

GENERATED USING EPHEM



THE NAUTICAL ALMANAC FOR THE SUN

2020

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Disclaimer: These are computer generated tables - use them at your own risk. The accuracy has been checked as well as possible, but cannot be guaranteed. This means I cannot be held liable if you get lost on the oceans because of errors in this publication. Besides, this publication only contains sun tables: an official version of the Nautical Almanac is indispensable.

DIP corrects for height of eye over the surface. This value has to be subtracted from the sextant altitude (H_s). The correction in degrees for height of eye in meters is given by the following formula:

$$d = 0.0293\sqrt{m}$$

This is the first correction (apart from index error) that has to be applied to the measured altitude.

The next correction is for refraction in the earth's atmosphere. As usual this table is correct for 10°C and a pressure of 1010 hPa. This correction has to be applied to apparent altitude (H_a). The exact values can be calculated by the following formula.

$$R_0 = \cot \left(H_a + \frac{7.31}{H_a + 4.4} \right)$$

For other than standard conditions, calculate a correction factor for R_0 by:

$$f = \frac{0.28P}{T + 273}$$

where P is the pressure in hectopascal and T is the temperature in °C.

Semidiameter has to be added for lower limb sights and subtracted for upper limb sights. The value for semidiameter is tabulated in the daily pages.

To correct your sextant altitude H_s do the following: Calculate H_a by

$$H_a = H_s + I - d$$

where I is the sextant's index error and d is DIP. Then calculate the observed altitude H_o by

$$H_o = H_a - R + P \pm SD$$

where R is refraction, P is parallax and SD is the semidiameter.

Sight reduction tables can be downloaded for the US government's internet pages. Search for HO-229 or HO-249. These values can also be calculated with two, relatively simple, formulas:

$$\sin H_c = \sin L \sin d + \cos L \cos d \cos LHA$$

and

$$\cos A = \frac{\sin d - \sin L \sin H_c}{\cos L \cos H_c}$$

where A is the azimuth angle, L is the latitude, d is the declination and LHA is the local hour angle. The azimuth (Z_n) is given by the following rule:

- if the LHA is greater than 180°, $Z_n = A$
- if the LHA is less than 180°, $Z_n = 360^\circ - A$

01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec	13	GHA	Dec
0	179°13.7	S23°03.5	0	178°52.6	S22°47.7	0	178°32.5	S22°27.8	0	178°13.4	S22°03.8	0	177°55.6	S21°36.1
1	194°13.4	03.3	1	193°52.4	47.4	1	193°32.2	27.5	1	193°13.1	03.5	1	192°55.3	35.7
2	209°13.1	03.1	2	208°52.1	47.2	2	208°31.9	27.1	2	208°12.9	03.1	2	207°55.1	35.2
3	224°12.8	· · 03.0	3	223°51.8	· · 46.9	3	223°31.7	· · 26.8	3	223°12.6	· · 02.8	3	222°54.8	· · 34.8
4	239°12.5	02.8	4	238°51.5	46.7	4	238°31.4	26.5	4	238°12.4	02.4	4	237°54.6	34.4
5	254°12.2	02.6	5	253°51.2	46.4	5	253°31.1	26.2	5	253°12.1	02.0	5	252°54.4	34.0
6	269°11.9	S23°02.4	6	268°50.9	S22°46.2	6	268°30.8	S22°25.9	6	268°11.9	S22°01.7	6	267°54.1	S21°33.6
7	284°11.6	02.2	7	283°50.6	45.9	7	283°30.6	25.6	7	283°11.6	01.3	7	282°53.9	33.2
8	299°11.3	02.0	8	298°50.4	45.7	8	298°30.3	25.3	8	298°11.4	01.0	8	297°53.7	32.7
9	314°11.0	· · 01.8	9	313°50.1	· · 45.4	9	313°30.0	· · 25.0	9	313°11.1	· · 00.6	9	312°53.4	· · 32.3
10	329°10.7	01.6	10	328°49.8	45.2	10	328°29.8	24.7	10	328°10.8	22°00.2	10	327°53.2	31.9
11	344°10.4	01.4	11	343°49.5	44.9	11	343°29.5	24.4	11	343°10.6	21°59.9	11	342°53.0	31.5
12	359°10.2	S23°01.2	12	358°49.2	S22°44.6	12	358°29.2	S22°24.0	12	358°10.3	S21°59.5	12	357°52.7	S21°31.1
13	14°09.9	01.0	13	13°48.9	44.4	13	13°28.9	23.7	13	13°10.1	59.1	13	12°52.5	30.6
14	29°09.6	00.8	14	28°48.6	44.1	14	28°28.7	23.4	14	28°09.8	58.7	14	27°52.2	30.2
15	44°09.3	· · 00.6	15	43°48.4	· · 43.9	15	43°28.4	· · 23.1	15	43°09.6	· · 58.4	15	42°52.0	· · 29.8
16	59°09.0	00.4	16	58°48.1	43.6	16	58°28.1	22.8	16	58°09.3	58.0	16	57°51.8	29.4
17	74°08.7	00.2	17	73°47.8	43.3	17	73°27.9	22.5	17	73°09.1	57.6	17	72°51.5	29.0
18	89°08.4	S23°00.0	18	88°47.5	S22°43.1	18	88°27.6	S22°22.2	18	88°08.8	S21°57.3	18	87°51.3	S21°28.5
19	104°08.1	22°59.7	19	103°47.2	42.8	19	103°27.3	21.8	19	103°08.6	56.9	19	102°51.1	28.1
20	119°07.8	59.5	20	118°46.9	42.6	20	118°27.1	21.5	20	118°08.3	56.5	20	117°50.8	27.7
21	134°07.5	· · 59.3	21	133°46.7	· · 42.3	21	133°26.8	· · 21.2	21	133°08.1	· · 56.1	21	132°50.6	· · 27.2
22	149°07.2	59.1	22	148°46.4	42.0	22	148°26.5	20.9	22	148°07.8	55.8	22	147°50.4	26.8
23	164°06.9	58.9	23	163°46.1	41.8	23	163°26.3	20.5	23	163°07.6	55.4	23	162°50.1	26.4
SD.=16.3 d=0.2			SD.=16.3 d=0.2			SD.=16.3 d=0.3			SD.=16.3 d=0.4			SD.=16.3 d=0.4		

02	GHA	Dec	05	GHA	Dec	08	GHA	Dec	11	GHA	Dec	14	GHA	Dec
0	179°06.6	S22°58.7	0	178°45.8	S22°41.5	0	178°26.0	S22°20.2	0	178°07.3	S21°55.0	0	177°49.9	S21°26.0
1	194°06.3	58.5	1	193°45.5	41.2	1	193°25.7	19.9	1	193°07.1	54.6	1	192°49.7	25.5
2	209°06.0	58.3	2	208°45.2	41.0	2	208°25.5	19.6	2	208°06.8	54.3	2	207°49.4	25.1
3	224°05.7	· · 58.1	3	223°45.0	· · 40.7	3	223°25.2	· · 19.3	3	223°06.6	· · 53.9	3	222°49.2	· · 24.7
4	239°05.4	57.9	4	238°44.7	40.4	4	238°24.9	18.9	4	238°06.3	53.5	4	237°49.0	24.2
5	254°05.1	57.6	5	253°44.4	40.1	5	253°24.7	18.6	5	253°06.1	53.1	5	252°48.8	23.8
6	269°04.8	S22°57.4	6	268°44.1	S22°39.9	6	268°24.4	S22°18.3	6	268°05.8	S21°52.7	6	267°48.5	S21°23.4
7	284°04.5	57.2	7	283°43.8	39.6	7	283°24.1	17.9	7	283°05.6	52.4	7	282°48.3	22.9
8	299°04.3	57.0	8	298°43.6	39.3	8	298°23.9	17.6	8	298°05.3	52.0	8	297°48.1	22.5
9	314°04.0	· · 56.8	9	313°43.3	· · 39.1	9	313°23.6	· · 17.3	9	313°05.1	· · 51.6	9	312°47.8	· · 22.1
10	329°03.7	56.6	10	328°43.0	38.8	10	328°23.3	17.0	10	328°04.8	51.2	10	327°47.6	21.6
11	344°03.4	56.3	11	343°42.7	38.5	11	343°23.1	16.6	11	343°04.6	50.8	11	342°47.4	21.2
12	359°03.1	S22°56.1	12	358°42.4	S22°38.2	12	358°22.8	S22°16.3	12	358°04.3	S21°50.4	12	357°47.1	S21°20.8
13	14°02.8	55.9	13	13°42.2	37.9	13	13°22.5	16.0	13	13°04.1	50.0	13	12°46.9	20.3
14	29°02.5	55.7	14	28°41.9	37.7	14	28°22.3	15.6	14	28°03.8	49.7	14	27°46.7	19.9
15	44°02.2	· · 55.5	15	43°41.6	· · 37.4	15	43°22.0	· · 15.3	15	43°03.6	· · 49.3	15	42°46.5	· · 19.4
16	59°01.9	55.2	16	58°41.3	37.1	16	58°21.7	15.0	16	58°03.3	48.9	16	57°46.2	19.0
17	74°01.6	55.0	17	73°41.0	36.8	17	73°21.5	14.6	17	73°03.1	48.5	17	72°46.0	18.6
18	89°01.3	S22°54.8	18	88°40.8	S22°36.6	18	88°21.2	S22°14.3	18	88°02.8	S21°48.1	18	87°45.8	S21°18.1
19	104°01.0	54.6	19	103°40.5	36.3	19	103°20.9	14.0	19	103°02.6	47.7	19	102°45.5	17.7
20	119°00.7	54.3	20	118°40.2	36.0	20	118°20.7	13.6	20	118°02.3	47.3	20	117°45.3	17.2
21	134°00.5	· · 54.1	21	133°39.9	· · 35.7	21	133°20.4	· · 13.3	21	133°02.1	· · 46.9	21	132°45.1	· · 16.8
22	149°00.2	53.9	22	148°39.6	35.4	22	148°20.2	12.9	22	148°01.9	46.5	22	147°44.9	16.3
23	163°59.9	53.7	23	163°39.4	35.1	23	163°19.9	12.6	23	163°01.6	46.1	23	162°44.6	15.9
SD.=16.3 d=0.2			SD.=16.3 d=0.3			SD.=16.3 d=0.3			SD.=16.3 d=0.4			SD.=16.3 d=0.4		

03	GHA	Dec	06	GHA	Dec	09	GHA	Dec	12	GHA	Dec	15	GHA	Dec
0	178°59.6	S22°53.4	0	178°39.1	S22°34.8	0	178°19.6	S22°12.3	0	178°01.4	S21°45.7	0	177°44.4	S21°15.4
1	193°59.3	53.2	1	193°38.8	34.6	1	193°19.4	11.9	1	193°01.1	45.4	1	192°44.2	15.0
2	208°59.0	53.0	2	208°38.5	34.3	2	208°19.1	11.6	2	208°00.9	45.0	2	207°44.0	14.5
3	223°58.7	· · 52.7	3	223°38.3	· · 34.0	3	223°18.8	· · 11.2	3	223°00.6	· · 44.6	3	222°43.7	· · 14.1
4	238°58.4	52.5	4	238°38.0	33.7	4	238°18.6	10.9	4	238°00.4	44.2	4	237°43.5	13.7
5	253°58.1	52.3	5	253°37.7	33.4	5	253°18.3	10.5	5	253°00.1	43.8	5	252°43.3	13.2
6	268°57.8	S22°52.0	6	268°37.4	S22°33.1	6	268°18.1	S22°10.2	6	267°59.9	S21°43.4	6	267°43.1	S21°12.8
7	283°57.5	51.8	7	283°37.1	32.8	7	283°17.8	09.8	7	282°59.7	43.0	7	282°42.8	12.3
8	298°57.3	51.6	8	298°36.9	32.5	8	298°17.5	09.5	8	297°59.4	42.6	8	297°42.6	11.8
9	313°57.0	· · 51.3	9	313°36.6	· · 32.2	9	313°17.3	· · 09.2	9	312°59.2	· · 42.2	9	312°42.4	· · 11.4
10	328°56.7	51.1	10	328°36.3	31.9	10	328°17.0	08.8	10	327°58.9	41.8	10	327°42.2	10.9
11	343°56.4	50.8	11	343°36.0	31.7	11	343°16.8	08.5	11	342°58.7	41.4	11	342°41.9	10.5
12	358°56.1	S22°50.6	12	358°35.8	S22°31.4	12	358°16.5	S22°08.1	12	357°58.4	S21°41.0	12	357°41.7	S21°10.0
13	13°55.8	50.4	13	13°35.5	31.1	13	13°16.2	07.8	13	12°58.2	40.6	13	12°41.5	09.6
14	28°55.5	50.1	14	28°35.2	30.8	14	28°16.0	07.4	14	27°58.0	40.2	14	27°41.3	09.1
15	43°55.2	· · 49.9	15	43°34.9	· · 30.5	15	43°15.7	· · 07.1	15	42°57.7	· · 39.7	15	42°41.1	· · 08.7
16	58°54.9	49.6	16	58°34.7	30.2	16	58°15.5	06.7	16	57°57.5	39.3	16	57°40.8	08.2
17	73°54.7	49.4	17	73°34.4	29.9	17	73°15.2	06.3	17	72°57.2	38.9	17	72°40.6	07.7
18	88°54.4	S22°49.2	18	88°34.1	S22°29.6	18	88°14.9	S22°06.0	18	87°57.0	S21°38.5	18	87°40.4	S21°07.3
19	103°54.1	48.9	19	103°33.8	29.3	19	103°14.7	05.6	19	102°56.8	38.1	19	102°40.2	06.8
20	118°53.8	48.7	20	118°33.6	29.0	20	118°14.4	05.3	20	117°56.5	37.7	20	117°40.0	06.4
21	133°53.5	· · 48.4	21	133°33.3	· · 28.7	21	133°14.2	· · 04.9	21	132°56.3	· · 37.3	21	132°39.7	· · 05.9
22	148°53.2	48.2	22	148°33.0	28.4	22	148°13.9	04.6	22	147°56.0	36.9	22	147°39.5	05.4
23	163°52.9	47.9	23	163°32.8	28.1	23	163°13.7	04.2	23	162°55.8	36.5	23	162°39.3	05.0
SD.=16.3 d=0.2			SD.=16.3 d=0.3			SD.=16.3 d=0.3			SD.=16.3 d=0.4			SD.=16.3 d=0.4		

16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec	28	GHA	Dec
0	177°39.1	S21°04.5	0	177°24.1	S20°29.3	0	177°10.6	S19°50.7	0	176°58.9	S19°08.7	0	176°48.9	S18°23.5
1	192°38.9	04.1	1	192°23.9	28.8	1	192°10.5	50.1	1	191°58.7	08.0	1	191°48.8	22.8
2	207°38.6	03.6	2	207°23.7	28.3	2	207°10.3	49.5	2	206°58.6	07.4	2	206°48.7	22.2
3	222°38.4	· · 03.1	3	222°23.5	· · 27.8	3	222°10.1	· · 49.0	3	221°58.4	· · 06.8	3	221°48.5	· · 21.5
4	237°38.2	02.7	4	237°23.3	27.3	4	237°09.9	48.4	4	236°58.3	06.2	4	236°48.4	20.9
5	252°38.0	02.2	5	252°23.1	26.8	5	252°09.8	47.9	5	251°58.1	05.6	5	251°48.3	20.2
6	267°37.8	S21°01.7	6	267°22.9	S20°26.2	6	267°09.6	S19°47.3	6	266°58.0	S19°05.0	6	266°48.2	S18°19.6
7	282°37.6	01.3	7	282°22.7	25.7	7	282°09.4	46.7	7	281°57.8	04.4	7	281°48.0	18.9
8	297°37.3	00.8	8	297°22.5	25.2	8	297°09.2	46.2	8	296°57.7	03.8	8	296°47.9	18.3
9	312°37.1	21°00.3	9	312°22.3	· · 24.7	9	312°09.1	· · 45.6	9	311°57.5	· · 03.2	9	311°47.8	· · 17.6
10	327°36.9	20°59.8	10	327°22.1	24.2	10	327°08.9	45.0	10	326°57.4	02.6	10	326°47.7	17.0
11	342°36.7	59.4	11	342°21.9	23.7	11	342°08.7	44.5	11	341°57.2	02.0	11	341°47.5	16.3
12	357°36.5	S20°58.9	12	357°21.7	S20°23.1	12	357°08.5	S19°43.9	12	356°57.1	S19°01.3	12	356°47.4	S18°15.7
13	12°36.3	58.4	13	12°21.5	22.6	13	12°08.4	43.3	13	11°56.9	00.7	13	11°47.3	15.0
14	27°36.0	58.0	14	27°21.3	22.1	14	27°08.2	42.8	14	26°56.8	19°00.1	14	26°47.2	14.3
15	42°35.8	· · 57.5	15	42°21.1	· · 21.6	15	42°08.0	· · 42.2	15	41°56.7	18°59.5	15	41°47.1	· · 13.7
16	57°35.6	57.0	16	57°20.9	21.0	16	57°07.9	41.6	16	56°56.5	58.9	16	56°46.9	13.0
17	72°35.4	56.5	17	72°20.7	20.5	17	72°07.7	41.0	17	71°56.4	58.3	17	71°46.8	12.4
18	87°35.2	S20°56.1	18	87°20.6	S20°20.0	18	87°07.5	S19°40.5	18	86°56.2	S18°57.7	18	86°46.7	S18°11.7
19	102°35.0	55.6	19	102°20.4	19.5	19	102°07.4	39.9	19	101°56.1	57.0	19	101°46.6	11.1
20	117°34.8	55.1	20	117°20.2	18.9	20	117°07.2	39.3	20	116°55.9	56.4	20	116°46.5	10.4
21	132°34.5	· · 54.6	21	132°20.0	· · 18.4	21	132°07.0	· · 38.7	21	131°55.8	· · 55.8	21	131°46.3	· · 09.7
22	147°34.3	54.1	22	147°19.8	17.9	22	147°06.9	38.2	22	146°55.6	55.2	22	146°46.2	09.1
23	162°34.1	53.7	23	162°19.6	17.4	23	162°06.7	37.6	23	161°55.5	54.6	23	161°46.1	08.4
SD.=16.3 d=0.5			SD.=16.3 d=0.5			SD.=16.3 d=0.6			SD.=16.2 d=0.6			SD.=16.2 d=0.6		

17	GHA	Dec	20	GHA	Dec	23	GHA	Dec	26	GHA	Dec	29	GHA	Dec
0	177°33.9	S20°53.2	0	177°19.4	S20°16.8	0	177°06.5	S19°37.0	0	176°55.4	S18°53.9	0	176°46.0	S18°07.8
1	192°33.7	52.7	1	192°19.2	16.3	1	192°06.4	36.4	1	191°55.2	53.3	1	191°45.9	07.1
2	207°33.5	52.2	2	207°19.0	15.8	2	207°06.2	35.9	2	206°55.1	52.7	2	206°45.8	06.4
3	222°33.3	· · 51.7	3	222°18.8	· · 15.2	3	222°06.0	· · 35.3	3	221°54.9	· · 52.1	3	221°45.6	· · 05.8
4	237°33.1	51.3	4	237°18.6	14.7	4	237°05.9	34.7	4	236°54.8	51.5	4	236°45.5	05.1
5	252°32.8	50.8	5	252°18.5	14.2	5	252°05.7	34.1	5	251°54.6	50.8	5	251°45.4	04.4
6	267°32.6	S20°50.3	6	267°18.3	S20°13.6	6	267°05.5	S19°33.6	6	266°54.5	S18°50.2	6	266°45.3	S18°03.8
7	282°32.4	49.8	7	282°18.1	13.1	7	282°05.4	33.0	7	281°54.4	49.6	7	281°45.2	03.1
8	297°32.2	49.3	8	297°17.9	12.6	8	297°05.2	32.4	8	296°54.2	49.0	8	296°45.1	02.4
9	312°32.0	· · 48.8	9	312°17.7	· · 12.0	9	312°05.0	· · 31.8	9	311°54.1	· · 48.3	9	311°45.0	· · 01.8
10	327°31.8	48.3	10	327°17.5	11.5	10	327°04.9	31.2	10	326°53.9	47.7	10	326°44.8	01.1
11	342°31.6	47.9	11	342°17.3	11.0	11	342°04.7	30.6	11	341°53.8	47.1	11	341°44.7	18°00.4
12	357°31.4	S20°47.4	12	357°17.1	S20°10.4	12	357°04.5	S19°30.1	12	356°53.7	S18°46.5	12	356°44.6	S17°59.8
13	12°31.2	46.9	13	12°17.0	09.9	13	12°04.4	29.5	13	11°53.5	45.8	13	11°44.5	59.1
14	27°31.0	46.4	14	27°16.8	09.4	14	27°04.2	28.9	14	26°53.4	45.2	14	26°44.4	58.4
15	42°30.8	· · 45.9	15	42°16.6	· · 08.8	15	42°04.0	· · 28.3	15	41°53.3	· · 44.6	15	41°44.3	· · 57.8
16	57°30.5	45.4	16	57°16.4	08.3	16	57°03.9	27.7	16	56°53.1	43.9	16	56°44.2	57.1
17	72°30.3	44.9	17	72°16.2	07.7	17	72°03.7	27.1	17	71°53.0	43.3	17	71°44.1	56.4
18	87°30.1	S20°44.4	18	87°16.0	S20°07.2	18	87°03.6	S19°26.6	18	86°52.8	S18°42.7	18	86°43.9	S17°55.7
19	102°29.9	43.9	19	102°15.8	06.7	19	102°03.4	26.0	19	101°52.7	42.0	19	101°43.8	55.1
20	117°29.7	43.4	20	117°15.7	06.1	20	117°03.2	25.4	20	116°52.6	41.4	20	116°43.7	54.4
21	132°29.5	· · 42.9	21	132°15.5	· · 05.6	21	132°03.1	· · 24.8	21	131°52.4	· · 40.8	21	131°43.6	· · 53.7
22	147°29.3	42.5	22	147°15.3	05.0	22	147°02.9	24.2	22	146°52.3	40.1	22	146°43.5	53.0
23	162°29.1	42.0	23	162°15.1	04.5	23	162°02.8	23.6	23	161°52.2	39.5	23	161°43.4	52.4
SD.=16.3 d=0.5			SD.=16.3 d=0.5			SD.=16.3 d=0.6			SD.=16.2 d=0.6			SD.=16.2 d=0.7		

18	GHA	Dec	21	GHA	Dec	24	GHA	Dec	27	GHA	Dec	30	GHA	Dec
0	177°28.9	S20°41.5	0	177°14.9	S20°03.9	0	177°02.6	S19°23.0	0	176°52.0	S18°38.9	0	176°43.3	S17°51.7
1	192°28.7	41.0	1	192°14.7	03.4	1	192°02.4	22.4	1	191°51.9	38.2	1	191°43.2	51.0
2	207°28.5	40.5	2	207°14.6	02.8	2	207°02.3	21.8	2	206°51.8	37.6	2	206°43.1	50.3
3	222°28.3	· · 40.0	3	222°14.4	· · 02.3	3	222°02.1	· · 21.2	3	221°51.6	· · 37.0	3	221°43.0	· · 49.7
4	237°28.1	39.5	4	237°14.2	01.7	4	237°02.0	20.6	4	236°51.5	36.3	4	236°42.8	49.0
5	252°27.9	39.0	5	252°14.0	01.2	5	252°01.8	20.1	5	251°51.4	35.7	5	251°42.7	48.3
6	267°27.7	S20°38.5	6	267°13.8	S20°00.7	6	267°01.7	S19°19.5	6	266°51.2	S18°35.1	6	266°42.6	S17°47.6
7	282°27.5	38.0	7	282°13.7	20°00.1	7	282°01.5	18.9	7	281°51.1	34.4	7	281°42.5	46.9
8	297°27.3	37.5	8	297°13.5	19°59.6	8	297°01.3	18.3	8	296°51.0	33.8	8	296°42.4	46.3
9	312°27.1	· · 37.0	9	312°13.3	· · 59.0	9	312°01.2	· · 17.7	9	311°50.8	· · 33.1	9	311°42.3	· · 45.6
10	327°26.9	36.5	10	327°13.1	58.4	10	327°01.0	17.1	10	326°50.7	32.5	10	326°42.2	44.9
11	342°26.7	36.0	11	342°12.9	57.9	11	342°00.9	16.5	11	341°50.6	31.9	11	341°42.1	44.2
12	357°26.5	S20°35.4	12	357°12.8	S19°57.3	12	357°00.7	S19°15.9	12	356°50.4	S18°31.2	12	356°42.0	S17°43.5
13	12°26.3	34.9	13	12°12.6	56.8	13	12°00.6	15.3	13	11°50.3	30.6	13	11°41.9	42.9
14	27°26.1	34.4	14	27°12.4	56.2	14	27°00.4	14.7	14	26°50.2	29.9	14	26°41.8	42.2
15	42°25.9	· · 33.9	15	42°12.2	· · 55.7	15	42°00.3	· · 14.1	15	41°50.1	· · 29.3	15	41°41.7	· · 41.5
16	57°25.7	33.4	16	57°12.0	55.1	16	57°00.1	13.5	16	56°49.9	28.7	16	56°41.6	40.8
17	72°25.5	32.9	17	72°11.9	54.6	17	71°59.9	12.9	17	71°49.8	28.0	17	71°41.5	40.1
18	87°25.3	S20°32.4	18	87°11.7	S19°54.0	18	86°59.8	S19°12.3	18	86°49.7	S18°27.4	18	86°41.4	S17°39.4
19	102°25.1	31.9	19	102°11.5	53.5	19	101°59.6	11.7	19	101°49.5	26.7	19	101°41.3	38.8
20	117°24.9	31.4	20	117°11.3	52.9	20	116°59.5	11.1	20	116°49.4	26.1	20	116°41.2	38.1
21	132°24.7	· · 30.9	21	132°11.2	· · 52.3	21	131°59.3	· · 10.5	21	131°49.3	· · 25.4	21	131°41.1	· · 37.4
22	147°24.5	30.4	22	147°11.0	51.8	22	146°59.2	09.9	22	146°49.2	24.8	22	146°41.0	36.7
23	162°24.3	29.8	23	162°10.8	51.2	23	161°59.0	09.3	23	161°49.0	24.1	23	161°40.9	36.0
SD.=16.3 d=0.5			SD.=16.3 d=0.5			SD.=16.2 d=0.6			SD.=16.2 d=0.6			SD.=16.2 d=0.7		

31	GHA	Dec	03	GHA	Dec	06	GHA	Dec	09	GHA	Dec	12	GHA	Dec
0	176°40.8	S17°35.3	0	176°34.5	S16°44.3	0	176°30.1	S15°50.7	0	176°27.6	S14°54.7	0	176°26.8	S13°56.4
1	191°40.7	34.6	1	191°34.4	43.6	1	191°30.1	50.0	1	191°27.6	53.9	1	191°26.8	55.6
2	206°40.6	33.9	2	206°34.4	42.9	2	206°30.0	49.2	2	206°27.6	53.1	2	206°26.8	54.8
3	221°40.5	· · 33.2	3	221°34.3	· · 42.2	3	221°30.0	· · 48.4	3	221°27.5	· · 52.3	3	221°26.8	· · 53.9
4	236°40.4	32.6	4	236°34.2	41.4	4	236°30.0	47.7	4	236°27.5	51.5	4	236°26.8	53.1
5	251°40.3	31.9	5	251°34.2	40.7	5	251°29.9	46.9	5	251°27.5	50.7	5	251°26.8	52.3
6	266°40.2	S17°31.2	6	266°34.1	S16°40.0	6	266°29.9	S15°46.2	6	266°27.5	S14°49.9	6	266°26.8	S13°51.5
7	281°40.1	30.5	7	281°34.0	39.2	7	281°29.8	45.4	7	281°27.4	49.1	7	281°26.9	50.6
8	296°40.0	29.8	8	296°33.9	38.5	8	296°29.8	44.6	8	296°27.4	48.3	8	296°26.9	49.8
9	311°39.9	· · 29.1	9	311°33.9	· · 37.8	9	311°29.7	· · 43.9	9	311°27.4	· · 47.5	9	311°26.9	· · 49.0
10	326°39.8	28.4	10	326°33.8	37.0	10	326°29.7	43.1	10	326°27.4	46.7	10	326°26.9	48.1
11	341°39.7	27.7	11	341°33.7	36.3	11	341°29.6	42.3	11	341°27.4	45.9	11	341°26.9	47.3
12	356°39.6	S17°27.0	12	356°33.7	S16°35.6	12	356°29.6	S15°41.6	12	356°27.4	S14°45.1	12	356°26.9	S13°46.5
13	11°39.5	26.3	13	11°33.6	34.8	13	11°29.5	40.8	13	11°27.3	44.3	13	11°26.9	45.7
14	26°39.4	25.6	14	26°33.5	34.1	14	26°29.5	40.0	14	26°27.3	43.5	14	26°26.9	44.8
15	41°39.3	· · 24.9	15	41°33.5	· · 33.4	15	41°29.5	· · 39.3	15	41°27.3	· · 42.7	15	41°26.9	· · 44.0
16	56°39.2	24.2	16	56°33.4	32.6	16	56°29.4	38.5	16	56°27.3	41.9	16	56°26.9	43.2
17	71°39.1	23.5	17	71°33.3	31.9	17	71°29.4	37.7	17	71°27.3	41.1	17	71°26.9	42.3
18	86°39.0	S17°22.8	18	86°33.3	S16°31.2	18	86°29.3	S15°36.9	18	86°27.2	S14°40.3	18	86°26.9	S13°41.5
19	101°38.9	22.1	19	101°33.2	30.4	19	101°29.3	36.2	19	101°27.2	39.5	19	101°26.9	40.7
20	116°38.9	21.4	20	116°33.1	29.7	20	116°29.3	35.4	20	116°27.2	38.7	20	116°26.9	39.8
21	131°38.8	· · 20.7	21	131°33.1	· · 29.0	21	131°29.2	· · 34.6	21	131°27.2	· · 37.9	21	131°26.9	· · 39.0
22	146°38.7	20.0	22	146°33.0	28.2	22	146°29.2	33.9	22	146°27.2	37.1	22	146°26.9	38.2
23	161°38.6	19.3	23	161°32.9	27.5	23	161°29.1	33.1	23	161°27.2	36.3	23	161°26.9	37.3
SD.=16.2 d=0.7			SD.=16.2 d=0.7			SD.=16.2 d=0.8			SD.=16.2 d=0.8			SD.=16.2 d=0.8		

01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec	13	GHA	Dec
0	176°38.5	S17°18.6	0	176°32.9	S16°26.8	0	176°29.1	S15°32.3	0	176°27.2	S14°35.5	0	176°27.0	S13°36.5
1	191°38.4	17.9	1	191°32.8	26.0	1	191°29.1	31.5	1	191°27.1	34.7	1	191°27.0	35.7
2	206°38.3	17.2	2	206°32.7	25.3	2	206°29.0	30.8	2	206°27.1	33.9	2	206°27.0	34.8
3	221°38.2	· · 16.5	3	221°32.7	· · 24.5	3	221°29.0	· · 30.0	3	221°27.1	· · 33.1	3	221°27.0	· · 34.0
4	236°38.1	15.8	4	236°32.6	23.8	4	236°28.9	29.2	4	236°27.1	32.3	4	236°27.0	33.2
5	251°38.0	15.1	5	251°32.5	23.1	5	251°28.9	28.4	5	251°27.1	31.5	5	251°27.0	32.3
6	266°37.9	S17°14.4	6	266°32.5	S16°22.3	6	266°28.9	S15°27.7	6	266°27.1	S14°30.7	6	266°27.0	S13°31.5
7	281°37.9	13.7	7	281°32.4	21.6	7	281°28.8	26.9	7	281°27.1	29.9	7	281°27.0	30.7
8	296°37.8	13.0	8	296°32.3	20.8	8	296°28.8	26.1	8	296°27.0	29.1	8	296°27.0	29.8
9	311°37.7	· · 12.3	9	311°32.3	· · 20.1	9	311°28.8	· · 25.3	9	311°27.0	· · 28.3	9	311°27.1	· · 29.0
10	326°37.6	11.6	10	326°32.2	19.3	10	326°28.7	24.6	10	326°27.0	27.4	10	326°27.1	28.1
11	341°37.5	10.9	11	341°32.2	18.6	11	341°28.7	23.8	11	341°27.0	26.6	11	341°27.1	27.3
12	356°37.4	S17°10.2	12	356°32.1	S16°17.9	12	356°28.6	S15°23.0	12	356°27.0	S14°25.8	12	356°27.1	S13°26.5
13	11°37.3	09.5	13	11°32.0	17.1	13	11°28.6	22.2	13	11°27.0	25.0	13	11°27.1	25.6
14	26°37.2	08.8	14	26°32.0	16.4	14	26°28.6	21.5	14	26°27.0	24.2	14	26°27.1	24.8
15	41°37.2	· · 08.0	15	41°31.9	· · 15.6	15	41°28.5	· · 20.7	15	41°27.0	· · 23.4	15	41°27.1	· · 24.0
16	56°37.1	07.3	16	56°31.9	14.9	16	56°28.5	19.9	16	56°27.0	22.6	16	56°27.1	23.1
17	71°37.0	06.6	17	71°31.8	14.1	17	71°28.5	19.1	17	71°27.0	21.8	17	71°27.2	22.3
18	86°36.9	S17°05.9	18	86°31.7	S16°13.4	18	86°28.4	S15°18.3	18	86°26.9	S14°21.0	18	86°27.2	S13°21.4
19	101°36.8	05.2	19	101°31.7	12.6	19	101°28.4	17.6	19	101°26.9	20.1	19	101°27.2	20.6
20	116°36.7	04.5	20	116°31.6	11.9	20	116°28.4	16.8	20	116°26.9	19.3	20	116°27.2	19.7
21	131°36.6	· · 03.8	21	131°31.6	· · 11.1	21	131°28.3	· · 16.0	21	131°26.9	· · 18.5	21	131°27.2	· · 18.9
22	146°36.6	03.1	22	146°31.5	10.4	22	146°28.3	15.2	22	146°26.9	17.7	22	146°27.2	18.1
23	161°36.5	02.3	23	161°31.5	09.6	23	161°28.3	14.4	23	161°26.9	16.9	23	161°27.2	17.2
SD.=16.2 d=0.7			SD.=16.2 d=0.7			SD.=16.2 d=0.8			SD.=16.2 d=0.8			SD.=16.2 d=0.8		

02	GHA	Dec	05	GHA	Dec	08	GHA	Dec	11	GHA	Dec	14	GHA	Dec
0	176°36.4	S17°01.6	0	176°31.4	S16°08.9	0	176°28.2	S15°13.6	0	176°26.9	S14°16.1	0	176°27.3	S13°16.4
1	191°36.3	00.9	1	191°31.3	08.1	1	191°28.2	12.9	1	191°26.9	15.3	1	191°27.3	15.5
2	206°36.2	17°00.2	2	206°31.3	07.4	2	206°28.2	12.1	2	206°26.9	14.4	2	206°27.0	14.7
3	221°36.2	16°59.5	3	221°31.2	· · 06.6	3	221°28.2	· · 11.3	3	221°26.9	· · 13.6	3	221°27.3	· · 13.8
4	236°36.1	58.8	4	236°31.2	05.9	4	236°28.1	10.5	4	236°26.9	12.8	4	236°27.3	13.0
5	251°36.0	58.1	5	251°31.1	05.1	5	251°28.1	09.7	5	251°26.9	12.0	5	251°27.4	12.2
6	266°35.9	S16°57.3	6	266°31.1	S16°04.4	6	266°28.1	S15°08.9	6	266°26.9	S14°11.2	6	266°27.4	S13°11.3
7	281°35.8	56.6	7	281°31.0	03.6	7	281°28.0	08.1	7	281°26.9	10.4	7	281°27.4	10.5
8	296°35.8	55.9	8	296°31.0	02.9	8	296°28.0	07.4	8	296°26.9	09.5	8	296°27.4	09.6
9	311°35.7	· · 55.2	9	311°30.9	· · 02.1	9	311°28.0	· · 06.6	9	311°26.9	· · 08.7	9	311°27.4	· · 08.8
10	326°35.6	54.5	10	326°30.8	01.4	10	326°28.0	05.8	10	326°26.8	07.9	10	326°27.4	07.9
11	341°35.5	53.7	11	341°30.8	16°00.6	11	341°27.9	05.0	11	341°26.8	07.1	11	341°27.5	07.1
12	356°35.4	S16°53.0	12	356°30.7	S15°59.8	12	356°27.9	S15°04.2	12	356°26.8	S14°06.3	12	356°27.5	S13°06.2
13	11°35.4	52.3	13	11°30.7	59.1	13	11°27.9	03.4	13	11°26.8	05.5	13	11°27.5	05.4
14	26°35.3	51.6	14	26°30.6	58.3	14	26°27.8	02.6	14	26°26.8	04.6	14	26°27.5	04.5
15	41°35.2	· · 50.9	15	41°30.6	· · 57.6	15	41°27.8	· · 01.8	15	41°26.8	· · 03.8	15	41°27.6	· · 03.7
16	56°35.1	50.1	16	56°30.5	56.8	16	56°27.8	01.0	16	56°26.8	03.0	16	56°27.6	02.8
17	71°35.0	49.4	17	71°30.5	56.1	17	71°27.8	15°00.2	17	71°26.8	02.2	17	71°27.6	02.0
18	86°35.0	S16°48.7	18	86°30.4	S15°55.3	18	86°27.7	S14°59.5	18	86°26.8	S14°01.3	18	86°27.6	S13°01.1
19	101°34.9	48.0	19	101°30.4	54.5	19	101°27.7	58.7	19	101°26.8	14°00.5	19	101°27.6	13°00.3
20	116°34.8	47.2	20	116°30.3	53.8	20	116°27.7	57.9	20	116°26.8	13°59.7	20	116°27.7	12°59.4
21	131°34.7	· · 46.5	21	131°30.3	· · 53.0	21	131°27.7	· · 57.1	21	131°26.8	· · 58.9	21	131°27.7	· · 58.6
22	146°34.7	45.8	22	146°30.2	52.3	22	146°27.6	56.3	22	146°26.8	58.1	22	146°27.7	57.7
23	161°34.6	45.1	23	161°30.2	51.5	23	161°27.6	55.5	23	161°26.8	57.2	23	161°27.7	56.9
SD.=16.2 d=0.7			SD.=16.2 d=0.8			SD.=16.2 d=0.8			SD.=16.2 d=0.8			SD.=16.2 d=0.8		

