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Latitude 40° - 49°
Declination CONTRARY name to Latitude

Sight-Reduction Tables for Latitude 40° - 49°

Declination CONTRARY name to Latitude

Revision V1.2 - Apr2017

Warning and Terms of Usage:

The following pages have been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data in these Tables is believed to be accurate but no warranty is given for its correctness.

Use these Tables only for training and exercising!

Compiled by Erik De Man (mail2erik@siranah.de) on Tue Apr 11 09:21:52 2017

Purpose and Scope

The following tables are designed to determine Altitude and Azimuth of a celestial object, given the position of the observer (Latitude - Longitude) and the coordinates of the celestial object (Declination - GHA). Using the Altitude-Intercept Method, the calculated Altitude H_c and Azimuth Z_c may be used to refine the observer's position by comparing the calculated Altitude H_c with the observed Altitude H_o obtained by means of a sextant measurement.

The tables on the following pages were calculated according to:

$$H_c = \text{asin} (\sin(\text{Latitude}) * \sin(\text{Declination}) + \cos(\text{Latitude}) * \cos(\text{Declination}) * \cos(\text{LHA}))$$
$$Z = \text{atan} (\frac{\cos(\text{Declination}) * \sin(\text{LHA})}{\cos(\text{Latitude}) * \sin(\text{Declination}) - \sin(\text{Latitude}) * \cos(\text{Declination}) * \cos(\text{LHA})})$$

The Local Hour Angle (LHA) is the angle measured westward from the observer's Meridian to the Hour Circle of the observed celestial object: $LHA = GHA + Longitude$.

The tables are organized with the Latitude value as primary parameter. The Latitude value is printed on the first line of each page. The particular values for Declination (Dec) and LHA are read from the vertical and horizontal labels of the tables respectively. Notice that each table entry is valid for two different values of LHA related by $LHA_1 = 360^\circ - LHA_2$ (conjugate LHA angles).

The covered range of the Declination values is limited from 0° to 29° , which applies to the Declination of the Sun, the Moon and the planets used for celestial navigation. The LHA range is such that the resulting Altitude is positive (object above the local horizon).

For practical Sight Reduction this manual is used as follows:

1. select the correct part of the manual (Declination "SAME as" / "CONTRARY to" Latitude),
2. select the correct Latitude page,
3. select the correct LHA column from one of the sub-tables,
4. read the H , dH and Z values from the correct Declination (integral value) line.

Further steps include interpolation for the specific (fractional) value of Declination and determination of the true Azimuth value Z_c according to the following rules:

Latitude NORTH	LHA > 180°: $Z_c = Z$
	LHA < 180°: $Z_c = 360^\circ - Z$
Latitude SOUTH	LHA > 180°: $Z_c = 180^\circ - Z$
	LHA < 180°: $Z_c = 180^\circ + Z$

Dec	LHA 000° / 360°	LHA 001° / 359°	LHA 002° / 358°	LHA 003° / 357°	LHA 004° / 356°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	50 00.0 -60.0 180.0	49 59.4 -60.0 178.4	49 57.5 -59.9 176.9	49 54.4 -59.9 175.3	49 50.0 -59.8 173.8
1°	49 00.0 -60.0 180.0	48 59.4 -60.0 178.5	48 57.6 -60.0 177.0	48 54.5 -59.9 175.4	48 50.2 -59.8 173.9
2°	48 00.0 -60.0 180.0	47 59.4 -60.0 178.5	47 57.6 -59.9 177.0	47 54.6 -59.9 175.5	47 50.4 -59.8 174.0
3°	47 00.0 -60.0 180.0	46 59.4 -60.0 178.5	46 57.7 -60.0 177.1	46 54.7 -59.9 175.6	46 50.6 -59.8 174.2
4°	46 00.0 -60.0 180.0	45 59.4 -60.0 178.6	45 57.7 -60.0 177.1	45 54.8 -59.9 175.7	45 50.8 -59.8 174.3
5°	45 00.0 -60.0 180.0	44 59.4 -60.0 178.6	44 57.7 -59.9 177.2	44 54.9 -59.9 175.8	44 51.0 -59.9 174.4
6°	44 00.0 -60.0 180.0	43 59.4 -59.9 178.6	43 57.8 -60.0 177.2	43 55.0 -59.9 175.9	43 51.1 -59.8 174.5
7°	43 00.0 -60.0 180.0	42 59.5 -60.0 178.6	42 57.8 -59.9 177.3	42 55.1 -59.9 175.9	42 51.3 -59.8 174.6
8°	42 00.0 -60.0 180.0	41 59.5 -60.0 178.7	41 57.9 -60.0 177.3	41 55.2 -59.9 176.0	41 51.5 -59.9 174.7
9°	41 00.0 -60.0 180.0	40 59.5 -60.0 178.7	40 57.9 -60.0 177.4	40 55.3 -59.9 176.1	40 51.6 -59.8 174.8
10°	40 00.0 -60.0 180.0	39 59.5 -60.0 178.7	39 57.9 -59.9 177.4	39 55.4 -60.0 176.1	39 51.8 -59.9 174.9
11°	39 00.0 -60.0 180.0	38 59.5 -60.0 178.7	38 58.0 -60.0 177.5	38 55.4 -59.9 176.2	38 51.9 -59.9 175.0
12°	38 00.0 -60.0 180.0	37 59.5 -60.0 178.8	37 58.0 -60.0 177.5	37 55.5 -59.9 176.3	37 52.0 -59.8 175.0
13°	37 00.0 -60.0 180.0	36 59.5 -60.0 178.8	36 58.0 -59.9 177.6	36 55.6 -59.9 176.3	36 52.2 -59.9 175.1
14°	36 00.0 -60.0 180.0	35 59.5 -60.0 178.8	35 58.1 -60.0 177.6	35 55.7 -60.0 176.4	35 52.3 -59.9 175.2
15°	35 00.0 -60.0 180.0	34 59.5 -60.0 178.8	34 58.1 -60.0 177.6	34 55.7 -59.9 176.5	34 52.4 -59.8 175.3
16°	34 00.0 -60.0 180.0	33 59.5 -60.0 178.8	33 58.1 -59.9 177.7	33 55.8 -59.9 176.5	33 52.6 -59.9 175.4
17°	33 00.0 -60.0 180.0	32 59.5 -59.9 178.9	32 58.2 -60.0 177.7	32 55.9 -59.9 176.6	32 52.7 -59.9 175.4
18°	32 00.0 -60.0 180.0	31 59.6 -60.0 178.9	31 58.2 -60.0 177.8	31 56.0 -60.0 176.6	31 52.8 -59.9 175.5
19°	31 00.0 -60.0 180.0	30 59.6 -60.0 178.9	30 58.2 -59.9 177.8	30 56.0 -59.9 176.7	30 52.9 -59.9 175.6
20°	30 00.0 -60.0 180.0	29 59.6 -60.0 178.9	29 58.3 -60.0 177.8	29 56.1 -60.0 176.7	29 53.0 -59.8 175.7
21°	29 00.0 -60.0 180.0	28 59.6 -60.0 178.9	28 58.3 -60.0 177.9	28 56.1 -59.9 176.8	28 53.2 -59.9 175.7
22°	28 00.0 -60.0 180.0	27 59.6 -60.0 178.9	27 58.3 -60.0 177.9	27 56.2 -59.9 176.9	27 53.3 -59.9 175.8
23°	27 00.0 -60.0 180.0	26 59.6 -60.0 179.0	26 58.3 -59.9 177.9	26 56.3 -60.0 176.9	26 53.4 -59.9 175.9
24°	26 00.0 -60.0 180.0	25 59.6 -60.0 179.0	25 58.4 -60.0 178.0	25 56.3 -59.9 177.0	25 53.5 -59.9 175.9
25°	25 00.0 -60.0 180.0	24 59.6 -60.0 179.0	24 58.4 -60.0 178.0	24 56.4 -59.9 177.0	24 53.6 -59.9 176.0
26°	24 00.0 -60.0 180.0	23 59.6 -60.0 179.0	23 58.4 -60.0 178.0	23 56.5 -60.0 177.0	23 53.7 -59.9 176.1
27°	23 00.0 -60.0 180.0	22 59.6 -60.0 179.0	22 58.4 -59.9 178.1	22 56.5 -59.9 177.1	22 53.8 -59.9 176.1
28°	22 00.0 -60.0 180.0	21 59.6 -60.0 179.0	21 58.5 -60.0 178.1	21 56.6 -60.0 177.1	21 53.9 -59.9 176.2
29°	21 00.0 -60.0 180.0	20 59.6 -60.0 179.1	20 58.5 -60.0 178.1	20 56.6 -59.9 177.2	20 54.0 -59.9 176.3

Dec	LHA 005° / 355°	LHA 006° / 354°	LHA 007° / 353°	LHA 008° / 352°	LHA 009° / 351°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	49 44.5 -59.7 172.2	49 37.6 -59.5 170.7	49 29.6 -59.4 169.2	49 20.4 -59.2 167.7	49 10.0 -59.0 166.2
1°	48 44.8 -59.7 172.4	48 38.1 -59.6 170.9	48 30.2 -59.4 169.4	48 21.2 -59.2 167.9	48 11.0 -59.1 166.4
2°	47 45.1 -59.7 172.6	47 38.5 -59.6 171.1	47 30.8 -59.4 169.6	47 22.0 -59.3 168.1	47 11.9 -59.0 166.7
3°	46 45.4 -59.8 172.7	46 38.9 -59.6 171.3	46 31.4 -59.5 169.8	46 22.7 -59.3 168.4	46 12.9 -59.1 167.0
4°	45 45.6 -59.7 172.8	45 39.3 -59.6 171.4	45 31.9 -59.4 170.0	45 23.4 -59.3 168.6	45 13.8 -59.2 167.2
5°	44 45.9 -59.7 173.0	44 39.7 -59.6 171.6	44 32.5 -59.5 170.2	44 24.1 -59.4 168.8	44 14.6 -59.1 167.4
6°	43 46.2 -59.8 173.1	43 40.1 -59.6 171.7	43 33.0 -59.5 170.4	43 24.7 -59.3 169.0	43 15.5 -59.2 167.7
7°	42 46.4 -59.7 173.2	42 40.5 -59.7 171.9	42 33.5 -59.6 170.5	42 25.4 -59.4 169.2	42 16.3 -59.3 167.9
8°	41 46.7 -59.8 173.4	41 40.8 -59.6 172.0	41 33.9 -59.5 170.7	41 26.0 -59.4 169.4	41 17.0 -59.2 168.1
9°	40 46.9 -59.8 173.5	40 41.2 -59.7 172.2	40 34.4 -59.6 170.9	40 26.6 -59.4 169.6	40 17.8 -59.3 168.3
10°	39 47.1 -59.7 173.6	39 41.5 -59.7 172.3	39 34.8 -59.5 171.0	39 27.2 -59.5 169.8	39 18.5 -59.3 168.5
11°	38 47.4 -59.8 173.7	38 41.8 -59.7 172.4	38 35.3 -59.6 171.2	38 27.7 -59.4 170.0	38 19.2 -59.3 168.7
12°	37 47.6 -59.8 173.8	37 42.1 -59.7 172.6	37 35.7 -59.6 171.3	37 28.3 -59.5 170.1	37 19.9 -59.3 168.9
13°	36 47.8 -59.8 173.9	36 42.4 -59.7 172.7	36 36.1 -59.6 171.5	36 28.8 -59.4 170.3	36 20.6 -59.3 169.1
14°	35 48.0 -59.8 174.0	35 42.7 -59.7 172.8	35 36.5 -59.6 171.6	35 29.4 -59.5 170.5	35 21.3 -59.4 169.3
15°	34 48.2 -59.8 174.1	34 43.0 -59.7 172.9	34 36.9 -59.6 171.8	34 29.9 -59.5 170.6	34 21.9 -59.4 169.5
16°	33 48.4 -59.8 174.2	33 43.3 -59.7 173.1	33 37.3 -59.6 171.9	33 30.4 -59.5 170.8	33 22.5 -59.3 169.6
17°	32 48.6 -59.8 174.3	32 43.6 -59.8 173.2	32 37.7 -59.7 172.0	32 30.9 -59.6 170.9	32 23.2 -59.4 169.8
18°	31 48.8 -59.8 174.4	31 43.8 -59.7 173.3	31 38.0 -59.6 172.2	31 31.3 -59.5 171.1	31 23.8 -59.5 170.0
19°	30 49.0 -59.9 174.5	30 44.1 -59.7 173.4	30 38.4 -59.7 172.3	30 31.8 -59.5 171.2	30 24.3 -59.4 170.1
20°	29 49.1 -59.8 174.6	29 44.4 -59.8 173.5	29 38.7 -59.6 172.4	29 32.3 -59.6 171.4	29 24.9 -59.4 170.3
21°	28 49.3 -59.8 174.7	28 44.6 -59.7 173.6	28 39.1 -59.7 172.6	28 32.7 -59.6 171.5	28 25.5 -59.5 170.4
22°	27 49.5 -59.8 174.8	27 44.9 -59.8 173.7	27 39.4 -59.6 172.7	27 33.1 -59.5 171.6	27 26.0 -59.4 170.6
23°	26 49.7 -59.9 174.8	26 45.1 -59.7 173.8	26 39.8 -59.7 172.8	26 33.6 -59.6 171.8	26 26.6 -59.5 170.7
24°	25 49.8 -59.8 174.9	25 45.4 -59.8 173.9	25 40.1 -59.7 172.9	25 34.0 -59.6 171.9	25 27.1 -59.5 170.9
25°	24 50.0 -59.9 175.0	24 45.6 -59.8 174.0	24 40.4 -59.7 173.0	24 34.4 -59.6 172.0	24 27.6 -59.4 171.0
26°	23 50.1 -59.8 175.1	23 45.8 -59.8 174.1	23 40.7 -59.7 173.1	23 34.8 -59.6 172.2	23 28.2 -59.5 171.2
27°	22 50.3 -59.8 175.2	22 46.0 -59.7 174.2	22 41.0 -59.7 173.2	22 35.2 -59.6 172.3	22 28.7 -59.5 171.3
28°	21 50.5 -59.9 175.2	21 46.3 -59.8 174.3	21 41.3 -59.7 173.4	21 35.6 -59.6 172.4	21 29.2 -59.5 171.5
29°	20 50.6 -59.8 175.3	20 46.5 -59.8 174.4	20 41.6 -59.7 173.5	20 36.0 -59.6 172.5	20 29.7 -59.5 171.6

Latitude 40°

Declination CONTRARY name to Latitude

Dec	LHA 010° / 350°	LHA 011° / 349°	LHA 012° / 348°	LHA 013° / 347°	LHA 014° / 346°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	48 58.4 -58.8 164.7	48 45.7 -58.6 163.2	48 31.8 -58.3 161.7	48 16.8 -58.0 160.2	48 00.7 -57.7 158.8
1°	47 59.6 -58.8 165.0	47 47.1 -58.5 163.5	47 33.5 -58.3 162.1	47 18.8 -58.0 160.6	47 03.0 -57.7 159.2
2°	47 00.8 -58.9 165.3	46 48.6 -58.7 163.8	46 35.2 -58.4 162.4	46 20.8 -58.2 161.0	46 05.3 -57.9 159.6
3°	46 01.9 -58.9 165.5	45 49.9 -58.7 164.1	45 36.8 -58.4 162.7	45 22.6 -58.2 161.3	45 07.4 -57.9 160.0
4°	45 03.0 -58.9 165.8	44 51.2 -58.7 164.4	44 38.4 -58.5 163.1	44 24.4 -58.2 161.7	44 09.5 -58.0 160.3
5°	44 04.1 -59.0 166.1	43 52.5 -58.8 164.7	43 39.9 -58.6 163.4	43 26.2 -58.3 162.0	43 11.5 -58.1 160.7
6°	43 05.1 -59.0 166.3	42 53.7 -58.8 165.0	42 41.3 -58.6 163.7	42 27.9 -58.4 162.3	42 13.4 -58.1 161.0
7°	42 06.1 -59.0 166.6	41 54.9 -58.8 165.3	41 42.7 -58.6 164.0	41 29.5 -58.4 162.7	41 15.3 -58.2 161.4
8°	41 07.1 -59.1 166.8	40 56.1 -58.9 165.5	40 44.1 -58.7 164.2	40 31.1 -58.5 163.0	40 17.1 -58.2 161.7
9°	40 08.0 -59.1 167.0	39 57.2 -58.9 165.8	39 45.4 -58.7 164.5	39 32.6 -58.5 163.3	39 18.9 -58.3 162.0
10°	39 08.9 -59.1 167.3	38 58.3 -59.0 166.0	38 46.7 -58.8 164.8	38 34.1 -58.5 163.5	38 20.6 -58.3 162.3
11°	38 09.8 -59.2 167.5	37 59.3 -59.0 166.3	37 47.9 -58.8 165.0	37 35.6 -58.6 163.8	37 22.3 -58.4 162.6
12°	37 10.6 -59.2 167.7	37 00.3 -59.0 166.5	36 49.1 -58.8 165.3	36 37.0 -58.6 164.1	36 23.9 -58.4 162.9
13°	36 11.4 -59.1 167.9	36 01.3 -59.0 166.7	35 50.3 -58.8 165.5	35 38.4 -58.7 164.4	35 25.5 -58.4 163.2
14°	35 12.3 -59.3 168.1	35 02.3 -59.0 166.9	34 51.5 -58.9 165.8	34 39.7 -58.7 164.6	34 27.1 -58.5 163.5
15°	34 13.0 -59.2 168.3	34 03.3 -59.1 167.1	33 52.6 -58.9 166.0	33 41.0 -58.7 164.9	33 28.6 -58.5 163.7
16°	33 13.8 -59.2 168.5	33 04.2 -59.1 167.4	32 53.7 -58.9 166.2	32 42.3 -58.7 165.1	32 30.1 -58.6 164.0
17°	32 14.6 -59.3 168.7	32 05.1 -59.1 167.6	31 54.8 -59.0 166.5	31 43.6 -58.8 165.3	31 31.5 -58.5 164.3
18°	31 15.3 -59.3 168.9	31 06.0 -59.1 167.8	30 55.8 -58.9 166.7	30 44.8 -58.8 165.6	30 33.0 -58.7 164.5
19°	30 16.0 -59.3 169.0	30 06.9 -59.2 168.0	29 56.9 -59.0 166.9	29 46.0 -58.8 165.8	29 34.3 -58.6 164.8
20°	29 16.7 -59.3 169.2	29 07.7 -59.1 168.2	28 57.9 -59.0 167.1	28 47.2 -58.8 166.0	28 35.7 -58.7 165.0
21°	28 17.4 -59.3 169.4	28 08.6 -59.2 168.3	27 58.9 -59.1 167.3	27 48.4 -58.9 166.3	27 37.0 -58.6 165.2
22°	27 18.1 -59.3 169.6	27 09.4 -59.2 168.5	26 59.8 -59.0 167.5	26 49.5 -58.9 166.5	26 38.4 -58.7 165.5
23°	26 18.8 -59.3 169.7	26 10.2 -59.2 168.7	26 00.8 -59.1 167.7	25 50.6 -58.9 166.7	25 39.7 -58.8 165.7
24°	25 19.5 -59.4 169.9	25 11.0 -59.2 168.9	25 01.7 -59.0 167.9	24 51.7 -58.9 166.9	24 40.9 -58.7 165.9
25°	24 20.1 -59.4 170.1	24 11.8 -59.3 169.1	24 02.7 -59.1 168.1	23 52.8 -58.9 167.1	23 42.2 -58.8 166.1
26°	23 20.7 -59.3 170.2	23 12.5 -59.2 169.2	23 03.6 -59.1 168.3	22 53.9 -59.0 167.3	22 43.4 -58.8 166.4
27°	22 21.4 -59.4 170.4	22 13.3 -59.3 169.4	22 04.5 -59.1 168.5	21 54.9 -58.9 167.5	21 44.6 -58.8 166.6
28°	21 22.0 -59.4 170.5	21 14.0 -59.2 169.6	21 05.4 -59.2 168.7	20 56.0 -59.0 167.7	20 45.8 -58.8 166.8
29°	20 22.6 -59.4 170.7	20 14.8 -59.3 169.8	20 06.2 -59.1 168.8	19 57.0 -59.0 167.9	19 47.0 -58.8 167.0

Dec	LHA 015° / 345°	LHA 016° / 344°	LHA 017° / 343°	LHA 018° / 342°	LHA 019° / 341°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	47 43.6 -57.4 157.4	47 25.4 -57.1 156.0	47 06.1 -56.7 154.6	46 45.9 -56.4 153.2	46 24.7 -56.0 151.8
1°	46 46.2 -57.5 157.8	46 28.3 -57.1 156.4	46 09.4 -56.8 155.0	45 49.5 -56.5 153.7	45 28.7 -56.2 152.3
2°	45 48.7 -57.5 158.2	45 31.2 -57.3 156.8	45 12.6 -56.9 155.5	44 53.0 -56.6 154.2	44 32.5 -56.2 152.8
3°	44 51.2 -57.7 158.6	44 33.9 -57.3 157.3	44 15.7 -57.1 155.9	43 56.4 -56.7 154.6	43 36.3 -56.4 153.3
4°	43 53.5 -57.7 159.0	43 36.6 -57.5 157.7	43 18.6 -57.1 156.4	42 59.7 -56.8 155.1	42 39.9 -56.5 153.8
5°	42 55.8 -57.8 159.4	42 39.1 -57.5 158.1	42 21.5 -57.2 156.8	42 02.9 -56.9 155.5	41 43.4 -56.6 154.2
6°	41 58.0 -57.9 159.7	41 41.6 -57.6 158.5	41 24.3 -57.3 157.2	41 06.0 -57.0 155.9	40 46.8 -56.7 154.7
7°	41 00.1 -57.9 160.1	40 44.0 -57.6 158.8	40 27.0 -57.4 157.6	40 09.0 -57.1 156.3	39 50.1 -56.8 155.1
8°	40 02.2 -58.0 160.4	39 46.4 -57.8 159.2	39 29.6 -57.5 158.0	39 11.9 -57.2 156.7	38 53.3 -56.9 155.5
9°	39 04.2 -58.0 160.8	38 48.6 -57.7 159.6	38 32.1 -57.5 158.3	38 14.7 -57.2 157.1	37 56.4 -57.0 155.9
10°	38 06.2 -58.1 161.1	37 50.9 -57.9 159.9	37 34.6 -57.6 158.7	37 17.5 -57.4 157.5	36 59.4 -57.0 156.3
11°	37 08.1 -58.1 161.4	36 53.0 -57.9 160.2	36 37.0 -57.6 159.0	36 20.1 -57.3 157.9	36 02.4 -57.1 156.7
12°	36 10.0 -58.2 161.7	35 55.1 -57.9 160.6	35 39.4 -57.7 159.4	35 22.8 -57.5 158.2	35 05.3 -57.2 157.1
13°	35 11.8 -58.2 162.0	34 57.2 -58.0 160.9	34 41.7 -57.8 159.7	34 25.3 -57.5 158.6	34 08.1 -57.2 157.5
14°	34 13.6 -58.3 162.3	33 59.2 -58.1 161.2	33 43.9 -57.8 160.1	33 27.8 -57.5 158.9	33 10.9 -57.3 157.8
15°	33 15.3 -58.3 162.6	33 01.1 -58.1 161.5	32 46.1 -57.9 160.4	32 30.3 -57.7 159.3	32 13.6 -57.4 158.2
16°	32 17.0 -58.4 162.9	32 03.0 -58.1 161.8	31 48.2 -57.9 160.7	31 32.6 -57.6 159.6	31 16.2 -57.4 158.5
17°	31 18.6 -58.3 163.2	31 04.9 -58.2 162.1	30 50.3 -57.9 161.0	30 35.0 -57.7 159.9	30 18.8 -57.5 158.9
18°	30 20.3 -58.5 163.4	30 06.7 -58.2 162.4	29 52.4 -58.0 161.3	29 37.3 -57.8 160.2	29 21.3 -57.5 159.2
19°	29 21.8 -58.4 163.7	29 08.5 -58.2 162.6	28 54.4 -58.0 161.6	28 39.5 -57.8 160.6	28 23.8 -57.5 159.5
20°	28 23.4 -58.5 164.0	28 10.3 -58.3 162.9	27 56.4 -58.1 161.9	27 41.7 -57.8 160.9	27 26.3 -57.6 159.8
21°	27 24.9 -58.5 164.2	27 12.0 -58.3 163.2	26 58.3 -58.1 162.2	26 43.9 -57.9 161.2	26 28.7 -57.7 160.1
22°	26 26.4 -58.5 164.5	26 13.7 -58.3 163.4	26 00.2 -58.1 162.4	25 46.0 -57.9 161.4	25 31.0 -57.7 160.5
23°	25 27.9 -58.5 164.7	25 15.4 -58.4 163.7	25 02.1 -58.1 162.7	24 48.1 -57.9 161.7	24 33.3 -57.7 160.8
24°	24 29.4 -58.6 164.9	24 17.0 -58.3 164.0	24 04.0 -58.2 163.0	23 50.2 -58.0 162.0	23 35.6 -57.7 161.1
25°	23 30.8 -58.6 165.2	23 18.7 -58.4 164.2	23 05.8 -58.2 163.3	22 52.2 -58.0 162.3	22 37.9 -57.8 161.4
26°	22 32.2 -58.6 165.4	22 20.3 -58.5 164.5	22 07.6 -58.2 163.5	21 54.2 -58.0 162.6	21 40.1 -57.8 161.6
27°	21 33.6 -58.6 165.6	21 21.8 -58.4 164.7	21 09.4 -58.3 163.8	20 56.2 -58.1 162.9	20 42.3 -57.9 161.9
28°	20 35.0 -58.7 165.9	20 23.4 -58.5 165.0	20 11.1 -58.3 164.0	19 58.1 -58.1 163.1	19 44.4 -57.9 162.2
29°	19 36.3 -58.6 166.1	19 24.9 -58.5 165.2	19 12.8 -58.3 164.3	19 00.0 -58.1 163.4	18 46.5 -57.8 162.5

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Dec	LHA 020° / 340°	LHA 021° / 339°	LHA 022° / 338°	LHA 023° / 337°	LHA 024° / 336°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	46 02.5 -55.6 150.5	45 39.4 -55.3 149.2	45 15.4 -54.9 147.8	44 50.5 -54.5 146.6	44 24.7 -54.1 145.3
1°	45 06.9 -55.8 151.0	44 44.1 -55.4 149.7	44 20.5 -55.0 148.4	43 56.0 -54.7 147.1	43 30.6 -54.2 145.9
2°	44 11.1 -55.9 151.5	43 48.7 -55.5 150.2	43 25.5 -55.2 149.0	43 01.3 -54.8 147.7	42 36.4 -54.5 146.5
3°	43 15.2 -56.1 152.0	42 53.2 -55.7 150.8	42 30.3 -55.4 149.5	42 06.5 -54.9 148.3	41 41.9 -54.6 147.0
4°	42 19.1 -56.1 152.5	41 57.5 -55.9 151.3	41 34.9 -55.4 150.0	41 11.6 -55.2 148.8	40 47.3 -54.7 147.6
5°	41 23.0 -56.3 153.0	41 01.6 -55.9 151.8	40 39.5 -55.6 150.5	40 16.4 -55.2 149.3	39 52.6 -54.9 148.1
6°	40 26.7 -56.4 153.5	40 05.7 -56.1 152.2	39 43.9 -55.8 151.0	39 21.2 -55.4 149.8	38 57.7 -55.1 148.7
7°	39 30.3 -56.5 153.9	39 09.6 -56.1 152.7	38 48.1 -55.8 151.5	38 25.8 -55.5 150.3	38 02.6 -55.1 149.2
8°	38 33.8 -56.6 154.3	38 13.5 -56.3 153.1	37 52.3 -56.0 152.0	37 30.3 -55.6 150.8	37 07.5 -55.3 149.7
9°	37 37.2 -56.6 154.8	37 17.2 -56.4 153.6	36 56.3 -56.0 152.4	36 34.7 -55.8 151.3	36 12.2 -55.4 150.1
10°	36 40.6 -56.8 155.2	36 20.8 -56.4 154.0	36 00.3 -56.2 152.9	35 38.9 -55.8 151.7	35 16.8 -55.5 150.6
11°	35 43.8 -56.8 155.6	35 24.4 -56.5 154.4	35 04.1 -56.2 153.3	34 43.1 -55.9 152.2	34 21.3 -55.7 151.1
12°	34 47.0 -56.9 156.0	34 27.9 -56.7 154.8	34 07.9 -56.3 153.7	33 47.2 -56.0 152.6	33 25.6 -55.7 151.5
13°	33 50.1 -57.0 156.3	33 31.2 -56.6 155.2	33 11.6 -56.4 154.1	32 51.2 -56.2 153.1	32 29.9 -55.8 152.0
14°	32 53.1 -57.0 156.7	32 34.6 -56.8 155.6	32 15.2 -56.5 154.5	31 55.0 -56.1 153.5	31 34.1 -55.8 152.4
15°	31 56.1 -57.1 157.1	31 37.8 -56.8 156.0	31 18.7 -56.5 154.9	30 58.9 -56.3 153.9	30 38.3 -56.0 152.8
16°	30 59.0 -57.2 157.5	30 41.0 -56.9 156.4	30 22.2 -56.7 155.3	30 02.6 -56.3 154.3	29 42.3 -56.1 153.2
17°	30 01.8 -57.2 157.8	29 44.1 -57.0 156.8	29 25.5 -56.6 155.7	29 06.3 -56.4 154.7	28 46.2 -56.1 153.7
18°	29 04.6 -57.3 158.1	28 47.1 -57.0 157.1	28 28.9 -56.8 156.1	28 09.9 -56.5 155.1	27 50.1 -56.2 154.1
19°	28 07.3 -57.3 158.5	27 50.1 -57.1 157.5	27 32.1 -56.8 156.5	27 13.4 -56.5 155.5	26 53.9 -56.2 154.5
20°	27 10.0 -57.3 158.8	26 53.0 -57.1 157.8	26 35.3 -56.8 156.8	26 16.9 -56.6 155.8	25 57.7 -56.3 154.8
21°	26 12.7 -57.4 159.2	25 55.9 -57.1 158.2	25 38.5 -56.9 157.2	25 20.3 -56.7 156.2	25 01.4 -56.4 155.2
22°	25 15.3 -57.5 159.5	24 58.8 -57.2 158.5	24 41.6 -57.0 157.5	24 23.6 -56.7 156.6	24 05.0 -56.4 155.6
23°	24 17.8 -57.5 159.8	24 01.6 -57.3 158.8	23 44.6 -57.0 157.9	23 26.9 -56.7 156.9	23 08.6 -56.5 156.0
24°	23 20.3 -57.5 160.1	23 04.3 -57.3 159.2	22 47.6 -57.0 158.2	22 30.2 -56.8 157.3	22 12.1 -56.5 156.3
25°	22 22.8 -57.6 160.4	22 07.0 -57.3 159.5	21 50.6 -57.1 158.5	21 33.4 -56.8 157.6	21 15.6 -56.6 156.7
26°	21 25.2 -57.5 160.7	21 09.7 -57.3 159.8	20 53.5 -57.1 158.9	20 36.6 -56.9 158.0	20 19.0 -56.6 157.1
27°	20 27.7 -57.7 161.0	20 12.4 -57.4 160.1	19 56.4 -57.2 159.2	19 39.7 -56.9 158.3	19 22.4 -56.7 157.4
28°	19 30.0 -57.6 161.3	19 15.0 -57.5 160.4	18 59.2 -57.2 159.5	18 42.8 -56.9 158.6	18 25.7 -56.6 157.8
29°	18 32.4 -57.7 161.6	18 17.5 -57.4 160.7	18 02.0 -57.2 159.8	17 45.9 -57.0 159.0	17 29.1 -56.8 158.1

Dec	LHA 025° / 335°	LHA 026° / 334°	LHA 027° / 333°	LHA 028° / 332°	LHA 029° / 331°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	43 58.2 -53.7 144.0	43 30.8 -53.3 142.8	43 02.6 -52.9 141.6	42 33.7 -52.5 140.4	42 04.0 -52.1 139.2
1°	43 04.5 -53.9 144.7	42 37.5 -53.5 143.4	42 09.7 -53.1 142.2	41 41.2 -52.7 141.1	41 11.9 -52.2 139.9
2°	42 10.6 -54.1 145.3	41 44.0 -53.7 144.1	41 16.6 -53.3 142.9	40 48.5 -52.9 141.7	40 19.7 -52.5 140.5
3°	41 16.5 -54.2 145.8	40 50.3 -53.8 144.6	40 23.3 -53.4 143.5	39 55.6 -53.1 142.3	39 27.2 -52.8 141.2
4°	40 22.3 -54.4 146.4	39 56.5 -54.1 145.2	39 29.9 -53.7 144.1	39 02.5 -53.2 142.9	38 34.4 -52.8 141.8
5°	39 27.9 -54.5 147.0	39 02.4 -54.1 145.8	38 36.2 -53.8 144.6	38 09.3 -53.5 143.5	37 41.6 -53.1 142.4
6°	38 33.4 -54.7 147.5	38 08.3 -54.4 146.3	37 42.4 -54.0 145.2	37 15.8 -53.6 144.1	36 48.5 -53.2 143.0
7°	37 38.7 -54.8 148.0	37 13.9 -54.4 146.9	36 48.4 -54.1 145.8	36 22.2 -53.7 144.6	35 55.3 -53.4 143.5
8°	36 43.9 -55.0 148.5	36 19.5 -54.6 147.4	35 54.3 -54.2 146.3	35 28.5 -54.0 145.2	35 01.9 -53.6 144.1
9°	35 48.9 -55.1 149.0	35 24.9 -54.8 147.9	35 00.1 -54.4 146.8	34 34.5 -54.0 145.7	34 08.3 -53.7 144.7
10°	34 53.8 -55.2 149.5	34 30.1 -54.8 148.4	34 05.7 -54.5 147.3	33 40.5 -54.2 146.3	33 14.6 -53.8 145.2
11°	33 58.6 -55.2 150.0	33 35.3 -55.0 148.9	33 11.2 -54.7 147.8	32 46.3 -54.3 146.8	32 20.8 -54.0 145.7
12°	33 03.4 -55.4 150.4	32 40.3 -55.1 149.4	32 16.5 -54.7 148.3	31 52.0 -54.4 147.3	31 26.8 -54.0 146.2
13°	32 08.0 -55.5 150.9	31 45.2 -55.1 149.8	31 21.8 -54.9 148.8	30 57.6 -54.5 147.8	30 32.8 -54.2 146.7
14°	31 12.5 -55.6 151.4	30 50.1 -55.3 150.3	30 26.9 -54.9 149.3	30 03.1 -54.6 148.2	29 38.6 -54.3 147.2
15°	30 16.9 -55.7 151.8	29 54.8 -55.4 150.8	29 32.0 -55.1 149.7	29 08.5 -54.8 148.7	28 44.3 -54.4 147.7
16°	29 21.2 -55.7 152.2	28 59.4 -55.4 151.2	28 36.9 -55.1 150.2	28 13.7 -54.8 149.2	27 49.9 -54.5 148.2
17°	28 25.5 -55.8 152.6	28 04.0 -55.5 151.6	27 41.8 -55.2 150.6	27 18.9 -54.9 149.6	26 55.4 -54.6 148.7
18°	27 29.7 -55.9 153.1	27 08.5 -55.6 152.1	26 46.6 -55.3 151.1	26 24.0 -55.0 150.1	26 00.8 -54.7 149.1
19°	26 33.8 -56.0 153.5	26 12.9 -55.7 152.5	25 51.3 -55.4 151.5	25 29.0 -55.0 150.5	25 06.1 -54.8 149.6
20°	25 37.8 -56.0 153.9	25 17.2 -55.7 152.9	24 55.9 -55.4 151.9	24 34.0 -55.2 151.0	24 11.3 -54.8 150.0
21°	24 41.8 -56.1 154.3	24 21.5 -55.8 153.3	24 00.5 -55.5 152.4	23 38.8 -55.2 151.4	23 16.5 -54.9 150.5
22°	23 45.7 -56.2 154.7	23 25.7 -55.9 153.7	23 05.0 -55.6 152.8	22 43.6 -55.3 151.8	22 21.6 -55.0 150.9
23°	22 49.5 -56.2 155.0	22 29.8 -55.9 154.1	22 09.4 -55.7 153.2	21 48.3 -55.3 152.3	21 26.6 -55.1 151.4
24°	21 53.3 -56.2 155.4	21 33.9 -56.0 154.5	21 13.7 -55.7 153.6	20 53.0 -55.4 152.7	20 31.5 -55.1 151.8
25°	20 57.1 -56.3 155.8	20 37.9 -56.0 154.9	20 18.0 -55.7 154.0	19 57.6 -55.5 153.1	19 36.4 -55.1 152.2
26°	20 00.8 -56.4 156.2	19 41.9 -56.1 155.3	19 22.3 -55.8 154.4	19 02.1 -55.5 153.5	18 41.3 -55.3 152.6
27°	19 04.4 -56.4 156.5	18 45.8 -56.1 155.6	18 26.5 -55.9 154.8	18 06.6 -55.6 153.9	17 46.0 -55.2 153.0
28°	18 08.0 -56.4 156.9	17 49.7 -56.2 156.0	17 30.6 -55.8 155.1	17 11.0 -55.6 154.3	16 50.8 -55.4 153.4
29°	17 11.6 -56.5 157.2	16 53.5 -56.2 156.4	16 34.8 -56.0 155.5	16 15.4 -55.6 154.7	15 55.4 -55.3 153.8

Dec	LHA 030° / 330°	LHA 031° / 329°	LHA 032° / 328°	LHA 033° / 327°	LHA 034° / 326°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	41 33.6 -51.6 138.1	41 02.6 -51.3 136.9	40 30.9 -50.9 135.8	39 58.5 -50.4 134.7	39 25.6 -50.1 133.6
1°	40 42.0 -51.9 138.7	40 11.3 -51.5 137.6	39 40.0 -51.1 136.5	39 08.1 -50.7 135.4	38 35.5 -50.3 134.3
2°	39 50.1 -52.1 139.4	39 19.8 -51.7 138.3	38 48.9 -51.3 137.2	38 17.4 -51.0 136.1	37 45.2 -50.6 135.0
3°	38 58.0 -52.3 140.0	38 28.1 -51.9 138.9	37 57.6 -51.5 137.8	37 26.4 -51.1 136.8	36 54.6 -50.7 135.7
4°	38 05.7 -52.5 140.7	37 36.2 -52.1 139.6	37 06.1 -51.8 138.5	36 35.3 -51.4 137.4	36 03.9 -51.0 136.4
5°	37 13.2 -52.7 141.3	36 44.1 -52.4 140.2	36 14.3 -51.9 139.1	35 43.9 -51.6 138.1	35 12.9 -51.2 137.0
6°	36 20.5 -52.9 141.9	35 51.7 -52.4 140.8	35 22.4 -52.2 139.7	34 52.3 -51.7 138.7	34 21.7 -51.4 137.6
7°	35 27.6 -53.0 142.5	34 59.3 -52.7 141.4	34 30.2 -52.3 140.3	34 00.6 -51.9 139.3	33 30.3 -51.6 138.3
8°	34 34.6 -53.2 143.0	34 06.6 -52.8 142.0	33 37.9 -52.4 140.9	33 08.7 -52.2 139.9	32 38.7 -51.7 138.9
9°	33 41.4 -53.4 143.6	33 13.8 -53.0 142.5	32 45.5 -52.7 141.5	32 16.5 -52.2 140.5	31 47.0 -51.9 139.5
10°	32 48.0 -53.4 144.1	32 20.8 -53.2 143.1	31 52.8 -52.7 142.1	31 24.3 -52.4 141.1	30 55.1 -52.1 140.1
11°	31 54.6 -53.7 144.7	31 27.6 -53.2 143.7	31 00.1 -52.9 142.6	30 31.9 -52.6 141.6	30 03.0 -52.2 140.6
12°	31 00.9 -53.7 145.2	30 34.4 -53.4 144.2	30 07.2 -53.1 143.2	29 39.3 -52.7 142.2	29 10.8 -52.3 141.2
13°	30 07.2 -53.8 145.7	29 41.0 -53.5 144.7	29 14.1 -53.2 143.7	28 46.6 -52.8 142.7	28 18.5 -52.5 141.8
14°	29 13.4 -54.0 146.2	28 47.5 -53.7 145.2	28 20.9 -53.3 144.3	27 53.8 -53.0 143.3	27 26.0 -52.6 142.3
15°	28 19.4 -54.1 146.7	27 53.8 -53.7 145.7	27 27.6 -53.4 144.8	27 00.8 -53.1 143.8	26 33.4 -52.8 142.9
16°	27 25.3 -54.2 147.2	27 00.1 -53.9 146.2	26 34.2 -53.5 145.3	26 07.7 -53.1 144.3	25 40.6 -52.8 143.4
17°	26 31.1 -54.2 147.7	26 06.2 -53.9 146.7	25 40.7 -53.6 145.8	25 14.6 -53.3 144.8	24 47.8 -53.0 143.9
18°	25 36.9 -54.4 148.2	25 12.3 -54.0 147.2	24 47.1 -53.7 146.3	24 21.3 -53.4 145.3	23 54.8 -53.0 144.4
19°	24 42.5 -54.4 148.6	24 18.3 -54.2 147.7	23 53.4 -53.8 146.8	23 27.9 -53.5 145.8	23 01.8 -53.2 144.9
20°	23 48.1 -54.6 149.1	23 24.1 -54.2 148.2	22 59.6 -53.9 147.3	22 34.4 -53.6 146.3	22 08.6 -53.2 145.4
21°	22 53.5 -54.6 149.6	22 29.9 -54.3 148.6	22 05.7 -54.0 147.7	21 40.8 -53.6 146.8	21 15.4 -53.3 145.9
22°	21 58.9 -54.7 150.0	21 35.6 -54.3 149.1	21 11.7 -54.0 148.2	20 47.2 -53.7 147.3	20 22.1 -53.4 146.4
23°	21 04.2 -54.7 150.4	20 41.3 -54.5 149.6	20 17.7 -54.2 148.7	19 53.5 -53.9 147.8	19 28.7 -53.5 146.9
24°	20 09.5 -54.8 150.9	19 46.8 -54.5 150.0	19 23.5 -54.2 149.1	18 59.6 -53.8 148.3	18 35.2 -53.6 147.4
25°	19 14.7 -54.9 151.3	18 52.3 -54.6 150.4	18 29.3 -54.2 149.6	18 05.8 -54.0 148.7	17 41.6 -53.6 147.9
26°	18 19.8 -54.9 151.7	17 57.7 -54.6 150.9	17 35.1 -54.3 150.0	17 11.8 -54.0 149.2	16 48.0 -53.7 148.3
27°	17 24.9 -55.0 152.2	17 03.1 -54.7 151.3	16 40.8 -54.4 150.5	16 17.8 -54.0 149.6	15 54.3 -53.8 148.8
28°	16 29.9 -55.0 152.6	16 08.4 -54.7 151.7	15 46.4 -54.4 150.9	15 23.8 -54.2 150.1	15 00.5 -53.8 149.3
29°	15 34.9 -55.1 153.0	15 13.7 -54.8 152.2	14 52.0 -54.5 151.3	14 29.6 -54.1 150.5	14 06.7 -53.8 149.7

Dec	LHA 035° / 325°	LHA 036° / 324°	LHA 037° / 323°	LHA 038° / 322°	LHA 039° / 321°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	38 52.0 -49.7 132.6	38 17.8 -49.2 131.5	37 43.1 -48.8 130.5	37 07.9 -48.5 129.4	36 32.2 -48.2 128.4
1°	38 02.3 -49.9 133.3	37 28.6 -49.6 132.2	36 54.3 -49.2 131.2	36 19.4 -48.8 130.2	35 44.0 -48.4 129.2
2°	37 12.4 -50.2 134.0	36 39.0 -49.7 132.9	36 05.1 -49.4 131.9	35 30.6 -49.0 130.9	34 55.6 -48.6 129.9
3°	36 22.2 -50.4 134.7	35 49.3 -50.1 133.6	35 15.7 -49.6 132.6	34 41.6 -49.3 131.6	34 07.0 -48.9 130.6
4°	35 31.8 -50.6 135.3	34 59.2 -50.2 134.3	34 26.1 -49.9 133.3	33 52.3 -49.5 132.3	33 18.1 -49.2 131.3
5°	34 41.2 -50.8 136.0	34 09.0 -50.4 135.0	33 36.2 -50.1 134.0	33 02.8 -49.7 133.0	32 28.9 -49.3 132.0
6°	33 50.4 -51.0 136.6	33 18.6 -50.7 135.6	32 46.1 -50.3 134.6	32 13.1 -49.9 133.6	31 39.6 -49.6 132.7
7°	32 59.4 -51.2 137.3	32 27.9 -50.8 136.3	31 55.8 -50.4 135.3	31 23.2 -50.1 134.3	30 50.0 -49.7 133.3
8°	32 08.2 -51.4 137.9	31 37.1 -51.0 136.9	31 05.4 -50.7 135.9	30 33.1 -50.3 134.9	30 00.3 -49.9 134.0
9°	31 16.8 -51.5 138.5	30 46.1 -51.2 137.5	30 14.7 -50.8 136.5	29 42.8 -50.5 135.6	29 10.4 -50.1 134.6
10°	30 25.3 -51.7 139.1	29 54.9 -51.4 138.1	29 23.9 -51.0 137.1	28 52.3 -50.6 136.2	28 20.3 -50.3 135.2
11°	29 33.6 -51.9 139.7	29 03.5 -51.5 138.7	28 32.9 -51.1 137.7	28 01.7 -50.8 136.8	27 30.0 -50.5 135.9
12°	28 41.7 -52.0 140.2	28 12.0 -51.6 139.3	27 41.8 -51.3 138.3	27 10.9 -50.9 137.4	26 39.5 -50.6 136.5
13°	27 49.7 -52.1 140.8	27 20.4 -51.8 139.9	26 50.5 -51.5 138.9	26 20.0 -51.1 138.0	25 48.9 -50.7 137.1
14°	26 57.6 -52.3 141.4	26 28.6 -51.9 140.4	25 59.0 -51.6 139.5	25 28.9 -51.3 138.6	24 58.2 -50.9 137.7
15°	26 05.3 -52.4 141.9	25 36.7 -52.1 141.0	25 07.4 -51.7 140.1	24 37.6 -51.3 139.1	24 07.3 -51.0 138.2
16°	25 12.9 -52.5 142.5	24 44.6 -52.1 141.5	24 15.7 -51.8 140.6	23 46.3 -51.5 139.7	23 16.3 -51.1 138.8
17°	24 20.4 -52.6 143.0	23 52.5 -52.3 142.1	23 23.9 -51.9 141.2	22 54.8 -51.6 140.3	22 25.2 -51.3 139.4
18°	23 27.8 -52.7 143.5	23 00.2 -52.4 142.6	22 32.0 -52.1 141.7	22 03.2 -51.7 140.8	21 33.9 -51.4 139.9
19°	22 35.1 -52.8 144.0	22 07.8 -52.5 143.1	21 39.9 -52.1 142.2	21 11.5 -51.8 141.4	20 42.5 -51.4 140.5
20°	21 42.3 -53.0 144.5	21 15.3 -52.6 143.7	20 47.8 -52.3 142.8	20 19.7 -51.9 141.9	19 51.1 -51.6 141.0
21°	20 49.3 -53.0 145.0	20 22.7 -52.6 144.2	19 55.5 -52.3 143.3	19 27.8 -52.0 142.4	18 59.5 -51.7 141.6
22°	19 56.3 -53.0 145.5	19 30.1 -52.8 144.7	19 03.2 -52.4 143.8	18 35.8 -52.1 143.0	18 07.8 -51.7 142.1
23°	19 03.3 -53.2 146.0	18 37.3 -52.8 145.2	18 10.8 -52.5 144.3	17 43.7 -52.2 143.5	17 16.1 -51.8 142.7
24°	18 10.1 -53.2 146.5	17 44.5 -52.9 145.7	17 18.3 -52.6 144.8	16 51.5 -52.2 144.0	16 24.3 -52.0 143.2
25°	17 16.9 -53.3 147.0	16 51.6 -53.0 146.2	16 25.7 -52.6 145.3	15 59.3 -52.3 144.5	15 32.3 -51.9 143.7
26°	16 23.6 -53.4 147.5	15 58.6 -53.1 146.7	15 33.1 -52.8 145.8	15 07.0 -52.4 145.0	14 40.4 -52.1 144.2
27°	15 30.2 -53.4 148.0	15 05.5 -53.1 147.2	14 40.3 -52.7 146.3	14 14.6 -52.5 145.5	13 48.3 -52.1 144.7
28°	14 36.8 -53.5 148.4	14 12.4 -53.1 147.6	13 47.6 -52.9 146.8	13 22.1 -52.5 146.0	12 56.2 -52.2 145.2
29°	13 43.3 -53.6 148.9	13 19.3 -53.2 148.1	12 54.7 -52.9 147.3	12 29.6 -52.5 146.5	12 04.0 -52.2 145.7

Dec	LHA 040° / 320°	LHA 041° / 319°	LHA 042° / 318°	LHA 043° / 317°	LHA 044° / 316°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	35 55.9 -47.8 127.5	35 19.2 -47.4 126.5	34 42.0 -47.0 125.5	34 04.4 -46.7 124.6	33 26.3 -46.3 123.6
1°	35 08.1 -48.0 128.2	34 31.8 -47.7 127.2	33 55.0 -47.4 126.3	33 17.7 -47.0 125.3	32 40.0 -46.7 124.4
2°	34 20.1 -48.3 128.9	33 44.1 -47.9 128.0	33 07.6 -47.5 127.0	32 30.7 -47.2 126.1	31 53.3 -46.8 125.2
3°	33 31.8 -48.5 129.6	32 56.2 -48.2 128.7	32 20.1 -47.8 127.7	31 43.5 -47.5 126.8	31 06.5 -47.2 125.9
4°	32 43.3 -48.8 130.3	32 08.0 -48.4 129.4	31 32.3 -48.1 128.4	30 56.0 -47.7 127.5	30 19.3 -47.3 126.6
5°	31 54.5 -49.0 131.0	31 19.6 -48.6 130.1	30 44.2 -48.3 129.1	30 08.3 -47.9 128.2	29 32.0 -47.6 127.3
6°	31 05.5 -49.1 131.7	30 31.0 -48.9 130.8	29 55.9 -48.5 129.8	29 20.4 -48.1 128.9	28 44.4 -47.8 128.0
7°	30 16.4 -49.4 132.4	29 42.1 -49.0 131.4	29 07.4 -48.6 130.5	28 32.3 -48.4 129.6	27 56.6 -48.0 128.7
8°	29 27.0 -49.6 133.0	28 53.1 -49.2 132.1	28 18.8 -48.9 131.2	27 43.9 -48.5 130.3	27 08.6 -48.2 129.4
9°	28 37.4 -49.8 133.7	28 03.9 -49.4 132.7	27 29.9 -49.1 131.8	26 55.4 -48.7 130.9	26 20.4 -48.3 130.0
10°	27 47.6 -49.9 134.3	27 14.5 -49.6 133.4	26 40.8 -49.2 132.5	26 06.7 -48.9 131.6	25 32.1 -48.6 130.7
11°	26 57.7 -50.1 134.9	26 24.9 -49.7 134.0	25 51.6 -49.4 133.1	25 17.8 -49.0 132.2	24 43.5 -48.7 131.3
12°	26 07.6 -50.2 135.5	25 35.2 -49.9 134.6	25 02.2 -49.5 133.7	24 28.8 -49.3 132.9	23 54.8 -48.8 132.0
13°	25 17.4 -50.4 136.2	24 45.3 -50.1 135.3	24 12.7 -49.8 134.4	23 39.5 -49.3 133.5	23 06.0 -49.1 132.6
14°	24 27.0 -50.6 136.8	23 55.2 -50.2 135.9	23 22.9 -49.8 135.0	22 50.2 -49.5 134.1	22 16.9 -49.1 133.2
15°	23 36.4 -50.6 137.3	23 05.0 -50.3 136.5	22 33.1 -50.0 135.6	22 00.7 -49.6 134.7	21 27.8 -49.3 133.9
16°	22 45.8 -50.8 137.9	22 14.7 -50.4 137.1	21 43.1 -50.1 136.2	21 11.1 -49.8 135.3	20 38.5 -49.4 134.5
17°	21 55.0 -50.9 138.5	21 24.3 -50.6 137.6	20 53.0 -50.2 136.8	20 21.3 -49.9 135.9	19 49.1 -49.6 135.1
18°	21 04.1 -51.1 139.1	20 33.7 -50.7 138.2	20 02.8 -50.3 137.4	19 31.4 -50.0 136.5	18 59.5 -49.6 135.7
19°	20 13.0 -51.1 139.6	19 43.0 -50.8 138.8	19 12.5 -50.5 137.9	18 41.4 -50.1 137.1	18 09.9 -49.8 136.3
20°	19 21.9 -51.2 140.2	18 52.2 -50.9 139.3	18 22.0 -50.5 138.5	17 51.3 -50.2 137.7	17 20.1 -49.8 136.9
21°	18 30.7 -51.3 140.7	18 01.3 -50.9 139.9	17 31.5 -50.7 139.1	17 01.1 -50.3 138.3	16 30.3 -50.0 137.4
22°	17 39.4 -51.5 141.3	17 10.4 -51.1 140.5	16 40.8 -50.7 139.6	16 10.8 -50.4 138.8	15 40.3 -50.0 138.0
23°	16 47.9 -51.4 141.8	16 19.3 -51.2 141.0	15 50.1 -50.8 140.2	15 20.4 -50.4 139.4	14 50.3 -50.2 138.6
24°	15 56.5 -51.6 142.4	15 28.1 -51.2 141.5	14 59.3 -50.9 140.7	14 30.0 -50.6 139.9	14 00.1 -50.2 139.2
25°	15 04.9 -51.7 142.9	14 36.9 -51.3 142.1	14 08.4 -51.0 141.3	13 39.4 -50.6 140.5	13 09.9 -50.3 139.7
26°	14 13.2 -51.7 143.4	13 45.6 -51.4 142.6	13 17.4 -51.0 141.8	12 48.8 -50.7 141.1	12 19.6 -50.3 140.3
27°	13 21.5 -51.8 143.9	12 54.2 -51.4 143.2	12 26.4 -51.1 142.4	11 58.1 -50.8 141.6	11 29.3 -50.4 140.8
28°	12 29.7 -51.8 144.5	12 02.8 -51.5 143.7	11 35.3 -51.2 142.9	11 07.3 -50.8 142.1	10 38.9 -50.5 141.4
29°	11 37.9 -51.9 145.0	11 11.3 -51.6 144.2	10 44.1 -51.2 143.4	10 16.5 -50.9 142.7	9 48.4 -50.5 141.9

Dec	LHA 045° / 315°	LHA 046° / 314°	LHA 047° / 313°	LHA 048° / 312°	LHA 049° / 311°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	32 47.9 -46.1 122.7	32 09.0 -45.7 121.8	31 29.8 -45.4 120.9	30 50.2 -45.1 120.1	30 10.2 -44.7 119.2
1°	32 01.8 -46.2 123.5	31 23.3 -45.9 122.6	30 44.4 -45.6 121.7	30 05.1 -45.3 120.8	29 25.5 -45.0 120.0
2°	31 15.6 -46.6 124.2	30 37.4 -46.2 123.3	29 58.8 -45.9 122.5	29 19.8 -45.6 121.6	28 40.5 -45.3 120.7
3°	30 29.0 -46.8 125.0	29 51.2 -46.5 124.1	29 12.9 -46.1 123.2	28 34.2 -45.8 122.3	27 55.2 -45.5 121.5
4°	29 42.2 -47.0 125.7	29 04.7 -46.7 124.8	28 26.8 -46.4 123.9	27 48.4 -46.0 123.1	27 09.7 -45.7 122.2
5°	28 55.2 -47.2 126.4	28 18.0 -46.9 125.5	27 40.4 -46.6 124.6	27 02.4 -46.3 123.8	26 24.0 -45.9 122.9
6°	28 08.0 -47.5 127.1	27 31.1 -47.1 126.2	26 53.8 -46.8 125.4	26 16.1 -46.4 124.5	25 38.1 -46.2 123.6
7°	27 20.5 -47.6 127.8	26 44.0 -47.3 126.9	26 07.0 -46.9 126.1	25 29.7 -46.7 125.2	24 51.9 -46.3 124.3
8°	26 32.9 -47.9 128.5	25 56.7 -47.5 127.6	25 20.1 -47.2 126.7	24 43.0 -46.8 125.9	24 05.6 -46.5 125.0
9°	25 45.0 -48.0 129.2	25 09.2 -47.7 128.3	24 32.9 -47.4 127.4	23 56.2 -47.1 126.6	23 19.1 -46.7 125.7
10°	24 57.0 -48.2 129.8	24 21.5 -47.9 129.0	23 45.5 -47.5 128.1	23 09.1 -47.2 127.3	22 32.4 -46.9 126.4
11°	24 08.8 -48.4 130.5	23 33.6 -48.0 129.6	22 58.0 -47.7 128.8	22 21.9 -47.3 127.9	21 45.5 -47.1 127.1
12°	23 20.4 -48.5 131.1	22 45.6 -48.2 130.3	22 10.3 -47.9 129.4	21 34.6 -47.5 128.6	20 58.4 -47.1 127.8
13°	22 31.9 -48.7 131.8	21 57.4 -48.3 130.9	21 22.4 -48.0 130.1	20 47.1 -47.7 129.2	20 11.3 -47.4 128.4
14°	21 43.2 -48.8 132.4	21 09.1 -48.5 131.5	20 34.4 -48.1 130.7	19 59.4 -47.8 129.9	19 23.9 -47.5 129.1
15°	20 54.4 -48.9 133.0	20 20.6 -48.6 132.2	19 46.3 -48.3 131.3	19 11.6 -48.0 130.5	18 36.4 -47.6 129.7
16°	20 05.5 -49.1 133.6	19 32.0 -48.8 132.8	18 58.0 -48.4 132.0	18 23.6 -48.0 131.2	17 48.8 -47.7 130.4
17°	19 16.4 -49.2 134.2	18 43.2 -48.8 133.4	18 09.6 -48.5 132.6	17 35.6 -48.2 131.8	17 01.1 -47.8 131.0
18°	18 27.2 -49.3 134.9	17 54.4 -49.0 134.0	17 21.1 -48.6 133.2	16 47.4 -48.3 132.4	16 13.3 -48.0 131.6
19°	17 37.9 -49.4 135.4	17 05.4 -49.1 134.6	16 32.5 -48.8 133.8	15 59.1 -48.4 133.0	15 25.3 -48.1 132.2
20°	16 48.5 -49.6 136.0	16 16.3 -49.1 135.2	15 43.7 -48.8 134.4	15 10.7 -48.5 133.7	14 37.2 -48.1 132.9
21°	15 58.9 -49.6 136.6	15 27.2 -49.3 135.8	14 54.9 -48.9 135.0	14 22.2 -48.6 134.3	13 49.1 -48.3 133.5
22°	15 09.3 -49.7 137.2	14 37.9 -49.4 136.4	14 06.0 -49.1 135.6	13 33.6 -48.7 134.9	13 00.8 -48.3 134.1
23°	14 19.6 -49.8 137.8	13 48.5 -49.4 137.0	13 16.9 -49.1 136.2	12 44.9 -48.7 135.5	12 12.5 -48.4 134.7
24°	13 29.8 -49.8 138.4	12 59.1 -49.6 137.6	12 27.8 -49.1 136.8	11 56.2 -48.9 136.1	11 24.1 -48.5 135.3
25°	12 40.0 -50.0 138.9	12 09.5 -49.5 138.2	11 38.7 -49.3 137.4	11 07.3 -48.9 136.7	10 35.6 -48.6 135.9
26°	11 50.0 -50.0 139.5	11 20.0 -49.7 138.7	10 49.4 -49.3 138.0	10 18.4 -48.9 137.2	9 47.0 -48.6 136.5
27°	11 00.0 -50.0 140.1	10 30.3 -49.7 139.3	10 00.1 -49.4 138.6	9 29.5 -49.1 137.8	8 58.4 -48.7 137.1
28°	10 10.0 -50.2 140.6	9 40.6 -49.8 139.9	9 10.7 -49.4 139.1	8 40.4 -49.0 138.4	8 09.7 -48.7 137.7
29°	9 19.8 -50.1 141.2	8 50.8 -49.8 140.5	8 21.3 -49.5 139.7	7 51.4 -49.2 139.0	7 21.0 -48.8 138.3

Dec	LHA 050° / 310°	LHA 051° / 309°	LHA 052° / 308°	LHA 053° / 307°	LHA 054° / 306°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	29 29.9 -44.4 118.3	28 49.3 -44.1 117.5	28 08.4 -43.9 116.7	27 27.2 -43.6 115.8	26 45.7 -43.4 115.0
1°	28 45.5 -44.7 119.1	28 05.2 -44.4 118.3	27 24.5 -44.1 117.4	26 43.6 -43.9 116.6	26 02.3 -43.5 115.8
2°	28 00.8 -45.0 119.9	27 20.8 -44.7 119.0	26 40.4 -44.4 118.2	25 59.7 -44.0 117.4	25 18.8 -43.8 116.6
3°	27 15.8 -45.2 120.6	26 36.1 -44.9 119.8	25 56.0 -44.5 118.9	25 15.7 -44.3 118.1	24 35.0 -44.0 117.3
4°	26 30.6 -45.4 121.4	25 51.2 -45.1 120.5	25 11.5 -44.8 119.7	24 31.4 -44.5 118.9	23 51.0 -44.3 118.1
5°	25 45.2 -45.6 122.1	25 06.1 -45.3 121.2	24 26.7 -45.1 120.4	23 46.9 -44.8 119.6	23 06.7 -44.4 118.8
6°	24 59.6 -45.8 122.8	24 20.8 -45.5 122.0	23 41.6 -45.2 121.1	23 02.1 -44.9 120.3	22 22.3 -44.6 119.5
7°	24 13.8 -46.0 123.5	23 35.3 -45.7 122.7	22 56.4 -45.4 121.9	22 17.2 -45.1 121.1	21 37.7 -44.8 120.3
8°	23 27.8 -46.2 124.2	22 49.6 -45.9 123.4	22 11.0 -45.6 122.6	21 32.1 -45.3 121.8	20 52.9 -45.0 121.0
9°	22 41.6 -46.4 124.9	22 03.7 -46.1 124.1	21 25.4 -45.7 123.3	20 46.8 -45.4 122.5	20 07.9 -45.2 121.7
10°	21 55.2 -46.6 125.6	21 17.6 -46.2 124.8	20 39.7 -46.0 124.0	20 01.4 -45.6 123.2	19 22.7 -45.3 122.4
11°	21 08.6 -46.7 126.3	20 31.4 -46.4 125.5	19 53.7 -46.0 124.7	19 15.8 -45.8 123.9	18 37.4 -45.5 123.1
12°	20 21.9 -46.9 126.9	19 45.0 -46.6 126.1	19 07.7 -46.3 125.3	18 30.0 -45.9 124.5	17 51.9 -45.6 123.8
13°	19 35.0 -47.0 127.6	18 58.4 -46.7 126.8	18 21.4 -46.3 126.0	17 44.1 -46.1 125.2	17 06.3 -45.7 124.4
14°	18 48.0 -47.1 128.3	18 11.7 -46.8 127.5	17 35.1 -46.5 126.7	16 58.0 -46.2 125.9	16 20.6 -45.9 125.1
15°	18 00.9 -47.3 128.9	17 24.9 -46.9 128.1	16 48.6 -46.7 127.3	16 11.8 -46.3 126.6	15 34.7 -46.0 125.8
16°	17 13.6 -47.4 129.6	16 38.0 -47.1 128.8	16 01.9 -46.7 128.0	15 25.5 -46.4 127.2	14 48.7 -46.1 126.4
17°	16 26.2 -47.5 130.2	15 50.9 -47.2 129.4	15 15.2 -46.8 128.6	14 39.1 -46.5 127.9	14 02.6 -46.2 127.1
18°	15 38.7 -47.6 130.8	15 03.7 -47.3 130.1	14 28.3 -46.9 129.3	13 52.6 -46.7 128.5	13 16.4 -46.3 127.8
19°	14 51.1 -47.8 131.5	14 16.4 -47.4 130.7	13 41.4 -47.1 129.9	13 05.9 -46.7 129.2	12 30.1 -46.4 128.4
20°	14 03.3 -47.8 132.1	13 29.0 -47.5 131.3	12 54.3 -47.2 130.6	12 19.2 -46.8 129.8	11 43.7 -46.5 129.1
21°	13 15.5 -47.9 132.7	12 41.5 -47.5 132.0	12 07.1 -47.2 131.2	11 32.4 -46.9 130.5	10 57.2 -46.6 129.7
22°	12 27.6 -48.0 133.3	11 54.0 -47.7 132.6	11 19.9 -47.3 131.8	10 45.5 -47.0 131.1	10 10.6 -46.6 130.4
23°	11 39.6 -48.1 133.9	11 06.3 -47.7 133.2	10 32.6 -47.4 132.5	9 58.5 -47.1 131.7	9 24.0 -46.7 131.0
24°	10 51.5 -48.1 134.6	10 18.6 -47.8 133.8	9 45.2 -47.5 133.1	9 11.4 -47.1 132.3	8 37.3 -46.8 131.6
25°	10 03.4 -48.2 135.2	9 30.8 -47.9 134.4	8 57.7 -47.5 133.7	8 24.3 -47.2 133.0	7 50.5 -46.9 132.3
26°	9 15.2 -48.3 135.8	8 42.9 -47.9 135.0	8 10.2 -47.6 134.3	7 37.1 -47.2 133.6	7 03.6 -46.8 132.9
27°	8 26.9 -48.3 136.4	7 55.0 -48.0 135.6	7 22.6 -47.6 134.9	6 49.9 -47.3 134.2	6 16.8 -47.0 133.5
28°	7 38.6 -48.4 137.0	7 07.0 -48.0 136.3	6 35.0 -47.7 135.5	6 02.6 -47.3 134.8	5 29.8 -46.9 134.1
29°	6 50.2 -48.4 137.6	6 19.0 -48.1 136.9	5 47.3 -47.7 136.2	5 15.3 -47.4 135.5	4 42.9 -47.1 134.8

Dec	LHA 055° / 305°	LHA 056° / 304°	LHA 057° / 303°	LHA 058° / 302°	LHA 059° / 301°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	26 03.9 -43.1 114.2	25 21.8 -42.8 113.4	24 39.5 -42.5 112.7	23 57.0 -42.3 111.9	23 14.2 -42.0 111.1
1°	25 20.8 -43.3 115.0	24 39.0 -43.0 114.2	23 57.0 -42.8 113.4	23 14.7 -42.5 112.7	22 32.2 -42.3 111.9
2°	24 37.5 -43.5 115.8	23 56.0 -43.3 115.0	23 14.2 -43.0 114.2	22 32.2 -42.8 113.4	21 49.9 -42.6 112.7
3°	23 54.0 -43.7 116.5	23 12.7 -43.4 115.7	22 31.2 -43.2 115.0	21 49.4 -43.0 114.2	21 07.3 -42.7 113.4
4°	23 10.3 -44.0 117.3	22 29.3 -43.7 116.5	21 48.0 -43.4 115.7	21 06.4 -43.1 114.9	20 24.6 -42.9 114.2
5°	22 26.3 -44.1 118.0	21 45.6 -43.9 117.2	21 04.6 -43.6 116.4	20 23.3 -43.4 115.7	19 41.7 -43.1 114.9
6°	21 42.2 -44.4 118.7	21 01.7 -44.1 118.0	20 21.0 -43.8 117.2	19 39.9 -43.5 116.4	18 58.6 -43.2 115.6
7°	20 57.8 -44.5 119.5	20 17.6 -44.2 118.7	19 37.2 -44.0 117.9	18 56.4 -43.7 117.1	18 15.4 -43.5 116.4
8°	20 13.3 -44.7 120.2	19 33.4 -44.4 119.4	18 53.2 -44.1 118.6	18 12.7 -43.8 117.9	17 31.9 -43.5 117.1
9°	19 28.6 -44.9 120.9	18 49.0 -44.6 120.1	18 09.1 -44.3 119.3	17 28.9 -44.0 118.6	16 48.4 -43.8 117.8
10°	18 43.7 -45.0 121.6	18 04.4 -44.7 120.8	17 24.8 -44.4 120.0	16 44.9 -44.2 119.3	16 04.6 -43.9 118.5
11°	17 58.7 -45.1 122.3	17 19.7 -44.9 121.5	16 40.4 -44.6 120.8	16 00.7 -44.3 120.0	15 20.7 -44.0 119.2
12°	17 13.6 -45.3 123.0	16 34.8 -45.0 122.2	15 55.8 -44.7 121.4	15 16.4 -44.4 120.7	14 36.7 -44.1 119.9
13°	16 28.3 -45.5 123.7	15 49.8 -45.1 122.9	15 11.1 -44.9 122.1	14 32.0 -44.5 121.4	13 52.6 -44.2 120.6
14°	15 42.8 -45.5 124.3	15 04.7 -45.3 123.6	14 26.2 -44.9 122.8	13 47.5 -44.7 122.1	13 08.4 -44.4 121.3
15°	14 57.3 -45.7 125.0	14 19.4 -45.3 124.3	13 41.3 -45.1 123.5	13 02.8 -44.8 122.8	12 24.0 -44.5 122.0
16°	14 11.6 -45.8 125.7	13 34.1 -45.5 124.9	12 56.2 -45.2 124.2	12 18.0 -44.8 123.5	11 39.5 -44.5 122.7
17°	13 25.8 -45.9 126.4	12 48.6 -45.6 125.6	12 11.0 -45.2 124.9	11 33.2 -45.0 124.1	10 55.0 -44.7 123.4
18°	12 39.9 -46.0 127.0	12 03.0 -45.7 126.3	11 25.8 -45.4 125.5	10 48.2 -45.0 124.8	10 10.3 -44.7 124.1
19°	11 53.9 -46.1 127.7	11 17.3 -45.7 126.9	10 40.4 -45.4 126.2	10 03.2 -45.2 125.5	9 25.6 -44.8 124.8
20°	11 07.8 -46.1 128.3	10 31.6 -45.9 127.6	9 55.0 -45.5 126.9	9 18.0 -45.2 126.1	8 40.8 -44.9 125.4
21°	10 21.7 -46.3 129.0	9 45.7 -45.9 128.2	9 09.5 -45.6 127.5	8 32.8 -45.2 126.8	7 55.9 -45.0 126.1
22°	9 35.4 -46.3 129.6	8 59.8 -46.0 128.9	8 23.9 -45.7 128.2	7 47.6 -45.4 127.5	7 10.9 -45.0 126.8
23°	8 49.1 -46.4 130.3	8 13.8 -46.0 129.5	7 38.2 -45.7 128.8	7 02.2 -45.4 128.1	6 25.9 -45.1 127.4
24°	8 02.7 -46.4 130.9	7 27.8 -46.1 130.2	6 52.5 -45.8 129.5	6 16.8 -45.4 128.8	5 40.8 -45.1 128.1
25°	7 16.3 -46.5 131.5	6 41.7 -46.2 130.8	6 06.7 -45.8 130.1	5 31.4 -45.5 129.5	4 55.7 -45.1 128.8
26°	6 29.8 -46.6 132.2	5 55.5 -46.2 131.5	5 20.9 -45.8 130.8	4 45.9 -45.5 130.1	4 10.6 -45.2 129.4
27°	5 43.2 -46.6 132.8	5 09.3 -46.2 132.1	4 35.1 -45.9 131.4	4 00.4 -45.5 130.8	3 25.4 -45.2 130.1
28°	4 56.6 -46.6 133.5	4 23.1 -46.3 132.8	3 49.2 -46.0 132.1	3 14.9 -45.6 131.4	2 40.2 -45.2 130.7
29°	4 10.0 -46.6 134.1	3 36.8 -46.3 133.4	3 03.2 -45.9 132.7	2 29.3 -45.6 132.1	1 55.0 -45.2 131.4

Dec	LHA 060° / 300°	LHA 061° / 299°	LHA 062° / 298°	LHA 063° / 297°	LHA 064° / 296°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	22 31.3 -41.9 110.4	21 48.1 -41.7 109.6	21 04.7 -41.5 108.9	20 21.1 -41.3 108.1	19 37.3 -41.0 107.4
1°	21 49.4 -42.1 111.1	21 06.4 -41.8 110.4	20 23.2 -41.6 109.6	19 39.8 -41.4 108.9	18 56.3 -41.3 108.2
2°	21 07.3 -42.3 111.9	20 24.6 -42.1 111.2	19 41.6 -41.8 110.4	18 58.4 -41.6 109.7	18 15.0 -41.4 108.9
3°	20 25.0 -42.4 112.7	19 42.5 -42.2 111.9	18 59.8 -42.1 111.2	18 16.8 -41.8 110.4	17 33.6 -41.6 109.7
4°	19 42.6 -42.7 113.4	19 00.3 -42.5 112.7	18 17.7 -42.2 111.9	17 35.0 -42.0 111.2	16 52.0 -41.7 110.5
5°	18 59.9 -42.8 114.2	18 17.8 -42.6 113.4	17 35.5 -42.3 112.7	16 53.0 -42.1 111.9	16 10.3 -41.9 111.2
6°	18 17.1 -43.0 114.9	17 35.2 -42.7 114.1	16 53.2 -42.5 113.4	16 10.9 -42.3 112.7	15 28.4 -42.1 112.0
7°	17 34.1 -43.2 115.6	16 52.5 -42.9 114.9	16 10.7 -42.7 114.1	15 28.6 -42.4 113.4	14 46.3 -42.2 112.7
8°	16 50.9 -43.3 116.4	16 09.6 -43.1 115.6	15 28.0 -42.8 114.9	14 46.2 -42.6 114.1	14 04.1 -42.3 113.4
9°	16 07.6 -43.5 117.1	15 26.5 -43.2 116.3	14 45.2 -43.0 115.6	14 03.6 -42.7 114.9	13 21.8 -42.5 114.2
10°	15 24.1 -43.6 117.8	14 43.3 -43.3 117.1	14 02.2 -43.0 116.3	13 20.9 -42.8 115.6	12 39.3 -42.5 114.9
11°	14 40.5 -43.7 118.5	14 00.0 -43.5 117.8	13 19.2 -43.2 117.0	12 38.1 -42.9 116.3	11 56.8 -42.7 115.6
12°	13 56.8 -43.9 119.2	13 16.5 -43.6 118.5	12 36.0 -43.3 117.8	11 55.2 -43.1 117.0	11 14.1 -42.8 116.3
13°	13 12.9 -44.0 119.9	12 32.9 -43.7 119.2	11 52.7 -43.5 118.5	11 12.1 -43.1 117.7	10 31.3 -42.9 117.0
14°	12 28.9 -44.0 120.6	11 49.2 -43.7 119.9	11 09.2 -43.5 119.2	10 29.0 -43.3 118.5	9 48.4 -42.9 117.7
15°	11 44.9 -44.2 121.3	11 05.5 -43.9 120.6	10 25.7 -43.6 119.9	9 45.7 -43.3 119.2	9 05.5 -43.1 118.5
16°	11 00.7 -44.3 122.0	10 21.6 -44.0 121.3	9 42.1 -43.7 120.6	9 02.4 -43.4 119.9	8 22.4 -43.1 119.2
17°	10 16.4 -44.3 122.7	9 37.6 -44.1 122.0	8 58.4 -43.7 121.3	8 19.0 -43.5 120.6	7 39.3 -43.2 119.9
18°	9 32.1 -44.5 123.4	8 53.5 -44.1 122.7	8 14.7 -43.8 122.0	7 35.5 -43.5 121.3	6 56.1 -43.3 120.6
19°	8 47.6 -44.5 124.0	8 09.4 -44.2 123.3	7 30.9 -43.9 122.6	6 52.0 -43.6 121.9	6 12.8 -43.3 121.3
20°	8 03.1 -44.5 124.7	7 25.2 -44.3 124.0	6 47.0 -44.0 123.3	6 08.4 -43.7 122.6	5 29.5 -43.3 122.0
21°	7 18.6 -44.7 125.4	6 40.9 -44.3 124.7	6 03.0 -44.0 124.0	5 24.7 -43.7 123.3	4 46.2 -43.4 122.6
22°	6 33.9 -44.7 126.1	5 56.6 -44.3 125.4	5 19.0 -44.1 124.7	4 41.0 -43.7 124.0	4 02.8 -43.4 123.3
23°	5 49.2 -44.7 126.7	5 12.3 -44.5 126.1	4 34.9 -44.1 125.4	3 57.3 -43.8 124.7	3 19.4 -43.5 124.0
24°	5 04.5 -44.8 127.4	4 27.8 -44.4 126.7	3 50.8 -44.1 126.1	3 13.5 -43.8 125.4	2 35.9 -43.5 124.7
25°	4 19.7 -44.8 128.1	3 43.4 -44.5 127.4	3 06.7 -44.1 126.7	2 29.7 -43.8 126.1	1 52.4 -43.5 125.4
26°	3 34.9 -44.8 128.7	2 58.9 -44.5 128.1	2 22.6 -44.2 127.4	1 45.9 -43.8 126.8	1 08.9 -43.5 126.1
27°	2 50.1 -44.9 129.4	2 14.4 -44.5 128.7	1 38.4 -44.2 128.1	1 02.1 -43.9 127.4	0 25.4 -43.5 126.8
28°	2 05.2 -44.9 130.1	1 29.9 -44.5 129.4	0 54.2 -44.2 128.8	0 18.2 -43.8 128.1	-0 18.1 -43.5
29°	1 20.3 -44.8 130.7	0 45.4 -44.6 130.1	0 10.0 -44.2 129.4	-0 25.6 -43.9	-1 01.6 -43.5

Dec	LHA 065° / 295°	LHA 066° / 294°	LHA 067° / 293°	LHA 068° / 292°	LHA 069° / 291°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	18 53.4 -40.9 106.7	18 09.3 -40.7 106.0	17 25.0 -40.5 105.3	16 40.6 -40.4 104.6	15 56.0 -40.2 103.9
1°	18 12.5 -41.0 107.5	17 28.6 -40.9 106.7	16 44.5 -40.7 106.0	16 00.2 -40.5 105.3	15 15.8 -40.3 104.6
2°	17 31.5 -41.2 108.2	16 47.7 -41.0 107.5	16 03.8 -40.8 106.8	15 19.7 -40.6 106.1	14 35.5 -40.5 105.4
3°	16 50.3 -41.4 109.0	16 06.7 -41.2 108.3	15 23.0 -41.0 107.6	14 39.1 -40.9 106.9	13 55.0 -40.6 106.2
4°	16 08.9 -41.6 109.7	15 25.5 -41.3 109.0	14 42.0 -41.2 108.3	13 58.2 -40.9 107.6	13 14.4 -40.8 106.9
5°	15 27.3 -41.7 110.5	14 44.2 -41.5 109.8	14 00.8 -41.3 109.1	13 17.3 -41.1 108.4	12 33.6 -40.9 107.7
6°	14 45.6 -41.8 111.2	14 02.7 -41.6 110.5	13 19.5 -41.4 109.8	12 36.2 -41.2 109.1	11 52.7 -41.0 108.4
7°	14 03.8 -42.0 112.0	13 21.1 -41.8 111.3	12 38.1 -41.5 110.6	11 55.0 -41.3 109.9	11 11.7 -41.1 109.2
8°	13 21.8 -42.1 112.7	12 39.3 -41.8 112.0	11 56.6 -41.6 111.3	11 13.7 -41.5 110.6	10 30.6 -41.3 109.9
9°	12 39.7 -42.2 113.4	11 57.5 -42.0 112.7	11 15.0 -41.8 112.0	10 32.2 -41.5 111.3	9 49.3 -41.3 110.6
10°	11 57.5 -42.3 114.2	11 15.5 -42.1 113.5	10 33.2 -41.9 112.8	9 50.7 -41.6 112.1	9 08.0 -41.4 111.4
11°	11 15.2 -42.4 114.9	10 33.4 -42.2 114.2	9 51.3 -41.9 113.5	9 09.1 -41.7 112.8	8 26.6 -41.5 112.1
12°	10 32.8 -42.6 115.6	9 51.2 -42.3 114.9	9 09.4 -42.0 114.2	8 27.4 -41.8 113.5	7 45.1 -41.6 112.8
13°	9 50.2 -42.6 116.3	9 08.9 -42.3 115.6	8 27.4 -42.2 114.9	7 45.6 -41.9 114.2	7 03.5 -41.6 113.6
14°	9 07.6 -42.7 117.0	8 26.6 -42.5 116.3	7 45.2 -42.1 115.7	7 03.7 -41.9 115.0	6 21.9 -41.7 114.3
15°	8 24.9 -42.8 117.8	7 44.1 -42.5 117.1	7 03.1 -42.3 116.4	6 21.8 -42.0 115.7	5 40.2 -41.7 115.0
16°	7 42.1 -42.8 118.5	7 01.6 -42.6 117.8	6 20.8 -42.3 117.1	5 39.8 -42.1 116.4	4 58.5 -41.8 115.7
17°	6 59.3 -42.9 119.2	6 19.0 -42.6 118.5	5 38.5 -42.4 117.8	4 57.7 -42.1 117.1	4 16.7 -41.8 116.5
18°	6 16.4 -43.0 119.9	5 36.4 -42.7 119.2	4 56.1 -42.4 118.5	4 15.6 -42.1 117.8	3 34.9 -41.9 117.2
19°	5 33.4 -43.0 120.6	4 53.7 -42.7 119.9	4 13.7 -42.4 119.2	3 33.5 -42.2 118.6	2 53.0 -41.9 117.9
20°	4 50.4 -43.1 121.3	4 11.0 -42.8 120.6	3 31.3 -42.5 119.9	2 51.3 -42.2 119.3	2 11.1 -41.9 118.6
21°	4 07.3 -43.1 122.0	3 28.2 -42.8 121.3	2 48.8 -42.5 120.6	2 09.1 -42.2 120.0	1 29.2 -42.0 119.3
22°	3 24.2 -43.1 122.7	2 45.4 -42.8 122.0	2 06.3 -42.5 121.3	1 26.9 -42.2 120.7	0 47.2 -41.9 120.0
23°	2 41.1 -43.1 123.4	2 02.6 -42.9 122.7	1 23.8 -42.6 122.1	0 44.7 -42.3 121.4	0 05.3 -41.9 120.8
24°	1 58.0 -43.2 124.1	1 19.7 -42.8 123.4	0 41.2 -42.5 122.8	0 02.4 -42.2 122.1	-0 36.6 -42.0
25°	1 14.8 -43.2 124.8	0 36.9 -42.9 124.1	-0 01.3 -42.5	-0 39.8 -42.2	-1 18.6 -41.9
26°	0 31.6 -43.2 125.5	-0 06.0 -42.8	-0 43.8 -42.6	-1 22.0 -42.2	-2 00.5 -41.9
27°	-0 11.6 -43.1	-0 48.8 -42.9	-1 26.4 -42.5	-2 04.2 -42.2	-2 42.4 -41.8
28°	-0 54.7 -43.2	-1 31.7 -42.8	-2 08.9 -42.5	-2 46.4 -42.2	-3 24.2 -41.9
29°	-1 37.9 -43.2	-2 14.5 -42.8	-2 51.4 -42.5	-3 28.6 -42.1	-4 06.1 -41.8

Dec	LHA 070° / 290°	LHA 071° / 289°	LHA 072° / 288°	LHA 073° / 287°	LHA 074° / 286°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	15 11.3 -40.0 103.2	14 26.5 -39.9 102.5	13 41.6 -39.8 101.8	12 56.5 -39.6 101.1	12 11.4 -39.5 100.4
1°	14 31.3 -40.2 103.9	13 46.6 -40.0 103.3	13 01.8 -39.9 102.6	12 16.9 -39.8 101.9	11 31.9 -39.7 101.2
2°	13 51.1 -40.3 104.7	13 06.6 -40.2 104.0	12 21.9 -40.0 103.3	11 37.1 -39.9 102.7	10 52.2 -39.7 102.0
3°	13 10.8 -40.5 105.5	12 26.4 -40.3 104.8	11 41.9 -40.2 104.1	10 57.2 -40.0 103.4	10 12.5 -39.9 102.7
4°	12 30.3 -40.6 106.2	11 46.1 -40.4 105.5	11 01.7 -40.2 104.9	10 17.2 -40.1 104.2	9 32.6 -39.9 103.5
5°	11 49.7 -40.7 107.0	11 05.7 -40.6 106.3	10 21.5 -40.4 105.6	9 37.1 -40.2 104.9	8 52.7 -40.1 104.3
6°	11 09.0 -40.8 107.7	10 25.1 -40.6 107.0	9 41.1 -40.5 106.4	8 56.9 -40.3 105.7	8 12.6 -40.1 105.0
7°	10 28.2 -41.0 108.5	9 44.5 -40.7 107.8	9 00.6 -40.5 107.1	8 16.6 -40.3 106.4	7 32.5 -40.2 105.8
8°	9 47.2 -41.0 109.2	9 03.8 -40.9 108.5	8 20.1 -40.6 107.9	7 36.3 -40.5 107.2	6 52.3 -40.3 106.5
9°	9 06.2 -41.1 110.0	8 22.9 -40.9 109.3	7 39.5 -40.8 108.6	6 55.8 -40.5 107.9	6 12.0 -40.3 107.3
10°	8 25.1 -41.2 110.7	7 42.0 -41.0 110.0	6 58.7 -40.7 109.3	6 15.3 -40.6 108.7	5 31.7 -40.4 108.0
11°	7 43.9 -41.3 111.4	7 01.0 -41.0 110.7	6 18.0 -40.9 110.1	5 34.7 -40.6 109.4	4 51.3 -40.5 108.7
12°	7 02.6 -41.3 112.2	6 20.0 -41.1 111.5	5 37.1 -40.9 110.8	4 54.1 -40.7 110.1	4 10.8 -40.5 109.5
13°	6 21.3 -41.4 112.9	5 38.9 -41.2 112.2	4 56.2 -40.9 111.5	4 13.4 -40.8 110.9	3 30.3 -40.5 110.2
14°	5 39.9 -41.4 113.6	4 57.7 -41.2 112.9	4 15.3 -41.0 112.3	3 32.6 -40.7 111.6	2 49.8 -40.5 111.0
15°	4 58.5 -41.5 114.3	4 16.5 -41.3 113.7	3 34.3 -41.1 113.0	2 51.9 -40.8 112.4	2 09.3 -40.6 111.7
16°	4 17.0 -41.6 115.1	3 35.2 -41.3 114.4	2 53.2 -41.0 113.7	2 11.1 -40.8 113.1	1 28.7 -40.6 112.4
17°	3 35.4 -41.6 115.8	2 53.9 -41.3 115.1	2 12.2 -41.1 114.5	1 30.3 -40.9 113.8	0 48.1 -40.6 113.2
18°	2 53.8 -41.6 116.5	2 12.6 -41.3 115.9	1 31.1 -41.1 115.2	0 49.4 -40.8 114.6	0 07.5 -40.6 113.9
19°	2 12.2 -41.6 117.2	1 31.3 -41.4 116.6	0 50.0 -41.1 115.9	0 08.6 -40.9 115.3	-0 33.1 -40.6
20°	1 30.6 -41.6 118.0	0 49.9 -41.4 117.3	0 08.9 -41.1 116.7	-0 32.3 -40.8	-1 13.7 -40.6
21°	0 49.0 -41.7 118.7	0 08.5 -41.3 118.0	-0 32.2 -41.1	-1 13.1 -40.8	-1 54.3 -40.5
22°	0 07.3 -41.6 119.4	-0 32.8 -41.4	-1 13.3 -41.0	-1 53.9 -40.8	-2 34.8 -40.5
23°	-0 34.3 -41.7	-1 14.2 -41.4	-1 54.3 -41.1	-2 34.7 -40.8	-3 15.3 -40.5
24°	-1 16.0 -41.6	-1 55.6 -41.3	-2 35.4 -41.0	-3 15.5 -40.8	-3 55.8 -40.5
25°	-1 57.6 -41.6	-2 36.9 -41.3	-3 16.4 -41.0	-3 56.3 -40.7	-4 36.3 -40.4
26°	-2 39.2 -41.6	-3 18.2 -41.3	-3 57.4 -41.0	-4 37.0 -40.6	-5 16.7 -40.4
27°	-3 20.8 -41.5	-3 59.5 -41.2	-4 38.4 -40.9	-5 17.6 -40.6	-5 57.1 -40.3
28°	-4 02.3 -41.6	-4 40.7 -41.2	-5 19.3 -40.9	-5 58.2 -40.6	-6 37.4 -40.2
29°	-4 43.9 -41.4	-5 21.9 -41.1	-6 00.2 -40.8	-6 38.8 -40.5	-7 17.6 -40.2

Dec	LHA 075° / 285°	LHA 076° / 284°	LHA 077° / 283°	LHA 078° / 282°	LHA 079° / 281°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	11 26.1 -39.4 99.8	10 40.8 -39.3 99.1	9 55.4 -39.2 98.4	9 09.9 -39.1 97.8	8 24.3 -39.0 97.1
1°	10 46.7 -39.5 100.5	10 01.5 -39.4 99.9	9 16.2 -39.3 99.2	8 30.8 -39.2 98.5	7 45.3 -39.1 97.9
2°	10 07.2 -39.6 101.3	9 22.1 -39.5 100.6	8 36.9 -39.4 100.0	7 51.6 -39.3 99.3	7 06.2 -39.2 98.7
3°	9 27.6 -39.7 102.1	8 42.6 -39.6 101.4	7 57.5 -39.5 100.7	7 12.3 -39.4 100.1	6 27.0 -39.3 99.4
4°	8 47.9 -39.9 102.8	8 03.0 -39.7 102.2	7 18.0 -39.6 101.5	6 32.9 -39.4 100.8	5 47.7 -39.3 100.2
5°	8 08.0 -39.9 103.6	7 23.3 -39.8 102.9	6 38.4 -39.6 102.3	5 53.5 -39.5 101.6	5 08.4 -39.4 100.9
6°	7 28.1 -39.9 104.3	6 43.5 -39.8 103.7	5 58.8 -39.7 103.0	5 14.0 -39.6 102.3	4 29.0 -39.4 101.7
7°	6 48.2 -40.1 105.1	6 03.7 -39.9 104.4	5 19.1 -39.7 103.8	4 34.4 -39.6 103.1	3 49.6 -39.4 102.4
8°	6 08.1 -40.1 105.8	5 23.8 -39.9 105.2	4 39.4 -39.8 104.5	3 54.8 -39.6 103.9	3 10.2 -39.5 103.2
9°	5 28.0 -40.1 106.6	4 43.9 -40.0 105.9	3 59.6 -39.8 105.3	3 15.2 -39.7 104.6	2 30.7 -39.5 104.0
10°	4 47.9 -40.3 107.3	4 03.9 -40.0 106.7	3 19.8 -39.9 106.0	2 35.5 -39.6 105.4	1 51.2 -39.6 104.7
11°	4 07.6 -40.2 108.1	3 23.9 -40.1 107.4	2 39.9 -39.9 106.8	1 55.9 -39.8 106.1	1 11.6 -39.5 105.5
12°	3 27.4 -40.3 108.8	2 43.8 -40.1 108.2	2 00.0 -39.9 107.5	1 16.1 -39.7 106.9	0 32.1 -39.6 106.2
13°	2 47.1 -40.3 109.6	2 03.7 -40.1 108.9	1 20.1 -39.9 108.3	0 36.4 -39.7 107.6	-0 07.5 -39.5
14°	2 06.8 -40.3 110.3	1 23.6 -40.1 109.7	0 40.2 -39.9 109.0	-0 03.3 -39.8	-0 47.0 -39.6
15°	1 26.5 -40.4 111.0	0 43.5 -40.2 110.4	0 00.3 -39.9 109.8	-0 43.1 -39.7	-1 26.6 -39.5
16°	0 46.1 -40.4 111.8	0 03.3 -40.1 111.1	-0 39.6 -40.0	-1 22.8 -39.7	-2 06.1 -39.5
17°	0 05.7 -40.3 112.5	-0 36.8 -40.1	-1 19.6 -39.9	-2 02.5 -39.7	-2 45.6 -39.5
18°	-0 34.6 -40.4	-1 16.9 -40.2	-1 59.5 -39.9	-2 42.2 -39.6	-3 25.1 -39.4
19°	-1 15.0 -40.3	-1 57.1 -40.1	-2 39.4 -39.8	-3 21.8 -39.7	-4 04.5 -39.4
20°	-1 55.3 -40.3	-2 37.2 -40.0	-3 19.2 -39.8	-4 01.5 -39.6	-4 43.9 -39.4
21°	-2 35.6 -40.3	-3 17.2 -40.1	-3 59.0 -39.8	-4 41.1 -39.5	-5 23.3 -39.3
22°	-3 15.9 -40.3	-3 57.3 -40.0	-4 38.8 -39.8	-5 20.6 -39.5	-6 02.6 -39.2
23°	-3 56.2 -40.2	-4 37.3 -39.9	-5 18.6 -39.6	-6 00.1 -39.4	-6 41.8 -39.1
24°	-4 36.4 -40.2	-5 17.2 -39.9	-5 58.2 -39.7	-6 39.5 -39.3	-7 20.9 -39.1
25°	-5 16.6 -40.1	-5 57.1 -39.9	-6 37.9 -39.5	-7 18.8 -39.3	-8 00.0 -39.0
26°	-5 56.7 -40.1	-6 37.0 -39.7	-7 17.4 -39.5	-7 58.1 -39.2	-8 39.0 -38.9
27°	-6 36.8 -40.0	-7 16.7 -39.7	-7 56.9 -39.4	-8 37.3 -39.1	-9 17.9 -38.8
28°	-7 16.8 -39.9	-7 56.4 -39.6	-8 36.3 -39.3	-9 16.4 -39.0	-9 56.7 -38.7
29°	-7 56.7 -39.8	-8 36.0 -39.5	-9 15.6 -39.2	-9 55.4 -38.9	

Dec	LHA 080° / 280°	LHA 081° / 279°	LHA 082° / 278°	LHA 083° / 277°	LHA 084° / 276°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	7 38.7 -39.0 96.5	6 53.0 -38.9 95.8	6 07.2 -38.8 95.2	5 21.4 -38.8 94.5	4 35.6 -38.7 93.9
1°	6 59.7 -39.0 97.2	6 14.1 -39.0 96.6	5 28.4 -38.9 95.9	4 42.6 -38.8 95.3	3 56.9 -38.8 94.6
2°	6 20.7 -39.1 98.0	5 35.1 -39.0 97.3	4 49.5 -38.9 96.7	4 03.8 -38.8 96.0	3 18.1 -38.8 95.4
3°	5 41.6 -39.2 98.8	4 56.1 -39.0 98.1	4 10.6 -39.0 97.5	3 25.0 -38.9 96.8	2 39.3 -38.8 96.2
4°	5 02.4 -39.2 99.5	4 17.1 -39.1 98.9	3 31.6 -39.0 98.2	2 46.1 -38.9 97.6	2 00.5 -38.9 96.9
5°	4 23.2 -39.2 100.3	3 38.0 -39.2 99.6	2 52.6 -39.0 99.0	2 07.2 -39.0 98.3	1 21.6 -38.8 97.7
6°	3 44.0 -39.3 101.0	2 58.8 -39.2 100.4	2 13.6 -39.1 99.7	1 28.2 -39.0 99.1	0 42.8 -38.9 98.4
7°	3 04.7 -39.3 101.8	2 19.6 -39.2 101.1	1 34.5 -39.1 100.5	0 49.2 -38.9 99.9	0 03.9 -38.8 99.2
8°	2 25.4 -39.4 102.6	1 40.4 -39.2 101.9	0 55.4 -39.1 101.3	0 10.3 -39.0 100.6	-0 34.9 -38.9
9°	1 46.0 -39.4 103.3	1 01.2 -39.2 102.7	0 16.3 -39.1 102.0	-0 28.7 -39.0	-1 13.8 -38.8
10°	1 06.6 -39.3 104.1	0 22.0 -39.2 103.4	-0 22.8 -39.1	-1 07.7 -38.9	-1 52.6 -38.9
11°	0 27.3 -39.4 104.8	-0 17.2 -39.3	-1 01.9 -39.0	-1 46.6 -38.9	-2 31.5 -38.8
12°	-0 12.1 -39.4	-0 56.5 -39.2	-1 40.9 -39.1	-2 25.5 -39.0	-3 10.3 -38.7
13°	-0 51.5 -39.4	-1 35.7 -39.2	-2 20.0 -39.0	-3 04.5 -38.8	-3 49.0 -38.8
14°	-1 30.9 -39.3	-2 14.9 -39.2	-2 59.0 -39.0	-3 43.3 -38.9	-4 27.8 -38.6
15°	-2 10.2 -39.4	-2 54.1 -39.1	-3 38.0 -39.0	-4 22.2 -38.8	-5 06.4 -38.7
16°	-2 49.6 -39.3	-3 33.2 -39.1	-4 17.0 -38.9	-5 01.0 -38.7	-5 45.1 -38.5
17°	-3 28.9 -39.2	-4 12.3 -39.1	-4 55.9 -38.9	-5 39.7 -38.7	-6 23.6 -38.5
18°	-4 08.1 -39.3	-4 51.4 -39.0	-5 34.8 -38.8	-6 18.4 -38.6	-7 02.1 -38.4
19°	-4 47.4 -39.1	-5 30.4 -39.0	-6 13.6 -38.8	-6 57.0 -38.5	-7 40.5 -38.4
20°	-5 26.5 -39.2	-6 09.4 -38.9	-6 52.4 -38.6	-7 35.5 -38.5	-8 18.9 -38.2
21°	-6 05.7 -39.0	-6 48.3 -38.8	-7 31.0 -38.6	-8 14.0 -38.3	-8 57.1 -38.1
22°	-6 44.7 -39.0	-7 27.1 -38.7	-8 09.6 -38.5	-8 52.3 -38.3	-9 35.2 -38.1
23°	-7 23.7 -38.9	-8 05.8 -38.7	-8 48.1 -38.4	-9 30.6 -38.2	
24°	-8 02.6 -38.8	-8 44.5 -38.5	-9 26.5 -38.3		
25°	-8 41.4 -38.7	-9 23.0 -38.5			
26°	-9 20.1 -38.7				
27°	-9 58.8 -38.5				
28°					
29°					

Dec	LHA 085° / 275°	LHA 086° / 274°	LHA 087° / 273°	LHA 088° / 272°	LHA 089° / 271°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	3 49.7 -38.7 93.2	3 03.8 -38.6 92.6	2 17.9 -38.6 91.9	1 31.9 -38.6 91.3	0 46.0 -38.6 90.6
1°	3 11.0 -38.7 94.0	2 25.2 -38.7 93.3	1 39.3 -38.7 92.7	0 53.3 -38.6 92.1	0 07.4 -38.6 91.4
2°	2 32.3 -38.7 94.7	1 46.5 -38.7 94.1	1 00.6 -38.6 93.5	0 14.7 -38.6 92.8	-0 31.2 -38.6
3°	1 53.6 -38.8 95.5	1 07.8 -38.7 94.9	0 22.0 -38.7 94.2	-0 23.9 -38.6	-1 09.8 -38.5
4°	1 14.8 -38.7 96.3	0 29.1 -38.7 95.6	-0 16.7 -38.6	-1 02.5 -38.5	-1 48.3 -38.6
5°	0 36.1 -38.8 97.0	-0 09.6 -38.7	-0 55.3 -38.6	-1 41.0 -38.6	-2 26.9 -38.5
6°	-0 02.7 -38.8	-0 48.3 -38.7	-1 33.9 -38.6	-2 19.6 -38.6	-3 05.4 -38.4
7°	-0 41.5 -38.8	-1 27.0 -38.7	-2 12.5 -38.6	-2 58.2 -38.5	-3 43.8 -38.5
8°	-1 20.3 -38.7	-2 05.7 -38.6	-2 51.1 -38.6	-3 36.7 -38.4	-4 22.3 -38.4
9°	-1 59.0 -38.7	-2 44.3 -38.6	-3 29.7 -38.5	-4 15.1 -38.5	-5 00.7 -38.3
10°	-2 37.7 -38.7	-3 22.9 -38.6	-4 08.2 -38.5	-4 53.6 -38.3	-5 39.0 -38.3
11°	-3 16.4 -38.7	-4 01.5 -38.6	-4 46.7 -38.4	-5 31.9 -38.3	-6 17.3 -38.2
12°	-3 55.1 -38.6	-4 40.1 -38.4	-5 25.1 -38.4	-6 10.2 -38.3	-6 55.5 -38.1
13°	-4 33.7 -38.6	-5 18.5 -38.5	-6 03.5 -38.3	-6 48.5 -38.2	-7 33.6 -38.1
14°	-5 12.3 -38.5	-5 57.0 -38.4	-6 41.8 -38.2	-7 26.7 -38.1	-8 11.7 -37.9
15°	-5 50.8 -38.5	-6 35.4 -38.3	-7 20.0 -38.1	-8 04.8 -38.0	-8 49.6 -37.9
16°	-6 29.3 -38.4	-7 13.7 -38.2	-7 58.1 -38.1	-8 42.8 -37.9	-9 27.5 -37.7
17°	-7 07.7 -38.3	-7 51.9 -38.1	-8 36.2 -38.0	-9 20.7 -37.8	
18°	-7 46.0 -38.2	-8 30.0 -38.0	-9 14.2 -37.8	-9 58.5 -37.6	
19°	-8 24.2 -38.1	-9 08.0 -38.0	-9 52.0 -37.8		
20°	-9 02.3 -38.1	-9 46.0 -37.8			
21°	-9 40.4 -37.9				
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Latitude 40°

Declination CONTRARY name to Latitude

Dec	LHA 090° / 270°	LHA 091° / 269°	LHA 092° / 268°	LHA 093° / 267°	LHA 094° / 266°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	0 00.0 -38.6 90.0	-0 46.0 -38.5			
1°	-0 38.6 -38.5	-1 24.5 -38.6			
2°	-1 17.1 -38.6	-2 03.1 -38.5			
3°	-1 55.7 -38.5	-2 41.6 -38.5			
4°	-2 34.2 -38.5	-3 20.1 -38.5			
5°	-3 12.7 -38.5	-3 58.6 -38.4			
6°	-3 51.2 -38.4	-4 37.0 -38.4			
7°	-4 29.6 -38.3	-5 15.4 -38.3			
8°	-5 07.9 -38.4	-5 53.7 -38.2			
9°	-5 46.3 -38.2	-6 31.9 -38.2			
10°	-6 24.5 -38.2	-7 10.1 -38.1			
11°	-7 02.7 -38.1	-7 48.2 -38.0			
12°	-7 40.8 -38.0	-8 26.2 -37.9			
13°	-8 18.8 -38.0	-9 04.1 -37.9			
14°	-8 56.8 -37.8	-9 42.0 -37.7			
15°	-9 34.6 -37.7				
16°					
17°					
18°					
19°					
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 095° / 265°	LHA 096° / 264°	LHA 097° / 263°	LHA 098° / 262°	LHA 099° / 261°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°					
1°					
2°					
3°					
4°					
5°					
6°					
7°					
8°					
9°					
10°					
11°					
12°					
13°					
14°					
15°					
16°					
17°					
18°					
19°					
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25°					
26°					
27°					
28°					
29°					

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The data on this page is believed to be accurate but no warranty is given for it's correctness. Use it only for training and exercising!

Dec	LHA 000° / 360°	LHA 001° / 359°	LHA 002° / 358°	LHA 003° / 357°	LHA 004° / 356°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	49 00.0 -60.0 180.0	48 59.4 -60.0 178.5	48 57.6 -60.0 177.0	48 54.6 -59.9 175.4	48 50.4 -59.8 173.9
1°	48 00.0 -60.0 180.0	47 59.4 -60.0 178.5	47 57.6 -59.9 177.0	47 54.7 -59.9 175.5	47 50.6 -59.8 174.0
2°	47 00.0 -60.0 180.0	46 59.4 -60.0 178.5	46 57.7 -60.0 177.1	46 54.8 -59.9 175.6	46 50.8 -59.9 174.1
3°	46 00.0 -60.0 180.0	45 59.4 -60.0 178.6	45 57.7 -59.9 177.1	45 54.9 -59.9 175.7	45 50.9 -59.8 174.3
4°	45 00.0 -60.0 180.0	44 59.4 -59.9 178.6	44 57.8 -60.0 177.2	44 55.0 -59.9 175.8	44 51.1 -59.8 174.4
5°	44 00.0 -60.0 180.0	43 59.5 -60.0 178.6	43 57.8 -59.9 177.2	43 55.1 -59.9 175.8	43 51.3 -59.9 174.5
6°	43 00.0 -60.0 180.0	42 59.5 -60.0 178.6	42 57.9 -60.0 177.3	42 55.2 -59.9 175.9	42 51.4 -59.8 174.6
7°	42 00.0 -60.0 180.0	41 59.5 -60.0 178.7	41 57.9 -60.0 177.3	41 55.3 -60.0 176.0	41 51.6 -59.9 174.7
8°	41 00.0 -60.0 180.0	40 59.5 -60.0 178.7	40 57.9 -59.9 177.4	40 55.3 -59.9 176.1	40 51.7 -59.8 174.8
9°	40 00.0 -60.0 180.0	39 59.5 -60.0 178.7	39 58.0 -60.0 177.4	39 55.4 -59.9 176.1	39 51.9 -59.9 174.9
10°	39 00.0 -60.0 180.0	38 59.5 -60.0 178.7	38 58.0 -60.0 177.5	38 55.5 -59.9 176.2	38 52.0 -59.9 174.9
11°	38 00.0 -60.0 180.0	37 59.5 -60.0 178.8	37 58.0 -59.9 177.5	37 55.6 -60.0 176.3	37 52.1 -59.8 175.0
12°	37 00.0 -60.0 180.0	36 59.5 -60.0 178.8	36 58.1 -60.0 177.6	36 55.6 -59.9 176.3	36 52.3 -59.9 175.1
13°	36 00.0 -60.0 180.0	35 59.5 -60.0 178.8	35 58.1 -60.0 177.6	35 55.7 -59.9 176.4	35 52.4 -59.9 175.2
14°	35 00.0 -60.0 180.0	34 59.5 -60.0 178.8	34 58.1 -59.9 177.6	34 55.8 -59.9 176.4	34 52.5 -59.9 175.3
15°	34 00.0 -60.0 180.0	33 59.5 -60.0 178.8	33 58.2 -60.0 177.7	33 55.9 -60.0 176.5	33 52.6 -59.8 175.3
16°	33 00.0 -60.0 180.0	32 59.5 -59.9 178.9	32 58.2 -60.0 177.7	32 55.9 -59.9 176.6	32 52.8 -59.9 175.4
17°	32 00.0 -60.0 180.0	31 59.6 -60.0 178.9	31 58.2 -60.0 177.7	31 56.0 -59.9 176.6	31 52.9 -59.9 175.5
18°	31 00.0 -60.0 180.0	30 59.6 -60.0 178.9	30 58.2 -59.9 177.8	30 56.1 -60.0 176.7	30 53.0 -59.9 175.6
19°	30 00.0 -60.0 180.0	29 59.6 -60.0 178.9	29 58.3 -60.0 177.8	29 56.1 -59.9 176.7	29 53.1 -59.9 175.6
20°	29 00.0 -60.0 180.0	28 59.6 -60.0 178.9	28 58.3 -60.0 177.9	28 56.2 -60.0 176.8	28 53.2 -59.9 175.7
21°	28 00.0 -60.0 180.0	27 59.6 -60.0 178.9	27 58.3 -59.9 177.9	27 56.2 -59.9 176.8	27 53.3 -59.9 175.8
22°	27 00.0 -60.0 180.0	26 59.6 -60.0 179.0	26 58.4 -60.0 177.9	26 56.3 -59.9 176.9	26 53.4 -59.9 175.8
23°	26 00.0 -60.0 180.0	25 59.6 -60.0 179.0	25 58.4 -60.0 178.0	25 56.4 -60.0 176.9	25 53.5 -59.9 175.9
24°	25 00.0 -60.0 180.0	24 59.6 -60.0 179.0	24 58.4 -60.0 178.0	24 56.4 -59.9 177.0	24 53.6 -59.9 176.0
25°	24 00.0 -60.0 180.0	23 59.6 -60.0 179.0	23 58.4 -59.9 178.0	23 56.5 -60.0 177.0	23 53.7 -59.9 176.0
26°	23 00.0 -60.0 180.0	22 59.6 -60.0 179.0	22 58.5 -60.0 178.0	22 56.5 -59.9 177.1	22 53.8 -59.9 176.1
27°	22 00.0 -60.0 180.0	21 59.6 -60.0 179.0	21 58.5 -60.0 178.1	21 56.6 -60.0 177.1	21 53.9 -59.9 176.2
28°	21 00.0 -60.0 180.0	20 59.6 -60.0 179.1	20 58.5 -60.0 178.1	20 56.6 -59.9 177.2	20 54.0 -59.9 176.2
29°	20 00.0 -60.0 180.0	19 59.6 -60.0 179.1	19 58.5 -59.9 178.1	19 56.7 -60.0 177.2	19 54.1 -59.9 176.3

Dec	LHA 005° / 355°	LHA 006° / 354°	LHA 007° / 353°	LHA 008° / 352°	LHA 009° / 351°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	48 45.0 -59.7 172.4	48 38.4 -59.6 170.9	48 30.7 -59.5 169.4	48 21.8 -59.3 167.9	48 11.7 -59.1 166.4
1°	47 45.3 -59.7 172.6	47 38.8 -59.6 171.1	47 31.2 -59.4 169.6	47 22.5 -59.3 168.1	47 12.6 -59.1 166.7
2°	46 45.6 -59.8 172.7	46 39.2 -59.6 171.2	46 31.8 -59.5 169.8	46 23.2 -59.3 168.4	46 13.5 -59.1 166.9
3°	45 45.8 -59.7 172.8	45 39.6 -59.6 171.4	45 32.3 -59.5 170.0	45 23.9 -59.3 168.6	45 14.4 -59.2 167.2
4°	44 46.1 -59.7 173.0	44 40.0 -59.6 171.6	44 32.8 -59.5 170.2	44 24.6 -59.4 168.8	44 15.2 -59.2 167.4
5°	43 46.4 -59.8 173.1	43 40.4 -59.7 171.7	43 33.3 -59.5 170.4	43 25.2 -59.4 169.0	43 16.0 -59.2 167.6
6°	42 46.6 -59.8 173.2	42 40.7 -59.6 171.9	42 33.8 -59.5 170.5	42 25.8 -59.4 169.2	42 16.8 -59.2 167.9
7°	41 46.8 -59.7 173.3	41 41.1 -59.7 172.0	41 34.3 -59.6 170.7	41 26.4 -59.4 169.4	41 17.6 -59.3 168.1
8°	40 47.1 -59.8 173.5	40 41.4 -59.7 172.2	40 34.7 -59.6 170.9	40 27.0 -59.4 169.6	40 18.3 -59.3 168.3
9°	39 47.3 -59.8 173.6	39 41.7 -59.7 172.3	39 35.1 -59.5 171.0	39 27.6 -59.5 169.7	39 19.0 -59.3 168.5
10°	38 47.5 -59.8 173.7	38 42.0 -59.7 172.4	38 35.6 -59.6 171.2	38 28.1 -59.4 169.9	38 19.7 -59.3 168.7
11°	37 47.7 -59.8 173.8	37 42.3 -59.7 172.5	37 36.0 -59.6 171.3	37 28.7 -59.5 170.1	37 20.4 -59.4 168.9
12°	36 47.9 -59.8 173.9	36 42.6 -59.7 172.7	36 36.4 -59.6 171.5	36 29.2 -59.5 170.3	36 21.0 -59.3 169.0
13°	35 48.1 -59.8 174.0	35 42.9 -59.7 172.8	35 36.8 -59.7 171.6	35 29.7 -59.5 170.4	35 21.7 -59.4 169.2
14°	34 48.3 -59.8 174.1	34 43.2 -59.7 172.9	34 37.1 -59.6 171.7	34 30.2 -59.5 170.6	34 22.3 -59.4 169.4
15°	33 48.5 -59.8 174.2	33 43.5 -59.8 173.0	33 37.5 -59.6 171.9	33 30.7 -59.6 170.7	33 22.9 -59.4 169.6
16°	32 48.7 -59.8 174.3	32 43.7 -59.7 173.1	32 37.9 -59.7 172.0	32 31.1 -59.5 170.9	32 23.5 -59.4 169.7
17°	31 48.9 -59.8 174.4	31 44.0 -59.7 173.3	31 38.2 -59.6 172.1	31 31.6 -59.5 171.0	31 24.1 -59.4 169.9
18°	30 49.1 -59.9 174.5	30 44.3 -59.8 173.4	30 38.6 -59.7 172.3	30 32.1 -59.6 171.2	30 24.7 -59.5 170.1
19°	29 49.2 -59.8 174.5	29 44.5 -59.8 173.5	29 38.9 -59.6 172.4	29 32.5 -59.6 171.3	29 25.2 -59.4 170.2
20°	28 49.4 -59.8 174.6	28 44.7 -59.7 173.6	28 39.3 -59.7 172.5	28 32.9 -59.5 171.4	28 25.8 -59.5 170.4
21°	27 49.6 -59.9 174.7	27 45.0 -59.8 173.7	27 39.6 -59.7 172.6	27 33.4 -59.6 171.6	27 26.3 -59.5 170.5
22°	26 49.7 -59.8 174.8	26 45.2 -59.7 173.8	26 39.9 -59.7 172.7	26 33.8 -59.6 171.7	26 26.8 -59.4 170.7
23°	25 49.9 -59.8 174.9	25 45.5 -59.8 173.9	25 40.2 -59.7 172.9	25 34.2 -59.6 171.8	25 27.4 -59.5 170.8
24°	24 50.1 -59.9 175.0	24 45.7 -59.8 174.0	24 40.5 -59.7 173.0	24 34.6 -59.6 172.0	24 27.9 -59.5 171.0
25°	23 50.2 -59.8 175.0	23 45.9 -59.8 174.1	23 40.8 -59.7 173.1	23 35.0 -59.6 172.1	23 28.4 -59.5 171.1
26°	22 50.4 -59.9 175.1	22 46.1 -59.7 174.2	22 41.1 -59.7 173.2	22 35.4 -59.6 172.2	22 28.9 -59.5 171.2
27°	21 50.5 -59.8 175.2	21 46.4 -59.8 174.2	21 41.4 -59.7 173.3	21 35.8 -59.6 172.3	21 29.4 -59.6 171.4
28°	20 50.7 -59.9 175.3	20 46.6 -59.8 174.3	20 41.7 -59.7 173.4	20 36.2 -59.7 172.5	20 29.8 -59.5 171.5
29°	19 50.8 -59.8 175.4	19 46.8 -59.8 174.4	19 42.0 -59.7 173.5	19 36.5 -59.6 172.6	19 30.3 -59.5 171.7

Dec	LHA 010° / 350°	LHA 011° / 349°	LHA 012° / 348°	LHA 013° / 347°	LHA 014° / 346°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	48 00.5 -58.9 165.0	47 48.2 -58.6 163.5	47 34.8 -58.4 162.0	47 20.3 -58.1 160.6	47 04.7 -57.8 159.2
1°	47 01.6 -58.9 165.2	46 49.6 -58.7 163.8	46 36.4 -58.4 162.4	46 22.2 -58.2 161.0	46 06.9 -57.9 159.6
2°	46 02.7 -58.9 165.5	45 50.9 -58.7 164.1	45 38.0 -58.5 162.7	45 24.0 -58.3 161.3	45 09.0 -58.0 160.0
3°	45 03.8 -59.0 165.8	44 52.2 -58.8 164.4	44 39.5 -58.6 163.0	44 25.7 -58.3 161.7	44 11.0 -58.1 160.3
4°	44 04.8 -59.0 166.0	43 53.4 -58.8 164.7	43 40.9 -58.6 163.3	43 27.4 -58.3 162.0	43 12.9 -58.1 160.7
5°	43 05.8 -59.0 166.3	42 54.6 -58.9 165.0	42 42.3 -58.6 163.6	42 29.1 -58.5 162.3	42 14.8 -58.2 161.0
6°	42 06.8 -59.1 166.5	41 55.7 -58.8 165.2	41 43.7 -58.7 163.9	41 30.6 -58.4 162.6	41 16.6 -58.2 161.3
7°	41 07.7 -59.1 166.8	40 56.9 -59.0 165.5	40 45.0 -58.7 164.2	40 32.2 -58.5 162.9	40 18.4 -58.3 161.6
8°	40 08.6 -59.1 167.0	39 57.9 -58.9 165.7	39 46.3 -58.8 164.5	39 33.7 -58.6 163.2	39 20.1 -58.3 162.0
9°	39 09.5 -59.2 167.2	38 59.0 -59.0 166.0	38 47.5 -58.8 164.7	38 35.1 -58.6 163.5	38 21.8 -58.4 162.3
10°	38 10.3 -59.1 167.4	38 00.0 -59.0 166.2	37 48.7 -58.8 165.0	37 36.5 -58.6 163.8	37 23.4 -58.4 162.6
11°	37 11.2 -59.2 167.6	37 01.0 -59.0 166.4	36 49.9 -58.8 165.2	36 37.9 -58.6 164.0	36 25.0 -58.4 162.8
12°	36 12.0 -59.2 167.8	36 02.0 -59.1 166.7	35 51.1 -58.9 165.5	35 39.3 -58.7 164.3	35 26.6 -58.5 163.1
13°	35 12.8 -59.3 168.0	35 02.9 -59.0 166.9	34 52.2 -58.9 165.7	34 40.6 -58.8 164.5	34 28.1 -58.6 163.4
14°	34 13.5 -59.2 168.2	34 03.9 -59.1 167.1	33 53.3 -58.9 165.9	33 41.8 -58.7 164.8	33 29.5 -58.5 163.7
15°	33 14.3 -59.3 168.4	33 04.8 -59.2 167.3	32 54.4 -59.0 166.2	32 43.1 -58.8 165.0	32 31.0 -58.6 163.9
16°	32 15.0 -59.3 168.6	32 05.6 -59.1 167.5	31 55.4 -59.0 166.4	31 44.3 -58.8 165.3	31 32.4 -58.6 164.2
17°	31 15.7 -59.3 168.8	31 06.5 -59.1 167.7	30 56.4 -59.0 166.6	30 45.5 -58.8 165.5	30 33.8 -58.7 164.4
18°	30 16.4 -59.3 169.0	30 07.4 -59.2 167.9	29 57.4 -59.0 166.8	29 46.7 -58.9 165.7	29 35.1 -58.7 164.7
19°	29 17.1 -59.3 169.1	29 08.2 -59.2 168.1	28 58.4 -59.0 167.0	28 47.8 -58.8 166.0	28 36.4 -58.7 164.9
20°	28 17.8 -59.3 169.3	28 09.0 -59.2 168.3	27 59.4 -59.1 167.2	27 49.0 -58.9 166.2	27 37.7 -58.7 165.1
21°	27 18.5 -59.4 169.5	27 09.8 -59.2 168.5	27 00.3 -59.0 167.4	26 50.1 -59.0 166.4	26 39.0 -58.7 165.4
22°	26 19.1 -59.4 169.7	26 10.6 -59.3 168.6	26 01.3 -59.1 167.6	25 51.1 -58.9 166.6	25 40.3 -58.8 165.6
23°	25 19.7 -59.3 169.8	25 11.3 -59.2 168.8	25 02.2 -59.1 167.8	24 52.2 -58.9 166.8	24 41.5 -58.8 165.8
24°	24 20.4 -59.4 170.0	24 12.1 -59.2 169.0	24 03.1 -59.1 168.0	23 53.3 -59.0 167.0	23 42.7 -58.8 166.0
25°	23 21.0 -59.4 170.1	23 12.9 -59.3 169.2	23 04.0 -59.2 168.2	22 54.3 -59.0 167.2	22 43.9 -58.8 166.2
26°	22 21.6 -59.4 170.3	22 13.6 -59.3 169.3	22 04.8 -59.1 168.4	21 55.3 -59.0 167.4	21 45.1 -58.8 166.5
27°	21 22.2 -59.4 170.4	21 14.3 -59.3 169.5	21 05.7 -59.2 168.5	20 56.3 -59.0 167.6	20 46.3 -58.9 166.7
28°	20 22.8 -59.4 170.6	20 15.0 -59.3 169.7	20 06.5 -59.1 168.7	19 57.3 -59.0 167.8	19 47.4 -58.9 166.9
29°	19 23.4 -59.4 170.7	19 15.7 -59.3 169.8	19 07.4 -59.2 168.9	18 58.3 -59.0 168.0	18 48.5 -58.8 167.1

Dec	LHA 015° / 345°	LHA 016° / 344°	LHA 017° / 343°	LHA 018° / 342°	LHA 019° / 341°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	46 48.1 -57.5 157.8	46 30.5 -57.2 156.4	46 11.9 -57.0 155.0	45 52.2 -56.5 153.7	45 31.7 -56.3 152.3
1°	45 50.6 -57.7 158.2	45 33.3 -57.4 156.8	45 14.9 -57.0 155.5	44 55.7 -56.8 154.1	44 35.4 -56.4 152.8
2°	44 52.9 -57.7 158.6	44 35.9 -57.4 157.2	44 17.9 -57.1 155.9	43 58.9 -56.8 154.6	43 39.0 -56.4 153.3
3°	43 55.2 -57.8 159.0	43 38.5 -57.5 157.6	43 20.8 -57.2 156.3	43 02.1 -56.9 155.0	42 42.6 -56.6 153.7
4°	42 57.4 -57.8 159.3	42 41.0 -57.6 158.0	42 23.6 -57.3 156.7	42 05.2 -57.0 155.5	41 46.0 -56.7 154.2
5°	41 59.6 -57.9 159.7	41 43.4 -57.7 158.4	41 26.3 -57.4 157.1	41 08.2 -57.1 155.9	40 49.3 -56.8 154.6
6°	41 01.7 -58.0 160.0	40 45.7 -57.7 158.8	40 28.9 -57.5 157.5	40 11.1 -57.2 156.3	39 52.5 -56.9 155.0
7°	40 03.7 -58.1 160.4	39 48.0 -57.8 159.1	39 31.4 -57.5 157.9	39 13.9 -57.2 156.7	38 55.6 -57.0 155.5
8°	39 05.6 -58.1 160.7	38 50.2 -57.8 159.5	38 33.9 -57.6 158.3	38 16.7 -57.3 157.1	37 58.6 -57.0 155.9
9°	38 07.5 -58.1 161.0	37 52.4 -57.9 159.8	37 36.3 -57.6 158.6	37 19.4 -57.4 157.4	37 01.6 -57.2 156.2
10°	37 09.4 -58.2 161.3	36 54.5 -58.0 160.2	36 38.7 -57.8 159.0	36 22.0 -57.5 157.8	36 04.4 -57.2 156.6
11°	36 11.2 -58.2 161.7	35 56.5 -58.0 160.5	35 40.9 -57.7 159.3	35 24.5 -57.5 158.2	35 07.2 -57.2 157.0
12°	35 13.0 -58.3 161.9	34 58.5 -58.1 160.8	34 43.2 -57.9 159.6	34 27.0 -57.6 158.5	34 10.0 -57.3 157.4
13°	34 14.7 -58.3 162.2	34 00.4 -58.1 161.1	33 45.3 -57.8 160.0	33 29.4 -57.6 158.8	33 12.7 -57.4 157.7
14°	33 16.4 -58.4 162.5	33 02.3 -58.1 161.4	32 47.5 -57.9 160.3	32 31.8 -57.7 159.2	32 15.3 -57.5 158.1
15°	32 18.0 -58.4 162.8	32 04.2 -58.2 161.7	31 49.6 -58.0 160.6	31 34.1 -57.7 159.5	31 17.8 -57.5 158.4
16°	31 19.6 -58.4 163.1	31 06.0 -58.2 162.0	30 51.6 -58.0 160.9	30 36.4 -57.8 159.8	30 20.3 -57.5 158.7
17°	30 21.2 -58.5 163.3	30 07.8 -58.3 162.3	29 53.6 -58.1 161.2	29 38.6 -57.8 160.1	29 22.8 -57.6 159.1
18°	29 22.7 -58.5 163.6	29 09.5 -58.3 162.5	28 55.5 -58.0 161.5	28 40.8 -57.9 160.4	28 25.2 -57.6 159.4
19°	28 24.2 -58.5 163.8	28 11.2 -58.3 162.8	27 57.5 -58.2 161.8	27 42.9 -57.9 160.7	27 27.6 -57.7 159.7
20°	27 25.7 -58.5 164.1	27 12.9 -58.3 163.1	26 59.3 -58.1 162.0	26 45.0 -57.9 161.0	26 29.9 -57.7 160.0
21°	26 27.2 -58.6 164.3	26 14.6 -58.4 163.3	26 01.2 -58.2 162.3	25 47.1 -58.0 161.3	25 32.2 -57.8 160.3
22°	25 28.6 -58.6 164.6	25 16.2 -58.4 163.6	25 03.0 -58.2 162.6	24 49.1 -58.0 161.6	24 34.4 -57.8 160.6
23°	24 30.0 -58.6 164.8	24 17.8 -58.4 163.8	24 04.8 -58.2 162.9	23 51.1 -58.0 161.9	23 36.6 -57.8 160.9
24°	23 31.4 -58.6 165.1	23 19.4 -58.5 164.1	23 06.6 -58.3 163.1	22 53.1 -58.1 162.2	22 38.8 -57.8 161.2
25°	22 32.8 -58.7 165.3	22 20.9 -58.5 164.3	22 08.3 -58.3 163.4	21 55.0 -58.1 162.4	21 41.0 -57.9 161.5
26°	21 34.1 -58.6 165.5	21 22.4 -58.5 164.6	21 10.0 -58.3 163.6	20 56.9 -58.1 162.7	20 43.1 -57.9 161.8
27°	20 35.5 -58.7 165.7	20 23.9 -58.5 164.8	20 11.7 -58.3 163.9	19 58.8 -58.1 163.0	19 45.2 -57.9 162.0
28°	19 36.8 -58.7 166.0	19 25.4 -58.5 165.0	19 13.4 -58.4 164.1	19 00.7 -58.2 163.2	18 47.3 -58.0 162.3
29°	18 38.1 -58.8 166.2	18 26.9 -58.5 165.3	18 15.0 -58.3 164.4	18 02.5 -58.2 163.5	17 49.3 -58.0 162.6

