

GENERATED USING EPHEM



THE NAUTICAL ALMANAC FOR THE SUN

2021

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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°08.5	S23°00.0	0	178°47.7	S22°43.1	0	178°27.7	S22°22.1	0	178°08.9	S21°57.3	0	177°51.2	S21°28.5
1	194°08.2	22°59.7	1	193°47.4	42.8	1	193°27.5	21.8	1	193°08.6	56.9	1	192°51.0	28.1
2	209°07.9	59.5	2	208°47.1	42.6	2	208°27.2	21.5	2	208°08.4	56.5	2	207°50.7	27.6
3	224°07.6	· · 59.3	3	223°46.8	· · 42.3	3	223°26.9	· · 21.2	3	223°08.1	· · 56.1	3	222°50.5	· · 27.2
4	239°07.3	59.1	4	238°46.5	42.0	4	238°26.7	20.9	4	238°07.8	55.8	4	237°50.3	26.8
5	254°07.0	58.9	5	253°46.3	41.8	5	253°26.4	20.5	5	253°07.6	55.4	5	252°50.0	26.4
6	269°06.7	S22°58.7	6	268°46.0	S22°41.5	6	268°26.1	S22°20.2	6	268°07.3	S21°55.0	6	267°49.8	S21°25.9
7	284°06.4	58.5	7	283°45.7	41.2	7	283°25.9	19.9	7	283°07.1	54.6	7	282°49.6	25.5
8	299°06.1	58.3	8	298°45.4	41.0	8	298°25.6	19.6	8	298°06.8	54.2	8	297°49.3	25.1
9	314°05.8	· · 58.1	9	313°45.1	· · 40.7	9	313°25.3	· · 19.3	9	313°06.6	· · 53.9	9	312°49.1	· · 24.6
10	329°05.5	57.9	10	328°44.8	40.4	10	328°25.1	18.9	10	328°06.3	53.5	10	327°48.9	24.2
11	344°05.2	57.6	11	343°44.6	40.1	11	343°24.8	18.6	11	343°06.1	53.1	11	342°48.6	23.8
12	359°05.0	S22°57.4	12	358°44.3	S22°39.9	12	358°24.5	S22°18.3	12	358°05.8	S21°52.7	12	357°48.4	S21°23.3
13	14°04.7	57.2	13	13°44.0	39.6	13	13°24.2	17.9	13	13°05.6	52.3	13	12°48.2	22.9
14	29°04.4	57.0	14	28°43.7	39.3	14	28°24.0	17.6	14	28°05.3	52.0	14	27°47.9	22.5
15	44°04.1	· · 56.8	15	43°43.4	· · 39.0	15	43°23.7	· · 17.3	15	43°05.1	· · 51.6	15	42°47.7	· · 22.0
16	59°03.8	56.6	16	58°43.2	38.8	16	58°23.4	17.0	16	58°04.8	51.2	16	57°47.5	21.6
17	74°03.5	56.3	17	73°42.9	38.5	17	73°23.2	16.6	17	73°04.6	50.8	17	72°47.3	21.2
18	89°03.2	S22°56.1	18	88°42.6	S22°38.2	18	88°22.9	S22°16.3	18	88°04.3	S21°50.4	18	87°47.0	S21°20.7
19	104°02.9	55.9	19	103°42.3	37.9	19	103°22.6	16.0	19	103°04.1	50.0	19	102°46.8	20.3
20	119°02.6	55.7	20	118°42.0	37.7	20	118°22.4	15.6	20	118°03.8	49.6	20	117°46.6	19.8
21	134°02.3	· · 55.5	21	133°41.8	· · 37.4	21	133°22.1	· · 15.3	21	133°03.6	· · 49.3	21	132°46.3	· · 19.4
22	149°02.0	55.2	22	148°41.5	37.1	22	148°21.9	15.0	22	148°03.3	48.9	22	147°46.1	19.0
23	164°01.7	55.0	23	163°41.2	36.8	23	163°21.6	14.6	23	163°03.1	48.5	23	162°45.9	18.5
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		

02	GHA	Dec	05	GHA	Dec	08	GHA	Dec	11	GHA	Dec	14	GHA	Dec
0	179°01.5	S22°54.8	0	178°40.9	S22°36.5	0	178°21.3	S22°14.3	0	178°02.8	S21°48.1	0	177°45.6	S21°18.1
1	194°01.2	54.6	1	193°40.6	36.3	1	193°21.1	13.9	1	193°02.6	47.7	1	192°45.4	17.6
2	209°00.9	54.3	2	208°40.4	36.0	2	208°20.8	13.6	2	208°02.3	47.3	2	207°45.2	17.2
3	224°00.6	· · 54.1	3	223°40.1	· · 35.7	3	223°20.5	· · 13.3	3	223°02.1	· · 46.9	3	222°45.0	· · 16.7
4	239°00.3	53.9	4	238°39.8	35.4	4	238°20.3	12.9	4	238°01.8	46.5	4	237°44.7	16.3
5	254°00.0	53.6	5	253°39.5	35.1	5	253°20.0	12.6	5	253°01.6	46.1	5	252°44.5	15.8
6	268°59.7	S22°53.4	6	268°39.2	S22°34.8	6	268°19.7	S22°12.3	6	268°01.4	S21°45.7	6	267°44.3	S21°15.4
7	283°59.4	53.2	7	283°39.0	34.6	7	283°19.5	11.9	7	283°01.1	45.3	7	282°44.1	15.0
8	298°59.1	53.0	8	298°38.7	34.3	8	298°19.2	11.6	8	298°00.9	44.9	8	297°43.8	14.5
9	313°58.8	· · 52.7	9	313°38.4	· · 34.0	9	313°18.9	· · 11.2	9	313°00.6	· · 44.5	9	312°43.6	· · 14.1
10	328°58.6	52.5	10	328°38.1	33.7	10	328°18.7	10.9	10	328°00.4	44.1	10	327°43.4	13.6
11	343°58.3	52.3	11	343°37.9	33.4	11	343°18.4	10.5	11	343°00.1	43.7	11	342°43.1	13.2
12	358°58.0	S22°52.0	12	358°37.6	S22°33.1	12	358°18.2	S22°10.2	12	357°59.9	S21°43.3	12	357°42.9	S21°12.7
13	13°57.7	51.8	13	13°37.3	32.8	13	13°17.9	09.8	13	12°59.6	42.9	13	12°42.7	12.3
14	28°57.4	51.6	14	28°37.0	32.5	14	28°17.6	09.5	14	27°59.4	42.5	14	27°42.5	11.8
15	43°57.1	· · 51.3	15	43°36.8	· · 32.2	15	43°17.4	· · 09.1	15	42°59.1	· · 42.1	15	42°42.2	· · 11.3
16	58°56.8	51.1	16	58°36.5	31.9	16	58°17.1	08.8	16	57°58.9	41.7	16	57°42.0	10.9
17	73°56.5	50.8	17	73°36.2	31.7	17	73°16.9	08.5	17	72°58.7	41.3	17	72°41.8	10.4
18	88°56.2	S22°50.6	18	88°35.9	S22°31.4	18	88°16.6	S22°08.1	18	87°58.4	S21°40.9	18	87°41.6	S21°10.0
19	103°56.0	50.4	19	103°35.7	31.1	19	103°16.3	07.7	19	102°58.2	40.5	19	102°41.3	09.5
20	118°55.7	50.1	20	118°35.4	30.8	20	118°16.1	07.4	20	117°57.9	40.1	20	117°41.1	09.1
21	133°55.4	· · 49.9	21	133°35.1	· · 30.5	21	133°15.8	· · 07.0	21	132°57.7	· · 39.7	21	132°40.9	· · 08.6
22	148°55.1	49.6	22	148°34.8	30.2	22	148°15.5	06.7	22	147°57.4	39.3	22	147°40.7	08.2
23	163°54.8	49.4	23	163°34.6	29.9	23	163°15.3	06.3	23	162°57.2	38.9	23	162°40.5	07.7
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°54.5	S22°49.2	0	178°34.3	S22°29.6	0	178°15.0	S22°06.0	0	177°57.0	S21°38.5	0	177°40.2	S21°07.2
1	193°54.2	48.9	1	193°34.0	29.3	1	193°14.8	05.6	1	192°56.7	38.1	1	192°40.0	06.8
2	208°53.9	48.7	2	208°33.7	29.0	2	208°14.5	05.3	2	207°56.5	37.7	2	207°39.8	06.3
3	223°53.7	· · 48.4	3	223°33.5	· · 28.7	3	223°14.2	· · 04.9	3	222°56.2	· · 37.3	3	222°39.6	· · 05.9
4	238°53.4	48.2	4	238°33.2	28.4	4	238°14.0	04.6	4	237°56.0	36.9	4	237°39.4	05.4
5	253°53.1	47.9	5	253°32.9	28.1	5	253°13.7	04.2	5	252°55.7	36.4	5	252°39.1	04.9
6	268°52.8	S22°47.7	6	268°32.6	S22°27.8	6	268°13.5	S22°03.8	6	267°55.5	S21°36.0	6	267°38.9	S21°04.5
7	283°52.5	47.4	7	283°32.4	27.5	7	283°13.2	03.5	7	282°55.3	35.6	7	282°38.7	04.0
8	298°52.2	47.2	8	298°32.1	27.1	8	298°13.0	03.1	8	297°55.0	35.2	8	297°38.5	03.5
9	313°51.9	· · 46.9	9	313°31.8	· · 26.8	9	313°12.7	· · 02.8	9	312°54.8	· · 34.8	9	312°38.3	· · 03.1
10	328°51.7	46.7	10	328°31.5	26.5	10	328°12.4	02.4	10	327°54.5	34.4	10	327°38.0	02.6
11	343°51.4	46.4	11	343°31.3	26.2	11	343°12.2	02.0	11	342°54.3	34.0	11	342°37.8	02.1
12	358°51.1	S22°46.2	12	358°31.0	S22°25.9	12	358°11.9	S22°01.7	12	357°54.1	S21°33.5	12	357°37.6	S21°01.7
13	13°50.8	45.9	13	13°30.7	25.6	13	13°11.7	01.3	13	12°53.8	33.1	13	12°37.4	01.2
14	28°50.5	45.7	14	28°30.5	25.3	14	28°11.4	00.9	14	27°53.6	32.7	14	27°37.2	00.7
15	43°50.2	· · 45.4	15	43°30.2	· · 25.0	15	43°11.2	· · 00.6	15	42°53.4	· · 32.3	15	42°36.9	21°00.3
16	58°49.9	45.2	16	58°29.9	24.7	16	58°10.9	22°00.2	16	57°53.1	31.9	16	57°36.7	20°59.8
17	73°49.7	44.9	17	73°29.6	24.4	17	73°10.6	21°59.8	17	72°52.9	31.5	17	72°36.5	59.3
18	88°49.4	S22°44.6	18	88°29.4	S22°24.0	18	88°10.4	S21°59.5	18	87°52.6	S21°31.0	18	87°36.3	S20°58.8
19	103°49.1	44.4	19	103°29.1	23.7	19	103°10.1	59.1	19	102°52.4	30.6	19	102°36.1	58.4
20	118°48.8	44.1	20	118°28.8	23.4	20	118°09.9	58.7	20	117°52.2	30.2	20	117°35.9	57.9
21	133°48.5	· · 43.9	21	133°28.6	· · 23.1	21	133°09.6	· · 58.4	21	132°51.9	· · 29.8	21	132°35.6	· · 57.4
22	148°48.2	43.6	22	148°28.3	22.8	22	148°09.4	58.0	22	147°51.7	29.3	22	147°35.4	57.0
23	163°48.0	43.3	23	163°28.0	22.5	23	163°09.1	57.6	23	162°51.5	28.9	23	162°35.2	56.5
SD.=16.3 d=0.2			SD.=16.3 d=0.3			SD.=16.3 d=0.4			SD.=16.3 d=0.4			SD.=16.3 d=0.5		

16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec	28	GHA	Dec
0	177°35.0	S20°56.0	0	177°20.3	S20°19.9	0	177°07.4	S19°40.4	0	176°56.2	S18°57.6	0	176°46.8	S18°11.6
1	192°34.8	55.5	1	192°20.2	19.4	1	192°07.2	39.8	1	191°56.0	57.0	1	191°46.7	11.0
2	207°34.6	55.0	2	207°20.0	18.9	2	207°07.0	39.2	2	206°55.9	56.3	2	206°46.6	10.3
3	222°34.4	· · 54.6	3	222°19.8	· · 18.3	3	222°06.9	· · 38.7	3	221°55.8	· · 55.7	3	221°46.5	· · 09.7
4	237°34.1	54.1	4	237°19.6	17.8	4	237°06.7	38.1	4	236°55.6	55.1	4	236°46.3	09.0
5	252°33.9	53.6	5	252°19.4	17.3	5	252°06.5	37.5	5	251°55.5	54.5	5	251°46.2	08.3
6	267°33.7	S20°53.1	6	267°19.2	S20°16.8	6	267°06.4	S19°36.9	6	266°55.3	S18°53.9	6	266°46.1	S18°07.7
7	282°33.5	52.6	7	282°19.0	16.2	7	282°06.2	36.4	7	281°55.2	53.2	7	281°46.0	07.0
8	297°33.3	52.2	8	297°18.8	15.7	8	297°06.0	35.8	8	296°55.1	52.6	8	296°45.9	06.4
9	312°33.1	· · 51.7	9	312°18.6	· · 15.2	9	312°05.9	· · 35.2	9	311°54.9	· · 52.0	9	311°45.8	· · 05.7
10	327°32.9	51.2	10	327°18.4	14.6	10	327°05.7	34.6	10	326°54.8	51.4	10	326°45.7	05.0
11	342°32.7	50.7	11	342°18.3	14.1	11	342°05.6	34.1	11	341°54.6	50.7	11	341°45.5	04.4
12	357°32.4	S20°50.2	12	357°18.1	S20°13.6	12	357°05.4	S19°33.5	12	356°54.5	S18°50.1	12	356°45.4	S18°03.7
13	12°32.2	49.7	13	12°17.9	13.0	13	12°05.2	32.9	13	11°54.4	49.5	13	11°45.3	03.0
14	27°32.0	49.3	14	27°17.7	12.5	14	27°05.1	32.3	14	26°54.2	48.9	14	26°45.2	02.4
15	42°31.8	· · 48.8	15	42°17.5	· · 12.0	15	42°04.9	· · 31.7	15	41°54.1	· · 48.3	15	41°45.1	· · 01.7
16	57°31.6	48.3	16	57°17.3	11.4	16	57°04.7	31.1	16	56°53.9	47.6	16	56°45.0	01.0
17	72°31.4	47.8	17	72°17.1	10.9	17	72°04.6	30.6	17	71°53.8	47.0	17	71°44.9	18°00.4
18	87°31.2	S20°47.3	18	87°16.9	S20°10.3	18	87°04.4	S19°30.0	18	86°53.7	S18°46.4	18	86°44.8	S17°59.7
19	102°31.0	46.8	19	102°16.8	09.8	19	102°04.3	29.4	19	101°53.5	45.7	19	101°44.6	59.0
20	117°30.8	46.3	20	117°16.6	09.3	20	117°04.1	28.8	20	116°53.4	45.1	20	116°44.5	58.4
21	132°30.6	· · 45.8	21	132°16.4	· · 08.7	21	132°03.9	· · 28.2	21	131°53.3	· · 44.5	21	131°44.4	· · 57.7
22	147°30.3	45.4	22	147°16.2	08.2	22	147°03.8	27.6	22	146°53.1	43.9	22	146°44.3	57.0
23	162°30.1	44.9	23	162°16.0	07.7	23	162°03.6	27.1	23	161°53.0	43.2	23	161°44.2	56.3
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		

17	GHA	Dec	20	GHA	Dec	23	GHA	Dec	26	GHA	Dec	29	GHA	Dec
0	177°29.9	S20°44.4	0	177°15.8	S20°07.1	0	177°03.4	S19°26.5	0	176°52.9	S18°42.6	0	176°44.1	S17°55.7
1	192°29.7	43.9	1	192°15.6	06.6	1	192°03.3	25.9	1	191°52.7	42.0	1	191°44.0	55.0
2	207°29.5	43.4	2	207°15.5	06.0	2	207°03.1	25.3	2	206°52.6	41.3	2	206°43.9	54.3
3	222°29.3	· · 42.9	3	222°15.3	· · 05.5	3	222°03.0	· · 24.7	3	221°52.5	· · 40.7	3	221°43.8	· · 53.7
4	237°29.1	42.4	4	237°15.1	04.9	4	237°02.8	24.1	4	236°52.3	40.1	4	236°43.7	53.0
5	252°28.9	41.9	5	252°14.9	04.4	5	252°02.7	23.5	5	251°52.2	39.4	5	251°43.5	52.3
6	267°28.7	S20°41.4	6	267°14.7	S20°03.9	6	267°02.5	S19°22.9	6	266°52.1	S18°38.8	6	266°43.4	S17°51.6
7	282°28.5	40.9	7	282°14.5	03.3	7	282°02.3	22.3	7	281°51.9	38.2	7	281°43.3	51.0
8	297°28.3	40.4	8	297°14.4	02.8	8	297°02.2	21.8	8	296°51.8	37.5	8	296°43.2	50.3
9	312°28.1	· · 39.9	9	312°14.2	· · 02.2	9	312°02.0	· · 21.2	9	311°51.7	· · 36.9	9	311°43.1	· · 49.6
10	327°27.9	39.4	10	327°14.0	01.7	10	327°01.9	20.6	10	326°51.5	36.3	10	326°43.0	48.9
11	342°27.7	38.9	11	342°13.8	01.1	11	342°01.7	20.0	11	341°51.4	35.6	11	341°42.9	48.2
12	357°27.5	S20°38.4	12	357°13.6	S20°00.6	12	357°01.6	S19°19.4	12	356°51.3	S18°35.0	12	356°42.8	S17°47.6
13	12°27.3	37.9	13	12°13.5	20°00.0	13	12°01.4	18.8	13	11°51.1	34.3	13	11°42.7	46.9
14	27°27.1	37.4	14	27°13.3	19°59.5	14	27°01.2	18.2	14	26°51.0	33.7	14	26°42.6	46.2
15	42°26.9	· · 36.9	15	42°13.1	· · 58.9	15	42°01.1	· · 17.6	15	41°50.9	· · 33.1	15	41°42.5	· · 45.5
16	57°26.7	36.4	16	57°12.9	58.4	16	57°00.9	17.0	16	56°50.8	32.4	16	56°42.4	44.8
17	72°26.5	35.9	17	72°12.7	57.8	17	72°00.8	16.4	17	71°50.6	31.8	17	71°42.3	44.2
18	87°26.2	S20°35.4	18	87°12.6	S19°57.3	18	87°00.6	S19°15.8	18	86°50.5	S18°31.1	18	86°42.2	S17°43.5
19	102°26.0	34.9	19	102°12.4	56.7	19	102°00.5	15.2	19	101°50.4	30.5	19	101°42.1	42.8
20	117°25.8	34.4	20	117°12.2	56.2	20	117°00.3	14.6	20	116°50.2	29.9	20	116°42.0	42.1
21	132°25.6	· · 33.9	21	132°12.0	· · 55.6	21	132°00.2	· · 14.0	21	131°50.1	· · 29.2	21	131°41.9	· · 41.4
22	147°25.4	33.4	22	147°11.9	55.0	22	147°00.0	13.4	22	146°50.0	28.6	22	146°41.8	40.8
23	162°25.2	32.8	23	162°11.7	54.5	23	161°59.9	12.8	23	161°49.9	27.9	23	161°41.7	40.1
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°25.0	S20°32.3	0	177°11.5	S19°53.9	0	176°59.7	S19°12.2	0	176°49.7	S18°27.3	0	176°41.6	S17°39.4
1	192°24.8	31.8	1	192°11.3	53.4	1	191°59.6	11.6	1	191°49.6	26.6	1	191°41.5	38.7
2	207°24.6	31.3	2	207°11.2	52.8	2	206°59.4	11.0	2	206°49.5	26.0	2	206°41.4	38.0
3	222°24.4	· · 30.8	3	222°11.0	· · 52.3	3	221°59.3	· · 10.4	3	221°49.4	· · 25.3	3	221°41.3	· · 37.3
4	237°24.2	30.3	4	237°10.8	51.7	4	236°59.1	09.8	4	236°49.2	24.7	4	236°41.2	36.6
5	252°24.0	29.8	5	252°10.6	51.1	5	251°59.0	09.2	5	251°49.1	24.1	5	251°41.1	35.9
6	267°23.9	S20°29.3	6	267°10.5	S19°50.6	6	266°58.8	S19°08.6	6	266°49.0	S18°23.4	6	266°41.0	S17°35.3
7	282°23.7	28.8	7	282°10.3	50.0	7	281°58.7	08.0	7	281°48.9	22.8	7	281°40.9	34.6
8	297°23.5	28.2	8	297°10.1	49.5	8	296°58.5	07.4	8	296°48.7	22.1	8	296°40.8	33.9
9	312°23.3	· · 27.7	9	312°09.9	· · 48.9	9	311°58.4	· · 06.8	9	311°48.6	· · 21.5	9	311°40.7	· · 33.2
10	327°23.1	27.2	10	327°09.8	48.3	10	326°58.2	06.1	10	326°48.5	20.8	10	326°40.6	32.5
11	342°22.9	26.7	11	342°09.6	47.8	11	341°58.1	05.5	11	341°48.4	20.2	11	341°40.5	31.8
12	357°22.7	S20°26.2	12	357°09.4	S19°47.2	12	356°57.9	S19°04.9	12	356°48.2	S18°19.5	12	356°40.4	S17°31.1
13	12°22.5	25.7	13	12°09.2	46.6	13	11°57.8	04.3	13	11°48.1	18.9	13	11°40.3	30.4
14	27°22.3	25.1	14	27°09.1	46.1	14	26°57.6	03.7	14	26°48.0	18.2	14	26°40.2	29.7
15	42°22.1	· · 24.6	15	42°08.9	· · 45.5	15	41°57.5	· · 03.1	15	41°47.9	· · 17.5	15	41°40.1	· · 29.0
16	57°21.9	24.1	16	57°08.7	44.9	16	56°57.3	02.5	16	56°47.8	16.9	16	56°40.0	28.3
17	72°21.7	23.6	17	72°08.6	44.4	17	71°57.2	01.9	17	71°47.6	16.2	17	71°39.9	27.7
18	87°21.5	S20°23.1	18	87°08.4	S19°43.8	18	86°57.1	S19°01.3	18	86°47.5	S18°15.6	18	86°39.8	S17°27.0
19	102°21.3	22.5	19	102°08.2	43.2	19	101°56.9	00.6	19	101°47.4	14.9	19	101°39.7	26.3
20	117°21.1	22.0	20	117°08.1	42.7	20	116°56.8	19°00.0	20	116°47.3	14.3	20	116°39.6	25.6
21	132°20.9	· · 21.5	21	132°07.9	· · 42.1	21	131°56.6	18°59.4	21	131°47.2	· · 13.6	21	131°39.5	· · 24.9
22	147°20.7	21.0	22	147°07.7	41.5	22	146°56.5	58.8	22	146°47.0	13.0	22	146°39.4	24.2
23	162°20.5	20.4	23	162°07.5	41.0	23	161°56.3	58.2	23	161°46.9	12.3	23	161°39.4	23.5
SD.=16.3 d=0.5			SD.=16.3 d=0.6			SD.=16.2 d=0.6			SD.=16.2 d=0.6			SD.=16.2 d=0.7		

31	GHA	Dec	03	GHA	Dec	06	GHA	Dec	09	GHA	Dec	12	GHA	Dec
0	176°39.3	S17°22.8	0	176°33.5	S16°31.1	0	176°29.6	S15°36.9	0	176°27.4	S14°40.3	0	176°26.9	S13°41.4
1	191°39.2	22.1	1	191°33.5	30.4	1	191°29.5	36.1	1	191°27.4	39.5	1	191°26.9	40.6
2	206°39.1	21.4	2	206°33.4	29.7	2	206°29.5	35.4	2	206°27.3	38.7	2	206°26.9	39.7
3	221°39.0	· · 20.7	3	221°33.3	· · 28.9	3	221°29.4	· · 34.6	3	221°27.3	· · 37.9	3	221°26.9	· · 38.9
4	236°38.9	20.0	4	236°33.3	28.2	4	236°29.4	33.8	4	236°27.3	37.1	4	236°26.9	38.1
5	251°38.8	19.3	5	251°33.2	27.5	5	251°29.4	33.1	5	251°27.3	36.2	5	251°27.0	37.2
6	266°38.7	S17°18.6	6	266°33.1	S16°26.7	6	266°29.3	S15°32.3	6	266°27.3	S14°35.4	6	266°27.0	S13°36.4
7	281°38.6	17.9	7	281°33.1	26.0	7	281°29.3	31.5	7	281°27.3	34.6	7	281°27.0	35.6
8	296°38.5	17.2	8	296°33.0	25.2	8	296°29.2	30.7	8	296°27.2	33.8	8	296°27.0	34.7
9	311°38.4	· · 16.5	9	311°32.9	· · 24.5	9	311°29.2	· · 30.0	9	311°27.2	· · 33.0	9	311°27.0	· · 33.9
10	326°38.4	15.8	10	326°32.9	23.8	10	326°29.2	29.2	10	326°27.2	32.2	10	326°27.0	33.1
11	341°38.3	15.1	11	341°32.8	23.0	11	341°29.1	28.4	11	341°27.2	31.4	11	341°27.0	32.2
12	356°38.2	S17°14.4	12	356°32.7	S16°22.3	12	356°29.1	S15°27.6	12	356°27.2	S14°30.6	12	356°27.0	S13°31.4
13	11°38.1	13.7	13	11°32.7	21.5	13	11°29.0	26.9	13	11°27.2	29.8	13	11°27.0	30.5
14	26°38.0	12.9	14	26°32.6	20.8	14	26°29.0	26.1	14	26°27.2	29.0	14	26°27.0	29.7
15	41°37.9	· · 12.2	15	41°32.6	· · 20.1	15	41°29.0	· · 25.3	15	41°27.1	· · 28.2	15	41°27.0	· · 28.9
16	56°37.8	11.5	16	56°32.5	19.3	16	56°28.9	24.5	16	56°27.1	27.4	16	56°27.1	28.0
17	71°37.7	10.8	17	71°32.4	18.6	17	71°28.9	23.7	17	71°27.1	26.6	17	71°27.1	27.2
18	86°37.7	S17°10.1	18	86°32.4	S16°17.8	18	86°28.9	S15°23.0	18	86°27.1	S14°25.7	18	86°27.1	S13°26.4
19	101°37.6	09.4	19	101°32.3	17.1	19	101°28.8	22.2	19	101°27.1	24.9	19	101°27.1	25.5
20	116°37.5	08.7	20	116°32.2	16.3	20	116°28.8	21.4	20	116°27.1	24.1	20	116°27.1	24.7
21	131°37.4	· · 08.0	21	131°32.2	· · 15.6	21	131°28.8	· · 20.6	21	131°27.1	· · 23.3	21	131°27.1	· · 23.8
22	146°37.3	07.3	22	146°32.1	14.8	22	146°28.7	19.8	22	146°27.1	22.5	22	146°27.1	23.0
23	161°37.2	06.6	23	161°32.1	14.1	23	161°28.7	19.1	23	161°27.0	21.7	23	161°27.1	22.2
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		

01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec	13	GHA	Dec
0	176°37.1	S17°05.9	0	176°32.0	S16°13.3	0	176°28.6	S15°18.3	0	176°27.0	S14°20.9	0	176°27.2	S13°21.3
1	191°37.1	05.2	1	191°32.0	12.6	1	191°28.6	17.5	1	191°27.0	20.1	1	191°27.2	20.5
2	206°37.0	04.4	2	206°31.9	11.8	2	206°28.6	16.7	2	206°27.0	19.3	2	206°27.2	19.6
3	221°36.9	· · 03.7	3	221°31.8	· · 11.1	3	221°28.5	· · 15.9	3	221°27.0	· · 18.4	3	221°27.2	· · 18.8
4	236°36.8	03.0	4	236°31.8	10.4	4	236°28.5	15.2	4	236°27.0	17.6	4	236°27.2	17.9
5	251°36.7	02.3	5	251°31.7	09.6	5	251°28.5	14.4	5	251°27.0	16.8	5	251°27.2	17.1
6	266°36.7	S17°01.6	6	266°31.7	S16°08.9	6	266°28.4	S15°13.6	6	266°27.0	S14°16.0	6	266°27.2	S13°16.3
7	281°36.6	00.9	7	281°31.6	08.1	7	281°28.4	12.8	7	281°27.0	15.2	7	281°27.3	15.4
8	296°36.5	17°00.2	8	296°31.5	07.3	8	296°28.4	12.0	8	296°27.0	14.4	8	296°27.3	14.6
9	311°36.4	16°59.4	9	311°31.5	· · 06.6	9	311°28.4	· · 11.2	9	311°27.0	· · 13.5	9	311°27.3	· · 13.7
10	326°36.3	58.7	10	326°31.4	05.8	10	326°28.3	10.5	10	326°26.9	12.7	10	326°27.3	12.9
11	341°36.2	58.0	11	341°31.4	05.1	11	341°28.3	09.7	11	341°26.9	11.9	11	341°27.3	12.0
12	356°36.2	S16°57.3	12	356°31.3	S16°04.3	12	356°28.3	S15°08.9	12	356°26.9	S14°11.1	12	356°27.3	S13°11.2
13	11°36.1	56.6	13	11°31.3	03.6	13	11°28.2	08.1	13	11°26.9	10.3	13	11°27.4	10.3
14	26°36.0	55.9	14	26°31.2	02.8	14	26°28.2	07.3	14	26°26.9	09.5	14	26°27.4	09.5
15	41°35.9	· · 55.1	15	41°31.2	· · 02.1	15	41°28.2	· · 06.5	15	41°26.9	· · 08.6	15	41°27.4	· · 08.6
16	56°35.9	54.4	16	56°31.1	01.3	16	56°28.1	05.7	16	56°26.9	07.8	16	56°27.4	07.8
17	71°35.8	53.7	17	71°31.1	16°00.6	17	71°28.1	04.9	17	71°26.9	07.0	17	71°27.4	07.0
18	86°35.7	S16°53.0	18	86°31.0	S15°59.8	18	86°28.1	S15°04.1	18	86°26.9	S14°06.2	18	86°27.4	S13°06.1
19	101°35.6	52.3	19	101°31.0	59.1	19	101°28.1	03.4	19	101°26.9	05.4	19	101°27.5	05.3
20	116°35.5	51.5	20	116°30.9	58.3	20	116°28.0	02.6	20	116°26.9	04.5	20	116°27.5	04.4
21	131°35.5	· · 50.8	21	131°30.8	· · 57.5	21	131°28.0	· · 01.8	21	131°26.9	· · 03.7	21	131°27.5	· · 03.6
22	146°35.4	50.1	22	146°30.8	56.8	22	146°28.0	01.0	22	146°26.9	02.9	22	146°27.5	02.7
23	161°35.3	49.4	23	161°30.7	56.0	23	161°27.9	00.2	23	161°26.9	02.1	23	161°27.5	01.9
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°35.2	S16°48.7	0	176°30.7	S15°55.3	0	176°27.9	S14°59.4	0	176°26.9	S14°01.3	0	176°27.6	S13°01.0
1	191°35.2	47.9	1	191°30.6	54.5	1	191°27.9	58.6	1	191°26.9	14°00.4	1	191°27.6	13°00.2
2	206°35.1	47.2	2	206°30.6	53.7	2	206°27.9	57.8	2	206°26.9	13°59.6	2	206°27.6	12°59.3
3	221°35.0	· · 46.5	3	221°30.5	· · 53.0	3	221°27.8	· · 57.0	3	221°26.9	· · 58.8	3	221°27.6	· · 58.5
4	236°34.9	45.8	4	236°30.5	52.2	4	236°27.8	56.2	4	236°26.9	58.0	4	236°27.7	57.6
5	251°34.9	45.0	5	251°30.4	51.5	5	251°27.8	55.4	5	251°26.9	57.1	5	251°27.7	56.8
6	266°34.8	S16°44.3	6	266°30.4	S15°50.7	6	266°27.8	S14°54.6	6	266°26.9	S13°56.3	6	266°27.7	S12°55.9
7	281°34.7	43.6	7	281°30.3	49.9	7	281°27.7	53.8	7	281°26.9	55.5	7	281°27.7	55.0
8	296°34.6	42.8	8	296°30.3	49.2	8	296°27.7	53.1	8	296°26.9	54.7	8	296°27.8	54.2
9	311°34.6	· · 42.1	9	311°30.2	· · 48.4	9	311°27.7	· · 52.3	9	311°26.9	· · 53.8	9	311°27.8	· · 53.3
10	326°34.5	41.4	10	326°30.2	47.7	10	326°27.7	51.5	10	326°26.9	53.0	10	326°27.8	52.5
11	341°34.4	40.7	11	341°30.2	46.9	11	341°27.6	50.7	11	341°26.9	52.2	11	341°27.8	51.6
12	356°34.4	S16°39.9	12	356°30.1	S15°46.1	12	356°27.6	S14°49.9	12	356°26.9	S13°51.4	12	356°27.8	S12°50.8
13	11°34.3	39.2	13	11°30.1	45.4	13	11°27.6	49.1	13	11°26.9	50.5	13	11°27.9	49.9
14	26°34.2	38.5	14	26°30.0	44.6	14	26°27.6	48.3	14	26°26.9	49.7	14	26°27.9	49.1
15	41°34.1	· · 37.7	15	41°30.0	· · 43.8	15	41°27.6	· · 47.5	15	41°26.9	· · 48.9	15	41°27.9	· · 48.2
16	56°34.1	37.0	16	56°29.9	43.1	16	56°27.5	46.7	16	56°26.9	48.0	16	56°28.0	47.4
17	71°34.0	36.3	17	71°29.9	42.3	17	71°27.5	45.9	17	71°26.9	47.2	17	71°28.0	46.5
18	86°33.9	S16°35.5	18	86°29.8	S15°41.5	18	86°27.5	S14°45.1	18	86°26.9	S13°46.4	18	86°28.0	S12°45.6
19	101°33.9	34.8	19	101°29.8	40.8	19	101°27.5	44.3	19	101°26.9	45.6	19	101°28.0	44.8
20	116°33.8	34.1	20	116°29.7	40.0	20	116°27.5	43.5	20	116°26.9	44.7	20	116°28.1	43.9
21	131°33.7	· · 33.3	21	131°29.7	· · 39.2	21	131°27.4	· · 42.7	21	131°26.9	· · 43.9	21	131°28.1	· · 43.1
22	146°33.7	32.6	22	146°29.7	38.5	22	146°27.4	41.9	22	146°26.9	43.1	22	146°28.1	42.2
23	161°33.6	31.9	23	161°29.6	37.7	23	161°27.4	41.1	23	161°26.9	42.2	23	161°28.1	41.4
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=0.9		