15	GHA	Dec	18	GHA	Dec	21	GHA	Dec	24	GHA	Dec	27	GHA	Dec
0	176°27.8	S12°56.0	0	176°30.3	S11°53.8	0	176°34.3	S10°49.8	0	176°39.8	S09°44.3	0	176°46.7	S08°37.4
1	191°27.8	55.2	1	191°30.3	52.9	1	191°34.4	48.9	1	191°39.9	43.4	1	191°46.8	36.5
2	206°27.8	54.3	2	206°30.4	52.0	2	206°34.5	48.0	2	206°40.0	42.4	2	206°46.9	35.6
3	221°27.8	· · 53.5	3	221°30.4	· · 51.1	3	221°34.5	· · 47.1	3	221°40.1	· · 41.5	3	221°47.0	· · 34.6
4	236°27.9	52.6	4	236°30.5	50.3	4	236°34.6	46.2	4	236°40.2	40.6	4	236°47.1	33.7
5	251°27.9	51.8	5	251°30.5	49.4	5	251°34.7	45.3	5	251°40.3	39.7	5	251°47.2	32.8
6	266°27.9	S12°50.9	6	266°30.6	S11°48.5	6	266°34.7	S10°44.4	6	266°40.4	S09°38.8	6	266°47.3	S08°31.8
7	281°27.9	50.1	7	281°30.6	47.6	7	281°34.8	43.5	7	281°40.4	37.8	7	281°47.4	30.9
8	296°28.0	49.2	8	296°30.7	46.7	8	296°34.9	42.6	8	296°40.5	36.9	8	296°47.5	29.9
9	311°28.0	· · 48.4	9	311°30.7	· · 45.9	9	311°34.9	· · 41.7	9	311°40.6	· · 36.0	9	311°47.7	· · 29.0
10	326°28.0	47.5	10	326°30.8	45.0	10	326°35.0	40.8	10	326°40.7	35.1	10	326°47.8	28.1
11	341°28.0	46.6	11	341°30.8	44.1	11	341°35.1	39.9	11	341°40.8	34.1	11	341°47.9	27.1
12	356°28.1	S12°45.8	12	356°30.8	S11°43.2	12	356°35.1	S10°39.0	12	356°40.9	S09°33.2	12	356°48.0	S08°26.2
13	11°28.1	44.9	13	11°30.9	42.3	13	11°35.2	38.1	13	11°41.0	32.3	13	11°48.1	25.2
14	26°28.1	44.1	14	26°30.9	41.5	14	26°35.3	37.2	14	26°41.1	31.4	14	26°48.2	24.3
15	41°28.2	· · 43.2	15	41°31.0	· · 40.6	15	41°35.4	· · 36.3	15	41°41.2	· · 30.5	15	41°48.3	· · 23.4
16	56°28.2	42.4	16	56°31.0	39.7	16	56°35.4	35.4	16	56°41.2	29.5	16	56°48.4	22.4
17	71°28.2	41.5	17	71°31.1	38.8	17	71°35.5	34.4	17	71°41.3	28.6	17	71°48.5	21.5
18	86°28.2	S12°40.6	18	86°31.2	S11°37.9	18	86°35.6	S10°33.5	18	86°41.4	S09°27.7	18	86°48.6	S08°20.5
19	101°28.3	39.8	19	101°31.2	37.0	19	101°35.6	32.6	19	101°41.5	26.8	19	101°48.7	19.6
20	116°28.3	38.9	20	116°31.3	36.2	20	116°35.7	31.7	20	116°41.6	25.8	20	116°48.8	18.7
21	131°28.3	· · 38.1	21	131°31.3	· · 35.3	21	131°35.8	· · 30.8	21	131°41.7	· · 24.9	21	131°48.9	· · 17.7
22	146°28.4	37.2	22	146°31.4	34.4	22	146°35.9	29.9	22	146°41.8	24.0	22	146°49.1	16.8
23	161°28.4	36.3	23	161°31.4	33.5	23	161°35.9	29.0	23	161°41.9	23.1	23	161°49.2	15.8
SD.=16.2 d=0.9			SD.=16.2 d=0.9			SD.=16.2 d=0.9			SD.=16.2 d=0.9			SD.=16.2 d=0.9		

16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec	28	GHA	Dec
0	176°28.4	S12°35.5	0	176°31.5	S11°32.6	0	176°36.0	S10°28.1	0	176°42.0	S09°22.1	0	176°49.3	S08°14.9
1	191°28.5	34.6	1	191°31.5	31.7	1	191°36.1	27.2	1	191°42.1	21.2	1	191°49.4	14.0
2	206°28.5	33.8	2	206°31.6	30.8	2	206°36.2	26.3	2	206°42.2	20.3	2	206°49.5	13.0
3	221°28.5	· · 32.9	3	221°31.6	· · 30.0	3	221°36.2	· · 25.4	3	221°42.2	· · 19.4	3	221°49.6	· · 12.1
4	236°28.6	32.0	4	236°31.7	29.1	4	236°36.3	24.5	4	236°42.3	18.4	4	236°49.7	11.1
5	251°28.6	31.2	5	251°31.7	28.2	5	251°36.4	23.6	5	251°42.4	17.5	5	251°49.8	10.2
6	266°28.6	S12°30.3	6	266°31.8	S11°27.3	6	266°36.4	S10°22.7	6	266°42.5	S09°16.6	6	266°49.9	S08°09.2
7	281°28.6	29.4	7	281°31.8	26.4	7	281°36.5	21.8	7	281°42.6	15.7	7	281°50.1	08.3
8	296°28.7	28.6	8	296°31.9	25.5	8	296°36.6	20.8	8	296°42.7	14.7	8	296°50.2	07.4
9	311°28.7	· · 27.7	9	311°31.9	· · 24.6	9	311°36.7	· · 19.9	9	311°42.8	· · 13.8	9	311°50.3	· · 06.4
10	326°28.8	26.9	10	326°32.0	23.8	10	326°36.7	19.0	10	326°42.9	12.9	10	326°50.4	05.5
11	341°28.8	26.0	11	341°32.1	22.9	11	341°36.8	18.1	11	341°43.0	11.9	11	341°50.5	04.5
12	356°28.8	S12°25.1	12	356°32.1	S11°22.0	12	356°36.9	S10°17.2	12	356°43.1	S09°11.0	12	356°50.6	S08°03.6
13	11°28.9	24.3	13	11°32.2	21.1	13	11°37.0	16.3	13	11°43.2	10.1	13	11°50.7	02.6
14	26°28.9	23.4	14	26°32.2	20.2	14	26°37.1	15.4	14	26°43.3	09.2	14	26°50.8	01.7
15	41°28.9	· · 22.5	15	41°32.3	· · 19.3	15	41°37.1	· · 14.5	15	41°43.4	· · 08.2	15	41°51.0	08°00.7
16	56°29.0	21.7	16	56°32.3	18.4	16	56°37.2	13.6	16	56°43.5	07.3	16	56°51.1	07°59.8
17	71°29.0	20.8	17	71°32.4	17.5	17	71°37.3	12.7	17	71°43.6	06.4	17	71°51.2	58.9
18	86°29.0	S12°19.9	18	86°32.5	S11°16.6	18	86°37.4	S10°11.7	18	86°43.7	S09°05.4	18	86°51.3	S07°57.9
19	101°29.1	19.1	19	101°32.5	15.7	19	101°37.4	10.8	19	101°43.8	04.5	19	101°51.4	57.0
20	116°29.1	18.2	20	116°32.6	14.9	20	116°37.5	09.9	20	116°43.9	03.6	20	116°51.5	56.0
21	131°29.1	· · 17.3	21	131°32.6	· · 14.0	21	131°37.6	· · 09.0	21	131°44.0	· · 02.6	21	131°51.6	· · 55.1
22	146°29.2	16.5	22	146°32.7	13.1	22	146°37.7	08.1	22	146°44.1	01.7	22	146°51.8	54.1
23	161°29.2	15.6	23	161°32.8	12.2	23	161°37.8	07.2	23	161°44.2	00.8	23	161°51.9	53.2
SD.=16.2 d=0.9			SD.=16.2 d=0.9			SD.=16.2 d=0.9			SD.=16.2 d=0.9			SD.=16.1 d=0.9		

17	GHA	Dec	20	GHA	Dec	23	GHA	Dec	26	GHA	Dec	29	GHA	Dec
0	176°29.3	S12°14.7	0	176°32.8	S11°11.3	0	176°37.8	S10°06.3	0	176°44.3	S08°59.9	0	176°52.0	S07°52.2
1	191°29.3	13.9	1	191°32.9	10.4	1	191°37.9	05.4	1	191°44.4	58.9	1	191°52.1	51.3
2	206°29.3	13.0	2	206°32.9	09.5	2	206°38.0	04.4	2	206°44.5	58.0	2	206°52.2	50.3
3	221°29.4	· · 12.1	3	221°33.0	· · 08.6	3	221°38.1	· · 03.5	3	221°44.6	· · 57.1	3	221°52.3	· · 49.4
4	236°29.4	11.2	4	236°33.1	07.7	4	236°38.2	02.6	4	236°44.7	56.1	4	236°52.5	48.4
5	251°29.5	10.4	5	251°33.1	06.8	5	251°38.2	01.7	5	251°44.8	55.2	5	251°52.6	47.5
6	266°29.5	S12°09.5	6	266°33.2	S11°05.9	6	266°38.3	S10°00.8	6	266°44.9	S08°54.3	6	266°52.7	S07°46.6
7	281°29.5	08.6	7	281°33.2	05.0	7	281°38.4	09°59.9	7	281°45.0	53.3	7	281°52.8	45.6
8	296°29.6	07.8	8	296°33.3	04.1	8	296°38.5	59.0	8	296°45.1	52.4	8	296°52.9	44.7
9	311°29.6	· · 06.9	9	311°33.4	· · 03.2	9	311°38.6	· · 58.0	9	311°45.2	· · 51.5	9	311°53.0	· · 43.7
10	326°29.7	06.0	10	326°33.4	02.3	10	326°38.6	57.1	10	326°45.3	50.5	10	326°53.2	42.8
11	341°29.7	05.1	11	341°33.5	01.5	11	341°38.7	56.2	11	341°45.4	49.6	11	341°53.3	41.8
12	356°29.7	S12°04.3	12	356°33.5	S11°00.6	12	356°38.8	S09°55.3	12	356°45.5	S08°48.7	12	356°53.4	S07°40.9
13	11°29.8	03.4	13	11°33.6	10°59.7	13	11°38.9	54.4	13	11°45.6	47.7	13	11°53.5	39.9
14	26°29.8	02.5	14	26°33.7	58.8	14	26°39.0	53.5	14	26°45.7	46.8	14	26°53.6	39.0
15	41°29.9	· · 01.6	15	41°33.7	· · 57.9	15	41°39.1	· · 52.5	15	41°45.8	· · 45.9	15	41°53.8	· · 38.0
16	56°29.9	12°00.8	16	56°33.8	57.0	16	56°39.1	51.6	16	56°45.9	44.9	16	56°53.9	37.1
17	71°30.0	11°59.9	17	71°33.9	56.1	17	71°39.2	50.7	17	71°46.0	44.0	17	71°54.0	36.1
18	86°30.0	S11°59.0	18	86°33.9	S10°55.2	18	86°39.3	S09°49.8	18	86°46.1	S08°43.1	18	86°54.1	S07°35.2
19	101°30.1	58.1	19	101°34.0	54.3	19	101°39.4	48.9	19	101°46.2	42.1	19	101°54.2	34.2
20	116°30.1	57.3	20	116°34.1	53.4	20	116°39.5	48.0	20	116°46.3	41.2	20	116°54.4	33.3
21	131°30.1	· · 56.4	21	131°34.1	· · 52.5	21	131°39.6	· · 47.0	21	131°46.4	· · 40.3	21	131°54.5	· · 32.3
22	146°30.2	55.5	22	146°34.2	51.6	22	146°39.7	46.1	22	146°46.5	39.3	22	146°54.6	31.4
23	161°30.2	54.6	23	161°34.3	50.7	23	161°39.7	45.2	23	161°46.6	38.4	23	161°54.7	30.4
SD.=16.2 d=0.9			SD.=16.2 d=0.9			SD.=16.2 d=0.9			SD.=16.2 d=0.9			SD.=16.1 d=0.9		

01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec	13	GHA	Dec
0	176°54.8	S07°29.5	0	177°04.2	S06°20.5	0	177°14.5	S05°10.8	0	177°25.8	S04°00.5	0	177°37.8	S02°49.7
1	191°55.0	28.5	1	192°04.3	19.6	1	192°14.7	09.8	1	192°25.9	03°59.5	1	192°37.9	48.7
2	206°55.1	27.6	2	207°04.4	18.6	2	207°14.8	08.9	2	207°26.1	58.5	2	207°38.1	47.8
3	221°55.2	· · 26.6	3	222°04.6	· · 17.6	3	222°15.0	· · 07.9	3	222°26.3	· · 57.5	3	222°38.3	· · 46.8
4	236°55.3	25.7	4	237°04.7	16.7	4	237°15.1	06.9	4	237°26.4	56.6	4	237°38.5	45.8
5	251°55.5	24.7	5	252°04.8	15.7	5	252°15.3	05.9	5	252°26.6	55.6	5	252°38.6	44.8
6	266°55.6	S07°23.7	6	267°05.0	S06°14.7	6	267°15.4	S05°05.0	6	267°26.8	S03°54.6	6	267°38.8	S02°43.8
7	281°55.7	22.8	7	282°05.1	13.8	7	282°15.6	04.0	7	282°26.9	53.6	7	282°39.0	42.8
8	296°55.8	21.8	8	297°05.3	12.8	8	297°15.7	03.0	8	297°27.1	52.6	8	297°39.1	41.8
9	311°55.9	· · 20.9	9	312°05.4	· · 11.8	9	312°15.9	· · 02.0	9	312°27.2	· · 51.7	9	312°39.3	· · 40.9
10	326°56.1	19.9	10	327°05.5	10.9	10	327°16.0	01.1	10	327°27.4	50.7	10	327°39.5	39.9
11	341°56.2	19.0	11	342°05.7	09.9	11	342°16.2	05°00.1	11	342°27.6	49.7	11	342°39.7	38.9
12	356°56.3	S07°18.0	12	357°05.8	S06°08.9	12	357°16.3	S04°59.1	12	357°27.7	S03°48.7	12	357°39.8	S02°37.9
13	11°56.4	17.1	13	12°06.0	08.0	13	12°16.5	58.1	13	12°27.9	47.7	13	12°40.0	36.9
14	26°56.6	16.1	14	27°06.1	07.0	14	27°16.6	57.2	14	27°28.1	46.8	14	27°40.2	35.9
15	41°56.7	· · 15.2	15	42°06.2	· · 06.1	15	42°16.8	· · 56.2	15	42°28.2	· · 45.8	15	42°40.3	· · 34.9
16	56°56.8	14.2	16	57°06.4	05.1	16	57°16.9	55.2	16	57°28.4	44.8	16	57°40.5	34.0
17	71°56.9	13.3	17	72°06.5	04.1	17	72°17.1	54.2	17	72°28.5	43.8	17	72°40.7	33.0
18	86°57.1	S07°12.3	18	87°06.7	S06°03.2	18	87°17.3	S04°53.3	18	87°28.7	S03°42.8	18	87°40.9	S02°32.0
19	101°57.2	11.4	19	102°06.8	02.2	19	102°17.4	52.3	19	102°28.9	41.8	19	102°41.0	31.0
20	116°57.3	10.4	20	117°06.9	01.2	20	117°17.6	51.3	20	117°29.0	40.9	20	117°41.2	30.0
21	131°57.4	· · 09.4	21	132°07.1	06°00.3	21	132°17.7	· · 50.3	21	132°29.2	· · 39.9	21	132°41.4	· · 29.0
22	146°57.6	08.5	22	147°07.2	05°59.3	22	147°17.9	49.4	22	147°29.4	38.9	22	147°41.6	28.0
23	161°57.7	07.5	23	162°07.4	58.3	23	162°18.0	48.4	23	162°29.5	37.9	23	162°41.7	27.1
SD.=16.1 d=1.0			SD.=16.1 d=1.0			SD.=16.1 d=1.0			SD.=16.1 d=1.0			SD.=16.1 d=1.0		

02	GHA	Dec	05	GHA	Dec	08	GHA	Dec	11	GHA	Dec	14	GHA	Dec
0	176°57.8	S07°06.6	0	177°07.5	S05°57.4	0	177°18.2	S04°47.4	0	177°29.7	S03°36.9	0	177°41.9	S02°26.1
1	191°58.0	05.6	1	192°07.6	56.4	1	192°18.3	46.4	1	192°29.9	36.0	1	192°42.1	25.1
2	206°58.1	04.7	2	207°07.8	55.4	2	207°18.5	45.5	2	207°30.0	35.0	2	207°42.3	24.1
3	221°58.2	· · 03.7	3	222°07.9	· · 54.5	3	222°18.6	· · 44.5	3	222°30.2	· · 34.0	3	222°42.4	· · 23.1
4	236°58.3	02.8	4	237°08.1	53.4	4	237°18.8	43.5	4	237°30.4	33.0	4	237°42.6	22.1
5	251°58.5	01.8	5	252°08.2	52.5	5	252°19.0	42.5	5	252°30.5	32.0	5	252°42.8	21.1
6	266°58.6	S07°00.8	6	267°08.4	S05°51.6	6	267°19.1	S04°41.6	6	267°30.7	S03°31.0	6	267°42.9	S02°20.1
7	281°58.7	06°59.9	7	282°08.5	50.6	7	282°19.3	40.6	7	282°30.9	30.1	7	282°43.1	19.2
8	296°58.8	58.9	8	297°08.6	49.6	8	297°19.4	39.6	8	297°31.0	29.1	8	297°43.3	18.2
9	311°59.0	· · 58.0	9	312°08.8	· · 48.6	9	312°19.6	· · 38.6	9	312°31.2	· · 28.1	9	312°43.5	· · 17.2
10	326°59.1	57.0	10	327°08.9	47.7	10	327°19.7	37.7	10	327°31.4	27.1	10	327°43.6	16.2
11	341°59.2	56.1	11	342°09.1	46.7	11	342°19.9	36.7	11	342°31.5	26.1	11	342°43.8	15.2
12	356°59.4	S06°55.1	12	357°09.2	S05°45.7	12	357°20.0	S04°35.7	12	357°31.7	S03°25.1	12	357°44.0	S02°14.2
13	11°59.5	54.1	13	12°09.4	44.8	13	12°20.2	34.7	13	12°31.9	24.2	13	12°44.2	13.2
14	26°59.6	53.2	14	27°09.5	43.8	14	27°20.4	33.8	14	27°32.0	23.2	14	27°44.3	12.3
15	41°59.8	· · 52.2	15	42°09.6	· · 42.8	15	42°20.5	· · 32.8	15	42°32.2	· · 22.2	15	42°44.5	· · 11.3
16	56°59.9	51.3	16	57°09.8	41.9	16	57°20.7	31.8	16	57°32.4	21.2	16	57°44.7	10.3
17	72°00.0	50.3	17	72°09.9	40.9	17	72°20.8	30.8	17	72°32.5	20.2	17	72°44.9	09.3
18	87°00.1	S06°49.3	18	87°10.1	S05°39.9	18	87°21.0	S04°29.8	18	87°32.7	S03°19.2	18	87°45.0	S02°08.3
19	102°00.3	48.4	19	102°10.2	39.0	19	102°21.1	28.9	19	102°32.9	18.3	19	102°45.2	07.3
20	117°00.4	47.4	20	117°10.4	38.0	20	117°21.3	27.9	20	117°33.0	17.3	20	117°45.4	06.3
21	132°00.5	· · 46.5	21	132°10.5	· · 37.0	21	132°21.5	· · 26.9	21	132°33.2	· · 16.3	21	132°45.6	· · 05.3
22	147°00.7	45.5	22	147°10.7	36.1	22	147°21.6	25.9	22	147°33.4	15.3	22	147°45.7	04.4
23	162°00.8	44.6	23	162°10.8	35.1	23	162°21.8	25.0	23	162°33.5	14.3	23	162°45.9	03.4
SD.=16.1 d=1.0			SD.=16.1 d=1.0			SD.=16.1 d=1.0			SD.=16.1 d=1.0			SD.=16.1 d=1.0		

03	GHA	Dec	06	GHA	Dec	09	GHA	Dec	12	GHA	Dec	15	GHA	Dec
0	177°00.9	S06°43.6	0	177°11.0	S05°34.1	0	177°21.9	S04°24.0	0	177°33.7	S03°13.3	0	177°46.1	S02°02.4
1	192°01.1	42.6	1	192°11.1	33.1	1	192°22.1	23.0	1	192°33.9	12.4	1	192°46.3	01.4
2	207°01.2	41.7	2	207°11.2	32.2	2	207°22.3	22.0	2	207°34.0	11.4	2	207°46.4	02°00.4
3	222°01.3	· · 40.7	3	222°11.4	· · 31.2	3	222°22.4	· · 21.0	3	222°34.2	· · 10.4	3	222°46.6	01°59.4
4	237°01.5	39.8	4	237°11.5	30.2	4	237°22.6	20.1	4	237°34.4	09.4	4	237°46.8	58.4
5	252°01.6	38.8	5	252°11.7	29.3	5	252°22.7	19.1	5	252°34.5	08.4	5	252°47.0	57.4
6	267°01.7	S06°37.8	6	267°11.8	S05°28.3	6	267°22.9	S04°18.1	6	267°34.7	S03°07.4	6	267°47.2	S01°56.5
7	282°01.9	36.9	7	282°12.0	27.3	7	282°23.0	17.1	7	282°34.9	06.5	7	282°47.3	55.5
8	297°02.0	35.9	8	297°12.1	26.4	8	297°23.2	16.2	8	297°35.1	05.5	8	297°47.5	54.5
9	312°02.1	· · 35.0	9	312°12.3	· · 25.4	9	312°23.4	· · 15.2	9	312°35.2	· · 04.5	9	312°47.7	· · 53.5
10	327°02.3	34.0	10	327°12.4	24.4	10	327°23.5	14.2	10	327°35.4	03.5	10	327°47.9	52.5
11	342°02.4	33.0	11	342°12.6	23.4	11	342°23.7	13.2	11	342°35.6	02.5	11	342°48.0	51.5
12	357°02.5	S06°32.1	12	357°12.7	S05°22.5	12	357°23.8	S04°12.2	12	357°35.7	S03°01.5	12	357°48.2	S01°50.5
13	12°02.7	31.1	13	12°12.9	21.5	13	12°24.0	11.3	13	12°35.9	03°00.6	13	12°48.4	49.5
14	27°02.8	30.1	14	27°13.0	20.5	14	27°24.2	10.3	14	27°36.1	02°59.6	14	27°48.6	48.6
15	42°02.9	· · 29.2	15	42°13.2	· · 19.6	15	42°24.3	· · 09.3	15	42°36.2	· · 58.6	15	42°48.7	· · 47.6
16	57°03.1	28.2	16	57°13.3	18.6	16	57°24.5	08.3	16	57°36.4	57.6	16	57°48.9	46.6
17	72°03.2	27.3	17	72°13.5	17.6	17	72°24.6	07.3	17	72°36.6	56.6	17	72°49.1	45.6
18	87°03.3	S06°26.3	18	87°13.6	S05°16.6	18	87°24.8	S04°06.4	18	87°36.7	S02°55.6	18	87°49.3	S01°44.6
19	102°03.5	25.3	19	102°13.8	15.7	19	102°25.0	05.4	19	102°36.9	54.6	19	102°49.5	43.6
20	117°03.6	24.4	20	117°13.9	14.7	20	117°25.1	04.4	20	117°37.1	53.7	20	117°49.6	42.6
21	132°03.7	· · 23.4	21	132°14.1	· · 13.7	21	132°25.3	· · 03.4	21	132°37.3	· · 52.7	21	132°49.8	· · 41.6
22	147°03.9	22.4	22	147°14.2	12.7	22	147°25.5	02.4	22	147°37.4	51.7	22	147°50.0	40.7
23	162°04.0	21.5	23	162°14.4	11.8	23	162°25.6	01.5	23	162°37.6	50.7	23	162°50.2	39.7
SD.=16.1 d=1.0			SD.=16.1 d=1.0			SD.=16.1 d=1.0			SD.=16.1 d=1.0			SD.=16.1 d=1.0		

16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec	28	GHA	Dec
0	177°50.3	S01°38.7	0	178°03.3	S00°27.5	0	178°16.6	N00°43.6	0	178°30.1	N01°54.5	0	178°43.6	N03°05.1
1	192°50.5	37.7	1	193°03.5	26.5	1	193°16.8	44.6	1	193°30.3	55.5	1	193°43.8	06.1
2	207°50.7	36.7	2	208°03.7	25.5	2	208°17.0	45.6	2	208°30.5	56.5	2	208°44.0	07.0
3	222°50.9	· · 35.7	3	223°03.9	· · 24.5	3	223°17.2	· · 46.6	3	223°30.7	· · 57.5	3	223°44.2	· · 08.0
4	237°51.1	34.7	4	238°04.1	23.5	4	238°17.4	47.6	4	238°30.9	58.5	4	238°44.4	09.0
5	252°51.2	33.7	5	253°04.3	22.6	5	253°17.6	48.6	5	253°31.0	01°59.5	5	253°44.6	10.0
6	267°51.4	S01°32.7	6	268°04.4	S00°21.6	6	268°17.8	N00°49.5	6	268°31.2	N02°00.4	6	268°44.8	N03°10.9
7	282°51.6	31.8	7	283°04.6	20.6	7	283°17.9	50.5	7	283°31.4	01.4	7	283°45.0	11.9
8	297°51.8	30.8	8	298°04.8	19.6	8	298°18.1	51.5	8	298°31.6	02.4	8	298°45.1	12.9
9	312°51.9	· · 29.8	9	313°05.0	· · 18.6	9	313°18.3	· · 52.5	9	313°31.8	· · 03.4	9	313°45.3	· · 13.9
10	327°52.1	28.8	10	328°05.2	17.6	10	328°18.5	53.5	10	328°32.0	04.4	10	328°45.5	14.8
11	342°52.3	27.8	11	343°05.4	16.6	11	343°18.7	54.5	11	343°32.2	05.3	11	343°45.7	15.8
12	357°52.5	S01°26.8	12	358°05.5	S00°15.6	12	358°18.9	N00°55.5	12	358°32.4	N02°06.3	12	358°45.9	N03°16.8
13	12°52.7	25.8	13	13°05.7	14.7	13	13°19.1	56.5	13	13°32.6	07.3	13	13°46.1	17.8
14	27°52.8	24.8	14	28°05.9	13.7	14	28°19.2	57.4	14	28°32.7	08.3	14	28°46.3	18.7
15	42°53.0	· · 23.9	15	43°06.1	· · 12.7	15	43°19.4	· · 58.4	15	43°32.9	· · 09.3	15	43°46.5	· · 19.7
16	57°53.2	22.9	16	58°06.3	11.7	16	58°19.6	00°59.4	16	58°33.1	10.3	16	58°46.7	20.7
17	72°53.4	21.9	17	73°06.5	10.7	17	73°19.8	01°00.4	17	73°33.3	11.2	17	73°46.8	21.7
18	87°53.6	S01°20.9	18	88°06.6	S00°09.7	18	88°20.0	N01°01.4	18	88°33.5	N02°12.2	18	88°47.0	N03°22.6
19	102°53.7	19.9	19	103°06.8	08.7	19	103°20.2	02.4	19	103°33.7	13.2	19	103°47.2	23.6
20	117°53.9	18.9	20	118°07.0	07.7	20	118°20.4	03.4	20	118°33.9	14.2	20	118°47.4	24.6
21	132°54.1	· · 17.9	21	133°07.2	· · 06.7	21	133°20.6	· · 04.3	21	133°34.1	· · 15.2	21	133°47.6	· · 25.6
22	147°54.3	16.9	22	148°07.4	05.8	22	148°20.7	05.3	22	148°34.2	16.1	22	148°47.8	26.5
23	162°54.5	15.9	23	163°07.6	04.8	23	163°20.9	06.3	23	163°34.4	17.1	23	163°48.0	27.5
SD.=16.1 d=1.0			SD.=16.1 d=1.0			SD.=16.1 d=1.0			SD.=16.0 d=1.0			SD.=16.0 d=1.0		

17	GHA	Dec	20	GHA	Dec	23	GHA	Dec	26	GHA	Dec	29	GHA	Dec
0	177°54.6	S01°15.0	0	178°07.7	S00°03.8	0	178°21.1	N01°07.3	0	178°34.6	N02°18.1	0	178°48.2	N03°28.5
1	192°54.8	14.0	1	193°07.9	02.8	1	193°21.3	08.3	1	193°34.8	19.1	1	193°48.3	29.5
2	207°55.0	13.0	2	208°08.1	01.8	2	208°21.5	09.3	2	208°35.0	20.1	2	208°48.5	30.4
3	222°55.2	· · 12.0	3	223°08.3	S00°00.8	3	223°21.7	· · 10.3	3	223°35.2	· · 21.0	3	223°48.7	· · 31.4
4	237°55.4	11.0	4	238°08.5	N00°00.2	4	238°21.9	11.2	4	238°35.4	22.0	4	238°48.9	32.4
5	252°55.5	10.0	5	253°08.7	01.2	5	253°22.0	12.2	5	253°35.6	23.0	5	253°49.1	33.3
6	267°55.7	S01°09.0	6	268°08.8	N00°02.1	6	268°22.2	N01°13.2	6	268°35.7	N02°24.0	6	268°49.3	N03°34.3
7	282°55.9	08.0	7	283°09.0	03.1	7	283°22.4	14.2	7	283°35.9	25.0	7	283°49.5	35.3
8	297°56.1	07.0	8	298°09.2	04.1	8	298°22.6	15.2	8	298°36.1	26.0	8	298°49.7	36.3
9	312°56.3	· · 06.1	9	313°09.4	· · 05.1	9	313°22.8	· · 16.2	9	313°36.3	· · 26.9	9	313°49.8	· · 37.2
10	327°56.4	05.1	10	328°09.6	06.1	10	328°23.0	17.2	10	328°36.5	27.9	10	328°50.0	38.2
11	342°56.6	04.1	11	343°09.8	07.1	11	343°23.2	18.1	11	343°36.7	28.9	11	343°50.2	39.2
12	357°56.8	S01°03.1	12	358°10.0	N00°08.1	12	358°23.4	N01°19.1	12	358°36.9	N02°29.9	12	358°50.4	N03°40.2
13	12°57.0	02.1	13	13°10.1	09.1	13	13°23.5	20.1	13	13°37.1	30.8	13	13°50.6	41.1
14	27°57.2	01.1	14	28°10.3	10.1	14	28°23.7	21.1	14	28°37.3	31.8	14	28°50.8	42.1
15	42°57.3	01°00.1	15	43°10.5	· · 11.0	15	43°23.9	· · 22.1	15	43°37.4	· · 32.8	15	43°51.0	· · 43.1
16	57°57.5	00°59.1	16	58°10.7	12.0	16	58°24.1	23.1	16	58°37.6	33.8	16	58°51.2	44.0
17	72°57.7	58.2	17	73°10.9	13.0	17	73°24.3	24.0	17	73°37.8	34.8	17	73°51.3	45.0
18	87°57.9	S00°57.2	18	88°11.1	N00°14.0	18	88°24.5	N01°25.0	18	88°38.0	N02°35.7	18	88°51.5	N03°46.0
19	102°58.1	56.2	19	103°11.3	15.0	19	103°24.7	26.0	19	103°38.2	36.7	19	103°51.7	47.0
20	117°58.2	55.2	20	118°11.4	16.0	20	118°24.9	27.0	20	118°38.4	37.7	20	118°51.9	47.9
21	132°58.4	· · 54.2	21	133°11.6	· · 17.0	21	133°25.0	· · 28.0	21	133°38.6	· · 38.7	21	133°52.1	· · 48.9
22	147°58.6	53.2	22	148°11.8	18.0	22	148°25.2	29.0	22	148°38.8	39.7	22	148°52.3	49.9
23	162°58.8	52.2	23	163°12.0	18.9	23	163°25.4	30.0	23	163°38.9	40.6	23	163°52.5	50.8
SD.=16.1 d=1.0			SD.=16.1 d=1.0			SD.=16.0 d=1.0			SD.=16.0 d=1.0			SD.=16.0 d=1.0		

18	GHA	Dec	21	GHA	Dec	24	GHA	Dec	27	GHA	Dec	30	GHA	Dec
0	177°59.0	S00°51.2	0	178°12.2	N00°19.9	0	178°25.6	N01°30.9	0	178°39.1	N02°41.6	0	178°52.6	N03°51.8
1	192°59.1	50.2	1	193°12.4	20.9	1	193°25.8	31.9	1	193°39.3	42.6	1	193°52.8	52.8
2	207°59.3	49.3	2	208°12.5	21.9	2	208°26.0	32.9	2	208°39.5	43.6	2	208°53.0	53.8
3	222°59.5	· · 48.3	3	223°12.7	· · 22.9	3	223°26.2	· · 33.9	3	223°39.7	· · 44.6	3	223°53.2	· · 54.7
4	237°59.7	47.3	4	238°12.9	23.9	4	238°26.4	34.9	4	238°39.9	45.5	4	238°53.4	55.7
5	252°59.9	46.3	5	253°13.1	24.9	5	253°26.5	35.9	5	253°40.1	46.5	5	253°53.6	56.7
6	268°00.1	S00°45.3	6	268°13.3	N00°25.9	6	268°26.7	N01°36.8	6	268°40.3	N02°47.5	6	268°53.8	N03°57.6
7	283°00.2	44.3	7	283°13.5	26.8	7	283°26.9	37.8	7	283°40.5	48.5	7	283°54.0	58.6
8	298°00.4	43.3	8	298°13.7	27.8	8	298°27.1	38.8	8	298°40.6	49.4	8	298°54.1	03°59.6
9	313°00.6	· · 42.3	9	313°13.8	· · 28.8	9	313°27.3	· · 39.8	9	313°40.8	· · 50.4	9	313°54.3	04°00.5
10	328°00.8	41.3	10	328°14.0	29.8	10	328°27.5	40.8	10	328°41.0	51.4	10	328°54.5	01.5
11	343°01.0	40.4	11	343°14.2	30.8	11	343°27.7	41.8	11	343°41.2	52.4	11	343°54.7	02.5
12	358°01.1	S00°39.4	12	358°14.4	N00°31.8	12	358°27.9	N01°42.7	12	358°41.4	N02°53.4	12	358°54.9	N04°03.5
13	13°01.3	38.4	13	13°14.6	32.8	13	13°28.0	43.7	13	13°41.6	54.3	13	13°55.1	04.4
14	28°01.5	37.4	14	28°14.8	33.8	14	28°28.2	44.7	14	28°41.8	55.3	14	28°55.3	05.4
15	43°01.7	· · 36.4	15	43°15.0	· · 34.7	15	43°28.4	· · 45.7	15	43°42.0	· · 56.3	15	43°55.5	· · 06.4
16	58°01.9	35.4	16	58°15.1	35.7	16	58°28.6	46.7	16	58°42.1	57.3	16	58°55.6	07.3
17	73°02.1	34.4	17	73°15.3	36.7	17	73°28.8	47.7	17	73°42.3	58.2	17	73°55.8	08.3
18	88°02.2	S00°33.4	18	88°15.5	N00°37.7	18	88°29.0	N01°48.6	18	88°42.5	N02°59.2	18	88°56.0	N04°09.3
19	103°02.4	32.4	19	103°15.7	38.7	19	103°29.2	49.6	19	103°42.7	03°00.2	19	103°56.2	10.2
20	118°02.6	31.5	20	118°15.9	39.7	20	118°29.4	50.6	20	118°42.9	01.2	20	118°56.4	11.2
21	133°02.8	· · 30.5	21	133°16.1	· · 40.7	21	133°29.5	· · 51.6	21	133°43.1	· · 02.2	21	133°56.6	· · 12.2
22	148°03.0	29.5	22	148°16.3	41.7	22	148°29.7	52.6	22	148°43.3	03.1	22	148°56.8	13.1
23	163°03.2	28.5	23	163°16.4	42.6	23	163°29.9	53.6	23	163°43.5	04.1	23	163°56.9	14.1
SD.=16.1 d=1.0			SD.=16.1 d=1.0			SD.=16.0 d=1.0			SD.=16.0 d=1.0			SD.=16.0 d=1.0		

