

# Astrodienst Ephemeris Tables for the year 1883

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

JANUARY 1883 00:00 UT

| Day  | Sid.t   | 0                 | D               | ğ              | Q             | ♂              | 4              | ħ              | )Å(      | 并      | В              | n               | v              | ţ             | o<br>k | Day  |
|------|---------|-------------------|-----------------|----------------|---------------|----------------|----------------|----------------|----------|--------|----------------|-----------------|----------------|---------------|--------|------|
| M 1  | 6 41 13 | 10 <b>ට</b> 16'41 | 4 <u>₽</u> 30   | 18 <b>궁</b> 57 | 7 <b>√</b> 21 | 4 <b>云</b> 38  | 24°R32         | 19°R37         | 23°R21   | 16°R13 | 28°R35         | 19°R 9          | 17 <b>M</b> 57 | 2 <u>₽</u> 48 | 23°R16 | M 1  |
| T 2  | 6 45 9  | 11°17'51          | 16°20           | 20°35          | 7°34          | 5°24           | 24Ⅲ25          | 19 <b>8</b> 35 | 23 Mp 21 | 16812  | 28 <b>8</b> 35 | 19°D 9          | 17°54          | 2°54          | 23814  | T 2  |
| W 3  | 6 49 6  | 12°19'01          | 28°14           | 22°13          | 7°48          | 6° 9           | 24°17          | 19°33          | 23°21    | 16°11  | 28°34          | 19 <b>M</b> .10 | 17°51          | 3° 1          | 23°13  | W 3  |
| T 4  | 6 53 2  | 13°20'11          | 10 <b>M</b> .17 | 23°51          | 8° 5          | 6°55           | 24°10          | 19°31          | 23°20    | 16°10  | 28°33          | 19°11           | 17°48          | 3° 8          | 23°11  | T 4  |
| F 5  | 6 56 59 | 14°21'21          | 22°35           | 25°30          | 8°24          | 7°40           | 24° 3          | 19°29          | 23°20    | 16° 9  | 28°32          | 19°R11          | 17°44          | 3°15          | 23° 9  | F 5  |
| S 6  | 7 0 55  | 15°22'32          | 5 <b>₹</b> 11   | 27° 8          | 8°45          | 8°26           | 23°56          | 19°28          | 23°20    | 16° 9  | 28°32          | 19°10           | 17°41          | 3°21          | 23° 7  | S 6  |
| S 7  | 7 4 52  | 16°23'42          | 18° 9           | 28°46          | 9° 8          | 9°12           | 23°49          | 19°26          | 23°19    | 16° 8  | 28°31          | 19° 6           | 17°38          | 3°28          | 23° 6  | S 7  |
| M 8  | 7 8 49  | 17°24'53          | 1 <b>궁</b> 30   | 0≈24           | 9°32          | 9°57           | 23°42          | 19°25          | 23°19    | 16° 7  | 28°30          | 19° 0           | 17°35          | 3°35          | 23° 4  | M 8  |
| T 9  | 7 12 45 | 18°26'03          | 15°13           | 2° 1           | 9°58          | 10°43          | 23°35          | 19°23          | 23°18    | 16° 7  | 28°29          | 18°51           | 17°32          | 3°41          | 23° 3  | T 9  |
| W10  | 7 16 42 | 19°27'13          | 29°15           | 3°38           | 10°26         | 11°29          | 23°28          | 19°22          | 23°17    | 16° 6  | 28°29          | 18°41           | 17°28          | 3°48          | 23° 1  | W10  |
| T 11 | 7 20 38 | 20°28'23          | 13≈31           | 5°14           | 10°56         | 12°15          | 23°22          | 19°21          | 23°17    | 16° 6  | 28°28          | 18°30           | 17°25          | 3°55          | 23° 0  | T 11 |
| F 12 | 7 24 35 | 21°29'32          | 27°56           | 6°49           | 11°27         | 13° 0          | 23°15          | 19°20          | 23°16    | 16° 5  | 28°27          | 18°20           | 17°22          | 4° 1          | 22°59  | F 12 |
| S 13 | 7 28 31 | 22°30'40          | 12 <b>∺</b> 22  | 8°22           | 12° 0         | 13°46          | 23° 9          | 19°19          | 23°15    | 16° 5  | 28°27          | 18°12           | 17°19          | 4° 8          | 22°57  | S 13 |
| S 14 | 7 32 28 | 23°31'48          | 26°46           | 9°54           | 12°34         | 14°32          | 23° 3          | 19°18          | 23°14    | 16° 4  | 28°26          | 18° 7           | 17°16          | 4°15          | 22°56  | S 14 |
| M15  | 7 36 25 | 24°32'55          | 11 <b>°</b> 2   | 11°24          | 13° 9         | 15°18          | 22°57          | 19°18          | 23°13    | 16° 4  | 28°26          | 18° 4           | 17°13          | 4°21          | 22°55  | M15  |
| T 16 | 7 40 21 | 25°34'01          | 25° 8           | 12°52          | 13°46         | 16° 4          | 22°51          | 19°17          | 23°12    | 16° 4  | 28°25          | 18°D 3          | 17° 9          | 4°28          | 22°54  | T 16 |
| W17  | 7 44 18 | 26°35'07          | 9 <b>8</b> 4    | 14°17          | 14°24         | 16°50          | 22°46          | 19°17          | 23°11    | 16° 3  | 28°25          | 18° 4           | 17° 6          | 4°35          | 22°53  | W17  |
| T 18 | 7 48 14 | 27°36'11          | 22°50           | 15°38          | 15° 4         | 17°36          | 22°40          | 19°16          | 23°10    | 16° 3  | 28°24          | 18°R 4          | 17° 3          | 4°41          | 22°52  | T 18 |
| F 19 | 7 52 11 | 28°37'15          | 6 <b>II</b> 26  | 16°55          | 15°44         | 18°23          | 22°35          | 19°16          | 23° 9    | 16° 3  | 28°24          | 18° 2           | 17° 0          | 4°48          | 22°51  | F 19 |
| S 20 | 7 56 7  | 29°38'18          | 19°52           | 18° 8          | 16°26         | 19° 9          | 22°30          | 19°16          | 23° 8    | 16° 2  | 28°23          | 17°59           | 16°57          | 4°55          | 22°50  | S 20 |
| S 21 | 8 0 4   | 0≈39'20           | 395 9           | 19°15          | 17° 9         | 19°55          | 22°25          | 19°D16         | 23° 7    | 16° 2  | 28°23          | 17°52           | 16°54          | 5° 1          | 22°50  | S 21 |
| M22  | 8 4 0   | 1°40'21           | 16°14           | 20°15          | 17°52         | 20°41          | 22°20          | 19°16          | 23° 5    | 16° 2  | 28°22          | 17°42           | 16°50          | 5° 8          | 22°49  | M22  |
| T 23 | 8 7 57  | 2°41'21           | 29° 8           | 21° 9          | 18°37         | 21°27          | 22°15          | 19°16          | 23° 4    | 16° 2  | 28°22          | 17°30           | 16°47          | 5°15          | 22°48  | T 23 |
| W24  | 8 11 54 | 3°42'20           | 11 <b>Q</b> 50  | 21°54          | 19°23         | 22°14          | 22°11          | 19°16          | 23° 3    | 16° 2  | 28°21          | 17°16           | 16°44          | 5°21          | 22°48  | W24  |
| T 25 | 8 15 50 | 4°43'19           | 24°18           | 22°31          | 20°10         | 23° 0          | 22° 7          | 19°17          | 23° 1    | 16° 2  | 28°21          | 17° 3           | 16°41          | 5°28          | 22°47  | T 25 |
| F 26 | 8 19 47 | 5°44'17           | 6 Mp 34         | 22°58          | 20°58         | 23°46          | 22° 2          | 19°17          | 23° 0    | 16°D 2 | 28°21          | 16°50           | 16°38          | 5°35          | 22°47  | F 26 |
| S 27 | 8 23 43 | 6°45'14           | 18°38           | 23°15          | 21°46         | 24°33          | 21°59          | 19°18          | 22°58    | 16° 2  | 28°20          | 16°39           | 16°34          | 5°42          | 22°47  | S 27 |
| S 28 | 8 27 40 | 7°46'10           | 0 <b>亞</b> 33   | 23°R21         | 22°36         | 25°19          | 21°55          | 19°19          | 22°57    | 16° 2  | 28°20          | 16°31           | 16°31          | 5°48          | 22°47  | S 28 |
| M29  | 8 31 36 | 8°47'05           | 12°23           | 23°15          | 23°26         | 26° 5          | 21°51          | 19°20          | 22°55    | 16° 2  | 28°20          | 16°26           | 16°28          | 5°55          | 22°46  | M29  |
| T 30 | 8 35 33 | 9°48'00           | 24°11           | 22°59          | 24°17         | 2 <u>6</u> °52 | 21°48          | 19°21          | 22°54    | 16° 2  | 28°19          | 16°23           | 16°25          | 6° 2          | 22°46  | T 30 |
| W31  | 8 39 29 | 10≈48'54          | 6M 3            | 22≈31          | 25 <b>×</b> 9 | 27 <b>る</b> 38 | 21 <b>Ⅱ</b> 45 | 19822          | 22 M 52  | 168 2  | 28 <b>8</b> 19 | 16M22           | 16ML22         | <u>6</u> 8    | 22°D46 | W31  |

