18:18 | 1°♒06'14 | | superior conj | 3255 Jun 11 14:08 | 21°♈39'31 | -0°09'31 |

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|---------------------|-------------------|--------------------------------|------------|---------------------|--|-------------------|---------------------------------------|------------|
| minimum elong | 3255 Jun 11 16:10 | 21° Π 45'48 | 0°09'24 | | | 3257 Nov 11 15:03 | 30° \mathbb{R} $\underline{\Omega}$ | |
| behind sun begin | 3255 Jun 10 21:20 | 20° Π 47'49 | | direct | | 3257 Nov 19 09:03 | 28° $\underline{\Omega}$ 45'58 | |
| behind sun end | 3255 Jun 12 11:01 | 22° Π 43'48 | | | | 3257 Nov 27 09:14 | 0° \mathbb{M} | |
| max. Earth dist. | 3255 Jun 12 23:56 | 23° Π 23'32 | 1.73336 AU | asc. node | | 3257 Nov 30 08:24 | 1° \mathbb{M} 01'33 | |
| asc. node | 3255 Jun 15 13:33 | 26° Π 33'05 | | greatest brilliancy | | 3257 Nov 30 14:25 | 1° \mathbb{M} 07'31 | -4.9m |
| | 3255 Jun 18 08:49 | 0° \mathfrak{D} | | | | 3258 Jan 07 01:33 | 0° \mathbb{X} | |
| | 3255 Jul 12 18:30 | 0° Ω | | morning max el | | 3258 Jan 09 02:20 | 2° \mathbb{X} 03'11 | 46°54'15 |
| evening rise | 3255 Jul 18 04:05 | 6° Ω 37'49 | | | | 3258 Feb 03 20:46 | 0° \mathfrak{Z} | |
| | 3255 Aug 06 04:59 | 0° \mathbb{M} | | | | 3258 Mar 01 15:37 | 0° \approx | |
| | 3255 Aug 30 16:50 | 0° $\underline{\Omega}$ | | desc. node | | 3258 Mar 21 22:27 | 24° \approx 15'42 | |
| | 3255 Sep 24 07:16 | 0° \mathbb{M} | | | | 3258 Mar 26 16:36 | 0° \mathbb{X} | |
| desc. node | 3255 Oct 05 03:20 | 13° \mathbb{M} 09'27 | | | | 3258 Apr 20 10:06 | 0° \mathbb{Y} | |
| | 3255 Oct 19 01:37 | 0° \mathbb{X} | | | | 3258 May 15 00:43 | 0° \mathbb{B} | |
| | 3255 Nov 13 01:47 | 0° \mathfrak{Z} | | | | 3258 Jun 08 14:24 | 0° Π | |
| | 3255 Dec 08 12:46 | 0° \approx | | | | 3258 Jul 03 03:19 | 0° \mathfrak{D} | |
| | 3256 Jan 04 02:19 | 0° \mathbb{X} | | morning set | | 3258 Jul 12 19:32 | 11° \mathfrak{D} 50'51 | |
| evening max el | 3256 Jan 16 11:42 | 13° \mathbb{X} 04'15 | 47°13'09 | asc. node | | 3258 Jul 13 01:19 | 12° \mathfrak{D} 08'34 | |
| asc. node | 3256 Jan 26 06:08 | 22° \mathbb{X} 40'26 | | | | 3258 Jul 27 14:36 | 0° Ω | |
| | 3256 Feb 03 09:54 | 0° \mathbb{Y} | | max. Earth dist. | | 3258 Aug 16 04:13 | 24° Ω 04'23 | 1.73345 AU |
| greatest brilliancy | 3256 Feb 26 04:01 | 14° \mathbb{Y} 42'28 | -4.9m | | | | | |
| retrograde | 3256 Mar 07 08:58 | 16° \mathbb{Y} 41'51 | | superior conj | | 3258 Aug 18 07:14 | 26° Ω 41'39 | 1°12'22 |
| evening set | 3256 Mar 25 09:33 | 10° \mathbb{Y} 26'41 | | minimum elong | | 3258 Aug 17 23:14 | 26° Ω 16'58 | 1°12'10 |
| inferior conj | 3256 Mar 28 08:08 | 8° \mathbb{Y} 37'01 | 8°43'30 | | | 3258 Aug 20 23:34 | 0° \mathbb{M} | |
| minimum elong | 3256 Mar 28 12:16 | 8° \mathbb{Y} 30'33 | 8°43'15 | | | 3258 Sep 14 06:22 | 0° $\underline{\Omega}$ | |
| min. Earth dist. | 3256 Mar 27 22:39 | 8° \mathbb{Y} 51'54 | 0.27723 AU | evening rise | | 3258 Sep 23 12:20 | 11° $\underline{\Omega}$ 26'48 | |
| morning rise | 3256 Mar 31 15:08 | 6° \mathbb{Y} 34'50 | | | | 3258 Oct 08 11:59 | 0° \mathbb{M} | |
| direct | 3256 Apr 18 03:08 | 0° \mathbb{Y} 41'13 | | desc. node | | 3258 Nov 01 15:17 | 29° \mathbb{M} 53'22 | |
| greatest brilliancy | 3256 Apr 27 11:21 | 2° \mathbb{Y} 18'11 | -4.8m | | | 3258 Nov 01 17:26 | 0° \mathbb{X} | |
| desc. node | 3256 May 16 19:55 | 13° \mathbb{Y} 23'39 | | | | 3258 Nov 25 23:24 | 0° \mathfrak{Z} | |
| | 3256 Jun 04 22:25 | 0° \mathbb{B} | | | | 3258 Dec 20 06:50 | 0° \approx | |
| morning max el | 3256 Jun 06 09:22 | 1° \mathbb{B} 23'59 | 46°00'33 | | | 3259 Jan 13 18:25 | 0° \mathbb{X} | |
| | 3256 Jul 03 23:58 | 0° Π | | | | 3259 Feb 07 16:38 | 0° \mathbb{Y} | |
| | 3256 Jul 30 18:57 | 0° \mathfrak{D} | | asc. node | | 3259 Feb 22 17:59 | 17° \mathbb{Y} 37'21 | |
| | 3256 Aug 25 12:59 | 0° Ω | | | | 3259 Mar 05 15:30 | 0° \mathbb{B} | |
| asc. node | 3256 Sep 06 23:00 | 14° Ω 46'18 | | evening max el | | 3259 Mar 29 05:06 | 25° \mathbb{B} 04'41 | 46°22'58 |
| | 3256 Sep 19 14:37 | 0° \mathbb{M} | | | | 3259 Apr 03 06:11 | 0° Π | |
| | 3256 Oct 14 04:07 | 0° $\underline{\Omega}$ | | greatest brilliancy | | 3259 May 07 00:07 | 24° Π 34'04 | -4.8m |
| | 3256 Nov 07 09:11 | 0° \mathbb{M} | | retrograde | | 3259 May 17 23:51 | 26° Π 46'48 | |
| morning set | 3256 Dec 01 08:35 | 29° \mathbb{M} 58'07 | | evening set | | 3259 Jun 02 04:52 | 22° Π 14'05 | |
| | 3256 Dec 01 09:12 | 0° \mathbb{X} | | inferior conj | | 3259 Jun 08 07:44 | 18° Π 32'17 | 1°25'59 |
| | 3256 Dec 25 06:36 | 0° \mathfrak{Z} | | minimum elong | | 3259 Jun 08 10:53 | 18° Π 27'21 | 1°25'02 |
| desc. node | 3256 Dec 27 12:49 | 2° \mathfrak{Z} 50'25 | | min. Earth dist. | | 3259 Jun 08 04:13 | 18° Π 37'48 | 0.28642 AU |
| | | | | desc. node | | 3259 Jun 14 07:46 | 14° Π 55'36 | |
| superior conj | 3257 Jan 11 01:19 | 21° \mathfrak{Z} 06'26 | -0°34'01 | morning rise | | 3259 Jun 14 17:25 | 14° Π 42'21 | |
| minimum elong | 3257 Jan 10 16:50 | 20° \mathfrak{Z} 39'42 | 0°33'38 | direct | | 3259 Jun 29 17:58 | 10° Π 20'46 | |
| max. Earth dist. | 3257 Jan 10 21:22 | 20° \mathfrak{Z} 54'01 | 1.71111 AU | greatest brilliancy | | 3259 Jul 09 19:01 | 12° Π 10'31 | -4.7m |
| | 3257 Jan 18 02:57 | 0° \approx | | | | 3259 Aug 06 09:47 | 0° \mathfrak{D} | |
| | 3257 Feb 10 23:30 | 0° \mathbb{X} | | morning max el | | 3259 Aug 17 11:54 | 10° \mathfrak{D} 04'13 | 45°43'15 |
| evening rise | 3257 Feb 21 06:26 | 12° \mathbb{X} 54'53 | | | | 3259 Sep 06 04:10 | 0° Ω | |
| | 3257 Mar 06 21:50 | 0° \mathbb{Y} | | | | 3259 Oct 03 05:16 | 0° \mathbb{M} | |
| | 3257 Mar 30 24:00 | 0° \mathbb{B} | | asc. node | | 3259 Oct 05 11:00 | 2° \mathbb{M} 34'39 | |
| asc. node | 3257 Apr 19 15:55 | 24° \mathbb{B} 15'48 | | | | 3259 Oct 28 18:00 | 0° $\underline{\Omega}$ | |
| | 3257 Apr 24 08:15 | 0° Π | | | | 3259 Nov 22 10:55 | 0° \mathbb{M} | |
| | 3257 May 19 00:59 | 0° \mathfrak{D} | | | | 3259 Dec 16 16:50 | 0° \mathbb{X} | |
| | 3257 Jun 13 05:42 | 0° Ω | | | | 3260 Jan 09 17:14 | 0° \mathfrak{Z} | |
| | 3257 Jul 09 05:28 | 0° \mathbb{M} | | desc. node | | 3260 Jan 25 00:39 | 19° \mathfrak{Z} 11'35 | |
| | 3257 Aug 05 18:21 | 0° $\underline{\Omega}$ | | | | 3260 Feb 02 15:17 | 0° \approx | |
| desc. node | 3257 Aug 09 05:27 | 3° $\underline{\Omega}$ 34'22 | | morning set | | 3260 Feb 16 20:24 | 17° \approx 50'38 | |
| evening max el | 3257 Aug 20 11:21 | 14° $\underline{\Omega}$ 43'07 | 45°43'26 | | | 3260 Feb 26 12:53 | 0° \mathbb{X} | |
| | 3257 Sep 06 20:26 | 0° \mathbb{M} | | | | 3260 Mar 21 11:32 | 0° \mathbb{Y} | |
| greatest brilliancy | 3257 Sep 29 04:44 | 13° \mathbb{M} 05'07 | -4.8m | | | | | |
| retrograde | 3257 Oct 08 08:51 | 14° \mathbb{M} 37'15 | | superior conj | | 3260 Mar 28 15:16 | 8° \mathbb{Y} 56'31 | -1°24'51 |
| evening set | 3257 Oct 25 03:18 | 9° \mathbb{M} 17'42 | | minimum elong | | 3260 Mar 28 19:38 | 9° \mathbb{Y} 10'10 | 1°24'49 |
| inferior conj | 3257 Oct 29 07:54 | 6° \mathbb{M} 46'48 | -6°58'37 | max. Earth dist. | | 3260 Apr 01 16:31 | 14° \mathbb{Y} 00'04 | 1.71926 AU |
| minimum elong | 3257 Oct 29 18:01 | 6° \mathbb{M} 31'18 | 6°56'43 | | | 3260 Apr 14 12:43 | 0° \mathbb{B} | |
| min. Earth dist. | 3257 Oct 30 07:26 | 6° \mathbb{M} 10'45 | 0.27687 AU | evening rise | | 3260 May 07 01:58 | 27° \mathbb{B} 57'41 | |
| morning rise | 3257 Nov 03 08:13 | 3° \mathbb{M} 46'43 | | | | 3260 May 08 17:34 | 0° Π | |

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|---------------------|-------------------|--------------------------------------|------------|---------------------|-------------------------|-------------------------------------|
| asc. node | 3260 May 17 03:44 | 10° Π 23'26 | | 3262 Dec 04 13:31 | 0° \mathbb{M} | |
| | 3260 Jun 02 02:39 | 0° \mathfrak{G} | | 3262 Dec 29 20:17 | 0° \mathfrak{X} | |
| | 3260 Jun 26 16:19 | 0° Ω | | 3263 Jan 23 10:21 | 0° \mathfrak{Z} | |
| | 3260 Jul 21 11:36 | 0° \mathbb{P} | | 3263 Feb 16 17:00 | 0° \approx | |
| | 3260 Aug 15 15:01 | 0° $\underline{\mathfrak{L}}$ | | 3263 Feb 21 12:35 | 5° \approx 58'27 | |
| desc. node | 3260 Sep 05 17:26 | 24° $\underline{\mathfrak{L}}$ 42'46 | | 3263 Mar 12 20:42 | 0° \mathfrak{H} | |
| | 3260 Sep 10 07:19 | 0° \mathbb{M} | | 3263 Apr 06 00:02 | 0° \mathbb{Y} | |
| | 3260 Oct 06 22:13 | 0° \mathfrak{X} | | 3263 Apr 30 04:36 | 0° \mathfrak{B} | |
| evening max el | 3260 Nov 01 14:04 | 26° \mathfrak{X} 54'53 | 46°45'29 | 3263 May 02 12:10 | 2° \mathfrak{B} 51'59 | |
| | 3260 Nov 04 17:56 | 0° \mathfrak{Z} | | 3263 May 24 11:11 | 0° Π | |
| greatest brilliancy | 3260 Dec 11 19:52 | 27° \mathfrak{Z} 11'58 | -4.9m | | | |
| retrograde | 3260 Dec 21 17:31 | 29° \mathfrak{Z} 02'18 | | superior conj | 3263 Jun 09 06:50 | 19° Π 29'50 -0°12'47 |
| asc. node | 3260 Dec 27 20:17 | 28° \mathfrak{Z} 16'29 | | minimum elong | 3263 Jun 09 09:35 | 19° Π 38'19 0°12'40 |
| evening set | 3261 Jan 05 03:40 | 24° \mathfrak{Z} 54'49 | | behind sun begin | 3263 Jun 08 19:24 | 18° Π 54'39 |
| inferior conj | 3261 Jan 11 06:04 | 21° \mathfrak{Z} 20'10 | 3°39'09 | behind sun end | 3263 Jun 09 23:46 | 20° Π 21'58 |
| minimum elong | 3261 Jan 10 22:17 | 21° \mathfrak{Z} 32'05 | 3°36'50 | max. Earth dist. | 3263 Jun 10 18:12 | 21° Π 18'42 1.73306 AU |
| min. Earth dist. | 3261 Jan 10 21:06 | 21° \mathfrak{Z} 33'53 | 0.26519 AU | asc. node | 3263 Jun 14 15:30 | 26° Π 05'47 |
| morning rise | 3261 Jan 16 17:03 | 18° \mathfrak{Z} 07'04 | | | 3263 Jun 17 19:39 | 0° \mathfrak{G} |
| direct | 3261 Jan 31 16:27 | 13° \mathfrak{Z} 42'06 | | | 3263 Jul 12 05:21 | 0° Ω |
| greatest brilliancy | 3261 Feb 10 08:58 | 15° \mathfrak{Z} 29'08 | -4.9m | evening rise | 3263 Jul 15 22:30 | 4° Ω 33'40 |
| | 3261 Mar 05 08:47 | 0° \approx | | | 3263 Aug 05 16:00 | 0° \mathbb{P} |
| morning max el | 3261 Mar 22 22:46 | 16° \approx 17'19 | 46°45'57 | | 3263 Aug 30 04:10 | 0° $\underline{\mathfrak{L}}$ |
| | 3261 Apr 05 04:30 | 0° \mathfrak{H} | | | 3263 Sep 23 19:03 | 0° \mathbb{M} |
| desc. node | 3261 Apr 18 10:19 | 14° \mathfrak{H} 27'16 | | desc. node | 3263 Oct 04 05:24 | 12° \mathbb{M} 39'14 |
| | 3261 May 02 05:02 | 0° \mathbb{Y} | | | 3263 Oct 18 14:04 | 0° \mathfrak{X} |
| | 3261 May 28 01:42 | 0° \mathfrak{B} | | | 3263 Nov 12 15:14 | 0° \mathfrak{Z} |
| | 3261 Jun 22 10:11 | 0° Π | | | 3263 Dec 08 03:58 | 0° \approx |
| | 3261 Jul 17 11:23 | 0° \mathfrak{G} | | | 3264 Jan 03 21:23 | 0° \mathfrak{H} |
| asc. node | 3261 Aug 09 13:11 | 27° \mathfrak{G} 55'04 | | evening max el | 3264 Jan 14 01:28 | 10° \mathfrak{H} 40'08 47°13'49 |
| | 3261 Aug 11 06:16 | 0° Ω | | asc. node | 3264 Jan 25 08:12 | 21° \mathfrak{H} 41'11 |
| | 3261 Sep 04 18:48 | 0° \mathbb{P} | | | 3264 Feb 03 20:48 | 0° \mathbb{Y} |
| morning set | 3261 Sep 18 22:02 | 17° \mathbb{P} 25'50 | | greatest brilliancy | 3264 Feb 23 18:34 | 12° \mathbb{Y} 20'41 -4.9m |
| | 3261 Sep 29 01:39 | 0° $\underline{\mathfrak{L}}$ | | retrograde | 3264 Mar 04 23:41 | 14° \mathbb{Y} 20'39 |
| max. Earth dist. | 3261 Oct 22 22:10 | 29° $\underline{\mathfrak{L}}$ 40'32 | 1.72119 AU | evening set | 3264 Mar 23 01:00 | 8° \mathbb{Y} 03'44 |
| | 3261 Oct 23 04:25 | 0° \mathbb{M} | | inferior conj | 3264 Mar 25 22:25 | 6° \mathbb{Y} 16'08 8°47'50 |
| | | | | minimum elong | 3264 Mar 26 01:43 | 6° \mathbb{Y} 10'58 8°47'41 |
| superior conj | 3261 Oct 26 01:14 | 3° \mathbb{M} 34'35 | 1°09'48 | min. Earth dist. | 3264 Mar 25 12:11 | 6° \mathbb{Y} 32'08 0.27684 AU |
| minimum elong | 3261 Oct 26 10:37 | 4° \mathbb{M} 03'52 | 1°09'32 | morning rise | 3264 Mar 29 02:34 | 4° \mathbb{Y} 18'31 |
| | 3261 Nov 16 04:52 | 0° \mathfrak{X} | | | 3264 Apr 06 16:41 | 30° \mathfrak{R} \mathfrak{H} |
| desc. node | 3261 Nov 29 03:05 | 16° \mathfrak{X} 10'22 | | direct | 3264 Apr 15 16:42 | 28° \mathfrak{H} 20'45 |
| evening rise | 3261 Dec 04 08:26 | 22° \mathfrak{X} 42'36 | | greatest brilliancy | 3264 Apr 25 00:41 | 29° \mathfrak{H} 57'53 -4.8m |
| | 3261 Dec 10 04:10 | 0° \mathfrak{Z} | | | 3264 Apr 25 03:13 | 0° \mathbb{Y} |
| | 3262 Jan 03 03:06 | 0° \approx | | desc. node | 3264 May 15 21:55 | 12° \mathbb{Y} 13'51 |
| | 3262 Jan 27 02:55 | 0° \mathfrak{H} | | morning max el | 3264 Jun 04 00:33 | 29° \mathbb{Y} 08'46 46°01'53 |
| | 3262 Feb 20 06:11 | 0° \mathbb{Y} | | | 3264 Jun 04 21:40 | 0° \mathfrak{B} |
| | 3262 Mar 16 17:01 | 0° \mathfrak{B} | | | 3264 Jul 03 16:08 | 0° Π |
| asc. node | 3262 Mar 22 06:00 | 6° \mathfrak{B} 43'05 | | | 3264 Jul 30 08:32 | 0° \mathfrak{G} |
| | 3262 Apr 10 17:31 | 0° Π | | | 3264 Aug 25 01:20 | 0° Ω |
| | 3262 May 06 18:20 | 0° \mathfrak{G} | | asc. node | 3264 Sep 06 01:07 | 14° Ω 16'45 |
| | 3262 Jun 03 23:07 | 0° Ω | | | 3264 Sep 19 02:18 | 0° \mathbb{P} |
| evening max el | 3262 Jun 07 18:50 | 3° Ω 44'29 | 45°31'26 | | 3264 Oct 13 15:28 | 0° $\underline{\mathfrak{L}}$ |
| desc. node | 3262 Jul 11 19:43 | 29° Ω 57'37 | | | 3264 Nov 06 20:24 | 0° \mathbb{M} |
| | 3262 Jul 11 21:43 | 0° \mathbb{P} | | morning set | 3264 Nov 28 21:33 | 27° \mathbb{M} 33'24 |
| greatest brilliancy | 3262 Jul 15 21:55 | 1° \mathbb{P} 41'16 | -4.7m | | 3264 Nov 30 20:21 | 0° \mathfrak{X} |
| retrograde | 3262 Jul 26 11:46 | 3° \mathbb{P} 42'25 | | | 3264 Dec 24 17:43 | 0° \mathfrak{Z} |
| | 3262 Aug 09 08:31 | 30° \mathfrak{R} Ω | | desc. node | 3264 Dec 26 14:53 | 2° \mathfrak{Z} 21'58 |
| evening set | 3262 Aug 12 03:05 | 28° Ω 29'14 | | | | |
| inferior conj | 3262 Aug 17 00:41 | 25° Ω 30'12 | -7°12'28 | superior conj | 3265 Jan 08 11:35 | 18° \mathfrak{Z} 32'40 -0°30'19 |
| minimum elong | 3262 Aug 16 15:31 | 25° Ω 44'33 | 7°11'01 | minimum elong | 3265 Jan 08 03:54 | 18° \mathfrak{Z} 08'31 0°29'57 |
| min. Earth dist. | 3262 Aug 17 00:36 | 25° Ω 30'20 | 0.29049 AU | max. Earth dist. | 3265 Jan 08 06:33 | 18° \mathfrak{Z} 16'50 1.71115 AU |
| morning rise | 3262 Aug 21 03:48 | 22° Ω 57'32 | | | 3265 Jan 17 14:04 | 0° \approx |
| direct | 3262 Sep 07 15:16 | 17° Ω 12'21 | | | 3265 Feb 10 10:38 | 0° \mathfrak{H} |
| greatest brilliancy | 3262 Sep 18 05:40 | 19° Ω 13'32 | -4.8m | evening rise | 3265 Feb 18 17:08 | 10° \mathfrak{H} 23'03 |
| | 3262 Oct 06 14:38 | 0° \mathbb{P} | | | 3265 Mar 06 09:01 | 0° \mathbb{Y} |
| morning max el | 3262 Oct 27 02:43 | 18° \mathbb{P} 10'11 | 46°12'39 | | 3265 Mar 30 11:16 | 0° \mathfrak{B} |
| asc. node | 3262 Nov 01 22:38 | 24° \mathbb{P} 01'59 | | asc. node | 3265 Apr 18 17:52 | 23° \mathfrak{B} 46'39 |
| | 3262 Nov 07 16:02 | 0° $\underline{\mathfrak{L}}$ | | | 3265 Apr 23 19:45 | 0° Π |

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|---------------------|-------------------|----------------------|---------------------|--|-------------------|----------------------|
| | 3265 May 18 12:58 | 0°☿ | | | 3267 Dec 16 04:28 | 0°♄ |
| | 3265 Jun 12 18:34 | 0°♌ | | | 3268 Jan 09 04:40 | 0°♄ |
| | 3265 Jul 08 20:07 | 0°♍ | desc. node | | 3268 Jan 24 02:45 | 18°♄42'35 |
| | 3265 Aug 05 13:15 | 0°♎ | | | 3268 Feb 02 02:36 | 0°♌ |
| desc. node | 3265 Aug 08 07:38 | 2°♎49'44 | morning set | | 3268 Feb 14 06:09 | 15°♌15'20 |
| evening max el | 3265 Aug 18 02:22 | 12°♎28'47 45°41'53 | | | 3268 Feb 26 00:06 | 0°♋ |
| | 3265 Sep 07 10:18 | 0°♏ | | | 3268 Mar 20 22:39 | 0°♍ |
| greatest brilliancy | 3265 Sep 26 17:01 | 10°♏45'06 -4.8m | | | | |
| retrograde | 3265 Oct 05 22:36 | 12°♏17'55 | superior conj | | 3268 Mar 26 03:30 | 6°♍30'11 -1°25'32 |
| evening set | 3265 Oct 22 20:05 | 6°♏53'38 | minimum elong | | 3268 Mar 26 06:58 | 6°♍41'00 1°25'30 |
| inferior conj | 3265 Oct 26 21:48 | 4°♏26'32 -7°11'20 | max. Earth dist. | | 3268 Mar 30 05:52 | 11°♍37'21 1.71868 AU |
| minimum elong | 3265 Oct 27 07:39 | 4°♏11'23 7°09'35 | | | 3268 Apr 13 23:45 | 0°♎ |
| min. Earth dist. | 3265 Oct 27 20:52 | 3°♏51'06 0.27757 AU | evening rise | | 3268 May 04 16:34 | 25°♎40'24 |
| morning rise | 3265 Oct 31 18:48 | 1°♏31'00 | | | 3268 May 08 04:35 | 0°♎ |
| | 3265 Nov 03 14:12 | 30°♏♎ | asc. node | | 3268 May 16 05:45 | 9°♎55'46 |
| direct | 3265 Nov 17 00:21 | 26°♎24'50 | | | 3268 Jun 01 13:45 | 0°♎ |
| greatest brilliancy | 3265 Nov 28 04:35 | 28°♎45'31 -4.9m | | | 3268 Jun 26 03:39 | 0°♌ |
| asc. node | 3265 Nov 29 10:26 | 29°♎16'40 | | | 3268 Jul 20 23:23 | 0°♍ |
| | 3265 Dec 01 00:17 | 0°♏ | | | 3268 Aug 15 03:39 | 0°♎ |
| morning max el | 3266 Jan 06 17:25 | 29°♏42'07 46°53'28 | desc. node | | 3268 Sep 04 19:24 | 24°♎08'28 |
| | 3266 Jan 07 00:26 | 0°♄ | | | 3268 Sep 09 21:29 | 0°♏ |
| | 3266 Feb 03 13:17 | 0°♄ | | | 3268 Oct 06 15:26 | 0°♄ |
| | 3266 Mar 01 05:44 | 0°♌ | evening max el | | 3268 Oct 30 02:49 | 24°♄29'30 46°43'15 |
| desc. node | 3266 Mar 21 00:29 | 23°♌42'25 | | | 3268 Nov 04 19:43 | 0°♄ |
| | 3266 Mar 26 05:28 | 0°♋ | greatest brilliancy | | 3268 Dec 09 09:38 | 24°♄44'21 -4.9m |
| | 3266 Apr 19 22:11 | 0°♍ | retrograde | | 3268 Dec 19 05:05 | 26°♄33'01 |
| | 3266 May 14 12:16 | 0°♎ | asc. node | | 3268 Dec 26 22:23 | 25°♄20'19 |
| | 3266 Jun 08 01:36 | 0°♎ | evening set | | 3269 Jan 02 14:38 | 22°♄27'41 |
| | 3266 Jul 02 14:18 | 0°♎ | inferior conj | | 3269 Jan 08 18:22 | 18°♄51'36 3°16'28 |
| morning set | 3266 Jul 10 13:31 | 9°♄45'25 | minimum elong | | 3269 Jan 08 11:16 | 19°♄02'28 3°14'17 |
| asc. node | 3266 Jul 12 03:26 | 11°♄41'35 | min. Earth dist. | | 3269 Jan 08 11:07 | 19°♄02'42 0.26511 AU |
| | 3266 Jul 27 01:30 | 0°♌ | morning rise | | 3269 Jan 14 07:55 | 15°♄34'47 |
| max. Earth dist. | 3266 Aug 14 00:30 | 22°♌05'32 1.73369 AU | direct | | 3269 Jan 29 04:17 | 11°♄13'19 |
| | | | greatest brilliancy | | 3269 Feb 07 23:35 | 13°♄02'27 -4.9m |
| superior conj | 3266 Aug 16 01:30 | 24°♌36'30 1°10'40 | | | 3269 Mar 05 18:32 | 0°♌ |
| minimum elong | 3266 Aug 15 17:15 | 24°♌11'04 1°10'27 | morning max el | | 3269 Mar 20 10:47 | 13°♌48'57 46°47'12 |
| | 3266 Aug 20 10:27 | 0°♍ | | | 3269 Apr 04 23:30 | 0°♋ |
| | 3266 Sep 13 17:20 | 0°♎ | desc. node | | 3269 Apr 17 12:15 | 13°♋46'03 |
| evening rise | 3266 Sep 21 05:16 | 9°♎16'31 | | | 3269 May 01 20:04 | 0°♍ |
| | 3266 Oct 07 23:08 | 0°♏ | | | 3269 May 27 14:54 | 0°♎ |
| desc. node | 3266 Oct 31 17:13 | 29°♏23'59 | | | 3269 Jun 21 22:20 | 0°♎ |
| | 3266 Nov 01 04:51 | 0°♄ | | | 3269 Jul 16 22:53 | 0°♎ |
| | 3266 Nov 25 11:13 | 0°♄ | asc. node | | 3269 Aug 08 15:17 | 27°♄27'38 |
| | 3266 Dec 19 19:08 | 0°♌ | | | 3269 Aug 10 17:22 | 0°♌ |
| | 3267 Jan 13 07:24 | 0°♋ | | | 3269 Sep 04 05:42 | 0°♍ |
| | 3267 Feb 07 06:44 | 0°♍ | morning set | | 3269 Sep 16 15:06 | 15°♍16'40 |
| asc. node | 3267 Feb 21 20:07 | 16°♍59'28 | | | 3269 Sep 28 12:30 | 0°♎ |
| | 3267 Mar 05 08:04 | 0°♎ | max. Earth dist. | | 3269 Oct 20 13:39 | 27°♎25'05 1.72173 AU |
| evening max el | 3267 Mar 26 21:06 | 22°♎50'35 46°25'19 | | | 3269 Oct 22 15:21 | 0°♏ |
| | 3267 Apr 03 06:42 | 0°♎ | | | | |
| greatest brilliancy | 3267 May 04 17:24 | 22°♎23'59 -4.8m | superior conj | | 3269 Oct 23 16:34 | 1°♏18'38 1°11'43 |
| retrograde | 3267 May 15 16:14 | 24°♎35'43 | minimum elong | | 3269 Oct 24 01:37 | 1°♏46'51 1°11'29 |
| evening set | 3267 May 30 22:42 | 20°♎01'26 | | | 3269 Nov 15 15:54 | 0°♄ |
| inferior conj | 3267 Jun 05 23:58 | 16°♎21'31 1°45'55 | desc. node | | 3269 Nov 28 05:11 | 15°♄42'12 |
| minimum elong | 3267 Jun 06 03:50 | 16°♎15'28 1°44'47 | evening rise | | 3269 Dec 01 20:42 | 20°♄15'59 |
| min. Earth dist. | 3267 Jun 05 20:34 | 16°♎26'52 0.28614 AU | | | 3269 Dec 09 15:20 | 0°♄ |
| morning rise | 3267 Jun 12 09:29 | 12°♎31'35 | | | 3270 Jan 02 14:25 | 0°♌ |
| desc. node | 3267 Jun 13 09:47 | 11°♎59'17 | | | 3270 Jan 26 14:27 | 0°♋ |
| direct | 3267 Jun 27 10:11 | 8°♎10'37 | | | 3270 Feb 19 18:01 | 0°♍ |
| greatest brilliancy | 3267 Jul 07 10:04 | 9°♎59'19 -4.7m | | | 3270 Mar 16 05:23 | 0°♎ |
| | 3267 Aug 06 13:34 | 0°♎ | asc. node | | 3270 Mar 21 07:56 | 6°♎11'06 |
| morning max el | 3267 Aug 15 03:17 | 7°♎52'54 45°42'50 | | | 3270 Apr 10 06:50 | 0°♎ |
| | 3267 Sep 05 21:11 | 0°♌ | | | 3270 May 06 09:40 | 0°♎ |
| | 3267 Oct 02 19:13 | 0°♍ | | | 3270 Jun 03 20:12 | 0°♌ |
| asc. node | 3267 Oct 04 12:56 | 2°♍00'21 | evening max el | | 3270 Jun 05 09:51 | 1°♌31'30 45°32'32 |
| | 3267 Oct 28 06:38 | 0°♎ | desc. node | | 3270 Jul 10 21:51 | 28°♌27'31 |
| | 3267 Nov 21 22:53 | 0°♏ | greatest brilliancy | | 3270 Jul 13 12:38 | 29°♌31'00 -4.7m |

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|---------------------|-------------------|----------------------|---------------------|-------------------|-----------|------------|
| | 3270 Jul 14 22:07 | 0°♍ | desc. node | 3272 Dec 25 17:01 | 1°♌54'24 | |
| retrograde | 3270 Jul 24 04:18 | 1°♍34'05 | | | | |
| | 3270 Aug 02 02:01 | 30°♌♌ | superior conj | 3273 Jan 05 21:51 | 15°♌59'35 | -0°26'33 |
| evening set | 3270 Aug 09 16:19 | 26°♌24'39 | minimum elong | 3273 Jan 05 15:03 | 15°♌38'13 | 0°26'13 |
| inferior conj | 3270 Aug 14 17:05 | 23°♌21'18 -7°01'19 | max. Earth dist. | 3273 Jan 05 15:12 | 15°♌38'39 | 1.71128 AU |
| minimum elong | 3270 Aug 14 07:39 | 23°♌36'02 6°59'43 | | 3273 Jan 17 01:01 | 0°♌ | |
| min. Earth dist. | 3270 Aug 14 16:13 | 23°♌22'39 0.29058 AU | | 3273 Feb 09 21:39 | 0°♌ | |
| morning rise | 3270 Aug 18 22:49 | 20°♌44'57 | evening rise | 3273 Feb 16 03:23 | 7°♌50'05 | |
| direct | 3270 Sep 05 07:26 | 15°♌03'15 | | 3273 Mar 05 20:04 | 0°♌ | |
| greatest brilliancy | 3270 Sep 15 21:58 | 17°♌04'33 -4.8m | | 3273 Mar 29 22:25 | 0°♌ | |
| | 3270 Oct 07 01:31 | 0°♌ | asc. node | 3273 Apr 17 19:55 | 23°♌18'16 | |
| morning max el | 3270 Oct 24 18:21 | 15°♌56'47 46°11'05 | | 3273 Apr 23 07:07 | 0°♌ | |
| asc. node | 3270 Nov 01 00:43 | 23°♌16'34 | | 3273 May 18 00:48 | 0°♌ | |
| | 3270 Nov 07 10:15 | 0°♌ | | 3273 Jun 12 07:19 | 0°♌ | |
| | 3270 Dec 04 04:06 | 0°♌ | | 3273 Jul 08 10:41 | 0°♌ | |
| | 3270 Dec 29 09:23 | 0°♌ | | 3273 Aug 05 08:20 | 0°♌ | |
| | 3271 Jan 22 22:40 | 0°♌ | desc. node | 3273 Aug 07 09:37 | 2°♌04'51 | |
| | 3271 Feb 16 04:48 | 0°♌ | evening max el | 3273 Aug 15 17:33 | 10°♌15'51 | 45°40'29 |
| desc. node | 3271 Feb 20 14:39 | 5°♌28'26 | | 3273 Sep 08 04:02 | 0°♌ | |
| | 3271 Mar 12 08:09 | 0°♌ | greatest brilliancy | 3273 Sep 24 06:11 | 8°♌27'58 | -4.8m |
| | 3271 Apr 05 11:13 | 0°♌ | retrograde | 3273 Oct 03 12:16 | 10°♌00'47 | |
| | 3271 Apr 29 15:36 | 0°♌ | evening set | 3273 Oct 20 13:09 | 4°♌32'12 | |
| morning set | 3271 Apr 30 02:54 | 0°♌35'02 | inferior conj | 3273 Oct 24 12:04 | 2°♌08'46 | -7°23'11 |
| | 3271 May 23 22:02 | 0°♌ | minimum elong | 3273 Oct 24 21:35 | 1°♌54'06 | 7°21'36 |
| | | | min. Earth dist. | 3273 Oct 25 10:45 | 1°♌33'52 | 0.27822 AU |
| superior conj | 3271 Jun 06 23:32 | 17°♌20'18 -0°16'04 | | 3273 Oct 28 00:42 | 30°♌♌ | |
| minimum elong | 3271 Jun 07 03:00 | 17°♌30'57 0°15'54 | morning rise | 3273 Oct 29 05:39 | 29°♌17'46 | |
| max. Earth dist. | 3271 Jun 08 12:54 | 19°♌15'22 1.73276 AU | direct | 3273 Nov 14 15:40 | 24°♌06'25 | |
| asc. node | 3271 Jun 13 17:40 | 25°♌39'18 | greatest brilliancy | 3273 Nov 25 18:58 | 26°♌25'55 | -4.9m |
| | 3271 Jun 17 06:25 | 0°♌ | asc. node | 3273 Nov 28 12:31 | 27°♌37'41 | |
| | 3271 Jul 11 16:07 | 0°♌ | | 3273 Dec 02 23:11 | 0°♌ | |
| evening rise | 3271 Jul 13 17:10 | 2°♌30'33 | morning max el | 3274 Jan 04 07:36 | 27°♌20'17 | 46°52'25 |
| | 3271 Aug 05 02:54 | 0°♌ | | 3274 Jan 06 21:53 | 0°♌ | |
| | 3271 Aug 29 15:20 | 0°♌ | | 3274 Feb 03 05:08 | 0°♌ | |
| | 3271 Sep 23 06:41 | 0°♌ | | 3274 Feb 28 19:26 | 0°♌ | |
| desc. node | 3271 Oct 03 07:22 | 12°♌09'13 | desc. node | 3274 Mar 20 02:25 | 23°♌09'45 | |
| | 3271 Oct 18 02:25 | 0°♌ | | 3274 Mar 25 18:02 | 0°♌ | |
| | 3271 Nov 12 04:40 | 0°♌ | | 3274 Apr 19 10:02 | 0°♌ | |
| | 3271 Dec 07 19:19 | 0°♌ | | 3274 May 13 23:36 | 0°♌ | |
| | 3272 Jan 03 17:02 | 0°♌ | | 3274 Jun 07 12:34 | 0°♌ | |
| evening max el | 3272 Jan 11 16:13 | 8°♌18'25 47°14'17 | | 3274 Jul 02 01:02 | 0°♌ | |
| asc. node | 3272 Jan 24 10:18 | 20°♌40'22 | morning set | 3274 Jul 08 07:12 | 7°♌39'52 | |
| | 3272 Feb 04 11:33 | 0°♌ | asc. node | 3274 Jul 11 05:27 | 11°♌15'06 | |
| greatest brilliancy | 3272 Feb 21 08:28 | 9°♌57'40 -4.9m | | 3274 Jul 26 12:06 | 0°♌ | |
| retrograde | 3272 Mar 02 14:38 | 11°♌58'37 | max. Earth dist. | 3274 Aug 11 19:21 | 20°♌03'13 | 1.73390 AU |
| evening set | 3272 Mar 20 15:52 | 5°♌40'34 | | | | |
| min. Earth dist. | 3272 Mar 23 01:06 | 4°♌12'06 0.27641 AU | superior conj | 3274 Aug 13 19:41 | 22°♌32'04 | 1°08'52 |
| inferior conj | 3272 Mar 23 12:26 | 3°♌54'26 8°51'21 | minimum elong | 3274 Aug 13 11:13 | 22°♌05'59 | 1°08'36 |
| minimum elong | 3272 Mar 23 14:53 | 3°♌50'37 8°51'15 | | 3274 Aug 19 21:03 | 0°♌ | |
| morning rise | 3272 Mar 26 14:03 | 2°♌00'57 | | 3274 Sep 13 04:00 | 0°♌ | |
| | 3272 Mar 30 02:39 | 30°♌♌ | evening rise | 3274 Sep 18 22:20 | 7°♌07'41 | |
| direct | 3272 Apr 13 06:31 | 25°♌59'47 | | 3274 Oct 07 09:57 | 0°♌ | |
| greatest brilliancy | 3272 Apr 22 13:09 | 27°♌36'22 -4.8m | desc. node | 3274 Oct 30 19:20 | 28°♌56'19 | |
| | 3272 Apr 28 07:19 | 0°♌ | | 3274 Oct 31 15:56 | 0°♌ | |
| desc. node | 3272 May 15 00:03 | 11°♌06'20 | | 3274 Nov 24 22:38 | 0°♌ | |
| morning max el | 3272 Jun 01 15:53 | 26°♌54'14 46°03'16 | | 3274 Dec 19 07:02 | 0°♌ | |
| | 3272 Jun 04 19:50 | 0°♌ | | 3275 Jan 12 20:00 | 0°♌ | |
| | 3272 Jul 03 07:52 | 0°♌ | | 3275 Feb 06 20:36 | 0°♌ | |
| | 3272 Jul 29 21:49 | 0°♌ | asc. node | 3275 Feb 20 22:00 | 16°♌21'32 | |
| | 3272 Aug 24 13:24 | 0°♌ | | 3275 Mar 05 00:41 | 0°♌ | |
| asc. node | 3272 Sep 05 03:03 | 13°♌47'26 | evening max el | 3275 Mar 24 11:58 | 20°♌33'55 | 46°27'23 |
| | 3272 Sep 18 13:43 | 0°♌ | | 3275 Apr 03 08:21 | 0°♌ | |
| | 3272 Oct 13 02:32 | 0°♌ | greatest brilliancy | 3275 May 02 10:55 | 20°♌13'44 | -4.8m |
| | 3272 Nov 06 07:18 | 0°♌ | retrograde | 3275 May 13 07:54 | 22°♌23'58 | |
| morning set | 3272 Nov 26 10:58 | 25°♌11'04 | evening set | 3275 May 28 16:18 | 17°♌47'51 | |
| | 3272 Nov 30 07:13 | 0°♌ | inferior conj | 3275 Jun 03 15:51 | 14°♌10'12 | 2°06'03 |
| | 3272 Dec 24 04:37 | 0°♌ | minimum elong | 3275 Jun 03 20:24 | 14°♌03'03 | 2°04'43 |

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|---------------------|-------------------|------------|------------|---------------------|-------------------|------------|------------|
| min. Earth dist. | 3275 Jun 03 12:55 | 14°II14'49 | 0.28587 AU | | 3277 Dec 09 02:17 | 0°З | |
| morning rise | 3275 Jun 10 00:59 | 10°II20'25 | | | 3278 Jan 02 01:32 | 0°≈ | |
| desc. node | 3275 Jun 12 11:53 | 9°II04'58 | | | 3278 Jan 26 01:45 | 0°Х | |
| direct | 3275 Jun 25 01:36 | 5°II59'49 | | | 3278 Feb 19 05:36 | 0°У | |
| greatest brilliancy | 3275 Jul 05 01:17 | 7°II48'04 | -4.7m | | 3278 Mar 15 17:28 | 0°8 | |
| | 3275 Aug 06 15:33 | 0°☾ | | asc. node | 3278 Mar 20 10:03 | 5°840'35 | |
| morning max el | 3275 Aug 12 17:36 | 5°☾39'26 | 45°42'39 | | 3278 Apr 09 19:54 | 0°II | |
| | 3275 Sep 05 13:34 | 0°Ω | | | 3278 May 06 00:54 | 0°☾ | |
| | 3275 Oct 02 08:43 | 0°൬ | | evening max el | 3278 Jun 03 01:31 | 29°☾20'41 | 45°33'28 |
| asc. node | 3275 Oct 03 14:58 | 1°൬27'30 | | | 3278 Jun 03 17:49 | 0°Ω | |
| | 3275 Oct 27 18:51 | 0°♎ | | desc. node | 3278 Jul 09 23:50 | 26°Ω54'10 | |
| | 3275 Nov 21 10:27 | 0°♌ | | greatest brilliancy | 3278 Jul 11 02:59 | 27°Ω20'20 | -4.7m |
| | 3275 Dec 15 15:41 | 0°♊ | | retrograde | 3278 Jul 21 20:58 | 29°Ω25'25 | |
| | 3276 Jan 08 15:42 | 0°З | | evening set | 3278 Aug 07 05:27 | 24°Ω19'45 | |
| desc. node | 3276 Jan 23 04:46 | 18°З14'36 | | inferior conj | 3278 Aug 12 09:16 | 21°Ω12'02 | -6°49'25 |
| | 3276 Feb 01 13:30 | 0°≈ | | minimum elong | 3278 Aug 11 23:38 | 21°Ω27'03 | 6°47'42 |
| morning set | 3276 Feb 11 16:15 | 12°≈42'18 | | min. Earth dist. | 3278 Aug 12 07:28 | 21°Ω14'50 | 0.29067 AU |
| | 3276 Feb 25 10:53 | 0°Х | | morning rise | 3278 Aug 16 17:44 | 18°Ω31'54 | |
| | 3276 Mar 20 09:22 | 0°У | | direct | 3278 Sep 02 23:51 | 12°Ω53'52 | |
| | | | | greatest brilliancy | 3278 Sep 13 13:34 | 14°Ω54'44 | -4.7m |
| superior conj | 3276 Mar 23 15:49 | 4°У05'12 | -1°26'02 | | 3278 Oct 07 09:29 | 0°൬ | |
| minimum elong | 3276 Mar 23 18:18 | 4°У12'59 | 1°26'01 | morning max el | 3278 Oct 22 10:29 | 13°൬45'04 | 46°09'35 |
| max. Earth dist. | 3276 Mar 27 17:31 | 9°У10'23 | 1.71817 AU | asc. node | 3278 Oct 31 02:52 | 22°൬32'13 | |
| | 3276 Apr 13 10:27 | 0°8 | | | 3278 Nov 07 03:58 | 0°♎ | |
| evening rise | 3276 May 02 06:49 | 23°822'52 | | | 3278 Dec 03 18:24 | 0°♌ | |
| | 3276 May 07 15:19 | 0°II | | | 3278 Dec 28 22:14 | 0°♊ | |
| asc. node | 3276 May 15 07:52 | 9°II29'12 | | | 3279 Jan 22 10:45 | 0°З | |
| | 3276 Jun 01 00:36 | 0°☾ | | | 3279 Feb 15 16:24 | 0°≈ | |
| | 3276 Jun 25 14:44 | 0°Ω | | desc. node | 3279 Feb 19 16:34 | 4°≈58'33 | |
| | 3276 Jul 20 10:58 | 0°൬ | | | 3279 Mar 11 19:25 | 0°Х | |
| | 3276 Aug 14 16:06 | 0°♎ | | | 3279 Apr 04 22:14 | 0°У | |
| desc. node | 3276 Sep 03 21:24 | 23°♎34'51 | | morning set | 3279 Apr 27 17:53 | 28°У19'18 | |
| | 3276 Sep 09 11:31 | 0°♌ | | | 3279 Apr 29 02:23 | 0°8 | |
| | 3276 Oct 06 08:42 | 0°♊ | | | 3279 May 23 08:41 | 0°II | |
| evening max el | 3276 Oct 27 15:00 | 22°♊03'54 | 46°41'08 | | | | |
| | 3276 Nov 04 22:33 | 0°З | | superior conj | 3279 Jun 04 16:21 | 15°II11'34 | -0°19'19 |
| greatest brilliancy | 3276 Dec 06 23:17 | 22°З17'48 | -4.9m | minimum elong | 3279 Jun 04 20:30 | 15°II24'19 | 0°19'07 |
| retrograde | 3276 Dec 16 17:05 | 24°З05'20 | | max. Earth dist. | 3279 Jun 06 09:54 | 17°II19'34 | 1.73248 AU |
| asc. node | 3276 Dec 26 00:26 | 22°З19'56 | | asc. node | 3279 Jun 12 19:40 | 25°II12'53 | |
| evening set | 3276 Dec 31 01:52 | 20°З01'23 | | | 3279 Jun 16 17:00 | 0°☾ | |
| inferior conj | 3277 Jan 06 06:44 | 16°З24'24 | 2°53'19 | evening rise | 3279 Jul 11 11:51 | 0°Ω27'50 | |
| minimum elong | 3277 Jan 06 00:21 | 16°З34'08 | 2°51'20 | | 3279 Jul 11 02:47 | 0°Ω | |
| min. Earth dist. | 3277 Jan 06 01:07 | 16°З32'58 | 0.26504 AU | | 3279 Aug 04 13:45 | 0°൬ | |
| morning rise | 3277 Jan 11 22:45 | 13°З04'19 | | | 3279 Aug 29 02:30 | 0°♎ | |
| direct | 3277 Jan 26 16:08 | 8°З45'45 | | | 3279 Sep 22 18:21 | 0°♌ | |
| greatest brilliancy | 3277 Feb 05 14:11 | 10°З37'15 | -4.9m | desc. node | 3279 Oct 02 09:28 | 11°♌39'31 | |
| | 3277 Mar 06 01:01 | 0°≈ | | | 3279 Oct 17 14:48 | 0°♊ | |
| morning max el | 3277 Mar 17 23:32 | 11°≈23'44 | 46°48'28 | | 3279 Nov 11 18:12 | 0°З | |
| | 3277 Apr 04 17:31 | 0°Х | | | 3279 Dec 07 10:53 | 0°≈ | |
| desc. node | 3277 Apr 16 14:25 | 13°Х07'16 | | | 3280 Jan 03 13:15 | 0°Х | |
| | 3277 May 01 10:29 | 0°У | | evening max el | 3280 Jan 09 07:31 | 5°Х58'12 | 47°14'40 |
| | 3277 May 27 03:40 | 0°8 | | asc. node | 3280 Jan 23 12:15 | 19°Х37'50 | |
| | 3277 Jun 21 10:11 | 0°II | | | 3280 Feb 05 07:19 | 0°У | |
| | 3277 Jul 16 10:10 | 0°☾ | | greatest brilliancy | 3280 Feb 18 22:19 | 7°У34'33 | -4.9m |
| asc. node | 3277 Aug 07 17:15 | 27°☾00'21 | | retrograde | 3280 Feb 29 05:37 | 9°У36'10 | |
| | 3277 Aug 10 04:17 | 0°Ω | | evening set | 3280 Mar 18 06:17 | 3°У17'51 | |
| | 3277 Sep 03 16:24 | 0°൬ | | min. Earth dist. | 3280 Mar 20 13:49 | 1°У52'00 | 0.27594 AU |
| morning set | 3277 Sep 14 07:55 | 13°൬07'21 | | inferior conj | 3280 Mar 21 02:21 | 1°У32'29 | 8°53'58 |
| | 3277 Sep 27 23:09 | 0°♎ | | minimum elong | 3280 Mar 21 03:57 | 1°У29'59 | 8°53'56 |
| max. Earth dist. | 3277 Oct 18 06:58 | 25°♎16'13 | 1.72223 AU | | 3280 Mar 23 14:11 | 30°8Х | |
| | | | | morning rise | 3280 Mar 24 01:48 | 29°Х42'25 | |
| superior conj | 3277 Oct 21 07:44 | 29°♎02'57 | 1°13'32 | direct | 3280 Apr 10 20:31 | 23°Х38'49 | |
| minimum elong | 3277 Oct 21 16:23 | 29°♎29'56 | 1°13'19 | greatest brilliancy | 3280 Apr 20 01:05 | 25°Х14'09 | -4.8m |
| | 3277 Oct 22 02:02 | 0°♌ | | | 3280 Apr 30 03:47 | 0°У | |
| | 3277 Nov 15 02:43 | 0°♊ | | desc. node | 3280 May 14 02:04 | 10°У00'37 | |
| desc. node | 3277 Nov 27 07:15 | 15°♊14'43 | | morning max el | 3280 May 30 06:52 | 24°У39'01 | 46°04'42 |
| evening rise | 3277 Nov 29 09:01 | 17°♊50'19 | | | 3280 Jun 04 17:03 | 0°8 | |

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|---------------------|-------------------|----------------------|--|---------------------|-------------------|-----------|------------|
| | 3280 Jul 02 23:14 | 0°♄ | | | 3283 Feb 06 10:58 | 0°♁ | |
| | 3280 Jul 29 10:57 | 0°♅ | | asc. node | 3283 Feb 20 00:07 | 15°♁42'53 | |
| | 3280 Aug 24 01:25 | 0°♆ | | | 3283 Mar 04 17:59 | 0°♂ | |
| asc. node | 3280 Sep 04 05:08 | 13°♆18'33 | | evening max el | 3283 Mar 22 01:57 | 18°♂14'03 | 46°29'39 |
| | 3280 Sep 18 01:10 | 0°♇ | | | 3283 Apr 03 11:54 | 0°♄ | |
| | 3280 Oct 12 13:43 | 0°♅ | | greatest brilliancy | 3283 Apr 30 04:29 | 18°♄02'42 | -4.8m |
| | 3280 Nov 05 18:21 | 0°♆ | | retrograde | 3283 May 10 23:38 | 20°♄11'46 | |
| morning set | 3280 Nov 24 00:11 | 22°♆47'46 | | evening set | 3283 May 26 10:07 | 15°♄33'18 | |
| | 3280 Nov 29 18:12 | 0°♇ | | inferior conj | 3283 Jun 01 07:52 | 11°♄58'19 | 2°26'00 |
| | 3280 Dec 23 15:36 | 0°♅ | | minimum elong | 3283 Jun 01 13:04 | 11°♄50'07 | 2°24'29 |
| desc. node | 3280 Dec 24 18:58 | 1°♅25'58 | | min. Earth dist. | 3283 Jun 01 05:32 | 12°♄01'59 | 0.28559 AU |
| | | | | morning rise | 3283 Jun 07 16:25 | 8°♄09'01 | |
| superior conj | 3281 Jan 03 08:00 | 13°♅25'56 -0°22'43 | | desc. node | 3283 Jun 11 13:53 | 6°♄14'05 | |
| minimum elong | 3281 Jan 03 02:08 | 13°♅07'30 0°22'26 | | direct | 3283 Jun 22 16:40 | 3°♄48'16 | |
| max. Earth dist. | 3281 Jan 02 21:59 | 12°♅54'25 1.71138 AU | | greatest brilliancy | 3283 Jul 02 17:02 | 5°♄36'43 | -4.7m |
| | 3281 Jan 16 12:03 | 0°♆ | | | 3283 Aug 06 16:29 | 0°♅ | |
| | 3281 Feb 09 08:44 | 0°♇ | | morning max el | 3283 Aug 10 08:18 | 3°♅26'07 | 45°42'42 |
| evening rise | 3281 Feb 13 13:32 | 5°♇16'29 | | | 3283 Sep 05 05:54 | 0°♆ | |
| | 3281 Mar 05 07:12 | 0°♁ | | | 3283 Oct 01 22:19 | 0°♇ | |
| | 3281 Mar 29 09:40 | 0°♂ | | asc. node | 3283 Oct 02 17:07 | 0°♇54'29 | |
| asc. node | 3281 Apr 16 22:02 | 22°♂49'42 | | | 3283 Oct 27 07:16 | 0°♅ | |
| | 3281 Apr 22 18:36 | 0°♄ | | | 3283 Nov 20 22:18 | 0°♆ | |
| | 3281 May 17 12:45 | 0°♅ | | | 3283 Dec 15 03:16 | 0°♇ | |
| | 3281 Jun 11 20:11 | 0°♆ | | | 3284 Jan 08 03:09 | 0°♅ | |
| | 3281 Jul 08 01:29 | 0°♇ | | desc. node | 3284 Jan 22 06:48 | 17°♅45'20 | |
| | 3281 Aug 05 04:05 | 0°♅ | | | 3284 Feb 01 00:49 | 0°♆ | |
| desc. node | 3281 Aug 06 11:36 | 1°♅19'00 | | morning set | 3284 Feb 09 01:49 | 10°♆06'08 | |
| evening max el | 3281 Aug 13 07:51 | 8°♅00'28 45°38'52 | | | 3284 Feb 24 22:06 | 0°♇ | |
| | 3281 Sep 09 04:30 | 0°♆ | | | 3284 Mar 19 20:29 | 0°♁ | |
| greatest brilliancy | 3281 Sep 21 19:44 | 6°♆10'31 -4.8m | | | | | |
| retrograde | 3281 Oct 01 01:21 | 7°♆42'52 | | superior conj | 3284 Mar 21 03:39 | 1°♁37'27 | -1°26'23 |
| evening set | 3281 Oct 18 06:03 | 2°♆09'59 | | minimum elong | 3284 Mar 21 05:08 | 1°♁42'05 | 1°26'23 |
| | 3281 Oct 21 19:55 | 30°♇♅ | | max. Earth dist. | 3284 Mar 25 01:59 | 6°♁32'14 | 1.71762 AU |
| inferior conj | 3281 Oct 22 02:17 | 29°♅50'11 -7°34'15 | | | 3284 Apr 12 21:32 | 0°♂ | |
| minimum elong | 3281 Oct 22 11:24 | 29°♅36'06 7°32'51 | | evening rise | 3284 Apr 29 20:49 | 21°♂03'23 | |
| min. Earth dist. | 3281 Oct 23 00:53 | 29°♅15'17 0.27892 AU | | | 3284 May 07 02:25 | 0°♄ | |
| morning rise | 3281 Oct 26 16:22 | 27°♅03'44 | | asc. node | 3284 May 14 09:51 | 9°♄01'03 | |
| direct | 3281 Nov 12 06:21 | 21°♅46'54 | | | 3284 May 31 11:48 | 0°♅ | |
| greatest brilliancy | 3281 Nov 23 09:51 | 24°♅05'49 -4.9m | | | 3284 Jun 25 02:12 | 0°♆ | |
| asc. node | 3281 Nov 27 14:31 | 26°♅00'55 | | | 3284 Jul 19 22:55 | 0°♇ | |
| | 3281 Dec 04 07:24 | 0°♆ | | | 3284 Aug 14 04:56 | 0°♅ | |
| morning max el | 3282 Jan 01 21:01 | 24°♆55'22 46°51'30 | | desc. node | 3284 Sep 02 23:34 | 23°♅00'44 | |
| | 3282 Jan 06 18:59 | 0°♇ | | | 3284 Sep 09 01:59 | 0°♆ | |
| | 3282 Feb 02 21:02 | 0°♅ | | | 3284 Oct 06 02:38 | 0°♇ | |
| | 3282 Feb 28 09:15 | 0°♆ | | evening max el | 3284 Oct 25 03:36 | 19°♇38'52 | 46°38'55 |
| desc. node | 3282 Mar 19 04:36 | 22°♆37'21 | | | 3284 Nov 05 03:27 | 0°♅ | |
| | 3282 Mar 25 06:43 | 0°♇ | | greatest brilliancy | 3284 Dec 04 12:11 | 19°♅49'22 | -4.9m |
| | 3282 Apr 18 22:00 | 0°♁ | | retrograde | 3284 Dec 14 05:23 | 21°♅36'29 | |
| | 3282 May 13 11:05 | 0°♂ | | asc. node | 3284 Dec 25 02:24 | 19°♅12'54 | |
| | 3282 Jun 06 23:43 | 0°♄ | | evening set | 3284 Dec 28 13:15 | 17°♅33'16 | |
| | 3282 Jul 01 11:56 | 0°♅ | | inferior conj | 3285 Jan 03 18:57 | 13°♅55'38 | 2°29'38 |
| morning set | 3282 Jul 06 01:10 | 5°♅34'36 | | minimum elong | 3285 Jan 03 13:23 | 14°♅04'07 | 2°27'53 |
| asc. node | 3282 Jul 10 07:27 | 10°♅48'00 | | min. Earth dist. | 3285 Jan 03 14:47 | 14°♅01'59 | 0.26510 AU |
| | 3282 Jul 25 22:53 | 0°♆ | | morning rise | 3285 Jan 09 13:22 | 10°♅32'37 | |
| max. Earth dist. | 3282 Aug 09 14:29 | 18°♆01'17 1.73411 AU | | direct | 3285 Jan 24 04:25 | 6°♅16'25 | |
| | | | | greatest brilliancy | 3285 Feb 03 04:28 | 8°♅10'02 | -4.9m |
| superior conj | 3282 Aug 11 14:14 | 20°♆28'17 1°06'58 | | | 3285 Mar 06 06:12 | 0°♆ | |
| minimum elong | 3282 Aug 11 05:36 | 20°♆01'40 1°06'42 | | morning max el | 3285 Mar 15 13:22 | 8°♆59'28 | 46°49'40 |
| | 3282 Aug 19 07:48 | 0°♇ | | | 3285 Apr 04 11:43 | 0°♇ | |
| | 3282 Sep 12 14:52 | 0°♅ | | desc. node | 3285 Apr 15 16:26 | 12°♇26'50 | |
| evening rise | 3282 Sep 16 15:46 | 4°♅59'28 | | | 3285 May 01 01:17 | 0°♁ | |
| | 3282 Oct 06 21:02 | 0°♆ | | | 3285 May 26 16:49 | 0°♂ | |
| desc. node | 3282 Oct 29 21:24 | 28°♆27'27 | | | 3285 Jun 20 22:22 | 0°♄ | |
| | 3282 Oct 31 03:21 | 0°♇ | | | 3285 Jul 15 21:44 | 0°♅ | |
| | 3282 Nov 24 10:28 | 0°♅ | | asc. node | 3285 Aug 06 19:20 | 26°♅32'33 | |
| | 3282 Dec 18 19:22 | 0°♆ | | | 3285 Aug 09 15:28 | 0°♆ | |
| | 3283 Jan 12 09:04 | 0°♇ | | | 3285 Sep 03 03:24 | 0°♇ | |

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|---------------------|-------------------|----------------------------------|------------|---------------------|-------------------|---------------------------------------|------------|
| morning set | 3285 Sep 12 01:07 | 10° \cap 58'26 | | min. Earth dist. | 3288 Mar 18 02:48 | 29° H 31'20 | 0.27549 AU |
| | 3285 Sep 27 10:05 | 0° $\underline{\text{L}}$ | | inferior conj | 3288 Mar 18 16:18 | 29° H 10'16 | 8°55'35 |
| max. Earth dist. | 3285 Oct 16 00:38 | 23° $\underline{\text{L}}$ 07'35 | 1.72269 AU | minimum elong | 3288 Mar 18 17:01 | 29° H 09'08 | 8°55'35 |
| | | | | morning rise | 3288 Mar 21 14:00 | 27° H 22'49 | |
| superior conj | 3285 Oct 18 23:27 | 26° $\underline{\text{L}}$ 48'09 | 1°15'13 | direct | 3288 Apr 08 10:31 | 21° H 17'40 | |
| minimum elong | 3285 Oct 19 07:38 | 27° $\underline{\text{L}}$ 13'41 | 1°15'01 | greatest brilliancy | 3288 Apr 17 13:23 | 22° H 51'41 | -4.8m |
| | 3285 Oct 21 13:00 | 0° \cap | | | 3288 May 01 10:23 | 0° Y | |
| | 3285 Nov 14 13:47 | 0° Z | | desc. node | 3288 May 13 04:03 | 8° Y 56'02 | |
| desc. node | 3285 Nov 26 09:12 | 14° Z 45'59 | | morning max el | 3288 May 27 21:08 | 22° Y 21'15 | 46°06'00 |
| evening rise | 3285 Nov 26 21:52 | 15° Z 25'35 | | | 3288 Jun 04 13:47 | 0° Z | |
| | 3285 Dec 08 13:30 | 0° Z | | | 3288 Jul 02 14:38 | 0° \cap | |
| | 3286 Jan 01 12:56 | 0° \approx | | | 3288 Jul 29 00:10 | 0° G | |
| | 3286 Jan 25 13:25 | 0° H | | | 3288 Aug 23 13:32 | 0° Ω | |
| | 3286 Feb 18 17:38 | 0° Y | | asc. node | 3288 Sep 03 07:14 | 12° Ω 49'28 | |
| | 3286 Mar 15 06:03 | 0° Z | | | 3288 Sep 17 12:41 | 0° \cap | |
| asc. node | 3286 Mar 19 12:06 | 5° Z 08'22 | | | 3288 Oct 12 00:54 | 0° $\underline{\text{L}}$ | |
| | 3286 Apr 09 09:32 | 0° \cap | | | 3288 Nov 05 05:24 | 0° \cap | |
| | 3286 May 05 16:51 | 0° G | | morning set | 3288 Nov 21 13:39 | 20° \cap 25'12 | |
| evening max el | 3286 May 31 18:00 | 27° G 10'45 | 45°34'41 | | 3288 Nov 29 05:13 | 0° Z | |
| | 3286 Jun 03 16:48 | 0° Ω | | | 3288 Dec 23 02:38 | 0° Z | |
| greatest brilliancy | 3286 Jul 08 17:39 | 25° Ω 09'22 | -4.7m | desc. node | 3288 Dec 23 21:02 | 0° Z 57'49 | |
| desc. node | 3286 Jul 09 01:50 | 25° Ω 16'52 | | max. Earth dist. | 3288 Dec 31 02:14 | 10° Z 02'13 | 1.71148 AU |
| retrograde | 3286 Jul 19 13:43 | 27° Ω 15'59 | | | | | |
| evening set | 3286 Aug 04 18:49 | 22° Ω 14'14 | | superior conj | 3288 Dec 31 18:38 | 10° Z 53'47 | -0°18'52 |
| inferior conj | 3286 Aug 10 01:32 | 19° Ω 02'09 | -6°37'00 | minimum elong | 3288 Dec 31 13:44 | 10° Z 38'22 | 0°18'38 |
| minimum elong | 3286 Aug 09 15:46 | 19° Ω 17'23 | 6°35'11 | | 3289 Jan 15 23:06 | 0° \approx | |
| min. Earth dist. | 3286 Aug 09 22:41 | 19° Ω 06'35 | 0.29068 AU | | 3289 Feb 08 19:47 | 0° H | |
| morning rise | 3286 Aug 14 12:42 | 16° Ω 18'11 | | evening rise | 3289 Feb 11 00:01 | 2° H 44'00 | |
| direct | 3286 Aug 31 16:41 | 10° Ω 44'06 | | | 3289 Mar 04 18:18 | 0° Y | |
| greatest brilliancy | 3286 Sep 11 04:37 | 12° Ω 43'45 | -4.7m | | 3289 Mar 28 20:53 | 0° Z | |
| | 3286 Oct 07 15:25 | 0° \cap | | asc. node | 3289 Apr 15 23:58 | 22° Z 20'36 | |
| morning max el | 3286 Oct 20 02:47 | 11° \cap 33'22 | 46°08'07 | | 3289 Apr 22 06:05 | 0° \cap | |
| asc. node | 3286 Oct 30 04:46 | 21° \cap 47'16 | | | 3289 May 17 00:46 | 0° G | |
| | 3286 Nov 06 21:30 | 0° $\underline{\text{L}}$ | | | 3289 Jun 11 09:12 | 0° Ω | |
| | 3286 Dec 03 08:43 | 0° \cap | | | 3289 Jul 07 16:34 | 0° \cap | |
| | 3286 Dec 28 11:10 | 0° Z | | | 3289 Aug 05 00:32 | 0° $\underline{\text{L}}$ | |
| | 3287 Jan 21 22:57 | 0° Z | | desc. node | 3289 Aug 05 13:46 | 0° $\underline{\text{L}}$ 32'49 | |
| | 3287 Feb 15 04:11 | 0° \approx | | evening max el | 3289 Aug 10 21:26 | 5° $\underline{\text{L}}$ 43'20 | 45°37'30 |
| desc. node | 3287 Feb 18 18:43 | 4° \approx 28'50 | | | 3289 Sep 10 14:36 | 0° \cap | |
| | 3287 Mar 11 06:55 | 0° H | | greatest brilliancy | 3289 Sep 19 09:38 | 3° \cap 53'53 | -4.8m |
| | 3287 Apr 04 09:31 | 0° Y | | retrograde | 3289 Sep 28 14:31 | 5° \cap 25'53 | |
| morning set | 3287 Apr 25 08:21 | 26° Y 00'56 | | evening set | 3289 Oct 15 22:56 | 29° $\underline{\text{L}}$ 48'38 | |
| | 3287 Apr 28 13:30 | 0° Z | | | 3289 Oct 15 15:09 | 30° R $\underline{\text{L}}$ | |
| | 3287 May 22 19:39 | 0° \cap | | inferior conj | 3289 Oct 19 16:40 | 27° $\underline{\text{L}}$ 32'29 | -7°44'23 |
| | | | | minimum elong | 3289 Oct 20 01:20 | 27° $\underline{\text{L}}$ 19'05 | 7°43'08 |
| superior conj | 3287 Jun 02 08:37 | 13° \cap 00'05 | -0°22'35 | min. Earth dist. | 3289 Oct 20 15:24 | 26° $\underline{\text{L}}$ 57'21 | 0.27960 AU |
| minimum elong | 3287 Jun 02 13:26 | 13° \cap 14'56 | 0°22'21 | morning rise | 3289 Oct 24 03:18 | 24° $\underline{\text{L}}$ 50'40 | |
| max. Earth dist. | 3287 Jun 04 07:06 | 15° \cap 23'18 | 1.73213 AU | direct | 3289 Nov 09 20:48 | 19° $\underline{\text{L}}$ 28'04 | |
| asc. node | 3287 Jun 11 21:38 | 24° \cap 45'23 | | greatest brilliancy | 3289 Nov 21 01:24 | 21° $\underline{\text{L}}$ 47'17 | -4.9m |
| | 3287 Jun 16 03:53 | 0° G | | asc. node | 3289 Nov 26 16:34 | 24° $\underline{\text{L}}$ 28'12 | |
| evening rise | 3287 Jul 09 06:08 | 28° G 23'06 | | | 3289 Dec 05 06:17 | 0° \cap | |
| | 3287 Jul 10 13:42 | 0° Ω | | morning max el | 3289 Dec 30 10:28 | 22° \cap 30'59 | 46°50'33 |
| | 3287 Aug 04 00:50 | 0° \cap | | | 3290 Jan 06 15:16 | 0° Z | |
| | 3287 Aug 28 13:55 | 0° $\underline{\text{L}}$ | | | 3290 Feb 02 12:34 | 0° Z | |
| | 3287 Sep 22 06:15 | 0° \cap | | | 3290 Feb 27 22:49 | 0° \approx | |
| desc. node | 3287 Oct 01 11:29 | 11° \cap 08'54 | | desc. node | 3290 Mar 18 06:35 | 22° \approx 04'56 | |
| | 3287 Oct 17 03:26 | 0° Z | | | 3290 Mar 24 19:12 | 0° H | |
| | 3287 Nov 11 08:00 | 0° Z | | | 3290 Apr 18 09:46 | 0° Y | |
| | 3287 Dec 07 02:46 | 0° \approx | | | 3290 May 12 22:23 | 0° Z | |
| | 3288 Jan 03 10:12 | 0° H | | | 3290 Jun 06 10:41 | 0° \cap | |
| evening max el | 3288 Jan 06 22:50 | 3° H 37'49 | 47°14'52 | | 3290 Jun 30 22:43 | 0° G | |
| asc. node | 3288 Jan 22 14:21 | 18° H 34'01 | | morning set | 3290 Jul 03 18:55 | 3° G 28'57 | |
| | 3288 Feb 06 10:22 | 0° Y | | asc. node | 3290 Jul 09 09:33 | 10° G 21'35 | |
| greatest brilliancy | 3288 Feb 16 12:37 | 5° Y 11'48 | -4.9m | | 3290 Jul 25 09:34 | 0° Ω | |
| retrograde | 3288 Feb 26 20:16 | 7° Y 13'15 | | max. Earth dist. | 3290 Aug 07 09:19 | 15° Ω 58'41 | 1.73434 AU |
| evening set | 3288 Mar 15 20:14 | 0° Y 55'47 | | | | | |
| | 3288 Mar 17 08:24 | 30° R H | | superior conj | 3290 Aug 09 08:32 | 18° Ω 24'01 | 1°04'58 |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| minimum elong | 3290 Aug 08 23:46 | 17°Ω57'02 | 1°04'42 | morning max el | 3293 Mar 13 03:51 | 6°≈38'01 | 46°50'42 |
| | 3290 Aug 18 18:29 | 0°♊ | | | 3293 Apr 04 05:05 | 0°♋ | |
| | 3290 Sep 12 01:37 | 0°♌ | | desc. node | 3293 Apr 14 18:23 | 11°♋47'47 | |
| evening rise | 3290 Sep 14 09:03 | 2°♌51'15 | | | 3293 Apr 30 15:30 | 0°♍ | |
| | 3290 Oct 06 08:00 | 0°♎ | | | 3293 May 26 05:29 | 0°♎ | |
| desc. node | 3290 Oct 28 23:20 | 27°♎58'40 | | | 3293 Jun 20 10:06 | 0°♏ | |
| | 3290 Oct 30 14:37 | 0°♐ | | | 3293 Jul 15 08:53 | 0°♑ | |
| | 3290 Nov 23 22:08 | 0°♑ | | asc. node | 3293 Aug 05 21:24 | 26°♑05'53 | |
| | 3290 Dec 18 07:33 | 0°≈ | | | 3293 Aug 09 02:16 | 0°♒ | |
| | 3291 Jan 11 22:01 | 0°♋ | | | 3293 Sep 02 14:01 | 0°♓ | |
| | 3291 Feb 06 01:16 | 0°♍ | | morning set | 3293 Sep 09 18:22 | 8°♓50'51 | |
| asc. node | 3291 Feb 19 02:13 | 15°♍04'32 | | | 3293 Sep 26 20:42 | 0°♌ | |
| | 3291 Mar 04 11:22 | 0°♎ | | max. Earth dist. | 3293 Oct 13 16:03 | 20°♌52'59 | 1.72318 AU |
| evening max el | 3291 Mar 19 15:47 | 15°♎54'32 | 46°32'01 | | | | |
| | 3291 Apr 03 16:51 | 0°♏ | | superior conj | 3293 Oct 16 15:07 | 24°♌34'13 | 1°16'45 |
| greatest brilliancy | 3291 Apr 27 21:33 | 15°♏51'57 | -4.8m | minimum elong | 3293 Oct 16 22:48 | 24°♌58'08 | 1°16'35 |
| retrograde | 3291 May 08 15:41 | 18°♏00'39 | | | 3293 Oct 20 23:42 | 0°♎ | |
| evening set | 3291 May 24 04:01 | 13°♏19'19 | | | 3293 Nov 14 00:36 | 0°♐ | |
| inferior conj | 3291 May 29 23:53 | 9°♏47'20 | 2°45'35 | evening rise | 3293 Nov 24 10:27 | 13°♐00'51 | |
| minimum elong | 3291 May 30 05:44 | 9°♏38'07 | 2°43'55 | desc. node | 3293 Nov 25 11:19 | 14°♐18'34 | |
| min. Earth dist. | 3291 May 29 22:01 | 9°♏50'15 | 0.28534 AU | | 3293 Dec 08 00:27 | 0°♑ | |
| morning rise | 3291 Jun 05 07:45 | 5°♏58'56 | | | 3294 Jan 01 00:04 | 0°≈ | |
| desc. node | 3291 Jun 10 15:54 | 3°♏28'22 | | | 3294 Jan 25 00:46 | 0°♋ | |
| direct | 3291 Jun 20 07:34 | 1°♏37'27 | | | 3294 Feb 18 05:20 | 0°♍ | |
| greatest brilliancy | 3291 Jun 30 08:51 | 3°♏26'28 | -4.7m | | 3294 Mar 14 18:19 | 0°♎ | |
| | 3291 Aug 06 15:55 | 0°♑ | | asc. node | 3294 Mar 18 14:02 | 4°♎36'48 | |
| morning max el | 3291 Aug 07 23:53 | 1°♑15'41 | 45°42'38 | | 3294 Apr 08 22:54 | 0°♏ | |
| | 3291 Sep 04 21:42 | 0°♒ | | | 3294 May 05 08:40 | 0°♑ | |
| | 3291 Oct 01 11:37 | 0°♓ | | evening max el | 3294 May 29 10:56 | 25°♑02'55 | 45°35'54 |
| asc. node | 3291 Oct 01 19:01 | 0°♓21'29 | | | 3294 Jun 03 16:21 | 0°♒ | |
| | 3291 Oct 26 19:25 | 0°♌ | | greatest brilliancy | 3294 Jul 06 08:57 | 23°♒00'23 | -4.7m |
| | 3291 Nov 20 09:53 | 0°♎ | | desc. node | 3294 Jul 08 03:59 | 23°♒37'31 | |
| | 3291 Dec 14 14:33 | 0°♐ | | retrograde | 3294 Jul 17 06:14 | 25°♒07'43 | |
| | 3292 Jan 07 14:15 | 0°♑ | | evening set | 3294 Aug 02 08:23 | 20°♒10'06 | |
| desc. node | 3292 Jan 21 08:52 | 17°♑17'14 | | inferior conj | 3294 Aug 07 17:51 | 16°♒53'41 | -6°24'04 |
| | 3292 Jan 31 11:49 | 0°≈ | | minimum elong | 3294 Aug 07 08:01 | 17°♒09'04 | 6°22'09 |
| morning set | 3292 Feb 06 11:20 | 7°≈30'48 | | min. Earth dist. | 3294 Aug 07 14:07 | 16°♒59'30 | 0.29067 AU |
| | 3292 Feb 24 09:00 | 0°♋ | | morning rise | 3294 Aug 12 07:41 | 14°♒05'43 | |
| | | | | direct | 3294 Aug 29 09:35 | 8°♒35'56 | |
| superior conj | 3292 Mar 18 15:23 | 29°♋10'06 | -1°26'33 | greatest brilliancy | 3294 Sep 08 19:25 | 10°♒33'47 | -4.7m |
| minimum elong | 3292 Mar 18 15:51 | 29°♋11'35 | 1°26'34 | | 3294 Oct 07 18:53 | 0°♓ | |
| | 3292 Mar 19 07:20 | 0°♍ | | morning max el | 3294 Oct 17 18:24 | 9°♓21'11 | 46°06'29 |
| max. Earth dist. | 3292 Mar 22 08:31 | 3°♍48'51 | 1.71711 AU | asc. node | 3294 Oct 29 06:51 | 21°♓04'29 | |
| | 3292 Apr 12 08:19 | 0°♎ | | | 3294 Nov 06 14:19 | 0°♌ | |
| evening rise | 3292 Apr 27 10:44 | 18°♎44'38 | | | 3294 Dec 02 22:37 | 0°♎ | |
| | 3292 May 06 13:12 | 0°♏ | | | 3294 Dec 27 23:48 | 0°♐ | |
| asc. node | 3292 May 13 11:53 | 8°♏34'05 | | | 3295 Jan 21 10:54 | 0°♑ | |
| | 3292 May 30 22:40 | 0°♑ | | | 3295 Feb 14 15:42 | 0°≈ | |
| | 3292 Jun 24 13:19 | 0°♒ | | desc. node | 3295 Feb 17 20:45 | 3°≈59'32 | |
| | 3292 Jul 19 10:34 | 0°♓ | | | 3295 Mar 10 18:07 | 0°♋ | |
| | 3292 Aug 13 17:34 | 0°♌ | | | 3295 Apr 03 20:29 | 0°♍ | |
| desc. node | 3292 Sep 02 01:31 | 22°♌26'34 | | morning set | 3295 Apr 22 22:39 | 23°♍43'00 | |
| | 3292 Sep 08 16:23 | 0°♎ | | | 3295 Apr 28 00:16 | 0°♎ | |
| | 3292 Oct 05 20:45 | 0°♐ | | | 3295 May 22 06:17 | 0°♏ | |
| evening max el | 3292 Oct 22 17:13 | 17°♐17'17 | 46°36'46 | | | | |
| | 3292 Nov 05 10:06 | 0°♑ | | superior conj | 3295 May 31 00:50 | 10°♏49'23 | -0°25'49 |
| greatest brilliancy | 3292 Dec 02 00:36 | 17°♑21'20 | -4.9m | minimum elong | 3295 May 31 06:19 | 11°♏06'17 | 0°25'34 |
| retrograde | 3292 Dec 11 18:03 | 19°♑08'24 | | max. Earth dist. | 3295 Jun 02 04:26 | 13°♏28'25 | 1.73177 AU |
| asc. node | 3292 Dec 24 04:30 | 16°♑01'43 | | asc. node | 3295 Jun 10 23:47 | 24°♏19'22 | |
| evening set | 3292 Dec 26 00:52 | 15°♑05'45 | | | 3295 Jun 15 14:29 | 0°♑ | |
| inferior conj | 3293 Jan 01 07:06 | 11°♑27'36 | 2°05'44 | evening rise | 3295 Jul 07 00:27 | 26°♑19'20 | |
| minimum elong | 3293 Jan 01 02:21 | 11°♑34'48 | 2°04'13 | | 3295 Jul 10 00:20 | 0°♒ | |
| min. Earth dist. | 3293 Jan 01 04:04 | 11°♑32'12 | 0.26514 AU | | 3295 Aug 03 11:38 | 0°♓ | |
| morning rise | 3293 Jan 07 03:44 | 8°♑02'01 | | | 3295 Aug 28 01:01 | 0°♌ | |
| direct | 3293 Jan 21 17:10 | 3°♑48'05 | | | 3295 Sep 21 17:51 | 0°♎ | |
| greatest brilliancy | 3293 Jan 31 18:07 | 5°♑43'05 | -4.9m | desc. node | 3295 Sep 30 13:30 | 10°♎39'07 | |
| | 3293 Mar 06 09:08 | 0°≈ | | | 3295 Oct 16 15:50 | 0°♐ | |

