| | | | |
|---|---|---|---|
| conjunction | 4601 May 18 21:10 | 29°♉09'22 | -0°11'48 |
| minimum elong | 4601 May 18 22:20 | 29°♉11'36 | 0°11'47 |
| behind sun begin | 4601 May 18 02:07 | 28°♉32'40 | |
| behind sun end | 4601 May 19 18:32 | 29°♉50'30 | |
| | 4601 May 19 23:28 | 0°♊ | |
| asc. node | 4601 Jun 05 02:00 | 12°♊18'33 | |
| | 4601 Jun 28 17:15 | 0°♋ | |
| max. Earth dist. | 4601 Jul 09 15:01 | 8°♋00'11 | 2.43091 AU |
| morning rise | 4601 Jul 24 08:08 | 18°♋37'31 | |
| | 4601 Aug 09 09:39 | 0°♌ | |
| | 4601 Sep 22 11:09 | 0°♍ | |
| | 4601 Nov 08 08:15 | 0°♎ | |
| | 4601 Dec 29 11:10 | 0°♏ | |
| | 4602 Mar 04 22:23 | 0°♐ | |
| retrograde | 4602 Apr 08 07:22 | 6°♐03'48 | |
| | 4602 May 09 16:49 | 30°℞♏ | |
| opposition | 4602 May 17 03:36 | 27°♏12'13 | 1°01'08 |
| greatest brilliancy | 4602 May 17 08:15 | 27°♏07'44 | -1.5m |
| min. Earth dist. | 4602 May 21 20:08 | 25°♏23'17 | 0.63950 AU |
| desc. node | 4602 Jun 13 13:24 | 18°♏28'16 | |
| direct | 4602 Jun 27 14:18 | 17°♏10'56 | |
| | 4602 Aug 17 10:21 | 0°♐ | |
| | 4602 Oct 11 10:50 | 0°♑ | |
| | 4602 Nov 24 22:59 | 0°♒ | |
| | 4603 Jan 04 11:12 | 0°♓ | |
| | 4603 Feb 12 02:49 | 0°♈ | |
| | 4603 Mar 22 06:39 | 0°♉ | |
| asc. node | 4603 Apr 23 02:06 | 24°♉41'54 | |
| | 4603 Apr 30 00:23 | 0°♊ | |
| evening set | 4603 May 21 09:03 | 16°♊07'40 | |
| | 4603 Jun 09 03:38 | 0°♋ | |
| conjunction | 4603 Jul 20 15:39 | 29°♋37'05 | 0°50'49 |
| minimum elong | 4603 Jul 20 13:40 | 29°♋33'38 | 0°50'48 |
| | 4603 Jul 21 04:49 | 0°♌ | |
| max. Earth dist. | 4603 Aug 21 07:06 | 21°♌16'25 | 2.56117 AU |
| | 4603 Sep 03 08:33 | 0°♍ | |
| morning rise | 4603 Sep 12 01:46 | 5°♍45'48 | |
| | 4603 Oct 19 12:43 | 0°♎ | |
| | 4603 Dec 06 16:35 | 0°♏ | |
| | 4604 Jan 26 15:16 | 0°♐ | |
| | 4604 Mar 25 09:49 | 0°♑ | |
| desc. node | 4604 Apr 30 12:05 | 12°♑16'10 | |
| retrograde | 4604 May 21 13:18 | 14°♑42'29 | |
| opposition | 4604 Jun 26 12:36 | 7°♑07'18 | -2°25'28 |
| greatest brilliancy | 4604 Jun 27 04:46 | 6°♑52'38 | -1.9m |
| min. Earth dist. | 4604 Jul 04 09:48 | 4°♑15'51 | 0.53798 AU |
| | 4604 Jul 18 10:40 | 30°℞♐ | |
| direct | 4604 Aug 05 00:49 | 27°♐52'47 | |
| | 4604 Aug 23 05:40 | 0°♑ | |
| | 4604 Oct 27 00:27 | 0°♒ | |
| | 4604 Dec 10 02:35 | 0°♓ | |
| | 4605 Jan 19 07:07 | 0°♈ | |
| | 4605 Feb 27 11:31 | 0°♉ | |
| asc. node | 4605 Mar 10 01:24 | 8°♉04'27 | |
| | 4605 Apr 08 03:08 | 0°♊ | |
| | 4605 May 19 03:38 | 0°♋ | |
| | 4605 Jul 01 00:01 | 0°♌ | |
| evening set | 4605 Jul 14 13:04 | 9°♌12'40 | |
| | 4605 Aug 14 17:23 | 0°♍ | |
| conjunction | 4605 Sep 03 05:58 | 12°♍46'01 | 1°07'58 |
| minimum elong | 4605 Sep 03 06:01 | 12°♍46'07 | 1°07'59 |
| max. Earth dist. | 4605 Sep 16 15:59 | 21°♍26'55 | 2.64675 AU |
| | 4605 Sep 29 23:24 | 0°♎ | |
| morning rise | 4605 Oct 19 22:11 | 12°♎43'19 | |
| | 4605 Nov 16 05:53 | 0°♏ | |
| | 4606 Jan 03 04:28 | 0°♐ | |
| | 4606 Feb 21 00:07 | 0°♑ | |
| desc. node | 4606 Mar 18 10:56 | 15°♑12'42 | |
| | 4606 Apr 13 03:07 | 0°♒ | |
| | 4606 Jun 13 10:54 | 0°♓ | |
| retrograde | 4606 Jul 24 02:28 | 8°♓34'57 | |
| opposition | 4606 Aug 24 08:42 | 3°♓04'59 | -6°21'44 |
| greatest brilliancy | 4606 Aug 25 21:28 | 2°♓37'57 | -2.7m |
| min. Earth dist. | 4606 Aug 31 04:29 | 1°♓05'07 | 0.40693 AU |
| | 4606 Sep 04 02:23 | 30°℞♒ | |
| direct | 4606 Sep 26 17:45 | 26°♒40'53 | |
| | 4606 Oct 19 01:04 | 0°♓ | |
| | 4606 Dec 17 22:00 | 0°♈ | |
| asc. node | 4607 Jan 25 23:38 | 26°♈12'28 | |
| | 4607 Jan 31 10:31 | 0°♉ | |
| | 4607 Mar 15 04:23 | 0°♊ | |
| | 4607 Apr 27 10:19 | 0°♋ | |
| | 4607 Jun 10 22:50 | 0°♌ | |
| | 4607 Jul 26 20:23 | 0°♍ | |
| evening set | 4607 Aug 25 20:56 | 19°♍15'41 | |
| | 4607 Sep 11 17:22 | 0°♎ | |
| max. Earth dist. | 4607 Oct 09 22:35 | 17°♎55'59 | 2.67825 AU |
| conjunction | 4607 Oct 11 02:01 | 18°♎39'33 | 0°53'34 |
| minimum elong | 4607 Oct 11 03:04 | 18°♎41'13 | 0°53'35 |
| | 4607 Oct 28 21:59 | 0°♏ | |
| morning rise | 4607 Nov 24 05:51 | 16°♏48'19 | |
| | 4607 Dec 14 18:55 | 0°♐ | |
| | 4608 Jan 29 22:56 | 0°♑ | |
| desc. node | 4608 Feb 03 09:47 | 2°♑55'12 | |
| | 4608 Mar 15 08:37 | 0°♒ | |
| | 4608 Apr 29 04:21 | 0°♓ | |
| | 4608 Jun 13 01:23 | 0°♈ | |
| | 4608 Jul 30 09:42 | 0°♉ | |
| retrograde | 4608 Oct 11 06:25 | 27°♉02'03 | |
| min. Earth dist. | 4608 Nov 06 20:20 | 22°♉35'49 | 0.38686 AU |
| opposition | 4608 Nov 12 11:34 | 20°♉57'12 | -2°07'11 |
| greatest brilliancy | 4608 Nov 12 03:00 | 21°♉03'28 | -2.9m |
| direct | 4608 Dec 12 09:43 | 15°♉41'40 | |
| asc. node | 4608 Dec 12 23:11 | 15°♉41'47 | |
| | 4609 Feb 02 14:45 | 0°♊ | |
| | 4609 Mar 29 20:32 | 0°♋ | |
| | 4609 May 18 07:10 | 0°♌ | |
| | 4609 Jul 05 19:52 | 0°♍ | |
| | 4609 Aug 23 02:30 | 0°♎ | |
| evening set | 4609 Oct 01 00:18 | 24°♎25'21 | |
| | 4609 Oct 09 19:30 | 0°♏ | |
| max. Earth dist. | 4609 Nov 01 00:05 | 14°♏10'44 | 2.65501 AU |
| conjunction | 4609 Nov 15 02:18 | 23°♏17'06 | 0°19'30 |
| minimum elong | 4609 Nov 15 02:54 | 23°♏18'04 | 0°19'30 |
| | 4609 Nov 25 09:41 | 0°♐ | |
| desc. node | 4609 Dec 21 08:56 | 17°♐09'09 | |
| morning rise | 4609 Dec 29 21:37 | 22°♐51'49 | |
| | 4610 Jan 09 11:21 | 0°♑ | |
| | 4610 Feb 21 21:51 | 0°♒ | |
| | 4610 Apr 04 19:53 | 0°♓ | |
| | 4610 May 15 13:34 | 0°♈ | |
| | 4610 Jun 24 18:05 | 0°♉ | |
| | 4610 Aug 04 14:44 | 0°♊ | |
| | 4610 Sep 17 20:11 | 0°♋ | |
| asc. node | 4610 Oct 30 23:05 | 23°♋01'48 | |
| | 4610 Nov 22 14:30 | 0°♌ | |

| | | | |
|---|---|---|---|
| retrograde | 4610 Dec 06 13:21 | 1°♌20'45 | |
| | 4610 Dec 20 00:18 | 30°℞♋ | |
| min. Earth dist. | 4611 Jan 05 11:42 | 25°♋08'45 | 0.51214 AU |
| greatest brilliancy | 4611 Jan 12 06:47 | 22°♋36'39 | -2.1m |
| opposition | 4611 Jan 13 08:41 | 22°♋12'20 | 3°36'53 |
| direct | 4611 Feb 16 23:02 | 14°♋41'00 | |
| | 4611 Apr 15 00:03 | 0°♌ | |
| | 4611 Jun 12 10:30 | 0°♍ | |
| | 4611 Aug 03 03:34 | 0°♎ | |
| | 4611 Sep 21 05:58 | 0°♏ | |
| evening set | 4611 Nov 07 01:31 | 29°♏56'06 | |
| | 4611 Nov 07 03:54 | 0°♐ | |
| desc. node | 4611 Nov 08 07:49 | 0°♐45'45 | |
| max. Earth dist. | 4611 Nov 26 22:00 | 13°♐04'52 | 2.57895 AU |
| | 4611 Dec 21 20:03 | 0°♑ | |
| conjunction | 4611 Dec 24 02:42 | 1°♑34'11 | -0°25'11 |
| minimum elong | 4611 Dec 24 01:47 | 1°♑32'35 | 0°25'11 |
| | 4612 Feb 02 08:34 | 0°♒ | |
| morning rise | 4612 Feb 11 19:52 | 6°♒52'37 | |
| | 4612 Mar 14 00:52 | 0°♓ | |
| | 4612 Apr 22 09:31 | 0°♈ | |
| | 4612 May 31 03:08 | 0°♉ | |
| | 4612 Jul 09 03:11 | 0°♊ | |
| | 4612 Aug 18 13:29 | 0°♋ | |
| asc. node | 4612 Sep 16 20:40 | 20°♋29'35 | |
| | 4612 Oct 01 05:13 | 0°♌ | |
| | 4612 Nov 22 12:32 | 0°♍ | |
| retrograde | 4613 Jan 14 23:43 | 14°♍51'44 | |
| min. Earth dist. | 4613 Feb 19 10:34 | 6°♍41'14 | 0.62469 AU |
| opposition | 4613 Feb 23 21:47 | 4°♍54'21 | 4°43'10 |
| greatest brilliancy | 4613 Feb 23 03:42 | 5°♍12'23 | -1.5m |
| | 4613 Mar 09 06:11 | 30°℞♌ | |
| direct | 4613 Apr 03 04:40 | 25°♌57'05 | |
| | 4613 Apr 30 16:10 | 0°♍ | |
| | 4613 Jul 09 07:40 | 0°♎ | |
| | 4613 Aug 31 04:57 | 0°♏ | |
| desc. node | 4613 Sep 25 06:21 | 15°♏19'56 | |
| | 4613 Oct 18 08:04 | 0°♐ | |
| | 4613 Dec 02 04:03 | 0°♑ | |
| evening set | 4613 Dec 18 09:35 | 11°♑21'01 | |
| max. Earth dist. | 4614 Jan 01 13:58 | 21°♑28'43 | 2.45856 AU |
| | 4614 Jan 13 07:31 | 0°♒ | |
| conjunction | 4614 Feb 10 06:50 | 20°♒48'45 | -1°02'15 |
| minimum elong | 4614 Feb 10 05:38 | 20°♒46'30 | 1°02'13 |
| | 4614 Feb 22 08:53 | 0°♓ | |
| | 4614 Apr 02 01:38 | 0°♈ | |
| morning rise | 4614 Apr 14 01:36 | 9°♈25'19 | |
| | 4614 May 10 05:14 | 0°♉ | |
| | 4614 Jun 17 16:44 | 0°♊ | |
| | 4614 Jul 27 09:51 | 0°♋ | |
| asc. node | 4614 Aug 04 19:50 | 6°♋10'44 | |
| | 4614 Sep 07 07:20 | 0°♌ | |
| | 4614 Oct 22 17:13 | 0°♍ | |
| | 4614 Dec 14 11:11 | 0°♎ | |
| retrograde | 4615 Feb 18 20:20 | 19°♎55'59 | |
| opposition | 4615 Mar 31 03:40 | 10°♎08'35 | 3°54'46 |
| greatest brilliancy | 4615 Mar 31 01:37 | 10°♎10'37 | -1.3m |
| min. Earth dist. | 4615 Mar 30 13:08 | 10°♎23'06 | 0.67673 AU |
| direct | 4615 May 10 18:00 | 0°♎25'02 | |
| | 4615 Aug 06 21:05 | 0°♏ | |
| desc. node | 4615 Aug 13 05:09 | 3°♏22'58 | |
| | 4615 Sep 27 19:26 | 0°♐ | |
| | 4615 Nov 12 16:48 | 0°♑ | |
| | 4615 Dec 24 23:24 | 0°♒ | |
| | 4616 Feb 02 19:29 | 0°♓ | |
| evening set | 4616 Feb 12 07:54 | 7°♓21'34 | |
| | 4616 Mar 12 05:10 | 0°♈ | |
| conjunction | 4616 Apr 19 04:26 | 0°♉01'53 | -0°41'07 |
| minimum elong | 4616 Apr 19 07:49 | 0°♉08'34 | 0°41'06 |
| | 4616 Apr 19 03:29 | 0°♉ | |
| | 4616 May 27 12:28 | 0°♊ | |
| max. Earth dist. | 4616 May 31 10:05 | 3°♊00'14 | 2.37969 AU |
| asc. node | 4616 Jun 21 19:59 | 19°♊17'53 | |
| morning rise | 4616 Jun 29 05:27 | 24°♊50'22 | |
| | 4616 Jul 06 04:06 | 0°♋ | |
| | 4616 Aug 16 18:46 | 0°♌ | |
| | 4616 Sep 29 22:31 | 0°♍ | |
| | 4616 Nov 16 11:06 | 0°♎ | |
| | 4617 Jan 09 08:00 | 0°♏ | |
| retrograde | 4617 Mar 24 16:51 | 22°♏57'52 | |
| opposition | 4617 May 03 04:44 | 13°♏46'00 | 2°01'24 |
| greatest brilliancy | 4617 May 03 10:48 | 13°♏40'03 | -1.4m |
| min. Earth dist. | 4617 May 06 10:15 | 12°♏29'59 | 0.66273 AU |
| direct | 4617 Jun 13 17:13 | 3°♏43'17 | |
| desc. node | 4617 Jun 30 04:03 | 5°♏17'22 | |
| | 4617 Sep 01 01:27 | 0°♐ | |
| | 4617 Oct 21 00:22 | 0°♑ | |
| | 4617 Dec 03 10:05 | 0°♒ | |
| | 4618 Jan 12 13:21 | 0°♓ | |
| | 4618 Feb 20 00:46 | 0°♈ | |
| | 4618 Mar 30 01:10 | 0°♉ | |
| evening set | 4618 Apr 24 15:00 | 19°♉59'08 | |
| | 4618 May 07 14:43 | 0°♊ | |
| asc. node | 4618 May 09 18:42 | 1°♊39'31 | |
| | 4618 Jun 16 13:01 | 0°♋ | |
| conjunction | 4618 Jun 28 17:53 | 8°♋54'17 | 0°31'54 |
| minimum elong | 4618 Jun 28 15:49 | 8°♋50'33 | 0°31'52 |
| | 4618 Jul 28 09:18 | 0°♌ | |
| max. Earth dist. | 4618 Aug 07 23:01 | 7°♌20'36 | 2.51409 AU |
| morning rise | 4618 Aug 25 13:15 | 19°♌21'49 | |
| | 4618 Sep 10 10:06 | 0°♍ | |
| | 4618 Oct 26 17:14 | 0°♎ | |
| | 4618 Dec 14 14:34 | 0°♏ | |
| | 4619 Feb 06 03:08 | 0°♐ | |
| retrograde | 4619 May 03 20:00 | 28°♐48'12 | |
| desc. node | 4619 May 18 02:31 | 27°♐31'14 | |
| opposition | 4619 Jun 10 03:39 | 20°♐37'48 | -0°56'07 |
| greatest brilliancy | 4619 Jun 10 09:03 | 20°♐32'44 | -1.7m |
| min. Earth dist. | 4619 Jun 16 22:32 | 18°♐04'53 | 0.58429 AU |
| direct | 4619 Jul 20 18:38 | 10°♐54'45 | |
| | 4619 Sep 20 20:44 | 0°♑ | |
| | 4619 Nov 09 04:30 | 0°♒ | |
| | 4619 Dec 21 02:42 | 0°♓ | |
| | 4620 Jan 29 10:04 | 0°♈ | |
| | 4620 Mar 08 00:58 | 0°♉ | |
| asc. node | 4620 Mar 26 17:09 | 14°♉24'06 | |
| | 4620 Apr 16 05:03 | 0°♊ | |
| | 4620 May 26 18:53 | 0°♋ | |
| evening set | 4620 Jun 25 02:52 | 20°♋52'33 | |
| | 4620 Jul 08 05:52 | 0°♌ | |
| conjunction | 4620 Aug 17 20:17 | 27°♌27'42 | 1°05'57 |
| minimum elong | 4620 Aug 17 19:33 | 27°♌26'31 | 1°05'57 |
| | 4620 Aug 21 16:14 | 0°♍ | |
| max. Earth dist. | 4620 Sep 06 16:38 | 10°♍31'39 | 2.61964 AU |
| morning rise | 4620 Oct 05 12:38 | 29°♍10'19 | |
| | 4620 Oct 06 19:40 | 0°♎ | |
| | 4620 Nov 23 07:13 | 0°♏ | |
| | 4621 Jan 11 00:53 | 0°♐ | |
| | 4621 Mar 02 23:05 | 0°♑ | |

| | | | |
|---|---|---|---|
| desc. node | 4621 Apr 04 01:27 | 17°♉27'40 | |
| | 4621 Apr 30 02:53 | 0°♒ | |
| retrograde | 4621 Jun 25 22:06 | 14°♒54'22 | |
| opposition | 4621 Jul 29 06:34 | 8°♒30'47 | -5°01'56 |
| greatest brilliancy | 4621 Jul 30 17:33 | 8°♒02'02 | -2.4m |
| min. Earth dist. | 4621 Aug 06 16:20 | 5°♒46'20 | 0.45633 AU |
| direct | 4621 Sep 03 15:08 | 0°♒42'54 | |
| | 4621 Nov 18 14:44 | 0°♓ | |
| | 4622 Jan 01 19:46 | 0°♈ | |
| asc. node | 4622 Feb 11 16:46 | 29°♈49'18 | |
| | 4622 Feb 11 22:35 | 0°♉ | |
| | 4622 Mar 24 21:52 | 0°♊ | |
| | 4622 May 05 23:22 | 0°♋ | |
| | 4622 Jun 18 15:44 | 0°♌ | |
| | 4622 Aug 02 23:32 | 0°♍ | |
| evening set | 4622 Aug 10 09:04 | 4°♍48'38 | |
| | 4622 Sep 18 12:52 | 0°♎ | |
| conjunction | 4622 Sep 26 20:40 | 5°♎18'41 | 1°02'00 |
| minimum elong | 4622 Sep 26 21:31 | 5°♎20'02 | 1°02'00 |
| max. Earth dist. | 4622 Oct 01 05:09 | 8°♎05'04 | 2.67255 AU |
| | 4622 Nov 04 16:34 | 0°♏ | |
| morning rise | 4622 Nov 10 14:25 | 3°♏45'17 | |
| | 4622 Dec 21 20:37 | 0°♐ | |
| | 4623 Feb 06 18:41 | 0°♑ | |
| desc. node | 4623 Feb 20 01:10 | 8°♑30'20 | |
| | 4623 Mar 25 14:24 | 0°♒ | |
| | 4623 May 11 23:38 | 0°♓ | |
| | 4623 Jul 01 10:11 | 0°♈ | |
| retrograde | 4623 Sep 12 12:55 | 25°♈20'46 | |
| opposition | 4623 Oct 12 15:38 | 20°♈18'35 | -5°13'49 |
| min. Earth dist. | 4623 Oct 11 23:19 | 20°♈29'22 | 0.36986 AU |
| greatest brilliancy | 4623 Oct 12 17:32 | 20°♈17'20 | -3.0m |
| direct | 4623 Nov 11 02:24 | 15°♈24'50 | |
| asc. node | 4623 Dec 30 15:18 | 28°♈59'40 | |
| | 4624 Jan 01 17:37 | 0°♉ | |
| | 4624 Feb 23 10:55 | 0°♊ | |
| | 4624 Apr 10 15:36 | 0°♋ | |
| | 4624 May 27 08:29 | 0°♌ | |
| | 4624 Jul 13 13:07 | 0°♍ | |
| | 4624 Aug 30 03:21 | 0°♎ | |
| evening set | 4624 Sep 16 20:07 | 11°♎09'26 | |
| | 4624 Oct 16 13:55 | 0°♏ | |
| max. Earth dist. | 4624 Oct 22 20:21 | 3°♏59'41 | 2.67078 AU |
| conjunction | 4624 Nov 01 00:07 | 9°♏50'50 | 0°34'28 |
| minimum elong | 4624 Nov 01 01:03 | 9°♏52'19 | 0°34'28 |
| | 4624 Dec 02 05:24 | 0°♐ | |
| morning rise | 4624 Dec 15 03:35 | 8°♐26'53 | |
| desc. node | 4625 Jan 06 24:00 | 23°♐33'18 | |
| | 4625 Jan 16 15:21 | 0°♑ | |
| | 4625 Mar 01 16:23 | 0°♒ | |
| | 4625 Apr 13 10:05 | 0°♓ | |
| | 4625 May 25 03:45 | 0°♈ | |
| | 4625 Jul 05 14:47 | 0°♉ | |
| | 4625 Aug 17 16:00 | 0°♊ | |
| | 4625 Oct 08 18:01 | 0°♋ | |
| asc. node | 4625 Nov 16 14:30 | 9°♋51'00 | |
| retrograde | 4625 Nov 17 09:51 | 9°♋51'17 | |
| min. Earth dist. | 4625 Dec 15 03:11 | 4°♋32'44 | 0.45829 AU |
| opposition | 4625 Dec 23 13:14 | 1°♋36'48 | 2°08'29 |
| greatest brilliancy | 4625 Dec 22 19:41 | 1°♋52'10 | -2.4m |
| | 4625 Dec 28 06:34 | 30°℞♊ | |
| direct | 4626 Jan 25 06:39 | 24°♊55'27 | |
| | 4626 Feb 24 01:24 | 0°♋ | |
| | 4626 Apr 30 10:22 | 0°♌ | |
| | 4626 Jun 21 21:37 | 0°♍ | |
| | 4626 Aug 10 20:26 | 0°♎ | |
| | 4626 Sep 28 06:35 | 0°♏ | |
| evening set | 4626 Oct 23 08:59 | 15°♏58'00 | |
| | 4626 Nov 14 00:04 | 0°♐ | |
| max. Earth dist. | 4626 Nov 16 08:42 | 1°♐32'52 | 2.61492 AU |
| desc. node | 4626 Nov 24 22:25 | 7°♐12'01 | |
| conjunction | 4626 Dec 08 05:01 | 16°♐02'50 | -0°07'23 |
| minimum elong | 4626 Dec 08 04:44 | 16°♐02'23 | 0°07'23 |
| behind sun begin | 4626 Dec 07 11:11 | 15°♐32'57 | |
| behind sun end | 4626 Dec 08 22:18 | 16°♐31'49 | |
| | 4626 Dec 28 18:58 | 0°♑ | |
| morning rise | 4627 Jan 24 06:48 | 18°♑24'04 | |
| | 4627 Feb 09 14:54 | 0°♒ | |
| | 4627 Mar 22 17:05 | 0°♓ | |
| | 4627 May 01 12:04 | 0°♈ | |
| | 4627 Jun 09 15:33 | 0°♉ | |
| | 4627 Jul 19 01:56 | 0°♊ | |
| | 4627 Aug 29 05:17 | 0°♋ | |
| asc. node | 4627 Oct 04 14:34 | 24°♋17'46 | |
| | 4627 Oct 13 22:03 | 0°♌ | |
| retrograde | 4628 Jan 01 08:04 | 29°♌38'02 | |
| min. Earth dist. | 4628 Feb 03 18:14 | 22°♌09'15 | 0.58676 AU |
| opposition | 4628 Feb 09 16:50 | 19°♌48'54 | 4°37'02 |
| greatest brilliancy | 4628 Feb 08 17:01 | 20°♌12'23 | -1.7m |
| direct | 4628 Mar 17 16:43 | 11°♌19'15 | |
| | 4628 May 22 10:14 | 0°♍ | |
| | 4628 Jul 19 01:09 | 0°♎ | |
| | 4628 Sep 07 23:18 | 0°♏ | |
| desc. node | 4628 Oct 11 20:52 | 21°♏12'23 | |
| | 4628 Oct 25 11:56 | 0°♐ | |
| evening set | 4628 Nov 30 21:33 | 24°♐17'02 | |
| | 4628 Dec 09 05:11 | 0°♑ | |
| max. Earth dist. | 4628 Dec 15 22:16 | 4°♑39'24 | 2.50963 AU |
| conjunction | 4629 Jan 20 07:15 | 29°♑52'26 | -0°51'03 |
| minimum elong | 4629 Jan 20 05:38 | 29°♑49'28 | 0°51'02 |
| | 4629 Jan 20 11:25 | 0°♒ | |
| | 4629 Mar 01 17:49 | 0°♓ | |
| morning rise | 4629 Mar 17 18:05 | 12°♓14'50 | |
| | 4629 Apr 09 15:51 | 0°♈ | |
| | 4629 May 17 23:55 | 0°♉ | |
| | 4629 Jun 25 14:44 | 0°♊ | |
| | 4629 Aug 04 11:28 | 0°♋ | |
| asc. node | 4629 Aug 21 13:16 | 12°♋23'04 | |
| | 4629 Sep 15 17:45 | 0°♌ | |
| | 4629 Nov 01 09:48 | 0°♍ | |
| | 4629 Dec 31 20:19 | 0°♎ | |
| retrograde | 4630 Feb 05 13:31 | 6°♎59'05 | |
| | 4630 Mar 10 10:25 | 30°℞♍ | |
| min. Earth dist. | 4630 Mar 15 17:24 | 27°♍55'10 | 0.66398 AU |
| opposition | 4630 Mar 17 20:30 | 27°♍03'59 | 4°22'25 |
| greatest brilliancy | 4630 Mar 17 12:32 | 27°♍11'58 | -1.3m |
| direct | 4630 Apr 26 16:46 | 17°♍35'15 | |
| | 4630 Jun 17 16:41 | 0°♎ | |
| | 4630 Aug 16 22:14 | 0°♏ | |
| desc. node | 4630 Aug 29 19:54 | 7°♏25'06 | |
| | 4630 Oct 05 20:01 | 0°♐ | |
| | 4630 Nov 20 04:18 | 0°♑ | |
| | 4631 Jan 01 08:28 | 0°♒ | |
| evening set | 4631 Jan 19 06:23 | 13°♒18'00 | |
| | 4631 Feb 10 05:47 | 0°♓ | |
| max. Earth dist. | 4631 Feb 17 05:40 | 5°♓23'34 | 2.38156 AU |
| | 4631 Mar 20 17:22 | 0°♈ | |
| conjunction | 4631 Mar 21 22:48 | 0°♈57'58 | -1°00'18 |
| minimum elong | 4631 Mar 22 00:58 | 1°♈02'14 | 1°00'17 |

| | | | |
|---|---|---|---|
| | 4631 Apr 27 16:53 | 0°♉ | |
| morning rise | 4631 Jun 01 06:14 | 27°♉02'55 | |
| | 4631 Jun 05 01:50 | 0°♊ | |
| asc. node | 4631 Jul 09 11:37 | 26°♊07'49 | |
| | 4631 Jul 14 16:37 | 0°♋ | |
| | 4631 Aug 25 07:39 | 0°♌ | |
| | 4631 Oct 08 17:32 | 0°♍ | |
| | 4631 Nov 26 08:52 | 0°♎ | |
| | 4632 Jan 25 05:00 | 0°♏ | |
| retrograde | 4632 Mar 10 20:40 | 10°♏14'45 | |
| opposition | 4632 Apr 19 19:21 | 0°♏46'24 | 2°52'15 |
| greatest brilliancy | 4632 Apr 19 23:49 | 0°♏41'58 | -1.3m |
| | 4632 Apr 21 18:13 | 30°℞♎ | |
| min. Earth dist. | 4632 Apr 21 12:48 | 0°♏05'21 | 0.67605 AU |
| direct | 4632 May 31 03:10 | 20°♎47'58 | |
| | 4632 Jul 13 08:24 | 0°♏ | |
| desc. node | 4632 Jul 16 18:50 | 1°♏19'10 | |
| | 4632 Sep 11 22:33 | 0°♐ | |
| | 4632 Oct 29 15:07 | 0°♑ | |
| | 4632 Dec 11 10:20 | 0°♒ | |
| | 4633 Jan 20 09:13 | 0°♓ | |
| | 4633 Feb 27 18:50 | 0°♈ | |
| evening set | 4633 Mar 26 18:22 | 21°♈20'43 | |
| | 4633 Apr 06 17:22 | 0°♉ | |
| | 4633 May 15 03:55 | 0°♊ | |
| asc. node | 4633 May 26 11:45 | 8°♊40'18 | |
| conjunction | 4633 Jun 03 12:48 | 14°♊46'16 | 0°05'31 |
| minimum elong | 4633 Jun 03 12:17 | 14°♊45'18 | 0°05'30 |
| behind sun begin | 4633 Jun 02 09:33 | 13°♊54'49 | |
| behind sun end | 4633 Jun 04 15:02 | 15°♊35'44 | |
| | 4633 Jun 23 22:11 | 0°♋ | |
| max. Earth dist. | 4633 Jul 22 04:00 | 20°♋29'39 | 2.46117 AU |
| | 4633 Aug 04 14:42 | 0°♌ | |
| morning rise | 4633 Aug 05 19:13 | 0°♌49'57 | |
| | 4633 Sep 17 14:16 | 0°♍ | |
| | 4633 Nov 03 04:00 | 0°♎ | |
| | 4633 Dec 23 05:09 | 0°♏ | |
| | 4634 Feb 19 19:34 | 0°♐ | |
| retrograde | 4634 Apr 17 04:14 | 14°♐21'07 | |
| opposition | 4634 May 25 12:49 | 5°♐42'44 | 0°21'14 |
| greatest brilliancy | 4634 May 25 14:48 | 5°♐40'50 | -1.6m |
| min. Earth dist. | 4634 May 30 23:49 | 3°♐36'57 | 0.62222 AU |
| desc. node | 4634 Jun 03 17:49 | 2°♐12'49 | |
| | 4634 Jun 10 04:32 | 30°℞♏ | |
| direct | 4634 Jul 05 18:35 | 25°♏45'18 | |
| | 4634 Aug 02 01:35 | 0°♐ | |
| | 4634 Oct 04 11:26 | 0°♑ | |
| | 4634 Nov 19 03:46 | 0°♒ | |
| | 4634 Dec 30 01:39 | 0°♓ | |
| | 4635 Feb 06 21:51 | 0°♈ | |
| | 4635 Mar 17 04:55 | 0°♉ | |
| asc. node | 4635 Apr 13 10:14 | 21°♉06'17 | |
| | 4635 Apr 25 01:27 | 0°♊ | |
| evening set | 4635 Jun 04 03:12 | 29°♊52'22 | |
| | 4635 Jun 04 07:23 | 0°♋ | |
| | 4635 Jul 16 10:56 | 0°♌ | |
| conjunction | 4635 Jul 31 19:29 | 10°♌34'51 | 0°58'14 |
| minimum elong | 4635 Jul 31 17:54 | 10°♌32'09 | 0°58'14 |
| max. Earth dist. | 4635 Aug 28 00:10 | 28°♌54'22 | 2.58412 AU |
| | 4635 Aug 29 15:42 | 0°♍ | |
| morning rise | 4635 Sep 21 06:28 | 14°♍51'37 | |
| | 4635 Oct 14 18:16 | 0°♎ | |
| | 4635 Dec 01 14:17 | 0°♏ | |
| | 4636 Jan 20 12:38 | 0°♐ | |
| | 4636 Mar 15 05:08 | 0°♑ | |
| desc. node | 4636 Apr 20 16:44 | 16°♑10'11 | |
| retrograde | 4636 Jun 02 07:09 | 25°♑06'06 | |
| opposition | 4636 Jul 07 09:57 | 17°♑53'46 | -3°21'22 |
| greatest brilliancy | 4636 Jul 08 09:22 | 17°♑33'04 | -2.1m |
| min. Earth dist. | 4636 Jul 15 17:19 | 14°♑58'11 | 0.50964 AU |
| direct | 4636 Aug 15 00:09 | 9°♑03'10 | |
| | 4636 Oct 17 05:08 | 0°♒ | |
| | 4636 Dec 03 00:43 | 0°♓ | |
| | 4637 Jan 13 02:08 | 0°♈ | |
| | 4637 Feb 21 17:55 | 0°♉ | |
| asc. node | 4637 Feb 28 08:15 | 4°♉59'26 | |
| | 4637 Apr 02 17:43 | 0°♊ | |
| | 4637 May 14 00:50 | 0°♋ | |
| | 4637 Jun 26 02:47 | 0°♌ | |
| evening set | 4637 Jul 24 17:47 | 19°♌15'33 | |
| | 4637 Aug 10 00:02 | 0°♍ | |
| conjunction | 4637 Sep 12 02:08 | 21°♍30'04 | 1°06'57 |
| minimum elong | 4637 Sep 12 02:33 | 21°♍30'45 | 1°06'57 |
| max. Earth dist. | 4637 Sep 22 02:35 | 27°♍56'18 | 2.65841 AU |
| | 4637 Sep 25 07:47 | 0°♎ | |
| morning rise | 4637 Oct 27 21:42 | 20°♎44'58 | |
| | 4637 Nov 11 12:24 | 0°♏ | |
| | 4637 Dec 29 02:54 | 0°♐ | |
| | 4638 Feb 15 02:50 | 0°♑ | |
| desc. node | 4638 Mar 08 15:34 | 13°♑17'18 | |
| | 4638 Apr 05 05:12 | 0°♒ | |
| | 4638 May 28 04:22 | 0°♓ | |
| retrograde | 4638 Aug 10 16:23 | 24°♓27'02 | |
| opposition | 4638 Sep 10 01:47 | 19°♓20'15 | -6°34'44 |
| greatest brilliancy | 4638 Sep 11 06:23 | 19°♓00'21 | -2.8m |
| min. Earth dist. | 4638 Sep 14 19:58 | 18°♓01'03 | 0.38613 AU |
| direct | 4638 Oct 11 18:01 | 13°♓40'52 | |
| | 4638 Dec 04 07:41 | 0°♈ | |
| asc. node | 4639 Jan 16 08:24 | 25°♈43'04 | |
| | 4639 Jan 22 21:29 | 0°♉ | |
| | 4639 Mar 08 09:34 | 0°♊ | |
| | 4639 Apr 21 13:55 | 0°♋ | |
| | 4639 Jun 05 16:28 | 0°♌ | |
| | 4639 Jul 21 22:46 | 0°♍ | |
| evening set | 4639 Sep 03 09:43 | 27°♍41'42 | |
| | 4639 Sep 07 00:54 | 0°♎ | |
| max. Earth dist. | 4639 Oct 15 01:40 | 24°♎07'44 | 2.67797 AU |
| conjunction | 4639 Oct 19 02:40 | 26°♎41'52 | 0°47'16 |
| minimum elong | 4639 Oct 19 03:44 | 26°♎43'34 | 0°47'16 |
| | 4639 Oct 24 07:13 | 0°♏ | |
| morning rise | 4639 Dec 02 02:56 | 24°♏51'50 | |
| | 4639 Dec 10 01:46 | 0°♐ | |
| desc. node | 4640 Jan 24 14:29 | 29°♐46'26 | |
| | 4640 Jan 24 22:41 | 0°♑ | |
| | 4640 Mar 09 18:57 | 0°♒ | |
| | 4640 Apr 22 17:04 | 0°♓ | |
| | 4640 Jun 05 02:29 | 0°♈ | |
| | 4640 Jul 19 05:09 | 0°♉ | |
| | 4640 Sep 07 10:01 | 0°♊ | |
| retrograde | 4640 Oct 25 19:19 | 13°♊59'35 | |
| min. Earth dist. | 4640 Nov 21 05:48 | 9°♊23'26 | 0.40820 AU |
| opposition | 4640 Nov 28 13:54 | 7°♊05'35 | -0°19'05 |
| greatest brilliancy | 4640 Nov 28 12:02 | 7°♊07'03 | -2.8m |
| asc. node | 4640 Dec 03 08:22 | 5°♊38'05 | |
| direct | 4640 Dec 29 07:01 | 1°♊21'20 | |
| | 4641 Mar 20 17:03 | 0°♋ | |
| | 4641 May 11 21:03 | 0°♌ | |
| | 4641 Jun 30 10:45 | 0°♍ | |
| | 4641 Aug 18 05:19 | 0°♎ | |
| | 4641 Oct 05 03:51 | 0°♏ | |

| | | | |
|---|---|---|---|
| evening set | 4641 Oct 09 02:46 | 2°♏30'28 | |
| max. Earth dist. | 4641 Nov 06 11:56 | 20°♏41'36 | 2.64303 AU |
| | 4641 Nov 20 19:12 | 0°♐ | |
| conjunction | 4641 Nov 23 07:53 | 1°♐39'21 | 0°09'58 |
| minimum elong | 4641 Nov 23 08:12 | 1°♐39'52 | 0°09'59 |
| behind sun begin | 4641 Nov 22 17:06 | 1°♐15'09 | |
| behind sun end | 4641 Nov 23 23:18 | 2°♐04'35 | |
| desc. node | 4641 Dec 11 12:57 | 13°♐41'16 | |
| | 4642 Jan 04 18:40 | 0°♑ | |
| morning rise | 4642 Jan 07 17:27 | 2°♑00'35 | |
| | 4642 Feb 16 23:49 | 0°♒ | |
| | 4642 Mar 30 14:16 | 0°♓ | |
| | 4642 May 09 22:36 | 0°♈ | |
| | 4642 Jun 18 16:09 | 0°♉ | |
| | 4642 Jul 28 20:08 | 0°♊ | |
| | 4642 Sep 09 10:00 | 0°♋ | |
| asc. node | 4642 Oct 21 06:35 | 25°♋17'31 | |
| | 4642 Oct 30 17:30 | 0°♌ | |
| retrograde | 4642 Dec 16 09:42 | 12°♌34'55 | |
| min. Earth dist. | 4643 Jan 16 15:12 | 5°♌53'37 | 0.54065 AU |
| opposition | 4643 Jan 23 21:23 | 3°♌06'45 | 4°08'13 |
| greatest brilliancy | 4643 Jan 22 18:39 | 3°♌32'28 | -1.9m |
| | 4643 Feb 01 09:53 | 30°℞♋ | |
| direct | 4643 Feb 28 09:21 | 25°♋12'01 | |
| | 4643 Mar 29 22:18 | 0°♌ | |
| | 4643 Jun 05 10:52 | 0°♍ | |
| | 4643 Jul 28 16:57 | 0°♎ | |
| | 4643 Sep 16 08:53 | 0°♏ | |
| desc. node | 4643 Oct 29 11:27 | 27°♏22'59 | |
| | 4643 Nov 02 11:48 | 0°♐ | |
| evening set | 4643 Nov 15 19:17 | 8°♐46'00 | |
| max. Earth dist. | 4643 Dec 03 18:17 | 20°♐48'51 | 2.55616 AU |
| | 4643 Dec 17 04:48 | 0°♑ | |
| conjunction | 4644 Jan 02 19:22 | 11°♑33'31 | -0°35'17 |
| minimum elong | 4644 Jan 02 18:06 | 11°♑31'16 | 0°35'16 |
| | 4644 Jan 28 15:31 | 0°♒ | |
| morning rise | 4644 Feb 23 11:29 | 18°♒58'22 | |
| | 4644 Mar 09 04:40 | 0°♓ | |
| | 4644 Apr 17 09:26 | 0°♈ | |
| | 4644 May 25 23:14 | 0°♉ | |
| | 4644 Jul 03 18:56 | 0°♊ | |
| | 4644 Aug 12 22:01 | 0°♋ | |
| asc. node | 4644 Sep 07 05:41 | 18°♋01'21 | |
| | 4644 Sep 24 20:25 | 0°♌ | |
| | 4644 Nov 13 00:57 | 0°♍ | |
| retrograde | 4645 Jan 23 00:02 | 23°♍27'52 | |
| min. Earth dist. | 4645 Feb 28 11:19 | 14°♍56'57 | 0.64140 AU |
| opposition | 4645 Mar 04 02:49 | 13°♍29'24 | 4°39'27 |
| greatest brilliancy | 4645 Mar 03 12:19 | 13°♍43'55 | -1.4m |
| direct | 4645 Apr 12 00:22 | 4°♍19'36 | |
| | 4645 Jul 01 23:41 | 0°♎ | |
| | 4645 Aug 25 17:34 | 0°♏ | |
| desc. node | 4645 Sep 15 10:37 | 12°♏26'20 | |
| | 4645 Oct 13 10:00 | 0°♐ | |
| | 4645 Nov 27 10:21 | 0°♑ | |
| evening set | 4645 Dec 29 06:16 | 22°♑28'57 | |
| | 4646 Jan 08 14:20 | 0°♒ | |
| max. Earth dist. | 4646 Jan 14 03:57 | 4°♒05'25 | 2.42938 AU |
| | 4646 Feb 17 14:37 | 0°♓ | |
| conjunction | 4646 Feb 23 15:08 | 4°♓37'24 | -1°05'03 |
| minimum elong | 4646 Feb 23 14:48 | 4°♓36'47 | 1°05'03 |
| | 4646 Mar 28 05:37 | 0°♈ | |
| morning rise | 4646 May 01 02:42 | 26°♈41'09 | |
| | 4646 May 05 07:43 | 0°♉ | |
| | 4646 Jun 12 17:56 | 0°♊ | |
| | 4646 Jul 22 09:13 | 0°♋ | |
| asc. node | 4646 Jul 26 04:58 | 2°♋49'21 | |
| | 4646 Sep 02 02:39 | 0°♌ | |
| | 4646 Oct 16 23:53 | 0°♍ | |
| | 4646 Dec 06 14:39 | 0°♎ | |
| retrograde | 4647 Feb 26 10:51 | 27°♎38'52 | |
| opposition | 4647 Apr 07 15:59 | 17°♎57'12 | 3°34'16 |
| greatest brilliancy | 4647 Apr 07 16:42 | 17°♎56'29 | -1.3m |
| min. Earth dist. | 4647 Apr 07 21:10 | 17°♎52'02 | 0.67931 AU |
| direct | 4647 May 18 13:49 | 8°♎07'18 | |
| | 4647 Jul 30 05:41 | 0°♏ | |
| desc. node | 4647 Aug 03 10:05 | 2°♏04'23 | |
| | 4647 Sep 22 05:19 | 0°♐ | |
| | 4647 Nov 07 16:00 | 0°♑ | |
| | 4647 Dec 20 02:49 | 0°♒ | |
| | 4648 Jan 28 23:52 | 0°♓ | |
| evening set | 4648 Feb 27 08:33 | 22°♓52'53 | |
| | 4648 Mar 07 09:14 | 0°♈ | |
| | 4648 Apr 14 07:10 | 0°♉ | |
| conjunction | 4648 May 06 02:32 | 17°♉08'16 | -0°25'02 |
| minimum elong | 4648 May 06 04:58 | 17°♉13'01 | 0°25'01 |
| | 4648 May 22 16:07 | 0°♊ | |
| asc. node | 4648 Jun 12 03:01 | 15°♊37'50 | |
| max. Earth dist. | 4648 Jun 27 00:12 | 26°♊47'50 | 2.40663 AU |
| | 4648 Jul 01 07:46 | 0°♋ | |
| morning rise | 4648 Jul 13 22:25 | 9°♋15'43 | |
| | 4648 Aug 11 22:02 | 0°♌ | |
| | 4648 Sep 24 22:35 | 0°♍ | |
| | 4648 Nov 10 23:41 | 0°♎ | |
| | 4649 Jan 01 22:48 | 0°♏ | |
| | 4649 Mar 20 17:00 | 0°♐ | |
| retrograde | 4649 Apr 01 22:53 | 0°♐51'51 | |
| | 4649 Apr 13 15:43 | 30°℞♏ | |
| opposition | 4649 May 11 02:18 | 21°♏50'38 | 1°27'20 |
| greatest brilliancy | 4649 May 11 07:52 | 21°♏45'12 | -1.4m |
| min. Earth dist. | 4649 May 15 02:47 | 20°♏16'33 | 0.65117 AU |
| desc. node | 4649 Jun 20 08:30 | 11°♏48'30 | |
| direct | 4649 Jun 21 14:15 | 11°♏47'55 | |
| | 4649 Aug 23 12:34 | 0°♐ | |
| | 4649 Oct 15 00:52 | 0°♑ | |
| | 4649 Nov 28 02:03 | 0°♒ | |
| | 4650 Jan 07 11:04 | 0°♓ | |
| | 4650 Feb 15 00:54 | 0°♈ | |
| | 4650 Mar 25 02:49 | 0°♉ | |
| asc. node | 4650 Apr 30 02:46 | 27°♉59'16 | |
| | 4650 May 02 17:47 | 0°♊ | |
| evening set | 4650 May 10 01:50 | 5°♊35'50 | |
| | 4650 Jun 11 17:27 | 0°♋ | |
| conjunction | 4650 Jul 11 13:11 | 21°♋30'22 | 0°43'43 |
| minimum elong | 4650 Jul 11 11:01 | 21°♋26'31 | 0°43'42 |
| | 4650 Jul 23 15:03 | 0°♌ | |
| max. Earth dist. | 4650 Aug 16 01:13 | 16°♌08'26 | 2.54098 AU |
| morning rise | 4650 Sep 04 18:42 | 29°♌24'44 | |
| | 4650 Sep 05 15:54 | 0°♍ | |
| | 4650 Oct 21 19:54 | 0°♎ | |
| | 4650 Dec 09 05:10 | 0°♏ | |
| | 4651 Jan 30 00:17 | 0°♐ | |
| | 4651 Apr 03 14:58 | 0°♑ | |
| desc. node | 4651 May 08 06:57 | 7°♑54'40 | |
| retrograde | 4651 May 14 04:18 | 8°♑06'59 | |
| opposition | 4651 Jun 19 18:45 | 0°♑14'56 | -1°46'09 |
| greatest brilliancy | 4651 Jun 20 05:52 | 0°♑04'40 | -1.8m |
| | 4651 Jun 20 10:55 | 30°℞♐ | |
| min. Earth dist. | 4651 Jun 27 04:40 | 27°♐30'46 | 0.55968 AU |

| | | | |
|---|---|---|---|
| direct | 4651 Jul 29 20:05 | 20°♐45'40 | |
| | 4651 Sep 08 07:22 | 0°♑ | |
| | 4651 Nov 02 00:03 | 0°♒ | |
| | 4651 Dec 15 00:51 | 0°♓ | |
| | 4652 Jan 23 19:09 | 0°♈ | |
| | 4652 Mar 02 16:41 | 0°♉ | |
| asc. node | 4652 Mar 17 02:17 | 11°♉03'11 | |
| | 4652 Apr 11 02:00 | 0°♊ | |
| | 4652 May 21 20:08 | 0°♋ | |
| | 4652 Jul 03 10:50 | 0°♌ | |
| evening set | 4652 Jul 06 10:13 | 2°♌02'39 | |
| | 4652 Aug 16 23:34 | 0°♍ | |
| conjunction | 4652 Aug 27 09:06 | 6°♍50'20 | 1°07'44 |
| minimum elong | 4652 Aug 27 08:52 | 6°♍49'57 | 1°07'44 |
| max. Earth dist. | 4652 Sep 12 13:19 | 17°♍22'47 | 2.63563 AU |
| | 4652 Oct 02 03:26 | 0°♎ | |
| morning rise | 4652 Oct 13 20:42 | 7°♎29'20 | |
| | 4652 Nov 18 11:13 | 0°♏ | |
| | 4653 Jan 05 16:55 | 0°♐ | |
| | 4653 Feb 24 07:09 | 0°♑ | |
| desc. node | 4653 Mar 25 06:05 | 16°♑44'48 | |
| | 4653 Apr 18 14:15 | 0°♒ | |
| retrograde | 4653 Jul 11 04:30 | 28°♒09'38 | |
| opposition | 4653 Aug 12 09:02 | 22°♒16'14 | -5°52'29 |
| greatest brilliancy | 4653 Aug 13 23:21 | 21°♒46'33 | -2.5m |
| min. Earth dist. | 4653 Aug 20 05:22 | 19°♒51'17 | 0.42776 AU |
| direct | 4653 Sep 16 04:18 | 15°♒13'12 | |
| | 4653 Nov 05 11:37 | 0°♓ | |
| | 4653 Dec 24 11:34 | 0°♈ | |
| asc. node | 4654 Feb 02 00:44 | 27°♈47'44 | |
| | 4654 Feb 05 02:30 | 0°♉ | |
| | 4654 Mar 18 21:47 | 0°♊ | |
| | 4654 Apr 30 12:31 | 0°♋ | |
| | 4654 Jun 13 14:21 | 0°♌ | |
| | 4654 Jul 29 04:22 | 0°♍ | |
| evening set | 4654 Aug 19 08:28 | 13°♍39'54 | |
| | 4654 Sep 13 21:12 | 0°♎ | |
| conjunction | 4654 Oct 05 01:38 | 13°♎29'09 | 0°57'27 |
| minimum elong | 4654 Oct 05 02:38 | 13°♎30'43 | 0°57'27 |
| max. Earth dist. | 4654 Oct 06 10:00 | 14°♎20'36 | 2.67672 AU |
| | 4654 Oct 31 01:03 | 0°♏ | |
| morning rise | 4654 Nov 18 10:04 | 11°♏42'03 | |
| | 4654 Dec 17 01:00 | 0°♐ | |
| | 4655 Feb 01 12:52 | 0°♑ | |
| desc. node | 4655 Feb 10 04:59 | 5°♑38'12 | |
| | 4655 Mar 19 12:20 | 0°♒ | |
| | 4655 May 04 07:11 | 0°♓ | |
| | 4655 Jun 19 22:16 | 0°♈ | |
| | 4655 Aug 11 10:43 | 0°♉ | |
| retrograde | 4655 Sep 29 20:47 | 13°♉48'22 | |
| min. Earth dist. | 4655 Oct 27 06:20 | 9°♉18'57 | 0.37520 AU |
| opposition | 4655 Oct 30 21:50 | 8°♉18'32 | -3°34'01 |
| greatest brilliancy | 4655 Oct 30 14:20 | 8°♉23'44 | -3.0m |
| direct | 4655 Nov 29 09:57 | 3°♉19'39 | |
| asc. node | 4655 Dec 21 00:00 | 6°♉16'14 | |
| | 4656 Feb 12 23:53 | 0°♊ | |
| | 4656 Apr 03 12:35 | 0°♋ | |
| | 4656 May 21 13:07 | 0°♌ | |
| | 4656 Jul 08 09:44 | 0°♍ | |
| | 4656 Aug 25 08:34 | 0°♎ | |
| evening set | 4656 Sep 24 23:18 | 19°♎14'50 | |
| | 4656 Oct 11 22:48 | 0°♏ | |
| max. Earth dist. | 4656 Oct 28 02:09 | 10°♏17'48 | 2.66306 AU |
| conjunction | 4656 Nov 09 01:00 | 17°♏58'34 | 0°25'57 |
| minimum elong | 4656 Nov 09 01:45 | 17°♏59'47 | 0°25'57 |
| | 4656 Nov 27 13:58 | 0°♐ | |
| morning rise | 4656 Dec 23 11:30 | 17°♐02'47 | |
| desc. node | 4656 Dec 28 03:57 | 20°♐09'55 | |
| | 4657 Jan 11 20:01 | 0°♑ | |
| | 4657 Feb 24 13:20 | 0°♒ | |
| | 4657 Apr 07 20:20 | 0°♓ | |
| | 4657 May 18 23:59 | 0°♈ | |
| | 4657 Jun 28 16:07 | 0°♉ | |
| | 4657 Aug 09 05:38 | 0°♊ | |
| | 4657 Sep 24 09:10 | 0°♋ | |
| asc. node | 4657 Nov 06 23:59 | 19°♋45'24 | |
| retrograde | 4657 Nov 28 14:57 | 22°♋55'27 | |
| min. Earth dist. | 4657 Dec 27 12:47 | 17°♋07'08 | 0.48817 AU |
| opposition | 4658 Jan 04 17:53 | 14°♋07'50 | 3°05'35 |
| greatest brilliancy | 4658 Jan 03 18:10 | 14°♋29'32 | -2.2m |
| direct | 4658 Feb 07 12:45 | 6°♋57'33 | |
| | 4658 Apr 21 11:56 | 0°♌ | |
| | 4658 Jun 15 19:23 | 0°♍ | |
| | 4658 Aug 05 16:48 | 0°♎ | |
| | 4658 Sep 23 12:23 | 0°♏ | |
| evening set | 4658 Oct 31 16:23 | 24°♏19'47 | |
| | 4658 Nov 09 09:09 | 0°♐ | |
| desc. node | 4658 Nov 15 02:57 | 3°♐46'06 | |
| max. Earth dist. | 4658 Nov 22 08:38 | 8°♐33'00 | 2.59596 AU |
| conjunction | 4658 Dec 17 02:47 | 25°♐11'22 | -0°17'42 |
| minimum elong | 4658 Dec 17 02:09 | 25°♐10'17 | 0°17'41 |
| | 4658 Dec 24 03:39 | 0°♑ | |
| morning rise | 4659 Feb 03 12:29 | 29°♑02'54 | |
| | 4659 Feb 04 20:16 | 0°♒ | |
| | 4659 Mar 17 17:40 | 0°♓ | |
| | 4659 Apr 26 07:04 | 0°♈ | |
| | 4659 Jun 04 04:47 | 0°♉ | |
| | 4659 Jul 13 08:27 | 0°♊ | |
| | 4659 Aug 22 23:36 | 0°♋ | |
| asc. node | 4659 Sep 24 21:47 | 22°♋41'15 | |
| | 4659 Oct 06 05:29 | 0°♌ | |
| | 4659 Dec 01 03:01 | 0°♍ | |
| retrograde | 4660 Jan 09 19:54 | 8°♍58'13 | |
| min. Earth dist. | 4660 Feb 13 09:43 | 1°♍05'37 | 0.60894 AU |
| | 4660 Feb 16 03:56 | 30°℞♌ | |
| opposition | 4660 Feb 18 13:02 | 29°♌03'10 | 4°43'06 |
| greatest brilliancy | 4660 Feb 17 16:09 | 29°♌23'55 | -1.6m |
| direct | 4660 Mar 27 06:40 | 20°♌17'35 | |
| | 4660 May 10 23:19 | 0°♍ | |
| | 4660 Jul 12 18:56 | 0°♎ | |
| | 4660 Sep 02 19:23 | 0°♏ | |
| desc. node | 4660 Oct 02 01:39 | 18°♏04'18 | |
| | 4660 Oct 20 17:15 | 0°♐ | |
| | 4660 Dec 04 13:31 | 0°♑ | |
| evening set | 4660 Dec 10 14:30 | 4°♑11'16 | |
| max. Earth dist. | 4660 Dec 24 20:39 | 14°♑12'21 | 2.48192 AU |
| | 4661 Jan 15 19:21 | 0°♒ | |
| conjunction | 4661 Jan 31 18:48 | 11°♒46'07 | -0°58'15 |
| minimum elong | 4661 Jan 31 17:18 | 11°♒43'18 | 0°58'14 |
| | 4661 Feb 24 23:53 | 0°♓ | |
| morning rise | 4661 Apr 01 14:23 | 27°♓29'50 | |
| | 4661 Apr 04 19:16 | 0°♈ | |
| | 4661 May 13 00:37 | 0°♉ | |
| greatest brilliancy | 4661 Jun 09 16:39 | 21°♉37'02 | 1.2m |
| | 4661 Jun 20 12:54 | 0°♊ | |
| | 4661 Jul 30 06:08 | 0°♋ | |
| asc. node | 4661 Aug 11 20:47 | 9°♋13'31 | |
| | 4661 Sep 10 05:08 | 0°♌ | |
| | 4661 Oct 25 23:04 | 0°♍ | |