Dec	LHA 020° / 340°	LHA 021° / 339°	LHA 022° / 338°	LHA 023° / 337°	LHA 024° / 336°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	45 10.2 -55.9 151.0	44 47.7 -55.5 149.7	44 24.4 -55.1 148.4	44 00.3 -54.8 147.1	43 35.2 -54.4 145.8
1°	44 14.3 -56.1 151.5	43 52.2 -55.7 150.2	43 29.3 -55.4 148.9	43 05.5 -55.0 147.7	42 40.8 -54.6 146.4
2°	43 18.2 -56.1 152.0	42 56.5 -55.8 150.7	42 33.9 -55.4 149.4	42 10.5 -55.1 148.2	41 46.2 -54.7 147.0
3°	42 22.1 -56.3 152.5	42 00.7 -55.9 151.2	41 38.5 -55.7 150.0	41 15.4 -55.3 148.7	40 51.5 -55.0 147.5
4°	41 25.8 -56.4 152.9	41 04.8 -56.1 151.7	40 42.8 -55.7 150.5	40 20.1 -55.4 149.2	39 56.5 -55.0 148.0
5°	40 29.4 -56.5 153.4	40 08.7 -56.2 152.2	39 47.1 -55.8 150.9	39 24.7 -55.5 149.7	39 01.5 -55.2 148.6
6°	39 32.9 -56.6 153.8	39 12.5 -56.3 152.6	38 51.3 -56.0 151.4	38 29.2 -55.6 150.2	38 06.3 -55.3 149.1
7°	38 36.3 -56.6 154.3	38 16.2 -56.3 153.1	37 55.3 -56.1 151.9	37 33.6 -55.8 150.7	37 11.0 -55.4 149.6
8°	37 39.7 -56.8 154.7	37 19.9 -56.5 153.5	36 59.2 -56.1 152.3	36 37.8 -55.8 151.2	36 15.6 -55.6 150.0
9°	36 42.9 -56.9 155.1	36 23.4 -56.6 153.9	36 03.1 -56.3 152.8	35 42.0 -56.0 151.6	35 20.0 -55.6 150.5
10°	35 46.0 -56.9 155.5	35 26.8 -56.6 154.3	35 06.8 -56.3 153.2	34 46.0 -56.0 152.1	34 24.4 -55.7 151.0
11°	34 49.1 -57.0 155.9	34 30.2 -56.7 154.7	34 10.5 -56.5 153.6	33 50.0 -56.2 152.5	33 28.7 -55.9 151.4
12°	33 52.1 -57.0 156.2	33 33.5 -56.8 155.1	33 14.0 -56.5 154.0	32 53.8 -56.2 152.9	32 32.8 -55.9 151.8
13°	32 55.1 -57.1 156.6	32 36.7 -56.9 155.5	32 17.5 -56.5 154.4	31 57.6 -56.3 153.3	31 36.9 -56.0 152.3
14°	31 58.0 -57.2 157.0	31 39.8 -56.9 155.9	31 21.0 -56.7 154.8	31 01.3 -56.4 153.7	30 40.9 -56.1 152.7
15°	31 00.8 -57.3 157.3	30 42.9 -57.0 156.3	30 24.3 -56.7 155.2	30 04.9 -56.4 154.1	29 44.8 -56.2 153.1
16°	30 03.5 -57.3 157.7	29 45.9 -57.0 156.6	29 27.6 -56.8 155.6	29 08.5 -56.5 154.5	28 48.6 -56.2 153.5
17°	29 06.2 -57.3 158.0	28 48.9 -57.1 157.0	28 30.8 -56.8 155.9	28 12.0 -56.6 154.9	27 52.4 -56.3 153.9
18°	28 08.9 -57.4 158.4	27 51.8 -57.1 157.3	27 34.0 -56.9 156.3	27 15.4 -56.6 155.3	26 56.1 -56.3 154.3
19°	27 11.5 -57.5 158.7	26 54.7 -57.2 157.7	26 37.1 -57.0 156.7	26 18.8 -56.7 155.7	25 59.8 -56.5 154.7
20°	26 14.0 -57.4 159.0	25 57.5 -57.3 158.0	25 40.1 -57.0 157.0	25 22.1 -56.8 156.0	25 03.3 -56.4 155.0
21°	25 16.6 -57.6 159.3	25 00.2 -57.3 158.3	24 43.1 -57.0 157.4	24 25.3 -56.7 156.4	24 06.9 -56.6 155.4
22°	24 19.0 -57.5 159.6	24 02.9 -57.3 158.7	23 46.1 -57.1 157.7	23 28.6 -56.9 156.7	23 10.3 -56.6 155.8
23°	23 21.5 -57.6 159.9	23 05.6 -57.4 159.0	22 49.0 -57.1 158.0	22 31.7 -56.9 157.1	22 13.7 -56.6 156.1
24°	22 23.9 -57.6 160.2	22 08.2 -57.4 159.3	21 51.9 -57.2 158.4	21 34.8 -56.9 157.4	21 17.1 -56.7 156.5
25°	21 26.3 -57.7 160.5	21 10.8 -57.4 159.6	20 54.7 -57.2 158.7	20 37.9 -57.0 157.8	20 20.4 -56.7 156.8
26°	20 28.6 -57.7 160.8	20 13.4 -57.5 159.9	19 57.5 -57.2 159.0	19 40.9 -57.0 158.1	19 23.7 -56.7 157.2
27°	19 30.9 -57.7 161.1	19 15.9 -57.5 160.2	19 00.3 -57.3 159.3	18 43.9 -57.0 158.4	18 27.0 -56.8 157.5
28°	18 33.2 -57.8 161.4	18 18.4 -57.5 160.5	18 03.0 -57.3 159.6	17 46.9 -57.1 158.8	17 30.2 -56.8 157.9
29°	17 35.4 -57.7 161.7	17 20.9 -57.6 160.8	17 05.7 -57.3 160.0	16 49.8 -57.0 159.1	16 33.4 -56.9 158.2

Dec	LHA 025° / 335°	LHA 026° / 334°	LHA 027° / 333°	LHA 028° / 332°	LHA 029° / 331°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	43 09.4 -54.0 144.6	42 42.8 -53.7 143.4	42 15.4 -53.3 142.2	41 47.2 -52.9 141.0	41 18.4 -52.5 139.8
1°	42 15.4 -54.3 145.2	41 49.1 -53.8 144.0	41 22.1 -53.5 142.8	40 54.3 -53.0 141.6	40 25.9 -52.7 140.4
2°	41 21.1 -54.4 145.8	40 55.3 -54.1 144.6	40 28.6 -53.6 143.4	40 01.3 -53.3 142.2	39 33.2 -53.0 141.1
3°	40 26.7 -54.5 146.3	40 01.2 -54.2 145.1	39 35.0 -53.9 144.0	39 08.0 -53.5 142.8	38 40.2 -53.1 141.7
4°	39 32.2 -54.7 146.9	39 07.0 -54.3 145.7	38 41.1 -53.9 144.5	38 14.5 -53.6 143.4	37 47.1 -53.2 142.3
5°	38 37.5 -54.9 147.4	38 12.7 -54.5 146.2	37 47.2 -54.2 145.1	37 20.9 -53.8 144.0	36 53.9 -53.5 142.8
6°	37 42.6 -54.9 147.9	37 18.2 -54.6 146.8	36 53.0 -54.3 145.6	36 27.1 -54.0 144.5	36 00.4 -53.5 143.4
7°	36 47.7 -55.1 148.4	36 23.6 -54.8 147.3	35 58.7 -54.4 146.2	35 33.1 -54.0 145.1	35 06.9 -53.8 144.0
8°	35 52.6 -55.2 148.9	35 28.8 -54.9 147.8	35 04.3 -54.6 146.7	34 39.1 -54.2 145.6	34 13.1 -53.8 144.5
9°	34 57.4 -55.4 149.4	34 33.9 -55.0 148.3	34 09.7 -54.6 147.2	33 44.9 -54.4 146.1	33 19.3 -54.1 145.0
10°	34 02.0 -55.4 149.9	33 38.9 -55.1 148.8	33 15.1 -54.8 147.7	32 50.5 -54.5 146.6	32 25.2 -54.1 145.6
11°	33 06.6 -55.5 150.3	32 43.8 -55.2 149.2	32 20.3 -54.9 148.2	31 56.0 -54.5 147.1	31 31.1 -54.2 146.1
12°	32 11.1 -55.6 150.8	31 48.6 -55.3 149.7	31 25.4 -55.0 148.6	31 01.5 -54.7 147.6	30 36.9 -54.4 146.6
13°	31 15.5 -55.8 151.2	30 53.3 -55.4 150.2	30 30.4 -55.1 149.1	30 06.8 -54.8 148.1	29 42.5 -54.5 147.1
14°	30 19.7 -55.7 151.6	29 57.9 -55.5 150.6	29 35.3 -55.2 149.6	29 12.0 -54.9 148.5	28 48.0 -54.5 147.5
15°	29 24.0 -55.9 152.1	29 02.4 -55.6 151.0	28 40.1 -55.3 150.0	28 17.1 -55.0 149.0	27 53.5 -54.7 148.0
16°	28 28.1 -56.0 152.5	28 06.8 -55.7 151.5	27 44.8 -55.3 150.5	27 22.1 -55.0 149.5	26 58.8 -54.8 148.5
17°	27 32.1 -56.0 152.9	27 11.1 -55.7 151.9	26 49.5 -55.5 150.9	26 27.1 -55.2 149.9	26 04.0 -54.8 148.9
18°	26 36.1 -56.1 153.3	26 15.4 -55.8 152.3	25 54.0 -55.5 151.3	25 31.9 -55.2 150.3	25 09.2 -54.9 149.4
19°	25 40.0 -56.1 153.7	25 19.6 -55.9 152.7	24 58.5 -55.6 151.7	24 36.7 -55.3 150.8	24 14.3 -55.0 149.8
20°	24 43.9 -56.2 154.1	24 23.7 -55.9 153.1	24 02.9 -55.6 152.1	23 41.4 -55.3 151.2	23 19.3 -55.1 150.3
21°	23 47.7 -56.3 154.5	23 27.8 -56.0 153.5	23 07.3 -55.7 152.6	22 46.1 -55.5 151.6	22 24.2 -55.1 150.7
22°	22 51.4 -56.3 154.8	22 31.8 -56.0 153.9	22 11.6 -55.8 153.0	21 50.6 -55.4 152.0	21 29.1 -55.2 151.1
23°	21 55.1 -56.4 155.2	21 35.8 -56.1 154.3	21 15.8 -55.8 153.4	20 55.2 -55.6 152.4	20 33.9 -55.3 151.5
24°	20 58.7 -56.4 155.6	20 39.7 -56.2 154.7	20 20.0 -55.9 153.7	19 59.6 -55.6 152.8	19 38.6 -55.3 151.9
25°	20 02.3 -56.4 155.9	19 43.5 -56.2 155.0	19 24.1 -55.9 154.1	19 04.0 -55.6 153.2	18 43.3 -55.3 152.4
26°	19 05.9 -56.5 156.3	18 47.3 -56.2 155.4	18 28.2 -56.0 154.5	18 08.4 -55.7 153.6	17 48.0 -55.5 152.8
27°	18 09.4 -56.6 156.7	17 51.1 -56.3 155.8	17 32.2 -56.0 154.9	17 12.7 -55.8 154.0	16 52.5 -55.4 153.2
28°	17 12.8 -56.6 157.0	16 54.8 -56.3 156.1	16 36.2 -56.1 155.3	16 16.9 -55.8 154.4	15 57.1 -55.5 153.6
29°	16 16.2 -56.6 157.4	15 58.5 -56.4 156.5	15 40.1 -56.1 155.6	15 21.1 -55.8 154.8	15 01.6 -55.6 154.0

Dec	LHA 030° / 330°	LHA 031° / 329°	LHA 032° / 328°	LHA 033° / 327°	LHA 034° / 326°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	40 48.8 -52.1 138.7	40 18.6 -51.8 137.5	39 47.6 -51.3 136.4	39 16.1 -51.0 135.3	38 43.9 -50.5 134.2
1°	39 56.7 -52.3 139.3	39 26.8 -51.9 138.2	38 56.3 -51.6 137.1	38 25.1 -51.2 136.0	37 53.4 -50.9 134.9
2°	39 04.4 -52.6 139.9	38 34.9 -52.2 138.8	38 04.7 -51.8 137.7	37 33.9 -51.4 136.6	37 02.5 -51.0 135.6
3°	38 11.8 -52.7 140.6	37 42.7 -52.3 139.4	37 12.9 -51.9 138.4	36 42.5 -51.6 137.3	36 11.5 -51.2 136.2
4°	37 19.1 -52.9 141.2	36 50.4 -52.6 140.1	36 21.0 -52.2 139.0	35 50.9 -51.8 137.9	35 20.3 -51.5 136.9
5°	36 26.2 -53.1 141.7	35 57.8 -52.7 140.7	35 28.8 -52.4 139.6	34 59.1 -52.0 138.5	34 28.8 -51.6 137.5
6°	35 33.1 -53.2 142.3	35 05.1 -52.9 141.2	34 36.4 -52.5 140.2	34 07.1 -52.1 139.1	33 37.2 -51.8 138.1
7°	34 39.9 -53.4 142.9	34 12.2 -53.0 141.8	33 43.9 -52.7 140.8	33 15.0 -52.4 139.7	32 45.4 -52.0 138.7
8°	33 46.5 -53.5 143.4	33 19.2 -53.2 142.4	32 51.2 -52.8 141.3	32 22.6 -52.5 140.3	31 53.4 -52.2 139.3
9°	32 53.0 -53.7 144.0	32 26.0 -53.3 142.9	31 58.4 -53.0 141.9	31 30.1 -52.6 140.9	31 01.2 -52.2 139.9
10°	31 59.3 -53.8 144.5	31 32.7 -53.5 143.5	31 05.4 -53.1 142.5	30 37.5 -52.8 141.4	30 09.0 -52.5 140.4
11°	31 05.5 -53.9 145.0	30 39.2 -53.6 144.0	30 12.3 -53.3 143.0	29 44.7 -52.9 142.0	29 16.5 -52.6 141.0
12°	30 11.6 -54.1 145.5	29 45.6 -53.7 144.5	29 19.0 -53.4 143.5	28 51.8 -53.1 142.5	28 23.9 -52.7 141.6
13°	29 17.5 -54.1 146.0	28 51.9 -53.8 145.0	28 25.6 -53.4 144.0	27 58.7 -53.1 143.1	27 31.2 -52.8 142.1
14°	28 23.4 -54.3 146.5	27 58.1 -53.9 145.5	27 32.2 -53.7 144.6	27 05.6 -53.3 143.6	26 38.4 -53.0 142.6
15°	27 29.1 -54.3 147.0	27 04.2 -54.1 146.0	26 38.5 -53.7 145.1	26 12.3 -53.4 144.1	25 45.4 -53.0 143.1
16°	26 34.8 -54.5 147.5	26 10.1 -54.1 146.5	25 44.8 -53.8 145.6	25 18.9 -53.5 144.6	24 52.4 -53.2 143.7
17°	25 40.3 -54.5 148.0	25 16.0 -54.2 147.0	24 51.0 -53.9 146.0	24 25.4 -53.6 145.1	23 59.2 -53.2 144.2
18°	24 45.8 -54.6 148.4	24 21.8 -54.3 147.5	23 57.1 -54.0 146.5	23 31.8 -53.6 145.6	23 06.0 -53.4 144.7
19°	23 51.2 -54.7 148.9	23 27.5 -54.4 147.9	23 03.1 -54.1 147.0	22 38.2 -53.8 146.1	22 12.6 -53.4 145.2
20°	22 56.5 -54.8 149.3	22 33.1 -54.5 148.4	22 09.0 -54.1 147.5	21 44.4 -53.8 146.6	21 19.2 -53.6 145.7
21°	22 01.7 -54.8 149.8	21 38.6 -54.5 148.8	21 14.9 -54.2 147.9	20 50.6 -54.0 147.0	20 25.6 -53.6 146.1
22°	21 06.9 -54.9 150.2	20 44.1 -54.6 149.3	20 20.7 -54.3 148.4	19 56.6 -54.0 147.5	19 32.0 -53.7 146.6
23°	20 12.0 -55.0 150.6	19 49.5 -54.7 149.7	19 26.4 -54.4 148.8	19 02.6 -54.0 148.0	18 38.3 -53.7 147.1
24°	19 17.0 -55.0 151.1	18 54.8 -54.7 150.2	18 32.0 -54.4 149.3	18 08.6 -54.2 148.4	17 44.6 -53.8 147.6
25°	18 22.0 -55.1 151.5	18 00.1 -54.8 150.6	17 37.6 -54.5 149.7	17 14.4 -54.1 148.9	16 50.8 -53.9 148.0
26°	17 26.9 -55.1 151.9	17 05.3 -54.8 151.0	16 43.1 -54.6 150.2	16 20.3 -54.3 149.3	15 56.9 -54.0 148.5
27°	16 31.8 -55.2 152.3	16 10.5 -54.9 151.5	15 48.5 -54.6 150.6	15 26.0 -54.3 149.8	15 02.9 -54.0 148.9
28°	15 36.6 -55.2 152.7	15 15.6 -55.0 151.9	14 53.9 -54.6 151.0	14 31.7 -54.3 150.2	14 08.9 -54.0 149.4
29°	14 41.4 -55.3 153.1	14 20.6 -55.0 152.3	13 59.3 -54.7 151.5	13 37.4 -54.4 150.7	13 14.9 -54.1 149.8

Dec	LHA 035° / 325°	LHA 036° / 324°	LHA 037° / 323°	LHA 038° / 322°	LHA 039° / 321°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	38 11.2 -50.2 133.1	37 37.9 -49.9 132.1	37 04.0 -49.5 131.0	36 29.6 -49.1 130.0	35 54.6 -48.7 129.0
1°	37 21.0 -50.5 133.8	36 48.0 -50.0 132.8	36 14.5 -49.7 131.7	35 40.5 -49.4 130.7	35 05.9 -49.0 129.7
2°	36 30.5 -50.6 134.5	35 58.0 -50.3 133.5	35 24.8 -49.9 132.4	34 51.1 -49.5 131.4	34 16.9 -49.2 130.4
3°	35 39.9 -50.9 135.2	35 07.7 -50.6 134.1	34 34.9 -50.2 133.1	34 01.6 -49.8 132.1	33 27.7 -49.4 131.1
4°	34 49.0 -51.1 135.8	34 17.1 -50.7 134.8	33 44.7 -50.3 133.8	33 11.8 -50.0 132.8	32 38.3 -49.7 131.8
5°	33 57.9 -51.3 136.5	33 26.4 -50.9 135.4	32 54.4 -50.6 134.4	32 21.8 -50.2 133.4	31 48.6 -49.8 132.5
6°	33 06.6 -51.4 137.1	32 35.5 -51.1 136.1	32 03.8 -50.7 135.1	31 31.6 -50.4 134.1	30 58.8 -50.1 133.1
7°	32 15.2 -51.6 137.7	31 44.4 -51.3 136.7	31 13.1 -51.0 135.7	30 41.2 -50.6 134.7	30 08.7 -50.2 133.8
8°	31 23.6 -51.8 138.3	30 53.1 -51.4 137.3	30 22.1 -51.1 136.3	29 50.6 -50.8 135.3	29 18.5 -50.4 134.4
9°	30 31.8 -52.0 138.9	30 01.7 -51.6 137.9	29 31.0 -51.2 136.9	28 59.8 -50.9 136.0	28 28.1 -50.6 135.0
10°	29 39.8 -52.1 139.5	29 10.1 -51.8 138.5	28 39.8 -51.4 137.5	28 08.9 -51.1 136.6	27 37.5 -50.7 135.6
11°	28 47.7 -52.2 140.0	28 18.3 -51.9 139.1	27 48.4 -51.6 138.1	27 17.8 -51.2 137.1	26 46.8 -50.9 136.2
12°	27 55.5 -52.4 140.6	27 26.4 -52.0 139.6	26 56.8 -51.7 138.7	26 26.6 -51.3 137.7	25 55.9 -51.0 136.8
13°	27 03.1 -52.5 141.1	26 34.4 -52.2 140.2	26 05.1 -51.8 139.2	25 35.3 -51.5 138.3	25 04.9 -51.2 137.4
14°	26 10.6 -52.6 141.7	25 42.2 -52.2 140.7	25 13.3 -52.0 139.8	24 43.8 -51.6 138.9	24 13.7 -51.3 138.0
15°	25 18.0 -52.7 142.2	24 50.0 -52.4 141.3	24 21.3 -52.0 140.3	23 52.2 -51.8 139.4	23 22.4 -51.4 138.5
16°	24 25.3 -52.9 142.7	23 57.6 -52.6 141.8	23 29.3 -52.2 140.9	23 00.4 -51.8 140.0	22 31.0 -51.5 139.1
17°	23 32.4 -52.9 143.3	23 05.0 -52.6 142.3	22 37.1 -52.3 141.4	22 08.6 -52.0 140.5	21 39.5 -51.6 139.6
18°	22 39.5 -53.1 143.8	22 12.4 -52.7 142.9	21 44.8 -52.4 142.0	21 16.6 -52.0 141.1	20 47.9 -51.7 140.2
19°	21 46.4 -53.1 144.3	21 19.7 -52.8 143.4	20 52.4 -52.5 142.5	20 24.6 -52.2 141.6	19 56.2 -51.9 140.7
20°	20 53.3 -53.2 144.8	20 26.9 -52.9 143.9	19 59.9 -52.5 143.0	19 32.4 -52.2 142.1	19 04.3 -51.9 141.3
21°	20 00.1 -53.3 145.3	19 34.0 -53.0 144.4	19 07.4 -52.7 143.5	18 40.2 -52.4 142.6	18 12.4 -52.0 141.8
22°	19 06.8 -53.4 145.7	18 41.0 -53.0 144.9	18 14.7 -52.7 144.0	17 47.8 -52.4 143.2	17 20.4 -52.1 142.3
23°	18 13.4 -53.4 146.2	17 48.0 -53.1 145.4	17 22.0 -52.8 144.5	16 55.4 -52.5 143.7	16 28.3 -52.1 142.8
24°	17 20.0 -53.5 146.7	16 54.9 -53.2 145.9	16 29.2 -52.9 145.0	16 02.9 -52.5 144.2	15 36.2 -52.3 143.4
25°	16 26.5 -53.6 147.2	16 01.7 -53.3 146.3	15 36.3 -52.9 145.5	15 10.4 -52.6 144.7	14 43.9 -52.3 143.9
26°	15 32.9 -53.6 147.6	15 08.4 -53.3 146.8	14 43.4 -53.0 146.0	14 17.8 -52.7 145.2	13 51.6 -52.3 144.4
27°	14 39.3 -53.7 148.1	14 15.1 -53.4 147.3	13 50.4 -53.1 146.5	13 25.1 -52.8 145.7	12 59.3 -52.4 144.9
28°	13 45.6 -53.7 148.6	13 21.7 -53.4 147.8	12 57.3 -53.1 147.0	12 32.3 -52.7 146.2	12 06.9 -52.5 145.4
29°	12 51.9 -53.8 149.0	12 28.3 -53.5 148.2	12 04.2 -53.2 147.4	11 39.6 -52.9 146.6	11 14.4 -52.5 145.9

Dec	LHA 040° / 320°	LHA 041° / 319°	LHA 042° / 318°	LHA 043° / 317°	LHA 044° / 316°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	35 19.2 -48.4 128.0	34 43.3 -48.0 127.0	34 06.9 -47.7 126.1	33 30.1 -47.3 125.1	32 52.8 -47.0 124.2
1°	34 30.8 -48.6 128.7	33 55.3 -48.3 127.8	33 19.2 -47.9 126.8	32 42.8 -47.6 125.9	32 05.8 -47.2 124.9
2°	33 42.2 -48.9 129.4	33 07.0 -48.5 128.5	32 31.3 -48.2 127.5	31 55.2 -47.9 126.6	31 18.6 -47.5 125.7
3°	32 53.3 -49.0 130.1	32 18.5 -48.8 129.2	31 43.1 -48.4 128.2	31 07.3 -48.0 127.3	30 31.1 -47.7 126.4
4°	32 04.3 -49.3 130.8	31 29.7 -48.9 129.9	30 54.7 -48.6 128.9	30 19.3 -48.3 128.0	29 43.4 -48.0 127.1
5°	31 15.0 -49.6 131.5	30 40.8 -49.2 130.5	30 06.1 -48.8 129.6	29 31.0 -48.5 128.7	28 55.4 -48.1 127.8
6°	30 25.4 -49.7 132.2	29 51.6 -49.3 131.2	29 17.3 -49.0 130.3	28 42.5 -48.6 129.3	28 07.3 -48.4 128.4
7°	29 35.7 -49.8 132.8	29 02.3 -49.6 131.9	28 28.3 -49.2 130.9	27 53.9 -48.9 130.0	27 18.9 -48.5 129.1
8°	28 45.9 -50.1 133.4	28 12.7 -49.7 132.5	27 39.1 -49.4 131.6	27 05.0 -49.1 130.7	26 30.4 -48.7 129.8
9°	27 55.8 -50.2 134.1	27 23.0 -49.9 133.1	26 49.7 -49.5 132.2	26 15.9 -49.2 131.3	25 41.7 -48.9 130.4
10°	27 05.6 -50.4 134.7	26 33.1 -50.0 133.8	26 00.2 -49.7 132.8	25 26.7 -49.4 131.9	24 52.8 -49.0 131.1
11°	26 15.2 -50.6 135.3	25 43.1 -50.2 134.4	25 10.5 -49.9 133.5	24 37.3 -49.5 132.6	24 03.8 -49.2 131.7
12°	25 24.6 -50.6 135.9	24 52.9 -50.4 135.0	24 20.6 -50.0 134.1	23 47.8 -49.7 133.2	23 14.6 -49.4 132.3
13°	24 34.0 -50.9 136.5	24 02.5 -50.5 135.6	23 30.6 -50.2 134.7	22 58.1 -49.8 133.8	22 25.2 -49.5 132.9
14°	23 43.1 -50.9 137.1	23 12.0 -50.6 136.2	22 40.4 -50.3 135.3	22 08.3 -49.9 134.4	21 35.7 -49.6 133.5
15°	22 52.2 -51.1 137.6	22 21.4 -50.7 136.7	21 50.1 -50.4 135.9	21 18.4 -50.1 135.0	20 46.1 -49.7 134.1
16°	22 01.1 -51.2 138.2	21 30.7 -50.9 137.3	20 59.7 -50.5 136.5	20 28.3 -50.2 135.6	19 56.4 -49.9 134.7
17°	21 09.9 -51.3 138.8	20 39.8 -50.9 137.9	20 09.2 -50.6 137.0	19 38.1 -50.3 136.2	19 06.5 -50.0 135.3
18°	20 18.6 -51.4 139.3	19 48.9 -51.1 138.5	19 18.6 -50.8 137.6	18 47.8 -50.4 136.8	18 16.5 -50.0 135.9
19°	19 27.2 -51.5 139.9	18 57.8 -51.2 139.0	18 27.8 -50.8 138.2	17 57.4 -50.5 137.3	17 26.5 -50.2 136.5
20°	18 35.7 -51.5 140.4	18 06.6 -51.2 139.6	17 37.0 -50.9 138.7	17 06.9 -50.6 137.9	16 36.3 -50.3 137.1
21°	17 44.2 -51.7 140.9	17 15.4 -51.4 140.1	16 46.1 -51.0 139.3	16 16.3 -50.7 138.5	15 46.0 -50.3 137.6
22°	16 52.5 -51.8 141.5	16 24.0 -51.4 140.6	15 55.1 -51.1 139.8	15 25.6 -50.8 139.0	14 55.7 -50.5 138.2
23°	16 00.7 -51.8 142.0	15 32.6 -51.5 141.2	15 04.0 -51.2 140.4	14 34.8 -50.8 139.6	14 05.2 -50.5 138.8
24°	15 08.9 -51.9 142.5	14 41.1 -51.6 141.7	14 12.8 -51.3 140.9	13 44.0 -50.9 140.1	13 14.7 -50.6 139.3
25°	14 17.0 -52.0 143.0	13 49.5 -51.6 142.2	13 21.5 -51.3 141.4	12 53.1 -51.0 140.6	12 24.1 -50.6 139.9
26°	13 25.0 -52.0 143.6	12 57.9 -51.8 142.8	12 30.2 -51.4 142.0	12 02.1 -51.1 141.2	11 33.5 -50.8 140.4
27°	12 33.0 -52.1 144.1	12 06.1 -51.7 143.3	11 38.8 -51.4 142.5	11 11.0 -51.1 141.7	10 42.7 -50.7 141.0
28°	11 40.9 -52.2 144.6	11 14.4 -51.8 143.8	10 47.4 -51.5 143.0	10 19.9 -51.1 142.3	9 52.0 -50.9 141.5
29°	10 48.7 -52.2 145.1	10 22.6 -51.9 144.3	9 55.9 -51.5 143.5	9 28.8 -51.2 142.8	9 01.1 -50.8 142.0

Dec	LHA 045° / 315°	LHA 046° / 314°	LHA 047° / 313°	LHA 048° / 312°	LHA 049° / 311°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	32 15.2 -46.7 123.3	31 37.1 -46.3 122.4	30 58.7 -46.1 121.5	30 19.9 -45.8 120.6	29 40.7 -45.4 119.7
1°	31 28.5 -46.9 124.0	30 50.8 -46.6 123.1	30 12.6 -46.2 122.2	29 34.1 -45.9 121.3	28 55.3 -45.7 120.4
2°	30 41.6 -47.2 124.7	30 04.2 -46.9 123.8	29 26.4 -46.6 122.9	28 48.2 -46.3 122.1	28 09.6 -45.9 121.2
3°	29 54.4 -47.4 125.5	29 17.3 -47.0 124.5	28 39.8 -46.7 123.7	28 01.9 -46.4 122.8	27 23.7 -46.1 121.9
4°	29 07.0 -47.6 126.2	28 30.3 -47.3 125.3	27 53.1 -47.0 124.4	27 15.5 -46.7 123.5	26 37.6 -46.4 122.6
5°	28 19.4 -47.8 126.8	27 43.0 -47.5 126.0	27 06.1 -47.2 125.1	26 28.8 -46.8 124.2	25 51.2 -46.5 123.3
6°	27 31.6 -48.0 127.5	26 55.5 -47.7 126.6	26 18.9 -47.3 125.8	25 42.0 -47.1 124.9	25 04.7 -46.8 124.0
7°	26 43.6 -48.2 128.2	26 07.8 -47.9 127.3	25 31.6 -47.6 126.4	24 54.9 -47.2 125.6	24 17.9 -46.9 124.7
8°	25 55.4 -48.4 128.9	25 19.9 -48.1 128.0	24 44.0 -47.7 127.1	24 07.7 -47.4 126.3	23 31.0 -47.1 125.4
9°	25 07.0 -48.6 129.5	24 31.8 -48.2 128.7	23 56.3 -47.9 127.8	23 20.3 -47.6 126.9	22 43.9 -47.3 126.1
10°	24 18.4 -48.7 130.2	23 43.6 -48.4 129.3	23 08.4 -48.1 128.4	22 32.7 -47.8 127.6	21 56.6 -47.4 126.7
11°	23 29.7 -48.9 130.8	22 55.2 -48.5 129.9	22 20.3 -48.2 129.1	21 44.9 -47.9 128.2	21 09.2 -47.6 127.4
12°	22 40.8 -49.0 131.4	22 06.7 -48.7 130.6	21 32.1 -48.4 129.7	20 57.0 -48.0 128.9	20 21.6 -47.7 128.1
13°	21 51.8 -49.1 132.1	21 18.0 -48.8 131.2	20 43.7 -48.5 130.4	20 09.0 -48.2 129.5	19 33.9 -47.9 128.7
14°	21 02.7 -49.3 132.7	20 29.2 -49.0 131.8	19 55.2 -48.6 131.0	19 20.8 -48.3 130.2	18 46.0 -48.0 129.3
15°	20 13.4 -49.4 133.3	19 40.2 -49.1 132.4	19 06.6 -48.8 131.6	18 32.5 -48.4 130.8	17 58.0 -48.1 130.0
16°	19 24.0 -49.6 133.9	18 51.1 -49.2 133.1	18 17.8 -48.9 132.2	17 44.1 -48.6 131.4	17 09.9 -48.2 130.6
17°	18 34.4 -49.6 134.5	18 01.9 -49.3 133.7	17 28.9 -49.0 132.8	16 55.5 -48.7 132.0	16 21.7 -48.4 131.2
18°	17 44.8 -49.8 135.1	17 12.6 -49.4 134.3	16 39.9 -49.1 133.4	16 06.8 -48.7 132.6	15 33.3 -48.4 131.8
19°	16 55.0 -49.8 135.7	16 23.2 -49.5 134.9	15 50.8 -49.1 134.0	15 18.1 -48.9 133.2	14 44.9 -48.6 132.4
20°	16 05.2 -49.9 136.2	15 33.7 -49.7 135.4	15 01.7 -49.3 134.6	14 29.2 -48.9 133.8	13 56.3 -48.6 133.1
21°	15 15.3 -50.1 136.8	14 44.0 -49.7 136.0	14 12.4 -49.4 135.2	13 40.3 -49.1 134.4	13 07.7 -48.7 133.7
22°	14 25.2 -50.1 137.4	13 54.3 -49.7 136.6	13 23.0 -49.4 135.8	12 51.2 -49.1 135.0	12 19.0 -48.8 134.3
23°	13 35.1 -50.2 138.0	13 04.6 -49.9 137.2	12 33.6 -49.6 136.4	12 02.1 -49.2 135.6	11 30.2 -48.8 134.9
24°	12 44.9 -50.2 138.5	12 14.7 -49.9 137.7	11 44.0 -49.6 137.0	11 12.9 -49.2 136.2	10 41.4 -49.0 135.4
25°	11 54.7 -50.3 139.1	11 24.8 -50.0 138.3	10 54.4 -49.6 137.5	10 23.7 -49.4 136.8	9 52.4 -48.9 136.0
26°	11 04.4 -50.4 139.6	10 34.8 -50.0 138.9	10 04.8 -49.7 138.1	9 34.3 -49.3 137.4	9 03.5 -49.1 136.6
27°	10 14.0 -50.5 140.2	9 44.8 -50.1 139.4	9 15.1 -49.8 138.7	8 45.0 -49.5 137.9	8 14.4 -49.1 137.2
28°	9 23.5 -50.5 140.7	8 54.7 -50.2 140.0	8 25.3 -49.8 139.2	7 55.5 -49.4 138.5	7 25.3 -49.1 137.8
29°	8 33.0 -50.5 141.3	8 04.5 -50.2 140.5	7 35.5 -49.9 139.8	7 06.1 -49.6 139.1	6 36.2 -49.2 138.4

Dec	LHA 050° / 310°	LHA 051° / 309°	LHA 052° / 308°	LHA 053° / 307°	LHA 054° / 306°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	29 01.2 -45.1 118.8	28 21.4 -44.9 118.0	27 41.2 -44.5 117.1	27 00.8 -44.3 116.3	26 20.1 -44.1 115.5
1°	28 16.1 -45.4 119.6	27 36.5 -45.1 118.7	26 56.7 -44.9 117.9	26 16.5 -44.6 117.1	25 36.0 -44.3 116.2
2°	27 30.7 -45.6 120.3	26 51.4 -45.3 119.5	26 11.8 -45.0 118.6	25 31.9 -44.7 117.8	24 51.7 -44.4 117.0
3°	26 45.1 -45.9 121.1	26 06.1 -45.5 120.2	25 26.8 -45.2 119.4	24 47.2 -45.0 118.5	24 07.3 -44.7 117.7
4°	25 59.2 -46.0 121.8	25 20.6 -45.8 120.9	24 41.6 -45.5 120.1	24 02.2 -45.2 119.3	23 22.6 -44.9 118.5
5°	25 13.2 -46.3 122.5	24 34.8 -45.9 121.6	23 56.1 -45.7 120.8	23 17.0 -45.3 120.0	22 37.7 -45.1 119.2
6°	24 26.9 -46.4 123.2	23 48.9 -46.2 122.3	23 10.4 -45.8 121.5	22 31.7 -45.6 120.7	21 52.6 -45.3 119.9
7°	23 40.5 -46.6 123.9	23 02.7 -46.3 123.0	22 24.6 -46.0 122.2	21 46.1 -45.7 121.4	21 07.3 -45.5 120.6
8°	22 53.9 -46.8 124.6	22 16.4 -46.5 123.7	21 38.6 -46.2 122.9	21 00.4 -45.9 122.1	20 21.8 -45.6 121.3
9°	22 07.1 -47.0 125.2	21 29.9 -46.6 124.4	20 52.4 -46.4 123.6	20 14.5 -46.1 122.8	19 36.2 -45.7 122.0
10°	21 20.1 -47.1 125.9	20 43.3 -46.9 125.1	20 06.0 -46.5 124.3	19 28.4 -46.2 123.5	18 50.5 -46.0 122.7
11°	20 33.0 -47.3 126.6	19 56.4 -46.9 125.8	19 19.5 -46.7 124.9	18 42.2 -46.4 124.1	18 04.5 -46.0 123.3
12°	19 45.7 -47.4 127.2	19 09.5 -47.1 126.4	18 32.8 -46.7 125.6	17 55.8 -46.4 124.8	17 18.5 -46.2 124.0
13°	18 58.3 -47.5 127.9	18 22.4 -47.3 127.1	17 46.1 -47.0 126.3	17 09.4 -46.7 125.5	16 32.3 -46.3 124.7
14°	18 10.8 -47.7 128.5	17 35.1 -47.3 127.7	16 59.1 -47.0 126.9	16 22.7 -46.7 126.1	15 46.0 -46.5 125.3
15°	17 23.1 -47.8 129.2	16 47.8 -47.5 128.4	16 12.1 -47.2 127.6	15 36.0 -46.9 126.8	14 59.5 -46.5 126.0
16°	16 35.3 -47.9 129.8	16 00.3 -47.6 129.0	15 24.9 -47.3 128.2	14 49.1 -46.9 127.4	14 13.0 -46.7 126.7
17°	15 47.4 -48.0 130.4	15 12.7 -47.7 129.6	14 37.6 -47.3 128.8	14 02.2 -47.1 128.1	13 26.3 -46.7 127.3
18°	14 59.4 -48.1 131.0	14 25.0 -47.8 130.3	13 50.3 -47.5 129.5	13 15.1 -47.1 128.7	12 39.6 -46.9 127.9
19°	14 11.3 -48.3 131.7	13 37.2 -47.9 130.9	13 02.8 -47.6 130.1	12 28.0 -47.3 129.3	11 52.7 -46.9 128.6
20°	13 23.0 -48.3 132.3	12 49.3 -47.9 131.5	12 15.2 -47.6 130.7	11 40.7 -47.3 130.0	11 05.8 -47.0 129.2
21°	12 34.7 -48.3 132.9	12 01.4 -48.1 132.1	11 27.6 -47.8 131.4	10 53.4 -47.4 130.6	10 18.8 -47.1 129.9
22°	11 46.4 -48.5 133.5	11 13.3 -48.1 132.7	10 39.8 -47.8 132.0	10 06.0 -47.5 131.2	9 31.7 -47.1 130.5
23°	10 57.9 -48.5 134.1	10 25.2 -48.2 133.3	9 52.0 -47.8 132.6	9 18.5 -47.5 131.8	8 44.6 -47.2 131.1
24°	10 09.4 -48.6 134.7	9 37.0 -48.3 133.9	9 04.2 -48.0 133.2	8 31.0 -47.6 132.5	7 57.4 -47.3 131.7
25°	9 20.8 -48.7 135.3	8 48.7 -48.3 134.5	8 16.2 -47.9 133.8	7 43.4 -47.7 133.1	7 10.1 -47.3 132.4
26°	8 32.1 -48.7 135.9	8 00.4 -48.4 135.1	7 28.3 -48.1 134.4	6 55.7 -47.7 133.7	6 22.8 -47.4 133.0
27°	7 43.4 -48.7 136.5	7 12.0 -48.4 135.7	6 40.2 -48.1 135.0	6 08.0 -47.7 134.3	5 35.4 -47.4 133.6
28°	6 54.7 -48.8 137.1	6 23.6 -48.4 136.3	5 52.1 -48.1 135.6	5 20.3 -47.8 134.9	4 48.0 -47.4 134.2
29°	6 05.9 -48.9 137.6	5 35.2 -48.5 136.9	5 04.0 -48.1 136.2	4 32.5 -47.8 135.5	4 00.6 -47.5 134.8

Dec	LHA 055° / 305°	LHA 056° / 304°	LHA 057° / 303°	LHA 058° / 302°	LHA 059° / 301°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	25 39.0 -43.7 114.7	24 57.8 -43.6 113.9	24 16.2 -43.3 113.1	23 34.4 -43.0 112.3	22 52.4 -42.8 111.5
1°	24 55.3 -44.1 115.4	24 14.2 -43.7 114.6	23 32.9 -43.5 113.8	22 51.4 -43.3 113.0	22 09.6 -43.0 112.3
2°	24 11.2 -44.2 116.2	23 30.5 -44.0 115.4	22 49.4 -43.7 114.6	22 08.1 -43.5 113.8	21 26.6 -43.3 113.0
3°	23 27.0 -44.4 116.9	22 46.5 -44.2 116.1	22 05.7 -43.9 115.3	21 24.6 -43.6 114.5	20 43.3 -43.4 113.8
4°	22 42.6 -44.6 117.6	22 02.3 -44.3 116.8	21 21.8 -44.1 116.1	20 41.0 -43.9 115.3	19 59.9 -43.6 114.5
5°	21 58.0 -44.9 118.4	21 18.0 -44.6 117.6	20 37.7 -44.3 116.8	19 57.1 -44.0 116.0	19 16.3 -43.8 115.2
6°	21 13.1 -44.9 119.1	20 33.4 -44.7 118.3	19 53.4 -44.5 117.5	19 13.1 -44.2 116.7	18 32.5 -43.9 116.0
7°	20 28.2 -45.2 119.8	19 48.7 -44.9 119.0	19 08.9 -44.6 118.2	18 28.9 -44.4 117.4	17 48.6 -44.1 116.7
8°	19 43.0 -45.3 120.5	19 03.8 -45.0 119.7	18 24.3 -44.8 118.9	17 44.5 -44.5 118.1	17 04.5 -44.3 117.4
9°	18 57.7 -45.5 121.2	18 18.8 -45.2 120.4	17 39.5 -44.9 119.6	17 00.0 -44.6 118.9	16 20.2 -44.4 118.1
10°	18 12.2 -45.7 121.9	17 33.6 -45.4 121.1	16 54.6 -45.0 120.3	16 15.4 -44.8 119.5	15 35.8 -44.5 118.8
11°	17 26.5 -45.7 122.6	16 48.2 -45.5 121.8	16 09.6 -45.2 121.0	15 30.6 -44.9 120.2	14 51.3 -44.6 119.5
12°	16 40.8 -45.9 123.2	16 02.7 -45.6 122.5	15 24.4 -45.3 121.7	14 45.7 -45.1 120.9	14 06.7 -44.8 120.2
13°	15 54.9 -46.0 123.9	15 17.1 -45.7 123.1	14 39.1 -45.5 122.4	14 00.6 -45.1 121.6	13 21.9 -44.8 120.9
14°	15 08.9 -46.2 124.6	14 31.4 -45.8 123.8	13 53.6 -45.5 123.0	13 15.5 -45.3 122.3	12 37.1 -45.0 121.5
15°	14 22.7 -46.2 125.2	13 45.6 -46.0 124.5	13 08.1 -45.7 123.7	12 30.2 -45.3 123.0	11 52.1 -45.1 122.2
16°	13 36.5 -46.4 125.9	12 59.6 -46.0 125.1	12 22.4 -45.7 124.4	11 44.9 -45.5 123.6	11 07.0 -45.1 122.9
17°	12 50.1 -46.4 126.5	12 13.6 -46.2 125.8	11 36.7 -45.9 125.0	10 59.4 -45.5 124.3	10 21.9 -45.3 123.6
18°	12 03.7 -46.5 127.2	11 27.4 -46.2 126.4	10 50.8 -45.9 125.7	10 13.9 -45.6 125.0	9 36.6 -45.3 124.2
19°	11 17.2 -46.7 127.8	10 41.2 -46.3 127.1	10 04.9 -46.0 126.3	9 28.3 -45.7 125.6	8 51.3 -45.4 124.9
20°	10 30.5 -46.6 128.5	9 54.9 -46.4 127.7	9 18.9 -46.0 127.0	8 42.6 -45.8 126.3	8 05.9 -45.4 125.6
21°	9 43.9 -46.8 129.1	9 08.5 -46.4 128.4	8 32.9 -46.2 127.6	7 56.8 -45.8 126.9	7 20.5 -45.5 126.2
22°	8 57.1 -46.8 129.7	8 22.1 -46.5 129.0	7 46.7 -46.2 128.3	7 11.0 -45.9 127.6	6 35.0 -45.6 126.9
23°	8 10.3 -46.9 130.4	7 35.6 -46.6 129.7	7 00.5 -46.2 128.9	6 25.1 -45.9 128.2	5 49.4 -45.6 127.5
24°	7 23.4 -47.0 131.0	6 49.0 -46.6 130.3	6 14.3 -46.3 129.6	5 39.2 -45.9 128.9	5 03.8 -45.6 128.2
25°	6 36.4 -47.0 131.6	6 02.4 -46.6 130.9	5 28.0 -46.3 130.2	4 53.3 -46.0 129.5	4 18.2 -45.7 128.8
26°	5 49.4 -47.0 132.3	5 15.8 -46.7 131.6	4 41.7 -46.4 130.9	4 07.3 -46.1 130.2	3 32.5 -45.7 129.5
27°	5 02.4 -47.0 132.9	4 29.1 -46.8 132.2	3 55.3 -46.4 131.5	3 21.2 -46.0 130.8	2 46.8 -45.8 130.2
28°	4 15.4 -47.1 133.5	3 42.3 -46.7 132.8	3 08.9 -46.4 132.1	2 35.2 -46.1 131.4	2 01.0 -45.7 130.8
29°	3 28.3 -47.2 134.1	2 55.6 -46.8 133.4	2 22.5 -46.4 132.8	1 49.1 -46.1 132.1	1 15.3 -45.7 131.4

Dec	LHA 060° / 300°	LHA 061° / 299°	LHA 062° / 298°	LHA 063° / 297°	LHA 064° / 296°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	22 10.2 -42.6 110.7	21 27.7 -42.4 110.0	20 45.1 -42.2 109.2	20 02.2 -42.0 108.5	19 19.2 -41.8 107.7
1°	21 27.6 -42.8 111.5	20 45.3 -42.6 110.7	20 02.9 -42.4 110.0	19 20.2 -42.1 109.2	18 37.4 -42.0 108.5
2°	20 44.8 -43.0 112.3	20 02.7 -42.7 111.5	19 20.5 -42.6 110.7	18 38.1 -42.4 110.0	17 55.4 -42.2 109.3
3°	20 01.8 -43.2 113.0	19 20.0 -43.0 112.2	18 37.9 -42.7 111.5	17 55.7 -42.5 110.7	17 13.2 -42.3 110.0
4°	19 18.6 -43.4 113.7	18 37.0 -43.1 113.0	17 55.2 -42.9 112.2	17 13.2 -42.7 111.5	16 30.9 -42.5 110.7
5°	18 35.2 -43.5 114.5	17 53.9 -43.3 113.7	17 12.3 -43.1 113.0	16 30.5 -42.9 112.2	15 48.4 -42.6 111.5
6°	17 51.7 -43.7 115.2	17 10.6 -43.5 114.4	16 29.2 -43.2 113.7	15 47.6 -43.0 112.9	15 05.8 -42.7 112.2
7°	17 08.0 -43.9 115.9	16 27.1 -43.6 115.2	15 46.0 -43.4 114.4	15 04.6 -43.1 113.7	14 23.1 -42.9 112.9
8°	16 24.1 -44.0 116.6	15 43.5 -43.7 115.9	15 02.6 -43.5 115.1	14 21.5 -43.2 114.4	13 40.2 -43.1 113.7
9°	15 40.1 -44.1 117.3	14 59.8 -43.9 116.6	14 19.1 -43.6 115.8	13 38.3 -43.4 115.1	12 57.1 -43.1 114.4
10°	14 56.0 -44.2 118.0	14 15.9 -44.0 117.3	13 35.5 -43.7 116.5	12 54.9 -43.5 115.8	12 14.0 -43.2 115.1
11°	14 11.8 -44.4 118.7	13 31.9 -44.1 118.0	12 51.8 -43.9 117.2	12 11.4 -43.6 116.5	11 30.8 -43.4 115.8
12°	13 27.4 -44.5 119.4	12 47.8 -44.2 118.7	12 07.9 -43.9 117.9	11 27.8 -43.7 117.2	10 47.4 -43.4 116.5
13°	12 42.9 -44.6 120.1	12 03.6 -44.3 119.4	11 24.0 -44.1 118.6	10 44.1 -43.8 117.9	10 04.0 -43.6 117.2
14°	11 58.3 -44.7 120.8	11 19.3 -44.5 120.1	10 39.9 -44.1 119.3	10 00.3 -43.9 118.6	9 20.4 -43.6 117.9
15°	11 13.6 -44.8 121.5	10 34.8 -44.5 120.7	9 55.8 -44.2 120.0	9 16.4 -43.9 119.3	8 36.8 -43.7 118.6
16°	10 28.8 -44.8 122.2	9 50.3 -44.5 121.4	9 11.6 -44.3 120.7	8 32.5 -44.0 120.0	7 53.1 -43.7 119.3
17°	9 44.0 -45.0 122.8	9 05.8 -44.7 122.1	8 27.3 -44.4 121.4	7 48.5 -44.1 120.7	7 09.4 -43.9 120.0
18°	8 59.0 -45.0 123.5	8 21.1 -44.7 122.8	7 42.9 -44.5 122.1	7 04.4 -44.2 121.4	6 25.5 -43.8 120.7
19°	8 14.0 -45.1 124.2	7 36.4 -44.8 123.5	6 58.4 -44.5 122.7	6 20.2 -44.2 122.0	5 41.7 -43.9 121.3
20°	7 28.9 -45.1 124.8	6 51.6 -44.9 124.1	6 13.9 -44.5 123.4	5 36.0 -44.3 122.7	4 57.8 -44.0 122.0
21°	6 43.8 -45.2 125.5	6 06.7 -44.9 124.8	5 29.4 -44.6 124.1	4 51.7 -44.3 123.4	4 13.8 -44.0 122.7
22°	5 58.6 -45.3 126.2	5 21.8 -44.9 125.5	4 44.8 -44.6 124.8	4 07.4 -44.3 124.1	3 29.8 -44.0 123.4
23°	5 13.3 -45.3 126.8	4 36.9 -45.0 126.1	4 00.2 -44.7 125.4	3 23.1 -44.3 124.8	2 45.8 -44.1 124.1
24°	4 28.0 -45.3 127.5	3 51.9 -45.0 126.8	3 15.5 -44.7 126.1	2 38.8 -44.4 125.4	2 01.7 -44.1 124.8
25°	3 42.7 -45.3 128.1	3 06.9 -45.0 127.5	2 30.8 -44.7 126.8	1 54.4 -44.4 126.1	1 17.6 -44.0 125.4
26°	2 57.4 -45.4 128.8	2 21.9 -45.1 128.1	1 46.1 -44.7 127.4	1 10.0 -44.4 126.8	0 33.6 -44.1 126.1
27°	2 12.0 -45.4 129.4	1 36.8 -45.0 128.8	1 01.4 -44.8 128.1	0 25.6 -44.4 127.4	-0 10.5 -44.1
28°	1 26.6 -45.4 130.1	0 51.8 -45.1 129.4	0 16.6 -44.7 128.8	-0 18.8 -44.4	-0 54.6 -44.1
29°	0 41.2 -45.4 130.8	0 06.7 -45.1 130.1	-0 28.1 -44.7	-1 03.2 -44.4	-1 38.7 -44.0

Dec	LHA 065° / 295°	LHA 066° / 294°	LHA 067° / 293°	LHA 068° / 292°	LHA 069° / 291°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	18 36.0 -41.6 107.0	17 52.6 -41.5 106.3	17 09.1 -41.3 105.6	16 25.4 -41.2 104.8	15 41.5 -41.0 104.1
1°	17 54.4 -41.8 107.8	17 11.1 -41.6 107.0	16 27.8 -41.5 106.3	15 44.2 -41.2 105.6	15 00.5 -41.1 104.9
2°	17 12.6 -42.0 108.5	16 29.5 -41.7 107.8	15 46.3 -41.6 107.1	15 03.0 -41.5 106.4	14 19.4 -41.2 105.6
3°	16 30.6 -42.1 109.3	15 47.8 -42.0 108.5	15 04.7 -41.7 107.8	14 21.5 -41.5 107.1	13 38.2 -41.4 106.4
4°	15 48.5 -42.3 110.0	15 05.8 -42.0 109.3	14 23.0 -41.9 108.6	13 40.0 -41.7 107.8	12 56.8 -41.5 107.1
5°	15 06.2 -42.4 110.7	14 23.8 -42.3 110.0	13 41.1 -42.0 109.3	12 58.3 -41.8 108.6	12 15.3 -41.7 107.9
6°	14 23.8 -42.6 111.5	13 41.5 -42.3 110.8	12 59.1 -42.1 110.0	12 16.5 -42.0 109.3	11 33.6 -41.7 108.6
7°	13 41.2 -42.6 112.2	12 59.2 -42.5 111.5	12 17.0 -42.3 110.8	11 34.5 -42.0 110.1	10 51.9 -41.9 109.3
8°	12 58.6 -42.8 112.9	12 16.7 -42.5 112.2	11 34.7 -42.3 111.5	10 52.5 -42.2 110.8	10 10.0 -41.9 110.1
9°	12 15.8 -42.9 113.6	11 34.2 -42.7 112.9	10 52.4 -42.5 112.2	10 10.3 -42.2 111.5	9 28.1 -42.0 110.8
10°	11 32.9 -43.0 114.4	10 51.5 -42.8 113.6	10 09.9 -42.5 112.9	9 28.1 -42.3 112.2	8 46.1 -42.1 111.5
11°	10 49.9 -43.1 115.1	10 08.7 -42.8 114.4	9 27.4 -42.7 113.6	8 45.8 -42.4 112.9	8 04.0 -42.2 112.2
12°	10 06.8 -43.2 115.8	9 25.9 -43.0 115.1	8 44.7 -42.7 114.4	8 03.4 -42.5 113.7	7 21.8 -42.3 113.0
13°	9 23.6 -43.3 116.5	8 42.9 -43.0 115.8	8 02.0 -42.8 115.1	7 20.9 -42.6 114.4	6 39.5 -42.3 113.7
14°	8 40.3 -43.4 117.2	7 59.9 -43.1 116.5	7 19.2 -42.8 115.8	6 38.3 -42.6 115.1	5 57.2 -42.4 114.4
15°	7 56.9 -43.4 117.9	7 16.8 -43.2 117.2	6 36.4 -43.0 116.5	5 55.7 -42.7 115.8	5 14.8 -42.4 115.1
16°	7 13.5 -43.5 118.6	6 33.6 -43.2 117.9	5 53.4 -42.9 117.2	5 13.0 -42.7 116.5	4 32.4 -42.5 115.8
17°	6 30.0 -43.5 119.3	5 50.4 -43.3 118.6	5 10.5 -43.0 117.9	4 30.3 -42.7 117.2	3 49.9 -42.5 116.5
18°	5 46.5 -43.6 120.0	5 07.1 -43.3 119.3	4 27.5 -43.1 118.6	3 47.6 -42.8 117.9	3 07.4 -42.5 117.2
19°	5 02.9 -43.7 120.7	4 23.8 -43.4 120.0	3 44.4 -43.1 119.3	3 04.8 -42.8 118.6	2 24.9 -42.6 117.9
20°	4 19.2 -43.7 121.3	3 40.4 -43.4 120.7	3 01.3 -43.1 120.0	2 22.0 -42.9 119.3	1 42.3 -42.5 118.6
21°	3 35.5 -43.7 122.0	2 57.0 -43.4 121.4	2 18.2 -43.1 120.7	1 39.1 -42.8 120.0	0 59.8 -42.6 119.3
22°	2 51.8 -43.7 122.7	2 13.6 -43.4 122.0	1 35.1 -43.2 121.4	0 56.3 -42.9 120.7	0 17.2 -42.6 120.0
23°	2 08.1 -43.7 123.4	1 30.2 -43.5 122.7	0 51.9 -43.1 122.1	0 13.4 -42.8 121.4	-0 25.4 -42.5
24°	1 24.4 -43.8 124.1	0 46.7 -43.5 123.4	0 08.8 -43.2 122.8	-0 29.4 -42.9	-1 07.9 -42.6
25°	0 40.6 -43.8 124.8	0 03.2 -43.4 124.1	-0 34.4 -43.1	-1 12.3 -42.9	-1 50.5 -42.6
26°	-0 03.2 -43.7	-0 40.2 -43.5	-1 17.5 -43.2	-1 55.2 -42.8	-2 33.1 -42.5
27°	-0 46.9 -43.8	-1 23.7 -43.4	-2 00.7 -43.1	-2 38.0 -42.8	-3 15.6 -42.5
28°	-1 30.7 -43.8	-2 07.1 -43.4	-2 43.8 -43.1	-3 20.8 -42.8	-3 58.1 -42.4
29°	-2 14.5 -43.7	-2 50.5 -43.4	-3 26.9 -43.1	-4 03.6 -42.7	-4 40.5 -42.4

Dec	LHA 070° / 290°	LHA 071° / 289°	LHA 072° / 288°	LHA 073° / 287°	LHA 074° / 286°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	14 57.5 -40.8 103.4	14 13.4 -40.7 102.7	13 29.2 -40.6 102.0	12 44.9 -40.5 101.3	12 00.4 -40.3 100.7
1°	14 16.7 -40.9 104.2	13 32.7 -40.8 103.5	12 48.6 -40.6 102.8	12 04.4 -40.5 102.1	11 20.1 -40.4 101.4
2°	13 35.8 -41.1 104.9	12 51.9 -40.9 104.2	12 08.0 -40.8 103.5	11 23.9 -40.7 102.9	10 39.7 -40.5 102.2
3°	12 54.7 -41.3 105.7	12 11.0 -41.1 105.0	11 27.2 -40.9 104.3	10 43.2 -40.7 103.6	9 59.2 -40.7 102.9
4°	12 13.4 -41.3 106.4	11 29.9 -41.2 105.7	10 46.3 -41.1 105.0	10 02.5 -40.9 104.3	9 18.5 -40.7 103.7
5°	11 32.1 -41.5 107.2	10 48.7 -41.2 106.5	10 05.2 -41.1 105.8	9 21.6 -41.0 105.1	8 37.8 -40.8 104.4
6°	10 50.6 -41.5 107.9	10 07.5 -41.4 107.2	9 24.1 -41.2 106.5	8 40.6 -41.0 105.8	7 57.0 -40.9 105.1
7°	10 09.1 -41.7 108.6	9 26.1 -41.5 107.9	8 42.9 -41.3 107.3	7 59.6 -41.1 106.6	7 16.1 -40.9 105.9
8°	9 27.4 -41.7 109.4	8 44.6 -41.5 108.7	8 01.6 -41.3 108.0	7 18.5 -41.2 107.3	6 35.2 -41.1 106.6
9°	8 45.7 -41.9 110.1	8 03.1 -41.7 109.4	7 20.3 -41.5 108.7	6 37.3 -41.3 108.0	5 54.1 -41.0 107.4
10°	8 03.8 -41.9 110.8	7 21.4 -41.7 110.1	6 38.8 -41.5 109.4	5 56.0 -41.3 108.8	5 13.1 -41.2 108.1
11°	7 21.9 -41.9 111.5	6 39.7 -41.7 110.9	5 57.3 -41.5 110.2	5 14.7 -41.3 109.5	4 31.9 -41.1 108.8
12°	6 40.0 -42.1 112.3	5 58.0 -41.9 111.6	5 15.8 -41.7 110.9	4 33.4 -41.5 110.2	3 50.8 -41.2 109.5
13°	5 57.9 -42.1 113.0	5 16.1 -41.8 112.3	4 34.1 -41.6 111.6	3 51.9 -41.4 110.9	3 09.6 -41.3 110.3
14°	5 15.8 -42.1 113.7	4 34.3 -41.9 113.0	3 52.5 -41.7 112.3	3 10.5 -41.5 111.7	2 28.3 -41.2 111.0
15°	4 33.7 -42.2 114.4	3 52.4 -42.0 113.7	3 10.8 -41.7 113.1	2 29.0 -41.5 112.4	1 47.1 -41.3 111.7
16°	3 51.5 -42.2 115.1	3 10.4 -42.0 114.5	2 29.1 -41.8 113.8	1 47.5 -41.5 113.1	1 05.8 -41.3 112.5
17°	3 09.3 -42.3 115.8	2 28.4 -42.0 115.2	1 47.3 -41.7 114.5	1 06.0 -41.5 113.8	0 24.5 -41.3 113.2
18°	2 27.0 -42.2 116.6	1 46.4 -42.0 115.9	1 05.6 -41.8 115.2	0 24.5 -41.5 114.6	-0 16.8 -41.3
19°	1 44.8 -42.3 117.3	1 04.4 -42.0 116.6	0 23.8 -41.8 115.9	-0 17.0 -41.6	-0 58.1 -41.3
20°	1 02.5 -42.3 118.0	0 22.4 -42.1 117.3	-0 18.0 -41.8	-0 58.6 -41.5	-1 39.4 -41.2
21°	0 20.2 -42.3 118.7	-0 19.7 -42.0	-0 59.8 -41.7	-1 40.1 -41.5	-2 20.6 -41.3
22°	-0 22.1 -42.3	-1 01.7 -42.0	-1 41.5 -41.8	-2 21.6 -41.5	-3 01.9 -41.2
23°	-1 04.4 -42.3	-1 43.7 -42.0	-2 23.3 -41.7	-3 03.1 -41.4	-3 43.1 -41.2
24°	-1 46.7 -42.3	-2 25.7 -42.0	-3 05.0 -41.7	-3 44.5 -41.4	-4 24.3 -41.1
25°	-2 29.0 -42.2	-3 07.7 -42.0	-3 46.7 -41.7	-4 25.9 -41.4	-5 05.4 -41.1
26°	-3 11.2 -42.2	-3 49.7 -41.9	-4 28.4 -41.6	-5 07.3 -41.3	-5 46.5 -41.0
27°	-3 53.4 -42.2	-4 31.6 -41.8	-5 10.0 -41.5	-5 48.6 -41.3	-6 27.5 -41.0
28°	-4 35.6 -42.2	-5 13.4 -41.9	-5 51.5 -41.6	-6 29.9 -41.2	-7 08.5 -40.9
29°	-5 17.8 -42.1	-5 55.3 -41.7	-6 33.1 -41.4	-7 11.1 -41.1	-7 49.4 -40.8

Dec	LHA 075° / 285°	LHA 076° / 284°	LHA 077° / 283°	LHA 078° / 282°	LHA 079° / 281°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	11 15.9 -40.2 100.0	10 31.2 -40.1 99.3	9 46.5 -40.0 98.6	9 01.7 -39.9 97.9	8 16.8 -39.8 97.3
1°	10 35.7 -40.3 100.7	9 51.1 -40.2 100.0	9 06.5 -40.1 99.4	8 21.8 -40.0 98.7	7 37.0 -39.9 98.0
2°	9 55.4 -40.4 101.5	9 10.9 -40.3 100.8	8 26.4 -40.2 100.1	7 41.8 -40.1 99.4	6 57.1 -40.0 98.8
3°	9 15.0 -40.5 102.2	8 30.6 -40.3 101.5	7 46.2 -40.2 100.9	7 01.7 -40.1 100.2	6 17.1 -40.0 99.5
4°	8 34.5 -40.6 103.0	7 50.3 -40.5 102.3	7 06.0 -40.3 101.6	6 21.6 -40.2 100.9	5 37.1 -40.1 100.3
5°	7 53.9 -40.7 103.7	7 09.8 -40.5 103.0	6 25.7 -40.4 102.4	5 41.4 -40.3 101.7	4 57.0 -40.2 101.0
6°	7 13.2 -40.7 104.5	6 29.3 -40.6 103.8	5 45.3 -40.5 103.1	5 01.1 -40.3 102.4	4 16.8 -40.2 101.8
7°	6 32.5 -40.8 105.2	5 48.7 -40.6 104.5	5 04.8 -40.5 103.9	4 20.8 -40.4 103.2	3 36.6 -40.2 102.5
8°	5 51.7 -40.9 105.9	5 08.1 -40.7 105.3	4 24.3 -40.5 104.6	3 40.4 -40.3 103.9	2 56.4 -40.2 103.3
9°	5 10.8 -40.9 106.7	4 27.4 -40.7 106.0	3 43.8 -40.6 105.3	3 00.1 -40.5 104.7	2 16.2 -40.3 104.0
10°	4 29.9 -40.9 107.4	3 46.7 -40.8 106.7	3 03.2 -40.6 106.1	2 19.6 -40.4 105.4	1 35.9 -40.3 104.7
11°	3 49.0 -41.0 108.1	3 05.9 -40.8 107.5	2 22.6 -40.6 106.8	1 39.2 -40.5 106.1	0 55.6 -40.3 105.5
12°	3 08.0 -41.0 108.9	2 25.1 -40.9 108.2	1 42.0 -40.7 107.5	0 58.7 -40.4 106.9	0 15.3 -40.3 106.2
13°	2 27.0 -41.0 109.6	1 44.2 -40.8 108.9	1 01.3 -40.6 108.3	0 18.3 -40.5 107.6	-0 25.0 -40.3
14°	1 46.0 -41.1 110.3	1 03.4 -40.9 109.7	0 20.7 -40.7 109.0	-0 22.2 -40.5	-1 05.3 -40.3
15°	1 04.9 -41.1 111.1	0 22.5 -40.8 110.4	-0 20.0 -40.6	-1 02.7 -40.4	-1 45.6 -40.2
16°	0 23.8 -41.0 111.8	-0 18.3 -40.9	-1 00.6 -40.7	-1 43.1 -40.5	-2 25.8 -40.3
17°	-0 17.2 -41.1	-0 59.2 -40.8	-1 41.3 -40.6	-2 23.6 -40.4	-3 06.1 -40.2
18°	-0 58.3 -41.1	-1 40.0 -40.8	-2 21.9 -40.6	-3 04.0 -40.4	-3 46.3 -40.2
19°	-1 39.4 -41.0	-2 20.8 -40.9	-3 02.5 -40.6	-3 44.4 -40.3	-4 26.5 -40.1
20°	-2 20.4 -41.0	-3 01.7 -40.7	-3 43.1 -40.5	-4 24.7 -40.4	-5 06.6 -40.1
21°	-3 01.4 -41.0	-3 42.4 -40.8	-4 23.6 -40.5	-5 05.1 -40.2	-5 46.7 -40.0
22°	-3 42.4 -41.0	-4 23.2 -40.7	-5 04.1 -40.5	-5 45.3 -40.2	-6 26.7 -39.9
23°	-4 23.4 -40.9	-5 03.9 -40.6	-5 44.6 -40.4	-6 25.5 -40.1	-7 06.6 -39.9
24°	-5 04.3 -40.8	-5 44.5 -40.6	-6 25.0 -40.3	-7 05.6 -40.1	-7 46.5 -39.8
25°	-5 45.1 -40.9	-6 25.1 -40.5	-7 05.3 -40.2	-7 45.7 -40.0	-8 26.3 -39.7
26°	-6 26.0 -40.7	-7 05.6 -40.5	-7 45.5 -40.2	-8 25.7 -39.9	-9 06.0 -39.6
27°	-7 06.7 -40.7	-7 46.1 -40.4	-8 25.7 -40.1	-9 05.6 -39.8	-9 45.6 -39.6
28°	-7 47.4 -40.6	-8 26.5 -40.3	-9 05.8 -40.0	-9 45.4 -39.7	
29°	-8 28.0 -40.5	-9 06.8 -40.2	-9 45.8 -39.9		

Dec	LHA 080° / 280°	LHA 081° / 279°	LHA 082° / 278°	LHA 083° / 277°	LHA 084° / 276°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	7 31.8 -39.7 96.6	6 46.8 -39.7 95.9	6 01.8 -39.7 95.3	5 16.6 -39.5 94.6	4 31.5 -39.5 93.9
1°	6 52.1 -39.8 97.4	6 07.1 -39.7 96.7	5 22.1 -39.6 96.0	4 37.1 -39.6 95.4	3 52.0 -39.6 94.7
2°	6 12.3 -39.9 98.1	5 27.4 -39.8 97.4	4 42.5 -39.7 96.8	3 57.5 -39.7 96.1	3 12.4 -39.6 95.5
3°	5 32.4 -39.9 98.9	4 47.6 -39.8 98.2	4 02.8 -39.8 97.5	3 17.8 -39.7 96.9	2 32.8 -39.6 96.2
4°	4 52.5 -40.0 99.6	4 07.8 -39.9 98.9	3 23.0 -39.8 98.3	2 38.1 -39.7 97.6	1 53.2 -39.6 97.0
5°	4 12.5 -40.1 100.4	3 27.9 -39.9 99.7	2 43.2 -39.8 99.0	1 58.4 -39.7 98.4	1 13.6 -39.6 97.7
6°	3 32.4 -40.0 101.1	2 48.0 -40.0 100.4	2 03.4 -39.9 99.8	1 18.7 -39.7 99.1	0 34.0 -39.7 98.5
7°	2 52.4 -40.1 101.8	2 08.0 -40.0 101.2	1 23.5 -39.8 100.5	0 39.0 -39.8 99.9	-0 05.7 -39.6
8°	2 12.3 -40.1 102.6	1 28.0 -39.9 101.9	0 43.7 -39.9 101.3	-0 00.8 -39.7	-0 45.3 -39.7
9°	1 32.2 -40.2 103.3	0 48.1 -40.0 102.7	0 03.8 -39.8 102.0	-0 40.5 -39.8	-1 25.0 -39.6
10°	0 52.0 -40.1 104.1	0 08.1 -40.0 103.4	-0 36.0 -39.9	-1 20.3 -39.7	-2 04.6 -39.6
11°	0 11.9 -40.1 104.8	-0 31.9 -40.0	-1 15.9 -39.8	-2 00.0 -39.7	-2 44.2 -39.6
12°	-0 28.2 -40.2	-1 11.9 -40.0	-1 55.7 -39.9	-2 39.7 -39.7	-3 23.8 -39.5
13°	-1 08.4 -40.1	-1 51.9 -40.0	-2 35.6 -39.8	-3 19.4 -39.6	-4 03.3 -39.5
14°	-1 48.5 -40.1	-2 31.9 -39.9	-3 15.4 -39.7	-3 59.0 -39.6	-4 42.8 -39.4
15°	-2 28.6 -40.1	-3 11.8 -39.9	-3 55.1 -39.8	-4 38.6 -39.6	-5 22.2 -39.4
16°	-3 08.7 -40.0	-3 51.7 -39.9	-4 34.9 -39.6	-5 18.2 -39.5	-6 01.6 -39.4
17°	-3 48.7 -40.0	-4 31.6 -39.8	-5 14.5 -39.7	-5 57.7 -39.4	-6 41.0 -39.2
18°	-4 28.7 -40.0	-5 11.4 -39.7	-5 54.2 -39.5	-6 37.1 -39.4	-7 20.2 -39.2
19°	-5 08.7 -39.9	-5 51.1 -39.7	-6 33.7 -39.5	-7 16.5 -39.3	-7 59.4 -39.1
20°	-5 48.6 -39.9	-6 30.8 -39.7	-7 13.2 -39.4	-7 55.8 -39.2	-8 38.5 -39.0
21°	-6 28.5 -39.8	-7 10.5 -39.5	-7 52.6 -39.4	-8 35.0 -39.1	-9 17.5 -38.9
22°	-7 08.3 -39.7	-7 50.0 -39.5	-8 32.0 -39.2	-9 14.1 -39.0	-9 56.4 -38.8
23°	-7 48.0 -39.6	-8 29.5 -39.4	-9 11.2 -39.2	-9 53.1 -38.9	
24°	-8 27.6 -39.5	-9 08.9 -39.3	-9 50.4 -39.0		
25°	-9 07.1 -39.5	-9 48.2 -39.2			
26°	-9 46.6 -39.3				
27°					
28°					
29°					

Dec	LHA 085° / 275°	LHA 086° / 274°	LHA 087° / 273°	LHA 088° / 272°	LHA 089° / 271°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	3 46.3 -39.5 93.3	3 01.1 -39.5 92.6	2 15.8 -39.4 92.0	1 30.6 -39.4 91.3	0 45.3 -39.4 90.7
1°	3 06.8 -39.5 94.0	2 21.6 -39.4 93.4	1 36.4 -39.4 92.7	0 51.2 -39.4 92.1	0 05.9 -39.4 91.4
2°	2 27.3 -39.5 94.8	1 42.2 -39.5 94.1	0 57.0 -39.4 93.5	0 11.8 -39.4 92.8	-0 33.5 -39.3
3°	1 47.8 -39.5 95.5	1 02.7 -39.5 94.9	0 17.6 -39.5 94.2	-0 27.6 -39.4	-1 12.8 -39.4
4°	1 08.3 -39.6 96.3	0 23.2 -39.5 95.6	-0 21.9 -39.4	-1 07.0 -39.4	-1 52.2 -39.3
5°	0 28.7 -39.6 97.1	-0 16.3 -39.5	-1 01.3 -39.4	-1 46.4 -39.3	-2 31.5 -39.3
6°	-0 10.9 -39.5	-0 55.8 -39.4	-1 40.7 -39.4	-2 25.7 -39.4	-3 10.8 -39.3
7°	-0 50.4 -39.6	-1 35.2 -39.5	-2 20.1 -39.4	-3 05.1 -39.3	-3 50.1 -39.2
8°	-1 30.0 -39.5	-2 14.7 -39.4	-2 59.5 -39.4	-3 44.4 -39.2	-4 29.3 -39.2
9°	-2 09.5 -39.5	-2 54.1 -39.4	-3 38.9 -39.3	-4 23.6 -39.3	-5 08.5 -39.1
10°	-2 49.0 -39.5	-3 33.5 -39.4	-4 18.2 -39.2	-5 02.9 -39.1	-5 47.6 -39.1
11°	-3 28.5 -39.4	-4 12.9 -39.3	-4 57.4 -39.2	-5 42.0 -39.1	-6 26.7 -39.0
12°	-4 07.9 -39.5	-4 52.2 -39.3	-5 36.6 -39.2	-6 21.1 -39.1	-7 05.7 -38.9
13°	-4 47.4 -39.3	-5 31.5 -39.2	-6 15.8 -39.1	-7 00.2 -38.9	-7 44.6 -38.9
14°	-5 26.7 -39.3	-6 10.7 -39.2	-6 54.9 -39.0	-7 39.1 -38.9	-8 23.5 -38.7
15°	-6 06.0 -39.2	-6 49.9 -39.1	-7 33.9 -38.9	-8 18.0 -38.8	-9 02.2 -38.7
16°	-6 45.2 -39.2	-7 29.0 -39.0	-8 12.8 -38.9	-8 56.8 -38.7	-9 40.9 -38.5
17°	-7 24.4 -39.1	-8 08.0 -38.9	-8 51.7 -38.7	-9 35.5 -38.6	
18°	-8 03.5 -39.0	-8 46.9 -38.8	-9 30.4 -38.7		
19°	-8 42.5 -38.9	-9 25.7 -38.7			
20°	-9 21.4 -38.8				
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Latitude 41°

Declination CONTRARY name to Latitude

Dec	LHA 090° / 270°	LHA 091° / 269°	LHA 092° / 268°	LHA 093° / 267°	LHA 094° / 266°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	0 00.0 -39.4 90.0	-0 45.3 -39.3			
1°	-0 39.4 -39.3	-1 24.6 -39.4			
2°	-1 18.7 -39.4	-2 04.0 -39.3			
3°	-1 58.1 -39.3	-2 43.3 -39.3			
4°	-2 37.4 -39.3	-3 22.6 -39.3			
5°	-3 16.7 -39.2	-4 01.9 -39.2			
6°	-3 55.9 -39.3	-4 41.1 -39.2			
7°	-4 35.2 -39.1	-5 20.3 -39.1			
8°	-5 14.3 -39.1	-5 59.4 -39.0			
9°	-5 53.4 -39.1	-6 38.4 -39.0			
10°	-6 32.5 -39.0	-7 17.4 -38.9			
11°	-7 11.5 -38.9	-7 56.3 -38.8			
12°	-7 50.4 -38.8	-8 35.1 -38.8			
13°	-8 29.2 -38.7	-9 13.9 -38.6			
14°	-9 07.9 -38.7	-9 52.5 -38.5			
15°	-9 46.6 -38.5				
16°					
17°					
18°					
19°					
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 095° / 265°	LHA 096° / 264°	LHA 097° / 263°	LHA 098° / 262°	LHA 099° / 261°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°					
1°					
2°					
3°					
4°					
5°					
6°					
7°					
8°					
9°					
10°					
11°					
12°					
13°					
14°					
15°					
16°					
17°					
18°					
19°					
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 000° / 360°	LHA 001° / 359°	LHA 002° / 358°	LHA 003° / 357°	LHA 004° / 356°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	48 00.0 -60.0 180.0	47 59.4 -60.0 178.5	47 57.7 -60.0 177.0	47 54.8 -59.9 175.5	47 50.7 -59.8 174.0
1°	47 00.0 -60.0 180.0	46 59.4 -60.0 178.5	46 57.7 -59.9 177.1	46 54.9 -59.9 175.6	46 50.9 -59.8 174.1
2°	46 00.0 -60.0 180.0	45 59.4 -59.9 178.6	45 57.8 -60.0 177.1	45 55.0 -59.9 175.7	45 51.1 -59.9 174.3
3°	45 00.0 -60.0 180.0	44 59.5 -60.0 178.6	44 57.8 -60.0 177.2	44 55.1 -60.0 175.8	44 51.2 -59.8 174.4
4°	44 00.0 -60.0 180.0	43 59.5 -60.0 178.6	43 57.8 -59.9 177.2	43 55.1 -59.9 175.8	43 51.4 -59.9 174.5
5°	43 00.0 -60.0 180.0	42 59.5 -60.0 178.6	42 57.9 -60.0 177.3	42 55.2 -59.9 175.9	42 51.5 -59.8 174.6
6°	42 00.0 -60.0 180.0	41 59.5 -60.0 178.7	41 57.9 -59.9 177.3	41 55.3 -59.9 176.0	41 51.7 -59.9 174.7
7°	41 00.0 -60.0 180.0	40 59.5 -60.0 178.7	40 58.0 -60.0 177.4	40 55.4 -59.9 176.1	40 51.8 -59.8 174.7
8°	40 00.0 -60.0 180.0	39 59.5 -60.0 178.7	39 58.0 -60.0 177.4	39 55.5 -59.9 176.1	39 52.0 -59.9 174.8
9°	39 00.0 -60.0 180.0	38 59.5 -60.0 178.7	38 58.0 -59.9 177.5	38 55.6 -60.0 176.2	38 52.1 -59.9 174.9
10°	38 00.0 -60.0 180.0	37 59.5 -60.0 178.8	37 58.1 -60.0 177.5	37 55.6 -59.9 176.3	37 52.2 -59.8 175.0
11°	37 00.0 -60.0 180.0	36 59.5 -60.0 178.8	36 58.1 -60.0 177.5	36 55.7 -59.9 176.3	36 52.4 -59.9 175.1
12°	36 00.0 -60.0 180.0	35 59.5 -60.0 178.8	35 58.1 -60.0 177.6	35 55.8 -60.0 176.4	35 52.5 -59.9 175.2
13°	35 00.0 -60.0 180.0	34 59.5 -60.0 178.8	34 58.1 -59.9 177.6	34 55.8 -59.9 176.4	34 52.6 -59.9 175.2
14°	34 00.0 -60.0 180.0	33 59.5 -59.9 178.8	33 58.2 -60.0 177.7	33 55.9 -59.9 176.5	33 52.7 -59.9 175.3
15°	33 00.0 -60.0 180.0	32 59.6 -60.0 178.8	32 58.2 -60.0 177.7	32 56.0 -60.0 176.5	32 52.8 -59.8 175.4
16°	32 00.0 -60.0 180.0	31 59.6 -60.0 178.9	31 58.2 -59.9 177.7	31 56.0 -59.9 176.6	31 53.0 -59.9 175.5
17°	31 00.0 -60.0 180.0	30 59.6 -60.0 178.9	30 58.3 -60.0 177.8	30 56.1 -59.9 176.7	30 53.1 -59.9 175.5
18°	30 00.0 -60.0 180.0	29 59.6 -60.0 178.9	29 58.3 -60.0 177.8	29 56.2 -60.0 176.7	29 53.2 -59.9 175.6
19°	29 00.0 -60.0 180.0	28 59.6 -60.0 178.9	28 58.3 -60.0 177.8	28 56.2 -59.9 176.8	28 53.3 -59.9 175.7
20°	28 00.0 -60.0 180.0	27 59.6 -60.0 178.9	27 58.3 -59.9 177.9	27 56.3 -60.0 176.8	27 53.4 -59.9 175.7
21°	27 00.0 -60.0 180.0	26 59.6 -60.0 179.0	26 58.4 -60.0 177.9	26 56.3 -59.9 176.9	26 53.5 -59.9 175.8
22°	26 00.0 -60.0 180.0	25 59.6 -60.0 179.0	25 58.4 -60.0 177.9	25 56.4 -60.0 176.9	25 53.6 -59.9 175.9
23°	25 00.0 -60.0 180.0	24 59.6 -60.0 179.0	24 58.4 -60.0 178.0	24 56.4 -59.9 177.0	24 53.7 -59.9 175.9
24°	24 00.0 -60.0 180.0	23 59.6 -60.0 179.0	23 58.4 -59.9 178.0	23 56.5 -59.9 177.0	23 53.8 -59.9 176.0
25°	23 00.0 -60.0 180.0	22 59.6 -60.0 179.0	22 58.5 -60.0 178.0	22 56.6 -60.0 177.0	22 53.9 -59.9 176.1
26°	22 00.0 -60.0 180.0	21 59.6 -60.0 179.0	21 58.5 -60.0 178.1	21 56.6 -59.9 177.1	21 54.0 -59.9 176.1
27°	21 00.0 -60.0 180.0	20 59.6 -60.0 179.0	20 58.5 -60.0 178.1	20 56.7 -60.0 177.1	20 54.1 -59.9 176.2
28°	20 00.0 -60.0 180.0	19 59.6 -60.0 179.1	19 58.5 -59.9 178.1	19 56.7 -59.9 177.2	19 54.2 -60.0 176.2
29°	19 00.0 -60.0 180.0	18 59.6 -60.0 179.1	18 58.6 -60.0 178.2	18 56.8 -60.0 177.2	18 54.2 -59.9 176.3

Dec	LHA 005° / 355°	LHA 006° / 354°	LHA 007° / 353°	LHA 008° / 352°	LHA 009° / 351°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	47 45.5 -59.7 172.6	47 39.2 -59.7 171.1	47 31.7 -59.5 169.6	47 23.1 -59.3 168.1	47 13.3 -59.1 166.7
1°	46 45.8 -59.8 172.7	46 39.5 -59.6 171.2	46 32.2 -59.5 169.8	46 23.8 -59.4 168.4	46 14.2 -59.1 166.9
2°	45 46.0 -59.7 172.8	45 39.9 -59.6 171.4	45 32.7 -59.5 170.0	45 24.4 -59.3 168.6	45 15.1 -59.2 167.2
3°	44 46.3 -59.8 173.0	44 40.3 -59.7 171.6	44 33.2 -59.5 170.2	44 25.1 -59.4 168.8	44 15.9 -59.3 167.4
4°	43 46.5 -59.7 173.1	43 40.6 -59.6 171.7	43 33.7 -59.5 170.3	43 25.7 -59.4 169.0	43 16.6 -59.2 167.6
5°	42 46.8 -59.8 173.2	42 41.0 -59.7 171.9	42 34.2 -59.6 170.5	42 26.3 -59.4 169.2	42 17.4 -59.3 167.8
6°	41 47.0 -59.8 173.3	41 41.3 -59.7 172.0	41 34.6 -59.6 170.7	41 26.9 -59.5 169.4	41 18.1 -59.3 168.0
7°	40 47.2 -59.7 173.4	40 41.6 -59.7 172.1	40 35.0 -59.5 170.8	40 27.4 -59.4 169.5	40 18.8 -59.3 168.3
8°	39 47.5 -59.8 173.6	39 41.9 -59.6 172.3	39 35.5 -59.6 171.0	39 28.0 -59.5 169.7	39 19.5 -59.3 168.4
9°	38 47.7 -59.8 173.7	38 42.3 -59.8 172.4	38 35.9 -59.6 171.1	38 28.5 -59.5 169.9	38 20.2 -59.3 168.6
10°	37 47.9 -59.8 173.8	37 42.5 -59.7 172.5	37 36.3 -59.6 171.3	37 29.0 -59.5 170.1	37 20.9 -59.4 168.8
11°	36 48.1 -59.8 173.9	36 42.8 -59.7 172.6	36 36.7 -59.7 171.4	36 29.5 -59.5 170.2	36 21.5 -59.4 169.0
12°	35 48.3 -59.9 174.0	35 43.1 -59.7 172.8	35 37.0 -59.6 171.6	35 30.0 -59.5 170.4	35 22.1 -59.4 169.2
13°	34 48.4 -59.8 174.1	34 43.4 -59.8 172.9	34 37.4 -59.6 171.7	34 30.5 -59.5 170.5	34 22.7 -59.4 169.4
14°	33 48.6 -59.8 174.2	33 43.6 -59.7 173.0	33 37.8 -59.7 171.8	33 31.0 -59.6 170.7	33 23.3 -59.4 169.5
15°	32 48.8 -59.8 174.3	32 43.9 -59.7 173.1	32 38.1 -59.6 172.0	32 31.4 -59.5 170.8	32 23.9 -59.4 169.7
16°	31 49.0 -59.8 174.3	31 44.2 -59.8 173.2	31 38.5 -59.7 172.1	31 31.9 -59.6 171.0	31 24.5 -59.5 169.9
17°	30 49.2 -59.9 174.4	30 44.4 -59.7 173.3	30 38.8 -59.7 172.2	30 32.3 -59.5 171.1	30 25.0 -59.4 170.0
18°	29 49.3 -59.8 174.5	29 44.7 -59.8 173.4	29 39.1 -59.7 172.3	29 32.8 -59.6 171.2	29 25.6 -59.5 170.2
19°	28 49.5 -59.8 174.6	28 44.9 -59.8 173.5	28 39.4 -59.6 172.5	28 33.2 -59.6 171.4	28 26.1 -59.5 170.3
20°	27 49.7 -59.9 174.7	27 45.1 -59.7 173.6	27 39.8 -59.7 172.6	27 33.6 -59.6 171.5	27 26.6 -59.5 170.5
21°	26 49.8 -59.8 174.8	26 45.4 -59.8 173.7	26 40.1 -59.7 172.7	26 34.0 -59.6 171.6	26 27.1 -59.5 170.6
22°	25 50.0 -59.9 174.8	25 45.6 -59.8 173.8	25 40.4 -59.7 172.8	25 34.4 -59.6 171.8	25 27.6 -59.5 170.8
23°	24 50.1 -59.8 174.9	24 45.8 -59.8 173.9	24 40.7 -59.7 172.9	24 34.8 -59.6 171.9	24 28.1 -59.5 170.9
24°	23 50.3 -59.9 175.0	23 46.0 -59.8 174.0	23 41.0 -59.7 173.0	23 35.2 -59.6 172.0	23 28.6 -59.5 171.0
25°	22 50.4 -59.8 175.1	22 46.2 -59.8 174.1	22 41.3 -59.7 173.1	22 35.6 -59.7 172.1	22 29.1 -59.5 171.2
26°	21 50.6 -59.9 175.2	21 46.4 -59.7 174.2	21 41.6 -59.8 173.2	21 35.9 -59.6 172.3	21 29.6 -59.6 171.3
27°	20 50.7 -59.8 175.2	20 46.7 -59.8 174.3	20 41.8 -59.7 173.3	20 36.3 -59.6 172.4	20 30.0 -59.5 171.4
28°	19 50.9 -59.9 175.3	19 46.9 -59.8 174.4	19 42.1 -59.7 173.4	19 36.7 -59.7 172.5	19 30.5 -59.6 171.6
29°	18 51.0 -59.8 175.4	18 47.1 -59.8 174.5	18 42.4 -59.7 173.5	18 37.0 -59.6 172.6	18 30.9 -59.5 171.7

Dec	LHA 010° / 350°	LHA 011° / 349°	LHA 012° / 348°	LHA 013° / 347°	LHA 014° / 346°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	47 02.5 -58.9 165.2	46 50.6 -58.7 163.8	46 37.7 -58.5 162.4	46 23.6 -58.2 161.0	46 08.6 -58.0 159.6
1°	46 03.6 -59.0 165.5	45 51.9 -58.8 164.1	45 39.2 -58.6 162.7	45 25.4 -58.3 161.3	45 10.6 -58.1 159.9
2°	45 04.6 -59.0 165.8	44 53.1 -58.8 164.4	44 40.6 -58.6 163.0	44 27.1 -58.4 161.6	44 12.5 -58.1 160.3
3°	44 05.6 -59.0 166.0	43 54.3 -58.8 164.7	43 42.0 -58.6 163.3	43 28.7 -58.4 162.0	43 14.4 -58.1 160.6
4°	43 06.6 -59.1 166.3	42 55.5 -58.9 164.9	42 43.4 -58.7 163.6	42 30.3 -58.4 162.3	42 16.3 -58.3 161.0
5°	42 07.5 -59.1 166.5	41 56.6 -58.9 165.2	41 44.7 -58.7 163.9	41 31.9 -58.6 162.6	41 18.0 -58.3 161.3
6°	41 08.4 -59.1 166.7	40 57.7 -59.0 165.4	40 46.0 -58.8 164.2	40 33.3 -58.5 162.9	40 19.7 -58.3 161.6
7°	40 09.3 -59.2 167.0	39 58.7 -58.9 165.7	39 47.2 -58.7 164.4	39 34.8 -58.6 163.2	39 21.4 -58.4 161.9
8°	39 10.1 -59.1 167.2	38 59.8 -59.0 165.9	38 48.5 -58.9 164.7	38 36.2 -58.6 163.4	38 23.0 -58.4 162.2
9°	38 11.0 -59.2 167.4	38 00.8 -59.1 166.2	37 49.6 -58.8 164.9	37 37.6 -58.7 163.7	37 24.6 -58.4 162.5
10°	37 11.8 -59.3 167.6	37 01.7 -59.0 166.4	36 50.8 -58.9 165.2	36 38.9 -58.7 164.0	36 26.2 -58.6 162.8
11°	36 12.5 -59.2 167.8	36 02.7 -59.1 166.6	35 51.9 -58.9 165.4	35 40.2 -58.7 164.2	35 27.6 -58.5 163.0
12°	35 13.3 -59.3 168.0	35 03.6 -59.1 166.8	34 53.0 -59.0 165.6	34 41.5 -58.8 164.5	34 29.1 -58.6 163.3
13°	34 14.0 -59.2 168.2	34 04.5 -59.1 167.0	33 54.0 -58.9 165.9	33 42.7 -58.8 164.7	33 30.5 -58.6 163.6
14°	33 14.8 -59.3 168.4	33 05.4 -59.2 167.2	32 55.1 -59.0 166.1	32 43.9 -58.8 165.0	32 31.9 -58.6 163.8
15°	32 15.5 -59.3 168.6	32 06.2 -59.2 167.4	31 56.1 -59.0 166.3	31 45.1 -58.8 165.2	31 33.3 -58.7 164.1
16°	31 16.2 -59.3 168.7	31 07.0 -59.1 167.6	30 57.1 -59.1 166.5	30 46.3 -58.9 165.4	30 34.6 -58.7 164.3
17°	30 16.9 -59.4 168.9	30 07.9 -59.2 167.8	29 58.0 -59.0 166.7	29 47.4 -58.9 165.6	29 35.9 -58.7 164.6
18°	29 17.5 -59.3 169.1	29 08.7 -59.2 168.0	28 59.0 -59.1 166.9	28 48.5 -58.9 165.9	28 37.2 -58.7 164.8
19°	28 18.2 -59.4 169.3	28 09.5 -59.3 168.2	27 59.9 -59.0 167.1	27 49.6 -58.9 166.1	27 38.5 -58.8 165.0
20°	27 18.8 -59.3 169.4	27 10.2 -59.2 168.4	27 00.9 -59.1 167.3	26 50.7 -59.0 166.3	26 39.7 -58.8 165.3
21°	26 19.5 -59.4 169.6	26 11.0 -59.3 168.6	26 01.8 -59.2 167.5	25 51.7 -58.9 166.5	25 40.9 -58.8 165.5
22°	25 20.1 -59.4 169.7	25 11.7 -59.2 168.7	25 02.6 -59.1 167.7	24 52.8 -59.0 166.7	24 42.1 -58.8 165.7
23°	24 20.7 -59.4 169.9	24 12.5 -59.3 168.9	24 03.5 -59.1 167.9	23 53.8 -59.0 166.9	23 43.3 -58.8 165.9
24°	23 21.3 -59.4 170.0	23 13.2 -59.3 169.1	23 04.4 -59.2 168.1	22 54.8 -59.0 167.1	22 44.5 -58.9 166.1
25°	22 21.9 -59.4 170.2	22 13.9 -59.3 169.2	22 05.2 -59.1 168.3	21 55.8 -59.0 167.3	21 45.6 -58.9 166.3
26°	21 22.5 -59.5 170.4	21 14.6 -59.3 169.4	21 06.1 -59.2 168.4	20 56.8 -59.1 167.5	20 46.7 -58.8 166.6
27°	20 23.0 -59.4 170.5	20 15.3 -59.3 169.6	20 06.9 -59.2 168.6	19 57.7 -59.0 167.7	19 47.9 -58.9 166.8
28°	19 23.6 -59.4 170.6	19 16.0 -59.3 169.7	19 07.7 -59.2 168.8	18 58.7 -59.1 167.9	18 49.0 -59.0 167.0
29°	18 24.2 -59.5 170.8	18 16.7 -59.4 169.9	18 08.5 -59.2 169.0	17 59.6 -59.1 168.1	17 50.0 -58.9 167.2

Dec	LHA 015° / 345°	LHA 016° / 344°	LHA 017° / 343°	LHA 018° / 342°	LHA 019° / 341°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	45 52.5 -57.7 158.2	45 35.4 -57.4 156.8	45 17.4 -57.1 155.4	44 58.4 -56.8 154.1	44 38.4 -56.4 152.8
1°	44 54.8 -57.8 158.6	44 38.0 -57.5 157.2	44 20.3 -57.2 155.9	44 01.6 -56.9 154.6	43 42.0 -56.6 153.2
2°	43 57.0 -57.8 158.9	43 40.5 -57.6 157.6	43 23.1 -57.3 156.3	43 04.7 -57.0 155.0	42 45.4 -56.7 153.7
3°	42 59.2 -58.0 159.3	42 42.9 -57.6 158.0	42 25.8 -57.4 156.7	42 07.7 -57.1 155.4	41 48.7 -56.8 154.1
4°	42 01.2 -57.9 159.7	41 45.3 -57.8 158.4	41 28.4 -57.5 157.1	41 10.6 -57.2 155.8	40 51.9 -56.9 154.6
5°	41 03.3 -58.1 160.0	40 47.5 -57.8 158.7	40 30.9 -57.5 157.5	40 13.4 -57.3 156.2	39 55.0 -57.0 155.0
6°	40 05.2 -58.1 160.3	39 49.7 -57.8 159.1	39 33.4 -57.6 157.8	39 16.1 -57.3 156.6	38 58.0 -57.1 155.4
7°	39 07.1 -58.1 160.7	38 51.9 -57.9 159.4	38 35.8 -57.7 158.2	38 18.8 -57.4 157.0	38 00.9 -57.1 155.8
8°	38 09.0 -58.2 161.0	37 54.0 -58.0 159.8	37 38.1 -57.7 158.6	37 21.4 -57.5 157.4	37 03.8 -57.2 156.2
9°	37 10.8 -58.3 161.3	36 56.0 -58.0 160.1	36 40.4 -57.8 158.9	36 23.9 -57.5 157.7	36 06.6 -57.3 156.5
10°	36 12.5 -58.3 161.6	35 58.0 -58.1 160.4	35 42.6 -57.8 159.2	35 26.4 -57.6 158.1	35 09.3 -57.4 156.9
11°	35 14.2 -58.3 161.9	34 59.9 -58.1 160.7	34 44.8 -57.9 159.6	34 28.8 -57.7 158.4	34 11.9 -57.4 157.3
12°	34 15.9 -58.4 162.2	34 01.8 -58.2 161.0	33 46.9 -58.0 159.9	33 31.1 -57.7 158.7	33 14.5 -57.4 157.6
13°	33 17.5 -58.4 162.4	33 03.6 -58.2 161.3	32 48.9 -57.9 160.2	32 33.4 -57.7 159.1	32 17.1 -57.5 158.0
14°	32 19.1 -58.4 162.7	32 05.4 -58.2 161.6	31 51.0 -58.1 160.5	31 35.7 -57.8 159.4	31 19.6 -57.6 158.3
15°	31 20.7 -58.5 163.0	31 07.2 -58.3 161.9	30 52.9 -58.0 160.8	30 37.9 -57.9 159.7	30 22.0 -57.6 158.6
16°	30 22.2 -58.5 163.2	30 08.9 -58.3 162.2	29 54.9 -58.1 161.1	29 40.0 -57.9 160.0	29 24.4 -57.7 158.9
17°	29 23.7 -58.6 163.5	29 10.6 -58.3 162.4	28 56.8 -58.2 161.4	28 42.1 -57.9 160.3	28 26.7 -57.7 159.3
18°	28 25.1 -58.5 163.7	28 12.3 -58.4 162.7	27 58.6 -58.2 161.6	27 44.2 -58.0 160.6	27 29.0 -57.7 159.6
19°	27 26.6 -58.6 164.0	27 13.9 -58.4 163.0	27 00.4 -58.2 161.9	26 46.2 -58.0 160.9	26 31.3 -57.8 159.9
20°	26 28.0 -58.6 164.2	26 15.5 -58.4 163.2	26 02.2 -58.2 162.2	25 48.2 -58.0 161.2	25 33.5 -57.8 160.2
21°	25 29.4 -58.6 164.5	25 17.1 -58.5 163.5	25 04.0 -58.3 162.5	24 50.2 -58.1 161.5	24 35.7 -57.9 160.5
22°	24 30.8 -58.7 164.7	24 18.6 -58.5 163.7	24 05.7 -58.2 162.7	23 52.1 -58.0 161.7	23 37.8 -57.9 160.8
23°	23 32.1 -58.7 164.9	23 20.1 -58.5 164.0	23 07.5 -58.4 163.0	22 54.1 -58.2 162.0	22 39.9 -57.9 161.0
24°	22 33.4 -58.7 165.2	22 21.6 -58.5 164.2	22 09.1 -58.3 163.2	21 55.9 -58.1 162.3	21 42.0 -57.9 161.3
25°	21 34.7 -58.7 165.4	21 23.1 -58.5 164.4	21 10.8 -58.3 163.5	20 57.8 -58.2 162.5	20 44.1 -58.0 161.6
26°	20 36.0 -58.7 165.6	20 24.6 -58.6 164.7	20 12.5 -58.4 163.7	19 59.6 -58.2 162.8	19 46.1 -58.0 161.9
27°	19 37.3 -58.8 165.8	19 26.0 -58.6 164.9	19 14.1 -58.4 164.0	19 01.4 -58.2 163.1	18 48.1 -58.0 162.2
28°	18 38.5 -58.7 166.0	18 27.5 -58.6 165.1	18 15.7 -58.4 164.2	18 03.2 -58.2 163.3	17 50.1 -58.1 162.4
29°	17 39.8 -58.8 166.3	17 28.9 -58.6 165.4	17 17.3 -58.5 164.5	17 05.0 -58.3 163.6	16 52.0 -58.0 162.7

Dec	LHA 020° / 340°	LHA 021° / 339°	LHA 022° / 338°	LHA 023° / 337°	LHA 024° / 336°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	44 17.6 -56.2 151.5	43 55.8 -55.8 150.2	43 33.2 -55.5 148.9	43 09.7 -55.1 147.6	42 45.4 -54.7 146.4
1°	43 21.4 -56.2 151.9	43 00.0 -55.9 150.7	42 37.7 -55.6 149.4	42 14.6 -55.2 148.1	41 50.7 -54.9 146.9
2°	42 25.2 -56.4 152.4	42 04.1 -56.1 151.2	41 42.1 -55.7 149.9	41 19.4 -55.4 148.7	40 55.8 -55.1 147.5
3°	41 28.8 -56.5 152.9	41 08.0 -56.2 151.6	40 46.4 -55.9 150.4	40 24.0 -55.6 149.2	40 00.7 -55.2 148.0
4°	40 32.3 -56.6 153.3	40 11.8 -56.3 152.1	39 50.5 -55.9 150.9	39 28.4 -55.6 149.7	39 05.5 -55.3 148.5
5°	39 35.7 -56.7 153.8	39 15.5 -56.3 152.5	38 54.6 -56.1 151.3	38 32.8 -55.8 150.2	38 10.2 -55.5 149.0
6°	38 39.0 -56.8 154.2	38 19.2 -56.5 153.0	37 58.5 -56.2 151.8	37 37.0 -55.9 150.6	37 14.7 -55.5 149.5
7°	37 42.2 -56.8 154.6	37 22.7 -56.6 153.4	37 02.3 -56.3 152.2	36 41.1 -55.9 151.1	36 19.2 -55.7 149.9
8°	36 45.4 -57.0 155.0	36 26.1 -56.7 153.8	36 06.0 -56.3 152.7	35 45.2 -56.1 151.5	35 23.5 -55.8 150.4
9°	35 48.4 -57.0 155.4	35 29.4 -56.7 154.2	35 09.7 -56.5 153.1	34 49.1 -56.2 152.0	34 27.7 -55.8 150.8
10°	34 51.4 -57.1 155.8	34 32.7 -56.8 154.6	34 13.2 -56.5 153.5	33 52.9 -56.2 152.4	33 31.9 -56.0 151.3
11°	33 54.3 -57.1 156.1	33 35.9 -56.9 155.0	33 16.7 -56.7 153.9	32 56.7 -56.4 152.8	32 35.9 -56.0 151.7
12°	32 57.2 -57.2 156.5	32 39.0 -57.0 155.4	32 20.0 -56.6 154.3	32 00.3 -56.4 153.2	31 39.9 -56.2 152.1
13°	32 00.0 -57.3 156.9	31 42.0 -57.0 155.8	31 23.4 -56.8 154.7	31 03.9 -56.5 153.6	30 43.7 -56.2 152.5
14°	31 02.7 -57.3 157.2	30 45.0 -57.0 156.1	30 26.6 -56.8 155.1	30 07.4 -56.5 154.0	29 47.5 -56.3 153.0
15°	30 05.4 -57.4 157.6	29 48.0 -57.2 156.5	29 29.8 -56.9 155.4	29 10.9 -56.6 154.4	28 51.2 -56.3 153.3
16°	29 08.0 -57.4 157.9	28 50.8 -57.2 156.8	28 32.9 -56.9 155.8	28 14.3 -56.7 154.8	27 54.9 -56.4 153.7
17°	28 10.6 -57.5 158.2	27 53.6 -57.2 157.2	27 36.0 -57.0 156.2	27 17.6 -56.7 155.1	26 58.5 -56.5 154.1
18°	27 13.1 -57.5 158.5	26 56.4 -57.3 157.5	26 39.0 -57.1 156.5	26 20.9 -56.8 155.5	26 02.0 -56.5 154.5
19°	26 15.6 -57.6 158.9	25 59.1 -57.3 157.9	25 41.9 -57.0 156.9	25 24.1 -56.9 155.9	25 05.5 -56.6 154.9
20°	25 18.0 -57.6 159.2	25 01.8 -57.4 158.2	24 44.9 -57.2 157.2	24 27.2 -56.9 156.2	24 08.9 -56.6 155.2
21°	24 20.4 -57.6 159.5	24 04.4 -57.4 158.5	23 47.7 -57.2 157.5	23 30.3 -56.9 156.6	23 12.3 -56.7 155.6
22°	23 22.8 -57.7 159.8	23 07.0 -57.4 158.8	22 50.5 -57.2 157.9	22 33.4 -57.0 156.9	22 15.6 -56.8 156.0
23°	22 25.1 -57.7 160.1	22 09.6 -57.5 159.1	21 53.3 -57.2 158.2	21 36.4 -57.0 157.2	21 18.8 -56.7 156.3
24°	21 27.4 -57.7 160.4	21 12.1 -57.5 159.4	20 56.1 -57.3 158.5	20 39.4 -57.1 157.6	20 22.1 -56.9 156.6
25°	20 29.7 -57.8 160.7	20 14.6 -57.6 159.7	19 58.8 -57.3 158.8	19 42.3 -57.0 157.9	19 25.2 -56.8 157.0
26°	19 31.9 -57.8 161.0	19 17.0 -57.6 160.0	19 01.5 -57.4 159.1	18 45.3 -57.2 158.2	18 28.4 -56.9 157.3
27°	18 34.1 -57.8 161.2	18 19.4 -57.6 160.3	18 04.1 -57.4 159.4	17 48.1 -57.1 158.6	17 31.5 -56.9 157.7
28°	17 36.3 -57.9 161.5	17 21.8 -57.6 160.6	17 06.7 -57.4 159.8	16 51.0 -57.2 158.9	16 34.6 -57.0 158.0
29°	16 38.4 -57.8 161.8	16 24.2 -57.7 160.9	16 09.3 -57.4 160.1	15 53.8 -57.2 159.2	15 37.6 -57.0 158.3

Dec	LHA 025° / 335°	LHA 026° / 334°	LHA 027° / 333°	LHA 028° / 332°	LHA 029° / 331°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	42 20.3 -54.3 145.1	41 54.5 -54.1 143.9	41 27.8 -53.6 142.7	41 00.5 -53.3 141.5	40 32.4 -53.0 140.4
1°	41 26.0 -54.6 145.7	41 00.4 -54.2 144.5	40 34.2 -53.9 143.3	40 07.2 -53.5 142.1	39 39.4 -53.1 141.0
2°	40 31.4 -54.7 146.2	40 06.2 -54.3 145.1	39 40.3 -54.0 143.9	39 13.7 -53.7 142.7	38 46.3 -53.3 141.6
3°	39 36.7 -54.9 146.8	39 11.9 -54.5 145.6	38 46.3 -54.2 144.4	38 20.0 -53.8 143.3	37 53.0 -53.5 142.2
4°	38 41.8 -55.0 147.3	38 17.4 -54.7 146.1	37 52.1 -54.3 145.0	37 26.2 -54.0 143.9	36 59.5 -53.6 142.7
5°	37 46.8 -55.1 147.8	37 22.7 -54.8 146.7	36 57.8 -54.4 145.5	36 32.2 -54.1 144.4	36 05.9 -53.8 143.3
6°	36 51.7 -55.2 148.3	36 27.9 -54.9 147.2	36 03.4 -54.6 146.0	35 38.1 -54.3 144.9	35 12.1 -53.9 143.8
7°	35 56.5 -55.4 148.8	35 33.0 -55.1 147.7	35 08.8 -54.7 146.6	34 43.8 -54.3 145.5	34 18.2 -54.0 144.4
8°	35 01.1 -55.5 149.3	34 37.9 -55.1 148.2	34 14.1 -54.9 147.1	33 49.5 -54.6 146.0	33 24.2 -54.2 144.9
9°	34 05.6 -55.5 149.7	33 42.8 -55.3 148.6	33 19.2 -54.9 147.5	32 54.9 -54.6 146.5	32 30.0 -54.3 145.4
10°	33 10.1 -55.7 150.2	32 47.5 -55.3 149.1	32 24.3 -55.1 148.0	32 00.3 -54.7 147.0	31 35.7 -54.5 145.9
11°	32 14.4 -55.8 150.6	31 52.2 -55.5 149.6	31 29.2 -55.1 148.5	31 05.6 -54.9 147.4	30 41.2 -54.5 146.4
12°	31 18.6 -55.8 151.1	30 56.7 -55.5 150.0	30 34.1 -55.3 149.0	30 10.7 -54.9 147.9	29 46.7 -54.6 146.9
13°	30 22.8 -55.9 151.5	30 01.2 -55.7 150.4	29 38.8 -55.3 149.4	29 15.8 -55.1 148.4	28 52.1 -54.8 147.4
14°	29 26.9 -56.0 151.9	29 05.5 -55.7 150.9	28 43.5 -55.4 149.8	28 20.7 -55.1 148.8	27 57.3 -54.8 147.8
15°	28 30.9 -56.1 152.3	28 09.8 -55.8 151.3	27 48.1 -55.5 150.3	27 25.6 -55.2 149.3	27 02.5 -54.9 148.3
16°	27 34.8 -56.1 152.7	27 14.0 -55.8 151.7	26 52.6 -55.6 150.7	26 30.4 -55.3 149.7	26 07.6 -55.0 148.7
17°	26 38.7 -56.2 153.1	26 18.2 -56.0 152.1	25 57.0 -55.7 151.1	25 35.1 -55.4 150.1	25 12.6 -55.1 149.2
18°	25 42.5 -56.3 153.5	25 22.2 -56.0 152.5	25 01.3 -55.7 151.5	24 39.7 -55.4 150.6	24 17.5 -55.1 149.6
19°	24 46.2 -56.3 153.9	24 26.2 -56.0 152.9	24 05.6 -55.8 152.0	23 44.3 -55.5 151.0	23 22.4 -55.3 150.0
20°	23 49.9 -56.4 154.3	23 30.2 -56.1 153.3	23 09.8 -55.8 152.4	22 48.8 -55.6 151.4	22 27.1 -55.2 150.5
21°	22 53.5 -56.4 154.6	22 34.1 -56.2 153.7	22 14.0 -55.9 152.7	21 53.2 -55.6 151.8	21 31.9 -55.4 150.9
22°	21 57.1 -56.5 155.0	21 37.9 -56.2 154.1	21 18.1 -56.0 153.1	20 57.6 -55.7 152.2	20 36.5 -55.4 151.3
23°	21 00.6 -56.5 155.4	20 41.7 -56.3 154.4	20 22.1 -56.0 153.5	20 01.9 -55.7 152.6	19 41.1 -55.5 151.7
24°	20 04.1 -56.6 155.7	19 45.4 -56.3 154.8	19 26.1 -56.0 153.9	19 06.2 -55.8 153.0	18 45.6 -55.5 152.1
25°	19 07.5 -56.6 156.1	18 49.1 -56.4 155.2	18 30.1 -56.1 154.3	18 10.4 -55.8 153.4	17 50.1 -55.5 152.5
26°	18 10.9 -56.7 156.4	17 52.7 -56.4 155.5	17 34.0 -56.2 154.7	17 14.6 -55.9 153.8	16 54.6 -55.6 152.9
27°	17 14.2 -56.6 156.8	16 56.3 -56.4 155.9	16 37.8 -56.1 155.0	16 18.7 -55.9 154.2	15 59.0 -55.7 153.3
28°	16 17.6 -56.8 157.1	15 59.9 -56.5 156.3	15 41.7 -56.3 155.4	15 22.8 -56.0 154.5	15 03.3 -55.7 153.7
29°	15 20.8 -56.7 157.5	15 03.4 -56.5 156.6	14 45.4 -56.2 155.8	14 26.8 -56.0 154.9	14 07.6 -55.7 154.1

Dec	LHA 030° / 330°	LHA 031° / 329°	LHA 032° / 328°	LHA 033° / 327°	LHA 034° / 326°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	40 03.6 -52.6 139.2	39 34.1 -52.2 138.1	39 04.0 -51.8 137.0	38 33.2 -51.4 135.9	38 01.9 -51.1 134.8
1°	39 11.0 -52.7 139.8	38 41.9 -52.4 138.7	38 12.2 -52.0 137.6	37 41.8 -51.7 136.5	37 10.8 -51.3 135.4
2°	38 18.3 -53.0 140.4	37 49.5 -52.5 139.3	37 20.2 -52.3 138.2	36 50.1 -51.8 137.2	36 19.5 -51.5 136.1
3°	37 25.3 -53.1 141.0	36 57.0 -52.8 139.9	36 27.9 -52.4 138.9	35 58.3 -52.1 137.8	35 28.0 -51.7 136.7
4°	36 32.2 -53.3 141.6	36 04.2 -52.9 140.5	35 35.5 -52.6 139.5	35 06.2 -52.2 138.4	34 36.3 -51.9 137.3
5°	35 38.9 -53.4 142.2	35 11.3 -53.1 141.1	34 42.9 -52.7 140.0	34 14.0 -52.4 139.0	33 44.4 -52.0 137.9
6°	34 45.5 -53.6 142.8	34 18.2 -53.3 141.7	33 50.2 -52.9 140.6	33 21.6 -52.6 139.6	32 52.4 -52.3 138.5
7°	33 51.9 -53.7 143.3	33 24.9 -53.4 142.2	32 57.3 -53.1 141.2	32 29.0 -52.7 140.1	32 00.1 -52.3 139.1
8°	32 58.2 -53.9 143.8	32 31.5 -53.5 142.8	32 04.2 -53.2 141.7	31 36.3 -52.9 140.7	31 07.8 -52.6 139.7
9°	32 04.3 -54.0 144.4	31 38.0 -53.7 143.3	31 11.0 -53.3 142.3	30 43.4 -53.0 141.3	30 15.2 -52.6 140.3
10°	31 10.3 -54.1 144.9	30 44.3 -53.7 143.8	30 17.7 -53.4 142.8	29 50.4 -53.1 141.8	29 22.6 -52.8 140.8
11°	30 16.2 -54.2 145.4	29 50.6 -53.9 144.3	29 24.3 -53.6 143.3	28 57.3 -53.2 142.3	28 29.8 -53.0 141.3
12°	29 22.0 -54.3 145.9	28 56.7 -54.1 144.9	28 30.7 -53.7 143.9	28 04.1 -53.4 142.9	27 36.8 -53.0 141.9
13°	28 27.7 -54.4 146.3	28 02.6 -54.1 145.3	27 37.0 -53.8 144.4	27 10.7 -53.5 143.4	26 43.8 -53.2 142.4
14°	27 33.3 -54.6 146.8	27 08.5 -54.2 145.8	26 43.2 -53.9 144.9	26 17.2 -53.6 143.9	25 50.6 -53.3 142.9
15°	26 38.7 -54.6 147.3	26 14.3 -54.3 146.3	25 49.3 -54.0 145.3	25 23.6 -53.7 144.4	24 57.3 -53.3 143.4
16°	25 44.1 -54.7 147.8	25 20.0 -54.4 146.8	24 55.3 -54.1 145.8	24 29.9 -53.8 144.9	24 04.0 -53.5 143.9
17°	24 49.4 -54.8 148.2	24 25.6 -54.5 147.3	24 01.2 -54.2 146.3	23 36.1 -53.8 145.4	23 10.5 -53.6 144.4
18°	23 54.6 -54.8 148.7	23 31.1 -54.5 147.7	23 07.0 -54.3 146.8	22 42.3 -54.0 145.8	22 16.9 -53.6 144.9
19°	22 59.8 -55.0 149.1	22 36.6 -54.7 148.2	22 12.7 -54.3 147.2	21 48.3 -54.0 146.3	21 23.3 -53.8 145.4
20°	22 04.8 -55.0 149.5	21 41.9 -54.7 148.6	21 18.4 -54.4 147.7	20 54.3 -54.1 146.8	20 29.5 -53.8 145.9
21°	21 09.8 -55.0 150.0	20 47.2 -54.8 149.0	20 24.0 -54.5 148.1	20 00.2 -54.2 147.2	19 35.7 -53.8 146.3
22°	20 14.8 -55.1 150.4	19 52.4 -54.8 149.5	19 29.5 -54.5 148.6	19 06.0 -54.3 147.7	18 41.9 -54.0 146.8
23°	19 19.7 -55.2 150.8	18 57.6 -54.9 149.9	18 35.0 -54.6 149.0	18 11.7 -54.3 148.1	17 47.9 -54.0 147.3
24°	18 24.5 -55.3 151.2	18 02.7 -54.9 150.3	17 40.4 -54.7 149.5	17 17.4 -54.4 148.6	16 53.9 -54.1 147.7
25°	17 29.2 -55.2 151.6	17 07.8 -55.0 150.8	16 45.7 -54.7 149.9	16 23.0 -54.4 149.0	15 59.8 -54.1 148.2
26°	16 34.0 -55.4 152.0	16 12.8 -55.1 151.2	15 51.0 -54.8 150.3	15 28.6 -54.5 149.5	15 05.7 -54.2 148.6
27°	15 38.6 -55.3 152.4	15 17.7 -55.1 151.6	14 56.2 -54.8 150.7	14 34.1 -54.5 149.9	14 11.5 -54.2 149.1
28°	14 43.3 -55.5 152.8	14 22.6 -55.1 152.0	14 01.4 -54.9 151.2	13 39.6 -54.6 150.3	13 17.3 -54.3 149.5
29°	13 47.8 -55.4 153.2	13 27.5 -55.2 152.4	13 06.5 -54.9 151.6	12 45.0 -54.6 150.8	12 23.0 -54.3 150.0

Dec	LHA 035° / 325°	LHA 036° / 324°	LHA 037° / 323°	LHA 038° / 322°	LHA 039° / 321°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	37 29.9 -50.7 133.7	36 57.4 -50.3 132.6	36 24.4 -50.0 131.6	35 50.7 -49.6 130.6	35 16.6 -49.3 129.6
1°	36 39.2 -50.9 134.4	36 07.1 -50.6 133.3	35 34.4 -50.3 132.3	35 01.1 -49.9 131.3	34 27.3 -49.5 130.3
2°	35 48.3 -51.2 135.0	35 16.5 -50.8 134.0	34 44.1 -50.4 133.0	34 11.2 -50.1 131.9	33 37.8 -49.7 130.9
3°	34 57.1 -51.3 135.7	34 25.7 -51.0 134.6	33 53.7 -50.7 133.6	33 21.1 -50.3 132.6	32 48.1 -50.0 131.6
4°	34 05.8 -51.5 136.3	33 34.7 -51.2 135.3	33 03.0 -50.8 134.3	32 30.8 -50.5 133.3	31 58.1 -50.2 132.3
5°	33 14.3 -51.7 136.9	32 43.5 -51.4 135.9	32 12.2 -51.0 134.9	31 40.3 -50.7 133.9	31 07.9 -50.3 132.9
6°	32 22.6 -51.9 137.5	31 52.1 -51.5 136.5	31 21.2 -51.2 135.5	30 49.6 -50.8 134.5	30 17.6 -50.5 133.5
7°	31 30.7 -52.1 138.1	31 00.6 -51.7 137.1	30 30.0 -51.4 136.1	29 58.8 -51.0 135.1	29 27.1 -50.7 134.2
8°	30 38.6 -52.2 138.7	30 08.9 -51.9 137.7	29 38.6 -51.5 136.7	29 07.8 -51.2 135.7	28 36.4 -50.9 134.8
9°	29 46.4 -52.3 139.3	29 17.0 -52.0 138.3	28 47.1 -51.7 137.3	28 16.6 -51.4 136.3	27 45.5 -51.0 135.4
10°	28 54.1 -52.5 139.8	28 25.0 -52.1 138.8	27 55.4 -51.8 137.9	27 25.2 -51.5 136.9	26 54.5 -51.2 136.0
11°	28 01.6 -52.6 140.4	27 32.9 -52.3 139.4	27 03.6 -52.0 138.4	26 33.7 -51.6 137.5	26 03.3 -51.3 136.6
12°	27 09.0 -52.7 140.9	26 40.6 -52.4 140.0	26 11.6 -52.0 139.0	25 42.1 -51.7 138.1	25 12.0 -51.4 137.1
13°	26 16.3 -52.9 141.4	25 48.2 -52.5 140.5	25 19.6 -52.2 139.6	24 50.4 -51.9 138.6	24 20.6 -51.5 137.7
14°	25 23.4 -52.9 142.0	24 55.7 -52.6 141.0	24 27.4 -52.4 140.1	23 58.5 -52.0 139.2	23 29.1 -51.7 138.3
15°	24 30.5 -53.1 142.5	24 03.1 -52.8 141.6	23 35.0 -52.4 140.6	23 06.5 -52.1 139.7	22 37.4 -51.8 138.8
16°	23 37.4 -53.1 143.0	23 10.3 -52.8 142.1	22 42.6 -52.5 141.2	22 14.4 -52.2 140.3	21 45.6 -51.9 139.4
17°	22 44.3 -53.3 143.5	22 17.5 -53.0 142.6	21 50.1 -52.6 141.7	21 22.2 -52.3 140.8	20 53.7 -52.0 139.9
18°	21 51.0 -53.3 144.0	21 24.5 -53.0 143.1	20 57.5 -52.7 142.2	20 29.9 -52.4 141.3	20 01.7 -52.1 140.4
19°	20 57.7 -53.5 144.5	20 31.5 -53.1 143.6	20 04.8 -52.8 142.7	19 37.5 -52.5 141.8	19 09.6 -52.1 141.0
20°	20 04.2 -53.5 145.0	19 38.4 -53.2 144.1	19 12.0 -52.9 143.2	18 45.0 -52.6 142.3	18 17.5 -52.3 141.5
21°	19 10.7 -53.5 145.5	18 45.2 -53.3 144.6	18 19.1 -53.0 143.7	17 52.4 -52.6 142.8	17 25.2 -52.3 142.0
22°	18 17.2 -53.7 145.9	17 51.9 -53.3 145.1	17 26.1 -53.0 144.2	16 59.8 -52.8 143.4	16 32.9 -52.4 142.5
23°	17 23.5 -53.7 146.4	16 58.6 -53.4 145.5	16 33.1 -53.1 144.7	16 07.0 -52.8 143.8	15 40.5 -52.5 143.0
24°	16 29.8 -53.8 146.9	16 05.2 -53.5 146.0	15 40.0 -53.2 145.2	15 14.2 -52.8 144.3	14 48.0 -52.6 143.5
25°	15 36.0 -53.8 147.3	15 11.7 -53.5 146.5	14 46.8 -53.2 145.7	14 21.4 -52.9 144.8	13 55.4 -52.6 144.0
26°	14 42.2 -53.9 147.8	14 18.2 -53.6 147.0	13 53.6 -53.3 146.1	13 28.5 -53.0 145.3	13 02.8 -52.6 144.5
27°	13 48.3 -53.9 148.2	13 24.6 -53.7 147.4	13 00.3 -53.3 146.6	12 35.5 -53.0 145.8	12 10.2 -52.7 145.0
28°	12 54.4 -54.0 148.7	12 30.9 -53.6 147.9	12 07.0 -53.4 147.1	11 42.5 -53.1 146.3	11 17.5 -52.8 145.5
29°	12 00.4 -54.0 149.1	11 37.3 -53.8 148.3	11 13.6 -53.4 147.5	10 49.4 -53.1 146.8	10 24.7 -52.8 146.0