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|---------------------|-------------------|-----|--------------------|---------------------|-------------------|-----|-------------------|
| | 3295 Nov 10 21:41 | 0° | | desc. node | 3298 Mar 17 08:33 | 21° | 32'37" |
| | 3295 Dec 06 18:45 | 0° | | | 3298 Mar 24 07:37 | 0° | |
| | 3296 Jan 03 07:48 | 0° | | | 3298 Apr 17 21:33 | 0° | |
| evening max el | 3296 Jan 04 13:33 | 1° | 16'00" 47°14'51" | | 3298 May 12 09:42 | 0° | |
| asc. node | 3296 Jan 21 16:25 | 17° | 28'38" | | 3298 Jun 05 21:40 | 0° | |
| | 3296 Feb 08 01:05 | 0° | | | 3298 Jun 30 09:30 | 0° | |
| greatest brilliancy | 3296 Feb 14 03:26 | 2° | 49'24" -4.9m | morning set | 3298 Jul 01 12:29 | 1° | 22'42" |
| retrograde | 3296 Feb 24 10:17 | 4° | 49'51" | asc. node | 3298 Jul 08 11:33 | 9° | 54'54" |
| | 3296 Mar 10 23:42 | 30° | | | 3298 Jul 24 20:14 | 0° | |
| evening set | 3296 Mar 13 09:32 | 28° | 34'16" | max. Earth dist. | 3298 Aug 05 06:01 | 14° | 01'55" 1.73456 AU |
| min. Earth dist. | 3296 Mar 15 15:59 | 27° | 09'54" 0.27498 AU | | | | |
| inferior conj | 3296 Mar 16 06:04 | 26° | 47'53" 8°56'20" | superior conj | 3298 Aug 07 02:48 | 16° | 19'46" 1°02'54" |
| minimum elong | 3296 Mar 16 05:52 | 26° | 48'13" 8°56'21" | minimum elong | 3298 Aug 06 17:58 | 15° | 02'32" 1°02'36" |
| morning rise | 3296 Mar 19 02:24 | 25° | 02'23" | | 3298 Aug 18 05:09 | 0° | |
| direct | 3296 Apr 05 23:49 | 18° | 56'22" | | 3298 Sep 11 12:24 | 0° | |
| greatest brilliancy | 3296 Apr 15 02:01 | 20° | 29'36" -4.8m | evening rise | 3298 Sep 12 02:38 | 0° | 43'58" |
| | 3296 May 02 08:19 | 0° | | | 3298 Oct 05 18:59 | 0° | |
| desc. node | 3296 May 12 06:12 | 7° | 53'56" | desc. node | 3298 Oct 28 01:28 | 27° | 03'28" |
| morning max el | 3296 May 25 10:21 | 20° | 01'19" 46°07'24" | | 3298 Oct 30 01:55 | 0° | |
| | 3296 Jun 04 09:36 | 0° | | | 3298 Nov 23 09:48 | 0° | |
| | 3296 Jul 02 05:32 | 0° | | | 3298 Dec 17 19:45 | 0° | |
| | 3296 Jul 28 13:03 | 0° | | | 3299 Jan 11 11:00 | 0° | |
| asc. node | 3296 Aug 23 01:22 | 0° | | | 3299 Feb 05 15:45 | 0° | |
| | 3296 Sep 02 09:09 | 12° | 02'36" | asc. node | 3299 Feb 18 04:06 | 14° | 25'07" |
| | 3296 Sep 16 23:57 | 0° | | | 3299 Mar 04 05:16 | 0° | |
| | 3296 Oct 11 11:52 | 0° | | evening max el | 3299 Mar 17 06:18 | 13° | 36'18" 46°34'16" |
| | 3296 Nov 04 16:14 | 0° | | | 3299 Apr 04 00:18 | 0° | |
| morning set | 3296 Nov 19 03:26 | 18° | 04'17" | greatest brilliancy | 3299 Apr 25 14:02 | 13° | 39'33" -4.8m |
| | 3296 Nov 28 16:01 | 0° | | retrograde | 3299 May 06 08:01 | 15° | 48'31" |
| desc. node | 3296 Dec 22 23:09 | 0° | 30'23" | evening set | 3299 May 21 21:55 | 11° | 04'01" |
| | 3296 Dec 22 13:29 | 0° | | inferior conj | 3299 May 27 15:45 | 7° | 35'12" 3°05'07" |
| max. Earth dist. | 3296 Dec 28 06:09 | 7° | 09'29" 1.71169 AU | minimum elong | 3299 May 27 22:13 | 7° | 25'03" 3°03'18" |
| | | | | min. Earth dist. | 3299 May 27 14:08 | 7° | 37'44" 0.28510 AU |
| superior conj | 3296 Dec 29 05:20 | 8° | 22'22" -0°15'00" | morning rise | 3299 Jun 02 22:49 | 3° | 48'12" |
| minimum elong | 3296 Dec 29 01:25 | 8° | 10'04" 0°14'48" | desc. node | 3299 Jun 09 18:01 | 0° | 46'03" |
| behind sun begin | 3296 Dec 28 14:20 | 7° | 35'12" | | 3299 Jun 12 13:45 | 30° | |
| behind sun end | 3296 Dec 29 12:30 | 8° | 44'56" | direct | 3299 Jun 17 22:42 | 29° | 25'29" |
| | 3297 Jan 15 10:01 | 0° | | | 3299 Jun 23 11:47 | 0° | |
| evening rise | 3297 Feb 08 10:09 | 0° | 10'38" | greatest brilliancy | 3299 Jun 28 00:18 | 1° | 15'01" -4.7m |
| | 3297 Feb 08 06:46 | 0° | | morning max el | 3299 Aug 05 16:10 | 29° | 06'34" 45°42'42" |
| | 3297 Mar 04 05:20 | 0° | | | 3299 Aug 06 14:32 | 0° | |
| | 3297 Mar 28 08:02 | 0° | | | 3299 Sep 04 13:22 | 0° | |
| asc. node | 3297 Apr 15 02:02 | 21° | 52'09" | asc. node | 3299 Sep 30 21:06 | 29° | 048'59" |
| | 3297 Apr 21 17:31 | 0° | | | 3299 Oct 01 00:54 | 0° | |
| | 3297 May 16 12:44 | 0° | | | 3299 Oct 26 07:37 | 0° | |
| | 3297 Jun 10 22:12 | 0° | | | 3299 Nov 19 21:33 | 0° | |
| | 3297 Jul 07 07:44 | 0° | | | 3299 Dec 14 01:57 | 0° | |
| desc. node | 3297 Aug 04 15:44 | 29° | 045'49" | | 3300 Jan 07 01:28 | 0° | |
| | 3297 Aug 04 21:32 | 0° | | desc. node | 3300 Jan 20 10:53 | 16° | 38'38" |
| evening max el | 3297 Aug 08 10:49 | 3° | 26'13" 45°36'16" | | 3300 Jan 30 22:54 | 0° | |
| | 3297 Sep 12 17:32 | 0° | | morning set | 3300 Feb 03 21:24 | 4° | 56'50" |
| greatest brilliancy | 3297 Sep 16 23:13 | 1° | 37'40" -4.8m | | 3300 Feb 23 20:00 | 0° | |
| retrograde | 3297 Sep 26 04:04 | 3° | 10'06" | | | | |
| | 3297 Oct 08 23:03 | 30° | | superior conj | 3300 Mar 17 03:14 | 26° | 42'43" -1°26'34" |
| evening set | 3297 Oct 13 15:46 | 27° | 028'23" | minimum elong | 3300 Mar 17 02:40 | 26° | 40'57" 1°26'34" |
| inferior conj | 3297 Oct 17 07:11 | 25° | 015'47" -7°53'34" | | 3300 Mar 19 18:16 | 0° | |
| minimum elong | 3297 Oct 17 15:20 | 25° | 03'12" 7°52'31" | max. Earth dist. | 3300 Mar 20 17:18 | 1° | 12'03" 1.71667 AU |
| min. Earth dist. | 3297 Oct 18 05:56 | 24° | 040'39" 0.28028 AU | | 3300 Apr 12 19:15 | 0° | |
| morning rise | 3297 Oct 21 14:27 | 22° | 038'49" | evening rise | 3300 Apr 26 00:38 | 16° | 025'08" |
| direct | 3297 Nov 07 11:24 | 17° | 010'08" | | 3300 May 07 00:10 | 0° | |
| greatest brilliancy | 3297 Nov 18 17:14 | 19° | 030'11" -4.9m | asc. node | 3300 May 13 13:59 | 8° | 06'41" |
| asc. node | 3297 Nov 25 18:38 | 22° | 059'29" | | 3300 May 31 09:45 | 0° | |
| | 3297 Dec 05 22:53 | 0° | | | 3300 Jun 25 00:42 | 0° | |
| morning max el | 3297 Dec 28 00:32 | 20° | 08'47" 46°49'35" | | 3300 Jul 19 22:30 | 0° | |
| | 3298 Jan 06 10:45 | 0° | | | 3300 Aug 14 06:29 | 0° | |
| | 3298 Feb 02 03:47 | 0° | | desc. node | 3300 Sep 02 03:32 | 21° | 051'46" |
| | 3298 Feb 27 12:14 | 0° | | | 3300 Sep 09 07:09 | 0° | |

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| | 3300 Oct 06 15:34 | 0°♊ | | 3303 May 22 17:12 | 0°♊ |
| evening max el | 3300 Oct 21 07:45 | 14°♊57'31 46°34'32 | | | |
| | 3300 Nov 06 19:32 | 0°♋ | superior conj | 3303 May 29 17:17 | 8°♊38'31 -0°29'00 |
| greatest brilliancy | 3300 Nov 30 13:08 | 14°♋53'13 -4.9m | minimum elong | 3303 May 29 23:24 | 8°♊57'21 0°28'43 |
| retrograde | 3300 Dec 10 06:52 | 16°♋39'57 | max. Earth dist. | 3303 Jun 01 01:43 | 11°♊32'28 1.73137 AU |
| asc. node | 3300 Dec 24 06:32 | 12°♋46'17 | asc. node | 3303 Jun 11 01:46 | 23°♊51'59 |
| evening set | 3300 Dec 24 12:54 | 12°♋37'54 | | 3303 Jun 16 01:21 | 0°♌ |
| inferior conj | 3300 Dec 30 19:21 | 8°♋59'18 1°41'37 | evening rise | 3303 Jul 05 18:54 | 24°♌15'06 |
| minimum elong | 3300 Dec 30 15:29 | 9°♋05'10 1°40'22 | | 3303 Jul 10 11:16 | 0°♍ |
| min. Earth dist. | 3300 Dec 30 17:26 | 9°♋02'11 0.26518 AU | | 3303 Aug 03 22:46 | 0°♎ |
| morning rise | 3301 Jan 05 17:59 | 5°♋31'17 | | 3303 Aug 28 12:29 | 0°♏ |
| direct | 3301 Jan 20 06:21 | 1°♋19'43 | | 3303 Sep 22 05:51 | 0°♐ |
| greatest brilliancy | 3301 Jan 30 07:35 | 3°♋15'27 -4.9m | desc. node | 3303 Sep 30 15:35 | 10°♐08'31 |
| | 3301 Mar 07 10:46 | 0°♑ | | 3303 Oct 17 04:39 | 0°♊ |
| morning max el | 3301 Mar 11 18:05 | 4°♑15'27 46°51'44 | | 3303 Nov 11 11:49 | 0°♋ |
| | 3301 Apr 04 22:15 | 0°♌ | | 3303 Dec 07 11:21 | 0°♍ |
| desc. node | 3301 Apr 14 20:35 | 11°♌09'24 | evening max el | 3304 Jan 03 03:12 | 28°♍50'32 47°14'42 |
| | 3301 May 01 05:45 | 0°♎ | | 3304 Jan 04 06:37 | 0°♌ |
| | 3301 May 26 18:17 | 0°♏ | asc. node | 3304 Jan 21 18:21 | 16°♌20'19 |
| | 3301 Jun 20 22:04 | 0°♊ | | 3304 Feb 11 15:50 | 0°♎ |
| | 3301 Jul 15 20:18 | 0°♌ | greatest brilliancy | 3304 Feb 12 18:32 | 0°♎26'04 -4.9m |
| asc. node | 3301 Aug 05 23:21 | 25°♌38'00 | retrograde | 3304 Feb 22 23:52 | 2°♎25'19 |
| | 3301 Aug 09 13:21 | 0°♍ | | 3304 Mar 04 20:29 | 30°♎♌ |
| | 3301 Sep 03 00:56 | 0°♎ | evening set | 3304 Mar 11 22:17 | 26°♌12'18 |
| morning set | 3301 Sep 08 11:40 | 6°♎42'36 | min. Earth dist. | 3304 Mar 14 05:32 | 24°♌46'47 0.27450 AU |
| | 3301 Sep 27 07:34 | 0°♏ | inferior conj | 3304 Mar 14 19:50 | 24°♌24'24 8°56'07 |
| max. Earth dist. | 3301 Oct 12 06:26 | 18°♏34'31 1.72366 AU | minimum elong | 3304 Mar 14 18:43 | 24°♌26'10 8°56'06 |
| | | | morning rise | 3304 Mar 17 15:19 | 22°♌40'04 |
| superior conj | 3301 Oct 15 06:59 | 22°♏20'14 1°18'09 | direct | 3304 Apr 04 12:35 | 16°♌33'39 |
| minimum elong | 3301 Oct 15 14:08 | 22°♏42'27 1°18'02 | greatest brilliancy | 3304 Apr 13 15:21 | 18°♌06'57 -4.8m |
| | 3301 Oct 21 10:38 | 0°♐ | | 3304 May 04 01:07 | 0°♎ |
| | 3301 Nov 14 11:40 | 0°♊ | desc. node | 3304 May 12 08:12 | 6°♎52'06 |
| evening rise | 3301 Nov 22 23:15 | 10°♊35'59 | morning max el | 3304 May 23 23:19 | 17°♎39'35 46°09'02 |
| desc. node | 3301 Nov 25 13:22 | 13°♊50'07 | | 3304 Jun 05 05:09 | 0°♏ |
| | 3301 Dec 08 11:42 | 0°♋ | | 3304 Jul 02 20:31 | 0°♊ |
| | 3302 Jan 01 11:30 | 0°♍ | | 3304 Jul 29 02:06 | 0°♌ |
| | 3302 Jan 25 12:27 | 0°♌ | | 3304 Aug 23 13:27 | 0°♍ |
| | 3302 Feb 18 17:20 | 0°♎ | asc. node | 3304 Sep 02 11:15 | 11°♍51'31 |
| | 3302 Mar 15 06:53 | 0°♏ | | 3304 Sep 17 11:29 | 0°♎ |
| asc. node | 3302 Mar 18 16:10 | 4°♏05'00 | | 3304 Oct 11 23:08 | 0°♏ |
| | 3302 Apr 09 12:36 | 0°♊ | | 3304 Nov 05 03:23 | 0°♐ |
| | 3302 May 06 01:01 | 0°♌ | morning set | 3304 Nov 17 17:15 | 15°♐42'29 |
| evening max el | 3302 May 28 03:26 | 22°♌53'08 45°36'58 | | 3304 Nov 29 03:08 | 0°♊ |
| | 3302 Jun 04 17:25 | 0°♍ | desc. node | 3304 Dec 23 01:06 | 0°♋01'28 |
| greatest brilliancy | 3302 Jul 05 00:58 | 20°♍51'16 -4.7m | | 3304 Dec 23 00:38 | 0°♋ |
| desc. node | 3302 Jul 08 05:57 | 21°♍53'36 | max. Earth dist. | 3304 Dec 26 12:04 | 4°♋22'13 1.71192 AU |
| retrograde | 3302 Jul 15 22:21 | 22°♍58'36 | | | |
| evening set | 3302 Jul 31 22:10 | 18°♍05'02 | superior conj | 3304 Dec 27 16:00 | 5°♋50'00 -0°11'07 |
| inferior conj | 3302 Aug 06 10:17 | 14°♍44'32 -6°10'39 | minimum elong | 3304 Dec 27 13:06 | 5°♋40'52 0°10'58 |
| minimum elong | 3302 Aug 06 00:25 | 14°♍59'58 6°08'38 | behind sun begin | 3304 Dec 26 17:33 | 4°♋39'28 |
| min. Earth dist. | 3302 Aug 06 06:05 | 14°♍51'06 0.29064 AU | behind sun end | 3304 Dec 28 08:38 | 6°♋42'17 |
| morning rise | 3302 Aug 11 02:43 | 11°♍52'28 | | 3305 Jan 15 21:13 | 0°♍ |
| direct | 3302 Aug 28 02:14 | 6°♍27'04 | evening rise | 3305 Feb 06 20:20 | 27°♍36'35 |
| greatest brilliancy | 3302 Sep 07 10:50 | 8°♍23'30 -4.7m | | 3305 Feb 08 18:01 | 0°♌ |
| | 3302 Oct 08 21:14 | 0°♎ | | 3305 Mar 04 16:40 | 0°♎ |
| morning max el | 3302 Oct 16 09:10 | 7°♎06'01 46°04'56 | | 3305 Mar 28 19:32 | 0°♏ |
| asc. node | 3302 Oct 29 08:59 | 20°♎21'26 | asc. node | 3305 Apr 15 04:08 | 21°♏22'46 |
| | 3302 Nov 07 07:09 | 0°♏ | | 3305 Apr 22 05:18 | 0°♊ |
| | 3302 Dec 03 12:41 | 0°♐ | | 3305 May 17 01:03 | 0°♌ |
| | 3302 Dec 28 12:39 | 0°♊ | | 3305 Jun 11 11:33 | 0°♍ |
| | 3303 Jan 21 23:06 | 0°♋ | | 3305 Jul 07 23:21 | 0°♎ |
| | 3303 Feb 15 03:30 | 0°♍ | desc. node | 3305 Aug 04 17:45 | 28°♎57'38 |
| desc. node | 3303 Feb 17 22:42 | 3°♍29'00 | | 3305 Aug 05 19:34 | 0°♏ |
| | 3303 Mar 11 05:38 | 0°♌ | evening max el | 3305 Aug 07 00:26 | 1°♏09'14 45°35'07 |
| | 3303 Apr 04 07:45 | 0°♎ | greatest brilliancy | 3305 Sep 15 12:03 | 29°♏20'17 -4.8m |
| morning set | 3303 Apr 21 13:05 | 21°♎24'27 | | 3305 Sep 17 19:09 | 0°♐ |
| | 3303 Apr 28 11:20 | 0°♏ | retrograde | 3305 Sep 24 18:11 | 0°♐54'00 |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3305 Oct 01 12:12 | 30°♄ | | superior conj | 3308 Mar 14 14:28 | 24°♄13'05 | -1°26'23 |
| evening set | 3305 Oct 12 08:30 | 25°♄07'47 | | minimum elong | 3308 Mar 14 12:50 | 24°♄07'57 | 1°26'23 |
| inferior conj | 3305 Oct 15 21:46 | 22°♄58'28 | -8°02'01 | max. Earth dist. | 3308 Mar 18 03:42 | 28°♄39'56 | 1.71621 AU |
| minimum elong | 3305 Oct 16 05:20 | 22°♄46'47 | 8°01'07 | | 3308 Mar 19 05:17 | 0°♄ | |
| min. Earth dist. | 3305 Oct 16 20:08 | 22°♄23'57 | 0.28098 AU | | 3308 Apr 12 06:14 | 0°♄ | |
| morning rise | 3305 Oct 20 01:46 | 20°♄26'26 | | evening rise | 3308 Apr 23 14:03 | 14°♄04'03 | |
| direct | 3305 Nov 06 02:30 | 14°♄51'37 | | | 3308 May 06 11:10 | 0°♄ | |
| greatest brilliancy | 3305 Nov 17 08:58 | 17°♄12'25 | -4.8m | asc. node | 3308 May 12 15:57 | 7°♄38'45 | |
| asc. node | 3305 Nov 25 20:38 | 21°♄32'55 | | | 3308 May 30 20:53 | 0°♄ | |
| | 3305 Dec 07 11:40 | 0°♄ | | | 3308 Jun 24 12:08 | 0°♄ | |
| morning max el | 3305 Dec 26 15:38 | 17°♄48'28 | 46°48'33 | | 3308 Jul 19 10:30 | 0°♄ | |
| | 3306 Jan 07 06:02 | 0°♄ | | | 3308 Aug 13 19:30 | 0°♄ | |
| | 3306 Feb 02 19:04 | 0°♄ | | desc. node | 3308 Sep 01 05:42 | 21°♄17'24 | |
| | 3306 Feb 28 01:47 | 0°♄ | | | 3308 Sep 08 22:03 | 0°♄ | |
| desc. node | 3306 Mar 17 10:45 | 21°♄00'30 | | | 3308 Oct 06 10:44 | 0°♄ | |
| | 3306 Mar 24 20:10 | 0°♄ | | evening max el | 3308 Oct 18 22:22 | 12°♄38'33 | 46°32'16 |
| | 3306 Apr 18 09:28 | 0°♄ | | | 3308 Nov 07 07:53 | 0°♄ | |
| | 3306 May 12 21:12 | 0°♄ | | greatest brilliancy | 3308 Nov 28 01:50 | 12°♄26'04 | -4.9m |
| | 3306 Jun 06 08:52 | 0°♄ | | retrograde | 3308 Dec 07 19:16 | 14°♄11'54 | |
| morning set | 3306 Jun 30 06:08 | 29°♄16'03 | | evening set | 3308 Dec 22 01:14 | 10°♄10'24 | |
| | 3306 Jun 30 20:28 | 0°♄ | | asc. node | 3308 Dec 23 08:30 | 9°♄27'48 | |
| asc. node | 3306 Jul 08 13:34 | 9°♄27'34 | | inferior conj | 3308 Dec 28 07:37 | 6°♄31'31 | 1°17'16 |
| | 3306 Jul 25 07:05 | 0°♄ | | minimum elong | 3308 Dec 28 04:39 | 6°♄36'01 | 1°16'19 |
| max. Earth dist. | 3306 Aug 04 04:15 | 12°♄09'18 | 1.73472 AU | min. Earth dist. | 3308 Dec 28 06:57 | 6°♄32'31 | 0.26529 AU |
| | | | | morning rise | 3309 Jan 03 08:01 | 3°♄01'02 | |
| superior conj | 3306 Aug 05 21:13 | 14°♄15'23 | 1°00'44 | | 3309 Jan 10 09:16 | 30°♄ | |
| minimum elong | 3306 Aug 05 12:20 | 13°♄48'01 | 1°00'25 | direct | 3309 Jan 17 19:29 | 28°♄51'52 | |
| | 3306 Aug 18 15:58 | 0°♄ | | | 3309 Jan 25 10:45 | 0°♄ | |
| evening rise | 3306 Sep 10 20:30 | 28°♄37'09 | | greatest brilliancy | 3309 Jan 27 21:17 | 0°♄48'10 | -4.9m |
| | 3306 Sep 11 23:19 | 0°♄ | | | 3309 Mar 07 11:11 | 0°♄ | |
| | 3306 Oct 06 06:09 | 0°♄ | | morning max el | 3309 Mar 09 07:24 | 1°♄50'27 | 46°52'31 |
| desc. node | 3306 Oct 28 03:32 | 27°♄01'30 | | | 3309 Apr 04 15:06 | 0°♄ | |
| | 3306 Oct 30 13:24 | 0°♄ | | desc. node | 3309 Apr 13 22:34 | 10°♄30'45 | |
| | 3306 Nov 23 21:43 | 0°♄ | | | 3309 Apr 30 19:51 | 0°♄ | |
| | 3306 Dec 18 08:12 | 0°♄ | | | 3309 May 26 06:58 | 0°♄ | |
| | 3307 Jan 12 00:19 | 0°♄ | | | 3309 Jun 20 09:53 | 0°♄ | |
| | 3307 Feb 06 06:37 | 0°♄ | | | 3309 Jul 15 07:35 | 0°♄ | |
| asc. node | 3307 Feb 18 06:15 | 13°♄45'31 | | asc. node | 3309 Aug 05 01:28 | 25°♄10'56 | |
| | 3307 Mar 04 23:49 | 0°♄ | | | 3309 Aug 09 00:18 | 0°♄ | |
| evening max el | 3307 Mar 15 21:31 | 11°♄19'14 | 46°36'35 | | 3309 Sep 02 11:44 | 0°♄ | |
| | 3307 Apr 05 10:48 | 0°♄ | | morning set | 3309 Sep 06 04:54 | 4°♄34'37 | |
| greatest brilliancy | 3307 Apr 24 05:52 | 11°♄25'43 | -4.8m | | 3309 Sep 26 18:19 | 0°♄ | |
| retrograde | 3307 May 05 00:30 | 13°♄35'20 | | max. Earth dist. | 3309 Oct 09 19:39 | 16°♄12'56 | 1.72411 AU |
| evening set | 3307 May 20 15:49 | 8°♄47'34 | | | | | |
| inferior conj | 3307 May 26 07:26 | 5°♄21'56 | 3°24'35 | superior conj | 3309 Oct 12 23:08 | 20°♄07'41 | 1°19'27 |
| minimum elong | 3307 May 26 14:29 | 5°♄10'53 | 3°22'36 | minimum elong | 3309 Oct 13 05:41 | 20°♄28'03 | 1°19'19 |
| min. Earth dist. | 3307 May 26 05:45 | 5°♄24'36 | 0.28485 AU | | 3309 Oct 20 21:25 | 0°♄ | |
| morning rise | 3307 Jun 01 13:30 | 1°♄36'41 | | | 3309 Nov 13 22:31 | 0°♄ | |
| | 3307 Jun 04 17:54 | 30°♄ | | evening rise | 3309 Nov 20 12:22 | 8°♄12'53 | |
| desc. node | 3307 Jun 09 20:00 | 28°♄07'31 | | desc. node | 3309 Nov 24 15:21 | 13°♄22'06 | |
| direct | 3307 Jun 16 14:14 | 27°♄12'32 | | | 3309 Dec 07 22:42 | 0°♄ | |
| greatest brilliancy | 3307 Jun 26 15:04 | 29°♄02'00 | -4.7m | | 3309 Dec 31 22:43 | 0°♄ | |
| | 3307 Jun 29 03:37 | 0°♄ | | | 3310 Jan 24 23:56 | 0°♄ | |
| morning max el | 3307 Aug 04 08:53 | 26°♄58'04 | 45°42'52 | | 3310 Feb 18 05:12 | 0°♄ | |
| | 3307 Aug 07 12:26 | 0°♄ | | | 3310 Mar 14 19:23 | 0°♄ | |
| | 3307 Sep 05 04:52 | 0°♄ | | asc. node | 3310 Mar 17 18:12 | 3°♄33'12 | |
| asc. node | 3307 Sep 30 23:13 | 29°♄16'36 | | | 3310 Apr 09 02:19 | 0°♄ | |
| | 3307 Oct 01 14:07 | 0°♄ | | | 3310 May 05 17:33 | 0°♄ | |
| | 3307 Oct 26 19:47 | 0°♄ | | evening max el | 3310 May 25 18:52 | 20°♄40'58 | 45°38'13 |
| | 3307 Nov 20 09:13 | 0°♄ | | | 3310 Jun 04 19:45 | 0°♄ | |
| | 3307 Dec 14 13:22 | 0°♄ | | greatest brilliancy | 3310 Jul 02 17:07 | 18°♄42'28 | -4.7m |
| | 3308 Jan 07 12:45 | 0°♄ | | desc. node | 3310 Jul 07 07:58 | 20°♄06'09 | |
| desc. node | 3308 Jan 20 12:56 | 16°♄19'51 | | retrograde | 3310 Jul 13 13:58 | 20°♄49'44 | |
| | 3308 Jan 31 10:04 | 0°♄ | | evening set | 3310 Jul 29 11:54 | 15°♄59'52 | |
| morning set | 3308 Feb 02 07:04 | 2°♄21'21 | | inferior conj | 3310 Aug 04 02:35 | 12°♄35'39 | -5°56'36 |
| | 3308 Feb 24 07:05 | 0°♄ | | minimum elong | 3310 Aug 03 16:46 | 12°♄51'03 | 5°54'31 |
| | | | | min. Earth dist. | 3310 Aug 03 22:13 | 12°♄42'29 | 0.29060 AU |

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|---------------------|-------------------|----------------------|--|---------------------|-------------------|----------------------|--|
| morning rise | 3310 Aug 08 21:38 | 9°Ω39'28 | | | 3313 Jan 15 08:03 | 0°≈ | |
| direct | 3310 Aug 25 18:18 | 4°Ω18'18 | | evening rise | 3313 Feb 04 06:47 | 25°≈04'40 | |
| greatest brilliancy | 3310 Sep 05 02:45 | 6°Ω14'05 -4.7m | | | 3313 Feb 08 04:52 | 0°℥ | |
| | 3310 Oct 08 21:59 | 0°℞ | | | 3313 Mar 04 03:34 | 0°Υ | |
| morning max el | 3310 Oct 13 23:14 | 4°℞49'44 46°03'35 | | | 3313 Mar 28 06:34 | 0°♄ | |
| asc. node | 3310 Oct 28 10:54 | 19°℞39'02 | | asc. node | 3313 Apr 14 06:05 | 20°♄54'21 | |
| | 3310 Nov 06 23:25 | 0°♊ | | | 3313 Apr 21 16:38 | 0°♊ | |
| | 3310 Dec 03 02:20 | 0°♋ | | | 3313 May 16 12:58 | 0°♋ | |
| | 3310 Dec 28 01:06 | 0°♌ | | | 3313 Jun 11 00:36 | 0°♌ | |
| | 3311 Jan 21 10:54 | 0°♍ | | | 3313 Jul 07 14:50 | 0°℞ | |
| | 3311 Feb 14 14:54 | 0°≈ | | desc. node | 3313 Aug 03 19:55 | 28°℞09'56 | |
| desc. node | 3311 Feb 17 00:53 | 3°≈00'24 | | evening max el | 3313 Aug 04 14:53 | 28°℞55'20 45°34'05 | |
| | 3311 Mar 10 16:47 | 0°℥ | | | 3313 Aug 05 18:06 | 0°♊ | |
| | 3311 Apr 03 18:42 | 0°Υ | | greatest brilliancy | 3313 Sep 13 00:24 | 27°♊03'35 -4.8m | |
| morning set | 3311 Apr 19 03:06 | 19°Υ05'22 | | retrograde | 3313 Sep 22 08:47 | 28°♊38'57 | |
| | 3311 Apr 27 22:07 | 0°♄ | | evening set | 3313 Oct 10 01:04 | 22°♊48'34 | |
| | 3311 May 22 03:52 | 0°♊ | | inferior conj | 3313 Oct 13 12:19 | 20°♊42'10 -8°09'35 | |
| | | | | minimum elong | 3313 Oct 13 19:18 | 20°♊31'24 8°08'50 | |
| superior conj | 3311 May 27 09:19 | 6°♊27'05 -0°32'11 | | min. Earth dist. | 3313 Oct 14 09:53 | 20°♊08'55 0.28167 AU | |
| minimum elong | 3311 May 27 16:01 | 6°♊47'45 0°31'52 | | morning rise | 3313 Oct 17 13:11 | 18°♊14'55 | |
| max. Earth dist. | 3311 May 29 20:29 | 9°♊29'34 1.73096 AU | | direct | 3313 Nov 03 18:02 | 12°♊34'20 | |
| asc. node | 3311 Jun 10 03:47 | 23°♊25'27 | | greatest brilliancy | 3313 Nov 15 00:00 | 14°♊55'04 -4.8m | |
| | 3311 Jun 15 11:58 | 0°♋ | | asc. node | 3313 Nov 24 22:42 | 20°♊10'21 | |
| evening rise | 3311 Jul 03 12:54 | 22°♋10'16 | | | 3313 Dec 07 20:43 | 0°♋ | |
| | 3311 Jul 09 21:57 | 0°♌ | | morning max el | 3313 Dec 24 07:17 | 15°♋30'47 46°47'25 | |
| | 3311 Aug 03 09:37 | 0°℞ | | | 3314 Jan 07 00:26 | 0°♌ | |
| | 3311 Aug 27 23:41 | 0°♊ | | | 3314 Feb 02 09:49 | 0°♍ | |
| | 3311 Sep 21 17:36 | 0°♋ | | | 3314 Feb 27 14:51 | 0°≈ | |
| desc. node | 3311 Sep 29 17:36 | 9°♋38'25 | | desc. node | 3314 Mar 16 12:41 | 20°≈28'54 | |
| | 3311 Oct 16 17:15 | 0°♌ | | | 3314 Mar 24 08:16 | 0°℥ | |
| | 3311 Nov 11 01:47 | 0°♍ | | | 3314 Apr 17 20:56 | 0°Υ | |
| | 3311 Dec 07 03:50 | 0°≈ | | | 3314 May 12 08:14 | 0°♄ | |
| evening max el | 3311 Dec 31 16:14 | 26°≈24'51 47°14'42 | | | 3314 Jun 05 19:37 | 0°♊ | |
| | 3312 Jan 04 05:50 | 0°℥ | | morning set | 3314 Jun 27 23:58 | 27°♊11'08 | |
| asc. node | 3312 Jan 20 20:30 | 15°℥12'10 | | | 3314 Jun 30 07:03 | 0°♋ | |
| greatest brilliancy | 3312 Feb 10 09:27 | 28°℥04'05 -4.9m | | asc. node | 3314 Jul 07 15:41 | 9°♋01'46 | |
| | 3312 Feb 19 01:24 | 0°Υ | | | 3314 Jul 24 17:34 | 0°♌ | |
| retrograde | 3312 Feb 20 13:31 | 0°Υ02'45 | | max. Earth dist. | 3314 Aug 02 02:50 | 10°♌18'49 1.73490 AU | |
| | 3312 Feb 22 01:24 | 30°℥℥ | | | | | |
| evening set | 3312 Mar 09 10:37 | 23°℥52'44 | | superior conj | 3314 Aug 03 15:35 | 12°♌11'53 0°58'28 | |
| inferior conj | 3312 Mar 12 09:44 | 22°℥02'42 8°54'50 | | minimum elong | 3314 Aug 03 06:42 | 11°♌44'35 0°58'09 | |
| minimum elong | 3312 Mar 12 07:42 | 22°℥05'52 8°54'47 | | | 3314 Aug 18 02:28 | 0°℞ | |
| min. Earth dist. | 3312 Mar 11 19:10 | 22°℥25'26 0.27405 AU | | evening rise | 3314 Sep 08 14:14 | 26°℞30'59 | |
| morning rise | 3312 Mar 15 04:55 | 20°℥18'51 | | | 3314 Sep 11 09:57 | 0°♊ | |
| direct | 3312 Apr 02 01:21 | 14°℥12'28 | | | 3314 Oct 05 17:00 | 0°♋ | |
| greatest brilliancy | 3312 Apr 11 05:05 | 15°℥46'24 -4.8m | | desc. node | 3314 Oct 27 05:27 | 26°♋33'02 | |
| | 3312 May 04 13:00 | 0°Υ | | | 3314 Oct 30 00:36 | 0°♌ | |
| desc. node | 3312 May 11 10:13 | 5°Υ53'07 | | | 3314 Nov 23 09:21 | 0°♍ | |
| morning max el | 3312 May 21 12:46 | 15°Υ20'06 46°10'32 | | | 3314 Dec 17 20:26 | 0°≈ | |
| | 3312 Jun 04 23:45 | 0°♄ | | | 3315 Jan 11 13:26 | 0°℥ | |
| | 3312 Jul 02 11:00 | 0°♊ | | | 3315 Feb 05 21:23 | 0°Υ | |
| | 3312 Jul 28 14:46 | 0°♋ | | asc. node | 3315 Feb 17 08:20 | 13°Υ06'10 | |
| | 3312 Aug 23 01:09 | 0°♌ | | | 3315 Mar 04 18:29 | 0°♄ | |
| asc. node | 3312 Sep 01 13:21 | 11°♌23'24 | | evening max el | 3315 Mar 13 13:33 | 9°♄05'07 46°38'57 | |
| | 3312 Sep 16 22:40 | 0°℞ | | | 3315 Apr 06 00:14 | 0°♊ | |
| | 3312 Oct 11 10:02 | 0°♊ | | greatest brilliancy | 3315 Apr 21 22:02 | 9°♊13'42 -4.8m | |
| | 3312 Nov 04 14:10 | 0°♋ | | retrograde | 3315 May 02 17:16 | 11°♊23'33 | |
| morning set | 3312 Nov 15 07:02 | 13°♋21'44 | | evening set | 3315 May 18 10:02 | 6°♊32'43 | |
| | 3312 Nov 28 13:55 | 0°♌ | | inferior conj | 3315 May 23 23:17 | 3°♊10'13 3°43'34 | |
| desc. node | 3312 Dec 22 03:11 | 29°♌34'02 | | minimum elong | 3315 May 24 06:52 | 2°♊58'19 3°41'29 | |
| | 3312 Dec 22 11:27 | 0°♍ | | min. Earth dist. | 3315 May 23 21:15 | 3°♊13'23 0.28456 AU | |
| max. Earth dist. | 3312 Dec 23 20:06 | 1°♍42'37 1.71213 AU | | | 3315 May 29 04:31 | 30°℥♄ | |
| | | | | morning rise | 3315 May 30 04:09 | 29°♄26'55 | |
| superior conj | 3312 Dec 25 02:44 | 3°♍18'54 -0°07'11 | | desc. node | 3315 Jun 08 22:02 | 25°♄35'43 | |
| minimum elong | 3312 Dec 25 00:51 | 3°♍12'58 0°07'06 | | direct | 3315 Jun 14 06:13 | 25°♄01'26 | |
| behind sun begin | 3312 Dec 24 01:11 | 1°♍58'36 | | greatest brilliancy | 3315 Jun 24 05:22 | 26°♄49'59 -4.7m | |
| behind sun end | 3312 Dec 26 00:31 | 4°♍27'21 | | | 3315 Jul 01 08:41 | 0°♊ | |

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|---------------------|-------------------|-----------------------------------|------------|---------------------|-------------------|--------------------------|------------|
| morning max el | 3315 Aug 02 01:21 | 24° Π 50'14 | 45°42'52 | | 3318 Feb 17 17:12 | 0° Υ | |
| | 3315 Aug 07 09:03 | 0° \mathfrak{D} | | | 3318 Mar 14 08:02 | 0° \mathfrak{B} | |
| | 3315 Sep 04 19:49 | 0° Ω | | asc. node | 3318 Mar 16 20:08 | 3° \mathfrak{B} 00'41 | |
| asc. node | 3315 Sep 30 01:08 | 28° Ω 44'29 | | | 3318 Apr 08 16:16 | 0° Π | |
| | 3315 Oct 01 02:59 | 0° \mathfrak{M} | | | 3318 May 05 10:31 | 0° \mathfrak{D} | |
| | 3315 Oct 26 07:42 | 0° \mathfrak{L} | | evening max el | 3318 May 23 09:45 | 18° \mathfrak{D} 27'08 | 45°39'37 |
| | 3315 Nov 19 20:40 | 0° \mathfrak{M} | | | 3318 Jun 04 23:46 | 0° Ω | |
| | 3315 Dec 14 00:33 | 0° \mathfrak{A} | | greatest brilliancy | 3318 Jun 30 09:27 | 16° Ω 33'59 | -4.7m |
| | 3316 Jan 06 23:48 | 0° \mathfrak{B} | | desc. node | 3318 Jul 06 10:07 | 18° Ω 15'11 | |
| desc. node | 3316 Jan 19 15:01 | 15° \mathfrak{B} 51'48 | | retrograde | 3318 Jul 11 06:02 | 18° Ω 41'36 | |
| morning set | 3316 Jan 30 16:42 | 29° \mathfrak{B} 46'25 | | evening set | 3318 Jul 27 01:59 | 13° Ω 54'58 | |
| | 3316 Jan 30 21:02 | 0° \approx | | inferior conj | 3318 Aug 01 19:08 | 10° Ω 27'26 | -5°42'07 |
| | 3316 Feb 23 17:59 | 0° \mathfrak{H} | | minimum elong | 3318 Aug 01 09:24 | 10° Ω 42'43 | 5°39'59 |
| | | | | min. Earth dist. | 3318 Aug 01 14:41 | 10° Ω 34'25 | 0.29052 AU |
| superior conj | 3316 Mar 12 01:38 | 21° \mathfrak{H} 43'38 | -1°26'03 | morning rise | 3318 Aug 06 16:45 | 7° Ω 27'24 | |
| minimum elong | 3316 Mar 11 22:57 | 21° \mathfrak{H} 35'13 | 1°26'02 | direct | 3318 Aug 23 10:14 | 2° Ω 10'09 | |
| max. Earth dist. | 3316 Mar 15 15:23 | 26° \mathfrak{H} 12'13 | 1.71574 AU | greatest brilliancy | 3318 Sep 02 19:13 | 4° Ω 05'55 | -4.7m |
| | 3316 Mar 18 16:09 | 0° Υ | | | 3318 Oct 08 21:31 | 0° \mathfrak{M} | |
| | 3316 Apr 11 17:03 | 0° \mathfrak{B} | | morning max el | 3318 Oct 11 13:36 | 2° \mathfrak{M} 34'23 | 46°02'11 |
| evening rise | 3316 Apr 21 03:26 | 11° \mathfrak{B} 43'15 | | asc. node | 3318 Oct 27 13:01 | 18° \mathfrak{M} 57'41 | |
| | 3316 May 05 21:59 | 0° Π | | | 3318 Nov 06 15:27 | 0° \mathfrak{L} | |
| asc. node | 3316 May 11 18:00 | 7° Π 11'42 | | | 3318 Dec 02 15:59 | 0° \mathfrak{M} | |
| | 3316 May 30 07:48 | 0° \mathfrak{D} | | | 3318 Dec 27 13:42 | 0° \mathfrak{A} | |
| | 3316 Jun 23 23:21 | 0° Ω | | | 3319 Jan 20 22:56 | 0° \mathfrak{B} | |
| | 3316 Jul 18 22:19 | 0° \mathfrak{M} | | | 3319 Feb 14 02:35 | 0° \approx | |
| | 3316 Aug 13 08:23 | 0° \mathfrak{L} | | desc. node | 3319 Feb 16 02:52 | 2° \approx 30'20 | |
| desc. node | 3316 Aug 31 07:37 | 20° \mathfrak{L} 42'34 | | | 3319 Mar 10 04:11 | 0° \mathfrak{H} | |
| | 3316 Sep 08 13:00 | 0° \mathfrak{M} | | | 3319 Apr 03 05:52 | 0° Υ | |
| | 3316 Oct 06 06:24 | 0° \mathfrak{A} | | morning set | 3319 Apr 16 16:43 | 16° Υ 44'10 | |
| evening max el | 3316 Oct 16 12:21 | 10° \mathfrak{A} 18'14 | 46°29'49 | | 3319 Apr 27 09:07 | 0° \mathfrak{B} | |
| | 3316 Nov 08 00:19 | 0° \mathfrak{B} | | | 3319 May 21 14:46 | 0° Π | |
| greatest brilliancy | 3316 Nov 25 15:09 | 9° \mathfrak{B} 59'47 | -4.9m | | | | |
| retrograde | 3316 Dec 05 07:07 | 11° \mathfrak{B} 43'58 | | superior conj | 3319 May 25 01:13 | 4° Π 14'30 | -0°35'18 |
| evening set | 3316 Dec 19 13:49 | 7° \mathfrak{B} 42'44 | | minimum elong | 3319 May 25 08:30 | 4° Π 36'57 | 0°34'59 |
| asc. node | 3316 Dec 22 10:37 | 6° \mathfrak{B} 06'21 | | max. Earth dist. | 3319 May 27 13:38 | 7° Π 20'53 | 1.73053 AU |
| inferior conj | 3316 Dec 25 19:54 | 4° \mathfrak{B} 04'02 | 0°52'49 | asc. node | 3319 Jun 09 05:54 | 22° Π 58'29 | |
| minimum elong | 3316 Dec 25 17:53 | 4° \mathfrak{B} 07'08 | 0°52'10 | | 3319 Jun 14 22:50 | 0° \mathfrak{D} | |
| min. Earth dist. | 3316 Dec 25 20:50 | 4° \mathfrak{B} 02'38 | 0.26543 AU | evening rise | 3319 Jul 01 06:58 | 20° \mathfrak{D} 04'55 | |
| morning rise | 3316 Dec 31 21:49 | 0° \mathfrak{B} 31'10 | | | 3319 Jul 09 08:52 | 0° Ω | |
| | 3317 Jan 01 21:46 | 30° \mathfrak{R} \mathfrak{A} | | | 3319 Aug 02 20:42 | 0° \mathfrak{M} | |
| direct | 3317 Jan 15 08:07 | 26° \mathfrak{A} 24'09 | | | 3319 Aug 27 11:05 | 0° \mathfrak{L} | |
| greatest brilliancy | 3317 Jan 25 11:27 | 28° \mathfrak{A} 21'29 | -4.9m | | 3319 Sep 21 05:34 | 0° \mathfrak{M} | |
| | 3317 Jan 29 07:37 | 0° \mathfrak{B} | | desc. node | 3319 Sep 28 19:36 | 9° \mathfrak{M} 07'45 | |
| morning max el | 3317 Mar 06 19:41 | 29° \mathfrak{B} 22'47 | 46°53'18 | | 3319 Oct 16 06:07 | 0° \mathfrak{A} | |
| | 3317 Mar 07 10:27 | 0° \approx | | | 3319 Nov 10 16:08 | 0° \mathfrak{B} | |
| | 3317 Apr 04 07:36 | 0° \mathfrak{H} | | | 3319 Dec 06 21:00 | 0° \approx | |
| desc. node | 3317 Apr 13 00:32 | 9° \mathfrak{H} 52'34 | | evening max el | 3319 Dec 29 05:18 | 23° \approx 58'00 | 47°14'21 |
| | 3317 Apr 30 09:46 | 0° Υ | | | 3320 Jan 04 06:45 | 0° \mathfrak{H} | |
| | 3317 May 25 19:31 | 0° \mathfrak{B} | | asc. node | 3320 Jan 19 22:31 | 14° \mathfrak{H} 00'02 | |
| | 3317 Jun 19 21:36 | 0° Π | | greatest brilliancy | 3320 Feb 07 23:30 | 25° \mathfrak{H} 38'42 | -4.9m |
| | 3317 Jul 14 18:46 | 0° \mathfrak{D} | | retrograde | 3320 Feb 18 03:09 | 27° \mathfrak{H} 37'34 | |
| asc. node | 3317 Aug 04 03:31 | 24° \mathfrak{D} 43'57 | | evening set | 3320 Mar 06 21:58 | 21° \mathfrak{H} 31'03 | |
| | 3317 Aug 08 11:10 | 0° Ω | | inferior conj | 3320 Mar 09 23:11 | 19° \mathfrak{H} 38'09 | 8°52'27 |
| | 3317 Sep 01 22:27 | 0° \mathfrak{M} | | minimum elong | 3320 Mar 09 20:14 | 19° \mathfrak{H} 42'45 | 8°52'21 |
| morning set | 3317 Sep 03 22:27 | 2° \mathfrak{M} 27'50 | | min. Earth dist. | 3320 Mar 09 08:09 | 20° \mathfrak{H} 01'32 | 0.27359 AU |
| | 3317 Sep 26 05:01 | 0° \mathfrak{L} | | morning rise | 3320 Mar 12 18:39 | 17° \mathfrak{H} 54'09 | |
| max. Earth dist. | 3317 Oct 07 10:11 | 13° \mathfrak{L} 55'37 | 1.72465 AU | direct | 3320 Mar 30 13:56 | 11° \mathfrak{H} 48'24 | |
| | | | | greatest brilliancy | 3320 Apr 08 18:08 | 13° \mathfrak{H} 22'54 | -4.8m |
| superior conj | 3317 Oct 10 15:32 | 17° \mathfrak{L} 56'02 | 1°20'35 | | 3320 May 04 22:31 | 0° Υ | |
| minimum elong | 3317 Oct 10 21:28 | 18° \mathfrak{L} 14'26 | 1°20'29 | desc. node | 3320 May 10 12:20 | 4° Υ 54'13 | |
| | 3317 Oct 20 08:12 | 0° \mathfrak{M} | | morning max el | 3320 May 19 02:40 | 13° Υ 00'13 | 46°12'12 |
| | 3317 Nov 13 09:28 | 0° \mathfrak{A} | | | 3320 Jun 04 18:21 | 0° \mathfrak{B} | |
| evening rise | 3317 Nov 18 01:31 | 5° \mathfrak{A} 49'46 | | | 3320 Jul 02 01:40 | 0° Π | |
| desc. node | 3317 Nov 23 17:27 | 12° \mathfrak{A} 54'13 | | | 3320 Jul 28 03:42 | 0° \mathfrak{D} | |
| | 3317 Dec 07 09:50 | 0° \mathfrak{B} | | | 3320 Aug 22 13:08 | 0° Ω | |
| | 3317 Dec 31 10:04 | 0° \approx | | asc. node | 3320 Aug 31 15:14 | 10° Ω 53'48 | |
| | 3318 Jan 24 11:33 | 0° \mathfrak{H} | | | 3320 Sep 16 10:07 | 0° \mathfrak{M} | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3320 Oct 10 21:11 | 0°♌ | | greatest brilliancy | 3323 Apr 19 14:33 | 7°♊00'03 | -4.8m |
| | 3320 Nov 04 01:12 | 0°♍ | | retrograde | 3323 Apr 30 09:25 | 9°♊09'10 | |
| morning set | 3320 Nov 12 21:30 | 11°♍02'29 | | evening set | 3323 May 16 04:07 | 4°♊15'25 | |
| | 3320 Nov 28 00:58 | 0°♎ | | inferior conj | 3323 May 21 14:51 | 0°♊56'08 | 4°02'25 |
| desc. node | 3320 Dec 21 05:16 | 29°♎05'41 | | minimum elong | 3323 May 21 22:56 | 0°♊43'26 | 4°00'14 |
| max. Earth dist. | 3320 Dec 21 07:32 | 29°♎12'49 | 1.71242 AU | min. Earth dist. | 3323 May 21 12:40 | 0°♊59'34 | 0.28429 AU |
| | 3320 Dec 21 22:33 | 0°♏ | | | 3323 May 23 02:44 | 30°♋♌ | |
| | | | | morning rise | 3323 May 27 18:16 | 27°♋14'49 | |
| superior conj | 3320 Dec 22 13:51 | 0°♏48'04 | -0°03'18 | desc. node | 3323 Jun 08 00:07 | 23°♋06'18 | |
| minimum elong | 3320 Dec 22 12:59 | 0°♏45'20 | 0°03'15 | direct | 3323 Jun 11 21:56 | 22°♋48'02 | |
| behind sun begin | 3320 Dec 21 11:27 | 29°♎25'05 | | greatest brilliancy | 3323 Jun 21 19:27 | 24°♋35'24 | -4.7m |
| behind sun end | 3320 Dec 23 14:31 | 2°♏05'36 | | | 3323 Jul 02 20:29 | 0°♋ | |
| | 3321 Jan 14 19:14 | 0°♐ | | morning max el | 3323 Jul 30 16:45 | 22°♋38'09 | 45°42'58 |
| evening rise | 3321 Feb 01 17:11 | 22°♐31'18 | | | 3323 Aug 07 05:35 | 0°♌ | |
| | 3321 Feb 07 16:07 | 0°♑ | | | 3323 Sep 04 11:01 | 0°♌ | |
| | 3321 Mar 03 14:55 | 0°♒ | | asc. node | 3323 Sep 29 03:14 | 28°♌11'58 | |
| | 3321 Mar 27 18:06 | 0°♓ | | | 3323 Sep 30 16:10 | 0°♍ | |
| asc. node | 3321 Apr 13 08:09 | 20°♓24'48 | | | 3323 Oct 25 19:56 | 0°♍ | |
| | 3321 Apr 21 04:29 | 0°♋ | | | 3323 Nov 19 08:24 | 0°♍ | |
| | 3321 May 16 01:25 | 0°♌ | | | 3323 Dec 13 12:01 | 0°♎ | |
| | 3321 Jun 10 14:14 | 0°♍ | | | 3324 Jan 06 11:05 | 0°♏ | |
| | 3321 Jul 07 07:04 | 0°♎ | | desc. node | 3324 Jan 18 17:00 | 15°♏22'44 | |
| evening max el | 3321 Aug 02 06:15 | 26°♎42'33 | 45°33'12 | morning set | 3324 Jan 28 02:52 | 27°♏12'23 | |
| desc. node | 3321 Aug 02 21:51 | 27°♎19'40 | | | 3324 Jan 30 08:12 | 0°♐ | |
| | 3321 Aug 05 18:11 | 0°♏ | | | 3324 Feb 23 05:05 | 0°♑ | |
| greatest brilliancy | 3321 Sep 10 12:56 | 24°♏46'30 | -4.7m | | | | |
| retrograde | 3321 Sep 19 23:37 | 26°♏23'17 | | superior conj | 3324 Mar 09 13:06 | 19°♑14'30 | -1°25'32 |
| evening set | 3321 Oct 07 17:38 | 20°♏29'25 | | minimum elong | 3324 Mar 09 09:24 | 19°♑02'53 | 1°25'31 |
| inferior conj | 3321 Oct 11 03:02 | 18°♏25'31 | -8°16'19 | max. Earth dist. | 3324 Mar 13 03:39 | 23°♑45'42 | 1.71530 AU |
| minimum elong | 3321 Oct 11 09:22 | 18°♏15'44 | 8°15'43 | | 3324 Mar 18 03:12 | 0°♒ | |
| min. Earth dist. | 3321 Oct 11 23:29 | 17°♏53'57 | 0.28228 AU | | 3324 Apr 11 04:05 | 0°♓ | |
| morning rise | 3321 Oct 15 00:50 | 16°♏02'46 | | evening rise | 3324 Apr 18 16:43 | 9°♓21'14 | |
| direct | 3321 Nov 01 09:56 | 10°♏17'03 | | | 3324 May 05 09:04 | 0°♋ | |
| greatest brilliancy | 3321 Nov 12 14:20 | 12°♏36'34 | -4.8m | asc. node | 3324 May 10 20:06 | 6°♋43'53 | |
| asc. node | 3321 Nov 24 00:45 | 18°♏49'56 | | | 3324 May 29 19:04 | 0°♌ | |
| | 3321 Dec 08 03:29 | 0°♍ | | | 3324 Jun 23 10:56 | 0°♍ | |
| morning max el | 3321 Dec 21 22:54 | 13°♍12'33 | 46°46'12 | | 3324 Jul 18 10:32 | 0°♎ | |
| | 3322 Jan 06 18:39 | 0°♎ | | | 3324 Aug 12 21:44 | 0°♏ | |
| | 3322 Feb 02 00:39 | 0°♏ | | desc. node | 3324 Aug 30 09:40 | 20°♏06'52 | |
| | 3322 Feb 27 04:11 | 0°♐ | | | 3324 Sep 08 04:30 | 0°♍ | |
| desc. node | 3322 Mar 15 14:40 | 19°♐56'14 | | | 3324 Oct 06 03:01 | 0°♎ | |
| | 3322 Mar 23 20:45 | 0°♑ | | evening max el | 3324 Oct 14 01:13 | 7°♑54'28 | 46°27'25 |
| | 3322 Apr 17 08:52 | 0°♒ | | | 3324 Nov 08 22:50 | 0°♏ | |
| | 3322 May 11 19:46 | 0°♓ | | greatest brilliancy | 3324 Nov 23 04:57 | 7°♏33'25 | -4.9m |
| | 3322 Jun 05 06:51 | 0°♋ | | retrograde | 3324 Dec 02 18:37 | 9°♏15'38 | |
| morning set | 3322 Jun 25 17:20 | 25°♋03'25 | | evening set | 3324 Dec 17 02:34 | 5°♏14'06 | |
| | 3322 Jun 29 18:04 | 0°♌ | | asc. node | 3324 Dec 21 12:38 | 2°♏42'24 | |
| asc. node | 3322 Jul 06 17:40 | 8°♌34'08 | | inferior conj | 3324 Dec 23 08:13 | 1°♏36'10 | 0°28'21 |
| | 3322 Jul 24 04:28 | 0°♍ | | minimum elong | 3324 Dec 23 07:08 | 1°♏37'50 | 0°28'00 |
| max. Earth dist. | 3322 Jul 31 01:10 | 8°♍26'18 | 1.73501 AU | min. Earth dist. | 3324 Dec 23 11:03 | 1°♏31'51 | 0.26557 AU |
| | | | | | 3324 Dec 25 23:45 | 30°♋♌ | |
| superior conj | 3322 Aug 01 09:37 | 10°♍06'08 | 0°56'08 | morning rise | 3324 Dec 29 11:25 | 28°♑01'10 | |
| minimum elong | 3322 Aug 01 00:49 | 9°♍39'03 | 0°55'48 | direct | 3325 Jan 12 20:16 | 23°♑55'46 | |
| | 3322 Aug 17 13:23 | 0°♎ | | greatest brilliancy | 3325 Jan 23 02:09 | 25°♑54'57 | -4.9m |
| evening rise | 3322 Sep 06 07:57 | 24°♎23'26 | | | 3325 Jan 31 10:04 | 0°♏ | |
| | 3322 Sep 10 21:00 | 0°♏ | | morning max el | 3325 Mar 04 07:35 | 26°♏53'43 | 46°54'16 |
| | 3322 Oct 05 04:17 | 0°♍ | | | 3325 Mar 07 08:52 | 0°♐ | |
| desc. node | 3322 Oct 26 07:35 | 26°♍04'04 | | | 3325 Apr 03 23:51 | 0°♑ | |
| | 3322 Oct 29 12:11 | 0°♎ | | desc. node | 3325 Apr 12 02:43 | 9°♑15'06 | |
| | 3322 Nov 22 21:20 | 0°♏ | | | 3325 Apr 29 23:37 | 0°♒ | |
| | 3322 Dec 17 08:59 | 0°♐ | | | 3325 May 25 08:06 | 0°♓ | |
| | 3323 Jan 11 02:55 | 0°♑ | | | 3325 Jun 19 09:25 | 0°♋ | |
| asc. node | 3323 Feb 05 12:38 | 0°♒ | | | 3325 Jul 14 06:06 | 0°♌ | |
| | 3323 Feb 16 10:14 | 12°♒25'01 | | asc. node | 3325 Aug 03 05:28 | 24°♌16'07 | |
| | 3323 Mar 04 14:07 | 0°♓ | | | 3325 Aug 07 22:13 | 0°♍ | |
| evening max el | 3323 Mar 11 05:26 | 6°♓49'16 | 46°40'56 | | 3325 Sep 01 09:21 | 0°♎ | |
| | 3323 Apr 06 19:21 | 0°♋ | | morning set | 3325 Sep 01 15:39 | 0°♎19'25 | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3325 Sep 25 15:53 | 0°♌ | | morning rise | 3328 Mar 10 08:46 | 15°♎29'11 | |
| max. Earth dist. | 3325 Oct 05 02:33 | 11°♌43'31 | 1.72516 AU | direct | 3328 Mar 28 02:55 | 9°♎24'49 | |
| | | | | greatest brilliancy | 3328 Apr 06 06:37 | 10°♎59'22 | -4.8m |
| superior conj | 3325 Oct 08 07:44 | 15°♌43'20 | 1°21'36 | | 3328 May 05 05:08 | 0°♏ | |
| minimum elong | 3325 Oct 08 13:00 | 15°♌59'44 | 1°21'32 | desc. node | 3328 May 09 14:20 | 3°♏57'08 | |
| | 3325 Oct 19 19:08 | 0°♍ | | morning max el | 3328 May 16 17:26 | 10°♏43'15 | 46°13'56 |
| | 3325 Nov 12 20:31 | 0°♎ | | | 3328 Jun 04 12:10 | 0°♐ | |
| evening rise | 3325 Nov 15 14:42 | 3°♎26'29 | | | 3328 Jul 01 15:52 | 0°♑ | |
| desc. node | 3325 Nov 22 19:29 | 12°♎25'47 | | | 3328 Jul 27 16:14 | 0°♒ | |
| | 3325 Dec 06 21:04 | 0°♑ | | | 3328 Aug 22 00:48 | 0°♓ | |
| | 3325 Dec 30 21:31 | 0°♒ | | asc. node | 3328 Aug 30 17:24 | 10°♓25'51 | |
| | 3326 Jan 23 23:15 | 0°♓ | | | 3328 Sep 15 21:18 | 0°♈ | |
| | 3326 Feb 17 05:15 | 0°♈ | | | 3328 Oct 10 08:09 | 0°♉ | |
| | 3326 Mar 13 20:43 | 0°♉ | | | 3328 Nov 03 12:05 | 0°♊ | |
| asc. node | 3326 Mar 15 22:16 | 2°♊28'44 | | morning set | 3328 Nov 10 11:51 | 8°♊43'24 | |
| | 3326 Apr 08 06:17 | 0°♋ | | | 3328 Nov 27 11:50 | 0°♌ | |
| | 3326 May 05 03:46 | 0°♌ | | max. Earth dist. | 3328 Dec 18 18:02 | 26°♌40'43 | 1.71265 AU |
| evening max el | 3326 May 21 00:18 | 16°♌12'38 | 45°40'59 | | | | |
| | 3326 Jun 05 05:45 | 0°♍ | | superior conj | 3328 Dec 20 00:46 | 28°♌17'17 | 0°00'40 |
| greatest brilliancy | 3326 Jun 28 01:08 | 14°♍24'27 | -4.7m | minimum elong | 3328 Dec 20 00:56 | 28°♌17'47 | 0°00'40 |
| desc. node | 3326 Jul 05 12:03 | 16°♍19'38 | | behind sun begin | 3328 Dec 18 23:10 | 26°♌56'50 | |
| retrograde | 3326 Jul 08 22:21 | 16°♍33'09 | | behind sun end | 3328 Dec 21 02:42 | 29°♌38'45 | |
| evening set | 3326 Jul 24 16:02 | 11°♍49'13 | | desc. node | 3328 Dec 20 07:18 | 28°♌37'50 | |
| inferior conj | 3326 Jul 30 11:33 | 8°♍18'39 | -5°27'06 | | 3328 Dec 21 09:28 | 0°♎ | |
| minimum elong | 3326 Jul 30 01:57 | 8°♍33'43 | 5°24'54 | | 3329 Jan 14 06:10 | 0°♏ | |
| min. Earth dist. | 3326 Jul 30 06:57 | 8°♍25'52 | 0.29050 AU | evening rise | 3329 Jan 30 03:25 | 19°♏58'14 | |
| morning rise | 3326 Aug 04 11:47 | 5°♍14'56 | | | 3329 Feb 07 03:06 | 0°♐ | |
| direct | 3326 Aug 21 02:03 | 0°♍01'15 | | | 3329 Mar 03 02:01 | 0°♑ | |
| greatest brilliancy | 3326 Aug 31 11:50 | 1°♍57'29 | -4.7m | | 3329 Mar 27 05:22 | 0°♒ | |
| | 3326 Oct 08 20:12 | 0°♑ | | asc. node | 3329 Apr 12 10:14 | 19°♒56'08 | |
| morning max el | 3326 Oct 09 04:46 | 0°♑20'47 | 46°00'53 | | 3329 Apr 20 16:03 | 0°♓ | |
| asc. node | 3326 Oct 26 15:06 | 18°♑16'28 | | | 3329 May 15 13:34 | 0°♈ | |
| | 3326 Nov 06 07:18 | 0°♒ | | | 3329 Jun 10 03:34 | 0°♉ | |
| | 3326 Dec 02 05:33 | 0°♓ | | | 3329 Jul 06 23:07 | 0°♊ | |
| | 3326 Dec 27 02:12 | 0°♈ | | evening max el | 3329 Jul 30 21:55 | 24°♊31'46 | 45°32'14 |
| | 3327 Jan 20 10:52 | 0°♉ | | desc. node | 3329 Aug 01 23:55 | 26°♊30'05 | |
| | 3327 Feb 13 14:09 | 0°♊ | | | 3329 Aug 05 18:52 | 0°♋ | |
| desc. node | 3327 Feb 15 04:50 | 2°♊00'31 | | greatest brilliancy | 3329 Sep 08 01:52 | 22°♋31'23 | -4.7m |
| | 3327 Mar 09 15:29 | 0°♋ | | retrograde | 3329 Sep 17 14:06 | 24°♋08'56 | |
| | 3327 Apr 02 16:55 | 0°♌ | | evening set | 3329 Oct 05 10:02 | 18°♋12'13 | |
| morning set | 3327 Apr 14 06:22 | 14°♌23'21 | | inferior conj | 3329 Oct 08 17:52 | 16°♋10'18 | -8°22'12 |
| | 3327 Apr 26 19:58 | 0°♍ | | minimum elong | 3329 Oct 08 23:29 | 16°♋01'35 | 8°21'44 |
| | 3327 May 21 01:29 | 0°♎ | | min. Earth dist. | 3329 Oct 09 13:16 | 15°♋40'17 | 0.28292 AU |
| | | | | morning rise | 3329 Oct 12 12:44 | 13°♋51'39 | |
| superior conj | 3327 May 22 17:16 | 2°♎02'49 | -0°38'23 | direct | 3329 Oct 30 01:56 | 8°♋01'13 | |
| minimum elong | 3327 May 23 01:05 | 2°♎26'58 | 0°38'02 | greatest brilliancy | 3329 Nov 10 04:39 | 10°♋18'59 | -4.8m |
| max. Earth dist. | 3327 May 25 07:05 | 5°♎13'35 | 1.73010 AU | asc. node | 3329 Nov 23 02:45 | 17°♋32'39 | |
| asc. node | 3327 Jun 08 07:52 | 22°♎31'38 | | | 3329 Dec 08 07:56 | 0°♌ | |
| | 3327 Jun 14 09:32 | 0°♏ | | morning max el | 3329 Dec 19 14:01 | 10°♌53'43 | 46°44'49 |
| evening rise | 3327 Jun 29 01:12 | 18°♏00'40 | | | 3330 Jan 06 12:15 | 0°♍ | |
| | 3327 Jul 08 19:39 | 0°♐ | | | 3330 Feb 01 15:07 | 0°♎ | |
| | 3327 Aug 02 07:41 | 0°♑ | | | 3330 Feb 26 17:09 | 0°♏ | |
| | 3327 Aug 26 22:27 | 0°♒ | | desc. node | 3330 Mar 14 16:53 | 19°♏25'18 | |
| | 3327 Sep 20 17:31 | 0°♓ | | | 3330 Mar 23 08:51 | 0°♐ | |
| desc. node | 3327 Sep 27 21:43 | 8°♓37'28 | | | 3330 Apr 16 20:24 | 0°♑ | |
| | 3327 Oct 15 19:01 | 0°♈ | | | 3330 May 11 06:54 | 0°♒ | |
| | 3327 Nov 10 06:33 | 0°♉ | | | 3330 Jun 04 17:42 | 0°♓ | |
| | 3327 Dec 06 14:23 | 0°♊ | | morning set | 3330 Jun 23 10:58 | 22°♓57'39 | |
| evening max el | 3327 Dec 26 19:06 | 21°♊33'37 | 47°14'07 | | 3330 Jun 29 04:42 | 0°♈ | |
| | 3328 Jan 04 08:46 | 0°♋ | | asc. node | 3330 Jul 05 19:41 | 8°♈07'48 | |
| asc. node | 3328 Jan 19 00:28 | 12°♋46'11 | | | 3330 Jul 23 14:59 | 0°♉ | |
| greatest brilliancy | 3328 Feb 05 12:59 | 23°♋13'12 | -4.9m | max. Earth dist. | 3330 Jul 28 22:46 | 6°♉32'48 | 1.73508 AU |
| retrograde | 3328 Feb 15 17:25 | 25°♋12'53 | | | | | |
| evening set | 3328 Mar 04 08:56 | 19°♋10'18 | | superior conj | 3330 Jul 30 04:02 | 8°♉02'48 | 0°53'44 |
| min. Earth dist. | 3328 Mar 06 20:48 | 17°♋38'29 | 0.27312 AU | minimum elong | 3330 Jul 29 19:21 | 7°♉36'06 | 0°53'23 |
| inferior conj | 3328 Mar 07 12:37 | 17°♋13'56 | 8°49'15 | | 3330 Aug 16 23:54 | 0°♊ | |
| minimum elong | 3328 Mar 07 08:46 | 17°♋19'54 | 8°49'02 | evening rise | 3330 Sep 04 02:05 | 22°♊18'31 | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| desc. node | 3330 Sep 10 07:39 | 0°♄ | | direct | 3333 Jan 10 08:30 | 21°♂28'50 | |
| | 3330 Oct 04 15:11 | 0°♍ | | greatest brilliancy | 3333 Jan 20 17:21 | 23°♂30'24 | -4.9m |
| | 3330 Oct 25 09:39 | 25°♍35'55 | | | 3333 Feb 01 19:06 | 0°♄ | |
| | 3330 Oct 28 23:26 | 0°♂ | | morning max el | 3333 Mar 01 20:25 | 24°♄27'30 | 46°55'00 |
| | 3330 Nov 22 09:03 | 0°♄ | | | 3333 Mar 07 06:14 | 0°♁ | |
| asc. node | 3330 Dec 16 21:21 | 0°♁ | | | 3333 Apr 03 15:42 | 0°♂ | |
| | 3331 Jan 10 16:17 | 0°♂ | | desc. node | 3333 Apr 11 04:41 | 8°♂37'43 | |
| | 3331 Feb 05 03:51 | 0°♀ | | | 3333 Apr 29 13:11 | 0°♀ | |
| evening max el | 3331 Feb 15 12:23 | 11°♀44'57 | | | 3333 May 24 20:25 | 0°♂ | |
| | 3331 Mar 04 10:01 | 0°♂ | | | 3333 Jun 18 20:58 | 0°♂ | |
| greatest brilliancy | 3331 Mar 08 20:38 | 4°♂32'19 | 46°43'04 | | 3333 Jul 13 17:10 | 0°♄ | |
| | 3331 Apr 07 20:44 | 0°♂ | | asc. node | 3333 Aug 02 07:34 | 23°♄49'30 | |
| retrograde | 3331 Apr 17 07:43 | 4°♂48'11 | -4.8m | | 3333 Aug 07 08:59 | 0°♂ | |
| evening set | 3331 Apr 28 01:10 | 6°♂55'55 | | morning set | 3333 Aug 30 09:06 | 28°♂12'34 | |
| inferior conj | 3331 May 13 22:23 | 1°♂59'12 | | | 3333 Aug 31 19:59 | 0°♎ | |
| | 3331 May 17 05:36 | 30°♎♂ | | | 3333 Sep 25 02:30 | 0°♄ | |
| minimum elong | 3331 May 19 06:31 | 28°♂43'20 | 4°20'59 | max. Earth dist. | 3333 Oct 02 20:42 | 9°♄37'48 | 1.72562 AU |
| min. Earth dist. | 3331 May 19 15:02 | 28°♂29'55 | 4°18'44 | | | | |
| morning rise | 3331 May 19 04:23 | 28°♂46'41 | 0.28397 AU | superior conj | 3333 Oct 06 00:24 | 13°♄32'56 | 1°22'29 |
| desc. node | 3331 May 25 08:13 | 25°♂04'06 | | minimum elong | 3333 Oct 06 05:01 | 13°♄47'19 | 1°22'26 |
| direct | 3331 Jun 07 02:07 | 20°♂43'09 | | | 3333 Oct 19 05:47 | 0°♍ | |
| greatest brilliancy | 3331 Jun 09 13:20 | 20°♂35'57 | | | 3333 Nov 12 07:17 | 0°♂ | |
| | 3331 Jun 19 09:51 | 22°♂22'18 | -4.7m | evening rise | 3333 Nov 13 04:33 | 1°♂06'19 | |
| morning max el | 3331 Jul 03 21:10 | 0°♂ | | desc. node | 3333 Nov 21 21:28 | 11°♂58'06 | |
| | 3331 Jul 28 07:35 | 20°♂25'53 | 45°43'15 | | 3333 Dec 06 08:02 | 0°♄ | |
| asc. node | 3331 Aug 07 00:58 | 0°♄ | | | 3333 Dec 30 08:43 | 0°♁ | |
| | 3331 Sep 04 01:32 | 0°♂ | | | 3334 Jan 23 10:45 | 0°♂ | |
| | 3331 Sep 28 05:18 | 27°♂40'50 | | | 3334 Feb 16 17:10 | 0°♀ | |
| | 3331 Sep 30 04:47 | 0°♎ | | asc. node | 3334 Mar 13 09:23 | 0°♂ | |
| | 3331 Oct 25 07:40 | 0°♄ | | | 3334 Mar 15 00:18 | 1°♂56'39 | |
| desc. node | 3331 Nov 18 19:42 | 0°♍ | | | 3334 Apr 07 20:24 | 0°♂ | |
| | 3331 Dec 12 23:07 | 0°♂ | | | 3334 May 04 21:23 | 0°♄ | |
| | 3332 Jan 05 22:04 | 0°♄ | | evening max el | 3334 May 18 15:35 | 14°♄00'05 | 45°42'37 |
| | 3332 Jan 17 19:04 | 14°♄54'45 | | | 3334 Jun 05 14:04 | 0°♂ | |
| | 3332 Jan 25 12:37 | 24°♄37'50 | | greatest brilliancy | 3334 Jun 25 16:24 | 12°♂14'42 | -4.7m |
| morning set | 3332 Jan 29 19:08 | 0°♁ | | desc. node | 3334 Jul 04 14:06 | 14°♂20'10 | |
| | 3332 Feb 22 15:57 | 0°♂ | | retrograde | 3334 Jul 06 15:08 | 14°♂25'01 | |
| superior conj | | | | evening set | 3334 Jul 22 06:15 | 9°♂43'32 | |
| | 3332 Mar 07 00:01 | 16°♂44'19 | -1°24'51 | inferior conj | 3334 Jul 28 03:57 | 6°♂10'08 | -5°11'36 |
| minimum elong | 3332 Mar 06 19:17 | 16°♂29'27 | 1°24'47 | minimum elong | 3334 Jul 27 18:32 | 6°♂24'52 | 5°09'23 |
| max. Earth dist. | 3332 Mar 10 11:48 | 21°♂06'53 | 1.71483 AU | min. Earth dist. | 3334 Jul 27 22:57 | 6°♂17'58 | 0.29043 AU |
| | 3332 Mar 17 14:01 | 0°♀ | | morning rise | 3334 Aug 02 06:48 | 3°♂02'56 | |
| evening rise | 3332 Apr 10 14:52 | 0°♂ | | | 3334 Aug 08 09:31 | 30°♎♄ | |
| | 3332 Apr 16 05:26 | 6°♂58'11 | | direct | 3334 Aug 18 18:09 | 27°♄52'41 | |
| asc. node | 3332 May 04 19:53 | 0°♂ | | greatest brilliancy | 3334 Aug 29 03:58 | 29°♄49'05 | -4.7m |
| | 3332 May 09 22:03 | 6°♂16'30 | | | 3334 Aug 29 15:59 | 0°♂ | |
| evening max el | 3332 May 29 06:01 | 0°♄ | | morning max el | 3334 Oct 06 20:58 | 28°♂10'27 | 45°59'40 |
| | 3332 Jun 22 22:15 | 0°♂ | | | 3334 Oct 08 17:46 | 0°♎ | |
| desc. node | 3332 Jul 17 22:28 | 0°♎ | | asc. node | 3334 Oct 25 17:01 | 17°♎35'48 | |
| | 3332 Aug 12 10:47 | 0°♄ | | | 3334 Nov 05 22:41 | 0°♄ | |
| evening max el | 3332 Aug 29 11:50 | 19°♄32'29 | | | 3334 Dec 01 18:48 | 0°♍ | |
| | 3332 Sep 07 19:46 | 0°♍ | | | 3334 Dec 26 14:26 | 0°♂ | |
| greatest brilliancy | 3332 Oct 05 23:46 | 0°♂ | | | 3335 Jan 19 22:34 | 0°♄ | |
| | 3332 Oct 11 13:35 | 5°♂31'11 | 46°25'06 | | 3335 Feb 13 01:32 | 0°♁ | |
| retrograde | 3332 Nov 10 04:38 | 0°♄ | | desc. node | 3335 Feb 14 07:00 | 1°♁31'52 | |
| evening set | 3332 Nov 20 18:43 | 5°♄08'48 | -4.9m | | 3335 Mar 09 02:37 | 0°♂ | |
| inferior conj | 3332 Nov 30 06:20 | 6°♄49'33 | | | 3335 Apr 02 03:53 | 0°♀ | |
| | 3332 Dec 14 15:42 | 2°♄46'52 | | morning set | 3335 Apr 11 19:45 | 12°♀01'44 | |
| minimum elong | 3332 Dec 19 11:57 | 30°♎♂ | | | 3335 Apr 26 06:48 | 0°♂ | |
| transit middle | 3332 Dec 20 20:44 | 29°♂10'08 | 0°03'59 | | | | |
| transit begin | 3332 Dec 20 20:35 | 29°♂10'22 | 0°03'56 | superior conj | 3335 May 20 08:52 | 29°♂49'36 | -0°41'27 |
| transit end | 3332 Dec 20 20:35 | 29°♂10'22 | 0°03'56 | minimum elong | 3335 May 20 17:12 | 0°♂15'19 | 0°41'04 |
| asc. node | 3332 Dec 20 16:37 | 29°♂16'25 | | | 3335 May 20 12:14 | 0°♂ | |
| min. Earth dist. | 3332 Dec 21 00:33 | 29°♂04'20 | | max. Earth dist. | 3335 May 23 00:04 | 3°♂04'46 | 1.72969 AU |
| morning rise | 3332 Dec 20 14:37 | 29°♂19'29 | | asc. node | 3335 Jun 07 09:54 | 22°♂04'51 | |
| | 3332 Dec 21 01:28 | 29°♂02'55 | 0.26583 AU | | 3335 Jun 13 20:16 | 0°♄ | |
| | 3332 Dec 27 01:03 | 25°♂33'25 | | evening rise | 3335 Jun 26 19:02 | 15°♄55'07 | |