| | | | | |
|---|---|---|---|---|
| | 4661 Dec 19 16:08 | 0°♎ | | |
| retrograde | 4662 Feb 13 05:04 | 14°♎56'11 | | |
| min. Earth dist. | 4662 Mar 24 05:35 | 5°♎35'51 | 0.67237 AU | |
| opposition | 4662 Mar 25 12:44 | 5°♎04'41 | 4°07'28 | |
| greatest brilliancy | 4662 Mar 25 08:10 | 5°♎09'15 | -1.3m | |
| | 4662 Apr 08 02:09 | 30°℞♍ | | |
| direct | 4662 May 04 19:42 | 25°♍27'21 | | |
| | 4662 Jun 03 07:15 | 0°♎ | | |
| | 4662 Aug 10 12:28 | 0°♏ | | |
| desc. node | 4662 Aug 20 00:32 | 5°♏14'58 | | |
| | 4662 Sep 30 13:59 | 0°♐ | | |
| | 4662 Nov 15 07:12 | 0°♑ | | |
| | 4662 Dec 27 14:00 | 0°♒ | | |
| evening set | 4663 Feb 01 09:38 | 26°♒51'56 | | |
| | 4663 Feb 05 11:42 | 0°♓ | | |
| | 4663 Mar 15 22:39 | 0°♈ | | |
| conjunction | 4663 Apr 07 02:49 | 17°♈31'36 | -0°51'09 | |
| minimum elong | 4663 Apr 07 06:05 | 17°♈38'04 | 0°51'08 | |
| max. Earth dist. | 4663 Apr 11 06:41 | 20°♈49'12 | 2.36835 AU | |
| | 4663 Apr 22 21:22 | 0°♉ | | |
| | 4663 May 31 05:44 | 0°♊ | | |
| morning rise | 4663 Jun 17 23:38 | 13°♊36'06 | | |
| asc. node | 4663 Jun 29 21:10 | 22°♊35'03 | | |
| | 4663 Jul 09 19:44 | 0°♋ | | |
| | 4663 Aug 20 08:50 | 0°♌ | | |
| | 4663 Oct 03 12:56 | 0°♍ | | |
| | 4663 Nov 20 08:57 | 0°♎ | | |
| | 4664 Jan 14 21:55 | 0°♏ | | |
| retrograde | 4664 Mar 18 17:46 | 17°♏58'42 | | |
| opposition | 4664 Apr 27 10:39 | 8°♏38'52 | 2°23'31 | |
| greatest brilliancy | 4664 Apr 27 16:14 | 8°♏33'22 | -1.3m | |
| min. Earth dist. | 4664 Apr 29 23:39 | 7°♏38'44 | 0.67000 AU | |
| | 4664 May 24 06:55 | 30°℞♎ | | |
| direct | 4664 Jun 07 21:25 | 28°♎37'30 | | |
| | 4664 Jun 23 08:29 | 0°♏ | | |
| desc. node | 4664 Jul 06 23:23 | 3°♏09'43 | | |
| | 4664 Sep 05 04:25 | 0°♐ | | |
| | 4664 Oct 24 03:30 | 0°♑ | | |
| | 4664 Dec 06 07:52 | 0°♒ | | |
| | 4665 Jan 15 10:08 | 0°♓ | | |
| | 4665 Feb 22 21:03 | 0°♈ | | |
| | 4665 Apr 01 20:21 | 0°♉ | | |
| evening set | 4665 Apr 12 02:54 | 8°♉04'31 | | |
| greatest brilliancy | 4665 Apr 13 01:53 | 8°♉49'35 | 1.2m | |
| | 4665 May 10 07:57 | 0°♊ | | |
| asc. node | 4665 May 16 20:00 | 4°♊59'01 | | |
| conjunction | 4665 Jun 18 04:25 | 29°♊17'46 | 0°21'23 | |
| minimum elong | 4665 Jun 18 02:46 | 29°♊14'44 | 0°21'21 | |
| | 4665 Jun 19 03:19 | 0°♋ | | |
| | 4665 Jul 30 20:29 | 0°♌ | | |
| max. Earth dist. | 4665 Aug 01 10:34 | 1°♌06'39 | 2.49097 AU | |
| morning rise | 4665 Aug 17 07:56 | 12°♌07'18 | | |
| | 4665 Sep 12 19:07 | 0°♍ | | |
| | 4665 Oct 29 03:12 | 0°♎ | | |
| | 4665 Dec 17 09:06 | 0°♏ | | |
| | 4666 Feb 10 10:37 | 0°♐ | | |
| retrograde | 4666 Apr 26 11:12 | 22°♐55'13 | | |
| desc. node | 4666 May 24 21:39 | 17°♐54'13 | | |
| opposition | 4666 Jun 03 06:18 | 14°♐31'24 | -0°22'14 | |
| greatest brilliancy | 4666 Jun 03 08:18 | 14°♐29'30 | -1.6m | |
| min. Earth dist. | 4666 Jun 09 10:51 | 12°♐10'17 | 0.60246 AU | |
| direct | 4666 Jul 14 04:42 | 4°♐40'30 | | |
| | 4666 Sep 26 13:08 | 0°♑ | | |
| | 4666 Nov 13 01:20 | 0°♒ | | |
| | 4666 Dec 24 12:46 | 0°♓ | | |
| | 4667 Feb 01 15:00 | 0°♈ | | |
| | 4667 Mar 12 01:45 | 0°♉ | | |
| asc. node | 4667 Apr 03 18:12 | 17°♉33'08 | | |
| | 4667 Apr 20 01:32 | 0°♊ | | |
| | 4667 May 30 10:28 | 0°♋ | | |
| evening set | 4667 Jun 16 22:28 | 12°♋35'50 | | |
| | 4667 Jul 11 16:42 | 0°♌ | | |
| conjunction | 4667 Aug 11 07:24 | 20°♌53'01 | 1°03'27 | |
| minimum elong | 4667 Aug 11 06:19 | 20°♌51'12 | 1°03'27 | |
| | 4667 Aug 24 23:12 | 0°♍ | | |
| max. Earth dist. | 4667 Sep 03 08:04 | 6°♍11'24 | 2.60472 AU | |
| morning rise | 4667 Sep 30 02:44 | 23°♍37'26 | | |
| | 4667 Oct 10 01:02 | 0°♎ | | |
| | 4667 Nov 26 14:55 | 0°♏ | | |
| | 4668 Jan 14 18:49 | 0°♐ | | |
| | 4668 Mar 06 23:25 | 0°♑ | | |
| desc. node | 4668 Apr 10 20:32 | 17°♑46'53 | | |
| | 4668 May 11 01:49 | 0°♒ | | |
| retrograde | 4668 Jun 15 02:37 | 6°♒22'28 | | |
| | 4668 Jul 18 03:02 | 30°℞♑ | | |
| opposition | 4668 Jul 19 07:30 | 29°♑35'54 | -4°18'54 | |
| greatest brilliancy | 4668 Jul 20 14:00 | 29°♑09'54 | -2.2m | |
| min. Earth dist. | 4668 Jul 27 20:00 | 26°♑42'46 | 0.48035 AU | |
| direct | 4668 Aug 25 18:33 | 21°♑16'53 | | |
| | 4668 Oct 02 16:50 | 0°♒ | | |
| | 4668 Nov 24 21:57 | 0°♓ | | |
| | 4669 Jan 06 10:19 | 0°♈ | | |
| | 4669 Feb 15 18:38 | 0°♉ | | |
| asc. node | 4669 Feb 18 17:47 | 2°♉12'53 | | |
| | 4669 Mar 28 05:25 | 0°♊ | | |
| | 4669 May 08 20:47 | 0°♋ | | |
| | 4669 Jun 21 05:01 | 0°♌ | | |
| evening set | 4669 Aug 03 09:05 | 28°♌45'14 | | |
| | 4669 Aug 05 06:45 | 0°♍ | | |
| conjunction | 4669 Sep 20 14:52 | 29°♍56'56 | 1°04'31 | |
| minimum elong | 4669 Sep 20 15:34 | 29°♍58'04 | 1°04'30 | |
| | 4669 Sep 20 16:47 | 0°♎ | | |
| max. Earth dist. | 4669 Sep 27 10:39 | 4°♎18'39 | 2.66727 AU | |
| morning rise | 4669 Nov 04 18:33 | 28°♎41'08 | | |
| | 4669 Nov 06 20:18 | 0°♏ | | |
| | 4669 Dec 24 04:34 | 0°♐ | | |
| | 4670 Feb 09 12:59 | 0°♑ | | |
| desc. node | 4670 Feb 26 20:24 | 10°♑56'22 | | |
| | 4670 Mar 29 05:03 | 0°♒ | | |
| | 4670 May 17 09:33 | 0°♓ | | |
| | 4670 Jul 12 21:48 | 0°♈ | | |
| retrograde | 4670 Aug 29 03:41 | 11°♈53'22 | | |
| opposition | 4670 Sep 28 03:30 | 6°♈57'14 | -6°06'37 | |
| greatest brilliancy | 4670 Sep 28 17:31 | 6°♈47'56 | -2.9m | |
| min. Earth dist. | 4670 Sep 30 01:05 | 6°♈27'00 | 0.37315 AU | |
| direct | 4670 Oct 28 06:16 | 1°♈51'27 | | |
| asc. node | 4671 Jan 06 16:42 | 26°♈52'43 | | |
| | 4671 Jan 12 01:58 | 0°♉ | | |
| | 4671 Feb 28 19:46 | 0°♊ | | |
| | 4671 Apr 15 09:55 | 0°♋ | | |
| | 4671 May 31 06:54 | 0°♌ | | |
| | 4671 Jul 17 00:06 | 0°♍ | | |
| | 4671 Sep 02 08:19 | 0°♎ | | |
| evening set | 4671 Sep 11 16:49 | 5°♎54'48 | | |
| | 4671 Oct 19 16:51 | 0°♏ | | |
| max. Earth dist. | 4671 Oct 20 04:29 | 0°♏18'30 | 2.67507 AU | |
| conjunction | 4671 Oct 27 01:15 | 4°♏40'56 | 0°40'05 | |
| minimum elong | 4671 Oct 27 02:15 | 4°♏42'32 | 0°40'05 | |
| | 4671 Dec 05 10:05 | 0°♐ | | |

| | | | |
|---|---|---|---|
| morning rise | 4671 Dec 10 01:45 | 3°♐01'27 | |
| desc. node | 4672 Jan 14 19:03 | 26°♐29'59 | |
| | 4672 Jan 20 01:21 | 0°♑ | |
| | 4672 Mar 04 10:57 | 0°♒ | |
| | 4672 Apr 16 16:40 | 0°♓ | |
| | 4672 May 29 01:33 | 0°♈ | |
| | 4672 Jul 10 10:04 | 0°♉ | |
| | 4672 Aug 24 07:17 | 0°♊ | |
| retrograde | 4672 Nov 08 03:02 | 29°♊38'43 | |
| asc. node | 4672 Nov 23 15:18 | 27°♊53'18 | |
| min. Earth dist. | 4672 Dec 05 01:03 | 24°♊41'52 | 0.43474 AU |
| opposition | 4672 Dec 13 06:22 | 21°♊57'29 | 1°13'11 |
| greatest brilliancy | 4672 Dec 12 20:12 | 22°♊05'59 | -2.6m |
| direct | 4673 Jan 14 02:33 | 15°♊41'20 | |
| | 4673 Mar 08 13:00 | 0°♋ | |
| | 4673 May 04 19:29 | 0°♌ | |
| | 4673 Jun 24 20:20 | 0°♍ | |
| | 4673 Aug 13 06:04 | 0°♎ | |
| | 4673 Sep 30 11:16 | 0°♏ | |
| evening set | 4673 Oct 17 05:40 | 10°♏38'34 | |
| max. Earth dist. | 4673 Nov 12 02:54 | 27°♏20'28 | 2.62856 AU |
| | 4673 Nov 16 04:35 | 0°♐ | |
| conjunction | 4673 Dec 01 17:19 | 10°♐13'54 | 0°00'00 |
| minimum elong | 4673 Dec 01 17:21 | 10°♐13'56 | 0°00'01 |
| behind sun begin | 4673 Dec 01 03:20 | 9°♐50'45 | |
| behind sun end | 4673 Dec 02 07:21 | 10°♐37'09 | |
| desc. node | 4673 Dec 01 17:23 | 10°♐14'00 | |
| | 4673 Dec 31 02:30 | 0°♑ | |
| morning rise | 4674 Jan 16 22:27 | 11°♑34'56 | |
| | 4674 Feb 12 03:22 | 0°♒ | |
| | 4674 Mar 25 11:40 | 0°♓ | |
| | 4674 May 04 12:48 | 0°♈ | |
| | 4674 Jun 12 21:54 | 0°♉ | |
| | 4674 Jul 22 14:24 | 0°♊ | |
| | 4674 Sep 02 03:55 | 0°♋ | |
| asc. node | 4674 Oct 11 15:18 | 25°♋33'29 | |
| | 4674 Oct 19 07:47 | 0°♌ | |
| retrograde | 4674 Dec 25 16:24 | 23°♌02'10 | |
| min. Earth dist. | 4675 Jan 27 03:34 | 15°♌53'56 | 0.56699 AU |
| opposition | 4675 Feb 02 17:02 | 13°♌20'22 | 4°28'36 |
| greatest brilliancy | 4675 Feb 01 15:15 | 13°♌45'34 | -1.8m |
| direct | 4675 Mar 11 01:12 | 5°♌05'28 | |
| | 4675 May 28 12:18 | 0°♍ | |
| | 4675 Jul 23 00:07 | 0°♎ | |
| | 4675 Sep 11 09:16 | 0°♏ | |
| desc. node | 4675 Oct 19 16:02 | 24°♏05'45 | |
| | 4675 Oct 28 18:43 | 0°♐ | |
| evening set | 4675 Nov 24 19:40 | 17°♐55'01 | |
| max. Earth dist. | 4675 Dec 11 01:45 | 28°♐59'03 | 2.53121 AU |
| | 4675 Dec 12 13:10 | 0°♑ | |
| conjunction | 4676 Jan 13 00:41 | 22°♑07'50 | -0°44'43 |
| minimum elong | 4676 Jan 12 23:09 | 22°♑05'05 | 0°44'42 |
| | 4676 Jan 23 22:27 | 0°♒ | |
| | 4676 Mar 04 08:44 | 0°♓ | |
| morning rise | 4676 Mar 07 03:17 | 2°♓06'04 | |
| | 4676 Apr 12 10:16 | 0°♈ | |
| | 4676 May 20 20:46 | 0°♉ | |
| | 4676 Jun 28 13:09 | 0°♊ | |
| | 4676 Aug 07 11:13 | 0°♋ | |
| asc. node | 4676 Aug 28 14:37 | 15°♋14'41 | |
| | 4676 Sep 18 21:19 | 0°♌ | |
| | 4676 Nov 05 06:17 | 0°♍ | |
| | 4677 Jan 13 18:17 | 0°♎ | |
| retrograde | 4677 Jan 30 20:03 | 1°♎46'56 | |
| | 4677 Feb 15 22:50 | 30°℞♍ | |
| min. Earth dist. | 4677 Mar 09 05:54 | 22°♍57'32 | 0.65507 AU |
| opposition | 4677 Mar 12 01:44 | 21°♍49'34 | 4°31'04 |
| greatest brilliancy | 4677 Mar 11 14:51 | 22°♍00'28 | -1.4m |
| direct | 4677 Apr 20 12:37 | 12°♍28'52 | |
| | 4677 Jun 23 09:35 | 0°♎ | |
| | 4677 Aug 19 23:13 | 0°♏ | |
| desc. node | 4677 Sep 05 14:58 | 9°♏45'43 | |
| | 4677 Oct 08 09:20 | 0°♐ | |
| | 4677 Nov 22 15:45 | 0°♑ | |
| | 4678 Jan 03 21:05 | 0°♒ | |
| evening set | 4678 Jan 09 19:01 | 4°♒20'50 | |
| max. Earth dist. | 4678 Jan 29 21:08 | 19°♒21'20 | 2.40146 AU |
| | 4678 Feb 12 20:39 | 0°♓ | |
| conjunction | 4678 Mar 09 23:56 | 19°♓28'20 | -1°04'04 |
| minimum elong | 4678 Mar 10 00:56 | 19°♓30'18 | 1°04'04 |
| | 4678 Mar 23 10:11 | 0°♈ | |
| | 4678 Apr 30 10:40 | 0°♉ | |
| morning rise | 4678 May 18 16:01 | 14°♉19'20 | |
| | 4678 Jun 07 19:36 | 0°♊ | |
| asc. node | 4678 Jul 16 12:47 | 29°♊21'33 | |
| | 4678 Jul 17 09:31 | 0°♋ | |
| | 4678 Aug 27 23:47 | 0°♌ | |
| | 4678 Oct 11 11:55 | 0°♍ | |
| | 4678 Nov 29 16:50 | 0°♎ | |
| | 4679 Feb 02 11:32 | 0°♏ | |
| retrograde | 4679 Mar 06 03:02 | 5°♏21'28 | |
| | 4679 Apr 04 02:21 | 30°℞♎ | |
| opposition | 4679 Apr 15 04:51 | 25°♎46'40 | 3°10'40 |
| greatest brilliancy | 4679 Apr 15 07:50 | 25°♎43'42 | -1.3m |
| min. Earth dist. | 4679 Apr 16 05:42 | 25°♎21'58 | 0.67875 AU |
| direct | 4679 May 26 08:44 | 15°♎51'42 | |
| | 4679 Jul 20 23:48 | 0°♏ | |
| desc. node | 4679 Jul 24 13:45 | 1°♏34'31 | |
| | 4679 Sep 16 06:34 | 0°♐ | |
| | 4679 Nov 02 11:22 | 0°♑ | |
| | 4679 Dec 15 04:16 | 0°♒ | |
| | 4680 Jan 24 03:25 | 0°♓ | |
| | 4680 Mar 02 13:24 | 0°♈ | |
| evening set | 4680 Mar 14 02:47 | 9°♈08'24 | |
| | 4680 Apr 09 11:26 | 0°♉ | |
| | 4680 May 17 20:33 | 0°♊ | |
| conjunction | 4680 May 22 10:29 | 3°♊31'30 | -0°07'38 |
| minimum elong | 4680 May 22 11:13 | 3°♊32'55 | 0°07'38 |
| behind sun begin | 4680 May 21 09:15 | 2°♊43'03 | |
| behind sun end | 4680 May 23 13:12 | 4°♊22'45 | |
| asc. node | 4680 Jun 02 12:21 | 11°♊59'24 | |
| | 4680 Jun 26 12:30 | 0°♋ | |
| max. Earth dist. | 4680 Jul 12 20:31 | 11°♋58'18 | 2.43644 AU |
| morning rise | 4680 Jul 27 07:05 | 22°♋21'13 | |
| | 4680 Aug 07 02:24 | 0°♌ | |
| | 4680 Sep 20 00:42 | 0°♍ | |
| | 4680 Nov 05 16:52 | 0°♎ | |
| | 4680 Dec 26 08:15 | 0°♏ | |
| | 4681 Feb 26 15:58 | 0°♐ | |
| retrograde | 4681 Apr 10 12:47 | 8°♐57'58 | |
| opposition | 4681 May 19 05:58 | 0°♐08'43 | 0°50'01 |
| greatest brilliancy | 4681 May 19 09:56 | 0°♐04'54 | -1.5m |
| | 4681 May 19 14:59 | 30°℞♏ | |
| min. Earth dist. | 4681 May 24 01:18 | 28°♏17'06 | 0.63630 AU |
| desc. node | 4681 Jun 10 12:38 | 22°♏31'41 | |
| direct | 4681 Jun 29 14:56 | 20°♏08'06 | |
| | 4681 Aug 12 08:40 | 0°♐ | |
| | 4681 Oct 08 12:41 | 0°♑ | |
| | 4681 Nov 22 11:46 | 0°♒ | |
| | 4682 Jan 02 04:38 | 0°♓ | |

| | | | |
|---|---|---|---|
| | 4682 Feb 09 22:21 | 0°♈ | |
| | 4682 Mar 20 02:48 | 0°♉ | |
| asc. node | 4682 Apr 20 11:23 | 24°♉21'30 | |
| | 4682 Apr 27 20:09 | 0°♊ | |
| evening set | 4682 May 24 14:38 | 20°♊10'41 | |
| | 4682 Jun 06 22:10 | 0°♋ | |
| | 4682 Jul 18 21:35 | 0°♌ | |
| conjunction | 4682 Jul 23 08:27 | 3°♌05'50 | 0°52'57 |
| minimum elong | 4682 Jul 23 06:32 | 3°♌02'30 | 0°52'56 |
| max. Earth dist. | 4682 Aug 23 05:27 | 24°♌09'38 | 2.56569 AU |
| | 4682 Aug 31 23:14 | 0°♍ | |
| morning rise | 4682 Sep 14 08:29 | 8°♍50'54 | |
| | 4682 Oct 17 00:55 | 0°♎ | |
| | 4682 Dec 04 00:58 | 0°♏ | |
| | 4683 Jan 23 14:47 | 0°♐ | |
| | 4683 Mar 21 19:51 | 0°♑ | |
| desc. node | 4683 Apr 28 11:42 | 14°♑07'42 | |
| retrograde | 4683 May 25 04:43 | 17°♑57'13 | |
| opposition | 4683 Jun 30 00:54 | 10°♑25'51 | -2°39'32 |
| greatest brilliancy | 4683 Jun 30 18:44 | 10°♑09'44 | -2.0m |
| min. Earth dist. | 4683 Jul 08 00:12 | 7°♑33'24 | 0.53271 AU |
| direct | 4683 Aug 08 08:24 | 1°♑15'31 | |
| | 4683 Oct 24 15:59 | 0°♒ | |
| | 4683 Dec 08 11:05 | 0°♓ | |
| | 4684 Jan 17 21:05 | 0°♈ | |
| | 4684 Feb 26 03:27 | 0°♉ | |
| asc. node | 4684 Mar 07 09:08 | 7°♉48'24 | |
| | 4684 Apr 05 19:25 | 0°♊ | |
| | 4684 May 16 19:23 | 0°♋ | |
| | 4684 Jun 28 14:49 | 0°♌ | |
| evening set | 4684 Jul 17 02:05 | 12°♌32'42 | |
| | 4684 Aug 12 07:08 | 0°♍ | |
| conjunction | 4684 Sep 05 11:44 | 15°♍48'29 | 1°07'49 |
| minimum elong | 4684 Sep 05 11:55 | 15°♍48'46 | 1°07'49 |
| max. Earth dist. | 4684 Sep 18 02:32 | 23°♍57'37 | 2.64935 AU |
| | 4684 Sep 27 12:11 | 0°♎ | |
| morning rise | 4684 Oct 21 23:05 | 15°♎35'46 | |
| | 4684 Nov 13 17:29 | 0°♏ | |
| | 4684 Dec 31 13:54 | 0°♐ | |
| | 4685 Feb 18 04:22 | 0°♑ | |
| desc. node | 4685 Mar 15 10:42 | 15°♑13'50 | |
| | 4685 Apr 09 17:13 | 0°♒ | |
| | 4685 Jun 06 21:09 | 0°♓ | |
| retrograde | 4685 Jul 27 19:52 | 12°♓46'37 | |
| opposition | 4685 Aug 27 21:29 | 7°♓21'26 | -6°27'00 |
| greatest brilliancy | 4685 Aug 29 09:29 | 6°♓55'10 | -2.7m |
| min. Earth dist. | 4685 Sep 03 09:05 | 5°♓28'23 | 0.40250 AU |
| direct | 4685 Sep 29 23:46 | 1°♓05'43 | |
| | 4685 Dec 14 02:58 | 0°♈ | |
| asc. node | 4686 Jan 23 08:59 | 26°♈28'31 | |
| | 4686 Jan 28 11:55 | 0°♉ | |
| | 4686 Mar 12 12:24 | 0°♊ | |
| | 4686 Apr 24 20:54 | 0°♋ | |
| | 4686 Jun 08 10:17 | 0°♌ | |
| | 4686 Jul 24 08:08 | 0°♍ | |
| evening set | 4686 Aug 28 01:44 | 22°♍15'43 | |
| | 4686 Sep 09 05:26 | 0°♎ | |
| max. Earth dist. | 4686 Oct 11 13:12 | 20°♎32'05 | 2.67854 AU |
| conjunction | 4686 Oct 13 03:44 | 21°♎33'18 | 0°51'50 |
| minimum elong | 4686 Oct 13 04:48 | 21°♎34'59 | 0°51'50 |
| | 4686 Oct 26 10:26 | 0°♏ | |
| morning rise | 4686 Nov 26 05:51 | 19°♏40'20 | |
| | 4686 Dec 12 07:33 | 0°♐ | |
| | 4687 Jan 27 11:01 | 0°♑ | |
| desc. node | 4687 Jan 31 09:37 | 2°♑35'15 | |
| | 4687 Mar 13 18:47 | 0°♒ | |
| | 4687 Apr 27 10:29 | 0°♓ | |
| | 4687 Jun 10 23:03 | 0°♈ | |
| | 4687 Jul 27 07:20 | 0°♉ | |
| | 4687 Sep 30 01:30 | 0°♊ | |
| retrograde | 4687 Oct 15 14:39 | 1°♊40'53 | |
| | 4687 Oct 31 06:38 | 30°℞♉ | |
| min. Earth dist. | 4687 Nov 11 02:20 | 27°♉14'22 | 0.39030 AU |
| opposition | 4687 Nov 17 03:31 | 25°♉27'04 | -1°40'52 |
| greatest brilliancy | 4687 Nov 16 19:58 | 25°♉32'39 | -2.9m |
| asc. node | 4687 Dec 11 09:20 | 20°♉20'07 | |
| direct | 4687 Dec 17 03:15 | 20°♉06'39 | |
| | 4688 Jan 28 10:27 | 0°♊ | |
| | 4688 Mar 26 10:47 | 0°♋ | |
| | 4688 May 15 10:02 | 0°♌ | |
| | 4688 Jul 03 03:24 | 0°♍ | |
| | 4688 Aug 20 12:33 | 0°♎ | |
| evening set | 4688 Oct 03 01:46 | 27°♎18'52 | |
| | 4688 Oct 07 07:31 | 0°♏ | |
| max. Earth dist. | 4688 Nov 02 11:14 | 16°♏42'15 | 2.65310 AU |
| conjunction | 4688 Nov 17 03:52 | 26°♏12'31 | 0°16'49 |
| minimum elong | 4688 Nov 17 04:23 | 26°♏13'22 | 0°16'49 |
| | 4688 Nov 22 23:31 | 0°♐ | |
| desc. node | 4688 Dec 18 08:04 | 16°♐43'09 | |
| morning rise | 4689 Jan 01 00:58 | 25°♐54'02 | |
| | 4689 Jan 07 02:38 | 0°♑ | |
| | 4689 Feb 19 13:52 | 0°♒ | |
| | 4689 Apr 02 11:51 | 0°♓ | |
| | 4689 May 13 04:34 | 0°♈ | |
| | 4689 Jun 22 06:43 | 0°♉ | |
| | 4689 Aug 01 21:58 | 0°♊ | |
| | 4689 Sep 14 12:03 | 0°♋ | |
| asc. node | 4689 Oct 28 07:40 | 24°♋27'19 | |
| | 4689 Nov 11 11:00 | 0°♌ | |
| retrograde | 4689 Dec 09 00:08 | 4°♌55'42 | |
| | 4690 Jan 04 08:18 | 30°℞♋ | |
| min. Earth dist. | 4690 Jan 08 05:19 | 28°♋37'15 | 0.51774 AU |
| opposition | 4690 Jan 15 23:02 | 25°♋42'32 | 3°46'56 |
| greatest brilliancy | 4690 Jan 14 20:25 | 26°♋07'40 | -2.1m |
| direct | 4690 Feb 19 16:44 | 18°♋06'25 | |
| | 4690 Apr 09 20:31 | 0°♌ | |
| | 4690 Jun 09 05:32 | 0°♍ | |
| | 4690 Jul 31 08:50 | 0°♎ | |
| | 4690 Sep 18 16:05 | 0°♏ | |
| | 4690 Nov 04 17:21 | 0°♐ | |
| desc. node | 4690 Nov 05 06:41 | 0°♐21'46 | |
| evening set | 4690 Nov 09 05:18 | 2°♐56'46 | |
| max. Earth dist. | 4690 Nov 28 19:55 | 15°♐57'34 | 2.57497 AU |
| | 4690 Dec 19 12:10 | 0°♑ | |
| conjunction | 4690 Dec 26 10:17 | 4°♑46'25 | -0°27'59 |
| minimum elong | 4690 Dec 26 09:16 | 4°♑44'40 | 0°27'57 |
| | 4691 Jan 31 02:42 | 0°♒ | |
| morning rise | 4691 Feb 14 11:16 | 10°♒26'05 | |
| | 4691 Mar 12 20:17 | 0°♓ | |
| | 4691 Apr 21 05:23 | 0°♈ | |
| | 4691 May 29 22:28 | 0°♉ | |
| | 4691 Jul 07 20:43 | 0°♊ | |
| | 4691 Aug 17 03:06 | 0°♋ | |
| asc. node | 4691 Sep 15 06:28 | 20°♋31'44 | |
| | 4691 Sep 29 10:00 | 0°♌ | |
| | 4691 Nov 19 07:29 | 0°♍ | |
| retrograde | 4692 Jan 18 00:46 | 17°♍53'04 | |
| min. Earth dist. | 4692 Feb 22 16:07 | 9°♍38'57 | 0.62805 AU |
| greatest brilliancy | 4692 Feb 26 06:47 | 8°♍12'28 | -1.5m |

| | | | |
|---|---|---|---|
| opposition | 4692 Feb 27 00:17 | 7°♍55'00 | 4°43'07 |
| | 4692 Mar 23 13:17 | 30°℞♌ | |
| direct | 4692 Apr 05 10:10 | 28°♌55'26 | |
| | 4692 Apr 19 01:50 | 0°♍ | |
| | 4692 Jul 05 22:07 | 0°♎ | |
| | 4692 Aug 28 10:25 | 0°♏ | |
| desc. node | 4692 Sep 22 05:48 | 15°♏04'47 | |
| | 4692 Oct 15 19:58 | 0°♐ | |
| | 4692 Nov 29 19:53 | 0°♑ | |
| evening set | 4692 Dec 20 22:48 | 14°♑46'44 | |
| max. Earth dist. | 4693 Jan 04 12:12 | 25°♑13'05 | 2.45298 AU |
| | 4693 Jan 11 02:00 | 0°♒ | |
| conjunction | 4693 Feb 13 06:46 | 24°♒43'38 | -1°03'16 |
| minimum elong | 4693 Feb 13 05:46 | 24°♒41'43 | 1°03'17 |
| | 4693 Feb 20 05:05 | 0°♓ | |
| | 4693 Mar 30 22:39 | 0°♈ | |
| morning rise | 4693 Apr 17 18:39 | 14°♈00'36 | |
| | 4693 May 08 02:12 | 0°♉ | |
| | 4693 Jun 15 12:44 | 0°♊ | |
| | 4693 Jul 25 03:46 | 0°♋ | |
| asc. node | 4693 Aug 02 06:26 | 5°♋58'28 | |
| | 4693 Sep 04 21:30 | 0°♌ | |
| | 4693 Oct 19 23:56 | 0°♍ | |
| | 4693 Dec 10 18:09 | 0°♎ | |
| retrograde | 4694 Feb 20 19:20 | 22°♎44'15 | |
| opposition | 4694 Apr 02 02:02 | 12°♎57'36 | 3°49'12 |
| greatest brilliancy | 4694 Apr 02 00:31 | 12°♎59'07 | -1.3m |
| min. Earth dist. | 4694 Apr 01 14:32 | 13°♎09'05 | 0.67743 AU |
| direct | 4694 May 12 17:57 | 3°♎12'56 | |
| | 4694 Aug 03 10:47 | 0°♏ | |
| desc. node | 4694 Aug 10 05:16 | 3°♏32'13 | |
| | 4694 Sep 25 03:06 | 0°♐ | |
| | 4694 Nov 10 07:28 | 0°♑ | |
| | 4694 Dec 22 17:49 | 0°♒ | |
| | 4695 Jan 31 15:58 | 0°♓ | |
| evening set | 4695 Feb 15 15:33 | 11°♓35'50 | |
| | 4695 Mar 11 02:30 | 0°♈ | |
| | 4695 Apr 18 00:38 | 0°♉ | |
| conjunction | 4695 Apr 23 23:58 | 4°♉42'47 | -0°37'30 |
| minimum elong | 4695 Apr 24 03:14 | 4°♉49'13 | 0°37'28 |
| | 4695 May 26 08:41 | 0°♊ | |
| max. Earth dist. | 4695 Jun 09 15:03 | 10°♊57'01 | 2.38442 AU |
| asc. node | 4695 Jun 20 04:20 | 18°♊57'25 | |
| morning rise | 4695 Jul 03 17:05 | 29°♊05'10 | |
| | 4695 Jul 04 22:38 | 0°♋ | |
| | 4695 Aug 15 10:53 | 0°♌ | |
| | 4695 Sep 28 11:04 | 0°♍ | |
| | 4695 Nov 14 17:02 | 0°♎ | |
| | 4696 Jan 06 17:50 | 0°♏ | |
| retrograde | 4696 Mar 26 18:46 | 25°♏46'45 | |
| opposition | 4696 May 05 04:33 | 16°♏36'34 | 1°51'46 |
| greatest brilliancy | 4696 May 05 10:24 | 16°♏30'50 | -1.4m |
| min. Earth dist. | 4696 May 08 12:41 | 15°♏17'59 | 0.66093 AU |
| direct | 4696 Jun 15 16:36 | 6°♏33'50 | |
| desc. node | 4696 Jun 27 03:49 | 7°♏20'30 | |
| | 4696 Aug 28 13:17 | 0°♐ | |
| | 4696 Oct 18 09:27 | 0°♑ | |
| | 4696 Dec 01 02:31 | 0°♒ | |
| | 4697 Jan 10 09:15 | 0°♓ | |
| | 4697 Feb 17 22:05 | 0°♈ | |
| | 4697 Mar 27 22:28 | 0°♉ | |
| evening set | 4697 Apr 28 03:50 | 24°♉22'38 | |
| | 4697 May 05 11:00 | 0°♊ | |
| asc. node | 4697 May 07 03:29 | 1°♊17'39 | |
| | 4697 Jun 14 07:36 | 0°♋ | |

| | | | |
|---|---|---|---|
| conjunction | 4697 Jul 01 19:59 | 12°♋46'05 | 0°35'10 |
| minimum elong | 4697 Jul 01 17:50 | 12°♋42'12 | 0°35'07 |
| | 4697 Jul 26 01:46 | 0°♌ | |
| max. Earth dist. | 4697 Aug 10 08:32 | 10°♌36'27 | 2.51945 AU |
| morning rise | 4697 Aug 28 02:43 | 22°♌42'03 | |
| | 4697 Sep 08 00:13 | 0°♍ | |
| | 4697 Oct 24 04:19 | 0°♎ | |
| | 4697 Dec 11 20:07 | 0°♏ | |
| | 4698 Feb 02 16:40 | 0°♐ | |
| | 4698 Apr 17 23:30 | 0°♑ | |
| retrograde | 4698 May 06 06:21 | 1°♑51'40 | |
| desc. node | 4698 May 15 02:04 | 1°♑22'18 | |
| | 4698 May 23 09:34 | 30°℞♐ | |
| opposition | 4698 Jun 12 10:41 | 23°♐44'21 | -1°09'17 |
| greatest brilliancy | 4698 Jun 12 17:25 | 23°♐38'02 | -1.7m |
| min. Earth dist. | 4698 Jun 19 07:45 | 21°♐09'48 | 0.57995 AU |
| direct | 4698 Jul 22 22:36 | 14°♐03'46 | |
| | 4698 Sep 16 16:59 | 0°♑ | |
| | 4698 Nov 06 10:13 | 0°♒ | |
| | 4698 Dec 18 17:16 | 0°♓ | |
| | 4699 Jan 27 04:10 | 0°♈ | |
| | 4699 Mar 06 20:14 | 0°♉ | |
| asc. node | 4699 Mar 25 03:24 | 14°♉06'43 | |
| | 4699 Apr 15 00:05 | 0°♊ | |
| | 4699 May 25 12:45 | 0°♋ | |
| evening set | 4699 Jun 28 20:55 | 24°♋24'36 | |
| | 4699 Jul 06 22:04 | 0°♌ | |
| | 4699 Aug 20 06:41 | 0°♍ | |
| conjunction | 4699 Aug 21 05:46 | 0°♍38'12 | 1°06'36 |
| minimum elong | 4699 Aug 21 05:11 | 0°♍37'15 | 1°06'36 |
| max. Earth dist. | 4699 Sep 09 09:52 | 13°♍13'56 | 2.62275 AU |
| | 4699 Oct 05 08:25 | 0°♎ | |
| morning rise | 4699 Oct 08 15:48 | 2°♎07'06 | |
| | 4699 Nov 21 17:58 | 0°♏ | |
| | 4700 Jan 09 07:50 | 0°♐ | |
| | 4700 Feb 28 20:10 | 0°♑ | |
| desc. node | 4700 Apr 02 01:19 | 17°♑51'07 | |
| | 4700 Apr 26 06:26 | 0°♒ | |
| retrograde | 4700 Jun 30 05:09 | 18°♒37'59 | |
| opposition | 4700 Aug 02 08:10 | 12°♒20'20 | -5°14'28 |
| greatest brilliancy | 4700 Aug 03 20:33 | 11°♒50'50 | -2.4m |
| min. Earth dist. | 4700 Aug 10 17:32 | 9°♒38'01 | 0.45072 AU |
| direct | 4700 Sep 07 11:02 | 4°♒40'37 | |
| | 4700 Nov 15 20:00 | 0°♓ | |
| | 4700 Dec 30 23:21 | 0°♈ | |
| asc. node | 4701 Feb 10 02:08 | 29°♈47'15 | |
| | 4701 Feb 10 09:05 | 0°♉ | |
| | 4701 Mar 23 11:01 | 0°♊ | |
| | 4701 May 04 13:18 | 0°♋ | |
| | 4701 Jun 17 05:29 | 0°♌ | |
| | 4701 Aug 01 12:47 | 0°♍ | |
| evening set | 4701 Aug 13 15:08 | 7°♍51'43 | |
| | 4701 Sep 17 01:38 | 0°♎ | |
| conjunction | 4701 Sep 29 23:01 | 8°♎13'21 | 1°00'47 |
| minimum elong | 4701 Sep 29 23:55 | 8°♎14'48 | 1°00'47 |
| max. Earth dist. | 4701 Oct 03 17:30 | 10°♎37'26 | 2.67353 AU |
| | 4701 Nov 03 04:59 | 0°♏ | |
| morning rise | 4701 Nov 13 14:31 | 6°♏36'26 | |
| | 4701 Dec 20 08:25 | 0°♐ | |
| | 4702 Feb 05 04:48 | 0°♑ | |
| desc. node | 4702 Feb 18 00:15 | 8°♑13'56 | |
| | 4702 Mar 23 20:28 | 0°♒ | |
| | 4702 May 09 20:27 | 0°♓ | |
| | 4702 Jun 28 03:17 | 0°♈ | |
| | 4702 Sep 12 11:40 | 0°♉ | |

| | | | |
|---|---|---|---|
| retrograde | 4702 Sep 17 10:42 | 0°♉09'48 | |
| | 4702 Sep 22 09:05 | 30°℞♈ | |
| min. Earth dist. | 4702 Oct 16 10:25 | 25°♈23'34 | 0.36994 AU |
| opposition | 4702 Oct 17 15:36 | 25°♈04'09 | -4°53'22 |
| greatest brilliancy | 4702 Oct 17 15:22 | 25°♈04'19 | -3.0m |
| direct | 4702 Nov 16 02:16 | 20°♈11'04 | |
| | 4702 Dec 27 07:10 | 0°♉ | |
| asc. node | 4702 Dec 29 00:58 | 0°♉44'53 | |
| | 4703 Feb 20 23:41 | 0°♊ | |
| | 4703 Apr 09 18:18 | 0°♋ | |
| | 4703 May 26 16:14 | 0°♌ | |
| | 4703 Jul 12 23:07 | 0°♍ | |
| | 4703 Aug 29 14:42 | 0°♎ | |
| evening set | 4703 Sep 20 21:40 | 14°♎02'36 | |
| | 4703 Oct 16 02:24 | 0°♏ | |
| max. Earth dist. | 4703 Oct 26 08:44 | 6°♏32'23 | 2.66942 AU |
| conjunction | 4703 Nov 05 01:10 | 12°♏44'05 | 0°32'05 |
| minimum elong | 4703 Nov 05 02:03 | 12°♏45'30 | 0°32'04 |
| | 4703 Dec 01 18:52 | 0°♐ | |
| morning rise | 4703 Dec 19 05:39 | 11°♐24'52 | |
| desc. node | 4704 Jan 05 22:46 | 23°♐07'59 | |
| | 4704 Jan 16 05:26 | 0°♑ | |
| | 4704 Feb 29 06:25 | 0°♒ | |
| | 4704 Apr 11 23:17 | 0°♓ | |
| | 4704 May 23 15:00 | 0°♈ | |
| | 4704 Jul 03 21:47 | 0°♉ | |
| | 4704 Aug 15 11:44 | 0°♊ | |
| | 4704 Oct 04 03:39 | 0°♋ | |
| asc. node | 4704 Nov 15 00:52 | 13°♋28'33 | |
| retrograde | 4704 Nov 21 03:19 | 13°♋44'49 | |
| min. Earth dist. | 4704 Dec 19 01:51 | 8°♋20'04 | 0.46385 AU |
| opposition | 4704 Dec 27 10:32 | 5°♋23'29 | 2°24'45 |
| greatest brilliancy | 4704 Dec 26 15:05 | 5°♋40'43 | -2.4m |
| | 4705 Jan 15 00:20 | 30°℞♊ | |
| direct | 4705 Jan 29 09:02 | 28°♊36'24 | |
| | 4705 Feb 13 07:18 | 0°♋ | |
| | 4705 Apr 27 21:00 | 0°♌ | |
| | 4705 Jun 20 00:00 | 0°♍ | |
| | 4705 Aug 09 04:37 | 0°♎ | |
| | 4705 Sep 26 18:09 | 0°♏ | |
| evening set | 4705 Oct 26 10:36 | 18°♏52'28 | |
| | 4705 Nov 12 14:12 | 0°♐ | |
| max. Earth dist. | 4705 Nov 18 21:55 | 4°♐08'46 | 2.61145 AU |
| desc. node | 4705 Nov 22 21:53 | 6°♐46'56 | |
| conjunction | 4705 Dec 11 09:17 | 19°♐05'44 | -0°10'15 |
| minimum elong | 4705 Dec 11 08:55 | 19°♐05'07 | 0°10'14 |
| behind sun begin | 4705 Dec 10 17:34 | 18°♐39'20 | |
| behind sun end | 4705 Dec 12 00:16 | 19°♐30'55 | |
| | 4705 Dec 27 11:02 | 0°♑ | |
| morning rise | 4706 Jan 27 16:38 | 21°♑43'08 | |
| | 4706 Feb 08 08:12 | 0°♒ | |
| | 4706 Mar 21 10:53 | 0°♓ | |
| | 4706 Apr 30 05:44 | 0°♈ | |
| | 4706 Jun 08 08:14 | 0°♉ | |
| | 4706 Jul 17 16:17 | 0°♊ | |
| | 4706 Aug 27 14:19 | 0°♋ | |
| asc. node | 4706 Oct 02 23:11 | 24°♋34'01 | |
| | 4706 Oct 11 15:50 | 0°♌ | |
| | 4706 Dec 14 13:24 | 0°♍ | |
| retrograde | 4707 Jan 04 11:04 | 2°♍47'39 | |
| | 4707 Jan 24 06:02 | 30°℞♌ | |
| min. Earth dist. | 4707 Feb 07 02:57 | 25°♌14'28 | 0.59127 AU |
| opposition | 4707 Feb 12 22:17 | 22°♌57'01 | 4°39'55 |
| greatest brilliancy | 4707 Feb 11 22:49 | 23°♌20'11 | -1.7m |
| direct | 4707 Mar 22 01:46 | 14°♌24'29 | |
| | 4707 May 19 23:51 | 0°♍ | |
| | 4707 Jul 18 00:11 | 0°♎ | |
| | 4707 Sep 07 07:30 | 0°♏ | |
| desc. node | 4707 Oct 10 20:52 | 20°♏53'27 | |
| | 4707 Oct 25 01:04 | 0°♐ | |
| evening set | 4707 Dec 05 03:56 | 27°♐25'39 | |
| | 4707 Dec 08 21:46 | 0°♑ | |
| max. Earth dist. | 4707 Dec 20 03:07 | 7°♑47'19 | 2.50462 AU |
| | 4708 Jan 20 06:23 | 0°♒ | |
| conjunction | 4708 Jan 24 21:10 | 3°♒21'59 | -0°53'04 |
| minimum elong | 4708 Jan 24 19:32 | 3°♒19'01 | 0°53'03 |
| | 4708 Feb 29 14:12 | 0°♓ | |
| morning rise | 4708 Mar 21 23:11 | 16°♓22'15 | |
| | 4708 Apr 08 12:40 | 0°♈ | |
| | 4708 May 16 20:11 | 0°♉ | |
| | 4708 Jun 24 09:26 | 0°♊ | |
| | 4708 Aug 03 03:22 | 0°♋ | |
| asc. node | 4708 Aug 19 21:47 | 12°♋12'50 | |
| | 4708 Sep 14 04:39 | 0°♌ | |
| | 4708 Oct 30 09:22 | 0°♍ | |
| | 4708 Dec 27 02:21 | 0°♎ | |
| retrograde | 4709 Feb 08 12:53 | 9°♎52'44 | |
| min. Earth dist. | 4709 Mar 18 20:37 | 0°♎45'52 | 0.66599 AU |
| opposition | 4709 Mar 20 20:33 | 29°♍57'52 | 4°18'37 |
| | 4709 Mar 20 18:25 | 30°℞♍ | |
| greatest brilliancy | 4709 Mar 20 13:14 | 0°♎05'12 | -1.3m |
| direct | 4709 Apr 29 19:28 | 20°♍27'33 | |
| | 4709 Jun 13 10:34 | 0°♎ | |
| | 4709 Aug 14 20:26 | 0°♏ | |
| desc. node | 4709 Aug 27 19:31 | 7°♏21'31 | |
| | 4709 Oct 04 05:36 | 0°♐ | |
| | 4709 Nov 18 19:30 | 0°♑ | |
| | 4709 Dec 31 03:09 | 0°♒ | |
| evening set | 4710 Jan 23 03:37 | 17°♒06'06 | |
| | 4710 Feb 09 02:35 | 0°♓ | |
| max. Earth dist. | 4710 Feb 25 11:27 | 12°♓38'54 | 2.37785 AU |
| | 4710 Mar 19 15:12 | 0°♈ | |
| conjunction | 4710 Mar 26 10:14 | 5°♈21'16 | -0°58'36 |
| minimum elong | 4710 Mar 26 12:42 | 5°♈26'07 | 0°58'35 |
| | 4710 Apr 26 14:40 | 0°♉ | |
| | 4710 Jun 03 22:33 | 0°♊ | |
| morning rise | 4710 Jun 06 00:31 | 1°♊36'33 | |
| asc. node | 4710 Jul 07 21:57 | 25°♊51'39 | |
| | 4710 Jul 13 11:17 | 0°♋ | |
| | 4710 Aug 23 23:09 | 0°♌ | |
| | 4710 Oct 07 04:07 | 0°♍ | |
| | 4710 Nov 24 09:16 | 0°♎ | |
| | 4711 Jan 21 06:01 | 0°♏ | |
| retrograde | 4711 Mar 14 21:20 | 13°♏04'20 | |
| opposition | 4711 Apr 23 18:34 | 3°♏37'13 | 2°44'04 |
| greatest brilliancy | 4711 Apr 23 23:12 | 3°♏32'38 | -1.3m |
| min. Earth dist. | 4711 Apr 25 15:02 | 2°♏53'13 | 0.67522 AU |
| | 4711 May 03 03:11 | 30°℞♎ | |
| direct | 4711 Jun 04 02:58 | 23°♎38'15 | |
| | 4711 Jul 09 06:26 | 0°♏ | |
| desc. node | 4711 Jul 15 18:11 | 2°♏15'14 | |
| | 4711 Sep 10 21:20 | 0°♐ | |
| | 4711 Oct 29 02:29 | 0°♑ | |
| | 4711 Dec 11 03:15 | 0°♒ | |
| | 4712 Jan 20 05:00 | 0°♓ | |
| | 4712 Feb 27 15:56 | 0°♈ | |
| evening set | 4712 Mar 31 09:43 | 25°♈53'31 | |
| | 4712 Apr 05 14:36 | 0°♉ | |
| | 4712 May 14 00:22 | 0°♊ | |
| asc. node | 4712 May 24 20:53 | 8°♊19'27 | |

| | | | |
|---|---|---|---|
| conjunction | 4712 Jun 07 22:17 | 18°♊58'24 | 0°09'33 |
| minimum elong | 4712 Jun 07 21:26 | 18°♊56'50 | 0°09'31 |
| behind sun begin | 4712 Jun 06 22:43 | 18°♊14'05 | |
| behind sun end | 4712 Jun 08 20:10 | 19°♊39'32 | |
| | 4712 Jun 22 17:05 | 0°♋ | |
| max. Earth dist. | 4712 Jul 25 23:39 | 24°♋07'16 | 2.46687 AU |
| | 4712 Aug 03 07:22 | 0°♌ | |
| morning rise | 4712 Aug 09 14:01 | 4°♌23'43 | |
| | 4712 Sep 16 04:02 | 0°♍ | |
| | 4712 Nov 01 13:28 | 0°♎ | |
| | 4712 Dec 21 05:49 | 0°♏ | |
| | 4713 Feb 16 08:34 | 0°♐ | |
| retrograde | 4713 Apr 20 10:35 | 17°♐18'15 | |
| opposition | 4713 May 28 16:14 | 8°♐42'12 | 0°09'19 |
| greatest brilliancy | 4713 May 28 17:11 | 8°♐41'18 | -1.6m |
| desc. node | 4713 Jun 01 16:40 | 7°♐09'33 | |
| min. Earth dist. | 4713 Jun 03 05:53 | 6°♐34'03 | 0.61883 AU |
| | 4713 Jun 25 04:58 | 30°℞♏ | |
| direct | 4713 Jul 08 20:22 | 28°♏45'48 | |
| | 4713 Jul 23 03:20 | 0°♐ | |
| | 4713 Oct 02 07:50 | 0°♑ | |
| | 4713 Nov 17 15:21 | 0°♒ | |
| | 4713 Dec 28 18:47 | 0°♓ | |
| | 4714 Feb 05 17:14 | 0°♈ | |
| | 4714 Mar 16 00:47 | 0°♉ | |
| asc. node | 4714 Apr 11 19:05 | 20°♉45'45 | |
| | 4714 Apr 23 20:42 | 0°♊ | |
| | 4714 Jun 03 01:18 | 0°♋ | |
| evening set | 4714 Jun 08 04:27 | 3°♋44'10 | |
| | 4714 Jul 15 03:08 | 0°♌ | |
| conjunction | 4714 Aug 04 09:39 | 13°♌57'13 | 0°59'50 |
| minimum elong | 4714 Aug 04 08:11 | 13°♌54'43 | 0°59'49 |
| | 4714 Aug 28 06:03 | 0°♍ | |
| max. Earth dist. | 4714 Aug 30 21:22 | 1°♍45'05 | 2.58825 AU |
| morning rise | 4714 Sep 24 12:15 | 17°♍54'26 | |
| | 4714 Oct 13 06:32 | 0°♎ | |
| | 4714 Nov 29 23:27 | 0°♏ | |
| | 4715 Jan 18 15:06 | 0°♐ | |
| | 4715 Mar 13 10:07 | 0°♑ | |
| desc. node | 4715 Apr 19 15:23 | 17°♑18'30 | |
| retrograde | 4715 Jun 07 03:09 | 28°♑32'12 | |
| opposition | 4715 Jul 12 03:14 | 21°♑24'17 | -3°35'41 |
| greatest brilliancy | 4715 Jul 13 04:21 | 21°♑02'15 | -2.1m |
| min. Earth dist. | 4715 Jul 20 12:41 | 18°♑28'25 | 0.50431 AU |
| direct | 4715 Aug 19 12:55 | 12°♑39'21 | |
| | 4715 Oct 14 23:46 | 0°♒ | |
| | 4715 Dec 02 04:22 | 0°♓ | |
| | 4716 Jan 12 14:28 | 0°♈ | |
| | 4716 Feb 21 09:27 | 0°♉ | |
| asc. node | 4716 Feb 27 18:31 | 4°♉49'01 | |
| | 4716 Apr 01 10:05 | 0°♊ | |
| | 4716 May 12 16:48 | 0°♋ | |
| | 4716 Jun 24 17:46 | 0°♌ | |
| evening set | 4716 Jul 28 03:01 | 22°♌26'27 | |
| | 4716 Aug 08 13:57 | 0°♍ | |
| conjunction | 4716 Sep 15 05:57 | 24°♍27'55 | 1°06'22 |
| minimum elong | 4716 Sep 15 06:27 | 24°♍28'44 | 1°06'23 |
| | 4716 Sep 23 20:52 | 0°♎ | |
| max. Earth dist. | 4716 Sep 24 13:11 | 0°♎26'09 | 2.66032 AU |
| morning rise | 4716 Oct 30 22:10 | 23°♎36'05 | |
| | 4716 Nov 10 00:40 | 0°♏ | |
| | 4716 Dec 27 13:37 | 0°♐ | |
| | 4717 Feb 13 09:46 | 0°♑ | |
| desc. node | 4717 Mar 06 15:15 | 13°♑10'53 | |
| | 4717 Apr 03 02:50 | 0°♒ | |
| | 4717 May 24 21:06 | 0°♓ | |
| retrograde | 4717 Aug 15 15:58 | 29°♓03'32 | |
| opposition | 4717 Sep 15 00:02 | 23°♓59'58 | -6°31'35 |
| greatest brilliancy | 4717 Sep 16 01:55 | 23°♓42'11 | -2.9m |
| min. Earth dist. | 4717 Sep 19 05:40 | 22°♓50'24 | 0.38297 AU |
| direct | 4717 Oct 16 06:32 | 18°♓28'28 | |
| | 4717 Nov 29 07:38 | 0°♈ | |
| asc. node | 4718 Jan 14 17:43 | 26°♈19'06 | |
| | 4718 Jan 20 11:42 | 0°♉ | |
| | 4718 Mar 06 13:32 | 0°♊ | |
| | 4718 Apr 19 23:07 | 0°♋ | |
| | 4718 Jun 04 03:46 | 0°♌ | |
| | 4718 Jul 20 10:53 | 0°♍ | |
| | 4718 Sep 05 13:29 | 0°♎ | |
| evening set | 4718 Sep 06 12:11 | 0°♎35'59 | |
| max. Earth dist. | 4718 Oct 17 15:50 | 26°♎41'57 | 2.67768 AU |
| conjunction | 4718 Oct 22 02:53 | 29°♎32'09 | 0°45'16 |
| minimum elong | 4718 Oct 22 03:57 | 29°♎33'50 | 0°45'16 |
| | 4718 Oct 22 20:24 | 0°♏ | |
| morning rise | 4718 Dec 05 02:33 | 27°♏42'44 | |
| | 4718 Dec 08 15:31 | 0°♐ | |
| desc. node | 4719 Jan 22 14:04 | 29°♐22'58 | |
| | 4719 Jan 23 12:28 | 0°♑ | |
| | 4719 Mar 09 07:44 | 0°♒ | |
| | 4719 Apr 22 03:14 | 0°♓ | |
| | 4719 Jun 04 07:21 | 0°♈ | |
| | 4719 Jul 17 21:54 | 0°♉ | |
| | 4719 Sep 04 02:33 | 0°♊ | |
| retrograde | 4719 Oct 31 01:53 | 18°♊29'29 | |
| min. Earth dist. | 4719 Nov 26 11:02 | 13°♊50'44 | 0.41291 AU |
| asc. node | 4719 Dec 02 16:11 | 11°♊52'58 | |
| opposition | 4719 Dec 04 01:44 | 11°♊26'16 | 0°05'33 |
| greatest brilliancy | 4720 Sep 03 09:54 | 11°♎01'35 | 1.8m |
| direct | 4720 Jan 04 00:24 | 5°♊36'05 | |
| | 4720 Mar 17 14:46 | 0°♋ | |
| | 4720 May 09 19:40 | 0°♌ | |
| | 4720 Jun 28 17:00 | 0°♍ | |
| | 4720 Aug 16 15:10 | 0°♎ | |
| | 4720 Oct 03 16:07 | 0°♏ | |
| evening set | 4720 Oct 12 03:41 | 5°♏22'35 | |
| max. Earth dist. | 4720 Nov 08 22:38 | 23°♏12'05 | 2.64063 AU |
| | 4720 Nov 19 09:28 | 0°♐ | |
| conjunction | 4720 Nov 26 09:28 | 4°♐35'05 | 0°07'13 |
| minimum elong | 4720 Nov 26 09:41 | 4°♐35'27 | 0°07'13 |
| behind sun begin | 4720 Nov 25 16:29 | 4°♐07'13 | |
| behind sun end | 4720 Nov 27 02:54 | 5°♐03'42 | |
| desc. node | 4720 Dec 09 12:27 | 13°♐15'23 | |
| | 4721 Jan 03 10:35 | 0°♑ | |
| morning rise | 4721 Jan 10 21:55 | 5°♑05'44 | |
| | 4721 Feb 15 16:53 | 0°♒ | |
| | 4721 Mar 29 07:47 | 0°♓ | |
| | 4721 May 08 15:48 | 0°♈ | |
| | 4721 Jun 17 07:47 | 0°♉ | |
| | 4721 Jul 27 07:52 | 0°♊ | |
| | 4721 Sep 07 11:52 | 0°♋ | |
| asc. node | 4721 Oct 19 16:01 | 26°♋07'25 | |
| | 4721 Oct 27 00:18 | 0°♌ | |
| retrograde | 4721 Dec 19 17:26 | 16°♌00'27 | |
| min. Earth dist. | 4722 Jan 20 05:01 | 9°♌14'00 | 0.54574 AU |
| greatest brilliancy | 4722 Jan 26 05:21 | 6°♌55'07 | -1.9m |
| opposition | 4722 Jan 27 08:24 | 6°♌29'00 | 4°15'20 |
| | 4722 Feb 17 02:46 | 30°℞♋ | |
| direct | 4722 Mar 03 23:47 | 28°♋30'30 | |
| | 4722 Mar 19 20:44 | 0°♌ | |
| | 4722 Jun 02 22:59 | 0°♍ | |

