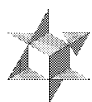


Sectorentabel
voor het
APC-systeem



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Bij de sectorentabel voor het APC-systeem

Het gebruik van de tabel

Deze sectorentabel is berekend voor 5° NB tot en met 70° NB, met een interval van 5°, en voor 49° NB tot en met 54° NB met een interval van 1°. Alle twaalf sectorcuspen alsmede de lengte en breedte van het zuidpunt, λ_z en β_z , zijn weergegeven voor de rechte klimming van het zuidpunt, α_z , van 0° tot en met 360° met een interval van 5°. Deze laatste twee waarden, λ_z en β_z , worden gebruikt om de astrologische lengte of ware plaats van Maan en planeten te berekenen.^{1,2}

De waarde van α_z kan worden berekend uit de sterrentijd volgens: $\alpha_z = 15 \times ST$. Door interpolatie tussen de regels van de tabel worden dan de juiste waarden gevonden bij de berekende α_z . Daarna kan nog worden geïnterpoleerd tussen de uitkomsten voor twee opeenvolgende breedten om de juiste waarden te vinden bij de precieze noorderbreedte.

Nauwkeurigheid

De maximale fout die ontstaat door lineaire interpolatie tussen opeenvolgende α_z -waarden bedraagt circa 0,06°. De maximale fout bij interpolatie tussen opeenvolgende noorderbreedten in Nederland en België (49°-54°) is circa 0,02°, bij lagere breedten (<49°) circa 0,07° en voor hogere breedten (>54°) circa 0,20°. Daarbij geldt dat de fout toeneemt bij toenemende breedte.

Bron van de gegevens

De eerste aanzet tot het ascendant-parallelcirkel-systeem is gegeven door L. Knecht.³ De juiste formules voor de sectorgrenzen zijn onder meer gegeven door P.F. van Solt, en later door H. Cosman.^{4,5} Een moderne formulering is gegeven door Th. Ram in Urania.⁶ De formules die voor de onderhavige tabellen zijn gebruikt met de bijbehorende definities luiden als volgt.

n	= volgnummer sector	λ_z	= lengte zuidpunt
Φ	= geografische breedte	β_z	= breedte zuidpunt
α_z	= rechte klimming zuidpunt	$k_{v_{asc}}$	= klimmingsverschil ascendant
ε	= hellingshoek ecliptica (hier voor 1-1-2000, 0 ^h UT)	δ_{asc}	= declinatie ascendant
		$\alpha_{0,n}$	= schuine klimming / -daling cusp n
		λ_n	= lengte cusp n

1. $\tan \lambda_z = (\sin \alpha_z \cos \varepsilon \tan \Phi - \sin \varepsilon) / (\cos \alpha_z \tan \Phi)$
2. $\sin \beta_z = -\cos \Phi \cos \varepsilon + \sin \Phi \sin \varepsilon \sin \alpha_z$
3. $\tan k_{v_{asc}} = (\tan \Phi \tan \varepsilon \cos \alpha_z) / (1 + \tan \Phi \tan \varepsilon \sin \alpha_z)$
4. $\tan \delta_{asc} = \sin k_{v_{asc}} / \tan \Phi$
5. voor $n < 8$: $\alpha_{0,n} = k_{v_{asc}} + \alpha_z + 90 + (n - 1) (90 - k_{v_{asc}}) / 3$
voor $n \geq 8$: $\alpha_{0,n} = k_{v_{asc}} + \alpha_z + 90 + (n - 13) (90 + k_{v_{asc}}) / 3$
6. $\tan \lambda_n = (\tan \delta_{asc} \tan \Phi \sin \alpha_z + \sin \alpha_{0,n}) / (\cos \varepsilon (\tan \delta_{asc} \tan \Phi \cos \alpha_z + \cos \alpha_{0,n}) + \sin \varepsilon \tan \Phi \sin (\alpha_z - \alpha_{0,n}))$

De filosofische achtergrond

Een discussie over huizensystemen en een bespreking van de filosofische achtergrond van het APC-systeem zijn onder meer te vinden in de *Syllabus astro-techniek*, en in Cosmans *Why APC-houses?*.^{7,5}