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| | 3335 Jul 08 06:26 | 0°♈ | | | 3338 Feb 01 05:34 | 0°♊ | | |
| | 3335 Aug 01 18:40 | 0°♍ | | | 3338 Feb 26 06:11 | 0°♋ | | |
| | 3335 Aug 26 09:48 | 0°♌ | | desc. node | 3338 Mar 13 18:47 | 18°♋53'01 | | |
| | 3335 Sep 20 05:30 | 0°♍ | | | 3338 Mar 22 21:04 | 0°♌ | | |
| desc. node | 3335 Sep 26 23:43 | 8°♍06'55 | | | 3338 Apr 16 08:04 | 0°♍ | | |
| | 3335 Oct 15 07:57 | 0°♎ | | | 3338 May 10 18:12 | 0°♎ | | |
| | 3335 Nov 09 21:04 | 0°♏ | | | 3338 Jun 04 04:43 | 0°♏ | | |
| | 3335 Dec 06 08:01 | 0°♐ | | morning set | 3338 Jun 21 04:36 | 20°♏51'10 | | |
| evening max el | 3335 Dec 24 10:07 | 19°♐12'48 47°13'51 | | | 3338 Jun 28 15:33 | 0°♑ | | |
| | 3336 Jan 04 12:04 | 0°♑ | | asc. node | 3338 Jul 04 21:48 | 7°♑41'03 | | |
| asc. node | 3336 Jan 18 02:37 | 11°♑31'03 | | | 3338 Jul 23 01:47 | 0°♒ | | |
| greatest brilliancy | 3336 Feb 03 02:18 | 20°♑48'13 -4.9m | | max. Earth dist. | 3338 Jul 26 18:29 | 4°♒32'38 1.73518 AU | | |
| retrograde | 3336 Feb 13 08:02 | 22°♑48'46 | | | | | | |
| evening set | 3336 Mar 01 19:40 | 16°♑50'48 | | superior conj | 3338 Jul 27 22:21 | 5°♒58'19 0°51'15 | | |
| min. Earth dist. | 3336 Mar 04 09:23 | 15°♑16'19 0.27265 AU | | minimum elong | 3338 Jul 27 13:50 | 5°♒32'07 0°50'54 | | |
| inferior conj | 3336 Mar 05 02:09 | 14°♑50'19 8°44'58 | | | 3338 Aug 16 10:44 | 0°♒ | | |
| minimum elong | 3336 Mar 04 21:29 | 14°♑57'34 8°44'39 | | evening rise | 3338 Sep 01 20:01 | 20°♒12'04 | | |
| morning rise | 3336 Mar 07 23:29 | 13°♑04'02 | | | 3338 Sep 09 18:38 | 0°♓ | | |
| direct | 3336 Mar 25 16:31 | 7°♑02'00 | | | 3338 Oct 04 02:25 | 0°♓ | | |
| greatest brilliancy | 3336 Apr 03 18:49 | 8°♑35'52 -4.8m | | desc. node | 3338 Oct 24 11:35 | 25°♓06'31 | | |
| | 3336 May 05 09:38 | 0°♑ | | | 3338 Oct 28 11:00 | 0°♔ | | |
| desc. node | 3336 May 08 16:22 | 3°♑01'24 | | | 3338 Nov 21 21:05 | 0°♕ | | |
| morning max el | 3336 May 14 08:25 | 8°♑26'41 46°15'22 | | | 3338 Dec 16 10:03 | 0°♖ | | |
| | 3336 Jun 04 05:40 | 0°♕ | | | 3339 Jan 10 06:03 | 0°♗ | | |
| | 3336 Jul 01 06:03 | 0°♖ | | | 3339 Feb 04 19:35 | 0°♘ | | |
| | 3336 Jul 27 04:51 | 0°♗ | | asc. node | 3339 Feb 14 14:25 | 11°♘03'11 | | |
| | 3336 Aug 21 12:33 | 0°♘ | | | 3339 Mar 04 06:55 | 0°♙ | | |
| asc. node | 3336 Aug 29 19:26 | 9°♘57'13 | | evening max el | 3339 Mar 06 11:00 | 2°♙12'12 46°45'09 | | |
| | 3336 Sep 15 08:33 | 0°♙ | | | 3339 Apr 09 09:33 | 0°♚ | | |
| | 3336 Oct 09 19:09 | 0°♚ | | greatest brilliancy | 3339 Apr 15 01:13 | 2°♚35'41 -4.8m | | |
| | 3336 Nov 02 23:00 | 0°♛ | | retrograde | 3339 Apr 25 16:39 | 4°♚41'50 | | |
| morning set | 3336 Nov 08 02:18 | 6°♛24'36 | | | 3339 May 11 04:00 | 30°♛♌ | | |
| | 3336 Nov 26 22:47 | 0°♔ | | evening set | 3339 May 11 16:43 | 29°♛41'52 | | |
| max. Earth dist. | 3336 Dec 16 02:24 | 24°♔01'46 1.71289 AU | | inferior conj | 3339 May 16 22:12 | 26°♛29'45 4°39'05 | | |
| | | | | minimum elong | 3339 May 17 07:07 | 26°♛15'42 4°36'47 | | |
| superior conj | 3336 Dec 17 11:59 | 25°♔47'13 0°04'34 | | min. Earth dist. | 3339 May 16 20:24 | 26°♛32'34 0.28367 AU | | |
| minimum elong | 3336 Dec 17 13:09 | 25°♔50'55 0°04'31 | | morning rise | 3339 May 22 21:58 | 22°♛52'49 | | |
| behind sun begin | 3336 Dec 16 12:12 | 24°♔32'33 | | desc. node | 3339 Jun 06 04:09 | 18°♛24'04 | | |
| behind sun end | 3336 Dec 18 14:06 | 27°♔09'16 | | direct | 3339 Jun 07 04:10 | 18°♛22'54 | | |
| desc. node | 3336 Dec 19 09:20 | 28°♔09'41 | | greatest brilliancy | 3339 Jun 17 00:43 | 20°♛08'51 -4.7m | | |
| | 3336 Dec 20 20:27 | 0°♕ | | | 3339 Jul 04 15:43 | 0°♛ | | |
| | 3337 Jan 13 17:12 | 0°♖ | | morning max el | 3339 Jul 25 22:03 | 18°♛11'40 45°43'31 | | |
| evening rise | 3337 Jan 27 13:52 | 17°♖25'29 | | | 3339 Aug 06 20:10 | 0°♜ | | |
| | 3337 Feb 06 14:11 | 0°♗ | | | 3339 Sep 03 16:16 | 0°♞ | | |
| | 3337 Mar 02 13:11 | 0°♘ | | asc. node | 3339 Sep 27 07:15 | 27°♞08'10 | | |
| | 3337 Mar 26 16:43 | 0°♙ | | | 3339 Sep 29 17:45 | 0°♟ | | |
| asc. node | 3337 Apr 11 12:11 | 19°♙26'49 | | | 3339 Oct 24 19:47 | 0°♠ | | |
| | 3337 Apr 20 03:45 | 0°♚ | | | 3339 Nov 18 07:23 | 0°♓ | | |
| | 3337 May 15 01:56 | 0°♛ | | | 3339 Dec 12 10:33 | 0°♔ | | |
| | 3337 Jun 09 17:15 | 0°♜ | | | 3340 Jan 05 09:22 | 0°♕ | | |
| | 3337 Jul 06 15:46 | 0°♝ | | desc. node | 3340 Jan 16 21:10 | 14°♕25'56 | | |
| evening max el | 3337 Jul 28 13:16 | 22°♝19'18 45°31'18 | | morning set | 3340 Jan 22 22:20 | 22°♕02'08 | | |
| desc. node | 3337 Aug 01 02:04 | 25°♝38'52 | | | 3340 Jan 29 06:21 | 0°♖ | | |
| | 3337 Aug 05 21:20 | 0°♞ | | | 3340 Feb 22 03:08 | 0°♗ | | |
| greatest brilliancy | 3337 Sep 05 15:31 | 20°♞16'19 -4.7m | | | | | | |
| retrograde | 3337 Sep 15 04:07 | 21°♞54'00 | | superior conj | 3340 Mar 04 10:53 | 14°♗12'57 -1°23'58 | | |
| evening set | 3337 Oct 03 02:15 | 15°♞55'00 | | minimum elong | 3340 Mar 04 05:09 | 13°♗54'57 1°23'54 | | |
| inferior conj | 3337 Oct 06 08:46 | 13°♞54'45 -8°27'19 | | max. Earth dist. | 3340 Mar 07 16:58 | 18°♗17'45 1.71441 AU | | |
| minimum elong | 3337 Oct 06 13:40 | 13°♞47'10 8°26'58 | | | 3340 Mar 17 01:10 | 0°♘ | | |
| min. Earth dist. | 3337 Oct 07 03:26 | 13°♞25'49 0.28350 AU | | | 3340 Apr 10 02:00 | 0°♙ | | |
| morning rise | 3337 Oct 10 00:52 | 11°♞39'52 | | evening rise | 3340 Apr 13 18:06 | 4°♙33'53 | | |
| direct | 3337 Oct 27 17:32 | 5°♞45'05 | | | 3340 May 04 07:02 | 0°♚ | | |
| greatest brilliancy | 3337 Nov 07 19:19 | 8°♞01'26 -4.8m | | asc. node | 3340 May 09 00:08 | 5°♚48'31 | | |
| asc. node | 3337 Nov 22 04:49 | 16°♞17'20 | | | 3340 May 28 17:19 | 0°♛ | | |
| | 3337 Dec 08 10:53 | 0°♟ | | | 3340 Jun 22 09:54 | 0°♜ | | |
| morning max el | 3337 Dec 17 04:08 | 8°♟31'56 46°43'25 | | | 3340 Jul 17 10:47 | 0°♝ | | |
| | 3338 Jan 06 05:38 | 0°♔ | | | 3340 Aug 12 00:21 | 0°♞ | | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| desc. node | 3340 Aug 28 13:45 | 18°♌55'54 | | | 3343 Feb 12 13:14 | 0°♏ | |
| | 3340 Sep 07 11:45 | 0°♍ | | desc. node | 3343 Feb 13 08:59 | 1°♏01'36 | |
| | 3340 Oct 05 21:53 | 0°♌ | | | 3343 Mar 08 14:03 | 0°♏ | |
| evening max el | 3340 Oct 09 02:02 | 3°♌06'48 | 46°22'47 | | 3343 Apr 01 15:05 | 0°♏ | |
| | 3340 Nov 12 01:14 | 0°♌ | | morning set | 3343 Apr 09 08:49 | 9°♏38'20 | |
| greatest brilliancy | 3340 Nov 18 07:59 | 2°♌42'02 | -4.9m | | 3343 Apr 25 17:50 | 0°♏ | |
| retrograde | 3340 Nov 27 18:24 | 4°♌21'58 | | | | | |
| evening set | 3340 Dec 12 04:55 | 0°♌17'34 | | superior conj | 3343 May 18 00:17 | 27°♏35'02 | -0°44'26 |
| | 3340 Dec 12 18:04 | 30°♌♌ | | minimum elong | 3343 May 18 09:04 | 28°♏02'11 | 0°44'04 |
| inferior conj | 3340 Dec 18 09:08 | 26°♌42'26 | -0°20'31 | | 3343 May 19 23:12 | 0°♏ | |
| minimum elong | 3340 Dec 18 09:55 | 26°♌41'14 | 0°20'15 | max. Earth dist. | 3343 May 20 18:52 | 1°♏00'46 | 1.72927 AU |
| min. Earth dist. | 3340 Dec 18 15:35 | 26°♌32'37 | 0.26611 AU | asc. node | 3343 Jun 06 12:02 | 21°♏37'45 | |
| asc. node | 3340 Dec 19 16:45 | 25°♌54'22 | | | 3343 Jun 13 07:12 | 0°♏ | |
| morning rise | 3340 Dec 24 14:24 | 23°♌04'33 | | evening rise | 3343 Jun 24 12:51 | 13°♏48'50 | |
| direct | 3341 Jan 07 20:54 | 19°♌00'11 | | | 3343 Jul 07 17:27 | 0°♏ | |
| greatest brilliancy | 3341 Jan 18 08:13 | 21°♌04'12 | -4.9m | | 3343 Aug 01 05:52 | 0°♏ | |
| | 3341 Feb 02 19:25 | 0°♌ | | | 3343 Aug 25 21:22 | 0°♏ | |
| morning max el | 3341 Feb 27 10:05 | 22°♌02'21 | 46°55'43 | | 3343 Sep 19 17:41 | 0°♏ | |
| | 3341 Mar 07 03:15 | 0°♏ | | desc. node | 3343 Sep 26 01:44 | 7°♏35'50 | |
| | 3341 Apr 03 07:38 | 0°♏ | | | 3343 Oct 14 21:09 | 0°♏ | |
| desc. node | 3341 Apr 10 06:43 | 7°♏59'51 | | | 3343 Nov 09 11:58 | 0°♌ | |
| | 3341 Apr 29 02:58 | 0°♏ | | | 3343 Dec 06 02:22 | 0°♏ | |
| | 3341 May 24 09:01 | 0°♏ | | evening max el | 3343 Dec 22 01:29 | 16°♏51'54 | 47°13'13 |
| | 3341 Jun 18 08:49 | 0°♏ | | | 3344 Jan 04 17:40 | 0°♏ | |
| | 3341 Jul 13 04:32 | 0°♏ | | asc. node | 3344 Jan 17 04:37 | 10°♏11'48 | |
| asc. node | 3341 Aug 01 09:38 | 23°♏21'48 | | greatest brilliancy | 3344 Jan 31 15:38 | 18°♏21'33 | -4.9m |
| | 3341 Aug 06 20:05 | 0°♏ | | retrograde | 3344 Feb 10 22:07 | 20°♏22'17 | |
| morning set | 3341 Aug 28 02:41 | 26°♏05'14 | | evening set | 3344 Feb 28 05:42 | 14°♏29'54 | |
| | 3341 Aug 31 06:57 | 0°♏ | | min. Earth dist. | 3344 Mar 01 21:49 | 12°♏51'48 | 0.27215 AU |
| | 3341 Sep 24 13:27 | 0°♏ | | inferior conj | 3344 Mar 02 15:20 | 12°♏24'39 | 8°39'38 |
| max. Earth dist. | 3341 Sep 30 15:47 | 7°♏33'56 | 1.72613 AU | minimum elong | 3344 Mar 02 09:51 | 12°♏33'09 | 8°39'12 |
| | | | | morning rise | 3344 Mar 05 14:14 | 10°♏36'06 | |
| superior conj | 3341 Oct 03 17:02 | 11°♏21'25 | 1°23'15 | direct | 3344 Mar 23 05:53 | 4°♏37'24 | |
| minimum elong | 3341 Oct 03 20:58 | 11°♏33'37 | 1°23'12 | greatest brilliancy | 3344 Apr 01 06:46 | 6°♏10'22 | -4.9m |
| | 3341 Oct 18 16:49 | 0°♏ | | | 3344 May 05 12:47 | 0°♏ | |
| evening rise | 3341 Nov 10 18:14 | 28°♏44'23 | | desc. node | 3344 May 07 18:30 | 2°♏06'15 | |
| | 3341 Nov 11 18:29 | 0°♏ | | morning max el | 3344 May 11 22:31 | 6°♏07'10 | 46°16'55 |
| desc. node | 3341 Nov 20 23:36 | 11°♏29'37 | | | 3344 Jun 03 22:58 | 0°♏ | |
| | 3341 Dec 05 19:25 | 0°♌ | | | 3344 Jun 30 20:11 | 0°♏ | |
| | 3341 Dec 29 20:20 | 0°♏ | | | 3344 Jul 26 17:29 | 0°♏ | |
| | 3342 Jan 22 22:38 | 0°♏ | | | 3344 Aug 21 00:20 | 0°♏ | |
| | 3342 Feb 16 05:29 | 0°♏ | | asc. node | 3344 Aug 28 21:22 | 9°♏28'02 | |
| | 3342 Mar 12 22:27 | 0°♏ | | | 3344 Sep 14 19:52 | 0°♏ | |
| asc. node | 3342 Mar 14 02:15 | 1°♏23'13 | | | 3344 Oct 09 06:13 | 0°♏ | |
| | 3342 Apr 07 11:01 | 0°♏ | | | 3344 Nov 02 09:59 | 0°♏ | |
| | 3342 May 04 15:48 | 0°♏ | | morning set | 3344 Nov 05 17:08 | 4°♏06'52 | |
| evening max el | 3342 May 16 07:47 | 11°♏48'50 | 45°44'16 | | 3344 Nov 26 09:46 | 0°♏ | |
| | 3342 Jun 06 01:56 | 0°♏ | | max. Earth dist. | 3344 Dec 13 09:06 | 21°♏17'34 | 1.71319 AU |
| greatest brilliancy | 3342 Jun 23 07:33 | 10°♏03'57 | -4.7m | | | | |
| desc. node | 3342 Jul 03 16:15 | 12°♏15'19 | | superior conj | 3344 Dec 14 23:32 | 23°♏18'13 | 0°08'25 |
| retrograde | 3342 Jul 04 08:08 | 12°♏15'50 | | minimum elong | 3344 Dec 15 01:41 | 23°♏24'58 | 0°08'18 |
| evening set | 3342 Jul 19 20:38 | 7°♏36'50 | | behind sun begin | 3344 Dec 14 03:20 | 22°♏14'48 | |
| inferior conj | 3342 Jul 25 20:18 | 4°♏00'39 | -4°55'33 | behind sun end | 3344 Dec 16 00:01 | 24°♏35'07 | |
| minimum elong | 3342 Jul 25 11:09 | 4°♏14'58 | 4°53'21 | desc. node | 3344 Dec 18 11:25 | 27°♏41'35 | |
| min. Earth dist. | 3342 Jul 25 14:41 | 4°♏09'26 | 0.29033 AU | | 3344 Dec 20 07:29 | 0°♌ | |
| morning rise | 3342 Jul 31 01:42 | 0°♏50'04 | | | 3345 Jan 13 04:18 | 0°♏ | |
| | 3342 Aug 01 13:37 | 30°♏♏ | | evening rise | 3345 Jan 25 00:12 | 14°♏52'05 | |
| direct | 3342 Aug 16 10:39 | 25°♏43'23 | | | 3345 Feb 06 01:22 | 0°♏ | |
| greatest brilliancy | 3342 Aug 26 19:24 | 27°♏39'14 | -4.7m | | 3345 Mar 02 00:29 | 0°♏ | |
| | 3342 Sep 01 06:11 | 0°♏ | | | 3345 Mar 26 04:12 | 0°♏ | |
| morning max el | 3342 Oct 04 13:31 | 26°♏00'28 | 45°58'22 | asc. node | 3345 Apr 10 14:17 | 18°♏57'34 | |
| | 3342 Oct 08 14:51 | 0°♏ | | | 3345 Apr 19 15:34 | 0°♏ | |
| asc. node | 3342 Oct 24 19:10 | 16°♏55'23 | | | 3345 May 14 14:24 | 0°♏ | |
| | 3342 Nov 05 14:09 | 0°♏ | | | 3345 Jun 09 07:05 | 0°♏ | |
| | 3342 Dec 01 08:16 | 0°♏ | | | 3345 Jul 06 08:44 | 0°♏ | |
| | 3342 Dec 26 02:59 | 0°♏ | | evening max el | 3345 Jul 26 03:52 | 20°♏05'10 | 45°30'27 |
| | 3343 Jan 19 10:37 | 0°♌ | | desc. node | 3345 Jul 31 03:59 | 24°♏46'14 | |

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| | 3345 Aug 06 01:22 | 0°♄ | | | 3348 Feb 21 13:58 | 0°♁ | |
| greatest brilliancy | 3345 Sep 03 05:36 | 18°♄02'11 | -4.7m | | | | |
| retrograde | 3345 Sep 12 18:02 | 19°♄39'56 | | superior conj | 3348 Mar 01 22:01 | 11°♁43'28 | -1°22'55 |
| evening set | 3345 Sep 30 18:18 | 13°♄39'01 | | minimum elong | 3348 Mar 01 15:20 | 11°♁22'30 | 1°22'50 |
| inferior conj | 3345 Oct 03 23:51 | 11°♄40'06 | -8°31'31 | max. Earth dist. | 3348 Mar 04 21:52 | 15°♁28'52 | 1.71402 AU |
| minimum elong | 3345 Oct 04 03:59 | 11°♄33'41 | 8°31'16 | | 3348 Mar 16 11:56 | 0°♁ | |
| min. Earth dist. | 3345 Oct 04 18:02 | 11°♄11'50 | 0.28406 AU | | 3348 Apr 09 12:45 | 0°♁ | |
| morning rise | 3345 Oct 07 13:26 | 9°♄28'39 | | evening rise | 3348 Apr 11 06:55 | 2°♁11'08 | |
| direct | 3345 Oct 25 08:47 | 3°♄29'43 | | | 3348 May 03 17:51 | 0°♁ | |
| greatest brilliancy | 3345 Nov 05 10:41 | 5°♄45'26 | -4.8m | asc. node | 3348 May 08 02:13 | 5°♁21'34 | |
| asc. node | 3345 Nov 21 06:53 | 15°♄04'39 | | | 3348 May 28 04:19 | 0°♁ | |
| | 3345 Dec 08 12:10 | 0°♄ | | | 3348 Jun 21 21:16 | 0°♁ | |
| morning max el | 3345 Dec 14 17:45 | 6°♄09'23 | 46°42'08 | | 3348 Jul 16 22:49 | 0°♁ | |
| | 3346 Jan 05 22:30 | 0°♄ | | | 3348 Aug 11 13:37 | 0°♄ | |
| | 3346 Jan 31 19:43 | 0°♄ | | desc. node | 3348 Aug 27 15:48 | 18°♄20'34 | |
| | 3346 Feb 25 19:03 | 0°♄ | | | 3348 Sep 07 03:34 | 0°♄ | |
| desc. node | 3346 Mar 12 20:49 | 18°♄21'25 | | | 3348 Oct 05 20:23 | 0°♄ | |
| | 3346 Mar 22 09:11 | 0°♁ | | evening max el | 3348 Oct 06 15:12 | 0°♄45'43 | 46°20'32 |
| | 3346 Apr 15 19:41 | 0°♁ | | | 3348 Nov 15 02:11 | 0°♄ | |
| | 3346 May 10 05:26 | 0°♁ | | greatest brilliancy | 3348 Nov 15 20:38 | 0°♄16'09 | -4.9m |
| | 3346 Jun 03 15:40 | 0°♁ | | retrograde | 3348 Nov 25 06:53 | 1°♄55'55 | |
| morning set | 3346 Jun 18 21:58 | 18°♁44'06 | | | 3348 Dec 05 01:45 | 30°♁ | |
| | 3346 Jun 28 02:17 | 0°♁ | | evening set | 3348 Dec 09 18:24 | 27°♄49'28 | |
| asc. node | 3346 Jul 03 23:47 | 7°♁14'15 | | inferior conj | 3348 Dec 15 21:31 | 24°♄15'59 | -0°44'51 |
| | 3346 Jul 22 12:25 | 0°♁ | | minimum elong | 3348 Dec 15 23:15 | 24°♄13'21 | 0°44'17 |
| max. Earth dist. | 3346 Jul 24 13:53 | 2°♁32'03 | 1.73525 AU | min. Earth dist. | 3348 Dec 16 05:22 | 24°♄04'03 | 0.26643 AU |
| | | | | asc. node | 3348 Dec 18 18:45 | 22°♄31'40 | |
| superior conj | 3346 Jul 25 16:35 | 3°♁54'05 | 0°48'41 | morning rise | 3348 Dec 22 03:33 | 20°♄37'23 | |
| minimum elong | 3346 Jul 25 08:16 | 3°♁28'32 | 0°48'21 | direct | 3349 Jan 05 10:04 | 16°♄32'51 | |
| | 3346 Aug 15 21:25 | 0°♁ | | greatest brilliancy | 3349 Jan 15 22:40 | 18°♄38'46 | -4.9m |
| evening rise | 3346 Aug 30 14:07 | 18°♁06'42 | | | 3349 Feb 03 12:52 | 0°♄ | |
| | 3346 Sep 09 05:28 | 0°♄ | | morning max el | 3349 Feb 25 00:38 | 19°♄40'41 | 46°56'30 |
| | 3346 Oct 03 13:29 | 0°♄ | | | 3349 Mar 06 23:08 | 0°♄ | |
| desc. node | 3346 Oct 23 13:44 | 24°♄38'13 | | | 3349 Apr 02 22:50 | 0°♁ | |
| | 3346 Oct 27 22:24 | 0°♄ | | desc. node | 3349 Apr 09 08:50 | 7°♁23'56 | |
| | 3346 Nov 21 08:57 | 0°♄ | | | 3349 Apr 28 16:09 | 0°♁ | |
| | 3346 Dec 15 22:35 | 0°♄ | | | 3349 May 23 21:05 | 0°♁ | |
| | 3347 Jan 09 19:38 | 0°♁ | | | 3349 Jun 17 20:12 | 0°♁ | |
| | 3347 Feb 04 11:16 | 0°♁ | | | 3349 Jul 12 15:30 | 0°♁ | |
| asc. node | 3347 Feb 13 16:21 | 10°♁21'26 | | asc. node | 3349 Jul 31 11:35 | 22°♄54'57 | |
| evening max el | 3347 Mar 04 00:41 | 29°♁51'00 | 46°47'04 | | 3349 Aug 06 06:47 | 0°♁ | |
| | 3347 Mar 04 04:15 | 0°♁ | | morning set | 3349 Aug 25 20:15 | 23°♁59'06 | |
| | 3347 Apr 11 19:03 | 0°♁ | | | 3349 Aug 30 17:31 | 0°♁ | |
| greatest brilliancy | 3347 Apr 12 18:20 | 0°♁22'51 | -4.8m | | 3349 Sep 23 23:59 | 0°♄ | |
| retrograde | 3347 Apr 23 08:01 | 2°♁27'59 | | max. Earth dist. | 3349 Sep 28 10:28 | 5°♄30'14 | 1.72657 AU |
| | 3347 May 04 09:26 | 30°♁ | | | | | |
| evening set | 3347 May 09 10:58 | 27°♁24'16 | | superior conj | 3349 Oct 01 09:42 | 9°♄11'19 | 1°23'52 |
| inferior conj | 3347 May 14 13:47 | 24°♁16'17 | 4°56'48 | minimum elong | 3349 Oct 01 12:55 | 9°♄21'18 | 1°23'51 |
| minimum elong | 3347 May 14 23:03 | 24°♁01'41 | 4°54'29 | | 3349 Oct 18 03:25 | 0°♄ | |
| min. Earth dist. | 3347 May 14 12:27 | 24°♁18'22 | 0.28339 AU | evening rise | 3349 Nov 08 08:01 | 26°♄24'11 | |
| morning rise | 3347 May 20 11:28 | 20°♁42'03 | | | 3349 Nov 11 05:15 | 0°♄ | |
| direct | 3347 Jun 04 18:36 | 16°♁09'42 | | desc. node | 3349 Nov 20 01:36 | 11°♄02'02 | |
| desc. node | 3347 Jun 05 06:15 | 16°♁09'59 | | | 3349 Dec 05 06:25 | 0°♄ | |
| greatest brilliancy | 3347 Jun 14 16:00 | 17°♁56'03 | -4.7m | | 3349 Dec 29 07:35 | 0°♄ | |
| | 3347 Jul 05 05:21 | 0°♁ | | | 3350 Jan 22 10:10 | 0°♁ | |
| morning max el | 3347 Jul 23 12:53 | 15°♁58'50 | 45°43'59 | | 3350 Feb 15 17:26 | 0°♁ | |
| | 3347 Aug 06 14:36 | 0°♁ | | | 3350 Mar 12 11:09 | 0°♁ | |
| | 3347 Sep 03 06:32 | 0°♁ | | asc. node | 3350 Mar 13 04:24 | 0°♁51'32 | |
| asc. node | 3347 Sep 26 09:23 | 26°♁37'09 | | | 3350 Apr 07 01:18 | 0°♁ | |
| | 3347 Sep 29 06:20 | 0°♁ | | | 3350 May 04 10:05 | 0°♁ | |
| | 3347 Oct 24 07:33 | 0°♄ | | evening max el | 3350 May 14 00:33 | 9°♄40'29 | 45°45'55 |
| | 3347 Nov 17 18:43 | 0°♄ | | | 3350 Jun 06 16:56 | 0°♁ | |
| | 3347 Dec 11 21:39 | 0°♄ | | greatest brilliancy | 3350 Jun 20 23:07 | 7°♁55'18 | -4.7m |
| | 3348 Jan 04 20:21 | 0°♄ | | retrograde | 3350 Jul 02 01:05 | 10°♁08'05 | |
| desc. node | 3348 Jan 15 23:07 | 13°♄57'41 | | desc. node | 3350 Jul 02 18:09 | 10°♁07'30 | |
| morning set | 3348 Jan 20 08:26 | 19°♄28'42 | | evening set | 3350 Jul 17 11:20 | 5°♁31'40 | |
| | 3348 Jan 28 17:15 | 0°♄ | | inferior conj | 3350 Jul 23 12:45 | 1°♁52'42 | -4°39'11 |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| minimum elong | 3350 Jul 23 03:53 | 2°♌06'34 | 4°37'00 | desc. node | 3352 Dec 17 13:22 | 27°♊13'43 | |
| min. Earth dist. | 3350 Jul 23 06:32 | 2°♌02'26 | 0.29021 AU | | 3352 Dec 19 18:19 | 0°♊ | |
| | 3350 Jul 26 13:32 | 30°♌ | | | 3353 Jan 12 15:12 | 0°♌ | |
| morning rise | 3350 Jul 28 20:36 | 28°♌38'44 | | evening rise | 3353 Jan 22 10:29 | 12°♌19'10 | |
| direct | 3350 Aug 14 03:38 | 23°♌35'45 | | | 3353 Feb 05 12:22 | 0°♌ | |
| greatest brilliancy | 3350 Aug 24 10:41 | 25°♌30'30 | -4.7m | | 3353 Mar 01 11:37 | 0°♌ | |
| | 3350 Sep 02 20:06 | 0°♌ | | | 3353 Mar 25 15:33 | 0°♌ | |
| morning max el | 3350 Oct 02 05:47 | 23°♌51'07 | 45°57'02 | asc. node | 3353 Apr 09 16:20 | 18°♌28'36 | |
| | 3350 Oct 08 10:46 | 0°♌ | | | 3353 Apr 19 03:17 | 0°♌ | |
| asc. node | 3350 Oct 23 21:12 | 16°♌16'18 | | | 3353 May 14 02:48 | 0°♌ | |
| | 3350 Nov 05 04:57 | 0°♌ | | | 3353 Jun 08 20:53 | 0°♌ | |
| | 3350 Nov 30 21:12 | 0°♌ | | | 3353 Jul 06 01:52 | 0°♌ | |
| | 3350 Dec 25 15:04 | 0°♌ | | evening max el | 3353 Jul 23 17:39 | 17°♌49'43 | 45°29'46 |
| | 3351 Jan 18 22:13 | 0°♌ | | desc. node | 3353 Jul 30 06:04 | 23°♌53'32 | |
| desc. node | 3351 Feb 12 10:57 | 0°♌32'31 | | | 3353 Aug 06 07:02 | 0°♌ | |
| | 3351 Feb 12 00:32 | 0°♌ | | greatest brilliancy | 3353 Aug 31 19:29 | 15°♌48'36 | -4.7m |
| | 3351 Mar 08 01:06 | 0°♌ | | retrograde | 3353 Sep 10 08:07 | 17°♌27'00 | |
| | 3351 Apr 01 01:56 | 0°♌ | | evening set | 3353 Sep 28 10:02 | 11°♌24'20 | |
| morning set | 3351 Apr 06 21:52 | 7°♌15'52 | | inferior conj | 3353 Oct 01 15:01 | 9°♌26'19 | -8°34'49 |
| | 3351 Apr 25 04:32 | 0°♌ | | minimum elong | 3353 Oct 01 18:21 | 9°♌21'09 | 8°34'40 |
| | | | | min. Earth dist. | 3353 Oct 02 08:44 | 8°♌58'47 | 0.28465 AU |
| superior conj | 3351 May 15 15:45 | 25°♌21'41 | -0°47'22 | morning rise | 3353 Oct 05 02:26 | 7°♌18'01 | |
| minimum elong | 3351 May 16 00:57 | 25°♌50'09 | 0°46'59 | direct | 3353 Oct 22 23:55 | 1°♌14'58 | |
| max. Earth dist. | 3351 May 18 15:21 | 29°♌03'04 | 1.72880 AU | greatest brilliancy | 3353 Nov 03 02:41 | 3°♌30'54 | -4.8m |
| | 3351 May 19 09:47 | 0°♌ | | asc. node | 3353 Nov 20 08:52 | 13°♌54'06 | |
| asc. node | 3351 Jun 05 13:59 | 21°♌11'21 | | | 3353 Dec 08 12:12 | 0°♌ | |
| | 3351 Jun 12 17:45 | 0°♌ | | morning max el | 3353 Dec 12 07:38 | 3°♌47'41 | 46°40'45 |
| evening rise | 3351 Jun 22 06:45 | 11°♌43'58 | | | 3354 Jan 05 15:03 | 0°♌ | |
| | 3351 Jul 07 04:04 | 0°♌ | | | 3354 Jan 31 09:45 | 0°♌ | |
| | 3351 Jul 31 16:42 | 0°♌ | | | 3354 Feb 25 07:49 | 0°♌ | |
| | 3351 Aug 25 08:38 | 0°♌ | | desc. node | 3354 Mar 11 22:59 | 17°♌50'27 | |
| | 3351 Sep 19 05:37 | 0°♌ | | | 3354 Mar 21 21:13 | 0°♌ | |
| desc. node | 3351 Sep 25 03:50 | 7°♌05'50 | | | 3354 Apr 15 07:14 | 0°♌ | |
| | 3351 Oct 14 10:08 | 0°♌ | | | 3354 May 09 16:38 | 0°♌ | |
| | 3351 Nov 09 02:42 | 0°♌ | | | 3354 Jun 03 02:36 | 0°♌ | |
| | 3351 Dec 05 20:48 | 0°♌ | | morning set | 3354 Jun 16 15:08 | 16°♌36'16 | |
| evening max el | 3351 Dec 19 16:17 | 14°♌30'31 | 47°12'27 | | 3354 Jun 27 13:02 | 0°♌ | |
| | 3352 Jan 05 01:02 | 0°♌ | | asc. node | 3354 Jul 03 01:47 | 6°♌47'29 | |
| asc. node | 3352 Jan 16 06:35 | 8°♌50'48 | | | 3354 Jul 21 23:05 | 0°♌ | |
| greatest brilliancy | 3352 Jan 29 05:25 | 15°♌56'15 | -4.9m | max. Earth dist. | 3354 Jul 22 09:18 | 0°♌31'24 | 1.73529 AU |
| retrograde | 3352 Feb 08 11:41 | 17°♌56'19 | | | | | |
| evening set | 3352 Feb 25 15:26 | 12°♌10'11 | | superior conj | 3354 Jul 23 10:47 | 1°♌49'45 | 0°46'04 |
| min. Earth dist. | 3352 Feb 28 10:36 | 10°♌27'27 | 0.27166 AU | minimum elong | 3354 Jul 23 02:43 | 1°♌24'57 | 0°45'43 |
| inferior conj | 3352 Feb 29 04:30 | 9°♌59'41 | 8°33'23 | | 3354 Aug 15 08:06 | 0°♌ | |
| minimum elong | 3352 Feb 28 22:13 | 10°♌09'26 | 8°32'47 | evening rise | 3354 Aug 28 08:24 | 16°♌02'03 | |
| morning rise | 3352 Mar 03 05:14 | 8°♌08'16 | | | 3354 Sep 08 16:17 | 0°♌ | |
| direct | 3352 Mar 20 18:55 | 2°♌13'25 | | | 3354 Oct 03 00:34 | 0°♌ | |
| greatest brilliancy | 3352 Mar 29 19:20 | 3°♌45'54 | -4.9m | desc. node | 3354 Oct 22 15:45 | 24°♌09'29 | |
| | 3352 May 05 14:10 | 0°♌ | | | 3354 Oct 27 09:52 | 0°♌ | |
| desc. node | 3352 May 06 20:28 | 1°♌12'28 | | | 3354 Nov 20 20:56 | 0°♌ | |
| morning max el | 3352 May 09 11:43 | 3°♌45'55 | 46°18'33 | | 3354 Dec 15 11:18 | 0°♌ | |
| | 3352 Jun 03 15:39 | 0°♌ | | | 3355 Jan 09 09:31 | 0°♌ | |
| | 3352 Jun 30 09:54 | 0°♌ | | | 3355 Feb 04 03:24 | 0°♌ | |
| | 3352 Jul 26 05:44 | 0°♌ | | asc. node | 3355 Feb 12 18:30 | 9°♌39'12 | |
| | 3352 Aug 20 11:47 | 0°♌ | | evening max el | 3355 Mar 01 14:19 | 27°♌29'02 | 46°49'10 |
| asc. node | 3352 Aug 27 23:31 | 9°♌00'27 | | | 3355 Mar 04 02:39 | 0°♌ | |
| | 3352 Sep 14 06:53 | 0°♌ | | greatest brilliancy | 3355 Apr 10 10:38 | 28°♌08'14 | -4.8m |
| | 3352 Oct 08 17:03 | 0°♌ | | | 3355 Apr 17 15:14 | 0°♌ | |
| | 3352 Nov 01 20:46 | 0°♌ | | retrograde | 3355 Apr 20 23:33 | 0°♌13'17 | |
| morning set | 3352 Nov 03 07:55 | 1°♌49'38 | | | 3355 Apr 24 06:44 | 30°♌ | |
| | 3352 Nov 25 20:34 | 0°♌ | | evening set | 3355 May 07 05:08 | 25°♌05'22 | |
| max. Earth dist. | 3352 Dec 10 14:19 | 18°♌29'24 | 1.71350 AU | inferior conj | 3355 May 12 05:11 | 22°♌01'42 | 5°14'11 |
| | | | | minimum elong | 3355 May 12 14:45 | 21°♌46'41 | 5°11'51 |
| superior conj | 3352 Dec 12 11:08 | 20°♌50'00 | 0°12'14 | min. Earth dist. | 3355 May 12 04:01 | 22°♌03'32 | 0.28312 AU |
| minimum elong | 3352 Dec 12 14:13 | 20°♌59'42 | 0°12'05 | morning rise | 3355 May 18 00:38 | 18°♌30'42 | |
| behind sun begin | 3352 Dec 11 20:51 | 20°♌05'11 | | direct | 3355 Jun 02 09:03 | 13°♌55'17 | |
| behind sun end | 3352 Dec 13 07:35 | 21°♌54'13 | | desc. node | 3355 Jun 04 08:14 | 13°♌59'45 | |

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| greatest brilliancy | 3355 Jun 12 07:00 | 15°♄42'11 | -4.7m | | 3358 Feb 15 05:46 | 0°♑ | |
| | 3355 Jul 05 15:47 | 0°♐ | | asc. node | 3358 Mar 12 06:22 | 0°♄17'56 | |
| morning max el | 3355 Jul 21 04:30 | 13°♐47'16 | 45°44'33 | | 3358 Mar 12 00:22 | 0°♄ | |
| | 3355 Aug 06 08:46 | 0°♄ | | | 3358 Apr 06 16:15 | 0°♐ | |
| | 3355 Sep 02 20:49 | 0°♌ | | | 3358 May 04 05:30 | 0°♄ | |
| asc. node | 3355 Sep 25 11:24 | 26°♌05'32 | | evening max el | 3358 May 11 17:12 | 7°♄30'05 | 45°47'34 |
| | 3355 Sep 28 18:59 | 0°♍ | | | 3358 Jun 07 14:23 | 0°♌ | |
| | 3355 Oct 23 19:23 | 0°♍ | | greatest brilliancy | 3358 Jun 18 15:16 | 5°♌45'32 | -4.7m |
| | 3355 Nov 17 06:09 | 0°♍ | | retrograde | 3358 Jun 29 17:34 | 7°♌58'20 | |
| | 3355 Dec 11 08:54 | 0°♎ | | desc. node | 3358 Jul 01 20:14 | 7°♌53'04 | |
| | 3356 Jan 04 07:30 | 0°♎ | | evening set | 3358 Jul 15 02:06 | 3°♌24'32 | |
| desc. node | 3356 Jan 15 01:12 | 13°♎29'13 | | | 3358 Jul 20 18:11 | 30°♎♄ | |
| morning set | 3356 Jan 17 18:26 | 16°♎54'12 | | inferior conj | 3358 Jul 21 05:04 | 29°♄42'57 | -4°22'24 |
| | 3356 Jan 28 04:23 | 0°♏ | | minimum elong | 3358 Jul 20 20:34 | 29°♄56'16 | 4°20'14 |
| | 3356 Feb 21 01:03 | 0°♏ | | min. Earth dist. | 3358 Jul 20 22:28 | 29°♄53'19 | 0.29006 AU |
| | | | | morning rise | 3358 Jul 26 15:16 | 26°♄25'31 | |
| superior conj | 3356 Feb 28 08:32 | 9°♏11'04 | -1°21'42 | direct | 3358 Aug 11 20:22 | 21°♄26'28 | |
| minimum elong | 3356 Feb 28 00:57 | 8°♏47'16 | 1°21'34 | greatest brilliancy | 3358 Aug 22 01:46 | 23°♄19'50 | -4.7m |
| max. Earth dist. | 3356 Mar 02 03:04 | 12°♏39'52 | 1.71368 AU | | 3358 Sep 03 23:27 | 0°♌ | |
| | 3356 Mar 15 22:59 | 0°♑ | | morning max el | 3358 Sep 29 21:02 | 21°♌37'56 | 45°55'44 |
| evening rise | 3356 Apr 08 19:08 | 29°♑45'35 | | | 3358 Oct 08 06:36 | 0°♍ | |
| | 3356 Apr 08 23:47 | 0°♄ | | asc. node | 3358 Oct 22 23:09 | 15°♍36'00 | |
| | 3356 May 03 04:56 | 0°♐ | | | 3358 Nov 04 20:01 | 0°♍ | |
| asc. node | 3356 May 07 04:09 | 4°♐53'18 | | | 3358 Nov 30 10:28 | 0°♍ | |
| | 3356 May 27 15:37 | 0°♄ | | | 3358 Dec 25 03:27 | 0°♎ | |
| | 3356 Jun 21 08:58 | 0°♌ | | | 3359 Jan 18 10:07 | 0°♎ | |
| | 3356 Jul 16 11:15 | 0°♍ | | desc. node | 3359 Feb 11 13:08 | 0°♏03'15 | |
| | 3356 Aug 11 03:21 | 0°♍ | | | 3359 Feb 11 12:05 | 0°♏ | |
| desc. node | 3356 Aug 26 17:56 | 17°♍44'15 | | | 3359 Mar 07 12:26 | 0°♏ | |
| | 3356 Sep 06 19:57 | 0°♍ | | | 3359 Mar 31 13:06 | 0°♑ | |
| evening max el | 3356 Oct 04 05:18 | 28°♍26'29 | 46°18'24 | morning set | 3359 Apr 04 10:50 | 4°♑52'04 | |
| | 3356 Oct 05 20:09 | 0°♎ | | | 3359 Apr 24 15:35 | 0°♄ | |
| greatest brilliancy | 3356 Nov 13 08:52 | 27°♎49'50 | -4.9m | | | | |
| retrograde | 3356 Nov 22 19:42 | 29°♎29'41 | | superior conj | 3359 May 13 06:55 | 23°♄06'09 | -0°50'15 |
| evening set | 3356 Dec 07 08:15 | 25°♎21'13 | | minimum elong | 3359 May 13 16:28 | 23°♄35'41 | 0°49'52 |
| inferior conj | 3356 Dec 13 10:00 | 21°♎49'17 | -1°08'54 | max. Earth dist. | 3359 May 16 11:14 | 27°♄02'09 | 1.72834 AU |
| minimum elong | 3356 Dec 13 12:39 | 21°♎45'17 | 1°08'03 | | 3359 May 18 20:46 | 0°♐ | |
| min. Earth dist. | 3356 Dec 13 18:51 | 21°♎35'52 | 0.26679 AU | asc. node | 3359 Jun 04 16:01 | 20°♐43'51 | |
| asc. node | 3356 Dec 17 20:43 | 19°♎10'41 | | | 3359 Jun 12 04:44 | 0°♄ | |
| morning rise | 3356 Dec 19 16:35 | 18°♎10'17 | | evening rise | 3359 Jun 20 00:09 | 9°♄36'12 | |
| direct | 3357 Jan 02 23:43 | 14°♎05'36 | | | 3359 Jul 06 15:07 | 0°♌ | |
| greatest brilliancy | 3357 Jan 13 12:37 | 16°♎12'20 | -4.9m | | 3359 Jul 31 03:59 | 0°♍ | |
| | 3357 Feb 04 02:12 | 0°♎ | | | 3359 Aug 24 20:21 | 0°♍ | |
| morning max el | 3357 Feb 22 15:19 | 17°♎18'26 | 46°56'53 | | 3359 Sep 18 18:03 | 0°♍ | |
| | 3357 Mar 06 18:48 | 0°♏ | | desc. node | 3359 Sep 24 05:48 | 6°♍34'03 | |
| | 3357 Apr 02 14:16 | 0°♏ | | | 3359 Oct 13 23:39 | 0°♎ | |
| desc. node | 3357 Apr 08 10:48 | 6°♏46'31 | | | 3359 Nov 08 18:05 | 0°♎ | |
| | 3357 Apr 28 05:40 | 0°♑ | | | 3359 Dec 05 16:08 | 0°♏ | |
| | 3357 May 23 09:30 | 0°♄ | | evening max el | 3359 Dec 17 06:19 | 12°♏06'06 | 47°11'44 |
| | 3357 Jun 17 07:57 | 0°♐ | | | 3360 Jan 05 11:30 | 0°♏ | |
| | 3357 Jul 12 02:49 | 0°♄ | | asc. node | 3360 Jan 15 08:45 | 7°♏26'41 | |
| asc. node | 3357 Jul 30 13:42 | 22°♄27'33 | | greatest brilliancy | 3360 Jan 26 19:49 | 13°♏31'02 | -4.9m |
| | 3357 Aug 05 17:50 | 0°♌ | | retrograde | 3360 Feb 06 00:54 | 15°♏29'59 | |
| morning set | 3357 Aug 23 13:43 | 21°♌51'37 | | evening set | 3360 Feb 23 01:09 | 9°♏50'26 | |
| | 3357 Aug 30 04:27 | 0°♍ | | min. Earth dist. | 3360 Feb 25 23:52 | 8°♏02'26 | 0.27114 AU |
| | 3357 Sep 23 10:54 | 0°♍ | | inferior conj | 3360 Feb 26 17:49 | 7°♏34'34 | 8°26'15 |
| max. Earth dist. | 3357 Sep 26 03:12 | 3°♍19'22 | 1.72699 AU | minimum elong | 3360 Feb 26 10:48 | 7°♏45'28 | 8°25'28 |
| | | | | morning rise | 3360 Feb 29 20:40 | 5°♏39'52 | |
| superior conj | 3357 Sep 29 02:31 | 7°♍00'35 | 1°24'22 | | 3360 Mar 15 08:03 | 30°♎♏ | |
| minimum elong | 3357 Sep 29 05:02 | 7°♍08'22 | 1°24'21 | direct | 3360 Mar 18 07:35 | 29°♏49'12 | |
| | 3357 Oct 17 14:24 | 0°♍ | | | 3360 Mar 21 08:05 | 0°♏ | |
| evening rise | 3357 Nov 05 22:05 | 24°♍03'47 | | greatest brilliancy | 3360 Mar 27 08:32 | 1°♏21'48 | -4.9m |
| | 3357 Nov 10 16:23 | 0°♎ | | desc. node | 3360 May 05 22:31 | 0°♑19'22 | |
| desc. node | 3357 Nov 19 03:35 | 10°♎33'22 | | | 3360 May 05 14:33 | 0°♑ | |
| | 3357 Dec 04 17:44 | 0°♎ | | morning max el | 3360 May 07 00:07 | 1°♑21'53 | 46°20'03 |
| | 3357 Dec 28 19:07 | 0°♏ | | | 3360 Jun 03 08:18 | 0°♄ | |
| | 3358 Jan 21 22:01 | 0°♏ | | | 3360 Jun 29 23:49 | 0°♐ | |

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| | 3360 Jul 25 18:17 | 0°☿ | | | 3363 Jan 08 23:38 | 0°♄ | |
| | 3360 Aug 19 23:34 | 0°♌ | | | 3363 Feb 03 19:54 | 0°♊ | |
| asc. node | 3360 Aug 27 01:32 | 8°♌31'25 | | asc. node | 3363 Feb 11 20:31 | 8°♊55'44 | |
| | 3360 Sep 13 18:14 | 0°♍ | | evening max el | 3363 Feb 27 04:55 | 25°♊09'15 | 46°51'18 |
| | 3360 Oct 08 04:11 | 0°♎ | | | 3363 Mar 04 02:05 | 0°♋ | |
| morning set | 3360 Oct 31 22:38 | 29°♎31'14 | | greatest brilliancy | 3363 Apr 08 02:36 | 25°♋53'17 | -4.8m |
| | 3360 Nov 01 07:51 | 0°♏ | | retrograde | 3363 Apr 18 15:45 | 27°♋58'53 | |
| | 3360 Nov 25 07:41 | 0°♐ | | evening set | 3363 May 04 23:30 | 22°♋46'38 | |
| max. Earth dist. | 3360 Dec 07 21:30 | 15°♐46'22 | 1.71385 AU | inferior conj | 3363 May 09 20:42 | 19°♋47'21 | 5°31'06 |
| | | | | minimum elong | 3363 May 10 06:30 | 19°♋31'58 | 5°28'46 |
| superior conj | 3360 Dec 09 22:48 | 18°♐21'03 | 0°16'01 | min. Earth dist. | 3363 May 09 19:19 | 19°♋49'30 | 0.28282 AU |
| minimum elong | 3360 Dec 10 02:48 | 18°♐33'37 | 0°15'50 | morning rise | 3363 May 15 13:48 | 16°♋20'02 | |
| behind sun begin | 3360 Dec 09 20:55 | 18°♐15'10 | | direct | 3363 May 31 00:02 | 11°♋41'19 | |
| behind sun end | 3360 Dec 10 08:41 | 18°♐52'04 | | desc. node | 3363 Jun 03 10:17 | 11°♋54'52 | |
| desc. node | 3360 Dec 16 15:28 | 26°♐45'18 | | greatest brilliancy | 3363 Jun 09 21:31 | 13°♋28'19 | -4.7m |
| | 3360 Dec 19 05:29 | 0°♑ | | | 3363 Jul 05 23:12 | 0°♌ | |
| | 3361 Jan 12 02:25 | 0°♒ | | morning max el | 3363 Jul 18 20:47 | 11°♌37'47 | 45°45'04 |
| evening rise | 3361 Jan 19 20:55 | 9°♒45'51 | | | 3363 Aug 06 02:22 | 0°♍ | |
| | 3361 Feb 04 23:38 | 0°♋ | | | 3363 Sep 02 10:52 | 0°♌ | |
| | 3361 Feb 28 22:58 | 0°♊ | | asc. node | 3363 Sep 24 13:20 | 25°♌33'49 | |
| | 3361 Mar 25 03:04 | 0°♋ | | | 3363 Sep 28 07:32 | 0°♍ | |
| asc. node | 3361 Apr 08 18:17 | 17°♋58'45 | | | 3363 Oct 23 07:13 | 0°♎ | |
| | 3361 Apr 18 15:10 | 0°♌ | | | 3363 Nov 16 17:36 | 0°♏ | |
| | 3361 May 13 15:26 | 0°♍ | | | 3363 Dec 10 20:08 | 0°♐ | |
| | 3361 Jun 08 11:03 | 0°♌ | | | 3364 Jan 03 18:38 | 0°♑ | |
| | 3361 Jul 05 19:41 | 0°♍ | | desc. node | 3364 Jan 14 03:17 | 13°♑00'53 | |
| evening max el | 3361 Jul 21 07:28 | 15°♍33'35 | 45°29'07 | morning set | 3364 Jan 15 04:32 | 14°♑20'13 | |
| desc. node | 3361 Jul 29 08:11 | 22°♍58'57 | | | 3364 Jan 27 15:28 | 0°♒ | |
| | 3361 Aug 06 15:31 | 0°♎ | | | 3364 Feb 20 12:06 | 0°♋ | |
| greatest brilliancy | 3361 Aug 29 08:57 | 13°♎33'49 | -4.7m | | | | |
| retrograde | 3361 Sep 07 22:44 | 15°♎13'34 | | superior conj | 3364 Feb 25 18:56 | 6°♋38'22 | -1°20'18 |
| evening set | 3361 Sep 26 01:27 | 9°♎09'27 | | minimum elong | 3364 Feb 25 10:29 | 6°♋11'52 | 1°20'08 |
| inferior conj | 3361 Sep 29 06:14 | 7°♎11'53 | -8°37'19 | max. Earth dist. | 3364 Feb 28 10:56 | 9°♋59'19 | 1.71336 AU |
| minimum elong | 3361 Sep 29 08:46 | 7°♎07'57 | 8°37'14 | | 3364 Mar 15 09:59 | 0°♊ | |
| min. Earth dist. | 3361 Sep 29 23:17 | 6°♎45'25 | 0.28523 AU | evening rise | 3364 Apr 06 07:22 | 27°♊20'06 | |
| morning rise | 3361 Oct 02 15:50 | 5°♎06'24 | | | 3364 Apr 08 10:46 | 0°♋ | |
| | 3361 Oct 13 13:37 | 30°♏♍ | | | 3364 May 02 15:59 | 0°♌ | |
| direct | 3361 Oct 20 15:15 | 28°♏59'35 | | asc. node | 3364 May 06 06:15 | 4°♌25'45 | |
| | 3361 Oct 27 22:33 | 0°♎ | | | 3364 May 27 02:50 | 0°♍ | |
| greatest brilliancy | 3361 Oct 31 18:42 | 1°♎15'59 | -4.8m | | 3364 Jun 20 20:32 | 0°♌ | |
| asc. node | 3361 Nov 19 10:56 | 12°♎45'00 | | | 3364 Jul 15 23:31 | 0°♍ | |
| | 3361 Dec 08 11:26 | 0°♏ | | | 3364 Aug 10 16:59 | 0°♎ | |
| morning max el | 3361 Dec 09 22:12 | 1°♏27'15 | 46°39'21 | desc. node | 3364 Aug 25 19:51 | 17°♎07'31 | |
| | 3362 Jan 05 07:31 | 0°♐ | | | 3364 Sep 06 12:29 | 0°♏ | |
| | 3362 Jan 30 23:50 | 0°♑ | | evening max el | 3364 Oct 01 19:51 | 26°♏08'48 | 46°16'01 |
| | 3362 Feb 24 20:43 | 0°♒ | | | 3364 Oct 05 20:57 | 0°♐ | |
| desc. node | 3362 Mar 11 00:53 | 17°♒18'13 | | greatest brilliancy | 3364 Nov 10 21:24 | 25°♐24'11 | -4.8m |
| | 3362 Mar 21 09:22 | 0°♋ | | retrograde | 3364 Nov 20 08:22 | 27°♐03'28 | |
| | 3362 Apr 14 18:53 | 0°♊ | | evening set | 3364 Dec 04 22:20 | 22°♐53'06 | |
| | 3362 May 09 03:53 | 0°♋ | | inferior conj | 3364 Dec 10 22:30 | 19°♐22'52 | -1°32'52 |
| | 3362 Jun 02 13:34 | 0°♌ | | minimum elong | 3364 Dec 11 02:02 | 19°♐17'30 | 1°31'44 |
| morning set | 3362 Jun 14 08:35 | 14°♌29'03 | | min. Earth dist. | 3364 Dec 11 08:24 | 19°♐07'49 | 0.26716 AU |
| | 3362 Jun 26 23:50 | 0°♍ | | asc. node | 3364 Dec 16 22:50 | 15°♐52'09 | |
| asc. node | 3362 Jul 02 03:55 | 6°♍20'53 | | morning rise | 3364 Dec 17 05:20 | 15°♐43'30 | |
| max. Earth dist. | 3362 Jul 20 06:11 | 28°♍35'01 | 1.73538 AU | direct | 3364 Dec 31 13:20 | 11°♐38'45 | |
| | | | | greatest brilliancy | 3365 Jan 11 02:23 | 13°♐45'48 | -4.9m |
| superior conj | 3362 Jul 21 05:09 | 29°♍45'36 | 0°43'23 | | 3365 Feb 04 12:02 | 0°♑ | |
| minimum elong | 3362 Jul 20 21:22 | 29°♍21'39 | 0°43'02 | morning max el | 3365 Feb 20 05:12 | 14°♑54'28 | 46°57'13 |
| | 3362 Jul 21 09:50 | 0°♌ | | | 3365 Mar 06 13:46 | 0°♒ | |
| | 3362 Aug 14 18:55 | 0°♍ | | | 3365 Apr 02 05:18 | 0°♋ | |
| evening rise | 3362 Aug 26 02:49 | 13°♍57'28 | | desc. node | 3365 Apr 07 12:50 | 6°♋10'09 | |
| | 3362 Sep 08 03:16 | 0°♎ | | | 3365 Apr 27 18:52 | 0°♊ | |
| | 3362 Oct 02 11:48 | 0°♏ | | | 3365 May 22 21:41 | 0°♋ | |
| desc. node | 3362 Oct 21 17:42 | 23°♏40'07 | | | 3365 Jun 16 19:28 | 0°♌ | |
| | 3362 Oct 26 21:28 | 0°♐ | | | 3365 Jul 11 13:53 | 0°♍ | |
| | 3362 Nov 20 09:04 | 0°♑ | | asc. node | 3365 Jul 29 15:43 | 22°♑00'38 | |
| | 3362 Dec 15 00:12 | 0°♒ | | | 3365 Aug 05 04:38 | 0°♌ | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| morning set | 3365 Aug 21 07:38 | 19°♌46'27 | | evening set | 3368 Feb 20 10:21 | 7°♎30'48 | |
| | 3365 Aug 29 15:05 | 0°♍ | | min. Earth dist. | 3368 Feb 23 13:11 | 5°♎36'52 | 0.27069 AU |
| | 3365 Sep 22 21:31 | 0°♌ | | inferior conj | 3368 Feb 24 06:55 | 5°♎09'21 | 8°17'49 |
| max. Earth dist. | 3365 Sep 23 19:41 | 1°♌08'41 | 1.72745 AU | minimum elong | 3368 Feb 23 23:12 | 5°♎21'19 | 8°16'53 |
| | | | | morning rise | 3368 Feb 27 12:16 | 3°♎10'56 | |
| superior conj | 3365 Sep 26 19:47 | 4°♌52'13 | 1°24'44 | | 3368 Mar 04 11:59 | 30°♎ | |
| minimum elong | 3365 Sep 26 21:34 | 4°♌57'45 | 1°24'43 | direct | 3368 Mar 15 19:41 | 27°♎24'32 | |
| | 3365 Oct 17 01:08 | 0°♍ | | greatest brilliancy | 3368 Mar 24 22:06 | 28°♎58'02 | -4.9m |
| evening rise | 3365 Nov 03 12:23 | 21°♍44'51 | | | 3368 Mar 27 16:38 | 0°♎ | |
| | 3365 Nov 10 03:18 | 0°♎ | | morning max el | 3368 May 04 12:28 | 28°♎58'00 | 46°21'44 |
| desc. node | 3365 Nov 18 05:44 | 10°♎05'50 | | desc. node | 3368 May 05 00:38 | 29°♎27'53 | |
| | 3365 Dec 04 04:53 | 0°♎ | | | 3368 May 05 13:39 | 0°♎ | |
| | 3365 Dec 28 06:31 | 0°♎ | | | 3368 Jun 03 00:24 | 0°♎ | |
| | 3366 Jan 21 09:44 | 0°♎ | | | 3368 Jun 29 13:18 | 0°♎ | |
| | 3366 Feb 14 17:58 | 0°♎ | | | 3368 Jul 25 06:27 | 0°♎ | |
| asc. node | 3366 Mar 11 08:20 | 29°♎44'46 | | | 3368 Aug 19 10:59 | 0°♎ | |
| | 3366 Mar 11 13:27 | 0°♎ | | asc. node | 3368 Aug 26 03:28 | 8°♎03'12 | |
| | 3366 Apr 06 07:09 | 0°♎ | | | 3368 Sep 13 05:14 | 0°♎ | |
| | 3366 May 04 01:12 | 0°♎ | | | 3368 Oct 07 14:59 | 0°♎ | |
| evening max el | 3366 May 09 09:11 | 5°♎18'39 | 45°49'16 | morning set | 3368 Oct 29 13:57 | 27°♎16'00 | |
| | 3366 Jun 08 19:20 | 0°♎ | | | 3368 Oct 31 18:34 | 0°♎ | |
| greatest brilliancy | 3366 Jun 16 08:16 | 3°♎37'40 | -4.7m | | 3368 Nov 24 18:23 | 0°♎ | |
| retrograde | 3366 Jun 27 09:48 | 5°♎49'48 | | max. Earth dist. | 3368 Dec 05 09:12 | 13°♎18'52 | 1.71422 AU |
| desc. node | 3366 Jun 30 22:21 | 5°♎35'07 | | | | | |
| evening set | 3366 Jul 12 17:09 | 1°♎18'27 | | superior conj | 3368 Dec 07 11:01 | 15°♎55'09 | 0°19'43 |
| | 3366 Jul 14 23:29 | 30°♎ | | minimum elong | 3368 Dec 07 15:53 | 16°♎10'26 | 0°19'29 |
| inferior conj | 3366 Jul 18 21:32 | 27°♎34'40 | -4°05'12 | desc. node | 3368 Dec 15 17:33 | 26°♎18'07 | |
| minimum elong | 3366 Jul 18 13:26 | 27°♎47'22 | 4°03'06 | | 3368 Dec 18 16:14 | 0°♎ | |
| min. Earth dist. | 3366 Jul 18 14:55 | 27°♎45'03 | 0.28986 AU | | 3369 Jan 11 13:15 | 0°♎ | |
| morning rise | 3366 Jul 24 09:57 | 24°♎13'46 | | evening rise | 3369 Jan 17 07:40 | 7°♎14'44 | |
| direct | 3366 Aug 09 12:41 | 19°♎18'40 | | | 3369 Feb 04 10:36 | 0°♎ | |
| greatest brilliancy | 3366 Aug 19 17:19 | 21°♎10'58 | -4.7m | | 3369 Feb 28 10:06 | 0°♎ | |
| | 3366 Sep 04 18:41 | 0°♎ | | | 3369 Mar 24 14:25 | 0°♎ | |
| morning max el | 3366 Sep 27 11:32 | 19°♎24'17 | 45°54'35 | asc. node | 3369 Apr 07 20:23 | 17°♎29'54 | |
| | 3366 Oct 08 01:22 | 0°♎ | | | 3369 Apr 18 02:54 | 0°♎ | |
| asc. node | 3366 Oct 22 01:16 | 14°♎57'51 | | | 3369 May 13 03:56 | 0°♎ | |
| | 3366 Nov 04 10:28 | 0°♎ | | | 3369 Jun 08 01:10 | 0°♎ | |
| | 3366 Nov 29 23:17 | 0°♎ | | | 3369 Jul 05 13:41 | 0°♎ | |
| | 3366 Dec 24 15:31 | 0°♎ | | evening max el | 3369 Jul 18 21:52 | 13°♎19'42 | 45°28'41 |
| | 3367 Jan 17 21:44 | 0°♎ | | desc. node | 3369 Jul 28 10:06 | 22°♎03'28 | |
| desc. node | 3367 Feb 10 15:05 | 29°♎33'59 | | | 3369 Aug 07 02:35 | 0°♎ | |
| | 3367 Feb 10 23:25 | 0°♎ | | greatest brilliancy | 3369 Aug 26 21:55 | 11°♎19'28 | -4.7m |
| | 3367 Mar 06 23:32 | 0°♎ | | retrograde | 3369 Sep 05 13:59 | 13°♎01'08 | |
| | 3367 Mar 31 00:01 | 0°♎ | | evening set | 3369 Sep 23 16:35 | 6°♎55'58 | |
| morning set | 3367 Apr 01 23:16 | 2°♎27'19 | | inferior conj | 3369 Sep 26 21:26 | 4°♎58'22 | -8°39'04 |
| | 3367 Apr 24 02:22 | 0°♎ | | minimum elong | 3369 Sep 26 23:10 | 4°♎55'41 | 8°39'01 |
| | | | | min. Earth dist. | 3369 Sep 27 13:28 | 4°♎33'30 | 0.28575 AU |
| superior conj | 3367 May 10 21:51 | 20°♎50'45 | -0°53'04 | morning rise | 3369 Sep 30 05:32 | 2°♎55'18 | |
| minimum elong | 3367 May 11 07:41 | 21°♎21'11 | 0°52'41 | | 3369 Oct 05 12:26 | 30°♎ | |
| max. Earth dist. | 3367 May 14 06:08 | 24°♎59'05 | 1.72784 AU | direct | 3369 Oct 18 06:54 | 26°♎45'18 | |
| | 3367 May 18 07:28 | 0°♎ | | greatest brilliancy | 3369 Oct 29 10:05 | 29°♎01'37 | -4.8m |
| asc. node | 3367 Jun 03 18:08 | 20°♎17'32 | | | 3369 Oct 31 17:25 | 0°♎ | |
| | 3367 Jun 11 15:24 | 0°♎ | | asc. node | 3369 Nov 18 13:00 | 11°♎38'46 | |
| evening rise | 3367 Jun 17 17:29 | 7°♎29'04 | | morning max el | 3369 Dec 07 13:46 | 29°♎10'47 | 46°38'08 |
| | 3367 Jul 06 01:52 | 0°♎ | | | 3369 Dec 08 09:14 | 0°♎ | |
| | 3367 Jul 30 14:58 | 0°♎ | | | 3370 Jan 04 23:15 | 0°♎ | |
| | 3367 Aug 24 07:44 | 0°♎ | | | 3370 Jan 30 13:21 | 0°♎ | |
| | 3367 Sep 18 06:06 | 0°♎ | | | 3370 Feb 24 09:09 | 0°♎ | |
| desc. node | 3367 Sep 23 07:52 | 6°♎03'40 | | desc. node | 3370 Mar 10 02:57 | 16°♎47'37 | |
| | 3367 Oct 13 12:48 | 0°♎ | | | 3370 Mar 20 21:10 | 0°♎ | |
| | 3367 Nov 08 09:12 | 0°♎ | | | 3370 Apr 14 06:15 | 0°♎ | |
| | 3367 Dec 05 11:34 | 0°♎ | | | 3370 May 08 14:56 | 0°♎ | |
| evening max el | 3367 Dec 14 19:14 | 9°♎39'55 | 47°10'40 | | 3370 Jun 02 00:21 | 0°♎ | |
| | 3368 Jan 06 01:06 | 0°♎ | | morning set | 3370 Jun 12 01:33 | 12°♎20'48 | |
| asc. node | 3368 Jan 14 10:42 | 5°♎59'49 | | | 3370 Jun 26 10:28 | 0°♎ | |
| greatest brilliancy | 3368 Jan 24 10:06 | 11°♎05'47 | -4.9m | asc. node | 3370 Jul 01 05:53 | 5°♎54'23 | |
| retrograde | 3368 Feb 03 13:40 | 13°♎03'43 | | max. Earth dist. | 3370 Jul 18 04:20 | 26°♎43'04 | 1.73542 AU |

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|---------------------|-------------------|-----------|------------|---------------------|--|-------------------|-----------|------------|
| superior conj | 3370 Jul 18 23:03 | 27°☿40'36 | 0°40'35 | | | 3373 Feb 04 19:10 | 0°☿ | |
| minimum elong | 3370 Jul 18 15:36 | 27°☿17'40 | 0°40'16 | morning max el | | 3373 Feb 17 18:15 | 12°☿28'25 | 46°57'41 |
| | 3370 Jul 20 20:24 | 0°♌ | | | | 3373 Mar 06 08:09 | 0°♌ | |
| | 3370 Aug 14 05:32 | 0°♍ | | | | 3373 Apr 01 20:01 | 0°♍ | |
| evening rise | 3370 Aug 23 21:04 | 11°♍52'59 | | desc. node | | 3373 Apr 06 14:59 | 5°♍34'41 | |
| | 3370 Sep 07 14:03 | 0°♎ | | | | 3373 Apr 27 07:52 | 0°♎ | |
| | 3370 Oct 01 22:50 | 0°♏ | | | | 3373 May 22 09:42 | 0°♏ | |
| desc. node | 3370 Oct 20 19:51 | 23°♏11'56 | | | | 3373 Jun 16 06:54 | 0°♐ | |
| | 3370 Oct 26 08:53 | 0°♑ | | | | 3373 Jul 11 00:58 | 0°☿ | |
| | 3370 Nov 19 21:00 | 0°☿ | | asc. node | | 3373 Jul 28 17:43 | 21°☿33'30 | |
| | 3370 Dec 14 12:52 | 0°♌ | | | | 3373 Aug 04 15:29 | 0°♌ | |
| | 3371 Jan 08 13:31 | 0°♍ | | morning set | | 3373 Aug 19 01:16 | 17°♌40'05 | |
| | 3371 Feb 03 12:18 | 0°♎ | | | | 3373 Aug 29 01:49 | 0°♍ | |
| asc. node | 3371 Feb 10 22:29 | 8°♎12'42 | | max. Earth dist. | | 3373 Sep 21 11:03 | 28°♍54'17 | 1.72790 AU |
| evening max el | 3371 Feb 24 20:14 | 22°♎52'12 | 46°53'11 | | | 3373 Sep 22 08:15 | 0°♎ | |
| | 3371 Mar 04 02:13 | 0°♏ | | | | | | |
| greatest brilliancy | 3371 Apr 05 18:02 | 23°♏38'01 | -4.8m | superior conj | | 3373 Sep 24 12:49 | 2°♎42'54 | 1°24'58 |
| retrograde | 3371 Apr 16 07:58 | 25°♏44'10 | | minimum elong | | 3373 Sep 24 13:52 | 2°♎46'09 | 1°24'58 |
| evening set | 3371 May 02 17:45 | 20°♏27'35 | | | | 3373 Oct 16 11:59 | 0°♏ | |
| inferior conj | 3371 May 07 11:59 | 17°♏32'35 | 5°47'33 | evening rise | | 3373 Nov 01 02:30 | 19°♏25'14 | |
| minimum elong | 3371 May 07 21:59 | 17°♏16'56 | 5°45'15 | | | 3373 Nov 09 14:19 | 0°♑ | |
| min. Earth dist. | 3371 May 07 10:05 | 17°♏35'33 | 0.28257 AU | desc. node | | 3373 Nov 17 07:43 | 9°♑37'30 | |
| morning rise | 3371 May 13 02:33 | 14°♏09'13 | | | | 3373 Dec 03 16:07 | 0°☿ | |
| direct | 3371 May 28 15:19 | 9°♏27'02 | | | | 3373 Dec 27 18:01 | 0°♌ | |
| desc. node | 3371 Jun 02 12:22 | 9°♏54'19 | | | | 3374 Jan 20 21:33 | 0°♍ | |
| greatest brilliancy | 3371 Jun 07 11:22 | 11°♏13'24 | -4.8m | | | 3374 Feb 14 06:18 | 0°♎ | |
| | 3371 Jul 06 04:26 | 0°♐ | | asc. node | | 3374 Mar 10 10:30 | 29°♎11'52 | |
| morning max el | 3371 Jul 16 13:06 | 9°♐28'21 | 45°45'34 | | | 3374 Mar 11 02:41 | 0°♏ | |
| | 3371 Aug 05 19:34 | 0°☿ | | | | 3374 Apr 05 22:15 | 0°♐ | |
| | 3371 Sep 02 00:43 | 0°♌ | | | | 3374 May 03 21:30 | 0°☿ | |
| asc. node | 3371 Sep 23 15:30 | 25°♌03'15 | | evening max el | | 3374 May 07 00:14 | 3°☿04'54 | 45°50'59 |
| | 3371 Sep 27 19:55 | 0°♍ | | | | 3374 Jun 10 13:46 | 0°♌ | |
| | 3371 Oct 22 18:52 | 0°♎ | | greatest brilliancy | | 3374 Jun 14 01:17 | 1°♌29'39 | -4.7m |
| | 3371 Nov 16 04:52 | 0°♏ | | retrograde | | 3374 Jun 25 01:47 | 3°♌41'17 | |
| | 3371 Dec 10 07:13 | 0°♑ | | desc. node | | 3374 Jun 30 00:15 | 3°♌12'22 | |
| | 3372 Jan 03 05:37 | 0°☿ | | | | 3374 Jul 08 20:09 | 30°♌☿ | |
| morning set | 3372 Jan 12 15:01 | 11°☿47'58 | | evening set | | 3374 Jul 10 08:20 | 29°☿11'47 | |
| desc. node | 3372 Jan 13 05:15 | 12°☿32'41 | | inferior conj | | 3374 Jul 16 14:02 | 25°☿26'14 | -3°47'39 |
| | 3372 Jan 27 02:22 | 0°♌ | | minimum elong | | 3374 Jul 16 06:23 | 25°☿38'15 | 3°45'38 |
| | 3372 Feb 19 22:56 | 0°♍ | | min. Earth dist. | | 3374 Jul 16 07:41 | 25°☿36'12 | 0.28972 AU |
| | | | | morning rise | | 3374 Jul 22 04:36 | 22°☿01'58 | |
| superior conj | 3372 Feb 23 05:37 | 4°♍07'12 | -1°18'44 | direct | | 3374 Aug 07 04:41 | 17°☿10'23 | |
| minimum elong | 3372 Feb 22 20:25 | 3°♍38'18 | 1°18'33 | greatest brilliancy | | 3374 Aug 17 09:36 | 19°☿02'27 | -4.7m |
| max. Earth dist. | 3372 Feb 25 21:24 | 7°♍27'30 | 1.71302 AU | | | 3374 Sep 05 09:16 | 0°♌ | |
| | 3372 Mar 14 20:47 | 0°♎ | | morning max el | | 3374 Sep 25 01:52 | 17°♌09'30 | 45°53'26 |
| evening rise | 3372 Apr 03 19:46 | 24°♎55'42 | | | | 3374 Oct 07 19:56 | 0°♍ | |
| | 3372 Apr 07 21:34 | 0°♏ | | asc. node | | 3374 Oct 21 03:20 | 14°♍19'08 | |
| | 3372 May 02 02:53 | 0°♐ | | | | 3374 Nov 04 01:02 | 0°♎ | |
| asc. node | 3372 May 05 08:19 | 3°♐58'31 | | | | 3374 Nov 29 12:17 | 0°♏ | |
| | 3372 May 26 13:58 | 0°☿ | | | | 3374 Dec 24 03:44 | 0°♑ | |
| | 3372 Jun 20 08:06 | 0°♌ | | | | 3375 Jan 17 09:31 | 0°☿ | |
| | 3372 Jul 15 11:51 | 0°♍ | | desc. node | | 3375 Feb 09 17:06 | 29°☿04'25 | |
| | 3372 Aug 10 06:47 | 0°♎ | | | | 3375 Feb 10 10:54 | 0°♌ | |
| desc. node | 3372 Aug 24 21:57 | 16°♎30'54 | | | | 3375 Mar 06 10:48 | 0°♍ | |
| | 3372 Sep 06 05:22 | 0°♏ | | morning set | | 3375 Mar 30 11:38 | 0°♎01'37 | |
| evening max el | 3372 Sep 29 10:02 | 23°♏50'16 | 46°13'41 | | | 3375 Mar 30 11:07 | 0°♎ | |
| | 3372 Oct 05 23:06 | 0°♑ | | | | 3375 Apr 23 13:20 | 0°♏ | |
| greatest brilliancy | 3372 Nov 08 10:31 | 22°♑59'27 | -4.8m | | | | | |
| retrograde | 3372 Nov 17 20:29 | 24°♑37'22 | | superior conj | | 3375 May 08 12:59 | 18°♑35'23 | -0°55'47 |
| evening set | 3372 Dec 02 12:37 | 20°♑25'01 | | minimum elong | | 3375 May 08 23:04 | 19°♑06'34 | 0°55'24 |
| inferior conj | 3372 Dec 08 11:00 | 16°♑56'47 | -1°56'36 | max. Earth dist. | | 3375 May 11 23:26 | 22°♑50'31 | 1.72729 AU |
| minimum elong | 3372 Dec 08 15:24 | 16°♑50'04 | 1°55'12 | | | 3375 May 17 18:19 | 0°♐ | |
| min. Earth dist. | 3372 Dec 08 22:14 | 16°♑39'41 | 0.26753 AU | asc. node | | 3375 Jun 02 20:06 | 19°♐50'17 | |
| morning rise | 3372 Dec 14 17:46 | 13°♑17'04 | | | | 3375 Jun 11 02:14 | 0°☿ | |
| asc. node | 3372 Dec 16 00:51 | 12°♑37'08 | | evening rise | | 3375 Jun 15 10:59 | 5°☿22'01 | |
| direct | 3372 Dec 29 02:36 | 9°♑12'06 | | | | 3375 Jul 05 12:48 | 0°♌ | |
| greatest brilliancy | 3373 Jan 08 16:29 | 11°♑19'40 | -4.9m | | | 3375 Jul 30 02:10 | 0°♍ | |