Dec	LHA 040° / 320°	LHA 041° / 319°	LHA 042° / 318°	LHA 043° / 317°	LHA 044° / 316°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	34 42.0 -48.9 128.6	34 06.9 -48.6 127.6	33 31.3 -48.2 126.6	32 55.3 -47.9 125.7	32 18.9 -47.6 124.7
1°	33 53.1 -49.2 129.3	33 18.3 -48.9 128.3	32 43.1 -48.5 127.3	32 07.4 -48.2 126.4	31 31.3 -47.9 125.4
2°	33 03.9 -49.4 130.0	32 29.4 -49.0 129.0	31 54.6 -48.8 128.0	31 19.2 -48.4 127.1	30 43.4 -48.1 126.1
3°	32 14.5 -49.7 130.6	31 40.4 -49.3 129.7	31 05.8 -48.9 128.7	30 30.8 -48.6 127.8	29 55.3 -48.3 126.8
4°	31 24.8 -49.8 131.3	30 51.1 -49.5 130.3	30 16.9 -49.2 129.4	29 42.2 -48.9 128.4	29 07.0 -48.5 127.5
5°	30 35.0 -50.0 131.9	30 01.6 -49.7 131.0	29 27.7 -49.3 130.0	28 53.3 -49.0 129.1	28 18.5 -48.7 128.2
6°	29 45.0 -50.2 132.6	29 11.9 -49.8 131.6	28 38.4 -49.6 130.7	28 04.3 -49.2 129.8	27 29.8 -48.9 128.8
7°	28 54.8 -50.3 133.2	28 22.1 -50.1 132.3	27 48.8 -49.7 131.3	27 15.1 -49.4 130.4	26 40.9 -49.0 129.5
8°	28 04.5 -50.6 133.8	27 32.0 -50.2 132.9	26 59.1 -49.8 132.0	26 25.7 -49.5 131.0	25 51.9 -49.2 130.1
9°	27 13.9 -50.6 134.4	26 41.8 -50.3 133.5	26 09.3 -50.1 132.6	25 36.2 -49.7 131.7	25 02.7 -49.4 130.8
10°	26 23.3 -50.9 135.0	25 51.5 -50.5 134.1	25 19.2 -50.2 133.2	24 46.5 -49.9 132.3	24 13.3 -49.6 131.4
11°	25 32.4 -51.0 135.6	25 01.0 -50.7 134.7	24 29.0 -50.3 133.8	23 56.6 -50.0 132.9	23 23.7 -49.6 132.0
12°	24 41.4 -51.1 136.2	24 10.3 -50.7 135.3	23 38.7 -50.4 134.4	23 06.6 -50.1 133.5	22 34.1 -49.9 132.6
13°	23 50.3 -51.2 136.8	23 19.6 -50.9 135.9	22 48.3 -50.6 135.0	22 16.5 -50.3 134.1	21 44.2 -49.9 133.2
14°	22 59.1 -51.3 137.4	22 28.7 -51.1 136.5	21 57.7 -50.7 135.6	21 26.2 -50.4 134.7	20 54.3 -50.1 133.8
15°	22 07.8 -51.5 137.9	21 37.6 -51.1 137.0	21 07.0 -50.8 136.1	20 35.8 -50.5 135.3	20 04.2 -50.2 134.4
16°	21 16.3 -51.6 138.5	20 46.5 -51.3 137.6	20 16.2 -51.0 136.7	19 45.3 -50.6 135.8	19 14.0 -50.2 135.0
17°	20 24.7 -51.6 139.0	19 55.2 -51.3 138.1	19 25.2 -51.0 137.3	18 54.7 -50.7 136.4	18 23.8 -50.4 135.6
18°	19 33.1 -51.8 139.6	19 03.9 -51.5 138.7	18 34.2 -51.1 137.8	18 04.0 -50.8 137.0	17 33.4 -50.5 136.1
19°	18 41.3 -51.9 140.1	18 12.4 -51.5 139.2	17 43.1 -51.3 138.4	17 13.2 -50.9 137.5	16 42.9 -50.6 136.7
20°	17 49.4 -51.9 140.6	17 20.9 -51.6 139.8	16 51.8 -51.3 138.9	16 22.3 -51.0 138.1	15 52.3 -50.7 137.3
21°	16 57.5 -52.0 141.1	16 29.3 -51.7 140.3	16 00.5 -51.3 139.5	15 31.3 -51.1 138.6	15 01.6 -50.7 137.8
22°	16 05.5 -52.1 141.7	15 37.6 -51.8 140.8	15 09.2 -51.5 140.0	14 40.2 -51.1 139.2	14 10.9 -50.9 138.4
23°	15 13.4 -52.2 142.2	14 45.8 -51.9 141.4	14 17.7 -51.5 140.5	13 49.1 -51.2 139.7	13 20.0 -50.9 138.9
24°	14 21.2 -52.2 142.7	13 53.9 -51.9 141.9	13 26.2 -51.6 141.1	12 57.9 -51.3 140.3	12 29.1 -50.9 139.5
25°	13 29.0 -52.3 143.2	13 02.0 -52.0 142.4	12 34.6 -51.7 141.6	12 06.6 -51.3 140.8	11 38.2 -51.0 140.0
26°	12 36.7 -52.4 143.7	12 10.0 -52.0 142.9	11 42.9 -51.7 142.1	11 15.3 -51.4 141.3	10 47.2 -51.1 140.5
27°	11 44.3 -52.4 144.2	11 18.0 -52.1 143.4	10 51.2 -51.8 142.6	10 23.9 -51.5 141.8	9 56.1 -51.1 141.1
28°	10 51.9 -52.4 144.7	10 25.9 -52.1 143.9	9 59.4 -51.8 143.1	9 32.4 -51.5 142.4	9 05.0 -51.2 141.6
29°	9 59.5 -52.5 145.2	9 33.8 -52.2 144.4	9 07.6 -51.8 143.6	8 40.9 -51.5 142.9	8 13.8 -51.2 142.1

Dec	LHA 045° / 315°	LHA 046° / 314°	LHA 047° / 313°	LHA 048° / 312°	LHA 049° / 311°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	31 42.0 -47.3 123.8	31 04.8 -47.0 122.9	30 27.1 -46.6 122.0	29 49.1 -46.4 121.1	29 10.8 -46.1 120.2
1°	30 54.7 -47.5 124.5	30 17.8 -47.2 123.6	29 40.5 -47.0 122.7	29 02.7 -46.6 121.8	28 24.7 -46.4 120.9
2°	30 07.2 -47.8 125.2	29 30.6 -47.5 124.3	28 53.5 -47.1 123.4	28 16.1 -46.8 122.5	27 38.3 -46.5 121.6
3°	29 19.4 -48.0 125.9	28 43.1 -47.7 125.0	28 06.4 -47.4 124.1	27 29.3 -47.1 123.2	26 51.8 -46.8 122.3
4°	28 31.4 -48.1 126.6	27 55.4 -47.8 125.7	27 19.0 -47.5 124.8	26 42.2 -47.3 123.9	26 05.0 -46.9 123.0
5°	27 43.3 -48.4 127.3	27 07.6 -48.1 126.4	26 31.5 -47.8 125.5	25 54.9 -47.4 124.6	25 18.1 -47.2 123.7
6°	26 54.9 -48.6 127.9	26 19.5 -48.3 127.0	25 43.7 -47.9 126.2	25 07.5 -47.6 125.3	24 30.9 -47.3 124.4
7°	26 06.3 -48.7 128.6	25 31.2 -48.4 127.7	24 55.8 -48.2 126.8	24 19.9 -47.8 126.0	23 43.6 -47.5 125.1
8°	25 17.6 -48.9 129.2	24 42.8 -48.6 128.4	24 07.6 -48.2 127.5	23 32.1 -48.0 126.6	22 56.1 -47.7 125.8
9°	24 28.7 -49.1 129.9	23 54.2 -48.7 129.0	23 19.4 -48.5 128.1	22 44.1 -48.2 127.3	22 08.4 -47.8 126.4
10°	23 39.6 -49.2 130.5	23 05.5 -48.9 129.6	22 30.9 -48.6 128.8	21 55.9 -48.2 127.9	21 20.6 -48.0 127.1
11°	22 50.4 -49.4 131.1	22 16.6 -49.1 130.3	21 42.3 -48.7 129.4	21 07.7 -48.5 128.6	20 32.6 -48.1 127.7
12°	22 01.0 -49.5 131.7	21 27.5 -49.2 130.9	20 53.6 -48.9 130.0	20 19.2 -48.5 129.2	19 44.5 -48.3 128.3
13°	21 11.5 -49.6 132.4	20 38.3 -49.3 131.5	20 04.7 -49.0 130.6	19 30.7 -48.7 129.8	18 56.2 -48.4 129.0
14°	20 21.9 -49.8 133.0	19 49.0 -49.4 132.1	19 15.7 -49.1 131.3	18 42.0 -48.8 130.4	18 07.8 -48.4 129.6
15°	19 32.1 -49.8 133.6	18 59.6 -49.5 132.7	18 26.6 -49.2 131.9	17 53.2 -48.9 131.0	17 19.4 -48.7 130.2
16°	18 42.3 -50.0 134.1	18 10.1 -49.7 133.3	17 37.4 -49.4 132.5	17 04.3 -49.1 131.6	16 30.7 -48.7 130.8
17°	17 52.3 -50.1 134.7	17 20.4 -49.8 133.9	16 48.0 -49.4 133.1	16 15.2 -49.1 132.2	15 42.0 -48.8 131.4
18°	17 02.2 -50.1 135.3	16 30.6 -49.8 134.5	15 58.6 -49.5 133.7	15 26.1 -49.2 132.8	14 53.2 -48.9 132.0
19°	16 12.1 -50.3 135.9	15 40.8 -50.0 135.1	15 09.1 -49.7 134.2	14 36.9 -49.3 133.4	14 04.3 -49.0 132.6
20°	15 21.8 -50.4 136.4	14 50.8 -50.0 135.6	14 19.4 -49.7 134.8	13 47.6 -49.4 134.0	13 15.3 -49.1 133.2
21°	14 31.4 -50.4 137.0	14 00.8 -50.1 136.2	13 29.7 -49.8 135.4	12 58.2 -49.5 134.6	12 26.2 -49.1 133.8
22°	13 41.0 -50.5 137.6	13 10.7 -50.2 136.8	12 39.9 -49.8 136.0	12 08.7 -49.5 135.2	11 37.1 -49.2 134.4
23°	12 50.5 -50.6 138.1	12 20.5 -50.2 137.3	11 50.1 -50.0 136.5	11 19.2 -49.6 135.8	10 47.9 -49.3 135.0
24°	11 59.9 -50.6 138.7	11 30.3 -50.4 137.9	11 00.1 -50.0 137.1	10 29.6 -49.7 136.3	9 58.6 -49.4 135.6
25°	11 09.3 -50.7 139.2	10 39.9 -50.3 138.4	10 10.1 -50.0 137.7	9 39.9 -49.7 136.9	9 09.2 -49.4 136.1
26°	10 18.6 -50.8 139.8	9 49.6 -50.5 139.0	9 20.1 -50.1 138.2	8 50.2 -49.8 137.5	8 19.8 -49.4 136.7
27°	9 27.8 -50.8 140.3	8 59.1 -50.4 139.5	8 30.0 -50.2 138.8	8 00.4 -49.8 138.0	7 30.4 -49.5 137.3
28°	8 37.0 -50.8 140.8	8 08.7 -50.6 140.1	7 39.8 -50.2 139.3	7 10.6 -49.9 138.6	6 40.9 -49.6 137.9
29°	7 46.2 -50.9 141.4	7 18.1 -50.5 140.6	6 49.6 -50.2 139.9	6 20.7 -49.9 139.2	5 51.3 -49.6 138.4

Dec	LHA 050° / 310°	LHA 051° / 309°	LHA 052° / 308°	LHA 053° / 307°	LHA 054° / 306°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	28 32.1 -45.9 119.3	27 53.0 -45.5 118.5	27 13.7 -45.3 117.6	26 34.0 -45.0 116.8	25 54.0 -44.7 115.9
1°	27 46.2 -46.0 120.0	27 07.5 -45.8 119.2	26 28.4 -45.5 118.3	25 49.0 -45.2 117.5	25 09.3 -45.0 116.7
2°	27 00.2 -46.3 120.8	26 21.7 -46.0 119.9	25 42.9 -45.7 119.1	25 03.8 -45.5 118.2	24 24.3 -45.1 117.4
3°	26 13.9 -46.4 121.5	25 35.7 -46.2 120.6	24 57.2 -45.9 119.8	24 18.3 -45.6 118.9	23 39.2 -45.4 118.1
4°	25 27.5 -46.7 122.2	24 49.5 -46.3 121.3	24 11.3 -46.1 120.5	23 32.7 -45.8 119.7	22 53.8 -45.6 118.8
5°	24 40.8 -46.9 122.9	24 03.2 -46.6 122.0	23 25.2 -46.3 121.2	22 46.9 -46.0 120.4	22 08.2 -45.7 119.5
6°	23 53.9 -47.0 123.6	23 16.6 -46.7 122.7	22 38.9 -46.5 121.9	22 00.9 -46.2 121.0	21 22.5 -45.9 120.2
7°	23 06.9 -47.2 124.2	22 29.9 -47.0 123.4	21 52.4 -46.6 122.6	21 14.7 -46.3 121.7	20 36.6 -46.1 120.9
8°	22 19.7 -47.4 124.9	21 42.9 -47.0 124.1	21 05.8 -46.8 123.2	20 28.4 -46.5 122.4	19 50.5 -46.2 121.6
9°	21 32.3 -47.5 125.6	20 55.9 -47.3 124.7	20 19.0 -46.9 123.9	19 41.9 -46.7 123.1	19 04.3 -46.3 122.3
10°	20 44.8 -47.7 126.2	20 08.6 -47.3 125.4	19 32.1 -47.1 124.6	18 55.2 -46.8 123.8	18 18.0 -46.6 122.9
11°	19 57.1 -47.8 126.9	19 21.3 -47.6 126.0	18 45.0 -47.2 125.2	18 08.4 -46.9 124.4	17 31.4 -46.6 123.6
12°	19 09.3 -47.9 127.5	18 33.7 -47.6 126.7	17 57.8 -47.3 125.9	17 21.5 -47.1 125.1	16 44.8 -46.7 124.3
13°	18 21.4 -48.1 128.1	17 46.1 -47.8 127.3	17 10.5 -47.5 126.5	16 34.4 -47.1 125.7	15 58.1 -46.9 124.9
14°	17 33.3 -48.2 128.8	16 58.3 -47.9 128.0	16 23.0 -47.6 127.2	15 47.3 -47.3 126.4	15 11.2 -47.0 125.6
15°	16 45.1 -48.3 129.4	16 10.4 -47.9 128.6	15 35.4 -47.7 127.8	15 00.0 -47.4 127.0	14 24.2 -47.1 126.2
16°	15 56.8 -48.4 130.0	15 22.5 -48.1 129.2	14 47.7 -47.8 128.4	14 12.6 -47.5 127.6	13 37.1 -47.2 126.9
17°	15 08.4 -48.5 130.6	14 34.4 -48.2 129.8	13 59.9 -47.9 129.0	13 25.1 -47.6 128.3	12 49.9 -47.3 127.5
18°	14 19.9 -48.6 131.2	13 46.2 -48.3 130.4	13 12.0 -47.9 129.7	12 37.5 -47.7 128.9	12 02.6 -47.3 128.1
19°	13 31.3 -48.7 131.8	12 57.9 -48.4 131.1	12 24.1 -48.1 130.3	11 49.8 -47.7 129.5	11 15.3 -47.5 128.7
20°	12 42.6 -48.7 132.4	12 09.5 -48.4 131.7	11 36.0 -48.1 130.9	11 02.1 -47.8 130.1	10 27.8 -47.5 129.4
21°	11 53.9 -48.9 133.0	11 21.1 -48.6 132.3	10 47.9 -48.2 131.5	10 14.3 -47.9 130.7	9 40.3 -47.6 130.0
22°	11 05.0 -48.9 133.6	10 32.5 -48.6 132.9	9 59.7 -48.3 132.1	9 26.4 -48.0 131.4	8 52.7 -47.6 130.6
23°	10 16.1 -49.0 134.2	9 43.9 -48.6 133.5	9 11.4 -48.3 132.7	8 38.4 -48.0 132.0	8 05.1 -47.7 131.2
24°	9 27.1 -49.0 134.8	8 55.3 -48.7 134.1	8 23.1 -48.4 133.3	7 50.4 -48.1 132.6	7 17.4 -47.8 131.8
25°	8 38.1 -49.1 135.4	8 06.6 -48.8 134.6	7 34.7 -48.5 133.9	7 02.3 -48.1 133.2	6 29.6 -47.8 132.4
26°	7 49.0 -49.1 136.0	7 17.8 -48.8 135.2	6 46.2 -48.4 134.5	6 14.2 -48.1 133.8	5 41.8 -47.8 133.1
27°	6 59.9 -49.2 136.6	6 29.0 -48.8 135.8	5 57.8 -48.6 135.1	5 26.1 -48.2 134.4	4 54.0 -47.8 133.7
28°	6 10.7 -49.2 137.1	5 40.2 -48.9 136.4	5 09.2 -48.5 135.7	4 37.9 -48.2 135.0	4 06.2 -47.9 134.3
29°	5 21.5 -49.2 137.7	4 51.3 -48.9 137.0	4 20.7 -48.6 136.3	3 49.7 -48.3 135.6	3 18.3 -47.9 134.9

Dec	LHA 055° / 305°	LHA 056° / 304°	LHA 057° / 303°	LHA 058° / 302°	LHA 059° / 301°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	25 13.8 -44.5 115.1	24 33.3 -44.3 114.3	23 52.5 -44.0 113.5	23 11.5 -43.8 112.7	22 30.2 -43.5 111.9
1°	24 29.3 -44.7 115.8	23 49.0 -44.4 115.0	23 08.5 -44.2 114.2	22 27.7 -44.0 113.4	21 46.7 -43.8 112.6
2°	23 44.6 -44.9 116.6	23 04.6 -44.7 115.8	22 24.3 -44.4 115.0	21 43.7 -44.1 114.2	21 02.9 -43.9 113.4
3°	22 59.7 -45.1 117.3	22 19.9 -44.8 116.5	21 39.9 -44.6 115.7	20 59.6 -44.4 114.9	20 19.0 -44.1 114.1
4°	22 14.6 -45.3 118.0	21 35.1 -45.1 117.2	20 55.3 -44.8 116.4	20 15.2 -44.5 115.6	19 34.9 -44.3 114.8
5°	21 29.3 -45.5 118.7	20 50.0 -45.2 117.9	20 10.5 -45.0 117.1	19 30.7 -44.7 116.3	18 50.6 -44.5 115.5
6°	20 43.8 -45.6 119.4	20 04.8 -45.3 118.6	19 25.5 -45.1 117.8	18 46.0 -44.9 117.0	18 06.1 -44.6 116.3
7°	19 58.2 -45.8 120.1	19 19.5 -45.6 119.3	18 40.4 -45.2 118.5	18 01.1 -45.0 117.7	17 21.5 -44.7 117.0
8°	19 12.4 -45.9 120.8	18 33.9 -45.6 120.0	17 55.2 -45.4 119.2	17 16.1 -45.1 118.4	16 36.8 -44.9 117.7
9°	18 26.5 -46.1 121.5	17 48.3 -45.8 120.7	17 09.8 -45.6 119.9	16 31.0 -45.3 119.1	15 51.9 -45.1 118.3
10°	17 40.4 -46.3 122.1	17 02.5 -46.0 121.4	16 24.2 -45.7 120.6	15 45.7 -45.4 119.8	15 06.8 -45.1 119.0
11°	16 54.1 -46.3 122.8	16 16.5 -46.1 122.0	15 38.5 -45.8 121.2	15 00.3 -45.6 120.5	14 21.7 -45.3 119.7
12°	16 07.8 -46.5 123.5	15 30.4 -46.2 122.7	14 52.7 -45.9 121.9	14 14.7 -45.6 121.1	13 36.4 -45.3 120.4
13°	15 21.3 -46.6 124.1	14 44.2 -46.3 123.4	14 06.8 -46.0 122.6	13 29.1 -45.7 121.8	12 51.1 -45.5 121.1
14°	14 34.7 -46.7 124.8	13 57.9 -46.4 124.0	13 20.8 -46.1 123.2	12 43.4 -45.9 122.5	12 05.6 -45.6 121.7
15°	13 48.0 -46.8 125.4	13 11.5 -46.5 124.7	12 34.7 -46.2 123.9	11 57.5 -45.9 123.1	11 20.0 -45.6 122.4
16°	13 01.2 -46.9 126.1	12 25.0 -46.6 125.3	11 48.5 -46.3 124.6	11 11.6 -46.0 123.8	10 34.4 -45.8 123.1
17°	12 14.3 -46.9 126.7	11 38.4 -46.7 126.0	11 02.2 -46.4 125.2	10 25.6 -46.1 124.5	9 48.6 -45.8 123.7
18°	11 27.4 -47.1 127.4	10 51.7 -46.7 126.6	10 15.8 -46.5 125.8	9 39.5 -46.2 125.1	9 02.8 -45.9 124.4
19°	10 40.3 -47.1 128.0	10 05.0 -46.9 127.2	9 29.3 -46.5 126.5	8 53.3 -46.3 125.7	8 16.9 -45.9 125.0
20°	9 53.2 -47.2 128.6	9 18.1 -46.9 127.9	8 42.8 -46.6 127.1	8 07.0 -46.3 126.4	7 31.0 -46.0 125.7
21°	9 06.0 -47.3 129.2	8 31.2 -46.9 128.5	7 56.2 -46.7 127.8	7 20.7 -46.3 127.0	6 45.0 -46.1 126.3
22°	8 18.7 -47.4 129.9	7 44.3 -47.0 129.1	7 09.5 -46.7 128.4	6 34.4 -46.4 127.7	5 58.9 -46.1 127.0
23°	7 31.3 -47.3 130.5	6 57.3 -47.1 129.8	6 22.8 -46.8 129.0	5 48.0 -46.5 128.3	5 12.8 -46.1 127.6
24°	6 44.0 -47.5 131.1	6 10.2 -47.1 130.4	5 36.0 -46.8 129.7	5 01.5 -46.4 128.9	4 26.7 -46.2 128.2
25°	5 56.5 -47.4 131.7	5 23.1 -47.2 131.0	4 49.2 -46.8 130.3	4 15.1 -46.6 129.6	3 40.5 -46.2 128.9
26°	5 09.1 -47.5 132.3	4 35.9 -47.2 131.6	4 02.4 -46.9 130.9	3 28.5 -46.5 130.2	2 54.3 -46.2 129.5
27°	4 21.6 -47.6 132.9	3 48.7 -47.2 132.2	3 15.5 -46.8 131.5	2 42.0 -46.6 130.8	2 08.1 -46.2 130.2
28°	3 34.0 -47.5 133.6	3 01.5 -47.2 132.9	2 28.7 -46.9 132.2	1 55.4 -46.5 131.5	1 21.9 -46.3 130.8
29°	2 46.5 -47.6 134.2	2 14.3 -47.2 133.5	1 41.8 -46.9 132.8	1 08.9 -46.6 132.1	0 35.6 -46.2 131.4

Dec	LHA 060° / 300°	LHA 061° / 299°	LHA 062° / 298°	LHA 063° / 297°	LHA 064° / 296°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	21 48.8 -43.4 111.1	21 07.1 -43.2 110.4	20 25.1 -42.9 109.6	19 43.0 -42.7 108.8	19 00.7 -42.5 108.1
1°	21 05.4 -43.5 111.9	20 23.9 -43.3 111.1	19 42.2 -43.1 110.3	19 00.3 -42.9 109.6	18 18.2 -42.7 108.8
2°	20 21.9 -43.7 112.6	19 40.6 -43.5 111.8	18 59.1 -43.3 111.1	18 17.4 -43.1 110.3	17 35.5 -42.9 109.6
3°	19 38.2 -43.9 113.3	18 57.1 -43.7 112.6	18 15.8 -43.4 111.8	17 34.3 -43.2 111.0	16 52.6 -43.1 110.3
4°	18 54.3 -44.1 114.1	18 13.4 -43.8 113.3	17 32.4 -43.7 112.5	16 51.1 -43.4 111.8	16 09.5 -43.2 111.0
5°	18 10.2 -44.2 114.8	17 29.6 -44.0 114.0	16 48.7 -43.7 113.2	16 07.7 -43.6 112.5	15 26.3 -43.3 111.7
6°	17 26.0 -44.4 115.5	16 45.6 -44.1 114.7	16 05.0 -43.9 114.0	15 24.1 -43.7 113.2	14 43.0 -43.4 112.5
7°	16 41.6 -44.5 116.2	16 01.5 -44.3 115.4	15 21.1 -44.0 114.7	14 40.4 -43.8 113.9	13 59.6 -43.6 113.2
8°	15 57.1 -44.6 116.9	15 17.2 -44.4 116.1	14 37.1 -44.2 115.4	13 56.6 -43.9 114.6	13 16.0 -43.7 113.9
9°	15 12.5 -44.8 117.6	14 32.8 -44.5 116.8	13 52.9 -44.3 116.1	13 12.7 -44.0 115.3	12 32.3 -43.8 114.6
10°	14 27.7 -44.9 118.3	13 48.3 -44.6 117.5	13 08.6 -44.4 116.8	12 28.7 -44.2 116.0	11 48.5 -43.9 115.3
11°	13 42.8 -45.0 118.9	13 03.7 -44.8 118.2	12 24.2 -44.5 117.4	11 44.5 -44.2 116.7	11 04.6 -44.0 116.0
12°	12 57.8 -45.1 119.6	12 18.9 -44.8 118.9	11 39.7 -44.6 118.1	11 00.3 -44.4 117.4	10 20.6 -44.1 116.7
13°	12 12.7 -45.2 120.3	11 34.1 -45.0 119.6	10 55.1 -44.6 118.8	10 15.9 -44.4 118.1	9 36.5 -44.2 117.4
14°	11 27.5 -45.3 121.0	10 49.1 -45.0 120.2	10 10.5 -44.8 119.5	9 31.5 -44.5 118.8	8 52.3 -44.3 118.0
15°	10 42.2 -45.4 121.6	10 04.1 -45.1 120.9	9 25.7 -44.8 120.2	8 47.0 -44.6 119.4	8 08.0 -44.3 118.7
16°	9 56.8 -45.4 122.3	9 19.0 -45.2 121.6	8 40.9 -45.0 120.8	8 02.4 -44.6 120.1	7 23.7 -44.4 119.4
17°	9 11.4 -45.6 123.0	8 33.8 -45.2 122.2	7 55.9 -44.9 121.5	7 17.8 -44.7 120.8	6 39.3 -44.4 120.1
18°	8 25.8 -45.6 123.6	7 48.6 -45.4 122.9	7 11.0 -45.1 122.2	6 33.1 -44.8 121.5	5 54.9 -44.5 120.8
19°	7 40.2 -45.6 124.3	7 03.2 -45.3 123.6	6 25.9 -45.0 122.8	5 48.3 -44.8 122.1	5 10.4 -44.5 121.4
20°	6 54.6 -45.7 124.9	6 17.9 -45.4 124.2	5 40.9 -45.2 123.5	5 03.5 -44.8 122.8	4 25.9 -44.6 122.1
21°	6 08.9 -45.8 125.6	5 32.5 -45.5 124.9	4 55.7 -45.1 124.2	4 18.7 -44.9 123.5	3 41.3 -44.6 122.8
22°	5 23.1 -45.8 126.2	4 47.0 -45.5 125.5	4 10.6 -45.2 124.8	3 33.8 -44.9 124.1	2 56.7 -44.6 123.4
23°	4 37.3 -45.8 126.9	4 01.5 -45.5 126.2	3 25.4 -45.3 125.5	2 48.9 -44.9 124.8	2 12.1 -44.6 124.1
24°	3 51.5 -45.9 127.5	3 16.0 -45.6 126.8	2 40.1 -45.2 126.1	2 04.0 -45.0 125.5	1 27.5 -44.7 124.8
25°	3 05.6 -45.9 128.2	2 30.4 -45.6 127.5	1 54.9 -45.3 126.8	1 19.0 -44.9 126.1	0 42.8 -44.6 125.4
26°	2 19.7 -45.9 128.8	1 44.8 -45.5 128.1	1 09.6 -45.3 127.5	0 34.1 -45.0 126.8	-0 01.8 -44.7
27°	1 33.8 -45.9 129.5	0 59.3 -45.6 128.8	0 24.3 -45.2 128.1	-0 10.9 -45.0	-0 46.5 -44.6
28°	0 47.9 -45.9 130.1	0 13.7 -45.6 129.4	-0 20.9 -45.3	-0 55.9 -44.9	-1 31.1 -44.6
29°	0 02.0 -45.9 130.8	-0 31.9 -45.6	-1 06.2 -45.3	-1 40.8 -45.0	-2 15.7 -44.6

Dec	LHA 065° / 295°	LHA 066° / 294°	LHA 067° / 293°	LHA 068° / 292°	LHA 069° / 291°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	18 18.3 -42.4 107.3	17 35.6 -42.2 106.6	16 52.8 -42.0 105.9	16 09.8 -41.8 105.1	15 26.7 -41.7 104.4
1°	17 35.9 -42.5 108.1	16 53.4 -42.3 107.3	16 10.8 -42.2 106.6	15 28.0 -42.1 105.9	14 45.0 -41.9 105.1
2°	16 53.4 -42.7 108.8	16 11.1 -42.6 108.1	15 28.6 -42.4 107.3	14 45.9 -42.1 106.6	14 03.1 -42.0 105.9
3°	16 10.7 -42.9 109.5	15 28.5 -42.6 108.8	14 46.2 -42.4 108.1	14 03.8 -42.3 107.3	13 21.1 -42.1 106.6
4°	15 27.8 -43.0 110.3	14 45.9 -42.8 109.5	14 03.8 -42.6 108.8	13 21.5 -42.4 108.1	12 39.0 -42.2 107.4
5°	14 44.8 -43.1 111.0	14 03.1 -42.9 110.3	13 21.2 -42.8 109.5	12 39.1 -42.6 108.8	11 56.8 -42.4 108.1
6°	14 01.7 -43.2 111.7	13 20.2 -43.1 111.0	12 38.4 -42.8 110.2	11 56.5 -42.6 109.5	11 14.4 -42.5 108.8
7°	13 18.5 -43.4 112.4	12 37.1 -43.1 111.7	11 55.6 -43.0 111.0	11 13.9 -42.8 110.2	10 31.9 -42.5 109.5
8°	12 35.1 -43.5 113.1	11 54.0 -43.3 112.4	11 12.6 -43.0 111.7	10 31.1 -42.8 111.0	9 49.4 -42.7 110.2
9°	11 51.6 -43.6 113.8	11 10.7 -43.3 113.1	10 29.6 -43.2 112.4	9 48.3 -43.0 111.7	9 06.7 -42.7 111.0
10°	11 08.0 -43.6 114.5	10 27.4 -43.5 113.8	9 46.4 -43.2 113.1	9 05.3 -43.0 112.4	8 24.0 -42.8 111.7
11°	10 24.4 -43.8 115.2	9 43.9 -43.5 114.5	9 03.2 -43.3 113.8	8 22.3 -43.1 113.1	7 41.2 -42.9 112.4
12°	9 40.6 -43.9 115.9	9 00.4 -43.7 115.2	8 19.9 -43.4 114.5	7 39.2 -43.1 113.8	6 58.3 -42.9 113.1
13°	8 56.7 -43.9 116.6	8 16.7 -43.6 115.9	7 36.5 -43.4 115.2	6 56.1 -43.3 114.5	6 15.4 -43.0 113.8
14°	8 12.8 -44.0 117.3	7 33.1 -43.8 116.6	6 53.1 -43.5 115.9	6 12.8 -43.2 115.2	5 32.4 -43.1 114.5
15°	7 28.8 -44.1 118.0	6 49.3 -43.8 117.3	6 09.6 -43.6 116.6	5 29.6 -43.4 115.9	4 49.3 -43.1 115.2
16°	6 44.7 -44.1 118.7	6 05.5 -43.9 118.0	5 26.0 -43.6 117.3	4 46.2 -43.3 116.6	4 06.2 -43.1 115.9
17°	6 00.6 -44.1 119.4	5 21.6 -43.9 118.7	4 42.4 -43.7 118.0	4 02.9 -43.4 117.3	3 23.1 -43.1 116.6
18°	5 16.5 -44.3 120.0	4 37.7 -43.9 119.3	3 58.7 -43.7 118.6	3 19.5 -43.5 118.0	2 40.0 -43.2 117.3
19°	4 32.2 -44.2 120.7	3 53.8 -44.0 120.0	3 15.0 -43.7 119.3	2 36.0 -43.4 118.6	1 56.8 -43.2 118.0
20°	3 48.0 -44.3 121.4	3 09.8 -44.0 120.7	2 31.3 -43.7 120.0	1 52.6 -43.5 119.3	1 13.6 -43.2 118.7
21°	3 03.7 -44.3 122.1	2 25.8 -44.0 121.4	1 47.6 -43.8 120.7	1 09.1 -43.5 120.0	0 30.4 -43.2 119.4
22°	2 19.4 -44.3 122.8	1 41.8 -44.1 122.1	1 03.8 -43.7 121.4	0 25.6 -43.5 120.7	-0 12.8 -43.2
23°	1 35.1 -44.4 123.4	0 57.7 -44.0 122.7	0 20.1 -43.8 122.1	-0 17.9 -43.4	-0 56.0 -43.2
24°	0 50.7 -44.3 124.1	0 13.7 -44.1 123.4	-0 23.7 -43.8	-1 01.3 -43.5	-1 39.2 -43.2
25°	0 06.4 -44.4 124.8	-0 30.4 -44.0	-1 07.5 -43.7	-1 44.8 -43.5	-2 22.4 -43.2
26°	-0 38.0 -44.3	-1 14.4 -44.1	-1 51.2 -43.7	-2 28.3 -43.4	-3 05.6 -43.1
27°	-1 22.3 -44.4	-1 58.5 -44.0	-2 34.9 -43.8	-3 11.7 -43.4	-3 48.7 -43.1
28°	-2 06.7 -44.3	-2 42.5 -44.0	-3 18.7 -43.6	-3 55.1 -43.4	-4 31.8 -43.1
29°	-2 51.0 -44.3	-3 26.5 -44.0	-4 02.3 -43.7	-4 38.5 -43.3	-5 14.9 -43.0

Dec	LHA 070° / 290°	LHA 071° / 289°	LHA 072° / 288°	LHA 073° / 287°	LHA 074° / 286°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	14 43.5 -41.6 103.7	14 00.1 -41.5 103.0	13 16.6 -41.3 102.3	12 32.9 -41.2 101.6	11 49.2 -41.1 100.9
1°	14 01.9 -41.7 104.4	13 18.6 -41.5 103.7	12 35.3 -41.5 103.0	11 51.7 -41.3 102.3	11 08.1 -41.2 101.6
2°	13 20.2 -41.9 105.2	12 37.1 -41.7 104.5	11 53.8 -41.5 103.8	11 10.4 -41.4 103.0	10 26.9 -41.2 102.3
3°	12 38.3 -41.9 105.9	11 55.4 -41.8 105.2	11 12.3 -41.7 104.5	10 29.0 -41.5 103.8	9 45.7 -41.4 103.1
4°	11 56.4 -42.1 106.6	11 13.6 -42.0 105.9	10 30.6 -41.8 105.2	9 47.5 -41.6 104.5	9 04.3 -41.5 103.8
5°	11 14.3 -42.2 107.4	10 31.6 -42.0 106.7	9 48.8 -41.8 105.9	9 05.9 -41.7 105.2	8 22.8 -41.5 104.5
6°	10 32.1 -42.3 108.1	9 49.6 -42.1 107.4	9 07.0 -41.9 106.7	8 24.2 -41.8 106.0	7 41.3 -41.7 105.3
7°	9 49.8 -42.4 108.8	9 07.5 -42.2 108.1	8 25.1 -42.1 107.4	7 42.4 -41.8 106.7	6 59.6 -41.6 106.0
8°	9 07.4 -42.4 109.5	8 25.3 -42.2 108.8	7 43.0 -42.1 108.1	7 00.6 -41.9 107.4	6 18.0 -41.8 106.7
9°	8 25.0 -42.6 110.2	7 43.1 -42.4 109.5	7 00.9 -42.1 108.8	6 18.7 -42.0 108.1	5 36.2 -41.8 107.4
10°	7 42.4 -42.6 111.0	7 00.7 -42.4 110.3	6 18.8 -42.2 109.6	5 36.7 -42.0 108.9	4 54.4 -41.8 108.2
11°	6 59.8 -42.6 111.7	6 18.3 -42.5 111.0	5 36.6 -42.3 110.3	4 54.7 -42.1 109.6	4 12.6 -41.9 108.9
12°	6 17.2 -42.7 112.4	5 35.8 -42.5 111.7	4 54.3 -42.3 111.0	4 12.6 -42.1 110.3	3 30.7 -42.0 109.6
13°	5 34.5 -42.8 113.1	4 53.3 -42.5 112.4	4 12.0 -42.4 111.7	3 30.5 -42.2 111.0	2 48.7 -41.9 110.3
14°	4 51.7 -42.8 113.8	4 10.8 -42.6 113.1	3 29.6 -42.3 112.4	2 48.3 -42.1 111.7	2 06.8 -42.0 111.0
15°	4 08.9 -42.9 114.5	3 28.2 -42.7 113.8	2 47.3 -42.4 113.1	2 06.2 -42.2 112.4	1 24.8 -41.9 111.8
16°	3 26.0 -42.9 115.2	2 45.5 -42.6 114.5	2 04.9 -42.5 113.8	1 24.0 -42.2 113.1	0 42.9 -42.0 112.5
17°	2 43.1 -42.9 115.9	2 02.9 -42.7 115.2	1 22.4 -42.4 114.5	0 41.8 -42.3 113.9	0 00.9 -42.0 113.2
18°	2 00.2 -42.9 116.6	1 20.2 -42.7 115.9	0 40.0 -42.5 115.2	-0 00.5 -42.2	-0 41.1 -42.0
19°	1 17.3 -43.0 117.3	0 37.5 -42.7 116.6	-0 02.5 -42.4	-0 42.7 -42.2	-1 23.1 -42.0
20°	0 34.3 -42.9 118.0	-0 05.2 -42.7	-0 44.9 -42.4	-1 24.9 -42.2	-2 05.1 -41.9
21°	-0 08.6 -43.0	-0 47.9 -42.6	-1 27.3 -42.5	-2 07.1 -42.1	-2 47.0 -41.9
22°	-0 51.6 -42.9	-1 30.5 -42.7	-2 09.8 -42.4	-2 49.2 -42.2	-3 28.9 -41.9
23°	-1 34.5 -42.9	-2 13.2 -42.7	-2 52.2 -42.3	-3 31.4 -42.1	-4 10.8 -41.9
24°	-2 17.4 -42.9	-2 55.9 -42.6	-3 34.5 -42.4	-4 13.5 -42.1	-4 52.7 -41.8
25°	-3 00.3 -42.9	-3 38.5 -42.6	-4 16.9 -42.3	-4 55.6 -42.0	-5 34.5 -41.7
26°	-3 43.2 -42.8	-4 21.1 -42.5	-4 59.2 -42.3	-5 37.6 -42.0	-6 16.2 -41.7
27°	-4 26.0 -42.8	-5 03.6 -42.5	-5 41.5 -42.2	-6 19.6 -41.9	-6 57.9 -41.6
28°	-5 08.8 -42.8	-5 46.1 -42.5	-6 23.7 -42.1	-7 01.5 -41.8	-7 39.5 -41.6
29°	-5 51.6 -42.7	-6 28.6 -42.4	-7 05.8 -42.1	-7 43.3 -41.8	-8 21.1 -41.5

Dec	LHA 075° / 285°	LHA 076° / 284°	LHA 077° / 283°	LHA 078° / 282°	LHA 079° / 281°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	11 05.4 -41.0 100.2	10 21.4 -40.8 99.5	9 37.4 -40.8 98.8	8 53.3 -40.7 98.1	8 09.1 -40.6 97.4
1°	10 24.4 -41.1 100.9	9 40.6 -41.0 100.2	8 56.6 -40.8 99.5	8 12.6 -40.7 98.8	7 28.5 -40.7 98.2
2°	9 43.3 -41.1 101.6	8 59.6 -41.0 101.0	8 15.8 -41.0 100.3	7 31.9 -40.9 99.6	6 47.8 -40.7 98.9
3°	9 02.2 -41.3 102.4	8 18.6 -41.2 101.7	7 34.8 -41.0 101.0	6 51.0 -40.9 100.3	6 07.1 -40.8 99.6
4°	8 20.9 -41.3 103.1	7 37.4 -41.2 102.4	6 53.8 -41.0 101.7	6 10.1 -40.9 101.1	5 26.3 -40.8 100.4
5°	7 39.6 -41.4 103.9	6 56.2 -41.2 103.2	6 12.8 -41.2 102.5	5 29.2 -41.1 101.8	4 45.5 -40.9 101.1
6°	6 58.2 -41.5 104.6	6 15.0 -41.4 103.9	5 31.6 -41.2 103.2	4 48.1 -41.0 102.5	4 04.6 -41.0 101.8
7°	6 16.7 -41.5 105.3	5 33.6 -41.4 104.6	4 50.4 -41.2 103.9	4 07.1 -41.1 103.3	3 23.6 -41.0 102.6
8°	5 35.2 -41.6 106.0	4 52.2 -41.4 105.3	4 09.2 -41.3 104.7	3 26.0 -41.2 104.0	2 42.6 -41.0 103.3
9°	4 53.6 -41.6 106.8	4 10.8 -41.5 106.1	3 27.9 -41.3 105.4	2 44.8 -41.1 104.7	2 01.6 -41.0 104.0
10°	4 12.0 -41.7 107.5	3 29.3 -41.5 106.8	2 46.6 -41.4 106.1	2 03.7 -41.2 105.4	1 20.6 -41.0 104.8
11°	3 30.3 -41.7 108.2	2 47.8 -41.5 107.5	2 05.2 -41.3 106.8	1 22.5 -41.2 106.2	0 39.6 -41.0 105.5
12°	2 48.6 -41.8 108.9	2 06.3 -41.5 108.2	1 23.9 -41.4 107.6	0 41.3 -41.2 106.9	-0 01.4 -41.1
13°	2 06.8 -41.7 109.6	1 24.8 -41.6 109.0	0 42.5 -41.4 108.3	0 00.1 -41.2 107.6	-0 42.5 -41.0
14°	1 25.1 -41.8 110.4	0 43.2 -41.6 109.7	0 01.1 -41.4 109.0	-0 41.1 -41.2	-1 23.5 -41.0
15°	0 43.3 -41.7 111.1	0 01.6 -41.5 110.4	-0 40.3 -41.3	-1 22.3 -41.2	-2 04.5 -41.0
16°	0 01.6 -41.8 111.8	-0 39.9 -41.6	-1 21.6 -41.4	-2 03.5 -41.2	-2 45.5 -41.0
17°	-0 40.2 -41.8	-1 21.5 -41.6	-2 03.0 -41.3	-2 44.7 -41.1	-3 26.5 -40.9
18°	-1 22.0 -41.7	-2 03.1 -41.5	-2 44.3 -41.3	-3 25.8 -41.1	-4 07.4 -40.9
19°	-2 03.7 -41.8	-2 44.6 -41.5	-3 25.6 -41.3	-4 06.9 -41.1	-4 48.3 -40.9
20°	-2 45.5 -41.7	-3 26.1 -41.5	-4 06.9 -41.3	-4 48.0 -41.0	-5 29.2 -40.8
21°	-3 27.2 -41.7	-4 07.6 -41.4	-4 48.2 -41.2	-5 29.0 -40.9	-6 10.0 -40.7
22°	-4 08.9 -41.6	-4 49.0 -41.4	-5 29.4 -41.1	-6 09.9 -40.9	-6 50.7 -40.7
23°	-4 50.5 -41.6	-5 30.4 -41.3	-6 10.5 -41.1	-6 50.8 -40.9	-7 31.4 -40.6
24°	-5 32.1 -41.5	-6 11.7 -41.3	-6 51.6 -41.0	-7 31.7 -40.7	-8 12.0 -40.5
25°	-6 13.6 -41.5	-6 53.0 -41.2	-7 32.6 -40.9	-8 12.4 -40.7	-8 52.5 -40.4
26°	-6 55.1 -41.4	-7 34.2 -41.1	-8 13.5 -40.9	-8 53.1 -40.6	-9 32.9 -40.3
27°	-7 36.5 -41.3	-8 15.3 -41.1	-8 54.4 -40.8	-9 33.7 -40.5	
28°	-8 17.8 -41.3	-8 56.4 -41.0	-9 35.2 -40.7		
29°	-8 59.1 -41.2	-9 37.4 -40.8			

Dec	LHA 080° / 280°	LHA 081° / 279°	LHA 082° / 278°	LHA 083° / 277°	LHA 084° / 276°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	7 24.9 -40.6 96.7	6 40.6 -40.5 96.0	5 56.2 -40.4 95.4	5 11.8 -40.4 94.7	4 27.3 -40.3 94.0
1°	6 44.3 -40.5 97.5	6 00.1 -40.5 96.8	5 15.8 -40.5 96.1	4 31.4 -40.4 95.4	3 47.0 -40.3 94.8
2°	6 03.8 -40.7 98.2	5 19.6 -40.6 97.5	4 35.3 -40.4 96.9	3 51.0 -40.4 96.2	3 06.7 -40.4 95.5
3°	5 23.1 -40.7 99.0	4 39.0 -40.6 98.3	3 54.9 -40.6 97.6	3 10.6 -40.4 96.9	2 26.3 -40.4 96.2
4°	4 42.4 -40.7 99.7	3 58.4 -40.6 99.0	3 14.3 -40.5 98.3	2 30.2 -40.5 97.7	1 45.9 -40.4 97.0
5°	4 01.7 -40.8 100.4	3 17.8 -40.7 99.7	2 33.8 -40.6 99.1	1 49.7 -40.5 98.4	1 05.5 -40.4 97.7
6°	3 20.9 -40.9 101.2	2 37.1 -40.7 100.5	1 53.2 -40.6 99.8	1 09.2 -40.5 99.1	0 25.1 -40.4 98.5
7°	2 40.0 -40.8 101.9	1 56.4 -40.8 101.2	1 12.6 -40.6 100.5	0 28.7 -40.5 99.9	-0 15.3 -40.4
8°	1 59.2 -40.9 102.6	1 15.6 -40.7 102.0	0 32.0 -40.7 101.3	-0 11.8 -40.5	-0 55.7 -40.4
9°	1 18.3 -40.9 103.4	0 34.9 -40.8 102.7	-0 08.7 -40.6	-0 52.3 -40.5	-1 36.1 -40.4
10°	0 37.4 -40.8 104.1	-0 05.9 -40.7	-0 49.3 -40.6	-1 32.8 -40.5	-2 16.5 -40.4
11°	-0 03.4 -40.9	-0 46.6 -40.8	-1 29.9 -40.6	-2 13.3 -40.5	-2 56.9 -40.3
12°	-0 44.3 -40.9	-1 27.4 -40.7	-2 10.5 -40.6	-2 53.8 -40.4	-3 37.2 -40.3
13°	-1 25.2 -40.9	-2 08.1 -40.7	-2 51.1 -40.5	-3 34.2 -40.4	-4 17.5 -40.3
14°	-2 06.1 -40.8	-2 48.8 -40.7	-3 31.6 -40.6	-4 14.6 -40.4	-4 57.8 -40.2
15°	-2 46.9 -40.8	-3 29.5 -40.6	-4 12.2 -40.4	-4 55.0 -40.3	-5 38.0 -40.1
16°	-3 27.7 -40.8	-4 10.1 -40.6	-4 52.6 -40.4	-5 35.3 -40.2	-6 18.1 -40.1
17°	-4 08.5 -40.8	-4 50.7 -40.6	-5 33.0 -40.4	-6 15.5 -40.2	-6 58.2 -40.0
18°	-4 49.3 -40.7	-5 31.3 -40.5	-6 13.4 -40.3	-6 55.7 -40.2	-7 38.2 -40.0
19°	-5 30.0 -40.6	-6 11.8 -40.4	-6 53.7 -40.3	-7 35.9 -40.0	-8 18.2 -39.8
20°	-6 10.6 -40.6	-6 52.2 -40.4	-7 34.0 -40.1	-8 15.9 -40.0	-8 58.0 -39.8
21°	-6 51.2 -40.5	-7 32.6 -40.2	-8 14.1 -40.1	-8 55.9 -39.8	-9 37.8 -39.6
22°	-7 31.7 -40.4	-8 12.8 -40.3	-8 54.2 -40.0	-9 35.7 -39.8	
23°	-8 12.1 -40.4	-8 53.1 -40.1	-9 34.2 -39.9		
24°	-8 52.5 -40.2	-9 33.2 -40.0			
25°	-9 32.7 -40.2				
26°					
27°					
28°					
29°					

Dec	LHA 085° / 275°	LHA 086° / 274°	LHA 087° / 273°	LHA 088° / 272°	LHA 089° / 271°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	3 42.8 -40.2 93.4	2 58.3 -40.2 92.7	2 13.7 -40.1 92.0	1 29.2 -40.2 91.3	0 44.6 -40.2 90.7
1°	3 02.6 -40.3 94.1	2 18.1 -40.3 93.4	1 33.6 -40.3 92.8	0 49.0 -40.2 92.1	0 04.4 -40.1 91.4
2°	2 22.3 -40.3 94.8	1 37.8 -40.2 94.2	0 53.3 -40.2 93.5	0 08.8 -40.2 92.8	-0 35.7 -40.2
3°	1 42.0 -40.3 95.6	0 57.6 -40.3 94.9	0 13.1 -40.2 94.2	-0 31.4 -40.1	-1 15.9 -40.1
4°	1 01.7 -40.4 96.3	0 17.3 -40.3 95.6	-0 27.1 -40.2	-1 11.5 -40.2	-1 56.0 -40.1
5°	0 21.3 -40.3 97.1	-0 23.0 -40.2	-1 07.3 -40.2	-1 51.7 -40.1	-2 36.1 -40.1
6°	-0 19.0 -40.3	-1 03.2 -40.3	-1 47.5 -40.2	-2 31.8 -40.1	-3 16.2 -40.1
7°	-0 59.3 -40.4	-1 43.5 -40.2	-2 27.7 -40.1	-3 11.9 -40.1	-3 56.3 -40.0
8°	-1 39.7 -40.3	-2 23.7 -40.2	-3 07.8 -40.2	-3 52.0 -40.1	-4 36.3 -40.0
9°	-2 20.0 -40.2	-3 03.9 -40.2	-3 48.0 -40.0	-4 32.1 -40.0	-5 16.3 -39.9
10°	-3 00.2 -40.3	-3 44.1 -40.1	-4 28.0 -40.1	-5 12.1 -39.9	-5 56.2 -39.8
11°	-3 40.5 -40.2	-4 24.2 -40.1	-5 08.1 -40.0	-5 52.0 -39.9	-6 36.0 -39.8
12°	-4 20.7 -40.2	-5 04.3 -40.1	-5 48.1 -39.9	-6 31.9 -39.8	-7 15.8 -39.7
13°	-5 00.9 -40.1	-5 44.4 -40.0	-6 28.0 -39.9	-7 11.7 -39.8	-7 55.5 -39.7
14°	-5 41.0 -40.1	-6 24.4 -39.9	-7 07.9 -39.8	-7 51.5 -39.6	-8 35.2 -39.5
15°	-6 21.1 -40.0	-7 04.3 -39.9	-7 47.7 -39.7	-8 31.1 -39.6	-9 14.7 -39.4
16°	-7 01.1 -39.9	-7 44.2 -39.7	-8 27.4 -39.6	-9 10.7 -39.5	-9 54.1 -39.4
17°	-7 41.0 -39.8	-8 23.9 -39.7	-9 07.0 -39.5	-9 50.2 -39.3	
18°	-8 20.8 -39.8	-9 03.6 -39.6	-9 46.5 -39.4		
19°	-9 00.6 -39.7	-9 43.2 -39.5			
20°	-9 40.3 -39.5				
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 090° / 270°	LHA 091° / 269°	LHA 092° / 268°	LHA 093° / 267°	LHA 094° / 266°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	0 00.0 -40.1 90.0	-0 44.6 -40.1			
1°	-0 40.1 -40.2	-1 24.7 -40.2			
2°	-1 20.3 -40.1	-2 04.9 -40.1			
3°	-2 00.4 -40.1	-2 45.0 -40.1			
4°	-2 40.5 -40.1	-3 25.1 -40.0			
5°	-3 20.6 -40.0	-4 05.1 -40.0			
6°	-4 00.6 -40.0	-4 45.1 -40.0			
7°	-4 40.6 -40.0	-5 25.1 -39.9			
8°	-5 20.6 -39.9	-6 05.0 -39.8			
9°	-6 00.5 -39.8	-6 44.8 -39.8			
10°	-6 40.3 -39.8	-7 24.6 -39.7			
11°	-7 20.1 -39.7	-8 04.3 -39.6			
12°	-7 59.8 -39.6	-8 43.9 -39.5			
13°	-8 39.4 -39.6	-9 23.4 -39.4			
14°	-9 19.0 -39.4				
15°	-9 58.4 -39.3				
16°					
17°					
18°					
19°					
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 095° / 265°	LHA 096° / 264°	LHA 097° / 263°	LHA 098° / 262°	LHA 099° / 261°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°					
1°					
2°					
3°					
4°					
5°					
6°					
7°					
8°					
9°					
10°					
11°					
12°					
13°					
14°					
15°					
16°					
17°					
18°					
19°					
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 000° / 360°	LHA 001° / 359°	LHA 002° / 358°	LHA 003° / 357°	LHA 004° / 356°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	47 00.0 -60.0 180.0	46 59.4 -60.0 178.5	46 57.8 -60.0 177.1	46 55.0 -60.0 175.6	46 51.0 -59.8 174.1
1°	46 00.0 -60.0 180.0	45 59.4 -59.9 178.6	45 57.8 -60.0 177.1	45 55.0 -59.9 175.7	45 51.2 -59.8 174.3
2°	45 00.0 -60.0 180.0	44 59.5 -60.0 178.6	44 57.8 -59.9 177.2	44 55.1 -59.9 175.8	44 51.4 -59.9 174.4
3°	44 00.0 -60.0 180.0	43 59.5 -60.0 178.6	43 57.9 -60.0 177.2	43 55.2 -59.9 175.8	43 51.5 -59.8 174.5
4°	43 00.0 -60.0 180.0	42 59.5 -60.0 178.6	42 57.9 -60.0 177.3	42 55.3 -59.9 175.9	42 51.7 -59.9 174.6
5°	42 00.0 -60.0 180.0	41 59.5 -60.0 178.7	41 57.9 -59.9 177.3	41 55.4 -59.9 176.0	41 51.8 -59.9 174.6
6°	41 00.0 -60.0 180.0	40 59.5 -60.0 178.7	40 58.0 -60.0 177.4	40 55.5 -60.0 176.0	40 51.9 -59.8 174.7
7°	40 00.0 -60.0 180.0	39 59.5 -60.0 178.7	39 58.0 -60.0 177.4	39 55.5 -59.9 176.1	39 52.1 -59.9 174.8
8°	39 00.0 -60.0 180.0	38 59.5 -60.0 178.7	38 58.0 -59.9 177.5	38 55.6 -59.9 176.2	38 52.2 -59.9 174.9
9°	38 00.0 -60.0 180.0	37 59.5 -60.0 178.7	37 58.1 -60.0 177.5	37 55.7 -59.9 176.2	37 52.3 -59.8 175.0
10°	37 00.0 -60.0 180.0	36 59.5 -60.0 178.8	36 58.1 -60.0 177.5	36 55.8 -60.0 176.3	36 52.5 -59.9 175.1
11°	36 00.0 -60.0 180.0	35 59.5 -60.0 178.8	35 58.1 -59.9 177.6	35 55.8 -59.9 176.4	35 52.6 -59.9 175.2
12°	35 00.0 -60.0 180.0	34 59.5 -60.0 178.8	34 58.2 -60.0 177.6	34 55.9 -59.9 176.4	34 52.7 -59.9 175.2
13°	34 00.0 -60.0 180.0	33 59.5 -59.9 178.8	33 58.2 -60.0 177.7	33 56.0 -60.0 176.5	33 52.8 -59.9 175.3
14°	33 00.0 -60.0 180.0	32 59.6 -60.0 178.8	32 58.2 -59.9 177.7	32 56.0 -59.9 176.5	32 52.9 -59.9 175.4
15°	32 00.0 -60.0 180.0	31 59.6 -60.0 178.9	31 58.3 -60.0 177.7	31 56.1 -60.0 176.6	31 53.0 -59.9 175.4
16°	31 00.0 -60.0 180.0	30 59.6 -60.0 178.9	30 58.3 -60.0 177.8	30 56.1 -59.9 176.6	30 53.1 -59.9 175.5
17°	30 00.0 -60.0 180.0	29 59.6 -60.0 178.9	29 58.3 -60.0 177.8	29 56.2 -59.9 176.7	29 53.2 -59.9 175.6
18°	29 00.0 -60.0 180.0	28 59.6 -60.0 178.9	28 58.3 -59.9 177.8	28 56.3 -60.0 176.7	28 53.3 -59.9 175.7
19°	28 00.0 -60.0 180.0	27 59.6 -60.0 178.9	27 58.4 -60.0 177.9	27 56.3 -59.9 176.8	27 53.4 -59.9 175.7
20°	27 00.0 -60.0 180.0	26 59.6 -60.0 178.9	26 58.4 -60.0 177.9	26 56.4 -60.0 176.8	26 53.5 -59.9 175.8
21°	26 00.0 -60.0 180.0	25 59.6 -60.0 179.0	25 58.4 -60.0 177.9	25 56.4 -59.9 176.9	25 53.6 -59.9 175.8
22°	25 00.0 -60.0 180.0	24 59.6 -60.0 179.0	24 58.4 -59.9 178.0	24 56.5 -60.0 176.9	24 53.7 -59.9 175.9
23°	24 00.0 -60.0 180.0	23 59.6 -60.0 179.0	23 58.5 -60.0 178.0	23 56.5 -59.9 177.0	23 53.8 -59.9 176.0
24°	23 00.0 -60.0 180.0	22 59.6 -60.0 179.0	22 58.5 -60.0 178.0	22 56.6 -60.0 177.0	22 53.9 -59.9 176.0
25°	22 00.0 -60.0 180.0	21 59.6 -60.0 179.0	21 58.5 -60.0 178.0	21 56.6 -59.9 177.1	21 54.0 -59.9 176.1
26°	21 00.0 -60.0 180.0	20 59.6 -60.0 179.0	20 58.5 -60.0 178.1	20 56.7 -60.0 177.1	20 54.1 -59.9 176.2
27°	20 00.0 -60.0 180.0	19 59.6 -60.0 179.1	19 58.5 -59.9 178.1	19 56.7 -59.9 177.2	19 54.2 -59.9 176.2
28°	19 00.0 -60.0 180.0	18 59.6 -60.0 179.1	18 58.6 -60.0 178.1	18 56.8 -60.0 177.2	18 54.3 -59.9 176.3
29°	18 00.0 -60.0 180.0	17 59.6 -59.9 179.1	17 58.6 -60.0 178.2	17 56.8 -59.9 177.2	17 54.4 -59.9 176.3

Dec	LHA 005° / 355°	LHA 006° / 354°	LHA 007° / 353°	LHA 008° / 352°	LHA 009° / 351°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	46 46.0 -59.7 172.7	46 39.9 -59.7 171.2	46 32.6 -59.5 169.8	46 24.3 -59.3 168.4	46 14.9 -59.2 166.9
1°	45 46.3 -59.8 172.8	45 40.2 -59.6 171.4	45 33.1 -59.5 170.0	45 25.0 -59.4 168.6	45 15.7 -59.2 167.2
2°	44 46.5 -59.8 173.0	44 40.6 -59.7 171.6	44 33.6 -59.5 170.2	44 25.6 -59.4 168.8	44 16.5 -59.2 167.4
3°	43 46.7 -59.7 173.1	43 40.9 -59.6 171.7	43 34.1 -59.6 170.3	43 26.2 -59.4 169.0	43 17.3 -59.3 167.6
4°	42 47.0 -59.8 173.2	42 41.3 -59.7 171.8	42 34.5 -59.5 170.5	42 26.8 -59.5 169.2	42 18.0 -59.3 167.8
5°	41 47.2 -59.8 173.3	41 41.6 -59.7 172.0	41 35.0 -59.6 170.7	41 27.3 -59.4 169.3	41 18.7 -59.3 168.0
6°	40 47.4 -59.8 173.4	40 41.9 -59.7 172.1	40 35.4 -59.6 170.8	40 27.9 -59.5 169.5	40 19.4 -59.3 168.2
7°	39 47.6 -59.8 173.5	39 42.2 -59.7 172.3	39 35.8 -59.6 171.0	39 28.4 -59.5 169.7	39 20.1 -59.4 168.4
8°	38 47.8 -59.8 173.6	38 42.5 -59.7 172.4	38 36.2 -59.6 171.1	38 28.9 -59.5 169.9	38 20.7 -59.3 168.6
9°	37 48.0 -59.8 173.7	37 42.8 -59.8 172.5	37 36.6 -59.7 171.3	37 29.4 -59.5 170.0	37 21.4 -59.4 168.8
10°	36 48.2 -59.8 173.8	36 43.0 -59.7 172.6	36 36.9 -59.6 171.4	36 29.9 -59.5 170.2	36 22.0 -59.4 169.0
11°	35 48.4 -59.8 173.9	35 43.3 -59.7 172.7	35 37.3 -59.6 171.5	35 30.4 -59.5 170.3	35 22.6 -59.4 169.1
12°	34 48.6 -59.8 174.0	34 43.6 -59.8 172.9	34 37.7 -59.7 171.7	34 30.9 -59.6 170.5	34 23.2 -59.5 169.3
13°	33 48.8 -59.9 174.1	33 43.8 -59.7 173.0	33 38.0 -59.6 171.8	33 31.3 -59.5 170.6	33 23.7 -59.4 169.5
14°	32 48.9 -59.8 174.2	32 44.1 -59.8 173.1	32 38.4 -59.7 171.9	32 31.8 -59.6 170.8	32 24.3 -59.4 169.6
15°	31 49.1 -59.8 174.3	31 44.3 -59.7 173.2	31 38.7 -59.7 172.1	31 32.2 -59.6 170.9	31 24.9 -59.5 169.8
16°	30 49.3 -59.9 174.4	30 44.6 -59.8 173.3	30 39.0 -59.7 172.2	30 32.6 -59.6 171.1	30 25.4 -59.5 170.0
17°	29 49.4 -59.8 174.5	29 44.8 -59.8 173.4	29 39.3 -59.6 172.3	29 33.0 -59.5 171.2	29 25.9 -59.5 170.1
18°	28 49.6 -59.8 174.6	28 45.0 -59.7 173.5	28 39.7 -59.7 172.4	28 33.5 -59.6 171.3	28 26.4 -59.5 170.3
19°	27 49.8 -59.9 174.7	27 45.3 -59.8 173.6	27 40.0 -59.7 172.5	27 33.9 -59.7 171.5	27 26.9 -59.5 170.4
20°	26 49.9 -59.8 174.7	26 45.5 -59.8 173.7	26 40.3 -59.7 172.6	26 34.2 -59.6 171.6	26 27.4 -59.5 170.5
21°	25 50.1 -59.9 174.8	25 45.7 -59.8 173.8	25 40.6 -59.7 172.7	25 34.6 -59.6 171.7	25 27.9 -59.5 170.7
22°	24 50.2 -59.8 174.9	24 45.9 -59.8 173.9	24 40.9 -59.8 172.9	24 35.0 -59.6 171.8	24 28.4 -59.5 170.8
23°	23 50.4 -59.9 175.0	23 46.1 -59.8 174.0	23 41.1 -59.7 173.0	23 35.4 -59.6 172.0	23 28.9 -59.6 171.0
24°	22 50.5 -59.8 175.0	22 46.3 -59.8 174.1	22 41.4 -59.7 173.1	22 35.8 -59.7 172.1	22 29.3 -59.5 171.1
25°	21 50.7 -59.9 175.1	21 46.5 -59.8 174.1	21 41.7 -59.7 173.2	21 36.1 -59.6 172.2	21 29.8 -59.6 171.2
26°	20 50.8 -59.9 175.2	20 46.7 -59.8 174.2	20 42.0 -59.8 173.3	20 36.5 -59.7 172.3	20 30.2 -59.5 171.4
27°	19 50.9 -59.8 175.3	19 46.9 -59.8 174.3	19 42.2 -59.7 173.4	19 36.8 -59.6 172.4	19 30.7 -59.6 171.5
28°	18 51.1 -59.9 175.3	18 47.1 -59.8 174.4	18 42.5 -59.7 173.5	18 37.2 -59.7 172.5	18 31.1 -59.5 171.6
29°	17 51.2 -59.9 175.4	17 47.3 -59.8 174.5	17 42.8 -59.8 173.6	17 37.5 -59.6 172.7	17 31.6 -59.6 171.8

Dec	LHA 010° / 350°	LHA 011° / 349°	LHA 012° / 348°	LHA 013° / 347°	LHA 014° / 346°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	46 04.5 -59.0 165.5	45 53.0 -58.8 164.1	45 40.4 -58.6 162.7	45 26.9 -58.4 161.3	45 12.3 -58.1 159.9
1°	45 05.5 -59.1 165.8	44 54.2 -58.9 164.4	44 41.8 -58.6 163.0	44 28.5 -58.4 161.6	44 14.2 -58.2 160.3
2°	44 06.4 -59.0 166.0	43 55.3 -58.9 164.6	43 43.2 -58.7 163.3	43 30.1 -58.5 161.9	43 16.0 -58.2 160.6
3°	43 07.4 -59.1 166.3	42 56.4 -58.9 164.9	42 44.5 -58.7 163.6	42 31.6 -58.5 162.3	42 17.8 -58.3 160.9
4°	42 08.3 -59.2 166.5	41 57.5 -58.9 165.2	41 45.8 -58.8 163.9	41 33.1 -58.5 162.6	41 19.5 -58.3 161.3
5°	41 09.1 -59.1 166.7	40 58.6 -59.0 165.4	40 47.0 -58.8 164.1	40 34.6 -58.6 162.8	40 21.2 -58.4 161.6
6°	40 10.0 -59.2 166.9	39 59.6 -59.0 165.7	39 48.2 -58.8 164.4	39 36.0 -58.7 163.1	39 22.8 -58.5 161.9
7°	39 10.8 -59.2 167.2	39 00.6 -59.1 165.9	38 49.4 -58.8 164.6	38 37.3 -58.6 163.4	38 24.3 -58.4 162.2
8°	38 11.6 -59.2 167.4	38 01.5 -59.0 166.1	37 50.6 -58.9 164.9	37 38.7 -58.7 163.7	37 25.9 -58.5 162.4
9°	37 12.4 -59.3 167.6	37 02.5 -59.1 166.3	36 51.7 -59.0 165.1	36 40.0 -58.8 163.9	36 27.4 -58.6 162.7
10°	36 13.1 -59.2 167.8	36 03.4 -59.1 166.6	35 52.7 -58.9 165.4	35 41.2 -58.8 164.2	35 28.8 -58.6 163.0
11°	35 13.9 -59.3 168.0	35 04.3 -59.2 166.8	34 53.8 -59.0 165.6	34 42.4 -58.8 164.4	34 30.2 -58.6 163.3
12°	34 14.6 -59.3 168.1	34 05.1 -59.1 167.0	33 54.8 -59.0 165.8	33 43.6 -58.8 164.7	33 31.6 -58.6 163.5
13°	33 15.3 -59.3 168.3	33 06.0 -59.2 167.2	32 55.8 -59.0 166.0	32 44.8 -58.8 164.9	32 33.0 -58.7 163.8
14°	32 16.0 -59.3 168.5	32 06.8 -59.2 167.4	31 56.8 -59.0 166.2	31 46.0 -58.9 165.1	31 34.3 -58.7 164.0
15°	31 16.7 -59.4 168.7	31 07.6 -59.2 167.6	30 57.8 -59.1 166.5	30 47.1 -58.9 165.3	30 35.6 -58.8 164.2
16°	30 17.3 -59.3 168.9	30 08.4 -59.2 167.8	29 58.7 -59.1 166.7	29 48.2 -58.9 165.6	29 36.8 -58.7 164.5
17°	29 18.0 -59.4 169.0	29 09.2 -59.2 167.9	28 59.6 -59.1 166.9	28 49.3 -59.0 165.8	28 38.1 -58.8 164.7
18°	28 18.6 -59.4 169.2	28 10.0 -59.3 168.1	28 00.5 -59.1 167.1	27 50.3 -58.9 166.0	27 39.3 -58.8 164.9
19°	27 19.2 -59.4 169.4	27 10.7 -59.2 168.3	27 01.4 -59.1 167.3	26 51.4 -59.0 166.2	26 40.5 -58.8 165.2
20°	26 19.8 -59.4 169.5	26 11.5 -59.3 168.5	26 02.3 -59.1 167.4	25 52.4 -59.0 166.4	25 41.7 -58.9 165.4
21°	25 20.4 -59.4 169.7	25 12.2 -59.3 168.6	25 03.2 -59.2 167.6	24 53.4 -59.0 166.6	24 42.8 -58.8 165.6
22°	24 21.0 -59.4 169.8	24 12.9 -59.3 168.8	24 04.0 -59.2 167.8	23 54.4 -59.1 166.8	23 44.0 -58.9 165.8
23°	23 21.6 -59.4 170.0	23 13.6 -59.3 169.0	23 04.8 -59.1 168.0	22 55.3 -59.0 167.0	22 45.1 -58.9 166.0
24°	22 22.2 -59.5 170.1	22 14.3 -59.3 169.1	22 05.7 -59.2 168.2	21 56.3 -59.1 167.2	21 46.2 -58.9 166.2
25°	21 22.7 -59.4 170.3	21 15.0 -59.4 169.3	21 06.5 -59.2 168.3	20 57.2 -59.0 167.4	20 47.3 -58.9 166.4
26°	20 23.3 -59.4 170.4	20 15.6 -59.3 169.5	20 07.3 -59.3 168.5	19 58.2 -59.1 167.6	19 48.4 -59.0 166.6
27°	19 23.9 -59.5 170.6	19 16.3 -59.3 169.6	19 08.0 -59.2 168.7	18 59.1 -59.1 167.8	18 49.4 -58.9 166.8
28°	18 24.4 -59.4 170.7	18 17.0 -59.4 169.8	18 08.8 -59.2 168.9	18 00.0 -59.1 167.9	17 50.5 -59.0 167.0
29°	17 24.9 -59.5 170.8	17 17.6 -59.4 169.9	17 09.6 -59.2 169.0	17 00.9 -59.1 168.1	16 51.5 -58.9 167.2

Dec	LHA 015° / 345°	LHA 016° / 344°	LHA 017° / 343°	LHA 018° / 342°	LHA 019° / 341°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	44 56.7 -57.8 158.6	44 40.2 -57.6 157.2	44 22.7 -57.3 155.9	44 04.3 -57.0 154.5	43 45.0 -56.7 153.2
1°	43 58.9 -57.9 158.9	43 42.6 -57.6 157.6	43 25.4 -57.4 156.3	43 07.3 -57.1 155.0	42 48.3 -56.8 153.7
2°	43 01.0 -58.0 159.3	42 45.0 -57.8 158.0	42 28.0 -57.4 156.7	42 10.2 -57.2 155.4	41 51.5 -56.9 154.1
3°	42 03.0 -58.1 159.6	41 47.2 -57.8 158.3	41 30.6 -57.6 157.1	41 13.0 -57.2 155.8	40 54.6 -57.0 154.5
4°	41 04.9 -58.1 160.0	40 49.4 -57.8 158.7	40 33.0 -57.6 157.4	40 15.8 -57.4 156.2	39 57.6 -57.1 154.9
5°	40 06.8 -58.1 160.3	39 51.6 -58.0 159.0	39 35.4 -57.6 157.8	39 18.4 -57.4 156.6	39 00.5 -57.1 155.3
6°	39 08.7 -58.3 160.6	38 53.6 -57.9 159.4	38 37.8 -57.8 158.1	38 21.0 -57.5 156.9	38 03.4 -57.3 155.7
7°	38 10.4 -58.2 160.9	37 55.7 -58.1 159.7	37 40.0 -57.8 158.5	37 23.5 -57.6 157.3	37 06.1 -57.3 156.1
8°	37 12.2 -58.3 161.2	36 57.6 -58.1 160.0	36 42.2 -57.8 158.8	36 25.9 -57.6 157.6	36 08.8 -57.3 156.5
9°	36 13.9 -58.4 161.5	35 59.5 -58.1 160.3	35 44.4 -57.9 159.2	35 28.3 -57.6 158.0	35 11.5 -57.5 156.8
10°	35 15.5 -58.3 161.8	35 01.4 -58.2 160.6	34 46.5 -58.0 159.5	34 30.7 -57.8 158.3	34 14.0 -57.4 157.2
11°	34 17.2 -58.5 162.1	34 03.2 -58.2 160.9	33 48.5 -58.0 159.8	33 32.9 -57.7 158.7	33 16.6 -57.6 157.5
12°	33 18.7 -58.4 162.4	33 05.0 -58.2 161.2	32 50.5 -58.1 160.1	32 35.2 -57.9 159.0	32 19.0 -57.6 157.9
13°	32 20.3 -58.5 162.6	32 06.8 -58.3 161.5	31 52.4 -58.0 160.4	31 37.3 -57.8 159.3	31 21.4 -57.6 158.2
14°	31 21.8 -58.5 162.9	31 08.5 -58.4 161.8	30 54.4 -58.2 160.7	30 39.5 -58.0 159.6	30 23.8 -57.7 158.5
15°	30 23.3 -58.6 163.2	30 10.1 -58.3 162.1	29 56.2 -58.1 161.0	29 41.5 -57.9 159.9	29 26.1 -57.8 158.8
16°	29 24.7 -58.6 163.4	29 11.8 -58.4 162.3	28 58.1 -58.2 161.3	28 43.6 -58.0 160.2	28 28.3 -57.7 159.1
17°	28 26.1 -58.6 163.7	28 13.4 -58.4 162.6	27 59.9 -58.3 161.5	27 45.6 -58.0 160.5	27 30.6 -57.8 159.4
18°	27 27.5 -58.6 163.9	27 15.0 -58.5 162.9	27 01.6 -58.2 161.8	26 47.6 -58.1 160.8	26 32.8 -57.9 159.7
19°	26 28.9 -58.7 164.1	26 16.5 -58.5 163.1	26 03.4 -58.3 162.1	25 49.5 -58.1 161.1	25 34.9 -57.9 160.0
20°	25 30.2 -58.6 164.4	25 18.0 -58.5 163.4	25 05.1 -58.3 162.3	24 51.4 -58.1 161.3	24 37.0 -57.9 160.3
21°	24 31.6 -58.7 164.6	24 19.5 -58.5 163.6	24 06.8 -58.4 162.6	23 53.3 -58.2 161.6	23 39.1 -58.0 160.6
22°	23 32.9 -58.8 164.8	23 21.0 -58.5 163.8	23 08.4 -58.3 162.9	22 55.1 -58.1 161.9	22 41.1 -57.9 160.9
23°	22 34.1 -58.7 165.0	22 22.5 -58.6 164.1	22 10.1 -58.4 163.1	21 57.0 -58.2 162.1	21 43.2 -58.1 161.2
24°	21 35.4 -58.7 165.3	21 23.9 -58.6 164.3	21 11.7 -58.4 163.4	20 58.8 -58.3 162.4	20 45.1 -58.0 161.5
25°	20 36.7 -58.8 165.5	20 25.3 -58.6 164.5	20 13.3 -58.5 163.6	20 00.5 -58.2 162.7	19 47.1 -58.0 161.7
26°	19 37.9 -58.8 165.7	19 26.7 -58.6 164.8	19 14.8 -58.4 163.8	19 02.3 -58.3 162.9	18 49.1 -58.1 162.0
27°	18 39.1 -58.8 165.9	18 28.1 -58.7 165.0	18 16.4 -58.5 164.1	18 04.0 -58.3 163.2	17 51.0 -58.1 162.3
28°	17 40.3 -58.8 166.1	17 29.4 -58.6 165.2	17 17.9 -58.5 164.3	17 05.7 -58.3 163.4	16 52.9 -58.2 162.5
29°	16 41.5 -58.8 166.3	16 30.8 -58.7 165.4	16 19.4 -58.5 164.5	16 07.4 -58.3 163.7	15 54.7 -58.1 162.8

Dec	LHA 020° / 340°	LHA 021° / 339°	LHA 022° / 338°	LHA 023° / 337°	LHA 024° / 336°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	43 24.8 -56.4 151.9	43 03.7 -56.1 150.6	42 41.7 -55.7 149.4	42 18.9 -55.4 148.1	41 55.4 -55.1 146.9
1°	42 28.4 -56.5 152.4	42 07.6 -56.2 151.1	41 46.0 -55.9 149.9	41 23.5 -55.5 148.6	41 00.3 -55.2 147.4
2°	41 31.9 -56.6 152.8	41 11.4 -56.3 151.6	40 50.1 -56.0 150.3	40 28.0 -55.7 149.1	40 05.1 -55.4 147.9
3°	40 35.3 -56.7 153.3	40 15.1 -56.4 152.0	39 54.1 -56.1 150.8	39 32.3 -55.8 149.6	39 09.7 -55.4 148.4
4°	39 38.6 -56.8 153.7	39 18.7 -56.5 152.5	38 58.0 -56.2 151.3	38 36.5 -55.9 150.1	38 14.3 -55.6 148.9
5°	38 41.8 -56.9 154.1	38 22.2 -56.6 152.9	38 01.8 -56.3 151.7	37 40.6 -56.0 150.5	37 18.7 -55.7 149.4
6°	37 44.9 -57.0 154.5	37 25.6 -56.7 153.3	37 05.5 -56.4 152.2	36 44.6 -56.1 151.0	36 23.0 -55.8 149.8
7°	36 47.9 -57.0 154.9	36 28.9 -56.7 153.7	36 09.1 -56.5 152.6	35 48.5 -56.2 151.4	35 27.2 -55.9 150.3
8°	35 50.9 -57.1 155.3	35 32.2 -56.9 154.1	35 12.6 -56.5 153.0	34 52.3 -56.3 151.9	34 31.3 -56.0 150.7
9°	34 53.8 -57.2 155.7	34 35.3 -56.9 154.5	34 16.1 -56.7 153.4	33 56.0 -56.3 152.3	33 35.3 -56.1 151.2
10°	33 56.6 -57.2 156.0	33 38.4 -57.0 154.9	33 19.4 -56.7 153.8	32 59.7 -56.5 152.7	32 39.2 -56.2 151.6
11°	32 59.4 -57.3 156.4	32 41.4 -57.0 155.3	32 22.7 -56.8 154.2	32 03.2 -56.5 153.1	31 43.0 -56.3 152.0
12°	32 02.1 -57.4 156.8	31 44.4 -57.1 155.7	31 25.9 -56.8 154.6	31 06.7 -56.6 153.5	30 46.7 -56.3 152.4
13°	31 04.7 -57.4 157.1	30 47.3 -57.2 156.0	30 29.1 -57.0 154.9	30 10.1 -56.7 153.9	29 50.4 -56.4 152.8
14°	30 07.3 -57.4 157.4	29 50.1 -57.2 156.4	29 32.1 -56.9 155.3	29 13.4 -56.7 154.3	28 54.0 -56.4 153.2
15°	29 09.9 -57.5 157.8	28 52.9 -57.3 156.7	28 35.2 -57.1 155.7	28 16.7 -56.8 154.6	27 57.6 -56.6 153.6
16°	28 12.4 -57.6 158.1	27 55.6 -57.3 157.1	27 38.1 -57.0 156.0	27 19.9 -56.8 155.0	27 01.0 -56.6 154.0
17°	27 14.8 -57.6 158.4	26 58.3 -57.4 157.4	26 41.1 -57.2 156.4	26 23.1 -56.9 155.3	26 04.4 -56.6 154.3
18°	26 17.2 -57.6 158.7	26 00.9 -57.4 157.7	25 43.9 -57.2 156.7	25 26.2 -56.9 155.7	25 07.8 -56.7 154.7
19°	25 19.6 -57.7 159.0	25 03.5 -57.4 158.0	24 46.7 -57.2 157.0	24 29.3 -57.0 156.0	24 11.1 -56.7 155.1
20°	24 21.9 -57.7 159.3	24 06.1 -57.5 158.4	23 49.5 -57.3 157.4	23 32.3 -57.1 156.4	23 14.4 -56.8 155.4
21°	23 24.2 -57.8 159.6	23 08.6 -57.6 158.7	22 52.2 -57.3 157.7	22 35.2 -57.0 156.7	22 17.6 -56.9 155.8
22°	22 26.4 -57.7 159.9	22 11.0 -57.5 159.0	21 54.9 -57.3 158.0	21 38.2 -57.1 157.1	21 20.7 -56.8 156.1
23°	21 28.7 -57.9 160.2	21 13.5 -57.6 159.3	20 57.6 -57.4 158.3	20 41.1 -57.2 157.4	20 23.9 -57.0 156.5
24°	20 30.8 -57.8 160.5	20 15.9 -57.7 159.6	20 00.2 -57.4 158.6	19 43.9 -57.2 157.7	19 26.9 -56.9 156.8
25°	19 33.0 -57.8 160.8	19 18.2 -57.6 159.9	19 02.8 -57.4 159.0	18 46.7 -57.2 158.0	18 30.0 -57.0 157.1
26°	18 35.2 -57.9 161.1	18 20.6 -57.7 160.2	18 05.4 -57.5 159.3	17 49.5 -57.2 158.4	17 33.0 -57.0 157.5
27°	17 37.3 -57.9 161.4	17 22.9 -57.7 160.5	17 07.9 -57.5 159.6	16 52.3 -57.3 158.7	16 36.0 -57.1 157.8
28°	16 39.4 -58.0 161.6	16 25.2 -57.7 160.7	16 10.4 -57.5 159.9	15 55.0 -57.3 159.0	15 38.9 -57.0 158.1
29°	15 41.4 -57.9 161.9	15 27.5 -57.8 161.0	15 12.9 -57.5 160.2	14 57.7 -57.3 159.3	14 41.9 -57.2 158.4

Dec	LHA 025° / 335°	LHA 026° / 334°	LHA 027° / 333°	LHA 028° / 332°	LHA 029° / 331°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	41 31.0 -54.8 145.6	41 05.8 -54.4 144.4	40 39.9 -54.0 143.2	40 13.3 -53.7 142.1	39 46.0 -53.4 140.9
1°	40 36.2 -54.8 146.2	40 11.4 -54.5 145.0	39 45.9 -54.2 143.8	39 19.6 -53.8 142.6	38 52.6 -53.5 141.5
2°	39 41.4 -55.0 146.7	39 16.9 -54.7 145.5	38 51.7 -54.3 144.4	38 25.8 -54.0 143.2	37 59.1 -53.6 142.1
3°	38 46.4 -55.2 147.2	38 22.2 -54.8 146.1	37 57.4 -54.5 144.9	37 31.8 -54.2 143.8	37 05.5 -53.8 142.6
4°	37 51.2 -55.3 147.7	37 27.4 -55.0 146.6	37 02.9 -54.7 145.4	36 37.6 -54.3 144.3	36 11.7 -54.0 143.2
5°	36 55.9 -55.4 148.2	36 32.4 -55.0 147.1	36 08.2 -54.7 145.9	35 43.3 -54.4 144.8	35 17.7 -54.1 143.7
6°	36 00.5 -55.5 148.7	35 37.4 -55.2 147.6	35 13.5 -54.9 146.4	34 48.9 -54.6 145.3	34 23.6 -54.3 144.2
7°	35 05.0 -55.6 149.2	34 42.2 -55.3 148.0	34 18.6 -55.0 146.9	33 54.3 -54.7 145.8	33 29.3 -54.3 144.8
8°	34 09.4 -55.7 149.6	33 46.9 -55.4 148.5	33 23.6 -55.1 147.4	32 59.6 -54.8 146.3	32 35.0 -54.5 145.3
9°	33 13.7 -55.8 150.1	32 51.5 -55.5 149.0	32 28.5 -55.2 147.9	32 04.8 -54.9 146.8	31 40.5 -54.6 145.8
10°	32 17.9 -55.9 150.5	31 56.0 -55.6 149.4	31 33.3 -55.3 148.4	31 09.9 -55.0 147.3	30 45.9 -54.7 146.2
11°	31 22.0 -55.9 150.9	31 00.4 -55.7 149.9	30 38.0 -55.4 148.8	30 14.9 -55.1 147.8	29 51.2 -54.8 146.7
12°	30 26.1 -56.1 151.4	30 04.7 -55.8 150.3	29 42.6 -55.5 149.3	29 19.8 -55.2 148.2	28 56.4 -54.9 147.2
13°	29 30.0 -56.1 151.8	29 08.9 -55.8 150.7	28 47.1 -55.6 149.7	28 24.6 -55.3 148.7	28 01.5 -55.0 147.6
14°	28 33.9 -56.2 152.2	28 13.1 -56.0 151.1	27 51.5 -55.6 150.1	27 29.3 -55.3 149.1	27 06.5 -55.1 148.1
15°	27 37.7 -56.3 152.6	27 17.1 -56.0 151.5	26 55.9 -55.7 150.5	26 34.0 -55.5 149.5	26 11.4 -55.2 148.5
16°	26 41.4 -56.3 153.0	26 21.1 -56.0 151.9	26 00.2 -55.8 151.0	25 38.5 -55.5 150.0	25 16.2 -55.2 149.0
17°	25 45.1 -56.4 153.3	25 25.1 -56.2 152.3	25 04.4 -55.9 151.4	24 43.0 -55.6 150.4	24 21.0 -55.3 149.4
18°	24 48.7 -56.4 153.7	24 28.9 -56.1 152.7	24 08.5 -55.9 151.8	23 47.4 -55.6 150.8	23 25.7 -55.4 149.8
19°	23 52.3 -56.5 154.1	23 32.8 -56.3 153.1	23 12.6 -56.0 152.2	22 51.8 -55.7 151.2	22 30.3 -55.4 150.3
20°	22 55.8 -56.6 154.5	22 36.5 -56.3 153.5	22 16.6 -56.0 152.5	21 56.1 -55.8 151.6	21 34.9 -55.5 150.7
21°	21 59.2 -56.6 154.8	21 40.2 -56.3 153.9	21 20.6 -56.1 152.9	21 00.3 -55.8 152.0	20 39.4 -55.6 151.1
22°	21 02.6 -56.6 155.2	20 43.9 -56.4 154.2	20 24.5 -56.1 153.3	20 04.5 -55.9 152.4	19 43.8 -55.6 151.5
23°	20 06.0 -56.7 155.5	19 47.5 -56.4 154.6	19 28.4 -56.2 153.7	19 08.6 -55.9 152.8	18 48.2 -55.6 151.9
24°	19 09.3 -56.7 155.9	18 51.1 -56.5 155.0	18 32.2 -56.2 154.1	18 12.7 -56.0 153.2	17 52.6 -55.7 152.3
25°	18 12.6 -56.7 156.2	17 54.6 -56.5 155.3	17 36.0 -56.3 154.4	17 16.7 -56.0 153.5	16 56.9 -55.8 152.7
26°	17 15.9 -56.8 156.6	16 58.1 -56.6 155.7	16 39.7 -56.3 154.8	16 20.7 -56.0 153.9	16 01.1 -55.8 153.0
27°	16 19.1 -56.8 156.9	16 01.5 -56.5 156.0	15 43.4 -56.3 155.2	15 24.7 -56.1 154.3	15 05.3 -55.8 153.4
28°	15 22.3 -56.9 157.2	15 05.0 -56.6 156.4	14 47.1 -56.4 155.5	14 28.6 -56.1 154.7	14 09.5 -55.9 153.8
29°	14 25.4 -56.9 157.6	14 08.4 -56.7 156.7	13 50.7 -56.4 155.9	13 32.5 -56.2 155.0	13 13.6 -55.8 154.2

Dec	LHA 030° / 330°	LHA 031° / 329°	LHA 032° / 328°	LHA 033° / 327°	LHA 034° / 326°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	39 18.0 -53.0 139.8	38 49.3 -52.6 138.6	38 19.9 -52.2 137.5	37 50.0 -51.9 136.4	37 19.4 -51.5 135.3
1°	38 25.0 -53.2 140.4	37 56.7 -52.8 139.2	37 27.7 -52.5 138.1	36 58.1 -52.1 137.0	36 27.9 -51.8 136.0
2°	37 31.8 -53.3 140.9	37 03.9 -53.0 139.8	36 35.2 -52.6 138.7	36 06.0 -52.3 137.7	35 36.1 -51.9 136.6
3°	36 38.5 -53.5 141.5	36 10.9 -53.2 140.4	35 42.6 -52.8 139.3	35 13.7 -52.5 138.3	34 44.2 -52.2 137.2
4°	35 45.0 -53.6 142.1	35 17.7 -53.3 141.0	34 49.8 -53.0 139.9	34 21.2 -52.6 138.8	33 52.0 -52.3 137.8
5°	34 51.4 -53.8 142.6	34 24.4 -53.4 141.5	33 56.8 -53.1 140.5	33 28.6 -52.8 139.4	32 59.7 -52.4 138.4
6°	33 57.6 -53.9 143.2	33 31.0 -53.6 142.1	33 03.7 -53.3 141.0	32 35.8 -53.0 140.0	32 07.3 -52.7 139.0
7°	33 03.7 -54.1 143.7	32 37.4 -53.8 142.6	32 10.4 -53.4 141.6	31 42.8 -53.1 140.5	31 14.6 -52.7 139.5
8°	32 09.6 -54.2 144.2	31 43.6 -53.8 143.2	31 17.0 -53.5 142.1	30 49.7 -53.2 141.1	30 21.9 -52.9 140.1
9°	31 15.4 -54.2 144.7	30 49.8 -54.0 143.7	30 23.5 -53.7 142.6	29 56.5 -53.3 141.6	29 29.0 -53.0 140.6
10°	30 21.2 -54.4 145.2	29 55.8 -54.1 144.2	29 29.8 -53.8 143.2	29 03.2 -53.5 142.2	28 36.0 -53.2 141.2
11°	29 26.8 -54.5 145.7	29 01.7 -54.2 144.7	28 36.0 -53.9 143.7	28 09.7 -53.6 142.7	27 42.8 -53.3 141.7
12°	28 32.3 -54.6 146.2	28 07.5 -54.3 145.2	27 42.1 -54.0 144.2	27 16.1 -53.7 143.2	26 49.5 -53.4 142.2
13°	27 37.7 -54.7 146.6	27 13.2 -54.4 145.6	26 48.1 -54.1 144.7	26 22.4 -53.8 143.7	25 56.1 -53.4 142.7
14°	26 43.0 -54.8 147.1	26 18.8 -54.5 146.1	25 54.0 -54.2 145.1	25 28.6 -53.8 144.2	25 02.7 -53.6 143.2
15°	25 48.2 -54.9 147.6	25 24.3 -54.6 146.6	24 59.8 -54.2 145.6	24 34.8 -54.0 144.7	24 09.1 -53.7 143.7
16°	24 53.3 -54.9 148.0	24 29.7 -54.6 147.0	24 05.6 -54.4 146.1	23 40.8 -54.1 145.1	23 15.4 -53.8 144.2
17°	23 58.4 -55.1 148.4	23 35.1 -54.8 147.5	23 11.2 -54.5 146.5	22 46.7 -54.2 145.6	22 21.6 -53.8 144.7
18°	23 03.3 -55.1 148.9	22 40.3 -54.8 147.9	22 16.7 -54.5 147.0	21 52.5 -54.2 146.1	21 27.8 -54.0 145.1
19°	22 08.2 -55.1 149.3	21 45.5 -54.8 148.4	21 22.2 -54.6 147.4	20 58.3 -54.3 146.5	20 33.8 -54.0 145.6
20°	21 13.1 -55.2 149.7	20 50.7 -55.0 148.8	20 27.6 -54.6 147.9	20 04.0 -54.4 147.0	19 39.8 -54.1 146.1
21°	20 17.9 -55.3 150.2	19 55.7 -55.0 149.2	19 33.0 -54.7 148.3	19 09.6 -54.4 147.4	18 45.7 -54.1 146.5
22°	19 22.6 -55.4 150.6	19 00.7 -55.1 149.7	18 38.3 -54.8 148.8	18 15.2 -54.5 147.9	17 51.6 -54.2 147.0
23°	18 27.2 -55.3 151.0	18 05.6 -55.1 150.1	17 43.5 -54.9 149.2	17 20.7 -54.5 148.3	16 57.4 -54.3 147.4
24°	17 31.9 -55.5 151.4	17 10.5 -55.1 150.5	16 48.6 -54.9 149.6	16 26.2 -54.7 148.8	16 03.1 -54.3 147.9
25°	16 36.4 -55.5 151.8	16 15.4 -55.2 150.9	15 53.7 -54.9 150.0	15 31.5 -54.6 149.2	15 08.8 -54.4 148.3
26°	15 40.9 -55.5 152.2	15 20.2 -55.3 151.3	14 58.8 -55.0 150.5	14 36.9 -54.7 149.6	14 14.4 -54.4 148.8
27°	14 45.4 -55.6 152.6	14 24.9 -55.3 151.7	14 03.8 -55.0 150.9	13 42.2 -54.8 150.0	13 20.0 -54.5 149.2
28°	13 49.8 -55.6 153.0	13 29.6 -55.3 152.1	13 08.8 -55.1 151.3	12 47.4 -54.7 150.5	12 25.5 -54.5 149.6
29°	12 54.2 -55.6 153.3	12 34.3 -55.4 152.5	12 13.7 -55.1 151.7	11 52.7 -54.9 150.9	11 31.0 -54.5 150.1

Dec	LHA 035° / 325°	LHA 036° / 324°	LHA 037° / 323°	LHA 038° / 322°	LHA 039° / 321°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	36 48.3 -51.2 134.2	36 16.6 -50.9 133.2	35 44.3 -50.5 132.1	35 11.5 -50.2 131.1	34 38.2 -49.9 130.1
1°	35 57.1 -51.4 134.9	35 25.7 -51.1 133.8	34 53.8 -50.8 132.8	34 21.3 -50.4 131.8	33 48.3 -50.0 130.8
2°	35 05.7 -51.7 135.5	34 34.6 -51.2 134.5	34 03.0 -50.9 133.5	33 30.9 -50.6 132.4	32 58.3 -50.3 131.4
3°	34 14.0 -51.7 136.1	33 43.4 -51.5 135.1	33 12.1 -51.1 134.1	32 40.3 -50.8 133.1	32 08.0 -50.4 132.1
4°	33 22.3 -52.0 136.8	32 51.9 -51.6 135.7	32 21.0 -51.3 134.7	31 49.5 -50.9 133.7	31 17.6 -50.7 132.7
5°	32 30.3 -52.1 137.3	32 00.3 -51.8 136.3	31 29.7 -51.5 135.3	30 58.6 -51.2 134.3	30 26.9 -50.8 133.3
6°	31 38.2 -52.3 137.9	31 08.5 -52.0 136.9	30 38.2 -51.6 135.9	30 07.4 -51.3 134.9	29 36.1 -51.0 134.0
7°	30 45.9 -52.5 138.5	30 16.5 -52.1 137.5	29 46.6 -51.8 136.5	29 16.1 -51.5 135.5	28 45.1 -51.1 134.6
8°	29 53.4 -52.5 139.1	29 24.4 -52.3 138.1	28 54.8 -51.9 137.1	28 24.6 -51.6 136.1	27 54.0 -51.3 135.2
9°	29 00.9 -52.8 139.6	28 32.1 -52.4 138.6	28 02.9 -52.1 137.7	27 33.0 -51.7 136.7	27 02.7 -51.5 135.7
10°	28 08.1 -52.8 140.2	27 39.7 -52.5 139.2	27 10.8 -52.2 138.2	26 41.3 -51.9 137.3	26 11.2 -51.5 136.3
11°	27 15.3 -53.0 140.7	26 47.2 -52.6 139.7	26 18.6 -52.4 138.8	25 49.4 -52.0 137.8	25 19.7 -51.7 136.9
12°	26 22.3 -53.0 141.2	25 54.6 -52.8 140.3	25 26.2 -52.4 139.3	24 57.4 -52.2 138.4	24 28.0 -51.9 137.4
13°	25 29.3 -53.2 141.7	25 01.8 -52.9 140.8	24 33.8 -52.6 139.9	24 05.2 -52.2 138.9	23 36.1 -51.9 138.0
14°	24 36.1 -53.3 142.3	24 08.9 -52.9 141.3	23 41.2 -52.6 140.4	23 13.0 -52.4 139.5	22 44.2 -52.1 138.5
15°	23 42.8 -53.4 142.8	23 16.0 -53.1 141.8	22 48.6 -52.8 140.9	22 20.6 -52.4 140.0	21 52.1 -52.1 139.1
16°	22 49.4 -53.4 143.3	22 22.9 -53.2 142.3	21 55.8 -52.9 141.4	21 28.2 -52.6 140.5	21 00.0 -52.3 139.6
17°	21 56.0 -53.6 143.7	21 29.7 -53.2 142.8	21 02.9 -52.9 141.9	20 35.6 -52.6 141.0	20 07.7 -52.3 140.1
18°	21 02.4 -53.6 144.2	20 36.5 -53.4 143.3	20 10.0 -53.0 142.4	19 43.0 -52.8 141.5	19 15.4 -52.4 140.7
19°	20 08.8 -53.8 144.7	19 43.1 -53.4 143.8	19 17.0 -53.2 142.9	18 50.2 -52.8 142.0	18 23.0 -52.5 141.2
20°	19 15.0 -53.7 145.2	18 49.7 -53.5 144.3	18 23.8 -53.2 143.4	17 57.4 -52.9 142.5	17 30.5 -52.6 141.7
21°	18 21.3 -53.9 145.7	17 56.2 -53.5 144.8	17 30.6 -53.2 143.9	17 04.5 -52.9 143.0	16 37.9 -52.7 142.2
22°	17 27.4 -53.9 146.1	17 02.7 -53.7 145.2	16 37.4 -53.3 144.4	16 11.6 -53.1 143.5	15 45.2 -52.7 142.7
23°	16 33.5 -54.0 146.6	16 09.0 -53.6 145.7	15 44.1 -53.4 144.9	15 18.5 -53.1 144.0	14 52.5 -52.8 143.2
24°	15 39.5 -54.0 147.0	15 15.4 -53.8 146.2	14 50.7 -53.5 145.3	14 25.4 -53.1 144.5	13 59.7 -52.9 143.7
25°	14 45.5 -54.1 147.5	14 21.6 -53.8 146.6	13 57.2 -53.5 145.8	13 32.3 -53.2 145.0	13 06.8 -52.9 144.2
26°	13 51.4 -54.1 147.9	13 27.8 -53.8 147.1	13 03.7 -53.5 146.3	12 39.1 -53.3 145.5	12 13.9 -52.9 144.6
27°	12 57.3 -54.2 148.4	12 34.0 -53.9 147.5	12 10.2 -53.6 146.7	11 45.8 -53.3 145.9	11 21.0 -53.0 145.1
28°	12 03.1 -54.2 148.8	11 40.1 -53.9 148.0	11 16.6 -53.7 147.2	10 52.5 -53.3 146.4	10 28.0 -53.1 145.6
29°	11 08.9 -54.3 149.2	10 46.2 -54.0 148.4	10 22.9 -53.6 147.6	9 59.2 -53.4 146.9	9 34.9 -53.0 146.1

Dec	LHA 040° / 320°	LHA 041° / 319°	LHA 042° / 318°	LHA 043° / 317°	LHA 044° / 316°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	34 04.4 -49.5 129.1	33 30.1 -49.2 128.1	32 55.3 -48.8 127.1	32 20.1 -48.5 126.2	31 44.5 -48.2 125.2
1°	33 14.9 -49.8 129.8	32 40.9 -49.4 128.8	32 06.5 -49.1 127.8	31 31.6 -48.8 126.9	30 56.3 -48.5 125.9
2°	32 25.1 -49.9 130.4	31 51.5 -49.6 129.5	31 17.4 -49.3 128.5	30 42.8 -48.9 127.6	30 07.8 -48.6 126.6
3°	31 35.2 -50.1 131.1	31 01.9 -49.8 130.1	30 28.1 -49.5 129.2	29 53.9 -49.2 128.2	29 19.2 -48.9 127.3
4°	30 45.1 -50.3 131.7	30 12.1 -50.0 130.8	29 38.6 -49.7 129.8	29 04.7 -49.4 128.9	28 30.3 -49.0 127.9
5°	29 54.8 -50.5 132.4	29 22.1 -50.2 131.4	28 48.9 -49.8 130.5	28 15.3 -49.5 129.5	27 41.3 -49.3 128.6
6°	29 04.3 -50.7 133.0	28 31.9 -50.3 132.0	27 59.1 -50.0 131.1	27 25.8 -49.7 130.2	26 52.0 -49.4 129.2
7°	28 13.6 -50.8 133.6	27 41.6 -50.5 132.7	27 09.1 -50.2 131.7	26 36.1 -49.9 130.8	26 02.6 -49.5 129.9
8°	27 22.8 -51.0 134.2	26 51.1 -50.7 133.3	26 18.9 -50.4 132.3	25 46.2 -50.0 131.4	25 13.1 -49.8 130.5
9°	26 31.8 -51.1 134.8	26 00.4 -50.8 133.9	25 28.5 -50.5 132.9	24 56.2 -50.2 132.0	24 23.3 -49.8 131.1
10°	25 40.7 -51.3 135.4	25 09.6 -50.9 134.5	24 38.0 -50.6 133.5	24 06.0 -50.3 132.6	23 33.5 -50.1 131.7
11°	24 49.4 -51.4 136.0	24 18.7 -51.1 135.0	23 47.4 -50.8 134.1	23 15.7 -50.5 133.2	22 43.4 -50.1 132.3
12°	23 58.0 -51.5 136.5	23 27.6 -51.2 135.6	22 56.6 -50.9 134.7	22 25.2 -50.6 133.8	21 53.3 -50.3 132.9
13°	23 06.5 -51.6 137.1	22 36.4 -51.3 136.2	22 05.7 -51.0 135.3	21 34.6 -50.7 134.4	21 03.0 -50.4 133.5
14°	22 14.9 -51.8 137.6	21 45.1 -51.5 136.7	21 14.7 -51.1 135.8	20 43.9 -50.8 135.0	20 12.6 -50.5 134.1
15°	21 23.1 -51.8 138.2	20 53.6 -51.5 137.3	20 23.6 -51.2 136.4	19 53.1 -50.9 135.5	19 22.1 -50.6 134.7
16°	20 31.3 -51.9 138.7	20 02.1 -51.6 137.8	19 32.4 -51.3 137.0	19 02.2 -51.0 136.1	18 31.5 -50.7 135.2
17°	19 39.4 -52.1 139.3	19 10.5 -51.8 138.4	18 41.1 -51.5 137.5	18 11.2 -51.1 136.6	17 40.8 -50.8 135.8
18°	18 47.3 -52.1 139.8	18 18.7 -51.8 138.9	17 49.6 -51.5 138.1	17 20.1 -51.2 137.2	16 50.0 -50.9 136.4
19°	17 55.2 -52.2 140.3	17 26.9 -51.9 139.4	16 58.1 -51.6 138.6	16 28.9 -51.3 137.7	15 59.1 -51.0 136.9
20°	17 03.0 -52.3 140.8	16 35.0 -52.0 140.0	16 06.5 -51.6 139.1	15 37.6 -51.4 138.3	15 08.1 -51.0 137.5
21°	16 10.7 -52.3 141.3	15 43.0 -52.0 140.5	15 14.9 -51.8 139.6	14 46.2 -51.4 138.8	14 17.1 -51.1 138.0
22°	15 18.4 -52.5 141.8	14 51.0 -52.1 141.0	14 23.1 -51.8 140.2	13 54.8 -51.5 139.3	13 26.0 -51.2 138.5
23°	14 25.9 -52.5 142.3	13 58.9 -52.2 141.5	13 31.3 -51.9 140.7	13 03.3 -51.6 139.9	12 34.8 -51.3 139.1
24°	13 33.4 -52.5 142.8	13 06.7 -52.3 142.0	12 39.4 -51.9 141.2	12 11.7 -51.6 140.4	11 43.5 -51.3 139.6
25°	12 40.9 -52.6 143.3	12 14.4 -52.3 142.5	11 47.5 -52.0 141.7	11 20.1 -51.7 140.9	10 52.2 -51.4 140.1
26°	11 48.3 -52.7 143.8	11 22.1 -52.3 143.0	10 55.5 -52.0 142.2	10 28.4 -51.7 141.4	10 00.8 -51.4 140.7
27°	10 55.6 -52.7 144.3	10 29.8 -52.4 143.5	10 03.5 -52.1 142.7	9 36.7 -51.8 142.0	9 09.4 -51.5 141.2
28°	10 02.9 -52.7 144.8	9 37.4 -52.4 144.0	9 11.4 -52.1 143.2	8 44.9 -51.8 142.5	8 17.9 -51.5 141.7
29°	9 10.2 -52.8 145.3	8 45.0 -52.5 144.5	8 19.3 -52.2 143.7	7 53.1 -51.9 143.0	7 26.4 -51.5 142.2

Dec	LHA 045° / 315°	LHA 046° / 314°	LHA 047° / 313°	LHA 048° / 312°	LHA 049° / 311°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	31 08.5 -48.0 124.3	30 32.0 -47.6 123.4	29 55.2 -47.4 122.5	29 18.0 -47.1 121.6	28 40.4 -46.8 120.7
1°	30 20.5 -48.1 125.0	29 44.4 -47.9 124.1	29 07.8 -47.5 123.2	28 30.9 -47.2 122.3	27 53.6 -46.9 121.4
2°	29 32.4 -48.4 125.7	28 56.5 -48.0 124.8	28 20.3 -47.8 123.9	27 43.7 -47.5 123.0	27 06.7 -47.2 122.1
3°	28 44.0 -48.5 126.4	28 08.5 -48.3 125.4	27 32.5 -47.9 124.5	26 56.2 -47.6 123.6	26 19.5 -47.4 122.8
4°	27 55.5 -48.8 127.0	27 20.2 -48.4 126.1	26 44.6 -48.1 125.2	26 08.6 -47.9 124.3	25 32.1 -47.5 123.4
5°	27 06.7 -48.9 127.7	26 31.8 -48.6 126.8	25 56.5 -48.4 125.9	25 20.7 -48.0 125.0	24 44.6 -47.8 124.1
6°	26 17.8 -49.1 128.3	25 43.2 -48.8 127.4	25 08.1 -48.5 126.5	24 32.7 -48.2 125.7	23 56.8 -47.9 124.8
7°	25 28.7 -49.2 129.0	24 54.4 -49.0 128.1	24 19.6 -48.6 127.2	23 44.5 -48.4 126.3	23 08.9 -48.0 125.4
8°	24 39.5 -49.5 129.6	24 05.4 -49.1 128.7	23 31.0 -48.8 127.8	22 56.1 -48.5 127.0	22 20.9 -48.3 126.1
9°	23 50.0 -49.5 130.2	23 16.3 -49.2 129.3	22 42.2 -49.0 128.5	22 07.6 -48.6 127.6	21 32.6 -48.3 126.7
10°	23 00.5 -49.7 130.8	22 27.1 -49.4 130.0	21 53.2 -49.1 129.1	21 19.0 -48.8 128.2	20 44.3 -48.5 127.4
11°	22 10.8 -49.9 131.4	21 37.7 -49.6 130.6	21 04.1 -49.2 129.7	20 30.2 -49.0 128.8	19 55.8 -48.7 128.0
12°	21 20.9 -49.9 132.0	20 48.1 -49.6 131.2	20 14.9 -49.4 130.3	19 41.2 -49.0 129.5	19 07.1 -48.7 128.6
13°	20 31.0 -50.1 132.6	19 58.5 -49.8 131.8	19 25.5 -49.4 130.9	18 52.2 -49.2 130.1	18 18.4 -48.9 129.2
14°	19 40.9 -50.2 133.2	19 08.7 -49.9 132.4	18 36.1 -49.6 131.5	18 03.0 -49.3 130.7	17 29.5 -49.0 129.8
15°	18 50.7 -50.3 133.8	18 18.8 -50.0 133.0	17 46.5 -49.7 132.1	17 13.7 -49.4 131.3	16 40.5 -49.1 130.4
16°	18 00.4 -50.4 134.4	17 28.8 -50.1 133.5	16 56.8 -49.8 132.7	16 24.3 -49.5 131.9	15 51.4 -49.2 131.0
17°	17 10.0 -50.5 134.9	16 38.7 -50.2 134.1	16 07.0 -49.9 133.3	15 34.8 -49.6 132.5	15 02.2 -49.2 131.6
18°	16 19.5 -50.6 135.5	15 48.5 -50.3 134.7	15 17.1 -50.0 133.9	14 45.2 -49.6 133.0	14 13.0 -49.4 132.2
19°	15 28.9 -50.7 136.1	14 58.2 -50.3 135.2	14 27.1 -50.0 134.4	13 55.6 -49.8 133.6	13 23.6 -49.5 132.8
20°	14 38.2 -50.7 136.6	14 07.9 -50.5 135.8	13 37.1 -50.2 135.0	13 05.8 -49.8 134.2	12 34.1 -49.5 133.4
21°	13 47.5 -50.8 137.2	13 17.4 -50.5 136.4	12 46.9 -50.2 135.6	12 16.0 -49.9 134.8	11 44.6 -49.6 134.0
22°	12 56.7 -50.9 137.7	12 26.9 -50.6 136.9	11 56.7 -50.2 136.1	11 26.1 -50.0 135.3	10 55.0 -49.6 134.5
23°	12 05.8 -51.0 138.3	11 36.3 -50.6 137.5	11 06.5 -50.4 136.7	10 36.1 -50.0 135.9	10 05.4 -49.7 135.1
24°	11 14.8 -51.0 138.8	10 45.7 -50.7 138.0	10 16.1 -50.4 137.2	9 46.1 -50.1 136.5	9 15.7 -49.8 135.7
25°	10 23.8 -51.0 139.3	9 55.0 -50.7 138.6	9 25.7 -50.4 137.8	8 56.0 -50.1 137.0	8 25.9 -49.8 136.3
26°	9 32.8 -51.2 139.9	9 04.3 -50.8 139.1	8 35.3 -50.5 138.3	8 05.9 -50.2 137.6	7 36.1 -49.9 136.8
27°	8 41.6 -51.1 140.4	8 13.5 -50.9 139.6	7 44.8 -50.5 138.9	7 15.7 -50.2 138.1	6 46.2 -49.9 137.4
28°	7 50.5 -51.2 140.9	7 22.6 -50.9 140.2	6 54.3 -50.6 139.4	6 25.5 -50.2 138.7	5 56.3 -49.9 137.9
29°	6 59.3 -51.2 141.5	6 31.7 -50.9 140.7	6 03.7 -50.6 140.0	5 35.3 -50.3 139.2	5 06.4 -49.9 138.5

Dec	LHA 050° / 310°	LHA 051° / 309°	LHA 052° / 308°	LHA 053° / 307°	LHA 054° / 306°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	28 02.5 -46.5 119.8	27 24.2 -46.2 118.9	26 45.6 -45.9 118.1	26 06.8 -45.7 117.2	25 27.6 -45.4 116.4
1°	27 16.0 -46.7 120.5	26 38.0 -46.4 119.6	25 59.7 -46.1 118.8	25 21.1 -45.9 117.9	24 42.2 -45.7 117.1
2°	26 29.3 -46.9 121.2	25 51.6 -46.6 120.3	25 13.6 -46.4 119.5	24 35.2 -46.1 118.6	23 56.5 -45.8 117.8
3°	25 42.4 -47.1 121.9	25 05.0 -46.8 121.0	24 27.2 -46.5 120.2	23 49.1 -46.3 119.3	23 10.7 -46.0 118.5
4°	24 55.3 -47.2 122.6	24 18.2 -47.0 121.7	23 40.7 -46.7 120.9	23 02.8 -46.4 120.0	22 24.7 -46.2 119.2
5°	24 08.1 -47.5 123.3	23 31.2 -47.2 122.4	22 54.0 -46.9 121.6	22 16.4 -46.6 120.7	21 38.5 -46.3 119.9
6°	23 20.6 -47.6 123.9	22 44.0 -47.3 123.1	22 07.1 -47.1 122.2	21 29.8 -46.8 121.4	20 52.2 -46.6 120.6
7°	22 33.0 -47.8 124.6	21 56.7 -47.5 123.7	21 20.0 -47.2 122.9	20 43.0 -46.9 122.1	20 05.6 -46.6 121.2
8°	21 45.2 -47.9 125.2	21 09.2 -47.7 124.4	20 32.8 -47.4 123.6	19 56.1 -47.1 122.7	19 19.0 -46.8 121.9
9°	20 57.3 -48.1 125.9	20 21.5 -47.7 125.0	19 45.4 -47.5 124.2	19 09.0 -47.3 123.4	18 32.2 -47.0 122.6
10°	20 09.2 -48.2 126.5	19 33.8 -48.0 125.7	18 57.9 -47.6 124.9	18 21.7 -47.3 124.0	17 45.2 -47.1 123.2
11°	19 21.0 -48.3 127.2	18 45.8 -48.0 126.3	18 10.3 -47.8 125.5	17 34.4 -47.5 124.7	16 58.1 -47.2 123.9
12°	18 32.7 -48.5 127.8	17 57.8 -48.2 127.0	17 22.5 -47.9 126.1	16 46.9 -47.6 125.3	16 10.9 -47.3 124.5
13°	17 44.2 -48.6 128.4	17 09.6 -48.3 127.6	16 34.6 -48.0 126.8	15 59.3 -47.7 126.0	15 23.6 -47.4 125.2
14°	16 55.6 -48.7 129.0	16 21.3 -48.4 128.2	15 46.6 -48.1 127.4	15 11.6 -47.8 126.6	14 36.2 -47.6 125.8
15°	16 06.9 -48.8 129.6	15 32.9 -48.5 128.8	14 58.5 -48.2 128.0	14 23.8 -47.9 127.2	13 48.6 -47.6 126.4
16°	15 18.1 -48.9 130.2	14 44.4 -48.6 129.4	14 10.3 -48.3 128.6	13 35.9 -48.0 127.8	13 01.0 -47.7 127.0
17°	14 29.2 -48.9 130.8	13 55.8 -48.6 130.0	13 22.0 -48.3 129.2	12 47.9 -48.1 128.4	12 13.3 -47.8 127.7
18°	13 40.3 -49.1 131.4	13 07.2 -48.8 130.6	12 33.7 -48.5 129.8	11 59.8 -48.2 129.1	11 25.5 -47.9 128.3
19°	12 51.2 -49.1 132.0	12 18.4 -48.8 131.2	11 45.2 -48.5 130.4	11 11.6 -48.2 129.7	10 37.6 -47.9 128.9
20°	12 02.1 -49.3 132.6	11 29.6 -49.0 131.8	10 56.7 -48.7 131.0	10 23.4 -48.3 130.3	9 49.7 -48.0 129.5
21°	11 12.8 -49.2 133.2	10 40.6 -48.9 132.4	10 08.0 -48.6 131.6	9 35.1 -48.4 130.9	9 01.7 -48.1 130.1
22°	10 23.6 -49.4 133.8	9 51.7 -49.1 133.0	9 19.4 -48.8 132.2	8 46.7 -48.4 131.5	8 13.6 -48.1 130.7
23°	9 34.2 -49.4 134.3	9 02.6 -49.1 133.6	8 30.6 -48.7 132.8	7 58.3 -48.5 132.1	7 25.5 -48.2 131.3
24°	8 44.8 -49.4 134.9	8 13.5 -49.1 134.2	7 41.9 -48.9 133.4	7 09.8 -48.5 132.7	6 37.3 -48.2 131.9
25°	7 55.4 -49.5 135.5	7 24.4 -49.2 134.7	6 53.0 -48.9 134.0	6 21.3 -48.6 133.3	5 49.1 -48.2 132.5
26°	7 05.9 -49.6 136.1	6 35.2 -49.2 135.3	6 04.1 -48.9 134.6	5 32.7 -48.6 133.8	5 00.9 -48.3 133.1
27°	6 16.3 -49.6 136.6	5 46.0 -49.3 135.9	5 15.2 -48.9 135.2	4 44.1 -48.6 134.4	4 12.6 -48.3 133.7
28°	5 26.7 -49.6 137.2	4 56.7 -49.3 136.5	4 26.3 -49.0 135.7	3 55.5 -48.7 135.0	3 24.3 -48.4 134.3
29°	4 37.1 -49.6 137.8	4 07.4 -49.3 137.0	3 37.3 -49.0 136.3	3 06.8 -48.7 135.6	2 35.9 -48.3 134.9

Dec	LHA 055° / 305°	LHA 056° / 304°	LHA 057° / 303°	LHA 058° / 302°	LHA 059° / 301°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	24 48.1 -45.1 115.5	24 08.4 -44.9 114.7	23 28.4 -44.7 113.9	22 48.2 -44.5 113.1	22 07.7 -44.3 112.3
1°	24 03.0 -45.4 116.2	23 23.5 -45.2 115.4	22 43.7 -44.9 114.6	22 03.7 -44.7 113.8	21 23.4 -44.5 113.0
2°	23 17.6 -45.6 117.0	22 38.3 -45.3 116.1	21 58.8 -45.1 115.3	21 19.0 -44.9 114.5	20 38.9 -44.6 113.7
3°	22 32.0 -45.8 117.7	21 53.0 -45.5 116.9	21 13.7 -45.3 116.0	20 34.1 -45.0 115.2	19 54.3 -44.8 114.4
4°	21 46.2 -45.9 118.4	21 07.5 -45.7 117.6	20 28.4 -45.4 116.7	19 49.1 -45.2 115.9	19 09.5 -44.9 115.1
5°	21 00.3 -46.1 119.1	20 21.8 -45.8 118.2	19 43.0 -45.6 117.4	19 03.9 -45.3 116.6	18 24.6 -45.2 115.8
6°	20 14.2 -46.2 119.7	19 36.0 -46.0 118.9	18 57.4 -45.7 118.1	18 18.6 -45.5 117.3	17 39.4 -45.2 116.5
7°	19 28.0 -46.4 120.4	18 50.0 -46.2 119.6	18 11.7 -45.9 118.8	17 33.1 -45.7 118.0	16 54.2 -45.4 117.2
8°	18 41.6 -46.6 121.1	18 03.8 -46.3 120.3	17 25.8 -46.1 119.5	16 47.4 -45.7 118.7	16 08.8 -45.5 117.9
9°	17 55.0 -46.7 121.8	17 17.5 -46.4 121.0	16 39.7 -46.1 120.2	16 01.7 -45.9 119.4	15 23.3 -45.7 118.6
10°	17 08.3 -46.8 122.4	16 31.1 -46.5 121.6	15 53.6 -46.3 120.8	15 15.8 -46.1 120.0	14 37.6 -45.7 119.3
11°	16 21.5 -46.9 123.1	15 44.6 -46.7 122.3	15 07.3 -46.4 121.5	14 29.7 -46.1 120.7	13 51.9 -45.9 119.9
12°	15 34.6 -47.0 123.7	14 57.9 -46.7 122.9	14 20.9 -46.5 122.1	13 43.6 -46.2 121.4	13 06.0 -46.0 120.6
13°	14 47.6 -47.2 124.4	14 11.2 -46.9 123.6	13 34.4 -46.6 122.8	12 57.4 -46.3 122.0	12 20.0 -46.0 121.2
14°	14 00.4 -47.2 125.0	13 24.3 -47.0 124.2	12 47.8 -46.7 123.4	12 11.1 -46.5 122.7	11 34.0 -46.2 121.9
15°	13 13.2 -47.4 125.6	12 37.3 -47.0 124.9	12 01.1 -46.7 124.1	11 24.6 -46.5 123.3	10 47.8 -46.2 122.6
16°	12 25.8 -47.4 126.3	11 50.3 -47.2 125.5	11 14.4 -46.9 124.7	10 38.1 -46.6 124.0	10 01.6 -46.3 123.2
17°	11 38.4 -47.5 126.9	11 03.1 -47.2 126.1	10 27.5 -46.9 125.4	9 51.5 -46.6 124.6	9 15.3 -46.4 123.8
18°	10 50.9 -47.6 127.5	10 15.9 -47.3 126.7	9 40.6 -47.0 126.0	9 04.9 -46.7 125.2	8 28.9 -46.4 124.5
19°	10 03.3 -47.6 128.1	9 28.6 -47.3 127.4	8 53.6 -47.1 126.6	8 18.2 -46.8 125.9	7 42.5 -46.5 125.1
20°	9 15.7 -47.8 128.7	8 41.3 -47.5 128.0	8 06.5 -47.1 127.2	7 31.4 -46.8 126.5	6 56.0 -46.6 125.8
21°	8 27.9 -47.7 129.4	7 53.8 -47.4 128.6	7 19.4 -47.2 127.9	6 44.6 -46.9 127.1	6 09.4 -46.6 126.4
22°	7 40.2 -47.8 130.0	7 06.4 -47.6 129.2	6 32.2 -47.2 128.5	5 57.7 -46.9 127.8	5 22.8 -46.6 127.0
23°	6 52.4 -47.9 130.6	6 18.8 -47.5 129.8	5 45.0 -47.3 129.1	5 10.8 -47.0 128.4	4 36.2 -46.7 127.7
24°	6 04.5 -47.9 131.2	5 31.3 -47.6 130.5	4 57.7 -47.3 129.7	4 23.8 -47.0 129.0	3 49.5 -46.7 128.3
25°	5 16.6 -48.0 131.8	4 43.7 -47.7 131.1	4 10.4 -47.3 130.3	3 36.8 -47.0 129.6	3 02.8 -46.7 128.9
26°	4 28.6 -47.9 132.4	3 56.0 -47.6 131.7	3 23.1 -47.4 131.0	2 49.8 -47.1 130.3	2 16.1 -46.7 129.6
27°	3 40.7 -48.0 133.0	3 08.4 -47.7 132.3	2 35.7 -47.3 131.6	2 02.7 -47.0 130.9	1 29.4 -46.8 130.2
28°	2 52.7 -48.0 133.6	2 20.7 -47.7 132.9	1 48.4 -47.4 132.2	1 15.7 -47.1 131.5	0 42.6 -46.7 130.8
29°	2 04.7 -48.1 134.2	1 33.0 -47.7 133.5	1 01.0 -47.4 132.8	0 28.6 -47.0 132.1	-0 04.1 -46.7