15	GHA	Dec	18	GHA	Dec	21	GHA	Dec	24	GHA	Dec	27	GHA	Dec
0	176°28.2	S12°40.5	0	176°31.1	S11°37.8	0	176°35.6	S10°33.4	0	176°41.5	S09°27.5	0	176°48.8	S08°20.4
1	191°28.2	39.6	1	191°31.1	36.9	1	191°35.6	32.5	1	191°41.6	26.6	1	191°48.9	19.5
2	206°28.2	38.8	2	206°31.2	36.0	2	206°35.7	31.6	2	206°41.7	25.7	2	206°49.1	18.6
3	221°28.3	· · 37.9	3	221°31.2	· · 35.1	3	221°35.8	· · 30.7	3	221°41.8	· · 24.8	3	221°49.2	· · 17.6
4	236°28.3	37.1	4	236°31.3	34.2	4	236°35.8	29.8	4	236°41.9	23.8	4	236°49.3	16.7
5	251°28.3	36.2	5	251°31.3	33.3	5	251°35.9	28.9	5	251°42.0	22.9	5	251°49.4	15.7
6	266°28.4	S12°35.3	6	266°31.4	S11°32.5	6	266°36.0	S10°27.9	6	266°42.1	S09°22.0	6	266°49.5	S08°14.8
7	281°28.4	34.5	7	281°31.4	31.6	7	281°36.1	27.0	7	281°42.2	21.1	7	281°49.6	13.9
8	296°28.4	33.6	8	296°31.5	30.7	8	296°36.1	26.1	8	296°42.3	20.1	8	296°49.7	12.9
9	311°28.4	· · 32.7	9	311°31.6	· · 29.8	9	311°36.2	· · 25.2	9	311°42.4	· · 19.2	9	311°49.8	· · 12.0
10	326°28.5	31.9	10	326°31.6	28.9	10	326°36.3	24.3	10	326°42.5	18.3	10	326°50.0	11.0
11	341°28.5	31.0	11	341°31.7	28.0	11	341°36.4	23.4	11	341°42.5	17.4	11	341°50.1	10.1
12	356°28.5	S12°30.2	12	356°31.7	S11°27.1	12	356°36.4	S10°22.5	12	356°42.6	S09°16.4	12	356°50.2	S08°09.1
13	11°28.6	29.3	13	11°31.8	26.3	13	11°36.5	21.6	13	11°42.7	15.5	13	11°50.3	08.2
14	26°28.6	28.4	14	26°31.8	25.4	14	26°36.6	20.7	14	26°42.8	14.6	14	26°50.4	07.3
15	41°28.6	· · 27.6	15	41°31.9	· · 24.5	15	41°36.7	· · 19.8	15	41°42.9	· · 13.7	15	41°50.5	· · 06.3
16	56°28.7	26.7	16	56°31.9	23.6	16	56°36.8	18.9	16	56°43.0	12.7	16	56°50.6	05.4
17	71°28.7	25.8	17	71°32.0	22.7	17	71°36.8	18.0	17	71°43.1	11.8	17	71°50.7	04.4
18	86°28.7	S12°25.0	18	86°32.1	S11°21.8	18	86°36.9	S10°17.0	18	86°43.2	S09°10.9	18	86°50.9	S08°03.5
19	101°28.8	24.1	19	101°32.1	20.9	19	101°37.0	16.1	19	101°43.3	10.0	19	101°51.0	02.5
20	116°28.8	23.2	20	116°32.2	20.0	20	116°37.1	15.2	20	116°43.4	09.0	20	116°51.1	01.6
21	131°28.9	· · 22.4	21	131°32.2	· · 19.1	21	131°37.1	· · 14.3	21	131°43.5	· · 08.1	21	131°51.2	08°00.7
22	146°28.9	21.5	22	146°32.3	18.3	22	146°37.2	13.4	22	146°43.6	07.2	22	146°51.3	07°59.7
23	161°28.9	20.6	23	161°32.3	17.4	23	161°37.3	12.5	23	161°43.7	06.2	23	161°51.4	58.8
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°29.0	S12°19.8	0	176°32.4	S11°16.5	0	176°37.4	S10°11.6	0	176°43.8	S09°05.3	0	176°51.6	S07°57.8
1	191°29.0	18.9	1	191°32.5	15.6	1	191°37.5	10.7	1	191°43.9	04.4	1	191°51.7	56.9
2	206°29.0	18.0	2	206°32.5	14.7	2	206°37.5	09.8	2	206°44.0	03.4	2	206°51.8	55.9
3	221°29.1	· · 17.2	3	221°32.6	· · 13.8	3	221°37.6	· · 08.9	3	221°44.1	· · 02.5	3	221°51.9	· · 55.0
4	236°29.1	16.3	4	236°32.6	12.9	4	236°37.7	07.9	4	236°44.2	01.6	4	236°52.0	54.0
5	251°29.1	15.4	5	251°32.7	12.0	5	251°37.8	07.0	5	251°44.3	09°00.7	5	251°52.1	53.1
6	266°29.2	S12°14.6	6	266°32.8	S11°11.1	6	266°37.9	S10°06.1	6	266°44.4	S08°59.7	6	266°52.3	S07°52.1
7	281°29.2	13.7	7	281°32.8	10.2	7	281°37.9	05.2	7	281°44.5	58.8	7	281°52.4	51.2
8	296°29.3	12.8	8	296°32.9	09.3	8	296°38.0	04.3	8	296°44.6	57.9	8	296°52.5	50.3
9	311°29.3	· · 12.0	9	311°32.9	· · 08.4	9	311°38.1	· · 03.4	9	311°44.7	· · 56.9	9	311°52.6	· · 49.3
10	326°29.3	11.1	10	326°33.0	07.5	10	326°38.2	02.5	10	326°44.8	56.0	10	326°52.7	48.4
11	341°29.4	10.2	11	341°33.1	06.7	11	341°38.3	01.5	11	341°44.9	55.1	11	341°52.8	47.4
12	356°29.4	S12°09.3	12	356°33.1	S11°05.8	12	356°38.4	S10°00.6	12	356°45.0	S08°54.1	12	356°53.0	S07°46.5
13	11°29.5	08.5	13	11°33.2	04.9	13	11°38.4	09°59.7	13	11°45.1	53.2	13	11°53.1	45.5
14	26°29.5	07.6	14	26°33.2	04.0	14	26°38.5	58.8	14	26°45.2	52.3	14	26°53.2	44.6
15	41°29.5	· · 06.7	15	41°33.3	· · 03.1	15	41°38.6	· · 57.9	15	41°45.3	· · 51.3	15	41°53.3	· · 43.6
16	56°29.6	05.9	16	56°33.4	02.2	16	56°38.7	57.0	16	56°45.4	50.4	16	56°53.4	42.7
17	71°29.6	05.0	17	71°33.4	01.3	17	71°38.8	56.1	17	71°45.5	49.5	17	71°53.6	41.7
18	86°29.7	S12°04.1	18	86°33.5	S11°00.4	18	86°38.9	S09°55.1	18	86°45.6	S08°48.5	18	86°53.7	S07°40.8
19	101°29.7	03.2	19	101°33.6	10°59.5	19	101°38.9	54.2	19	101°45.7	47.6	19	101°53.8	39.8
20	116°29.8	02.4	20	116°33.6	58.6	20	116°39.0	53.3	20	116°45.8	46.7	20	116°53.9	38.9
21	131°29.8	· · 01.5	21	131°33.7	· · 57.7	21	131°39.1	· · 52.4	21	131°45.9	· · 45.7	21	131°54.0	· · 37.9
22	146°29.8	12°00.6	22	146°33.8	56.8	22	146°39.2	51.5	22	146°46.0	44.8	22	146°54.2	37.0
23	161°29.9	11°59.7	23	161°33.8	55.9	23	161°39.3	50.6	23	161°46.1	43.9	23	161°54.3	36.0
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	01	GHA	Dec
0	176°29.9	S11°58.9	0	176°33.9	S10°55.0	0	176°39.4	S09°49.6	0	176°46.3	S08°42.9	0	176°54.4	S07°35.1
1	191°30.0	58.0	1	191°34.0	54.1	1	191°39.5	48.7	1	191°46.4	42.0	1	191°54.5	34.1
2	206°30.0	57.1	2	206°34.0	53.2	2	206°39.5	47.8	2	206°46.5	41.1	2	206°54.6	33.2
3	221°30.1	· · 56.2	3	221°34.1	· · 52.3	3	221°39.6	· · 46.9	3	221°46.6	· · 40.1	3	221°54.8	· · 32.2
4	236°30.1	55.4	4	236°34.2	51.4	4	236°39.7	46.0	4	236°46.7	39.2	4	236°54.9	31.3
5	251°30.2	54.5	5	251°34.2	50.5	5	251°39.8	45.0	5	251°46.8	38.3	5	251°55.0	30.3
6	266°30.2	S11°53.6	6	266°34.3	S10°49.6	6	266°39.9	S09°44.1	6	266°46.9	S08°37.3	6	266°55.1	S07°29.4
7	281°30.2	52.7	7	281°34.4	48.7	7	281°40.0	43.2	7	281°47.0	36.4	7	281°55.3	28.4
8	296°30.3	51.8	8	296°34.4	47.8	8	296°40.1	42.3	8	296°47.1	35.5	8	296°55.4	27.5
9	311°30.3	· · 51.0	9	311°34.5	· · 46.9	9	311°40.2	· · 41.4	9	311°47.2	· · 34.5	9	311°55.5	· · 26.5
10	326°30.4	50.1	10	326°34.6	46.0	10	326°40.2	40.4	10	326°47.3	33.6	10	326°55.6	25.6
11	341°30.4	49.2	11	341°34.6	45.1	11	341°40.3	39.5	11	341°47.4	32.6	11	341°55.8	24.6
12	356°30.5	S11°48.3	12	356°34.7	S10°44.2	12	356°40.4	S09°38.6	12	356°47.5	S08°31.7	12	356°55.9	S07°23.7
13	11°30.5	47.5	13	11°34.8	43.3	13	11°40.5	37.7	13	11°47.6	30.8	13	11°56.0	22.7
14	26°30.6	46.6	14	26°34.8	42.4	14	26°40.6	36.8	14	26°47.7	29.8	14	26°56.1	21.8
15	41°30.6	· · 45.7	15	41°34.9	· · 41.5	15	41°40.7	· · 35.8	15	41°47.9	· · 28.9	15	41°56.3	· · 20.8
16	56°30.7	44.8	16	56°35.0	40.6	16	56°40.8	34.9	16	56°48.0	28.0	16	56°56.4	19.9
17	71°30.7	43.9	17	71°35.1	39.7	17	71°40.9	34.0	17	71°48.1	27.0	17	71°56.5	18.9
18	86°30.8	S11°43.1	18	86°35.1	S10°38.8	18	86°41.0	S09°33.1	18	86°48.2	S08°26.1	18	86°56.6	S07°18.0
19	101°30.8	42.2	19	101°35.2	37.9	19	101°41.1	32.2	19	101°48.3	25.1	19	101°56.8	17.0
20	116°30.9	41.3	20	116°35.3	37.0	20	116°41.1	31.2	20	116°48.4	24.2	20	116°56.9	16.1
21	131°30.9	· · 40.4	21	131°35.3	· · 36.1	21	131°41.2	· · 30.3	21	131°48.5	· · 23.3	21	131°57.0	· · 15.1
22	146°31.0	39.5	22	146°35.4	35.2	22	146°41.3	29.4	22	146°48.6	22.3	22	146°57.1	14.2
23	161°31.0	38.6	23	161°35.5	34.3	23	161°41.4	28.5	23	161°48.7	21.4	23	161°57.3	13.2
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		

02	GHA	Dec	05	GHA	Dec	08	GHA	Dec	11	GHA	Dec	14	GHA	Dec
0	176°57.4	S07°12.2	0	177°07.0	S06°03.1	0	177°17.5	S04°53.2	0	177°28.9	S03°42.7	0	177°40.9	S02°31.8
1	191°57.5	11.3	1	192°07.1	02.1	1	192°17.7	52.2	1	192°29.1	41.7	1	192°41.1	30.8
2	206°57.6	10.3	2	207°07.3	01.2	2	207°17.8	51.3	2	207°29.2	40.8	2	207°41.3	29.9
3	221°57.8	· · 09.4	3	222°07.4	06°00.2	3	222°18.0	· · 50.3	3	222°29.4	· · 39.8	3	222°41.5	· · 28.9
4	236°57.9	08.4	4	237°07.6	05°59.2	4	237°18.2	49.3	4	237°29.5	38.8	4	237°41.6	27.9
5	251°58.0	07.5	5	252°07.7	58.3	5	252°18.3	48.3	5	252°29.7	37.8	5	252°41.8	26.9
6	266°58.1	S07°06.5	6	267°07.8	S05°57.3	6	267°18.5	S04°47.4	6	267°29.9	S03°36.8	6	267°42.0	S02°25.9
7	281°58.3	05.6	7	282°08.0	56.3	7	282°18.6	46.4	7	282°30.0	35.9	7	282°42.1	24.9
8	296°58.4	04.6	8	297°08.1	55.4	8	297°18.8	45.4	8	297°30.2	34.9	8	297°42.3	23.9
9	311°58.5	· · 03.6	9	312°08.3	· · 54.4	9	312°18.9	· · 44.4	9	312°30.4	· · 33.9	9	312°42.5	· · 23.0
10	326°58.7	02.7	10	327°08.4	53.4	10	327°19.1	43.5	10	327°30.5	32.9	10	327°42.7	22.0
11	341°58.8	01.7	11	342°08.6	52.5	11	342°19.2	42.5	11	342°30.7	31.9	11	342°42.8	21.0
12	356°58.9	S07°00.8	12	357°08.7	S05°51.5	12	357°19.4	S04°41.5	12	357°30.9	S03°30.9	12	357°43.0	S02°20.0
13	11°59.0	06°59.8	13	12°08.8	50.5	13	12°19.5	40.5	13	12°31.0	30.0	13	12°43.2	19.0
14	26°59.2	58.9	14	27°09.0	49.6	14	27°19.7	39.6	14	27°31.2	29.0	14	27°43.4	18.0
15	41°59.3	· · 57.9	15	42°09.1	· · 48.6	15	42°19.8	· · 38.6	15	42°31.4	· · 28.0	15	42°43.5	· · 17.0
16	56°59.4	57.0	16	57°09.3	47.6	16	57°20.0	37.6	16	57°31.5	27.0	16	57°43.7	16.0
17	71°59.6	56.0	17	72°09.4	46.7	17	72°20.2	36.6	17	72°31.7	26.0	17	72°43.9	15.1
18	86°59.7	S06°55.0	18	87°09.6	S05°45.7	18	87°20.3	S04°35.6	18	87°31.8	S03°25.0	18	87°44.0	S02°14.1
19	101°59.8	54.1	19	102°09.7	44.7	19	102°20.5	34.7	19	102°32.0	24.1	19	102°44.2	13.1
20	117°00.0	53.1	20	117°09.8	43.8	20	117°20.6	33.7	20	117°32.2	23.1	20	117°44.4	12.1
21	132°00.1	· · 52.2	21	132°10.0	· · 42.8	21	132°20.8	· · 32.7	21	132°32.3	· · 22.1	21	132°44.6	· · 11.1
22	147°00.2	51.2	22	147°10.1	41.8	22	147°20.9	31.7	22	147°32.5	21.1	22	147°44.7	10.1
23	162°00.3	50.3	23	162°10.3	40.9	23	162°21.1	30.8	23	162°32.7	20.1	23	162°44.9	09.1
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		

03	GHA	Dec	06	GHA	Dec	09	GHA	Dec	12	GHA	Dec	15	GHA	Dec
0	177°00.5	S06°49.3	0	177°10.4	S05°39.9	0	177°21.2	S04°29.8	0	177°32.8	S03°19.1	0	177°45.1	S02°08.1
1	192°00.6	48.3	1	192°10.6	38.9	1	192°21.4	28.8	1	192°33.0	18.2	1	192°45.3	07.2
2	207°00.7	47.4	2	207°10.7	38.0	2	207°21.6	27.8	2	207°33.2	17.2	2	207°45.4	06.2
3	222°00.9	· · 46.4	3	222°10.9	· · 37.0	3	222°21.7	· · 26.8	3	222°33.3	· · 16.2	3	222°45.6	· · 05.2
4	237°01.0	45.5	4	237°11.0	36.0	4	237°21.9	25.9	4	237°33.5	15.2	4	237°45.8	04.2
5	252°01.1	44.5	5	252°11.1	35.0	5	252°22.0	24.9	5	252°33.7	14.2	5	252°46.0	03.2
6	267°01.3	S06°43.5	6	267°11.3	S05°34.1	6	267°22.2	S04°23.9	6	267°33.8	S03°13.2	6	267°46.1	S02°02.2
7	282°01.4	42.6	7	282°11.4	33.1	7	282°22.3	22.9	7	282°34.0	12.2	7	282°46.3	01.2
8	297°01.5	41.6	8	297°11.6	32.1	8	297°22.5	22.0	8	297°34.2	11.3	8	297°46.5	02°00.2
9	312°01.7	· · 40.7	9	312°11.7	· · 31.2	9	312°22.7	· · 21.0	9	312°34.3	· · 10.3	9	312°46.7	01°59.2
10	327°01.8	39.7	10	327°11.9	30.2	10	327°22.8	20.0	10	327°34.5	09.3	10	327°46.8	58.3
11	342°01.9	38.7	11	342°12.0	29.2	11	342°23.0	19.0	11	342°34.7	08.3	11	342°47.0	57.3
12	357°02.1	S06°37.8	12	357°12.2	S05°28.3	12	357°23.1	S04°18.0	12	357°34.8	S03°07.3	12	357°47.2	S01°56.3
13	12°02.2	36.8	13	12°12.3	27.3	13	12°23.3	17.1	13	12°35.0	06.3	13	12°47.4	55.3
14	27°02.3	35.9	14	27°12.5	26.3	14	27°23.4	16.1	14	27°35.2	05.4	14	27°47.5	54.3
15	42°02.5	· · 34.9	15	42°12.6	· · 25.3	15	42°23.6	· · 15.1	15	42°35.3	· · 04.4	15	42°47.7	· · 53.3
16	57°02.6	33.9	16	57°12.8	24.4	16	57°23.8	14.1	16	57°35.5	03.4	16	57°47.9	52.3
17	72°02.7	33.0	17	72°12.9	23.4	17	72°23.9	13.1	17	72°35.7	02.4	17	72°48.1	51.3
18	87°02.9	S06°32.0	18	87°13.0	S05°22.4	18	87°24.1	S04°12.2	18	87°35.8	S03°01.4	18	87°48.2	S01°50.4
19	102°03.0	31.1	19	102°13.2	21.5	19	102°24.2	11.2	19	102°36.0	03°00.4	19	102°48.4	49.4
20	117°03.1	30.1	20	117°13.3	20.5	20	117°24.4	10.2	20	117°36.2	02°59.4	20	117°48.6	48.4
21	132°03.3	· · 29.1	21	132°13.5	· · 19.5	21	132°24.6	· · 09.2	21	132°36.4	· · 58.5	21	132°48.8	· · 47.4
22	147°03.4	28.2	22	147°13.6	18.5	22	147°24.7	08.2	22	147°36.5	57.5	22	147°48.9	46.4
23	162°03.5	27.2	23	162°13.8	17.6	23	162°24.9	07.3	23	162°36.7	56.5	23	162°49.1	45.4
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		

04	GHA	Dec	07	GHA	Dec	10	GHA	Dec	13	GHA	Dec	16	GHA	Dec
0	177°03.7	S06°26.3	0	177°13.9	S05°16.6	0	177°25.0	S04°06.3	0	177°36.9	S02°55.5	0	177°49.3	S01°44.4
1	192°03.8	25.3	1	192°14.1	15.6	1	192°25.2	05.3	1	192°37.0	54.5	1	192°49.5	43.4
2	207°04.0	24.3	2	207°14.2	14.6	2	207°25.3	04.3	2	207°37.2	53.5	2	207°49.7	42.4
3	222°04.1	· · 23.4	3	222°14.4	· · 13.7	3	222°25.5	· · 03.3	3	222°37.4	· · 52.5	3	222°49.8	· · 41.5
4	237°04.2	22.4	4	237°14.5	12.7	4	237°25.7	02.4	4	237°37.5	51.6	4	237°50.0	40.5
5	252°04.4	21.4	5	252°14.7	11.7	5	252°25.8	01.4	5	252°37.7	50.6	5	252°50.2	39.5
6	267°04.5	S06°20.5	6	267°14.8	S05°10.8	6	267°26.0	S04°00.4	6	267°37.9	S02°49.6	6	267°50.4	S01°38.5
7	282°04.6	19.5	7	282°15.0	09.8	7	282°26.2	03°59.4	7	282°38.0	48.6	7	282°50.5	37.5
8	297°04.8	18.5	8	297°15.1	08.8	8	297°26.3	58.4	8	297°38.2	47.6	8	297°50.7	36.5
9	312°04.9	· · 17.6	9	312°15.3	· · 07.8	9	312°26.5	· · 57.5	9	312°38.4	· · 46.6	9	312°50.9	· · 35.5
10	327°05.1	16.6	10	327°15.4	06.9	10	327°26.6	56.5	10	327°38.6	45.6	10	327°51.1	34.5
11	342°05.2	15.7	11	342°15.6	05.9	11	342°26.8	55.5	11	342°38.7	44.7	11	342°51.2	33.6
12	357°05.3	S06°14.7	12	357°15.7	S05°04.9	12	357°27.0	S03°54.5	12	357°38.9	S02°43.7	12	357°51.4	S01°32.6
13	12°05.5	13.7	13	12°15.9	03.9	13	12°27.1	53.5	13	12°39.1	42.7	13	12°51.6	31.6
14	27°05.6	12.8	14	27°16.0	03.0	14	27°27.3	52.5	14	27°39.2	41.7	14	27°51.8	30.6
15	42°05.7	· · 11.8	15	42°16.2	· · 02.0	15	42°27.4	· · 51.6	15	42°39.4	· · 40.7	15	42°52.0	· · 29.6
16	57°05.9	10.8	16	57°16.3	01.0	16	57°27.6	50.6	16	57°39.6	39.7	16	57°52.1	28.6
17	72°06.0	09.9	17	72°16.5	05°00.0	17	72°27.8	49.6	17	72°39.7	38.7	17	72°52.3	27.6
18	87°06.2	S06°08.9	18	87°16.6	S04°59.1	18	87°27.9	S03°48.6	18	87°39.9	S02°37.8	18	87°52.5	S01°26.6
19	102°06.3	07.9	19	102°16.8	58.1	19	102°28.1	47.6	19	102°40.1	36.8	19	102°52.7	25.6
20	117°06.4	07.0	20	117°16.9	57.1	20	117°28.2	46.7	20	117°40.3	35.8	20	117°52.8	24.7
21	132°06.6	· · 06.0	21	132°17.1	· · 56.1	21	132°28.4	· · 45.7	21	132°40.4	· · 34.8	21	132°53.0	· · 23.7
22	147°06.7	05.0	22	147°17.2	55.2	22	147°28.6	44.7	22	147°40.6	33.8	22	147°53.2	22.7
23	162°06.9	04.1	23	162°17.4	54.2	23	162°28.7	43.7	23	162°40.8	32.8	23	162°53.4	21.7
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		

17	GHA	Dec	20	GHA	Dec	23	GHA	Dec	26	GHA	Dec	29	GHA	Dec
0	177°53.6	S01°20.7	0	178°06.6	S00°09.5	0	178°20.0	N01°01.6	0	178°33.7	N02°12.4	0	178°47.3	N03°22.7
1	192°53.7	19.7	1	193°06.8	08.5	1	193°20.2	02.6	1	193°33.8	13.4	1	193°47.5	23.7
2	207°53.9	18.7	2	208°07.0	07.5	2	208°20.4	03.5	2	208°34.0	14.3	2	208°47.7	24.7
3	222°54.1	· · 17.7	3	223°07.2	· · 06.5	3	223°20.6	· · 04.5	3	223°34.2	· · 15.3	3	223°47.9	· · 25.7
4	237°54.3	16.7	4	238°07.4	05.6	4	238°20.8	05.5	4	238°34.4	16.3	4	238°48.1	26.6
5	252°54.5	15.8	5	253°07.6	04.6	5	253°21.0	06.5	5	253°34.6	17.3	5	253°48.2	27.6
6	267°54.6	S01°14.8	6	268°07.7	S00°03.6	6	268°21.2	N01°07.5	6	268°34.8	N02°18.3	6	268°48.4	N03°28.6
7	282°54.8	13.8	7	283°07.9	02.6	7	283°21.4	08.5	7	283°35.0	19.2	7	283°48.6	29.6
8	297°55.0	12.8	8	298°08.1	01.6	8	298°21.6	09.5	8	298°35.2	20.2	8	298°48.8	30.5
9	312°55.2	· · 11.8	9	313°08.3	S00°00.6	9	313°21.7	· · 10.4	9	313°35.4	· · 21.2	9	313°49.0	· · 31.5
10	327°55.4	10.8	10	328°08.5	N00°00.4	10	328°21.9	11.4	10	328°35.5	22.2	10	328°49.2	32.5
11	342°55.5	09.8	11	343°08.7	01.4	11	343°22.1	12.4	11	343°35.7	23.2	11	343°49.4	33.4
12	357°55.7	S01°08.8	12	358°08.9	N00°02.4	12	358°22.3	N01°13.4	12	358°35.9	N02°24.1	12	358°49.6	N03°34.4
13	12°55.9	07.8	13	13°09.0	03.3	13	13°22.5	14.4	13	13°36.1	25.1	13	13°49.8	35.4
14	27°56.1	06.9	14	28°09.2	04.3	14	28°22.7	15.4	14	28°36.3	26.1	14	28°49.9	36.4
15	42°56.3	· · 05.9	15	43°09.4	· · 05.3	15	43°22.9	· · 16.4	15	43°36.5	· · 27.1	15	43°50.1	· · 37.3
16	57°56.4	04.9	16	58°09.6	06.3	16	58°23.1	17.3	16	58°36.7	28.1	16	58°50.3	38.3
17	72°56.6	03.9	17	73°09.8	07.3	17	73°23.2	18.3	17	73°36.9	29.0	17	73°50.5	39.3
18	87°56.8	S01°02.9	18	88°10.0	N00°08.3	18	88°23.4	N01°19.3	18	88°37.1	N02°30.0	18	88°50.7	N03°40.3
19	102°57.0	01.9	19	103°10.2	09.3	19	103°23.6	20.3	19	103°37.3	31.0	19	103°50.9	41.2
20	117°57.2	01°00.9	20	118°10.3	10.3	20	118°23.8	21.3	20	118°37.4	32.0	20	118°51.1	42.2
21	132°57.3	00°59.9	21	133°10.5	· · 11.2	21	133°24.0	· · 22.3	21	133°37.6	· · 33.0	21	133°51.3	· · 43.2
22	147°57.5	58.9	22	148°10.7	12.2	22	148°24.2	23.2	22	148°37.8	33.9	22	148°51.5	44.1
23	162°57.7	58.0	23	163°10.9	13.2	23	163°24.4	24.2	23	163°38.0	34.9	23	163°51.6	45.1
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		

18	GHA	Dec	21	GHA	Dec	24	GHA	Dec	27	GHA	Dec	30	GHA	Dec
0	177°57.9	S00°57.0	0	178°11.1	N00°14.2	0	178°24.6	N01°25.2	0	178°38.2	N02°35.9	0	178°51.8	N03°46.1
1	192°58.1	56.0	1	193°11.3	15.2	1	193°24.8	26.2	1	193°38.4	36.9	1	193°52.0	47.0
2	207°58.2	55.0	2	208°11.5	16.2	2	208°24.9	27.2	2	208°38.6	37.8	2	208°52.2	48.0
3	222°58.4	· · 54.0	3	223°11.6	· · 17.2	3	223°25.1	· · 28.2	3	223°38.8	· · 38.8	3	223°52.4	· · 49.0
4	237°58.6	53.0	4	238°11.8	18.2	4	238°25.3	29.2	4	238°39.0	39.8	4	238°52.6	50.0
5	252°58.8	52.0	5	253°12.0	19.1	5	253°25.5	30.1	5	253°39.2	40.8	5	253°52.8	50.9
6	267°59.0	S00°51.0	6	268°12.2	N00°20.1	6	268°25.7	N01°31.1	6	268°39.3	N02°41.8	6	268°53.0	N03°51.9
7	282°59.1	50.0	7	283°12.4	21.1	7	283°25.9	32.1	7	283°39.5	42.7	7	283°53.1	52.9
8	297°59.3	49.1	8	298°12.6	22.1	8	298°26.1	33.1	8	298°39.7	43.7	8	298°53.3	53.8
9	312°59.5	· · 48.1	9	313°12.8	· · 23.1	9	313°26.3	· · 34.1	9	313°39.9	· · 44.7	9	313°53.5	· · 54.8
10	327°59.7	47.1	10	328°12.9	24.1	10	328°26.5	35.1	10	328°40.1	45.7	10	328°53.7	55.8
11	342°59.9	46.1	11	343°13.1	25.1	11	343°26.6	36.0	11	343°40.3	46.7	11	343°53.9	56.7
12	358°00.1	S00°45.1	12	358°13.3	N00°26.1	12	358°26.8	N01°37.0	12	358°40.5	N02°47.6	12	358°54.1	N03°57.7
13	13°00.2	44.1	13	13°13.5	27.0	13	13°27.0	38.0	13	13°40.7	48.6	13	13°54.3	58.7
14	28°00.4	43.1	14	28°13.7	28.0	14	28°27.2	39.0	14	28°40.9	49.6	14	28°54.5	03°59.7
15	43°00.6	· · 42.1	15	43°13.9	· · 29.0	15	43°27.4	· · 40.0	15	43°41.0	· · 50.6	15	43°54.7	04°00.6
16	58°00.8	41.1	16	58°14.1	30.0	16	58°27.6	41.0	16	58°41.2	51.5	16	58°54.8	01.6
17	73°01.0	40.2	17	73°14.2	31.0	17	73°27.8	41.9	17	73°41.4	52.5	17	73°55.0	02.6
18	88°01.1	S00°39.2	18	88°14.4	N00°32.0	18	88°28.0	N01°42.9	18	88°41.6	N02°53.5	18	88°55.2	N04°03.5
19	103°01.3	38.2	19	103°14.6	33.0	19	103°28.2	43.9	19	103°41.8	54.5	19	103°55.4	04.5
20	118°01.5	37.2	20	118°14.8	34.0	20	118°28.3	44.9	20	118°42.0	55.4	20	118°55.6	05.5
21	133°01.7	· · 36.2	21	133°15.0	· · 34.9	21	133°28.5	· · 45.9	21	133°42.2	· · 56.4	21	133°55.8	· · 06.4
22	148°01.9	35.2	22	148°15.2	35.9	22	148°28.7	46.9	22	148°42.4	57.4	22	148°56.0	07.4
23	163°02.1	34.2	23	163°15.4	36.9	23	163°28.9	47.8	23	163°42.6	58.4	23	163°56.2	08.4
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		

19	GHA	Dec	22	GHA	Dec	25	GHA	Dec	28	GHA	Dec	31	GHA	Dec
0	178°02.2	S00°33.2	0	178°15.6	N00°37.9	0	178°29.1	N01°48.8	0	178°42.8	N02°59.3	0	178°56.3	N04°09.3
1	193°02.4	32.2	1	193°15.7	38.9	1	193°29.3	49.8	1	193°42.9	03°00.3	1	193°56.5	10.3
2	208°02.6	31.3	2	208°15.9	39.9	2	208°29.5	50.8	2	208°43.1	01.3	2	208°56.7	11.3
3	223°02.8	· · 30.3	3	223°16.1	· · 40.9	3	223°29.7	· · 51.8	3	223°43.3	· · 02.3	3	223°56.9	· · 12.2
4	238°03.0	29.3	4	238°16.3	41.9	4	238°29.9	52.8	4	238°43.5	03.3	4	238°57.1	13.2
5	253°03.2	28.3	5	253°16.5	42.8	5	253°30.1	53.7	5	253°43.7	04.2	5	253°57.3	14.2
6	268°03.3	S00°27.3	6	268°16.7	N00°43.8	6	268°30.2	N01°54.7	6	268°43.9	N03°05.2	6	268°57.5	N04°15.1
7	283°03.5	26.3	7	283°16.9	44.8	7	283°30.4	55.7	7	283°44.1	06.2	7	283°57.7	16.1
8	298°03.7	25.3	8	298°17.0	45.8	8	298°30.6	56.7	8	298°44.3	07.2	8	298°57.8	17.1
9	313°03.9	· · 24.3	9	313°17.2	· · 46.8	9	313°30.8	· · 57.7	9	313°44.5	· · 08.1	9	313°58.0	· · 18.0
10	328°04.1	23.3	10	328°17.4	47.8	10	328°31.0	58.6	10	328°44.6	09.1	10	328°58.2	19.0
11	343°04.3	22.4	11	343°17.6	48.8	11	343°31.2	01°59.6	11	343°44.8	10.1	11	343°58.4	20.0
12	358°04.4	S00°21.4	12	358°17.8	N00°49.7	12	358°31.4	N02°00.6	12	358°45.0	N03°11.1	12	358°58.6	N04°20.9
13	13°04.6	20.4	13	13°18.0	50.7	13	13°31.6	01.6	13	13°45.2	12.0	13	13°58.8	21.9
14	28°04.8	19.4	14	28°18.2	51.7	14	28°31.8	02.6	14	28°45.4	13.0	14	28°59.0	22.9
15	43°05.0	· · 18.4	15	43°18.4	· · 52.7	15	43°31.9	· · 03.6	15	43°45.6	· · 14.0	15	43°59.2	· · 23.8
16	58°05.2	17.4	16	58°18.5	53.7	16	58°32.1	04.5	16	58°45.8	15.0	16	58°59.3	24.8
17	73°05.4	16.4	17	73°18.7	54.7	17	73°32.3	05.5	17	73°46.0	15.9	17	73°59.5	25.8
18	88°05.5	S00°15.4	18	88°18.9	N00°55.7	18	88°32.5	N02°06.5	18	88°46.2	N03°16.9	18	88°59.7	N04°26.7
19	103°05.7	14.4	19	103°19.1	56.6	19	103°32.7	07.5	19	103°46.4	17.9	19	103°59.9	27.7
20	118°05.9	13.5	20	118°19.3	57.6	20	118°32.9	08.5	20	118°46.5	18.9	20	119°00.1	28.7
21	133°06.1	· · 12.5	21	133°19.5	· · 58.6	21	133°33.1	· · 09.4	21	133°46.7	· · 19.8	21	134°00.3	· · 29.6
22	148°06.3	11.5	22	148°19.7	00°59.6	22	148°33.3	10.4	22	148°46.9	20.8	22	149°00.5	30.6
23	163°06.5	10.5	23	163°19.9	01°00.6	23	163°33.5	11.4	23	163°47.1	21.8	23	164°00.6	31.6
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		