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|---------------------|-------------------|----------------------|--|-------------------|----------------------|--|
| | 3375 Aug 23 19:25 | 0°♄ | | 3378 Jan 30 03:16 | 0°♄ | |
| | 3375 Sep 17 18:32 | 0°♍ | | 3378 Feb 23 21:59 | 0°♍ | |
| desc. node | 3375 Sep 22 09:56 | 5°♍32'16 | | 3378 Mar 09 05:06 | 16°♍16'08 | |
| | 3375 Oct 13 02:25 | 0°♎ | | 3378 Mar 20 09:21 | 0°♎ | |
| | 3375 Nov 08 00:55 | 0°♏ | | 3378 Apr 13 17:57 | 0°♏ | |
| | 3375 Dec 05 08:01 | 0°♐ | | 3378 May 08 02:16 | 0°♐ | |
| evening max el | 3375 Dec 12 07:44 | 7°♐11'49 47°09'45 | | 3378 Jun 01 11:27 | 0°♑ | |
| | 3376 Jan 06 19:51 | 0°♑ | | 3378 Jun 09 18:38 | 10°♑11'56 | |
| asc. node | 3376 Jan 13 12:43 | 4°♑28'58 | | 3378 Jun 25 21:24 | 0°♒ | |
| greatest brilliancy | 3376 Jan 22 00:02 | 8°♑38'59 -4.9m | | 3378 Jun 30 07:55 | 5°♒27'06 | |
| retrograde | 3376 Feb 01 02:40 | 10°♑36'33 | | 3378 Jul 16 03:23 | 24°♒52'55 1.73540 AU | |
| evening set | 3376 Feb 17 19:20 | 5°♑09'58 | | | | |
| min. Earth dist. | 3376 Feb 21 02:19 | 3°♑10'15 0.27024 AU | | 3378 Jul 16 17:11 | 25°♒35'21 0°37'47 | |
| inferior conj | 3376 Feb 21 19:56 | 2°♑42'58 8°08'29 | | 3378 Jul 16 10:07 | 25°♒13'35 0°37'28 | |
| minimum elong | 3376 Feb 21 11:34 | 2°♑55'55 8°07'21 | | 3378 Jul 20 07:17 | 0°♓ | |
| morning rise | 3376 Feb 25 04:01 | 0°♑40'41 | | 3378 Aug 13 16:26 | 0°♐ | |
| | 3376 Feb 26 07:49 | 30°♑ | | 3378 Aug 21 15:41 | 9°♐48'51 | |
| direct | 3376 Mar 13 07:44 | 24°♑58'31 | | 3378 Sep 07 01:05 | 0°♑ | |
| greatest brilliancy | 3376 Mar 22 11:34 | 26°♑33'10 -4.9m | | 3378 Oct 01 10:09 | 0°♒ | |
| | 3376 Mar 30 05:56 | 0°♑ | | 3378 Oct 19 21:51 | 22°♒42'23 | |
| morning max el | 3376 May 02 01:44 | 26°♑35'25 46°23'32 | | 3378 Oct 25 20:37 | 0°♓ | |
| desc. node | 3376 May 04 02:37 | 28°♑36'16 | | 3378 Nov 19 09:20 | 0°♏ | |
| | 3376 May 05 12:08 | 0°♏ | | 3378 Dec 14 02:03 | 0°♐ | |
| | 3376 Jun 02 16:30 | 0°♐ | | 3379 Jan 08 04:02 | 0°♑ | |
| | 3376 Jun 29 02:54 | 0°♑ | | 3379 Feb 03 05:35 | 0°♏ | |
| | 3376 Jul 24 18:47 | 0°♒ | | 3379 Feb 10 00:38 | 7°♏28'03 | |
| asc. node | 3376 Aug 18 22:36 | 0°♓ | | 3379 Feb 22 12:03 | 20°♏34'43 46°55'06 | |
| | 3376 Aug 25 05:39 | 7°♓35'03 | | 3379 Mar 04 04:16 | 0°♐ | |
| | 3376 Sep 12 16:28 | 0°♐ | | 3379 Apr 03 09:48 | 21°♐21'38 -4.8m | |
| morning set | 3376 Oct 07 02:04 | 0°♑ | | 3379 Apr 14 00:05 | 23°♐27'39 | |
| | 3376 Oct 27 05:08 | 24°♑59'17 | | 3379 Apr 30 12:00 | 18°♐07'04 | |
| | 3376 Oct 31 05:37 | 0°♒ | | 3379 May 05 03:10 | 15°♐16'18 6°03'33 | |
| | 3376 Nov 24 05:29 | 0°♓ | | 3379 May 05 13:16 | 15°♐00'27 6°01'19 | |
| max. Earth dist. | 3376 Dec 02 21:23 | 10°♓51'38 1.71460 AU | | 3379 May 05 00:39 | 15°♐20'14 0.28224 AU | |
| | | | | 3379 May 10 14:57 | 11°♐57'01 | |
| superior conj | 3376 Dec 04 22:55 | 13°♓26'58 0°23'25 | | 3379 May 26 06:35 | 7°♐11'31 | |
| minimum elong | 3376 Dec 05 04:36 | 13°♓44'48 0°23'08 | | 3379 Jun 01 14:21 | 7°♐56'58 | |
| desc. node | 3376 Dec 14 19:30 | 25°♓49'16 | | 3379 Jun 05 00:36 | 8°♐56'30 -4.8m | |
| | 3376 Dec 18 03:23 | 0°♏ | | 3379 Jul 06 08:14 | 0°♑ | |
| | 3377 Jan 11 00:29 | 0°♐ | | 3379 Jul 14 05:00 | 7°♑16'59 45°46'10 | |
| evening rise | 3377 Jan 14 18:05 | 4°♐41'23 | | 3379 Aug 05 12:42 | 0°♒ | |
| | 3377 Feb 03 21:56 | 0°♑ | | 3379 Sep 01 14:41 | 0°♓ | |
| | 3377 Feb 27 21:34 | 0°♏ | | 3379 Sep 22 17:29 | 24°♓31'37 | |
| | 3377 Mar 24 02:07 | 0°♐ | | 3379 Sep 27 08:28 | 0°♐ | |
| asc. node | 3377 Apr 06 22:25 | 16°♐59'44 | | 3379 Oct 22 06:41 | 0°♑ | |
| | 3377 Apr 17 15:01 | 0°♑ | | 3379 Nov 15 16:19 | 0°♒ | |
| | 3377 May 12 16:51 | 0°♒ | | 3379 Dec 09 18:30 | 0°♓ | |
| | 3377 Jun 07 15:44 | 0°♓ | | 3379 Dec 16 23:50 | 9°♓02'13 -3.9m | |
| | 3377 Jul 05 08:25 | 0°♐ | | 3380 Jan 02 16:52 | 0°♏ | |
| evening max el | 3377 Jul 16 13:19 | 11°♐07'53 45°28'24 | | 3380 Jan 10 01:27 | 9°♏14'39 | |
| desc. node | 3377 Jul 27 12:13 | 21°♐06'43 | | 3380 Jan 12 07:20 | 12°♏03'59 | |
| | 3377 Aug 07 17:45 | 0°♑ | | 3380 Jan 26 13:36 | 0°♐ | |
| greatest brilliancy | 3377 Aug 24 10:40 | 9°♑04'51 -4.7m | | 3380 Feb 19 10:08 | 0°♑ | |
| retrograde | 3377 Sep 03 05:33 | 10°♑48'32 | | | | |
| evening set | 3377 Sep 21 07:31 | 4°♑43'04 | | 3380 Feb 20 15:49 | 1°♑33'15 -1°16'59 | |
| inferior conj | 3377 Sep 24 12:49 | 2°♑44'42 -8°39'53 | | 3380 Feb 20 05:57 | 1°♑02'14 1°16'46 | |
| minimum elong | 3377 Sep 24 13:45 | 2°♑43'16 8°39'53 | | 3380 Feb 23 05:38 | 4°♑47'27 1.71271 AU | |
| min. Earth dist. | 3377 Sep 25 03:29 | 2°♑21'58 0.28628 AU | | 3380 Mar 14 07:56 | 0°♏ | |
| morning rise | 3377 Sep 27 19:48 | 0°♑43'22 | | 3380 Apr 01 07:27 | 22°♏27'47 | |
| | 3377 Sep 29 01:03 | 30°♑ | | 3380 Apr 07 08:43 | 0°♐ | |
| direct | 3377 Oct 15 23:11 | 24°♑31'00 | | 3380 May 01 14:07 | 0°♑ | |
| greatest brilliancy | 3377 Oct 27 01:00 | 26°♑46'18 -4.8m | | 3380 May 04 10:16 | 3°♑29'53 | |
| | 3377 Nov 02 18:33 | 0°♑ | | 3380 May 26 01:24 | 0°♒ | |
| asc. node | 3377 Nov 17 14:59 | 10°♑33'13 | | 3380 Jun 19 19:57 | 0°♓ | |
| morning max el | 3377 Dec 05 05:56 | 26°♑54'51 46°36'32 | | 3380 Jul 15 00:29 | 0°♐ | |
| | 3377 Dec 08 06:43 | 0°♒ | | 3380 Aug 09 20:54 | 0°♑ | |
| | 3378 Jan 04 15:14 | 0°♓ | | 3380 Aug 24 00:03 | 15°♑53'32 | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3380 Sep 05 22:45 | 0°♌ | | morning set | 3383 Mar 27 23:53 | 27°♎35'50 | |
| evening max el | 3380 Sep 26 23:43 | 21°♌30'27 | 46°11'26 | | 3383 Mar 29 22:05 | 0°♍ | |
| | 3380 Oct 06 02:49 | 0°♎ | | | 3383 Apr 23 00:12 | 0°♎ | |
| greatest brilliancy | 3380 Nov 06 00:18 | 20°♎36'08 | -4.8m | | | | |
| retrograde | 3380 Nov 15 08:24 | 22°♎12'22 | | superior conj | 3383 May 06 03:47 | 16°♎19'08 | -0°58'26 |
| evening set | 3380 Nov 30 03:22 | 17°♎57'37 | | minimum elong | 3383 May 06 14:03 | 16°♎50'54 | 0°58'04 |
| inferior conj | 3380 Dec 05 23:54 | 14°♎31'47 | -2°19'37 | max. Earth dist. | 3383 May 09 13:50 | 20°♎33'07 | 1.72680 AU |
| minimum elong | 3380 Dec 06 05:06 | 14°♎23'49 | 2°17'59 | | 3383 May 17 05:07 | 0°♏ | |
| min. Earth dist. | 3380 Dec 06 12:38 | 14°♎12'20 | 0.26797 AU | asc. node | 3383 Jun 01 22:09 | 19°♏23'23 | |
| morning rise | 3380 Dec 12 06:19 | 10°♎51'56 | | | 3383 Jun 10 13:01 | 0°♏ | |
| asc. node | 3380 Dec 15 02:50 | 9°♎27'25 | | evening rise | 3383 Jun 13 04:00 | 3°♏13'36 | |
| direct | 3380 Dec 26 15:42 | 6°♎46'18 | | | 3383 Jul 04 23:41 | 0°♏ | |
| greatest brilliancy | 3381 Jan 06 07:23 | 8°♎54'58 | -4.9m | | 3383 Jul 29 13:17 | 0°♏ | |
| | 3381 Feb 05 00:15 | 0°♏ | | | 3383 Aug 23 07:00 | 0°♏ | |
| morning max el | 3381 Feb 15 06:54 | 10°♏00'51 | 46°57'48 | | 3383 Sep 17 06:52 | 0°♏ | |
| | 3381 Mar 06 02:19 | 0°♏ | | desc. node | 3383 Sep 21 11:54 | 5°♏00'51 | |
| | 3381 Apr 01 10:50 | 0°♏ | | | 3383 Oct 12 15:58 | 0°♏ | |
| desc. node | 3381 Apr 05 16:54 | 4°♏57'57 | | | 3383 Nov 07 16:40 | 0°♏ | |
| | 3381 Apr 26 21:04 | 0°♏ | | | 3383 Dec 05 04:54 | 0°♏ | |
| | 3381 May 21 21:58 | 0°♏ | | evening max el | 3383 Dec 09 21:11 | 4°♏46'59 | 47°08'51 |
| | 3381 Jun 15 18:32 | 0°♏ | | | 3384 Jan 07 20:41 | 0°♏ | |
| | 3381 Jul 10 12:10 | 0°♏ | | asc. node | 3384 Jan 12 14:51 | 2°♏55'59 | |
| asc. node | 3381 Jul 27 19:49 | 21°♏06'23 | | greatest brilliancy | 3384 Jan 19 13:27 | 6°♏12'27 | -4.9m |
| | 3381 Aug 04 02:25 | 0°♏ | | retrograde | 3384 Jan 29 16:14 | 8°♏10'24 | |
| morning set | 3381 Aug 16 18:52 | 15°♏33'21 | | evening set | 3384 Feb 15 04:17 | 2°♏49'59 | |
| | 3381 Aug 28 12:38 | 0°♏ | | min. Earth dist. | 3384 Feb 18 15:12 | 0°♏44'52 | 0.26980 AU |
| max. Earth dist. | 3381 Sep 19 03:21 | 26°♏42'37 | 1.72834 AU | inferior conj | 3384 Feb 19 08:58 | 0°♏17'27 | 7°58'13 |
| | 3381 Sep 21 19:04 | 0°♏ | | minimum elong | 3384 Feb 19 00:02 | 0°♏31'15 | 7°56'52 |
| | | | | | 3384 Feb 19 20:16 | 30°♏ | |
| superior conj | 3381 Sep 22 06:08 | 0°♏34'16 | 1°25'05 | morning rise | 3384 Feb 22 19:59 | 28°♏11'09 | |
| minimum elong | 3381 Sep 22 06:28 | 0°♏35'17 | 1°25'05 | direct | 3384 Mar 10 20:11 | 22°♏33'26 | |
| | 3381 Oct 15 22:53 | 0°♏ | | greatest brilliancy | 3384 Mar 20 00:36 | 24°♏08'52 | -4.9m |
| evening rise | 3381 Oct 29 17:09 | 17°♏07'14 | | | 3384 Mar 31 20:05 | 0°♏ | |
| | 3381 Nov 09 01:23 | 0°♏ | | morning max el | 3384 Apr 29 15:55 | 24°♏15'58 | 46°25'09 |
| desc. node | 3381 Nov 16 09:42 | 9°♏09'06 | | desc. node | 3384 May 03 04:39 | 27°♏46'36 | |
| | 3381 Dec 03 03:23 | 0°♏ | | | 3384 May 05 09:25 | 0°♏ | |
| | 3381 Dec 27 05:31 | 0°♏ | | | 3384 Jun 02 08:04 | 0°♏ | |
| | 3382 Jan 20 09:25 | 0°♏ | | | 3384 Jun 28 16:12 | 0°♏ | |
| | 3382 Feb 13 18:44 | 0°♏ | | | 3384 Jul 24 06:53 | 0°♏ | |
| asc. node | 3382 Mar 09 12:28 | 28°♏37'53 | | | 3384 Aug 18 10:01 | 0°♏ | |
| | 3382 Mar 10 16:07 | 0°♏ | | asc. node | 3384 Aug 24 07:38 | 7°♏06'56 | |
| | 3382 Apr 05 13:45 | 0°♏ | | | 3384 Sep 12 03:30 | 0°♏ | |
| | 3382 May 03 18:45 | 0°♏ | | | 3384 Oct 06 12:54 | 0°♏ | |
| evening max el | 3382 May 04 14:50 | 0°♏49'18 | 45°52'49 | morning set | 3384 Oct 24 20:23 | 22°♏43'50 | |
| greatest brilliancy | 3382 Jun 11 17:57 | 29°♏20'25 | -4.7m | | 3384 Oct 30 16:24 | 0°♏ | |
| | 3382 Jun 13 14:47 | 0°♏ | | | 3384 Nov 23 16:16 | 0°♏ | |
| retrograde | 3382 Jun 22 17:54 | 1°♏32'11 | | max. Earth dist. | 3384 Nov 30 09:52 | 8°♏26'18 | 1.71497 AU |
| desc. node | 3382 Jun 29 02:20 | 0°♏44'05 | | | | | |
| | 3382 Jul 01 13:03 | 30°♏ | | superior conj | 3384 Dec 02 11:02 | 11°♏00'29 | 0°27'02 |
| evening set | 3382 Jul 07 23:32 | 27°♏04'04 | | minimum elong | 3384 Dec 02 17:29 | 11°♏20'41 | 0°26'44 |
| inferior conj | 3382 Jul 14 06:26 | 23°♏17'11 | -3°29'47 | desc. node | 3384 Dec 13 21:36 | 25°♏21'50 | |
| minimum elong | 3382 Jul 13 23:16 | 23°♏28'26 | 3°27'50 | | 3384 Dec 17 14:15 | 0°♏ | |
| min. Earth dist. | 3382 Jul 14 00:25 | 23°♏26'38 | 0.28954 AU | | 3385 Jan 10 11:26 | 0°♏ | |
| morning rise | 3382 Jul 19 23:04 | 19°♏49'53 | | evening rise | 3385 Jan 12 04:46 | 2°♏09'50 | |
| direct | 3382 Aug 04 20:13 | 15°♏01'27 | | | 3385 Feb 03 08:58 | 0°♏ | |
| greatest brilliancy | 3382 Aug 15 02:04 | 16°♏53'55 | -4.7m | | 3385 Feb 27 08:43 | 0°♏ | |
| | 3382 Sep 05 20:09 | 0°♏ | | | 3385 Mar 23 13:27 | 0°♏ | |
| morning max el | 3382 Sep 22 16:45 | 14°♏56'14 | 45°52'27 | asc. node | 3385 Apr 06 00:24 | 16°♏30'27 | |
| | 3382 Oct 07 13:58 | 0°♏ | | | 3385 Apr 17 02:47 | 0°♏ | |
| asc. node | 3382 Oct 20 05:16 | 13°♏40'40 | | | 3385 May 12 05:28 | 0°♏ | |
| | 3382 Nov 03 15:20 | 0°♏ | | | 3385 Jun 07 06:09 | 0°♏ | |
| | 3382 Nov 29 01:04 | 0°♏ | | | 3385 Jul 05 03:24 | 0°♏ | |
| | 3382 Dec 23 15:46 | 0°♏ | | evening max el | 3385 Jul 14 05:31 | 8°♏58'30 | 45°28'01 |
| | 3383 Jan 16 21:07 | 0°♏ | | desc. node | 3385 Jul 26 14:18 | 20°♏09'14 | |
| desc. node | 3383 Feb 08 19:14 | 28°♏35'46 | | | 3385 Aug 08 13:50 | 0°♏ | |
| | 3383 Feb 09 22:12 | 0°♏ | | greatest brilliancy | 3385 Aug 21 23:43 | 6°♏51'09 | -4.7m |
| | 3383 Mar 05 21:54 | 0°♏ | | retrograde | 3385 Aug 31 20:49 | 8°♏36'18 | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| evening set | 3385 Sep 18 22:05 | 2°♌31'27 | | minimum elong | 3388 Feb 17 15:31 | 28°♏27'33 | 1°14'49 |
| inferior conj | 3385 Sep 22 04:09 | 0°♌31'42 | -8°40'01 | | 3388 Feb 18 20:57 | 0°♏ | |
| minimum elong | 3385 Sep 22 04:15 | 0°♌31'33 | 8°40'01 | max. Earth dist. | 3388 Feb 20 12:16 | 2°♏03'32 | 1.71242 AU |
| min. Earth dist. | 3385 Sep 22 17:24 | 0°♌11'08 | 0.28675 AU | | 3388 Mar 13 18:44 | 0°♏ | |
| | 3385 Sep 23 00:34 | 30°♏ | | evening rise | 3388 Mar 29 19:01 | 20°♏00'31 | |
| morning rise | 3385 Sep 25 10:17 | 28°♏31'34 | | | 3388 Apr 06 19:33 | 0°♏ | |
| direct | 3385 Oct 13 15:35 | 22°♏17'40 | | | 3388 May 01 01:02 | 0°♏ | |
| greatest brilliancy | 3385 Oct 24 15:23 | 24°♏31'14 | -4.8m | asc. node | 3388 May 03 12:22 | 3°♏02'44 | |
| | 3385 Nov 04 02:44 | 0°♏ | | | 3388 May 25 12:31 | 0°♏ | |
| asc. node | 3385 Nov 16 17:04 | 9°♏30'26 | | | 3388 Jun 19 07:28 | 0°♏ | |
| morning max el | 3385 Dec 02 21:32 | 24°♏38'45 | 46°34'56 | | 3388 Jul 14 12:49 | 0°♏ | |
| | 3385 Dec 08 03:03 | 0°♏ | | | 3388 Aug 09 10:50 | 0°♏ | |
| | 3386 Jan 04 06:33 | 0°♏ | | desc. node | 3388 Aug 23 01:58 | 15°♏16'15 | |
| | 3386 Jan 29 16:39 | 0°♏ | | | 3388 Sep 05 16:13 | 0°♏ | |
| | 3386 Feb 23 10:22 | 0°♏ | | evening max el | 3388 Sep 24 12:19 | 19°♏08'45 | 46°09'01 |
| desc. node | 3386 Mar 08 06:59 | 15°♏45'05 | | | 3388 Oct 06 08:12 | 0°♏ | |
| | 3386 Mar 19 21:06 | 0°♏ | | greatest brilliancy | 3388 Nov 03 14:03 | 18°♏12'52 | -4.8m |
| | 3386 Apr 13 05:14 | 0°♏ | | retrograde | 3388 Nov 12 19:58 | 19°♏47'32 | |
| | 3386 May 07 13:13 | 0°♏ | | evening set | 3388 Nov 27 17:59 | 15°♏29'44 | |
| | 3386 May 31 22:08 | 0°♏ | | inferior conj | 3388 Dec 03 12:33 | 12°♏06'48 | -2°42'31 |
| morning set | 3386 Jun 07 11:48 | 8°♏04'31 | | minimum elong | 3388 Dec 03 18:32 | 11°♏57'39 | 2°40'41 |
| | 3386 Jun 25 07:57 | 0°♏ | | min. Earth dist. | 3388 Dec 04 03:05 | 11°♏44'36 | 0.26844 AU |
| asc. node | 3386 Jun 29 10:02 | 5°♏01'16 | | morning rise | 3388 Dec 09 18:25 | 8°♏27'14 | |
| | | | | asc. node | 3388 Dec 14 04:57 | 6°♏21'45 | |
| superior conj | 3386 Jul 14 11:14 | 23°♏30'56 | 0°34'54 | direct | 3388 Dec 24 04:19 | 4°♏20'12 | |
| minimum elong | 3386 Jul 14 04:34 | 23°♏10'27 | 0°34'36 | greatest brilliancy | 3389 Jan 03 22:40 | 6°♏30'55 | -4.9m |
| max. Earth dist. | 3386 Jul 14 02:20 | 23°♏03'35 | 1.73540 AU | | 3389 Feb 05 03:21 | 0°♏ | |
| | 3386 Jul 19 17:48 | 0°♏ | | morning max el | 3389 Feb 12 19:26 | 7°♏33'28 | 46°58'08 |
| | 3386 Aug 13 03:01 | 0°♏ | | | 3389 Mar 05 19:46 | 0°♏ | |
| evening rise | 3386 Aug 19 10:07 | 7°♏45'05 | | | 3389 Apr 01 01:10 | 0°♏ | |
| | 3386 Sep 06 11:50 | 0°♏ | | desc. node | 3389 Apr 04 18:59 | 4°♏22'56 | |
| | 3386 Sep 30 21:10 | 0°♏ | | | 3389 Apr 26 09:52 | 0°♏ | |
| desc. node | 3386 Oct 18 23:49 | 22°♏13'39 | | | 3389 May 21 09:52 | 0°♏ | |
| | 3386 Oct 25 08:03 | 0°♏ | | | 3389 Jun 15 05:52 | 0°♏ | |
| | 3386 Nov 18 21:21 | 0°♏ | | | 3389 Jul 09 23:06 | 0°♏ | |
| | 3386 Dec 13 14:55 | 0°♏ | | asc. node | 3389 Jul 26 21:49 | 20°♏39'41 | |
| | 3387 Jan 07 18:18 | 0°♏ | | | 3389 Aug 03 13:06 | 0°♏ | |
| | 3387 Feb 02 22:47 | 0°♏ | | morning set | 3389 Aug 14 12:37 | 13°♏27'53 | |
| asc. node | 3387 Feb 09 02:36 | 6°♏43'28 | | | 3389 Aug 27 23:12 | 0°♏ | |
| evening max el | 3387 Feb 20 03:38 | 18°♏17'37 | 46°56'52 | max. Earth dist. | 3389 Sep 16 22:06 | 24°♏39'19 | 1.72881 AU |
| | 3387 Mar 04 07:19 | 0°♏ | | | | | |
| greatest brilliancy | 3387 Apr 01 02:11 | 19°♏06'56 | -4.8m | superior conj | 3389 Sep 19 23:35 | 28°♏26'51 | 1°25'04 |
| retrograde | 3387 Apr 11 15:44 | 21°♏11'55 | | minimum elong | 3389 Sep 19 23:12 | 28°♏25'40 | 1°25'04 |
| evening set | 3387 Apr 28 06:18 | 15°♏47'33 | | | 3389 Sep 21 05:39 | 0°♏ | |
| inferior conj | 3387 May 02 18:20 | 13°♏01'07 | 6°19'06 | | 3389 Oct 15 09:37 | 0°♏ | |
| minimum elong | 3387 May 03 04:29 | 12°♏45'11 | 6°16'56 | evening rise | 3389 Oct 27 07:56 | 14°♏50'17 | |
| min. Earth dist. | 3387 May 02 15:27 | 13°♏05'38 | 0.28189 AU | | 3389 Nov 08 12:19 | 0°♏ | |
| morning rise | 3387 May 08 03:05 | 9°♏45'56 | | desc. node | 3389 Nov 15 11:51 | 8°♏41'34 | |
| direct | 3387 May 23 21:37 | 4°♏57'12 | | | 3389 Dec 02 14:32 | 0°♏ | |
| desc. node | 3387 May 31 16:25 | 6°♏05'13 | | | 3389 Dec 26 16:57 | 0°♏ | |
| greatest brilliancy | 3387 Jun 02 13:59 | 6°♏40'48 | -4.8m | | 3390 Jan 19 21:13 | 0°♏ | |
| | 3387 Jul 06 09:54 | 0°♏ | | | 3390 Feb 13 07:05 | 0°♏ | |
| morning max el | 3387 Jul 11 19:56 | 5°♏04'28 | 45°46'45 | asc. node | 3390 Mar 08 14:26 | 28°♏04'18 | |
| | 3387 Aug 05 05:02 | 0°♏ | | | 3390 Mar 10 05:28 | 0°♏ | |
| | 3387 Sep 01 04:07 | 0°♏ | | | 3390 Apr 05 05:16 | 0°♏ | |
| asc. node | 3387 Sep 21 19:27 | 24°♏01'05 | | evening max el | 3390 May 02 05:31 | 28°♏34'32 | 45°54'47 |
| | 3387 Sep 26 20:36 | 0°♏ | | | 3390 May 03 16:35 | 0°♏ | |
| | 3387 Oct 21 18:11 | 0°♏ | | greatest brilliancy | 3390 Jun 09 10:06 | 27°♏11'02 | -4.7m |
| | 3387 Nov 15 03:28 | 0°♏ | | retrograde | 3390 Jun 20 10:27 | 29°♏23'40 | |
| | 3387 Dec 09 05:30 | 0°♏ | | desc. node | 3390 Jun 28 04:27 | 28°♏11'41 | |
| greatest brilliancy | 3387 Dec 21 15:36 | 15°♏33'20 | -3.9m | evening set | 3390 Jul 05 14:55 | 24°♏56'26 | |
| | 3388 Jan 02 03:46 | 0°♏ | | inferior conj | 3390 Jul 11 22:49 | 21°♏08'30 | -3°11'28 |
| morning set | 3388 Jan 07 11:50 | 6°♏42'19 | | minimum elong | 3390 Jul 11 16:10 | 21°♏18'55 | 3°09'38 |
| desc. node | 3388 Jan 11 09:24 | 11°♏36'20 | | min. Earth dist. | 3390 Jul 11 16:57 | 21°♏17'41 | 0.28937 AU |
| | 3388 Jan 26 00:27 | 0°♏ | | morning rise | 3390 Jul 17 17:30 | 17°♏38'29 | |
| | | | | direct | 3390 Aug 02 11:50 | 12°♏52'47 | |
| superior conj | 3388 Feb 18 02:00 | 29°♏00'28 | -1°15'05 | greatest brilliancy | 3390 Aug 12 18:28 | 14°♏45'51 | -4.7m |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3390 Sep 06 03:53 | 0°♈ | | | 3393 Mar 23 01:04 | 0°♄ | |
| morning max el | 3390 Sep 20 08:33 | 12°♈45'50 | 45°51'34 | asc. node | 3393 Apr 05 02:29 | 16°♄00'39 | |
| | 3390 Oct 07 07:24 | 0°♍ | | | 3393 Apr 16 14:51 | 0°♊ | |
| asc. node | 3390 Oct 19 07:24 | 13°♍03'37 | | | 3393 May 11 18:27 | 0°♎ | |
| | 3390 Nov 03 05:21 | 0°♎ | | | 3393 Jun 06 21:01 | 0°♈ | |
| | 3390 Nov 28 13:43 | 0°♌ | | | 3393 Jul 04 23:12 | 0°♍ | |
| | 3390 Dec 23 03:44 | 0°♌ | | evening max el | 3393 Jul 11 21:35 | 6°♍48'09 | 45°27'44 |
| | 3391 Jan 16 08:42 | 0°♎ | | desc. node | 3393 Jul 25 16:13 | 19°♍09'36 | |
| desc. node | 3391 Feb 07 21:11 | 28°♎06'26 | | | 3393 Aug 09 17:45 | 0°♎ | |
| | 3391 Feb 09 09:32 | 0°♏ | | greatest brilliancy | 3393 Aug 19 13:27 | 4°♎37'58 | -4.7m |
| | 3391 Mar 05 09:02 | 0°♏ | | retrograde | 3393 Aug 29 11:48 | 6°♎23'53 | |
| morning set | 3391 Mar 25 11:39 | 25°♏08'25 | | evening set | 3393 Sep 16 12:29 | 0°♎20'18 | |
| | 3391 Mar 29 09:03 | 0°♏ | | | 3393 Sep 17 01:57 | 30°♏♍ | |
| | 3391 Apr 22 11:02 | 0°♄ | | inferior conj | 3393 Sep 19 19:37 | 28°♍18'39 | -8°39'26 |
| | | | | minimum elong | 3393 Sep 19 18:56 | 28°♍19'44 | 8°39'25 |
| superior conj | 3391 May 03 18:18 | 14°♄01'57 | -1°01'01 | min. Earth dist. | 3393 Sep 20 07:41 | 27°♍59'53 | 0.28717 AU |
| minimum elong | 3391 May 04 04:40 | 14°♄34'06 | 1°00'38 | morning rise | 3393 Sep 23 01:14 | 26°♍19'05 | |
| max. Earth dist. | 3391 May 07 04:18 | 18°♄16'01 | 1.72629 AU | direct | 3393 Oct 11 07:56 | 20°♍04'19 | |
| | 3391 May 16 15:52 | 0°♊ | | greatest brilliancy | 3393 Oct 22 05:57 | 22°♍16'00 | -4.8m |
| asc. node | 3391 Jun 01 00:14 | 18°♊56'41 | | | 3393 Nov 05 02:00 | 0°♎ | |
| | 3391 Jun 09 23:46 | 0°♎ | | asc. node | 3393 Nov 15 19:06 | 8°♎28'36 | |
| evening rise | 3391 Jun 10 20:58 | 1°♎05'10 | | morning max el | 3393 Nov 30 12:26 | 22°♎20'27 | 46°33'26 |
| | 3391 Jul 04 10:34 | 0°♈ | | | 3393 Dec 07 22:57 | 0°♌ | |
| | 3391 Jul 29 00:27 | 0°♍ | | | 3394 Jan 03 21:50 | 0°♌ | |
| | 3391 Aug 22 18:37 | 0°♎ | | | 3394 Jan 29 06:07 | 0°♎ | |
| | 3391 Sep 16 19:14 | 0°♌ | | | 3394 Feb 22 22:54 | 0°♏ | |
| desc. node | 3391 Sep 20 13:58 | 4°♌29'45 | | desc. node | 3394 Mar 07 09:04 | 15°♏14'05 | |
| | 3391 Oct 12 05:36 | 0°♌ | | | 3394 Mar 19 09:03 | 0°♏ | |
| | 3391 Nov 07 08:39 | 0°♎ | | | 3394 Apr 12 16:47 | 0°♏ | |
| | 3391 Dec 05 02:35 | 0°♏ | | | 3394 May 07 00:27 | 0°♄ | |
| evening max el | 3391 Dec 07 11:24 | 2°♏24'02 | 47°07'39 | | 3394 May 31 09:09 | 0°♊ | |
| | 3392 Jan 09 08:05 | 0°♏ | | morning set | 3394 Jun 05 04:39 | 5°♊55'06 | |
| asc. node | 3392 Jan 11 16:48 | 1°♏18'26 | | | 3394 Jun 24 18:49 | 0°♎ | |
| greatest brilliancy | 3392 Jan 17 02:05 | 3°♏44'04 | -4.9m | asc. node | 3394 Jun 28 11:58 | 4°♎33'56 | |
| retrograde | 3392 Jan 27 05:51 | 5°♏42'43 | | | | | |
| evening set | 3392 Feb 12 12:53 | 0°♏28'33 | | superior conj | 3394 Jul 12 05:04 | 21°♎24'59 | 0°31'57 |
| | 3392 Feb 13 08:24 | 30°♏♏ | | minimum elong | 3394 Jul 11 22:51 | 21°♎05'54 | 0°31'40 |
| min. Earth dist. | 3392 Feb 16 03:39 | 28°♏18'06 | 0.26938 AU | max. Earth dist. | 3394 Jul 12 00:08 | 21°♎09'50 | 1.73532 AU |
| inferior conj | 3392 Feb 16 21:41 | 27°♏50'19 | 7°46'46 | | 3394 Jul 19 04:36 | 0°♈ | |
| minimum elong | 3392 Feb 16 12:15 | 28°♏04'51 | 7°45'15 | | 3394 Aug 12 13:53 | 0°♍ | |
| morning rise | 3392 Feb 20 11:51 | 25°♏39'44 | | evening rise | 3394 Aug 17 04:30 | 5°♍40'23 | |
| direct | 3392 Mar 08 08:55 | 20°♏06'52 | | | 3394 Sep 05 22:53 | 0°♎ | |
| greatest brilliancy | 3392 Mar 17 13:02 | 21°♏42'34 | -4.9m | | 3394 Sep 30 08:31 | 0°♌ | |
| | 3392 Apr 01 23:24 | 0°♏ | | desc. node | 3394 Oct 18 01:58 | 21°♌44'26 | |
| morning max el | 3392 Apr 27 06:29 | 21°♏56'40 | 46°26'50 | | 3394 Oct 24 19:51 | 0°♌ | |
| desc. node | 3392 May 02 06:46 | 26°♏57'20 | | | 3394 Nov 18 09:44 | 0°♎ | |
| | 3392 May 05 06:12 | 0°♏ | | | 3394 Dec 13 04:08 | 0°♏ | |
| | 3392 Jun 01 23:33 | 0°♄ | | | 3395 Jan 07 08:57 | 0°♏ | |
| | 3392 Jun 28 05:29 | 0°♊ | | | 3395 Feb 02 16:35 | 0°♏ | |
| | 3392 Jul 23 19:00 | 0°♎ | | asc. node | 3395 Feb 08 04:35 | 5°♏57'43 | |
| | 3392 Aug 17 21:29 | 0°♈ | | evening max el | 3395 Feb 17 18:24 | 15°♏57'39 | 46°58'27 |
| asc. node | 3392 Aug 23 09:34 | 6°♈38'27 | | | 3395 Mar 04 12:26 | 0°♄ | |
| | 3392 Sep 11 14:37 | 0°♍ | | greatest brilliancy | 3395 Mar 29 18:55 | 16°♄51'46 | -4.8m |
| | 3392 Oct 05 23:51 | 0°♎ | | retrograde | 3395 Apr 09 06:51 | 18°♄55'21 | |
| morning set | 3392 Oct 22 12:06 | 20°♎29'30 | | evening set | 3395 Apr 26 00:40 | 13°♄27'07 | |
| | 3392 Oct 30 03:17 | 0°♌ | | inferior conj | 3395 Apr 30 09:35 | 10°♄45'07 | 6°34'00 |
| | 3392 Nov 23 03:10 | 0°♌ | | minimum elong | 3395 Apr 30 19:43 | 10°♄29'11 | 6°31'55 |
| max. Earth dist. | 3392 Nov 27 21:10 | 5°♌57'06 | 1.71532 AU | min. Earth dist. | 3395 Apr 30 06:39 | 10°♄49'45 | 0.28157 AU |
| | | | | morning rise | 3395 May 05 15:09 | 7°♄34'10 | |
| superior conj | 3392 Nov 29 23:42 | 8°♌35'28 | 0°30'33 | direct | 3395 May 21 12:21 | 2°♄41'53 | |
| minimum elong | 3392 Nov 30 06:50 | 8°♌57'49 | 0°30'14 | desc. node | 3395 May 30 18:29 | 4°♄16'38 | |
| desc. node | 3392 Dec 12 23:39 | 24°♌53'50 | | greatest brilliancy | 3395 May 31 04:09 | 4°♄24'43 | -4.8m |
| | 3392 Dec 17 01:13 | 0°♎ | | | 3395 Jul 06 10:47 | 0°♊ | |
| evening rise | 3393 Jan 09 15:42 | 29°♎38'35 | | morning max el | 3395 Jul 09 10:18 | 2°♊49'15 | 45°47'25 |
| | 3393 Jan 09 22:31 | 0°♏ | | | 3395 Aug 04 21:31 | 0°♎ | |
| | 3393 Feb 02 20:11 | 0°♏ | | | 3395 Aug 31 17:49 | 0°♈ | |
| | 3393 Feb 26 20:05 | 0°♏ | | asc. node | 3395 Sep 20 21:36 | 23°♈30'13 | |

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|---------------------|-------------------|----------------------|--|---------------------|-------------------|----------------------|
| | 3395 Sep 26 09:01 | 0°♍ | | | 3398 May 03 15:32 | 0°♊ |
| | 3395 Oct 21 05:56 | 0°♌ | | greatest brilliancy | 3398 Jun 07 01:49 | 25°♊00'51 -4.7m |
| | 3395 Nov 14 14:55 | 0°♍ | | retrograde | 3398 Jun 18 03:29 | 27°♊14'52 |
| | 3395 Dec 08 16:47 | 0°♎ | | desc. node | 3398 Jun 27 06:20 | 25°♊34'55 |
| greatest brilliancy | 3395 Dec 23 18:53 | 18°♎54'08 -3.9m | | evening set | 3398 Jul 03 06:36 | 22°♊48'19 |
| | 3396 Jan 01 15:00 | 0°♏ | | inferior conj | 3398 Jul 09 15:17 | 18°♊59'27 -2°52'54 |
| morning set | 3396 Jan 04 22:32 | 4°♏09'54 | | minimum elong | 3398 Jul 09 09:12 | 19°♊08'58 2°51'13 |
| desc. node | 3396 Jan 10 11:21 | 11°♏07'17 | | min. Earth dist. | 3398 Jul 09 09:17 | 19°♊08'52 0.28921 AU |
| | 3396 Jan 25 11:37 | 0°♐ | | morning rise | 3398 Jul 15 11:57 | 15°♊27'01 |
| | | | | direct | 3398 Jul 31 04:08 | 10°♊43'49 |
| superior conj | 3396 Feb 15 12:31 | 26°♐27'47 -1°13'01 | | greatest brilliancy | 3398 Aug 10 10:36 | 12°♊37'07 -4.7m |
| minimum elong | 3396 Feb 15 01:31 | 25°♐53'14 1°12'44 | | | 3398 Sep 06 09:37 | 0°♋ |
| max. Earth dist. | 3396 Feb 17 16:30 | 29°♐11'09 1.71211 AU | | morning max el | 3398 Sep 18 01:10 | 10°♋36'51 45°50'34 |
| | 3396 Feb 18 08:03 | 0°♌ | | | 3398 Oct 07 00:45 | 0°♍ |
| | 3396 Mar 13 05:48 | 0°♎ | | asc. node | 3398 Oct 18 09:25 | 12°♍25'48 |
| evening rise | 3396 Mar 27 06:51 | 17°♎33'07 | | | 3398 Nov 02 19:30 | 0°♌ |
| | 3396 Apr 06 06:39 | 0°♏ | | | 3398 Nov 28 02:31 | 0°♍ |
| | 3396 Apr 30 12:15 | 0°♐ | | | 3398 Dec 22 15:51 | 0°♎ |
| asc. node | 3396 May 02 14:25 | 2°♐34'29 | | | 3399 Jan 15 20:25 | 0°♏ |
| | 3396 May 24 23:58 | 0°♊ | | desc. node | 3399 Feb 06 23:14 | 27°♏36'56 |
| | 3396 Jun 18 19:23 | 0°♋ | | | 3399 Feb 08 21:00 | 0°♌ |
| | 3396 Jul 14 01:36 | 0°♍ | | | 3399 Mar 04 20:20 | 0°♎ |
| | 3396 Aug 09 01:19 | 0°♌ | | morning set | 3399 Mar 22 23:17 | 22°♎39'50 |
| desc. node | 3396 Aug 22 04:05 | 14°♌38'07 | | | 3399 Mar 28 20:13 | 0°♎ |
| | 3396 Sep 05 10:29 | 0°♍ | | | 3399 Apr 21 22:03 | 0°♏ |
| evening max el | 3396 Sep 22 00:41 | 16°♍45'50 46°06'49 | | | | |
| | 3396 Oct 06 16:13 | 0°♎ | | superior conj | 3399 May 01 08:44 | 11°♏43'49 -1°03'29 |
| greatest brilliancy | 3396 Nov 01 03:28 | 15°♎48'54 -4.8m | | minimum elong | 3399 May 01 19:09 | 12°♏16'10 1°03'08 |
| retrograde | 3396 Nov 10 08:01 | 17°♎22'48 | | max. Earth dist. | 3399 May 04 19:51 | 16°♏01'31 1.72576 AU |
| evening set | 3396 Nov 25 08:56 | 13°♎01'19 | | | 3399 May 16 02:48 | 0°♐ |
| inferior conj | 3396 Dec 01 01:24 | 9°♎41'32 -3°04'57 | | asc. node | 3399 May 31 02:12 | 18°♐29'07 |
| minimum elong | 3396 Dec 01 08:08 | 9°♎31'17 3°02'55 | | evening rise | 3399 Jun 08 14:01 | 28°♐56'29 |
| min. Earth dist. | 3396 Dec 01 17:30 | 9°♎16'59 0.26898 AU | | | 3399 Jun 09 10:41 | 0°♊ |
| morning rise | 3396 Dec 07 06:33 | 6°♎02'50 | | | 3399 Jul 03 21:35 | 0°♋ |
| asc. node | 3396 Dec 13 06:55 | 3°♎21'17 | | | 3399 Jul 28 11:45 | 0°♌ |
| direct | 3396 Dec 21 17:19 | 1°♎53'36 | | | 3399 Aug 22 06:25 | 0°♍ |
| greatest brilliancy | 3397 Jan 01 14:10 | 4°♎06'42 -4.9m | | | 3399 Sep 16 07:51 | 0°♎ |
| | 3397 Feb 05 05:19 | 0°♏ | | desc. node | 3399 Sep 19 16:02 | 3°♎58'00 |
| morning max el | 3397 Feb 10 09:03 | 5°♏07'54 46°58'29 | | | 3399 Oct 11 19:34 | 0°♎ |
| | 3397 Mar 05 13:11 | 0°♐ | | | 3399 Nov 07 01:06 | 0°♏ |
| | 3397 Mar 31 15:38 | 0°♌ | | evening max el | 3399 Dec 05 02:21 | 0°♐02'38 47°06'28 |
| desc. node | 3397 Apr 03 21:05 | 3°♌47'21 | | | 3399 Dec 05 01:18 | 0°♐ |
| | 3397 Apr 25 22:51 | 0°♎ | | asc. node | 3400 Jan 10 18:49 | 29°♐37'11 |
| | 3397 May 20 21:59 | 0°♏ | | | 3400 Jan 11 14:10 | 0°♌ |
| | 3397 Jun 14 17:26 | 0°♐ | | greatest brilliancy | 3400 Jan 14 14:45 | 1°♌15'39 -4.9m |
| | 3397 Jul 09 10:18 | 0°♊ | | retrograde | 3400 Jan 24 19:31 | 3°♌14'44 |
| asc. node | 3397 Jul 25 23:49 | 20°♊12'07 | | | 3400 Feb 06 09:37 | 30°♌ |
| | 3397 Aug 03 00:05 | 0°♋ | | evening set | 3400 Feb 09 21:39 | 28°♌07'00 |
| morning set | 3397 Aug 12 06:25 | 11°♋21'33 | | min. Earth dist. | 3400 Feb 13 16:06 | 25°♌51'13 0.26896 AU |
| | 3397 Aug 27 10:05 | 0°♍ | | inferior conj | 3400 Feb 14 10:26 | 25°♌23'01 7°34'25 |
| max. Earth dist. | 3397 Sep 14 18:00 | 22°♍38'35 1.72924 AU | | minimum elong | 3400 Feb 14 00:35 | 25°♌38'09 7°32'44 |
| | | | | morning rise | 3400 Feb 18 03:50 | 23°♌07'53 |
| superior conj | 3397 Sep 17 17:03 | 26°♍18'32 1°24'56 | | direct | 3400 Mar 06 22:05 | 17°♌40'20 |
| minimum elong | 3397 Sep 17 15:57 | 26°♍15'07 1°24'55 | | greatest brilliancy | 3400 Mar 16 01:24 | 19°♌15'49 -4.9m |
| | 3397 Sep 20 16:33 | 0°♌ | | | 3400 Apr 03 19:30 | 0°♌ |
| | 3397 Oct 14 20:37 | 0°♍ | | morning max el | 3400 Apr 25 20:40 | 19°♌36'07 46°28'21 |
| evening rise | 3397 Oct 24 22:51 | 12°♍33'01 | | desc. node | 3400 May 02 08:45 | 26°♌08'22 |
| | 3397 Nov 07 23:30 | 0°♎ | | | 3400 May 06 02:26 | 0°♎ |
| desc. node | 3397 Nov 14 13:49 | 8°♎12'41 | | | 3400 Jun 02 14:54 | 0°♏ |
| | 3397 Dec 02 01:57 | 0°♏ | | | 3400 Jun 28 18:44 | 0°♐ |
| | 3397 Dec 26 04:40 | 0°♐ | | | 3400 Jul 24 07:07 | 0°♊ |
| | 3398 Jan 19 09:20 | 0°♌ | | | 3400 Aug 18 08:58 | 0°♋ |
| | 3398 Feb 12 19:48 | 0°♎ | | asc. node | 3400 Aug 23 11:46 | 6°♋10'43 |
| asc. node | 3398 Mar 07 16:35 | 27°♎30'13 | | | 3400 Sep 12 01:45 | 0°♍ |
| | 3398 Mar 09 19:13 | 0°♏ | | | 3400 Oct 06 10:49 | 0°♌ |
| | 3398 Apr 04 21:17 | 0°♐ | | morning set | 3400 Oct 21 03:49 | 18°♌15'08 |
| evening max el | 3398 Apr 29 21:02 | 26°♐21'14 45°56'52 | | | 3400 Oct 30 14:13 | 0°♍ |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3400 Nov 23 14:09 | 0°♁ | | minimum elong | 3403 Apr 29 10:42 | 8°♁13'09 | 6°46'18 |
| max. Earth dist. | 3400 Nov 26 05:35 | 3°♁18'38 | 1.71571 AU | min. Earth dist. | 3403 Apr 28 21:48 | 8°♁33'28 | 0.28125 AU |
| | | | | morning rise | 3403 May 04 02:52 | 5°♁22'33 | |
| superior conj | 3400 Nov 28 12:23 | 6°♁10'17 | 0°34'02 | direct | 3403 May 20 02:25 | 0°♁26'13 | |
| minimum elong | 3400 Nov 28 20:08 | 6°♁34'35 | 0°33'40 | greatest brilliancy | 3403 May 29 18:33 | 2°♁08'59 | -4.8m |
| desc. node | 3400 Dec 13 01:39 | 24°♁25'26 | | desc. node | 3403 May 30 20:29 | 2°♁32'05 | |
| | 3400 Dec 17 12:16 | 0°♁ | | | 3403 Jul 07 10:18 | 0°♁ | |
| evening rise | 3401 Jan 08 02:21 | 27°♁06'17 | | morning max el | 3403 Jul 08 00:28 | 0°♁33'50 | 45°48'12 |
| | 3401 Jan 10 09:40 | 0°♁ | | | 3403 Aug 05 13:29 | 0°♁ | |
| | 3401 Feb 03 07:26 | 0°♁ | | | 3403 Sep 01 07:10 | 0°♁ | |
| | 3401 Feb 27 07:29 | 0°♁ | | asc. node | 3403 Sep 20 23:35 | 22°♁59'42 | |
| | 3401 Mar 23 12:44 | 0°♁ | | | 3403 Sep 26 21:07 | 0°♁ | |
| asc. node | 3401 Apr 05 04:30 | 15°♁30'32 | | | 3403 Oct 21 17:24 | 0°♁ | |
| | 3401 Apr 17 03:00 | 0°♁ | | | 3403 Nov 15 02:03 | 0°♁ | |
| | 3401 May 12 07:33 | 0°♁ | | | 3403 Dec 09 03:47 | 0°♁ | |
| | 3401 Jun 07 12:05 | 0°♁ | | greatest brilliancy | 3403 Dec 25 12:02 | 20°♁28'51 | -3.9m |
| | 3401 Jul 05 19:35 | 0°♁ | | | 3404 Jan 02 01:57 | 0°♁ | |
| evening max el | 3401 Jul 10 12:55 | 4°♁36'10 | 45°27'33 | morning set | 3404 Jan 03 09:21 | 1°♁38'39 | |
| desc. node | 3401 Jul 25 18:21 | 18°♁09'19 | | desc. node | 3404 Jan 10 13:29 | 10°♁39'37 | |
| | 3401 Aug 12 09:38 | 0°♁ | | | 3404 Jan 25 22:32 | 0°♁ | |
| greatest brilliancy | 3401 Aug 18 03:48 | 2°♁25'57 | -4.7m | | | | |
| retrograde | 3401 Aug 28 02:33 | 4°♁12'15 | | superior conj | 3404 Feb 13 22:40 | 23°♁54'35 | -1°10'47 |
| | 3401 Sep 11 22:05 | 30°♁ | | minimum elong | 3404 Feb 13 11:16 | 23°♁18'44 | 1°10'28 |
| evening set | 3401 Sep 15 02:40 | 28°♁10'35 | | max. Earth dist. | 3404 Feb 15 18:37 | 26°♁12'44 | 1.71190 AU |
| inferior conj | 3401 Sep 18 11:15 | 26°♁06'33 | -8°37'59 | | 3404 Feb 18 18:57 | 0°♁ | |
| minimum elong | 3401 Sep 18 09:45 | 26°♁08'53 | 8°37'57 | | 3404 Mar 13 16:42 | 0°♁ | |
| min. Earth dist. | 3401 Sep 18 22:24 | 25°♁49'09 | 0.28757 AU | evening rise | 3404 Mar 25 18:06 | 15°♁04'31 | |
| morning rise | 3401 Sep 21 16:42 | 24°♁06'55 | | | 3404 Apr 06 17:33 | 0°♁ | |
| direct | 3401 Oct 09 23:56 | 17°♁51'52 | | | 3404 Apr 30 23:15 | 0°♁ | |
| greatest brilliancy | 3401 Oct 20 21:06 | 20°♁02'10 | -4.8m | asc. node | 3404 May 02 16:21 | 2°♁06'33 | |
| | 3401 Nov 06 18:57 | 0°♁ | | | 3404 May 25 11:12 | 0°♁ | |
| asc. node | 3401 Nov 15 21:06 | 7°♁28'32 | | | 3404 Jun 19 07:06 | 0°♁ | |
| morning max el | 3401 Nov 29 02:22 | 20°♁00'00 | 46°31'46 | | 3404 Jul 14 14:13 | 0°♁ | |
| | 3401 Dec 08 18:12 | 0°♁ | | | 3404 Aug 09 15:42 | 0°♁ | |
| | 3402 Jan 04 12:55 | 0°♁ | | desc. node | 3404 Aug 22 06:10 | 14°♁00'24 | |
| | 3402 Jan 29 19:30 | 0°♁ | | | 3404 Sep 06 04:55 | 0°♁ | |
| | 3402 Feb 23 11:21 | 0°♁ | | evening max el | 3404 Sep 20 13:35 | 14°♁25'24 | 46°04'48 |
| desc. node | 3402 Mar 07 11:14 | 14°♁43'33 | | | 3404 Oct 08 02:30 | 0°♁ | |
| | 3402 Mar 19 20:54 | 0°♁ | | greatest brilliancy | 3404 Oct 30 16:19 | 13°♁25'56 | -4.8m |
| | 3402 Apr 13 04:12 | 0°♁ | | retrograde | 3404 Nov 08 20:45 | 14°♁59'52 | |
| | 3402 May 07 11:33 | 0°♁ | | evening set | 3404 Nov 24 00:09 | 10°♁34'23 | |
| | 3402 May 31 20:02 | 0°♁ | | inferior conj | 3404 Nov 29 14:21 | 7°♁17'51 | -3°26'45 |
| morning set | 3402 Jun 03 21:22 | 3°♁45'31 | | minimum elong | 3404 Nov 29 21:45 | 7°♁06'35 | 3°24'34 |
| | 3402 Jun 25 05:34 | 0°♁ | | min. Earth dist. | 3404 Nov 30 07:32 | 6°♁51'41 | 0.26951 AU |
| asc. node | 3402 Jun 28 14:02 | 4°♁07'15 | | morning rise | 3404 Dec 05 18:36 | 3°♁40'36 | |
| | | | | asc. node | 3404 Dec 13 08:57 | 0°♁28'05 | |
| superior conj | 3402 Jul 10 22:57 | 19°♁19'33 | 0°28'58 | | 3404 Dec 15 06:27 | 30°♁ | |
| minimum elong | 3402 Jul 10 17:14 | 19°♁02'00 | 0°28'42 | direct | 3404 Dec 20 06:53 | 29°♁28'47 | |
| max. Earth dist. | 3402 Jul 10 19:57 | 19°♁10'20 | 1.73523 AU | | 3404 Dec 25 10:09 | 0°♁ | |
| | 3402 Jul 19 15:19 | 0°♁ | | greatest brilliancy | 3404 Dec 31 05:08 | 1°♁43'38 | -4.9m |
| | 3402 Aug 13 00:38 | 0°♁ | | | 3405 Feb 06 05:29 | 0°♁ | |
| evening rise | 3402 Aug 15 23:03 | 3°♁36'40 | | morning max el | 3405 Feb 08 23:33 | 2°♁45'56 | 46°58'33 |
| | 3402 Sep 06 09:45 | 0°♁ | | | 3405 Mar 06 05:52 | 0°♁ | |
| | 3402 Sep 30 19:42 | 0°♁ | | | 3405 Apr 01 05:38 | 0°♁ | |
| desc. node | 3402 Oct 18 03:58 | 21°♁15'24 | | desc. node | 3405 Apr 03 23:01 | 3°♁12'26 | |
| | 3402 Oct 25 07:28 | 0°♁ | | | 3405 Apr 26 11:31 | 0°♁ | |
| | 3402 Nov 18 21:59 | 0°♁ | | | 3405 May 21 09:49 | 0°♁ | |
| | 3402 Dec 13 17:18 | 0°♁ | | | 3405 Jun 15 04:42 | 0°♁ | |
| | 3403 Jan 07 23:41 | 0°♁ | | | 3405 Jul 09 21:11 | 0°♁ | |
| | 3403 Feb 03 10:44 | 0°♁ | | asc. node | 3405 Jul 26 01:56 | 19°♁45'51 | |
| asc. node | 3403 Feb 08 06:45 | 5°♁11'59 | | | 3405 Aug 03 10:44 | 0°♁ | |
| evening max el | 3403 Feb 16 08:06 | 13°♁34'54 | 47°00'04 | morning set | 3405 Aug 11 00:00 | 9°♁15'35 | |
| | 3403 Mar 05 19:41 | 0°♁ | | | 3405 Aug 27 20:39 | 0°♁ | |
| greatest brilliancy | 3403 Mar 28 11:37 | 14°♁36'16 | -4.9m | max. Earth dist. | 3405 Sep 13 14:09 | 20°♁39'37 | 1.72965 AU |
| retrograde | 3403 Apr 07 21:39 | 16°♁38'36 | | | | | |
| evening set | 3403 Apr 24 18:52 | 11°♁06'16 | | superior conj | 3405 Sep 16 10:25 | 24°♁10'52 | 1°24'40 |
| inferior conj | 3403 Apr 29 00:40 | 8°♁28'56 | 6°48'15 | minimum elong | 3405 Sep 16 08:37 | 24°♁05'18 | 1°24'40 |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|--|
| | 3405 Sep 21 03:10 | 0°♄ | | | 3408 Apr 04 09:54 | 0°♁ | | |
| | 3405 Oct 15 07:20 | 0°♌ | | morning max el | 3408 Apr 23 09:47 | 17°♁14'01 | 46°29'53 | |
| evening rise | 3405 Oct 23 13:53 | 10°♌17'03 | | desc. node | 3408 May 01 10:48 | 25°♁21'37 | | |
| | 3405 Nov 08 10:22 | 0°♊ | | | 3408 May 05 21:34 | 0°♊ | | |
| desc. node | 3405 Nov 14 15:49 | 7°♊44'52 | | | 3408 Jun 02 05:39 | 0°♋ | | |
| | 3405 Dec 02 13:02 | 0°♎ | | | 3408 Jun 28 07:34 | 0°♌ | | |
| | 3405 Dec 26 16:01 | 0°♏ | | | 3408 Jul 23 18:57 | 0°♍ | | |
| | 3406 Jan 19 21:04 | 0°♁ | | | 3408 Aug 17 20:12 | 0°♎ | | |
| asc. node | 3406 Feb 13 08:09 | 0°♊ | | asc. node | 3408 Aug 22 13:43 | 5°♎42'54 | | |
| | 3406 Mar 07 18:33 | 26°♊56'31 | | | 3408 Sep 11 12:40 | 0°♏ | | |
| | 3406 Mar 10 08:42 | 0°♋ | | | 3408 Oct 05 21:34 | 0°♄ | | |
| | 3406 Apr 05 13:14 | 0°♌ | | morning set | 3408 Oct 18 19:27 | 16°♄01'11 | | |
| evening max el | 3406 Apr 28 13:18 | 24°♌10'22 | 45°58'52 | | 3408 Oct 30 00:56 | 0°♌ | | |
| | 3406 May 04 15:14 | 0°♍ | | | 3408 Nov 23 00:55 | 0°♊ | | |
| greatest brilliancy | 3406 Jun 05 17:32 | 22°♍51'01 | -4.7m | max. Earth dist. | 3408 Nov 23 13:38 | 0°♊39'52 | 1.71614 AU | |
| retrograde | 3406 Jun 16 20:29 | 25°♍06'00 | | | | | | |
| desc. node | 3406 Jun 27 08:28 | 22°♍53'32 | | superior conj | 3408 Nov 26 01:07 | 3°♊46'04 | 0°37'24 | |
| evening set | 3406 Jul 01 22:17 | 20°♍40'15 | | minimum elong | 3408 Nov 26 09:25 | 4°♊12'05 | 0°37'02 | |
| inferior conj | 3406 Jul 08 07:32 | 16°♍50'24 | -2°34'00 | desc. node | 3408 Dec 12 03:44 | 23°♊57'56 | | |
| minimum elong | 3406 Jul 08 02:03 | 16°♍58'59 | 2°32'26 | | 3408 Dec 16 23:09 | 0°♎ | | |
| min. Earth dist. | 3406 Jul 08 01:10 | 17°♍00'22 | 0.28902 AU | evening rise | 3409 Jan 05 13:01 | 24°♎34'37 | | |
| morning rise | 3406 Jul 14 06:05 | 13°♍15'42 | | | 3409 Jan 09 20:39 | 0°♏ | | |
| direct | 3406 Jul 29 20:40 | 8°♍35'08 | | | 3409 Feb 02 18:32 | 0°♁ | | |
| greatest brilliancy | 3406 Aug 09 01:53 | 10°♍27'54 | -4.7m | | 3409 Feb 26 18:42 | 0°♊ | | |
| | 3406 Sep 07 13:08 | 0°♎ | | | 3409 Mar 23 00:10 | 0°♋ | | |
| morning max el | 3406 Sep 16 17:36 | 8°♎28'23 | 45°49'34 | asc. node | 3409 Apr 04 06:30 | 15°♋01'03 | | |
| | 3406 Oct 07 17:27 | 0°♏ | | | 3409 Apr 16 14:56 | 0°♌ | | |
| asc. node | 3406 Oct 18 11:24 | 11°♏49'08 | | | 3409 May 11 20:27 | 0°♍ | | |
| | 3406 Nov 03 09:13 | 0°♄ | | | 3409 Jun 07 03:05 | 0°♎ | | |
| | 3406 Nov 28 14:57 | 0°♌ | | | 3409 Jul 05 16:26 | 0°♏ | | |
| | 3406 Dec 23 03:37 | 0°♊ | | evening max el | 3409 Jul 08 03:35 | 2°♏23'05 | 45°27'18 | |
| | 3407 Jan 16 07:46 | 0°♎ | | desc. node | 3409 Jul 24 20:25 | 17°♏07'56 | | |
| desc. node | 3407 Feb 07 01:21 | 27°♎08'47 | | | 3409 Aug 15 01:51 | 0°♄ | | |
| | 3407 Feb 09 08:06 | 0°♏ | | greatest brilliancy | 3409 Aug 15 18:25 | 0°♄14'39 | -4.7m | |
| | 3407 Mar 05 07:14 | 0°♁ | | retrograde | 3409 Aug 25 17:17 | 2°♄01'26 | | |
| morning set | 3407 Mar 21 11:08 | 20°♁13'10 | | | 3409 Sep 04 21:41 | 30°♋♏ | | |
| | 3407 Mar 29 06:58 | 0°♊ | | evening set | 3409 Sep 12 16:34 | 26°♏02'01 | | |
| | 3407 Apr 22 08:43 | 0°♋ | | inferior conj | 3409 Sep 16 03:00 | 23°♏55'09 | -8°35'42 | |
| | | | | minimum elong | 3409 Sep 16 00:42 | 23°♏58'46 | 8°35'38 | |
| superior conj | 3407 Apr 29 23:07 | 9°♋26'32 | -1°05'51 | min. Earth dist. | 3409 Sep 16 13:27 | 23°♏38'49 | 0.28797 AU | |
| minimum elong | 3407 Apr 30 09:32 | 9°♋58'52 | 1°05'32 | morning rise | 3409 Sep 19 08:40 | 21°♏55'02 | | |
| max. Earth dist. | 3407 May 03 13:14 | 13°♋53'41 | 1.72528 AU | direct | 3409 Oct 07 15:34 | 15°♏39'58 | | |
| | 3407 May 16 13:24 | 0°♌ | | greatest brilliancy | 3409 Oct 18 12:57 | 17°♏49'43 | -4.8m | |
| asc. node | 3407 May 31 04:16 | 18°♌02'46 | | | 3409 Nov 07 07:23 | 0°♄ | | |
| evening rise | 3407 Jun 07 06:50 | 26°♌47'52 | | asc. node | 3409 Nov 14 23:11 | 6°♄30'25 | | |
| | 3407 Jun 09 21:19 | 0°♍ | | morning max el | 3409 Nov 26 15:58 | 17°♄39'07 | 46°30'08 | |
| | 3407 Jul 04 08:21 | 0°♎ | | | 3409 Dec 08 12:49 | 0°♌ | | |
| | 3407 Jul 28 22:49 | 0°♏ | | | 3410 Jan 04 03:42 | 0°♊ | | |
| | 3407 Aug 22 17:59 | 0°♄ | | | 3410 Jan 29 08:41 | 0°♎ | | |
| | 3407 Sep 16 20:15 | 0°♌ | | | 3410 Feb 22 23:40 | 0°♏ | | |
| desc. node | 3407 Sep 19 18:00 | 3°♌26'39 | | desc. node | 3410 Mar 06 13:05 | 14°♏12'20 | | |
| | 3407 Oct 12 09:23 | 0°♊ | | | 3410 Mar 19 08:38 | 0°♁ | | |
| | 3407 Nov 07 17:36 | 0°♎ | | | 3410 Apr 12 15:30 | 0°♊ | | |
| evening max el | 3407 Dec 03 17:22 | 27°♎42'11 | 47°05'09 | | 3410 May 06 22:32 | 0°♋ | | |
| | 3407 Dec 06 00:42 | 0°♏ | | | 3410 May 31 06:48 | 0°♌ | | |
| asc. node | 3408 Jan 10 20:59 | 27°♏53'08 | | morning set | 3410 Jun 01 14:19 | 1°♌37'00 | | |
| greatest brilliancy | 3408 Jan 13 03:58 | 28°♏48'49 | -4.9m | | 3410 Jun 24 16:12 | 0°♍ | | |
| | 3408 Jan 17 00:23 | 0°♁ | | asc. node | 3410 Jun 27 16:08 | 3°♍41'06 | | |
| retrograde | 3408 Jan 23 08:54 | 0°♁47'31 | | | | | | |
| | 3408 Jan 29 12:56 | 30°♋♏ | | superior conj | 3410 Jul 08 17:06 | 17°♍15'20 | 0°25'59 | |
| evening set | 3408 Feb 08 06:33 | 25°♏46'29 | | minimum elong | 3410 Jul 08 11:55 | 16°♍59'23 | 0°25'43 | |
| min. Earth dist. | 3408 Feb 12 04:52 | 23°♏25'02 | 0.26848 AU | max. Earth dist. | 3410 Jul 08 15:27 | 17°♍10'18 | 1.73516 AU | |
| inferior conj | 3408 Feb 12 23:13 | 22°♏56'47 | 7°21'18 | | 3410 Jul 19 01:55 | 0°♎ | | |
| minimum elong | 3408 Feb 12 13:02 | 23°♏12'28 | 7°19'24 | | 3410 Aug 12 11:18 | 0°♏ | | |
| morning rise | 3408 Feb 16 19:52 | 20°♏36'59 | | evening rise | 3410 Aug 13 17:50 | 1°♏33'55 | | |
| direct | 3408 Mar 04 11:07 | 15°♏15'07 | | | 3410 Sep 05 20:38 | 0°♄ | | |
| greatest brilliancy | 3408 Mar 13 13:57 | 16°♏50'18 | -4.9m | | 3410 Sep 30 06:54 | 0°♌ | | |

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|---------------------|-------------------|---------------------------------|------------|---------------------|-------------------|------------------------------------|
| desc. node | 3410 Oct 17 05:57 | 20° \mathbb{M} 46'13 | | 3413 Mar 05 22:35 | 0° \approx | |
| | 3410 Oct 24 19:09 | 0° \mathcal{A} | | 3413 Mar 31 19:49 | 0° \mathcal{H} | |
| | 3410 Nov 18 10:19 | 0° \mathcal{Z} | | desc. node | 3413 Apr 03 01:06 | 2° \mathcal{H} 37'14 |
| | 3410 Dec 13 06:36 | 0° \approx | | | 3413 Apr 26 00:23 | 0° \mathcal{Y} |
| | 3411 Jan 07 14:38 | 0° \mathcal{H} | | | 3413 May 20 21:54 | 0° \mathcal{B} |
| | 3411 Feb 03 05:25 | 0° \mathcal{Y} | | | 3413 Jun 14 16:14 | 0° \mathbb{I} |
| asc. node | 3411 Feb 07 08:42 | 4° \mathcal{Y} 24'45 | | | 3413 Jul 09 08:21 | 0° \mathcal{G} |
| evening max el | 3411 Feb 13 21:19 | 11° \mathcal{Y} 10'35 | 47°01'36 | asc. node | 3413 Jul 25 03:55 | 19° \mathcal{G} 18'17 |
| | 3411 Mar 06 05:48 | 0° \mathcal{B} | | | 3413 Aug 02 21:39 | 0° \mathcal{Q} |
| greatest brilliancy | 3411 Mar 26 03:58 | 12° \mathcal{B} 19'47 | -4.9m | morning set | 3413 Aug 08 18:00 | 7° \mathcal{Q} 10'10 |
| retrograde | 3411 Apr 05 12:37 | 14° \mathcal{B} 21'30 | | | 3413 Aug 27 07:28 | 0° \mathcal{M} |
| evening set | 3411 Apr 22 12:57 | 8° \mathcal{B} 44'45 | | max. Earth dist. | 3413 Sep 11 10:48 | 18° \mathcal{M} 41'34 1.73003 AU |
| inferior conj | 3411 Apr 26 15:41 | 6° \mathcal{B} 12'17 | 7°01'58 | | | |
| minimum elong | 3411 Apr 27 01:34 | 5° \mathcal{B} 56'46 | 7°00'09 | superior conj | 3413 Sep 14 04:13 | 22° \mathcal{M} 03'54 1°24'17 |
| min. Earth dist. | 3411 Apr 26 12:49 | 6° \mathcal{B} 16'48 | 0.28090 AU | minimum elong | 3413 Sep 14 01:45 | 21° \mathcal{M} 56'17 1°24'16 |
| morning rise | 3411 May 01 14:25 | 3° \mathcal{B} 10'53 | | | 3413 Sep 20 14:00 | 0° \mathcal{L} |
| | 3411 May 08 02:53 | 30° \mathcal{R} \mathcal{Y} | | | 3413 Oct 14 18:19 | 0° \mathbb{M} |
| direct | 3411 May 17 16:16 | 28° \mathcal{Y} 09'56 | | evening rise | 3413 Oct 21 05:18 | 8° \mathbb{M} 01'30 |
| greatest brilliancy | 3411 May 27 08:59 | 29° \mathcal{Y} 53'06 | -4.8m | | 3413 Nov 07 21:33 | 0° \mathcal{A} |
| | 3411 May 27 16:59 | 0° \mathcal{B} | | desc. node | 3413 Nov 13 17:58 | 7° \mathcal{A} 16'32 |
| desc. node | 3411 May 29 22:32 | 0° \mathcal{B} 51'15 | | | 3413 Dec 02 00:29 | 0° \mathcal{Z} |
| morning max el | 3411 Jul 05 15:07 | 28° \mathcal{B} 19'33 | 45°49'14 | | 3413 Dec 26 03:48 | 0° \approx |
| | 3411 Jul 07 08:48 | 0° \mathbb{I} | | | 3414 Jan 19 09:17 | 0° \mathcal{H} |
| | 3411 Aug 05 05:09 | 0° \mathcal{G} | | | 3414 Feb 12 21:01 | 0° \mathcal{Y} |
| | 3411 Aug 31 20:25 | 0° \mathcal{Q} | | asc. node | 3414 Mar 06 20:33 | 26° \mathcal{Y} 21'27 |
| asc. node | 3411 Sep 20 01:33 | 22° \mathcal{Q} 29'06 | | | 3414 Mar 09 22:45 | 0° \mathcal{B} |
| | 3411 Sep 26 09:14 | 0° \mathcal{M} | | | 3414 Apr 05 05:55 | 0° \mathbb{I} |
| | 3411 Oct 21 04:57 | 0° \mathcal{L} | | evening max el | 3414 Apr 26 05:46 | 21° \mathbb{I} 58'44 46°00'55 |
| | 3411 Nov 14 13:20 | 0° \mathbb{M} | | | 3414 May 04 16:40 | 0° \mathcal{G} |
| | 3411 Dec 08 14:57 | 0° \mathcal{A} | | greatest brilliancy | 3414 Jun 03 09:57 | 20° \mathcal{G} 40'49 -4.7m |
| greatest brilliancy | 3411 Dec 25 18:22 | 21° \mathcal{A} 29'14 | -3.9m | retrograde | 3414 Jun 14 13:23 | 22° \mathcal{G} 55'47 |
| morning set | 3411 Dec 31 20:11 | 29° \mathcal{A} 07'01 | | desc. node | 3414 Jun 26 10:32 | 20° \mathcal{G} 06'58 |
| | 3412 Jan 01 13:03 | 0° \mathcal{Z} | | evening set | 3414 Jun 29 14:13 | 18° \mathcal{G} 30'58 |
| desc. node | 3412 Jan 09 15:31 | 10° \mathcal{Z} 11'11 | | inferior conj | 3414 Jul 05 23:47 | 14° \mathcal{G} 40'14 -2°14'51 |
| | 3412 Jan 25 09:36 | 0° \approx | | minimum elong | 3414 Jul 05 18:57 | 14° \mathcal{G} 47'49 2°13'27 |
| | | | | min. Earth dist. | 3414 Jul 05 17:11 | 14° \mathcal{G} 50'35 0.28877 AU |
| superior conj | 3412 Feb 11 08:37 | 21° \approx 20'12 | -1°08'24 | morning rise | 3414 Jul 12 00:03 | 11° \mathcal{G} 03'16 |
| minimum elong | 3412 Feb 10 20:53 | 20° \approx 43'19 | 1°08'02 | direct | 3414 Jul 27 13:16 | 6° \mathcal{G} 25'32 |
| max. Earth dist. | 3412 Feb 12 22:31 | 23° \approx 19'23 | 1.71173 AU | greatest brilliancy | 3414 Aug 06 16:49 | 8° \mathcal{G} 17'09 -4.7m |
| | 3412 Feb 18 06:00 | 0° \mathcal{H} | | | 3414 Sep 07 15:28 | 0° \mathcal{Q} |
| | 3412 Mar 13 03:46 | 0° \mathcal{Y} | | morning max el | 3414 Sep 14 09:32 | 6° \mathcal{Q} 17'55 45°48'44 |
| evening rise | 3412 Mar 23 05:19 | 12° \mathcal{Y} 35'07 | | | 3414 Oct 07 10:06 | 0° \mathcal{M} |
| | 3412 Apr 06 04:40 | 0° \mathcal{B} | | asc. node | 3414 Oct 17 13:31 | 11° \mathcal{M} 12'27 |
| | 3412 Apr 30 10:28 | 0° \mathbb{I} | | | 3414 Nov 02 23:03 | 0° \mathcal{L} |
| asc. node | 3412 May 01 18:29 | 1° \mathbb{I} 38'31 | | | 3414 Nov 28 03:35 | 0° \mathbb{M} |
| | 3412 May 24 22:38 | 0° \mathcal{G} | | | 3414 Dec 22 15:39 | 0° \mathcal{A} |
| | 3412 Jun 18 18:59 | 0° \mathcal{Q} | | | 3415 Jan 15 19:29 | 0° \mathcal{Z} |
| | 3412 Jul 14 03:02 | 0° \mathcal{M} | | desc. node | 3415 Feb 06 03:18 | 26° \mathcal{Z} 38'46 |
| | 3412 Aug 09 06:22 | 0° \mathcal{L} | | | 3415 Feb 08 19:37 | 0° \approx |
| desc. node | 3412 Aug 21 08:05 | 13° \mathcal{L} 21'33 | | | 3415 Mar 04 18:36 | 0° \mathcal{H} |
| | 3412 Sep 05 24:00 | 0° \mathbb{M} | | morning set | 3415 Mar 18 22:24 | 17° \mathcal{H} 43'09 |
| evening max el | 3412 Sep 18 03:19 | 12° \mathbb{M} 06'44 | 46°02'39 | | 3415 Mar 28 18:12 | 0° \mathcal{Y} |
| | 3412 Oct 08 16:38 | 0° \mathcal{A} | | | 3415 Apr 21 19:49 | 0° \mathcal{B} |
| greatest brilliancy | 3412 Oct 28 04:41 | 11° \mathcal{A} 01'57 | -4.8m | | | |
| retrograde | 3412 Nov 06 09:50 | 12° \mathcal{A} 36'10 | | superior conj | 3415 Apr 27 12:59 | 7° \mathcal{B} 06'09 -1°08'09 |
| evening set | 3412 Nov 21 15:31 | 8° \mathcal{A} 06'37 | | minimum elong | 3415 Apr 27 23:17 | 7° \mathcal{B} 38'10 1°07'50 |
| inferior conj | 3412 Nov 27 03:17 | 4° \mathcal{A} 53'15 | -3°48'06 | max. Earth dist. | 3415 May 01 07:32 | 11° \mathcal{B} 47'12 1.72475 AU |
| minimum elong | 3412 Nov 27 11:18 | 4° \mathcal{A} 41'02 | 3°45'48 | | 3415 May 16 00:26 | 0° \mathbb{I} |
| min. Earth dist. | 3412 Nov 27 21:13 | 4° \mathcal{A} 25'57 | 0.27011 AU | asc. node | 3415 May 30 06:20 | 17° \mathbb{I} 35'06 |
| morning rise | 3412 Dec 03 06:24 | 1° \mathcal{A} 17'46 | | evening rise | 3415 Jun 04 23:14 | 24° \mathbb{I} 36'40 |
| | 3412 Dec 05 19:53 | 30° \mathcal{R} \mathbb{M} | | | 3415 Jun 09 08:22 | 0° \mathcal{G} |
| asc. node | 3412 Dec 12 11:03 | 27° \mathbb{M} 39'34 | | | 3415 Jul 03 19:33 | 0° \mathcal{Q} |
| direct | 3412 Dec 17 20:58 | 27° \mathbb{M} 03'10 | | | 3415 Jul 28 10:18 | 0° \mathcal{M} |
| greatest brilliancy | 3412 Dec 28 19:35 | 29° \mathbb{M} 18'55 | -4.9m | | 3415 Aug 22 05:58 | 0° \mathcal{L} |
| | 3412 Dec 30 10:54 | 0° \mathcal{A} | | | 3415 Sep 16 09:03 | 0° \mathbb{M} |
| | 3413 Feb 06 05:00 | 0° \mathcal{Z} | | desc. node | 3415 Sep 18 20:04 | 2° \mathbb{M} 54'33 |
| morning max el | 3413 Feb 06 14:30 | 0° \mathcal{Z} 24'05 | 46°58'32 | | 3415 Oct 11 23:37 | 0° \mathcal{A} |

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|---------------------|-------------------|----------------------|------------|---------------------|--|-------------------|-----------------------------|------------|
| | 3415 Nov 07 10:41 | 0° Z | | | | 3418 Jun 24 03:06 | 0° G | |
| evening max el | 3415 Dec 01 07:21 | 25° Z 18'18 | 47°03'32 | asc. node | | 3418 Jun 26 18:04 | 3° G 13'35 | |
| | 3415 Dec 06 01:33 | 0° \approx | | | | | | |
| asc. node | 3416 Jan 09 22:52 | 26° \approx 03'10 | | superior conj | | 3418 Jul 06 10:39 | 15° G 08'27 | 0°22'53 |
| greatest brilliancy | 3416 Jan 10 17:28 | 26° \approx 20'53 | -4.9m | minimum elong | | 3418 Jul 06 06:01 | 14° G 54'12 | 0°22'39 |
| retrograde | 3416 Jan 20 21:32 | 28° \approx 18'25 | | max. Earth dist. | | 3418 Jul 06 10:25 | 15° G 07'44 | 1.73507 AU |
| evening set | 3416 Feb 05 15:20 | 23° \approx 24'02 | | | | 3418 Jul 18 12:45 | 0° Ω | |
| min. Earth dist. | 3416 Feb 09 17:57 | 20° \approx 56'18 | 0.26809 AU | evening rise | | 3418 Aug 11 12:14 | 29° Ω 29'23 | |
| inferior conj | 3416 Feb 10 11:49 | 20° \approx 28'45 | 7°07'06 | | | 3418 Aug 11 22:12 | 0° M | |
| minimum elong | 3416 Feb 10 01:23 | 20° \approx 44'50 | 7°05'02 | | | 3418 Sep 05 07:43 | 0° L | |
| morning rise | 3416 Feb 14 11:47 | 18° \approx 03'58 | | | | 3418 Sep 29 18:19 | 0° M | |
| direct | 3416 Mar 01 23:25 | 12° \approx 47'46 | | desc. node | | 3418 Oct 16 08:04 | 20° M 16'53 | |
| greatest brilliancy | 3416 Mar 11 03:09 | 14° \approx 23'19 | -4.9m | | | 3418 Oct 24 07:03 | 0° Z | |
| | 3416 Apr 04 21:27 | 0° H | | | | 3418 Nov 17 22:51 | 0° Z | |
| morning max el | 3416 Apr 20 21:56 | 14° H 47'26 | 46°31'25 | | | 3418 Dec 12 20:04 | 0° \approx | |
| desc. node | 3416 Apr 30 12:54 | 24° H 34'01 | | | | 3419 Jan 07 05:47 | 0° H | |
| | 3416 May 05 16:49 | 0° Y | | | | 3419 Feb 03 00:33 | 0° Y | |
| | 3416 Jun 01 20:44 | 0° B | | asc. node | | 3419 Feb 06 10:43 | 3° Y 37'13 | |
| | 3416 Jun 27 20:47 | 0° II | | evening max el | | 3419 Feb 11 11:01 | 8° Y 47'43 | 47°03'11 |
| | 3416 Jul 23 07:08 | 0° G | | | | 3419 Mar 06 19:17 | 0° B | |
| | 3416 Aug 17 07:48 | 0° Ω | | greatest brilliancy | | 3419 Mar 23 19:30 | 10° B 02'22 | -4.9m |
| asc. node | 3416 Aug 21 15:42 | 5° Ω 14'05 | | retrograde | | 3419 Apr 03 03:58 | 12° B 04'26 | |
| | 3416 Sep 10 23:55 | 0° M | | evening set | | 3419 Apr 20 07:00 | 6° B 22'56 | |
| | 3416 Oct 05 08:38 | 0° L | | inferior conj | | 3419 Apr 24 06:41 | 3° B 55'19 | 7°15'00 |
| morning set | 3416 Oct 16 11:21 | 13° L 47'10 | | minimum elong | | 3419 Apr 24 16:21 | 3° B 40'09 | 7°13'18 |
| | 3416 Oct 29 11:56 | 0° M | | min. Earth dist. | | 3419 Apr 24 03:26 | 4° B 00'24 | 0.28063 AU |
| max. Earth dist. | 3416 Nov 20 23:53 | 28° M 07'10 | 1.71656 AU | morning rise | | 3419 Apr 29 01:55 | 0° B 59'16 | |
| | 3416 Nov 22 11:56 | 0° Z | | | | 3419 Apr 30 20:15 | 30° R ' Y | |
| | | | | direct | | 3419 May 15 06:29 | 25° Y 53'15 | |
| superior conj | 3416 Nov 23 14:26 | 1° Z 22'59 | 0°40'40 | greatest brilliancy | | 3419 May 24 23:05 | 27° Y 36'36 | -4.8m |
| minimum elong | 3416 Nov 23 23:14 | 1° Z 50'32 | 0°40'18 | desc. node | | 3419 May 29 00:36 | 29° Y 13'51 | |
| desc. node | 3416 Dec 11 05:46 | 23° Z 29'29 | | | | 3419 May 30 15:24 | 0° B | |
| | 3416 Dec 16 10:15 | 0° Z | | morning max el | | 3419 Jul 03 06:41 | 26° B 06'58 | 45°50'07 |
| evening rise | 3417 Jan 03 00:12 | 22° Z 03'57 | | | | 3419 Jul 07 06:37 | 0° II | |
| | 3417 Jan 09 07:52 | 0° \approx | | | | 3419 Aug 04 20:45 | 0° G | |
| | 3417 Feb 02 05:53 | 0° H | | | | 3419 Aug 31 09:41 | 0° Ω | |
| | 3417 Feb 26 06:14 | 0° Y | | asc. node | | 3419 Sep 19 03:43 | 21° Ω 58'53 | |
| | 3417 Mar 22 12:01 | 0° B | | | | 3419 Sep 25 21:22 | 0° M | |
| asc. node | 3417 Apr 03 08:35 | 14° B 30'36 | | | | 3419 Oct 20 16:30 | 0° L | |
| | 3417 Apr 16 03:20 | 0° II | | | | 3419 Nov 14 00:37 | 0° M | |
| | 3417 May 11 09:53 | 0° G | | | | 3419 Dec 08 02:07 | 0° Z | |
| | 3417 Jun 06 18:46 | 0° Ω | | greatest brilliancy | | 3419 Dec 25 16:09 | 22° Z 02'49 | -3.9m |
| evening max el | 3417 Jul 05 17:33 | 0° M 07'08 | 45°27'19 | morning set | | 3419 Dec 29 07:16 | 26° Z 36'18 | |
| | 3417 Jul 05 14:35 | 0° M | | | | 3420 Jan 01 00:08 | 0° Z | |
| desc. node | 3417 Jul 23 22:20 | 16° M 03'30 | | desc. node | | 3420 Jan 08 17:28 | 9° Z 42'32 | |
| greatest brilliancy | 3417 Aug 13 08:38 | 28° M 01'42 | -4.7m | | | 3420 Jan 24 20:36 | 0° \approx | |
| retrograde | 3417 Aug 23 08:13 | 29° M 49'36 | | | | | | |
| evening set | 3417 Sep 10 06:05 | 23° M 52'31 | | superior conj | | 3420 Feb 08 18:46 | 18° \approx 46'39 | -1°05'53 |
| inferior conj | 3417 Sep 13 18:38 | 21° M 42'37 | -8°32'47 | minimum elong | | 3420 Feb 08 06:49 | 18° \approx 09'01 | 1°05'29 |
| minimum elong | 3417 Sep 13 15:33 | 21° M 47'26 | 8°32'38 | max. Earth dist. | | 3420 Feb 10 05:23 | 20° \approx 35'29 | 1.71153 AU |
| min. Earth dist. | 3417 Sep 14 04:25 | 21° M 27'21 | 0.28834 AU | | | 3420 Feb 17 16:57 | 0° H | |
| morning rise | 3417 Sep 17 00:49 | 19° M 41'41 | | | | 3420 Mar 12 14:42 | 0° Y | |
| direct | 3417 Oct 05 06:54 | 13° M 26'46 | | evening rise | | 3420 Mar 20 16:50 | 10° Y 07'06 | |
| greatest brilliancy | 3417 Oct 16 04:58 | 15° M 36'38 | -4.8m | | | 3420 Apr 05 15:38 | 0° B | |
| | 3417 Nov 07 16:59 | 0° L | | | | 3420 Apr 29 21:33 | 0° II | |
| asc. node | 3417 Nov 14 01:13 | 5° L 32'43 | | asc. node | | 3420 Apr 30 20:30 | 1° II 10'38 | |
| morning max el | 3417 Nov 24 06:18 | 15° L 19'32 | 46°28'47 | | | 3420 May 24 09:59 | 0° G | |
| | 3417 Dec 08 07:10 | 0° M | | | | 3420 Jun 18 06:53 | 0° Ω | |
| | 3418 Jan 03 18:26 | 0° Z | | | | 3420 Jul 13 15:55 | 0° M | |
| | 3418 Jan 28 21:53 | 0° Z | | | | 3420 Aug 08 21:15 | 0° L | |
| | 3418 Feb 22 12:02 | 0° \approx | | desc. node | | 3420 Aug 20 10:13 | 12° L 42'53 | |
| desc. node | 3418 Mar 05 15:12 | 13° \approx 41'40 | | | | 3420 Sep 05 19:39 | 0° M | |
| | 3418 Mar 18 20:28 | 0° H | | evening max el | | 3420 Sep 15 17:47 | 9° M 50'04 | 46°00'38 |
| | 3418 Apr 12 02:59 | 0° Y | | | | 3420 Oct 09 11:28 | 0° Z | |
| | 3418 May 06 09:45 | 0° B | | greatest brilliancy | | 3420 Oct 25 16:58 | 8° Z 38'24 | -4.8m |
| morning set | 3418 May 30 06:40 | 29° B 25'38 | | retrograde | | 3420 Nov 03 22:52 | 10° Z 12'36 | |
| | 3418 May 30 17:50 | 0° II | | evening set | | 3420 Nov 19 07:01 | 5° Z 39'12 | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| inferior conj | 3420 Nov 24 16:10 | 2°♊28'59 | -4°09'03 | max. Earth dist. | 3423 Apr 29 01:10 | 9°♋39'49 | 1.72416 AU |
| minimum elong | 3420 Nov 25 00:44 | 2°♊15'55 | 4°06'38 | | 3423 May 15 11:04 | 0°♌ | |
| min. Earth dist. | 3420 Nov 25 10:40 | 2°♊00'48 | 0.27069 AU | asc. node | 3423 May 29 08:17 | 17°♌08'20 | |
| | 3420 Nov 28 19:39 | 30°♌ | | evening rise | 3423 Jun 02 15:42 | 22°♌26'51 | |
| morning rise | 3420 Nov 30 17:52 | 28°♌55'24 | | | 3423 Jun 08 19:00 | 0°♍ | |
| asc. node | 3420 Dec 11 13:01 | 24°♌57'10 | | | 3423 Jul 03 06:19 | 0°♎ | |
| direct | 3420 Dec 15 11:09 | 24°♌38'07 | | | 3423 Jul 27 21:23 | 0°♏ | |
| greatest brilliancy | 3420 Dec 26 09:27 | 26°♌53'51 | -4.9m | | 3423 Aug 21 17:35 | 0°♐ | |
| | 3421 Jan 01 19:10 | 0°♊ | | | 3423 Sep 15 21:36 | 0°♑ | |
| morning max el | 3421 Feb 04 05:16 | 28°♊02'16 | 46°58'30 | desc. node | 3423 Sep 17 22:08 | 2°♑23'17 | |
| | 3421 Feb 06 03:22 | 0°♋ | | | 3423 Oct 11 13:44 | 0°♒ | |
| | 3421 Mar 05 14:47 | 0°♌ | | | 3423 Nov 07 03:53 | 0°♓ | |
| | 3421 Mar 31 09:37 | 0°♍ | | evening max el | 3423 Nov 28 20:24 | 22°♓52'50 | 47°01'57 |
| desc. node | 3421 Apr 02 03:10 | 2°♍02'56 | | | 3423 Dec 06 03:26 | 0°♈ | |
| | 3421 Apr 25 12:55 | 0°♎ | | greatest brilliancy | 3424 Jan 08 07:27 | 23°♈54'10 | -4.9m |
| | 3421 May 20 09:39 | 0°♏ | | asc. node | 3424 Jan 09 00:55 | 24°♈09'42 | |
| | 3421 Jun 14 03:28 | 0°♐ | | retrograde | 3424 Jan 18 09:47 | 25°♈50'11 | |
| | 3421 Jul 08 19:14 | 0°♑ | | evening set | 3424 Feb 03 00:09 | 21°♈02'05 | |
| asc. node | 3421 Jul 24 05:55 | 18°♑51'29 | | min. Earth dist. | 3424 Feb 07 07:22 | 18°♈27'56 | 0.26769 AU |
| | 3421 Aug 02 08:21 | 0°♒ | | inferior conj | 3424 Feb 08 00:23 | 18°♈01'41 | 6°51'58 |
| morning set | 3421 Aug 06 11:50 | 5°♒04'52 | | minimum elong | 3424 Feb 07 13:47 | 18°♈18'02 | 6°49'45 |
| | 3421 Aug 26 18:07 | 0°♓ | | morning rise | 3424 Feb 12 03:42 | 15°♈31'54 | |
| max. Earth dist. | 3421 Sep 09 05:07 | 16°♓36'52 | 1.73041 AU | direct | 3424 Feb 28 11:13 | 10°♈21'08 | |
| | | | | greatest brilliancy | 3424 Mar 08 16:52 | 11°♈57'53 | -4.9m |
| superior conj | 3421 Sep 11 21:47 | 19°♓56'46 | 1°23'47 | | 3424 Apr 05 05:31 | 0°♉ | |
| minimum elong | 3421 Sep 11 18:39 | 19°♓47'06 | 1°23'45 | morning max el | 3424 Apr 18 09:51 | 12°♉21'18 | 46°33'04 |
| | 3421 Sep 20 00:41 | 0°♐ | | desc. node | 3424 Apr 29 14:53 | 23°♉48'03 | |
| | 3421 Oct 14 05:07 | 0°♑ | | | 3424 May 05 11:06 | 0°♊ | |
| evening rise | 3421 Oct 18 20:26 | 5°♑45'43 | | | 3424 Jun 01 11:11 | 0°♋ | |
| | 3421 Nov 07 08:32 | 0°♒ | | | 3424 Jun 27 09:27 | 0°♌ | |
| desc. node | 3421 Nov 12 19:55 | 6°♒48'15 | | | 3424 Jul 22 18:49 | 0°♍ | |
| | 3421 Dec 01 11:43 | 0°♓ | | | 3424 Aug 16 18:55 | 0°♎ | |
| | 3421 Dec 25 15:22 | 0°♈ | | asc. node | 3424 Aug 20 17:52 | 4°♎47'13 | |
| | 3422 Jan 18 21:17 | 0°♉ | | | 3424 Sep 10 10:43 | 0°♏ | |
| | 3422 Feb 12 09:40 | 0°♊ | | | 3424 Oct 04 19:19 | 0°♐ | |
| asc. node | 3422 Mar 05 22:41 | 25°♊47'35 | | morning set | 3424 Oct 14 03:20 | 11°♐34'34 | |
| | 3422 Mar 09 12:36 | 0°♋ | | | 3424 Oct 28 22:36 | 0°♑ | |
| | 3422 Apr 04 22:30 | 0°♌ | | max. Earth dist. | 3424 Nov 18 11:38 | 25°♑40'07 | 1.71705 AU |
| evening max el | 3422 Apr 23 22:03 | 19°♌47'42 | 46°03'02 | | | | |
| | 3422 May 04 18:54 | 0°♍ | | superior conj | 3424 Nov 21 03:40 | 29°♑00'29 | 0°43'53 |
| greatest brilliancy | 3422 Jun 01 02:59 | 18°♍32'48 | -4.8m | minimum elong | 3424 Nov 21 12:53 | 29°♑29'21 | 0°43'29 |
| retrograde | 3422 Jun 12 05:56 | 20°♍47'02 | | | 3424 Nov 21 22:41 | 0°♒ | |
| desc. node | 3422 Jun 25 12:25 | 17°♍18'27 | | desc. node | 3424 Dec 10 07:46 | 23°♒01'46 | |
| evening set | 3422 Jun 27 06:27 | 16°♍23'03 | | | 3424 Dec 15 21:07 | 0°♓ | |
| inferior conj | 3422 Jul 03 16:11 | 12°♍31'42 | -1°55'31 | evening rise | 3424 Dec 31 11:07 | 19°♓33'18 | |
| minimum elong | 3422 Jul 03 12:00 | 12°♍38'16 | 1°54'18 | | 3425 Jan 08 18:50 | 0°♈ | |
| min. Earth dist. | 3422 Jul 03 09:37 | 12°♍42'02 | 0.28854 AU | | 3425 Feb 01 16:57 | 0°♉ | |
| morning rise | 3422 Jul 09 17:59 | 8°♍52'24 | | | 3425 Feb 25 17:28 | 0°♊ | |
| direct | 3422 Jul 25 05:45 | 4°♍17'33 | | | 3425 Mar 21 23:33 | 0°♋ | |
| greatest brilliancy | 3422 Aug 04 08:04 | 6°♍07'59 | -4.7m | asc. node | 3425 Apr 02 10:35 | 14°♋00'57 | |
| | 3422 Sep 07 16:01 | 0°♎ | | | 3425 Apr 15 15:25 | 0°♌ | |
| morning max el | 3422 Sep 12 00:45 | 4°♎06'37 | 45°47'44 | | 3425 May 10 23:02 | 0°♍ | |
| | 3422 Oct 07 02:10 | 0°♏ | | | 3425 Jun 06 10:14 | 0°♎ | |
| asc. node | 3422 Oct 16 15:31 | 10°♏36'24 | | evening max el | 3425 Jul 03 08:12 | 27°♎54'21 | 45°27'34 |
| | 3422 Nov 02 12:32 | 0°♐ | | | 3425 Jul 05 13:01 | 0°♏ | |
| | 3422 Nov 27 15:54 | 0°♑ | | desc. node | 3425 Jul 23 00:30 | 14°♏59'34 | |
| | 3422 Dec 22 03:22 | 0°♒ | | greatest brilliancy | 3425 Aug 10 22:30 | 25°♏50'23 | -4.7m |
| | 3423 Jan 15 06:51 | 0°♓ | | retrograde | 3425 Aug 20 23:58 | 27°♏40'12 | |
| desc. node | 3423 Feb 05 05:22 | 26°♓10'15 | | evening set | 3425 Sep 07 19:36 | 21°♏45'39 | |
| | 3423 Feb 08 06:46 | 0°♈ | | inferior conj | 3425 Sep 11 10:34 | 19°♏32'19 | -8°28'58 |
| | 3423 Mar 04 05:36 | 0°♉ | | minimum elong | 3425 Sep 11 06:44 | 19°♏38'17 | 8°28'46 |
| morning set | 3423 Mar 16 09:32 | 15°♉13'48 | | min. Earth dist. | 3425 Sep 11 19:22 | 19°♏18'35 | 0.28871 AU |
| | 3423 Mar 28 05:03 | 0°♊ | | morning rise | 3425 Sep 14 17:41 | 17°♏30'06 | |
| | 3423 Apr 21 06:32 | 0°♋ | | direct | 3425 Oct 02 22:48 | 11°♏15'52 | |
| | | | | greatest brilliancy | 3425 Oct 13 21:00 | 13°♏25'46 | -4.8m |
| superior conj | 3423 Apr 25 02:55 | 4°♋47'08 | -1°10'20 | | 3425 Nov 07 23:17 | 0°♌ | |
| minimum elong | 3423 Apr 25 13:02 | 5°♋18'33 | 1°10'02 | asc. node | 3425 Nov 13 03:12 | 4°♌37'30 | |