Delta T = -4.19 sec

FEBRUARY 1883 00:00 UT

| Day  | Sid.t    | 0               | 7)              | φ      | φ              | o <sup>7</sup> | 4               | ħ     | ¥        | ¥             | 2              | ß      | Ω               | ţ             | Š              | Day  |
|------|----------|-----------------|-----------------|--------|----------------|----------------|-----------------|-------|----------|---------------|----------------|--------|-----------------|---------------|----------------|------|
| T 1  | 8 43 26  | 11≈49'47        | 18 <b>M</b> 4   | 21°R53 | 26 <b>×</b> 1  | 28 <b>궁</b> 25 | 21°R42          | 19823 | 22°R50   | 16 <b>8</b> 2 | 28°R19         | 16°R22 | 16 <b>M</b> .19 | 6 <b>₽</b> 15 | 22846          | T 1  |
| F 2  | 8 47 23  | 12°50'40        | 0 <b>₹</b> 20   | 21≈ 5  | 26°54          | 29°11          | 21 <b>II</b> 39 | 19°24 | 22 Mp 48 | 16° 2         | 28 <b>8</b> 19 | 16ML22 | 16°15           | 6°22          | 22°46          | F 2  |
| S 3  | 8 51 19  | 13°51'31        | 12°55           | 20° 9  | 27°48          | 29°58          | 21°37           | 19°26 | 22°47    | 16° 3         | 28°19          | 16°20  | 16°12           | 6°28          | 22°46          | S 3  |
| S 4  | 8 55 16  | 14°52'22        | 25°55           | 19° 6  | 28°42          | 0≈45           | 21°34           | 19°27 | 22°45    | 16° 3         | 28°18          | 16°15  | 16° 9           | 6°35          | 22°47          | S 4  |
| M 5  | 8 59 12  | 15°53'12        | 9 <b>궁</b> 22   | 17°58  | 29°37          | 1°31           | 21°32           | 19°29 | 22°43    | 16° 3         | 28°18          | 16° 8  | 16° 6           | 6°42          | 22°47          | M 5  |
| T 6  | 9 3 9    | 16°54'00        | 23°17           | 16°47  | 0 <b>궁</b> 33  | 2°18           | 21°30           | 19°31 | 22°41    | 16° 4         | 28°18          | 15°58  | 16° 3           | 6°48          | 22°47          | T 6  |
| W 7  | 9 7 5    | 17°54'48        | 7 <b>≈</b> 37   | 15°35  | 1°29           | 3° 5           | 21°28           | 19°33 | 22°39    | 16° 4         | 28°18          | 15°47  | 16° 0           | 6°55          | 22°48          | W 7  |
| T 8  | 9 11 2   | 18°55'34        | 22°16           | 14°24  | 2°26           | 3°51           | 21°27           | 19°35 | 22°37    | 16° 5         | 28°18          | 15°34  | 15°56           | 7° 2          | 22°48          | T 8  |
| F 9  | 9 14 58  | 19°56'19        | 7 <b>)</b> € 7  | 13°16  | 3°23           | 4°38           | 21°25           | 19°37 | 22°35    | 16° 5         | 28°18          | 15°23  | 15°53           | 7° 8          | 22°49          | F 9  |
| S 10 | 9 18 55  | 20°57'02        | 22° 1           | 12°12  | 4°21           | 5°25           | 21°24           | 19°39 | 22°33    | 16° 5         | 28°18          | 15°13  | 15°50           | 7°15          | 22°50          | S 10 |
| S 11 | 9 22 52  | 21°57'44        | 6 <b>Ƴ</b> 49   | 11°13  | 5°19           | 6°12           | 21°23           | 19°41 | 22°31    | 16° 6         | 28°D18         | 15° 6  | 15°47           | 7°22          | 22°50          | S 11 |
| M12  | 9 26 48  | 22°58'24        | 21°24           | 10°22  | 6°17           | 6°58           | 21°22           | 19°44 | 22°29    | 16° 7         | 28°18          | 15° 2  | 15°44           | 7°28          | 22°51          | M12  |
| T 13 | 9 30 45  | 23°59'03        | 5 <b>8</b> 43   | 9°37   | 7°16           | 7°45           | 21°22           | 19°46 | 22°26    | 16° 7         | 28°18          | 15° 1  | 15°40           | 7°35          | 22°52          | T 13 |
| W14  | 9 34 41  | 24°59'40        | 19°43           | 9° 1   | 8°16           | 8°32           | 21°22           | 19°49 | 22°24    | 16° 8         | 28°18          | 15° 0  | 15°37           | 7°42          | 22°53          | W14  |
| T 15 | 9 38 38  | 26° 0'15        | 3 <b>Ⅱ</b> 25   | 8°32   | 9°16           | 9°19           | 21°D21          | 19°52 | 22°22    | 16° 8         | 28°18          | 15° 0  | 15°34           | 7°48          | 22°54          | T 15 |
| F 16 | 9 42 34  | 27° 0'48        | 16°50           | 8°11   | 10°16          | 10° 6          | 21°21           | 19°55 | 22°20    | 16° 9         | 28°18          | 14°59  | 15°31           | 7°55          | 22°55          | F 16 |
| S 17 | 9 46 31  | 28° 1'20        | 29°59           | 7°57   | 11°16          | 10°52          | 21°22           | 19°57 | 22°17    | 16°10         | 28°18          | 14°55  | 15°28           | 8° 2          | 22°56          | S 17 |
| S 18 | 9 50 27  | 29° 1'49        | 12956           | 7°D51  | 12°17          | 11°39          | 21°22           | 20° 1 | 22°15    | 16°11         | 28°18          | 14°49  | 15°25           | 8° 8          | 22°57          | S 18 |
| M19  | 9 54 24  | 0 <b>米</b> 2'17 | 25°41           | 7°52   | 13°19          | 12°26          | 21°23           | 20° 4 | 22°13    | 16°11         | 28°18          | 14°39  | 15°21           | 8°15          | 22°59          | M19  |
| T 20 | 9 58 21  | 1° 2'43         | 8 <b>Ω</b> 16   | 7°59   | 14°20          | 13°13          | 21°24           | 20° 7 | 22°10    | 16°12         | 28°19          | 14°28  | 15°18           | 8°22          | 23° 0          | T 20 |
| W21  | 10 2 17  | 2° 3'08         | 20°40           | 8°13   | 15°22          | 14° 0          | 21°25           | 20°10 | 22° 8    | 16°13         | 28°19          | 14°14  | 15°15           | 8°28          | 23° 1          | W21  |
| T 22 | 10 6 14  | 3° 3'30         | 2 <b>m</b> 55   | 8°33   | 16°25          | 14°47          | 21°26           | 20°14 | 22° 6    | 16°14         | 28°19          | 14° 1  | 15°12           | 8°35          | 23° 3          | T 22 |
| F 23 | 10 10 10 | 4° 3'51         | 15° 1           | 8°58   | 17°28          | 15°34          | 21°27           | 20°17 | 22° 3    | 16°15         | 28°19          | 13°48  | 15° 9           | 8°42          | 23° 4          | F 23 |
| S 24 | 10 14 7  | 5° 4'11         | 26°59           | 9°28   | 18°30          | 16°21          | 21°29           | 20°21 | 22° 1    | 16°16         | 28°20          | 13°38  | 15° 5           | 8°48          | 23° 6          | S 24 |
| S 25 | 10 18 3  | 6° 4'28         | 8 <b>≏</b> 51   | 10° 3  | 19°34          | 17° 8          | 21°31           | 20°25 | 21°58    | 16°17         | 28°20          | 13°30  | 15° 2           | 8°55          | 23° 7          | S 25 |
| M26  | 10 22 0  | 7° 4'44         | 20°39           | 10°42  | 20°37          | 17°55          | 21°33           | 20°28 | 21°56    | 16°18         | 28°20          | 13°24  | 14°59           | 9° 2          | 23° 9          | M26  |
| T 27 | 10 25 56 | 8° 4'59         | 2 <b>M</b> 27   | 11°26  | 21°41          | 18°42          | 21°35           | 20°32 | 21°53    | 16°19         | 28°21          | 13°22  | 14°56           | 9° 8          | 23°11          | T 27 |
| W28  | 10 29 53 | 9 <b>米</b> 5'12 | 14 <b>M</b> .18 | 12≈13  | 22 <b>る</b> 45 | 19≈29          | 21 <b>Ⅲ</b> 38  | 20836 | 21 Mp 51 | 16820         | 28821          | 13°D21 | 14ML53          | 9 <b>≏</b> 15 | 23 <b>8</b> 13 | W28  |

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MARCH 1883 00:00 UT

| Day  | Sid.t    | 0                | D               | ğ              | P              | ♂                | 4              | ħ     | )∤(            | ¥              | В              | Ω.              | v               | ţ              | ę<br>k         | Day  |
|------|----------|------------------|-----------------|----------------|----------------|------------------|----------------|-------|----------------|----------------|----------------|-----------------|-----------------|----------------|----------------|------|
| T 1  | 10 33 49 | 10 <b>)</b> 5′24 | 26 <b>M</b> .18 | 13 <b>≈</b> 3  | 23 <b>궁</b> 50 | 20≈16            | 21 <b>Ⅱ</b> 40 | 20840 | 21°R48         | 16 <b>8</b> 21 | 28 <b>8</b> 21 | 13 <b>M</b> 22  | 14 <b>M</b> 50  | 9 <b>₾</b> 22  | 23 <b>8</b> 15 | T 1  |
| F 2  | 10 37 46 | 11° 5'34         | 8 <b>~</b> 31   | 13°57          | 24°54          | 21° 3            | 21°43          | 20°45 | 21 Mp 46       | 16°22          | 28°22          | 13°R22          | 14°46           | 9°28           | 23°17          | F 2  |
| S 3  | 10 41 43 | 12° 5'42         | 21° 3           | 14°54          | 25°59          | 21°50            | 21°46          | 20°49 | 21°43          | 16°23          | 28°22          | 13°22           | 14°43           | 9°35           | 23°19          | S 3  |
| S 4  | 10 45 39 | 13° 5'49         | 3 <b>පි</b> 58  | 15°53          | 27° 4          | 22°37            | 21°49          | 20°53 | 21°41          | 16°25          | 28°23          | 13°20           | 14°40           | 9°42           | 23°21          | S 4  |
| M 5  | 10 49 36 | 14° 5'54         | 17°21           | 16°55          | 28° 9          | 23°24            | 21°52          | 20°58 | 21°38          | 16°26          | 28°23          | 13°15           | 14°37           | 9°48           | 23°23          | M 5  |
| T 6  | 10 53 32 | 15° 5'58         | 1≈14            | 18° 0          | 29°15          | 24°11            | 21°56          | 21° 2 | 21°35          | 16°27          | 28°23          | 13° 9           | 14°34           | 9°55           | 23°25          | T 6  |
| W 7  | 10 57 29 | 16° 6'00         | 15°36           | 19° 7          | 0≈20           | 24°58            | 22° 0          | 21° 7 | 21°33          | 16°28          | 28°24          | 13° 0           | 14°31           | 10° 2          | 23°27          | W 7  |
| T 8  | 11 1 25  | 17° 6'01         | 0 <b>)</b> €22  | 20°16          | 1°26           | 25°45            | 22° 4          | 21°11 | 21°30          | 16°30          | 28°24          | 12°51           | 14°27           | 10° 8          | 23°30          | T 8  |
| F 9  | 11 5 22  | 18° 5'59         | 15°26           | 21°27          | 2°32           | 26°32            | 22° 8          | 21°16 | 21°28          | 16°31          | 28°25          | 12°43           | 14°24           | 10°15          | 23°32          | F 9  |
| S 10 | 11 9 18  | 19° 5'56         | 0 <b>Ƴ</b> 37   | 22°40          | 3°39           | 27°19            | 22°12          | 21°21 | 21°25          | 16°32          | 28°26          | 12°35           | 14°21           | 10°22          | 23°34          | S 10 |
| S 11 | 11 13 15 | 20° 5'50         | 15°46           | 23°55          | 4°45           | 28° 6            | 22°16          | 21°26 | 21°22          | 16°34          | 28°26          | 12°30           | 14°18           | 10°28          | 23°37          | S 11 |
| M12  | 11 17 12 | 21° 5'42         | 0 <b>8</b> 42   | 25°12          | 5°52           | 28°53            | 22°21          | 21°31 | 21°20          | 16°35          | 28°27          | 12°28           | 14°15           | 10°35          | 23°39          | M12  |
| T 13 | 11 21 8  | 22° 5'33         | 15°20           | 26°30          | 6°58           | 29°41            | 22°26          | 21°36 | 21°17          | 16°37          | 28°27          | 12°D27          | 14°11           | 10°42          | 23°42          | T 13 |
| W14  | 11 25 5  | 23° 5'21         | 29°34           | 27°50          | 8° 5           | 0 <b>∺</b> 28    | 22°31          | 21°41 | 21°14          | 16°38          | 28°28          | 12°28           | 14° 8           | 10°48          | 23°45          | W14  |
| T 15 | 11 29 1  | 24° 5'07         | 13耳25           | 29°12          | 9°12           | 1°15             | 22°36          | 21°47 | 21°12          | 16°40          | 28°29          | 12°29           | 14° 5           | 10°55          | 23°47          | T 15 |
| F 16 | 11 32 58 | 25° 4'50         | 26°52           | 0 <b>∺</b> 35  | 10°20          | 2° 2             | 22°41          | 21°52 | 21° 9          | 16°41          | 28°29          | 12°R29          | 14° 2           | 11° 2          | 23°50          | F 16 |
| S 17 | 11 36 54 | 26° 4'32         | 9958            | 2° 0           | 11°27          | 2°49             | 22°47          | 21°57 | 21° 7          | 16°43          | 28°30          | 12°28           | 13°59           | 11°8           | 23°53          | S 17 |
| S 18 | 11 40 51 | 27° 4'11         | 22°46           | 3°26           | 12°34          | 3°36             | 22°52          | 22° 3 | 21° 4          | 16°44          | 28°31          | 12°25           | 13°56           | 11°15          | 23°56          | S 18 |
| M19  | 11 44 47 | 28° 3'48         | 5 <b>Ω</b> 19   | 4°54           | 13°42          | 4°23             | 22°58          | 22° 8 | 21° 1          | 16°46          | 28°32          | 12°20           | 13°52           | 11°22          | 23°59          | M19  |
| T 20 | 11 48 44 | 29° 3'22         | 17°40           | 6°23           | 14°50          | 5°10             | 23° 4          | 22°14 | 20°59          | 16°48          | 28°32          | 12°14           | 13°49           | 11°28          | 24° 2          | T 20 |
| W21  | 11 52 41 | 0 <b>Υ</b> 2'54  | 29°51           | 7°53           | 15°58          | 5°57             | 23°10          | 22°20 | 20°56          | 16°49          | 28°33          | 12° 6           | 13°46           | 11°35          | 24° 5          | W21  |
| T 22 | 11 56 37 | 1° 2'24          | 11 <b>m</b> 53  | 9°25           | 17° 6          | 6°44             | 23°17          | 22°26 | 20°54          | 16°51          | 28°34          | 11°58           | 13°43           | 11°42          | 24° 8          | T 22 |
| F 23 | 12 0 34  | 2° 1'52          | 23°50           | 10°58          | 18°14          | 7°31             | 23°23          | 22°31 | 20°51          | 16°53          | 28°35          | 11°50           | 13°40           | 11°48          | 24°11          | F 23 |
| S 24 | 12 4 30  | 3° 1'18          | 5 <b>≙</b> 42   | 12°33          | 19°22          | 8°18             | 23°30          | 22°37 | 20°49          | 16°54          | 28°35          | 11°44           | 13°36           | 11°55          | 24°14          | S 24 |
| S 25 | 12 8 27  | 4° 0'42          | 17°31           | 14° 8          | 20°31          | 9° 5             | 23°36          | 22°43 | 20°46          | 16°56          | 28°36          | 11°40           | 13°33           | 12° 2          | 24°17          | S 25 |
| M26  | 12 12 23 | 5° 0'04          | 29°19           | 15°46          | 21°39          | 9°52             | 23°43          | 22°49 | 20°43          | 16°58          | 28°37          | 11°37           | 13°30           | 12° 8          | 24°21          | M26  |
| T 27 | 12 16 20 | 5°59'24          | 11 <b>M</b> 9   | 17°24          | 22°48          | 10°39            | 23°50          | 22°55 | 20°41          | 17° 0          | 28°38          | 11°D36          | 13°27           | 12°15          | 24°24          | T 27 |
| W28  | 12 20 16 | 6°58'42          | 23° 4           | 19° 4          | 23°56          | 11°26            | 23°57          | 23° 1 | 20°39          | 17° 1          | 28°39          | 11°37           | 13°24           | 12°22          | 24°27          | W28  |
| T 29 | 12 24 13 | 7°57'58          | 5 <b>₹</b> 7    | 20°46          | 25° 5          | 12°13            | 24° 5          | 23° 8 | 20°36          | 17° 3          | 28°40          | 11°38           | 13°21           | 12°28          | 24°31          | T 29 |
| F 30 | 12 28 9  | 8°57'12          | 17°22           | 22°28          | 26°14          | 13° 0            | 24°12          | 23°14 | 20°34          | 17° 5          | 28°41          | 11°40           | 13°17           | 12°35          | 24°34          | F 30 |
| S 31 | 12 32 6  | 9 <b>Y</b> 56'25 | 29 <b>×</b> 753 | 24 <b>)</b> 12 | 27≈23          | 13 <b>) (</b> 47 | 24Ⅲ20          | 23820 | 20 <b>m</b> 31 | 17 <b>8</b> 7  | 28842          | 11 <b>M</b> .41 | 13 <b>M</b> .14 | 12 <b>≏</b> 42 | 24 <b>8</b> 37 | S 31 |