| | | | |
|---|---|---|---|
| | 4722 Jul 26 20:22 | 0°♎ | |
| | 4722 Sep 14 18:34 | 0°♏ | |
| desc. node | 4722 Oct 27 11:15 | 27°♏01'08 | |
| | 4722 Nov 01 01:22 | 0°♐ | |
| evening set | 4722 Nov 18 23:45 | 11°♐48'35 | |
| max. Earth dist. | 4722 Dec 06 15:58 | 23°♐41'55 | 2.55166 AU |
| | 4722 Dec 15 21:08 | 0°♑ | |
| conjunction | 4723 Jan 06 04:37 | 14°♑50'34 | -0°37'52 |
| minimum elong | 4723 Jan 06 03:17 | 14°♑48'12 | 0°37'51 |
| | 4723 Jan 27 09:51 | 0°♒ | |
| morning rise | 4723 Feb 27 07:06 | 22°♒42'39 | |
| | 4723 Mar 09 00:13 | 0°♓ | |
| | 4723 Apr 17 05:31 | 0°♈ | |
| | 4723 May 25 19:00 | 0°♉ | |
| | 4723 Jul 03 13:16 | 0°♊ | |
| | 4723 Aug 12 13:13 | 0°♋ | |
| asc. node | 4723 Sep 06 15:49 | 17°♋58'24 | |
| | 4723 Sep 24 04:49 | 0°♌ | |
| | 4723 Nov 11 13:00 | 0°♍ | |
| retrograde | 4724 Jan 27 00:01 | 26°♍25'33 | |
| min. Earth dist. | 4724 Mar 03 15:18 | 17°♍51'44 | 0.64416 AU |
| opposition | 4724 Mar 07 03:58 | 16°♍27'04 | 4°37'51 |
| greatest brilliancy | 4724 Mar 06 14:05 | 16°♍40'57 | -1.4m |
| direct | 4724 Apr 15 04:46 | 7°♍15'21 | |
| | 4724 Jun 29 04:51 | 0°♎ | |
| | 4724 Aug 23 20:49 | 0°♏ | |
| desc. node | 4724 Sep 13 10:10 | 12°♏14'37 | |
| | 4724 Oct 11 21:18 | 0°♐ | |
| | 4724 Nov 26 02:18 | 0°♑ | |
| evening set | 4725 Jan 01 21:10 | 25°♑59'37 | |
| | 4725 Jan 07 09:17 | 0°♒ | |
| max. Earth dist. | 4725 Jan 18 02:40 | 7°♒53'20 | 2.42397 AU |
| | 4725 Feb 16 11:16 | 0°♓ | |
| conjunction | 4725 Feb 27 18:10 | 8°♓40'34 | -1°05'12 |
| minimum elong | 4725 Feb 27 18:09 | 8°♓40'32 | 1°05'13 |
| | 4725 Mar 27 02:55 | 0°♈ | |
| | 4725 May 04 04:43 | 0°♉ | |
| morning rise | 4725 May 05 22:29 | 1°♉22'13 | |
| | 4725 Jun 11 13:45 | 0°♊ | |
| | 4725 Jul 21 02:56 | 0°♋ | |
| asc. node | 4725 Jul 24 14:10 | 2°♋34'05 | |
| | 4725 Aug 31 16:58 | 0°♌ | |
| | 4725 Oct 15 08:05 | 0°♍ | |
| | 4725 Dec 04 06:35 | 0°♎ | |
| | 4726 Feb 20 13:49 | 0°♏ | |
| retrograde | 4726 Mar 01 10:17 | 0°♏28'36 | |
| | 4726 Mar 09 23:27 | 30°℞♎ | |
| opposition | 4726 Apr 10 14:53 | 20°♎48'01 | 3°27'41 |
| greatest brilliancy | 4726 Apr 10 16:01 | 20°♎46'53 | -1.3m |
| min. Earth dist. | 4726 Apr 10 23:07 | 20°♎39'49 | 0.67940 AU |
| direct | 4726 May 21 14:19 | 10°♎57'22 | |
| | 4726 Jul 27 07:03 | 0°♏ | |
| desc. node | 4726 Aug 01 08:50 | 2°♏25'53 | |
| | 4726 Sep 20 09:33 | 0°♐ | |
| | 4726 Nov 06 05:05 | 0°♑ | |
| | 4726 Dec 18 20:36 | 0°♒ | |
| | 4727 Jan 27 20:18 | 0°♓ | |
| evening set | 4727 Mar 03 18:11 | 27°♓12'57 | |
| | 4727 Mar 07 06:54 | 0°♈ | |
| | 4727 Apr 14 04:52 | 0°♉ | |
| conjunction | 4727 May 11 17:55 | 21°♉37'51 | -0°21'00 |
| minimum elong | 4727 May 11 19:59 | 21°♉41'53 | 0°20'58 |
| | 4727 May 22 12:47 | 0°♊ | |
| asc. node | 4727 Jun 11 13:07 | 15°♊19'27 | |
| | 4727 Jul 01 02:35 | 0°♋ | |
| max. Earth dist. | 4727 Jul 02 20:23 | 1°♋17'27 | 2.41195 AU |
| morning rise | 4727 Jul 19 01:40 | 13°♋10'51 | |
| | 4727 Aug 11 14:17 | 0°♌ | |
| | 4727 Sep 24 11:24 | 0°♍ | |
| | 4727 Nov 10 06:55 | 0°♎ | |
| | 4727 Dec 31 15:51 | 0°♏ | |
| | 4728 Mar 09 16:03 | 0°♐ | |
| retrograde | 4728 Apr 05 02:36 | 3°♐44'47 | |
| | 4728 Apr 29 10:03 | 30°℞♏ | |
| opposition | 4728 May 14 03:37 | 24°♏45'31 | 1°16'54 |
| greatest brilliancy | 4728 May 14 08:44 | 24°♏40'32 | -1.4m |
| min. Earth dist. | 4728 May 18 07:02 | 23°♏08'41 | 0.64852 AU |
| desc. node | 4728 Jun 18 07:40 | 14°♏58'33 | |
| direct | 4728 Jun 24 14:39 | 14°♏43'17 | |
| | 4728 Aug 20 06:52 | 0°♐ | |
| | 4728 Oct 13 05:09 | 0°♑ | |
| | 4728 Nov 26 15:42 | 0°♒ | |
| | 4729 Jan 06 04:57 | 0°♓ | |
| | 4729 Feb 13 20:48 | 0°♈ | |
| | 4729 Mar 23 23:19 | 0°♉ | |
| asc. node | 4729 Apr 28 12:33 | 27°♉39'31 | |
| | 4729 May 01 13:47 | 0°♊ | |
| evening set | 4729 May 14 10:09 | 9°♊47'18 | |
| | 4729 Jun 10 12:09 | 0°♋ | |
| conjunction | 4729 Jul 15 08:50 | 25°♋06'37 | 0°46'18 |
| minimum elong | 4729 Jul 15 06:41 | 25°♋02'51 | 0°46'16 |
| | 4729 Jul 22 07:52 | 0°♌ | |
| max. Earth dist. | 4729 Aug 19 02:21 | 19°♌07'38 | 2.54584 AU |
| | 4729 Sep 04 06:29 | 0°♍ | |
| morning rise | 4729 Sep 08 03:22 | 2°♍34'27 | |
| | 4729 Oct 20 07:46 | 0°♎ | |
| | 4729 Dec 07 12:36 | 0°♏ | |
| | 4730 Jan 27 20:38 | 0°♐ | |
| | 4730 Mar 29 19:25 | 0°♑ | |
| desc. node | 4730 May 06 06:52 | 10°♑30'20 | |
| retrograde | 4730 May 17 16:02 | 11°♑15'38 | |
| opposition | 4730 Jun 23 04:00 | 3°♑27'04 | -1°59'50 |
| greatest brilliancy | 4730 Jun 23 16:40 | 3°♑15'25 | -1.9m |
| min. Earth dist. | 4730 Jun 30 16:53 | 0°♑40'58 | 0.55468 AU |
| | 4730 Jul 02 15:00 | 30°℞♐ | |
| direct | 4730 Aug 02 01:55 | 24°♐01'07 | |
| | 4730 Sep 02 21:44 | 0°♑ | |
| | 4730 Oct 30 22:43 | 0°♒ | |
| | 4730 Dec 13 11:52 | 0°♓ | |
| | 4731 Jan 22 10:34 | 0°♈ | |
| | 4731 Mar 02 09:43 | 0°♉ | |
| asc. node | 4731 Mar 16 10:34 | 10°♉46'06 | |
| | 4731 Apr 10 19:13 | 0°♊ | |
| | 4731 May 21 12:42 | 0°♋ | |
| | 4731 Jul 03 02:19 | 0°♌ | |
| evening set | 4731 Jul 11 01:22 | 5°♌27'46 | |
| | 4731 Aug 16 13:49 | 0°♍ | |
| conjunction | 4731 Aug 31 15:53 | 9°♍55'01 | 1°07'54 |
| minimum elong | 4731 Aug 31 15:45 | 9°♍54'49 | 1°07'54 |
| max. Earth dist. | 4731 Sep 16 02:28 | 19°♍57'42 | 2.63852 AU |
| | 4731 Oct 01 16:26 | 0°♎ | |
| morning rise | 4731 Oct 17 21:51 | 10°♎22'06 | |
| | 4731 Nov 17 22:44 | 0°♏ | |
| | 4732 Jan 05 01:40 | 0°♐ | |
| | 4732 Feb 23 09:16 | 0°♑ | |
| desc. node | 4732 Mar 23 05:55 | 16°♑53'14 | |
| | 4732 Apr 15 19:42 | 0°♒ | |
| | 4732 Jun 26 14:23 | 0°♓ | |
| retrograde | 4732 Jul 15 17:47 | 2°♓06'01 | |

| | | | |
|---|---|---|---|
| | 4732 Aug 03 02:12 | 30°℞♒ | |
| opposition | 4732 Aug 16 15:52 | 26°♒18'05 | -6°01'51 |
| greatest brilliancy | 4732 Aug 18 06:39 | 25°♒48'19 | -2.6m |
| min. Earth dist. | 4732 Aug 24 07:13 | 23°♒58'01 | 0.42266 AU |
| direct | 4732 Sep 20 04:56 | 19°♒23'18 | |
| | 4732 Oct 31 19:36 | 0°♓ | |
| | 4732 Dec 22 06:09 | 0°♈ | |
| asc. node | 4733 Jan 31 09:56 | 27°♈53'37 | |
| | 4733 Feb 03 08:53 | 0°♉ | |
| | 4733 Mar 17 08:26 | 0°♊ | |
| | 4733 Apr 29 00:41 | 0°♋ | |
| | 4733 Jun 12 02:53 | 0°♌ | |
| | 4733 Jul 27 16:54 | 0°♍ | |
| evening set | 4733 Aug 22 13:46 | 16°♍40'52 | |
| | 4733 Sep 12 09:49 | 0°♎ | |
| conjunction | 4733 Oct 08 03:15 | 16°♎22'14 | 0°55'55 |
| minimum elong | 4733 Oct 08 04:16 | 16°♎23'52 | 0°55'56 |
| max. Earth dist. | 4733 Oct 08 21:34 | 16°♎51'22 | 2.67747 AU |
| | 4733 Oct 29 13:50 | 0°♏ | |
| morning rise | 4733 Nov 21 09:41 | 14°♏32'21 | |
| | 4733 Dec 15 13:41 | 0°♐ | |
| | 4734 Jan 31 00:34 | 0°♑ | |
| desc. node | 4734 Feb 08 04:47 | 5°♑19'23 | |
| | 4734 Mar 17 21:22 | 0°♒ | |
| | 4734 May 02 10:32 | 0°♓ | |
| | 4734 Jun 17 12:31 | 0°♈ | |
| | 4734 Aug 06 20:42 | 0°♉ | |
| retrograde | 4734 Oct 04 08:57 | 18°♉33'21 | |
| min. Earth dist. | 4734 Oct 31 13:41 | 14°♉06'06 | 0.37731 AU |
| opposition | 4734 Nov 04 17:47 | 12°♉56'01 | -3°08'17 |
| greatest brilliancy | 4734 Nov 04 09:38 | 13°♉01'44 | -3.0m |
| direct | 4734 Dec 04 06:28 | 7°♉53'54 | |
| asc. node | 4734 Dec 19 10:19 | 9°♉23'09 | |
| | 4735 Feb 09 15:38 | 0°♊ | |
| | 4735 Apr 02 09:56 | 0°♋ | |
| | 4735 May 20 18:49 | 0°♌ | |
| | 4735 Jul 07 18:49 | 0°♍ | |
| | 4735 Aug 24 19:36 | 0°♎ | |
| evening set | 4735 Sep 29 00:49 | 22°♎07'28 | |
| | 4735 Oct 11 11:29 | 0°♏ | |
| max. Earth dist. | 4735 Oct 31 14:59 | 12°♏50'51 | 2.66149 AU |
| conjunction | 4735 Nov 13 02:05 | 20°♏51'45 | 0°23'24 |
| minimum elong | 4735 Nov 13 02:47 | 20°♏52'52 | 0°23'24 |
| | 4735 Nov 27 04:11 | 0°♐ | |
| morning rise | 4735 Dec 27 13:54 | 20°♐01'25 | |
| desc. node | 4735 Dec 27 03:02 | 19°♐43'19 | |
| | 4736 Jan 11 11:22 | 0°♑ | |
| | 4736 Feb 24 05:09 | 0°♒ | |
| | 4736 Apr 06 11:44 | 0°♓ | |
| | 4736 May 17 14:00 | 0°♈ | |
| | 4736 Jun 27 03:07 | 0°♉ | |
| | 4736 Aug 07 09:32 | 0°♊ | |
| | 4736 Sep 21 13:41 | 0°♋ | |
| asc. node | 4736 Nov 05 08:59 | 21°♋53'27 | |
| retrograde | 4736 Dec 02 03:36 | 26°♋37'42 | |
| min. Earth dist. | 4736 Dec 31 08:27 | 20°♋42'56 | 0.49385 AU |
| greatest brilliancy | 4737 Jan 07 10:03 | 18°♋07'17 | -2.2m |
| opposition | 4737 Jan 08 11:01 | 17°♋44'15 | 3°18'10 |
| direct | 4737 Feb 11 09:20 | 10°♋28'52 | |
| | 4737 Apr 18 06:50 | 0°♌ | |
| | 4737 Jun 13 18:14 | 0°♍ | |
| | 4737 Aug 03 23:38 | 0°♎ | |
| | 4737 Sep 21 23:23 | 0°♏ | |
| evening set | 4737 Nov 03 19:38 | 27°♏17'52 | |
| | 4737 Nov 07 23:10 | 0°♐ | |
| desc. node | 4737 Nov 13 01:43 | 3°♐20'31 | |
| max. Earth dist. | 4737 Nov 25 01:55 | 11°♐16'21 | 2.59229 AU |
| conjunction | 4737 Dec 20 08:55 | 28°♐18'52 | -0°20'33 |
| minimum elong | 4737 Dec 20 08:11 | 28°♐17'36 | 0°20'32 |
| | 4737 Dec 22 20:04 | 0°♑ | |
| | 4738 Feb 03 14:29 | 0°♒ | |
| morning rise | 4738 Feb 07 00:54 | 2°♒28'11 | |
| | 4738 Mar 16 12:56 | 0°♓ | |
| | 4738 Apr 25 02:37 | 0°♈ | |
| | 4738 Jun 02 23:39 | 0°♉ | |
| | 4738 Jul 12 01:18 | 0°♊ | |
| | 4738 Aug 21 12:04 | 0°♋ | |
| asc. node | 4738 Sep 23 07:31 | 22°♋48'18 | |
| | 4738 Oct 04 07:14 | 0°♌ | |
| | 4738 Nov 26 21:57 | 0°♍ | |
| retrograde | 4739 Jan 12 21:37 | 12°♍02'54 | |
| min. Earth dist. | 4739 Feb 16 16:18 | 4°♍06'48 | 0.61274 AU |
| opposition | 4739 Feb 21 16:59 | 2°♍06'57 | 4°44'12 |
| greatest brilliancy | 4739 Feb 20 20:36 | 2°♍27'12 | -1.6m |
| | 4739 Feb 27 03:37 | 30°℞♌ | |
| direct | 4739 Mar 31 14:26 | 23°♌18'45 | |
| | 4739 May 06 18:17 | 0°♍ | |
| | 4739 Jul 11 13:22 | 0°♎ | |
| | 4739 Sep 02 01:54 | 0°♏ | |
| desc. node | 4739 Oct 01 00:52 | 17°♏46'58 | |
| | 4739 Oct 20 05:24 | 0°♐ | |
| | 4739 Dec 04 05:19 | 0°♑ | |
| evening set | 4739 Dec 15 01:24 | 7°♑30'57 | |
| max. Earth dist. | 4739 Dec 29 09:55 | 17°♑38'26 | 2.47650 AU |
| | 4740 Jan 15 13:43 | 0°♒ | |
| conjunction | 4740 Feb 05 14:48 | 15°♒31'04 | -0°59'48 |
| minimum elong | 4740 Feb 05 13:23 | 15°♒28'25 | 0°59'47 |
| | 4740 Feb 24 19:57 | 0°♓ | |
| | 4740 Apr 03 16:10 | 0°♈ | |
| morning rise | 4740 Apr 06 02:40 | 1°♈54'21 | |
| | 4740 May 11 21:31 | 0°♉ | |
| greatest brilliancy | 4740 May 17 11:00 | 4°♉21'55 | 1.2m |
| | 4740 Jun 19 08:46 | 0°♊ | |
| | 4740 Jul 28 23:44 | 0°♋ | |
| asc. node | 4740 Aug 10 07:33 | 9°♋02'55 | |
| | 4740 Sep 08 18:36 | 0°♌ | |
| | 4740 Oct 24 03:52 | 0°♍ | |
| | 4740 Dec 16 12:22 | 0°♎ | |
| retrograde | 4741 Feb 16 03:35 | 17°♎46'04 | |
| min. Earth dist. | 4741 Mar 27 07:22 | 8°♎23'21 | 0.67356 AU |
| opposition | 4741 Mar 28 11:34 | 7°♎55'10 | 4°02'36 |
| greatest brilliancy | 4741 Mar 28 07:34 | 7°♎59'10 | -1.3m |
| | 4741 Apr 21 10:19 | 30°℞♍ | |
| direct | 4741 May 07 21:00 | 28°♍16'30 | |
| | 4741 May 25 10:47 | 0°♎ | |
| | 4741 Aug 08 06:01 | 0°♏ | |
| desc. node | 4741 Aug 18 00:01 | 5°♏17'44 | |
| | 4741 Sep 28 22:11 | 0°♐ | |
| | 4741 Nov 13 21:41 | 0°♑ | |
| | 4741 Dec 26 08:01 | 0°♒ | |
| | 4742 Feb 04 07:42 | 0°♓ | |
| evening set | 4742 Feb 05 14:05 | 0°♓58'22 | |
| | 4742 Mar 14 19:30 | 0°♈ | |
| conjunction | 4742 Apr 11 21:40 | 22°♈12'27 | -0°48'13 |
| minimum elong | 4742 Apr 12 01:02 | 22°♈19'06 | 0°48'12 |
| | 4742 Apr 21 18:11 | 0°♉ | |
| max. Earth dist. | 4742 May 01 15:50 | 7°♉48'28 | 2.36930 AU |
| | 4742 May 30 01:42 | 0°♊ | |
| morning rise | 4742 Jun 22 16:23 | 18°♊04'22 | |

| | | | |
|---|---|---|---|
| asc. node | 4742 Jun 28 05:29 | 22°♊15'19 | |
| | 4742 Jul 08 14:03 | 0°♋ | |
| | 4742 Aug 19 00:40 | 0°♌ | |
| | 4742 Oct 02 00:48 | 0°♍ | |
| | 4742 Nov 18 13:06 | 0°♎ | |
| | 4743 Jan 11 23:17 | 0°♏ | |
| retrograde | 4743 Mar 22 18:11 | 20°♏47'23 | |
| opposition | 4743 May 01 09:46 | 11°♏29'02 | 2°14'31 |
| greatest brilliancy | 4743 May 01 15:18 | 11°♏23'35 | -1.3m |
| min. Earth dist. | 4743 May 04 01:37 | 10°♏26'10 | 0.66862 AU |
| direct | 4743 Jun 11 21:13 | 1°♏27'31 | |
| desc. node | 4743 Jul 05 22:39 | 4°♏39'05 | |
| | 4743 Sep 03 21:25 | 0°♐ | |
| | 4743 Oct 23 13:24 | 0°♑ | |
| | 4743 Dec 06 00:19 | 0°♒ | |
| | 4744 Jan 15 05:45 | 0°♓ | |
| | 4744 Feb 22 17:55 | 0°♈ | |
| greatest brilliancy | 4744 Mar 19 03:37 | 20°♈04'33 | 1.2m |
| | 4744 Mar 31 17:11 | 0°♉ | |
| evening set | 4744 Apr 16 18:55 | 12°♉37'43 | |
| | 4744 May 09 03:43 | 0°♊ | |
| asc. node | 4744 May 15 03:58 | 4°♊36'55 | |
| | 4744 Jun 17 21:20 | 0°♋ | |
| conjunction | 4744 Jun 22 11:06 | 3°♋22'14 | 0°25'06 |
| minimum elong | 4744 Jun 22 09:15 | 3°♋18'50 | 0°25'04 |
| | 4744 Jul 29 12:23 | 0°♌ | |
| max. Earth dist. | 4744 Aug 04 23:24 | 4°♌31'11 | 2.49667 AU |
| morning rise | 4744 Aug 21 00:16 | 15°♌35'29 | |
| | 4744 Sep 11 08:28 | 0°♍ | |
| | 4744 Oct 27 13:09 | 0°♎ | |
| | 4744 Dec 15 12:30 | 0°♏ | |
| | 4745 Feb 07 16:46 | 0°♐ | |
| retrograde | 4745 Apr 29 18:44 | 25°♐56'09 | |
| desc. node | 4745 May 22 21:06 | 22°♐34'48 | |
| opposition | 4745 Jun 06 11:37 | 17°♐35'04 | -0°34'49 |
| greatest brilliancy | 4745 Jun 06 14:45 | 17°♐32'07 | -1.7m |
| min. Earth dist. | 4745 Jun 12 19:00 | 15°♐11'44 | 0.59852 AU |
| direct | 4745 Jul 17 08:09 | 7°♐46'07 | |
| | 4745 Sep 23 22:05 | 0°♑ | |
| | 4745 Nov 11 09:29 | 0°♒ | |
| | 4745 Dec 23 04:14 | 0°♓ | |
| | 4746 Jan 31 09:26 | 0°♈ | |
| | 4746 Mar 10 21:03 | 0°♉ | |
| asc. node | 4746 Apr 02 04:13 | 17°♉15'33 | |
| | 4746 Apr 18 20:22 | 0°♊ | |
| | 4746 May 29 03:58 | 0°♋ | |
| evening set | 4746 Jun 20 19:50 | 16°♋17'32 | |
| | 4746 Jul 10 08:25 | 0°♌ | |
| conjunction | 4746 Aug 14 19:17 | 24°♌10'08 | 1°04'29 |
| minimum elong | 4746 Aug 14 18:19 | 24°♌08'32 | 1°04'28 |
| | 4746 Aug 23 13:02 | 0°♍ | |
| max. Earth dist. | 4746 Sep 06 05:30 | 9°♍02'22 | 2.60831 AU |
| morning rise | 4746 Oct 03 07:29 | 26°♍38'25 | |
| | 4746 Oct 08 13:02 | 0°♎ | |
| | 4746 Nov 25 00:33 | 0°♏ | |
| | 4747 Jan 12 23:43 | 0°♐ | |
| | 4747 Mar 05 15:05 | 0°♑ | |
| desc. node | 4747 Apr 09 20:11 | 18°♑26'12 | |
| | 4747 May 06 03:44 | 0°♒ | |
| retrograde | 4747 Jun 20 04:50 | 9°♒57'51 | |
| opposition | 4747 Jul 24 05:12 | 3°♒16'45 | -4°32'33 |
| greatest brilliancy | 4747 Jul 25 13:25 | 2°♒49'35 | -2.3m |
| min. Earth dist. | 4747 Aug 01 18:54 | 0°♒24'16 | 0.47468 AU |
| | 4747 Aug 03 00:57 | 30°℞♑ | |
| direct | 4747 Aug 30 11:53 | 25°♑04'42 | |
| | 4747 Sep 27 05:07 | 0°♒ | |
| | 4747 Nov 23 15:22 | 0°♓ | |
| | 4748 Jan 05 17:49 | 0°♈ | |
| | 4748 Feb 15 07:03 | 0°♉ | |
| asc. node | 4748 Feb 18 03:15 | 2°♉06'59 | |
| | 4748 Mar 26 19:38 | 0°♊ | |
| | 4748 May 07 11:15 | 0°♋ | |
| | 4748 Jun 19 18:58 | 0°♌ | |
| | 4748 Aug 03 19:54 | 0°♍ | |
| evening set | 4748 Aug 06 16:58 | 1°♍53'00 | |
| | 4748 Sep 19 05:16 | 0°♎ | |
| conjunction | 4748 Sep 23 18:16 | 2°♎54'19 | 1°03'32 |
| minimum elong | 4748 Sep 23 19:02 | 2°♎55'33 | 1°03'33 |
| max. Earth dist. | 4748 Sep 29 21:50 | 6°♎49'59 | 2.66868 AU |
| | 4748 Nov 05 08:14 | 0°♏ | |
| morning rise | 4748 Nov 07 19:19 | 1°♏33'39 | |
| | 4748 Dec 22 15:37 | 0°♐ | |
| | 4749 Feb 07 21:44 | 0°♑ | |
| desc. node | 4749 Feb 24 19:07 | 10°♑42'52 | |
| | 4749 Mar 27 08:14 | 0°♒ | |
| | 4749 May 14 22:40 | 0°♓ | |
| | 4749 Jul 07 21:09 | 0°♈ | |
| retrograde | 4749 Sep 03 06:17 | 16°♈37'37 | |
| opposition | 4749 Oct 03 03:22 | 11°♈41'44 | -5°53'21 |
| greatest brilliancy | 4749 Oct 03 14:44 | 11°♈34'14 | -3.0m |
| min. Earth dist. | 4749 Oct 04 12:42 | 11°♈19'45 | 0.37159 AU |
| direct | 4749 Nov 02 01:24 | 6°♈40'20 | |
| asc. node | 4750 Jan 05 01:40 | 27°♈58'55 | |
| | 4750 Jan 08 17:12 | 0°♉ | |
| | 4750 Feb 26 16:27 | 0°♊ | |
| | 4750 Apr 13 15:28 | 0°♋ | |
| | 4750 May 29 15:59 | 0°♌ | |
| | 4750 Jul 15 10:46 | 0°♍ | |
| | 4750 Aug 31 19:58 | 0°♎ | |
| evening set | 4750 Sep 14 19:26 | 8°♎49'49 | |
| | 4750 Oct 18 05:22 | 0°♏ | |
| max. Earth dist. | 4750 Oct 22 19:34 | 2°♏55'19 | 2.67412 AU |
| conjunction | 4750 Oct 30 02:29 | 7°♏34'10 | 0°37'50 |
| minimum elong | 4750 Oct 30 03:28 | 7°♏35'43 | 0°37'50 |
| | 4750 Dec 03 23:19 | 0°♐ | |
| morning rise | 4750 Dec 13 03:17 | 5°♐57'37 | |
| desc. node | 4751 Jan 12 17:33 | 26°♐04'58 | |
| | 4751 Jan 18 14:57 | 0°♑ | |
| | 4751 Mar 04 00:12 | 0°♒ | |
| | 4751 Apr 16 04:37 | 0°♓ | |
| | 4751 May 28 10:42 | 0°♈ | |
| | 4751 Jul 09 13:04 | 0°♉ | |
| | 4751 Aug 22 16:10 | 0°♊ | |
| | 4751 Oct 20 13:18 | 0°♋ | |
| retrograde | 4751 Nov 13 00:53 | 3°♋45'04 | |
| asc. node | 4751 Nov 23 01:38 | 2°♋59'45 | |
| | 4751 Dec 06 00:17 | 30°℞♊ | |
| min. Earth dist. | 4751 Dec 10 02:56 | 28°♊42'39 | 0.44000 AU |
| opposition | 4751 Dec 18 08:49 | 25°♊55'43 | 1°32'53 |
| greatest brilliancy | 4751 Dec 17 20:00 | 26°♊06'36 | -2.5m |
| direct | 4752 Jan 19 10:19 | 19°♊33'36 | |
| | 4752 Mar 03 20:52 | 0°♋ | |
| | 4752 May 02 12:34 | 0°♌ | |
| | 4752 Jun 23 00:40 | 0°♍ | |
| | 4752 Aug 11 15:05 | 0°♎ | |
| | 4752 Sep 28 23:14 | 0°♏ | |
| evening set | 4752 Oct 20 06:59 | 13°♏31'45 | |
| | 4752 Nov 14 18:49 | 0°♐ | |
| max. Earth dist. | 4752 Nov 14 13:50 | 29°♏51'53 | 2.62542 AU |
| desc. node | 4752 Nov 29 16:46 | 9°♐48'21 | |

| | | | |
|---|---|---|---|
| conjunction | 4752 Dec 04 20:36 | 13°♐13'44 | -0°02'53 |
| minimum elong | 4752 Dec 04 20:31 | 13°♐13'37 | 0°02'53 |
| behind sun begin | 4752 Dec 04 01:31 | 12°♐42'02 | |
| behind sun end | 4752 Dec 05 15:32 | 13°♐45'14 | |
| | 4752 Dec 29 18:28 | 0°♑ | |
| morning rise | 4753 Jan 20 06:26 | 14°♑48'35 | |
| | 4753 Feb 10 20:24 | 0°♒ | |
| | 4753 Mar 24 05:07 | 0°♓ | |
| | 4753 May 03 06:00 | 0°♈ | |
| | 4753 Jun 11 14:01 | 0°♉ | |
| | 4753 Jul 21 03:53 | 0°♊ | |
| | 4753 Aug 31 11:01 | 0°♋ | |
| asc. node | 4753 Oct 10 00:35 | 26°♋00'22 | |
| | 4753 Oct 16 17:47 | 0°♌ | |
| retrograde | 4753 Dec 28 20:29 | 26°♌16'15 | |
| min. Earth dist. | 4754 Jan 30 13:38 | 19°♌03'37 | 0.57191 AU |
| greatest brilliancy | 4754 Feb 04 22:47 | 16°♌57'28 | -1.8m |
| opposition | 4754 Feb 06 00:22 | 16°♌32'27 | 4°32'57 |
| direct | 4754 Mar 14 12:43 | 8°♌14'13 | |
| | 4754 May 25 14:44 | 0°♍ | |
| | 4754 Jul 21 01:48 | 0°♎ | |
| | 4754 Sep 09 18:40 | 0°♏ | |
| desc. node | 4754 Oct 17 15:58 | 23°♏44'39 | |
| | 4754 Oct 27 08:32 | 0°♐ | |
| evening set | 4754 Nov 28 00:45 | 20°♐59'08 | |
| | 4754 Dec 11 06:09 | 0°♑ | |
| max. Earth dist. | 4754 Dec 14 01:06 | 1°♑55'15 | 2.52641 AU |
| conjunction | 4755 Jan 16 12:10 | 25°♑30'08 | -0°47'01 |
| minimum elong | 4755 Jan 16 10:36 | 25°♑27'19 | 0°47'00 |
| | 4755 Jan 22 17:38 | 0°♒ | |
| | 4755 Mar 04 05:11 | 0°♓ | |
| morning rise | 4755 Mar 12 04:20 | 6°♓02'40 | |
| | 4755 Apr 12 07:02 | 0°♈ | |
| | 4755 May 20 16:57 | 0°♉ | |
| | 4755 Jun 28 07:46 | 0°♊ | |
| | 4755 Aug 07 02:53 | 0°♋ | |
| asc. node | 4755 Aug 27 22:42 | 15°♋05'18 | |
| | 4755 Sep 18 07:29 | 0°♌ | |
| | 4755 Nov 04 02:43 | 0°♍ | |
| | 4756 Jan 06 06:09 | 0°♎ | |
| retrograde | 4756 Feb 03 19:01 | 4°♎41'21 | |
| | 4756 Mar 01 06:38 | 30°℞♍ | |
| min. Earth dist. | 4756 Mar 12 09:36 | 25°♍48'51 | 0.65759 AU |
| opposition | 4756 Mar 15 02:14 | 24°♍44'11 | 4°28'04 |
| greatest brilliancy | 4756 Mar 14 16:03 | 24°♍54'22 | -1.4m |
| direct | 4756 Apr 23 16:30 | 15°♍21'37 | |
| | 4756 Jun 19 23:38 | 0°♎ | |
| | 4756 Aug 18 00:16 | 0°♏ | |
| desc. node | 4756 Sep 03 14:34 | 9°♏37'33 | |
| | 4756 Oct 06 20:06 | 0°♐ | |
| | 4756 Nov 21 07:42 | 0°♑ | |
| | 4757 Jan 02 16:19 | 0°♒ | |
| evening set | 4757 Jan 13 12:52 | 7°♒59'07 | |
| max. Earth dist. | 4757 Feb 03 19:36 | 23°♒57'19 | 2.39661 AU |
| | 4757 Feb 11 17:53 | 0°♓ | |
| conjunction | 4757 Mar 14 07:28 | 23°♓41'39 | -1°03'13 |
| minimum elong | 4757 Mar 14 08:50 | 23°♓44'20 | 1°03'13 |
| | 4757 Mar 22 08:18 | 0°♈ | |
| | 4757 Apr 29 08:37 | 0°♉ | |
| morning rise | 4757 May 23 11:56 | 18°♉58'04 | |
| | 4757 Jun 06 16:21 | 0°♊ | |
| asc. node | 4757 Jul 14 22:43 | 29°♊05'24 | |
| | 4757 Jul 16 04:04 | 0°♋ | |
| | 4757 Aug 26 15:00 | 0°♌ | |
| | 4757 Oct 09 21:46 | 0°♍ | |
| | 4757 Nov 27 14:43 | 0°♎ | |
| | 4758 Jan 28 01:32 | 0°♏ | |
| retrograde | 4758 Mar 09 02:29 | 8°♏10'32 | |
| | 4758 Apr 14 15:40 | 30°℞♎ | |
| opposition | 4758 Apr 18 03:52 | 28°♎36'52 | 3°03'08 |
| greatest brilliancy | 4758 Apr 18 07:08 | 28°♎33'38 | -1.3m |
| min. Earth dist. | 4758 Apr 19 07:54 | 28°♎09'04 | 0.67842 AU |
| direct | 4758 May 29 09:27 | 18°♎41'12 | |
| | 4758 Jul 17 04:42 | 0°♏ | |
| desc. node | 4758 Jul 22 13:06 | 2°♏13'05 | |
| | 4758 Sep 14 08:12 | 0°♐ | |
| | 4758 Oct 31 23:42 | 0°♑ | |
| | 4758 Dec 13 21:36 | 0°♒ | |
| | 4759 Jan 22 23:28 | 0°♓ | |
| | 4759 Mar 02 10:42 | 0°♈ | |
| evening set | 4759 Mar 19 16:05 | 13°♈37'12 | |
| | 4759 Apr 09 08:53 | 0°♉ | |
| | 4759 May 17 17:13 | 0°♊ | |
| conjunction | 4759 May 27 23:05 | 7°♊52'30 | -0°03'27 |
| minimum elong | 4759 May 27 23:25 | 7°♊53'09 | 0°03'27 |
| behind sun begin | 4759 May 26 19:03 | 6°♊58'52 | |
| behind sun end | 4759 May 29 03:47 | 8°♊47'23 | |
| asc. node | 4759 Jun 01 21:58 | 11°♊39'26 | |
| | 4759 Jun 26 07:33 | 0°♋ | |
| max. Earth dist. | 4759 Jul 18 01:54 | 15°♋55'57 | 2.44216 AU |
| morning rise | 4759 Aug 01 05:24 | 26°♋03'40 | |
| | 4759 Aug 06 19:06 | 0°♌ | |
| | 4759 Sep 19 14:13 | 0°♍ | |
| | 4759 Nov 05 01:35 | 0°♎ | |
| | 4759 Dec 25 06:26 | 0°♏ | |
| | 4760 Feb 23 07:07 | 0°♐ | |
| retrograde | 4760 Apr 13 16:37 | 11°♐52'29 | |
| opposition | 4760 May 22 07:58 | 3°♐05'15 | 0°38'46 |
| greatest brilliancy | 4760 May 22 11:08 | 3°♐02'11 | -1.5m |
| min. Earth dist. | 4760 May 27 06:20 | 1°♐10'56 | 0.63342 AU |
| | 4760 May 30 09:25 | 30°℞♏ | |
| desc. node | 4760 Jun 08 11:54 | 26°♏53'31 | |
| direct | 4760 Jul 02 16:34 | 23°♏05'19 | |
| | 4760 Aug 07 12:00 | 0°♐ | |
| | 4760 Oct 06 13:22 | 0°♑ | |
| | 4760 Nov 21 00:36 | 0°♒ | |
| | 4760 Dec 31 22:17 | 0°♓ | |
| | 4761 Feb 08 17:58 | 0°♈ | |
| | 4761 Mar 18 22:47 | 0°♉ | |
| asc. node | 4761 Apr 18 20:16 | 24°♉01'08 | |
| | 4761 Apr 26 15:27 | 0°♊ | |
| evening set | 4761 May 28 19:09 | 24°♊12'01 | |
| | 4761 Jun 05 16:06 | 0°♋ | |
| | 4761 Jul 17 13:46 | 0°♌ | |
| conjunction | 4761 Jul 27 01:18 | 6°♌35'12 | 0°54'59 |
| minimum elong | 4761 Jul 26 23:29 | 6°♌32'04 | 0°54'57 |
| max. Earth dist. | 4761 Aug 26 03:46 | 27°♌03'31 | 2.57025 AU |
| | 4761 Aug 30 13:26 | 0°♍ | |
| morning rise | 4761 Sep 17 16:00 | 11°♍57'54 | |
| | 4761 Oct 15 12:47 | 0°♎ | |
| | 4761 Dec 02 09:08 | 0°♏ | |
| | 4762 Jan 21 14:42 | 0°♐ | |
| | 4762 Mar 18 12:49 | 0°♑ | |
| desc. node | 4762 Apr 26 10:30 | 15°♑46'39 | |
| retrograde | 4762 May 28 20:32 | 21°♑15'22 | |
| opposition | 4762 Jul 03 14:09 | 13°♑48'03 | -2°53'41 |
| greatest brilliancy | 4762 Jul 04 09:41 | 13°♑30'30 | -2.0m |
| min. Earth dist. | 4762 Jul 11 16:36 | 10°♑54'05 | 0.52765 AU |
| direct | 4762 Aug 11 18:52 | 4°♑42'09 | |
| | 4762 Oct 22 02:57 | 0°♒ | |

| | | | |
|---|---|---|---|
| | 4762 Dec 06 18:49 | 0°♓ | |
| | 4763 Jan 16 11:20 | 0°♈ | |
| | 4763 Feb 24 20:00 | 0°♉ | |
| asc. node | 4763 Mar 06 19:40 | 7°♉36'29 | |
| | 4763 Apr 05 12:21 | 0°♊ | |
| | 4763 May 16 11:35 | 0°♋ | |
| | 4763 Jun 28 05:48 | 0°♌ | |
| evening set | 4763 Jul 21 13:22 | 15°♌49'18 | |
| | 4763 Aug 11 20:50 | 0°♍ | |
| conjunction | 4763 Sep 09 16:32 | 18°♍49'29 | 1°07'33 |
| minimum elong | 4763 Sep 09 16:48 | 18°♍49'55 | 1°07'32 |
| max. Earth dist. | 4763 Sep 21 15:51 | 26°♍32'58 | 2.65158 AU |
| | 4763 Sep 27 00:47 | 0°♎ | |
| morning rise | 4763 Oct 25 23:53 | 18°♎28'23 | |
| | 4763 Nov 13 04:56 | 0°♏ | |
| | 4763 Dec 30 23:16 | 0°♐ | |
| | 4764 Feb 17 08:47 | 0°♑ | |
| desc. node | 4764 Mar 13 10:09 | 15°♑13'42 | |
| | 4764 Apr 07 08:47 | 0°♒ | |
| | 4764 Jun 02 05:25 | 0°♓ | |
| retrograde | 4764 Aug 01 14:59 | 17°♓08'20 | |
| opposition | 4764 Sep 01 14:01 | 11°♓47'47 | -6°30'39 |
| greatest brilliancy | 4764 Sep 03 00:26 | 11°♓22'54 | -2.7m |
| min. Earth dist. | 4764 Sep 07 15:47 | 10°♓03'04 | 0.39831 AU |
| direct | 4764 Oct 04 06:46 | 5°♓41'03 | |
| | 4764 Dec 10 22:50 | 0°♈ | |
| asc. node | 4765 Jan 21 19:02 | 26°♈50'03 | |
| | 4765 Jan 26 10:54 | 0°♉ | |
| | 4765 Mar 10 19:51 | 0°♊ | |
| | 4765 Apr 23 07:40 | 0°♋ | |
| | 4765 Jun 06 22:13 | 0°♌ | |
| | 4765 Jul 22 20:20 | 0°♍ | |
| evening set | 4765 Aug 31 04:27 | 25°♍11'32 | |
| | 4765 Sep 07 17:50 | 0°♎ | |
| max. Earth dist. | 4765 Oct 14 01:05 | 23°♎03'23 | 2.67865 AU |
| conjunction | 4765 Oct 16 03:46 | 24°♎23'52 | 0°50'02 |
| minimum elong | 4765 Oct 16 04:50 | 24°♎25'34 | 0°50'02 |
| | 4765 Oct 24 23:11 | 0°♏ | |
| morning rise | 4765 Nov 29 05:06 | 22°♏30'42 | |
| | 4765 Dec 10 20:37 | 0°♐ | |
| | 4766 Jan 25 23:43 | 0°♑ | |
| desc. node | 4766 Jan 29 09:13 | 2°♑13'51 | |
| | 4766 Mar 12 05:48 | 0°♒ | |
| | 4766 Apr 25 17:45 | 0°♓ | |
| | 4766 Jun 08 22:31 | 0°♈ | |
| | 4766 Jul 24 10:38 | 0°♉ | |
| | 4766 Sep 18 15:37 | 0°♊ | |
| retrograde | 4766 Oct 20 02:08 | 6°♊23'15 | |
| min. Earth dist. | 4766 Nov 15 09:12 | 1°♊56'12 | 0.39415 AU |
| opposition | 4766 Nov 21 20:40 | 0°♊00'11 | -1°13'57 |
| | 4766 Nov 21 20:55 | 30°℞♉ | |
| greatest brilliancy | 4766 Nov 21 14:38 | 0°♊04'42 | -2.9m |
| asc. node | 4766 Dec 09 17:19 | 25°♉34'58 | |
| direct | 4766 Dec 21 23:56 | 24°♉34'31 | |
| | 4767 Jan 21 08:42 | 0°♊ | |
| | 4767 Mar 24 21:00 | 0°♋ | |
| | 4767 May 14 11:58 | 0°♌ | |
| | 4767 Jul 02 10:57 | 0°♍ | |
| | 4767 Aug 19 22:56 | 0°♎ | |
| | 4767 Oct 06 19:54 | 0°♏ | |
| evening set | 4767 Oct 07 02:22 | 0°♏10'14 | |
| max. Earth dist. | 4767 Nov 05 23:11 | 19°♏14'23 | 2.65105 AU |
| conjunction | 4767 Nov 21 04:38 | 29°♏06'08 | 0°14'09 |
| minimum elong | 4767 Nov 21 05:04 | 29°♏06'51 | 0°14'10 |
| behind sun begin | 4767 Nov 20 20:06 | 28°♏52'16 | |
| behind sun end | 4767 Nov 21 14:02 | 29°♏21'26 | |
| | 4767 Nov 22 13:42 | 0°♐ | |
| desc. node | 4767 Dec 17 07:28 | 16°♐17'09 | |
| morning rise | 4768 Jan 05 04:09 | 28°♐55'34 | |
| | 4768 Jan 06 18:17 | 0°♑ | |
| | 4768 Feb 19 06:28 | 0°♒ | |
| | 4768 Apr 01 04:41 | 0°♓ | |
| | 4768 May 11 20:43 | 0°♈ | |
| | 4768 Jun 20 20:47 | 0°♉ | |
| | 4768 Jul 31 07:07 | 0°♊ | |
| | 4768 Sep 12 07:47 | 0°♋ | |
| asc. node | 4768 Oct 26 16:54 | 25°♋42'17 | |
| | 4768 Nov 05 08:22 | 0°♌ | |
| retrograde | 4768 Dec 12 09:28 | 8°♌28'33 | |
| min. Earth dist. | 4769 Jan 11 20:46 | 2°♌05'09 | 0.52311 AU |
| | 4769 Jan 17 09:19 | 30°℞♋ | |
| greatest brilliancy | 4769 Jan 18 09:23 | 29°♋37'06 | -2.0m |
| opposition | 4769 Jan 19 12:41 | 29°♋11'13 | 3°56'18 |
| direct | 4769 Feb 23 10:05 | 21°♋30'53 | |
| | 4769 Apr 04 22:23 | 0°♌ | |
| | 4769 Jun 06 22:51 | 0°♍ | |
| | 4769 Jul 29 13:58 | 0°♎ | |
| | 4769 Sep 17 02:34 | 0°♏ | |
| desc. node | 4769 Nov 03 06:21 | 29°♏58'27 | |
| | 4769 Nov 03 07:18 | 0°♐ | |
| evening set | 4769 Nov 12 09:02 | 5°♐56'31 | |
| max. Earth dist. | 4769 Dec 01 12:48 | 18°♐41'08 | 2.57075 AU |
| | 4769 Dec 18 04:39 | 0°♑ | |
| conjunction | 4769 Dec 29 17:41 | 7°♑58'04 | -0°30'41 |
| minimum elong | 4769 Dec 29 16:35 | 7°♑56'09 | 0°30'40 |
| | 4770 Jan 29 20:59 | 0°♒ | |
| morning rise | 4770 Feb 18 03:10 | 14°♒00'42 | |
| | 4770 Mar 11 15:45 | 0°♓ | |
| | 4770 Apr 20 01:19 | 0°♈ | |
| | 4770 May 28 18:04 | 0°♉ | |
| | 4770 Jul 06 14:49 | 0°♊ | |
| | 4770 Aug 15 17:44 | 0°♋ | |
| asc. node | 4770 Sep 13 17:00 | 20°♋32'36 | |
| | 4770 Sep 27 16:43 | 0°♌ | |
| | 4770 Nov 16 10:27 | 0°♍ | |
| retrograde | 4771 Jan 21 01:08 | 20°♍52'59 | |
| min. Earth dist. | 4771 Feb 25 21:22 | 12°♍35'39 | 0.63125 AU |
| greatest brilliancy | 4771 Mar 01 09:44 | 11°♍11'33 | -1.5m |
| opposition | 4771 Mar 02 02:36 | 10°♍54'44 | 4°42'29 |
| direct | 4771 Apr 09 16:25 | 1°♍52'54 | |
| | 4771 Jul 04 10:02 | 0°♎ | |
| | 4771 Aug 27 15:31 | 0°♏ | |
| desc. node | 4771 Sep 21 05:16 | 14°♏49'50 | |
| | 4771 Oct 15 08:04 | 0°♐ | |
| | 4771 Nov 29 12:15 | 0°♑ | |
| evening set | 4771 Dec 25 11:07 | 18°♑10'01 | |
| max. Earth dist. | 4772 Jan 09 00:55 | 28°♑39'35 | 2.44746 AU |
| | 4772 Jan 10 21:06 | 0°♒ | |
| conjunction | 4772 Feb 18 05:53 | 28°♒36'23 | -1°04'06 |
| minimum elong | 4772 Feb 18 05:04 | 28°♒34'50 | 1°04'05 |
| | 4772 Feb 20 01:47 | 0°♓ | |
| | 4772 Mar 29 19:59 | 0°♈ | |
| morning rise | 4772 Apr 22 11:43 | 18°♈35'39 | |
| | 4772 May 06 23:17 | 0°♉ | |
| | 4772 Jun 14 08:43 | 0°♊ | |
| | 4772 Jul 23 21:39 | 0°♋ | |
| asc. node | 4772 Jul 31 15:22 | 5°♋43'03 | |
| | 4772 Sep 03 11:49 | 0°♌ | |
| | 4772 Oct 18 07:25 | 0°♍ | |

| | | | |
|---|---|---|---|
| | 4772 Dec 08 05:08 | 0°♎ | |
| retrograde | 4773 Feb 23 17:52 | 25°♎33'43 | |
| opposition | 4773 Apr 05 01:01 | 15°♎48'03 | 3°43'12 |
| greatest brilliancy | 4773 Apr 05 00:01 | 15°♎49'02 | -1.3m |
| min. Earth dist. | 4773 Apr 04 16:50 | 15°♎56'12 | 0.67805 AU |
| direct | 4773 May 15 19:26 | 6°♎02'19 | |
| | 4773 Jul 31 20:16 | 0°♏ | |
| desc. node | 4773 Aug 08 03:39 | 3°♏43'25 | |
| | 4773 Sep 23 09:21 | 0°♐ | |
| | 4773 Nov 08 21:33 | 0°♑ | |
| | 4773 Dec 21 12:13 | 0°♒ | |
| | 4774 Jan 30 12:52 | 0°♓ | |
| evening set | 4774 Feb 19 22:05 | 15°♓47'23 | |
| | 4774 Mar 10 00:30 | 0°♈ | |
| | 4774 Apr 16 22:35 | 0°♉ | |
| conjunction | 4774 Apr 28 16:55 | 9°♉16'48 | -0°33'48 |
| minimum elong | 4774 Apr 28 20:01 | 9°♉22'53 | 0°33'47 |
| | 4774 May 25 05:37 | 0°♊ | |
| max. Earth dist. | 4774 Jun 16 01:09 | 16°♊42'57 | 2.38913 AU |
| asc. node | 4774 Jun 18 13:45 | 18°♊37'42 | |
| | 4774 Jul 03 17:44 | 0°♋ | |
| morning rise | 4774 Jul 08 01:53 | 3°♋13'05 | |
| | 4774 Aug 14 03:22 | 0°♌ | |
| | 4774 Sep 26 23:54 | 0°♍ | |
| | 4774 Nov 12 23:32 | 0°♎ | |
| | 4775 Jan 04 06:31 | 0°♏ | |
| retrograde | 4775 Mar 30 20:48 | 28°♏38'03 | |
| opposition | 4775 May 09 05:09 | 19°♏29'41 | 1°41'53 |
| greatest brilliancy | 4775 May 09 10:44 | 19°♏24'13 | -1.4m |
| min. Earth dist. | 4775 May 12 16:40 | 18°♏07'58 | 0.65874 AU |
| direct | 4775 Jun 19 17:32 | 9°♏27'12 | |
| desc. node | 4775 Jun 26 02:23 | 9°♏41'52 | |
| | 4775 Aug 26 19:03 | 0°♐ | |
| | 4775 Oct 17 16:03 | 0°♑ | |
| | 4775 Nov 30 17:16 | 0°♒ | |
| | 4776 Jan 10 03:57 | 0°♓ | |
| | 4776 Feb 17 18:41 | 0°♈ | |
| | 4776 Mar 26 19:32 | 0°♉ | |
| evening set | 4776 May 02 15:29 | 28°♉43'07 | |
| | 4776 May 04 07:28 | 0°♊ | |
| asc. node | 4776 May 05 13:28 | 0°♊57'36 | |
| | 4776 Jun 13 02:36 | 0°♋ | |
| conjunction | 4776 Jul 05 19:15 | 16°♋31'24 | 0°38'11 |
| minimum elong | 4776 Jul 05 17:02 | 16°♋27'26 | 0°38'09 |
| | 4776 Jul 24 18:42 | 0°♌ | |
| max. Earth dist. | 4776 Aug 13 10:34 | 13°♌38'35 | 2.52457 AU |
| morning rise | 4776 Aug 31 13:39 | 25°♌57'08 | |
| | 4776 Sep 06 14:43 | 0°♍ | |
| | 4776 Oct 22 15:44 | 0°♎ | |
| | 4776 Dec 10 02:20 | 0°♏ | |
| | 4777 Jan 31 08:44 | 0°♐ | |
| | 4777 Apr 08 21:38 | 0°♑ | |
| retrograde | 4777 May 09 16:01 | 4°♑56'39 | |
| desc. node | 4777 May 13 01:56 | 4°♑52'19 | |
| | 4777 Jun 06 23:48 | 30°℞♐ | |
| opposition | 4777 Jun 15 18:13 | 26°♐52'38 | -1°22'30 |
| greatest brilliancy | 4777 Jun 16 02:21 | 26°♐45'03 | -1.8m |
| min. Earth dist. | 4777 Jun 22 19:08 | 24°♐15'17 | 0.57521 AU |
| direct | 4777 Jul 26 04:12 | 17°♐14'44 | |
| | 4777 Sep 13 02:15 | 0°♑ | |
| | 4777 Nov 04 13:12 | 0°♒ | |
| | 4777 Dec 17 05:51 | 0°♓ | |
| | 4778 Jan 25 20:28 | 0°♈ | |
| | 4778 Mar 05 13:50 | 0°♉ | |
| asc. node | 4778 Mar 23 11:51 | 13°♉48'52 | |
| | 4778 Apr 13 17:44 | 0°♊ | |
| | 4778 May 24 05:37 | 0°♋ | |
| evening set | 4778 Jul 02 14:37 | 27°♋56'46 | |
| | 4778 Jul 05 13:42 | 0°♌ | |
| | 4778 Aug 18 20:53 | 0°♍ | |
| conjunction | 4778 Aug 24 14:15 | 3°♍47'17 | 1°07'07 |
| minimum elong | 4778 Aug 24 13:48 | 3°♍46'33 | 1°07'06 |
| max. Earth dist. | 4778 Sep 12 02:46 | 15°♍55'51 | 2.62605 AU |
| | 4778 Oct 03 21:07 | 0°♎ | |
| morning rise | 4778 Oct 11 18:05 | 5°♎02'31 | |
| | 4778 Nov 20 04:47 | 0°♏ | |
| | 4779 Jan 07 15:11 | 0°♐ | |
| | 4779 Feb 26 18:46 | 0°♑ | |
| desc. node | 4779 Mar 31 00:46 | 18°♑09'48 | |
| | 4779 Apr 22 20:11 | 0°♒ | |
| retrograde | 4779 Jul 04 14:09 | 22°♒23'50 | |
| opposition | 4779 Aug 06 10:25 | 16°♒11'45 | -5°26'18 |
| greatest brilliancy | 4779 Aug 08 00:04 | 15°♒41'28 | -2.4m |
| min. Earth dist. | 4779 Aug 14 17:31 | 13°♒32'23 | 0.44524 AU |
| direct | 4779 Sep 11 07:43 | 8°♒39'32 | |
| | 4779 Nov 12 18:10 | 0°♓ | |
| | 4779 Dec 29 00:47 | 0°♈ | |
| asc. node | 4780 Feb 08 10:37 | 29°♈46'17 | |
| | 4780 Feb 08 18:09 | 0°♉ | |
| | 4780 Mar 20 22:51 | 0°♊ | |
| | 4780 May 02 01:59 | 0°♋ | |
| | 4780 Jun 14 18:07 | 0°♌ | |
| | 4780 Jul 30 01:08 | 0°♍ | |
| evening set | 4780 Aug 15 22:01 | 10°♍57'03 | |
| | 4780 Sep 14 13:51 | 0°♎ | |
| conjunction | 4780 Oct 02 01:28 | 11°♎08'57 | 0°59'29 |
| minimum elong | 4780 Oct 02 02:25 | 11°♎10'27 | 0°59'29 |
| max. Earth dist. | 4780 Oct 05 02:56 | 13°♎05'52 | 2.67470 AU |
| | 4780 Oct 31 17:06 | 0°♏ | |
| morning rise | 4780 Nov 15 14:37 | 9°♏28'05 | |
| | 4780 Dec 17 20:08 | 0°♐ | |
| | 4781 Feb 02 15:01 | 0°♑ | |
| desc. node | 4781 Feb 14 23:31 | 7°♑57'28 | |
| | 4781 Mar 21 02:59 | 0°♒ | |
| | 4781 May 06 18:47 | 0°♓ | |
| | 4781 Jun 24 03:17 | 0°♈ | |
| | 4781 Aug 23 18:58 | 0°♉ | |
| retrograde | 4781 Sep 21 04:01 | 4°♉58'44 | |
| min. Earth dist. | 4781 Oct 19 19:34 | 0°♉17'23 | 0.37044 AU |
| | 4781 Oct 20 21:25 | 30°℞♈ | |
| opposition | 4781 Oct 21 14:33 | 29°♈48'28 | -4°31'24 |
| greatest brilliancy | 4781 Oct 21 12:12 | 29°♈50'03 | -3.0m |
| direct | 4781 Nov 20 01:33 | 24°♈54'56 | |
| | 4781 Dec 18 18:39 | 0°♉ | |
| asc. node | 4781 Dec 26 10:52 | 2°♉45'51 | |
| | 4782 Feb 17 08:13 | 0°♊ | |
| | 4782 Apr 06 19:26 | 0°♋ | |
| | 4782 May 23 23:02 | 0°♌ | |
| | 4782 Jul 10 08:22 | 0°♍ | |
| | 4782 Aug 27 01:27 | 0°♎ | |
| evening set | 4782 Sep 23 00:02 | 16°♎57'37 | |
| | 4782 Oct 13 14:31 | 0°♏ | |
| max. Earth dist. | 4782 Oct 27 23:50 | 9°♏09'48 | 2.66821 AU |
| conjunction | 4782 Nov 07 02:13 | 15°♏37'48 | 0°29'38 |
| minimum elong | 4782 Nov 07 03:03 | 15°♏39'08 | 0°29'38 |
| | 4782 Nov 29 08:16 | 0°♐ | |
| morning rise | 4782 Dec 21 07:20 | 14°♐22'22 | |
| desc. node | 4783 Jan 02 21:56 | 22°♐43'09 | |
| | 4783 Jan 13 19:40 | 0°♑ | |

| | | | |
|---|---|---|---|
| | 4783 Feb 26 20:46 | 0°♒ | |
| | 4783 Apr 10 12:51 | 0°♓ | |
| | 4783 May 22 02:39 | 0°♈ | |
| | 4783 Jul 02 05:22 | 0°♉ | |
| | 4783 Aug 13 09:20 | 0°♊ | |
| | 4783 Sep 30 06:31 | 0°♋ | |
| asc. node | 4783 Nov 13 10:14 | 16°♋43'17 | |
| retrograde | 4783 Nov 24 18:57 | 17°♋39'06 | |
| min. Earth dist. | 4783 Dec 23 00:25 | 12°♋08'14 | 0.46953 AU |
| greatest brilliancy | 4783 Dec 30 10:34 | 9°♋29'48 | -2.3m |
| opposition | 4783 Dec 31 07:56 | 9°♋10'42 | 2°40'23 |
| direct | 4784 Feb 02 09:50 | 2°♋18'05 | |
| | 4784 Apr 24 03:03 | 0°♌ | |
| | 4784 Jun 17 00:45 | 0°♍ | |
| | 4784 Aug 06 11:46 | 0°♎ | |
| | 4784 Sep 24 04:55 | 0°♏ | |
| evening set | 4784 Oct 28 13:06 | 21°♏49'19 | |
| | 4784 Nov 10 03:47 | 0°♐ | |
| desc. node | 4784 Nov 19 20:40 | 6°♐21'39 | |
| max. Earth dist. | 4784 Nov 20 11:46 | 6°♐46'31 | 2.60815 AU |
| conjunction | 4784 Dec 13 13:51 | 22°♐09'53 | -0°13'07 |
| minimum elong | 4784 Dec 13 13:23 | 22°♐09'06 | 0°13'05 |
| behind sun begin | 4784 Dec 13 01:44 | 21°♐49'29 | |
| behind sun end | 4784 Dec 14 01:01 | 22°♐28'43 | |
| | 4784 Dec 25 02:54 | 0°♑ | |
| morning rise | 4785 Jan 30 02:29 | 25°♑02'25 | |
| | 4785 Feb 06 01:45 | 0°♒ | |
| | 4785 Mar 19 05:22 | 0°♓ | |
| | 4785 Apr 28 00:20 | 0°♈ | |
| | 4785 Jun 06 01:57 | 0°♉ | |
| | 4785 Jul 15 07:44 | 0°♊ | |
| | 4785 Aug 25 00:39 | 0°♋ | |
| asc. node | 4785 Sep 30 08:33 | 24°♋48'20 | |
| | 4785 Oct 08 12:30 | 0°♌ | |
| | 4785 Dec 06 04:23 | 0°♍ | |
| retrograde | 4786 Jan 06 14:00 | 5°♍57'29 | |
| | 4786 Feb 05 02:49 | 30°℞♌ | |
| min. Earth dist. | 4786 Feb 09 11:17 | 28°♌20'22 | 0.59561 AU |
| greatest brilliancy | 4786 Feb 14 04:57 | 26°♌28'17 | -1.7m |
| opposition | 4786 Feb 15 03:57 | 26°♌05'35 | 4°42'18 |
| direct | 4786 Mar 24 11:54 | 17°♌29'52 | |
| | 4786 May 15 03:09 | 0°♍ | |
| | 4786 Jul 14 21:21 | 0°♎ | |
| | 4786 Sep 04 14:43 | 0°♏ | |
| desc. node | 4786 Oct 07 19:43 | 20°♏34'08 | |
| | 4786 Oct 22 13:25 | 0°♐ | |
| | 4786 Dec 06 13:36 | 0°♑ | |
| evening set | 4786 Dec 07 12:57 | 0°♑40'08 | |
| max. Earth dist. | 4786 Dec 22 08:23 | 10°♑57'23 | 2.49948 AU |
| | 4787 Jan 18 00:45 | 0°♒ | |
| conjunction | 4787 Jan 27 13:47 | 6°♒58'01 | -0°55'01 |
| minimum elong | 4787 Jan 27 12:12 | 6°♒55'06 | 0°55'00 |
| | 4787 Feb 27 10:15 | 0°♓ | |
| morning rise | 4787 Mar 26 06:36 | 20°♓34'58 | |
| | 4787 Apr 07 09:35 | 0°♈ | |
| | 4787 May 15 17:01 | 0°♉ | |
| | 4787 Jun 23 05:09 | 0°♊ | |
| | 4787 Aug 01 20:39 | 0°♋ | |
| asc. node | 4787 Aug 18 08:14 | 12°♋03'18 | |
| | 4787 Sep 12 17:17 | 0°♌ | |
| | 4787 Oct 28 11:47 | 0°♍ | |
| | 4787 Dec 23 04:08 | 0°♎ | |
| retrograde | 4788 Feb 11 11:04 | 12°♎44'01 | |
| min. Earth dist. | 4788 Mar 20 23:18 | 3°♎34'21 | 0.66766 AU |
| opposition | 4788 Mar 22 19:56 | 2°♎49'45 | 4°14'28 |
| greatest brilliancy | 4788 Mar 22 13:18 | 2°♎56'23 | -1.3m |
| | 4788 Mar 30 01:39 | 30°℞♍ | |
| direct | 4788 May 01 22:04 | 23°♍17'43 | |
| | 4788 Jun 07 10:10 | 0°♎ | |
| | 4788 Aug 11 17:26 | 0°♏ | |
| desc. node | 4788 Aug 24 18:48 | 7°♏18'43 | |
| | 4788 Oct 01 14:52 | 0°♐ | |
| | 4788 Nov 16 10:30 | 0°♑ | |
| | 4788 Dec 28 21:29 | 0°♒ | |
| evening set | 4789 Jan 26 04:33 | 21°♒02'30 | |
| | 4789 Feb 06 22:51 | 0°♓ | |
| max. Earth dist. | 4789 Mar 04 23:07 | 20°♓09'03 | 2.37424 AU |
| | 4789 Mar 17 12:21 | 0°♈ | |
| conjunction | 4789 Mar 30 02:07 | 9°♈55'03 | -0°56'32 |
| minimum elong | 4789 Mar 30 04:54 | 10°♈00'31 | 0°56'31 |
| | 4789 Apr 24 11:48 | 0°♉ | |
| | 4789 Jun 01 18:51 | 0°♊ | |
| morning rise | 4789 Jun 09 20:26 | 6°♊13'30 | |
| asc. node | 4789 Jul 05 06:42 | 25°♊32'34 | |
| | 4789 Jul 11 05:57 | 0°♋ | |
| | 4789 Aug 21 15:11 | 0°♌ | |
| | 4789 Oct 04 15:52 | 0°♍ | |
| | 4789 Nov 21 12:05 | 0°♎ | |
| | 4790 Jan 16 19:48 | 0°♏ | |
| retrograde | 4790 Mar 16 20:12 | 15°♏51'38 | |
| opposition | 4790 Apr 25 17:21 | 6°♏25'53 | 2°35'39 |
| greatest brilliancy | 4790 Apr 25 22:06 | 6°♏21'12 | -1.3m |
| min. Earth dist. | 4790 Apr 27 17:08 | 5°♏38'42 | 0.67429 AU |
| | 4790 May 13 12:12 | 30°℞♎ | |
| direct | 4790 Jun 06 03:35 | 26°♎26'28 | |
| | 4790 Jul 01 17:05 | 0°♏ | |
| desc. node | 4790 Jul 12 17:38 | 3°♏18'12 | |
| | 4790 Sep 07 19:05 | 0°♐ | |
| | 4790 Oct 26 14:00 | 0°♑ | |
| | 4790 Dec 08 20:33 | 0°♒ | |
| | 4791 Jan 18 01:09 | 0°♓ | |
| | 4791 Feb 25 13:14 | 0°♈ | |
| | 4791 Apr 04 11:48 | 0°♉ | |
| evening set | 4791 Apr 05 02:16 | 0°♉28'32 | |
| | 4791 May 12 20:34 | 0°♊ | |
| asc. node | 4791 May 23 04:51 | 7°♊56'49 | |
| conjunction | 4791 Jun 12 09:03 | 23°♊12'58 | 0°13'37 |
| minimum elong | 4791 Jun 12 07:53 | 23°♊10'47 | 0°13'35 |
| behind sun begin | 4791 Jun 11 17:11 | 22°♊43'16 | |
| behind sun end | 4791 Jun 12 22:35 | 23°♊38'17 | |
| | 4791 Jun 21 11:38 | 0°♋ | |
| max. Earth dist. | 4791 Jul 29 16:11 | 27°♋39'29 | 2.47284 AU |
| | 4791 Aug 01 23:47 | 0°♌ | |
| morning rise | 4791 Aug 13 09:33 | 7°♌58'45 | |
| | 4791 Sep 14 17:51 | 0°♍ | |
| | 4791 Oct 30 23:31 | 0°♎ | |
| | 4791 Dec 19 08:12 | 0°♏ | |
| | 4792 Feb 13 06:03 | 0°♐ | |
| retrograde | 4792 Apr 22 15:31 | 20°♐14'43 | |
| desc. node | 4792 May 29 16:19 | 12°♐07'19 | |
| opposition | 4792 May 30 19:48 | 11°♐41'06 | -0°02'40 |
| greatest brilliancy | 4792 Dec 16 15:28 | 22°♒38'36 | 0.8m |
| min. Earth dist. | 4792 Jun 05 12:53 | 9°♐30'07 | 0.61541 AU |
| direct | 4792 Jul 10 23:24 | 1°♐46'04 | |
| | 4792 Sep 29 01:34 | 0°♑ | |
| | 4792 Nov 15 02:20 | 0°♒ | |
| | 4792 Dec 26 11:52 | 0°♓ | |
| | 4793 Feb 03 12:53 | 0°♈ | |
| | 4793 Mar 13 21:03 | 0°♉ | |
| asc. node | 4793 Apr 09 05:08 | 20°♉26'45 | |