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|---------------------|-------------------|--------------------------------|------------|---------------------|-------------------|-------------------------------|------------|
| morning max el | 3425 Nov 21 21:43 | 13° Ω 04'06 | 46°27'08 | | 3428 May 23 21:20 | 0° Θ | |
| | 3425 Dec 08 00:45 | 0° \mathbb{L} | | | 3428 Jun 17 18:46 | 0° Ω | |
| | 3426 Jan 03 08:47 | 0° \mathcal{A} | | | 3428 Jul 13 04:51 | 0° \mathbb{P} | |
| | 3426 Jan 28 10:49 | 0° \mathcal{Z} | | | 3428 Aug 08 12:15 | 0° \mathcal{L} | |
| | 3426 Feb 22 00:10 | 0° \approx | | desc. node | 3428 Aug 19 12:16 | 12° \mathcal{L} 03'54 | |
| desc. node | 3426 Mar 04 17:19 | 13° \approx 11'36 | | | 3428 Sep 05 15:46 | 0° \mathbb{L} | |
| | 3426 Mar 18 08:04 | 0° \mathcal{H} | | evening max el | 3428 Sep 13 08:43 | 7° \mathbb{L} 35'00 | 45°58'38 |
| | 3426 Apr 11 14:11 | 0° \mathcal{Y} | | | 3428 Oct 10 12:30 | 0° \mathcal{A} | |
| | 3426 May 05 20:40 | 0° \mathcal{B} | | greatest brilliancy | 3428 Oct 23 06:01 | 6° \mathcal{A} 16'58 | -4.8m |
| morning set | 3426 May 27 22:59 | 27° \mathcal{B} 15'01 | | retrograde | 3428 Nov 01 11:47 | 7° \mathcal{A} 50'30 | |
| | 3426 May 30 04:33 | 0° \mathbb{I} | | evening set | 3428 Nov 16 22:59 | 3° \mathcal{A} 13'25 | |
| | 3426 Jun 23 13:42 | 0° Θ | | inferior conj | 3428 Nov 22 05:26 | 0° \mathcal{A} 06'29 | -4°29'11 |
| asc. node | 3426 Jun 25 20:08 | 2° Θ 47'21 | | minimum elong | 3428 Nov 22 14:29 | 29° \mathbb{L} 52'38 | 4°26'41 |
| | | | | | 3428 Nov 22 09:40 | 30° \mathbb{R} \mathbb{L} | |
| superior conj | 3426 Jul 04 04:21 | 13° Θ 02'53 | 0°19'46 | min. Earth dist. | 3428 Nov 23 00:34 | 29° \mathbb{L} 37'15 | 0.27126 AU |
| minimum elong | 3426 Jul 04 00:18 | 12° Θ 50'25 | 0°19'34 | morning rise | 3428 Nov 28 05:26 | 26° \mathbb{L} 34'49 | |
| max. Earth dist. | 3426 Jul 04 06:47 | 13° Θ 10'21 | 1.73496 AU | asc. node | 3428 Dec 10 15:02 | 22° \mathbb{L} 22'11 | |
| | 3426 Jul 17 23:18 | 0° Ω | | direct | 3428 Dec 13 01:29 | 22° \mathbb{L} 14'54 | |
| evening rise | 3426 Aug 09 07:02 | 27° Ω 27'01 | | greatest brilliancy | 3428 Dec 23 23:38 | 24° \mathbb{L} 30'20 | -4.9m |
| | 3426 Aug 11 08:48 | 0° \mathbb{P} | | | 3429 Jan 03 06:57 | 0° \mathcal{A} | |
| | 3426 Sep 04 18:30 | 0° \mathcal{L} | | morning max el | 3429 Feb 01 19:21 | 25° \mathcal{A} 39'10 | 46°58'10 |
| | 3426 Sep 29 05:26 | 0° \mathbb{L} | | | 3429 Feb 06 00:43 | 0° \mathcal{Z} | |
| desc. node | 3426 Oct 15 10:04 | 19° \mathbb{L} 48'07 | | | 3429 Mar 05 06:42 | 0° \approx | |
| | 3426 Oct 23 18:39 | 0° \mathcal{A} | | | 3429 Mar 30 23:22 | 0° \mathcal{H} | |
| | 3426 Nov 17 11:10 | 0° \mathcal{Z} | | desc. node | 3429 Apr 01 05:07 | 1° \mathcal{H} 28'12 | |
| | 3426 Dec 12 09:26 | 0° \approx | | | 3429 Apr 25 01:31 | 0° \mathcal{Y} | |
| | 3427 Jan 06 21:02 | 0° \mathcal{H} | | | 3429 May 19 21:30 | 0° \mathcal{B} | |
| | 3427 Feb 02 20:14 | 0° \mathcal{Y} | | | 3429 Jun 13 14:48 | 0° \mathbb{I} | |
| asc. node | 3427 Feb 05 12:51 | 2° \mathcal{Y} 49'14 | | | 3429 Jul 08 06:13 | 0° Θ | |
| evening max el | 3427 Feb 09 01:45 | 6° \mathcal{Y} 27'29 | 47°04'39 | asc. node | 3429 Jul 23 08:02 | 18° Θ 24'47 | |
| | 3427 Mar 07 13:29 | 0° \mathcal{B} | | | 3429 Aug 01 19:08 | 0° Ω | |
| greatest brilliancy | 3427 Mar 21 10:33 | 7° \mathcal{B} 44'03 | -4.9m | morning set | 3429 Aug 04 05:36 | 2° Ω 59'12 | |
| retrograde | 3427 Mar 31 19:42 | 9° \mathcal{B} 46'45 | | | 3429 Aug 26 04:50 | 0° \mathbb{P} | |
| evening set | 3427 Apr 18 00:51 | 4° \mathcal{B} 00'38 | | max. Earth dist. | 3429 Sep 06 22:12 | 14° \mathbb{P} 28'15 | 1.73077 AU |
| inferior conj | 3427 Apr 21 21:27 | 1° \mathcal{B} 37'46 | 7°27'23 | | | | |
| minimum elong | 3427 Apr 22 06:51 | 1° \mathcal{B} 23'03 | 7°25'50 | superior conj | 3429 Sep 09 15:33 | 17° \mathbb{P} 50'11 | 1°23'09 |
| min. Earth dist. | 3427 Apr 21 17:30 | 1° \mathcal{B} 43'57 | 0.28029 AU | minimum elong | 3429 Sep 09 11:47 | 17° \mathbb{P} 38'33 | 1°23'08 |
| | 3427 Apr 24 12:24 | 30° \mathbb{R} \mathcal{Y} | | | 3429 Sep 19 11:27 | 0° \mathcal{L} | |
| morning rise | 3427 Apr 26 13:05 | 28° \mathcal{Y} 47'20 | | | 3429 Oct 13 15:59 | 0° \mathbb{L} | |
| direct | 3427 May 12 20:52 | 23° \mathcal{Y} 36'15 | | evening rise | 3429 Oct 16 11:59 | 3° \mathbb{L} 31'06 | |
| greatest brilliancy | 3427 May 22 12:19 | 25° \mathcal{Y} 19'06 | -4.8m | | 3429 Nov 06 19:36 | 0° \mathcal{A} | |
| desc. node | 3427 May 28 02:34 | 27° \mathcal{Y} 39'52 | | desc. node | 3429 Nov 11 21:56 | 6° \mathcal{A} 20'00 | |
| | 3427 Jun 01 09:38 | 0° \mathcal{B} | | | 3429 Nov 30 23:01 | 0° \mathcal{Z} | |
| morning max el | 3427 Jun 30 22:45 | 23° \mathcal{B} 56'03 | 45°51'06 | | 3429 Dec 25 02:59 | 0° \approx | |
| | 3427 Jul 07 03:26 | 0° \mathbb{I} | | | 3430 Jan 18 09:21 | 0° \mathcal{H} | |
| | 3427 Aug 04 11:53 | 0° Θ | | | 3430 Feb 11 22:26 | 0° \mathcal{Y} | |
| | 3427 Aug 30 22:37 | 0° Ω | | asc. node | 3430 Mar 05 00:37 | 25° \mathcal{Y} 12'35 | |
| asc. node | 3427 Sep 18 05:38 | 21° Ω 28'40 | | | 3430 Mar 09 02:41 | 0° \mathcal{B} | |
| | 3427 Sep 25 09:14 | 0° \mathbb{P} | | | 3430 Apr 04 15:39 | 0° \mathbb{I} | |
| | 3427 Oct 20 03:49 | 0° \mathcal{L} | | evening max el | 3430 Apr 21 13:36 | 17° \mathbb{I} 33'50 | 46°04'57 |
| | 3427 Nov 13 11:40 | 0° \mathbb{L} | | | 3430 May 04 23:16 | 0° Θ | |
| | 3427 Dec 07 13:03 | 0° \mathcal{A} | | greatest brilliancy | 3430 May 29 20:26 | 16° Θ 23'49 | -4.8m |
| greatest brilliancy | 3427 Dec 25 05:23 | 22° \mathcal{A} 10'08 | -3.9m | retrograde | 3430 Jun 09 21:55 | 18° Θ 36'54 | |
| morning set | 3427 Dec 26 18:48 | 24° \mathcal{A} 07'35 | | evening set | 3430 Jun 24 22:42 | 14° Θ 13'27 | |
| | 3427 Dec 31 11:02 | 0° \mathcal{Z} | | desc. node | 3430 Jun 24 14:34 | 14° Θ 24'31 | |
| desc. node | 3428 Jan 07 19:36 | 9° \mathcal{Z} 14'55 | | inferior conj | 3430 Jul 01 08:28 | 10° Θ 21'57 | -1°35'55 |
| | 3428 Jan 24 07:31 | 0° \approx | | minimum elong | 3430 Jul 01 04:59 | 10° Θ 27'26 | 1°34'54 |
| | | | | min. Earth dist. | 3430 Jul 01 02:20 | 10° Θ 31'36 | 0.28829 AU |
| superior conj | 3428 Feb 06 04:44 | 16° \approx 12'38 | -1°03'11 | morning rise | 3430 Jul 07 11:38 | 6° Θ 40'22 | |
| minimum elong | 3428 Feb 05 16:41 | 15° \approx 34'42 | 1°02'47 | direct | 3430 Jul 22 21:37 | 2° Θ 08'15 | |
| max. Earth dist. | 3428 Feb 07 13:47 | 17° \approx 56'33 | 1.71143 AU | greatest brilliancy | 3430 Aug 01 23:43 | 3° Θ 58'04 | -4.7m |
| | 3428 Feb 17 03:53 | 0° \mathcal{H} | | | 3430 Sep 07 15:45 | 0° Ω | |
| | 3428 Mar 12 01:39 | 0° \mathcal{Y} | | morning max el | 3430 Sep 09 15:16 | 1° Ω 52'54 | 45°46'57 |
| evening rise | 3428 Mar 18 03:48 | 7° \mathcal{Y} 37'11 | | | 3430 Oct 06 18:11 | 0° \mathbb{P} | |
| | 3428 Apr 05 02:38 | 0° \mathcal{B} | | asc. node | 3430 Oct 15 17:31 | 10° \mathbb{P} 00'06 | |
| | 3428 Apr 29 08:39 | 0° \mathbb{I} | | | 3430 Nov 02 02:04 | 0° \mathcal{L} | |
| asc. node | 3428 Apr 29 22:27 | 0° \mathbb{I} 42'27 | | | 3430 Nov 27 04:20 | 0° \mathbb{L} | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3430 Dec 21 15:13 | 0°♂ | | greatest brilliancy | 3433 Aug 08 11:42 | 23°♎36'48 | -4.7m |
| | 3431 Jan 14 18:22 | 0°♂ | | retrograde | 3433 Aug 18 15:54 | 25°♎28'55 | |
| desc. node | 3431 Feb 04 07:28 | 25°♂41'22 | | evening set | 3433 Sep 05 08:41 | 19°♎37'21 | |
| | 3431 Feb 07 18:04 | 0°♌ | | inferior conj | 3433 Sep 09 02:17 | 17°♎20'10 | -8°24'22 |
| | 3431 Mar 03 16:44 | 0°♋ | | minimum elong | 3433 Sep 08 21:45 | 17°♎27'14 | 8°24'05 |
| morning set | 3431 Mar 13 20:52 | 12°♋44'29 | | min. Earth dist. | 3433 Sep 09 09:52 | 17°♎08'22 | 0.28906 AU |
| | 3431 Mar 27 16:03 | 0°♍ | | morning rise | 3433 Sep 12 10:39 | 15°♎16'16 | |
| | 3431 Apr 20 17:27 | 0°♌ | | direct | 3433 Sep 30 15:00 | 9°♎03'16 | |
| | | | | greatest brilliancy | 3433 Oct 11 12:24 | 11°♎12'42 | -4.8m |
| superior conj | 3431 Apr 22 16:55 | 2°♌27'32 | -1°12'22 | | 3433 Nov 08 04:10 | 0°♎ | |
| minimum elong | 3431 Apr 23 02:46 | 2°♌58'11 | 1°12'07 | asc. node | 3433 Nov 12 05:18 | 3°♎42'22 | |
| max. Earth dist. | 3431 Apr 26 16:58 | 7°♌25'55 | 1.72363 AU | morning max el | 3433 Nov 19 13:44 | 10°♎49'10 | 46°25'34 |
| | 3431 May 14 21:58 | 0°♍ | | | 3433 Dec 07 18:22 | 0°♎ | |
| asc. node | 3431 May 28 10:23 | 16°♍41'07 | | | 3434 Jan 02 23:20 | 0°♏ | |
| evening rise | 3431 May 31 07:54 | 20°♍15'15 | | | 3434 Jan 27 23:59 | 0°♏ | |
| | 3431 Jun 08 05:58 | 0°♏ | | | 3434 Feb 21 12:34 | 0°♌ | |
| | 3431 Jul 02 17:26 | 0°♏ | | desc. node | 3434 Mar 03 19:12 | 12°♌39'55 | |
| | 3431 Jul 27 08:48 | 0°♎ | | | 3434 Mar 17 19:57 | 0°♋ | |
| | 3431 Aug 21 05:34 | 0°♎ | | | 3434 Apr 11 01:41 | 0°♍ | |
| | 3431 Sep 15 10:31 | 0°♎ | | | 3434 May 05 07:53 | 0°♌ | |
| desc. node | 3431 Sep 17 00:06 | 1°♎50'44 | | morning set | 3434 May 25 15:27 | 25°♌03'53 | |
| | 3431 Oct 11 04:18 | 0°♏ | | | 3434 May 29 15:34 | 0°♍ | |
| | 3431 Nov 06 21:44 | 0°♏ | | | 3434 Jun 23 00:35 | 0°♏ | |
| evening max el | 3431 Nov 26 09:08 | 20°♏26'00 | 47°00'23 | asc. node | 3434 Jun 24 22:14 | 2°♏20'22 | |
| | 3431 Dec 06 07:06 | 0°♌ | | | | | |
| greatest brilliancy | 3432 Jan 05 21:29 | 21°♌26'58 | -4.9m | superior conj | 3434 Jul 01 22:07 | 10°♏56'32 | 0°16'38 |
| asc. node | 3432 Jan 08 03:05 | 22°♌11'14 | | minimum elong | 3434 Jul 01 18:40 | 10°♏45'55 | 0°16'27 |
| retrograde | 3432 Jan 15 22:13 | 23°♌21'57 | | max. Earth dist. | 3434 Jul 02 05:18 | 11°♏18'37 | 1.73486 AU |
| evening set | 3432 Jan 31 09:13 | 18°♌39'25 | | | 3434 Jul 17 10:10 | 0°♏ | |
| min. Earth dist. | 3432 Feb 04 20:58 | 15°♌59'14 | 0.26731 AU | evening rise | 3434 Aug 07 01:52 | 25°♏23'44 | |
| inferior conj | 3432 Feb 05 13:06 | 15°♌34'23 | 6°36'01 | | 3434 Aug 10 19:45 | 0°♎ | |
| minimum elong | 3432 Feb 05 02:23 | 15°♌50'53 | 6°33'40 | | 3434 Sep 04 05:42 | 0°♎ | |
| morning rise | 3432 Feb 09 19:47 | 12°♌59'50 | | | 3434 Sep 28 16:59 | 0°♎ | |
| direct | 3432 Feb 25 23:00 | 7°♌54'03 | | desc. node | 3434 Oct 14 12:04 | 19°♎18'07 | |
| greatest brilliancy | 3432 Mar 06 06:53 | 9°♌32'29 | -4.9m | | 3434 Oct 23 06:42 | 0°♏ | |
| | 3432 Apr 05 11:24 | 0°♋ | | | 3434 Nov 16 23:54 | 0°♏ | |
| morning max el | 3432 Apr 15 22:31 | 9°♋56'27 | 46°34'43 | | 3434 Dec 11 23:15 | 0°♌ | |
| desc. node | 3432 Apr 28 16:57 | 23°♋02'30 | | | 3435 Jan 06 12:50 | 0°♋ | |
| | 3432 May 05 05:07 | 0°♍ | | | 3435 Feb 02 16:52 | 0°♍ | |
| | 3432 Jun 01 01:43 | 0°♌ | | asc. node | 3435 Feb 04 14:47 | 1°♍59'04 | |
| | 3432 Jun 26 22:22 | 0°♍ | | evening max el | 3435 Feb 06 17:20 | 4°♍08'28 | 47°06'02 |
| | 3432 Jul 22 06:50 | 0°♏ | | | 3435 Mar 08 14:51 | 0°♌ | |
| | 3432 Aug 16 06:24 | 0°♏ | | greatest brilliancy | 3435 Mar 19 01:32 | 5°♌24'42 | -4.9m |
| asc. node | 3432 Aug 19 19:49 | 4°♏18'32 | | retrograde | 3435 Mar 29 11:28 | 7°♌27'47 | |
| | 3432 Sep 09 21:53 | 0°♎ | | evening set | 3435 Apr 15 18:39 | 1°♌37'21 | |
| | 3432 Oct 04 06:19 | 0°♎ | | | 3435 Apr 18 10:00 | 30°♋♍ | |
| morning set | 3432 Oct 11 19:18 | 9°♎20'54 | | inferior conj | 3435 Apr 19 12:10 | 29°♍19'03 | 7°39'05 |
| | 3432 Oct 28 09:35 | 0°♎ | | minimum elong | 3435 Apr 19 21:13 | 29°♍04'53 | 7°37'42 |
| max. Earth dist. | 3432 Nov 16 01:49 | 23°♎19'44 | 1.71751 AU | min. Earth dist. | 3435 Apr 19 07:20 | 29°♍26'38 | 0.27993 AU |
| | | | | morning rise | 3435 Apr 24 00:04 | 26°♍34'17 | |
| superior conj | 3432 Nov 18 16:57 | 26°♎37'17 | 0°46'59 | direct | 3435 May 10 11:34 | 21°♍18'17 | |
| minimum elong | 3432 Nov 19 02:32 | 27°♎07'14 | 0°46'35 | greatest brilliancy | 3435 May 20 01:04 | 22°♍59'59 | -4.8m |
| | 3432 Nov 21 09:44 | 0°♏ | | desc. node | 3435 May 27 04:41 | 26°♍08'23 | |
| desc. node | 3432 Dec 09 09:52 | 22°♏33'28 | | | 3435 Jun 02 15:11 | 0°♌ | |
| | 3432 Dec 15 08:17 | 0°♏ | | morning max el | 3435 Jun 28 14:38 | 21°♌43'54 | 45°52'06 |
| evening rise | 3432 Dec 28 22:15 | 17°♏02'27 | | | 3435 Jul 06 23:51 | 0°♍ | |
| | 3433 Jan 08 06:07 | 0°♌ | | | 3435 Aug 04 03:04 | 0°♏ | |
| | 3433 Feb 01 04:21 | 0°♋ | | | 3435 Aug 30 11:44 | 0°♏ | |
| | 3433 Feb 25 05:01 | 0°♍ | | asc. node | 3435 Sep 17 07:41 | 20°♏58'00 | |
| | 3433 Mar 21 11:25 | 0°♌ | | | 3435 Sep 24 21:22 | 0°♎ | |
| asc. node | 3433 Apr 01 12:35 | 13°♌30'19 | | | 3435 Oct 19 15:27 | 0°♎ | |
| | 3433 Apr 15 03:51 | 0°♍ | | | 3435 Nov 12 23:04 | 0°♎ | |
| | 3433 May 10 12:35 | 0°♏ | | | 3435 Dec 07 00:19 | 0°♏ | |
| | 3433 Jun 06 02:20 | 0°♏ | | morning set | 3435 Dec 24 06:12 | 21°♏37'31 | |
| evening max el | 3433 Jun 30 23:37 | 25°♏42'18 | 45°27'42 | | 3435 Dec 30 22:14 | 0°♏ | |
| | 3433 Jul 05 13:01 | 0°♎ | | desc. node | 3436 Jan 06 21:38 | 8°♏46'06 | |
| desc. node | 3433 Jul 22 02:31 | 13°♎52'07 | | | 3436 Jan 23 18:41 | 0°♌ | |

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|---------------------|-------------------|------------------------|------------|---------------------|-------------------|-----------------------|------------|
| superior conj | 3436 Feb 03 14:33 | 13° \approx 37'22 | -1°00'21 | morning rise | 3438 Jul 05 05:11 | 4° \approx 28'39 | |
| minimum elong | 3436 Feb 03 02:31 | 12° \approx 59'32 | 0°59'56 | | 3438 Jul 19 12:40 | 30° \approx II | |
| max. Earth dist. | 3436 Feb 04 22:20 | 15° \approx 17'21 | 1.71128 AU | direct | 3438 Jul 20 13:05 | 29° \approx II58'48 | |
| | 3436 Feb 16 15:03 | 0° \approx | | | 3438 Jul 21 13:39 | 0° \approx | |
| | 3436 Mar 11 12:50 | 0° \approx | | greatest brilliancy | 3438 Jul 30 15:59 | 1° \approx 48'52 | -4.7m |
| evening rise | 3436 Mar 15 14:41 | 5° \approx 06'10 | | morning max el | 3438 Sep 07 05:56 | 29° \approx 39'44 | 45°46'22 |
| | 3436 Apr 04 13:52 | 0° \approx | | | 3438 Sep 07 14:24 | 0° \approx | |
| | 3436 Apr 28 20:00 | 0° \approx | | | 3438 Oct 06 09:52 | 0° \approx | |
| asc. node | 3436 Apr 29 00:35 | 0° \approx 14'07 | | asc. node | 3438 Oct 14 19:37 | 9° \approx 24'37 | |
| | 3436 May 23 08:58 | 0° \approx | | | 3438 Nov 01 15:25 | 0° \approx | |
| | 3436 Jun 17 06:56 | 0° \approx | | | 3438 Nov 26 16:38 | 0° \approx | |
| | 3436 Jul 12 18:05 | 0° \approx | | | 3438 Dec 21 02:59 | 0° \approx | |
| | 3436 Aug 08 03:40 | 0° \approx | | | 3439 Jan 14 05:51 | 0° \approx | |
| desc. node | 3436 Aug 18 14:13 | 11° \approx 23'39 | | desc. node | 3439 Feb 03 09:24 | 25° \approx 11'54 | |
| | 3436 Sep 05 12:50 | 0° \approx | | | 3439 Feb 07 05:22 | 0° \approx | |
| evening max el | 3436 Sep 10 22:49 | 5° \approx 17'18 | 45°56'27 | | 3439 Mar 03 03:53 | 0° \approx | |
| | 3436 Oct 12 00:20 | 0° \approx | | morning set | 3439 Mar 11 07:31 | 10° \approx 12'50 | |
| greatest brilliancy | 3436 Oct 20 19:22 | 3° \approx 55'00 | -4.8m | | 3439 Mar 27 03:03 | 0° \approx | |
| retrograde | 3436 Oct 29 23:54 | 5° \approx 27'22 | | | | | |
| evening set | 3436 Nov 14 14:55 | 0° \approx 46'24 | | superior conj | 3439 Apr 20 06:26 | 0° \approx 06'34 | -1°14'19 |
| | 3436 Nov 15 23:32 | 30° \approx RL | | minimum elong | 3439 Apr 20 15:58 | 0° \approx 36'14 | 1°14'05 |
| inferior conj | 3436 Nov 19 18:36 | 27° \approx 14'25'59 | -4°48'44 | | 3439 Apr 20 04:19 | 0° \approx | |
| minimum elong | 3436 Nov 20 04:04 | 27° \approx 14'28'29 | 4°46'13 | max. Earth dist. | 3439 Apr 24 06:21 | 5° \approx 04'40 | 1.72305 AU |
| min. Earth dist. | 3436 Nov 20 14:41 | 27° \approx 14'12'14 | 0.27188 AU | | 3439 May 14 08:47 | 0° \approx | |
| morning rise | 3436 Nov 25 16:37 | 24° \approx 13'25 | | asc. node | 3439 May 27 12:26 | 16° \approx 14'06 | |
| asc. node | 3436 Dec 09 17:10 | 19° \approx 15'13'0 | | evening rise | 3439 May 28 23:50 | 18° \approx 03'09 | |
| direct | 3436 Dec 10 15:21 | 19° \approx 15'50'28 | | | 3439 Jun 07 16:49 | 0° \approx | |
| greatest brilliancy | 3436 Dec 21 14:23 | 22° \approx 14'06'18 | -4.9m | | 3439 Jul 02 04:27 | 0° \approx | |
| | 3437 Jan 04 08:55 | 0° \approx | | | 3439 Jul 26 20:08 | 0° \approx | |
| morning max el | 3437 Jan 30 08:25 | 23° \approx 12'24 | 46°57'55 | | 3439 Aug 20 17:27 | 0° \approx | |
| | 3437 Feb 05 21:42 | 0° \approx | | | 3439 Sep 14 23:20 | 0° \approx | |
| | 3437 Mar 04 22:36 | 0° \approx | | desc. node | 3439 Sep 16 02:11 | 1° \approx 19'00 | |
| | 3437 Mar 30 13:10 | 0° \approx | | | 3439 Oct 10 18:48 | 0° \approx | |
| desc. node | 3437 Mar 31 07:14 | 0° \approx 53'43 | | | 3439 Nov 06 15:44 | 0° \approx | |
| | 3437 Apr 24 14:09 | 0° \approx | | evening max el | 3439 Nov 23 21:50 | 18° \approx 00'04 | 46°58'43 |
| | 3437 May 19 09:25 | 0° \approx | | | 3439 Dec 06 12:19 | 0° \approx | |
| | 3437 Jun 13 02:13 | 0° \approx | | greatest brilliancy | 3440 Jan 03 10:40 | 18° \approx 59'03 | -4.9m |
| | 3437 Jul 07 17:18 | 0° \approx | | asc. node | 3440 Jan 07 04:58 | 20° \approx 07'48 | |
| asc. node | 3437 Jul 22 10:00 | 17° \approx 57'16 | | retrograde | 3440 Jan 13 10:49 | 20° \approx 53'50 | |
| | 3437 Aug 01 06:01 | 0° \approx | | evening set | 3440 Jan 28 18:13 | 16° \approx 16'13 | |
| morning set | 3437 Aug 01 23:34 | 0° \approx 53'48 | | min. Earth dist. | 3440 Feb 02 10:12 | 13° \approx 30'31 | 0.26702 AU |
| | 3437 Aug 25 15:37 | 0° \approx | | inferior conj | 3440 Feb 03 01:37 | 13° \approx 06'51 | 6°19'10 |
| max. Earth dist. | 3437 Sep 04 15:31 | 12° \approx 20'10 | 1.73113 AU | minimum elong | 3440 Feb 02 14:53 | 13° \approx 23'20 | 6°16'40 |
| | | | | morning rise | 3440 Feb 07 11:44 | 10° \approx 27'41 | |
| superior conj | 3437 Sep 07 09:37 | 15° \approx 24'42'21 | 1°22'25 | direct | 3440 Feb 23 10:59 | 5° \approx 26'31 | |
| minimum elong | 3437 Sep 07 05:15 | 15° \approx 24'30'53 | 1°22'23 | greatest brilliancy | 3440 Mar 03 20:40 | 7° \approx 06'42 | -4.9m |
| | 3437 Sep 18 22:16 | 0° \approx | | | 3440 Apr 05 15:22 | 0° \approx | |
| | 3437 Oct 13 02:56 | 0° \approx | | morning max el | 3440 Apr 13 12:08 | 7° \approx 33'55 | 46°36'20 |
| evening rise | 3437 Oct 14 03:49 | 1° \approx 17'11 | | desc. node | 3440 Apr 27 19:02 | 22° \approx 17'41 | |
| | 3437 Nov 06 06:46 | 0° \approx | | | 3440 May 04 22:40 | 0° \approx | |
| desc. node | 3437 Nov 11 00:05 | 5° \approx 15'51'50 | | | 3440 May 31 15:57 | 0° \approx | |
| | 3437 Nov 30 10:28 | 0° \approx | | | 3440 Jun 26 11:00 | 0° \approx | |
| | 3437 Dec 24 14:47 | 0° \approx | | | 3440 Jul 21 18:34 | 0° \approx | |
| | 3438 Jan 17 21:37 | 0° \approx | | | 3440 Aug 15 17:36 | 0° \approx | |
| | 3438 Feb 11 11:26 | 0° \approx | | asc. node | 3440 Aug 18 21:48 | 3° \approx 50'48 | |
| asc. node | 3438 Mar 04 02:39 | 24° \approx 03'37'19 | | | 3440 Sep 09 08:46 | 0° \approx | |
| | 3438 Mar 08 17:02 | 0° \approx | | | 3440 Oct 03 17:04 | 0° \approx | |
| | 3438 Apr 04 09:15 | 0° \approx | | morning set | 3440 Oct 09 11:35 | 7° \approx 09'12 | |
| evening max el | 3438 Apr 19 04:08 | 15° \approx 17'13 | 46°07'03 | | 3440 Oct 27 20:18 | 0° \approx | |
| | 3438 May 05 05:40 | 0° \approx | | max. Earth dist. | 3440 Nov 13 16:41 | 21° \approx 02'28 | 1.71792 AU |
| greatest brilliancy | 3438 May 27 13:46 | 14° \approx 14'36 | -4.8m | | | | |
| retrograde | 3438 Jun 07 13:48 | 16° \approx 26'57 | | superior conj | 3440 Nov 16 06:44 | 24° \approx 16'33 | 0°49'58 |
| evening set | 3438 Jun 22 15:04 | 12° \approx 03'27 | | minimum elong | 3440 Nov 16 16:35 | 24° \approx 14'20 | 0°49'34 |
| desc. node | 3438 Jun 23 16:38 | 11° \approx 52'38 | | | 3440 Nov 20 20:30 | 0° \approx | |
| inferior conj | 3438 Jun 29 00:47 | 8° \approx 12'15 | -1°16'11 | desc. node | 3440 Dec 08 11:53 | 22° \approx 10'51 | |
| minimum elong | 3438 Jun 28 21:59 | 8° \approx 16'39 | 1°15'21 | | 3440 Dec 14 19:08 | 0° \approx | |
| min. Earth dist. | 3438 Jun 28 19:17 | 8° \approx 20'54 | 0.28805 AU | evening rise | 3440 Dec 26 09:48 | 14° \approx 33'58 | |




































































































































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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3441 Jan 07 17:05 | 0°♊ | | morning max el | 3443 Jun 26 05:53 | 19°♊31'12 | 45°53'01 |
| | 3441 Jan 31 15:27 | 0°♋ | | | 3443 Jul 06 19:13 | 0°♌ | |
| | 3441 Feb 24 16:21 | 0°♍ | | | 3443 Aug 03 17:40 | 0°♎ | |
| | 3441 Mar 20 23:05 | 0°♎ | | | 3443 Aug 30 00:24 | 0°♏ | |
| asc. node | 3441 Mar 31 14:41 | 13°♏00'38 | | asc. node | 3443 Sep 16 09:49 | 20°♏28'51 | |
| | 3441 Apr 14 16:07 | 0°♐ | | | 3443 Sep 24 09:03 | 0°♑ | |
| | 3441 May 10 02:01 | 0°♑ | | | 3443 Oct 19 02:39 | 0°♒ | |
| | 3441 Jun 05 18:25 | 0°♒ | | | 3443 Nov 12 10:02 | 0°♓ | |
| evening max el | 3441 Jun 28 15:46 | 23°♒32'54 | 45°28'04 | | 3443 Dec 06 11:11 | 0°♈ | |
| | 3441 Jul 05 13:48 | 0°♓ | | morning set | 3443 Dec 21 17:46 | 19°♈09'10 | |
| desc. node | 3441 Jul 21 04:27 | 12°♓43'42 | | | 3443 Dec 30 09:03 | 0°♉ | |
| greatest brilliancy | 3441 Aug 06 01:05 | 21°♓24'48 | -4.7m | desc. node | 3444 Jan 05 23:35 | 8°♉18'11 | |
| retrograde | 3441 Aug 16 08:01 | 23°♓18'58 | | | 3444 Jan 23 05:29 | 0°♊ | |
| evening set | 3441 Sep 02 21:48 | 17°♓30'51 | | | | | |
| inferior conj | 3441 Sep 06 18:09 | 15°♓09'26 | -8°19'13 | superior conj | 3444 Feb 01 00:36 | 11°♋04'02 | -0°57'25 |
| minimum elong | 3441 Sep 06 12:55 | 15°♓17'34 | 8°18'49 | minimum elong | 3444 Jan 31 12:42 | 10°♋26'35 | 0°56'58 |
| min. Earth dist. | 3441 Sep 07 00:15 | 14°♓59'56 | 0.28936 AU | max. Earth dist. | 3444 Feb 02 03:59 | 12°♋30'10 | 1.71113 AU |
| morning rise | 3441 Sep 10 03:55 | 13°♓03'28 | | | 3444 Feb 16 01:50 | 0°♋ | |
| direct | 3441 Sep 28 07:42 | 6°♓52'19 | | | 3444 Mar 10 23:37 | 0°♌ | |
| greatest brilliancy | 3441 Oct 09 03:18 | 9°♓00'26 | -4.8m | evening rise | 3444 Mar 13 01:42 | 2°♌36'44 | |
| | 3441 Nov 08 06:49 | 0°♌ | | | 3444 Apr 04 00:40 | 0°♍ | |
| asc. node | 3441 Nov 11 07:20 | 2°♌49'17 | | asc. node | 3444 Apr 28 02:36 | 29°♌46'42 | |
| morning max el | 3441 Nov 17 05:59 | 8°♌36'10 | 46°24'00 | | 3444 Apr 28 06:56 | 0°♎ | |
| | 3441 Dec 07 11:12 | 0°♍ | | | 3444 May 22 20:12 | 0°♏ | |
| | 3442 Jan 02 13:18 | 0°♎ | | | 3444 Jun 16 18:46 | 0°♐ | |
| | 3442 Jan 27 12:39 | 0°♏ | | | 3444 Jul 12 07:03 | 0°♑ | |
| | 3442 Feb 21 00:29 | 0°♐ | | | 3444 Aug 07 18:57 | 0°♒ | |
| desc. node | 3442 Mar 02 21:19 | 12°♐10'21 | | desc. node | 3444 Aug 17 16:20 | 10°♒44'25 | |
| | 3442 Mar 17 07:23 | 0°♑ | | | 3444 Sep 05 10:15 | 0°♓ | |
| | 3442 Apr 10 12:48 | 0°♒ | | evening max el | 3444 Sep 08 12:07 | 2°♓58'53 | 45°54'26 |
| | 3442 May 04 18:46 | 0°♓ | | | 3444 Oct 14 05:41 | 0°♈ | |
| morning set | 3442 May 23 07:41 | 22°♓52'54 | | greatest brilliancy | 3444 Oct 18 09:07 | 1°♈35'06 | -4.8m |
| | 3442 May 29 02:16 | 0°♌ | | retrograde | 3444 Oct 27 12:02 | 3°♈06'22 | |
| | 3442 Jun 22 11:09 | 0°♍ | | | 3444 Nov 09 02:54 | 30°♉♌ | |
| asc. node | 3442 Jun 24 00:11 | 1°♍53'53 | | evening set | 3444 Nov 12 07:05 | 28°♌21'06 | |
| | | | | inferior conj | 3444 Nov 17 08:01 | 25°♌21'29 | -5°07'31 |
| superior conj | 3442 Jun 29 15:33 | 8°♍50'07 | 0°13'26 | minimum elong | 3444 Nov 17 17:48 | 25°♌06'28 | 5°05'00 |
| minimum elong | 3442 Jun 29 12:44 | 8°♍41'27 | 0°13'18 | min. Earth dist. | 3444 Nov 18 05:09 | 24°♌49'05 | 0.27252 AU |
| behind sun begin | 3442 Jun 29 00:08 | 8°♍02'41 | | morning rise | 3444 Nov 23 03:52 | 21°♌54'22 | |
| behind sun end | 3442 Jun 30 01:20 | 9°♍20'12 | | direct | 3444 Dec 08 04:59 | 17°♌27'48 | |
| max. Earth dist. | 3442 Jun 30 04:15 | 9°♍29'12 | 1.73469 AU | asc. node | 3444 Dec 08 19:06 | 17°♌28'13 | |
| | 3442 Jul 16 20:41 | 0°♎ | | greatest brilliancy | 3444 Dec 19 05:47 | 19°♌44'44 | -4.9m |
| evening rise | 3442 Aug 04 20:30 | 23°♎20'58 | | | 3445 Jan 05 03:23 | 0°♏ | |
| | 3442 Aug 10 06:21 | 0°♏ | | morning max el | 3445 Jan 27 21:18 | 20°♏46'12 | 46°57'36 |
| | 3442 Sep 03 16:31 | 0°♐ | | | 3445 Feb 05 17:37 | 0°♑ | |
| | 3442 Sep 28 04:10 | 0°♑ | | | 3445 Mar 04 13:56 | 0°♒ | |
| desc. node | 3442 Oct 13 14:11 | 18°♑49'36 | | desc. node | 3445 Mar 30 09:16 | 0°♓20'06 | |
| | 3442 Oct 22 18:23 | 0°♒ | | | 3445 Mar 30 02:31 | 0°♌ | |
| | 3442 Nov 16 12:19 | 0°♓ | | | 3445 Apr 24 02:24 | 0°♍ | |
| | 3442 Dec 11 12:46 | 0°♔ | | | 3445 May 18 20:56 | 0°♎ | |
| | 3443 Jan 06 04:24 | 0°♕ | | | 3445 Jun 12 13:16 | 0°♏ | |
| | 3443 Feb 02 13:38 | 0°♖ | | | 3445 Jul 07 04:03 | 0°♐ | |
| asc. node | 3443 Feb 03 16:51 | 1°♖09'48 | | asc. node | 3445 Jul 21 12:02 | 17°♑30'55 | |
| evening max el | 3443 Feb 04 09:10 | 1°♖51'23 | 47°07'17 | morning set | 3445 Jul 30 17:28 | 28°♑49'07 | |
| | 3443 Mar 10 01:33 | 0°♗ | | | 3445 Jul 31 16:36 | 0°♒ | |
| greatest brilliancy | 3443 Mar 16 16:46 | 3°♗07'10 | -4.9m | | 3445 Aug 25 02:10 | 0°♓ | |
| retrograde | 3443 Mar 27 02:55 | 5°♗10'03 | | max. Earth dist. | 3445 Sep 02 09:29 | 10°♓14'55 | 1.73151 AU |
| | 3443 Apr 12 06:35 | 30°♘♖ | | | | | |
| evening set | 3443 Apr 13 12:27 | 29°♖15'42 | | superior conj | 3445 Sep 05 03:37 | 13°♖39'09 | 1°21'35 |
| inferior conj | 3443 Apr 17 02:57 | 27°♖01'46 | 7°50'07 | minimum elong | 3445 Sep 04 22:41 | 13°♖23'54 | 1°21'30 |
| minimum elong | 3443 Apr 17 11:35 | 26°♖48'14 | 7°48'52 | | 3445 Sep 18 08:51 | 0°♗ | |
| min. Earth dist. | 3443 Apr 16 21:15 | 27°♖10'40 | 0.27957 AU | evening rise | 3445 Oct 11 19:39 | 29°♗04'13 | |
| morning rise | 3443 Apr 21 11:01 | 24°♖22'35 | | | 3445 Oct 12 13:38 | 0°♘ | |
| direct | 3443 May 08 02:26 | 19°♖01'52 | | | 3445 Nov 05 17:40 | 0°♙ | |
| greatest brilliancy | 3443 May 17 13:55 | 20°♖42'06 | -4.8m | desc. node | 3445 Nov 10 02:01 | 5°♙23'47 | |
| desc. node | 3443 May 26 06:42 | 24°♖41'08 | | | 3445 Nov 29 21:41 | 0°♚ | |
| | 3443 Jun 03 11:59 | 0°♗ | | | 3445 Dec 24 02:23 | 0°♛ | |

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|---------------------|-------------------|--------------------------------|--|---------------------|-------------------|---------------------------------|--|
| | 3446 Jan 17 09:43 | 0° H | | | 3448 Aug 15 04:52 | 0° Ω | |
| | 3446 Feb 11 00:17 | 0° Υ | | asc. node | 3448 Aug 17 23:59 | 3° Ω 23'21 | |
| asc. node | 3446 Mar 03 04:46 | 24° Υ 02'37 | | | 3448 Sep 08 19:44 | 0° M | |
| | 3446 Mar 08 07:20 | 0° B | | | 3448 Oct 03 03:55 | 0° Ω | |
| | 3446 Apr 04 03:01 | 0° Π | | morning set | 3448 Oct 07 04:00 | 4° Ω 57'38 | |
| evening max el | 3446 Apr 16 18:26 | 13° Π 00'38 46°09'18 | | | 3448 Oct 27 07:10 | 0° M | |
| | 3446 May 05 14:12 | 0° Ω | | max. Earth dist. | 3448 Nov 11 06:15 | 18° M 40'43 1.71838 AU | |
| greatest brilliancy | 3446 May 25 06:38 | 12° Ω 05'34 -4.8m | | | | | |
| retrograde | 3446 Jun 05 06:04 | 14° Ω 18'03 | | superior conj | 3448 Nov 13 20:31 | 21° M 55'21 0°52'51 | |
| evening set | 3446 Jun 20 07:39 | 9° Ω 53'56 | | minimum elong | 3448 Nov 14 06:33 | 22° M 26'44 0°52'28 | |
| desc. node | 3446 Jun 22 18:31 | 8° Ω 29'29 | | | 3448 Nov 20 07:28 | 0° A | |
| inferior conj | 3446 Jun 26 17:08 | 6° Ω 03'24 -0°56'21 | | desc. node | 3448 Dec 07 13:53 | 21° A 37'34 | |
| minimum elong | 3446 Jun 26 15:04 | 6° Ω 06'40 0°55'43 | | | 3448 Dec 14 06:12 | 0° B | |
| min. Earth dist. | 3446 Jun 26 12:08 | 6° Ω 11'16 0.28782 AU | | evening rise | 3448 Dec 23 21:05 | 12° B 03'55 | |
| morning rise | 3446 Jul 02 22:41 | 2° Ω 18'11 | | | 3449 Jan 07 04:16 | 0° \approx | |
| | 3446 Jul 07 16:47 | 30° K Π | | | 3449 Jan 31 02:46 | 0° H | |
| direct | 3446 Jul 18 04:32 | 27° Π 50'04 | | | 3449 Feb 24 03:53 | 0° Υ | |
| greatest brilliancy | 3446 Jul 28 08:30 | 29° Π 40'51 -4.7m | | | 3449 Mar 20 10:59 | 0° B | |
| | 3446 Jul 29 05:43 | 0° Ω | | asc. node | 3449 Mar 30 16:40 | 12° B 29'51 | |
| morning max el | 3446 Sep 04 21:19 | 27° Ω 28'53 45°45'45 | | | 3449 Apr 14 04:40 | 0° Π | |
| | 3446 Sep 07 11:55 | 0° Ω | | | 3449 May 09 15:49 | 0° Ω | |
| | 3446 Oct 06 01:09 | 0° M | | | 3449 Jun 05 11:05 | 0° Ω | |
| asc. node | 3446 Oct 13 21:37 | 8° M 49'24 | | evening max el | 3449 Jun 26 08:16 | 21° Ω 23'33 45°28'28 | |
| | 3446 Nov 01 04:32 | 0° Ω | | | 3449 Jul 05 16:17 | 0° M | |
| | 3446 Nov 26 04:45 | 0° M | | desc. node | 3449 Jul 20 06:38 | 11° M 33'04 | |
| | 3446 Dec 20 14:36 | 0° A | | greatest brilliancy | 3449 Aug 03 15:09 | 19° M 13'02 -4.7m | |
| | 3447 Jan 13 17:11 | 0° B | | retrograde | 3449 Aug 13 23:55 | 21° M 08'24 | |
| desc. node | 3447 Feb 02 11:30 | 24° B 43'27 | | evening set | 3449 Aug 31 10:52 | 15° M 24'19 | |
| | 3447 Feb 06 16:32 | 0° \approx | | inferior conj | 3449 Sep 04 10:03 | 12° M 58'22 -8°13'21 | |
| | 3447 Mar 02 14:54 | 0° H | | minimum elong | 3449 Sep 04 04:12 | 13° M 07'30 8°12'50 | |
| morning set | 3447 Mar 08 17:59 | 7° H 40'52 | | min. Earth dist. | 3449 Sep 04 14:46 | 12° M 51'00 0.28959 AU | |
| | 3447 Mar 26 13:57 | 0° Υ | | morning rise | 3449 Sep 07 21:27 | 10° M 49'51 | |
| | | | | direct | 3449 Sep 26 00:32 | 4° M 41'17 | |
| superior conj | 3447 Apr 17 19:50 | 27° Υ 45'16 -1°16'09 | | greatest brilliancy | 3449 Oct 06 17:51 | 6° M 47'27 -4.8m | |
| minimum elong | 3447 Apr 18 04:58 | 28° Υ 13'40 1°15'55 | | | 3449 Nov 08 08:16 | 0° Ω | |
| | 3447 Apr 19 15:09 | 0° B | | asc. node | 3449 Nov 10 09:19 | 1° Ω 56'33 | |
| max. Earth dist. | 3447 Apr 21 17:30 | 2° B 36'35 1.72249 AU | | morning max el | 3449 Nov 14 21:17 | 6° Ω 20'22 46°22'14 | |
| | 3447 May 13 19:34 | 0° Π | | | 3449 Dec 07 03:59 | 0° M | |
| evening rise | 3447 May 26 15:42 | 15° Π 50'57 | | | 3450 Jan 02 03:28 | 0° A | |
| asc. node | 3447 May 26 14:24 | 15° Π 46'56 | | | 3450 Jan 27 01:36 | 0° B | |
| | 3447 Jun 07 03:38 | 0° Ω | | | 3450 Feb 20 12:43 | 0° \approx | |
| | 3447 Jul 01 15:25 | 0° Ω | | desc. node | 3450 Mar 01 23:25 | 11° \approx 39'35 | |
| | 3447 Jul 26 07:24 | 0° M | | | 3450 Mar 16 19:09 | 0° H | |
| | 3447 Aug 20 05:19 | 0° Ω | | | 3450 Apr 10 00:14 | 0° Υ | |
| | 3447 Sep 14 12:14 | 0° M | | | 3450 May 04 05:57 | 0° B | |
| desc. node | 3447 Sep 15 04:14 | 0° M 46'56 | | morning set | 3450 May 20 23:35 | 20° B 39'57 | |
| | 3447 Oct 10 09:33 | 0° A | | | 3450 May 28 13:16 | 0° Π | |
| | 3447 Nov 06 10:18 | 0° B | | | 3450 Jun 21 22:02 | 0° Ω | |
| evening max el | 3447 Nov 21 11:25 | 15° B 36'16 46°57'05 | | asc. node | 3450 Jun 23 02:14 | 1° Ω 26'43 | |
| | 3447 Dec 06 19:50 | 0° \approx | | | | | |
| greatest brilliancy | 3447 Dec 31 23:15 | 16° \approx 30'10 -4.9m | | superior conj | 3450 Jun 27 08:47 | 6° Ω 42'00 0°10'12 | |
| asc. node | 3448 Jan 06 07:03 | 17° \approx 58'57 | | minimum elong | 3450 Jun 27 06:37 | 6° Ω 35'22 0°10'06 | |
| retrograde | 3448 Jan 10 23:50 | 18° \approx 25'21 | | behind sun begin | 3450 Jun 26 12:46 | 5° Ω 40'29 | |
| evening set | 3448 Jan 26 03:21 | 13° \approx 52'17 | | behind sun end | 3450 Jun 28 00:28 | 7° Ω 30'15 | |
| min. Earth dist. | 3448 Jan 30 23:02 | 11° \approx 01'43 0.26674 AU | | max. Earth dist. | 3450 Jun 28 02:34 | 7° Ω 36'44 1.73451 AU | |
| inferior conj | 3448 Jan 31 14:01 | 10° \approx 38'47 6°01'23 | | | 3450 Jul 16 07:33 | 0° Ω | |
| minimum elong | 3448 Jan 31 03:22 | 10° \approx 55'05 5°58'49 | | evening rise | 3450 Aug 02 15:03 | 21° Ω 16'50 | |
| morning rise | 3448 Feb 05 03:37 | 7° \approx 55'07 | | | 3450 Aug 09 17:19 | 0° M | |
| direct | 3448 Feb 20 23:32 | 2° \approx 58'37 | | | 3450 Sep 03 03:41 | 0° Ω | |
| greatest brilliancy | 3448 Mar 01 09:50 | 4° \approx 39'56 -4.9m | | | 3450 Sep 27 15:41 | 0° M | |
| | 3448 Apr 05 17:48 | 0° H | | desc. node | 3450 Oct 12 16:09 | 18° M 19'40 | |
| morning max el | 3448 Apr 11 02:17 | 5° H 12'28 46°37'48 | | | 3450 Oct 22 06:26 | 0° A | |
| desc. node | 3448 Apr 26 21:02 | 21° H 33'01 | | | 3450 Nov 16 01:07 | 0° B | |
| | 3448 May 04 15:56 | 0° Υ | | | 3450 Dec 11 02:48 | 0° \approx | |
| | 3448 May 31 06:09 | 0° B | | | 3451 Jan 05 20:43 | 0° H | |
| | 3448 Jun 25 23:41 | 0° Π | | evening max el | 3451 Feb 02 00:06 | 29° H 30'12 47°08'17 | |
| | 3448 Jul 21 06:23 | 0° Ω | | | 3451 Feb 02 11:49 | 0° Υ | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| asc. node | 3451 Feb 02 18:58 | 0°♈18'05 | | morning set | 3453 Jul 28 11:04 | 26°♊42'13 | |
| | 3451 Mar 12 09:08 | 0°♉ | | | 3453 Jul 31 03:34 | 0°♊ | |
| greatest brilliancy | 3451 Mar 14 08:24 | 0°♉47'46 | -4.9m | | 3453 Aug 24 13:05 | 0°♊ | |
| retrograde | 3451 Mar 24 17:38 | 2°♉49'40 | | max. Earth dist. | 3453 Aug 31 05:13 | 8°♊14'00 | 1.73188 AU |
| | 3451 Apr 05 11:54 | 30°♋♈ | | | | | |
| evening set | 3451 Apr 11 05:56 | 26°♈51'43 | | superior conj | 3453 Sep 02 21:25 | 11°♊32'12 | 1°20'36 |
| inferior conj | 3451 Apr 14 17:27 | 24°♈42'04 | 8°00'26 | minimum elong | 3453 Sep 02 15:55 | 11°♊15'12 | 1°20'31 |
| minimum elong | 3451 Apr 15 01:37 | 24°♈29'16 | 7°59'21 | | 3453 Sep 17 19:49 | 0°♊ | |
| min. Earth dist. | 3451 Apr 14 11:12 | 24°♈51'53 | 0.27917 AU | evening rise | 3453 Oct 09 11:35 | 26°♊50'25 | |
| morning rise | 3451 Apr 18 21:35 | 22°♈08'28 | | | 3453 Oct 12 00:45 | 0°♊ | |
| direct | 3451 May 05 16:40 | 16°♈43'07 | | | 3453 Nov 05 04:59 | 0°♊ | |
| greatest brilliancy | 3451 May 15 02:53 | 18°♈22'12 | -4.8m | desc. node | 3453 Nov 09 04:03 | 4°♊54'52 | |
| desc. node | 3451 May 25 08:42 | 23°♈14'54 | | | 3453 Nov 29 09:16 | 0°♊ | |
| | 3451 Jun 04 04:15 | 0°♉ | | | 3453 Dec 23 14:18 | 0°♊ | |
| morning max el | 3451 Jun 23 19:52 | 17°♉13'48 | 45°54'01 | | 3454 Jan 16 22:06 | 0°♊ | |
| | 3451 Jul 06 14:32 | 0°♊ | | | 3454 Feb 10 13:27 | 0°♊ | |
| | 3451 Aug 03 08:33 | 0°♊ | | asc. node | 3454 Mar 02 06:42 | 23°♈26'27 | |
| | 3451 Aug 29 13:24 | 0°♊ | | | 3454 Mar 07 22:03 | 0°♉ | |
| asc. node | 3451 Sep 15 11:44 | 19°♊57'51 | | | 3454 Apr 03 21:33 | 0°♊ | |
| | 3451 Sep 23 21:07 | 0°♊ | | evening max el | 3454 Apr 14 09:05 | 10°♊43'58 | 46°11'27 |
| | 3451 Oct 18 14:13 | 0°♊ | | | 3454 May 06 02:27 | 0°♊ | |
| | 3451 Nov 11 21:21 | 0°♊ | | greatest brilliancy | 3454 May 22 22:55 | 9°♊54'24 | -4.8m |
| | 3451 Dec 05 22:23 | 0°♊ | | retrograde | 3454 Jun 02 22:40 | 12°♊07'34 | |
| morning set | 3451 Dec 19 05:42 | 16°♊40'54 | | evening set | 3454 Jun 18 00:14 | 7°♊42'32 | |
| | 3451 Dec 29 20:12 | 0°♊ | | desc. node | 3454 Jun 21 20:41 | 5°♊27'15 | |
| desc. node | 3452 Jan 05 01:43 | 7°♊49'49 | | inferior conj | 3454 Jun 24 09:20 | 3°♊52'50 | -0°36'12 |
| | 3452 Jan 22 16:39 | 0°♊ | | minimum elong | 3454 Jun 24 08:00 | 3°♊54'56 | 0°35'48 |
| | | | | min. Earth dist. | 3454 Jun 24 04:34 | 4°♊00'18 | 0.28761 AU |
| superior conj | 3452 Jan 29 10:42 | 8°♊29'44 | -0°54'21 | morning rise | 3454 Jun 30 15:58 | 0°♊06'24 | |
| minimum elong | 3452 Jan 28 23:01 | 7°♊52'58 | 0°53'54 | | 3454 Jun 30 20:39 | 30°♋♊ | |
| max. Earth dist. | 3452 Jan 30 06:41 | 9°♊32'34 | 1.71107 AU | direct | 3454 Jul 15 20:07 | 25°♊39'36 | |
| | 3452 Feb 15 13:02 | 0°♋ | | greatest brilliancy | 3454 Jul 26 00:36 | 27°♊31'03 | -4.7m |
| | 3452 Mar 10 10:51 | 0°♈ | | | 3454 Jul 31 19:44 | 0°♊ | |
| evening rise | 3452 Mar 10 12:19 | 0°♈04'36 | | morning max el | 3454 Sep 02 13:23 | 25°♊18'45 | 45°45'11 |
| | 3452 Apr 03 11:57 | 0°♉ | | | 3454 Sep 07 09:05 | 0°♊ | |
| asc. node | 3452 Apr 27 04:33 | 29°♉17'35 | | | 3454 Oct 05 16:32 | 0°♊ | |
| | 3452 Apr 27 18:21 | 0°♊ | | asc. node | 3454 Oct 12 23:37 | 8°♊13'35 | |
| | 3452 May 22 07:56 | 0°♊ | | | 3454 Oct 31 17:51 | 0°♊ | |
| | 3452 Jun 16 07:08 | 0°♊ | | | 3454 Nov 25 17:06 | 0°♊ | |
| | 3452 Jul 11 20:37 | 0°♊ | | | 3454 Dec 20 02:26 | 0°♊ | |
| | 3452 Aug 07 11:00 | 0°♊ | | | 3455 Jan 13 04:44 | 0°♊ | |
| desc. node | 3452 Aug 16 18:22 | 10°♊03'02 | | desc. node | 3455 Feb 01 13:33 | 24°♊14'19 | |
| | 3452 Sep 05 09:05 | 0°♊ | | | 3455 Feb 06 03:52 | 0°♊ | |
| evening max el | 3452 Sep 06 00:41 | 0°♊37'27 | 45°52'33 | | 3455 Mar 02 02:04 | 0°♋ | |
| greatest brilliancy | 3452 Oct 15 22:47 | 29°♊14'07 | -4.8m | morning set | 3455 Mar 06 04:50 | 5°♋09'34 | |
| | 3452 Oct 18 17:09 | 0°♊ | | | 3455 Mar 26 00:58 | 0°♈ | |
| retrograde | 3452 Oct 25 00:33 | 0°♊44'45 | | | | | |
| | 3452 Oct 31 03:53 | 30°♋♊ | | superior conj | 3455 Apr 15 09:24 | 25°♈24'03 | -1°17'49 |
| evening set | 3452 Nov 09 23:21 | 25°♊54'44 | | minimum elong | 3455 Apr 15 18:04 | 25°♈51'00 | 1°17'38 |
| inferior conj | 3452 Nov 14 21:29 | 22°♊59'14 | -5°25'41 | | 3455 Apr 19 02:05 | 0°♉ | |
| minimum elong | 3452 Nov 15 07:33 | 22°♊43'48 | 5°23'11 | max. Earth dist. | 3455 Apr 19 06:14 | 0°♉12'54 | 1.72198 AU |
| min. Earth dist. | 3452 Nov 15 19:38 | 22°♊25'16 | 0.27316 AU | | 3455 May 13 06:29 | 0°♊ | |
| morning rise | 3452 Nov 20 15:01 | 19°♊35'04 | | evening rise | 3455 May 24 07:36 | 13°♊38'22 | |
| direct | 3452 Dec 05 18:28 | 15°♊04'15 | | asc. node | 3455 May 25 16:30 | 15°♊19'45 | |
| asc. node | 3452 Dec 07 21:09 | 15°♊09'34 | | | 3455 Jun 06 14:37 | 0°♊ | |
| greatest brilliancy | 3452 Dec 16 21:21 | 17°♊22'48 | -4.9m | | 3455 Jul 01 02:33 | 0°♊ | |
| | 3453 Jan 05 17:30 | 0°♊ | | | 3455 Jul 25 18:54 | 0°♊ | |
| morning max el | 3453 Jan 25 10:36 | 18°♊20'16 | 46°57'18 | | 3455 Aug 19 17:26 | 0°♊ | |
| | 3453 Feb 05 13:14 | 0°♊ | | desc. node | 3455 Sep 14 06:11 | 0°♊13'55 | |
| | 3453 Mar 04 05:23 | 0°♊ | | | 3455 Sep 14 01:26 | 0°♊ | |
| desc. node | 3453 Mar 29 11:13 | 29°♊45'19 | | | 3455 Oct 10 00:40 | 0°♊ | |
| | 3453 Mar 29 16:08 | 0°♋ | | | 3455 Nov 06 05:33 | 0°♊ | |
| | 3453 Apr 23 14:59 | 0°♈ | | evening max el | 3455 Nov 19 01:46 | 13°♊14'03 | 46°55'20 |
| | 3453 May 18 08:52 | 0°♉ | | | 3455 Dec 07 06:19 | 0°♊ | |
| | 3453 Jun 12 00:44 | 0°♊ | | greatest brilliancy | 3455 Dec 29 11:34 | 14°♊00'33 | -4.9m |
| | 3453 Jul 06 15:12 | 0°♊ | | asc. node | 3456 Jan 05 09:09 | 15°♊44'04 | |
| asc. node | 3453 Jul 20 14:08 | 17°♊03'36 | | retrograde | 3456 Jan 08 12:59 | 15°♊56'06 | |

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|---------------------|-------------------|----------------------|------------|---------------------|-------------------|---------------------------|------------|
| evening set | 3456 Jan 23 12:39 | 11° \approx 27'38 | | behind sun end | 3458 Jun 25 21:42 | 5° \approx 35'21 | |
| min. Earth dist. | 3456 Jan 28 11:40 | 8° \approx 32'27 | 0.26642 AU | max. Earth dist. | 3458 Jun 26 00:28 | 5° \approx 43'51 | 1.73428 AU |
| inferior conj | 3456 Jan 29 02:18 | 8° \approx 10'04 | 5°42'48 | | 3458 Jul 15 18:09 | 0° Ω | |
| minimum elong | 3456 Jan 28 15:50 | 8° \approx 26'05 | 5°40'10 | evening rise | 3458 Jul 31 09:55 | 19° Ω 14'34 | |
| morning rise | 3456 Feb 02 19:18 | 5° \approx 22'00 | | | 3458 Aug 09 04:01 | 0° Π | |
| direct | 3456 Feb 18 12:20 | 0° \approx 30'25 | | | 3458 Sep 02 14:38 | 0° Ω | |
| greatest brilliancy | 3456 Feb 27 22:26 | 2° \approx 12'05 | -4.9m | | 3458 Sep 27 03:01 | 0° Π | |
| | 3456 Apr 05 18:50 | 0° X | | desc. node | 3458 Oct 11 18:11 | 17° Π 50'26 | |
| morning max el | 3456 Apr 08 16:21 | 2° X 50'52 | 46°39'22 | | 3458 Oct 21 18:18 | 0° X | |
| desc. node | 3456 Apr 25 23:04 | 20° X 49'14 | | | 3458 Nov 15 13:47 | 0° Ξ | |
| | 3456 May 04 08:46 | 0° Υ | | | 3458 Dec 10 16:44 | 0° \approx | |
| | 3456 May 30 20:07 | 0° B | | | 3459 Jan 05 13:03 | 0° X | |
| | 3456 Jun 25 12:15 | 0° Π | | evening max el | 3459 Jan 30 13:57 | 27° X 06'57 | 47°09'13 |
| | 3456 Jul 20 18:09 | 0° Ξ | | asc. node | 3459 Feb 01 20:52 | 29° X 25'40 | |
| | 3456 Aug 14 16:08 | 0° Ω | | | 3459 Feb 02 10:36 | 0° Υ | |
| asc. node | 3456 Aug 17 01:53 | 2° Ω 55'04 | | greatest brilliancy | 3459 Mar 12 00:29 | 28° Υ 29'31 | -4.9m |
| | 3456 Sep 08 06:43 | 0° Π | | | 3459 Mar 17 06:47 | 0° B | |
| | 3456 Oct 02 14:46 | 0° Ω | | retrograde | 3459 Mar 22 08:01 | 0° B 30'05 | |
| morning set | 3456 Oct 04 20:22 | 2° Ω 45'57 | | | 3459 Mar 27 06:36 | 30° R Υ | |
| | 3456 Oct 26 18:02 | 0° Π | | evening set | 3459 Apr 08 23:16 | 24° Υ 28'45 | |
| max. Earth dist. | 3456 Nov 08 18:15 | 16° Π 14'11 | 1.71884 AU | inferior conj | 3459 Apr 12 08:00 | 22° Υ 23'17 | 8°09'56 |
| | | | | minimum elong | 3459 Apr 12 15:37 | 22° Υ 11'20 | 8°09'01 |
| superior conj | 3456 Nov 11 10:23 | 19° Π 34'34 | 0°55'39 | min. Earth dist. | 3459 Apr 12 01:29 | 22° Υ 33'32 | 0.27877 AU |
| minimum elong | 3456 Nov 11 20:32 | 20° Π 06'15 | 0°55'15 | morning rise | 3459 Apr 16 08:12 | 19° Υ 55'17 | |
| | 3456 Nov 19 18:24 | 0° X | | direct | 3459 May 03 06:24 | 14° Υ 25'05 | |
| desc. node | 3456 Dec 06 15:59 | 21° X 09'41 | | greatest brilliancy | 3459 May 12 16:26 | 16° Υ 03'42 | -4.8m |
| | 3456 Dec 13 17:16 | 0° Ξ | | desc. node | 3459 May 24 10:48 | 21° Υ 52'29 | |
| evening rise | 3456 Dec 21 08:23 | 9° Ξ 34'01 | | | 3459 Jun 04 15:56 | 0° B | |
| | 3457 Jan 06 15:27 | 0° \approx | | morning max el | 3459 Jun 21 09:22 | 14° B 56'05 | 45°55'17 |
| | 3457 Jan 30 14:06 | 0° X | | | 3459 Jul 06 08:54 | 0° Π | |
| | 3457 Feb 23 15:25 | 0° Υ | | | 3459 Aug 02 22:47 | 0° Ξ | |
| | 3457 Mar 19 22:50 | 0° B | | | 3459 Aug 29 01:54 | 0° Ω | |
| asc. node | 3457 Mar 29 18:41 | 11° B 59'25 | | asc. node | 3459 Sep 14 13:47 | 19° Ω 28'34 | |
| | 3457 Apr 13 17:06 | 0° Π | | | 3459 Sep 23 08:46 | 0° Π | |
| | 3457 May 09 05:32 | 0° Ξ | | | 3459 Oct 18 01:26 | 0° Ω | |
| | 3457 Jun 05 03:49 | 0° Ω | | | 3459 Nov 11 08:21 | 0° Π | |
| evening max el | 3457 Jun 24 00:27 | 19° Ω 14'00 | 45°28'45 | | 3459 Dec 05 09:18 | 0° X | |
| | 3457 Jul 05 20:06 | 0° Π | | morning set | 3459 Dec 16 17:36 | 14° X 13'23 | |
| desc. node | 3457 Jul 19 08:36 | 10° Π 20'37 | | | 3459 Dec 29 07:06 | 0° Ξ | |
| greatest brilliancy | 3457 Aug 01 05:59 | 17° Π 02'44 | -4.7m | desc. node | 3460 Jan 04 03:45 | 7° Ξ 21'59 | |
| retrograde | 3457 Aug 11 15:30 | 18° Π 58'35 | | | 3460 Jan 22 03:32 | 0° \approx | |
| evening set | 3457 Aug 28 23:56 | 13° Π 18'55 | | | | | |
| inferior conj | 3457 Sep 02 02:07 | 10° Π 48'11 | -8°06'41 | superior conj | 3460 Jan 26 20:39 | 5° \approx 55'50 | -0°51'09 |
| minimum elong | 3457 Sep 01 19:40 | 10° Π 58'15 | 8°06'04 | minimum elong | 3460 Jan 26 09:17 | 5° \approx 20'05 | 0°50'42 |
| min. Earth dist. | 3457 Sep 02 05:48 | 10° Π 42'25 | 0.28982 AU | max. Earth dist. | 3460 Jan 27 08:24 | 6° \approx 32'46 | 1.71103 AU |
| morning rise | 3457 Sep 05 15:20 | 8° Π 36'42 | | | 3460 Feb 14 23:55 | 0° X | |
| direct | 3457 Sep 23 17:07 | 2° Π 31'07 | | evening rise | 3460 Mar 07 22:50 | 27° X 33'09 | |
| greatest brilliancy | 3457 Oct 04 08:53 | 4° Π 35'29 | -4.8m | | 3460 Mar 09 21:45 | 0° Υ | |
| | 3457 Nov 08 08:21 | 0° Ω | | | 3460 Apr 02 22:55 | 0° B | |
| asc. node | 3457 Nov 09 11:24 | 1° Ω 05'17 | | asc. node | 3460 Apr 26 06:41 | 28° B 50'01 | |
| morning max el | 3457 Nov 12 11:48 | 4° Ω 03'02 | 46°20'31 | | 3460 Apr 27 05:28 | 0° Π | |
| | 3457 Dec 06 20:20 | 0° Π | | | 3460 May 21 19:22 | 0° Ξ | |
| | 3458 Jan 01 17:20 | 0° X | | | 3460 Jun 15 19:10 | 0° Ω | |
| | 3458 Jan 26 14:18 | 0° Ξ | | | 3460 Jul 11 09:50 | 0° Π | |
| | 3458 Feb 20 00:44 | 0° \approx | | | 3460 Aug 07 02:47 | 0° Ω | |
| desc. node | 3458 Mar 01 01:18 | 11° \approx 08'46 | | desc. node | 3460 Aug 15 20:20 | 9° Ω 22'27 | |
| | 3458 Mar 16 06:43 | 0° X | | evening max el | 3460 Sep 03 13:26 | 28° Ω 18'10 | 45°50'42 |
| | 3458 Apr 09 11:28 | 0° Υ | | | 3460 Sep 05 08:16 | 0° Π | |
| | 3458 May 03 16:55 | 0° B | | greatest brilliancy | 3460 Oct 13 11:51 | 26° Π 54'10 | -4.8m |
| morning set | 3458 May 18 15:45 | 18° B 28'25 | | retrograde | 3460 Oct 22 13:32 | 28° Π 24'58 | |
| | 3458 May 28 00:01 | 0° Π | | evening set | 3460 Nov 07 15:45 | 23° Π 29'46 | |
| | 3458 Jun 21 08:39 | 0° Ξ | | inferior conj | 3460 Nov 12 11:03 | 20° Π 38'24 | -5°43'00 |
| asc. node | 3458 Jun 22 04:20 | 1° Ξ 00'33 | | minimum elong | 3460 Nov 12 21:19 | 20° Π 22'41 | 5°40'33 |
| | | | | min. Earth dist. | 3460 Nov 13 09:54 | 20° Π 03'25 | 0.27389 AU |
| superior conj | 3458 Jun 25 02:22 | 4° Ξ 35'54 | 0°07'00 | morning rise | 3460 Nov 18 02:09 | 17° Π 17'40 | |
| minimum elong | 3458 Jun 25 00:53 | 4° Ξ 31'19 | 0°06'56 | direct | 3460 Dec 03 08:29 | 12° Π 42'00 | |
| behind sun begin | 3458 Jun 24 04:04 | 3° Ξ 27'18 | | asc. node | 3460 Dec 06 23:14 | 12° Π 57'30 | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| greatest brilliancy | 3460 Dec 14 12:54 | 15°♍02'07 | -4.9m | evening rise | 3463 May 21 22:58 | 11°♊24'45 | |
| | 3461 Jan 06 03:42 | 0°♌ | | asc. node | 3463 May 24 18:31 | 14°♊52'58 | |
| morning max el | 3461 Jan 23 01:01 | 15°♌57'59 | 46°56'55 | | 3463 Jun 06 01:23 | 0°♉ | |
| | 3461 Feb 05 08:04 | 0°♋ | | | 3463 Jun 30 13:30 | 0°♉ | |
| | 3461 Mar 03 20:20 | 0°♊ | | | 3463 Jul 25 06:12 | 0°♈ | |
| desc. node | 3461 Mar 28 13:21 | 29°♊12'12 | | | 3463 Aug 19 05:21 | 0°♈ | |
| | 3461 Mar 29 05:20 | 0°♉ | | desc. node | 3463 Sep 13 08:18 | 29°♈42'04 | |
| | 3461 Apr 23 03:10 | 0°♈ | | | 3463 Sep 13 14:26 | 0°♈ | |
| | 3461 May 17 20:23 | 0°♇ | | | 3463 Oct 09 15:38 | 0°♇ | |
| | 3461 Jun 11 11:48 | 0°♊ | | | 3463 Nov 06 00:53 | 0°♋ | |
| | 3461 Jul 06 01:58 | 0°♉ | | evening max el | 3463 Nov 16 16:31 | 10°♋54'12 | 46°53'31 |
| asc. node | 3461 Jul 19 16:05 | 16°♋36'57 | | | 3463 Dec 07 19:35 | 0°♊ | |
| morning set | 3461 Jul 26 04:58 | 24°♋37'26 | | greatest brilliancy | 3463 Dec 27 00:14 | 11°♊32'52 | -4.9m |
| | 3461 Jul 30 14:09 | 0°♉ | | asc. node | 3464 Jan 04 11:03 | 13°♊24'52 | |
| | 3461 Aug 23 23:35 | 0°♈ | | retrograde | 3464 Jan 06 02:04 | 13°♊28'04 | |
| max. Earth dist. | 3461 Aug 29 03:09 | 6°♈21'09 | 1.73219 AU | evening set | 3464 Jan 20 22:22 | 9°♊04'10 | |
| | | | | min. Earth dist. | 3464 Jan 26 00:36 | 6°♊04'14 | 0.26617 AU |
| superior conj | 3461 Aug 31 15:38 | 9°♈27'49 | 1°19'31 | inferior conj | 3464 Jan 26 14:44 | 5°♊42'37 | 5°23'36 |
| minimum elong | 3461 Aug 31 09:37 | 9°♈09'15 | 1°19'26 | minimum elong | 3464 Jan 26 04:31 | 5°♊58'15 | 5°20'56 |
| | 3461 Sep 17 06:21 | 0°♈ | | morning rise | 3464 Jan 31 11:01 | 2°♊50'03 | |
| evening rise | 3461 Oct 07 04:06 | 24°♈39'48 | | | 3464 Feb 06 07:39 | 30°♊ | |
| | 3461 Oct 11 11:25 | 0°♈ | | direct | 3464 Feb 16 01:19 | 28°♊03'31 | |
| | 3461 Nov 04 15:54 | 0°♇ | | greatest brilliancy | 3464 Feb 25 11:23 | 29°♊45'18 | -4.9m |
| desc. node | 3461 Nov 08 06:11 | 4°♇27'33 | | | 3464 Feb 26 03:52 | 0°♊ | |
| | 3461 Nov 28 20:30 | 0°♋ | | | 3464 Apr 05 18:33 | 0°♉ | |
| | 3461 Dec 23 01:57 | 0°♊ | | morning max el | 3464 Apr 06 05:51 | 0°♉28'02 | 46°40'37 |
| | 3462 Jan 16 10:16 | 0°♉ | | desc. node | 3464 Apr 25 01:10 | 20°♉06'22 | |
| | 3462 Feb 10 02:27 | 0°♈ | | | 3464 May 04 01:14 | 0°♇ | |
| asc. node | 3462 Mar 01 08:44 | 22°♇51'00 | | | 3464 May 30 09:55 | 0°♇ | |
| | 3462 Mar 07 12:41 | 0°♇ | | | 3464 Jun 25 00:40 | 0°♊ | |
| | 3462 Apr 03 16:17 | 0°♊ | | | 3464 Jul 20 05:45 | 0°♉ | |
| evening max el | 3462 Apr 12 00:24 | 8°♊29'38 | 46°13'47 | | 3464 Aug 14 03:15 | 0°♉ | |
| | 3462 May 06 18:27 | 0°♈ | | asc. node | 3464 Aug 16 03:55 | 2°♉02'36 | |
| greatest brilliancy | 3462 May 20 14:57 | 7°♈43'44 | -4.8m | | 3464 Sep 07 17:34 | 0°♈ | |
| retrograde | 3462 May 31 15:34 | 9°♈57'41 | | | 3464 Oct 02 01:30 | 0°♈ | |
| evening set | 3462 Jun 15 16:58 | 5°♈31'37 | | morning set | 3464 Oct 02 12:52 | 0°♈35'13 | |
| desc. node | 3462 Jun 20 22:42 | 2°♈24'34 | | | 3464 Oct 26 04:45 | 0°♈ | |
| inferior conj | 3462 Jun 22 01:25 | 1°♈42'47 | -0°15'59 | max. Earth dist. | 3464 Nov 06 04:52 | 13°♈43'56 | 1.71925 AU |
| minimum elong | 3462 Jun 22 00:50 | 1°♈43'43 | 0°15'48 | | | | |
| transit middle | 3462 Jun 22 00:50 | 1°♈43'43 | 0°15'48 | superior conj | 3464 Nov 09 00:47 | 17°♈16'03 | 0°58'18 |
| transit begin | 3462 Jun 21 23:52 | 1°♈45'14 | | minimum elong | 3464 Nov 09 10:58 | 17°♈47'51 | 0°57'56 |
| transit end | 3462 Jun 22 01:48 | 1°♈42'12 | | | 3464 Nov 19 05:11 | 0°♇ | |
| min. Earth dist. | 3462 Jun 21 20:38 | 1°♈50'17 | 0.28737 AU | desc. node | 3464 Dec 05 17:59 | 20°♇42'03 | |
| | 3462 Jun 24 19:38 | 30°♈ | | | 3464 Dec 13 04:07 | 0°♋ | |
| morning rise | 3462 Jun 28 09:01 | 27°♈55'28 | | evening rise | 3464 Dec 18 20:11 | 7°♋06'22 | |
| direct | 3462 Jul 13 12:06 | 23°♈29'49 | | | 3465 Jan 06 02:25 | 0°♊ | |
| greatest brilliancy | 3462 Jul 23 16:01 | 25°♈21'18 | -4.7m | | 3465 Jan 30 01:15 | 0°♉ | |
| | 3462 Aug 02 09:57 | 0°♈ | | | 3465 Feb 23 02:49 | 0°♇ | |
| morning max el | 3462 Aug 31 06:01 | 23°♈11'09 | 45°44'47 | | 3465 Mar 19 10:38 | 0°♇ | |
| | 3462 Sep 07 05:06 | 0°♉ | | asc. node | 3465 Mar 28 20:47 | 11°♇29'18 | |
| | 3462 Oct 05 07:16 | 0°♈ | | | 3465 Apr 13 05:37 | 0°♊ | |
| asc. node | 3462 Oct 12 01:43 | 7°♈39'30 | | | 3465 May 08 19:26 | 0°♈ | |
| | 3462 Oct 31 06:38 | 0°♈ | | | 3465 Jun 04 21:01 | 0°♉ | |
| | 3462 Nov 25 04:59 | 0°♈ | | evening max el | 3465 Jun 21 15:42 | 17°♉01'48 | 45°29'10 |
| | 3462 Dec 19 13:53 | 0°♇ | | | 3465 Jul 06 02:02 | 0°♈ | |
| | 3463 Jan 12 15:57 | 0°♋ | | desc. node | 3465 Jul 18 10:35 | 9°♈05'38 | |
| desc. node | 3463 Jan 31 15:30 | 23°♋45'40 | | greatest brilliancy | 3465 Jul 29 21:12 | 14°♈52'27 | -4.7m |
| | 3463 Feb 05 14:56 | 0°♊ | | retrograde | 3465 Aug 09 06:42 | 16°♈48'29 | |
| | 3463 Mar 01 13:01 | 0°♉ | | evening set | 3465 Aug 26 12:47 | 11°♈13'18 | |
| morning set | 3463 Mar 03 15:06 | 2°♉37'02 | | inferior conj | 3465 Aug 30 18:06 | 8°♈37'48 | -7°59'25 |
| | 3463 Mar 25 11:48 | 0°♇ | | minimum elong | 3465 Aug 30 11:04 | 8°♈48'49 | 7°58'39 |
| | | | | min. Earth dist. | 3465 Aug 30 21:06 | 8°♈33'05 | 0.29001 AU |
| superior conj | 3463 Apr 12 22:15 | 23°♇01'00 | -1°19'22 | morning rise | 3465 Sep 03 09:15 | 6°♈23'07 | |
| minimum elong | 3463 Apr 13 06:22 | 23°♇26'18 | 1°19'13 | direct | 3465 Sep 21 08:59 | 0°♈20'34 | |
| max. Earth dist. | 3463 Apr 16 19:49 | 27°♇52'24 | 1.72144 AU | greatest brilliancy | 3465 Oct 02 00:19 | 2°♈23'48 | -4.8m |
| | 3463 Apr 18 12:50 | 0°♇ | | | 3465 Nov 08 07:24 | 0°♈ | |
| | 3463 May 12 17:12 | 0°♊ | | asc. node | 3465 Nov 08 13:27 | 0°♈14'50 | |

