



Astrodienst Ephemeris Tables for the year 2046

Positions modulo 16, tropical geocentric zodiac

contains Sun, Moon, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, True Node, Moon's Node, Lilith, Chiron

Programming
Dieter Koch and Alois Treindl
based on Swiss Ephemeris
Code D5EPH

ASTRODIENST EPHEMERIS for the year 2046
geocentric

JANUARY 2046 mod 16

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|---------|----------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|------|------|
| M 1 | 6 43 16 | 10°42'45 | 4° 6 | 1°48 | 11°38 | 16° 2 | 1°20 | 9°48 | 16°21 | 21°57 | 17°18 | 21°38 | 0°21 | 20° 2 | 6°16 | M 1 |
| T 2 | 6 47 13 | 11°43'55 | 17°41 | 3°21 | 11° 2 | 16°31 | 1°31 | 9°55 | 16°20 | 21°56 | 17°19 | 21°35 | 0°18 | 20° 8 | 6°18 | T 2 |
| W 3 | 6 51 9 | 12°45'05 | 8°32 | 4°55 | 10°25 | 16°59 | 1°42 | 10° 1 | 16°18 | 21°56 | 17°20 | 21°31 | 0°14 | 20°15 | 6°20 | W 3 |
| T 4 | 6 55 6 | 13°46'15 | 21°39 | 6°29 | 9°49 | 17°27 | 1°53 | 10° 8 | 16°17 | 21°55 | 17°21 | 21°26 | 0°11 | 20°22 | 6°22 | T 4 |
| F 5 | 6 59 3 | 14°47'25 | 12° 4 | 8° 3 | 9°13 | 17°55 | 2° 4 | 10°15 | 16°15 | 21°54 | 17°22 | 21°21 | 0° 8 | 20°28 | 6°24 | F 5 |
| S 6 | 7 2 59 | 15°48'36 | 2°16 | 9°38 | 8°39 | 18°22 | 2°15 | 10°21 | 16°14 | 21°54 | 17°23 | 21°16 | 0° 5 | 20°35 | 6°26 | S 6 |
| S 7 | 7 6 56 | 16°49'47 | 14°45 | 11°13 | 8° 6 | 18°50 | 2°26 | 10°28 | 16°12 | 21°53 | 17°25 | 21°12 | 0° 2 | 20°42 | 6°27 | S 7 |
| M 8 | 7 10 52 | 17°50'57 | 4°32 | 12°48 | 7°33 | 19°17 | 2°38 | 10°34 | 16°10 | 21°52 | 17°26 | 21° 9 | 22°29 | 20°48 | 6°29 | M 8 |
| T 9 | 7 14 49 | 18°52'07 | 16°38 | 14°24 | 7° 3 | 19°44 | 2°49 | 10°41 | 16° 9 | 21°52 | 17°27 | 21° 8 | 22°25 | 20°55 | 6°30 | T 9 |
| W10 | 7 18 45 | 19°53'17 | 6° 5 | 16° 0 | 6°34 | 20°11 | 3° 1 | 10°47 | 16° 7 | 21°51 | 17°29 | 21° 8 | 22°22 | 21° 2 | 6°31 | W10 |
| T 11 | 7 22 42 | 20°54'26 | 17°56 | 17°37 | 6° 7 | 20°37 | 3°13 | 10°54 | 16° 5 | 21°51 | 17°30 | 21° 9 | 22°19 | 21° 8 | 6°33 | T 11 |
| F 12 | 7 26 38 | 21°55'35 | 7°13 | 19°14 | 5°42 | 21° 4 | 3°25 | 11° 0 | 16° 3 | 21°51 | 17°31 | 21°11 | 22°16 | 21°15 | 6°34 | F 12 |
| S 13 | 7 30 35 | 0°26'44 | 19° 1 | 20°52 | 5°19 | 21°30 | 3°36 | 11° 6 | 16° 1 | 21°50 | 17°33 | 21°13 | 22°13 | 21°22 | 6°35 | S 13 |
| S 14 | 7 34 32 | 1°27'52 | 8°24 | 22°30 | 4°58 | 21°56 | 3°48 | 11°13 | 16° 0 | 21°50 | 17°34 | 21°14 | 22° 9 | 21°28 | 6°35 | S 14 |
| M15 | 7 38 28 | 2°28'59 | 20°27 | 1°38 | 4°40 | 22°21 | 4° 1 | 11°19 | 15°58 | 21°49 | 17°35 | 21°15 | 22° 6 | 21°35 | 6°36 | M15 |
| T 16 | 7 42 25 | 3°30'05 | 10°15 | 3°17 | 4°24 | 0°17 | 4°13 | 11°25 | 15°56 | 21°49 | 17°37 | 21°15 | 22° 3 | 21°41 | 6°37 | T 16 |
| W17 | 7 46 21 | 4°31'11 | 0°23 | 4°57 | 4°11 | 0°42 | 4°25 | 11°31 | 15°54 | 21°49 | 17°38 | 21°14 | 22° 0 | 21°48 | 6°37 | W17 |
| T 18 | 7 50 18 | 5°32'17 | 13°23 | 6°37 | 4° 0 | 1° 7 | 4°37 | 11°37 | 15°52 | 21°49 | 17°40 | 21°13 | 21°57 | 21°55 | 6°37 | T 18 |
| F 19 | 7 54 14 | 6°33'21 | 4°20 | 8°17 | 3°51 | 1°31 | 4°50 | 11°43 | 15°49 | 21°48 | 17°41 | 21°11 | 21°54 | 22° 1 | 6°37 | F 19 |
| S 20 | 7 58 11 | 7°34'25 | 18°13 | 9°58 | 3°45 | 1°56 | 5° 2 | 11°49 | 15°47 | 21°48 | 17°42 | 21° 9 | 21°50 | 22° 8 | 6°37 | S 20 |
| S 21 | 8 2 8 | 8°35'28 | 10° 2 | 11°40 | 3°41 | 2°20 | 5°15 | 11°55 | 15°45 | 21°48 | 17°44 | 21° 7 | 21°47 | 22°15 | 6°37 | S 21 |
| M22 | 8 6 4 | 9°36'30 | 2°12 | 13°22 | 3°40 | 2°44 | 5°27 | 12° 1 | 15°43 | 21°48 | 17°45 | 21° 6 | 21°44 | 22°21 | 6°37 | M22 |
| T 23 | 8 10 1 | 10°37'31 | 17° 6 | 15° 5 | 3°42 | 3° 7 | 5°40 | 12° 7 | 15°41 | 21°48 | 17°47 | 21° 5 | 21°41 | 22°28 | 6°37 | T 23 |
| W24 | 8 13 57 | 11°38'32 | 9°36 | 16°48 | 3°45 | 3°30 | 5°53 | 12°12 | 15°39 | 21°48 | 17°48 | 21° 6 | 21°38 | 0° 5 | 6°37 | W24 |
| T 25 | 8 17 54 | 12°39'32 | 2° 5 | 18°31 | 3°51 | 3°53 | 6° 6 | 12°18 | 15°36 | 21°48 | 17°50 | 21° 6 | 21°35 | 0°11 | 6°36 | T 25 |
| F 26 | 8 21 50 | 13°40'31 | 16°54 | 20°15 | 4° 0 | 4°16 | 6°19 | 12°24 | 15°34 | 21°48 | 17°51 | 21° 7 | 21°31 | 0°18 | 6°35 | F 26 |
| S 27 | 8 25 47 | 14°41'30 | 8°57 | 21°59 | 4°11 | 4°38 | 6°32 | 12°29 | 15°32 | 21°48 | 17°53 | 21° 7 | 21°28 | 0°25 | 6°35 | S 27 |
| S 28 | 8 29 43 | 15°42'29 | 0°40 | 1°14 | 4°23 | 5° 0 | 6°45 | 12°35 | 15°29 | 21°48 | 17°55 | 21° 8 | 21°25 | 0°31 | 6°34 | S 28 |
| M29 | 8 33 40 | 16°43'26 | 14°31 | 2°59 | 4°38 | 5°22 | 6°58 | 12°40 | 15°27 | 21°48 | 17°56 | 21° 8 | 21°22 | 0°38 | 6°33 | M29 |
| T 30 | 8 37 37 | 17°44'23 | 5°31 | 4°44 | 4°55 | 5°44 | 7°11 | 12°46 | 15°25 | 21°49 | 17°58 | 21° 8 | 21°19 | 0°45 | 6°32 | T 30 |
| W31 | 8 41 33 | 18°45'20 | 18°41 | 6°29 | 5°15 | 6° 5 | 7°24 | 12°51 | 15°22 | 21°49 | 17°59 | 21° 8 | 21°15 | 0°51 | 6°30 | W31 |