31	GHA	Dec	03	GHA	Dec	06	GHA	Dec	09	GHA	Dec	12	GHA	Dec
0	178°57.1	N04°15.1	0	179°10.4	N05°24.4	0	179°23.4	N06°32.8	0	179°36.0	N07°40.1	0	179°48.0	N08°46.4
1	193°57.3	16.0	1	194°10.6	25.3	1	194°23.6	33.7	1	194°36.2	41.1	1	194°48.2	47.3
2	208°57.5	17.0	2	209°10.8	26.3	2	209°23.8	34.6	2	209°36.4	42.0	2	209°48.3	48.2
3	223°57.7	· · 18.0	3	224°11.0	· · 27.2	3	224°24.0	· · 35.6	3	224°36.5	· · 42.9	3	224°48.5	· · 49.1
4	238°57.9	18.9	4	239°11.2	28.2	4	239°24.2	36.5	4	239°36.7	43.8	4	239°48.6	50.0
5	253°58.1	19.9	5	254°11.4	29.1	5	254°24.3	37.5	5	254°36.9	44.8	5	254°48.8	50.9
6	268°58.2	N04°20.9	6	269°11.5	N05°30.1	6	269°24.5	N06°38.4	6	269°37.0	N07°45.7	6	269°49.0	N08°51.8
7	283°58.4	21.8	7	284°11.7	31.0	7	284°24.7	39.4	7	284°37.2	46.6	7	284°49.1	52.7
8	298°58.6	22.8	8	299°11.9	32.0	8	299°24.9	40.3	8	299°37.4	47.6	8	299°49.3	53.6
9	313°58.8	· · 23.8	9	314°12.1	· · 33.0	9	314°25.0	· · 41.2	9	314°37.5	· · 48.5	9	314°49.4	· · 54.5
10	328°59.0	24.7	10	329°12.3	33.9	10	329°25.2	42.2	10	329°37.7	49.4	10	329°49.6	55.5
11	343°59.2	25.7	11	344°12.4	34.9	11	344°25.4	43.1	11	344°37.9	50.3	11	344°49.8	56.4
12	358°59.4	N04°26.7	12	359°12.6	N05°35.8	12	359°25.6	N06°44.1	12	359°38.1	N07°51.3	12	359°49.9	N08°57.3
13	13°59.5	27.6	13	14°12.8	36.8	13	14°25.8	45.0	13	14°38.2	52.2	13	14°50.1	58.2
14	28°59.7	28.6	14	29°13.0	37.7	14	29°25.9	45.9	14	29°38.4	53.1	14	29°50.2	08°59.1
15	43°59.9	· · 29.6	15	44°13.2	· · 38.7	15	44°26.1	· · 46.9	15	44°38.6	· · 54.0	15	44°50.4	09°00.0
16	59°00.1	30.5	16	59°13.4	39.6	16	59°26.3	47.8	16	59°38.7	55.0	16	59°50.6	00.9
17	74°00.3	31.5	17	74°13.5	40.6	17	74°26.5	48.8	17	74°38.9	55.9	17	74°50.7	01.8
18	89°00.5	N04°32.5	18	89°13.7	N05°41.5	18	89°26.6	N06°49.7	18	89°39.1	N07°56.8	18	89°50.9	N09°02.7
19	104°00.7	33.4	19	104°13.9	42.5	19	104°26.8	50.6	19	104°39.2	57.7	19	104°51.0	03.6
20	119°00.8	34.4	20	119°14.1	43.4	20	119°27.0	51.6	20	119°39.4	58.7	20	119°51.2	04.5
21	134°01.0	· · 35.4	21	134°14.3	· · 44.4	21	134°27.2	· · 52.5	21	134°39.6	07°59.6	21	134°51.4	· · 05.4
22	149°01.2	36.3	22	149°14.5	45.4	22	149°27.3	53.5	22	149°39.7	08°00.5	22	149°51.5	06.3
23	164°01.4	37.3	23	164°14.6	46.3	23	164°27.5	54.4	23	164°39.9	01.4	23	164°51.7	07.2
SD.=16.0 d=1.0			SD.=16.0 d=1.0			SD.=16.0 d=0.9			SD.=16.0 d=0.9			SD.=16.0 d=0.9		

01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec	13	GHA	Dec
0	179°01.6	N04°38.3	0	179°14.8	N05°47.3	0	179°27.7	N06°55.3	0	179°40.1	N08°02.3	0	179°51.8	N09°08.1
1	194°01.8	39.2	1	194°15.0	48.2	1	194°27.9	56.3	1	194°40.2	03.3	1	194°52.0	09.1
2	209°02.0	40.2	2	209°15.2	49.2	2	209°28.0	57.2	2	209°40.4	04.2	2	209°52.1	10.0
3	224°02.1	· · 41.1	3	224°15.4	· · 50.1	3	224°28.2	· · 58.2	3	224°40.6	· · 05.1	3	224°52.3	· · 10.9
4	239°02.3	42.1	4	239°15.5	51.1	4	239°28.4	06°59.1	4	239°40.7	06.0	4	239°52.5	11.8
5	254°02.5	43.1	5	254°15.7	52.0	5	254°28.6	07°00.0	5	254°40.9	07.0	5	254°52.6	12.7
6	269°02.7	N04°44.0	6	269°15.9	N05°53.0	6	269°28.7	N07°01.0	6	269°41.1	N08°07.9	6	269°52.8	N09°13.6
7	284°02.9	45.0	7	284°16.1	53.9	7	284°28.9	01.9	7	284°41.3	08.8	7	284°52.9	14.5
8	299°03.1	46.0	8	299°16.3	54.9	8	299°29.1	02.8	8	299°41.4	09.7	8	299°53.1	15.4
9	314°03.3	· · 46.9	9	314°16.4	· · 55.8	9	314°29.3	· · 03.8	9	314°41.6	· · 10.6	9	314°53.2	· · 16.3
10	329°03.4	47.9	10	329°16.6	56.8	10	329°29.4	04.7	10	329°41.8	11.6	10	329°53.4	17.2
11	344°03.6	48.9	11	344°16.8	57.7	11	344°29.6	05.6	11	344°41.9	12.5	11	344°53.6	18.1
12	359°03.8	N04°49.8	12	359°17.0	N05°58.7	12	359°29.8	N07°06.6	12	359°42.1	N08°13.4	12	359°53.7	N09°19.0
13	14°04.0	50.8	13	14°17.2	05°59.6	13	14°30.0	07.5	13	14°42.3	14.3	13	14°53.9	19.9
14	29°04.2	51.7	14	29°17.4	06°00.6	14	29°30.1	08.5	14	29°42.4	15.2	14	29°54.0	20.8
15	44°04.4	· · 52.7	15	44°17.5	· · 01.5	15	44°30.3	· · 09.4	15	44°42.6	· · 16.2	15	44°54.2	· · 21.7
16	59°04.6	53.7	16	59°17.7	02.5	16	59°30.5	10.3	16	59°42.7	17.1	16	59°54.3	22.6
17	74°04.7	54.6	17	74°17.9	03.4	17	74°30.7	11.3	17	74°42.9	18.0	17	74°54.5	23.5
18	89°04.9	N04°55.6	18	89°18.1	N06°04.4	18	89°30.8	N07°12.2	18	89°43.1	N08°18.9	18	89°54.6	N09°24.4
19	104°05.1	56.5	19	104°18.3	05.3	19	104°31.0	13.1	19	104°43.2	19.8	19	104°54.8	25.3
20	119°05.3	57.5	20	119°18.4	06.3	20	119°31.2	14.1	20	119°43.4	20.8	20	119°55.0	26.2
21	134°05.5	· · 58.5	21	134°18.6	· · 07.2	21	134°31.4	· · 15.0	21	134°43.6	· · 21.7	21	134°55.1	· · 27.1
22	149°05.7	04°59.4	22	149°18.8	08.2	22	149°31.5	15.9	22	149°43.7	22.6	22	149°55.3	28.0
23	164°05.8	05°00.4	23	164°19.0	09.1	23	164°31.7	16.9	23	164°43.9	23.5	23	164°55.4	28.9
SD.=16.0 d=1.0			SD.=16.0 d=1.0			SD.=16.0 d=0.9			SD.=16.0 d=0.9			SD.=16.0 d=0.9		

02	GHA	Dec	05	GHA	Dec	08	GHA	Dec	11	GHA	Dec	14	GHA	Dec
0	179°06.0	N05°01.3	0	179°19.2	N06°10.1	0	179°31.9	N07°17.8	0	179°44.1	N08°24.4	0	179°55.6	N09°29.8
1	194°06.2	02.3	1	194°19.3	11.0	1	194°32.1	18.7	1	194°44.2	25.3	1	194°55.7	30.7
2	209°06.4	03.3	2	209°19.5	12.0	2	209°32.2	19.7	2	209°44.4	26.3	2	209°55.9	31.6
3	224°06.6	· · 04.2	3	224°19.7	· · 12.9	3	224°32.4	· · 20.6	3	224°44.6	· · 27.2	3	224°56.0	· · 32.5
4	239°06.8	05.2	4	239°19.9	13.9	4	239°32.6	21.5	4	239°44.7	28.1	4	239°56.2	33.4
5	254°06.9	06.2	5	254°20.1	14.8	5	254°32.8	22.5	5	254°44.9	29.0	5	254°56.3	34.3
6	269°07.1	N05°07.1	6	269°20.2	N06°15.7	6	269°32.9	N07°23.4	6	269°45.1	N08°29.9	6	269°56.5	N09°35.2
7	284°07.3	08.1	7	284°20.4	16.7	7	284°33.1	24.3	7	284°45.2	30.8	7	284°56.7	36.1
8	299°07.5	09.0	8	299°20.6	17.6	8	299°33.3	25.3	8	299°45.4	31.7	8	299°56.8	37.0
9	314°07.7	· · 10.0	9	314°20.8	· · 18.6	9	314°33.4	· · 26.2	9	314°45.6	· · 32.7	9	314°57.0	· · 37.9
10	329°07.9	10.9	10	329°20.9	19.5	10	329°33.6	27.1	10	329°45.7	33.6	10	329°57.1	38.8
11	344°08.1	11.9	11	344°21.1	20.5	11	344°33.8	28.1	11	344°45.9	34.5	11	344°57.3	39.7
12	359°08.2	N05°12.9	12	359°21.3	N06°21.4	12	359°34.0	N07°29.0	12	359°46.0	N08°35.4	12	359°57.4	N09°40.5
13	14°08.4	13.8	13	14°21.5	22.4	13	14°34.1	29.9	13	14°46.2	36.3	13	14°57.6	41.4
14	29°08.6	14.8	14	29°21.7	23.3	14	29°34.3	30.8	14	29°46.4	37.2	14	29°57.7	42.3
15	44°08.8	· · 15.7	15	44°21.8	· · 24.3	15	44°34.5	· · 31.8	15	44°46.5	· · 38.1	15	44°57.9	· · 43.2
16	59°09.0	16.7	16	59°22.0	25.2	16	59°34.6	32.7	16	59°46.7	39.1	16	59°58.0	44.1
17	74°09.2	17.7	17	74°22.2	26.2	17	74°34.8	33.6	17	74°46.9	40.0	17	74°58.2	45.0
18	89°09.3	N05°18.6	18	89°22.4	N06°27.1	18	89°35.0	N07°34.6	18	89°47.0	N08°40.9	18	89°58.3	N09°45.9
19	104°09.5	19.6	19	104°22.6	28.0	19	104°35.2	35.5	19	104°47.2	41.8	19	104°58.5	46.8
20	119°09.7	20.5	20	119°22.7	29.0	20	119°35.3	36.4	20	119°47.3	42.7	20	119°58.6	47.7
21	134°09.9	· · 21.5	21	134°22.9	· · 29.9	21	134°35.5	· · 37.4	21	134°47.5	· · 43.6	21	134°58.8	· · 48.6
22	149°10.1	22.4	22	149°23.1	30.9	22	149°35.7	38.3	22	149°47.7	44.5	22	149°58.9	49.5
23	164°10.3	23.4	23	164°23.3	31.8	23	164°35.8	39.2	23	164°47.8	45.4	23	164°59.1	50.4
SD.=16.0 d=1.0			SD.=16.0 d=0.9			SD.=16.0 d=0.9			SD.=16.0 d=0.9			SD.=15.9 d=0.9		

15	GHA	Dec	18	GHA	Dec	21	GHA	Dec	24	GHA	Dec	27	GHA	Dec
0	179°59.2	N09°51.3	0	180°09.6	N10°54.7	0	180°19.1	N11°56.6	0	180°27.6	N12°56.7	0	180°35.0	N13°54.9
1	194°59.4	52.2	1	195°09.8	55.6	1	195°19.3	57.4	1	195°27.7	57.5	1	195°35.1	55.7
2	209°59.5	53.1	2	210°09.9	56.5	2	210°19.4	58.3	2	210°27.8	58.3	2	210°35.2	56.4
3	224°59.7	· · 53.9	3	225°10.1	· · 57.3	3	225°19.5	11°59.1	3	225°27.9	12°59.1	3	225°35.3	· · 57.2
4	239°59.8	54.8	4	240°10.2	58.2	4	240°19.6	12°00.0	4	240°28.0	13°00.0	4	240°35.4	58.0
5	255°00.0	55.7	5	255°10.3	10°59.1	5	255°19.7	00.8	5	255°28.2	00.8	5	255°35.5	58.8
6	270°00.1	N09°56.6	6	270°10.5	N11°00.0	6	270°19.9	N12°01.7	6	270°28.3	N13°01.6	6	270°35.6	N13°59.6
7	285°00.3	57.5	7	285°10.6	00.8	7	285°20.0	02.5	7	285°28.4	02.4	7	285°35.7	14°00.4
8	300°00.4	58.4	8	300°10.7	01.7	8	300°20.1	03.4	8	300°28.5	03.2	8	300°35.8	01.2
9	315°00.6	09°59.3	9	315°10.9	· · 02.6	9	315°20.2	· · 04.2	9	315°28.6	· · 04.1	9	315°35.9	· · 02.0
10	330°00.7	10°00.2	10	330°11.0	03.4	10	330°20.4	05.0	10	330°28.7	04.9	10	330°36.0	02.8
11	345°00.9	01.1	11	345°11.2	04.3	11	345°20.5	05.9	11	345°28.8	05.7	11	345°36.1	03.6
12	0°01.0	N10°02.0	12	0°11.3	N11°05.2	12	0°20.6	N12°06.7	12	0°28.9	N13°06.5	12	0°36.2	N14°04.4
13	15°01.2	02.8	13	15°11.4	06.0	13	15°20.7	07.6	13	15°29.0	07.3	13	15°36.2	05.1
14	30°01.3	03.7	14	30°11.6	06.9	14	30°20.9	08.4	14	30°29.1	08.1	14	30°36.3	05.9
15	45°01.5	· · 04.6	15	45°11.7	· · 07.8	15	45°21.0	· · 09.3	15	45°29.2	· · 09.0	15	45°36.4	· · 06.7
16	60°01.6	05.5	16	60°11.8	08.6	16	60°21.1	10.1	16	60°29.3	09.8	16	60°36.5	07.5
17	75°01.8	06.4	17	75°12.0	09.5	17	75°21.2	10.9	17	75°29.5	10.6	17	75°36.6	08.3
18	90°01.9	N10°07.3	18	90°12.1	N11°10.4	18	90°21.3	N12°11.8	18	90°29.6	N13°11.4	18	90°36.7	N14°09.1
19	105°02.1	08.2	19	105°12.2	11.2	19	105°21.5	12.6	19	105°29.7	12.2	19	105°36.8	09.9
20	120°02.2	09.1	20	120°12.4	12.1	20	120°21.6	13.5	20	120°29.8	13.0	20	120°36.9	10.7
21	135°02.4	· · 09.9	21	135°12.5	· · 12.9	21	135°21.7	· · 14.3	21	135°29.9	· · 13.9	21	135°37.0	· · 11.4
22	150°02.5	10.8	22	150°12.6	13.8	22	150°21.8	15.1	22	150°30.0	14.7	22	150°37.1	12.2
23	165°02.7	11.7	23	165°12.8	14.7	23	165°21.9	16.0	23	165°30.1	15.5	23	165°37.2	13.0
SD.=15.9 d=0.9			SD.=15.9 d=0.9			SD.=15.9 d=0.8			SD.=15.9 d=0.8			SD.=15.9 d=0.8		

16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec	28	GHA	Dec
0	180°02.8	N10°12.6	0	180°12.9	N11°15.5	0	180°22.1	N12°16.8	0	180°30.2	N13°16.3	0	180°37.3	N14°13.8
1	195°03.0	13.5	1	195°13.0	16.4	1	195°22.2	17.7	1	195°30.3	17.1	1	195°37.3	14.6
2	210°03.1	14.4	2	210°13.2	17.3	2	210°22.3	18.5	2	210°30.4	17.9	2	210°37.4	15.4
3	225°03.2	· · 15.2	3	225°13.3	· · 18.1	3	225°22.4	· · 19.3	3	225°30.5	· · 18.7	3	225°37.5	· · 16.1
4	240°03.4	16.1	4	240°13.4	19.0	4	240°22.5	20.2	4	240°30.6	19.5	4	240°37.6	16.9
5	255°03.5	17.0	5	255°13.6	19.9	5	255°22.7	21.0	5	255°30.7	20.4	5	255°37.7	17.7
6	270°03.7	N10°17.9	6	270°13.7	N11°20.7	6	270°22.8	N12°21.9	6	270°30.8	N13°21.2	6	270°37.8	N14°18.5
7	285°03.8	18.8	7	285°13.8	21.6	7	285°22.9	22.7	7	285°30.9	22.0	7	285°37.9	19.3
8	300°04.0	19.7	8	300°14.0	22.4	8	300°23.0	23.5	8	300°31.0	22.8	8	300°38.0	20.1
9	315°04.1	· · 20.5	9	315°14.1	· · 23.3	9	315°23.1	· · 24.4	9	315°31.1	· · 23.6	9	315°38.1	· · 20.8
10	330°04.3	21.4	10	330°14.2	24.2	10	330°23.3	25.2	10	330°31.2	24.4	10	330°38.1	21.6
11	345°04.4	22.3	11	345°14.4	25.0	11	345°23.4	26.0	11	345°31.3	25.2	11	345°38.2	22.4
12	0°04.6	N10°23.2	12	0°14.5	N11°25.9	12	0°23.5	N12°26.9	12	0°31.5	N13°26.0	12	0°38.3	N14°23.2
13	15°04.7	24.1	13	15°14.6	26.7	13	15°23.6	27.7	13	15°31.6	26.8	13	15°38.4	24.0
14	30°04.8	25.0	14	30°14.8	27.6	14	30°23.7	28.5	14	30°31.7	27.6	14	30°38.5	24.7
15	45°05.0	· · 25.8	15	45°14.9	· · 28.4	15	45°23.8	· · 29.4	15	45°31.8	· · 28.4	15	45°38.6	· · 25.5
16	60°05.1	26.7	16	60°15.0	29.3	16	60°24.0	30.2	16	60°31.9	29.2	16	60°38.7	26.3
17	75°05.3	27.6	17	75°15.2	30.2	17	75°24.1	31.0	17	75°32.0	30.1	17	75°38.8	27.1
18	90°05.4	N10°28.5	18	90°15.3	N11°31.0	18	90°24.2	N12°31.9	18	90°32.1	N13°30.9	18	90°38.8	N14°27.8
19	105°05.6	29.4	19	105°15.4	31.9	19	105°24.3	32.7	19	105°32.2	31.7	19	105°38.9	28.6
20	120°05.7	30.2	20	120°15.6	32.7	20	120°24.4	33.5	20	120°32.3	32.5	20	120°39.0	29.4
21	135°05.8	· · 31.1	21	135°15.7	· · 33.6	21	135°24.5	· · 34.4	21	135°32.4	· · 33.3	21	135°39.1	· · 30.2
22	150°06.0	32.0	22	150°15.8	34.4	22	150°24.7	35.2	22	150°32.5	34.1	22	150°39.2	31.0
23	165°06.1	32.9	23	165°15.9	35.3	23	165°24.8	36.0	23	165°32.6	34.9	23	165°39.3	31.7
SD.=15.9 d=0.9			SD.=15.9 d=0.9			SD.=15.9 d=0.8			SD.=15.9 d=0.8			SD.=15.9 d=0.8		

17	GHA	Dec	20	GHA	Dec	23	GHA	Dec	26	GHA	Dec	29	GHA	Dec
0	180°06.3	N10°33.8	0	180°16.1	N11°36.2	0	180°24.9	N12°36.9	0	180°32.7	N13°35.7	0	180°39.4	N14°32.5
1	195°06.4	34.6	1	195°16.2	37.0	1	195°25.0	37.7	1	195°32.8	36.5	1	195°39.4	33.3
2	210°06.6	35.5	2	210°16.3	37.9	2	210°25.1	38.5	2	210°32.9	37.3	2	210°39.5	34.0
3	225°06.7	· · 36.4	3	225°16.5	· · 38.7	3	225°25.2	· · 39.3	3	225°33.0	· · 38.1	3	225°39.6	· · 34.8
4	240°06.8	37.3	4	240°16.6	39.6	4	240°25.4	40.2	4	240°33.1	38.9	4	240°39.7	35.6
5	255°07.0	38.1	5	255°16.7	40.4	5	255°25.5	41.0	5	255°33.2	39.7	5	255°39.8	36.4
6	270°07.1	N10°39.0	6	270°16.8	N11°41.3	6	270°25.6	N12°41.8	6	270°33.3	N13°40.5	6	270°39.9	N14°37.1
7	285°07.3	39.9	7	285°17.0	42.1	7	285°25.7	42.7	7	285°33.4	41.3	7	285°39.9	37.9
8	300°07.4	40.8	8	300°17.1	43.0	8	300°25.8	43.5	8	300°33.5	42.1	8	300°40.0	38.7
9	315°07.6	· · 41.6	9	315°17.2	· · 43.8	9	315°25.9	· · 44.3	9	315°33.6	· · 42.9	9	315°40.1	· · 39.5
10	330°07.7	42.5	10	330°17.4	44.7	10	330°26.0	45.1	10	330°33.7	43.7	10	330°40.2	40.2
11	345°07.8	43.4	11	345°17.5	45.5	11	345°26.2	46.0	11	345°33.8	44.5	11	345°40.3	41.0
12	0°08.0	N10°44.3	12	0°17.6	N11°46.4	12	0°26.3	N12°46.8	12	0°33.9	N13°45.3	12	0°40.4	N14°41.8
13	15°08.1	45.1	13	15°17.7	47.2	13	15°26.4	47.6	13	15°34.0	46.1	13	15°40.4	42.5
14	30°08.3	46.0	14	30°17.9	48.1	14	30°26.5	48.4	14	30°34.1	46.9	14	30°40.5	43.3
15	45°08.4	· · 46.9	15	45°18.0	· · 49.0	15	45°26.6	· · 49.3	15	45°34.2	· · 47.7	15	45°40.6	· · 44.1
16	60°08.5	47.8	16	60°18.1	49.8	16	60°26.7	50.1	16	60°34.3	48.5	16	60°40.7	44.8
17	75°08.7	48.6	17	75°18.2	50.7	17	75°26.8	50.9	17	75°34.4	49.3	17	75°40.8	45.6
18	90°08.8	N10°49.5	18	90°18.4	N11°51.5	18	90°26.9	N12°51.7	18	90°34.4	N13°50.1	18	90°40.9	N14°46.4
19	105°09.0	50.4	19	105°18.5	52.3	19	105°27.1	52.6	19	105°34.5	50.9	19	105°40.9	47.1
20	120°09.1	51.2	20	120°18.6	53.2	20	120°27.2	53.4	20	120°34.6	51.7	20	120°41.0	47.9
21	135°09.2	· · 52.1	21	135°18.8	· · 54.0	21	135°27.3	· · 54.2	21	135°34.7	· · 52.5	21	135°41.1	· · 48.7
22	150°09.4	53.0	22	150°18.9	54.9	22	150°27.4	55.0	22	150°34.8	53.3	22	150°41.2	49.4
23	165°09.5	53.9	23	165°19.0	55.7	23	165°27.5	55.9	23	165°34.9	54.1	23	165°41.3	50.2
SD.=15.9 d=0.9			SD.=15.9 d=0.9			SD.=15.9 d=0.8			SD.=15.9 d=0.8			SD.=15.9 d=0.8		

30	GHA	Dec	03	GHA	Dec	06	GHA	Dec	09	GHA	Dec	12	GHA	Dec
0	180°41.3	N14°51.0	0	180°46.5	N15°44.8	0	180°50.5	N16°36.4	0	180°53.2	N17°25.4	0	180°54.6	N18°11.8
1	195°41.4	51.7	1	195°46.6	45.6	1	195°50.5	37.1	1	195°53.2	26.0	1	195°54.6	12.4
2	210°41.5	52.5	2	210°46.6	46.3	2	210°50.5	37.8	2	210°53.2	26.7	2	210°54.6	13.0
3	225°41.6	· · 53.3	3	225°46.7	· · 47.0	3	225°50.6	· · 38.5	3	225°53.2	· · 27.4	3	225°54.6	· · 13.7
4	240°41.7	54.0	4	240°46.7	47.8	4	240°50.6	39.2	4	240°53.3	28.0	4	240°54.6	14.3
5	255°41.7	54.8	5	255°46.8	48.5	5	255°50.7	39.8	5	255°53.3	28.7	5	255°54.6	14.9
6	270°41.8	N14°55.5	6	270°46.9	N15°49.2	6	270°50.7	N16°40.5	6	270°53.3	N17°29.3	6	270°54.6	N18°15.5
7	285°41.9	56.3	7	285°46.9	50.0	7	285°50.8	41.2	7	285°53.4	30.0	7	285°54.6	16.2
8	300°42.0	57.1	8	300°47.0	50.7	8	300°50.8	41.9	8	300°53.4	30.7	8	300°54.6	16.8
9	315°42.0	· · 57.8	9	315°47.1	· · 51.4	9	315°50.9	· · 42.6	9	315°53.4	· · 31.3	9	315°54.7	· · 17.4
10	330°42.1	58.6	10	330°47.1	52.1	10	330°50.9	43.3	10	330°53.4	32.0	10	330°54.7	18.0
11	345°42.2	14°59.3	11	345°47.2	52.9	11	345°50.9	44.0	11	345°53.5	32.6	11	345°54.7	18.6
12	0°42.3	N15°00.1	12	0°47.2	N15°53.6	12	0°51.0	N16°44.7	12	0°53.5	N17°33.3	12	0°54.7	N18°19.3
13	15°42.4	00.9	13	15°47.3	54.3	13	15°51.0	45.4	13	15°53.5	34.0	13	15°54.7	19.9
14	30°42.4	01.6	14	30°47.4	55.1	14	30°51.1	46.1	14	30°53.5	34.6	14	30°54.7	20.5
15	45°42.5	· · 02.4	15	45°47.4	· · 55.8	15	45°51.1	· · 46.8	15	45°53.6	· · 35.3	15	45°54.7	· · 21.1
16	60°42.6	03.1	16	60°47.5	56.5	16	60°51.2	47.5	16	60°53.6	35.9	16	60°54.7	21.7
17	75°42.7	03.9	17	75°47.5	57.2	17	75°51.2	48.2	17	75°53.6	36.6	17	75°54.7	22.3
18	90°42.7	N15°04.6	18	90°47.6	N15°58.0	18	90°51.2	N16°48.9	18	90°53.6	N17°37.2	18	90°54.7	N18°23.0
19	105°42.8	05.4	19	105°47.7	58.7	19	105°51.3	49.5	19	105°53.7	37.9	19	105°54.7	23.6
20	120°42.9	06.2	20	120°47.7	15°59.4	20	120°51.3	50.2	20	120°53.7	38.5	20	120°54.7	24.2
21	135°43.0	· · 06.9	21	135°47.8	16°00.1	21	135°51.4	· · 50.9	21	135°53.7	· · 39.2	21	135°54.7	· · 24.8
22	150°43.0	07.7	22	150°47.8	00.8	22	150°51.4	51.6	22	150°53.7	39.8	22	150°54.7	25.4
23	165°43.1	08.4	23	165°47.9	01.6	23	165°51.5	52.3	23	165°53.8	40.5	23	165°54.7	26.0
SD.=15.9 d=0.8			SD.=15.9 d=0.7			SD.=15.9 d=0.7			SD.=15.8 d=0.7			SD.=15.8 d=0.6		

01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec	13	GHA	Dec
0	180°43.2	N15°09.2	0	180°47.9	N16°02.3	0	180°51.5	N16°53.0	0	180°53.8	N17°41.1	0	180°54.7	N18°26.6
1	195°43.3	09.9	1	195°48.0	03.0	1	195°51.5	53.7	1	195°53.8	41.8	1	195°54.7	27.3
2	210°43.3	10.7	2	210°48.1	03.7	2	210°51.6	54.4	2	210°53.8	42.4	2	210°54.8	27.9
3	225°43.4	· · 11.4	3	225°48.1	· · 04.4	3	225°51.6	· · 55.0	3	225°53.8	· · 43.1	3	225°54.8	· · 28.5
4	240°43.5	12.2	4	240°48.2	05.2	4	240°51.7	55.7	4	240°53.9	43.7	4	240°54.8	29.1
5	255°43.6	12.9	5	255°48.2	05.9	5	255°51.7	56.4	5	255°53.9	44.4	5	255°54.8	29.7
6	270°43.6	N15°13.7	6	270°48.3	N16°06.6	6	270°51.7	N16°57.1	6	270°53.9	N17°45.0	6	270°54.8	N18°30.3
7	285°43.7	14.4	7	285°48.3	07.3	7	285°51.8	57.8	7	285°53.9	45.7	7	285°54.8	30.9
8	300°43.8	15.2	8	300°48.4	08.0	8	300°51.8	58.5	8	300°53.9	46.3	8	300°54.8	31.5
9	315°43.8	· · 15.9	9	315°48.5	· · 08.8	9	315°51.9	· · 59.1	9	315°54.0	· · 47.0	9	315°54.8	· · 32.1
10	330°43.9	16.7	10	330°48.5	09.5	10	330°51.9	16°59.8	10	330°54.0	47.6	10	330°54.8	32.8
11	345°44.0	17.4	11	345°48.6	10.2	11	345°51.9	17°00.5	11	345°54.0	48.3	11	345°54.8	33.4
12	0°44.1	N15°18.2	12	0°48.6	N16°10.9	12	0°52.0	N17°01.2	12	0°54.0	N17°48.9	12	0°54.8	N18°34.0
13	15°44.1	18.9	13	15°48.7	11.6	13	15°52.0	01.9	13	15°54.0	49.6	13	15°54.8	34.6
14	30°44.2	19.7	14	30°48.7	12.3	14	30°52.0	02.6	14	30°54.1	50.2	14	30°54.8	35.2
15	45°44.3	· · 20.4	15	45°48.8	· · 13.1	15	45°52.1	· · 03.2	15	45°54.1	· · 50.8	15	45°54.8	· · 35.8
16	60°44.3	21.2	16	60°48.8	13.8	16	60°52.1	03.9	16	60°54.1	51.5	16	60°54.8	36.4
17	75°44.4	21.9	17	75°48.9	14.5	17	75°52.2	04.6	17	75°54.1	52.1	17	75°54.8	37.0
18	90°44.5	N15°22.7	18	90°49.0	N16°15.2	18	90°52.2	N17°05.3	18	90°54.1	N17°52.8	18	90°54.8	N18°37.6
19	105°44.6	23.4	19	105°49.0	15.9	19	105°52.2	05.9	19	105°54.2	53.4	19	105°54.8	38.2
20	120°44.6	24.2	20	120°49.1	16.6	20	120°52.3	06.6	20	120°54.2	54.1	20	120°54.8	38.8
21	135°44.7	· · 24.9	21	135°49.1	· · 17.3	21	135°52.3	· · 07.3	21	135°54.2	· · 54.7	21	135°54.8	· · 39.4
22	150°44.8	25.7	22	150°49.2	18.0	22	150°52.3	08.0	22	150°54.2	55.3	22	150°54.8	40.0
23	165°44.8	26.4	23	165°49.2	18.8	23	165°52.4	08.7	23	165°54.2	56.0	23	165°54.8	40.6
SD.=15.9 d=0.8			SD.=15.9 d=0.7			SD.=15.9 d=0.7			SD.=15.8 d=0.7			SD.=15.8 d=0.6		

02	GHA	Dec	05	GHA	Dec	08	GHA	Dec	11	GHA	Dec	14	GHA	Dec
0	180°44.9	N15°27.1	0	180°49.3	N16°19.5	0	180°52.4	N17°09.3	0	180°54.2	N17°56.6	0	180°54.8	N18°41.2
1	195°45.0	27.9	1	195°49.3	20.2	1	195°52.4	10.0	1	195°54.3	57.3	1	195°54.8	41.8
2	210°45.0	28.6	2	210°49.4	20.9	2	210°52.5	10.7	2	210°54.3	57.9	2	210°54.8	42.4
3	225°45.1	· · 29.4	3	225°49.4	· · 21.6	3	225°52.5	· · 11.3	3	225°54.3	· · 58.5	3	225°54.8	· · 43.0
4	240°45.2	30.1	4	240°49.5	22.3	4	240°52.5	12.0	4	240°54.3	59.2	4	240°54.8	43.6
5	255°45.2	30.9	5	255°49.5	23.0	5	255°52.6	12.7	5	255°54.3	17°59.8	5	255°54.8	44.2
6	270°45.3	N15°31.6	6	270°49.6	N16°23.7	6	270°52.6	N17°13.4	6	270°54.3	N18°00.4	6	270°54.8	N18°44.8
7	285°45.4	32.3	7	285°49.6	24.4	7	285°52.6	14.0	7	285°54.4	01.1	7	285°54.8	45.4
8	300°45.4	33.1	8	300°49.7	25.1	8	300°52.7	14.7	8	300°54.4	01.7	8	300°54.8	46.0
9	315°45.5	· · 33.8	9	315°49.7	· · 25.8	9	315°52.7	· · 15.4	9	315°54.4	· · 02.3	9	315°54.7	· · 46.6
10	330°45.6	34.6	10	330°49.8	26.5	10	330°52.7	16.1	10	330°54.4	03.0	10	330°54.7	47.2
11	345°45.6	35.3	11	345°49.8	27.2	11	345°52.8	16.7	11	345°54.4	03.6	11	345°54.7	47.8
12	0°45.7	N15°36.0	12	0°49.9	N16°27.9	12	0°52.8	N17°17.4	12	0°54.4	N18°04.2	12	0°54.7	N18°48.4
13	15°45.8	36.8	13	15°49.9	28.6	13	15°52.8	18.1	13	15°54.4	04.9	13	15°54.7	49.0
14	30°45.8	37.5	14	30°50.0	29.4	14	30°52.9	18.7	14	30°54.5	05.5	14	30°54.7	49.5
15	45°45.9	· · 38.2	15	45°50.0	· · 30.1	15	45°52.9	· · 19.4	15	45°54.5	· · 06.1	15	45°54.7	· · 50.1
16	60°46.0	39.0	16	60°50.1	30.8	16	60°52.9	20.1	16	60°54.5	06.8	16	60°54.7	50.7
17	75°46.0	39.7	17	75°50.1	31.5	17	75°53.0	20.7	17	75°54.5	07.4	17	75°54.7	51.3
18	90°46.1	N15°40.4	18	90°50.2	N16°32.2	18	90°53.0	N17°21.4	18	90°54.5	N18°08.0	18	90°54.7	N18°51.9
19	105°46.2	41.2	19	105°50.2	32.9	19	105°53.0	22.1	19	105°54.5	08.6	19	105°54.7	52.5
20	120°46.2	41.9	20	120°50.3	33.6	20	120°53.0	22.7	20	120°54.5	09.3	20	120°54.7	53.1
21	135°46.3	· · 42.6	21	135°50.3	· · 34.3	21	135°53.1	· · 23.4	21	135°54.5	· · 09.9	21	135°54.7	· · 53.7
22	150°46.4	43.4	22	150°50.4	35.0	22	150°53.1	24.1	22	150°54.5	10.5	22	150°54.7	54.3
23	165°46.4	44.1	23	165°50.4	35.7	23	165°53.1	24.7	23	165°54.6	11.2	23	165°54.7	54.9
SD.=15.9 d=0.7			SD.=15.9 d=0.7			SD.=15.8 d=0.7			SD.=15.8 d=0.6			SD.=15.8 d=0.6		

15	GHA	Dec	18	GHA	Dec	21	GHA	Dec	24	GHA	Dec	27	GHA	Dec
0	180°54.7	N18°55.4	0	180°53.4	N19°36.2	0	180°50.9	N20°14.0	0	180°47.2	N20°48.7	0	180°42.4	N21°20.2
1	195°54.6	56.0	1	195°53.4	36.8	1	195°50.9	14.5	1	195°47.2	49.2	1	195°42.3	20.6
2	210°54.6	56.6	2	210°53.4	37.3	2	210°50.9	15.0	2	210°47.1	49.6	2	210°42.3	21.0
3	225°54.6	· · 57.2	3	225°53.4	· · 37.9	3	225°50.8	· · 15.5	3	225°47.1	· · 50.1	3	225°42.2	· · 21.4
4	240°54.6	57.8	4	240°53.3	38.4	4	240°50.8	16.0	4	240°47.0	50.6	4	240°42.1	21.8
5	255°54.6	58.4	5	255°53.3	39.0	5	255°50.7	16.5	5	255°46.9	51.0	5	255°42.0	22.2
6	270°54.6	N18°59.0	6	270°53.3	N19°39.5	6	270°50.7	N20°17.0	6	270°46.9	N20°51.5	6	270°42.0	N21°22.7
7	285°54.6	18°59.5	7	285°53.2	40.0	7	285°50.6	17.5	7	285°46.8	51.9	7	285°41.9	23.1
8	300°54.6	19°00.1	8	300°53.2	40.6	8	300°50.6	18.0	8	300°46.8	52.4	8	300°41.8	23.5
9	315°54.6	· · 00.7	9	315°53.2	· · 41.1	9	315°50.5	· · 18.5	9	315°46.7	· · 52.8	9	315°41.7	· · 23.9
10	330°54.6	01.3	10	330°53.2	41.7	10	330°50.5	19.0	10	330°46.6	53.3	10	330°41.7	24.3
11	345°54.6	01.9	11	345°53.1	42.2	11	345°50.5	19.5	11	345°46.6	53.7	11	345°41.6	24.7
12	0°54.5	N19°02.4	12	0°53.1	N19°42.7	12	0°50.4	N20°20.0	12	0°46.5	N20°54.2	12	0°41.5	N21°25.1
13	15°54.5	03.0	13	15°53.1	43.3	13	15°50.4	20.5	13	15°46.5	54.6	13	15°41.4	25.5
14	30°54.5	03.6	14	30°53.0	43.8	14	30°50.3	21.0	14	30°46.4	55.1	14	30°41.4	25.9
15	45°54.5	· · 04.2	15	45°53.0	· · 44.4	15	45°50.3	· · 21.5	15	45°46.3	· · 55.5	15	45°41.3	· · 26.3
16	60°54.5	04.8	16	60°53.0	44.9	16	60°50.2	22.0	16	60°46.3	56.0	16	60°41.2	26.7
17	75°54.5	05.3	17	75°53.0	45.4	17	75°50.2	22.5	17	75°46.2	56.4	17	75°41.1	27.1
18	90°54.5	N19°05.9	18	90°52.9	N19°46.0	18	90°50.1	N20°23.0	18	90°46.1	N20°56.9	18	90°41.1	N21°27.5
19	105°54.5	06.5	19	105°52.9	46.5	19	105°50.1	23.5	19	105°46.1	57.3	19	105°41.0	27.9
20	120°54.4	07.1	20	120°52.9	47.0	20	120°50.0	24.0	20	120°46.0	57.8	20	120°40.9	28.3
21	135°54.4	· · 07.6	21	135°52.8	· · 47.6	21	135°50.0	· · 24.5	21	135°45.9	· · 58.2	21	135°40.8	· · 28.7
22	150°54.4	08.2	22	150°52.8	48.1	22	150°49.9	25.0	22	150°45.9	58.7	22	150°40.7	29.1
23	165°54.4	08.8	23	165°52.8	48.6	23	165°49.9	25.5	23	165°45.8	59.1	23	165°40.7	29.5
SD.=15.8 d=0.6			SD.=15.8 d=0.5			SD.=15.8 d=0.5			SD.=15.8 d=0.5			SD.=15.8 d=0.4		