Dec	LHA 060° / 300°	LHA 061° / 299°	LHA 062° / 298°	LHA 063° / 297°	LHA 064° / 296°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	21 27.0 -44.1 111.5	20 46.0 -43.8 110.7	20 04.9 -43.7 109.9	19 23.5 -43.5 109.2	18 42.0 -43.3 108.4
1°	20 42.9 -44.2 112.2	20 02.2 -44.1 111.4	19 21.2 -43.8 110.7	18 40.0 -43.6 109.9	17 58.7 -43.5 109.1
2°	19 58.7 -44.5 112.9	19 18.1 -44.2 112.2	18 37.4 -44.0 111.4	17 56.4 -43.8 110.6	17 15.2 -43.6 109.9
3°	19 14.2 -44.5 113.7	18 33.9 -44.3 112.9	17 53.4 -44.2 112.1	17 12.6 -43.9 111.3	16 31.6 -43.7 110.6
4°	18 29.7 -44.8 114.4	17 49.6 -44.5 113.6	17 09.2 -44.3 112.8	16 28.7 -44.1 112.0	15 47.9 -43.9 111.3
5°	17 44.9 -44.9 115.1	17 05.1 -44.7 114.3	16 24.9 -44.4 113.5	15 44.6 -44.2 112.7	15 04.0 -44.0 112.0
6°	17 00.0 -45.0 115.8	16 20.4 -44.8 115.0	15 40.5 -44.6 114.2	15 00.4 -44.4 113.4	14 20.0 -44.1 112.7
7°	16 15.0 -45.1 116.4	15 35.6 -44.9 115.7	14 55.9 -44.7 114.9	14 16.0 -44.5 114.1	13 35.9 -44.3 113.4
8°	15 29.9 -45.3 117.1	14 50.7 -45.1 116.4	14 11.2 -44.8 115.6	13 31.5 -44.5 114.8	12 51.6 -44.4 114.1
9°	14 44.6 -45.4 117.8	14 05.6 -45.1 117.0	13 26.4 -44.9 116.3	12 47.0 -44.7 115.5	12 07.2 -44.4 114.8
10°	13 59.2 -45.5 118.5	13 20.5 -45.3 117.7	12 41.5 -45.0 117.0	12 02.3 -44.8 116.2	11 22.8 -44.6 115.5
11°	13 13.7 -45.6 119.2	12 35.2 -45.3 118.4	11 56.5 -45.1 117.6	11 17.5 -44.9 116.9	10 38.2 -44.6 116.1
12°	12 28.1 -45.7 119.8	11 49.9 -45.5 119.1	11 11.4 -45.3 118.3	10 32.6 -45.0 117.6	9 53.6 -44.8 116.8
13°	11 42.4 -45.8 120.5	11 04.4 -45.6 119.7	10 26.1 -45.2 119.0	9 47.6 -45.0 118.2	9 08.8 -44.8 117.5
14°	10 56.6 -45.9 121.1	10 18.8 -45.6 120.4	9 40.9 -45.4 119.6	9 02.6 -45.1 118.9	8 24.0 -44.8 118.2
15°	10 10.7 -46.0 121.8	9 33.2 -45.7 121.1	8 55.5 -45.5 120.3	8 17.5 -45.2 119.6	7 39.2 -45.0 118.8
16°	9 24.7 -46.0 122.5	8 47.5 -45.7 121.7	8 10.0 -45.5 121.0	7 32.3 -45.3 120.2	6 54.2 -45.0 119.5
17°	8 38.7 -46.1 123.1	8 01.8 -45.9 122.4	7 24.5 -45.5 121.6	6 47.0 -45.3 120.9	6 09.2 -45.0 120.2
18°	7 52.6 -46.2 123.7	7 15.9 -45.9 123.0	6 39.0 -45.6 122.3	6 01.7 -45.3 121.6	5 24.2 -45.1 120.8
19°	7 06.4 -46.2 124.4	6 30.0 -45.9 123.7	5 53.4 -45.7 122.9	5 16.4 -45.4 122.2	4 39.1 -45.1 121.5
20°	6 20.2 -46.3 125.0	5 44.1 -46.0 124.3	5 07.7 -45.7 123.6	4 31.0 -45.4 122.9	3 54.0 -45.2 122.2
21°	5 33.9 -46.3 125.7	4 58.1 -46.0 125.0	4 22.0 -45.7 124.2	3 45.6 -45.5 123.5	3 08.8 -45.1 122.8
22°	4 47.6 -46.3 126.3	4 12.1 -46.0 125.6	3 36.3 -45.8 124.9	3 00.1 -45.5 124.2	2 23.7 -45.2 123.5
23°	4 01.3 -46.4 127.0	3 26.1 -46.1 126.2	2 50.5 -45.8 125.5	2 14.6 -45.5 124.8	1 38.5 -45.2 124.1
24°	3 14.9 -46.4 127.6	2 40.0 -46.1 126.9	2 04.7 -45.8 126.2	1 29.1 -45.5 125.5	0 53.3 -45.3 124.8
25°	2 28.5 -46.4 128.2	1 53.9 -46.1 127.5	1 18.9 -45.8 126.8	0 43.6 -45.5 126.1	0 08.0 -45.2 125.5
26°	1 42.1 -46.4 128.9	1 07.8 -46.1 128.2	0 33.1 -45.8 127.5	-0 01.9 -45.5	-0 37.2 -45.2
27°	0 55.7 -46.4 129.5	0 21.7 -46.2 128.8	-0 12.7 -45.8	-0 47.4 -45.5	-1 22.4 -45.2
28°	0 09.3 -46.5 130.1	-0 24.5 -46.1	-0 58.5 -45.8	-1 32.9 -45.5	-2 07.6 -45.2
29°	-0 37.2 -46.4	-1 10.6 -46.1	-1 44.3 -45.8	-2 18.4 -45.5	-2 52.8 -45.1

Dec	LHA 065° / 295°	LHA 066° / 294°	LHA 067° / 293°	LHA 068° / 292°	LHA 069° / 291°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	18 00.2 -43.1 107.6	17 18.3 -42.9 106.9	16 36.3 -42.8 106.1	15 54.0 -42.6 105.4	15 11.7 -42.5 104.7
1°	17 17.1 -43.2 108.4	16 35.4 -43.1 107.6	15 53.5 -42.9 106.9	15 11.4 -42.7 106.1	14 29.2 -42.6 105.4
2°	16 33.9 -43.4 109.1	15 52.3 -43.2 108.3	15 10.6 -43.1 107.6	14 28.7 -42.9 106.9	13 46.6 -42.8 106.1
3°	15 50.5 -43.6 109.8	15 09.1 -43.4 109.1	14 27.5 -43.2 108.3	13 45.8 -43.1 107.6	13 03.8 -42.8 106.8
4°	15 06.9 -43.7 110.5	14 25.7 -43.5 109.8	13 44.3 -43.3 109.0	13 02.7 -43.1 108.3	12 21.0 -43.0 107.6
5°	14 23.2 -43.8 111.2	13 42.2 -43.6 110.5	13 01.0 -43.4 109.7	12 19.6 -43.2 109.0	11 38.0 -43.0 108.3
6°	13 39.4 -43.9 111.9	12 58.6 -43.7 111.2	12 17.6 -43.6 110.5	11 36.4 -43.4 109.7	10 55.0 -43.2 109.0
7°	12 55.5 -44.1 112.6	12 14.9 -43.9 111.9	11 34.0 -43.6 111.2	10 53.0 -43.4 110.4	10 11.8 -43.3 109.7
8°	12 11.4 -44.1 113.3	11 31.0 -43.9 112.6	10 50.4 -43.7 111.9	10 09.6 -43.6 111.1	9 28.5 -43.3 110.4
9°	11 27.3 -44.3 114.0	10 47.1 -44.1 113.3	10 06.7 -43.9 112.6	9 26.0 -43.6 111.8	8 45.2 -43.4 111.1
10°	10 43.0 -44.3 114.7	10 03.0 -44.1 114.0	9 22.8 -43.9 113.2	8 42.4 -43.7 112.5	8 01.8 -43.5 111.8
11°	9 58.7 -44.4 115.4	9 18.9 -44.2 114.7	8 38.9 -43.9 113.9	7 58.7 -43.7 113.2	7 18.3 -43.6 112.5
12°	9 14.3 -44.5 116.1	8 34.7 -44.2 115.4	7 55.0 -44.1 114.6	7 15.0 -43.9 113.9	6 34.7 -43.6 113.2
13°	8 29.8 -44.6 116.8	7 50.5 -44.4 116.0	7 10.9 -44.1 115.3	6 31.1 -43.8 114.6	5 51.1 -43.6 113.9
14°	7 45.2 -44.6 117.4	7 06.1 -44.4 116.7	6 26.8 -44.1 116.0	5 47.3 -44.0 115.3	5 07.5 -43.7 114.6
15°	7 00.6 -44.7 118.1	6 21.7 -44.4 117.4	5 42.7 -44.2 116.7	5 03.3 -43.9 116.0	4 23.8 -43.8 115.3
16°	6 15.9 -44.7 118.8	5 37.3 -44.5 118.1	4 58.5 -44.3 117.4	4 19.4 -44.1 116.6	3 40.0 -43.8 115.9
17°	5 31.2 -44.8 119.5	4 52.8 -44.5 118.7	4 14.2 -44.3 118.0	3 35.3 -44.0 117.3	2 56.2 -43.8 116.6
18°	4 46.4 -44.8 120.1	4 08.3 -44.6 119.4	3 29.9 -44.3 118.7	2 51.3 -44.1 118.0	2 12.4 -43.8 117.3
19°	4 01.6 -44.9 120.8	3 23.7 -44.6 120.1	2 45.6 -44.3 119.4	2 07.2 -44.0 118.7	1 28.6 -43.8 118.0
20°	3 16.7 -44.9 121.5	2 39.1 -44.6 120.8	2 01.3 -44.4 120.1	1 23.2 -44.1 119.4	0 44.8 -43.8 118.7
21°	2 31.8 -44.9 122.1	1 54.5 -44.6 121.4	1 16.9 -44.3 120.7	0 39.1 -44.1 120.0	0 01.0 -43.9 119.4
22°	1 46.9 -44.9 122.8	1 09.9 -44.7 122.1	0 32.6 -44.4 121.4	-0 05.0 -44.1	-0 42.9 -43.8
23°	1 02.0 -44.9 123.4	0 25.2 -44.6 122.8	-0 11.8 -44.4	-0 49.1 -44.1	-1 26.7 -43.8
24°	0 17.1 -44.9 124.1	-0 19.4 -44.6	-0 56.2 -44.3	-1 33.2 -44.1	-2 10.5 -43.8
25°	-0 27.8 -45.0	-1 04.0 -44.7	-1 40.5 -44.4	-2 17.3 -44.0	-2 54.3 -43.8
26°	-1 12.8 -44.9	-1 48.7 -44.6	-2 24.9 -44.3	-3 01.3 -44.1	-3 38.1 -43.7
27°	-1 57.7 -44.9	-2 33.3 -44.6	-3 09.2 -44.3	-3 45.4 -44.0	-4 21.8 -43.7
28°	-2 42.6 -44.9	-3 17.9 -44.6	-3 53.5 -44.2	-4 29.4 -43.9	-5 05.5 -43.7
29°	-3 27.5 -44.8	-4 02.5 -44.5	-4 37.7 -44.3	-5 13.3 -44.0	-5 49.2 -43.6

Dec	LHA 070° / 290°	LHA 071° / 289°	LHA 072° / 288°	LHA 073° / 287°	LHA 074° / 286°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	14 29.1 -42.3 103.9	13 46.5 -42.2 103.2	13 03.7 -42.1 102.5	12 20.8 -41.9 101.8	11 37.8 -41.8 101.1
1°	13 46.8 -42.4 104.7	13 04.3 -42.3 103.9	12 21.6 -42.1 103.2	11 38.9 -42.1 102.5	10 56.0 -42.0 101.8
2°	13 04.4 -42.6 105.4	12 22.0 -42.5 104.7	11 39.5 -42.3 104.0	10 56.8 -42.2 103.2	10 14.0 -42.0 102.5
3°	12 21.8 -42.7 106.1	11 39.5 -42.5 105.4	10 57.2 -42.4 104.7	10 14.6 -42.2 104.0	9 32.0 -42.1 103.2
4°	11 39.1 -42.8 106.8	10 57.0 -42.6 106.1	10 14.8 -42.5 105.4	9 32.4 -42.4 104.7	8 49.9 -42.2 104.0
5°	10 56.3 -42.9 107.6	10 14.4 -42.8 106.8	9 32.3 -42.6 106.1	8 50.0 -42.4 105.4	8 07.7 -42.3 104.7
6°	10 13.4 -43.0 108.3	9 31.6 -42.8 107.5	8 49.7 -42.7 106.8	8 07.6 -42.5 106.1	7 25.4 -42.4 105.4
7°	9 30.4 -43.1 109.0	8 48.8 -42.9 108.3	8 07.0 -42.7 107.5	7 25.1 -42.5 106.8	6 43.0 -42.4 106.1
8°	8 47.3 -43.1 109.7	8 05.9 -43.0 109.0	7 24.3 -42.8 108.2	6 42.6 -42.7 107.5	6 00.6 -42.4 106.8
9°	8 04.2 -43.3 110.4	7 22.9 -43.0 109.7	6 41.5 -42.8 109.0	5 59.9 -42.7 108.2	5 18.2 -42.5 107.5
10°	7 20.9 -43.3 111.1	6 39.9 -43.1 110.4	5 58.7 -43.0 109.7	5 17.2 -42.7 109.0	4 35.7 -42.6 108.2
11°	6 37.6 -43.3 111.8	5 56.8 -43.2 111.1	5 15.7 -42.9 110.4	4 34.5 -42.8 109.7	3 53.1 -42.6 109.0
12°	5 54.3 -43.4 112.5	5 13.6 -43.2 111.8	4 32.8 -43.0 111.1	3 51.7 -42.8 110.4	3 10.5 -42.6 109.7
13°	5 10.9 -43.5 113.2	4 30.4 -43.2 112.5	3 49.8 -43.0 111.8	3 08.9 -42.8 111.1	2 27.9 -42.7 110.4
14°	4 27.4 -43.4 113.9	3 47.2 -43.3 113.2	3 06.8 -43.1 112.5	2 26.1 -42.9 111.8	1 45.2 -42.6 111.1
15°	3 44.0 -43.6 114.5	3 03.9 -43.3 113.8	2 23.7 -43.1 113.2	1 43.2 -42.8 112.5	1 02.6 -42.7 111.8
16°	3 00.4 -43.5 115.2	2 20.6 -43.3 114.5	1 40.6 -43.1 113.9	1 00.4 -42.9 113.2	0 19.9 -42.6 112.5
17°	2 16.9 -43.6 115.9	1 37.3 -43.3 115.2	0 57.5 -43.1 114.5	0 17.5 -42.9 113.9	-0 22.7 -42.7
18°	1 33.3 -43.5 116.6	0 54.0 -43.4 115.9	0 14.4 -43.1 115.2	-0 25.4 -42.9	-1 05.4 -42.7
19°	0 49.8 -43.6 117.3	0 10.6 -43.3 116.6	-0 28.7 -43.1	-1 08.3 -42.8	-1 48.1 -42.6
20°	0 06.2 -43.6 118.0	-0 32.7 -43.3	-1 11.8 -43.1	-1 51.1 -42.9	-2 30.7 -42.6
21°	-0 37.4 -43.6	-1 16.0 -43.4	-1 54.9 -43.1	-2 34.0 -42.8	-3 13.3 -42.6
22°	-1 21.0 -43.6	-1 59.4 -43.3	-2 38.0 -43.0	-3 16.8 -42.8	-3 55.9 -42.6
23°	-2 04.6 -43.5	-2 42.7 -43.3	-3 21.0 -43.1	-3 59.6 -42.8	-4 38.5 -42.5
24°	-2 48.1 -43.5	-3 26.0 -43.2	-4 04.1 -42.9	-4 42.4 -42.7	-5 21.0 -42.4
25°	-3 31.6 -43.5	-4 09.2 -43.2	-4 47.0 -43.0	-5 25.1 -42.7	-6 03.4 -42.4
26°	-4 15.1 -43.5	-4 52.4 -43.2	-5 30.0 -42.9	-6 07.8 -42.6	-6 45.8 -42.4
27°	-4 58.6 -43.4	-5 35.6 -43.1	-6 12.9 -42.8	-6 50.4 -42.6	-7 28.2 -42.3
28°	-5 42.0 -43.4	-6 18.7 -43.1	-6 55.7 -42.8	-7 33.0 -42.4	-8 10.5 -42.2
29°	-6 25.4 -43.3	-7 01.8 -43.0	-7 38.5 -42.7	-8 15.4 -42.5	-8 52.7 -42.1

Dec	LHA 075° / 285°	LHA 076° / 284°	LHA 077° / 283°	LHA 078° / 282°	LHA 079° / 281°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	10 54.7 -41.7 100.4	10 11.5 -41.7 99.7	9 28.2 -41.6 98.9	8 44.8 -41.5 98.2	8 01.3 -41.4 97.6
1°	10 13.0 -41.9 101.1	9 29.8 -41.7 100.4	8 46.6 -41.6 99.7	8 03.3 -41.5 99.0	7 19.9 -41.4 98.3
2°	9 31.1 -41.9 101.8	8 48.1 -41.8 101.1	8 05.0 -41.7 100.4	7 21.8 -41.6 99.7	6 38.5 -41.5 99.0
3°	8 49.2 -42.0 102.5	8 06.3 -41.8 101.8	7 23.3 -41.7 101.1	6 40.2 -41.6 100.4	5 57.0 -41.5 99.7
4°	8 07.2 -42.0 103.3	7 24.5 -42.0 102.6	6 41.6 -41.9 101.9	5 58.6 -41.7 101.2	5 15.5 -41.6 100.5
5°	7 25.2 -42.2 104.0	6 42.5 -42.0 103.3	5 59.7 -41.8 102.6	5 16.9 -41.8 101.9	4 33.9 -41.7 101.2
6°	6 43.0 -42.2 104.7	6 00.5 -42.1 104.0	5 17.9 -42.0 103.3	4 35.1 -41.8 102.6	3 52.2 -41.7 101.9
7°	6 00.8 -42.2 105.4	5 18.4 -42.1 104.7	4 35.9 -41.9 104.0	3 53.3 -41.9 103.3	3 10.5 -41.7 102.6
8°	5 18.6 -42.4 106.1	4 36.3 -42.1 105.4	3 54.0 -42.1 104.7	3 11.4 -41.8 104.0	2 28.8 -41.7 103.3
9°	4 36.2 -42.3 106.8	3 54.2 -42.2 106.1	3 11.9 -42.0 105.4	2 29.6 -41.9 104.8	1 47.1 -41.8 104.1
10°	3 53.9 -42.4 107.5	3 12.0 -42.2 106.9	2 29.9 -42.1 106.2	1 47.7 -41.9 105.5	1 05.3 -41.7 104.8
11°	3 11.5 -42.4 108.3	2 29.8 -42.3 107.6	1 47.8 -42.0 106.9	1 05.8 -41.9 106.2	0 23.6 -41.8 105.5
12°	2 29.1 -42.4 109.0	1 47.5 -42.2 108.3	1 05.8 -42.1 107.6	0 23.9 -42.0 106.9	-0 18.2 -41.8
13°	1 46.7 -42.5 109.7	1 05.3 -42.3 109.0	0 23.7 -42.1 108.3	-0 18.1 -41.9	-1 00.0 -41.7
14°	1 04.2 -42.5 110.4	0 23.0 -42.3 109.7	-0 18.4 -42.1	-1 00.0 -41.9	-1 41.7 -41.8
15°	0 21.7 -42.4 111.1	-0 19.3 -42.3	-1 00.5 -42.1	-1 41.9 -41.9	-2 23.5 -41.7
16°	-0 20.7 -42.5	-1 01.6 -42.2	-1 42.6 -42.1	-2 23.8 -41.9	-3 05.2 -41.7
17°	-1 03.2 -42.4	-1 43.8 -42.3	-2 24.7 -42.0	-3 05.7 -41.8	-3 46.9 -41.6
18°	-1 45.6 -42.5	-2 26.1 -42.2	-3 06.7 -42.0	-3 47.5 -41.8	-4 28.5 -41.6
19°	-2 28.1 -42.4	-3 08.3 -42.2	-3 48.7 -42.0	-4 29.3 -41.8	-5 10.1 -41.6
20°	-3 10.5 -42.4	-3 50.5 -42.1	-4 30.7 -41.9	-5 11.1 -41.7	-5 51.7 -41.5
21°	-3 52.9 -42.3	-4 32.6 -42.2	-5 12.6 -41.9	-5 52.8 -41.7	-6 33.2 -41.4
22°	-4 35.2 -42.3	-5 14.8 -42.0	-5 54.5 -41.8	-6 34.5 -41.6	-7 14.6 -41.4
23°	-5 17.5 -42.3	-5 56.8 -42.0	-6 36.3 -41.8	-7 16.1 -41.5	-7 56.0 -41.3
24°	-5 59.8 -42.2	-6 38.8 -42.0	-7 18.1 -41.7	-7 57.6 -41.5	-8 37.3 -41.2
25°	-6 42.0 -42.1	-7 20.8 -41.9	-7 59.8 -41.6	-8 39.1 -41.3	-9 18.5 -41.1
26°	-7 24.1 -42.1	-8 02.7 -41.8	-8 41.4 -41.6	-9 20.4 -41.3	-9 59.6 -41.1
27°	-8 06.2 -42.0	-8 44.5 -41.7	-9 23.0 -41.4		
28°	-8 48.2 -41.9	-9 26.2 -41.6			
29°	-9 30.1 -41.9				

Dec	LHA 080° / 280°	LHA 081° / 279°	LHA 082° / 278°	LHA 083° / 277°	LHA 084° / 276°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	7 17.8 -41.3 96.9	6 34.2 -41.2 96.2	5 50.5 -41.1 95.5	5 06.8 -41.1 94.8	4 23.1 -41.1 94.1
1°	6 36.5 -41.4 97.6	5 53.0 -41.3 96.9	5 09.4 -41.3 96.2	4 25.7 -41.1 95.5	3 42.0 -41.1 94.8
2°	5 55.1 -41.4 98.3	5 11.7 -41.4 97.6	4 28.1 -41.2 96.9	3 44.6 -41.2 96.2	3 00.9 -41.1 95.6
3°	5 13.7 -41.4 99.0	4 30.3 -41.3 98.4	3 46.9 -41.3 97.7	3 03.4 -41.2 97.0	2 19.8 -41.2 96.3
4°	4 32.3 -41.5 99.8	3 49.0 -41.4 99.1	3 05.6 -41.3 98.4	2 22.2 -41.3 97.7	1 38.6 -41.1 97.0
5°	3 50.8 -41.6 100.5	3 07.6 -41.5 99.8	2 24.3 -41.4 99.1	1 40.9 -41.2 98.4	0 57.5 -41.2 97.7
6°	3 09.2 -41.5 101.2	2 26.1 -41.4 100.5	1 42.9 -41.3 99.8	0 59.7 -41.3 99.2	0 16.3 -41.2 98.5
7°	2 27.7 -41.6 101.9	1 44.7 -41.5 101.3	1 01.6 -41.4 100.6	0 18.4 -41.3 99.9	-0 24.9 -41.2
8°	1 46.1 -41.7 102.7	1 03.2 -41.5 102.0	0 20.2 -41.4 101.3	-0 22.9 -41.2	-1 06.1 -41.1
9°	1 04.4 -41.6 103.4	0 21.7 -41.5 102.7	-0 21.2 -41.3	-1 04.1 -41.3	-1 47.2 -41.2
10°	0 22.8 -41.6 104.1	-0 19.8 -41.5	-1 02.5 -41.4	-1 45.4 -41.2	-2 28.4 -41.1
11°	-0 18.8 -41.6	-1 01.3 -41.5	-1 43.9 -41.3	-2 26.6 -41.2	-3 09.5 -41.1
12°	-1 00.4 -41.6	-1 42.8 -41.4	-2 25.2 -41.4	-3 07.8 -41.2	-3 50.6 -41.0
13°	-1 42.0 -41.6	-2 24.2 -41.5	-3 06.6 -41.2	-3 49.0 -41.2	-4 31.6 -41.0
14°	-2 23.6 -41.6	-3 05.7 -41.4	-3 47.8 -41.3	-4 30.2 -41.1	-5 12.6 -41.0
15°	-3 05.2 -41.5	-3 47.1 -41.3	-4 29.1 -41.2	-5 11.3 -41.0	-5 53.6 -40.9
16°	-3 46.7 -41.5	-4 28.4 -41.4	-5 10.3 -41.2	-5 52.3 -41.0	-6 34.5 -40.8
17°	-4 28.2 -41.5	-5 09.8 -41.3	-5 51.5 -41.1	-6 33.3 -40.9	-7 15.3 -40.8
18°	-5 09.7 -41.4	-5 51.1 -41.2	-6 32.6 -41.0	-7 14.2 -40.9	-7 56.1 -40.7
19°	-5 51.1 -41.4	-6 32.3 -41.1	-7 13.6 -41.0	-7 55.1 -40.8	-8 36.8 -40.6
20°	-6 32.5 -41.3	-7 13.4 -41.1	-7 54.6 -40.9	-8 35.9 -40.7	-9 17.4 -40.5
21°	-7 13.8 -41.2	-7 54.5 -41.0	-8 35.5 -40.8	-9 16.6 -40.6	-9 57.9 -40.4
22°	-7 55.0 -41.1	-8 35.5 -41.0	-9 16.3 -40.7	-9 57.2 -40.5	
23°	-8 36.1 -41.1	-9 16.5 -40.8	-9 57.0 -40.6		
24°	-9 17.2 -41.0	-9 57.3 -40.7			
25°	-9 58.2 -40.8				
26°					
27°					
28°					
29°					

Dec	LHA 085° / 275°	LHA 086° / 274°	LHA 087° / 273°	LHA 088° / 272°	LHA 089° / 271°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	3 39.3 -41.0 93.4	2 55.5 -41.0 92.7	2 11.6 -40.9 92.0	1 27.8 -41.0 91.4	0 43.9 -40.9 90.7
1°	2 58.3 -41.1 94.1	2 14.5 -41.0 93.5	1 30.7 -41.0 92.8	0 46.8 -40.9 92.1	0 03.0 -41.0 91.4
2°	2 17.2 -41.1 94.9	1 33.5 -41.1 94.2	0 49.7 -41.0 93.5	0 05.9 -41.0 92.8	-0 38.0 -40.9
3°	1 36.1 -41.1 95.6	0 52.4 -41.0 94.9	0 08.7 -41.0 94.2	-0 35.1 -40.9	-1 18.9 -40.9
4°	0 55.0 -41.0 96.3	0 11.4 -41.0 95.7	-0 32.3 -41.0	-1 16.0 -41.0	-1 59.8 -40.9
5°	0 14.0 -41.1 97.1	-0 29.6 -41.1	-1 13.3 -40.9	-1 57.0 -40.9	-2 40.7 -40.8
6°	-0 27.1 -41.1	-1 10.7 -41.0	-1 54.2 -41.0	-2 37.9 -40.8	-3 21.5 -40.9
7°	-1 08.2 -41.1	-1 51.7 -41.0	-2 35.2 -40.9	-3 18.7 -40.9	-4 02.4 -40.8
8°	-1 49.3 -41.1	-2 32.7 -40.9	-3 16.1 -40.9	-3 59.6 -40.8	-4 43.2 -40.7
9°	-2 30.4 -41.0	-3 13.6 -41.0	-3 57.0 -40.8	-4 40.4 -40.8	-5 23.9 -40.7
10°	-3 11.4 -41.0	-3 54.6 -40.9	-4 37.8 -40.8	-5 21.2 -40.7	-6 04.6 -40.6
11°	-3 52.4 -41.0	-4 35.5 -40.9	-5 18.6 -40.8	-6 01.9 -40.6	-6 45.2 -40.6
12°	-4 33.4 -40.9	-5 16.4 -40.8	-5 59.4 -40.7	-6 42.5 -40.6	-7 25.8 -40.5
13°	-5 14.3 -40.9	-5 57.2 -40.7	-6 40.1 -40.6	-7 23.1 -40.6	-8 06.3 -40.4
14°	-5 55.2 -40.8	-6 37.9 -40.7	-7 20.7 -40.6	-8 03.7 -40.4	-8 46.7 -40.3
15°	-6 36.0 -40.8	-7 18.6 -40.6	-8 01.3 -40.5	-8 44.1 -40.3	-9 27.0 -40.2
16°	-7 16.8 -40.7	-7 59.2 -40.5	-8 41.8 -40.3	-9 24.4 -40.3	
17°	-7 57.5 -40.6	-8 39.7 -40.5	-9 22.1 -40.3		
18°	-8 38.1 -40.5	-9 20.2 -40.3			
19°	-9 18.6 -40.4				
20°	-9 59.0 -40.3				
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 090° / 270°	LHA 091° / 269°	LHA 092° / 268°	LHA 093° / 267°	LHA 094° / 266°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	0 00.0 -40.9 90.0	-0 43.9 -40.9			
1°	-0 40.9 -40.9	-1 24.8 -40.9			
2°	-1 21.8 -40.9	-2 05.7 -40.9			
3°	-2 02.7 -40.9	-2 46.6 -40.8			
4°	-2 43.6 -40.9	-3 27.4 -40.9			
5°	-3 24.5 -40.8	-4 08.3 -40.7			
6°	-4 05.3 -40.8	-4 49.0 -40.8			
7°	-4 46.1 -40.7	-5 29.8 -40.7			
8°	-5 26.8 -40.7	-6 10.5 -40.6			
9°	-6 07.5 -40.6	-6 51.1 -40.5			
10°	-6 48.1 -40.5	-7 31.6 -40.5			
11°	-7 28.6 -40.5	-8 12.1 -40.4			
12°	-8 09.1 -40.4	-8 52.5 -40.3			
13°	-8 49.5 -40.3	-9 32.8 -40.2			
14°	-9 29.8 -40.2				
15°					
16°					
17°					
18°					
19°					
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 095° / 265°	LHA 096° / 264°	LHA 097° / 263°	LHA 098° / 262°	LHA 099° / 261°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°					
1°					
2°					
3°					
4°					
5°					
6°					
7°					
8°					
9°					
10°					
11°					
12°					
13°					
14°					
15°					
16°					
17°					
18°					
19°					
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 000° / 360°	LHA 001° / 359°	LHA 002° / 358°	LHA 003° / 357°	LHA 004° / 356°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	46 00.0 -60.0 180.0	45 59.5 -60.0 178.6	45 57.8 -59.9 177.1	45 55.1 -59.9 175.7	45 51.3 -59.8 174.3
1°	45 00.0 -60.0 180.0	44 59.5 -60.0 178.6	44 57.9 -60.0 177.2	44 55.2 -59.9 175.8	44 51.5 -59.9 174.4
2°	44 00.0 -60.0 180.0	43 59.5 -60.0 178.6	43 57.9 -60.0 177.2	43 55.3 -59.9 175.8	43 51.6 -59.8 174.5
3°	43 00.0 -60.0 180.0	42 59.5 -60.0 178.6	42 57.9 -59.9 177.3	42 55.4 -59.9 175.9	42 51.8 -59.9 174.5
4°	42 00.0 -60.0 180.0	41 59.5 -60.0 178.7	41 58.0 -60.0 177.3	41 55.5 -60.0 176.0	41 51.9 -59.8 174.6
5°	41 00.0 -60.0 180.0	40 59.5 -60.0 178.7	40 58.0 -60.0 177.4	40 55.5 -59.9 176.0	40 52.1 -59.9 174.7
6°	40 00.0 -60.0 180.0	39 59.5 -60.0 178.7	39 58.0 -59.9 177.4	39 55.6 -59.9 176.1	39 52.2 -59.9 174.8
7°	39 00.0 -60.0 180.0	38 59.5 -60.0 178.7	38 58.1 -60.0 177.4	38 55.7 -60.0 176.2	38 52.3 -59.9 174.9
8°	38 00.0 -60.0 180.0	37 59.5 -60.0 178.7	37 58.1 -60.0 177.5	37 55.7 -59.9 176.2	37 52.4 -59.8 175.0
9°	37 00.0 -60.0 180.0	36 59.5 -60.0 178.8	36 58.1 -59.9 177.5	36 55.8 -59.9 176.3	36 52.6 -59.9 175.1
10°	36 00.0 -60.0 180.0	35 59.5 -60.0 178.8	35 58.2 -60.0 177.6	35 55.9 -60.0 176.4	35 52.7 -59.9 175.1
11°	35 00.0 -60.0 180.0	34 59.5 -59.9 178.8	34 58.2 -60.0 177.6	34 55.9 -59.9 176.4	34 52.8 -59.9 175.2
12°	34 00.0 -60.0 180.0	33 59.6 -60.0 178.8	33 58.2 -59.9 177.6	33 56.0 -59.9 176.5	33 52.9 -59.9 175.3
13°	33 00.0 -60.0 180.0	32 59.6 -60.0 178.8	32 58.3 -60.0 177.7	32 56.1 -60.0 176.5	32 53.0 -59.9 175.4
14°	32 00.0 -60.0 180.0	31 59.6 -60.0 178.9	31 58.3 -60.0 177.7	31 56.1 -59.9 176.6	31 53.1 -59.9 175.4
15°	31 00.0 -60.0 180.0	30 59.6 -60.0 178.9	30 58.3 -60.0 177.7	30 56.2 -60.0 176.6	30 53.2 -59.9 175.5
16°	30 00.0 -60.0 180.0	29 59.6 -60.0 178.9	29 58.3 -59.9 177.8	29 56.2 -59.9 176.7	29 53.3 -59.9 175.6
17°	29 00.0 -60.0 180.0	28 59.6 -60.0 178.9	28 58.4 -60.0 177.8	28 56.3 -59.9 176.7	28 53.4 -59.9 175.6
18°	28 00.0 -60.0 180.0	27 59.6 -60.0 178.9	27 58.4 -60.0 177.8	27 56.4 -60.0 176.8	27 53.5 -59.9 175.7
19°	27 00.0 -60.0 180.0	26 59.6 -60.0 178.9	26 58.4 -60.0 177.9	26 56.4 -59.9 176.8	26 53.6 -59.9 175.8
20°	26 00.0 -60.0 180.0	25 59.6 -60.0 179.0	25 58.4 -60.0 177.9	25 56.5 -60.0 176.9	25 53.7 -59.9 175.8
21°	25 00.0 -60.0 180.0	24 59.6 -60.0 179.0	24 58.4 -59.9 177.9	24 56.5 -59.9 176.9	24 53.8 -59.9 175.9
22°	24 00.0 -60.0 180.0	23 59.6 -60.0 179.0	23 58.5 -60.0 178.0	23 56.6 -60.0 177.0	23 53.9 -59.9 175.9
23°	23 00.0 -60.0 180.0	22 59.6 -60.0 179.0	22 58.5 -60.0 178.0	22 56.6 -59.9 177.0	22 54.0 -59.9 176.0
24°	22 00.0 -60.0 180.0	21 59.6 -60.0 179.0	21 58.5 -60.0 178.0	21 56.7 -60.0 177.0	21 54.1 -59.9 176.1
25°	21 00.0 -60.0 180.0	20 59.6 -60.0 179.0	20 58.5 -59.9 178.1	20 56.7 -59.9 177.1	20 54.2 -60.0 176.1
26°	20 00.0 -60.0 180.0	19 59.6 -60.0 179.0	19 58.6 -60.0 178.1	19 56.8 -60.0 177.1	19 54.2 -59.9 176.2
27°	19 00.0 -60.0 180.0	18 59.6 -59.9 179.1	18 58.6 -60.0 178.1	18 56.8 -59.9 177.2	18 54.3 -59.9 176.2
28°	18 00.0 -60.0 180.0	17 59.7 -60.0 179.1	17 58.6 -60.0 178.1	17 56.9 -60.0 177.2	17 54.4 -59.9 176.3
29°	17 00.0 -60.0 180.0	16 59.7 -60.0 179.1	16 58.6 -60.0 178.2	16 56.9 -60.0 177.3	16 54.5 -59.9 176.3

Dec	LHA 005° / 355°	LHA 006° / 354°	LHA 007° / 353°	LHA 008° / 352°	LHA 009° / 351°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	45 46.5 -59.8 172.8	45 40.6 -59.7 171.4	45 33.6 -59.6 170.0	45 25.5 -59.4 168.6	45 16.5 -59.3 167.2
1°	44 46.7 -59.7 172.9	44 40.9 -59.7 171.5	44 34.0 -59.5 170.2	44 26.1 -59.4 168.8	44 17.2 -59.3 167.4
2°	43 47.0 -59.8 173.1	43 41.2 -59.7 171.7	43 34.5 -59.6 170.3	43 26.7 -59.4 169.0	43 17.9 -59.2 167.6
3°	42 47.2 -59.8 173.2	42 41.5 -59.6 171.8	42 34.9 -59.6 170.5	42 27.3 -59.5 169.1	42 18.7 -59.4 167.8
4°	41 47.4 -59.8 173.3	41 41.9 -59.7 172.0	41 35.3 -59.6 170.6	41 27.8 -59.4 169.3	41 19.3 -59.3 168.0
5°	40 47.6 -59.8 173.4	40 42.2 -59.7 172.1	40 35.7 -59.6 170.8	40 28.4 -59.5 169.5	40 20.0 -59.3 168.2
6°	39 47.8 -59.8 173.5	39 42.5 -59.8 172.2	39 36.1 -59.6 170.9	39 28.9 -59.5 169.7	39 20.7 -59.4 168.4
7°	38 48.0 -59.8 173.6	38 42.7 -59.7 172.4	38 36.5 -59.6 171.1	38 29.4 -59.5 169.8	38 21.3 -59.4 168.6
8°	37 48.2 -59.8 173.7	37 43.0 -59.7 172.5	37 36.9 -59.6 171.2	37 29.9 -59.6 170.0	37 21.9 -59.4 168.8
9°	36 48.4 -59.8 173.8	36 43.3 -59.8 172.6	36 37.3 -59.7 171.4	36 30.3 -59.5 170.2	36 22.5 -59.4 168.9
10°	35 48.6 -59.9 173.9	35 43.5 -59.7 172.7	35 37.6 -59.6 171.5	35 30.8 -59.6 170.3	35 23.1 -59.5 169.1
11°	34 48.7 -59.8 174.0	34 43.8 -59.8 172.8	34 38.0 -59.7 171.6	34 31.2 -59.5 170.5	34 23.6 -59.4 169.3
12°	33 48.9 -59.8 174.1	33 44.0 -59.7 172.9	33 38.3 -59.7 171.8	33 31.7 -59.6 170.6	33 24.2 -59.5 169.4
13°	32 49.1 -59.9 174.2	32 44.3 -59.8 173.0	32 38.6 -59.6 171.9	32 32.1 -59.6 170.7	32 24.7 -59.4 169.6
14°	31 49.2 -59.8 174.3	31 44.5 -59.7 173.2	31 39.0 -59.7 172.0	31 32.5 -59.6 170.9	31 25.3 -59.5 169.8
15°	30 49.4 -59.8 174.4	30 44.8 -59.8 173.3	30 39.3 -59.7 172.1	30 32.9 -59.6 171.0	30 25.8 -59.5 169.9
16°	29 49.6 -59.9 174.5	29 45.0 -59.8 173.4	29 39.6 -59.7 172.3	29 33.3 -59.6 171.2	29 26.3 -59.5 170.1
17°	28 49.7 -59.8 174.5	28 45.2 -59.8 173.5	28 39.9 -59.7 172.4	28 33.7 -59.6 171.3	28 26.8 -59.5 170.2
18°	27 49.9 -59.9 174.6	27 45.4 -59.8 173.5	27 40.2 -59.7 172.5	27 34.1 -59.6 171.4	27 27.3 -59.5 170.3
19°	26 50.0 -59.8 174.7	26 45.6 -59.7 173.6	26 40.5 -59.7 172.6	26 34.5 -59.6 171.5	26 27.8 -59.6 170.5
20°	25 50.2 -59.9 174.8	25 45.9 -59.8 173.7	25 40.8 -59.8 172.7	25 34.9 -59.6 171.7	25 28.2 -59.5 170.6
21°	24 50.3 -59.8 174.9	24 46.1 -59.8 173.8	24 41.0 -59.7 172.8	24 35.3 -59.7 171.8	24 28.7 -59.5 170.8
22°	23 50.5 -59.9 174.9	23 46.3 -59.8 173.9	23 41.3 -59.7 172.9	23 35.6 -59.6 171.9	23 29.2 -59.6 170.9
23°	22 50.6 -59.9 175.0	22 46.5 -59.8 174.0	22 41.6 -59.7 173.0	22 36.0 -59.7 172.0	22 29.6 -59.5 171.0
24°	21 50.7 -59.8 175.1	21 46.7 -59.8 174.1	21 41.9 -59.8 173.1	21 36.3 -59.6 172.1	21 30.1 -59.6 171.2
25°	20 50.9 -59.9 175.2	20 46.9 -59.8 174.2	20 42.1 -59.7 173.2	20 36.7 -59.7 172.3	20 30.5 -59.6 171.3
26°	19 51.0 -59.9 175.2	19 47.1 -59.9 174.3	19 42.4 -59.8 173.3	19 37.0 -59.7 172.4	19 30.9 -59.5 171.4
27°	18 51.1 -59.8 175.3	18 47.2 -59.8 174.4	18 42.6 -59.7 173.4	18 37.3 -59.6 172.5	18 31.4 -59.6 171.5
28°	17 51.3 -59.9 175.4	17 47.4 -59.8 174.4	17 42.9 -59.7 173.5	17 37.7 -59.7 172.6	17 31.8 -59.6 171.7
29°	16 51.4 -59.9 175.4	16 47.6 -59.8 174.5	16 43.2 -59.8 173.6	16 38.0 -59.7 172.7	16 32.2 -59.6 171.8

Dec	LHA 010° / 350°	LHA 011° / 349°	LHA 012° / 348°	LHA 013° / 347°	LHA 014° / 346°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	45 06.3 -59.0 165.8	44 55.2 -58.9 164.4	44 43.1 -58.7 163.0	44 30.0 -58.5 161.6	44 15.9 -58.3 160.3
1°	44 07.3 -59.1 166.0	43 56.3 -58.9 164.6	43 44.4 -58.7 163.3	43 31.5 -58.5 161.9	43 17.6 -58.2 160.6
2°	43 08.2 -59.1 166.2	42 57.4 -58.9 164.9	42 45.7 -58.8 163.6	42 33.0 -58.6 162.2	42 19.4 -58.4 160.9
3°	42 09.1 -59.2 166.5	41 58.5 -59.0 165.1	41 46.9 -58.8 163.8	41 34.4 -58.6 162.5	41 21.0 -58.4 161.2
4°	41 09.9 -59.2 166.7	40 59.5 -59.0 165.4	40 48.1 -58.8 164.1	40 35.8 -58.6 162.8	40 22.6 -58.4 161.5
5°	40 10.7 -59.2 166.9	40 00.5 -59.1 165.6	39 49.3 -58.9 164.4	39 37.2 -58.7 163.1	39 24.2 -58.5 161.8
6°	39 11.5 -59.2 167.1	39 01.4 -59.0 165.9	38 50.4 -58.9 164.6	38 38.5 -58.7 163.4	38 25.7 -58.5 162.1
7°	38 12.3 -59.3 167.3	38 02.4 -59.1 166.1	37 51.5 -58.9 164.8	37 39.8 -58.7 163.6	37 27.2 -58.6 162.4
8°	37 13.0 -59.2 167.5	37 03.3 -59.2 166.3	36 52.6 -59.0 165.1	36 41.1 -58.8 163.9	36 28.6 -58.6 162.7
9°	36 13.8 -59.3 167.7	36 04.1 -59.1 166.5	35 53.6 -58.9 165.3	35 42.3 -58.8 164.1	35 30.0 -58.6 162.9
10°	35 14.5 -59.3 167.9	35 05.0 -59.1 166.7	34 54.7 -59.0 165.5	34 43.5 -58.9 164.4	34 31.4 -58.7 163.2
11°	34 15.2 -59.3 168.1	34 05.9 -59.2 166.9	33 55.7 -59.1 165.8	33 44.6 -58.8 164.6	33 32.7 -58.7 163.4
12°	33 15.9 -59.4 168.3	33 06.7 -59.2 167.1	32 56.6 -59.0 166.0	32 45.8 -58.9 164.8	32 34.0 -58.7 163.7
13°	32 16.5 -59.3 168.5	32 07.5 -59.2 167.3	31 57.6 -59.1 166.2	31 46.9 -59.0 165.1	31 35.3 -58.7 163.9
14°	31 17.2 -59.4 168.6	31 08.3 -59.3 167.5	30 58.5 -59.1 166.4	30 47.9 -58.9 165.3	30 36.6 -58.8 164.2
15°	30 17.8 -59.4 168.8	30 09.0 -59.2 167.7	29 59.4 -59.1 166.6	29 49.0 -58.9 165.5	29 37.8 -58.8 164.4
16°	29 18.4 -59.3 169.0	29 09.8 -59.3 167.9	29 00.3 -59.1 166.8	28 50.1 -59.0 165.7	28 39.0 -58.8 164.6
17°	28 19.1 -59.4 169.1	28 10.5 -59.3 168.1	28 01.2 -59.2 167.0	27 51.1 -59.0 165.9	27 40.2 -58.9 164.9
18°	27 19.7 -59.5 169.3	27 11.2 -59.2 168.2	27 02.0 -59.1 167.2	26 52.1 -59.0 166.1	26 41.3 -58.8 165.1
19°	26 20.2 -59.4 169.4	26 12.0 -59.3 168.4	26 02.9 -59.2 167.4	25 53.1 -59.1 166.3	25 42.5 -58.9 165.3
20°	25 20.8 -59.4 169.6	25 12.7 -59.4 168.6	25 03.7 -59.2 167.5	24 54.0 -59.0 166.5	24 43.6 -58.9 165.5
21°	24 21.4 -59.4 169.7	24 13.3 -59.3 168.7	24 04.5 -59.2 167.7	23 55.0 -59.1 166.7	23 44.7 -58.9 165.7
22°	23 22.0 -59.5 169.9	23 14.0 -59.3 168.9	23 05.3 -59.2 167.9	22 55.9 -59.0 166.9	22 45.8 -58.9 165.9
23°	22 22.5 -59.4 170.0	22 14.7 -59.4 169.1	22 06.1 -59.2 168.1	21 56.9 -59.1 167.1	21 46.9 -59.0 166.1
24°	21 23.1 -59.5 170.2	21 15.3 -59.3 169.2	21 06.9 -59.2 168.3	20 57.8 -59.1 167.3	20 47.9 -58.9 166.3
25°	20 23.6 -59.5 170.3	20 16.0 -59.4 169.4	20 07.7 -59.2 168.4	19 58.7 -59.1 167.5	19 49.0 -59.0 166.5
26°	19 24.1 -59.4 170.5	19 16.6 -59.3 169.5	19 08.5 -59.3 168.6	18 59.6 -59.2 167.7	18 50.0 -59.0 166.7
27°	18 24.7 -59.5 170.6	18 17.3 -59.4 169.7	18 09.2 -59.3 168.8	18 00.4 -59.1 167.8	17 51.0 -59.0 166.9
28°	17 25.2 -59.5 170.8	17 17.9 -59.4 169.8	17 09.9 -59.2 168.9	17 01.3 -59.1 168.0	16 52.0 -59.0 167.1
29°	16 25.7 -59.5 170.9	16 18.5 -59.4 170.0	16 10.7 -59.3 169.1	16 02.2 -59.2 168.2	15 53.0 -59.0 167.3

Dec	LHA 015° / 345°	LHA 016° / 344°	LHA 017° / 343°	LHA 018° / 342°	LHA 019° / 341°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	44 00.8 -58.0 158.9	43 44.8 -57.7 157.6	43 27.9 -57.5 156.2	43 10.0 -57.1 154.9	42 51.3 -56.9 153.6
1°	43 02.8 -58.0 159.3	42 47.1 -57.8 157.9	42 30.4 -57.5 156.6	42 12.9 -57.3 155.3	41 54.4 -57.0 154.1
2°	42 04.8 -58.1 159.6	41 49.3 -57.9 158.3	41 32.9 -57.6 157.0	41 15.6 -57.4 155.7	40 57.4 -57.1 154.5
3°	41 06.7 -58.2 159.9	40 51.4 -57.9 158.7	40 35.3 -57.7 157.4	40 18.2 -57.4 156.1	40 00.3 -57.1 154.9
4°	40 08.5 -58.2 160.3	39 53.5 -58.0 159.0	39 37.6 -57.8 157.7	39 20.8 -57.5 156.5	39 03.2 -57.3 155.3
5°	39 10.3 -58.3 160.6	38 55.5 -58.1 159.3	38 39.8 -57.8 158.1	38 23.3 -57.6 156.9	38 05.9 -57.3 155.7
6°	38 12.0 -58.3 160.9	37 57.4 -58.1 159.7	37 42.0 -57.9 158.4	37 25.7 -57.6 157.2	37 08.6 -57.4 156.0
7°	37 13.7 -58.4 161.2	36 59.3 -58.1 160.0	36 44.1 -57.9 158.8	36 28.1 -57.7 157.6	36 11.2 -57.4 156.4
8°	36 15.3 -58.4 161.5	36 01.2 -58.2 160.3	35 46.2 -58.0 159.1	35 30.4 -57.7 157.9	35 13.8 -57.5 156.8
9°	35 16.9 -58.4 161.8	35 03.0 -58.2 160.6	34 48.2 -58.0 159.4	34 32.7 -57.8 158.3	34 16.3 -57.6 157.1
10°	34 18.5 -58.5 162.0	34 04.8 -58.3 160.9	33 50.2 -58.1 159.7	33 34.9 -57.9 158.6	33 18.7 -57.6 157.4
11°	33 20.0 -58.5 162.3	33 06.5 -58.3 161.2	32 52.1 -58.1 160.0	32 37.0 -57.9 158.9	32 21.1 -57.7 157.8
12°	32 21.5 -58.5 162.6	32 08.2 -58.4 161.4	31 54.0 -58.1 160.3	31 39.1 -57.9 159.2	31 23.4 -57.7 158.1
13°	31 23.0 -58.6 162.8	31 09.8 -58.4 161.7	30 55.9 -58.2 160.6	30 41.2 -58.0 159.5	30 25.7 -57.8 158.4
14°	30 24.4 -58.6 163.1	30 11.4 -58.4 162.0	29 57.7 -58.2 160.9	29 43.2 -58.0 159.8	29 27.9 -57.8 158.7
15°	29 25.8 -58.6 163.3	29 13.0 -58.4 162.2	28 59.5 -58.3 161.2	28 45.2 -58.1 160.1	28 30.1 -57.9 159.0
16°	28 27.2 -58.7 163.6	28 14.6 -58.5 162.5	28 01.2 -58.3 161.4	27 47.1 -58.1 160.4	27 32.2 -57.8 159.3
17°	27 28.5 -58.6 163.8	27 16.1 -58.5 162.7	27 02.9 -58.3 161.7	26 49.0 -58.1 160.7	26 34.4 -58.0 159.6
18°	26 29.9 -58.7 164.0	26 17.6 -58.5 163.0	26 04.6 -58.3 162.0	25 50.9 -58.2 160.9	25 36.4 -57.9 159.9
19°	25 31.2 -58.8 164.3	25 19.1 -58.6 163.2	25 06.3 -58.4 162.2	24 52.7 -58.2 161.2	24 38.5 -58.0 160.2
20°	24 32.4 -58.7 164.5	24 20.5 -58.5 163.5	24 07.9 -58.4 162.5	23 54.5 -58.2 161.5	23 40.5 -58.0 160.5
21°	23 33.7 -58.8 164.7	23 22.0 -58.6 163.7	23 09.5 -58.4 162.7	22 56.3 -58.2 161.7	22 42.5 -58.1 160.8
22°	22 34.9 -58.7 164.9	22 23.4 -58.6 164.0	22 11.1 -58.5 163.0	21 58.1 -58.3 162.0	21 44.4 -58.1 161.0
23°	21 36.2 -58.8 165.2	21 24.8 -58.7 164.2	21 12.6 -58.4 163.2	20 59.8 -58.3 162.3	20 46.3 -58.1 161.3
24°	20 37.4 -58.8 165.4	20 26.1 -58.6 164.4	20 14.2 -58.5 163.5	20 01.5 -58.3 162.5	19 48.2 -58.1 161.6
25°	19 38.6 -58.9 165.6	19 27.5 -58.7 164.6	19 15.7 -58.5 163.7	19 03.2 -58.3 162.8	18 50.1 -58.1 161.8
26°	18 39.7 -58.8 165.8	18 28.8 -58.7 164.9	18 17.2 -58.5 163.9	18 04.9 -58.3 163.0	17 52.0 -58.2 162.1
27°	17 40.9 -58.8 166.0	17 30.1 -58.7 165.1	17 18.7 -58.6 164.2	17 06.6 -58.4 163.3	16 53.8 -58.2 162.4
28°	16 42.1 -58.9 166.2	16 31.4 -58.7 165.3	16 20.1 -58.5 164.4	16 08.2 -58.4 163.5	15 55.6 -58.2 162.6
29°	15 43.2 -58.9 166.4	15 32.7 -58.7 165.5	15 21.6 -58.6 164.6	15 09.8 -58.4 163.7	14 57.4 -58.2 162.9

Declination CONTRARY name to Latitude

Latitude 44°

Dec	LHA 020° / 340°	LHA 021° / 339°	LHA 022° / 338°	LHA 023° / 337°	LHA 024° / 336°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	42 31.7 -56.6 152.3	42 11.3 -56.3 151.1	41 50.0 -56.0 149.8	41 27.9 -55.7 148.6	41 05.0 -55.4 147.3
1°	41 35.1 -56.7 152.8	41 15.0 -56.5 151.5	40 54.0 -56.1 150.3	40 32.2 -55.8 149.1	40 09.6 -55.5 147.9
2°	40 38.4 -56.8 153.2	40 18.5 -56.5 152.0	39 57.9 -56.3 150.8	39 36.4 -55.9 149.5	39 14.1 -55.6 148.3
3°	39 41.6 -56.9 153.6	39 22.0 -56.6 152.4	39 01.6 -56.3 151.2	38 40.5 -56.1 150.0	38 18.5 -55.7 148.8
4°	38 44.7 -57.0 154.1	38 25.4 -56.7 152.9	38 05.3 -56.4 151.7	37 44.4 -56.1 150.5	37 22.8 -55.9 149.3
5°	37 47.7 -57.0 154.5	37 28.7 -56.8 153.3	37 08.9 -56.5 152.1	36 48.3 -56.2 150.9	36 26.9 -55.9 149.8
6°	36 50.7 -57.2 154.8	36 31.9 -56.8 153.7	36 12.4 -56.6 152.5	35 52.1 -56.4 151.3	35 31.0 -56.0 150.2
7°	35 53.5 -57.2 155.2	35 35.1 -57.0 154.1	35 15.8 -56.7 152.9	34 55.7 -56.4 151.8	34 35.0 -56.2 150.6
8°	34 56.3 -57.2 155.6	34 38.1 -57.0 154.4	34 19.1 -56.7 153.3	33 59.3 -56.4 152.2	33 38.8 -56.2 151.1
9°	33 59.1 -57.4 156.0	33 41.1 -57.1 154.8	33 22.4 -56.9 153.7	33 02.9 -56.6 152.6	32 42.6 -56.3 151.5
10°	33 01.7 -57.3 156.3	32 44.0 -57.1 155.2	32 25.5 -56.9 154.1	32 06.3 -56.6 153.0	31 46.3 -56.4 151.9
11°	32 04.4 -57.5 156.7	31 46.9 -57.2 155.6	31 28.6 -56.9 154.5	31 09.7 -56.8 153.4	30 49.9 -56.4 152.3
12°	31 06.9 -57.5 157.0	30 49.7 -57.3 155.9	30 31.7 -57.0 154.8	30 12.9 -56.7 153.8	29 53.5 -56.5 152.7
13°	30 09.4 -57.5 157.3	29 52.4 -57.3 156.3	29 34.7 -57.1 155.2	29 16.2 -56.9 154.1	28 57.0 -56.6 153.1
14°	29 11.9 -57.6 157.7	28 55.1 -57.4 156.6	28 37.6 -57.1 155.5	28 19.3 -56.8 154.5	28 00.4 -56.6 153.4
15°	28 14.3 -57.7 158.0	27 57.7 -57.4 156.9	27 40.5 -57.2 155.9	27 22.5 -57.0 154.8	27 03.8 -56.7 153.8
16°	27 16.6 -57.6 158.3	27 00.3 -57.4 157.3	26 43.3 -57.3 156.2	26 25.5 -57.0 155.2	26 07.1 -56.8 154.2
17°	26 19.0 -57.7 158.6	26 02.9 -57.5 157.6	25 46.0 -57.2 156.6	25 28.5 -57.0 155.5	25 10.3 -56.8 154.5
18°	25 21.3 -57.8 158.9	25 05.4 -57.6 157.9	24 48.8 -57.3 156.9	24 31.5 -57.1 155.9	24 13.5 -56.8 154.9
19°	24 23.5 -57.8 159.2	24 07.8 -57.5 158.2	23 51.5 -57.4 157.2	23 34.4 -57.1 156.2	23 16.7 -56.9 155.3
20°	23 25.7 -57.8 159.5	23 10.3 -57.7 158.5	22 54.1 -57.4 157.5	22 37.3 -57.2 156.6	22 19.8 -57.0 155.6
21°	22 27.9 -57.9 159.8	22 12.6 -57.6 158.8	21 56.7 -57.4 157.8	21 40.1 -57.2 156.9	21 22.8 -57.0 155.9
22°	21 30.0 -57.8 160.1	21 15.0 -57.7 159.1	20 59.3 -57.5 158.2	20 42.9 -57.3 157.2	20 25.8 -57.0 156.3
23°	20 32.2 -57.9 160.4	20 17.3 -57.7 159.4	20 01.8 -57.5 158.5	19 45.6 -57.2 157.5	19 28.8 -57.0 156.6
24°	19 34.3 -58.0 160.6	19 19.6 -57.7 159.7	19 04.3 -57.5 158.8	18 48.4 -57.3 157.8	18 31.8 -57.1 156.9
25°	18 36.3 -57.9 160.9	18 21.9 -57.8 160.0	18 06.8 -57.6 159.1	17 51.1 -57.4 158.2	17 34.7 -57.1 157.3
26°	17 38.4 -58.0 161.2	17 24.1 -57.7 160.3	17 09.2 -57.5 159.4	16 53.7 -57.3 158.5	16 37.6 -57.2 157.6
27°	16 40.4 -58.0 161.5	16 26.4 -57.9 160.6	16 11.7 -57.6 159.7	15 56.4 -57.4 158.8	15 40.4 -57.2 157.9
28°	15 42.4 -58.0 161.7	15 28.5 -57.8 160.8	15 14.1 -57.7 160.0	14 59.0 -57.5 159.1	14 43.2 -57.2 158.2
29°	14 44.4 -58.0 162.0	14 30.7 -57.8 161.1	14 16.4 -57.6 160.2	14 01.5 -57.4 159.4	13 46.0 -57.2 158.5

Dec	LHA 025° / 335°	LHA 026° / 334°	LHA 027° / 333°	LHA 028° / 332°	LHA 029° / 331°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	40 41.3 -55.0 146.1	40 16.9 -54.7 144.9	39 51.7 -54.4 143.7	39 25.8 -54.0 142.6	38 59.2 -53.7 141.4
1°	39 46.3 -55.2 146.6	39 22.2 -54.9 145.5	38 57.3 -54.5 144.3	38 31.8 -54.2 143.1	38 05.5 -53.8 142.0
2°	38 51.1 -55.3 147.2	38 27.3 -55.0 146.0	38 02.8 -54.7 144.8	37 37.6 -54.4 143.7	37 11.7 -54.1 142.5
3°	37 55.8 -55.4 147.7	37 32.3 -55.1 146.5	37 08.1 -54.8 145.3	36 43.2 -54.4 144.2	36 17.6 -54.1 143.1
4°	37 00.4 -55.6 148.1	36 37.2 -55.2 147.0	36 13.3 -54.9 145.8	35 48.8 -54.7 144.7	35 23.5 -54.3 143.6
5°	36 04.8 -55.6 148.6	35 42.0 -55.4 147.5	35 18.4 -55.0 146.3	34 54.1 -54.7 145.2	34 29.2 -54.4 144.1
6°	35 09.2 -55.8 149.1	34 46.6 -55.4 147.9	34 23.4 -55.2 146.8	33 59.4 -54.9 145.7	33 34.8 -54.6 144.6
7°	34 13.4 -55.8 149.5	33 51.2 -55.6 148.4	33 28.2 -55.3 147.3	33 04.5 -54.9 146.2	32 40.2 -54.7 145.1
8°	33 17.6 -56.0 150.0	32 55.6 -55.6 148.9	32 32.9 -55.3 147.8	32 09.6 -55.1 146.7	31 45.5 -54.7 145.6
9°	32 21.6 -56.0 150.4	32 00.0 -55.8 149.3	31 37.6 -55.5 148.2	31 14.5 -55.2 147.2	30 50.8 -54.9 146.1
10°	31 25.6 -56.1 150.8	31 04.2 -55.8 149.7	30 42.1 -55.5 148.7	30 19.3 -55.2 147.6	29 55.9 -55.0 146.6
11°	30 29.5 -56.2 151.2	30 08.4 -55.9 150.2	29 46.6 -55.7 149.1	29 24.1 -55.4 148.1	29 00.9 -55.1 147.0
12°	29 33.3 -56.2 151.6	29 12.5 -56.0 150.6	28 50.9 -55.7 149.5	28 28.7 -55.4 148.5	28 05.8 -55.1 147.5
13°	28 37.1 -56.3 152.0	28 16.5 -56.1 151.0	27 55.2 -55.8 150.0	27 33.3 -55.5 148.9	27 10.7 -55.2 147.9
14°	27 40.8 -56.4 152.4	27 20.4 -56.1 151.4	26 59.4 -55.8 150.4	26 37.8 -55.6 149.4	26 15.5 -55.4 148.4
15°	26 44.4 -56.5 152.8	26 24.3 -56.2 151.8	26 03.6 -56.0 150.8	25 42.2 -55.7 149.8	25 20.1 -55.4 148.8
16°	25 47.9 -56.5 153.2	25 28.1 -56.2 152.2	25 07.6 -55.9 151.2	24 46.5 -55.7 150.2	24 24.7 -55.4 149.2
17°	24 51.4 -56.5 153.6	24 31.9 -56.3 152.6	24 11.7 -56.1 151.6	23 50.8 -55.8 150.6	23 29.3 -55.5 149.6
18°	23 54.9 -56.6 153.9	23 35.6 -56.4 152.9	23 15.6 -56.1 152.0	22 55.0 -55.8 151.0	22 33.8 -55.6 150.0
19°	22 58.3 -56.7 154.3	22 39.2 -56.4 153.3	22 19.5 -56.2 152.4	21 59.2 -56.0 151.4	21 38.2 -55.7 150.5
20°	22 01.6 -56.7 154.6	21 42.8 -56.5 153.7	21 23.3 -56.2 152.7	21 03.2 -55.9 151.8	20 42.5 -55.7 150.9
21°	21 04.9 -56.7 155.0	20 46.3 -56.5 154.0	20 27.1 -56.2 153.1	20 07.3 -56.0 152.2	19 46.8 -55.7 151.2
22°	20 08.2 -56.8 155.3	19 49.8 -56.5 154.4	19 30.9 -56.3 153.5	19 11.3 -56.1 152.6	18 51.1 -55.8 151.6
23°	19 11.4 -56.9 155.7	18 53.3 -56.6 154.8	18 34.6 -56.4 153.8	18 15.2 -56.1 152.9	17 55.3 -55.9 152.0
24°	18 14.5 -56.8 156.0	17 56.7 -56.6 155.1	17 38.2 -56.4 154.2	17 19.1 -56.1 153.3	16 59.4 -55.9 152.4
25°	17 17.7 -56.9 156.3	17 00.1 -56.7 155.5	16 41.8 -56.4 154.6	16 23.0 -56.2 153.7	16 03.5 -55.9 152.8
26°	16 20.8 -56.9 156.7	16 03.4 -56.7 155.8	15 45.4 -56.5 154.9	15 26.8 -56.2 154.0	15 07.6 -56.0 153.2
27°	15 23.9 -57.0 157.0	15 06.7 -56.7 156.1	14 48.9 -56.4 155.3	14 30.6 -56.3 154.4	14 11.6 -56.0 153.5
28°	14 26.9 -57.0 157.3	14 10.0 -56.8 156.5	13 52.5 -56.6 155.6	13 34.3 -56.2 154.8	13 15.6 -56.0 153.9
29°	13 29.9 -57.0 157.7	13 13.2 -56.8 156.8	12 55.9 -56.5 156.0	12 38.1 -56.3 155.1	12 19.6 -56.0 154.3

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Dec	LHA 030° / 330°	LHA 031° / 329°	LHA 032° / 328°	LHA 033° / 327°	LHA 034° / 326°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	38 32.0 -53.4 140.3	38 04.1 -53.1 139.1	37 35.5 -52.7 138.0	37 06.3 -52.3 136.9	36 36.6 -52.0 135.8
1°	37 38.6 -53.5 140.8	37 11.0 -53.2 139.7	36 42.8 -52.8 138.6	36 14.0 -52.5 137.5	35 44.6 -52.2 136.5
2°	36 45.1 -53.7 141.4	36 17.8 -53.3 140.3	35 50.0 -53.1 139.2	35 21.5 -52.7 138.1	34 52.4 -52.4 137.1
3°	35 51.4 -53.9 142.0	35 24.5 -53.5 140.9	34 56.9 -53.2 139.8	34 28.8 -52.9 138.7	34 00.0 -52.6 137.7
4°	34 57.5 -53.9 142.5	34 31.0 -53.7 141.4	34 03.7 -53.3 140.3	33 35.9 -53.0 139.3	33 07.4 -52.7 138.2
5°	34 03.6 -54.2 143.0	33 37.3 -53.8 142.0	33 10.4 -53.5 140.9	32 42.9 -53.2 139.8	32 14.7 -52.8 138.8
6°	33 09.4 -54.2 143.6	32 43.5 -53.9 142.5	32 16.9 -53.6 141.4	31 49.7 -53.3 140.4	31 21.9 -53.0 139.4
7°	32 15.2 -54.4 144.1	31 49.6 -54.1 143.0	31 23.3 -53.8 142.0	30 56.4 -53.5 140.9	30 28.9 -53.2 139.9
8°	31 20.8 -54.4 144.6	30 55.5 -54.2 143.5	30 29.5 -53.8 142.5	30 02.9 -53.5 141.5	29 35.7 -53.2 140.4
9°	30 26.4 -54.6 145.1	30 01.3 -54.3 144.0	29 35.7 -54.0 143.0	29 09.4 -53.7 142.0	28 42.5 -53.4 141.0
10°	29 31.8 -54.7 145.5	29 07.0 -54.3 144.5	28 41.7 -54.1 143.5	28 15.7 -53.8 142.5	27 49.1 -53.5 141.5
11°	28 37.1 -54.8 146.0	28 12.7 -54.5 145.0	27 47.6 -54.2 144.0	27 21.9 -53.9 143.0	26 55.6 -53.6 142.0
12°	27 42.3 -54.8 146.5	27 18.2 -54.6 145.5	26 53.4 -54.3 144.5	26 28.0 -54.0 143.5	26 02.0 -53.7 142.5
13°	26 47.5 -55.0 146.9	26 23.6 -54.7 145.9	25 59.1 -54.4 144.9	25 34.0 -54.1 144.0	25 08.3 -53.8 143.0
14°	25 52.5 -55.0 147.4	25 28.9 -54.7 146.4	25 04.7 -54.5 145.4	24 39.9 -54.2 144.4	24 14.5 -53.9 143.5
15°	24 57.5 -55.2 147.8	24 34.2 -54.9 146.8	24 10.2 -54.5 145.9	23 45.7 -54.2 144.9	23 20.6 -53.9 144.0
16°	24 02.3 -55.1 148.2	23 39.3 -54.9 147.3	23 15.7 -54.6 146.3	22 51.5 -54.4 145.4	22 26.7 -54.1 144.4
17°	23 07.2 -55.3 148.7	22 44.4 -55.0 147.7	22 21.1 -54.7 146.8	21 57.1 -54.4 145.8	21 32.6 -54.1 144.9
18°	22 11.9 -55.3 149.1	21 49.4 -55.0 148.2	21 26.4 -54.8 147.2	21 02.7 -54.5 146.3	20 38.5 -54.3 145.4
19°	21 16.6 -55.4 149.5	20 54.4 -55.1 148.6	20 31.6 -54.8 147.7	20 08.2 -54.6 146.7	19 44.2 -54.2 145.8
20°	20 21.2 -55.4 149.9	19 59.3 -55.2 149.0	19 36.8 -54.9 148.1	19 13.6 -54.6 147.2	18 50.0 -54.4 146.3
21°	19 25.8 -55.5 150.3	19 04.1 -55.2 149.4	18 41.9 -55.0 148.5	18 19.0 -54.7 147.6	17 55.6 -54.4 146.7
22°	18 30.3 -55.6 150.7	18 08.9 -55.3 149.8	17 46.9 -55.0 148.9	17 24.3 -54.7 148.0	17 01.2 -54.4 147.2
23°	17 34.7 -55.6 151.1	17 13.6 -55.3 150.2	16 51.9 -55.1 149.4	16 29.6 -54.8 148.5	16 06.8 -54.6 147.6
24°	16 39.1 -55.6 151.5	16 18.3 -55.4 150.6	15 56.8 -55.1 149.8	15 34.8 -54.8 148.9	15 12.2 -54.5 148.0
25°	15 43.5 -55.7 151.9	15 22.9 -55.4 151.0	15 01.7 -55.1 150.2	14 40.0 -54.9 149.3	14 17.7 -54.6 148.5
26°	14 47.8 -55.7 152.3	14 27.5 -55.5 151.4	14 06.6 -55.2 150.6	13 45.1 -54.9 149.7	13 23.1 -54.7 148.9
27°	13 52.1 -55.7 152.7	13 32.0 -55.5 151.8	13 11.4 -55.2 151.0	12 50.2 -55.0 150.2	12 28.4 -54.7 149.3
28°	12 56.4 -55.8 153.1	12 36.5 -55.5 152.2	12 16.2 -55.3 151.4	11 55.2 -55.0 150.6	11 33.7 -54.7 149.7
29°	12 00.6 -55.8 153.4	11 41.0 -55.5 152.6	11 20.9 -55.3 151.8	11 00.2 -55.0 151.0	10 39.0 -54.8 150.2

Dec	LHA 035° / 325°	LHA 036° / 324°	LHA 037° / 323°	LHA 038° / 322°	LHA 039° / 321°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	36 06.2 -51.7 134.8	35 35.3 -51.3 133.7	35 03.8 -51.0 132.7	34 31.8 -50.7 131.6	33 59.3 -50.3 130.6
1°	35 14.5 -51.8 135.4	34 44.0 -51.6 134.3	34 12.8 -51.2 133.3	33 41.1 -50.8 132.3	33 09.0 -50.6 131.3
2°	34 22.7 -52.1 136.0	33 52.4 -51.7 135.0	33 21.6 -51.4 133.9	32 50.3 -51.1 132.9	32 18.4 -50.8 131.9
3°	33 30.6 -52.2 136.6	33 00.7 -51.9 135.6	32 30.2 -51.6 134.6	31 59.2 -51.3 133.5	31 27.6 -50.9 132.5
4°	32 38.4 -52.4 137.2	32 08.8 -52.1 136.2	31 38.6 -51.7 135.2	31 07.9 -51.4 134.2	30 36.7 -51.1 133.2
5°	31 46.0 -52.5 137.8	31 16.7 -52.2 136.8	30 46.9 -51.9 135.7	30 16.5 -51.6 134.8	29 45.6 -51.3 133.8
6°	30 53.5 -52.7 138.3	30 24.5 -52.4 137.3	29 55.0 -52.1 136.3	29 24.9 -51.7 135.3	28 54.3 -51.4 134.4
7°	30 00.8 -52.8 138.9	29 32.1 -52.5 137.9	29 02.9 -52.2 136.9	28 33.2 -51.9 135.9	28 02.9 -51.6 134.9
8°	29 08.0 -53.0 139.4	28 39.6 -52.6 138.4	28 10.7 -52.3 137.5	27 41.3 -52.1 136.5	27 11.3 -51.7 135.5
9°	28 15.0 -53.0 140.0	27 47.0 -52.8 139.0	27 18.4 -52.5 138.0	26 49.2 -52.1 137.0	26 19.6 -51.9 136.1
10°	27 22.0 -53.2 140.5	26 54.2 -52.9 139.5	26 25.9 -52.6 138.6	25 57.1 -52.3 137.6	25 27.7 -52.0 136.7
11°	26 28.8 -53.3 141.0	26 01.3 -53.0 140.1	25 33.3 -52.7 139.1	25 04.8 -52.4 138.1	24 35.7 -52.0 137.2
12°	25 35.5 -53.4 141.5	25 08.3 -53.1 140.6	24 40.6 -52.8 139.6	24 12.4 -52.5 138.7	23 43.7 -52.3 137.7
13°	24 42.1 -53.5 142.0	24 15.2 -53.2 141.1	23 47.8 -52.9 140.1	23 19.9 -52.6 139.2	22 51.4 -52.3 138.3
14°	23 48.6 -53.6 142.5	23 22.0 -53.3 141.6	22 54.9 -53.0 140.7	22 27.3 -52.7 139.7	21 59.1 -52.4 138.8
15°	22 55.0 -53.7 143.0	22 28.7 -53.4 142.1	22 01.9 -53.1 141.2	21 34.6 -52.8 140.2	21 06.7 -52.5 139.3
16°	22 01.3 -53.8 143.5	21 35.3 -53.5 142.6	21 08.8 -53.2 141.7	20 41.8 -52.9 140.8	20 14.2 -52.6 139.9
17°	21 07.5 -53.9 144.0	20 41.8 -53.5 143.1	20 15.6 -53.2 142.2	19 48.9 -53.0 141.3	19 21.6 -52.7 140.4
18°	20 13.6 -53.9 144.5	19 48.3 -53.7 143.5	19 22.4 -53.4 142.6	18 55.9 -53.0 141.8	18 28.9 -52.7 140.9
19°	19 19.7 -54.0 144.9	18 54.6 -53.7 144.0	18 29.0 -53.4 143.1	18 02.9 -53.2 142.2	17 36.2 -52.9 141.4
20°	18 25.7 -54.0 145.4	18 00.9 -53.7 144.5	17 35.6 -53.5 143.6	17 09.7 -53.2 142.7	16 43.3 -52.9 141.9
21°	17 31.7 -54.2 145.8	17 07.2 -53.9 145.0	16 42.1 -53.5 144.1	16 16.5 -53.2 143.2	15 50.4 -53.0 142.4
22°	16 37.5 -54.1 146.3	16 13.3 -53.9 145.4	15 48.6 -53.7 144.6	15 23.3 -53.4 143.7	14 57.4 -53.0 142.8
23°	15 43.4 -54.3 146.7	15 19.4 -53.9 145.9	14 54.9 -53.6 145.0	14 29.9 -53.3 144.2	14 04.4 -53.1 143.3
24°	14 49.1 -54.3 147.2	14 25.5 -54.0 146.3	14 01.3 -53.8 145.5	13 36.6 -53.5 144.6	13 11.3 -53.1 143.8
25°	13 54.8 -54.3 147.6	13 31.5 -54.1 146.8	13 07.5 -53.7 145.9	12 43.1 -53.5 145.1	12 18.2 -53.2 144.3
26°	13 00.5 -54.4 148.1	12 37.4 -54.1 147.2	12 13.8 -53.8 146.4	11 49.6 -53.5 145.6	11 25.0 -53.3 144.8
27°	12 06.1 -54.4 148.5	11 43.3 -54.1 147.7	11 20.0 -53.9 146.8	10 56.1 -53.6 146.0	10 31.7 -53.2 145.2
28°	11 11.7 -54.4 148.9	10 49.2 -54.2 148.1	10 26.1 -53.9 147.3	10 02.5 -53.6 146.5	9 38.5 -53.4 145.7
29°	10 17.3 -54.5 149.3	9 55.0 -54.2 148.5	9 32.2 -53.9 147.7	9 08.9 -53.6 146.9	8 45.1 -53.3 146.2

Dec	LHA 040° / 320°	LHA 041° / 319°	LHA 042° / 318°	LHA 043° / 317°	LHA 044° / 316°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	33 26.3 -50.0 129.6	32 52.8 -49.7 128.6	32 18.9 -49.4 127.7	31 44.5 -49.1 126.7	31 09.7 -48.8 125.7
1°	32 36.3 -50.3 130.3	32 03.1 -49.9 129.3	31 29.5 -49.7 128.3	30 55.4 -49.3 127.4	30 20.9 -49.1 126.4
2°	31 46.0 -50.4 130.9	31 13.2 -50.2 129.9	30 39.8 -49.8 129.0	30 06.1 -49.5 128.0	29 31.8 -49.2 127.1
3°	30 55.6 -50.6 131.6	30 23.0 -50.3 130.6	29 50.0 -50.0 129.6	29 16.6 -49.7 128.7	28 42.6 -49.4 127.7
4°	30 05.0 -50.8 132.2	29 32.7 -50.5 131.2	29 00.0 -50.2 130.3	28 26.9 -49.9 129.3	27 53.2 -49.5 128.4
5°	29 14.2 -51.0 132.8	28 42.2 -50.6 131.8	28 09.8 -50.3 130.9	27 37.0 -50.1 129.9	27 03.7 -49.8 129.0
6°	28 23.2 -51.1 133.4	27 51.6 -50.8 132.4	27 19.5 -50.5 131.5	26 46.9 -50.2 130.6	26 13.9 -49.9 129.6
7°	27 32.1 -51.3 134.0	27 00.8 -51.0 133.0	26 29.0 -50.7 132.1	25 56.7 -50.3 131.2	25 24.0 -50.1 130.2
8°	26 40.8 -51.4 134.6	26 09.8 -51.1 133.6	25 38.3 -50.8 132.7	25 06.4 -50.5 131.8	24 33.9 -50.2 130.9
9°	25 49.4 -51.6 135.1	25 18.7 -51.2 134.2	24 47.5 -50.9 133.3	24 15.9 -50.7 132.4	23 43.7 -50.3 131.5
10°	24 57.8 -51.6 135.7	24 27.5 -51.4 134.8	23 56.6 -51.1 133.9	23 25.2 -50.8 133.0	22 53.4 -50.5 132.0
11°	24 06.2 -51.8 136.3	23 36.1 -51.5 135.3	23 05.5 -51.2 134.4	22 34.4 -50.8 133.5	22 02.9 -50.6 132.6
12°	23 14.4 -51.9 136.8	22 44.6 -51.6 135.9	22 14.3 -51.3 135.0	21 43.6 -51.0 134.1	21 12.3 -50.7 133.2
13°	22 22.5 -52.0 137.4	21 53.0 -51.7 136.5	21 23.0 -51.4 135.6	20 52.6 -51.2 134.7	20 21.6 -50.8 133.8
14°	21 30.5 -52.2 137.9	21 01.3 -51.8 137.0	20 31.6 -51.5 136.1	20 01.4 -51.2 135.2	19 30.8 -50.9 134.3
15°	20 38.3 -52.2 138.4	20 09.5 -52.0 137.5	19 40.1 -51.6 136.7	19 10.2 -51.3 135.8	18 39.9 -51.0 134.9
16°	19 46.1 -52.3 139.0	19 17.5 -52.0 138.1	18 48.5 -51.8 137.2	18 18.9 -51.4 136.3	17 48.9 -51.2 135.5
17°	18 53.8 -52.4 139.5	18 25.5 -52.1 138.6	17 56.7 -51.7 137.7	17 27.5 -51.5 136.9	16 57.7 -51.2 136.0
18°	18 01.4 -52.4 140.0	17 33.4 -52.1 139.1	17 05.0 -51.9 138.3	16 36.0 -51.6 137.4	16 06.5 -51.3 136.6
19°	17 09.0 -52.6 140.5	16 41.3 -52.3 139.6	16 13.1 -52.0 138.8	15 44.4 -51.7 137.9	15 15.2 -51.3 137.1
20°	16 16.4 -52.6 141.0	15 49.0 -52.3 140.2	15 21.1 -52.0 139.3	14 52.7 -51.7 138.5	14 23.9 -51.5 137.6
21°	15 23.8 -52.7 141.5	14 56.7 -52.4 140.7	14 29.1 -52.1 139.8	14 01.0 -51.8 139.0	13 32.4 -51.5 138.2
22°	14 31.1 -52.7 142.0	14 04.3 -52.4 141.2	13 37.0 -52.2 140.3	13 09.2 -51.9 139.5	12 40.9 -51.5 138.7
23°	13 38.4 -52.8 142.5	13 11.9 -52.5 141.7	12 44.8 -52.2 140.8	12 17.3 -51.9 140.0	11 49.4 -51.6 139.2
24°	12 45.6 -52.9 143.0	12 19.4 -52.6 142.2	11 52.6 -52.2 141.3	11 25.4 -51.9 140.5	10 57.8 -51.7 139.7
25°	11 52.7 -52.9 143.5	11 26.8 -52.6 142.7	11 00.4 -52.4 141.8	10 33.5 -52.1 141.0	10 06.1 -51.7 140.2
26°	10 59.8 -52.9 143.9	10 34.2 -52.7 143.1	10 08.0 -52.3 142.3	9 41.4 -52.0 141.5	9 14.4 -51.8 140.8
27°	10 06.9 -53.0 144.4	9 41.5 -52.7 143.6	9 15.7 -52.4 142.8	8 49.4 -52.1 142.1	8 22.6 -51.8 141.3
28°	9 13.9 -53.0 144.9	8 48.8 -52.7 144.1	8 23.3 -52.4 143.3	7 57.3 -52.2 142.6	7 30.8 -51.8 141.8
29°	8 20.9 -53.1 145.4	7 56.1 -52.8 144.6	7 30.9 -52.5 143.8	7 05.1 -52.1 143.1	6 39.0 -51.9 142.3

Dec	LHA 045° / 315°	LHA 046° / 314°	LHA 047° / 313°	LHA 048° / 312°	LHA 049° / 311°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	30 34.4 -48.5 124.8	29 58.8 -48.2 123.9	29 22.8 -48.0 122.9	28 46.3 -47.6 122.0	28 09.6 -47.4 121.1
1°	29 45.9 -48.7 125.5	29 10.6 -48.5 124.5	28 34.8 -48.1 123.6	27 58.7 -47.9 122.7	27 22.2 -47.6 121.8
2°	28 57.2 -48.9 126.1	28 22.1 -48.6 125.2	27 46.7 -48.4 124.3	27 10.8 -48.0 123.4	26 34.6 -47.8 122.5
3°	28 08.3 -49.1 126.8	27 33.5 -48.8 125.9	26 58.3 -48.5 125.0	26 22.8 -48.3 124.1	25 46.8 -47.9 123.2
4°	27 19.2 -49.3 127.4	26 44.7 -49.0 126.5	26 09.8 -48.7 125.6	25 34.5 -48.4 124.7	24 58.9 -48.2 123.8
5°	26 29.9 -49.5 128.1	25 55.7 -49.1 127.2	25 21.1 -48.8 126.3	24 46.1 -48.6 125.4	24 10.7 -48.3 124.5
6°	25 40.4 -49.6 128.7	25 06.6 -49.4 127.8	24 32.3 -49.1 126.9	23 57.5 -48.7 126.0	23 22.4 -48.4 125.1
7°	24 50.8 -49.7 129.3	24 17.2 -49.4 128.4	23 43.2 -49.2 127.5	23 08.8 -48.9 126.7	22 34.0 -48.6 125.8
8°	24 01.1 -49.9 130.0	23 27.8 -49.6 129.1	22 54.0 -49.3 128.2	22 19.9 -49.0 127.3	21 45.4 -48.8 126.4
9°	23 11.2 -50.1 130.6	22 38.2 -49.8 129.7	22 04.7 -49.4 128.8	21 30.9 -49.2 127.9	20 56.6 -48.9 127.0
10°	22 21.1 -50.2 131.2	21 48.4 -49.9 130.3	21 15.3 -49.6 129.4	20 41.7 -49.3 128.5	20 07.7 -49.0 127.7
11°	21 30.9 -50.3 131.7	20 58.5 -50.0 130.9	20 25.7 -49.7 130.0	19 52.4 -49.4 129.1	19 18.7 -49.1 128.3
12°	20 40.6 -50.4 132.3	20 08.5 -50.1 131.5	19 36.0 -49.9 130.6	19 03.0 -49.6 129.7	18 29.6 -49.3 128.9
13°	19 50.2 -50.5 132.9	19 18.4 -50.2 132.0	18 46.1 -49.9 131.2	18 13.4 -49.6 130.3	17 40.3 -49.3 129.5
14°	18 59.7 -50.6 133.5	18 28.2 -50.4 132.6	17 56.2 -50.1 131.8	17 23.8 -49.8 130.9	16 51.0 -49.5 130.1
15°	18 09.1 -50.8 134.0	17 37.8 -50.4 133.2	17 06.1 -50.1 132.3	16 34.0 -49.8 131.5	16 01.5 -49.6 130.7
16°	17 18.3 -50.8 134.6	16 47.4 -50.5 133.8	16 16.0 -50.2 132.9	15 44.2 -50.0 132.1	15 11.9 -49.6 131.3
17°	16 27.5 -50.9 135.2	15 56.9 -50.6 134.3	15 25.8 -50.3 133.5	14 54.2 -50.0 132.7	14 22.3 -49.7 131.8
18°	15 36.6 -51.0 135.7	15 06.3 -50.7 134.9	14 35.5 -50.4 134.0	14 04.2 -50.1 133.2	13 32.6 -49.8 132.4
19°	14 45.6 -51.0 136.3	14 15.6 -50.8 135.4	13 45.1 -50.5 134.6	13 14.1 -50.2 133.8	12 42.8 -49.9 133.0
20°	13 54.6 -51.2 136.8	13 24.8 -50.8 136.0	12 54.6 -50.6 135.2	12 23.9 -50.2 134.4	11 52.9 -50.0 133.6
21°	13 03.4 -51.2 137.3	12 34.0 -51.0 136.5	12 04.0 -50.6 135.7	11 33.7 -50.3 134.9	11 02.9 -50.0 134.1
22°	12 12.2 -51.2 137.9	11 43.0 -50.9 137.1	11 13.4 -50.6 136.3	10 43.4 -50.4 135.5	10 12.9 -50.1 134.7
23°	11 21.0 -51.4 138.4	10 52.1 -51.0 137.6	10 22.8 -50.8 136.8	9 53.0 -50.4 136.0	9 22.8 -50.1 135.2
24°	10 29.6 -51.3 138.9	10 01.1 -51.1 138.1	9 32.0 -50.7 137.4	9 02.6 -50.5 136.6	8 32.7 -50.2 135.8
25°	9 38.3 -51.5 139.5	9 10.0 -51.1 138.7	8 41.3 -50.9 137.9	8 12.1 -50.5 137.1	7 42.5 -50.2 136.4
26°	8 46.8 -51.4 140.0	8 18.9 -51.2 139.2	7 50.4 -50.8 138.4	7 21.6 -50.6 137.7	6 52.3 -50.2 136.9
27°	7 55.4 -51.5 140.5	7 27.7 -51.2 139.7	6 59.6 -50.9 139.0	6 31.0 -50.6 138.2	6 02.1 -50.3 137.5
28°	7 03.9 -51.6 141.0	6 36.5 -51.2 140.3	6 08.7 -50.9 139.5	5 40.4 -50.6 138.7	5 11.8 -50.3 138.0
29°	6 12.3 -51.5 141.5	5 45.3 -51.3 140.8	5 17.8 -51.0 140.0	4 49.8 -50.6 139.3	4 21.5 -50.4 138.5

Latitude 44°

Declination CONTRARY name to Latitude

Dec	LHA 050° / 310°	LHA 051° / 309°	LHA 052° / 308°	LHA 053° / 307°	LHA 054° / 306°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	27 32.5 -47.2 120.2	26 55.0 -46.8 119.4	26 17.2 -46.6 118.5	25 39.1 -46.3 117.6	25 00.8 -46.1 116.8
1°	26 45.3 -47.3 120.9	26 08.2 -47.1 120.1	25 30.6 -46.7 119.2	24 52.8 -46.5 118.3	24 14.7 -46.3 117.5
2°	25 58.0 -47.5 121.6	25 21.1 -47.2 120.7	24 43.9 -47.0 119.9	24 06.3 -46.7 119.0	23 28.4 -46.5 118.2
3°	25 10.5 -47.7 122.3	24 33.9 -47.4 121.4	23 56.9 -47.2 120.6	23 19.6 -46.9 119.7	22 41.9 -46.6 118.9
4°	24 22.8 -47.8 123.0	23 46.5 -47.6 122.1	23 09.7 -47.3 121.2	22 32.7 -47.1 120.4	21 55.3 -46.8 119.5
5°	23 35.0 -48.0 123.6	22 58.9 -47.8 122.8	22 22.4 -47.5 121.9	21 45.6 -47.2 121.1	21 08.5 -47.0 120.2
6°	22 47.0 -48.2 124.3	22 11.1 -47.9 123.4	21 34.9 -47.6 122.6	20 58.4 -47.4 121.7	20 21.5 -47.1 120.9
7°	21 58.8 -48.3 124.9	21 23.2 -48.0 124.1	20 47.3 -47.8 123.2	20 11.0 -47.5 122.4	19 34.4 -47.3 121.5
8°	21 10.5 -48.5 125.6	20 35.2 -48.2 124.7	19 59.5 -47.9 123.9	19 23.5 -47.7 123.0	18 47.1 -47.4 122.2
9°	20 22.0 -48.6 126.2	19 47.0 -48.4 125.3	19 11.6 -48.1 124.5	18 35.8 -47.8 123.7	17 59.7 -47.5 122.8
10°	19 33.4 -48.8 126.8	18 58.6 -48.4 126.0	18 23.5 -48.2 125.1	17 48.0 -47.9 124.3	17 12.2 -47.6 123.5
11°	18 44.6 -48.8 127.4	18 10.2 -48.6 126.6	17 35.3 -48.3 125.8	17 00.1 -48.0 124.9	16 24.6 -47.8 124.1
12°	17 55.8 -49.0 128.0	17 21.6 -48.7 127.2	16 47.0 -48.4 126.4	16 12.1 -48.1 125.6	15 36.8 -47.8 124.7
13°	17 06.8 -49.1 128.6	16 32.9 -48.8 127.8	15 58.6 -48.5 127.0	15 24.0 -48.3 126.2	14 49.0 -48.0 125.4
14°	16 17.7 -49.1 129.2	15 44.1 -48.9 128.4	15 10.1 -48.6 127.6	14 35.7 -48.3 126.8	14 01.0 -48.1 126.0
15°	15 28.6 -49.3 129.8	14 55.2 -49.0 129.0	14 21.5 -48.7 128.2	13 47.4 -48.4 127.4	13 12.9 -48.1 126.6
16°	14 39.3 -49.4 130.4	14 06.2 -49.0 129.6	13 32.8 -48.8 128.8	12 59.0 -48.5 128.0	12 24.8 -48.2 127.2
17°	13 49.9 -49.4 131.0	13 17.2 -49.2 130.2	12 44.0 -48.8 129.4	12 10.5 -48.6 128.6	11 36.6 -48.3 127.8
18°	13 00.5 -49.5 131.6	12 28.0 -49.2 130.8	11 55.2 -49.0 130.0	11 21.9 -48.6 129.2	10 48.3 -48.4 128.4
19°	12 11.0 -49.6 132.2	11 38.8 -49.3 131.4	11 06.2 -49.0 130.6	10 33.3 -48.8 129.8	9 59.9 -48.4 129.0
20°	11 21.4 -49.7 132.8	10 49.5 -49.4 132.0	10 17.2 -49.1 131.2	9 44.5 -48.8 130.4	9 11.5 -48.5 129.6
21°	10 31.7 -49.7 133.3	10 00.1 -49.4 132.5	9 28.1 -49.1 131.8	8 55.7 -48.8 131.0	8 23.0 -48.6 130.2
22°	9 42.0 -49.8 133.9	9 10.7 -49.5 133.1	8 39.0 -49.2 132.4	8 06.9 -48.9 131.6	7 34.4 -48.6 130.8
23°	8 52.2 -49.8 134.5	8 21.2 -49.5 133.7	7 49.8 -49.2 132.9	7 18.0 -48.9 132.2	6 45.8 -48.6 131.4
24°	8 02.4 -49.9 135.0	7 31.7 -49.6 134.3	7 00.6 -49.3 133.5	6 29.1 -49.0 132.8	5 57.2 -48.7 132.0
25°	7 12.5 -49.9 135.6	6 42.1 -49.6 134.8	6 11.3 -49.3 134.1	5 40.1 -49.0 133.3	5 08.5 -48.7 132.6
26°	6 22.6 -49.9 136.1	5 52.5 -49.6 135.4	5 22.0 -49.3 134.7	4 51.1 -49.0 133.9	4 19.8 -48.7 133.2
27°	5 32.7 -50.0 136.7	5 02.9 -49.7 136.0	4 32.7 -49.4 135.2	4 02.1 -49.1 134.5	3 31.1 -48.8 133.8
28°	4 42.7 -50.0 137.3	4 13.2 -49.7 136.5	3 43.3 -49.4 135.8	3 13.0 -49.1 135.1	2 42.3 -48.7 134.3
29°	3 52.7 -50.0 137.8	3 23.5 -49.7 137.1	2 53.9 -49.4 136.4	2 23.9 -49.1 135.6	1 53.6 -48.8 134.9

Dec	LHA 055° / 305°	LHA 056° / 304°	LHA 057° / 303°	LHA 058° / 302°	LHA 059° / 301°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	24 22.1 -45.9 115.9	23 43.1 -45.6 115.1	23 03.9 -45.4 114.3	22 24.5 -45.2 113.5	21 44.7 -44.9 112.7
1°	23 36.2 -46.0 116.6	22 57.5 -45.8 115.8	22 18.5 -45.6 115.0	21 39.3 -45.4 114.2	20 59.8 -45.2 113.4
2°	22 50.2 -46.2 117.3	22 11.7 -46.0 116.5	21 32.9 -45.7 115.7	20 53.9 -45.5 114.9	20 14.6 -45.3 114.1
3°	22 04.0 -46.4 118.0	21 25.7 -46.1 117.2	20 47.2 -45.9 116.4	20 08.4 -45.7 115.6	19 29.3 -45.4 114.8
4°	21 17.6 -46.6 118.7	20 39.6 -46.3 117.9	20 01.3 -46.1 117.1	19 22.7 -45.8 116.3	18 43.9 -45.6 115.5
5°	20 31.0 -46.7 119.4	19 53.3 -46.5 118.6	19 15.2 -46.2 117.8	18 36.9 -46.0 116.9	17 58.3 -45.8 116.1
6°	19 44.3 -46.9 120.1	19 06.8 -46.6 119.2	18 29.0 -46.4 118.4	17 50.9 -46.1 117.6	17 12.5 -45.9 116.8
7°	18 57.4 -47.0 120.7	18 20.2 -46.8 119.9	17 42.6 -46.5 119.1	17 04.8 -46.3 118.3	16 26.6 -46.0 117.5
8°	18 10.4 -47.1 121.4	17 33.4 -46.8 120.6	16 56.1 -46.6 119.8	16 18.5 -46.4 119.0	15 40.6 -46.2 118.2
9°	17 23.3 -47.3 122.0	16 46.6 -47.0 121.2	16 09.5 -46.8 120.4	15 32.1 -46.5 119.6	14 54.4 -46.2 118.8
10°	16 36.0 -47.3 122.7	15 59.6 -47.2 121.9	15 22.7 -46.8 121.1	14 45.6 -46.6 120.3	14 08.2 -46.4 119.5
11°	15 48.7 -47.5 123.3	15 12.4 -47.2 122.5	14 35.9 -47.0 121.7	13 59.0 -46.7 120.9	13 21.8 -46.4 120.1
12°	15 01.2 -47.6 123.9	14 25.2 -47.3 123.1	13 48.9 -47.1 122.4	13 12.3 -46.8 121.6	12 35.4 -46.6 120.8
13°	14 13.6 -47.7 124.6	13 37.9 -47.4 123.8	13 01.8 -47.1 123.0	12 25.5 -46.9 122.2	11 48.8 -46.6 121.4
14°	13 25.9 -47.8 125.2	12 50.5 -47.5 124.4	12 14.7 -47.3 123.6	11 38.6 -47.0 122.8	11 02.2 -46.7 122.1
15°	12 38.1 -47.8 125.8	12 03.0 -47.6 125.0	11 27.4 -47.3 124.3	10 51.6 -47.0 123.5	10 15.5 -46.8 122.7
16°	11 50.3 -48.0 126.4	11 15.4 -47.7 125.7	10 40.1 -47.4 124.9	10 04.6 -47.2 124.1	9 28.7 -46.9 123.3
17°	11 02.3 -48.0 127.0	10 27.7 -47.8 126.3	9 52.7 -47.4 125.5	9 17.4 -47.2 124.7	8 41.8 -46.9 124.0
18°	10 14.3 -48.1 127.7	9 39.9 -47.8 126.9	9 05.3 -47.6 126.1	8 30.2 -47.2 125.4	7 54.9 -47.0 124.6
19°	9 26.2 -48.1 128.3	8 52.1 -47.8 127.5	8 17.7 -47.6 126.7	7 43.0 -47.3 126.0	7 07.9 -47.1 125.2
20°	8 38.1 -48.3 128.9	8 04.3 -47.9 128.1	7 30.1 -47.6 127.4	6 55.7 -47.4 126.6	6 20.8 -47.0 125.9
21°	7 49.8 -48.2 129.5	7 16.4 -48.0 128.7	6 42.5 -47.7 128.0	6 08.3 -47.4 127.2	5 33.8 -47.2 126.5
22°	7 01.6 -48.3 130.1	6 28.4 -48.0 129.3	5 54.8 -47.7 128.6	5 20.9 -47.4 127.8	4 46.6 -47.1 127.1
23°	6 13.3 -48.4 130.7	5 40.4 -48.1 129.9	5 07.1 -47.8 129.2	4 33.5 -47.5 128.5	3 59.5 -47.2 127.7
24°	5 24.9 -48.3 131.3	4 52.3 -48.1 130.5	4 19.3 -47.8 129.8	3 46.0 -47.5 129.1	3 12.3 -47.2 128.3
25°	4 36.6 -48.4 131.9	4 04.2 -48.1 131.1	3 31.5 -47.8 130.4	2 58.5 -47.5 129.7	2 25.1 -47.2 129.0
26°	3 48.2 -48.5 132.4	3 16.1 -48.1 131.7	2 43.7 -47.8 131.0	2 11.0 -47.5 130.3	1 37.9 -47.2 129.6
27°	2 59.7 -48.4 133.0	2 28.0 -48.1 132.3	1 55.9 -47.8 131.6	1 23.5 -47.6 130.9	0 50.7 -47.3 130.2
28°	2 11.3 -48.5 133.6	1 39.9 -48.2 132.9	1 08.1 -47.9 132.2	0 35.9 -47.5 131.5	0 03.4 -47.2 130.8
29°	1 22.8 -48.5 134.2	0 51.7 -48.2 133.5	0 20.2 -47.8 132.8	-0 11.6 -47.6	-0 43.8 -47.2

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Declination CONTRARY name to Latitude

Latitude 44°

Dec	LHA 060° / 300°	LHA 061° / 299°	LHA 062° / 298°	LHA 063° / 297°	LHA 064° / 296°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	21 04.8 -44.8 111.9	20 24.6 -44.5 111.1	19 44.2 -44.3 110.3	19 03.7 -44.2 109.5	18 22.9 -44.0 108.7
1°	20 20.0 -44.9 112.6	19 40.1 -44.8 111.8	18 59.9 -44.5 111.0	18 19.5 -44.4 110.2	17 38.9 -44.2 109.4
2°	19 35.1 -45.1 113.3	18 55.3 -44.8 112.5	18 15.4 -44.7 111.7	17 35.1 -44.4 110.9	16 54.7 -44.3 110.1
3°	18 50.0 -45.2 114.0	18 10.5 -45.1 113.2	17 30.7 -44.9 112.4	16 50.7 -44.7 111.6	16 10.4 -44.4 110.8
4°	18 04.8 -45.4 114.7	17 25.4 -45.2 113.9	16 45.8 -44.9 113.1	16 06.0 -44.7 112.3	15 26.0 -44.6 111.5
5°	17 19.4 -45.6 115.3	16 40.2 -45.3 114.6	16 00.9 -45.1 113.8	15 21.3 -44.9 113.0	14 41.4 -44.7 112.2
6°	16 33.8 -45.6 116.0	15 54.9 -45.4 115.2	15 15.8 -45.3 114.5	14 36.4 -45.0 113.7	13 56.7 -44.8 112.9
7°	15 48.2 -45.8 116.7	15 09.5 -45.6 115.9	14 30.5 -45.3 115.1	13 51.4 -45.2 114.4	13 11.9 -44.9 113.6
8°	15 02.4 -45.9 117.4	14 23.9 -45.6 116.6	13 45.2 -45.4 115.8	13 06.2 -45.2 115.1	12 27.0 -45.0 114.3
9°	14 16.5 -46.0 118.0	13 38.3 -45.8 117.3	12 59.8 -45.6 116.5	12 21.0 -45.3 115.7	11 42.0 -45.1 115.0
10°	13 30.5 -46.1 118.7	12 52.5 -45.9 117.9	12 14.2 -45.6 117.2	11 35.7 -45.4 116.4	10 56.9 -45.2 115.6
11°	12 44.4 -46.3 119.4	12 06.6 -46.0 118.6	11 28.6 -45.8 117.8	10 50.3 -45.5 117.1	10 11.7 -45.3 116.3
12°	11 58.1 -46.3 120.0	11 20.6 -46.0 119.2	10 42.8 -45.8 118.5	10 04.8 -45.6 117.7	9 26.4 -45.3 117.0
13°	11 11.8 -46.4 120.7	10 34.6 -46.2 119.9	9 57.0 -45.9 119.1	9 19.2 -45.7 118.4	8 41.1 -45.5 117.6
14°	10 25.4 -46.4 121.3	9 48.4 -46.2 120.5	9 11.1 -46.0 119.8	8 33.5 -45.7 119.0	7 55.6 -45.4 118.3
15°	9 39.0 -46.6 121.9	9 02.2 -46.3 121.2	8 25.1 -46.0 120.4	7 47.8 -45.8 119.7	7 10.2 -45.6 119.0
16°	8 52.4 -46.6 122.6	8 15.9 -46.3 121.8	7 39.1 -46.1 121.1	7 02.0 -45.8 120.3	6 24.6 -45.6 119.6
17°	8 05.8 -46.6 123.2	7 29.6 -46.4 122.5	6 53.0 -46.1 121.7	6 16.2 -45.9 121.0	5 39.0 -45.6 120.3
18°	7 19.2 -46.7 123.9	6 43.2 -46.5 123.1	6 06.9 -46.2 122.4	5 30.3 -45.9 121.6	4 53.4 -45.7 120.9
19°	6 32.5 -46.8 124.5	5 56.7 -46.5 123.8	5 20.7 -46.2 123.0	4 44.4 -46.0 122.3	4 07.7 -45.7 121.6
20°	5 45.7 -46.8 125.1	5 10.2 -46.5 124.4	4 34.5 -46.3 123.7	3 58.4 -46.0 122.9	3 22.0 -45.7 122.2
21°	4 58.9 -46.8 125.8	4 23.7 -46.5 125.0	3 48.2 -46.3 124.3	3 12.4 -46.0 123.6	2 36.3 -45.7 122.9
22°	4 12.1 -46.9 126.4	3 37.2 -46.6 125.7	3 01.9 -46.3 124.9	2 26.4 -46.0 124.2	1 50.6 -45.8 123.5
23°	3 25.2 -46.9 127.0	2 50.6 -46.6 126.3	2 15.6 -46.3 125.6	1 40.4 -46.1 124.9	1 04.8 -45.8 124.2
24°	2 38.3 -46.9 127.6	2 04.0 -46.7 126.9	1 29.3 -46.3 126.2	0 54.3 -46.0 125.5	0 19.0 -45.8 124.8
25°	1 51.4 -46.9 128.3	1 17.3 -46.6 127.5	0 43.0 -46.4 126.8	0 08.3 -46.1 126.1	-0 26.8 -45.7
26°	1 04.5 -47.0 128.9	0 30.7 -46.6 128.2	-0 03.4 -46.3	-0 37.8 -46.1	-1 12.5 -45.8
27°	0 17.5 -46.9 129.5	-0 15.9 -46.7	-0 49.7 -46.4	-1 23.9 -46.0	-1 58.3 -45.7
28°	-0 29.4 -46.9	-1 02.6 -46.6	-1 36.1 -46.3	-2 09.9 -46.0	-2 44.0 -45.8
29°	-1 16.3 -47.0	-1 49.2 -46.6	-2 22.4 -46.3	-2 55.9 -46.0	-3 29.8 -45.6

Dec	LHA 065° / 295°	LHA 066° / 294°	LHA 067° / 293°	LHA 068° / 292°	LHA 069° / 291°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	17 41.9 -43.8 107.9	17 00.8 -43.7 107.2	16 19.4 -43.5 106.4	15 38.0 -43.4 105.7	14 56.3 -43.2 104.9
1°	16 58.1 -44.0 108.7	16 17.1 -43.8 107.9	15 35.9 -43.6 107.1	14 54.6 -43.5 106.4	14 13.1 -43.3 105.6
2°	16 14.1 -44.1 109.4	15 33.3 -44.0 108.6	14 52.3 -43.8 107.9	14 11.1 -43.6 107.1	13 29.8 -43.5 106.4
3°	15 30.0 -44.3 110.1	14 49.3 -44.0 109.3	14 08.5 -43.9 108.6	13 27.5 -43.7 107.8	12 46.3 -43.5 107.1
4°	14 45.7 -44.3 110.8	14 05.3 -44.2 110.0	13 24.6 -44.0 109.3	12 43.8 -43.8 108.5	12 02.8 -43.7 107.8
5°	14 01.4 -44.5 111.5	13 21.1 -44.3 110.7	12 40.6 -44.1 110.0	12 00.0 -44.0 109.2	11 19.1 -43.8 108.5
6°	13 16.9 -44.6 112.2	12 36.8 -44.4 111.4	11 56.5 -44.2 110.7	11 16.0 -44.0 109.9	10 35.3 -43.8 109.2
7°	12 32.3 -44.7 112.8	11 52.4 -44.5 112.1	11 12.3 -44.3 111.3	10 32.0 -44.1 110.6	9 51.5 -44.0 109.9
8°	11 47.6 -44.8 113.5	11 07.9 -44.6 112.8	10 28.0 -44.4 112.0	9 47.9 -44.2 111.3	9 07.5 -44.0 110.6
9°	11 02.8 -44.9 114.2	10 23.3 -44.7 113.5	9 43.6 -44.5 112.7	9 03.7 -44.3 112.0	8 23.5 -44.1 111.2
10°	10 17.9 -45.0 114.9	9 38.6 -44.8 114.1	8 59.1 -44.6 113.4	8 19.4 -44.4 112.7	7 39.4 -44.1 111.9
11°	9 32.9 -45.1 115.6	8 53.8 -44.8 114.8	8 14.5 -44.6 114.1	7 35.0 -44.4 113.3	6 55.3 -44.2 112.6
12°	8 47.8 -45.1 116.2	8 09.0 -44.9 115.5	7 29.9 -44.7 114.7	6 50.6 -44.5 114.0	6 11.1 -44.3 113.3
13°	8 02.7 -45.2 116.9	7 24.1 -45.0 116.2	6 45.2 -44.7 115.4	6 06.1 -44.5 114.7	5 26.8 -44.3 114.0
14°	7 17.5 -45.2 117.6	6 39.1 -45.0 116.8	6 00.5 -44.8 116.1	5 21.6 -44.6 115.4	4 42.5 -44.4 114.6
15°	6 32.3 -45.3 118.2	5 54.1 -45.1 117.5	5 15.7 -44.8 116.8	4 37.0 -44.6 116.0	3 58.1 -44.4 115.3
16°	5 47.0 -45.4 118.9	5 09.0 -45.1 118.1	4 30.9 -44.9 117.4	3 52.4 -44.6 116.7	3 13.7 -44.4 116.0
17°	5 01.6 -45.4 119.5	4 23.9 -45.1 118.8	3 46.0 -44.9 118.1	3 07.8 -44.7 117.4	2 29.3 -44.4 116.7
18°	4 16.2 -45.4 120.2	3 38.8 -45.2 119.5	3 01.1 -44.9 118.8	2 23.1 -44.7 118.0	1 44.9 -44.4 117.3
19°	3 30.8 -45.4 120.8	2 53.6 -45.2 120.1	2 16.2 -45.0 119.4	1 38.4 -44.7 118.7	1 00.5 -44.5 118.0
20°	2 45.4 -45.5 121.5	2 08.4 -45.2 120.8	1 31.2 -44.9 120.1	0 53.7 -44.7 119.4	0 16.0 -44.5 118.7
21°	1 59.9 -45.5 122.2	1 23.2 -45.2 121.4	0 46.3 -45.0 120.7	0 09.0 -44.7 120.0	-0 28.5 -44.4
22°	1 14.4 -45.5 122.8	0 38.0 -45.2 122.1	0 01.3 -45.0 121.4	-0 35.7 -44.7	-1 12.9 -44.5
23°	0 28.9 -45.5 123.5	-0 07.2 -45.2	-0 43.7 -44.9	-1 20.4 -44.7	-1 57.4 -44.4
24°	-0 16.6 -45.5	-0 52.4 -45.3	-1 28.6 -45.0	-2 05.1 -44.6	-2 41.8 -44.4
25°	-1 02.1 -45.4	-1 37.7 -45.2	-2 13.6 -44.9	-2 49.7 -44.7	-3 26.2 -44.4
26°	-1 47.5 -45.5	-2 22.9 -45.2	-2 58.5 -44.9	-3 34.4 -44.6	-4 10.6 -44.3
27°	-2 33.0 -45.5	-3 08.1 -45.1	-3 43.4 -44.9	-4 19.0 -44.6	-4 54.9 -44.3
28°	-3 18.5 -45.4	-3 53.2 -45.1	-4 28.3 -44.8	-5 03.6 -44.5	-5 39.2 -44.3
29°	-4 03.9 -45.4	-4 38.3 -45.1	-5 13.1 -44.8	-5 48.1 -44.5	-6 23.5 -44.2

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Dec	LHA 070° / 290°	LHA 071° / 289°	LHA 072° / 288°	LHA 073° / 287°	LHA 074° / 286°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	14 14.6 -43.1 104.2	13 32.6 -42.9 103.5	12 50.6 -42.8 102.7	12 08.4 -42.6 102.0	11 26.2 -42.6 101.3
1°	13 31.5 -43.2 104.9	12 49.7 -43.0 104.2	12 07.8 -42.9 103.4	11 25.8 -42.8 102.7	10 43.6 -42.7 102.0
2°	12 48.3 -43.3 105.6	12 06.7 -43.2 104.9	11 24.9 -43.0 104.2	10 43.0 -42.9 103.4	10 00.9 -42.7 102.7
3°	12 05.0 -43.4 106.3	11 23.5 -43.2 105.6	10 41.9 -43.2 104.9	10 00.1 -43.0 104.1	9 18.2 -42.9 103.4
4°	11 21.6 -43.5 107.0	10 40.3 -43.4 106.3	9 58.7 -43.2 105.6	9 17.1 -43.1 104.8	8 35.3 -42.9 104.1
5°	10 38.1 -43.6 107.7	9 56.9 -43.4 107.0	9 15.5 -43.2 106.3	8 34.0 -43.1 105.5	7 52.4 -43.0 104.8
6°	9 54.5 -43.7 108.4	9 13.5 -43.6 107.7	8 32.3 -43.4 107.0	7 50.9 -43.2 106.2	7 09.4 -43.1 105.5
7°	9 10.8 -43.8 109.1	8 29.9 -43.6 108.4	7 48.9 -43.4 107.7	7 07.7 -43.3 106.9	6 26.3 -43.1 106.2
8°	8 27.0 -43.8 109.8	7 46.3 -43.6 109.1	7 05.5 -43.5 108.4	6 24.4 -43.3 107.6	5 43.2 -43.2 106.9
9°	7 43.2 -43.9 110.5	7 02.7 -43.7 109.8	6 22.0 -43.6 109.1	5 41.1 -43.4 108.3	5 00.0 -43.2 107.6
10°	6 59.3 -44.0 111.2	6 19.0 -43.8 110.5	5 38.4 -43.6 109.8	4 57.7 -43.4 109.0	4 16.8 -43.2 108.3
11°	6 15.3 -44.0 111.9	5 35.2 -43.9 111.2	4 54.8 -43.6 110.4	4 14.3 -43.5 109.7	3 33.6 -43.3 109.0
12°	5 31.3 -44.1 112.6	4 51.3 -43.8 111.8	4 11.2 -43.7 111.1	3 30.8 -43.5 110.4	2 50.3 -43.3 109.7
13°	4 47.2 -44.1 113.2	4 07.5 -43.9 112.5	3 27.5 -43.7 111.8	2 47.3 -43.5 111.1	2 07.0 -43.3 110.4
14°	4 03.1 -44.1 113.9	3 23.6 -44.0 113.2	2 43.8 -43.7 112.5	2 03.8 -43.5 111.8	1 23.7 -43.4 111.1
15°	3 19.0 -44.2 114.6	2 39.6 -43.9 113.9	2 00.1 -43.8 113.2	1 20.3 -43.5 112.5	0 40.3 -43.3 111.8
16°	2 34.8 -44.2 115.3	1 55.7 -44.0 114.6	1 16.3 -43.7 113.9	0 36.8 -43.6 113.2	-0 03.0 -43.4
17°	1 50.6 -44.2 116.0	1 11.7 -44.0 115.3	0 32.6 -43.8 114.6	-0 06.8 -43.5	-0 46.4 -43.3
18°	1 06.4 -44.2 116.6	0 27.7 -43.9 115.9	-0 11.2 -43.7	-0 50.3 -43.6	-1 29.7 -43.3
19°	0 22.2 -44.2 117.3	-0 16.2 -44.0	-0 54.9 -43.8	-1 33.9 -43.5	-2 13.0 -43.3
20°	-0 22.0 -44.2	-1 00.2 -44.0	-1 38.7 -43.7	-2 17.4 -43.5	-2 56.3 -43.3
21°	-1 06.2 -44.2	-1 44.2 -44.0	-2 22.4 -43.7	-3 00.9 -43.5	-3 39.6 -43.2
22°	-1 50.4 -44.2	-2 28.2 -43.9	-3 06.1 -43.7	-3 44.4 -43.4	-4 22.8 -43.3
23°	-2 34.6 -44.2	-3 12.1 -43.9	-3 49.8 -43.7	-4 27.8 -43.4	-5 06.1 -43.1
24°	-3 18.8 -44.1	-3 56.0 -43.9	-4 33.5 -43.6	-5 11.2 -43.4	-5 49.2 -43.1
25°	-4 02.9 -44.1	-4 39.9 -43.8	-5 17.1 -43.6	-5 54.6 -43.3	-6 32.3 -43.1
26°	-4 47.0 -44.1	-5 23.7 -43.8	-6 00.7 -43.5	-6 37.9 -43.3	-7 15.4 -43.0
27°	-5 31.1 -44.0	-6 07.5 -43.7	-6 44.2 -43.5	-7 21.2 -43.1	-7 58.4 -42.9
28°	-6 15.1 -44.0	-6 51.2 -43.7	-7 27.7 -43.4	-8 04.3 -43.2	-8 41.3 -42.8
29°	-6 59.1 -43.9	-7 34.9 -43.6	-8 11.1 -43.3	-8 47.5 -43.0	-9 24.1 -42.8

Dec	LHA 075° / 285°	LHA 076° / 284°	LHA 077° / 283°	LHA 078° / 282°	LHA 079° / 281°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	10 43.8 -42.5 100.5	10 01.3 -42.4 99.8	9 18.7 -42.2 99.1	8 36.1 -42.2 98.4	7 53.3 -42.1 97.7
1°	10 01.3 -42.5 101.3	9 18.9 -42.4 100.5	8 36.5 -42.4 99.8	7 53.9 -42.3 99.1	7 11.2 -42.1 98.4
2°	9 18.8 -42.7 102.0	8 36.5 -42.6 101.3	7 54.1 -42.4 100.5	7 11.6 -42.3 99.8	6 29.1 -42.3 99.1
3°	8 36.1 -42.7 102.7	7 53.9 -42.6 102.0	7 11.7 -42.5 101.3	6 29.3 -42.4 100.5	5 46.8 -42.3 99.8
4°	7 53.4 -42.8 103.4	7 11.3 -42.6 102.7	6 29.2 -42.6 102.0	5 46.9 -42.4 101.3	5 04.5 -42.3 100.6
5°	7 10.6 -42.9 104.1	6 28.7 -42.8 103.4	5 46.6 -42.6 102.7	5 04.5 -42.5 102.0	4 22.2 -42.4 101.3
6°	6 27.7 -42.9 104.8	5 45.9 -42.7 104.1	5 04.0 -42.6 103.4	4 22.0 -42.6 102.7	3 39.8 -42.4 102.0
7°	5 44.8 -43.0 105.5	5 03.2 -42.9 104.8	4 21.4 -42.7 104.1	3 39.4 -42.5 103.4	2 57.4 -42.5 102.7
8°	5 01.8 -43.0 106.2	4 20.3 -42.8 105.5	3 38.7 -42.8 104.8	2 56.9 -42.6 104.1	2 14.9 -42.4 103.4
9°	4 18.8 -43.0 106.9	3 37.5 -42.9 106.2	2 55.9 -42.7 105.5	2 14.3 -42.6 104.8	1 32.5 -42.5 104.1
10°	3 35.8 -43.1 107.6	2 54.6 -43.0 106.9	2 13.2 -42.8 106.2	1 31.7 -42.7 105.5	0 50.0 -42.5 104.8
11°	2 52.7 -43.1 108.3	2 11.6 -42.9 107.6	1 30.4 -42.8 106.9	0 49.0 -42.6 106.2	0 07.5 -42.5 105.5
12°	2 09.6 -43.2 109.0	1 28.7 -43.0 108.3	0 47.6 -42.8 107.6	0 06.4 -42.6 106.9	-0 35.0 -42.4
13°	1 26.4 -43.1 109.7	0 45.7 -42.9 109.0	0 04.8 -42.8 108.3	-0 36.2 -42.7	-1 17.4 -42.5
14°	0 43.3 -43.1 110.4	0 02.8 -43.0 109.7	-0 38.0 -42.8	-1 18.9 -42.6	-1 59.9 -42.5
15°	0 00.2 -43.2 111.1	-0 40.2 -43.0	-1 20.8 -42.7	-2 01.5 -42.6	-2 42.4 -42.4
16°	-0 43.0 -43.1	-1 23.2 -42.9	-2 03.5 -42.8	-2 44.1 -42.5	-3 24.8 -42.4
17°	-1 26.1 -43.2	-2 06.1 -42.9	-2 46.3 -42.7	-3 26.6 -42.6	-4 07.2 -42.3
18°	-2 09.3 -43.1	-2 49.0 -43.0	-3 29.0 -42.7	-4 09.2 -42.5	-4 49.5 -42.3
19°	-2 52.4 -43.1	-3 32.0 -42.8	-4 11.7 -42.7	-4 51.7 -42.5	-5 31.8 -42.3
20°	-3 35.5 -43.0	-4 14.8 -42.9	-4 54.4 -42.6	-5 34.2 -42.4	-6 14.1 -42.2
21°	-4 18.5 -43.0	-4 57.7 -42.8	-5 37.0 -42.6	-6 16.6 -42.3	-6 56.3 -42.1
22°	-5 01.5 -43.0	-5 40.5 -42.7	-6 19.6 -42.5	-6 58.9 -42.3	-7 38.4 -42.1
23°	-5 44.5 -42.9	-6 23.2 -42.7	-7 02.1 -42.4	-7 41.2 -42.2	-8 20.5 -42.0
24°	-6 27.4 -42.9	-7 05.9 -42.6	-7 44.5 -42.4	-8 23.4 -42.1	-9 02.5 -41.9
25°	-7 10.3 -42.8	-7 48.5 -42.5	-8 26.9 -42.3	-9 05.5 -42.1	-9 44.4 -41.8
26°	-7 53.1 -42.7	-8 31.0 -42.5	-9 09.2 -42.2	-9 47.6 -42.0	
27°	-8 35.8 -42.7	-9 13.5 -42.4	-9 51.4 -42.1		
28°	-9 18.5 -42.5	-9 55.9 -42.3			
29°					

Dec	LHA 080° / 280°	LHA 081° / 279°	LHA 082° / 278°	LHA 083° / 277°	LHA 084° / 276°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	7 10.5 -42.0 97.0	6 27.7 -42.0 96.3	5 44.7 -41.9 95.6	5 01.8 -41.9 94.9	4 18.7 -41.8 94.2
1°	6 28.5 -42.1 97.7	5 45.7 -42.0 97.0	5 02.8 -41.9 96.3	4 19.9 -41.9 95.6	3 36.9 -41.8 94.9
2°	5 46.4 -42.2 98.4	5 03.7 -42.1 97.7	4 20.9 -42.0 97.0	3 38.0 -41.9 96.3	2 55.1 -41.9 95.6
3°	5 04.2 -42.2 99.1	4 21.6 -42.1 98.4	3 38.9 -42.1 97.7	2 56.1 -42.0 97.0	2 13.2 -41.9 96.3
4°	4 22.0 -42.2 99.8	3 39.5 -42.2 99.1	2 56.8 -42.0 98.4	2 14.1 -42.0 97.7	1 31.3 -41.9 97.0
5°	3 39.8 -42.3 100.6	2 57.3 -42.2 99.9	2 14.8 -42.1 99.2	1 32.1 -42.0 98.5	0 49.4 -41.9 97.8
6°	2 57.5 -42.3 101.3	2 15.1 -42.2 100.6	1 32.7 -42.1 99.9	0 50.1 -42.0 99.2	0 07.5 -42.0 98.5
7°	2 15.2 -42.3 102.0	1 32.9 -42.2 101.3	0 50.6 -42.1 100.6	0 08.1 -42.0 99.9	-0 34.5 -41.9
8°	1 32.9 -42.3 102.7	0 50.7 -42.2 102.0	0 08.5 -42.2 101.3	-0 33.9 -42.0	-1 16.4 -41.9
9°	0 50.6 -42.4 103.4	0 08.5 -42.2 102.7	-0 33.7 -42.1	-1 15.9 -42.0	-1 58.3 -41.9
10°	0 08.2 -42.3 104.1	-0 33.7 -42.2	-1 15.8 -42.0	-1 57.9 -42.0	-2 40.2 -41.8
11°	-0 34.1 -42.4	-1 15.9 -42.2	-1 57.8 -42.1	-2 39.9 -41.9	-3 22.0 -41.9
12°	-1 16.5 -42.3	-1 58.1 -42.2	-2 39.9 -42.1	-3 21.8 -42.0	-4 03.9 -41.8
13°	-1 58.8 -42.3	-2 40.3 -42.2	-3 22.0 -42.0	-4 03.8 -41.8	-4 45.7 -41.7
14°	-2 41.1 -42.3	-3 22.5 -42.1	-4 04.0 -42.0	-4 45.6 -41.9	-5 27.4 -41.7
15°	-3 23.4 -42.3	-4 04.6 -42.1	-4 46.0 -41.9	-5 27.5 -41.8	-6 09.1 -41.6
16°	-4 05.7 -42.2	-4 46.7 -42.1	-5 27.9 -41.9	-6 09.3 -41.7	-6 50.7 -41.6
17°	-4 47.9 -42.2	-5 28.8 -42.0	-6 09.8 -41.8	-6 51.0 -41.6	-7 32.3 -41.5
18°	-5 30.1 -42.1	-6 10.8 -41.9	-6 51.6 -41.8	-7 32.6 -41.6	-8 13.8 -41.4
19°	-6 12.2 -42.0	-6 52.7 -41.9	-7 33.4 -41.7	-8 14.2 -41.5	-8 55.2 -41.4
20°	-6 54.2 -42.0	-7 34.6 -41.8	-8 15.1 -41.6	-8 55.7 -41.5	-9 36.6 -41.2
21°	-7 36.2 -42.0	-8 16.4 -41.7	-8 56.7 -41.5	-9 37.2 -41.3	
22°	-8 18.2 -41.8	-8 58.1 -41.6	-9 38.2 -41.4		
23°	-9 00.0 -41.8	-9 39.7 -41.6			
24°	-9 41.8 -41.7				
25°					
26°					
27°					
28°					
29°					