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| Day  | Sid.t    | 0                 | D              | ğ              | ·              | ď                | 4     | ħ              | )f(             | ¥              | В              | ₽.              | ಬ               | Ç              | ę,             | Day  |
|------|----------|-------------------|----------------|----------------|----------------|------------------|-------|----------------|-----------------|----------------|----------------|-----------------|-----------------|----------------|----------------|------|
| S 1  | 12 36 3  | 10 <b>Y</b> 55'36 | 12 <b>る</b> 45 | 25 <b>)</b> 58 | 28≈32          | 14 <b>) (</b> 34 | 24∏27 | 23 <b>8</b> 27 | 20°R29          | 17 <b>8</b> 9  | 28 <b>8</b> 43 | 11°R42          | 13 <b>M</b> .11 | 12 <b>≏</b> 48 | 24841          | S 1  |
| M 2  | 12 39 59 | 11°54'45          | 26° 2          | 27°45          | 29°42          | 15°21            | 24°35 | 23°33          | 20 <b>m</b> 26  | 17°11          | 28°44          | 11 <b>M</b> .41 | 13° 8           | 12°55          | 24°44          | M 2  |
| T 3  | 12 43 56 | 12°53'53          | 9≈46           | 29°33          | 0 <b>)</b> €51 | 16° 7            | 24°43 | 23°40          | 20°24           | 17°13          | 28°45          | 11°39           | 13° 5           | 13° 2          | 24°48          | T 3  |
| W 4  | 12 47 52 | 13°52'58          | 23°58          | 1 <b>Υ</b> 23  | 2° 0           | 16°54            | 24°51 | 23°46          | 20°22           | 17°15          | 28°46          | 11°36           | 13° 2           | 13° 8          | 24°52          | W 4  |
| T 5  | 12 51 49 | 14°52'02          | 8 <b>)</b> 36  | 3°14           | 3°10           | 17°41            | 25° 0 | 23°53          | 20°19           | 17°17          | 28°47          | 11°32           | 12°58           | 13°15          | 24°55          | T 5  |
| F 6  | 12 55 45 | 15°51'04          | 23°34          | 5° 7           | 4°20           | 18°28            | 25° 8 | 23°59          | 20°17           | 17°19          | 28°48          | 11°28           | 12°55           | 13°22          | 24°59          | F 6  |
| S 7  | 12 59 42 | 16°50'04          | 8 <b>Ƴ</b> 45  | 7° 1           | 5°29           | 19°15            | 25°17 | 24° 6          | 20°15           | 17°21          | 28°49          | 11°25           | 12°52           | 13°28          | 25° 3          | S 7  |
| S 8  | 13 3 38  | 17°49'02          | 23°59          | 8°56           | 6°39           | 20° 2            | 25°25 | 24°13          | 20°13           | 17°23          | 28°50          | 11°23           | 12°49           | 13°35          | 25° 7          | S 8  |
| M 9  | 13 7 35  | 18°47'58          | 9 <b>8</b> 6   | 10°53          | 7°49           | 20°48            | 25°34 | 24°19          | 20°10           | 17°25          | 28°51          | 11°D22          | 12°46           | 13°42          | 25°10          | M 9  |
| T 10 | 13 11 32 | 19°46'52          | 23°58          | 12°51          | 8°59           | 21°35            | 25°43 | 24°26          | 20° 8           | 17°27          | 28°52          | 11°23           | 12°42           | 13°48          | 25°14          | T 10 |
| W11  | 13 15 28 | 20°45'44          | 8 <b>Ⅲ</b> 27  | 14°51          | 10° 9          | 22°22            | 25°52 | 24°33          | 20° 6           | 17°29          | 28°53          | 11°24           | 12°39           | 13°55          | 25°18          | W11  |
| T 12 | 13 19 25 | 21°44'33          | 22°30          | 16°52          | 11°18          | 23° 9            | 26° 1 | 24°40          | 20° 4           | 17°31          | 28°54          | 11°25           | 12°36           | 14° 2          | 25°22          | T 12 |
| F 13 | 13 23 21 | 22°43'20          | 6 <b>9</b> 5 7 | 18°54          | 12°29          | 23°55            | 26°10 | 24°47          | 20° 2           | 17°33          | 28°55          | 11°26           | 12°33           | 14° 8          | 25°26          | F 13 |
| S 14 | 13 27 18 | 23°42'05          | 19°18          | 20°58          | 13°39          | 24°42            | 26°20 | 24°54          | 20° 0           | 17°35          | 28°56          | 11°R27          | 12°30           | 14°15          | 25°30          | S 14 |
| S 15 | 13 31 14 | 24°40'48          | 2 <b>Ω</b> 7   | 23° 3          | 14°49          | 25°29            | 26°29 | 25° 1          | 19°58           | 17°37          | 28°57          | 11°27           | 12°27           | 14°22          | 25°34          | S 15 |
| M16  | 13 35 11 | 25°39'29          | 14°38          | 25° 8          | 15°59          | 26°15            | 26°39 | 25° 8          | 19°56           | 17°39          | 28°59          | 11°26           | 12°23           | 14°28          | 25°38          | M16  |
| T 17 | 13 39 7  | 26°38'07          | 26°52          | 27°15          | 17° 9          | 27° 2            | 26°48 | 25°15          | 19°54           | 17°41          | 29° 0          | 11°25           | 12°20           | 14°35          | 25°42          | T 17 |
| W18  | 13 43 4  | 27°36'43          | 8 <b>m</b> 56  | 29°22          | 18°20          | 27°48            | 26°58 | 25°23          | 19°52           | 17°43          | 29° 1          | 11°23           | 12°17           | 14°42          | 25°46          | W18  |
| T 19 | 13 47 1  | 28°35'17          | 20°51          | 1829           | 19°30          | 28°35            | 27° 8 | 25°30          | 19°50           | 17°46          | 29° 2          | 11°21           | 12°14           | 14°48          | 25°50          | T 19 |
| F 20 | 13 50 57 | 29°33'49          | 2 <b>≏</b> 42  | 3°37           | 20°41          | 29°21            | 27°18 | 25°37          | 19°48           | 17°48          | 29° 3          | 11°19           | 12°11           | 14°55          | 25°54          | F 20 |
| S 21 | 13 54 54 | 0832'18           | 14°30          | 5°45           | 21°51          | 0Υ 8             | 27°28 | 25°44          | 19°46           | 17°50          | 29° 4          | 11°17           | 12° 8           | 15° 2          | 25°58          | S 21 |
| S 22 | 13 58 50 | 1°30'46           | 26°19          | 7°52           | 23° 2          | 0°54             | 27°38 | 25°52          | 19°45           | 17°52          | 29° 6          | 11°17           | 12° 4           | 15° 8          | 26° 3          | S 22 |
| M23  | 14 2 47  | 2°29'12           | 8 <b>M</b> J1  | 9°59           | 24°12          | 1°41             | 27°49 | 25°59          | 19°43           | 17°54          | 29° 7          | 11°D16          | 12° 1           | 15°15          | 26° 7          | M23  |
| T 24 | 14 6 43  | 3°27'36           | 20° 7          | 12° 5          | 25°23          | 2°27             | 27°59 | 26° 6          | 19°41           | 17°56          | 29° 8          | 11°16           | 11°58           | 15°22          | 26°11          | T 24 |
| W25  | 14 10 40 | 4°25'59           | 2 <b>×</b> 10  | 14°10          | 26°34          | 3°13             | 28° 9 | 26°14          | 19°40           | 17°59          | 29° 9          | 11°17           | 11°55           | 15°28          | 26°15          | W25  |
| T 26 | 14 14 36 | 5°24'19           | 14°23          | 16°13          | 27°44          | 4° 0             | 28°20 | 26°21          | 19°38           | 18° 1          | 29°11          | 11°17           | 11°52           | 15°35          | 26°20          | T 26 |
| F 27 | 14 18 33 | 6°22'38           | 2 <u>6</u> °47 | 18°14          | 28°55          | 4°46             | 28°31 | 26°28          | 19°37           | 18° 3          | 29°12          | 11°18           | 11°48           | 15°42          | 26°24          | F 27 |
| S 28 | 14 22 30 | 7°20'56           | 9 <b>ප</b> 25  | 20°13          | 0Υ 6           | 5°32             | 28°41 | 26°36          | 19°35           | 18° 5          | 29°13          | 11°18           | 11°45           | 15°48          | 26°28          | S 28 |
| S 29 | 14 26 26 | 8°19'12           | 22°21          | 22°10          | 1°17           | 6°18             | 28°52 | 26°43          | 19°34           | 18° 7          | 29°14          | 11°19           | 11°42           | 15°55          | 26°32          | S 29 |
| M30  | 14 30 23 | 9 <b>8</b> 17'26  | 5≈37           | 248 4          | 2 <b>Υ</b> 28  | 7 <b>℃</b> 5     | 29耳 3 | 26 <b>8</b> 51 | 19 <b>m</b> /32 | 18 <b>8</b> 10 | 29816          | 11°R19          | 11 <b>M</b> .39 | 16 <b>♀</b> 2  | 26 <b>8</b> 37 | M30  |