16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec	28	GHA	Dec
0	180°54.4	N19°09.4	0	180°52.7	N19°49.2	0	180°49.8	N20°25.9	0	180°45.8	N20°59.6	0	180°40.6	N21°29.9
1	195°54.4	09.9	1	195°52.7	49.7	1	195°49.8	26.4	1	195°45.7	21°00.0	1	195°40.5	30.3
2	210°54.4	10.5	2	210°52.7	50.2	2	210°49.7	26.9	2	210°45.6	00.5	2	210°40.4	30.7
3	225°54.3	· · 11.1	3	225°52.6	· · 50.8	3	225°49.7	· · 27.4	3	225°45.6	· · 00.9	3	225°40.3	· · 31.1
4	240°54.3	11.7	4	240°52.6	51.3	4	240°49.6	27.9	4	240°45.5	01.3	4	240°40.3	31.5
5	255°54.3	12.2	5	255°52.6	51.8	5	255°49.6	28.4	5	255°45.4	01.8	5	255°40.2	31.9
6	270°54.3	N19°12.8	6	270°52.5	N19°52.4	6	270°49.5	N20°28.9	6	270°45.4	N21°02.2	6	270°40.1	N21°32.3
7	285°54.3	13.4	7	285°52.5	52.9	7	285°49.5	29.4	7	285°45.3	02.7	7	285°40.0	32.7
8	300°54.3	13.9	8	300°52.5	53.4	8	300°49.4	29.8	8	300°45.2	03.1	8	300°39.9	33.1
9	315°54.3	· · 14.5	9	315°52.4	· · 53.9	9	315°49.4	· · 30.3	9	315°45.2	· · 03.6	9	315°39.9	· · 33.5
10	330°54.2	15.1	10	330°52.4	54.5	10	330°49.3	30.8	10	330°45.1	04.0	10	330°39.8	33.9
11	345°54.2	15.6	11	345°52.4	55.0	11	345°49.3	31.3	11	345°45.0	04.4	11	345°39.7	34.3
12	0°54.2	N19°16.2	12	0°52.3	N19°55.5	12	0°49.2	N20°31.8	12	0°45.0	N21°04.9	12	0°39.6	N21°34.7
13	15°54.2	16.8	13	15°52.3	56.0	13	15°49.2	32.3	13	15°44.9	05.3	13	15°39.5	35.1
14	30°54.2	17.3	14	30°52.3	56.6	14	30°49.1	32.7	14	30°44.8	05.7	14	30°39.5	35.5
15	45°54.2	· · 17.9	15	45°52.2	· · 57.1	15	45°49.1	· · 33.2	15	45°44.8	· · 06.2	15	45°39.4	· · 35.8
16	60°54.1	18.5	16	60°52.2	57.6	16	60°49.0	33.7	16	60°44.7	06.6	16	60°39.3	36.2
17	75°54.1	19.0	17	75°52.2	58.1	17	75°49.0	34.2	17	75°44.6	07.0	17	75°39.2	36.6
18	90°54.1	N19°19.6	18	90°52.1	N19°58.7	18	90°48.9	N20°34.7	18	90°44.6	N21°07.5	18	90°39.1	N21°37.0
19	105°54.1	20.2	19	105°52.1	59.2	19	105°48.9	35.1	19	105°44.5	07.9	19	105°39.1	37.4
20	120°54.1	20.7	20	120°52.1	19°59.7	20	120°48.8	35.6	20	120°44.4	08.3	20	120°39.0	37.8
21	135°54.0	· · 21.3	21	135°52.0	20°00.2	21	135°48.8	· · 36.1	21	135°44.4	· · 08.8	21	135°38.9	· · 38.2
22	150°54.0	21.8	22	150°52.0	00.7	22	150°48.7	36.6	22	150°44.3	09.2	22	150°38.8	38.6
23	165°54.0	22.4	23	165°51.9	01.3	23	165°48.7	37.0	23	165°44.2	09.6	23	165°38.7	38.9
SD.=15.8 d=0.6			SD.=15.8 d=0.5			SD.=15.8 d=0.5			SD.=15.8 d=0.4			SD.=15.8 d=0.4		

17	GHA	Dec	20	GHA	Dec	23	GHA	Dec	26	GHA	Dec	29	GHA	Dec
0	180°54.0	N19°23.0	0	180°51.9	N20°01.8	0	180°48.6	N20°37.5	0	180°44.1	N21°10.1	0	180°38.6	N21°39.3
1	195°54.0	23.5	1	195°51.9	02.3	1	195°48.5	38.0	1	195°44.1	10.5	1	195°38.6	39.7
2	210°53.9	24.1	2	210°51.8	02.8	2	210°48.5	38.5	2	210°44.0	10.9	2	210°38.5	40.1
3	225°53.9	· · 24.6	3	225°51.8	· · 03.3	3	225°48.4	· · 38.9	3	225°43.9	· · 11.3	3	225°38.4	· · 40.5
4	240°53.9	25.2	4	240°51.8	03.8	4	240°48.4	39.4	4	240°43.9	11.8	4	240°38.3	40.8
5	255°53.9	25.8	5	255°51.7	04.4	5	255°48.3	39.9	5	255°43.8	12.2	5	255°38.2	41.2
6	270°53.9	N19°26.3	6	270°51.7	N20°04.9	6	270°48.3	N20°40.3	6	270°43.7	N21°12.6	6	270°38.1	N21°41.6
7	285°53.8	26.9	7	285°51.6	05.4	7	285°48.2	40.8	7	285°43.7	13.1	7	285°38.1	42.0
8	300°53.8	27.4	8	300°51.6	05.9	8	300°48.2	41.3	8	300°43.6	13.5	8	300°38.0	42.4
9	315°53.8	· · 28.0	9	315°51.6	· · 06.4	9	315°48.1	· · 41.8	9	315°43.5	· · 13.9	9	315°37.9	· · 42.7
10	330°53.8	28.5	10	330°51.5	06.9	10	330°48.1	42.2	10	330°43.4	14.3	10	330°37.8	43.1
11	345°53.7	29.1	11	345°51.5	07.4	11	345°48.0	42.7	11	345°43.4	14.7	11	345°37.7	43.5
12	0°53.7	N19°29.6	12	0°51.4	N20°07.9	12	0°47.9	N20°43.2	12	0°43.3	N21°15.2	12	0°37.6	N21°43.9
13	15°53.7	30.2	13	15°51.4	08.5	13	15°47.9	43.6	13	15°43.2	15.6	13	15°37.5	44.2
14	30°53.7	30.7	14	30°51.4	09.0	14	30°47.8	44.1	14	30°43.2	16.0	14	30°37.5	44.6
15	45°53.7	· · 31.3	15	45°51.3	· · 09.5	15	45°47.8	· · 44.6	15	45°43.1	· · 16.4	15	45°37.4	· · 45.0
16	60°53.6	31.9	16	60°51.3	10.0	16	60°47.7	45.0	16	60°43.0	16.9	16	60°37.3	45.4
17	75°53.6	32.4	17	75°51.2	10.5	17	75°47.7	45.5	17	75°42.9	17.3	17	75°37.2	45.7
18	90°53.6	N19°33.0	18	90°51.2	N20°11.0	18	90°47.6	N20°46.0	18	90°42.9	N21°17.7	18	90°37.1	N21°46.1
19	105°53.6	33.5	19	105°51.2	11.5	19	105°47.5	46.4	19	105°42.8	18.1	19	105°37.0	46.5
20	120°53.5	34.0	20	120°51.1	12.0	20	120°47.5	46.9	20	120°42.7	18.5	20	120°36.9	46.8
21	135°53.5	· · 34.6	21	135°51.1	· · 12.5	21	135°47.4	· · 47.3	21	135°42.6	· · 18.9	21	135°36.9	· · 47.2
22	150°53.5	35.1	22	150°51.0	13.0	22	150°47.4	47.8	22	150°42.6	19.4	22	150°36.8	47.6
23	165°53.5	35.7	23	165°51.0	13.5	23	165°47.3	48.3	23	165°42.5	19.8	23	165°36.7	48.0
SD.=15.8 d=0.6			SD.=15.8 d=0.5			SD.=15.8 d=0.5			SD.=15.8 d=0.4			SD.=15.8 d=0.4		

30	GHA	Dec	02	GHA	Dec	05	GHA	Dec	08	GHA	Dec	11	GHA	Dec
0	180°36.6	N21°48.3	0	180°29.9	N22°13.0	0	180°22.3	N22°34.2	0	180°14.0	N22°51.9	0	180°05.2	N23°05.9
1	195°36.5	48.7	1	195°29.8	13.3	1	195°22.2	34.5	1	195°13.9	52.1	1	195°05.1	06.1
2	210°36.4	49.1	2	210°29.7	13.7	2	210°22.1	34.8	2	210°13.8	52.3	2	210°04.9	06.3
3	225°36.3	· · 49.4	3	225°29.6	· · 14.0	3	225°22.0	· · 35.0	3	225°13.7	· · 52.6	3	225°04.8	· · 06.4
4	240°36.2	49.8	4	240°29.5	14.3	4	240°21.9	35.3	4	240°13.6	52.8	4	240°04.7	06.6
5	255°36.1	50.1	5	255°29.4	14.6	5	255°21.8	35.6	5	255°13.5	53.0	5	255°04.5	06.8
6	270°36.1	N21°50.5	6	270°29.3	N22°14.9	6	270°21.6	N22°35.8	6	270°13.3	N22°53.2	6	270°04.4	N23°06.9
7	285°36.0	50.9	7	285°29.2	15.2	7	285°21.5	36.1	7	285°13.2	53.4	7	285°04.3	07.1
8	300°35.9	51.2	8	300°29.1	15.6	8	300°21.4	36.4	8	300°13.1	53.6	8	300°04.2	07.3
9	315°35.8	· · 51.6	9	315°29.0	· · 15.9	9	315°21.3	· · 36.6	9	315°13.0	· · 53.8	9	315°04.0	· · 07.4
10	330°35.7	52.0	10	330°28.8	16.2	10	330°21.2	36.9	10	330°12.9	54.1	10	330°03.9	07.6
11	345°35.6	52.3	11	345°28.7	16.5	11	345°21.1	37.2	11	345°12.7	54.3	11	345°03.8	07.8
12	0°35.5	N21°52.7	12	0°28.6	N22°16.8	12	0°21.0	N22°37.4	12	0°12.6	N22°54.5	12	0°03.7	N23°07.9
13	15°35.4	53.0	13	15°28.5	17.1	13	15°20.9	37.7	13	15°12.5	54.7	13	15°03.5	08.1
14	30°35.3	53.4	14	30°28.4	17.4	14	30°20.8	38.0	14	30°12.4	54.9	14	30°03.4	08.2
15	45°35.3	· · 53.8	15	45°28.3	· · 17.7	15	45°20.6	· · 38.2	15	45°12.2	· · 55.1	15	45°03.3	· · 08.4
16	60°35.2	54.1	16	60°28.2	18.0	16	60°20.5	38.5	16	60°12.1	55.3	16	60°03.1	08.6
17	75°35.1	54.5	17	75°28.1	18.4	17	75°20.4	38.7	17	75°12.0	55.5	17	75°03.0	08.7
18	90°35.0	N21°54.8	18	90°28.0	N22°18.7	18	90°20.3	N22°39.0	18	90°11.9	N22°55.7	18	90°02.9	N23°08.9
19	105°34.9	55.2	19	105°27.9	19.0	19	105°20.2	39.2	19	105°11.8	56.0	19	105°02.8	09.0
20	120°34.8	55.5	20	120°27.8	19.3	20	120°20.1	39.5	20	120°11.6	56.2	20	120°02.6	09.2
21	135°34.7	· · 55.9	21	135°27.7	· · 19.6	21	135°20.0	· · 39.8	21	135°11.5	· · 56.4	21	135°02.5	· · 09.3
22	150°34.6	56.2	22	150°27.6	19.9	22	150°19.9	40.0	22	150°11.4	56.6	22	150°02.4	09.5
23	165°34.5	56.6	23	165°27.5	20.2	23	165°19.7	40.3	23	165°11.3	56.8	23	165°02.2	09.7
SD.=15.8 d=0.4			SD.=15.8 d=0.3			SD.=15.8 d=0.3			SD.=15.8 d=0.2			SD.=15.8 d=0.2		

31	GHA	Dec	03	GHA	Dec	06	GHA	Dec	09	GHA	Dec	12	GHA	Dec
0	180°34.4	N21°56.9	0	180°27.4	N22°20.5	0	180°19.6	N22°40.5	0	180°11.2	N22°57.0	0	180°02.1	N23°09.8
1	195°34.3	57.3	1	195°27.3	20.8	1	195°19.5	40.8	1	195°11.0	57.2	1	195°02.0	10.0
2	210°34.3	57.6	2	210°27.2	21.1	2	210°19.4	41.0	2	210°10.9	57.4	2	210°01.9	10.1
3	225°34.2	· · 58.0	3	225°27.1	· · 21.4	3	225°19.3	· · 41.3	3	225°10.8	· · 57.6	3	225°01.7	· · 10.3
4	240°34.1	58.3	4	240°27.0	21.7	4	240°19.2	41.5	4	240°10.7	57.8	4	240°01.6	10.4
5	255°34.0	58.7	5	255°26.9	22.0	5	255°19.1	41.8	5	255°10.5	58.0	5	255°01.5	10.6
6	270°33.9	N21°59.0	6	270°26.8	N22°22.3	6	270°18.9	N22°42.0	6	270°10.4	N22°58.2	6	270°01.3	N23°10.7
7	285°33.8	59.4	7	285°26.7	22.6	7	285°18.8	42.3	7	285°10.3	58.4	7	285°01.2	10.9
8	300°33.7	21°59.7	8	300°26.6	22.9	8	300°18.7	42.5	8	300°10.2	58.6	8	300°01.1	11.0
9	315°33.6	22°00.1	9	315°26.5	· · 23.2	9	315°18.6	· · 42.8	9	315°10.1	· · 58.8	9	315°01.0	· · 11.2
10	330°33.5	00.4	10	330°26.4	23.5	10	330°18.5	43.0	10	330°09.9	59.0	10	330°00.8	11.3
11	345°33.4	00.8	11	345°26.3	23.8	11	345°18.4	43.3	11	345°09.8	59.2	11	345°00.7	11.4
12	0°33.3	N22°01.1	12	0°26.2	N22°24.1	12	0°18.3	N22°43.5	12	0°09.7	N22°59.4	12	0°00.6	N23°11.6
13	15°33.2	01.5	13	15°26.1	24.4	13	15°18.1	43.8	13	15°09.6	59.6	13	15°00.4	11.7
14	30°33.1	01.8	14	30°26.0	24.7	14	30°18.0	44.0	14	30°09.4	22°59.8	14	30°00.3	11.9
15	45°33.0	· · 02.1	15	45°25.9	· · 25.0	15	45°17.9	· · 44.2	15	45°09.3	23°00.0	15	45°00.2	· · 12.0
16	60°33.0	02.5	16	60°25.8	25.3	16	60°17.8	44.5	16	60°09.2	00.1	16	60°00.0	12.2
17	75°32.9	02.8	17	75°25.6	25.5	17	75°17.7	44.7	17	75°09.1	00.3	17	74°59.9	12.3
18	90°32.8	N22°03.2	18	90°25.5	N22°25.8	18	90°17.6	N22°45.0	18	90°08.9	N23°00.5	18	89°59.8	N23°12.4
19	105°32.7	03.5	19	105°25.4	26.1	19	105°17.5	45.2	19	105°08.8	00.7	19	104°59.6	12.6
20	120°32.6	03.8	20	120°25.3	26.4	20	120°17.3	45.5	20	120°08.7	00.9	20	119°59.5	12.7
21	135°32.5	· · 04.2	21	135°25.2	· · 26.7	21	135°17.2	· · 45.7	21	135°08.6	· · 01.1	21	134°59.4	· · 12.9
22	150°32.4	04.5	22	150°25.1	27.0	22	150°17.1	45.9	22	150°08.4	01.3	22	149°59.3	13.0
23	165°32.3	04.8	23	165°25.0	27.3	23	165°17.0	46.2	23	165°08.3	01.5	23	164°59.1	13.1
SD.=15.8 d=0.4			SD.=15.8 d=0.3			SD.=15.8 d=0.3			SD.=15.8 d=0.2			SD.=15.7 d=0.2		

01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec	13	GHA	Dec
0	180°32.2	N22°05.2	0	180°24.9	N22°27.6	0	180°16.9	N22°46.4	0	180°08.2	N23°01.7	0	179°59.0	N23°13.3
1	195°32.1	05.5	1	195°24.8	27.9	1	195°16.8	46.6	1	195°08.1	01.8	1	194°58.9	13.4
2	210°32.0	05.8	2	210°24.7	28.1	2	210°16.6	46.9	2	210°07.9	02.0	2	209°58.7	13.5
3	225°31.9	· · 06.2	3	225°24.6	· · 28.4	3	225°16.5	· · 47.1	3	225°07.8	· · 02.2	3	224°58.6	· · 13.7
4	240°31.8	06.5	4	240°24.5	28.7	4	240°16.4	47.4	4	240°07.7	02.4	4	239°58.5	13.8
5	255°31.7	06.8	5	255°24.4	29.0	5	255°16.3	47.6	5	255°07.6	02.6	5	254°58.3	13.9
6	270°31.6	N22°07.2	6	270°24.3	N22°29.3	6	270°16.2	N22°47.8	6	270°07.4	N23°02.8	6	269°58.2	N23°14.1
7	285°31.5	07.5	7	285°24.2	29.6	7	285°16.1	48.1	7	285°07.3	03.0	7	284°58.1	14.2
8	300°31.4	07.8	8	300°24.0	29.8	8	300°15.9	48.3	8	300°07.2	03.1	8	299°57.9	14.3
9	315°31.3	· · 08.2	9	315°23.9	· · 30.1	9	315°15.8	· · 48.5	9	315°07.1	· · 03.3	9	314°57.8	· · 14.5
10	330°31.2	08.5	10	330°23.8	30.4	10	330°15.7	48.7	10	330°06.9	03.5	10	329°57.7	14.6
11	345°31.1	08.8	11	345°23.7	30.7	11	345°15.6	49.0	11	345°06.8	03.7	11	344°57.6	14.7
12	0°31.0	N22°09.2	12	0°23.6	N22°31.0	12	0°15.5	N22°49.2	12	0°06.7	N23°03.9	12	359°57.4	N23°14.9
13	15°30.9	09.5	13	15°23.5	31.2	13	15°15.4	49.4	13	15°06.6	04.0	13	14°57.3	15.0
14	30°30.8	09.8	14	30°23.4	31.5	14	30°15.2	49.7	14	30°06.4	04.2	14	29°57.2	15.1
15	45°30.7	· · 10.1	15	45°23.3	· · 31.8	15	45°15.1	· · 49.9	15	45°06.3	· · 04.4	15	44°57.0	· · 15.2
16	60°30.6	10.5	16	60°23.2	32.1	16	60°15.0	50.1	16	60°06.2	04.6	16	59°56.9	15.4
17	75°30.5	10.8	17	75°23.1	32.3	17	75°14.9	50.3	17	75°06.1	04.7	17	74°56.8	15.5
18	90°30.4	N22°11.1	18	90°23.0	N22°32.6	18	90°14.8	N22°50.6	18	90°05.9	N23°04.9	18	89°56.6	N23°15.6
19	105°30.3	11.4	19	105°22.9	32.9	19	105°14.6	50.8	19	105°05.8	05.1	19	104°56.5	15.7
20	120°30.2	11.7	20	120°22.7	33.2	20	120°14.5	51.0	20	120°05.7	05.3	20	119°56.4	15.8
21	135°30.1	· · 12.1	21	135°22.6	· · 33.4	21	135°14.4	· · 51.2	21	135°05.6	· · 05.4	21	134°56.2	· · 16.0
22	150°30.0	12.4	22	150°22.5	33.7	22	150°14.3	51.5	22	150°05.4	05.6	22	149°56.1	16.1
23	165°30.0	12.7	23	165°22.4	34.0	23	165°14.2	51.7	23	165°05.3	05.8	23	164°56.0	16.2
SD.=15.8 d=0.3			SD.=15.8 d=0.3			SD.=15.8 d=0.2			SD.=15.8 d=0.2			SD.=15.7 d=0.1		

14	GHA	Dec	17	GHA	Dec	20	GHA	Dec	23	GHA	Dec	26	GHA	Dec
0	179°55.8	N23°16.3	0	179°46.2	N23°23.0	0	179°36.3	N23°26.0	0	179°26.5	N23°25.3	0	179°16.8	N23°20.8
1	194°55.7	16.4	1	194°46.0	23.1	1	194°36.2	26.0	1	194°26.3	25.3	1	194°16.7	20.8
2	209°55.6	16.6	2	209°45.9	23.2	2	209°36.0	26.0	2	209°26.2	25.2	2	209°16.6	20.7
3	224°55.4	· · 16.7	3	224°45.7	· · 23.2	3	224°35.9	· · 26.1	3	224°26.1	· · 25.2	3	224°16.4	· · 20.6
4	239°55.3	16.8	4	239°45.6	23.3	4	239°35.8	26.1	4	239°25.9	25.1	4	239°16.3	20.5
5	254°55.2	16.9	5	254°45.5	23.4	5	254°35.6	26.1	5	254°25.8	25.1	5	254°16.2	20.4
6	269°55.0	N23°17.0	6	269°45.3	N23°23.4	6	269°35.5	N23°26.1	6	269°25.7	N23°25.1	6	269°16.1	N23°20.3
7	284°54.9	17.1	7	284°45.2	23.5	7	284°35.3	26.1	7	284°25.5	25.0	7	284°15.9	20.2
8	299°54.8	17.3	8	299°45.1	23.5	8	299°35.2	26.1	8	299°25.4	25.0	8	299°15.8	20.1
9	314°54.6	· · 17.4	9	314°44.9	· · 23.6	9	314°35.1	· · 26.1	9	314°25.3	· · 24.9	9	314°15.7	· · 20.0
10	329°54.5	17.5	10	329°44.8	23.7	10	329°34.9	26.1	10	329°25.1	24.9	10	329°15.5	19.9
11	344°54.4	17.6	11	344°44.7	23.7	11	344°34.8	26.1	11	344°25.0	24.8	11	344°15.4	19.8
12	359°54.2	N23°17.7	12	359°44.5	N23°23.8	12	359°34.7	N23°26.2	12	359°24.8	N23°24.8	12	359°15.3	N23°19.7
13	14°54.1	17.8	13	14°44.4	23.8	13	14°34.5	26.2	13	14°24.7	24.8	13	14°15.1	19.6
14	29°54.0	17.9	14	29°44.2	23.9	14	29°34.4	26.2	14	29°24.6	24.7	14	29°15.0	19.5
15	44°53.8	· · 18.0	15	44°44.1	· · 24.0	15	44°34.3	· · 26.2	15	44°24.4	· · 24.7	15	44°14.9	· · 19.4
16	59°53.7	18.1	16	59°44.0	24.0	16	59°34.1	26.2	16	59°24.3	24.6	16	59°14.7	19.4
17	74°53.6	18.2	17	74°43.8	24.1	17	74°34.0	26.2	17	74°24.2	24.6	17	74°14.6	19.3
18	89°53.4	N23°18.4	18	89°43.7	N23°24.1	18	89°33.8	N23°26.2	18	89°24.0	N23°24.5	18	89°14.5	N23°19.2
19	104°53.3	18.5	19	104°43.6	24.2	19	104°33.7	26.2	19	104°23.9	24.5	19	104°14.4	19.1
20	119°53.2	18.6	20	119°43.4	24.2	20	119°33.6	26.2	20	119°23.8	24.4	20	119°14.2	18.9
21	134°53.0	· · 18.7	21	134°43.3	· · 24.3	21	134°33.4	· · 26.2	21	134°23.6	· · 24.4	21	134°14.1	· · 18.8
22	149°52.9	18.8	22	149°43.2	24.3	22	149°33.3	26.2	22	149°23.5	24.3	22	149°14.0	18.7
23	164°52.8	18.9	23	164°43.0	24.4	23	164°33.2	26.2	23	164°23.4	24.3	23	164°13.8	18.6
SD.=15.7 d=0.1			SD.=15.7 d=0.1			SD.=15.7 d=0.0			SD.=15.7 d=-0.0			SD.=15.7 d=-0.1		

15	GHA	Dec	18	GHA	Dec	21	GHA	Dec	24	GHA	Dec	27	GHA	Dec
0	179°52.6	N23°19.0	0	179°42.9	N23°24.4	0	179°33.0	N23°26.2	0	179°23.2	N23°24.2	0	179°13.7	N23°18.5
1	194°52.5	19.1	1	194°42.7	24.5	1	194°32.9	26.2	1	194°23.1	24.2	1	194°13.6	18.4
2	209°52.4	19.2	2	209°42.6	24.5	2	209°32.7	26.2	2	209°23.0	24.1	2	209°13.4	18.3
3	224°52.2	· · 19.3	3	224°42.5	· · 24.6	3	224°32.6	· · 26.2	3	224°22.8	· · 24.1	3	224°13.3	· · 18.2
4	239°52.1	19.4	4	239°42.3	24.6	4	239°32.5	26.2	4	239°22.7	24.0	4	239°13.2	18.1
5	254°52.0	19.5	5	254°42.2	24.7	5	254°32.3	26.2	5	254°22.6	23.9	5	254°13.1	18.0
6	269°51.8	N23°19.6	6	269°42.1	N23°24.7	6	269°32.2	N23°26.2	6	269°22.4	N23°23.9	6	269°12.9	N23°17.9
7	284°51.7	19.7	7	284°41.9	24.8	7	284°32.1	26.2	7	284°22.3	23.8	7	284°12.8	17.8
8	299°51.6	19.8	8	299°41.8	24.8	8	299°31.9	26.2	8	299°22.2	23.8	8	299°12.7	17.7
9	314°51.4	· · 19.9	9	314°41.7	· · 24.9	9	314°31.8	· · 26.1	9	314°22.0	· · 23.7	9	314°12.5	· · 17.6
10	329°51.3	20.0	10	329°41.5	24.9	10	329°31.7	26.1	10	329°21.9	23.7	10	329°12.4	17.5
11	344°51.2	20.0	11	344°41.4	24.9	11	344°31.5	26.1	11	344°21.8	23.6	11	344°12.3	17.3
12	359°51.0	N23°20.1	12	359°41.2	N23°25.0	12	359°31.4	N23°26.1	12	359°21.6	N23°23.5	12	359°12.2	N23°17.2
13	14°50.9	20.2	13	14°41.1	25.0	13	14°31.2	26.1	13	14°21.5	23.5	13	14°12.0	17.1
14	29°50.8	20.3	14	29°41.0	25.1	14	29°31.1	26.1	14	29°21.4	23.4	14	29°11.9	17.0
15	44°50.6	· · 20.4	15	44°40.8	· · 25.1	15	44°31.0	· · 26.1	15	44°21.2	· · 23.3	15	44°11.8	· · 16.9
16	59°50.5	20.5	16	59°40.7	25.1	16	59°30.8	26.1	16	59°21.1	23.3	16	59°11.6	16.8
17	74°50.4	20.6	17	74°40.6	25.2	17	74°30.7	26.1	17	74°21.0	23.2	17	74°11.5	16.7
18	89°50.2	N23°20.7	18	89°40.4	N23°25.2	18	89°30.6	N23°26.0	18	89°20.8	N23°23.1	18	89°11.4	N23°16.5
19	104°50.1	20.8	19	104°40.3	25.3	19	104°30.4	26.0	19	104°20.7	23.1	19	104°11.3	16.4
20	119°50.0	20.9	20	119°40.1	25.3	20	119°30.3	26.0	20	119°20.6	23.0	20	119°11.1	16.3
21	134°49.8	· · 21.0	21	134°40.0	· · 25.3	21	134°30.1	· · 26.0	21	134°20.4	· · 22.9	21	134°11.0	· · 16.2
22	149°49.7	21.0	22	149°39.9	25.4	22	149°30.0	26.0	22	149°20.3	22.9	22	149°10.9	16.1
23	164°49.5	21.1	23	164°39.7	25.4	23	164°29.9	26.0	23	164°20.2	22.8	23	164°10.7	15.9
SD.=15.7 d=0.1			SD.=15.7 d=0.0			SD.=15.7 d=-0.0			SD.=15.7 d=-0.1			SD.=15.7 d=-0.1		

16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec	28	GHA	Dec
0	179°49.4	N23°21.2	0	179°39.6	N23°25.4	0	179°29.7	N23°25.9	0	179°20.0	N23°22.7	0	179°10.6	N23°15.8
1	194°49.3	21.3	1	194°39.5	25.5	1	194°29.6	25.9	1	194°19.9	22.7	1	194°10.5	15.7
2	209°49.1	21.4	2	209°39.3	25.5	2	209°29.5	25.9	2	209°19.8	22.6	2	209°10.4	15.6
3	224°49.0	· · 21.5	3	224°39.2	· · 25.5	3	224°29.3	· · 25.9	3	224°19.6	· · 22.5	3	224°10.2	· · 15.5
4	239°48.9	21.5	4	239°39.1	25.6	4	239°29.2	25.9	4	239°19.5	22.4	4	239°10.1	15.3
5	254°48.7	21.6	5	254°38.9	25.6	5	254°29.1	25.8	5	254°19.4	22.4	5	254°10.0	15.2
6	269°48.6	N23°21.7	6	269°38.8	N23°25.6	6	269°28.9	N23°25.8	6	269°19.2	N23°22.3	6	269°09.9	N23°15.1
7	284°48.5	21.8	7	284°38.6	25.6	7	284°28.8	25.8	7	284°19.1	22.2	7	284°09.7	15.0
8	299°48.3	21.9	8	299°38.5	25.7	8	299°28.6	25.8	8	299°19.0	22.2	8	299°09.6	14.8
9	314°48.2	· · 21.9	9	314°38.4	· · 25.7	9	314°28.5	· · 25.7	9	314°18.8	· · 22.1	9	314°09.5	· · 14.7
10	329°48.1	22.0	10	329°38.2	25.7	10	329°28.4	25.7	10	329°18.7	22.0	10	329°09.3	14.6
11	344°47.9	22.1	11	344°38.1	25.8	11	344°28.2	25.7	11	344°18.6	21.9	11	344°09.2	14.4
12	359°47.8	N23°22.2	12	359°38.0	N23°25.8	12	359°28.1	N23°25.7	12	359°18.4	N23°21.8	12	359°09.1	N23°14.3
13	14°47.7	22.2	13	14°37.8	25.8	13	14°28.0	25.6	13	14°18.3	21.8	13	14°09.0	14.2
14	29°47.5	22.3	14	29°37.7	25.8	14	29°27.8	25.6	14	29°18.2	21.7	14	29°08.8	14.0
15	44°47.4	· · 22.4	15	44°37.5	· · 25.8	15	44°27.7	· · 25.6	15	44°18.0	· · 21.6	15	44°08.7	· · 13.9
16	59°47.2	22.5	16	59°37.4	25.9	16	59°27.6	25.6	16	59°17.9	21.5	16	59°08.6	13.8
17	74°47.1	22.5	17	74°37.3	25.9	17	74°27.4	25.5	17	74°17.8	21.4	17	74°08.5	13.7
18	89°47.0	N23°22.6	18	89°37.1	N23°25.9	18	89°27.3	N23°25.5	18	89°17.6	N23°21.4	18	89°08.3	N23°13.5
19	104°46.8	22.7	19	104°37.0	25.9	19	104°27.2	25.5	19	104°17.5	21.3	19	104°08.2	13.4
20	119°46.7	22.8	20	119°36.9	26.0	20	119°27.0	25.4	20	119°17.4	21.2	20	119°08.1	13.2
21	134°46.6	· · 22.8	21	134°36.7	· · 26.0	21	134°26.9	· · 25.4	21	134°17.2	· · 21.1	21	134°08.0	· · 13.1
22	149°46.4	22.9	22	149°36.6	26.0	22	149°26.7	25.4	22	149°17.1	21.0	22	149°07.8	13.0
23	164°46.3	23.0	23	164°36.4	26.0	23	164°26.6	25.3	23	164°17.0	20.9	23	164°07.7	12.8
SD.=15.7 d=0.1			SD.=15.7 d=0.0			SD.=15.7 d=-0.0			SD.=15.7 d=-0.1			SD.=15.7 d=-0.1		

29	GHA	Dec	02	GHA	Dec	05	GHA	Dec	08	GHA	Dec	11	GHA	Dec
0	179°07.6	N23°12.7	0	178°58.9	N23°00.9	0	178°50.8	N22°45.5	0	178°43.6	N22°26.5	0	178°37.2	N22°04.0
1	194°07.5	12.6	1	193°58.8	00.7	1	193°50.7	45.2	1	193°43.5	26.2	1	193°37.1	03.7
2	209°07.3	12.4	2	208°58.6	00.5	2	208°50.6	45.0	2	208°43.4	25.9	2	208°37.0	03.4
3	224°07.2	.. 12.3	3	223°58.5	.. 00.3	3	223°50.5	.. 44.8	3	223°43.3	.. 25.6	3	223°37.0	.. 03.0
4	239°07.1	12.1	4	238°58.4	23°00.1	4	238°50.4	44.5	4	238°43.2	25.3	4	238°36.9	02.7
5	254°07.0	12.0	5	253°58.3	22°59.9	5	253°50.3	44.3	5	253°43.1	25.1	5	253°36.8	02.4
6	269°06.8	N23°11.9	6	268°58.2	N22°59.7	6	268°50.2	N22°44.0	6	268°43.0	N22°24.8	6	268°36.7	N22°02.0
7	284°06.7	11.7	7	283°58.1	59.5	7	283°50.1	43.8	7	283°42.9	24.5	7	283°36.6	01.7
8	299°06.6	11.6	8	298°58.0	59.4	8	298°50.0	43.5	8	298°42.8	24.2	8	298°36.5	01.3
9	314°06.5	.. 11.4	9	313°57.8	.. 59.2	9	313°49.9	.. 43.3	9	313°42.7	.. 23.9	9	313°36.5	.. 01.0
10	329°06.3	11.3	10	328°57.7	59.0	10	328°49.8	43.0	10	328°42.6	23.6	10	328°36.4	00.7
11	344°06.2	11.1	11	343°57.6	58.8	11	343°49.7	42.8	11	343°42.5	23.3	11	343°36.3	00.3
12	359°06.1	N23°11.0	12	358°57.5	N22°58.6	12	358°49.6	N22°42.6	12	358°42.5	N22°23.0	12	358°36.2	N22°00.0
13	14°06.0	10.8	13	13°57.4	58.4	13	13°49.5	42.3	13	13°42.4	22.7	13	13°36.1	21°59.6
14	29°05.8	10.7	14	28°57.3	58.2	14	28°49.4	42.1	14	28°42.3	22.4	14	28°36.1	59.3
15	44°05.7	.. 10.5	15	43°57.1	.. 58.0	15	43°49.3	.. 41.8	15	43°42.2	.. 22.1	15	43°36.0	.. 58.9
16	59°05.6	10.4	16	58°57.0	57.8	16	58°49.2	41.6	16	58°42.1	21.8	16	58°35.9	58.6
17	74°05.5	10.2	17	73°56.9	57.6	17	73°49.1	41.3	17	73°42.0	21.5	17	73°35.8	58.2
18	89°05.4	N23°10.1	18	88°56.8	N22°57.4	18	88°49.0	N22°41.1	18	88°41.9	N22°21.2	18	88°35.7	N21°57.9
19	104°05.2	09.9	19	103°56.7	57.2	19	103°48.8	40.8	19	103°41.8	20.9	19	103°35.7	57.6
20	119°05.1	09.8	20	118°56.6	57.0	20	118°48.7	40.6	20	118°41.7	20.6	20	118°35.6	57.2
21	134°05.0	.. 09.6	21	133°56.5	.. 56.8	21	133°48.6	.. 40.3	21	133°41.6	.. 20.3	21	133°35.5	.. 56.9
22	149°04.9	09.5	22	148°56.3	56.6	22	148°48.5	40.0	22	148°41.5	20.0	22	148°35.4	56.5
23	164°04.7	09.3	23	163°56.2	56.4	23	163°48.4	39.8	23	163°41.4	19.7	23	163°35.4	56.2
SD.=15.7 d=-0.1			SD.=15.7 d=-0.2			SD.=15.7 d=-0.2			SD.=15.7 d=-0.3			SD.=15.7 d=-0.3		