| | | | |
|---|---|---|---|
| | 4793 Apr 21 16:19 | 0°♊ | |
| | 4793 May 31 19:29 | 0°♋ | |
| evening set | 4793 Jun 11 05:05 | 7°♋33'49 | |
| | 4793 Jul 12 19:28 | 0°♌ | |
| conjunction | 4793 Aug 07 00:01 | 17°♌19'31 | 1°01'17 |
| minimum elong | 4793 Aug 06 22:41 | 17°♌17'16 | 1°01'16 |
| | 4793 Aug 25 20:27 | 0°♍ | |
| max. Earth dist. | 4793 Sep 01 19:38 | 4°♍37'28 | 2.59231 AU |
| morning rise | 4793 Sep 26 18:35 | 20°♍58'00 | |
| | 4793 Oct 10 18:55 | 0°♎ | |
| | 4793 Nov 27 09:02 | 0°♏ | |
| | 4794 Jan 15 18:52 | 0°♐ | |
| | 4794 Mar 09 19:55 | 0°♑ | |
| desc. node | 4794 Apr 16 15:13 | 18°♑17'17 | |
| | 4794 May 22 10:14 | 0°♒ | |
| retrograde | 4794 Jun 10 00:46 | 1°♒57'44 | |
| | 4794 Jun 27 18:42 | 30°℞♑ | |
| opposition | 4794 Jul 14 20:40 | 24°♑54'55 | -3°49'43 |
| greatest brilliancy | 4794 Jul 15 23:38 | 24°♑31'28 | -2.1m |
| min. Earth dist. | 4794 Jul 23 08:22 | 21°♑58'28 | 0.49876 AU |
| direct | 4794 Aug 22 02:59 | 16°♑15'42 | |
| | 4794 Oct 10 07:18 | 0°♒ | |
| | 4794 Nov 29 05:41 | 0°♓ | |
| | 4795 Jan 10 01:34 | 0°♈ | |
| | 4795 Feb 19 00:11 | 0°♉ | |
| asc. node | 4795 Feb 25 04:38 | 4°♉39'46 | |
| | 4795 Mar 31 01:57 | 0°♊ | |
| | 4795 May 11 08:30 | 0°♋ | |
| | 4795 Jun 23 08:33 | 0°♌ | |
| evening set | 4795 Jul 31 12:26 | 25°♌37'34 | |
| | 4795 Aug 07 03:40 | 0°♍ | |
| conjunction | 4795 Sep 18 09:53 | 27°♍26'25 | 1°05'41 |
| minimum elong | 4795 Sep 18 10:28 | 27°♍27'22 | 1°05'40 |
| | 4795 Sep 22 09:36 | 0°♎ | |
| max. Earth dist. | 4795 Sep 27 02:20 | 3°♎00'34 | 2.66203 AU |
| morning rise | 4795 Nov 02 22:54 | 26°♎28'16 | |
| | 4795 Nov 08 12:34 | 0°♏ | |
| | 4795 Dec 26 00:12 | 0°♐ | |
| | 4796 Feb 11 17:12 | 0°♑ | |
| desc. node | 4796 Mar 03 14:06 | 13°♑01'28 | |
| | 4796 Mar 31 02:37 | 0°♒ | |
| | 4796 May 20 22:18 | 0°♓ | |
| | 4796 Jul 25 21:46 | 0°♈ | |
| retrograde | 4796 Aug 19 17:37 | 3°♈36'36 | |
| | 4796 Sep 13 14:47 | 30°℞♓ | |
| opposition | 4796 Sep 18 20:48 | 28°♓36'17 | -6°26'25 |
| greatest brilliancy | 4796 Sep 19 20:23 | 28°♓20'19 | -2.9m |
| min. Earth dist. | 4796 Sep 22 15:56 | 27°♓34'45 | 0.37998 AU |
| direct | 4796 Oct 19 19:00 | 23°♓12'16 | |
| | 4796 Nov 21 19:11 | 0°♈ | |
| asc. node | 4797 Jan 12 02:45 | 26°♈59'58 | |
| | 4797 Jan 16 22:00 | 0°♉ | |
| | 4797 Mar 03 15:42 | 0°♊ | |
| | 4797 Apr 17 07:01 | 0°♋ | |
| | 4797 Jun 01 13:58 | 0°♌ | |
| | 4797 Jul 17 22:03 | 0°♍ | |
| | 4797 Sep 03 01:14 | 0°♎ | |
| evening set | 4797 Sep 08 14:54 | 3°♎31'44 | |
| max. Earth dist. | 4797 Oct 19 05:09 | 29°♎16'10 | 2.67718 AU |
| | 4797 Oct 20 08:43 | 0°♏ | |
| conjunction | 4797 Oct 24 03:46 | 2°♏24'52 | 0°43'12 |
| minimum elong | 4797 Oct 24 04:48 | 2°♏26'31 | 0°43'12 |
| | 4797 Dec 06 04:20 | 0°♐ | |
| morning rise | 4797 Dec 07 03:26 | 0°♐37'20 | |
| desc. node | 4798 Jan 19 12:35 | 28°♐59'13 | |
| | 4798 Jan 21 01:20 | 0°♑ | |
| | 4798 Mar 06 19:50 | 0°♒ | |
| | 4798 Apr 19 13:19 | 0°♓ | |
| | 4798 Jun 01 13:21 | 0°♈ | |
| | 4798 Jul 14 18:28 | 0°♉ | |
| | 4798 Aug 30 12:59 | 0°♊ | |
| retrograde | 4798 Nov 03 03:52 | 22°♊48'47 | |
| min. Earth dist. | 4798 Nov 29 15:08 | 18°♊05'37 | 0.41766 AU |
| asc. node | 4798 Nov 30 02:25 | 17°♊56'50 | |
| opposition | 4798 Dec 07 09:05 | 15°♊36'36 | 0°28'28 |
| greatest brilliancy | 4798 Dec 07 05:15 | 15°♊39'42 | -2.7m |
| direct | 4799 Jan 07 13:54 | 9°♊40'22 | |
| | 4799 Mar 14 06:28 | 0°♋ | |
| | 4799 May 07 17:02 | 0°♌ | |
| | 4799 Jun 26 22:31 | 0°♍ | |
| | 4799 Aug 15 00:23 | 0°♎ | |
| | 4799 Oct 02 03:48 | 0°♏ | |
| evening set | 4799 Oct 15 04:46 | 8°♏15'41 | |
| max. Earth dist. | 4799 Nov 11 10:48 | 25°♏45'47 | 2.63781 AU |
| | 4799 Nov 17 23:10 | 0°♐ | |
| conjunction | 4799 Nov 29 11:57 | 7°♐33'24 | 0°04'25 |
| minimum elong | 4799 Nov 29 12:05 | 7°♐33'37 | 0°04'26 |
| behind sun begin | 4799 Nov 28 17:38 | 7°♐03'16 | |
| behind sun end | 4799 Nov 30 06:32 | 8°♐03'59 | |
| desc. node | 4799 Dec 07 11:43 | 12°♐50'15 | |
| | 4800 Jan 02 01:47 | 0°♑ | |
| morning rise | 4800 Jan 14 04:26 | 8°♑16'01 | |
| | 4800 Feb 14 09:00 | 0°♒ | |
| | 4800 Mar 27 00:11 | 0°♓ | |
| | 4800 May 06 07:50 | 0°♈ | |
| | 4800 Jun 14 22:32 | 0°♉ | |
| | 4800 Jul 24 19:28 | 0°♊ | |
| | 4800 Sep 04 15:22 | 0°♋ | |
| asc. node | 4800 Oct 17 02:02 | 26°♋50'31 | |
| | 4800 Oct 22 19:20 | 0°♌ | |
| retrograde | 4800 Dec 21 22:51 | 19°♌20'24 | |
| min. Earth dist. | 4801 Jan 22 16:13 | 12°♌29'42 | 0.55093 AU |
| opposition | 4801 Jan 29 17:32 | 9°♌46'27 | 4°21'32 |
| greatest brilliancy | 4801 Jan 28 14:26 | 10°♌12'37 | -1.9m |
| direct | 4801 Mar 06 13:41 | 1°♌44'10 | |
| | 4801 May 30 08:59 | 0°♍ | |
| | 4801 Jul 23 23:26 | 0°♎ | |
| | 4801 Sep 12 04:09 | 0°♏ | |
| desc. node | 4801 Oct 24 10:59 | 26°♏39'18 | |
| | 4801 Oct 29 14:58 | 0°♐ | |
| evening set | 4801 Nov 21 03:55 | 14°♐50'31 | |
| max. Earth dist. | 4801 Dec 08 09:43 | 26°♐28'12 | 2.54700 AU |
| | 4801 Dec 13 13:35 | 0°♑ | |
| conjunction | 4802 Jan 08 14:01 | 18°♑08'03 | -0°40'23 |
| minimum elong | 4802 Jan 08 12:37 | 18°♑05'33 | 0°40'21 |
| | 4802 Jan 25 04:17 | 0°♒ | |
| morning rise | 4802 Mar 02 04:00 | 26°♒30'00 | |
| | 4802 Mar 06 19:44 | 0°♓ | |
| | 4802 Apr 15 01:17 | 0°♈ | |
| | 4802 May 23 14:09 | 0°♉ | |
| | 4802 Jul 01 06:49 | 0°♊ | |
| | 4802 Aug 10 03:45 | 0°♋ | |
| asc. node | 4802 Sep 03 23:49 | 17°♋52'20 | |
| | 4802 Sep 21 13:13 | 0°♌ | |
| | 4802 Nov 08 04:06 | 0°♍ | |
| retrograde | 4803 Jan 28 23:19 | 29°♍22'22 | |
| min. Earth dist. | 4803 Mar 06 20:11 | 20°♍45'03 | 0.64715 AU |
| opposition | 4803 Mar 10 05:17 | 19°♍24'05 | 4°35'44 |
| greatest brilliancy | 4803 Mar 09 16:11 | 19°♍37'09 | -1.4m |

| | | | |
|---|---|---|---|
| direct | 4803 Apr 18 09:44 | 10°♍10'08 | |
| | 4803 Jun 26 05:58 | 0°♎ | |
| | 4803 Aug 21 23:24 | 0°♏ | |
| desc. node | 4803 Sep 11 09:38 | 12°♏03'35 | |
| | 4803 Oct 10 08:21 | 0°♐ | |
| | 4803 Nov 24 18:08 | 0°♑ | |
| evening set | 4804 Jan 05 11:41 | 29°♑29'48 | |
| | 4804 Jan 06 04:17 | 0°♒ | |
| max. Earth dist. | 4804 Jan 22 00:31 | 11°♒39'56 | 2.41874 AU |
| | 4804 Feb 15 08:11 | 0°♓ | |
| conjunction | 4804 Mar 02 21:29 | 12°♓44'03 | -1°05'09 |
| minimum elong | 4804 Mar 02 21:46 | 12°♓44'35 | 1°05'09 |
| | 4804 Mar 25 00:40 | 0°♈ | |
| | 4804 May 02 02:15 | 0°♉ | |
| morning rise | 4804 May 09 18:27 | 6°♉02'50 | |
| | 4804 Jun 09 10:00 | 0°♊ | |
| | 4804 Jul 18 20:56 | 0°♋ | |
| asc. node | 4804 Jul 21 23:18 | 2°♋18'06 | |
| | 4804 Aug 29 07:30 | 0°♌ | |
| | 4804 Oct 12 16:44 | 0°♍ | |
| | 4804 Dec 01 00:50 | 0°♎ | |
| | 4805 Feb 07 03:05 | 0°♏ | |
| retrograde | 4805 Mar 03 08:42 | 3°♏18'01 | |
| | 4805 Mar 25 21:26 | 30°℞♎ | |
| opposition | 4805 Apr 12 13:54 | 23°♎38'30 | 3°20'43 |
| greatest brilliancy | 4805 Apr 12 15:28 | 23°♎36'57 | -1.3m |
| min. Earth dist. | 4805 Apr 13 01:48 | 23°♎26'41 | 0.67963 AU |
| direct | 4805 May 23 15:50 | 13°♎46'45 | |
| | 4805 Jul 23 03:08 | 0°♏ | |
| desc. node | 4805 Jul 29 07:55 | 2°♏51'17 | |
| | 4805 Sep 17 13:12 | 0°♐ | |
| | 4805 Nov 03 18:02 | 0°♑ | |
| | 4805 Dec 16 14:15 | 0°♒ | |
| | 4806 Jan 25 16:35 | 0°♓ | |
| | 4806 Mar 05 04:28 | 0°♈ | |
| evening set | 4806 Mar 07 04:59 | 1°♈35'40 | |
| | 4806 Apr 12 02:37 | 0°♉ | |
| conjunction | 4806 May 15 09:40 | 26°♉07'15 | -0°16'50 |
| minimum elong | 4806 May 15 11:21 | 26°♉10'31 | 0°16'50 |
| | 4806 May 20 09:45 | 0°♊ | |
| asc. node | 4806 Jun 08 22:58 | 14°♊59'44 | |
| | 4806 Jun 28 21:53 | 0°♋ | |
| max. Earth dist. | 4806 Jul 06 21:19 | 5°♋54'06 | 2.41748 AU |
| morning rise | 4806 Jul 22 04:41 | 17°♋04'13 | |
| | 4806 Aug 09 07:07 | 0°♌ | |
| | 4806 Sep 22 00:48 | 0°♍ | |
| | 4806 Nov 07 14:54 | 0°♎ | |
| | 4806 Dec 28 11:07 | 0°♏ | |
| | 4807 Mar 03 02:57 | 0°♐ | |
| retrograde | 4807 Apr 08 04:23 | 6°♐37'11 | |
| | 4807 May 11 01:32 | 30°℞♏ | |
| opposition | 4807 May 17 04:44 | 27°♏39'48 | 1°06'10 |
| greatest brilliancy | 4807 May 17 09:19 | 27°♏35'21 | -1.4m |
| min. Earth dist. | 4807 May 21 11:44 | 25°♏59'46 | 0.64604 AU |
| desc. node | 4807 Jun 16 06:52 | 18°♏28'14 | |
| direct | 4807 Jun 27 16:43 | 17°♏37'53 | |
| | 4807 Aug 16 17:09 | 0°♐ | |
| | 4807 Oct 11 09:09 | 0°♑ | |
| | 4807 Nov 25 05:49 | 0°♒ | |
| | 4808 Jan 04 23:22 | 0°♓ | |
| | 4808 Feb 12 17:03 | 0°♈ | |
| | 4808 Mar 21 19:53 | 0°♉ | |
| asc. node | 4808 Apr 25 21:28 | 27°♉18'18 | |
| | 4808 Apr 29 09:39 | 0°♊ | |
| evening set | 4808 May 17 18:35 | 13°♊58'33 | |
| | 4808 Jun 08 06:37 | 0°♋ | |
| conjunction | 4808 Jul 18 04:47 | 28°♋43'17 | 0°48'47 |
| minimum elong | 4808 Jul 18 02:41 | 28°♋39'35 | 0°48'45 |
| | 4808 Jul 20 00:30 | 0°♌ | |
| max. Earth dist. | 4808 Aug 20 23:44 | 22°♌00'37 | 2.55071 AU |
| | 4808 Sep 01 20:59 | 0°♍ | |
| morning rise | 4808 Sep 10 12:39 | 5°♍45'11 | |
| | 4808 Oct 17 19:37 | 0°♎ | |
| | 4808 Dec 04 20:11 | 0°♏ | |
| | 4809 Jan 24 18:04 | 0°♐ | |
| | 4809 Mar 24 16:17 | 0°♑ | |
| desc. node | 4809 May 03 05:37 | 12°♑49'12 | |
| retrograde | 4809 May 20 05:04 | 14°♑27'24 | |
| opposition | 4809 Jun 25 14:43 | 6°♑42'35 | -2°13'39 |
| greatest brilliancy | 4809 Jun 26 05:01 | 6°♑29'31 | -1.9m |
| min. Earth dist. | 4809 Jul 03 07:24 | 3°♑54'05 | 0.54986 AU |
| | 4809 Jul 15 14:24 | 30°℞♐ | |
| direct | 4809 Aug 04 11:11 | 27°♐20'04 | |
| | 4809 Aug 25 02:10 | 0°♑ | |
| | 4809 Oct 27 19:06 | 0°♒ | |
| | 4809 Dec 10 22:52 | 0°♓ | |
| | 4810 Jan 20 02:36 | 0°♈ | |
| | 4810 Feb 28 03:30 | 0°♉ | |
| asc. node | 4810 Mar 13 20:36 | 10°♉30'59 | |
| | 4810 Apr 08 13:02 | 0°♊ | |
| | 4810 May 19 05:37 | 0°♋ | |
| | 4810 Jun 30 17:53 | 0°♌ | |
| evening set | 4810 Jul 13 15:15 | 8°♌50'10 | |
| | 4810 Aug 14 04:01 | 0°♍ | |
| conjunction | 4810 Sep 02 22:27 | 12°♍59'21 | 1°07'56 |
| minimum elong | 4810 Sep 02 22:27 | 12°♍59'21 | 1°07'56 |
| max. Earth dist. | 4810 Sep 17 19:34 | 22°♍39'02 | 2.64118 AU |
| | 4810 Sep 29 05:21 | 0°♎ | |
| morning rise | 4810 Oct 19 23:47 | 13°♎16'17 | |
| | 4810 Nov 15 10:12 | 0°♏ | |
| | 4811 Jan 02 10:25 | 0°♐ | |
| | 4811 Feb 20 11:38 | 0°♑ | |
| desc. node | 4811 Mar 21 04:40 | 16°♑59'01 | |
| | 4811 Apr 13 03:40 | 0°♒ | |
| | 4811 Jun 16 06:46 | 0°♓ | |
| retrograde | 4811 Jul 20 08:35 | 6°♓13'25 | |
| opposition | 4811 Aug 21 02:59 | 0°♓30'37 | -6°10'09 |
| | 4811 Aug 22 19:11 | 30°℞♒ | |
| greatest brilliancy | 4811 Aug 22 17:23 | 0°♓01'22 | -2.6m |
| min. Earth dist. | 4811 Aug 28 11:33 | 28°♒17'03 | 0.41780 AU |
| direct | 4811 Sep 24 07:14 | 23°♒44'44 | |
| | 4811 Oct 25 11:04 | 0°♓ | |
| | 4811 Dec 19 19:58 | 0°♈ | |
| asc. node | 4812 Jan 29 19:59 | 28°♈03'34 | |
| | 4812 Feb 01 13:55 | 0°♉ | |
| | 4812 Mar 14 18:55 | 0°♊ | |
| | 4812 Apr 26 13:11 | 0°♋ | |
| | 4812 Jun 09 15:50 | 0°♌ | |
| | 4812 Jul 25 05:44 | 0°♍ | |
| evening set | 4812 Aug 24 17:52 | 19°♍39'14 | |
| | 4812 Sep 09 22:34 | 0°♎ | |
| conjunction | 4812 Oct 10 04:08 | 19°♎13'58 | 0°54'19 |
| minimum elong | 4812 Oct 10 05:11 | 19°♎15'37 | 0°54'18 |
| max. Earth dist. | 4812 Oct 10 07:24 | 19°♎19'08 | 2.67796 AU |
| | 4812 Oct 27 02:44 | 0°♏ | |
| morning rise | 4812 Nov 23 09:30 | 17°♏22'51 | |
| | 4812 Dec 13 02:34 | 0°♐ | |
| | 4813 Jan 28 12:35 | 0°♑ | |
| desc. node | 4813 Feb 05 03:58 | 4°♑58'56 | |

| | | | |
|---|---|---|---|
| | 4813 Mar 15 06:50 | 0°♒ | |
| | 4813 Apr 29 14:32 | 0°♓ | |
| | 4813 Jun 14 04:34 | 0°♈ | |
| | 4813 Aug 01 20:53 | 0°♉ | |
| retrograde | 4813 Oct 08 02:14 | 23°♉26'28 | |
| min. Earth dist. | 4813 Nov 03 22:38 | 19°♉01'31 | 0.37989 AU |
| opposition | 4813 Nov 08 16:28 | 17°♉41'09 | -2°40'59 |
| greatest brilliancy | 4813 Nov 08 08:08 | 17°♉47'02 | -2.9m |
| direct | 4813 Dec 08 05:33 | 12°♉35'27 | |
| asc. node | 4813 Dec 16 18:18 | 13°♉03'58 | |
| | 4814 Feb 04 17:20 | 0°♊ | |
| | 4814 Mar 30 04:05 | 0°♋ | |
| | 4814 May 17 23:25 | 0°♌ | |
| | 4814 Jul 05 03:32 | 0°♍ | |
| | 4814 Aug 22 06:27 | 0°♎ | |
| evening set | 4814 Oct 01 01:53 | 24°♎59'26 | |
| | 4814 Oct 08 23:58 | 0°♏ | |
| max. Earth dist. | 4814 Nov 02 05:44 | 15°♏27'11 | 2.65979 AU |
| conjunction | 4814 Nov 15 02:27 | 23°♏44'14 | 0°20'48 |
| minimum elong | 4814 Nov 15 03:05 | 23°♏45'14 | 0°20'49 |
| | 4814 Nov 24 18:10 | 0°♐ | |
| desc. node | 4814 Dec 24 02:25 | 19°♐17'39 | |
| morning rise | 4814 Dec 29 16:01 | 23°♐00'06 | |
| | 4815 Jan 09 02:34 | 0°♑ | |
| | 4815 Feb 21 21:01 | 0°♒ | |
| | 4815 Apr 05 03:27 | 0°♓ | |
| | 4815 May 16 04:34 | 0°♈ | |
| | 4815 Jun 25 14:51 | 0°♉ | |
| | 4815 Aug 05 14:42 | 0°♊ | |
| | 4815 Sep 18 22:55 | 0°♋ | |
| asc. node | 4815 Nov 03 17:45 | 23°♋47'49 | |
| | 4815 Nov 28 14:52 | 0°♌ | |
| retrograde | 4815 Dec 05 15:59 | 0°♌21'42 | |
| | 4815 Dec 12 15:00 | 30°℞♋ | |
| min. Earth dist. | 4816 Jan 04 02:48 | 24°♋22'11 | 0.49946 AU |
| greatest brilliancy | 4816 Jan 11 02:36 | 21°♋47'14 | -2.2m |
| opposition | 4816 Jan 12 04:47 | 21°♋22'58 | 3°30'12 |
| direct | 4816 Feb 15 07:03 | 14°♋02'50 | |
| | 4816 Apr 13 15:32 | 0°♌ | |
| | 4816 Jun 10 14:43 | 0°♍ | |
| | 4816 Aug 01 05:27 | 0°♎ | |
| | 4816 Sep 19 09:48 | 0°♏ | |
| evening set | 4816 Nov 05 22:27 | 0°♐15'52 | |
| | 4816 Nov 05 12:43 | 0°♐ | |
| desc. node | 4816 Nov 10 01:14 | 2°♐57'04 | |
| max. Earth dist. | 4816 Nov 26 15:37 | 13°♐54'32 | 2.58846 AU |
| | 4816 Dec 20 12:00 | 0°♑ | |
| conjunction | 4816 Dec 22 14:32 | 1°♑26'28 | -0°23'21 |
| minimum elong | 4816 Dec 22 13:42 | 1°♑25'02 | 0°23'19 |
| | 4817 Feb 01 08:13 | 0°♒ | |
| morning rise | 4817 Feb 09 13:38 | 5°♒55'19 | |
| | 4817 Mar 14 07:47 | 0°♓ | |
| | 4817 Apr 22 21:52 | 0°♈ | |
| | 4817 May 31 18:28 | 0°♉ | |
| | 4817 Jul 09 18:22 | 0°♊ | |
| | 4817 Aug 19 01:06 | 0°♋ | |
| asc. node | 4817 Sep 20 17:55 | 22°♋54'39 | |
| | 4817 Oct 01 10:33 | 0°♌ | |
| | 4817 Nov 22 06:58 | 0°♍ | |
| retrograde | 4818 Jan 14 23:14 | 15°♍07'40 | |
| min. Earth dist. | 4818 Feb 18 23:22 | 7°♍07'48 | 0.61646 AU |
| opposition | 4818 Feb 23 20:45 | 5°♍11'19 | 4°44'46 |
| greatest brilliancy | 4818 Feb 23 01:02 | 5°♍30'55 | -1.6m |
| | 4818 Mar 10 05:00 | 30°℞♌ | |
| direct | 4818 Apr 02 22:23 | 26°♌20'21 | |
| | 4818 Apr 28 20:22 | 0°♍ | |
| | 4818 Jul 08 05:07 | 0°♎ | |
| | 4818 Aug 30 07:34 | 0°♏ | |
| desc. node | 4818 Sep 28 00:03 | 17°♏30'23 | |
| | 4818 Oct 17 17:22 | 0°♐ | |
| | 4818 Dec 01 21:12 | 0°♑ | |
| evening set | 4818 Dec 17 11:46 | 10°♑49'34 | |
| max. Earth dist. | 4818 Dec 31 15:33 | 20°♑50'59 | 2.47106 AU |
| | 4819 Jan 13 08:15 | 0°♒ | |
| conjunction | 4819 Feb 08 10:30 | 19°♒15'42 | -1°01'09 |
| minimum elong | 4819 Feb 08 09:12 | 19°♒13'16 | 1°01'09 |
| | 4819 Feb 22 16:02 | 0°♓ | |
| | 4819 Apr 02 12:54 | 0°♈ | |
| morning rise | 4819 Apr 10 15:47 | 6°♈21'13 | |
| | 4819 May 10 18:03 | 0°♉ | |
| | 4819 Jun 18 04:10 | 0°♊ | |
| | 4819 Jul 27 16:57 | 0°♋ | |
| asc. node | 4819 Aug 08 16:21 | 8°♋49'16 | |
| | 4819 Sep 07 07:54 | 0°♌ | |
| | 4819 Oct 22 09:11 | 0°♍ | |
| | 4819 Dec 13 14:21 | 0°♎ | |
| retrograde | 4820 Feb 19 01:47 | 20°♎37'19 | |
| min. Earth dist. | 4820 Mar 29 10:31 | 11°♎11'43 | 0.67468 AU |
| opposition | 4820 Mar 30 10:51 | 10°♎47'27 | 3°57'18 |
| greatest brilliancy | 4820 Mar 30 07:31 | 10°♎50'46 | -1.3m |
| direct | 4820 May 09 23:06 | 1°♎07'20 | |
| | 4820 Aug 04 20:12 | 0°♏ | |
| desc. node | 4820 Aug 14 22:33 | 5°♏22'45 | |
| | 4820 Sep 26 05:18 | 0°♐ | |
| | 4820 Nov 11 11:54 | 0°♑ | |
| | 4820 Dec 24 02:21 | 0°♒ | |
| | 4821 Feb 02 04:21 | 0°♓ | |
| evening set | 4821 Feb 08 17:06 | 5°♓01'18 | |
| | 4821 Mar 12 17:08 | 0°♈ | |
| conjunction | 4821 Apr 15 13:35 | 26°♈46'05 | -0°45'10 |
| minimum elong | 4821 Apr 15 17:01 | 26°♈52'53 | 0°45'08 |
| | 4821 Apr 19 15:42 | 0°♉ | |
| max. Earth dist. | 4821 May 14 08:39 | 19°♉26'32 | 2.37135 AU |
| | 4821 May 27 22:07 | 0°♊ | |
| asc. node | 4821 Jun 25 14:39 | 21°♊56'39 | |
| morning rise | 4821 Jun 26 05:41 | 22°♊24'59 | |
| | 4821 Jul 06 08:34 | 0°♋ | |
| | 4821 Aug 16 16:30 | 0°♌ | |
| | 4821 Sep 29 12:42 | 0°♍ | |
| | 4821 Nov 15 17:47 | 0°♎ | |
| | 4822 Jan 08 04:59 | 0°♏ | |
| retrograde | 4822 Mar 24 18:47 | 23°♏38'22 | |
| opposition | 4822 May 03 10:01 | 14°♏21'48 | 2°05'10 |
| greatest brilliancy | 4822 May 03 15:30 | 14°♏16'25 | -1.3m |
| min. Earth dist. | 4822 May 06 05:47 | 13°♏15'16 | 0.66694 AU |
| direct | 4822 Jun 13 22:46 | 4°♏20'10 | |
| desc. node | 4822 Jul 02 21:16 | 6°♏22'40 | |
| | 4822 Aug 31 10:03 | 0°♐ | |
| | 4822 Oct 20 21:27 | 0°♑ | |
| | 4822 Dec 03 15:41 | 0°♒ | |
| | 4823 Jan 13 00:49 | 0°♓ | |
| | 4823 Feb 20 14:47 | 0°♈ | |
| greatest brilliancy | 4823 Feb 25 16:22 | 3°♈59'33 | 1.2m |
| | 4823 Mar 30 14:29 | 0°♉ | |
| evening set | 4823 Apr 21 08:05 | 17°♉03'42 | |
| | 4823 May 08 00:20 | 0°♊ | |
| asc. node | 4823 May 13 14:33 | 4°♊18'03 | |
| | 4823 Jun 16 16:23 | 0°♋ | |
| conjunction | 4823 Jun 26 14:00 | 7°♋17'13 | 0°28'34 |

| | | | |
|---|---|---|---|
| minimum elong | 4823 Jun 26 12:00 | 7°♋13'34 | 0°28'31 |
| | 4823 Jul 28 05:16 | 0°♌ | |
| max. Earth dist. | 4823 Aug 08 03:00 | 7°♌37'44 | 2.50200 AU |
| morning rise | 4823 Aug 24 13:50 | 18°♌57'01 | |
| | 4823 Sep 09 22:45 | 0°♍ | |
| | 4823 Oct 26 00:03 | 0°♎ | |
| | 4823 Dec 13 17:20 | 0°♏ | |
| | 4824 Feb 05 03:17 | 0°♐ | |
| retrograde | 4824 May 02 02:15 | 28°♐57'28 | |
| desc. node | 4824 May 19 20:58 | 26°♐58'07 | |
| opposition | 4824 Jun 08 17:24 | 20°♐39'25 | -0°47'34 |
| greatest brilliancy | 4824 Jun 08 21:43 | 20°♐35'20 | -1.7m |
| min. Earth dist. | 4824 Jun 15 05:07 | 18°♐12'38 | 0.59421 AU |
| direct | 4824 Jul 19 13:14 | 10°♐52'23 | |
| | 4824 Sep 20 01:07 | 0°♑ | |
| | 4824 Nov 08 15:44 | 0°♒ | |
| | 4824 Dec 20 18:23 | 0°♓ | |
| | 4825 Jan 29 02:49 | 0°♈ | |
| | 4825 Mar 08 15:38 | 0°♉ | |
| asc. node | 4825 Mar 30 13:14 | 16°♉57'00 | |
| | 4825 Apr 16 14:55 | 0°♊ | |
| | 4825 May 26 21:39 | 0°♋ | |
| evening set | 4825 Jun 23 16:05 | 19°♋55'56 | |
| | 4825 Jul 08 00:47 | 0°♌ | |
| conjunction | 4825 Aug 17 05:29 | 27°♌22'45 | 1°05'21 |
| minimum elong | 4825 Aug 17 04:40 | 27°♌21'23 | 1°05'21 |
| | 4825 Aug 21 03:49 | 0°♍ | |
| max. Earth dist. | 4825 Sep 07 22:44 | 11°♍44'45 | 2.61198 AU |
| morning rise | 4825 Oct 05 10:48 | 29°♍35'23 | |
| | 4825 Oct 06 02:08 | 0°♎ | |
| | 4825 Nov 22 11:24 | 0°♏ | |
| | 4826 Jan 10 06:16 | 0°♐ | |
| | 4826 Mar 02 10:09 | 0°♑ | |
| desc. node | 4826 Apr 06 19:45 | 18°♑57'42 | |
| | 4826 Apr 30 11:43 | 0°♒ | |
| retrograde | 4826 Jun 23 08:59 | 13°♒32'18 | |
| opposition | 4826 Jul 27 02:45 | 6°♒56'40 | -4°45'44 |
| greatest brilliancy | 4826 Jul 28 12:41 | 6°♒28'16 | -2.3m |
| min. Earth dist. | 4826 Aug 04 15:51 | 4°♒05'40 | 0.46899 AU |
| | 4826 Aug 20 08:00 | 30°℞♑ | |
| direct | 4826 Sep 02 04:20 | 28°♑51'07 | |
| | 4826 Sep 15 02:40 | 0°♒ | |
| | 4826 Nov 20 05:47 | 0°♓ | |
| | 4827 Jan 03 00:25 | 0°♈ | |
| | 4827 Feb 12 18:56 | 0°♉ | |
| asc. node | 4827 Feb 15 11:37 | 2°♉00'03 | |
| | 4827 Mar 25 09:26 | 0°♊ | |
| | 4827 May 06 01:26 | 0°♋ | |
| | 4827 Jun 18 08:50 | 0°♌ | |
| | 4827 Aug 02 09:15 | 0°♍ | |
| evening set | 4827 Aug 10 00:57 | 5°♍00'10 | |
| | 4827 Sep 17 18:13 | 0°♎ | |
| conjunction | 4827 Sep 26 20:52 | 5°♎49'35 | 1°02'30 |
| minimum elong | 4827 Sep 26 21:42 | 5°♎50'55 | 1°02'29 |
| max. Earth dist. | 4827 Oct 02 08:21 | 9°♎19'21 | 2.67016 AU |
| | 4827 Nov 03 20:50 | 0°♏ | |
| morning rise | 4827 Nov 10 19:03 | 4°♏23'38 | |
| | 4827 Dec 21 03:24 | 0°♐ | |
| | 4828 Feb 06 07:26 | 0°♑ | |
| desc. node | 4828 Feb 22 18:23 | 10°♑28'24 | |
| | 4828 Mar 24 12:58 | 0°♒ | |
| | 4828 May 11 15:22 | 0°♓ | |
| | 4828 Jul 02 17:33 | 0°♈ | |
| retrograde | 4828 Sep 07 03:59 | 21°♈21'31 | |
| opposition | 4828 Oct 07 02:42 | 16°♈24'35 | -5°38'01 |
| greatest brilliancy | 4828 Oct 07 11:19 | 16°♈18'52 | -3.0m |
| min. Earth dist. | 4828 Oct 07 22:19 | 16°♈11'35 | 0.37044 AU |
| direct | 4828 Nov 05 22:55 | 11°♈26'11 | |
| asc. node | 4829 Jan 02 11:35 | 29°♈14'48 | |
| | 4829 Jan 03 22:14 | 0°♉ | |
| | 4829 Feb 23 11:20 | 0°♊ | |
| | 4829 Apr 10 20:26 | 0°♋ | |
| | 4829 May 27 00:48 | 0°♌ | |
| | 4829 Jul 12 21:18 | 0°♍ | |
| | 4829 Aug 29 07:38 | 0°♎ | |
| evening set | 4829 Sep 16 21:47 | 11°♎44'01 | |
| | 4829 Oct 15 18:08 | 0°♏ | |
| max. Earth dist. | 4829 Oct 24 08:48 | 5°♏28'40 | 2.67336 AU |
| conjunction | 4829 Nov 01 03:05 | 10°♏25'51 | 0°35'32 |
| minimum elong | 4829 Nov 01 04:01 | 10°♏27'21 | 0°35'32 |
| | 4829 Dec 01 13:05 | 0°♐ | |
| morning rise | 4829 Dec 15 04:10 | 8°♐51'58 | |
| desc. node | 4830 Jan 09 17:04 | 25°♐40'29 | |
| | 4830 Jan 16 05:14 | 0°♑ | |
| | 4830 Mar 01 14:10 | 0°♒ | |
| | 4830 Apr 13 17:16 | 0°♓ | |
| | 4830 May 25 20:38 | 0°♈ | |
| | 4830 Jul 06 17:22 | 0°♉ | |
| | 4830 Aug 19 05:13 | 0°♊ | |
| | 4830 Oct 11 23:57 | 0°♋ | |
| retrograde | 4830 Nov 15 19:10 | 7°♋49'19 | |
| asc. node | 4830 Nov 20 11:27 | 7°♋39'25 | |
| min. Earth dist. | 4830 Dec 13 03:51 | 2°♋41'13 | 0.44547 AU |
| opposition | 4830 Dec 21 10:07 | 29°♊51'42 | 1°51'41 |
| greatest brilliancy | 4830 Dec 20 18:46 | 0°♋04'53 | -2.5m |
| | 4830 Dec 21 00:26 | 30°℞♊ | |
| direct | 4831 Jan 22 15:28 | 23°♊23'36 | |
| | 4831 Feb 26 00:04 | 0°♋ | |
| | 4831 Apr 30 03:03 | 0°♌ | |
| | 4831 Jun 21 04:04 | 0°♍ | |
| | 4831 Aug 09 23:31 | 0°♎ | |
| | 4831 Sep 27 10:45 | 0°♏ | |
| evening set | 4831 Oct 23 08:48 | 16°♏26'06 | |
| | 4831 Nov 13 08:51 | 0°♐ | |
| max. Earth dist. | 4831 Nov 17 03:35 | 2°♐28'07 | 2.62249 AU |
| desc. node | 4831 Nov 27 15:44 | 9°♐22'13 | |
| conjunction | 4831 Dec 07 23:52 | 16°♐13'50 | -0°05'44 |
| minimum elong | 4831 Dec 07 23:41 | 16°♐13'31 | 0°05'43 |
| behind sun begin | 4831 Dec 07 05:26 | 15°♐43'06 | |
| behind sun end | 4831 Dec 08 17:56 | 16°♐43'56 | |
| | 4831 Dec 28 10:35 | 0°♑ | |
| morning rise | 4832 Jan 23 14:10 | 18°♑01'38 | |
| | 4832 Feb 09 13:57 | 0°♒ | |
| | 4832 Mar 21 23:22 | 0°♓ | |
| | 4832 May 01 00:06 | 0°♈ | |
| | 4832 Jun 09 07:01 | 0°♉ | |
| | 4832 Jul 18 18:10 | 0°♊ | |
| | 4832 Aug 28 19:10 | 0°♋ | |
| asc. node | 4832 Oct 07 09:46 | 26°♋23'49 | |
| | 4832 Oct 13 07:36 | 0°♌ | |
| retrograde | 4832 Dec 31 01:00 | 29°♌30'28 | |
| min. Earth dist. | 4833 Feb 01 23:39 | 22°♌13'31 | 0.57668 AU |
| greatest brilliancy | 4833 Feb 07 06:24 | 20°♌09'41 | -1.7m |
| opposition | 4833 Feb 08 07:40 | 19°♌44'58 | 4°36'55 |
| direct | 4833 Mar 17 00:58 | 11°♌23'05 | |
| | 4833 May 21 10:43 | 0°♍ | |
| | 4833 Jul 18 01:37 | 0°♎ | |
| | 4833 Sep 07 02:49 | 0°♏ | |
| desc. node | 4833 Oct 14 14:33 | 23°♏23'23 | |
| | 4833 Oct 24 21:14 | 0°♐ | |

| | | | |
|---|---|---|---|
| evening set | 4833 Nov 30 08:05 | 24°♐08'51 | |
| | 4833 Dec 08 22:05 | 0°♑ | |
| max. Earth dist. | 4833 Dec 16 00:03 | 4°♑52'44 | 2.52150 AU |
| conjunction | 4834 Jan 19 01:31 | 28°♑57'48 | -0°49'17 |
| minimum elong | 4834 Jan 18 23:56 | 28°♑54'56 | 0°49'15 |
| | 4834 Jan 20 11:57 | 0°♒ | |
| | 4834 Mar 02 01:05 | 0°♓ | |
| morning rise | 4834 Mar 15 06:18 | 10°♓02'34 | |
| | 4834 Apr 10 03:41 | 0°♈ | |
| | 4834 May 18 13:27 | 0°♉ | |
| | 4834 Jun 26 03:01 | 0°♊ | |
| | 4834 Aug 04 19:27 | 0°♋ | |
| asc. node | 4834 Aug 25 09:00 | 14°♋57'54 | |
| | 4834 Sep 15 18:55 | 0°♌ | |
| | 4834 Nov 01 01:45 | 0°♍ | |
| | 4834 Dec 30 13:23 | 0°♎ | |
| retrograde | 4835 Feb 05 17:55 | 7°♎34'59 | |
| | 4835 Mar 12 03:53 | 30°℞♍ | |
| min. Earth dist. | 4835 Mar 15 13:41 | 28°♍39'09 | 0.65973 AU |
| opposition | 4835 Mar 18 02:31 | 27°♍38'24 | 4°24'47 |
| greatest brilliancy | 4835 Mar 17 17:07 | 27°♍47'48 | -1.4m |
| direct | 4835 Apr 26 19:58 | 18°♍13'49 | |
| | 4835 Jun 16 03:40 | 0°♎ | |
| | 4835 Aug 15 23:22 | 0°♏ | |
| desc. node | 4835 Sep 01 13:39 | 9°♏31'05 | |
| | 4835 Oct 05 05:37 | 0°♐ | |
| | 4835 Nov 19 22:26 | 0°♑ | |
| | 4836 Jan 01 10:15 | 0°♒ | |
| evening set | 4836 Jan 17 09:57 | 11°♒46'14 | |
| max. Earth dist. | 4836 Feb 10 02:54 | 29°♒39'14 | 2.39164 AU |
| | 4836 Feb 10 13:46 | 0°♓ | |
| conjunction | 4836 Mar 17 19:14 | 28°♓06'19 | -1°02'04 |
| minimum elong | 4836 Mar 17 20:56 | 28°♓09'41 | 1°02'03 |
| | 4836 Mar 20 05:07 | 0°♈ | |
| | 4836 Apr 27 05:30 | 0°♉ | |
| morning rise | 4836 May 27 09:43 | 23°♉41'44 | |
| | 4836 Jun 04 12:26 | 0°♊ | |
| asc. node | 4836 Jul 12 07:56 | 28°♊48'12 | |
| | 4836 Jul 13 22:25 | 0°♋ | |
| | 4836 Aug 24 06:33 | 0°♌ | |
| | 4836 Oct 07 08:31 | 0°♍ | |
| | 4836 Nov 24 14:52 | 0°♎ | |
| | 4837 Jan 22 16:33 | 0°♏ | |
| retrograde | 4837 Mar 11 00:25 | 10°♏58'10 | |
| opposition | 4837 Apr 20 02:21 | 1°♏25'53 | 2°55'19 |
| greatest brilliancy | 4837 Apr 20 05:55 | 1°♏22'22 | -1.3m |
| min. Earth dist. | 4837 Apr 21 10:24 | 0°♏54'11 | 0.67797 AU |
| | 4837 Apr 23 17:24 | 30°℞♎ | |
| direct | 4837 May 31 10:11 | 21°♎29'21 | |
| | 4837 Jul 11 19:48 | 0°♏ | |
| desc. node | 4837 Jul 19 12:32 | 2°♏57'41 | |
| | 4837 Sep 11 08:24 | 0°♐ | |
| | 4837 Oct 29 11:31 | 0°♑ | |
| | 4837 Dec 11 14:40 | 0°♒ | |
| | 4838 Jan 20 19:13 | 0°♓ | |
| | 4838 Feb 28 07:33 | 0°♈ | |
| evening set | 4838 Mar 23 08:25 | 18°♈13'04 | |
| | 4838 Apr 07 05:42 | 0°♉ | |
| | 4838 May 15 13:07 | 0°♊ | |
| asc. node | 4838 May 30 05:59 | 11°♊17'52 | |
| conjunction | 4838 May 31 14:18 | 12°♊19'28 | 0°00'57 |
| minimum elong | 4838 May 31 14:12 | 12°♊19'18 | 0°00'56 |
| behind sun begin | 4838 May 30 09:43 | 11°♊24'59 | |
| behind sun end | 4838 Jun 01 18:42 | 13°♊13'33 | |
| | 4838 Jun 24 01:50 | 0°♋ | |
| max. Earth dist. | 4838 Jul 21 02:58 | 19°♋46'35 | 2.44828 AU |
| morning rise | 4838 Aug 04 05:01 | 29°♋49'02 | |
| | 4838 Aug 04 11:14 | 0°♌ | |
| | 4838 Sep 17 03:30 | 0°♍ | |
| | 4838 Nov 02 10:37 | 0°♎ | |
| | 4838 Dec 22 06:11 | 0°♏ | |
| | 4839 Feb 18 12:29 | 0°♐ | |
| retrograde | 4839 Apr 16 19:44 | 14°♐47'05 | |
| opposition | 4839 May 25 10:17 | 6°♐02'12 | 0°27'18 |
| greatest brilliancy | 4839 May 25 12:38 | 5°♐59'57 | -1.5m |
| min. Earth dist. | 4839 May 30 12:44 | 4°♐04'22 | 0.63040 AU |
| desc. node | 4839 Jun 06 11:17 | 1°♐31'26 | |
| | 4839 Jun 11 02:19 | 30°℞♏ | |
| direct | 4839 Jul 05 19:20 | 26°♏03'03 | |
| | 4839 Aug 01 03:29 | 0°♐ | |
| | 4839 Oct 04 11:54 | 0°♑ | |
| | 4839 Nov 19 12:50 | 0°♒ | |
| | 4839 Dec 30 15:54 | 0°♓ | |
| | 4840 Feb 07 13:48 | 0°♈ | |
| | 4840 Mar 16 19:04 | 0°♉ | |
| asc. node | 4840 Apr 16 06:00 | 23°♉41'50 | |
| | 4840 Apr 24 10:58 | 0°♊ | |
| evening set | 4840 May 31 23:47 | 28°♊12'48 | |
| | 4840 Jun 03 10:02 | 0°♋ | |
| | 4840 Jul 15 05:45 | 0°♌ | |
| conjunction | 4840 Jul 29 18:25 | 10°♌05'09 | 0°56'52 |
| minimum elong | 4840 Jul 29 16:42 | 10°♌02'12 | 0°56'51 |
| max. Earth dist. | 4840 Aug 28 00:44 | 29°♌55'39 | 2.57470 AU |
| | 4840 Aug 28 03:20 | 0°♍ | |
| morning rise | 4840 Sep 19 23:51 | 15°♍05'49 | |
| | 4840 Oct 13 00:28 | 0°♎ | |
| | 4840 Nov 29 17:34 | 0°♏ | |
| | 4841 Jan 18 15:57 | 0°♐ | |
| | 4841 Mar 14 12:42 | 0°♑ | |
| desc. node | 4841 Apr 23 10:07 | 17°♑13'05 | |
| retrograde | 4841 May 31 14:45 | 24°♑34'47 | |
| opposition | 4841 Jul 06 04:42 | 17°♑12'11 | -3°07'45 |
| greatest brilliancy | 4841 Jul 07 02:06 | 16°♑53'06 | -2.0m |
| min. Earth dist. | 4841 Jul 14 09:47 | 14°♑16'53 | 0.52226 AU |
| direct | 4841 Aug 14 06:32 | 8°♑10'50 | |
| | 4841 Oct 18 07:57 | 0°♒ | |
| | 4841 Dec 04 00:42 | 0°♓ | |
| | 4842 Jan 14 00:34 | 0°♈ | |
| | 4842 Feb 22 12:00 | 0°♉ | |
| asc. node | 4842 Mar 04 05:42 | 7°♉24'31 | |
| | 4842 Apr 03 05:04 | 0°♊ | |
| | 4842 May 14 03:48 | 0°♋ | |
| | 4842 Jun 25 20:53 | 0°♌ | |
| evening set | 4842 Jul 24 00:58 | 19°♌05'52 | |
| | 4842 Aug 09 10:36 | 0°♍ | |
| conjunction | 4842 Sep 11 21:54 | 21°♍51'14 | 1°07'08 |
| minimum elong | 4842 Sep 11 22:17 | 21°♍51'51 | 1°07'08 |
| max. Earth dist. | 4842 Sep 23 08:43 | 29°♍13'54 | 2.65370 AU |
| | 4842 Sep 24 13:26 | 0°♎ | |
| morning rise | 4842 Oct 28 01:24 | 21°♎22'08 | |
| | 4842 Nov 10 16:29 | 0°♏ | |
| | 4842 Dec 28 09:04 | 0°♐ | |
| | 4843 Feb 14 14:29 | 0°♑ | |
| desc. node | 4843 Mar 11 08:45 | 15°♑09'08 | |
| | 4843 Apr 05 03:48 | 0°♒ | |
| | 4843 May 29 07:52 | 0°♓ | |
| retrograde | 4843 Aug 06 11:29 | 21°♓28'53 | |
| opposition | 4843 Sep 06 06:26 | 16°♓13'13 | -6°32'23 |
| greatest brilliancy | 4843 Sep 07 15:24 | 15°♓49'47 | -2.8m |

| | | | |
|---|---|---|---|
| min. Earth dist. | 4843 Sep 12 00:36 | 14°♓35'39 | 0.39421 AU |
| direct | 4843 Oct 08 13:16 | 10°♓15'44 | |
| | 4843 Dec 07 09:10 | 0°♈ | |
| asc. node | 4844 Jan 20 03:46 | 27°♈13'21 | |
| | 4844 Jan 24 07:23 | 0°♉ | |
| | 4844 Mar 08 01:59 | 0°♊ | |
| | 4844 Apr 20 17:35 | 0°♋ | |
| | 4844 Jun 04 09:35 | 0°♌ | |
| | 4844 Jul 20 08:13 | 0°♍ | |
| evening set | 4844 Sep 02 08:22 | 28°♍09'19 | |
| | 4844 Sep 05 06:00 | 0°♎ | |
| max. Earth dist. | 4844 Oct 15 11:54 | 25°♎33'16 | 2.67859 AU |
| conjunction | 4844 Oct 18 05:19 | 27°♎17'12 | 0°48'07 |
| minimum elong | 4844 Oct 18 06:23 | 27°♎18'54 | 0°48'07 |
| | 4844 Oct 22 11:43 | 0°♏ | |
| morning rise | 4844 Dec 01 06:12 | 25°♏24'34 | |
| | 4844 Dec 08 09:25 | 0°♐ | |
| | 4845 Jan 23 12:17 | 0°♑ | |
| desc. node | 4845 Jan 26 07:18 | 1°♑50'06 | |
| | 4845 Mar 09 17:03 | 0°♒ | |
| | 4845 Apr 23 02:01 | 0°♓ | |
| | 4845 Jun 06 00:37 | 0°♈ | |
| | 4845 Jul 20 21:07 | 0°♉ | |
| | 4845 Sep 11 03:10 | 0°♊ | |
| retrograde | 4845 Oct 23 10:24 | 10°♊56'20 | |
| min. Earth dist. | 4845 Nov 18 16:15 | 6°♊26'42 | 0.39805 AU |
| opposition | 4845 Nov 25 10:18 | 4°♊24'09 | -0°48'10 |
| greatest brilliancy | 4845 Nov 25 06:07 | 4°♊27'20 | -2.8m |
| asc. node | 4845 Dec 07 03:06 | 1°♊09'12 | |
| | 4845 Dec 12 19:25 | 30°℞♉ | |
| direct | 4845 Dec 25 19:23 | 28°♉53'02 | |
| | 4846 Jan 07 23:58 | 0°♊ | |
| | 4846 Mar 21 04:05 | 0°♋ | |
| | 4846 May 11 13:04 | 0°♌ | |
| | 4846 Jun 29 18:06 | 0°♍ | |
| | 4846 Aug 17 09:02 | 0°♎ | |
| | 4846 Oct 04 08:03 | 0°♏ | |
| evening set | 4846 Oct 09 03:57 | 3°♏03'19 | |
| max. Earth dist. | 4846 Nov 07 14:27 | 21°♏52'12 | 2.64859 AU |
| | 4846 Nov 20 03:31 | 0°♐ | |
| conjunction | 4846 Nov 23 06:42 | 2°♐02'32 | 0°11'25 |
| minimum elong | 4846 Nov 23 07:03 | 2°♐03'07 | 0°11'24 |
| behind sun begin | 4846 Nov 22 17:35 | 1°♐41'09 | |
| behind sun end | 4846 Nov 23 20:31 | 2°♐25'05 | |
| desc. node | 4846 Dec 14 06:29 | 15°♐51'16 | |
| | 4847 Jan 04 09:25 | 0°♑ | |
| morning rise | 4847 Jan 07 09:21 | 2°♑01'41 | |
| | 4847 Feb 16 22:19 | 0°♒ | |
| | 4847 Mar 30 20:41 | 0°♓ | |
| | 4847 May 10 12:10 | 0°♈ | |
| | 4847 Jun 19 10:38 | 0°♉ | |
| | 4847 Jul 29 17:03 | 0°♊ | |
| | 4847 Sep 10 06:49 | 0°♋ | |
| asc. node | 4847 Oct 25 03:16 | 26°♋47'03 | |
| | 4847 Oct 31 18:27 | 0°♌ | |
| retrograde | 4847 Dec 15 17:54 | 11°♌56'00 | |
| min. Earth dist. | 4848 Jan 15 10:40 | 5°♌28'11 | 0.52854 AU |
| greatest brilliancy | 4848 Jan 21 21:17 | 3°♌01'43 | -2.0m |
| opposition | 4848 Jan 23 00:59 | 2°♌35'24 | 4°04'38 |
| | 4848 Jan 30 03:25 | 30°℞♋ | |
| direct | 4848 Feb 27 03:44 | 24°♋50'49 | |
| | 4848 Mar 28 18:46 | 0°♌ | |
| | 4848 Jun 03 14:41 | 0°♍ | |
| | 4848 Jul 26 18:44 | 0°♎ | |
| | 4848 Sep 14 12:52 | 0°♏ | |
| desc. node | 4848 Oct 31 05:43 | 29°♏34'53 | |
| | 4848 Oct 31 21:11 | 0°♐ | |
| evening set | 4848 Nov 14 12:23 | 8°♐55'35 | |
| max. Earth dist. | 4848 Dec 03 03:27 | 21°♐20'55 | 2.56636 AU |
| | 4848 Dec 15 21:12 | 0°♑ | |
| conjunction | 4849 Jan 01 01:26 | 11°♑10'29 | -0°33'22 |
| minimum elong | 4849 Jan 01 00:15 | 11°♑08'26 | 0°33'20 |
| | 4849 Jan 27 15:20 | 0°♒ | |
| morning rise | 4849 Feb 20 20:43 | 17°♒39'04 | |
| | 4849 Mar 09 11:03 | 0°♓ | |
| | 4849 Apr 17 20:47 | 0°♈ | |
| | 4849 May 26 12:54 | 0°♉ | |
| | 4849 Jul 04 08:03 | 0°♊ | |
| | 4849 Aug 13 07:44 | 0°♋ | |
| asc. node | 4849 Sep 11 00:57 | 20°♋29'16 | |
| | 4849 Sep 24 23:40 | 0°♌ | |
| | 4849 Nov 12 18:26 | 0°♍ | |
| retrograde | 4850 Jan 23 01:51 | 23°♍52'03 | |
| min. Earth dist. | 4850 Feb 28 03:38 | 15°♍30'44 | 0.63472 AU |
| opposition | 4850 Mar 04 04:51 | 13°♍53'56 | 4°41'25 |
| greatest brilliancy | 4850 Mar 03 12:49 | 14°♍09'54 | -1.5m |
| direct | 4850 Apr 11 22:14 | 4°♍49'28 | |
| | 4850 Jun 30 18:57 | 0°♎ | |
| | 4850 Aug 24 19:50 | 0°♏ | |
| desc. node | 4850 Sep 18 04:21 | 14°♏35'18 | |
| | 4850 Oct 12 19:48 | 0°♐ | |
| | 4850 Nov 27 04:25 | 0°♑ | |
| evening set | 4850 Dec 27 23:13 | 21°♑33'12 | |
| | 4851 Jan 08 16:15 | 0°♒ | |
| max. Earth dist. | 4851 Jan 11 12:04 | 2°♒03'29 | 2.44212 AU |
| | 4851 Feb 17 22:48 | 0°♓ | |
| conjunction | 4851 Feb 21 05:33 | 2°♓30'07 | -1°04'43 |
| minimum elong | 4851 Feb 21 04:58 | 2°♓29'01 | 1°04'43 |
| | 4851 Mar 28 17:43 | 0°♈ | |
| morning rise | 4851 Apr 27 05:57 | 23°♈12'38 | |
| | 4851 May 05 20:41 | 0°♉ | |
| | 4851 Jun 13 04:47 | 0°♊ | |
| | 4851 Jul 22 15:20 | 0°♋ | |
| asc. node | 4851 Jul 29 23:50 | 5°♋27'08 | |
| | 4851 Sep 02 01:47 | 0°♌ | |
| | 4851 Oct 16 14:47 | 0°♍ | |
| | 4851 Dec 05 18:33 | 0°♎ | |
| retrograde | 4852 Feb 26 16:20 | 28°♎23'53 | |
| opposition | 4852 Apr 07 00:19 | 18°♎39'21 | 3°36'56 |
| greatest brilliancy | 4852 Apr 06 23:55 | 18°♎39'46 | -1.3m |
| min. Earth dist. | 4852 Apr 06 20:19 | 18°♎43'21 | 0.67878 AU |
| direct | 4852 May 17 21:11 | 8°♎52'12 | |
| | 4852 Jul 28 01:36 | 0°♏ | |
| desc. node | 4852 Aug 05 02:51 | 3°♏59'13 | |
| | 4852 Sep 20 14:34 | 0°♐ | |
| | 4852 Nov 06 11:02 | 0°♑ | |
| | 4852 Dec 19 06:05 | 0°♒ | |
| | 4853 Jan 28 09:17 | 0°♓ | |
| evening set | 4853 Feb 23 05:26 | 20°♓01'40 | |
| | 4853 Mar 07 22:08 | 0°♈ | |
| | 4853 Apr 14 20:21 | 0°♉ | |
| conjunction | 4853 May 02 09:31 | 13°♉50'06 | -0°29'59 |
| minimum elong | 4853 May 02 12:22 | 13°♉55'42 | 0°29'57 |
| | 4853 May 23 02:30 | 0°♊ | |
| asc. node | 4853 Jun 16 00:04 | 18°♊19'36 | |
| max. Earth dist. | 4853 Jun 21 02:57 | 22°♊11'51 | 2.39399 AU |
| | 4853 Jul 01 12:48 | 0°♋ | |
| morning rise | 4853 Jul 11 09:07 | 7°♋17'45 | |
| | 4853 Aug 11 19:46 | 0°♌ | |