01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec	13	GHA	Dec
0	179°00.8	N04°32.5	0	179°14.1	N05°41.6	0	179°26.9	N06°49.8	0	179°39.3	N07°56.9	0	179°51.0	N09°02.9
1	194°01.0	33.5	1	194°14.3	42.5	1	194°27.1	50.7	1	194°39.4	57.8	1	194°51.1	03.8
2	209°01.2	34.5	2	209°14.5	43.5	2	209°27.3	51.7	2	209°39.6	58.8	2	209°51.3	04.7
3	224°01.4	· · 35.4	3	224°14.6	· · 44.4	3	224°27.5	· · 52.6	3	224°39.8	07°59.7	3	224°51.4	· · 05.6
4	239°01.6	36.4	4	239°14.8	45.4	4	239°27.6	53.5	4	239°39.9	08°00.6	4	239°51.6	06.5
5	254°01.8	37.4	5	254°15.0	46.4	5	254°27.8	54.5	5	254°40.1	01.5	5	254°51.7	07.4
6	269°01.9	N04°38.3	6	269°15.2	N05°47.3	6	269°28.0	N06°55.4	6	269°40.3	N08°02.5	6	269°51.9	N09°08.3
7	284°02.1	39.3	7	284°15.4	48.3	7	284°28.2	56.4	7	284°40.4	03.4	7	284°52.1	09.2
8	299°02.3	40.2	8	299°15.5	49.2	8	299°28.3	57.3	8	299°40.6	04.3	8	299°52.2	10.1
9	314°02.5	· · 41.2	9	314°15.7	· · 50.2	9	314°28.5	· · 58.2	9	314°40.8	· · 05.2	9	314°52.4	· · 11.0
10	329°02.7	42.2	10	329°15.9	51.1	10	329°28.7	06°59.2	10	329°40.9	06.2	10	329°52.5	11.9
11	344°02.9	43.1	11	344°16.1	52.1	11	344°28.9	07°00.1	11	344°41.1	07.1	11	344°52.7	12.8
12	359°03.1	N04°44.1	12	359°16.3	N05°53.0	12	359°29.0	N07°01.0	12	359°41.3	N08°08.0	12	359°52.8	N09°13.7
13	14°03.2	45.1	13	14°16.4	54.0	13	14°29.2	02.0	13	14°41.4	08.9	13	14°53.0	14.6
14	29°03.4	46.0	14	29°16.6	54.9	14	29°29.4	02.9	14	29°41.6	09.8	14	29°53.1	15.6
15	44°03.6	· · 47.0	15	44°16.8	· · 55.9	15	44°29.5	· · 03.9	15	44°41.7	· · 10.8	15	44°53.3	· · 16.5
16	59°03.8	47.9	16	59°17.0	56.8	16	59°29.7	04.8	16	59°41.9	11.7	16	59°53.5	17.4
17	74°04.0	48.9	17	74°17.2	57.8	17	74°29.9	05.7	17	74°42.1	12.6	17	74°53.6	18.3
18	89°04.2	N04°49.9	18	89°17.3	N05°58.7	18	89°30.1	N07°06.7	18	89°42.2	N08°13.5	18	89°53.8	N09°19.2
19	104°04.4	50.8	19	104°17.5	05°59.7	19	104°30.2	07.6	19	104°42.4	14.5	19	104°53.9	20.1
20	119°04.5	51.8	20	119°17.7	06°00.6	20	119°30.4	08.5	20	119°42.6	15.4	20	119°54.1	21.0
21	134°04.7	· · 52.8	21	134°17.9	· · 01.6	21	134°30.6	· · 09.5	21	134°42.7	· · 16.3	21	134°54.2	· · 21.9
22	149°04.9	53.7	22	149°18.1	02.5	22	149°30.8	10.4	22	149°42.9	17.2	22	149°54.4	22.8
23	164°05.1	54.7	23	164°18.2	03.5	23	164°30.9	11.3	23	164°43.1	18.1	23	164°54.5	23.7
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°05.3	N04°55.6	0	179°18.4	N06°04.4	0	179°31.1	N07°12.3	0	179°43.2	N08°19.1	0	179°54.7	N09°24.6
1	194°05.5	56.6	1	194°18.6	05.4	1	194°31.3	13.2	1	194°43.4	20.0	1	194°54.9	25.5
2	209°05.7	57.6	2	209°18.8	06.3	2	209°31.4	14.2	2	209°43.6	20.9	2	209°55.0	26.4
3	224°05.8	· · 58.5	3	224°19.0	· · 07.3	3	224°31.6	· · 15.1	3	224°43.7	· · 21.8	3	224°55.2	· · 27.3
4	239°06.0	04°59.4	4	239°19.1	08.2	4	239°31.8	16.0	4	239°43.9	22.7	4	239°55.3	28.2
5	254°06.2	05°00.4	5	254°19.3	09.2	5	254°32.0	17.0	5	254°44.0	23.6	5	254°55.5	29.1
6	269°06.4	N05°01.4	6	269°19.5	N06°10.1	6	269°32.1	N07°17.9	6	269°44.2	N08°24.6	6	269°55.6	N09°30.0
7	284°06.6	02.4	7	284°19.7	11.1	7	284°32.3	18.8	7	284°44.4	25.5	7	284°55.8	30.9
8	299°06.8	03.3	8	299°19.9	12.0	8	299°32.5	19.8	8	299°44.5	26.4	8	299°55.9	31.8
9	314°06.9	· · 04.3	9	314°20.0	· · 13.0	9	314°32.7	· · 20.7	9	314°44.7	· · 27.3	9	314°56.1	· · 32.7
10	329°07.1	05.2	10	329°20.2	13.9	10	329°32.8	21.6	10	329°44.9	28.2	10	329°56.2	33.6
11	344°07.3	06.2	11	344°20.4	14.9	11	344°33.0	22.6	11	344°45.0	29.1	11	344°56.4	34.5
12	359°07.5	N05°07.2	12	359°20.6	N06°15.8	12	359°33.2	N07°23.5	12	359°45.2	N08°30.1	12	359°56.5	N09°35.4
13	14°07.7	08.1	13	14°20.7	16.7	13	14°33.3	24.4	13	14°45.4	31.0	13	14°56.7	36.3
14	29°07.9	09.1	14	29°20.9	17.7	14	29°33.5	25.4	14	29°45.5	31.9	14	29°56.8	37.2
15	44°08.1	· · 10.0	15	44°21.1	· · 18.6	15	44°33.7	· · 26.3	15	44°45.7	· · 32.8	15	44°57.0	· · 38.1
16	59°08.2	11.0	16	59°21.3	19.6	16	59°33.9	27.2	16	59°45.8	33.7	16	59°57.1	38.9
17	74°08.4	12.0	17	74°21.5	20.5	17	74°34.0	28.1	17	74°46.0	34.6	17	74°57.3	39.8
18	89°08.6	N05°12.9	18	89°21.6	N06°21.5	18	89°34.2	N07°29.1	18	89°46.2	N08°35.6	18	89°57.5	N09°40.7
19	104°08.8	13.9	19	104°21.8	22.4	19	104°34.4	30.0	19	104°46.3	36.5	19	104°57.6	41.6
20	119°09.0	14.8	20	119°22.0	23.4	20	119°34.5	30.9	20	119°46.5	37.4	20	119°57.8	42.5
21	134°09.2	· · 15.8	21	134°22.2	· · 24.3	21	134°34.7	· · 31.9	21	134°46.6	· · 38.3	21	134°57.9	· · 43.4
22	149°09.3	16.7	22	149°22.3	25.3	22	149°34.9	32.8	22	149°46.8	39.2	22	149°58.1	44.3
23	164°09.5	17.7	23	164°22.5	26.2	23	164°35.0	33.7	23	164°47.0	40.1	23	164°58.2	45.2
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		

03	GHA	Dec	06	GHA	Dec	09	GHA	Dec	12	GHA	Dec	15	GHA	Dec
0	179°09.7	N05°18.7	0	179°22.7	N06°27.2	0	179°35.2	N07°34.7	0	179°47.1	N08°41.0	0	179°58.4	N09°46.1
1	194°09.9	19.6	1	194°22.9	28.1	1	194°35.4	35.6	1	194°47.3	42.0	1	194°58.5	47.0
2	209°10.1	20.6	2	209°23.1	29.0	2	209°35.6	36.5	2	209°47.5	42.9	2	209°58.7	47.9
3	224°10.3	· · 21.5	3	224°23.2	· · 30.0	3	224°35.7	· · 37.5	3	224°47.6	· · 43.8	3	224°58.8	· · 48.8
4	239°10.4	22.5	4	239°23.4	30.9	4	239°35.9	38.4	4	239°47.8	44.7	4	239°59.0	49.7
5	254°10.6	23.4	5	254°23.6	31.9	5	254°36.1	39.3	5	254°47.9	45.6	5	254°59.1	50.6
6	269°10.8	N05°24.4	6	269°23.8	N06°32.8	6	269°36.2	N07°40.2	6	269°48.1	N08°46.5	6	269°59.3	N09°51.5
7	284°11.0	25.4	7	284°23.9	33.8	7	284°36.4	41.2	7	284°48.3	47.4	7	284°59.4	52.4
8	299°11.2	26.3	8	299°24.1	34.7	8	299°36.6	42.1	8	299°48.4	48.3	8	299°59.6	53.2
9	314°11.4	· · 27.3	9	314°24.3	· · 35.6	9	314°36.7	· · 43.0	9	314°48.6	· · 49.2	9	314°59.7	· · 54.1
10	329°11.5	28.2	10	329°24.5	36.6	10	329°36.9	44.0	10	329°48.7	50.2	10	329°59.9	55.0
11	344°11.7	29.2	11	344°24.7	37.5	11	344°37.1	44.9	11	344°48.9	51.1	11	345°00.0	55.9
12	359°11.9	N05°30.1	12	359°24.8	N06°38.5	12	359°37.2	N07°45.8	12	359°49.1	N08°52.0	12	0°00.2	N09°56.8
13	14°12.1	31.1	13	14°25.0	39.4	13	14°37.4	46.7	13	14°49.2	52.9	13	15°00.3	57.7
14	29°12.3	32.0	14	29°25.2	40.4	14	29°37.6	47.7	14	29°49.4	53.8	14	30°00.5	58.6
15	44°12.5	· · 33.0	15	44°25.4	· · 41.3	15	44°37.7	· · 48.6	15	44°49.5	· · 54.7	15	45°00.6	09°59.5
16	59°12.6	34.0	16	59°25.5	42.2	16	59°37.9	49.5	16	59°49.7	55.6	16	60°00.8	10°00.4
17	74°12.8	34.9	17	74°25.7	43.2	17	74°38.1	50.4	17	74°49.8	56.5	17	75°00.9	01.3
18	89°13.0	N05°35.9	18	89°25.9	N06°44.1	18	89°38.3	N07°51.4	18	89°50.0	N08°57.4	18	90°01.0	N10°02.2
19	104°13.2	36.8	19	104°26.1	45.1	19	104°38.4	52.3	19	104°50.2	58.3	19	105°01.2	03.0
20	119°13.4	37.8	20	119°26.2	46.0	20	119°38.6	53.2	20	119°50.3	08°59.3	20	120°01.3	03.9
21	134°13.5	· · 38.7	21	134°26.4	· · 47.0	21	134°38.8	· · 54.1	21	134°50.5	09°00.2	21	135°01.5	· · 04.8
22	149°13.7	39.7	22	149°26.6	47.9	22	149°38.9	55.1	22	149°50.6	01.1	22	150°01.6	05.7
23	164°13.9	40.6	23	164°26.8	48.8	23	164°39.1	56.0	23	164°50.8	02.0	23	165°01.8	06.6
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		

16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec	28	GHA	Dec
0	180°01.9	N10°07.5	0	180°12.1	N11°10.6	0	180°21.4	N12°12.0	0	180°29.7	N13°11.6	0	180°37.0	N14°09.2
1	195°02.1	08.4	1	195°12.2	11.4	1	195°21.5	12.8	1	195°29.8	12.4	1	195°37.1	10.0
2	210°02.2	09.3	2	210°12.4	12.3	2	210°21.7	13.7	2	210°29.9	13.2	2	210°37.2	10.8
3	225°02.4	· · 10.1	3	225°12.5	· · 13.2	3	225°21.8	· · 14.5	3	225°30.1	· · 14.0	3	225°37.3	· · 11.5
4	240°02.5	11.0	4	240°12.7	14.0	4	240°21.9	15.3	4	240°30.2	14.8	4	240°37.4	12.3
5	255°02.7	11.9	5	255°12.8	14.9	5	255°22.0	16.2	5	255°30.3	15.6	5	255°37.5	13.1
6	270°02.8	N10°12.8	6	270°12.9	N11°15.7	6	270°22.1	N12°17.0	6	270°30.4	N13°16.4	6	270°37.5	N14°13.9
7	285°03.0	13.7	7	285°13.1	16.6	7	285°22.3	17.9	7	285°30.5	17.3	7	285°37.6	14.7
8	300°03.1	14.6	8	300°13.2	17.5	8	300°22.4	18.7	8	300°30.6	18.1	8	300°37.7	15.5
9	315°03.3	· · 15.5	9	315°13.3	· · 18.3	9	315°22.5	· · 19.5	9	315°30.7	· · 18.9	9	315°37.8	· · 16.2
10	330°03.4	16.3	10	330°13.5	19.2	10	330°22.6	20.4	10	330°30.8	19.7	10	330°37.9	17.0
11	345°03.5	17.2	11	345°13.6	20.1	11	345°22.7	21.2	11	345°30.9	20.5	11	345°38.0	17.8
12	0°03.7	N10°18.1	12	0°13.7	N11°20.9	12	0°22.9	N12°22.0	12	0°31.0	N13°21.3	12	0°38.1	N14°18.6
13	15°03.8	19.0	13	15°13.9	21.8	13	15°23.0	22.9	13	15°31.1	22.1	13	15°38.2	19.4
14	30°04.0	19.9	14	30°14.0	22.6	14	30°23.1	23.7	14	30°31.2	22.9	14	30°38.3	20.1
15	45°04.1	· · 20.8	15	45°14.1	· · 23.5	15	45°23.2	· · 24.5	15	45°31.3	· · 23.7	15	45°38.4	· · 20.9
16	60°04.3	21.6	16	60°14.3	24.4	16	60°23.3	25.4	16	60°31.4	24.5	16	60°38.4	21.7
17	75°04.4	22.5	17	75°14.4	25.2	17	75°23.5	26.2	17	75°31.5	25.3	17	75°38.5	22.5
18	90°04.6	N10°23.4	18	90°14.5	N11°26.1	18	90°23.6	N12°27.1	18	90°31.6	N13°26.2	18	90°38.6	N14°23.3
19	105°04.7	24.3	19	105°14.7	26.9	19	105°23.7	27.9	19	105°31.8	27.0	19	105°38.7	24.0
20	120°04.8	25.2	20	120°14.8	27.8	20	120°23.8	28.7	20	120°31.9	27.8	20	120°38.8	24.8
21	135°05.0	· · 26.0	21	135°14.9	· · 28.7	21	135°23.9	· · 29.6	21	135°32.0	· · 28.6	21	135°38.9	· · 25.6
22	150°05.1	26.9	22	150°15.1	29.5	22	150°24.1	30.4	22	150°32.1	29.4	22	150°39.0	26.4
23	165°05.3	27.8	23	165°15.2	30.4	23	165°24.2	31.2	23	165°32.2	30.2	23	165°39.1	27.2
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		

17	GHA	Dec	20	GHA	Dec	23	GHA	Dec	26	GHA	Dec	29	GHA	Dec
0	180°05.4	N10°28.7	0	180°15.3	N11°31.2	0	180°24.3	N12°32.0	0	180°32.3	N13°31.0	0	180°39.2	N14°27.9
1	195°05.6	29.6	1	195°15.4	32.1	1	195°24.4	32.9	1	195°32.4	31.8	1	195°39.2	28.7
2	210°05.7	30.4	2	210°15.6	32.9	2	210°24.5	33.7	2	210°32.5	32.6	2	210°39.3	29.5
3	225°05.8	· · 31.3	3	225°15.7	· · 33.8	3	225°24.6	· · 34.5	3	225°32.6	· · 33.4	3	225°39.4	· · 30.3
4	240°06.0	32.2	4	240°15.8	34.7	4	240°24.8	35.4	4	240°32.7	34.2	4	240°39.5	31.0
5	255°06.1	33.1	5	255°16.0	35.5	5	255°24.9	36.2	5	255°32.8	35.0	5	255°39.6	31.8
6	270°06.3	N10°34.0	6	270°16.1	N11°36.4	6	270°25.0	N12°37.0	6	270°32.9	N13°35.8	6	270°39.7	N14°32.6
7	285°06.4	34.8	7	285°16.2	37.2	7	285°25.1	37.9	7	285°33.0	36.6	7	285°39.8	33.4
8	300°06.6	35.7	8	300°16.4	38.1	8	300°25.2	38.7	8	300°33.1	37.4	8	300°39.8	34.1
9	315°06.7	· · 36.6	9	315°16.5	· · 38.9	9	315°25.3	· · 39.5	9	315°33.2	· · 38.2	9	315°39.9	· · 34.9
10	330°06.8	37.5	10	330°16.6	39.8	10	330°25.5	40.4	10	330°33.3	39.0	10	330°40.0	35.7
11	345°07.0	38.3	11	345°16.7	40.6	11	345°25.6	41.2	11	345°33.4	39.8	11	345°40.1	36.4
12	0°07.1	N10°39.2	12	0°16.9	N11°41.5	12	0°25.7	N12°42.0	12	0°33.5	N13°40.6	12	0°40.2	N14°37.2
13	15°07.3	40.1	13	15°17.0	42.3	13	15°25.8	42.8	13	15°33.6	41.4	13	15°40.3	38.0
14	30°07.4	41.0	14	30°17.1	43.2	14	30°25.9	43.7	14	30°33.7	42.2	14	30°40.4	38.8
15	45°07.6	· · 41.8	15	45°17.3	· · 44.0	15	45°26.0	· · 44.5	15	45°33.8	· · 43.0	15	45°40.4	· · 39.5
16	60°07.7	42.7	16	60°17.4	44.9	16	60°26.2	45.3	16	60°33.9	43.8	16	60°40.5	40.3
17	75°07.8	43.6	17	75°17.5	45.8	17	75°26.3	46.1	17	75°34.0	44.6	17	75°40.6	41.1
18	90°08.0	N10°44.5	18	90°17.6	N11°46.6	18	90°26.4	N12°47.0	18	90°34.1	N13°45.4	18	90°40.7	N14°41.8
19	105°08.1	45.3	19	105°17.8	47.5	19	105°26.5	47.8	19	105°34.2	46.2	19	105°40.8	42.6
20	120°08.3	46.2	20	120°17.9	48.3	20	120°26.6	48.6	20	120°34.3	47.0	20	120°40.9	43.4
21	135°08.4	· · 47.1	21	135°18.0	· · 49.2	21	135°26.7	· · 49.4	21	135°34.4	· · 47.8	21	135°40.9	· · 44.1
22	150°08.5	48.0	22	150°18.2	50.0	22	150°26.8	50.3	22	150°34.5	48.6	22	150°41.0	44.9
23	165°08.7	48.8	23	165°18.3	50.9	23	165°27.0	51.1	23	165°34.6	49.4	23	165°41.1	45.7
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		

18	GHA	Dec	21	GHA	Dec	24	GHA	Dec	27	GHA	Dec	30	GHA	Dec
0	180°08.8	N10°49.7	0	180°18.4	N11°51.7	0	180°27.1	N12°51.9	0	180°34.7	N13°50.2	0	180°41.2	N14°46.4
1	195°09.0	50.6	1	195°18.5	52.6	1	195°27.2	52.7	1	195°34.8	51.0	1	195°41.3	47.2
2	210°09.1	51.5	2	210°18.7	53.4	2	210°27.3	53.6	2	210°34.9	51.8	2	210°41.4	48.0
3	225°09.2	· · 52.3	3	225°18.8	· · 54.2	3	225°27.4	· · 54.4	3	225°35.0	· · 52.6	3	225°41.4	· · 48.7
4	240°09.4	53.2	4	240°18.9	55.1	4	240°27.5	55.2	4	240°35.1	53.4	4	240°41.5	49.5
5	255°09.5	54.1	5	255°19.0	55.9	5	255°27.6	56.0	5	255°35.2	54.2	5	255°41.6	50.3
6	270°09.6	N10°54.9	6	270°19.2	N11°56.8	6	270°27.7	N12°56.8	6	270°35.3	N13°55.0	6	270°41.7	N14°51.0
7	285°09.8	55.8	7	285°19.3	57.6	7	285°27.9	57.7	7	285°35.4	55.8	7	285°41.8	51.8
8	300°09.9	56.7	8	300°19.4	58.5	8	300°28.0	58.5	8	300°35.5	56.6	8	300°41.8	52.6
9	315°10.1	· · 57.6	9	315°19.5	11°59.3	9	315°28.1	12°59.3	9	315°35.6	· · 57.3	9	315°41.9	· · 53.3
10	330°10.2	58.4	10	330°19.7	12°00.2	10	330°28.2	13°00.1	10	330°35.7	58.1	10	330°42.0	54.1
11	345°10.3	10°59.3	11	345°19.8	01.0	11	345°28.3	00.9	11	345°35.8	58.9	11	345°42.1	54.8
12	0°10.5	N11°00.2	12	0°19.9	N12°01.9	12	0°28.4	N13°01.8	12	0°35.9	N13°59.7	12	0°42.2	N14°55.6
13	15°10.6	01.0	13	15°20.0	02.7	13	15°28.5	02.6	13	15°36.0	14°00.5	13	15°42.2	56.4
14	30°10.7	01.9	14	30°20.2	03.6	14	30°28.6	03.4	14	30°36.0	01.3	14	30°42.3	57.1
15	45°10.9	· · 02.8	15	45°20.3	· · 04.4	15	45°28.7	· · 04.2	15	45°36.1	· · 02.1	15	45°42.4	· · 57.9
16	60°11.0	03.6	16	60°20.4	05.2	16	60°28.9	05.0	16	60°36.2	02.9	16	60°42.5	58.6
17	75°11.2	04.5	17	75°20.5	06.1	17	75°29.0	05.9	17	75°36.3	03.7	17	75°42.5	14°59.4
18	90°11.3	N11°05.4	18	90°20.7	N12°06.9	18	90°29.1	N13°06.7	18	90°36.4	N14°04.5	18	90°42.6	N15°00.2
19	105°11.4	06.2	19	105°20.8	07.8	19	105°29.2	07.5	19	105°36.5	05.2	19	105°42.7	00.9
20	120°11.6	07.1	20	120°20.9	08.6	20	120°29.3	08.3	20	120°36.6	06.0	20	120°42.8	01.7
21	135°11.7	· · 08.0	21	135°21.0	· · 09.5	21	135°29.4	· · 09.1	21	135°36.7	· · 06.8	21	135°42.9	· · 02.4
22	150°11.8	08.8	22	150°21.2	10.3	22	150°29.5	09.9	22	150°36.8	07.6	22	150°42.9	03.2
23	165°12.0	09.7	23	165°21.3	11.1	23	165°29.6	10.7	23	165°36.9	08.4	23	165°43.0	04.0
SD.=15.9 d=0.9			SD.=15.9 d=0.8			SD.=15.9 d=0.8			SD.=15.9 d=0.8			SD.=15.9 d=0.8		

01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec	13	GHA	Dec
0	180°43.1	N15°04.7	0	180°47.9	N15°58.0	0	180°51.5	N16°48.9	0	180°53.8	N17°37.4	0	180°54.7	N18°23.1
1	195°43.2	05.5	1	195°48.0	58.7	1	195°51.6	49.6	1	195°53.8	38.0	1	195°54.7	23.7
2	210°43.2	06.2	2	210°48.1	15°59.5	2	210°51.6	50.3	2	210°53.8	38.7	2	210°54.7	24.3
3	225°43.3	· · 07.0	3	225°48.1	16°00.2	3	225°51.6	· · 51.0	3	225°53.8	· · 39.3	3	225°54.8	· · 25.0
4	240°43.4	07.7	4	240°48.2	00.9	4	240°51.7	51.7	4	240°53.9	40.0	4	240°54.8	25.6
5	255°43.5	08.5	5	255°48.2	01.6	5	255°51.7	52.4	5	255°53.9	40.6	5	255°54.8	26.2
6	270°43.5	N15°09.2	6	270°48.3	N16°02.3	6	270°51.7	N16°53.1	6	270°53.9	N17°41.3	6	270°54.8	N18°26.8
7	285°43.6	10.0	7	285°48.3	03.1	7	285°51.8	53.8	7	285°53.9	41.9	7	285°54.8	27.4
8	300°43.7	10.7	8	300°48.4	03.8	8	300°51.8	54.4	8	300°53.9	42.6	8	300°54.8	28.0
9	315°43.8	· · 11.5	9	315°48.5	· · 04.5	9	315°51.9	· · 55.1	9	315°54.0	· · 43.2	9	315°54.8	· · 28.6
10	330°43.8	12.2	10	330°48.5	05.2	10	330°51.9	55.8	10	330°54.0	43.9	10	330°54.8	29.3
11	345°43.9	13.0	11	345°48.6	05.9	11	345°51.9	56.5	11	345°54.0	44.5	11	345°54.8	29.9
12	0°44.0	N15°13.7	12	0°48.6	N16°06.7	12	0°52.0	N16°57.2	12	0°54.0	N17°45.2	12	0°54.8	N18°30.5
13	15°44.1	14.5	13	15°48.7	07.4	13	15°52.0	57.9	13	15°54.0	45.8	13	15°54.8	31.1
14	30°44.1	15.3	14	30°48.7	08.1	14	30°52.1	58.5	14	30°54.1	46.5	14	30°54.8	31.7
15	45°44.2	· · 16.0	15	45°48.8	· · 08.8	15	45°52.1	· · 59.2	15	45°54.1	· · 47.1	15	45°54.8	· · 32.3
16	60°44.3	16.7	16	60°48.8	09.5	16	60°52.1	16°59.9	16	60°54.1	47.8	16	60°54.8	32.9
17	75°44.3	17.5	17	75°48.9	10.2	17	75°52.2	17°00.6	17	75°54.1	48.4	17	75°54.8	33.5
18	90°44.4	N15°18.2	18	90°49.0	N16°11.0	18	90°52.2	N17°01.3	18	90°54.1	N17°49.0	18	90°54.8	N18°34.1
19	105°44.5	19.0	19	105°49.0	11.7	19	105°52.2	02.0	19	105°54.2	49.7	19	105°54.8	34.7
20	120°44.6	19.7	20	120°49.1	12.4	20	120°52.3	02.6	20	120°54.2	50.3	20	120°54.8	35.3
21	135°44.6	· · 20.5	21	135°49.1	· · 13.1	21	135°52.3	· · 03.3	21	135°54.2	· · 51.0	21	135°54.8	· · 35.9
22	150°44.7	21.2	22	150°49.2	13.8	22	150°52.3	04.0	22	150°54.2	51.6	22	150°54.8	36.5
23	165°44.8	22.0	23	165°49.2	14.5	23	165°52.4	04.7	23	165°54.2	52.3	23	165°54.8	37.2
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°44.8	N15°22.7	0	180°49.3	N16°15.3	0	180°52.4	N17°05.4	0	180°54.2	N17°52.9	0	180°54.8	N18°37.8
1	195°44.9	23.5	1	195°49.3	16.0	1	195°52.4	06.0	1	195°54.3	53.5	1	195°54.8	38.4
2	210°45.0	24.2	2	210°49.4	16.7	2	210°52.5	06.7	2	210°54.3	54.2	2	210°54.8	39.0
3	225°45.1	· · 25.0	3	225°49.4	· · 17.4	3	225°52.5	· · 07.4	3	225°54.3	· · 54.8	3	225°54.8	· · 39.6
4	240°45.1	25.7	4	240°49.5	18.1	4	240°52.5	08.1	4	240°54.3	55.4	4	240°54.8	40.2
5	255°45.2	26.5	5	255°49.5	18.8	5	255°52.6	08.7	5	255°54.3	56.1	5	255°54.8	40.8
6	270°45.3	N15°27.2	6	270°49.6	N16°19.5	6	270°52.6	N17°09.4	6	270°54.3	N17°56.7	6	270°54.8	N18°41.4
7	285°45.3	27.9	7	285°49.6	20.2	7	285°52.6	10.1	7	285°54.3	57.4	7	285°54.8	42.0
8	300°45.4	28.7	8	300°49.7	20.9	8	300°52.7	10.8	8	300°54.4	58.0	8	300°54.8	42.6
9	315°45.5	· · 29.4	9	315°49.7	· · 21.7	9	315°52.7	· · 11.4	9	315°54.4	· · 58.7	9	315°54.8	· · 43.2
10	330°45.5	30.2	10	330°49.8	22.4	10	330°52.7	12.1	10	330°54.4	59.3	10	330°54.8	43.8
11	345°45.6	30.9	11	345°49.8	23.1	11	345°52.8	12.8	11	345°54.4	17°59.11	11	345°54.7	44.4
12	0°45.7	N15°31.6	12	0°49.9	N16°23.8	12	0°52.8	N17°13.5	12	0°54.4	N18°00.6	12	0°54.7	N18°45.0
13	15°45.7	32.4	13	15°49.9	24.5	13	15°52.8	14.1	13	15°54.4	01.2	13	15°54.7	45.6
14	30°45.8	33.1	14	30°50.0	25.2	14	30°52.9	14.8	14	30°54.4	01.8	14	30°54.7	46.2
15	45°45.9	· · 33.9	15	45°50.0	· · 25.9	15	45°52.9	· · 15.5	15	45°54.5	· · 02.5	15	45°54.7	· · 46.7
16	60°45.9	34.6	16	60°50.1	26.6	16	60°52.9	16.2	16	60°54.5	03.1	16	60°54.7	47.3
17	75°46.0	35.3	17	75°50.1	27.3	17	75°53.0	16.8	17	75°54.5	03.7	17	75°54.7	47.9
18	90°46.1	N15°36.1	18	90°50.2	N16°28.0	18	90°53.0	N17°17.5	18	90°54.5	N18°04.4	18	90°54.7	N18°48.5
19	105°46.1	36.8	19	105°50.2	28.7	19	105°53.0	18.2	19	105°54.5	05.0	19	105°54.7	49.1
20	120°46.2	37.6	20	120°50.3	29.4	20	120°53.0	18.8	20	120°54.5	05.6	20	120°54.7	49.7
21	135°46.3	· · 38.3	21	135°50.3	· · 30.1	21	135°53.1	· · 19.5	21	135°54.5	· · 06.3	21	135°54.7	· · 50.3
22	150°46.3	39.0	22	150°50.4	30.8	22	150°53.1	20.2	22	150°54.5	06.9	22	150°54.7	50.9
23	165°46.4	39.8	23	165°50.4	31.5	23	165°53.1	20.8	23	165°54.6	07.5	23	165°54.7	51.5
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		

03	GHA	Dec	06	GHA	Dec	09	GHA	Dec	12	GHA	Dec	15	GHA	Dec
0	180°46.5	N15°40.5	0	180°50.5	N16°32.2	0	180°53.2	N17°21.5	0	180°54.6	N18°08.2	0	180°54.7	N18°52.1
1	195°46.5	41.2	1	195°50.5	32.9	1	195°53.2	22.2	1	195°54.6	08.8	1	195°54.7	52.7
2	210°46.6	42.0	2	210°50.6	33.6	2	210°53.2	22.8	2	210°54.6	09.4	2	210°54.7	53.3
3	225°46.7	· · 42.7	3	225°50.6	· · 34.3	3	225°53.2	· · 23.5	3	225°54.6	· · 10.0	3	225°54.6	· · 53.9
4	240°46.7	43.4	4	240°50.7	35.0	4	240°53.3	24.2	4	240°54.6	10.7	4	240°54.6	54.4
5	255°46.8	44.2	5	255°50.7	35.7	5	255°53.3	24.8	5	255°54.6	11.3	5	255°54.6	55.0
6	270°46.8	N15°44.9	6	270°50.7	N16°36.4	6	270°53.3	N17°25.5	6	270°54.6	N18°11.9	6	270°54.6	N18°55.6
7	285°46.9	45.6	7	285°50.8	37.1	7	285°53.4	26.2	7	285°54.6	12.6	7	285°54.6	56.2
8	300°47.0	46.4	8	300°50.8	37.8	8	300°53.4	26.8	8	300°54.6	13.2	8	300°54.6	56.8
9	315°47.0	· · 47.1	9	315°50.9	· · 38.5	9	315°53.4	· · 27.5	9	315°54.6	· · 13.8	9	315°54.6	· · 57.4
10	330°47.1	47.8	10	330°50.9	39.2	10	330°53.4	28.1	10	330°54.7	14.4	10	330°54.6	58.0
11	345°47.2	48.6	11	345°51.0	39.9	11	345°53.5	28.8	11	345°54.7	15.1	11	345°54.6	58.5
12	0°47.2	N15°49.3	12	0°51.0	N16°40.6	12	0°53.5	N17°29.5	12	0°54.7	N18°15.7	12	0°54.6	N18°59.1
13	15°47.3	50.0	13	15°51.0	41.3	13	15°53.5	30.1	13	15°54.7	16.3	13	15°54.6	18°59.7
14	30°47.3	50.7	14	30°51.1	42.0	14	30°53.5	30.8	14	30°54.7	16.9	14	30°54.5	19°00.3
15	45°47.4	· · 51.5	15	45°51.1	· · 42.7	15	45°53.6	· · 31.4	15	45°54.7	· · 17.5	15	45°54.5	· · 00.9
16	60°47.5	52.2	16	60°51.2	43.4	16	60°53.6	32.1	16	60°54.7	18.2	16	60°54.5	01.5
17	75°47.5	52.9	17	75°51.2	44.1	17	75°53.6	32.8	17	75°54.7	18.8	17	75°54.5	02.0
18	90°47.6	N15°53.7	18	90°51.3	N16°44.8	18	90°53.6	N17°33.4	18	90°54.7	N18°19.4	18	90°54.5	N19°02.6
19	105°47.6	54.4	19	105°51.3	45.5	19	105°53.7	34.1	19	105°54.7	20.0	19	105°54.5	03.2
20	120°47.7	55.1	20	120°51.3	46.2	20	120°53.7	34.7	20	120°54.7	20.6	20	120°54.5	03.8
21	135°47.8	· · 55.8	21	135°51.4	· · 46.9	21	135°53.7	· · 35.4	21	135°54.7	· · 21.3	21	135°54.5	· · 04.4
22	150°47.8	56.6	22	150°51.4	47.6	22	150°53.7	36.0	22	150°54.7	21.9	22	150°54.5	04.9
23	165°47.9	57.3	23	165°51.5	48.2	23	165°53.8	36.7	23	165°54.7	22.5	23	165°54.4	05.5
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		

16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec	28	GHA	Dec
0	180°54.4	N19°06.1	0	180°52.9	N19°46.1	0	180°50.1	N20°23.2	0	180°46.3	N20°57.0	0	180°41.3	N21°27.6
1	195°54.4	06.7	1	195°52.9	46.7	1	195°50.1	23.6	1	195°46.2	57.5	1	195°41.2	28.0
2	210°54.4	07.2	2	210°52.8	47.2	2	210°50.1	24.1	2	210°46.2	57.9	2	210°41.2	28.4
3	225°54.4	· · 07.8	3	225°52.8	· · 47.7	3	225°50.0	· · 24.6	3	225°46.1	· · 58.3	3	225°41.1	· · 28.8
4	240°54.4	08.4	4	240°52.8	48.3	4	240°50.0	25.1	4	240°46.0	58.8	4	240°41.0	29.2
5	255°54.4	09.0	5	255°52.7	48.8	5	255°49.9	25.6	5	255°46.0	59.2	5	255°40.9	29.6
6	270°54.3	N19°09.5	6	270°52.7	N19°49.3	6	270°49.9	N20°26.1	6	270°45.9	N20°59.7	6	270°40.8	N21°30.0
7	285°54.3	10.1	7	285°52.7	49.9	7	285°49.8	26.6	7	285°45.8	21°00.1	7	285°40.8	30.4
8	300°54.3	10.7	8	300°52.6	50.4	8	300°49.8	27.1	8	300°45.8	00.6	8	300°40.7	30.8
9	315°54.3	· · 11.3	9	315°52.6	· · 50.9	9	315°49.7	· · 27.6	9	315°45.7	· · 01.0	9	315°40.6	· · 31.2
10	330°54.3	11.8	10	330°52.6	51.5	10	330°49.7	28.0	10	330°45.6	01.4	10	330°40.5	31.6
11	345°54.3	12.4	11	345°52.5	52.0	11	345°49.6	28.5	11	345°45.6	01.9	11	345°40.5	32.0
12	0°54.3	N19°13.0	12	0°52.5	N19°52.5	12	0°49.6	N20°29.0	12	0°45.5	N21°02.3	12	0°40.4	N21°32.4
13	15°54.2	13.5	13	15°52.5	53.1	13	15°49.5	29.5	13	15°45.5	02.8	13	15°40.3	32.8
14	30°54.2	14.1	14	30°52.4	53.6	14	30°49.5	30.0	14	30°45.4	03.2	14	30°40.2	33.2
15	45°54.2	· · 14.7	15	45°52.4	· · 54.1	15	45°49.4	· · 30.5	15	45°45.3	· · 03.6	15	45°40.1	· · 33.6
16	60°54.2	15.2	16	60°52.4	54.6	16	60°49.4	31.0	16	60°45.3	04.1	16	60°40.1	34.0
17	75°54.2	15.8	17	75°52.3	55.2	17	75°49.3	31.4	17	75°45.2	04.5	17	75°40.0	34.3
18	90°54.2	N19°16.4	18	90°52.3	N19°55.7	18	90°49.3	N20°31.9	18	90°45.1	N21°05.0	18	90°39.9	N21°34.7
19	105°54.1	16.9	19	105°52.3	56.2	19	105°49.2	32.4	19	105°45.1	05.4	19	105°39.8	35.1
20	120°54.1	17.5	20	120°52.2	56.7	20	120°49.2	32.9	20	120°45.0	05.8	20	120°39.7	35.5
21	135°54.1	· · 18.1	21	135°52.2	· · 57.3	21	135°49.1	· · 33.4	21	135°44.9	· · 06.3	21	135°39.7	· · 35.9
22	150°54.1	18.6	22	150°52.2	57.8	22	150°49.1	33.8	22	150°44.9	06.7	22	150°39.6	36.3
23	165°54.1	19.2	23	165°52.1	58.3	23	165°49.0	34.3	23	165°44.8	07.1	23	165°39.5	36.7
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°19.8	0	180°52.1	N19°58.8	0	180°49.0	N20°34.8	0	180°44.7	N21°07.6	0	180°39.4	N21°37.1
1	195°54.0	20.3	1	195°52.1	59.3	1	195°48.9	35.3	1	195°44.7	08.0	1	195°39.3	37.5
2	210°54.0	20.9	2	210°52.0	19°59.9	2	210°48.9	35.7	2	210°44.6	08.4	2	210°39.3	37.8
3	225°54.0	· · 21.5	3	225°52.0	20°00.4	3	225°48.8	· · 36.2	3	225°44.5	· · 08.9	3	225°39.2	· · 38.2
4	240°54.0	22.0	4	240°52.0	00.9	4	240°48.8	36.7	4	240°44.5	09.3	4	240°39.1	38.6
5	255°54.0	22.6	5	255°51.9	01.4	5	255°48.7	37.2	5	255°44.4	09.7	5	255°39.0	39.0
6	270°53.9	N19°23.1	6	270°51.9	N20°01.9	6	270°48.7	N20°37.6	6	270°44.3	N21°10.2	6	270°38.9	N21°39.4
7	285°53.9	23.7	7	285°51.8	02.5	7	285°48.6	38.1	7	285°44.3	10.6	7	285°38.8	39.8
8	300°53.9	24.3	8	300°51.8	03.0	8	300°48.6	38.6	8	300°44.2	11.0	8	300°38.8	40.1
9	315°53.9	· · 24.8	9	315°51.8	· · 03.5	9	315°48.5	· · 39.1	9	315°44.1	· · 11.4	9	315°38.7	· · 40.5
10	330°53.8	25.4	10	330°51.7	04.0	10	330°48.5	39.5	10	330°44.1	11.9	10	330°38.6	40.9
11	345°53.8	25.9	11	345°51.7	04.5	11	345°48.4	40.0	11	345°44.0	12.3	11	345°38.5	41.3
12	0°53.8	N19°26.5	12	0°51.7	N20°05.0	12	0°48.3	N20°40.5	12	0°43.9	N21°12.7	12	0°38.4	N21°41.7
13	15°53.8	27.0	13	15°51.6	05.5	13	15°48.3	40.9	13	15°43.9	13.1	13	15°38.3	42.0
14	30°53.8	27.6	14	30°51.6	06.1	14	30°48.2	41.4	14	30°43.8	13.6	14	30°38.3	42.4
15	45°53.7	· · 28.2	15	45°51.5	· · 06.6	15	45°48.2	· · 41.9	15	45°43.7	· · 14.0	15	45°38.2	· · 42.8
16	60°53.7	28.7	16	60°51.5	07.1	16	60°48.1	42.4	16	60°43.6	14.4	16	60°38.1	43.2
17	75°53.7	29.3	17	75°51.5	07.6	17	75°48.1	42.8	17	75°43.6	14.8	17	75°38.0	43.5
18	90°53.7	N19°29.8	18	90°51.4	N20°08.1	18	90°48.0	N20°43.3	18	90°43.5	N21°15.3	18	90°37.9	N21°43.9
19	105°53.7	30.4	19	105°51.4	08.6	19	105°48.0	43.8	19	105°43.4	15.7	19	105°37.8	44.3
20	120°53.6	30.9	20	120°51.3	09.1	20	120°47.9	44.2	20	120°43.4	16.1	20	120°37.8	44.7
21	135°53.6	· · 31.5	21	135°51.3	· · 09.6	21	135°47.9	· · 44.7	21	135°43.3	· · 16.5	21	135°37.7	· · 45.0
22	150°53.6	32.0	22	150°51.3	10.1	22	150°47.8	45.1	22	150°43.2	16.9	22	150°37.6	45.4
23	165°53.6	32.6	23	165°51.2	10.7	23	165°47.7	45.6	23	165°43.2	17.4	23	165°37.5	45.8
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		