Delta T = 73.44 sec

FEBRUARY 2046 mod 16

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|
| T 1 | 8 45 30 | 19°46'16 | 9° 3 | 8°14 | 5°36 | 6°25 | 7°38 | 12°56 | 15°20 | 21°49 | 18° 1 | 21° 8 | 21°12 | 0°58 | 6°29 | T 1 |
| F 2 | 8 49 26 | 20°47'11 | 21°39 | 9°58 | 5°58 | 6°46 | 7°51 | 13° 2 | 15°17 | 21°49 | 18° 2 | 21° 7 | 21° 9 | 1° 5 | 6°28 | F 2 |
| S 3 | 8 53 23 | 21°48'05 | 11°32 | 11°42 | 6°23 | 7° 6 | 8° 4 | 13° 7 | 15°15 | 21°50 | 18° 4 | 21° 7 | 21° 6 | 1°11 | 6°26 | S 3 |
| S 4 | 8 57 19 | 0°18'59 | 1°14 | 13°25 | 6°50 | 7°25 | 8°18 | 13°12 | 15°12 | 21°50 | 18° 6 | 21° 8 | 21° 3 | 1°18 | 6°24 | S 4 |
| M 5 | 9 1 16 | 1°19'51 | 13°17 | 15° 8 | 7°18 | 7°44 | 8°32 | 13°17 | 15°10 | 21°50 | 18° 7 | 21° 8 | 21° 0 | 1°25 | 6°23 | M 5 |
| T 6 | 9 5 12 | 2°20'42 | 2°43 | 16°48 | 7°47 | 8° 3 | 8°45 | 13°22 | 15° 7 | 21°51 | 18° 9 | 21° 8 | 20°56 | 1°31 | 6°21 | T 6 |
| W 7 | 9 9 9 | 3°21'32 | 14°35 | 18°28 | 8°19 | 8°22 | 8°59 | 13°27 | 15° 5 | 21°51 | 18°11 | 21° 8 | 20°53 | 1°38 | 6°19 | W 7 |
| T 8 | 9 13 6 | 4°22'21 | 3°54 | 20° 4 | 8°51 | 8°40 | 9°12 | 13°32 | 15° 2 | 21°52 | 18°12 | 21° 7 | 20°50 | 1°45 | 6°16 | T 8 |
| F 9 | 9 17 2 | 5°23'08 | 15°42 | 21°39 | 9°25 | 8°57 | 9°26 | 13°36 | 14°59 | 21°52 | 18°14 | 21° 6 | 20°47 | 1°51 | 6°14 | F 9 |
| S 10 | 9 20 59 | 6°23'54 | 5° 1 | 0°40 | 10° 1 | 9°15 | 9°40 | 13°41 | 14°57 | 21°53 | 18°16 | 21° 5 | 20°44 | 1°58 | 6°12 | S 10 |
| S 11 | 9 24 55 | 7°24'38 | 16°57 | 2° 7 | 10°38 | 9°31 | 9°54 | 13°46 | 14°54 | 21°54 | 18°17 | 21° 4 | 20°40 | 2° 5 | 6° 9 | S 11 |
| M12 | 9 28 52 | 8°25'21 | 6°30 | 3°30 | 11°16 | 9°48 | 10° 8 | 13°50 | 14°52 | 21°54 | 18°19 | 21° 3 | 20°37 | 2°11 | 6° 7 | M12 |
| T 13 | 9 32 48 | 9°26'03 | 18°46 | 4°47 | 11°55 | 10° 3 | 10°22 | 13°54 | 14°49 | 21°55 | 18°21 | 21° 2 | 20°34 | 2°18 | 6° 4 | T 13 |
| W14 | 9 36 45 | 10°26'42 | 8°49 | 5°59 | 12°36 | 10°19 | 10°36 | 13°59 | 14°46 | 21°56 | 18°22 | 21° 2 | 20°31 | 2°25 | 6° 2 | W14 |
| T 15 | 9 40 41 | 11°27'21 | 21°42 | 7° 5 | 13°17 | 10°34 | 10°50 | 14° 3 | 14°44 | 21°56 | 18°24 | 21° 2 | 20°28 | 2°31 | 5°59 | T 15 |
| F 16 | 9 44 38 | 12°27'57 | 12°29 | 8° 3 | 14° 0 | 10°48 | 11° 4 | 14° 7 | 14°41 | 21°57 | 18°26 | 21° 3 | 20°25 | 2°38 | 5°56 | F 16 |
| S 17 | 9 48 35 | 13°28'32 | 3°43 | 8°53 | 14°43 | 11° 2 | 11°18 | 14°11 | 14°39 | 21°58 | 18°27 | 21° 4 | 20°21 | 2°45 | 5°53 | S 17 |
| S 18 | 9 52 31 | 14°29'05 | 17°54 | 9°34 | 15°28 | 11°16 | 11°32 | 14°15 | 14°36 | 21°59 | 18°29 | 21° 5 | 20°18 | 2°51 | 5°50 | S 18 |
| M19 | 9 56 28 | 15°29'36 | 10° 1 | 10° 6 | 16°14 | 11°29 | 11°46 | 14°19 | 14°33 | 22° 0 | 18°31 | 21° 6 | 20°15 | 2°58 | 5°47 | M19 |
| T 20 | 10 0 24 | 16°30'05 | 2°29 | 10°29 | 17° 0 | 11°41 | 12° 0 | 14°23 | 14°31 | 22° 0 | 18°32 | 21° 6 | 20°12 | 3° 5 | 5°43 | T 20 |
| W21 | 10 4 21 | 17°30'33 | 17°40 | 10°42 | 17°48 | 11°53 | 12°14 | 14°27 | 14°28 | 22° 1 | 18°34 | 21° 5 | 20° 9 | 3°11 | 5°40 | W21 |
| T 22 | 10 8 17 | 18°30'59 | 10°25 | 10°44 | 18°36 | 12° 4 | 12°28 | 14°31 | 14°25 | 22° 2 | 18°36 | 21° 3 | 20° 6 | 3°18 | 5°36 | T 22 |
| F 23 | 10 12 14 | 19°31'24 | 3° 4 | 10°37 | 19°25 | 12°15 | 12°43 | 14°34 | 14°23 | 22° 3 | 18°37 | 21° 1 | 20° 2 | 3°25 | 5°33 | F 23 |
| S 24 | 10 16 10 | 20°31'47 | 17°58 | 10°19 | 20°15 | 12°25 | 12°57 | 14°38 | 14°20 | 22° 4 | 18°39 | 20°58 | 19°59 | 3°31 | 5°29 | S 24 |
| S 25 | 10 20 7 | 21°32'09 | 10° 0 | 9°52 | 21° 6 | 12°35 | 13°11 | 14°41 | 14°18 | 22° 5 | 18°41 | 20°55 | 19°56 | 3°38 | 5°26 | S 25 |
| M26 | 10 24 3 | 0° 2'29 | 1°34 | 9°17 | 21°57 | 12°44 | 13°26 | 14°45 | 14°15 | 22° 7 | 18°42 | 20°53 | 19°53 | 3°45 | 5°22 | M26 |
| T 27 | 10 28 0 | 1° 2'48 | 15°12 | 8°33 | 0°19 | 12°53 | 13°40 | 14°48 | 14°12 | 22° 8 | 18°44 | 20°51 | 19°50 | 3°51 | 5°18 | T 27 |
| W28 | 10 31 57 | 2° 3'06 | 5°52 | 7°43 | 1°12 | 13° 1 | 13°54 | 14°51 | 14°10 | 22° 9 | 18°46 | 20°51 | 19°46 | 3°58 | 5°14 | W28 |

Delta T = 73.46 sec

ASTRODIENST EPHEMERIS for the year 2046
geocentric

MARCH 2046 mod 16

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|
| T 1 | 10 35 53 | 3° 3'22 | 18°39 | 6°47 | 2° 5 | 13° 8 | 14° 9 | 14°54 | 14° 7 | 22°10 | 18°47 | 20°52 | 19°43 | 4° 5 | 5°10 | T 1 |
| F 2 | 10 39 50 | 4° 3'37 | 8°37 | 5°48 | 2°59 | 13°15 | 14°23 | 14°58 | 14° 5 | 22°11 | 18°49 | 20°53 | 19°40 | 4°11 | 5° 6 | F 2 |
| S 3 | 10 43 46 | 5° 3'50 | 20°49 | 4°46 | 3°54 | 13°21 | 14°38 | 15° 0 | 14° 2 | 22°12 | 18°51 | 20°55 | 19°37 | 4°18 | 5° 2 | S 3 |
| S 4 | 10 47 43 | 6° 4'02 | 10°21 | 3°43 | 4°49 | 13°26 | 14°52 | 15° 3 | 14° 0 | 22°14 | 18°52 | 20°57 | 19°34 | 4°24 | 4°58 | S 4 |
| M 5 | 10 51 39 | 7° 4'12 | 22°14 | 2°41 | 5°45 | 13°31 | 15° 6 | 15° 6 | 13°57 | 22°15 | 18°54 | 20°57 | 19°31 | 4°31 | 4°54 | M 5 |
| T 6 | 10 55 36 | 8° 4'20 | 11°34 | 1°41 | 6°41 | 13°35 | 15°21 | 15° 9 | 13°55 | 22°16 | 18°56 | 20°56 | 19°27 | 4°38 | 4°49 | T 6 |
| W 7 | 10 59 32 | 9° 4'26 | 0°51 | 0°44 | 7°38 | 13°38 | 15°35 | 15°11 | 13°52 | 22°18 | 18°57 | 20°54 | 19°24 | 4°44 | 4°45 | W 7 |
| T 8 | 11 3 29 | 10° 4'31 | 12°40 | 22°21 | 8°35 | 13°40 | 15°50 | 15°14 | 13°50 | 22°19 | 18°59 | 20°49 | 19°21 | 4°51 | 4°41 | T 8 |
| F 9 | 11 7 26 | 11° 4'34 | 2° 1 | 21°33 | 9°33 | 13°42 | 16° 4 | 15°16 | 13°47 | 22°20 | 19° 1 | 20°44 | 19°18 | 4°58 | 4°36 | F 9 |
| S 10 | 11 11 22 | 12° 4'34 | 13°56 | 20°51 | 10°31 | 13°44 | 16°19 | 15°18 | 13°45 | 22°22 | 19° 2 | 20°37 | 19°15 | 5° 4 | 4°32 | S 10 |
| S 11 | 11 15 19 | 13° 4'33 | 3°28 | 20°15 | 11°30 | 13°44 | 16°33 | 15°21 | 13°42 | 22°23 | 19° 4 | 20°30 | 19°12 | 5°11 | 4°27 | S 11 |
| M12 | 11 19 15 | 14° 4'30 | 15°38 | 19°45 | 12°29 | 13°44 | 16°48 | 15°23 | 13°40 | 22°25 | 19° 6 | 20°23 | 19° 8 | 5°18 | 4°23 | M12 |
| T 13 | 11 23 12 | 15° 4'25 | 5°28 | 19°22 | 13°28 | 13°43 | 17° 2 | 15°25 | 13°38 | 22°26 | 19° 7 | 20°17 | 19° 5 | 5°24 | 4°18 | T 13 |
| W14 | 11 27 8 | 16° 4'17 | 18° 2 | 19° 6 | 14°28 | 13°41 | 17°17 | 15°27 | 13°35 | 22°28 | 19° 9 | 20°13 | 19° 2 | 5°31 | 4°14 | W14 |
| T 15 | 11 31 5 | 17° 4'08 | 8°23 | 18°56 | 15°28 | 13°38 | 17°32 | 15°28 | 13°33 | 22°29 | 19°10 | 20°11 | 18°59 | 5°38 | 4° 9 | T 15 |
| F 16 | 11 35 1 | 18° 3'56 | 21°33 | 18°52 | 16°28 | 13°35 | 17°46 | 15°30 | 13°31 | 0° 1 | 19°12 | 20°11 | 18°56 | 5°44 | 4° 4 | F 16 |
| S 17 | 11 38 58 | 19° 3'42 | 12°35 | 18°54 | 17°29 | 13°31 | 18° 1 | 15°32 | 13°28 | 0° 3 | 19°14 | 20°12 | 18°52 | 5°51 | 4° 0 | S 17 |
| S 18 | 11 42 55 | 20° 3'25 | 4° 2 | 19° 3 | 18°30 | 13°26 | 18°15 | 15°33 | 13°26 | 0° 4 | 19°15 | 20°13 | 18°49 | 5°58 | 3°55 | S 18 |
| M19 | 11 46 51 | 21° 3'07 | 18°24 | 19°17 | 19°32 | 13°21 | 18°30 | 15°35 | 13°24 | 0° 6 | 19°17 | 20°14 | 18°46 | 6° 4 | 3°50 | M19 |
| T 20 | 11 50 48 | 22° 2'46 | 10°39 | 19°36 | 20°34 | 13°14 | 18°44 | 15°36 | 13°22 | 0° 8 | 19°18 | 20°13 | 18°43 | 6°11 | 3°46 | T 20 |
| W21 | 11 54 44 | 0°32'22 | 3°12 | 20° 0 | 21°36 | 13° 7 | 18°59 | 15°37 | 13°20 | 0° 9 | 19°20 | 20°11 | 18°40 | 6°18 | 3°41 | W21 |
| T 22 | 11 58 41 | 1°31'57 | 18°25 | 20°29 | 0° 8 | 12°59 | 19°13 | 15°38 | 13°18 | 0°11 | 19°21 | 20° 6 | 18°37 | 6°24 | 3°36 | T 22 |
| F 23 | 12 2 37 | 2°31'30 | 11° 8 | 21° 2 | 1°11 | 12°51 | 19°28 | 15°39 | 13°16 | 0°13 | 19°23 | 19°59 | 18°33 | 6°31 | 3°31 | F 23 |
| S 24 | 12 6 34 | 3°31'00 | 3°41 | 21°40 | 2°14 | 12°41 | 19°42 | 15°40 | 13°14 | 0°15 | 19°24 | 19°51 | 18°30 | 6°38 | 3°27 | S 24 |
| S 25 | 12 10 30 | 4°30'29 | 18°24 | 22°21 | 3°17 | 12°31 | 19°57 | 15°41 | 13°12 | 0°16 | 19°26 | 19°43 | 18°27 | 6°44 | 3°22 | S 25 |
| M26 | 12 14 27 | 5°29'56 | 10°11 | 0°36 | 4°21 | 12°20 | 20°11 | 15°42 | 13°10 | 0°18 | 19°27 | 19°36 | 18°24 | 6°51 | 3°17 | M26 |
| T 27 | 12 18 24 | 6°29'21 | 1°28 | 1°25 | 5°25 | 12° 8 | 20°25 | 15°42 | 13° 8 | 0°20 | 19°29 | 19°30 | 18°21 | 6°58 | 3°12 | T 27 |
| W28 | 12 22 20 | 7°28'45 | 14°46 | 2°17 | 6°29 | 11°56 | 20°40 | 15°43 | 13° 6 | 0°22 | 19°30 | 19°27 | 18°18 | 7° 4 | 3° 7 | W28 |
| T 29 | 12 26 17 | 8°28'06 | 5° 6 | 3°12 | 7°33 | 11°43 | 20°54 | 15°43 | 13° 4 | 0°24 | 19°32 | 19°26 | 18°14 | 7°11 | 3° 3 | T 29 |
| F 30 | 12 30 13 | 9°27'26 | 17°34 | 4°10 | 8°38 | 11°29 | 21° 9 | 15°43 | 13° 2 | 0°26 | 19°33 | 19°26 | 18°11 | 7°18 | 2°58 | F 30 |
| S 31 | 12 34 10 | 10°26'45 | 7°14 | 5°11 | 9°43 | 11°14 | 21°23 | 15°44 | 13° 1 | 0°28 | 19°35 | 19°27 | 18° 8 | 7°24 | 2°53 | S 31 |