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| Day         | Sid.t              | 0                           | D                       | ğ                     | φ              | δ              | 4              | ħ              | )∤(             | ¥              | В              | u               | ದಿ              | ţ              | ę,             | Day         |
|-------------|--------------------|-----------------------------|-------------------------|-----------------------|----------------|----------------|----------------|----------------|-----------------|----------------|----------------|-----------------|-----------------|----------------|----------------|-------------|
| T 1         | 14 34 19           | 10 <b>႘</b> 15'39           | 19 <b>≈</b> 14          | 25 <b>8</b> 56        | <b>3</b> Υ39   | 7 <b>Υ</b> 51  | 29 <b>Ⅱ</b> 14 | 26 <b>8</b> 58 | 19°R31          | 18812          | 29817          | 11°R19          | 11 <b>M</b> .36 | 16 <b>♀</b> 8  | 26841          | T 1         |
| W 2         | 14 38 16           | 11°13'51                    | 3 <b>)</b> €14          | 27°44                 | 4°50           | 8°37           | 29°25          | 27° 6          | 19 <b>m</b> 29  | 18°14          | 29°18          | 11°D19          | 11°33           | 16°15          | 26°46          | W 2         |
| T 3         | 14 42 12           | 12°12'01                    | 17°36<br>2 <b>°</b> 17  | 29°29                 | 6° 1           | 9°23           | 29°36          | 27°14          | 19°28           | 18°16          | 29°20          | 11 <b>M</b> .19 | 11°29           | 16°22          | 26°50          | T 3         |
| F 4<br>S 5  | 14 46 9<br>14 50 5 | 13°10'09<br>14° 8'16        | 17°12                   | 1 <b>Ⅱ</b> 10<br>2°49 | 7°12<br>8°24   | 10° 9<br>10°55 | 29°48<br>29°59 | 27°21<br>27°29 | 19°27<br>19°26  | 18°19<br>18°21 | 29°21<br>29°22 | 11°19<br>11°19  | 11°26<br>11°23  | 16°28<br>16°35 | 26°54<br>26°59 | F 4<br>S 5  |
|             |                    |                             |                         | _                     | -              |                |                |                |                 |                |                |                 |                 |                |                |             |
| S 6         | 14 54 2            | 15° 6'22                    | 2815                    | 4°23                  | 9°35           | 11°41          | 0910           | 27°36          | 19°25           | 18°23          | 29°24          | 11°19           | 11°20           | 16°42          | 27° 3          | S 6         |
| M 7         | 14 57 58           | 16° 4'26<br>17° 2'28        | 17°15<br>2 <b>Ⅱ</b> 6   | 5°54                  | 10°46          | 12°27          | 0°22           | 27°44          | 19°24           | 18°25          | 29°25          | 11°R19          | 11°17           | 16°48          | 27° 8          | M 7         |
| T 8<br>W 9  | 15 1 55<br>15 5 52 | 17° 2'28<br>18° 0'29        | 2H 6<br>16°40           | 7°20<br>8°43          | 11°57<br>13° 9 | 13°13<br>13°59 | 0°34<br>0°45   | 27°52<br>28° 0 | 19°23<br>19°22  | 18°28<br>18°30 | 29°26<br>29°28 | 11°19<br>11°19  | 11°13<br>11°10  | 16°55<br>17° 2 | 27°12<br>27°17 | T 8<br>W 9  |
| T 10        | 15 9 48            | 18°58'28                    | 0951                    | 10° 2                 | 14°20          | 14°45          | 0°57           | 28° 7          | 19°21           | 18°32          | 29°29          | 11°18           | 11° 7           | 17° 8          | 27°21          | T 10        |
| F 11        | 15 13 45           | 19°56'26                    | 14°36                   | 11°17                 | 15°31          | 15°30          | 1° 9           | 28°15          | 19°20           | 18°34          | 29°30          | 11°17           | 11° 4           | 17°15          | 27°26          | F 11        |
| S 12        | 15 17 41           | 20°54'21                    | 27°55                   | 12°28                 | 16°43          | 16°16          | 1°21           | 28°23          | 19°19           | 18°37          | 29°32          | 11°16           | 11° 1           | 17°22          | 27°30          | S 12        |
| S 13        | 15 21 38           | 21°52'15                    | 10 <b>Ω</b> 49          | 13°35                 | 17°54          | 17° 2          | 1°32           | 28°30          | 19°18           | 18°39          | 29°33          | 11°15           | 10°58           | 17°28          | 27°35          | S 13        |
| M14         | 15 25 34           | 22°50'07                    | 23°21                   | 14°37                 | 19° 6          | 17°47          | 1°44           | 28°38          | 19°17           | 18°41          | 29°34          | 11°D15          | 10°54           | 17°35          | 27°39          | M14         |
| T 15        | 15 29 31           | 23°47'57                    | 5 <b>m</b> 36           | 15°36                 | 20°17          | 18°33          | 1°56           | 28°46          | 19°17           | 18°43          | 29°36          | 11°15           | 10°51           | 17°41          | 27°44          | T 15        |
| W16         | 15 33 27           | 24°45'46                    | 17°38                   | 16°29                 | 21°28          | 19°18          | 2° 9           | 28°54          | 19°16           | 18°46          | 29°37          | 11°16           | 10°48           | 17°48          | 27°48          | W16         |
| T 17        | 15 37 24           | 25°43'32                    | 29°31                   | 17°19                 | 22°40          | 20° 4          | 2°21           | 29° 1          | 19°16           | 18°48          | 29°38          | 11°17           | 10°45           | 17°55          | 27°53          | T 17        |
| F 18        | 15 41 21           | 26°41'17                    | 11 <b>≏</b> 19          | 18° 4                 | 23°52          | 20°49          | 2°33           | 29° 9          | 19°15           | 18°50          | 29°40          | 11°19           | 10°42           | 18° 1          | 27°57          | F 18        |
| S 19        | 15 45 17           | 27°39'01                    | 23° 8                   | 18°44                 | 25° 3          | 21°35          | 2°45           | 29°17          | 19°15           | 18°52          | 29°41          | 11°20           | 10°39           | 18° 8          | 28° 2          | S 19        |
| S 20        | 15 49 14           | 28°36'43                    | 4M59                    | 19°20                 | 26°15          | 22°20          | 2°58           | 29°25          | 19°14           | 18°55          | 29°42          | 11°21           | 10°35           | 18°15          | 28° 6          | S 20        |
| M21         | 15 53 10           | 29°34'24                    | 16°56                   | 19°51                 | 27°26          | 23° 5          | 3°10           | 29°32          | 19°14           | 18°57          | 29°44          | 11°R21          | 10°32           | 18°21          | 28°11          | M21         |
| T 22<br>W23 | 15 57 7<br>16 1 3  | 0 <b>Д</b> 32'03<br>1°29'41 | 29° 2<br>11 <b>×</b> 19 | 20°18<br>20°40        | 28°38<br>29°50 | 23°51<br>24°36 | 3°22<br>3°35   | 29°40<br>29°48 | 19°13<br>19°13  | 18°59<br>19° 1 | 29°45<br>29°46 | 11°20<br>11°18  | 10°29<br>10°26  | 18°28<br>18°35 | 28°15<br>28°20 | T 22<br>W23 |
| T 24        | 16 5 0             | 2°27'18                     | 23°46                   | 20°57                 | 1 <b>8</b> 2   | 25°21          | 3°47           | 29°56          | 19°13           | 19° 4          | 29°48          | 11°15           | 10°23           | 18°41          | 28°24          | T 24        |
| F 25        | 16 8 56            | 3°24'54                     | 6 <b>ප</b> 27           | 21° 9                 | 2°13           | 26° 6          | 4° 0           | 0Π 3           | 19°13           | 19° 6          | 29°49          | 11°12           | 10°19           | 18°48          | 28°29          | F 25        |
| S 26        | 16 12 53           | 4°22'29                     | 19°21                   | 21°16                 | 3°25           | 26°51          | 4°13           | 0°11           | 19°13           | 19° 8          | 29°51          | 11° 8           | 10°16           | 18°55          | 28°33          | S 26        |
| S 27        | 16 16 50           | 5°20'03                     | 2≈30                    | 21°R19                | 4°37           | 27°36          | 4°25           | 0°19           | 19°D13          | 19°10          | 29°52          | 11° 5           | 10°13           | 19° 1          | 28°38          | S 27        |
| M28         | 16 20 46           | 6°17'35                     | 15°53                   | 21°17                 | 5°49           | 28°21          | 4°38           | 0°27           | 19°13           | 19°12          | 29°53          | 11° 3           | 10°10           | 19° 8          | 28°42          | M28         |
| T 29        | 16 24 43           | 7°15'07                     | 29°32                   | 21°11                 | 7° 1           | 29° 6          | 4°51           | 0°34           | 19°13           | 19°14          | 29°55          | 11° 2           | 10° 7           | 19°15          | 28°47          | T 29        |
| W30         | 16 28 39           | 8°12'38                     | 13 <b>∺</b> 26          | 2 <u>1</u> ° 1        | 8°13           | 29°51          | 5° 4           | 0°42           | 19°13           | 19°17          | 29°56          | 11°D 2          | 10° 4           | 19°21          | 28°51          | W30         |
| T 31        | 16 32 36           | 9∏10′09                     | 27 <b>)</b> 35          | 20 <b>Ⅱ</b> 46        | 9824           | 0 <b>8</b> 36  | 59916          | 0耳50           | 19 <b>m</b> )13 | 19 <b>8</b> 19 | 29 <b>8</b> 57 | 11 <b>M</b> 3   | 10 <b>M</b> 0   | 19 <b>≏</b> 28 | 28 <b>8</b> 56 | T 31        |

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|------|----------|--------------------|------------------|--------|----------------|----------------|--------|---------------|-----------------|-------|----------------|---------------|---------------|----------------|---------------|------|
| F 1  | 16 36 32 | 10 <b>I</b> I 7'38 | 11 <b>Y</b> 57   | 20°R28 | 10836          | 1820           | 5929   | 0Д58          | 19 <b>m</b> 13  | 19821 | 29 <b>8</b> 59 | 11 <b>M</b> 4 | 9 <b>M</b> 57 | 19 <b>≏</b> 35 | 29 <b>8</b> 0 | F 1  |
| S 2  | 16 40 29 | 11° 5'07           | 26°31            | 20耳 6  | 11°48          | 2° 5           | 5°42   | 1° 5          | 19°13           | 19°23 | 29°59          | 11° 5         | 9°54          | 19°41          | 29° 5         | S 2  |
| S 3  | 16 44 25 | 12° 2'36           | 11 <b>8</b> 11   | 19°41  | 13° 0          | 2°50           | 5°55   | 1°13          | 19°14           | 19°25 | 0 <b>I</b> 1   | 11°R 6        | 9°51          | 19°48          | 29° 9         | S 3  |
| M 4  | 16 48 22 | 13° 0'03           | 25°52            | 19°13  | 14°12          | 3°34           | 6° 8   | 1°21          | 19°14           | 19°27 | 0° 3           | 11° 5         | 9°48          | 19°55          | 29°14         | M 4  |
| T 5  | 16 52 19 | 13°57'30           | 10Ⅲ27            | 18°43  | 15°25          | 4°19           | 6°21   | 1°28          | 19°15           | 19°29 | 0° 4           | 11° 3         | 9°45          | 20° 1          | 29°18         | T 5  |
| W 6  | 16 56 15 | 14°54'56           | 24°51            | 18°11  | 16°37          | 5° 3           | 6°34   | 1°36          | 19°15           | 19°31 | 0° 5           | 10°59         | 9°41          | 20° 8          | 29°23         | W 6  |
| T 7  | 17 0 12  | 15°52'21           | 8958             | 17°38  | 17°49          | 5°48           | 6°47   | 1°44          | 19°16           | 19°34 | 0° 7           | 10°54         | 9°38          | 20°15          | 29°27         | T 7  |
| F 8  | 17 4 8   | 16°49'45           | 22°42            | 17° 5  | 19° 1          | 6°32           | 7° 1   | 1°51          | 19°16           | 19°36 | 0° 8           | 10°48         | 9°35          | 20°21          | 29°31         | F 8  |
| S 9  | 17 8 5   | 17°47'08           | 6 <b>N</b> 3     | 16°31  | 20°13          | 7°16           | 7°14   | 1°59          | 19°17           | 19°38 | 0° 9           | 10°43         | 9°32          | 20°28          | 29°36         | S 9  |
| S 10 | 17 12 1  | 18°44'30           | 19° 0            | 15°58  | 21°25          | 8° 1           | 7°27   | 2° 6          | 19°18           | 19°40 | 0°11           | 10°38         | 9°29          | 20°35          | 29°40         | S 10 |
| M11  | 17 15 58 | 19°41'51           | 1 <b>m</b> ) 35  | 15°27  | 22°37          | 8°45           | 7°40   | 2°14          | 19°18           | 19°42 | 0°12           | 10°35         | 9°25          | 20°41          | 29°45         | M11  |
| T 12 | 17 19 55 | 20°39'11           | 13°51            | 14°56  | 23°50          | 9°29           | 7°54   | 2°21          | 19°19           | 19°44 | 0°13           | 10°34         | 9°22          | 20°48          | 29°49         | T 12 |
| W13  | 17 23 51 | 21°36'30           | 25°53            | 14°28  | 25° 2          | 10°13          | 8° 7   | 2°29          | 19°20           | 19°46 | 0°14           | 10°D33        | 9°19          | 20°54          | 29°53         | W13  |
| T 14 | 17 27 48 | 22°33'48           | 7 <b>≏</b> 46    | 14° 3  | 26°14          | 10°57          | 8°20   | 2°36          | 19°21           | 19°48 | 0°16           | 10°34         | 9°16          | 21° 1          | 29°57         | T 14 |
| F 15 | 17 31 44 | 23°31'05           | 19°35            | 13°40  | 27°26          | 11°41          | 8°33   | 2°44          | 19°22           | 19°50 | 0°17           | 10°36         | 9°13          | 21° 8          | 0 <b>Π</b> 2  | F 15 |
| S 16 | 17 35 41 | 24°28'21           | 1 <b>M</b> 24    | 13°21  | 28°39          | 12°25          | 8°47   | 2°51          | 19°23           | 19°52 | 0°18           | 10°37         | 9°10          | 21°14          | 0° 6          | S 16 |
| S 17 | 17 39 37 | 25°25'37           | 13°19            | 13° 6  | 29°51          | 13° 8          | 9° 0   | 2°59          | 19°24           | 19°53 | 0°19           | 10°R37        | 9° 6          | 21°21          | 0°10          | S 17 |
| M18  | 17 43 34 | 26°22'52           | 25°23            | 12°54  | 1 <b>II</b> 3  | 13°52          | 9°14   | 3° 6          | 19°25           | 19°55 | 0°21           | 10°36         | 9° 3          | 21°28          | 0°14          | M18  |
| T 19 | 17 47 30 | 27°20'07           | 7 <b>,</b> ₹40   | 12°47  | 2°16           | 14°36          | 9°27   | 3°13          | 19°26           | 19°57 | 0°22           | 10°33         | 9° 0          | 21°34          | 0°19          | T 19 |
| W20  | 17 51 27 | 28°17'20           | 20°11            | 12°D45 | 3°28           | 15°19          | 9°40   | 3°21          | 19°27           | 19°59 | 0°23           | 10°28         | 8°57          | 21°41          | 0°23          | W20  |
| T 21 | 17 55 24 | 29°14'34           | 2 <b>ප</b> 57    | 12°47  | 4°40           | 16° 3          | 9°54   | 3°28          | 19°29           | 20° 1 | 0°24           | 10°21         | 8°54          | 21°48          | 0°27          | T 21 |
| F 22 | 17 59 20 | 09511'47           | 15°59            | 12°53  | 5°53           | 16°46          | 10° 7  | 3°35          | 19°30           | 20° 3 | 0°26           | 10°13         | 8°51          | 21°54          | 0°31          | F 22 |
| S 23 | 18 3 17  | 1° 9'00            | 29°15            | 13° 5  | 7° 5           | 17°30          | 10°21  | 3°42          | 19°31           | 20° 5 | 0°27           | 10° 4         | 8°47          | 22° 1          | 0°35          | S 23 |
| S 24 | 18 7 13  | 2° 6'12            | 12≈45            | 13°21  | 8°18           | 18°13          | 10°34  | 3°50          | 19°33           | 20° 6 | 0°28           | 9°56          | 8°44          | 22° 8          | 0°39          | S 24 |
| M25  | 18 11 10 | 3° 3'25            | 26°26            | 13°42  | 9°30           | 18°56          | 10°48  | 3°57          | 19°34           | 20° 8 | 0°29           | 9°50          | 8°41          | 22°14          | 0°43          | M25  |
| T 26 | 18 15 6  | 4° 0'37            | 10 <b>) (</b> 16 | 14° 7  | 10°43          | 19°40          | 11° 1  | 4° 4          | 19°36           | 20°10 | 0°30           | 9°46          | 8°38          | 22°21          | 0°47          | T 26 |
| W27  | 18 19 3  | 4°57'49            | 24°14            | 14°38  | 11°56          | 20°23          | 11°15  | 4°11          | 19°37           | 20°12 | 0°31           | 9°43          | 8°35          | 22°28          | 0°51          | W27  |
| T 28 | 18 22 59 | 5°55'02            | 8 <b>Ƴ</b> 19    | 15°13  | 13° 8          | 21° 6          | 11°28  | 4°18          | 19°39           | 20°13 | 0°33           | 9°D43         | 8°31          | 22°34          | 0°55          | T 28 |
| F 29 | 18 26 56 | 6°52'14            | 22°29            | 15°52  | 14°21          | 21°49          | 11°42  | 4°25          | 19°40           | 20°15 | 0°34           | 9°43          | 8°28          | 22°41          | 0°59          | F 29 |
| S 30 | 18 30 53 | 79549'27           | 6 <b>8</b> 44    | 16Ⅲ36  | 15 <b>Ⅲ</b> 34 | 22 <b>8</b> 32 | 119555 | 4 <b>Ⅱ</b> 32 | 19 <b>m</b> /42 | 20817 | 0耳35           | 9°R44         | 8ML25         | 22 <b>º</b> 48 | 1 <b>II</b> 3 | S 30 |