Dec	LHA 085° / 275°	LHA 086° / 274°	LHA 087° / 273°	LHA 088° / 272°	LHA 089° / 271°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	3 35.7 -41.8 93.5	2 52.6 -41.8 92.8	2 09.5 -41.8 92.1	1 26.3 -41.7 91.4	0 43.2 -41.7 90.7
1°	2 53.9 -41.8 94.2	2 10.8 -41.7 93.5	1 27.7 -41.7 92.8	0 44.6 -41.7 92.1	0 01.5 -41.7 91.4
2°	2 12.1 -41.8 94.9	1 29.1 -41.8 94.2	0 46.0 -41.7 93.5	0 02.9 -41.7 92.8	-0 40.2 -41.7
3°	1 30.3 -41.9 95.6	0 47.3 -41.8 94.9	0 04.3 -41.8 94.2	-0 38.8 -41.7	-1 21.9 -41.7
4°	0 48.4 -41.8 96.3	0 05.5 -41.8 95.7	-0 37.5 -41.7	-1 20.5 -41.7	-2 03.6 -41.6
5°	0 06.6 -41.9 97.1	-0 36.3 -41.8	-1 19.2 -41.7	-2 02.2 -41.7	-2 45.2 -41.6
6°	-0 35.3 -41.8	-1 18.1 -41.7	-2 00.9 -41.7	-2 43.9 -41.6	-3 26.8 -41.6
7°	-1 17.1 -41.8	-1 59.8 -41.8	-2 42.6 -41.7	-3 25.5 -41.6	-4 08.4 -41.6
8°	-1 58.9 -41.9	-2 41.6 -41.7	-3 24.3 -41.7	-4 07.1 -41.6	-4 50.0 -41.5
9°	-2 40.8 -41.7	-3 23.3 -41.7	-4 06.0 -41.6	-4 48.7 -41.5	-5 31.5 -41.4
10°	-3 22.5 -41.8	-4 05.0 -41.7	-4 47.6 -41.5	-5 30.2 -41.5	-6 12.9 -41.4
11°	-4 04.3 -41.7	-4 46.7 -41.6	-5 29.1 -41.5	-6 11.7 -41.4	-6 54.3 -41.3
12°	-4 46.0 -41.7	-5 28.3 -41.5	-6 10.6 -41.5	-6 53.1 -41.3	-7 35.6 -41.3
13°	-5 27.7 -41.6	-6 09.8 -41.5	-6 52.1 -41.4	-7 34.4 -41.3	-8 16.9 -41.1
14°	-6 09.3 -41.6	-6 51.3 -41.5	-7 33.5 -41.3	-8 15.7 -41.2	-8 58.0 -41.1
15°	-6 50.9 -41.5	-7 32.8 -41.3	-8 14.8 -41.2	-8 56.9 -41.1	-9 39.1 -41.0
16°	-7 32.4 -41.4	-8 14.1 -41.3	-8 56.0 -41.1	-9 38.0 -41.0	
17°	-8 13.8 -41.3	-8 55.4 -41.2	-9 37.1 -41.1		
18°	-8 55.1 -41.3	-9 36.6 -41.1			
19°	-9 36.4 -41.2				
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Latitude 44°

Declination CONTRARY name to Latitude

Dec	LHA 090° / 270°	LHA 091° / 269°	LHA 092° / 268°	LHA 093° / 267°	LHA 094° / 266°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	0 00.0 -41.7 90.0	-0 43.2 -41.6			
1°	-0 41.7 -41.7	-1 24.8 -41.7			
2°	-1 23.4 -41.6	-2 06.5 -41.6			
3°	-2 05.0 -41.6	-2 48.1 -41.7			
4°	-2 46.6 -41.7	-3 29.8 -41.6			
5°	-3 28.3 -41.5	-4 11.4 -41.5			
6°	-4 09.8 -41.6	-4 52.9 -41.5			
7°	-4 51.4 -41.5	-5 34.4 -41.4			
8°	-5 32.9 -41.4	-6 15.8 -41.4			
9°	-6 14.3 -41.4	-6 57.2 -41.3			
10°	-6 55.7 -41.3	-7 38.5 -41.3			
11°	-7 37.0 -41.2	-8 19.8 -41.2			
12°	-8 18.2 -41.2	-9 01.0 -41.0			
13°	-8 59.4 -41.1	-9 42.0 -41.0			
14°	-9 40.5 -41.0				
15°					
16°					
17°					
18°					
19°					
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 095° / 265°	LHA 096° / 264°	LHA 097° / 263°	LHA 098° / 262°	LHA 099° / 261°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°					
1°					
2°					
3°					
4°					
5°					
6°					
7°					
8°					
9°					
10°					
11°					
12°					
13°					
14°					
15°					
16°					
17°					
18°					
19°					
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

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Declination CONTRARY name to Latitude

Latitude 45°

Dec	LHA 000° / 360°	LHA 001° / 359°	LHA 002° / 358°	LHA 003° / 357°	LHA 004° / 356°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	45 00.0 -60.0 180.0	44 59.5 -60.0 178.6	44 57.9 -60.0 177.2	44 55.3 -59.9 175.8	44 51.6 -59.8 174.4
1°	44 00.0 -60.0 180.0	43 59.5 -60.0 178.6	43 57.9 -59.9 177.2	43 55.4 -59.9 175.8	43 51.8 -59.9 174.4
2°	43 00.0 -60.0 180.0	42 59.5 -60.0 178.6	42 58.0 -60.0 177.3	42 55.5 -60.0 175.9	42 51.9 -59.8 174.5
3°	42 00.0 -60.0 180.0	41 59.5 -60.0 178.7	41 58.0 -60.0 177.3	41 55.5 -59.9 176.0	41 52.1 -59.9 174.6
4°	41 00.0 -60.0 180.0	40 59.5 -60.0 178.7	40 58.0 -59.9 177.4	40 55.6 -59.9 176.0	40 52.2 -59.9 174.7
5°	40 00.0 -60.0 180.0	39 59.5 -60.0 178.7	39 58.1 -60.0 177.4	39 55.7 -60.0 176.1	39 52.3 -59.9 174.8
6°	39 00.0 -60.0 180.0	38 59.5 -60.0 178.7	38 58.1 -60.0 177.4	38 55.7 -59.9 176.2	38 52.4 -59.9 174.9
7°	38 00.0 -60.0 180.0	37 59.5 -60.0 178.7	37 58.1 -59.9 177.5	37 55.8 -59.9 176.2	37 52.5 -59.8 175.0
8°	37 00.0 -60.0 180.0	36 59.5 -60.0 178.8	36 58.2 -60.0 177.5	36 55.9 -60.0 176.3	36 52.7 -59.9 175.0
9°	36 00.0 -60.0 180.0	35 59.5 -59.9 178.8	35 58.2 -60.0 177.6	35 55.9 -59.9 176.3	35 52.8 -59.9 175.1
10°	35 00.0 -60.0 180.0	34 59.6 -60.0 178.8	34 58.2 -60.0 177.6	34 56.0 -59.9 176.4	34 52.9 -59.9 175.2
11°	34 00.0 -60.0 180.0	33 59.6 -60.0 178.8	33 58.2 -59.9 177.6	33 56.1 -60.0 176.4	33 53.0 -59.9 175.3
12°	33 00.0 -60.0 180.0	32 59.6 -60.0 178.8	32 58.3 -60.0 177.7	32 56.1 -59.9 176.5	32 53.1 -59.9 175.3
13°	32 00.0 -60.0 180.0	31 59.6 -60.0 178.9	31 58.3 -60.0 177.7	31 56.2 -60.0 176.6	31 53.2 -59.9 175.4
14°	31 00.0 -60.0 180.0	30 59.6 -60.0 178.9	30 58.3 -60.0 177.7	30 56.2 -59.9 176.6	30 53.3 -59.9 175.5
15°	30 00.0 -60.0 180.0	29 59.6 -60.0 178.9	29 58.3 -59.9 177.8	29 56.3 -60.0 176.7	29 53.4 -59.9 175.5
16°	29 00.0 -60.0 180.0	28 59.6 -60.0 178.9	28 58.4 -60.0 177.8	28 56.3 -59.9 176.7	28 53.5 -59.9 175.6
17°	28 00.0 -60.0 180.0	27 59.6 -60.0 178.9	27 58.4 -60.0 177.8	27 56.4 -60.0 176.8	27 53.6 -59.9 175.7
18°	27 00.0 -60.0 180.0	26 59.6 -60.0 178.9	26 58.4 -60.0 177.9	26 56.4 -59.9 176.8	26 53.7 -59.9 175.7
19°	26 00.0 -60.0 180.0	25 59.6 -60.0 178.9	25 58.4 -59.9 177.9	25 56.5 -60.0 176.8	25 53.8 -59.9 175.8
20°	25 00.0 -60.0 180.0	24 59.6 -60.0 179.0	24 58.5 -60.0 177.9	24 56.5 -59.9 176.9	24 53.9 -59.9 175.9
21°	24 00.0 -60.0 180.0	23 59.6 -60.0 179.0	23 58.5 -60.0 178.0	23 56.6 -60.0 176.9	23 54.0 -60.0 175.9
22°	23 00.0 -60.0 180.0	22 59.6 -60.0 179.0	22 58.5 -60.0 178.0	22 56.6 -59.9 177.0	22 54.0 -59.9 176.0
23°	22 00.0 -60.0 180.0	21 59.6 -60.0 179.0	21 58.5 -59.9 178.0	21 56.7 -60.0 177.0	21 54.1 -59.9 176.0
24°	21 00.0 -60.0 180.0	20 59.6 -60.0 179.0	20 58.6 -60.0 178.0	20 56.7 -59.9 177.1	20 54.2 -59.9 176.1
25°	20 00.0 -60.0 180.0	19 59.6 -60.0 179.0	19 58.6 -60.0 178.1	19 56.8 -60.0 177.1	19 54.3 -59.9 176.1
26°	19 00.0 -60.0 180.0	18 59.6 -59.9 179.0	18 58.6 -60.0 178.1	18 56.8 -59.9 177.1	18 54.4 -59.9 176.2
27°	18 00.0 -60.0 180.0	17 59.7 -60.0 179.1	17 58.6 -60.0 178.1	17 56.9 -60.0 177.2	17 54.5 -60.0 176.3
28°	17 00.0 -60.0 180.0	16 59.7 -60.0 179.1	16 58.6 -59.9 178.2	16 56.9 -59.9 177.2	16 54.5 -59.9 176.3
29°	16 00.0 -60.0 180.0	15 59.7 -60.0 179.1	15 58.7 -60.0 178.2	15 57.0 -60.0 177.3	15 54.6 -59.9 176.4

Dec	LHA 005° / 355°	LHA 006° / 354°	LHA 007° / 353°	LHA 008° / 352°	LHA 009° / 351°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	44 46.9 -59.7 172.9	44 41.2 -59.7 171.5	44 34.5 -59.6 170.1	44 26.7 -59.4 168.8	44 17.9 -59.3 167.4
1°	43 47.2 -59.8 173.1	43 41.5 -59.7 171.7	43 34.9 -59.6 170.3	43 27.3 -59.5 168.9	43 18.6 -59.3 167.6
2°	42 47.4 -59.8 173.2	42 41.8 -59.7 171.8	42 35.3 -59.6 170.5	42 27.8 -59.5 169.1	42 19.3 -59.3 167.8
3°	41 47.6 -59.8 173.3	41 42.1 -59.7 172.0	41 35.7 -59.6 170.6	41 28.3 -59.4 169.3	41 20.0 -59.4 168.0
4°	40 47.8 -59.8 173.4	40 42.4 -59.7 172.1	40 36.1 -59.6 170.8	40 28.9 -59.6 169.5	40 20.6 -59.3 168.2
5°	39 48.0 -59.8 173.5	39 42.7 -59.7 172.2	39 36.5 -59.6 170.9	39 29.3 -59.5 169.7	39 21.3 -59.4 168.4
6°	38 48.2 -59.8 173.6	38 43.0 -59.7 172.3	38 36.9 -59.7 171.1	38 29.8 -59.5 169.8	38 21.9 -59.4 168.6
7°	37 48.4 -59.9 173.7	37 43.3 -59.8 172.5	37 37.2 -59.6 171.2	37 30.3 -59.5 170.0	37 22.5 -59.5 168.7
8°	36 48.5 -59.8 173.8	36 43.5 -59.7 172.6	36 37.6 -59.7 171.4	36 30.8 -59.6 170.1	36 23.0 -59.4 168.9
9°	35 48.7 -59.8 173.9	35 43.8 -59.8 172.7	35 37.9 -59.6 171.5	35 31.2 -59.6 170.3	35 23.6 -59.4 169.1
10°	34 48.9 -59.8 174.0	34 44.0 -59.7 172.8	34 38.3 -59.7 171.6	34 31.6 -59.5 170.4	34 24.2 -59.5 169.2
11°	33 49.1 -59.9 174.1	33 44.3 -59.8 172.9	33 38.6 -59.7 171.7	33 32.1 -59.6 170.6	33 24.7 -59.5 169.4
12°	32 49.2 -59.8 174.2	32 44.5 -59.8 173.0	32 38.9 -59.7 171.9	32 32.5 -59.6 170.7	32 25.2 -59.5 169.6
13°	31 49.4 -59.9 174.3	31 44.7 -59.8 173.1	31 39.2 -59.7 172.0	31 32.9 -59.6 170.8	31 25.7 -59.5 169.7
14°	30 49.5 -59.8 174.3	30 44.9 -59.7 173.2	30 39.5 -59.7 172.1	30 33.3 -59.6 171.0	30 26.2 -59.5 169.9
15°	29 49.7 -59.9 174.4	29 45.2 -59.8 173.3	29 39.8 -59.7 172.2	29 33.7 -59.6 171.1	29 26.7 -59.5 170.0
16°	28 49.8 -59.8 174.5	28 45.4 -59.8 173.4	28 40.1 -59.7 172.3	28 34.1 -59.7 171.2	28 27.2 -59.5 170.2
17°	27 50.0 -59.9 174.6	27 45.6 -59.8 173.5	27 40.4 -59.7 172.4	27 34.4 -59.6 171.4	27 27.7 -59.6 170.3
18°	26 50.1 -59.8 174.7	26 45.8 -59.8 173.6	26 40.7 -59.7 172.5	26 34.8 -59.6 171.5	26 28.1 -59.5 170.4
19°	25 50.3 -59.9 174.7	25 46.0 -59.8 173.7	25 41.0 -59.8 172.7	25 35.2 -59.7 171.6	25 28.6 -59.6 170.6
20°	24 50.4 -59.8 174.8	24 46.2 -59.8 173.8	24 41.2 -59.7 172.8	24 35.5 -59.6 171.7	24 29.0 -59.5 170.7
21°	23 50.6 -59.9 174.9	23 46.4 -59.8 173.9	23 41.5 -59.7 172.9	23 35.9 -59.7 171.8	23 29.5 -59.6 170.8
22°	22 50.7 -59.9 175.0	22 46.6 -59.8 174.0	22 41.8 -59.8 173.0	22 36.2 -59.7 172.0	22 29.9 -59.6 171.0
23°	21 50.8 -59.8 175.0	21 46.8 -59.8 174.1	21 42.0 -59.7 173.1	21 36.5 -59.6 172.1	21 30.3 -59.5 171.1
24°	20 51.0 -59.9 175.1	20 47.0 -59.8 174.1	20 42.3 -59.8 173.2	20 36.9 -59.7 172.2	20 30.8 -59.6 171.2
25°	19 51.1 -59.9 175.2	19 47.2 -59.9 174.2	19 42.5 -59.7 173.3	19 37.2 -59.7 172.3	19 31.2 -59.6 171.3
26°	18 51.2 -59.9 175.3	18 47.3 -59.8 174.3	18 42.8 -59.8 173.4	18 37.5 -59.6 172.4	18 31.6 -59.6 171.5
27°	17 51.3 -59.8 175.3	17 47.5 -59.8 174.4	17 43.0 -59.7 173.5	17 37.9 -59.7 172.5	17 32.0 -59.6 171.6
28°	16 51.5 -59.9 175.4	16 47.7 -59.8 174.5	16 43.3 -59.8 173.5	16 38.2 -59.7 172.6	16 32.4 -59.6 171.7
29°	15 51.6 -59.9 175.5	15 47.9 -59.8 174.5	15 43.5 -59.7 173.6	15 38.5 -59.7 172.7	15 32.8 -59.6 171.8

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Dec	LHA 010° / 350°	LHA 011° / 349°	LHA 012° / 348°	LHA 013° / 347°	LHA 014° / 346°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	44 08.2 -59.2 166.0	43 57.4 -58.9 164.6	43 45.7 -58.8 163.3	43 33.0 -58.6 161.9	43 19.3 -58.3 160.6
1°	43 09.0 -59.1 166.2	42 58.5 -59.0 164.9	42 46.9 -58.8 163.5	42 34.4 -58.6 162.2	42 21.0 -58.4 160.9
2°	42 09.9 -59.2 166.5	41 59.5 -59.1 165.1	41 48.1 -58.8 163.8	41 35.8 -58.6 162.5	41 22.6 -58.4 161.2
3°	41 10.7 -59.2 166.7	41 00.4 -59.0 165.4	40 49.3 -58.9 164.1	40 37.2 -58.7 162.8	40 24.2 -58.5 161.5
4°	40 11.5 -59.2 166.9	40 01.4 -59.1 165.6	39 50.4 -58.9 164.3	39 38.5 -58.7 163.1	39 25.7 -58.6 161.8
5°	39 12.3 -59.3 167.1	39 02.3 -59.1 165.8	38 51.5 -58.9 164.6	38 39.8 -58.8 163.3	38 27.1 -58.5 162.1
6°	38 13.0 -59.3 167.3	38 03.2 -59.1 166.1	37 52.6 -59.0 164.8	37 41.0 -58.8 163.6	37 28.6 -58.6 162.4
7°	37 13.7 -59.3 167.5	37 04.1 -59.1 166.3	36 53.6 -59.0 165.0	36 42.2 -58.8 163.8	36 30.0 -58.7 162.6
8°	36 14.4 -59.3 167.7	36 05.0 -59.2 166.5	35 54.6 -59.0 165.3	35 43.4 -58.9 164.1	35 31.3 -58.7 162.9
9°	35 15.1 -59.3 167.9	35 05.8 -59.2 166.7	34 55.6 -59.1 165.5	34 44.5 -58.8 164.3	34 32.6 -58.7 163.1
10°	34 15.8 -59.3 168.1	34 06.6 -59.2 166.9	33 56.5 -59.0 165.7	33 45.7 -58.9 164.5	33 33.9 -58.7 163.4
11°	33 16.5 -59.4 168.2	33 07.4 -59.2 167.1	32 57.5 -59.1 165.9	32 46.8 -59.0 164.8	32 35.2 -58.8 163.6
12°	32 17.1 -59.4 168.4	32 08.2 -59.3 167.3	31 58.4 -59.1 166.1	31 47.8 -58.9 165.0	31 36.4 -58.8 163.9
13°	31 17.7 -59.4 168.6	31 08.9 -59.2 167.5	30 59.3 -59.1 166.3	30 48.9 -59.0 165.2	30 37.6 -58.8 164.1
14°	30 18.3 -59.3 168.7	30 09.7 -59.3 167.6	30 00.2 -59.2 166.5	29 49.9 -59.0 165.4	29 38.8 -58.8 164.3
15°	29 19.0 -59.5 168.9	29 10.4 -59.3 167.8	29 01.0 -59.1 166.7	28 50.9 -59.0 165.6	28 40.0 -58.9 164.6
16°	28 19.5 -59.4 169.1	28 11.1 -59.3 168.0	28 01.9 -59.2 166.9	27 51.9 -59.0 165.8	27 41.1 -58.8 164.8
17°	27 20.1 -59.4 169.2	27 11.8 -59.3 168.2	27 02.7 -59.2 167.1	26 52.9 -59.1 166.0	26 42.3 -58.9 165.0
18°	26 20.7 -59.4 169.4	26 12.5 -59.3 168.3	26 03.5 -59.2 167.3	25 53.8 -59.0 166.2	25 43.4 -59.0 165.2
19°	25 21.3 -59.5 169.5	25 13.2 -59.4 168.5	25 04.3 -59.2 167.5	24 54.8 -59.1 166.4	24 44.4 -58.9 165.4
20°	24 21.8 -59.4 169.7	24 13.8 -59.3 168.7	24 05.1 -59.2 167.6	23 55.7 -59.1 166.6	23 45.5 -58.9 165.6
21°	23 22.4 -59.5 169.8	23 14.5 -59.4 168.8	23 05.9 -59.2 167.8	22 56.6 -59.1 166.8	22 46.6 -59.0 165.8
22°	22 22.9 -59.5 170.0	22 15.1 -59.3 169.0	22 06.7 -59.3 168.0	21 57.5 -59.1 167.0	21 47.6 -59.0 166.0
23°	21 23.4 -59.5 170.1	21 15.8 -59.4 169.1	21 07.4 -59.2 168.2	20 58.4 -59.2 167.2	20 48.6 -59.0 166.2
24°	20 23.9 -59.5 170.3	20 16.4 -59.4 169.3	20 08.2 -59.3 168.3	19 59.2 -59.1 167.4	19 49.6 -59.0 166.4
25°	19 24.4 -59.4 170.4	19 17.0 -59.4 169.4	19 08.9 -59.3 168.5	19 00.1 -59.2 167.5	18 50.6 -59.0 166.6
26°	18 25.0 -59.5 170.5	18 17.6 -59.4 169.6	18 09.6 -59.3 168.7	18 00.9 -59.1 167.7	17 51.6 -59.0 166.8
27°	17 25.5 -59.5 170.7	17 18.2 -59.4 169.7	17 10.3 -59.2 168.8	17 01.8 -59.2 167.9	16 52.6 -59.1 167.0
28°	16 26.0 -59.6 170.8	16 18.8 -59.4 169.9	16 11.1 -59.3 169.0	16 02.6 -59.2 168.1	15 53.5 -59.0 167.2
29°	15 26.4 -59.6 170.9	15 19.4 -59.4 170.0	15 11.8 -59.3 169.1	15 03.4 -59.1 168.2	14 54.5 -59.1 167.4

Dec	LHA 015° / 345°	LHA 016° / 344°	LHA 017° / 343°	LHA 018° / 342°	LHA 019° / 341°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	43 04.8 -58.1 159.2	42 49.3 -57.9 157.9	42 32.9 -57.6 156.6	42 15.6 -57.4 155.3	41 57.5 -57.1 154.0
1°	42 06.7 -58.2 159.6	41 51.4 -57.9 158.3	41 35.3 -57.7 157.0	41 18.2 -57.4 155.7	41 00.4 -57.2 154.4
2°	41 08.5 -58.2 159.9	40 53.5 -58.0 158.6	40 37.6 -57.8 157.4	40 20.8 -57.5 156.1	40 03.2 -57.3 154.8
3°	40 10.3 -58.3 160.2	39 55.5 -58.1 159.0	39 39.8 -57.8 157.7	39 23.3 -57.6 156.5	39 05.9 -57.3 155.2
4°	39 12.0 -58.4 160.5	38 57.4 -58.1 159.3	38 42.0 -57.9 158.1	38 25.7 -57.7 156.8	38 08.6 -57.4 155.6
5°	38 13.6 -58.3 160.8	37 59.3 -58.2 159.6	37 44.1 -58.0 158.4	37 28.0 -57.7 157.2	37 11.2 -57.5 156.0
6°	37 15.3 -58.4 161.1	37 01.1 -58.2 159.9	36 46.1 -57.9 158.7	36 30.3 -57.7 157.5	36 13.7 -57.5 156.3
7°	36 16.9 -58.5 161.4	36 02.9 -58.2 160.2	35 48.2 -58.1 159.0	35 32.6 -57.9 157.9	35 16.2 -57.6 156.7
8°	35 18.4 -58.5 161.7	35 04.7 -58.3 160.5	34 50.1 -58.1 159.3	34 34.7 -57.8 158.2	34 18.6 -57.7 157.0
9°	34 19.9 -58.5 162.0	34 06.4 -58.4 160.8	33 52.0 -58.1 159.6	33 36.9 -57.9 158.5	33 20.9 -57.7 157.4
10°	33 21.4 -58.6 162.2	33 08.0 -58.3 161.1	32 53.9 -58.2 159.9	32 39.0 -58.0 158.8	32 23.2 -57.7 157.7
11°	32 22.8 -58.6 162.5	32 09.7 -58.4 161.4	31 55.7 -58.2 160.2	31 41.0 -58.0 159.1	31 25.5 -57.8 158.0
12°	31 24.2 -58.6 162.7	31 11.3 -58.5 161.6	30 57.5 -58.2 160.5	30 43.0 -58.1 159.4	30 27.7 -57.9 158.3
13°	30 25.6 -58.6 163.0	30 12.8 -58.4 161.9	29 59.3 -58.3 160.8	29 44.9 -58.1 159.7	29 29.8 -57.8 158.6
14°	29 27.0 -58.7 163.2	29 14.4 -58.5 162.2	29 01.0 -58.3 161.1	28 46.8 -58.1 160.0	28 32.0 -58.0 158.9
15°	28 28.3 -58.7 163.5	28 15.9 -58.6 162.4	28 02.7 -58.4 161.3	27 48.7 -58.1 160.3	27 34.0 -57.9 159.2
16°	27 29.6 -58.7 163.7	27 17.3 -58.5 162.7	27 04.3 -58.4 161.6	26 50.6 -58.2 160.6	26 36.1 -58.0 159.5
17°	26 30.9 -58.7 163.9	26 18.8 -58.6 162.9	26 05.9 -58.4 161.9	25 52.4 -58.2 160.8	25 38.1 -58.0 159.8
18°	25 32.2 -58.8 164.2	25 20.2 -58.6 163.1	25 07.5 -58.4 162.1	24 54.2 -58.3 161.1	24 40.1 -58.1 160.1
19°	24 33.4 -58.8 164.4	24 21.6 -58.6 163.4	24 09.1 -58.4 162.4	23 55.9 -58.3 161.4	23 42.0 -58.1 160.4
20°	23 34.6 -58.8 164.6	23 23.0 -58.7 163.6	23 10.7 -58.5 162.6	22 57.6 -58.3 161.6	22 43.9 -58.1 160.6
21°	22 35.8 -58.8 164.8	22 24.3 -58.6 163.8	22 12.2 -58.5 162.9	21 59.3 -58.3 161.9	21 45.8 -58.1 160.9
22°	21 37.0 -58.8 165.0	21 25.7 -58.7 164.1	21 13.7 -58.5 163.1	21 01.0 -58.3 162.1	20 47.7 -58.2 161.2
23°	20 38.2 -58.9 165.3	20 27.0 -58.7 164.3	20 15.2 -58.6 163.3	20 02.7 -58.4 162.4	19 49.5 -58.2 161.4
24°	19 39.3 -58.9 165.5	19 28.3 -58.7 164.5	19 16.6 -58.5 163.6	19 04.3 -58.4 162.6	18 51.3 -58.2 161.7
25°	18 40.4 -58.8 165.7	18 29.6 -58.7 164.7	18 18.1 -58.6 163.8	18 05.9 -58.4 162.9	17 53.1 -58.2 161.9
26°	17 41.6 -58.9 165.9	17 30.9 -58.8 164.9	17 19.5 -58.6 164.0	17 07.5 -58.4 163.1	16 54.9 -58.3 162.2
27°	16 42.7 -58.9 166.1	16 32.1 -58.7 165.2	16 20.9 -58.6 164.2	16 09.1 -58.4 163.3	15 56.6 -58.2 162.4
28°	15 43.8 -58.9 166.3	15 33.4 -58.8 165.4	15 22.3 -58.6 164.5	15 10.7 -58.5 163.6	14 58.4 -58.3 162.7
29°	14 44.9 -59.0 166.5	14 34.6 -58.8 165.6	14 23.7 -58.6 164.7	14 12.2 -58.4 163.8	14 00.1 -58.3 162.9

Dec	LHA 020° / 340°	LHA 021° / 339°	LHA 022° / 338°	LHA 023° / 337°	LHA 024° / 336°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	41 38.5 -56.9 152.8	41 18.6 -56.5 151.5	40 58.0 -56.3 150.3	40 36.5 -55.9 149.0	40 14.3 -55.6 147.8
1°	40 41.6 -56.9 153.2	40 22.1 -56.6 151.9	40 01.7 -56.3 150.7	39 40.6 -56.1 149.5	39 18.7 -55.8 148.3
2°	39 44.7 -57.0 153.6	39 25.5 -56.8 152.4	39 05.4 -56.4 151.2	38 44.5 -56.1 150.0	38 22.9 -55.8 148.8
3°	38 47.7 -57.0 154.0	38 28.7 -56.8 152.8	38 09.0 -56.6 151.6	37 48.4 -56.3 150.4	37 27.1 -56.0 149.2
4°	37 50.7 -57.2 154.4	37 31.9 -56.9 153.2	37 12.4 -56.6 152.0	36 52.1 -56.3 150.8	36 31.1 -56.1 149.7
5°	36 53.5 -57.2 154.8	36 35.0 -56.9 153.6	36 15.8 -56.7 152.4	35 55.8 -56.5 151.3	35 35.0 -56.2 150.1
6°	35 56.3 -57.3 155.2	35 38.1 -57.1 154.0	35 19.1 -56.8 152.8	34 59.3 -56.5 151.7	34 38.8 -56.2 150.5
7°	34 59.0 -57.4 155.5	34 41.0 -57.1 154.4	34 22.3 -56.9 153.2	34 02.8 -56.6 152.1	33 42.6 -56.4 151.0
8°	34 01.6 -57.4 155.9	33 43.9 -57.2 154.7	33 25.4 -56.9 153.6	33 06.2 -56.7 152.5	32 46.2 -56.4 151.4
9°	33 04.2 -57.5 156.2	32 46.7 -57.2 155.1	32 28.5 -57.0 154.0	32 09.5 -56.7 152.9	31 49.8 -56.5 151.8
10°	32 06.7 -57.5 156.6	31 49.5 -57.3 155.5	31 31.5 -57.1 154.4	31 12.8 -56.8 153.3	30 53.3 -56.5 152.2
11°	31 09.2 -57.6 156.9	30 52.2 -57.4 155.8	30 34.4 -57.1 154.7	30 16.0 -56.9 153.6	29 56.8 -56.7 152.6
12°	30 11.6 -57.6 157.2	29 54.8 -57.4 156.1	29 37.3 -57.2 155.1	29 19.1 -57.0 154.0	29 00.1 -56.7 152.9
13°	29 14.0 -57.7 157.5	28 57.4 -57.4 156.5	28 40.1 -57.2 155.4	28 22.1 -57.0 154.4	28 03.4 -56.7 153.3
14°	28 16.3 -57.7 157.9	28 00.0 -57.5 156.8	27 42.9 -57.3 155.8	27 25.1 -57.0 154.7	27 06.7 -56.8 153.7
15°	27 18.6 -57.7 158.2	27 02.5 -57.6 157.1	26 45.6 -57.3 156.1	26 28.1 -57.1 155.1	26 09.9 -56.9 154.0
16°	26 20.9 -57.8 158.5	26 04.9 -57.5 157.4	25 48.3 -57.3 156.4	25 31.0 -57.1 155.4	25 13.0 -56.9 154.4
17°	25 23.1 -57.9 158.8	25 07.4 -57.7 157.8	24 51.0 -57.5 156.7	24 33.9 -57.2 155.7	24 16.1 -57.0 154.7
18°	24 25.2 -57.8 159.1	24 09.7 -57.6 158.1	23 53.5 -57.4 157.1	23 36.7 -57.2 156.1	23 19.1 -57.0 155.1
19°	23 27.4 -57.9 159.4	23 12.1 -57.7 158.4	22 56.1 -57.5 157.4	22 39.5 -57.3 156.4	22 22.1 -57.0 155.4
20°	22 29.5 -57.9 159.6	22 14.4 -57.7 158.7	21 58.6 -57.5 157.7	21 42.2 -57.3 156.7	21 25.1 -57.1 155.8
21°	21 31.6 -58.0 159.9	21 16.7 -57.8 159.0	21 01.1 -57.5 158.0	20 44.9 -57.4 157.0	20 28.0 -57.1 156.1
22°	20 33.6 -58.0 160.2	20 18.9 -57.8 159.2	20 03.6 -57.6 158.3	19 47.5 -57.3 157.4	19 30.9 -57.2 156.4
23°	19 35.6 -58.0 160.5	19 21.1 -57.8 159.5	19 06.0 -57.6 158.6	18 50.2 -57.4 157.7	18 33.7 -57.2 156.7
24°	18 37.6 -58.0 160.7	18 23.3 -57.8 159.8	18 08.4 -57.7 158.9	17 52.8 -57.5 158.0	17 36.5 -57.2 157.1
25°	17 39.6 -58.0 161.0	17 25.5 -57.9 160.1	17 10.7 -57.6 159.2	16 55.3 -57.4 158.3	16 39.3 -57.2 157.4
26°	16 41.6 -58.1 161.3	16 27.6 -57.8 160.4	16 13.1 -57.7 159.5	15 57.9 -57.5 158.6	15 42.1 -57.3 157.7
27°	15 43.5 -58.1 161.5	15 29.8 -57.9 160.6	15 15.4 -57.7 159.8	15 00.4 -57.5 158.9	14 44.8 -57.3 158.0
28°	14 45.4 -58.1 161.8	14 31.9 -58.0 160.9	14 17.7 -57.7 160.0	14 02.9 -57.5 159.2	13 47.5 -57.3 158.3
29°	13 47.3 -58.1 162.1	13 33.9 -57.9 161.2	13 20.0 -57.8 160.3	13 05.4 -57.6 159.5	12 50.2 -57.4 158.6

Dec	LHA 025° / 335°	LHA 026° / 334°	LHA 027° / 333°	LHA 028° / 332°	LHA 029° / 331°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	39 51.3 -55.3 146.6	39 27.6 -55.0 145.4	39 03.2 -54.7 144.2	38 38.0 -54.4 143.1	38 12.2 -54.1 141.9
1°	38 56.0 -55.4 147.1	38 32.6 -55.2 145.9	38 08.5 -54.9 144.7	37 43.6 -54.5 143.6	37 18.1 -54.2 142.5
2°	38 00.6 -55.6 147.6	37 37.4 -55.2 146.4	37 13.6 -54.9 145.3	36 49.1 -54.7 144.1	36 23.9 -54.4 143.0
3°	37 05.0 -55.7 148.1	36 42.2 -55.4 146.9	36 18.7 -55.1 145.8	35 54.4 -54.8 144.6	35 29.5 -54.4 143.5
4°	36 09.3 -55.8 148.5	35 46.8 -55.5 147.4	35 23.6 -55.2 146.3	34 59.6 -54.9 145.1	34 35.1 -54.7 144.0
5°	35 13.5 -55.9 149.0	34 51.3 -55.6 147.8	34 28.4 -55.4 146.7	34 04.7 -55.0 145.6	33 40.4 -54.7 144.5
6°	34 17.6 -56.0 149.4	33 55.7 -55.7 148.3	33 33.0 -55.4 147.2	33 09.7 -55.1 146.1	32 45.7 -54.8 145.0
7°	33 21.6 -56.0 149.9	33 00.0 -55.8 148.7	32 37.6 -55.5 147.7	32 14.6 -55.3 146.6	31 50.9 -55.0 145.5
8°	32 25.6 -56.2 150.3	32 04.2 -55.9 149.2	31 42.1 -55.6 148.1	31 19.3 -55.3 147.0	30 55.9 -55.0 146.0
9°	31 29.4 -56.2 150.7	31 08.3 -56.0 149.6	30 46.5 -55.7 148.5	30 24.0 -55.4 147.5	30 00.9 -55.2 146.4
10°	30 33.2 -56.3 151.1	30 12.3 -56.0 150.0	29 50.8 -55.8 149.0	29 28.6 -55.5 147.9	29 05.7 -55.2 146.9
11°	29 36.9 -56.4 151.5	29 16.3 -56.1 150.4	28 55.0 -55.9 149.4	28 33.1 -55.6 148.4	28 10.5 -55.3 147.3
12°	28 40.5 -56.5 151.9	28 20.2 -56.2 150.8	27 59.1 -55.9 149.8	27 37.5 -55.7 148.8	27 15.2 -55.4 147.8
13°	27 44.0 -56.5 152.3	27 24.0 -56.3 151.2	27 03.2 -56.0 150.2	26 41.8 -55.7 149.2	26 19.8 -55.5 148.2
14°	26 47.5 -56.5 152.7	26 27.7 -56.3 151.6	26 07.2 -56.0 150.6	25 46.1 -55.8 149.6	25 24.3 -55.5 148.6
15°	25 51.0 -56.7 153.0	25 31.4 -56.4 152.0	25 11.2 -56.2 151.0	24 50.3 -55.9 150.0	24 28.8 -55.7 149.0
16°	24 54.3 -56.6 153.4	24 35.0 -56.4 152.4	24 15.0 -56.2 151.4	23 54.4 -55.9 150.4	23 33.1 -55.6 149.4
17°	23 57.7 -56.8 153.8	23 38.6 -56.5 152.8	23 18.8 -56.2 151.8	22 58.5 -56.0 150.8	22 37.5 -55.8 149.8
18°	23 00.9 -56.7 154.1	22 42.1 -56.5 153.1	22 22.6 -56.3 152.2	22 02.5 -56.1 151.2	21 41.7 -55.8 150.2
19°	22 04.2 -56.8 154.5	21 45.6 -56.6 153.5	21 26.3 -56.3 152.5	21 06.4 -56.1 151.6	20 45.9 -55.8 150.6
20°	21 07.4 -56.9 154.8	20 49.0 -56.7 153.9	20 30.0 -56.4 152.9	20 10.3 -56.1 152.0	19 50.1 -55.9 151.0
21°	20 10.5 -56.9 155.1	19 52.3 -56.6 154.2	19 33.6 -56.5 153.3	19 14.2 -56.2 152.3	18 54.2 -56.0 151.4
22°	19 13.6 -56.9 155.5	18 55.7 -56.7 154.6	18 37.1 -56.4 153.6	18 18.0 -56.2 152.7	17 58.2 -56.0 151.8
23°	18 16.7 -57.0 155.8	17 59.0 -56.8 154.9	17 40.7 -56.5 154.0	17 21.8 -56.3 153.1	17 02.2 -56.0 152.2
24°	17 19.7 -57.0 156.1	17 02.2 -56.7 155.2	16 44.2 -56.6 154.3	16 25.5 -56.3 153.4	16 06.2 -56.1 152.5
25°	16 22.7 -57.0 156.5	16 05.5 -56.9 155.6	15 47.6 -56.6 154.7	15 29.2 -56.4 153.8	15 10.1 -56.1 152.9
26°	15 25.7 -57.1 156.8	15 08.6 -56.8 155.9	14 51.0 -56.6 155.0	14 32.8 -56.3 154.2	14 14.0 -56.1 153.3
27°	14 28.6 -57.1 157.1	14 11.8 -56.9 156.2	13 54.4 -56.6 155.4	13 36.5 -56.5 154.5	13 17.9 -56.2 153.6
28°	13 31.5 -57.1 157.4	13 14.9 -56.8 156.6	12 57.8 -56.7 155.7	12 40.0 -56.4 154.9	12 21.7 -56.2 154.0
29°	12 34.4 -57.1 157.7	12 18.1 -57.0 156.9	12 01.1 -56.7 156.0	11 43.6 -56.4 155.2	11 25.5 -56.2 154.4

Dec	LHA 030° / 330°	LHA 031° / 329°	LHA 032° / 328°	LHA 033° / 327°	LHA 034° / 326°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	37 45.7 -53.8 140.8	37 18.5 -53.4 139.6	36 50.7 -53.1 138.5	36 22.3 -52.7 137.4	35 53.3 -52.4 136.4
1°	36 51.9 -53.9 141.3	36 25.1 -53.6 140.2	35 57.6 -53.2 139.1	35 29.6 -53.0 138.0	35 00.9 -52.6 136.9
2°	35 58.0 -54.0 141.9	35 31.5 -53.7 140.8	35 04.4 -53.4 139.7	34 36.6 -53.1 138.6	34 08.3 -52.8 137.5
3°	35 04.0 -54.2 142.4	34 37.8 -53.9 141.3	34 11.0 -53.6 140.2	33 43.5 -53.2 139.2	33 15.5 -53.0 138.1
4°	34 09.8 -54.3 142.9	33 43.9 -54.0 141.8	33 17.4 -53.7 140.8	32 50.3 -53.4 139.7	32 22.5 -53.1 138.7
5°	33 15.5 -54.4 143.4	32 49.9 -54.1 142.4	32 23.7 -53.8 141.3	31 56.9 -53.6 140.3	31 29.4 -53.2 139.2
6°	32 21.1 -54.6 143.9	31 55.8 -54.3 142.9	31 29.9 -54.0 141.8	31 03.3 -53.6 140.8	30 36.2 -53.3 139.7
7°	31 26.5 -54.6 144.4	31 01.5 -54.4 143.4	30 35.9 -54.1 142.3	30 09.7 -53.8 141.3	29 42.9 -53.5 140.3
8°	30 31.9 -54.8 144.9	30 07.1 -54.4 143.9	29 41.8 -54.2 142.8	29 15.9 -53.9 141.8	28 49.4 -53.6 140.8
9°	29 37.1 -54.9 145.4	29 12.7 -54.6 144.4	28 47.6 -54.3 143.3	28 22.0 -54.0 142.3	27 55.8 -53.7 141.3
10°	28 42.2 -54.9 145.8	28 18.1 -54.7 144.8	27 53.3 -54.3 143.8	27 28.0 -54.1 142.8	27 02.1 -53.9 141.8
11°	27 47.3 -55.1 146.3	27 23.4 -54.7 145.3	26 59.0 -54.5 144.3	26 33.9 -54.2 143.3	26 08.2 -53.9 142.3
12°	26 52.2 -55.1 146.8	26 28.7 -54.9 145.7	26 04.5 -54.6 144.8	25 39.7 -54.3 143.8	25 14.3 -54.0 142.8
13°	25 57.1 -55.2 147.2	25 33.8 -54.9 146.2	25 09.9 -54.7 145.2	24 45.4 -54.4 144.2	24 20.3 -54.1 143.3
14°	25 01.9 -55.3 147.6	24 38.9 -55.0 146.6	24 15.2 -54.7 145.7	23 51.0 -54.4 144.7	23 26.2 -54.2 143.7
15°	24 06.6 -55.3 148.1	23 43.9 -55.1 147.1	23 20.5 -54.8 146.1	22 56.6 -54.6 145.2	22 32.0 -54.2 144.2
16°	23 11.3 -55.5 148.5	22 48.8 -55.2 147.5	22 25.7 -54.9 146.6	22 02.0 -54.6 145.6	21 37.8 -54.4 144.7
17°	22 15.8 -55.4 148.9	21 53.6 -55.2 147.9	21 30.8 -54.9 147.0	21 07.4 -54.7 146.1	20 43.4 -54.4 145.1
18°	21 20.4 -55.6 149.3	20 58.4 -55.3 148.4	20 35.9 -55.1 147.4	20 12.7 -54.7 146.5	19 49.0 -54.5 145.6
19°	20 24.8 -55.6 149.7	20 03.1 -55.3 148.8	19 40.8 -55.0 147.9	19 18.0 -54.8 146.9	18 54.5 -54.5 146.0
20°	19 29.2 -55.6 150.1	19 07.8 -55.4 149.2	18 45.8 -55.2 148.3	18 23.2 -54.9 147.4	18 00.0 -54.6 146.5
21°	18 33.6 -55.7 150.5	18 12.4 -55.4 149.6	17 50.6 -55.1 148.7	17 28.3 -54.9 147.8	17 05.4 -54.6 146.9
22°	17 37.9 -55.7 150.9	17 17.0 -55.5 150.0	16 55.5 -55.3 149.1	16 33.4 -55.0 148.2	16 10.8 -54.7 147.3
23°	16 42.2 -55.8 151.3	16 21.5 -55.6 150.4	16 00.2 -55.2 149.5	15 38.4 -55.0 148.6	15 16.1 -54.8 147.8
24°	15 46.4 -55.9 151.7	15 25.9 -55.5 150.8	15 05.0 -55.4 149.9	14 43.4 -55.1 149.0	14 21.3 -54.8 148.2
25°	14 50.5 -55.8 152.0	14 30.4 -55.6 151.2	14 09.6 -55.3 150.3	13 48.3 -55.1 149.4	13 26.5 -54.8 148.6
26°	13 54.7 -55.9 152.4	13 34.8 -55.7 151.6	13 14.3 -55.4 150.7	12 53.2 -55.1 149.9	12 31.7 -54.9 149.0
27°	12 58.8 -55.9 152.8	12 39.1 -55.7 151.9	12 18.9 -55.4 151.1	11 58.1 -55.2 150.3	11 36.8 -54.9 149.4
28°	12 02.9 -56.0 153.2	11 43.4 -55.7 152.3	11 23.5 -55.5 151.5	11 02.9 -55.2 150.7	10 41.9 -55.0 149.8
29°	11 06.9 -56.0 153.5	10 47.7 -55.7 152.7	10 28.0 -55.5 151.9	10 07.7 -55.2 151.1	9 46.9 -54.9 150.2

Dec	LHA 035° / 325°	LHA 036° / 324°	LHA 037° / 323°	LHA 038° / 322°	LHA 039° / 321°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	35 23.8 -52.2 135.3	34 53.6 -51.8 134.2	34 23.0 -51.5 133.2	33 51.8 -51.2 132.1	33 20.1 -50.9 131.1
1°	34 31.6 -52.3 135.9	34 01.8 -52.0 134.8	33 31.5 -51.7 133.8	33 00.6 -51.4 132.8	32 29.2 -51.1 131.8
2°	33 39.3 -52.4 136.5	33 09.8 -52.1 135.4	32 39.8 -51.9 134.4	32 09.2 -51.5 133.4	31 38.1 -51.2 132.4
3°	32 46.9 -52.7 137.1	32 17.7 -52.4 136.0	31 47.9 -52.0 135.0	31 17.7 -51.7 134.0	30 46.9 -51.4 133.0
4°	31 54.2 -52.8 137.6	31 25.3 -52.4 136.6	30 55.9 -52.2 135.6	30 26.0 -51.9 134.6	29 55.5 -51.6 133.6
5°	31 01.4 -52.9 138.2	30 32.9 -52.7 137.2	30 03.7 -52.3 136.2	29 34.1 -52.0 135.2	29 03.9 -51.7 134.2
6°	30 08.5 -53.0 138.7	29 40.2 -52.7 137.7	29 11.4 -52.4 136.7	28 42.1 -52.2 135.7	28 12.2 -51.9 134.7
7°	29 15.5 -53.2 139.3	28 47.5 -52.9 138.3	28 19.0 -52.6 137.3	27 49.9 -52.3 136.3	27 20.3 -52.0 135.3
8°	28 22.3 -53.3 139.8	27 54.6 -53.0 138.8	27 26.4 -52.7 137.8	26 57.6 -52.4 136.8	26 28.3 -52.1 135.9
9°	27 29.0 -53.5 140.3	27 01.6 -53.1 139.3	26 33.7 -52.9 138.4	26 05.2 -52.5 137.4	25 36.2 -52.2 136.4
10°	26 35.5 -53.5 140.8	26 08.5 -53.3 139.8	25 40.8 -52.9 138.9	25 12.7 -52.7 137.9	24 44.0 -52.4 137.0
11°	25 42.0 -53.6 141.3	25 15.2 -53.3 140.4	24 47.9 -53.1 139.4	24 20.0 -52.7 138.4	23 51.6 -52.5 137.5
12°	24 48.4 -53.7 141.8	24 21.9 -53.5 140.9	23 54.8 -53.1 139.9	23 27.3 -52.9 139.0	22 59.1 -52.5 138.0
13°	23 54.7 -53.9 142.3	23 28.4 -53.5 141.4	23 01.7 -53.3 140.4	22 34.4 -53.0 139.5	22 06.6 -52.7 138.6
14°	23 00.8 -53.9 142.8	22 34.9 -53.6 141.9	22 08.4 -53.3 140.9	21 41.4 -53.0 140.0	21 13.9 -52.8 139.1
15°	22 06.9 -53.9 143.3	21 41.3 -53.7 142.3	21 15.1 -53.4 141.4	20 48.4 -53.2 140.5	20 21.1 -52.8 139.6
16°	21 13.0 -54.1 143.7	20 47.6 -53.8 142.8	20 21.7 -53.5 141.9	19 55.2 -53.2 141.0	19 28.3 -53.0 140.1
17°	20 18.9 -54.1 144.2	19 53.8 -53.8 143.3	19 28.2 -53.6 142.4	19 02.0 -53.3 141.5	18 35.3 -53.0 140.6
18°	19 24.8 -54.2 144.7	19 00.0 -54.0 143.8	18 34.6 -53.6 142.9	18 08.7 -53.3 142.0	17 42.3 -53.1 141.1
19°	18 30.6 -54.3 145.1	18 06.0 -54.0 144.2	17 41.0 -53.8 143.3	17 15.4 -53.5 142.4	16 49.2 -53.1 141.6
20°	17 36.3 -54.3 145.6	17 12.0 -54.0 144.7	16 47.2 -53.7 143.8	16 21.9 -53.5 142.9	15 56.1 -53.2 142.0
21°	16 42.0 -54.4 146.0	16 18.0 -54.1 145.1	15 53.5 -53.9 144.3	15 28.4 -53.5 143.4	15 02.9 -53.3 142.5
22°	15 47.6 -54.5 146.4	15 23.9 -54.2 145.6	14 59.6 -53.9 144.7	14 34.9 -53.7 143.9	14 09.6 -53.4 143.0
23°	14 53.1 -54.4 146.9	14 29.7 -54.2 146.0	14 05.7 -53.9 145.2	13 41.2 -53.6 144.3	13 16.2 -53.3 143.5
24°	13 58.7 -54.6 147.3	13 35.5 -54.3 146.5	13 11.8 -54.0 145.6	12 47.6 -53.7 144.8	12 22.9 -53.5 143.9
25°	13 04.1 -54.5 147.7	12 41.2 -54.3 146.9	12 17.8 -54.0 146.1	11 53.9 -53.8 145.2	11 29.4 -53.5 144.4
26°	12 09.6 -54.6 148.2	11 46.9 -54.3 147.3	11 23.8 -54.1 146.5	11 00.1 -53.8 145.7	10 35.9 -53.5 144.9
27°	11 15.0 -54.7 148.6	10 52.6 -54.4 147.8	10 29.7 -54.1 147.0	10 06.3 -53.8 146.1	9 42.4 -53.5 145.3
28°	10 20.3 -54.7 149.0	9 58.2 -54.4 148.2	9 35.6 -54.1 147.4	9 12.5 -53.9 146.6	8 48.9 -53.6 145.8
29°	9 25.6 -54.7 149.4	9 03.8 -54.4 148.6	8 41.5 -54.2 147.8	8 18.6 -53.9 147.0	7 55.3 -53.6 146.2

Dec	LHA 040° / 320°	LHA 041° / 319°	LHA 042° / 318°	LHA 043° / 317°	LHA 044° / 316°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	32 47.9 -50.6 130.1	32 15.2 -50.3 129.1	31 42.0 -49.9 128.1	31 08.5 -49.7 127.2	30 34.4 -49.3 126.2
1°	31 57.3 -50.8 130.8	31 24.9 -50.4 129.8	30 52.1 -50.2 128.8	30 18.8 -49.9 127.8	29 45.1 -49.6 126.9
2°	31 06.5 -50.9 131.4	30 34.5 -50.7 130.4	30 01.9 -50.3 129.4	29 28.9 -50.0 128.5	28 55.5 -49.8 127.5
3°	30 15.6 -51.1 132.0	29 43.8 -50.8 131.0	29 11.6 -50.5 130.1	28 38.9 -50.2 129.1	28 05.7 -49.9 128.2
4°	29 24.5 -51.3 132.6	28 53.0 -50.9 131.6	28 21.1 -50.7 130.7	27 48.7 -50.4 129.7	27 15.8 -50.1 128.8
5°	28 33.2 -51.4 133.2	28 02.1 -51.2 132.2	27 30.4 -50.8 131.3	26 58.3 -50.5 130.3	26 25.7 -50.2 129.4
6°	27 41.8 -51.5 133.8	27 10.9 -51.2 132.8	26 39.6 -51.0 131.9	26 07.8 -50.7 130.9	25 35.5 -50.4 130.0
7°	26 50.3 -51.7 134.4	26 19.7 -51.4 133.4	25 48.6 -51.1 132.5	25 17.1 -50.8 131.5	24 45.1 -50.5 130.6
8°	25 58.6 -51.9 134.9	25 28.3 -51.6 134.0	24 57.5 -51.2 133.0	24 26.3 -51.0 132.1	23 54.6 -50.7 131.2
9°	25 06.7 -51.9 135.5	24 36.7 -51.6 134.5	24 06.3 -51.4 133.6	23 35.3 -51.1 132.7	23 03.9 -50.8 131.8
10°	24 14.8 -52.1 136.0	23 45.1 -51.8 135.1	23 14.9 -51.5 134.2	22 44.2 -51.2 133.3	22 13.1 -50.9 132.4
11°	23 22.7 -52.2 136.6	22 53.3 -51.9 135.6	22 23.4 -51.6 134.7	21 53.0 -51.3 133.8	21 22.2 -51.1 132.9
12°	22 30.5 -52.3 137.1	22 01.4 -52.0 136.2	21 31.8 -51.7 135.3	21 01.7 -51.4 134.4	20 31.1 -51.1 133.5
13°	21 38.2 -52.4 137.6	21 09.4 -52.1 136.7	20 40.1 -51.8 135.8	20 10.3 -51.6 134.9	19 40.0 -51.2 134.0
14°	20 45.8 -52.4 138.2	20 17.3 -52.2 137.3	19 48.3 -51.9 136.4	19 18.7 -51.6 135.5	18 48.8 -51.4 134.6
15°	19 53.4 -52.6 138.7	19 25.1 -52.3 137.8	18 56.4 -52.0 136.9	18 27.1 -51.7 136.0	17 57.4 -51.4 135.1
16°	19 00.8 -52.7 139.2	18 32.8 -52.3 138.3	18 04.4 -52.1 137.4	17 35.4 -51.8 136.5	17 06.0 -51.5 135.7
17°	18 08.1 -52.7 139.7	17 40.5 -52.5 138.8	17 12.3 -52.2 137.9	16 43.6 -51.9 137.1	16 14.5 -51.6 136.2
18°	17 15.4 -52.8 140.2	16 48.0 -52.5 139.3	16 20.1 -52.2 138.5	15 51.7 -51.9 137.6	15 22.9 -51.7 136.7
19°	16 22.6 -52.9 140.7	15 55.5 -52.6 139.8	15 27.9 -52.3 139.0	14 59.8 -52.0 138.1	14 31.2 -51.7 137.3
20°	15 29.7 -52.9 141.2	15 02.9 -52.7 140.3	14 35.6 -52.4 139.5	14 07.8 -52.1 138.6	13 39.5 -51.8 137.8
21°	14 36.8 -53.0 141.7	14 10.2 -52.7 140.8	13 43.2 -52.4 140.0	13 15.7 -52.2 139.1	12 47.7 -51.9 138.3
22°	13 43.8 -53.1 142.2	13 17.5 -52.8 141.3	12 50.8 -52.5 140.5	12 23.5 -52.2 139.7	11 55.8 -51.9 138.8
23°	12 50.7 -53.1 142.6	12 24.7 -52.8 141.8	11 58.3 -52.6 141.0	11 31.3 -52.2 140.2	11 03.9 -52.0 139.3
24°	11 57.6 -53.1 143.1	11 31.9 -52.8 142.3	11 05.7 -52.6 141.5	10 39.1 -52.3 140.7	10 11.9 -52.0 139.9
25°	11 04.5 -53.2 143.6	10 39.1 -53.0 142.8	10 13.1 -52.6 142.0	9 46.8 -52.4 141.2	9 19.9 -52.0 140.4
26°	10 11.3 -53.3 144.1	9 46.1 -52.9 143.2	9 20.5 -52.7 142.4	8 54.4 -52.4 141.7	8 27.9 -52.1 140.9
27°	9 18.0 -53.2 144.5	8 53.2 -53.0 143.7	8 27.8 -52.7 142.9	8 02.0 -52.4 142.1	7 35.8 -52.2 141.4
28°	8 24.8 -53.3 145.0	8 00.2 -53.0 144.2	7 35.1 -52.7 143.4	7 09.6 -52.4 142.6	6 43.6 -52.1 141.9
29°	7 31.5 -53.4 145.5	7 07.2 -53.1 144.7	6 42.4 -52.8 143.9	6 17.2 -52.5 143.1	5 51.5 -52.2 142.4

Dec	LHA 045° / 315°	LHA 046° / 314°	LHA 047° / 313°	LHA 048° / 312°	LHA 049° / 311°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	30 00.0 -49.1 125.3	29 25.2 -48.8 124.3	28 49.9 -48.5 123.4	28 14.3 -48.2 122.5	27 38.4 -48.0 121.6
1°	29 10.9 -49.3 125.9	28 36.4 -49.0 125.0	28 01.4 -48.7 124.1	27 26.1 -48.5 123.2	26 50.4 -48.2 122.3
2°	28 21.6 -49.4 126.6	27 47.4 -49.2 125.6	27 12.7 -48.9 124.7	26 37.6 -48.6 123.8	26 02.2 -48.4 122.9
3°	27 32.2 -49.7 127.2	26 58.2 -49.4 126.3	26 23.8 -49.1 125.4	25 49.0 -48.8 124.5	25 13.8 -48.5 123.6
4°	26 42.5 -49.8 127.8	26 08.8 -49.5 126.9	25 34.7 -49.2 126.0	25 00.2 -49.0 125.1	24 25.3 -48.7 124.2
5°	25 52.7 -49.9 128.5	25 19.3 -49.7 127.6	24 45.5 -49.4 126.6	24 11.2 -49.1 125.8	23 36.6 -48.8 124.9
6°	25 02.8 -50.1 129.1	24 29.6 -49.8 128.2	23 56.1 -49.6 127.3	23 22.1 -49.3 126.4	22 47.8 -49.0 125.5
7°	24 12.7 -50.3 129.7	23 39.8 -50.0 128.8	23 06.5 -49.7 127.9	22 32.8 -49.4 127.0	21 58.8 -49.2 126.1
8°	23 22.4 -50.4 130.3	22 49.8 -50.1 129.4	22 16.8 -49.8 128.5	21 43.4 -49.5 127.6	21 09.6 -49.3 126.7
9°	22 32.0 -50.5 130.9	21 59.7 -50.2 130.0	21 27.0 -49.9 129.1	20 53.9 -49.7 128.2	20 20.3 -49.3 127.3
10°	21 41.5 -50.6 131.5	21 09.5 -50.3 130.6	20 37.1 -50.1 129.7	20 04.2 -49.8 128.8	19 31.0 -49.6 128.0
11°	20 50.9 -50.8 132.0	20 19.2 -50.5 131.2	19 47.0 -50.2 130.3	19 14.4 -49.9 129.4	18 41.4 -49.6 128.5
12°	20 00.1 -50.8 132.6	19 28.7 -50.6 131.7	18 56.8 -50.3 130.9	18 24.5 -50.0 130.0	17 51.8 -49.7 129.1
13°	19 09.3 -51.0 133.2	18 38.1 -50.7 132.3	18 06.5 -50.4 131.4	17 34.5 -50.1 130.6	17 02.1 -49.9 129.7
14°	18 18.3 -51.0 133.7	17 47.4 -50.7 132.9	17 16.1 -50.5 132.0	16 44.4 -50.2 131.2	16 12.2 -49.9 130.3
15°	17 27.3 -51.2 134.3	16 56.7 -50.9 133.4	16 25.6 -50.5 132.6	15 54.2 -50.3 131.7	15 22.3 -50.0 130.9
16°	16 36.1 -51.2 134.8	16 05.8 -50.9 134.0	15 35.1 -50.7 133.1	15 03.9 -50.4 132.3	14 32.3 -50.1 131.5
17°	15 44.9 -51.3 135.4	15 14.9 -51.0 134.5	14 44.4 -50.7 133.7	14 13.5 -50.4 132.8	13 42.2 -50.2 132.0
18°	14 53.6 -51.4 135.9	14 23.9 -51.1 135.1	13 53.7 -50.8 134.2	13 23.1 -50.6 133.4	12 52.0 -50.2 132.6
19°	14 02.2 -51.4 136.4	13 32.8 -51.2 135.6	13 02.9 -50.9 134.8	12 32.5 -50.6 134.0	12 01.8 -50.3 133.1
20°	13 10.8 -51.5 137.0	12 41.6 -51.2 136.1	12 12.0 -51.0 135.3	11 41.9 -50.6 134.5	11 11.5 -50.4 133.7
21°	12 19.3 -51.6 137.5	11 50.4 -51.3 136.7	11 21.0 -51.0 135.9	10 51.3 -50.7 135.1	10 21.1 -50.4 134.3
22°	11 27.7 -51.7 138.0	10 59.1 -51.4 137.2	10 30.0 -51.0 136.4	10 00.6 -50.8 135.6	9 30.7 -50.5 134.8
23°	10 36.0 -51.6 138.5	10 07.7 -51.4 137.7	9 39.0 -51.1 136.9	9 09.8 -50.8 136.1	8 40.2 -50.6 135.4
24°	9 44.4 -51.8 139.0	9 16.3 -51.4 138.3	8 47.9 -51.2 137.5	8 19.0 -50.9 136.7	7 49.6 -50.5 135.9
25°	8 52.6 -51.7 139.6	8 24.9 -51.5 138.8	7 56.7 -51.2 138.0	7 28.1 -50.9 137.2	6 59.1 -50.6 136.4
26°	8 00.9 -51.8 140.1	7 33.4 -51.5 139.3	7 05.5 -51.2 138.5	6 37.2 -50.9 137.7	6 08.5 -50.7 137.0
27°	7 09.1 -51.9 140.6	6 41.9 -51.6 139.8	6 14.3 -51.3 139.0	5 46.3 -51.0 138.3	5 17.8 -50.6 137.5
28°	6 17.2 -51.9 141.1	5 50.3 -51.5 140.3	5 23.0 -51.2 139.6	4 55.3 -51.0 138.8	4 27.2 -50.7 138.1
29°	5 25.3 -51.9 141.6	4 58.8 -51.6 140.8	4 31.8 -51.3 140.1	4 04.3 -51.0 139.3	3 36.5 -50.7 138.6

Dec	LHA 050° / 310°	LHA 051° / 309°	LHA 052° / 308°	LHA 053° / 307°	LHA 054° / 306°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	27 02.0 -47.7 120.7	26 25.4 -47.5 119.8	25 48.4 -47.2 118.9	25 11.1 -47.0 118.1	24 33.5 -46.7 117.2
1°	26 14.3 -47.9 121.4	25 37.9 -47.6 120.5	25 01.2 -47.4 119.6	24 24.1 -47.1 118.7	23 46.8 -46.9 117.9
2°	25 26.4 -48.1 122.0	24 50.3 -47.9 121.1	24 13.8 -47.6 120.3	23 37.0 -47.4 119.4	22 59.9 -47.1 118.6
3°	24 38.3 -48.3 122.7	24 02.4 -48.0 121.8	23 26.2 -47.8 120.9	22 49.6 -47.5 120.1	22 12.8 -47.3 119.2
4°	23 50.0 -48.4 123.3	23 14.4 -48.2 122.5	22 38.4 -47.9 121.6	22 02.1 -47.6 120.7	21 25.5 -47.4 119.9
5°	23 01.6 -48.6 124.0	22 26.2 -48.3 123.1	21 50.5 -48.0 122.3	21 14.5 -47.8 121.4	20 38.1 -47.5 120.5
6°	22 13.0 -48.7 124.6	21 37.9 -48.4 123.8	21 02.5 -48.2 122.9	20 26.7 -48.0 122.0	19 50.6 -47.7 121.2
7°	21 24.3 -48.9 125.2	20 49.5 -48.6 124.4	20 14.3 -48.4 123.5	19 38.7 -48.0 122.7	19 02.9 -47.9 121.8
8°	20 35.4 -49.0 125.9	20 00.9 -48.8 125.0	19 25.9 -48.4 124.2	18 50.7 -48.3 123.3	18 15.0 -47.9 122.5
9°	19 46.4 -49.1 126.5	19 12.1 -48.8 125.6	18 37.5 -48.6 124.8	18 02.4 -48.3 123.9	17 27.1 -48.1 123.1
10°	18 57.3 -49.2 127.1	18 23.3 -49.0 126.2	17 48.9 -48.7 125.4	17 14.1 -48.4 124.6	16 39.0 -48.2 123.7
11°	18 08.1 -49.4 127.7	17 34.3 -49.1 126.9	17 00.2 -48.9 126.0	16 25.7 -48.6 125.2	15 50.8 -48.3 124.4
12°	17 18.7 -49.5 128.3	16 45.2 -49.2 127.5	16 11.3 -48.9 126.6	15 37.1 -48.6 125.8	15 02.5 -48.4 125.0
13°	16 29.2 -49.5 128.9	15 56.0 -49.3 128.0	15 22.4 -49.0 127.2	14 48.5 -48.8 126.4	14 14.1 -48.4 125.6
14°	15 39.7 -49.7 129.5	15 06.7 -49.3 128.6	14 33.4 -49.1 127.8	13 59.7 -48.8 127.0	13 25.7 -48.6 126.2
15°	14 50.0 -49.7 130.1	14 17.4 -49.5 129.2	13 44.3 -49.2 128.4	13 10.9 -48.9 127.6	12 37.1 -48.7 126.8
16°	14 00.3 -49.8 130.6	13 27.9 -49.5 129.8	12 55.1 -49.2 129.0	12 22.0 -49.0 128.2	11 48.4 -48.7 127.4
17°	13 10.5 -49.9 131.2	12 38.4 -49.7 130.4	12 05.9 -49.4 129.6	11 33.0 -49.1 128.8	10 59.7 -48.8 128.0
18°	12 20.6 -50.0 131.8	11 48.7 -49.6 131.0	11 16.5 -49.4 130.2	10 43.9 -49.1 129.4	10 10.9 -48.8 128.6
19°	11 30.6 -50.0 132.3	10 59.1 -49.8 131.5	10 27.1 -49.5 130.7	9 54.8 -49.2 130.0	9 22.1 -48.9 129.2
20°	10 40.6 -50.1 132.9	10 09.3 -49.8 132.1	9 37.6 -49.5 131.3	9 05.6 -49.3 130.5	8 33.2 -49.0 129.8
21°	9 50.5 -50.1 133.5	9 19.5 -49.9 132.7	8 48.1 -49.6 131.9	8 16.3 -49.3 131.1	7 44.2 -49.0 130.3
22°	9 00.4 -50.2 134.0	8 29.6 -49.9 133.2	7 58.5 -49.6 132.5	7 27.0 -49.3 131.7	6 55.2 -49.1 130.9
23°	8 10.2 -50.3 134.6	7 39.7 -49.9 133.8	7 08.9 -49.7 133.0	6 37.7 -49.4 132.3	6 06.1 -49.1 131.5
24°	7 19.9 -50.3 135.1	6 49.8 -50.0 134.4	6 19.2 -49.7 133.6	5 48.3 -49.4 132.8	5 17.0 -49.1 132.1
25°	6 29.6 -50.3 135.7	5 59.8 -50.0 134.9	5 29.5 -49.7 134.2	4 58.9 -49.4 133.4	4 27.9 -49.2 132.7
26°	5 39.3 -50.3 136.2	5 09.8 -50.1 135.5	4 39.8 -49.7 134.7	4 09.5 -49.5 134.0	3 38.7 -49.1 133.2
27°	4 49.0 -50.4 136.8	4 19.7 -50.1 136.0	3 50.1 -49.8 135.3	3 20.0 -49.5 134.5	2 49.6 -49.2 133.8
28°	3 58.6 -50.4 137.3	3 29.6 -50.1 136.6	3 00.3 -49.8 135.8	2 30.5 -49.5 135.1	2 00.4 -49.2 134.4
29°	3 08.2 -50.4 137.9	2 39.5 -50.1 137.1	2 10.5 -49.8 136.4	1 41.0 -49.5 135.7	1 11.2 -49.2 134.9

Dec	LHA 055° / 305°	LHA 056° / 304°	LHA 057° / 303°	LHA 058° / 302°	LHA 059° / 301°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	23 55.6 -46.5 116.3	23 17.5 -46.3 115.5	22 39.1 -46.1 114.7	22 00.4 -45.9 113.8	21 21.5 -45.7 113.0
1°	23 09.1 -46.6 117.0	22 31.2 -46.4 116.2	21 53.0 -46.2 115.4	21 14.5 -46.0 114.5	20 35.8 -45.8 113.7
2°	22 22.5 -46.9 117.7	21 44.8 -46.7 116.9	21 06.8 -46.4 116.0	20 28.5 -46.2 115.2	19 50.0 -46.0 114.4
3°	21 35.6 -47.0 118.4	20 58.1 -46.8 117.5	20 20.4 -46.6 116.7	19 42.3 -46.3 115.9	19 04.0 -46.1 115.1
4°	20 48.6 -47.2 119.1	20 11.3 -46.9 118.2	19 33.8 -46.7 117.4	18 56.0 -46.5 116.6	18 17.9 -46.2 115.8
5°	20 01.4 -47.3 119.7	19 24.4 -47.1 118.9	18 47.1 -46.8 118.1	18 09.5 -46.6 117.2	17 31.7 -46.4 116.4
6°	19 14.1 -47.4 120.4	18 37.3 -47.2 119.5	18 00.3 -47.0 118.7	17 22.9 -46.7 117.9	16 45.3 -46.5 117.1
7°	18 26.7 -47.6 121.0	17 50.1 -47.3 120.2	17 13.3 -47.1 119.4	16 36.2 -46.9 118.6	15 58.8 -46.6 117.8
8°	17 39.1 -47.7 121.7	17 02.8 -47.5 120.8	16 26.2 -47.2 120.0	15 49.3 -46.9 119.2	15 12.2 -46.8 118.4
9°	16 51.4 -47.8 122.3	16 15.3 -47.5 121.5	15 39.0 -47.3 120.7	15 02.4 -47.1 119.9	14 25.4 -46.8 119.1
10°	16 03.6 -48.0 122.9	15 27.8 -47.7 122.1	14 51.7 -47.5 121.3	14 15.3 -47.2 120.5	13 38.6 -47.0 119.7
11°	15 15.6 -48.0 123.5	14 40.1 -47.8 122.7	14 04.2 -47.5 121.9	13 28.1 -47.3 121.1	12 51.6 -47.0 120.3
12°	14 27.6 -48.1 124.2	13 52.3 -47.9 123.4	13 16.7 -47.6 122.6	12 40.8 -47.4 121.8	12 04.6 -47.2 121.0
13°	13 39.5 -48.3 124.8	13 04.4 -47.9 124.0	12 29.1 -47.7 123.2	11 53.4 -47.4 122.4	11 17.4 -47.2 121.6
14°	12 51.2 -48.3 125.4	12 16.5 -48.1 124.6	11 41.4 -47.8 123.8	11 06.0 -47.6 123.0	10 30.2 -47.2 122.2
15°	12 02.9 -48.3 126.0	11 28.4 -48.1 125.2	10 53.6 -47.9 124.4	10 18.4 -47.6 123.6	9 43.0 -47.4 122.9
16°	11 14.6 -48.5 126.6	10 40.3 -48.2 125.8	10 05.7 -47.9 125.0	9 30.8 -47.6 124.3	8 55.6 -47.4 123.5
17°	10 26.1 -48.5 127.2	9 52.1 -48.2 126.4	9 17.8 -48.0 125.6	8 43.2 -47.8 124.9	8 08.2 -47.5 124.1
18°	9 37.6 -48.6 127.8	9 03.9 -48.3 127.0	8 29.8 -48.0 126.2	7 55.4 -47.7 125.5	7 20.7 -47.5 124.7
19°	8 49.0 -48.6 128.4	8 15.6 -48.4 127.6	7 41.8 -48.1 126.9	7 07.7 -47.9 126.1	6 33.2 -47.5 125.3
20°	8 00.4 -48.7 129.0	7 27.2 -48.4 128.2	6 53.7 -48.1 127.5	6 19.8 -47.8 126.7	5 45.7 -47.6 125.9
21°	7 11.7 -48.8 129.6	6 38.8 -48.5 128.8	6 05.6 -48.2 128.1	5 32.0 -47.9 127.3	4 58.1 -47.7 126.6
22°	6 22.9 -48.7 130.2	5 50.3 -48.5 129.4	5 17.4 -48.2 128.7	4 44.1 -48.0 127.9	4 10.4 -47.6 127.2
23°	5 34.2 -48.9 130.7	5 01.8 -48.5 130.0	4 29.2 -48.3 129.3	3 56.1 -47.9 128.5	3 22.8 -47.7 127.8
24°	4 45.3 -48.8 131.3	4 13.3 -48.5 130.6	3 40.9 -48.3 129.8	3 08.2 -48.0 129.1	2 35.1 -47.7 128.4
25°	3 56.5 -48.9 131.9	3 24.8 -48.6 131.2	2 52.6 -48.2 130.4	2 20.2 -48.0 129.7	1 47.4 -47.7 129.0
26°	3 07.6 -48.8 132.5	2 36.2 -48.6 131.8	2 04.4 -48.3 131.0	1 32.2 -48.0 130.3	0 59.7 -47.8 129.6
27°	2 18.8 -48.9 133.1	1 47.6 -48.6 132.4	1 16.1 -48.3 131.6	0 44.2 -48.0 130.9	0 11.9 -47.7 130.2
28°	1 29.9 -48.9 133.7	0 59.0 -48.6 132.9	0 27.8 -48.4 132.2	-0 03.8 -48.1	-0 35.8 -47.7
29°	0 41.0 -48.9 134.2	0 10.4 -48.6 133.5	-0 20.6 -48.3	-0 51.9 -48.0	-1 23.5 -47.7

Dec	LHA 060° / 300°	LHA 061° / 299°	LHA 062° / 298°	LHA 063° / 297°	LHA 064° / 296°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	20 42.3 -45.5 112.2	20 02.9 -45.2 111.4	19 23.3 -45.1 110.6	18 43.5 -44.9 109.8	18 03.5 -44.7 109.0
1°	19 56.8 -45.6 112.9	19 17.7 -45.4 112.1	18 38.2 -45.2 111.3	17 58.6 -45.0 110.5	17 18.8 -44.9 109.7
2°	19 11.2 -45.7 113.6	18 32.3 -45.6 112.8	17 53.0 -45.3 112.0	17 13.6 -45.2 111.2	16 33.9 -45.0 110.4
3°	18 25.5 -45.9 114.3	17 46.7 -45.7 113.5	17 07.7 -45.5 112.7	16 28.4 -45.3 111.9	15 48.9 -45.1 111.1
4°	17 39.6 -46.0 115.0	17 01.0 -45.8 114.2	16 22.2 -45.6 113.4	15 43.1 -45.4 112.6	15 03.8 -45.2 111.8
5°	16 53.6 -46.2 115.6	16 15.2 -46.0 114.8	15 36.6 -45.8 114.0	14 57.7 -45.6 113.3	14 18.6 -45.4 112.5
6°	16 07.4 -46.3 116.3	15 29.2 -46.0 115.5	14 50.8 -45.9 114.7	14 12.1 -45.6 113.9	13 33.2 -45.4 113.1
7°	15 21.1 -46.4 117.0	14 43.2 -46.2 116.2	14 04.9 -45.9 115.4	13 26.5 -45.8 114.6	12 47.8 -45.6 113.8
8°	14 34.7 -46.5 117.6	13 57.0 -46.3 116.8	13 19.0 -46.1 116.0	12 40.7 -45.8 115.3	12 02.2 -45.6 114.5
9°	13 48.2 -46.6 118.3	13 10.7 -46.4 117.5	12 32.9 -46.2 116.7	11 54.9 -46.0 115.9	11 16.6 -45.8 115.1
10°	13 01.6 -46.7 118.9	12 24.3 -46.5 118.1	11 46.7 -46.2 117.3	11 08.9 -46.0 116.6	10 30.8 -45.8 115.8
11°	12 14.9 -46.9 119.6	11 37.8 -46.6 118.8	11 00.5 -46.4 118.0	10 22.9 -46.1 117.2	9 45.0 -45.9 116.5
12°	11 28.0 -46.8 120.2	10 51.2 -46.6 119.4	10 14.1 -46.4 118.6	9 36.8 -46.2 117.9	8 59.1 -45.9 117.1
13°	10 41.2 -47.0 120.8	10 04.6 -46.7 120.1	9 27.7 -46.5 119.3	8 50.6 -46.3 118.5	8 13.2 -46.1 117.8
14°	9 54.2 -47.0 121.5	9 17.9 -46.8 120.7	8 41.2 -46.5 119.9	8 04.3 -46.3 119.2	7 27.1 -46.0 118.4
15°	9 07.2 -47.1 122.1	8 31.1 -46.9 121.3	7 54.7 -46.6 120.6	7 18.0 -46.4 119.8	6 41.1 -46.2 119.1
16°	8 20.1 -47.2 122.7	7 44.2 -46.9 122.0	7 08.1 -46.7 121.2	6 31.6 -46.4 120.4	5 54.9 -46.1 119.7
17°	7 32.9 -47.2 123.3	6 57.3 -46.9 122.6	6 21.4 -46.7 121.8	5 45.2 -46.4 121.1	5 08.8 -46.3 120.3
18°	6 45.7 -47.3 124.0	6 10.4 -47.0 123.2	5 34.7 -46.7 122.5	4 58.8 -46.5 121.7	4 22.5 -46.2 121.0
19°	5 58.4 -47.2 124.6	5 23.4 -47.1 123.8	4 48.0 -46.8 123.1	4 12.3 -46.5 122.4	3 36.3 -46.3 121.6
20°	5 11.2 -47.4 125.2	4 36.3 -47.0 124.5	4 01.2 -46.8 123.7	3 25.8 -46.6 123.0	2 50.0 -46.3 122.3
21°	4 23.8 -47.3 125.8	3 49.3 -47.1 125.1	3 14.4 -46.9 124.3	2 39.2 -46.6 123.6	2 03.7 -46.3 122.9
22°	3 36.5 -47.4 126.4	3 02.2 -47.2 125.7	2 27.5 -46.8 125.0	1 52.6 -46.6 124.3	1 17.4 -46.3 123.5
23°	2 49.1 -47.4 127.0	2 15.0 -47.1 126.3	1 40.7 -46.9 125.6	1 06.0 -46.5 124.9	0 31.1 -46.3 124.2
24°	2 01.7 -47.5 127.7	1 27.9 -47.1 126.9	0 53.8 -46.8 126.2	0 19.5 -46.6 125.5	-0 15.2 -46.4
25°	1 14.2 -47.4 128.3	0 40.8 -47.2 127.6	0 07.0 -46.9 126.8	-0 27.1 -46.6	-1 01.6 -46.3
26°	0 26.8 -47.4 128.9	-0 06.4 -47.1	-0 39.9 -46.9	-1 13.7 -46.6	-1 47.9 -46.3
27°	-0 20.6 -47.5	-0 53.5 -47.2	-1 26.8 -46.8	-2 00.3 -46.6	-2 34.2 -46.2
28°	-1 08.1 -47.4	-1 40.7 -47.1	-2 13.6 -46.9	-2 46.9 -46.5	-3 20.4 -46.3
29°	-1 55.5 -47.4	-2 27.8 -47.1	-3 00.5 -46.8	-3 33.4 -46.5	-4 06.7 -46.2

Dec	LHA 065° / 295°	LHA 066° / 294°	LHA 067° / 293°	LHA 068° / 292°	LHA 069° / 291°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	17 23.3 -44.6 108.2	16 42.9 -44.4 107.5	16 02.3 -44.2 106.7	15 21.6 -44.0 105.9	14 40.7 -43.9 105.2
1°	16 38.7 -44.6 108.9	15 58.5 -44.5 108.2	15 18.1 -44.3 107.4	14 37.6 -44.2 106.6	13 56.8 -44.0 105.9
2°	15 54.1 -44.8 109.6	15 14.0 -44.6 108.9	14 33.8 -44.5 108.1	13 53.4 -44.3 107.3	13 12.8 -44.2 106.6
3°	15 09.3 -45.0 110.3	14 29.4 -44.8 109.6	13 49.3 -44.6 108.8	13 09.1 -44.5 108.0	12 28.6 -44.2 107.3
4°	14 24.3 -45.0 111.0	13 44.6 -44.8 110.3	13 04.7 -44.7 109.5	12 24.6 -44.5 108.7	11 44.4 -44.4 108.0
5°	13 39.3 -45.2 111.7	12 59.8 -45.0 110.9	12 20.0 -44.8 110.2	11 40.1 -44.6 109.4	11 00.0 -44.4 108.7
6°	12 54.1 -45.2 112.4	12 14.8 -45.1 111.6	11 35.2 -44.8 110.9	10 55.5 -44.7 110.1	10 15.6 -44.6 109.3
7°	12 08.9 -45.4 113.1	11 29.7 -45.1 112.3	10 50.4 -45.0 111.5	10 10.8 -44.8 110.8	9 31.0 -44.6 110.0
8°	11 23.5 -45.4 113.7	10 44.6 -45.3 113.0	10 05.4 -45.1 112.2	9 26.0 -44.9 111.4	8 46.4 -44.7 110.7
9°	10 38.1 -45.6 114.4	9 59.3 -45.3 113.6	9 20.3 -45.1 112.9	8 41.1 -44.9 112.1	8 01.7 -44.7 111.4
10°	9 52.5 -45.6 115.0	9 14.0 -45.4 114.3	8 35.2 -45.2 113.5	7 56.2 -45.0 112.8	7 17.0 -44.8 112.0
11°	9 06.9 -45.7 115.7	8 28.6 -45.5 115.0	7 50.0 -45.3 114.2	7 11.2 -45.1 113.5	6 32.2 -44.9 112.7
12°	8 21.2 -45.7 116.4	7 43.1 -45.5 115.6	7 04.7 -45.3 114.9	6 26.1 -45.1 114.1	5 47.3 -44.9 113.4
13°	7 35.5 -45.8 117.0	6 57.6 -45.6 116.3	6 19.4 -45.4 115.5	5 41.0 -45.1 114.8	5 02.4 -45.0 114.1
14°	6 49.7 -45.9 117.7	6 12.0 -45.6 116.9	5 34.0 -45.4 116.2	4 55.9 -45.2 115.4	4 17.4 -45.0 114.7
15°	6 03.8 -45.9 118.3	5 26.4 -45.7 117.6	4 48.6 -45.4 116.8	4 10.7 -45.3 116.1	3 32.4 -45.0 115.4
16°	5 17.9 -45.9 119.0	4 40.7 -45.7 118.2	4 03.2 -45.5 117.5	3 25.4 -45.2 116.8	2 47.4 -45.0 116.0
17°	4 32.0 -46.0 119.6	3 55.0 -45.8 118.9	3 17.7 -45.5 118.1	2 40.2 -45.3 117.4	2 02.4 -45.1 116.7
18°	3 46.0 -46.0 120.3	3 09.2 -45.7 119.5	2 32.2 -45.5 118.8	1 54.9 -45.3 118.1	1 17.3 -45.0 117.4
19°	3 00.0 -46.0 120.9	2 23.5 -45.8 120.2	1 46.7 -45.6 119.5	1 09.6 -45.3 118.7	0 32.3 -45.1 118.0
20°	2 14.0 -46.0 121.5	1 37.7 -45.8 120.8	1 01.1 -45.5 120.1	0 24.3 -45.3 119.4	-0 12.8 -45.1
21°	1 28.0 -46.1 122.2	0 51.9 -45.8 121.5	0 15.6 -45.6 120.8	-0 21.0 -45.3	-0 57.9 -45.0
22°	0 41.9 -46.1 122.8	0 06.1 -45.8 122.1	-0 30.0 -45.5	-1 06.3 -45.3	-1 42.9 -45.1
23°	-0 04.2 -46.0	-0 39.7 -45.8	-1 15.5 -45.5	-1 51.6 -45.3	-2 28.0 -45.0
24°	-0 50.2 -46.1	-1 25.5 -45.8	-2 01.0 -45.6	-2 36.9 -45.2	-3 13.0 -45.0
25°	-1 36.3 -46.0	-2 11.3 -45.7	-2 46.6 -45.5	-3 22.1 -45.3	-3 58.0 -45.0
26°	-2 22.3 -46.0	-2 57.0 -45.8	-3 32.1 -45.4	-4 07.4 -45.2	-4 43.0 -44.9
27°	-3 08.3 -46.0	-3 42.8 -45.7	-4 17.5 -45.5	-4 52.6 -45.1	-5 27.9 -44.9
28°	-3 54.3 -46.0	-4 28.5 -45.7	-5 03.0 -45.4	-5 37.7 -45.2	-6 12.8 -44.8
29°	-4 40.3 -45.9	-5 14.2 -45.6	-5 48.4 -45.3	-6 22.9 -45.0	-6 57.6 -44.8

Dec	LHA 070° / 290°	LHA 071° / 289°	LHA 072° / 288°	LHA 073° / 287°	LHA 074° / 286°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	13 59.7 -43.8 104.4	13 18.6 -43.7 103.7	12 37.3 -43.5 102.9	11 55.9 -43.4 102.2	11 14.4 -43.4 101.5
1°	13 15.9 -43.9 105.1	12 34.9 -43.7 104.4	11 53.8 -43.7 103.6	11 12.5 -43.6 102.9	10 31.0 -43.4 102.2
2°	12 32.0 -44.0 105.8	11 51.2 -43.9 105.1	11 10.1 -43.7 104.3	10 28.9 -43.6 103.6	9 47.6 -43.4 102.9
3°	11 48.0 -44.1 106.5	11 07.3 -44.0 105.8	10 26.4 -43.8 105.0	9 45.3 -43.6 104.3	9 04.2 -43.6 103.6
4°	11 03.9 -44.2 107.2	10 23.3 -44.0 106.5	9 42.6 -43.9 105.7	9 01.7 -43.8 105.0	8 20.6 -43.6 104.3
5°	10 19.7 -44.3 107.9	9 39.3 -44.2 107.2	8 58.7 -44.0 106.4	8 17.9 -43.9 105.7	7 37.0 -43.7 105.0
6°	9 35.4 -44.3 108.6	8 55.1 -44.2 107.9	8 14.7 -44.1 107.1	7 34.0 -43.9 106.4	6 53.3 -43.8 105.6
7°	8 51.1 -44.5 109.3	8 10.9 -44.2 108.5	7 30.6 -44.1 107.8	6 50.1 -43.9 107.1	6 09.5 -43.8 106.3
8°	8 06.6 -44.5 110.0	7 26.7 -44.4 109.2	6 46.5 -44.2 108.5	6 06.2 -44.0 107.7	5 25.7 -43.9 107.0
9°	7 22.1 -44.6 110.6	6 42.3 -44.4 109.9	6 02.3 -44.2 109.2	5 22.2 -44.1 108.4	4 41.8 -43.9 107.7
10°	6 37.5 -44.6 111.3	5 57.9 -44.4 110.6	5 18.1 -44.3 109.8	4 38.1 -44.1 109.1	3 57.9 -43.9 108.4
11°	5 52.9 -44.7 112.0	5 13.5 -44.5 111.2	4 33.8 -44.3 110.5	3 54.0 -44.1 109.8	3 14.0 -44.0 109.1
12°	5 08.2 -44.7 112.7	4 29.0 -44.5 111.9	3 49.5 -44.3 111.2	3 09.9 -44.2 110.5	2 30.0 -43.9 109.8
13°	4 23.5 -44.7 113.3	3 44.5 -44.6 112.6	3 05.2 -44.4 111.9	2 25.7 -44.2 111.2	1 46.1 -44.0 110.4
14°	3 38.8 -44.8 114.0	2 59.9 -44.6 113.3	2 20.8 -44.4 112.5	1 41.5 -44.2 111.8	1 02.1 -44.0 111.1
15°	2 54.0 -44.8 114.7	2 15.3 -44.6 113.9	1 36.4 -44.4 113.2	0 57.3 -44.2 112.5	0 18.1 -44.1 111.8
16°	2 09.2 -44.8 115.3	1 30.7 -44.6 114.6	0 52.0 -44.4 113.9	0 13.1 -44.2 113.2	-0 26.0 -44.0
17°	1 24.4 -44.9 116.0	0 46.1 -44.6 115.3	0 07.6 -44.4 114.6	-0 31.1 -44.2	-1 10.0 -44.0
18°	0 39.5 -44.8 116.7	0 01.5 -44.6 115.9	-0 36.8 -44.4	-1 15.3 -44.1	-1 54.0 -43.9
19°	-0 05.3 -44.8	-0 43.1 -44.6	-1 21.2 -44.4	-1 59.4 -44.2	-2 37.9 -44.0
20°	-0 50.1 -44.9	-1 27.7 -44.6	-2 05.6 -44.3	-2 43.6 -44.2	-3 21.9 -43.9
21°	-1 35.0 -44.8	-2 12.3 -44.6	-2 49.9 -44.4	-3 27.8 -44.1	-4 05.8 -43.9
22°	-2 19.8 -44.8	-2 56.9 -44.6	-3 34.3 -44.3	-4 11.9 -44.1	-4 49.7 -43.9
23°	-3 04.6 -44.8	-3 41.5 -44.5	-4 18.6 -44.3	-4 56.0 -44.0	-5 33.6 -43.8
24°	-3 49.4 -44.7	-4 26.0 -44.5	-5 02.9 -44.2	-5 40.0 -44.0	-6 17.4 -43.7
25°	-4 34.1 -44.7	-5 10.5 -44.4	-5 47.1 -44.2	-6 24.0 -43.9	-7 01.1 -43.7
26°	-5 18.8 -44.7	-5 54.9 -44.4	-6 31.3 -44.1	-7 07.9 -43.9	-7 44.8 -43.6
27°	-6 03.5 -44.6	-6 39.3 -44.4	-7 15.4 -44.1	-7 51.8 -43.8	-8 28.4 -43.6
28°	-6 48.1 -44.5	-7 23.7 -44.3	-7 59.5 -44.0	-8 35.6 -43.8	-9 12.0 -43.4
29°	-7 32.6 -44.5	-8 08.0 -44.2	-8 43.5 -44.0	-9 19.4 -43.6	-9 55.4 -43.4

Dec	LHA 075° / 285°	LHA 076° / 284°	LHA 077° / 283°	LHA 078° / 282°	LHA 079° / 281°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	10 32.7 -43.2 100.7	9 51.0 -43.1 100.0	9 09.2 -43.1 99.3	8 27.2 -42.9 98.5	7 45.2 -42.8 97.8
1°	9 49.5 -43.3 101.4	9 07.9 -43.2 100.7	8 26.1 -43.0 100.0	7 44.3 -43.0 99.3	7 02.4 -42.9 98.5
2°	9 06.2 -43.3 102.1	8 24.7 -43.3 101.4	7 43.1 -43.2 100.7	7 01.3 -43.0 100.0	6 19.5 -43.0 99.2
3°	8 22.9 -43.5 102.8	7 41.4 -43.3 102.1	6 59.9 -43.2 101.4	6 18.3 -43.2 100.7	5 36.5 -43.0 99.9
4°	7 39.4 -43.5 103.5	6 58.1 -43.4 102.8	6 16.7 -43.3 102.1	5 35.1 -43.1 101.4	4 53.5 -43.1 100.6
5°	6 55.9 -43.6 104.2	6 14.7 -43.4 103.5	5 33.4 -43.3 102.8	4 52.0 -43.2 102.1	4 10.4 -43.1 101.3
6°	6 12.3 -43.6 104.9	5 31.3 -43.5 104.2	4 50.1 -43.4 103.5	4 08.8 -43.3 102.8	3 27.3 -43.1 102.0
7°	5 28.7 -43.7 105.6	4 47.8 -43.6 104.9	4 06.7 -43.4 104.2	3 25.5 -43.3 103.4	2 44.2 -43.2 102.7
8°	4 45.0 -43.7 106.3	4 04.2 -43.5 105.6	3 23.3 -43.4 104.9	2 42.2 -43.3 104.1	2 01.0 -43.1 103.4
9°	4 01.3 -43.7 107.0	3 20.7 -43.6 106.3	2 39.9 -43.5 105.5	1 58.9 -43.3 104.8	1 17.9 -43.2 104.1
10°	3 17.6 -43.8 107.7	2 37.1 -43.6 107.0	1 56.4 -43.4 106.2	1 15.6 -43.3 105.5	0 34.7 -43.2 104.8
11°	2 33.8 -43.8 108.4	1 53.5 -43.7 107.6	1 13.0 -43.5 106.9	0 32.3 -43.3 106.2	-0 08.5 -43.2
12°	1 50.0 -43.8 109.0	1 09.8 -43.6 108.3	0 29.5 -43.5 107.6	-0 11.0 -43.4	-0 51.7 -43.2
13°	1 06.2 -43.8 109.7	0 26.2 -43.7 109.0	-0 14.0 -43.5	-0 54.4 -43.3	-1 34.9 -43.2
14°	0 22.4 -43.8 110.4	-0 17.5 -43.6	-0 57.5 -43.5	-1 37.7 -43.3	-2 18.1 -43.1
15°	-0 21.4 -43.9	-1 01.1 -43.7	-1 41.0 -43.4	-2 21.0 -43.3	-3 01.2 -43.1
16°	-1 05.3 -43.8	-1 44.8 -43.6	-2 24.4 -43.5	-3 04.3 -43.3	-3 44.3 -43.1
17°	-1 49.1 -43.8	-2 28.4 -43.6	-3 07.9 -43.4	-3 47.6 -43.2	-4 27.4 -43.1
18°	-2 32.9 -43.7	-3 12.0 -43.6	-3 51.3 -43.4	-4 30.8 -43.2	-5 10.5 -43.0
19°	-3 16.6 -43.8	-3 55.6 -43.5	-4 34.7 -43.3	-5 14.0 -43.1	-5 53.5 -42.9
20°	-4 00.4 -43.7	-4 39.1 -43.5	-5 18.0 -43.3	-5 57.1 -43.1	-6 36.4 -42.9
21°	-4 44.1 -43.7	-5 22.6 -43.4	-6 01.3 -43.2	-6 40.2 -43.0	-7 19.3 -42.8
22°	-5 27.8 -43.6	-6 06.0 -43.5	-6 44.5 -43.2	-7 23.2 -43.0	-8 02.1 -42.8
23°	-6 11.4 -43.6	-6 49.5 -43.3	-7 27.7 -43.1	-8 06.2 -42.9	-8 44.9 -42.7
24°	-6 55.0 -43.5	-7 32.8 -43.3	-8 10.8 -43.1	-8 49.1 -42.8	-9 27.6 -42.5
25°	-7 38.5 -43.4	-8 16.1 -43.2	-8 53.9 -42.9	-9 31.9 -42.7	
26°	-8 21.9 -43.4	-8 59.3 -43.1	-9 36.8 -42.9		
27°	-9 05.3 -43.3	-9 42.4 -43.0			
28°	-9 48.6 -43.2				
29°					

Dec	LHA 080° / 280°	LHA 081° / 279°	LHA 082° / 278°	LHA 083° / 277°	LHA 084° / 276°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	7 03.2 -42.8 97.1	6 21.0 -42.7 96.4	5 38.9 -42.7 95.7	4 56.6 -42.6 95.0	4 14.3 -42.5 94.3
1°	6 20.4 -42.8 97.8	5 38.3 -42.7 97.1	4 56.2 -42.7 96.4	4 14.0 -42.6 95.7	3 31.8 -42.6 95.0
2°	5 37.6 -42.9 98.5	4 55.6 -42.8 97.8	4 13.5 -42.7 97.1	3 31.4 -42.7 96.4	2 49.2 -42.6 95.7
3°	4 54.7 -43.0 99.2	4 12.8 -42.9 98.5	3 30.8 -42.8 97.8	2 48.7 -42.7 97.1	2 06.6 -42.7 96.4
4°	4 11.7 -42.9 99.9	3 29.9 -42.9 99.2	2 48.0 -42.8 98.5	2 06.0 -42.7 97.8	1 23.9 -42.6 97.1
5°	3 28.8 -43.0 100.6	2 47.0 -42.9 99.9	2 05.2 -42.8 99.2	1 23.3 -42.8 98.5	0 41.3 -42.7 97.8
6°	2 45.8 -43.1 101.3	2 04.1 -42.9 100.6	1 22.4 -42.9 99.9	0 40.5 -42.7 99.2	-0 01.4 -42.6
7°	2 02.7 -43.0 102.0	1 21.2 -42.9 101.3	0 39.5 -42.8 100.6	-0 02.2 -42.7	-0 44.0 -42.7
8°	1 19.7 -43.1 102.7	0 38.3 -43.0 102.0	-0 03.3 -42.8	-0 44.9 -42.8	-1 26.7 -42.6
9°	0 36.6 -43.0 103.4	-0 04.7 -42.9	-0 46.1 -42.9	-1 27.7 -42.7	-2 09.3 -42.7
10°	-0 06.4 -43.1	-0 47.6 -43.0	-1 29.0 -42.8	-2 10.4 -42.7	-2 52.0 -42.5
11°	-0 49.5 -43.0	-1 30.6 -42.9	-2 11.8 -42.8	-2 53.1 -42.7	-3 34.5 -42.6
12°	-1 32.5 -43.1	-2 13.5 -42.9	-2 54.6 -42.7	-3 35.8 -42.6	-4 17.1 -42.5
13°	-2 15.6 -43.0	-2 56.4 -42.9	-3 37.3 -42.8	-4 18.4 -42.6	-4 59.6 -42.5
14°	-2 58.6 -43.0	-3 39.3 -42.8	-4 20.1 -42.7	-5 01.0 -42.6	-5 42.1 -42.4
15°	-3 41.6 -42.9	-4 22.1 -42.8	-5 02.8 -42.6	-5 43.6 -42.5	-6 24.5 -42.4
16°	-4 24.5 -43.0	-5 04.9 -42.8	-5 45.4 -42.6	-6 26.1 -42.4	-7 06.9 -42.3
17°	-5 07.5 -42.8	-5 47.7 -42.7	-6 28.0 -42.5	-7 08.5 -42.4	-7 49.2 -42.2
18°	-5 50.3 -42.8	-6 30.4 -42.6	-7 10.5 -42.5	-7 50.9 -42.3	-8 31.4 -42.1
19°	-6 33.1 -42.8	-7 13.0 -42.6	-7 53.0 -42.4	-8 33.2 -42.2	-9 13.5 -42.1
20°	-7 15.9 -42.7	-7 55.6 -42.5	-8 35.4 -42.3	-9 15.4 -42.2	-9 55.6 -42.0
21°	-7 58.6 -42.6	-8 38.1 -42.4	-9 17.7 -42.3	-9 57.6 -42.0	
22°	-8 41.2 -42.6	-9 20.5 -42.4			
23°	-9 23.8 -42.4				
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 085° / 275°	LHA 086° / 274°	LHA 087° / 273°	LHA 088° / 272°	LHA 089° / 271°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	3 32.0 -42.5 93.5	2 49.6 -42.5 92.8	2 07.3 -42.5 92.1	1 24.8 -42.4 91.4	0 42.4 -42.4 90.7
1°	2 49.5 -42.6 94.2	2 07.1 -42.5 93.5	1 24.8 -42.5 92.8	0 42.4 -42.5 92.1	0 00.0 -42.4 91.4
2°	2 06.9 -42.5 95.0	1 24.6 -42.5 94.2	0 42.3 -42.5 93.5	-0 00.1 -42.4	-0 42.4 -42.5
3°	1 24.4 -42.6 95.7	0 42.1 -42.5 94.9	-0 00.2 -42.5	-0 42.5 -42.4	-1 24.9 -42.4
4°	0 41.8 -42.6 96.4	-0 00.4 -42.5	-0 42.7 -42.4	-1 24.9 -42.5	-2 07.3 -42.4
5°	-0 00.8 -42.6	-0 42.9 -42.6	-1 25.1 -42.5	-2 07.4 -42.4	-2 49.7 -42.3
6°	-0 43.4 -42.6	-1 25.5 -42.5	-2 07.6 -42.4	-2 49.8 -42.4	-3 32.0 -42.4
7°	-1 26.0 -42.5	-2 08.0 -42.5	-2 50.0 -42.5	-3 32.2 -42.3	-4 14.4 -42.3
8°	-2 08.5 -42.6	-2 50.5 -42.4	-3 32.5 -42.3	-4 14.5 -42.3	-4 56.7 -42.2
9°	-2 51.1 -42.5	-3 32.9 -42.5	-4 14.8 -42.4	-4 56.8 -42.3	-5 38.9 -42.2
10°	-3 33.6 -42.5	-4 15.4 -42.3	-4 57.2 -42.3	-5 39.1 -42.2	-6 21.1 -42.2
11°	-4 16.1 -42.4	-4 57.7 -42.4	-5 39.5 -42.2	-6 21.3 -42.2	-7 03.3 -42.0
12°	-4 58.5 -42.4	-5 40.1 -42.3	-6 21.7 -42.2	-7 03.5 -42.1	-7 45.3 -42.0
13°	-5 40.9 -42.4	-6 22.4 -42.2	-7 03.9 -42.2	-7 45.6 -42.0	-8 27.3 -41.9
14°	-6 23.3 -42.3	-7 04.6 -42.2	-7 46.1 -42.0	-8 27.6 -41.9	-9 09.2 -41.9
15°	-7 05.6 -42.2	-7 46.8 -42.1	-8 28.1 -42.0	-9 09.5 -41.9	-9 51.1 -41.7
16°	-7 47.8 -42.2	-8 28.9 -42.0	-9 10.1 -41.9	-9 51.4 -41.8	
17°	-8 30.0 -42.1	-9 10.9 -41.9	-9 52.0 -41.8		
18°	-9 12.1 -41.9	-9 52.8 -41.9			
19°	-9 54.0 -41.9				
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 090° / 270°	LHA 091° / 269°	LHA 092° / 268°	LHA 093° / 267°	LHA 094° / 266°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	0 00.0 -42.4 90.0	-0 42.4 -42.5			
1°	-0 42.4 -42.4	-1 24.9 -42.4			
2°	-1 24.8 -42.5	-2 07.3 -42.4			
3°	-2 07.3 -42.3	-2 49.7 -42.3			
4°	-2 49.6 -42.4	-3 32.0 -42.4			
5°	-3 32.0 -42.3	-4 14.4 -42.3			
6°	-4 14.3 -42.3	-4 56.7 -42.2			
7°	-4 56.6 -42.3	-5 38.9 -42.2			
8°	-5 38.9 -42.1	-6 21.1 -42.1			
9°	-6 21.0 -42.2	-7 03.2 -42.1			
10°	-7 03.2 -42.0	-7 45.3 -42.0			
11°	-7 45.2 -42.0	-8 27.3 -41.9			
12°	-8 27.2 -42.0	-9 09.2 -41.9			
13°	-9 09.2 -41.8	-9 51.1 -41.7			
14°	-9 51.0 -41.7				
15°					
16°					
17°					
18°					
19°					
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 095° / 265°	LHA 096° / 264°	LHA 097° / 263°	LHA 098° / 262°	LHA 099° / 261°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°					
1°					
2°					
3°					
4°					
5°					
6°					
7°					
8°					
9°					
10°					
11°					
12°					
13°					
14°					
15°					
16°					
17°					
18°					
19°					
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 000° / 360°	LHA 001° / 359°	LHA 002° / 358°	LHA 003° / 357°	LHA 004° / 356°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	44 00.0 -60.0 180.0	43 59.5 -60.0 178.6	43 58.0 -60.0 177.2	43 55.5 -60.0 175.8	43 51.9 -59.8 174.4
1°	43 00.0 -60.0 180.0	42 59.5 -60.0 178.6	42 58.0 -60.0 177.3	42 55.5 -59.9 175.9	42 52.1 -59.9 174.5
2°	42 00.0 -60.0 180.0	41 59.5 -60.0 178.7	41 58.0 -59.9 177.3	41 55.6 -59.9 176.0	41 52.2 -59.9 174.6
3°	41 00.0 -60.0 180.0	40 59.5 -60.0 178.7	40 58.1 -60.0 177.4	40 55.7 -60.0 176.0	40 52.3 -59.9 174.7
4°	40 00.0 -60.0 180.0	39 59.5 -60.0 178.7	39 58.1 -60.0 177.4	39 55.7 -59.9 176.1	39 52.4 -59.9 174.8
5°	39 00.0 -60.0 180.0	38 59.5 -60.0 178.7	38 58.1 -59.9 177.4	38 55.8 -59.9 176.2	38 52.5 -59.8 174.9
6°	38 00.0 -60.0 180.0	37 59.5 -60.0 178.7	37 58.2 -60.0 177.5	37 55.9 -60.0 176.2	37 52.7 -59.9 175.0
7°	37 00.0 -60.0 180.0	36 59.5 -59.9 178.8	36 58.2 -60.0 177.5	36 55.9 -59.9 176.3	36 52.8 -59.9 175.0
8°	36 00.0 -60.0 180.0	35 59.6 -60.0 178.8	35 58.2 -60.0 177.6	35 56.0 -59.9 176.3	35 52.9 -59.9 175.1
9°	35 00.0 -60.0 180.0	34 59.6 -60.0 178.8	34 58.2 -59.9 177.6	34 56.1 -60.0 176.4	34 53.0 -59.9 175.2
10°	34 00.0 -60.0 180.0	33 59.6 -60.0 178.8	33 58.3 -60.0 177.6	33 56.1 -59.9 176.4	33 53.1 -59.9 175.3
11°	33 00.0 -60.0 180.0	32 59.6 -60.0 178.8	32 58.3 -60.0 177.7	32 56.2 -60.0 176.5	32 53.2 -59.9 175.3
12°	32 00.0 -60.0 180.0	31 59.6 -60.0 178.8	31 58.3 -60.0 177.7	31 56.2 -59.9 176.5	31 53.3 -59.9 175.4
13°	31 00.0 -60.0 180.0	30 59.6 -60.0 178.9	30 58.3 -59.9 177.7	30 56.3 -60.0 176.6	30 53.4 -59.9 175.5
14°	30 00.0 -60.0 180.0	29 59.6 -60.0 178.9	29 58.4 -60.0 177.8	29 56.3 -59.9 176.6	29 53.5 -59.9 175.5
15°	29 00.0 -60.0 180.0	28 59.6 -60.0 178.9	28 58.4 -60.0 177.8	28 56.4 -60.0 176.7	28 53.6 -59.9 175.6
16°	28 00.0 -60.0 180.0	27 59.6 -60.0 178.9	27 58.4 -60.0 177.8	27 56.4 -59.9 176.7	27 53.7 -59.9 175.6
17°	27 00.0 -60.0 180.0	26 59.6 -60.0 178.9	26 58.4 -59.9 177.9	26 56.5 -60.0 176.8	26 53.8 -60.0 175.7
18°	26 00.0 -60.0 180.0	25 59.6 -60.0 178.9	25 58.5 -60.0 177.9	25 56.5 -59.9 176.8	25 53.8 -59.9 175.8
19°	25 00.0 -60.0 180.0	24 59.6 -60.0 179.0	24 58.5 -60.0 177.9	24 56.6 -60.0 176.9	24 53.9 -59.9 175.8
20°	24 00.0 -60.0 180.0	23 59.6 -60.0 179.0	23 58.5 -60.0 177.9	23 56.6 -59.9 176.9	23 54.0 -59.9 175.9
21°	23 00.0 -60.0 180.0	22 59.6 -60.0 179.0	22 58.5 -60.0 178.0	22 56.7 -60.0 177.0	22 54.1 -59.9 175.9
22°	22 00.0 -60.0 180.0	21 59.6 -60.0 179.0	21 58.5 -59.9 178.0	21 56.7 -59.9 177.0	21 54.2 -59.9 176.0
23°	21 00.0 -60.0 180.0	20 59.6 -60.0 179.0	20 58.6 -60.0 178.0	20 56.8 -60.0 177.0	20 54.3 -60.0 176.1
24°	20 00.0 -60.0 180.0	19 59.6 -59.9 179.0	19 58.6 -60.0 178.1	19 56.8 -59.9 177.1	19 54.3 -59.9 176.1
25°	19 00.0 -60.0 180.0	18 59.7 -60.0 179.0	18 58.6 -60.0 178.1	18 56.9 -60.0 177.1	18 54.4 -59.9 176.2
26°	18 00.0 -60.0 180.0	17 59.7 -60.0 179.1	17 58.6 -60.0 178.1	17 56.9 -59.9 177.2	17 54.5 -59.9 176.2
27°	17 00.0 -60.0 180.0	16 59.7 -60.0 179.1	16 58.6 -59.9 178.1	16 57.0 -60.0 177.2	16 54.6 -59.9 176.3
28°	16 00.0 -60.0 180.0	15 59.7 -60.0 179.1	15 58.7 -60.0 178.2	15 57.0 -60.0 177.2	15 54.7 -60.0 176.3
29°	15 00.0 -60.0 180.0	14 59.7 -60.0 179.1	14 58.7 -60.0 178.2	14 57.0 -59.9 177.3	14 54.7 -59.9 176.4

Dec	LHA 005° / 355°	LHA 006° / 354°	LHA 007° / 353°	LHA 008° / 352°	LHA 009° / 351°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	43 47.4 -59.8 173.1	43 41.9 -59.7 171.7	43 35.3 -59.6 170.3	43 27.8 -59.4 168.9	43 19.4 -59.4 167.6
1°	42 47.6 -59.8 173.2	42 42.2 -59.8 171.8	42 35.7 -59.6 170.5	42 28.4 -59.5 169.1	42 20.0 -59.3 167.8
2°	41 47.8 -59.8 173.3	41 42.4 -59.7 172.0	41 36.1 -59.6 170.6	41 28.9 -59.5 169.3	41 20.7 -59.4 168.0
3°	40 48.0 -59.8 173.4	40 42.7 -59.7 172.1	40 36.5 -59.6 170.8	40 29.4 -59.6 169.5	40 21.3 -59.4 168.2
4°	39 48.2 -59.8 173.5	39 43.0 -59.7 172.2	39 36.9 -59.7 170.9	39 29.8 -59.5 169.6	39 21.9 -59.4 168.4
5°	38 48.4 -59.9 173.6	38 43.3 -59.8 172.3	38 37.2 -59.6 171.1	38 30.3 -59.5 169.8	38 22.5 -59.5 168.5
6°	37 48.5 -59.8 173.7	37 43.5 -59.7 172.4	37 37.6 -59.7 171.2	37 30.8 -59.6 170.0	37 23.0 -59.4 168.7
7°	36 48.7 -59.8 173.8	36 43.8 -59.8 172.6	36 37.9 -59.6 171.3	36 31.2 -59.6 170.1	36 23.6 -59.5 168.9
8°	35 48.9 -59.8 173.9	35 44.0 -59.7 172.7	35 38.3 -59.7 171.5	35 31.6 -59.5 170.3	35 24.1 -59.4 169.0
9°	34 49.1 -59.9 174.0	34 44.3 -59.8 172.8	34 38.6 -59.7 171.6	34 32.1 -59.6 170.4	34 24.7 -59.5 169.2
10°	33 49.2 -59.8 174.1	33 44.5 -59.8 172.9	33 38.9 -59.7 171.7	33 32.5 -59.6 170.5	33 25.2 -59.5 169.4
11°	32 49.4 -59.9 174.2	32 44.7 -59.8 173.0	32 39.2 -59.7 171.8	32 32.9 -59.6 170.7	32 25.7 -59.5 169.5
12°	31 49.5 -59.8 174.2	31 44.9 -59.8 173.1	31 39.5 -59.7 171.9	31 33.3 -59.7 170.8	31 26.2 -59.5 169.7
13°	30 49.7 -59.9 174.3	30 45.1 -59.7 173.2	30 39.8 -59.7 172.1	30 33.6 -59.6 170.9	30 26.7 -59.6 169.8
14°	29 49.8 -59.8 174.4	29 45.4 -59.8 173.3	29 40.1 -59.7 172.2	29 34.0 -59.6 171.1	29 27.1 -59.5 170.0
15°	28 50.0 -59.9 174.5	28 45.6 -59.8 173.4	28 40.4 -59.8 172.3	28 34.4 -59.7 171.2	28 27.6 -59.5 170.1
16°	27 50.1 -59.8 174.6	27 45.8 -59.8 173.5	27 40.6 -59.7 172.4	27 34.7 -59.6 171.3	27 28.1 -59.6 170.2
17°	26 50.3 -59.9 174.6	26 46.0 -59.8 173.6	26 40.9 -59.7 172.5	26 35.1 -59.6 171.4	26 28.5 -59.5 170.4
18°	25 50.4 -59.9 174.7	25 46.2 -59.8 173.7	25 41.2 -59.7 172.6	25 35.5 -59.7 171.6	25 29.0 -59.6 170.5
19°	24 50.5 -59.8 174.8	24 46.4 -59.8 173.8	24 41.5 -59.8 172.7	24 35.8 -59.7 171.7	24 29.4 -59.6 170.6
20°	23 50.7 -59.9 174.9	23 46.6 -59.9 173.8	23 41.7 -59.7 172.8	23 36.1 -59.6 171.8	23 29.8 -59.6 170.8
21°	22 50.8 -59.9 174.9	22 46.7 -59.8 173.9	22 42.0 -59.8 172.9	22 36.5 -59.7 171.9	22 30.2 -59.6 170.9
22°	21 50.9 -59.9 175.0	21 46.9 -59.8 174.0	21 42.2 -59.7 173.0	21 36.8 -59.7 172.0	21 30.6 -59.5 171.0
23°	20 51.0 -59.8 175.1	20 47.1 -59.8 174.1	20 42.5 -59.8 173.1	20 37.1 -59.7 172.1	20 31.1 -59.6 171.2
24°	19 51.2 -59.9 175.1	19 47.3 -59.8 174.2	19 42.7 -59.7 173.2	19 37.4 -59.7 172.2	19 31.5 -59.6 171.3
25°	18 51.3 -59.9 175.2	18 47.5 -59.9 174.3	18 43.0 -59.8 173.3	18 37.7 -59.6 172.4	18 31.9 -59.6 171.4
26°	17 51.4 -59.9 175.3	17 47.6 -59.8 174.3	17 43.2 -59.8 173.4	17 38.1 -59.7 172.5	17 32.3 -59.7 171.5
27°	16 51.5 -59.8 175.3	16 47.8 -59.8 174.4	16 43.4 -59.7 173.5	16 38.4 -59.7 172.6	16 32.6 -59.6 171.6
28°	15 51.7 -59.9 175.4	15 48.0 -59.8 174.5	15 43.7 -59.8 173.6	15 38.7 -59.7 172.7	15 33.0 -59.6 171.8
29°	14 51.8 -59.9 175.5	14 48.2 -59.9 174.6	14 43.9 -59.8 173.7	14 39.0 -59.7 172.8	14 33.4 -59.6 171.9

Dec	LHA 010° / 350°	LHA 011° / 349°	LHA 012° / 348°	LHA 013° / 347°	LHA 014° / 346°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	43 09.9 -59.2 166.2	42 59.5 -59.0 164.9	42 48.2 -58.9 163.5	42 35.9 -58.7 162.2	42 22.7 -58.4 160.9
1°	42 10.7 -59.2 166.5	42 00.5 -59.1 165.1	41 49.3 -58.9 163.8	41 37.2 -58.6 162.5	41 24.3 -58.5 161.2
2°	41 11.5 -59.2 166.7	41 01.4 -59.0 165.4	40 50.4 -58.9 164.1	40 38.6 -58.8 162.8	40 25.8 -58.6 161.5
3°	40 12.3 -59.3 166.9	40 02.4 -59.1 165.6	39 51.5 -58.9 164.3	39 39.8 -58.8 163.0	39 27.2 -58.6 161.8
4°	39 13.0 -59.3 167.1	39 03.3 -59.2 165.8	38 52.6 -59.0 164.5	38 41.0 -58.8 163.3	38 28.6 -58.6 162.0
5°	38 13.7 -59.3 167.3	38 04.1 -59.1 166.0	37 53.6 -59.0 164.8	37 42.2 -58.8 163.5	37 30.0 -58.6 162.3
6°	37 14.4 -59.3 167.5	37 05.0 -59.2 166.2	36 54.6 -59.0 165.0	36 43.4 -58.8 163.8	36 31.4 -58.7 162.6
7°	36 15.1 -59.3 167.7	36 05.8 -59.2 166.4	35 55.6 -59.1 165.2	35 44.6 -58.9 164.0	35 32.7 -58.8 162.8
8°	35 15.8 -59.4 167.8	35 06.6 -59.2 166.6	34 56.5 -59.0 165.5	34 45.7 -59.0 164.3	34 33.9 -58.7 163.1
9°	34 16.4 -59.3 168.0	34 07.4 -59.3 166.8	33 57.5 -59.1 165.7	33 46.7 -58.9 164.5	33 35.2 -58.8 163.3
10°	33 17.1 -59.4 168.2	33 08.1 -59.2 167.0	32 58.4 -59.1 165.9	32 47.8 -59.0 164.7	32 36.4 -58.8 163.6
11°	32 17.7 -59.4 168.4	32 08.9 -59.3 167.2	31 59.3 -59.2 166.1	31 48.8 -59.0 164.9	31 37.6 -58.8 163.8
12°	31 18.3 -59.4 168.5	31 09.6 -59.3 167.4	31 00.1 -59.1 166.3	30 49.8 -59.0 165.2	30 38.8 -58.9 164.0
13°	30 18.9 -59.4 168.7	30 10.3 -59.3 167.6	30 01.0 -59.2 166.5	29 50.8 -59.0 165.4	29 39.9 -58.9 164.3
14°	29 19.5 -59.4 168.9	29 11.0 -59.3 167.8	29 01.8 -59.2 166.7	28 51.8 -59.0 165.6	28 41.0 -58.9 164.5
15°	28 20.1 -59.5 169.0	28 11.7 -59.3 167.9	28 02.6 -59.2 166.8	27 52.8 -59.1 165.8	27 42.1 -58.9 164.7
16°	27 20.6 -59.4 169.2	27 12.4 -59.3 168.1	27 03.4 -59.2 167.0	26 53.7 -59.1 166.0	26 43.2 -58.9 164.9
17°	26 21.2 -59.5 169.3	26 13.1 -59.4 168.3	26 04.2 -59.2 167.2	25 54.6 -59.1 166.2	25 44.3 -59.0 165.1
18°	25 21.7 -59.5 169.5	25 13.7 -59.3 168.4	25 05.0 -59.2 167.4	24 55.5 -59.1 166.4	24 45.3 -58.9 165.3
19°	24 22.2 -59.4 169.6	24 14.4 -59.4 168.6	24 05.8 -59.3 167.6	23 56.4 -59.1 166.5	23 46.4 -59.0 165.5
20°	23 22.8 -59.5 169.8	23 15.0 -59.4 168.7	23 06.5 -59.3 167.7	22 57.3 -59.1 166.7	22 47.4 -59.0 165.7
21°	22 23.3 -59.5 169.9	22 15.6 -59.4 168.9	22 07.2 -59.2 167.9	21 58.2 -59.2 166.9	21 48.4 -59.0 165.9
22°	21 23.8 -59.5 170.0	21 16.2 -59.4 169.1	21 08.0 -59.3 168.1	20 59.0 -59.1 167.1	20 49.4 -59.1 166.1
23°	20 24.3 -59.5 170.2	20 16.8 -59.4 169.2	20 08.7 -59.3 168.2	19 59.9 -59.2 167.3	19 50.3 -59.0 166.3
24°	19 24.8 -59.5 170.3	19 17.4 -59.4 169.4	19 09.4 -59.3 168.4	19 00.7 -59.2 167.4	18 51.3 -59.1 166.5
25°	18 25.3 -59.5 170.5	18 18.0 -59.4 169.5	18 10.1 -59.3 168.6	18 01.5 -59.2 167.6	17 52.2 -59.0 166.7
26°	17 25.8 -59.6 170.6	17 18.6 -59.4 169.7	17 10.8 -59.3 168.7	17 02.3 -59.2 167.8	16 53.2 -59.1 166.9
27°	16 26.2 -59.5 170.7	16 19.2 -59.4 169.8	16 11.5 -59.3 168.9	16 03.1 -59.2 168.0	15 54.1 -59.1 167.0
28°	15 26.7 -59.5 170.8	15 19.8 -59.5 169.9	15 12.2 -59.4 169.0	15 03.9 -59.2 168.1	14 55.0 -59.1 167.2
29°	14 27.2 -59.5 171.0	14 20.3 -59.4 170.1	14 12.8 -59.3 169.2	14 04.7 -59.2 168.3	13 55.9 -59.1 167.4