30	GHA	Dec	03	GHA	Dec	06	GHA	Dec	09	GHA	Dec	12	GHA	Dec
0	179°04.6	N23°09.2	0	178°56.1	N22°56.1	0	178°48.3	N22°39.5	0	178°41.4	N22°19.4	0	178°35.3	N21°55.8
1	194°04.5	09.0	1	193°56.0	55.9	1	193°48.2	39.3	1	193°41.3	19.1	1	193°35.2	55.4
2	209°04.4	08.9	2	208°55.9	55.7	2	208°48.1	39.0	2	208°41.2	18.8	2	208°35.1	55.1
3	224°04.3	.. 08.7	3	223°55.8	.. 55.5	3	223°48.0	.. 38.8	3	223°41.1	.. 18.5	3	223°35.0	.. 54.7
4	239°04.1	08.5	4	238°55.7	55.3	4	238°47.9	38.5	4	238°41.0	18.2	4	238°35.0	54.4
5	254°04.0	08.4	5	253°55.6	55.1	5	253°47.8	38.3	5	253°40.9	17.9	5	253°34.9	54.0
6	269°03.9	N23°08.2	6	268°55.4	N22°54.9	6	268°47.7	N22°38.0	6	268°40.8	N22°17.6	6	268°34.8	N21°53.7
7	284°03.8	08.1	7	283°55.3	54.7	7	283°47.6	37.7	7	283°40.7	17.3	7	283°34.7	53.3
8	299°03.6	07.9	8	298°55.2	54.5	8	298°47.5	37.5	8	298°40.6	16.9	8	298°34.7	53.0
9	314°03.5	.. 07.7	9	313°55.1	.. 54.3	9	313°47.4	.. 37.2	9	313°40.5	.. 16.6	9	313°34.6	.. 52.6
10	329°03.4	07.6	10	328°55.0	54.1	10	328°47.3	37.0	10	328°40.5	16.3	10	328°34.5	52.3
11	344°03.3	07.4	11	343°54.9	53.8	11	343°47.2	36.7	11	343°40.4	16.0	11	343°34.4	51.9
12	359°03.2	N23°07.2	12	358°54.8	N22°53.6	12	358°47.1	N22°36.4	12	358°40.3	N22°15.7	12	358°34.4	N21°51.5
13	14°03.0	07.1	13	13°54.7	53.4	13	13°47.0	36.2	13	13°40.2	15.4	13	13°34.3	51.2
14	29°02.9	06.9	14	28°54.5	53.2	14	28°46.9	35.9	14	28°40.1	15.1	14	28°34.2	50.8
15	44°02.8	.. 06.8	15	43°54.4	.. 53.0	15	43°46.8	.. 35.6	15	43°40.0	.. 14.8	15	43°34.1	.. 50.5
16	59°02.7	06.6	16	58°54.3	52.8	16	58°46.7	35.4	16	58°39.9	14.5	16	58°34.1	50.1
17	74°02.6	06.4	17	73°54.2	52.5	17	73°46.6	35.1	17	73°39.8	14.1	17	73°34.0	49.7
18	89°02.4	N23°06.3	18	88°54.1	N22°52.3	18	88°46.5	N22°34.8	18	88°39.7	N22°13.8	18	88°33.9	N21°49.4
19	104°02.3	06.1	19	103°54.0	52.1	19	103°46.4	34.6	19	103°39.7	13.5	19	103°33.8	49.0
20	119°02.2	05.9	20	118°53.9	51.9	20	118°46.3	34.3	20	118°39.6	13.2	20	118°33.8	48.6
21	134°02.1	.. 05.7	21	133°53.8	.. 51.7	21	133°46.2	.. 34.0	21	133°39.5	.. 12.9	21	133°33.7	.. 48.3
22	149°02.0	05.6	22	148°53.7	51.5	22	148°46.1	33.8	22	148°39.4	12.6	22	148°33.6	47.9
23	164°01.8	05.4	23	163°53.6	51.2	23	163°46.0	33.5	23	163°39.3	12.2	23	163°33.5	47.5
SD.=15.7 d=-0.2			SD.=15.7 d=-0.2			SD.=15.7 d=-0.3			SD.=15.7 d=-0.3			SD.=15.7 d=-0.4		

01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec	13	GHA	Dec
0	179°01.7	N23°05.2	0	178°53.4	N22°51.0	0	178°45.9	N22°33.2	0	178°39.2	N22°11.9	0	178°33.5	N21°47.2
1	194°01.6	05.1	1	193°53.3	50.8	1	193°45.8	32.9	1	193°39.1	11.6	1	193°33.4	46.8
2	209°01.5	04.9	2	208°53.2	50.6	2	208°45.7	32.7	2	208°39.0	11.3	2	208°33.3	46.4
3	224°01.4	.. 04.7	3	223°53.1	.. 50.3	3	223°45.6	.. 32.4	3	223°39.0	.. 11.0	3	223°33.3	.. 46.1
4	239°01.2	04.5	4	238°53.0	50.1	4	238°45.5	32.1	4	238°38.9	10.6	4	238°33.2	45.7
5	254°01.1	04.4	5	253°52.9	49.9	5	253°45.4	31.8	5	253°38.8	10.3	5	253°33.1	45.3
6	269°01.0	N23°04.2	6	268°52.8	N22°49.7	6	268°45.3	N22°31.6	6	268°38.7	N22°10.0	6	268°33.0	N21°45.0
7	284°00.9	04.0	7	283°52.7	49.4	7	283°45.2	31.3	7	283°38.6	09.7	7	283°33.0	44.6
8	299°00.8	03.8	8	298°52.6	49.2	8	298°45.1	31.0	8	298°38.5	09.3	8	298°32.9	44.2
9	314°00.6	.. 03.7	9	313°52.5	.. 49.0	9	313°45.0	.. 30.7	9	313°38.4	.. 09.0	9	313°32.8	.. 43.8
10	329°00.5	03.5	10	328°52.3	48.7	10	328°44.9	30.5	10	328°38.4	08.7	10	328°32.8	43.5
11	344°00.4	03.3	11	343°52.2	48.5	11	343°44.8	30.2	11	343°38.3	08.4	11	343°32.7	43.1
12	359°00.3	N23°03.1	12	358°52.1	N22°48.3	12	358°44.7	N22°29.9	12	358°38.2	N22°08.0	12	358°32.6	N21°42.7
13	14°00.2	02.9	13	13°52.0	48.1	13	13°44.6	29.6	13	13°38.1	07.7	13	13°32.5	42.4
14	29°00.1	02.7	14	28°51.9	47.8	14	28°44.5	29.3	14	28°38.0	07.4	14	28°32.5	42.0
15	43°59.9	.. 02.6	15	43°51.8	.. 47.6	15	43°44.4	.. 29.1	15	43°37.9	.. 07.0	15	43°32.4	.. 41.6
16	58°59.8	02.4	16	58°51.7	47.4	16	58°44.3	28.8	16	58°37.9	06.7	16	58°32.3	41.2
17	73°59.7	02.2	17	73°51.6	47.1	17	73°44.3	28.5	17	73°37.8	06.4	17	73°32.3	40.8
18	88°59.6	N23°02.0	18	88°51.5	N22°46.9	18	88°44.2	N22°28.2	18	88°37.7	N22°06.1	18	88°32.2	N21°40.5
19	103°59.5	01.8	19	103°51.4	46.7	19	103°44.1	27.9	19	103°37.6	05.7	19	103°32.1	40.1
20	118°59.3	01.6	20	118°51.3	46.4	20	118°44.0	27.6	20	118°37.5	05.4	20	118°32.1	39.7
21	133°59.2	.. 01.5	21	133°51.2	.. 46.2	21	133°43.9	.. 27.4	21	133°37.4	.. 05.1	21	133°32.0	.. 39.3
22	148°59.1	01.3	22	148°51.1	45.9	22	148°43.8	27.1	22	148°37.4	04.7	22	148°31.9	38.9
23	163°59.0	01.1	23	163°50.9	45.7	23	163°43.7	26.8	23	163°37.3	04.4	23	163°31.9	38.6
SD.=15.7 d=-0.2			SD.=15.7 d=-0.2			SD.=15.7 d=-0.3			SD.=15.7 d=-0.3			SD.=15.7 d=-0.4		

14	GHA	Dec	17	GHA	Dec	20	GHA	Dec	23	GHA	Dec	26	GHA	Dec
0	178°31.8	N21°38.2	0	178°27.4	N21°09.0	0	178°24.3	N20°36.6	0	178°22.3	N20°01.0	0	178°21.7	N19°22.5
1	193°31.7	37.8	1	193°27.4	08.6	1	193°24.2	36.1	1	193°22.3	00.5	1	193°21.7	22.0
2	208°31.6	37.4	2	208°27.3	08.1	2	208°24.2	35.6	2	208°22.3	20°00.0	2	208°21.7	21.4
3	223°31.6	· · 37.0	3	223°27.3	· · 07.7	3	223°24.2	· · 35.2	3	223°22.3	19°59.5	3	223°21.7	· · 20.8
4	238°31.5	36.6	4	238°27.2	07.3	4	238°24.1	34.7	4	238°22.3	59.0	4	238°21.8	20.3
5	253°31.4	36.3	5	253°27.2	06.8	5	253°24.1	34.2	5	253°22.2	58.5	5	253°21.8	19.7
6	268°31.4	N21°35.9	6	268°27.1	N21°06.4	6	268°24.1	N20°33.7	6	268°22.2	N19°57.9	6	268°21.8	N19°19.2
7	283°31.3	35.5	7	283°27.1	06.0	7	283°24.0	33.3	7	283°22.2	57.4	7	283°21.8	18.6
8	298°31.2	35.1	8	298°27.0	05.6	8	298°24.0	32.8	8	298°22.2	56.9	8	298°21.8	18.0
9	313°31.2	· · 34.7	9	313°27.0	· · 05.1	9	313°24.0	· · 32.3	9	313°22.2	· · 56.4	9	313°21.8	· · 17.5
10	328°31.1	34.3	10	328°26.9	04.7	10	328°23.9	31.8	10	328°22.2	55.9	10	328°21.8	16.9
11	343°31.0	33.9	11	343°26.9	04.2	11	343°23.9	31.3	11	343°22.2	55.3	11	343°21.8	16.4
12	358°31.0	N21°33.5	12	358°26.8	N21°03.8	12	358°23.9	N20°30.9	12	358°22.1	N19°54.8	12	358°21.8	N19°15.8
13	13°30.9	33.2	13	13°26.8	03.4	13	13°23.8	30.4	13	13°22.1	54.3	13	13°21.8	15.2
14	28°30.9	32.8	14	28°26.7	02.9	14	28°23.8	29.9	14	28°22.1	53.8	14	28°21.8	14.7
15	43°30.8	· · 32.4	15	43°26.7	· · 02.5	15	43°23.8	· · 29.4	15	43°22.1	· · 53.3	15	43°21.8	· · 14.1
16	58°30.7	32.0	16	58°26.6	02.1	16	58°23.7	28.9	16	58°22.1	52.7	16	58°21.8	13.5
17	73°30.7	31.6	17	73°26.6	01.6	17	73°23.7	28.5	17	73°22.1	52.2	17	73°21.8	13.0
18	88°30.6	N21°31.2	18	88°26.5	N21°01.2	18	88°23.7	N20°28.0	18	88°22.1	N19°51.7	18	88°21.8	N19°12.4
19	103°30.5	30.8	19	103°26.5	00.7	19	103°23.6	27.5	19	103°22.0	51.2	19	103°21.8	11.9
20	118°30.5	30.4	20	118°26.4	21°00.3	20	118°23.6	27.0	20	118°22.0	50.6	20	118°21.8	11.3
21	133°30.4	· · 30.0	21	133°26.4	20°59.9	21	133°23.6	· · 26.5	21	133°22.0	· · 50.1	21	133°21.8	· · 10.7
22	148°30.3	29.6	22	148°26.3	59.4	22	148°23.5	26.0	22	148°22.0	49.6	22	148°21.8	10.2
23	163°30.3	29.2	23	163°26.3	59.0	23	163°23.5	25.6	23	163°22.0	49.1	23	163°21.8	09.6
SD.=15.7 d=-0.4			SD.=15.7 d=-0.4			SD.=15.7 d=-0.5			SD.=15.7 d=-0.5			SD.=15.7 d=-0.6		

15	GHA	Dec	18	GHA	Dec	21	GHA	Dec	24	GHA	Dec	27	GHA	Dec
0	178°30.2	N21°28.8	0	178°26.2	N20°58.5	0	178°23.5	N20°25.1	0	178°22.0	N19°48.5	0	178°21.9	N19°09.0
1	193°30.2	28.4	1	193°26.2	58.1	1	193°23.4	24.6	1	193°22.0	48.0	1	193°21.9	08.4
2	208°30.1	28.0	2	208°26.2	57.7	2	208°23.4	24.1	2	208°22.0	47.5	2	208°21.9	07.9
3	223°30.0	· · 27.6	3	223°26.1	· · 57.2	3	223°23.4	· · 23.6	3	223°22.0	· · 46.9	3	223°21.9	· · 07.3
4	238°30.0	27.2	4	238°26.1	56.8	4	238°23.4	23.1	4	238°21.9	46.4	4	238°21.9	06.7
5	253°29.9	26.8	5	253°26.0	56.3	5	253°23.3	22.6	5	253°21.9	45.9	5	253°21.9	06.2
6	268°29.8	N21°26.4	6	268°26.0	N20°55.9	6	268°23.3	N20°22.1	6	268°21.9	N19°45.3	6	268°21.9	N19°05.6
7	283°29.8	26.0	7	283°25.9	55.4	7	283°23.3	21.7	7	283°21.9	44.8	7	283°21.9	05.0
8	298°29.7	25.6	8	298°25.9	55.0	8	298°23.2	21.2	8	298°21.9	44.3	8	298°21.9	04.4
9	313°29.7	· · 25.2	9	313°25.8	· · 54.5	9	313°23.2	· · 20.7	9	313°21.9	· · 43.7	9	313°21.9	· · 03.9
10	328°29.6	24.8	10	328°25.8	54.1	10	328°23.2	20.2	10	328°21.9	43.2	10	328°21.9	03.3
11	343°29.5	24.4	11	343°25.7	53.6	11	343°23.2	19.7	11	343°21.9	42.7	11	343°22.0	02.7
12	358°29.5	N21°24.0	12	358°25.7	N20°53.2	12	358°23.1	N20°19.2	12	358°21.9	N19°42.1	12	358°22.0	N19°02.1
13	13°29.4	23.6	13	13°25.7	52.7	13	13°23.1	18.7	13	13°21.9	41.6	13	13°22.0	01.6
14	28°29.4	23.2	14	28°25.6	52.3	14	28°23.1	18.2	14	28°21.9	41.1	14	28°22.0	01.0
15	43°29.3	· · 22.8	15	43°25.6	· · 51.8	15	43°23.1	· · 17.7	15	43°21.8	· · 40.5	15	43°22.0	19°00.4
16	58°29.2	22.4	16	58°25.5	51.4	16	58°23.0	17.2	16	58°21.8	40.0	16	58°22.0	18°59.8
17	73°29.2	22.0	17	73°25.5	50.9	17	73°23.0	16.7	17	73°21.8	39.5	17	73°22.0	59.3
18	88°29.1	N21°21.6	18	88°25.4	N20°50.5	18	88°23.0	N20°16.2	18	88°21.8	N19°38.9	18	88°22.0	N18°58.7
19	103°29.1	21.1	19	103°25.4	50.0	19	103°23.0	15.7	19	103°21.8	38.4	19	103°22.1	58.1
20	118°29.0	20.7	20	118°25.4	49.6	20	118°22.9	15.2	20	118°21.8	37.8	20	118°22.1	57.5
21	133°28.9	· · 20.3	21	133°25.3	· · 49.1	21	133°22.9	· · 14.7	21	133°21.8	· · 37.3	21	133°22.1	· · 56.9
22	148°28.9	19.9	22	148°25.3	48.7	22	148°22.9	14.2	22	148°21.8	36.8	22	148°22.1	56.4
23	163°28.8	19.5	23	163°25.2	48.2	23	163°22.9	13.7	23	163°21.8	36.2	23	163°22.1	55.8
SD.=15.7 d=-0.4			SD.=15.7 d=-0.4			SD.=15.7 d=-0.5			SD.=15.7 d=-0.5			SD.=15.7 d=-0.6		

16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec	28	GHA	Dec
0	178°28.8	N21°19.1	0	178°25.2	N20°47.7	0	178°22.8	N20°13.2	0	178°21.8	N19°35.7	0	178°22.1	N18°55.2
1	193°28.7	18.7	1	193°25.1	47.3	1	193°22.8	12.7	1	193°21.8	35.1	1	193°22.1	54.6
2	208°28.6	18.3	2	208°25.1	46.8	2	208°22.8	12.2	2	208°21.8	34.6	2	208°22.2	54.0
3	223°28.6	· · 17.8	3	223°25.1	· · 46.4	3	223°22.8	· · 11.7	3	223°21.8	· · 34.1	3	223°22.2	· · 53.5
4	238°28.5	17.4	4	238°25.0	45.9	4	238°22.7	11.2	4	238°21.8	33.5	4	238°22.2	52.9
5	253°28.5	17.0	5	253°25.0	45.4	5	253°22.7	10.7	5	253°21.8	33.0	5	253°22.2	52.3
6	268°28.4	N21°16.6	6	268°24.9	N20°45.0	6	268°22.7	N20°10.2	6	268°21.8	N19°32.4	6	268°22.2	N18°51.7
7	283°28.4	16.2	7	283°24.9	44.5	7	283°22.7	09.7	7	283°21.8	31.9	7	283°22.2	51.1
8	298°28.3	15.8	8	298°24.9	44.1	8	298°22.7	09.2	8	298°21.8	31.3	8	298°22.2	50.5
9	313°28.3	· · 15.3	9	313°24.8	· · 43.6	9	313°22.6	· · 08.7	9	313°21.8	· · 30.8	9	313°22.3	· · 49.9
10	328°28.2	14.9	10	328°24.8	43.1	10	328°22.6	08.2	10	328°21.8	30.2	10	328°22.3	49.4
11	343°28.1	14.5	11	343°24.7	42.7	11	343°22.6	07.7	11	343°21.7	29.7	11	343°22.3	48.8
12	358°28.1	N21°14.1	12	358°24.7	N20°42.2	12	358°22.6	N20°07.2	12	358°21.7	N19°29.1	12	358°22.3	N18°48.2
13	13°28.0	13.7	13	13°24.7	41.7	13	13°22.5	06.7	13	13°21.7	28.6	13	13°22.3	47.6
14	28°28.0	13.2	14	28°24.6	41.3	14	28°22.5	06.2	14	28°21.7	28.0	14	28°22.3	47.0
15	43°27.9	· · 12.8	15	43°24.6	· · 40.8	15	43°22.5	· · 05.7	15	43°21.7	· · 27.5	15	43°22.4	· · 46.4
16	58°27.9	12.4	16	58°24.6	40.3	16	58°22.5	05.1	16	58°21.7	26.9	16	58°22.4	45.8
17	73°27.8	12.0	17	73°24.5	39.9	17	73°22.5	04.6	17	73°21.7	26.4	17	73°22.4	45.2
18	88°27.8	N21°11.6	18	88°24.5	N20°39.4	18	88°22.4	N20°04.1	18	88°21.7	N19°25.8	18	88°22.4	N18°44.6
19	103°27.7	11.1	19	103°24.4	38.9	19	103°22.4	03.6	19	103°21.7	25.3	19	103°22.4	44.1
20	118°27.7	10.7	20	118°24.4	38.5	20	118°22.4	03.1	20	118°21.7	24.7	20	118°22.5	43.5
21	133°27.6	· · 10.3	21	133°24.4	· · 38.0	21	133°22.4	· · 02.6	21	133°21.7	· · 24.2	21	133°22.5	· · 42.9
22	148°27.5	09.8	22	148°24.3	37.5	22	148°22.4	02.1	22	148°21.7	23.6	22	148°22.5	42.3
23	163°27.5	09.4	23	163°24.3	37.1	23	163°22.4	01.6	23	163°21.7	23.1	23	163°22.5	41.7
SD.=15.7 d=-0.4			SD.=15.7 d=-0.5			SD.=15.7 d=-0.5			SD.=15.7 d=-0.5			SD.=15.8 d=-0.6		

29	GHA	Dec	01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec
0	178°22.5	N18°41.1	0	178°24.8	N17°56.9	0	178°28.3	N17°10.1	0	178°33.3	N16°20.8	0	178°39.5	N15°29.2
1	193°22.6	40.5	1	193°24.8	56.3	1	193°28.4	09.4	1	193°33.4	20.1	1	193°39.6	28.4
2	208°22.6	39.9	2	208°24.8	55.6	2	208°28.5	08.8	2	208°33.5	19.4	2	208°39.7	27.7
3	223°22.6	· · 39.3	3	223°24.9	· · 55.0	3	223°28.5	· · 08.1	3	223°33.5	· · 18.7	3	223°39.8	· · 27.0
4	238°22.6	38.7	4	238°24.9	54.4	4	238°28.6	07.4	4	238°33.6	18.0	4	238°39.9	26.2
5	253°22.7	38.1	5	253°25.0	53.7	5	253°28.6	06.8	5	253°33.7	17.3	5	253°40.0	25.5
6	268°22.7	N18°37.5	6	268°25.0	N17°53.1	6	268°28.7	N17°06.1	6	268°33.8	N16°16.6	6	268°40.1	N15°24.8
7	283°22.7	36.9	7	283°25.0	52.5	7	283°28.8	05.4	7	283°33.8	15.9	7	283°40.2	24.0
8	298°22.7	36.3	8	298°25.1	51.8	8	298°28.8	04.8	8	298°33.9	15.2	8	298°40.3	23.3
9	313°22.7	· · 35.7	9	313°25.1	· · 51.2	9	313°28.9	· · 04.1	9	313°34.0	· · 14.5	9	313°40.4	· · 22.5
10	328°22.8	35.1	10	328°25.2	50.6	10	328°29.0	03.4	10	328°34.1	13.8	10	328°40.5	21.8
11	343°22.8	34.5	11	343°25.2	49.9	11	343°29.0	02.7	11	343°34.2	13.1	11	343°40.6	21.1
12	358°22.8	N18°33.9	12	358°25.3	N17°49.3	12	358°29.1	N17°02.1	12	358°34.2	N16°12.4	12	358°40.7	N15°20.3
13	13°22.8	33.3	13	13°25.3	48.7	13	13°29.1	01.4	13	13°34.3	11.7	13	13°40.8	19.6
14	28°22.9	32.7	14	28°25.3	48.0	14	28°29.2	00.7	14	28°34.4	11.0	14	28°40.9	18.9
15	43°22.9	· · 32.1	15	43°25.4	· · 47.4	15	43°29.3	17°00.0	15	43°34.5	· · 10.3	15	43°41.0	· · 18.1
16	58°22.9	31.5	16	58°25.4	46.7	16	58°29.3	16°59.4	16	58°34.6	09.5	16	58°41.1	17.4
17	73°22.9	30.9	17	73°25.5	46.1	17	73°29.4	58.7	17	73°34.7	08.8	17	73°41.2	16.6
18	88°23.0	N18°30.3	18	88°25.5	N17°45.5	18	88°29.5	N16°58.0	18	88°34.7	N16°08.1	18	88°41.3	N15°15.9
19	103°23.0	29.7	19	103°25.6	44.8	19	103°29.5	57.3	19	103°34.8	07.4	19	103°41.4	15.2
20	118°23.0	29.1	20	118°25.6	44.2	20	118°29.6	56.7	20	118°34.9	06.7	20	118°41.5	14.4
21	133°23.0	· · 28.5	21	133°25.7	· · 43.5	21	133°29.7	· · 56.0	21	133°35.0	· · 06.0	21	133°41.6	· · 13.7
22	148°23.1	27.9	22	148°25.7	42.9	22	148°29.7	55.3	22	148°35.1	05.3	22	148°41.7	12.9
23	163°23.1	27.3	23	163°25.8	42.2	23	163°29.8	54.6	23	163°35.2	04.6	23	163°41.8	12.2
SD.=15.8 d=-0.6			SD.=15.8 d=-0.6			SD.=15.8 d=-0.7			SD.=15.8 d=-0.7			SD.=15.8 d=-0.7		

30	GHA	Dec	02	GHA	Dec	05	GHA	Dec	08	GHA	Dec	11	GHA	Dec
0	178°23.1	N18°26.7	0	178°25.8	N17°41.6	0	178°29.8	N16°54.0	0	178°35.2	N16°03.9	0	178°41.9	N15°11.4
1	193°23.2	26.1	1	193°25.8	41.0	1	193°29.9	53.3	1	193°35.3	03.2	1	193°42.0	10.7
2	208°23.2	25.4	2	208°25.9	40.3	2	208°30.0	52.6	2	208°35.4	02.4	2	208°42.1	10.0
3	223°23.2	· · 24.8	3	223°25.9	· · 39.7	3	223°30.0	· · 51.9	3	223°35.5	· · 01.7	3	223°42.2	· · 09.2
4	238°23.2	24.2	4	238°26.0	39.0	4	238°30.1	51.2	4	238°35.6	01.0	4	238°42.3	08.5
5	253°23.3	23.6	5	253°26.0	38.4	5	253°30.2	50.6	5	253°35.7	16°00.3	5	253°42.4	07.7
6	268°23.3	N18°23.0	6	268°26.1	N17°37.7	6	268°30.2	N16°49.9	6	268°35.7	N15°59.6	6	268°42.5	N15°07.0
7	283°23.3	22.4	7	283°26.1	37.1	7	283°30.3	49.2	7	283°35.8	58.9	7	283°42.6	06.2
8	298°23.4	21.8	8	298°26.2	36.4	8	298°30.4	48.5	8	298°35.9	58.2	8	298°42.7	05.5
9	313°23.4	· · 21.2	9	313°26.2	· · 35.8	9	313°30.5	· · 47.8	9	313°36.0	· · 57.4	9	313°42.8	· · 04.7
10	328°23.4	20.6	10	328°26.3	35.1	10	328°30.5	47.1	10	328°36.1	56.7	10	328°42.9	04.0
11	343°23.4	19.9	11	343°26.3	34.5	11	343°30.6	46.5	11	343°36.2	56.0	11	343°43.0	03.2
12	358°23.5	N18°19.3	12	358°26.4	N17°33.8	12	358°30.7	N16°45.8	12	358°36.3	N15°55.3	12	358°43.1	N15°02.5
13	13°23.5	18.7	13	13°26.4	33.2	13	13°30.7	45.1	13	13°36.3	54.6	13	13°43.2	01.7
14	28°23.5	18.1	14	28°26.5	32.5	14	28°30.8	44.4	14	28°36.4	53.8	14	28°43.3	01.0
15	43°23.6	· · 17.5	15	43°26.5	· · 31.9	15	43°30.9	· · 43.7	15	43°36.5	· · 53.1	15	43°43.4	15°00.2
16	58°23.6	16.9	16	58°26.6	31.2	16	58°30.9	43.0	16	58°36.6	52.4	16	58°43.6	14°59.5
17	73°23.6	16.3	17	73°26.6	30.6	17	73°31.0	42.3	17	73°36.7	51.7	17	73°43.7	58.7
18	88°23.7	N18°15.6	18	88°26.7	N17°29.9	18	88°31.1	N16°41.7	18	88°36.8	N15°51.0	18	88°43.8	N14°58.0
19	103°23.7	15.0	19	103°26.7	29.3	19	103°31.1	41.0	19	103°36.9	50.3	19	103°43.9	57.2
20	118°23.7	14.4	20	118°26.8	28.6	20	118°31.2	40.3	20	118°37.0	49.5	20	118°44.0	56.5
21	133°23.8	· · 13.8	21	133°26.8	· · 28.0	21	133°31.3	· · 39.6	21	133°37.0	· · 48.8	21	133°44.1	· · 55.7
22	148°23.8	13.2	22	148°26.9	27.3	22	148°31.4	38.9	22	148°37.1	48.1	22	148°44.2	55.0
23	163°23.8	12.6	23	163°26.9	26.7	23	163°31.4	38.2	23	163°37.2	47.4	23	163°44.3	54.2
SD.=15.8 d=-0.6			SD.=15.8 d=-0.6			SD.=15.8 d=-0.7			SD.=15.8 d=-0.7			SD.=15.8 d=-0.7		

31	GHA	Dec	03	GHA	Dec	06	GHA	Dec	09	GHA	Dec	12	GHA	Dec
0	178°23.9	N18°11.9	0	178°27.0	N17°26.0	0	178°31.5	N16°37.5	0	178°37.3	N15°46.6	0	178°44.4	N14°53.5
1	193°23.9	11.3	1	193°27.1	25.3	1	193°31.6	36.8	1	193°37.4	45.9	1	193°44.5	52.7
2	208°23.9	10.7	2	208°27.1	24.7	2	208°31.6	36.1	2	208°37.5	45.2	2	208°44.6	52.0
3	223°24.0	· · 10.1	3	223°27.2	· · 24.0	3	223°31.7	· · 35.5	3	223°37.6	· · 44.5	3	223°44.7	· · 51.2
4	238°24.0	09.5	4	238°27.2	23.4	4	238°31.8	34.8	4	238°37.7	43.7	4	238°44.8	50.5
5	253°24.0	08.8	5	253°27.3	22.7	5	253°31.9	34.1	5	253°37.8	43.0	5	253°44.9	49.7
6	268°24.1	N18°08.2	6	268°27.3	N17°22.1	6	268°31.9	N16°33.4	6	268°37.9	N15°42.3	6	268°45.0	N14°48.9
7	283°24.1	07.6	7	283°27.4	21.4	7	283°32.0	32.7	7	283°38.0	41.6	7	283°45.2	48.2
8	298°24.1	07.0	8	298°27.4	20.7	8	298°32.1	32.0	8	298°38.0	40.8	8	298°45.3	47.4
9	313°24.2	· · 06.3	9	313°27.5	· · 20.1	9	313°32.2	· · 31.3	9	313°38.1	· · 40.1	9	313°45.4	· · 46.7
10	328°24.2	05.7	10	328°27.5	19.4	10	328°32.2	30.6	10	328°38.2	39.4	10	328°45.5	45.9
11	343°24.3	05.1	11	343°27.6	18.8	11	343°32.3	29.9	11	343°38.3	38.7	11	343°45.6	45.2
12	358°24.3	N18°04.5	12	358°27.7	N17°18.1	12	358°32.4	N16°29.2	12	358°38.4	N15°37.9	12	358°45.7	N14°44.4
13	13°24.3	03.8	13	13°27.7	17.4	13	13°32.5	28.5	13	13°38.5	37.2	13	13°45.8	43.6
14	28°24.4	03.2	14	28°27.8	16.8	14	28°32.5	27.8	14	28°38.6	36.5	14	28°45.9	42.9
15	43°24.4	· · 02.6	15	43°27.8	· · 16.1	15	43°32.6	· · 27.1	15	43°38.7	· · 35.7	15	43°46.0	· · 42.1
16	58°24.4	02.0	16	58°27.9	15.4	16	58°32.7	26.4	16	58°38.8	35.0	16	58°46.1	41.4
17	73°24.5	01.3	17	73°27.9	14.8	17	73°32.8	25.7	17	73°38.9	34.3	17	73°46.3	40.6
18	88°24.5	N18°00.7	18	88°28.0	N17°14.1	18	88°32.8	N16°25.0	18	88°39.0	N15°33.6	18	88°46.4	N14°39.8
19	103°24.6	18°00.1	19	103°28.1	13.4	19	103°32.9	24.3	19	103°39.1	32.8	19	103°46.5	39.1
20	118°24.6	17°59.4	20	118°28.1	12.8	20	118°33.0	23.6	20	118°39.2	32.1	20	118°46.6	38.3
21	133°24.6	· · 58.8	21	133°28.2	· · 12.1	21	133°33.1	· · 22.9	21	133°39.3	· · 31.4	21	133°46.7	· · 37.6
22	148°24.7	58.2	22	148°28.2	11.4	22	148°33.1	22.2	22	148°39.4	30.6	22	148°46.8	36.8
23	163°24.7	57.5	23	163°28.3	10.8	23	163°33.2	21.5	23	163°39.4	29.9	23	163°46.9	36.0
SD.=15.8 d=-0.6			SD.=15.8 d=-0.7			SD.=15.8 d=-0.7			SD.=15.8 d=-0.7			SD.=15.8 d=-0.8		

13	GHA	Dec	16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec
0	178°47.0	N14°35.3	0	178°55.7	N13°39.3	0	179°05.6	N12°41.3	0	179°16.5	N11°41.6	0	179°28.4	N10°40.1
1	193°47.1	34.5	1	193°55.9	38.5	1	194°05.7	40.5	1	194°16.6	40.7	1	194°28.6	39.3
2	208°47.3	33.7	2	208°56.0	37.7	2	209°05.8	39.7	2	209°16.8	39.9	2	209°28.8	38.4
3	223°47.4	· · 33.0	3	223°56.1	· · 36.9	3	224°06.0	· · 38.9	3	224°17.0	· · 39.0	3	224°29.0	· · 37.5
4	238°47.5	32.2	4	238°56.2	36.1	4	239°06.1	38.0	4	239°17.1	38.2	4	239°29.1	36.7
5	253°47.6	31.4	5	253°56.4	35.3	5	254°06.3	37.2	5	254°17.3	37.3	5	254°29.3	35.8
6	268°47.7	N14°30.7	6	268°56.5	N13°34.5	6	269°06.4	N12°36.4	6	269°17.4	N11°36.5	6	269°29.5	N10°34.9
7	283°47.8	29.9	7	283°56.6	33.7	7	284°06.6	35.6	7	284°17.6	35.7	7	284°29.7	34.1
8	298°47.9	29.2	8	298°56.8	32.9	8	299°06.7	34.8	8	299°17.8	34.8	8	299°29.8	33.2
9	313°48.1	· · 28.4	9	313°56.9	· · 32.1	9	314°06.9	· · 33.9	9	314°17.9	· · 34.0	9	314°30.0	· · 32.3
10	328°48.2	27.6	10	328°57.0	31.3	10	329°07.0	33.1	10	329°18.1	33.1	10	329°30.2	31.5
11	343°48.3	26.8	11	343°57.2	30.5	11	344°07.2	32.3	11	344°18.2	32.3	11	344°30.4	30.6
12	358°48.4	N14°26.1	12	358°57.3	N13°29.7	12	359°07.3	N12°31.5	12	359°18.4	N11°31.4	12	359°30.5	N10°29.7
13	13°48.5	25.3	13	13°57.4	29.0	13	14°07.5	30.7	13	14°18.6	30.6	13	14°30.7	28.9
14	28°48.6	24.5	14	28°57.6	28.2	14	29°07.6	29.8	14	29°18.7	29.7	14	29°30.9	28.0
15	43°48.8	· · 23.8	15	43°57.7	· · 27.4	15	44°07.7	· · 29.0	15	44°18.9	· · 28.9	15	44°31.1	· · 27.1
16	58°48.9	23.0	16	58°57.8	26.6	16	59°07.9	28.2	16	59°19.1	28.0	16	59°31.2	26.3
17	73°49.0	22.2	17	73°57.9	25.8	17	74°08.0	27.4	17	74°19.2	27.2	17	74°31.4	25.4
18	88°49.1	N14°21.5	18	88°58.1	N13°25.0	18	89°08.2	N12°26.5	18	89°19.4	N11°26.3	18	89°31.6	N10°24.5
19	103°49.2	20.7	19	103°58.2	24.2	19	104°08.3	25.7	19	104°19.5	25.5	19	104°31.8	23.7
20	118°49.3	19.9	20	118°58.3	23.4	20	119°08.5	24.9	20	119°19.7	24.7	20	119°31.9	22.8
21	133°49.5	· · 19.1	21	133°58.5	· · 22.6	21	134°08.6	· · 24.1	21	134°19.9	· · 23.8	21	134°32.1	· · 21.9
22	148°49.6	18.4	22	148°58.6	21.8	22	149°08.8	23.2	22	149°20.0	23.0	22	149°32.3	21.1
23	163°49.7	17.6	23	163°58.7	21.0	23	164°08.9	22.4	23	164°20.2	22.1	23	164°32.5	20.2
SD.=15.8 d=-0.8			SD.=15.8 d=-0.8			SD.=15.8 d=-0.8			SD.=15.8 d=-0.8			SD.=15.8 d=-0.9		

14	GHA	Dec	17	GHA	Dec	20	GHA	Dec	23	GHA	Dec	26	GHA	Dec
0	178°49.8	N14°16.8	0	178°58.9	N13°20.2	0	179°09.1	N12°21.6	0	179°20.4	N11°21.3	0	179°32.7	N10°19.3
1	193°49.9	16.1	1	193°59.0	19.4	1	194°09.2	20.8	1	194°20.5	20.4	1	194°32.8	18.4
2	208°50.0	15.3	2	208°59.1	18.6	2	209°09.4	19.9	2	209°20.7	19.6	2	209°33.0	17.6
3	223°50.2	· · 14.5	3	223°59.3	· · 17.8	3	224°09.5	· · 19.1	3	224°20.9	· · 18.7	3	224°33.2	· · 16.7
4	238°50.3	13.7	4	238°59.4	17.0	4	239°09.7	18.3	4	239°21.0	17.9	4	239°33.4	15.8
5	253°50.4	13.0	5	253°59.6	16.2	5	254°09.8	17.5	5	254°21.2	17.0	5	254°33.5	15.0
6	268°50.5	N14°12.2	6	268°59.7	N13°15.4	6	269°10.0	N12°16.6	6	269°21.3	N11°16.2	6	269°33.7	N10°14.1
7	283°50.6	11.4	7	283°59.8	14.6	7	284°10.1	15.8	7	284°21.5	15.3	7	284°33.9	13.2
8	298°50.8	10.6	8	299°00.0	13.7	8	299°10.3	15.0	8	299°21.7	14.5	8	299°34.1	12.3
9	313°50.9	· · 09.9	9	314°00.1	· · 12.9	9	314°10.4	· · 14.1	9	314°21.8	· · 13.6	9	314°34.3	· · 11.5
10	328°51.0	09.1	10	329°00.2	12.1	10	329°10.6	13.3	10	329°22.0	12.7	10	329°34.4	10.6
11	343°51.1	08.3	11	344°00.4	11.3	11	344°10.7	12.5	11	344°22.2	11.9	11	344°34.6	09.7
12	358°51.2	N14°07.5	12	359°00.5	N13°10.5	12	359°10.9	N12°11.7	12	359°22.3	N11°11.0	12	359°34.8	N10°08.8
13	13°51.4	06.7	13	14°00.6	09.7	13	14°11.0	10.8	13	14°22.5	10.2	13	14°35.0	08.0
14	28°51.5	06.0	14	29°00.8	08.9	14	29°11.2	10.0	14	29°22.7	09.3	14	29°35.2	07.1
15	43°51.6	· · 05.2	15	44°00.9	· · 08.1	15	44°11.3	· · 09.2	15	44°22.8	· · 08.5	15	44°35.3	· · 06.2
16	58°51.7	04.4	16	59°01.1	07.3	16	59°11.5	08.3	16	59°23.0	07.6	16	59°35.5	05.3
17	73°51.8	03.6	17	74°01.2	06.5	17	74°11.6	07.5	17	74°23.2	06.8	17	74°35.7	04.5
18	88°52.0	N14°02.9	18	89°01.3	N13°05.7	18	89°11.8	N12°06.7	18	89°23.3	N11°05.9	18	89°35.9	N10°03.6
19	103°52.1	02.1	19	104°01.5	04.9	19	104°12.0	05.8	19	104°23.5	05.1	19	104°36.1	02.7
20	118°52.2	01.3	20	119°01.6	04.1	20	119°12.1	05.0	20	119°23.7	04.2	20	119°36.2	01.8
21	133°52.3	14°00.5	21	134°01.7	· · 03.3	21	134°12.3	· · 04.2	21	134°23.8	· · 03.3	21	134°36.4	· · 01.0
22	148°52.5	13°59.7	22	149°01.9	02.5	22	149°12.4	03.3	22	149°24.0	02.5	22	149°36.6	10°00.1
23	163°52.6	58.9	23	164°02.0	01.7	23	164°12.6	02.5	23	164°24.2	01.6	23	164°36.8	09°59.2
SD.=15.8 d=-0.8			SD.=15.8 d=-0.8			SD.=15.8 d=-0.8			SD.=15.8 d=-0.8			SD.=15.8 d=-0.9		