Delta T = 73.48 sec

APRIL 2046 mod 16

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|----------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|------|------|
| S 1 | 12 38 6 | 11°26'01 | 19°12 | 6°14 | 10°47 | 10°59 | 21°37 | 15°44 | 12°59 | 0°30 | 19°36 | 19°27 | 18° 5 | 7°31 | 2°49 | S 1 |
| M 2 | 12 42 3 | 12°25'15 | 8°32 | 7°20 | 11°53 | 10°43 | 21°52 | 15°44 | 12°57 | 0°31 | 19°38 | 19°27 | 18° 2 | 7°38 | 2°44 | M 2 |
| T 3 | 12 45 59 | 13°24'28 | 20°19 | 8°28 | 12°58 | 10°26 | 22° 6 | 15°44 | 12°56 | 0°33 | 19°39 | 19°24 | 17°58 | 7°44 | 2°39 | T 3 |
| W 4 | 12 49 56 | 14°23'39 | 9°36 | 9°39 | 14° 4 | 10° 9 | 22°20 | 15°44 | 12°54 | 0°35 | 19°40 | 19°18 | 17°55 | 7°51 | 2°35 | W 4 |
| T 5 | 12 53 53 | 15°22'48 | 21°27 | 10°51 | 15° 9 | 9°51 | 0° 5 | 15°43 | 12°53 | 0°37 | 19°42 | 19°10 | 17°52 | 7°58 | 2°30 | T 5 |
| F 6 | 12 57 49 | 16°21'54 | 10°54 | 12° 6 | 16°15 | 9°33 | 0°19 | 15°43 | 12°51 | 0°39 | 19°43 | 19° 0 | 17°49 | 8° 4 | 2°26 | F 6 |
| S 7 | 13 1 146 | 17°20'59 | 0°28 | 13°23 | 17°21 | 9°14 | 0°33 | 15°42 | 12°50 | 0°41 | 19°44 | 18°48 | 17°46 | 8°11 | 2°21 | S 7 |
| S 8 | 13 5 42 | 18°20'02 | 12°41 | 14°42 | 18°28 | 8°54 | 0°47 | 15°42 | 12°48 | 0°44 | 19°46 | 18°35 | 17°43 | 8°18 | 2°17 | S 8 |
| M 9 | 13 9 39 | 19°19'03 | 2°34 | 16° 3 | 19°34 | 8°34 | 1° 1 | 15°41 | 12°47 | 0°46 | 19°47 | 18°23 | 17°39 | 8°25 | 2°12 | M 9 |
| T 10 | 13 13 35 | 20°18'01 | 15° 6 | 17°25 | 20°40 | 8°14 | 1°16 | 15°40 | 12°46 | 0°48 | 19°48 | 18°13 | 17°36 | 8°31 | 2° 8 | T 10 |
| W11 | 13 17 32 | 21°16'58 | 5°20 | 18°49 | 21°47 | 7°53 | 1°30 | 15°39 | 12°44 | 0°50 | 19°49 | 18° 5 | 17°33 | 8°38 | 2° 3 | W11 |
| T 12 | 13 21 28 | 22°15'52 | 18°17 | 20°15 | 0°24 | 7°32 | 1°44 | 15°38 | 12°43 | 0°52 | 19°51 | 17°59 | 17°30 | 8°45 | 1°59 | T 12 |
| F 13 | 13 25 25 | 0°44'44 | 8°59 | 21°43 | 1°31 | 7°10 | 1°58 | 15°37 | 12°42 | 0°54 | 19°52 | 17°57 | 17°27 | 8°51 | 1°55 | F 13 |
| S 14 | 13 29 22 | 1°43'34 | 22°27 | 0°43 | 2°38 | 6°48 | 2°12 | 15°36 | 12°41 | 0°56 | 19°53 | 17°56 | 17°23 | 8°58 | 1°51 | S 14 |
| S 15 | 13 33 18 | 2°42'21 | 13°44 | 2°14 | 3°45 | 6°26 | 2°26 | 15°35 | 12°40 | 0°58 | 19°54 | 17°56 | 17°20 | 9° 5 | 1°47 | S 15 |
| M16 | 13 37 15 | 3°41'07 | 5°22 | 3°47 | 4°53 | 6° 4 | 2°40 | 15°34 | 12°39 | 1° 0 | 19°55 | 17°56 | 17°17 | 9°11 | 1°42 | M16 |
| T 17 | 13 41 11 | 4°39'49 | 19°49 | 5°21 | 6° 0 | 5°41 | 2°54 | 15°32 | 12°38 | 1° 2 | 19°57 | 17°54 | 17°14 | 9°18 | 1°38 | T 17 |
| W18 | 13 45 8 | 5°38'30 | 12° 2 | 6°58 | 7° 8 | 5°19 | 3° 7 | 15°31 | 12°37 | 1° 5 | 19°58 | 17°50 | 17°11 | 9°25 | 1°35 | W18 |
| T 19 | 13 49 4 | 6°37'08 | 4°27 | 8°35 | 8°16 | 4°56 | 3°21 | 15°29 | 12°36 | 1° 7 | 19°59 | 17°43 | 17° 8 | 9°31 | 1°31 | T 19 |
| F 20 | 13 53 1 | 7°35'44 | 19°26 | 10°15 | 9°24 | 4°33 | 3°35 | 15°27 | 12°35 | 1° 9 | 20° 0 | 17°33 | 17° 4 | 9°38 | 1°27 | F 20 |
| S 21 | 13 56 57 | 8°34'19 | 11°50 | 11°56 | 10°32 | 4°10 | 3°49 | 15°25 | 12°34 | 1°11 | 20° 1 | 17°22 | 17° 1 | 9°45 | 1°23 | S 21 |
| S 22 | 14 0 54 | 9°32'51 | 3°59 | 13°39 | 11°40 | 3°48 | 4° 2 | 15°24 | 12°34 | 1°13 | 20° 2 | 17°11 | 16°58 | 9°51 | 1°19 | S 22 |
| M23 | 14 4 51 | 10°31'22 | 18°16 | 15°23 | 12°48 | 3°25 | 4°16 | 15°22 | 12°33 | 1°16 | 20° 3 | 17° 1 | 16°55 | 9°58 | 1°16 | M23 |
| T 24 | 14 8 47 | 11°29'51 | 9°36 | 17° 9 | 13°56 | 3° 3 | 4°29 | 15°19 | 12°32 | 1°18 | 20° 4 | 16°52 | 16°52 | 10° 5 | 1°12 | T 24 |
| W25 | 14 12 44 | 12°28'18 | 0°28 | 18°57 | 15° 5 | 2°40 | 4°43 | 15°17 | 12°32 | 1°20 | 20° 5 | 16°46 | 16°49 | 10°11 | 1° 9 | W25 |
| T 26 | 14 16 40 | 13°26'44 | 13°23 | 20°47 | 16°13 | 2°18 | 4°56 | 15°15 | 12°31 | 1°22 | 20° 6 | 16°43 | 16°45 | 10°18 | 1° 6 | T 26 |
| F 27 | 14 20 37 | 14°25'08 | 3°25 | 0° 8 | 17°22 | 1°56 | 5°10 | 15°13 | 12°31 | 1°24 | 20° 7 | 16°41 | 16°42 | 10°25 | 1° 2 | F 27 |
| S 28 | 14 24 33 | 15°23'30 | 15°37 | 2° 1 | 18°31 | 1°35 | 5°23 | 15°10 | 12°31 | 1°27 | 20° 8 | 16°41 | 16°39 | 10°31 | 0°59 | S 28 |
| S 29 | 14 28 30 | 16°21'51 | 5° 6 | 3°55 | 19°39 | 1°14 | 5°36 | 15° 8 | 12°30 | 1°29 | 20° 9 | 16°41 | 16°36 | 10°38 | 0°56 | S 29 |
| M30 | 14 32 26 | 17°20'11 | 16°57 | 5°51 | 20°48 | 0°53 | 5°50 | 15° 5 | 12°30 | 1°31 | 20°10 | 16°40 | 16°33 | 10°45 | 0°53 | M30 |

Delta T = 73.51 sec

ASTRODIENST EPHEMERIS for the year 2046

geocentric

MAY 2046 mod 16

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|----------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|------|------|
| T 1 | 14 36 23 | 18°18'28 | 6°15 | 7°49 | 21°57 | 0°33 | 6° 3 | 15° 3 | 12°30 | 1°33 | 20°10 | 16°37 | 16°29 | 10°51 | 0°50 | T 1 |
| W 2 | 14 40 20 | 19°16'44 | 18° 4 | 9°49 | 0°36 | 0°13 | 6°16 | 15° 0 | 12°30 | 1°36 | 20°11 | 16°31 | 16°26 | 10°58 | 0°47 | W 2 |
| T 3 | 14 44 16 | 20°14'59 | 7°30 | 11°50 | 1°46 | 22°23 | 6°29 | 14°57 | 12°29 | 1°38 | 20°12 | 16°22 | 16°23 | 11° 5 | 0°45 | T 3 |
| F 4 | 14 48 13 | 21°13'12 | 19°33 | 13°53 | 2°55 | 22° 4 | 6°42 | 14°54 | 12°29 | 1°40 | 20°13 | 16°11 | 16°20 | 11°11 | 0°42 | F 4 |
| S 5 | 14 52 9 | 22°11'23 | 9°18 | 15°57 | 4° 4 | 21°46 | 6°55 | 14°51 | 12°29 | 1°42 | 20°14 | 15°58 | 16°17 | 11°18 | 0°39 | S 5 |
| S 6 | 14 56 6 | 0°39'33 | 21°45 | 18° 2 | 5°14 | 21°28 | 7° 8 | 14°48 | 12°29 | 1°45 | 20°14 | 15°45 | 16°14 | 11°25 | 0°37 | S 6 |
| M 7 | 15 0 2 | 1°37'41 | 11°53 | 20° 9 | 6°23 | 21°11 | 7°21 | 14°45 | 12°29 | 1°47 | 20°15 | 15°32 | 16°10 | 11°31 | 0°35 | M 7 |
| T 8 | 15 3 59 | 2°35'48 | 2°14 | 22°17 | 7°33 | 20°55 | 7°34 | 14°42 | 12°30 | 1°49 | 20°16 | 15°20 | 16° 7 | 11°38 | 0°32 | T 8 |
| W 9 | 15 7 55 | 3°33'53 | 15°16 | 1°56 | 8°42 | 20°39 | 7°46 | 14°38 | 12°30 | 1°51 | 20°17 | 15°11 | 16° 4 | 11°45 | 0°30 | W 9 |
| T 10 | 15 11 52 | 4°31'56 | 5°59 | 4° 6 | 9°52 | 20°24 | 7°59 | 14°35 | 12°30 | 1°54 | 20°17 | 15° 5 | 16° 1 | 11°51 | 0°28 | T 10 |
| F 11 | 15 15 49 | 5°29'57 | 19°23 | 6°16 | 11° 2 | 20°10 | 8°11 | 14°32 | 12°30 | 1°56 | 20°18 | 15° 2 | 15°58 | 11°58 | 0°26 | F 11 |
| S 12 | 15 19 45 | 6°27'56 | 10°29 | 8°27 | 12°11 | 19°56 | 8°24 | 14°28 | 12°31 | 1°58 | 20°18 | 15° 1 | 15°55 | 12° 5 | 0°25 | S 12 |
| S 13 | 15 23 42 | 7°25'53 | 1°48 | 10°38 | 13°21 | 19°44 | 8°36 | 14°25 | 12°31 | 2° 1 | 20°19 | 15° 1 | 15°51 | 12°11 | 0°23 | S 13 |
| M14 | 15 27 38 | 8°23'49 | 15°49 | 12°48 | 14°31 | 19°32 | 8°49 | 14°21 | 12°32 | 2° 3 | 20°20 | 15° 1 | 15°48 | 12°18 | 0°21 | M14 |
| T 15 | 15 31 35 | 9°21'42 | 7°32 | 14°58 | 15°41 | 19°20 | 9° 1 | 14°18 | 12°32 | 2° 5 | 20°20 | 15° 0 | 15°45 | 12°25 | 0°20 | T 15 |
| W16 | 15 35 31 | 10°19'34 | 21°56 | 17° 8 | 16°51 | 19°10 | 9°13 | 14°14 | 12°33 | 2° 7 | 20°21 | 14°56 | 15°42 | 12°32 | 0°18 | W16 |
| T 17 | 15 39 28 | 11°17'24 | 13°58 | 19°16 | 18° 1 | 19° 0 | 9°25 | 14°10 | 12°33 | 2° 9 | 20°21 | 14°50 | 15°39 | 12°38 | 0°17 | T 17 |
| F 18 | 15 43 24 | 12°15'12 | 6° 3 | 21°23 | 19°11 | 18°51 | 9°37 | 14° 6 | 12°34 | 2°12 | 20°22 | 14°41 | 15°35 | 12°45 | 0°16 | F 18 |
| S 19 | 15 47 21 | 13°12'59 | 20°33 | 0°58 | 20°22 | 18°43 | 9°49 | 14° 2 | 12°35 | 2°14 | 20°22 | 14°31 | 15°32 | 12°52 | 0°15 | S 19 |
| S 20 | 15 51 18 | 14°10'45 | 12°23 | 3° 2 | 21°32 | 18°36 | 10° 1 | 13°59 | 12°36 | 2°16 | 20°22 | 14°21 | 15°29 | 12°58 | 0°14 | S 20 |
| M21 | 15 55 14 | 15° 8'29 | 3°56 | 5° 4 | 0°12 | 18°29 | 10°13 | 13°55 | 12°36 | 2°18 | 20°23 | 14°11 | 15°26 | 13° 5 | 0°13 | M21 |
| T 22 | 15 59 11 | 16° 6'11 | 17°37 | 7° 3 | 1°22 | 18°24 | 10°24 | 13°51 | 12°37 | 2°21 | 20°23 | 14° 3 | 15°23 | 13°12 | 0°12 | T 22 |
| W23 | 16 3 7 | 17° 3'53 | 8°25 | 9° 0 | 2°33 | 18°19 | 10°36 | 13°47 | 12°38 | 2°23 | 20°23 | 13°58 | 15°20 | 13°18 | 0°12 | W23 |
| T 24 | 16 7 4 | 18° 1'33 | 21°19 | 10°54 | 3°43 | 18°15 | 10°47 | 13°43 | 12°39 | 2°25 | 20°24 | 13°55 | 15°16 | 13°25 | 0°11 | T 24 |
| F 25 | 16 11 0 | 18°59'13 | 11°21 | 12°46 | 4°54 | 18°11 | 10°59 | 13°38 | 12°40 | 2°27 | 20°24 | 13°53 | 15°13 | 13°32 | 0°11 | F 25 |
| S 26 | 16 14 57 | 19°56'51 | 1° 6 | 14°35 | 6° 4 | 18° 9 | 11°10 | 13°34 | 12°41 | 2°29 | 20°24 | 13°54 | 15°10 | 13°38 | 0°10 | S 26 |
| S 27 | 16 18 53 | 20°54'28 | 13° 7 | 16°22 | 7°15 | 18° 7 | 11°21 | 13°30 | 12°43 | 2°32 | 20°25 | 13°54 | 15° 7 | 13°45 | 0°10 | S 27 |
| M28 | 16 22 50 | 21°52'04 | 2°30 | 18° 5 | 8°26 | 18° 6 | 11°33 | 13°26 | 12°44 | 2°34 | 20°25 | 13°55 | 15° 4 | 13°52 | 0°10 | M28 |
| T 29 | 16 26 47 | 0°19'40 | 14°20 | 19°46 | 9°36 | 18° 6 | 11°44 | 13°22 | 12°45 | 2°36 | 20°25 | 13°53 | 15° 1 | 13°58 | 0°10 | T 29 |
| W30 | 16 30 43 | 1°17'14 | 3°42 | 21°23 | 10°47 | 18° 7 | 11°55 | 13°17 | 12°46 | 2°38 | 20°25 | 13°50 | 14°57 | 14° 5 | 0°10 | W30 |
| T 31 | 16 34 40 | 2°14'48 | 15°41 | 0°28 | 11°58 | 18° 8 | 12° 5 | 13°13 | 12°48 | 2°40 | 20°25 | 13°45 | 14°54 | 14°12 | 0°10 | T 31 |