| | | | |
|---|---|---|---|
| | 4853 Sep 24 12:37 | 0°♍ | |
| | 4853 Nov 10 06:09 | 0°♎ | |
| | 4853 Dec 31 21:25 | 0°♏ | |
| | 4854 Mar 16 17:30 | 0°♐ | |
| retrograde | 4854 Apr 01 21:33 | 1°♐29'48 | |
| | 4854 Apr 17 06:01 | 30°℞♏ | |
| opposition | 4854 May 11 05:52 | 22°♏23'21 | 1°31'45 |
| greatest brilliancy | 4854 May 11 11:10 | 22°♏18'11 | -1.4m |
| min. Earth dist. | 4854 May 14 21:32 | 20°♏57'49 | 0.65667 AU |
| direct | 4854 Jun 21 19:45 | 12°♏20'47 | |
| desc. node | 4854 Jun 23 01:51 | 12°♏21'22 | |
| | 4854 Aug 22 19:39 | 0°♐ | |
| | 4854 Oct 14 21:53 | 0°♑ | |
| | 4854 Nov 28 07:45 | 0°♒ | |
| | 4855 Jan 07 22:22 | 0°♓ | |
| | 4855 Feb 15 14:49 | 0°♈ | |
| | 4855 Mar 25 15:59 | 0°♉ | |
| asc. node | 4855 May 03 22:51 | 0°♊37'40 | |
| | 4855 May 03 03:16 | 0°♊ | |
| evening set | 4855 May 07 02:46 | 3°♊03'24 | |
| | 4855 Jun 11 21:00 | 0°♋ | |
| conjunction | 4855 Jul 09 18:28 | 20°♋17'01 | 0°41'07 |
| minimum elong | 4855 Jul 09 16:14 | 20°♋13'02 | 0°41'05 |
| | 4855 Jul 23 11:10 | 0°♌ | |
| max. Earth dist. | 4855 Aug 16 07:34 | 16°♌32'45 | 2.52971 AU |
| morning rise | 4855 Sep 04 00:58 | 29°♌13'21 | |
| | 4855 Sep 05 04:50 | 0°♍ | |
| | 4855 Oct 21 02:51 | 0°♎ | |
| | 4855 Dec 08 08:28 | 0°♏ | |
| | 4856 Jan 29 02:10 | 0°♐ | |
| | 4856 Apr 01 18:10 | 0°♑ | |
| desc. node | 4856 May 10 00:40 | 8°♑02'05 | |
| retrograde | 4856 May 12 02:10 | 8°♑03'38 | |
| opposition | 4856 Jun 18 02:19 | 0°♑03'03 | -1°35'54 |
| | 4856 Jun 18 05:36 | 30°℞♐ | |
| greatest brilliancy | 4856 Jun 18 11:55 | 29°♐54'08 | -1.8m |
| min. Earth dist. | 4856 Jun 25 07:13 | 27°♐22'45 | 0.57077 AU |
| direct | 4856 Jul 28 11:27 | 20°♐27'32 | |
| | 4856 Sep 07 20:33 | 0°♑ | |
| | 4856 Nov 01 14:51 | 0°♒ | |
| | 4856 Dec 14 18:33 | 0°♓ | |
| | 4857 Jan 23 13:15 | 0°♈ | |
| | 4857 Mar 03 07:57 | 0°♉ | |
| asc. node | 4857 Mar 20 21:29 | 13°♉32'28 | |
| | 4857 Apr 11 11:41 | 0°♊ | |
| | 4857 May 21 22:33 | 0°♋ | |
| | 4857 Jul 03 05:12 | 0°♌ | |
| evening set | 4857 Jul 05 07:11 | 1°♌26'32 | |
| | 4857 Aug 16 10:54 | 0°♍ | |
| conjunction | 4857 Aug 26 22:33 | 6°♍56'11 | 1°07'29 |
| minimum elong | 4857 Aug 26 22:14 | 6°♍55'39 | 1°07'29 |
| max. Earth dist. | 4857 Sep 13 20:09 | 18°♍38'47 | 2.62917 AU |
| | 4857 Oct 01 09:41 | 0°♎ | |
| morning rise | 4857 Oct 13 20:57 | 7°♎59'12 | |
| | 4857 Nov 17 15:31 | 0°♏ | |
| | 4858 Jan 04 22:31 | 0°♐ | |
| | 4858 Feb 23 17:53 | 0°♑ | |
| desc. node | 4858 Mar 27 23:21 | 18°♑25'16 | |
| | 4858 Apr 18 15:38 | 0°♒ | |
| retrograde | 4858 Jul 08 00:14 | 26°♒17'48 | |
| opposition | 4858 Aug 09 15:40 | 20°♒11'02 | -5°37'34 |
| greatest brilliancy | 4858 Aug 11 05:55 | 19°♒40'28 | -2.5m |
| min. Earth dist. | 4858 Aug 17 18:17 | 17°♒36'28 | 0.43996 AU |
| direct | 4858 Sep 14 04:58 | 12°♒46'56 | |
| | 4858 Nov 08 04:42 | 0°♓ | |
| | 4858 Dec 25 23:57 | 0°♈ | |
| asc. node | 4859 Feb 05 21:01 | 29°♈49'13 | |
| | 4859 Feb 06 02:58 | 0°♉ | |
| | 4859 Mar 19 11:15 | 0°♊ | |
| | 4859 Apr 30 15:30 | 0°♋ | |
| | 4859 Jun 13 07:34 | 0°♌ | |
| | 4859 Jul 28 14:07 | 0°♍ | |
| evening set | 4859 Aug 19 03:00 | 13°♍58'03 | |
| | 4859 Sep 13 02:30 | 0°♎ | |
| conjunction | 4859 Oct 05 02:30 | 14°♎01'32 | 0°58'06 |
| minimum elong | 4859 Oct 05 03:30 | 14°♎03'07 | 0°58'06 |
| max. Earth dist. | 4859 Oct 07 13:21 | 15°♎35'08 | 2.67551 AU |
| | 4859 Oct 30 05:39 | 0°♏ | |
| morning rise | 4859 Nov 18 14:05 | 12°♏18'09 | |
| | 4859 Dec 16 08:21 | 0°♐ | |
| | 4860 Feb 01 01:50 | 0°♑ | |
| desc. node | 4860 Feb 12 22:54 | 7°♑40'04 | |
| | 4860 Mar 18 10:15 | 0°♒ | |
| | 4860 May 03 18:20 | 0°♓ | |
| | 4860 Jun 20 07:29 | 0°♈ | |
| | 4860 Aug 14 18:24 | 0°♉ | |
| retrograde | 4860 Sep 25 01:22 | 9°♉56'36 | |
| min. Earth dist. | 4860 Oct 23 05:15 | 5°♉21'14 | 0.37148 AU |
| opposition | 4860 Oct 25 16:50 | 4°♉40'56 | -4°06'51 |
| greatest brilliancy | 4860 Oct 25 12:26 | 4°♉43'55 | -3.0m |
| | 4860 Nov 18 06:57 | 30°℞♈ | |
| direct | 4860 Nov 24 01:17 | 29°♈46'31 | |
| | 4860 Nov 29 20:19 | 0°♉ | |
| asc. node | 4860 Dec 23 19:36 | 5°♉09'21 | |
| | 4861 Feb 13 10:27 | 0°♊ | |
| | 4861 Apr 03 19:09 | 0°♋ | |
| | 4861 May 21 05:51 | 0°♌ | |
| | 4861 Jul 07 18:10 | 0°♍ | |
| | 4861 Aug 24 12:53 | 0°♎ | |
| evening set | 4861 Sep 25 00:48 | 19°♎48'45 | |
| | 4861 Oct 11 03:17 | 0°♏ | |
| max. Earth dist. | 4861 Oct 29 13:33 | 11°♏43'54 | 2.66695 AU |
| conjunction | 4861 Nov 09 01:55 | 18°♏28'18 | 0°27'11 |
| minimum elong | 4861 Nov 09 02:42 | 18°♏29'34 | 0°27'10 |
| | 4861 Nov 26 22:21 | 0°♐ | |
| morning rise | 4861 Dec 23 08:20 | 17°♐17'46 | |
| desc. node | 4861 Dec 30 21:36 | 22°♐17'52 | |
| | 4862 Jan 11 10:44 | 0°♑ | |
| | 4862 Feb 24 12:11 | 0°♒ | |
| | 4862 Apr 08 03:41 | 0°♓ | |
| | 4862 May 19 15:43 | 0°♈ | |
| | 4862 Jun 29 14:35 | 0°♉ | |
| | 4862 Aug 10 09:28 | 0°♊ | |
| | 4862 Sep 25 21:20 | 0°♋ | |
| asc. node | 4862 Nov 10 18:38 | 19°♋35'37 | |
| retrograde | 4862 Nov 27 10:14 | 21°♋33'01 | |
| min. Earth dist. | 4862 Dec 25 21:18 | 15°♋57'29 | 0.47525 AU |
| greatest brilliancy | 4863 Jan 02 06:12 | 13°♋18'56 | -2.3m |
| opposition | 4863 Jan 03 05:23 | 12°♋58'05 | 2°55'23 |
| direct | 4863 Feb 05 11:43 | 6°♋00'08 | |
| | 4863 Apr 21 04:09 | 0°♌ | |
| | 4863 Jun 15 00:46 | 0°♍ | |
| | 4863 Aug 04 19:08 | 0°♎ | |
| | 4863 Sep 22 16:12 | 0°♏ | |
| evening set | 4863 Oct 31 15:00 | 24°♏44'06 | |
| | 4863 Nov 08 17:54 | 0°♐ | |
| desc. node | 4863 Nov 17 20:14 | 5°♐56'53 | |
| max. Earth dist. | 4863 Nov 23 01:35 | 9°♐23'15 | 2.60471 AU |
| conjunction | 4863 Dec 16 17:51 | 25°♐12'24 | -0°15'55 |

| | | | |
|---|---|---|---|
| minimum elong | 4863 Dec 16 17:17 | 25°♐11'27 | 0°15'55 |
| behind sun begin | 4863 Dec 16 14:04 | 25°♐06'02 | |
| behind sun end | 4863 Dec 16 20:30 | 25°♐16'53 | |
| | 4863 Dec 23 19:16 | 0°♑ | |
| morning rise | 4864 Feb 02 12:27 | 28°♑21'27 | |
| | 4864 Feb 04 19:47 | 0°♒ | |
| | 4864 Mar 17 00:25 | 0°♓ | |
| | 4864 Apr 25 19:41 | 0°♈ | |
| | 4864 Jun 03 20:38 | 0°♉ | |
| | 4864 Jul 13 00:21 | 0°♊ | |
| | 4864 Aug 22 12:33 | 0°♋ | |
| asc. node | 4864 Sep 27 18:48 | 25°♋00'20 | |
| | 4864 Oct 05 12:13 | 0°♌ | |
| | 4864 Nov 29 23:09 | 0°♍ | |
| retrograde | 4865 Jan 08 17:25 | 9°♍05'33 | |
| min. Earth dist. | 4865 Feb 11 20:02 | 1°♍24'07 | 0.59977 AU |
| | 4865 Feb 15 09:25 | 30°℞♌ | |
| greatest brilliancy | 4865 Feb 16 10:43 | 29°♌34'57 | -1.6m |
| opposition | 4865 Feb 17 09:08 | 29°♌12'48 | 4°44'13 |
| direct | 4865 Mar 26 21:18 | 20°♌33'50 | |
| | 4865 May 09 16:46 | 0°♍ | |
| | 4865 Jul 11 17:25 | 0°♎ | |
| | 4865 Sep 01 22:05 | 0°♏ | |
| desc. node | 4865 Oct 04 18:52 | 20°♏14'45 | |
| | 4865 Oct 20 02:19 | 0°♐ | |
| | 4865 Dec 04 06:03 | 0°♑ | |
| evening set | 4865 Dec 09 21:23 | 3°♑52'38 | |
| max. Earth dist. | 4865 Dec 24 08:44 | 13°♑58'00 | 2.49415 AU |
| | 4866 Jan 15 19:35 | 0°♒ | |
| conjunction | 4866 Jan 30 05:50 | 10°♒32'35 | -0°56'48 |
| minimum elong | 4866 Jan 30 04:17 | 10°♒29'44 | 0°56'46 |
| | 4866 Feb 25 06:35 | 0°♓ | |
| morning rise | 4866 Mar 29 14:09 | 24°♓48'13 | |
| | 4866 Apr 05 06:34 | 0°♈ | |
| | 4866 May 13 13:49 | 0°♉ | |
| | 4866 Jun 21 00:52 | 0°♊ | |
| | 4866 Jul 30 14:07 | 0°♋ | |
| asc. node | 4866 Aug 15 17:35 | 11°♋51'07 | |
| | 4866 Sep 10 06:31 | 0°♌ | |
| | 4866 Oct 25 15:44 | 0°♍ | |
| | 4866 Dec 18 17:34 | 0°♎ | |
| retrograde | 4867 Feb 13 10:06 | 15°♎35'33 | |
| min. Earth dist. | 4867 Mar 24 03:21 | 6°♎22'32 | 0.66923 AU |
| opposition | 4867 Mar 25 19:42 | 5°♎42'16 | 4°09'58 |
| greatest brilliancy | 4867 Mar 25 13:49 | 5°♎48'08 | -1.3m |
| | 4867 Apr 10 08:48 | 30°℞♍ | |
| direct | 4867 May 05 00:14 | 26°♍08'30 | |
| | 4867 May 31 21:49 | 0°♎ | |
| | 4867 Aug 09 12:11 | 0°♏ | |
| desc. node | 4867 Aug 22 17:35 | 7°♏17'33 | |
| | 4867 Sep 29 23:31 | 0°♐ | |
| | 4867 Nov 15 01:31 | 0°♑ | |
| | 4867 Dec 27 16:16 | 0°♒ | |
| evening set | 4868 Jan 30 03:34 | 24°♒54'35 | |
| | 4868 Feb 05 19:49 | 0°♓ | |
| max. Earth dist. | 4868 Mar 14 09:16 | 29°♓10'55 | 2.37118 AU |
| | 4868 Mar 15 10:14 | 0°♈ | |
| conjunction | 4868 Apr 02 15:29 | 14°♈22'43 | -0°54'17 |
| minimum elong | 4868 Apr 02 18:29 | 14°♈28'38 | 0°54'15 |
| | 4868 Apr 22 09:31 | 0°♉ | |
| | 4868 May 30 15:29 | 0°♊ | |
| morning rise | 4868 Jun 13 13:48 | 10°♊44'25 | |
| asc. node | 4868 Jul 02 15:45 | 25°♊13'40 | |
| | 4868 Jul 09 00:43 | 0°♋ | |
| | 4868 Aug 19 07:11 | 0°♌ | |
| | 4868 Oct 02 03:41 | 0°♍ | |
| | 4868 Nov 18 15:36 | 0°♎ | |
| | 4869 Jan 12 16:29 | 0°♏ | |
| retrograde | 4869 Mar 18 20:00 | 18°♏41'06 | |
| opposition | 4869 Apr 27 17:00 | 9°♏17'12 | 2°26'56 |
| greatest brilliancy | 4869 Apr 27 21:53 | 9°♏12'23 | -1.3m |
| min. Earth dist. | 4869 Apr 29 21:11 | 8°♏25'48 | 0.67311 AU |
| | 4869 May 28 13:26 | 30°℞♎ | |
| direct | 4869 Jun 08 04:36 | 29°♎17'15 | |
| | 4869 Jun 19 04:23 | 0°♏ | |
| desc. node | 4869 Jul 09 16:08 | 4°♏32'02 | |
| | 4869 Sep 04 13:04 | 0°♐ | |
| | 4869 Oct 23 23:40 | 0°♑ | |
| | 4869 Dec 06 12:44 | 0°♒ | |
| | 4870 Jan 15 20:48 | 0°♓ | |
| | 4870 Feb 23 10:36 | 0°♈ | |
| | 4870 Apr 02 09:30 | 0°♉ | |
| evening set | 4870 Apr 08 16:31 | 4°♉57'53 | |
| | 4870 May 10 17:31 | 0°♊ | |
| asc. node | 4870 May 20 15:38 | 7°♊38'02 | |
| conjunction | 4870 Jun 15 16:17 | 27°♊18'49 | 0°17'28 |
| minimum elong | 4870 Jun 15 14:50 | 27°♊16'07 | 0°17'26 |
| | 4870 Jun 19 06:57 | 0°♋ | |
| | 4870 Jul 30 16:48 | 0°♌ | |
| max. Earth dist. | 4870 Jul 31 23:13 | 0°♌53'41 | 2.47833 AU |
| morning rise | 4870 Aug 16 02:33 | 11°♌28'08 | |
| | 4870 Sep 12 08:03 | 0°♍ | |
| | 4870 Oct 28 09:54 | 0°♎ | |
| | 4870 Dec 16 11:19 | 0°♏ | |
| | 4871 Feb 09 08:35 | 0°♐ | |
| retrograde | 4871 Apr 25 21:36 | 23°♐13'29 | |
| desc. node | 4871 May 27 15:38 | 17°♐04'40 | |
| opposition | 4871 Jun 03 00:18 | 14°♐42'49 | -0°14'53 |
| greatest brilliancy | 4871 Jun 03 01:35 | 14°♐41'36 | -1.6m |
| min. Earth dist. | 4871 Jun 08 21:58 | 12°♐27'59 | 0.61146 AU |
| direct | 4871 Jul 14 03:43 | 4°♐49'05 | |
| | 4871 Sep 26 14:07 | 0°♑ | |
| | 4871 Nov 13 10:45 | 0°♒ | |
| | 4871 Dec 25 03:01 | 0°♓ | |
| | 4872 Feb 02 06:58 | 0°♈ | |
| | 4872 Mar 11 16:10 | 0°♉ | |
| asc. node | 4872 Apr 06 14:32 | 20°♉08'00 | |
| | 4872 Apr 19 11:17 | 0°♊ | |
| | 4872 May 29 13:27 | 0°♋ | |
| evening set | 4872 Jun 14 04:16 | 11°♋20'30 | |
| | 4872 Jul 10 11:51 | 0°♌ | |
| conjunction | 4872 Aug 09 12:01 | 20°♌37'19 | 1°02'33 |
| minimum elong | 4872 Aug 09 10:48 | 20°♌35'16 | 1°02'32 |
| | 4872 Aug 23 11:01 | 0°♍ | |
| max. Earth dist. | 4872 Sep 03 11:00 | 7°♍18'11 | 2.59627 AU |
| morning rise | 4872 Sep 28 22:50 | 23°♍57'55 | |
| | 4872 Oct 08 07:28 | 0°♎ | |
| | 4872 Nov 24 18:56 | 0°♏ | |
| | 4873 Jan 12 23:28 | 0°♐ | |
| | 4873 Mar 06 09:04 | 0°♑ | |
| desc. node | 4873 Apr 13 14:35 | 19°♑07'21 | |
| | 4873 May 11 21:23 | 0°♒ | |
| retrograde | 4873 Jun 13 00:51 | 5°♒25'03 | |
| | 4873 Jul 13 01:01 | 30°℞♑ | |
| opposition | 4873 Jul 17 14:52 | 28°♑27'26 | -4°03'35 |
| greatest brilliancy | 4873 Jul 18 19:46 | 28°♑02'27 | -2.2m |
| min. Earth dist. | 4873 Jul 26 03:02 | 25°♑31'23 | 0.49298 AU |
| direct | 4873 Aug 24 16:27 | 19°♑53'41 | |
| | 4873 Oct 04 21:53 | 0°♒ | |
| | 4873 Nov 26 03:59 | 0°♓ | |

| | | | |
|---|---|---|---|
| | 4874 Jan 07 10:48 | 0°♈ | |
| | 4874 Feb 16 13:18 | 0°♉ | |
| asc. node | 4874 Feb 22 12:27 | 4°♉29'14 | |
| | 4874 Mar 28 16:21 | 0°♊ | |
| | 4874 May 08 22:59 | 0°♋ | |
| | 4874 Jun 20 22:29 | 0°♌ | |
| evening set | 4874 Aug 02 22:09 | 28°♌49'40 | |
| | 4874 Aug 04 16:53 | 0°♍ | |
| | 4874 Sep 19 22:09 | 0°♎ | |
| conjunction | 4874 Sep 20 13:32 | 0°♎24'40 | 1°04'53 |
| minimum elong | 4874 Sep 20 14:12 | 0°♎25'45 | 1°04'53 |
| max. Earth dist. | 4874 Sep 28 16:18 | 5°♎36'30 | 2.66390 AU |
| morning rise | 4874 Nov 04 23:04 | 29°♎19'47 | |
| | 4874 Nov 06 00:27 | 0°♏ | |
| | 4874 Dec 23 10:54 | 0°♐ | |
| | 4875 Feb 09 01:05 | 0°♑ | |
| desc. node | 4875 Mar 01 12:57 | 12°♑50'49 | |
| | 4875 Mar 29 03:43 | 0°♒ | |
| | 4875 May 18 04:41 | 0°♓ | |
| | 4875 Jul 17 01:33 | 0°♈ | |
| retrograde | 4875 Aug 24 18:12 | 8°♈11'53 | |
| opposition | 4875 Sep 23 17:53 | 3°♈13'44 | -6°18'57 |
| greatest brilliancy | 4875 Sep 24 15:08 | 2°♈59'27 | -2.9m |
| min. Earth dist. | 4875 Sep 27 01:52 | 2°♈20'01 | 0.37733 AU |
| | 4875 Oct 06 11:59 | 30°℞♓ | |
| direct | 4875 Oct 24 11:16 | 27°♓55'55 | |
| | 4875 Nov 11 02:52 | 0°♈ | |
| asc. node | 4876 Jan 10 12:09 | 27°♈47'40 | |
| | 4876 Jan 14 03:24 | 0°♉ | |
| | 4876 Feb 29 16:06 | 0°♊ | |
| | 4876 Apr 14 13:49 | 0°♋ | |
| | 4876 May 29 23:19 | 0°♌ | |
| | 4876 Jul 15 08:35 | 0°♍ | |
| | 4876 Aug 31 12:36 | 0°♎ | |
| evening set | 4876 Sep 10 18:20 | 6°♎28'51 | |
| | 4876 Oct 17 20:58 | 0°♏ | |
| max. Earth dist. | 4876 Oct 20 15:25 | 1°♏45'38 | 2.67684 AU |
| conjunction | 4876 Oct 26 04:57 | 5°♏18'10 | 0°41'03 |
| minimum elong | 4876 Oct 26 05:59 | 5°♏19'47 | 0°41'03 |
| | 4876 Dec 03 17:21 | 0°♐ | |
| morning rise | 4876 Dec 09 04:23 | 3°♐31'55 | |
| desc. node | 4877 Jan 16 11:47 | 28°♐36'01 | |
| | 4877 Jan 18 14:32 | 0°♑ | |
| | 4877 Mar 04 08:20 | 0°♒ | |
| | 4877 Apr 16 23:52 | 0°♓ | |
| | 4877 May 29 20:03 | 0°♈ | |
| | 4877 Jul 11 16:50 | 0°♉ | |
| | 4877 Aug 26 08:35 | 0°♊ | |
| retrograde | 4877 Nov 06 02:48 | 27°♊07'13 | |
| asc. node | 4877 Nov 27 12:26 | 23°♊53'55 | |
| min. Earth dist. | 4877 Dec 02 19:26 | 22°♊19'05 | 0.42264 AU |
| opposition | 4877 Dec 10 15:47 | 19°♊45'39 | 0°50'45 |
| greatest brilliancy | 4877 Dec 10 08:51 | 19°♊51'19 | -2.7m |
| direct | 4878 Jan 11 00:32 | 13°♊43'15 | |
| | 4878 Mar 09 11:54 | 0°♋ | |
| | 4878 May 04 12:23 | 0°♌ | |
| | 4878 Jun 24 03:11 | 0°♍ | |
| | 4878 Aug 12 09:05 | 0°♎ | |
| | 4878 Sep 29 15:10 | 0°♏ | |
| evening set | 4878 Oct 17 06:41 | 11°♏10'17 | |
| max. Earth dist. | 4878 Nov 13 03:02 | 28°♏26'05 | 2.63521 AU |
| | 4878 Nov 15 12:49 | 0°♐ | |
| conjunction | 4878 Dec 01 14:25 | 10°♐31'47 | 0°01'35 |
| minimum elong | 4878 Dec 01 14:28 | 10°♐31'52 | 0°01'36 |
| behind sun begin | 4878 Nov 30 19:32 | 10°♐00'39 | |
| behind sun end | 4878 Dec 02 09:25 | 11°♐03'06 | |
| desc. node | 4878 Dec 04 10:35 | 12°♐24'22 | |
| | 4878 Dec 30 17:18 | 0°♑ | |
| morning rise | 4879 Jan 16 10:26 | 11°♑25'01 | |
| | 4879 Feb 12 01:47 | 0°♒ | |
| | 4879 Mar 25 17:27 | 0°♓ | |
| | 4879 May 05 00:49 | 0°♈ | |
| | 4879 Jun 13 14:09 | 0°♉ | |
| | 4879 Jul 23 07:54 | 0°♊ | |
| | 4879 Sep 02 20:11 | 0°♋ | |
| asc. node | 4879 Oct 15 10:57 | 27°♋27'43 | |
| | 4879 Oct 19 21:14 | 0°♌ | |
| retrograde | 4879 Dec 25 06:19 | 22°♌41'52 | |
| min. Earth dist. | 4880 Jan 26 05:06 | 15°♌46'15 | 0.55611 AU |
| greatest brilliancy | 4880 Feb 01 00:37 | 13°♌31'35 | -1.9m |
| opposition | 4880 Feb 02 03:33 | 13°♌05'30 | 4°27'14 |
| direct | 4880 Mar 09 04:50 | 4°♌59'03 | |
| | 4880 May 26 14:31 | 0°♍ | |
| | 4880 Jul 21 00:58 | 0°♎ | |
| | 4880 Sep 09 12:45 | 0°♏ | |
| desc. node | 4880 Oct 21 09:08 | 26°♏16'23 | |
| | 4880 Oct 27 03:46 | 0°♐ | |
| evening set | 4880 Nov 23 09:54 | 17°♐56'35 | |
| max. Earth dist. | 4880 Dec 10 05:02 | 29°♐18'11 | 2.54243 AU |
| | 4880 Dec 11 05:29 | 0°♑ | |
| conjunction | 4881 Jan 11 00:58 | 21°♑29'10 | -0°42'52 |
| minimum elong | 4881 Jan 10 23:30 | 21°♑26'35 | 0°42'51 |
| | 4881 Jan 22 22:33 | 0°♒ | |
| | 4881 Mar 04 15:32 | 0°♓ | |
| morning rise | 4881 Mar 05 01:36 | 0°♓18'57 | |
| | 4881 Apr 12 21:47 | 0°♈ | |
| | 4881 May 21 10:25 | 0°♉ | |
| | 4881 Jun 29 01:43 | 0°♊ | |
| | 4881 Aug 07 19:47 | 0°♋ | |
| asc. node | 4881 Sep 01 09:40 | 17°♋46'36 | |
| | 4881 Sep 18 23:24 | 0°♌ | |
| | 4881 Nov 04 22:55 | 0°♍ | |
| | 4882 Jan 11 13:42 | 0°♎ | |
| retrograde | 4882 Jan 30 23:56 | 2°♎18'29 | |
| | 4882 Feb 18 09:41 | 30°℞♍ | |
| min. Earth dist. | 4882 Mar 09 01:48 | 23°♍37'10 | 0.64978 AU |
| opposition | 4882 Mar 12 06:30 | 22°♍20'36 | 4°33'21 |
| greatest brilliancy | 4882 Mar 11 18:14 | 22°♍32'51 | -1.4m |
| direct | 4882 Apr 20 13:49 | 13°♍04'16 | |
| | 4882 Jun 22 01:11 | 0°♎ | |
| | 4882 Aug 19 00:41 | 0°♏ | |
| desc. node | 4882 Sep 08 08:08 | 11°♏52'42 | |
| | 4882 Oct 07 18:38 | 0°♐ | |
| | 4882 Nov 22 09:14 | 0°♑ | |
| | 4883 Jan 03 22:30 | 0°♒ | |
| evening set | 4883 Jan 08 05:56 | 3°♒08'30 | |
| max. Earth dist. | 4883 Jan 25 18:05 | 16°♒05'10 | 2.41329 AU |
| | 4883 Feb 13 04:22 | 0°♓ | |
| conjunction | 4883 Mar 07 05:18 | 16°♓58'02 | -1°04'49 |
| minimum elong | 4883 Mar 07 05:54 | 16°♓59'14 | 1°04'50 |
| | 4883 Mar 23 21:53 | 0°♈ | |
| | 4883 Apr 30 23:35 | 0°♉ | |
| morning rise | 4883 May 14 16:32 | 10°♉47'46 | |
| | 4883 Jun 08 06:32 | 0°♊ | |
| | 4883 Jul 17 15:40 | 0°♋ | |
| asc. node | 4883 Jul 20 09:01 | 2°♋01'40 | |
| | 4883 Aug 27 23:10 | 0°♌ | |
| | 4883 Oct 11 03:02 | 0°♍ | |
| | 4883 Nov 28 22:23 | 0°♎ | |

| | | | |
|---|---|---|---|
| | 4884 Jan 31 11:24 | 0°♏ | |
| retrograde | 4884 Mar 05 07:01 | 6°♏05'24 | |
| | 4884 Apr 05 08:05 | 30℞♎ | |
| opposition | 4884 Apr 14 12:32 | 26°♎27'18 | 3°13'34 |
| greatest brilliancy | 4884 Apr 14 14:34 | 26°♎25'17 | -1.3m |
| min. Earth dist. | 4884 Apr 15 04:54 | 26°♎11'04 | 0.67959 AU |
| direct | 4884 May 25 16:17 | 16°♎34'18 | |
| | 4884 Jul 18 16:18 | 0°♏ | |
| desc. node | 4884 Jul 26 07:31 | 3°♏21'09 | |
| | 4884 Sep 14 16:09 | 0°♐ | |
| | 4884 Nov 01 06:54 | 0°♑ | |
| | 4884 Dec 14 07:52 | 0°♒ | |
| | 4885 Jan 23 12:40 | 0°♓ | |
| | 4885 Mar 03 01:36 | 0°♈ | |
| evening set | 4885 Mar 10 19:37 | 6°♈07'00 | |
| | 4885 Apr 09 23:44 | 0°♉ | |
| | 4885 May 18 06:00 | 0°♊ | |
| conjunction | 4885 May 19 03:51 | 0°♊42'19 | -0°12'30 |
| minimum elong | 4885 May 19 05:06 | 0°♊44'43 | 0°12'29 |
| behind sun begin | 4885 May 18 10:16 | 0°♊08'16 | |
| behind sun end | 4885 May 19 23:55 | 1°♊21'09 | |
| asc. node | 4885 Jun 06 07:13 | 14°♊38'13 | |
| | 4885 Jun 26 16:37 | 0°♋ | |
| max. Earth dist. | 4885 Jul 10 16:07 | 10°♋19'37 | 2.42357 AU |
| morning rise | 4885 Jul 25 08:08 | 20°♋58'38 | |
| | 4885 Aug 06 23:40 | 0°♌ | |
| | 4885 Sep 19 14:24 | 0°♍ | |
| | 4885 Nov 04 23:45 | 0°♎ | |
| | 4885 Dec 25 08:50 | 0°♏ | |
| | 4886 Feb 25 02:57 | 0°♐ | |
| retrograde | 4886 Apr 10 06:44 | 9°♐29'08 | |
| opposition | 4886 May 19 06:18 | 0°♐34'03 | 0°55'18 |
| greatest brilliancy | 4886 May 19 10:19 | 0°♐30'10 | -1.5m |
| | 4886 May 20 17:25 | 30℞♏ | |
| min. Earth dist. | 4886 May 23 17:45 | 28°♏50'01 | 0.64343 AU |
| desc. node | 4886 Jun 13 06:15 | 22°♏18'21 | |
| direct | 4886 Jun 29 18:48 | 20°♏32'25 | |
| | 4886 Aug 11 14:36 | 0°♐ | |
| | 4886 Oct 08 11:44 | 0°♑ | |
| | 4886 Nov 22 19:36 | 0°♒ | |
| | 4887 Jan 02 17:47 | 0°♓ | |
| | 4887 Feb 10 13:25 | 0°♈ | |
| | 4887 Mar 20 16:35 | 0°♉ | |
| asc. node | 4887 Apr 24 06:45 | 26°♉57'41 | |
| | 4887 Apr 28 05:31 | 0°♊ | |
| evening set | 4887 May 22 03:08 | 18°♊09'29 | |
| | 4887 Jun 07 00:56 | 0°♋ | |
| | 4887 Jul 18 16:50 | 0°♌ | |
| conjunction | 4887 Jul 22 01:07 | 2°♌20'44 | 0°51'08 |
| minimum elong | 4887 Jul 21 23:05 | 2°♌17'12 | 0°51'07 |
| max. Earth dist. | 4887 Aug 23 20:20 | 24°♌52'49 | 2.55556 AU |
| | 4887 Aug 31 11:10 | 0°♍ | |
| morning rise | 4887 Sep 13 22:18 | 8°♍56'53 | |
| | 4887 Oct 16 07:22 | 0°♎ | |
| | 4887 Dec 03 04:11 | 0°♏ | |
| | 4888 Jan 22 17:14 | 0°♐ | |
| | 4888 Mar 20 01:35 | 0°♑ | |
| desc. node | 4888 Apr 30 04:56 | 14°♑51'03 | |
| retrograde | 4888 May 22 19:57 | 17°♑39'52 | |
| opposition | 4888 Jun 28 02:04 | 9°♑59'19 | -2°27'29 |
| greatest brilliancy | 4888 Jun 28 18:07 | 9°♑44'43 | -1.9m |
| min. Earth dist. | 4888 Jul 05 21:37 | 7°♑08'52 | 0.54482 AU |
| direct | 4888 Aug 06 19:57 | 0°♑40'11 | |
| | 4888 Oct 24 11:38 | 0°♒ | |
| | 4888 Dec 08 08:18 | 0°♓ | |

| | | | |
|---|---|---|---|
| | 4889 Jan 17 17:45 | 0°♈ | |
| | 4889 Feb 25 20:47 | 0°♉ | |
| asc. node | 4889 Mar 11 06:32 | 10°♉16'29 | |
| | 4889 Apr 06 06:37 | 0°♊ | |
| | 4889 May 16 22:28 | 0°♋ | |
| | 4889 Jun 28 09:24 | 0°♌ | |
| evening set | 4889 Jul 16 05:19 | 12°♌12'31 | |
| | 4889 Aug 11 18:05 | 0°♍ | |
| conjunction | 4889 Sep 05 05:23 | 16°♍04'23 | 1°07'50 |
| minimum elong | 4889 Sep 05 05:29 | 16°♍04'33 | 1°07'51 |
| max. Earth dist. | 4889 Sep 19 13:06 | 25°♍21'23 | 2.64377 AU |
| | 4889 Sep 26 18:05 | 0°♎ | |
| morning rise | 4889 Oct 22 01:58 | 16°♎11'16 | |
| | 4889 Nov 12 21:34 | 0°♏ | |
| | 4889 Dec 30 19:28 | 0°♐ | |
| | 4890 Feb 17 15:15 | 0°♑ | |
| desc. node | 4890 Mar 18 03:38 | 17°♑01'37 | |
| | 4890 Apr 09 16:04 | 0°♒ | |
| | 4890 Jun 08 18:46 | 0°♓ | |
| retrograde | 4890 Jul 23 23:18 | 10°♓20'25 | |
| opposition | 4890 Aug 24 14:00 | 4°♓43'13 | -6°17'10 |
| greatest brilliancy | 4890 Aug 26 03:56 | 4°♓14'44 | -2.6m |
| min. Earth dist. | 4890 Aug 31 17:21 | 2°♓35'37 | 0.41286 AU |
| | 4890 Sep 10 18:38 | 30℞♒ | |
| direct | 4890 Sep 27 08:05 | 28°♒07'01 | |
| | 4890 Oct 13 23:57 | 0°♓ | |
| | 4890 Dec 16 04:36 | 0°♈ | |
| asc. node | 4891 Jan 27 05:01 | 28°♈15'50 | |
| | 4891 Jan 29 16:34 | 0°♉ | |
| | 4891 Mar 13 03:49 | 0°♊ | |
| | 4891 Apr 25 00:33 | 0°♋ | |
| | 4891 Jun 08 03:57 | 0°♌ | |
| | 4891 Jul 23 17:54 | 0°♍ | |
| evening set | 4891 Aug 27 22:20 | 22°♍38'55 | |
| | 4891 Sep 08 10:40 | 0°♎ | |
| conjunction | 4891 Oct 13 05:33 | 22°♎07'34 | 0°52'36 |
| minimum elong | 4891 Oct 13 06:36 | 22°♎09'15 | 0°52'37 |
| max. Earth dist. | 4891 Oct 12 18:00 | 21°♎49'14 | 2.67826 AU |
| | 4891 Oct 25 14:56 | 0°♏ | |
| morning rise | 4891 Nov 26 09:51 | 20°♏15'31 | |
| | 4891 Dec 11 14:47 | 0°♐ | |
| | 4892 Jan 27 00:12 | 0°♑ | |
| desc. node | 4892 Feb 03 02:24 | 4°♑37'45 | |
| | 4892 Mar 12 16:31 | 0°♒ | |
| | 4892 Apr 26 19:54 | 0°♓ | |
| | 4892 Jun 11 00:27 | 0°♈ | |
| | 4892 Jul 28 11:29 | 0°♉ | |
| retrograde | 4892 Oct 11 17:24 | 28°♉11'28 | |
| min. Earth dist. | 4892 Nov 07 07:12 | 23°♉47'01 | 0.38258 AU |
| opposition | 4892 Nov 12 11:49 | 22°♉18'15 | -2°14'02 |
| greatest brilliancy | 4892 Nov 12 03:58 | 22°♉23'52 | -2.9m |
| direct | 4892 Dec 12 04:31 | 17°♉08'44 | |
| asc. node | 4892 Dec 14 04:04 | 17°♉10'17 | |
| | 4893 Jan 30 03:25 | 0°♊ | |
| | 4893 Mar 26 19:38 | 0°♋ | |
| | 4893 May 15 02:43 | 0°♌ | |
| | 4893 Jul 02 11:20 | 0°♍ | |
| | 4893 Aug 19 16:35 | 0°♎ | |
| evening set | 4893 Oct 03 03:15 | 27°♎52'37 | |
| | 4893 Oct 06 11:50 | 0°♏ | |
| max. Earth dist. | 4893 Nov 03 20:43 | 18°♏04'52 | 2.65781 AU |
| conjunction | 4893 Nov 17 03:50 | 26°♏39'26 | 0°18'10 |
| minimum elong | 4893 Nov 17 04:23 | 26°♏40'19 | 0°18'10 |
| | 4893 Nov 22 07:29 | 0°♐ | |

| | | | |
|---|---|---|---|
| desc. node | 4893 Dec 21 01:29 | 18°♐52'43 | |
| morning rise | 4893 Dec 31 19:47 | 26°♐03'07 | |
| | 4894 Jan 06 16:59 | 0°♑ | |
| | 4894 Feb 19 12:00 | 0°♒ | |
| | 4894 Apr 02 18:24 | 0°♓ | |
| | 4894 May 13 18:43 | 0°♈ | |
| | 4894 Jun 23 02:55 | 0°♉ | |
| | 4894 Aug 02 21:34 | 0°♊ | |
| | 4894 Sep 15 14:02 | 0°♋ | |
| asc. node | 4894 Nov 01 04:18 | 25°♋25'42 | |
| | 4894 Nov 13 19:11 | 0°♌ | |
| retrograde | 4894 Dec 08 03:04 | 3°♌57'37 | |
| | 4894 Dec 31 15:07 | 30°℞♋ | |
| min. Earth dist. | 4895 Jan 06 18:47 | 27°♋53'33 | 0.50503 AU |
| opposition | 4895 Jan 14 19:45 | 24°♋54'42 | 3°40'59 |
| greatest brilliancy | 4895 Jan 13 16:44 | 25°♋19'48 | -2.1m |
| direct | 4895 Feb 18 03:51 | 17°♋29'49 | |
| | 4895 Apr 09 14:42 | 0°♌ | |
| | 4895 Jun 08 10:18 | 0°♍ | |
| | 4895 Jul 30 11:02 | 0°♎ | |
| | 4895 Sep 17 20:09 | 0°♏ | |
| | 4895 Nov 04 02:20 | 0°♐ | |
| desc. node | 4895 Nov 08 00:37 | 2°♐33'24 | |
| evening set | 4895 Nov 09 00:59 | 3°♐13'09 | |
| max. Earth dist. | 4895 Nov 29 06:08 | 16°♐33'49 | 2.58436 AU |
| | 4895 Dec 19 04:04 | 0°♑ | |
| conjunction | 4895 Dec 25 20:46 | 4°♑35'14 | -0°26'06 |
| minimum elong | 4895 Dec 25 19:50 | 4°♑33'38 | 0°26'05 |
| | 4896 Jan 31 01:56 | 0°♒ | |
| morning rise | 4896 Feb 13 04:10 | 9°♒26'23 | |
| | 4896 Mar 12 02:22 | 0°♓ | |
| | 4896 Apr 20 16:35 | 0°♈ | |
| | 4896 May 29 12:33 | 0°♉ | |
| | 4896 Jul 07 10:45 | 0°♊ | |
| | 4896 Aug 16 13:54 | 0°♋ | |
| asc. node | 4896 Sep 18 02:20 | 22°♋56'41 | |
| | 4896 Sep 28 14:59 | 0°♌ | |
| | 4896 Nov 18 02:33 | 0°♍ | |
| retrograde | 4897 Jan 17 01:28 | 18°♍09'35 | |
| min. Earth dist. | 4897 Feb 21 06:49 | 10°♍05'05 | 0.62031 AU |
| opposition | 4897 Feb 25 23:45 | 8°♍12'58 | 4°44'46 |
| greatest brilliancy | 4897 Feb 25 04:50 | 8°♍31'46 | -1.5m |
| | 4897 Mar 25 21:38 | 30°℞♌ | |
| direct | 4897 Apr 05 04:36 | 29°♌19'02 | |
| | 4897 Apr 15 21:20 | 0°♍ | |
| | 4897 Jul 04 19:29 | 0°♎ | |
| | 4897 Aug 27 13:13 | 0°♏ | |
| desc. node | 4897 Sep 24 23:14 | 17°♏13'47 | |
| | 4897 Oct 15 05:32 | 0°♐ | |
| | 4897 Nov 29 13:26 | 0°♑ | |
| evening set | 4897 Dec 19 21:23 | 14°♑06'21 | |
| max. Earth dist. | 4898 Jan 02 19:28 | 23°♑59'51 | 2.46567 AU |
| | 4898 Jan 11 03:17 | 0°♒ | |
| conjunction | 4898 Feb 11 06:02 | 22°♒59'19 | -1°02'21 |
| minimum elong | 4898 Feb 11 04:52 | 22°♒57'08 | 1°02'19 |
| | 4898 Feb 20 12:45 | 0°♓ | |
| | 4898 Mar 31 10:16 | 0°♈ | |
| morning rise | 4898 Apr 14 05:35 | 10°♈48'42 | |
| | 4898 May 08 15:04 | 0°♉ | |
| | 4898 Jun 15 23:52 | 0°♊ | |
| | 4898 Jul 25 10:16 | 0°♋ | |
| asc. node | 4898 Aug 06 00:46 | 8°♋34'40 | |
| | 4898 Sep 04 21:21 | 0°♌ | |
| | 4898 Oct 19 15:15 | 0°♍ | |
| | 4898 Dec 09 21:24 | 0°♎ | |
| retrograde | 4899 Feb 21 01:07 | 23°♎27'51 | |
| opposition | 4899 Apr 02 10:25 | 13°♎39'01 | 3°51'44 |
| greatest brilliancy | 4899 Apr 02 07:46 | 13°♎41'39 | -1.3m |
| min. Earth dist. | 4899 Apr 01 14:34 | 13°♎58'47 | 0.67587 AU |
| direct | 4899 May 13 00:25 | 3°♎57'13 | |
| | 4899 Aug 02 08:13 | 0°♏ | |
| desc. node | 4899 Aug 12 21:57 | 5°♏30'39 | |
| | 4899 Sep 24 12:07 | 0°♐ | |
| | 4899 Nov 10 02:03 | 0°♑ | |
| | 4899 Dec 22 20:39 | 0°♒ | |
| | 4900 Feb 01 01:07 | 0°♓ | |
| evening set | 4900 Feb 12 20:08 | 9°♓04'23 | |
| | 4900 Mar 11 15:08 | 0°♈ | |
| | 4900 Apr 18 13:49 | 0°♉ | |
| conjunction | 4900 Apr 20 05:20 | 1°♉18'05 | -0°41'55 |
| minimum elong | 4900 Apr 20 08:45 | 1°♉24'49 | 0°41'54 |
| | 4900 May 26 19:19 | 0°♊ | |
| max. Earth dist. | 4900 May 27 11:59 | 0°♊32'20 | 2.37443 AU |
| asc. node | 4900 Jun 24 01:07 | 21°♊38'46 | |
| morning rise | 4900 Jun 30 17:26 | 26°♊40'43 | |
| | 4900 Jul 05 03:54 | 0°♋ | |
| | 4900 Aug 15 09:05 | 0°♌ | |
| | 4900 Sep 28 01:22 | 0°♍ | |
| | 4900 Nov 13 23:39 | 0°♎ | |
| | 4901 Jan 05 15:07 | 0°♏ | |
| retrograde | 4901 Mar 27 18:58 | 26°♏27'58 | |
| opposition | 4901 May 06 09:57 | 17°♏13'19 | 1°55'39 |
| greatest brilliancy | 4901 May 06 15:22 | 17°♏08'01 | -1.4m |
| min. Earth dist. | 4901 May 09 10:15 | 16°♏02'29 | 0.66532 AU |
| direct | 4901 Jun 16 23:50 | 7°♏11'07 | |
| desc. node | 4901 Jun 30 20:44 | 8°♏19'02 | |
| | 4901 Aug 28 20:13 | 0°♐ | |
| | 4901 Oct 19 05:31 | 0°♑ | |
| | 4901 Dec 02 07:15 | 0°♒ | |
| | 4902 Jan 11 19:59 | 0°♓ | |
| | 4902 Feb 19 11:36 | 0°♈ | |
| | 4902 Mar 29 11:41 | 0°♉ | |
| evening set | 4902 Apr 25 21:54 | 21°♉30'24 | |
| | 4902 May 06 20:56 | 0°♊ | |
| asc. node | 4902 May 12 00:14 | 3°♊57'23 | |
| | 4902 Jun 15 11:36 | 0°♋ | |
| conjunction | 4902 Jun 30 17:07 | 11°♋11'39 | 0°31'56 |
| minimum elong | 4902 Jun 30 14:59 | 11°♋07'45 | 0°31'54 |
| | 4902 Jul 26 22:30 | 0°♌ | |
| max. Earth dist. | 4902 Aug 11 01:46 | 10°♌35'13 | 2.50732 AU |
| morning rise | 4902 Aug 28 03:42 | 22°♌18'13 | |
| | 4902 Sep 08 13:25 | 0°♍ | |
| | 4902 Oct 24 11:22 | 0°♎ | |
| | 4902 Dec 11 22:50 | 0°♏ | |
| | 4903 Feb 02 16:43 | 0°♐ | |
| | 4903 Apr 17 14:04 | 0°♑ | |
| retrograde | 4903 May 06 10:25 | 1°♑59'16 | |
| desc. node | 4903 May 18 19:27 | 1°♑02'01 | |
| | 4903 May 24 06:07 | 30°℞♐ | |
| opposition | 4903 Jun 12 23:29 | 23°♐44'26 | -1°00'25 |
| greatest brilliancy | 4903 Jun 13 05:06 | 23°♐39'10 | -1.7m |
| min. Earth dist. | 4903 Jun 19 15:09 | 21°♐14'24 | 0.59011 AU |
| direct | 4903 Jul 23 18:29 | 13°♐58'57 | |
| | 4903 Sep 17 21:56 | 0°♑ | |
| | 4903 Nov 07 21:44 | 0°♒ | |
| | 4903 Dec 20 09:06 | 0°♓ | |
| | 4904 Jan 28 20:54 | 0°♈ | |
| | 4904 Mar 07 10:45 | 0°♉ | |
| asc. node | 4904 Mar 28 22:23 | 16°♉37'57 | |
| | 4904 Apr 15 09:42 | 0°♊ | |

| | | | |
|---|---|---|---|
| | 4904 May 25 15:18 | 0°♋ | |
| evening set | 4904 Jun 27 11:27 | 23°♋32'27 | |
| | 4904 Jul 06 16:55 | 0°♌ | |
| | 4904 Aug 19 18:19 | 0°♍ | |
| | | | |
| conjunction | 4904 Aug 20 15:26 | 0°♍35'10 | 1°06'07 |
| minimum elong | 4904 Aug 20 14:45 | 0°♍34'01 | 1°06'06 |
| max. Earth dist. | 4904 Sep 10 13:57 | 14°♍24'16 | 2.61548 AU |
| | 4904 Oct 04 14:58 | 0°♎ | |
| morning rise | 4904 Oct 08 14:24 | 2°♎33'19 | |
| | 4904 Nov 20 22:03 | 0°♏ | |
| | 4905 Jan 08 12:44 | 0°♐ | |
| | 4905 Feb 28 06:04 | 0°♑ | |
| desc. node | 4905 Apr 04 17:57 | 19°♑24'21 | |
| | 4905 Apr 26 09:51 | 0°♒ | |
| retrograde | 4905 Jun 27 14:26 | 17°♒14'21 | |
| opposition | 4905 Jul 31 03:14 | 10°♒43'49 | -4°58'40 |
| greatest brilliancy | 4905 Aug 01 14:26 | 10°♒14'32 | -2.3m |
| min. Earth dist. | 4905 Aug 08 13:57 | 7°♒55'56 | 0.46352 AU |
| direct | 4905 Sep 05 21:47 | 2°♒45'23 | |
| | 4905 Nov 17 14:42 | 0°♓ | |
| | 4906 Jan 01 05:45 | 0°♈ | |
| | 4906 Feb 11 06:45 | 0°♉ | |
| asc. node | 4906 Feb 13 21:47 | 1°♉56'32 | |
| | 4906 Mar 23 23:36 | 0°♊ | |
| | 4906 May 04 16:02 | 0°♋ | |
| | 4906 Jun 16 22:59 | 0°♌ | |
| | 4906 Jul 31 22:41 | 0°♍ | |
| evening set | 4906 Aug 13 07:35 | 8°♍04'42 | |
| | 4906 Sep 16 07:04 | 0°♎ | |
| | | | |
| conjunction | 4906 Sep 29 23:01 | 8°♎44'09 | 1°01'20 |
| minimum elong | 4906 Sep 29 23:54 | 8°♎45'33 | 1°01'20 |
| max. Earth dist. | 4906 Oct 04 22:18 | 11°♎54'18 | 2.67133 AU |
| | 4906 Nov 02 09:18 | 0°♏ | |
| morning rise | 4906 Nov 13 19:00 | 7°♏14'16 | |
| | 4906 Dec 19 15:08 | 0°♐ | |
| | 4907 Feb 04 17:08 | 0°♑ | |
| desc. node | 4907 Feb 20 17:25 | 10°♑13'24 | |
| | 4907 Mar 23 17:49 | 0°♒ | |
| | 4907 May 10 09:02 | 0°♓ | |
| | 4907 Jun 29 23:50 | 0°♈ | |
| retrograde | 4907 Sep 13 03:25 | 26°♈16'45 | |
| opposition | 4907 Oct 13 05:42 | 21°♈17'42 | -5°19'42 |
| greatest brilliancy | 4907 Oct 13 11:06 | 21°♈14'07 | -3.0m |
| min. Earth dist. | 4907 Oct 13 08:34 | 21°♈15'48 | 0.36983 AU |
| direct | 4907 Nov 11 22:08 | 16°♈21'39 | |
| | 4907 Dec 31 06:32 | 0°♉ | |
| asc. node | 4908 Jan 01 20:47 | 0°♉45'57 | |
| | 4908 Feb 22 02:11 | 0°♊ | |
| | 4908 Apr 09 00:04 | 0°♋ | |
| | 4908 May 25 09:13 | 0°♌ | |
| | 4908 Jul 11 07:44 | 0°♍ | |
| | 4908 Aug 27 19:14 | 0°♎ | |
| evening set | 4908 Sep 19 23:21 | 14°♎36'50 | |
| | 4908 Oct 14 06:48 | 0°♏ | |
| max. Earth dist. | 4908 Oct 26 19:40 | 7°♏58'24 | 2.67246 AU |
| | | | |
| conjunction | 4908 Nov 04 03:15 | 13°♏17'02 | 0°33'11 |
| minimum elong | 4908 Nov 04 04:09 | 13°♏18'28 | 0°33'12 |
| | 4908 Nov 30 02:47 | 0°♐ | |
| morning rise | 4908 Dec 18 05:04 | 11°♐46'39 | |
| desc. node | 4909 Jan 07 16:19 | 25°♐15'30 | |
| | 4909 Jan 14 19:37 | 0°♑ | |
| | 4909 Feb 28 04:28 | 0°♒ | |
| | 4909 Apr 12 06:24 | 0°♓ | |
| | 4909 May 24 07:07 | 0°♈ | |

| | | | |
|---|---|---|---|
| | 4909 Jul 04 22:27 | 0°♉ | |
| | 4909 Aug 16 20:44 | 0°♊ | |
| | 4909 Oct 06 12:40 | 0°♋ | |
| asc. node | 4909 Nov 18 19:27 | 11°♋56'55 | |
| retrograde | 4909 Nov 19 14:55 | 11°♋57'13 | |
| min. Earth dist. | 4909 Dec 17 04:11 | 6°♋44'46 | 0.45111 AU |
| opposition | 4909 Dec 25 12:41 | 3°♋51'38 | 2°10'09 |
| greatest brilliancy | 4909 Dec 24 18:48 | 4°♋07'07 | -2.5m |
| | 4910 Jan 06 21:49 | 30°℞♊ | |
| direct | 4910 Jan 26 21:55 | 27°♊17'46 | |
| | 4910 Feb 17 03:57 | 0°♋ | |
| | 4910 Apr 27 13:09 | 0°♌ | |
| | 4910 Jun 19 05:57 | 0°♍ | |
| | 4910 Aug 08 07:14 | 0°♎ | |
| | 4910 Sep 25 21:48 | 0°♏ | |
| evening set | 4910 Oct 26 10:26 | 19°♏20'44 | |
| | 4910 Nov 11 22:23 | 0°♐ | |
| max. Earth dist. | 4910 Nov 19 20:01 | 5°♐09'25 | 2.61940 AU |
| desc. node | 4910 Nov 25 14:55 | 8°♐57'27 | |
| | | | |
| conjunction | 4910 Dec 11 02:51 | 19°♐14'23 | -0°08'34 |
| minimum elong | 4910 Dec 11 02:33 | 19°♐13'53 | 0°08'33 |
| behind sun begin | 4910 Dec 10 09:53 | 18°♐46'03 | |
| behind sun end | 4910 Dec 11 19:13 | 19°♐41'43 | |
| | 4910 Dec 27 02:12 | 0°♑ | |
| morning rise | 4911 Jan 26 21:55 | 21°♑15'52 | |
| | 4911 Feb 08 07:08 | 0°♒ | |
| | 4911 Mar 21 17:29 | 0°♓ | |
| | 4911 Apr 30 18:22 | 0°♈ | |
| | 4911 Jun 09 00:27 | 0°♉ | |
| | 4911 Jul 18 09:08 | 0°♊ | |
| | 4911 Aug 28 04:21 | 0°♋ | |
| asc. node | 4911 Oct 06 19:30 | 26°♋45'07 | |
| | 4911 Oct 12 00:35 | 0°♌ | |
| | 4911 Dec 14 14:42 | 0°♍ | |
| retrograde | 4912 Jan 04 07:16 | 2°♍45'58 | |
| | 4912 Jan 23 23:43 | 30°℞♌ | |
| min. Earth dist. | 4912 Feb 06 11:01 | 25°♌24'07 | 0.58129 AU |
| opposition | 4912 Feb 12 15:19 | 22°♌58'55 | 4°40'19 |
| greatest brilliancy | 4912 Feb 11 14:32 | 23°♌23'15 | -1.7m |
| direct | 4912 Mar 20 12:35 | 14°♌33'23 | |
| | 4912 May 17 21:54 | 0°♍ | |
| | 4912 Jul 15 23:30 | 0°♎ | |
| | 4912 Sep 05 10:10 | 0°♏ | |
| desc. node | 4912 Oct 12 13:22 | 23°♏03'21 | |
| | 4912 Oct 23 09:34 | 0°♐ | |
| evening set | 4912 Dec 03 15:08 | 27°♐18'36 | |
| | 4912 Dec 07 13:47 | 0°♑ | |
| max. Earth dist. | 4912 Dec 18 21:35 | 7°♑48'13 | 2.51642 AU |
| | 4913 Jan 19 05:58 | 0°♒ | |
| | | | |
| conjunction | 4913 Jan 22 15:03 | 2°♒26'36 | -0°51'24 |
| minimum elong | 4913 Jan 22 13:27 | 2°♒23'43 | 0°51'23 |
| | 4913 Feb 28 20:37 | 0°♓ | |
| morning rise | 4913 Mar 19 09:17 | 14°♓05'42 | |
| | 4913 Apr 08 23:54 | 0°♈ | |
| | 4913 May 17 09:34 | 0°♉ | |
| | 4913 Jun 24 22:05 | 0°♊ | |
| | 4913 Aug 03 12:07 | 0°♋ | |
| asc. node | 4913 Aug 23 18:40 | 14°♋48'49 | |
| | 4913 Sep 14 06:50 | 0°♌ | |
| | 4913 Oct 30 02:27 | 0°♍ | |
| | 4913 Dec 26 00:20 | 0°♎ | |
| retrograde | 4914 Feb 08 18:22 | 10°♎29'22 | |
| min. Earth dist. | 4914 Mar 18 18:38 | 1°♎29'42 | 0.66173 AU |
| opposition | 4914 Mar 21 02:49 | 0°♎33'34 | 4°21'03 |
| greatest brilliancy | 4914 Mar 20 18:14 | 0°♎42'09 | -1.4m |