18	GHA	Dec	21	GHA	Dec	24	GHA	Dec	27	GHA	Dec	30	GHA	Dec
0	180°53.5	N19°33.1	0	180°51.2	N20°11.2	0	180°47.7	N20°46.1	0	180°43.1	N21°17.8	0	180°37.4	N21°46.2
1	195°53.5	33.7	1	195°51.1	11.7	1	195°47.6	46.5	1	195°43.0	18.2	1	195°37.3	46.5
2	210°53.5	34.2	2	210°51.1	12.2	2	210°47.6	47.0	2	210°42.9	18.6	2	210°37.2	46.9
3	225°53.5	· · 34.8	3	225°51.1	· · 12.7	3	225°47.5	· · 47.5	3	225°42.9	· · 19.0	3	225°37.2	· · 47.3
4	240°53.4	35.3	4	240°51.0	13.2	4	240°47.5	47.9	4	240°42.8	19.4	4	240°37.1	47.6
5	255°53.4	35.9	5	255°51.0	13.7	5	255°47.4	48.4	5	255°42.7	19.8	5	255°37.0	48.0
6	270°53.4	N19°36.4	6	270°50.9	N20°14.2	6	270°47.3	N20°48.8	6	270°42.6	N21°20.3	6	270°36.9	N21°48.4
7	285°53.4	37.0	7	285°50.9	14.7	7	285°47.3	49.3	7	285°42.6	20.7	7	285°36.8	48.7
8	300°53.3	37.5	8	300°50.9	15.2	8	300°47.2	49.8	8	300°42.5	21.1	8	300°36.7	49.1
9	315°53.3	· · 38.0	9	315°50.8	· · 15.7	9	315°47.2	· · 50.2	9	315°42.4	· · 21.5	9	315°36.6	· · 49.5
10	330°53.3	38.6	10	330°50.8	16.2	10	330°47.1	50.7	10	330°42.4	21.9	10	330°36.5	49.8
11	345°53.2	39.1	11	345°50.7	16.7	11	345°47.1	51.1	11	345°42.3	22.3	11	345°36.5	50.2
12	0°53.2	N19°39.7	12	0°50.7	N20°17.2	12	0°47.0	N20°51.6	12	0°42.2	N21°22.7	12	0°36.4	N21°50.6
13	15°53.2	40.2	13	15°50.6	17.7	13	15°46.9	52.0	13	15°42.1	23.1	13	15°36.3	50.9
14	30°53.2	40.8	14	30°50.6	18.2	14	30°46.9	52.5	14	30°42.1	23.6	14	30°36.2	51.3
15	45°53.1	· · 41.3	15	45°50.6	· · 18.7	15	45°46.8	· · 52.9	15	45°42.0	· · 24.0	15	45°36.1	· · 51.6
16	60°53.1	41.8	16	60°50.5	19.2	16	60°46.8	53.4	16	60°41.9	24.4	16	60°36.0	52.0
17	75°53.1	42.4	17	75°50.5	19.7	17	75°46.7	53.9	17	75°41.8	24.8	17	75°35.9	52.4
18	90°53.1	N19°42.9	18	90°50.4	N20°20.2	18	90°46.6	N20°54.3	18	90°41.8	N21°25.2	18	90°35.8	N21°52.7
19	105°53.0	43.5	19	105°50.4	20.7	19	105°46.6	54.8	19	105°41.7	25.6	19	105°35.7	53.1
20	120°53.0	44.0	20	120°50.3	21.2	20	120°46.5	55.2	20	120°41.6	26.0	20	120°35.7	53.4
21	135°53.0	· · 44.5	21	135°50.3	· · 21.7	21	135°46.5	· · 55.7	21	135°41.5	· · 26.4	21	135°35.6	· · 53.8
22	150°52.9	45.1	22	150°50.2	22.2	22	150°46.4	56.1	22	150°41.5	26.8	22	150°35.5	54.2
23	165°52.9	45.6	23	165°50.2	22.7	23	165°46.3	56.6	23	165°41.4	27.2	23	165°35.4	54.5
SD.=15.8 d=0.5			SD.=15.8 d=0.5			SD.=15.8 d=0.5			SD.=15.8 d=0.4			SD.=15.8 d=0.4		

31	GHA	Dec	03	GHA	Dec	06	GHA	Dec	09	GHA	Dec	12	GHA	Dec
0	180°35.3	N21°54.9	0	180°28.3	N22°18.7	0	180°20.5	N22°39.1	0	180°11.9	N22°55.8	0	180°02.8	N23°09.0
1	195°35.2	55.2	1	195°28.2	19.0	1	195°20.4	39.3	1	195°11.8	56.0	1	195°02.7	09.1
2	210°35.1	55.6	2	210°28.1	19.3	2	210°20.3	39.6	2	210°11.7	56.2	2	210°02.6	09.3
3	225°35.0	· · 55.9	3	225°28.0	· · 19.6	3	225°20.2	· · 39.8	3	225°11.6	· · 56.4	3	225°02.4	· · 09.4
4	240°34.9	56.3	4	240°27.9	19.9	4	240°20.0	40.1	4	240°11.4	56.7	4	240°02.3	09.6
5	255°34.8	56.6	5	255°27.8	20.2	5	255°19.9	40.3	5	255°11.3	56.9	5	255°02.2	09.7
6	270°34.8	N21°57.0	6	270°27.7	N22°20.5	6	270°19.8	N22°40.6	6	270°11.2	N22°57.1	6	270°02.0	N23°09.9
7	285°34.7	57.3	7	285°27.6	20.8	7	285°19.7	40.8	7	285°11.1	57.3	7	285°01.9	10.1
8	300°34.6	57.7	8	300°27.5	21.1	8	300°19.6	41.1	8	300°11.0	57.5	8	300°01.8	10.2
9	315°34.5	· · 58.0	9	315°27.4	· · 21.5	9	315°19.5	· · 41.4	9	315°10.8	· · 57.7	9	315°01.7	· · 10.4
10	330°34.4	58.4	10	330°27.3	21.8	10	330°19.3	41.6	10	330°10.7	57.9	10	330°01.5	10.5
11	345°34.3	58.7	11	345°27.2	22.1	11	345°19.2	41.9	11	345°10.6	58.1	11	345°01.4	10.7
12	0°34.2	N21°59.1	12	0°27.1	N22°22.3	12	0°19.1	N22°42.1	12	0°10.5	N22°58.3	12	0°01.3	N23°10.8
13	15°34.1	59.4	13	15°27.0	22.6	13	15°19.0	42.4	13	15°10.3	58.5	13	15°01.1	11.0
14	30°34.0	21°59.8	14	30°26.9	22.9	14	30°18.9	42.6	14	30°10.2	58.7	14	30°01.0	11.1
15	45°33.9	22°00.1	15	45°26.8	· · 23.2	15	45°18.8	· · 42.8	15	45°10.1	· · 58.9	15	45°00.9	· · 11.2
16	60°33.8	00.5	16	60°26.7	23.5	16	60°18.7	43.1	16	60°10.0	59.1	16	60°00.7	11.4
17	75°33.7	00.8	17	75°26.5	23.8	17	75°18.5	43.3	17	75°09.8	59.3	17	75°00.6	11.5
18	90°33.6	N22°01.2	18	90°26.4	N22°24.1	18	90°18.4	N22°43.6	18	90°09.7	N22°59.5	18	90°00.5	N23°11.7
19	105°33.5	01.5	19	105°26.3	24.4	19	105°18.3	43.8	19	105°09.6	59.7	19	105°00.3	11.8
20	120°33.5	01.8	20	120°26.2	24.7	20	120°18.2	44.1	20	120°09.5	22°59.8	20	120°00.2	12.0
21	135°33.4	· · 02.2	21	135°26.1	· · 25.0	21	135°18.1	· · 44.3	21	135°09.3	23°00.0	21	135°00.1	· · 12.1
22	150°33.3	02.5	22	150°26.0	25.3	22	150°18.0	44.6	22	150°09.2	00.2	22	150°00.0	12.3
23	165°33.2	02.9	23	165°25.9	25.6	23	165°17.8	44.8	23	165°09.1	00.4	23	164°59.8	12.4
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°33.1	N22°03.2	0	180°25.8	N22°25.9	0	180°17.7	N22°45.0	0	180°09.0	N23°00.6	0	179°59.7	N23°12.5
1	195°33.0	03.5	1	195°25.7	26.2	1	195°17.6	45.3	1	195°08.8	00.8	1	194°59.6	12.7
2	210°32.9	03.9	2	210°25.6	26.5	2	210°17.5	45.5	2	210°08.7	01.0	2	209°59.4	12.8
3	225°32.8	· · 04.2	3	225°25.5	· · 26.8	3	225°17.4	· · 45.8	3	225°08.6	· · 01.2	3	224°59.3	· · 13.0
4	240°32.7	04.6	4	240°25.4	27.0	4	240°17.2	46.0	4	240°08.5	01.4	4	239°59.2	13.1
5	255°32.6	04.9	5	255°25.3	27.3	5	255°17.1	46.2	5	255°08.3	01.6	5	254°59.0	13.2
6	270°32.5	N22°05.2	6	270°25.2	N22°27.6	6	270°17.0	N22°46.5	6	270°08.2	N23°01.7	6	269°58.9	N23°13.4
7	285°32.4	05.6	7	285°25.1	27.9	7	285°16.9	46.7	7	285°08.1	01.9	7	284°58.8	13.5
8	300°32.3	05.9	8	300°24.9	28.2	8	300°16.8	47.0	8	300°08.0	02.1	8	299°58.6	13.6
9	315°32.2	· · 06.2	9	315°24.8	· · 28.5	9	315°16.7	· · 47.2	9	315°07.8	· · 02.3	9	314°58.5	· · 13.8
10	330°32.1	06.6	10	330°24.7	28.8	10	330°16.5	47.4	10	330°07.7	02.5	10	329°58.4	13.9
11	345°32.0	06.9	11	345°24.6	29.0	11	345°16.4	47.7	11	345°07.6	02.7	11	344°58.2	14.0
12	0°31.9	N22°07.2	12	0°24.5	N22°29.3	12	0°16.3	N22°47.9	12	0°07.4	N23°02.9	12	359°58.1	N23°14.2
13	15°31.8	07.6	13	15°24.4	29.6	13	15°16.2	48.1	13	15°07.3	03.0	13	14°58.0	14.3
14	30°31.7	07.9	14	30°24.3	29.9	14	30°16.1	48.4	14	30°07.2	03.2	14	29°57.8	14.4
15	45°31.6	· · 08.2	15	45°24.2	· · 30.2	15	45°15.9	· · 48.6	15	45°07.1	· · 03.4	15	44°57.7	· · 14.6
16	60°31.5	08.5	16	60°24.1	30.5	16	60°15.8	48.8	16	60°06.9	03.6	16	59°57.6	14.7
17	75°31.4	08.9	17	75°24.0	30.7	17	75°15.7	49.0	17	75°06.8	03.8	17	74°57.4	14.8
18	90°31.3	N22°09.2	18	90°23.9	N22°31.0	18	90°15.6	N22°49.3	18	90°06.7	N23°03.9	18	89°57.3	N23°14.9
19	105°31.2	09.5	19	105°23.7	31.3	19	105°15.5	49.5	19	105°06.6	04.1	19	104°57.2	15.1
20	120°31.1	09.9	20	120°23.6	31.6	20	120°15.3	49.7	20	120°06.4	04.3	20	119°57.1	15.2
21	135°31.0	· · 10.2	21	135°23.5	· · 31.8	21	135°15.2	· · 50.0	21	135°06.3	· · 04.5	21	134°56.9	· · 15.3
22	150°30.9	10.5	22	150°23.4	32.1	22	150°15.1	50.2	22	150°06.2	04.6	22	149°56.8	15.4
23	165°30.9	10.8	23	165°23.3	32.4	23	165°15.0	50.4	23	165°06.0	04.8	23	164°56.7	15.6
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		

02	GHA	Dec	05	GHA	Dec	08	GHA	Dec	11	GHA	Dec	14	GHA	Dec
0	180°30.8	N22°11.2	0	180°23.2	N22°32.7	0	180°14.9	N22°50.6	0	180°05.9	N23°05.0	0	179°56.5	N23°15.7
1	195°30.7	11.5	1	195°23.1	32.9	1	195°14.7	50.9	1	195°05.8	05.2	1	194°56.4	15.8
2	210°30.6	11.8	2	210°23.0	33.2	2	210°14.6	51.1	2	210°05.7	05.3	2	209°56.3	15.9
3	225°30.5	· · 12.1	3	225°22.9	· · 33.5	3	225°14.5	· · 51.3	3	225°05.5	· · 05.5	3	224°56.1	· · 16.1
4	240°30.4	12.4	4	240°22.7	33.8	4	240°14.4	51.5	4	240°05.4	05.7	4	239°56.0	16.2
5	255°30.3	12.8	5	255°22.6	34.0	5	255°14.3	51.8	5	255°05.3	05.9	5	254°55.9	16.3
6	270°30.2	N22°13.1	6	270°22.5	N22°34.3	6	270°14.1	N22°52.0	6	270°05.2	N23°06.0	6	269°55.7	N23°16.4
7	285°30.1	13.4	7	285°22.4	34.6	7	285°14.0	52.2	7	285°05.0	06.2	7	284°55.6	16.5
8	300°30.0	13.7	8	300°22.3	34.8	8	300°13.9	52.4	8	300°04.9	06.4	8	299°55.5	16.6
9	315°29.9	· · 14.0	9	315°22.2	· · 35.1	9	315°13.8	· · 52.6	9	315°04.8	· · 06.5	9	314°55.3	· · 16.8
10	330°29.8	14.3	10	330°22.1	35.4	10	330°13.7	52.9	10	330°04.6	06.7	10	329°55.2	16.9
11	345°29.7	14.7	11	345°22.0	35.6	11	345°13.5	53.1	11	345°04.5	06.9	11	344°55.1	17.0
12	0°29.6	N22°15.0	12	0°21.9	N22°35.9	12	0°13.4	N22°53.3	12	0°04.4	N23°07.0	12	359°54.9	N23°17.1
13	15°29.5	15.3	13	15°21.7	36.2	13	15°13.3	53.5	13	15°04.2	07.2	13	14°54.8	17.2
14	30°29.3	15.6	14	30°21.6	36.4	14	30°13.2	53.7	14	30°04.1	07.4	14	29°54.7	17.3
15	45°29.2	· · 15.9	15	45°21.5	· · 36.7	15	45°13.0	· · 53.9	15	45°04.0	· · 07.5	15	44°54.5	· · 17.5
16	60°29.1	16.2	16	60°21.4	37.0	16	60°12.9	54.1	16	60°03.9	07.7	16	59°54.4	17.6
17	75°29.0	16.5	17	75°21.3	37.2	17	75°12.8	54.4	17	75°03.7	07.9	17	74°54.3	17.7
18	90°28.9	N22°16.9	18	90°21.2	N22°37.5	18	90°12.7	N22°54.6	18	90°03.6	N23°08.0	18	89°54.1	N23°17.8
19	105°28.8	17.2	19	105°21.1	37.8	19	105°12.6	54.8	19	105°03.5	08.2	19	104°54.0	17.9
20	120°28.7	17.5	20	120°20.9	38.0	20	120°12.4	55.0	20	120°03.3	08.3	20	119°53.9	18.0
21	135°28.6	· · 17.8	21	135°20.8	· · 38.3	21	135°12.3	· · 55.2	21	135°03.2	· · 08.5	21	134°53.7	· · 18.1
22	150°28.5	18.1	22	150°20.7	38.5	22	150°12.2	55.4	22	150°03.1	08.7	22	149°53.6	18.2
23	165°28.4	18.4	23	165°20.6	38.8	23	165°12.1	55.6	23	165°03.0	08.8	23	164°53.5	18.3
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		

15	GHA	Dec	18	GHA	Dec	21	GHA	Dec	24	GHA	Dec	27	GHA	Dec
0	179°53.3	N23°18.4	0	179°43.6	N23°24.2	0	179°33.8	N23°26.2	0	179°24.1	N23°24.6	0	179°14.7	N23°19.2
1	194°53.2	18.5	1	194°43.5	24.3	1	194°33.7	26.2	1	194°24.0	24.5	1	194°14.6	19.1
2	209°53.0	18.7	2	209°43.3	24.3	2	209°33.5	26.2	2	209°23.9	24.5	2	209°14.4	19.0
3	224°52.9	· · 18.8	3	224°43.2	· · 24.4	3	224°33.4	· · 26.2	3	224°23.7	· · 24.4	3	224°14.3	· · 18.9
4	239°52.8	18.9	4	239°43.0	24.4	4	239°33.3	26.2	4	239°23.6	24.4	4	239°14.2	18.8
5	254°52.6	19.0	5	254°42.9	24.5	5	254°33.1	26.2	5	254°23.5	24.3	5	254°14.1	18.7
6	269°52.5	N23°19.1	6	269°42.8	N23°24.5	6	269°33.0	N23°26.2	6	269°23.3	N23°24.2	6	269°13.9	N23°18.6
7	284°52.4	19.2	7	284°42.6	24.6	7	284°32.9	26.2	7	284°23.2	24.2	7	284°13.8	18.4
8	299°52.2	19.3	8	299°42.5	24.6	8	299°32.7	26.2	8	299°23.1	24.1	8	299°13.7	18.3
9	314°52.1	· · 19.4	9	314°42.4	· · 24.7	9	314°32.6	· · 26.2	9	314°22.9	· · 24.1	9	314°13.5	· · 18.2
10	329°52.0	19.5	10	329°42.2	24.7	10	329°32.5	26.2	10	329°22.8	24.0	10	329°13.4	18.1
11	344°51.8	19.6	11	344°42.1	24.8	11	344°32.3	26.2	11	344°22.7	24.0	11	344°13.3	18.0
12	359°51.7	N23°19.7	12	359°42.0	N23°24.8	12	359°32.2	N23°26.2	12	359°22.6	N23°23.9	12	359°13.2	N23°17.9
13	14°51.6	19.8	13	14°41.8	24.8	13	14°32.1	26.2	13	14°22.4	23.9	13	14°13.0	17.8
14	29°51.4	19.9	14	29°41.7	24.9	14	29°31.9	26.2	14	29°22.3	23.8	14	29°12.9	17.7
15	44°51.3	· · 19.9	15	44°41.6	· · 24.9	15	44°31.8	· · 26.2	15	44°22.2	· · 23.7	15	44°12.8	· · 17.6
16	59°51.2	20.0	16	59°41.4	25.0	16	59°31.7	26.2	16	59°22.0	23.7	16	59°12.7	17.5
17	74°51.0	20.1	17	74°41.3	25.0	17	74°31.5	26.2	17	74°21.9	23.6	17	74°12.5	17.4
18	89°50.9	N23°20.2	18	89°41.1	N23°25.1	18	89°31.4	N23°26.2	18	89°21.8	N23°23.6	18	89°12.4	N23°17.2
19	104°50.8	20.3	19	104°41.0	25.1	19	104°31.2	26.2	19	104°21.6	23.5	19	104°12.3	17.1
20	119°50.6	20.4	20	119°40.9	25.1	20	119°31.1	26.1	20	119°21.5	23.4	20	119°12.1	17.0
21	134°50.5	· · 20.5	21	134°40.7	· · 25.2	21	134°31.0	· · 26.1	21	134°21.4	· · 23.4	21	134°12.0	· · 16.9
22	149°50.4	20.6	22	149°40.6	25.2	22	149°30.8	26.1	22	149°21.2	23.3	22	149°11.9	16.8
23	164°50.2	20.7	23	164°40.5	25.3	23	164°30.7	26.1	23	164°21.1	23.2	23	164°11.8	16.7
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		

16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec	28	GHA	Dec
0	179°50.1	N23°20.8	0	179°40.3	N23°25.3	0	179°30.6	N23°26.1	0	179°21.0	N23°23.2	0	179°11.6	N23°16.6
1	194°50.0	20.9	1	194°40.2	25.3	1	194°30.4	26.1	1	194°20.8	23.1	1	194°11.5	16.4
2	209°49.8	21.0	2	209°40.1	25.4	2	209°30.3	26.1	2	209°20.7	23.0	2	209°11.4	16.3
3	224°49.7	· · 21.0	3	224°39.9	· · 25.4	3	224°30.2	· · 26.0	3	224°20.6	· · 23.0	3	224°11.2	· · 16.2
4	239°49.6	21.1	4	239°39.8	25.4	4	239°30.0	26.0	4	239°20.4	22.9	4	239°11.1	16.1
5	254°49.4	21.2	5	254°39.6	25.5	5	254°29.9	26.0	5	254°20.3	22.8	5	254°11.0	16.0
6	269°49.3	N23°21.3	6	269°39.5	N23°25.5	6	269°29.8	N23°26.0	6	269°20.2	N23°22.8	6	269°10.9	N23°15.8
7	284°49.1	21.4	7	284°39.4	25.5	7	284°29.6	26.0	7	284°20.0	22.7	7	284°10.7	15.7
8	299°49.0	21.5	8	299°39.2	25.6	8	299°29.5	26.0	8	299°19.9	22.6	8	299°10.6	15.6
9	314°48.9	· · 21.5	9	314°39.1	· · 25.6	9	314°29.4	· · 25.9	9	314°19.8	· · 22.5	9	314°10.5	· · 15.5
10	329°48.7	21.6	10	329°39.0	25.6	10	329°29.2	25.9	10	329°19.6	22.5	10	329°10.4	15.3
11	344°48.6	21.7	11	344°38.8	25.7	11	344°29.1	25.9	11	344°19.5	22.4	11	344°10.2	15.2
12	359°48.5	N23°21.8	12	359°38.7	N23°25.7	12	359°29.0	N23°25.9	12	359°19.4	N23°22.3	12	359°10.1	N23°15.1
13	14°48.3	21.9	13	14°38.6	25.7	13	14°28.8	25.8	13	14°19.3	22.2	13	14°10.0	15.0
14	29°48.2	21.9	14	29°38.4	25.7	14	29°28.7	25.8	14	29°19.1	22.2	14	29°09.9	14.8
15	44°48.1	· · 22.0	15	44°38.3	· · 25.8	15	44°28.6	· · 25.8	15	44°19.0	· · 22.1	15	44°09.7	· · 14.7
16	59°47.9	22.1	16	59°38.2	25.8	16	59°28.4	25.8	16	59°18.9	22.0	16	59°09.6	14.6
17	74°47.8	22.2	17	74°38.0	25.8	17	74°28.3	25.7	17	74°18.7	21.9	17	74°09.5	14.5
18	89°47.7	N23°22.3	18	89°37.9	N23°25.8	18	89°28.2	N23°25.7	18	89°18.6	N23°21.9	18	89°09.4	N23°14.3
19	104°47.5	22.3	19	104°37.7	25.9	19	104°28.0	25.7	19	104°18.5	21.8	19	104°09.2	14.2
20	119°47.4	22.4	20	119°37.6	25.9	20	119°27.9	25.7	20	119°18.3	21.7	20	119°09.1	14.1
21	134°47.3	· · 22.5	21	134°37.5	· · 25.9	21	134°27.7	· · 25.6	21	134°18.2	· · 21.6	21	134°09.0	· · 13.9
22	149°47.1	22.6	22	149°37.3	25.9	22	149°27.6	25.6	22	149°18.1	21.5	22	149°08.9	13.8
23	164°47.0	22.6	23	164°37.2	26.0	23	164°27.5	25.6	23	164°17.9	21.5	23	164°08.7	13.7
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		

17	GHA	Dec	20	GHA	Dec	23	GHA	Dec	26	GHA	Dec	29	GHA	Dec
0	179°46.8	N23°22.7	0	179°37.1	N23°26.0	0	179°27.3	N23°25.5	0	179°17.8	N23°21.4	0	179°08.6	N23°13.5
1	194°46.7	22.8	1	194°36.9	26.0	1	194°27.2	25.5	1	194°17.7	21.3	1	194°08.5	13.4
2	209°46.6	22.8	2	209°36.8	26.0	2	209°27.1	25.5	2	209°17.6	21.2	2	209°08.4	13.3
3	224°46.4	· · 22.9	3	224°36.7	· · 26.0	3	224°26.9	· · 25.4	3	224°17.4	· · 21.1	3	224°08.2	· · 13.1
4	239°46.3	23.0	4	239°36.5	26.0	4	239°26.8	25.4	4	239°17.3	21.0	4	239°08.1	13.0
5	254°46.2	23.0	5	254°36.4	26.1	5	254°26.7	25.4	5	254°17.2	20.9	5	254°08.0	12.9
6	269°46.0	N23°23.1	6	269°36.3	N23°26.1	6	269°26.5	N23°25.3	6	269°17.0	N23°20.9	6	269°07.9	N23°12.7
7	284°45.9	23.2	7	284°36.1	26.1	7	284°26.4	25.3	7	284°16.9	20.8	7	284°07.7	12.6
8	299°45.8	23.2	8	299°36.0	26.1	8	299°26.3	25.3	8	299°16.8	20.7	8	299°07.6	12.4
9	314°45.6	· · 23.3	9	314°35.8	· · 26.1	9	314°26.1	· · 25.2	9	314°16.6	· · 20.6	9	314°07.5	· · 12.3
10	329°45.5	23.4	10	329°35.7	26.1	10	329°26.0	25.2	10	329°16.5	20.5	10	329°07.4	12.2
11	344°45.4	23.4	11	344°35.6	26.1	11	344°25.9	25.1	11	344°16.4	20.4	11	344°07.2	12.0
12	359°45.2	N23°23.5	12	359°35.4	N23°26.2	12	359°25.7	N23°25.1	12	359°16.3	N23°20.3	12	359°07.1	N23°11.9
13	14°45.1	23.6	13	14°35.3	26.2	13	14°25.6	25.1	13	14°16.1	20.2	13	14°07.0	11.7
14	29°44.9	23.6	14	29°35.2	26.2	14	29°25.5	25.0	14	29°16.0	20.1	14	29°06.9	11.6
15	44°44.8	· · 23.7	15	44°35.0	· · 26.2	15	44°25.3	· · 25.0	15	44°15.9	· · 20.0	15	44°06.7	· · 11.4
16	59°44.7	23.7	16	59°34.9	26.2	16	59°25.2	24.9	16	59°15.7	19.9	16	59°06.6	11.3
17	74°44.5	23.8	17	74°34.8	26.2	17	74°25.1	24.9	17	74°15.6	19.9	17	74°06.5	11.1
18	89°44.4	N23°23.9	18	89°34.6	N23°26.2	18	89°24.9	N23°24.8	18	89°15.5	N23°19.8	18	89°06.4	N23°11.0
19	104°44.3	23.9	19	104°34.5	26.2	19	104°24.8	24.8	19	104°15.3	19.7	19	104°06.2	10.9
20	119°44.1	24.0	20	119°34.4	26.2	20	119°24.7	24.7	20	119°15.2	19.6	20	119°06.1	10.7
21	134°44.0	· · 24.0	21	134°34.2	· · 26.2	21	134°24.5	· · 24.7	21	134°15.1	· · 19.5	21	134°06.0	· · 10.6
22	149°43.9	24.1	22	149°34.1	26.2	22	149°24.4	24.7	22	149°15.0	19.4	22	149°05.9	10.4
23	164°43.7	24.1	23	164°33.9	26.2	23	164°24.3	24.6	23	164°14.8	19.3	23	164°05.7	10.3
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		

30	GHA	Dec	03	GHA	Dec	06	GHA	Dec	09	GHA	Dec	12	GHA	Dec
0	179°05.6	N23°10.1	0	178°57.0	N22°57.4	0	178°49.1	N22°41.1	0	178°41.9	N22°21.2	0	178°35.6	N21°57.9
1	194°05.5	10.0	1	193°56.9	57.2	1	193°49.0	40.8	1	193°41.8	20.9	1	193°35.6	57.5
2	209°05.4	09.8	2	208°56.8	57.0	2	208°48.9	40.6	2	208°41.7	20.6	2	208°35.5	57.2
3	224°05.3	· · 09.6	3	223°56.7	· · 56.8	3	223°48.8	· · 40.3	3	223°41.6	· · 20.3	3	223°35.4	· · 56.8
4	239°05.1	09.5	4	238°56.6	56.6	4	238°48.7	40.1	4	238°41.5	20.0	4	238°35.3	56.5
5	254°05.0	09.3	5	253°56.5	56.4	5	253°48.5	39.8	5	253°41.4	19.7	5	253°35.2	56.1
6	269°04.9	N23°09.2	6	268°56.3	N22°56.2	6	268°48.4	N22°39.6	6	268°41.3	N22°19.4	6	268°35.2	N21°55.8
7	284°04.8	09.0	7	283°56.2	56.0	7	283°48.3	39.3	7	283°41.2	19.1	7	283°35.1	55.4
8	299°04.6	08.9	8	298°56.1	55.8	8	298°48.2	39.0	8	298°41.1	18.8	8	298°35.0	55.1
9	314°04.5	· · 08.7	9	313°56.0	· · 55.5	9	313°48.1	· · 38.8	9	313°41.1	· · 18.5	9	313°34.9	· · 54.7
10	329°04.4	08.6	10	328°55.9	55.3	10	328°48.0	38.5	10	328°41.0	18.2	10	328°34.8	54.4
11	344°04.3	08.4	11	343°55.8	55.1	11	343°47.9	38.3	11	343°40.9	17.9	11	343°34.8	54.0
12	359°04.2	N23°08.2	12	358°55.7	N22°54.9	12	358°47.8	N22°38.0	12	358°40.8	N22°17.6	12	358°34.7	N21°53.7
13	14°04.0	08.1	13	13°55.5	54.7	13	13°47.7	37.7	13	13°40.7	17.3	13	13°34.6	53.3
14	29°03.9	07.9	14	28°55.4	54.5	14	28°47.6	37.5	14	28°40.6	16.9	14	28°34.5	52.9
15	44°03.8	· · 07.8	15	43°55.3	· · 54.3	15	43°47.5	· · 37.2	15	43°40.5	· · 16.6	15	43°34.5	· · 52.6
16	59°03.7	07.6	16	58°55.2	54.1	16	58°47.4	37.0	16	58°40.4	16.3	16	58°34.4	52.2
17	74°03.5	07.4	17	73°55.1	53.9	17	73°47.3	36.7	17	73°40.3	16.0	17	73°34.3	51.9
18	89°03.4	N23°07.3	18	88°55.0	N22°53.6	18	88°47.2	N22°36.4	18	88°40.2	N22°15.7	18	88°34.2	N21°51.5
19	104°03.3	07.1	19	103°54.9	53.4	19	103°47.1	36.2	19	103°40.1	15.4	19	103°34.1	51.2
20	119°03.2	06.9	20	118°54.8	53.2	20	118°47.0	35.9	20	118°40.1	15.1	20	118°34.1	50.8
21	134°03.1	· · 06.8	21	133°54.6	· · 53.0	21	133°46.9	· · 35.6	21	133°40.0	· · 14.8	21	133°34.0	· · 50.4
22	149°02.9	06.6	22	148°54.5	52.8	22	148°46.8	35.4	22	148°39.9	14.4	22	148°33.9	50.1
23	164°02.8	06.4	23	163°54.4	52.6	23	163°46.7	35.1	23	163°39.8	14.1	23	163°33.8	49.7
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=-0.3		

01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec	13	GHA	Dec
0	179°02.7	N23°06.3	0	178°54.3	N22°52.3	0	178°46.6	N22°34.8	0	178°39.7	N22°13.8	0	178°33.8	N21°49.3
1	194°02.6	06.1	1	193°54.2	52.1	1	193°46.5	34.6	1	193°39.6	13.5	1	193°33.7	49.0
2	209°02.5	05.9	2	208°54.1	51.9	2	208°46.4	34.3	2	208°39.5	13.2	2	208°33.6	48.6
3	224°02.3	· · 05.8	3	223°54.0	· · 51.7	3	223°46.3	· · 34.0	3	223°39.4	· · 12.9	3	223°33.5	· · 48.2
4	239°02.2	05.6	4	238°53.9	51.5	4	238°46.2	33.8	4	238°39.3	12.5	4	238°33.5	47.9
5	254°02.1	05.4	5	253°53.7	51.2	5	253°46.1	33.5	5	253°39.3	12.2	5	253°33.4	47.5
6	269°02.0	N23°05.2	6	268°53.6	N22°51.0	6	268°46.0	N22°33.2	6	268°39.2	N22°11.9	6	268°33.3	N21°47.2
7	284°01.9	05.1	7	283°53.5	50.8	7	283°45.9	33.0	7	283°39.1	11.6	7	283°33.3	46.8
8	299°01.7	04.9	8	298°53.4	50.6	8	298°45.8	32.7	8	298°39.0	11.3	8	298°33.2	46.4
9	314°01.6	· · 04.7	9	313°53.3	· · 50.4	9	313°45.7	· · 32.4	9	313°38.9	· · 10.9	9	313°33.1	· · 46.0
10	329°01.5	04.6	10	328°53.2	50.1	10	328°45.6	32.1	10	328°38.8	10.6	10	328°33.0	45.7
11	344°01.4	04.4	11	343°53.1	49.9	11	343°45.5	31.9	11	343°38.7	10.3	11	343°33.0	45.3
12	359°01.3	N23°04.2	12	358°53.0	N22°49.7	12	358°45.4	N22°31.6	12	358°38.6	N22°10.0	12	358°32.9	N21°44.9
13	14°01.1	04.0	13	13°52.9	49.5	13	13°45.3	31.3	13	13°38.5	09.6	13	13°32.8	44.6
14	29°01.0	03.8	14	28°52.7	49.2	14	28°45.2	31.0	14	28°38.5	09.3	14	28°32.7	44.2
15	44°00.9	· · 03.7	15	43°52.6	· · 49.0	15	43°45.1	· · 30.8	15	43°38.4	· · 09.0	15	43°32.7	· · 43.8
16	59°00.8	03.5	16	58°52.5	48.8	16	58°45.0	30.5	16	58°38.3	08.7	16	58°32.6	43.4
17	74°00.7	03.3	17	73°52.4	48.5	17	73°44.9	30.2	17	73°38.2	08.3	17	73°32.5	43.1
18	89°00.5	N23°03.1	18	88°52.3	N22°48.3	18	88°44.8	N22°29.9	18	88°38.1	N22°08.0	18	88°32.5	N21°42.7
19	104°00.4	02.9	19	103°52.2	48.1	19	103°44.7	29.6	19	103°38.0	07.7	19	103°32.4	42.3
20	119°00.3	02.8	20	118°52.1	47.8	20	118°44.6	29.4	20	118°37.9	07.4	20	118°32.3	41.9
21	134°00.2	· · 02.6	21	133°52.0	· · 47.6	21	133°44.5	· · 29.1	21	133°37.9	· · 07.0	21	133°32.2	· · 41.6
22	149°00.1	02.4	22	148°51.9	47.4	22	148°44.4	28.8	22	148°37.8	06.7	22	148°32.2	41.2
23	163°59.9	02.2	23	163°51.8	47.1	23	163°44.3	28.5	23	163°37.7	06.4	23	163°32.1	40.8
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		