Delta T = 73.53 sec

JUNE 2046 mod 16

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|----------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|------|------|
| F 1 | 16 38 36 | 3°12'20 | 5°21 | 1°59 | 13° 9 | 18°11 | 12°16 | 13° 9 | 12°49 | 2°42 | 20°25 | 13°38 | 14°51 | 14°18 | 0°11 | F 1 |
| S 2 | 16 42 33 | 4° 9'52 | 17°44 | 3°28 | 14°20 | 18°14 | 12°27 | 13° 4 | 12°51 | 2°44 | 20°26 | 13°29 | 14°48 | 14°25 | 0°11 | S 2 |
| S 3 | 16 46 29 | 5° 7'23 | 7°53 | 4°53 | 15°31 | 18°17 | 12°37 | 13° 0 | 12°52 | 2°46 | 20°26 | 13°19 | 14°45 | 14°32 | 0°12 | S 3 |
| M 4 | 16 50 26 | 6° 4'53 | 20°47 | 6°16 | 16°42 | 18°22 | 12°48 | 12°56 | 12°54 | 2°49 | 20°26 | 13°10 | 14°41 | 14°38 | 0°13 | M 4 |
| T 5 | 16 54 22 | 7° 2'22 | 11°27 | 7°35 | 17°53 | 18°27 | 12°58 | 12°51 | 12°55 | 2°51 | 20°26 | 13° 2 | 14°38 | 14°45 | 0°14 | T 5 |
| W 6 | 16 58 19 | 7°59'50 | 2°21 | 8°51 | 19° 4 | 18°33 | 13° 8 | 12°47 | 12°57 | 2°53 | 20°26 | 12°56 | 14°35 | 14°52 | 0°14 | W 6 |
| T 7 | 17 2 16 | 8°57'18 | 15°58 | 10° 3 | 20°15 | 18°39 | 13°18 | 12°42 | 12°59 | 2°55 | 20°26 | 12°52 | 14°32 | 14°59 | 0°16 | T 7 |
| F 8 | 17 6 12 | 9°54'44 | 7°14 | 11°13 | 21°26 | 18°47 | 13°28 | 12°38 | 13° 0 | 2°57 | 20°26 | 12°51 | 14°29 | 15° 5 | 0°17 | F 8 |
| S 9 | 17 10 9 | 10°52'09 | 21° 9 | 12°19 | 0° 7 | 18°55 | 13°38 | 12°34 | 13° 2 | 2°59 | 20°25 | 12°51 | 14°26 | 15°12 | 0°18 | S 9 |
| S 10 | 17 14 5 | 11°49'33 | 12°40 | 13°21 | 1°18 | 19° 4 | 13°48 | 12°29 | 13° 4 | 3° 1 | 20°25 | 12°52 | 14°22 | 15°19 | 0°19 | S 10 |
| M11 | 17 18 2 | 12°46'55 | 4°16 | 14°20 | 2°30 | 19°13 | 13°58 | 12°25 | 13° 6 | 3° 3 | 20°25 | 12°53 | 14°19 | 15°25 | 0°21 | M11 |
| T 12 | 17 21 58 | 13°44'17 | 18°27 | 15°15 | 3°41 | 19°23 | 14° 7 | 12°20 | 13° 8 | 3° 5 | 20°25 | 12°53 | 14°16 | 15°32 | 0°23 | T 12 |
| W13 | 17 25 55 | 14°41'37 | 10°10 | 16° 7 | 4°52 | 19°34 | 14°16 | 12°16 | 13°10 | 3° 7 | 20°25 | 12°52 | 14°13 | 15°39 | 0°24 | W13 |
| T 14 | 17 29 51 | 15°38'57 | 1°52 | 16°55 | 6° 4 | 19°45 | 14°26 | 12°11 | 13°12 | 3° 9 | 20°25 | 12°49 | 14°10 | 15°45 | 0°26 | T 14 |
| F 15 | 17 33 48 | 16°36'15 | 16° 2 | 17°39 | 7°15 | 19°57 | 14°35 | 12° 7 | 13°14 | 3°10 | 20°24 | 12°44 | 14° 7 | 15°52 | 0°28 | F 15 |
| S 16 | 17 37 45 | 17°33'33 | 7°35 | 18°19 | 8°26 | 20°10 | 14°44 | 12° 3 | 13°16 | 3°12 | 20°24 | 12°38 | 14° 3 | 15°59 | 0°30 | S 16 |
| S 17 | 17 41 41 | 18°30'50 | 21°28 | 18°55 | 9°38 | 20°23 | 14°53 | 11°58 | 13°18 | 3°14 | 20°24 | 12°32 | 14° 0 | 16° 5 | 0°32 | S 17 |
| M18 | 17 45 38 | 19°28'07 | 12°37 | 19°27 | 10°49 | 20°37 | 15° 2 | 11°54 | 13°20 | 3°16 | 20°24 | 12°26 | 13°57 | 16°12 | 0°35 | M18 |
| T 19 | 17 49 34 | 20°25'22 | 3°29 | 19°55 | 12° 1 | 20°51 | 15°10 | 11°49 | 13°23 | 3°18 | 20°23 | 12°21 | 13°54 | 16°19 | 0°37 | T 19 |
| W20 | 17 53 31 | 21°22'38 | 16°33 | 20°18 | 13°12 | 21° 6 | 15°19 | 11°45 | 13°25 | 3°20 | 20°23 | 12°18 | 13°51 | 16°25 | 0°40 | W20 |
| T 21 | 17 57 27 | 22°19'53 | 6°48 | 20°37 | 14°24 | 21°21 | 15°27 | 11°41 | 13°27 | 3°22 | 20°23 | 12°17 | 13°47 | 16°32 | 0°42 | T 21 |
| F 22 | 18 1 24 | 0°47'07 | 19°16 | 20°51 | 15°36 | 21°37 | 15°35 | 11°36 | 13°29 | 3°23 | 20°22 | 12°17 | 13°44 | 16°39 | 0°45 | F 22 |
| S 23 | 18 5 21 | 1°44'21 | 8°58 | 21° 0 | 16°47 | 21°54 | 15°43 | 11°32 | 13°32 | 3°25 | 20°22 | 12°18 | 13°41 | 16°46 | 0°48 | S 23 |
| S 24 | 18 9 17 | 2°41'35 | 21° 0 | 21° 6 | 17°59 | 22°11 | 15°51 | 11°28 | 13°34 | 3°27 | 20°21 | 12°20 | 13°38 | 16°52 | 0°51 | S 24 |
| M25 | 18 13 14 | 3°38'49 | 10°24 | 21° 6 | 19°11 | 22°28 | 15°59 | 11°24 | 13°37 | 3°29 | 20°21 | 12°21 | 13°35 | 16°59 | 0°54 | M25 |
| T 26 | 18 17 10 | 4°36'02 | 22°15 | 21° 2 | 20°22 | 0°16 | 16° 7 | 11°19 | 13°39 | 3°30 | 20°20 | 12°22 | 13°32 | 17° 6 | 0°57 | T 26 |
| W27 | 18 21 7 | 5°33'16 | 11°38 | 20°54 | 21°34 | 0°35 | 16°14 | 11°15 | 13°42 | 3°32 | 20°20 | 12°22 | 13°28 | 17°12 | 1° 0 | W27 |
| T 28 | 18 25 3 | 6°30'30 | 1° 9 | 20°41 | 0°16 | 0°54 | 16°22 | 11°11 | 13°44 | 3°34 | 20°19 | 12°21 | 13°25 | 17°19 | 1° 4 | T 28 |
| F 29 | 18 29 0 | 7°27'43 | 13°21 | 20°24 | 1°28 | 1°13 | 16°29 | 11° 7 | 13°47 | 3°35 | 20°19 | 12°19 | 13°22 | 17°26 | 1° 7 | F 29 |
| S 30 | 18 32 56 | 8°24'57 | 3°19 | 20° 3 | 2°40 | 1°33 | 16°36 | 11° 3 | 13°50 | 3°37 | 20°18 | 12°15 | 13°19 | 17°32 | 1°11 | S 30 |