Dec	LHA 015° / 345°	LHA 016° / 344°	LHA 017° / 343°	LHA 018° / 342°	LHA 019° / 341°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	42 08.6 -58.2 159.6	41 53.6 -58.0 158.3	41 37.7 -57.7 157.0	41 21.0 -57.5 155.7	41 03.4 -57.2 154.4
1°	41 10.4 -58.3 159.9	40 55.6 -58.1 158.6	40 40.0 -57.9 157.3	40 23.5 -57.6 156.1	40 06.2 -57.4 154.8
2°	40 12.1 -58.4 160.2	39 57.5 -58.1 158.9	39 42.1 -57.9 157.7	39 25.9 -57.7 156.4	39 08.8 -57.4 155.2
3°	39 13.7 -58.3 160.5	38 59.4 -58.2 159.3	38 44.2 -57.9 158.0	38 28.2 -57.7 156.8	38 11.4 -57.5 155.6
4°	38 15.4 -58.5 160.8	38 01.2 -58.2 159.6	37 46.3 -58.0 158.3	37 30.5 -57.8 157.1	37 13.9 -57.6 155.9
5°	37 16.9 -58.4 161.1	37 03.0 -58.3 159.9	36 48.3 -58.1 158.7	36 32.7 -57.9 157.5	36 16.3 -57.6 156.3
6°	36 18.5 -58.5 161.4	36 04.7 -58.3 160.2	35 50.2 -58.1 159.0	35 34.8 -57.9 157.8	35 18.7 -57.7 156.6
7°	35 20.0 -58.6 161.6	35 06.4 -58.3 160.5	34 52.1 -58.2 159.3	34 36.9 -57.9 158.1	34 21.0 -57.7 157.0
8°	34 21.4 -58.6 161.9	34 08.1 -58.4 160.7	33 53.9 -58.2 159.6	33 39.0 -58.0 158.4	33 23.3 -57.8 157.3
9°	33 22.8 -58.6 162.2	33 09.7 -58.4 161.0	32 55.7 -58.2 159.9	32 41.0 -58.0 158.7	32 25.5 -57.8 157.6
10°	32 24.2 -58.6 162.4	32 11.3 -58.5 161.3	31 57.5 -58.3 160.2	31 43.0 -58.1 159.0	31 27.7 -57.9 157.9
11°	31 25.6 -58.7 162.7	31 12.8 -58.5 161.6	30 59.2 -58.3 160.4	30 44.9 -58.1 159.3	30 29.8 -57.9 158.2
12°	30 26.9 -58.7 162.9	30 14.3 -58.5 161.8	30 00.9 -58.3 160.7	29 46.8 -58.2 159.6	29 31.9 -58.0 158.5
13°	29 28.2 -58.7 163.2	29 15.8 -58.6 162.1	29 02.6 -58.4 161.0	28 48.6 -58.2 159.9	28 33.9 -58.0 158.8
14°	28 29.5 -58.7 163.4	28 17.2 -58.6 162.3	28 04.2 -58.4 161.2	27 50.4 -58.2 160.2	27 35.9 -58.0 159.1
15°	27 30.8 -58.8 163.6	27 18.6 -58.6 162.6	27 05.8 -58.4 161.5	26 52.2 -58.2 160.5	26 37.9 -58.1 159.4
16°	26 32.0 -58.8 163.9	26 20.0 -58.6 162.8	26 07.4 -58.5 161.8	25 54.0 -58.3 160.7	25 39.8 -58.1 159.7
17°	25 33.2 -58.8 164.1	25 21.4 -58.6 163.0	25 08.9 -58.5 162.0	24 55.7 -58.3 161.0	24 41.7 -58.1 160.0
18°	24 34.4 -58.8 164.3	24 22.8 -58.7 163.3	24 10.4 -58.5 162.3	23 57.4 -58.4 161.2	23 43.6 -58.1 160.2
19°	23 35.6 -58.9 164.5	23 24.1 -58.7 163.5	23 11.9 -58.5 162.5	22 59.0 -58.3 161.5	22 45.5 -58.2 160.5
20°	22 36.7 -58.8 164.7	22 25.4 -58.7 163.7	22 13.4 -58.6 162.7	22 00.7 -58.4 161.7	21 47.3 -58.2 160.8
21°	21 37.9 -58.9 164.9	21 26.7 -58.7 164.0	21 14.8 -58.5 163.0	21 02.3 -58.4 162.0	20 49.1 -58.3 161.0
22°	20 39.0 -58.9 165.1	20 28.0 -58.8 164.2	20 16.3 -58.6 163.2	20 03.9 -58.4 162.2	19 50.8 -58.2 161.3
23°	19 40.1 -58.9 165.3	19 29.2 -58.7 164.4	19 17.7 -58.6 163.4	19 05.5 -58.5 162.5	18 52.6 -58.3 161.5
24°	18 41.2 -58.9 165.5	18 30.5 -58.8 164.6	18 19.1 -58.6 163.7	18 07.0 -58.4 162.7	17 54.3 -58.3 161.8
25°	17 42.3 -58.9 165.7	17 31.7 -58.8 164.8	17 20.5 -58.7 163.9	17 08.6 -58.5 163.0	16 56.0 -58.3 162.0
26°	16 43.4 -59.0 165.9	16 32.9 -58.8 165.0	16 21.8 -58.6 164.1	16 10.1 -58.5 163.2	15 57.7 -58.3 162.3
27°	15 44.4 -58.9 166.1	15 34.1 -58.8 165.2	15 23.2 -58.7 164.3	15 11.6 -58.5 163.4	14 59.4 -58.3 162.5
28°	14 45.5 -59.0 166.3	14 35.3 -58.8 165.4	14 24.5 -58.6 164.5	14 13.1 -58.5 163.7	14 01.1 -58.4 162.8
29°	13 46.5 -58.9 166.5	13 36.5 -58.8 165.6	13 25.9 -58.7 164.8	13 14.6 -58.5 163.9	13 02.7 -58.4 163.0

Dec	LHA 020° / 340°	LHA 021° / 339°	LHA 022° / 338°	LHA 023° / 337°	LHA 024° / 336°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	40 45.0 -57.0 153.2	40 25.8 -56.7 151.9	40 05.8 -56.5 150.7	39 45.0 -56.2 149.5	39 23.4 -55.9 148.2
1°	39 48.0 -57.1 153.6	39 29.1 -56.9 152.3	39 09.3 -56.6 151.1	38 48.8 -56.3 149.9	38 27.5 -56.0 148.7
2°	38 50.9 -57.2 154.0	38 32.2 -56.9 152.8	38 12.7 -56.6 151.5	37 52.5 -56.4 150.3	37 31.5 -56.1 149.2
3°	37 53.7 -57.2 154.4	37 35.3 -57.0 153.2	37 16.1 -56.8 152.0	36 56.1 -56.5 150.8	36 35.4 -56.2 149.6
4°	36 56.5 -57.3 154.7	36 38.3 -57.1 153.5	36 19.3 -56.8 152.4	35 59.6 -56.5 151.2	35 39.2 -56.3 150.0
5°	35 59.2 -57.4 155.1	35 41.2 -57.1 153.9	35 22.5 -56.9 152.8	35 03.1 -56.7 151.6	34 42.9 -56.4 150.5
6°	35 01.8 -57.5 155.5	34 44.1 -57.2 154.3	34 25.6 -56.9 153.1	34 06.4 -56.7 152.0	33 46.5 -56.5 150.9
7°	34 04.3 -57.5 155.8	33 46.9 -57.3 154.7	33 28.7 -57.1 153.5	33 09.7 -56.8 152.4	32 50.0 -56.5 151.3
8°	33 06.8 -57.6 156.1	32 49.6 -57.4 155.0	32 31.6 -57.1 153.9	32 12.9 -56.9 152.8	31 53.5 -56.6 151.7
9°	32 09.2 -57.6 156.5	31 52.2 -57.3 155.4	31 34.5 -57.2 154.3	31 16.0 -56.9 153.2	30 56.9 -56.7 152.1
10°	31 11.6 -57.6 156.8	30 54.9 -57.5 155.7	30 37.3 -57.2 154.6	30 19.1 -57.0 153.5	30 00.2 -56.8 152.4
11°	30 14.0 -57.7 157.1	29 57.4 -57.5 156.0	29 40.1 -57.2 155.0	29 22.1 -57.0 153.9	29 03.4 -56.8 152.8
12°	29 16.3 -57.8 157.4	28 59.9 -57.5 156.4	28 42.9 -57.4 155.3	28 25.1 -57.1 154.2	28 06.6 -56.8 153.2
13°	28 18.5 -57.8 157.8	28 02.4 -57.6 156.7	27 45.5 -57.3 155.6	27 28.0 -57.2 154.6	27 09.8 -57.0 153.5
14°	27 20.7 -57.8 158.1	27 04.8 -57.6 157.0	26 48.2 -57.5 156.0	26 30.8 -57.1 154.9	26 12.8 -56.9 153.9
15°	26 22.9 -57.9 158.4	26 07.2 -57.7 157.3	25 50.7 -57.4 156.3	25 33.7 -57.3 155.3	25 15.9 -57.0 154.3
16°	25 25.0 -57.9 158.7	25 09.5 -57.7 157.6	24 53.3 -57.5 156.6	24 36.4 -57.3 155.6	24 18.9 -57.1 154.6
17°	24 27.1 -57.9 158.9	24 11.8 -57.7 157.9	23 55.8 -57.5 156.9	23 39.1 -57.3 155.9	23 21.8 -57.1 154.9
18°	23 29.2 -58.0 159.2	23 14.1 -57.8 158.2	22 58.3 -57.6 157.2	22 41.8 -57.4 156.2	22 24.7 -57.2 155.3
19°	22 31.2 -58.0 159.5	22 16.3 -57.8 158.5	22 00.7 -57.6 157.5	21 44.4 -57.4 156.6	21 27.5 -57.2 155.6
20°	21 33.2 -58.0 159.8	21 18.5 -57.9 158.8	21 03.1 -57.7 157.8	20 47.0 -57.4 156.9	20 30.3 -57.2 155.9
21°	20 35.2 -58.1 160.1	20 20.6 -57.8 159.1	20 05.4 -57.6 158.1	19 49.6 -57.5 157.2	19 33.1 -57.2 156.2
22°	19 37.1 -58.0 160.3	19 22.8 -57.9 159.4	19 07.8 -57.7 158.4	18 52.1 -57.5 157.5	18 35.9 -57.3 156.6
23°	18 39.1 -58.1 160.6	18 24.9 -57.9 159.7	18 10.1 -57.7 158.7	17 54.6 -57.5 157.8	17 38.6 -57.3 156.9
24°	17 41.0 -58.1 160.9	17 27.0 -57.9 159.9	17 12.4 -57.8 159.0	16 57.1 -57.5 158.1	16 41.3 -57.4 157.2
25°	16 42.9 -58.2 161.1	16 29.1 -58.0 160.2	16 14.6 -57.7 159.3	15 59.6 -57.6 158.4	15 43.9 -57.3 157.5
26°	15 44.7 -58.1 161.4	15 31.1 -58.0 160.5	15 16.9 -57.8 159.6	15 02.0 -57.6 158.7	14 46.6 -57.4 157.8
27°	14 46.6 -58.2 161.6	14 33.1 -58.0 160.7	14 19.1 -57.8 159.9	14 04.4 -57.6 159.0	13 49.2 -57.5 158.1
28°	13 48.4 -58.2 161.9	13 35.1 -58.0 161.0	13 21.3 -57.9 160.1	13 06.8 -57.6 159.3	12 51.7 -57.4 158.4
29°	12 50.2 -58.2 162.1	12 37.1 -58.0 161.3	12 23.4 -57.8 160.4	12 09.2 -57.7 159.5	11 54.3 -57.4 158.7

Dec	LHA 025° / 335°	LHA 026° / 334°	LHA 027° / 333°	LHA 028° / 332°	LHA 029° / 331°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	39 01.1 -55.6 147.0	38 38.1 -55.3 145.9	38 14.3 -55.0 144.7	37 49.9 -54.7 143.5	37 24.8 -54.4 142.4
1°	38 05.5 -55.7 147.5	37 42.8 -55.5 146.4	37 19.3 -55.1 145.2	36 55.2 -54.8 144.0	36 30.4 -54.6 142.9
2°	37 09.8 -55.8 148.0	36 47.3 -55.5 146.8	36 24.2 -55.3 145.7	36 00.4 -55.0 144.6	35 35.8 -54.6 143.4
3°	36 14.0 -56.0 148.5	35 51.8 -55.7 147.3	35 28.9 -55.3 146.2	35 05.4 -55.1 145.0	34 41.2 -54.8 143.9
4°	35 18.0 -56.0 148.9	34 56.1 -55.7 147.8	34 33.6 -55.5 146.6	34 10.3 -55.2 145.5	33 46.4 -54.9 144.4
5°	34 22.0 -56.1 149.3	34 00.4 -55.9 148.2	33 38.1 -55.6 147.1	33 15.1 -55.3 146.0	32 51.5 -55.1 144.9
6°	33 25.9 -56.2 149.8	33 04.5 -55.9 148.6	32 42.5 -55.7 147.5	32 19.8 -55.4 146.5	31 56.4 -55.1 145.4
7°	32 29.7 -56.3 150.2	32 08.6 -56.0 149.1	31 46.8 -55.7 148.0	31 24.4 -55.5 146.9	31 01.3 -55.2 145.8
8°	31 33.4 -56.4 150.6	31 12.6 -56.1 149.5	30 51.1 -55.9 148.4	30 28.9 -55.6 147.4	30 06.1 -55.3 146.3
9°	30 37.0 -56.4 151.0	30 16.5 -56.2 149.9	29 55.2 -55.9 148.8	29 33.3 -55.6 147.8	29 10.8 -55.4 146.7
10°	29 40.6 -56.5 151.4	29 20.3 -56.3 150.3	28 59.3 -56.0 149.3	28 37.7 -55.8 148.2	28 15.4 -55.5 147.2
11°	28 44.1 -56.6 151.8	28 24.0 -56.3 150.7	28 03.3 -56.1 149.7	27 41.9 -55.8 148.6	27 19.9 -55.6 147.6
12°	27 47.5 -56.6 152.1	27 27.7 -56.4 151.1	27 07.2 -56.1 150.1	26 46.1 -55.9 149.0	26 24.3 -55.6 148.0
13°	26 50.9 -56.7 152.5	26 31.3 -56.4 151.5	26 11.1 -56.2 150.5	25 50.2 -55.9 149.5	25 28.7 -55.7 148.4
14°	25 54.2 -56.8 152.9	25 34.9 -56.6 151.9	25 14.9 -56.3 150.9	24 54.3 -56.1 149.9	24 33.0 -55.8 148.9
15°	24 57.4 -56.8 153.2	24 38.3 -56.5 152.2	24 18.6 -56.3 151.2	23 58.2 -56.0 150.2	23 37.2 -55.8 149.3
16°	24 00.6 -56.8 153.6	23 41.8 -56.6 152.6	23 22.3 -56.4 151.6	23 02.2 -56.2 150.6	22 41.4 -55.9 149.7
17°	23 03.8 -56.9 153.9	22 45.2 -56.7 153.0	22 25.9 -56.4 152.0	22 06.0 -56.2 151.0	21 45.5 -55.9 150.1
18°	22 06.9 -56.9 154.3	21 48.5 -56.7 153.3	21 29.5 -56.5 152.4	21 09.8 -56.2 151.4	20 49.6 -56.0 150.4
19°	21 10.0 -57.0 154.6	20 51.8 -56.7 153.7	20 33.0 -56.5 152.7	20 13.6 -56.3 151.8	19 53.6 -56.1 150.8
20°	20 13.0 -57.0 155.0	19 55.1 -56.8 154.0	19 36.5 -56.6 153.1	19 17.3 -56.3 152.1	18 57.5 -56.0 151.2
21°	19 16.0 -57.0 155.3	18 58.3 -56.8 154.4	18 39.9 -56.6 153.4	18 21.0 -56.4 152.5	18 01.5 -56.2 151.6
22°	18 19.0 -57.1 155.6	18 01.5 -56.9 154.7	17 43.3 -56.6 153.8	17 24.6 -56.4 152.9	17 05.3 -56.1 151.9
23°	17 21.9 -57.1 155.9	17 04.6 -56.9 155.0	16 46.7 -56.7 154.1	16 28.2 -56.4 153.2	16 09.2 -56.3 152.3
24°	16 24.8 -57.1 156.3	16 07.7 -56.9 155.4	15 50.0 -56.7 154.5	15 31.8 -56.5 153.6	15 12.9 -56.2 152.7
25°	15 27.7 -57.2 156.6	15 10.8 -57.0 155.7	14 53.3 -56.7 154.8	14 35.3 -56.5 153.9	14 16.7 -56.3 153.0
26°	14 30.5 -57.2 156.9	14 13.8 -56.9 156.0	13 56.6 -56.7 155.1	13 38.8 -56.5 154.3	13 20.4 -56.3 153.4
27°	13 33.3 -57.2 157.2	13 16.9 -57.0 156.3	12 59.9 -56.8 155.5	12 42.3 -56.6 154.6	12 24.1 -56.3 153.7
28°	12 36.1 -57.2 157.5	12 19.9 -57.0 156.7	12 03.1 -56.8 155.8	11 45.7 -56.6 155.0	11 27.8 -56.4 154.1
29°	11 38.9 -57.3 157.8	11 22.9 -57.1 157.0	11 06.3 -56.9 156.1	10 49.1 -56.6 155.3	10 31.4 -56.4 154.5

Dec	LHA 030° / 330°	LHA 031° / 329°	LHA 032° / 328°	LHA 033° / 327°	LHA 034° / 326°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	36 59.0 -54.1 141.2	36 32.6 -53.8 140.1	36 05.6 -53.5 139.0	35 38.0 -53.2 137.9	35 09.8 -52.9 136.8
1°	36 04.9 -54.2 141.8	35 38.8 -53.9 140.7	35 12.1 -53.6 139.6	34 44.8 -53.3 138.5	34 16.9 -53.1 137.4
2°	35 10.7 -54.4 142.3	34 44.9 -54.1 141.2	34 18.5 -53.8 140.1	33 51.5 -53.5 139.0	33 23.8 -53.1 138.0
3°	34 16.3 -54.5 142.8	33 50.8 -54.2 141.7	33 24.7 -53.9 140.7	32 58.0 -53.7 139.6	32 30.7 -53.4 138.5
4°	33 21.8 -54.6 143.3	32 56.6 -54.3 142.2	32 30.8 -54.1 141.2	32 04.3 -53.7 140.1	31 37.3 -53.4 139.1
5°	32 27.2 -54.8 143.8	32 02.3 -54.5 142.8	31 36.7 -54.1 141.7	31 10.6 -53.9 140.6	30 43.9 -53.6 139.6
6°	31 32.4 -54.8 144.3	31 07.8 -54.5 143.2	30 42.6 -54.3 142.2	30 16.7 -54.0 141.2	29 50.3 -53.7 140.1
7°	30 37.6 -54.9 144.8	30 13.3 -54.7 143.7	29 48.3 -54.4 142.7	29 22.7 -54.1 141.7	28 56.6 -53.8 140.6
8°	29 42.7 -55.1 145.2	29 18.6 -54.8 144.2	28 53.9 -54.5 143.2	28 28.6 -54.2 142.2	28 02.8 -54.0 141.1
9°	28 47.6 -55.1 145.7	28 23.8 -54.8 144.7	27 59.4 -54.6 143.6	27 34.4 -54.3 142.6	27 08.8 -54.0 141.6
10°	27 52.5 -55.2 146.1	27 29.0 -55.0 145.1	27 04.8 -54.6 144.1	26 40.1 -54.4 143.1	26 14.8 -54.1 142.1
11°	26 57.3 -55.3 146.6	26 34.0 -55.0 145.6	26 10.2 -54.8 144.6	25 45.7 -54.5 143.6	25 20.7 -54.2 142.6
12°	26 02.0 -55.4 147.0	25 39.0 -55.1 146.0	25 15.4 -54.9 145.0	24 51.2 -54.6 144.0	24 26.5 -54.4 143.1
13°	25 06.6 -55.4 147.5	24 43.9 -55.2 146.5	24 20.5 -54.9 145.5	23 56.6 -54.6 144.5	23 32.1 -54.3 143.5
14°	24 11.2 -55.6 147.9	23 48.7 -55.3 146.9	23 25.6 -55.0 145.9	23 02.0 -54.8 145.0	22 37.8 -54.5 144.0
15°	23 15.6 -55.5 148.3	22 53.4 -55.3 147.3	22 30.6 -55.0 146.4	22 07.2 -54.8 145.4	21 43.3 -54.5 144.4
16°	22 20.1 -55.7 148.7	21 58.1 -55.4 147.7	21 35.6 -55.2 146.8	21 12.4 -54.8 145.8	20 48.8 -54.7 144.9
17°	21 24.4 -55.7 149.1	21 02.7 -55.4 148.1	20 40.4 -55.2 147.2	20 17.6 -55.0 146.3	19 54.1 -54.6 145.3
18°	20 28.7 -55.7 149.5	20 07.3 -55.5 148.6	19 45.2 -55.2 147.6	19 22.6 -55.0 146.7	18 59.5 -54.8 145.8
19°	19 33.0 -55.8 149.9	19 11.8 -55.6 149.0	18 50.0 -55.3 148.0	18 27.6 -55.0 147.1	18 04.7 -54.8 146.2
20°	18 37.2 -55.9 150.3	18 16.2 -55.6 149.4	17 54.7 -55.4 148.4	17 32.6 -55.1 147.5	17 09.9 -54.8 146.6
21°	17 41.3 -55.9 150.7	17 20.6 -55.6 149.8	16 59.3 -55.4 148.8	16 37.5 -55.2 148.0	16 15.1 -54.9 147.1
22°	16 45.4 -55.9 151.0	16 25.0 -55.7 150.1	16 03.9 -55.4 149.2	15 42.3 -55.1 148.4	15 20.2 -54.9 147.5
23°	15 49.5 -56.0 151.4	15 29.3 -55.8 150.5	15 08.5 -55.5 149.6	14 47.2 -55.3 148.8	14 25.3 -55.0 147.9
24°	14 53.5 -56.0 151.8	14 33.5 -55.7 150.9	14 13.0 -55.5 150.0	13 51.9 -55.3 149.2	13 30.3 -55.0 148.3
25°	13 57.5 -56.0 152.2	13 37.8 -55.8 151.3	13 17.5 -55.6 150.4	12 56.6 -55.3 149.6	12 35.3 -55.1 148.7
26°	13 01.5 -56.1 152.5	12 42.0 -55.9 151.7	12 21.9 -55.6 150.8	12 01.3 -55.3 150.0	11 40.2 -55.1 149.1
27°	12 05.4 -56.1 152.9	11 46.1 -55.8 152.0	11 26.3 -55.6 151.2	11 06.0 -55.4 150.4	10 45.1 -55.1 149.5
28°	11 09.3 -56.1 153.3	10 50.3 -55.9 152.4	10 30.7 -55.6 151.6	10 10.6 -55.4 150.8	9 50.0 -55.2 149.9
29°	10 13.2 -56.2 153.6	9 54.4 -55.9 152.8	9 35.1 -55.7 152.0	9 15.2 -55.4 151.1	8 54.8 -55.1 150.3

Dec	LHA 035° / 325°	LHA 036° / 324°	LHA 037° / 323°	LHA 038° / 322°	LHA 039° / 321°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	34 41.0 -52.6 135.8	34 11.6 -52.3 134.7	33 41.7 -51.9 133.7	33 11.3 -51.6 132.6	32 40.4 -51.4 131.6
1°	33 48.4 -52.7 136.4	33 19.3 -52.4 135.3	32 49.8 -52.2 134.3	32 19.7 -51.9 133.2	31 49.0 -51.5 132.2
2°	32 55.7 -52.9 136.9	32 26.9 -52.6 135.9	31 57.6 -52.3 134.9	31 27.8 -52.0 133.8	30 57.5 -51.7 132.8
3°	32 02.8 -53.1 137.5	31 34.3 -52.7 136.5	31 05.3 -52.4 135.4	30 35.8 -52.1 134.4	30 05.8 -51.8 133.4
4°	31 09.7 -53.1 138.0	30 41.6 -52.9 137.0	30 12.9 -52.6 136.0	29 43.7 -52.3 135.0	29 14.0 -52.0 134.0
5°	30 16.6 -53.3 138.6	29 48.7 -53.0 137.6	29 20.3 -52.7 136.5	28 51.4 -52.4 135.6	28 22.0 -52.2 134.6
6°	29 23.3 -53.4 139.1	28 55.7 -53.1 138.1	28 27.6 -52.8 137.1	27 59.0 -52.6 136.1	27 29.8 -52.3 135.1
7°	28 29.9 -53.6 139.6	28 02.6 -53.3 138.6	27 34.8 -53.0 137.6	27 06.4 -52.7 136.6	26 37.5 -52.4 135.7
8°	27 36.3 -53.6 140.1	27 09.3 -53.3 139.1	26 41.8 -53.1 138.2	26 13.7 -52.8 137.2	25 45.1 -52.5 136.2
9°	26 42.7 -53.8 140.6	26 16.0 -53.5 139.7	25 48.7 -53.2 138.7	25 20.9 -52.9 137.7	24 52.6 -52.6 136.8
10°	25 48.9 -53.8 141.1	25 22.5 -53.6 140.2	24 55.5 -53.3 139.2	24 28.0 -53.0 138.2	24 00.0 -52.7 137.3
11°	24 55.1 -54.0 141.6	24 28.9 -53.6 140.7	24 02.2 -53.4 139.7	23 35.0 -53.1 138.7	23 07.3 -52.9 137.8
12°	24 01.1 -54.0 142.1	23 35.3 -53.8 141.1	23 08.8 -53.4 140.2	22 41.9 -53.2 139.2	22 14.4 -52.9 138.3
13°	23 07.1 -54.1 142.6	22 41.5 -53.9 141.6	22 15.4 -53.6 140.7	21 48.7 -53.3 139.7	21 21.5 -53.0 138.8
14°	22 13.0 -54.2 143.0	21 47.6 -53.9 142.1	21 21.8 -53.7 141.2	20 55.4 -53.4 140.2	20 28.5 -53.1 139.3
15°	21 18.8 -54.3 143.5	20 53.7 -54.0 142.6	20 28.1 -53.7 141.6	20 02.0 -53.5 140.7	19 35.4 -53.2 139.8
16°	20 24.5 -54.3 144.0	19 59.7 -54.1 143.0	19 34.4 -53.8 142.1	19 08.5 -53.5 141.2	18 42.2 -53.3 140.3
17°	19 30.2 -54.4 144.4	19 05.6 -54.1 143.5	18 40.6 -53.9 142.6	18 15.0 -53.6 141.7	17 48.9 -53.3 140.8
18°	18 35.8 -54.5 144.9	18 11.5 -54.2 144.0	17 46.7 -53.9 143.1	17 21.4 -53.7 142.2	16 55.6 -53.4 141.3
19°	17 41.3 -54.5 145.3	17 17.3 -54.3 144.4	16 52.8 -54.0 143.5	16 27.7 -53.7 142.6	16 02.2 -53.5 141.7
20°	16 46.8 -54.6 145.7	16 23.0 -54.3 144.9	15 58.8 -54.1 144.0	15 34.0 -53.8 143.1	15 08.7 -53.5 142.2
21°	15 52.2 -54.7 146.2	15 28.7 -54.4 145.3	15 04.7 -54.1 144.4	14 40.2 -53.8 143.5	14 15.2 -53.6 142.7
22°	14 57.5 -54.6 146.6	14 34.3 -54.4 145.7	14 10.6 -54.2 144.9	13 46.4 -53.9 144.0	13 21.6 -53.6 143.1
23°	14 02.9 -54.8 147.0	13 39.9 -54.5 146.2	13 16.4 -54.2 145.3	12 52.5 -54.0 144.5	12 28.0 -53.7 143.6
24°	13 08.1 -54.7 147.4	12 45.4 -54.5 146.6	12 22.2 -54.2 145.7	11 58.5 -54.0 144.9	11 34.3 -53.7 144.1
25°	12 13.4 -54.8 147.9	11 50.9 -54.5 147.0	11 28.0 -54.3 146.2	11 04.5 -54.0 145.3	10 40.6 -53.8 144.5
26°	11 18.6 -54.9 148.3	10 56.4 -54.6 147.4	10 33.7 -54.3 146.6	10 10.5 -54.0 145.8	9 46.8 -53.8 145.0
27°	10 23.7 -54.9 148.7	10 01.8 -54.6 147.9	9 39.4 -54.4 147.0	9 16.5 -54.1 146.2	8 53.0 -53.8 145.4
28°	9 28.8 -54.9 149.1	9 07.2 -54.7 148.3	8 45.0 -54.4 147.5	8 22.4 -54.1 146.7	7 59.2 -53.8 145.9
29°	8 33.9 -54.9 149.5	8 12.5 -54.6 148.7	7 50.6 -54.4 147.9	7 28.3 -54.2 147.1	7 05.4 -53.9 146.3

Dec	LHA 040° / 320°	LHA 041° / 319°	LHA 042° / 318°	LHA 043° / 317°	LHA 044° / 316°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	32 09.0 -51.1 130.6	31 37.1 -50.7 129.6	31 04.8 -50.5 128.6	30 32.0 -50.2 127.6	29 58.8 -49.9 126.7
1°	31 17.9 -51.2 131.2	30 46.4 -51.0 130.2	30 14.3 -50.7 129.2	29 41.8 -50.4 128.3	29 08.9 -50.1 127.3
2°	30 26.7 -51.4 131.8	29 55.4 -51.1 130.8	29 23.6 -50.8 129.9	28 51.4 -50.5 128.9	28 18.8 -50.3 127.9
3°	29 35.3 -51.6 132.4	29 04.3 -51.3 131.4	28 32.8 -51.0 130.5	28 00.9 -50.7 129.5	27 28.5 -50.4 128.6
4°	28 43.7 -51.7 133.0	28 13.0 -51.4 132.0	27 41.8 -51.1 131.1	27 10.2 -50.9 130.1	26 38.1 -50.6 129.2
5°	27 52.0 -51.8 133.6	27 21.6 -51.6 132.6	26 50.7 -51.3 131.7	26 19.3 -51.0 130.7	25 47.5 -50.7 129.8
6°	27 00.2 -52.0 134.2	26 30.0 -51.7 133.2	25 59.4 -51.4 132.2	25 28.3 -51.1 131.3	24 56.8 -50.9 130.4
7°	26 08.2 -52.1 134.7	25 38.3 -51.8 133.8	25 08.0 -51.6 132.8	24 37.2 -51.3 131.9	24 05.9 -51.0 130.9
8°	25 16.1 -52.3 135.3	24 46.5 -52.0 134.3	24 16.4 -51.7 133.4	23 45.9 -51.4 132.4	23 14.9 -51.1 131.5
9°	24 23.8 -52.3 135.8	23 54.5 -52.0 134.9	23 24.7 -51.7 133.9	22 54.5 -51.5 133.0	22 23.8 -51.2 132.1
10°	23 31.5 -52.5 136.3	23 02.5 -52.2 135.4	22 33.0 -51.9 134.5	22 03.0 -51.6 133.6	21 32.6 -51.4 132.7
11°	22 39.0 -52.5 136.9	22 10.3 -52.3 135.9	21 41.1 -52.1 135.0	21 11.4 -51.8 134.1	20 41.2 -51.5 133.2
12°	21 46.5 -52.7 137.4	21 18.0 -52.4 136.5	20 49.0 -52.1 135.6	20 19.6 -51.8 134.7	19 49.7 -51.5 133.8
13°	20 53.8 -52.7 137.9	20 25.6 -52.5 137.0	19 56.9 -52.2 136.1	19 27.8 -51.9 135.2	18 58.2 -51.7 134.3
14°	20 01.1 -52.9 138.4	19 33.1 -52.5 137.5	19 04.7 -52.2 136.6	18 35.9 -52.0 135.7	18 06.5 -51.7 134.8
15°	19 08.2 -52.9 138.9	18 40.6 -52.7 138.0	18 12.5 -52.4 137.1	17 43.9 -52.1 136.2	17 14.8 -51.8 135.4
16°	18 15.3 -53.0 139.4	17 47.9 -52.7 138.5	17 20.1 -52.4 137.6	16 51.8 -52.2 136.8	16 23.0 -51.9 135.9
17°	17 22.3 -53.0 139.9	16 55.2 -52.8 139.0	16 27.7 -52.6 138.1	15 59.6 -52.2 137.3	15 31.1 -52.0 136.4
18°	16 29.3 -53.2 140.4	16 02.4 -52.8 139.5	15 35.1 -52.6 138.6	15 07.4 -52.3 137.8	14 39.1 -52.0 136.9
19°	15 36.1 -53.2 140.9	15 09.6 -52.9 140.0	14 42.5 -52.6 139.1	14 15.1 -52.4 138.3	13 47.1 -52.1 137.4
20°	14 42.9 -53.2 141.4	14 16.7 -53.0 140.5	13 49.9 -52.7 139.6	13 22.7 -52.5 138.8	12 55.0 -52.2 138.0
21°	13 49.7 -53.3 141.8	13 23.7 -53.1 141.0	12 57.2 -52.8 140.1	12 30.2 -52.4 139.3	12 02.8 -52.2 138.5
22°	12 56.4 -53.4 142.3	12 30.6 -53.0 141.5	12 04.4 -52.8 140.6	11 37.8 -52.6 139.8	11 10.6 -52.2 139.0
23°	12 03.0 -53.4 142.8	11 37.6 -53.2 141.9	11 11.6 -52.8 141.1	10 45.2 -52.6 140.3	10 18.4 -52.4 139.5
24°	11 09.6 -53.4 143.2	10 44.4 -53.2 142.4	10 18.8 -52.9 141.6	9 52.6 -52.6 140.8	9 26.0 -52.3 140.0
25°	10 16.2 -53.5 143.7	9 51.2 -53.2 142.9	9 25.9 -53.0 142.1	9 00.0 -52.7 141.3	8 33.7 -52.4 140.5
26°	9 22.7 -53.5 144.2	8 58.0 -53.2 143.3	8 32.9 -53.0 142.5	8 07.3 -52.7 141.7	7 41.3 -52.4 140.9
27°	8 29.2 -53.6 144.6	8 04.8 -53.3 143.8	7 39.9 -53.0 143.0	7 14.6 -52.7 142.2	6 48.9 -52.5 141.4
28°	7 35.6 -53.6 145.1	7 11.5 -53.3 144.3	6 46.9 -53.0 143.5	6 21.9 -52.7 142.7	5 56.4 -52.4 141.9
29°	6 42.0 -53.6 145.5	6 18.2 -53.3 144.7	5 53.9 -53.1 144.0	5 29.2 -52.8 143.2	5 04.0 -52.5 142.4

Dec	LHA 045° / 315°	LHA 046° / 314°	LHA 047° / 313°	LHA 048° / 312°	LHA 049° / 311°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	29 25.2 -49.7 125.7	28 51.1 -49.3 124.8	28 16.7 -49.1 123.9	27 41.9 -48.8 122.9	27 06.7 -48.5 122.0
1°	28 35.5 -49.8 126.4	28 01.8 -49.6 125.4	27 27.6 -49.3 124.5	26 53.1 -49.1 123.6	26 18.2 -48.8 122.7
2°	27 45.7 -50.0 127.0	27 12.2 -49.7 126.1	26 38.3 -49.4 125.1	26 04.0 -49.1 124.2	25 29.4 -48.9 123.3
3°	26 55.7 -50.1 127.6	26 22.5 -49.9 126.7	25 48.9 -49.6 125.8	25 14.9 -49.4 124.9	24 40.5 -49.1 124.0
4°	26 05.6 -50.4 128.2	25 32.6 -50.0 127.3	24 59.3 -49.8 126.4	24 25.5 -49.5 125.5	23 51.4 -49.2 124.6
5°	25 15.2 -50.4 128.8	24 42.6 -50.2 127.9	24 09.5 -49.9 127.0	23 36.0 -49.6 126.1	23 02.2 -49.4 125.2
6°	24 24.8 -50.6 129.4	23 52.4 -50.3 128.5	23 19.6 -50.1 127.6	22 46.4 -49.8 126.7	22 12.8 -49.5 125.8
7°	23 34.2 -50.7 130.0	23 02.1 -50.5 129.1	22 29.5 -50.1 128.2	21 56.6 -49.9 127.3	21 23.3 -49.7 126.4
8°	22 43.5 -50.9 130.6	22 11.6 -50.5 129.7	21 39.4 -50.3 128.8	21 06.7 -50.1 127.9	20 33.6 -49.8 127.0
9°	21 52.6 -50.9 131.2	21 21.1 -50.7 130.3	20 49.1 -50.5 129.4	20 16.6 -50.1 128.5	19 43.8 -49.9 127.6
10°	21 01.7 -51.1 131.8	20 30.4 -50.8 130.9	19 58.6 -50.5 130.0	19 26.5 -50.3 129.1	18 53.9 -50.0 128.2
11°	20 10.6 -51.2 132.3	19 39.6 -50.9 131.4	19 08.1 -50.6 130.5	18 36.2 -50.3 129.7	18 03.9 -50.1 128.8
12°	19 19.4 -51.3 132.9	18 48.7 -51.1 132.0	18 17.5 -50.8 131.1	17 45.9 -50.5 130.2	17 13.8 -50.2 129.4
13°	18 28.1 -51.3 133.4	17 57.6 -51.1 132.5	17 26.7 -50.8 131.7	16 55.4 -50.6 130.8	16 23.6 -50.3 130.0
14°	17 36.8 -51.5 134.0	17 06.5 -51.1 133.1	16 35.9 -50.9 132.2	16 04.8 -50.6 131.4	15 33.3 -50.3 130.5
15°	16 45.3 -51.5 134.5	16 15.4 -51.3 133.6	15 45.0 -51.0 132.8	15 14.2 -50.8 131.9	14 43.0 -50.5 131.1
16°	15 53.8 -51.7 135.0	15 24.1 -51.4 134.2	14 54.0 -51.1 133.3	14 23.4 -50.8 132.5	13 52.5 -50.5 131.6
17°	15 02.1 -51.7 135.6	14 32.7 -51.4 134.7	14 02.9 -51.1 133.9	13 32.6 -50.8 133.0	13 02.0 -50.6 132.2
18°	14 10.4 -51.7 136.1	13 41.3 -51.5 135.2	13 11.8 -51.3 134.4	12 41.8 -51.0 133.6	12 11.4 -50.7 132.7
19°	13 18.7 -51.8 136.6	12 49.8 -51.5 135.8	12 20.5 -51.2 134.9	11 50.8 -51.0 134.1	11 20.7 -50.7 133.3
20°	12 26.9 -51.9 137.1	11 58.3 -51.6 136.3	11 29.3 -51.4 135.5	10 59.8 -51.0 134.7	10 30.0 -50.8 133.8
21°	11 35.0 -52.0 137.6	11 06.7 -51.7 136.8	10 37.9 -51.4 136.0	10 08.8 -51.2 135.2	9 39.2 -50.9 134.4
22°	10 43.0 -52.0 138.1	10 15.0 -51.7 137.3	9 46.5 -51.4 136.5	9 17.6 -51.1 135.7	8 48.3 -50.8 134.9
23°	9 51.0 -52.0 138.7	9 23.3 -51.8 137.8	8 55.1 -51.5 137.0	8 26.5 -51.2 136.2	7 57.5 -51.0 135.5
24°	8 59.0 -52.1 139.2	8 31.5 -51.8 138.4	8 03.6 -51.5 137.6	7 35.3 -51.3 136.8	7 06.5 -50.9 136.0
25°	8 06.9 -52.1 139.7	7 39.7 -51.8 138.9	7 12.1 -51.6 138.1	6 44.0 -51.2 137.3	6 15.6 -51.0 136.5
26°	7 14.8 -52.1 140.2	6 47.9 -51.9 139.4	6 20.5 -51.5 138.6	5 52.8 -51.3 137.8	5 24.6 -51.0 137.0
27°	6 22.7 -52.2 140.7	5 56.0 -51.9 139.9	5 29.0 -51.6 139.1	5 01.5 -51.4 138.3	4 33.6 -51.1 137.6
28°	5 30.5 -52.2 141.2	5 04.1 -51.9 140.4	4 37.4 -51.7 139.6	4 10.1 -51.3 138.9	3 42.5 -51.0 138.1
29°	4 38.3 -52.2 141.6	4 12.2 -51.9 140.9	3 45.7 -51.6 140.1	3 18.8 -51.4 139.4	2 51.5 -51.1 138.6

Dec	LHA 050° / 310°	LHA 051° / 309°	LHA 052° / 308°	LHA 053° / 307°	LHA 054° / 306°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	26 31.2 -48.3 121.1	25 55.4 -48.1 120.2	25 19.2 -47.8 119.3	24 42.7 -47.6 118.5	24 05.9 -47.3 117.6
1°	25 42.9 -48.5 121.8	25 07.3 -48.3 120.9	24 31.4 -48.0 120.0	23 55.1 -47.8 119.1	23 18.6 -47.6 118.3
2°	24 54.4 -48.7 122.4	24 19.0 -48.4 121.5	23 43.4 -48.2 120.7	23 07.3 -47.9 119.8	22 31.0 -47.7 118.9
3°	24 05.7 -48.8 123.1	23 30.6 -48.6 122.2	22 55.2 -48.3 121.3	22 19.4 -48.1 120.4	21 43.3 -47.8 119.6
4°	23 16.9 -49.0 123.7	22 42.0 -48.7 122.8	22 06.9 -48.5 121.9	21 31.3 -48.2 121.1	20 55.5 -48.0 120.2
5°	22 27.9 -49.1 124.3	21 53.3 -48.8 123.5	21 18.4 -48.6 122.6	20 43.1 -48.4 121.7	20 07.5 -48.2 120.9
6°	21 38.8 -49.3 124.9	21 04.5 -49.1 124.1	20 29.8 -48.8 123.2	19 54.7 -48.5 122.4	19 19.3 -48.2 121.5
7°	20 49.5 -49.4 125.6	20 15.4 -49.1 124.7	19 41.0 -48.9 123.8	19 06.2 -48.6 123.0	18 31.1 -48.4 122.1
8°	20 00.1 -49.5 126.2	19 26.3 -49.2 125.3	18 52.1 -49.0 124.4	18 17.6 -48.8 123.6	17 42.7 -48.5 122.8
9°	19 10.6 -49.6 126.8	18 37.1 -49.4 125.9	18 03.1 -49.1 125.1	17 28.8 -48.8 124.2	16 54.2 -48.6 123.4
10°	18 21.0 -49.7 127.4	17 47.7 -49.5 126.5	17 14.0 -49.2 125.7	16 40.0 -49.0 124.8	16 05.6 -48.7 124.0
11°	17 31.3 -49.9 127.9	16 58.2 -49.6 127.1	16 24.8 -49.3 126.3	15 51.0 -49.1 125.4	15 16.9 -48.9 124.6
12°	16 41.4 -49.9 128.5	16 08.6 -49.6 127.7	15 35.5 -49.5 126.8	15 01.9 -49.1 126.0	14 28.0 -48.9 125.2
13°	15 51.5 -50.0 129.1	15 19.0 -49.8 128.3	14 46.0 -49.5 127.4	14 12.8 -49.3 126.6	13 39.1 -49.0 125.8
14°	15 01.5 -50.1 129.7	14 29.2 -49.9 128.8	13 56.5 -49.5 128.0	13 23.5 -49.3 127.2	12 50.1 -49.0 126.4
15°	14 11.4 -50.2 130.3	13 39.3 -49.9 129.4	13 07.0 -49.7 128.6	12 34.2 -49.4 127.8	12 01.1 -49.2 127.0
16°	13 21.2 -50.3 130.8	12 49.4 -50.0 130.0	12 17.3 -49.7 129.2	11 44.8 -49.5 128.4	11 11.9 -49.2 127.6
17°	12 30.9 -50.3 131.4	11 59.4 -50.0 130.6	11 27.6 -49.8 129.7	10 55.3 -49.5 128.9	10 22.7 -49.2 128.1
18°	11 40.6 -50.4 131.9	11 09.4 -50.2 131.1	10 37.8 -49.9 130.3	10 05.8 -49.6 129.5	9 33.5 -49.4 128.7
19°	10 50.2 -50.5 132.5	10 19.2 -50.2 131.7	9 47.9 -49.9 130.9	9 16.2 -49.7 130.1	8 44.1 -49.4 129.3
20°	9 59.7 -50.5 133.0	9 29.0 -50.2 132.2	8 58.0 -50.0 131.4	8 26.5 -49.7 130.7	7 54.7 -49.4 129.9
21°	9 09.2 -50.6 133.6	8 38.8 -50.3 132.8	8 08.0 -50.0 132.0	7 36.8 -49.7 131.2	7 05.3 -49.5 130.4
22°	8 18.6 -50.6 134.1	7 48.5 -50.3 133.3	7 18.0 -50.1 132.6	6 47.1 -49.8 131.8	6 15.8 -49.5 131.0
23°	7 28.0 -50.6 134.7	6 58.2 -50.4 133.9	6 27.9 -50.1 133.1	5 57.3 -49.8 132.3	5 26.3 -49.5 131.6
24°	6 37.4 -50.7 135.2	6 07.8 -50.4 134.4	5 37.8 -50.1 133.7	5 07.5 -49.8 132.9	4 36.8 -49.6 132.1
25°	5 46.7 -50.7 135.7	5 17.4 -50.4 135.0	4 47.7 -50.1 134.2	4 17.7 -49.9 133.5	3 47.2 -49.6 132.7
26°	4 56.0 -50.8 136.3	4 27.0 -50.5 135.5	3 57.6 -50.2 134.8	3 27.8 -49.9 134.0	2 57.6 -49.6 133.3
27°	4 05.2 -50.7 136.8	3 36.5 -50.5 136.1	3 07.4 -50.2 135.3	2 37.9 -49.9 134.6	2 08.0 -49.6 133.8
28°	3 14.5 -50.8 137.4	2 46.0 -50.4 136.6	2 17.2 -50.2 135.9	1 48.0 -49.9 135.1	1 18.4 -49.6 134.4
29°	2 23.7 -50.8 137.9	1 55.6 -50.5 137.1	1 27.0 -50.2 136.4	0 58.1 -49.9 135.7	0 28.8 -49.6 135.0

Dec	LHA 055° / 305°	LHA 056° / 304°	LHA 057° / 303°	LHA 058° / 302°	LHA 059° / 301°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	23 28.8 -47.1 116.7	22 51.5 -46.9 115.9	22 13.8 -46.7 115.0	21 36.0 -46.5 114.2	20 57.8 -46.3 113.4
1°	22 41.7 -47.3 117.4	22 04.6 -47.1 116.6	21 27.1 -46.8 115.7	20 49.5 -46.7 114.9	20 11.5 -46.4 114.1
2°	21 54.4 -47.5 118.1	21 17.5 -47.3 117.2	20 40.3 -47.1 116.4	20 02.8 -46.8 115.6	19 25.1 -46.6 114.7
3°	21 06.9 -47.6 118.7	20 30.2 -47.4 117.9	19 53.2 -47.1 117.0	19 16.0 -47.0 116.2	18 38.5 -46.8 115.4
4°	20 19.3 -47.8 119.4	19 42.8 -47.5 118.5	19 06.1 -47.3 117.7	18 29.0 -47.1 116.9	17 51.7 -46.9 116.1
5°	19 31.5 -47.9 120.0	18 55.3 -47.7 119.2	18 18.8 -47.5 118.4	17 41.9 -47.2 117.5	17 04.8 -47.0 116.7
6°	18 43.6 -48.0 120.7	18 07.6 -47.8 119.8	17 31.3 -47.5 119.0	16 54.7 -47.3 118.2	16 17.8 -47.1 117.4
7°	17 55.6 -48.1 121.3	17 19.8 -47.9 120.5	16 43.8 -47.7 119.6	16 07.4 -47.5 118.8	15 30.7 -47.2 118.0
8°	17 07.5 -48.3 121.9	16 31.9 -48.0 121.1	15 56.1 -47.8 120.3	15 19.9 -47.5 119.4	14 43.5 -47.3 118.6
9°	16 19.2 -48.4 122.5	15 43.9 -48.1 121.7	15 08.3 -47.9 120.9	14 32.4 -47.7 120.1	13 56.2 -47.5 119.3
10°	15 30.8 -48.4 123.2	14 55.8 -48.2 122.3	14 20.4 -48.0 121.5	13 44.7 -47.7 120.7	13 08.7 -47.5 119.9
11°	14 42.4 -48.6 123.8	14 07.6 -48.4 122.9	13 32.4 -48.1 122.1	12 57.0 -47.9 121.3	12 21.2 -47.6 120.5
12°	13 53.8 -48.6 124.4	13 19.2 -48.4 123.6	12 44.3 -48.1 122.7	12 09.1 -47.9 121.9	11 33.6 -47.7 121.2
13°	13 05.2 -48.8 125.0	12 30.8 -48.5 124.2	11 56.2 -48.3 123.4	11 21.2 -48.0 122.6	10 45.9 -47.7 121.8
14°	12 16.4 -48.8 125.6	11 42.3 -48.5 124.8	11 07.9 -48.3 124.0	10 33.2 -48.1 123.2	9 58.2 -47.9 122.4
15°	11 27.6 -48.9 126.2	10 53.8 -48.7 125.4	10 19.6 -48.4 124.6	9 45.1 -48.1 123.8	9 10.3 -47.8 123.0
16°	10 38.7 -48.9 126.8	10 05.1 -48.6 126.0	9 31.2 -48.4 125.2	8 57.0 -48.2 124.4	8 22.5 -48.0 123.6
17°	9 49.8 -49.0 127.3	9 16.5 -48.8 126.6	8 42.8 -48.5 125.8	8 08.8 -48.2 125.0	7 34.5 -48.0 124.2
18°	9 00.8 -49.1 127.9	8 27.7 -48.8 127.1	7 54.3 -48.5 126.4	7 20.6 -48.3 125.6	6 46.5 -48.0 124.8
19°	8 11.7 -49.1 128.5	7 38.9 -48.9 127.7	7 05.8 -48.6 127.0	6 32.3 -48.3 126.2	5 58.5 -48.1 125.4
20°	7 22.6 -49.2 129.1	6 50.0 -48.9 128.3	6 17.2 -48.7 127.5	5 44.0 -48.4 126.8	5 10.4 -48.1 126.0
21°	6 33.4 -49.2 129.7	6 01.1 -48.9 128.9	5 28.5 -48.6 128.1	4 55.6 -48.4 127.4	4 22.3 -48.1 126.6
22°	5 44.2 -49.2 130.2	5 12.2 -49.0 129.5	4 39.9 -48.7 128.7	4 07.2 -48.5 128.0	3 34.2 -48.2 127.2
23°	4 55.0 -49.3 130.8	4 23.2 -48.9 130.1	3 51.2 -48.8 129.3	3 18.7 -48.4 128.6	2 46.0 -48.2 127.8
24°	4 05.7 -49.3 131.4	3 34.3 -49.1 130.6	3 02.4 -48.7 129.9	2 30.3 -48.5 129.2	1 57.8 -48.2 128.4
25°	3 16.4 -49.3 132.0	2 45.2 -49.0 131.2	2 13.7 -48.7 130.5	1 41.8 -48.4 129.7	1 09.6 -48.2 129.0
26°	2 27.1 -49.3 132.5	1 56.2 -49.0 131.8	1 25.0 -48.8 131.1	0 53.4 -48.5 130.3	0 21.4 -48.2 129.6
27°	1 37.8 -49.4 133.1	1 07.2 -49.1 132.4	0 36.2 -48.8 131.6	0 04.9 -48.5 130.9	-0 26.8 -48.2
28°	0 48.4 -49.3 133.7	0 18.1 -49.0 132.9	-0 12.6 -48.7	-0 43.6 -48.5	-1 15.0 -48.2
29°	-0 00.9 -49.3	-0 30.9 -49.1	-1 01.3 -48.8	-1 32.1 -48.5	-2 03.2 -48.2

Dec	LHA 060° / 300°	LHA 061° / 299°	LHA 062° / 298°	LHA 063° / 297°	LHA 064° / 296°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	20 19.4 -46.1 112.6	19 40.8 -45.9 111.7	19 02.0 -45.7 110.9	18 23.0 -45.6 110.1	17 43.8 -45.4 109.3
1°	19 33.3 -46.2 113.2	18 54.9 -46.0 112.4	18 16.3 -45.9 111.6	17 37.4 -45.7 110.8	16 58.4 -45.6 110.0
2°	18 47.1 -46.4 113.9	18 08.9 -46.2 113.1	17 30.4 -46.0 112.3	16 51.7 -45.8 111.5	16 12.8 -45.6 110.7
3°	18 00.7 -46.6 114.6	17 22.7 -46.4 113.8	16 44.4 -46.1 113.0	16 05.9 -45.9 112.2	15 27.2 -45.8 111.4
4°	17 14.1 -46.6 115.2	16 36.3 -46.4 114.4	15 58.3 -46.3 113.6	15 20.0 -46.1 112.8	14 41.4 -45.9 112.0
5°	16 27.5 -46.8 115.9	15 49.9 -46.6 115.1	15 12.0 -46.4 114.3	14 33.9 -46.2 113.5	13 55.5 -45.9 112.7
6°	15 40.7 -46.9 116.5	15 03.3 -46.7 115.7	14 25.6 -46.5 114.9	13 47.7 -46.3 114.2	13 09.6 -46.1 113.4
7°	14 53.8 -47.0 117.2	14 16.6 -46.8 116.4	13 39.1 -46.6 115.6	13 01.4 -46.4 114.8	12 23.5 -46.2 114.0
8°	14 06.8 -47.1 117.8	13 29.8 -46.9 117.0	12 52.5 -46.6 116.2	12 15.0 -46.4 115.5	11 37.3 -46.3 114.7
9°	13 19.7 -47.2 118.5	12 42.9 -47.0 117.7	12 05.9 -46.8 116.9	11 28.6 -46.6 116.1	10 51.0 -46.4 115.3
10°	12 32.5 -47.3 119.1	11 55.9 -47.1 118.3	11 19.1 -46.9 117.5	10 42.0 -46.6 116.7	10 04.6 -46.4 116.0
11°	11 45.2 -47.4 119.7	11 08.8 -47.1 118.9	10 32.2 -46.9 118.2	9 55.4 -46.8 117.4	9 18.2 -46.5 116.6
12°	10 57.8 -47.5 120.4	10 21.7 -47.2 119.6	9 45.3 -47.0 118.8	9 08.6 -46.7 118.0	8 31.7 -46.5 117.3
13°	10 10.3 -47.5 121.0	9 34.5 -47.3 120.2	8 58.3 -47.1 119.4	8 21.9 -46.9 118.7	7 45.2 -46.7 117.9
14°	9 22.8 -47.6 121.6	8 47.2 -47.4 120.8	8 11.2 -47.1 120.1	7 35.0 -46.9 119.3	6 58.5 -46.6 118.5
15°	8 35.2 -47.6 122.2	7 59.8 -47.4 121.4	7 24.1 -47.1 120.7	6 48.1 -46.9 119.9	6 11.9 -46.7 119.2
16°	7 47.6 -47.7 122.8	7 12.4 -47.4 122.1	6 37.0 -47.3 121.3	6 01.2 -47.0 120.5	5 25.2 -46.8 119.8
17°	6 59.9 -47.8 123.4	6 25.0 -47.5 122.7	5 49.7 -47.2 121.9	5 14.2 -47.0 121.2	4 38.4 -46.8 120.4
18°	6 12.1 -47.7 124.1	5 37.5 -47.6 123.3	5 02.5 -47.3 122.5	4 27.2 -47.1 121.8	3 51.6 -46.8 121.0
19°	5 24.4 -47.9 124.7	4 49.9 -47.6 123.9	4 15.2 -47.3 123.2	3 40.1 -47.0 122.4	3 04.8 -46.8 121.7
20°	4 36.5 -47.8 125.3	4 02.3 -47.6 124.5	3 27.9 -47.4 123.8	2 53.1 -47.1 123.0	2 18.0 -46.9 122.3
21°	3 48.7 -47.9 125.9	3 14.7 -47.6 125.1	2 40.5 -47.4 124.4	2 06.0 -47.1 123.7	1 31.1 -46.8 122.9
22°	3 00.8 -47.9 126.5	2 27.1 -47.6 125.7	1 53.1 -47.3 125.0	1 18.9 -47.2 124.3	0 44.3 -46.9 123.5
23°	2 12.9 -47.9 127.1	1 39.5 -47.7 126.3	1 05.8 -47.4 125.6	0 31.7 -47.1 124.9	-0 02.6 -46.9
24°	1 25.0 -47.9 127.7	0 51.8 -47.6 127.0	0 18.4 -47.4 126.2	-0 15.4 -47.1	-0 49.5 -46.8
25°	0 37.1 -48.0 128.3	0 04.2 -47.7 127.6	-0 29.0 -47.4	-1 02.5 -47.1	-1 36.3 -46.9
26°	-0 10.9 -47.9	-0 43.5 -47.6	-1 16.4 -47.4	-1 49.6 -47.1	-2 23.2 -46.8
27°	-0 58.8 -47.9	-1 31.1 -47.7	-2 03.8 -47.3	-2 36.7 -47.1	-3 10.0 -46.8
28°	-1 46.7 -47.9	-2 18.8 -47.6	-2 51.1 -47.4	-3 23.8 -47.1	-3 56.8 -46.8
29°	-2 34.6 -47.9	-3 06.4 -47.6	-3 38.5 -47.3	-4 10.9 -47.0	-4 43.6 -46.8

Dec	LHA 065° / 295°	LHA 066° / 294°	LHA 067° / 293°	LHA 068° / 292°	LHA 069° / 291°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	17 04.3 -45.2 108.5	16 24.7 -45.0 107.8	15 44.9 -44.9 107.0	15 05.0 -44.8 106.2	14 24.9 -44.6 105.4
1°	16 19.1 -45.3 109.2	15 39.7 -45.2 108.4	15 00.0 -45.0 107.7	14 20.2 -44.8 106.9	13 40.3 -44.8 106.1
2°	15 33.8 -45.5 109.9	14 54.5 -45.3 109.1	14 15.0 -45.1 108.4	13 35.4 -45.0 107.6	12 55.5 -44.8 106.8
3°	14 48.3 -45.6 110.6	14 09.2 -45.5 109.8	13 29.9 -45.3 109.0	12 50.4 -45.1 108.3	12 10.7 -44.9 107.5
4°	14 02.7 -45.7 111.3	13 23.7 -45.5 110.5	12 44.6 -45.4 109.7	12 05.3 -45.2 108.9	11 25.8 -45.1 108.2
5°	13 17.0 -45.8 111.9	12 38.2 -45.6 111.1	11 59.2 -45.4 110.4	11 20.1 -45.3 109.6	10 40.7 -45.1 108.8
6°	12 31.2 -45.9 112.6	11 52.6 -45.7 111.8	11 13.8 -45.5 111.0	10 34.8 -45.4 110.3	9 55.6 -45.2 109.5
7°	11 45.3 -46.0 113.2	11 06.9 -45.8 112.5	10 28.3 -45.7 111.7	9 49.4 -45.4 110.9	9 10.4 -45.3 110.2
8°	10 59.3 -46.1 113.9	10 21.1 -45.9 113.1	9 42.6 -45.7 112.4	9 04.0 -45.5 111.6	8 25.1 -45.3 110.8
9°	10 13.2 -46.1 114.6	9 35.2 -46.0 113.8	8 56.9 -45.7 113.0	8 18.5 -45.6 112.3	7 39.8 -45.4 111.5
10°	9 27.1 -46.3 115.2	8 49.2 -46.0 114.4	8 11.2 -45.9 113.7	7 32.9 -45.7 112.9	6 54.4 -45.5 112.2
11°	8 40.8 -46.3 115.8	8 03.2 -46.1 115.1	7 25.3 -45.8 114.3	6 47.2 -45.6 113.6	6 08.9 -45.5 112.8
12°	7 54.5 -46.3 116.5	7 17.1 -46.1 115.7	6 39.5 -46.0 115.0	6 01.6 -45.8 114.2	5 23.4 -45.5 113.5
13°	7 08.2 -46.4 117.1	6 31.0 -46.2 116.4	5 53.5 -46.0 115.6	5 15.8 -45.8 114.9	4 37.9 -45.6 114.1
14°	6 21.8 -46.5 117.8	5 44.8 -46.2 117.0	5 07.5 -46.0 116.3	4 30.0 -45.8 115.5	3 52.3 -45.6 114.8
15°	5 35.3 -46.4 118.4	4 58.6 -46.3 117.7	4 21.5 -46.0 116.9	3 44.2 -45.8 116.2	3 06.7 -45.6 115.4
16°	4 48.9 -46.6 119.0	4 12.3 -46.3 118.3	3 35.5 -46.1 117.6	2 58.4 -45.9 116.8	2 21.1 -45.7 116.1
17°	4 02.3 -46.5 119.7	3 26.0 -46.3 118.9	2 49.4 -46.1 118.2	2 12.5 -45.9 117.5	1 35.4 -45.7 116.7
18°	3 15.8 -46.6 120.3	2 39.7 -46.4 119.6	2 03.3 -46.1 118.8	1 26.6 -45.9 118.1	0 49.7 -45.6 117.4
19°	2 29.2 -46.6 120.9	1 53.3 -46.3 120.2	1 17.2 -46.2 119.5	0 40.7 -45.9 118.7	0 04.1 -45.7 118.0
20°	1 42.6 -46.6 121.6	1 07.0 -46.4 120.8	0 31.0 -46.1 120.1	-0 05.2 -45.8	-0 41.6 -45.7
21°	0 56.0 -46.6 122.2	0 20.6 -46.4 121.5	-0 15.1 -46.1	-0 51.0 -45.9	-1 27.3 -45.6
22°	0 09.4 -46.6 122.8	-0 25.8 -46.4	-1 01.2 -46.1	-1 36.9 -45.9	-2 12.9 -45.7
23°	-0 37.2 -46.6	-1 12.2 -46.3	-1 47.3 -46.2	-2 22.8 -45.9	-2 58.6 -45.6
24°	-1 23.8 -46.6	-1 58.5 -46.4	-2 33.5 -46.0	-3 08.7 -45.8	-3 44.2 -45.6
25°	-2 10.4 -46.6	-2 44.9 -46.3	-3 19.5 -46.1	-3 54.5 -45.8	-4 29.8 -45.5
26°	-2 57.0 -46.6	-3 31.2 -46.3	-4 05.6 -46.0	-4 40.3 -45.8	-5 15.3 -45.5
27°	-3 43.6 -46.5	-4 17.5 -46.2	-4 51.6 -46.0	-5 26.1 -45.7	-6 00.8 -45.5
28°	-4 30.1 -46.5	-5 03.7 -46.3	-5 37.6 -46.0	-6 11.8 -45.7	-6 46.3 -45.4
29°	-5 16.6 -46.5	-5 50.0 -46.1	-6 23.6 -45.9	-6 57.5 -45.6	-7 31.7 -45.3

Dec	LHA 070° / 290°	LHA 071° / 289°	LHA 072° / 288°	LHA 073° / 287°	LHA 074° / 286°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	13 44.7 -44.5 104.7	13 04.3 -44.4 103.9	12 23.7 -44.2 103.2	11 43.1 -44.1 102.4	11 02.3 -44.0 101.7
1°	13 00.2 -44.6 105.4	12 19.9 -44.5 104.6	11 39.5 -44.3 103.8	10 59.0 -44.3 103.1	10 18.3 -44.1 102.3
2°	12 15.6 -44.7 106.0	11 35.4 -44.5 105.3	10 55.2 -44.5 104.5	10 14.7 -44.3 103.8	9 34.2 -44.2 103.0
3°	11 30.9 -44.8 106.7	10 50.9 -44.7 106.0	10 10.7 -44.5 105.2	9 30.4 -44.4 104.5	8 50.0 -44.3 103.7
4°	10 46.1 -44.9 107.4	10 06.2 -44.7 106.6	9 26.2 -44.6 105.9	8 46.0 -44.4 105.1	8 05.7 -44.3 104.4
5°	10 01.2 -45.0 108.1	9 21.5 -44.8 107.3	8 41.6 -44.7 106.6	8 01.6 -44.5 105.8	7 21.4 -44.4 105.1
6°	9 16.2 -45.0 108.8	8 36.7 -44.9 108.0	7 56.9 -44.7 107.2	7 17.1 -44.6 106.5	6 37.0 -44.4 105.8
7°	8 31.2 -45.1 109.4	7 51.8 -45.0 108.7	7 12.2 -44.8 107.9	6 32.5 -44.7 107.2	5 52.6 -44.5 106.4
8°	7 46.1 -45.2 110.1	7 06.8 -45.0 109.3	6 27.4 -44.8 108.6	5 47.8 -44.7 107.8	5 08.1 -44.6 107.1
9°	7 00.9 -45.2 110.8	6 21.8 -45.0 110.0	5 42.6 -44.9 109.3	5 03.1 -44.7 108.5	4 23.5 -44.5 107.8
10°	6 15.7 -45.3 111.4	5 36.8 -45.1 110.7	4 57.7 -44.9 109.9	4 18.4 -44.7 109.2	3 39.0 -44.6 108.5
11°	5 30.4 -45.3 112.1	4 51.7 -45.1 111.3	4 12.8 -45.0 110.6	3 33.7 -44.8 109.9	2 54.4 -44.7 109.1
12°	4 45.1 -45.4 112.7	4 06.6 -45.2 112.0	3 27.8 -45.0 111.3	2 48.9 -44.9 110.5	2 09.7 -44.6 109.8
13°	3 59.7 -45.3 113.4	3 21.4 -45.2 112.7	2 42.8 -45.0 111.9	2 04.0 -44.8 111.2	1 25.1 -44.7 110.5
14°	3 14.4 -45.5 114.0	2 36.2 -45.2 113.3	1 57.8 -45.0 112.6	1 19.2 -44.8 111.9	0 40.4 -44.6 111.1
15°	2 28.9 -45.4 114.7	1 51.0 -45.3 114.0	1 12.8 -45.1 113.2	0 34.4 -44.9 112.5	-0 04.2 -44.7
16°	1 43.5 -45.4 115.4	1 05.7 -45.2 114.6	0 27.7 -45.0 113.9	-0 10.5 -44.8	-0 48.9 -44.6
17°	0 58.1 -45.5 116.0	0 20.5 -45.2 115.3	-0 17.3 -45.0	-0 55.3 -44.9	-1 33.5 -44.7
18°	0 12.6 -45.4 116.7	-0 24.7 -45.3	-1 02.3 -45.1	-1 40.2 -44.8	-2 18.2 -44.6
19°	-0 32.8 -45.5	-1 10.0 -45.2	-1 47.4 -45.0	-2 25.0 -44.8	-3 02.8 -44.6
20°	-1 18.3 -45.4	-1 55.2 -45.2	-2 32.4 -45.0	-3 09.8 -44.8	-3 47.4 -44.6
21°	-2 03.7 -45.4	-2 40.4 -45.2	-3 17.4 -45.0	-3 54.6 -44.7	-4 32.0 -44.5
22°	-2 49.1 -45.4	-3 25.6 -45.2	-4 02.4 -44.9	-4 39.3 -44.7	-5 16.5 -44.5
23°	-3 34.5 -45.4	-4 10.8 -45.1	-4 47.3 -44.9	-5 24.0 -44.7	-6 01.0 -44.4
24°	-4 19.9 -45.4	-4 55.9 -45.1	-5 32.2 -44.8	-6 08.7 -44.6	-6 45.4 -44.4
25°	-5 05.3 -45.3	-5 41.0 -45.1	-6 17.0 -44.8	-6 53.3 -44.6	-7 29.8 -44.3
26°	-5 50.6 -45.2	-6 26.1 -45.0	-7 01.8 -44.8	-7 37.9 -44.5	-8 14.1 -44.3
27°	-6 35.8 -45.2	-7 11.1 -44.9	-7 46.6 -44.7	-8 22.4 -44.4	-8 58.4 -44.2
28°	-7 21.0 -45.2	-7 56.0 -44.9	-8 31.3 -44.6	-9 06.8 -44.3	-9 42.6 -44.0
29°	-8 06.2 -45.0	-8 40.9 -44.8	-9 15.9 -44.5	-9 51.1 -44.3	

Dec	LHA 075° / 285°	LHA 076° / 284°	LHA 077° / 283°	LHA 078° / 282°	LHA 079° / 281°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	10 21.5 -44.0 100.9	9 40.5 -43.8 100.2	8 59.4 -43.7 99.4	8 18.2 -43.6 98.7	7 37.0 -43.6 98.0
1°	9 37.5 -44.0 101.6	8 56.7 -43.9 100.9	8 15.7 -43.8 100.1	7 34.6 -43.7 99.4	6 53.4 -43.6 98.7
2°	8 53.5 -44.0 102.3	8 12.8 -44.0 101.5	7 31.9 -43.9 100.8	6 50.9 -43.8 100.1	6 09.8 -43.7 99.3
3°	8 09.5 -44.2 103.0	7 28.8 -44.1 102.2	6 48.0 -43.9 101.5	6 07.1 -43.8 100.8	5 26.1 -43.7 100.0
4°	7 25.3 -44.2 103.7	6 44.7 -44.0 102.9	6 04.1 -44.0 102.2	5 23.3 -43.9 101.5	4 42.4 -43.8 100.7
5°	6 41.1 -44.3 104.3	6 00.7 -44.2 103.6	5 20.1 -44.0 102.9	4 39.4 -43.9 102.1	3 58.6 -43.8 101.4
6°	5 56.8 -44.3 105.0	5 16.5 -44.2 104.3	4 36.1 -44.1 103.6	3 55.5 -44.0 102.8	3 14.8 -43.9 102.1
7°	5 12.5 -44.3 105.7	4 32.3 -44.2 105.0	3 52.0 -44.1 104.2	3 11.5 -43.9 103.5	2 30.9 -43.8 102.8
8°	4 28.2 -44.4 106.4	3 48.1 -44.2 105.6	3 07.9 -44.1 104.9	2 27.6 -44.0 104.2	1 47.1 -43.9 103.5
9°	3 43.8 -44.4 107.0	3 03.9 -44.3 106.3	2 23.8 -44.2 105.6	1 43.6 -44.1 104.9	1 03.2 -43.9 104.1
10°	2 59.4 -44.5 107.7	2 19.6 -44.3 107.0	1 39.6 -44.1 106.3	0 59.5 -44.0 105.5	0 19.3 -43.9 104.8
11°	2 14.9 -44.5 108.4	1 35.3 -44.3 107.7	0 55.5 -44.2 106.9	0 15.5 -44.0 106.2	-0 24.6 -43.8
12°	1 30.4 -44.4 109.1	0 51.0 -44.4 108.3	0 11.3 -44.2 107.6	-0 28.5 -44.0	-1 08.4 -43.9
13°	0 46.0 -44.5 109.7	0 06.6 -44.3 109.0	-0 32.9 -44.1	-1 12.5 -44.0	-1 52.3 -43.9
14°	0 01.5 -44.5 110.4	-0 37.7 -44.3	-1 17.0 -44.2	-1 56.5 -44.0	-2 36.2 -43.8
15°	-0 43.0 -44.5	-1 22.0 -44.3	-2 01.2 -44.1	-2 40.5 -44.0	-3 20.0 -43.8
16°	-1 27.5 -44.5	-2 06.3 -44.3	-2 45.3 -44.1	-3 24.5 -43.9	-4 03.8 -43.8
17°	-2 12.0 -44.4	-2 50.6 -44.3	-3 29.4 -44.1	-4 08.4 -43.9	-4 47.6 -43.7
18°	-2 56.4 -44.5	-3 34.9 -44.2	-4 13.5 -44.0	-4 52.3 -43.9	-5 31.3 -43.7
19°	-3 40.9 -44.3	-4 19.1 -44.2	-4 57.5 -44.0	-5 36.2 -43.8	-6 15.0 -43.6
20°	-4 25.2 -44.4	-5 03.3 -44.2	-5 41.5 -44.0	-6 20.0 -43.8	-6 58.6 -43.6
21°	-5 09.6 -44.3	-5 47.5 -44.1	-6 25.5 -43.9	-7 03.8 -43.7	-7 42.2 -43.5
22°	-5 53.9 -44.3	-6 31.6 -44.0	-7 09.4 -43.8	-7 47.5 -43.6	-8 25.7 -43.4
23°	-6 38.2 -44.2	-7 15.6 -44.0	-7 53.2 -43.8	-8 31.1 -43.5	-9 09.1 -43.4
24°	-7 22.4 -44.2	-7 59.6 -43.9	-8 37.0 -43.7	-9 14.6 -43.5	-9 52.5 -43.2
25°	-8 06.6 -44.0	-8 43.5 -43.9	-9 20.7 -43.6	-9 58.1 -43.4	
26°	-8 50.6 -44.0	-9 27.4 -43.7			
27°	-9 34.6 -44.0				
28°					
29°					

Dec	LHA 080° / 280°	LHA 081° / 279°	LHA 082° / 278°	LHA 083° / 277°	LHA 084° / 276°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	6 55.7 -43.5 97.2	6 14.3 -43.4 96.5	5 32.9 -43.4 95.8	4 51.4 -43.4 95.0	4 09.8 -43.3 94.3
1°	6 12.2 -43.6 97.9	5 30.9 -43.5 97.2	4 49.5 -43.4 96.5	4 08.0 -43.3 95.7	3 26.5 -43.3 95.0
2°	5 28.6 -43.6 98.6	4 47.4 -43.6 97.9	4 06.1 -43.5 97.2	3 24.7 -43.4 96.4	2 43.2 -43.3 95.7
3°	4 45.0 -43.6 99.3	4 03.8 -43.5 98.6	3 22.6 -43.5 97.8	2 41.3 -43.5 97.1	1 59.9 -43.4 96.4
4°	4 01.4 -43.7 100.0	3 20.3 -43.6 99.3	2 39.1 -43.5 98.5	1 57.8 -43.4 97.8	1 16.5 -43.4 97.1
5°	3 17.7 -43.7 100.7	2 36.7 -43.6 100.0	1 55.6 -43.6 99.2	1 14.4 -43.5 98.5	0 33.1 -43.3 97.8
6°	2 34.0 -43.8 101.4	1 53.1 -43.7 100.6	1 12.0 -43.5 99.9	0 30.9 -43.4 99.2	-0 10.2 -43.4
7°	1 50.2 -43.7 102.0	1 09.4 -43.6 101.3	0 28.5 -43.5 100.6	-0 12.5 -43.5	-0 53.6 -43.4
8°	1 06.5 -43.8 102.7	0 25.8 -43.7 102.0	-0 15.0 -43.6	-0 56.0 -43.4	-1 37.0 -43.3
9°	0 22.7 -43.7 103.4	-0 17.9 -43.6	-0 58.6 -43.5	-1 39.4 -43.4	-2 20.3 -43.4
10°	-0 21.0 -43.8	-1 01.5 -43.7	-1 42.1 -43.5	-2 22.8 -43.5	-3 03.7 -43.3
11°	-1 04.8 -43.7	-1 45.2 -43.6	-2 25.6 -43.6	-3 06.3 -43.3	-3 47.0 -43.3
12°	-1 48.5 -43.8	-2 28.8 -43.6	-3 09.2 -43.4	-3 49.6 -43.4	-4 30.3 -43.2
13°	-2 32.3 -43.7	-3 12.4 -43.6	-3 52.6 -43.5	-4 33.0 -43.3	-5 13.5 -43.2
14°	-3 16.0 -43.7	-3 56.0 -43.5	-4 36.1 -43.4	-5 16.3 -43.3	-5 56.7 -43.1
15°	-3 59.7 -43.6	-4 39.5 -43.5	-5 19.5 -43.3	-5 59.6 -43.2	-6 39.8 -43.1
16°	-4 43.3 -43.6	-5 23.0 -43.5	-6 02.8 -43.3	-6 42.8 -43.1	-7 22.9 -43.0
17°	-5 26.9 -43.6	-6 06.5 -43.4	-6 46.1 -43.3	-7 25.9 -43.1	-8 05.9 -43.0
18°	-6 10.5 -43.5	-6 49.9 -43.3	-7 29.4 -43.1	-8 09.0 -43.0	-8 48.9 -42.8
19°	-6 54.0 -43.5	-7 33.2 -43.3	-8 12.5 -43.1	-8 52.0 -43.0	-9 31.7 -42.8
20°	-7 37.5 -43.3	-8 16.5 -43.2	-8 55.6 -43.1	-9 35.0 -42.8	
21°	-8 20.8 -43.4	-8 59.7 -43.1	-9 38.7 -42.9		
22°	-9 04.2 -43.2	-9 42.8 -43.0			
23°	-9 47.4 -43.1				
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 085° / 275°	LHA 086° / 274°	LHA 087° / 273°	LHA 088° / 272°	LHA 089° / 271°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	3 28.3 -43.3 93.6	2 46.6 -43.2 92.9	2 05.0 -43.2 92.2	1 23.4 -43.2 91.4	0 41.7 -43.2 90.7
1°	2 45.0 -43.3 94.3	2 03.4 -43.2 93.6	1 21.8 -43.2 92.9	0 40.2 -43.2 92.1	-0 01.5 -43.2
2°	2 01.7 -43.3 95.0	1 20.2 -43.3 94.3	0 38.6 -43.2 93.5	-0 03.0 -43.2	-0 44.7 -43.1
3°	1 18.4 -43.3 95.7	0 36.9 -43.2 95.0	-0 04.6 -43.2	-0 46.2 -43.2	-1 27.8 -43.2
4°	0 35.1 -43.3 96.4	-0 06.3 -43.3	-0 47.8 -43.2	-1 29.4 -43.1	-2 11.0 -43.1
5°	-0 08.2 -43.3	-0 49.6 -43.2	-1 31.0 -43.2	-2 12.5 -43.2	-2 54.1 -43.1
6°	-0 51.5 -43.3	-1 32.8 -43.3	-2 14.2 -43.2	-2 55.7 -43.1	-3 37.2 -43.1
7°	-1 34.8 -43.3	-2 16.1 -43.2	-2 57.4 -43.1	-3 38.8 -43.1	-4 20.3 -43.0
8°	-2 18.1 -43.3	-2 59.3 -43.2	-3 40.5 -43.2	-4 21.9 -43.0	-5 03.3 -43.0
9°	-3 01.4 -43.2	-3 42.5 -43.1	-4 23.7 -43.0	-5 04.9 -43.0	-5 46.3 -42.9
10°	-3 44.6 -43.2	-4 25.6 -43.1	-5 06.7 -43.1	-5 47.9 -43.0	-6 29.2 -42.9
11°	-4 27.8 -43.2	-5 08.7 -43.1	-5 49.8 -43.0	-6 30.9 -42.9	-7 12.1 -42.8
12°	-5 11.0 -43.1	-5 51.8 -43.0	-6 32.8 -42.9	-7 13.8 -42.8	-7 54.9 -42.7
13°	-5 54.1 -43.1	-6 34.8 -43.0	-7 15.7 -42.8	-7 56.6 -42.8	-8 37.6 -42.7
14°	-6 37.2 -43.0	-7 17.8 -42.9	-7 58.5 -42.8	-8 39.4 -42.6	-9 20.3 -42.6
15°	-7 20.2 -42.9	-8 00.7 -42.8	-8 41.3 -42.7	-9 22.0 -42.6	
16°	-8 03.1 -42.9	-8 43.5 -42.8	-9 24.0 -42.6		
17°	-8 46.0 -42.8	-9 26.3 -42.6			
18°	-9 28.8 -42.7				
19°					
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Latitude 46°

Declination CONTRARY name to Latitude

Dec	LHA 090° / 270°	LHA 091° / 269°	LHA 092° / 268°	LHA 093° / 267°	LHA 094° / 266°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	0 00.0 -43.2 90.0	-0 41.7 -43.1			
1°	-0 43.2 -43.1	-1 24.8 -43.2			
2°	-1 26.3 -43.2	-2 08.0 -43.1			
3°	-2 09.5 -43.1	-2 51.1 -43.1			
4°	-2 52.6 -43.1	-3 34.2 -43.1			
5°	-3 35.7 -43.0	-4 17.3 -43.0			
6°	-4 18.7 -43.1	-5 00.3 -43.0			
7°	-5 01.8 -42.9	-5 43.3 -42.9			
8°	-5 44.7 -43.0	-6 26.2 -42.9			
9°	-6 27.7 -42.8	-7 09.1 -42.8			
10°	-7 10.5 -42.8	-7 51.9 -42.8			
11°	-7 53.3 -42.8	-8 34.7 -42.7			
12°	-8 36.1 -42.6	-9 17.4 -42.5			
13°	-9 18.7 -42.6	-9 59.9 -42.5			
14°					
15°					
16°					
17°					
18°					
19°					
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 095° / 265°	LHA 096° / 264°	LHA 097° / 263°	LHA 098° / 262°	LHA 099° / 261°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°					
1°					
2°					
3°					
4°					
5°					
6°					
7°					
8°					
9°					
10°					
11°					
12°					
13°					
14°					
15°					
16°					
17°					
18°					
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27°					
28°					
29°					

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Dec	LHA 000° / 360°	LHA 001° / 359°	LHA 002° / 358°	LHA 003° / 357°	LHA 004° / 356°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	43 00.0 -60.0 180.0	42 59.5 -60.0 178.6	42 58.0 -59.9 177.3	42 55.6 -59.9 175.9	42 52.2 -59.9 174.5
1°	42 00.0 -60.0 180.0	41 59.5 -60.0 178.7	41 58.1 -60.0 177.3	41 55.7 -60.0 176.0	41 52.3 -59.9 174.6
2°	41 00.0 -60.0 180.0	40 59.5 -60.0 178.7	40 58.1 -60.0 177.4	40 55.7 -59.9 176.0	40 52.4 -59.8 174.7
3°	40 00.0 -60.0 180.0	39 59.5 -60.0 178.7	39 58.1 -59.9 177.4	39 55.8 -59.9 176.1	39 52.6 -59.9 174.8
4°	39 00.0 -60.0 180.0	38 59.5 -60.0 178.7	38 58.2 -60.0 177.4	38 55.9 -60.0 176.2	38 52.7 -59.9 174.9
5°	38 00.0 -60.0 180.0	37 59.5 -59.9 178.7	37 58.2 -60.0 177.5	37 55.9 -59.9 176.2	37 52.8 -59.9 174.9
6°	37 00.0 -60.0 180.0	36 59.6 -60.0 178.8	36 58.2 -60.0 177.5	36 56.0 -59.9 176.3	36 52.9 -59.9 175.0
7°	36 00.0 -60.0 180.0	35 59.6 -60.0 178.8	35 58.2 -59.9 177.5	35 56.1 -60.0 176.3	35 53.0 -59.9 175.1
8°	35 00.0 -60.0 180.0	34 59.6 -60.0 178.8	34 58.3 -60.0 177.6	34 56.1 -59.9 176.4	34 53.1 -59.9 175.2
9°	34 00.0 -60.0 180.0	33 59.6 -60.0 178.8	33 58.3 -60.0 177.6	33 56.2 -60.0 176.4	33 53.2 -59.9 175.2
10°	33 00.0 -60.0 180.0	32 59.6 -60.0 178.8	32 58.3 -60.0 177.7	32 56.2 -59.9 176.5	32 53.3 -59.9 175.3
11°	32 00.0 -60.0 180.0	31 59.6 -60.0 178.8	31 58.3 -59.9 177.7	31 56.3 -60.0 176.5	31 53.4 -59.9 175.4
12°	31 00.0 -60.0 180.0	30 59.6 -60.0 178.9	30 58.4 -60.0 177.7	30 56.3 -59.9 176.6	30 53.5 -59.9 175.4
13°	30 00.0 -60.0 180.0	29 59.6 -60.0 178.9	29 58.4 -60.0 177.8	29 56.4 -60.0 176.6	29 53.6 -59.9 175.5
14°	29 00.0 -60.0 180.0	28 59.6 -60.0 178.9	28 58.4 -60.0 177.8	28 56.4 -59.9 176.7	28 53.7 -59.9 175.6
15°	28 00.0 -60.0 180.0	27 59.6 -60.0 178.9	27 58.4 -59.9 177.8	27 56.5 -60.0 176.7	27 53.8 -60.0 175.6
16°	27 00.0 -60.0 180.0	26 59.6 -60.0 178.9	26 58.5 -60.0 177.8	26 56.5 -59.9 176.8	26 53.8 -59.9 175.7
17°	26 00.0 -60.0 180.0	25 59.6 -60.0 178.9	25 58.5 -60.0 177.9	25 56.6 -60.0 176.8	25 53.9 -59.9 175.7
18°	25 00.0 -60.0 180.0	24 59.6 -60.0 179.0	24 58.5 -60.0 177.9	24 56.6 -59.9 176.9	24 54.0 -59.9 175.8
19°	24 00.0 -60.0 180.0	23 59.6 -60.0 179.0	23 58.5 -60.0 177.9	23 56.7 -60.0 176.9	23 54.1 -59.9 175.9
20°	23 00.0 -60.0 180.0	22 59.6 -60.0 179.0	22 58.5 -59.9 178.0	22 56.7 -59.9 176.9	22 54.2 -59.9 175.9
21°	22 00.0 -60.0 180.0	21 59.6 -60.0 179.0	21 58.6 -60.0 178.0	21 56.8 -60.0 177.0	21 54.3 -60.0 176.0
22°	21 00.0 -60.0 180.0	20 59.6 -59.9 179.0	20 58.6 -60.0 178.0	20 56.8 -59.9 177.0	20 54.3 -59.9 176.0
23°	20 00.0 -60.0 180.0	19 59.7 -60.0 179.0	19 58.6 -60.0 178.0	19 56.9 -60.0 177.1	19 54.4 -59.9 176.1
24°	19 00.0 -60.0 180.0	18 59.7 -60.0 179.0	18 58.6 -60.0 178.1	18 56.9 -60.0 177.1	18 54.5 -59.9 176.1
25°	18 00.0 -60.0 180.0	17 59.7 -60.0 179.0	17 58.6 -59.9 178.1	17 56.9 -59.9 177.1	17 54.6 -60.0 176.2
26°	17 00.0 -60.0 180.0	16 59.7 -60.0 179.1	16 58.7 -60.0 178.1	16 57.0 -60.0 177.2	16 54.6 -59.9 176.2
27°	16 00.0 -60.0 180.0	15 59.7 -60.0 179.1	15 58.7 -60.0 178.1	15 57.0 -59.9 177.2	15 54.7 -59.9 176.3
28°	15 00.0 -60.0 180.0	14 59.7 -60.0 179.1	14 58.7 -60.0 178.2	14 57.1 -60.0 177.3	14 54.8 -59.9 176.3
29°	14 00.0 -60.0 180.0	13 59.7 -60.0 179.1	13 58.7 -60.0 178.2	13 57.1 -60.0 177.3	13 54.9 -60.0 176.4

Dec	LHA 005° / 355°	LHA 006° / 354°	LHA 007° / 353°	LHA 008° / 352°	LHA 009° / 351°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	42 47.8 -59.8 173.2	42 42.5 -59.7 171.8	42 36.2 -59.6 170.5	42 28.9 -59.5 169.1	42 20.7 -59.3 167.8
1°	41 48.0 -59.8 173.3	41 42.8 -59.8 172.0	41 36.6 -59.7 170.6	41 29.4 -59.5 169.3	41 21.4 -59.4 168.0
2°	40 48.2 -59.8 173.4	40 43.0 -59.7 172.1	40 36.9 -59.6 170.8	40 29.9 -59.5 169.5	40 22.0 -59.5 168.2
3°	39 48.4 -59.8 173.5	39 43.3 -59.8 172.2	39 37.3 -59.7 170.9	39 30.4 -59.6 169.6	39 22.5 -59.4 168.3
4°	38 48.6 -59.9 173.6	38 43.5 -59.7 172.3	38 37.6 -59.6 171.0	38 30.8 -59.6 169.8	38 23.1 -59.4 168.5
5°	37 48.7 -59.8 173.7	37 43.8 -59.8 172.4	37 38.0 -59.7 171.2	37 31.2 -59.5 169.9	37 23.7 -59.5 168.7
6°	36 48.9 -59.8 173.8	36 44.0 -59.7 172.5	36 38.3 -59.7 171.3	36 31.7 -59.6 170.1	36 24.2 -59.5 168.9
7°	35 49.1 -59.9 173.9	35 44.3 -59.8 172.7	35 38.6 -59.7 171.4	35 32.1 -59.6 170.2	35 24.7 -59.5 169.0
8°	34 49.2 -59.8 174.0	34 44.5 -59.8 172.8	34 38.9 -59.7 171.6	34 32.5 -59.6 170.4	34 25.2 -59.5 169.2
9°	33 49.4 -59.9 174.1	33 44.7 -59.8 172.9	33 39.2 -59.7 171.7	33 32.9 -59.6 170.5	33 25.7 -59.5 169.3
10°	32 49.5 -59.8 174.1	32 44.9 -59.7 173.0	32 39.5 -59.7 171.8	32 33.3 -59.6 170.6	32 26.2 -59.5 169.5
11°	31 49.7 -59.9 174.2	31 45.2 -59.8 173.1	31 39.8 -59.7 171.9	31 33.7 -59.7 170.8	31 26.7 -59.5 169.6
12°	30 49.8 -59.8 174.3	30 45.4 -59.8 173.2	30 40.1 -59.7 172.0	30 34.0 -59.6 170.9	30 27.2 -59.6 169.8
13°	29 50.0 -59.9 174.4	29 45.6 -59.8 173.3	29 40.4 -59.8 172.1	29 34.4 -59.7 171.0	29 27.6 -59.5 169.9
14°	28 50.1 -59.9 174.5	28 45.8 -59.8 173.4	28 40.6 -59.7 172.3	28 34.7 -59.6 171.2	28 28.1 -59.6 170.1
15°	27 50.2 -59.8 174.5	27 46.0 -59.8 173.4	27 40.9 -59.7 172.4	27 35.1 -59.7 171.3	27 28.5 -59.6 170.2
16°	26 50.4 -59.9 174.6	26 46.2 -59.9 173.5	26 41.2 -59.8 172.5	26 35.4 -59.6 171.4	26 28.9 -59.5 170.3
17°	25 50.5 -59.9 174.7	25 46.3 -59.8 173.6	25 41.4 -59.7 172.6	25 35.8 -59.7 171.5	25 29.4 -59.6 170.5
18°	24 50.6 -59.8 174.8	24 46.5 -59.8 173.7	24 41.7 -59.8 172.7	24 36.1 -59.7 171.6	24 29.8 -59.6 170.6
19°	23 50.8 -59.9 174.8	23 46.7 -59.8 173.8	23 41.9 -59.7 172.8	23 36.4 -59.7 171.7	23 30.2 -59.6 170.7
20°	22 50.9 -59.9 174.9	22 46.9 -59.8 173.9	22 42.2 -59.8 172.9	22 36.7 -59.6 171.9	22 30.6 -59.6 170.8
21°	21 51.0 -59.9 175.0	21 47.1 -59.8 174.0	21 42.4 -59.7 173.0	21 37.1 -59.7 172.0	21 31.0 -59.6 171.0
22°	20 51.1 -59.8 175.0	20 47.3 -59.9 174.0	20 42.7 -59.8 173.1	20 37.4 -59.7 172.1	20 31.4 -59.6 171.1
23°	19 51.3 -59.9 175.1	19 47.4 -59.8 174.1	19 42.9 -59.8 173.2	19 37.7 -59.7 172.2	19 31.8 -59.7 171.2
24°	18 51.4 -59.9 175.2	18 47.6 -59.8 174.2	18 43.1 -59.7 173.2	18 38.0 -59.7 172.3	18 32.1 -59.6 171.3
25°	17 51.5 -59.9 175.2	17 47.8 -59.9 174.3	17 43.4 -59.8 173.3	17 38.3 -59.7 172.4	17 32.5 -59.6 171.4
26°	16 51.6 -59.9 175.3	16 47.9 -59.8 174.4	16 43.6 -59.8 173.4	16 38.6 -59.7 172.5	16 32.9 -59.6 171.6
27°	15 51.7 -59.9 175.4	15 48.1 -59.8 174.4	15 43.8 -59.8 173.5	15 38.9 -59.7 172.6	15 33.3 -59.7 171.7
28°	14 51.8 -59.8 175.4	14 48.3 -59.9 174.5	14 44.0 -59.7 173.6	14 39.2 -59.8 172.7	14 33.6 -59.6 171.8
29°	13 52.0 -59.9 175.5	13 48.4 -59.8 174.6	13 44.3 -59.8 173.7	13 39.4 -59.7 172.8	13 34.0 -59.6 171.9

Dec	LHA 010° / 350°	LHA 011° / 349°	LHA 012° / 348°	LHA 013° / 347°	LHA 014° / 346°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	42 11.6 -59.2 166.4	42 01.6 -59.1 165.1	41 50.6 -58.9 163.8	41 38.7 -58.7 162.5	41 26.0 -58.6 161.2
1°	41 12.4 -59.3 166.7	41 02.5 -59.1 165.3	40 51.7 -59.0 164.0	40 40.0 -58.8 162.8	40 27.4 -58.6 161.5
2°	40 13.1 -59.3 166.9	40 03.4 -59.2 165.6	39 52.7 -59.0 164.3	39 41.2 -58.8 163.0	39 28.8 -58.6 161.7
3°	39 13.8 -59.3 167.1	39 04.2 -59.1 165.8	38 53.7 -59.0 164.5	38 42.4 -58.9 163.3	38 30.2 -58.7 162.0
4°	38 14.5 -59.3 167.3	38 05.1 -59.2 166.0	37 54.7 -59.0 164.8	37 43.5 -58.8 163.5	37 31.5 -58.7 162.3
5°	37 15.2 -59.3 167.4	37 05.9 -59.2 166.2	36 55.7 -59.1 165.0	36 44.7 -58.9 163.8	36 32.8 -58.7 162.5
6°	36 15.9 -59.4 167.6	36 06.7 -59.3 166.4	35 56.6 -59.0 165.2	35 45.8 -59.0 164.0	35 34.1 -58.8 162.8
7°	35 16.5 -59.4 167.8	35 07.4 -59.2 166.6	34 57.6 -59.2 165.4	34 46.8 -58.9 164.2	34 35.3 -58.8 163.0
8°	34 17.1 -59.4 168.0	34 08.2 -59.3 166.8	33 58.4 -59.1 165.6	33 47.9 -59.0 164.5	33 36.5 -58.8 163.3
9°	33 17.7 -59.4 168.2	33 08.9 -59.2 167.0	32 59.3 -59.1 165.8	32 48.9 -59.0 164.7	32 37.7 -58.9 163.5
10°	32 18.3 -59.4 168.3	32 09.7 -59.3 167.2	32 00.2 -59.2 166.0	31 49.9 -59.0 164.9	31 38.8 -58.8 163.7
11°	31 18.9 -59.4 168.5	31 10.4 -59.3 167.4	31 01.0 -59.2 166.2	30 50.9 -59.1 165.1	30 40.0 -58.9 164.0
12°	30 19.5 -59.4 168.7	30 11.1 -59.4 167.5	30 01.8 -59.2 166.4	29 51.8 -59.0 165.3	29 41.1 -59.0 164.2
13°	29 20.1 -59.5 168.8	29 11.7 -59.3 167.7	29 02.6 -59.2 166.6	28 52.8 -59.1 165.5	28 42.1 -58.9 164.4
14°	28 20.6 -59.5 169.0	28 12.4 -59.4 167.9	28 03.4 -59.2 166.8	27 53.7 -59.1 165.7	27 43.2 -59.0 164.6
15°	27 21.1 -59.4 169.1	27 13.0 -59.3 168.0	27 04.2 -59.3 167.0	26 54.6 -59.1 165.9	26 44.2 -58.9 164.8
16°	26 21.7 -59.5 169.3	26 13.7 -59.4 168.2	26 04.9 -59.2 167.1	25 55.5 -59.2 166.1	25 45.3 -59.0 165.0
17°	25 22.2 -59.5 169.4	25 14.3 -59.4 168.4	25 05.7 -59.3 167.3	24 56.3 -59.1 166.3	24 46.3 -59.0 165.2
18°	24 22.7 -59.5 169.6	24 14.9 -59.4 168.5	24 06.4 -59.2 167.5	23 57.2 -59.1 166.5	23 47.3 -59.1 165.4
19°	23 23.2 -59.5 169.7	23 15.5 -59.4 168.7	23 07.2 -59.3 167.7	22 58.1 -59.2 166.6	22 48.2 -59.0 165.6
20°	22 23.7 -59.5 169.8	22 16.1 -59.4 168.8	22 07.9 -59.3 167.8	21 58.9 -59.2 166.8	21 49.2 -59.0 165.8
21°	21 24.2 -59.5 170.0	21 16.7 -59.4 169.0	21 08.6 -59.3 168.0	20 59.7 -59.2 167.0	20 50.2 -59.1 166.0
22°	20 24.7 -59.5 170.1	20 17.3 -59.4 169.1	20 09.3 -59.4 168.2	20 00.5 -59.2 167.2	19 51.1 -59.1 166.2
23°	19 25.2 -59.6 170.2	19 17.9 -59.4 169.3	19 09.9 -59.3 168.3	19 01.3 -59.2 167.3	18 52.0 -59.1 166.4
24°	18 25.6 -59.5 170.4	18 18.5 -59.5 169.4	18 10.6 -59.3 168.5	18 02.1 -59.2 167.5	17 52.9 -59.1 166.6
25°	17 26.1 -59.5 170.5	17 19.0 -59.4 169.6	17 11.3 -59.4 168.6	17 02.9 -59.2 167.7	16 53.8 -59.1 166.8
26°	16 26.6 -59.6 170.6	16 19.6 -59.5 169.7	16 11.9 -59.3 168.8	16 03.7 -59.3 167.9	15 54.7 -59.1 166.9
27°	15 27.0 -59.5 170.8	15 20.1 -59.4 169.8	15 12.6 -59.3 168.9	15 04.4 -59.2 168.0	14 55.6 -59.1 167.1
28°	14 27.5 -59.6 170.9	14 20.7 -59.5 170.0	14 13.3 -59.4 169.1	14 05.2 -59.3 168.2	13 56.5 -59.1 167.3
29°	13 27.9 -59.5 171.0	13 21.2 -59.4 170.1	13 13.9 -59.4 169.2	13 05.9 -59.2 168.3	12 57.4 -59.2 167.5

Dec	LHA 015° / 345°	LHA 016° / 344°	LHA 017° / 343°	LHA 018° / 342°	LHA 019° / 341°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	41 12.3 -58.3 159.9	40 57.8 -58.1 158.6	40 42.5 -58.0 157.3	40 26.3 -57.7 156.0	40 09.2 -57.4 154.8
1°	40 14.0 -58.4 160.2	39 59.7 -58.2 158.9	39 44.5 -57.9 157.7	39 28.6 -57.8 156.4	39 11.8 -57.5 155.2
2°	39 15.6 -58.5 160.5	39 01.5 -58.3 159.2	38 46.6 -58.1 158.0	38 30.8 -57.8 156.8	38 14.3 -57.6 155.5
3°	38 17.1 -58.5 160.8	38 03.2 -58.2 159.5	37 48.5 -58.1 158.3	37 33.0 -57.9 157.1	37 16.7 -57.7 155.9
4°	37 18.6 -58.5 161.1	37 05.0 -58.4 159.8	36 50.4 -58.1 158.6	36 35.1 -57.9 157.4	36 19.0 -57.7 156.2
5°	36 20.1 -58.5 161.3	36 06.6 -58.4 160.1	35 52.3 -58.2 158.9	35 37.2 -58.0 157.7	35 21.3 -57.7 156.6
6°	35 21.6 -58.6 161.6	35 08.2 -58.4 160.4	34 54.1 -58.2 159.2	34 39.2 -58.0 158.1	34 23.6 -57.8 156.9
7°	34 23.0 -58.7 161.9	34 09.8 -58.4 160.7	33 55.9 -58.2 159.5	33 41.2 -58.0 158.4	33 25.8 -57.9 157.2
8°	33 24.3 -58.6 162.1	33 11.4 -58.5 161.0	32 57.7 -58.3 159.8	32 43.2 -58.2 158.7	32 27.9 -57.9 157.5
9°	32 25.7 -58.7 162.4	32 12.9 -58.5 161.2	31 59.4 -58.4 160.1	31 45.0 -58.1 159.0	31 30.0 -58.0 157.8
10°	31 27.0 -58.7 162.6	31 14.4 -58.6 161.5	31 01.0 -58.4 160.4	30 46.9 -58.2 159.3	30 32.0 -58.0 158.1
11°	30 28.3 -58.8 162.9	30 15.8 -58.5 161.7	30 02.6 -58.4 160.6	29 48.7 -58.2 159.5	29 34.0 -58.0 158.4
12°	29 29.5 -58.7 163.1	29 17.3 -58.6 162.0	29 04.2 -58.4 160.9	28 50.5 -58.3 159.8	28 36.0 -58.1 158.7
13°	28 30.8 -58.8 163.3	28 18.7 -58.7 162.2	28 05.8 -58.4 161.2	27 52.2 -58.2 160.1	27 37.9 -58.1 159.0
14°	27 32.0 -58.8 163.5	27 20.0 -58.6 162.5	27 07.4 -58.5 161.4	26 54.0 -58.4 160.4	26 39.8 -58.1 159.3
15°	26 33.2 -58.9 163.8	26 21.4 -58.7 162.7	26 08.9 -58.6 161.7	25 55.6 -58.3 160.6	25 41.7 -58.2 159.6
16°	25 34.3 -58.8 164.0	25 22.7 -58.7 162.9	25 10.3 -58.5 161.9	24 57.3 -58.4 160.9	24 43.5 -58.2 159.8
17°	24 35.5 -58.9 164.2	24 24.0 -58.7 163.2	24 11.8 -58.5 162.1	23 58.9 -58.4 161.1	23 45.3 -58.2 160.1
18°	23 36.6 -58.9 164.4	23 25.3 -58.7 163.4	23 13.3 -58.6 162.4	23 00.5 -58.4 161.4	22 47.1 -58.2 160.4
19°	22 37.7 -58.9 164.6	22 26.6 -58.8 163.6	22 14.7 -58.6 162.6	22 02.1 -58.4 161.6	21 48.9 -58.3 160.6
20°	21 38.8 -58.9 164.8	21 27.8 -58.8 163.8	21 16.1 -58.6 162.9	21 03.7 -58.5 161.9	20 50.6 -58.3 160.9
21°	20 39.9 -58.9 165.0	20 29.0 -58.8 164.1	20 17.5 -58.7 163.1	20 05.2 -58.5 162.1	19 52.3 -58.3 161.1
22°	19 41.0 -58.9 165.2	19 30.2 -58.8 164.3	19 18.8 -58.6 163.3	19 06.7 -58.5 162.3	18 54.0 -58.3 161.4
23°	18 42.1 -59.0 165.4	18 31.4 -58.8 164.5	18 20.2 -58.7 163.5	18 08.2 -58.5 162.6	17 55.7 -58.4 161.6
24°	17 43.1 -59.0 165.6	17 32.6 -58.8 164.7	17 21.5 -58.7 163.7	17 09.7 -58.5 162.8	16 57.3 -58.4 161.9
25°	16 44.1 -58.9 165.8	16 33.8 -58.8 164.9	16 22.8 -58.7 164.0	16 11.2 -58.6 163.0	15 58.9 -58.3 162.1
26°	15 45.2 -59.0 166.0	15 35.0 -58.9 165.1	15 24.1 -58.7 164.2	15 12.6 -58.5 163.3	15 00.6 -58.4 162.4
27°	14 46.2 -59.0 166.2	14 36.1 -58.9 165.3	14 25.4 -58.7 164.4	14 14.1 -58.6 163.5	14 02.2 -58.5 162.6
28°	13 47.2 -59.0 166.4	13 37.2 -58.8 165.5	13 26.7 -58.7 164.6	13 15.5 -58.6 163.7	13 03.7 -58.4 162.8
29°	12 48.2 -59.0 166.6	12 38.4 -58.9 165.7	12 28.0 -58.8 164.8	12 16.9 -58.6 163.9	12 05.3 -58.4 163.1

Dec	LHA 020° / 340°	LHA 021° / 339°	LHA 022° / 338°	LHA 023° / 337°	LHA 024° / 336°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	39 51.4 -57.2 153.5	39 32.8 -57.0 152.3	39 13.4 -56.7 151.1	38 53.2 -56.4 149.9	38 32.3 -56.2 148.7
1°	38 54.2 -57.3 153.9	38 35.8 -57.0 152.7	38 16.7 -56.8 151.5	37 56.8 -56.5 150.3	37 36.1 -56.2 149.1
2°	37 56.9 -57.3 154.3	37 38.8 -57.1 153.1	37 19.9 -56.9 151.9	37 00.3 -56.6 150.7	36 39.9 -56.4 149.6
3°	36 59.6 -57.5 154.7	36 41.7 -57.2 153.5	36 23.0 -56.9 152.3	36 03.7 -56.7 151.1	35 43.5 -56.4 150.0
4°	36 02.1 -57.4 155.0	35 44.5 -57.2 153.9	35 26.1 -57.0 152.7	35 07.0 -56.8 151.5	34 47.1 -56.5 150.4
5°	35 04.7 -57.6 155.4	34 47.3 -57.4 154.2	34 29.1 -57.1 153.1	34 10.2 -56.8 151.9	33 50.6 -56.6 150.8
6°	34 07.1 -57.6 155.7	33 49.9 -57.3 154.6	33 32.0 -57.1 153.5	33 13.4 -56.9 152.3	32 54.0 -56.7 151.2
7°	33 09.5 -57.6 156.1	32 52.6 -57.5 154.9	32 34.9 -57.2 153.8	32 16.5 -57.0 152.7	31 57.3 -56.7 151.6
8°	32 11.9 -57.7 156.4	31 55.1 -57.4 155.3	31 37.7 -57.3 154.2	31 19.5 -57.0 153.1	31 00.6 -56.8 152.0
9°	31 14.2 -57.8 156.7	30 57.7 -57.6 155.6	30 40.4 -57.3 154.5	30 22.5 -57.1 153.4	30 03.8 -56.9 152.3
10°	30 16.4 -57.8 157.0	30 00.1 -57.6 156.0	29 43.1 -57.4 154.9	29 25.4 -57.2 153.8	29 06.9 -56.9 152.7
11°	29 18.6 -57.8 157.4	29 02.5 -57.6 156.3	28 45.7 -57.4 155.2	28 28.2 -57.2 154.1	28 10.0 -57.0 153.1
12°	28 20.8 -57.9 157.7	28 04.9 -57.7 156.6	27 48.3 -57.5 155.5	27 31.0 -57.2 154.5	27 13.0 -57.0 153.4
13°	27 22.9 -57.9 158.0	27 07.2 -57.7 156.9	26 50.8 -57.5 155.9	26 33.8 -57.3 154.8	26 16.0 -57.1 153.8
14°	26 25.0 -57.9 158.3	26 09.5 -57.7 157.2	25 53.3 -57.5 156.2	25 36.5 -57.4 155.1	25 18.9 -57.1 154.1
15°	25 27.1 -58.0 158.5	25 11.8 -57.8 157.5	24 55.8 -57.6 156.5	24 39.1 -57.4 155.5	24 21.8 -57.2 154.5
16°	24 29.1 -58.0 158.8	24 14.0 -57.8 157.8	23 58.2 -57.6 156.8	23 41.7 -57.4 155.8	23 24.6 -57.2 154.8
17°	23 31.1 -58.1 159.1	23 16.2 -57.9 158.1	23 00.6 -57.7 157.1	22 44.3 -57.5 156.1	22 27.4 -57.2 155.1
18°	22 33.0 -58.0 159.4	22 18.3 -57.9 158.4	22 02.9 -57.7 157.4	21 46.8 -57.4 156.4	21 30.2 -57.3 155.4
19°	21 35.0 -58.1 159.6	21 20.4 -57.9 158.7	21 05.2 -57.7 157.7	20 49.4 -57.6 156.7	20 32.9 -57.4 155.8
20°	20 36.9 -58.1 159.9	20 22.5 -57.9 158.9	20 07.5 -57.8 158.0	19 51.8 -57.5 157.0	19 35.5 -57.3 156.1
21°	19 38.8 -58.2 160.2	19 24.6 -58.0 159.2	19 09.7 -57.7 158.3	18 54.3 -57.6 157.3	18 38.2 -57.4 156.4
22°	18 40.6 -58.1 160.4	18 26.6 -58.0 159.5	18 12.0 -57.8 158.6	17 56.7 -57.6 157.6	17 40.8 -57.4 156.7
23°	17 42.5 -58.2 160.7	17 28.6 -58.0 159.8	17 14.2 -57.9 158.8	16 59.1 -57.7 157.9	16 43.4 -57.5 157.0
24°	16 44.3 -58.2 161.0	16 30.6 -58.0 160.0	16 16.3 -57.8 159.1	16 01.4 -57.6 158.2	15 45.9 -57.4 157.3
25°	15 46.1 -58.2 161.2	15 32.6 -58.1 160.3	15 18.5 -57.9 159.4	15 03.8 -57.7 158.5	14 48.5 -57.5 157.6
26°	14 47.9 -58.3 161.5	14 34.5 -58.0 160.6	14 20.6 -57.9 159.7	14 06.1 -57.7 158.8	13 51.0 -57.5 157.9
27°	13 49.6 -58.2 161.7	13 36.5 -58.1 160.8	13 22.7 -57.9 159.9	13 08.4 -57.7 159.1	12 53.5 -57.6 158.2
28°	12 51.4 -58.3 162.0	12 38.4 -58.1 161.1	12 24.8 -57.9 160.2	12 10.7 -57.8 159.3	11 55.9 -57.5 158.5
29°	11 53.1 -58.3 162.2	11 40.3 -58.1 161.3	11 26.9 -57.9 160.5	11 12.9 -57.7 159.6	10 58.4 -57.6 158.8

Dec	LHA 025° / 335°	LHA 026° / 334°	LHA 027° / 333°	LHA 028° / 332°	LHA 029° / 331°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	38 10.7 -55.9 147.5	37 48.3 -55.6 146.3	37 25.3 -55.4 145.1	37 01.5 -55.0 144.0	36 37.1 -54.7 142.8
1°	37 14.8 -56.0 147.9	36 52.7 -55.7 146.8	36 29.9 -55.4 145.6	36 06.5 -55.1 144.5	35 42.4 -54.9 143.3
2°	36 18.8 -56.1 148.4	35 57.0 -55.8 147.2	35 34.5 -55.5 146.1	35 11.4 -55.3 145.0	34 47.5 -54.9 143.8
3°	35 22.7 -56.2 148.8	35 01.2 -55.9 147.7	34 39.0 -55.7 146.6	34 16.1 -55.4 145.4	33 52.6 -55.1 144.3
4°	34 26.5 -56.2 149.3	34 05.3 -56.0 148.1	33 43.3 -55.7 147.0	33 20.7 -55.4 145.9	32 57.5 -55.2 144.8
5°	33 30.3 -56.4 149.7	33 09.3 -56.1 148.6	32 47.6 -55.8 147.5	32 25.3 -55.6 146.4	32 02.3 -55.3 145.3
6°	32 33.9 -56.4 150.1	32 13.2 -56.2 149.0	31 51.8 -55.9 147.9	31 29.7 -55.7 146.8	31 07.0 -55.4 145.7
7°	31 37.5 -56.5 150.5	31 17.0 -56.2 149.4	30 55.9 -56.0 148.3	30 34.0 -55.7 147.2	30 11.6 -55.5 146.2
8°	30 41.0 -56.5 150.9	30 20.8 -56.3 149.8	29 59.9 -56.1 148.7	29 38.3 -55.8 147.7	29 16.1 -55.6 146.6
9°	29 44.5 -56.7 151.3	29 24.5 -56.4 150.2	29 03.8 -56.2 149.1	28 42.5 -55.9 148.1	28 20.5 -55.6 147.0
10°	28 47.8 -56.7 151.6	28 28.1 -56.5 150.6	28 07.6 -56.2 149.5	27 46.6 -56.0 148.5	27 24.9 -55.7 147.5
11°	27 51.1 -56.7 152.0	27 31.6 -56.5 151.0	27 11.4 -56.2 149.9	26 50.6 -56.0 148.9	26 29.2 -55.8 147.9
12°	26 54.4 -56.8 152.4	26 35.1 -56.6 151.3	26 15.2 -56.4 150.3	25 54.6 -56.1 149.3	25 33.4 -55.9 148.3
13°	25 57.6 -56.9 152.7	25 38.5 -56.6 151.7	25 18.8 -56.4 150.7	24 58.5 -56.2 149.7	24 37.5 -55.9 148.7
14°	25 00.7 -56.9 153.1	24 41.9 -56.7 152.1	24 22.4 -56.4 151.1	24 02.3 -56.2 150.1	23 41.6 -56.0 149.1
15°	24 03.8 -56.9 153.4	23 45.2 -56.7 152.4	23 26.0 -56.5 151.4	23 06.1 -56.3 150.5	22 45.6 -56.0 149.5
16°	23 06.9 -57.0 153.8	22 48.5 -56.8 152.8	22 29.5 -56.6 151.8	22 09.8 -56.3 150.8	21 49.6 -56.1 149.9
17°	22 09.9 -57.1 154.1	21 51.7 -56.8 153.1	21 32.9 -56.6 152.2	21 13.5 -56.4 151.2	20 53.5 -56.2 150.2
18°	21 12.8 -57.1 154.5	20 54.9 -56.9 153.5	20 36.3 -56.6 152.5	20 17.1 -56.4 151.6	19 57.3 -56.1 150.6
19°	20 15.7 -57.1 154.8	19 58.0 -56.9 153.8	19 39.7 -56.7 152.9	19 20.7 -56.5 151.9	19 01.2 -56.3 151.0
20°	19 18.6 -57.1 155.1	19 01.1 -56.9 154.2	18 43.0 -56.8 153.2	18 24.2 -56.5 152.3	18 04.9 -56.3 151.4
21°	18 21.5 -57.2 155.4	18 04.2 -57.0 154.5	17 46.2 -56.7 153.6	17 27.7 -56.5 152.6	17 08.6 -56.3 151.7
22°	17 24.3 -57.2 155.8	17 07.2 -57.0 154.8	16 49.5 -56.8 153.9	16 31.2 -56.6 153.0	16 12.3 -56.3 152.1
23°	16 27.1 -57.3 156.1	16 10.2 -57.0 155.2	15 52.7 -56.8 154.2	15 34.6 -56.6 153.3	15 16.0 -56.4 152.4
24°	15 29.8 -57.2 156.4	15 13.2 -57.1 155.5	14 55.9 -56.9 154.6	14 38.0 -56.6 153.7	14 19.6 -56.4 152.8
25°	14 32.6 -57.3 156.7	14 16.1 -57.1 155.8	13 59.0 -56.8 154.9	13 41.4 -56.7 154.0	13 23.2 -56.4 153.1
26°	13 35.3 -57.3 157.0	13 19.0 -57.1 156.1	13 02.2 -56.9 155.2	12 44.7 -56.7 154.4	12 26.8 -56.5 153.5
27°	12 38.0 -57.4 157.3	12 21.9 -57.1 156.4	12 05.3 -57.0 155.6	11 48.0 -56.7 154.7	11 30.3 -56.5 153.8
28°	11 40.6 -57.3 157.6	11 24.8 -57.2 156.7	11 08.3 -56.9 155.9	10 51.3 -56.7 155.0	10 33.8 -56.5 154.2
29°	10 43.3 -57.4 157.9	10 27.6 -57.2 157.1	10 11.4 -57.0 156.2	9 54.6 -56.8 155.4	9 37.3 -56.6 154.5

Dec	LHA 030° / 330°	LHA 031° / 329°	LHA 032° / 328°	LHA 033° / 327°	LHA 034° / 326°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	36 12.1 -54.5 141.7	35 46.4 -54.1 140.6	35 20.1 -53.8 139.5	34 53.3 -53.6 138.4	34 25.8 -53.3 137.3
1°	35 17.6 -54.5 142.2	34 52.3 -54.3 141.1	34 26.3 -54.0 140.0	33 59.7 -53.7 138.9	33 32.5 -53.4 137.9
2°	34 23.1 -54.7 142.7	33 58.0 -54.4 141.6	33 32.3 -54.1 140.6	33 06.0 -53.9 139.5	32 39.1 -53.5 138.4
3°	33 28.4 -54.8 143.2	33 03.6 -54.6 142.1	32 38.2 -54.3 141.1	32 12.1 -53.9 140.0	31 45.6 -53.7 138.9
4°	32 33.6 -55.0 143.7	32 09.0 -54.6 142.6	31 43.9 -54.4 141.6	31 18.2 -54.1 140.5	30 51.9 -53.8 139.5
5°	31 38.6 -55.0 144.2	31 14.4 -54.8 143.1	30 49.5 -54.5 142.1	30 24.1 -54.2 141.0	29 58.1 -54.0 140.0
6°	30 43.6 -55.1 144.7	30 19.6 -54.8 143.6	29 55.0 -54.5 142.6	29 29.9 -54.3 141.5	29 04.1 -54.0 140.5
7°	29 48.5 -55.2 145.1	29 24.8 -55.0 144.1	29 00.5 -54.7 143.0	28 35.6 -54.5 142.0	28 10.1 -54.2 141.0
8°	28 53.3 -55.3 145.6	28 29.8 -55.0 144.5	28 05.8 -54.8 143.5	27 41.1 -54.5 142.5	27 15.9 -54.2 141.5
9°	27 58.0 -55.4 146.0	27 34.8 -55.2 145.0	27 11.0 -54.9 144.0	26 46.6 -54.6 142.9	26 21.7 -54.4 141.9
10°	27 02.6 -55.5 146.4	26 39.6 -55.2 145.4	26 16.1 -54.9 144.4	25 52.0 -54.7 143.4	25 27.3 -54.4 142.4
11°	26 07.1 -55.5 146.9	25 44.4 -55.3 145.9	25 21.2 -55.1 144.9	24 57.3 -54.7 143.9	24 32.9 -54.5 142.9
12°	25 11.6 -55.6 147.3	24 49.1 -55.3 146.3	24 26.1 -55.1 145.3	24 02.6 -54.9 144.3	23 38.4 -54.6 143.3
13°	24 16.0 -55.7 147.7	23 53.8 -55.4 146.7	23 31.0 -55.1 145.7	23 07.7 -54.9 144.8	22 43.8 -54.7 143.8
14°	23 20.3 -55.8 148.1	22 58.4 -55.5 147.1	22 35.9 -55.3 146.2	22 12.8 -55.0 145.2	21 49.1 -54.7 144.2
15°	22 24.5 -55.8 148.5	22 02.9 -55.6 147.5	21 40.6 -55.3 146.6	21 17.8 -55.1 145.6	20 54.4 -54.8 144.7
16°	21 28.7 -55.8 148.9	21 07.3 -55.6 147.9	20 45.3 -55.4 147.0	20 22.7 -55.1 146.0	19 59.6 -54.9 145.1
17°	20 32.9 -55.9 149.3	20 11.7 -55.7 148.3	19 49.9 -55.4 147.4	19 27.6 -55.2 146.5	19 04.7 -54.9 145.5
18°	19 37.0 -56.0 149.7	19 16.0 -55.7 148.7	18 54.5 -55.5 147.8	18 32.4 -55.2 146.9	18 09.8 -55.0 146.0
19°	18 41.0 -56.0 150.1	18 20.3 -55.7 149.1	17 59.0 -55.5 148.2	17 37.2 -55.3 147.3	17 14.8 -55.0 146.4
20°	17 45.0 -56.0 150.4	17 24.6 -55.9 149.5	17 03.5 -55.6 148.6	16 41.9 -55.3 147.7	16 19.8 -55.1 146.8
21°	16 49.0 -56.1 150.8	16 28.7 -55.8 149.9	16 07.9 -55.6 149.0	15 46.6 -55.4 148.1	15 24.7 -55.1 147.2
22°	15 52.9 -56.1 151.2	15 32.9 -55.9 150.3	15 12.3 -55.6 149.4	14 51.2 -55.4 148.5	14 29.6 -55.2 147.6
23°	14 56.8 -56.2 151.6	14 37.0 -55.9 150.7	14 16.7 -55.7 149.8	13 55.8 -55.4 148.9	13 34.4 -55.2 148.0
24°	14 00.6 -56.2 151.9	13 41.1 -56.0 151.0	13 21.0 -55.7 150.2	13 00.4 -55.5 149.3	12 39.2 -55.2 148.4
25°	13 04.4 -56.2 152.3	12 45.1 -56.0 151.4	12 25.3 -55.8 150.5	12 04.9 -55.5 149.7	11 44.0 -55.3 148.8
26°	12 08.2 -56.2 152.6	11 49.1 -56.0 151.8	11 29.5 -55.8 150.9	11 09.4 -55.6 150.1	10 48.7 -55.3 149.2
27°	11 12.0 -56.3 153.0	10 53.1 -56.0 152.1	10 33.7 -55.8 151.3	10 13.8 -55.6 150.5	9 53.4 -55.4 149.6
28°	10 15.7 -56.3 153.3	9 57.1 -56.1 152.5	9 37.9 -55.8 151.7	9 18.2 -55.6 150.8	8 58.0 -55.3 150.0
29°	9 19.4 -56.3 153.7	9 01.0 -56.1 152.9	8 42.1 -55.9 152.0	8 22.6 -55.6 151.2	8 02.7 -55.4 150.4

Dec	LHA 035° / 325°	LHA 036° / 324°	LHA 037° / 323°	LHA 038° / 322°	LHA 039° / 321°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	33 57.8 -53.0 136.2	33 29.2 -52.7 135.2	33 00.1 -52.4 134.1	32 30.5 -52.1 133.1	32 00.4 -51.9 132.1
1°	33 04.8 -53.1 136.8	32 36.5 -52.8 135.8	32 07.7 -52.5 134.7	31 38.4 -52.3 133.7	31 08.5 -51.9 132.7
2°	32 11.7 -53.3 137.4	31 43.7 -53.0 136.3	31 15.2 -52.7 135.3	30 46.1 -52.4 134.3	30 16.6 -52.2 133.3
3°	31 18.4 -53.4 137.9	30 50.7 -53.1 136.9	30 22.5 -52.9 135.8	29 53.7 -52.6 134.8	29 24.4 -52.3 133.8
4°	30 25.0 -53.5 138.4	29 57.6 -53.3 137.4	29 29.6 -53.0 136.4	29 01.1 -52.7 135.4	28 32.1 -52.4 134.4
5°	29 31.5 -53.7 139.0	29 04.3 -53.4 137.9	28 36.6 -53.1 136.9	28 08.4 -52.8 135.9	27 39.7 -52.5 134.9
6°	28 37.8 -53.8 139.5	28 10.9 -53.5 138.5	27 43.5 -53.2 137.5	27 15.6 -52.9 136.5	26 47.2 -52.7 135.5
7°	27 44.0 -53.8 140.0	27 17.4 -53.6 139.0	26 50.3 -53.3 138.0	26 22.7 -53.1 137.0	25 54.5 -52.8 136.0
8°	26 50.2 -54.0 140.5	26 23.8 -53.7 139.5	25 57.0 -53.5 138.5	25 29.6 -53.2 137.5	25 01.7 -52.9 136.5
9°	25 56.2 -54.1 141.0	25 30.1 -53.8 140.0	25 03.5 -53.5 139.0	24 36.4 -53.2 138.0	24 08.8 -53.0 137.1
10°	25 02.1 -54.2 141.4	24 36.3 -53.9 140.5	24 10.0 -53.6 139.5	23 43.2 -53.4 138.5	23 15.8 -53.1 137.6
11°	24 07.9 -54.2 141.9	23 42.4 -54.0 140.9	23 16.4 -53.7 140.0	22 49.8 -53.5 139.0	22 22.7 -53.2 138.1
12°	23 13.7 -54.3 142.4	22 48.4 -54.0 141.4	22 22.7 -53.9 140.5	21 56.3 -53.5 139.5	21 29.5 -53.3 138.6
13°	22 19.4 -54.4 142.8	21 54.4 -54.2 141.9	21 28.8 -53.8 140.9	21 02.8 -53.6 140.0	20 36.2 -53.3 139.1
14°	21 25.0 -54.5 143.3	21 00.2 -54.2 142.3	20 35.0 -54.0 141.4	20 09.2 -53.7 140.5	19 42.9 -53.5 139.6
15°	20 30.5 -54.6 143.7	20 06.0 -54.3 142.8	19 41.0 -54.0 141.9	19 15.5 -53.8 141.0	18 49.4 -53.5 140.0
16°	19 35.9 -54.6 144.2	19 11.7 -54.4 143.3	18 47.0 -54.1 142.3	18 21.7 -53.8 141.4	17 55.9 -53.5 140.5
17°	18 41.3 -54.7 144.6	18 17.3 -54.4 143.7	17 52.9 -54.2 142.8	17 27.9 -53.9 141.9	17 02.4 -53.7 141.0
18°	17 46.6 -54.7 145.1	17 22.9 -54.5 144.1	16 58.7 -54.2 143.2	16 34.0 -54.0 142.3	16 08.7 -53.7 141.5
19°	16 51.9 -54.8 145.5	16 28.4 -54.5 144.6	16 04.5 -54.3 143.7	15 40.0 -54.0 142.8	15 15.0 -53.8 141.9
20°	15 57.1 -54.8 145.9	15 33.9 -54.6 145.0	15 10.2 -54.3 144.1	14 46.0 -54.1 143.3	14 21.2 -53.8 142.4
21°	15 02.3 -54.9 146.3	14 39.3 -54.6 145.4	14 15.9 -54.4 144.6	13 51.9 -54.1 143.7	13 27.4 -53.8 142.8
22°	14 07.4 -54.9 146.7	13 44.7 -54.7 145.9	13 21.5 -54.4 145.0	12 57.8 -54.2 144.1	12 33.6 -54.0 143.3
23°	13 12.5 -55.0 147.2	12 50.0 -54.7 146.3	12 27.1 -54.5 145.4	12 03.6 -54.2 144.6	11 39.6 -53.9 143.7
24°	12 17.5 -55.0 147.6	11 55.3 -54.7 146.7	11 32.6 -54.5 145.9	11 09.4 -54.3 145.0	10 45.7 -54.0 144.2
25°	11 22.5 -55.0 148.0	11 00.6 -54.8 147.1	10 38.1 -54.5 146.3	10 15.1 -54.2 145.5	9 51.7 -54.0 144.6
26°	10 27.5 -55.1 148.4	10 05.8 -54.8 147.5	9 43.6 -54.6 146.7	9 20.9 -54.3 145.9	8 57.7 -54.1 145.1
27°	9 32.4 -55.1 148.8	9 11.0 -54.9 148.0	8 49.0 -54.6 147.1	8 26.6 -54.4 146.3	8 03.6 -54.1 145.5
28°	8 37.3 -55.1 149.2	8 16.1 -54.8 148.4	7 54.4 -54.6 147.6	7 32.2 -54.3 146.7	7 09.5 -54.1 145.9
29°	7 42.2 -55.1 149.6	7 21.3 -54.9 148.8	6 59.8 -54.6 148.0	6 37.9 -54.4 147.2	6 15.4 -54.1 146.4