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| morning max el | 3465 Nov 10 01:44 | 1°  44'18 | 46°18'59 | | 3468 Jun 15 07:30 | 0°  | |
| | 3465 Dec 06 12:23 | 0°  | | | 3468 Jul 10 23:28 | 0°  | |
| | 3466 Jan 01 07:01 | 0°  | | | 3468 Aug 06 19:14 | 0°  | |
| | 3466 Jan 26 02:50 | 0°  | | desc. node | 3468 Aug 14 22:29 | 8°  40'47 | |
| | 3466 Feb 19 12:36 | 0°  | | evening max el | 3468 Sep 01 03:06 | 26°  00'11 | 45°48'58 |
| desc. node | 3466 Feb 28 03:27 | 10°  39'12 | | | 3468 Sep 05 09:04 | 0°  | |
| | 3466 Mar 15 18:11 | 0°  | | greatest brilliancy | 3468 Oct 11 00:18 | 24°  32'42 | -4.8m |
| | 3466 Apr 08 22:39 | 0°  | | retrograde | 3468 Oct 20 03:00 | 26°  30'41 | |
| | 3466 May 03 03:53 | 0°  | | evening set | 3468 Nov 05 08:09 | 21°  30'48 | |
| morning set | 3466 May 16 07:33 | 16°  15'32 | | inferior conj | 3468 Nov 10 00:33 | 18°  16'31 | -5°59'38 |
| | 3466 May 27 10:49 | 0°  | | minimum elong | 3468 Nov 10 10:56 | 18°  00'38 | 5°57'16 |
| | 3466 Jun 20 19:22 | 0°  | | min. Earth dist. | 3468 Nov 10 23:40 | 17°  41'09 | 0.27460 AU |
| asc. node | 3466 Jun 21 06:16 | 0°  33'32 | | morning rise | 3468 Nov 15 13:03 | 14°  59'36 | |
| | | | | direct | 3468 Nov 30 22:57 | 10°  18'55 | |
| superior conj | 3466 Jun 22 19:33 | 2°  28'11 | 0°03'45 | asc. node | 3468 Dec 06 01:12 | 10°  49'31 | |
| minimum elong | 3466 Jun 22 18:45 | 2°  25'44 | 0°03'42 | greatest brilliancy | 3468 Dec 12 03:43 | 12°  39'48 | -4.9m |
| behind sun begin | 3466 Jun 21 20:19 | 1°  16'44 | | | 3469 Jan 06 11:32 | 0°  | |
| behind sun end | 3466 Jun 23 17:11 | 3°  34'44 | | morning max el | 3469 Jan 20 16:20 | 13°  37'17 | 46°56'27 |
| max. Earth dist. | 3466 Jun 23 19:44 | 3°  42'33 | 1.73406 AU | | 3469 Feb 05 02:43 | 0°  | |
| | 3466 Jul 15 04:51 | 0°  | | | 3469 Mar 03 11:23 | 0°  | |
| evening rise | 3466 Jul 29 04:22 | 17°  10'41 | | desc. node | 3469 Mar 27 15:22 | 28°  38'08 | |
| | 3466 Aug 08 14:51 | 0°  | | | 3469 Mar 28 18:41 | 0°  | |
| | 3466 Sep 02 01:43 | 0°  | | | 3469 Apr 22 15:31 | 0°  | |
| | 3466 Sep 26 14:29 | 0°  | | | 3469 May 17 08:05 | 0°  | |
| desc. node | 3466 Oct 10 20:18 | 17°  21'04 | | | 3469 Jun 10 23:04 | 0°  | |
| | 3466 Oct 21 06:20 | 0°  | | | 3469 Jul 05 12:58 | 0°  | |
| | 3466 Nov 15 02:38 | 0°  | | asc. node | 3469 Jul 18 18:09 | 16°  09'53 | |
| | 3466 Dec 10 06:52 | 0°  | | morning set | 3469 Jul 23 22:57 | 22°  32'06 | |
| | 3467 Jan 05 05:42 | 0°  | | | 3469 Jul 30 01:02 | 0°  | |
| evening max el | 3467 Jan 28 03:13 | 24°  42'11 | 47°10'17 | | 3469 Aug 23 10:26 | 0°  | |
| asc. node | 3467 Jan 31 22:59 | 28°  32'55 | | max. Earth dist. | 3469 Aug 27 00:56 | 4°  26'44 | 1.73253 AU |
| | 3467 Feb 02 10:19 | 0°  | | | | | |
| greatest brilliancy | 3467 Mar 09 16:28 | 26°  11'21 | -4.9m | superior conj | 3469 Aug 29 09:44 | 7°  22'00 | 1°18'20 |
| retrograde | 3467 Mar 19 22:31 | 28°  11'05 | | minimum elong | 3469 Aug 29 03:15 | 7°  02'00 | 1°18'13 |
| evening set | 3467 Apr 06 16:33 | 22°  06'18 | | | 3469 Sep 16 17:15 | 0°  | |
| inferior conj | 3467 Apr 09 22:43 | 20°  04'52 | 8°18'34 | evening rise | 3469 Oct 04 20:24 | 22°  27'25 | |
| minimum elong | 3467 Apr 10 05:42 | 19°  53'53 | 8°17'48 | | 3469 Oct 10 22:28 | 0°  | |
| min. Earth dist. | 3467 Apr 09 15:52 | 20°  15'36 | 0.27840 AU | | 3469 Nov 04 03:12 | 0°  | |
| morning rise | 3467 Apr 13 19:04 | 17°  42'30 | | desc. node | 3469 Nov 07 08:07 | 3°  58'25 | |
| direct | 3467 Apr 30 19:56 | 12°  07'10 | | | 3469 Nov 28 08:07 | 0°  | |
| greatest brilliancy | 3467 May 10 06:25 | 13°  45'50 | -4.8m | | 3469 Dec 22 13:57 | 0°  | |
| desc. node | 3467 May 23 12:50 | 20°  32'35 | | | 3470 Jan 15 22:49 | 0°  | |
| | 3467 Jun 05 00:37 | 0°  | | | 3470 Feb 09 15:53 | 0°  | |
| morning max el | 3467 Jun 18 23:23 | 12°  39'07 | 45°56'24 | asc. node | 3470 Feb 28 10:52 | 22°  14'33 | |
| | 3467 Jul 06 03:00 | 0°  | | | 3470 Mar 07 03:51 | 0°  | |
| | 3467 Aug 02 13:08 | 0°  | | | 3470 Apr 03 11:54 | 0°  | |
| | 3467 Aug 28 14:35 | 0°  | | evening max el | 3470 Apr 09 16:44 | 6°  17'00 | 46°16'11 |
| asc. node | 3467 Sep 13 15:55 | 18°  15'58'52 | | | 3470 May 07 16:31 | 0°  | |
| | 3467 Sep 22 20:36 | 0°  | | greatest brilliancy | 3470 May 18 07:19 | 5°  33'02 | -4.8m |
| | 3467 Oct 17 12:50 | 0°  | | retrograde | 3470 May 29 08:41 | 7°  47'17 | |
| | 3467 Nov 10 19:32 | 0°  | | evening set | 3470 Jun 13 10:02 | 3°  20'20 | |
| | 3467 Dec 04 20:23 | 0°  | | | 3470 Jun 18 24:00 | 30°  41'11 | |
| morning set | 3467 Dec 14 05:32 | 11°  45'29 | | inferior conj | 3470 Jun 19 17:39 | 29°  32'22 | 0°04'10 |
| | 3467 Dec 28 18:10 | 0°  | | minimum elong | 3470 Jun 19 17:49 | 29°  32'07 | 0°04'08 |
| desc. node | 3468 Jan 03 05:42 | 6°  35'32'0 | | transit middle | 3470 Jun 19 17:49 | 29°  32'07 | 0°04'08 |
| | 3468 Jan 21 14:36 | 0°  | | transit begin | 3470 Jun 19 13:53 | 29°  38'16 | |
| | | | | transit end | 3470 Jun 19 21:44 | 29°  25'59 | |
| superior conj | 3468 Jan 24 06:38 | 3°  21'27 | -0°47'52 | min. Earth dist. | 3470 Jun 19 12:40 | 29°  40'11 | 0.28710 AU |
| minimum elong | 3468 Jan 23 19:41 | 2°  46'58 | 0°47'24 | desc. node | 3470 Jun 20 00:38 | 29°  21'27 | |
| max. Earth dist. | 3468 Jan 24 12:16 | 3°  39'08 | 1.71100 AU | morning rise | 3470 Jun 26 02:01 | 25°  44'17 | |
| | 3468 Feb 14 10:59 | 0°  | | direct | 3470 Jul 11 04:32 | 21°  19'54 | |
| evening rise | 3468 Mar 05 09:35 | 25°  01'52 | | greatest brilliancy | 3470 Jul 21 06:56 | 23°  10'32 | -4.7m |
| | 3468 Mar 09 08:48 | 0°  | | | 3470 Aug 03 12:54 | 0°  | |
| | 3468 Apr 02 10:01 | 0°  | | morning max el | 3470 Aug 28 22:35 | 21°  02'38 | 45°44'10 |
| asc. node | 3468 Apr 25 08:41 | 28°  13'37 | | | 3470 Sep 07 00:50 | 0°  | |
| | 3468 Apr 26 16:43 | 0°  | | | 3470 Oct 04 22:13 | 0°  | |
| | 3468 May 21 06:59 | 0°  | | asc. node | 3470 Oct 11 03:43 | 7°  04'10 | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3470 Oct 30 19:45 | 0°♄ | | | 3473 Jun 04 14:49 | 0°♄ | |
| | 3470 Nov 24 17:15 | 0°♍ | | evening max el | 3473 Jun 19 06:33 | 14°♄48'09 | 45°29'48 |
| | 3470 Dec 19 01:43 | 0°♎ | | | 3473 Jul 06 10:30 | 0°♎ | |
| | 3471 Jan 12 03:32 | 0°♏ | | desc. node | 3473 Jul 17 12:45 | 7°♎48'35 | |
| desc. node | 3471 Jan 30 17:38 | 23°♏16'34 | | greatest brilliancy | 3473 Jul 27 12:32 | 12°♎42'16 | -4.7m |
| | 3471 Feb 05 02:20 | 0°♐ | | retrograde | 3473 Aug 06 22:11 | 14°♎39'01 | |
| morning set | 3471 Mar 01 01:16 | 0°♑03'10 | | evening set | 3473 Aug 24 01:50 | 9°♎08'06 | |
| | 3471 Mar 01 00:16 | 0°♑ | | inferior conj | 3473 Aug 28 10:22 | 6°♎28'00 | -7°51'31 |
| | 3471 Mar 24 22:57 | 0°♒ | | minimum elong | 3473 Aug 28 02:48 | 6°♎39'51 | 7°50'37 |
| | | | | min. Earth dist. | 3473 Aug 28 12:52 | 6°♎24'06 | 0.29017 AU |
| superior conj | 3471 Apr 10 11:04 | 20°♒36'42 | -1°20'49 | morning rise | 3473 Sep 01 03:37 | 4°♎10'01 | |
| minimum elong | 3471 Apr 10 18:33 | 21°♒00'03 | 1°20'40 | | 3473 Sep 09 10:07 | 30°♎♄ | |
| max. Earth dist. | 3471 Apr 14 10:31 | 25°♒34'10 | 1.72090 AU | direct | 3473 Sep 19 00:48 | 28°♄10'31 | |
| | 3471 Apr 17 23:55 | 0°♓ | | | 3473 Sep 29 01:31 | 0°♎ | |
| | 3471 May 12 04:15 | 0°♈ | | greatest brilliancy | 3473 Sep 29 16:30 | 0°♎13'27 | -4.8m |
| evening rise | 3471 May 19 14:21 | 9°♈10'09 | | morning max el | 3473 Nov 07 15:53 | 29°♎26'07 | 46°17'22 |
| asc. node | 3471 May 23 20:30 | 14°♈25'05 | | asc. node | 3473 Nov 07 15:26 | 29°♎24'59 | |
| | 3471 Jun 05 12:28 | 0°♉ | | | 3473 Nov 08 05:33 | 0°♄ | |
| | 3471 Jun 30 00:44 | 0°♊ | | | 3473 Dec 06 04:17 | 0°♍ | |
| | 3471 Jul 24 17:47 | 0°♋ | | | 3473 Dec 31 20:46 | 0°♎ | |
| | 3471 Aug 18 17:38 | 0°♌ | | | 3474 Jan 25 15:33 | 0°♏ | |
| desc. node | 3471 Sep 12 10:20 | 29°♌08'46 | | | 3474 Feb 19 00:44 | 0°♐ | |
| | 3471 Sep 13 03:53 | 0°♍ | | desc. node | 3474 Feb 27 05:32 | 10°♐08'33 | |
| | 3471 Oct 09 07:16 | 0°♎ | | | 3474 Mar 15 05:54 | 0°♑ | |
| | 3471 Nov 05 21:23 | 0°♏ | | | 3474 Apr 08 10:03 | 0°♒ | |
| evening max el | 3471 Nov 14 06:56 | 8°♏32'04 | 46°51'28 | | 3474 May 02 15:02 | 0°♓ | |
| | 3471 Dec 08 14:15 | 0°♐ | | morning set | 3474 May 13 23:03 | 14°♓01'06 | |
| greatest brilliancy | 3471 Dec 24 13:30 | 9°♐04'13 | -4.9m | | 3474 May 26 21:46 | 0°♈ | |
| retrograde | 3472 Jan 03 14:33 | 10°♐58'05 | | asc. node | 3474 Jun 20 08:21 | 0°♉06'31 | |
| asc. node | 3472 Jan 03 13:09 | 10°♐58'04 | | | 3474 Jun 20 06:13 | 0°♊ | |
| evening set | 3472 Jan 18 08:10 | 6°♐38'41 | | | | | |
| min. Earth dist. | 3472 Jan 23 13:55 | 3°♐33'42 | 0.26591 AU | superior conj | 3474 Jun 20 12:43 | 0°♉20'01 | 0°00'26 |
| inferior conj | 3472 Jan 24 03:02 | 3°♐13'36 | 5°03'41 | minimum elong | 3474 Jun 20 12:37 | 0°♉19'42 | 0°00'26 |
| minimum elong | 3472 Jan 23 17:10 | 3°♐28'43 | 5°01'00 | behind sun begin | 3474 Jun 19 13:44 | 29°♈09'19 | |
| morning rise | 3472 Jan 29 02:28 | 0°♐16'25 | | behind sun end | 3474 Jun 21 11:30 | 1°♉30'06 | |
| | 3472 Jan 29 14:22 | 30°♐♄ | | max. Earth dist. | 3474 Jun 21 14:01 | 1°♉37'51 | 1.73381 AU |
| direct | 3472 Feb 13 13:42 | 25°♏35'00 | | | 3474 Jul 14 15:42 | 0°♊ | |
| greatest brilliancy | 3472 Feb 23 00:44 | 27°♏17'21 | -4.9m | evening rise | 3474 Jul 26 23:03 | 15°♊07'14 | |
| | 3472 Feb 29 05:08 | 0°♐ | | | 3474 Aug 08 01:47 | 0°♋ | |
| morning max el | 3472 Apr 03 18:16 | 28°♐01'16 | 46°41'56 | | 3474 Sep 01 12:52 | 0°♌ | |
| | 3472 Apr 05 17:40 | 0°♑ | | | 3474 Sep 26 02:00 | 0°♍ | |
| desc. node | 3472 Apr 24 03:09 | 19°♑22'49 | | desc. node | 3474 Oct 09 22:16 | 16°♍51'08 | |
| | 3472 May 03 17:44 | 0°♒ | | | 3474 Oct 20 18:24 | 0°♎ | |
| | 3472 May 29 23:52 | 0°♓ | | | 3474 Nov 14 15:34 | 0°♏ | |
| | 3472 Jun 24 13:17 | 0°♈ | | | 3474 Dec 09 21:14 | 0°♐ | |
| | 3472 Jul 19 17:33 | 0°♉ | | | 3475 Jan 04 22:50 | 0°♑ | |
| | 3472 Aug 13 14:33 | 0°♊ | | evening max el | 3475 Jan 25 16:28 | 22°♑16'39 | 47°11'03 |
| asc. node | 3472 Aug 15 06:05 | 1°♊59'54 | | asc. node | 3475 Jan 31 01:03 | 27°♑38'09 | |
| | 3472 Sep 07 04:36 | 0°♋ | | | 3475 Feb 02 11:34 | 0°♒ | |
| morning set | 3472 Sep 30 05:39 | 28°♋24'37 | | greatest brilliancy | 3475 Mar 07 07:48 | 23°♒50'44 | -4.9m |
| | 3472 Oct 01 12:27 | 0°♌ | | retrograde | 3475 Mar 17 13:02 | 25°♒50'16 | |
| | 3472 Oct 25 15:44 | 0°♍ | | evening set | 3475 Apr 04 09:17 | 19°♒42'03 | |
| max. Earth dist. | 3472 Nov 03 16:07 | 11°♍14'54 | 1.71978 AU | min. Earth dist. | 3475 Apr 07 05:50 | 17°♒55'50 | 0.27802 AU |
| | | | | inferior conj | 3475 Apr 07 13:03 | 17°♒44'32 | 8°26'26 |
| superior conj | 3472 Nov 06 15:21 | 14°♍57'15 | 1°00'50 | minimum elong | 3475 Apr 07 19:24 | 17°♒34'35 | 8°25'49 |
| minimum elong | 3472 Nov 07 01:31 | 15°♍28'57 | 1°00'29 | morning rise | 3475 Apr 11 05:40 | 15°♒27'54 | |
| | 3472 Nov 18 16:16 | 0°♎ | | direct | 3475 Apr 28 09:09 | 9°♒47'15 | |
| desc. node | 3472 Dec 04 20:01 | 20°♎13'28 | | greatest brilliancy | 3475 May 07 19:59 | 11°♒26'14 | -4.8m |
| | 3472 Dec 12 15:20 | 0°♏ | | desc. node | 3475 May 22 14:50 | 19°♒14'12 | |
| evening rise | 3472 Dec 16 07:47 | 4°♏37'06 | | | 3475 Jun 05 07:09 | 0°♓ | |
| | 3473 Jan 05 13:46 | 0°♐ | | morning max el | 3475 Jun 16 13:59 | 10°♓23'02 | 45°57'45 |
| | 3473 Jan 29 12:46 | 0°♑ | | | 3475 Jul 05 20:45 | 0°♈ | |
| | 3473 Feb 22 14:34 | 0°♒ | | | 3475 Aug 02 03:19 | 0°♉ | |
| | 3473 Mar 18 22:46 | 0°♓ | | | 3475 Aug 28 03:11 | 0°♊ | |
| asc. node | 3473 Mar 27 22:46 | 10°♓57'49 | | asc. node | 3475 Sep 12 17:49 | 18°♓28'42 | |
| | 3473 Apr 12 18:28 | 0°♈ | | | 3475 Sep 22 08:22 | 0°♋ | |
| | 3473 May 08 09:44 | 0°♉ | | | 3475 Oct 17 00:09 | 0°♌ | |

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|---------------------|-------------------|----------------------|---------------------|-------------------|-----------|------------|
| | 3475 Nov 10 06:37 | 0°♌ | evening set | 3478 Jun 11 03:05 | 1°♊08'45 | |
| | 3475 Dec 04 07:22 | 0°♊ | | 3478 Jun 13 02:58 | 30°♊II | |
| morning set | 3475 Dec 11 18:11 | 9°♊20'11 | inferior conj | 3478 Jun 17 09:40 | 27°♊21'47 | 0°24'37 |
| | 3475 Dec 28 05:07 | 0°♊ | minimum elong | 3478 Jun 17 10:35 | 27°♊20'21 | 0°24'20 |
| desc. node | 3476 Jan 02 07:52 | 6°♊25'41 | min. Earth dist. | 3478 Jun 17 04:44 | 27°♊29'31 | 0.28683 AU |
| | 3476 Jan 21 01:36 | 0°♊ | desc. node | 3478 Jun 19 02:48 | 26°♊17'33 | |
| | | | morning rise | 3478 Jun 23 18:36 | 23°♊32'56 | |
| superior conj | 3476 Jan 21 16:49 | 0°♊47'54 -0°44'28 | direct | 3478 Jul 08 20:42 | 19°♊09'57 | |
| minimum elong | 3476 Jan 21 06:22 | 0°♊14'59 0°44'01 | greatest brilliancy | 3478 Jul 18 21:37 | 20°♊59'26 | -4.7m |
| max. Earth dist. | 3476 Jan 21 20:11 | 0°♊58'28 1.71107 AU | | 3478 Aug 04 08:25 | 0°♊ | |
| | 3476 Feb 13 22:01 | 0°♊ | morning max el | 3478 Aug 26 14:20 | 18°♊52'47 | 45°43'41 |
| evening rise | 3476 Mar 02 20:11 | 22°♊30'06 | | 3478 Sep 06 19:44 | 0°♊ | |
| | 3476 Mar 08 19:53 | 0°♊ | | 3478 Oct 04 12:37 | 0°♊ | |
| | 3476 Apr 01 21:09 | 0°♊ | asc. node | 3478 Oct 10 05:45 | 6°♊30'12 | |
| asc. node | 3476 Apr 24 10:39 | 27°♊52'56 | | 3478 Oct 30 08:25 | 0°♊ | |
| | 3476 Apr 26 04:02 | 0°♊ | | 3478 Nov 24 05:06 | 0°♊ | |
| | 3476 May 20 18:39 | 0°♊ | | 3478 Dec 18 13:09 | 0°♊ | |
| | 3476 Jun 14 19:50 | 0°♊ | | 3479 Jan 11 14:42 | 0°♊ | |
| | 3476 Jul 10 13:09 | 0°♊ | desc. node | 3479 Jan 29 19:39 | 22°♊48'22 | |
| | 3476 Aug 06 11:50 | 0°♊ | | 3479 Feb 04 13:19 | 0°♊ | |
| desc. node | 3476 Aug 14 00:29 | 7°♊58'37 | morning set | 3479 Feb 26 11:48 | 27°♊31'43 | |
| evening max el | 3476 Aug 29 17:52 | 23°♊45'36 45°47'22 | | 3479 Feb 28 11:06 | 0°♊ | |
| | 3476 Sep 05 10:54 | 0°♊ | | 3479 Mar 24 09:41 | 0°♊ | |
| greatest brilliancy | 3476 Oct 08 12:48 | 22°♊12'45 -4.8m | | | | |
| retrograde | 3476 Oct 17 16:54 | 23°♊44'55 | superior conj | 3479 Apr 08 00:04 | 18°♊14'17 | -1°22'04 |
| evening set | 3476 Nov 03 00:54 | 18°♊39'38 | minimum elong | 3479 Apr 08 06:51 | 18°♊35'26 | 1°21'58 |
| inferior conj | 3476 Nov 07 14:20 | 15°♊56'18 -6°15'33 | max. Earth dist. | 3479 Apr 12 02:28 | 23°♊21'00 | 1.72037 AU |
| minimum elong | 3476 Nov 08 00:46 | 15°♊40'20 6°13'16 | | 3479 Apr 17 10:35 | 0°♊ | |
| min. Earth dist. | 3476 Nov 08 13:24 | 15°♊21'00 0.27527 AU | | 3479 May 11 14:55 | 0°♊ | |
| morning rise | 3476 Nov 13 00:02 | 12°♊43'21 | evening rise | 3479 May 17 05:37 | 6°♊56'10 | |
| direct | 3476 Nov 28 13:59 | 7°♊57'49 | asc. node | 3479 May 22 22:37 | 13°♊58'41 | |
| asc. node | 3476 Dec 05 03:16 | 8°♊48'05 | | 3479 Jun 04 23:12 | 0°♊ | |
| greatest brilliancy | 3476 Dec 09 18:07 | 10°♊18'31 -4.9m | | 3479 Jun 29 11:39 | 0°♊ | |
| | 3477 Jan 06 16:38 | 0°♊ | | 3479 Jul 24 05:06 | 0°♊ | |
| morning max el | 3477 Jan 18 07:52 | 11°♊18'21 46°55'50 | | 3479 Aug 18 05:38 | 0°♊ | |
| | 3477 Feb 04 20:34 | 0°♊ | desc. node | 3479 Sep 11 12:18 | 28°♊36'07 | |
| | 3477 Mar 03 01:58 | 0°♊ | | 3479 Sep 12 17:06 | 0°♊ | |
| desc. node | 3477 Mar 26 17:19 | 28°♊04'44 | | 3479 Oct 08 22:43 | 0°♊ | |
| | 3477 Mar 28 07:44 | 0°♊ | | 3479 Nov 05 18:05 | 0°♊ | |
| | 3477 Apr 22 03:41 | 0°♊ | evening max el | 3479 Nov 11 20:24 | 6°♊08'56 | 46°49'24 |
| | 3477 May 16 19:39 | 0°♊ | | 3479 Dec 09 14:37 | 0°♊ | |
| | 3477 Jun 10 10:13 | 0°♊ | greatest brilliancy | 3479 Dec 22 03:16 | 6°♊37'24 | -4.9m |
| | 3477 Jul 04 23:50 | 0°♊ | retrograde | 3480 Jan 01 02:28 | 8°♊29'29 | |
| asc. node | 3477 Jul 17 20:15 | 15°♊43'28 | asc. node | 3480 Jan 02 15:16 | 8°♊26'38 | |
| morning set | 3477 Jul 21 16:42 | 20°♊26'36 | evening set | 3480 Jan 15 18:12 | 4°♊14'05 | |
| | 3477 Jul 29 11:43 | 0°♊ | min. Earth dist. | 3480 Jan 21 03:40 | 1°♊03'58 | 0.26568 AU |
| | 3477 Aug 22 21:02 | 0°♊ | inferior conj | 3480 Jan 21 15:21 | 0°♊46'02 | 4°42'59 |
| max. Earth dist. | 3477 Aug 24 22:01 | 2°♊31'01 1.73280 AU | minimum elong | 3480 Jan 21 05:55 | 1°♊00'30 | 4°40'22 |
| | | | | 3480 Jan 22 21:27 | 30°♊♊ | |
| superior conj | 3477 Aug 27 03:42 | 5°♊16'35 1°17'03 | morning rise | 3480 Jan 26 17:51 | 27°♊44'19 | |
| minimum elong | 3477 Aug 26 20:47 | 4°♊55'13 1°16'54 | direct | 3480 Feb 11 01:37 | 23°♊07'37 | |
| | 3477 Sep 16 03:54 | 0°♊ | greatest brilliancy | 3480 Feb 20 14:47 | 24°♊51'23 | -4.9m |
| evening rise | 3477 Oct 02 12:50 | 20°♊16'12 | | 3480 Mar 02 00:11 | 0°♊ | |
| | 3477 Oct 10 09:17 | 0°♊ | morning max el | 3480 Apr 01 06:11 | 25°♊34'26 | 46°43'23 |
| | 3477 Nov 03 14:15 | 0°♊ | | 3480 Apr 05 15:21 | 0°♊ | |
| desc. node | 3477 Nov 06 10:10 | 3°♊30'23 | desc. node | 3480 Apr 23 05:13 | 18°♊41'24 | |
| | 3477 Nov 27 19:29 | 0°♊ | | 3480 May 03 09:27 | 0°♊ | |
| | 3477 Dec 22 01:41 | 0°♊ | | 3480 May 29 13:14 | 0°♊ | |
| | 3478 Jan 15 11:03 | 0°♊ | | 3480 Jun 24 01:26 | 0°♊ | |
| | 3478 Feb 09 05:02 | 0°♊ | | 3480 Jul 19 04:58 | 0°♊ | |
| asc. node | 3478 Feb 27 12:48 | 21°♊38'21 | | 3480 Aug 13 01:32 | 0°♊ | |
| | 3478 Mar 06 18:52 | 0°♊ | asc. node | 3480 Aug 14 07:59 | 1°♊32'25 | |
| | 3478 Apr 03 07:49 | 0°♊ | | 3480 Sep 06 15:20 | 0°♊ | |
| evening max el | 3478 Apr 07 09:09 | 4°♊05'06 46°18'15 | morning set | 3480 Sep 27 22:10 | 26°♊14'14 | |
| | 3478 May 08 23:02 | 0°♊ | | 3480 Sep 30 23:05 | 0°♊ | |
| greatest brilliancy | 3478 May 16 00:05 | 3°♊22'50 -4.8m | | 3480 Oct 25 02:23 | 0°♊ | |
| retrograde | 3478 May 27 01:16 | 5°♊36'28 | max. Earth dist. | 3480 Nov 01 05:19 | 8°♊53'06 | 1.72028 AU |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| superior conj | 3480 Nov 04 05:51 | 12°♍39'25 | 1°03'16 | min. Earth dist. | 3483 Apr 04 19:21 | 15°♍36'48 | 0.27765 AU |
| minimum elong | 3480 Nov 04 15:54 | 13°♍10'48 | 1°02'55 | morning rise | 3483 Apr 08 16:21 | 13°♍13'23 | |
| | 3480 Nov 18 02:59 | 0°♌ | | direct | 3483 Apr 25 22:46 | 7°♍27'33 | |
| desc. node | 3480 Dec 03 22:07 | 19°♌46'15 | | greatest brilliancy | 3483 May 05 09:02 | 9°♍06'29 | -4.8m |
| | 3480 Dec 12 02:10 | 0°♋ | | desc. node | 3483 May 21 16:57 | 17°♍58'58 | |
| evening rise | 3480 Dec 13 19:31 | 2°♋09'30 | | | 3483 Jun 05 11:24 | 0°♌ | |
| | 3481 Jan 05 00:46 | 0°♋ | | morning max el | 3483 Jun 14 05:25 | 8°♌09'28 | 45°59'09 |
| | 3481 Jan 28 23:57 | 0°♌ | | | 3483 Jul 05 13:54 | 0°♍ | |
| | 3481 Feb 22 01:59 | 0°♍ | | | 3483 Aug 01 17:09 | 0°♎ | |
| | 3481 Mar 18 10:33 | 0°♌ | | | 3483 Aug 27 15:31 | 0°♏ | |
| asc. node | 3481 Mar 27 00:47 | 10°♌27'36 | | asc. node | 3483 Sep 11 19:54 | 17°♏59'41 | |
| | 3481 Apr 12 06:57 | 0°♍ | | | 3483 Sep 21 19:56 | 0°♐ | |
| | 3481 May 07 23:43 | 0°♎ | | | 3483 Oct 16 11:20 | 0°♑ | |
| | 3481 Jun 04 08:35 | 0°♏ | | | 3483 Nov 09 17:37 | 0°♒ | |
| evening max el | 3481 Jun 16 21:07 | 12°♏34'56 | 45°30'23 | | 3483 Dec 03 18:18 | 0°♌ | |
| | 3481 Jul 06 21:29 | 0°♐ | | morning set | 3483 Dec 09 06:38 | 6°♌54'29 | |
| desc. node | 3481 Jul 16 14:43 | 6°♐29'40 | | | 3483 Dec 27 16:03 | 0°♋ | |
| greatest brilliancy | 3481 Jul 25 03:06 | 10°♐31'55 | -4.7m | desc. node | 3484 Jan 01 09:52 | 5°♋57'37 | |
| retrograde | 3481 Aug 04 13:52 | 12°♐30'15 | | | | | |
| evening set | 3481 Aug 21 14:39 | 7°♐03'20 | | superior conj | 3484 Jan 19 02:41 | 28°♋13'29 | -0°40'57 |
| inferior conj | 3481 Aug 26 02:29 | 4°♐18'38 | -7°42'47 | minimum elong | 3484 Jan 18 16:50 | 27°♋42'28 | 0°40'32 |
| minimum elong | 3481 Aug 25 18:27 | 4°♐31'12 | 7°41'45 | max. Earth dist. | 3484 Jan 19 05:22 | 28°♋21'54 | 1.71108 AU |
| min. Earth dist. | 3481 Aug 26 04:23 | 4°♐15'40 | 0.29036 AU | | 3484 Jan 20 12:32 | 0°♋ | |
| morning rise | 3481 Aug 29 22:05 | 1°♐57'15 | | | 3484 Feb 13 08:58 | 0°♌ | |
| | 3481 Sep 02 08:44 | 30°♏♏ | | evening rise | 3484 Feb 29 06:36 | 19°♌58'02 | |
| direct | 3481 Sep 16 16:34 | 26°♏00'44 | | | 3484 Mar 08 06:51 | 0°♍ | |
| greatest brilliancy | 3481 Sep 27 08:53 | 28°♏03'57 | -4.8m | | 3484 Apr 01 08:13 | 0°♌ | |
| | 3481 Oct 01 20:36 | 0°♐ | | asc. node | 3484 Apr 23 12:47 | 27°♌24'58 | |
| morning max el | 3481 Nov 05 06:49 | 27°♐10'40 | 46°15'53 | | 3484 Apr 25 15:17 | 0°♍ | |
| asc. node | 3481 Nov 06 17:32 | 28°♐36'55 | | | 3484 May 20 06:17 | 0°♎ | |
| | 3481 Nov 08 02:38 | 0°♑ | | | 3484 Jun 14 08:10 | 0°♏ | |
| | 3481 Dec 05 19:41 | 0°♒ | | | 3484 Jul 10 02:52 | 0°♐ | |
| | 3481 Dec 31 10:06 | 0°♌ | | | 3484 Aug 06 04:41 | 0°♑ | |
| | 3482 Jan 25 03:53 | 0°♋ | | desc. node | 3484 Aug 13 02:28 | 7°♑16'07 | |
| | 3482 Feb 18 12:29 | 0°♋ | | evening max el | 3484 Aug 27 08:56 | 21°♑31'57 | 45°45'40 |
| desc. node | 3482 Feb 26 07:25 | 9°♋38'29 | | | 3484 Sep 05 14:12 | 0°♒ | |
| | 3482 Mar 14 17:16 | 0°♌ | | greatest brilliancy | 3484 Oct 06 01:14 | 19°♒52'55 | -4.8m |
| | 3482 Apr 07 21:07 | 0°♍ | | retrograde | 3484 Oct 15 06:16 | 21°♒25'21 | |
| | 3482 May 02 01:52 | 0°♌ | | evening set | 3484 Oct 31 17:37 | 16°♒15'22 | |
| morning set | 3482 May 11 14:33 | 11°♌47'25 | | inferior conj | 3484 Nov 05 04:02 | 13°♒35'53 | -6°30'42 |
| | 3482 May 26 08:25 | 0°♍ | | minimum elong | 3484 Nov 05 14:26 | 13°♒19'56 | 6°28'31 |
| | | | | min. Earth dist. | 3484 Nov 06 02:59 | 13°♒00'42 | 0.27598 AU |
| superior conj | 3482 Jun 18 05:55 | 28°♍12'52 | -0°02'52 | morning rise | 3484 Nov 10 10:45 | 10°♒26'52 | |
| minimum elong | 3482 Jun 18 06:32 | 28°♍14'44 | 0°02'50 | direct | 3484 Nov 26 05:05 | 5°♒36'31 | |
| behind sun begin | 3482 Jun 17 07:46 | 27°♍04'41 | | asc. node | 3484 Dec 04 05:20 | 6°♒50'49 | |
| behind sun end | 3482 Jun 19 05:17 | 29°♍24'45 | | greatest brilliancy | 3484 Dec 07 08:20 | 7°♒56'28 | -4.9m |
| asc. node | 3482 Jun 19 10:26 | 29°♍40'36 | | | 3485 Jan 06 20:11 | 0°♌ | |
| max. Earth dist. | 3482 Jun 19 09:05 | 29°♍36'26 | 1.73356 AU | morning max el | 3485 Jan 15 22:38 | 8°♌56'53 | 46°55'05 |
| | 3482 Jun 19 16:45 | 0°♎ | | | 3485 Feb 04 14:14 | 0°♋ | |
| | 3482 Jul 14 02:15 | 0°♏ | | | 3485 Mar 02 16:32 | 0°♋ | |
| evening rise | 3482 Jul 24 17:49 | 13°♏04'59 | | desc. node | 3485 Mar 25 19:27 | 27°♋31'44 | |
| | 3482 Aug 07 12:28 | 0°♐ | | | 3485 Mar 27 20:47 | 0°♌ | |
| | 3482 Aug 31 23:49 | 0°♑ | | | 3485 Apr 21 15:50 | 0°♍ | |
| | 3482 Sep 25 13:21 | 0°♒ | | | 3485 May 16 07:13 | 0°♌ | |
| desc. node | 3482 Oct 09 00:18 | 16°♒21'52 | | | 3485 Jun 09 21:24 | 0°♍ | |
| | 3482 Oct 20 06:22 | 0°♌ | | | 3485 Jul 04 10:45 | 0°♎ | |
| | 3482 Nov 14 04:26 | 0°♋ | | asc. node | 3485 Jul 16 22:10 | 15°♎16'15 | |
| | 3482 Dec 09 11:34 | 0°♋ | | morning set | 3485 Jul 19 10:33 | 18°♎21'11 | |
| | 3483 Jan 04 16:07 | 0°♌ | | | 3485 Jul 28 22:28 | 0°♏ | |
| evening max el | 3483 Jan 23 06:30 | 19°♌53'51 | 47°11'53 | | 3485 Aug 22 07:44 | 0°♐ | |
| asc. node | 3483 Jan 30 02:59 | 26°♌42'39 | | max. Earth dist. | 3485 Aug 22 17:37 | 0°♐30'28 | 1.73305 AU |
| | 3483 Feb 02 13:54 | 0°♍ | | | | | |
| greatest brilliancy | 3483 Mar 04 22:22 | 21°♍29'45 | -4.9m | superior conj | 3485 Aug 24 21:55 | 3°♐11'41 | 1°15'38 |
| retrograde | 3483 Mar 15 03:55 | 23°♍29'51 | | minimum elong | 3485 Aug 24 14:36 | 2°♐49'06 | 1°15'29 |
| evening set | 3483 Apr 02 01:41 | 17°♍18'22 | | | 3485 Sep 15 14:39 | 0°♑ | |
| inferior conj | 3483 Apr 05 03:17 | 15°♍24'23 | 8°33'24 | evening rise | 3485 Sep 30 05:31 | 18°♑05'36 | |
| minimum elong | 3483 Apr 05 08:56 | 15°♍15'33 | 8°32'55 | | 3485 Oct 09 20:13 | 0°♒ | |

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|---------------------|-------------------|----------------------|--|---------------------|-------------------|----------------------|
| | 3485 Nov 03 01:27 | 0°♊ | | 3488 Apr 05 12:44 | 0°♋ | |
| desc. node | 3485 Nov 05 12:18 | 3°♊02'14 | | 3488 Apr 22 07:17 | 17°♋59'10 | |
| | 3485 Nov 27 07:01 | 0°♋ | | 3488 May 03 01:25 | 0°♌ | |
| | 3485 Dec 21 13:39 | 0°♌ | | 3488 May 29 02:57 | 0°♍ | |
| | 3486 Jan 14 23:37 | 0°♎ | | 3488 Jun 23 13:55 | 0°♎ | |
| | 3486 Feb 08 18:35 | 0°♏ | | 3488 Jul 18 16:42 | 0°♏ | |
| asc. node | 3486 Feb 26 14:51 | 21°♏01'24 | | 3488 Aug 12 12:49 | 0°♐ | |
| | 3486 Mar 06 10:23 | 0°♑ | | 3488 Aug 13 10:03 | 1°♐04'29 | |
| | 3486 Apr 03 04:39 | 0°♒ | | 3488 Sep 06 02:23 | 0°♑ | |
| evening max el | 3486 Apr 05 00:51 | 1°♒50'34 46°20'31 | | 3488 Sep 25 14:50 | 24°♑03'19 | |
| | 3486 May 10 20:50 | 0°♓ | | 3488 Sep 30 10:03 | 0°♒ | |
| greatest brilliancy | 3486 May 13 17:25 | 1°♓12'44 -4.8m | | 3488 Oct 24 13:22 | 0°♓ | |
| retrograde | 3486 May 24 17:19 | 3°♓25'07 | | max. Earth dist. | 3488 Oct 29 20:30 | 6°♓36'24 1.72076 AU |
| | 3486 Jun 06 20:15 | 30°♒♐ | | | | |
| evening set | 3486 Jun 08 20:19 | 28°♐56'27 | | superior conj | 3488 Nov 01 20:43 | 10°♓21'40 1°05'34 |
| inferior conj | 3486 Jun 15 01:45 | 25°♐10'49 0°44'57 | | minimum elong | 3488 Nov 02 06:37 | 10°♓52'33 1°05'15 |
| minimum elong | 3486 Jun 15 03:25 | 25°♐08'12 0°44'27 | | | 3488 Nov 17 14:02 | 0°♊ |
| min. Earth dist. | 3486 Jun 14 21:09 | 25°♐18'03 0.28655 AU | | desc. node | 3488 Dec 03 00:05 | 19°♊17'40 |
| desc. node | 3486 Jun 18 04:47 | 23°♐14'20 | | evening rise | 3488 Dec 11 07:44 | 29°♊42'33 |
| morning rise | 3486 Jun 21 11:01 | 21°♐21'10 | | | 3488 Dec 11 13:19 | 0°♋ |
| direct | 3486 Jul 06 12:37 | 16°♐59'32 | | | 3489 Jan 04 12:03 | 0°♌ |
| greatest brilliancy | 3486 Jul 16 12:46 | 18°♐48'12 -4.7m | | | 3489 Jan 28 11:26 | 0°♎ |
| | 3486 Aug 04 23:11 | 0°♓ | | | 3489 Feb 21 13:44 | 0°♏ |
| morning max el | 3486 Aug 24 05:19 | 16°♓40'29 45°43'18 | | | 3489 Mar 17 22:45 | 0°♑ |
| | 3486 Sep 06 14:19 | 0°♐ | | asc. node | 3489 Mar 26 02:52 | 9°♑56'15 |
| | 3486 Oct 04 03:04 | 0°♑ | | | 3489 Apr 11 19:56 | 0°♒ |
| asc. node | 3486 Oct 09 07:49 | 5°♑56'01 | | | 3489 May 07 14:20 | 0°♓ |
| | 3486 Oct 29 21:13 | 0°♒ | | | 3489 Jun 04 03:19 | 0°♐ |
| | 3486 Nov 23 17:07 | 0°♓ | | evening max el | 3489 Jun 14 12:15 | 10°♐21'54 45°31'17 |
| | 3486 Dec 18 00:47 | 0°♊ | | | 3489 Jul 07 12:59 | 0°♑ |
| | 3487 Jan 11 02:07 | 0°♋ | | desc. node | 3489 Jul 15 16:41 | 5°♑07'17 |
| desc. node | 3487 Jan 28 21:37 | 22°♋19'05 | | greatest brilliancy | 3489 Jul 22 17:17 | 8°♑20'17 -4.7m |
| | 3487 Feb 04 00:36 | 0°♌ | | retrograde | 3489 Aug 02 06:15 | 10°♑20'46 |
| morning set | 3487 Feb 23 21:49 | 24°♌57'28 | | evening set | 3489 Aug 19 03:35 | 4°♑57'45 |
| | 3487 Feb 27 22:16 | 0°♎ | | inferior conj | 3489 Aug 23 18:42 | 2°♑08'26 -7°33'27 |
| | 3487 Mar 23 20:46 | 0°♏ | | minimum elong | 3489 Aug 23 10:14 | 2°♑21'39 7°32'16 |
| | | | | min. Earth dist. | 3489 Aug 23 19:39 | 2°♑06'57 0.29052 AU |
| superior conj | 3487 Apr 05 12:34 | 15°♏49'06 -1°23'12 | | | 3489 Aug 27 05:49 | 30°♒♐ |
| minimum elong | 3487 Apr 05 18:35 | 16°♏07'53 1°23'07 | | morning rise | 3489 Aug 27 16:44 | 29°♐43'37 |
| max. Earth dist. | 3487 Apr 09 16:12 | 20°♏59'52 1.71979 AU | | direct | 3489 Sep 14 08:45 | 23°♐50'14 |
| | 3487 Apr 16 21:36 | 0°♑ | | greatest brilliancy | 3489 Sep 25 00:57 | 25°♐53'28 -4.8m |
| | 3487 May 11 01:54 | 0°♒ | | | 3489 Oct 03 13:44 | 0°♑ |
| evening rise | 3487 May 14 20:24 | 4°♒39'38 | | morning max el | 3489 Nov 02 22:43 | 24°♑56'54 46°14'21 |
| asc. node | 3487 May 22 00:37 | 13°♒30'59 | | asc. node | 3489 Nov 05 19:34 | 27°♑48'32 |
| | 3487 Jun 04 10:14 | 0°♓ | | | 3489 Nov 07 23:22 | 0°♒ |
| | 3487 Jun 28 22:54 | 0°♐ | | | 3489 Dec 05 11:10 | 0°♓ |
| | 3487 Jul 23 16:46 | 0°♑ | | | 3489 Dec 30 23:39 | 0°♊ |
| | 3487 Aug 17 18:02 | 0°♒ | | | 3490 Jan 24 16:27 | 0°♋ |
| desc. node | 3487 Sep 10 14:24 | 28°♒02'51 | | | 3490 Feb 18 00:28 | 0°♌ |
| | 3487 Sep 12 06:44 | 0°♓ | | desc. node | 3490 Feb 25 09:35 | 9°♌08'30 |
| | 3487 Oct 08 14:42 | 0°♊ | | | 3490 Mar 14 04:53 | 0°♎ |
| | 3487 Nov 05 15:48 | 0°♋ | | | 3490 Apr 07 08:28 | 0°♏ |
| evening max el | 3487 Nov 09 09:01 | 3°♋43'05 46°47'20 | | | 3490 May 01 12:59 | 0°♑ |
| | 3487 Dec 11 01:01 | 0°♌ | | morning set | 3490 May 09 05:53 | 9°♑32'09 |
| greatest brilliancy | 3487 Dec 19 17:02 | 4°♌10'00 -4.9m | | | 3490 May 25 19:23 | 0°♒ |
| retrograde | 3487 Dec 29 14:12 | 6°♌00'36 | | | | |
| asc. node | 3488 Jan 01 17:07 | 5°♌48'43 | | superior conj | 3490 Jun 15 22:50 | 26°♒03'38 -0°06'09 |
| evening set | 3488 Jan 13 04:28 | 1°♌48'21 | | minimum elong | 3490 Jun 16 00:10 | 26°♒07'43 0°06'06 |
| | 3488 Jan 16 08:28 | 30°♒♋ | | behind sun begin | 3490 Jun 15 02:37 | 25°♒01'24 |
| min. Earth dist. | 3488 Jan 18 17:37 | 28°♋33'25 0.26554 AU | | behind sun end | 3490 Jun 16 21:43 | 27°♒14'02 |
| inferior conj | 3488 Jan 19 03:46 | 28°♋17'53 4°21'47 | | max. Earth dist. | 3490 Jun 17 04:52 | 27°♒36'05 1.73332 AU |
| minimum elong | 3488 Jan 18 18:48 | 28°♋31'37 4°19'14 | | asc. node | 3490 Jun 18 12:22 | 29°♒13'01 |
| morning rise | 3488 Jan 24 09:13 | 25°♋11'56 | | | 3490 Jun 19 03:39 | 0°♓ |
| direct | 3488 Feb 08 13:28 | 20°♋39'16 | | | 3490 Jul 13 13:09 | 0°♐ |
| greatest brilliancy | 3488 Feb 18 05:26 | 22°♋25'13 -4.9m | | evening rise | 3490 Jul 22 12:23 | 11°♐01'03 |
| | 3488 Mar 03 06:20 | 0°♌ | | | 3490 Aug 06 23:29 | 0°♑ |
| morning max el | 3488 Mar 29 18:27 | 23°♌06'58 46°44'43 | | | 3490 Aug 31 11:05 | 0°♒ |

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| | 3490 Sep 25 01:03 | 0°♌ | | | 3493 May 15 18:48 | 0°♏ | | |
| desc. node | 3490 Oct 08 02:23 | 15°♌51'42 | | | 3493 Jun 09 08:35 | 0°♐ | | |
| | 3490 Oct 19 18:41 | 0°♑ | | | 3493 Jul 03 21:40 | 0°♑ | | |
| | 3490 Nov 13 17:43 | 0°♒ | | asc. node | 3493 Jul 16 00:15 | 14°♑49'31 | | |
| | 3490 Dec 09 02:24 | 0°♓ | | morning set | 3493 Jul 17 04:36 | 16°♑16'19 | | |
| | 3491 Jan 04 10:04 | 0°♈ | | | 3493 Jul 28 09:14 | 0°♒ | | |
| evening max el | 3491 Jan 20 21:40 | 17°♈33'13 | 47°12'43 | max. Earth dist. | 3493 Aug 20 11:51 | 28°♒25'41 | 1.73332 AU | |
| asc. node | 3491 Jan 29 05:06 | 25°♈45'47 | | | 3493 Aug 21 18:28 | 0°♓ | | |
| | 3491 Feb 02 18:06 | 0°♉ | | | | | | |
| greatest brilliancy | 3491 Mar 02 12:32 | 19°♉07'56 | -4.9m | superior conj | 3493 Aug 22 16:17 | 1°♓07'14 | 1°14'08 | |
| retrograde | 3491 Mar 12 19:15 | 21°♉09'01 | | minimum elong | 3493 Aug 22 08:37 | 0°♓43'38 | 1°13'58 | |
| evening set | 3491 Mar 30 17:56 | 14°♉54'47 | | | 3493 Sep 15 01:28 | 0°♈ | | |
| inferior conj | 3491 Apr 02 17:37 | 13°♉03'50 | 8°39'31 | evening rise | 3493 Sep 27 22:18 | 15°♈55'15 | | |
| minimum elong | 3491 Apr 02 22:31 | 12°♉56'11 | 8°39'10 | | 3493 Oct 09 07:12 | 0°♌ | | |
| min. Earth dist. | 3491 Apr 02 08:34 | 13°♉17'58 | 0.27725 AU | | 3493 Nov 02 12:41 | 0°♍ | | |
| morning rise | 3491 Apr 06 03:17 | 10°♉58'12 | | desc. node | 3493 Nov 04 14:13 | 2°♍33'18 | | |
| direct | 3491 Apr 23 12:59 | 5°♉07'45 | | | 3493 Nov 26 18:35 | 0°♒ | | |
| greatest brilliancy | 3491 May 02 21:36 | 6°♉45'50 | -4.8m | | 3493 Dec 21 01:38 | 0°♓ | | |
| desc. node | 3491 May 20 18:56 | 16°♉45'26 | | | 3494 Jan 14 12:14 | 0°♈ | | |
| | 3491 Jun 05 14:12 | 0°♏ | | | 3494 Feb 08 08:14 | 0°♉ | | |
| morning max el | 3491 Jun 11 21:12 | 5°♏56'11 | 46°00'22 | asc. node | 3494 Feb 25 16:57 | 20°♉24'19 | | |
| | 3491 Jul 05 06:57 | 0°♐ | | | 3494 Mar 06 02:09 | 0°♏ | | |
| | 3491 Aug 01 07:08 | 0°♑ | | evening max el | 3494 Apr 02 15:45 | 29°♏33'53 | 46°22'45 | |
| | 3491 Aug 27 04:04 | 0°♒ | | | 3494 Apr 03 02:16 | 0°♐ | | |
| asc. node | 3491 Sep 10 22:00 | 17°♒30'03 | | greatest brilliancy | 3494 May 11 11:04 | 29°♐03'01 | -4.8m | |
| | 3491 Sep 21 07:44 | 0°♓ | | | 3494 May 14 06:13 | 0°♑ | | |
| | 3491 Oct 15 22:43 | 0°♈ | | retrograde | 3494 May 22 09:06 | 1°♑14'08 | | |
| | 3491 Nov 09 04:48 | 0°♌ | | | 3494 May 30 05:24 | 30°♒♐ | | |
| | 3491 Dec 03 05:26 | 0°♍ | | evening set | 3494 Jun 06 13:44 | 26°♐44'10 | | |
| morning set | 3491 Dec 06 19:18 | 4°♍28'57 | | inferior conj | 3494 Jun 12 17:54 | 23°♐00'16 | 1°05'09 | |
| | 3491 Dec 27 03:12 | 0°♒ | | minimum elong | 3494 Jun 12 20:18 | 22°♐56'30 | 1°04'27 | |
| desc. node | 3491 Dec 31 11:50 | 5°♒28'50 | | min. Earth dist. | 3494 Jun 12 13:51 | 23°♐06'38 | 0.28625 AU | |
| | | | | desc. node | 3494 Jun 17 06:44 | 20°♐13'10 | | |
| superior conj | 3492 Jan 16 12:44 | 25°♒39'00 | -0°37'23 | morning rise | 3494 Jun 19 03:18 | 19°♐10'04 | | |
| minimum elong | 3492 Jan 16 03:34 | 25°♒10'11 | 0°36'58 | direct | 3494 Jul 04 04:08 | 14°♐49'29 | | |
| max. Earth dist. | 3492 Jan 16 13:10 | 25°♒40'21 | 1.71111 AU | greatest brilliancy | 3494 Jul 14 04:26 | 16°♐37'57 | -4.7m | |
| | 3492 Jan 19 23:42 | 0°♓ | | | 3494 Aug 05 09:58 | 0°♑ | | |
| | 3492 Feb 12 20:07 | 0°♈ | | morning max el | 3494 Aug 21 19:49 | 14°♑27'22 | 45°42'58 | |
| evening rise | 3492 Feb 26 17:08 | 17°♈25'35 | | | 3494 Sep 06 08:18 | 0°♒ | | |
| | 3492 Mar 07 18:00 | 0°♉ | | | 3494 Oct 03 17:15 | 0°♓ | | |
| | 3492 Mar 31 19:26 | 0°♏ | | asc. node | 3494 Oct 08 09:48 | 5°♓22'02 | | |
| asc. node | 3492 Apr 22 14:46 | 26°♏56'04 | | | 3494 Oct 29 09:52 | 0°♈ | | |
| | 3492 Apr 25 02:41 | 0°♐ | | | 3494 Nov 23 05:03 | 0°♌ | | |
| | 3492 May 19 18:05 | 0°♑ | | | 3494 Dec 17 12:19 | 0°♍ | | |
| | 3492 Jun 13 20:43 | 0°♒ | | | 3495 Jan 10 13:26 | 0°♒ | | |
| | 3492 Jul 09 16:53 | 0°♓ | | desc. node | 3495 Jan 27 23:46 | 21°♒50'46 | | |
| | 3492 Aug 05 22:06 | 0°♈ | | | 3495 Feb 03 11:45 | 0°♓ | | |
| desc. node | 3492 Aug 12 04:36 | 6°♈32'55 | | morning set | 3495 Feb 21 07:38 | 22°♓22'54 | | |
| evening max el | 3492 Aug 24 23:49 | 19°♈17'21 | 45°44'00 | | 3495 Feb 27 09:18 | 0°♈ | | |
| | 3492 Sep 05 19:31 | 0°♌ | | | 3495 Mar 23 07:44 | 0°♉ | | |
| greatest brilliancy | 3492 Oct 03 14:26 | 17°♌34'00 | -4.8m | | | | | |
| retrograde | 3492 Oct 12 19:24 | 19°♌06'05 | | superior conj | 3495 Apr 03 00:56 | 13°♉23'49 | -1°24'11 | |
| evening set | 3492 Oct 29 10:32 | 13°♌51'39 | | minimum elong | 3495 Apr 03 06:08 | 13°♉40'02 | 1°24'07 | |
| inferior conj | 3492 Nov 02 18:01 | 11°♌16'00 | -6°44'55 | max. Earth dist. | 3495 Apr 07 03:15 | 18°♉30'35 | 1.71924 AU | |
| minimum elong | 3492 Nov 03 04:16 | 11°♌00'12 | 6°42'53 | | 3495 Apr 16 08:30 | 0°♏ | | |
| min. Earth dist. | 3492 Nov 03 16:56 | 10°♌40'44 | 0.27666 AU | | 3495 May 10 12:47 | 0°♐ | | |
| morning rise | 3492 Nov 07 21:34 | 8°♌10'59 | | evening rise | 3495 May 12 11:00 | 2°♐22'50 | | |
| direct | 3492 Nov 23 20:01 | 3°♌15'50 | | asc. node | 3495 May 21 02:36 | 13°♐03'32 | | |
| asc. node | 3492 Dec 03 07:16 | 4°♌58'09 | | | 3495 Jun 03 21:09 | 0°♑ | | |
| greatest brilliancy | 3492 Dec 04 22:53 | 5°♌35'04 | -4.9m | | 3495 Jun 28 10:00 | 0°♒ | | |
| | 3493 Jan 06 22:16 | 0°♍ | | | 3495 Jul 23 04:16 | 0°♓ | | |
| morning max el | 3493 Jan 13 12:31 | 6°♍32'59 | 46°54'12 | | 3495 Aug 17 06:16 | 0°♈ | | |
| | 3493 Feb 04 07:36 | 0°♒ | | desc. node | 3495 Sep 09 16:26 | 27°♈29'46 | | |
| | 3493 Mar 02 07:01 | 0°♓ | | | 3495 Sep 11 20:18 | 0°♌ | | |
| desc. node | 3493 Mar 24 21:28 | 26°♓58'14 | | | 3495 Oct 08 06:47 | 0°♍ | | |
| | 3493 Mar 27 09:50 | 0°♈ | | | 3495 Nov 05 14:15 | 0°♒ | | |
| | 3493 Apr 21 04:00 | 0°♉ | | evening max el | 3495 Nov 06 21:23 | 1°♒17'11 | 46°45'12 | |

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| | 3495 Dec 13 04:35 | 0°♊ | | morning set | 3498 May 06 20:52 | 7°♌16'36 | |
| greatest brilliancy | 3495 Dec 17 06:22 | 1°♊42'10 | -4.9m | | 3498 May 25 06:04 | 0°♊ | |
| retrograde | 3495 Dec 27 02:12 | 3°♊31'59 | | | | | |
| asc. node | 3495 Dec 31 19:16 | 3°♊04'46 | | superior conj | 3498 Jun 13 15:31 | 23°♊54'30 | -0°09'28 |
| | 3496 Jan 09 09:45 | 30°♋ | | minimum elong | 3498 Jun 13 17:34 | 24°♊00'49 | 0°09'22 |
| evening set | 3496 Jan 10 14:51 | 29°♋22'10 | | behind sun begin | 3498 Jun 12 22:37 | 23°♊02'28 | |
| inferior conj | 3496 Jan 16 16:02 | 25°♋49'47 | 3°59'58 | behind sun end | 3498 Jun 14 12:30 | 24°♊59'09 | |
| minimum elong | 3496 Jan 16 07:38 | 26°♋02'38 | 3°57'29 | max. Earth dist. | 3498 Jun 15 02:14 | 25°♊41'25 | 1.73307 AU |
| min. Earth dist. | 3496 Jan 16 07:18 | 26°♋03'08 | 0.26543 AU | asc. node | 3498 Jun 17 14:29 | 28°♊46'51 | |
| morning rise | 3496 Jan 22 00:25 | 22°♋40'01 | | | 3498 Jun 18 14:15 | 0°♋ | |
| direct | 3496 Feb 06 01:18 | 18°♋10'54 | | | 3498 Jul 12 23:47 | 0°♋ | |
| greatest brilliancy | 3496 Feb 15 19:47 | 19°♋59'07 | -4.9m | evening rise | 3498 Jul 20 06:55 | 8°♋57'55 | |
| | 3496 Mar 04 04:01 | 0°♋ | | | 3498 Aug 06 10:15 | 0°♎ | |
| morning max el | 3496 Mar 27 07:21 | 20°♋41'41 | 46°46'03 | | 3498 Aug 30 22:04 | 0°♎ | |
| | 3496 Apr 05 09:10 | 0°♋ | | | 3498 Sep 24 12:25 | 0°♎ | |
| desc. node | 3496 Apr 21 09:17 | 17°♋17'59 | | desc. node | 3498 Oct 07 04:23 | 15°♎22'19 | |
| | 3496 May 02 16:52 | 0°♌ | | | 3498 Oct 19 06:41 | 0°♌ | |
| | 3496 May 28 16:17 | 0°♌ | | | 3498 Nov 13 06:41 | 0°♌ | |
| | 3496 Jun 23 02:05 | 0°♌ | | | 3498 Dec 08 17:01 | 0°♌ | |
| | 3496 Jul 18 04:09 | 0°♌ | | | 3499 Jan 04 04:05 | 0°♌ | |
| | 3496 Aug 11 23:49 | 0°♌ | | evening max el | 3499 Jan 18 13:08 | 15°♌14'01 | 47°13'10 |
| asc. node | 3496 Aug 12 12:10 | 0°♌37'31 | | asc. node | 3499 Jan 28 07:10 | 24°♌48'14 | |
| | 3496 Sep 05 13:09 | 0°♌ | | | 3499 Feb 02 23:59 | 0°♌ | |
| morning set | 3496 Sep 23 07:48 | 21°♌54'20 | | greatest brilliancy | 3499 Feb 28 02:39 | 16°♌46'03 | -4.9m |
| | 3496 Sep 29 20:44 | 0°♌ | | retrograde | 3499 Mar 10 10:14 | 18°♌47'31 | |
| | 3496 Oct 24 00:04 | 0°♌ | | evening set | 3499 Mar 28 09:39 | 12°♌31'19 | |
| max. Earth dist. | 3496 Oct 27 13:43 | 4°♌26'55 | 1.72127 AU | inferior conj | 3499 Mar 31 07:40 | 10°♌42'51 | 8°44'51 |
| | | | | minimum elong | 3499 Mar 31 11:47 | 10°♌36'25 | 8°44'36 |
| superior conj | 3496 Oct 30 11:45 | 8°♌05'19 | 1°07'44 | min. Earth dist. | 3499 Mar 30 21:30 | 10°♌58'44 | 0.27683 AU |
| minimum elong | 3496 Oct 30 21:26 | 8°♌35'32 | 1°07'27 | morning rise | 3499 Apr 03 14:08 | 8°♌42'08 | |
| | 3496 Nov 17 00:50 | 0°♌ | | direct | 3499 Apr 21 03:11 | 2°♌47'44 | |
| desc. node | 3496 Dec 02 02:09 | 18°♌49'58 | | greatest brilliancy | 3499 Apr 30 09:44 | 4°♌24'31 | -4.8m |
| evening rise | 3496 Dec 08 19:55 | 27°♌16'11 | | desc. node | 3499 May 19 20:58 | 15°♌34'26 | |
| | 3496 Dec 11 00:15 | 0°♌ | | | 3499 Jun 05 15:22 | 0°♌ | |
| | 3497 Jan 03 23:10 | 0°♌ | | morning max el | 3499 Jun 09 12:05 | 3°♌41'08 | 46°01'37 |
| | 3497 Jan 27 22:44 | 0°♌ | | | 3499 Jul 04 23:24 | 0°♌ | |
| | 3497 Feb 21 01:17 | 0°♌ | | | 3499 Jul 31 20:42 | 0°♌ | |
| | 3497 Mar 17 10:43 | 0°♌ | | | 3499 Aug 26 16:16 | 0°♌ | |
| asc. node | 3497 Mar 25 04:51 | 9°♌25'17 | | asc. node | 3499 Sep 09 23:54 | 17°♌00'44 | |
| | 3497 Apr 11 08:44 | 0°♌ | | | 3499 Sep 20 19:12 | 0°♌ | |
| | 3497 May 07 04:51 | 0°♌ | | | 3499 Oct 15 09:47 | 0°♌ | |
| | 3497 Jun 03 22:17 | 0°♌ | | | 3499 Nov 08 15:40 | 0°♌ | |
| evening max el | 3497 Jun 12 04:12 | 8°♌11'38 | 45°32'12 | | 3499 Dec 02 16:13 | 0°♌ | |
| | 3497 Jul 08 09:24 | 0°♌ | | morning set | 3499 Dec 04 08:29 | 2°♌06'07 | |
| desc. node | 3497 Jul 14 18:53 | 3°♌43'22 | | desc. node | 3499 Dec 26 13:58 | 0°♌ | |
| greatest brilliancy | 3497 Jul 20 07:22 | 6°♌09'21 | -4.7m | | 3499 Dec 30 14:00 | 5°♌01'46 | |
| retrograde | 3497 Jul 30 22:54 | 8°♌11'58 | | | | | |
| evening set | 3497 Aug 16 16:31 | 2°♌53'03 | | superior conj | 3500 Jan 13 23:09 | 23°♌06'53 | -0°33'45 |
| inferior conj | 3497 Aug 21 10:50 | 29°♌59'03 | -7°23'31 | minimum elong | 3500 Jan 13 14:45 | 22°♌40'28 | 0°33'21 |
| minimum elong | 3497 Aug 21 02:00 | 0°♌12'50 | 7°22'11 | max. Earth dist. | 3500 Jan 13 19:35 | 22°♌55'38 | 1.71118 AU |
| | 3497 Aug 21 10:14 | 30°♌ | | | 3500 Jan 19 10:30 | 0°♌ | |
| min. Earth dist. | 3497 Aug 21 10:35 | 29°♌59'27 | 0.29062 AU | | 3500 Feb 12 06:57 | 0°♌ | |
| morning rise | 3497 Aug 25 11:23 | 27°♌30'42 | | evening rise | 3500 Feb 24 03:36 | 14°♌53'42 | |
| direct | 3497 Sep 12 01:21 | 21°♌40'48 | | | 3500 Mar 08 04:54 | 0°♌ | |
| greatest brilliancy | 3497 Sep 22 16:15 | 23°♌43'18 | -4.8m | | 3500 Apr 01 06:26 | 0°♌ | |
| | 3497 Oct 04 17:29 | 0°♌ | | asc. node | 3500 Apr 22 16:46 | 26°♌27'48 | |
| morning max el | 3497 Oct 31 14:50 | 22°♌45'05 | 46°12'49 | | 3500 Apr 25 13:55 | 0°♌ | |
| asc. node | 3497 Nov 04 21:33 | 27°♌02'02 | | | 3500 May 20 05:42 | 0°♌ | |
| | 3497 Nov 07 18:59 | 0°♌ | | | 3500 Jun 14 09:06 | 0°♌ | |
| | 3497 Dec 05 02:05 | 0°♌ | | | 3500 Jul 10 06:50 | 0°♌ | |
| | 3497 Dec 30 12:46 | 0°♌ | | | 3500 Aug 06 15:39 | 0°♌ | |
| | 3498 Jan 24 04:42 | 0°♌ | | desc. node | 3500 Aug 12 06:36 | 5°♌49'27 | |
| | 3498 Feb 17 12:13 | 0°♌ | | evening max el | 3500 Aug 23 13:42 | 17°♌01'00 | 45°42'21 |
| desc. node | 3498 Feb 24 11:37 | 8°♌38'50 | | | 3500 Sep 07 02:44 | 0°♌ | |
| | 3498 Mar 13 16:15 | 0°♌ | | greatest brilliancy | 3500 Oct 02 04:12 | 15°♌16'29 | -4.8m |
| | 3498 Apr 06 19:32 | 0°♌ | | retrograde | 3500 Oct 11 08:17 | 16°♌47'52 | |
| | 3498 Apr 30 23:50 | 0°♌ | | evening set | 3500 Oct 28 03:26 | 11°♌28'54 | |

| | | | | | | | | |
|---------------------|-------------------|-----------|------------|---------------------|--|-------------------|-----------|------------|
| inferior conj | 3500 Nov 01 08:01 | 8°♌57'12 | -6°58'28 | | | 3503 May 10 23:32 | 0°♐ | |
| minimum elong | 3500 Nov 01 18:05 | 8°♌41'41 | 6°56'35 | evening rise | | 3503 May 11 01:48 | 0°♐07'01 | |
| min. Earth dist. | 3500 Nov 02 07:13 | 8°♌21'26 | 0.27732 AU | asc. node | | 3503 May 21 04:44 | 12°♐36'50 | |
| morning rise | 3500 Nov 06 08:15 | 5°♌56'24 | | | | 3503 Jun 04 08:00 | 0°♑ | |
| direct | 3500 Nov 22 10:23 | 0°♌56'05 | | | | 3503 Jun 28 21:05 | 0°♑ | |
| asc. node | 3500 Dec 03 09:22 | 3°♌10'46 | | | | 3503 Jul 23 15:48 | 0°♒ | |
| greatest brilliancy | 3500 Dec 03 13:55 | 3°♌15'15 | -4.9m | | | 3503 Aug 17 18:36 | 0°♒ | |
| | 3501 Jan 07 22:38 | 0°♑ | | desc. node | | 3503 Sep 09 18:24 | 26°♒56'15 | |
| morning max el | 3501 Jan 12 01:33 | 4°♑07'57 | 46°53'31 | | | 3503 Sep 12 10:00 | 0°♒ | |
| | 3501 Feb 05 00:15 | 0°♑ | | | | 3503 Oct 08 23:11 | 0°♑ | |
| | 3501 Mar 02 21:00 | 0°♒ | | evening max el | | 3503 Nov 05 10:13 | 28°♑52'37 | 46°43'08 |
| desc. node | 3501 Mar 24 23:26 | 26°♒25'45 | | | | 3503 Nov 06 13:41 | 0°♑ | |
| | 3501 Mar 27 22:29 | 0°♒ | | greatest brilliancy | | 3503 Dec 15 19:07 | 29°♑13'40 | -4.9m |
| | 3501 Apr 21 15:52 | 0°♑ | | | | 3503 Dec 18 05:29 | 0°♒ | |
| | 3501 May 16 06:11 | 0°♒ | | retrograde | | 3503 Dec 25 14:43 | 1°♒03'22 | |
| | 3501 Jun 09 19:36 | 0°♐ | | asc. node | | 3503 Dec 31 21:21 | 0°♒14'46 | |
| | 3501 Jul 04 08:26 | 0°♑ | | | | 3504 Jan 01 18:46 | 30°♒♑ | |
| morning set | 3501 Jul 15 22:17 | 14°♑10'49 | | evening set | | 3504 Jan 09 01:28 | 26°♑55'26 | |
| asc. node | 3501 Jul 16 02:21 | 14°♑23'17 | | inferior conj | | 3504 Jan 15 04:15 | 23°♑21'21 | 3°37'31 |
| | 3501 Jul 28 19:50 | 0°♑ | | minimum elong | | 3504 Jan 14 20:29 | 23°♑33'11 | 3°35'11 |
| max. Earth dist. | 3501 Aug 19 05:59 | 26°♑21'09 | 1.73359 AU | min. Earth dist. | | 3504 Jan 14 20:41 | 23°♑32'53 | 0.26534 AU |
| | | | | morning rise | | 3504 Jan 20 15:28 | 20°♑08'05 | |
| superior conj | 3501 Aug 21 10:26 | 29°♑02'43 | 1°12'32 | direct | | 3504 Feb 04 13:36 | 15°♑42'09 | |
| minimum elong | 3501 Aug 21 02:27 | 28°♑38'09 | 1°12'20 | greatest brilliancy | | 3504 Feb 14 09:38 | 17°♑32'11 | -4.9m |
| | 3501 Aug 22 05:01 | 0°♒ | | | | 3504 Mar 05 20:14 | 0°♒ | |
| | 3501 Sep 15 12:07 | 0°♑ | | morning max el | | 3504 Mar 25 21:19 | 18°♒18'57 | 46°47'30 |
| evening rise | 3501 Sep 26 15:06 | 13°♑45'29 | | | | 3504 Apr 06 04:58 | 0°♒ | |
| | 3501 Oct 09 18:02 | 0°♌ | | desc. node | | 3504 Apr 21 11:21 | 16°♒37'30 | |
| | 3501 Nov 02 23:48 | 0°♑ | | | | 3504 May 03 08:05 | 0°♑ | |
| desc. node | 3501 Nov 04 16:17 | 2°♑05'16 | | | | 3504 May 29 05:29 | 0°♒ | |
| | 3501 Nov 27 06:00 | 0°♑ | | | | 3504 Jun 23 14:11 | 0°♐ | |
| | 3501 Dec 21 13:27 | 0°♒ | | | | 3504 Jul 18 15:36 | 0°♑ | |
| | 3502 Jan 15 00:39 | 0°♒ | | | | 3504 Aug 12 10:53 | 0°♑ | |
| | 3502 Feb 08 21:43 | 0°♑ | | asc. node | | 3504 Aug 12 14:05 | 0°♑09'43 | |
| asc. node | 3502 Feb 25 18:54 | 19°♑47'24 | | | | 3504 Sep 06 00:02 | 0°♒ | |
| | 3502 Mar 06 17:51 | 0°♒ | | morning set | | 3504 Sep 22 00:48 | 19°♒45'08 | |
| evening max el | 3502 Apr 01 05:43 | 27°♒15'26 | 46°24'52 | | | 3504 Sep 30 07:33 | 0°♑ | |
| | 3502 Apr 04 00:25 | 0°♐ | | | | 3504 Oct 24 10:54 | 0°♌ | |
| greatest brilliancy | 3502 May 10 04:26 | 26°♐53'09 | -4.8m | max. Earth dist. | | 3504 Oct 26 06:19 | 2°♌15'15 | 1.72175 AU |
| retrograde | 3502 May 21 00:57 | 29°♐03'27 | | | | | | |
| evening set | 3502 Jun 05 07:11 | 24°♐31'35 | | superior conj | | 3504 Oct 29 02:49 | 5°♌48'45 | 1°09'48 |
| inferior conj | 3502 Jun 11 10:00 | 20°♐49'49 | 1°25'27 | minimum elong | | 3504 Oct 29 12:12 | 6°♌18'03 | 1°09'32 |
| minimum elong | 3502 Jun 11 13:08 | 20°♐44'53 | 1°24'30 | | | 3504 Nov 17 11:45 | 0°♑ | |
| min. Earth dist. | 3502 Jun 11 06:37 | 20°♐55'09 | 0.28601 AU | desc. node | | 3504 Dec 02 04:15 | 18°♑22'01 | |
| desc. node | 3502 Jun 17 08:55 | 17°♐13'51 | | evening rise | | 3504 Dec 07 08:07 | 24°♑49'35 | |
| morning rise | 3502 Jun 17 19:26 | 16°♐59'22 | | | | 3504 Dec 11 11:20 | 0°♑ | |
| direct | 3502 Jul 02 19:17 | 12°♐39'15 | | | | 3505 Jan 04 10:26 | 0°♒ | |
| greatest brilliancy | 3502 Jul 12 20:34 | 14°♐28'12 | -4.7m | | | 3505 Jan 28 10:13 | 0°♒ | |
| | 3502 Aug 06 17:49 | 0°♑ | | | | 3505 Feb 21 13:03 | 0°♑ | |
| morning max el | 3502 Aug 20 10:40 | 12°♑15'08 | 45°42'46 | | | 3505 Mar 17 22:54 | 0°♒ | |
| | 3502 Sep 07 01:48 | 0°♑ | | asc. node | | 3505 Mar 25 06:53 | 8°♒53'59 | |
| | 3502 Oct 04 07:13 | 0°♒ | | | | 3505 Apr 11 21:44 | 0°♐ | |
| asc. node | 3502 Oct 08 11:52 | 4°♒48'42 | | | | 3505 May 07 19:39 | 0°♑ | |
| | 3502 Oct 29 22:23 | 0°♑ | | | | 3505 Jun 04 17:51 | 0°♑ | |
| | 3502 Nov 23 16:52 | 0°♌ | | evening max el | | 3505 Jun 10 20:51 | 6°♑02'57 | 45°33'09 |
| | 3502 Dec 17 23:47 | 0°♑ | | | | 3505 Jul 10 13:36 | 0°♒ | |
| | 3503 Jan 11 00:40 | 0°♑ | | desc. node | | 3505 Jul 14 20:49 | 2°♒16'20 | |
| desc. node | 3503 Jan 28 01:46 | 21°♑22'12 | | greatest brilliancy | | 3505 Jul 18 21:55 | 3°♒59'03 | -4.7m |
| | 3503 Feb 03 22:48 | 0°♒ | | retrograde | | 3505 Jul 29 15:33 | 6°♒03'08 | |
| morning set | 3503 Feb 19 17:40 | 19°♒49'17 | | evening set | | 3505 Aug 15 05:44 | 0°♒48'30 | |
| | 3503 Feb 27 20:14 | 0°♒ | | | | 3505 Aug 16 14:37 | 30°♒♑ | |
| | 3503 Mar 23 18:33 | 0°♑ | | inferior conj | | 3505 Aug 20 03:09 | 27°♑49'42 | -7°12'59 |
| | | | | minimum elong | | 3505 Aug 19 18:02 | 28°♑03'57 | 7°11'32 |
| superior conj | 3503 Apr 01 13:34 | 10°♑59'44 | -1°25'00 | min. Earth dist. | | 3505 Aug 20 01:39 | 27°♑52'02 | 0.29071 AU |
| minimum elong | 3503 Apr 01 17:53 | 11°♑13'12 | 1°24'57 | morning rise | | 3505 Aug 24 06:18 | 25°♑17'34 | |
| max. Earth dist. | 3503 Apr 05 13:16 | 15°♑58'30 | 1.71869 AU | direct | | 3505 Sep 10 18:24 | 19°♑31'34 | |
| | 3503 Apr 16 19:16 | 0°♒ | | greatest brilliancy | | 3505 Sep 21 07:14 | 21°♑32'29 | -4.8m |

| | | | | | | | |
|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3505 Oct 06 13:51 | 0°♍ | | asc. node | 3508 Apr 21 18:54 | 25°♌58'48 | |
| morning max el | 3505 Oct 30 06:57 | 20°♍32'44 | 46°11'09 | | 3508 Apr 25 01:32 | 0°♊ | |
| asc. node | 3505 Nov 04 23:40 | 26°♍15'53 | | | 3508 May 19 17:44 | 0°♌ | |
| | 3505 Nov 08 14:19 | 0°♌ | | | 3508 Jun 13 21:55 | 0°♍ | |
| | 3505 Dec 05 17:03 | 0°♎ | | | 3508 Jul 09 21:15 | 0°♍ | |
| | 3505 Dec 31 02:03 | 0°♎ | | | 3508 Aug 06 09:55 | 0°♌ | |
| | 3506 Jan 24 17:07 | 0°♎ | | desc. node | 3508 Aug 11 08:37 | 5°♌04'47 | |
| | 3506 Feb 18 00:08 | 0°♎ | | evening max el | 3508 Aug 21 02:59 | 14°♌42'47 | 45°40'54 |
| desc. node | 3506 Feb 24 13:33 | 8°♎08'13 | | | 3508 Sep 07 12:52 | 0°♎ | |
| | 3506 Mar 14 03:50 | 0°♎ | | greatest brilliancy | 3508 Sep 29 18:05 | 12°♎59'03 | -4.8m |
| | 3506 Apr 07 06:51 | 0°♎ | | retrograde | 3508 Oct 08 21:23 | 14°♎30'05 | |
| | 3506 May 01 10:55 | 0°♎ | | evening set | 3508 Oct 25 20:30 | 9°♎06'17 | |
| morning set | 3506 May 05 11:56 | 5°♎00'27 | | inferior conj | 3508 Oct 29 22:19 | 6°♎38'36 | -7°11'04 |
| | 3506 May 25 16:59 | 0°♊ | | minimum elong | 3508 Oct 30 08:07 | 6°♎23'28 | 7°09'19 |
| | | | | min. Earth dist. | 3508 Oct 30 21:50 | 6°♎02'19 | 0.27803 AU |
| superior conj | 3506 Jun 12 08:22 | 21°♊45'12 | -0°12'45 | morning rise | 3508 Nov 03 19:15 | 3°♎42'13 | |
| minimum elong | 3506 Jun 12 11:08 | 21°♊53'41 | 0°12'36 | | 3508 Nov 11 17:32 | 30°♎ | |
| behind sun begin | 3506 Jun 11 20:47 | 21°♊09'30 | | direct | 3508 Nov 20 00:44 | 28°♎36'14 | |
| behind sun end | 3506 Jun 13 01:28 | 22°♊37'53 | | | 3508 Nov 28 14:50 | 0°♎ | |
| max. Earth dist. | 3506 Jun 14 00:42 | 23°♊49'25 | 1.73273 AU | greatest brilliancy | 3508 Dec 01 05:42 | 0°♎56'05 | -4.9m |
| asc. node | 3506 Jun 17 16:33 | 28°♊19'53 | | asc. node | 3508 Dec 02 11:26 | 1°♎27'00 | |
| | 3506 Jun 19 01:04 | 0°♌ | | | 3509 Jan 07 22:20 | 0°♎ | |
| | 3506 Jul 13 10:37 | 0°♌ | | morning max el | 3509 Jan 09 15:02 | 1°♎42'51 | 46°52'36 |
| evening rise | 3506 Jul 19 01:42 | 6°♌54'53 | | | 3509 Feb 04 17:03 | 0°♎ | |
| | 3506 Aug 06 21:12 | 0°♌ | | | 3509 Mar 02 11:18 | 0°♎ | |
| | 3506 Aug 31 09:18 | 0°♌ | | desc. node | 3509 Mar 24 01:35 | 25°♎52'36 | |
| | 3506 Sep 25 00:07 | 0°♌ | | | 3509 Mar 27 11:30 | 0°♎ | |
| desc. node | 3506 Oct 07 06:26 | 14°♌52'06 | | | 3509 Apr 21 04:06 | 0°♎ | |
| | 3506 Oct 19 19:05 | 0°♎ | | | 3509 May 15 17:53 | 0°♎ | |
| | 3506 Nov 13 20:07 | 0°♎ | | | 3509 Jun 09 06:57 | 0°♊ | |
| | 3506 Dec 09 08:11 | 0°♎ | | | 3509 Jul 03 19:31 | 0°♌ | |
| | 3507 Jan 04 22:57 | 0°♎ | | morning set | 3509 Jul 13 15:59 | 12°♌04'15 | |
| evening max el | 3507 Jan 17 04:14 | 12°♎52'42 | 47°13'31 | asc. node | 3509 Jul 15 04:17 | 13°♌55'29 | |
| asc. node | 3507 Jan 28 09:06 | 23°♎48'02 | | | 3509 Jul 28 06:45 | 0°♌ | |
| | 3507 Feb 04 08:45 | 0°♎ | | max. Earth dist. | 3509 Aug 17 01:25 | 24°♌19'40 | 1.73381 AU |
| greatest brilliancy | 3507 Feb 26 17:13 | 14°♎23'29 | -4.9m | | | | |
| retrograde | 3507 Mar 09 00:44 | 16°♎24'31 | | superior conj | 3509 Aug 19 04:49 | 26°♌58'00 | 1°10'50 |
| evening set | 3507 Mar 27 00:58 | 10°♎07'10 | | minimum elong | 3509 Aug 18 20:34 | 26°♌32'33 | 1°10'37 |
| inferior conj | 3507 Mar 29 21:39 | 8°♎20'34 | 8°49'17 | | 3509 Aug 21 15:53 | 0°♎ | |
| minimum elong | 3507 Mar 30 00:57 | 8°♎15'24 | 8°49'08 | | 3509 Sep 14 23:02 | 0°♌ | |
| min. Earth dist. | 3507 Mar 29 10:36 | 8°♎37'50 | 0.27639 AU | evening rise | 3509 Sep 24 08:22 | 11°♌36'30 | |
| morning rise | 3507 Apr 02 01:08 | 6°♎24'14 | | | 3509 Oct 09 05:08 | 0°♎ | |
| direct | 3507 Apr 19 17:11 | 0°♎26'29 | | | 3509 Nov 02 11:10 | 0°♎ | |
| greatest brilliancy | 3507 Apr 28 22:05 | 2°♎02'00 | -4.8m | desc. node | 3509 Nov 03 18:25 | 1°♎36'38 | |
| desc. node | 3507 May 19 23:06 | 14°♎24'32 | | | 3509 Nov 26 17:43 | 0°♎ | |
| | 3507 Jun 06 15:45 | 0°♎ | | | 3509 Dec 21 01:40 | 0°♎ | |
| morning max el | 3507 Jun 08 02:05 | 1°♎22'45 | 46°03'02 | | 3510 Jan 14 13:34 | 0°♎ | |
| | 3507 Jul 05 15:54 | 0°♊ | | | 3510 Feb 08 11:48 | 0°♎ | |
| | 3507 Aug 01 10:26 | 0°♌ | | asc. node | 3510 Feb 24 20:58 | 19°♎09'06 | |
| | 3507 Aug 27 04:40 | 0°♌ | | | 3510 Mar 06 10:20 | 0°♎ | |
| asc. node | 3507 Sep 10 02:01 | 16°♌31'23 | | evening max el | 3510 Mar 29 19:29 | 24°♎55'00 | 46°27'11 |
| | 3507 Sep 21 06:54 | 0°♎ | | | 3510 Apr 04 00:09 | 0°♊ | |
| | 3507 Oct 15 21:07 | 0°♌ | | greatest brilliancy | 3510 May 07 21:10 | 24°♊40'53 | -4.8m |
| | 3507 Nov 09 02:51 | 0°♎ | | retrograde | 3510 May 18 17:02 | 26°♊51'06 | |
| morning set | 3507 Dec 02 21:32 | 29°♎41'44 | | evening set | 3510 Jun 03 00:34 | 22°♊16'53 | |
| | 3507 Dec 03 03:23 | 0°♎ | | inferior conj | 3510 Jun 09 01:53 | 18°♊37'33 | 1°45'44 |
| | 3507 Dec 27 01:09 | 0°♎ | | minimum elong | 3510 Jun 09 05:44 | 18°♊31'30 | 1°44'35 |
| desc. node | 3507 Dec 30 15:59 | 4°♎32'51 | | min. Earth dist. | 3510 Jun 08 22:59 | 18°♊42'06 | 0.28575 AU |
| | | | | morning rise | 3510 Jun 15 11:12 | 14°♊47'20 | |
| superior conj | 3508 Jan 12 09:22 | 20°♎32'54 | -0°30'02 | desc. node | 3510 Jun 16 10:53 | 14°♊15'43 | |
| minimum elong | 3508 Jan 12 01:47 | 20°♎09'04 | 0°29'40 | direct | 3510 Jun 30 10:13 | 10°♊27'07 | |
| max. Earth dist. | 3508 Jan 11 22:46 | 19°♎59'34 | 1.71128 AU | greatest brilliancy | 3510 Jul 10 12:25 | 12°♊16'49 | -4.7m |
| | 3508 Jan 19 21:42 | 0°♎ | | | 3510 Aug 06 23:51 | 0°♌ | |
| | 3508 Feb 12 18:10 | 0°♎ | | morning max el | 3510 Aug 18 02:18 | 10°♌03'47 | 45°42'46 |
| evening rise | 3508 Feb 22 13:44 | 12°♎19'38 | | | 3510 Sep 06 19:14 | 0°♌ | |
| | 3508 Mar 07 16:09 | 0°♎ | | | 3510 Oct 03 21:17 | 0°♎ | |
| | 3508 Mar 31 17:49 | 0°♎ | | asc. node | 3510 Oct 07 13:56 | 4°♎14'59 | |






























































































