Delta T = 73.55 sec

ASTRODIENST EPHEMERIS for the year 2046

geocentric

JULY 2046 mod 16

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|----------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|------|------|
| S 1 | 18 36 53 | 9°22'11 | 16° 5 | 19°39 | 3°52 | 1°54 | 16°43 | 10°59 | 13°53 | 3°38 | 20°18 | 12°11 | 13°16 | 17°39 | 1°14 | S 1 |
| M 2 | 18 40 50 | 10°19'24 | 6°41 | 19°11 | 5° 4 | 2°15 | 16°50 | 10°55 | 13°55 | 3°40 | 20°17 | 12° 8 | 13°13 | 17°46 | 1°18 | M 2 |
| T 3 | 18 44 46 | 11°16'38 | 20° 6 | 18°40 | 6°16 | 2°36 | 16°57 | 10°51 | 13°58 | 3°42 | 20°16 | 12° 4 | 13° 9 | 17°52 | 1°22 | T 3 |
| W 4 | 18 48 43 | 12°13'52 | 11°21 | 18° 7 | 7°28 | 2°58 | 17° 3 | 10°47 | 14° 1 | 3°43 | 20°16 | 12° 2 | 13° 6 | 17°59 | 1°26 | W 4 |
| T 5 | 18 52 39 | 13°11'06 | 2°51 | 17°32 | 8°40 | 3°20 | 17° 9 | 10°43 | 14° 4 | 3°45 | 20°15 | 12° 1 | 13° 3 | 18° 6 | 1°30 | T 5 |
| F 6 | 18 56 36 | 14° 8'20 | 17° 3 | 16°55 | 9°52 | 3°43 | 17°16 | 10°40 | 14° 7 | 3°46 | 20°14 | 12° 1 | 13° 0 | 18°13 | 1°34 | F 6 |
| S 7 | 19 0 32 | 15° 5'33 | 8°53 | 16°18 | 11° 5 | 4° 6 | 17°22 | 10°36 | 14°10 | 3°48 | 20°14 | 12° 1 | 12°57 | 18°19 | 1°38 | S 7 |
| S 8 | 19 4 29 | 16° 2'46 | 0°47 | 15°41 | 12°17 | 4°29 | 17°27 | 10°32 | 14°12 | 3°49 | 20°13 | 12° 3 | 12°53 | 18°26 | 1°43 | S 8 |
| M 9 | 19 8 25 | 16°59'59 | 15°10 | 15° 4 | 13°29 | 4°53 | 17°33 | 10°29 | 14°15 | 3°50 | 20°12 | 12° 4 | 12°50 | 18°33 | 1°47 | M 9 |
| T 10 | 19 12 22 | 17°57'12 | 6°58 | 14°28 | 14°41 | 5°17 | 17°39 | 10°25 | 14°18 | 3°52 | 20°11 | 12° 5 | 12°47 | 18°39 | 1°52 | T 10 |
| W11 | 19 16 19 | 18°54'25 | 21°10 | 13°54 | 15°54 | 5°42 | 17°44 | 10°22 | 14°22 | 3°53 | 20°11 | 12° 5 | 12°44 | 18°46 | 1°56 | W11 |
| T 12 | 19 20 15 | 19°51'37 | 12°43 | 13°23 | 17° 6 | 6° 7 | 17°49 | 10°18 | 14°25 | 3°54 | 20°10 | 12° 4 | 12°41 | 18°53 | 2° 1 | T 12 |
| F 13 | 19 24 12 | 20°48'50 | 4° 5 | 12°54 | 18°18 | 6°32 | 17°54 | 10°15 | 14°28 | 3°56 | 20° 9 | 12° 3 | 12°38 | 18°59 | 2° 6 | F 13 |
| S 14 | 19 28 8 | 21°46'03 | 17°44 | 12°29 | 19°31 | 6°58 | 17°59 | 10°12 | 14°31 | 3°57 | 20° 8 | 12° 2 | 12°34 | 19° 6 | 2°11 | S 14 |
| S 15 | 19 32 5 | 0°13'15 | 8°41 | 12° 8 | 20°43 | 7°24 | 18° 4 | 10° 8 | 14°34 | 3°58 | 20° 7 | 12° 0 | 12°31 | 19°13 | 2°16 | S 15 |
| M16 | 19 36 1 | 1°10'28 | 21°55 | 11°51 | 21°56 | 7°51 | 18° 8 | 10° 5 | 14°37 | 3°59 | 20° 6 | 11°59 | 12°28 | 19°19 | 2°21 | M16 |
| T 17 | 19 39 58 | 2° 7'41 | 12°24 | 11°39 | 0°38 | 8°17 | 18°12 | 10° 2 | 14°40 | 4° 0 | 20° 6 | 11°58 | 12°25 | 19°26 | 2°26 | T 17 |
| W18 | 19 43 54 | 3° 4'54 | 2°38 | 11°32 | 1°51 | 8°45 | 18°16 | 9°59 | 14°44 | 4° 2 | 20° 5 | 11°57 | 12°22 | 19°33 | 2°31 | W18 |
| T 19 | 19 47 51 | 4° 2'08 | 15° 9 | 11°31 | 3° 3 | 9°12 | 18°20 | 9°56 | 14°47 | 4° 3 | 20° 4 | 11°57 | 12°19 | 19°40 | 2°36 | T 19 |
| F 20 | 19 51 48 | 4°59'22 | 4°57 | 11°34 | 4°16 | 9°40 | 18°24 | 9°53 | 14°50 | 4° 4 | 20° 3 | 11°57 | 12°15 | 19°46 | 2°42 | F 20 |
| S 21 | 19 55 44 | 5°56'37 | 17° 4 | 11°44 | 5°29 | 10° 8 | 18°28 | 9°50 | 14°54 | 4° 5 | 20° 2 | 11°58 | 12°12 | 19°53 | 2°47 | S 21 |
| S 22 | 19 59 41 | 6°53'52 | 6°33 | 11°59 | 6°41 | 10°36 | 18°31 | 9°48 | 14°57 | 4° 6 | 20° 1 | 11°58 | 12° 9 | 20° 0 | 2°53 | S 22 |
| M23 | 20 3 37 | 7°51'08 | 18°26 | 12°19 | 7°54 | 11° 5 | 18°34 | 9°45 | 15° 0 | 4° 7 | 20° 0 | 11°59 | 12° 6 | 20° 6 | 2°59 | M23 |
| T 24 | 20 7 34 | 8°48'24 | 7°47 | 12°46 | 9° 7 | 11°34 | 18°37 | 9°42 | 15° 4 | 4° 8 | 19°59 | 11°59 | 12° 3 | 20°13 | 3° 4 | T 24 |
| W25 | 20 11 30 | 9°45'42 | 19°40 | 13°18 | 10°20 | 12° 3 | 18°40 | 9°40 | 15° 7 | 4° 9 | 19°58 | 12° 0 | 11°59 | 20°20 | 3°10 | W25 |
| T 26 | 20 15 27 | 10°43'00 | 9°10 | 13°56 | 11°32 | 12°33 | 18°43 | 9°38 | 15°10 | 4°10 | 19°57 | 12° 0 | 11°56 | 20°26 | 3°16 | T 26 |
| F 27 | 20 19 23 | 11°40'20 | 21°22 | 14°40 | 12°45 | 13° 2 | 18°45 | 9°35 | 15°14 | 4°11 | 19°56 | 12° 0 | 11°53 | 20°33 | 3°22 | F 27 |
| S 28 | 20 23 20 | 12°37'40 | 11°19 | 15°29 | 13°58 | 13°32 | 18°48 | 9°33 | 15°17 | 4°11 | 19°55 | 12° 0 | 11°50 | 20°40 | 3°28 | S 28 |
| S 29 | 20 27 17 | 13°35'01 | 1°35 | 16°25 | 15°11 | 14° 3 | 18°50 | 9°31 | 15°21 | 4°12 | 19°53 | 12° 0 | 11°47 | 20°46 | 3°34 | S 29 |
| M30 | 20 31 13 | 14°32'23 | 14°44 | 17°25 | 16°24 | 14°34 | 18°52 | 9°29 | 15°24 | 4°13 | 19°52 | 12° 0 | 11°44 | 20°53 | 3°40 | M30 |
| T 31 | 20 35 10 | 15°29'47 | 5°47 | 18°31 | 17°37 | 15° 4 | 18°54 | 9°27 | 15°28 | 4°14 | 19°51 | 12° 0 | 11°40 | 21° 0 | 3°47 | T 31 |

Delta T = 73.58 sec

AUGUST 2046 mod 16

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|----------|-------|-------|-------|-------|-------|------|-------|------|-------|-------|-------|-------|------|------|
| W 1 | 20 39 6 | 16°27'11 | 19°43 | 19°43 | 18°50 | 15°36 | 18°55 | 9°25 | 15°31 | 4°15 | 19°50 | 12° 0 | 11°37 | 21° 7 | 3°53 | W 1 |
| T 2 | 20 43 3 | 17°24'36 | 11°31 | 20°59 | 20° 3 | 16° 7 | 18°56 | 9°23 | 15°35 | 4°15 | 19°49 | 12° 1 | 11°34 | 21°13 | 3°59 | T 2 |
| F 3 | 20 46 59 | 18°22'02 | 3°36 | 22°21 | 21°17 | 16°39 | 18°57 | 9°21 | 15°39 | 4°16 | 19°48 | 12° 0 | 11°31 | 21°20 | 4° 6 | F 3 |
| S 4 | 20 50 56 | 19°19'29 | 18°22 | 1°17 | 22°30 | 17°11 | 18°58 | 9°20 | 15°42 | 4°16 | 19°47 | 12° 0 | 11°28 | 21°27 | 4°12 | S 4 |
| S 5 | 20 54 52 | 20°16'57 | 10°41 | 2°49 | 1°13 | 17°43 | 18°59 | 9°18 | 15°46 | 4°17 | 19°46 | 11°59 | 11°25 | 21°33 | 4°19 | S 5 |
| M 6 | 20 58 49 | 21°14'25 | 2°57 | 4°24 | 2°26 | 18°15 | 19° 0 | 9°17 | 15°49 | 4°18 | 19°44 | 11°58 | 11°21 | 21°40 | 4°26 | M 6 |
| T 7 | 21 2 46 | 22°11'54 | 17°33 | 6° 4 | 3°40 | 18°48 | 19° 0 | 9°15 | 15°53 | 4°18 | 19°43 | 11°57 | 11°18 | 21°47 | 4°32 | T 7 |
| W 8 | 21 6 42 | 0°39'24 | 9°23 | 7°47 | 4°53 | 19°21 | 19° 0 | 9°14 | 15°57 | 4°19 | 19°42 | 11°56 | 11°15 | 21°53 | 4°39 | W 8 |
| T 9 | 21 10 39 | 1°36'54 | 0°56 | 9°34 | 6° 6 | 19°54 | 19° 0 | 9°13 | 16° 0 | 4°19 | 19°41 | 11°56 | 11°12 | 22° 0 | 4°46 | T 9 |
| F 10 | 21 14 35 | 2°34'26 | 14°40 | 11°24 | 7°20 | 20°28 | 19° 0 | 9°12 | 16° 4 | 4°20 | 19°40 | 11°56 | 11° 9 | 22° 7 | 4°53 | F 10 |
| S 11 | 21 18 32 | 3°31'58 | 5°35 | 13°17 | 8°33 | 21° 1 | 18°59 | 9°11 | 16° 8 | 4°20 | 19°38 | 11°57 | 11° 5 | 22°14 | 5° 0 | S 11 |
| S 12 | 21 22 28 | 4°29'31 | 18°43 | 15°12 | 9°46 | 21°35 | 18°59 | 9°10 | 16°11 | 4°20 | 19°37 | 11°58 | 11° 2 | 22°20 | 5° 7 | S 12 |
| M13 | 21 26 25 | 5°27'05 | 9° 5 | 17° 9 | 11° 0 | 22° 9 | 18°58 | 9° 9 | 16°15 | 4°21 | 19°36 | 12° 0 | 10°59 | 22°27 | 5°14 | M13 |
| T 14 | 21 30 21 | 6°24'40 | 21°44 | 19° 8 | 12°13 | 0°13 | 18°57 | 9° 8 | 16°19 | 4°21 | 19°35 | 12° 1 | 10°56 | 0° 4 | 5°22 | T 14 |
| W15 | 21 34 18 | 7°22'16 | 11°40 | 21° 8 | 13°27 | 0°48 | 18°56 | 9° 8 | 16°22 | 4°21 | 19°33 | 12° 1 | 10°53 | 0°10 | 5°29 | W15 |
| T 16 | 21 38 15 | 8°19'53 | 1°25 | 0°39 | 14°41 | 1°22 | 18°54 | 9° 7 | 16°26 | 4°21 | 19°32 | 12° 1 | 10°50 | 0°17 | 5°36 | T 16 |
| F 17 | 21 42 11 | 9°17'31 | 13°32 | 2°41 | 15°54 | 1°57 | 18°52 | 9° 7 | 16°30 | 4°22 | 19°31 | 11°59 | 10°46 | 0°24 | 5°43 | F 17 |
| S 18 | 21 46 8 | 10°15'11 | 3° 2 | 4°43 | 17° 8 | 2°32 | 18°51 | 9° 7 | 16°34 | 4°22 | 19°30 | 11°57 | 10°43 | 0°30 | 5°51 | S 18 |
| S 19 | 21 50 4 | 11°12'51 | 14°57 | 6°45 | 18°22 | 3° 8 | 18°49 | 9° 6 | 16°37 | 4°22 | 19°28 | 11°54 | 10°40 | 0°37 | 5°58 | S 19 |
| M20 | 21 54 1 | 12°10'34 | 4°18 | 8°46 | 19°35 | 3°43 | 18°46 | 9° 6 | 16°41 | 4°22 | 19°27 | 11°50 | 10°37 | 0°44 | 6° 6 | M20 |
| T 21 | 21 57 57 | 13° 8'17 | 16° 9 | 10°47 | 20°49 | 4°19 | 18°44 | 9° 6 | 16°45 | 4°22 | 19°26 | 11°46 | 10°34 | 0°51 | 6°13 | T 21 |
| W22 | 22 1 54 | 14° 6'03 | 5°33 | 12°48 | 22° 3 | 4°55 | 18°41 | 9° 6 | 16°49 | 4°22 | 19°25 | 11°43 | 10°30 | 0°57 | 6°21 | W22 |
| T 23 | 22 5 50 | 15° 3'50 | 17°32 | 14°48 | 0°47 | 5°31 | 18°38 | 9° 6 | 16°52 | 4°22 | 19°23 | 11°40 | 10°27 | 1° 4 | 6°29 | T 23 |
| F 24 | 22 9 47 | 16° 1'39 | 7°11 | 16°47 | 2° 1 | 6° 7 | 18°35 | 9° 7 | 16°56 | 4°22 | 19°22 | 11°39 | 10°24 | 1°11 | 6°36 | F 24 |
| S 25 | 22 13 44 | 16°59'29 | 19°35 | 18°45 | 3°14 | 6°43 | 18°32 | 9° 7 | 17° 0 | 4°22 | 19°21 | 11°38 | 10°21 | 1°17 | 6°44 | S 25 |
| S 26 | 22 17 40 | 17°57'21 | 9°47 | 20°41 | 4°28 | 7°20 | 18°29 | 9° 8 | 17° 4 | 4°22 | 19°19 | 11°39 | 10°18 | 1°24 | 6°52 | S 26 |
| M27 | 22 21 37 | 18°55'15 | 0°22 | 0° 7 | 5°42 | 7°56 | 18°25 | 9° 8 | 17° 7 | 4°22 | 19°18 | 11°40 | 10°15 | 1°31 | 7° 0 | M27 |
| T 28 | 22 25 33 | 19°53'11 | 13°52 | 2° 2 | 6°56 | 8°33 | 18°22 | 9° 9 | 17°11 | 4°22 | 19°17 | 11°42 | 10°11 | 1°37 | 7° 8 | T 28 |
| W29 | 22 29 30 | 20°51'09 | 5°20 | 3°55 | 8°10 | 9°10 | 18°18 | 9°10 | 17°15 | 4°21 | 19°16 | 11°43 | 10° 8 | 1°44 | 7°16 | W29 |
| T 30 | 22 33 26 | 21°49'08 | 19°43 | 5°47 | 9°25 | 9°48 | 18°14 | 9°10 | 17°19 | 4°21 | 19°14 | 11°43 | 10° 5 | 1°51 | 7°24 | T 30 |
| F 31 | 22 37 23 | 0°17'09 | 12° 0 | 7°37 | 10°39 | 10°25 | 18° 9 | 9°11 | 17°22 | 4°21 | 19°13 | 11°41 | 10° 2 | 1°58 | 7°32 | F 31 |