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JULY 1883 00:00 UT

| Day   Sid.t   O   D   Q   Q   O'   H   h   h   H   P   Ω   Ω   Ω   | 23°14<br>23°21  | 8 Day  1 II 7 S 1  1°11 M 2  1°14 T 3  1°18 W 4  1°22 T 5  1°26 F 6  1°29 S 7  1°33 S 8  1°36 M 9  1°40 T 10 |
|--|---|--|
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$  | 23° 1<br>23° 8<br>23°14<br>23°21<br>23°27<br>23°34<br>23°41<br>23°47<br>23°54 | 1°11 M 2 1°14 T 3 1°18 W 4 1°22 T 5 1°26 F 6 1°29 S 7 1°33 S 8 1°36 M 9 1°40 T 10                            |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$   | 23° 8<br>23°14<br>23°21<br>23°27<br>23°34<br>23°41<br>23°47<br>23°54          | 1°14 T 3 1°18 W 4 1°22 T 5 1°26 F 6 1°29 S 7 1°33 S 8 1°36 M 9 1°40 T 10                                     |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$   | 23°14<br>23°21<br>23°27<br>23°34<br>23°41<br>23°47<br>23°54                   | 1°18 W 4<br>1°22 T 5<br>1°26 F 6<br>1°29 S 7<br>1°33 S 8<br>1°36 M 9<br>1°40 T 10                            |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$   | 23°21<br>23°27<br>23°34<br>23°41<br>23°47<br>23°54                            | 1°22 T 5<br>1°26 F 6<br>1°29 S 7<br>1°33 S 8<br>1°36 M 9<br>1°40 T 10  |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$   | 23°27<br>23°34<br>23°41<br>23°47<br>23°54                                     | 1°26 F 6<br>1°29 S 7<br>1°33 S 8<br>1°36 M 9<br>1°40 T 10  |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$  | 23°34<br>23°41<br>23°47<br>23°54  | 1°29 S 7<br>1°33 S 8<br>1°36 M 9<br>1°40 T 10  |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$  | 23°41<br>23°47<br>23°54   | 1°33 S 8<br>1°36 M 9<br>1°40 T 10  |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$  | 23°47<br>23°54  | 1°36 M 9<br>1°40 T 10  |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$  | 23°54   | 1°40 T 10  |
| W11   19 14 15   18°18'54   3 <b>2</b> 51   29°27   28°55   0 <b>1</b> 120   14°24   5°45   20° 4   20°33   0°46   8°34   7°50 |   |  |
|  | 24° 1   |  |
| TT12 L10 18 11 L 10°16'07 L 15°44 L 105 1 L 005 8 L 1° 2 L 14°38 L 5°52 L 20° 6 L 20°35 L 0°47 L 8°1033 L 7°47                 |   | 1°43 W11   |
|  | 24° 7   | 1°47 T 12  |
| F 13   19 22 8   20°13'21   27°32   2°39   1°21   1°44   14°51   5°58   20° 9   20°36   0°48   8°33   7°44                     | 24°14   | 1°50 F 13  |
| S 14   19 26 4   21°10'34   9ML23   4°21   2°34   2°26   15° 5   6° 4   20°11   20°38   0°49   8°R33   7°41                    | 24°21   | 1°54 S 14  |
| S 15   19 30 1   22° 7'47   21°20   6° 6   3°47   3° 8   15°18   6°11   20°13   20°39   0°50   8°32   7°37                     | 24°27   | 1°57 S 15  |
| M16   19 33 57   23° 5'01   3₹29   7°55   5° 0   3°50   15°32   6°17   20°16   20°40   0°51   8°30   7°34                      | 24°34   | 2° 0 M16   |
| T 17   19 37 54   24° 2'15   15°54   9°46   6°13   4°31   15°45   6°23   20°18   20°41   0°52   8°25   7°31                    | 24°41   | 2° 4 T 17  |
| W18   19 41 51   24°59'29   28°37   11°40   7°26   5°13   15°59   6°29   20°21   20°43   0°53   8°18   7°28                    | 24°47   | 2° 7 W18   |
| T 19   19 45 47   25°56'44   11840   13°37   8°39   5°54   16°12   6°35   20°23   20°44   0°54   8°8   7°25                    | 24°54   | 2°10 T 19  |
| F 20   19 49 44   26°53'59   25° 3   15°36   9°53   6°36   16°26   6°41   20°26   20°45   0°55   7°57   7°22                   | 25° 1   | 2°13 F 20  |
| S 21   19 53 40   27°51'14   8\$\infty\$44   17°38   11°6   7°17   16°39   6°47   20°28   20°46   0°55   7°45   7°18           | 25° 7   | 2°16   S 21  |
| S 22   19 57 37   28°48'30   22°39   19°41   12°19   7°59   16°52   6°52   20°31   20°47   0°56   7°34   7°15                  | 25°14   | 2°19 S 22  |
| M23   20   1 33   29°45'47   6\( \frac{1}{4} \)4   21°45   13°32   8°40   17° 6   6°58   20°34   20°48   0°57   7°24   7°12    | 25°21   | 2°22 M23   |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$   | 25°27   | 2°25 T 24  |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$  | 25°34   | 2°28 W25   |
| T 26   20   13   23   2°37'42   19°19   28° 3   17°12   10°43   17°46   7°15   20°42   20°51   0°59   7°12   7° 3              | 25°40   | 2°31 T 26  |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$   | 25°47   | 2°33   F 27  |
| S 28   20 21 16   4°32'24   17°32   2°17   19°39   12° 5   18°12   7°26   20°48   20°53   1° 1   7°11   6°56                   | 25°54   | 2°36   S 28  |
| S 29   20 25 13   5°29'46   1 II 32   4°23   20°53   12°46   18°26   7°31   20°51   20°54   1° 1   7°10   6°53                 | 26° 0   | 2°39 S 29  |
| M30 20 29 9 6°27'10 15°27 6°28 22° 6 13°26 18°39 7°36 20°53 20°55 1° 2 7° 7 6°50   |   | 2°41 M30   |
| T31 20 33 6 7\Omega24'35 29\Pi14 8\Omega33 23\Sig20 14\Pi 7 18\Sig52 7\Pi42 20\Pi56 20\Sig56 20\Sig56 1\Pi 3 7\Pi 1 6\Pi47     | 26 <b>≏</b> 14  | 2 <b>П</b> 44 Т 31   |

Delta T = -4.29 sec

AUGUST 1883 00:00 UT

| Day  | Sid.t    | $\odot$          | D              | ğ              | φ             | ♂     | 4      | ħ             | )f(            | ¥              | Р              | v              | Ω            | Ç              | ç             | Day  |
|------|----------|------------------|----------------|----------------|---------------|-------|--------|---------------|----------------|----------------|----------------|----------------|--------------|----------------|---------------|------|
| W 1  | 20 37 2  | 8 <b>Ω</b> 22'01 | 12953          | 10 <b>Ω</b> 37 | 24933         | 14∏48 | 1995 5 | 7 <b>∐</b> 47 | 20 <b>m</b> 59 | 20 <b>8</b> 56 | 1 <b>I</b> I 3 | 6°R52          | 6M43         | 26 <b>♀</b> 20 | 2 <b>∏</b> 47 | W 1  |
| T 2  | 20 40 59 | 9°19'28          | 26°20          | 12°40          | 25°47         | 15°28 | 19°18  | 7°52          | 21° 2          | 20°57          | 1° 4           | 6 <b>M</b> .41 | 6°40         | 26°27          | 2°49          | T 2  |
| F 3  | 20 44 55 | 10°16'55         | 9 <b>Ω</b> 33  | 14°41          | 27° 1         | 16° 8 | 19°31  | 7°57          | 21° 6          | 20°58          | 1° 4           | 6°28           | 6°37         | 26°34          | 2°51          | F 3  |
| S 4  | 20 48 52 | 11°14'24         | 22°31          | 16°42          | 28°14         | 16°49 | 19°44  | 8° 2          | 21° 9          | 20°59          | 1° 5           | 6°15           | 6°34         | 26°40          | 2°54          | S 4  |
| S 5  | 20 52 49 | 12°11'54         | 5 <b>m</b> 13  | 18°41          | 29°28         | 17°29 | 19°57  | 8° 6          | 21°12          | 20°59          | 1° 6           | 6° 4           | 6°31         | 26°47          | 2°56          | S 5  |
| M 6  | 20 56 45 | 13° 9'24         | 17°38          | 20°38          | 0Ω42          | 18° 9 | 20°10  | 8°11          | 21°15          | 21° 0          | 1° 6           | 5°54           | 6°28         | 26°54          | 2°58          | M 6  |
| T 7  | 21 0 42  | 14° 6'56         | 29°49          | 22°34          | 1°55          | 18°49 | 20°23  | 8°16          | 21°18          | 21° 1          | 1° 7           | 5°47           | 6°24         | 27° 0          | 3° 0          | T 7  |
| W 8  | 21 4 38  | 15° 4'28         | 11 <b>≏</b> 48 | 24°29          | 3° 9          | 19°29 | 20°36  | 8°20          | 21°21          | 21° 1          | 1° 7           | 5°43           | 6°21         | 27° 7          | 3° 3          | W 8  |
| T 9  | 21 8 35  | 16° 2'01         | 23°39          | 26°22          | 4°23          | 20° 9 | 20°49  | 8°25          | 21°25          | 21° 2          | 1° 8           | 5°41           | 6°18         | 27°14          | 3° 5          | T 9  |
| F 10 | 21 12 31 | 16°59'35         | 5 <b>M</b> 27  | 28°13          | 5°37          | 20°48 | 21° 2  | 8°29          | 21°28          | 21° 2          | 1° 8           | 5°D40          | 6°15         | 27°20          | 3° 7          | F 10 |
| S 11 | 21 16 28 | 17°57'10         | 17°17          | 0 <b>m</b> y 3 | 6°51          | 21°28 | 21°14  | 8°33          | 21°31          | 21° 3          | 1° 9           | 5°R40          | 6°12         | 27°27          | 3° 9          | S 11 |
| S 12 | 21 20 24 | 18°54'46         | 29°14          | 1°52           | 8° 4          | 22° 7 | 21°27  | 8°38          | 21°34          | 21° 3          | 1° 9           | 5°40           | 6° 8         | 27°33          | 3°11          | S 12 |
| M13  | 21 24 21 | 19°52'23         | 11 <b>~</b> 24 | 3°39           | 9°18          | 22°47 | 21°40  | 8°42          | 21°38          | 21° 3          | 1° 9           | 5°38           | 6° 5         | 27°40          | 3°12          | M13  |
| T 14 | 21 28 18 | 20°50'01         | 23°52          | 5°24           | 10°32         | 23°26 | 21°52  | 8°46          | 21°41          | 21° 4          | 1°10           | 5°34           | 6° 2         | 27°47          | 3°14          | T 14 |
| W15  | 21 32 14 | 21°47'40         | 6 <b>ප</b> 41  | 7° 8           | 11°46         | 24° 5 | 22° 5  | 8°50          | 21°44          | 21° 4          | 1°10           | 5°28           | 5°59         | 27°53          | 3°16          | W15  |
| T 16 | 21 36 11 | 22°45'20         | 19°54          | 8°51           | 13° 0         | 24°45 | 22°18  | 8°54          | 21°48          | 21° 4          | 1°10           | 5°19           | 5°56         | 28° 0          | 3°17          | T 16 |
| F 17 | 21 40 7  | 23°43'01         | 3≈32           | 10°32          | 14°14         | 25°24 | 22°30  | 8°57          | 21°51          | 21° 5          | 1°11           | 5° 9           | 5°53         | 28° 7          | 3°19          | F 17 |
| S 18 | 21 44 4  | 24°40'43         | 17°32          | 12°12          | 15°28         | 26° 3 | 22°42  | 9° 1          | 21°55          | 21° 5          | 1°11           | 4°58           | 5°49         | 28°13          | 3°21          | S 18 |
| S 19 | 21 48 0  | 25°38'27         | 1 <b>米</b> 51  | 13°50          | 16°42         | 26°41 | 22°55  | 9° 5          | 21°58          | 21° 5          | 1°11           | 4°47           | 5°46         | 28°20          | 3°22          | S 19 |
| M20  | 21 51 57 | 26°36'12         | 16°21          | 15°27          | 17°56         | 27°20 | 23° 7  | 9° 8          | 22° 2          | 21° 5          | 1°12           | 4°39           | 5°43         | 28°27          | 3°23          | M20  |
| T 21 | 21 55 53 | 27°33'58         | 0 <b>Ƴ</b> 57  | 17° 2          | 19°10         | 27°59 | 23°19  | 9°12          | 22° 5          | 21° 6          | 1°12           | 4°33           | 5°40         | 28°33          | 3°25          | T 21 |
| W22  | 21 59 50 | 28°31'46         | 15°32          | 18°36          | 20°25         | 28°37 | 23°32  | 9°15          | 22° 9          | 21° 6          | 1°12           | 4°29           | 5°37         | 28°40          | 3°26          | W22  |
| T 23 | 22 3 47  | 29°29'36         | 08 0           | 20° 9          | 21°39         | 29°16 | 23°44  | 9°18          | 22°12          | 21° 6          | 1°12           | 4°D28          | 5°34         | 28°47          | 3°27          | T 23 |
| F 24 | 22 7 43  | 0 m/27'27        | 14°19          | 21°40          | 22°53         | 29°54 | 23°56  | 9°21          | 22°16          | 21° 6          | 1°12           | 4°28           | 5°30         | 28°53          | 3°28          | F 24 |
| S 25 | 22 11 40 | 1°25'21          | 28°25          | 23°10          | 24° 7         | 0932  | 24° 8  | 9°25          | 22°19          | 21°R 6         | 1°13           | 4°R28          | 5°27         | 29° 0          | 3°29          | S 25 |
| S 26 | 22 15 36 | 2°23'16          | 12∐19          | 24°39          | 25°21         | 1°11  | 24°20  | 9°27          | 22°23          | 21° 6          | 1°13           | 4°28           | 5°24         | 29° 6          | 3°30          | S 26 |
| M27  | 22 19 33 | 3°21'13          | 26° 1          | 26° 6          | 26°36         | 1°49  | 24°32  | 9°30          | 22°27          | 21° 6          | 1°13           | 4°26           | 5°21         | 29°13          | 3°31          | M27  |
| T 28 | 22 23 29 | 4°19'12          | 9930           | 27°31          | 27°50         | 2°27  | 24°43  | 9°33          | 22°30          | 21° 6          | 1°13           | 4°21           | 5°18         | 29°20          | 3°32          | T 28 |
| W29  | 22 27 26 | 5°17'13          | 22°46          | 28°55          | 29° 4         | 3° 5  | 24°55  | 9°36          | 22°34          | 21° 6          | 1°13           | 4°14           | 5°14         | 29°26          | 3°33          | W29  |
| T 30 | 22 31 22 | 6°15'16          | 5 <b>Ω</b> 51  | 0₽18           | 0 mp 19       | 3°42  | 25° 7  | 9°38          | 22°38          | 21° 5          | 1°13           | 4° 5           | 5°11         | 29°33          | 3°34          | T 30 |
| F 31 | 22 35 19 | 7 Mg 13'20       | 18 <b>Ω</b> 43 | 1 <b>≏</b> 39  | 1 <b>m</b> 33 | 49520 | 25919  | 9 <b>Ⅱ</b> 41 | 22 <b>M</b> 41 | 218 5          | 1 <b>I</b> I13 | 3 <b>M</b> .55 | 5 <b>™</b> 8 | 29 <b>≏</b> 40 | 3 <b>Ⅱ</b> 35 | F 31 |