| | | | | | | | |
|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3510 Oct 29 11:01 | 0°♊ | | | 3513 Jul 12 07:07 | 0°♎ | |
| | 3510 Nov 23 04:48 | 0°♍ | | desc. node | 3513 Jul 13 22:49 | 0°♎45'51 | |
| | 3510 Dec 17 11:21 | 0°♏ | | greatest brilliancy | 3513 Jul 16 13:05 | 1°♎48'49 | -4.7m |
| | 3511 Jan 10 12:02 | 0°♐ | | retrograde | 3513 Jul 27 07:43 | 3°♎53'25 | |
| desc. node | 3511 Jan 27 03:45 | 20°♐52'59 | | | 3513 Aug 10 11:15 | 30°♎♊ | |
| | 3511 Feb 03 10:04 | 0°♑ | | evening set | 3513 Aug 12 18:49 | 28°♊43'22 | |
| morning set | 3511 Feb 17 03:27 | 17°♑14'03 | | inferior conj | 3513 Aug 17 19:16 | 25°♊39'47 | -7°01'46 |
| | 3511 Feb 27 07:26 | 0°♒ | | minimum elong | 3513 Aug 17 09:54 | 25°♊54'27 | 7°00'12 |
| | 3511 Mar 23 05:41 | 0°♓ | | min. Earth dist. | 3513 Aug 17 16:51 | 25°♊43'34 | 0.29074 AU |
| | | | | morning rise | 3513 Aug 22 00:59 | 23°♊03'40 | |
| superior conj | 3511 Mar 30 01:35 | 8°♓32'39 | -1°25'39 | direct | 3513 Sep 08 11:04 | 17°♊21'56 | |
| minimum elong | 3511 Mar 30 04:58 | 8°♓43'13 | 1°25'38 | greatest brilliancy | 3513 Sep 18 21:55 | 19°♊20'58 | -4.8m |
| max. Earth dist. | 3511 Apr 02 21:19 | 13°♓19'12 | 1.71818 AU | | 3513 Oct 07 05:03 | 0°♎ | |
| | 3511 Apr 16 06:20 | 0°♈ | | morning max el | 3513 Oct 27 22:07 | 18°♎18'15 | 46°09'33 |
| evening rise | 3511 May 08 15:58 | 27°♈48'18 | | asc. node | 3513 Nov 04 01:41 | 25°♎30'19 | |
| | 3511 May 10 10:35 | 0°♉ | | | 3513 Nov 08 09:04 | 0°♊ | |
| asc. node | 3511 May 20 06:43 | 12°♉08'48 | | | 3513 Dec 05 07:44 | 0°♍ | |
| | 3511 Jun 03 19:08 | 0°♌ | | | 3513 Dec 30 15:04 | 0°♏ | |
| | 3511 Jun 28 08:27 | 0°♍ | | | 3514 Jan 24 05:18 | 0°♐ | |
| | 3511 Jul 23 03:38 | 0°♎ | | | 3514 Feb 17 11:48 | 0°♑ | |
| | 3511 Aug 17 07:13 | 0°♏ | | desc. node | 3514 Feb 23 15:43 | 7°♑39'02 | |
| desc. node | 3511 Sep 08 20:32 | 26°♏22'29 | | | 3514 Mar 13 15:09 | 0°♒ | |
| | 3511 Sep 12 00:01 | 0°♐ | | | 3514 Apr 06 17:54 | 0°♓ | |
| | 3511 Oct 08 16:00 | 0°♑ | | morning set | 3514 Apr 30 21:46 | 0°♈ | |
| evening max el | 3511 Nov 03 00:06 | 26°♑30'54 | 46°41'12 | | 3514 May 03 02:55 | 2°♈44'38 | |
| | 3511 Nov 06 14:11 | 0°♒ | | | 3514 May 25 03:43 | 0°♉ | |
| greatest brilliancy | 3511 Dec 13 07:34 | 26°♒45'28 | -4.9m | | | | |
| retrograde | 3511 Dec 23 03:44 | 28°♒35'17 | | superior conj | 3514 Jun 10 00:54 | 19°♒35'20 | -0°16'02 |
| asc. node | 3511 Dec 30 23:14 | 27°♒19'51 | | minimum elong | 3514 Jun 10 04:22 | 19°♒46'00 | 0°15'52 |
| evening set | 3512 Jan 06 12:34 | 24°♒29'03 | | behind sun begin | 3514 Jun 10 02:47 | 19°♒41'08 | |
| inferior conj | 3512 Jan 12 16:36 | 20°♒53'22 | 3°14'43 | behind sun end | 3514 Jun 10 05:57 | 19°♒50'52 | |
| minimum elong | 3512 Jan 12 09:31 | 21°♒04'08 | 3°12'34 | max. Earth dist. | 3514 Jun 11 22:07 | 21°♒54'34 | 1.73242 AU |
| min. Earth dist. | 3512 Jan 12 09:55 | 21°♒03'32 | 0.26531 AU | asc. node | 3514 Jun 16 18:30 | 27°♒52'58 | |
| morning rise | 3512 Jan 18 06:31 | 17°♒36'51 | | | 3514 Jun 18 11:46 | 0°♌ | |
| direct | 3512 Feb 02 02:37 | 13°♒14'04 | | | 3514 Jul 12 21:20 | 0°♍ | |
| greatest brilliancy | 3512 Feb 11 23:08 | 15°♒05'06 | -4.9m | evening rise | 3514 Jul 16 19:58 | 4°♍50'38 | |
| | 3512 Mar 06 08:22 | 0°♎ | | | 3514 Aug 06 08:02 | 0°♎ | |
| morning max el | 3512 Mar 23 11:44 | 15°♎57'06 | 46°48'31 | | 3514 Aug 30 20:24 | 0°♏ | |
| | 3512 Apr 06 00:20 | 0°♏ | | desc. node | 3514 Sep 24 11:41 | 0°♐ | |
| desc. node | 3512 Apr 20 13:25 | 15°♏56'56 | | | 3514 Oct 06 08:30 | 14°♐22'27 | |
| | 3512 May 02 23:17 | 0°♑ | | | 3514 Oct 19 07:21 | 0°♑ | |
| | 3512 May 28 18:48 | 0°♒ | | | 3514 Nov 13 09:28 | 0°♒ | |
| | 3512 Jun 23 02:25 | 0°♓ | | | 3514 Dec 08 23:19 | 0°♓ | |
| | 3512 Jul 18 03:10 | 0°♈ | | evening max el | 3515 Jan 04 18:01 | 0°♈ | |
| asc. node | 3512 Aug 11 16:10 | 29°♈42'06 | | | 3515 Jan 14 18:38 | 10°♈30'26 | 47°13'54 |
| | 3512 Aug 11 22:03 | 0°♉ | | asc. node | 3515 Jan 27 11:14 | 22°♈48'01 | |
| | 3512 Sep 05 10:59 | 0°♊ | | | 3515 Feb 04 19:58 | 0°♉ | |
| morning set | 3512 Sep 19 17:39 | 17°♊35'22 | | greatest brilliancy | 3515 Feb 24 08:29 | 12°♉02'56 | -4.9m |
| | 3512 Sep 29 18:25 | 0°♋ | | retrograde | 3515 Mar 06 14:58 | 14°♉02'56 | |
| | 3512 Oct 23 21:47 | 0°♌ | | evening set | 3515 Mar 24 16:00 | 7°♉45'15 | |
| max. Earth dist. | 3512 Oct 23 20:49 | 29°♋56'59 | 1.72218 AU | inferior conj | 3515 Mar 27 11:47 | 5°♉59'55 | 8°52'45 |
| | | | | minimum elong | 3515 Mar 27 14:14 | 5°♉56'06 | 8°52'40 |
| superior conj | 3512 Oct 26 18:02 | 3°♌32'40 | 1°11'45 | min. Earth dist. | 3515 Mar 27 00:08 | 6°♉18'09 | 0.27592 AU |
| minimum elong | 3512 Oct 27 03:05 | 4°♌00'50 | 1°11'30 | morning rise | 3515 Mar 30 12:38 | 4°♉07'24 | |
| | 3512 Nov 16 22:42 | 0°♏ | | | 3515 Apr 07 14:40 | 30°♒♈ | |
| desc. node | 3512 Dec 01 06:12 | 17°♏53'41 | | direct | 3515 Apr 17 06:40 | 28°♒06'50 | |
| evening rise | 3512 Dec 04 20:36 | 22°♏23'56 | | greatest brilliancy | 3515 Apr 26 11:00 | 29°♒41'30 | -4.8m |
| | 3512 Dec 10 22:23 | 0°♐ | | | 3515 Apr 27 08:26 | 0°♓ | |
| | 3513 Jan 03 21:38 | 0°♑ | | desc. node | 3515 May 19 01:04 | 13°♓17'41 | |
| | 3513 Jan 27 21:36 | 0°♒ | | morning max el | 3515 Jun 05 15:24 | 29°♓03'42 | 46°04'19 |
| | 3513 Feb 21 00:43 | 0°♓ | | | 3515 Jun 06 14:33 | 0°♈ | |
| | 3513 Mar 17 11:04 | 0°♈ | | | 3515 Jul 05 07:45 | 0°♉ | |
| asc. node | 3513 Mar 24 08:58 | 8°♈22'51 | | | 3515 Jul 31 23:47 | 0°♊ | |
| | 3513 Apr 11 10:50 | 0°♉ | | | 3515 Aug 26 16:46 | 0°♋ | |
| | 3513 May 07 10:42 | 0°♊ | | asc. node | 3515 Sep 09 04:06 | 16°♋02'41 | |
| | 3513 Jun 04 14:12 | 0°♋ | | | 3515 Sep 20 18:19 | 0°♌ | |
| evening max el | 3513 Jun 08 13:25 | 3°♋53'33 | 45°34'06 | | 3515 Oct 15 08:10 | 0°♍ | |

| | | | | | | | |
|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3515 Nov 08 13:44 | 0°♌ | | retrograde | 3518 May 16 09:41 | 24°♊40'24 | |
| morning set | 3515 Nov 30 10:31 | 27°♌18'06 | | evening set | 3518 May 31 18:14 | 20°♊03'37 | |
| | 3515 Dec 02 14:13 | 0°♏ | | inferior conj | 3518 Jun 06 17:53 | 16°♊26'50 | 2°05'44 |
| | 3515 Dec 26 12:01 | 0°♎ | | minimum elong | 3518 Jun 06 22:26 | 16°♊19'42 | 2°04'25 |
| desc. node | 3515 Dec 29 17:58 | 4°♎04'58 | | min. Earth dist. | 3518 Jun 06 15:07 | 16°♊31'10 | 0.28548 AU |
| max. Earth dist. | 3516 Jan 09 01:41 | 17°♎03'41 | 1.71141 AU | morning rise | 3518 Jun 13 02:57 | 12°♊37'20 | |
| | | | | desc. node | 3518 Jun 15 12:51 | 11°♊22'51 | |
| superior conj | 3516 Jan 09 19:38 | 18°♎00'08 | -0°26'15 | direct | 3518 Jun 28 01:38 | 8°♊16'41 | |
| minimum elong | 3516 Jan 09 12:56 | 17°♎39'04 | 0°25'56 | greatest brilliancy | 3518 Jul 08 03:47 | 10°♊06'41 | -4.7m |
| | 3516 Jan 19 08:34 | 0°♏ | | | 3518 Aug 07 03:13 | 0°♏ | |
| | 3516 Feb 12 05:03 | 0°♏ | | morning max el | 3518 Aug 15 18:48 | 7°♏56'10 | 45°42'39 |
| | 3516 Feb 20 00:02 | 9°♏47'04 | | | 3518 Sep 06 11:48 | 0°♏ | |
| evening rise | 3516 Mar 07 03:04 | 0°♏ | | | 3518 Oct 03 10:49 | 0°♏ | |
| | 3516 Mar 31 04:49 | 0°♏ | | asc. node | 3518 Oct 06 15:55 | 3°♏42'17 | |
| | 3516 Apr 20 20:52 | 25°♏30'39 | | | 3518 Oct 28 23:17 | 0°♏ | |
| | 3516 Apr 24 12:43 | 0°♏ | | | 3518 Nov 22 16:27 | 0°♏ | |
| asc. node | 3516 May 19 05:20 | 0°♏ | | | 3518 Dec 16 22:39 | 0°♏ | |
| | 3516 Jun 13 10:23 | 0°♏ | | | 3519 Jan 09 23:07 | 0°♎ | |
| | 3516 Jul 09 11:27 | 0°♏ | | desc. node | 3519 Jan 26 05:54 | 20°♎25'12 | |
| | 3516 Aug 06 04:19 | 0°♏ | | | 3519 Feb 02 21:01 | 0°♏ | |
| desc. node | 3516 Aug 10 10:44 | 4°♏20'36 | | morning set | 3519 Feb 14 13:08 | 14°♏39'28 | |
| evening max el | 3516 Aug 18 16:06 | 12°♏25'00 | 45°39'26 | | 3519 Feb 26 18:17 | 0°♏ | |
| | 3516 Sep 08 02:08 | 0°♌ | | | 3519 Mar 22 16:28 | 0°♏ | |
| | 3516 Sep 27 07:29 | 10°♌41'43 | -4.8m | | | | |
| | 3516 Oct 06 10:46 | 12°♌13'05 | | superior conj | 3519 Mar 27 13:27 | 6°♏05'59 | -1°26'09 |
| evening set | 3516 Oct 23 13:21 | 6°♌44'15 | | minimum elong | 3519 Mar 27 15:52 | 6°♏13'34 | 1°26'08 |
| inferior conj | 3516 Oct 27 12:31 | 4°♌20'37 | -7°22'46 | max. Earth dist. | 3519 Mar 31 06:49 | 10°♏45'21 | 1.71770 AU |
| minimum elong | 3516 Oct 27 21:59 | 4°♌06'00 | 7°21'13 | | 3519 Apr 15 17:04 | 0°♏ | |
| min. Earth dist. | 3516 Oct 28 12:13 | 3°♌44'04 | 0.27875 AU | evening rise | 3519 May 06 06:10 | 25°♏30'36 | |
| morning rise | 3516 Nov 01 06:06 | 1°♌28'58 | | | 3519 May 09 21:18 | 0°♏ | |
| | 3516 Nov 03 23:00 | 30°♏♏ | | asc. node | 3519 May 19 08:43 | 11°♏41'49 | |
| | 3516 Nov 17 15:02 | 26°♏16'55 | | | 3519 Jun 03 05:55 | 0°♏ | |
| | 3516 Nov 28 21:23 | 28°♏37'50 | -4.9m | | 3519 Jun 27 19:28 | 0°♏ | |
| greatest brilliancy | 3516 Nov 28 21:23 | 28°♏37'50 | -4.9m | | 3519 Jul 22 15:06 | 0°♏ | |
| asc. node | 3516 Dec 01 13:22 | 29°♏47'41 | | | 3519 Aug 16 19:30 | 0°♏ | |
| | 3516 Dec 01 23:38 | 0°♌ | | desc. node | 3519 Sep 07 22:32 | 25°♏49'16 | |
| | 3517 Jan 07 05:18 | 29°♌20'55 | 46°51'44 | | 3519 Sep 11 13:49 | 0°♌ | |
| | 3517 Jan 07 20:39 | 0°♏ | | | 3519 Oct 08 08:52 | 0°♏ | |
| desc. node | 3517 Feb 04 09:09 | 0°♎ | | evening max el | 3519 Oct 31 14:44 | 24°♏11'36 | 46°38'54 |
| | 3517 Mar 02 01:03 | 0°♏ | | | 3519 Nov 06 15:49 | 0°♎ | |
| | 3517 Mar 23 03:33 | 25°♏20'19 | | greatest brilliancy | 3519 Dec 10 19:58 | 24°♎17'12 | -4.9m |
| | 3517 Mar 27 00:01 | 0°♏ | | retrograde | 3519 Dec 20 16:25 | 26°♎06'36 | |
| morning set | 3517 Apr 20 15:52 | 0°♏ | | asc. node | 3519 Dec 30 01:23 | 24°♎18'28 | |
| | 3517 May 15 05:08 | 0°♏ | | evening set | 3520 Jan 03 23:42 | 22°♎02'09 | |
| | 3517 Jun 08 17:49 | 0°♏ | | inferior conj | 3520 Jan 10 04:41 | 18°♎24'59 | 2°51'23 |
| | 3517 Jul 03 06:07 | 0°♏ | | minimum elong | 3520 Jan 09 22:21 | 18°♎34'36 | 2°49'25 |
| asc. node | 3517 Jul 11 09:52 | 9°♏59'35 | | min. Earth dist. | 3520 Jan 09 23:02 | 18°♎33'35 | 0.26527 AU |
| max. Earth dist. | 3517 Jul 14 06:23 | 13°♏29'38 | | morning rise | 3520 Jan 15 21:06 | 15°♎05'15 | |
| | 3517 Jul 27 17:14 | 0°♏ | | direct | 3520 Jan 30 15:32 | 10°♎45'48 | |
| | 3517 Aug 14 22:41 | 22°♏25'04 | 1.73409 AU | greatest brilliancy | 3520 Feb 09 12:16 | 12°♎37'20 | -4.9m |
| | | | | | 3520 Mar 06 17:16 | 0°♏ | |
| superior conj | 3517 Aug 16 23:11 | 24°♏54'26 | 1°09'02 | morning max el | 3520 Mar 21 01:32 | 13°♏34'02 | 46°49'37 |
| minimum elong | 3517 Aug 16 14:42 | 24°♏28'19 | 1°08'48 | | 3520 Apr 05 18:59 | 0°♏ | |
| | 3517 Aug 21 02:22 | 0°♏ | | desc. node | 3520 Apr 19 15:25 | 15°♏17'16 | |
| | 3517 Sep 14 09:38 | 0°♏ | | | 3520 May 02 14:03 | 0°♏ | |
| | 3517 Sep 22 01:35 | 9°♏28'26 | | | 3520 May 28 07:45 | 0°♏ | |
| evening rise | 3517 Oct 08 15:56 | 0°♌ | | | 3520 Jun 22 14:21 | 0°♏ | |
| | 3517 Nov 01 22:14 | 0°♏ | | asc. node | 3520 Jul 17 14:28 | 0°♏ | |
| | 3517 Nov 02 20:20 | 1°♏08'17 | | | 3520 Aug 10 18:16 | 29°♏15'19 | |
| | 3517 Nov 26 05:09 | 0°♎ | | | 3520 Aug 11 08:57 | 0°♏ | |
| asc. node | 3517 Dec 20 13:34 | 0°♏ | | morning set | 3520 Sep 04 21:40 | 0°♏ | |
| | 3518 Jan 14 02:10 | 0°♏ | | | 3520 Sep 17 10:59 | 15°♏27'57 | |
| | 3518 Feb 08 01:37 | 0°♏ | | | 3520 Sep 29 05:02 | 0°♏ | |
| | 3518 Feb 23 23:03 | 18°♏31'42 | | max. Earth dist. | 3520 Oct 21 10:26 | 27°♏36'48 | 1.72268 AU |
| evening max el | 3518 Mar 06 02:40 | 0°♏ | | | 3520 Oct 23 08:26 | 0°♌ | |
| | 3518 Mar 27 10:19 | 22°♏38'29 | 46°29'36 | | | | |
| | 3518 Apr 04 00:26 | 0°♏ | | superior conj | 3520 Oct 24 09:44 | 1°♌18'45 | 1°13'32 |
| | 3518 May 05 13:34 | 22°♏29'40 | -4.8m | | | | |

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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| minimum elong | 3520 Oct 24 18:21 | 1°♍45'37 | 1°13'19 | direct | 3523 Apr 14 19:26 | 25°♋45'02 | |
| | 3520 Nov 16 09:29 | 0°♊ | | greatest brilliancy | 3523 Apr 24 00:22 | 27°♋19'49 | -4.8m |
| desc. node | 3520 Nov 30 08:16 | 17°♊26'02 | | | 3523 Apr 30 07:52 | 0°♊ | |
| evening rise | 3520 Dec 02 09:10 | 19°♊58'54 | | desc. node | 3523 May 18 03:06 | 12°♊11'33 | |
| | 3520 Dec 10 09:22 | 0°♊ | | morning max el | 3523 Jun 03 04:26 | 26°♊42'45 | 46°05'51 |
| | 3521 Jan 03 08:49 | 0°♋ | | | 3523 Jun 06 12:50 | 0°♋ | |
| | 3521 Jan 27 09:00 | 0°♋ | | | 3523 Jul 04 23:36 | 0°♋ | |
| | 3521 Feb 20 12:24 | 0°♋ | | | 3523 Jul 31 13:11 | 0°♋ | |
| | 3521 Mar 16 23:14 | 0°♋ | | | 3523 Aug 26 04:58 | 0°♋ | |
| asc. node | 3521 Mar 23 10:56 | 7°♋51'25 | | asc. node | 3523 Sep 08 05:59 | 15°♋33'00 | |
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| | 3521 May 07 01:52 | 0°♋ | | | 3523 Oct 14 19:21 | 0°♋ | |
| | 3521 Jun 04 11:04 | 0°♋ | | | 3523 Nov 08 00:46 | 0°♋ | |
| evening max el | 3521 Jun 06 05:40 | 1°♋43'47 | 45°35'09 | morning set | 3523 Nov 28 00:12 | 24°♋56'17 | |
| desc. node | 3521 Jul 13 01:00 | 29°♋13'18 | | | 3523 Dec 02 01:13 | 0°♋ | |
| greatest brilliancy | 3521 Jul 14 05:04 | 29°♋40'22 | -4.7m | | 3523 Dec 25 23:01 | 0°♋ | |
| | 3521 Jul 15 03:12 | 0°♋ | | desc. node | 3523 Dec 28 20:07 | 3°♋37'10 | |
| retrograde | 3521 Jul 24 23:41 | 1°♋44'58 | | max. Earth dist. | 3524 Jan 06 08:24 | 14°♋19'17 | 1.71160 AU |
| | 3521 Aug 03 09:44 | 30°♋ | | | | | |
| evening set | 3521 Aug 10 08:16 | 26°♋39'27 | | superior conj | 3524 Jan 07 06:26 | 15°♋28'36 | -0°22'29 |
| inferior conj | 3521 Aug 15 11:42 | 23°♋31'19 | -6°50'05 | minimum elong | 3524 Jan 07 00:39 | 15°♋10'24 | 0°22'11 |
| minimum elong | 3521 Aug 15 02:08 | 23°♋46'21 | 6°48'24 | | 3524 Jan 18 19:35 | 0°♋ | |
| min. Earth dist. | 3521 Aug 15 08:44 | 23°♋35'59 | 0.29073 AU | | 3524 Feb 11 16:08 | 0°♋ | |
| morning rise | 3521 Aug 19 19:59 | 20°♋51'07 | | evening rise | 3524 Feb 17 10:32 | 7°♋14'30 | |
| direct | 3521 Sep 06 03:33 | 15°♋13'43 | | | 3524 Mar 06 14:15 | 0°♋ | |
| greatest brilliancy | 3521 Sep 16 13:19 | 17°♋11'19 | -4.7m | | 3524 Mar 30 16:09 | 0°♋ | |
| | 3521 Oct 07 15:55 | 0°♋ | | asc. node | 3524 Apr 19 22:51 | 25°♋01'27 | |
| morning max el | 3521 Oct 25 12:35 | 16°♋02'50 | 46°07'58 | | 3524 Apr 24 00:17 | 0°♋ | |
| asc. node | 3521 Nov 03 03:40 | 24°♋46'00 | | | 3524 May 18 17:21 | 0°♋ | |
| | 3521 Nov 08 03:05 | 0°♋ | | | 3524 Jun 12 23:16 | 0°♋ | |
| | 3521 Dec 04 22:06 | 0°♋ | | | 3524 Jul 09 02:09 | 0°♋ | |
| | 3521 Dec 30 03:59 | 0°♋ | | | 3524 Aug 05 23:34 | 0°♋ | |
| | 3522 Jan 23 17:29 | 0°♋ | | desc. node | 3524 Aug 09 12:43 | 3°♋43'35 | |
| | 3522 Feb 16 23:33 | 0°♋ | | evening max el | 3524 Aug 16 05:49 | 10°♋08'06 | 45°38'14 |
| desc. node | 3522 Feb 22 17:43 | 7°♋09'05 | | | 3524 Sep 08 20:17 | 0°♋ | |
| | 3522 Mar 13 02:34 | 0°♋ | | greatest brilliancy | 3524 Sep 24 20:22 | 8°♋23'39 | -4.8m |
| | 3522 Apr 06 05:03 | 0°♋ | | retrograde | 3524 Oct 04 00:49 | 9°♋56'06 | |
| | 3522 Apr 30 08:42 | 0°♋ | | evening set | 3524 Oct 21 06:18 | 4°♋22'11 | |
| morning set | 3522 Apr 30 17:28 | 0°♋27'08 | | inferior conj | 3524 Oct 25 02:51 | 2°♋02'27 | -7°33'42 |
| | 3522 May 24 14:31 | 0°♋ | | minimum elong | 3524 Oct 25 11:57 | 1°♋48'26 | 7°32'19 |
| | | | | min. Earth dist. | 3524 Oct 26 02:22 | 1°♋26'14 | 0.27945 AU |
| superior conj | 3522 Jun 07 17:18 | 17°♋24'53 | -0°19'19 | | 3524 Oct 28 11:04 | 30°♋ | |
| minimum elong | 3522 Jun 07 21:28 | 17°♋37'42 | 0°19'08 | morning rise | 3524 Oct 29 17:07 | 29°♋15'46 | |
| max. Earth dist. | 3522 Jun 09 18:26 | 19°♋56'16 | 1.73205 AU | direct | 3524 Nov 15 06:03 | 23°♋57'32 | |
| asc. node | 3522 Jun 15 20:36 | 27°♋26'22 | | greatest brilliancy | 3524 Nov 26 12:50 | 26°♋19'11 | -4.9m |
| | 3522 Jun 17 22:30 | 0°♋ | | asc. node | 3524 Nov 30 15:29 | 28°♋11'50 | |
| | 3522 Jul 12 08:05 | 0°♋ | | | 3524 Dec 03 21:43 | 0°♋ | |
| evening rise | 3522 Jul 14 14:18 | 2°♋46'27 | | morning max el | 3525 Jan 04 20:37 | 27°♋01'18 | 46°50'55 |
| | 3522 Aug 05 18:56 | 0°♋ | | | 3525 Jan 07 18:19 | 0°♋ | |
| | 3522 Aug 30 07:34 | 0°♋ | | | 3525 Feb 04 01:10 | 0°♋ | |
| | 3522 Sep 23 23:18 | 0°♋ | | | 3525 Mar 01 14:53 | 0°♋ | |
| desc. node | 3522 Oct 05 10:28 | 13°♋52'25 | | desc. node | 3525 Mar 22 05:33 | 24°♋47'25 | |
| | 3522 Oct 18 19:41 | 0°♋ | | | 3525 Mar 26 12:44 | 0°♋ | |
| | 3522 Nov 12 22:54 | 0°♋ | | | 3525 Apr 20 03:55 | 0°♋ | |
| | 3522 Dec 08 14:42 | 0°♋ | | | 3525 May 14 16:43 | 0°♋ | |
| | 3523 Jan 04 13:46 | 0°♋ | | | 3525 Jun 08 05:04 | 0°♋ | |
| evening max el | 3523 Jan 12 08:01 | 8°♋04'55 | 47°13'52 | | 3525 Jul 02 17:08 | 0°♋ | |
| asc. node | 3523 Jan 26 13:15 | 21°♋45'27 | | morning set | 3525 Jul 09 03:26 | 7°♋52'43 | |
| | 3523 Feb 05 11:32 | 0°♋ | | asc. node | 3525 Jul 13 08:26 | 13°♋02'22 | |
| greatest brilliancy | 3523 Feb 21 23:48 | 9°♋40'48 | -4.9m | | 3525 Jul 27 04:06 | 0°♋ | |
| retrograde | 3523 Mar 04 04:38 | 11°♋39'34 | | max. Earth dist. | 3525 Aug 12 21:04 | 20°♋32'49 | 1.73429 AU |
| evening set | 3523 Mar 22 06:16 | 5°♋22'11 | | | | | |
| min. Earth dist. | 3523 Mar 24 13:47 | 3°♋56'04 | 0.27548 AU | superior conj | 3525 Aug 14 17:19 | 22°♋49'04 | 1°07'08 |
| inferior conj | 3523 Mar 25 01:39 | 3°♋37'29 | 8°55'18 | minimum elong | 3525 Aug 14 08:39 | 22°♋22'24 | 1°06'52 |
| minimum elong | 3523 Mar 25 03:11 | 3°♋35'05 | 8°55'17 | | 3525 Aug 20 13:12 | 0°♋ | |
| morning rise | 3523 Mar 28 00:15 | 1°♋48'16 | | | 3525 Sep 13 20:34 | 0°♋ | |
| | 3523 Mar 31 03:10 | 30°♋ | | evening rise | 3525 Sep 19 18:52 | 7°♋19'40 | |

| | | | | | | | | |
|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|--|
| | 3525 Oct 08 03:04 | 0°♌ | | | 3528 May 27 20:51 | 0°♎ | | |
| | 3525 Nov 01 09:38 | 0°♏ | | | 3528 Jun 22 02:28 | 0°♐ | | |
| desc. node | 3525 Nov 01 22:24 | 0°♏39'25 | | | 3528 Jul 17 02:00 | 0°♑ | | |
| | 3525 Nov 25 16:55 | 0°♐ | | asc. node | 3528 Aug 09 20:11 | 28°♑47'00 | | |
| | 3525 Dec 20 01:48 | 0°♑ | | | 3528 Aug 10 20:10 | 0°♒ | | |
| | 3526 Jan 13 15:07 | 0°♒ | | | 3528 Sep 04 08:41 | 0°♓ | | |
| | 3526 Feb 07 15:48 | 0°♓ | | morning set | 3528 Sep 15 04:06 | 13°♓18'49 | | |
| asc. node | 3526 Feb 23 01:00 | 17°♓52'57 | | | 3528 Sep 28 16:00 | 0°♈ | | |
| | 3526 Mar 05 19:35 | 0°♈ | | max. Earth dist. | 3528 Oct 18 22:47 | 25°♈11'43 | 1.72316 AU | |
| evening max el | 3526 Mar 25 01:57 | 20°♈23'05 | 46°31'48 | | | | | |
| | 3526 Apr 04 02:25 | 0°♉ | | superior conj | 3528 Oct 22 01:21 | 29°♉03'48 | 1°15'12 | |
| greatest brilliancy | 3526 May 03 05:35 | 20°♉16'42 | -4.8m | minimum elong | 3528 Oct 22 09:32 | 29°♉29'15 | 1°15'01 | |
| retrograde | 3526 May 14 02:25 | 22°♉27'55 | | | 3528 Oct 22 19:25 | 0°♊ | | |
| evening set | 3526 May 29 11:55 | 17°♉48'33 | | | 3528 Nov 15 20:33 | 0°♋ | | |
| inferior conj | 3526 Jun 04 09:44 | 14°♉14'17 | 2°25'46 | desc. node | 3528 Nov 29 10:22 | 16°♋57'42 | | |
| minimum elong | 3526 Jun 04 14:57 | 14°♉06'06 | 2°24'15 | evening rise | 3528 Nov 29 21:42 | 17°♋33'07 | | |
| min. Earth dist. | 3526 Jun 04 06:54 | 14°♉18'43 | 0.28525 AU | | 3528 Dec 09 20:35 | 0°♌ | | |
| morning rise | 3526 Jun 10 18:24 | 10°♉25'44 | | | 3529 Jan 02 20:14 | 0°♍ | | |
| desc. node | 3526 Jun 14 15:02 | 8°♉31'38 | | | 3529 Jan 26 20:38 | 0°♎ | | |
| direct | 3526 Jun 25 17:27 | 6°♉04'29 | | | 3529 Feb 20 00:20 | 0°♏ | | |
| greatest brilliancy | 3526 Jul 05 18:37 | 7°♉54'11 | -4.7m | | 3529 Mar 16 11:41 | 0°♐ | | |
| | 3526 Aug 07 05:43 | 0°♑ | | asc. node | 3529 Mar 22 12:59 | 7°♐19'29 | | |
| morning max el | 3526 Aug 13 11:37 | 5°♑47'51 | 45°42'35 | | 3529 Apr 10 13:23 | 0°♒ | | |
| | 3526 Sep 06 04:33 | 0°♒ | | | 3529 May 06 17:27 | 0°♓ | | |
| | 3526 Oct 03 00:40 | 0°♓ | | evening max el | 3529 Jun 03 20:58 | 29°♓31'02 | 45°36'11 | |
| asc. node | 3526 Oct 05 17:58 | 3°♓08'48 | | | 3529 Jun 04 08:57 | 0°♈ | | |
| | 3526 Oct 28 11:50 | 0°♈ | | greatest brilliancy | 3529 Jul 11 21:00 | 27°♈31'04 | -4.7m | |
| | 3526 Nov 22 04:22 | 0°♉ | | desc. node | 3529 Jul 12 02:54 | 27°♈36'28 | | |
| | 3526 Dec 16 10:14 | 0°♊ | | retrograde | 3529 Jul 22 15:17 | 29°♈35'53 | | |
| | 3527 Jan 09 10:31 | 0°♋ | | evening set | 3529 Aug 07 21:43 | 24°♈34'28 | | |
| desc. node | 3527 Jan 25 07:51 | 19°♋55'49 | | inferior conj | 3529 Aug 13 04:06 | 21°♈22'08 | -6°37'49 | |
| | 3527 Feb 02 08:17 | 0°♌ | | minimum elong | 3529 Aug 12 18:22 | 21°♈37'24 | 6°36'00 | |
| morning set | 3527 Feb 11 23:07 | 12°♌04'52 | | min. Earth dist. | 3529 Aug 13 00:52 | 21°♈27'12 | 0.29076 AU | |
| | 3527 Feb 26 05:27 | 0°♍ | | morning rise | 3529 Aug 17 14:58 | 18°♈37'49 | | |
| | 3527 Mar 22 03:33 | 0°♎ | | direct | 3529 Sep 03 19:35 | 13°♈04'31 | | |
| | | | | greatest brilliancy | 3529 Sep 14 05:27 | 15°♈01'35 | -4.7m | |
| superior conj | 3527 Mar 25 01:27 | 3°♏38'46 | -1°26'29 | | 3529 Oct 08 00:19 | 0°♐ | | |
| minimum elong | 3527 Mar 25 02:53 | 3°♏43'13 | 1°26'28 | morning max el | 3529 Oct 23 02:47 | 13°♐45'49 | 46°06'29 | |
| max. Earth dist. | 3527 Mar 28 19:09 | 8°♏19'19 | 1.71721 AU | asc. node | 3529 Nov 02 05:47 | 24°♐01'40 | | |
| | 3527 Apr 15 04:05 | 0°♑ | | | 3529 Nov 07 21:02 | 0°♒ | | |
| evening rise | 3527 May 03 20:25 | 23°♑12'03 | | | 3529 Dec 04 12:35 | 0°♓ | | |
| | 3527 May 09 08:20 | 0°♒ | | | 3529 Dec 29 17:01 | 0°♈ | | |
| asc. node | 3527 May 18 10:51 | 11°♒14'16 | | | 3530 Jan 23 05:47 | 0°♉ | | |
| | 3527 Jun 02 17:04 | 0°♓ | | | 3530 Feb 16 11:23 | 0°♊ | | |
| | 3527 Jun 27 06:54 | 0°♈ | | desc. node | 3530 Feb 21 19:41 | 6°♊38'41 | | |
| | 3527 Jul 22 03:02 | 0°♉ | | | 3530 Mar 12 14:05 | 0°♋ | | |
| | 3527 Aug 16 08:18 | 0°♊ | | | 3530 Apr 05 16:18 | 0°♌ | | |
| desc. node | 3527 Sep 07 00:32 | 25°♊14'35 | | morning set | 3530 Apr 28 07:52 | 28°♊08'41 | | |
| | 3527 Sep 11 04:11 | 0°♋ | | | 3530 Apr 29 19:46 | 0°♍ | | |
| | 3527 Oct 08 02:29 | 0°♌ | | | 3530 May 24 01:26 | 0°♎ | | |
| evening max el | 3527 Oct 29 05:17 | 21°♌51'19 | 46°36'40 | | | | | |
| | 3527 Nov 06 19:19 | 0°♍ | | superior conj | 3530 Jun 05 09:46 | 15°♍14'18 | -0°22'35 | |
| greatest brilliancy | 3527 Dec 08 08:54 | 21°♍49'06 | -4.9m | minimum elong | 3530 Jun 05 14:37 | 15°♍29'12 | 0°22'20 | |
| retrograde | 3527 Dec 18 04:47 | 23°♍37'17 | | max. Earth dist. | 3530 Jun 07 13:12 | 17°♍52'46 | 1.73165 AU | |
| asc. node | 3527 Dec 29 03:26 | 21°♍11'22 | | asc. node | 3530 Jun 14 22:39 | 26°♍59'19 | | |
| evening set | 3528 Jan 01 11:14 | 19°♍34'33 | | | 3530 Jun 17 09:20 | 0°♎ | | |
| inferior conj | 3528 Jan 07 16:54 | 15°♍56'12 | 2°27'48 | | 3530 Jul 11 18:56 | 0°♏ | | |
| minimum elong | 3528 Jan 07 11:23 | 16°♍04'36 | 2°26'03 | evening rise | 3530 Jul 12 08:44 | 0°♐42'24 | | |
| min. Earth dist. | 3528 Jan 07 12:33 | 16°♍02'49 | 0.26526 AU | | 3530 Aug 05 05:55 | 0°♑ | | |
| morning rise | 3528 Jan 13 11:36 | 12°♍33'11 | | | 3530 Aug 29 18:52 | 0°♒ | | |
| direct | 3528 Jan 28 04:19 | 8°♍17'04 | | | 3530 Sep 23 11:07 | 0°♓ | | |
| greatest brilliancy | 3528 Feb 07 01:55 | 10°♍09'17 | -4.9m | desc. node | 3530 Oct 04 12:34 | 13°♍22'11 | | |
| | 3528 Mar 07 00:02 | 0°♎ | | | 3530 Oct 18 08:16 | 0°♈ | | |
| morning max el | 3528 Mar 18 14:38 | 11°♎08'16 | 46°50'42 | | 3530 Nov 12 12:38 | 0°♉ | | |
| | 3528 Apr 05 13:27 | 0°♏ | | | 3530 Dec 08 06:27 | 0°♊ | | |
| desc. node | 3528 Apr 18 17:29 | 14°♏37'25 | | | 3531 Jan 04 10:14 | 0°♋ | | |
| | 3528 May 02 04:52 | 0°♐ | | evening max el | 3531 Jan 09 21:01 | 5°♋38'13 | 47°14'02 | |




































































































































| | | | | | | | |
|---------------------|-------------------|----------------------------------|------------|---------------------|-------------------|----------------------------------|------------|
| asc. node | 3531 Jan 25 15:12 | 20° K 40'59 | | morning set | 3533 Jul 06 21:05 | 5° G 46'48 | |
| | 3531 Feb 06 08:29 | 0° Y | | asc. node | 3533 Jul 12 10:23 | 12° G 35'27 | |
| greatest brilliancy | 3531 Feb 19 14:42 | 7° Y 17'58 | -4.9m | | 3533 Jul 26 14:44 | 0° Ω | |
| retrograde | 3531 Mar 01 18:23 | 9° Y 16'16 | | max. Earth dist. | 3533 Aug 10 19:31 | 18° Ω 41'27 | 1.73445 AU |
| evening set | 3531 Mar 19 20:03 | 2° Y 59'30 | | | | | |
| min. Earth dist. | 3531 Mar 22 03:21 | 1° Y 33'57 | 0.27505 AU | superior conj | 3533 Aug 12 11:38 | 20° Ω 44'55 | 1°05'09 |
| inferior conj | 3531 Mar 22 15:32 | 1° Y 14'55 | 8°56'55 | minimum elong | 3533 Aug 12 02:50 | 20° Ω 17'50 | 1°04'52 |
| minimum elong | 3531 Mar 22 16:09 | 1° Y 13'56 | 8°56'54 | | 3533 Aug 19 23:50 | 0° M | |
| | 3531 Mar 24 15:43 | 30° K | | | 3533 Sep 13 07:17 | 0° $\underline{\text{L}}$ | |
| morning rise | 3531 Mar 25 12:23 | 29° K 28'26 | | evening rise | 3533 Sep 17 12:28 | 5° $\underline{\text{L}}$ 12'35 | |
| direct | 3531 Apr 12 08:10 | 23° K 22'54 | | | 3533 Oct 07 13:57 | 0° M | |
| greatest brilliancy | 3531 Apr 21 13:54 | 24° K 58'15 | -4.8m | | 3533 Oct 31 20:48 | 0° X | |
| | 3531 May 02 02:47 | 0° Y | | desc. node | 3533 Nov 01 00:32 | 0° X 11'32 | |
| desc. node | 3531 May 17 05:14 | 11° Y 07'18 | | | 3533 Nov 25 04:27 | 0° Z | |
| morning max el | 3531 May 31 18:15 | 24° Y 23'35 | 46°07'27 | | 3533 Dec 19 13:53 | 0° \approx | |
| | 3531 Jun 06 10:16 | 0° B | | | 3534 Jan 13 03:59 | 0° K | |
| | 3531 Jul 04 15:12 | 0° II | | | 3534 Feb 07 06:00 | 0° Y | |
| | 3531 Jul 31 02:28 | 0° G | | asc. node | 3534 Feb 22 03:05 | 17° Y 14'33 | |
| | 3531 Aug 25 17:04 | 0° Ω | | | 3534 Mar 05 12:42 | 0° B | |
| asc. node | 3531 Sep 07 08:08 | 15° Ω 04'15 | | evening max el | 3534 Mar 22 18:10 | 18° B 09'23 | 46°34'07 |
| | 3531 Sep 19 17:19 | 0° M | | | 3534 Apr 04 05:43 | 0° II | |
| | 3531 Oct 14 06:30 | 0° $\underline{\text{L}}$ | | greatest brilliancy | 3534 Apr 30 21:53 | 18° II 04'38 | -4.8m |
| | 3531 Nov 07 11:48 | 0° M | | retrograde | 3534 May 11 19:01 | 20° II 15'44 | |
| morning set | 3531 Nov 25 13:47 | 22° M 34'06 | | evening set | 3534 May 27 05:45 | 15° II 33'57 | |
| | 3531 Dec 01 12:14 | 0° X | | inferior conj | 3534 Jun 02 01:31 | 12° II 02'14 | 2°45'41 |
| | 3531 Dec 25 10:03 | 0° Z | | minimum elong | 3534 Jun 02 07:24 | 11° II 53'01 | 2°43'59 |
| desc. node | 3531 Dec 27 22:07 | 3° Z 08'43 | | min. Earth dist. | 3534 Jun 01 22:32 | 12° II 06'54 | 0.28496 AU |
| max. Earth dist. | 3532 Jan 03 16:34 | 11° Z 39'21 | 1.71179 AU | morning rise | 3534 Jun 08 09:32 | 8° II 14'45 | |
| | | | | desc. node | 3534 Jun 13 16:59 | 5° II 45'19 | |
| superior conj | 3532 Jan 04 16:52 | 12° Z 55'44 | -0°18'37 | direct | 3534 Jun 23 09:25 | 3° II 53'02 | |
| minimum elong | 3532 Jan 04 12:02 | 12° Z 40'33 | 0°18'22 | greatest brilliancy | 3534 Jul 03 09:00 | 5° II 41'48 | -4.7m |
| | 3532 Jan 18 06:38 | 0° \approx | | | 3534 Aug 07 06:26 | 0° G | |
| | 3532 Feb 11 03:12 | 0° K | | morning max el | 3534 Aug 11 03:53 | 3° G 39'09 | 45°42'31 |
| evening rise | 3532 Feb 14 20:43 | 4° K 41'06 | | | 3534 Sep 05 20:39 | 0° Ω | |
| | 3532 Mar 06 01:23 | 0° Y | | | 3534 Oct 02 14:02 | 0° M | |
| | 3532 Mar 30 03:24 | 0° B | | asc. node | 3534 Oct 04 20:02 | 2° M 36'29 | |
| asc. node | 3532 Apr 19 01:00 | 24° B 32'57 | | | 3534 Oct 27 24:00 | 0° $\underline{\text{L}}$ | |
| | 3532 Apr 23 11:47 | 0° II | | | 3534 Nov 21 15:55 | 0° M | |
| | 3532 May 18 05:19 | 0° G | | | 3534 Dec 15 21:27 | 0° X | |
| | 3532 Jun 12 12:08 | 0° Ω | | | 3535 Jan 08 21:34 | 0° Z | |
| | 3532 Jul 08 16:55 | 0° M | | desc. node | 3535 Jan 24 09:53 | 19° Z 27'38 | |
| | 3532 Aug 05 19:12 | 0° $\underline{\text{L}}$ | | | 3535 Feb 01 19:15 | 0° \approx | |
| desc. node | 3532 Aug 08 14:45 | 2° $\underline{\text{L}}$ 48'32 | | morning set | 3535 Feb 09 08:57 | 9° \approx 30'40 | |
| evening max el | 3532 Aug 13 20:30 | 7° $\underline{\text{L}}$ 54'11 | 45°37'06 | | 3535 Feb 25 16:22 | 0° K | |
| | 3532 Sep 09 20:27 | 0° M | | | 3535 Mar 21 14:24 | 0° Y | |
| greatest brilliancy | 3532 Sep 22 08:36 | 6° M 05'57 | -4.8m | | | | |
| retrograde | 3532 Oct 01 15:14 | 7° M 39'56 | | superior conj | 3535 Mar 22 12:58 | 1° Y 10'39 | -1°26'38 |
| evening set | 3532 Oct 18 23:12 | 2° M 01'15 | | minimum elong | 3535 Mar 22 13:20 | 1° Y 11'49 | 1°26'38 |
| | 3532 Oct 22 07:33 | 30° K | | max. Earth dist. | 3535 Mar 26 07:23 | 5° Y 53'37 | 1.71673 AU |
| inferior conj | 3532 Oct 22 17:15 | 29° $\underline{\text{L}}$ 45'03 | -7°43'49 | | 3535 Apr 14 14:52 | 0° B | |
| minimum elong | 3532 Oct 23 01:54 | 29° $\underline{\text{L}}$ 31'44 | 7°42'35 | evening rise | 3535 May 01 10:02 | 20° B 52'10 | |
| min. Earth dist. | 3532 Oct 23 16:07 | 29° $\underline{\text{L}}$ 09'52 | 0.28017 AU | | 3535 May 08 19:06 | 0° II | |
| morning rise | 3532 Oct 27 04:12 | 27° $\underline{\text{L}}$ 03'21 | | asc. node | 3535 May 17 12:49 | 10° II 47'04 | |
| direct | 3532 Nov 12 21:37 | 21° $\underline{\text{L}}$ 39'11 | | | 3535 Jun 02 03:56 | 0° G | |
| greatest brilliancy | 3532 Nov 24 03:44 | 24° $\underline{\text{L}}$ 00'38 | -4.9m | | 3535 Jun 26 18:02 | 0° Ω | |
| asc. node | 3532 Nov 29 17:32 | 26° $\underline{\text{L}}$ 39'49 | | | 3535 Jul 21 14:40 | 0° M | |
| | 3532 Dec 05 04:34 | 0° M | | | 3535 Aug 15 20:49 | 0° $\underline{\text{L}}$ | |
| morning max el | 3533 Jan 02 12:25 | 24° M 43'18 | 46°49'49 | desc. node | 3535 Sep 06 02:39 | 24° $\underline{\text{L}}$ 41'08 | |
| | 3533 Jan 07 15:09 | 0° X | | | 3535 Sep 10 18:19 | 0° M | |
| | 3533 Feb 03 16:54 | 0° Z | | | 3535 Oct 07 20:04 | 0° X | |
| | 3533 Mar 01 04:33 | 0° \approx | | evening max el | 3535 Oct 26 19:13 | 19° X 30'53 | 46°34'26 |
| desc. node | 3533 Mar 21 07:42 | 24° \approx 15'23 | | | 3535 Nov 06 23:56 | 0° Z | |
| | 3533 Mar 26 01:17 | 0° K | | greatest brilliancy | 3535 Dec 05 22:30 | 19° Z 23'36 | -4.9m |
| | 3533 Apr 19 15:46 | 0° Y | | retrograde | 3535 Dec 15 16:40 | 21° Z 10'04 | |
| | 3533 May 14 04:05 | 0° B | | asc. node | 3535 Dec 28 05:20 | 18° Z 01'43 | |
| | 3533 Jun 07 16:04 | 0° II | | evening set | 3535 Dec 29 23:12 | 17° Z 08'37 | |
| | 3533 Jul 02 03:54 | 0° G | | inferior conj | 3536 Jan 05 05:20 | 13° Z 29'37 | 2°04'00 |




































































































































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| morning rise | 3536 Jan 11 02:06 | 10°  03'27 | | | | 3538 Aug 29 05:55 | 0°  | |
| direct | 3536 Jan 25 16:53 | 5°  50'20 | | | | 3538 Sep 22 22:42 | 0°  | |
| greatest brilliancy | 3536 Feb 04 16:19 | 7°  34'50 | -4.9m | desc. node | | 3538 Oct 03 14:37 | 12°  15'23'38 | |
| | 3536 Mar 07 04:11 | 0°  | | | | 3538 Oct 17 20:38 | 0°  | |
| morning max el | 3536 Mar 16 02:50 | 8°  41'17 | 46°51'33 | | | 3538 Nov 12 02:13 | 0°  | |
| | 3536 Apr 05 07:05 | 0°  | | | | 3538 Dec 07 22:12 | 0°  | |
| desc. node | 3536 Apr 17 19:33 | 13°  15'58'52 | | | | 3539 Jan 04 07:07 | 0°  | |
| | 3536 May 01 19:12 | 0°  | | evening max el | | 3539 Jan 07 10:34 | 3°  13'46 | 47°14'10 |
| | 3536 May 27 09:34 | 0°  | | asc. node | | 3539 Jan 24 17:23 | 19°  13'36'04 | |
| | 3536 Jun 21 14:15 | 0°  | | | | 3539 Feb 07 12:42 | 0°  | |
| | 3536 Jul 16 13:12 | 0°  | | greatest brilliancy | | 3539 Feb 17 05:01 | 4°  15'55'11 | -4.9m |
| asc. node | 3536 Aug 08 22:18 | 28°  20'27 | | retrograde | | 3539 Feb 27 08:37 | 6°  15'53'55 | |
| | 3536 Aug 10 07:00 | 0°  | | evening set | | 3539 Mar 17 09:17 | 0°  | |
| | 3536 Sep 03 19:20 | 0°  | | | | 3539 Mar 18 10:20 | 30°  15'13'11 | |
| morning set | 3536 Sep 12 21:13 | 11°  10'53 | | min. Earth dist. | | 3539 Mar 19 16:36 | 29°  13'03 | 0.27461 AU |
| | 3536 Sep 28 02:34 | 0°  | | inferior conj | | 3539 Mar 20 05:24 | 28°  13'03'05 | 8°57'27 |
| max. Earth dist. | 3536 Oct 16 12:41 | 22°  15'52'39 | 1.72367 AU | minimum elong | | 3539 Mar 20 05:07 | 28°  13'03'32 | 8°57'27 |
| | | | | morning rise | | 3539 Mar 23 01:04 | 27°  13'08'40 | |
| superior conj | 3536 Oct 19 17:16 | 26°  15'50'52 | 1°16'45 | direct | | 3539 Apr 09 21:13 | 21°  13'01'34 | |
| minimum elong | 3536 Oct 20 00:56 | 27°  14'45 | 1°16'35 | greatest brilliancy | | 3539 Apr 19 03:01 | 22°  13'37'15 | -4.8m |
| | 3536 Oct 22 06:02 | 0°  | | | | 3539 May 03 07:45 | 0°  | |
| | 3536 Nov 15 07:17 | 0°  | | desc. node | | 3539 May 16 07:11 | 10°  13'05'14 | |
| evening rise | 3536 Nov 27 10:38 | 15°  10'09'48 | | morning max el | | 3539 May 29 08:53 | 22°  13'07'13 | 46°09'00 |
| desc. node | 3536 Nov 28 12:19 | 16°  10'30'02 | | | | 3539 Jun 06 06:38 | 0°  | |
| | 3536 Dec 09 07:28 | 0°  | | | | 3539 Jul 04 06:18 | 0°  | |
| | 3537 Jan 02 07:16 | 0°  | | | | 3539 Jul 30 15:27 | 0°  | |
| | 3537 Jan 26 07:53 | 0°  | | | | 3539 Aug 25 04:58 | 0°  | |
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| | 3537 May 06 08:59 | 0°  | | morning set | | 3539 Nov 23 03:30 | 20°  13'13'05 | |
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| | 3537 Jun 04 07:25 | 0°  | | | | 3539 Dec 24 20:55 | 0°  | |
| greatest brilliancy | 3537 Jul 09 12:47 | 25°  12'22'18 | -4.7m | desc. node | | 3539 Dec 27 00:06 | 2°  12'40'49 | |
| desc. node | 3537 Jul 11 04:57 | 25°  12'57'05 | | max. Earth dist. | | 3540 Jan 01 02:25 | 9°  12'05'09 | 1.71201 AU |
| retrograde | 3537 Jul 20 07:12 | 27°  12'27'55 | | | | | | |
| evening set | 3537 Aug 05 11:15 | 22°  12'30'09 | | superior conj | | 3540 Jan 02 03:22 | 10°  12'23'36 | -0°14'43 |
| inferior conj | 3537 Aug 10 20:31 | 19°  12'13'57 | -6°24'55 | minimum elong | | 3540 Jan 01 23:32 | 10°  12'11'32 | 0°14'32 |
| minimum elong | 3537 Aug 10 10:42 | 19°  12'29'21 | 6°23'00 | behind sun begin | | 3540 Jan 01 11:32 | 9°  12'33'50 | |
| min. Earth dist. | 3537 Aug 10 17:04 | 19°  12'19'21 | 0.29075 AU | behind sun end | | 3540 Jan 02 11:31 | 10°  12'34'49'14 | |
| morning rise | 3537 Aug 15 10:03 | 16°  12'25'41 | | | | 3540 Jan 17 17:33 | 0°  | |
| direct | 3537 Sep 01 11:25 | 10°  12'56'15 | | | | 3540 Feb 10 14:10 | 0°  | |
| greatest brilliancy | 3537 Sep 11 22:01 | 12°  12'53'33 | -4.7m | evening rise | | 3540 Feb 12 07:03 | 2°  12'13'08'22 | |
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| asc. node | 3537 Nov 01 07:48 | 23°  12'18'46 | | asc. node | | 3540 Apr 18 02:58 | 24°  12'18'04'18 | |
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| desc. node | 3538 Feb 20 21:50 | 6°  12'09'58 | | desc. node | | 3540 Aug 07 16:52 | 2°  12'02'02 | |
| | 3538 Mar 12 01:13 | 0°  | | evening max el | | 3540 Aug 11 11:56 | 5°  12'42'17 | 45°35'56 |
| | 3538 Apr 05 03:11 | 0°  | | | | 3540 Sep 11 06:14 | 0°  | |
| morning set | 3538 Apr 25 22:19 | 25°  12'05'51'15 | | greatest brilliancy | | 3540 Sep 19 21:06 | 3°  12'48'59 | -4.8m |
| | 3538 Apr 29 06:29 | 0°  | | retrograde | | 3540 Sep 29 05:44 | 5°  12'24'04 | |
| | 3538 May 23 12:03 | 0°  | | | | 3540 Oct 16 03:16 | 30°  12'15'11'17 | |
| | | | | evening set | | 3540 Oct 16 16:10 | 29°  12'02'41'09 | |
| superior conj | 3538 Jun 03 02:11 | 13°  12'04'19 | -0°25'48 | inferior conj | | 3540 Oct 20 07:48 | 27°  12'28'13 | -7°53'04 |
| minimum elong | 3538 Jun 03 07:41 | 13°  12'21'14 | 0°25'32 | minimum elong | | 3540 Oct 20 15:57 | 27°  12'15'38 | 7°52'00 |
| max. Earth dist. | 3538 Jun 05 06:34 | 15°  12'45'46 | 1.73130 AU | min. Earth dist. | | 3540 Oct 21 05:45 | 26°  12'54'22 | 0.28084 AU |
| asc. node | 3538 Jun 14 00:37 | 26° 12'32'48 | | morning rise | | 3540 Oct 24 15:25 | 24° 12'05'11'17 | |
| | 3538 Jun 16 19:55 | 0° | | direct | | 3540 Nov 10 13:27 | 19° 12'02'40 | |
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


































































































































| | | | | | | | |
|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| asc. node | 3540 Nov 28 19:29 | 25°♄11'07 | | | 3543 Jul 21 02:36 | 0°♈ | |
| | 3540 Dec 06 02:39 | 0°♌ | | | 3543 Aug 15 09:40 | 0°♌ | |
| morning max el | 3540 Dec 31 03:51 | 22°♌24'45 | 46°48'33 | desc. node | 3543 Sep 05 04:39 | 24°♌06'19 | |
| | 3541 Jan 07 11:13 | 0°♈ | | | 3543 Sep 10 08:54 | 0°♌ | |
| | 3541 Feb 03 08:19 | 0°♊ | | | 3543 Oct 07 14:26 | 0°♈ | |
| | 3541 Feb 28 18:05 | 0°♋ | | evening max el | 3543 Oct 24 08:00 | 17°♈06'39 | 46°32'02 |
| desc. node | 3541 Mar 20 09:39 | 23°♋42'51 | | | 3543 Nov 07 07:14 | 0°♊ | |
| | 3541 Mar 25 13:47 | 0°♈ | | greatest brilliancy | 3543 Dec 03 12:13 | 16°♊56'41 | -4.9m |
| | 3541 Apr 19 03:36 | 0°♈ | | retrograde | 3543 Dec 13 04:06 | 18°♊41'21 | |
| | 3541 May 13 15:27 | 0°♈ | | evening set | 3543 Dec 27 11:13 | 14°♊40'30 | |
| | 3541 Jun 07 03:05 | 0°♈ | | asc. node | 3543 Dec 27 07:31 | 14°♊45'23 | |
| | 3541 Jul 01 14:41 | 0°♋ | | inferior conj | 3544 Jan 02 17:38 | 11°♊01'23 | 1°39'51 |
| morning set | 3541 Jul 04 14:57 | 3°♋41'27 | | minimum elong | 3544 Jan 02 13:51 | 11°♊07'10 | 1°38'38 |
| asc. node | 3541 Jul 11 12:30 | 12°♋09'02 | | min. Earth dist. | 3544 Jan 02 16:46 | 11°♊02'43 | 0.26538 AU |
| | 3541 Jul 26 01:25 | 0°♈ | | morning rise | 3544 Jan 08 16:17 | 7°♊32'21 | |
| max. Earth dist. | 3541 Aug 08 17:27 | 16°♈48'22 | 1.73462 AU | direct | 3544 Jan 23 04:56 | 3°♊21'39 | |
| | | | | greatest brilliancy | 3544 Feb 02 07:06 | 5°♊17'12 | -4.9m |
| superior conj | 3541 Aug 10 06:01 | 18°♈40'55 | 1°03'04 | | 3544 Mar 07 07:14 | 0°♋ | |
| minimum elong | 3541 Aug 09 21:09 | 18°♈13'37 | 1°02'47 | morning max el | 3544 Mar 13 14:41 | 6°♋11'56 | 46°52'30 |
| | 3541 Aug 19 10:31 | 0°♈ | | | 3544 Apr 05 00:45 | 0°♈ | |
| | 3541 Sep 12 18:05 | 0°♌ | | desc. node | 3544 Apr 16 21:33 | 13°♈19'21 | |
| evening rise | 3541 Sep 15 06:04 | 3°♌05'16 | | | 3544 May 01 09:45 | 0°♈ | |
| | 3541 Oct 07 00:57 | 0°♌ | | | 3544 May 26 22:35 | 0°♈ | |
| desc. node | 3541 Oct 31 02:26 | 29°♌42'34 | | | 3544 Jun 21 02:23 | 0°♈ | |
| | 3541 Oct 31 08:06 | 0°♈ | | | 3544 Jul 16 00:46 | 0°♋ | |
| | 3541 Nov 24 16:09 | 0°♊ | | asc. node | 3544 Aug 08 00:23 | 27°♋52'35 | |
| | 3541 Dec 19 02:08 | 0°♋ | | | 3544 Aug 09 18:12 | 0°♈ | |
| | 3542 Jan 12 17:04 | 0°♈ | | | 3544 Sep 03 06:20 | 0°♈ | |
| | 3542 Feb 06 20:31 | 0°♈ | | morning set | 3544 Sep 10 14:31 | 9°♈02'25 | |
| asc. node | 3542 Feb 21 05:09 | 16°♈35'13 | | | 3544 Sep 27 13:29 | 0°♌ | |
| | 3542 Mar 05 06:23 | 0°♈ | | max. Earth dist. | 3544 Oct 14 05:37 | 20°♌41'59 | 1.72417 AU |
| evening max el | 3542 Mar 20 10:06 | 15°♈54'09 | 46°36'15 | | | | |
| | 3542 Apr 04 11:10 | 0°♈ | | superior conj | 3544 Oct 17 09:22 | 24°♌37'35 | 1°18'09 |
| greatest brilliancy | 3542 Apr 28 14:43 | 15°♈52'14 | -4.8m | minimum elong | 3544 Oct 17 16:30 | 24°♌59'46 | 1°18'01 |
| retrograde | 3542 May 09 11:06 | 18°♈02'22 | | | 3544 Oct 21 16:59 | 0°♌ | |
| evening set | 3542 May 24 23:37 | 13°♈18'17 | | | 3544 Nov 14 18:23 | 0°♈ | |
| inferior conj | 3542 May 30 17:12 | 9°♈49'17 | 3°05'23 | evening rise | 3544 Nov 24 23:44 | 12°♈45'54 | |
| minimum elong | 3542 May 30 23:42 | 9°♈39'05 | 3°03'32 | desc. node | 3544 Nov 27 14:25 | 16°♈01'37 | |
| min. Earth dist. | 3542 May 30 14:15 | 9°♈53'54 | 0.28464 AU | | 3544 Dec 08 18:45 | 0°♊ | |
| morning rise | 3542 Jun 06 00:19 | 6°♈02'56 | | | 3545 Jan 01 18:46 | 0°♋ | |
| desc. node | 3542 Jun 12 18:59 | 3°♈02'15 | | | 3545 Jan 25 19:36 | 0°♈ | |
| direct | 3542 Jun 21 01:09 | 1°♈40'49 | | | 3545 Feb 18 23:58 | 0°♈ | |
| greatest brilliancy | 3542 Jun 30 23:16 | 3°♈28'26 | -4.7m | | 3545 Mar 15 12:28 | 0°♈ | |
| | 3542 Aug 07 06:12 | 0°♋ | | asc. node | 3545 Mar 20 17:01 | 6°♈15'56 | |
| morning max el | 3542 Aug 08 19:06 | 1°♋27'24 | 45°42'35 | | 3545 Apr 09 16:23 | 0°♈ | |
| | 3542 Sep 05 12:38 | 0°♈ | | | 3545 May 06 01:15 | 0°♋ | |
| | 3542 Oct 02 03:29 | 0°♈ | | evening max el | 3545 May 30 02:22 | 25°♋02'42 | 45°38'39 |
| asc. node | 3542 Oct 03 22:01 | 2°♈03'30 | | | 3545 Jun 04 07:28 | 0°♈ | |
| | 3542 Oct 27 12:20 | 0°♌ | | greatest brilliancy | 3545 Jul 07 03:58 | 23°♈11'23 | -4.7m |
| | 3542 Nov 21 03:41 | 0°♌ | | desc. node | 3545 Jul 10 07:07 | 24°♈12'38 | |
| | 3542 Dec 15 08:55 | 0°♈ | | retrograde | 3545 Jul 17 23:33 | 25°♈18'30 | |
| | 3543 Jan 08 08:52 | 0°♊ | | evening set | 3545 Aug 03 00:45 | 20°♈24'02 | |
| desc. node | 3543 Jan 23 12:02 | 18°♊59'06 | | inferior conj | 3545 Aug 08 12:49 | 17°♈04'09 | -6°11'23 |
| | 3543 Feb 01 06:27 | 0°♋ | | minimum elong | 3545 Aug 08 02:57 | 17°♈19'36 | 6°09'23 |
| morning set | 3543 Feb 06 18:40 | 6°♋55'19 | | min. Earth dist. | 3545 Aug 08 08:57 | 17°♈10'13 | 0.29072 AU |
| | 3543 Feb 25 03:29 | 0°♈ | | morning rise | 3545 Aug 13 05:03 | 14°♈12'08 | |
| | | | | direct | 3545 Aug 30 03:15 | 8°♈46'21 | |
| superior conj | 3543 Mar 20 00:22 | 28°♈41'26 | -1°26'37 | greatest brilliancy | 3545 Sep 09 14:21 | 10°♈44'02 | -4.7m |
| minimum elong | 3543 Mar 19 23:42 | 28°♈39'21 | 1°26'38 | | 3545 Oct 08 09:58 | 0°♈ | |
| | 3543 Mar 21 01:27 | 0°♈ | | morning max el | 3545 Oct 18 08:35 | 9°♈16'46 | 46°03'48 |
| max. Earth dist. | 3543 Mar 23 19:16 | 3°♈26'01 | 1.71626 AU | asc. node | 3545 Oct 31 09:48 | 22°♈35'16 | |
| | 3543 Apr 14 01:54 | 0°♈ | | | 3545 Nov 07 07:21 | 0°♌ | |
| evening rise | 3543 Apr 28 23:28 | 18°♈30'47 | | | 3545 Dec 03 16:44 | 0°♌ | |
| | 3543 May 08 06:10 | 0°♈ | | | 3545 Dec 28 18:35 | 0°♈ | |
| asc. node | 3543 May 16 14:50 | 10°♈19'07 | | | 3546 Jan 22 05:58 | 0°♊ | |
| | 3543 Jun 01 15:08 | 0°♋ | | | 3546 Feb 15 10:43 | 0°♋ | |
| | 3543 Jun 26 05:29 | 0°♈ | | desc. node | 3546 Feb 19 23:50 | 5°♋39'27 | |

| | | | | | | | |
|---------------------|-------------------|----------------------------------|--|---------------------|-------------------|---------------------------|------------|
| | 3546 Mar 11 12:46 | 0° H | | evening max el | 3548 Aug 09 03:11 | 3° Q 29'10 | 45°34'47 |
| | 3546 Apr 04 14:31 | 0° Y | | | 3548 Sep 13 10:07 | 0° M | |
| morning set | 3546 Apr 23 12:10 | 23° Y 30'29 | | greatest brilliancy | 3548 Sep 17 10:08 | 1° M 31'54 | -4.8m |
| | 3546 Apr 28 17:38 | 0° B | | retrograde | 3548 Sep 26 19:44 | 3° M 07'21 | |
| | 3546 May 22 23:05 | 0° II | | | 3548 Oct 09 11:11 | 30° R Q | |
| | | | | evening set | 3548 Oct 14 08:56 | 27° Q 20'41 | |
| superior conj | 3546 May 31 18:09 | 10° II 51'39 -0°29'01 | | inferior conj | 3548 Oct 17 22:17 | 25° Q 10'44 | -8°01'33 |
| minimum elong | 3546 Jun 01 00:17 | 11° II 10'35 0°28'45 | | minimum elong | 3548 Oct 18 05:53 | 24° Q 59'00 | 8°00'39 |
| max. Earth dist. | 3546 Jun 03 00:12 | 13° II 38'21 1.73093 AU | | min. Earth dist. | 3548 Oct 18 19:29 | 24° Q 37'59 | 0.28148 AU |
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| | 3546 Jun 16 06:53 | 0° Q | | direct | 3548 Nov 08 05:04 | 17° Q 03'33 | |
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| | 3546 Jul 10 16:32 | 0° Q | | asc. node | 3548 Nov 27 21:37 | 23° Q 44'51 | |
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| | 3546 Oct 17 09:23 | 0° X | | | 3549 Feb 28 07:32 | 0° \approx | |
| | 3546 Nov 11 16:13 | 0° Z | | desc. node | 3549 Mar 19 11:40 | 23° \approx 10'33 | |
| | 3546 Dec 07 14:29 | 0° \approx | | | 3549 Mar 25 02:15 | 0° H | |
| | 3547 Jan 04 05:08 | 0° H | | | 3549 Apr 18 15:27 | 0° Y | |
| evening max el | 3547 Jan 05 00:44 | 0° H 49'57 47°14'03 | | | 3549 May 13 02:52 | 0° B | |
| asc. node | 3547 Jan 23 19:21 | 18° H 27'41 | | | 3549 Jun 06 14:12 | 0° II | |
| | 3547 Feb 09 06:38 | 0° Y | | | 3549 Jul 01 01:34 | 0° Q | |
| greatest brilliancy | 3547 Feb 14 18:26 | 2° Y 29'38 -4.9m | | morning set | 3549 Jul 02 08:32 | 1° Q 34'55 | |
| retrograde | 3547 Feb 24 23:02 | 4° Y 29'20 | | asc. node | 3549 Jul 10 14:33 | 11° Q 42'05 | |
| | 3547 Mar 11 22:07 | 30° R H | | | 3549 Jul 25 12:11 | 0° Q | |
| evening set | 3547 Mar 14 21:41 | 28° H 15'41 | | max. Earth dist. | 3549 Aug 06 13:43 | 14° Q 49'59 | 1.73475 AU |
| min. Earth dist. | 3547 Mar 17 05:12 | 26° H 50'14 0.27419 AU | | | | | |
| inferior conj | 3547 Mar 17 18:57 | 26° H 28'52 8°57'00 | | superior conj | 3549 Aug 08 00:10 | 16° Q 35'58 | 1°00'54 |
| minimum elong | 3547 Mar 17 17:45 | 26° H 30'45 8°56'59 | | minimum elong | 3549 Aug 07 15:17 | 16° Q 08'37 | 1°00'36 |
| morning rise | 3547 Mar 20 13:57 | 24° H 45'46 | | | 3549 Aug 18 21:17 | 0° M | |
| direct | 3547 Apr 07 10:33 | 18° H 37'58 | | | 3549 Sep 12 04:57 | 0° Q | |
| greatest brilliancy | 3547 Apr 16 15:25 | 20° H 13'26 -4.8m | | evening rise | 3549 Sep 12 23:32 | 0° Q 57'21 | |
| | 3547 May 04 05:40 | 0° Y | | | 3549 Oct 06 12:02 | 0° M | |
| desc. node | 3547 May 15 09:16 | 9° Y 03'18 | | desc. node | 3549 Oct 30 04:32 | 29° M 13'55 | |
| morning max el | 3547 May 26 23:47 | 19° Y 50'00 46°10'34 | | | 3549 Oct 30 19:29 | 0° X | |
| | 3547 Jun 06 02:53 | 0° B | | | 3549 Nov 24 03:57 | 0° Z | |
| | 3547 Jul 03 21:37 | 0° II | | | 3549 Dec 18 14:28 | 0° \approx | |
| | 3547 Jul 30 04:41 | 0° Q | | | 3550 Jan 12 06:12 | 0° H | |
| | 3547 Aug 24 17:08 | 0° Q | | | 3550 Feb 06 11:04 | 0° Y | |
| asc. node | 3547 Sep 05 12:06 | 14° Q 05'50 | | asc. node | 3550 Feb 20 07:07 | 15° Y 55'37 | |
| | 3547 Sep 18 16:11 | 0° M | | | 3550 Mar 05 00:16 | 0° B | |
| | 3547 Oct 13 04:46 | 0° Q | | evening max el | 3550 Mar 18 01:03 | 13° B 36'51 | 46°38'20 |
| | 3547 Nov 06 09:48 | 0° M | | | 3550 Apr 04 18:31 | 0° II | |
| morning set | 3547 Nov 20 17:37 | 17° M 52'29 | | greatest brilliancy | 3550 Apr 26 08:05 | 13° II 41'01 | -4.8m |
| | 3547 Nov 30 10:09 | 0° X | | retrograde | 3550 May 07 02:50 | 15° II 49'43 | |
| | 3547 Dec 24 07:59 | 0° Z | | evening set | 3550 May 22 17:43 | 11° II 03'06 | |
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| max. Earth dist. | 3547 Dec 29 12:49 | 6° Z 32'08 1.71219 AU | | minimum elong | 3550 May 28 16:07 | 7° II 25'58 | 3°22'46 |
| | | | | min. Earth dist. | 3550 May 28 06:23 | 7° II 41'15 | 0.28435 AU |
| superior conj | 3547 Dec 30 14:19 | 7° Z 52'17 -0°10'50 | | morning rise | 3550 Jun 03 15:02 | 3° II 51'55 | |
| minimum elong | 3547 Dec 30 11:29 | 7° Z 43'24 0°10'42 | | desc. node | 3550 Jun 11 21:09 | 0° II 24'24 | |
| behind sun begin | 3547 Dec 29 15:37 | 6° Z 40'58 | | | 3550 Jun 13 14:23 | 30° R B | |
| behind sun end | 3547 Dec 31 07:21 | 8° Z 45'51 | | direct | 3550 Jun 18 16:38 | 29° B 29'11 | |
| | 3548 Jan 17 04:39 | 0° \approx | | | 3550 Jun 23 21:51 | 0° II | |
| evening rise | 3548 Feb 09 17:37 | 29° \approx 35'46 | | greatest brilliancy | 3550 Jun 28 14:14 | 1° II 16'08 | -4.7m |
| | 3548 Feb 10 01:20 | 0° H | | morning max el | 3550 Aug 06 09:44 | 29° II 14'16 | 45°42'37 |
| | 3548 Mar 04 23:41 | 0° Y | | | 3550 Aug 07 04:52 | 0° Q | |
| | 3548 Mar 29 01:57 | 0° B | | | 3550 Sep 05 04:19 | 0° Q | |
| asc. node | 3548 Apr 17 04:58 | 23° B 34'55 | | | 3550 Oct 01 16:46 | 0° M | |
| | 3548 Apr 22 10:49 | 0° II | | asc. node | 3550 Oct 03 00:06 | 1° M 31'11 | |
| | 3548 May 17 05:21 | 0° Q | | | 3550 Oct 20 00:30 | 0° Q | |
| | 3548 Jun 11 14:10 | 0° Q | | | 3550 Nov 27 15:18 | 0° M | |
| | 3548 Jul 07 23:10 | 0° M | | | 3550 Dec 14 20:15 | 0° X | |
| | 3548 Aug 05 12:40 | 0° Q | | | 3551 Jan 07 20:02 | 0° Z | |
| desc. node | 3548 Aug 06 18:50 | 1° Q 13'31 | | desc. node | 3551 Jan 22 13:58 | 18° Z 30'17 | |





































































































































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|---------------------|-------------------|-----------|------------|---------------------|-------------------|-----------|------------|
| | 3551 Jan 31 17:31 | 0°≈ | | minimum elong | 3553 Aug 05 19:29 | 15°Ω11'49 | 5°55'25 |
| morning set | 3551 Feb 04 04:26 | 4°≈20'32 | | min. Earth dist. | 3553 Aug 06 00:43 | 15°Ω03'38 | 0.29071 AU |
| | 3551 Feb 24 14:27 | 0°✕ | | morning rise | 3553 Aug 11 00:15 | 12°Ω00'47 | |
| | | | | direct | 3553 Aug 27 19:43 | 6°Ω38'36 | |
| superior conj | 3551 Mar 17 12:01 | 26°✕13'37 | -1°26'27 | greatest brilliancy | 3553 Sep 07 06:21 | 8°Ω36'06 | -4.7m |
| minimum elong | 3551 Mar 17 10:18 | 26°✕08'15 | 1°26'26 | | 3553 Oct 08 11:51 | 0°♐ | |
| | 3551 Mar 20 12:19 | 0°Υ | | morning max el | 3553 Oct 16 00:57 | 7°♐06'55 | 46°02'21 |
| max. Earth dist. | 3551 Mar 21 05:13 | 0°Υ52'55 | 1.71573 AU | asc. node | 3553 Oct 30 11:54 | 21°♐53'45 | |
| | 3551 Apr 13 12:41 | 0°♄ | | | 3553 Nov 06 23:46 | 0°♄ | |
| evening rise | 3551 Apr 26 13:07 | 16°♄10'46 | | | 3553 Dec 03 06:26 | 0°♄ | |
| | 3551 May 07 16:58 | 0°♄ | | | 3553 Dec 28 07:05 | 0°♄ | |
| asc. node | 3551 May 15 16:57 | 9°♄52'19 | | | 3554 Jan 21 17:50 | 0°♄ | |
| | 3551 Jun 01 02:04 | 0°♄ | | | 3554 Feb 14 22:10 | 0°≈ | |
| | 3551 Jun 25 16:42 | 0°Ω | | desc. node | 3554 Feb 19 01:48 | 5°≈10'07 | |
| | 3551 Jul 20 14:22 | 0°♐ | | | 3554 Mar 10 23:56 | 0°✕ | |
| | 3551 Aug 14 22:23 | 0°♄ | | | 3554 Apr 04 01:28 | 0°Υ | |
| desc. node | 3551 Sep 04 06:38 | 23°♄31'48 | | morning set | 3554 Apr 21 01:55 | 21°Υ10'28 | |
| | 3551 Sep 09 23:27 | 0°♄ | | | 3554 Apr 28 04:25 | 0°♄ | |
| | 3551 Oct 07 09:02 | 0°♄ | | | 3554 May 22 09:43 | 0°♄ | |
| evening max el | 3551 Oct 21 20:03 | 14°♄41'27 | 46°29'42 | | | | |
| | 3551 Nov 07 16:49 | 0°♄ | | superior conj | 3554 May 29 10:09 | 8°♄40'14 | -0°32'12 |
| greatest brilliancy | 3551 Dec 01 01:44 | 14°♄30'21 | -4.9m | minimum elong | 3554 May 29 16:54 | 9°♄01'06 | 0°31'54 |
| retrograde | 3551 Dec 10 15:48 | 16°♄13'43 | | max. Earth dist. | 3554 May 31 18:52 | 11°♄35'14 | 1.73051 AU |
| evening set | 3551 Dec 24 23:25 | 12°♄12'39 | | asc. node | 3554 Jun 12 04:44 | 25°♄39'17 | |
| asc. node | 3551 Dec 26 09:30 | 11°♄26'20 | | | 3554 Jun 15 17:25 | 0°♄ | |
| inferior conj | 3551 Dec 31 05:55 | 8°♄33'54 | 1°15'34 | evening rise | 3554 Jul 05 15:26 | 24°♄29'33 | |
| minimum elong | 3551 Dec 31 03:01 | 8°♄38'19 | 1°14'38 | | 3554 Jul 10 03:06 | 0°Ω | |
| | 3551 Dec 31 06:54 | 8°♄32'24 | 0.26554 AU | | 3554 Aug 03 14:33 | 0°♐ | |
| min. Earth dist. | 3552 Jan 06 06:19 | 5°♄02'28 | | | 3554 Aug 28 04:28 | 0°♄ | |
| morning rise | 3552 Jan 20 16:52 | 0°♄53'24 | | | 3554 Sep 21 22:18 | 0°♄ | |
| direct | 3552 Jan 30 21:56 | 2°♄51'24 | -4.9m | desc. node | 3554 Oct 01 18:41 | 11°♄52'11 | |
| greatest brilliancy | 3552 Mar 07 08:33 | 0°≈ | | | 3554 Oct 16 21:51 | 0°♄ | |
| | 3552 Mar 11 03:28 | 3°≈45'34 | 46°53'36 | | 3554 Nov 11 06:00 | 0°♄ | |
| | 3552 Apr 04 17:44 | 0°✕ | | | 3554 Dec 07 06:44 | 0°≈ | |
| desc. node | 3552 Apr 15 23:37 | 12°✕41'15 | | evening max el | 3555 Jan 02 15:47 | 28°≈29'19 | 47°13'54 |
| | 3552 Apr 30 23:47 | 0°Υ | | | 3555 Jan 04 03:40 | 0°✕ | |
| | 3552 May 26 11:07 | 0°♄ | | asc. node | 3555 Jan 22 21:19 | 17°✕18'18 | |
| | 3552 Jun 20 14:03 | 0°♄ | | | 3555 Feb 12 02:35 | 0°Υ | |
| | 3552 Jul 15 11:54 | 0°♄ | | greatest brilliancy | 3555 Feb 12 07:40 | 0°Υ04'48 | -4.9m |
| asc. node | 3552 Aug 07 02:17 | 27°♄25'22 | | retrograde | 3555 Feb 22 13:33 | 2°Υ05'20 | |
| | 3552 Aug 09 05:01 | 0°Ω | | | 3555 Mar 04 13:58 | 30°♄ | |
| | 3552 Sep 02 16:59 | 0°♐ | | evening set | 3555 Mar 12 09:36 | 25°✕54'29 | |
| morning set | 3552 Sep 08 07:51 | 6°♐55'08 | | min. Earth dist. | 3555 Mar 14 17:34 | 24°✕28'26 | 0.27373 AU |
| | 3552 Sep 27 00:06 | 0°♄ | | inferior conj | 3555 Mar 15 08:26 | 24°✕05'22 | 8°55'41 |
| max. Earth dist. | 3552 Oct 11 23:43 | 18°♄35'54 | 1.72468 AU | minimum elong | 3555 Mar 15 06:19 | 24°✕08'39 | 8°55'37 |
| | | | | morning rise | 3555 Mar 18 03:12 | 22°✕22'46 | |
| superior conj | 3552 Oct 15 01:29 | 22°♄25'15 | 1°19'25 | direct | 3555 Apr 05 00:10 | 16°✕15'21 | |
| minimum elong | 3552 Oct 15 08:02 | 22°♄45'40 | 1°19'19 | greatest brilliancy | 3555 Apr 14 03:17 | 17°✕49'50 | -4.8m |
| | 3552 Oct 21 03:39 | 0°♄ | | | 3555 May 04 21:28 | 0°Υ | |
| | 3552 Nov 14 05:11 | 0°♄ | | desc. node | 3555 May 14 11:22 | 8°Υ03'58 | |
| evening rise | 3552 Nov 22 12:53 | 10°♄23'14 | | morning max el | 3555 May 24 14:37 | 17°Υ33'40 | 46°12'07 |
| | 3552 Nov 26 16:28 | 15°♄34'09 | | | 3555 Jun 05 22:06 | 0°♄ | |
| desc. node | 3552 Dec 08 05:43 | 0°♄ | | | 3555 Jul 03 12:18 | 0°♄ | |
| | 3553 Jan 01 05:56 | 0°≈ | | | 3555 Jul 29 17:24 | 0°♄ | |
| | 3553 Jan 25 07:01 | 0°✕ | | | 3555 Aug 24 04:48 | 0°Ω | |
| | 3553 Feb 18 11:45 | 0°Υ | | asc. node | 3555 Sep 04 14:14 | 13°Ω38'01 | |
| | 3553 Mar 15 00:51 | 0°♄ | | | 3555 Sep 18 03:18 | 0°♐ | |
| asc. node | 3553 Mar 19 19:05 | 5°♄44'27 | | | 3555 Oct 12 15:37 | 0°♄ | |
| | 3553 Apr 09 05:52 | 0°♄ | | | 3555 Nov 05 20:34 | 0°♄ | |
| | 3553 May 05 17:18 | 0°♄ | | morning set | 3555 Nov 18 07:53 | 15°♄33'35 | |
| evening max el | 3553 May 27 17:55 | 22°♄51'32 | 45°40'10 | | 3555 Nov 29 20:55 | 0°♄ | |
| | 3553 Jun 04 07:59 | 0°Ω | | | 3555 Dec 23 18:47 | 0°♄ | |
| greatest brilliancy | 3553 Jul 04 18:57 | 21°Ω02'15 | -4.7m | desc. node | 3555 Dec 25 04:13 | 1°♄44'58 | |
| desc. node | 3553 Jul 09 09:00 | 22°Ω26'16 | | max. Earth dist. | 3555 Dec 26 20:07 | 3°♄50'17 | 1.71243 AU |
| retrograde | 3553 Jul 15 16:34 | 23°Ω11'16 | | | | | |
| evening set | 3553 Jul 31 14:41 | 18°Ω19'53 | | superior conj | 3555 Dec 28 01:13 | 5°♄21'42 | -0°06'57 |
| inferior conj | 3553 Aug 06 05:20 | 14°Ω56'25 | -5°57'30 | minimum elong | 3555 Dec 27 23:25 | 5°♄16'02 | 0°06'50 |