Dec	LHA 040° / 320°	LHA 041° / 319°	LHA 042° / 318°	LHA 043° / 317°	LHA 044° / 316°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	31 29.8 -51.6 131.1	30 58.7 -51.3 130.1	30 27.1 -50.9 129.1	29 55.2 -50.7 128.1	29 22.8 -50.5 127.1
1°	30 38.2 -51.7 131.7	30 07.4 -51.4 130.7	29 36.2 -51.2 129.7	29 04.5 -50.9 128.7	28 32.3 -50.6 127.8
2°	29 46.5 -51.8 132.3	29 16.0 -51.6 131.3	28 45.0 -51.3 130.3	28 13.6 -51.1 129.3	27 41.7 -50.8 128.4
3°	28 54.7 -52.1 132.8	28 24.4 -51.7 131.9	27 53.7 -51.5 130.9	27 22.5 -51.1 129.9	26 50.9 -50.9 129.0
4°	28 02.6 -52.1 133.4	27 32.7 -51.9 132.4	27 02.2 -51.6 131.5	26 31.4 -51.4 130.5	26 00.0 -51.0 129.6
5°	27 10.5 -52.3 134.0	26 40.8 -52.0 133.0	26 10.6 -51.7 132.0	25 40.0 -51.4 131.1	25 09.0 -51.2 130.1
6°	26 18.2 -52.4 134.5	25 48.8 -52.1 133.5	25 18.9 -51.8 132.6	24 48.6 -51.6 131.6	24 17.8 -51.3 130.7
7°	25 25.8 -52.5 135.1	24 56.7 -52.3 134.1	24 27.1 -52.0 133.1	23 57.0 -51.7 132.2	23 26.5 -51.5 131.3
8°	24 33.3 -52.6 135.6	24 04.4 -52.3 134.6	23 35.1 -52.1 133.7	23 05.3 -51.8 132.8	22 35.0 -51.5 131.8
9°	23 40.7 -52.7 136.1	23 12.1 -52.5 135.2	22 43.0 -52.2 134.2	22 13.5 -52.0 133.3	21 43.5 -51.7 132.4
10°	22 48.0 -52.9 136.6	22 19.6 -52.5 135.7	21 50.8 -52.3 134.8	21 21.5 -52.0 133.8	20 51.8 -51.8 132.9
11°	21 55.1 -52.9 137.1	21 27.1 -52.7 136.2	20 58.5 -52.4 135.3	20 29.5 -52.1 134.4	20 00.0 -51.8 133.5
12°	21 02.2 -53.0 137.7	20 34.4 -52.7 136.7	20 06.1 -52.5 135.8	19 37.4 -52.3 134.9	19 08.2 -52.0 134.0
13°	20 09.2 -53.1 138.2	19 41.7 -52.9 137.2	19 13.6 -52.5 136.3	18 45.1 -52.3 135.4	18 16.2 -52.0 134.5
14°	19 16.1 -53.2 138.6	18 48.8 -52.9 137.7	18 21.1 -52.7 136.8	17 52.8 -52.3 135.9	17 24.2 -52.2 135.1
15°	18 22.9 -53.2 139.1	17 55.9 -53.0 138.2	17 28.4 -52.7 137.3	17 00.5 -52.5 136.5	16 32.0 -52.2 135.6
16°	17 29.7 -53.4 139.6	17 02.9 -53.0 138.7	16 35.7 -52.8 137.8	16 08.0 -52.5 137.0	15 39.8 -52.2 136.1
17°	16 36.3 -53.3 140.1	16 09.9 -53.2 139.2	15 42.9 -52.9 138.3	15 15.5 -52.6 137.5	14 47.6 -52.4 136.6
18°	15 43.0 -53.5 140.6	15 16.7 -53.2 139.7	14 50.0 -52.9 138.8	14 22.9 -52.7 138.0	13 55.2 -52.4 137.1
19°	14 49.5 -53.5 141.0	14 23.5 -53.2 140.2	13 57.1 -53.0 139.3	13 30.2 -52.7 138.5	13 02.8 -52.4 137.6
20°	13 56.0 -53.5 141.5	13 30.3 -53.3 140.7	13 04.1 -53.0 139.8	12 37.5 -52.8 138.9	12 10.4 -52.5 138.1
21°	13 02.5 -53.7 142.0	12 37.0 -53.3 141.1	12 11.1 -53.1 140.3	11 44.7 -52.8 139.4	11 17.9 -52.6 138.6
22°	12 08.8 -53.6 142.4	11 43.7 -53.4 141.6	11 18.0 -53.1 140.8	10 51.9 -52.9 139.9	10 25.3 -52.6 139.1
23°	11 15.2 -53.7 142.9	10 50.3 -53.5 142.1	10 24.9 -53.2 141.2	9 59.0 -52.9 140.4	9 32.7 -52.6 139.6
24°	10 21.5 -53.7 143.3	9 56.8 -53.4 142.5	9 31.7 -53.2 141.7	9 06.1 -52.9 140.9	8 40.1 -52.7 140.1
25°	9 27.8 -53.8 143.8	9 03.4 -53.5 143.0	8 38.5 -53.2 142.2	8 13.2 -53.0 141.4	7 47.4 -52.7 140.5
26°	8 34.0 -53.8 144.2	8 09.9 -53.6 143.4	7 45.3 -53.3 142.6	7 20.2 -53.0 141.8	6 54.7 -52.8 141.0
27°	7 40.2 -53.8 144.7	7 16.3 -53.5 143.9	6 52.0 -53.3 143.1	6 27.2 -53.0 142.3	6 01.9 -52.7 141.5
28°	6 46.4 -53.9 145.1	6 22.8 -53.6 144.3	5 58.7 -53.3 143.6	5 34.2 -53.1 142.8	5 09.2 -52.8 142.0
29°	5 52.5 -53.8 145.6	5 29.2 -53.6 144.8	5 05.4 -53.4 144.0	4 41.1 -53.1 143.2	4 16.4 -52.8 142.5

Dec	LHA 045° / 315°	LHA 046° / 314°	LHA 047° / 313°	LHA 048° / 312°	LHA 049° / 311°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	28 49.9 -50.1 126.2	28 16.7 -49.9 125.2	27 43.1 -49.7 124.3	27 09.1 -49.4 123.4	26 34.7 -49.1 122.4
1°	27 59.8 -50.4 126.8	27 26.8 -50.1 125.9	26 53.4 -49.8 124.9	26 19.7 -49.6 124.0	25 45.6 -49.3 123.1
2°	27 09.4 -50.5 127.4	26 36.7 -50.2 126.5	26 03.6 -50.0 125.5	25 30.1 -49.7 124.6	24 56.3 -49.5 123.7
3°	26 18.9 -50.6 128.0	25 46.5 -50.4 127.1	25 13.6 -50.1 126.2	24 40.4 -49.9 125.2	24 06.8 -49.6 124.3
4°	25 28.3 -50.8 128.6	24 56.1 -50.5 127.7	24 23.5 -50.3 126.8	23 50.5 -50.0 125.9	23 17.2 -49.8 125.0
5°	24 37.5 -51.0 129.2	24 05.6 -50.7 128.3	23 33.2 -50.4 127.4	23 00.5 -50.1 126.5	22 27.4 -49.9 125.6
6°	23 46.5 -51.0 129.8	23 14.9 -50.8 128.9	22 42.8 -50.5 128.0	22 10.4 -50.3 127.1	21 37.5 -50.0 126.2
7°	22 55.5 -51.2 130.4	22 24.1 -50.9 129.4	21 52.3 -50.7 128.5	21 20.1 -50.4 127.6	20 47.5 -50.2 126.7
8°	22 04.3 -51.3 130.9	21 33.2 -51.1 130.0	21 01.6 -50.7 129.1	20 29.7 -50.5 128.2	19 57.3 -50.2 127.3
9°	21 13.0 -51.4 131.5	20 42.1 -51.1 130.6	20 10.9 -50.9 129.7	19 39.2 -50.7 128.8	19 07.1 -50.4 127.9
10°	20 21.6 -51.5 132.0	19 51.0 -51.2 131.1	19 20.0 -51.0 130.2	18 48.5 -50.7 129.4	18 16.7 -50.5 128.5
11°	19 30.1 -51.6 132.6	18 59.8 -51.4 131.7	18 29.0 -51.1 130.8	17 57.8 -50.8 129.9	17 26.2 -50.5 129.1
12°	18 38.5 -51.7 133.1	18 08.4 -51.4 132.2	17 37.9 -51.2 131.4	17 07.0 -50.9 130.5	16 35.7 -50.7 129.6
13°	17 46.8 -51.8 133.7	17 17.0 -51.5 132.8	16 46.7 -51.2 131.9	16 16.1 -51.0 131.0	15 45.0 -50.7 130.2
14°	16 55.0 -51.8 134.2	16 25.5 -51.6 133.3	15 55.5 -51.4 132.4	15 25.1 -51.1 131.6	14 54.3 -50.8 130.7
15°	16 03.2 -52.0 134.7	15 33.9 -51.7 133.8	15 04.1 -51.4 133.0	14 34.0 -51.1 132.1	14 03.5 -50.9 131.3
16°	15 11.2 -52.0 135.2	14 42.2 -51.7 134.4	14 12.7 -51.4 133.5	13 42.9 -51.3 132.7	13 12.6 -51.0 131.8
17°	14 19.2 -52.0 135.7	13 50.5 -51.9 134.9	13 21.3 -51.6 134.0	12 51.6 -51.3 133.2	12 21.6 -51.0 132.4
18°	13 27.2 -52.2 136.3	12 58.6 -51.8 135.4	12 29.7 -51.6 134.6	12 00.3 -51.3 133.7	11 30.6 -51.1 132.9
19°	12 35.0 -52.2 136.8	12 06.8 -52.0 135.9	11 38.1 -51.7 135.1	11 09.0 -51.4 134.3	10 39.5 -51.1 133.4
20°	11 42.8 -52.2 137.3	11 14.8 -51.9 136.4	10 46.4 -51.7 135.6	10 17.6 -51.5 134.8	9 48.4 -51.2 134.0
21°	10 50.6 -52.3 137.8	10 22.9 -52.1 136.9	9 54.7 -51.7 136.1	9 26.1 -51.5 135.3	8 57.2 -51.3 134.5
22°	9 58.3 -52.3 138.3	9 30.8 -52.0 137.4	9 03.0 -51.9 136.6	8 34.6 -51.5 135.8	8 05.9 -51.2 135.0
23°	9 06.0 -52.4 138.8	8 38.8 -52.1 138.0	8 11.1 -51.8 137.1	7 43.1 -51.6 136.3	7 14.7 -51.4 135.5
24°	8 13.6 -52.4 139.3	7 46.7 -52.2 138.5	7 19.3 -51.9 137.7	6 51.5 -51.6 136.9	6 23.3 -51.3 136.1
25°	7 21.2 -52.5 139.7	6 54.5 -52.2 139.0	6 27.4 -51.9 138.2	5 59.9 -51.6 137.4	5 32.0 -51.4 136.6
26°	6 28.7 -52.4 140.2	6 02.3 -52.2 139.4	5 35.5 -51.9 138.7	5 08.3 -51.7 137.9	4 40.6 -51.4 137.1
27°	5 36.3 -52.5 140.7	5 10.1 -52.2 139.9	4 43.6 -52.0 139.2	4 16.6 -51.7 138.4	3 49.2 -51.4 137.6
28°	4 43.8 -52.6 141.2	4 17.9 -52.2 140.4	3 51.6 -51.9 139.7	3 24.9 -51.7 138.9	2 57.8 -51.4 138.1
29°	3 51.2 -52.5 141.7	3 25.7 -52.3 140.9	2 59.7 -52.0 140.2	2 33.2 -51.7 139.4	2 06.4 -51.4 138.7

Dec	LHA 050° / 310°	LHA 051° / 309°	LHA 052° / 308°	LHA 053° / 307°	LHA 054° / 306°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	26 00.0 -48.9 121.5	25 25.0 -48.7 120.6	24 49.6 -48.4 119.7	24 13.9 -48.2 118.9	23 37.9 -47.9 118.0
1°	25 11.1 -49.0 122.2	24 36.3 -48.8 121.3	24 01.2 -48.6 120.4	23 25.7 -48.3 119.5	22 50.0 -48.2 118.6
2°	24 22.1 -49.3 122.8	23 47.5 -49.0 121.9	23 12.6 -48.8 121.0	22 37.4 -48.5 120.2	22 01.8 -48.3 119.3
3°	23 32.8 -49.3 123.4	22 58.5 -49.1 122.5	22 23.8 -48.8 121.7	21 48.9 -48.7 120.8	21 13.5 -48.4 119.9
4°	22 43.5 -49.6 124.1	22 09.4 -49.3 123.2	21 35.0 -49.1 122.3	21 00.2 -48.8 121.4	20 25.1 -48.6 120.6
5°	21 53.9 -49.6 124.7	21 20.1 -49.4 123.8	20 45.9 -49.1 122.9	20 11.4 -48.9 122.0	19 36.5 -48.6 121.2
6°	21 04.3 -49.8 125.3	20 30.7 -49.5 124.4	19 56.8 -49.3 123.5	19 22.5 -49.1 122.7	18 47.9 -48.9 121.8
7°	20 14.5 -49.9 125.9	19 41.2 -49.7 125.0	19 07.5 -49.4 124.1	18 33.4 -49.1 123.3	17 59.0 -48.9 122.4
8°	19 24.6 -50.0 126.5	18 51.5 -49.7 125.6	18 18.1 -49.6 124.7	17 44.3 -49.3 123.9	17 10.1 -49.0 123.0
9°	18 34.6 -50.1 127.0	18 01.8 -49.9 126.2	17 28.5 -49.6 125.3	16 55.0 -49.4 124.5	16 21.1 -49.2 123.6
10°	17 44.5 -50.2 127.6	17 11.9 -50.0 126.8	16 38.9 -49.7 125.9	16 05.6 -49.5 125.1	15 31.9 -49.2 124.2
11°	16 54.3 -50.3 128.2	16 21.9 -50.0 127.3	15 49.2 -49.8 126.5	15 16.1 -49.5 125.6	14 42.7 -49.3 124.8
12°	16 04.0 -50.4 128.8	15 31.9 -50.2 127.9	14 59.4 -49.9 127.1	14 26.6 -49.7 126.2	13 53.4 -49.4 125.4
13°	15 13.6 -50.5 129.3	14 41.7 -50.2 128.5	14 09.5 -50.0 127.6	13 36.9 -49.7 126.8	13 04.0 -49.5 126.0
14°	14 23.1 -50.6 129.9	13 51.5 -50.3 129.0	13 19.5 -50.0 128.2	12 47.2 -49.8 127.4	12 14.5 -49.6 126.6
15°	13 32.5 -50.6 130.4	13 01.2 -50.4 129.6	12 29.5 -50.2 128.8	11 57.4 -49.9 128.0	11 24.9 -49.6 127.1
16°	12 41.9 -50.7 131.0	12 10.8 -50.5 130.2	11 39.3 -50.2 129.3	11 07.5 -49.9 128.5	10 35.3 -49.7 127.7
17°	11 51.2 -50.8 131.5	11 20.3 -50.5 130.7	10 49.1 -50.2 129.9	10 17.6 -50.0 129.1	9 45.6 -49.7 128.3
18°	11 00.4 -50.8 132.1	10 29.8 -50.5 131.3	9 58.9 -50.3 130.5	9 27.6 -50.1 129.6	8 55.9 -49.8 128.8
19°	10 09.6 -50.9 132.6	9 39.3 -50.6 131.8	9 08.6 -50.4 131.0	8 37.5 -50.1 130.2	8 06.1 -49.9 129.4
20°	9 18.7 -50.9 133.2	8 48.7 -50.7 132.4	8 18.2 -50.4 131.6	7 47.4 -50.1 130.8	7 16.2 -49.8 130.0
21°	8 27.8 -51.0 133.7	7 58.0 -50.7 132.9	7 27.8 -50.4 132.1	6 57.3 -50.2 131.3	6 26.4 -50.0 130.5
22°	7 36.8 -51.0 134.2	7 07.3 -50.8 133.4	6 37.4 -50.5 132.6	6 07.1 -50.2 131.9	5 36.4 -49.9 131.1
23°	6 45.8 -51.0 134.8	6 16.5 -50.7 134.0	5 46.9 -50.5 133.2	5 16.9 -50.3 132.4	4 46.5 -50.0 131.6
24°	5 54.8 -51.1 135.3	5 25.8 -50.8 134.5	4 56.4 -50.5 133.7	4 26.6 -50.2 133.0	3 56.5 -50.0 132.2
25°	5 03.7 -51.1 135.8	4 35.0 -50.9 135.0	4 05.9 -50.6 134.3	3 36.4 -50.3 133.5	3 06.5 -50.0 132.8
26°	4 12.6 -51.1 136.3	3 44.1 -50.8 135.6	3 15.3 -50.6 134.8	2 46.1 -50.3 134.1	2 16.5 -50.0 133.3
27°	3 21.5 -51.2 136.9	2 53.3 -50.9 136.1	2 24.7 -50.6 135.4	1 55.8 -50.3 134.6	1 26.5 -50.1 133.9
28°	2 30.3 -51.1 137.4	2 02.4 -50.8 136.6	1 34.1 -50.5 135.9	1 05.5 -50.3 135.1	0 36.4 -50.0 134.4
29°	1 39.2 -51.2 137.9	1 11.6 -50.9 137.2	0 43.6 -50.6 136.4	0 15.2 -50.4 135.7	-0 13.6 -50.1

Dec	LHA 055° / 305°	LHA 056° / 304°	LHA 057° / 303°	LHA 058° / 302°	LHA 059° / 301°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	23 01.7 -47.8 117.1	22 25.1 -47.5 116.3	21 48.3 -47.4 115.4	21 11.2 -47.2 114.6	20 33.8 -46.9 113.7
1°	22 13.9 -47.9 117.8	21 37.6 -47.7 116.9	21 00.9 -47.5 116.1	20 24.0 -47.2 115.2	19 46.9 -47.1 114.4
2°	21 26.0 -48.1 118.4	20 49.9 -47.9 117.6	20 13.4 -47.6 116.7	19 36.8 -47.5 115.9	18 59.8 -47.2 115.0
3°	20 37.9 -48.2 119.1	20 02.0 -48.0 118.2	19 25.8 -47.8 117.4	18 49.3 -47.5 116.5	18 12.6 -47.4 115.7
4°	19 49.7 -48.3 119.7	19 14.0 -48.1 118.8	18 38.0 -47.9 118.0	18 01.8 -47.7 117.2	17 25.2 -47.4 116.3
5°	19 01.4 -48.5 120.3	18 25.9 -48.2 119.5	17 50.1 -48.0 118.6	17 14.1 -47.8 117.8	16 37.8 -47.6 117.0
6°	18 12.9 -48.6 120.9	17 37.7 -48.4 120.1	17 02.1 -48.1 119.3	16 26.3 -47.9 118.4	15 50.2 -47.8 117.6
7°	17 24.3 -48.7 121.6	16 49.3 -48.5 120.7	16 14.0 -48.3 119.9	15 38.4 -48.1 119.1	15 02.4 -47.8 118.2
8°	16 35.6 -48.8 122.2	16 00.8 -48.5 121.3	15 25.7 -48.3 120.5	14 50.3 -48.1 119.7	14 14.6 -47.9 118.9
9°	15 46.8 -48.9 122.8	15 12.3 -48.7 121.9	14 37.4 -48.5 121.1	14 02.2 -48.2 120.3	13 26.7 -48.0 119.5
10°	14 57.9 -49.0 123.4	14 23.6 -48.8 122.6	13 48.9 -48.5 121.7	13 14.0 -48.3 120.9	12 38.7 -48.0 120.1
11°	14 08.9 -49.1 124.0	13 34.8 -48.8 123.2	13 00.4 -48.6 122.3	12 25.7 -48.4 121.5	11 50.7 -48.2 120.7
12°	13 19.8 -49.1 124.6	12 46.0 -48.9 123.7	12 11.8 -48.7 122.9	11 37.3 -48.5 122.1	11 02.5 -48.2 121.3
13°	12 30.7 -49.3 125.2	11 57.1 -49.0 124.3	11 23.1 -48.8 123.5	10 48.8 -48.5 122.7	10 14.3 -48.3 121.9
14°	11 41.4 -49.3 125.7	11 08.1 -49.1 124.9	10 34.3 -48.8 124.1	10 00.3 -48.6 123.3	9 26.0 -48.4 122.5
15°	10 52.1 -49.3 126.3	10 19.0 -49.1 125.5	9 45.5 -48.9 124.7	9 11.7 -48.6 123.9	8 37.6 -48.4 123.1
16°	10 02.8 -49.5 126.9	9 29.9 -49.2 126.1	8 56.6 -48.9 125.3	8 23.1 -48.7 124.5	7 49.2 -48.5 123.7
17°	9 13.3 -49.5 127.5	8 40.7 -49.3 126.7	8 07.7 -49.0 125.9	7 34.4 -48.8 125.1	7 00.7 -48.5 124.3
18°	8 23.8 -49.5 128.0	7 51.4 -49.3 127.3	7 18.7 -49.1 126.5	6 45.6 -48.8 125.7	6 12.2 -48.5 124.9
19°	7 34.3 -49.6 128.6	7 02.1 -49.3 127.8	6 29.6 -49.0 127.1	5 56.8 -48.8 126.3	5 23.7 -48.6 125.5
20°	6 44.7 -49.6 129.2	6 12.8 -49.4 128.4	5 40.6 -49.1 127.6	5 08.0 -48.9 126.9	4 35.1 -48.6 126.1
21°	5 55.1 -49.7 129.8	5 23.4 -49.4 129.0	4 51.5 -49.2 128.2	4 19.1 -48.9 127.4	3 46.5 -48.7 126.7
22°	5 05.4 -49.7 130.3	4 34.0 -49.4 129.5	4 02.3 -49.2 128.8	3 30.2 -48.9 128.0	2 57.8 -48.6 127.3
23°	4 15.7 -49.7 130.9	3 44.6 -49.4 130.1	3 13.1 -49.1 129.4	2 41.3 -48.9 128.6	2 09.2 -48.7 127.9
24°	3 26.0 -49.7 131.4	2 55.2 -49.5 130.7	2 24.0 -49.2 129.9	1 52.4 -48.9 129.2	1 20.5 -48.7 128.4
25°	2 36.3 -49.8 132.0	2 05.7 -49.5 131.2	1 34.8 -49.3 130.5	1 03.5 -49.0 129.8	0 31.8 -48.6 129.0
26°	1 46.5 -49.7 132.6	1 16.2 -49.5 131.8	0 45.5 -49.2 131.1	0 14.5 -48.9 130.3	-0 16.8 -48.7
27°	0 56.8 -49.8 133.1	0 26.7 -49.5 132.4	-0 03.7 -49.2	-0 34.4 -49.0	-1 05.5 -48.7
28°	0 07.0 -49.8 133.7	-0 22.8 -49.4	-0 52.9 -49.2	-1 23.4 -48.9	-1 54.2 -48.6
29°	-0 42.8 -49.7	-1 12.2 -49.5	-1 42.1 -49.2	-2 12.3 -48.9	-2 42.8 -48.7

Dec	LHA 060° / 300°	LHA 061° / 299°	LHA 062° / 298°	LHA 063° / 297°	LHA 064° / 296°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	19 56.3 -46.8 112.9	19 18.5 -46.6 112.1	18 40.4 -46.4 111.2	18 02.2 -46.2 110.4	17 23.7 -46.0 109.6
1°	19 09.5 -46.9 113.6	18 31.9 -46.7 112.7	17 54.0 -46.5 111.9	17 16.0 -46.4 111.1	16 37.7 -46.2 110.3
2°	18 22.6 -47.0 114.2	17 45.2 -46.9 113.4	17 07.5 -46.6 112.6	16 29.6 -46.5 111.8	15 51.5 -46.3 111.0
3°	17 35.6 -47.2 114.9	16 58.3 -46.9 114.0	16 20.9 -46.8 113.2	15 43.1 -46.5 112.4	15 05.2 -46.4 111.6
4°	16 48.4 -47.2 115.5	16 11.4 -47.1 114.7	15 34.1 -46.9 113.9	14 56.6 -46.8 113.1	14 18.8 -46.5 112.3
5°	16 01.2 -47.4 116.2	15 24.3 -47.2 115.3	14 47.2 -47.0 114.5	14 09.8 -46.8 113.7	13 32.3 -46.6 112.9
6°	15 13.8 -47.5 116.8	14 37.1 -47.3 116.0	14 00.2 -47.1 115.2	13 23.0 -46.9 114.4	12 45.7 -46.8 113.6
7°	14 26.3 -47.6 117.4	13 49.8 -47.4 116.6	13 13.1 -47.2 115.8	12 36.1 -47.0 115.0	11 58.9 -46.8 114.2
8°	13 38.7 -47.7 118.1	13 02.4 -47.5 117.2	12 25.9 -47.3 116.4	11 49.1 -47.0 115.7	11 12.1 -46.8 114.9
9°	12 51.0 -47.8 118.7	12 14.9 -47.5 117.9	11 38.6 -47.3 117.1	11 02.1 -47.2 116.3	10 25.3 -47.0 115.5
10°	12 03.2 -47.9 119.3	11 27.4 -47.7 118.5	10 51.3 -47.5 117.7	10 14.9 -47.2 116.9	9 38.3 -47.0 116.1
11°	11 15.3 -47.9 119.9	10 39.7 -47.7 119.1	10 03.8 -47.5 118.3	9 27.7 -47.3 117.5	8 51.3 -47.1 116.8
12°	10 27.4 -48.0 120.5	9 52.0 -47.8 119.7	9 16.3 -47.5 118.9	8 40.4 -47.4 118.2	8 04.2 -47.2 117.4
13°	9 39.4 -48.1 121.1	9 04.2 -47.8 120.3	8 28.8 -47.7 119.6	7 53.0 -47.4 118.8	7 17.0 -47.2 118.0
14°	8 51.3 -48.1 121.7	8 16.4 -47.9 121.0	7 41.1 -47.6 120.2	7 05.6 -47.4 119.4	6 29.8 -47.2 118.6
15°	8 03.2 -48.2 122.3	7 28.5 -48.0 121.6	6 53.5 -47.8 120.8	6 18.2 -47.5 120.0	5 42.6 -47.3 119.2
16°	7 15.0 -48.2 122.9	6 40.5 -48.0 122.2	6 05.7 -47.7 121.4	5 30.7 -47.6 120.6	4 55.3 -47.3 119.9
17°	6 26.8 -48.3 123.5	5 52.5 -48.0 122.8	5 18.0 -47.8 122.0	4 43.1 -47.5 121.2	4 08.0 -47.3 120.5
18°	5 38.5 -48.3 124.1	5 04.5 -48.1 123.4	4 30.2 -47.9 122.6	3 55.6 -47.6 121.9	3 20.7 -47.4 121.1
19°	4 50.2 -48.3 124.7	4 16.4 -48.1 124.0	3 42.3 -47.8 123.2	3 08.0 -47.7 122.5	2 33.3 -47.4 121.7
20°	4 01.9 -48.4 125.3	3 28.3 -48.1 124.6	2 54.5 -47.9 123.8	2 20.3 -47.6 123.1	1 45.9 -47.4 122.3
21°	3 13.5 -48.4 125.9	2 40.2 -48.1 125.2	2 06.6 -47.9 124.4	1 32.7 -47.6 123.7	0 58.5 -47.4 122.9
22°	2 25.1 -48.4 126.5	1 52.1 -48.2 125.8	1 18.7 -47.9 125.0	0 45.1 -47.7 124.3	0 11.1 -47.4 123.6
23°	1 36.7 -48.4 127.1	1 03.9 -48.1 126.4	0 30.8 -47.9 125.6	-0 02.6 -47.6	-0 36.3 -47.4
24°	0 48.3 -48.4 127.7	0 15.8 -48.2 127.0	-0 17.1 -47.9	-0 50.2 -47.7	-1 23.7 -47.4
25°	-0 00.1 -48.4	-0 32.4 -48.1	-1 05.0 -47.9	-1 37.9 -47.6	-2 11.1 -47.4
26°	-0 48.5 -48.4	-1 20.5 -48.2	-1 52.9 -47.9	-2 25.5 -47.6	-2 58.5 -47.3
27°	-1 36.9 -48.4	-2 08.7 -48.1	-2 40.8 -47.8	-3 13.1 -47.6	-3 45.8 -47.4
28°	-2 25.3 -48.4	-2 56.8 -48.1	-3 28.6 -47.9	-4 00.7 -47.6	-4 33.2 -47.3
29°	-3 13.7 -48.4	-3 44.9 -48.1	-4 16.5 -47.8	-4 48.3 -47.5	-5 20.5 -47.2

Dec	LHA 065° / 295°	LHA 066° / 294°	LHA 067° / 293°	LHA 068° / 292°	LHA 069° / 291°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	16 45.1 -45.9 108.8	16 06.3 -45.8 108.0	15 27.3 -45.6 107.2	14 48.1 -45.4 106.5	14 08.8 -45.3 105.7
1°	15 59.2 -46.0 109.5	15 20.5 -45.8 108.7	14 41.7 -45.7 107.9	14 02.7 -45.6 107.1	13 23.5 -45.4 106.4
2°	15 13.2 -46.1 110.2	14 34.7 -46.0 109.4	13 56.0 -45.8 108.6	13 17.1 -45.6 107.8	12 38.1 -45.5 107.0
3°	14 27.1 -46.3 110.8	13 48.7 -46.1 110.0	13 10.2 -45.9 109.3	12 31.5 -45.8 108.5	11 52.6 -45.6 107.7
4°	13 40.8 -46.3 111.5	13 02.6 -46.1 110.7	12 24.3 -46.0 109.9	11 45.7 -45.8 109.1	11 07.0 -45.7 108.4
5°	12 54.5 -46.5 112.1	12 16.5 -46.3 111.4	11 38.3 -46.1 110.6	10 59.9 -46.0 109.8	10 21.3 -45.8 109.0
6°	12 08.0 -46.5 112.8	11 30.2 -46.3 112.0	10 52.2 -46.2 111.2	10 13.9 -46.0 110.4	9 35.5 -45.9 109.7
7°	11 21.5 -46.6 113.4	10 43.9 -46.5 112.6	10 06.0 -46.3 111.9	9 27.9 -46.1 111.1	8 49.6 -45.9 110.3
8°	10 34.9 -46.7 114.1	9 57.4 -46.5 113.3	9 19.7 -46.3 112.5	8 41.8 -46.1 111.7	8 03.7 -46.0 111.0
9°	9 48.2 -46.8 114.7	9 10.9 -46.6 113.9	8 33.4 -46.4 113.2	7 55.7 -46.2 112.4	7 17.7 -46.0 111.6
10°	9 01.4 -46.8 115.3	8 24.3 -46.6 114.6	7 47.0 -46.4 113.8	7 09.5 -46.3 113.0	6 31.7 -46.1 112.3
11°	8 14.6 -46.9 116.0	7 37.7 -46.7 115.2	7 00.6 -46.5 114.4	6 23.2 -46.3 113.7	5 45.6 -46.1 112.9
12°	7 27.7 -46.9 116.6	6 51.0 -46.7 115.8	6 14.1 -46.6 115.1	5 36.9 -46.4 114.3	4 59.5 -46.2 113.6
13°	6 40.8 -47.0 117.2	6 04.3 -46.8 116.5	5 27.5 -46.6 115.7	4 50.5 -46.3 115.0	4 13.3 -46.2 114.2
14°	5 53.8 -47.0 117.9	5 17.5 -46.8 117.1	4 40.9 -46.6 116.3	4 04.2 -46.5 115.6	3 27.1 -46.2 114.8
15°	5 06.8 -47.1 118.5	4 30.7 -46.9 117.7	3 54.3 -46.6 117.0	3 17.7 -46.4 116.2	2 40.9 -46.2 115.5
16°	4 19.7 -47.1 119.1	3 43.8 -46.9 118.4	3 07.7 -46.7 117.6	2 31.3 -46.5 116.9	1 54.7 -46.3 116.1
17°	3 32.6 -47.1 119.7	2 56.9 -46.9 119.0	2 21.0 -46.7 118.2	1 44.8 -46.4 117.5	1 08.4 -46.2 116.8
18°	2 45.5 -47.2 120.4	2 10.0 -46.9 119.6	1 34.3 -46.7 118.9	0 58.4 -46.5 118.1	0 22.2 -46.3 117.4
19°	1 58.3 -47.1 121.0	1 23.1 -46.9 120.2	0 47.6 -46.7 119.5	0 11.9 -46.5 118.8	-0 24.1 -46.3
20°	1 11.2 -47.2 121.6	0 36.2 -46.9 120.9	0 00.9 -46.7 120.1	-0 34.6 -46.5	-1 10.4 -46.2
21°	0 24.0 -47.1 122.2	-0 10.7 -47.0	-0 45.8 -46.7	-1 21.1 -46.4	-1 56.6 -46.3
22°	-0 23.1 -47.2	-0 57.7 -46.9	-1 32.5 -46.7	-2 07.5 -46.5	-2 42.9 -46.2
23°	-1 10.3 -47.2	-1 44.6 -46.9	-2 19.2 -46.6	-2 54.0 -46.4	-3 29.1 -46.2
24°	-1 57.5 -47.1	-2 31.5 -46.9	-3 05.8 -46.7	-3 40.4 -46.4	-4 15.3 -46.2
25°	-2 44.6 -47.1	-3 18.4 -46.9	-3 52.5 -46.6	-4 26.8 -46.4	-5 01.5 -46.1
26°	-3 31.7 -47.1	-4 05.3 -46.8	-4 39.1 -46.6	-5 13.2 -46.3	-5 47.6 -46.1
27°	-4 18.8 -47.1	-4 52.1 -46.8	-5 25.7 -46.5	-5 59.5 -46.3	-6 33.7 -46.0
28°	-5 05.9 -47.0	-5 38.9 -46.8	-6 12.2 -46.5	-6 45.8 -46.3	-7 19.7 -46.0
29°	-5 52.9 -47.0	-6 25.7 -46.7	-6 58.7 -46.5	-7 32.1 -46.1	-8 05.7 -45.9

Dec	LHA 070° / 290°	LHA 071° / 289°	LHA 072° / 288°	LHA 073° / 287°	LHA 074° / 286°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	13 29.3 -45.1 104.9	12 49.7 -45.0 104.1	12 10.0 -45.0 103.4	11 30.1 -44.8 102.6	10 50.1 -44.7 101.8
1°	12 44.2 -45.3 105.6	12 04.7 -45.2 104.8	11 25.0 -45.0 104.0	10 45.3 -44.9 103.3	10 05.4 -44.8 102.5
2°	11 58.9 -45.4 106.3	11 19.5 -45.2 105.5	10 40.0 -45.1 104.7	10 00.4 -45.0 104.0	9 20.6 -44.9 103.2
3°	11 13.5 -45.5 106.9	10 34.3 -45.4 106.2	9 54.9 -45.2 105.4	9 15.4 -45.1 104.6	8 35.7 -44.9 103.9
4°	10 28.0 -45.5 107.6	9 48.9 -45.4 106.8	9 09.7 -45.3 106.1	8 30.3 -45.1 105.3	7 50.8 -45.1 104.5
5°	9 42.5 -45.6 108.2	9 03.5 -45.4 107.5	8 24.4 -45.3 106.7	7 45.2 -45.2 106.0	7 05.7 -45.0 105.2
6°	8 56.9 -45.7 108.9	8 18.1 -45.6 108.1	7 39.1 -45.4 107.4	7 00.0 -45.3 106.6	6 20.7 -45.1 105.9
7°	8 11.2 -45.8 109.6	7 32.5 -45.6 108.8	6 53.7 -45.5 108.0	6 14.7 -45.3 107.3	5 35.6 -45.2 106.5
8°	7 25.4 -45.8 110.2	6 46.9 -45.6 109.5	6 08.2 -45.5 108.7	5 29.4 -45.3 107.9	4 50.4 -45.2 107.2
9°	6 39.6 -45.9 110.9	6 01.3 -45.7 110.1	5 22.7 -45.5 109.4	4 44.1 -45.4 108.6	4 05.2 -45.3 107.9
10°	5 53.7 -45.9 111.5	5 15.6 -45.8 110.8	4 37.2 -45.6 110.0	3 58.7 -45.4 109.3	3 19.9 -45.2 108.5
11°	5 07.8 -45.9 112.2	4 29.8 -45.7 111.4	3 51.6 -45.6 110.7	3 13.3 -45.5 109.9	2 34.7 -45.3 109.2
12°	4 21.9 -46.0 112.8	3 44.1 -45.9 112.1	3 06.0 -45.6 111.3	2 27.8 -45.5 110.6	1 49.4 -45.3 109.8
13°	3 35.9 -46.0 113.4	2 58.2 -45.8 112.7	2 20.4 -45.6 112.0	1 42.3 -45.4 111.2	1 04.1 -45.3 110.5
14°	2 49.9 -46.0 114.1	2 12.4 -45.8 113.3	1 34.8 -45.7 112.6	0 56.9 -45.5 111.9	0 18.8 -45.3 111.1
15°	2 03.9 -46.1 114.7	1 26.6 -45.9 114.0	0 49.1 -45.7 113.3	0 11.4 -45.5 112.5	-0 26.5 -45.3
16°	1 17.8 -46.0 115.4	0 40.7 -45.8 114.6	0 03.4 -45.6 113.9	-0 34.1 -45.5	-1 11.8 -45.3
17°	0 31.8 -46.1 116.0	-0 05.1 -45.9	-0 42.2 -45.7	-1 19.6 -45.4	-1 57.1 -45.3
18°	-0 14.3 -46.1	-0 51.0 -45.8	-1 27.9 -45.6	-2 05.0 -45.5	-2 42.4 -45.2
19°	-1 00.4 -46.0	-1 36.8 -45.9	-2 13.5 -45.7	-2 50.5 -45.4	-3 27.6 -45.3
20°	-1 46.4 -46.0	-2 22.7 -45.8	-2 59.2 -45.6	-3 35.9 -45.4	-4 12.9 -45.2
21°	-2 32.4 -46.1	-3 08.5 -45.8	-3 44.8 -45.6	-4 21.3 -45.4	-4 58.1 -45.1
22°	-3 18.5 -46.0	-3 54.3 -45.8	-4 30.4 -45.5	-5 06.7 -45.3	-5 43.2 -45.1
23°	-4 04.5 -45.9	-4 40.1 -45.7	-5 15.9 -45.5	-5 52.0 -45.3	-6 28.3 -45.1
24°	-4 50.4 -45.9	-5 25.8 -45.7	-6 01.4 -45.5	-6 37.3 -45.2	-7 13.4 -45.0
25°	-5 36.3 -45.9	-6 11.5 -45.6	-6 46.9 -45.4	-7 22.5 -45.2	-7 58.4 -44.9
26°	-6 22.2 -45.9	-6 57.1 -45.6	-7 32.3 -45.3	-8 07.7 -45.1	-8 43.3 -44.9
27°	-7 08.1 -45.7	-7 42.7 -45.5	-8 17.6 -45.3	-8 52.8 -45.0	-9 28.2 -44.8
28°	-7 53.8 -45.7	-8 28.2 -45.5	-9 02.9 -45.2	-9 37.8 -45.0	
29°	-8 39.5 -45.7	-9 13.7 -45.4	-9 48.1 -45.1		

Dec	LHA 075° / 285°	LHA 076° / 284°	LHA 077° / 283°	LHA 078° / 282°	LHA 079° / 281°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	10 10.0 -44.6 101.1	9 29.8 -44.5 100.3	8 49.5 -44.4 99.6	8 09.1 -44.4 98.8	7 28.6 -44.3 98.1
1°	9 25.4 -44.7 101.8	8 45.3 -44.6 101.0	8 05.1 -44.6 100.3	7 24.7 -44.4 99.5	6 44.3 -44.3 98.8
2°	8 40.7 -44.8 102.4	8 00.7 -44.7 101.7	7 20.5 -44.5 100.9	6 40.3 -44.5 100.2	6 00.0 -44.4 99.4
3°	7 55.9 -44.8 103.1	7 16.0 -44.7 102.4	6 36.0 -44.6 101.6	5 55.8 -44.5 100.9	5 15.6 -44.4 100.1
4°	7 11.1 -44.9 103.8	6 31.3 -44.8 103.0	5 51.4 -44.7 102.3	5 11.3 -44.6 101.5	4 31.2 -44.5 100.8
5°	6 26.2 -45.0 104.5	5 46.5 -44.8 103.7	5 06.7 -44.7 103.0	4 26.7 -44.6 102.2	3 46.7 -44.5 101.5
6°	5 41.2 -45.0 105.1	5 01.7 -44.9 104.4	4 22.0 -44.8 103.6	3 42.1 -44.6 102.9	3 02.2 -44.5 102.1
7°	4 56.2 -45.0 105.8	4 16.8 -44.9 105.0	3 37.2 -44.8 104.3	2 57.5 -44.7 103.6	2 17.7 -44.6 102.8
8°	4 11.2 -45.0 106.4	3 31.9 -44.9 105.7	2 52.4 -44.8 105.0	2 12.8 -44.6 104.2	1 33.1 -44.6 103.5
9°	3 26.2 -45.1 107.1	2 47.0 -45.0 106.4	2 07.6 -44.8 105.6	1 28.2 -44.7 104.9	0 48.5 -44.5 104.2
10°	2 41.1 -45.1 107.8	2 02.0 -45.0 107.0	1 22.8 -44.8 106.3	0 43.5 -44.7 105.6	0 04.0 -44.6 104.8
11°	1 56.0 -45.2 108.4	1 17.0 -44.9 107.7	0 38.0 -44.9 107.0	-0 01.2 -44.7	-0 40.6 -44.6
12°	1 10.8 -45.1 109.1	0 32.1 -45.0 108.4	-0 06.9 -44.8	-0 45.9 -44.7	-1 25.2 -44.5
13°	0 25.7 -45.2 109.7	-0 12.9 -45.0	-0 51.7 -44.8	-1 30.6 -44.7	-2 09.7 -44.5
14°	-0 19.5 -45.1	-0 57.9 -45.0	-1 36.5 -44.8	-2 15.3 -44.7	-2 54.2 -44.6
15°	-1 04.6 -45.1	-1 42.9 -44.9	-2 21.3 -44.8	-3 00.0 -44.6	-3 38.8 -44.4
16°	-1 49.7 -45.1	-2 27.8 -45.0	-3 06.1 -44.8	-3 44.6 -44.6	-4 23.2 -44.5
17°	-2 34.8 -45.1	-3 12.8 -44.9	-3 50.9 -44.7	-4 29.2 -44.6	-5 07.7 -44.4
18°	-3 19.9 -45.1	-3 57.7 -44.9	-4 35.6 -44.7	-5 13.8 -44.5	-5 52.1 -44.3
19°	-4 05.0 -45.0	-4 42.6 -44.8	-5 20.3 -44.7	-5 58.3 -44.5	-6 36.4 -44.3
20°	-4 50.0 -45.0	-5 27.4 -44.8	-6 05.0 -44.6	-6 42.8 -44.4	-7 20.7 -44.3
21°	-5 35.0 -45.0	-6 12.2 -44.8	-6 49.6 -44.6	-7 27.2 -44.4	-8 05.0 -44.1
22°	-6 20.0 -44.9	-6 57.0 -44.7	-7 34.2 -44.4	-8 11.6 -44.2	-8 49.1 -44.1
23°	-7 04.9 -44.8	-7 41.7 -44.6	-8 18.6 -44.5	-8 55.8 -44.3	-9 33.2 -44.0
24°	-7 49.7 -44.8	-8 26.3 -44.6	-9 03.1 -44.3	-9 40.1 -44.1	
25°	-8 34.5 -44.7	-9 10.9 -44.4	-9 47.4 -44.3		
26°	-9 19.2 -44.7	-9 55.3 -44.4			
27°					
28°					
29°					

Dec	LHA 080° / 280°	LHA 081° / 279°	LHA 082° / 278°	LHA 083° / 277°	LHA 084° / 276°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	6 48.1 -44.2 97.3	6 07.5 -44.2 96.6	5 26.8 -44.1 95.9	4 46.1 -44.1 95.1	4 05.3 -44.0 94.4
1°	6 03.9 -44.3 98.0	5 23.3 -44.2 97.3	4 42.7 -44.2 96.5	4 02.0 -44.1 95.8	3 21.3 -44.1 95.1
2°	5 19.6 -44.3 98.7	4 39.1 -44.2 98.0	3 58.5 -44.1 97.2	3 17.9 -44.1 96.5	2 37.2 -44.0 95.8
3°	4 35.3 -44.4 99.4	3 54.9 -44.3 98.6	3 14.4 -44.2 97.9	2 33.8 -44.1 97.2	1 53.2 -44.1 96.4
4°	3 50.9 -44.4 100.1	3 10.6 -44.3 99.3	2 30.2 -44.3 98.6	1 49.7 -44.2 97.8	1 09.1 -44.1 97.1
5°	3 06.5 -44.4 100.7	2 26.3 -44.3 100.0	1 45.9 -44.2 99.3	1 05.5 -44.1 98.5	0 25.0 -44.1 97.8
6°	2 22.1 -44.4 101.4	1 42.0 -44.4 100.7	1 01.7 -44.2 99.9	0 21.4 -44.2 99.2	-0 19.1 -44.1
7°	1 37.7 -44.4 102.1	0 57.6 -44.3 101.3	0 17.5 -44.3 100.6	-0 22.8 -44.2	-1 03.2 -44.0
8°	0 53.3 -44.5 102.8	0 13.3 -44.4 102.0	-0 26.8 -44.2	-1 07.0 -44.1	-1 47.2 -44.1
9°	0 08.8 -44.4 103.4	-0 31.1 -44.3	-1 11.0 -44.3	-1 51.1 -44.2	-2 31.3 -44.0
10°	-0 35.6 -44.5	-1 15.4 -44.3	-1 55.3 -44.2	-2 35.3 -44.1	-3 15.3 -44.1
11°	-1 20.1 -44.4	-1 59.7 -44.3	-2 39.5 -44.2	-3 19.4 -44.1	-3 59.4 -43.9
12°	-2 04.5 -44.5	-2 44.0 -44.3	-3 23.7 -44.2	-4 03.5 -44.0	-4 43.3 -44.0
13°	-2 49.0 -44.3	-3 28.3 -44.3	-4 07.9 -44.1	-4 47.5 -44.0	-5 27.3 -43.9
14°	-3 33.3 -44.4	-4 12.6 -44.2	-4 52.0 -44.1	-5 31.5 -44.0	-6 11.2 -43.8
15°	-4 17.7 -44.3	-4 56.8 -44.2	-5 36.1 -44.0	-6 15.5 -43.9	-6 55.0 -43.8
16°	-5 02.0 -44.3	-5 41.0 -44.1	-6 20.1 -44.0	-6 59.4 -43.8	-7 38.8 -43.7
17°	-5 46.3 -44.3	-6 25.1 -44.1	-7 04.1 -44.0	-7 43.2 -43.8	-8 22.5 -43.7
18°	-6 30.6 -44.2	-7 09.2 -44.1	-7 48.1 -43.8	-8 27.0 -43.7	-9 06.2 -43.5
19°	-7 14.8 -44.1	-7 53.3 -43.9	-8 31.9 -43.8	-9 10.7 -43.7	-9 49.7 -43.5
20°	-7 58.9 -44.0	-8 37.2 -43.9	-9 15.7 -43.7	-9 54.4 -43.5	
21°	-8 42.9 -44.0	-9 21.1 -43.8	-9 59.4 -43.6		
22°	-9 26.9 -43.9				
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 085° / 275°	LHA 086° / 274°	LHA 087° / 273°	LHA 088° / 272°	LHA 089° / 271°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	3 24.5 -44.0 93.7	2 43.6 -43.9 92.9	2 02.7 -43.9 92.2	1 21.8 -43.9 91.5	0 40.9 -43.9 90.7
1°	2 40.5 -44.0 94.3	1 59.7 -44.0 93.6	1 18.8 -43.9 92.9	0 37.9 -43.9 92.1	-0 03.0 -43.9
2°	1 56.5 -44.0 95.0	1 15.7 -44.0 94.3	0 34.9 -43.9 93.6	-0 06.0 -43.9	-0 46.9 -43.8
3°	1 12.5 -44.0 95.7	0 31.7 -43.9 95.0	-0 09.0 -44.0	-0 49.9 -43.9	-1 30.7 -43.9
4°	0 28.5 -44.1 96.4	-0 12.2 -44.0	-0 53.0 -43.9	-1 33.8 -43.9	-2 14.6 -43.8
5°	-0 15.6 -44.0	-0 56.2 -44.0	-1 36.9 -43.9	-2 17.7 -43.8	-2 58.4 -43.9
6°	-0 59.6 -44.0	-1 40.2 -43.9	-2 20.8 -43.9	-3 01.5 -43.9	-3 42.3 -43.8
7°	-1 43.6 -44.0	-2 24.1 -43.9	-3 04.7 -43.9	-3 45.4 -43.8	-4 26.1 -43.7
8°	-2 27.6 -44.0	-3 08.0 -44.0	-3 48.6 -43.8	-4 29.2 -43.7	-5 09.8 -43.7
9°	-3 11.6 -43.9	-3 52.0 -43.8	-4 32.4 -43.8	-5 12.9 -43.7	-5 53.5 -43.7
10°	-3 55.5 -44.0	-4 35.8 -43.9	-5 16.2 -43.7	-5 56.6 -43.7	-6 37.2 -43.6
11°	-4 39.5 -43.8	-5 19.7 -43.7	-5 59.9 -43.7	-6 40.3 -43.6	-7 20.8 -43.5
12°	-5 23.3 -43.9	-6 03.4 -43.8	-6 43.6 -43.7	-7 23.9 -43.6	-8 04.3 -43.5
13°	-6 07.2 -43.8	-6 47.2 -43.6	-7 27.3 -43.5	-8 07.5 -43.5	-8 47.8 -43.4
14°	-6 51.0 -43.7	-7 30.8 -43.7	-8 10.8 -43.6	-8 51.0 -43.4	-9 31.2 -43.3
15°	-7 34.7 -43.6	-8 14.5 -43.5	-8 54.4 -43.4	-9 34.4 -43.3	
16°	-8 18.3 -43.6	-8 58.0 -43.5	-9 37.8 -43.3		
17°	-9 01.9 -43.5	-9 41.5 -43.3			
18°	-9 45.4 -43.4				
19°					
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 090° / 270°	LHA 091° / 269°	LHA 092° / 268°	LHA 093° / 267°	LHA 094° / 266°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	0 00.0 -43.9 90.0	-0 40.9 -43.9			
1°	-0 43.9 -43.9	-1 24.8 -43.9			
2°	-1 27.8 -43.8	-2 08.7 -43.8			
3°	-2 11.6 -43.9	-2 52.5 -43.8			
4°	-2 55.5 -43.8	-3 36.3 -43.8			
5°	-3 39.3 -43.8	-4 20.1 -43.8			
6°	-4 23.1 -43.7	-5 03.9 -43.7			
7°	-5 06.8 -43.7	-5 47.6 -43.7			
8°	-5 50.5 -43.7	-6 31.3 -43.6			
9°	-6 34.2 -43.6	-7 14.9 -43.5			
10°	-7 17.8 -43.5	-7 58.4 -43.5			
11°	-8 01.3 -43.5	-8 41.9 -43.4			
12°	-8 44.8 -43.4	-9 25.3 -43.3			
13°	-9 28.2 -43.3				
14°					
15°					
16°					
17°					
18°					
19°					
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 095° / 265°	LHA 096° / 264°	LHA 097° / 263°	LHA 098° / 262°	LHA 099° / 261°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°					
1°					
2°					
3°					
4°					
5°					
6°					
7°					
8°					
9°					
10°					
11°					
12°					
13°					
14°					
15°					
16°					
17°					
18°					
19°					
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 000° / 360°	LHA 001° / 359°	LHA 002° / 358°	LHA 003° / 357°	LHA 004° / 356°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	42 00.0 -60.0 180.0	41 59.5 -60.0 178.7	41 58.1 -60.0 177.3	41 55.8 -60.0 176.0	41 52.5 -59.9 174.6
1°	41 00.0 -60.0 180.0	40 59.5 -60.0 178.7	40 58.1 -59.9 177.4	40 55.8 -59.9 176.0	40 52.6 -59.9 174.7
2°	40 00.0 -60.0 180.0	39 59.5 -60.0 178.7	39 58.2 -60.0 177.4	39 55.9 -59.9 176.1	39 52.7 -59.9 174.8
3°	39 00.0 -60.0 180.0	38 59.5 -59.9 178.7	38 58.2 -60.0 177.4	38 56.0 -60.0 176.1	38 52.8 -59.9 174.9
4°	38 00.0 -60.0 180.0	37 59.6 -60.0 178.7	37 58.2 -59.9 177.5	37 56.0 -59.9 176.2	37 52.9 -59.9 174.9
5°	37 00.0 -60.0 180.0	36 59.6 -60.0 178.8	36 58.3 -60.0 177.5	36 56.1 -60.0 176.3	36 53.0 -59.9 175.0
6°	36 00.0 -60.0 180.0	35 59.6 -60.0 178.8	35 58.3 -60.0 177.5	35 56.1 -59.9 176.3	35 53.1 -59.9 175.1
7°	35 00.0 -60.0 180.0	34 59.6 -60.0 178.8	34 58.3 -60.0 177.6	34 56.2 -60.0 176.4	34 53.2 -59.9 175.2
8°	34 00.0 -60.0 180.0	33 59.6 -60.0 178.8	33 58.3 -60.0 177.6	33 56.2 -59.9 176.4	33 53.3 -59.9 175.2
9°	33 00.0 -60.0 180.0	32 59.6 -60.0 178.8	32 58.3 -59.9 177.6	32 56.3 -60.0 176.5	32 53.4 -59.9 175.3
10°	32 00.0 -60.0 180.0	31 59.6 -60.0 178.8	31 58.4 -60.0 177.7	31 56.3 -59.9 176.5	31 53.5 -59.9 175.4
11°	31 00.0 -60.0 180.0	30 59.6 -60.0 178.9	30 58.4 -60.0 177.7	30 56.4 -60.0 176.6	30 53.6 -59.9 175.4
12°	30 00.0 -60.0 180.0	29 59.6 -60.0 178.9	29 58.4 -60.0 177.7	29 56.4 -59.9 176.6	29 53.7 -59.9 175.5
13°	29 00.0 -60.0 180.0	28 59.6 -60.0 178.9	28 58.4 -59.9 177.8	28 56.5 -60.0 176.7	28 53.8 -60.0 175.5
14°	28 00.0 -60.0 180.0	27 59.6 -60.0 178.9	27 58.5 -60.0 177.8	27 56.5 -59.9 176.7	27 53.8 -59.9 175.6
15°	27 00.0 -60.0 180.0	26 59.6 -60.0 178.9	26 58.5 -60.0 177.8	26 56.6 -60.0 176.7	26 53.9 -59.9 175.7
16°	26 00.0 -60.0 180.0	25 59.6 -60.0 178.9	25 58.5 -60.0 177.9	25 56.6 -59.9 176.8	25 54.0 -59.9 175.7
17°	25 00.0 -60.0 180.0	24 59.6 -60.0 178.9	24 58.5 -60.0 177.9	24 56.7 -60.0 176.8	24 54.1 -59.9 175.8
18°	24 00.0 -60.0 180.0	23 59.6 -60.0 179.0	23 58.5 -59.9 177.9	23 56.7 -59.9 176.9	23 54.2 -60.0 175.8
19°	23 00.0 -60.0 180.0	22 59.6 -60.0 179.0	22 58.6 -60.0 177.9	22 56.8 -60.0 176.9	22 54.2 -59.9 175.9
20°	22 00.0 -60.0 180.0	21 59.6 -60.0 179.0	21 58.6 -60.0 178.0	21 56.8 -60.0 177.0	21 54.3 -59.9 175.9
21°	21 00.0 -60.0 180.0	20 59.6 -59.9 179.0	20 58.6 -60.0 178.0	20 56.8 -59.9 177.0	20 54.4 -59.9 176.0
22°	20 00.0 -60.0 180.0	19 59.7 -60.0 179.0	19 58.6 -60.0 178.0	19 56.9 -60.0 177.0	19 54.5 -60.0 176.1
23°	19 00.0 -60.0 180.0	18 59.7 -60.0 179.0	18 58.6 -59.9 178.1	18 56.9 -59.9 177.1	18 54.5 -59.9 176.1
24°	18 00.0 -60.0 180.0	17 59.7 -60.0 179.0	17 58.7 -60.0 178.1	17 57.0 -60.0 177.1	17 54.6 -59.9 176.2
25°	17 00.0 -60.0 180.0	16 59.7 -60.0 179.1	16 58.7 -60.0 178.1	16 57.0 -59.9 177.2	16 54.7 -59.9 176.2
26°	16 00.0 -60.0 180.0	15 59.7 -60.0 179.1	15 58.7 -60.0 178.1	15 57.1 -60.0 177.2	15 54.8 -60.0 176.3
27°	15 00.0 -60.0 180.0	14 59.7 -60.0 179.1	14 58.7 -60.0 178.2	14 57.1 -60.0 177.2	14 54.8 -59.9 176.3
28°	14 00.0 -60.0 180.0	13 59.7 -60.0 179.1	13 58.7 -60.0 178.2	13 57.1 -59.9 177.3	13 54.9 -59.9 176.4
29°	13 00.0 -60.0 180.0	12 59.7 -60.0 179.1	12 58.7 -59.9 178.2	12 57.2 -60.0 177.3	12 55.0 -60.0 176.4

Dec	LHA 005° / 355°	LHA 006° / 354°	LHA 007° / 353°	LHA 008° / 352°	LHA 009° / 351°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	41 48.2 -59.8 173.3	41 43.1 -59.8 171.9	41 37.0 -59.7 170.6	41 30.0 -59.5 169.3	41 22.1 -59.4 168.0
1°	40 48.4 -59.8 173.4	40 43.3 -59.7 172.1	40 37.3 -59.6 170.8	40 30.5 -59.6 169.5	40 22.7 -59.5 168.2
2°	39 48.6 -59.8 173.5	39 43.6 -59.8 172.2	39 37.7 -59.7 170.9	39 30.9 -59.6 169.6	39 23.2 -59.4 168.3
3°	38 48.8 -59.9 173.6	38 43.8 -59.7 172.3	38 38.0 -59.7 171.0	38 31.3 -59.5 169.8	38 23.8 -59.5 168.5
4°	37 48.9 -59.8 173.7	37 44.1 -59.8 172.4	37 38.3 -59.6 171.2	37 31.8 -59.6 169.9	37 24.3 -59.5 168.7
5°	36 49.1 -59.8 173.8	36 44.3 -59.8 172.5	36 38.7 -59.7 171.3	36 32.2 -59.6 170.1	36 24.8 -59.5 168.8
6°	35 49.3 -59.9 173.9	35 44.5 -59.7 172.6	35 39.0 -59.7 171.4	35 32.6 -59.7 170.2	35 25.3 -59.5 169.0
7°	34 49.4 -59.8 174.0	34 44.8 -59.8 172.7	34 39.3 -59.7 171.5	34 32.9 -59.6 170.3	34 25.8 -59.5 169.1
8°	33 49.6 -59.9 174.0	33 45.0 -59.8 172.8	33 39.6 -59.8 171.7	33 33.3 -59.6 170.5	33 26.3 -59.5 169.3
9°	32 49.7 -59.9 174.1	32 45.2 -59.8 172.9	32 39.8 -59.7 171.8	32 33.7 -59.6 170.6	32 26.8 -59.6 169.5
10°	31 49.8 -59.8 174.2	31 45.4 -59.8 173.0	31 40.1 -59.7 171.9	31 34.1 -59.7 170.7	31 27.2 -59.5 169.6
11°	30 50.0 -59.9 174.3	30 45.6 -59.8 173.1	30 40.4 -59.7 172.0	30 34.4 -59.6 170.9	30 27.7 -59.6 169.7
12°	29 50.1 -59.8 174.4	29 45.8 -59.8 173.2	29 40.7 -59.8 172.1	29 34.8 -59.7 171.0	29 28.1 -59.6 169.9
13°	28 50.3 -59.9 174.4	28 46.0 -59.8 173.3	28 40.9 -59.7 172.2	28 35.1 -59.7 171.1	28 28.5 -59.5 170.0
14°	27 50.4 -59.9 174.5	27 46.2 -59.8 173.4	27 41.2 -59.8 172.3	27 35.4 -59.6 171.2	27 29.0 -59.6 170.1
15°	26 50.5 -59.9 174.6	26 46.4 -59.9 173.5	26 41.4 -59.7 172.4	26 35.8 -59.7 171.4	26 29.4 -59.6 170.3
16°	25 50.6 -59.8 174.7	25 46.5 -59.8 173.6	25 41.7 -59.8 172.5	25 36.1 -59.7 171.5	25 29.8 -59.6 170.4
17°	24 50.8 -59.9 174.7	24 46.7 -59.8 173.7	24 41.9 -59.7 172.6	24 36.4 -59.7 171.6	24 30.2 -59.6 170.5
18°	23 50.9 -59.9 174.8	23 46.9 -59.8 173.8	23 42.2 -59.8 172.7	23 36.7 -59.7 171.7	23 30.6 -59.6 170.7
19°	22 51.0 -59.9 174.9	22 47.1 -59.9 173.8	22 42.4 -59.8 172.8	22 37.0 -59.7 171.8	22 31.0 -59.7 170.8
20°	21 51.1 -59.8 174.9	21 47.2 -59.8 173.9	21 42.6 -59.7 172.9	21 37.3 -59.7 171.9	21 31.3 -59.6 170.9
21°	20 51.3 -59.9 175.0	20 47.4 -59.8 174.0	20 42.9 -59.8 173.0	20 37.6 -59.7 172.0	20 31.7 -59.6 171.0
22°	19 51.4 -59.9 175.1	19 47.6 -59.9 174.1	19 43.1 -59.8 173.1	19 37.9 -59.7 172.1	19 32.1 -59.6 171.1
23°	18 51.5 -59.9 175.1	18 47.7 -59.8 174.2	18 43.3 -59.8 173.2	18 38.2 -59.7 172.2	18 32.5 -59.7 171.3
24°	17 51.6 -59.9 175.2	17 47.9 -59.8 174.2	17 43.5 -59.7 173.3	17 38.5 -59.7 172.3	17 32.8 -59.6 171.4
25°	16 51.7 -59.9 175.3	16 48.1 -59.9 174.3	16 43.8 -59.8 173.4	16 38.8 -59.7 172.4	16 33.2 -59.7 171.5
26°	15 51.8 -59.9 175.3	15 48.2 -59.8 174.4	15 44.0 -59.8 173.5	15 39.1 -59.7 172.5	15 33.5 -59.6 171.6
27°	14 51.9 -59.9 175.4	14 48.4 -59.9 174.5	14 44.2 -59.8 173.6	14 39.4 -59.8 172.6	14 33.9 -59.6 171.7
28°	13 52.0 -59.9 175.5	13 48.5 -59.8 174.5	13 44.4 -59.8 173.6	13 39.6 -59.7 172.7	13 34.3 -59.7 171.8
29°	12 52.1 -59.8 175.5	12 48.7 -59.9 174.6	12 44.6 -59.8 173.7	12 39.9 -59.7 172.8	12 34.6 -59.7 171.9

Latitude 48°

Declination CONTRARY name to Latitude

Dec	LHA 010° / 350°	LHA 011° / 349°	LHA 012° / 348°	LHA 013° / 347°	LHA 014° / 346°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	41 13.3 -59.3 166.7	41 03.5 -59.1 165.3	40 52.9 -58.9 164.0	40 41.5 -58.9 162.7	40 29.1 -58.6 161.5
1°	40 14.0 -59.3 166.9	40 04.4 -59.2 165.6	39 54.0 -59.1 164.3	39 42.6 -58.8 163.0	39 30.5 -58.7 161.7
2°	39 14.7 -59.4 167.1	39 05.2 -59.2 165.8	38 54.9 -59.0 164.5	38 43.8 -58.9 163.3	38 31.8 -58.7 162.0
3°	38 15.3 -59.3 167.2	38 06.0 -59.2 166.0	37 55.9 -59.1 164.7	37 44.9 -58.9 163.5	37 33.1 -58.8 162.3
4°	37 16.0 -59.4 167.4	37 06.8 -59.2 166.2	36 56.8 -59.1 165.0	36 46.0 -59.0 163.7	36 34.3 -58.8 162.5
5°	36 16.6 -59.4 167.6	36 07.6 -59.3 166.4	35 57.7 -59.1 165.2	35 47.0 -58.9 164.0	35 35.5 -58.8 162.8
6°	35 17.2 -59.4 167.8	35 08.3 -59.2 166.6	34 58.6 -59.1 165.4	34 48.1 -59.0 164.2	34 36.7 -58.8 163.0
7°	34 17.8 -59.4 168.0	34 09.1 -59.3 166.8	33 59.5 -59.2 165.6	33 49.1 -59.0 164.4	33 37.9 -58.9 163.2
8°	33 18.4 -59.4 168.1	33 09.8 -59.3 167.0	33 00.3 -59.2 165.8	32 50.1 -59.1 164.6	32 39.0 -58.9 163.5
9°	32 19.0 -59.4 168.3	32 10.5 -59.4 167.1	32 01.1 -59.2 166.0	31 51.0 -59.0 164.8	31 40.1 -58.9 163.7
10°	31 19.6 -59.5 168.5	31 11.1 -59.3 167.3	31 01.9 -59.2 166.2	30 52.0 -59.1 165.0	30 41.2 -58.9 163.9
11°	30 20.1 -59.4 168.6	30 11.8 -59.3 167.5	30 02.7 -59.2 166.4	29 52.9 -59.1 165.2	29 42.3 -59.0 164.1
12°	29 20.7 -59.5 168.8	29 12.5 -59.4 167.7	29 03.5 -59.3 166.5	28 53.8 -59.1 165.4	28 43.3 -59.0 164.3
13°	28 21.2 -59.5 168.9	28 13.1 -59.4 167.8	28 04.2 -59.2 166.7	27 54.7 -59.2 165.6	27 44.3 -59.0 164.6
14°	27 21.7 -59.5 169.1	27 13.7 -59.4 168.0	27 05.0 -59.3 166.9	26 55.5 -59.1 165.8	26 45.3 -59.0 164.8
15°	26 22.2 -59.5 169.2	26 14.3 -59.4 168.1	26 05.7 -59.3 167.1	25 56.4 -59.2 166.0	25 46.3 -59.0 165.0
16°	25 22.7 -59.5 169.4	25 14.9 -59.4 168.3	25 06.4 -59.3 167.2	24 57.2 -59.2 166.2	24 47.3 -59.1 165.2
17°	24 23.2 -59.5 169.5	24 15.5 -59.4 168.5	24 07.1 -59.3 167.4	23 58.0 -59.1 166.4	23 48.2 -59.0 165.4
18°	23 23.7 -59.5 169.6	23 16.1 -59.4 168.6	23 07.8 -59.3 167.6	22 58.9 -59.2 166.6	22 49.2 -59.1 165.5
19°	22 24.2 -59.5 169.8	22 16.7 -59.4 168.8	22 08.5 -59.3 167.7	21 59.7 -59.2 166.7	21 50.1 -59.1 165.7
20°	21 24.7 -59.6 169.9	21 17.3 -59.5 168.9	21 09.2 -59.3 167.9	21 00.5 -59.3 166.9	20 51.0 -59.1 165.9
21°	20 25.1 -59.5 170.0	20 17.8 -59.4 169.1	20 09.9 -59.4 168.1	20 01.2 -59.2 167.1	19 51.9 -59.1 166.1
22°	19 25.6 -59.6 170.2	19 18.4 -59.5 169.2	19 10.5 -59.3 168.2	19 02.0 -59.2 167.3	18 52.8 -59.1 166.3
23°	18 26.0 -59.5 170.3	18 18.9 -59.4 169.3	18 11.2 -59.4 168.4	18 02.8 -59.3 167.4	17 53.7 -59.1 166.5
24°	17 26.5 -59.6 170.4	17 19.5 -59.5 169.5	17 11.8 -59.3 168.5	17 03.5 -59.2 167.6	16 54.6 -59.2 166.6
25°	16 26.9 -59.5 170.6	16 20.0 -59.5 169.6	16 12.5 -59.4 168.7	16 04.3 -59.3 167.8	15 55.4 -59.1 166.8
26°	15 27.4 -59.6 170.7	15 20.5 -59.4 169.8	15 13.1 -59.4 168.8	15 05.0 -59.3 167.9	14 56.3 -59.2 167.0
27°	14 27.8 -59.6 170.8	14 21.1 -59.5 169.9	14 13.7 -59.4 169.0	14 05.7 -59.2 168.1	13 57.1 -59.1 167.2
28°	13 28.2 -59.5 170.9	13 21.6 -59.5 170.0	13 14.3 -59.4 169.1	13 06.5 -59.3 168.2	12 58.0 -59.2 167.3
29°	12 28.7 -59.6 171.1	12 22.1 -59.5 170.2	12 14.9 -59.3 169.3	12 07.2 -59.3 168.4	11 58.8 -59.2 167.5

Dec	LHA 015° / 345°	LHA 016° / 344°	LHA 017° / 343°	LHA 018° / 342°	LHA 019° / 341°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	40 15.9 -58.4 160.2	40 01.9 -58.3 158.9	39 47.0 -58.0 157.6	39 31.3 -57.8 156.4	39 14.9 -57.6 155.1
1°	39 17.5 -58.5 160.5	39 03.6 -58.3 159.2	38 49.0 -58.1 158.0	38 33.5 -57.9 156.7	38 17.3 -57.7 155.5
2°	38 19.0 -58.6 160.8	38 05.3 -58.3 159.5	37 50.9 -58.2 158.3	37 35.6 -57.9 157.1	37 19.6 -57.8 155.8
3°	37 20.4 -58.5 161.0	37 07.0 -58.4 159.8	36 52.7 -58.2 158.6	36 37.7 -58.0 157.4	36 21.8 -57.7 156.2
4°	36 21.9 -58.7 161.3	36 08.6 -58.4 160.1	35 54.5 -58.2 158.9	35 39.7 -58.1 157.7	35 24.1 -57.9 156.5
5°	35 23.2 -58.6 161.6	35 10.2 -58.5 160.4	34 56.3 -58.3 159.2	34 41.6 -58.1 158.0	34 26.2 -57.9 156.8
6°	34 24.6 -58.7 161.8	34 11.7 -58.5 160.6	33 58.0 -58.3 159.5	33 43.5 -58.1 158.3	33 28.3 -57.9 157.2
7°	33 25.9 -58.7 162.1	33 13.2 -58.6 160.9	32 59.7 -58.4 159.8	32 45.4 -58.2 158.6	32 30.4 -58.0 157.5
8°	32 27.2 -58.7 162.3	32 14.6 -58.5 161.2	32 01.3 -58.4 160.0	31 47.2 -58.2 158.9	31 32.4 -58.0 157.8
9°	31 28.5 -58.8 162.6	31 16.1 -58.6 161.4	31 02.9 -58.4 160.3	30 49.0 -58.3 159.2	30 34.4 -58.1 158.1
10°	30 29.7 -58.8 162.8	30 17.5 -58.7 161.7	30 04.5 -58.5 160.6	29 50.7 -58.2 159.5	29 36.3 -58.1 158.4
11°	29 30.9 -58.8 163.0	29 18.8 -58.6 161.9	29 06.0 -58.5 160.8	28 52.5 -58.4 159.7	28 38.2 -58.1 158.6
12°	28 32.1 -58.8 163.3	28 20.2 -58.7 162.2	28 07.5 -58.5 161.1	27 54.1 -58.3 160.0	27 40.1 -58.2 158.9
13°	27 33.3 -58.9 163.5	27 21.5 -58.7 162.4	27 09.0 -58.5 161.3	26 55.8 -58.4 160.3	26 41.1 -58.2 159.2
14°	26 34.4 -58.9 163.7	26 22.8 -58.7 162.6	26 10.5 -58.6 161.6	25 57.4 -58.4 160.5	25 43.7 -58.3 159.5
15°	25 35.5 -58.8 163.9	25 24.1 -58.8 162.9	25 11.9 -58.6 161.8	24 59.0 -58.4 160.8	24 45.4 -58.2 159.7
16°	24 36.7 -59.0 164.1	24 25.3 -58.7 163.1	24 13.3 -58.6 162.1	24 00.6 -58.5 161.0	23 47.2 -58.3 160.0
17°	23 37.7 -58.9 164.3	23 26.6 -58.8 163.3	23 14.7 -58.7 162.3	23 02.1 -58.5 161.3	22 48.9 -58.3 160.3
18°	22 38.8 -58.9 164.5	22 27.8 -58.8 163.5	22 16.0 -58.6 162.5	22 03.6 -58.5 161.5	21 50.6 -58.4 160.5
19°	21 39.9 -59.0 164.7	21 29.0 -58.8 163.7	21 17.4 -58.7 162.7	21 05.1 -58.5 161.8	20 52.2 -58.3 160.8
20°	20 40.9 -58.9 164.9	20 30.2 -58.9 163.9	20 18.7 -58.7 163.0	20 06.6 -58.5 162.0	19 53.9 -58.4 161.0
21°	19 42.0 -59.0 165.1	19 31.3 -58.8 164.2	19 20.0 -58.7 163.2	19 08.1 -58.6 162.2	18 55.5 -58.4 161.3
22°	18 43.0 -59.0 165.3	18 32.5 -58.9 164.4	18 21.3 -58.7 163.4	18 09.5 -58.5 162.5	17 57.1 -58.4 161.5
23°	17 44.0 -59.0 165.5	17 33.6 -58.9 164.6	17 22.6 -58.7 163.6	17 11.0 -58.6 162.7	16 58.7 -58.4 161.7
24°	16 45.0 -59.0 165.7	16 34.7 -58.8 164.8	16 23.9 -58.8 163.8	16 12.4 -58.6 162.9	16 00.3 -58.5 162.0
25°	15 46.0 -59.1 165.9	15 35.9 -58.9 165.0	15 25.1 -58.7 164.0	15 13.8 -58.6 163.1	15 01.8 -58.4 162.2
26°	14 46.9 -59.0 166.1	14 37.0 -58.9 165.2	14 26.4 -58.8 164.3	14 15.2 -58.7 163.3	14 03.4 -58.5 162.4
27°	13 47.9 -59.0 166.3	13 38.1 -59.0 165.4	13 27.6 -58.8 164.5	13 16.5 -58.6 163.6	13 04.9 -58.5 162.7
28°	12 48.9 -59.1 166.4	12 39.1 -58.9 165.6	12 28.8 -58.8 164.7	12 17.9 -58.6 163.8	12 06.4 -58.5 162.9
29°	11 49.8 -59.1 166.6	11 40.2 -58.9 165.7	11 30.0 -58.8 164.9	11 19.3 -58.7 164.0	11 07.9 -58.5 163.1

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Dec	LHA 020° / 340°	LHA 021° / 339°	LHA 022° / 338°	LHA 023° / 337°	LHA 024° / 336°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	38 57.6 -57.4 153.9	38 39.6 -57.2 152.7	38 20.8 -56.9 151.5	38 01.2 -56.6 150.3	37 40.9 -56.4 149.1
1°	38 00.2 -57.4 154.3	37 42.4 -57.2 153.1	37 23.9 -57.0 151.9	37 04.6 -56.8 150.7	36 44.5 -56.4 149.5
2°	37 02.8 -57.5 154.6	36 45.2 -57.3 153.4	36 26.9 -57.1 152.3	36 07.8 -56.8 151.1	35 48.1 -56.6 149.9
3°	36 05.3 -57.6 155.0	35 47.9 -57.3 153.8	35 29.8 -57.1 152.6	35 11.0 -56.9 151.5	34 51.5 -56.6 150.3
4°	35 07.7 -57.6 155.3	34 50.6 -57.4 154.2	34 32.7 -57.2 153.0	34 14.1 -56.9 151.9	33 54.9 -56.8 150.7
5°	34 10.1 -57.7 155.7	33 53.2 -57.5 154.5	33 35.5 -57.2 153.4	33 17.2 -57.0 152.2	32 58.1 -56.7 151.1
6°	33 12.4 -57.8 156.0	32 55.7 -57.5 154.9	32 38.3 -57.3 153.7	32 20.2 -57.1 152.6	32 01.4 -56.9 151.5
7°	32 14.6 -57.8 156.3	31 58.2 -57.6 155.2	31 41.0 -57.4 154.1	31 23.1 -57.2 153.0	31 04.5 -56.9 151.9
8°	31 16.8 -57.8 156.7	31 00.6 -57.7 155.5	30 43.6 -57.4 154.4	30 25.9 -57.2 153.3	30 07.6 -57.0 152.2
9°	30 19.0 -57.9 157.0	30 02.9 -57.6 155.9	29 46.2 -57.5 154.8	29 28.7 -57.2 153.7	29 10.6 -57.0 152.6
10°	29 21.1 -57.9 157.3	29 05.3 -57.7 156.2	28 48.7 -57.5 155.1	28 31.5 -57.3 154.0	28 13.6 -57.1 153.0
11°	28 23.2 -57.9 157.6	28 07.6 -57.8 156.5	27 51.2 -57.6 155.4	27 34.2 -57.4 154.4	27 16.5 -57.2 153.3
12°	27 25.3 -58.0 157.9	27 09.8 -57.8 156.8	26 53.6 -57.6 155.7	26 36.8 -57.4 154.7	26 19.3 -57.2 153.6
13°	26 27.3 -58.0 158.1	26 12.0 -57.8 157.1	25 56.0 -57.6 156.1	25 39.4 -57.4 155.0	25 22.1 -57.2 154.0
14°	25 29.3 -58.1 158.4	25 14.2 -57.9 157.4	24 58.4 -57.7 156.4	24 42.0 -57.5 155.3	24 24.9 -57.3 154.3
15°	24 31.2 -58.1 158.7	24 16.3 -57.9 157.7	24 00.7 -57.7 156.7	23 44.5 -57.5 155.6	23 27.6 -57.3 154.6
16°	23 33.1 -58.1 159.0	23 18.4 -57.9 158.0	23 03.0 -57.7 157.0	22 47.0 -57.6 156.0	22 30.3 -57.4 155.0
17°	22 35.0 -58.1 159.3	22 20.5 -58.0 158.3	22 05.3 -57.8 157.3	21 49.4 -57.6 156.3	21 32.9 -57.4 155.3
18°	21 36.9 -58.2 159.5	21 22.5 -58.0 158.5	21 07.5 -57.8 157.5	20 51.8 -57.6 156.6	20 35.5 -57.4 155.6
19°	20 38.7 -58.2 159.8	20 24.5 -58.0 158.8	20 09.7 -57.9 157.8	19 54.2 -57.6 156.9	19 38.1 -57.4 155.9
20°	19 40.5 -58.2 160.0	19 26.5 -58.1 159.1	19 11.8 -57.8 158.1	18 56.6 -57.7 157.2	18 40.7 -57.5 156.2
21°	18 42.3 -58.2 160.3	18 28.4 -58.0 159.3	18 14.0 -57.9 158.4	17 58.9 -57.7 157.4	17 43.2 -57.5 156.5
22°	17 44.1 -58.3 160.6	17 30.4 -58.1 159.6	17 16.1 -57.9 158.7	17 01.2 -57.7 157.7	16 45.7 -57.6 156.8
23°	16 45.8 -58.3 160.8	16 32.3 -58.1 159.9	16 18.2 -57.9 158.9	16 03.5 -57.8 158.0	15 48.1 -57.5 157.1
24°	15 47.5 -58.2 161.1	15 34.2 -58.1 160.1	15 20.3 -58.0 159.2	15 05.7 -57.8 158.3	14 50.6 -57.6 157.4
25°	14 49.3 -58.3 161.3	14 36.1 -58.2 160.4	14 22.3 -58.0 159.5	14 07.9 -57.7 158.6	13 53.0 -57.6 157.7
26°	13 51.0 -58.4 161.5	13 37.9 -58.1 160.6	13 24.3 -57.9 159.7	13 10.2 -57.9 158.9	12 55.4 -57.6 158.0
27°	12 52.6 -58.3 161.8	12 39.8 -58.2 160.9	12 26.4 -58.0 160.0	12 12.3 -57.8 159.1	11 57.8 -57.7 158.3
28°	11 54.3 -58.3 162.0	11 41.6 -58.2 161.1	11 28.4 -58.0 160.3	11 14.5 -57.8 159.4	11 00.1 -57.6 158.5
29°	10 56.0 -58.4 162.3	10 43.4 -58.1 161.4	10 30.4 -58.1 160.5	10 16.7 -57.9 159.7	10 02.5 -57.7 158.8

Dec	LHA 025° / 335°	LHA 026° / 334°	LHA 027° / 333°	LHA 028° / 332°	LHA 029° / 331°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	37 19.9 -56.1 147.9	36 58.3 -55.9 146.7	36 35.9 -55.6 145.6	36 12.9 -55.4 144.4	35 49.2 -55.1 143.3
1°	36 23.8 -56.2 148.3	36 02.4 -56.0 147.2	35 40.3 -55.7 146.0	35 17.5 -55.4 144.9	34 54.1 -55.1 143.8
2°	35 27.6 -56.3 148.8	35 06.4 -56.0 147.6	34 44.6 -55.8 146.5	34 22.1 -55.5 145.4	33 59.0 -55.3 144.2
3°	34 31.3 -56.4 149.2	34 10.4 -56.2 148.1	33 48.8 -55.9 146.9	33 26.6 -55.7 145.8	33 03.7 -55.4 144.7
4°	33 34.9 -56.5 149.6	33 14.2 -56.2 148.5	32 52.9 -56.0 147.4	32 30.9 -55.7 146.3	32 08.3 -55.5 145.2
5°	32 38.4 -56.5 150.0	32 18.0 -56.3 148.9	31 56.9 -56.0 147.8	31 35.2 -55.8 146.7	31 12.8 -55.5 145.6
6°	31 41.9 -56.7 150.4	31 21.7 -56.4 149.3	31 00.9 -56.2 148.2	30 39.4 -55.9 147.1	30 17.3 -55.7 146.1
7°	30 45.2 -56.7 150.8	30 25.3 -56.5 149.7	30 04.7 -56.2 148.6	29 43.5 -56.0 147.5	29 21.6 -55.7 146.5
8°	29 48.5 -56.7 151.2	29 28.8 -56.5 150.1	29 08.5 -56.3 149.0	28 47.5 -56.0 148.0	28 25.9 -55.8 146.9
9°	28 51.8 -56.8 151.5	28 32.3 -56.6 150.5	28 12.2 -56.3 149.4	27 51.5 -56.1 148.4	27 30.1 -55.9 147.3
10°	27 55.0 -56.9 151.9	27 35.7 -56.6 150.8	27 15.9 -56.5 149.8	26 55.4 -56.2 148.8	26 34.2 -55.9 147.7
11°	26 58.1 -56.9 152.3	26 39.1 -56.7 151.2	26 19.4 -56.4 150.2	25 59.2 -56.3 149.2	25 38.3 -56.0 148.1
12°	26 01.2 -57.0 152.6	25 42.4 -56.8 151.6	25 23.0 -56.6 150.6	25 02.9 -56.3 149.5	24 42.3 -56.1 148.5
13°	25 04.2 -57.0 153.0	24 45.6 -56.8 151.9	24 26.4 -56.6 150.9	24 06.6 -56.3 149.9	23 46.2 -56.1 148.9
14°	24 07.2 -57.1 153.3	23 48.8 -56.8 152.3	23 29.8 -56.6 151.3	23 10.3 -56.5 150.3	22 50.1 -56.2 149.3
15°	23 10.1 -57.1 153.6	22 52.0 -56.9 152.6	22 33.2 -56.7 151.7	22 13.8 -56.4 150.7	21 53.9 -56.3 149.7
16°	22 13.0 -57.2 154.0	21 55.1 -57.0 153.0	21 36.5 -56.7 152.0	21 17.4 -56.5 151.0	20 57.6 -56.3 150.1
17°	21 15.8 -57.2 154.3	20 58.1 -57.0 153.3	20 39.8 -56.8 152.4	20 20.9 -56.6 151.4	20 01.3 -56.3 150.4
18°	20 18.6 -57.2 154.6	20 01.1 -57.0 153.7	19 43.0 -56.8 152.7	19 24.3 -56.6 151.7	19 05.0 -56.4 150.8
19°	19 21.4 -57.2 154.9	19 04.1 -57.0 154.0	18 46.2 -56.8 153.0	18 27.7 -56.6 152.1	18 08.6 -56.4 151.2
20°	18 24.2 -57.3 155.3	18 07.1 -57.1 154.3	17 49.4 -56.9 153.4	17 31.1 -56.7 152.4	17 12.2 -56.4 151.5
21°	17 26.9 -57.3 155.6	17 10.0 -57.1 154.6	16 52.5 -56.9 153.7	16 34.4 -56.7 152.8	16 15.8 -56.5 151.9
22°	16 29.6 -57.4 155.9	16 12.9 -57.2 155.0	15 55.6 -57.0 154.0	15 37.7 -56.7 153.1	15 19.3 -56.5 152.2
23°	15 32.2 -57.4 156.2	15 15.7 -57.2 155.3	14 58.6 -56.9 154.4	14 41.0 -56.8 153.5	14 22.8 -56.6 152.6
24°	14 34.8 -57.3 156.5	14 18.5 -57.2 155.6	14 01.7 -57.0 154.7	13 44.2 -56.8 153.8	13 26.2 -56.6 152.9
25°	13 37.5 -57.5 156.8	13 21.3 -57.2 155.9	13 04.7 -57.1 155.0	12 47.4 -56.8 154.1	12 29.6 -56.6 153.3
26°	12 40.0 -57.4 157.1	12 24.1 -57.2 156.2	12 07.6 -57.0 155.3	11 50.6 -56.8 154.5	11 33.0 -56.6 153.6
27°	11 42.6 -57.4 157.4	11 26.9 -57.3 156.5	11 10.6 -57.1 155.6	10 53.8 -56.9 154.8	10 36.4 -56.6 153.9
28°	10 45.2 -57.5 157.7	10 29.6 -57.2 156.8	10 13.5 -57.0 156.0	9 56.9 -56.9 155.1	9 39.8 -56.7 154.3
29°	9 47.7 -57.5 158.0	9 32.4 -57.3 157.1	9 16.5 -57.1 156.3	9 00.0 -56.8 155.4	8 43.1 -56.7 154.6

Dec	LHA 030° / 330°	LHA 031° / 329°	LHA 032° / 328°	LHA 033° / 327°	LHA 034° / 326°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	35 24.9 -54.8 142.2	34 59.9 -54.5 141.0	34 34.4 -54.2 139.9	34 08.2 -53.9 138.9	33 41.5 -53.6 137.8
1°	34 30.1 -54.9 142.7	34 05.4 -54.6 141.6	33 40.2 -54.4 140.5	33 14.3 -54.1 139.4	32 47.9 -53.8 138.3
2°	33 35.2 -55.0 143.1	33 10.8 -54.7 142.0	32 45.8 -54.4 141.0	32 20.2 -54.2 139.9	31 54.1 -53.9 138.8
3°	32 40.2 -55.1 143.6	32 16.1 -54.9 142.5	31 51.4 -54.6 141.5	31 26.0 -54.3 140.4	31 00.2 -54.1 139.3
4°	31 45.1 -55.2 144.1	31 21.2 -54.9 143.0	30 56.8 -54.7 141.9	30 31.7 -54.4 140.9	30 06.1 -54.1 139.8
5°	30 49.9 -55.3 144.5	30 26.3 -55.1 143.5	30 02.1 -54.8 142.4	29 37.3 -54.5 141.4	29 12.0 -54.3 140.3
6°	29 54.6 -55.4 145.0	29 31.2 -55.1 143.9	29 07.3 -54.9 142.9	28 42.8 -54.6 141.9	28 17.7 -54.3 140.8
7°	28 59.2 -55.5 145.4	28 36.1 -55.2 144.4	28 12.4 -55.0 143.4	27 48.2 -54.7 142.3	27 23.4 -54.5 141.3
8°	28 03.7 -55.6 145.9	27 40.9 -55.3 144.8	27 17.4 -55.0 143.8	26 53.5 -54.9 142.8	26 28.9 -54.6 141.8
9°	27 08.1 -55.6 146.3	26 45.6 -55.4 145.3	26 22.4 -55.2 144.3	25 58.6 -54.8 143.2	25 34.3 -54.6 142.2
10°	26 12.5 -55.7 146.7	25 50.2 -55.5 145.7	25 27.2 -55.2 144.7	25 03.8 -55.0 143.7	24 39.7 -54.7 142.7
11°	25 16.8 -55.8 147.1	24 54.7 -55.5 146.1	24 32.0 -55.3 145.1	24 08.8 -55.1 144.1	23 45.0 -54.8 143.2
12°	24 21.0 -55.8 147.5	23 59.2 -55.6 146.5	23 36.7 -55.3 145.5	23 13.7 -55.1 144.6	22 50.2 -54.9 143.6
13°	23 25.2 -55.9 147.9	23 03.6 -55.7 146.9	22 41.4 -55.4 146.0	22 18.6 -55.2 145.0	21 55.3 -54.9 144.0
14°	22 29.3 -56.0 148.3	22 07.9 -55.7 147.4	21 46.0 -55.5 146.4	21 23.4 -55.2 145.4	21 00.4 -55.0 144.5
15°	21 33.3 -56.0 148.7	21 12.2 -55.8 147.8	20 50.5 -55.6 146.8	20 28.2 -55.3 145.8	20 05.4 -55.1 144.9
16°	20 37.3 -56.1 149.1	20 16.4 -55.8 148.1	19 54.9 -55.6 147.2	19 32.9 -55.4 146.3	19 10.3 -55.1 145.3
17°	19 41.2 -56.1 149.5	19 20.6 -55.9 148.5	18 59.3 -55.6 147.6	18 37.5 -55.4 146.7	18 15.2 -55.2 145.7
18°	18 45.1 -56.1 149.9	18 24.7 -55.9 148.9	18 03.7 -55.7 148.0	17 42.1 -55.4 147.1	17 20.0 -55.2 146.1
19°	17 49.0 -56.2 150.2	17 28.8 -56.0 149.3	17 08.0 -55.7 148.4	16 46.7 -55.5 147.5	16 24.8 -55.3 146.6
20°	16 52.8 -56.2 150.6	16 32.8 -56.0 149.7	16 12.3 -55.8 148.8	15 51.2 -55.6 147.9	15 29.5 -55.3 147.0
21°	15 56.6 -56.3 151.0	15 36.8 -56.1 150.0	15 16.5 -55.8 149.1	14 55.6 -55.6 148.2	14 34.2 -55.3 147.4
22°	15 00.3 -56.3 151.3	14 40.7 -56.0 150.4	14 20.7 -55.9 149.5	14 00.0 -55.6 148.6	13 38.9 -55.4 147.8
23°	14 04.0 -56.3 151.7	13 44.7 -56.1 150.8	13 24.8 -55.9 149.9	13 04.4 -55.7 149.0	12 43.5 -55.4 148.1
24°	13 07.7 -56.4 152.0	12 48.6 -56.2 151.1	12 28.9 -55.9 150.3	12 08.7 -55.6 149.4	11 48.1 -55.5 148.5
25°	12 11.3 -56.4 152.4	11 52.4 -56.2 151.5	11 33.0 -55.9 150.6	11 13.1 -55.8 149.8	10 52.6 -55.5 148.9
26°	11 14.9 -56.4 152.7	10 56.2 -56.2 151.9	10 37.1 -56.0 151.0	10 17.3 -55.7 150.2	9 57.1 -55.5 149.3
27°	10 18.5 -56.4 153.1	10 00.0 -56.2 152.2	9 41.1 -56.0 151.4	9 21.6 -55.8 150.5	9 01.6 -55.5 149.7
28°	9 22.1 -56.5 153.4	9 03.8 -56.2 152.6	8 45.1 -56.0 151.7	8 25.8 -55.8 150.9	8 06.1 -55.6 150.1
29°	8 25.6 -56.5 153.8	8 07.6 -56.3 152.9	7 49.1 -56.1 152.1	7 30.0 -55.8 151.3	7 10.5 -55.6 150.5

Dec	LHA 035° / 325°	LHA 036° / 324°	LHA 037° / 323°	LHA 038° / 322°	LHA 039° / 321°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	33 14.3 -53.4 136.7	32 46.5 -53.1 135.6	32 18.2 -52.9 134.6	31 49.3 -52.5 133.6	31 20.0 -52.3 132.5
1°	32 20.9 -53.5 137.2	31 53.4 -53.3 136.2	31 25.3 -52.9 135.2	30 56.8 -52.7 134.1	30 27.7 -52.4 133.1
2°	31 27.4 -53.7 137.8	31 00.1 -53.3 136.7	30 32.4 -53.1 135.7	30 04.1 -52.9 134.7	29 35.3 -52.6 133.7
3°	30 33.7 -53.7 138.3	30 06.8 -53.5 137.3	29 39.3 -53.3 136.2	29 11.2 -52.9 135.2	28 42.7 -52.7 134.2
4°	29 40.0 -53.9 138.8	29 13.3 -53.7 137.8	28 46.0 -53.3 136.8	28 18.3 -53.1 135.8	27 50.0 -52.8 134.8
5°	28 46.1 -54.0 139.3	28 19.6 -53.7 138.3	27 52.7 -53.5 137.3	27 25.2 -53.2 136.3	26 57.2 -52.9 135.3
6°	27 52.1 -54.1 139.8	27 25.9 -53.8 138.8	26 59.2 -53.6 137.8	26 32.0 -53.3 136.8	26 04.3 -53.1 135.8
7°	26 58.0 -54.2 140.3	26 32.1 -54.0 139.3	26 05.6 -53.7 138.3	25 38.7 -53.5 137.3	25 11.2 -53.2 136.3
8°	26 03.8 -54.3 140.8	25 38.1 -54.0 139.8	25 11.9 -53.7 138.8	24 45.2 -53.5 137.8	24 18.0 -53.2 136.9
9°	25 09.5 -54.4 141.3	24 44.1 -54.1 140.3	24 18.2 -53.9 139.3	23 51.7 -53.6 138.3	23 24.8 -53.4 137.4
10°	24 15.1 -54.5 141.7	23 50.0 -54.2 140.7	23 24.3 -54.0 139.8	22 58.1 -53.7 138.8	22 31.4 -53.4 137.9
11°	23 20.6 -54.5 142.2	22 55.8 -54.3 141.2	22 30.3 -54.0 140.2	22 04.4 -53.8 139.3	21 38.0 -53.6 138.4
12°	22 26.1 -54.6 142.6	22 01.5 -54.4 141.7	21 36.3 -54.1 140.7	21 10.6 -53.8 139.8	20 44.4 -53.6 138.8
13°	21 31.5 -54.7 143.1	21 07.1 -54.5 142.1	20 42.2 -54.2 141.2	20 16.8 -54.0 140.2	19 50.8 -53.7 139.3
14°	20 36.8 -54.8 143.5	20 12.6 -54.5 142.6	19 48.0 -54.3 141.6	19 22.8 -54.0 140.7	18 57.1 -53.7 139.8
15°	19 42.0 -54.8 144.0	19 18.1 -54.5 143.0	18 53.7 -54.3 142.1	18 28.8 -54.1 141.2	18 03.4 -53.8 140.3
16°	18 47.2 -54.9 144.4	18 23.6 -54.7 143.5	17 59.4 -54.4 142.5	17 34.7 -54.1 141.6	17 09.6 -53.9 140.7
17°	17 52.3 -54.9 144.8	17 28.9 -54.7 143.9	17 05.0 -54.4 143.0	16 40.6 -54.2 142.1	16 15.7 -54.0 141.2
18°	16 57.4 -55.0 145.2	16 34.2 -54.7 144.3	16 10.6 -54.5 143.4	15 46.4 -54.3 142.5	15 21.7 -54.0 141.6
19°	16 02.4 -55.0 145.6	15 39.5 -54.8 144.7	15 16.1 -54.6 143.9	14 52.1 -54.3 143.0	14 27.7 -54.0 142.1
20°	15 07.4 -55.1 146.1	14 44.7 -54.8 145.2	14 21.5 -54.6 144.3	13 57.8 -54.3 143.4	13 33.7 -54.1 142.5
21°	14 12.3 -55.1 146.5	13 49.9 -54.9 145.6	13 26.9 -54.6 144.7	13 03.5 -54.4 143.8	12 39.6 -54.2 143.0
22°	13 17.2 -55.2 146.9	12 55.0 -54.9 146.0	12 32.3 -54.7 145.1	12 09.1 -54.4 144.3	11 45.4 -54.2 143.4
23°	12 22.0 -55.2 147.3	12 00.1 -55.0 146.4	11 37.6 -54.7 145.6	11 14.7 -54.5 144.7	10 51.2 -54.2 143.9
24°	11 26.8 -55.2 147.7	11 05.1 -55.0 146.8	10 42.9 -54.7 146.0	10 20.2 -54.5 145.1	9 57.0 -54.3 144.3
25°	10 31.6 -55.2 148.1	10 10.1 -55.0 147.2	9 48.2 -54.8 146.4	9 25.7 -54.5 145.6	9 02.7 -54.2 144.7
26°	9 36.4 -55.3 148.5	9 15.1 -55.0 147.6	8 53.4 -54.8 146.8	8 31.2 -54.6 146.0	8 08.5 -54.4 145.2
27°	8 41.1 -55.3 148.9	8 20.1 -55.1 148.0	7 58.6 -54.8 147.2	7 36.6 -54.6 146.4	7 14.1 -54.3 145.6
28°	7 45.8 -55.3 149.3	7 25.0 -55.1 148.4	7 03.8 -54.9 147.6	6 42.0 -54.6 146.8	6 19.8 -54.3 146.0
29°	6 50.5 -55.4 149.7	6 29.9 -55.1 148.8	6 08.9 -54.9 148.0	5 47.4 -54.6 147.2	5 25.5 -54.4 146.4

Dec	LHA 040° / 320°	LHA 041° / 319°	LHA 042° / 318°	LHA 043° / 317°	LHA 044° / 316°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	30 50.2 -52.0 131.5	30 19.9 -51.8 130.5	29 49.1 -51.4 129.5	29 18.0 -51.3 128.6	28 46.3 -50.9 127.6
1°	29 58.2 -52.2 132.1	29 28.1 -51.8 131.1	28 57.7 -51.7 130.1	28 26.7 -51.3 129.1	27 55.4 -51.1 128.2
2°	29 06.0 -52.3 132.7	28 36.3 -52.1 131.7	28 06.0 -51.7 130.7	27 35.4 -51.5 129.7	27 04.3 -51.3 128.8
3°	28 13.7 -52.4 133.2	27 44.2 -52.1 132.3	27 14.3 -51.9 131.3	26 43.9 -51.7 130.3	26 13.0 -51.3 129.4
4°	27 21.3 -52.6 133.8	26 52.1 -52.3 132.8	26 22.4 -52.1 131.8	25 52.2 -51.7 130.9	25 21.7 -51.6 129.9
5°	26 28.7 -52.7 134.3	25 59.8 -52.5 133.4	25 30.3 -52.1 132.4	25 00.5 -51.9 131.4	24 30.1 -51.6 130.5
6°	25 36.0 -52.8 134.9	25 07.3 -52.5 133.9	24 38.2 -52.3 132.9	24 08.6 -52.1 132.0	23 38.5 -51.8 131.0
7°	24 43.2 -52.9 135.4	24 14.8 -52.6 134.4	23 45.9 -52.4 133.5	23 16.5 -52.1 132.5	22 46.7 -51.8 131.6
8°	23 50.3 -53.0 135.9	23 22.2 -52.8 134.9	22 53.5 -52.5 134.0	22 24.4 -52.2 133.1	21 54.9 -52.0 132.1
9°	22 57.3 -53.1 136.4	22 29.4 -52.8 135.5	22 01.0 -52.6 134.5	21 32.2 -52.3 133.6	21 02.9 -52.1 132.7
10°	22 04.2 -53.1 136.9	21 36.6 -53.0 136.0	21 08.4 -52.6 135.0	20 39.9 -52.5 134.1	20 10.8 -52.2 133.2
11°	21 11.1 -53.3 137.4	20 43.6 -53.0 136.5	20 15.8 -52.8 135.6	19 47.4 -52.5 134.6	19 18.6 -52.2 133.7
12°	20 17.8 -53.4 137.9	19 50.6 -53.1 137.0	19 23.0 -52.9 136.1	18 54.9 -52.6 135.2	18 26.4 -52.4 134.3
13°	19 24.4 -53.4 138.4	18 57.5 -53.2 137.5	18 30.1 -52.9 136.6	18 02.3 -52.7 135.7	17 34.0 -52.4 134.8
14°	18 31.0 -53.5 138.9	18 04.3 -53.2 138.0	17 37.2 -53.0 137.1	17 09.6 -52.7 136.2	16 41.6 -52.5 135.3
15°	17 37.5 -53.6 139.3	17 11.1 -53.3 138.4	16 44.2 -53.1 137.6	16 16.9 -52.8 136.7	15 49.1 -52.6 135.8
16°	16 43.9 -53.6 139.8	16 17.8 -53.4 138.9	15 51.1 -53.1 138.0	15 24.1 -52.9 137.2	14 56.5 -52.6 136.3
17°	15 50.3 -53.7 140.3	15 24.4 -53.5 139.4	14 58.0 -53.2 138.5	14 31.2 -53.0 137.6	14 03.9 -52.7 136.8
18°	14 56.6 -53.8 140.7	14 30.9 -53.5 139.9	14 04.8 -53.2 139.0	13 38.2 -53.0 138.1	13 11.2 -52.7 137.3
19°	14 02.8 -53.8 141.2	13 37.4 -53.5 140.3	13 11.6 -53.3 139.5	12 45.2 -53.0 138.6	12 18.5 -52.8 137.8
20°	13 09.0 -53.9 141.7	12 43.9 -53.6 140.8	12 18.3 -53.4 139.9	11 52.2 -53.1 139.1	11 25.7 -52.9 138.2
21°	12 15.1 -53.9 142.1	11 50.3 -53.7 141.3	11 24.9 -53.4 140.4	10 59.1 -53.2 139.6	10 32.8 -52.9 138.7
22°	11 21.2 -53.9 142.6	10 56.6 -53.7 141.7	10 31.5 -53.4 140.9	10 05.9 -53.1 140.0	9 39.9 -52.9 139.2
23°	10 27.3 -54.0 143.0	10 02.9 -53.7 142.2	9 38.1 -53.5 141.3	9 12.8 -53.3 140.5	8 47.0 -53.0 139.7
24°	9 33.3 -54.0 143.5	9 09.2 -53.8 142.6	8 44.6 -53.5 141.8	8 19.5 -53.2 141.0	7 54.0 -53.0 140.2
25°	8 39.3 -54.0 143.9	8 15.4 -53.8 143.1	7 51.1 -53.6 142.3	7 26.3 -53.3 141.4	7 01.0 -53.0 140.6
26°	7 45.3 -54.1 144.3	7 21.6 -53.8 143.5	6 57.5 -53.5 142.7	6 33.0 -53.3 141.9	6 08.0 -53.0 141.1
27°	6 51.2 -54.1 144.8	6 27.8 -53.8 144.0	6 04.0 -53.6 143.2	5 39.7 -53.3 142.4	5 15.0 -53.1 141.6
28°	5 57.1 -54.1 145.2	5 34.0 -53.9 144.4	5 10.4 -53.6 143.6	4 46.4 -53.4 142.8	4 21.9 -53.1 142.0
29°	5 03.0 -54.1 145.6	4 40.1 -53.8 144.9	4 16.8 -53.6 144.1	3 53.0 -53.3 143.3	3 28.8 -53.1 142.5

Dec	LHA 045° / 315°	LHA 046° / 314°	LHA 047° / 313°	LHA 048° / 312°	LHA 049° / 311°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	28 14.3 -50.7 126.6	27 41.9 -50.4 125.7	27 09.1 -50.2 124.7	26 35.9 -49.9 123.8	26 02.4 -49.7 122.9
1°	27 23.6 -50.8 127.2	26 51.5 -50.6 126.3	26 18.9 -50.3 125.3	25 46.0 -50.1 124.4	25 12.7 -49.9 123.5
2°	26 32.8 -51.0 127.8	26 00.9 -50.8 126.9	25 28.6 -50.5 125.9	24 55.9 -50.3 125.0	24 22.8 -50.0 124.1
3°	25 41.8 -51.1 128.4	25 10.1 -50.8 127.5	24 38.1 -50.7 126.5	24 05.6 -50.4 125.6	23 32.8 -50.1 124.7
4°	24 50.7 -51.3 129.0	24 19.3 -51.1 128.1	23 47.4 -50.7 127.1	23 15.2 -50.5 126.2	22 42.7 -50.3 125.3
5°	23 59.4 -51.4 129.6	23 28.2 -51.1 128.6	22 56.7 -50.9 127.7	22 24.7 -50.6 126.8	21 52.4 -50.4 125.9
6°	23 08.0 -51.5 130.1	22 37.1 -51.3 129.2	22 05.8 -51.0 128.3	21 34.1 -50.8 127.4	21 02.0 -50.5 126.5
7°	22 16.5 -51.6 130.7	21 45.8 -51.3 129.8	21 14.8 -51.1 128.8	20 43.3 -50.9 127.9	20 11.5 -50.7 127.0
8°	21 24.9 -51.7 131.2	20 54.5 -51.5 130.3	20 23.7 -51.3 129.4	19 52.4 -50.9 128.5	19 20.8 -50.7 127.6
9°	20 33.2 -51.9 131.8	20 03.0 -51.6 130.9	19 32.4 -51.3 130.0	19 01.5 -51.1 129.1	18 30.1 -50.8 128.2
10°	19 41.3 -51.9 132.3	19 11.4 -51.6 131.4	18 41.1 -51.4 130.5	18 10.4 -51.2 129.6	17 39.3 -51.0 128.7
11°	18 49.4 -52.0 132.8	18 19.8 -51.8 131.9	17 49.7 -51.5 131.1	17 19.2 -51.3 130.2	16 48.3 -51.0 129.3
12°	17 57.4 -52.1 133.4	17 28.0 -51.8 132.5	16 58.2 -51.6 131.6	16 27.9 -51.3 130.7	15 57.3 -51.1 129.8
13°	17 05.3 -52.2 133.9	16 36.2 -52.0 133.0	16 06.6 -51.7 132.1	15 36.6 -51.4 131.3	15 06.2 -51.2 130.4
14°	16 13.1 -52.2 134.4	15 44.2 -52.0 133.5	15 14.9 -51.7 132.6	14 45.2 -51.5 131.8	14 15.0 -51.2 130.9
15°	15 20.9 -52.3 134.9	14 52.2 -52.0 134.0	14 23.2 -51.8 133.2	13 53.7 -51.6 132.3	13 23.8 -51.3 131.5
16°	14 28.6 -52.4 135.4	14 00.2 -52.1 134.5	13 31.4 -51.9 133.7	13 02.1 -51.6 132.8	12 32.5 -51.4 132.0
17°	13 36.2 -52.4 135.9	13 08.1 -52.2 135.1	12 39.5 -52.0 134.2	12 10.5 -51.7 133.4	11 41.1 -51.4 132.5
18°	12 43.8 -52.5 136.4	12 15.9 -52.3 135.6	11 47.5 -51.9 134.7	11 18.8 -51.7 133.9	10 49.7 -51.5 133.0
19°	11 51.3 -52.6 136.9	11 23.6 -52.3 136.1	10 55.6 -52.1 135.2	10 27.1 -51.8 134.4	9 58.2 -51.6 133.6
20°	10 58.7 -52.6 137.4	10 31.3 -52.3 136.6	10 03.5 -52.1 135.7	9 35.3 -51.8 134.9	9 06.6 -51.5 134.1
21°	10 06.1 -52.6 137.9	9 39.0 -52.4 137.1	9 11.4 -52.1 136.2	8 43.5 -51.9 135.4	8 15.1 -51.7 134.6
22°	9 13.5 -52.7 138.4	8 46.6 -52.4 137.6	8 19.3 -52.2 136.7	7 51.6 -51.9 135.9	7 23.4 -51.6 135.1
23°	8 20.8 -52.7 138.9	7 54.2 -52.5 138.0	7 27.1 -52.2 137.2	6 59.7 -52.0 136.4	6 31.8 -51.7 135.6
24°	7 28.1 -52.7 139.3	7 01.7 -52.5 138.5	6 34.9 -52.2 137.7	6 07.7 -51.9 136.9	5 40.1 -51.7 136.1
25°	6 35.4 -52.8 139.8	6 09.2 -52.5 139.0	5 42.7 -52.3 138.2	5 15.8 -52.0 137.4	4 48.4 -51.7 136.7
26°	5 42.6 -52.8 140.3	5 16.7 -52.5 139.5	4 50.4 -52.2 138.7	4 23.8 -52.1 137.9	3 56.7 -51.8 137.2
27°	4 49.8 -52.8 140.8	4 24.2 -52.6 140.0	3 58.2 -52.3 139.2	3 31.7 -52.0 138.4	3 04.9 -51.8 137.7
28°	3 57.0 -52.9 141.3	3 31.6 -52.5 140.5	3 05.9 -52.3 139.7	2 39.7 -52.0 138.9	2 13.1 -51.7 138.2
29°	3 04.1 -52.8 141.7	2 39.1 -52.6 141.0	2 13.6 -52.3 140.2	1 47.7 -52.1 139.4	1 21.4 -51.8 138.7

Dec	LHA 050° / 310°	LHA 051° / 309°	LHA 052° / 308°	LHA 053° / 307°	LHA 054° / 306°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	25 28.5 -49.5 121.9	24 54.2 -49.2 121.0	24 19.7 -49.0 120.1	23 44.8 -48.8 119.2	23 09.6 -48.6 118.4
1°	24 39.0 -49.6 122.6	24 05.0 -49.4 121.7	23 30.7 -49.2 120.8	22 56.0 -48.9 119.9	22 21.0 -48.7 119.0
2°	23 49.4 -49.8 123.2	23 15.6 -49.5 122.3	22 41.5 -49.3 121.4	22 07.1 -49.1 120.5	21 32.3 -48.8 119.6
3°	22 59.6 -49.9 123.8	22 26.1 -49.7 122.9	21 52.2 -49.4 122.0	21 18.0 -49.2 121.1	20 43.5 -49.0 120.3
4°	22 09.7 -50.0 124.4	21 36.4 -49.8 123.5	21 02.8 -49.6 122.6	20 28.8 -49.4 121.7	19 54.5 -49.2 120.9
5°	21 19.7 -50.2 125.0	20 46.6 -49.9 124.1	20 13.2 -49.7 123.2	19 39.4 -49.4 122.3	19 05.3 -49.2 121.5
6°	20 29.5 -50.3 125.6	19 56.7 -50.1 124.7	19 23.5 -49.8 123.8	18 50.0 -49.6 122.9	18 16.1 -49.3 122.1
7°	19 39.2 -50.4 126.2	19 06.6 -50.1 125.3	18 33.7 -49.9 124.4	18 00.4 -49.7 123.5	17 26.8 -49.5 122.7
8°	18 48.8 -50.5 126.7	18 16.5 -50.3 125.9	17 43.8 -50.1 125.0	17 10.7 -49.8 124.1	16 37.3 -49.6 123.3
9°	17 58.3 -50.5 127.3	17 26.2 -50.3 126.4	16 53.7 -50.1 125.6	16 20.9 -49.9 124.7	15 47.7 -49.6 123.9
10°	17 07.8 -50.7 127.9	16 35.9 -50.5 127.0	16 03.6 -50.2 126.1	15 31.0 -49.9 125.3	14 58.1 -49.7 124.4
11°	16 17.1 -50.8 128.4	15 45.4 -50.5 127.6	15 13.4 -50.3 126.7	14 41.1 -50.1 125.9	14 08.4 -49.9 125.0
12°	15 26.3 -50.9 129.0	14 54.9 -50.6 128.1	14 23.1 -50.3 127.3	13 51.0 -50.1 126.4	13 18.5 -49.9 125.6
13°	14 35.4 -50.9 129.5	14 04.3 -50.7 128.7	13 32.8 -50.5 127.8	13 00.9 -50.2 127.0	12 28.6 -49.9 126.2
14°	13 44.5 -51.0 130.1	13 13.6 -50.7 129.2	12 42.3 -50.5 128.4	12 10.7 -50.3 127.6	11 38.7 -50.1 126.7
15°	12 53.5 -51.1 130.6	12 22.9 -50.9 129.8	11 51.8 -50.6 128.9	11 20.4 -50.3 128.1	10 48.6 -50.1 127.3
16°	12 02.4 -51.1 131.2	11 32.0 -50.9 130.3	11 01.2 -50.6 129.5	10 30.1 -50.4 128.7	9 58.5 -50.1 127.9
17°	11 11.3 -51.2 131.7	10 41.1 -50.9 130.9	10 10.6 -50.7 130.0	9 39.7 -50.5 129.2	9 08.4 -50.2 128.4
18°	10 20.1 -51.2 132.2	9 50.2 -51.0 131.4	9 19.9 -50.7 130.6	8 49.2 -50.5 129.8	8 18.2 -50.3 129.0
19°	9 28.9 -51.3 132.7	8 59.2 -51.0 131.9	8 29.2 -50.8 131.1	7 58.7 -50.5 130.3	7 27.9 -50.2 129.5
20°	8 37.6 -51.3 133.3	8 08.2 -51.1 132.5	7 38.4 -50.8 131.7	7 08.2 -50.6 130.9	6 37.7 -50.4 130.1
21°	7 46.3 -51.4 133.8	7 17.1 -51.1 133.0	6 47.6 -50.9 132.2	6 17.6 -50.6 131.4	5 47.3 -50.3 130.6
22°	6 54.9 -51.4 134.3	6 26.0 -51.1 133.5	5 56.7 -50.9 132.7	5 27.0 -50.6 131.9	4 57.0 -50.4 131.2
23°	6 03.5 -51.4 134.8	5 34.9 -51.2 134.0	5 05.8 -50.9 133.3	4 36.4 -50.7 132.5	4 06.6 -50.4 131.7
24°	5 12.1 -51.5 135.4	4 43.7 -51.2 134.6	4 14.9 -50.9 133.8	3 45.7 -50.7 133.0	3 16.2 -50.4 132.2
25°	4 20.6 -51.4 135.9	3 52.5 -51.2 135.1	3 24.0 -51.0 134.3	2 55.0 -50.6 133.6	2 25.8 -50.5 132.8
26°	3 29.2 -51.5 136.4	3 01.3 -51.3 135.6	2 33.0 -51.0 134.8	2 04.4 -50.8 134.1	1 35.3 -50.4 133.3
27°	2 37.7 -51.5 136.9	2 10.0 -51.2 136.1	1 42.0 -50.9 135.4	1 13.6 -50.7 134.6	0 44.9 -50.5 133.9
28°	1 46.2 -51.5 137.4	1 18.8 -51.2 136.7	0 51.1 -51.0 135.9	0 22.9 -50.7 135.2	-0 05.6 -50.4
29°	0 54.7 -51.6 137.9	0 27.6 -51.3 137.2	0 00.1 -51.0 136.4	-0 27.8 -50.7	-0 56.0 -50.5

Dec	LHA 055° / 305°	LHA 056° / 304°	LHA 057° / 303°	LHA 058° / 302°	LHA 059° / 301°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	22 34.1 -48.3 117.5	21 58.4 -48.2 116.6	21 22.4 -48.0 115.8	20 46.1 -47.8 114.9	20 09.5 -47.5 114.1
1°	21 45.8 -48.5 118.1	21 10.2 -48.3 117.3	20 34.4 -48.1 116.4	19 58.3 -47.9 115.6	19 22.0 -47.7 114.7
2°	20 57.3 -48.7 118.8	20 21.9 -48.4 117.9	19 46.3 -48.2 117.0	19 10.4 -48.0 116.2	18 34.3 -47.9 115.4
3°	20 08.6 -48.7 119.4	19 33.5 -48.6 118.5	18 58.1 -48.4 117.7	18 22.4 -48.2 116.8	17 46.4 -47.9 116.0
4°	19 19.9 -48.9 120.0	18 44.9 -48.6 119.1	18 09.7 -48.4 118.3	17 34.2 -48.2 117.5	16 58.5 -48.1 116.6
5°	18 31.0 -49.1 120.6	17 56.3 -48.8 119.8	17 21.3 -48.6 118.9	16 46.0 -48.4 118.1	16 10.4 -48.2 117.2
6°	17 41.9 -49.1 121.2	17 07.5 -49.0 120.4	16 32.7 -48.7 119.5	15 57.6 -48.5 118.7	15 22.2 -48.2 117.9
7°	16 52.8 -49.2 121.8	16 18.5 -49.0 121.0	15 44.0 -48.8 120.1	15 09.1 -48.6 119.3	14 34.0 -48.4 118.5
8°	16 03.6 -49.4 122.4	15 29.5 -49.1 121.6	14 55.2 -48.9 120.7	14 20.5 -48.7 119.9	13 45.6 -48.5 119.1
9°	15 14.2 -49.4 123.0	14 40.4 -49.2 122.2	14 06.3 -49.0 121.3	13 31.8 -48.7 120.5	12 57.1 -48.5 119.7
10°	14 24.8 -49.5 123.6	13 51.2 -49.3 122.8	13 17.3 -49.1 121.9	12 43.1 -48.9 121.1	12 08.6 -48.7 120.3
11°	13 35.3 -49.6 124.2	13 01.9 -49.3 123.4	12 28.2 -49.1 122.5	11 54.2 -48.9 121.7	11 19.9 -48.7 120.9
12°	12 45.7 -49.6 124.8	12 12.6 -49.5 123.9	11 39.1 -49.2 123.1	11 05.3 -49.0 122.3	10 31.2 -48.7 121.5
13°	11 56.1 -49.8 125.3	11 23.1 -49.5 124.5	10 49.9 -49.3 123.7	10 16.3 -49.0 122.9	9 42.5 -48.9 122.1
14°	11 06.3 -49.8 125.9	10 33.6 -49.5 125.1	10 00.6 -49.3 124.3	9 27.3 -49.1 123.5	8 53.6 -48.8 122.7
15°	10 16.5 -49.8 126.5	9 44.1 -49.6 125.7	9 11.3 -49.4 124.9	8 38.2 -49.2 124.1	8 04.8 -49.0 123.3
16°	9 26.7 -49.9 127.0	8 54.5 -49.7 126.2	8 21.9 -49.4 125.4	7 49.0 -49.2 124.6	7 15.8 -48.9 123.8
17°	8 36.8 -50.0 127.6	8 04.8 -49.7 126.8	7 32.5 -49.5 126.0	6 59.8 -49.2 125.2	6 26.9 -49.1 124.4
18°	7 46.8 -50.0 128.2	7 15.1 -49.8 127.4	6 43.0 -49.5 126.6	6 10.6 -49.3 125.8	5 37.8 -49.0 125.0
19°	6 56.8 -50.0 128.7	6 25.3 -49.8 127.9	5 53.5 -49.6 127.1	5 21.3 -49.3 126.4	4 48.8 -49.1 125.6
20°	6 06.8 -50.1 129.3	5 35.5 -49.8 128.5	5 03.9 -49.6 127.7	4 32.0 -49.4 126.9	3 59.7 -49.1 126.2
21°	5 16.7 -50.1 129.8	4 45.7 -49.9 129.0	4 14.3 -49.6 128.3	3 42.6 -49.3 127.5	3 10.6 -49.1 126.7
22°	4 26.6 -50.2 130.4	3 55.8 -49.9 129.6	3 24.7 -49.6 128.8	2 53.3 -49.4 128.1	2 21.5 -49.1 127.3
23°	3 36.4 -50.1 130.9	3 05.9 -49.9 130.2	2 35.1 -49.7 129.4	2 03.9 -49.4 128.6	1 32.4 -49.2 127.9
24°	2 46.3 -50.2 131.5	2 16.0 -49.9 130.7	1 45.4 -49.6 130.0	1 14.5 -49.4 129.2	0 43.2 -49.1 128.5
25°	1 56.1 -50.2 132.0	1 26.1 -49.9 131.3	0 55.8 -49.7 130.5	0 25.1 -49.4 129.8	-0 05.9 -49.2
26°	1 05.9 -50.1 132.6	0 36.2 -49.9 131.8	0 06.1 -49.6 131.1	-0 24.3 -49.4	-0 55.1 -49.1
27°	0 15.8 -50.2 133.1	-0 13.7 -49.9	-0 43.5 -49.7	-1 13.7 -49.4	-1 44.2 -49.2
28°	-0 34.4 -50.2	-1 03.6 -50.0	-1 33.2 -49.7	-2 03.1 -49.4	-2 33.4 -49.1
29°	-1 24.6 -50.2	-1 53.6 -49.9	-2 22.9 -49.6	-2 52.5 -49.4	-3 22.5 -49.1