Delta T = -4.31 sec

SEPTEMBER 1883 00:00 UT

| Day          | Sid.t                | 0                    | D                       | ğ              | φ               | ♂              | 4              | ħ              | )∤(            | ¥              | В             | n              | v              | ţ              | Q<br>K        | Day          |
|--------------|----------------------|----------------------|-------------------------|----------------|-----------------|----------------|----------------|----------------|----------------|----------------|---------------|----------------|----------------|----------------|---------------|--------------|
| S 1          | 22 39 16             | 8 <b>m</b> ) 11'26   | 1 <b>m</b> 22           | 2 <b>≏</b> 59  | 2 <b>M</b> ) 47 | 4957           | 25930          | 9 <b>Ⅱ</b> 43  | 22 Mp 45       | 21°R 5         | 1°R13         | 3°R45          | 5 <b>M</b> 5   | 29 <b>≏</b> 46 | 3 <b>Ⅱ</b> 35 | S 1          |
| S 2          | 22 43 12             | 9° 9'34              | 13°48                   | 4°17           | 4° 2            | 5°35           | 25°42          | 9°45           | 22°49          | 218 5          | 1 <b>Ⅱ</b> 13 | 3 <b>M</b> .36 | 5° 2           | 29°53          | 3°36          | S 2          |
| M 3          | 22 47 9              | 10° 7'43             | 26° 2                   | 5°33           | 5°16            | 6°12           | 25°53          | 9°47           | 22°52          | 21° 4          | 1°13          | 3°28           | 4°59           | 29°59          | 3°36          | M 3          |
| T 4          | 22 51 5              | 11° 5'54             | 8 <b>₾</b> 5            | 6°48           | 6°31            | 6°49           | 26° 4          | 9°50           | 22°56          | 21° 4          | 1°13          | 3°23           | 4°55           | 0 <b>M</b> 6   | 3°37          | T 4          |
| W 5          | 22 55 2              | 12° 4'07             | 19°59                   | 8° 1           | 7°45            | 7°26           | 26°16          | 9°51           | 23° 0          | 21° 4          | 1°13          | 3°20           | 4°52           | 0°13           | 3°37          | W 5          |
| T 6          | 22 58 58             | 13° 2'21             | 1 <b>M</b> 47           | 9°12           | 9° 0            | 8° 3           | 26°27          | 9°53           | 23° 4          | 21° 3          | 1°13          | 3°D19          | 4°49           | 0°20           | 3°37          | T 6          |
| F 7          | 23 2 55              | 14° 0'37             | 13°34                   | 10°21          | 10°14           | 8°40           | 26°38          | 9°55           | 23° 7          | 21° 3          | 1°13          | 3°19           | 4°46           | 0°26           | 3°37          | F 7          |
| S 8          | 23 6 51              | 14°58'54             | 25°22                   | 11°28          | 11°29           | 9°17           | 26°49          | 9°57           | 23°11          | 21° 3          | 1°12          | 3°20           | 4°43           | 0°33           | 3°38          | S 8          |
| S 9          | 23 10 48             | 15°57'13             | 7 <b>.</b> ₹18          | 12°33          | 12°43           | 9°53           | 27° 0          | 9°58           | 23°15          | 21° 2          | 1°12          | 3°22           | 4°40           | 0°39           | 3°38          | S 9          |
| M10          | 23 14 44             | 16°55'34             | 19°27                   | 13°35          | 13°58           | 10°30          | 27°10          | 10° 0          | 23°19          | 21° 2          | 1°12          | 3°R22          | 4°36           | 0°46           | 3°R38         | M10          |
| T 11         | 23 18 41             | 17°53'56             | 1 <b>궁</b> 53           | 14°36          | 15°12           | 11° 6          | 27°21          | 10° 1          | 23°22          | 21° 1          | 1°12          | 3°21           | 4°33           | 0°53           | 3°38          | T 11         |
| W12          | 23 22 38             | 18°52'20             | 14°42                   | 15°33          | 16°27           | 11°42          | 27°32          | 10° 2          | 23°26          | 21° 0          | 1°12          | 3°18           | 4°30           | 0°59           | 3°37          | W12          |
| T 13<br>F 14 | 23 26 34<br>23 30 31 | 19°50'45<br>20°49'12 | 27°56                   | 16°28<br>17°20 | 17°42<br>18°56  | 12°18          | 27°42<br>27°53 | 10° 3<br>10° 4 | 23°30          | 21° 0<br>20°59 | 1°11<br>1°11  | 3°13<br>3° 7   | 4°27<br>4°24   | 1° 6<br>1°13   | 3°37<br>3°37  | T 13<br>F 14 |
| S 15         | 23 34 27             | 20°49°12<br>21°47'40 | 11 <b>≈</b> 37<br>25°45 | 17°20<br>18° 9 | 20°11           | 12°54<br>13°30 | 27°53<br>28° 3 | 10° 4          | 23°34<br>23°38 | 20°59          | 1°11          | 3° 1           | 4°24<br>4°20   | 1°13           | 3°37          | S 15         |
|              |                      |                      |                         |                |                 |                |                |                |                |                |               |                | -              |                |               |              |
| S 16         | 23 38 24             | 22°46'10             | 10 <b>)</b> 17          | 18°54          | 21°26           | 14° 6          | 28°14          | 10° 6          | 23°41          | 20°58          | 1°11          | 2°54           | 4°17           | 1°26           | 3°36          | S 16         |
| M17          | 23 42 20             | 23°44'42             | 25° 5                   | 19°36          | 22°40           | 14°41          | 28°24          | 10° 6          | 23°45          | 20°57          | 1°10          | 2°49           | 4°14           | 1°33           | 3°36          | M17          |
| T 18         | 23 46 17             | 24°43'16             | 10 <b>°</b> 3           | 20°13          | 23°55           | 15°17          | 28°34          | 10° 7          | 23°49          | 20°56          | 1°10          | 2°46           | 4°11           | 1°39           | 3°35          | T 18         |
| W19<br>T 20  | 23 50 13<br>23 54 10 | 25°41'52<br>26°40'30 | 25° 1<br>9 <b>8</b> 51  | 20°47<br>21°15 | 25°10<br>26°24  | 15°52<br>16°27 | 28°44<br>28°54 | 10° 7<br>10° 8 | 23°53<br>23°56 | 20°56<br>20°55 | 1° 9<br>1° 9  | 2°44<br>2°D44  | 4° 8<br>4° 5   | 1°46<br>1°53   | 3°35<br>3°34  | W19<br>T 20  |
| F 21         | 23 54 10 23 58 7     | 26°40'30<br>27°39'11 | 24°28                   | 21°13          | 20°24<br>27°39  | 16°27          | 28°54<br>29° 3 | 10° 8          | 23°36<br>24° 0 | 20°53<br>20°54 | 1° 9          | 2°45           | 4° 3           | 1°53           | 3°33          | F 21         |
| S 22         | 0 2 3                | 28°37'54             | 24 28<br>8 <b>∏</b> 48  | 21°58          | 28°54           | 17°37          | 29°13          | 10° 8          | 24° 4          | 20°53          | 1° 8          | 2°47           | 3°58           | 2° 6           | 3°32          | S 22         |
|              |                      |                      |                         |                |                 |                |                |                |                |                | _             | •              |                | _              |               |              |
| S 23         | 0 6 0                | 29°36'39             | 22°47                   | 22°11          | 0 <b>호</b> 9    | 18°12          | 29°23          | 10°R 8         | 24° 8          | 20°52          | 1° 8          | 2°48           | 3°55           | 2°13           | 3°32          | S 23         |
| M24          | 0 9 56               | 0 <b>△</b> 35'26     | 6926                    | 22°17          | 1°23            | 18°46          | 29°32          | 10° 8          | 24°12          | 20°51          | 1° 7          | 2°R48          | 3°52           | 2°19           | 3°31          | M24          |
| T 25         | 0 13 53              | 1°34'15              | 19°47                   | 22°R18         | 2°38            | 19°21          | 29°42          | 10° 8          | 24°15          | 20°50<br>20°49 | 1° 7<br>1° 6  | 2°46           | 3°49           | 2°26           | 3°30          | T 25         |
| W26<br>T 27  | 0 17 49<br>0 21 46   | 2°33'07<br>3°32'01   | 2 <b>Ω</b> 50<br>15°37  | 22°11<br>21°57 | 3°53<br>5° 8    | 19°55<br>20°29 | 29°51<br>29°59 | 10° 8<br>10° 7 | 24°19<br>24°23 | 20°49<br>20°48 | 1° 6          | 2°44<br>2°40   | 3°45<br>3°42   | 2°32<br>2°39   | 3°29<br>3°28  | W26<br>T 27  |
| F 28         | 0 21 46              | 4°30'57              | 28°11                   | 21°36          | 6°23            | 20°29<br>21° 3 | 29-39          | 10° 7          | 24°23<br>24°27 | 20°48<br>20°47 | 1° 5          | 2°35           | 3°42<br>3°39   | 2°46           | 3°26          | F 28         |
| S 29         | 0 23 42 0 29 39      | 5°29'56              | 10 <b>m</b> )33         | 21° 7          | 7°38            | 21°37          | 0°18           | 10° 6          | 24°27<br>24°30 | 20°46          | 1° 5          | 2°30           | 3°36           | 2°52           | 3°25          | S 29         |
|              |                      |                      |                         |                |                 |                |                |                |                |                |               |                |                |                |               |              |
| S 30         | 0 33 36              | 6 <b>₽</b> 28'56     | 22 <b>M</b> 44          | 20 <b>≏</b> 31 | 8 <b>≏</b> 52   | 229510         | 0 <b>Ω</b> 27  | 10 <b>I</b> 5  | 24 Mp 34       | 20 <b>8</b> 45 | 1 <b>I</b> 4  | 2 <b>M</b> 26  | 3 <b>M</b> .33 | 2 <b>M</b> 59  | 3 <b>Ⅱ</b> 24 | S 30         |