| | | | | | | | |
|---------------------|-------------------|---|------------|---------------------|-------------------|---|---------------------|
| behind sun begin | 3555 Dec 26 23:38 | 4°  01'20 | | desc. node | 3558 Jun 10 23:04 | 27°  50'31 | |
| behind sun end | 3555 Dec 28 23:11 | 6°  30'45 | | direct | 3558 Jun 16 07:23 | 27°  16'38 | |
| | 3556 Jan 16 15:30 | 0°  | | greatest brilliancy | 3558 Jun 26 05:25 | 29°  03'33 | -4.7m |
| evening rise | 3556 Feb 07 03:47 | 27°  02'37 | | | 3558 Jun 28 16:43 | 0°  | |
| | 3556 Feb 09 12:15 | 0°  | | morning max el | 3558 Aug 04 00:07 | 27°  00'23 | 45°42'51 |
| | 3556 Mar 04 10:41 | 0°  | | | 3558 Aug 07 02:40 | 0°  | |
| | 3556 Mar 28 13:06 | 0°  | | | 3558 Sep 04 19:43 | 0°  | |
| asc. node | 3556 Apr 16 07:06 | 23°  06'42 | | | 3558 Oct 01 05:53 | 0°  | |
| | 3556 Apr 21 22:14 | 0°  | | asc. node | 3558 Oct 02 02:07 | 0°  | 59'02 |
| | 3556 May 16 17:18 | 0°  | | | 3558 Oct 26 12:32 | 0°  | |
| | 3556 Jun 11 03:10 | 0°  | | | 3558 Nov 20 02:46 | 0°  | |
| | 3556 Jul 07 14:26 | 0°  | | | 3558 Dec 14 07:26 | 0°  | |
| | 3556 Aug 05 10:13 | 0°  | | | 3559 Jan 07 07:06 | 0°  | |
| desc. node | 3556 Aug 05 20:54 | 0°  25'42 | | desc. node | 3559 Jan 21 16:00 | 18°  | 02'05 |
| evening max el | 3556 Aug 06 18:11 | 1°  16'41 | 45°33'49 | | 3559 Jan 31 04:32 | 0°  | |
| greatest brilliancy | 3556 Sep 14 23:58 | 29°  17'43 | -4.7m | morning set | 3559 Feb 01 14:17 | 1°  | 46'05 |
| | 3556 Sep 17 10:52 | 0°  | | | 3559 Feb 24 01:25 | 0°  | |
| retrograde | 3556 Sep 24 09:37 | 0°  00'53'06 | | | | | |
| | 3556 Oct 01 02:45 | 30°  00'00 | | superior conj | 3559 Mar 14 23:15 | 23°  | 44'13 -1°26'05 |
| evening set | 3556 Oct 12 01:50 | 25°  03'06 | | minimum elong | 3559 Mar 14 20:28 | 23°  | 35'29 1°26'04 |
| inferior conj | 3556 Oct 15 13:10 | 22°  55'50 | -8°09'06 | max. Earth dist. | 3559 Mar 18 10:48 | 28°  | 05'54 1.71530 AU |
| minimum elong | 3556 Oct 15 20:08 | 22°  45'02 | 8°08'22 | | 3559 Mar 19 23:14 | 0°  | |
| min. Earth dist. | 3556 Oct 16 09:47 | 22°  23'53 | 0.28211 AU | | 3559 Apr 12 23:35 | 0°  | |
| morning rise | 3556 Oct 19 14:10 | 20°  27'53 | | evening rise | 3559 Apr 24 02:01 | 13°  | 00'48'00 |
| direct | 3556 Nov 05 20:30 | 14°  47'57 | | | 3559 May 07 03:54 | 0°  | |
| greatest brilliancy | 3556 Nov 16 23:17 | 17°  05'34 | -4.8m | asc. node | 3559 May 14 18:54 | 9°  | 00'24'32 |
| asc. node | 3556 Nov 26 23:37 | 22°  22'45 | | | 3559 May 31 13:08 | 0°  | |
| | 3556 Dec 07 07:07 | 0°  | | | 3559 Jun 25 04:04 | 0°  | |
| morning max el | 3556 Dec 26 08:19 | 17°  00'41'43 | 46°46'05 | | 3559 Jul 20 02:17 | 0°  | |
| | 3557 Jan 07 01:37 | 0°  | | | 3559 Aug 14 11:20 | 0°  | |
| | 3557 Feb 02 14:31 | 0°  | | desc. node | 3559 Sep 03 08:46 | 22°  | 00'57'05 |
| | 3557 Feb 27 20:47 | 0°  | | | 3559 Sep 09 14:19 | 0°  | |
| desc. node | 3557 Mar 18 13:48 | 22°  00'39'02 | | | 3559 Oct 07 04:14 | 0°  | |
| | 3557 Mar 24 14:33 | 0°  | | evening max el | 3559 Oct 19 08:41 | 12°  | 00'18'00 46°27'37 |
| | 3557 Apr 18 03:08 | 0°  | | | 3559 Nov 08 05:35 | 0°  | |
| | 3557 May 12 14:06 | 0°  | | greatest brilliancy | 3559 Nov 28 14:58 | 12°  | 00'42'20 -4.9m |
| | 3557 Jun 06 01:06 | 0°  | | retrograde | 3559 Dec 08 04:11 | 13°  | 00'47'09 |
| morning set | 3557 Jun 30 02:00 | 29°  00'28'32 | | evening set | 3559 Dec 22 12:05 | 9°  | 00'45'19 |
| | 3557 Jun 30 12:16 | 0°  | | asc. node | 3559 Dec 25 11:26 | 8°  | 00'05'47 |
| asc. node | 3557 Jul 09 16:28 | 11°  00'15'19 | | inferior conj | 3559 Dec 28 18:25 | 6°  | 00'07'16 0°51'17 |
| | 3557 Jul 24 22:46 | 0°  | | minimum elong | 3559 Dec 28 16:26 | 6°  | 00'10'16 0°50'38 |
| max. Earth dist. | 3557 Aug 04 08:39 | 12°  00'48'05 | 1.73484 AU | min. Earth dist. | 3559 Dec 28 20:56 | 6°  | 00'03'25 0.26571 AU |
| | | | | morning rise | 3560 Jan 03 20:24 | 2°  | 00'33'55 |
| superior conj | 3557 Aug 05 18:28 | 14°  00'32'07 | 0°58'40 | | 3560 Jan 09 12:24 | 30°  | 00'00'00 |
| minimum elong | 3557 Aug 05 09:36 | 14°  00'04'48 | 0°58'20 | direct | 3560 Jan 18 05:27 | 28°  | 00'00'00 |
| | 3557 Aug 18 07:52 | 0°  | | | 3560 Jan 27 06:53 | 0°  | |
| evening rise | 3557 Sep 10 17:22 | 28°  00'51'20 | | greatest brilliancy | 3560 Jan 28 12:42 | 0°  | 00'26'17 -4.9m |
| | 3557 Sep 11 15:37 | 0°  | | | 3560 Mar 07 08:34 | 0°  | |
| | 3557 Oct 05 22:53 | 0°  | | morning max el | 3560 Mar 08 17:21 | 1°  | 00'22'04 46°54'22 |
| desc. node | 3557 Oct 29 06:38 | 28°  00'00'46'03 | | | 3560 Apr 04 10:27 | 0°  | |
| | 3557 Oct 30 06:38 | 0°  | | desc. node | 3560 Apr 15 01:40 | 12°  | 00'03'09 |
| | 3557 Nov 23 15:33 | 0°  | | | 3560 Apr 30 13:51 | 0°  | |
| | 3557 Dec 18 02:41 | 0°  | | | 3560 May 25 23:50 | 0°  | |
| | 3558 Jan 11 19:18 | 0°  | | | 3560 Jun 20 01:57 | 0°  | |
| | 3558 Feb 06 01:45 | 0°  | | | 3560 Jul 14 23:17 | 0°  | |
| asc. node | 3558 Feb 19 09:12 | 15°  00'00'15'52 | | asc. node | 3560 Aug 06 04:25 | 26°  | 00'58'12 |
| | 3558 Mar 04 18:39 | 0°  | | | 3560 Aug 08 16:04 | 0°  | |
| evening max el | 3558 Mar 15 15:04 | 11°  00'00'16'46 | 46°40'25 | | 3560 Sep 02 03:50 | 0°  | |
| | 3558 Apr 05 04:51 | 0°  | | morning set | 3560 Sep 06 01:02 | 4°  | 00'00'46'47 |
| greatest brilliancy | 3558 Apr 24 01:31 | 11°  00'00'29'05 | -4.8m | | 3560 Sep 26 10:55 | 0°  | |
| retrograde | 3558 May 04 18:13 | 13°  00'00'36'18 | | max. Earth dist. | 3560 Oct 09 18:01 | 16°  | 00'29'53 1.72514 AU |
| evening set | 3558 May 20 11:41 | 8°  00'00'46'45 | | | | | |
| inferior conj | 3558 May 26 00:41 | 5°  00'00'24'05 | 3°43'59 | superior conj | 3560 Oct 12 17:37 | 20°  | 00'12'23 1°20'35 |
| minimum elong | 3558 May 26 08:17 | 5°  00'00'12'08 | 3°41'53 | minimum elong | 3560 Oct 12 23:34 | 20°  | 00'03'00'54 1°20'30 |
| min. Earth dist. | 3558 May 25 22:31 | 5°  00'00'27'29 | 0.28405 AU | | 3560 Oct 20 14:32 | 0°  | |
| morning rise | 3558 Jun 01 05:20 | 1°  00'00'40'27 | | | 3560 Nov 13 16:11 | 0°  | |
| | 3558 Jun 04 13:06 | 30°  00'00'00'00 | | evening rise | 3560 Nov 20 02:16 | 8°  | 00'00'45 |

| | | | | | | |
|---------------------|-------------------|---|-------------|---------------------|---|---|
| desc. node | 3560 Nov 25 18:26 | 15°  05'42 | | 3563 Jul 29 06:23 | 0°  | |
| | 3560 Dec 07 16:53 | 0°  | | 3563 Aug 23 16:50 | 0°  | |
| | 3560 Dec 31 17:15 | 0°  | asc. node | 3563 Sep 03 16:17 | 13°  08'44 | |
| | 3561 Jan 24 18:35 | 0°  | | 3563 Sep 17 14:49 | 0°  | |
| | 3561 Feb 17 23:40 | 0°  | | 3563 Oct 12 02:52 | 0°  | |
| | 3561 Mar 14 13:26 | 0°  | | 3563 Nov 05 07:42 | 0°  | |
| asc. node | 3561 Mar 18 21:09 | 5°  12'23 | morning set | 3563 Nov 15 22:02 | 13°  13'11 | |
| | 3561 Apr 08 19:43 | 0°  | | 3563 Nov 29 08:02 | 0°  | |
| | 3561 May 05 10:00 | 0°  | | 3563 Dec 23 05:56 | 0°  | |
| evening max el | 3561 May 25 10:15 | 20°  41'05 | 45°41'34 | max. Earth dist. | 3563 Dec 24 01:27 | 1°  01'16 1.71268 AU |
| | 3561 Jun 04 10:27 | 0°  | | desc. node | 3563 Dec 24 06:15 | 1°  16'22 |
| greatest brilliancy | 3561 Jul 02 09:55 | 18°  51'26 | -4.7m | | | |
| desc. node | 3561 Jul 08 11:05 | 20°  03'41'5 | | superior conj | 3563 Dec 25 12:10 | 2°  50'20 -0°03'02 |
| retrograde | 3561 Jul 13 09:26 | 21°  01'55 | | minimum elong | 3563 Dec 25 11:23 | 2°  47'52 0°02'59 |
| evening set | 3561 Jul 29 04:31 | 16°  01'34'5 | | behind sun begin | 3563 Dec 24 09:53 | 1°  32'46 |
| inferior conj | 3561 Aug 03 21:36 | 12°  04'43 | -5°42'56 | behind sun end | 3563 Dec 26 12:54 | 4°  07'59 |
| minimum elong | 3561 Aug 03 11:50 | 13°  01'58 | 5°40'47 | | 3564 Jan 16 02:43 | 0°  |
| min. Earth dist. | 3561 Aug 03 16:11 | 12°  05'51'1 | 0.29064 AU | evening rise | 3564 Feb 04 13:58 | 24°  28'27 |
| morning rise | 3561 Aug 08 19:12 | 9°  04'7'24 | | | 3564 Feb 08 23:31 | 0°  |
| direct | 3561 Aug 25 12:20 | 4°  02'9'04 | | | 3564 Mar 03 22:01 | 0°  |
| greatest brilliancy | 3561 Sep 04 21:32 | 6°  02'5'42 | -4.7m | | 3564 Mar 28 00:33 | 0°  |
| | 3561 Oct 08 12:56 | 0°  | | asc. node | 3564 Apr 15 09:03 | 22°  03'7'00 |
| morning max el | 3561 Oct 13 17:17 | 4°  05'6'00 | 46°00'58 | | 3564 Apr 21 09:57 | 0°  |
| asc. node | 3561 Oct 29 13:56 | 21°  01'11'28 | | | 3564 May 16 05:34 | 0°  |
| | 3561 Nov 06 16:16 | 0°  | | | 3564 Jun 10 16:34 | 0°  |
| | 3561 Dec 02 20:20 | 0°  | | | 3564 Jul 07 06:17 | 0°  |
| | 3561 Dec 27 19:49 | 0°  | | evening max el | 3564 Aug 04 08:18 | 29°  00'50 45°32'39 |
| | 3562 Jan 21 05:55 | 0°  | | desc. node | 3564 Aug 04 23:00 | 29°  05'50 |
| | 3562 Feb 14 09:49 | 0°  | | | 3564 Aug 05 09:11 | 0°  |
| desc. node | 3562 Feb 18 03:58 | 4°  40'42 | | greatest brilliancy | 3564 Sep 12 14:00 | 27°  02'08 -4.7m |
| | 3562 Mar 10 11:17 | 0°  | | retrograde | 3564 Sep 21 23:14 | 28°  03'7'24 |
| | 3562 Apr 03 12:36 | 0°  | | evening set | 3564 Oct 09 18:25 | 22°  04'41'10 |
| morning set | 3562 Apr 18 15:50 | 18°  05'50'17 | | inferior conj | 3564 Oct 13 03:58 | 20°  03'9'28 -8°15'51 |
| | 3562 Apr 27 15:24 | 0°  | | minimum elong | 3564 Oct 13 10:16 | 20°  02'9'41 8°15'15 |
| | 3562 May 21 20:37 | 0°  | | min. Earth dist. | 3564 Oct 14 00:22 | 20°  07'48 0.28274 AU |
| | | | | morning rise | 3564 Oct 17 01:50 | 18°  01'5'48 |
| superior conj | 3562 May 27 02:04 | 6°  02'7'32 | -0°35'21 | direct | 3564 Nov 03 11:22 | 12°  03'0'39 |
| minimum elong | 3562 May 27 09:24 | 6°  02'50'11 | 0°35'01 | greatest brilliancy | 3564 Nov 14 14:44 | 14°  04'8'00 -4.8m |
| max. Earth dist. | 3562 May 29 14:58 | 9°  02'35'35 | 1.73015 AU | asc. node | 3564 Nov 26 01:35 | 21°  01'41 |
| asc. node | 3562 Jun 11 06:43 | 25°  02'11'56 | | | 3564 Dec 07 16:26 | 0°  |
| | 3562 Jun 15 04:18 | 0°  | | morning max el | 3564 Dec 23 21:47 | 15°  01'17'33 46°44'51 |
| evening rise | 3562 Jul 03 09:28 | 22°  02'24'04 | | | 3565 Jan 06 20:19 | 0°  |
| | 3562 Jul 09 14:02 | 0°  | | | 3565 Feb 02 05:35 | 0°  |
| | 3562 Aug 03 01:40 | 0°  | | | 3565 Feb 27 10:14 | 0°  |
| | 3562 Aug 27 15:57 | 0°  | | desc. node | 3565 Mar 17 15:47 | 22°  06'17 |
| | 3562 Sep 21 10:21 | 0°  | | | 3565 Mar 24 03:06 | 0°  |
| desc. node | 3562 Sep 30 20:43 | 11°  01'11'21'15 | | | 3565 Apr 17 15:04 | 0°  |
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| | 3562 Dec 06 23:40 | 0°  | | morning set | 3565 Jun 27 19:44 | 27°  02'22'12 |
| evening max el | 3562 Dec 31 07:09 | 26°  08'27 | 47°13'39 | | 3565 Jun 29 23:11 | 0°  |
| | 3563 Jan 04 03:36 | 0°  | | asc. node | 3565 Jul 08 18:38 | 10°  04'48'35 |
| asc. node | 3563 Jan 21 23:30 | 16°  06'25 | | | 3565 Jul 24 09:36 | 0°  |
| greatest brilliancy | 3563 Feb 09 21:31 | 27°  06'39'55 | -4.9m | max. Earth dist. | 3565 Aug 02 04:13 | 10°  04'47'26 1.73499 AU |
| retrograde | 3563 Feb 20 03:59 | 29°  06'40'25 | | | | |
| evening set | 3563 Mar 09 21:12 | 23°  06'33'29 | | superior conj | 3565 Aug 03 13:00 | 12°  02'28'13 0°56'20 |
| inferior conj | 3563 Mar 12 21:59 | 21°  06'41'16 | 8°53'24 | minimum elong | 3565 Aug 03 04:11 | 12°  02'01'05 0°56'01 |
| minimum elong | 3563 Mar 12 19:00 | 21°  06'45'55 | 8°53'16 | | 3565 Aug 17 18:43 | 0°  |
| min. Earth dist. | 3563 Mar 12 06:15 | 22°  06'05'43 | 0.27322 AU | evening rise | 3565 Sep 08 11:23 | 26°  06'45'00 |
| morning rise | 3563 Mar 15 17:00 | 19°  06'58'20 | | | 3565 Sep 11 02:37 | 0°  |
| direct | 3563 Apr 02 13:48 | 13°  06'52'24 | | | 3565 Oct 05 10:06 | 0°  |
| greatest brilliancy | 3563 Apr 11 15:19 | 15°  06'25'43 | -4.8m | desc. node | 3565 Oct 28 08:33 | 28°  06'16'27 |
| | 3563 May 05 09:29 | 0°  | | | 3565 Oct 29 18:11 | 0°  |
| desc. node | 3563 May 13 13:19 | 7°  06'05'05 | | | 3565 Nov 23 03:32 | 0°  |
| morning max el | 3563 May 22 04:42 | 15°  06'14'45 | 46°13'34 | | 3565 Dec 17 15:16 | 0°  |
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
















































































































| | | | | | | | |
|---------------------|-------------------|---|------------|---------------------|-------------------|---|------------|
| asc. node | 3566 Feb 18 11:15 | 14°  34'49 | | asc. node | 3568 Aug 05 06:28 | 26°  30'51 | |
| | 3566 Mar 04 13:47 | 0°  | | | 3568 Aug 08 03:04 | 0°  | |
| evening max el | 3566 Mar 13 04:47 | 8°  55'07 | 46°42'34 | | 3568 Sep 01 14:38 | 0°  | |
| | 3566 Apr 05 19:07 | 0°  | | morning set | 3568 Sep 03 18:45 | 2°  40'19 | |
| greatest brilliancy | 3566 Apr 21 18:44 | 9°  16'12 | -4.8m | | 3568 Sep 25 21:39 | 0°  | |
| retrograde | 3566 May 02 09:56 | 11°  22'37 | | max. Earth dist. | 3568 Oct 07 12:17 | 14°  24'03 | 1.72559 AU |
| evening set | 3566 May 18 05:50 | 6°  29'40 | | | | | |
| inferior conj | 3566 May 23 16:26 | 3°  10'43 | 4°02'51 | superior conj | 3568 Oct 10 10:17 | 18°  21'29 | 1°21'36 |
| minimum elong | 3566 May 24 00:32 | 2°  57'59 | 4°00'40 | minimum elong | 3568 Oct 10 15:35 | 18°  21'59 | 1°21'31 |
| min. Earth dist. | 3566 May 23 14:46 | 3°  13'21 | 0.28375 AU | | 3568 Oct 20 01:20 | 0°  | |
| | 3566 May 28 21:33 | 30°  | | | 3568 Nov 13 03:09 | 0°  | |
| morning rise | 3566 May 29 19:35 | 29°  29'02 | | evening rise | 3568 Nov 17 15:59 | 5°  39'31 | |
| desc. node | 3566 Jun 10 01:08 | 25°  21'16 | | desc. node | 3568 Nov 24 20:33 | 14°  37'52 | |
| direct | 3566 Jun 13 21:56 | 25°  03'34 | | | 3568 Dec 07 04:02 | 0°  | |
| greatest brilliancy | 3566 Jun 23 20:50 | 26°  50'57 | -4.7m | | 3568 Dec 31 04:38 | 0°  | |
| | 3566 Jun 30 23:35 | 0°  | | | 3569 Jan 24 06:14 | 0°  | |
| morning max el | 3566 Aug 01 15:19 | 24°  48'08 | 45°43'14 | | 3569 Feb 17 11:43 | 0°  | |
| | 3566 Aug 06 23:47 | 0°  | | | 3569 Mar 14 02:08 | 0°  | |
| | 3566 Sep 04 11:01 | 0°  | | asc. node | 3569 Mar 17 23:06 | 4°  39'39 | |
| | 3566 Sep 30 19:03 | 0°  | | | 3569 Apr 08 09:42 | 0°  | |
| asc. node | 3566 Oct 01 04:08 | 0°  26'30 | | | 3569 May 05 02:58 | 0°  | |
| | 3566 Oct 26 00:44 | 0°  | | evening max el | 3569 May 23 03:10 | 18°  32'13 | 45°43'06 |
| | 3566 Nov 19 14:29 | 0°  | | | 3569 Jun 04 14:23 | 0°  | |
| | 3566 Dec 13 18:54 | 0°  | | greatest brilliancy | 3569 Jun 30 01:31 | 16°  41'58 | -4.7m |
| | 3567 Jan 06 18:26 | 0°  | | desc. node | 3569 Jul 07 13:13 | 18°  38'48 | |
| desc. node | 3567 Jan 20 18:10 | 17°  33'31 | | retrograde | 3569 Jul 11 02:15 | 18°  53'10 | |
| morning set | 3567 Jan 29 23:58 | 29°  10'19 | | evening set | 3569 Jul 26 18:42 | 14°  08'22 | |
| | 3567 Jan 30 15:46 | 0°  | | inferior conj | 3569 Aug 01 13:59 | 10°  37'51 | -5°27'54 |
| | 3567 Feb 23 12:34 | 0°  | | minimum elong | 3569 Aug 01 04:22 | 10°  52'53 | 5°25'44 |
| | | | | min. Earth dist. | 3569 Aug 01 07:52 | 10°  47'25 | 0.29052 AU |
| superior conj | 3567 Mar 12 10:17 | 21°  13'34 | -1°25'33 | morning rise | 3569 Aug 06 14:11 | 7°  34'49 | |
| minimum elong | 3567 Mar 12 06:27 | 21°  01'31 | 1°25'31 | direct | 3569 Aug 23 05:13 | 2°  20'37 | |
| max. Earth dist. | 3567 Mar 15 15:40 | 25°  16'06 | 1.71488 AU | greatest brilliancy | 3569 Sep 02 12:29 | 4°  15'47 | -4.7m |
| | 3567 Mar 19 10:19 | 0°  | | | 3569 Oct 08 12:29 | 0°  | |
| | 3567 Apr 12 10:39 | 0°  | | morning max el | 3569 Oct 11 09:16 | 2°  45'12 | 45°59'39 |
| evening rise | 3567 Apr 21 14:57 | 11°  24'51 | | asc. node | 3569 Oct 28 15:55 | 20°  30'22 | |
| | 3567 May 06 15:01 | 0°  | | | 3569 Nov 06 08:11 | 0°  | |
| asc. node | 3567 May 13 20:57 | 8°  15'36 | | | 3569 Dec 02 09:51 | 0°  | |
| | 3567 May 31 00:22 | 0°  | | | 3569 Dec 27 08:15 | 0°  | |
| | 3567 Jun 24 15:34 | 0°  | | | 3570 Jan 20 17:47 | 0°  | |
| | 3567 Jul 19 14:19 | 0°  | | | 3570 Feb 13 21:20 | 0°  | |
| | 3567 Aug 14 00:23 | 0°  | | desc. node | 3570 Feb 17 05:56 | 4°  11'01 | |
| desc. node | 3567 Sep 02 10:46 | 22°  21'40 | | | 3570 Mar 09 22:34 | 0°  | |
| | 3567 Sep 09 05:24 | 0°  | | | 3570 Apr 02 23:41 | 0°  | |
| | 3567 Oct 07 00:05 | 0°  | | morning set | 3570 Apr 16 05:12 | 16°  28'29 | |
| evening max el | 3567 Oct 16 22:10 | 9°  25'32 | 46°25'16 | | 3570 Apr 27 02:19 | 0°  | |
| | 3567 Nov 08 22:58 | 0°  | | | 3570 May 21 07:23 | 0°  | |
| greatest brilliancy | 3567 Nov 26 03:27 | 9°  36'49 | -4.9m | | | | |
| retrograde | 3567 Dec 05 16:46 | 11°  31'32 | | superior conj | 3570 May 24 17:33 | 4°  13'56 | -0°38'28 |
| evening set | 3567 Dec 20 00:49 | 7°  16'41 | | minimum elong | 3570 May 25 01:26 | 4°  38'16 | 0°38'07 |
| asc. node | 3567 Dec 24 13:37 | 4°  41'31 | | max. Earth dist. | 3570 May 27 11:42 | 7°  18'11 | 1.72971 AU |
| inferior conj | 3567 Dec 26 06:42 | 3°  39'22 | 0°26'41 | asc. node | 3570 Jun 10 08:50 | 24°  14'53 | |
| minimum elong | 3567 Dec 26 05:40 | 3°  40'56 | 0°26'21 | | 3570 Jun 14 15:00 | 0°  | |
| min. Earth dist. | 3567 Dec 26 10:33 | 3°  33'31 | 0.26596 AU | evening rise | 3570 Jul 01 03:19 | 20°  18'31 | |
| morning rise | 3568 Jan 01 10:08 | 0°  30'42 | | | 3570 Jul 09 00:47 | 0°  | |
| | 3568 Jan 01 13:30 | 30°  | | | 3570 Aug 02 12:37 | 0°  | |
| direct | 3568 Jan 15 18:29 | 25°  27'57 | | | 3570 Aug 27 03:14 | 0°  | |
| greatest brilliancy | 3568 Jan 26 02:51 | 27°  29'21 | -4.9m | | 3570 Sep 20 22:10 | 0°  | |
| | 3568 Jan 30 16:11 | 0°  | | desc. node | 3570 Sep 29 22:42 | 10°  15'55 | |
| morning max el | 3568 Mar 06 07:58 | 28°  35'44 | 46°55'11 | | 3570 Oct 15 23:25 | 0°  | |
| | 3568 Mar 07 07:50 | 0°  | | | 3570 Nov 10 10:23 | 0°  | |
| | 3568 Apr 04 03:01 | 0°  | | | 3570 Dec 06 16:31 | 0°  | |
| desc. node | 3568 Apr 14 03:41 | 11°  14'53 | | evening max el | 3570 Dec 28 21:49 | 23°  46'45 | 47°13'01 |
| | 3568 Apr 30 03:50 | 0°  | | | 3571 Jan 04 04:17 | 0°  | |
| | 3568 May 25 12:30 | 0°  | | asc. node | 3571 Jan 21 01:27 | 14°  15'39 | |
| | 3568 Jun 19 13:49 | 0°  | | greatest brilliancy | 3571 Feb 07 11:42 | 25°  15'40 | -4.9m |
| | 3568 Jul 14 10:38 | 0°  | | retrograde | 3571 Feb 17 17:39 | 27°  15'19 | |

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|---------------------|-------------------|-----------------------|------------|---------------------|-------------------|---------------------------|------------|
| evening set | 3571 Mar 07 08:05 | 21° K 13'17 | | superior conj | 3573 Aug 01 07:08 | 10° Ω 24'02 | 0°53'55 |
| inferior conj | 3571 Mar 10 11:23 | 19° K 17'10 | 8°49'58 | minimum elong | 3573 Jul 31 22:25 | 9° Ω 57'14 | 0°53'36 |
| minimum elong | 3571 Mar 10 07:30 | 19° K 23'13 | 8°49'45 | | 3573 Aug 17 05:16 | 0° M | |
| min. Earth dist. | 3571 Mar 09 19:13 | 19° K 42'19 | 0.27276 AU | evening rise | 3573 Sep 06 05:14 | 24° M 39'20 | |
| morning rise | 3571 Mar 13 07:08 | 17° K 33'00 | | | 3573 Sep 10 13:15 | 0° Ω | |
| direct | 3571 Mar 31 02:55 | 11° K 29'16 | | | 3573 Oct 04 20:58 | 0° M | |
| greatest brilliancy | 3571 Apr 09 04:00 | 13° K 02'01 | -4.8m | desc. node | 3573 Oct 27 10:40 | 27° M 48'33 | |
| | 3571 May 05 18:20 | 0° Y | | | 3573 Oct 29 05:23 | 0° Z | |
| desc. node | 3571 May 12 15:24 | 6° Y 07'56 | | | 3573 Nov 22 15:12 | 0° Z | |
| morning max el | 3571 May 19 17:47 | 12° Y 53'24 | 46°15'05 | | 3573 Dec 17 03:32 | 0° \approx | |
| | 3571 Jun 05 11:20 | 0° Z | | | 3574 Jan 10 21:57 | 0° K | |
| | 3571 Jul 02 17:30 | 0° II | | | 3574 Feb 05 07:46 | 0° Y | |
| | 3571 Jul 28 19:02 | 0° G | | asc. node | 3574 Feb 17 13:14 | 13° Y 54'32 | |
| | 3571 Aug 23 04:32 | 0° Ω | | | 3574 Mar 04 08:56 | 0° Z | |
| asc. node | 3571 Sep 02 18:12 | 12° Ω 40'04 | | evening max el | 3574 Mar 10 18:45 | 6° Z 35'29 | 46°44'41 |
| | 3571 Sep 17 02:00 | 0° M | | | 3574 Apr 06 13:30 | 0° II | |
| | 3571 Oct 11 13:47 | 0° Ω | | greatest brilliancy | 3574 Apr 19 11:04 | 7° II 03'17 | -4.8m |
| | 3571 Nov 04 18:30 | 0° M | | retrograde | 3574 Apr 30 01:50 | 9° II 09'48 | |
| morning set | 3571 Nov 13 12:39 | 10° M 55'17 | | evening set | 3574 May 15 23:55 | 4° II 12'59 | |
| | 3571 Nov 28 18:47 | 0° Z | | inferior conj | 3574 May 21 08:02 | 0° II 57'56 | 4°21'20 |
| max. Earth dist. | 3571 Dec 21 07:28 | 28° Z 15'40 | 1.71294 AU | minimum elong | 3574 May 21 16:35 | 0° II 44'30 | 4°19'04 |
| | | | | min. Earth dist. | 3574 May 21 06:36 | 1° II 00'12 | 0.28352 AU |
| superior conj | 3571 Dec 22 23:45 | 0° Z 22'12 | 0°00'53 | | 3574 May 22 21:02 | 30° R Z | |
| minimum elong | 3571 Dec 22 23:59 | 0° Z 22'54 | 0°00'52 | morning rise | 3574 May 27 09:34 | 27° Z 18'40 | |
| behind sun begin | 3571 Dec 21 22:18 | 29° Z 02'16 | | desc. node | 3574 Jun 09 03:15 | 22° Z 57'40 | |
| behind sun end | 3571 Dec 24 01:40 | 1° Z 43'32 | | direct | 3574 Jun 11 12:39 | 22° Z 50'53 | |
| | 3571 Dec 22 16:42 | 0° Z | | greatest brilliancy | 3574 Jun 21 12:03 | 24° Z 38'50 | -4.7m |
| desc. node | 3571 Dec 23 08:27 | 0° Z 49'30 | | | 3574 Jul 02 10:44 | 0° II | |
| | 3572 Jan 15 13:31 | 0° \approx | | morning max el | 3574 Jul 30 07:20 | 22° II 38'33 | 45°43'35 |
| evening rise | 3572 Feb 02 00:36 | 21° \approx 56'52 | | | 3574 Aug 06 19:55 | 0° G | |
| | 3572 Feb 08 10:25 | 0° K | | | 3574 Sep 04 01:51 | 0° Ω | |
| | 3572 Mar 03 09:02 | 0° Y | | asc. node | 3574 Sep 30 06:12 | 29° Ω 55'10 | |
| | 3572 Mar 27 11:44 | 0° Z | | | 3574 Sep 30 07:52 | 0° M | |
| asc. node | 3572 Apr 14 11:06 | 22° Z 08'21 | | | 3574 Oct 25 12:34 | 0° Ω | |
| | 3572 Apr 20 21:27 | 0° II | | | 3574 Nov 19 01:49 | 0° M | |
| | 3572 May 15 17:40 | 0° G | | | 3574 Dec 13 06:00 | 0° Z | |
| | 3572 Jun 10 05:50 | 0° Ω | | | 3575 Jan 06 05:25 | 0° Z | |
| | 3572 Jul 06 22:07 | 0° M | | desc. node | 3575 Jan 19 20:04 | 17° Z 05'15 | |
| evening max el | 3572 Aug 01 21:54 | 26° M 44'49 | 45°31'49 | morning set | 3575 Jan 27 09:49 | 26° Z 36'12 | |
| desc. node | 3572 Aug 04 00:57 | 28° M 45'45 | | | 3575 Jan 30 02:40 | 0° \approx | |
| | 3572 Aug 05 08:45 | 0° Ω | | | 3575 Feb 22 23:22 | 0° K | |
| greatest brilliancy | 3572 Sep 10 03:50 | 24° Ω 47'51 | -4.7m | | | | |
| retrograde | 3572 Sep 19 13:10 | 26° Ω 23'40 | | superior conj | 3575 Mar 09 21:25 | 18° K 44'09 | -1°24'50 |
| evening set | 3572 Oct 07 10:53 | 20° Ω 27'14 | | minimum elong | 3575 Mar 09 16:33 | 18° K 28'56 | 1°24'47 |
| inferior conj | 3572 Oct 10 18:57 | 18° Ω 24'52 | -8°21'42 | max. Earth dist. | 3575 Mar 12 22:32 | 22° K 33'30 | 1.71446 AU |
| minimum elong | 3572 Oct 11 00:33 | 18° Ω 16'10 | 8°21'14 | | 3575 Mar 18 21:03 | 0° Y | |
| min. Earth dist. | 3572 Oct 11 15:06 | 17° Ω 53'36 | 0.28335 AU | | 3575 Apr 11 21:21 | 0° Z | |
| morning rise | 3572 Oct 14 13:55 | 16° Ω 05'25 | | evening rise | 3575 Apr 19 04:03 | 9° Z 03'14 | |
| direct | 3572 Nov 01 02:19 | 10° Ω 14'58 | | | 3575 May 06 01:45 | 0° II | |
| greatest brilliancy | 3572 Nov 12 06:47 | 12° Ω 32'54 | -4.8m | asc. node | 3575 May 12 23:04 | 8° II 30'00 | |
| asc. node | 3572 Nov 25 03:45 | 19° Ω 44'49 | | | 3575 May 30 11:16 | 0° G | |
| | 3572 Dec 07 22:35 | 0° M | | | 3575 Jun 24 02:48 | 0° Ω | |
| morning max el | 3572 Dec 21 11:54 | 12° M 56'33 | 46°43'45 | | 3575 Jul 19 02:09 | 0° M | |
| | 3573 Jan 06 14:04 | 0° Z | | | 3575 Aug 13 13:20 | 0° Ω | |
| | 3573 Feb 01 19:58 | 0° Z | | desc. node | 3575 Sep 01 12:46 | 21° Ω 46'33 | |
| | 3573 Feb 26 23:06 | 0° \approx | | | 3575 Sep 08 20:30 | 0° M | |
| desc. node | 3573 Mar 16 17:47 | 21° \approx 35'12 | | | 3575 Oct 06 20:20 | 0° Z | |
| | 3573 Mar 23 15:07 | 0° K | | evening max el | 3575 Oct 14 12:27 | 7° Z 37'53 | 46°23'06 |
| | 3573 Apr 17 02:32 | 0° Y | | | 3575 Nov 09 21:50 | 0° Z | |
| | 3573 May 11 12:40 | 0° Z | | greatest brilliancy | 3575 Nov 23 15:45 | 7° Z 10'17 | -4.9m |
| | 3573 Jun 04 23:03 | 0° II | | retrograde | 3575 Dec 03 05:29 | 8° Z 52'50 | |
| morning set | 3573 Jun 25 13:03 | 25° II 15'22 | | evening set | 3575 Dec 17 13:54 | 4° Z 49'00 | |
| | 3573 Jun 29 09:49 | 0° G | | inferior conj | 3575 Dec 23 19:00 | 1° Z 12'26 | 0°02'13 |
| asc. node | 3573 Jul 07 20:39 | 10° G 22'19 | | minimum elong | 3575 Dec 23 18:55 | 1° Z 12'34 | 0°02'12 |
| | 3573 Jul 23 20:09 | 0° Ω | | transit middle | 3575 Dec 23 18:55 | 1° Z 12'34 | 0°02'12 |
| max. Earth dist. | 3573 Jul 30 24:00 | 8° Ω 48'18 | 1.73509 AU | transit begin | 3575 Dec 23 14:53 | 1° Z 18'43 | |
| | | | | transit end | 3575 Dec 23 22:58 | 1° Z 06'26 | |

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|---------------------|-------------------|---|------------|---------------------|-------------------|--|------------|
| asc. node | 3575 Dec 23 15:35 | 1°  17'38 | | | 3578 Jun 14 01:45 | 0°  | |
| min. Earth dist. | 3575 Dec 23 23:58 | 1°  04'55 | 0.26621 AU | evening rise | 3578 Jun 28 21:09 | 18°  12'45 | |
| | 3575 Dec 25 18:55 | 30°  R  | | | 3578 Jul 08 11:35 | 0°  | |
| morning rise | 3575 Dec 29 23:38 | 27°  36'11 | | | 3578 Aug 01 23:36 | 0°  | |
| direct | 3576 Jan 13 07:55 | 23°  30'06 | | | 3578 Aug 26 14:36 | 0°  | |
| greatest brilliancy | 3576 Jan 23 16:36 | 25°  32'49 | -4.9m | | 3578 Sep 20 10:09 | 0°  | |
| | 3576 Feb 01 14:13 | 0°  | | desc. node | 3578 Sep 29 00:48 | 10°  M.20'27 | |
| morning max el | 3576 Mar 03 22:29 | 26°  33'58 | 46°55'51 | | 3578 Oct 15 12:20 | 0°  | |
| | 3576 Mar 07 05:50 | 0°  | | | 3578 Nov 10 00:52 | 0°  | |
| | 3576 Apr 03 19:01 | 0°  | | | 3578 Dec 06 10:02 | 0°  | |
| desc. node | 3576 Apr 13 05:45 | 10°  37'53 | | evening max el | 3578 Dec 26 11:33 | 21°  32'50 | 47°12'27 |
| | 3576 Apr 29 17:27 | 0°  | | | 3579 Jan 04 06:38 | 0°  | |
| | 3576 May 25 00:51 | 0°  | | asc. node | 3579 Jan 20 03:27 | 13°  35'59 | |
| | 3576 Jun 19 01:24 | 0°  | | greatest brilliancy | 3579 Feb 05 02:12 | 22°  35'56 | -4.9m |
| | 3576 Jul 13 21:43 | 0°  | | retrograde | 3579 Feb 15 06:47 | 24°  35'26 | |
| asc. node | 3576 Aug 04 08:24 | 26°  30'47 | | evening set | 3579 Mar 04 18:33 | 18°  35'51 | |
| | 3576 Aug 07 13:51 | 0°  | | min. Earth dist. | 3579 Mar 07 08:25 | 17°  35'46 | 0.27228 AU |
| | 3576 Sep 01 01:18 | 0°  | | inferior conj | 3579 Mar 08 00:43 | 16°  35'24 | 8°45'41 |
| morning set | 3576 Sep 01 12:13 | 0°  33'36 | | minimum elong | 3579 Mar 07 19:57 | 16°  35'49 | 8°45'20 |
| | 3576 Sep 25 08:18 | 0°  | | morning rise | 3579 Mar 10 21:34 | 15°  35'28 | |
| max. Earth dist. | 3576 Oct 05 03:43 | 12°  30'53 | 1.72604 AU | direct | 3579 Mar 28 15:25 | 9°  35'16 | |
| | | | | greatest brilliancy | 3579 Apr 06 17:11 | 10°  35'12 | -4.9m |
| superior conj | 3576 Oct 08 02:43 | 15°  30'17 | 1°22'29 | | 3579 May 06 00:54 | 0°  | |
| minimum elong | 3576 Oct 08 07:21 | 16°  30'40 | 1°22'26 | desc. node | 3579 May 11 17:31 | 5°  30'42 | |
| | 3576 Oct 19 12:03 | 0°  | | morning max el | 3579 May 17 06:22 | 10°  30'06 | 46°16'41 |
| | 3576 Nov 12 14:00 | 0°  | | | 3579 Jun 05 05:21 | 0°  | |
| evening rise | 3576 Nov 15 05:25 | 3°  30'46 | | | 3579 Jul 02 07:54 | 0°  | |
| desc. node | 3576 Nov 23 22:36 | 14°  30'12 | | | 3579 Jul 28 07:46 | 0°  | |
| | 3576 Dec 06 15:03 | 0°  | | | 3579 Aug 22 16:22 | 0°  | |
| | 3576 Dec 30 15:52 | 0°  | | asc. node | 3579 Sep 01 20:22 | 12°  30'43 | |
| | 3577 Jan 23 17:46 | 0°  | | | 3579 Sep 16 13:20 | 0°  | |
| | 3577 Feb 16 23:41 | 0°  | | | 3579 Oct 11 00:53 | 0°  | |
| | 3577 Mar 13 14:48 | 0°  | | | 3579 Nov 04 05:30 | 0°  | |
| asc. node | 3577 Mar 17 01:11 | 4°  30'28 | | morning set | 3579 Nov 11 03:09 | 8°  30'22 | |
| | 3577 Apr 07 23:41 | 0°  | | | 3579 Nov 28 05:48 | 0°  | |
| | 3577 May 04 20:07 | 0°  | | max. Earth dist. | 3579 Dec 18 14:09 | 25°  30'13 | 1.71328 AU |
| evening max el | 3577 May 20 19:46 | 16°  30'53 | 45°44'39 | | | | |
| | 3577 Jun 04 20:01 | 0°  | | superior conj | 3579 Dec 20 11:02 | 27°  30'07 | 0°04'46 |
| greatest brilliancy | 3577 Jun 27 17:40 | 14°  30'34 | -4.7m | minimum elong | 3579 Dec 20 12:15 | 27°  30'58 | 0°04'43 |
| desc. node | 3577 Jul 06 15:06 | 16°  30'28 | | behind sun begin | 3579 Dec 19 11:28 | 26°  30'09 | |
| retrograde | 3577 Jul 08 18:36 | 16°  30'45 | | behind sun end | 3579 Dec 21 13:03 | 29°  30'48 | |
| evening set | 3577 Jul 24 09:02 | 12°  30'16 | | desc. node | 3579 Dec 22 10:20 | 0°  30'37 | |
| inferior conj | 3577 Jul 30 06:24 | 8°  30'27 | -5°12'32 | | 3579 Dec 22 03:46 | 0°  | |
| minimum elong | 3577 Jul 29 20:59 | 8°  30'43 | 5°10'19 | | 3580 Jan 15 00:41 | 0°  | |
| min. Earth dist. | 3577 Jul 29 23:51 | 8°  30'43 | 0.29040 AU | evening rise | 3580 Jan 30 10:46 | 19°  30'55 | |
| morning rise | 3577 Aug 04 09:06 | 5°  30'35 | | | 3580 Feb 07 21:38 | 0°  | |
| direct | 3577 Aug 20 21:56 | 0°  30'27 | | | 3580 Mar 02 20:19 | 0°  | |
| greatest brilliancy | 3577 Aug 31 03:42 | 2°  30'18 | -4.7m | | 3580 Mar 26 23:11 | 0°  | |
| | 3577 Oct 08 11:05 | 0°  | | asc. node | 3580 Apr 13 13:11 | 21°  30'00 | |
| morning max el | 3577 Oct 09 00:23 | 0°  30'14 | 45°58'12 | | 3580 Apr 20 09:13 | 0°  | |
| asc. node | 3577 Oct 27 18:03 | 19°  30'59 | | | 3580 May 15 06:05 | 0°  | |
| | 3577 Nov 05 23:57 | 0°  | | | 3580 Jun 09 19:30 | 0°  | |
| | 3577 Dec 01 23:21 | 0°  | | | 3580 Jul 06 14:30 | 0°  | |
| | 3577 Dec 26 20:42 | 0°  | | evening max el | 3580 Jul 30 11:45 | 24°  30'47 | 45°31'10 |
| | 3578 Jan 20 05:38 | 0°  | | desc. node | 3580 Aug 03 03:02 | 27°  30'19 | |
| | 3578 Feb 13 08:50 | 0°  | | | 3580 Aug 05 09:47 | 0°  | |
| desc. node | 3578 Feb 16 07:57 | 3°  30'41'39 | | greatest brilliancy | 3580 Sep 07 17:00 | 22°  30'27 | -4.7m |
| | 3578 Mar 09 09:48 | 0°  | | retrograde | 3580 Sep 17 03:42 | 24°  30'46 | |
| | 3578 Apr 02 10:45 | 0°  | | evening set | 3580 Oct 05 03:06 | 18°  30'18 | |
| morning set | 3578 Apr 13 18:26 | 14°  30'06'13 | | inferior conj | 3580 Oct 08 10:00 | 16°  30'49 | -8°26'39 |
| | 3578 Apr 26 13:14 | 0°  | | minimum elong | 3580 Oct 08 14:52 | 16°  30'16 | 8°26'19 |
| | 3578 May 20 18:11 | 0°  | | min. Earth dist. | 3580 Oct 09 05:29 | 15°  30'37 | 0.28398 AU |
| | | | | morning rise | 3580 Oct 12 02:20 | 13°  30'26 | |
| superior conj | 3578 May 22 09:04 | 2°  30'00'13 | -0°41'32 | direct | 3580 Oct 29 17:39 | 7°  30'53 | |
| minimum elong | 3578 May 22 17:28 | 2°  30'26'07 | 0°41'10 | greatest brilliancy | 3580 Nov 09 22:38 | 10°  30'17'18 | -4.8m |
| max. Earth dist. | 3578 May 25 07:41 | 5°  30'38'20 | 1.72924 AU | asc. node | 3580 Nov 24 05:43 | 18°  30'29'18 | |
| asc. node | 3578 Jun 09 10:51 | 24°  30'18'35 | | | 3580 Dec 08 03:06 | 0°  | |

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|---------------------|-------------------|----------------------|------------|---------------------|-------------------|----------------------|------------|
| morning max el | 3580 Dec 19 02:51 | 10° ♏ 36'50 | 46°42'24 | | 3583 Jul 18 14:24 | 0° ♏ | |
| | 3581 Jan 06 07:49 | 0° ♏ | | | 3583 Aug 13 02:45 | 0° ♏ | |
| | 3581 Feb 01 10:39 | 0° ♏ | | desc. node | 3583 Aug 31 14:52 | 21° ♏ 10'30 | |
| | 3581 Feb 26 12:22 | 0° ♏ | | | 3583 Sep 08 12:13 | 0° ♏ | |
| desc. node | 3581 Mar 15 19:55 | 21° ♏ 03'14 | | | 3583 Oct 06 17:39 | 0° ♏ | |
| | 3581 Mar 23 03:32 | 0° ♏ | | evening max el | 3583 Oct 12 03:13 | 5° ♏ 19'41 | 46°20'51 |
| | 3581 Apr 16 14:23 | 0° ♏ | | | 3583 Nov 11 05:54 | 0° ♏ | |
| | 3581 May 11 00:05 | 0° ♏ | | greatest brilliancy | 3583 Nov 21 04:33 | 4° ♏ 44'08 | -4.9m |
| | 3581 Jun 04 10:11 | 0° ♏ | | retrograde | 3583 Nov 30 18:06 | 6° ♏ 25'53 | |
| morning set | 3581 Jun 23 06:17 | 23° ♏ 07'14 | | evening set | 3583 Dec 15 03:25 | 2° ♏ 21'10 | |
| | 3581 Jun 28 20:46 | 0° ♏ | | | 3583 Dec 19 06:20 | 30° ♏ | |
| asc. node | 3581 Jul 06 22:35 | 9° ♏ 54'47 | | inferior conj | 3583 Dec 21 07:31 | 28° ♏ 45'32 | -0°22'03 |
| | 3581 Jul 23 07:01 | 0° ♏ | | minimum elong | 3583 Dec 21 08:22 | 28° ♏ 44'14 | 0°21'47 |
| max. Earth dist. | 3581 Jul 28 21:14 | 6° ♏ 52'37 | 1.73519 AU | min. Earth dist. | 3583 Dec 21 13:39 | 28° ♏ 36'13 | 0.26647 AU |
| | | | | asc. node | 3583 Dec 22 17:32 | 27° ♏ 53'54 | |
| superior conj | 3581 Jul 30 01:19 | 8° ♏ 18'57 | 0°51'27 | morning rise | 3583 Dec 27 13:03 | 25° ♏ 07'58 | |
| minimum elong | 3581 Jul 29 16:45 | 7° ♏ 52'37 | 0°51'05 | direct | 3584 Jan 10 21:27 | 21° ♏ 02'54 | |
| | 3581 Aug 16 16:08 | 0° ♏ | | greatest brilliancy | 3584 Jan 21 06:26 | 23° ♏ 06'02 | -4.9m |
| evening rise | 3581 Sep 03 23:23 | 22° ♏ 33'32 | | | 3584 Feb 02 21:40 | 0° ♏ | |
| | 3581 Sep 10 00:13 | 0° ♏ | | morning max el | 3584 Mar 01 12:06 | 24° ♏ 13'11 | 46°56'19 |
| | 3581 Oct 04 08:10 | 0° ♏ | | | 3584 Mar 07 03:17 | 0° ♏ | |
| desc. node | 3581 Oct 26 12:44 | 27° ♏ 19'28 | | | 3584 Apr 03 11:03 | 0° ♏ | |
| | 3581 Oct 28 16:56 | 0° ♏ | | desc. node | 3584 Apr 12 07:47 | 10° ♏ 10'14 | |
| | 3581 Nov 22 03:14 | 0° ♏ | | | 3584 Apr 29 07:16 | 0° ♏ | |
| | 3581 Dec 16 16:13 | 0° ♏ | | | 3584 May 24 13:29 | 0° ♏ | |
| | 3582 Jan 10 11:40 | 0° ♏ | | | 3584 Jun 18 13:18 | 0° ♏ | |
| | 3582 Feb 04 23:22 | 0° ♏ | | | 3584 Jul 13 09:07 | 0° ♏ | |
| asc. node | 3582 Feb 16 15:19 | 13° ♏ 12'27 | | asc. node | 3584 Aug 03 10:32 | 25° ♏ 36'27 | |
| | 3582 Mar 04 05:18 | 0° ♏ | | | 3584 Aug 07 00:56 | 0° ♏ | |
| evening max el | 3582 Mar 08 09:41 | 4° ♏ 16'31 | 46°46'50 | morning set | 3584 Aug 30 05:41 | 28° ♏ 26'09 | |
| | 3582 Apr 07 15:54 | 0° ♏ | | | 3584 Aug 31 12:12 | 0° ♏ | |
| greatest brilliancy | 3582 Apr 17 02:51 | 4° ♏ 47'50 | -4.8m | | 3584 Sep 24 19:11 | 0° ♏ | |
| retrograde | 3582 Apr 27 18:01 | 6° ♏ 54'56 | | max. Earth dist. | 3584 Oct 02 18:35 | 9° ♏ 53'15 | 1.72650 AU |
| evening set | 3582 May 13 17:59 | 1° ♏ 54'10 | | | | | |
| | 3582 May 16 22:11 | 30° ♏ | | superior conj | 3584 Oct 05 19:23 | 13° ♏ 39'08 | 1°23'15 |
| inferior conj | 3582 May 18 23:28 | 28° ♏ 43'05 | 4°39'36 | minimum elong | 3584 Oct 05 23:20 | 13° ♏ 51'25 | 1°23'13 |
| minimum elong | 3582 May 19 08:26 | 28° ♏ 29'02 | 4°37'18 | | 3584 Oct 18 23:02 | 0° ♏ | |
| min. Earth dist. | 3582 May 18 21:53 | 28° ♏ 45'33 | 0.28324 AU | | 3584 Nov 12 01:07 | 0° ♏ | |
| morning rise | 3582 May 24 23:12 | 25° ♏ 06'43 | | evening rise | 3584 Nov 12 19:10 | 0° ♏ 56'17 | |
| desc. node | 3582 Jun 08 05:10 | 20° ♏ 37'27 | | desc. node | 3584 Nov 23 00:32 | 13° ♏ 41'21 | |
| direct | 3582 Jun 09 03:46 | 20° ♏ 36'24 | | | 3584 Dec 06 02:20 | 0° ♏ | |
| greatest brilliancy | 3582 Jun 19 02:32 | 22° ♏ 24'23 | -4.7m | | 3584 Dec 30 03:21 | 0° ♏ | |
| | 3582 Jul 03 12:22 | 0° ♏ | | | 3585 Jan 23 05:31 | 0° ♏ | |
| morning max el | 3582 Jul 27 23:47 | 20° ♏ 28'51 | 45°43'58 | | 3585 Feb 16 11:51 | 0° ♏ | |
| | 3582 Aug 06 15:52 | 0° ♏ | | | 3585 Mar 13 03:41 | 0° ♏ | |
| | 3582 Sep 03 16:51 | 0° ♏ | | asc. node | 3585 Mar 16 03:15 | 3° ♏ 34'40 | |
| asc. node | 3582 Sep 29 08:13 | 29° ♏ 22'47 | | | 3585 Apr 07 14:01 | 0° ♏ | |
| | 3582 Sep 29 20:55 | 0° ♏ | | | 3585 May 04 13:55 | 0° ♏ | |
| | 3582 Oct 25 00:41 | 0° ♏ | | evening max el | 3585 May 18 11:37 | 14° ♏ 10'50 | 45°46'07 |
| | 3582 Nov 18 13:28 | 0° ♏ | | | 3585 Jun 05 04:25 | 0° ♏ | |
| | 3582 Dec 12 17:24 | 0° ♏ | | greatest brilliancy | 3585 Jun 25 10:25 | 12° ♏ 24'52 | -4.7m |
| | 3583 Jan 05 16:42 | 0° ♏ | | desc. node | 3585 Jul 05 17:12 | 14° ♏ 35'01 | |
| desc. node | 3583 Jan 18 22:08 | 16° ♏ 36'26 | | retrograde | 3585 Jul 06 10:36 | 14° ♏ 35'37 | |
| morning set | 3583 Jan 24 19:58 | 24° ♏ 01'59 | | evening set | 3585 Jul 21 23:33 | 9° ♏ 57'11 | |
| | 3583 Jan 29 13:53 | 0° ♏ | | inferior conj | 3585 Jul 27 22:52 | 6° ♏ 20'31 | -4°56'40 |
| | 3583 Feb 22 10:32 | 0° ♏ | | minimum elong | 3585 Jul 27 13:43 | 6° ♏ 34'54 | 4°54'27 |
| | | | | min. Earth dist. | 3585 Jul 27 16:17 | 6° ♏ 30'52 | 0.29025 AU |
| superior conj | 3583 Mar 07 08:14 | 16° ♏ 12'27 | -1°23'57 | morning rise | 3585 Aug 02 04:00 | 3° ♏ 09'50 | |
| minimum elong | 3583 Mar 07 02:23 | 15° ♏ 54'07 | 1°23'52 | | 3585 Aug 08 15:46 | 30° ♏ | |
| max. Earth dist. | 3583 Mar 10 07:14 | 19° ♏ 55'13 | 1.71412 AU | direct | 3585 Aug 18 14:11 | 28° ♏ 04'03 | |
| | 3583 Mar 18 08:11 | 0° ♏ | | | 3585 Aug 28 23:00 | 0° ♏ | |
| | 3583 Apr 11 08:29 | 0° ♏ | | greatest brilliancy | 3585 Aug 28 19:33 | 29° ♏ 56'57 | -4.7m |
| evening rise | 3583 Apr 16 16:37 | 6° ♏ 38'36 | | morning max el | 3585 Oct 06 14:36 | 28° ♏ 16'42 | 45°56'52 |
| | 3583 May 05 12:56 | 0° ♏ | | | 3585 Oct 08 08:57 | 0° ♏ | |
| asc. node | 3583 May 12 00:59 | 8° ♏ 01'25 | | asc. node | 3585 Oct 26 20:02 | 19° ♏ 09'19 | |
| | 3583 May 29 22:35 | 0° ♏ | | | 3585 Nov 05 15:34 | 0° ♏ | |
| | 3583 Jun 23 14:25 | 0° ♏ | | | 3585 Dec 01 12:50 | 0° ♏ | |

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|---------------------|-------------------|----------------------|---------------------|-------------------|-----------|------------|
| | 3585 Dec 26 09:11 | 0°♊ | evening max el | 3588 Jul 28 02:21 | 22°♎15'17 | 45°30'29 |
| | 3586 Jan 19 17:34 | 0°♋ | desc. node | 3588 Aug 02 05:07 | 27°♎02'31 | |
| | 3586 Feb 12 20:23 | 0°♌ | | 3588 Aug 05 11:56 | 0°♏ | |
| desc. node | 3586 Feb 15 10:04 | 3°♌12'18 | greatest brilliancy | 3588 Sep 05 05:44 | 20°♏17'21 | -4.7m |
| | 3586 Mar 08 21:06 | 0°♍ | retrograde | 3588 Sep 14 18:52 | 21°♏56'34 | |
| | 3586 Apr 01 21:51 | 0°♎ | evening set | 3588 Oct 02 19:07 | 15°♏54'31 | |
| morning set | 3586 Apr 11 07:47 | 11°♎44'08 | inferior conj | 3588 Oct 06 01:05 | 13°♏55'27 | -8°30'51 |
| | 3586 Apr 26 00:10 | 0°♏ | minimum elong | 3588 Oct 06 05:12 | 13°♏49'03 | 8°30'36 |
| | | | min. Earth dist. | 3588 Oct 06 19:33 | 13°♏26'50 | 0.28459 AU |
| superior conj | 3586 May 20 00:41 | 29°♏46'37 -0°44'32 | morning rise | 3588 Oct 09 15:02 | 11°♏43'47 | |
| minimum elong | 3586 May 20 09:31 | 0°♐13'55 0°44'09 | direct | 3588 Oct 27 09:28 | 5°♏43'41 | |
| | 3586 May 20 05:00 | 0°♑ | greatest brilliancy | 3588 Nov 07 14:00 | 8°♏01'59 | -4.8m |
| max. Earth dist. | 3586 May 23 02:44 | 3°♑35'28 1.72878 AU | asc. node | 3588 Nov 23 07:41 | 17°♏16'37 | |
| asc. node | 3586 Jun 08 12:50 | 23°♑51'25 | | 3588 Dec 08 05:39 | 0°♒ | |
| | 3586 Jun 13 12:33 | 0°♓ | morning max el | 3588 Dec 16 18:32 | 8°♒19'52 | 46°41'02 |
| evening rise | 3586 Jun 26 14:53 | 16°♓06'26 | | 3589 Jan 06 00:55 | 0°♊ | |
| | 3586 Jul 07 22:27 | 0°♑ | | 3589 Feb 01 00:54 | 0°♋ | |
| | 3586 Aug 01 10:41 | 0°♌ | | 3589 Feb 26 01:16 | 0°♌ | |
| | 3586 Aug 26 02:03 | 0°♍ | desc. node | 3589 Mar 14 21:52 | 20°♌31'36 | |
| | 3586 Sep 19 22:11 | 0°♎ | | 3589 Mar 22 15:39 | 0°♍ | |
| desc. node | 3586 Sep 28 02:48 | 9°♎49'31 | | 3589 Apr 16 01:57 | 0°♎ | |
| | 3586 Oct 15 01:20 | 0°♏ | | 3589 May 10 11:15 | 0°♏ | |
| | 3586 Nov 09 15:30 | 0°♐ | | 3589 Jun 03 21:03 | 0°♐ | |
| | 3586 Dec 06 03:56 | 0°♑ | morning set | 3589 Jun 20 23:41 | 21°♐00'26 | |
| evening max el | 3586 Dec 24 00:26 | 18°♑54'44 47°11'44 | | 3589 Jun 28 07:27 | 0°♒ | |
| | 3587 Jan 04 10:34 | 0°♍ | asc. node | 3589 Jul 06 00:44 | 9°♒28'51 | |
| asc. node | 3587 Jan 19 05:36 | 12°♍17'09 | | 3589 Jul 22 17:35 | 0°♑ | |
| greatest brilliancy | 3587 Feb 02 16:43 | 20°♍25'56 -4.9m | max. Earth dist. | 3589 Jul 26 20:19 | 5°♑03'30 | 1.73526 AU |
| retrograde | 3587 Feb 12 19:50 | 22°♍23'36 | | | | |
| evening set | 3587 Mar 02 04:36 | 16°♍32'42 | superior conj | 3589 Jul 27 19:37 | 6°♑15'11 | 0°48'53 |
| min. Earth dist. | 3587 Mar 04 21:46 | 14°♍52'53 0.27180 AU | minimum elong | 3589 Jul 27 11:15 | 5°♑49'26 | 0°48'33 |
| inferior conj | 3587 Mar 05 14:01 | 14°♍27'38 8°40'20 | | 3589 Aug 16 02:43 | 0°♌ | |
| minimum elong | 3587 Mar 05 08:26 | 14°♍36'20 8°39'51 | evening rise | 3589 Sep 01 17:43 | 20°♌29'14 | |
| morning rise | 3587 Mar 08 12:25 | 12°♍39'24 | | 3589 Sep 09 10:56 | 0°♍ | |
| direct | 3587 Mar 26 03:38 | 6°♍41'03 | | 3589 Oct 03 19:07 | 0°♎ | |
| greatest brilliancy | 3587 Apr 04 06:42 | 8°♍14'51 -4.9m | desc. node | 3589 Oct 25 14:40 | 26°♎50'42 | |
| | 3587 May 06 05:16 | 0°♎ | | 3589 Oct 28 04:16 | 0°♏ | |
| desc. node | 3587 May 10 19:26 | 4°♎16'34 | | 3589 Nov 21 15:02 | 0°♐ | |
| morning max el | 3587 May 14 19:08 | 8°♎07'29 46°18'26 | | 3589 Dec 16 04:41 | 0°♑ | |
| | 3587 Jun 04 22:48 | 0°♏ | | 3590 Jan 10 01:09 | 0°♒ | |
| | 3587 Jul 01 22:00 | 0°♐ | | 3590 Feb 04 14:50 | 0°♓ | |
| | 3587 Jul 27 20:19 | 0°♑ | asc. node | 3590 Feb 15 17:20 | 12°♓30'46 | |
| | 3587 Aug 22 04:04 | 0°♒ | | 3590 Mar 04 01:59 | 0°♏ | |
| asc. node | 3587 Aug 31 22:21 | 11°♒43'09 | evening max el | 3590 Mar 06 01:17 | 2°♏00'07 | 46°48'50 |
| | 3587 Sep 16 00:35 | 0°♌ | | 3590 Apr 09 04:56 | 0°♐ | |
| | 3587 Oct 10 11:52 | 0°♍ | greatest brilliancy | 3590 Apr 14 18:29 | 2°♐33'00 | -4.8m |
| | 3587 Nov 03 16:23 | 0°♎ | retrograde | 3590 Apr 25 10:20 | 4°♐40'27 | |
| morning set | 3587 Nov 08 17:51 | 6°♎18'34 | | 3590 May 10 19:11 | 30°♒♏ | |
| | 3587 Nov 27 16:40 | 0°♏ | evening set | 3590 May 11 12:07 | 29°♏35'53 | |
| max. Earth dist. | 3587 Dec 16 00:37 | 22°♏59'11 1.71364 AU | inferior conj | 3590 May 16 14:48 | 26°♏28'42 | 4°57'35 |
| | | | minimum elong | 3590 May 17 00:08 | 26°♏14'05 | 4°55'14 |
| superior conj | 3587 Dec 17 22:30 | 25°♏23'10 0°08'37 | min. Earth dist. | 3590 May 16 12:51 | 26°♏31'45 | 0.28294 AU |
| minimum elong | 3587 Dec 18 00:42 | 25°♏30'04 0°08'31 | morning rise | 3590 May 22 12:32 | 22°♏55'28 | |
| behind sun begin | 3587 Dec 17 02:36 | 24°♏20'42 | direct | 3590 Jun 06 19:09 | 18°♏22'37 | |
| behind sun end | 3587 Dec 18 22:48 | 26°♏39'26 | desc. node | 3590 Jun 07 07:16 | 18°♏22'55 | |
| desc. node | 3587 Dec 21 12:23 | 29°♏52'45 | greatest brilliancy | 3590 Jun 16 16:21 | 20°♏09'51 | -4.7m |
| | 3587 Dec 21 14:42 | 0°♐ | | 3590 Jul 04 06:45 | 0°♑ | |
| | 3588 Jan 14 11:42 | 0°♑ | morning max el | 3590 Jul 25 16:05 | 18°♑19'52 | 45°44'26 |
| evening rise | 3588 Jan 27 21:11 | 16°♑50'07 | | 3590 Aug 06 10:48 | 0°♒ | |
| | 3588 Feb 07 08:45 | 0°♒ | | 3590 Sep 03 07:16 | 0°♑ | |
| | 3588 Mar 02 07:31 | 0°♓ | asc. node | 3590 Sep 28 10:13 | 28°♑51'37 | |
| | 3588 Mar 26 10:31 | 0°♏ | | 3590 Sep 29 09:31 | 0°♌ | |
| asc. node | 3588 Apr 12 15:08 | 21°♏09'35 | | 3590 Oct 24 12:25 | 0°♍ | |
| | 3588 Apr 19 20:52 | 0°♐ | | 3590 Nov 18 00:47 | 0°♎ | |
| | 3588 May 14 18:21 | 0°♑ | | 3590 Dec 12 04:32 | 0°♏ | |
| | 3588 Jun 09 09:02 | 0°♑ | | 3591 Jan 05 03:43 | 0°♐ | |
| | 3588 Jul 06 06:57 | 0°♌ | desc. node | 3591 Jan 18 00:17 | 16°♐08'50 | |

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|---------------------|-------------------|--|---------------------|-------------------|---|
| morning set | 3591 Jan 22 06:00 | 21°  28'23 | evening set | 3593 Jul 19 14:04 | 7°  51'08 |
| | 3591 Jan 29 00:48 | 0°  | inferior conj | 3593 Jul 25 15:14 | 4°  12'01 -4°40'14 |
| | 3591 Feb 21 21:23 | 0°  | minimum elong | 3593 Jul 25 06:23 | 4°  25'56 4°38'02 |
| | | | min. Earth dist. | 3593 Jul 25 08:49 | 4°  22'06 0.29010 AU |
| superior conj | 3591 Mar 04 18:47 | 13°  40'56 -1°22'53 | morning rise | 3593 Jul 30 22:46 | 0°  57'41 |
| minimum elong | 3591 Mar 04 11:59 | 13°  19'34 1°22'47 | | 3593 Aug 01 16:30 | 30°  |
| max. Earth dist. | 3591 Mar 07 18:05 | 17°  24'43 1.71376 AU | direct | 3593 Aug 16 05:57 | 25°  55'41 |
| | 3591 Mar 17 18:59 | 0°  | greatest brilliancy | 3593 Aug 26 11:49 | 27°  48'33 -4.7m |
| | 3591 Apr 10 19:18 | 0°  | | 3593 Aug 31 15:44 | 0°  |
| evening rise | 3591 Apr 14 04:58 | 4°  14'08 | morning max el | 3593 Oct 04 04:50 | 26°  01'58 45°55'49 |
| | 3591 May 04 23:49 | 0°  | | 3593 Oct 08 05:45 | 0°  |
| asc. node | 3591 May 11 03:03 | 7°  13'412 | asc. node | 3593 Oct 25 22:02 | 18°  13'01 |
| | 3591 May 29 09:36 | 0°  | | 3593 Nov 05 06:40 | 0°  |
| | 3591 Jun 23 01:46 | 0°  | | 3593 Dec 01 01:55 | 0°  |
| | 3591 Jul 18 02:22 | 0°  | | 3593 Dec 25 21:20 | 0°  |
| | 3591 Aug 12 15:54 | 0°  | | 3594 Jan 19 05:12 | 0°  |
| desc. node | 3591 Aug 30 16:53 | 20°  35'02 | | 3594 Feb 12 07:43 | 0°  |
| | 3591 Sep 08 03:45 | 0°  | desc. node | 3594 Feb 14 12:03 | 2°  43'11 |
| | 3591 Oct 06 15:20 | 0°  | | 3594 Mar 08 08:14 | 0°  |
| evening max el | 3591 Oct 09 17:13 | 3°  00'48 46°18'25 | | 3594 Apr 01 08:48 | 0°  |
| | 3591 Nov 13 04:24 | 0°  | morning set | 3594 Apr 08 20:29 | 9°  20'13 |
| greatest brilliancy | 3591 Nov 18 17:42 | 2°  19'17 -4.9m | | 3594 Apr 25 10:57 | 0°  |
| retrograde | 3591 Nov 28 06:01 | 3°  | | | |
| evening set | 3591 Dec 12 17:02 | 29°  53'42 | superior conj | 3594 May 17 15:48 | 27°  31'55 -0°47'29 |
| | 3591 Dec 12 12:17 | 30°  | minimum elong | 3594 May 18 01:01 | 28°  00'28 0°47'06 |
| inferior conj | 3591 Dec 18 19:57 | 26°  19'20 -0°46'25 | | 3594 May 19 15:41 | 0°  |
| minimum elong | 3591 Dec 18 21:44 | 26°  16'37 0°45'50 | max. Earth dist. | 3594 May 20 19:33 | 1°  12'6'09 1.72828 AU |
| min. Earth dist. | 3591 Dec 19 03:33 | 26°  07'46 0.26678 AU | asc. node | 3594 Jun 07 14:57 | 23°  12'5'06 |
| asc. node | 3591 Dec 21 19:43 | 24°  31'03 | | 3594 Jun 12 23:12 | 0°  |
| morning rise | 3591 Dec 25 02:06 | 22°  40'31 | evening rise | 3594 Jun 24 08:17 | 13°  59'38 |
| direct | 3592 Jan 08 10:28 | 18°  36'14 | | 3594 Jul 07 09:12 | 0°  |
| greatest brilliancy | 3592 Jan 18 20:41 | 20°  40'09 -4.9m | | 3594 Jul 31 21:39 | 0°  |
| | 3592 Feb 03 20:08 | 0°  | | 3594 Aug 25 13:24 | 0°  |
| morning max el | 3592 Feb 28 00:42 | 21°  46'19 46°56'48 | | 3594 Sep 19 10:08 | 0°  |
| | 3592 Mar 06 23:45 | 0°  | desc. node | 3594 Sep 27 04:48 | 9°  18'54 |
| | 3592 Apr 03 02:32 | 0°  | | 3594 Oct 14 14:16 | 0°  |
| desc. node | 3592 Apr 11 09:48 | 9°  33'42 | | 3594 Nov 09 06:05 | 0°  |
| | 3592 Apr 28 20:40 | 0°  | | 3594 Dec 05 21:58 | 0°  |
| | 3592 May 24 01:44 | 0°  | evening max el | 3594 Dec 21 13:11 | 16°  28'17 47°11'01 |
| | 3592 Jun 18 00:50 | 0°  | | 3595 Jan 04 16:02 | 0°  |
| | 3592 Jul 12 20:10 | 0°  | asc. node | 3595 Jan 18 07:32 | 10°  56'12 |
| asc. node | 3592 Aug 02 12:33 | 25°  09'41 | greatest brilliancy | 3595 Jan 31 06:33 | 18°  40'42 -4.9m |
| | 3592 Aug 06 11:41 | 0°  | retrograde | 3595 Feb 10 09:07 | 19°  45'8'24 |
| morning set | 3592 Aug 27 23:18 | 26°  02'06 | evening set | 3595 Feb 27 14:15 | 14°  41'13'10 |
| | 3592 Aug 30 22:48 | 0°  | min. Earth dist. | 3595 Mar 02 10:51 | 12°  42'8'33 0.27138 AU |
| | 3592 Sep 24 05:45 | 0°  | inferior conj | 3595 Mar 03 03:18 | 12°  43'03'04 8°33'49 |
| max. Earth dist. | 3592 Sep 30 10:06 | 7°  39'48 1.72695 AU | minimum elong | 3595 Mar 02 20:55 | 12°  43'12'58 8°33'12 |
| | | | morning rise | 3595 Mar 06 03:43 | 10°  41'12'02 |
| superior conj | 3592 Oct 03 12:24 | 11°  30'14 1°23'53 | direct | 3595 Mar 23 16:04 | 4°  41'16'50 |
| minimum elong | 3592 Oct 03 15:39 | 11°  40'18 1°23'51 | greatest brilliancy | 3595 Apr 01 20:05 | 5°  41'51'33 -4.9m |
| | 3592 Oct 18 09:40 | 0°  | | 3595 May 06 07:56 | 0°  |
| evening rise | 3592 Nov 10 09:17 | 28°  13'7'05 | desc. node | 3595 May 09 21:34 | 3°  42'23'08 |
| | 3592 Nov 11 11:53 | 0°  | morning max el | 3595 May 12 08:45 | 5°  46'46'50 46°20'06 |
| desc. node | 3592 Nov 22 02:40 | 13°  41'14'07 | | 3595 Jun 04 15:52 | 0°  |
| | 3592 Dec 05 13:19 | 0°  | | 3595 Jul 01 11:57 | 0°  |
| | 3592 Dec 29 14:35 | 0°  | | 3595 Jul 27 08:45 | 0°  |
| | 3593 Jan 22 17:04 | 0°  | | 3595 Aug 21 15:42 | 0°  |
| | 3593 Feb 15 23:51 | 0°  | asc. node | 3595 Aug 31 00:18 | 11°  01'44'41 |
| | 3593 Mar 12 16:26 | 0° | | 3595 Sep 15 11:45 | 0° |
| asc. node | 3593 Mar 15 05:11 | 3° 01'58 | | 3595 Oct 09 22:49 | 0° |
| | 3593 Apr 07 04:15 | 0° | | 3595 Nov 03 03:14 | 0° |
| | 3593 May 04 07:53 | 0° | morning set | 3595 Nov 06 08:48 | 4° 01'42 |
| evening max el | 3593 May 16 02:22 | 11° 56'37 45°47'44 | | 3595 Nov 27 03:30 | 0° |
| | 3593 Jun 05 15:30 | 0° | max. Earth dist. | 3595 Dec 13 13:15 | 20° 41'34'04 1.71393 AU |
| greatest brilliancy | 3593 Jun 23 03:03 | 10° 41'16'28 -4.7m | | | |
| retrograde | 3593 Jul 04 02:27 | 12° 02'27'05 | superior conj | 3595 Dec 15 10:21 | 22° 41'55'35 0°12'25 |
| desc. node | 3593 Jul 04 19:19 | 12° 02'26'30 | minimum elong | 3595 Dec 15 13:29 | 23° 41'05'26 0°12'16 |

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| behind sun begin | 3595 Dec 14 20:29 | 22°♊12'04 | | direct | 3598 Jun 04 10:51 | 16°♋09'15 | |
| behind sun end | 3595 Dec 16 06:29 | 23°♊58'49 | | desc. node | 3598 Jun 06 09:22 | 16°♋13'39 | |
| desc. node | 3595 Dec 20 14:30 | 29°♊25'18 | | greatest brilliancy | 3598 Jun 14 06:12 | 17°♋55'12 | -4.7m |
| | 3595 Dec 21 01:33 | 0°♋ | | | 3598 Jul 04 20:32 | 0°♋ | |
| | 3596 Jan 13 22:37 | 0°♋ | | morning max el | 3598 Jul 23 07:53 | 16°♋09'05 | 45°44'45 |
| evening rise | 3596 Jan 25 08:02 | 14°♋19'06 | | | 3598 Aug 06 05:27 | 0°♋ | |
| | 3596 Feb 06 19:44 | 0°♋ | | | 3598 Sep 02 21:45 | 0°♋ | |
| | 3596 Mar 01 18:37 | 0°♋ | | asc. node | 3598 Sep 27 12:18 | 28°♋20'07 | |
| | 3596 Mar 25 21:49 | 0°♋ | | | 3598 Sep 28 22:17 | 0°♋ | |
| asc. node | 3596 Apr 11 17:11 | 20°♋40'29 | | | 3598 Oct 24 00:21 | 0°♋ | |
| | 3596 Apr 19 08:33 | 0°♋ | | | 3598 Nov 17 12:18 | 0°♋ | |
| | 3596 May 14 06:44 | 0°♋ | | | 3598 Dec 11 15:51 | 0°♋ | |
| | 3596 Jun 08 22:47 | 0°♋ | | | 3599 Jan 04 14:56 | 0°♋ | |
| | 3596 Jul 05 23:50 | 0°♋ | | desc. node | 3599 Jan 17 02:10 | 15°♋39'38 | |
| evening max el | 3596 Jul 25 17:42 | 20°♋03'26 | 45°29'57 | morning set | 3599 Jan 19 16:04 | 18°♋54'06 | |
| desc. node | 3596 Aug 01 07:05 | 26°♋09'14 | | | 3599 Jan 28 11:57 | 0°♋ | |
| | 3596 Aug 05 15:49 | 0°♋ | | | 3599 Feb 21 08:28 | 0°♋ | |
| greatest brilliancy | 3596 Sep 02 18:18 | 18°♋02'02 | -4.7m | | | | |
| retrograde | 3596 Sep 12 10:02 | 19°♋42'59 | | superior conj | 3599 Mar 02 05:27 | 11°♋08'58 | -1°21'38 |
| evening set | 3596 Sep 30 10:50 | 13°♋39'01 | | minimum elong | 3599 Mar 01 21:46 | 10°♋44'50 | 1°21'31 |
| inferior conj | 3596 Oct 03 16:07 | 11°♋40'47 | -8°34'15 | max. Earth dist. | 3599 Mar 05 03:31 | 14°♋48'55 | 1.71335 AU |
| minimum elong | 3596 Oct 03 19:29 | 11°♋35'34 | 8°34'05 | | 3599 Mar 17 06:02 | 0°♋ | |
| min. Earth dist. | 3596 Oct 04 09:17 | 11°♋14'11 | 0.28516 AU | | 3599 Apr 10 06:19 | 0°♋ | |
| morning rise | 3596 Oct 07 03:56 | 9°♋32'21 | | evening rise | 3599 Apr 11 17:26 | 1°♋49'19 | |
| direct | 3596 Oct 25 01:35 | 3°♋28'22 | | | 3599 May 04 10:52 | 0°♋ | |
| greatest brilliancy | 3596 Nov 05 04:36 | 5°♋45'32 | -4.8m | asc. node | 3599 May 10 05:10 | 7°♋06'33 | |
| asc. node | 3596 Nov 22 09:52 | 16°♋06'05 | | | 3599 May 28 20:49 | 0°♋ | |
| | 3596 Dec 08 06:56 | 0°♋ | | | 3599 Jun 22 13:20 | 0°♋ | |
| morning max el | 3596 Dec 14 10:26 | 6°♋03'23 | 46°39'43 | | 3599 Jul 17 14:39 | 0°♋ | |
| | 3597 Jan 05 17:47 | 0°♋ | | | 3599 Aug 12 05:28 | 0°♋ | |
| | 3597 Jan 31 15:03 | 0°♋ | | desc. node | 3599 Aug 29 18:53 | 19°♋58'26 | |
| | 3597 Feb 25 14:06 | 0°♋ | | | 3599 Sep 07 19:53 | 0°♋ | |
| desc. node | 3597 Mar 13 23:55 | 20°♋00'25 | | | 3599 Oct 06 14:16 | 0°♋ | |
| | 3597 Mar 22 03:42 | 0°♋ | | evening max el | 3599 Oct 07 06:24 | 0°♋39'06 | 46°16'03 |
| | 3597 Apr 15 13:29 | 0°♋ | | greatest brilliancy | 3599 Nov 16 07:29 | 29°♋54'36 | -4.8m |
| | 3597 May 09 22:26 | 0°♋ | | | 3599 Nov 16 14:01 | 0°♋ | |
| | 3597 Jun 03 08:00 | 0°♋ | | retrograde | 3599 Nov 25 17:40 | 1°♋33'02 | |
| morning set | 3597 Jun 18 16:57 | 18°♋52'52 | | | 3599 Dec 04 12:54 | 30°♋ | |
| | 3597 Jun 27 18:14 | 0°♋ | | evening set | 3599 Dec 10 06:58 | 27°♋25'30 | |
| asc. node | 3597 Jul 05 02:44 | 9°♋01'57 | | inferior conj | 3599 Dec 16 08:34 | 23°♋52'54 | -1°10'25 |
| | 3597 Jul 22 04:18 | 0°♋ | | minimum elong | 3599 Dec 16 11:15 | 23°♋48'48 | 1°09'33 |
| max. Earth dist. | 3597 Jul 24 19:00 | 3°♋12'45 | 1.73530 AU | min. Earth dist. | 3599 Dec 16 17:55 | 23°♋38'38 | 0.26713 AU |
| | | | | asc. node | 3599 Dec 20 21:39 | 21°♋10'07 | |
| superior conj | 3597 Jul 25 13:40 | 4°♋10'08 | 0°46'14 | morning rise | 3599 Dec 22 15:05 | 20°♋13'03 | |
| minimum elong | 3597 Jul 25 05:32 | 3°♋45'09 | 0°45'54 | direct | 3600 Jan 05 23:09 | 16°♋09'00 | |
| | 3597 Aug 15 13:27 | 0°♋ | | greatest brilliancy | 3600 Jan 16 11:38 | 18°♋14'28 | -4.9m |
| evening rise | 3597 Aug 30 11:49 | 18°♋23'50 | | | 3600 Feb 04 13:12 | 0°♋ | |
| | 3597 Sep 08 21:48 | 0°♋ | | morning max el | 3600 Feb 25 13:00 | 19°♋17'36 | 46°57'17 |
| | 3597 Oct 03 06:15 | 0°♋ | | | 3600 Mar 06 19:55 | 0°♋ | |
| desc. node | 3597 Oct 24 16:47 | 26°♋21'57 | | | 3600 Apr 02 18:08 | 0°♋ | |
| | 3597 Oct 27 15:47 | 0°♋ | | desc. node | 3600 Apr 10 11:52 | 8°♋56'43 | |
| | 3597 Nov 21 03:04 | 0°♋ | | | 3600 Apr 28 10:15 | 0°♋ | |
| | 3597 Dec 15 17:23 | 0°♋ | | | 3600 May 23 14:11 | 0°♋ | |
| | 3598 Jan 09 14:54 | 0°♋ | | | 3600 Jun 17 12:34 | 0°♋ | |
| | 3598 Feb 04 06:40 | 0°♋ | | | 3600 Jul 12 07:26 | 0°♋ | |
| asc. node | 3598 Feb 14 19:20 | 11°♋48'20 | | asc. node | 3600 Aug 01 14:30 | 24°♋42'01 | |
| evening max el | 3598 Mar 03 17:11 | 29°♋44'16 | 46°50'53 | | 3600 Aug 05 22:40 | 0°♋ | |
| | 3598 Mar 03 23:26 | 0°♋ | | morning set | 3600 Aug 25 17:03 | 24°♋13'36 | |
| | 3598 Apr 11 15:12 | 0°♋ | | | 3600 Aug 30 09:41 | 0°♋ | |
| greatest brilliancy | 3598 Apr 12 10:41 | 0°♋19'03 | -4.8m | | 3600 Sep 23 16:38 | 0°♋ | |
| retrograde | 3598 Apr 23 02:36 | 2°♋26'09 | | max. Earth dist. | 3600 Sep 28 02:43 | 5°♋28'41 | 1.72744 AU |
| | 3598 May 04 00:44 | 30°♋ | | | | | |
| evening set | 3598 May 09 06:33 | 27°♋17'57 | | superior conj | 3600 Oct 01 05:31 | 9°♋20'37 | 1°24'23 |
| inferior conj | 3598 May 14 06:20 | 24°♋14'37 | 5°14'57 | minimum elong | 3600 Oct 01 08:03 | 9°♋28'27 | 1°24'22 |
| minimum elong | 3598 May 14 15:58 | 23°♋59'31 | 5°12'35 | | 3600 Oct 17 20:39 | 0°♋ | |
| min. Earth dist. | 3598 May 14 03:57 | 24°♋18'21 | 0.28265 AU | evening rise | 3600 Nov 07 23:26 | 26°♋17'05 | |
| morning rise | 3598 May 20 01:51 | 20°♋44'33 | | | 3600 Nov 10 23:01 | 0°♋ | |

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|---------------------|-------------------|-----------------------------------|------------|
| desc. node | 3600 Nov 21 04:42 | 12° Υ 45'32 | |
| | 3600 Dec 05 00:37 | 0° \eth | |
| | 3600 Dec 29 02:09 | 0° \approx | |
| | 3601 Jan 22 04:59 | 0° \mathfrak{H} | |
| | 3601 Feb 15 12:14 | 0° Υ | |
| | 3601 Mar 12 05:37 | 0° \mathfrak{B} | |
| asc. node | 3601 Mar 14 07:17 | 2° \mathfrak{B} 28'30 | |
| | 3601 Apr 06 19:01 | 0° Π | |
| | 3601 May 04 02:39 | 0° \mathfrak{C} | |
| evening max el | 3601 May 13 16:56 | 9° \mathfrak{C} 41'09 | 45°49'34 |
| | 3601 Jun 06 06:46 | 0° Ω | |
| greatest brilliancy | 3601 Jun 20 19:29 | 8° Ω 07'26 | -4.7m |
| retrograde | 3601 Jul 01 18:55 | 10° Ω 18'40 | |
| desc. node | 3601 Jul 03 21:12 | 10° Ω 13'29 | |
| evening set | 3601 Jul 17 04:58 | 5° Ω 44'41 | |
| inferior conj | 3601 Jul 23 07:51 | 2° Ω 03'30 | -4°23'33 |
| minimum elong | 3601 Jul 22 23:19 | 2° Ω 16'53 | 4°21'24 |
| min. Earth dist. | 3601 Jul 23 01:29 | 2° Ω 13'29 | 0.28996 AU |
| | 3601 Jul 26 15:25 | 30° \mathfrak{R} \mathfrak{C} | |
| morning rise | 3601 Jul 28 17:42 | 28° \mathfrak{C} 45'51 | |
| direct | 3601 Aug 13 21:46 | 23° \mathfrak{C} 47'14 | |
| greatest brilliancy | 3601 Aug 24 04:27 | 25° \mathfrak{C} 40'29 | -4.7m |
| | 3601 Sep 02 07:39 | 0° Ω | |
| morning max el | 3601 Oct 01 20:01 | 23° Ω 48'57 | 45°54'38 |
| | 3601 Oct 08 02:09 | 0° \mathfrak{M} | |
| asc. node | 3601 Oct 25 00:10 | 17° \mathfrak{M} 50'32 | |
| | 3601 Nov 04 21:55 | 0° Ω | |
| | 3601 Nov 30 15:17 | 0° \mathfrak{M} | |
| | 3601 Dec 25 09:48 | 0° \mathfrak{X} | |