Delta T = 73.60 sec

ASTRODIENST EPHEMERIS for the year 2046

geocentric

SEPTEMBER 2046 mod 16

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|----------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|------|-------|------|
| S 1 | 22 41 19 | 1°15'12 | 4°32 | 9°27 | 11°53 | 11° 3 | 18° 5 | 9°12 | 17°26 | 4°21 | 19°12 | 11°38 | 9°59 | 2° 4 | 7°40 | S 1 |
| S 2 | 22 45 16 | 2°13'16 | 19°43 | 11°15 | 13° 7 | 11°41 | 18° 0 | 9°13 | 17°30 | 4°20 | 19°10 | 11°34 | 9°56 | 2°11 | 7°48 | S 2 |
| M 3 | 22 49 13 | 3°11'22 | 12°20 | 13° 2 | 14°21 | 12°18 | 17°55 | 9°15 | 17°34 | 4°20 | 19° 9 | 11°28 | 9°52 | 2°18 | 7°56 | M 3 |
| T 4 | 22 53 9 | 4° 9'29 | 4°46 | 14°48 | 15°35 | 12°57 | 17°50 | 9°16 | 17°37 | 4°20 | 19° 8 | 11°23 | 9°49 | 2°24 | 8° 4 | T 4 |
| W 5 | 22 57 6 | 5° 7'38 | 19°22 | 16°32 | 16°50 | 13°35 | 17°45 | 9°17 | 17°41 | 4°19 | 19° 7 | 11°19 | 9°46 | 2°31 | 8°12 | W 5 |
| T 6 | 23 1 2 | 6° 5'48 | 11° 3 | 18°15 | 18° 4 | 14°13 | 17°40 | 9°19 | 17°45 | 4°19 | 19° 5 | 11°16 | 9°43 | 2°38 | 8°21 | T 6 |
| F 7 | 23 4 59 | 7° 4'00 | 2°19 | 19°57 | 19°18 | 14°52 | 17°34 | 9°21 | 17°49 | 4°18 | 19° 4 | 11°14 | 9°40 | 2°45 | 8°29 | F 7 |
| S 8 | 23 8 55 | 8° 2'13 | 15°40 | 21°38 | 20°32 | 15°31 | 17°29 | 9°22 | 17°52 | 4°18 | 19° 3 | 11°15 | 9°36 | 2°51 | 8°37 | S 8 |
| S 9 | 23 12 52 | 9° 0'27 | 6° 8 | 0°48 | 21°47 | 16° 9 | 17°23 | 9°24 | 17°56 | 4°17 | 19° 2 | 11°16 | 9°33 | 2°58 | 8°45 | S 9 |
| M10 | 23 16 48 | 9°58'43 | 18°48 | 2°26 | 0°31 | 16°48 | 17°17 | 9°26 | 18° 0 | 4°17 | 19° 0 | 11°17 | 9°30 | 3° 5 | 8°54 | M10 |
| T 11 | 23 20 45 | 10°57'01 | 8°42 | 4° 4 | 1°46 | 17°28 | 17°11 | 9°28 | 18° 3 | 4°16 | 18°59 | 11°18 | 9°27 | 3°11 | 9° 2 | T 11 |
| W12 | 23 24 42 | 11°55'20 | 20°54 | 5°40 | 3° 0 | 18° 7 | 17° 5 | 9°30 | 18° 7 | 4°15 | 18°58 | 11°17 | 9°24 | 3°18 | 9°11 | W12 |
| T 13 | 23 28 38 | 12°53'41 | 10°28 | 7°15 | 4°14 | 18°46 | 16°59 | 9°32 | 18°11 | 4°15 | 18°57 | 11°15 | 9°21 | 3°25 | 9°19 | T 13 |
| F 14 | 23 32 35 | 13°52'04 | 22°25 | 8°49 | 5°29 | 19°26 | 16°52 | 9°35 | 18°14 | 4°14 | 18°55 | 11°10 | 9°17 | 3°31 | 9°28 | F 14 |
| S 15 | 23 36 31 | 14°50'28 | 11°49 | 10°22 | 6°43 | 20° 6 | 16°45 | 9°37 | 18°18 | 4°13 | 18°54 | 11° 4 | 9°14 | 3°38 | 9°36 | S 15 |
| S 16 | 23 40 28 | 15°48'54 | 1°11 | 11°54 | 7°58 | 20°45 | 16°39 | 9°39 | 18°21 | 4°12 | 18°53 | 10°55 | 9°11 | 3°45 | 9°45 | S 16 |
| M17 | 23 44 24 | 16°47'22 | 13° 2 | 13°25 | 9°13 | 21°25 | 16°32 | 9°42 | 18°25 | 4°12 | 18°52 | 10°45 | 9° 8 | 3°52 | 9°53 | M17 |
| T 18 | 23 48 21 | 17°45'52 | 2°25 | 14°54 | 10°27 | 22° 6 | 16°25 | 9°45 | 18°28 | 4°11 | 18°51 | 10°36 | 9° 5 | 3°58 | 10° 2 | T 18 |
| W19 | 23 52 17 | 18°44'24 | 14°21 | 16°23 | 11°42 | 0°16 | 16°18 | 9°47 | 18°32 | 4°10 | 18°50 | 10°26 | 9° 2 | 4° 5 | 10°10 | W19 |
| T 20 | 23 56 14 | 19°42'58 | 3°53 | 17°50 | 12°56 | 0°56 | 16°11 | 9°50 | 18°36 | 4° 9 | 18°48 | 10°18 | 8°58 | 4°12 | 10°19 | T 20 |
| F 21 | 0 0 11 | 20°41'34 | 16° 3 | 19°16 | 14°11 | 1°37 | 16° 3 | 9°53 | 18°39 | 4° 8 | 18°47 | 10°13 | 8°55 | 4°18 | 10°27 | F 21 |
| S 22 | 0 4 7 | 21°40'13 | 5°56 | 20°42 | 15°26 | 2°17 | 15°56 | 9°56 | 18°43 | 4° 7 | 18°46 | 10° 9 | 8°52 | 4°25 | 10°36 | S 22 |
| S 23 | 0 8 4 | 0° 8'54 | 18°34 | 22° 6 | 16°40 | 2°58 | 15°49 | 9°59 | 18°46 | 4° 6 | 18°45 | 10° 8 | 8°49 | 4°32 | 10°45 | S 23 |
| M24 | 0 12 0 | 1° 7'37 | 9° 2 | 0°59 | 17°55 | 3°39 | 15°41 | 10° 2 | 18°49 | 4° 5 | 18°44 | 10° 8 | 8°46 | 4°39 | 10°53 | M24 |
| T 25 | 0 15 57 | 2° 6'22 | 22°24 | 2°20 | 19°10 | 4°20 | 15°34 | 10° 6 | 18°53 | 4° 4 | 18°43 | 10° 9 | 8°42 | 4°45 | 11° 2 | T 25 |
| W26 | 0 19 53 | 3° 5'10 | 13°43 | 3°41 | 20°25 | 5° 1 | 15°26 | 10° 9 | 18°56 | 4° 3 | 18°42 | 10° 9 | 8°39 | 4°52 | 11°11 | W26 |
| T 27 | 0 23 50 | 4° 3'59 | 5°30 | 5° 0 | 21°39 | 5°42 | 15°18 | 10°12 | 19° 0 | 4° 2 | 18°41 | 10° 7 | 8°36 | 4°59 | 11°20 | T 27 |
| F 28 | 0 27 46 | 5° 2'51 | 20°13 | 6°18 | 0°24 | 6°24 | 15°10 | 10°16 | 19° 3 | 4° 1 | 18°39 | 10° 4 | 8°33 | 5° 5 | 11°28 | F 28 |
| S 29 | 0 31 43 | 6° 1'45 | 12°47 | 7°34 | 1°39 | 7° 5 | 15° 2 | 10°19 | 19° 6 | 4° 0 | 18°38 | 9°58 | 8°30 | 5°12 | 11°37 | S 29 |
| S 30 | 0 35 39 | 7° 0'41 | 5°34 | 8°49 | 2°54 | 7°47 | 14°55 | 10°23 | 19°10 | 3°59 | 18°37 | 9°49 | 8°27 | 5°19 | 11°46 | S 30 |