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OCTOBER 1883 00:00 UT

| Day          | Sid.t              | $\odot$              | D                       | φ                       | Ϋ́              | ď              | 4             | ħ              | )ұ(            | <del>\</del>   | 5             | Ŋ             | Ω             | <b>¥</b>     | δ             | Day          |
|--------------|--------------------|----------------------|-------------------------|-------------------------|-----------------|----------------|---------------|----------------|----------------|----------------|---------------|---------------|---------------|--------------|---------------|--------------|
| M 1          | 0 37 32            | 7 <b>≏</b> 27'58     | 4 <b>º</b> 46           | 19°R47                  | 10 <b>♀</b> 7   | 229544         | 0 <b>Ω</b> 35 | 10°R 4         | 24M)38         | 20°R44         | 1°R 4         | 2°R22         | 3 <b>M</b> 30 | 3M 6         | 3°R22         | M 1          |
| T 2          | 0 41 29            | 8°27'03              | 16°41                   | 18 <b>≏</b> 56          | 11°22           | 23°17          | 0°44          | 10耳 3          | 24°41          | 20843          | 1 <b>II</b> 3 | 2 <b>M</b> 20 | 3°26          | 3°12         | 3 <b>Ⅱ</b> 21 | T 2          |
| W 3          | 0 45 25            | 9°26'10              | 28°30                   | 17°59                   | 12°37           | 23°50          | 0°52          | 10° 2          | 24°45          | 20°42          | 1° 2          | 2°D19         | 3°23          | 3°19         | 3°19          | W 3          |
| T 4          | 0 49 22            | 10°25'18             | 10 <b>M</b> .17         | 16°56                   | 13°52           | 24°23          | 1° 0          | 10° 1          | 24°49          | 20°41          | 1° 2          | 2°19          | 3°20          | 3°26         | 3°18          | T 4          |
| F 5          | 0 53 18            | 11°24'29             | 22° 3                   | 15°49                   | 15° 7           | 24°56          | 1° 8          | 10° 0          | 24°53          | 20°39          | 1° 1          | 2°21          | 3°17          | 3°32         | 3°16          | F 5          |
| S 6          | 0 57 15            | 12°23'41             | 3 <b>≯</b> 53           | 14°40                   | 16°22           | 25°29          | 1°16          | 9°58           | 24°56          | 20°38          | 1° 0          | 2°22          | 3°14          | 3°39         | 3°14          | S 6          |
| S 7          | 1 111              | 13°22'56             | 15°50                   | 13°29                   | 17°37           | 26° 1          | 1°24          | 9°57           | 25° 0          | 20°37          | 1° 0          | 2°24          | 3°11          | 3°46         | 3°13          | S 7          |
| M 8          | 1 5 8              | 14°22'12             | 27°57                   | 12°19                   | 18°52           | 26°33          | 1°32          | 9°55           | 25° 4          | 20°36          | 0°59          | 2°25          | 3° 7          | 3°52         | 3°11          | M 8          |
| T 9          | 1 9 4              | 15°21'30             | 10 <b>ට</b> 21          | 11°12                   | 20° 7           | 27° 5          | 1°40          | 9°53           | 25° 7          | 20°34          | 0°58          | 2°R26         | 3° 4          | 3°59         | 3° 9          | T 9          |
| W10          | 1 13 1             | 16°20'49             | 23° 5                   | 10°10                   | 21°22           | 27°37          | 1°47          | 9°52           | 25°11          | 20°33          | 0°57          | 2°26          | 3° 1          | 4° 5         | 3° 7<br>3° 5  | W10          |
| T 11<br>F 12 | 1 16 58<br>1 20 54 | 17°20'11<br>18°19'34 | 6 <b>≈</b> 13<br>19°48  | 9°15<br>8°27            | 22°37<br>23°52  | 28° 9<br>28°40 | 1°54<br>2° 2  | 9°50<br>9°48   | 25°14<br>25°18 | 20°32<br>20°30 | 0°57<br>0°56  | 2°25<br>2°23  | 2°58<br>2°55  | 4°12<br>4°19 | 3° 5<br>3° 3  | T 11<br>F 12 |
| S 13         | 1 20 34            | 18 19 34<br>19°18'59 | 3 <del>)(</del> 51      | 7°49                    | 25° 7           | 28 40<br>29°12 | 2° 9          | 9°45           | 25°21          | 20°29          | 0°55          | 2°22          | 2°51          | 4 19<br>4°25 | 3° 1          | S 13         |
|              |                    |                      |                         |                         |                 | -              |               |                | -              |                |               |               | -             | _            |               |              |
| S 14         | 1 28 47            | 20°18'25             | 18°20                   | 7°22                    | 26°22           | 29°43          | 2°16          | 9°43           | 25°25          | 20°27          | 0°54          | 2°20          | 2°48          | 4°32         | 2°59          | S 14         |
| M15          | 1 32 44            | 21°17'54             | <b>3</b> Υ11            | 7° 5                    | 27°37           | 0Ω14           | 2°22          | 9°41           | 25°29          | 20°26          | 0°53          | 2°19          | 2°45          | 4°39         | 2°57          | M15          |
| T 16         | 1 36 40            | 22°17'24             | 18°17                   | 6°D59                   | 28°52           | 0°44           | 2°29          | 9°38           | 25°32          | 20°25          | 0°53          | 2°18          | 2°42          | 4°45         | 2°54          | T 16         |
| W17          | 1 40 37            | 23°16'57             | 3 <b>8</b> 30           | 7° 5<br>7°21            | 0M 7            | 1°15           | 2°35          | 9°36           | 25°35          | 20°23<br>20°22 | 0°52          | 2°D18         | 2°39          | 4°52         | 2°52          | W17          |
| T 18<br>F 19 | 1 44 33<br>1 48 30 | 24°16'31<br>25°16'08 | 18°39<br>3 <b>∏</b> 35  | 7°21<br>7°47            | 1°21<br>2°36    | 1°45<br>2°15   | 2°42<br>2°48  | 9°33<br>9°31   | 25°39<br>25°42 | 20°22<br>20°20 | 0°51<br>0°50  | 2°18<br>2°19  | 2°36<br>2°32  | 4°59<br>5° 5 | 2°50<br>2°47  | T 18<br>F 19 |
| S 20         | 1 52 27            | 25 16 08<br>26°15'47 | 18°12                   | 8°23                    | 3°51            | 2°45           | 2°54          | 9°28           | 25°46          | 20°19          | 0°49          | 2°19          | 2°29          | 5°12         | 2°45          | S 20         |
|              |                    |                      |                         |                         |                 |                |               |                |                |                |               |               | _             |              |               |              |
| S 21         | 1 56 23            | 27°15'29             | 29526                   | 9° 8                    | 5° 7            | 3°14           | 3° 0          | 9°25           | 25°49          | 20°17          | 0°48          | 2°20          | 2°26          | 5°19         | 2°42          | S 21         |
| M22          | 2 0 20             | 28°15'12             | 16°13                   | 10° 0<br>11° 0          | 6°22            | 3°44           | 3° 5          | 9°22           | 25°53          | 20°16<br>20°14 | 0°47          | 2°20          | 2°23          | 5°25         | 2°40          | M22          |
| T 23<br>W24  | 2 4 16<br>2 8 13   | 29°14'58<br>0ML14'46 | 29°36<br>12 <b>Ω</b> 35 | 11° 0                   | 7°37<br>8°52    | 4°13<br>4°42   | 3°11<br>3°16  | 9°19<br>9°16   | 25°56<br>25°59 | 20°14<br>20°13 | 0°46<br>0°45  | 2°R20<br>2°20 | 2°20<br>2°17  | 5°32<br>5°38 | 2°37<br>2°34  | T 23<br>W24  |
| T 25         | 2 12 9             | 1°14'36              | 25°15                   | 13°17                   | 10° 7           | 5°10           | 3°21          | 9°12           | 25° 2          | 20°11          | 0°44          | 2°20          | 2°13          | 5°45         | 2°32          | T 25         |
| F 26         | 2 16 6             | 2°14'29              | 7 <b>m</b> 37           | 14°33                   | 11°22           | 5°39           | 3°26          | 9°12           | 26° 6          | 20° 11         | 0°44          | 2°D20         | 2°10          | 5°52         | 2°29          | F 26         |
| S 27         | 2 20 2             | 3°14'24              | 19°47                   | 15°54                   | 12°37           | 6° 7           | 3°31          | 9° 6           | 26° 9          | 20° 8          | 0°43          | 2°20          | 2° 7          | 5°58         | 2°26          | S 27         |
|              |                    |                      |                         |                         |                 |                |               |                |                |                |               |               | - ,           |              |               |              |
| S 28<br>M29  | 2 23 59<br>2 27 56 | 4°14'20<br>5°14'19   | 1 <b>≙</b> 47<br>13°40  | 17°17<br>18°44          | 13°52<br>15° 7  | 6°35<br>7°2    | 3°36<br>3°40  | 9° 2<br>8°58   | 26°12<br>26°15 | 20° 6<br>20° 5 | 0°42<br>0°41  | 2°20<br>2°21  | 2° 4<br>2° 1  | 6° 5<br>6°12 | 2°23<br>2°21  | S 28<br>M29  |
| T 30         | 2 31 52            | 6°14'19              | 25°29                   | 18°44<br>20°13          | 16°22           | 7° 2<br>7°30   | 3°40<br>3°45  | 8°58<br>8°55   | 26°15<br>26°18 | 20° 3          | 0°41<br>0°40  | 2°21          | 1°57          | 6°12<br>6°18 | 2°18          | T 30         |
| W31          | 2 35 49            | 7 <b>M</b> 14'23     | 7 <b>M</b> .16          | 20 13<br>21 <b>≏</b> 44 | 17 <b>11</b> 37 | 70.57          | 3049          | 8 <b>I</b> I51 | 26 m 21        | 208 1          | 0 <b>Ⅱ</b> 39 | 2°R21         | 1 <b>1</b> 57 | 6M25         | 2 <b>I</b> 15 | W31          |

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NOVEMBER 1883 00:00 UT

| Day  | Sid.t   | 0                 | D              | φ              | φ              | ð              | 4             | ħ             | )Å(            | 并              | В     | 'n            | u              | Ç              | ę,            | Day  |
|------|---------|-------------------|----------------|----------------|----------------|----------------|---------------|---------------|----------------|----------------|-------|---------------|----------------|----------------|---------------|------|
| T 1  | 2 39 45 | 8ML14'27          | 19 <b>M</b> 3  | 23 <b>≙</b> 16 | 18 <b>M</b> 52 | 8 <b>Ω</b> 24  | 3 <b>Ω</b> 53 | 8°R47         | 26Mp25         | 20°R 0         | 0°R37 | 2°R20         | 1 <b>M</b> .51 | 6M32           | 2°R12         | T 1  |
| F 2  | 2 43 42 | 9°14'34           | 0 <b>∡</b> 753 | 24°50          | 20° 7          | 8°50           | 3°57          | 8 <b>Ⅲ</b> 43 | 26°28          | 19 <b>8</b> 58 | 0Д36  | 2 <b>M</b> 20 | 1°48           | 6°38           | 2 <b>II</b> 9 | F 2  |
| S 3  | 2 47 38 | 10°14'42          | 12°48          | 26°25          | 21°22          | 9°16           | 4° 0          | 8°39          | 26°31          | 19°56          | 0°35  | 2°19          | 1°45           | 6°45           | 2° 6          | S 3  |
| S 4  | 2 51 35 | 11°14'52          | 24°51          | 28° 1          | 22°37          | 9°42           | 4° 4          | 8°35          | 26°34          | 19°55          | 0°34  | 2°18          | 1°42           | 6°52           | 2° 3          | S 4  |
| M 5  | 2 55 31 | 12°15'04          | 7 <b>궁</b> 3   | 29°37          | 23°52          | 10°8           | 4° 7          | 8°31          | 26°37          | 19°53          | 0°33  | 2°16          | 1°38           | 6°58           | 2° 0          | M 5  |
| T 6  | 2 59 28 | 13°15'17          | 19°29          | 1 <b>M</b> 13  | 25° 7          | 10°33          | 4°10          | 8°27          | 26°39          | 19°51          | 0°32  | 2°15          | 1°35           | 7° 5           | 1°56          | T 6  |
| W 7  | 3 3 25  | 14°15'32          | 2≈11           | 2°50           | 26°22          | 10°58          | 4°13          | 8°23          | 26°42          | 19°50          | 0°31  | 2°14          | 1°32           | 7°11           | 1°53          | W 7  |
| T 8  | 3 7 21  | 15°15'48          | 15°14          | 4°27           | 27°37          | 11°23          | 4°15          | 8°19          | 26°45          | 19°48          | 0°30  | 2°D14         | 1°29           | 7°18           | 1°50          | T 8  |
| F 9  | 3 11 18 | 16°16'05          | 28°38          | 6° 5           | 28°52          | 11°47          | 4°18          | 8°14          | 26°48          | 19°46          | 0°29  | 2°14          | 1°26           | 7°25           | 1°47          | F 9  |
| S 10 | 3 15 14 | 17°16'24          | 12 <b>)</b> 28 | 7°42           | 0 <b>≯</b> 8   | 12°11          | 4°20          | 8°10          | 26°51          | 19°45          | 0°28  | 2°15          | 1°22           | 7°31           | 1°44          | S 10 |
| S 11 | 3 19 11 | 18°16'45          | 26°43          | 9°19           | 1°23           | 12°34          | 4°22          | 8° 5          | 26°53          | 19°43          | 0°27  | 2°16          | 1°19           | 7°38           | 1°40          | S 11 |
| M12  | 3 23 7  | 19°17'07          | 11 <b>Y</b> 21 | 10°56          | 2°38           | 12°58          | 4°24          | 8° 1          | 26°56          | 19°41          | 0°26  | 2°17          | 1°16           | 7°45           | 1°37          | M12  |
| T 13 | 3 27 4  | 20°17'30          | 26°18          | 12°33          | 3°53           | 13°21          | 4°26          | 7°56          | 26°59          | 19°39          | 0°25  | 2°R18         | 1°13           | 7°51           | 1°34          | T 13 |
| W14  | 3 31 0  | 21°17'55          | 11827          | 14°10          | 5° 8           | 13°43          | 4°28          | 7°52          | 27° 1          | 19°38          | 0°23  | 2°18          | 1°10           | 7°58           | 1°30          | W14  |
| T 15 | 3 34 57 | 22°18'21          | 26°40          | 15°46          | 6°23           | 14° 5          | 4°29          | 7°47          | 27° 4          | 19°36          | 0°22  | 2°17          | 1° 7           | 8° 5           | 1°27          | T 15 |
| F 16 | 3 38 54 | 23°18'49          | 11 <b>Ⅱ</b> 46 | 17°23          | 7°38           | 14°27          | 4°30          | 7°43          | 27° 6          | 19°34          | 0°21  | 2°15          | 1° 3           | 8°11           | 1°24          | F 16 |
| S 17 | 3 42 50 | 24°19'19          | 26°36          | 18°59          | 8°53           | 14°49          | 4°31          | 7°38          | 27° 9          | 19°33          | 0°20  | 2°12          | 1° 0           | 8°18           | 1°20          | S 17 |
| S 18 | 3 46 47 | 25°19'50          | 1199 3         | 20°35          | 10° 8          | 15°10          | 4°32          | 7°33          | 27°11          | 19°31          | 0°19  | 2° 9          | 0°57           | 8°25           | 1°17          | S 18 |
| M19  | 3 50 43 | 26°20'24          | 25° 3          | 22°11          | 11°23          | 15°30          | 4°32          | 7°28          | 27°14          | 19°29          | 0°18  | 2° 5          | 0°54           | 8°31           | 1°14          | M19  |
| T 20 | 3 54 40 | 27°20'59          | 8 <b>Ω</b> 35  | 23°46          | 12°38          | 15°50          | 4°33          | 7°24          | 27°16          | 19°28          | 0°17  | 2° 3          | 0°51           | 8°38           | 1°10          | T 20 |
| W21  | 3 58 36 | 28°21'35          | 21°39          | 25°22          | 13°53          | 16°10          | 4°R33         | 7°19          | 27°18          | 19°26          | 0°16  | 2° 2          | 0°48           | 8°45           | 1° 7          | W21  |
| T 22 | 4 2 33  | 29°22'14          | 4 <b>M</b> p19 | 26°57          | 15° 8          | 16°29          | 4°33          | 7°14          | 27°21          | 19°24          | 0°14  | 2°D 2         | 0°44           | 8°51           | 1° 4          | T 22 |
| F 23 | 4 6 29  | 0 <b>∡</b> 122'54 | 16°39          | 28°32          | 16°23          | 16°48          | 4°33          | 7° 9          | 27°23          | 19°23          | 0°13  | 2° 3          | 0°41           | 8°58           | 1° 0          | F 23 |
| S 24 | 4 10 26 | 1°23'35           | 28°43          | 0 <b>≯</b> 7   | 17°38          | 17° 7          | 4°32          | 7° 4          | 27°25          | 19°21          | 0°12  | 2° 4          | 0°38           | 9° 4           | 0°57          | S 24 |
| S 25 | 4 14 23 | 2°24'18           | 10 <b>≏</b> 37 | 1°41           | 18°53          | 17°25          | 4°32          | 6°59          | 27°27          | 19°19          | 0°11  | 2° 6          | 0°35           | 9°11           | 0°53          | S 25 |
| M26  | 4 18 19 | 3°25'03           | 22°26          | 3°16           | 20° 8          | 17°42          | 4°31          | 6°54          | 27°29          | 19°18          | 0°10  | 2° 8          | 0°32           | 9°18           | 0°50          | M26  |
| T 27 | 4 22 16 | 4°25'49           | 4 <b>M</b> 12  | 4°50           | 21°23          | 17°59          | 4°30          | 6°49          | 27°31          | 19°16          | 0° 9  | 2°R 8         | 0°28           | 9°24           | 0°47          | T 27 |
| W28  | 4 26 12 | 5°26'37           | 15°59          | 6°25           | 22°38          | 18°16          | 4°29          | 6°45          | 27°33          | 19°15          | 0° 8  | 2° 7          | 0°25           | 9°31           | 0°43          | W28  |
| T 29 | 4 30 9  | 6°27'26           | 27°51          | 7°59           | 23°53          | 18°32          | 4°27          | 6°40          | 27°35          | 19°13          | 0° 7  | 2° 4          | 0°22           | 9°38           | 0°40          | T 29 |
| F 30 | 4 34 5  | 7 <b>.₹</b> 28'17 | 9 <b>才</b> 48  | 9 <b>,</b> ₹33 | 25 <b>₹</b> 8  | 18 <b>Ω</b> 47 | $4\Omega$ 26  | 6 <b>Ⅱ</b> 35 | 27 <b>m</b> 37 | 19 <b>8</b> 11 | 0耳 5  | 2 <b>™</b> 0  | 0 <b>M</b> .19 | 9 <b>M</b> .44 | 0Д36          | F 30 |