Dec	LHA 060° / 300°	LHA 061° / 299°	LHA 062° / 298°	LHA 063° / 297°	LHA 064° / 296°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	19 32.8 -47.4 113.2	18 55.8 -47.2 112.4	18 18.5 -47.0 111.6	17 41.1 -46.9 110.7	17 03.4 -46.7 109.9
1°	18 45.4 -47.5 113.9	18 08.6 -47.4 113.0	17 31.5 -47.2 112.2	16 54.2 -47.0 111.4	16 16.7 -46.8 110.6
2°	17 57.9 -47.7 114.5	17 21.2 -47.4 113.7	16 44.3 -47.2 112.9	16 07.2 -47.1 112.0	15 29.9 -46.9 111.2
3°	17 10.2 -47.7 115.2	16 33.8 -47.6 114.3	15 57.1 -47.4 113.5	15 20.1 -47.2 112.7	14 43.0 -47.1 111.9
4°	16 22.5 -47.9 115.8	15 46.2 -47.7 115.0	15 09.7 -47.5 114.1	14 32.9 -47.3 113.3	13 55.9 -47.1 112.5
5°	15 34.6 -48.0 116.4	14 58.5 -47.8 115.6	14 22.2 -47.6 114.8	13 45.6 -47.4 114.0	13 08.8 -47.2 113.2
6°	14 46.6 -48.1 117.0	14 10.7 -47.9 116.2	13 34.6 -47.7 115.4	12 58.2 -47.5 114.6	12 21.6 -47.4 113.8
7°	13 58.5 -48.1 117.7	13 22.8 -47.9 116.8	12 46.9 -47.8 116.0	12 10.7 -47.6 115.2	11 34.2 -47.4 114.4
8°	13 10.4 -48.3 118.3	12 34.9 -48.1 117.4	11 59.1 -47.9 116.6	11 23.1 -47.7 115.8	10 46.8 -47.4 115.0
9°	12 22.1 -48.3 118.9	11 46.8 -48.1 118.1	11 11.2 -47.9 117.3	10 35.4 -47.7 116.5	9 59.4 -47.6 115.7
10°	11 33.8 -48.5 119.5	10 58.7 -48.2 118.7	10 23.3 -48.0 117.9	9 47.7 -47.8 117.1	9 11.8 -47.6 116.3
11°	10 45.3 -48.4 120.1	10 10.5 -48.3 119.3	9 35.3 -48.1 118.5	8 59.9 -47.9 117.7	8 24.2 -47.7 116.9
12°	9 56.9 -48.6 120.7	9 22.2 -48.4 119.9	8 47.2 -48.1 119.1	8 12.0 -47.9 118.3	7 36.5 -47.7 117.5
13°	9 08.3 -48.6 121.3	8 33.8 -48.3 120.5	7 59.1 -48.2 119.7	7 24.1 -48.0 118.9	6 48.8 -47.8 118.1
14°	8 19.7 -48.7 121.9	7 45.5 -48.5 121.1	7 10.9 -48.2 120.3	6 36.1 -48.0 119.5	6 01.0 -47.8 118.7
15°	7 31.0 -48.7 122.5	6 57.0 -48.5 121.7	6 22.7 -48.3 120.9	5 48.1 -48.0 120.1	5 13.2 -47.8 119.3
16°	6 42.3 -48.7 123.0	6 08.5 -48.5 122.3	5 34.4 -48.3 121.5	5 00.1 -48.1 120.7	4 25.4 -47.9 119.9
17°	5 53.6 -48.8 123.6	5 20.0 -48.6 122.9	4 46.1 -48.3 122.1	4 12.0 -48.1 121.3	3 37.5 -47.9 120.5
18°	5 04.8 -48.8 124.2	4 31.4 -48.5 123.4	3 57.8 -48.4 122.7	3 23.9 -48.2 121.9	2 49.6 -47.9 121.1
19°	4 16.0 -48.9 124.8	3 42.9 -48.6 124.0	3 09.4 -48.3 123.3	2 35.7 -48.1 122.5	2 01.7 -47.9 121.7
20°	3 27.1 -48.8 125.4	2 54.3 -48.7 124.6	2 21.1 -48.4 123.9	1 47.6 -48.2 123.1	1 13.8 -47.9 122.4
21°	2 38.3 -48.9 126.0	2 05.6 -48.6 125.2	1 32.7 -48.4 124.5	0 59.4 -48.2 123.7	0 25.9 -48.0 123.0
22°	1 49.4 -48.9 126.5	1 17.0 -48.7 125.8	0 44.3 -48.4 125.0	0 11.2 -48.1 124.3	-0 22.1 -47.9
23°	1 00.5 -48.9 127.1	0 28.3 -48.6 126.4	-0 04.1 -48.4	-0 36.9 -48.2	-1 10.0 -47.9
24°	0 11.6 -48.9 127.7	-0 20.3 -48.7	-0 52.5 -48.5	-1 25.1 -48.1	-1 57.9 -47.9
25°	-0 37.3 -48.9	-1 09.0 -48.6	-1 41.0 -48.3	-2 13.2 -48.2	-2 45.8 -47.9
26°	-1 26.2 -48.9	-1 57.6 -48.6	-2 29.3 -48.4	-3 01.4 -48.1	-3 33.7 -47.9
27°	-2 15.1 -48.8	-2 46.2 -48.6	-3 17.7 -48.4	-3 49.5 -48.1	-4 21.6 -47.8
28°	-3 03.9 -48.9	-3 34.8 -48.6	-4 06.1 -48.3	-4 37.6 -48.1	-5 09.4 -47.9
29°	-3 52.8 -48.8	-4 23.4 -48.6	-4 54.4 -48.3	-5 25.7 -48.0	-5 57.3 -47.7

Dec	LHA 065° / 295°	LHA 066° / 294°	LHA 067° / 293°	LHA 068° / 292°	LHA 069° / 291°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	16 25.6 -46.6 109.1	15 47.6 -46.4 108.3	15 09.4 -46.3 107.5	14 31.0 -46.1 106.7	13 52.5 -46.0 105.9
1°	15 39.0 -46.6 109.8	15 01.2 -46.5 109.0	14 23.1 -46.3 108.2	13 44.9 -46.2 107.4	13 06.5 -46.1 106.6
2°	14 52.4 -46.8 110.4	14 14.7 -46.7 109.6	13 36.8 -46.5 108.8	12 58.7 -46.4 108.0	12 20.4 -46.2 107.2
3°	14 05.6 -46.9 111.1	13 28.0 -46.7 110.3	12 50.3 -46.6 109.5	12 12.3 -46.4 108.7	11 34.2 -46.2 107.9
4°	13 18.7 -46.9 111.7	12 41.3 -46.8 110.9	12 03.7 -46.6 110.1	11 25.9 -46.5 109.3	10 48.0 -46.4 108.5
5°	12 31.8 -47.1 112.3	11 54.5 -46.9 111.6	11 17.1 -46.7 110.8	10 39.4 -46.5 110.0	10 01.6 -46.4 109.2
6°	11 44.7 -47.1 113.0	11 07.6 -46.9 112.2	10 30.4 -46.8 111.4	9 52.9 -46.7 110.6	9 15.2 -46.5 109.8
7°	10 57.6 -47.3 113.6	10 20.7 -47.1 112.8	9 43.6 -46.9 112.0	9 06.2 -46.7 111.2	8 28.7 -46.5 110.5
8°	10 10.3 -47.3 114.2	9 33.6 -47.1 113.5	8 56.7 -47.0 112.7	8 19.5 -46.7 111.9	7 42.2 -46.6 111.1
9°	9 23.0 -47.3 114.9	8 46.5 -47.2 114.1	8 09.7 -47.0 113.3	7 32.8 -46.9 112.5	6 55.6 -46.7 111.7
10°	8 35.7 -47.4 115.5	7 59.3 -47.2 114.7	7 22.7 -47.0 113.9	6 45.9 -46.8 113.1	6 08.9 -46.7 112.4
11°	7 48.3 -47.5 116.1	7 12.1 -47.3 115.3	6 35.7 -47.1 114.5	5 59.1 -47.0 113.8	5 22.2 -46.7 113.0
12°	7 00.8 -47.5 116.7	6 24.8 -47.3 115.9	5 48.6 -47.1 115.2	5 12.1 -46.9 114.4	4 35.5 -46.8 113.6
13°	6 13.3 -47.6 117.3	5 37.5 -47.4 116.6	5 01.5 -47.2 115.8	4 25.2 -47.0 115.0	3 48.7 -46.8 114.3
14°	5 25.7 -47.6 118.0	4 50.1 -47.4 117.2	4 14.3 -47.2 116.4	3 38.2 -47.0 115.6	3 01.9 -46.8 114.9
15°	4 38.1 -47.6 118.6	4 02.7 -47.4 117.8	3 27.1 -47.2 117.0	2 51.2 -47.0 116.3	2 15.1 -46.9 115.5
16°	3 50.5 -47.7 119.2	3 15.3 -47.5 118.4	2 39.9 -47.3 117.6	2 04.2 -47.1 116.9	1 28.2 -46.8 116.1
17°	3 02.8 -47.7 119.8	2 27.8 -47.4 119.0	1 52.6 -47.2 118.3	1 17.1 -47.0 117.5	0 41.4 -46.9 116.8
18°	2 15.1 -47.6 120.4	1 40.4 -47.5 119.6	1 05.4 -47.3 118.9	0 30.1 -47.1 118.1	-0 05.5 -46.8
19°	1 27.5 -47.8 121.0	0 52.9 -47.5 120.2	0 18.1 -47.3 119.5	-0 17.0 -47.0	-0 52.3 -46.8
20°	0 39.7 -47.7 121.6	0 05.4 -47.5 120.9	-0 29.2 -47.2	-1 04.0 -47.1	-1 39.1 -46.9
21°	-0 08.0 -47.7	-0 42.1 -47.4	-1 16.4 -47.3	-1 51.1 -47.0	-2 26.0 -46.8
22°	-0 55.7 -47.7	-1 29.5 -47.5	-2 03.7 -47.2	-2 38.1 -47.0	-3 12.8 -46.8
23°	-1 43.4 -47.7	-2 17.0 -47.5	-2 50.9 -47.3	-3 25.1 -47.0	-3 59.6 -46.8
24°	-2 31.1 -47.6	-3 04.5 -47.4	-3 38.2 -47.2	-4 12.1 -47.0	-4 46.4 -46.7
25°	-3 18.7 -47.7	-3 51.9 -47.4	-4 25.4 -47.1	-4 59.1 -46.9	-5 33.1 -46.7
26°	-4 06.4 -47.6	-4 39.3 -47.4	-5 12.5 -47.1	-5 46.0 -46.9	-6 19.8 -46.6
27°	-4 54.0 -47.6	-5 26.7 -47.3	-5 59.6 -47.1	-6 32.9 -46.8	-7 06.4 -46.6
28°	-5 41.6 -47.5	-6 14.0 -47.3	-6 46.7 -47.1	-7 19.7 -46.8	-7 53.0 -46.5
29°	-6 29.1 -47.5	-7 01.3 -47.3	-7 33.8 -47.0	-8 06.5 -46.7	-8 39.5 -46.5

Dec	LHA 070° / 290°	LHA 071° / 289°	LHA 072° / 288°	LHA 073° / 287°	LHA 074° / 286°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	13 13.8 -45.9 105.1	12 35.0 -45.8 104.4	11 56.0 -45.6 103.6	11 16.9 -45.5 102.8	10 37.7 -45.4 102.0
1°	12 27.9 -45.9 105.8	11 49.2 -45.8 105.0	11 10.4 -45.7 104.2	10 31.4 -45.6 103.5	9 52.3 -45.5 102.7
2°	11 42.0 -46.1 106.5	11 03.4 -45.9 105.7	10 24.7 -45.8 104.9	9 45.8 -45.7 104.1	9 06.8 -45.6 103.4
3°	10 55.9 -46.1 107.1	10 17.5 -46.0 106.3	9 38.9 -45.9 105.6	9 00.1 -45.7 104.8	8 21.2 -45.6 104.0
4°	10 09.8 -46.2 107.8	9 31.5 -46.1 107.0	8 53.0 -45.9 106.2	8 14.4 -45.8 105.4	7 35.6 -45.7 104.7
5°	9 23.6 -46.3 108.4	8 45.4 -46.1 107.6	8 07.1 -46.0 106.9	7 28.6 -45.9 106.1	6 49.9 -45.7 105.3
6°	8 37.3 -46.3 109.1	7 59.3 -46.2 108.3	7 21.1 -46.0 107.5	6 42.7 -45.9 106.7	6 04.2 -45.8 106.0
7°	7 51.0 -46.4 109.7	7 13.1 -46.2 108.9	6 35.1 -46.1 108.2	5 56.8 -45.9 107.4	5 18.4 -45.8 106.6
8°	7 04.6 -46.4 110.3	6 26.9 -46.3 109.6	5 49.0 -46.2 108.8	5 10.9 -46.0 108.0	4 32.6 -45.8 107.3
9°	6 18.2 -46.5 111.0	5 40.6 -46.3 110.2	5 02.8 -46.2 109.4	4 24.9 -46.1 108.7	3 46.8 -45.9 107.9
10°	5 31.7 -46.5 111.6	4 54.3 -46.4 110.8	4 16.6 -46.2 110.1	3 38.8 -46.0 109.3	3 00.9 -45.9 108.6
11°	4 45.2 -46.6 112.2	4 07.9 -46.4 111.5	3 30.4 -46.2 110.7	2 52.8 -46.1 110.0	2 15.0 -46.0 109.2
12°	3 58.6 -46.6 112.9	3 21.5 -46.4 112.1	2 44.2 -46.3 111.4	2 06.7 -46.1 110.6	1 29.0 -45.9 109.9
13°	3 12.0 -46.6 113.5	2 35.1 -46.5 112.7	1 57.9 -46.2 112.0	1 20.6 -46.1 111.2	0 43.1 -45.9 110.5
14°	2 25.4 -46.7 114.1	1 48.6 -46.4 113.4	1 11.7 -46.3 112.6	0 34.5 -46.1 111.9	-0 02.8 -46.0
15°	1 38.7 -46.6 114.8	1 02.2 -46.5 114.0	0 25.4 -46.3 113.3	-0 11.6 -46.1	-0 48.8 -45.9
16°	0 52.1 -46.7 115.4	0 15.7 -46.5 114.6	-0 20.9 -46.3	-0 57.7 -46.1	-1 34.7 -45.9
17°	0 05.4 -46.6 116.0	-0 30.8 -46.4	-1 07.2 -46.2	-1 43.8 -46.1	-2 20.6 -45.9
18°	-0 41.2 -46.7	-1 17.2 -46.5	-1 53.4 -46.3	-2 29.9 -46.0	-3 06.5 -45.9
19°	-1 27.9 -46.6	-2 03.7 -46.4	-2 39.7 -46.2	-3 15.9 -46.1	-3 52.4 -45.9
20°	-2 14.5 -46.6	-2 50.1 -46.4	-3 25.9 -46.2	-4 02.0 -46.0	-4 38.3 -45.8
21°	-3 01.1 -46.6	-3 36.5 -46.4	-4 12.1 -46.2	-4 48.0 -46.0	-5 24.1 -45.8
22°	-3 47.7 -46.6	-4 22.9 -46.4	-4 58.3 -46.2	-5 34.0 -45.9	-6 09.9 -45.7
23°	-4 34.3 -46.5	-5 09.3 -46.3	-5 44.5 -46.1	-6 19.9 -45.9	-6 55.6 -45.7
24°	-5 20.8 -46.5	-5 55.6 -46.3	-6 30.6 -46.0	-7 05.8 -45.8	-7 41.3 -45.6
25°	-6 07.3 -46.5	-6 41.9 -46.2	-7 16.6 -46.0	-7 51.6 -45.8	-8 26.9 -45.5
26°	-6 53.8 -46.4	-7 28.1 -46.2	-8 02.6 -46.0	-8 37.4 -45.7	-9 12.4 -45.5
27°	-7 40.2 -46.4	-8 14.3 -46.1	-8 48.6 -45.8	-9 23.1 -45.6	-9 57.9 -45.4
28°	-8 26.6 -46.2	-9 00.4 -46.0	-9 34.4 -45.8		
29°	-9 12.8 -46.3	-9 46.4 -46.0			

Dec	LHA 075° / 285°	LHA 076° / 284°	LHA 077° / 283°	LHA 078° / 282°	LHA 079° / 281°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	9 58.4 -45.3 101.3	9 19.0 -45.3 100.5	8 39.4 -45.1 99.7	7 59.8 -45.0 99.0	7 20.1 -45.0 98.2
1°	9 13.1 -45.4 101.9	8 33.7 -45.3 101.2	7 54.3 -45.2 100.4	7 14.8 -45.2 99.6	6 35.1 -45.0 98.9
2°	8 27.7 -45.5 102.6	7 48.4 -45.3 101.8	7 09.1 -45.3 101.1	6 29.6 -45.1 100.3	5 50.1 -45.1 99.6
3°	7 42.2 -45.5 103.2	7 03.1 -45.4 102.5	6 23.8 -45.3 101.7	5 44.5 -45.2 101.0	5 05.0 -45.1 100.2
4°	6 56.7 -45.5 103.9	6 17.7 -45.5 103.1	5 38.5 -45.3 102.4	4 59.3 -45.3 101.6	4 19.9 -45.2 100.9
5°	6 11.2 -45.7 104.6	5 32.2 -45.5 103.8	4 53.2 -45.4 103.0	4 14.0 -45.3 102.3	3 34.7 -45.2 101.5
6°	5 25.5 -45.6 105.2	4 46.7 -45.5 104.5	4 07.8 -45.4 103.7	3 28.7 -45.3 102.9	2 49.5 -45.2 102.2
7°	4 39.9 -45.7 105.9	4 01.2 -45.6 105.1	3 22.4 -45.5 104.4	2 43.4 -45.3 103.6	2 04.3 -45.2 102.9
8°	3 54.2 -45.7 106.5	3 15.6 -45.6 105.8	2 36.9 -45.4 105.0	1 58.1 -45.4 104.3	1 19.1 -45.2 103.5
9°	3 08.5 -45.8 107.2	2 30.0 -45.6 106.4	1 51.5 -45.5 105.7	1 12.7 -45.3 104.9	0 33.9 -45.3 104.2
10°	2 22.7 -45.7 107.8	1 44.4 -45.6 107.1	1 06.0 -45.5 106.3	0 27.4 -45.4 105.6	-0 11.4 -45.2
11°	1 37.0 -45.8 108.5	0 58.8 -45.6 107.7	0 20.5 -45.5 107.0	-0 18.0 -45.4	-0 56.6 -45.2
12°	0 51.2 -45.8 109.1	0 13.2 -45.7 108.4	-0 25.0 -45.5	-1 03.4 -45.3	-1 41.8 -45.3
13°	0 05.4 -45.8 109.8	-0 32.5 -45.6	-1 10.5 -45.5	-1 48.7 -45.3	-2 27.1 -45.2
14°	-0 40.4 -45.7	-1 18.1 -45.6	-1 56.0 -45.5	-2 34.0 -45.4	-3 12.3 -45.1
15°	-1 26.1 -45.8	-2 03.7 -45.6	-2 41.5 -45.4	-3 19.4 -45.3	-3 57.4 -45.2
16°	-2 11.9 -45.8	-2 49.3 -45.6	-3 26.9 -45.4	-4 04.7 -45.2	-4 42.6 -45.1
17°	-2 57.7 -45.7	-3 34.9 -45.6	-4 12.3 -45.4	-4 49.9 -45.2	-5 27.7 -45.1
18°	-3 43.4 -45.7	-4 20.5 -45.5	-4 57.7 -45.3	-5 35.1 -45.2	-6 12.8 -45.0
19°	-4 29.1 -45.7	-5 06.0 -45.5	-5 43.0 -45.4	-6 20.3 -45.1	-6 57.8 -44.9
20°	-5 14.8 -45.6	-5 51.5 -45.4	-6 28.4 -45.2	-7 05.4 -45.1	-7 42.7 -44.9
21°	-6 00.4 -45.6	-6 36.9 -45.4	-7 13.6 -45.2	-7 50.5 -45.0	-8 27.6 -44.8
22°	-6 46.0 -45.5	-7 22.3 -45.3	-7 58.8 -45.1	-8 35.5 -45.0	-9 12.4 -44.8
23°	-7 31.5 -45.4	-8 07.6 -45.3	-8 43.9 -45.1	-9 20.5 -44.8	-9 57.2 -44.7
24°	-8 16.9 -45.4	-8 52.9 -45.1	-9 29.0 -45.0		
25°	-9 02.3 -45.4	-9 38.0 -45.2			
26°	-9 47.7 -45.2				
27°					
28°					
29°					

Dec	LHA 080° / 280°	LHA 081° / 279°	LHA 082° / 278°	LHA 083° / 277°	LHA 084° / 276°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	6 40.3 -44.9 97.5	6 00.5 -44.9 96.7	5 20.6 -44.8 96.0	4 40.6 -44.7 95.2	4 00.6 -44.7 94.5
1°	5 55.4 -44.9 98.1	5 15.6 -44.9 97.4	4 35.8 -44.8 96.6	3 55.9 -44.8 95.9	3 15.9 -44.7 95.1
2°	5 10.5 -45.0 98.8	4 30.7 -44.9 98.0	3 51.0 -44.9 97.3	3 11.1 -44.8 96.5	2 31.2 -44.8 95.8
3°	4 25.5 -45.1 99.5	3 45.8 -45.0 98.7	3 06.1 -44.9 98.0	2 26.3 -44.8 97.2	1 46.4 -44.7 96.5
4°	3 40.4 -45.1 100.1	3 00.8 -44.9 99.4	2 21.2 -44.9 98.6	1 41.5 -44.9 97.9	1 01.7 -44.8 97.1
5°	2 55.3 -45.1 100.8	2 15.9 -45.1 100.0	1 36.3 -45.0 99.3	0 56.6 -44.8 98.5	0 16.9 -44.8 97.8
6°	2 10.2 -45.1 101.4	1 30.8 -45.0 100.7	0 51.3 -44.9 100.0	0 11.8 -44.9 99.2	-0 27.9 -44.8
7°	1 25.1 -45.1 102.1	0 45.8 -45.0 101.4	0 06.4 -44.9 100.6	-0 33.1 -44.9	-1 12.7 -44.8
8°	0 40.0 -45.1 102.8	0 00.8 -45.0 102.0	-0 38.5 -45.0	-1 18.0 -44.8	-1 57.5 -44.7
9°	-0 05.1 -45.2	-0 44.2 -45.1	-1 23.5 -44.9	-2 02.8 -44.8	-2 42.2 -44.8
10°	-0 50.3 -45.1	-1 29.3 -45.0	-2 08.4 -44.9	-2 47.6 -44.8	-3 27.0 -44.7
11°	-1 35.4 -45.1	-2 14.3 -45.0	-2 53.3 -44.9	-3 32.4 -44.8	-4 11.7 -44.6
12°	-2 20.5 -45.1	-2 59.3 -44.9	-3 38.2 -44.8	-4 17.2 -44.7	-4 56.3 -44.7
13°	-3 05.6 -45.0	-3 44.2 -45.0	-4 23.0 -44.8	-5 01.9 -44.7	-5 41.0 -44.6
14°	-3 50.6 -45.1	-4 29.2 -44.9	-5 07.8 -44.8	-5 46.6 -44.7	-6 25.6 -44.5
15°	-4 35.7 -45.0	-5 14.1 -44.8	-5 52.6 -44.7	-6 31.3 -44.6	-7 10.1 -44.5
16°	-5 20.7 -44.9	-5 58.9 -44.8	-6 37.3 -44.7	-7 15.9 -44.5	-7 54.6 -44.4
17°	-6 05.6 -44.9	-6 43.7 -44.8	-7 22.0 -44.6	-8 00.4 -44.5	-8 39.0 -44.3
18°	-6 50.5 -44.9	-7 28.5 -44.7	-8 06.6 -44.6	-8 44.9 -44.4	-9 23.3 -44.3
19°	-7 35.4 -44.8	-8 13.2 -44.6	-8 51.2 -44.4	-9 29.3 -44.3	
20°	-8 20.2 -44.7	-8 57.8 -44.6	-9 35.6 -44.4		
21°	-9 04.9 -44.7	-9 42.4 -44.4			
22°	-9 49.6 -44.5				
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 085° / 275°	LHA 086° / 274°	LHA 087° / 273°	LHA 088° / 272°	LHA 089° / 271°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	3 20.6 -44.7 93.7	2 40.5 -44.6 93.0	2 00.4 -44.6 92.2	1 20.3 -44.6 91.5	0 40.1 -44.5 90.7
1°	2 35.9 -44.7 94.4	1 55.9 -44.7 93.6	1 15.8 -44.6 92.9	0 35.7 -44.6 92.2	-0 04.4 -44.6
2°	1 51.2 -44.7 95.1	1 11.2 -44.7 94.3	0 31.2 -44.7 93.6	-0 08.9 -44.6	-0 49.0 -44.6
3°	1 06.5 -44.7 95.7	0 26.5 -44.6 95.0	-0 13.5 -44.6	-0 53.5 -44.6	-1 33.6 -44.6
4°	0 21.8 -44.7 96.4	-0 18.1 -44.7	-0 58.1 -44.6	-1 38.1 -44.6	-2 18.2 -44.6
5°	-0 22.9 -44.8	-1 02.8 -44.7	-1 42.7 -44.7	-2 22.7 -44.6	-3 02.8 -44.5
6°	-1 07.7 -44.7	-1 47.5 -44.6	-2 27.4 -44.6	-3 07.3 -44.5	-3 47.3 -44.5
7°	-1 52.4 -44.7	-2 32.1 -44.7	-3 12.0 -44.5	-3 51.8 -44.6	-4 31.8 -44.4
8°	-2 37.1 -44.6	-3 16.8 -44.6	-3 56.5 -44.6	-4 36.4 -44.4	-5 16.2 -44.5
9°	-3 21.7 -44.7	-4 01.4 -44.5	-4 41.1 -44.5	-5 20.8 -44.5	-6 00.7 -44.3
10°	-4 06.4 -44.6	-4 45.9 -44.6	-5 25.6 -44.4	-6 05.3 -44.3	-6 45.0 -44.3
11°	-4 51.0 -44.6	-5 30.5 -44.4	-6 10.0 -44.4	-6 49.6 -44.4	-7 29.3 -44.3
12°	-5 35.6 -44.5	-6 14.9 -44.5	-6 54.4 -44.3	-7 34.0 -44.2	-8 13.6 -44.2
13°	-6 20.1 -44.5	-6 59.4 -44.4	-7 38.7 -44.3	-8 18.2 -44.2	-8 57.8 -44.1
14°	-7 04.6 -44.4	-7 43.8 -44.3	-8 23.0 -44.2	-9 02.4 -44.1	-9 41.9 -44.0
15°	-7 49.0 -44.4	-8 28.1 -44.2	-9 07.2 -44.2	-9 46.5 -44.0	
16°	-8 33.4 -44.3	-9 12.3 -44.2	-9 51.4 -44.0		
17°	-9 17.7 -44.2	-9 56.5 -44.1			
18°					
19°					
20°					
21°					
22°					
23°					
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25°					
26°					
27°					
28°					
29°					

Dec	LHA 090° / 270°	LHA 091° / 269°	LHA 092° / 268°	LHA 093° / 267°	LHA 094° / 266°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	0 00.0 -44.6 90.0	-0 40.1 -44.6			
1°	-0 44.6 -44.6	-1 24.7 -44.6			
2°	-1 29.2 -44.5	-2 09.3 -44.6			
3°	-2 13.7 -44.6	-2 53.9 -44.5			
4°	-2 58.3 -44.5	-3 38.4 -44.5			
5°	-3 42.8 -44.5	-4 22.9 -44.5			
6°	-4 27.3 -44.5	-5 07.4 -44.4			
7°	-5 11.8 -44.4	-5 51.8 -44.4			
8°	-5 56.2 -44.4	-6 36.2 -44.3			
9°	-6 40.6 -44.3	-7 20.5 -44.3			
10°	-7 24.9 -44.2	-8 04.8 -44.2			
11°	-8 09.1 -44.2	-8 49.0 -44.1			
12°	-8 53.3 -44.1	-9 33.1 -44.0			
13°	-9 37.4 -44.0				
14°					
15°					
16°					
17°					
18°					
19°					
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21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 095° / 265°	LHA 096° / 264°	LHA 097° / 263°	LHA 098° / 262°	LHA 099° / 261°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°					
1°					
2°					
3°					
4°					
5°					
6°					
7°					
8°					
9°					
10°					
11°					
12°					
13°					
14°					
15°					
16°					
17°					
18°					
19°					
20°					
21°					
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 000° / 360°	LHA 001° / 359°	LHA 002° / 358°	LHA 003° / 357°	LHA 004° / 356°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	41 00.0 -60.0 180.0	40 59.5 -59.9 178.7	40 58.2 -60.0 177.4	40 55.9 -59.9 176.0	40 52.7 -59.9 174.7
1°	40 00.0 -60.0 180.0	39 59.6 -60.0 178.7	39 58.2 -60.0 177.4	39 56.0 -60.0 176.1	39 52.8 -59.9 174.8
2°	39 00.0 -60.0 180.0	38 59.6 -60.0 178.7	38 58.2 -59.9 177.4	38 56.0 -59.9 176.1	38 52.9 -59.9 174.9
3°	38 00.0 -60.0 180.0	37 59.6 -60.0 178.7	37 58.3 -60.0 177.5	37 56.1 -60.0 176.2	37 53.0 -59.9 174.9
4°	37 00.0 -60.0 180.0	36 59.6 -60.0 178.8	36 58.3 -60.0 177.5	36 56.1 -59.9 176.3	36 53.1 -59.9 175.0
5°	36 00.0 -60.0 180.0	35 59.6 -60.0 178.8	35 58.3 -60.0 177.5	35 56.2 -60.0 176.3	35 53.2 -59.9 175.1
6°	35 00.0 -60.0 180.0	34 59.6 -60.0 178.8	34 58.3 -59.9 177.6	34 56.2 -59.9 176.4	34 53.3 -59.9 175.1
7°	34 00.0 -60.0 180.0	33 59.6 -60.0 178.8	33 58.4 -60.0 177.6	33 56.3 -59.9 176.4	33 53.4 -59.9 175.2
8°	33 00.0 -60.0 180.0	32 59.6 -60.0 178.8	32 58.4 -60.0 177.6	32 56.4 -60.0 176.5	32 53.5 -59.9 175.3
9°	32 00.0 -60.0 180.0	31 59.6 -60.0 178.8	31 58.4 -60.0 177.7	31 56.4 -60.0 176.5	31 53.6 -59.9 175.3
10°	31 00.0 -60.0 180.0	30 59.6 -60.0 178.9	30 58.4 -60.0 177.7	30 56.4 -59.9 176.6	30 53.7 -59.9 175.4
11°	30 00.0 -60.0 180.0	29 59.6 -60.0 178.9	29 58.4 -59.9 177.7	29 56.5 -60.0 176.6	29 53.8 -59.9 175.5
12°	29 00.0 -60.0 180.0	28 59.6 -60.0 178.9	28 58.5 -60.0 177.8	28 56.5 -59.9 176.6	28 53.9 -60.0 175.5
13°	28 00.0 -60.0 180.0	27 59.6 -60.0 178.9	27 58.5 -60.0 177.8	27 56.6 -60.0 176.7	27 53.9 -59.9 175.6
14°	27 00.0 -60.0 180.0	26 59.6 -60.0 178.9	26 58.5 -60.0 177.8	26 56.6 -59.9 176.7	26 54.0 -59.9 175.6
15°	26 00.0 -60.0 180.0	25 59.6 -60.0 178.9	25 58.5 -60.0 177.9	25 56.7 -60.0 176.8	25 54.1 -59.9 175.7
16°	25 00.0 -60.0 180.0	24 59.6 -60.0 178.9	24 58.5 -59.9 177.9	24 56.7 -59.9 176.8	24 54.2 -59.9 175.8
17°	24 00.0 -60.0 180.0	23 59.6 -60.0 179.0	23 58.6 -60.0 177.9	23 56.8 -60.0 176.9	23 54.3 -60.0 175.8
18°	23 00.0 -60.0 180.0	22 59.6 -60.0 179.0	22 58.6 -60.0 177.9	22 56.8 -60.0 176.9	22 54.3 -59.9 175.9
19°	22 00.0 -60.0 180.0	21 59.6 -59.9 179.0	21 58.6 -60.0 178.0	21 56.8 -59.9 176.9	21 54.4 -59.9 175.9
20°	21 00.0 -60.0 180.0	20 59.7 -60.0 179.0	20 58.6 -60.0 178.0	20 56.9 -60.0 177.0	20 54.5 -60.0 176.0
21°	20 00.0 -60.0 180.0	19 59.7 -60.0 179.0	19 58.6 -59.9 178.0	19 56.9 -59.9 177.0	19 54.5 -59.9 176.0
22°	19 00.0 -60.0 180.0	18 59.7 -60.0 179.0	18 58.7 -60.0 178.0	18 57.0 -60.0 177.1	18 54.6 -59.9 176.1
23°	18 00.0 -60.0 180.0	17 59.7 -60.0 179.0	17 58.7 -60.0 178.1	17 57.0 -60.0 177.1	17 54.7 -59.9 176.1
24°	17 00.0 -60.0 180.0	16 59.7 -60.0 179.0	16 58.7 -60.0 178.1	16 57.0 -59.9 177.1	16 54.8 -60.0 176.2
25°	16 00.0 -60.0 180.0	15 59.7 -60.0 179.1	15 58.7 -60.0 178.1	15 57.1 -60.0 177.2	15 54.8 -59.9 176.2
26°	15 00.0 -60.0 180.0	14 59.7 -60.0 179.1	14 58.7 -60.0 178.1	14 57.1 -59.9 177.2	14 54.9 -59.9 176.3
27°	14 00.0 -60.0 180.0	13 59.7 -60.0 179.1	13 58.7 -59.9 178.2	13 57.2 -60.0 177.2	13 55.0 -60.0 176.3
28°	13 00.0 -60.0 180.0	12 59.7 -60.0 179.1	12 58.8 -60.0 178.2	12 57.2 -60.0 177.3	12 55.0 -59.9 176.4
29°	12 00.0 -60.0 180.0	11 59.7 -60.0 179.1	11 58.8 -60.0 178.2	11 57.2 -59.9 177.3	11 55.1 -59.9 176.4

Dec	LHA 005° / 355°	LHA 006° / 354°	LHA 007° / 353°	LHA 008° / 352°	LHA 009° / 351°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	40 48.6 -59.8 173.4	40 43.7 -59.8 172.1	40 37.8 -59.7 170.8	40 31.0 -59.5 169.5	40 23.4 -59.5 168.1
1°	39 48.8 -59.8 173.5	39 43.9 -59.8 172.2	39 38.1 -59.7 170.9	39 31.5 -59.6 169.6	39 23.9 -59.5 168.3
2°	38 49.0 -59.9 173.6	38 44.1 -59.7 172.3	38 38.4 -59.7 171.0	38 31.9 -59.6 169.8	38 24.4 -59.4 168.5
3°	37 49.1 -59.8 173.7	37 44.4 -59.8 172.4	37 38.7 -59.7 171.2	37 32.3 -59.6 169.9	37 25.0 -59.6 168.7
4°	36 49.3 -59.9 173.8	36 44.6 -59.8 172.5	36 39.0 -59.7 171.3	36 32.7 -59.7 170.0	36 25.4 -59.5 168.8
5°	35 49.4 -59.8 173.9	35 44.8 -59.8 172.6	35 39.3 -59.7 171.4	35 33.0 -59.6 170.2	35 25.9 -59.5 169.0
6°	34 49.6 -59.9 173.9	34 45.0 -59.8 172.7	34 39.6 -59.7 171.5	34 33.4 -59.6 170.3	34 26.4 -59.5 169.1
7°	33 49.7 -59.8 174.0	33 45.2 -59.8 172.8	33 39.9 -59.7 171.6	33 33.8 -59.7 170.5	33 26.9 -59.6 169.3
8°	32 49.9 -59.9 174.1	32 45.4 -59.8 172.9	32 40.2 -59.7 171.8	32 34.1 -59.6 170.6	32 27.3 -59.5 169.4
9°	31 50.0 -59.9 174.2	31 45.6 -59.8 173.0	31 40.5 -59.8 171.9	31 34.5 -59.7 170.7	31 27.8 -59.6 169.6
10°	30 50.1 -59.8 174.3	30 45.8 -59.8 173.1	30 40.7 -59.7 172.0	30 34.8 -59.6 170.8	30 28.2 -59.6 169.7
11°	29 50.3 -59.9 174.3	29 46.0 -59.8 173.2	29 41.0 -59.8 172.1	29 35.2 -59.7 171.0	29 28.6 -59.6 169.8
12°	28 50.4 -59.9 174.4	28 46.2 -59.8 173.3	28 41.2 -59.7 172.2	28 35.5 -59.7 171.1	28 29.0 -59.6 170.0
13°	27 50.5 -59.8 174.5	27 46.4 -59.8 173.4	27 41.5 -59.8 172.3	27 35.8 -59.7 171.2	27 29.4 -59.6 170.1
14°	26 50.7 -59.9 174.6	26 46.6 -59.9 173.5	26 41.7 -59.7 172.4	26 36.1 -59.6 171.3	26 29.8 -59.6 170.2
15°	25 50.8 -59.9 174.6	25 46.7 -59.8 173.6	25 42.0 -59.8 172.5	25 36.5 -59.7 171.4	25 30.2 -59.6 170.4
16°	24 50.9 -59.9 174.7	24 46.9 -59.8 173.6	24 42.2 -59.8 172.6	24 36.8 -59.7 171.5	24 30.6 -59.6 170.5
17°	23 51.0 -59.9 174.8	23 47.1 -59.9 173.7	23 42.4 -59.8 172.7	23 37.1 -59.7 171.6	23 31.0 -59.6 170.6
18°	22 51.1 -59.8 174.8	22 47.2 -59.8 173.8	22 42.6 -59.7 172.8	22 37.4 -59.8 171.8	22 31.4 -59.7 170.7
19°	21 51.3 -59.9 174.9	21 47.4 -59.8 173.9	21 42.9 -59.8 172.9	21 37.6 -59.7 171.9	21 31.7 -59.6 170.9
20°	20 51.4 -59.9 175.0	20 47.6 -59.9 174.0	20 43.1 -59.8 173.0	20 37.9 -59.7 172.0	20 32.1 -59.6 171.0
21°	19 51.5 -59.9 175.0	19 47.7 -59.8 174.0	19 43.3 -59.8 173.1	19 38.2 -59.7 172.1	19 32.5 -59.7 171.1
22°	18 51.6 -59.9 175.1	18 47.9 -59.9 174.1	18 43.5 -59.8 173.1	18 38.5 -59.7 172.2	18 32.8 -59.6 171.2
23°	17 51.7 -59.9 175.2	17 48.0 -59.8 174.2	17 43.7 -59.7 173.2	17 38.8 -59.7 172.3	17 33.2 -59.7 171.3
24°	16 51.8 -59.9 175.2	16 48.2 -59.8 174.3	16 44.0 -59.8 173.3	16 39.1 -59.8 172.4	16 33.5 -59.7 171.4
25°	15 51.9 -59.9 175.3	15 48.4 -59.9 174.3	15 44.2 -59.8 173.4	15 39.3 -59.7 172.5	15 33.8 -59.6 171.5
26°	14 52.0 -59.9 175.4	14 48.5 -59.8 174.4	14 44.4 -59.8 173.5	14 39.6 -59.7 172.6	14 34.2 -59.7 171.6
27°	13 52.1 -59.9 175.4	13 48.7 -59.9 174.5	13 44.6 -59.8 173.6	13 39.9 -59.8 172.7	13 34.5 -59.6 171.8
28°	12 52.2 -59.9 175.5	12 48.8 -59.8 174.6	12 44.8 -59.8 173.7	12 40.1 -59.7 172.8	12 34.9 -59.7 171.9
29°	11 52.3 -59.9 175.5	11 49.0 -59.9 174.6	11 45.0 -59.8 173.7	11 40.4 -59.8 172.9	11 35.2 -59.7 172.0

Dec	LHA 010° / 350°	LHA 011° / 349°	LHA 012° / 348°	LHA 013° / 347°	LHA 014° / 346°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	40 14.9 -59.4 166.8	40 05.5 -59.2 165.6	39 55.2 -59.0 164.3	39 44.1 -58.9 163.0	39 32.2 -58.7 161.7
1°	39 15.5 -59.3 167.0	39 06.3 -59.3 165.8	38 56.2 -59.1 164.5	38 45.2 -58.9 163.2	38 33.5 -58.8 162.0
2°	38 16.2 -59.4 167.2	38 07.0 -59.2 166.0	37 57.1 -59.1 164.7	37 46.3 -59.0 163.5	37 34.7 -58.8 162.2
3°	37 16.8 -59.4 167.4	37 07.8 -59.3 166.2	36 58.0 -59.2 164.9	36 47.3 -58.9 163.7	36 35.9 -58.8 162.5
4°	36 17.4 -59.4 167.6	36 08.5 -59.3 166.4	35 58.8 -59.1 165.1	35 48.4 -59.1 163.9	35 37.1 -58.9 162.7
5°	35 18.0 -59.4 167.8	35 09.2 -59.3 166.6	34 59.7 -59.2 165.4	34 49.3 -59.0 164.2	34 38.2 -58.9 163.0
6°	34 18.6 -59.5 167.9	34 09.9 -59.3 166.7	34 00.5 -59.2 165.6	33 50.3 -59.0 164.4	33 39.3 -58.9 163.2
7°	33 19.1 -59.4 168.1	33 10.6 -59.3 166.9	33 01.3 -59.2 165.8	32 51.3 -59.1 164.6	32 40.4 -58.9 163.4
8°	32 19.7 -59.5 168.3	32 11.3 -59.4 167.1	32 02.1 -59.2 165.9	31 52.2 -59.1 164.8	31 41.5 -59.0 163.6
9°	31 20.2 -59.4 168.4	31 11.9 -59.3 167.3	31 02.9 -59.2 166.1	30 53.1 -59.1 165.0	30 42.5 -59.0 163.9
10°	30 20.8 -59.5 168.6	30 12.6 -59.4 167.4	30 03.7 -59.3 166.3	29 54.0 -59.2 165.2	29 43.5 -59.0 164.1
11°	29 21.3 -59.5 168.7	29 13.2 -59.4 167.6	29 04.4 -59.3 166.5	28 54.8 -59.1 165.4	28 44.5 -59.0 164.3
12°	28 21.8 -59.5 168.9	28 13.8 -59.4 167.8	28 05.1 -59.3 166.7	27 55.7 -59.2 165.6	27 45.5 -59.0 164.5
13°	27 22.3 -59.5 169.0	27 14.4 -59.4 167.9	27 05.8 -59.3 166.8	26 56.5 -59.2 165.8	26 46.5 -59.1 164.7
14°	26 22.8 -59.5 169.2	26 15.0 -59.4 168.1	26 06.5 -59.3 167.0	25 57.3 -59.2 166.0	25 47.4 -59.0 164.9
15°	25 23.3 -59.6 169.3	25 15.6 -59.4 168.2	25 07.2 -59.3 167.2	24 58.1 -59.2 166.1	24 48.4 -59.1 165.1
16°	24 23.7 -59.5 169.4	24 16.2 -59.5 168.4	24 07.9 -59.3 167.3	23 58.9 -59.2 166.3	23 49.3 -59.1 165.3
17°	23 24.2 -59.5 169.6	23 16.7 -59.4 168.5	23 08.6 -59.4 167.5	22 59.7 -59.2 166.5	22 50.2 -59.1 165.5
18°	22 24.7 -59.6 169.7	22 17.3 -59.5 168.7	22 09.2 -59.3 167.7	22 00.5 -59.2 166.7	21 51.1 -59.2 165.6
19°	21 25.1 -59.5 169.8	21 17.8 -59.4 168.8	21 09.9 -59.4 167.8	21 01.3 -59.3 166.8	20 51.9 -59.1 165.8
20°	20 25.6 -59.6 170.0	20 18.4 -59.5 169.0	20 10.5 -59.3 168.0	20 02.0 -59.3 167.0	19 52.8 -59.1 166.0
21°	19 26.0 -59.5 170.1	19 18.9 -59.5 169.1	19 11.2 -59.4 168.1	19 02.7 -59.2 167.2	18 53.7 -59.2 166.2
22°	18 26.5 -59.6 170.2	18 19.4 -59.4 169.3	18 11.8 -59.4 168.3	18 03.5 -59.3 167.3	17 54.5 -59.1 166.4
23°	17 26.9 -59.6 170.4	17 20.0 -59.5 169.4	17 12.4 -59.4 168.4	17 04.2 -59.3 167.5	16 55.4 -59.2 166.5
24°	16 27.3 -59.6 170.5	16 20.5 -59.5 169.5	16 13.0 -59.4 168.6	16 04.9 -59.3 167.7	15 56.2 -59.2 166.7
25°	15 27.7 -59.5 170.6	15 21.0 -59.5 169.7	15 13.6 -59.4 168.7	15 05.6 -59.3 167.8	14 57.0 -59.2 166.9
26°	14 28.2 -59.6 170.7	14 21.5 -59.5 169.8	14 14.2 -59.4 168.9	14 06.3 -59.3 168.0	13 57.8 -59.2 167.1
27°	13 28.6 -59.6 170.8	13 22.0 -59.5 169.9	13 14.8 -59.4 169.0	13 07.0 -59.3 168.1	12 58.6 -59.2 167.2
28°	12 29.0 -59.6 171.0	12 22.5 -59.5 170.1	12 15.4 -59.4 169.2	12 07.7 -59.3 168.3	11 59.4 -59.2 167.4
29°	11 29.4 -59.6 171.1	11 23.0 -59.5 170.2	11 16.0 -59.4 169.3	11 08.4 -59.3 168.4	11 00.2 -59.2 167.6

Dec	LHA 015° / 345°	LHA 016° / 344°	LHA 017° / 343°	LHA 018° / 342°	LHA 019° / 341°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	39 19.4 -58.5 160.5	39 05.9 -58.4 159.2	38 51.5 -58.2 157.9	38 36.3 -58.0 156.7	38 20.4 -57.8 155.5
1°	38 20.9 -58.6 160.7	38 07.5 -58.4 159.5	37 53.3 -58.2 158.3	37 38.3 -58.0 157.0	37 22.6 -57.8 155.8
2°	37 22.3 -58.6 161.0	37 09.1 -58.5 159.8	36 55.1 -58.3 158.6	36 40.3 -58.1 157.4	36 24.8 -57.9 156.2
3°	36 23.7 -58.7 161.3	36 10.6 -58.5 160.1	35 56.8 -58.3 158.9	35 42.2 -58.1 157.7	35 26.9 -57.9 156.5
4°	35 25.0 -58.7 161.5	35 12.1 -58.5 160.3	34 58.5 -58.4 159.1	34 44.1 -58.2 158.0	34 29.0 -58.0 156.8
5°	34 26.3 -58.7 161.8	34 13.6 -58.6 160.6	34 00.1 -58.3 159.4	33 45.9 -58.2 158.3	33 31.0 -58.0 157.1
6°	33 27.6 -58.8 162.0	33 15.0 -58.6 160.9	33 01.8 -58.5 159.7	32 47.7 -58.2 158.6	32 33.0 -58.1 157.4
7°	32 28.8 -58.8 162.3	32 16.4 -58.6 161.1	32 03.3 -58.4 160.0	31 49.5 -58.3 158.8	31 34.9 -58.1 157.7
8°	31 30.0 -58.8 162.5	31 17.8 -58.6 161.4	31 04.9 -58.5 160.2	30 51.2 -58.3 159.1	30 36.8 -58.1 158.0
9°	30 31.2 -58.8 162.7	30 19.2 -58.7 161.6	30 06.4 -58.5 160.5	29 52.9 -58.4 159.4	29 38.7 -58.2 158.3
10°	29 32.4 -58.9 163.0	29 20.5 -58.7 161.9	29 07.9 -58.6 160.8	28 54.5 -58.4 159.7	28 40.5 -58.2 158.6
11°	28 33.5 -58.9 163.2	28 21.8 -58.8 162.1	28 09.3 -58.6 161.0	27 56.1 -58.4 159.9	27 42.3 -58.3 158.8
12°	27 34.6 -58.9 163.4	27 23.0 -58.7 162.3	27 10.7 -58.6 161.2	26 57.7 -58.4 160.2	26 44.0 -58.2 159.1
13°	26 35.7 -58.9 163.6	26 24.3 -58.8 162.6	26 12.1 -58.6 161.5	25 59.3 -58.5 160.4	25 45.8 -58.3 159.4
14°	25 36.8 -58.9 163.8	25 25.5 -58.8 162.8	25 13.5 -58.6 161.7	25 00.8 -58.5 160.7	24 47.5 -58.4 159.6
15°	24 37.9 -59.0 164.0	24 26.7 -58.8 163.0	24 14.9 -58.7 162.0	24 02.3 -58.5 160.9	23 49.1 -58.3 159.9
16°	23 38.9 -58.9 164.2	23 27.9 -58.8 163.2	23 16.2 -58.7 162.2	23 03.8 -58.5 161.2	22 50.8 -58.4 160.1
17°	22 40.0 -59.0 164.4	22 29.1 -58.9 163.4	22 17.5 -58.7 162.4	22 05.3 -58.6 161.4	21 52.4 -58.4 160.4
18°	21 41.0 -59.0 164.6	21 30.2 -58.8 163.6	21 18.8 -58.7 162.6	21 06.7 -58.6 161.6	20 54.0 -58.4 160.6
19°	20 42.0 -59.0 164.8	20 31.4 -58.9 163.8	20 20.1 -58.8 162.9	20 08.1 -58.5 161.9	19 55.6 -58.5 160.9
20°	19 43.0 -59.0 165.0	19 32.5 -58.9 164.0	19 21.3 -58.7 163.1	19 09.6 -58.7 162.1	18 57.1 -58.4 161.1
21°	18 44.0 -59.1 165.2	18 33.6 -58.9 164.2	18 22.6 -58.8 163.3	18 10.9 -58.6 162.3	17 58.7 -58.5 161.4
22°	17 44.9 -59.0 165.4	17 34.7 -58.9 164.4	17 23.8 -58.8 163.5	17 12.3 -58.6 162.5	17 00.2 -58.5 161.6
23°	16 45.9 -59.1 165.6	16 35.8 -59.0 164.6	16 25.0 -58.8 163.7	16 13.7 -58.7 162.8	16 01.7 -58.5 161.8
24°	15 46.8 -59.0 165.8	15 36.8 -58.9 164.8	15 26.2 -58.8 163.9	15 15.0 -58.6 163.0	15 03.2 -58.5 162.1
25°	14 47.8 -59.1 166.0	14 37.9 -58.9 165.0	14 27.4 -58.8 164.1	14 16.4 -58.7 163.2	14 04.7 -58.6 162.3
26°	13 48.7 -59.1 166.1	13 39.0 -59.0 165.2	13 28.6 -58.8 164.3	13 17.7 -58.7 163.4	13 06.1 -58.5 162.5
27°	12 49.6 -59.1 166.3	12 40.0 -59.0 165.4	12 29.8 -58.8 164.5	12 19.0 -58.7 163.6	12 07.6 -58.6 162.7
28°	11 50.5 -59.1 166.5	11 41.0 -58.9 165.6	11 31.0 -58.9 164.7	11 20.3 -58.7 163.8	11 09.0 -58.5 163.0
29°	10 51.4 -59.1 166.7	10 42.1 -59.0 165.8	10 32.1 -58.8 164.9	10 21.6 -58.7 164.1	10 10.5 -58.6 163.2

Declination CONTRARY name to Latitude

Latitude 49°

Dec	LHA 020° / 340°	LHA 021° / 339°	LHA 022° / 338°	LHA 023° / 337°	LHA 024° / 336°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	38 03.6 -57.5 154.3	37 46.2 -57.4 153.0	37 27.9 -57.0 151.8	37 09.0 -56.8 150.6	36 49.4 -56.7 149.5
1°	37 06.1 -57.6 154.6	36 48.8 -57.3 153.4	36 30.9 -57.2 152.2	36 12.2 -57.0 151.0	35 52.7 -56.6 149.9
2°	36 08.5 -57.7 155.0	35 51.5 -57.5 153.8	35 33.7 -57.2 152.6	35 15.2 -57.0 151.4	34 56.1 -56.8 150.3
3°	35 10.8 -57.7 155.3	34 54.0 -57.5 154.1	34 36.5 -57.3 153.0	34 18.2 -57.0 151.8	33 59.3 -56.9 150.7
4°	34 13.1 -57.8 155.6	33 56.5 -57.6 154.5	33 39.2 -57.4 153.3	33 21.2 -57.2 152.2	33 02.4 -56.9 151.1
5°	33 15.3 -57.8 156.0	32 58.9 -57.6 154.8	32 41.8 -57.4 153.7	32 24.0 -57.2 152.5	32 05.5 -57.0 151.4
6°	32 17.5 -57.9 156.3	32 01.3 -57.7 155.1	31 44.4 -57.5 154.0	31 26.8 -57.2 152.9	31 08.5 -57.0 151.8
7°	31 19.6 -57.9 156.6	31 03.6 -57.7 155.5	30 46.9 -57.5 154.4	30 29.6 -57.4 153.3	30 11.5 -57.1 152.2
8°	30 21.7 -57.9 156.9	30 05.9 -57.8 155.8	29 49.4 -57.5 154.7	29 32.2 -57.3 153.6	29 14.4 -57.1 152.5
9°	29 23.8 -58.0 157.2	29 08.1 -57.8 156.1	28 51.9 -57.7 155.0	28 34.9 -57.4 153.9	28 17.3 -57.2 152.9
10°	28 25.8 -58.1 157.5	28 10.3 -57.8 156.4	27 54.2 -57.6 155.3	27 37.5 -57.5 154.3	27 20.1 -57.3 153.2
11°	27 27.7 -58.0 157.8	27 12.5 -57.9 156.7	26 56.6 -57.7 155.6	26 40.0 -57.5 154.6	26 22.8 -57.3 153.5
12°	26 29.7 -58.1 158.0	26 14.6 -57.9 157.0	25 58.9 -57.7 155.9	25 42.5 -57.5 154.9	25 25.5 -57.3 153.9
13°	25 31.6 -58.2 158.3	25 16.7 -58.0 157.3	25 01.2 -57.8 156.2	24 45.0 -57.6 155.2	24 28.2 -57.4 154.2
14°	24 33.4 -58.1 158.6	24 18.7 -57.9 157.6	24 03.4 -57.8 156.5	23 47.4 -57.6 155.5	23 30.8 -57.4 154.5
15°	23 35.3 -58.2 158.9	23 20.8 -58.1 157.9	23 05.6 -57.8 156.8	22 49.8 -57.7 155.8	22 33.4 -57.5 154.8
16°	22 37.1 -58.2 159.1	22 22.7 -58.0 158.1	22 07.8 -57.9 157.1	21 52.1 -57.6 156.1	21 35.9 -57.5 155.1
17°	21 38.9 -58.3 159.4	21 24.7 -58.1 158.4	21 09.9 -57.9 157.4	20 54.5 -57.8 156.4	20 38.4 -57.5 155.4
18°	20 40.6 -58.2 159.7	20 26.6 -58.1 158.7	20 12.0 -57.9 157.7	19 56.7 -57.7 156.7	19 40.9 -57.6 155.7
19°	19 42.4 -58.3 159.9	19 28.5 -58.1 158.9	19 14.1 -58.0 158.0	18 59.0 -57.8 157.0	18 43.3 -57.6 156.0
20°	18 44.1 -58.3 160.2	18 30.4 -58.1 159.2	18 16.1 -57.9 158.2	18 01.2 -57.8 157.3	17 45.7 -57.6 156.3
21°	17 45.8 -58.3 160.4	17 32.3 -58.2 159.5	17 18.2 -58.0 158.5	17 03.4 -57.8 157.6	16 48.1 -57.6 156.6
22°	16 47.5 -58.4 160.7	16 34.1 -58.1 159.7	16 20.2 -58.0 158.8	16 05.6 -57.8 157.8	15 50.5 -57.7 156.9
23°	15 49.1 -58.3 160.9	15 36.0 -58.2 160.0	15 22.2 -58.1 159.0	15 07.8 -57.9 158.1	14 52.8 -57.6 157.2
24°	14 50.8 -58.4 161.1	14 37.8 -58.3 160.2	14 24.1 -58.0 159.3	14 09.9 -57.8 158.4	13 55.2 -57.7 157.5
25°	13 52.4 -58.4 161.4	13 39.5 -58.2 160.5	13 26.1 -58.1 159.6	13 12.1 -57.9 158.7	12 57.5 -57.8 157.8
26°	12 54.0 -58.4 161.6	12 41.3 -58.2 160.7	12 28.0 -58.0 159.8	12 14.2 -57.9 158.9	11 59.7 -57.7 158.1
27°	11 55.6 -58.4 161.9	11 43.1 -58.3 161.0	11 30.0 -58.1 160.1	11 16.3 -58.0 159.2	11 02.0 -57.7 158.3
28°	10 57.2 -58.4 162.1	10 44.8 -58.2 161.2	10 31.9 -58.1 160.3	10 18.3 -57.9 159.5	10 04.3 -57.8 158.6
29°	9 58.8 -58.4 162.3	9 46.6 -58.3 161.5	9 33.8 -58.1 160.6	9 20.4 -57.9 159.7	9 06.5 -57.8 158.9

Dec	LHA 025° / 335°	LHA 026° / 334°	LHA 027° / 333°	LHA 028° / 332°	LHA 029° / 331°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	36 29.0 -56.4 148.3	36 08.0 -56.1 147.1	35 46.3 -55.9 146.0	35 23.9 -55.6 144.8	35 00.9 -55.3 143.7
1°	35 32.6 -56.4 148.7	35 11.9 -56.2 147.6	34 50.4 -55.9 146.4	34 28.3 -55.7 145.3	34 05.6 -55.4 144.2
2°	34 36.2 -56.5 149.1	34 15.7 -56.3 148.0	33 54.5 -56.1 146.9	33 32.6 -55.8 145.7	33 10.2 -55.6 144.6
3°	33 39.7 -56.7 149.5	33 19.4 -56.4 148.4	32 58.4 -56.1 147.3	32 36.8 -55.9 146.2	32 14.6 -55.6 145.1
4°	32 43.0 -56.6 149.9	32 23.0 -56.5 148.8	32 02.3 -56.2 147.7	31 40.9 -55.9 146.6	31 19.0 -55.8 145.5
5°	31 46.4 -56.8 150.3	31 26.5 -56.5 149.2	31 06.1 -56.3 148.1	30 45.0 -56.1 147.0	30 23.2 -55.8 146.0
6°	30 49.6 -56.8 150.7	30 30.0 -56.6 149.6	30 09.8 -56.4 148.5	29 48.9 -56.1 147.4	29 27.4 -55.9 146.4
7°	29 52.8 -56.9 151.1	29 33.4 -56.6 150.0	29 13.4 -56.4 148.9	28 52.8 -56.2 147.8	28 31.5 -55.9 146.8
8°	28 55.9 -56.9 151.4	28 36.8 -56.8 150.4	28 17.0 -56.5 149.3	27 56.6 -56.3 148.2	27 35.6 -56.1 147.2
9°	27 59.0 -57.0 151.8	27 40.0 -56.7 150.7	27 20.5 -56.6 149.7	27 00.3 -56.3 148.6	26 39.5 -56.1 147.6
10°	27 02.0 -57.1 152.1	26 43.3 -56.9 151.1	26 23.9 -56.6 150.1	26 04.0 -56.4 149.0	25 43.4 -56.1 148.0
11°	26 04.9 -57.1 152.5	25 46.4 -56.8 151.5	25 27.3 -56.6 150.4	25 07.6 -56.5 149.4	24 47.3 -56.3 148.4
12°	25 07.8 -57.1 152.8	24 49.6 -57.0 151.8	24 30.7 -56.8 150.8	24 11.1 -56.5 149.8	23 51.0 -56.3 148.8
13°	24 10.7 -57.2 153.2	23 52.6 -57.0 152.2	23 33.9 -56.7 151.1	23 14.6 -56.5 150.1	22 54.7 -56.3 149.1
14°	23 13.5 -57.2 153.5	22 55.6 -57.0 152.5	22 37.2 -56.8 151.5	22 18.1 -56.6 150.5	21 58.4 -56.4 149.5
15°	22 16.3 -57.3 153.8	21 58.6 -57.0 152.8	21 40.4 -56.9 151.8	21 21.5 -56.7 150.9	21 02.0 -56.4 149.9
16°	21 19.0 -57.3 154.1	21 01.6 -57.1 153.2	20 43.5 -56.9 152.2	20 24.8 -56.7 151.2	20 05.6 -56.5 150.2
17°	20 21.7 -57.3 154.5	20 04.5 -57.2 153.5	19 46.6 -56.9 152.5	19 28.1 -56.7 151.6	19 09.1 -56.5 150.6
18°	19 24.4 -57.4 154.8	19 07.3 -57.1 153.8	18 49.7 -57.0 152.9	18 31.4 -56.7 151.9	18 12.6 -56.6 151.0
19°	18 27.0 -57.4 155.1	18 10.2 -57.2 154.1	17 52.7 -57.0 153.2	17 34.7 -56.8 152.2	17 16.0 -56.5 151.3
20°	17 29.6 -57.4 155.4	17 13.0 -57.3 154.5	16 55.7 -57.0 153.5	16 37.9 -56.9 152.6	16 19.5 -56.7 151.7
21°	16 32.2 -57.4 155.7	16 15.7 -57.2 154.8	15 58.7 -57.1 153.8	15 41.0 -56.8 152.9	15 22.8 -56.6 152.0
22°	15 34.8 -57.5 156.0	15 18.5 -57.3 155.1	15 01.6 -57.1 154.2	14 44.2 -56.9 153.3	14 26.2 -56.7 152.3
23°	14 37.3 -57.5 156.3	14 21.2 -57.3 155.4	14 04.5 -57.1 154.5	13 47.3 -56.9 153.6	13 29.5 -56.7 152.7
24°	13 39.8 -57.5 156.6	13 23.9 -57.3 155.7	13 07.4 -57.1 154.8	12 50.4 -57.0 153.9	12 32.8 -56.8 153.0
25°	12 42.3 -57.5 156.9	12 26.6 -57.4 156.0	12 10.3 -57.2 155.1	11 53.4 -56.9 154.2	11 36.0 -56.7 153.3
26°	11 44.8 -57.6 157.2	11 29.2 -57.4 156.3	11 13.1 -57.2 155.4	10 56.5 -57.0 154.5	10 39.3 -56.8 153.7
27°	10 47.2 -57.6 157.5	10 31.8 -57.3 156.6	10 15.9 -57.2 155.7	9 59.5 -57.0 154.9	9 42.5 -56.8 154.0
28°	9 49.6 -57.5 157.7	9 34.5 -57.4 156.9	9 18.7 -57.2 156.0	9 02.5 -57.0 155.2	8 45.7 -56.8 154.3
29°	8 52.1 -57.6 158.0	8 37.1 -57.5 157.2	8 21.5 -57.2 156.3	8 05.5 -57.1 155.5	7 48.9 -56.9 154.7

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Dec	LHA 030° / 330°	LHA 031° / 329°	LHA 032° / 328°	LHA 033° / 327°	LHA 034° / 326°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	34 37.3 -55.0 142.6	34 13.1 -54.8 141.5	33 48.3 -54.6 140.4	33 22.9 -54.3 139.3	32 57.0 -54.1 138.2
1°	33 42.3 -55.2 143.1	33 18.3 -54.9 142.0	32 53.7 -54.6 140.9	32 28.6 -54.4 139.8	32 02.9 -54.1 138.7
2°	32 47.1 -55.3 143.5	32 23.4 -55.1 142.4	31 59.1 -54.8 141.4	31 34.2 -54.5 140.3	31 08.8 -54.3 139.2
3°	31 51.8 -55.4 144.0	31 28.3 -55.1 142.9	31 04.3 -54.9 141.8	30 39.7 -54.6 140.8	30 14.5 -54.4 139.7
4°	30 56.4 -55.5 144.4	30 33.2 -55.2 143.4	30 09.4 -55.0 142.3	29 45.1 -54.8 141.3	29 20.1 -54.4 140.2
5°	30 00.9 -55.6 144.9	29 38.0 -55.4 143.8	29 14.4 -55.1 142.8	28 50.3 -54.8 141.7	28 25.7 -54.6 140.7
6°	29 05.3 -55.6 145.3	28 42.6 -55.4 144.3	28 19.3 -55.1 143.2	27 55.5 -54.9 142.2	27 31.1 -54.7 141.2
7°	28 09.7 -55.8 145.7	27 47.2 -55.5 144.7	27 24.2 -55.3 143.7	27 00.6 -55.0 142.6	26 36.4 -54.7 141.6
8°	27 13.9 -55.8 146.2	26 51.7 -55.5 145.1	26 28.9 -55.3 144.1	26 05.6 -55.1 143.1	25 41.7 -54.9 142.1
9°	26 18.1 -55.8 146.6	25 56.2 -55.7 145.6	25 33.6 -55.4 144.5	25 10.5 -55.2 143.5	24 46.8 -54.9 142.5
10°	25 22.3 -56.0 147.0	25 00.5 -55.7 146.0	24 38.2 -55.5 145.0	24 15.3 -55.2 144.0	23 51.9 -55.0 143.0
11°	24 26.3 -56.0 147.4	24 04.8 -55.8 146.4	23 42.7 -55.5 145.4	23 20.1 -55.3 144.4	22 56.9 -55.1 143.4
12°	23 30.3 -56.0 147.8	23 09.0 -55.8 146.8	22 47.2 -55.6 145.8	22 24.8 -55.4 144.8	22 01.8 -55.1 143.8
13°	22 34.3 -56.1 148.2	22 13.2 -55.9 147.2	21 51.6 -55.7 146.2	21 29.4 -55.4 145.2	21 06.7 -55.2 144.3
14°	21 38.2 -56.2 148.5	21 17.3 -55.9 147.6	20 55.9 -55.7 146.6	20 34.0 -55.5 145.6	20 11.5 -55.3 144.7
15°	20 42.0 -56.2 148.9	20 21.4 -56.0 148.0	20 00.2 -55.8 147.0	19 38.5 -55.5 146.0	19 16.2 -55.3 145.1
16°	19 45.8 -56.3 149.3	19 25.4 -56.1 148.3	19 04.4 -55.8 147.4	18 43.0 -55.6 146.4	18 20.9 -55.3 145.5
17°	18 49.5 -56.3 149.7	18 29.3 -56.0 148.7	18 08.6 -55.8 147.8	17 47.4 -55.7 146.8	17 25.6 -55.4 145.9
18°	17 53.2 -56.3 150.0	17 33.3 -56.2 149.1	17 12.8 -55.9 148.2	16 51.7 -55.7 147.2	16 30.2 -55.5 146.3
19°	16 56.9 -56.4 150.4	16 37.1 -56.1 149.5	16 16.9 -56.0 148.5	15 56.0 -55.7 147.6	15 34.7 -55.5 146.7
20°	16 00.5 -56.4 150.7	15 41.0 -56.2 149.8	15 20.9 -56.0 148.9	15 00.3 -55.7 148.0	14 39.2 -55.5 147.1
21°	15 04.1 -56.5 151.1	14 44.8 -56.3 150.2	14 24.9 -56.0 149.3	14 04.6 -55.8 148.4	13 43.7 -55.6 147.5
22°	14 07.6 -56.5 151.4	13 48.5 -56.2 150.5	13 28.9 -56.0 149.7	13 08.8 -55.9 148.8	12 48.1 -55.6 147.9
23°	13 11.1 -56.5 151.8	12 52.3 -56.3 150.9	12 32.9 -56.1 150.0	12 12.9 -55.8 149.1	11 52.5 -55.7 148.3
24°	12 14.6 -56.5 152.1	11 56.0 -56.3 151.3	11 36.8 -56.1 150.4	11 17.1 -55.9 149.5	10 56.8 -55.6 148.6
25°	11 18.1 -56.5 152.5	10 59.7 -56.4 151.6	10 40.7 -56.2 150.7	10 21.2 -55.9 149.9	10 01.2 -55.7 149.0
26°	10 21.6 -56.6 152.8	10 03.3 -56.4 152.0	9 44.5 -56.1 151.1	9 25.3 -56.0 150.3	9 05.5 -55.7 149.4
27°	9 25.0 -56.6 153.2	9 06.9 -56.3 152.3	8 48.4 -56.2 151.5	8 29.3 -55.9 150.6	8 09.8 -55.8 149.8
28°	8 28.4 -56.6 153.5	8 10.6 -56.4 152.7	7 52.2 -56.2 151.8	7 33.4 -56.0 151.0	7 14.0 -55.7 150.2
29°	7 31.8 -56.7 153.8	7 14.2 -56.5 153.0	6 56.0 -56.2 152.2	6 37.4 -56.0 151.3	6 18.3 -55.8 150.5

Dec	LHA 035° / 325°	LHA 036° / 324°	LHA 037° / 323°	LHA 038° / 322°	LHA 039° / 321°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	32 30.5 -53.8 137.1	32 03.4 -53.5 136.1	31 35.9 -53.3 135.0	31 07.8 -53.0 134.0	30 39.2 -52.7 133.0
1°	31 36.7 -53.9 137.7	31 09.9 -53.6 136.6	30 42.6 -53.3 135.6	30 14.8 -53.1 134.6	29 46.5 -52.8 133.5
2°	30 42.8 -54.0 138.2	30 16.3 -53.7 137.1	29 49.3 -53.5 136.1	29 21.7 -53.2 135.1	28 53.7 -53.0 134.1
3°	29 48.8 -54.1 138.7	29 22.6 -53.9 137.7	28 55.8 -53.6 136.6	28 28.5 -53.4 135.6	28 00.7 -53.1 134.6
4°	28 54.7 -54.2 139.2	28 28.7 -54.0 138.2	28 02.2 -53.7 137.1	27 35.1 -53.4 136.1	27 07.6 -53.2 135.1
5°	28 00.5 -54.4 139.7	27 34.7 -54.1 138.7	27 08.5 -53.9 137.6	26 41.7 -53.6 136.6	26 14.4 -53.3 135.7
6°	27 06.1 -54.4 140.1	26 40.6 -54.1 139.1	26 14.6 -53.9 138.1	25 48.1 -53.7 137.1	25 21.1 -53.4 136.2
7°	26 11.7 -54.5 140.6	25 46.5 -54.3 139.6	25 20.7 -54.0 138.6	24 54.4 -53.7 137.6	24 27.7 -53.5 136.7
8°	25 17.2 -54.6 141.1	24 52.2 -54.3 140.1	24 26.7 -54.1 139.1	24 00.7 -53.9 138.1	23 34.2 -53.7 137.2
9°	24 22.6 -54.7 141.5	23 57.9 -54.5 140.6	23 32.6 -54.2 139.6	23 06.8 -53.9 138.6	22 40.5 -53.7 137.7
10°	23 27.9 -54.7 142.0	23 03.4 -54.5 141.0	22 38.4 -54.3 140.0	22 12.9 -54.1 139.1	21 46.8 -53.7 138.1
11°	22 33.2 -54.9 142.4	22 08.9 -54.6 141.5	21 44.1 -54.3 140.5	21 18.8 -54.1 139.6	20 53.1 -53.9 138.6
12°	21 38.3 -54.9 142.9	21 14.3 -54.6 141.9	20 49.8 -54.4 141.0	20 24.7 -54.1 140.0	19 59.2 -53.9 139.1
13°	20 43.4 -54.9 143.3	20 19.7 -54.8 142.4	19 55.4 -54.5 141.4	19 30.6 -54.3 140.5	19 05.3 -54.0 139.5
14°	19 48.5 -55.0 143.7	19 24.9 -54.8 142.8	19 00.9 -54.6 141.9	18 36.3 -54.3 140.9	18 11.3 -54.1 140.0
15°	18 53.5 -55.1 144.2	18 30.1 -54.8 143.2	18 06.3 -54.6 142.3	17 42.0 -54.4 141.4	17 17.2 -54.1 140.5
16°	17 58.4 -55.2 144.6	17 35.3 -54.9 143.6	17 11.7 -54.6 142.7	16 47.6 -54.4 141.8	16 23.1 -54.2 140.9
17°	17 03.2 -55.1 145.0	16 40.4 -54.9 144.1	16 17.1 -54.8 143.2	15 53.2 -54.5 142.3	15 28.9 -54.3 141.4
18°	16 08.1 -55.3 145.4	15 45.5 -55.0 144.5	15 22.3 -54.7 143.6	14 58.7 -54.5 142.7	14 34.6 -54.3 141.8
19°	15 12.8 -55.2 145.8	14 50.5 -55.1 144.9	14 27.6 -54.8 144.0	14 04.2 -54.6 143.1	13 40.3 -54.3 142.2
20°	14 17.6 -55.3 146.2	13 55.4 -55.1 145.3	13 32.8 -54.9 144.4	13 09.6 -54.6 143.5	12 46.0 -54.4 142.7
21°	13 22.3 -55.4 146.6	13 00.3 -55.1 145.7	12 37.9 -54.9 144.8	12 15.0 -54.6 144.0	11 51.6 -54.4 143.1
22°	12 26.9 -55.4 147.0	12 05.2 -55.1 146.1	11 43.0 -54.9 145.3	11 20.4 -54.7 144.4	10 57.2 -54.5 143.5
23°	11 31.5 -55.4 147.4	11 10.1 -55.2 146.5	10 48.1 -54.9 145.7	10 25.7 -54.8 144.8	10 02.7 -54.4 144.0
24°	10 36.1 -55.4 147.8	10 14.9 -55.2 146.9	9 53.2 -55.0 146.1	9 30.9 -54.7 145.2	9 08.3 -54.6 144.4
25°	9 40.7 -55.5 148.2	9 19.7 -55.3 147.3	8 58.2 -55.0 146.5	8 36.2 -54.8 145.6	8 13.7 -54.5 144.8
26°	8 45.2 -55.5 148.6	8 24.4 -55.2 147.7	8 03.2 -55.1 146.9	7 41.4 -54.8 146.1	7 19.2 -54.6 145.2
27°	7 49.7 -55.5 148.9	7 29.2 -55.3 148.1	7 08.1 -55.0 147.3	6 46.6 -54.8 146.5	6 24.6 -54.6 145.6
28°	6 54.2 -55.5 149.3	6 33.9 -55.3 148.5	6 13.1 -55.1 147.7	5 51.8 -54.9 146.9	5 30.0 -54.6 146.1
29°	5 58.7 -55.6 149.7	5 38.6 -55.4 148.9	5 18.0 -55.1 148.1	4 56.9 -54.8 147.3	4 35.4 -54.6 146.5

Dec	LHA 040° / 320°	LHA 041° / 319°	LHA 042° / 318°	LHA 043° / 317°	LHA 044° / 316°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	30 10.2 -52.4 132.0	29 40.7 -52.2 131.0	29 10.8 -52.0 130.0	28 40.4 -51.7 129.0	28 09.6 -51.5 128.0
1°	29 17.8 -52.6 132.5	28 48.5 -52.3 131.5	28 18.8 -52.0 130.5	27 48.7 -51.8 129.6	27 18.1 -51.5 128.6
2°	28 25.2 -52.7 133.1	27 56.2 -52.5 132.1	27 26.8 -52.3 131.1	26 56.9 -52.0 130.1	26 26.6 -51.7 129.2
3°	27 32.5 -52.9 133.6	27 03.7 -52.6 132.6	26 34.5 -52.3 131.7	26 04.9 -52.1 130.7	25 34.9 -51.9 129.7
4°	26 39.6 -52.9 134.2	26 11.1 -52.7 133.2	25 42.5 -52.4 132.2	25 12.8 -52.2 131.2	24 43.0 -52.0 130.3
5°	25 46.7 -53.1 134.7	25 18.4 -52.8 133.7	24 49.8 -52.6 132.7	24 20.6 -52.3 131.8	23 51.0 -52.0 130.8
6°	24 53.6 -53.2 135.2	24 25.6 -52.9 134.2	23 57.2 -52.7 133.3	23 28.3 -52.4 132.3	22 59.0 -52.2 131.4
7°	24 00.4 -53.3 135.7	23 32.7 -53.0 134.7	23 04.5 -52.8 133.8	22 35.9 -52.6 132.8	22 06.8 -52.3 131.9
8°	23 07.1 -53.3 136.2	22 39.7 -53.2 135.2	22 11.7 -52.8 134.3	21 43.3 -52.6 133.4	21 14.5 -52.4 132.4
9°	22 13.8 -53.5 136.7	21 46.5 -53.2 135.8	21 18.9 -53.0 134.8	20 50.7 -52.7 133.9	20 22.1 -52.5 133.0
10°	21 20.3 -53.5 137.2	20 53.3 -53.3 136.2	20 25.9 -53.1 135.3	19 58.0 -52.8 134.4	19 29.6 -52.5 133.5
11°	20 26.8 -53.6 137.7	20 00.0 -53.3 136.7	19 32.8 -53.1 135.8	19 05.2 -52.9 134.9	18 37.1 -52.7 134.0
12°	19 33.2 -53.7 138.1	19 06.7 -53.5 137.2	18 39.7 -53.2 136.3	18 12.3 -53.0 135.4	17 44.4 -52.7 134.5
13°	18 39.5 -53.8 138.6	18 13.2 -53.5 137.7	17 46.5 -53.3 136.8	17 19.3 -53.0 135.9	16 51.7 -52.8 135.0
14°	17 45.7 -53.8 139.1	17 19.7 -53.6 138.2	16 53.2 -53.3 137.3	16 26.3 -53.1 136.4	15 58.9 -52.9 135.5
15°	16 51.9 -53.9 139.5	16 26.1 -53.6 138.6	15 59.9 -53.4 137.7	15 33.2 -53.2 136.9	15 06.0 -52.9 136.0
16°	15 58.0 -54.0 140.0	15 32.5 -53.8 139.1	15 06.5 -53.5 138.2	14 40.0 -53.2 137.3	14 13.1 -53.0 136.5
17°	15 04.0 -54.0 140.5	14 38.7 -53.7 139.6	14 13.0 -53.5 138.7	13 46.8 -53.3 137.8	13 20.1 -53.0 136.9
18°	14 10.0 -54.0 140.9	13 45.0 -53.8 140.0	13 19.5 -53.6 139.2	12 53.5 -53.3 138.3	12 27.1 -53.1 137.4
19°	13 16.0 -54.1 141.4	12 51.2 -53.9 140.5	12 25.9 -53.6 139.6	12 00.2 -53.4 138.8	11 34.0 -53.1 137.9
20°	12 21.9 -54.2 141.8	11 57.3 -53.9 140.9	11 32.3 -53.7 140.1	11 06.8 -53.4 139.2	10 40.9 -53.2 138.4
21°	11 27.7 -54.1 142.2	11 03.4 -53.9 141.4	10 38.6 -53.7 140.5	10 13.4 -53.5 139.7	9 47.7 -53.2 138.8
22°	10 33.6 -54.2 142.7	10 09.5 -54.0 141.8	9 44.9 -53.7 141.0	9 19.9 -53.5 140.1	8 54.5 -53.3 139.3
23°	9 39.4 -54.3 143.1	9 15.5 -54.0 142.3	8 51.2 -53.8 141.4	8 26.4 -53.5 140.6	8 01.2 -53.3 139.8
24°	8 45.1 -54.3 143.5	8 21.5 -54.1 142.7	7 57.4 -53.8 141.9	7 32.9 -53.6 141.1	7 07.9 -53.3 140.2
25°	7 50.8 -54.3 144.0	7 27.4 -54.0 143.2	7 03.6 -53.8 142.3	6 39.3 -53.5 141.5	6 14.6 -53.3 140.7
26°	6 56.5 -54.3 144.4	6 33.4 -54.1 143.6	6 09.8 -53.9 142.8	5 45.8 -53.6 142.0	5 21.3 -53.4 141.2
27°	6 02.2 -54.4 144.8	5 39.3 -54.1 144.0	5 15.9 -53.8 143.2	4 52.2 -53.7 142.4	4 27.9 -53.3 141.6
28°	5 07.8 -54.3 145.3	4 45.2 -54.1 144.5	4 22.1 -53.9 143.7	3 58.5 -53.6 142.9	3 34.6 -53.4 142.1
29°	4 13.5 -54.4 145.7	3 51.1 -54.2 144.9	3 28.2 -53.9 144.1	3 04.9 -53.6 143.3	2 41.2 -53.4 142.5

Dec	LHA 045° / 315°	LHA 046° / 314°	LHA 047° / 313°	LHA 048° / 312°	LHA 049° / 311°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	27 38.4 -51.2 127.0	27 06.7 -50.9 126.1	26 34.7 -50.7 125.1	26 02.4 -50.5 124.2	25 29.6 -50.2 123.3
1°	26 47.2 -51.4 127.6	26 15.8 -51.1 126.7	25 44.0 -50.8 125.7	25 11.9 -50.6 124.8	24 39.4 -50.4 123.9
2°	25 55.8 -51.4 128.2	25 24.7 -51.2 127.3	24 53.2 -51.0 126.3	24 21.3 -50.8 125.4	23 49.0 -50.5 124.5
3°	25 04.4 -51.6 128.8	24 33.5 -51.4 127.8	24 02.2 -51.1 126.9	23 30.5 -50.9 126.0	22 58.5 -50.7 125.1
4°	24 12.8 -51.7 129.3	23 42.1 -51.5 128.4	23 11.1 -51.3 127.5	22 39.6 -51.0 126.5	22 07.8 -50.7 125.6
5°	23 21.1 -51.9 129.9	22 50.6 -51.5 129.0	22 19.8 -51.3 128.0	21 48.6 -51.1 127.1	21 17.1 -50.9 126.2
6°	22 29.2 -51.9 130.4	21 59.1 -51.7 129.5	21 28.5 -51.5 128.6	20 57.5 -51.2 127.7	20 26.2 -51.0 126.8
7°	21 37.3 -52.1 131.0	21 07.4 -51.9 130.1	20 37.0 -51.5 129.1	20 06.3 -51.3 128.2	19 35.2 -51.1 127.3
8°	20 45.2 -52.1 131.5	20 15.5 -51.9 130.6	19 45.5 -51.7 129.7	19 15.0 -51.5 128.8	18 44.1 -51.2 127.9
9°	19 53.1 -52.2 132.0	19 23.6 -52.0 131.1	18 53.8 -51.8 130.2	18 23.5 -51.5 129.3	17 52.9 -51.3 128.4
10°	19 00.9 -52.4 132.6	18 31.6 -52.0 131.7	18 02.0 -51.8 130.8	17 32.0 -51.6 129.9	17 01.6 -51.4 129.0
11°	18 08.5 -52.4 133.1	17 39.6 -52.2 132.2	17 10.2 -51.9 131.3	16 40.4 -51.7 130.4	16 10.2 -51.4 129.5
12°	17 16.1 -52.5 133.6	16 47.4 -52.2 132.7	16 18.3 -52.0 131.8	15 48.7 -51.7 130.9	15 18.8 -51.5 130.1
13°	16 23.6 -52.5 134.1	15 55.2 -52.4 133.2	15 26.3 -52.1 132.3	14 57.0 -51.9 131.5	14 27.3 -51.6 130.6
14°	15 31.1 -52.6 134.6	15 02.8 -52.3 133.7	14 34.2 -52.2 132.8	14 05.1 -51.9 132.0	13 35.7 -51.7 131.1
15°	14 38.5 -52.7 135.1	14 10.5 -52.5 134.2	13 42.0 -52.2 133.4	13 13.2 -51.9 132.5	12 44.0 -51.7 131.6
16°	13 45.8 -52.8 135.6	13 18.0 -52.5 134.7	12 49.8 -52.2 133.9	12 21.3 -52.1 133.0	11 52.3 -51.8 132.2
17°	12 53.0 -52.8 136.1	12 25.5 -52.5 135.2	11 57.6 -52.3 134.4	11 29.2 -52.0 133.5	11 00.5 -51.8 132.7
18°	12 00.2 -52.8 136.6	11 33.0 -52.6 135.7	11 05.3 -52.4 134.9	10 37.2 -52.2 134.0	10 08.7 -51.9 133.2
19°	11 07.4 -52.9 137.0	10 40.4 -52.7 136.2	10 12.9 -52.4 135.4	9 45.0 -52.1 134.5	9 16.8 -51.9 133.7
20°	10 14.5 -52.9 137.5	9 47.7 -52.7 136.7	9 20.5 -52.4 135.9	8 52.9 -52.2 135.0	8 24.9 -52.0 134.2
21°	9 21.6 -53.0 138.0	8 55.0 -52.7 137.2	8 28.1 -52.5 136.3	8 00.7 -52.3 135.5	7 32.9 -52.0 134.7
22°	8 28.6 -53.0 138.5	8 02.3 -52.8 137.7	7 35.6 -52.6 136.8	7 08.4 -52.2 136.0	6 40.9 -52.0 135.2
23°	7 35.6 -53.1 139.0	7 09.5 -52.8 138.1	6 43.0 -52.5 137.3	6 16.2 -52.3 136.5	5 48.9 -52.1 135.7
24°	6 42.5 -53.0 139.4	6 16.7 -52.8 138.6	5 50.5 -52.6 137.8	5 23.9 -52.4 137.0	4 56.8 -52.1 136.2
25°	5 49.5 -53.1 139.9	5 23.9 -52.8 139.1	4 57.9 -52.6 138.3	4 31.5 -52.3 137.5	4 04.7 -52.1 136.7
26°	4 56.4 -53.1 140.4	4 31.1 -52.9 139.6	4 05.3 -52.6 138.8	3 39.2 -52.4 138.0	3 12.6 -52.1 137.2
27°	4 03.3 -53.1 140.8	3 38.2 -52.9 140.0	3 12.7 -52.6 139.3	2 46.8 -52.3 138.5	2 20.5 -52.1 137.7
28°	3 10.2 -53.2 141.3	2 45.3 -52.8 140.5	2 20.1 -52.6 139.7	1 54.5 -52.4 139.0	1 28.4 -52.1 138.2
29°	2 17.0 -53.1 141.8	1 52.5 -52.9 141.0	1 27.5 -52.7 140.2	1 02.1 -52.4 139.5	0 36.3 -52.1 138.7

Dec	LHA 050° / 310°	LHA 051° / 309°	LHA 052° / 308°	LHA 053° / 307°	LHA 054° / 306°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	24 56.5 -50.0 122.3	24 23.1 -49.8 121.4	23 49.4 -49.6 120.5	23 15.3 -49.4 119.6	22 40.9 -49.1 118.7
1°	24 06.5 -50.1 123.0	23 33.3 -49.9 122.0	22 59.8 -49.7 121.1	22 25.9 -49.4 120.2	21 51.8 -49.3 119.4
2°	23 16.4 -50.3 123.6	22 43.4 -50.1 122.6	22 10.1 -49.9 121.7	21 36.5 -49.7 120.9	21 02.5 -49.4 120.0
3°	22 26.1 -50.4 124.1	21 53.3 -50.2 123.2	21 20.2 -49.9 122.3	20 46.8 -49.7 121.5	20 13.1 -49.6 120.6
4°	21 35.7 -50.6 124.7	21 03.1 -50.3 123.8	20 30.3 -50.1 122.9	19 57.1 -49.9 122.1	19 23.5 -49.6 121.2
5°	20 45.1 -50.6 125.3	20 12.8 -50.4 124.4	19 40.2 -50.2 123.5	19 07.2 -50.0 122.6	18 33.9 -49.8 121.8
6°	19 54.5 -50.8 125.9	19 22.4 -50.5 125.0	18 50.0 -50.3 124.1	18 17.2 -50.1 123.2	17 44.1 -49.9 122.4
7°	19 03.7 -50.9 126.4	18 31.9 -50.7 125.6	17 59.7 -50.4 124.7	17 27.1 -50.2 123.8	16 54.2 -49.9 122.9
8°	18 12.8 -50.9 127.0	17 41.2 -50.7 126.1	17 09.3 -50.6 125.2	16 36.9 -50.2 124.4	16 04.3 -50.1 123.5
9°	17 21.9 -51.1 127.6	16 50.5 -50.8 126.7	16 18.7 -50.5 125.8	15 46.7 -50.4 124.9	15 14.2 -50.1 124.1
10°	16 30.8 -51.1 128.1	15 59.7 -50.9 127.2	15 28.2 -50.7 126.4	14 56.3 -50.5 125.5	14 24.1 -50.3 124.7
11°	15 39.7 -51.2 128.7	15 08.8 -51.0 127.8	14 37.5 -50.8 126.9	14 05.8 -50.5 126.1	13 33.8 -50.3 125.2
12°	14 48.5 -51.3 129.2	14 17.8 -51.1 128.3	13 46.7 -50.8 127.5	13 15.3 -50.6 126.6	12 43.5 -50.3 125.8
13°	13 57.2 -51.4 129.7	13 26.7 -51.1 128.9	12 55.9 -50.9 128.0	12 24.7 -50.7 127.2	11 53.2 -50.5 126.3
14°	13 05.8 -51.4 130.3	12 35.6 -51.2 129.4	12 05.0 -51.0 128.6	11 34.0 -50.7 127.7	11 02.7 -50.5 126.9
15°	12 14.4 -51.5 130.8	11 44.4 -51.3 129.9	11 14.0 -51.0 129.1	10 43.3 -50.8 128.3	10 12.2 -50.5 127.4
16°	11 22.9 -51.5 131.3	10 53.1 -51.3 130.5	10 23.0 -51.1 129.6	9 52.5 -50.8 128.8	9 21.7 -50.6 128.0
17°	10 31.4 -51.6 131.8	10 01.8 -51.3 131.0	9 31.9 -51.1 130.2	9 01.7 -50.9 129.3	8 31.1 -50.7 128.5
18°	9 39.8 -51.7 132.4	9 10.5 -51.4 131.5	8 40.8 -51.1 130.7	8 10.8 -50.9 129.9	7 40.4 -50.7 129.1
19°	8 48.1 -51.7 132.9	8 19.1 -51.5 132.0	7 49.7 -51.2 131.2	7 19.9 -51.0 130.4	6 49.7 -50.7 129.6
20°	7 56.4 -51.7 133.4	7 27.6 -51.4 132.6	6 58.5 -51.3 131.8	6 28.9 -51.0 130.9	5 59.0 -50.8 130.1
21°	7 04.7 -51.7 133.9	6 36.2 -51.5 133.1	6 07.2 -51.2 132.3	5 37.9 -51.0 131.5	5 08.2 -50.7 130.7
22°	6 13.0 -51.8 134.4	5 44.7 -51.6 133.6	5 16.0 -51.3 132.8	4 46.9 -51.1 132.0	4 17.5 -50.8 131.2
23°	5 21.2 -51.8 134.9	4 53.1 -51.5 134.1	4 24.7 -51.3 133.3	3 55.8 -51.0 132.5	3 26.7 -50.9 131.8
24°	4 29.4 -51.8 135.4	4 01.6 -51.6 134.6	3 33.4 -51.4 133.8	3 04.8 -51.1 133.1	2 35.8 -50.8 132.3
25°	3 37.6 -51.9 135.9	3 10.0 -51.6 135.1	2 42.0 -51.3 134.4	2 13.7 -51.1 133.6	1 45.0 -50.8 132.8
26°	2 45.7 -51.8 136.4	2 18.4 -51.6 135.6	1 50.7 -51.4 134.9	1 22.6 -51.1 134.1	0 54.2 -50.9 133.3
27°	1 53.9 -51.9 136.9	1 26.8 -51.6 136.2	0 59.3 -51.3 135.4	0 31.5 -51.1 134.6	0 03.3 -50.8 133.9
28°	1 02.0 -51.9 137.4	0 35.2 -51.6 136.7	0 08.0 -51.4 135.9	-0 19.6 -51.1	-0 47.5 -50.9
29°	0 10.1 -51.9 137.9	-0 16.4 -51.7	-0 43.4 -51.4	-1 10.7 -51.1	-1 38.4 -50.8

Dec	LHA 055° / 305°	LHA 056° / 304°	LHA 057° / 303°	LHA 058° / 302°	LHA 059° / 301°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	22 06.3 -49.0 117.9	21 31.3 -48.7 117.0	20 56.1 -48.5 116.1	20 20.6 -48.3 115.2	19 44.9 -48.2 114.4
1°	21 17.3 -49.0 118.5	20 42.6 -48.9 117.6	20 07.6 -48.7 116.7	19 32.3 -48.5 115.9	18 56.7 -48.3 115.0
2°	20 28.3 -49.3 119.1	19 53.7 -49.0 118.2	19 18.9 -48.8 117.4	18 43.8 -48.6 116.5	18 08.4 -48.4 115.7
3°	19 39.0 -49.3 119.7	19 04.7 -49.1 118.8	18 30.1 -48.9 118.0	17 55.2 -48.7 117.1	17 20.0 -48.5 116.3
4°	18 49.7 -49.4 120.3	18 15.6 -49.3 119.4	17 41.2 -49.1 118.6	17 06.5 -48.9 117.7	16 31.5 -48.7 116.9
5°	18 00.3 -49.6 120.9	17 26.3 -49.3 120.0	16 52.1 -49.1 119.2	16 17.6 -48.9 118.3	15 42.8 -48.7 117.5
6°	17 10.7 -49.6 121.5	16 37.0 -49.5 120.6	16 03.0 -49.3 119.8	15 28.7 -49.1 118.9	14 54.1 -48.9 118.1
7°	16 21.1 -49.8 122.1	15 47.5 -49.5 121.2	15 13.7 -49.3 120.4	14 39.6 -49.1 119.5	14 05.2 -48.9 118.7
8°	15 31.3 -49.8 122.7	14 58.0 -49.6 121.8	14 24.4 -49.4 121.0	13 50.5 -49.2 120.1	13 16.3 -49.0 119.3
9°	14 41.5 -50.0 123.2	14 08.4 -49.7 122.4	13 35.0 -49.5 121.6	13 01.3 -49.3 120.7	12 27.3 -49.1 119.9
10°	13 51.5 -50.0 123.8	13 18.7 -49.8 123.0	12 45.5 -49.6 122.1	12 12.0 -49.4 121.3	11 38.2 -49.1 120.5
11°	13 01.5 -50.1 124.4	12 28.9 -49.9 123.5	11 55.9 -49.6 122.7	11 22.6 -49.4 121.9	10 49.1 -49.3 121.1
12°	12 11.4 -50.1 124.9	11 39.0 -49.9 124.1	11 06.3 -49.8 123.3	10 33.2 -49.5 122.5	9 59.8 -49.3 121.6
13°	11 21.3 -50.2 125.5	10 49.1 -50.0 124.7	10 16.5 -49.7 123.9	9 43.7 -49.6 123.0	9 10.5 -49.3 122.2
14°	10 31.1 -50.3 126.1	9 59.1 -50.1 125.2	9 26.8 -49.9 124.4	8 54.1 -49.6 123.6	8 21.2 -49.4 122.8
15°	9 40.8 -50.3 126.6	9 09.0 -50.1 125.8	8 36.9 -49.8 125.0	8 04.5 -49.6 124.2	7 31.8 -49.4 123.4
16°	8 50.5 -50.4 127.2	8 18.9 -50.1 126.4	7 47.1 -49.9 125.5	7 14.9 -49.7 124.7	6 42.4 -49.5 123.9
17°	8 00.1 -50.4 127.7	7 28.8 -50.2 126.9	6 57.2 -50.0 126.1	6 25.2 -49.7 125.3	5 52.9 -49.5 124.5
18°	7 09.7 -50.5 128.3	6 38.6 -50.2 127.5	6 07.2 -50.0 126.7	5 35.5 -49.8 125.9	5 03.4 -49.5 125.1
19°	6 19.2 -50.5 128.8	5 48.4 -50.3 128.0	5 17.2 -50.0 127.2	4 45.7 -49.8 126.4	4 13.9 -49.6 125.6
20°	5 28.7 -50.5 129.4	4 58.1 -50.3 128.6	4 27.2 -50.1 127.8	3 55.9 -49.8 127.0	3 24.3 -49.6 126.2
21°	4 38.2 -50.5 129.9	4 07.8 -50.3 129.1	3 37.1 -50.0 128.3	3 06.1 -49.8 127.5	2 34.7 -49.6 126.8
22°	3 47.7 -50.6 130.4	3 17.5 -50.3 129.7	2 47.1 -50.1 128.9	2 16.3 -49.9 128.1	1 45.1 -49.6 127.3
23°	2 57.1 -50.6 131.0	2 27.2 -50.3 130.2	1 57.0 -50.1 129.4	1 26.4 -49.8 128.7	0 55.5 -49.6 127.9
24°	2 06.5 -50.6 131.5	1 36.9 -50.4 130.7	1 06.9 -50.1 130.0	0 36.6 -49.9 129.2	0 05.9 -49.6 128.5
25°	1 15.9 -50.6 132.0	0 46.5 -50.3 131.3	0 16.8 -50.1 130.5	-0 13.3 -49.9	-0 43.7 -49.6
26°	0 25.3 -50.6 132.6	-0 03.8 -50.4	-0 33.3 -50.1	-1 03.2 -49.8	-1 33.3 -49.6
27°	-0 25.3 -50.5	-0 54.2 -50.3	-1 23.4 -50.1	-1 53.0 -49.8	-2 22.9 -49.6
28°	-1 15.8 -50.6	-1 44.5 -50.3	-2 13.5 -50.1	-2 42.8 -49.9	-3 12.5 -49.6
29°	-2 06.4 -50.6	-2 34.8 -50.4	-3 03.6 -50.0	-3 32.7 -49.8	-4 02.1 -49.5

Dec	LHA 060° / 300°	LHA 061° / 299°	LHA 062° / 298°	LHA 063° / 297°	LHA 064° / 296°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	19 09.0 -48.0 113.5	18 32.8 -47.9 112.7	17 56.3 -47.6 111.9	17 19.7 -47.5 111.0	16 42.9 -47.4 110.2
1°	18 21.0 -48.2 114.2	17 44.9 -47.9 113.3	17 08.7 -47.8 112.5	16 32.2 -47.6 111.7	15 55.5 -47.4 110.8
2°	17 32.8 -48.2 114.8	16 57.0 -48.1 114.0	16 20.9 -47.9 113.1	15 44.6 -47.7 112.3	15 08.1 -47.6 111.5
3°	16 44.6 -48.4 115.4	16 08.9 -48.2 114.6	15 33.0 -48.0 113.8	14 56.9 -47.9 112.9	14 20.5 -47.7 112.1
4°	15 56.2 -48.4 116.0	15 20.7 -48.2 115.2	14 45.0 -48.1 114.4	14 09.0 -47.9 113.6	13 32.8 -47.7 112.7
5°	15 07.8 -48.6 116.7	14 32.5 -48.4 115.8	13 56.9 -48.2 115.0	13 21.1 -48.0 114.2	12 45.1 -47.8 113.4
6°	14 19.2 -48.6 117.3	13 44.1 -48.5 116.4	13 08.7 -48.2 115.6	12 33.1 -48.1 114.8	11 57.3 -48.0 114.0
7°	13 30.6 -48.8 117.9	12 55.6 -48.5 117.0	12 20.5 -48.4 116.2	11 45.0 -48.1 115.4	11 09.3 -47.9 114.6
8°	12 41.8 -48.8 118.5	12 07.1 -48.6 117.6	11 32.1 -48.4 116.8	10 56.9 -48.3 116.0	10 21.4 -48.1 115.2
9°	11 53.0 -48.9 119.1	11 18.5 -48.7 118.2	10 43.7 -48.5 117.4	10 08.6 -48.3 116.6	9 33.3 -48.1 115.8
10°	11 04.1 -48.9 119.7	10 29.8 -48.8 118.8	9 55.2 -48.6 118.0	9 20.3 -48.4 117.2	8 45.2 -48.2 116.4
11°	10 15.2 -49.0 120.2	9 41.0 -48.8 119.4	9 06.6 -48.6 118.6	8 31.9 -48.4 117.8	7 57.0 -48.2 117.0
12°	9 26.2 -49.1 120.8	8 52.2 -48.8 120.0	8 18.0 -48.7 119.2	7 43.5 -48.5 118.4	7 08.8 -48.3 117.6
13°	8 37.1 -49.1 121.4	8 03.4 -49.0 120.6	7 29.3 -48.7 119.8	6 55.0 -48.5 119.0	6 20.5 -48.3 118.2
14°	7 48.0 -49.2 122.0	7 14.4 -48.9 121.2	6 40.6 -48.7 120.4	6 06.5 -48.5 119.6	5 32.2 -48.4 118.8
15°	6 58.8 -49.2 122.6	6 25.5 -49.0 121.8	5 51.9 -48.8 121.0	5 18.0 -48.6 120.2	4 43.8 -48.4 119.4
16°	6 09.6 -49.3 123.1	5 36.5 -49.1 122.4	5 03.1 -48.9 121.6	4 29.4 -48.6 120.8	3 55.4 -48.4 120.0
17°	5 20.3 -49.3 123.7	4 47.4 -49.0 122.9	4 14.2 -48.8 122.1	3 40.8 -48.7 121.4	3 07.0 -48.4 120.6
18°	4 31.0 -49.3 124.3	3 58.4 -49.1 123.5	3 25.4 -48.9 122.7	2 52.1 -48.6 122.0	2 18.6 -48.5 121.2
19°	3 41.7 -49.3 124.9	3 09.3 -49.2 124.1	2 36.5 -48.9 123.3	2 03.5 -48.7 122.5	1 30.1 -48.4 121.8
20°	2 52.4 -49.4 125.4	2 20.1 -49.1 124.7	1 47.6 -48.9 123.9	1 14.8 -48.7 123.1	0 41.7 -48.5 122.4
21°	2 03.0 -49.3 126.0	1 31.0 -49.1 125.2	0 58.7 -48.9 124.5	0 26.1 -48.7 123.7	-0 06.8 -48.4
22°	1 13.7 -49.4 126.6	0 41.9 -49.2 125.8	0 09.8 -48.9 125.0	-0 22.6 -48.6	-0 55.2 -48.5
23°	0 24.3 -49.4 127.1	-0 07.3 -49.1	-0 39.1 -48.9	-1 11.2 -48.7	-1 43.7 -48.4
24°	-0 25.1 -49.4	-0 56.4 -49.1	-1 28.0 -48.9	-1 59.9 -48.7	-2 32.1 -48.4
25°	-1 14.5 -49.3	-1 45.5 -49.1	-2 16.9 -48.9	-2 48.6 -48.6	-3 20.5 -48.4
26°	-2 03.8 -49.4	-2 34.6 -49.2	-3 05.8 -48.8	-3 37.2 -48.6	-4 08.9 -48.4
27°	-2 53.2 -49.3	-3 23.8 -49.0	-3 54.6 -48.9	-4 25.8 -48.6	-4 57.3 -48.4
28°	-3 42.5 -49.3	-4 12.8 -49.1	-4 43.5 -48.8	-5 14.4 -48.6	-5 45.7 -48.3
29°	-4 31.8 -49.3	-5 01.9 -49.0	-5 32.3 -48.8	-6 03.0 -48.5	-6 34.0 -48.2

Dec	LHA 065° / 295°	LHA 066° / 294°	LHA 067° / 293°	LHA 068° / 292°	LHA 069° / 291°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	16 05.8 -47.2 109.4	15 28.6 -47.1 108.6	14 51.2 -46.9 107.8	14 13.6 -46.7 107.0	13 35.9 -46.6 106.2
1°	15 18.6 -47.3 110.0	14 41.5 -47.1 109.2	14 04.3 -47.0 108.4	13 26.9 -46.9 107.6	12 49.3 -46.8 106.8
2°	14 31.3 -47.4 110.7	13 54.4 -47.2 109.9	13 17.3 -47.1 109.0	12 40.0 -47.0 108.2	12 02.5 -46.8 107.4
3°	13 43.9 -47.5 111.3	13 07.2 -47.4 110.5	12 30.2 -47.2 109.7	11 53.0 -47.0 108.9	11 15.7 -46.9 108.1
4°	12 56.4 -47.5 111.9	12 19.8 -47.4 111.1	11 43.0 -47.3 110.3	11 06.0 -47.1 109.5	10 28.8 -47.0 108.7
5°	12 08.9 -47.7 112.6	11 32.4 -47.5 111.7	10 55.7 -47.3 110.9	10 18.9 -47.2 110.1	9 41.8 -47.0 109.4
6°	11 21.2 -47.8 113.2	10 44.9 -47.6 112.4	10 08.4 -47.4 111.6	9 31.7 -47.3 110.8	8 54.8 -47.1 110.0
7°	10 33.4 -47.8 113.8	9 57.3 -47.6 113.0	9 21.0 -47.5 112.2	8 44.4 -47.3 111.4	8 07.7 -47.2 110.6
8°	9 45.6 -47.9 114.4	9 09.7 -47.7 113.6	8 33.5 -47.6 112.8	7 57.1 -47.4 112.0	7 20.5 -47.2 111.2
9°	8 57.7 -47.9 115.0	8 22.0 -47.8 114.2	7 45.9 -47.5 113.4	7 09.7 -47.4 112.6	6 33.3 -47.3 111.9
10°	8 09.8 -48.0 115.6	7 34.2 -47.8 114.8	6 58.4 -47.7 114.0	6 22.3 -47.5 113.3	5 46.0 -47.3 112.5
11°	7 21.8 -48.0 116.2	6 46.4 -47.9 115.4	6 10.7 -47.7 114.7	5 34.8 -47.5 113.9	4 58.7 -47.3 113.1
12°	6 33.8 -48.1 116.8	5 58.5 -47.9 116.0	5 23.0 -47.7 115.3	4 47.3 -47.5 114.5	4 11.4 -47.4 113.7
13°	5 45.7 -48.1 117.4	5 10.6 -47.9 116.6	4 35.3 -47.7 115.9	3 59.8 -47.6 115.1	3 24.0 -47.4 114.3
14°	4 57.6 -48.2 118.0	4 22.7 -48.0 117.3	3 47.6 -47.8 116.5	3 12.2 -47.6 115.7	2 36.6 -47.4 114.9
15°	4 09.4 -48.2 118.6	3 34.7 -48.0 117.9	2 59.8 -47.8 117.1	2 24.6 -47.6 116.3	1 49.2 -47.4 115.5
16°	3 21.2 -48.2 119.2	2 46.7 -48.0 118.5	2 12.0 -47.8 117.7	1 37.0 -47.6 116.9	1 01.8 -47.4 116.2
17°	2 33.0 -48.2 119.8	1 58.7 -48.0 119.1	1 24.2 -47.8 118.3	0 49.4 -47.6 117.5	0 14.4 -47.5 116.8
18°	1 44.8 -48.3 120.4	1 10.7 -48.0 119.7	0 36.4 -47.9 118.9	0 01.8 -47.6 118.1	-0 33.1 -47.4
19°	0 56.5 -48.2 121.0	0 22.7 -48.1 120.3	-0 11.5 -47.8	-0 45.8 -47.7	-1 20.5 -47.4
20°	0 08.3 -48.2 121.6	-0 25.4 -48.0	-0 59.3 -47.8	-1 33.5 -47.6	-2 07.9 -47.4
21°	-0 39.9 -48.3	-1 13.4 -48.0	-1 47.1 -47.8	-2 21.1 -47.6	-2 55.3 -47.4
22°	-1 28.2 -48.2	-2 01.4 -48.0	-2 34.9 -47.8	-3 08.7 -47.5	-3 42.7 -47.3
23°	-2 16.4 -48.2	-2 49.4 -48.0	-3 22.7 -47.7	-3 56.2 -47.6	-4 30.0 -47.4
24°	-3 04.6 -48.2	-3 37.4 -48.0	-4 10.4 -47.8	-4 43.8 -47.5	-5 17.4 -47.2
25°	-3 52.8 -48.2	-4 25.4 -47.9	-4 58.2 -47.7	-5 31.3 -47.5	-6 04.6 -47.3
26°	-4 41.0 -48.1	-5 13.3 -47.9	-5 45.9 -47.6	-6 18.8 -47.4	-6 51.9 -47.2
27°	-5 29.1 -48.1	-6 01.2 -47.8	-6 33.5 -47.7	-7 06.2 -47.4	-7 39.1 -47.1
28°	-6 17.2 -48.1	-6 49.0 -47.9	-7 21.2 -47.5	-7 53.6 -47.3	-8 26.2 -47.1
29°	-7 05.3 -48.0	-7 36.9 -47.7	-8 08.7 -47.5	-8 40.9 -47.3	-9 13.3 -47.0

Dec	LHA 070° / 290°	LHA 071° / 289°	LHA 072° / 288°	LHA 073° / 287°	LHA 074° / 286°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	12 58.0 -46.5 105.4	12 20.0 -46.4 104.6	11 41.8 -46.3 103.8	11 03.5 -46.2 103.0	10 25.1 -46.1 102.2
1°	12 11.5 -46.6 106.0	11 33.6 -46.5 105.2	10 55.5 -46.3 104.4	10 17.3 -46.2 103.6	9 39.0 -46.1 102.9
2°	11 24.9 -46.7 106.7	10 47.1 -46.6 105.9	10 09.2 -46.5 105.1	9 31.1 -46.3 104.3	8 52.9 -46.3 103.5
3°	10 38.2 -46.8 107.3	10 00.5 -46.6 106.5	9 22.7 -46.5 105.7	8 44.8 -46.4 104.9	8 06.6 -46.2 104.2
4°	9 51.4 -46.8 107.9	9 13.9 -46.7 107.1	8 36.2 -46.6 106.4	7 58.4 -46.5 105.6	7 20.4 -46.4 104.8
5°	9 04.6 -46.9 108.6	8 27.2 -46.8 107.8	7 49.6 -46.6 107.0	7 11.9 -46.5 106.2	6 34.0 -46.3 105.4
6°	8 17.7 -47.0 109.2	7 40.4 -46.8 108.4	7 03.0 -46.7 107.6	6 25.4 -46.6 106.8	5 47.7 -46.5 106.1
7°	7 30.7 -47.0 109.8	6 53.6 -46.9 109.0	6 16.3 -46.7 108.3	5 38.8 -46.5 107.5	5 01.2 -46.4 106.7
8°	6 43.7 -47.0 110.4	6 06.7 -46.9 109.7	5 29.6 -46.8 108.9	4 52.3 -46.7 108.1	4 14.8 -46.5 107.3
9°	5 56.7 -47.2 111.1	5 19.8 -46.9 110.3	4 42.8 -46.8 109.5	4 05.6 -46.6 108.7	3 28.3 -46.6 108.0
10°	5 09.5 -47.1 111.7	4 32.9 -47.0 110.9	3 56.0 -46.8 110.1	3 19.0 -46.7 109.4	2 41.7 -46.5 108.6
11°	4 22.4 -47.2 112.3	3 45.9 -47.0 111.5	3 09.2 -46.9 110.8	2 32.3 -46.7 110.0	1 55.2 -46.5 109.2
12°	3 35.2 -47.2 112.9	2 58.9 -47.0 112.2	2 22.3 -46.8 111.4	1 45.6 -46.7 110.6	1 08.7 -46.6 109.9
13°	2 48.0 -47.2 113.6	2 11.9 -47.1 112.8	1 35.5 -46.9 112.0	0 58.9 -46.7 111.3	0 22.1 -46.6 110.5
14°	2 00.8 -47.2 114.2	1 24.8 -47.1 113.4	0 48.6 -46.9 112.6	0 12.2 -46.8 111.9	-0 24.5 -46.5
15°	1 13.6 -47.2 114.8	0 37.7 -47.0 114.0	0 01.7 -46.9 113.3	-0 34.6 -46.7	-1 11.0 -46.6
16°	0 26.4 -47.3 115.4	-0 09.3 -47.1	-0 45.2 -46.9	-1 21.3 -46.7	-1 57.6 -46.5
17°	-0 20.9 -47.2	-0 56.4 -47.0	-1 32.1 -46.8	-2 08.0 -46.7	-2 44.1 -46.5
18°	-1 08.1 -47.3	-1 43.4 -47.1	-2 18.9 -46.9	-2 54.7 -46.7	-3 30.6 -46.5
19°	-1 55.4 -47.2	-2 30.5 -47.0	-3 05.8 -46.8	-3 41.4 -46.6	-4 17.1 -46.5
20°	-2 42.6 -47.2	-3 17.5 -47.0	-3 52.6 -46.8	-4 28.0 -46.6	-5 03.6 -46.4
21°	-3 29.8 -47.1	-4 04.5 -47.0	-4 39.4 -46.8	-5 14.6 -46.6	-5 50.0 -46.4
22°	-4 16.9 -47.2	-4 51.5 -46.9	-5 26.2 -46.7	-6 01.2 -46.5	-6 36.4 -46.3
23°	-5 04.1 -47.1	-5 38.4 -46.9	-6 12.9 -46.7	-6 47.7 -46.5	-7 22.7 -46.3
24°	-5 51.2 -47.1	-6 25.3 -46.8	-6 59.6 -46.7	-7 34.2 -46.4	-8 09.0 -46.2
25°	-6 38.3 -47.0	-7 12.1 -46.8	-7 46.3 -46.5	-8 20.6 -46.4	-8 55.2 -46.2
26°	-7 25.3 -47.0	-7 58.9 -46.8	-8 32.8 -46.6	-9 07.0 -46.3	-9 41.4 -46.1
27°	-8 12.3 -46.9	-8 45.7 -46.7	-9 19.4 -46.4	-9 53.3 -46.2	
28°	-8 59.2 -46.8	-9 32.4 -46.6			
29°	-9 46.0 -46.8				

Dec	LHA 075° / 285°	LHA 076° / 284°	LHA 077° / 283°	LHA 078° / 282°	LHA 079° / 281°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	9 46.6 -46.0 101.4	9 07.9 -45.9 100.7	8 29.2 -45.8 99.9	7 50.4 -45.8 99.1	7 11.5 -45.7 98.3
1°	9 00.6 -46.1 102.1	8 22.0 -45.9 101.3	7 43.4 -45.9 100.5	7 04.6 -45.7 99.8	6 25.8 -45.7 99.0
2°	8 14.5 -46.1 102.7	7 36.1 -46.0 102.0	6 57.5 -45.9 101.2	6 18.9 -45.9 100.4	5 40.1 -45.8 99.7
3°	7 28.4 -46.2 103.4	6 50.1 -46.1 102.6	6 11.6 -46.0 101.8	5 33.0 -45.9 101.1	4 54.3 -45.8 100.3
4°	6 42.2 -46.2 104.0	6 04.0 -46.1 103.2	5 25.6 -46.0 102.5	4 47.1 -45.9 101.7	4 08.5 -45.8 100.9
5°	5 56.0 -46.2 104.7	5 17.9 -46.2 103.9	4 39.6 -46.1 103.1	4 01.2 -45.9 102.4	3 22.7 -45.9 101.6
6°	5 09.8 -46.4 105.3	4 31.7 -46.2 104.5	3 53.5 -46.0 103.8	3 15.3 -46.0 103.0	2 36.8 -45.8 102.2
7°	4 23.4 -46.3 105.9	3 45.5 -46.2 105.2	3 07.5 -46.1 104.4	2 29.3 -46.0 103.6	1 51.0 -45.9 102.9
8°	3 37.1 -46.4 106.6	2 59.3 -46.2 105.8	2 21.4 -46.2 105.0	1 43.3 -46.0 104.3	1 05.1 -45.9 103.5
9°	2 50.7 -46.3 107.2	2 13.1 -46.3 106.4	1 35.2 -46.1 105.7	0 57.3 -46.0 104.9	0 19.2 -45.9 104.2
10°	2 04.4 -46.4 107.8	1 26.8 -46.3 107.1	0 49.1 -46.1 106.3	0 11.3 -46.1 105.6	-0 26.7 -45.9
11°	1 18.0 -46.5 108.5	0 40.5 -46.2 107.7	0 03.0 -46.2 107.0	-0 34.8 -46.0	-1 12.6 -45.9
12°	0 31.5 -46.4 109.1	-0 05.7 -46.3	-0 43.2 -46.1	-1 20.8 -46.0	-1 58.5 -45.9
13°	-0 14.9 -46.4	-0 52.0 -46.3	-1 29.3 -46.1	-2 06.8 -46.0	-2 44.4 -45.8
14°	-1 01.3 -46.4	-1 38.3 -46.2	-2 15.4 -46.1	-2 52.8 -45.9	-3 30.2 -45.9
15°	-1 47.7 -46.4	-2 24.5 -46.3	-3 01.5 -46.1	-3 38.7 -46.0	-4 16.1 -45.8
16°	-2 34.1 -46.3	-3 10.8 -46.2	-3 47.6 -46.1	-4 24.7 -45.9	-5 01.9 -45.7
17°	-3 20.4 -46.4	-3 57.0 -46.1	-4 33.7 -46.0	-5 10.6 -45.8	-5 47.6 -45.7
18°	-4 06.8 -46.3	-4 43.1 -46.2	-5 19.7 -46.0	-5 56.4 -45.8	-6 33.3 -45.7
19°	-4 53.1 -46.3	-5 29.3 -46.1	-6 05.7 -45.9	-6 42.2 -45.8	-7 19.0 -45.6
20°	-5 39.4 -46.2	-6 15.4 -46.1	-6 51.6 -45.9	-7 28.0 -45.7	-8 04.6 -45.5
21°	-6 25.6 -46.2	-7 01.5 -46.0	-7 37.5 -45.8	-8 13.7 -45.7	-8 50.1 -45.5
22°	-7 11.8 -46.2	-7 47.5 -45.9	-8 23.3 -45.8	-8 59.4 -45.5	-9 35.6 -45.4
23°	-7 58.0 -46.0	-8 33.4 -45.9	-9 09.1 -45.7	-9 44.9 -45.5	
24°	-8 44.0 -46.1	-9 19.3 -45.8	-9 54.8 -45.6		
25°	-9 30.1 -45.9				
26°					
27°					
28°					
29°					

Dec	LHA 080° / 280°	LHA 081° / 279°	LHA 082° / 278°	LHA 083° / 277°	LHA 084° / 276°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	6 32.5 -45.6 97.6	5 53.4 -45.5 96.8	5 14.3 -45.5 96.1	4 35.2 -45.5 95.3	3 55.9 -45.4 94.5
1°	5 46.9 -45.7 98.2	5 07.9 -45.6 97.5	4 28.8 -45.5 96.7	3 49.7 -45.5 95.9	3 10.5 -45.4 95.2
2°	5 01.2 -45.6 98.9	4 22.3 -45.6 98.1	3 43.3 -45.6 97.4	3 04.2 -45.5 96.6	2 25.1 -45.4 95.8
3°	4 15.6 -45.8 99.5	3 36.7 -45.7 98.8	2 57.7 -45.5 98.0	2 18.7 -45.5 97.3	1 39.7 -45.5 96.5
4°	3 29.8 -45.7 100.2	2 51.0 -45.6 99.4	2 12.2 -45.6 98.7	1 33.2 -45.5 97.9	0 54.2 -45.5 97.2
5°	2 44.1 -45.8 100.8	2 05.4 -45.7 100.1	1 26.6 -45.6 99.3	0 47.7 -45.5 98.6	0 08.7 -45.4 97.8
6°	1 58.3 -45.8 101.5	1 19.7 -45.7 100.7	0 41.0 -45.6 100.0	0 02.2 -45.6 99.2	-0 36.7 -45.5
7°	1 12.5 -45.8 102.1	0 34.0 -45.7 101.4	-0 04.6 -45.7	-0 43.4 -45.5	-1 22.2 -45.5
8°	0 26.7 -45.8 102.8	-0 11.7 -45.7	-0 50.3 -45.6	-1 28.9 -45.5	-2 07.7 -45.4
9°	-0 19.1 -45.7	-0 57.4 -45.7	-1 35.9 -45.6	-2 14.4 -45.5	-2 53.1 -45.4
10°	-1 04.8 -45.8	-1 43.1 -45.7	-2 21.5 -45.5	-2 59.9 -45.5	-3 38.5 -45.4
11°	-1 50.6 -45.8	-2 28.8 -45.6	-3 07.0 -45.6	-3 45.4 -45.5	-4 23.9 -45.3
12°	-2 36.4 -45.7	-3 14.4 -45.7	-3 52.6 -45.5	-4 30.9 -45.4	-5 09.2 -45.4
13°	-3 22.1 -45.8	-4 00.1 -45.6	-4 38.1 -45.5	-5 16.3 -45.3	-5 54.6 -45.2
14°	-4 07.9 -45.7	-4 45.7 -45.5	-5 23.6 -45.4	-6 01.6 -45.4	-6 39.8 -45.2
15°	-4 53.6 -45.6	-5 31.2 -45.5	-6 09.0 -45.4	-6 47.0 -45.2	-7 25.0 -45.2
16°	-5 39.2 -45.6	-6 16.7 -45.5	-6 54.4 -45.4	-7 32.2 -45.2	-8 10.2 -45.1
17°	-6 24.8 -45.6	-7 02.2 -45.4	-7 39.8 -45.2	-8 17.4 -45.2	-8 55.3 -45.0
18°	-7 10.4 -45.5	-7 47.6 -45.4	-8 25.0 -45.2	-9 02.6 -45.1	-9 40.3 -44.9
19°	-7 55.9 -45.4	-8 33.0 -45.3	-9 10.2 -45.2	-9 47.7 -45.0	
20°	-8 41.3 -45.4	-9 18.3 -45.2	-9 55.4 -45.0		
21°	-9 26.7 -45.3				
22°					
23°					
24°					
25°					
26°					
27°					
28°					
29°					

Dec	LHA 085° / 275°	LHA 086° / 274°	LHA 087° / 273°	LHA 088° / 272°	LHA 089° / 271°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	3 16.7 -45.4 93.8	2 37.4 -45.4 93.0	1 58.1 -45.4 92.3	1 18.7 -45.3 91.5	0 39.4 -45.3 90.8
1°	2 31.3 -45.4 94.4	1 52.0 -45.3 93.7	1 12.7 -45.3 92.9	0 33.4 -45.3 92.2	-0 05.9 -45.3
2°	1 45.9 -45.4 95.1	1 06.7 -45.4 94.3	0 27.4 -45.3 93.6	-0 11.9 -45.3	-0 51.2 -45.3
3°	1 00.5 -45.4 95.7	0 21.3 -45.3 95.0	-0 17.9 -45.3	-0 57.2 -45.3	-1 36.5 -45.3
4°	0 15.1 -45.4 96.4	-0 24.0 -45.4	-1 03.2 -45.4	-1 42.5 -45.3	-2 21.8 -45.2
5°	-0 30.3 -45.4	-1 09.4 -45.4	-1 48.6 -45.3	-2 27.8 -45.2	-3 07.0 -45.2
6°	-1 15.7 -45.4	-1 54.8 -45.3	-2 33.9 -45.2	-3 13.0 -45.3	-3 52.2 -45.2
7°	-2 01.1 -45.4	-2 40.1 -45.3	-3 19.1 -45.3	-3 58.3 -45.2	-4 37.4 -45.2
8°	-2 46.5 -45.4	-3 25.4 -45.3	-4 04.4 -45.2	-4 43.5 -45.1	-5 22.6 -45.1
9°	-3 31.9 -45.3	-4 10.7 -45.3	-4 49.6 -45.2	-5 28.6 -45.2	-6 07.7 -45.1
10°	-4 17.2 -45.3	-4 56.0 -45.2	-5 34.8 -45.2	-6 13.8 -45.0	-6 52.8 -45.0
11°	-5 02.5 -45.2	-5 41.2 -45.2	-6 20.0 -45.1	-6 58.8 -45.0	-7 37.8 -44.9
12°	-5 47.7 -45.3	-6 26.4 -45.1	-7 05.1 -45.0	-7 43.8 -45.0	-8 22.7 -44.9
13°	-6 33.0 -45.1	-7 11.5 -45.0	-7 50.1 -45.0	-8 28.8 -44.9	-9 07.6 -44.8
14°	-7 18.1 -45.1	-7 56.5 -45.0	-8 35.1 -44.9	-9 13.7 -44.8	-9 52.4 -44.7
15°	-8 03.2 -45.1	-8 41.5 -45.0	-9 20.0 -44.8	-9 58.5 -44.7	
16°	-8 48.3 -44.9	-9 26.5 -44.8			
17°	-9 33.2 -44.9				
18°					
19°					
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29°					

Dec	LHA 090° / 270°	LHA 091° / 269°	LHA 092° / 268°	LHA 093° / 267°	LHA 094° / 266°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°	0 00.0 -45.3 90.0	-0 39.4 -45.2			
1°	-0 45.3 -45.3	-1 24.6 -45.3			
2°	-1 30.6 -45.2	-2 09.9 -45.3			
3°	-2 15.8 -45.3	-2 55.2 -45.2			
4°	-3 01.1 -45.2	-3 40.4 -45.2			
5°	-3 46.3 -45.2	-4 25.6 -45.2			
6°	-4 31.5 -45.1	-5 10.8 -45.1			
7°	-5 16.6 -45.2	-5 55.9 -45.1			
8°	-6 01.8 -45.0	-6 41.0 -45.0			
9°	-6 46.8 -45.0	-7 26.0 -45.0			
10°	-7 31.8 -45.0	-8 11.0 -44.9			
11°	-8 16.8 -44.9	-8 55.9 -44.8			
12°	-9 01.7 -44.8	-9 40.7 -44.7			
13°	-9 46.5 -44.7				
14°					
15°					
16°					
17°					
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28°					
29°					

Dec	LHA 095° / 265°	LHA 096° / 264°	LHA 097° / 263°	LHA 098° / 262°	LHA 099° / 261°
	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °	H ° ' dH ' Z °
0°					
1°					
2°					
3°					
4°					
5°					
6°					
7°					
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