15	GHA	Dec	18	GHA	Dec	21	GHA	Dec	24	GHA	Dec	27	GHA	Dec
0	178°52.7	N13°58.2	0	179°02.2	N13°00.8	0	179°12.7	N12°01.7	0	179°24.3	N11°00.8	0	179°37.0	N09°58.3
1	193°52.8	57.4	1	194°02.3	13°00.0	1	194°12.9	00.8	1	194°24.5	10°59.9	1	194°37.1	57.5
2	208°52.9	56.6	2	209°02.4	12°59.2	2	209°13.0	12°00.0	2	209°24.7	59.1	2	209°37.3	56.6
3	223°53.1	· · 55.8	3	224°02.6	· · 58.4	3	224°13.2	11°59.2	3	224°24.9	· · 58.2	3	224°37.5	· · 55.7
4	238°53.2	55.0	4	239°02.7	57.6	4	239°13.3	58.3	4	239°25.0	57.4	4	239°37.7	54.8
5	253°53.3	54.2	5	254°02.9	56.8	5	254°13.5	57.5	5	254°25.2	56.5	5	254°37.9	53.9
6	268°53.4	N13°53.5	6	269°03.0	N12°56.0	6	269°13.7	N11°56.7	6	269°25.4	N10°55.6	6	269°38.1	N09°53.1
7	283°53.6	52.7	7	284°03.1	55.2	7	284°13.8	55.8	7	284°25.5	54.8	7	284°38.2	52.2
8	298°53.7	51.9	8	299°03.3	54.4	8	299°14.0	55.0	8	299°25.7	53.9	8	299°38.4	51.3
9	313°53.8	· · 51.1	9	314°03.4	· · 53.5	9	314°14.1	· · 54.1	9	314°25.9	· · 53.1	9	314°38.6	· · 50.4
10	328°53.9	50.3	10	329°03.6	52.7	10	329°14.3	53.3	10	329°26.0	52.2	10	329°38.8	49.5
11	343°54.1	49.5	11	344°03.7	51.9	11	344°14.4	52.5	11	344°26.2	51.3	11	344°39.0	48.7
12	358°54.2	N13°48.7	12	359°03.8	N12°51.1	12	359°14.6	N11°51.6	12	359°26.4	N10°50.5	12	359°39.1	N09°47.8
13	13°54.3	48.0	13	14°04.0	50.3	13	14°14.7	50.8	13	14°26.6	49.6	13	14°39.3	46.9
14	28°54.5	47.2	14	29°04.1	49.5	14	29°14.9	50.0	14	29°26.7	48.8	14	29°39.5	46.0
15	43°54.6	· · 46.4	15	44°04.3	· · 48.7	15	44°15.1	· · 49.1	15	44°26.9	· · 47.9	15	44°39.7	· · 45.1
16	58°54.7	45.6	16	59°04.4	47.9	16	59°15.2	48.3	16	59°27.1	47.0	16	59°39.9	44.3
17	73°54.8	44.8	17	74°04.6	47.0	17	74°15.4	47.4	17	74°27.2	46.2	17	74°40.1	43.4
18	88°55.0	N13°44.0	18	89°04.7	N12°46.2	18	89°15.5	N11°46.6	18	89°27.4	N10°45.3	18	89°40.3	N09°42.5
19	103°55.1	43.2	19	104°04.8	45.4	19	104°15.7	45.8	19	104°27.6	44.4	19	104°40.4	41.6
20	118°55.2	42.4	20	119°05.0	44.6	20	119°15.8	44.9	20	119°27.8	43.6	20	119°40.6	40.7
21	133°55.3	· · 41.6	21	134°05.1	· · 43.8	21	134°16.0	· · 44.1	21	134°27.9	· · 42.7	21	134°40.8	· · 39.8
22	148°55.5	40.9	22	149°05.3	43.0	22	149°16.2	43.2	22	149°28.1	41.9	22	149°41.0	39.0
23	163°55.6	40.1	23	164°05.4	42.1	23	164°16.3	42.4	23	164°28.3	41.0	23	164°41.2	38.1
SD.=15.8 d=-0.8			SD.=15.8 d=-0.8			SD.=15.8 d=-0.8			SD.=15.8 d=-0.9			SD.=15.8 d=-0.9		

28	GHA	Dec	31	GHA	Dec	03	GHA	Dec	06	GHA	Dec	09	GHA	Dec
0	179°41.4	N09°37.2	0	179°55.1	N08°32.9	0	180°09.6	N07°27.4	0	180°24.7	N06°20.8	0	180°40.1	N05°13.3
1	194°41.6	36.3	1	194°55.3	32.0	1	195°09.8	26.5	1	195°24.9	19.9	1	195°40.4	12.3
2	209°41.7	35.4	2	209°55.5	31.1	2	210°10.0	25.6	2	210°25.1	18.9	2	210°40.6	11.4
3	224°41.9	· · 34.5	3	224°55.7	· · 30.2	3	225°10.2	· · 24.6	3	225°25.3	· · 18.0	3	225°40.8	· · 10.4
4	239°42.1	33.7	4	239°55.9	29.3	4	240°10.4	23.7	4	240°25.5	17.1	4	240°41.0	09.5
5	254°42.3	32.8	5	254°56.1	28.4	5	255°10.6	22.8	5	255°25.7	16.1	5	255°41.2	08.5
6	269°42.5	N09°31.9	6	269°56.3	N08°27.5	6	270°10.8	N07°21.9	6	270°25.9	N06°15.2	6	270°41.5	N05°07.6
7	284°42.7	31.0	7	284°56.5	26.6	7	285°11.0	21.0	7	285°26.1	14.3	7	285°41.7	06.6
8	299°42.9	30.1	8	299°56.7	25.7	8	300°11.2	20.0	8	300°26.4	13.3	8	300°41.9	05.7
9	314°43.0	· · 29.2	9	314°56.9	· · 24.8	9	315°11.5	· · 19.1	9	315°26.6	· · 12.4	9	315°42.1	· · 04.7
10	329°43.2	28.3	10	329°57.1	23.9	10	330°11.7	18.2	10	330°26.8	11.5	10	330°42.3	03.8
11	344°43.4	27.5	11	344°57.3	23.0	11	345°11.9	17.3	11	345°27.0	10.5	11	345°42.5	02.9
12	359°43.6	N09°26.6	12	359°57.5	N08°22.1	12	0°12.1	N07°16.4	12	0°27.2	N06°09.6	12	0°42.8	N05°01.9
13	14°43.8	25.7	13	14°57.7	21.2	13	15°12.3	15.4	13	15°27.4	08.7	13	15°43.0	01.0
14	29°44.0	24.8	14	29°57.9	20.3	14	30°12.5	14.5	14	30°27.6	07.7	14	30°43.2	05°00.0
15	44°44.2	· · 23.9	15	44°58.1	· · 19.4	15	45°12.7	· · 13.6	15	45°27.9	· · 06.8	15	45°43.4	04°59.1
16	59°44.4	23.0	16	59°58.3	18.4	16	60°12.9	12.7	16	60°28.1	05.9	16	60°43.6	58.1
17	74°44.5	22.1	17	74°58.5	17.5	17	75°13.1	11.8	17	75°28.3	04.9	17	75°43.9	57.2
18	89°44.7	N09°21.2	18	89°58.7	N08°16.6	18	90°13.3	N07°10.8	18	90°28.5	N06°04.0	18	90°44.1	N04°56.2
19	104°44.9	20.4	19	104°58.9	15.7	19	105°13.5	09.9	19	105°28.7	03.1	19	105°44.3	55.3
20	119°45.1	19.5	20	119°59.1	14.8	20	120°13.7	09.0	20	120°28.9	02.1	20	120°44.5	54.3
21	134°45.3	· · 18.6	21	134°59.3	· · 13.9	21	135°13.9	· · 08.1	21	135°29.1	· · 01.2	21	135°44.7	· · 53.4
22	149°45.5	17.7	22	149°59.5	13.0	22	150°14.1	07.2	22	150°29.3	06°00.3	22	150°44.9	52.4
23	164°45.7	16.8	23	164°59.7	12.1	23	165°14.4	06.2	23	165°29.6	05°59.3	23	165°45.2	51.5
SD.=15.8 d=-0.9			SD.=15.8 d=-0.9			SD.=15.9 d=-0.9			SD.=15.9 d=-0.9			SD.=15.9 d=-0.9		

29	GHA	Dec	01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec
0	179°45.9	N09°15.9	0	179°59.9	N08°11.2	0	180°14.6	N07°05.3	0	180°29.8	N05°58.4	0	180°45.4	N04°50.6
1	194°46.1	15.0	1	195°00.1	10.3	1	195°14.8	04.4	1	195°30.0	57.4	1	195°45.6	49.6
2	209°46.2	14.1	2	210°00.3	09.4	2	210°15.0	03.5	2	210°30.2	56.5	2	210°45.8	48.7
3	224°46.4	· · 13.2	3	225°00.5	· · 08.5	3	225°15.2	· · 02.5	3	225°30.4	· · 55.6	3	225°46.0	· · 47.7
4	239°46.6	12.3	4	240°00.7	07.6	4	240°15.4	01.6	4	240°30.6	54.6	4	240°46.3	46.8
5	254°46.8	11.5	5	255°00.9	06.7	5	255°15.6	07°00.7	5	255°30.8	53.7	5	255°46.5	45.8
6	269°47.0	N09°10.6	6	270°01.1	N08°05.7	6	270°15.8	N06°59.8	6	270°31.1	N05°52.8	6	270°46.7	N04°44.9
7	284°47.2	09.7	7	285°01.3	04.8	7	285°16.0	58.8	7	285°31.3	51.8	7	285°46.9	43.9
8	299°47.4	08.8	8	300°01.5	03.9	8	300°16.2	57.9	8	300°31.5	50.9	8	300°47.1	43.0
9	314°47.6	· · 07.9	9	315°01.7	· · 03.0	9	315°16.4	· · 57.0	9	315°31.7	· · 49.9	9	315°47.4	· · 42.0
10	329°47.8	07.0	10	330°01.9	02.1	10	330°16.6	56.1	10	330°31.9	49.0	10	330°47.6	41.1
11	344°48.0	06.1	11	345°02.1	01.2	11	345°16.9	55.1	11	345°32.1	48.1	11	345°47.8	40.1
12	359°48.1	N09°05.2	12	0°02.3	N08°00.3	12	0°17.1	N06°54.2	12	0°32.4	N05°47.1	12	0°48.0	N04°39.2
13	14°48.3	04.3	13	15°02.5	07°59.4	13	15°17.3	53.3	13	15°32.6	46.2	13	15°48.2	38.2
14	29°48.5	03.4	14	30°02.7	58.5	14	30°17.5	52.4	14	30°32.8	45.3	14	30°48.5	37.3
15	44°48.7	· · 02.5	15	45°02.9	· · 57.6	15	45°17.7	· · 51.4	15	45°33.0	· · 44.3	15	45°48.7	· · 36.3
16	59°48.9	01.6	16	60°03.1	56.6	16	60°17.9	50.5	16	60°33.2	43.4	16	60°48.9	35.4
17	74°49.1	09°00.7	17	75°03.3	55.7	17	75°18.1	49.6	17	75°33.4	42.4	17	75°49.1	34.4
18	89°49.3	N08°59.8	18	90°03.5	N07°54.8	18	90°18.3	N06°48.7	18	90°33.6	N05°41.5	18	90°49.3	N04°33.5
19	104°49.5	59.0	19	105°03.7	53.9	19	105°18.5	47.7	19	105°33.9	40.6	19	105°49.5	32.5
20	119°49.7	58.1	20	120°03.9	53.0	20	120°18.7	46.8	20	120°34.1	39.6	20	120°49.8	31.6
21	134°49.9	· · 57.2	21	135°04.1	· · 52.1	21	135°19.0	· · 45.9	21	135°34.3	· · 38.7	21	135°50.0	· · 30.6
22	149°50.1	56.3	22	150°04.3	51.2	22	150°19.2	45.0	22	150°34.5	37.7	22	150°50.2	29.7
23	164°50.3	55.4	23	165°04.5	50.3	23	165°19.4	44.0	23	165°34.7	36.8	23	165°50.4	28.7
SD.=15.8 d=-0.9			SD.=15.8 d=-0.9			SD.=15.9 d=-0.9			SD.=15.9 d=-0.9			SD.=15.9 d=-0.9		

30	GHA	Dec	02	GHA	Dec	05	GHA	Dec	08	GHA	Dec	11	GHA	Dec
0	179°50.5	N08°54.5	0	180°04.7	N07°49.4	0	180°19.6	N06°43.1	0	180°34.9	N05°35.9	0	180°50.6	N04°27.8
1	194°50.6	53.6	1	195°04.9	48.4	1	195°19.8	42.2	1	195°35.2	34.9	1	195°50.9	26.8
2	209°50.8	52.7	2	210°05.1	47.5	2	210°20.0	41.3	2	210°35.4	34.0	2	210°51.1	25.9
3	224°51.0	· · 51.8	3	225°05.3	· · 46.6	3	225°20.2	· · 40.3	3	225°35.6	· · 33.0	3	225°51.3	· · 24.9
4	239°51.2	50.9	4	240°05.5	45.7	4	240°20.4	39.4	4	240°35.8	32.1	4	240°51.5	24.0
5	254°51.4	50.0	5	255°05.7	44.8	5	255°20.6	38.5	5	255°36.0	31.2	5	255°51.7	23.0
6	269°51.6	N08°49.1	6	270°05.9	N07°43.9	6	270°20.8	N06°37.5	6	270°36.2	N05°30.2	6	270°52.0	N04°22.1
7	284°51.8	48.2	7	285°06.1	43.0	7	285°21.1	36.6	7	285°36.5	29.3	7	285°52.2	21.1
8	299°52.0	47.3	8	300°06.3	42.0	8	300°21.3	35.7	8	300°36.7	28.3	8	300°52.4	20.2
9	314°52.2	· · 46.4	9	315°06.5	· · 41.1	9	315°21.5	· · 34.8	9	315°36.9	· · 27.4	9	315°52.6	· · 19.2
10	329°52.4	45.5	10	330°06.7	40.2	10	330°21.7	33.8	10	330°37.1	26.5	10	330°52.8	18.2
11	344°52.6	44.6	11	345°06.9	39.3	11	345°21.9	32.9	11	345°37.3	25.5	11	345°53.1	17.3
12	359°52.8	N08°43.7	12	0°07.1	N07°38.4	12	0°22.1	N06°32.0	12	0°37.5	N05°24.6	12	0°53.3	N04°16.3
13	14°53.0	42.8	13	15°07.4	37.5	13	15°22.3	31.0	13	15°37.8	23.6	13	15°53.5	15.4
14	29°53.2	41.9	14	30°07.6	36.6	14	30°22.5	30.1	14	30°38.0	22.7	14	30°53.7	14.4
15	44°53.4	· · 41.0	15	45°07.8	· · 35.6	15	45°22.7	· · 29.2	15	45°38.2	· · 21.7	15	45°54.0	· · 13.5
16	59°53.6	40.1	16	60°08.0	34.7	16	60°23.0	28.2	16	60°38.4	20.8	16	60°54.2	12.5
17	74°53.8	39.2	17	75°08.2	33.8	17	75°23.2	27.3	17	75°38.6	19.9	17	75°54.4	11.6
18	89°54.0	N08°38.3	18	90°08.4	N07°32.9	18	90°23.4	N06°26.4	18	90°38.8	N05°18.9	18	90°54.6	N04°10.6
19	104°54.1	37.4	19	105°08.6	32.0	19	105°23.6	25.5	19	105°39.1	18.0	19	105°54.8	09.7
20	119°54.3	36.5	20	120°08.8	31.1	20	120°23.8	24.5	20	120°39.3	17.0	20	120°55.1	08.7
21	134°54.5	· · 35.6	21	135°09.0	· · 30.1	21	135°24.0	· · 23.6	21	135°39.5	· · 16.1	21	135°55.3	· · 07.8
22	149°54.7	34.7	22	150°09.2	29.2	22	150°24.2	22.7	22	150°39.7	15.1	22	150°55.5	06.8
23	164°54.9	33.8	23	165°09.4	28.3	23	165°24.4	21.7	23	165°39.9	14.2	23	165°55.7	05.9
SD.=15.8 d=-0.9			SD.=15.9 d=-0.9			SD.=15.9 d=-0.9			SD.=15.9 d=-0.9			SD.=15.9 d=-1.0		

12	GHA	Dec	15	GHA	Dec	18	GHA	Dec	21	GHA	Dec	24	GHA	Dec
0	180°55.9	N04°04.9	0	181°11.9	N02°55.9	0	181°27.9	N01°46.4	0	181°43.9	N00°36.5	0	181°59.7	S00°33.6
1	195°56.2	03.9	1	196°12.1	54.9	1	196°28.1	45.4	1	196°44.1	35.5	1	196°59.9	34.6
2	210°56.4	03.0	2	211°12.3	54.0	2	211°28.4	44.4	2	211°44.3	34.5	2	212°00.1	35.5
3	225°56.6	.. 02.0	3	226°12.6	.. 53.0	3	226°28.6	.. 43.5	3	226°44.5	.. 33.6	3	227°00.3	.. 36.5
4	240°56.8	01.1	4	241°12.8	52.0	4	241°28.8	42.5	4	241°44.8	32.6	4	242°00.5	37.5
5	255°57.0	04°00.1	5	256°13.0	51.1	5	256°29.0	41.5	5	256°45.0	31.6	5	257°00.8	38.4
6	270°57.3	N03°59.2	6	271°13.2	N02°50.1	6	271°29.2	N01°40.5	6	271°45.2	N00°30.7	6	272°01.0	S00°39.4
7	285°57.5	58.2	7	286°13.5	49.1	7	286°29.5	39.6	7	286°45.4	29.7	7	287°01.2	40.4
8	300°57.7	57.3	8	301°13.7	48.2	8	301°29.7	38.6	8	301°45.6	28.7	8	302°01.4	41.4
9	315°57.9	.. 56.3	9	316°13.9	.. 47.2	9	316°29.9	.. 37.6	9	316°45.9	.. 27.7	9	317°01.6	.. 42.3
10	330°58.1	55.3	10	331°14.1	46.3	10	331°30.1	36.7	10	331°46.1	26.8	10	332°01.8	43.3
11	345°58.4	54.4	11	346°14.3	45.3	11	346°30.4	35.7	11	346°46.3	25.8	11	347°02.1	44.3
12	0°58.6	N03°53.4	12	1°14.6	N02°44.3	12	1°30.6	N01°34.7	12	1°46.5	N00°24.8	12	2°02.3	S00°45.3
13	15°58.8	52.5	13	16°14.8	43.4	13	16°30.8	33.8	13	16°46.7	23.8	13	17°02.5	46.2
14	30°59.0	51.5	14	31°15.0	42.4	14	31°31.0	32.8	14	31°47.0	22.9	14	32°02.7	47.2
15	45°59.3	.. 50.6	15	46°15.2	.. 41.4	15	46°31.2	.. 31.8	15	46°47.2	.. 21.9	15	47°02.9	.. 48.2
16	60°59.5	49.6	16	61°15.5	40.5	16	61°31.5	30.9	16	61°47.4	20.9	16	62°03.1	49.2
17	75°59.7	48.7	17	76°15.7	39.5	17	76°31.7	29.9	17	76°47.6	20.0	17	77°03.4	50.1
18	90°59.9	N03°47.7	18	91°15.9	N02°38.5	18	91°31.9	N01°28.9	18	91°47.8	N00°19.0	18	92°03.6	S00°51.1
19	106°00.1	46.7	19	106°16.1	37.6	19	106°32.1	27.9	19	106°48.1	18.0	19	107°03.8	52.1
20	121°00.4	45.8	20	121°16.3	36.6	20	121°32.4	27.0	20	121°48.3	17.0	20	122°04.0	53.1
21	136°00.6	.. 44.8	21	136°16.6	.. 35.7	21	136°32.6	.. 26.0	21	136°48.5	.. 16.1	21	137°04.2	.. 54.0
22	151°00.8	43.9	22	151°16.8	34.7	22	151°32.8	25.0	22	151°48.7	15.1	22	152°04.4	55.0
23	166°01.0	42.9	23	166°17.0	33.7	23	166°33.0	24.1	23	166°48.9	14.1	23	167°04.7	56.0
SD.=15.9 d=-1.0			SD.=15.9 d=-1.0			SD.=15.9 d=-1.0			SD.=15.9 d=-1.0			SD.=15.9 d=-1.0		

13	GHA	Dec	16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec
0	181°01.2	N03°42.0	0	181°17.2	N02°32.8	0	181°33.2	N01°23.1	0	181°49.2	N00°13.1	0	182°04.9	S00°56.9
1	196°01.5	41.0	1	196°17.5	31.8	1	196°33.5	22.1	1	196°49.4	12.2	1	197°05.1	57.9
2	211°01.7	40.0	2	211°17.7	30.8	2	211°33.7	21.2	2	211°49.6	11.2	2	212°05.3	58.9
3	226°01.9	.. 39.1	3	226°17.9	.. 29.9	3	226°33.9	.. 20.2	3	226°49.8	.. 10.2	3	227°05.5	00°59.9
4	241°02.1	38.1	4	241°18.1	28.9	4	241°34.1	19.2	4	241°50.0	09.3	4	242°05.7	01°00.8
5	256°02.4	37.2	5	256°18.3	27.9	5	256°34.4	18.2	5	256°50.3	08.3	5	257°06.0	01.8
6	271°02.6	N03°36.2	6	271°18.6	N02°27.0	6	271°34.6	N01°17.3	6	271°50.5	N00°07.3	6	272°06.2	S01°02.8
7	286°02.8	35.3	7	286°18.8	26.0	7	286°34.8	16.3	7	286°50.7	06.3	7	287°06.4	03.8
8	301°03.0	34.3	8	301°19.0	25.0	8	301°35.0	15.3	8	301°50.9	05.4	8	302°06.6	04.7
9	316°03.2	.. 33.3	9	316°19.2	.. 24.1	9	316°35.2	.. 14.4	9	316°51.1	.. 04.4	9	317°06.8	.. 05.7
10	331°03.5	32.4	10	331°19.5	23.1	10	331°35.5	13.4	10	331°51.4	03.4	10	332°07.0	06.7
11	346°03.7	31.4	11	346°19.7	22.1	11	346°35.7	12.4	11	346°51.6	02.4	11	347°07.2	07.7
12	1°03.9	N03°30.5	12	1°19.9	N02°21.2	12	1°35.9	N01°11.5	12	1°51.8	N00°01.5	12	2°07.5	S01°08.6
13	16°04.1	29.5	13	16°20.1	20.2	13	16°36.1	10.5	13	16°52.0	N00°00.5	13	17°07.7	09.6
14	31°04.3	28.5	14	31°20.3	19.2	14	31°36.3	09.5	14	31°52.2	S00°00.5	14	32°07.9	10.6
15	46°04.6	.. 27.6	15	46°20.6	.. 18.3	15	46°36.6	.. 08.5	15	46°52.5	.. 01.5	15	47°08.1	.. 11.5
16	61°04.8	26.6	16	61°20.8	17.3	16	61°36.8	07.6	16	61°52.7	02.4	16	62°08.3	12.5
17	76°05.0	25.7	17	76°21.0	16.3	17	76°37.0	06.6	17	76°52.9	03.4	17	77°08.5	13.5
18	91°05.2	N03°24.7	18	91°21.2	N02°15.4	18	91°37.2	N01°05.6	18	91°53.1	S00°04.4	18	92°08.8	S01°14.5
19	106°05.5	23.8	19	106°21.5	14.4	19	106°37.5	04.7	19	106°53.3	05.3	19	107°09.0	15.4
20	121°05.7	22.8	20	121°21.7	13.4	20	121°37.7	03.7	20	121°53.6	06.3	20	122°09.2	16.4
21	136°05.9	.. 21.8	21	136°21.9	.. 12.5	21	136°37.9	.. 02.7	21	136°53.8	.. 07.3	21	137°09.4	.. 17.4
22	151°06.1	20.9	22	151°22.1	11.5	22	151°38.1	01.7	22	151°54.0	08.3	22	152°09.6	18.4
23	166°06.3	19.9	23	166°22.4	10.5	23	166°38.3	00.8	23	166°54.2	09.2	23	167°09.8	19.3
SD.=15.9 d=-1.0			SD.=15.9 d=-1.0			SD.=15.9 d=-1.0			SD.=15.9 d=-1.0			SD.=15.9 d=-1.0		

14	GHA	Dec	17	GHA	Dec	20	GHA	Dec	23	GHA	Dec	26	GHA	Dec
0	181°06.6	N03°19.0	0	181°22.6	N02°09.6	0	181°38.6	N00°59.8	0	181°54.4	S00°10.2	0	182°10.0	S01°20.3
1	196°06.8	18.0	1	196°22.8	08.6	1	196°38.8	58.8	1	196°54.6	11.2	1	197°10.3	21.3
2	211°07.0	17.0	2	211°23.0	07.6	2	211°39.0	57.9	2	211°54.9	12.2	2	212°10.5	22.3
3	226°07.2	.. 16.1	3	226°23.2	.. 06.7	3	226°39.2	.. 56.9	3	226°55.1	.. 13.1	3	227°10.7	.. 23.2
4	241°07.5	15.1	4	241°23.5	05.7	4	241°39.4	55.9	4	241°55.3	14.1	4	242°10.9	24.2
5	256°07.7	14.2	5	256°23.7	04.7	5	256°39.7	54.9	5	256°55.5	15.1	5	257°11.1	25.2
6	271°07.9	N03°13.2	6	271°23.9	N02°03.8	6	271°39.9	N00°54.0	6	271°55.7	S00°16.1	6	272°11.3	S01°26.2
7	286°08.1	12.2	7	286°24.1	02.8	7	286°40.1	53.0	7	286°56.0	17.0	7	287°11.5	27.1
8	301°08.3	11.3	8	301°24.4	01.8	8	301°40.3	52.0	8	301°56.2	18.0	8	302°11.8	28.1
9	316°08.6	.. 10.3	9	316°24.6	02°00.9	9	316°40.6	.. 51.1	9	316°56.4	.. 19.0	9	317°12.0	.. 29.1
10	331°08.8	09.3	10	331°24.8	01°59.9	10	331°40.8	50.1	10	331°56.6	19.9	10	332°12.2	30.0
11	346°09.0	08.4	11	346°25.0	58.9	11	346°41.0	49.1	11	346°56.8	20.9	11	347°12.4	31.0
12	1°09.2	N03°07.4	12	1°25.2	N01°58.0	12	1°41.2	N00°48.1	12	1°57.1	S00°21.9	12	2°12.6	S01°32.0
13	16°09.5	06.5	13	16°25.5	57.0	13	16°41.4	47.2	13	16°57.3	22.9	13	17°12.8	33.0
14	31°09.7	05.5	14	31°25.7	56.0	14	31°41.7	46.2	14	31°57.5	23.8	14	32°13.0	33.9
15	46°09.9	.. 04.5	15	46°25.9	.. 55.1	15	46°41.9	.. 45.2	15	46°57.7	.. 24.8	15	47°13.2	.. 34.9
16	61°10.1	03.6	16	61°26.1	54.1	16	61°42.1	44.3	16	61°57.9	25.8	16	62°13.5	35.9
17	76°10.3	02.6	17	76°26.4	53.1	17	76°42.3	43.3	17	76°58.1	26.8	17	77°13.7	36.9
18	91°10.6	N03°01.7	18	91°26.6	N01°52.2	18	91°42.5	N00°42.3	18	91°58.4	S00°27.7	18	92°13.9	S01°37.8
19	106°10.8	03°00.7	19	106°26.8	51.2	19	106°42.8	41.3	19	106°58.6	28.7	19	107°14.1	38.8
20	121°11.0	02°59.7	20	121°27.0	50.2	20	121°43.0	40.4	20	121°58.8	29.7	20	122°14.3	39.8
21	136°11.2	.. 58.8	21	136°27.2	.. 49.3	21	136°43.2	.. 39.4	21	136°59.0	.. 30.7	21	137°14.5	.. 40.7
22	151°11.5	57.8	22	151°27.5	48.3	22	151°43.4	38.4	22	151°59.2	31.6	22	152°14.7	41.7
23	166°11.7	56.8	23	166°27.7	47.3	23	166°43.7	37.5	23	166°59.4	32.6	23	167°15.0	42.7
SD.=15.9 d=-1.0			SD.=15.9 d=-1.0			SD.=15.9 d=-1.0			SD.=15.9 d=-1.0			SD.=16.0 d=-1.0		

27	GHA	Dec	30	GHA	Dec	03	GHA	Dec	06	GHA	Dec	09	GHA	Dec
0	182°15.2	S01°43.7	0	182°30.2	S02°53.6	0	182°44.7	S04°03.3	0	182°58.4	S05°12.6	0	183°11.2	S06°21.2
1	197°15.4	44.6	1	197°30.4	54.6	1	197°44.9	04.3	1	197°58.6	13.5	1	198°11.3	22.2
2	212°15.6	45.6	2	212°30.6	55.6	2	212°45.1	05.2	2	212°58.7	14.5	2	213°11.5	23.1
3	227°15.8	· · 46.6	3	227°30.8	· · 56.5	3	227°45.3	· · 06.2	3	227°58.9	· · 15.4	3	228°11.7	· · 24.1
4	242°16.0	47.6	4	242°31.0	57.5	4	242°45.5	07.2	4	242°59.1	16.4	4	243°11.8	25.0
5	257°16.2	48.5	5	257°31.2	58.5	5	257°45.7	08.1	5	257°59.3	17.3	5	258°12.0	26.0
6	272°16.4	S01°49.5	6	272°31.5	S02°59.4	6	272°45.8	S04°09.1	6	272°59.5	S05°18.3	6	273°12.2	S06°26.9
7	287°16.7	50.5	7	287°31.7	03°00.4	7	287°46.0	10.1	7	287°59.7	19.3	7	288°12.3	27.9
8	302°16.9	51.4	8	302°31.9	01.4	8	302°46.2	11.0	8	302°59.8	20.2	8	303°12.5	28.8
9	317°17.1	· · 52.4	9	317°32.1	· · 02.4	9	317°46.4	· · 12.0	9	318°00.0	· · 21.2	9	318°12.7	· · 29.8
10	332°17.3	53.4	10	332°32.3	03.3	10	332°46.6	13.0	10	333°00.2	22.1	10	333°12.9	30.7
11	347°17.5	54.4	11	347°32.5	04.3	11	347°46.8	13.9	11	348°00.4	23.1	11	348°13.0	31.7
12	2°17.7	S01°55.3	12	2°32.7	S03°05.3	12	2°47.0	S04°14.9	12	3°00.6	S05°24.0	12	3°13.2	S06°32.6
13	17°17.9	56.3	13	17°32.9	06.2	13	17°47.2	15.8	13	18°00.7	25.0	13	18°13.4	33.6
14	32°18.1	57.3	14	32°33.1	07.2	14	32°47.4	16.8	14	33°00.9	26.0	14	33°13.5	34.5
15	47°18.3	· · 58.3	15	47°33.3	· · 08.2	15	47°47.6	· · 17.8	15	48°01.1	· · 26.9	15	48°13.7	· · 35.4
16	62°18.6	01°59.2	16	62°33.5	09.1	16	62°47.8	18.7	16	63°01.3	27.9	16	63°13.9	36.4
17	77°18.8	02°00.2	17	77°33.7	10.1	17	77°48.0	19.7	17	78°01.5	28.8	17	78°14.0	37.3
18	92°19.0	S02°01.2	18	92°33.9	S03°11.1	18	92°48.2	S04°20.7	18	93°01.7	S05°29.8	18	93°14.2	S06°38.3
19	107°19.2	02.1	19	107°34.1	12.0	19	107°48.4	21.6	19	108°01.8	30.7	19	108°14.4	39.2
20	122°19.4	03.1	20	122°34.3	13.0	20	122°48.6	22.6	20	123°02.0	31.7	20	123°14.5	40.2
21	137°19.6	· · 04.1	21	137°34.5	· · 14.0	21	137°48.8	· · 23.6	21	138°02.2	· · 32.7	21	138°14.7	· · 41.1
22	152°19.8	05.1	22	152°34.7	15.0	22	152°48.9	24.5	22	153°02.4	33.6	22	153°14.9	42.1
23	167°20.0	06.0	23	167°34.9	15.9	23	167°49.1	25.5	23	168°02.6	34.6	23	168°15.0	43.0
SD.=16.0 d=-1.0			SD.=16.0 d=-1.0			SD.=16.0 d=-1.0			SD.=16.0 d=-1.0			SD.=16.0 d=-0.9		

28	GHA	Dec	01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec
0	182°20.2	S02°07.0	0	182°35.1	S03°16.9	0	182°49.3	S04°26.4	0	183°02.7	S05°35.5	0	183°15.2	S06°44.0
1	197°20.5	08.0	1	197°35.3	17.9	1	197°49.5	27.4	1	198°02.9	36.5	1	198°15.4	44.9
2	212°20.7	09.0	2	212°35.5	18.8	2	212°49.7	28.4	2	213°03.1	37.4	2	213°15.5	45.9
3	227°20.9	· · 09.9	3	227°35.7	· · 19.8	3	227°49.9	· · 29.3	3	228°03.3	· · 38.4	3	228°15.7	· · 46.8
4	242°21.1	10.9	4	242°35.9	20.8	4	242°50.1	30.3	4	243°03.5	39.3	4	243°15.9	47.7
5	257°21.3	11.9	5	257°36.1	21.7	5	257°50.3	31.3	5	258°03.6	40.3	5	258°16.0	48.7
6	272°21.5	S02°12.8	6	272°36.3	S03°22.7	6	272°50.5	S04°32.2	6	273°03.8	S05°41.2	6	273°16.2	S06°49.6
7	287°21.7	13.8	7	287°36.5	23.7	7	287°50.7	33.2	7	288°04.0	42.2	7	288°16.3	50.6
8	302°21.9	14.8	8	302°36.7	24.6	8	302°50.9	34.1	8	303°04.2	43.2	8	303°16.5	51.5
9	317°22.1	· · 15.8	9	317°36.9	· · 25.6	9	317°51.1	· · 35.1	9	318°04.4	· · 44.1	9	318°16.7	· · 52.5
10	332°22.3	16.7	10	332°37.1	26.6	10	332°51.2	36.1	10	333°04.5	45.1	10	333°16.8	53.4
11	347°22.5	17.7	11	347°37.3	27.5	11	347°51.4	37.0	11	348°04.7	46.0	11	348°17.0	54.4
12	2°22.8	S02°18.7	12	2°37.5	S03°28.5	12	2°51.6	S04°38.0	12	3°04.9	S05°47.0	12	3°17.2	S06°55.3
13	17°23.0	19.6	13	17°37.7	29.5	13	17°51.8	39.0	13	18°05.1	47.9	13	18°17.3	56.2
14	32°23.2	20.6	14	32°37.9	30.4	14	32°52.0	39.9	14	33°05.2	48.9	14	33°17.5	57.2
15	47°23.4	· · 21.6	15	47°38.1	· · 31.4	15	47°52.2	· · 40.9	15	48°05.4	· · 49.8	15	48°17.6	· · 58.1
16	62°23.6	22.6	16	62°38.3	32.4	16	62°52.4	41.8	16	63°05.6	50.8	16	63°17.8	06°59.1
17	77°23.8	23.5	17	77°38.5	33.3	17	77°52.6	42.8	17	78°05.8	51.7	17	78°18.0	07°00.0
18	92°24.0	S02°24.5	18	92°38.7	S03°34.3	18	92°52.8	S04°43.8	18	93°05.9	S05°52.7	18	93°18.1	S07°01.0
19	107°24.2	25.5	19	107°38.9	35.3	19	107°53.0	44.7	19	108°06.1	53.6	19	108°18.3	01.9
20	122°24.4	26.4	20	122°39.1	36.2	20	122°53.1	45.7	20	123°06.3	54.6	20	123°18.5	02.8
21	137°24.6	· · 27.4	21	137°39.3	· · 37.2	21	137°53.3	· · 46.6	21	138°06.5	· · 55.6	21	138°18.6	· · 03.8
22	152°24.8	28.4	22	152°39.5	38.2	22	152°53.5	47.6	22	153°06.7	56.5	22	153°18.8	04.7
23	167°25.1	29.4	23	167°39.7	39.1	23	167°53.7	48.6	23	168°06.8	57.5	23	168°18.9	05.7
SD.=16.0 d=-1.0			SD.=16.0 d=-1.0			SD.=16.0 d=-1.0			SD.=16.0 d=-1.0			SD.=16.0 d=-0.9		