Delta T = -4.34 sec

DECEMBER 1883 00:00 UT

| Day  | Sid.t   | $\odot$           | D               | φ              | φ                           | ď              | 4            | ħ             | )∤(            | ¥              | P 2            | N              | Ω              | ţ              | δ              | Day  |
|------|---------|-------------------|-----------------|----------------|-----------------------------|----------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|
| S 1  | 4 38 2  | 8 <b>×</b> 129'08 | 21 <b>×</b> 754 | 11 <b>才</b> 7  | 26 <b>×</b> <sup>7</sup> 23 | 190 2          | 4°R24        | 6°R30         | 27 <b>m</b> 39 | 19°R10         | 0°R 4          | 1°R54          | 0 <b>M</b> .16 | 9 <b>M</b> 51  | 0°R33          | S 1  |
| S 2  | 4 41 58 | 9°30'01           | 4궁 9            | 12°41          | 27°39                       | 19°17          | $4\Omega$ 22 | 6 <b>Ⅱ</b> 25 | 27°41          | 19 <b>8</b> 8  | 0 <b>I</b> I 3 | 1 <b>M</b> .46 | 0°13           | 9°58           | 0Д30           | S 2  |
| M 3  | 4 45 55 | 10°30'55          | 16°34           | 14°15          | 28°54                       | 19°31          | 4°20         | 6°20          | 27°42          | 19° 7          | 0° 2           | 1°39           | 0° 9           | 10° 4          | 0°26           | M 3  |
| T 4  | 4 49 52 | 11°31'49          | 29°10           | 15°49          | 0중 9                        | 19°44          | 4°17         | 6°15          | 27°44          | 19° 5          | 0° 1           | 1°32           | 0° 6           | 10°11          | 0°23           | T 4  |
| W 5  | 4 53 48 | 12°32'45          | 12≈ 0           | 17°23          | 1°24                        | 19°57          | 4°15         | 6°10          | 27°46          | 19° 4          | 29 <b>8</b> 59 | 1°27           | 0° 3           | 10°18          | 0°20           | W 5  |
| T 6  | 4 57 45 | 13°33'41          | 25° 5           | 18°57          | 2°39                        | 20° 9          | 4°12         | 6° 5          | 27°47          | 19° 2          | 29°59          | 1°23           | 29 <b>ჲ</b> 59 | 10°24          | 0°16           | T 6  |
| F 7  | 5 1 41  | 14°34'37          | 8 <b>∺</b> 25   | 20°31          | 3°54                        | 20°20          | 4° 9         | 6° 0          | 27°49          | 19° 1          | 29°58          | 1°22           | 29°57          | 10°31          | 0°13           | F 7  |
| S 8  | 5 5 38  | 15°35'35          | 22° 4           | 22° 5          | 5° 9                        | 20°31          | 4° 6         | 5°56          | 27°50          | 18°59          | 29°57          | 1°D22          | 29°54          | 10°38          | 0°10           | S 8  |
| S 9  | 5 9 34  | 16°36'33          | 6 <b>℃</b> 3    | 23°39          | 6°24                        | 20°42          | 4° 2         | 5°51          | 27°51          | 18°58          | 29°56          | 1°23           | 29°50          | 10°44          | 0° 7           | S 9  |
| M10  | 5 13 31 | 17°37'32          | 20°21           | 25°13          | 7°39                        | 20°52          | 3°59         | 5°46          | 27°53          | 18°56          | 29°54          | 1°24           | 29°47          | 10°51          | 0° 3           | M10  |
| T 11 | 5 17 27 | 18°38'31          | 4 <b>8</b> 57   | 26°47          | 8°53                        | 21° 1          | 3°55         | 5°41          | 27°54          | 18°55          | 29°53          | 1°R24          | 29°44          | 10°57          | 0° 0           | T 11 |
| W12  | 5 21 24 | 19°39'31          | 19°47           | 28°21          | 10° 8                       | 21° 9          | 3°51         | 5°37          | 27°55          | 18°53          | 29°52          | 1°23           | 29°41          | 11° 4          | 29 <b>8</b> 57 | W12  |
| T 13 | 5 25 21 | 20°40'31          | 4∏44            | 29°56          | 11°23                       | 21°17          | 3°47         | 5°32          | 27°57          | 18°52          | 29°51          | 1°19           | 29°38          | 11°11          | 29°54          | T 13 |
| F 14 | 5 29 17 | 21°41'33          | 19°41           | 1 <b>궁</b> 30  | 12°38                       | 21°24          | 3°43         | 5°27          | 27°58          | 18°51          | 29°50          | 1°13           | 29°34          | 11°17          | 29°51          | F 14 |
| S 15 | 5 33 14 | 22°42'34          | 49529           | 3° 4           | 13°53                       | 21°31          | 3°38         | 5°23          | 27°59          | 18°49          | 29°49          | 1° 5           | 29°31          | 11°24          | 29°48          | S 15 |
| S 16 | 5 37 10 | 23°43'37          | 18°59           | 4°38           | 15° 8                       | 21°36          | 3°34         | 5°18          | 28° 0          | 18°48          | 29°48          | 0°56           | 29°28          | 11°31          | 29°45          | S 16 |
| M17  | 5 41 7  | 24°44'41          | 3 <b>N</b> 5    | 6°12           | 16°23                       | 21°41          | 3°29         | 5°14          | 28° 1          | 18°47          | 29°47          | 0°48           | 29°25          | 11°37          | 29°42          | M17  |
| T 18 | 5 45 3  | 25°45'45          | 16°44           | 7°46           | 17°38                       | 21°46          | 3°24         | 5° 9          | 28° 2          | 18°45          | 29°46          | 0°40           | 29°22          | 11°44          | 29°39          | T 18 |
| W19  | 5 49 0  | 26°46'50          | 29°54           | 9°20           | 18°53                       | 21°49          | 3°19         | 5° 5          | 28° 3          | 18°44          | 29°45          | 0°34           | 29°19          | 11°51          | 29°36          | W19  |
| T 20 | 5 52 56 | 27°47'55          | 12 <b>m</b> 39  | 10°54          | 20° 8                       | 21°52          | 3°14         | 5° 0          | 28° 3          | 18°43          | 29°44          | 0°31           | 29°15          | 11°57          | 29°33          | T 20 |
| F 21 | 5 56 53 | 28°49'02          | 25° 2           | 12°28          | 21°23                       | 21°54          | 3° 8         | 4°56          | 28° 4          | 18°42          | 29°43          | 0°D29          | 29°12          | 12° 4          | 29°30          | F 21 |
| S 22 | 6 0 50  | 29°50'09          | 7 <u>₽</u> 7    | 14° 1          | 22°37                       | 21°56          | 3° 3         | 4°52          | 28° 5          | 18°40          | 29°42          | 0°29           | 29° 9          | 12°11          | 29°27          | S 22 |
| S 23 | 6 4 46  | 0 <b>궁</b> 51'17  | 19° 1           | 15°34          | 23°52                       | 21°R56         | 2°57         | 4°48          | 28° 6          | 18°39          | 29°41          | 0°30           | 29° 6          | 12°17          | 29°25          | S 23 |
| M24  | 6 8 43  | 1°52'25           | 0 <b>M</b> .48  | 17° 6          | 25° 7                       | 21°56          | 2°51         | 4°44          | 28° 6          | 18°38          | 29°40          | 0°R31          | 29° 3          | 12°24          | 29°22          | M24  |
| T 25 | 6 12 39 | 2°53'35           | 12°35           | 18°38          | 26°22                       | 21°55          | 2°45         | 4°40          | 28° 7          | 18°37          | 29°39          | 0°30           | 29° 0          | 12°31          | 29°19          | T 25 |
| W26  | 6 16 36 | 3°54'44           | 24°24           | 20° 8          | 27°37                       | 21°54          | 2°39         | 4°36          | 28° 7          | 18°36          | 29°38          | 0°27           | 28°56          | 12°37          | 29°16          | W26  |
| T 27 | 6 20 32 | 4°55'54           | 6 <b>₹</b> 21   | 21°38          | 28°51                       | 21°51          | 2°32         | 4°32          | 28° 8          | 18°35          | 29°38          | 0°21           | 28°53          | 12°44          | 29°14          | T 27 |
| F 28 | 6 24 29 | 5°57'05           | 18°28           | 23° 6          | 0≈ 6                        | 21°48          | 2°26         | 4°28          | 28° 8          | 18°34          | 29°37          | 0°13           | 28°50          | 12°51          | 29°11          | F 28 |
| S 29 | 6 28 25 | 6°58'16           | 0 <b>궁</b> 46   | 24°33          | 1°21                        | 21°43          | 2°19         | 4°24          | 28° 8          | 18°33          | 29°36          | 0° 2           | 28°47          | 12°57          | 29° 9          | S 29 |
| S 30 | 6 32 22 | 7°59'27           | 13°17           | 25°58          | 2°36                        | 21°38          | 2°13         | 4°20          | 28° 9          | 18°32          | 29°35          | 29 <b>≏</b> 49 | 28°44          | 13° 4          | 29° 6          | S 30 |
| M31  | 6 36 19 | 9る 0'38           | 26 <b>ට</b> 1   | 27 <b>궁</b> 20 | 3≈51                        | 21 <b>Q</b> 33 | 2 <b>N</b> 6 | 4 <b>Ⅱ</b> 17 | 28Mp 9         | 18 <b>8</b> 31 | 29 <b>8</b> 34 | 29 <b>≙</b> 36 | 28 <b>≏</b> 40 | 13 <b>M</b> 10 | 29 <b>8</b> 4  | M31  |

Delta T = -4.35 sec