02	GHA	Dec	05	GHA	Dec	08	GHA	Dec	11	GHA	Dec	14	GHA	Dec
0	178°59.8	N23°02.0	0	178°51.6	N22°46.9	0	178°44.2	N22°28.2	0	178°37.6	N22°06.0	0	178°32.0	N21°40.4
1	193°59.7	01.8	1	193°51.5	46.7	1	193°44.1	27.9	1	193°37.5	05.7	1	193°32.0	40.1
2	208°59.6	01.7	2	208°51.4	46.4	2	208°44.0	27.7	2	208°37.4	05.4	2	208°31.9	39.7
3	223°59.5	· · 01.5	3	223°51.3	· · 46.2	3	223°43.9	· · 27.4	3	223°37.4	· · 05.0	3	223°31.8	· · 39.3
4	238°59.4	01.3	4	238°51.2	46.0	4	238°43.8	27.1	4	238°37.3	04.7	4	238°31.8	38.9
5	253°59.2	01.1	5	253°51.1	45.7	5	253°43.7	26.8	5	253°37.2	04.4	5	253°31.7	38.5
6	268°59.1	N23°00.9	6	268°51.0	N22°45.5	6	268°43.6	N22°26.5	6	268°37.1	N22°04.0	6	268°31.6	N21°38.1
7	283°59.0	00.7	7	283°50.9	45.2	7	283°43.5	26.2	7	283°37.0	03.7	7	283°31.6	37.8
8	298°58.9	00.5	8	298°50.8	45.0	8	298°43.4	25.9	8	298°36.9	03.4	8	298°31.5	37.4
9	313°58.8	· · 00.3	9	313°50.7	· · 44.8	9	313°43.3	· · 25.6	9	313°36.9	· · 03.0	9	313°31.4	· · 37.0
10	328°58.7	00.1	10	328°50.6	44.5	10	328°43.2	25.3	10	328°36.8	02.7	10	328°31.4	36.6
11	343°58.5	23°00.0	11	343°50.5	44.3	11	343°43.1	25.1	11	343°36.7	02.3	11	343°31.3	36.2
12	358°58.4	N22°59.8	12	358°50.3	N22°44.0	12	358°43.0	N22°24.8	12	358°36.6	N22°02.0	12	358°31.2	N21°35.8
13	13°58.3	59.6	13	13°50.2	43.8	13	13°42.9	24.5	13	13°36.5	01.7	13	13°31.1	35.5
14	28°58.2	59.4	14	28°50.1	43.6	14	28°42.8	24.2	14	28°36.4	01.3	14	28°31.1	35.1
15	43°58.1	· · 59.2	15	43°50.0	· · 43.3	15	43°42.7	· · 23.9	15	43°36.4	· · 01.0	15	43°31.0	· · 34.7
16	58°58.0	59.0	16	58°49.9	43.1	16	58°42.6	23.6	16	58°36.3	00.6	16	58°30.9	34.3
17	73°57.8	58.8	17	73°49.8	42.8	17	73°42.6	23.3	17	73°36.2	00.3	17	73°30.9	33.9
18	88°57.7	N22°58.6	18	88°49.7	N22°42.6	18	88°42.5	N22°23.0	18	88°36.1	N22°00.0	18	88°30.8	N21°33.5
19	103°57.6	58.4	19	103°49.6	42.3	19	103°42.4	22.7	19	103°36.0	21°59.6	19	103°30.8	33.1
20	118°57.5	58.2	20	118°49.5	42.1	20	118°42.3	22.4	20	118°36.0	59.3	20	118°30.7	32.7
21	133°57.4	· · 58.0	21	133°49.4	· · 41.8	21	133°42.2	· · 22.1	21	133°35.9	· · 58.9	21	133°30.6	· · 32.3
22	148°57.3	57.8	22	148°49.3	41.6	22	148°42.1	21.8	22	148°35.8	58.6	22	148°30.6	31.9
23	163°57.1	57.6	23	163°49.2	41.3	23	163°42.0	21.5	23	163°35.7	58.2	23	163°30.5	31.5
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		

15	GHA	Dec	18	GHA	Dec	21	GHA	Dec	24	GHA	Dec	27	GHA	Dec
0	178°30.4	N21°31.2	0	178°26.4	N21°01.1	0	178°23.6	N20°27.9	0	178°22.2	N19°51.6	0	178°22.0	N19°12.4
1	193°30.4	30.8	1	193°26.4	00.7	1	193°23.6	27.4	1	193°22.2	51.1	1	193°22.0	11.8
2	208°30.3	30.4	2	208°26.3	21°00.3	2	208°23.6	27.0	2	208°22.1	50.6	2	208°22.0	11.2
3	223°30.2	· · 30.0	3	223°26.3	20°59.8	3	223°23.5	· · 26.5	3	223°22.1	· · 50.1	3	223°22.0	· · 10.7
4	238°30.2	29.6	4	238°26.2	59.4	4	238°23.5	26.0	4	238°22.1	49.5	4	238°22.0	10.1
5	253°30.1	29.2	5	253°26.2	58.9	5	253°23.5	25.5	5	253°22.1	49.0	5	253°22.1	09.5
6	268°30.0	N21°28.8	6	268°26.1	N20°58.5	6	268°23.5	N20°25.0	6	268°22.1	N19°48.5	6	268°22.1	N19°09.0
7	283°30.0	28.4	7	283°26.1	58.0	7	283°23.4	24.5	7	283°22.1	47.9	7	283°22.1	08.4
8	298°29.9	28.0	8	298°26.0	57.6	8	298°23.4	24.0	8	298°22.1	47.4	8	298°22.1	07.8
9	313°29.9	· · 27.6	9	313°26.0	· · 57.2	9	313°23.4	· · 23.6	9	313°22.1	· · 46.9	9	313°22.1	· · 07.3
10	328°29.8	27.2	10	328°25.9	56.7	10	328°23.3	23.1	10	328°22.1	46.4	10	328°22.1	06.7
11	343°29.7	26.8	11	343°25.9	56.3	11	343°23.3	22.6	11	343°22.1	45.8	11	343°22.1	06.1
12	358°29.7	N21°26.4	12	358°25.8	N20°55.8	12	358°23.3	N20°22.1	12	358°22.0	N19°45.3	12	358°22.1	N19°05.6
13	13°29.6	26.0	13	13°25.8	55.4	13	13°23.3	21.6	13	13°22.0	44.8	13	13°22.1	05.0
14	28°29.5	25.6	14	28°25.8	54.9	14	28°23.2	21.1	14	28°22.0	44.2	14	28°22.1	04.4
15	43°29.5	· · 25.2	15	43°25.7	· · 54.5	15	43°23.2	· · 20.6	15	43°22.0	· · 43.7	15	43°22.2	· · 03.8
16	58°29.4	24.8	16	58°25.7	54.0	16	58°23.2	20.1	16	58°22.0	43.2	16	58°22.2	03.3
17	73°29.4	24.4	17	73°25.6	53.6	17	73°23.2	19.6	17	73°22.0	42.6	17	73°22.2	02.7
18	88°29.3	N21°24.0	18	88°25.6	N20°53.1	18	88°23.1	N20°19.1	18	88°22.0	N19°42.1	18	88°22.2	N19°02.1
19	103°29.2	23.5	19	103°25.5	52.7	19	103°23.1	18.6	19	103°22.0	41.6	19	103°22.2	01.5
20	118°29.2	23.1	20	118°25.5	52.2	20	118°23.1	18.1	20	118°22.0	41.0	20	118°22.2	01.0
21	133°29.1	· · 22.7	21	133°25.5	· · 51.8	21	133°23.1	· · 17.6	21	133°22.0	· · 40.5	21	133°22.2	19°00.4
22	148°29.1	22.3	22	148°25.4	51.3	22	148°23.0	17.2	22	148°22.0	39.9	22	148°22.2	18°59.8
23	163°29.0	21.9	23	163°25.4	50.9	23	163°23.0	16.7	23	163°22.0	39.4	23	163°22.3	59.2
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°28.9	N21°21.5	0	178°25.3	N20°50.4	0	178°23.0	N20°16.2	0	178°22.0	N19°38.9	0	178°22.3	N18°58.6
1	193°28.9	21.1	1	193°25.3	50.0	1	193°23.0	15.7	1	193°22.0	38.3	1	193°22.3	58.1
2	208°28.8	20.7	2	208°25.2	49.5	2	208°22.9	15.2	2	208°22.0	37.8	2	208°22.3	57.5
3	223°28.8	· · 20.3	3	223°25.2	· · 49.0	3	223°22.9	· · 14.7	3	223°22.0	· · 37.3	3	223°22.3	· · 56.9
4	238°28.7	19.9	4	238°25.2	48.6	4	238°22.9	14.2	4	238°21.9	36.7	4	238°22.3	56.3
5	253°28.7	19.5	5	253°25.1	48.1	5	253°22.9	13.7	5	253°21.9	36.2	5	253°22.3	55.7
6	268°28.6	N21°19.0	6	268°25.1	N20°47.7	6	268°22.9	N20°13.2	6	268°21.9	N19°35.6	6	268°22.3	N18°55.2
7	283°28.5	18.6	7	283°25.0	47.2	7	283°22.8	12.7	7	283°21.9	35.1	7	283°22.4	54.6
8	298°28.5	18.2	8	298°25.0	46.8	8	298°22.8	12.2	8	298°21.9	34.5	8	298°22.4	54.0
9	313°28.4	· · 17.8	9	313°25.0	· · 46.3	9	313°22.8	· · 11.7	9	313°21.9	· · 34.0	9	313°22.4	· · 53.4
10	328°28.4	17.4	10	328°24.9	45.8	10	328°22.8	11.2	10	328°21.9	33.5	10	328°22.4	52.8
11	343°28.3	17.0	11	343°24.9	45.4	11	343°22.8	10.7	11	343°21.9	32.9	11	343°22.4	52.3
12	358°28.3	N21°16.6	12	358°24.9	N20°44.9	12	358°22.7	N20°10.2	12	358°21.9	N19°32.4	12	358°22.4	N18°51.7
13	13°28.2	16.1	13	13°24.8	44.5	13	13°22.7	09.6	13	13°21.9	31.8	13	13°22.5	51.1
14	28°28.1	15.7	14	28°24.8	44.0	14	28°22.7	09.1	14	28°21.9	31.3	14	28°22.5	50.5
15	43°28.1	· · 15.3	15	43°24.7	· · 43.5	15	43°22.7	· · 08.6	15	43°21.9	· · 30.7	15	43°22.5	· · 49.9
16	58°28.0	14.9	16	58°24.7	43.1	16	58°22.7	08.1	16	58°21.9	30.2	16	58°22.5	49.3
17	73°28.0	14.5	17	73°24.7	42.6	17	73°22.6	07.6	17	73°21.9	29.6	17	73°22.5	48.7
18	88°27.9	N21°14.0	18	88°24.6	N20°42.1	18	88°22.6	N20°07.1	18	88°21.9	N19°29.1	18	88°22.5	N18°48.1
19	103°27.9	13.6	19	103°24.6	41.7	19	103°22.6	06.6	19	103°21.9	28.5	19	103°22.6	47.6
20	118°27.8	13.2	20	118°24.6	41.2	20	118°22.6	06.1	20	118°21.9	28.0	20	118°22.6	47.0
21	133°27.8	· · 12.8	21	133°24.5	· · 40.7	21	133°22.6	· · 05.6	21	133°21.9	· · 27.4	21	133°22.6	· · 46.4
22	148°27.7	12.3	22	148°24.5	40.3	22	148°22.5	05.1	22	148°21.9	26.9	22	148°22.6	45.8
23	163°27.7	11.9	23	163°24.4	39.8	23	163°22.5	04.6	23	163°21.9	26.3	23	163°22.6	45.2
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		

17	GHA	Dec	20	GHA	Dec	23	GHA	Dec	26	GHA	Dec	29	GHA	Dec
0	178°27.6	N21°11.5	0	178°24.4	N20°39.3	0	178°22.5	N20°04.1	0	178°21.9	N19°25.8	0	178°22.7	N18°44.6
1	193°27.6	11.1	1	193°24.4	38.9	1	193°22.5	03.6	1	193°21.9	25.2	1	193°22.7	44.0
2	208°27.5	10.7	2	208°24.3	38.4	2	208°22.5	03.0	2	208°21.9	24.7	2	208°22.7	43.4
3	223°27.4	· · 10.2	3	223°24.3	· · 37.9	3	223°22.5	· · 02.5	3	223°21.9	· · 24.1	3	223°22.7	· · 42.8
4	238°27.4	09.8	4	238°24.3	37.5	4	238°22.4	02.0	4	238°21.9	23.6	4	238°22.7	42.2
5	253°27.3	09.4	5	253°24.2	37.0	5	253°22.4	01.5	5	253°21.9	23.0	5	253°22.8	41.6
6	268°27.3	N21°08.9	6	268°24.2	N20°36.5	6	268°22.4	N20°01.0	6	268°21.9	N19°22.5	6	268°22.8	N18°41.1
7	283°27.2	08.5	7	283°24.2	36.0	7	283°22.4	00.5	7	283°21.9	21.9	7	283°22.8	40.5
8	298°27.2	08.1	8	298°24.1	35.6	8	298°22.4	20°00.0	8	298°21.9	21.3	8	298°22.8	39.9
9	313°27.1	· · 07.7	9	313°24.1	· · 35.1	9	313°22.4	19°59.4	9	313°21.9	· · 20.8	9	313°22.8	· · 39.3
10	328°27.1	07.2	10	328°24.1	34.6	10	328°22.3	58.9	10	328°21.9	20.2	10	328°22.9	38.7
11	343°27.0	06.8	11	343°24.0	34.1	11	343°22.3	58.4	11	343°21.9	19.7	11	343°22.9	38.1
12	358°27.0	N21°06.4	12	358°24.0	N20°33.7	12	358°22.3	N19°57.9	12	358°22.0	N19°19.1	12	358°22.9	N18°37.5
13	13°26.9	05.9	13	13°24.0	33.2	13	13°22.3	57.4	13	13°22.0	18.6	13	13°22.9	36.9
14	28°26.9	05.5	14	28°23.9	32.7	14	28°22.3	56.9	14	28°22.0	18.0	14	28°23.0	36.3
15	43°26.8	· · 05.1	15	43°23.9	· · 32.2	15	43°22.3	· · 56.3	15	43°22.0	· · 17.4	15	43°23.0	· · 35.7
16	58°26.8	04.6	16	58°23.9	31.8	16	58°22.3	55.8	16	58°22.0	16.9	16	58°23.0	35.1
17	73°26.7	04.2	17	73°23.8	31.3	17	73°22.2	55.3	17	73°22.0	16.3	17	73°23.0	34.5
18	88°26.7	N21°03.8	18	88°23.8	N20°30.8	18	88°22.2	N19°54.8	18	88°22.0	N19°15.8	18	88°23.0	N18°33.9
19	103°26.6	03.3	19	103°23.8	30.3	19	103°22.2	54.2	19	103°22.0	15.2	19	103°23.1	33.3
20	118°26.6	02.9	20	118°23.7	29.8	20	118°22.2	53.7	20	118°22.0	14.6	20	118°23.1	32.7
21	133°26.5	· · 02.5	21	133°23.7	· · 29.4	21	133°22.2	· · 53.2	21	133°22.0	· · 14.1	21	133°23.1	· · 32.1
22	148°26.5	02.0	22	148°23.7	28.9	22	148°22.2	52.7	22	148°22.0	13.5	22	148°23.1	31.5
23	163°26.4	01.6	23	163°23.7	28.4	23	163°22.2	52.2	23	163°22.0	12.9	23	163°23.2	30.9
SD.=15.7 d=-0.4			SD.=15.7 d=-0.5			SD.=15.7 d=-0.5			SD.=15.7 d=-0.6			SD.=15.8 d=-0.6		

30	GHA	Dec	02	GHA	Dec	05	GHA	Dec	08	GHA	Dec	11	GHA	Dec
0	178°23.2	N18°30.3	0	178°25.7	N17°45.4	0	178°29.5	N16°58.0	0	178°34.7	N16°08.0	0	178°41.2	N15°15.8
1	193°23.2	29.7	1	193°25.7	44.8	1	193°29.6	57.3	1	193°34.8	07.3	1	193°41.3	15.0
2	208°23.2	29.1	2	208°25.8	44.1	2	208°29.7	56.6	2	208°34.9	06.6	2	208°41.4	14.3
3	223°23.3	· · 28.4	3	223°25.8	· · 43.5	3	223°29.7	· · 55.9	3	223°34.9	· · 05.9	3	223°41.5	· · 13.5
4	238°23.3	27.8	4	238°25.9	42.8	4	238°29.8	55.2	4	238°35.0	05.2	4	238°41.6	12.8
5	253°23.3	27.2	5	253°25.9	42.2	5	253°29.9	54.6	5	253°35.1	04.5	5	253°41.7	12.0
6	268°23.4	N18°26.6	6	268°26.0	N17°41.6	6	268°29.9	N16°53.9	6	268°35.2	N16°03.8	6	268°41.8	N15°11.3
7	283°23.4	26.0	7	283°26.0	40.9	7	283°30.0	53.2	7	283°35.3	03.0	7	283°41.9	10.6
8	298°23.4	25.4	8	298°26.1	40.3	8	298°30.0	52.5	8	298°35.3	02.3	8	298°42.0	09.8
9	313°23.4	· · 24.8	9	313°26.1	· · 39.6	9	313°30.1	· · 51.8	9	313°35.4	· · 01.6	9	313°42.1	· · 09.1
10	328°23.5	24.2	10	328°26.2	39.0	10	328°30.2	51.2	10	328°35.5	00.9	10	328°42.2	08.3
11	343°23.5	23.6	11	343°26.2	38.3	11	343°30.2	50.5	11	343°35.6	16°00.2	11	343°42.3	07.6
12	358°23.5	N18°23.0	12	358°26.3	N17°37.7	12	358°30.3	N16°49.8	12	358°35.7	N15°59.5	12	358°42.4	N15°06.8
13	13°23.6	22.4	13	13°26.3	37.0	13	13°30.4	49.1	13	13°35.8	58.8	13	13°42.5	06.1
14	28°23.6	21.8	14	28°26.3	36.4	14	28°30.4	48.4	14	28°35.8	58.0	14	28°42.6	05.3
15	43°23.6	· · 21.1	15	43°26.4	· · 35.7	15	43°30.5	· · 47.8	15	43°35.9	· · 57.3	15	43°42.7	· · 04.6
16	58°23.6	20.5	16	58°26.4	35.1	16	58°30.6	47.1	16	58°36.0	56.6	16	58°42.8	03.8
17	73°23.7	19.9	17	73°26.5	34.4	17	73°30.6	46.4	17	73°36.1	55.9	17	73°42.9	03.1
18	88°23.7	N18°19.3	18	88°26.5	N17°33.8	18	88°30.7	N16°45.7	18	88°36.2	N15°55.2	18	88°43.0	N15°02.3
19	103°23.7	18.7	19	103°26.6	33.1	19	103°30.8	45.0	19	103°36.3	54.5	19	103°43.1	01.6
20	118°23.8	18.1	20	118°26.6	32.5	20	118°30.8	44.3	20	118°36.4	53.7	20	118°43.2	00.8
21	133°23.8	· · 17.5	21	133°26.7	· · 31.8	21	133°30.9	· · 43.6	21	133°36.4	· · 53.0	21	133°43.3	15°00.1
22	148°23.8	16.8	22	148°26.7	31.2	22	148°31.0	43.0	22	148°36.5	52.3	22	148°43.4	14°59.3
23	163°23.9	16.2	23	163°26.8	30.5	23	163°31.0	42.3	23	163°36.6	51.6	23	163°43.5	58.6
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°15.6	0	178°26.8	N17°29.9	0	178°31.1	N16°41.6	0	178°36.7	N15°50.9	0	178°43.6	N14°57.8
1	193°23.9	15.0	1	193°26.9	29.2	1	193°31.2	40.9	1	193°36.8	50.1	1	193°43.7	57.1
2	208°24.0	14.4	2	208°26.9	28.6	2	208°31.2	40.2	2	208°36.9	49.4	2	208°43.8	56.3
3	223°24.0	· · 13.8	3	223°27.0	· · 27.9	3	223°31.3	· · 39.5	3	223°37.0	· · 48.7	3	223°43.9	· · 55.6
4	238°24.0	13.1	4	238°27.0	27.3	4	238°31.4	38.8	4	238°37.1	48.0	4	238°44.0	54.8
5	253°24.0	12.5	5	253°27.1	26.6	5	253°31.5	38.1	5	253°37.1	47.2	5	253°44.1	54.1
6	268°24.1	N18°11.9	6	268°27.1	N17°26.0	6	268°31.5	N16°37.4	6	268°37.2	N15°46.5	6	268°44.2	N14°53.3
7	283°24.1	11.3	7	283°27.2	25.3	7	283°31.6	36.8	7	283°37.3	45.8	7	283°44.3	52.6
8	298°24.1	10.7	8	298°27.2	24.6	8	298°31.7	36.1	8	298°37.4	45.1	8	298°44.5	51.8
9	313°24.2	· · 10.0	9	313°27.3	· · 24.0	9	313°31.7	· · 35.4	9	313°37.5	· · 44.3	9	313°44.6	· · 51.1
10	328°24.2	09.4	10	328°27.3	23.3	10	328°31.8	34.7	10	328°37.6	43.6	10	328°44.7	50.3
11	343°24.3	08.8	11	343°27.4	22.7	11	343°31.9	34.0	11	343°37.7	42.9	11	343°44.8	49.5
12	358°24.3	N18°08.2	12	358°27.5	N17°22.0	12	358°31.9	N16°33.3	12	358°37.8	N15°42.2	12	358°44.9	N14°48.8
13	13°24.3	07.6	13	13°27.5	21.3	13	13°32.0	32.6	13	13°37.9	41.4	13	13°45.0	48.0
14	28°24.4	06.9	14	28°27.6	20.7	14	28°32.1	31.9	14	28°37.9	40.7	14	28°45.1	47.3
15	43°24.4	· · 06.3	15	43°27.6	· · 20.0	15	43°32.2	· · 31.2	15	43°38.0	· · 40.0	15	43°45.2	· · 46.5
16	58°24.4	05.7	16	58°27.7	19.4	16	58°32.2	30.5	16	58°38.1	39.3	16	58°45.3	45.8
17	73°24.5	05.1	17	73°27.7	18.7	17	73°32.3	29.8	17	73°38.2	38.5	17	73°45.4	45.0
18	88°24.5	N18°04.4	18	88°27.8	N17°18.0	18	88°32.4	N16°29.1	18	88°38.3	N15°37.8	18	88°45.5	N14°44.2
19	103°24.5	03.8	19	103°27.8	17.4	19	103°32.5	28.4	19	103°38.4	37.1	19	103°45.6	43.5
20	118°24.6	03.2	20	118°27.9	16.7	20	118°32.5	27.7	20	118°38.5	36.3	20	118°45.8	42.7
21	133°24.6	· · 02.5	21	133°27.9	· · 16.1	21	133°32.6	· · 27.0	21	133°38.6	· · 35.6	21	133°45.9	· · 42.0
22	148°24.6	01.9	22	148°28.0	15.4	22	148°32.7	26.3	22	148°38.7	34.9	22	148°46.0	41.2
23	163°24.7	01.3	23	163°28.1	14.7	23	163°32.8	25.6	23	163°38.8	34.2	23	163°46.1	40.4
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		

01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec	13	GHA	Dec
0	178°24.7	N18°00.7	0	178°28.1	N17°14.1	0	178°32.8	N16°24.9	0	178°38.9	N15°33.4	0	178°46.2	N14°39.7
1	193°24.8	18°00.0	1	193°28.2	13.4	1	193°32.9	24.2	1	193°39.0	32.7	1	193°46.3	38.9
2	208°24.8	17°59.4	2	208°28.2	12.7	2	208°33.0	23.5	2	208°39.0	32.0	2	208°46.4	38.2
3	223°24.8	· · 58.8	3	223°28.3	· · 12.1	3	223°33.1	· · 22.8	3	223°39.1	· · 31.2	3	223°46.5	· · 37.4
4	238°24.9	58.1	4	238°28.3	11.4	4	238°33.1	22.1	4	238°39.2	30.5	4	238°46.6	36.6
5	253°24.9	57.5	5	253°28.4	10.7	5	253°33.2	21.4	5	253°39.3	29.8	5	253°46.8	35.9
6	268°25.0	N17°56.9	6	268°28.5	N17°10.1	6	268°33.3	N16°20.7	6	268°39.4	N15°29.0	6	268°46.9	N14°35.1
7	283°25.0	56.2	7	283°28.5	09.4	7	283°33.4	20.0	7	283°39.5	28.3	7	283°47.0	34.3
8	298°25.0	55.6	8	298°28.6	08.7	8	298°33.4	19.3	8	298°39.6	27.6	8	298°47.1	33.6
9	313°25.1	· · 55.0	9	313°28.6	· · 08.1	9	313°33.5	· · 18.6	9	313°39.7	· · 26.8	9	313°47.2	· · 32.8
10	328°25.1	54.3	10	328°28.7	07.4	10	328°33.6	17.9	10	328°39.8	26.1	10	328°47.3	32.0
11	343°25.2	53.7	11	343°28.7	06.7	11	343°33.7	17.2	11	343°39.9	25.4	11	343°47.4	31.3
12	358°25.2	N17°53.1	12	358°28.8	N17°06.0	12	358°33.7	N16°16.5	12	358°40.0	N15°24.6	12	358°47.5	N14°30.5
13	13°25.2	52.4	13	13°28.9	05.4	13	13°33.8	15.8	13	13°40.1	23.9	13	13°47.7	29.7
14	28°25.3	51.8	14	28°28.9	04.7	14	28°33.9	15.1	14	28°40.2	23.1	14	28°47.8	29.0
15	43°25.3	· · 51.2	15	43°29.0	· · 04.0	15	43°34.0	· · 14.4	15	43°40.3	· · 22.4	15	43°47.9	· · 28.2
16	58°25.4	50.5	16	58°29.0	03.4	16	58°34.1	13.7	16	58°40.4	21.7	16	58°48.0	27.4
17	73°25.4	49.9	17	73°29.1	02.7	17	73°34.1	13.0	17	73°40.5	20.9	17	73°48.1	26.7
18	88°25.4	N17°49.3	18	88°29.2	N17°02.0	18	88°34.2	N16°12.3	18	88°40.6	N15°20.2	18	88°48.2	N14°25.9
19	103°25.5	48.6	19	103°29.2	01.3	19	103°34.3	11.6	19	103°40.7	19.5	19	103°48.4	25.1
20	118°25.5	48.0	20	118°29.3	00.7	20	118°34.4	10.9	20	118°40.8	18.7	20	118°48.5	24.4
21	133°25.6	· · 47.3	21	133°29.3	17°00.0	21	133°34.5	· · 10.2	21	133°40.9	· · 18.0	21	133°48.6	· · 23.6
22	148°25.6	46.7	22	148°29.4	16°59.3	22	148°34.5	09.4	22	148°41.0	17.2	22	148°48.7	22.8
23	163°25.7	46.1	23	163°29.5	58.6	23	163°34.6	08.7	23	163°41.1	16.5	23	163°48.8	22.1
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		

14	GHA	Dec	17	GHA	Dec	20	GHA	Dec	23	GHA	Dec	26	GHA	Dec
0	178°48.9	N14°21.3	0	178°58.0	N13°24.8	0	179°08.2	N12°26.4	0	179°19.5	N11°26.2	0	179°31.8	N10°24.4
1	193°49.0	20.5	1	193°58.1	24.0	1	194°08.3	25.6	1	194°19.7	25.4	1	194°32.0	23.6
2	208°49.2	19.7	2	208°58.2	23.2	2	209°08.5	24.7	2	209°19.8	24.5	2	209°32.1	22.7
3	223°49.3	· · 19.0	3	223°58.4	· · 22.4	3	224°08.6	· · 23.9	3	224°20.0	· · 23.7	3	224°32.3	· · 21.8
4	238°49.4	18.2	4	238°58.5	21.6	4	239°08.8	23.1	4	239°20.1	22.8	4	239°32.5	21.0
5	253°49.5	17.4	5	253°58.6	20.8	5	254°08.9	22.3	5	254°20.3	22.0	5	254°32.7	20.1
6	268°49.6	N14°16.7	6	268°58.8	N13°20.0	6	269°09.1	N12°21.4	6	269°20.5	N11°21.1	6	269°32.8	N10°19.2
7	283°49.8	15.9	7	283°58.9	19.2	7	284°09.2	20.6	7	284°20.6	20.3	7	284°33.0	18.3
8	298°49.9	15.1	8	298°59.0	18.4	8	299°09.4	19.8	8	299°20.8	19.4	8	299°33.2	17.5
9	313°50.0	· · 14.3	9	313°59.2	· · 17.6	9	314°09.5	· · 18.9	9	314°21.0	· · 18.6	9	314°33.4	· · 16.6
10	328°50.1	13.6	10	328°59.3	16.8	10	329°09.7	18.1	10	329°21.1	17.7	10	329°33.6	15.7
11	343°50.2	12.8	11	343°59.4	16.0	11	344°09.8	17.3	11	344°21.3	16.9	11	344°33.7	14.9
12	358°50.3	N14°12.0	12	358°59.6	N13°15.2	12	359°10.0	N12°16.5	12	359°21.5	N11°16.0	12	359°33.9	N10°14.0
13	13°50.5	11.2	13	13°59.7	14.4	13	14°10.1	15.6	13	14°21.6	15.2	13	14°34.1	13.1
14	28°50.6	10.5	14	28°59.9	13.6	14	29°10.3	14.8	14	29°21.8	14.3	14	29°34.3	12.2
15	43°50.7	· · 09.7	15	44°00.0	· · 12.8	15	44°10.4	· · 14.0	15	44°22.0	· · 13.5	15	44°34.5	· · 11.4
16	58°50.8	08.9	16	59°00.1	12.0	16	59°10.6	13.2	16	59°22.1	12.6	16	59°34.6	10.5
17	73°51.0	08.1	17	74°00.3	11.2	17	74°10.8	12.3	17	74°22.3	11.8	17	74°34.8	09.6
18	88°51.1	N14°07.4	18	89°00.4	N13°10.4	18	89°10.9	N12°11.5	18	89°22.5	N11°10.9	18	89°35.0	N10°08.7
19	103°51.2	06.6	19	104°00.5	09.5	19	104°11.1	10.7	19	104°22.6	10.1	19	104°35.2	07.9
20	118°51.3	05.8	20	119°00.7	08.7	20	119°11.2	09.8	20	119°22.8	09.2	20	119°35.4	07.0
21	133°51.4	· · 05.0	21	134°00.8	· · 07.9	21	134°11.4	· · 09.0	21	134°23.0	· · 08.4	21	134°35.5	· · 06.1
22	148°51.6	04.2	22	149°01.0	07.1	22	149°11.5	08.2	22	149°23.1	07.5	22	149°35.7	05.3
23	163°51.7	03.5	23	164°01.1	06.3	23	164°11.7	07.3	23	164°23.3	06.7	23	164°35.9	04.4
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°51.8	N14°02.7	0	179°01.2	N13°05.5	0	179°11.8	N12°06.5	0	179°23.5	N11°05.8	0	179°36.1	N10°03.5
1	193°51.9	01.9	1	194°01.4	04.7	1	194°12.0	05.7	1	194°23.7	04.9	1	194°36.3	02.6
2	208°52.0	01.1	2	209°01.5	03.9	2	209°12.1	04.8	2	209°23.8	04.1	2	209°36.4	01.7
3	223°52.2	14°00.3	3	224°01.7	· · 03.1	3	224°12.3	· · 04.0	3	224°24.0	· · 03.2	3	224°36.6	· · 00.9
4	238°52.3	13°59.4	4	239°01.8	02.3	4	239°12.5	03.2	4	239°24.2	02.4	4	239°36.8	10°00.0
5	253°52.4	58.8	5	254°01.9	01.5	5	254°12.6	02.3	5	254°24.3	01.5	5	254°37.0	09°59.1
6	268°52.5	N13°58.0	6	269°02.1	N13°00.7	6	269°12.8	N12°01.5	6	269°24.5	N11°00.7	6	269°37.2	N09°58.2
7	283°52.7	57.2	7	284°02.2	12°59.9	7	284°12.9	12°00.7	7	284°24.7	10°59.8	7	284°37.3	57.4
8	298°52.8	56.4	8	299°02.4	59.1	8	299°13.1	11°59.8	8	299°24.8	58.9	8	299°37.5	56.5
9	313°52.9	· · 55.6	9	314°02.5	· · 58.2	9	314°13.2	· · 59.0	9	314°25.0	· · 58.1	9	314°37.7	· · 55.6
10	328°53.0	54.9	10	329°02.6	57.4	10	329°13.4	58.2	10	329°25.2	57.2	10	329°37.9	54.7
11	343°53.2	54.1	11	344°02.8	56.6	11	344°13.5	57.3	11	344°25.4	56.4	11	344°38.1	53.9
12	358°53.3	N13°53.3	12	359°02.9	N12°55.8	12	359°13.7	N11°56.5	12	359°25.5	N10°55.5	12	359°38.3	N09°53.0
13	13°53.4	52.5	13	14°03.1	55.0	13	14°13.9	55.7	13	14°25.7	54.7	13	14°38.4	52.1
14	28°53.5	51.7	14	29°03.2	54.2	14	29°14.0	54.8	14	29°25.9	53.8	14	29°38.6	51.2
15	43°53.7	· · 50.9	15	44°03.4	· · 53.4	15	44°14.2	· · 54.0	15	44°26.0	· · 52.9	15	44°38.8	· · 50.3
16	58°53.8	50.1	16	59°03.5	52.6	16	59°14.3	53.2	16	59°26.2	52.1	16	59°39.0	49.5
17	73°53.9	49.4	17	74°03.6	51.7	17	74°14.5	52.3	17	74°26.4	51.2	17	74°39.2	48.6
18	88°54.0	N13°48.6	18	89°03.8	N12°50.9	18	89°14.7	N11°51.5	18	89°26.5	N10°50.4	18	89°39.4	N09°47.7
19	103°54.2	47.8	19	104°03.9	50.1	19	104°14.8	50.6	19	104°26.7	49.5	19	104°39.5	46.8
20	118°54.3	47.0	20	119°04.1	49.3	20	119°15.0	49.8	20	119°26.9	48.6	20	119°39.7	45.9
21	133°54.4	· · 46.2	21	134°04.2	· · 48.5	21	134°15.1	· · 49.0	21	134°27.1	· · 47.8	21	134°39.9	· · 45.1
22	148°54.6	45.4	22	149°04.4	47.7	22	149°15.3	48.1	22	149°27.2	46.9	22	149°40.1	44.2
23	163°54.7	44.6	23	164°04.5	46.9	23	164°15.4	47.3	23	164°27.4	46.1	23	164°40.3	43.3
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		