29	GHA	Dec	02	GHA	Dec	05	GHA	Dec	08	GHA	Dec	11	GHA	Dec
0	182°25.3	S02°30.3	0	182°39.9	S03°40.1	0	182°53.9	S04°49.5	0	183°07.0	S05°58.4	0	183°19.1	S07°06.6
1	197°25.5	31.3	1	197°40.1	41.1	1	197°54.1	50.5	1	198°07.2	05°59.4	1	198°19.3	07.6
2	212°25.7	32.3	2	212°40.3	42.1	2	212°54.3	51.4	2	213°07.4	06°00.3	2	213°19.4	08.5
3	227°25.9	· · 33.2	3	227°40.5	· · 43.0	3	227°54.5	· · 52.4	3	228°07.5	· · 01.3	3	228°19.6	· · 09.4
4	242°26.1	34.2	4	242°40.7	44.0	4	242°54.6	53.4	4	243°07.7	02.2	4	243°19.7	10.4
5	257°26.3	35.2	5	257°40.9	45.0	5	257°54.8	54.3	5	258°07.9	03.2	5	258°19.9	11.3
6	272°26.5	S02°36.2	6	272°41.1	S03°45.9	6	272°55.0	S04°55.3	6	273°08.1	S06°04.1	6	273°20.1	S07°12.3
7	287°26.7	37.1	7	287°41.3	46.9	7	287°55.2	56.3	7	288°08.2	05.1	7	288°20.2	13.2
8	302°26.9	38.1	8	302°41.5	47.9	8	302°55.4	57.2	8	303°08.4	06.0	8	303°20.4	14.1
9	317°27.1	· · 39.1	9	317°41.7	· · 48.8	9	317°55.6	· · 58.2	9	318°08.6	· · 07.0	9	318°20.5	· · 15.1
10	332°27.3	40.0	10	332°41.9	49.8	10	332°55.8	04°59.1	10	333°08.7	07.9	10	333°20.7	16.0
11	347°27.5	41.0	11	347°42.1	50.7	11	347°56.0	05°00.1	11	348°08.9	08.9	11	348°20.9	17.0
12	2°27.7	S02°42.0	12	2°42.3	S03°51.7	12	2°56.1	S05°01.0	12	3°09.1	S06°09.8	12	3°21.0	S07°17.9
13	17°28.0	43.0	13	17°42.5	52.7	13	17°56.3	02.0	13	18°09.3	10.8	13	18°21.2	18.8
14	32°28.2	43.9	14	32°42.7	53.6	14	32°56.5	03.0	14	33°09.4	11.7	14	33°21.3	19.8
15	47°28.4	· · 44.9	15	47°42.9	· · 54.6	15	47°56.7	· · 03.9	15	48°09.6	· · 12.7	15	48°21.5	· · 20.7
16	62°28.6	45.9	16	62°43.1	55.6	16	62°56.9	04.9	16	63°09.8	13.6	16	63°21.6	21.7
17	77°28.8	46.8	17	77°43.3	56.5	17	77°57.1	05.8	17	78°10.0	14.6	17	78°21.8	22.6
18	92°29.0	S02°47.8	18	92°43.5	S03°57.5	18	92°57.3	S05°06.8	18	93°10.1	S06°15.5	18	93°22.0	S07°23.5
19	107°29.2	48.8	19	107°43.7	58.5	19	107°57.4	07.8	19	108°10.3	16.5	19	108°22.1	24.5
20	122°29.4	49.7	20	122°43.9	03°59.4	20	122°57.6	08.7	20	123°10.5	17.4	20	123°22.3	25.4
21	137°29.6	· · 50.7	21	137°44.1	04°00.4	21	137°57.8	· · 09.7	21	138°10.6	· · 18.4	21	138°22.4	· · 26.4
22	152°29.8	51.7	22	152°44.3	01.4	22	152°58.0	10.6	22	153°10.8	19.3	22	153°22.6	27.3
23	167°30.0	52.7	23	167°44.5	02.3	23	167°58.2	11.6	23	168°11.0	20.3	23	168°22.7	28.2
SD.=16.0 d=-1.0			SD.=16.0 d=-1.0			SD.=16.0 d=-1.0			SD.=16.0 d=-1.0			SD.=16.0 d=-0.9		

12	GHA	Dec	15	GHA	Dec	18	GHA	Dec	21	GHA	Dec	24	GHA	Dec
0	183°22.9	S07°29.2	0	183°33.4	S08°36.2	0	183°42.7	S09°42.1	0	183°50.6	S10°46.8	0	183°57.1	S11°50.0
1	198°23.0	30.1	1	198°33.6	37.1	1	198°42.8	43.0	1	198°50.7	47.7	1	198°57.1	50.9
2	213°23.2	31.0	2	213°33.7	38.0	2	213°42.9	44.0	2	213°50.8	48.6	2	213°57.2	51.8
3	228°23.4	· · 32.0	3	228°33.9	· · 39.0	3	228°43.1	· · 44.9	3	228°50.9	· · 49.5	3	228°57.3	· · 52.6
4	243°23.5	32.9	4	243°34.0	39.9	4	243°43.2	45.8	4	243°51.0	50.4	4	243°57.4	53.5
5	258°23.7	33.9	5	258°34.1	40.8	5	258°43.3	46.7	5	258°51.1	51.3	5	258°57.4	54.4
6	273°23.8	S07°34.8	6	273°34.3	S08°41.7	6	273°43.4	S09°47.6	6	273°51.2	S10°52.1	6	273°57.5	S11°55.2
7	288°24.0	35.7	7	288°34.4	42.7	7	288°43.5	48.5	7	288°51.3	53.0	7	288°57.6	56.1
8	303°24.1	36.7	8	303°34.5	43.6	8	303°43.7	49.4	8	303°51.4	53.9	8	303°57.7	57.0
9	318°24.3	· · 37.6	9	318°34.7	· · 44.5	9	318°43.8	· · 50.3	9	318°51.5	· · 54.8	9	318°57.8	· · 57.8
10	333°24.4	38.5	10	333°34.8	45.4	10	333°43.9	51.2	10	333°51.6	55.7	10	333°57.8	58.7
11	348°24.6	39.5	11	348°34.9	46.3	11	348°44.0	52.1	11	348°51.7	56.6	11	348°57.9	11°59.6
12	3°24.7	S07°40.4	12	3°35.1	S08°47.3	12	3°44.1	S09°53.0	12	3°51.8	S10°57.5	12	3°58.0	S12°00.4
13	18°24.9	41.3	13	18°35.2	48.2	13	18°44.2	53.9	13	18°51.9	58.4	13	18°58.1	01.3
14	33°25.0	42.3	14	33°35.3	49.1	14	33°44.4	54.8	14	33°52.0	10°59.2	14	33°58.1	02.2
15	48°25.2	· · 43.2	15	48°35.5	· · 50.0	15	48°44.5	· · 55.7	15	48°52.1	11°00.1	15	48°58.2	· · 03.0
16	63°25.3	44.1	16	63°35.6	50.9	16	63°44.6	56.6	16	63°52.2	01.0	16	63°58.3	03.9
17	78°25.5	45.1	17	78°35.7	51.9	17	78°44.7	57.5	17	78°52.3	01.9	17	78°58.4	04.7
18	93°25.6	S07°46.0	18	93°35.9	S08°52.8	18	93°44.8	S09°58.4	18	93°52.4	S11°02.8	18	93°58.4	S12°05.6
19	108°25.8	46.9	19	108°36.0	53.7	19	108°44.9	09°59.3	19	108°52.5	03.7	19	108°58.5	06.5
20	123°25.9	47.9	20	123°36.1	54.6	20	123°45.0	10°00.2	20	123°52.6	05.4	20	123°58.6	07.3
21	138°26.1	· · 48.8	21	138°36.3	· · 55.5	21	138°45.2	· · 01.1	21	138°52.6	· · 05.4	21	138°58.6	· · 08.2
22	153°26.2	49.8	22	153°36.4	56.5	22	153°45.3	02.0	22	153°52.7	06.3	22	153°58.7	09.0
23	168°26.4	50.7	23	168°36.5	57.4	23	168°45.4	02.9	23	168°52.8	07.2	23	168°58.8	09.9
SD.=16.0 d=-0.9			SD.=16.0 d=-0.9			SD.=16.1 d=-0.9			SD.=16.1 d=-0.9			SD.=16.1 d=-0.9		

13	GHA	Dec	16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec
0	183°26.5	S07°51.6	0	183°36.7	S08°58.3	0	183°45.5	S10°03.9	0	183°52.9	S11°08.1	0	183°58.9	S12°10.8
1	198°26.7	52.6	1	198°36.8	08°59.2	1	198°45.6	04.8	1	198°53.0	09.0	1	198°58.9	11.6
2	213°26.8	53.5	2	213°36.9	09°00.1	2	213°45.7	05.7	2	213°53.1	09.8	2	213°59.0	12.5
3	228°27.0	· · 54.4	3	228°37.1	· · 01.1	3	228°45.8	· · 06.6	3	228°53.2	· · 10.7	3	228°59.1	· · 13.3
4	243°27.1	55.3	4	243°37.2	02.0	4	243°46.0	07.5	4	243°53.3	11.6	4	243°59.2	14.2
5	258°27.3	56.3	5	258°37.3	02.9	5	258°46.1	08.4	5	258°53.4	12.5	5	258°59.2	15.1
6	273°27.4	S07°57.2	6	273°37.5	S09°03.8	6	273°46.2	S10°09.3	6	273°53.5	S11°13.4	6	273°59.3	S12°15.9
7	288°27.6	58.1	7	288°37.6	04.7	7	288°46.3	10.2	7	288°53.6	14.2	7	288°59.4	16.8
8	303°27.7	07°59.1	8	303°37.7	05.6	8	303°46.4	11.1	8	303°53.7	15.1	8	303°59.4	17.6
9	318°27.9	08°00.0	9	318°37.9	· · 06.6	9	318°46.5	· · 12.0	9	318°53.8	· · 16.0	9	318°59.5	· · 18.5
10	333°28.0	00.9	10	333°38.0	07.5	10	333°46.6	12.9	10	333°53.8	16.9	10	333°59.6	19.3
11	348°28.2	01.9	11	348°38.1	08.4	11	348°46.7	13.8	11	348°53.9	17.8	11	348°59.6	20.2
12	3°28.3	S08°02.8	12	3°38.2	S09°09.3	12	3°46.8	S10°14.7	12	3°54.0	S11°18.6	12	3°59.7	S12°21.1
13	18°28.5	03.7	13	18°38.4	10.2	13	18°46.9	15.6	13	18°54.1	19.5	13	18°59.8	21.9
14	33°28.6	04.7	14	33°38.5	11.1	14	33°47.1	16.4	14	33°54.2	20.4	14	33°59.8	22.8
15	48°28.8	· · 05.6	15	48°38.6	· · 12.1	15	48°47.2	· · 17.3	15	48°54.3	· · 21.3	15	48°59.9	· · 23.6
16	63°28.9	06.5	16	63°38.8	13.0	16	63°47.3	18.2	16	63°54.4	22.1	16	64°00.0	24.5
17	78°29.0	07.5	17	78°38.9	13.9	17	78°47.4	19.1	17	78°54.5	23.0	17	79°00.0	25.3
18	93°29.2	S08°08.4	18	93°39.0	S09°14.8	18	93°47.5	S10°20.0	18	93°54.6	S11°23.9	18	94°00.1	S12°26.2
19	108°29.3	09.3	19	108°39.1	15.7	19	108°47.6	20.9	19	108°54.6	24.8	19	109°00.2	27.0
20	123°29.5	10.2	20	123°39.3	16.6	20	123°47.7	21.8	20	123°54.7	25.6	20	124°00.2	27.9
21	138°29.6	· · 11.2	21	138°39.4	· · 17.5	21	138°47.8	· · 22.7	21	138°54.8	· · 26.5	21	139°00.3	· · 28.7
22	153°29.8	12.1	22	153°39.5	18.5	22	153°47.9	23.6	22	153°54.9	27.4	22	154°00.4	29.6
23	168°29.9	13.0	23	168°39.6	19.4	23	168°48.0	24.5	23	168°55.0	28.3	23	169°00.4	30.4
SD.=16.0 d=-0.9			SD.=16.0 d=-0.9			SD.=16.1 d=-0.9			SD.=16.1 d=-0.9			SD.=16.1 d=-0.9		

14	GHA	Dec	17	GHA	Dec	20	GHA	Dec	23	GHA	Dec	26	GHA	Dec
0	183°30.1	S08°14.0	0	183°39.8	S09°20.3	0	183°48.1	S10°25.4	0	183°55.1	S11°29.1	0	184°00.5	S12°31.3
1	198°30.2	14.9	1	198°39.9	21.2	1	198°48.2	26.3	1	198°55.2	30.0	1	199°00.6	32.2
2	213°30.3	15.8	2	213°40.0	22.1	2	213°48.3	27.2	2	213°55.2	30.9	2	214°00.6	33.0
3	228°30.5	· · 16.7	3	228°40.1	· · 23.0	3	228°48.5	· · 28.1	3	228°55.3	· · 31.8	3	229°00.7	· · 33.9
4	243°30.6	17.7	4	243°40.3	23.9	4	243°48.6	29.0	4	243°55.4	32.6	4	244°00.8	34.7
5	258°30.8	18.6	5	258°40.4	24.9	5	258°48.7	29.9	5	258°55.5	33.5	5	259°00.8	35.6
6	273°30.9	S08°19.5	6	273°40.5	S09°25.8	6	273°48.8	S10°30.8	6	273°55.6	S11°34.4	6	274°00.9	S12°36.4
7	288°31.1	20.5	7	288°40.6	26.7	7	288°48.9	31.7	7	288°55.7	35.3	7	289°00.9	37.3
8	303°31.2	21.4	8	303°40.8	27.6	8	303°49.0	32.6	8	303°55.8	36.1	8	304°01.0	38.1
9	318°31.3	· · 22.3	9	318°40.9	· · 28.5	9	318°49.1	· · 33.5	9	318°55.8	· · 37.0	9	319°01.1	· · 39.0
10	333°31.5	23.2	10	333°41.0	29.4	10	333°49.2	34.4	10	333°55.9	37.9	10	334°01.1	39.8
11	348°31.6	24.2	11	348°41.1	30.3	11	348°49.3	35.2	11	348°56.0	38.7	11	349°01.2	40.6
12	3°31.8	S08°25.1	12	3°41.3	S09°31.2	12	3°49.4	S10°36.1	12	3°56.1	S11°39.6	12	4°01.2	S12°41.5
13	18°31.9	26.0	13	18°41.4	32.1	13	18°49.5	37.0	13	18°56.2	40.5	13	19°01.3	42.3
14	33°32.1	26.9	14	33°41.5	33.1	14	33°49.6	37.9	14	33°56.3	41.4	14	34°01.4	43.2
15	48°32.2	· · 27.9	15	48°41.6	· · 34.0	15	48°49.7	· · 38.8	15	48°56.3	· · 42.2	15	49°01.4	· · 44.0
16	63°32.3	28.8	16	63°41.7	34.9	16	63°49.8	39.7	16	63°56.4	43.1	16	64°01.5	44.9
17	78°32.5	29.7	17	78°41.9	35.8	17	78°49.9	40.6	17	78°56.5	44.0	17	79°01.5	45.7
18	93°32.6	S08°30.6	18	93°42.0	S09°36.7	18	93°50.0	S10°41.5	18	93°56.6	S11°44.8	18	94°01.6	S12°46.6
19	108°32.7	31.6	19	108°42.1	37.6	19	108°50.1	42.4	19	108°56.7	45.7	19	109°01.7	47.4
20	123°32.9	32.5	20	123°42.2	38.5	20	123°50.2	43.3	20	123°56.7	46.6	20	124°01.7	48.3
21	138°33.0	· · 33.4	21	138°42.4	· · 39.4	21	138°50.3	· · 44.2	21	138°56.8	· · 47.4	21	139°01.8	· · 49.1
22	153°33.2	34.3	22	153°42.5	40.3	22	153°50.4	45.0	22	153°56.9	48.3	22	154°01.8	50.0
23	168°33.3	35.3	23	168°42.6	41.2	23	168°50.5	45.9	23	168°57.0	49.2	23	169°01.9	50.8
SD.=16.0 d=-0.9			SD.=16.0 d=-0.9			SD.=16.1 d=-0.9			SD.=16.1 d=-0.9			SD.=16.1 d=-0.9		

27	GHA	Dec	30	GHA	Dec	02	GHA	Dec	05	GHA	Dec	08	GHA	Dec
0	184°02.0	S12°51.6	0	184°05.2	S13°51.4	0	184°06.7	S14°49.2	0	184°06.4	S15°44.8	0	184°04.1	S16°38.1
1	199°02.0	52.5	1	199°05.2	52.2	1	199°06.7	50.0	1	199°06.4	45.6	1	199°04.1	38.9
2	214°02.1	53.3	2	214°05.3	53.0	2	214°06.7	50.8	2	214°06.3	46.3	2	214°04.1	39.6
3	229°02.1	· · 54.2	3	229°05.3	· · 53.9	3	229°06.7	· · 51.6	3	229°06.3	· · 47.1	3	229°04.0	· · 40.3
4	244°02.2	55.0	4	244°05.3	54.7	4	244°06.7	52.3	4	244°06.3	47.9	4	244°04.0	41.0
5	259°02.2	55.8	5	259°05.4	55.5	5	259°06.7	53.1	5	259°06.3	48.6	5	259°03.9	41.7
6	274°02.3	S12°56.7	6	274°05.4	S13°56.3	6	274°06.7	S14°53.9	6	274°06.3	S15°49.4	6	274°03.9	S16°42.5
7	289°02.3	57.5	7	289°05.4	57.1	7	289°06.8	54.7	7	289°06.2	50.1	7	289°03.8	43.2
8	304°02.4	58.4	8	304°05.5	57.9	8	304°06.8	55.5	8	304°06.2	50.9	8	304°03.8	43.9
9	319°02.5	12°59.2	9	319°05.5	· · 58.7	9	319°06.8	· · 56.3	9	319°06.2	· · 51.6	9	319°03.7	· · 44.6
10	334°02.5	13°00.1	10	334°05.5	13°59.6	10	334°06.8	57.1	10	334°06.2	52.4	10	334°03.7	45.3
11	349°02.6	00.9	11	349°05.5	14°00.4	11	349°06.8	57.8	11	349°06.2	53.1	11	349°03.6	46.1
12	4°02.6	S13°01.7	12	4°05.6	S14°01.2	12	4°06.8	S14°58.6	12	4°06.1	S15°53.9	12	4°03.6	S16°46.8
13	19°02.7	02.6	13	19°05.6	02.0	13	19°06.8	14°59.4	13	19°06.1	54.6	13	19°03.5	47.5
14	34°02.7	03.4	14	34°05.6	02.8	14	34°06.8	15°00.2	14	34°06.1	55.4	14	34°03.5	48.2
15	49°02.8	· · 04.2	15	49°05.7	· · 03.6	15	49°06.8	· · 01.0	15	49°06.1	· · 56.1	15	49°03.4	· · 48.9
16	64°02.8	05.1	16	64°05.7	04.4	16	64°06.8	01.8	16	64°06.0	56.9	16	64°03.4	49.6
17	79°02.9	05.9	17	79°05.7	05.2	17	79°06.8	02.5	17	79°06.0	57.6	17	79°03.3	50.4
18	94°02.9	S13°06.8	18	94°05.7	S14°06.1	18	94°06.8	S15°03.3	18	94°06.0	S15°58.4	18	94°03.3	S16°51.1
19	109°03.0	07.6	19	109°05.8	06.9	19	109°06.8	04.1	19	109°06.0	59.1	19	109°03.2	51.8
20	124°03.0	08.4	20	124°05.8	07.7	20	124°06.8	04.9	20	124°05.9	15°59.9	20	124°03.2	52.5
21	139°03.1	· · 09.3	21	139°05.8	· · 08.5	21	139°06.8	· · 05.7	21	139°05.9	16°00.6	21	139°03.1	· · 53.2
22	154°03.1	10.1	22	154°05.8	09.3	22	154°06.8	06.4	22	154°05.9	01.4	22	154°03.1	53.9
23	169°03.2	10.9	23	169°05.9	10.1	23	169°06.8	07.2	23	169°05.9	02.1	23	169°03.0	54.6
SD.=16.1 d=-0.8			SD.=16.1 d=-0.8			SD.=16.1 d=-0.8			SD.=16.1 d=-0.8			SD.=16.1 d=-0.7		

28	GHA	Dec	31	GHA	Dec	03	GHA	Dec	06	GHA	Dec	09	GHA	Dec
0	184°03.2	S13°11.8	0	184°05.9	S14°10.9	0	184°06.8	S15°08.0	0	184°05.8	S16°02.9	0	184°03.0	S16°55.3
1	199°03.3	12.6	1	199°05.9	11.7	1	199°06.8	08.8	1	199°05.8	03.6	1	199°02.9	56.1
2	214°03.3	13.4	2	214°05.9	12.5	2	214°06.8	09.5	2	214°05.8	04.4	2	214°02.9	56.8
3	229°03.4	· · 14.3	3	229°06.0	· · 13.3	3	229°06.8	· · 10.3	3	229°05.8	· · 05.1	3	229°02.8	· · 57.5
4	244°03.4	15.1	4	244°06.0	14.1	4	244°06.8	11.1	4	244°05.7	05.8	4	244°02.8	58.2
5	259°03.5	15.9	5	259°06.0	14.9	5	259°06.8	11.9	5	259°05.7	06.6	5	259°02.7	58.9
6	274°03.5	S13°16.8	6	274°06.0	S14°15.7	6	274°06.8	S15°12.7	6	274°05.7	S16°07.3	6	274°02.7	S16°59.6
7	289°03.6	17.6	7	289°06.1	16.5	7	289°06.8	13.4	7	289°05.7	08.1	7	289°02.6	17°00.3
8	304°03.6	18.4	8	304°06.1	17.4	8	304°06.8	14.2	8	304°05.6	08.8	8	304°02.5	01.0
9	319°03.7	· · 19.3	9	319°06.1	· · 18.2	9	319°06.8	· · 15.0	9	319°05.6	· · 09.6	9	319°02.5	· · 01.7
10	334°03.7	20.1	10	334°06.1	19.0	10	334°06.8	15.7	10	334°05.6	10.3	10	334°02.4	02.4
11	349°03.7	20.9	11	349°06.2	19.8	11	349°06.8	16.5	11	349°05.5	11.0	11	349°02.4	03.1
12	4°03.8	S13°21.8	12	4°06.2	S14°20.6	12	4°06.8	S15°17.3	12	4°05.5	S16°11.8	12	4°02.3	S17°03.8
13	19°03.8	22.6	13	19°06.2	21.4	13	19°06.8	18.1	13	19°05.5	12.5	13	19°02.3	04.6
14	34°03.9	23.4	14	34°06.2	22.2	14	34°06.8	18.8	14	34°05.4	13.3	14	34°02.2	05.3
15	49°03.9	· · 24.3	15	49°06.2	· · 23.0	15	49°06.8	· · 19.6	15	49°05.4	· · 14.0	15	49°02.1	· · 06.0
16	64°04.0	25.1	16	64°06.3	23.8	16	64°06.7	20.4	16	64°05.4	14.7	16	64°02.1	06.7
17	79°04.0	25.9	17	79°06.3	24.6	17	79°06.7	21.2	17	79°05.3	15.5	17	79°02.0	07.4
18	94°04.1	S13°26.7	18	94°06.3	S14°25.4	18	94°06.7	S15°21.9	18	94°05.3	S16°16.2	18	94°02.0	S17°08.1
19	109°04.1	27.6	19	109°06.3	26.2	19	109°06.7	22.7	19	109°05.3	17.0	19	109°01.9	08.8
20	124°04.1	28.4	20	124°06.3	27.0	20	124°06.7	23.5	20	124°05.2	17.7	20	124°01.8	09.5
21	139°04.2	· · 29.2	21	139°06.3	· · 27.8	21	139°06.7	· · 24.2	21	139°05.2	· · 18.4	21	139°01.8	· · 10.2
22	154°04.2	30.0	22	154°06.4	28.6	22	154°06.7	25.0	22	154°05.2	19.2	22	154°01.7	10.9
23	169°04.3	30.9	23	169°06.4	29.4	23	169°06.7	25.8	23	169°05.1	19.9	23	169°01.7	11.6
SD.=16.1 d=-0.8			SD.=16.1 d=-0.8			SD.=16.1 d=-0.8			SD.=16.1 d=-0.7			SD.=16.1 d=-0.7		

29	GHA	Dec	01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec
0	184°04.3	S13°31.7	0	184°06.4	S14°30.2	0	184°06.7	S15°26.5	0	184°05.1	S16°20.6	0	184°01.6	S17°12.3
1	199°04.3	32.5	1	199°06.4	31.0	1	199°06.7	27.3	1	199°05.1	21.4	1	199°01.5	13.0
2	214°04.4	33.4	2	214°06.4	31.8	2	214°06.7	28.1	2	214°05.0	22.1	2	214°01.5	13.7
3	229°04.4	· · 34.2	3	229°06.4	· · 32.6	3	229°06.7	· · 28.8	3	229°05.0	· · 22.8	3	229°01.4	· · 14.4
4	244°04.5	35.0	4	244°06.5	33.4	4	244°06.7	29.6	4	244°05.0	23.6	4	244°01.3	15.1
5	259°04.5	35.8	5	259°06.5	34.2	5	259°06.6	30.4	5	259°04.9	24.3	5	259°01.3	15.8
6	274°04.5	S13°36.6	6	274°06.5	S14°34.9	6	274°06.6	S15°31.1	6	274°04.9	S16°25.0	6	274°01.2	S17°16.5
7	289°04.6	37.5	7	289°06.5	35.7	7	289°06.6	31.9	7	289°04.8	25.8	7	289°01.1	17.2
8	304°04.6	38.3	8	304°06.5	36.5	8	304°06.6	32.7	8	304°04.8	26.5	8	304°01.1	17.9
9	319°04.7	· · 39.1	9	319°06.5	· · 37.3	9	319°06.6	· · 33.4	9	319°04.8	· · 27.2	9	319°01.0	· · 18.6
10	334°04.7	39.9	10	334°06.5	38.1	10	334°06.6	34.2	10	334°04.7	28.0	10	334°00.9	19.2
11	349°04.7	40.8	11	349°06.6	38.9	11	349°06.6	35.0	11	349°04.7	28.7	11	349°00.9	19.9
12	4°04.8	S13°41.6	12	4°06.6	S14°39.7	12	4°06.6	S15°35.7	12	4°04.7	S16°29.4	12	4°00.8	S17°20.6
13	19°04.8	42.4	13	19°06.6	40.5	13	19°06.5	36.5	13	19°04.6	30.1	13	19°00.7	21.3
14	34°04.9	43.2	14	34°06.6	41.3	14	34°06.5	37.2	14	34°04.6	30.9	14	34°00.7	22.0
15	49°04.9	· · 44.0	15	49°06.6	· · 42.1	15	49°06.5	· · 38.0	15	49°04.5	· · 31.6	15	49°00.6	· · 22.7
16	64°04.9	44.9	16	64°06.6	42.9	16	64°06.5	38.8	16	64°04.5	32.3	16	64°00.5	23.4
17	79°05.0	45.7	17	79°06.6	43.7	17	79°06.5	39.5	17	79°04.5	33.1	17	79°00.5	24.1
18	94°05.0	S13°46.5	18	94°06.6	S14°44.5	18	94°06.5	S15°40.3	18	94°04.4	S16°33.8	18	94°00.4	S17°24.8
19	109°05.0	47.3	19	109°06.7	45.3	19	109°06.5	41.0	19	109°04.4	34.5	19	109°00.3	25.5
20	124°05.1	48.1	20	124°06.7	46.0	20	124°06.4	41.8	20	124°04.3	35.2	20	124°00.3	26.2
21	139°05.1	· · 49.0	21	139°06.7	· · 46.8	21	139°06.4	· · 42.6	21	139°04.3	· · 36.0	21	139°00.2	· · 26.9
22	154°05.1	49.8	22	154°06.7	47.6	22	154°06.4	43.3	22	154°04.2	36.7	22	154°00.1	27.5
23	169°05.2	50.6	23	169°06.7	48.4	23	169°06.4	44.1	23	169°04.2	37.4	23	169°00.1	28.2
SD.=16.1 d=-0.8			SD.=16.1 d=-0.8			SD.=16.1 d=-0.8			SD.=16.1 d=-0.7			SD.=16.2 d=-0.7		

11	GHA	Dec	14	GHA	Dec	17	GHA	Dec	20	GHA	Dec	23	GHA	Dec
0	184°00.0	S17°28.9	0	183°53.9	S18°17.0	0	183°45.8	S19°02.2	0	183°36.0	S19°44.4	0	183°24.3	S20°23.3
1	198°59.9	29.6	1	198°53.8	17.7	1	198°45.7	02.8	1	198°35.8	44.9	1	198°24.1	23.8
2	213°59.8	30.3	2	213°53.7	18.3	2	213°45.6	03.4	2	213°35.7	45.5	2	213°23.9	24.3
3	228°59.8	· · 31.0	3	228°53.6	· · 19.0	3	228°45.5	· · 04.0	3	228°35.5	· · 46.1	3	228°23.8	· · 24.9
4	243°59.7	31.7	4	243°53.5	19.6	4	243°45.3	04.7	4	243°35.4	46.6	4	243°23.6	25.4
5	258°59.6	32.3	5	258°53.4	20.2	5	258°45.2	05.3	5	258°35.2	47.2	5	258°23.4	25.9
6	273°59.6	S17°33.0	6	273°53.3	S18°20.9	6	273°45.1	S19°05.9	6	273°35.0	S19°47.8	6	273°23.2	S20°26.4
7	288°59.5	33.7	7	288°53.2	21.5	7	288°45.0	06.5	7	288°34.9	48.3	7	288°23.1	26.9
8	303°59.4	34.4	8	303°53.1	22.2	8	303°44.8	07.1	8	303°34.7	48.9	8	303°22.9	27.4
9	318°59.3	· · 35.1	9	318°53.0	· · 22.8	9	318°44.7	· · 07.7	9	318°34.6	· · 49.4	9	318°22.7	· · 27.9
10	333°59.3	35.8	10	333°52.9	23.5	10	333°44.6	08.3	10	333°34.4	50.0	10	333°22.5	28.4
11	348°59.2	36.4	11	348°52.8	24.1	11	348°44.5	08.9	11	348°34.3	50.5	11	348°22.3	29.0
12	3°59.1	S17°37.1	12	3°52.7	S18°24.8	12	3°44.3	S19°09.5	12	3°34.1	S19°51.1	12	3°22.2	S20°29.5
13	18°59.0	37.8	13	18°52.6	25.4	13	18°44.2	10.1	13	18°34.0	51.7	13	18°22.0	30.0
14	33°59.0	38.5	14	33°52.5	26.0	14	33°44.1	10.7	14	33°33.8	52.2	14	33°21.8	30.5
15	48°58.9	· · 39.2	15	48°52.4	· · 26.7	15	48°43.9	· · 11.3	15	48°33.7	· · 52.8	15	48°21.6	· · 31.0
16	63°58.8	39.8	16	63°52.3	27.3	16	63°43.8	11.9	16	63°33.5	53.3	16	63°21.5	31.5
17	78°58.7	40.5	17	78°52.1	28.0	17	78°43.7	12.5	17	78°33.4	53.9	17	78°21.3	32.0
18	93°58.6	S17°41.2	18	93°52.0	S18°28.6	18	93°43.5	S19°13.1	18	93°33.2	S19°54.4	18	93°21.1	S20°32.5
19	108°58.6	41.9	19	108°51.9	29.2	19	108°43.4	13.7	19	108°33.0	55.0	19	108°20.9	33.0
20	123°58.5	42.6	20	123°51.8	29.9	20	123°43.3	14.3	20	123°32.9	55.5	20	123°20.7	33.5
21	138°58.4	· · 43.2	21	138°51.7	· · 30.5	21	138°43.1	· · 14.8	21	138°32.7	· · 56.1	21	138°20.6	· · 34.0
22	153°58.3	43.9	22	153°51.6	31.1	22	153°43.0	15.4	22	153°32.6	56.6	22	153°20.4	34.5
23	168°58.2	44.6	23	168°51.5	31.8	23	168°42.9	16.0	23	168°32.4	57.2	23	168°20.2	35.0
SD.=16.2 d=-0.7			SD.=16.2 d=-0.6			SD.=16.2 d=-0.6			SD.=16.2 d=-0.6			SD.=16.2 d=-0.5		

12	GHA	Dec	15	GHA	Dec	18	GHA	Dec	21	GHA	Dec	24	GHA	Dec
0	183°58.2	S17°45.3	0	183°51.4	S18°32.4	0	183°42.7	S19°16.6	0	183°32.3	S19°57.7	0	183°20.0	S20°35.5
1	198°58.1	45.9	1	198°51.3	33.0	1	198°42.6	17.2	1	198°32.1	58.3	1	198°19.8	36.0
2	213°58.0	46.6	2	213°51.2	33.7	2	213°42.5	17.8	2	213°31.9	58.8	2	213°19.6	36.5
3	228°57.9	· · 47.3	3	228°51.1	· · 34.3	3	228°42.3	· · 18.4	3	228°31.8	· · 59.4	3	228°19.5	· · 37.0
4	243°57.8	48.0	4	243°51.0	34.9	4	243°42.2	19.0	4	243°31.6	19°59.9	4	243°19.3	37.5
5	258°57.8	48.6	5	258°50.9	35.6	5	258°42.1	19.6	5	258°31.5	20°00.5	5	258°19.1	38.0
6	273°57.7	S17°49.3	6	273°50.8	S18°36.2	6	273°41.9	S19°20.2	6	273°31.3	S20°01.0	6	273°18.9	S20°38.5
7	288°57.6	50.0	7	288°50.6	36.8	7	288°41.8	20.8	7	288°31.1	01.5	7	288°18.7	39.0
8	303°57.5	50.6	8	303°50.5	37.5	8	303°41.7	21.4	8	303°31.0	02.1	8	303°18.5	39.5
9	318°57.4	· · 51.3	9	318°50.4	· · 38.1	9	318°41.5	· · 21.9	9	318°30.8	· · 02.6	9	318°18.4	· · 40.0
10	333°57.3	52.0	10	333°50.3	38.7	10	333°41.4	22.5	10	333°30.7	03.2	10	333°18.2	40.5
11	348°57.3	52.6	11	348°50.2	39.4	11	348°41.3	23.1	11	348°30.5	03.7	11	348°18.0	41.0
12	3°57.2	S17°53.3	12	3°50.1	S18°40.0	12	3°41.1	S19°23.7	12	3°30.3	S20°04.3	12	3°17.8	S20°41.5
13	18°57.1	54.0	13	18°50.0	40.6	13	18°41.0	24.3	13	18°30.2	04.8	13	18°17.6	42.0
14	33°57.0	54.6	14	33°49.9	41.2	14	33°40.9	24.9	14	33°30.0	05.3	14	33°17.4	42.5
15	48°56.9	· · 55.3	15	48°49.8	· · 41.9	15	48°40.7	· · 25.5	15	48°29.8	· · 05.9	15	48°17.2	· · 43.0
16	63°56.8	56.0	16	63°49.6	42.5	16	63°40.6	26.0	16	63°29.7	06.4	16	63°17.1	43.5
17	78°56.7	56.6	17	78°49.5	43.1	17	78°40.4	26.6	17	78°29.5	07.0	17	78°16.9	44.0
18	93°56.7	S17°57.3	18	93°49.4	S18°43.7	18	93°40.3	S19°27.2	18	93°29.4	S20°07.5	18	93°16.7	S20°44.4
19	108°56.6	58.0	19	108°49.3	44.4	19	108°40.2	27.8	19	108°29.2	08.0	19	108°16.5	44.9
20	123°56.5	58.6	20	123°49.2	45.0	20	123°40.0	28.4	20	123°29.0	08.6	20	123°16.3	45.4
21	138°56.4	17°59.3	21	138°49.1	· · 45.6	21	138°39.9	· · 28.9	21	138°28.9	· · 09.1	21	138°16.1	· · 45.9
22	153°56.3	18°00.0	22	153°49.0	46.2	22	153°39.7	29.5	22	153°28.7	09.6	22	153°15.9	46.4
23	168°56.2	00.6	23	168°48.8	46.9	23	168°39.6	30.1	23	168°28.5	10.2	23	168°15.7	46.9
SD.=16.2 d=-0.7			SD.=16.2 d=-0.6			SD.=16.2 d=-0.6			SD.=16.2 d=-0.5			SD.=16.2 d=-0.5		

13	GHA	Dec	16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec
0	183°56.1	S18°01.3	0	183°48.7	S18°47.5	0	183°39.5	S19°30.7	0	183°28.4	S20°10.7	0	183°15.5	S20°47.4
1	198°56.0	02.0	1	198°48.6	48.1	1	198°39.3	31.3	1	198°28.2	11.2	1	198°15.4	47.9
2	213°55.9	02.6	2	213°48.5	48.7	2	213°39.2	31.8	2	213°28.0	11.8	2	213°15.2	48.3
3	228°55.9	· · 03.3	3	228°48.4	· · 49.3	3	228°39.0	· · 32.4	3	228°27.9	· · 12.3	3	228°15.0	· · 48.8
4	243°55.8	03.9	4	243°48.3	50.0	4	243°38.9	33.0	4	243°27.7	12.8	4	243°14.8	49.3
5	258°55.7	04.6	5	258°48.1	50.6	5	258°38.7	33.6	5	258°27.5	13.4	5	258°14.6	49.8
6	273°55.6	S18°05.3	6	273°48.0	S18°51.2	6	273°38.6	S19°34.1	6	273°27.4	S20°13.9	6	273°14.4	S20°50.3
7	288°55.5	05.9	7	288°47.9	51.8	7	288°38.5	34.7	7	288°27.2	14.4	7	288°14.2	50.8
8	303°55.4	06.6	8	303°47.8	52.4	8	303°38.3	35.3	8	303°27.0	14.9	8	303°14.0	51.2
9	318°55.3	· · 07.2	9	318°47.7	· · 53.1	9	318°38.2	· · 35.9	9	318°26.9	· · 15.5	9	318°13.8	· · 51.7
10	333°55.2	07.9	10	333°47.6	53.7	10	333°38.0	36.4	10	333°26.7	16.0	10	333°13.6	52.2
11	348°55.1	08.5	11	348°47.4	54.3	11	348°37.9	37.0	11	348°26.5	16.5	11	348°13.4	52.7
12	3°55.0	S18°09.2	12	3°47.3	S18°54.9	12	3°37.7	S19°37.6	12	3°26.3	S20°17.0	12	3°13.2	S20°53.1
13	18°54.9	09.8	13	18°47.2	55.5	13	18°37.6	38.1	13	18°26.2	17.6	13	18°13.1	53.6
14	33°54.8	10.5	14	33°47.1	56.1	14	33°37.4	38.7	14	33°26.0	18.1	14	33°12.9	54.1
15	48°54.7	· · 11.2	15	48°46.9	· · 56.7	15	48°37.3	· · 39.3	15	48°25.8	· · 18.6	15	48°12.7	· · 54.6
16	63°54.6	11.8	16	63°46.8	57.4	16	63°37.1	39.9	16	63°25.7	19.1	16	63°12.5	55.0
17	78°54.6	12.5	17	78°46.7	58.0	17	78°37.0	40.4	17	78°25.5	19.7	17	78°12.3	55.5
18	93°54.5	S18°13.1	18	93°46.6	S18°58.6	18	93°36.8	S19°41.0	18	93°25.3	S20°20.2	18	93°12.1	S20°56.0
19	108°54.4	13.8	19	108°46.5	59.2	19	108°36.7	41.6	19	108°25.1	20.7	19	108°11.9	56.5
20	123°54.3	14.4	20	123°46.3	18°59.8	20	123°36.6	42.1	20	123°25.0	21.2	20	123°11.7	56.9
21	138°54.2	· · 15.1	21	138°46.2	19°00.4	21	138°36.4	· · 42.7	21	138°24.8	· · 21.7	21	138°11.5	· · 57.4
22	153°54.1	15.7	22	153°46.1	01.0	22	153°36.3	43.3	22	153°24.6	22.3	22	153°11.3	57.9
23	168°54.0	16.4	23	168°46.0	01.6	23	168°36.1	43.8	23	168°24.5	22.8	23	168°11.1	58.4
SD.=16.2 d=-0.7			SD.=16.2 d=-0.6			SD.=16.2 d=-0.6			SD.=16.2 d=-0.5			SD.=16.2 d=-0.5		