| | | | |
|---|---|---|---|
| | 4914 Mar 22 12:28 | 30°℞♍ | |
| direct | 4914 Apr 29 22:01 | 21°♍06'58 | |
| | 4914 Jun 11 16:42 | 0°♎ | |
| | 4914 Aug 13 20:30 | 0°♏ | |
| desc. node | 4914 Aug 30 12:14 | 9°♏25'59 | |
| | 4914 Oct 03 14:33 | 0°♐ | |
| | 4914 Nov 18 13:13 | 0°♑ | |
| | 4914 Dec 31 04:36 | 0°♒ | |
| evening set | 4915 Jan 21 06:10 | 15°♒31'20 | |
| | 4915 Feb 09 10:14 | 0°♓ | |
| max. Earth dist. | 4915 Feb 16 03:14 | 5°♓08'13 | 2.38700 AU |
| | 4915 Mar 20 02:28 | 0°♈ | |
| conjunction | 4915 Mar 23 05:57 | 2°♈28'21 | -1°00'39 |
| minimum elong | 4915 Mar 23 08:01 | 2°♈32'25 | 1°00'39 |
| | 4915 Apr 27 02:44 | 0°♉ | |
| morning rise | 4915 Jun 02 06:31 | 28°♉22'41 | |
| | 4915 Jun 04 08:38 | 0°♊ | |
| asc. node | 4915 Jul 11 16:45 | 28°♊30'16 | |
| | 4915 Jul 13 16:44 | 0°♋ | |
| | 4915 Aug 23 21:59 | 0°♌ | |
| | 4915 Oct 06 19:20 | 0°♍ | |
| | 4915 Nov 23 15:56 | 0°♎ | |
| | 4916 Jan 19 21:04 | 0°♏ | |
| retrograde | 4916 Mar 14 00:30 | 13°♏47'57 | |
| opposition | 4916 Apr 23 01:51 | 4°♏17'26 | 2°47'10 |
| greatest brilliancy | 4916 Apr 23 05:43 | 4°♏13'36 | -1.3m |
| min. Earth dist. | 4916 Apr 24 14:26 | 3°♏41'16 | 0.67726 AU |
| | 4916 May 04 07:03 | 30°℞♎ | |
| direct | 4916 Jun 03 10:23 | 24°♎19'56 | |
| | 4916 Jul 06 09:43 | 0°♏ | |
| desc. node | 4916 Jul 17 11:05 | 3°♏50'14 | |
| | 4916 Sep 09 05:53 | 0°♐ | |
| | 4916 Oct 27 22:12 | 0°♑ | |
| | 4916 Dec 10 07:18 | 0°♒ | |
| | 4917 Jan 19 15:05 | 0°♓ | |
| | 4917 Feb 27 04:57 | 0°♈ | |
| evening set | 4917 Mar 27 22:26 | 22°♈42'59 | |
| | 4917 Apr 06 03:21 | 0°♉ | |
| | 4917 May 14 09:56 | 0°♊ | |
| asc. node | 4917 May 28 16:27 | 10°♊59'08 | |
| conjunction | 4917 Jun 05 01:20 | 16°♊36'06 | 0°05'05 |
| minimum elong | 4917 Jun 05 00:51 | 16°♊35'12 | 0°05'05 |
| behind sun begin | 4917 Jun 03 21:34 | 15°♊43'23 | |
| behind sun end | 4917 Jun 06 04:09 | 17°♊26'56 | |
| | 4917 Jun 22 20:57 | 0°♋ | |
| max. Earth dist. | 4917 Jul 24 17:00 | 23°♋15'42 | 2.45393 AU |
| | 4917 Aug 03 04:03 | 0°♌ | |
| morning rise | 4917 Aug 08 01:41 | 3°♌27'31 | |
| | 4917 Sep 15 17:25 | 0°♍ | |
| | 4917 Oct 31 20:23 | 0°♎ | |
| | 4917 Dec 20 07:24 | 0°♏ | |
| | 4918 Feb 15 03:16 | 0°♐ | |
| retrograde | 4918 Apr 20 01:06 | 17°♐43'42 | |
| opposition | 4918 May 28 13:59 | 9°♐01'37 | 0°15'36 |
| greatest brilliancy | 4918 May 28 15:25 | 9°♐00'14 | -1.5m |
| min. Earth dist. | 4918 Jun 02 20:49 | 6°♐59'52 | 0.62687 AU |
| desc. node | 4918 Jun 04 10:11 | 6°♐24'30 | |
| | 4918 Jun 26 21:24 | 30°℞♏ | |
| direct | 4918 Jul 08 22:33 | 29°♏03'13 | |
| | 4918 Jul 21 08:36 | 0°♐ | |
| | 4918 Oct 02 06:47 | 0°♑ | |
| | 4918 Nov 17 23:09 | 0°♒ | |
| | 4918 Dec 29 08:08 | 0°♓ | |
| | 4919 Feb 06 08:43 | 0°♈ | |
| | 4919 Mar 16 14:57 | 0°♉ | |
| asc. node | 4919 Apr 15 15:38 | 23°♉22'15 | |
| | 4919 Apr 24 06:39 | 0°♊ | |
| | 4919 Jun 03 04:37 | 0°♋ | |
| evening set | 4919 Jun 06 02:19 | 2°♋08'02 | |
| | 4919 Jul 14 22:40 | 0°♌ | |
| conjunction | 4919 Aug 03 08:49 | 13°♌28'26 | 0°58'33 |
| minimum elong | 4919 Aug 03 07:14 | 13°♌25'43 | 0°58'32 |
| | 4919 Aug 27 18:16 | 0°♍ | |
| max. Earth dist. | 4919 Aug 31 15:53 | 2°♍36'20 | 2.57898 AU |
| morning rise | 4919 Sep 24 05:27 | 18°♍08'25 | |
| | 4919 Oct 12 13:13 | 0°♎ | |
| | 4919 Nov 29 03:16 | 0°♏ | |
| | 4920 Jan 17 19:13 | 0°♐ | |
| | 4920 Mar 11 18:49 | 0°♑ | |
| desc. node | 4920 Apr 21 09:20 | 18°♑26'24 | |
| retrograde | 4920 Jun 04 10:56 | 27°♑53'50 | |
| opposition | 4920 Jul 09 19:15 | 20°♑35'57 | -3°21'44 |
| greatest brilliancy | 4920 Jul 10 18:33 | 20°♑15'16 | -2.0m |
| min. Earth dist. | 4920 Jul 18 01:48 | 17°♑39'57 | 0.51663 AU |
| direct | 4920 Aug 17 16:54 | 11°♑38'57 | |
| | 4920 Oct 15 06:11 | 0°♒ | |
| | 4920 Dec 02 04:42 | 0°♓ | |
| | 4921 Jan 12 12:28 | 0°♈ | |
| | 4921 Feb 21 02:52 | 0°♉ | |
| asc. node | 4921 Mar 02 13:19 | 7°♉10'02 | |
| | 4921 Apr 01 20:53 | 0°♊ | |
| | 4921 May 12 19:28 | 0°♋ | |
| | 4921 Jun 24 11:54 | 0°♌ | |
| evening set | 4921 Jul 27 12:40 | 22°♌21'42 | |
| | 4921 Aug 08 00:46 | 0°♍ | |
| conjunction | 4921 Sep 15 02:41 | 24°♍50'55 | 1°06'37 |
| minimum elong | 4921 Sep 15 03:09 | 24°♍51'40 | 1°06'37 |
| | 4921 Sep 23 02:44 | 0°♎ | |
| max. Earth dist. | 4921 Sep 25 23:36 | 1°♎50'33 | 2.65600 AU |
| morning rise | 4921 Oct 31 01:50 | 24°♎13'08 | |
| | 4921 Nov 09 04:50 | 0°♏ | |
| | 4921 Dec 26 19:46 | 0°♐ | |
| | 4922 Feb 12 21:31 | 0°♑ | |
| desc. node | 4922 Mar 09 07:52 | 15°♑02'30 | |
| | 4922 Apr 03 01:34 | 0°♒ | |
| | 4922 May 25 22:11 | 0°♓ | |
| retrograde | 4922 Aug 11 10:25 | 25°♓49'38 | |
| opposition | 4922 Sep 10 22:58 | 20°♓38'27 | -6°32'24 |
| greatest brilliancy | 4922 Sep 12 06:36 | 20°♓16'17 | -2.8m |
| min. Earth dist. | 4922 Sep 16 09:13 | 19°♓07'32 | 0.39029 AU |
| direct | 4922 Oct 12 22:41 | 14°♓49'21 | |
| | 4922 Dec 03 06:24 | 0°♈ | |
| asc. node | 4923 Jan 18 12:58 | 27°♈41'04 | |
| | 4923 Jan 22 01:26 | 0°♉ | |
| | 4923 Mar 07 07:01 | 0°♊ | |
| | 4923 Apr 20 02:47 | 0°♋ | |
| | 4923 Jun 03 20:27 | 0°♌ | |
| | 4923 Jul 19 19:46 | 0°♍ | |
| | 4923 Sep 04 18:06 | 0°♎ | |
| evening set | 4923 Sep 06 12:10 | 1°♎06'47 | |
| max. Earth dist. | 4923 Oct 18 20:59 | 28°♎00'09 | 2.67862 AU |
| conjunction | 4923 Oct 22 06:14 | 0°♏09'15 | 0°46'09 |
| minimum elong | 4923 Oct 22 07:18 | 0°♏10'56 | 0°46'09 |
| | 4923 Oct 22 00:25 | 0°♏ | |
| morning rise | 4923 Dec 05 06:13 | 28°♏16'23 | |
| | 4923 Dec 07 22:35 | 0°♐ | |
| | 4924 Jan 23 01:20 | 0°♑ | |
| desc. node | 4924 Jan 25 06:52 | 1°♑28'01 | |
| | 4924 Mar 08 04:53 | 0°♒ | |

| | | | |
|---|---|---|---|
| | 4924 Apr 21 11:07 | 0°♓ | |
| | 4924 Jun 04 04:09 | 0°♈ | |
| | 4924 Jul 18 11:30 | 0°♉ | |
| | 4924 Sep 06 04:56 | 0°♊ | |
| retrograde | 4924 Oct 27 14:35 | 15°♊26'50 | |
| min. Earth dist. | 4924 Nov 22 23:01 | 10°♊53'53 | 0.40221 AU |
| opposition | 4924 Nov 29 22:30 | 8°♊44'56 | -0°22'56 |
| greatest brilliancy | 4924 Nov 29 20:24 | 8°♊46'34 | -2.8m |
| asc. node | 4924 Dec 05 13:35 | 7°♊03'32 | |
| direct | 4924 Dec 30 12:03 | 3°♊08'01 | |
| | 4925 Mar 18 06:01 | 0°♋ | |
| | 4925 May 09 12:38 | 0°♌ | |
| | 4925 Jun 28 00:26 | 0°♍ | |
| | 4925 Aug 15 18:37 | 0°♎ | |
| | 4925 Oct 02 19:56 | 0°♏ | |
| evening set | 4925 Oct 12 05:28 | 5°♏56'29 | |
| max. Earth dist. | 4925 Nov 10 06:13 | 24°♏30'51 | 2.64642 AU |
| | 4925 Nov 18 17:24 | 0°♐ | |
| conjunction | 4925 Nov 26 08:19 | 4°♐58'12 | 0°08'39 |
| minimum elong | 4925 Nov 26 08:35 | 4°♐58'38 | 0°08'40 |
| behind sun begin | 4925 Nov 25 16:27 | 4°♐32'17 | |
| behind sun end | 4925 Nov 27 00:43 | 5°♐25'00 | |
| desc. node | 4925 Dec 12 05:38 | 15°♐25'23 | |
| | 4926 Jan 03 00:54 | 0°♑ | |
| morning rise | 4926 Jan 10 13:38 | 5°♑05'57 | |
| | 4926 Feb 15 14:46 | 0°♒ | |
| | 4926 Mar 29 13:24 | 0°♓ | |
| | 4926 May 09 04:18 | 0°♈ | |
| | 4926 Jun 18 01:06 | 0°♉ | |
| | 4926 Jul 28 03:39 | 0°♊ | |
| | 4926 Sep 08 07:29 | 0°♋ | |
| asc. node | 4926 Oct 23 12:12 | 27°♋43'20 | |
| | 4926 Oct 27 21:55 | 0°♌ | |
| retrograde | 4926 Dec 19 03:33 | 15°♌23'37 | |
| min. Earth dist. | 4927 Jan 19 01:27 | 8°♌50'31 | 0.53400 AU |
| greatest brilliancy | 4927 Jan 25 09:12 | 6°♌26'22 | -2.0m |
| opposition | 4927 Jan 26 13:01 | 5°♌59'49 | 4°12'23 |
| | 4927 Feb 14 08:19 | 30°℞♋ | |
| direct | 4927 Mar 02 20:54 | 28°♋10'38 | |
| | 4927 Mar 20 08:44 | 0°♌ | |
| | 4927 Jun 02 03:04 | 0°♍ | |
| | 4927 Jul 25 21:54 | 0°♎ | |
| | 4927 Sep 13 22:01 | 0°♏ | |
| desc. node | 4927 Oct 30 04:00 | 29°♏11'13 | |
| | 4927 Oct 31 10:09 | 0°♐ | |
| evening set | 4927 Nov 18 16:59 | 11°♐58'04 | |
| max. Earth dist. | 4927 Dec 06 21:55 | 24°♐08'18 | 2.56213 AU |
| | 4927 Dec 15 13:07 | 0°♑ | |
| conjunction | 4928 Jan 05 10:07 | 14°♑25'41 | -0°36'00 |
| minimum elong | 4928 Jan 05 08:52 | 14°♑23'28 | 0°35'58 |
| | 4928 Jan 27 09:26 | 0°♒ | |
| morning rise | 4928 Feb 25 14:17 | 21°♒18'01 | |
| | 4928 Mar 08 06:35 | 0°♓ | |
| | 4928 Apr 16 16:52 | 0°♈ | |
| | 4928 May 25 08:34 | 0°♉ | |
| | 4928 Jul 03 02:13 | 0°♊ | |
| | 4928 Aug 11 22:39 | 0°♋ | |
| asc. node | 4928 Sep 09 10:40 | 20°♋27'07 | |
| | 4928 Sep 23 07:51 | 0°♌ | |
| | 4928 Nov 10 06:38 | 0°♍ | |
| retrograde | 4929 Jan 26 03:43 | 26°♍51'12 | |
| min. Earth dist. | 4929 Mar 03 10:20 | 18°♍25'15 | 0.63779 AU |
| opposition | 4929 Mar 07 06:46 | 16°♍53'03 | 4°39'59 |
| greatest brilliancy | 4929 Mar 06 15:34 | 17°♍08'14 | -1.5m |
| direct | 4929 Apr 15 02:26 | 7°♍45'59 | |
| | 4929 Jun 27 23:14 | 0°♎ | |
| | 4929 Aug 22 22:30 | 0°♏ | |
| desc. node | 4929 Sep 16 02:52 | 14°♏22'12 | |
| | 4929 Oct 11 06:15 | 0°♐ | |
| | 4929 Nov 25 19:19 | 0°♑ | |
| evening set | 4929 Dec 31 14:07 | 25°♑04'00 | |
| | 4930 Jan 07 10:06 | 0°♒ | |
| max. Earth dist. | 4930 Jan 15 12:05 | 5°♒53'31 | 2.43656 AU |
| | 4930 Feb 16 18:37 | 0°♓ | |
| conjunction | 4930 Feb 25 08:11 | 6°♓32'14 | -1°05'08 |
| minimum elong | 4930 Feb 25 07:52 | 6°♓31'36 | 1°05'07 |
| | 4930 Mar 27 14:36 | 0°♈ | |
| morning rise | 4930 May 02 01:03 | 27°♈52'35 | |
| | 4930 May 04 17:43 | 0°♉ | |
| | 4930 Jun 12 01:01 | 0°♊ | |
| | 4930 Jul 21 09:40 | 0°♋ | |
| asc. node | 4930 Jul 28 10:24 | 5°♋13'41 | |
| | 4930 Aug 31 16:47 | 0°♌ | |
| | 4930 Oct 14 23:43 | 0°♍ | |
| | 4930 Dec 03 11:45 | 0°♎ | |
| | 4931 Feb 15 09:56 | 0°♏ | |
| retrograde | 4931 Mar 01 15:28 | 1°♏12'26 | |
| | 4931 Mar 15 06:22 | 30°℞♎ | |
| opposition | 4931 Apr 10 23:04 | 21°♎29'10 | 3°30'24 |
| greatest brilliancy | 4931 Apr 10 23:14 | 21°♎29'00 | -1.3m |
| min. Earth dist. | 4931 Apr 10 23:39 | 21°♎28'35 | 0.67915 AU |
| direct | 4931 May 21 20:51 | 11°♎40'35 | |
| | 4931 Jul 26 02:13 | 0°♏ | |
| desc. node | 4931 Aug 04 02:33 | 4°♏19'06 | |
| | 4931 Sep 19 18:44 | 0°♐ | |
| | 4931 Nov 05 23:52 | 0°♑ | |
| | 4931 Dec 18 23:18 | 0°♒ | |
| | 4932 Jan 28 04:55 | 0°♓ | |
| evening set | 4932 Feb 28 16:41 | 24°♓25'33 | |
| | 4932 Mar 06 18:51 | 0°♈ | |
| | 4932 Apr 13 17:07 | 0°♉ | |
| conjunction | 4932 May 07 05:14 | 18°♉31'06 | -0°25'53 |
| minimum elong | 4932 May 07 07:46 | 18°♉36'03 | 0°25'52 |
| | 4932 May 21 22:31 | 0°♊ | |
| asc. node | 4932 Jun 14 08:35 | 17°♊59'21 | |
| max. Earth dist. | 4932 Jun 27 16:56 | 28°♊03'22 | 2.39964 AU |
| | 4932 Jun 30 07:20 | 0°♋ | |
| morning rise | 4932 Jul 15 16:47 | 11°♋23'26 | |
| | 4932 Aug 10 12:06 | 0°♌ | |
| | 4932 Sep 23 01:48 | 0°♍ | |
| | 4932 Nov 08 13:58 | 0°♎ | |
| | 4932 Dec 29 15:34 | 0°♏ | |
| | 4933 Mar 07 11:04 | 0°♐ | |
| retrograde | 4933 Apr 04 23:03 | 4°♐19'56 | |
| | 4933 May 01 05:29 | 30°℞♏ | |
| opposition | 4933 May 14 06:10 | 25°♏15'41 | 1°21'27 |
| greatest brilliancy | 4933 May 14 11:08 | 25°♏10'52 | -1.4m |
| min. Earth dist. | 4933 May 18 02:20 | 23°♏45'56 | 0.65450 AU |
| desc. node | 4933 Jun 21 01:08 | 15°♏18'21 | |
| direct | 4933 Jun 24 19:59 | 15°♏12'53 | |
| | 4933 Aug 19 13:50 | 0°♐ | |
| | 4933 Oct 13 02:58 | 0°♑ | |
| | 4933 Nov 26 22:15 | 0°♒ | |
| | 4934 Jan 06 17:01 | 0°♓ | |
| | 4934 Feb 14 11:13 | 0°♈ | |
| | 4934 Mar 24 12:38 | 0°♉ | |
| | 4934 May 01 23:07 | 0°♊ | |
| asc. node | 4934 May 02 07:36 | 0°♊16'21 | |
| evening set | 4934 May 11 15:18 | 7°♊25'23 | |
| | 4934 Jun 10 15:17 | 0°♋ | |

| | | | |
|---|---|---|---|
| conjunction | 4934 Jul 13 18:36 | 24°♋04'08 | 0°43'58 |
| minimum elong | 4934 Jul 13 16:22 | 24°♋00'10 | 0°43'56 |
| | 4934 Jul 22 03:28 | 0°♌ | |
| max. Earth dist. | 4934 Aug 19 06:47 | 19°♌30'49 | 2.53489 AU |
| | 4934 Sep 03 18:54 | 0°♍ | |
| morning rise | 4934 Sep 07 12:43 | 2°♍30'19 | |
| | 4934 Oct 19 14:13 | 0°♎ | |
| | 4934 Dec 06 15:26 | 0°♏ | |
| | 4935 Jan 26 22:07 | 0°♐ | |
| | 4935 Mar 28 22:19 | 0°♑ | |
| desc. node | 4935 May 08 23:31 | 10°♑50'20 | |
| retrograde | 4935 May 16 14:29 | 11°♑10'48 | |
| opposition | 4935 Jun 22 11:04 | 3°♑14'01 | -1°49'17 |
| greatest brilliancy | 4935 Jun 22 22:14 | 3°♑03'41 | -1.8m |
| min. Earth dist. | 4935 Jun 29 18:52 | 0°♑31'23 | 0.56611 AU |
| | 4935 Jul 01 05:39 | 30°℞♐ | |
| direct | 4935 Aug 01 17:44 | 23°♐40'53 | |
| | 4935 Sep 03 14:45 | 0°♑ | |
| | 4935 Oct 31 14:22 | 0°♒ | |
| | 4935 Dec 14 06:38 | 0°♓ | |
| | 4936 Jan 23 05:57 | 0°♈ | |
| | 4936 Mar 02 02:15 | 0°♉ | |
| asc. node | 4936 Mar 19 07:24 | 13°♉16'04 | |
| | 4936 Apr 10 05:59 | 0°♊ | |
| | 4936 May 20 15:52 | 0°♋ | |
| | 4936 Jul 01 20:59 | 0°♌ | |
| evening set | 4936 Jul 08 23:38 | 4°♌55'08 | |
| | 4936 Aug 15 01:05 | 0°♍ | |
| conjunction | 4936 Aug 30 06:54 | 10°♍04'43 | 1°07'44 |
| minimum elong | 4936 Aug 30 06:42 | 10°♍04'24 | 1°07'44 |
| max. Earth dist. | 4936 Sep 16 11:27 | 21°♍18'08 | 2.63217 AU |
| | 4936 Sep 29 22:22 | 0°♎ | |
| morning rise | 4936 Oct 16 23:42 | 10°♎55'32 | |
| | 4936 Nov 16 02:35 | 0°♏ | |
| | 4937 Jan 03 06:43 | 0°♐ | |
| | 4937 Feb 21 19:07 | 0°♑ | |
| desc. node | 4937 Mar 25 22:23 | 18°♑36'15 | |
| | 4937 Apr 15 18:25 | 0°♒ | |
| | 4937 Jul 06 15:13 | 0°♓ | |
| retrograde | 4937 Jul 12 09:43 | 0°♓12'19 | |
| | 4937 Jul 18 02:49 | 30°℞♒ | |
| opposition | 4937 Aug 13 21:45 | 24°♒11'07 | -5°47'57 |
| greatest brilliancy | 4937 Aug 15 12:25 | 23°♒40'34 | -2.5m |
| min. Earth dist. | 4937 Aug 21 21:34 | 21°♒40'51 | 0.43454 AU |
| direct | 4937 Sep 18 01:48 | 16°♒56'11 | |
| | 4937 Nov 04 00:21 | 0°♓ | |
| | 4937 Dec 23 20:08 | 0°♈ | |
| asc. node | 4938 Feb 04 06:16 | 29°♈52'49 | |
| | 4938 Feb 04 10:15 | 0°♉ | |
| | 4938 Mar 17 22:44 | 0°♊ | |
| | 4938 Apr 29 04:31 | 0°♋ | |
| | 4938 Jun 11 20:48 | 0°♌ | |
| | 4938 Jul 27 03:03 | 0°♍ | |
| evening set | 4938 Aug 22 08:41 | 16°♍59'58 | |
| | 4938 Sep 11 15:06 | 0°♎ | |
| conjunction | 4938 Oct 08 04:39 | 16°♎55'56 | 0°56'36 |
| minimum elong | 4938 Oct 08 05:40 | 16°♎57'32 | 0°56'36 |
| max. Earth dist. | 4938 Oct 10 03:15 | 18°♎10'01 | 2.67618 AU |
| | 4938 Oct 28 18:04 | 0°♏ | |
| morning rise | 4938 Nov 21 14:30 | 15°♏10'06 | |
| | 4938 Dec 14 20:33 | 0°♐ | |
| | 4939 Jan 30 13:01 | 0°♑ | |
| desc. node | 4939 Feb 10 21:11 | 7°♑20'00 | |
| | 4939 Mar 17 18:40 | 0°♒ | |
| | 4939 May 02 20:35 | 0°♓ | |
| | 4939 Jun 18 18:30 | 0°♈ | |
| | 4939 Aug 10 05:21 | 0°♉ | |
| retrograde | 4939 Sep 30 22:12 | 14°♉46'35 | |
| min. Earth dist. | 4939 Oct 28 14:50 | 10°♉15'10 | 0.37268 AU |
| opposition | 4939 Oct 31 15:58 | 9°♉25'32 | -3°41'51 |
| greatest brilliancy | 4939 Oct 31 10:19 | 9°♉29'22 | -3.0m |
| direct | 4939 Nov 29 23:38 | 4°♉29'52 | |
| asc. node | 4939 Dec 23 05:03 | 7°♉51'02 | |
| | 4940 Feb 11 06:39 | 0°♊ | |
| | 4940 Apr 01 17:07 | 0°♋ | |
| | 4940 May 19 11:41 | 0°♌ | |
| | 4940 Jul 06 03:19 | 0°♍ | |
| | 4940 Aug 22 23:52 | 0°♎ | |
| evening set | 4940 Sep 28 02:53 | 22°♎42'25 | |
| | 4940 Oct 09 15:39 | 0°♏ | |
| max. Earth dist. | 4940 Nov 01 01:54 | 14°♏16'29 | 2.66537 AU |
| conjunction | 4940 Nov 12 03:36 | 21°♏22'47 | 0°24'37 |
| minimum elong | 4940 Nov 12 04:20 | 21°♏23'56 | 0°24'37 |
| | 4940 Nov 25 11:54 | 0°♐ | |
| morning rise | 4940 Dec 26 11:36 | 20°♐18'09 | |
| desc. node | 4940 Dec 28 19:56 | 21°♐51'30 | |
| | 4941 Jan 10 01:09 | 0°♑ | |
| | 4941 Feb 23 02:53 | 0°♒ | |
| | 4941 Apr 06 18:02 | 0°♓ | |
| | 4941 May 18 04:49 | 0°♈ | |
| | 4941 Jun 28 00:49 | 0°♉ | |
| | 4941 Aug 08 12:31 | 0°♊ | |
| | 4941 Sep 22 23:05 | 0°♋ | |
| asc. node | 4941 Nov 09 05:06 | 22°♋03'09 | |
| retrograde | 4941 Dec 01 01:09 | 25°♋18'59 | |
| min. Earth dist. | 4941 Dec 29 16:11 | 19°♋39'00 | 0.48084 AU |
| greatest brilliancy | 4942 Jan 05 23:47 | 17°♋00'56 | -2.3m |
| opposition | 4942 Jan 07 00:21 | 16°♋38'42 | 3°09'02 |
| direct | 4942 Feb 09 12:30 | 9°♋35'33 | |
| | 4942 Apr 18 00:18 | 0°♌ | |
| | 4942 Jun 12 23:48 | 0°♍ | |
| | 4942 Aug 03 01:58 | 0°♎ | |
| | 4942 Sep 21 03:02 | 0°♏ | |
| evening set | 4942 Nov 03 17:17 | 27°♏40'09 | |
| | 4942 Nov 07 07:35 | 0°♐ | |
| desc. node | 4942 Nov 15 19:05 | 5°♐31'51 | |
| max. Earth dist. | 4942 Nov 25 18:37 | 12°♐05'57 | 2.60087 AU |
| conjunction | 4942 Dec 19 23:07 | 28°♐18'07 | -0°18'46 |
| minimum elong | 4942 Dec 19 22:27 | 28°♐16'59 | 0°18'44 |
| | 4942 Dec 22 11:07 | 0°♑ | |
| | 4943 Feb 03 13:05 | 0°♒ | |
| morning rise | 4943 Feb 06 00:35 | 1°♒46'10 | |
| | 4943 Mar 16 18:30 | 0°♓ | |
| | 4943 Apr 25 13:53 | 0°♈ | |
| | 4943 Jun 03 14:12 | 0°♉ | |
| | 4943 Jul 12 16:08 | 0°♊ | |
| | 4943 Aug 22 00:16 | 0°♋ | |
| asc. node | 4943 Sep 27 03:35 | 25°♋08'15 | |
| | 4943 Oct 04 13:37 | 0°♌ | |
| | 4943 Nov 26 18:37 | 0°♍ | |
| retrograde | 4944 Jan 12 21:44 | 12°♍11'44 | |
| min. Earth dist. | 4944 Feb 16 05:20 | 4°♍25'09 | 0.60401 AU |
| opposition | 4944 Feb 21 13:46 | 2°♍18'10 | 4°45'28 |
| greatest brilliancy | 4944 Feb 20 16:05 | 2°♍39'40 | -1.6m |
| | 4944 Feb 27 12:35 | 30°℞♌ | |
| direct | 4944 Mar 30 04:44 | 23°♌36'04 | |
| | 4944 May 04 08:51 | 0°♍ | |
| | 4944 Jul 09 11:40 | 0°♎ | |
| | 4944 Aug 31 04:38 | 0°♏ | |
| desc. node | 4944 Oct 02 17:47 | 19°♏56'11 | |

| | | | |
|---|---|---|---|
| | 4944 Oct 18 14:39 | 0°♐ | |
| | 4944 Dec 02 22:10 | 0°♑ | |
| evening set | 4944 Dec 13 05:25 | 7°♑05'09 | |
| max. Earth dist. | 4944 Dec 27 09:11 | 16°♑59'18 | 2.48882 AU |
| | 4945 Jan 14 14:17 | 0°♒ | |
| conjunction | 4945 Feb 02 22:40 | 14°♒09'12 | -0°58'26 |
| minimum elong | 4945 Feb 02 21:12 | 14°♒06'29 | 0°58'26 |
| | 4945 Feb 24 02:49 | 0°♓ | |
| morning rise | 4945 Apr 02 23:59 | 29°♓06'42 | |
| | 4945 Apr 04 03:22 | 0°♈ | |
| | 4945 May 12 10:15 | 0°♉ | |
| | 4945 Jun 19 20:01 | 0°♊ | |
| | 4945 Jul 29 06:52 | 0°♋ | |
| asc. node | 4945 Aug 14 01:37 | 11°♋37'42 | |
| | 4945 Sep 08 19:07 | 0°♌ | |
| | 4945 Oct 23 19:51 | 0°♍ | |
| | 4945 Dec 15 14:20 | 0°♎ | |
| retrograde | 4946 Feb 16 10:27 | 18°♎27'40 | |
| min. Earth dist. | 4946 Mar 27 07:48 | 9°♎10'58 | 0.67088 AU |
| opposition | 4946 Mar 28 19:31 | 8°♎35'17 | 4°05'05 |
| greatest brilliancy | 4946 Mar 28 14:24 | 8°♎40'24 | -1.3m |
| | 4946 Apr 25 11:54 | 30°℞♍ | |
| direct | 4946 May 08 01:10 | 28°♍59'44 | |
| | 4946 May 21 06:06 | 0°♎ | |
| | 4946 Aug 07 04:25 | 0°♏ | |
| desc. node | 4946 Aug 20 16:37 | 7°♏19'23 | |
| | 4946 Sep 28 07:04 | 0°♐ | |
| | 4946 Nov 13 15:43 | 0°♑ | |
| | 4946 Dec 26 10:24 | 0°♒ | |
| evening set | 4947 Feb 03 03:27 | 28°♒49'36 | |
| | 4947 Feb 04 16:22 | 0°♓ | |
| | 4947 Mar 15 07:57 | 0°♈ | |
| max. Earth dist. | 4947 Mar 27 09:56 | 9°♈31'25 | 2.36914 AU |
| conjunction | 4947 Apr 08 05:57 | 18°♈52'50 | -0°51'46 |
| minimum elong | 4947 Apr 08 09:10 | 18°♈59'12 | 0°51'45 |
| | 4947 Apr 22 07:16 | 0°♉ | |
| | 4947 May 30 12:13 | 0°♊ | |
| morning rise | 4947 Jun 19 06:38 | 15°♊13'50 | |
| asc. node | 4947 Jul 02 01:46 | 24°♊56'31 | |
| | 4947 Jul 08 19:28 | 0°♋ | |
| | 4947 Aug 18 22:59 | 0°♌ | |
| | 4947 Oct 01 15:15 | 0°♍ | |
| | 4947 Nov 17 19:18 | 0°♎ | |
| | 4948 Jan 10 18:16 | 0°♏ | |
| retrograde | 4948 Mar 21 20:33 | 21°♏31'11 | |
| opposition | 4948 Apr 30 16:43 | 12°♏09'06 | 2°17'57 |
| greatest brilliancy | 4948 Apr 30 21:43 | 12°♏04'11 | -1.3m |
| min. Earth dist. | 4948 May 03 01:26 | 11°♏13'17 | 0.67195 AU |
| direct | 4948 Jun 11 04:39 | 2°♏08'17 | |
| desc. node | 4948 Jul 07 15:31 | 5°♏57'04 | |
| | 4948 Sep 02 04:30 | 0°♐ | |
| | 4948 Oct 22 08:34 | 0°♑ | |
| | 4948 Dec 05 04:20 | 0°♒ | |
| | 4949 Jan 14 15:45 | 0°♓ | |
| | 4949 Feb 22 07:08 | 0°♈ | |
| | 4949 Apr 01 06:23 | 0°♉ | |
| evening set | 4949 Apr 13 07:31 | 9°♉29'56 | |
| | 4949 May 09 13:46 | 0°♊ | |
| asc. node | 4949 May 19 01:16 | 7°♊18'13 | |
| | 4949 Jun 18 01:46 | 0°♋ | |
| conjunction | 4949 Jun 19 23:18 | 1°♋24'34 | 0°21'15 |
| minimum elong | 4949 Jun 19 21:36 | 1°♋21'27 | 0°21'13 |
| | 4949 Jul 29 09:30 | 0°♌ | |
| max. Earth dist. | 4949 Aug 04 03:52 | 4°♌04'02 | 2.48388 AU |
| morning rise | 4949 Aug 19 19:26 | 14°♌57'32 | |
| | 4949 Sep 10 22:02 | 0°♍ | |
| | 4949 Oct 26 20:09 | 0°♎ | |
| | 4949 Dec 14 14:48 | 0°♏ | |
| | 4950 Feb 06 15:01 | 0°♐ | |
| retrograde | 4950 Apr 29 04:39 | 26°♐13'05 | |
| desc. node | 4950 May 25 14:04 | 21°♐53'15 | |
| opposition | 4950 Jun 06 05:05 | 17°♐45'22 | -0°27'17 |
| greatest brilliancy | 4950 Jun 06 07:26 | 17°♐43'08 | -1.6m |
| min. Earth dist. | 4950 Jun 12 06:27 | 15°♐27'12 | 0.60773 AU |
| direct | 4950 Jul 17 07:10 | 7°♐52'33 | |
| | 4950 Sep 23 23:01 | 0°♑ | |
| | 4950 Nov 11 18:50 | 0°♒ | |
| | 4950 Dec 23 18:19 | 0°♓ | |
| | 4951 Feb 01 01:11 | 0°♈ | |
| | 4951 Mar 11 11:12 | 0°♉ | |
| asc. node | 4951 Apr 05 23:13 | 19°♉48'23 | |
| | 4951 Apr 19 05:54 | 0°♊ | |
| | 4951 May 29 06:54 | 0°♋ | |
| evening set | 4951 Jun 19 03:10 | 15°♋06'56 | |
| | 4951 Jul 10 03:43 | 0°♌ | |
| conjunction | 4951 Aug 14 00:18 | 23°♌56'04 | 1°03'41 |
| minimum elong | 4951 Aug 13 23:13 | 23°♌54'15 | 1°03'41 |
| | 4951 Aug 23 01:10 | 0°♍ | |
| max. Earth dist. | 4951 Sep 07 01:24 | 9°♍57'54 | 2.60019 AU |
| morning rise | 4951 Oct 03 03:40 | 26°♍59'22 | |
| | 4951 Oct 07 19:44 | 0°♎ | |
| | 4951 Nov 24 04:39 | 0°♏ | |
| | 4952 Jan 12 04:11 | 0°♐ | |
| | 4952 Mar 03 23:59 | 0°♑ | |
| desc. node | 4952 Apr 11 12:34 | 19°♑50'13 | |
| | 4952 May 05 12:34 | 0°♒ | |
| retrograde | 4952 Jun 17 01:27 | 8°♒56'48 | |
| opposition | 4952 Jul 21 10:21 | 2°♒03'50 | -4°17'13 |
| greatest brilliancy | 4952 Jul 22 16:47 | 1°♒37'37 | -2.2m |
| | 4952 Jul 27 09:50 | 30°℞♑ | |
| min. Earth dist. | 4952 Jul 29 21:53 | 29°♑09'14 | 0.48758 AU |
| direct | 4952 Aug 28 05:45 | 23°♑35'53 | |
| | 4952 Sep 29 07:03 | 0°♒ | |
| | 4952 Nov 23 23:55 | 0°♓ | |
| | 4953 Jan 05 19:53 | 0°♈ | |
| | 4953 Feb 15 02:56 | 0°♉ | |
| asc. node | 4953 Feb 20 22:28 | 4°♉21'46 | |
| | 4953 Mar 27 07:27 | 0°♊ | |
| | 4953 May 07 14:07 | 0°♋ | |
| | 4953 Jun 19 12:53 | 0°♌ | |
| | 4953 Aug 03 06:25 | 0°♍ | |
| evening set | 4953 Aug 06 06:48 | 1°♍59'03 | |
| | 4953 Sep 18 10:56 | 0°♎ | |
| conjunction | 4953 Sep 23 16:56 | 3°♎22'01 | 1°03'59 |
| minimum elong | 4953 Sep 23 17:41 | 3°♎23'12 | 1°03'59 |
| max. Earth dist. | 4953 Oct 01 07:51 | 8°♎14'29 | 2.66552 AU |
| | 4953 Nov 04 12:36 | 0°♏ | |
| morning rise | 4953 Nov 07 23:20 | 2°♏11'10 | |
| | 4953 Dec 21 21:55 | 0°♐ | |
| | 4954 Feb 07 09:20 | 0°♑ | |
| desc. node | 4954 Feb 27 12:10 | 12°♑39'58 | |
| | 4954 Mar 27 05:30 | 0°♒ | |
| | 4954 May 15 13:51 | 0°♓ | |
| | 4954 Jul 10 20:11 | 0°♈ | |
| retrograde | 4954 Aug 29 18:17 | 12°♈57'30 | |
| opposition | 4954 Sep 28 18:40 | 8°♈00'24 | -6°08'50 |
| greatest brilliancy | 4954 Sep 29 12:44 | 7°♈48'15 | -2.9m |
| min. Earth dist. | 4954 Oct 01 11:31 | 7°♈16'52 | 0.37515 AU |
| direct | 4954 Oct 29 07:11 | 2°♈48'00 | |

| | | | |
|---|---|---|---|
| asc. node | 4955 Jan 08 22:07 | 28°♈45'15 | |
| | 4955 Jan 11 01:18 | 0°♉ | |
| | 4955 Feb 27 14:55 | 0°♊ | |
| | 4955 Apr 13 20:40 | 0°♋ | |
| | 4955 May 29 09:18 | 0°♌ | |
| | 4955 Jul 14 19:53 | 0°♍ | |
| | 4955 Aug 31 00:39 | 0°♎ | |
| evening set | 4955 Sep 14 19:59 | 9°♎21'51 | |
| | 4955 Oct 17 09:50 | 0°♏ | |
| max. Earth dist. | 4955 Oct 24 00:44 | 4°♏12'33 | 2.67630 AU |
| conjunction | 4955 Oct 30 04:46 | 8°♏08'12 | 0°38'52 |
| minimum elong | 4955 Oct 30 05:46 | 8°♏09'47 | 0°38'51 |
| | 4955 Dec 03 07:03 | 0°♐ | |
| morning rise | 4955 Dec 13 04:19 | 6°♐24'00 | |
| desc. node | 4956 Jan 15 11:19 | 28°♐11'59 | |
| | 4956 Jan 18 04:37 | 0°♑ | |
| | 4956 Mar 02 21:54 | 0°♒ | |
| | 4956 Apr 15 11:36 | 0°♓ | |
| | 4956 May 28 04:02 | 0°♈ | |
| | 4956 Jul 09 17:01 | 0°♉ | |
| | 4956 Aug 23 10:30 | 0°♊ | |
| | 4956 Oct 26 19:29 | 0°♋ | |
| retrograde | 4956 Nov 10 02:47 | 1°♋28'05 | |
| | 4956 Nov 24 08:03 | 30°℞♊ | |
| asc. node | 4956 Nov 25 20:36 | 29°♊40'42 | |
| min. Earth dist. | 4956 Dec 06 22:38 | 26°♊36'28 | 0.42794 AU |
| opposition | 4956 Dec 14 23:42 | 23°♊57'15 | 1°12'46 |
| greatest brilliancy | 4956 Dec 14 13:39 | 24°♊05'33 | -2.6m |
| direct | 4957 Jan 15 12:01 | 17°♊48'44 | |
| | 4957 Mar 05 01:07 | 0°♋ | |
| | 4957 May 02 05:37 | 0°♌ | |
| | 4957 Jun 22 07:38 | 0°♍ | |
| | 4957 Aug 10 18:10 | 0°♎ | |
| | 4957 Sep 28 03:04 | 0°♏ | |
| evening set | 4957 Oct 20 07:37 | 14°♏02'21 | |
| | 4957 Nov 14 02:58 | 0°♐ | |
| max. Earth dist. | 4957 Nov 15 19:33 | 1°♐05'57 | 2.63256 AU |
| desc. node | 4957 Dec 02 09:46 | 11°♐58'20 | |
| conjunction | 4957 Dec 04 16:12 | 13°♐28'14 | -0°01'16 |
| minimum elong | 4957 Dec 04 16:11 | 13°♐28'11 | 0°01'16 |
| behind sun begin | 4957 Dec 03 21:11 | 12°♐56'48 | |
| behind sun end | 4957 Dec 05 11:11 | 13°♐59'35 | |
| | 4957 Dec 29 09:19 | 0°♑ | |
| morning rise | 4958 Jan 19 16:01 | 14°♑32'46 | |
| | 4958 Feb 10 19:13 | 0°♒ | |
| | 4958 Mar 24 11:37 | 0°♓ | |
| | 4958 May 03 18:57 | 0°♈ | |
| | 4958 Jun 12 07:07 | 0°♉ | |
| | 4958 Jul 21 21:54 | 0°♊ | |
| | 4958 Sep 01 03:06 | 0°♋ | |
| asc. node | 4958 Oct 13 20:13 | 27°♋59'45 | |
| | 4958 Oct 17 05:32 | 0°♌ | |
| retrograde | 4958 Dec 28 14:31 | 26°♌02'13 | |
| min. Earth dist. | 4959 Jan 29 18:20 | 19°♌01'06 | 0.56108 AU |
| greatest brilliancy | 4959 Feb 04 10:17 | 16°♌49'26 | -1.8m |
| opposition | 4959 Feb 05 13:00 | 16°♌23'27 | 4°32'25 |
| direct | 4959 Mar 13 18:07 | 8°♌12'57 | |
| | 4959 May 24 15:29 | 0°♍ | |
| | 4959 Jul 20 01:49 | 0°♎ | |
| | 4959 Sep 08 21:30 | 0°♏ | |
| desc. node | 4959 Oct 20 08:11 | 25°♏54'28 | |
| | 4959 Oct 26 16:57 | 0°♐ | |
| evening set | 4959 Nov 27 15:24 | 21°♐01'11 | |
| | 4959 Dec 10 21:46 | 0°♑ | |
| max. Earth dist. | 4959 Dec 14 01:59 | 2°♑10'18 | 2.53765 AU |
| conjunction | 4960 Jan 15 11:54 | 24°♑50'04 | -0°45'14 |
| minimum elong | 4960 Jan 15 10:24 | 24°♑47'23 | 0°45'13 |
| | 4960 Jan 22 17:01 | 0°♒ | |
| | 4960 Mar 03 11:24 | 0°♓ | |
| morning rise | 4960 Mar 08 23:50 | 4°♓09'26 | |
| | 4960 Apr 11 18:20 | 0°♈ | |
| | 4960 May 20 06:49 | 0°♉ | |
| | 4960 Jun 27 20:59 | 0°♊ | |
| | 4960 Aug 06 12:27 | 0°♋ | |
| asc. node | 4960 Aug 30 19:58 | 17°♋40'03 | |
| | 4960 Sep 17 10:41 | 0°♌ | |
| | 4960 Nov 02 20:31 | 0°♍ | |
| | 4961 Jan 03 20:30 | 0°♎ | |
| retrograde | 4961 Feb 03 01:06 | 5°♎13'52 | |
| | 4961 Mar 03 00:27 | 30°℞♍ | |
| min. Earth dist. | 4961 Mar 12 06:59 | 26°♍28'30 | 0.65220 AU |
| opposition | 4961 Mar 15 07:10 | 25°♍16'21 | 4°30'31 |
| greatest brilliancy | 4961 Mar 14 19:43 | 25°♍27'48 | -1.4m |
| direct | 4961 Apr 23 15:48 | 15°♍57'54 | |
| | 4961 Jun 18 12:43 | 0°♎ | |
| | 4961 Aug 17 00:55 | 0°♏ | |
| desc. node | 4961 Sep 06 07:07 | 11°♏43'30 | |
| | 4961 Oct 06 04:50 | 0°♐ | |
| | 4961 Nov 21 00:38 | 0°♑ | |
| | 4962 Jan 02 17:09 | 0°♒ | |
| evening set | 4962 Jan 11 22:35 | 6°♒43'57 | |
| max. Earth dist. | 4962 Jan 30 16:40 | 20°♒39'44 | 2.40796 AU |
| | 4962 Feb 12 00:55 | 0°♓ | |
| conjunction | 4962 Mar 11 11:22 | 21°♓08'41 | -1°04'15 |
| minimum elong | 4962 Mar 11 12:19 | 21°♓10'31 | 1°04'15 |
| | 4962 Mar 22 19:18 | 0°♈ | |
| | 4962 Apr 29 20:53 | 0°♉ | |
| morning rise | 4962 May 19 13:29 | 15°♉30'26 | |
| | 4962 Jun 07 02:52 | 0°♊ | |
| | 4962 Jul 16 10:10 | 0°♋ | |
| asc. node | 4962 Jul 18 18:12 | 1°♋44'38 | |
| | 4962 Aug 26 14:41 | 0°♌ | |
| | 4962 Oct 09 13:30 | 0°♍ | |
| | 4962 Nov 26 21:17 | 0°♎ | |
| | 4963 Jan 26 09:35 | 0°♏ | |
| retrograde | 4963 Mar 09 07:27 | 8°♏54'33 | |
| | 4963 Apr 16 17:21 | 30°℞♎ | |
| opposition | 4963 Apr 18 11:44 | 29°♎18'02 | 3°06'02 |
| greatest brilliancy | 4963 Apr 18 14:11 | 29°♎15'36 | -1.3m |
| min. Earth dist. | 4963 Apr 19 08:22 | 28°♎57'34 | 0.67936 AU |
| direct | 4963 May 29 15:31 | 19°♎23'59 | |
| | 4963 Jul 15 17:00 | 0°♏ | |
| desc. node | 4963 Jul 25 06:07 | 3°♏57'01 | |
| | 4963 Sep 13 16:40 | 0°♐ | |
| | 4963 Oct 31 18:37 | 0°♑ | |
| | 4963 Dec 14 01:01 | 0°♒ | |
| | 4964 Jan 23 08:49 | 0°♓ | |
| | 4964 Mar 01 23:10 | 0°♈ | |
| evening set | 4964 Mar 15 07:30 | 10°♈32'13 | |
| | 4964 Apr 08 21:26 | 0°♉ | |
| | 4964 May 17 02:47 | 0°♊ | |
| conjunction | 4964 May 23 17:49 | 5°♊07'41 | -0°08'17 |
| minimum elong | 4964 May 23 18:39 | 5°♊09'17 | 0°08'17 |
| behind sun begin | 4964 May 22 17:08 | 4°♊20'04 | |
| behind sun end | 4964 May 24 20:10 | 5°♊58'27 | |
| asc. node | 4964 Jun 04 17:14 | 14°♊19'03 | |
| | 4964 Jun 25 11:42 | 0°♋ | |
| max. Earth dist. | 4964 Jul 14 18:13 | 14°♋13'29 | 2.42922 AU |
| morning rise | 4964 Jul 29 08:54 | 24°♋47'15 | |
| | 4964 Aug 05 16:24 | 0°♌ | |

| | | | | |
|---|---|---|---|---|
| | 4964 Sep 18 04:05 | 0°♍ | | |
| | 4964 Nov 03 08:48 | 0°♎ | | |
| | 4964 Dec 23 07:39 | 0°♏ | | |
| | 4965 Feb 20 21:25 | 0°♐ | | |
| retrograde | 4965 Apr 13 11:03 | 12°♐23'26 | | |
| opposition | 4965 May 22 08:34 | 3°♐31'02 | 0°44'08 | |
| greatest brilliancy | 4965 May 22 11:56 | 3°♐27'47 | -1.5m | |
| min. Earth dist. | 4965 May 27 00:03 | 1°♐43'11 | 0.64038 AU | |
| | 4965 May 31 13:26 | 30°℞♏ | | |
| desc. node | 4965 Jun 11 04:41 | 26°♏31'37 | | |
| direct | 4965 Jul 02 20:03 | 23°♏29'42 | | |
| | 4965 Aug 06 12:54 | 0°♐ | | |
| | 4965 Oct 06 10:49 | 0°♑ | | |
| | 4965 Nov 21 07:16 | 0°♒ | | |
| | 4966 Jan 01 10:43 | 0°♓ | | |
| | 4966 Feb 09 08:51 | 0°♈ | | |
| | 4966 Mar 19 12:53 | 0°♉ | | |
| asc. node | 4966 Apr 22 16:49 | 26°♉38'26 | | |
| | 4966 Apr 27 01:29 | 0°♊ | | |
| evening set | 4966 May 26 09:11 | 22°♊14'34 | | |
| | 4966 Jun 05 19:40 | 0°♋ | | |
| | 4966 Jul 17 09:41 | 0°♌ | | |
| conjunction | 4966 Jul 25 18:24 | 5°♌51'38 | 0°53'16 | |
| minimum elong | 4966 Jul 25 16:27 | 5°♌48'13 | 0°53'15 | |
| max. Earth dist. | 4966 Aug 26 14:17 | 27°♌39'40 | 2.56005 AU | |
| | 4966 Aug 30 01:49 | 0°♍ | | |
| morning rise | 4966 Sep 17 05:28 | 12°♍03'49 | | |
| | 4966 Oct 14 19:30 | 0°♎ | | |
| | 4966 Dec 01 12:42 | 0°♏ | | |
| | 4967 Jan 20 17:44 | 0°♐ | | |
| | 4967 Mar 17 19:21 | 0°♑ | | |
| desc. node | 4967 Apr 29 03:56 | 16°♑37'40 | | |
| retrograde | 4967 May 27 12:58 | 20°♑53'47 | | |
| opposition | 4967 Jul 02 13:48 | 13°♑17'29 | -2°41'18 | |
| greatest brilliancy | 4967 Jul 03 07:37 | 13°♑01'19 | -1.9m | |
| min. Earth dist. | 4967 Jul 10 11:08 | 10°♑25'48 | 0.53944 AU | |
| direct | 4967 Aug 11 03:38 | 4°♑01'48 | | |
| | 4967 Oct 22 23:21 | 0°♒ | | |
| | 4967 Dec 07 15:31 | 0°♓ | | |
| | 4968 Jan 17 07:08 | 0°♈ | | |
| | 4968 Feb 25 12:31 | 0°♉ | | |
| asc. node | 4968 Mar 09 14:36 | 10°♉01'11 | | |
| | 4968 Apr 04 22:56 | 0°♊ | | |
| | 4968 May 15 14:25 | 0°♋ | | |
| | 4968 Jun 27 00:27 | 0°♌ | | |
| evening set | 4968 Jul 19 18:33 | 15°♌33'30 | | |
| | 4968 Aug 10 08:00 | 0°♍ | | |
| conjunction | 4968 Sep 08 10:58 | 19°♍07'05 | 1°07'38 | |
| minimum elong | 4968 Sep 08 11:12 | 19°♍07'28 | 1°07'38 | |
| max. Earth dist. | 4968 Sep 22 01:46 | 27°♍55'49 | 2.64642 AU | |
| | 4968 Sep 25 06:52 | 0°♎ | | |
| morning rise | 4968 Oct 25 02:37 | 19°♎03'45 | | |
| | 4968 Nov 11 09:06 | 0°♏ | | |
| | 4968 Dec 29 04:54 | 0°♐ | | |
| | 4969 Feb 15 19:54 | 0°♑ | | |
| desc. node | 4969 Mar 16 02:45 | 17°♑01'45 | | |
| | 4969 Apr 07 07:42 | 0°♒ | | |
| | 4969 Jun 03 18:22 | 0°♓ | | |
| retrograde | 4969 Jul 28 17:00 | 14°♓28'36 | | |
| opposition | 4969 Aug 29 01:37 | 8°♓56'59 | -6°22'44 | |
| greatest brilliancy | 4969 Aug 30 15:18 | 8°♓29'09 | -2.7m | |
| min. Earth dist. | 4969 Sep 05 00:32 | 6°♓54'29 | 0.40806 AU | |
| direct | 4969 Oct 01 11:53 | 2°♓30'05 | | |
| | 4969 Dec 13 07:41 | 0°♈ | | |
| asc. node | 4970 Jan 25 13:51 | 28°♈30'59 | | |
| | 4970 Jan 27 17:18 | 0°♉ | | |
| | 4970 Mar 11 11:28 | 0°♊ | | |
| | 4970 Apr 23 10:54 | 0°♋ | | |
| | 4970 Jun 06 15:17 | 0°♌ | | |
| | 4970 Jul 22 05:32 | 0°♍ | | |
| evening set | 4970 Aug 31 03:02 | 25°♍39'12 | | |
| | 4970 Sep 06 22:33 | 0°♎ | | |
| max. Earth dist. | 4970 Oct 15 05:48 | 24°♎21'10 | 2.67865 AU | |
| conjunction | 4970 Oct 16 06:57 | 25°♎01'05 | 0°50'50 | |
| minimum elong | 4970 Oct 16 08:01 | 25°♎02'47 | 0°50'49 | |
| | 4970 Oct 24 03:09 | 0°♏ | | |
| morning rise | 4970 Nov 29 09:45 | 23°♏07'27 | | |
| | 4970 Dec 10 03:11 | 0°♐ | | |
| | 4971 Jan 25 12:07 | 0°♑ | | |
| desc. node | 4971 Feb 01 01:36 | 4°♑17'13 | | |
| | 4971 Mar 12 02:42 | 0°♒ | | |
| | 4971 Apr 26 02:12 | 0°♓ | | |
| | 4971 Jun 09 22:34 | 0°♈ | | |
| | 4971 Jul 26 10:41 | 0°♉ | | |
| | 4971 Sep 26 10:12 | 0°♊ | | |
| retrograde | 4971 Oct 17 03:08 | 2°♊52'36 | | |
| | 4971 Nov 06 22:12 | 30°℞♉ | | |
| min. Earth dist. | 4971 Nov 12 16:12 | 28°♉26'47 | 0.38559 AU | |
| opposition | 4971 Nov 18 04:56 | 26°♉50'32 | -1°47'22 | |
| greatest brilliancy | 4971 Nov 17 21:55 | 26°♉55'40 | -2.9m | |
| asc. node | 4971 Dec 13 14:30 | 21°♉44'26 | | |
| direct | 4971 Dec 18 02:11 | 21°♉36'23 | | |
| | 4972 Jan 25 11:14 | 0°♊ | | |
| | 4972 Mar 24 08:23 | 0°♋ | | |
| | 4972 May 13 05:03 | 0°♌ | | |
| | 4972 Jun 30 18:38 | 0°♍ | | |
| | 4972 Aug 18 02:29 | 0°♎ | | |
| | 4972 Oct 04 23:43 | 0°♏ | | |
| evening set | 4972 Oct 06 05:14 | 0°♏46'38 | | |
| max. Earth dist. | 4972 Nov 06 09:15 | 20°♏38'14 | 2.65598 AU | |
| conjunction | 4972 Nov 20 05:35 | 29°♏34'48 | 0°15'29 | |
| minimum elong | 4972 Nov 20 06:04 | 29°♏35'34 | 0°15'29 | |
| behind sun begin | 4972 Nov 20 01:11 | 29°♏27'40 | | |
| behind sun end | 4972 Nov 20 10:56 | 29°♏43'29 | | |
| | 4972 Nov 20 21:08 | 0°♐ | | |
| desc. node | 4972 Dec 19 00:06 | 18°♐26'20 | | |
| morning rise | 4973 Jan 03 23:18 | 29°♐05'10 | | |
| | 4973 Jan 05 07:57 | 0°♑ | | |
| | 4973 Feb 18 03:40 | 0°♒ | | |
| | 4973 Apr 01 09:59 | 0°♓ | | |
| | 4973 May 12 09:26 | 0°♈ | | |
| | 4973 Jun 21 15:31 | 0°♉ | | |
| | 4973 Aug 01 05:17 | 0°♊ | | |
| | 4973 Sep 13 08:06 | 0°♋ | | |
| asc. node | 4973 Oct 30 13:20 | 26°♋51'06 | | |
| | 4973 Nov 06 23:43 | 0°♌ | | |
| retrograde | 4973 Dec 11 15:43 | 7°♌33'41 | | |
| min. Earth dist. | 4974 Jan 10 12:20 | 1°♌23'56 | 0.51069 AU | |
| | 4974 Jan 14 07:10 | 30°℞♋ | | |
| greatest brilliancy | 4974 Jan 17 07:22 | 28°♋52'14 | -2.1m | |
| opposition | 4974 Jan 18 10:54 | 28°♋26'28 | 3°51'05 | |
| direct | 4974 Feb 22 00:18 | 20°♋56'28 | | |
| | 4974 Apr 04 20:13 | 0°♌ | | |
| | 4974 Jun 06 03:41 | 0°♍ | | |
| | 4974 Jul 28 15:40 | 0°♎ | | |
| | 4974 Sep 16 05:52 | 0°♏ | | |
| | 4974 Nov 02 15:30 | 0°♐ | | |
| desc. node | 4974 Nov 05 22:36 | 2°♐08'18 | | |
| evening set | 4974 Nov 12 04:40 | 6°♐13'00 | | |
| max. Earth dist. | 4974 Dec 02 02:07 | 19°♐22'41 | 2.58042 AU | |