16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec	28	GHA	Dec
0	178°54.8	N13°43.8	0	179°04.6	N12°46.0	0	179°15.6	N11°46.5	0	179°27.6	N10°45.2	0	179°40.5	N09°42.4
1	193°54.9	43.0	1	194°04.8	45.2	1	194°15.8	45.6	1	194°27.8	44.3	1	194°40.6	41.5
2	208°55.1	42.3	2	209°04.9	44.4	2	209°15.9	44.8	2	209°27.9	43.5	2	209°40.8	40.6
3	223°55.2	· · 41.5	3	224°05.1	· · 43.6	3	224°16.1	· · 43.9	3	224°28.1	· · 42.6	3	224°41.0	· · 39.8
4	238°55.3	40.7	4	239°05.2	42.8	4	239°16.2	43.1	4	239°28.3	41.8	4	239°41.2	38.9
5	253°55.5	39.9	5	254°05.4	42.0	5	254°16.4	42.3	5	254°28.4	40.9	5	254°41.4	38.0
6	268°55.6	N13°39.1	6	269°05.5	N12°41.1	6	269°16.6	N11°41.4	6	269°28.6	N10°40.0	6	269°41.6	N09°37.1
7	283°55.7	38.3	7	284°05.7	40.3	7	284°16.7	40.6	7	284°28.8	39.2	7	284°41.8	36.2
8	298°55.8	37.5	8	299°05.8	39.5	8	299°16.9	39.7	8	299°29.0	38.3	8	299°41.9	35.3
9	313°56.0	· · 36.7	9	314°06.0	· · 38.7	9	314°17.1	· · 38.9	9	314°29.1	· · 37.4	9	314°42.1	· · 34.5
10	328°56.1	35.9	10	329°06.1	37.9	10	329°17.2	38.0	10	329°29.3	36.6	10	329°42.3	33.6
11	343°56.2	35.1	11	344°06.3	37.1	11	344°17.4	37.2	11	344°29.5	35.7	11	344°42.5	32.7
12	358°56.4	N13°34.3	12	359°06.4	N12°36.2	12	359°17.5	N11°36.4	12	359°29.7	N10°34.8	12	359°42.7	N09°31.8
13	13°56.5	33.5	13	14°06.5	35.4	13	14°17.7	35.5	13	14°29.8	34.0	13	14°42.9	30.9
14	28°56.6	32.7	14	29°06.7	34.6	14	29°17.9	34.7	14	29°30.0	33.1	14	29°43.1	30.0
15	43°56.8	· · 32.0	15	44°06.8	· · 33.8	15	44°18.0	· · 33.8	15	44°30.2	· · 32.2	15	44°43.2	· · 29.1
16	58°56.9	31.2	16	59°07.0	33.0	16	59°18.2	33.0	16	59°30.4	31.4	16	59°43.4	28.3
17	73°57.0	30.4	17	74°07.1	32.1	17	74°18.3	32.1	17	74°30.5	30.5	17	74°43.6	27.4
18	88°57.2	N13°29.6	18	89°07.3	N12°31.3	18	89°18.5	N11°31.3	18	89°30.7	N10°29.6	18	89°43.8	N09°26.5
19	103°57.3	28.8	19	104°07.4	30.5	19	104°18.7	30.4	19	104°30.9	28.8	19	104°44.0	25.6
20	118°57.4	28.0	20	119°07.6	29.7	20	119°18.8	29.6	20	119°31.1	27.9	20	119°44.2	24.7
21	133°57.6	· · 27.2	21	134°07.7	· · 28.8	21	134°19.0	· · 28.8	21	134°31.3	· · 27.0	21	134°44.4	· · 23.8
22	148°57.7	26.4	22	149°07.9	28.0	22	149°19.2	27.9	22	149°31.4	26.2	22	149°44.6	22.9
23	163°57.8	25.6	23	164°08.0	27.2	23	164°19.3	27.1	23	164°31.6	25.3	23	164°44.7	22.0
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		

29	GHA	Dec	01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec
0	179°44.9	N09°21.2	0	179°58.8	N08°16.5	0	180°13.4	N07°10.7	0	180°28.4	N06°03.8	0	180°43.9	N04°56.0
1	194°45.1	20.3	1	194°59.0	15.6	1	195°13.6	09.8	1	195°28.6	02.9	1	195°44.1	55.0
2	209°45.3	19.4	2	209°59.2	14.7	2	210°13.8	08.8	2	210°28.8	01.9	2	210°44.4	54.1
3	224°45.5	· · 18.5	3	224°59.4	· · 13.8	3	225°14.0	· · 07.9	3	225°29.1	· · 01.0	3	225°44.6	· · 53.1
4	239°45.7	17.6	4	239°59.6	12.9	4	240°14.2	07.0	4	240°29.3	06°00.0	4	240°44.8	52.2
5	254°45.9	16.7	5	254°59.8	12.0	5	255°14.4	06.1	5	255°29.5	05°59.1	5	255°45.0	51.2
6	269°46.1	N09°15.8	6	270°00.0	N08°11.1	6	270°14.6	N07°05.2	6	270°29.7	N05°58.2	6	270°45.2	N04°50.3
7	284°46.2	14.9	7	285°00.2	10.2	7	285°14.8	04.2	7	285°29.9	57.2	7	285°45.4	49.4
8	299°46.4	14.0	8	300°00.4	09.3	8	300°15.0	03.3	8	300°30.1	56.3	8	300°45.7	48.4
9	314°46.6	· · 13.2	9	315°00.6	· · 08.4	9	315°15.2	· · 02.4	9	315°30.3	· · 55.4	9	315°45.9	· · 47.5
10	329°46.8	12.3	10	330°00.8	07.5	10	330°15.4	01.5	10	330°30.5	54.4	10	330°46.1	46.5
11	344°47.0	11.4	11	345°01.0	06.5	11	345°15.6	07°00.5	11	345°30.8	53.5	11	345°46.3	45.6
12	359°47.2	N09°10.5	12	0°01.2	N08°05.6	12	0°15.8	N06°59.6	12	0°31.0	N05°52.6	12	0°46.5	N04°44.6
13	14°47.4	09.6	13	15°01.4	04.7	13	15°16.0	58.7	13	15°31.2	51.6	13	15°46.8	43.7
14	29°47.6	08.7	14	30°01.6	03.8	14	30°16.2	57.8	14	30°31.4	50.7	14	30°47.0	42.7
15	44°47.8	· · 07.8	15	45°01.8	· · 02.9	15	45°16.5	· · 56.8	15	45°31.6	· · 49.7	15	45°47.2	· · 41.8
16	59°48.0	06.9	16	60°02.0	02.0	16	60°16.7	55.9	16	60°31.8	48.8	16	60°47.4	40.8
17	74°48.1	06.0	17	75°02.2	01.1	17	75°16.9	55.0	17	75°32.0	47.9	17	75°47.6	39.9
18	89°48.3	N09°05.1	18	90°02.4	N08°00.2	18	90°17.1	N06°54.1	18	90°32.3	N05°46.9	18	90°47.8	N04°38.9
19	104°48.5	04.2	19	105°02.6	07°59.3	19	105°17.3	53.1	19	105°32.5	46.0	19	105°48.1	38.0
20	119°48.7	03.3	20	120°02.8	58.4	20	120°17.5	52.2	20	120°32.7	45.0	20	120°48.3	37.0
21	134°48.9	· · 02.4	21	135°03.0	· · 57.4	21	135°17.7	· · 51.3	21	135°32.9	· · 44.1	21	135°48.5	· · 36.1
22	149°49.1	01.5	22	150°03.2	56.5	22	150°17.9	50.4	22	150°33.1	43.2	22	150°48.7	35.1
23	164°49.3	00.7	23	165°03.4	55.6	23	165°18.1	49.4	23	165°33.3	42.2	23	165°48.9	34.2
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°49.5	N08°59.8	0	180°03.6	N07°54.7	0	180°18.3	N06°48.5	0	180°33.5	N05°41.3	0	180°49.2	N04°33.2
1	194°49.7	58.9	1	195°03.8	53.8	1	195°18.5	47.6	1	195°33.8	40.3	1	195°49.4	32.3
2	209°49.9	58.0	2	210°04.0	52.9	2	210°18.7	46.6	2	210°34.0	39.4	2	210°49.6	31.3
3	224°50.1	· · 57.1	3	225°04.2	· · 52.0	3	225°18.9	· · 45.7	3	225°34.2	· · 38.5	3	225°49.8	· · 30.4
4	239°50.3	56.2	4	240°04.4	51.1	4	240°19.2	44.8	4	240°34.4	37.5	4	240°50.0	29.4
5	254°50.4	55.3	5	255°04.6	50.1	5	255°19.4	43.9	5	255°34.6	36.6	5	255°50.3	28.5
6	269°50.6	N08°54.4	6	270°04.8	N07°49.2	6	270°19.6	N06°42.9	6	270°34.8	N05°35.6	6	270°50.5	N04°27.5
7	284°50.8	53.5	7	285°05.0	48.3	7	285°19.8	42.0	7	285°35.0	34.7	7	285°50.7	26.6
8	299°51.0	52.6	8	300°05.2	47.4	8	300°20.0	41.1	8	300°35.3	33.8	8	300°50.9	25.6
9	314°51.2	· · 51.7	9	315°05.4	· · 46.5	9	315°20.2	· · 40.2	9	315°35.5	· · 32.8	9	315°51.1	· · 24.6
10	329°51.4	50.8	10	330°05.6	45.6	10	330°20.4	39.2	10	330°35.7	31.9	10	330°51.4	23.7
11	344°51.6	49.9	11	345°05.8	44.7	11	345°20.6	38.3	11	345°35.9	30.9	11	345°51.6	22.7
12	359°51.8	N08°49.0	12	0°06.0	N07°43.8	12	0°20.8	N06°37.4	12	0°36.1	N05°30.0	12	0°51.8	N04°21.8
13	14°52.0	48.1	13	15°06.2	42.8	13	15°21.0	36.4	13	15°36.3	29.1	13	15°52.0	20.8
14	29°52.2	47.2	14	30°06.4	41.9	14	30°21.2	35.5	14	30°36.6	28.1	14	30°52.2	19.9
15	44°52.4	· · 46.3	15	45°06.6	· · 41.0	15	45°21.5	· · 34.6	15	45°36.8	· · 27.2	15	45°52.5	· · 18.9
16	59°52.6	45.4	16	60°06.8	40.1	16	60°21.7	33.6	16	60°37.0	26.2	16	60°52.7	18.0
17	74°52.8	44.5	17	75°07.0	39.2	17	75°21.9	32.7	17	75°37.2	25.3	17	75°52.9	17.0
18	89°53.0	N08°43.6	18	90°07.2	N07°38.3	18	90°22.1	N06°31.8	18	90°37.4	N05°24.3	18	90°53.1	N04°16.1
19	104°53.1	42.7	19	105°07.4	37.3	19	105°22.3	30.9	19	105°37.6	23.4	19	105°53.3	15.1
20	119°53.3	41.8	20	120°07.6	36.4	20	120°22.5	29.9	20	120°37.8	22.5	20	120°53.6	14.2
21	134°53.5	· · 40.9	21	135°07.8	· · 35.5	21	135°22.7	· · 29.0	21	135°38.1	· · 21.5	21	135°53.8	· · 13.2
22	149°53.7	40.0	22	150°08.0	34.6	22	150°22.9	28.1	22	150°38.3	20.6	22	150°54.0	12.3
23	164°53.9	39.1	23	165°08.2	33.7	23	165°23.1	27.1	23	165°38.5	19.6	23	165°54.2	11.3
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		

31	GHA	Dec	03	GHA	Dec	06	GHA	Dec	09	GHA	Dec	12	GHA	Dec
0	179°54.1	N08°38.2	0	180°08.4	N07°32.8	0	180°23.3	N06°26.2	0	180°38.7	N05°18.7	0	180°54.4	N04°10.4
1	194°54.3	37.3	1	195°08.7	31.8	1	195°23.6	25.3	1	195°38.9	17.7	1	195°54.7	09.4
2	209°54.5	36.4	2	210°08.9	30.9	2	210°23.8	24.3	2	210°39.1	16.8	2	210°54.9	08.4
3	224°54.7	· · 35.5	3	225°09.1	· · 30.0	3	225°24.0	· · 23.4	3	225°39.4	· · 15.8	3	225°55.1	· · 07.5
4	239°54.9	34.6	4	240°09.3	29.1	4	240°24.2	22.5	4	240°39.6	14.9	4	240°55.3	06.5
5	254°55.1	33.7	5	255°09.5	28.2	5	255°24.4	21.5	5	255°39.8	14.0	5	255°55.5	05.6
6	269°55.3	N08°32.8	6	270°09.7	N07°27.3	6	270°24.6	N06°20.6	6	270°40.0	N05°13.0	6	270°55.8	N04°04.6
7	284°55.5	31.9	7	285°09.9	26.3	7	285°24.8	19.7	7	285°40.2	12.1	7	285°56.0	03.7
8	299°55.7	31.0	8	300°10.1	25.4	8	300°25.0	18.7	8	300°40.4	11.1	8	300°56.2	02.7
9	314°55.9	· · 30.1	9	315°10.3	· · 24.5	9	315°25.2	· · 17.8	9	315°40.7	· · 10.2	9	315°56.4	· · 01.8
10	329°56.1	29.2	10	330°10.5	23.6	10	330°25.5	16.9	10	330°40.9	09.2	10	330°56.6	04°00.8
11	344°56.3	28.3	11	345°10.7	22.7	11	345°25.7	15.9	11	345°41.1	08.3	11	345°56.9	03°59.9
12	359°56.5	N08°27.4	12	0°10.9	N07°21.7	12	0°25.9	N06°15.0	12	0°41.3	N05°07.3	12	0°57.1	N03°58.9
13	14°56.7	26.5	13	15°11.1	20.8	13	15°26.1	14.1	13	15°41.5	06.4	13	15°57.3	57.9
14	29°56.9	25.6	14	30°11.3	19.9	14	30°26.3	13.1	14	30°41.7	05.4	14	30°57.5	57.0
15	44°57.1	· · 24.7	15	45°11.5	· · 19.0	15	45°26.5	· · 12.2	15	45°42.0	· · 04.5	15	45°57.8	· · 56.0
16	59°57.2	23.8	16	60°11.7	18.1	16	60°26.7	11.3	16	60°42.2	03.6	16	60°58.0	55.1
17	74°57.4	22.9	17	75°11.9	17.1	17	75°26.9	10.3	17	75°42.4	02.6	17	75°58.2	54.1
18	89°57.6	N08°22.0	18	90°12.1	N07°16.2	18	90°27.1	N06°09.4	18	90°42.6	N05°01.7	18	90°58.4	N03°53.2
19	104°57.8	21.1	19	105°12.3	15.3	19	105°27.4	08.5	19	105°42.8	05°00.7	19	105°58.6	52.2
20	119°58.0	20.2	20	120°12.5	14.4	20	120°27.6	07.5	20	120°43.0	04°59.8	20	120°58.9	51.3
21	134°58.2	· · 19.2	21	135°12.7	· · 13.5	21	135°27.8	· · 06.6	21	135°43.3	· · 58.8	21	135°59.1	· · 50.3
22	149°58.4	18.3	22	150°12.9	12.5	22	150°28.0	05.7	22	150°43.5	57.9	22	150°59.3	49.3
23	164°58.6	17.4	23	165°13.2	11.6	23	165°28.2	04.7	23	165°43.7	56.9	23	165°59.5	48.4
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		

13	GHA	Dec	16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec
0	180°59.7	N03°47.4	0	181°15.8	N02°38.3	0	181°31.9	N01°28.7	0	181°48.0	N00°18.8	0	182°03.7	S00°51.2
1	196°00.0	46.5	1	196°16.0	37.3	1	196°32.1	27.7	1	196°48.2	17.8	1	197°04.0	52.2
2	211°00.2	45.5	2	211°16.2	36.4	2	211°32.4	26.8	2	211°48.4	16.9	2	212°04.2	53.2
3	226°00.4	· · 44.6	3	226°16.5	· · 35.4	3	226°32.6	· · 25.8	3	226°48.6	· · 15.9	3	227°04.4	· · 54.2
4	241°00.6	43.6	4	241°16.7	34.4	4	241°32.8	24.8	4	241°48.8	14.9	4	242°04.6	55.1
5	256°00.9	42.6	5	256°16.9	33.5	5	256°33.0	23.8	5	256°49.1	13.9	5	257°04.8	56.1
6	271°01.1	N03°41.7	6	271°17.1	N02°32.5	6	271°33.3	N01°22.9	6	271°49.3	N00°13.0	6	272°05.0	S00°57.1
7	286°01.3	40.7	7	286°17.4	31.5	7	286°33.5	21.9	7	286°49.5	12.0	7	287°05.3	58.0
8	301°01.5	39.8	8	301°17.6	30.6	8	301°33.7	20.9	8	301°49.7	11.0	8	302°05.5	00°59.0
9	316°01.7	· · 38.8	9	316°17.8	· · 29.6	9	316°33.9	· · 20.0	9	316°49.9	· · 10.1	9	317°05.7	01°00.0
10	331°02.0	37.9	10	331°18.0	28.6	10	331°34.1	19.0	10	331°50.2	09.1	10	332°05.9	01.0
11	346°02.2	36.9	11	346°18.3	27.7	11	346°34.4	18.0	11	346°50.4	08.1	11	347°06.1	01.9
12	1°02.4	N03°35.9	12	1°18.5	N02°26.7	12	1°34.6	N01°17.1	12	1°50.6	N00°07.1	12	2°06.3	S01°02.9
13	16°02.6	35.0	13	16°18.7	25.7	13	16°34.8	16.1	13	16°50.8	06.2	13	17°06.6	03.9
14	31°02.9	34.0	14	31°18.9	24.8	14	31°35.0	15.1	14	31°51.0	05.2	14	32°06.8	04.9
15	46°03.1	· · 33.1	15	46°19.1	· · 23.8	15	46°35.3	· · 14.2	15	46°51.3	· · 04.2	15	47°07.0	· · 05.8
16	61°03.3	32.1	16	61°19.4	22.8	16	61°35.5	13.2	16	61°51.5	03.3	16	62°07.2	06.8
17	76°03.5	31.1	17	76°19.6	21.9	17	76°35.7	12.2	17	76°51.7	02.3	17	77°07.4	07.8
18	91°03.7	N03°30.2	18	91°19.8	N02°20.9	18	91°35.9	N01°11.2	18	91°51.9	N00°01.3	18	92°07.6	S01°08.8
19	106°04.0	29.2	19	106°20.0	20.0	19	106°36.2	10.3	19	106°52.1	N00°00.3	19	107°07.9	09.7
20	121°04.2	28.3	20	121°20.3	19.0	20	121°36.4	09.3	20	121°52.4	S00°00.6	20	122°08.1	10.7
21	136°04.4	· · 27.3	21	136°20.5	· · 18.0	21	136°36.6	· · 08.3	21	136°52.6	· · 01.6	21	137°08.3	· · 11.7
22	151°04.6	26.4	22	151°20.7	17.1	22	151°36.8	07.4	22	151°52.8	02.6	22	152°08.5	12.6
23	166°04.9	25.4	23	166°20.9	16.1	23	166°37.1	06.4	23	166°53.0	03.6	23	167°08.7	13.6
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°05.1	N03°24.4	0	181°21.2	N02°15.1	0	181°37.3	N01°05.4	0	181°53.3	S00°04.5	0	182°08.9	S01°14.6
1	196°05.3	23.5	1	196°21.4	14.2	1	196°37.5	04.5	1	196°53.5	05.5	1	197°09.1	15.6
2	211°05.5	22.5	2	211°21.6	13.2	2	211°37.7	03.5	2	211°53.7	06.5	2	212°09.4	16.5
3	226°05.7	· · 21.6	3	226°21.8	· · 12.2	3	226°37.9	· · 02.5	3	226°53.9	· · 07.4	3	227°09.6	· · 17.5
4	241°06.0	20.6	4	241°22.1	11.3	4	241°38.2	01.5	4	241°54.1	08.4	4	242°09.8	18.5
5	256°06.2	19.6	5	256°22.3	10.3	5	256°38.4	01°00.6	5	256°54.4	09.4	5	257°10.0	19.5
6	271°06.4	N03°18.7	6	271°22.5	N02°09.3	6	271°38.6	N00°59.6	6	271°54.6	S00°10.4	6	272°10.2	S01°20.4
7	286°06.6	17.7	7	286°22.7	08.4	7	286°38.8	58.6	7	286°54.8	11.3	7	287°10.4	21.4
8	301°06.9	16.8	8	301°23.0	07.4	8	301°39.1	57.7	8	301°55.0	12.3	8	302°10.7	22.4
9	316°07.1	· · 15.8	9	316°23.2	· · 06.4	9	316°39.3	· · 56.7	9	316°55.2	· · 13.3	9	317°10.9	· · 23.4
10	331°07.3	14.8	10	331°23.4	05.5	10	331°39.5	55.7	10	331°55.5	14.3	10	332°11.1	24.3
11	346°07.5	13.9	11	346°23.6	04.5	11	346°39.7	54.7	11	346°55.7	15.2	11	347°11.3	25.3
12	1°07.8	N03°12.9	12	1°23.9	N02°03.5	12	1°40.0	N00°53.8	12	1°55.9	S00°16.2	12	2°11.5	S01°26.3
13	16°08.0	12.0	13	16°24.1	02.6	13	16°40.2	52.8	13	16°56.1	17.2	13	17°11.7	27.2
14	31°08.2	11.0	14	31°24.3	01.6	14	31°40.4	51.8	14	31°56.3	18.1	14	32°11.9	28.2
15	46°08.4	· · 10.0	15	46°24.5	02°00.6	15	46°40.6	· · 50.9	15	46°56.5	· · 19.1	15	47°12.1	· · 29.2
16	61°08.6	09.1	16	61°24.7	01°59.7	16	61°40.8	49.9	16	61°56.8	20.1	16	62°12.4	30.2
17	76°08.9	08.1	17	76°25.0	58.7	17	76°41.1	48.9	17	76°57.0	21.1	17	77°12.6	31.1
18	91°09.1	N03°07.2	18	91°25.2	N01°57.7	18	91°41.3	N00°48.0	18	91°57.2	S00°22.0	18	92°12.8	S01°32.1
19	106°09.3	06.2	19	106°25.4	56.8	19	106°41.5	47.0	19	106°57.4	23.0	19	107°13.0	33.1
20	121°09.5	05.2	20	121°25.6	55.8	20	121°41.7	46.0	20	121°57.6	24.0	20	122°13.2	34.1
21	136°09.8	· · 04.3	21	136°25.9	· · 54.8	21	136°42.0	· · 45.0	21	136°57.9	· · 25.0	21	137°13.4	· · 35.0
22	151°10.0	03.3	22	151°26.1	53.9	22	151°42.2	44.1	22	151°58.1	25.9	22	152°13.6	36.0
23	166°10.2	02.3	23	166°26.3	52.9	23	166°42.4	43.1	23	166°58.3	26.9	23	167°13.9	37.0
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.=16.0 d=-1.0		

15	GHA	Dec	18	GHA	Dec	21	GHA	Dec	24	GHA	Dec	27	GHA	Dec
0	181°10.4	N03°01.4	0	181°26.5	N01°51.9	0	181°42.6	N00°42.1	0	181°58.5	S00°27.9	0	182°14.1	S01°38.0
1	196°10.7	03°00.4	1	196°26.8	51.0	1	196°42.8	41.2	1	196°58.7	28.9	1	197°14.3	38.9
2	211°10.9	02°59.5	2	211°27.0	50.0	2	211°43.1	40.2	2	211°59.0	29.8	2	212°14.5	39.9
3	226°11.1	· · 58.5	3	226°27.2	· · 49.0	3	226°43.3	· · 39.2	3	226°59.2	· · 30.8	3	227°14.7	· · 40.9
4	241°11.3	57.5	4	241°27.4	48.1	4	241°43.5	38.2	4	241°59.4	31.8	4	242°14.9	41.8
5	256°11.5	56.6	5	256°27.7	47.1	5	256°43.7	37.3	5	256°59.6	32.7	5	257°15.1	42.8
6	271°11.8	N02°55.6	6	271°27.9	N01°46.1	6	271°44.0	N00°36.3	6	271°59.8	S00°33.7	6	272°15.3	S01°43.8
7	286°12.0	54.7	7	286°28.1	45.2	7	286°44.2	35.3	7	287°00.0	34.7	7	287°15.6	44.8
8	301°12.2	53.7	8	301°28.3	44.2	8	301°44.4	34.4	8	302°00.3	35.7	8	302°15.8	45.7
9	316°12.4	· · 52.7	9	316°28.6	· · 43.2	9	316°44.6	· · 33.4	9	317°00.5	· · 36.6	9	317°16.0	· · 46.7
10	331°12.7	51.8	10	331°28.8	42.2	10	331°44.8	32.4	10	332°00.7	37.6	10	332°16.2	47.7
11	346°12.9	50.8	11	346°29.0	41.3	11	346°45.1	31.4	11	347°00.9	38.6	11	347°16.4	48.7
12	1°13.1	N02°49.8	12	1°29.2	N01°40.3	12	1°45.3	N00°30.5	12	2°01.1	S00°39.6	12	2°16.6	S01°49.6
13	16°13.3	48.9	13	16°29.4	39.3	13	16°45.5	29.5	13	17°01.4	40.5	13	17°16.8	50.6
14	31°13.6	47.9	14	31°29.7	38.4	14	31°45.7	28.5	14	32°01.6	41.5	14	32°17.0	51.6
15	46°13.8	· · 47.0	15	46°29.9	· · 37.4	15	46°46.0	· · 27.6	15	47°01.8	· · 42.5	15	47°17.3	· · 52.5
16	61°14.0	46.0	16	61°30.1	36.4	16	61°46.2	26.6	16	62°02.0	43.5	16	62°17.5	53.5
17	76°14.2	45.0	17	76°30.3	35.5	17	76°46.4	25.6	17	77°02.2	44.4	17	77°17.7	54.5
18	91°14.4	N02°44.1	18	91°30.6	N01°34.5	18	91°46.6	N00°24.6	18	92°02.4	S00°45.4	18	92°17.9	S01°55.5
19	106°14.7	43.1	19	106°30.8	33.5	19	106°46.8	23.7	19	107°02.7	46.4	19	107°18.1	56.4
20	121°14.9	42.1	20	121°31.0	32.6	20	121°47.1	22.7	20	122°02.9	47.3	20	122°18.3	57.4
21	136°15.1	· · 41.2	21	136°31.2	· · 31.6	21	136°47.3	· · 21.7	21	137°03.1	· · 48.3	21	137°18.5	· · 58.4
22	151°15.3	40.2	22	151°31.5	30.6	22	151°47.5	20.8	22	152°03.3	49.3	22	152°18.7	01°59.4
23	166°15.6	39.2	23	166°31.7	29.7	23	166°47.7	19.8	23	167°03.5	50.3	23	167°18.9	02°00.3
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.=16.0 d=-1.0		

28	GHA	Dec	01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec
0	182°19.1	S02°01.3	0	182°34.0	S03°11.2	0	182°48.2	S04°20.9	0	183°01.6	S05°30.0	0	183°14.0	S06°38.6
1	197°19.4	02.3	1	197°34.2	12.2	1	197°48.4	21.8	1	198°01.7	31.0	1	198°14.2	39.5
2	212°19.6	03.2	2	212°34.4	13.2	2	212°48.6	22.8	2	213°01.9	31.9	2	213°14.4	40.5
3	227°19.8	· · 04.2	3	227°34.6	· · 14.1	3	227°48.8	· · 23.7	3	228°02.1	· · 32.9	3	228°14.5	· · 41.4
4	242°20.0	05.2	4	242°34.8	15.1	4	242°48.9	24.7	4	243°02.3	33.9	4	243°14.7	42.4
5	257°20.2	06.2	5	257°35.0	16.1	5	257°49.1	25.7	5	258°02.5	34.8	5	258°14.9	43.3
6	272°20.4	S02°07.1	6	272°35.2	S03°17.0	6	272°49.3	S04°26.6	6	273°02.6	S05°35.8	6	273°15.0	S06°44.3
7	287°20.6	08.1	7	287°35.4	18.0	7	287°49.5	27.6	7	288°02.8	36.7	7	288°15.2	45.2
8	302°20.8	09.1	8	302°35.6	19.0	8	302°49.7	28.6	8	303°03.0	37.7	8	303°15.3	46.1
9	317°21.0	· · 10.0	9	317°35.8	· · 19.9	9	317°49.9	· · 29.5	9	318°03.2	· · 38.6	9	318°15.5	· · 47.1
10	332°21.2	11.0	10	332°36.0	20.9	10	332°50.1	30.5	10	333°03.3	39.6	10	333°15.7	48.0
11	347°21.5	12.0	11	347°36.2	21.9	11	347°50.3	31.5	11	348°03.5	40.5	11	348°15.8	49.0
12	2°21.7	S02°13.0	12	2°36.4	S03°22.9	12	2°50.5	S04°32.4	12	3°03.7	S05°41.5	12	3°16.0	S06°49.9
13	17°21.9	13.9	13	17°36.6	23.8	13	17°50.7	33.4	13	18°03.9	42.5	13	18°16.2	50.9
14	32°22.1	14.9	14	32°36.8	24.8	14	32°50.9	34.3	14	33°04.1	43.4	14	33°16.3	51.8
15	47°22.3	· · 15.9	15	47°37.0	· · 25.8	15	47°51.0	· · 35.3	15	48°04.2	· · 44.4	15	48°16.5	· · 52.8
16	62°22.5	16.9	16	62°37.2	26.7	16	62°51.2	36.3	16	63°04.4	45.3	16	63°16.7	53.7
17	77°22.7	17.8	17	77°37.4	27.7	17	77°51.4	37.2	17	78°04.6	46.3	17	78°16.8	54.6
18	92°22.9	S02°18.8	18	92°37.6	S03°28.7	18	92°51.6	S04°38.2	18	93°04.8	S05°47.2	18	93°17.0	S06°55.6
19	107°23.1	19.8	19	107°37.8	29.6	19	107°51.8	39.2	19	108°04.9	48.2	19	108°17.1	56.5
20	122°23.3	20.7	20	122°38.0	30.6	20	122°52.0	40.1	20	123°05.1	49.1	20	123°17.3	57.5
21	137°23.5	· · 21.7	21	137°38.2	· · 31.6	21	137°52.2	· · 41.1	21	138°05.3	· · 50.1	21	138°17.5	· · 58.4
22	152°23.8	22.7	22	152°38.4	32.5	22	152°52.4	42.0	22	153°05.5	51.0	22	153°17.6	06°59.4
23	167°24.0	23.7	23	167°38.6	33.5	23	167°52.5	43.0	23	168°05.6	52.0	23	168°17.8	07°00.3
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°24.2	S02°24.6	0	182°38.8	S03°34.5	0	182°52.7	S04°44.0	0	183°05.8	S05°53.0	0	183°18.0	S07°01.3
1	197°24.4	25.6	1	197°39.0	35.4	1	197°52.9	44.9	1	198°06.0	53.9	1	198°18.1	02.2
2	212°24.6	26.6	2	212°39.2	36.4	2	212°53.1	45.9	2	213°06.2	54.9	2	213°18.3	03.1
3	227°24.8	· · 27.5	3	227°39.4	· · 37.4	3	227°53.3	· · 46.9	3	228°06.3	· · 55.8	3	228°18.4	· · 04.1
4	242°25.0	28.5	4	242°39.6	38.4	4	242°53.5	47.8	4	243°06.5	56.8	4	243°18.6	05.0
5	257°25.2	29.5	5	257°39.8	39.3	5	257°53.7	48.8	5	258°06.7	57.7	5	258°18.8	06.0
6	272°25.4	S02°30.5	6	272°40.0	S03°40.3	6	272°53.9	S04°49.7	6	273°06.9	S05°58.7	6	273°18.9	S07°06.9
7	287°25.6	31.4	7	287°40.2	41.2	7	287°54.0	50.7	7	288°07.0	05°59.6	7	288°19.1	07.8
8	302°25.8	32.4	8	302°40.4	42.2	8	302°54.2	50.7	8	303°07.2	06°00.6	8	303°19.2	08.8
9	317°26.0	· · 33.4	9	317°40.6	· · 43.2	9	317°54.4	· · 52.6	9	318°07.4	· · 01.5	9	318°19.4	· · 09.7
10	332°26.2	34.3	10	332°40.8	44.2	10	332°54.6	53.6	10	333°07.6	02.5	10	333°19.6	10.7
11	347°26.4	35.3	11	347°41.0	45.1	11	347°54.8	54.6	11	348°07.7	03.4	11	348°19.7	11.6
12	2°26.7	S02°36.3	12	2°41.2	S03°46.1	12	2°55.0	S04°55.5	12	3°07.9	S06°04.4	12	3°19.9	S07°12.6
13	17°26.9	37.3	13	17°41.4	47.1	13	17°55.2	56.5	13	18°08.1	05.3	13	18°20.0	13.5
14	32°27.1	38.2	14	32°41.6	48.0	14	32°55.4	57.4	14	33°08.3	06.3	14	33°20.2	14.4
15	47°27.3	· · 39.2	15	47°41.8	· · 49.0	15	47°55.5	· · 58.4	15	48°08.4	· · 07.2	15	48°20.4	· · 15.4
16	62°27.5	40.2	16	62°42.0	50.0	16	62°55.7	04°59.4	16	63°08.6	08.2	16	63°20.5	16.3
17	77°27.7	41.1	17	77°42.2	50.9	17	77°55.9	05°00.3	17	78°08.8	09.2	17	78°20.7	17.3
18	92°27.9	S02°42.1	18	92°42.4	S03°51.9	18	92°56.1	S05°01.3	18	93°08.9	S06°10.1	18	93°20.8	S07°18.2
19	107°28.1	43.1	19	107°42.6	52.9	19	107°56.3	02.2	19	108°09.1	11.1	19	108°21.0	19.1
20	122°28.3	44.1	20	122°42.8	53.8	20	122°56.5	03.2	20	123°09.3	12.0	20	123°21.1	20.1
21	137°28.5	· · 45.0	21	137°43.0	· · 54.8	21	137°56.6	· · 04.2	21	138°09.5	· · 13.0	21	138°21.3	· · 21.0
22	152°28.7	46.0	22	152°43.2	55.8	22	152°56.8	05.1	22	153°09.6	13.9	22	153°21.5	22.0
23	167°28.9	47.0	23	167°43.3	56.7	23	167°57.0	06.1	23	168°09.8	14.9	23	168°21.6	22.9
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		