26	GHA	Dec	29	GHA	Dec	02	GHA	Dec	05	GHA	Dec	08	GHA	Dec
0	183°10.9	S20°58.8	0	182°55.9	S21°30.8	0	182°39.4	S21°59.1	0	182°21.4	S22°23.6	0	182°02.2	S22°44.2
1	198°10.7	59.3	1	197°55.7	31.2	1	197°39.1	59.5	1	197°21.2	23.9	1	197°01.9	44.5
2	213°10.5	20°59.8	2	212°55.5	31.6	2	212°38.9	21°59.8	2	212°20.9	24.2	2	212°01.7	44.7
3	228°10.3	21°00.2	3	227°55.2	· · 32.1	3	227°38.6	22°00.2	3	227°20.6	· · 24.5	3	227°01.4	· · 45.0
4	243°10.1	00.7	4	242°55.0	32.5	4	242°38.4	00.6	4	242°20.4	24.9	4	242°01.1	45.2
5	258°09.9	01.2	5	257°54.8	32.9	5	257°38.2	00.9	5	257°20.1	25.2	5	257°00.8	45.5
6	273°09.7	S21°01.6	6	272°54.6	S21°33.3	6	272°37.9	S22°01.3	6	272°19.9	S22°25.5	6	272°00.6	S22°45.7
7	288°09.5	02.1	7	287°54.4	33.7	7	287°37.7	01.7	7	287°19.6	25.8	7	287°00.3	46.0
8	303°09.3	02.6	8	302°54.1	34.1	8	302°37.4	02.0	8	302°19.4	26.1	8	302°00.0	46.3
9	318°09.1	· · 03.0	9	317°53.9	· · 34.5	9	317°37.2	· · 02.4	9	317°19.1	· · 26.4	9	316°59.7	· · 46.5
10	333°08.9	03.5	10	332°53.7	35.0	10	332°37.0	02.7	10	332°18.8	26.7	10	331°59.5	46.8
11	348°08.7	03.9	11	347°53.5	35.4	11	347°36.7	03.1	11	347°18.6	27.0	11	346°59.2	47.0
12	3°08.5	S21°04.4	12	2°53.2	S21°35.8	12	2°36.5	S22°03.5	12	2°18.3	S22°27.3	12	1°58.9	S22°47.3
13	18°08.3	04.9	13	17°53.0	36.2	13	17°36.2	03.8	13	17°18.0	27.6	13	16°58.6	47.5
14	33°08.1	05.3	14	32°52.8	36.6	14	32°36.0	04.2	14	32°17.8	27.9	14	31°58.4	47.8
15	48°07.9	· · 05.8	15	47°52.6	· · 37.0	15	47°35.7	· · 04.5	15	47°17.5	· · 28.2	15	46°58.1	· · 48.0
16	63°07.7	06.2	16	62°52.3	37.4	16	62°35.5	04.9	16	62°17.3	28.5	16	61°57.8	48.2
17	78°07.5	06.7	17	77°52.1	37.8	17	77°35.2	05.2	17	77°17.0	28.8	17	76°57.5	48.5
18	93°07.3	S21°07.2	18	92°51.9	S21°38.2	18	92°35.0	S22°05.6	18	92°16.7	S22°29.1	18	91°57.2	S22°48.7
19	108°07.1	07.6	19	107°51.7	38.6	19	107°34.8	05.9	19	107°16.5	29.4	19	106°57.0	49.0
20	123°06.9	08.1	20	122°51.4	39.0	20	122°34.5	06.3	20	122°16.2	29.7	20	121°56.7	49.2
21	138°06.7	· · 08.5	21	137°51.2	· · 39.4	21	137°34.3	· · 06.6	21	137°15.9	· · 30.0	21	136°56.4	· · 49.5
22	153°06.5	09.0	22	152°51.0	39.8	22	152°34.0	07.0	22	152°15.7	30.3	22	151°56.1	49.7
23	168°06.3	09.4	23	167°50.8	40.2	23	167°33.8	07.4	23	167°15.4	30.6	23	166°55.8	50.0
SD.=16.2 d=-0.5			SD.=16.2 d=-0.4			SD.=16.2 d=-0.4			SD.=16.2 d=-0.3			SD.=16.2 d=-0.3		

27	GHA	Dec	30	GHA	Dec	03	GHA	Dec	06	GHA	Dec	09	GHA	Dec
0	183°06.1	S21°09.9	0	182°50.5	S21°40.6	0	182°33.5	S22°07.7	0	182°15.2	S22°30.9	0	181°55.6	S22°50.2
1	198°05.9	10.3	1	197°50.3	41.1	1	197°33.3	08.0	1	197°14.9	31.2	1	196°55.3	50.4
2	213°05.7	10.8	2	212°50.1	41.5	2	212°33.0	08.4	2	212°14.6	31.5	2	211°55.0	50.7
3	228°05.5	· · 11.2	3	227°49.9	· · 41.9	3	227°32.8	· · 08.7	3	227°14.4	· · 31.8	3	226°54.7	· · 50.9
4	243°05.3	11.7	4	242°49.6	42.3	4	242°32.5	09.1	4	242°14.1	32.1	4	241°54.4	51.1
5	258°05.0	12.1	5	257°49.4	42.6	5	257°32.3	09.4	5	257°13.8	32.4	5	256°54.2	51.4
6	273°04.8	S21°12.6	6	272°49.2	S21°43.0	6	272°32.1	S22°09.8	6	272°13.6	S22°32.7	6	271°53.9	S22°51.6
7	288°04.6	13.0	7	287°49.0	43.4	7	287°31.8	10.1	7	287°13.3	33.0	7	286°53.6	51.9
8	303°04.4	13.5	8	302°48.7	43.8	8	302°31.6	10.5	8	302°13.0	33.3	8	301°53.3	52.1
9	318°04.2	· · 13.9	9	317°48.5	· · 44.2	9	317°31.3	· · 10.8	9	317°12.8	· · 33.5	9	316°53.0	· · 52.3
10	333°04.0	14.4	10	332°48.3	44.6	10	332°31.1	11.2	10	332°12.5	33.8	10	331°52.8	52.5
11	348°03.8	14.8	11	347°48.0	45.0	11	347°30.8	11.5	11	347°12.2	34.1	11	346°52.5	52.8
12	3°03.6	S21°15.3	12	2°47.8	S21°45.4	12	2°30.6	S22°11.8	12	2°12.0	S22°34.4	12	1°52.2	S22°53.0
13	18°03.4	15.7	13	17°47.6	45.8	13	17°30.3	12.2	13	17°11.7	34.7	13	16°51.9	53.2
14	33°03.2	16.2	14	32°47.4	46.2	14	32°30.1	12.5	14	32°11.4	35.0	14	31°51.6	53.5
15	48°03.0	· · 16.6	15	47°47.1	· · 46.6	15	47°29.8	· · 12.9	15	47°11.2	· · 35.3	15	46°51.4	· · 53.7
16	63°02.8	17.0	16	62°46.9	47.0	16	62°29.6	13.2	16	62°10.9	35.5	16	61°51.1	53.9
17	78°02.5	17.5	17	77°46.7	47.4	17	77°29.3	13.5	17	77°10.6	35.8	17	76°50.8	54.2
18	93°02.3	S21°17.9	18	92°46.4	S21°47.8	18	92°29.1	S22°13.9	18	92°10.4	S22°36.1	18	91°50.5	S22°54.4
19	108°02.1	18.4	19	107°46.2	48.2	19	107°28.8	14.2	19	107°10.1	36.4	19	106°50.2	54.6
20	123°01.9	18.8	20	122°46.0	48.5	20	122°28.6	14.5	20	122°09.8	36.7	20	121°49.9	54.8
21	138°01.7	· · 19.2	21	137°45.7	· · 48.9	21	137°28.3	· · 14.9	21	137°09.6	· · 36.9	21	136°49.7	· · 55.1
22	153°01.5	19.7	22	152°45.5	49.3	22	152°28.1	15.2	22	152°09.3	37.2	22	151°49.4	55.3
23	168°01.3	20.1	23	167°45.3	49.7	23	167°27.8	15.5	23	167°09.0	37.5	23	166°49.1	55.5
SD.=16.2 d=-0.5			SD.=16.2 d=-0.4			SD.=16.2 d=-0.3			SD.=16.2 d=-0.3			SD.=16.2 d=-0.2		

28	GHA	Dec	01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec
0	183°01.1	S21°20.5	0	182°45.0	S21°50.1	0	182°27.6	S22°15.9	0	182°08.8	S22°37.8	0	181°48.8	S22°55.7
1	198°00.9	21.0	1	197°44.8	50.5	1	197°27.3	16.2	1	197°08.5	38.1	1	196°48.5	55.9
2	213°00.6	21.4	2	212°44.6	50.9	2	212°27.0	16.5	2	212°08.2	38.3	2	211°48.2	56.2
3	228°00.4	· · 21.8	3	227°44.3	· · 51.2	3	227°26.8	· · 16.9	3	227°07.9	· · 38.6	3	226°47.9	· · 56.4
4	243°00.2	22.3	4	242°44.1	51.6	4	242°26.5	17.2	4	242°07.7	38.9	4	241°47.7	56.6
5	258°00.0	22.7	5	257°43.9	52.0	5	257°26.3	17.5	5	257°07.4	39.2	5	256°47.4	56.8
6	272°59.8	S21°23.1	6	272°43.6	S21°52.4	6	272°26.0	S22°17.8	6	272°07.1	S22°39.4	6	271°47.1	S22°57.0
7	287°59.6	23.6	7	287°43.4	52.8	7	287°25.8	18.2	7	287°06.9	39.7	7	286°46.8	57.2
8	302°59.4	24.0	8	302°43.2	53.1	8	302°25.5	18.5	8	302°06.6	40.0	8	301°46.5	57.5
9	317°59.1	· · 24.4	9	317°42.9	· · 53.5	9	317°25.3	· · 18.8	9	317°06.3	· · 40.2	9	316°46.2	· · 57.7
10	332°58.9	24.9	10	332°42.7	53.9	10	332°25.0	19.1	10	332°06.0	40.5	10	331°45.9	57.9
11	347°58.7	25.3	11	347°42.5	54.3	11	347°24.8	19.5	11	347°05.8	40.8	11	346°45.7	58.1
12	2°58.5	S21°25.7	12	2°42.2	S21°54.6	12	2°24.5	S22°19.8	12	2°05.5	S22°41.1	12	1°45.4	S22°58.3
13	17°58.3	26.1	13	17°42.0	55.0	13	17°24.3	20.1	13	17°05.2	41.3	13	16°45.1	58.5
14	32°58.1	26.6	14	32°41.7	55.4	14	32°24.0	20.4	14	32°05.0	41.6	14	31°44.8	58.7
15	47°57.9	· · 27.0	15	47°41.5	· · 55.8	15	47°23.7	· · 20.8	15	47°04.7	· · 41.9	15	46°44.5	· · 58.9
16	62°57.6	27.4	16	62°41.3	56.1	16	62°23.5	21.1	16	62°04.4	42.1	16	61°44.2	59.2
17	77°57.4	27.9	17	77°41.0	56.5	17	77°23.2	21.4	17	77°04.1	42.4	17	76°43.9	59.4
18	92°57.2	S21°28.3	18	92°40.8	S21°56.9	18	92°23.0	S22°21.7	18	92°03.9	S22°42.6	18	91°43.7	S22°59.6
19	107°57.0	28.7	19	107°40.6	57.3	19	107°22.7	22.0	19	107°03.6	42.9	19	106°43.4	22°59.8
20	122°56.8	29.1	20	122°40.3	57.6	20	122°22.5	22.4	20	122°03.3	43.2	20	121°43.1	23°00.0
21	137°56.5	· · 29.5	21	137°40.1	· · 58.0	21	137°22.2	· · 22.7	21	137°03.0	· · 43.4	21	136°42.8	· · 00.2
22	152°56.3	30.0	22	152°39.8	58.4	22	152°21.9	23.0	22	152°02.8	43.7	22	151°42.5	00.4
23	167°56.1	30.4	23	167°39.6	58.7	23	167°21.7	23.3	23	167°02.5	44.0	23	166°42.2	00.6
SD.=16.2 d=-0.4			SD.=16.2 d=-0.4			SD.=16.2 d=-0.3			SD.=16.2 d=-0.3			SD.=16.2 d=-0.2		

11	GHA	Dec	14	GHA	Dec	17	GHA	Dec	20	GHA	Dec	23	GHA	Dec
0	181°41.9	S23°00.8	0	181°20.7	S23°13.3	0	180°58.9	S23°21.6	0	180°36.6	S23°25.8	0	180°14.3	S23°25.6
1	196°41.6	01.0	1	196°20.4	13.4	1	195°58.6	21.7	1	195°36.3	25.8	1	195°14.0	25.6
2	211°41.3	01.2	2	211°20.1	13.6	2	210°58.3	21.8	2	210°36.0	25.8	2	210°13.6	25.6
3	226°41.1	· · 01.4	3	226°19.8	· · 13.7	3	225°58.0	· · 21.9	3	225°35.7	· · 25.8	3	225°13.3	· · 25.5
4	241°40.8	01.6	4	241°19.5	13.9	4	240°57.7	22.0	4	240°35.4	25.9	4	240°13.0	25.5
5	256°40.5	01.8	5	256°19.2	14.0	5	255°57.4	22.1	5	255°35.1	25.9	5	255°12.7	25.5
6	271°40.2	S23°02.0	6	271°18.9	S23°14.1	6	270°57.0	S23°22.1	6	270°34.8	S23°25.9	6	270°12.4	S23°25.4
7	286°39.9	02.2	7	286°18.6	14.3	7	285°56.7	22.2	7	285°34.5	25.9	7	285°12.1	25.4
8	301°39.6	02.4	8	301°18.3	14.4	8	300°56.4	22.3	8	300°34.2	26.0	8	300°11.8	25.4
9	316°39.3	· · 02.6	9	316°18.0	· · 14.6	9	315°56.1	· · 22.4	9	315°33.9	· · 26.0	9	315°11.5	· · 25.3
10	331°39.0	02.8	10	331°17.7	14.7	10	330°55.8	22.5	10	330°33.5	26.0	10	330°11.2	25.3
11	346°38.7	03.0	11	346°17.4	14.8	11	345°55.5	22.5	11	345°33.2	26.0	11	345°10.8	25.2
12	1°38.4	S23°03.2	12	1°17.1	S23°15.0	12	0°55.2	S23°22.6	12	0°32.9	S23°26.0	12	0°10.5	S23°25.2
13	16°38.2	03.4	13	16°16.8	15.1	13	15°54.9	22.7	13	15°32.6	26.0	13	15°10.2	25.2
14	31°37.9	03.6	14	31°16.5	15.2	14	30°54.6	22.8	14	30°32.3	26.1	14	30°09.9	25.1
15	46°37.6	· · 03.7	15	46°16.2	· · 15.4	15	45°54.3	· · 22.8	15	45°32.0	· · 26.1	15	45°09.6	· · 25.1
16	61°37.3	03.9	16	61°15.9	15.5	16	60°54.0	22.9	16	60°31.7	26.1	16	60°09.3	25.0
17	76°37.0	04.1	17	76°15.6	15.6	17	75°53.7	23.0	17	75°31.4	26.1	17	75°09.0	25.0
18	91°36.7	S23°04.3	18	91°15.3	S23°15.8	18	90°53.4	S23°23.1	18	90°31.1	S23°26.1	18	90°08.7	S23°24.9
19	106°36.4	04.5	19	106°15.0	15.9	19	105°53.0	23.1	19	105°30.7	26.1	19	105°08.4	24.9
20	121°36.1	04.7	20	121°14.7	16.0	20	120°52.7	23.2	20	120°30.4	26.1	20	120°08.1	24.9
21	136°35.8	· · 04.9	21	136°14.4	· · 16.2	21	135°52.4	· · 23.3	21	135°30.1	· · 26.2	21	135°07.7	· · 24.8
22	151°35.5	05.1	22	151°14.1	16.3	22	150°52.1	23.3	22	150°29.8	26.2	22	150°07.4	24.8
23	166°35.2	05.2	23	166°13.8	16.4	23	165°51.8	23.4	23	165°29.5	26.2	23	165°07.1	24.7
SD.=16.2 d=-0.2			SD.=16.2 d=-0.1			SD.=16.3 d=-0.1			SD.=16.3 d=-0.0			SD.=16.3 d=0.0		

12	GHA	Dec	15	GHA	Dec	18	GHA	Dec	21	GHA	Dec	24	GHA	Dec
0	181°34.9	S23°05.4	0	181°13.5	S23°16.5	0	180°51.5	S23°23.5	0	180°29.2	S23°26.2	0	180°06.8	S23°24.7
1	196°34.7	05.6	1	196°13.2	16.7	1	195°51.2	23.5	1	195°28.9	26.2	1	195°06.5	24.6
2	211°34.4	05.8	2	211°12.9	16.8	2	210°50.9	23.6	2	210°28.6	26.2	2	210°06.2	24.6
3	226°34.1	· · 06.0	3	226°12.6	· · 16.9	3	225°50.6	· · 23.7	3	225°28.3	· · 26.2	3	225°05.9	· · 24.5
4	241°33.8	06.2	4	241°12.3	17.0	4	240°50.3	23.7	4	240°27.9	26.2	4	240°05.6	24.4
5	256°33.5	06.3	5	256°12.0	17.2	5	255°50.0	23.8	5	255°27.6	26.2	5	255°05.3	24.4
6	271°33.2	S23°06.5	6	271°11.7	S23°17.3	6	270°49.7	S23°23.9	6	270°27.3	S23°26.2	6	270°05.0	S23°24.3
7	286°32.9	06.7	7	286°11.4	17.4	7	285°49.3	23.9	7	285°27.0	26.2	7	285°04.6	24.3
8	301°32.6	06.9	8	301°11.1	17.5	8	300°49.0	24.0	8	300°26.7	26.2	8	300°04.3	24.2
9	316°32.3	· · 07.0	9	316°10.8	· · 17.6	9	315°48.7	· · 24.0	9	315°26.4	· · 26.2	9	315°04.0	· · 24.2
10	331°32.0	07.2	10	331°10.5	17.8	10	330°48.4	24.1	10	330°26.1	26.2	10	330°03.7	24.1
11	346°31.7	07.4	11	346°10.2	17.9	11	345°48.1	24.2	11	345°25.8	26.2	11	345°03.4	24.0
12	1°31.4	S23°07.6	12	1°09.9	S23°18.0	12	0°47.8	S23°24.2	12	0°25.5	S23°26.2	12	0°03.1	S23°24.0
13	16°31.1	07.7	13	16°09.6	18.1	13	15°47.5	24.3	13	15°25.2	26.2	13	15°02.8	23.9
14	31°30.8	07.9	14	31°09.3	18.2	14	30°47.2	24.3	14	30°24.8	26.2	14	30°02.5	23.9
15	46°30.5	· · 08.1	15	46°09.0	· · 18.3	15	45°46.9	· · 24.4	15	45°24.5	· · 26.2	15	45°02.2	· · 23.8
16	61°30.2	08.3	16	61°08.7	18.4	16	60°46.6	24.4	16	60°24.2	26.2	16	60°01.9	23.7
17	76°29.9	08.4	17	76°08.4	18.6	17	75°46.3	24.5	17	75°23.9	26.2	17	75°01.5	23.7
18	91°29.7	S23°08.6	18	91°08.1	S23°18.7	18	90°45.9	S23°24.5	18	90°23.6	S23°26.2	18	90°01.2	S23°23.6
19	106°29.4	08.8	19	106°07.7	18.8	19	105°45.6	24.6	19	105°23.3	26.2	19	105°00.9	23.5
20	121°29.1	08.9	20	121°07.4	18.9	20	120°45.3	24.7	20	120°23.0	26.2	20	120°00.6	23.5
21	136°28.8	· · 09.1	21	136°07.1	· · 19.0	21	135°45.0	· · 24.7	21	135°22.7	· · 26.2	21	135°00.3	· · 23.4
22	151°28.5	09.3	22	151°06.8	19.1	22	150°44.7	24.8	22	150°22.4	26.2	22	150°00.0	23.3
23	166°28.2	09.4	23	166°06.5	19.2	23	165°44.4	24.8	23	165°22.0	26.2	23	164°59.7	23.3
SD.=16.2 d=-0.2			SD.=16.2 d=-0.1			SD.=16.3 d=-0.1			SD.=16.3 d=-0.0			SD.=16.3 d=0.1		

13	GHA	Dec	16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec
0	181°27.9	S23°09.6	0	181°06.2	S23°19.3	0	180°44.1	S23°24.8	0	180°21.7	S23°26.1	0	179°59.4	S23°23.2
1	196°27.6	09.8	1	196°05.9	19.4	1	195°43.8	24.9	1	195°21.4	26.1	1	194°59.1	23.1
2	211°27.3	09.9	2	211°05.6	19.5	2	210°43.5	24.9	2	210°21.1	26.1	2	209°58.8	23.1
3	226°27.0	· · 10.1	3	226°05.3	· · 19.6	3	225°43.2	· · 25.0	3	225°20.8	· · 26.1	3	224°58.4	· · 23.0
4	241°26.7	10.2	4	241°05.0	19.7	4	240°42.9	25.0	4	240°20.5	26.1	4	239°58.1	22.9
5	256°26.4	10.4	5	256°04.7	19.8	5	255°42.5	25.1	5	255°20.2	26.1	5	254°57.8	22.8
6	271°26.1	S23°10.6	6	271°04.4	S23°19.9	6	270°42.2	S23°25.1	6	270°19.9	S23°26.1	6	269°57.5	S23°22.8
7	286°25.8	10.7	7	286°04.1	20.0	7	285°41.9	25.2	7	285°19.6	26.0	7	284°57.2	22.7
8	301°25.5	10.9	8	301°03.8	20.1	8	300°41.6	25.2	8	300°19.2	26.0	8	299°56.9	22.6
9	316°25.2	· · 11.0	9	316°03.5	· · 20.2	9	315°41.3	· · 25.2	9	315°18.9	· · 26.0	9	314°56.6	· · 22.5
10	331°24.9	11.2	10	331°03.2	20.3	10	330°41.0	25.3	10	330°18.6	26.0	10	329°56.3	22.5
11	346°24.6	11.3	11	346°02.9	20.4	11	345°40.7	25.3	11	345°18.3	26.0	11	344°56.0	22.4
12	1°24.3	S23°11.5	12	1°02.6	S23°20.5	12	0°40.4	S23°25.4	12	0°18.0	S23°26.0	12	359°55.7	S23°22.3
13	16°24.0	11.7	13	16°02.3	20.6	13	15°40.1	25.4	13	15°17.7	25.9	13	14°55.4	22.2
14	31°23.7	11.8	14	31°02.0	20.7	14	30°39.8	25.4	14	30°17.4	25.9	14	29°55.0	22.1
15	46°23.4	· · 12.0	15	46°01.6	· · 20.8	15	45°39.4	· · 25.5	15	45°17.1	· · 25.9	15	44°54.7	· · 22.1
16	61°23.1	12.1	16	61°01.3	20.9	16	60°39.1	25.5	16	60°16.8	25.9	16	59°54.4	22.0
17	76°22.8	12.3	17	76°01.0	21.0	17	75°38.8	25.5	17	75°16.4	25.8	17	74°54.1	21.9
18	91°22.5	S23°12.4	18	91°00.7	S23°21.1	18	90°38.5	S23°25.6	18	90°16.1	S23°25.8	18	89°53.8	S23°21.8
19	106°22.2	12.6	19	106°00.4	21.2	19	105°38.2	25.6	19	105°15.8	25.8	19	104°53.5	21.7
20	121°21.9	12.7	20	121°00.1	21.3	20	120°37.9	25.6	20	120°15.5	25.8	20	119°53.2	21.6
21	136°21.6	· · 12.9	21	135°59.8	· · 21.4	21	135°37.6	· · 25.7	21	135°15.2	· · 25.7	21	134°52.9	· · 21.5
22	151°21.3	13.0	22	150°59.5	21.5	22	150°37.3	25.7	22	150°14.9	25.7	22	149°52.6	21.5
23	166°21.0	13.2	23	165°59.2	21.5	23	165°37.0	25.7	23	165°14.6	25.7	23	164°52.3	21.4
SD.=16.2 d=-0.2			SD.=16.3 d=-0.1			SD.=16.3 d=-0.0			SD.=16.3 d=0.0			SD.=16.3 d=0.1		

26	GHA	Dec	29	GHA	Dec	01	GHA	Dec	04	GHA	Dec	07	GHA	Dec
0	179°52.0	S23°21.3	0	179°30.0	S23°12.7	0	179°08.5	S23°00.0	0	178°47.7	S22°43.1	0	178°27.7	S22°22.1
1	194°51.7	21.2	1	194°29.7	12.6	1	194°08.2	22°59.7	1	193°47.4	42.8	1	193°27.5	21.8
2	209°51.3	21.1	2	209°29.4	12.4	2	209°07.9	59.5	2	208°47.1	42.6	2	208°27.2	21.5
3	224°51.0	· · 21.0	3	224°29.1	· · 12.3	3	224°07.6	· · 59.3	3	223°46.8	· · 42.3	3	223°26.9	· · 21.2
4	239°50.7	20.9	4	239°28.8	12.1	4	239°07.3	59.1	4	238°46.5	42.0	4	238°26.7	20.9
5	254°50.4	20.8	5	254°28.5	12.0	5	254°07.0	58.9	5	253°46.3	41.8	5	253°26.4	20.5
6	269°50.1	S23°20.7	6	269°28.2	S23°11.8	6	269°06.7	S22°58.7	6	268°46.0	S22°41.5	6	268°26.1	S22°20.2
7	284°49.8	20.6	7	284°27.9	11.7	7	284°06.4	58.5	7	283°45.7	41.2	7	283°25.9	19.9
8	299°49.5	20.5	8	299°27.5	11.5	8	299°06.1	58.3	8	298°45.4	41.0	8	298°25.6	19.6
9	314°49.2	· · 20.4	9	314°27.2	· · 11.3	9	314°05.8	· · 58.1	9	313°45.1	· · 40.7	9	313°25.3	· · 19.3
10	329°48.9	20.3	10	329°26.9	11.2	10	329°05.5	57.9	10	328°44.8	40.4	10	328°25.1	18.9
11	344°48.6	20.2	11	344°26.6	11.0	11	344°05.2	57.6	11	343°44.6	40.1	11	343°24.8	18.6
12	359°48.3	S23°20.1	12	359°26.3	S23°10.9	12	359°05.0	S22°57.4	12	358°44.3	S22°39.9	12	358°24.5	S22°18.3
13	14°48.0	20.0	13	14°26.0	10.7	13	14°04.7	57.2	13	13°44.0	39.6	13	13°24.2	17.9
14	29°47.7	19.9	14	29°25.7	10.6	14	29°04.4	57.0	14	28°43.7	39.3	14	28°24.0	17.6
15	44°47.4	· · 19.8	15	44°25.4	· · 10.4	15	44°04.1	· · 56.8	15	43°43.4	· · 39.0	15	43°23.7	· · 17.3
16	59°47.0	19.7	16	59°25.1	10.2	16	59°03.8	56.6	16	58°43.2	38.8	16	58°23.4	17.0
17	74°46.7	19.6	17	74°24.8	10.1	17	74°03.5	56.3	17	73°42.9	38.5	17	73°23.2	16.6
18	89°46.4	S23°19.5	18	89°24.5	S23°09.9	18	89°03.2	S22°56.1	18	88°42.6	S22°38.2	18	88°22.9	S22°16.3
19	104°46.1	19.4	19	104°24.2	09.7	19	104°02.9	55.9	19	103°42.3	37.9	19	103°22.6	16.0
20	119°45.8	19.3	20	119°23.9	09.6	20	119°02.6	55.7	20	118°42.0	37.7	20	118°22.4	15.6
21	134°45.5	· · 19.2	21	134°23.6	· · 09.4	21	134°02.3	· · 55.5	21	133°41.8	· · 37.4	21	133°22.1	· · 15.3
22	149°45.2	19.1	22	149°23.3	09.3	22	149°02.0	55.2	22	148°41.5	37.1	22	148°21.9	15.0
23	164°44.9	19.0	23	164°23.0	09.1	23	164°01.7	55.0	23	163°41.2	36.8	23	163°21.6	14.6
SD.=16.3 d=0.1			SD.=16.3 d=0.1			SD.=16.3 d=0.2			SD.=16.3 d=0.3			SD.=16.3 d=0.3		

27	GHA	Dec	30	GHA	Dec	02	GHA	Dec	05	GHA	Dec	08	GHA	Dec
0	179°44.6	S23°18.9	0	179°22.7	S23°08.9	0	179°01.5	S22°54.8	0	178°40.9	S22°36.5	0	178°21.3	S22°14.3
1	194°44.3	18.8	1	194°22.4	08.8	1	194°01.2	54.6	1	193°40.6	36.3	1	193°21.1	13.9
2	209°44.0	18.7	2	209°22.1	08.6	2	209°00.9	54.3	2	208°40.4	36.0	2	208°20.8	13.6
3	224°43.7	· · 18.6	3	224°21.8	· · 08.4	3	224°00.6	· · 54.1	3	223°40.1	· · 35.7	3	223°20.5	· · 13.3
4	239°43.4	18.4	4	239°21.5	08.2	4	239°00.3	53.9	4	238°39.8	35.4	4	238°20.3	12.9
5	254°43.1	18.3	5	254°21.2	08.1	5	254°00.0	53.6	5	253°39.5	35.1	5	253°20.0	12.6
6	269°42.7	S23°18.2	6	269°20.9	S23°07.9	6	268°59.7	S22°53.4	6	268°39.2	S22°34.8	6	268°19.7	S22°12.3
7	284°42.4	18.1	7	284°20.6	07.7	7	283°59.4	53.2	7	283°39.0	34.6	7	283°19.5	11.9
8	299°42.1	18.0	8	299°20.3	07.6	8	298°59.1	53.0	8	298°38.7	34.3	8	298°19.2	11.6
9	314°41.8	· · 17.9	9	314°20.0	· · 07.4	9	313°58.8	· · 52.7	9	313°38.4	· · 34.0	9	313°18.9	· · 11.2
10	329°41.5	17.8	10	329°19.7	07.2	10	328°58.6	52.5	10	328°38.1	33.7	10	328°18.7	10.9
11	344°41.2	17.6	11	344°19.4	07.0	11	343°58.3	52.3	11	343°37.9	33.4	11	343°18.4	10.5
12	359°40.9	S23°17.5	12	359°19.1	S23°06.8	12	358°58.0	S22°52.0	12	358°37.6	S22°33.1	12	358°18.2	S22°10.2
13	14°40.6	17.4	13	14°18.8	06.7	13	13°57.7	51.8	13	13°37.3	32.8	13	13°17.9	09.8
14	29°40.3	17.3	14	29°18.5	06.5	14	28°57.4	51.6	14	28°37.0	32.5	14	28°17.6	09.5
15	44°40.0	· · 17.2	15	44°18.2	· · 06.3	15	43°57.1	· · 51.3	15	43°36.8	· · 32.2	15	43°17.4	· · 09.1
16	59°39.7	17.0	16	59°17.9	06.1	16	58°56.8	51.1	16	58°36.5	31.9	16	58°17.1	08.8
17	74°39.4	16.9	17	74°17.7	06.0	17	73°56.5	50.8	17	73°36.2	31.7	17	73°16.9	08.5
18	89°39.1	S23°16.8	18	89°17.4	S23°05.8	18	88°56.2	S22°50.6	18	88°35.9	S22°31.4	18	88°16.6	S22°08.1
19	104°38.8	16.7	19	104°17.1	05.6	19	103°56.0	50.4	19	103°35.7	31.1	19	103°16.3	07.7
20	119°38.5	16.5	20	119°16.8	05.4	20	118°55.7	50.1	20	118°35.4	30.8	20	118°16.1	07.4
21	134°38.2	· · 16.4	21	134°16.5	· · 05.2	21	133°55.4	· · 49.9	21	133°35.1	· · 30.5	21	133°15.8	· · 07.0
22	149°37.9	16.3	22	149°16.2	05.0	22	148°55.1	49.6	22	148°34.8	30.2	22	148°15.5	06.7
23	164°37.6	16.2	23	164°15.9	04.9	23	163°54.8	49.4	23	163°34.6	29.9	23	163°15.3	06.3
SD.=16.3 d=0.1			SD.=16.3 d=0.2			SD.=16.3 d=0.2			SD.=16.3 d=0.3			SD.=16.3 d=0.3		

28	GHA	Dec	31	GHA	Dec	03	GHA	Dec	06	GHA	Dec	09	GHA	Dec
0	179°37.3	S23°16.0	0	179°15.6	S23°04.7	0	178°54.5	S22°49.2	0	178°34.3	S22°29.6	0	178°15.0	S22°06.0
1	194°36.9	15.9	1	194°15.3	04.5	1	193°54.2	48.9	1	193°34.0	29.3	1	193°14.8	05.6
2	209°36.6	15.8	2	209°15.0	04.3	2	208°53.9	48.7	2	208°33.7	29.0	2	208°14.5	05.3
3	224°36.3	· · 15.6	3	224°14.7	· · 04.1	3	223°53.7	· · 48.4	3	223°33.5	· · 28.7	3	223°14.2	· · 04.9
4	239°36.0	15.5	4	239°14.4	03.9	4	238°53.4	48.2	4	238°33.2	28.4	4	238°14.0	04.6
5	254°35.7	15.4	5	254°14.1	03.7	5	253°53.1	47.9	5	253°32.9	28.1	5	253°13.7	04.2
6	269°35.4	S23°15.2	6	269°13.8	S23°03.5	6	268°52.8	S22°47.7	6	268°32.6	S22°27.8	6	268°13.5	S22°03.8
7	284°35.1	15.1	7	284°13.5	03.3	7	283°52.5	47.4	7	283°32.4	27.5	7	283°13.2	03.5
8	299°34.8	15.0	8	299°13.2	03.1	8	298°52.2	47.2	8	298°32.1	27.1	8	298°13.0	03.1
9	314°34.5	· · 14.8	9	314°12.9	· · 03.0	9	313°51.9	· · 46.9	9	313°31.8	· · 26.8	9	313°12.7	· · 02.8
10	329°34.2	14.7	10	329°12.6	02.8	10	328°51.7	46.7	10	328°31.5	26.5	10	328°12.4	02.4
11	344°33.9	14.6	11	344°12.3	02.6	11	343°51.4	46.4	11	343°31.3	26.2	11	343°12.2	02.0
12	359°33.6	S23°14.4	12	359°12.0	S23°02.4	12	358°51.1	S22°46.2	12	358°31.0	S22°25.9	12	358°11.9	S22°01.7
13	14°33.3	14.3	13	14°11.7	02.2	13	13°50.8	45.9	13	13°30.7	25.6	13	13°11.7	01.3
14	29°33.0	14.1	14	29°11.4	02.0	14	28°50.5	45.7	14	28°30.5	25.3	14	28°11.4	00.9
15	44°32.7	· · 14.0	15	44°11.1	· · 01.8	15	43°50.2	· · 45.4	15	43°30.2	· · 25.0	15	43°11.2	· · 00.6
16	59°32.4	13.9	16	59°10.8	01.6	16	58°49.9	45.2	16	58°29.9	24.7	16	58°10.9	22°00.2
17	74°32.1	13.7	17	74°10.5	01.4	17	73°49.7	44.9	17	73°29.6	24.4	17	73°10.6	21°59.8
18	89°31.8	S23°13.6	18	89°10.2	S23°01.2	18	88°49.4	S22°44.6	18	88°29.4	S22°24.0	18	88°10.4	S21°59.5
19	104°31.5	13.4	19	104°09.9	01.0	19	103°49.1	44.4	19	103°29.1	23.7	19	103°10.1	59.1
20	119°31.2	13.3	20	119°09.6	00.8	20	118°48.8	44.1	20	118°28.8	23.4	20	118°09.9	58.7
21	134°30.9	· · 13.1	21	134°09.4	· · 00.6	21	133°48.5	· · 43.9	21	133°28.6	· · 23.1	21	133°09.6	· · 58.4
22	149°30.6	13.0	22	149°09.1	00.4	22	148°48.2	43.6	22	148°28.3	22.8	22	148°09.4	58.0
23	164°30.3	12.9	23	164°08.8	00.2	23	163°48.0	43.3	23	163°28.0	22.5	23	163°09.1	57.6
SD.=16.3 d=0.1			SD.=16.3 d=0.2			SD.=16.3 d=0.2			SD.=16.3 d=0.3			SD.=16.3 d=0.4		