| | | | |
|---|---|---|---|
| | 4974 Dec 17 19:56 | 0°♉ | |
| conjunction | 4974 Dec 29 03:48 | 7°♉45'43 | -0°28'52 |
| minimum elong | 4974 Dec 29 02:47 | 7°♉43'57 | 0°28'50 |
| | 4975 Jan 29 19:52 | 0°♒ | |
| morning rise | 4975 Feb 16 18:34 | 12°♒57'10 | |
| | 4975 Mar 11 21:35 | 0°♓ | |
| | 4975 Apr 20 12:15 | 0°♈ | |
| | 4975 May 29 07:45 | 0°♉ | |
| | 4975 Jul 07 04:16 | 0°♊ | |
| | 4975 Aug 16 03:53 | 0°♋ | |
| asc. node | 4975 Sep 17 11:30 | 22°♋57'34 | |
| | 4975 Sep 27 21:04 | 0°♌ | |
| | 4975 Nov 16 05:10 | 0°♍ | |
| retrograde | 4976 Jan 21 04:45 | 21°♍12'25 | |
| min. Earth dist. | 4976 Feb 25 14:54 | 13°♍02'56 | 0.62388 AU |
| greatest brilliancy | 4976 Feb 29 08:59 | 11°♍33'17 | -1.5m |
| opposition | 4976 Mar 01 03:09 | 11°♍15'10 | 4°44'26 |
| direct | 4976 Apr 08 10:03 | 2°♍18'29 | |
| | 4976 Jul 02 06:27 | 0°♎ | |
| | 4976 Aug 25 17:28 | 0°♏ | |
| desc. node | 4976 Sep 22 21:22 | 16°♏57'30 | |
| | 4976 Oct 13 16:38 | 0°♐ | |
| | 4976 Nov 28 04:41 | 0°♑ | |
| evening set | 4976 Dec 23 09:58 | 17°♑30'19 | |
| max. Earth dist. | 4977 Jan 06 11:59 | 27°♑33'08 | 2.46016 AU |
| | 4977 Jan 09 21:24 | 0°♒ | |
| conjunction | 4977 Feb 15 04:53 | 26°♒51'05 | -1°03'22 |
| minimum elong | 4977 Feb 15 03:54 | 26°♒49'13 | 1°03'22 |
| | 4977 Feb 19 08:47 | 0°♓ | |
| | 4977 Mar 30 07:22 | 0°♈ | |
| morning rise | 4977 Apr 18 21:28 | 15°♈20'56 | |
| | 4977 May 07 12:20 | 0°♉ | |
| | 4977 Jun 14 20:17 | 0°♊ | |
| | 4977 Jul 24 04:42 | 0°♋ | |
| asc. node | 4977 Aug 04 11:20 | 8°♋21'41 | |
| | 4977 Sep 03 12:13 | 0°♌ | |
| | 4977 Oct 17 23:15 | 0°♍ | |
| | 4977 Dec 07 09:33 | 0°♎ | |
| retrograde | 4978 Feb 24 01:03 | 26°♎17'04 | |
| opposition | 4978 Apr 05 09:24 | 16°♎29'17 | 3°45'54 |
| greatest brilliancy | 4978 Apr 05 07:24 | 16°♎31'16 | -1.3m |
| min. Earth dist. | 4978 Apr 04 17:56 | 16°♎44'42 | 0.67666 AU |
| direct | 4978 May 16 00:03 | 6°♎45'58 | |
| | 4978 Jul 30 16:53 | 0°♏ | |
| desc. node | 4978 Aug 10 21:01 | 5°♏40'59 | |
| | 4978 Sep 22 17:56 | 0°♐ | |
| | 4978 Nov 08 15:29 | 0°♑ | |
| | 4978 Dec 21 14:11 | 0°♒ | |
| | 4979 Jan 30 20:58 | 0°♓ | |
| evening set | 4979 Feb 17 04:29 | 13°♓19'56 | |
| | 4979 Mar 10 12:05 | 0°♈ | |
| | 4979 Apr 17 10:54 | 0°♉ | |
| conjunction | 4979 Apr 25 02:01 | 6°♉01'49 | -0°38'18 |
| minimum elong | 4979 Apr 25 05:20 | 6°♉08'22 | 0°38'16 |
| | 4979 May 25 15:40 | 0°♊ | |
| max. Earth dist. | 4979 Jun 05 12:22 | 8°♊24'15 | 2.37868 AU |
| asc. node | 4979 Jun 22 09:39 | 21°♊18'17 | |
| | 4979 Jul 03 22:46 | 0°♋ | |
| morning rise | 4979 Jul 05 06:04 | 0°♋58'30 | |
| | 4979 Aug 14 01:40 | 0°♌ | |
| | 4979 Sep 26 14:30 | 0°♍ | |
| | 4979 Nov 12 06:40 | 0°♎ | |
| | 4980 Jan 03 05:08 | 0°♏ | |
| retrograde | 4980 Mar 29 20:24 | 29°♏16'42 | |
| opposition | 4980 May 08 09:40 | 20°♏04'05 | 1°45'56 |
| greatest brilliancy | 4980 May 08 14:57 | 19°♏58'55 | -1.4m |
| min. Earth dist. | 4980 May 11 14:07 | 18°♏49'12 | 0.66357 AU |
| direct | 4980 Jun 18 22:59 | 10°♏01'21 | |
| desc. node | 4980 Jun 27 19:55 | 10°♏29'52 | |
| | 4980 Aug 25 02:14 | 0°♐ | |
| | 4980 Oct 16 12:50 | 0°♑ | |
| | 4980 Nov 29 22:37 | 0°♒ | |
| | 4981 Jan 09 14:59 | 0°♓ | |
| | 4981 Feb 17 08:08 | 0°♈ | |
| | 4981 Mar 27 08:22 | 0°♉ | |
| evening set | 4981 Apr 29 13:44 | 26°♉01'51 | |
| | 4981 May 04 16:46 | 0°♊ | |
| asc. node | 4981 May 09 08:10 | 3°♊34'51 | |
| | 4981 Jun 13 05:53 | 0°♋ | |
| conjunction | 4981 Jul 03 21:27 | 15°♋09'26 | 0°35'17 |
| minimum elong | 4981 Jul 03 19:14 | 15°♋05'25 | 0°35'15 |
| | 4981 Jul 24 14:50 | 0°♌ | |
| max. Earth dist. | 4981 Aug 13 07:07 | 13°♌45'18 | 2.51292 AU |
| morning rise | 4981 Aug 30 18:11 | 25°♌41'34 | |
| | 4981 Sep 06 03:27 | 0°♍ | |
| | 4981 Oct 21 22:28 | 0°♎ | |
| | 4981 Dec 09 04:49 | 0°♏ | |
| | 4982 Jan 30 08:47 | 0°♐ | |
| | 4982 Apr 07 18:07 | 0°♑ | |
| retrograde | 4982 May 08 20:58 | 5°♑02'28 | |
| desc. node | 4982 May 15 18:04 | 4°♑45'00 | |
| | 4982 Jun 06 11:11 | 30°℞♐ | |
| opposition | 4982 Jun 15 06:25 | 26°♐50'59 | -1°13'26 |
| greatest brilliancy | 4982 Jun 15 13:22 | 26°♐44'28 | -1.7m |
| min. Earth dist. | 4982 Jun 22 00:50 | 24°♐18'32 | 0.58589 AU |
| direct | 4982 Jul 25 22:49 | 17°♐07'15 | |
| | 4982 Sep 13 08:20 | 0°♑ | |
| | 4982 Nov 05 01:42 | 0°♒ | |
| | 4982 Dec 17 22:55 | 0°♓ | |
| | 4983 Jan 26 14:30 | 0°♈ | |
| | 4983 Mar 06 05:36 | 0°♉ | |
| asc. node | 4983 Mar 27 08:05 | 16°♉20'23 | |
| | 4983 Apr 14 04:16 | 0°♊ | |
| | 4983 May 24 08:40 | 0°♋ | |
| evening set | 4983 Jul 01 07:16 | 27°♋09'52 | |
| | 4983 Jul 05 08:36 | 0°♌ | |
| | 4983 Aug 18 08:15 | 0°♍ | |
| conjunction | 4983 Aug 24 02:00 | 3°♍49'16 | 1°06'43 |
| minimum elong | 4983 Aug 24 01:27 | 3°♍48'22 | 1°06'44 |
| max. Earth dist. | 4983 Sep 13 04:23 | 17°♍03'28 | 2.61894 AU |
| | 4983 Oct 03 03:16 | 0°♎ | |
| morning rise | 4983 Oct 11 18:22 | 5°♎32'42 | |
| | 4983 Nov 19 08:28 | 0°♏ | |
| | 4984 Jan 06 19:36 | 0°♐ | |
| | 4984 Feb 26 03:52 | 0°♑ | |
| desc. node | 4984 Apr 01 17:04 | 19°♑46'49 | |
| | 4984 Apr 21 20:09 | 0°♒ | |
| retrograde | 4984 Jun 30 18:53 | 20°♒57'23 | |
| opposition | 4984 Aug 03 03:57 | 14°♒32'11 | -5°10'57 |
| greatest brilliancy | 4984 Aug 04 16:10 | 14°♒02'17 | -2.4m |
| min. Earth dist. | 4984 Aug 11 13:48 | 11°♒46'51 | 0.45794 AU |
| direct | 4984 Sep 08 14:11 | 6°♒41'46 | |
| | 4984 Nov 13 16:41 | 0°♓ | |
| | 4984 Dec 29 08:29 | 0°♈ | |
| | 4985 Feb 08 16:54 | 0°♉ | |
| asc. node | 4985 Feb 11 07:25 | 1°♉55'04 | |
| | 4985 Mar 21 12:35 | 0°♊ | |
| | 4985 May 02 05:49 | 0°♋ | |
| | 4985 Jun 14 12:33 | 0°♌ | |

| | | | |
|---|---|---|---|
| | 4985 Jul 29 11:36 | 0°♍ | |
| evening set | 4985 Aug 15 14:53 | 11°♍10'54 | |
| | 4985 Sep 13 19:23 | 0°♎ | |
| conjunction | 4985 Oct 02 02:05 | 11°♎40'57 | 1°00'04 |
| minimum elong | 4985 Oct 02 03:01 | 11°♎42'27 | 1°00'04 |
| max. Earth dist. | 4985 Oct 06 14:09 | 14°♎33'06 | 2.67244 AU |
| | 4985 Oct 30 21:12 | 0°♏ | |
| morning rise | 4985 Nov 15 19:22 | 10°♏06'39 | |
| | 4985 Dec 17 02:27 | 0°♐ | |
| | 4986 Feb 02 02:54 | 0°♑ | |
| desc. node | 4986 Feb 17 16:09 | 9°♑57'16 | |
| | 4986 Mar 20 23:44 | 0°♒ | |
| | 4986 May 07 05:54 | 0°♓ | |
| | 4986 Jun 25 17:53 | 0°♈ | |
| | 4986 Sep 03 23:44 | 0°♉ | |
| retrograde | 4986 Sep 17 03:34 | 1°♉06'46 | |
| | 4986 Sep 30 08:53 | 30°℞♈ | |
| opposition | 4986 Oct 17 06:22 | 26°♈05'41 | -4°59'54 |
| greatest brilliancy | 4986 Oct 17 09:07 | 26°♈03'52 | -3.0m |
| min. Earth dist. | 4986 Oct 16 18:00 | 26°♈13'52 | 0.36939 AU |
| direct | 4986 Nov 15 17:34 | 21°♈11'45 | |
| | 4986 Dec 24 10:15 | 0°♉ | |
| asc. node | 4986 Dec 30 06:10 | 2°♉29'48 | |
| | 4987 Feb 18 13:07 | 0°♊ | |
| | 4987 Apr 07 01:50 | 0°♋ | |
| | 4987 May 23 16:22 | 0°♌ | |
| | 4987 Jul 09 17:13 | 0°♍ | |
| | 4987 Aug 26 06:01 | 0°♎ | |
| evening set | 4987 Sep 23 01:20 | 17°♎31'24 | |
| | 4987 Oct 12 18:42 | 0°♏ | |
| max. Earth dist. | 4987 Oct 29 05:49 | 10°♏28'11 | 2.67129 AU |
| conjunction | 4987 Nov 07 04:23 | 16°♏11'00 | 0°30'46 |
| minimum elong | 4987 Nov 07 05:15 | 16°♏12'22 | 0°30'46 |
| | 4987 Nov 28 15:39 | 0°♐ | |
| morning rise | 4987 Dec 21 07:00 | 14°♐44'42 | |
| desc. node | 4988 Jan 05 14:39 | 24°♐50'24 | |
| | 4988 Jan 13 09:11 | 0°♑ | |
| | 4988 Feb 26 18:07 | 0°♒ | |
| | 4988 Apr 09 19:20 | 0°♓ | |
| | 4988 May 21 18:12 | 0°♈ | |
| | 4988 Jul 02 05:25 | 0°♉ | |
| | 4988 Aug 13 17:01 | 0°♊ | |
| | 4988 Oct 01 07:17 | 0°♋ | |
| asc. node | 4988 Nov 16 05:54 | 15°♋39'07 | |
| retrograde | 4988 Nov 22 09:33 | 15°♋55'39 | |
| min. Earth dist. | 4988 Dec 20 01:48 | 10°♋39'06 | 0.45661 AU |
| opposition | 4988 Dec 28 12:05 | 7°♋43'20 | 2°27'02 |
| greatest brilliancy | 4988 Dec 27 16:08 | 8°♋00'45 | -2.4m |
| direct | 4989 Jan 30 03:24 | 1°♋03'49 | |
| | 4989 Apr 23 20:24 | 0°♌ | |
| | 4989 Jun 16 07:06 | 0°♍ | |
| | 4989 Aug 05 14:36 | 0°♎ | |
| | 4989 Sep 23 08:38 | 0°♏ | |
| evening set | 4989 Oct 28 12:11 | 22°♏15'43 | |
| | 4989 Nov 09 11:46 | 0°♐ | |
| max. Earth dist. | 4989 Nov 21 13:36 | 7°♐52'49 | 2.61595 AU |
| desc. node | 4989 Nov 22 13:39 | 8°♐32'17 | |
| conjunction | 4989 Dec 13 06:59 | 22°♐17'19 | -0°11'24 |
| minimum elong | 4989 Dec 13 06:35 | 22°♐16'38 | 0°11'24 |
| behind sun begin | 4989 Dec 12 16:37 | 21°♐53'14 | |
| behind sun end | 4989 Dec 13 20:34 | 22°♐40'03 | |
| | 4989 Dec 24 17:34 | 0°♑ | |
| morning rise | 4990 Jan 29 07:38 | 24°♑34'45 | |
| | 4990 Feb 05 23:50 | 0°♒ | |
| | 4990 Mar 19 10:54 | 0°♓ | |
| | 4990 Apr 28 11:53 | 0°♈ | |
| | 4990 Jun 06 17:18 | 0°♉ | |
| | 4990 Jul 16 00:01 | 0°♊ | |
| | 4990 Aug 25 14:30 | 0°♋ | |
| asc. node | 4990 Oct 04 04:53 | 27°♋01'21 | |
| | 4990 Oct 08 21:26 | 0°♌ | |
| | 4990 Dec 06 06:11 | 0°♍ | |
| retrograde | 4991 Jan 06 12:27 | 5°♍56'07 | |
| | 4991 Feb 04 20:56 | 30°℞♌ | |
| min. Earth dist. | 4991 Feb 08 21:24 | 28°♌28'41 | 0.58583 AU |
| opposition | 4991 Feb 14 21:00 | 26°♌07'34 | 4°43'01 |
| greatest brilliancy | 4991 Feb 13 20:43 | 26°♌31'30 | -1.7m |
| direct | 4991 Mar 23 20:54 | 17°♌38'43 | |
| | 4991 May 14 01:02 | 0°♍ | |
| | 4991 Jul 13 20:58 | 0°♎ | |
| | 4991 Sep 03 17:45 | 0°♏ | |
| desc. node | 4991 Oct 10 12:38 | 22°♏43'34 | |
| | 4991 Oct 21 22:21 | 0°♐ | |
| evening set | 4991 Dec 06 21:30 | 0°♑26'20 | |
| | 4991 Dec 06 06:04 | 0°♑ | |
| max. Earth dist. | 4991 Dec 21 20:31 | 10°♑45'06 | 2.51124 AU |
| | 4992 Jan 18 00:39 | 0°♒ | |
| conjunction | 4992 Jan 26 05:04 | 5°♒55'31 | -0°53'24 |
| minimum elong | 4992 Jan 26 03:29 | 5°♒52'39 | 0°53'23 |
| | 4992 Feb 27 16:42 | 0°♓ | |
| morning rise | 4992 Mar 22 14:11 | 18°♓12'16 | |
| | 4992 Apr 06 20:25 | 0°♈ | |
| | 4992 May 15 05:42 | 0°♉ | |
| | 4992 Jun 22 16:54 | 0°♊ | |
| | 4992 Aug 01 04:29 | 0°♋ | |
| asc. node | 4992 Aug 21 02:47 | 14°♋37'12 | |
| | 4992 Sep 11 18:48 | 0°♌ | |
| | 4992 Oct 27 04:33 | 0°♍ | |
| | 4992 Dec 21 04:34 | 0°♎ | |
| retrograde | 4993 Feb 10 18:51 | 13°♎21'57 | |
| min. Earth dist. | 4993 Mar 20 22:51 | 4°♎18'34 | 0.66382 AU |
| opposition | 4993 Mar 23 02:43 | 3°♎26'40 | 4°17'01 |
| greatest brilliancy | 4993 Mar 22 18:53 | 3°♎34'31 | -1.3m |
| | 4993 Mar 31 23:57 | 30°℞♍ | |
| direct | 4993 May 01 23:12 | 23°♍58'16 | |
| | 4993 Jun 05 09:28 | 0°♎ | |
| | 4993 Aug 10 16:52 | 0°♏ | |
| desc. node | 4993 Aug 27 11:30 | 9°♏22'23 | |
| | 4993 Sep 30 23:35 | 0°♐ | |
| | 4993 Nov 16 04:14 | 0°♑ | |
| | 4993 Dec 28 23:18 | 0°♒ | |
| evening set | 4994 Jan 24 01:45 | 19°♒14'48 | |
| | 4994 Feb 07 07:12 | 0°♓ | |
| max. Earth dist. | 4994 Feb 20 22:15 | 10°♓27'11 | 2.38272 AU |
| | 4994 Mar 18 00:29 | 0°♈ | |
| conjunction | 4994 Mar 26 16:16 | 6°♈48'35 | -0°59'00 |
| minimum elong | 4994 Mar 26 18:38 | 6°♈53'16 | 0°58'59 |
| | 4994 Apr 25 00:44 | 0°♉ | |
| | 4994 Jun 02 05:35 | 0°♊ | |
| morning rise | 4994 Jun 06 02:21 | 3°♊00'02 | |
| asc. node | 4994 Jul 09 02:39 | 28°♊13'03 | |
| | 4994 Jul 11 11:40 | 0°♋ | |
| | 4994 Aug 21 13:56 | 0°♌ | |
| | 4994 Oct 04 06:44 | 0°♍ | |
| | 4994 Nov 20 18:25 | 0°♎ | |
| | 4995 Jan 15 12:08 | 0°♏ | |
| retrograde | 4995 Mar 17 01:09 | 16°♏36'41 | |
| opposition | 4995 Apr 26 01:12 | 7°♏07'43 | 2°38'51 |
| greatest brilliancy | 4995 Apr 26 05:19 | 7°♏03'39 | -1.3m |

| | | | | |
|---|---|---|---|---|
| min. Earth dist. | 4995 Apr 27 17:52 | 6°♏27'31 | 0.67658 AU | |
| | 4995 May 16 07:10 | 30°℞♎ | | |
| direct | 4995 Jun 06 09:44 | 27°♎09'17 | | |
| | 4995 Jun 29 03:02 | 0°♏ | | |
| desc. node | 4995 Jul 15 10:19 | 4°♏49'58 | | |
| | 4995 Sep 07 02:13 | 0°♐ | | |
| | 4995 Oct 26 08:46 | 0°♑ | | |
| | 4995 Dec 08 23:54 | 0°♒ | | |
| | 4996 Jan 18 10:51 | 0°♓ | | |
| | 4996 Feb 26 02:15 | 0°♈ | | |
| evening set | 4996 Mar 31 12:25 | 27°♈12'45 | | |
| | 4996 Apr 04 01:00 | 0°♉ | | |
| | 4996 May 12 06:58 | 0°♊ | | |
| asc. node | 4996 May 26 02:15 | 10°♊38'32 | | |
| conjunction | 4996 Jun 08 11:43 | 20°♊50'13 | 0°09'10 | |
| minimum elong | 4996 Jun 08 10:52 | 20°♊48'37 | 0°09'08 | |
| behind sun begin | 4996 Jun 07 11:19 | 20°♊04'06 | | |
| behind sun end | 4996 Jun 09 10:25 | 21°♊33'05 | | |
| | 4996 Jun 20 16:29 | 0°♋ | | |
| max. Earth dist. | 4996 Jul 27 06:20 | 26°♋42'22 | 2.45958 AU | |
| | 4996 Jul 31 21:24 | 0°♌ | | |
| morning rise | 4996 Aug 10 21:55 | 7°♌04'01 | | |
| | 4996 Sep 13 07:53 | 0°♍ | | |
| | 4996 Oct 29 06:47 | 0°♎ | | |
| | 4996 Dec 17 09:54 | 0°♏ | | |
| | 4997 Feb 11 01:32 | 0°♐ | | |
| retrograde | 4997 Apr 22 06:45 | 20°♐39'05 | | |
| opposition | 4997 May 30 16:59 | 11°♐59'41 | 0°03'48 | |
| greatest brilliancy | 4997 Nov 03 05:15 | 21°♑46'32 | 0.6m | |
| desc. node | 4997 Jun 01 08:42 | 11°♐21'31 | | |
| min. Earth dist. | 4997 Jun 05 03:17 | 9°♐54'37 | 0.62356 AU | |
| direct | 4997 Jul 10 23:55 | 2°♐01'46 | | |
| | 4997 Sep 29 00:04 | 0°♑ | | |
| | 4997 Nov 15 09:42 | 0°♒ | | |
| | 4997 Dec 27 00:48 | 0°♓ | | |
| | 4998 Feb 04 03:55 | 0°♈ | | |
| | 4998 Mar 14 10:53 | 0°♉ | | |
| asc. node | 4998 Apr 13 00:29 | 23°♉01'21 | | |
| | 4998 Apr 22 02:08 | 0°♊ | | |
| | 4998 May 31 22:54 | 0°♋ | | |
| evening set | 4998 Jun 09 04:42 | 6°♋02'49 | | |
| | 4998 Jul 12 15:18 | 0°♌ | | |
| conjunction | 4998 Aug 05 23:32 | 16°♌52'19 | 1°00'08 | |
| minimum elong | 4998 Aug 05 22:04 | 16°♌49'47 | 1°00'06 | |
| | 4998 Aug 25 08:59 | 0°♍ | | |
| max. Earth dist. | 4998 Sep 02 08:34 | 5°♍19'52 | 2.58316 AU | |
| morning rise | 4998 Sep 26 11:26 | 21°♍11'56 | | |
| | 4998 Oct 10 01:46 | 0°♎ | | |
| | 4998 Nov 26 12:47 | 0°♏ | | |
| | 4999 Jan 14 22:36 | 0°♐ | | |
| | 4999 Mar 09 03:45 | 0°♑ | | |
| desc. node | 4999 Apr 19 07:15 | 19°♑30'13 | | |
| | 4999 May 24 08:15 | 0°♒ | | |
| retrograde | 4999 Jun 08 06:59 | 1°♒16'28 | | |
| | 4999 Jun 22 11:19 | 30°℞♑ | | |
| opposition | 4999 Jul 13 10:44 | 24°♑02'48 | -3°35'35 | |
| greatest brilliancy | 4999 Jul 14 11:44 | 23°♑40'40 | -2.1m | |
| min. Earth dist. | 4999 Jul 21 17:37 | 21°♑07'13 | 0.51141 AU | |
| direct | 4999 Aug 21 02:45 | 15°♑10'29 | | |
| | 4999 Oct 11 18:49 | 0°♒ | | |
| | 4999 Nov 30 07:38 | 0°♓ | | |
| | 5000 Jan 11 00:38 | 0°♈ | | |
| | 5000 Feb 19 18:17 | 0°♉ | | |
| asc. node | 5000 Feb 28 23:29 | 6°♉59'22 | | |
| | 5000 Mar 31 13:09 | 0°♊ | | |
| | 5000 May 11 11:20 | 0°♋ | | |
| | 5000 Jun 23 02:47 | 0°♌ | | |
| evening set | 5000 Jul 30 22:43 | 25°♌34'57 | | |
| | 5000 Aug 06 14:30 | 0°♍ | | |
| conjunction | 5000 Sep 18 06:58 | 27°♍50'23 | 1°05'59 | |
| minimum elong | 5000 Sep 18 07:32 | 27°♍51'17 | 1°06'00 | |
| | 5000 Sep 21 15:33 | 0°♎ | | |
| max. Earth dist. | 5000 Sep 28 12:54 | 4°♎25'27 | 2.65803 AU | |
| morning rise | 5000 Nov 03 02:25 | 27°♎05'16 | | |
| | 5000 Nov 07 16:42 | 0°♏ | | |
| | 5000 Dec 25 06:02 | 0°♐ | | |
| | 5001 Feb 11 04:08 | 0°♑ | | |
| desc. node | 5001 Mar 07 06:48 | 14°♑55'55 | | |
| | 5001 Mar 31 23:24 | 0°♒ | | |
| | 5001 May 22 17:25 | 0°♓ | | |
| | 5001 Aug 08 16:17 | 0°♈ | | |
| retrograde | 5001 Aug 16 10:34 | 0°♈22'28 | | |
| | 5001 Aug 24 02:05 | 30°℞♓ | | |
| opposition | 5001 Sep 15 19:47 | 25°♓14'43 | -6°30'00 | |
| greatest brilliancy | 5001 Sep 17 01:15 | 24°♓54'13 | -2.8m | |
| min. Earth dist. | 5001 Sep 20 18:10 | 23°♓52'31 | 0.38688 AU | |
| direct | 5001 Oct 17 13:46 | 19°♓33'18 | | |
| | 5001 Nov 28 01:34 | 0°♈ | | |
| asc. node | 5002 Jan 16 23:19 | 28°♈16'41 | | |
| | 5002 Jan 19 15:28 | 0°♉ | | |
| | 5002 Mar 05 10:59 | 0°♊ | | |
| | 5002 Apr 18 11:52 | 0°♋ | | |
| | 5002 Jun 02 07:27 | 0°♌ | | |
| | 5002 Jul 18 07:24 | 0°♍ | | |
| | 5002 Sep 03 06:06 | 0°♎ | | |
| evening set | 5002 Sep 09 14:26 | 4°♎01'47 | | |
| | 5002 Oct 20 12:55 | 0°♏ | | |
| max. Earth dist. | 5002 Oct 21 08:47 | 0°♏31'34 | 2.67838 AU | |
| conjunction | 5002 Oct 25 06:26 | 3°♏00'21 | 0°44'07 | |
| minimum elong | 5002 Oct 25 07:29 | 3°♏02'01 | 0°44'08 | |
| | 5002 Dec 06 11:36 | 0°♐ | | |
| morning rise | 5002 Dec 08 06:03 | 1°♐08'23 | | |
| | 5003 Jan 21 14:22 | 0°♑ | | |
| desc. node | 5003 Jan 23 05:57 | 1°♑05'06 | | |
| | 5003 Mar 07 16:49 | 0°♒ | | |
| | 5003 Apr 20 20:19 | 0°♓ | | |
| | 5003 Jun 03 07:58 | 0°♈ | | |
| | 5003 Jul 17 03:28 | 0°♉ | | |
| | 5003 Sep 03 00:29 | 0°♊ | | |
| retrograde | 5003 Nov 01 18:58 | 20°♊01'39 | | |
| min. Earth dist. | 5003 Nov 28 05:10 | 15°♊26'16 | 0.40685 AU | |
| asc. node | 5003 Dec 04 21:40 | 13°♊20'51 | | |
| opposition | 5003 Dec 05 11:45 | 13°♊09'48 | 0°02'22 | |
| greatest brilliancy | 5002 Dec 18 15:23 | 7°♐50'59 | 1.8m | |
| direct | 5004 Jan 05 04:08 | 7°♊26'56 | | |
| | 5004 Mar 14 23:44 | 0°♋ | | |
| | 5004 May 07 10:10 | 0°♌ | | |
| | 5004 Jun 26 06:04 | 0°♍ | | |
| | 5004 Aug 14 03:55 | 0°♎ | | |
| | 5004 Oct 01 07:35 | 0°♏ | | |
| evening set | 5004 Oct 15 06:30 | 8°♏49'07 | | |
| max. Earth dist. | 5004 Nov 12 19:54 | 27°♏06'29 | 2.64410 AU | |
| | 5004 Nov 17 07:01 | 0°♐ | | |
| conjunction | 5004 Nov 29 09:52 | 7°♐54'07 | 0°05'54 | |
| minimum elong | 5004 Nov 29 10:03 | 7°♐54'24 | 0°05'55 | |
| behind sun begin | 5004 Nov 28 16:13 | 7°♐25'15 | | |
| behind sun end | 5004 Nov 30 03:52 | 8°♐23'35 | | |
| desc. node | 5004 Dec 10 04:11 | 14°♐59'00 | | |
| | 5005 Jan 01 16:11 | 0°♑ | | |

| | | | |
|---|---|---|---|
| morning rise | 5005 Jan 13 17:57 | 8°♑10'58 | |
| | 5005 Feb 14 07:10 | 0°♒ | |
| | 5005 Mar 28 06:16 | 0°♓ | |
| | 5005 May 07 20:48 | 0°♈ | |
| | 5005 Jun 16 16:03 | 0°♉ | |
| | 5005 Jul 26 14:53 | 0°♊ | |
| | 5005 Sep 06 09:37 | 0°♋ | |
| asc. node | 5005 Oct 21 20:49 | 28°♋33'25 | |
| | 5005 Oct 24 12:26 | 0°♌ | |
| retrograde | 5005 Dec 22 14:14 | 18°♌52'58 | |
| min. Earth dist. | 5006 Jan 22 17:35 | 12°♌13'44 | 0.53935 AU |
| greatest brilliancy | 5006 Jan 28 21:27 | 9°♌52'30 | -1.9m |
| opposition | 5006 Jan 30 01:23 | 9°♌25'42 | 4°19'31 |
| direct | 5006 Mar 06 13:13 | 1°♌32'03 | |
| | 5006 May 30 11:34 | 0°♍ | |
| | 5006 Jul 23 23:57 | 0°♎ | |
| | 5006 Sep 12 06:43 | 0°♏ | |
| desc. node | 5006 Oct 28 02:50 | 28°♏49'03 | |
| | 5006 Oct 29 22:49 | 0°♐ | |
| evening set | 5006 Nov 21 21:15 | 15°♐00'31 | |
| max. Earth dist. | 5006 Dec 09 19:55 | 27°♐02'10 | 2.55766 AU |
| | 5006 Dec 14 04:40 | 0°♑ | |
| | | | |
| conjunction | 5007 Jan 08 18:57 | 17°♑42'00 | -0°38'33 |
| minimum elong | 5007 Jan 08 17:38 | 17°♑39'40 | 0°38'32 |
| | 5007 Jan 26 03:06 | 0°♒ | |
| morning rise | 5007 Mar 01 08:40 | 24°♒59'51 | |
| | 5007 Mar 08 01:40 | 0°♓ | |
| | 5007 Apr 16 12:37 | 0°♈ | |
| | 5007 May 25 04:10 | 0°♉ | |
| | 5007 Jul 02 20:34 | 0°♊ | |
| | 5007 Aug 11 14:04 | 0°♋ | |
| asc. node | 5007 Sep 08 20:52 | 20°♋24'26 | |
| | 5007 Sep 22 17:02 | 0°♌ | |
| | 5007 Nov 08 22:19 | 0°♍ | |
| retrograde | 5008 Jan 30 05:47 | 29°♍50'53 | |
| min. Earth dist. | 5008 Mar 06 16:16 | 21°♍20'53 | 0.64073 AU |
| opposition | 5008 Mar 10 08:40 | 19°♍52'32 | 4°38'06 |
| greatest brilliancy | 5008 Mar 09 18:11 | 20°♍07'01 | -1.4m |
| direct | 5008 Apr 18 05:55 | 10°♍43'15 | |
| | 5008 Jun 24 22:09 | 0°♎ | |
| | 5008 Aug 21 00:05 | 0°♏ | |
| desc. node | 5008 Sep 14 01:43 | 14°♏10'35 | |
| | 5008 Oct 09 16:32 | 0°♐ | |
| | 5008 Nov 24 10:26 | 0°♑ | |
| evening set | 5009 Jan 04 04:26 | 28°♑33'34 | |
| | 5009 Jan 06 04:17 | 0°♒ | |
| max. Earth dist. | 5009 Jan 19 18:18 | 9°♒54'52 | 2.43093 AU |
| | 5009 Feb 15 14:39 | 0°♓ | |
| | | | |
| conjunction | 5009 Mar 01 10:43 | 10°♓34'26 | -1°05'18 |
| minimum elong | 5009 Mar 01 10:41 | 10°♓34'21 | 1°05'19 |
| | 5009 Mar 26 11:27 | 0°♈ | |
| | 5009 May 03 14:32 | 0°♉ | |
| morning rise | 5009 May 06 21:20 | 2°♉35'17 | |
| | 5009 Jun 10 20:58 | 0°♊ | |
| | 5009 Jul 20 03:47 | 0°♋ | |
| asc. node | 5009 Jul 26 19:23 | 4°♋57'32 | |
| | 5009 Aug 30 07:47 | 0°♌ | |
| | 5009 Oct 13 09:05 | 0°♍ | |
| | 5009 Dec 01 07:03 | 0°♎ | |
| | 5010 Feb 05 16:23 | 0°♏ | |
| retrograde | 5010 Mar 04 16:03 | 4°♏02'27 | |
| | 5010 Mar 29 14:08 | 30°℞♎ | |
| opposition | 5010 Apr 13 22:12 | 24°♎20'28 | 3°23'33 |
| greatest brilliancy | 5010 Apr 13 22:51 | 24°♎19'49 | -1.3m |
| min. Earth dist. | 5010 Apr 14 02:35 | 24°♎16'06 | 0.67939 AU |
| direct | 5010 May 24 20:17 | 14°♎30'47 | |
| | 5010 Jul 22 19:26 | 0°♏ | |
| desc. node | 5010 Aug 02 00:39 | 4°♏42'13 | |
| | 5010 Sep 17 21:21 | 0°♐ | |
| | 5010 Nov 04 12:18 | 0°♑ | |
| | 5010 Dec 17 16:46 | 0°♒ | |
| | 5011 Jan 27 01:13 | 0°♓ | |
| evening set | 5011 Mar 05 02:34 | 28°♓45'30 | |
| | 5011 Mar 06 16:26 | 0°♈ | |
| | 5011 Apr 13 14:46 | 0°♉ | |
| | | | |
| conjunction | 5011 May 12 22:16 | 23°♉04'59 | -0°21'46 |
| minimum elong | 5011 May 13 00:26 | 23°♉09'13 | 0°21'45 |
| | 5011 May 21 19:15 | 0°♊ | |
| asc. node | 5011 Jun 13 17:46 | 17°♊39'13 | |
| | 5011 Jun 30 02:18 | 0°♋ | |
| max. Earth dist. | 5011 Jul 04 00:44 | 2°♋56'16 | 2.40499 AU |
| morning rise | 5011 Jul 20 22:34 | 15°♋24'25 | |
| | 5011 Aug 10 04:40 | 0°♌ | |
| | 5011 Sep 22 15:08 | 0°♍ | |
| | 5011 Nov 07 22:09 | 0°♎ | |
| | 5011 Dec 28 11:25 | 0°♏ | |
| | 5012 Mar 01 07:34 | 0°♐ | |
| retrograde | 5012 Apr 08 02:53 | 7°♐12'45 | |
| | 5012 May 12 14:02 | 30°℞♏ | |
| opposition | 5012 May 17 07:43 | 28°♏10'53 | 1°10'53 |
| greatest brilliancy | 5012 May 17 12:16 | 28°♏06'27 | -1.4m |
| min. Earth dist. | 5012 May 21 07:25 | 26°♏37'37 | 0.65193 AU |
| desc. node | 5012 Jun 18 23:13 | 18°♏38'43 | |
| direct | 5012 Jun 27 20:22 | 18°♏08'07 | |
| | 5012 Aug 15 20:40 | 0°♐ | |
| | 5012 Oct 11 05:34 | 0°♑ | |
| | 5012 Nov 25 11:24 | 0°♒ | |
| | 5013 Jan 05 10:56 | 0°♓ | |
| | 5013 Feb 13 07:24 | 0°♈ | |
| | 5013 Mar 23 09:33 | 0°♉ | |
| asc. node | 5013 Apr 30 17:39 | 29°♉56'16 | |
| | 5013 Apr 30 19:35 | 0°♊ | |
| evening set | 5013 May 16 00:46 | 11°♊39'37 | |
| | 5013 Jun 09 10:24 | 0°♋ | |
| | | | |
| conjunction | 5013 Jul 17 15:27 | 27°♋43'26 | 0°46'34 |
| minimum elong | 5013 Jul 17 13:16 | 27°♋39'32 | 0°46'33 |
| | 5013 Jul 20 20:38 | 0°♌ | |
| max. Earth dist. | 5013 Aug 22 06:41 | 22°♌28'31 | 2.53973 AU |
| | 5013 Sep 02 09:46 | 0°♍ | |
| morning rise | 5013 Sep 10 22:19 | 5°♍42'15 | |
| | 5013 Oct 18 02:23 | 0°♎ | |
| | 5013 Dec 04 23:25 | 0°♏ | |
| | 5014 Jan 24 20:12 | 0°♐ | |
| | 5014 Mar 24 20:17 | 0°♑ | |
| desc. node | 5014 May 06 22:27 | 13°♑19'43 | |
| retrograde | 5014 May 20 05:01 | 14°♑19'58 | |
| opposition | 5014 Jun 25 20:53 | 6°♑26'56 | -2°02'52 |
| greatest brilliancy | 5014 Jun 26 09:38 | 6°♑15'09 | -1.8m |
| min. Earth dist. | 5014 Jul 03 06:33 | 3°♑42'49 | 0.56106 AU |
| | 5014 Jul 14 15:44 | 30°℞♐ | |
| direct | 5014 Aug 04 23:34 | 26°♐56'35 | |
| | 5014 Aug 27 05:39 | 0°♑ | |
| | 5014 Oct 29 10:21 | 0°♒ | |
| | 5014 Dec 12 16:44 | 0°♓ | |
| | 5015 Jan 21 21:05 | 0°♈ | |
| | 5015 Mar 01 19:20 | 0°♉ | |
| asc. node | 5015 Mar 18 15:53 | 12°♉58'54 | |
| | 5015 Apr 09 23:30 | 0°♊ | |
| | 5015 May 20 08:50 | 0°♋ | |
| | 5015 Jul 01 12:52 | 0°♌ | |

| | | | |
|---|---|---|---|
| evening set | 5015 Jul 13 15:19 | 8°♌21'35 | |
| | 5015 Aug 14 15:39 | 0°♍ | |
| conjunction | 5015 Sep 03 14:07 | 13°♍10'22 | 1°07'51 |
| minimum elong | 5015 Sep 03 14:02 | 13°♍10'14 | 1°07'51 |
| max. Earth dist. | 5015 Sep 19 23:05 | 23°♍50'43 | 2.63520 AU |
| | 5015 Sep 29 11:37 | 0°♎ | |
| morning rise | 5015 Oct 21 01:17 | 13°♎49'08 | |
| | 5015 Nov 15 14:19 | 0°♏ | |
| | 5016 Jan 02 15:52 | 0°♐ | |
| | 5016 Feb 20 22:06 | 0°♑ | |
| desc. node | 5016 Mar 23 21:32 | 18°♑43'10 | |
| | 5016 Apr 13 02:42 | 0°♒ | |
| | 5016 Jun 19 15:29 | 0°♓ | |
| retrograde | 5016 Jul 16 21:00 | 4°♓06'28 | |
| | 5016 Aug 12 03:15 | 30°R♒ | |
| opposition | 5016 Aug 18 03:45 | 28°♒11'12 | -5°57'18 |
| greatest brilliancy | 5016 Aug 19 19:02 | 27°♒40'36 | -2.5m |
| min. Earth dist. | 5016 Aug 26 01:55 | 25°♒44'19 | 0.42914 AU |
| direct | 5016 Sep 22 00:10 | 21°♒05'20 | |
| | 5016 Oct 29 21:16 | 0°♓ | |
| | 5016 Dec 21 13:11 | 0°♈ | |
| asc. node | 5017 Feb 02 14:41 | 29°♈57'46 | |
| | 5017 Feb 02 15:56 | 0°♉ | |
| | 5017 Mar 16 08:59 | 0°♊ | |
| | 5017 Apr 27 16:31 | 0°♋ | |
| | 5017 Jun 10 09:18 | 0°♌ | |
| | 5017 Jul 25 15:34 | 0°♍ | |
| evening set | 5017 Aug 25 14:42 | 20°♍02'32 | |
| | 5017 Sep 10 03:36 | 0°♎ | |
| conjunction | 5017 Oct 11 06:39 | 19°♎49'56 | 0°55'01 |
| minimum elong | 5017 Oct 11 07:41 | 19°♎51'36 | 0°55'02 |
| max. Earth dist. | 5017 Oct 12 17:31 | 20°♎45'21 | 2.67698 AU |
| | 5017 Oct 27 06:35 | 0°♏ | |
| morning rise | 5017 Nov 24 14:07 | 18°♏00'43 | |
| | 5017 Dec 13 08:54 | 0°♐ | |
| | 5018 Jan 29 00:27 | 0°♑ | |
| desc. node | 5018 Feb 08 20:26 | 7°♑00'56 | |
| | 5018 Mar 16 03:35 | 0°♒ | |
| | 5018 May 01 00:01 | 0°♓ | |
| | 5018 Jun 16 09:11 | 0°♈ | |
| | 5018 Aug 05 18:48 | 0°♉ | |
| retrograde | 5018 Oct 05 15:23 | 19°♉34'10 | |
| min. Earth dist. | 5018 Nov 02 01:10 | 15°♉04'32 | 0.37423 AU |
| opposition | 5018 Nov 05 13:27 | 14°♉06'44 | -3°16'07 |
| greatest brilliancy | 5018 Nov 05 07:06 | 14°♉11'07 | -3.0m |
| direct | 5018 Dec 05 00:07 | 9°♉08'48 | |
| asc. node | 5018 Dec 21 15:19 | 10°♉55'25 | |
| | 5019 Feb 07 18:12 | 0°♊ | |
| | 5019 Mar 31 12:55 | 0°♋ | |
| | 5019 May 18 16:24 | 0°♌ | |
| | 5019 Jul 05 11:38 | 0°♍ | |
| | 5019 Aug 22 10:12 | 0°♎ | |
| evening set | 5019 Oct 02 04:38 | 25°♎36'08 | |
| | 5019 Oct 09 03:37 | 0°♏ | |
| max. Earth dist. | 5019 Nov 04 11:26 | 16°♏44'58 | 2.66393 AU |
| conjunction | 5019 Nov 16 04:42 | 24°♏16'34 | 0°22'02 |
| minimum elong | 5019 Nov 16 05:21 | 24°♏17'37 | 0°22'03 |
| | 5019 Nov 25 01:22 | 0°♐ | |
| desc. node | 5019 Dec 27 18:45 | 21°♐25'52 | |
| morning rise | 5019 Dec 30 13:42 | 23°♐16'53 | |
| | 5020 Jan 09 15:41 | 0°♑ | |
| | 5020 Feb 22 17:49 | 0°♒ | |
| | 5020 Apr 05 08:35 | 0°♓ | |
| | 5020 May 16 18:04 | 0°♈ | |
| | 5020 Jun 26 11:15 | 0°♉ | |
| | 5020 Aug 06 16:26 | 0°♊ | |
| | 5020 Sep 20 06:11 | 0°♋ | |
| asc. node | 5020 Nov 07 14:35 | 24°♋13'13 | |
| retrograde | 5020 Dec 04 16:46 | 29°♋04'47 | |
| min. Earth dist. | 5021 Jan 02 12:31 | 23°♋18'45 | 0.48664 AU |
| opposition | 5021 Jan 10 18:52 | 20°♋18'52 | 3°21'51 |
| greatest brilliancy | 5021 Jan 09 17:13 | 20°♋42'16 | -2.2m |
| direct | 5021 Feb 13 12:41 | 13°♋10'05 | |
| | 5021 Apr 14 11:48 | 0°♌ | |
| | 5021 Jun 10 20:41 | 0°♍ | |
| | 5021 Aug 01 07:35 | 0°♎ | |
| | 5021 Sep 19 13:00 | 0°♏ | |
| | 5021 Nov 05 20:41 | 0°♐ | |
| evening set | 5021 Nov 06 19:58 | 0°♐37'43 | |
| desc. node | 5021 Nov 13 17:18 | 5°♐06'41 | |
| max. Earth dist. | 5021 Nov 28 14:10 | 14°♐53'30 | 2.59734 AU |
| | 5021 Dec 21 02:45 | 0°♑ | |
| conjunction | 5021 Dec 23 04:26 | 1°♑24'25 | -0°21'34 |
| minimum elong | 5021 Dec 23 03:41 | 1°♑23'07 | 0°21'33 |
| | 5022 Feb 02 06:35 | 0°♒ | |
| morning rise | 5022 Feb 09 11:56 | 5°♒09'37 | |
| | 5022 Mar 15 13:08 | 0°♓ | |
| | 5022 Apr 24 08:49 | 0°♈ | |
| | 5022 Jun 02 08:29 | 0°♉ | |
| | 5022 Jul 11 08:34 | 0°♊ | |
| | 5022 Aug 20 12:39 | 0°♋ | |
| asc. node | 5022 Sep 25 12:32 | 25°♋14'48 | |
| | 5022 Oct 02 16:23 | 0°♌ | |
| | 5022 Nov 23 03:39 | 0°♍ | |
| retrograde | 5023 Jan 16 01:13 | 15°♍18'41 | |
| min. Earth dist. | 5023 Feb 19 13:59 | 7°♍27'05 | 0.60802 AU |
| opposition | 5023 Feb 24 18:08 | 5°♍23'56 | 4°46'19 |
| greatest brilliancy | 5023 Feb 23 21:03 | 5°♍44'54 | -1.6m |
| | 5023 Mar 11 21:28 | 30°R♌ | |
| direct | 5023 Apr 03 11:15 | 26°♌38'59 | |
| | 5023 Apr 28 04:33 | 0°♍ | |
| | 5023 Jul 08 02:54 | 0°♎ | |
| | 5023 Aug 30 09:40 | 0°♏ | |
| desc. node | 5023 Oct 01 16:13 | 19°♏38'57 | |
| | 5023 Oct 18 01:49 | 0°♐ | |
| | 5023 Dec 02 13:17 | 0°♑ | |
| evening set | 5023 Dec 17 15:38 | 10°♑23'17 | |
| max. Earth dist. | 5023 Dec 31 20:26 | 20°♑21'23 | 2.48351 AU |
| | 5024 Jan 14 08:12 | 0°♒ | |
| conjunction | 5024 Feb 07 17:30 | 17°♒51'11 | -0°59'58 |
| minimum elong | 5024 Feb 07 16:08 | 17°♒48'38 | 0°59'57 |
| | 5024 Feb 23 22:36 | 0°♓ | |
| | 5024 Apr 03 00:08 | 0°♈ | |
| morning rise | 5024 Apr 07 10:26 | 3°♈27'06 | |
| | 5024 May 11 07:03 | 0°♉ | |
| | 5024 Jun 18 15:51 | 0°♊ | |
| greatest brilliancy | 5024 Jun 24 18:08 | 4°♊42'48 | 1.2m |
| | 5024 Jul 28 00:32 | 0°♋ | |
| asc. node | 5024 Aug 12 12:20 | 11°♋27'19 | |
| | 5024 Sep 07 08:50 | 0°♌ | |
| | 5024 Oct 22 01:42 | 0°♍ | |
| | 5024 Dec 12 18:00 | 0°♎ | |
| retrograde | 5025 Feb 19 10:26 | 21°♎18'47 | |
| min. Earth dist. | 5025 Mar 30 10:51 | 11°♎58'57 | 0.67212 AU |
| opposition | 5025 Mar 31 18:43 | 11°♎27'05 | 4°00'00 |
| greatest brilliancy | 5025 Mar 31 14:15 | 11°♎31'33 | -1.3m |
| direct | 5025 May 11 01:29 | 1°♎50'03 | |
| | 5025 Aug 04 18:02 | 0°♏ | |
| desc. node | 5025 Aug 18 15:37 | 7°♏23'39 | |

| | | | |
|---|---|---|---|
| | 5025 Sep 26 13:38 | 0°♐ | |
| | 5025 Nov 12 05:07 | 0°♑ | |
| | 5025 Dec 25 03:38 | 0°♒ | |
| | 5026 Feb 03 11:54 | 0°♓ | |
| evening set | 5026 Feb 07 07:04 | 2°♓54'01 | |
| | 5026 Mar 14 04:39 | 0°♈ | |
| conjunction | 5026 Apr 12 23:55 | 23°♈31'46 | -0°48'55 |
| minimum elong | 5026 Apr 13 03:15 | 23°♈38'21 | 0°48'53 |
| max. Earth dist. | 5026 Apr 14 18:46 | 24°♈56'32 | 2.36822 AU |
| | 5026 Apr 21 04:11 | 0°♉ | |
| | 5026 May 29 08:30 | 0°♊ | |
| morning rise | 5026 Jun 23 22:59 | 19°♊42'16 | |
| asc. node | 5026 Jun 30 11:05 | 24°♊38'03 | |
| | 5026 Jul 07 14:15 | 0°♋ | |
| | 5026 Aug 17 15:21 | 0°♌ | |
| | 5026 Sep 30 03:51 | 0°♍ | |
| | 5026 Nov 16 00:53 | 0°♎ | |
| | 5027 Jan 08 02:03 | 0°♏ | |
| retrograde | 5027 Mar 25 21:33 | 24°♏19'21 | |
| opposition | 5027 May 04 15:47 | 14°♏58'56 | 2°08'52 |
| greatest brilliancy | 5027 May 04 20:48 | 14°♏54'00 | -1.3m |
| min. Earth dist. | 5027 May 07 04:01 | 13°♏59'36 | 0.67065 AU |
| direct | 5027 Jun 15 03:11 | 4°♏57'30 | |
| desc. node | 5027 Jul 06 14:40 | 7°♏32'07 | |
| | 5027 Aug 31 17:35 | 0°♐ | |
| | 5027 Oct 21 17:14 | 0°♑ | |
| | 5027 Dec 04 20:03 | 0°♒ | |
| | 5028 Jan 14 10:51 | 0°♓ | |
| | 5028 Feb 22 03:41 | 0°♈ | |
| | 5028 Mar 31 03:04 | 0°♉ | |
| evening set | 5028 Apr 18 00:47 | 14°♉06'26 | |
| | 5028 May 08 09:40 | 0°♊ | |
| asc. node | 5028 May 17 09:00 | 6°♊55'25 | |
| | 5028 Jun 16 20:13 | 0°♋ | |
| conjunction | 5028 Jun 24 07:29 | 5°♋32'35 | 0°25'02 |
| minimum elong | 5028 Jun 24 05:35 | 5°♋29'04 | 0°24'59 |
| | 5028 Jul 28 02:01 | 0°♌ | |
| max. Earth dist. | 5028 Aug 07 16:30 | 7°♌28'22 | 2.48978 AU |
| morning rise | 5028 Aug 23 12:42 | 18°♌27'25 | |
| | 5028 Sep 09 12:13 | 0°♍ | |
| | 5028 Oct 25 07:07 | 0°♎ | |
| | 5028 Dec 12 19:47 | 0°♏ | |
| | 5029 Feb 04 02:09 | 0°♐ | |
| retrograde | 5029 May 02 12:55 | 29°♐11'52 | |
| desc. node | 5029 May 23 12:45 | 26°♐25'12 | |
| opposition | 5029 Jun 09 09:46 | 20°♐47'04 | -0°39'42 |
| greatest brilliancy | 5029 Jun 09 13:13 | 20°♐43'48 | -1.6m |
| min. Earth dist. | 5029 Jun 15 13:38 | 18°♐26'34 | 0.60394 AU |
| direct | 5029 Jul 20 09:25 | 10°♐55'30 | |
| | 5029 Sep 21 03:07 | 0°♑ | |
| | 5029 Nov 10 02:16 | 0°♒ | |
| | 5029 Dec 22 09:47 | 0°♓ | |
| | 5030 Jan 30 19:55 | 0°♈ | |
| | 5030 Mar 10 06:54 | 0°♉ | |
| asc. node | 5030 Apr 04 09:04 | 19°♉29'38 | |
| | 5030 Apr 18 01:11 | 0°♊ | |
| | 5030 May 28 00:54 | 0°♋ | |
| evening set | 5030 Jun 23 02:20 | 18°♋52'25 | |
| | 5030 Jul 08 19:55 | 0°♌ | |
| conjunction | 5030 Aug 17 13:00 | 27°♌14'47 | 1°04'42 |
| minimum elong | 5030 Aug 17 12:03 | 27°♌13'12 | 1°04'41 |
| | 5030 Aug 21 15:32 | 0°♍ | |
| max. Earth dist. | 5030 Sep 09 18:15 | 12°♍41'17 | 2.60396 AU |
| morning rise | 5030 Oct 06 08:33 | 0°♎00'27 | |
| | 5030 Oct 06 08:16 | 0°♎ | |
| | 5030 Nov 22 14:56 | 0°♏ | |
| | 5031 Jan 10 10:06 | 0°♐ | |
| | 5031 Mar 02 18:05 | 0°♑ | |
| desc. node | 5031 Apr 10 11:45 | 20°♑26'40 | |
| | 5031 May 01 13:57 | 0°♒ | |
| retrograde | 5031 Jun 22 01:01 | 12°♒29'19 | |
| opposition | 5031 Jul 26 06:36 | 5°♒41'14 | -4°30'30 |
| greatest brilliancy | 5031 Jul 27 14:29 | 5°♒13'57 | -2.2m |
| min. Earth dist. | 5031 Aug 03 18:33 | 2°♒47'51 | 0.48200 AU |
| | 5031 Aug 13 03:39 | 30°℞♑ | |
| direct | 5031 Sep 01 19:02 | 27°♑20'04 | |
| | 5031 Sep 21 23:02 | 0°♒ | |
| | 5031 Nov 22 16:18 | 0°♓ | |
| | 5032 Jan 05 03:42 | 0°♈ | |
| | 5032 Feb 14 16:02 | 0°♉ | |
| asc. node | 5032 Feb 20 08:46 | 4°♉15'46 | |
| | 5032 Mar 25 22:27 | 0°♊ | |
| | 5032 May 06 05:21 | 0°♋ | |
| | 5032 Jun 18 03:30 | 0°♌ | |
| | 5032 Aug 01 20:06 | 0°♍ | |
| evening set | 5032 Aug 09 15:03 | 5°♍07'18 | |
| | 5032 Sep 16 23:48 | 0°♎ | |
| conjunction | 5032 Sep 26 20:32 | 6°♎19'22 | 1°02'57 |
| minimum elong | 5032 Sep 26 21:21 | 6°♎20'39 | 1°02'58 |
| max. Earth dist. | 5032 Oct 03 21:40 | 10°♎49'37 | 2.66705 AU |
| | 5032 Nov 03 00:51 | 0°♏ | |
| morning rise | 5032 Nov 10 23:46 | 5°♏02'48 | |
| | 5032 Dec 20 09:17 | 0°♐ | |
| | 5033 Feb 05 18:29 | 0°♑ | |
| desc. node | 5033 Feb 25 10:53 | 12°♑26'14 | |
| | 5033 Mar 25 09:17 | 0°♒ | |
| | 5033 May 13 04:02 | 0°♓ | |
| | 5033 Jul 06 01:02 | 0°♈ | |
| retrograde | 5033 Sep 03 18:16 | 17°♈40'45 | |
| opposition | 5033 Oct 03 18:36 | 12°♈44'35 | -5°56'27 |
| greatest brilliancy | 5033 Oct 04 09:28 | 12°♈34'40 | -2.9m |
| min. Earth dist. | 5033 Oct 05 20:37 | 12°♈11'16 | 0.37318 AU |
| direct | 5033 Nov 02 23:35 | 7°♈37'29 | |
| asc. node | 5034 Jan 07 07:13 | 29°♈49'49 | |
| | 5034 Jan 07 14:31 | 0°♉ | |
| | 5034 Feb 25 11:15 | 0°♊ | |
| | 5034 Apr 12 02:16 | 0°♋ | |
| | 5034 May 27 18:32 | 0°♌ | |
| | 5034 Jul 13 06:40 | 0°♍ | |
| | 5034 Aug 29 12:17 | 0°♎ | |
| evening set | 5034 Sep 17 22:20 | 12°♎16'30 | |
| | 5034 Oct 15 22:12 | 0°♏ | |
| max. Earth dist. | 5034 Oct 26 12:33 | 6°♏44'10 | 2.67549 AU |
| conjunction | 5034 Nov 02 05:58 | 11°♏01'11 | 0°36'34 |
| minimum elong | 5034 Nov 02 06:55 | 11°♏02'43 | 0°36'34 |
| | 5034 Dec 01 20:10 | 0°♐ | |
| morning rise | 5034 Dec 16 05:44 | 9°♐19'40 | |
| desc. node | 5035 Jan 13 09:06 | 27°♐45'59 | |
| | 5035 Jan 16 18:09 | 0°♑ | |
| | 5035 Mar 02 11:10 | 0°♒ | |
| | 5035 Apr 14 23:34 | 0°♓ | |
| | 5035 May 27 13:12 | 0°♈ | |
| | 5035 Jul 08 20:05 | 0°♉ | |
| | 5035 Aug 21 20:19 | 0°♊ | |
| | 5035 Oct 16 23:07 | 0°♋ | |
| retrograde | 5035 Nov 15 01:53 | 5°♋39'01 | |
| asc. node | 5035 Nov 25 06:30 | 4°♋53'21 | |
| min. Earth dist. | 5035 Dec 11 23:08 | 0°♋43'57 | 0.43310 AU |
| | 5035 Dec 14 04:51 | 30°℞♊ | |