30	GHA	Dec	03	GHA	Dec	06	GHA	Dec	09	GHA	Dec	12	GHA	Dec
0	182°29.1	S02°47.9	0	182°43.5	S03°57.7	0	182°57.2	S05°07.0	0	183°10.0	S06°15.8	0	183°21.8	S07°23.8
1	197°29.3	48.9	1	197°43.7	58.7	1	197°57.4	08.0	1	198°10.1	16.8	1	198°21.9	24.8
2	212°29.5	49.9	2	212°43.9	03°59.6	2	212°57.6	09.0	2	213°10.3	17.7	2	213°22.1	25.7
3	227°29.7	· · 50.8	3	227°44.1	04°00.6	3	227°57.7	· · 09.9	3	228°10.5	· · 18.7	3	228°22.2	· · 26.6
4	242°29.9	51.8	4	242°44.3	01.6	4	242°57.9	10.9	4	243°10.7	19.6	4	243°22.4	27.6
5	257°30.1	52.8	5	257°44.5	02.5	5	257°58.1	11.8	5	258°10.8	20.6	5	258°22.6	28.5
6	272°30.4	S02°53.8	6	272°44.7	S04°03.5	6	272°58.3	S05°12.8	6	273°11.0	S06°21.5	6	273°22.7	S07°29.5
7	287°30.6	54.7	7	287°44.9	04.4	7	287°58.5	13.7	7	288°11.2	22.5	7	288°22.9	30.4
8	302°30.8	55.7	8	302°45.1	05.4	8	302°58.7	14.7	8	303°11.3	23.4	8	303°23.0	31.3
9	317°31.0	· · 56.7	9	317°45.3	· · 06.4	9	317°58.8	· · 15.7	9	318°11.5	· · 24.4	9	318°23.2	· · 32.3
10	332°31.2	57.6	10	332°45.5	07.3	10	332°59.0	16.6	10	333°11.7	25.3	10	333°23.3	33.2
11	347°31.4	58.6	11	347°45.7	08.3	11	347°59.2	17.6	11	348°11.8	26.3	11	348°23.5	34.1
12	2°31.6	S02°59.6	12	2°45.9	S04°09.3	12	2°59.4	S05°18.5	12	3°12.0	S06°27.2	12	3°23.6	S07°35.1
13	17°31.8	03°00.6	13	17°46.1	10.2	13	17°59.6	19.5	13	18°12.2	28.2	13	18°23.8	36.0
14	32°32.0	01.5	14	32°46.3	11.2	14	32°59.8	20.5	14	33°12.3	29.1	14	33°23.9	37.0
15	47°32.2	· · 02.5	15	47°46.5	· · 12.2	15	47°59.9	· · 21.4	15	48°12.5	· · 30.0	15	48°24.1	· · 37.9
16	62°32.4	03.5	16	62°46.6	13.1	16	63°00.1	22.4	16	63°12.7	31.0	16	63°24.3	38.8
17	77°32.6	04.4	17	77°46.8	14.1	17	78°00.3	23.3	17	78°12.9	31.9	17	78°24.4	39.8
18	92°32.8	S03°05.4	18	92°47.0	S04°15.1	18	93°00.5	S05°24.3	18	93°13.0	S06°32.9	18	93°24.6	S07°40.7
19	107°33.0	06.4	19	107°47.2	16.0	19	108°00.7	25.2	19	108°13.2	33.8	19	108°24.7	41.6
20	122°33.2	07.3	20	122°47.4	17.0	20	123°00.8	26.2	20	123°13.4	34.8	20	123°24.9	42.6
21	137°33.4	· · 08.3	21	137°47.6	· · 18.0	21	138°01.0	· · 27.2	21	138°13.5	· · 35.7	21	138°25.0	· · 43.5
22	152°33.6	09.3	22	152°47.8	18.9	22	153°01.2	28.1	22	153°13.7	36.7	22	153°25.2	44.4
23	167°33.8	10.3	23	167°48.0	19.9	23	168°01.4	29.1	23	168°13.9	37.6	23	168°25.3	45.4
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		

13	GHA	Dec	16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec
0	183°25.5	S07°46.3	0	183°35.8	S08°53.1	0	183°44.8	S09°58.7	0	183°52.5	S11°02.9	0	183°58.6	S12°05.7
1	198°25.6	47.2	1	198°35.9	54.0	1	198°45.0	09°59.6	1	198°52.6	03.8	1	198°58.7	06.6
2	213°25.8	48.2	2	213°36.1	54.9	2	213°45.1	10°00.5	2	213°52.7	04.7	2	213°58.8	07.4
3	228°25.9	· · 49.1	3	228°36.2	· · 55.8	3	228°45.2	· · 01.4	3	228°52.8	· · 05.6	3	228°58.8	· · 08.3
4	243°26.1	50.0	4	243°36.3	56.7	4	243°45.3	02.3	4	243°52.9	06.5	4	243°58.9	09.2
5	258°26.2	51.0	5	258°36.5	57.7	5	258°45.4	03.2	5	258°53.0	07.3	5	258°59.0	10.0
6	273°26.4	S07°51.9	6	273°36.6	S08°58.6	6	273°45.5	S10°04.1	6	273°53.1	S11°08.2	6	273°59.1	S12°10.9
7	288°26.5	52.8	7	288°36.7	08°59.5	7	288°45.6	05.0	7	288°53.2	09.1	7	288°59.1	11.7
8	303°26.7	53.8	8	303°36.9	09°00.4	8	303°45.8	05.9	8	303°53.2	10.0	8	303°59.2	12.6
9	318°26.8	· · 54.7	9	318°37.0	· · 01.3	9	318°45.9	· · 06.8	9	318°53.3	· · 10.9	9	318°59.3	· · 13.5
10	333°27.0	55.6	10	333°37.1	02.2	10	333°46.0	07.7	10	333°53.4	11.7	10	333°59.3	14.3
11	348°27.1	56.6	11	348°37.3	03.2	11	348°46.1	08.6	11	348°53.5	12.6	11	348°59.4	15.2
12	3°27.3	S07°57.5	12	3°37.4	S09°04.1	12	3°46.2	S10°09.5	12	3°53.6	S11°13.5	12	3°59.5	S12°16.0
13	18°27.4	58.4	13	18°37.5	05.0	13	18°46.3	10.4	13	18°53.7	14.4	13	18°59.6	16.9
14	33°27.6	07°59.4	14	33°37.6	05.9	14	33°46.4	11.3	14	33°53.8	15.3	14	33°59.6	17.7
15	48°27.7	08°00.3	15	48°37.8	· · 06.8	15	48°46.5	· · 12.2	15	48°53.9	· · 16.1	15	48°59.7	· · 18.6
16	63°27.9	01.2	16	63°37.9	07.7	16	63°46.7	13.1	16	63°54.0	17.0	16	63°59.8	19.5
17	78°28.0	02.2	17	78°38.0	08.7	17	78°46.8	14.0	17	78°54.1	17.9	17	78°59.8	20.3
18	93°28.2	S08°03.1	18	93°38.2	S09°09.6	18	93°46.9	S10°14.9	18	93°54.2	S11°18.8	18	93°59.9	S12°21.2
19	108°28.3	04.0	19	108°38.3	10.5	19	108°47.0	15.7	19	108°54.3	19.7	19	109°00.0	22.0
20	123°28.5	05.0	20	123°38.4	11.4	20	123°47.1	16.6	20	123°54.3	20.5	20	124°00.0	22.9
21	138°28.6	· · 05.9	21	138°38.6	· · 12.3	21	138°47.2	· · 17.5	21	138°54.4	· · 21.4	21	139°00.1	· · 23.7
22	153°28.7	06.8	22	153°38.7	13.2	22	153°47.3	18.4	22	153°54.5	22.3	22	154°00.2	24.6
23	168°28.9	07.7	23	168°38.8	14.1	23	168°47.4	19.3	23	168°54.6	23.2	23	169°00.2	25.4
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°29.0	S08°08.7	0	183°38.9	S09°15.1	0	183°47.5	S10°20.2	0	183°54.7	S11°24.0	0	184°00.3	S12°26.3
1	198°29.2	09.6	1	198°39.1	16.0	1	198°47.7	21.1	1	198°54.8	24.9	1	199°00.4	27.2
2	213°29.3	10.5	2	213°39.2	16.9	2	213°47.8	22.0	2	213°54.9	25.8	2	214°00.4	28.0
3	228°29.5	· · 11.5	3	228°39.3	· · 17.8	3	228°47.9	· · 22.9	3	228°55.0	· · 26.7	3	229°00.5	· · 28.9
4	243°29.6	12.4	4	243°39.5	18.7	4	243°48.0	23.8	4	243°55.1	27.5	4	244°00.6	29.7
5	258°29.8	13.3	5	258°39.6	19.6	5	258°48.1	24.7	5	258°55.1	28.4	5	259°00.6	30.6
6	273°29.9	S08°14.3	6	273°39.7	S09°20.5	6	273°48.2	S10°25.6	6	273°55.2	S11°29.3	6	274°00.7	S12°31.4
7	288°30.1	15.2	7	288°39.8	21.5	7	288°48.3	26.5	7	288°55.3	30.2	7	289°00.8	32.3
8	303°30.2	16.1	8	303°40.0	22.4	8	303°48.4	27.4	8	303°55.4	31.0	8	304°00.8	33.1
9	318°30.3	· · 17.0	9	318°40.1	· · 23.3	9	318°48.5	· · 28.3	9	318°55.5	· · 31.9	9	319°00.9	· · 34.0
10	333°30.5	18.0	10	333°40.2	24.2	10	333°48.6	29.2	10	333°55.6	32.8	10	334°00.9	34.8
11	348°30.6	18.9	11	348°40.3	25.1	11	348°48.7	30.1	11	348°55.7	33.6	11	349°01.0	35.7
12	3°30.8	S08°19.8	12	3°40.5	S09°26.0	12	3°48.8	S10°31.0	12	3°55.7	S11°34.5	12	4°01.1	S12°36.5
13	18°30.9	20.7	13	18°40.6	26.9	13	18°49.0	31.9	13	18°55.8	35.4	13	19°01.1	37.4
14	33°31.1	21.7	14	33°40.7	27.8	14	33°49.1	32.8	14	33°55.9	36.3	14	34°01.2	38.2
15	48°31.2	· · 22.6	15	48°40.9	· · 28.7	15	48°49.2	· · 33.6	15	48°56.0	· · 37.1	15	49°01.3	· · 39.1
16	63°31.3	23.5	16	63°41.0	29.7	16	63°49.3	34.5	16	63°56.1	38.0	16	64°01.3	39.9
17	78°31.5	24.5	17	78°41.1	30.6	17	78°49.4	35.4	17	78°56.2	38.9	17	79°01.4	40.8
18	93°31.6	S08°25.4	18	93°41.2	S09°31.5	18	93°49.5	S10°36.3	18	93°56.3	S11°39.8	18	94°01.4	S12°41.6
19	108°31.8	26.3	19	108°41.3	32.4	19	108°49.6	37.2	19	108°56.3	40.6	19	109°01.5	42.5
20	123°31.9	27.2	20	123°41.5	33.3	20	123°49.7	38.1	20	123°56.4	41.5	20	124°01.6	43.3
21	138°32.1	· · 28.2	21	138°41.6	· · 34.2	21	138°49.8	· · 39.0	21	138°56.5	· · 42.4	21	139°01.6	· · 44.1
22	153°32.2	29.1	22	153°41.7	35.1	22	153°49.9	39.9	22	153°56.6	43.2	22	154°01.7	45.0
23	168°32.3	30.0	23	168°41.8	36.0	23	168°50.0	40.8	23	168°56.7	44.1	23	169°01.7	45.8
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		

15	GHA	Dec	18	GHA	Dec	21	GHA	Dec	24	GHA	Dec	27	GHA	Dec
0	183°32.5	S08°30.9	0	183°42.0	S09°36.9	0	183°50.1	S10°41.7	0	183°56.7	S11°45.0	0	184°01.8	S12°46.7
1	198°32.6	31.9	1	198°42.1	37.8	1	198°50.2	42.5	1	198°56.8	45.8	1	199°01.9	47.5
2	213°32.8	32.8	2	213°42.2	38.7	2	213°50.3	43.4	2	213°56.9	46.7	2	214°01.9	48.4
3	228°32.9	· · 33.7	3	228°42.3	· · 39.7	3	228°50.4	· · 44.3	3	228°57.0	· · 47.6	3	229°02.0	· · 49.2
4	243°33.0	34.6	4	243°42.5	40.6	4	243°50.5	45.2	4	243°57.1	48.4	4	244°02.0	50.1
5	258°33.2	35.6	5	258°42.6	41.5	5	258°50.6	46.1	5	258°57.2	49.3	5	259°02.1	50.9
6	273°33.3	S08°36.5	6	273°42.7	S09°42.4	6	273°50.7	S10°47.0	6	273°57.2	S11°50.2	6	274°02.1	S12°51.7
7	288°33.5	37.4	7	288°42.8	43.3	7	288°50.8	47.9	7	288°57.3	51.0	7	289°02.2	52.6
8	303°33.6	38.3	8	303°42.9	44.2	8	303°50.9	48.8	8	303°57.4	51.9	8	304°02.3	53.4
9	318°33.7	· · 39.2	9	318°43.1	· · 45.1	9	318°51.0	· · 49.7	9	318°57.5	· · 52.8	9	319°02.3	· · 54.3
10	333°33.9	40.2	10	333°43.2	46.0	10	333°51.1	50.5	10	333°57.5	53.6	10	334°02.4	55.1
11	348°34.0	41.1	11	348°43.3	46.9	11	348°51.2	51.4	11	348°57.6	54.5	11	349°02.4	56.0
12	3°34.1	S08°42.0	12	3°43.4	S09°47.8	12	3°51.3	S10°52.3	12	3°57.7	S11°55.4	12	4°02.5	S12°56.8
13	18°34.3	42.9	13	18°43.5	48.7	13	18°51.4	53.2	13	18°57.8	56.2	13	19°02.5	57.6
14	33°34.4	43.9	14	33°43.7	49.6	14	33°51.5	54.1	14	33°57.9	57.1	14	34°02.6	58.5
15	48°34.6	· · 44.8	15	48°43.8	· · 50.5	15	48°51.6	· · 55.0	15	48°57.9	· · 58.0	15	49°02.6	12°59.3
16	63°34.7	45.7	16	63°43.9	51.4	16	63°51.7	55.9	16	63°58.0	58.8	16	64°02.7	13°00.2
17	78°34.8	46.6	17	78°44.0	52.3	17	78°51.8	56.7	17	78°58.1	11°59.7	17	79°02.7	01.0
18	93°35.0	S08°47.5	18	93°44.1	S09°53.2	18	93°51.9	S10°57.6	18	93°58.2	S12°00.6	18	94°02.8	S13°01.8
19	108°35.1	48.5	19	108°44.2	54.1	19	108°52.0	58.5	19	108°58.2	01.4	19	109°02.8	02.7
20	123°35.2	49.4	20	123°44.4	55.0	20	123°52.1	10°59.4	20	123°58.3	02.3	20	124°02.9	03.5
21	138°35.4	· · 50.3	21	138°44.5	· · 55.9	21	138°52.2	11°00.3	21	138°58.4	· · 03.1	21	139°03.0	· · 04.4
22	153°35.5	51.2	22	153°44.6	56.8	22	153°52.3	01.2	22	153°58.5	04.0	22	154°03.0	05.2
23	168°35.6	52.1	23	168°44.7	57.8	23	168°52.4	02.0	23	168°58.5	04.9	23	169°03.1	06.0
SD.=16.0 d=-0.9			SD.=16.1 d=-0.9			SD.=16.1 d=-0.9			SD.=16.1 d=-0.9			SD.=16.1 d=-0.8		

28	GHA	Dec	31	GHA	Dec	03	GHA	Dec	06	GHA	Dec	09	GHA	Dec
0	184°03.1	S13°06.9	0	184°05.9	S14°06.2	0	184°06.8	S15°03.5	0	184°05.9	S15°58.6	0	184°03.1	S16°51.3
1	199°03.2	07.7	1	199°05.9	07.0	1	199°06.8	04.3	1	199°05.9	15°59.3	1	199°03.1	52.0
2	214°03.2	08.5	2	214°05.9	07.8	2	214°06.8	05.1	2	214°05.8	16°00.1	2	214°03.0	52.7
3	229°03.3	· · 09.4	3	229°05.9	· · 08.6	3	229°06.8	· · 05.8	3	229°05.8	· · 00.8	3	229°03.0	· · 53.4
4	244°03.3	10.2	4	244°06.0	09.4	4	244°06.8	06.6	4	244°05.8	01.6	4	244°02.9	54.2
5	259°03.4	11.0	5	259°06.0	10.2	5	259°06.8	07.4	5	259°05.8	02.3	5	259°02.9	54.9
6	274°03.4	S13°11.9	6	274°06.0	S14°11.0	6	274°06.8	S15°08.2	6	274°05.7	S16°03.1	6	274°02.8	S16°55.6
7	289°03.5	12.7	7	289°06.0	11.8	7	289°06.8	08.9	7	289°05.7	03.8	7	289°02.8	56.3
8	304°03.5	13.6	8	304°06.1	12.7	8	304°06.8	09.7	8	304°05.7	04.6	8	304°02.7	57.0
9	319°03.5	· · 14.4	9	319°06.1	· · 13.5	9	319°06.8	· · 10.5	9	319°05.7	· · 05.3	9	319°02.6	· · 57.7
10	334°03.6	15.2	10	334°06.1	14.3	10	334°06.8	11.3	10	334°05.6	06.1	10	334°02.6	58.4
11	349°03.6	16.1	11	349°06.1	15.1	11	349°06.8	12.1	11	349°05.6	06.8	11	349°02.5	59.1
12	4°03.7	S13°16.9	12	4°06.1	S14°15.9	12	4°06.8	S15°12.8	12	4°05.6	S16°07.5	12	4°02.5	S16°59.8
13	19°03.7	17.7	13	19°06.2	16.7	13	19°06.8	13.6	13	19°05.5	08.3	13	19°02.4	17°00.5
14	34°03.8	18.6	14	34°06.2	17.5	14	34°06.8	14.4	14	34°05.5	09.0	14	34°02.4	01.3
15	49°03.8	· · 19.4	15	49°06.2	· · 18.3	15	49°06.8	· · 15.2	15	49°05.5	· · 09.8	15	49°02.3	· · 02.0
16	64°03.9	20.2	16	64°06.2	19.1	16	64°06.8	15.9	16	64°05.4	10.5	16	64°02.3	02.7
17	79°03.9	21.0	17	79°06.2	19.9	17	79°06.8	16.7	17	79°05.4	11.3	17	79°02.2	03.4
18	94°04.0	S13°21.9	18	94°06.3	S14°20.7	18	94°06.8	S15°17.5	18	94°05.4	S16°12.0	18	94°02.1	S17°04.1
19	109°04.0	22.7	19	109°06.3	21.5	19	109°06.7	18.3	19	109°05.3	12.7	19	109°02.1	04.8
20	124°04.0	23.5	20	124°06.3	22.3	20	124°06.7	19.0	20	124°05.3	13.5	20	124°02.0	05.5
21	139°04.1	· · 24.4	21	139°06.3	· · 23.1	21	139°06.7	· · 19.8	21	139°05.3	· · 14.2	21	139°02.0	· · 06.2
22	154°04.1	25.2	22	154°06.3	23.9	22	154°06.7	20.6	22	154°05.2	15.0	22	154°01.9	06.9
23	169°04.2	26.0	23	169°06.4	24.7	23	169°06.7	21.3	23	169°05.2	15.7	23	169°01.8	07.6
	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°04.2	S13°26.9	0	184°06.4	S14°25.5	0	184°06.7	S15°22.1	0	184°05.2	S16°16.4	0	184°01.8	S17°08.3
1	199°04.3	27.7	1	199°06.4	26.3	1	199°06.7	22.9	1	199°05.1	17.2	1	199°01.7	09.0
2	214°04.3	28.5	2	214°06.4	27.1	2	214°06.7	23.7	2	214°05.1	17.9	2	214°01.7	09.7
3	229°04.3	· · 29.3	3	229°06.4	· · 27.9	3	229°06.7	· · 24.4	3	229°05.1	· · 18.6	3	229°01.6	· · 10.4
4	244°04.4	30.2	4	244°06.4	28.7	4	244°06.7	25.2	4	244°05.0	19.4	4	244°01.5	11.1
5	259°04.4	31.0	5	259°06.5	29.5	5	259°06.7	26.0	5	259°05.0	20.1	5	259°01.5	11.8
6	274°04.5	S13°31.8	6	274°06.5	S14°30.3	6	274°06.7	S15°26.7	6	274°05.0	S16°20.9	6	274°01.4	S17°12.5
7	289°04.5	32.6	7	289°06.5	31.1	7	289°06.6	27.5	7	289°04.9	21.6	7	289°01.4	13.2
8	304°04.5	33.5	8	304°06.5	31.9	8	304°06.6	28.3	8	304°04.9	22.3	8	304°01.3	13.9
9	319°04.6	· · 34.3	9	319°06.5	· · 32.7	9	319°06.6	· · 29.0	9	319°04.9	· · 23.1	9	319°01.2	· · 14.6
10	334°04.6	35.1	10	334°06.5	33.5	10	334°06.6	29.8	10	334°04.8	23.8	10	334°01.2	15.3
11	349°04.7	35.9	11	349°06.5	34.3	11	349°06.6	30.6	11	349°04.8	24.5	11	349°01.1	16.0
12	4°04.7	S13°36.8	12	4°06.6	S14°35.1	12	4°06.6	S15°31.3	12	4°04.7	S16°25.3	12	4°01.0	S17°16.7
13	19°04.7	37.6	13	19°06.6	35.9	13	19°06.6	32.1	13	19°04.7	26.0	13	19°01.0	17.4
14	34°04.8	38.4	14	34°06.6	36.7	14	34°06.6	32.9	14	34°04.7	26.7	14	34°00.9	18.1
15	49°04.8	· · 39.2	15	49°06.6	· · 37.5	15	49°06.5	· · 33.6	15	49°04.6	· · 27.5	15	49°00.8	· · 18.8
16	64°04.9	40.1	16	64°06.6	38.3	16	64°06.5	34.4	16	64°04.6	28.2	16	64°00.8	19.5
17	79°04.9	40.9	17	79°06.6	39.1	17	79°06.5	35.1	17	79°04.5	28.9	17	79°00.7	20.2
18	94°04.9	S13°41.7	18	94°06.6	S14°39.9	18	94°06.5	S15°35.9	18	94°04.5	S16°29.6	18	94°00.6	S17°20.9
19	109°05.0	42.5	19	109°06.6	40.7	19	109°06.5	36.7	19	109°04.5	30.4	19	109°00.6	21.6
20	124°05.0	43.3	20	124°06.7	41.5	20	124°06.5	37.4	20	124°04.4	31.1	20	124°00.5	22.3
21	139°05.0	· · 44.2	21	139°06.7	· · 42.2	21	139°06.5	· · 38.2	21	139°04.4	· · 31.8	21	139°00.4	· · 22.9
22	154°05.1	45.0	22	154°06.7	43.0	22	154°06.4	39.0	22	154°04.3	32.6	22	154°00.4	23.6
23	169°05.1	45.8	23	169°06.7	43.8	23	169°06.4	39.7	23	169°04.3	33.3	23	169°00.3	24.3
	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

30	GHA	Dec	02	GHA	Dec	05	GHA	Dec	08	GHA	Dec	11	GHA	Dec
0	184°05.1	S13°46.6	0	184°06.7	S14°44.6	0	184°06.4	S15°40.5	0	184°04.3	S16°34.0	0	184°00.2	S17°25.0
1	199°05.2	47.4	1	199°06.7	45.4	1	199°06.4	41.2	1	199°04.2	34.7	1	199°00.2	25.7
2	214°05.2	48.3	2	214°06.7	46.2	2	214°06.4	42.0	2	214°04.2	35.5	2	214°00.1	26.4
3	229°05.2	· · 49.1	3	229°06.7	· · 47.0	3	229°06.4	· · 42.8	3	229°04.1	· · 36.2	3	229°00.0	· · 27.1
4	244°05.3	49.9	4	244°06.7	47.8	4	244°06.3	43.5	4	244°04.1	36.9	4	244°00.0	27.8
5	259°05.3	50.7	5	259°06.7	48.6	5	259°06.3	44.3	5	259°04.0	37.6	5	258°59.9	28.5
6	274°05.3	S13°51.5	6	274°06.7	S14°49.4	6	274°06.3	S15°45.0	6	274°04.0	S16°38.4	6	273°59.8	S17°29.1
7	289°05.4	52.4	7	289°06.7	50.2	7	289°06.3	45.8	7	289°03.9	39.1	7	288°59.8	29.8
8	304°05.4	53.2	8	304°06.8	50.9	8	304°06.3	46.5	8	304°03.9	39.8	8	303°59.7	30.5
9	319°05.4	· · 54.0	9	319°06.8	· · 51.7	9	319°06.2	· · 47.3	9	319°03.9	· · 40.5	9	318°59.6	· · 31.2
10	334°05.5	54.8	10	334°06.8	52.5	10	334°06.2	48.1	10	334°03.8	41.2	10	333°59.5	31.9
11	349°05.5	55.6	11	349°06.8	53.3	11	349°06.2	48.8	11	349°03.8	42.0	11	348°59.5	32.6
12	4°05.5	S13°56.4	12	4°06.8	S14°54.1	12	4°06.2	S15°49.6	12	4°03.7	S16°42.7	12	3°59.4	S17°33.3
13	19°05.6	57.2	13	19°06.8	54.9	13	19°06.2	50.3	13	19°03.7	43.4	13	18°59.3	33.9
14	34°05.6	58.1	14	34°06.8	55.7	14	34°06.1	51.1	14	34°03.6	44.1	14	33°59.2	34.6
15	49°05.6	· · 58.9	15	49°06.8	· · 56.4	15	49°06.1	· · 51.8	15	49°03.6	· · 44.9	15	48°59.2	· · 35.3
16	64°05.6	13°59.7	16	64°06.8	57.2	16	64°06.1	52.6	16	64°03.5	45.6	16	63°59.1	36.0
17	79°05.7	14°00.5	17	79°06.8	58.0	17	79°06.1	53.3	17	79°03.5	46.3	17	78°59.0	36.7
18	94°05.7	S14°01.3	18	94°06.8	S14°58.8	18	94°06.0	S15°54.1	18	94°03.4	S16°47.0	18	93°58.9	S17°37.4
19	109°05.7	02.1	19	109°06.8	14°59.6	19	109°06.0	54.8	19	109°03.4	47.7	19	108°58.9	38.0
20	124°05.8	02.9	20	124°06.8	15°00.4	20	124°06.0	55.6	20	124°03.3	48.4	20	123°58.8	38.7
21	139°05.8	· · 03.8	21	139°06.8	· · 01.1	21	139°06.0	· · 56.3	21	139°03.3	· · 49.2	21	138°58.7	· · 39.4
22	154°05.8	04.6	22	154°06.8	01.9	22	154°05.9	57.1	22	154°03.2	49.9	22	153°58.6	40.1
23	169°05.8	05.4	23	169°06.8	02.7	23	169°05.9	57.8	23	169°03.2	50.6	23	168°58.6	40.7
	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

12	GHA	Dec	15	GHA	Dec	18	GHA	Dec	21	GHA	Dec	24	GHA	Dec
0	183°58.5	S17°41.4	0	183°52.0	S18°28.8	0	183°43.6	S19°13.2	0	183°33.4	S19°54.5	0	183°21.4	S20°32.6
1	198°58.4	42.1	1	198°51.9	29.4	1	198°43.5	13.8	1	198°33.2	55.1	1	198°21.2	33.1
2	213°58.3	42.8	2	213°51.8	30.1	2	213°43.4	14.4	2	213°33.1	55.6	2	213°21.0	33.6
3	228°58.3	· · 43.5	3	228°51.7	· · 30.7	3	228°43.2	· · 15.0	3	228°32.9	· · 56.2	3	228°20.8	· · 34.1
4	243°58.2	44.1	4	243°51.6	31.3	4	243°43.1	15.6	4	243°32.8	56.7	4	243°20.6	34.6
5	258°58.1	44.8	5	258°51.5	32.0	5	258°43.0	16.2	5	258°32.6	57.3	5	258°20.5	35.1
6	273°58.0	S17°45.5	6	273°51.4	S18°32.6	6	273°42.8	S19°16.8	6	273°32.5	S19°57.8	6	273°20.3	S20°35.6
7	288°57.9	46.2	7	288°51.3	33.2	7	288°42.7	17.4	7	288°32.3	58.4	7	288°20.1	36.1
8	303°57.9	46.8	8	303°51.1	33.9	8	303°42.6	17.9	8	303°32.1	58.9	8	303°19.9	36.6
9	318°57.8	· · 47.5	9	318°51.0	· · 34.5	9	318°42.4	· · 18.5	9	318°32.0	19°59.4	9	318°19.7	· · 37.1
10	333°57.7	48.2	10	333°50.9	35.1	10	333°42.3	19.1	10	333°31.8	20°00.0	10	333°19.5	37.6
11	348°57.6	48.8	11	348°50.8	35.8	11	348°42.2	19.7	11	348°31.7	00.5	11	348°19.4	38.1
12	3°57.5	S17°49.5	12	3°50.7	S18°36.4	12	3°42.0	S19°20.3	12	3°31.5	S20°01.1	12	3°19.2	S20°38.6
13	18°57.5	50.2	13	18°50.6	37.0	13	18°41.9	20.9	13	18°31.4	01.6	13	18°19.0	39.1
14	33°57.4	50.9	14	33°50.5	37.7	14	33°41.8	21.5	14	33°31.2	02.2	14	33°18.8	39.6
15	48°57.3	· · 51.5	15	48°50.4	· · 38.3	15	48°41.6	· · 22.1	15	48°31.0	· · 02.7	15	48°18.6	· · 40.1
16	63°57.2	52.2	16	63°50.3	38.9	16	63°41.5	22.6	16	63°30.9	03.3	16	63°18.4	40.6
17	78°57.1	52.9	17	78°50.2	39.5	17	78°41.4	23.2	17	78°30.7	03.8	17	78°18.3	41.1
18	93°57.0	S17°53.5	18	93°50.1	S18°40.2	18	93°41.2	S19°23.8	18	93°30.6	S20°04.3	18	93°18.1	S20°41.6
19	108°57.0	54.2	19	108°50.0	40.8	19	108°41.1	24.4	19	108°30.4	04.9	19	108°17.9	42.0
20	123°56.9	54.9	20	123°49.8	41.4	20	123°41.0	25.0	20	123°30.2	05.4	20	123°17.7	42.5
21	138°56.8	· · 55.5	21	138°49.7	· · 42.0	21	138°40.8	· · 25.6	21	138°30.1	· · 06.0	21	138°17.5	· · 43.0
22	153°56.7	56.2	22	153°49.6	42.7	22	153°40.7	26.2	22	153°29.9	06.5	22	153°17.3	43.5
23	168°56.6	56.9	23	168°49.5	43.3	23	168°40.6	26.7	23	168°29.7	07.0	23	168°17.1	44.0
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		

13	GHA	Dec	16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec
0	183°56.5	S17°57.5	0	183°49.4	S18°43.9	0	183°40.4	S19°27.3	0	183°29.6	S20°07.6	0	183°16.9	S20°44.5
1	198°56.4	58.2	1	198°49.3	44.5	1	198°40.3	27.9	1	198°29.4	08.1	1	198°16.8	45.0
2	213°56.4	58.9	2	213°49.2	45.2	2	213°40.1	28.5	2	213°29.3	08.6	2	213°16.6	45.5
3	228°56.3	17°59.5	3	228°49.1	· · 45.8	3	228°40.0	· · 29.1	3	228°29.1	· · 09.2	3	228°16.4	· · 46.0
4	243°56.2	18°00.2	4	243°49.0	46.4	4	243°39.9	29.6	4	243°28.9	09.7	4	243°16.2	46.5
5	258°56.1	00.8	5	258°48.8	47.0	5	258°39.7	30.2	5	258°28.8	10.2	5	258°16.0	46.9
6	273°56.0	S18°01.5	6	273°48.7	S18°47.7	6	273°39.6	S19°30.8	6	273°28.6	S20°10.8	6	273°15.8	S20°47.4
7	288°55.9	02.2	7	288°48.6	48.3	7	288°39.4	31.4	7	288°28.4	11.3	7	288°15.6	47.9
8	303°55.8	02.8	8	303°48.5	48.9	8	303°39.3	31.9	8	303°28.3	11.8	8	303°15.4	48.4
9	318°55.7	· · 03.5	9	318°48.4	· · 49.5	9	318°39.2	· · 32.5	9	318°28.1	· · 12.4	9	318°15.2	· · 48.9
10	333°55.7	04.1	10	333°48.3	50.1	10	333°39.0	33.1	10	333°27.9	12.9	10	333°15.1	49.4
11	348°55.6	04.8	11	348°48.2	50.7	11	348°38.9	33.7	11	348°27.8	13.4	11	348°14.9	49.8
12	3°55.5	S18°05.5	12	3°48.0	S18°51.4	12	3°38.7	S19°34.2	12	3°27.6	S20°14.0	12	3°14.7	S20°50.3
13	18°55.4	06.1	13	18°47.9	52.0	13	18°38.6	34.8	13	18°27.4	14.5	13	18°14.5	50.8
14	33°55.3	06.8	14	33°47.8	52.6	14	33°38.5	35.4	14	33°27.3	15.0	14	33°14.3	51.3
15	48°55.2	· · 07.4	15	48°47.7	· · 53.2	15	48°38.3	· · 36.0	15	48°27.1	· · 15.5	15	48°14.1	· · 51.8
16	63°55.1	08.1	16	63°47.6	53.8	16	63°38.2	36.5	16	63°26.9	16.1	16	63°13.9	52.2
17	78°55.0	08.7	17	78°47.4	54.4	17	78°38.0	37.1	17	78°26.8	16.6	17	78°13.7	52.7
18	93°54.9	S18°09.4	18	93°47.3	S18°55.1	18	93°37.9	S19°37.7	18	93°26.6	S20°17.1	18	93°13.5	S20°53.2
19	108°54.8	10.1	19	108°47.2	55.7	19	108°37.7	38.3	19	108°26.4	17.6	19	108°13.3	53.7
20	123°54.7	10.7	20	123°47.1	56.3	20	123°37.6	38.8	20	123°26.2	18.2	20	123°13.1	54.2
21	138°54.6	· · 11.4	21	138°47.0	· · 56.9	21	138°37.4	· · 39.4	21	138°26.1	· · 18.7	21	138°12.9	· · 54.6
22	153°54.6	12.0	22	153°46.9	57.5	22	153°37.3	40.0	22	153°25.9	19.2	22	153°12.7	55.1
23	168°54.5	12.7	23	168°46.7	58.1	23	168°37.2	40.5	23	168°25.7	19.7	23	168°12.5	55.6
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		

14	GHA	Dec	17	GHA	Dec	20	GHA	Dec	23	GHA	Dec	26	GHA	Dec
0	183°54.4	S18°13.3	0	183°46.6	S18°58.7	0	183°37.0	S19°41.1	0	183°25.6	S20°20.3	0	183°12.3	S20°56.1
1	198°54.3	14.0	1	198°46.5	59.3	1	198°36.9	41.7	1	198°25.4	20.8	1	198°12.1	56.5
2	213°54.2	14.6	2	213°46.4	18°59.9	2	213°36.7	42.2	2	213°25.2	21.3	2	213°12.0	57.0
3	228°54.1	· · 15.3	3	228°46.3	19°00.6	3	228°36.6	· · 42.8	3	228°25.0	· · 21.8	3	228°11.8	· · 57.5
4	243°54.0	15.9	4	243°46.1	01.2	4	243°36.4	43.4	4	243°24.9	22.3	4	243°11.6	57.9
5	258°53.9	16.6	5	258°46.0	01.8	5	258°36.3	43.9	5	258°24.7	22.8	5	258°11.4	58.4
6	273°53.8	S18°17.2	6	273°45.9	S19°02.4	6	273°36.1	S19°44.5	6	273°24.5	S20°23.4	6	273°11.2	S20°58.9
7	288°53.7	17.9	7	288°45.8	03.0	7	288°36.0	45.0	7	288°24.4	23.9	7	288°11.0	59.3
8	303°53.6	18.5	8	303°45.6	03.6	8	303°35.8	45.6	8	303°24.2	24.4	8	303°10.8	20°59.8
9	318°53.5	· · 19.2	9	318°45.5	· · 04.2	9	318°35.7	· · 46.2	9	318°24.0	· · 24.9	9	318°10.6	21°00.3
10	333°53.4	19.8	10	333°45.4	04.8	10	333°35.5	46.7	10	333°23.8	25.4	10	333°10.4	00.8
11	348°53.3	20.4	11	348°45.3	05.4	11	348°35.4	47.3	11	348°23.7	25.9	11	348°10.2	01.2
12	3°53.2	S18°21.1	12	3°45.1	S19°06.0	12	3°35.2	S19°47.8	12	3°23.5	S20°26.5	12	3°10.0	S21°01.7
13	18°53.1	21.7	13	18°45.0	06.6	13	18°35.1	48.4	13	18°23.3	27.0	13	18°09.8	02.1
14	33°53.0	22.4	14	33°44.9	07.2	14	33°34.9	49.0	14	33°23.1	27.5	14	33°09.6	02.6
15	48°52.9	· · 23.0	15	48°44.8	· · 07.8	15	48°34.8	· · 49.5	15	48°23.0	· · 28.0	15	48°09.4	· · 03.1
16	63°52.8	23.7	16	63°44.6	08.4	16	63°34.6	50.1	16	63°22.8	28.5	16	63°09.2	03.5
17	78°52.7	24.3	17	78°44.5	09.0	17	78°34.5	50.6	17	78°22.6	29.0	17	78°09.0	04.0
18	93°52.6	S18°24.9	18	93°44.4	S19°09.6	18	93°34.3	S19°51.2	18	93°22.4	S20°29.5	18	93°08.8	S21°04.5
19	108°52.5	25.6	19	108°44.3	10.2	19	108°34.2	51.7	19	108°22.2	30.0	19	108°08.6	04.9
20	123°52.4	26.2	20	123°44.1	10.8	20	123°34.0	52.3	20	123°22.1	30.5	20	123°08.4	05.4
21	138°52.3	· · 26.9	21	138°44.0	· · 11.4	21	138°33.9	· · 52.9	21	138°21.9	· · 31.0	21	138°08.2	· · 05.8
22	153°52.2	27.5	22	153°43.9	12.0	22	153°33.7	53.4	22	153°21.7	31.6	22	153°08.0	06.3
23	168°52.1	28.1	23	168°43.7	12.6	23	168°33.5	54.0	23	168°21.5	32.1	23	168°07.8	06.8
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		