Delta T = 73.62 sec

OCTOBER 2046 mod 16

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|---------|----------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|------|------|-------|------|
| M 1 | 0 39 36 | 7°59'40 | 20°52 | 10° 2 | 4° 9 | 8°28 | 14°47 | 10°27 | 19°13 | 3°58 | 18°36 | 9°40 | 8°23 | 5°25 | 11°54 | M 1 |
| T 2 | 0 43 33 | 8°58'40 | 13°32 | 11°14 | 5°24 | 9°10 | 14°39 | 10°31 | 19°16 | 3°57 | 18°35 | 9°30 | 8°20 | 5°32 | 12° 3 | T 2 |
| W 3 | 0 47 29 | 9°57'42 | 5°51 | 12°24 | 6°38 | 9°52 | 14°31 | 10°35 | 19°20 | 3°55 | 18°34 | 9°21 | 8°17 | 5°39 | 12°12 | W 3 |
| T 4 | 0 51 26 | 10°56'46 | 20°15 | 13°32 | 7°53 | 10°34 | 14°23 | 10°39 | 19°23 | 3°54 | 18°33 | 9°14 | 8°14 | 5°46 | 12°21 | T 4 |
| F 5 | 0 55 22 | 11°55'52 | 11°39 | 14°38 | 9° 8 | 11°16 | 14°14 | 10°43 | 19°26 | 3°53 | 18°32 | 9°10 | 8°11 | 5°52 | 12°29 | F 5 |
| S 6 | 0 59 19 | 12°54'59 | 2°34 | 15°42 | 10°23 | 11°59 | 14° 6 | 10°47 | 19°29 | 3°52 | 18°31 | 9° 8 | 8° 8 | 5°59 | 12°38 | S 6 |
| S 7 | 1 3 15 | 13°54'08 | 15°32 | 16°44 | 11°38 | 12°41 | 13°58 | 10°51 | 19°32 | 3°50 | 18°31 | 9° 7 | 8° 4 | 6° 6 | 12°47 | S 7 |
| M 8 | 1 7 12 | 14°53'19 | 5°38 | 17°43 | 12°53 | 13°24 | 13°50 | 10°55 | 19°35 | 3°49 | 18°30 | 9° 8 | 8° 1 | 6°12 | 12°56 | M 8 |
| T 9 | 1 11 8 | 15°52'32 | 17°56 | 18°39 | 14° 8 | 14° 6 | 13°42 | 11° 0 | 19°38 | 3°48 | 18°29 | 9° 7 | 7°58 | 6°19 | 13° 4 | T 9 |
| W10 | 1 15 5 | 16°51'46 | 7°31 | 19°33 | 15°23 | 14°49 | 13°34 | 11° 4 | 19°41 | 3°46 | 18°28 | 9° 6 | 7°55 | 6°26 | 13°13 | W10 |
| T 11 | 1 19 2 | 17°51'03 | 19°28 | 20°23 | 16°38 | 15°32 | 13°26 | 11° 9 | 19°44 | 3°45 | 18°27 | 9° 1 | 7°52 | 6°33 | 13°22 | T 11 |
| F 12 | 1 22 58 | 18°50'21 | 8°50 | 21° 9 | 17°53 | 16°14 | 13°18 | 11°13 | 19°47 | 3°43 | 18°26 | 8°54 | 7°48 | 6°39 | 13°31 | F 12 |
| S 13 | 1 26 55 | 19°49'41 | 20°41 | 21°52 | 19° 8 | 16°57 | 13°10 | 11°18 | 19°50 | 3°42 | 18°25 | 8°44 | 7°45 | 6°46 | 13°39 | S 13 |
| S 14 | 1 30 51 | 20°49'03 | 10° 3 | 22°30 | 20°23 | 17°40 | 13° 2 | 11°23 | 19°53 | 3°41 | 18°25 | 8°32 | 7°42 | 6°53 | 13°48 | S 14 |
| M15 | 1 34 48 | 21°48'26 | 21°57 | 0°33 | 21°38 | 18°24 | 12°54 | 11°28 | 19°56 | 3°39 | 18°24 | 8°18 | 7°39 | 6°59 | 13°57 | M15 |
| T 16 | 1 38 44 | 0°17'52 | 11°25 | 1° 1 | 0°23 | 19° 7 | 12°46 | 11°32 | 19°59 | 3°38 | 18°23 | 8° 4 | 7°36 | 7° 6 | 14° 6 | T 16 |
| W17 | 1 42 41 | 1°17'20 | 0°58 | 1°24 | 1°38 | 19°50 | 12°39 | 11°37 | 20° 2 | 3°36 | 18°22 | 7°50 | 7°33 | 7°13 | 14°14 | W17 |
| T 18 | 1 46 37 | 2°16'51 | 13° 7 | 1°40 | 2°53 | 20°34 | 12°31 | 11°42 | 20° 4 | 3°35 | 18°22 | 7°38 | 7°29 | 7°20 | 14°23 | T 18 |
| F 19 | 1 50 34 | 3°16'23 | 2°55 | 1°49 | 4° 8 | 21°17 | 12°23 | 11°47 | 20° 7 | 3°33 | 18°21 | 7°29 | 7°26 | 7°26 | 14°32 | F 19 |
| S 20 | 1 54 31 | 4°15'58 | 15°22 | 1°51 | 5°23 | 22° 1 | 12°16 | 11°53 | 20°10 | 3°32 | 18°20 | 7°23 | 7°23 | 7°33 | 14°40 | S 20 |
| S 21 | 1 58 27 | 5°15'35 | 5°32 | 1°46 | 6°38 | 0°14 | 12° 8 | 11°58 | 20°12 | 3°30 | 18°20 | 7°19 | 7°20 | 7°40 | 14°49 | S 21 |
| M22 | 2 2 24 | 6°15'14 | 18°29 | 1°32 | 7°54 | 0°58 | 12° 1 | 12° 3 | 20°15 | 3°29 | 18°19 | 7°18 | 7°17 | 7°46 | 14°58 | M22 |
| T 23 | 2 6 20 | 7°14'55 | 9°15 | 1° 9 | 9° 9 | 1°42 | 11°53 | 12° 8 | 20°18 | 3°27 | 18°18 | 7°18 | 7°13 | 7°53 | 15° 6 | T 23 |
| W24 | 2 10 17 | 8°14'39 | 0°24 | 0°38 | 10°24 | 2°26 | 11°46 | 12°14 | 20°20 | 3°25 | 18°18 | 7°18 | 7°10 | 8° 0 | 15°15 | W24 |
| T 25 | 2 14 13 | 9°14'25 | 14°28 | 22°28 | 11°39 | 3°10 | 11°39 | 12°19 | 20°23 | 3°24 | 18°17 | 7°16 | 7° 7 | 8° 7 | 15°23 | T 25 |
| F 26 | 2 18 10 | 10°14'13 | 6°26 | 21°38 | 12°54 | 3°54 | 11°32 | 12°25 | 20°25 | 3°22 | 18°17 | 7°12 | 7° 4 | 8°13 | 15°32 | F 26 |
| S 27 | 2 22 6 | 11°14'03 | 21°16 | 20°41 | 14° 9 | 4°38 | 11°25 | 12°30 | 20°27 | 3°21 | 18°16 | 7° 5 | 7° 1 | 8°20 | 15°40 | S 27 |
| S 28 | 2 26 3 | 12°13'56 | 13°52 | 19°37 | 15°24 | 5°22 | 11°18 | 12°36 | 20°30 | 3°19 | 18°16 | 6°55 | 6°58 | 8°27 | 15°49 | S 28 |
| M29 | 2 30 0 | 13°13'50 | 6°34 | 18°26 | 16°40 | 6° 7 | 11°12 | 12°42 | 20°32 | 3°17 | 18°15 | 6°44 | 6°54 | 8°33 | 15°57 | M29 |
| T 30 | 2 33 56 | 14°13'47 | 21°42 | 17°11 | 17°55 | 6°51 | 11° 5 | 12°47 | 20°34 | 3°16 | 18°15 | 6°32 | 6°51 | 8°40 | 16° 6 | T 30 |
| W31 | 2 37 53 | 15°13'46 | 14° 4 | 15°54 | 19°10 | 7°36 | 10°59 | 12°53 | 20°37 | 3°14 | 18°14 | 6°22 | 6°48 | 8°47 | 16°14 | W31 |

Delta T = 73.65 sec

ASTRODIENST EPHEMERIS for the year 2046
geocentric

NOVEMBER 2046 mod 16

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|---------|----------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|------|-------|-------|------|
| T 1 | 2 41 49 | 16°13'46 | 6° 4 | 14°37 | 20°25 | 8°20 | 10°52 | 12°59 | 20°39 | 3°12 | 18°14 | 6°13 | 6°45 | 8°54 | 16°23 | T 1 |
| F 2 | 2 45 46 | 17°13'48 | 20° 5 | 13°23 | 21°40 | 9° 5 | 10°46 | 13° 5 | 20°41 | 3°11 | 18°14 | 6° 7 | 6°42 | 9° 0 | 16°31 | F 2 |
| S 3 | 2 49 42 | 18°13'52 | 11° 6 | 12°13 | 0°26 | 9°50 | 10°40 | 13°11 | 20°43 | 3° 9 | 18°13 | 6° 4 | 6°39 | 9° 7 | 16°39 | S 3 |
| S 4 | 2 53 39 | 19°13'57 | 1°40 | 11°10 | 1°41 | 10°34 | 10°34 | 13°17 | 20°45 | 3° 7 | 18°13 | 6° 3 | 6°35 | 9°14 | 16°47 | S 4 |
| M 5 | 2 57 35 | 20°14'04 | 14°19 | 10°17 | 2°56 | 11°19 | 10°29 | 13°23 | 20°47 | 3° 6 | 18°13 | 6° 3 | 6°32 | 9°20 | 16°56 | M 5 |
| T 6 | 3 1 32 | 21°14'12 | 4° 8 | 9°33 | 4°11 | 12° 4 | 10°23 | 13°29 | 20°49 | 3° 4 | 18°12 | 6° 3 | 6°29 | 9°27 | 17° 4 | T 6 |
| W 7 | 3 5 29 | 22°14'22 | 16°13 | 9° 0 | 5°26 | 12°49 | 10°18 | 13°35 | 20°51 | 3° 2 | 18°12 | 6° 2 | 6°26 | 9°34 | 17°12 | W 7 |
| T 8 | 3 9 25 | 0°44'33 | 5°38 | 8°40 | 6°42 | 13°34 | 10°13 | 13°41 | 20°53 | 3° 1 | 18°12 | 5°59 | 6°23 | 9°41 | 17°20 | T 8 |
| F 9 | 3 13 22 | 1°44'46 | 17°29 | 8°30 | 7°57 | 14°19 | 10° 8 | 13°47 | 20°55 | 2°59 | 18°12 | 5°53 | 6°19 | 9°47 | 17°28 | F 9 |
| S 10 | 3 17 18 | 2°45'00 | 6°50 | 8°32 | 9°12 | 15° 4 | 10° 3 | 13°54 | 20°56 | 2°57 | 18°11 | 5°44 | 6°16 | 9°54 | 17°36 | S 10 |
| S 11 | 3 21 15 | 3°45'16 | 18°43 | 8°45 | 10°27 | 15°50 | 9°58 | 14° 0 | 20°58 | 2°56 | 18°11 | 5°33 | 6°13 | 10° 1 | 17°44 | S 11 |
| M12 | 3 25 11 | 4°45'34 | 8°12 | 9° 8 | 11°42 | 16°35 | 9°54 | 14° 6 | 21° 0 | 2°54 | 18°11 | 5°20 | 6°10 | 10° 7 | 17°52 | M12 |
| T 13 | 3 29 8 | 5°45'53 | 20°18 | 9°41 | 12°58 | 17°20 | 9°49 | 14°13 | 21° 1 | 2°52 | 18°11 | 5° 7 | 6° 7 | 10°14 | 18° 0 | T 13 |
| W14 | 3 33 4 | 6°46'14 | 10° 1 | 10°21 | 14°13 | 18° 6 | 9°45 | 14°19 | 21° 3 | 2°50 | 18°11 | 4°55 | 6° 4 | 10°21 | 18° 8 | W14 |
| T 15 | 3 37 1 | 7°46'36 | 22°24 | 11° 9 | 15°28 | 18°51 | 9°41 | 14°26 | 21° 4 | 2°49 | 18°11 | 4°44 | 6° 0 | 10°28 | 18°16 | T 15 |
| F 16 | 3 40 58 | 8°47'01 | 12°26 | 12° 4 | 16°43 | 19°36 | 9°37 | 14°32 | 21° 6 | 2°47 | 18°11 | 4°36 | 5°57 | 10°34 | 18°24 | F 16 |
| S 17 | 3 44 54 | 9°47'27 | 2°37 | 13° 5 | 17°59 | 20°22 | 9°34 | 14°39 | 21° 7 | 2°45 | 18°11 | 4°30 | 5°54 | 10°41 | 18°32 | S 17 |
| S 18 | 3 48 51 | 10°47'54 | 15°30 | 14°11 | 19°14 | 21° 8 | 9°30 | 14°45 | 21° 8 | 2°44 | 18°11 | 4°27 | 5°51 | 10°48 | 18°39 | S 18 |
| M19 | 3 52 47 | 11°48'24 | 6° 6 | 15°21 | 20°29 | 21°53 | 9°27 | 14°52 | 21°10 | 2°42 | 18°11 | 4°27 | 5°48 | 10°54 | 18°47 | M19 |
| T 20 | 3 56 44 | 12°48'55 | 19°26 | 16°34 | 21°44 | 0° 9 | 9°24 | 14°59 | 21°11 | 2°40 | 18°11 | 4°27 | 5°45 | 11° 1 | 18°55 | T 20 |
| W21 | 4 0 40 | 13°49'28 | 10°32 | 17°51 | 0°29 | 0°55 | 9°21 | 15° 5 | 21°12 | 2°39 | 18°11 | 4°28 | 5°41 | 11° 8 | 19° 2 | W21 |
| T 22 | 4 4 37 | 14°50'03 | 1°57 | 19°11 | 1°45 | 1°40 | 9°19 | 15°12 | 21°13 | 2°37 | 18°11 | 4°28 | 5°38 | 11°15 | 19°10 | T 22 |
| F 23 | 4 8 33 | 15°50'40 | 16° 9 | 20°33 | 3° 0 | 2°26 | 9°16 | 15°19 | 21°14 | 2°35 | 18°11 | 4°25 | 5°35 | 11°21 | 19°17 | F 23 |
| S 24 | 4 12 30 | 16°51'18 | 8° 9 | 21°57 | 4°15 | 3°12 | 9°14 | 15°25 | 21°15 | 2°34 | 18°12 | 4°21 | 5°32 | 11°28 | 19°24 | S 24 |
| S 25 | 4 16 27 | 17°51'58 | 0°22 | 0°53 | 5°30 | 3°58 | 9°12 | 15°32 | 21°16 | 2°32 | 18°12 | 4°14 | 5°29 | 11°35 | 19°32 | S 25 |
| M26 | 4 20 23 | 18°52'40 | 15°11 | 2°20 | 6°46 | 4°44 | 9°10 | 15°39 | 21°17 | 2°31 | 18°12 | 4° 6 | 5°25 | 11°41 | 19°39 | M26 |
| T 27 | 4 24 20 | 19°53'23 | 7°29 | 3°48 | 8° 1 | 5°30 | 9° 9 | 15°46 | 21°18 | 2°29 | 18°12 | 3°57 | 5°22 | 11°48 | 19°46 | T 27 |
| W28 | 4 28 16 | 20°54'08 | 22° 7 | 5°17 | 9°16 | 6°16 | 9° 8 | 15°53 | 21°19 | 2°27 | 18°13 | 3°49 | 5°19 | 11°55 | 19°53 | W28 |
| T 29 | 4 32 13 | 21°54'54 | 13°58 | 6°47 | 10°31 | 7° 2 | 9° 6 | 16° 0 | 21°20 | 2°26 | 18°13 | 3°43 | 5°16 | 12° 2 | 20° 0 | T 29 |
| F 30 | 4 36 9 | 0°25'41 | 5°27 | 8°17 | 11°47 | 7°48 | 9° 5 | 16° 7 | 21°20 | 2°24 | 18°13 | 3°38 | 5°13 | 12° 8 | 20° 7 | F 30 |