| | | | |
|---|---|---|---|
| opposition | 5035 Dec 20 04:03 | 28°♊00'15 | 1°33'13 |
| greatest brilliancy | 5035 Dec 19 15:11 | 28°♊10'58 | -2.6m |
| direct | 5036 Jan 20 21:47 | 21°♊45'58 | |
| | 5036 Feb 28 16:36 | 0°♋ | |
| | 5036 Apr 29 20:38 | 0°♌ | |
| | 5036 Jun 20 11:07 | 0°♍ | |
| | 5036 Aug 09 02:35 | 0°♎ | |
| | 5036 Sep 26 14:24 | 0°♏ | |
| evening set | 5036 Oct 23 09:30 | 16°♏56'44 | |
| | 5036 Nov 12 16:30 | 0°♐ | |
| max. Earth dist. | 5036 Nov 18 10:24 | 3°♐44'08 | 2.62945 AU |
| desc. node | 5036 Nov 30 07:53 | 11°♐31'45 | |
| conjunction | 5036 Dec 07 19:55 | 16°♐29'07 | -0°04'09 |
| minimum elong | 5036 Dec 07 19:48 | 16°♐28'55 | 0°04'08 |
| behind sun begin | 5036 Dec 07 01:07 | 15°♐57'58 | |
| behind sun end | 5036 Dec 08 14:30 | 16°♐59'53 | |
| | 5036 Dec 28 00:31 | 0°♑ | |
| morning rise | 5037 Jan 22 24:00 | 17°♑46'46 | |
| | 5037 Feb 09 11:31 | 0°♒ | |
| | 5037 Mar 23 04:28 | 0°♓ | |
| | 5037 May 02 11:46 | 0°♈ | |
| | 5037 Jun 10 23:07 | 0°♉ | |
| | 5037 Jul 20 11:35 | 0°♊ | |
| | 5037 Aug 30 11:02 | 0°♋ | |
| asc. node | 5037 Oct 12 06:02 | 28°♋27'06 | |
| | 5037 Oct 14 19:14 | 0°♌ | |
| retrograde | 5037 Dec 31 20:57 | 29°♌18'22 | |
| min. Earth dist. | 5038 Feb 02 06:35 | 22°♌11'29 | 0.56594 AU |
| opposition | 5038 Feb 08 20:51 | 19°♌37'23 | 4°36'40 |
| greatest brilliancy | 5038 Feb 07 18:24 | 20°♌03'13 | -1.8m |
| direct | 5038 Mar 17 04:39 | 11°♌23'23 | |
| | 5038 May 21 11:20 | 0°♍ | |
| | 5038 Jul 18 01:35 | 0°♎ | |
| | 5038 Sep 07 05:36 | 0°♏ | |
| desc. node | 5038 Oct 18 07:17 | 25°♏33'37 | |
| | 5038 Oct 25 05:39 | 0°♐ | |
| evening set | 5038 Nov 30 20:30 | 24°♐05'56 | |
| | 5038 Dec 09 13:39 | 0°♑ | |
| max. Earth dist. | 5038 Dec 17 01:13 | 5°♑07'02 | 2.53265 AU |
| conjunction | 5039 Jan 18 23:40 | 28°♑13'28 | -0°47'31 |
| minimum elong | 5039 Jan 18 22:08 | 28°♑10'43 | 0°47'31 |
| | 5039 Jan 21 11:06 | 0°♒ | |
| | 5039 Mar 03 06:45 | 0°♓ | |
| morning rise | 5039 Mar 14 00:40 | 8°♓06'32 | |
| | 5039 Apr 11 14:06 | 0°♈ | |
| | 5039 May 20 02:09 | 0°♉ | |
| | 5039 Jun 27 15:01 | 0°♊ | |
| | 5039 Aug 06 03:57 | 0°♋ | |
| asc. node | 5039 Aug 30 03:50 | 17°♋30'47 | |
| | 5039 Sep 16 21:17 | 0°♌ | |
| | 5039 Nov 01 19:15 | 0°♍ | |
| | 5039 Dec 30 09:44 | 0°♎ | |
| retrograde | 5040 Feb 07 01:47 | 8°♎09'24 | |
| | 5040 Mar 13 19:43 | 30°℞♍ | |
| min. Earth dist. | 5040 Mar 15 11:33 | 29°♍20'23 | 0.65481 AU |
| opposition | 5040 Mar 18 07:50 | 28°♍12'00 | 4°27'14 |
| greatest brilliancy | 5040 Mar 17 21:06 | 28°♍22'46 | -1.4m |
| direct | 5040 Apr 26 18:26 | 18°♍51'42 | |
| | 5040 Jun 14 13:35 | 0°♎ | |
| | 5040 Aug 14 23:26 | 0°♏ | |
| desc. node | 5040 Sep 04 06:05 | 11°♏36'19 | |
| | 5040 Oct 04 14:09 | 0°♐ | |
| | 5040 Nov 19 15:27 | 0°♑ | |
| | 5041 Jan 01 11:28 | 0°♒ | |
| evening set | 5041 Jan 15 15:17 | 10°♒20'20 | |
| max. Earth dist. | 5041 Feb 04 09:50 | 25°♒05'24 | 2.40290 AU |
| | 5041 Feb 10 21:23 | 0°♓ | |
| conjunction | 5041 Mar 15 18:17 | 25°♓21'24 | -1°03'26 |
| minimum elong | 5041 Mar 15 19:34 | 25°♓23'55 | 1°03'27 |
| | 5041 Mar 21 16:45 | 0°♈ | |
| | 5041 Apr 28 18:14 | 0°♉ | |
| morning rise | 5041 May 24 11:52 | 20°♉15'47 | |
| | 5041 Jun 05 23:06 | 0°♊ | |
| | 5041 Jul 15 04:21 | 0°♋ | |
| asc. node | 5041 Jul 17 03:14 | 1°♋27'47 | |
| | 5041 Aug 25 05:43 | 0°♌ | |
| | 5041 Oct 07 23:34 | 0°♍ | |
| | 5041 Nov 24 20:46 | 0°♎ | |
| | 5042 Jan 22 03:33 | 0°♏ | |
| retrograde | 5042 Mar 12 08:05 | 11°♏44'41 | |
| opposition | 5042 Apr 21 11:02 | 2°♏09'26 | 2°58'17 |
| greatest brilliancy | 5042 Apr 21 13:48 | 2°♏06'40 | -1.3m |
| min. Earth dist. | 5042 Apr 22 11:18 | 1°♏45'20 | 0.67917 AU |
| | 5042 Apr 26 22:20 | 30°℞♎ | |
| direct | 5042 Jun 01 15:11 | 22°♎14'29 | |
| | 5042 Jul 11 01:16 | 0°♏ | |
| desc. node | 5042 Jul 23 04:39 | 4°♏39'06 | |
| | 5042 Sep 11 15:24 | 0°♐ | |
| | 5042 Oct 30 05:28 | 0°♑ | |
| | 5042 Dec 12 17:29 | 0°♒ | |
| | 5043 Jan 22 04:21 | 0°♓ | |
| | 5043 Mar 01 20:15 | 0°♈ | |
| evening set | 5043 Mar 20 20:18 | 15°♈00'14 | |
| | 5043 Apr 08 18:51 | 0°♉ | |
| | 5043 May 16 23:28 | 0°♊ | |
| conjunction | 5043 May 29 08:04 | 9°♊33'08 | -0°04'03 |
| minimum elong | 5043 May 29 08:26 | 9°♊33'51 | 0°04'03 |
| behind sun begin | 5043 May 28 03:56 | 8°♊39'04 | |
| behind sun end | 5043 May 30 12:55 | 10°♊28'34 | |
| asc. node | 5043 Jun 04 03:00 | 13°♊59'29 | |
| | 5043 Jun 25 06:45 | 0°♋ | |
| max. Earth dist. | 5043 Jul 19 19:50 | 18°♋06'01 | 2.43479 AU |
| morning rise | 5043 Aug 03 09:18 | 28°♋34'57 | |
| | 5043 Aug 05 09:03 | 0°♌ | |
| | 5043 Sep 17 17:36 | 0°♍ | |
| | 5043 Nov 02 17:45 | 0°♎ | |
| | 5043 Dec 22 07:15 | 0°♏ | |
| | 5044 Feb 18 04:11 | 0°♐ | |
| retrograde | 5044 Apr 16 16:00 | 15°♐18'09 | |
| opposition | 5044 May 25 10:43 | 6°♐28'06 | 0°32'54 |
| greatest brilliancy | 5044 May 25 13:21 | 6°♐25'33 | -1.5m |
| min. Earth dist. | 5044 May 30 05:24 | 4°♐37'07 | 0.63748 AU |
| desc. node | 5044 Jun 09 03:19 | 1°♐02'16 | |
| | 5044 Jun 12 11:23 | 30°℞♏ | |
| direct | 5044 Jul 05 20:37 | 26°♏27'03 | |
| | 5044 Jul 30 20:33 | 0°♐ | |
| | 5044 Oct 04 08:30 | 0°♑ | |
| | 5044 Nov 19 18:47 | 0°♒ | |
| | 5044 Dec 31 03:34 | 0°♓ | |
| | 5045 Feb 08 04:01 | 0°♈ | |
| | 5045 Mar 18 08:41 | 0°♉ | |
| asc. node | 5045 Apr 21 01:39 | 26°♉17'57 | |
| | 5045 Apr 25 20:49 | 0°♊ | |
| evening set | 5045 May 30 15:12 | 26°♊20'01 | |
| | 5045 Jun 04 13:47 | 0°♋ | |
| | 5045 Jul 16 02:05 | 0°♌ | |
| conjunction | 5045 Jul 29 12:15 | 9°♌23'46 | 0°55'17 |
| minimum elong | 5045 Jul 29 10:24 | 9°♌20'34 | 0°55'16 |
| | 5045 Aug 28 16:11 | 0°♍ | |

| | | | |
|---|---|---|---|
| max. Earth dist. | 5045 Aug 29 12:20 | 0°♍33'50 | 2.56462 AU |
| morning rise | 5045 Sep 20 13:27 | 15°♍12'26 | |
| | 5045 Oct 13 07:26 | 0°♎ | |
| | 5045 Nov 29 21:08 | 0°♏ | |
| | 5046 Jan 18 18:44 | 0°♐ | |
| | 5046 Mar 14 18:37 | 0°♑ | |
| desc. node | 5046 Apr 27 01:56 | 18°♑11'15 | |
| retrograde | 5046 May 31 05:27 | 24°♑10'34 | |
| opposition | 5046 Jul 06 02:26 | 16°♑37'57 | -2°55'05 |
| greatest brilliancy | 5046 Jul 06 21:53 | 16°♑20'21 | -1.9m |
| min. Earth dist. | 5046 Jul 14 00:59 | 13°♑45'46 | 0.53448 AU |
| direct | 5046 Aug 14 11:21 | 7°♑26'02 | |
| | 5046 Oct 20 06:42 | 0°♒ | |
| | 5046 Dec 05 22:28 | 0°♓ | |
| | 5047 Jan 15 21:03 | 0°♈ | |
| | 5047 Feb 24 04:55 | 0°♉ | |
| asc. node | 5047 Mar 09 00:26 | 9°♉48'03 | |
| | 5047 Apr 04 15:47 | 0°♊ | |
| | 5047 May 15 06:39 | 0°♋ | |
| | 5047 Jun 26 15:30 | 0°♌ | |
| evening set | 5047 Jul 24 07:01 | 18°♌52'53 | |
| | 5047 Aug 09 21:49 | 0°♍ | |
| conjunction | 5047 Sep 12 16:58 | 22°♍10'20 | 1°07'18 |
| minimum elong | 5047 Sep 12 17:17 | 22°♍10'51 | 1°07'18 |
| | 5047 Sep 24 19:35 | 0°♎ | |
| max. Earth dist. | 5047 Sep 25 13:15 | 0°♎28'27 | 2.64890 AU |
| morning rise | 5047 Oct 29 04:13 | 21°♎57'50 | |
| | 5047 Nov 10 20:41 | 0°♏ | |
| | 5047 Dec 28 14:28 | 0°♐ | |
| | 5048 Feb 15 00:48 | 0°♑ | |
| desc. node | 5048 Mar 14 01:13 | 16°♑59'57 | |
| | 5048 Apr 05 00:44 | 0°♒ | |
| | 5048 May 30 11:11 | 0°♓ | |
| retrograde | 5048 Aug 02 14:14 | 18°♓45'41 | |
| opposition | 5048 Sep 02 16:37 | 13°♓19'02 | -6°26'40 |
| greatest brilliancy | 5048 Sep 04 05:28 | 12°♓52'05 | -2.7m |
| min. Earth dist. | 5048 Sep 09 07:27 | 11°♓23'25 | 0.40367 AU |
| direct | 5048 Oct 05 20:34 | 7°♓00'51 | |
| | 5048 Dec 10 02:34 | 0°♈ | |
| asc. node | 5049 Jan 24 00:16 | 28°♈51'09 | |
| | 5049 Jan 25 16:35 | 0°♉ | |
| | 5049 Mar 09 19:19 | 0°♊ | |
| | 5049 Apr 21 22:02 | 0°♋ | |
| | 5049 Jun 05 03:30 | 0°♌ | |
| | 5049 Jul 20 17:58 | 0°♍ | |
| evening set | 5049 Sep 03 06:33 | 28°♍36'20 | |
| | 5049 Sep 05 11:03 | 0°♎ | |
| max. Earth dist. | 5049 Oct 17 20:22 | 26°♎56'32 | 2.67878 AU |
| conjunction | 5049 Oct 19 07:44 | 27°♎52'41 | 0°48'58 |
| minimum elong | 5049 Oct 19 08:49 | 27°♎54'23 | 0°48'59 |
| | 5049 Oct 22 15:54 | 0°♏ | |
| morning rise | 5049 Dec 02 09:21 | 25°♏58'14 | |
| | 5049 Dec 08 16:09 | 0°♐ | |
| | 5050 Jan 24 00:40 | 0°♑ | |
| desc. node | 5050 Jan 30 00:35 | 3°♑55'15 | |
| | 5050 Mar 10 13:31 | 0°♒ | |
| | 5050 Apr 24 09:09 | 0°♓ | |
| | 5050 Jun 07 21:44 | 0°♈ | |
| | 5050 Jul 23 14:17 | 0°♉ | |
| | 5050 Sep 16 19:08 | 0°♊ | |
| retrograde | 5050 Oct 21 13:09 | 7°♊39'19 | |
| min. Earth dist. | 5050 Nov 17 00:57 | 3°♊13'03 | 0.38918 AU |
| opposition | 5050 Nov 22 23:58 | 1°♊27'35 | -1°19'46 |
| greatest brilliancy | 5050 Nov 22 18:05 | 1°♊31'56 | -2.9m |
| | 5050 Nov 28 01:34 | 30°℞♉ | |
| asc. node | 5050 Dec 11 22:52 | 26°♉57'24 | |
| direct | 5050 Dec 22 23:47 | 26°♉08'17 | |
| | 5051 Jan 17 04:02 | 0°♊ | |
| | 5051 Mar 22 17:07 | 0°♋ | |
| | 5051 May 12 06:43 | 0°♌ | |
| | 5051 Jun 30 02:10 | 0°♍ | |
| | 5051 Aug 17 12:50 | 0°♎ | |
| | 5051 Oct 04 12:02 | 0°♏ | |
| evening set | 5051 Oct 10 05:46 | 3°♏37'31 | |
| max. Earth dist. | 5051 Nov 09 19:47 | 23°♏07'42 | 2.65407 AU |
| | 5051 Nov 20 11:11 | 0°♐ | |
| conjunction | 5051 Nov 24 06:15 | 2°♐27'40 | 0°12'47 |
| minimum elong | 5051 Nov 24 06:38 | 2°♐28'19 | 0°12'48 |
| behind sun begin | 5051 Nov 23 19:09 | 2°♐09'41 | |
| behind sun end | 5051 Nov 24 18:07 | 2°♐46'57 | |
| desc. node | 5051 Dec 17 22:49 | 17°♐59'23 | |
| | 5052 Jan 04 23:28 | 0°♑ | |
| morning rise | 5052 Jan 08 02:01 | 2°♑05'16 | |
| | 5052 Feb 17 20:06 | 0°♒ | |
| | 5052 Mar 31 02:33 | 0°♓ | |
| | 5052 May 11 01:13 | 0°♈ | |
| | 5052 Jun 20 05:11 | 0°♉ | |
| | 5052 Jul 30 14:13 | 0°♊ | |
| | 5052 Sep 11 04:45 | 0°♋ | |
| asc. node | 5052 Oct 28 21:40 | 28°♋06'23 | |
| | 5052 Nov 01 22:29 | 0°♌ | |
| retrograde | 5052 Dec 15 04:36 | 11°♌11'08 | |
| min. Earth dist. | 5053 Jan 14 07:16 | 4°♌54'42 | 0.51640 AU |
| greatest brilliancy | 5053 Jan 20 22:15 | 2°♌25'37 | -2.1m |
| opposition | 5053 Jan 22 02:20 | 1°♌59'07 | 4°00'34 |
| | 5053 Jan 27 12:20 | 30°℞♋ | |
| direct | 5053 Feb 25 19:47 | 24°♋24'08 | |
| | 5053 Mar 29 18:25 | 0°♌ | |
| | 5053 Jun 03 18:42 | 0°♍ | |
| | 5053 Jul 26 19:54 | 0°♎ | |
| | 5053 Sep 14 15:42 | 0°♏ | |
| | 5053 Nov 01 04:53 | 0°♐ | |
| desc. node | 5053 Nov 03 21:34 | 1°♐44'38 | |
| evening set | 5053 Nov 15 07:44 | 9°♐11'27 | |
| max. Earth dist. | 5053 Dec 04 23:40 | 22°♐13'49 | 2.57640 AU |
| | 5053 Dec 16 11:58 | 0°♑ | |
| conjunction | 5054 Jan 01 10:33 | 10°♑55'40 | -0°31'32 |
| minimum elong | 5054 Jan 01 09:26 | 10°♑53'45 | 0°31'31 |
| | 5054 Jan 28 13:56 | 0°♒ | |
| morning rise | 5054 Feb 20 09:18 | 16°♒28'46 | |
| | 5054 Mar 10 16:58 | 0°♓ | |
| | 5054 Apr 19 08:15 | 0°♈ | |
| | 5054 May 28 03:29 | 0°♉ | |
| | 5054 Jul 05 22:32 | 0°♊ | |
| | 5054 Aug 14 18:49 | 0°♋ | |
| asc. node | 5054 Sep 15 21:48 | 22°♋58'16 | |
| | 5054 Sep 26 04:37 | 0°♌ | |
| | 5054 Nov 13 13:26 | 0°♍ | |
| retrograde | 5055 Jan 24 06:51 | 24°♍14'43 | |
| min. Earth dist. | 5055 Feb 28 21:10 | 16°♍01'22 | 0.62726 AU |
| opposition | 5055 Mar 05 05:58 | 14°♍16'48 | 4°43'34 |
| greatest brilliancy | 5055 Mar 04 12:25 | 14°♍34'19 | -1.5m |
| direct | 5055 Apr 12 15:09 | 5°♍17'48 | |
| | 5055 Jun 30 13:51 | 0°♎ | |
| | 5055 Aug 24 21:02 | 0°♏ | |
| desc. node | 5055 Sep 21 20:33 | 16°♏43'18 | |
| | 5055 Oct 13 03:47 | 0°♐ | |
| | 5055 Nov 27 20:13 | 0°♑ | |
| evening set | 5055 Dec 27 21:55 | 20°♑52'53 | |
| | 5056 Jan 09 15:49 | 0°♒ | |

| | | | |
|---|---|---|---|
| max. Earth dist. | 5056 Jan 11 06:27 | 1°♒09'45 | 2.45454 AU |
| | 5056 Feb 19 04:55 | 0°♓ | |
| | | | |
| conjunction | 5056 Feb 20 03:16 | 0°♓42'19 | -1°04'11 |
| minimum elong | 5056 Feb 20 02:29 | 0°♓40'49 | 1°04'10 |
| | 5056 Mar 29 04:18 | 0°♈ | |
| morning rise | 5056 Apr 23 13:31 | 19°♈54'23 | |
| | 5056 May 06 09:13 | 0°♉ | |
| | 5056 Jun 13 16:16 | 0°♊ | |
| | 5056 Jul 22 22:48 | 0°♋ | |
| asc. node | 5056 Aug 02 20:49 | 8°♋07'09 | |
| | 5056 Sep 02 02:59 | 0°♌ | |
| | 5056 Oct 16 07:38 | 0°♍ | |
| | 5056 Dec 05 00:31 | 0°♎ | |
| retrograde | 5057 Feb 27 01:12 | 29°♎07'31 | |
| opposition | 5057 Apr 08 08:28 | 19°♎20'41 | 3°39'41 |
| greatest brilliancy | 5057 Apr 08 06:59 | 19°♎22'11 | -1.3m |
| min. Earth dist. | 5057 Apr 07 20:17 | 19°♎32'52 | 0.67736 AU |
| direct | 5057 May 19 00:10 | 9°♎36'20 | |
| | 5057 Jul 27 20:21 | 0°♏ | |
| desc. node | 5057 Aug 08 19:19 | 5°♏54'36 | |
| | 5057 Sep 20 22:24 | 0°♐ | |
| | 5057 Nov 07 04:31 | 0°♑ | |
| | 5057 Dec 20 07:50 | 0°♒ | |
| | 5058 Jan 29 17:13 | 0°♓ | |
| evening set | 5058 Feb 21 10:11 | 17°♓29'53 | |
| | 5058 Mar 09 09:32 | 0°♈ | |
| | 5058 Apr 16 08:24 | 0°♉ | |
| | | | |
| conjunction | 5058 Apr 29 18:58 | 10°♉37'21 | -0°34'37 |
| minimum elong | 5058 Apr 29 22:06 | 10°♉43'32 | 0°34'36 |
| | 5058 May 24 12:13 | 0°♊ | |
| max. Earth dist. | 5058 Jun 14 18:35 | 16°♊24'12 | 2.38292 AU |
| asc. node | 5058 Jun 20 18:48 | 20°♊58'50 | |
| | 5058 Jul 02 17:35 | 0°♋ | |
| morning rise | 5058 Jul 09 16:16 | 5°♋11'08 | |
| | 5058 Aug 12 18:01 | 0°♌ | |
| | 5058 Sep 25 03:23 | 0°♍ | |
| | 5058 Nov 10 13:43 | 0°♎ | |
| | 5058 Dec 31 20:59 | 0°♏ | |
| | 5059 Mar 14 09:23 | 0°♐ | |
| retrograde | 5059 Apr 02 23:24 | 2°♐08'32 | |
| | 5059 Apr 21 06:53 | 30°℞♏ | |
| opposition | 5059 May 12 10:18 | 22°♏57'54 | 1°35'56 |
| greatest brilliancy | 5059 May 12 15:20 | 22°♏52'58 | -1.4m |
| min. Earth dist. | 5059 May 15 17:48 | 21°♏39'57 | 0.66154 AU |
| direct | 5059 Jun 22 22:41 | 12°♏55'08 | |
| desc. node | 5059 Jun 26 17:51 | 13°♏00'28 | |
| | 5059 Aug 23 00:27 | 0°♐ | |
| | 5059 Oct 15 17:33 | 0°♑ | |
| | 5059 Nov 29 12:30 | 0°♒ | |
| | 5060 Jan 09 09:15 | 0°♓ | |
| | 5060 Feb 17 04:32 | 0°♈ | |
| | 5060 Mar 26 05:24 | 0°♉ | |
| | 5060 May 03 13:13 | 0°♊ | |
| evening set | 5060 May 04 01:30 | 0°♊23'44 | |
| asc. node | 5060 May 07 18:32 | 3°♊15'40 | |
| | 5060 Jun 12 00:54 | 0°♋ | |
| | | | |
| conjunction | 5060 Jul 07 21:42 | 18°♋58'05 | 0°38'21 |
| minimum elong | 5060 Jul 07 19:25 | 18°♋53'58 | 0°38'19 |
| | 5060 Jul 23 07:48 | 0°♌ | |
| max. Earth dist. | 5060 Aug 16 13:19 | 16°♌55'41 | 2.51807 AU |
| morning rise | 5060 Sep 03 06:13 | 28°♌59'42 | |
| | 5060 Sep 04 17:59 | 0°♍ | |
| | 5060 Oct 20 10:01 | 0°♎ | |
| | 5060 Dec 07 11:29 | 0°♏ | |

| | | | |
|---|---|---|---|
| | 5061 Jan 28 02:57 | 0°♐ | |
| | 5061 Apr 01 17:10 | 0°♑ | |
| retrograde | 5061 May 12 08:39 | 8°♑07'58 | |
| desc. node | 5061 May 13 17:03 | 8°♑07'18 | |
| opposition | 5061 Jun 18 13:56 | 29°♐59'50 | -1°26'31 |
| | 5061 Jun 18 13:46 | 30°℞♐ | |
| greatest brilliancy | 5061 Jun 18 22:15 | 29°♐52'02 | -1.7m |
| min. Earth dist. | 5061 Jun 25 10:23 | 27°♐25'42 | 0.58119 AU |
| direct | 5061 Jul 29 02:39 | 20°♐18'25 | |
| | 5061 Sep 09 02:40 | 0°♑ | |
| | 5061 Nov 03 02:21 | 0°♒ | |
| | 5061 Dec 16 10:37 | 0°♓ | |
| | 5062 Jan 25 06:33 | 0°♈ | |
| | 5062 Mar 04 23:24 | 0°♉ | |
| asc. node | 5062 Mar 25 17:29 | 16°♉03'41 | |
| | 5062 Apr 12 22:19 | 0°♊ | |
| | 5062 May 23 02:02 | 0°♋ | |
| | 5062 Jul 04 00:41 | 0°♌ | |
| evening set | 5062 Jul 05 01:16 | 0°♌42'55 | |
| | 5062 Aug 16 22:45 | 0°♍ | |
| | | | |
| conjunction | 5062 Aug 27 10:29 | 6°♍58'42 | 1°07'11 |
| minimum elong | 5062 Aug 27 10:04 | 6°♍58'01 | 1°07'10 |
| max. Earth dist. | 5062 Sep 15 17:58 | 19°♍40'20 | 2.62220 AU |
| | 5062 Oct 01 16:08 | 0°♎ | |
| morning rise | 5062 Oct 14 20:23 | 8°♎28'04 | |
| | 5062 Nov 17 19:28 | 0°♏ | |
| | 5063 Jan 05 03:21 | 0°♐ | |
| | 5063 Feb 24 03:36 | 0°♑ | |
| desc. node | 5063 Mar 31 16:18 | 20°♑04'22 | |
| | 5063 Apr 19 15:23 | 0°♒ | |
| retrograde | 5063 Jul 06 00:12 | 24°♒40'56 | |
| opposition | 5063 Aug 08 05:05 | 18°♒21'31 | -5°22'38 |
| greatest brilliancy | 5063 Aug 09 18:37 | 17°♒50'56 | -2.4m |
| min. Earth dist. | 5063 Aug 16 15:21 | 15°♒37'57 | 0.45218 AU |
| direct | 5063 Sep 13 08:56 | 10°♒39'21 | |
| | 5063 Nov 11 10:30 | 0°♓ | |
| | 5063 Dec 28 08:52 | 0°♈ | |
| | 5064 Feb 08 01:35 | 0°♉ | |
| asc. node | 5064 Feb 10 15:45 | 1°♉53'51 | |
| | 5064 Mar 20 00:25 | 0°♊ | |
| | 5064 Apr 30 18:44 | 0°♋ | |
| | 5064 Jun 13 01:35 | 0°♌ | |
| | 5064 Jul 28 00:21 | 0°♍ | |
| evening set | 5064 Aug 18 21:28 | 14°♍15'40 | |
| | 5064 Sep 12 07:53 | 0°♎ | |
| | | | |
| conjunction | 5064 Oct 05 04:13 | 14°♎35'45 | 0°58'43 |
| minimum elong | 5064 Oct 05 05:11 | 14°♎37'18 | 0°58'43 |
| max. Earth dist. | 5064 Oct 09 02:48 | 17°♎06'19 | 2.67367 AU |
| | 5064 Oct 29 09:30 | 0°♏ | |
| morning rise | 5064 Nov 18 18:46 | 12°♏56'57 | |
| | 5064 Dec 15 14:16 | 0°♐ | |
| | 5065 Jan 31 13:20 | 0°♑ | |
| desc. node | 5065 Feb 15 15:02 | 9°♑40'06 | |
| | 5065 Mar 19 06:41 | 0°♒ | |
| | 5065 May 05 04:58 | 0°♓ | |
| | 5065 Jun 22 19:27 | 0°♈ | |
| | 5065 Aug 21 16:17 | 0°♉ | |
| retrograde | 5065 Sep 22 02:56 | 5°♉55'45 | |
| min. Earth dist. | 5065 Oct 21 05:08 | 1°♉08'09 | 0.36939 AU |
| opposition | 5065 Oct 22 06:16 | 0°♉51'30 | -4°38'25 |
| greatest brilliancy | 5065 Oct 22 06:55 | 0°♉51'04 | -3.0m |
| | 5065 Oct 25 12:25 | 30°℞♈ | |
| direct | 5065 Nov 20 15:57 | 25°♈58'27 | |
| | 5065 Dec 16 01:04 | 0°♉ | |
| asc. node | 5065 Dec 28 15:50 | 4°♉27'47 | |

| | | | |
|---|---|---|---|
| | 5066 Feb 15 20:10 | 0°♊ | |
| | 5066 Apr 05 02:27 | 0°♋ | |
| | 5066 May 21 23:03 | 0°♌ | |
| | 5066 Jul 08 02:30 | 0°♍ | |
| | 5066 Aug 24 16:51 | 0°♎ | |
| evening set | 5066 Sep 26 03:18 | 20°♎25'24 | |
| | 5066 Oct 11 06:53 | 0°♏ | |
| max. Earth dist. | 5066 Oct 31 16:20 | 12°♏57'52 | 2.67020 AU |
| conjunction | 5066 Nov 10 05:20 | 19°♏03'56 | 0°28'18 |
| minimum elong | 5066 Nov 10 06:08 | 19°♏05'12 | 0°28'19 |
| | 5066 Nov 27 05:04 | 0°♐ | |
| morning rise | 5066 Dec 24 08:27 | 17°♐41'12 | |
| desc. node | 5067 Jan 03 13:12 | 24°♐24'38 | |
| | 5067 Jan 11 23:25 | 0°♑ | |
| | 5067 Feb 25 08:27 | 0°♒ | |
| | 5067 Apr 09 08:54 | 0°♓ | |
| | 5067 May 21 05:54 | 0°♈ | |
| | 5067 Jul 01 13:18 | 0°♉ | |
| | 5067 Aug 12 15:38 | 0°♊ | |
| | 5067 Sep 28 17:02 | 0°♋ | |
| asc. node | 5067 Nov 15 15:35 | 18°♋54'59 | |
| retrograde | 5067 Nov 27 04:38 | 19°♋51'48 | |
| min. Earth dist. | 5067 Dec 25 00:50 | 14°♋29'22 | 0.46231 AU |
| opposition | 5068 Jan 02 10:31 | 11°♋32'33 | 2°43'00 |
| greatest brilliancy | 5068 Jan 01 12:46 | 11°♋51'44 | -2.4m |
| direct | 5068 Feb 04 07:47 | 4°♋47'02 | |
| | 5068 Apr 20 23:20 | 0°♌ | |
| | 5068 Jun 14 07:17 | 0°♍ | |
| | 5068 Aug 03 21:41 | 0°♎ | |
| | 5068 Sep 21 19:27 | 0°♏ | |
| evening set | 5068 Oct 31 14:33 | 25°♏11'24 | |
| | 5068 Nov 08 01:23 | 0°♐ | |
| desc. node | 5068 Nov 20 11:44 | 8°♐05'43 | |
| max. Earth dist. | 5068 Nov 24 05:41 | 10°♐33'16 | 2.61274 AU |
| conjunction | 5068 Dec 16 11:19 | 25°♐19'57 | -0°14'16 |
| minimum elong | 5068 Dec 16 10:49 | 25°♐19'06 | 0°14'13 |
| behind sun begin | 5068 Dec 16 01:29 | 25°♐03'27 | |
| behind sun end | 5068 Dec 16 20:08 | 25°♐34'46 | |
| | 5068 Dec 23 09:26 | 0°♑ | |
| morning rise | 5069 Feb 01 16:39 | 27°♑51'33 | |
| | 5069 Feb 04 17:19 | 0°♒ | |
| | 5069 Mar 18 05:16 | 0°♓ | |
| | 5069 Apr 27 06:20 | 0°♈ | |
| | 5069 Jun 05 10:58 | 0°♉ | |
| | 5069 Jul 14 15:35 | 0°♊ | |
| | 5069 Aug 24 01:26 | 0°♋ | |
| asc. node | 5069 Oct 02 13:41 | 27°♋14'17 | |
| | 5069 Oct 06 20:21 | 0°♌ | |
| | 5069 Nov 30 23:33 | 0°♍ | |
| retrograde | 5070 Jan 09 16:44 | 9°♍07'30 | |
| min. Earth dist. | 5070 Feb 12 07:20 | 1°♍35'09 | 0.59029 AU |
| | 5070 Feb 16 07:57 | 30°℞♌ | |
| greatest brilliancy | 5070 Feb 17 03:26 | 29°♌40'43 | -1.7m |
| opposition | 5070 Feb 18 03:16 | 29°♌17'11 | 4°45'11 |
| direct | 5070 Mar 27 05:51 | 20°♌45'17 | |
| | 5070 May 09 12:48 | 0°♍ | |
| | 5070 Jul 11 16:17 | 0°♎ | |
| | 5070 Sep 02 00:11 | 0°♏ | |
| desc. node | 5070 Oct 08 10:51 | 22°♏23'48 | |
| | 5070 Oct 20 10:13 | 0°♐ | |
| | 5070 Dec 04 21:36 | 0°♑ | |
| evening set | 5070 Dec 10 05:41 | 3°♑38'33 | |
| max. Earth dist. | 5070 Dec 25 04:38 | 13°♑59'12 | 2.50620 AU |
| | 5071 Jan 16 18:53 | 0°♒ | |
| conjunction | 5071 Jan 29 20:32 | 9°♒28'12 | -0°55'19 |
| minimum elong | 5071 Jan 29 19:00 | 9°♒25'23 | 0°55'18 |
| | 5071 Feb 26 12:43 | 0°♓ | |
| morning rise | 5071 Mar 27 19:47 | 22°♓20'22 | |
| | 5071 Apr 06 17:21 | 0°♈ | |
| | 5071 May 15 02:36 | 0°♉ | |
| | 5071 Jun 22 12:43 | 0°♊ | |
| | 5071 Jul 31 21:57 | 0°♋ | |
| asc. node | 5071 Aug 20 12:58 | 14°♋27'10 | |
| | 5071 Sep 11 07:59 | 0°♌ | |
| | 5071 Oct 26 08:33 | 0°♍ | |
| | 5071 Dec 18 19:48 | 0°♎ | |
| retrograde | 5072 Feb 14 18:59 | 16°♎14'56 | |
| min. Earth dist. | 5072 Mar 24 02:10 | 7°♎08'31 | 0.66562 AU |
| opposition | 5072 Mar 26 02:42 | 6°♎19'56 | 4°12'35 |
| greatest brilliancy | 5072 Mar 25 19:32 | 6°♎27'06 | -1.3m |
| | 5072 Apr 12 20:19 | 30°℞♍ | |
| direct | 5072 May 05 01:02 | 26°♍49'56 | |
| | 5072 May 29 07:20 | 0°♎ | |
| | 5072 Aug 08 10:42 | 0°♏ | |
| desc. node | 5072 Aug 25 09:52 | 9°♏20'16 | |
| | 5072 Sep 29 07:18 | 0°♐ | |
| | 5072 Nov 14 18:06 | 0°♑ | |
| | 5072 Dec 27 16:49 | 0°♒ | |
| evening set | 5073 Jan 28 01:50 | 23°♒09'18 | |
| | 5073 Feb 06 02:58 | 0°♓ | |
| max. Earth dist. | 5073 Mar 01 02:56 | 17°♓41'07 | 2.37866 AU |
| | 5073 Mar 16 21:28 | 0°♈ | |
| conjunction | 5073 Mar 31 07:20 | 11°♈20'20 | -0°57'00 |
| minimum elong | 5073 Mar 31 10:02 | 11°♈25'38 | 0°57'00 |
| | 5073 Apr 23 22:01 | 0°♉ | |
| | 5073 Jun 01 02:15 | 0°♊ | |
| morning rise | 5073 Jun 10 22:55 | 7°♊38'53 | |
| asc. node | 5073 Jul 07 12:14 | 27°♊54'53 | |
| | 5073 Jul 10 06:47 | 0°♋ | |
| | 5073 Aug 20 06:28 | 0°♌ | |
| | 5073 Oct 02 19:04 | 0°♍ | |
| | 5073 Nov 18 22:34 | 0°♎ | |
| | 5074 Jan 12 11:06 | 0°♏ | |
| retrograde | 5074 Mar 20 01:51 | 19°♏24'48 | |
| opposition | 5074 Apr 29 00:05 | 9°♏57'14 | 2°30'16 |
| greatest brilliancy | 5074 Apr 29 04:19 | 9°♏53'02 | -1.3m |
| min. Earth dist. | 5074 Apr 30 19:49 | 9°♏13'58 | 0.67570 AU |
| | 5074 Jun 07 04:07 | 30°℞♎ | |
| direct | 5074 Jun 09 08:42 | 29°♎58'12 | |
| | 5074 Jun 11 13:46 | 0°♏ | |
| desc. node | 5074 Jul 13 08:56 | 5°♏57'50 | |
| | 5074 Sep 04 20:10 | 0°♐ | |
| | 5074 Oct 24 18:31 | 0°♑ | |
| | 5074 Dec 07 15:57 | 0°♒ | |
| | 5075 Jan 17 06:02 | 0°♓ | |
| | 5075 Feb 24 22:49 | 0°♈ | |
| | 5075 Apr 03 21:43 | 0°♉ | |
| evening set | 5075 Apr 06 06:47 | 1°♉52'47 | |
| | 5075 May 12 02:54 | 0°♊ | |
| asc. node | 5075 May 25 09:54 | 10°♊15'47 | |
| conjunction | 5075 Jun 14 00:28 | 25°♊10'14 | 0°13'19 |
| minimum elong | 5075 Jun 13 23:18 | 25°♊08'02 | 0°13'17 |
| behind sun begin | 5075 Jun 13 07:33 | 24°♊38'24 | |
| behind sun end | 5075 Jun 14 15:02 | 25°♊37'38 | |
| | 5075 Jun 20 10:58 | 0°♋ | |
| | 5075 Jul 31 13:54 | 0°♌ | |
| max. Earth dist. | 5075 Aug 01 03:35 | 0°♌24'18 | 2.46566 AU |
| morning rise | 5075 Aug 15 18:30 | 10°♌42'12 | |
| | 5075 Sep 12 21:51 | 0°♍ | |

| | | | |
|---|---|---|---|
| | 5075 Oct 28 17:08 | 0°♎ | |
| | 5075 Dec 16 13:12 | 0°♏ | |
| | 5076 Feb 09 05:07 | 0°♐ | |
| retrograde | 5076 Apr 25 13:25 | 23°♐35'41 | |
| desc. node | 5076 May 30 07:27 | 16°♐19'22 | |
| opposition | 5076 Jun 02 20:24 | 14°♐58'51 | -0°08'08 |
| greatest brilliancy | 5076 Jun 02 21:06 | 14°♐58'10 | -1.6m |
| min. Earth dist. | 5076 Jun 08 09:09 | 12°♐51'30 | 0.62016 AU |
| direct | 5076 Jul 14 01:20 | 5°♐01'55 | |
| | 5076 Sep 26 13:30 | 0°♑ | |
| | 5076 Nov 13 19:09 | 0°♒ | |
| | 5076 Dec 25 16:59 | 0°♓ | |
| | 5077 Feb 02 22:51 | 0°♈ | |
| | 5077 Mar 13 06:34 | 0°♉ | |
| asc. node | 5077 Apr 11 09:49 | 22°♉42'00 | |
| | 5077 Apr 20 21:16 | 0°♊ | |
| | 5077 May 30 16:38 | 0°♋ | |
| evening set | 5077 Jun 13 07:49 | 9°♋59'15 | |
| | 5077 Jul 11 07:13 | 0°♌ | |
| conjunction | 5077 Aug 09 15:16 | 20°♌18'48 | 1°01'34 |
| minimum elong | 5077 Aug 09 13:56 | 20°♌16'32 | 1°01'34 |
| | 5077 Aug 23 22:57 | 0°♍ | |
| max. Earth dist. | 5077 Sep 05 06:17 | 8°♍12'54 | 2.58741 AU |
| morning rise | 5077 Sep 29 18:10 | 24°♍17'42 | |
| | 5077 Oct 08 13:45 | 0°♎ | |
| | 5077 Nov 24 22:05 | 0°♏ | |
| | 5078 Jan 13 02:32 | 0°♐ | |
| | 5078 Mar 06 15:52 | 0°♑ | |
| desc. node | 5078 Apr 17 06:16 | 20°♑26'35 | |
| | 5078 May 13 08:38 | 0°♒ | |
| retrograde | 5078 Jun 12 02:57 | 4°♒42'01 | |
| | 5078 Jul 09 20:51 | 30°℞♑ | |
| opposition | 5078 Jul 17 03:31 | 27°♑32'43 | -3°49'15 |
| greatest brilliancy | 5078 Jul 18 06:05 | 27°♑09'20 | -2.1m |
| min. Earth dist. | 5078 Jul 25 12:06 | 24°♑37'01 | 0.50602 AU |
| direct | 5078 Aug 24 14:06 | 18°♑46'01 | |
| | 5078 Oct 07 15:50 | 0°♒ | |
| | 5078 Nov 28 07:26 | 0°♓ | |
| | 5079 Jan 09 11:12 | 0°♈ | |
| | 5079 Feb 18 08:46 | 0°♉ | |
| asc. node | 5079 Feb 27 09:46 | 6°♉50'33 | |
| | 5079 Mar 30 04:51 | 0°♊ | |
| | 5079 May 10 02:48 | 0°♋ | |
| | 5079 Jun 21 17:18 | 0°♌ | |
| evening set | 5079 Aug 03 09:06 | 28°♌49'10 | |
| | 5079 Aug 05 03:51 | 0°♍ | |
| | 5079 Sep 20 03:54 | 0°♎ | |
| conjunction | 5079 Sep 21 12:01 | 0°♎51'39 | 1°05'14 |
| minimum elong | 5079 Sep 21 12:40 | 0°♎52'41 | 1°05'14 |
| max. Earth dist. | 5079 Oct 01 00:54 | 6°♎58'59 | 2.66001 AU |
| morning rise | 5079 Nov 06 03:44 | 29°♎59'12 | |
| | 5079 Nov 06 04:15 | 0°♏ | |
| | 5079 Dec 23 16:20 | 0°♐ | |
| | 5080 Feb 09 11:28 | 0°♑ | |
| desc. node | 5080 Mar 04 05:16 | 14°♑46'34 | |
| | 5080 Mar 28 23:23 | 0°♒ | |
| | 5080 May 18 20:01 | 0°♓ | |
| | 5080 Jul 21 23:51 | 0°♈ | |
| retrograde | 5080 Aug 20 08:13 | 4°♈55'26 | |
| opposition | 5080 Sep 19 16:22 | 29°♓51'05 | -6°25'41 |
| | 5080 Sep 19 03:26 | 30°℞♓ | |
| greatest brilliancy | 5080 Sep 20 19:10 | 29°♓32'33 | -2.8m |
| min. Earth dist. | 5080 Sep 24 01:58 | 28°♓38'25 | 0.38348 AU |
| direct | 5080 Oct 21 01:43 | 24°♓17'27 | |
| | 5080 Nov 19 22:58 | 0°♈ | |
| asc. node | 5081 Jan 14 08:08 | 28°♈56'52 | |
| | 5081 Jan 16 00:21 | 0°♉ | |
| | 5081 Mar 02 12:35 | 0°♊ | |
| | 5081 Apr 15 19:30 | 0°♋ | |
| | 5081 May 30 17:31 | 0°♌ | |
| | 5081 Jul 15 18:23 | 0°♍ | |
| | 5081 Aug 31 17:33 | 0°♎ | |
| evening set | 5081 Sep 11 17:48 | 6°♎59'11 | |
| | 5081 Oct 18 00:50 | 0°♏ | |
| max. Earth dist. | 5081 Oct 22 23:38 | 3°♏08'39 | 2.67798 AU |
| conjunction | 5081 Oct 27 07:51 | 5°♏54'17 | 0°41'59 |
| minimum elong | 5081 Oct 27 08:52 | 5°♏55'55 | 0°41'59 |
| | 5081 Dec 04 00:01 | 0°♐ | |
| morning rise | 5081 Dec 10 06:52 | 4°♐03'09 | |
| | 5082 Jan 19 02:58 | 0°♑ | |
| desc. node | 5082 Jan 20 03:38 | 0°♑40'34 | |
| | 5082 Mar 05 04:45 | 0°♒ | |
| | 5082 Apr 18 06:18 | 0°♓ | |
| | 5082 May 31 13:49 | 0°♈ | |
| | 5082 Jul 13 23:55 | 0°♉ | |
| | 5082 Aug 29 12:43 | 0°♊ | |
| retrograde | 5082 Nov 04 23:34 | 24°♊27'40 | |
| min. Earth dist. | 5082 Dec 01 08:24 | 19°♊50'25 | 0.41136 AU |
| asc. node | 5082 Dec 02 07:12 | 19°♊32'48 | |
| opposition | 5082 Dec 08 22:06 | 17°♊27'06 | 0°26'24 |
| greatest brilliancy | 5082 Dec 08 18:36 | 17°♊29'52 | -2.7m |
| direct | 5083 Jan 08 18:35 | 11°♊38'40 | |
| | 5083 Mar 11 09:11 | 0°♋ | |
| | 5083 May 05 05:56 | 0°♌ | |
| | 5083 Jun 24 10:51 | 0°♍ | |
| | 5083 Aug 12 12:38 | 0°♎ | |
| | 5083 Sep 29 18:48 | 0°♏ | |
| evening set | 5083 Oct 18 08:00 | 11°♏43'03 | |
| max. Earth dist. | 5083 Nov 15 07:23 | 29°♏39'16 | 2.64144 AU |
| | 5083 Nov 15 20:11 | 0°♐ | |
| conjunction | 5083 Dec 02 12:39 | 10°♐52'54 | 0°03'05 |
| minimum elong | 5083 Dec 02 12:44 | 10°♐53'03 | 0°03'06 |
| behind sun begin | 5083 Dec 01 18:02 | 10°♐22'23 | |
| behind sun end | 5083 Dec 03 07:27 | 11°♐23'44 | |
| desc. node | 5083 Dec 08 02:23 | 14°♐32'53 | |
| | 5083 Dec 31 06:55 | 0°♑ | |
| morning rise | 5084 Jan 17 00:03 | 11°♑20'23 | |
| | 5084 Feb 12 22:56 | 0°♒ | |
| | 5084 Mar 25 22:31 | 0°♓ | |
| | 5084 May 05 12:52 | 0°♈ | |
| | 5084 Jun 14 07:05 | 0°♉ | |
| | 5084 Jul 24 03:06 | 0°♊ | |
| | 5084 Sep 03 14:28 | 0°♋ | |
| asc. node | 5084 Oct 19 07:15 | 29°♋16'36 | |
| | 5084 Oct 20 13:53 | 0°♌ | |
| retrograde | 5084 Dec 24 21:43 | 22°♌15'48 | |
| min. Earth dist. | 5085 Jan 25 07:27 | 15°♌30'44 | 0.54454 AU |
| greatest brilliancy | 5085 Jan 31 07:30 | 13°♌12'22 | -1.9m |
| opposition | 5085 Feb 01 11:29 | 12°♌45'22 | 4°25'43 |
| direct | 5085 Mar 09 02:06 | 4°♌47'51 | |
| | 5085 May 26 17:38 | 0°♍ | |
| | 5085 Jul 21 01:51 | 0°♎ | |
| | 5085 Sep 09 15:37 | 0°♏ | |
| desc. node | 5085 Oct 25 01:56 | 28°♏26'55 | |
| | 5085 Oct 27 11:49 | 0°♐ | |
| evening set | 5085 Nov 24 01:21 | 18°♐02'05 | |
| | 5085 Dec 11 20:37 | 0°♑ | |
| max. Earth dist. | 5085 Dec 11 17:58 | 29°♐55'29 | 2.55298 AU |
| conjunction | 5086 Jan 11 04:42 | 20°♑59'35 | -0°41'04 |

| | | | |
|---|---|---|---|
| minimum elong | 5086 Jan 11 03:19 | 20°♋57'07 | 0°41'02 |
| | 5086 Jan 23 21:06 | 0°♒ | |
| morning rise | 5086 Mar 04 05:39 | 28°♒46'45 | |
| | 5086 Mar 05 20:53 | 0°♓ | |
| | 5086 Apr 14 08:13 | 0°♈ | |
| | 5086 May 22 23:23 | 0°♉ | |
| | 5086 Jun 30 14:30 | 0°♊ | |
| | 5086 Aug 09 05:19 | 0°♋ | |
| asc. node | 5086 Sep 06 05:10 | 20°♋17'51 | |
| | 5086 Sep 20 02:50 | 0°♌ | |
| | 5086 Nov 05 17:23 | 0°♍ | |
| | 5087 Jan 10 18:38 | 0°♎ | |
| retrograde | 5087 Feb 01 06:02 | 2°♎47'42 | |
| | 5087 Feb 21 09:08 | 30°℞♍ | |
| min. Earth dist. | 5087 Mar 09 20:50 | 24°♍14'12 | 0.64376 AU |
| opposition | 5087 Mar 13 09:50 | 22°♍49'10 | 4°35'43 |
| greatest brilliancy | 5087 Mar 12 20:03 | 23°♍02'57 | -1.4m |
| direct | 5087 Apr 21 09:57 | 13°♍37'55 | |
| | 5087 Jun 21 16:13 | 0°♎ | |
| | 5087 Aug 19 01:24 | 0°♏ | |
| desc. node | 5087 Sep 12 00:53 | 13°♏59'30 | |
| | 5087 Oct 08 03:06 | 0°♐ | |
| | 5087 Nov 23 02:03 | 0°♑ | |
| | 5088 Jan 04 23:09 | 0°♒ | |
| evening set | 5088 Jan 07 18:27 | 2°♒01'36 | |
| max. Earth dist. | 5088 Jan 23 19:19 | 13°♒45'50 | 2.42552 AU |
| | 5088 Feb 14 11:31 | 0°♓ | |
| conjunction | 5088 Mar 04 13:22 | 14°♓35'46 | -1°05'16 |
| minimum elong | 5088 Mar 04 13:37 | 14°♓36'14 | 1°05'15 |
| | 5088 Mar 24 09:10 | 0°♈ | |
| | 5088 May 01 12:03 | 0°♉ | |
| morning rise | 5088 May 10 18:07 | 7°♉17'42 | |
| | 5088 Jun 08 17:21 | 0°♊ | |
| | 5088 Jul 17 22:05 | 0°♋ | |
| asc. node | 5088 Jul 24 04:04 | 4°♋40'29 | |
| | 5088 Aug 27 22:52 | 0°♌ | |
| | 5088 Oct 10 18:49 | 0°♍ | |
| | 5088 Nov 28 04:23 | 0°♎ | |
| | 5089 Jan 29 13:10 | 0°♏ | |
| retrograde | 5089 Mar 06 16:10 | 6°♏51'48 | |
| | 5089 Apr 08 16:28 | 30°℞♎ | |
| opposition | 5089 Apr 15 21:23 | 27°♎10'47 | 3°16'23 |
| greatest brilliancy | 5089 Apr 15 22:27 | 27°♎09'44 | -1.3m |
| min. Earth dist. | 5089 Apr 16 04:59 | 27°♎03'14 | 0.67968 AU |
| direct | 5089 May 26 20:35 | 17°♎20'14 | |
| | 5089 Jul 18 05:04 | 0°♏ | |
| desc. node | 5089 Jul 29 23:15 | 5°♏09'33 | |
| | 5089 Sep 14 23:13 | 0°♐ | |
| | 5089 Nov 02 00:31 | 0°♑ | |
| | 5089 Dec 15 10:06 | 0°♒ | |
| | 5090 Jan 24 21:29 | 0°♓ | |
| | 5090 Mar 04 14:11 | 0°♈ | |
| evening set | 5090 Mar 08 11:45 | 3°♈04'09 | |
| | 5090 Apr 11 12:50 | 0°♉ | |
| conjunction | 5090 May 16 14:07 | 27°♉35'04 | -0°17'37 |
| minimum elong | 5090 May 16 15:54 | 27°♉38'33 | 0°17'37 |
| | 5090 May 19 16:34 | 0°♊ | |
| asc. node | 5090 Jun 11 04:02 | 17°♊19'50 | |
| | 5090 Jun 27 21:56 | 0°♋ | |
| max. Earth dist. | 5090 Jul 07 16:31 | 7°♋17'23 | 2.41027 AU |
| morning rise | 5090 Jul 24 02:59 | 19°♋21'18 | |
| | 5090 Aug 07 21:48 | 0°♌ | |
| | 5090 Sep 20 04:56 | 0°♍ | |
| | 5090 Nov 05 06:57 | 0°♎ | |
| | 5090 Dec 25 09:07 | 0°♏ | |
| | 5091 Feb 24 12:07 | 0°♐ | |
| retrograde | 5091 Apr 11 06:40 | 10°♐04'49 | |
| opposition | 5091 May 20 08:48 | 1°♐04'53 | 1°00'10 |
| greatest brilliancy | 5091 May 20 12:49 | 1°♐00'58 | -1.4m |
| | 5091 May 23 03:19 | 30°℞♏ | |
| min. Earth dist. | 5091 May 24 11:25 | 29°♏28'47 | 0.64951 AU |
| desc. node | 5091 Jun 16 22:02 | 22°♏18'17 | |
| direct | 5091 Jun 30 20:22 | 21°♏02'17 | |
| | 5091 Aug 11 14:43 | 0°♐ | |
| | 5091 Oct 09 07:15 | 0°♑ | |
| | 5091 Nov 24 00:23 | 0°♒ | |
| | 5092 Jan 04 04:41 | 0°♓ | |
| | 5092 Feb 12 03:17 | 0°♈ | |
| | 5092 Mar 21 06:03 | 0°♉ | |
| asc. node | 5092 Apr 28 02:57 | 29°♉35'28 | |
| | 5092 Apr 28 15:40 | 0°♊ | |
| evening set | 5092 May 19 09:41 | 15°♊52'48 | |
| | 5092 Jun 07 05:16 | 0°♋ | |
| | 5092 Jul 18 13:44 | 0°♌ | |
| conjunction | 5092 Jul 20 12:15 | 1°♌22'14 | 0°49'03 |
| minimum elong | 5092 Jul 20 10:05 | 1°♌18'25 | 0°49'01 |
| max. Earth dist. | 5092 Aug 24 08:58 | 25°♌30'03 | 2.54462 AU |
| | 5092 Aug 31 00:41 | 0°♍ | |
| morning rise | 5092 Sep 13 08:11 | 8°♍54'26 | |
| | 5092 Oct 15 14:37 | 0°♎ | |
| | 5092 Dec 02 07:33 | 0°♏ | |
| | 5093 Jan 21 19:15 | 0°♐ | |
| | 5093 Mar 20 05:25 | 0°♑ | |
| desc. node | 5093 May 03 20:47 | 15°♑31'03 | |
| retrograde | 5093 May 22 17:57 | 17°♑30'03 | |
| opposition | 5093 Jun 28 06:27 | 9°♑40'20 | -2°16'20 |
| greatest brilliancy | 5093 Jun 28 20:44 | 9°♑27'11 | -1.8m |
| min. Earth dist. | 5093 Jul 05 18:17 | 6°♑54'50 | 0.55636 AU |
| direct | 5093 Aug 07 05:19 | 0°♑13'05 | |
| | 5093 Oct 26 04:02 | 0°♒ | |
| | 5093 Dec 10 02:46 | 0°♓ | |
| | 5094 Jan 19 12:35 | 0°♈ | |
| | 5094 Feb 27 12:46 | 0°♉ | |
| asc. node | 5094 Mar 16 01:36 | 12°♉43'36 | |
| | 5094 Apr 07 17:08 | 0°♊ | |
| | 5094 May 18 01:40 | 0°♋ | |
| | 5094 Jun 29 04:23 | 0°♌ | |
| evening set | 5094 Jul 16 05:59 | 11°♌46'31 | |
| | 5094 Aug 12 05:45 | 0°♍ | |
| conjunction | 5094 Sep 05 21:11 | 16°♍16'19 | 1°07'50 |
| minimum elong | 5094 Sep 05 21:14 | 16°♍16'24 | 1°07'50 |
| max. Earth dist. | 5094 Sep 21 11:39 | 26°♍25'32 | 2.63800 AU |
| | 5094 Sep 27 00:23 | 0°♎ | |
| morning rise | 5094 Oct 23 03:11 | 16°♎44'02 | |
| | 5094 Nov 13 01:34 | 0°♏ | |
| | 5094 Dec 31 00:31 | 0°♐ | |
| | 5095 Feb 18 00:51 | 0°♑ | |
| desc. node | 5095 Mar 21 19:45 | 18°♑48'07 | |
| | 5095 Apr 10 12:52 | 0°♒ | |
| | 5095 Jun 11 19:05 | 0°♓ | |
| retrograde | 5095 Jul 21 12:53 | 8°♓08'49 | |
| opposition | 5095 Aug 22 12:46 | 2°♓19'15 | -6°05'34 |
| greatest brilliancy | 5095 Aug 24 04:28 | 1°♓48'43 | -2.6m |
| min. Earth dist. | 5095 Aug 30 06:25 | 29°♒57'12 | 0.42408 AU |
| | 5095 Aug 30 02:40 | 30°℞♒ | |
| direct | 5095 Sep 26 03:19 | 25°♒22'08 | |
| | 5095 Oct 22 15:50 | 0°♓ | |
| | 5095 Dec 19 02:11 | 0°♈ | |
| | 5096 Jan 31 20:44 | 0°♉ | |
| asc. node | 5096 Feb 01 01:11 | 0°♉07'54 | |

| | | | |
|---|---|---|---|
| | 5096 Mar 13 19:17 | 0°♊ | |
| | 5096 Apr 25 04:49 | 0°♋ | |
| | 5096 Jun 07 22:01 | 0°♌ | |
| | 5096 Jul 23 04:05 | 0°♍ | |
| evening set | 5096 Aug 27 18:50 | 23°♍02'00 | |
| | 5096 Sep 07 15:55 | 0°♎ | |
| conjunction | 5096 Oct 13 07:41 | 22°♎42'40 | 0°53'22 |
| minimum elong | 5096 Oct 13 08:45 | 22°♎44'21 | 0°53'22 |
| max. Earth dist. | 5096 Oct 14 06:46 | 23°♎19'20 | 2.67755 AU |
| | 5096 Oct 24 18:55 | 0°♏ | |
| morning rise | 5096 Nov 26 13:39 | 20°♏51'37 | |
| | 5096 Dec 10 21:08 | 0°♐ | |
| | 5097 Jan 26 11:48 | 0°♑ | |
| desc. node | 5097 Feb 05 19:05 | 6°♑41'00 | |
| | 5097 Mar 13 12:22 | 0°♒ | |
| | 5097 Apr 28 03:24 | 0°♓ | |
| | 5097 Jun 13 00:50 | 0°♈ | |
| | 5097 Jul 31 20:27 | 0°♉ | |
| retrograde | 5097 Oct 09 06:27 | 24°♉30'00 | |
| min. Earth dist. | 5097 Nov 05 12:05 | 20°♉02'10 | 0.37650 AU |
| opposition | 5097 Nov 09 13:04 | 18°♉54'27 | -2°48'43 |
| greatest brilliancy | 5097 Nov 09 06:06 | 18°♉59'19 | -3.0m |
| direct | 5097 Dec 09 02:01 | 13°♉53'04 | |
| asc. node | 5097 Dec 18 23:59 | 14°♉32'08 | |
| | 5098 Feb 02 15:02 | 0°♊ | |
| | 5098 Mar 28 06:05 | 0°♋ | |
| | 5098 May 15 20:31 | 0°♌ | |
| | 5098 Jul 02 19:57 | 0°♍ | |
| | 5098 Aug 19 20:37 | 0°♎ | |
| evening set | 5098 Oct 04 05:05 | 28°♎27'33 | |
| | 5098 Oct 06 15:38 | 0°♏ | |
| max. Earth dist. | 5098 Nov 05 22:15 | 19°♏15'18 | 2.66235 AU |
| conjunction | 5098 Nov 18 04:58 | 27°♏08'54 | 0°19'26 |
| minimum elong | 5098 Nov 18 05:33 | 27°♏09'50 | 0°19'27 |
| | 5098 Nov 22 14:54 | 0°♐ | |
| desc. node | 5098 Dec 24 17:26 | 20°♐59'45 | |
| morning rise | 5099 Jan 01 15:33 | 26°♐15'06 | |
| | 5099 Jan 07 06:29 | 0°♑ | |
| | 5099 Feb 20 09:14 | 0°♒ | |
| | 5099 Apr 03 23:46 | 0°♓ | |
| | 5099 May 15 07:57 | 0°♈ | |
| | 5099 Jun 24 22:16 | 0°♉ | |
| | 5099 Aug 04 21:10 | 0°♊ | |
| | 5099 Sep 17 16:56 | 0°♋ | |
| asc. node | 5099 Nov 05 22:33 | 26°♋08'47 | |
| | 5099 Nov 17 17:40 | 0°♌ | |
| retrograde | 5099 Dec 08 07:54 | 2°♌53'04 | |
| | 5099 Dec 28 02:53 | 30°℞♋ | |
| min. Earth dist. | 5100 Jan 06 10:02 | 27°♋00'22 | 0.49253 AU |
| greatest brilliancy | 5100 Jan 13 11:05 | 24°♋25'42 | -2.2m |
| opposition | 5100 Jan 14 13:52 | 24°♋01'01 | 3°34'06 |
| direct | 5100 Feb 17 11:51 | 16°♋46'46 | |
| | 5100 Apr 10 10:50 | 0°♌ | |
| | 5100 Jun 08 15:42 | 0°♍ | |
| | 5100 Jul 30 12:49 | 0°♎ | |
| | 5100 Sep 17 22:58 | 0°♏ | |
| | 5100 Nov 04 09:49 | 0°♐ | |
| evening set | 5100 Nov 09 22:25 | 3°♐34'50 | |
| desc. node | 5100 Nov 11 16:10 | 4°♐42'44 | |
| max. Earth dist. | 5100 Dec 01 08:18 | 17°♐38'39 | 2.59366 AU |
| | 5100 Dec 19 18:21 | 0°♑ | |
| conjunction | 5100 Dec 26 09:38 | 4°♑30'42 | -0°24'20 |
| minimum elong | 5100 Dec 26 08:47 | 4°♑29'15 | 0°24'18 |
| | 5101 Feb 01 00:04 | 0°♒ | |
| morning rise | 5101 Feb 12 23:33 | 8°♒33'57 | |
| | 5101 Mar 14 07:53 | 0°♓ | |
| | 5101 Apr 23 04:04 | 0°♈ | |
| | 5101 Jun 01 03:20 | 0°♉ | |
| | 5101 Jul 10 01:45 | 0°♊ | |
| | 5101 Aug 19 01:59 | 0°♋ | |
| asc. node | 5101 Sep 23 22:41 | 25°♋20'59 | |
| | 5101 Sep 30 20:50 | 0°♌ | |
| | 5101 Nov 19 22:28 | 0°♍ | |