27	GHA	Dec	30	GHA	Dec	03	GHA	Dec	06	GHA	Dec	09	GHA	Dec
0	183°07.6	S21°07.2	0	182°52.1	S21°38.3	0	182°35.1	S22°05.7	0	182°16.7	S22°29.2	0	181°57.1	S22°48.8
1	198°07.4	07.7	1	197°51.9	38.7	1	197°34.8	06.0	1	197°16.4	29.5	1	196°56.9	49.1
2	213°07.1	08.1	2	212°51.6	39.1	2	212°34.6	06.4	2	212°16.2	29.8	2	211°56.6	49.3
3	228°06.9	· · 08.6	3	227°51.4	· · 39.5	3	227°34.3	· · 06.7	3	227°15.9	· · 30.1	3	226°56.3	· · 49.6
4	243°06.7	09.0	4	242°51.2	39.9	4	242°34.1	07.1	4	242°15.6	30.4	4	241°56.0	49.8
5	258°06.5	09.5	5	257°51.0	40.3	5	257°33.8	07.4	5	257°15.4	30.7	5	256°55.8	50.1
6	273°06.3	S21°09.9	6	272°50.7	S21°40.7	6	272°33.6	S22°07.8	6	272°15.1	S22°31.0	6	271°55.5	S22°50.3
7	288°06.1	10.4	7	287°50.5	41.1	7	287°33.3	08.1	7	287°14.8	31.3	7	286°55.2	50.5
8	303°05.9	10.8	8	302°50.3	41.5	8	302°33.1	08.5	8	302°14.6	31.6	8	301°54.9	50.8
9	318°05.7	· · 11.3	9	317°50.0	· · 41.9	9	317°32.9	· · 08.8	9	317°14.3	· · 31.9	9	316°54.6	· · 51.0
10	333°05.5	11.7	10	332°49.8	42.3	10	332°32.6	09.2	10	332°14.0	32.2	10	331°54.4	51.3
11	348°05.3	12.2	11	347°49.6	42.7	11	347°32.4	09.5	11	347°13.8	32.5	11	346°54.1	51.5
12	3°05.1	S21°12.6	12	2°49.4	S21°43.1	12	2°32.1	S22°09.9	12	2°13.5	S22°32.8	12	1°53.8	S22°51.7
13	18°04.9	13.1	13	17°49.1	43.5	13	17°31.9	10.2	13	17°13.2	33.1	13	16°53.5	52.0
14	33°04.7	13.5	14	32°48.9	43.9	14	32°31.6	10.6	14	32°13.0	33.4	14	31°53.2	52.2
15	48°04.5	· · 14.0	15	47°48.7	· · 44.3	15	47°31.4	· · 10.9	15	47°12.7	· · 33.7	15	46°52.9	· · 52.4
16	63°04.3	14.4	16	62°48.4	44.7	16	62°31.1	11.3	16	62°12.4	33.9	16	61°52.7	52.7
17	78°04.0	14.9	17	77°48.2	45.1	17	77°30.9	11.6	17	77°12.2	34.2	17	76°52.4	52.9
18	93°03.8	S21°15.3	18	92°48.0	S21°45.5	18	92°30.6	S22°11.9	18	92°11.9	S22°34.5	18	91°52.1	S22°53.1
19	108°03.6	15.8	19	107°47.7	45.9	19	107°30.4	12.3	19	107°11.6	34.8	19	106°51.8	53.4
20	123°03.4	16.2	20	122°47.5	46.3	20	122°30.1	12.6	20	122°11.4	35.1	20	121°51.5	53.6
21	138°03.2	· · 16.7	21	137°47.3	· · 46.7	21	137°29.9	· · 13.0	21	137°11.1	· · 35.4	21	136°51.3	· · 53.8
22	153°03.0	17.1	22	152°47.0	47.1	22	152°29.6	13.3	22	152°10.8	35.7	22	151°51.0	54.0
23	168°02.8	17.5	23	167°46.8	47.5	23	167°29.3	13.6	23	167°10.6	35.9	23	166°50.7	54.3
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=-0.2		

28	GHA	Dec	01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec
0	183°02.6	S21°18.0	0	182°46.6	S21°47.8	0	182°29.1	S22°14.0	0	182°10.3	S22°36.2	0	181°50.4	S22°54.5
1	198°02.4	18.4	1	197°46.3	48.2	1	197°28.8	14.3	1	197°10.0	36.5	1	196°50.1	54.7
2	213°02.2	18.9	2	212°46.1	48.6	2	212°28.6	14.6	2	212°09.8	36.8	2	211°49.8	54.9
3	228°01.9	· · 19.3	3	227°45.9	· · 49.0	3	227°28.3	· · 15.0	3	227°09.5	· · 37.1	3	226°49.6	· · 55.2
4	243°01.7	19.7	4	242°45.6	49.4	4	242°28.1	15.3	4	242°09.2	37.3	4	241°49.3	55.4
5	258°01.5	20.2	5	257°45.4	49.8	5	257°27.8	15.6	5	257°09.0	37.6	5	256°49.0	55.6
6	273°01.3	S21°20.6	6	272°45.2	S21°50.2	6	272°27.6	S22°16.0	6	272°08.7	S22°37.9	6	271°48.7	S22°55.8
7	288°01.1	21.0	7	287°44.9	50.6	7	287°27.3	16.3	7	287°08.4	38.2	7	286°48.4	56.0
8	303°00.9	21.5	8	302°44.7	50.9	8	302°27.1	16.6	8	302°08.1	38.5	8	301°48.1	56.3
9	318°00.7	· · 21.9	9	317°44.5	· · 51.3	9	317°26.8	· · 17.0	9	317°07.9	· · 38.7	9	316°47.9	· · 56.5
10	333°00.5	22.3	10	332°44.2	51.7	10	332°26.6	17.3	10	332°07.6	39.0	10	331°47.6	56.7
11	348°00.2	22.8	11	347°44.0	52.1	11	347°26.3	17.6	11	347°07.3	39.3	11	346°47.3	56.9
12	3°00.0	S21°23.2	12	2°43.8	S21°52.5	12	2°26.0	S22°18.0	12	2°07.1	S22°39.5	12	1°47.0	S22°57.1
13	17°59.8	23.6	13	17°43.5	52.8	13	17°25.8	18.3	13	17°06.8	39.8	13	16°46.7	57.4
14	32°59.6	24.1	14	32°43.3	53.2	14	32°25.5	18.6	14	32°06.5	40.1	14	31°46.4	57.6
15	47°59.4	· · 24.5	15	47°43.1	· · 53.6	15	47°25.3	· · 18.9	15	47°06.2	· · 40.4	15	46°46.1	· · 57.8
16	62°59.2	24.9	16	62°42.8	54.0	16	62°25.0	19.3	16	62°06.0	40.6	16	61°45.9	58.0
17	77°58.9	25.4	17	77°42.6	54.4	17	77°24.8	19.6	17	77°05.7	40.9	17	76°45.6	58.2
18	92°58.7	S21°25.8	18	92°42.3	S21°54.7	18	92°24.5	S22°19.9	18	92°05.4	S22°41.2	18	91°45.3	S22°58.4
19	107°58.5	26.2	19	107°42.1	55.1	19	107°24.3	20.2	19	107°05.1	41.4	19	106°45.0	58.6
20	122°58.3	26.6	20	122°41.9	55.5	20	122°24.0	20.5	20	122°04.9	41.7	20	121°44.7	58.8
21	137°58.1	· · 27.1	21	137°41.6	· · 55.9	21	137°23.7	· · 20.9	21	137°04.6	· · 42.0	21	136°44.4	· · 59.1
22	152°57.9	27.5	22	152°41.4	56.2	22	152°23.5	21.2	22	152°04.3	42.2	22	151°44.1	59.3
23	167°57.6	27.9	23	167°41.1	56.6	23	167°23.2	21.5	23	167°04.1	42.5	23	166°43.9	59.5
SD.=16.2 d=-0.4			SD.=16.2 d=-0.4			SD.=16.2 d=-0.3			SD.=16.2 d=-0.3			SD.=16.2 d=-0.2		

29	GHA	Dec	02	GHA	Dec	05	GHA	Dec	08	GHA	Dec	11	GHA	Dec
0	182°57.4	S21°28.3	0	182°40.9	S21°57.0	0	182°23.0	S22°21.8	0	182°03.8	S22°42.8	0	181°43.6	S22°59.7
1	197°57.2	28.8	1	197°40.7	57.4	1	197°22.7	22.1	1	197°03.5	43.0	1	196°43.3	22°59.9
2	212°57.0	29.2	2	212°40.4	57.7	2	212°22.4	22.5	2	212°03.2	43.3	2	211°43.0	23°00.1
3	227°56.8	· · 29.6	3	227°40.2	· · 58.1	3	227°22.2	· · 22.8	3	227°03.0	· · 43.5	3	226°42.7	· · 00.3
4	242°56.5	30.0	4	242°39.9	58.5	4	242°21.9	23.1	4	242°02.7	43.8	4	241°42.4	00.5
5	257°56.3	30.5	5	257°39.7	58.8	5	257°21.7	23.4	5	257°02.4	44.1	5	256°42.1	00.7
6	272°56.1	S21°30.9	6	272°39.5	S21°59.2	6	272°21.4	S22°23.7	6	272°02.1	S22°44.3	6	271°41.8	S23°00.9
7	287°55.9	31.3	7	287°39.2	59.6	7	287°21.1	24.0	7	287°01.9	44.6	7	286°41.6	01.1
8	302°55.7	31.7	8	302°39.0	21°59.9	8	302°20.9	24.3	8	302°01.6	44.8	8	301°41.3	01.3
9	317°55.4	· · 32.1	9	317°38.7	22°00.3	9	317°20.6	· · 24.7	9	317°01.3	· · 45.1	9	316°41.0	· · 01.5
10	332°55.2	32.5	10	332°38.5	00.7	10	332°20.4	25.0	10	332°01.0	45.4	10	331°40.7	01.7
11	347°55.0	33.0	11	347°38.3	01.0	11	347°20.1	25.3	11	347°00.8	45.6	11	346°40.4	01.9
12	2°54.8	S21°33.4	12	2°38.0	S22°01.4	12	2°19.8	S22°25.6	12	2°00.5	S22°45.9	12	1°40.1	S23°02.1
13	17°54.6	33.8	13	17°37.8	01.7	13	17°19.6	25.9	13	17°00.2	46.1	13	16°39.8	02.3
14	32°54.3	34.2	14	32°37.5	02.1	14	32°19.3	26.2	14	31°59.9	46.4	14	31°39.5	02.5
15	47°54.1	· · 34.6	15	47°37.3	· · 02.5	15	47°19.1	· · 26.5	15	46°59.6	· · 46.6	15	46°39.2	· · 02.7
16	62°53.9	35.0	16	62°37.0	02.8	16	62°18.8	26.8	16	61°59.4	46.9	16	61°39.0	02.9
17	77°53.7	35.4	17	77°36.8	03.2	17	77°18.5	27.1	17	76°59.1	47.1	17	76°38.7	03.1
18	92°53.4	S21°35.9	18	92°36.6	S22°03.6	18	92°18.3	S22°27.4	18	91°58.8	S22°47.4	18	91°38.4	S23°03.3
19	107°53.2	36.3	19	107°36.3	03.9	19	107°18.0	27.7	19	106°58.5	47.6	19	106°38.1	03.5
20	122°53.0	36.7	20	122°36.1	04.3	20	122°17.8	28.0	20	121°58.3	47.9	20	121°37.8	03.7
21	137°52.8	· · 37.1	21	137°35.8	· · 04.6	21	137°17.5	· · 28.0	21	136°58.0	· · 48.1	21	136°37.5	· · 03.8
22	152°52.5	37.5	22	152°35.6	05.0	22	152°17.2	28.6	22	151°57.7	48.4	22	151°37.2	04.0
23	167°52.3	37.9	23	167°35.3	05.3	23	167°17.0	28.9	23	166°57.4	48.6	23	166°36.9	04.2
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		

12	GHA	Dec	15	GHA	Dec	18	GHA	Dec	21	GHA	Dec	24	GHA	Dec
0	181°36.6	S23°04.4	0	181°15.4	S23°15.8	0	180°53.6	S23°23.1	0	180°31.4	S23°26.1	0	180°09.1	S23°25.0
1	196°36.3	04.6	1	196°15.1	16.0	1	195°53.3	23.2	1	195°31.1	26.2	1	195°08.8	24.9
2	211°36.1	04.8	2	211°14.8	16.1	2	210°52.9	23.2	2	210°30.8	26.2	2	210°08.5	24.9
3	226°35.8	· · 05.0	3	226°14.5	· · 16.2	3	225°52.6	· · 23.3	3	225°30.5	· · 26.2	3	225°08.1	· · 24.8
4	241°35.5	05.2	4	241°14.2	16.4	4	240°52.3	23.4	4	240°30.2	26.2	4	240°07.8	24.8
5	256°35.2	05.3	5	256°13.9	16.5	5	255°52.0	23.4	5	255°29.8	26.2	5	255°07.5	24.7
6	271°34.9	S23°05.5	6	271°13.6	S23°16.6	6	270°51.7	S23°23.5	6	270°29.5	S23°26.2	6	270°07.2	S23°24.7
7	286°34.6	05.7	7	286°13.3	16.7	7	285°51.4	23.6	7	285°29.2	26.2	7	285°06.9	24.6
8	301°34.3	05.9	8	301°13.0	16.9	8	300°51.1	23.6	8	300°28.9	26.2	8	300°06.6	24.6
9	316°34.0	· · 06.1	9	316°12.7	· · 17.0	9	315°50.8	· · 23.7	9	315°28.6	· · 26.2	9	315°06.3	· · 24.5
10	331°33.7	06.2	10	331°12.4	17.1	10	330°50.5	23.8	10	330°28.3	26.2	10	330°06.0	24.5
11	346°33.4	06.4	11	346°12.1	17.2	11	345°50.2	23.8	11	345°28.0	26.2	11	345°05.7	24.4
12	1°33.1	S23°06.6	12	1°11.8	S23°17.3	12	0°49.9	S23°23.9	12	0°27.7	S23°26.2	12	0°05.4	S23°24.4
13	16°32.9	06.8	13	16°11.5	17.5	13	15°49.6	24.0	13	15°27.4	26.2	13	15°05.0	24.3
14	31°32.6	07.0	14	31°11.2	17.6	14	30°49.3	24.0	14	30°27.1	26.2	14	30°04.7	24.2
15	46°32.3	· · 07.1	15	46°10.9	· · 17.7	15	45°49.0	· · 24.1	15	45°26.7	· · 26.2	15	45°04.4	· · 24.2
16	61°32.0	07.3	16	61°10.6	17.8	16	60°48.7	24.1	16	60°26.4	26.2	16	60°04.1	24.1
17	76°31.7	07.5	17	76°10.3	17.9	17	75°48.3	24.2	17	75°26.1	26.2	17	75°03.8	24.1
18	91°31.4	S23°07.7	18	91°10.0	S23°18.0	18	90°48.0	S23°24.3	18	90°25.8	S23°26.2	18	90°03.5	S23°24.0
19	106°31.1	07.8	19	106°09.7	18.2	19	105°47.7	24.3	19	105°25.5	26.2	19	105°03.2	24.0
20	121°30.8	08.0	20	121°09.4	18.3	20	120°47.4	24.4	20	120°25.2	26.2	20	120°02.9	23.9
21	136°30.5	· · 08.2	21	136°09.1	· · 18.4	21	135°47.1	· · 24.5	21	135°24.9	· · 26.2	21	135°02.6	· · 23.8
22	151°30.2	08.3	22	151°08.8	18.5	22	150°46.8	24.5	22	150°24.6	26.2	22	150°02.3	23.8
23	166°29.9	08.5	23	166°08.5	18.6	23	165°46.5	24.5	23	165°24.3	26.2	23	165°01.9	23.7
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		

13	GHA	Dec	16	GHA	Dec	19	GHA	Dec	22	GHA	Dec	25	GHA	Dec
0	181°29.6	S23°08.7	0	181°08.2	S23°18.7	0	180°46.2	S23°24.6	0	180°24.0	S23°26.2	0	180°01.6	S23°23.6
1	196°29.3	08.8	1	196°07.9	18.8	1	195°45.9	24.6	1	195°23.6	26.2	1	195°01.3	23.6
2	211°29.0	09.0	2	211°07.6	18.9	2	210°45.6	24.7	2	210°23.3	26.2	2	210°01.0	23.5
3	226°28.7	· · 09.2	3	226°07.3	· · 19.1	3	225°45.3	· · 24.7	3	225°23.0	· · 26.2	3	225°00.7	· · 23.4
4	241°28.4	09.3	4	241°06.9	19.2	4	240°45.0	24.8	4	240°22.7	26.2	4	240°00.4	23.4
5	256°28.2	09.5	5	256°06.6	19.3	5	255°44.7	24.8	5	255°22.4	26.2	5	255°00.1	23.3
6	271°27.9	S23°09.7	6	271°06.3	S23°19.4	6	270°44.4	S23°24.9	6	270°22.1	S23°26.2	6	269°59.8	S23°23.2
7	286°27.6	09.8	7	286°06.0	19.5	7	285°44.0	24.9	7	285°21.8	26.2	7	284°59.5	23.2
8	301°27.3	10.0	8	301°05.7	19.6	8	300°43.7	25.0	8	300°21.5	26.1	8	299°59.2	23.1
9	316°27.0	· · 10.2	9	316°05.4	· · 19.7	9	315°43.4	· · 25.0	9	315°21.2	· · 26.1	9	314°58.9	· · 23.0
10	331°26.7	10.3	10	331°05.1	19.8	10	330°43.1	25.1	10	330°20.9	26.1	10	329°58.5	22.9
11	346°26.4	10.5	11	346°04.8	19.9	11	345°42.8	25.1	11	345°20.5	26.1	11	344°58.2	22.9
12	1°26.1	S23°10.6	12	1°04.5	S23°20.0	12	0°42.5	S23°25.1	12	0°20.2	S23°26.1	12	359°57.9	S23°22.8
13	16°25.8	10.8	13	16°04.2	20.1	13	15°42.2	25.2	13	15°19.9	26.1	13	14°57.6	22.7
14	31°25.5	11.0	14	31°03.9	20.2	14	30°41.9	25.2	14	30°19.6	26.1	14	29°57.3	22.6
15	46°25.2	· · 11.1	15	46°03.6	· · 20.3	15	45°41.6	· · 25.3	15	45°19.3	· · 26.0	15	44°57.0	· · 22.6
16	61°24.9	11.3	16	61°03.3	20.4	16	60°41.3	25.3	16	60°19.0	26.0	16	59°56.7	22.5
17	76°24.6	11.4	17	76°03.0	20.5	17	75°41.0	25.4	17	75°18.7	26.0	17	74°56.4	22.4
18	91°24.3	S23°11.6	18	91°02.7	S23°20.6	18	90°40.7	S23°25.4	18	90°18.4	S23°26.0	18	89°56.1	S23°22.3
19	106°24.0	11.7	19	106°02.4	20.7	19	105°40.3	25.4	19	105°18.1	26.0	19	104°55.8	22.2
20	121°23.7	11.9	20	121°02.1	20.8	20	120°40.0	25.5	20	120°17.8	25.9	20	119°55.5	22.2
21	136°23.4	· · 12.0	21	136°01.8	· · 20.9	21	135°39.7	· · 25.5	21	135°17.4	· · 25.9	21	134°55.1	· · 22.1
22	151°23.1	12.2	22	151°01.5	21.0	22	150°39.4	25.5	22	150°17.1	25.9	22	149°54.8	22.0
23	166°22.8	12.3	23	166°01.2	21.1	23	165°39.1	25.6	23	165°16.8	25.9	23	164°54.5	21.9
SD.=16.2 d=-0.2			SD.=16.3 d=-0.1			SD.=16.3 d=-0.1			SD.=16.3 d=0.0			SD.=16.3 d=0.1		

14	GHA	Dec	17	GHA	Dec	20	GHA	Dec	23	GHA	Dec	26	GHA	Dec
0	181°22.5	S23°12.5	0	181°00.9	S23°21.1	0	180°38.8	S23°25.6	0	180°16.5	S23°25.8	0	179°54.2	S23°21.8
1	196°22.2	12.6	1	196°00.6	21.2	1	195°38.5	25.6	1	195°16.2	25.8	1	194°53.9	21.7
2	211°21.9	12.8	2	211°00.3	21.3	2	210°38.2	25.7	2	210°15.9	25.8	2	209°53.6	21.7
3	226°21.6	· · 12.9	3	226°00.0	· · 21.4	3	225°37.9	· · 25.7	3	225°15.6	· · 25.7	3	224°53.3	· · 21.6
4	241°21.3	13.1	4	240°59.7	21.5	4	240°37.6	25.7	4	240°15.3	25.7	4	239°53.0	21.5
5	256°21.1	13.2	5	255°59.4	21.6	5	255°37.3	25.8	5	255°15.0	25.7	5	254°52.7	21.4
6	271°20.8	S23°13.4	6	270°59.1	S23°21.7	6	270°37.0	S23°25.8	6	270°14.7	S23°25.7	6	269°52.4	S23°21.3
7	286°20.5	13.5	7	285°58.8	21.8	7	285°36.6	25.8	7	285°14.3	25.6	7	284°52.1	21.2
8	301°20.2	13.7	8	300°58.4	21.8	8	300°36.3	25.8	8	300°14.0	25.6	8	299°51.8	21.1
9	316°19.9	· · 13.8	9	315°58.1	· · 21.9	9	315°36.0	· · 25.9	9	315°13.7	· · 25.6	9	314°51.4	· · 21.0
10	331°19.6	13.9	10	330°57.8	22.0	10	330°35.7	25.9	10	330°13.4	25.5	10	329°51.1	20.9
11	346°19.3	14.1	11	345°57.5	22.1	11	345°35.4	25.9	11	345°13.1	25.5	11	344°50.8	20.9
12	1°19.0	S23°14.2	12	0°57.2	S23°22.2	12	0°35.1	S23°25.9	12	0°12.8	S23°25.5	12	359°50.5	S23°20.8
13	16°18.7	14.4	13	15°56.9	22.3	13	15°34.8	26.0	13	15°12.5	25.4	13	14°50.2	20.7
14	31°18.4	14.5	14	30°56.6	22.3	14	30°34.5	26.0	14	30°12.2	25.4	14	29°49.9	20.6
15	46°18.1	· · 14.6	15	45°56.3	· · 22.4	15	45°34.2	· · 26.0	15	45°11.9	· · 25.3	15	44°49.6	· · 20.5
16	61°17.8	14.8	16	60°56.0	22.5	16	60°33.9	26.0	16	60°11.6	25.3	16	59°49.3	20.4
17	76°17.5	14.9	17	75°55.7	22.6	17	75°33.6	26.0	17	75°11.2	25.3	17	74°49.0	20.3
18	91°17.2	S23°15.0	18	90°55.4	S23°22.7	18	90°33.2	S23°26.1	18	90°10.9	S23°25.2	18	89°48.7	S23°20.2
19	106°16.9	15.2	19	105°55.1	22.7	19	105°32.9	26.1	19	105°10.6	25.2	19	104°48.4	20.1
20	121°16.6	15.3	20	120°54.8	22.8	20	120°32.6	26.1	20	120°10.3	25.1	20	119°48.1	20.0
21	136°16.3	· · 15.4	21	135°54.5	· · 22.9	21	135°32.3	· · 26.1	21	135°10.0	· · 25.1	21	134°47.7	· · 19.9
22	151°16.0	15.6	22	150°54.2	23.0	22	150°32.0	26.1	22	150°09.7	25.1	22	149°47.4	19.8
23	166°15.7	15.7	23	165°53.9	23.0	23	165°31.7	26.1	23	165°09.4	25.0	23	164°47.1	19.7
SD.=16.2 d=-0.1			SD.=16.3 d=-0.1			SD.=16.3 d=-0.0			SD.=16.3 d=0.0			SD.=16.3 d=0.1		

27	GHA	Dec	30	GHA	Dec	02	GHA	Dec	05	GHA	Dec	08	GHA	Dec
0	179°46.8	S23°19.6	0	179°24.8	S23°09.9	0	179°03.4	S22°56.1	0	178°42.7	S22°38.2	0	178°22.9	S22°16.3
1	194°46.5	19.5	1	194°24.5	09.8	1	194°03.1	55.9	1	193°42.4	38.0	1	193°22.7	16.0
2	209°46.2	19.4	2	209°24.2	09.6	2	209°02.8	55.7	2	208°42.1	37.7	2	208°22.4	15.6
3	224°45.9	· · 19.2	3	224°23.9	· · 09.5	3	224°02.5	· · 55.5	3	223°41.8	· · 37.4	3	223°22.2	· · 15.3
4	239°45.6	19.1	4	239°23.6	09.3	4	239°02.2	55.3	4	238°41.5	37.1	4	238°21.9	15.0
5	254°45.3	19.0	5	254°23.3	09.1	5	254°01.9	55.0	5	253°41.3	36.8	5	253°21.6	14.6
6	269°45.0	S23°18.9	6	269°23.0	S23°09.0	6	269°01.6	S22°54.8	6	268°41.0	S22°36.6	6	268°21.4	S22°14.3
7	284°44.7	18.8	7	284°22.7	08.8	7	284°01.3	54.6	7	283°40.7	36.3	7	283°21.1	13.9
8	299°44.4	18.7	8	299°22.4	08.6	8	299°01.0	54.4	8	298°40.4	36.0	8	298°20.8	13.6
9	314°44.1	· · 18.6	9	314°22.1	· · 08.4	9	314°00.7	· · 54.1	9	313°40.1	· · 35.7	9	313°20.6	· · 13.3
10	329°43.7	18.5	10	329°21.8	08.3	10	329°00.5	53.9	10	328°39.9	35.4	10	328°20.3	12.9
11	344°43.4	18.4	11	344°21.5	08.1	11	344°00.2	53.7	11	343°39.6	35.1	11	343°20.0	12.6
12	359°43.1	S23°18.3	12	359°21.2	S23°07.9	12	358°59.9	S22°53.4	12	358°39.3	S22°34.9	12	358°19.8	S22°12.2
13	14°42.8	18.1	13	14°20.9	07.8	13	13°59.6	53.2	13	13°39.0	34.6	13	13°19.5	11.9
14	29°42.5	18.0	14	29°20.6	07.6	14	28°59.3	53.0	14	28°38.8	34.3	14	28°19.2	11.6
15	44°42.2	· · 17.9	15	44°20.3	· · 07.4	15	43°59.0	· · 52.8	15	43°38.5	· · 34.0	15	43°19.0	· · 11.2
16	59°41.9	17.8	16	59°20.0	07.2	16	58°58.7	52.5	16	58°38.2	33.7	16	58°18.7	10.9
17	74°41.6	17.7	17	74°19.7	07.1	17	73°58.4	52.3	17	73°37.9	33.4	17	73°18.5	10.5
18	89°41.3	S23°17.6	18	89°19.4	S23°06.9	18	88°58.1	S22°52.1	18	88°37.6	S22°33.1	18	88°18.2	S22°10.2
19	104°41.0	17.4	19	104°19.1	06.7	19	103°57.8	51.8	19	103°37.4	32.8	19	103°17.9	09.8
20	119°40.7	17.3	20	119°18.8	06.5	20	118°57.5	51.6	20	118°37.1	32.5	20	118°17.7	09.5
21	134°40.4	· · 17.2	21	134°18.5	· · 06.3	21	133°57.3	· · 51.3	21	133°36.8	· · 32.3	21	133°17.4	· · 09.1
22	149°40.1	17.1	22	149°18.2	06.2	22	148°57.0	51.1	22	148°36.5	32.0	22	148°17.2	08.8
23	164°39.8	16.9	23	164°17.9	06.0	23	163°56.7	50.9	23	163°36.3	31.7	23	163°16.9	08.4
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°39.5	S23°16.8	0	179°17.6	S23°05.8	0	178°56.4	S22°50.6	0	178°36.0	S22°31.4	0	178°16.6	S22°08.1
1	194°39.2	16.7	1	194°17.3	05.6	1	193°56.1	50.4	1	193°35.7	31.1	1	193°16.4	07.7
2	209°38.8	16.6	2	209°17.0	05.4	2	208°55.8	50.2	2	208°35.4	30.8	2	208°16.1	07.4
3	224°38.5	· · 16.4	3	224°16.7	· · 05.3	3	223°55.5	· · 49.9	3	223°35.1	· · 30.5	3	223°15.9	· · 07.0
4	239°38.2	16.3	4	239°16.4	05.1	4	238°55.2	49.7	4	238°34.9	30.2	4	238°15.6	06.7
5	254°37.9	16.2	5	254°16.1	04.9	5	253°54.9	49.4	5	253°34.6	29.9	5	253°15.3	06.3
6	269°37.6	S23°16.1	6	269°15.8	S23°04.7	6	268°54.6	S22°49.2	6	268°34.3	S22°29.6	6	268°15.1	S22°06.0
7	284°37.3	15.9	7	284°15.5	04.5	7	283°54.4	48.9	7	283°34.0	29.3	7	283°14.8	05.6
8	299°37.0	15.8	8	299°15.2	04.3	8	298°54.1	48.7	8	298°33.8	29.0	8	298°14.6	05.3
9	314°36.7	· · 15.7	9	314°14.9	· · 04.1	9	313°53.8	· · 48.4	9	313°33.5	· · 28.7	9	313°14.3	· · 04.9
10	329°36.4	15.5	10	329°14.6	03.9	10	328°53.5	48.2	10	328°33.2	28.4	10	328°14.0	04.6
11	344°36.1	15.4	11	344°14.3	03.8	11	343°53.2	48.0	11	343°32.9	28.1	11	343°13.8	04.2
12	359°35.8	S23°15.3	12	359°14.0	S23°03.6	12	358°52.9	S22°47.7	12	358°32.7	S22°27.8	12	358°13.5	S22°03.8
13	14°35.5	15.1	13	14°13.7	03.4	13	13°52.6	47.5	13	13°32.4	27.5	13	13°13.3	03.5
14	29°35.2	15.0	14	29°13.4	03.2	14	28°52.3	47.2	14	28°32.1	27.2	14	28°13.0	03.1
15	44°34.9	· · 14.9	15	44°13.1	· · 03.0	15	43°52.1	· · 47.0	15	43°31.9	· · 26.8	15	43°12.8	· · 02.8
16	59°34.6	14.7	16	59°12.8	02.8	16	58°51.8	46.7	16	58°31.6	26.5	16	58°12.5	02.4
17	74°34.3	14.6	17	74°12.5	02.6	17	73°51.5	46.4	17	73°31.3	26.2	17	73°12.2	02.0
18	89°34.0	S23°14.5	18	89°12.3	S23°02.4	18	88°51.2	S22°46.2	18	88°31.0	S22°25.9	18	88°12.0	S22°01.7
19	104°33.7	14.3	19	104°12.0	02.2	19	103°50.9	45.9	19	103°30.8	25.6	19	103°11.7	01.3
20	119°33.3	14.2	20	119°11.7	02.0	20	118°50.6	45.7	20	118°30.5	25.3	20	118°11.5	00.9
21	134°33.0	· · 14.0	21	134°11.4	· · 01.8	21	133°50.3	· · 45.4	21	133°30.2	· · 25.0	21	133°11.2	· · 00.6
22	149°32.7	13.9	22	149°11.1	01.6	22	148°50.0	45.2	22	148°29.9	24.7	22	148°11.0	22°00.2
23	164°32.4	13.8	23	164°10.8	01.4	23	163°49.8	44.9	23	163°29.7	24.4	23	163°10.7	21°59.8
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		

29	GHA	Dec	01	GHA	Dec	04	GHA	Dec	07	GHA	Dec	10	GHA	Dec
0	179°32.1	S23°13.6	0	179°10.5	S23°01.2	0	178°49.5	S22°44.7	0	178°29.4	S22°24.1	0	178°10.5	S21°59.5
1	194°31.8	13.5	1	194°10.2	01.0	1	193°49.2	44.4	1	193°29.1	23.7	1	193°10.2	59.1
2	209°31.5	13.3	2	209°09.9	00.8	2	208°48.9	44.1	2	208°28.9	23.4	2	208°09.9	58.7
3	224°31.2	· · 13.2	3	224°09.6	· · 00.6	3	223°48.6	· · 43.9	3	223°28.6	· · 23.1	3	223°09.7	· · 58.4
4	239°30.9	13.0	4	239°09.3	00.4	4	238°48.3	43.6	4	238°28.3	22.8	4	238°09.4	58.0
5	254°30.6	12.9	5	254°09.0	00.2	5	253°48.1	43.4	5	253°28.0	22.5	5	253°09.2	57.6
6	269°30.3	S23°12.7	6	269°08.7	S23°00.0	6	268°47.8	S22°43.1	6	268°27.8	S22°22.2	6	268°08.9	S21°57.2
7	284°30.0	12.6	7	284°08.4	22°59.8	7	283°47.5	42.8	7	283°27.5	21.8	7	283°08.7	56.9
8	299°29.7	12.4	8	299°08.1	59.6	8	298°47.2	42.6	8	298°27.2	21.5	8	298°08.4	56.5
9	314°29.4	· · 12.3	9	314°07.8	· · 59.4	9	313°46.9	· · 42.3	9	313°27.0	· · 21.2	9	313°08.2	· · 56.1
10	329°29.1	12.1	10	329°07.5	59.2	10	328°46.6	42.0	10	328°26.7	20.9	10	328°07.9	55.7
11	344°28.8	12.0	11	344°07.2	58.9	11	343°46.3	41.8	11	343°26.4	20.5	11	343°07.7	55.4
12	359°28.5	S23°11.8	12	359°06.9	S22°58.7	12	358°46.1	S22°41.5	12	358°26.2	S22°20.2	12	358°07.4	S21°55.0
13	14°28.2	11.7	13	14°06.6	58.5	13	13°45.8	41.2	13	13°25.9	19.9	13	13°07.2	54.6
14	29°27.9	11.5	14	29°06.3	58.3	14	28°45.5	41.0	14	28°25.6	19.6	14	28°06.9	54.2
15	44°27.6	· · 11.4	15	44°06.0	· · 58.1	15	43°45.2	· · 40.7	15	43°25.4	· · 19.3	15	43°06.7	· · 53.9
16	59°27.3	11.2	16	59°05.7	57.9	16	58°44.9	40.4	16	58°25.1	18.9	16	58°06.4	53.5
17	74°27.0	11.1	17	74°05.4	57.7	17	73°44.6	40.2	17	73°24.8	18.6	17	73°06.2	53.1
18	89°26.7	S23°10.9	18	89°05.1	S22°57.5	18	88°44.4	S22°39.9	18	88°24.6	S22°18.3	18	88°05.9	S21°52.7
19	104°26.4	10.7	19	104°04.9	57.2	19	103°44.1	39.6	19	103°24.3	17.9	19	103°05.7	52.3
20	119°26.1	10.6	20	119°04.6	57.0	20	118°43.8	39.3	20	118°24.0	17.6	20	118°05.4	51.9
21	134°25.8	· · 10.4	21	134°04.3	· · 56.8	21	133°43.5	· · 39.1	21	133°23.7	· · 17.3	21	133°05.2	· · 51.6
22	149°25.5	10.3	22	149°04.0	56.6	22	148°43.2	38.8	22	148°23.5	17.0	22	148°04.9	51.2
23	164°25.2	10.1	23	164°03.7	56.4	23	163°43.0	38.5	23	163°23.2	16.6	23	163°04.7	50.8
SD.=16.3 d=0.1			SD.=16.3 d=0.2			SD.=16.3 d=0.3			SD.=16.3 d=0.3			SD.=16.3 d=0.4		