Delta T = 73.67 sec

DECEMBER 2046 mod 16

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|---------|----------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|------|-------|-------|------|
| S 1 | 4 40 6 | 1°26'30 | 19° 0 | 9°48 | 13° 2 | 8°35 | 9° 5 | 16°14 | 21°21 | 2°23 | 18°14 | 3°36 | 5°10 | 12°15 | 20°14 | S 1 |
| S 2 | 4 44 3 | 2°27'19 | 9°37 | 11°20 | 14°17 | 9°21 | 9° 4 | 16°21 | 21°22 | 2°21 | 18°14 | 3°36 | 5° 6 | 12°22 | 20°21 | S 2 |
| M 3 | 4 47 59 | 3°28'09 | 22°20 | 12°51 | 15°32 | 10° 7 | 9° 4 | 16°27 | 21°22 | 2°20 | 18°14 | 3°38 | 5° 3 | 12°28 | 20°28 | M 3 |
| T 4 | 4 51 56 | 4°29'00 | 12°14 | 14°23 | 16°48 | 10°53 | 9° 4 | 16°34 | 21°23 | 2°18 | 18°15 | 3°39 | 5° 0 | 12°35 | 20°35 | T 4 |
| W 5 | 4 55 52 | 5°29'52 | 1°52 | 15°56 | 18° 3 | 11°40 | 9° 4 | 16°41 | 21°23 | 2°17 | 18°15 | 3°40 | 4°57 | 12°42 | 20°41 | W 5 |
| T 6 | 4 59 49 | 6°30'45 | 13°49 | 17°28 | 19°18 | 12°26 | 9° 4 | 16°48 | 21°23 | 2°15 | 18°16 | 3°40 | 4°54 | 12°49 | 20°48 | T 6 |
| F 7 | 5 3 45 | 7°31'38 | 3°11 | 19° 1 | 20°33 | 13°12 | 9° 5 | 16°56 | 21°24 | 2°14 | 18°16 | 3°38 | 4°51 | 12°55 | 20°54 | F 7 |
| S 8 | 5 7 42 | 8°32'32 | 15° 3 | 20°34 | 21°49 | 13°59 | 9° 5 | 17° 3 | 21°24 | 2°12 | 18°17 | 3°34 | 4°47 | 13° 2 | 21° 1 | S 8 |
| S 9 | 5 11 38 | 9°33'27 | 4°28 | 22° 7 | 0°34 | 14°45 | 9° 6 | 17°10 | 21°24 | 2°11 | 18°17 | 3°28 | 4°44 | 13° 9 | 21° 7 | S 9 |
| M10 | 5 15 35 | 10°34'23 | 16°31 | 1°10 | 1°49 | 15°32 | 9° 7 | 17°17 | 21°24 | 2° 9 | 18°18 | 3°22 | 4°41 | 13°16 | 21°14 | M10 |
| T 11 | 5 19 31 | 11°35'20 | 6°14 | 2°43 | 3° 4 | 16°18 | 9° 9 | 17°24 | 21°24 | 2° 8 | 18°19 | 3°15 | 4°38 | 13°22 | 21°20 | T 11 |
| W12 | 5 23 28 | 12°36'17 | 18°38 | 4°16 | 4°20 | 17° 5 | 9°10 | 17°31 | 21°24 | 2° 7 | 18°19 | 3° 8 | 4°35 | 13°29 | 21°26 | W12 |
| T 13 | 5 27 25 | 13°37'15 | 8°45 | 5°49 | 5°35 | 17°51 | 9°12 | 17°38 | 21°24 | 2° 5 | 18°20 | 3° 2 | 4°31 | 13°36 | 21°32 | T 13 |
| F 14 | 5 31 21 | 14°38'14 | 21°36 | 7°23 | 6°50 | 18°38 | 9°14 | 17°45 | 21°24 | 2° 4 | 18°21 | 2°58 | 4°28 | 13°42 | 21°38 | F 14 |
| S 15 | 5 35 18 | 15°39'14 | 12° 9 | 8°56 | 8° 5 | 19°24 | 9°16 | 17°52 | 21°24 | 2° 3 | 18°21 | 2°55 | 4°25 | 13°49 | 21°44 | S 15 |
| S 16 | 5 39 14 | 16°40'15 | 2°54 | 10°30 | 9°20 | 20°11 | 9°19 | 17°59 | 21°24 | 2° 1 | 18°22 | 2°55 | 4°22 | 13°56 | 21°50 | S 16 |
| M17 | 5 43 11 | 17°41'16 | 16°21 | 12° 3 | 10°36 | 20°57 | 9°21 | 18° 6 | 21°23 | 2° 0 | 18°23 | 2°55 | 4°19 | 14° 3 | 21°55 | M17 |
| T 18 | 5 47 7 | 18°42'19 | 7°28 | 13°37 | 11°51 | 21°44 | 9°24 | 18°13 | 21°23 | 1°59 | 18°24 | 2°57 | 4°16 | 14° 9 | 22° 1 | T 18 |
| W19 | 5 51 4 | 19°43'22 | 21°16 | 15°11 | 13° 6 | 0° 1 | 9°27 | 18°20 | 21°23 | 1°58 | 18°25 | 2°58 | 4°12 | 14°16 | 22° 6 | W19 |
| T 20 | 5 55 1 | 20°44'26 | 12°44 | 16°45 | 14°21 | 0°47 | 9°30 | 18°28 | 21°22 | 1°57 | 18°25 | 2°59 | 4° 9 | 14°23 | 22°12 | T 20 |
| F 21 | 5 58 57 | 21°45'31 | 4°20 | 18°19 | 15°36 | 1°34 | 9°33 | 18°35 | 21°22 | 1°55 | 18°26 | 3° 0 | 4° 6 | 14°29 | 22°17 | F 21 |
| S 22 | 6 2 54 | 0°16'37 | 18°35 | 19°54 | 16°51 | 2°21 | 9°37 | 18°42 | 21°21 | 1°54 | 18°27 | 2°58 | 4° 3 | 14°36 | 22°22 | S 22 |
| S 23 | 6 6 50 | 1°17'43 | 10°24 | 21°28 | 18° 7 | 3° 7 | 9°41 | 18°49 | 21°21 | 1°53 | 18°28 | 2°56 | 4° 0 | 14°43 | 22°28 | S 23 |
| M24 | 6 10 47 | 2°18'51 | 2°15 | 0°33 | 19°22 | 3°54 | 9°45 | 18°56 | 21°20 | 1°52 | 18°29 | 2°53 | 3°57 | 14°50 | 0° 3 | M24 |
| T 25 | 6 14 43 | 3°19'59 | 16°34 | 2° 8 | 20°37 | 4°41 | 9°49 | 19° 3 | 21°19 | 1°51 | 18°30 | 2°50 | 3°53 | 14°56 | 0° 8 | T 25 |
| W26 | 6 18 40 | 4°21'08 | 8°14 | 3°43 | 21°52 | 5°28 | 9°53 | 19°10 | 21°18 | 1°50 | 18°31 | 2°47 | 3°50 | 15° 3 | 0°13 | W26 |
| T 27 | 6 22 36 | 5°22'17 | 22°13 | 5°19 | 0°37 | 6°14 | 9°58 | 19°17 | 21°18 | 1°49 | 18°32 | 2°44 | 3°47 | 15°10 | 0°17 | T 27 |
| F 28 | 6 26 33 | 6°23'27 | 13°24 | 6°54 | 1°52 | 7° 1 | 10° 2 | 19°24 | 21°17 | 1°48 | 18°33 | 2°43 | 3°44 | 15°17 | 0°22 | F 28 |
| S 29 | 6 30 30 | 7°24'36 | 4°17 | 8°30 | 3° 7 | 7°48 | 10° 7 | 19°31 | 21°16 | 1°47 | 18°34 | 2°42 | 3°41 | 15°23 | 0°27 | S 29 |
| S 30 | 6 34 26 | 8°25'46 | 17°20 | 10° 7 | 4°23 | 8°35 | 10°12 | 19°38 | 21°15 | 1°46 | 18°35 | 2°43 | 3°37 | 15°30 | 0°31 | S 30 |
| M31 | 6 38 23 | 9°26'56 | 7°33 | 11°43 | 5°38 | 9°21 | 10°17 | 19°45 | 21°14 | 1°45 | 18°36 | 2°44 | 3°34 | 15°37 | 0°36 | M31 |

Delta T = 73.69 sec