Ingmar de Boer, 25 november 2001

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5° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	12.40 𐄂	66.06 Z	1.99 𐄂	29.04 𐄂	28.00 𐄂	0.00 𐄂	3.16 𐄂	4.10 𐄂	1.99 𐄂	29.84 𐄂	28.73 𐄂	0.00 𐄂	2.38 𐄂	3.25 𐄂
5	12.57 𐄂	65.64 Z	6.57 𐄂	3.77 𐄂	3.15 𐄂	5.45 𐄂	8.39 𐄂	8.89 𐄂	6.57 𐄂	4.58 𐄂	3.89 𐄂	5.45 𐄂	7.63 𐄂	8.06 𐄂
10	12.65 𐄂	65.23 Z	11.15 𐄂	8.57 𐄂	8.37 𐄂	10.88 𐄂	13.54 𐄂	13.62 𐄂	11.15 𐄂	9.38 𐄂	9.11 𐄂	10.88 𐄂	12.80 𐄂	12.80 𐄂
15	12.63 𐄂	64.83 Z	15.74 𐄂	13.43 𐄂	13.64 𐄂	16.28 𐄂	18.61 𐄂	18.29 𐄂	15.74 𐄂	14.23 𐄂	14.37 𐄂	16.28 𐄂	17.89 𐄂	17.50 𐄂
20	12.52 𐄂	64.44 Z	20.35 𐄂	18.35 𐄂	18.96 𐄂	21.64 𐄂	23.59 𐄂	22.91 𐄂	20.35 𐄂	19.14 𐄂	19.67 𐄂	21.64 𐄂	22.90 𐄂	22.16 𐄂
25	12.29 𐄂	64.07 Z	25.00 𐄂	23.34 𐄂	24.30 𐄂	26.94 𐄂	28.49 𐄂	27.50 𐄂	25.00 𐄂	24.11 𐄂	24.99 𐄂	26.94 𐄂	27.84 𐄂	26.78 𐄂
30	11.96 𐄂	63.72 Z	29.68 𐄂	28.40 𐄂	29.66 𐄂	2.18 𐄂	3.31 𐄂	2.08 𐄂	29.68 𐄂	29.14 𐄂	0.32 𐄂	2.18 𐄂	2.70 𐄂	1.39 𐄂
35	11.52 𐄂	63.39 Z	4.41 𐄂	3.51 𐄂	5.03 𐄂	7.35 𐄂	8.06 𐄂	6.64 𐄂	4.41 𐄂	4.22 𐄂	5.65 𐄂	7.35 𐄂	7.50 𐄂	5.99 𐄂
40	10.96 𐄂	63.09 Z	9.19 𐄂	8.69 𐄂	10.38 𐄂	12.45 𐄂	12.76 𐄂	11.20 𐄂	9.19 𐄂	9.36 𐄂	10.96 𐄂	12.45 𐄂	12.24 𐄂	10.59 𐄂
45	10.28 𐄂	62.81 Z	14.03 𐄂	13.91 𐄂	15.71 𐄂	17.46 𐄂	17.41 𐄂	15.77 𐄂	14.03 𐄂	14.53 𐄂	16.24 𐄂	17.46 𐄂	16.93 𐄂	15.21 𐄂
50	9.49 𐄂	62.55 Z	18.93 𐄂	19.18 𐄂	21.00 𐄂	22.41 𐄂	22.02 𐄂	20.36 𐄂	18.93 𐄂	19.74 𐄂	21.48 𐄂	22.41 𐄂	21.59 𐄂	19.85 𐄂
55	8.59 𐄂	62.32 Z	23.89 𐄂	24.47 𐄂	26.25 𐄂	27.28 𐄂	26.60 𐄂	24.98 𐄂	23.89 𐄂	24.98 𐄂	26.67 𐄂	27.28 𐄂	26.22 𐄂	24.53 𐄂
60	7.59 𐄂	62.12 Z	28.92 𐄂	29.78 𐄂	1.44 𐄂	2.09 𐄂	1.17 𐄂	29.65 𐄂	28.92 𐄂	0.22 𐄂	1.80 𐄂	2.09 𐄂	0.83 𐄂	29.25 𐄂
65	6.49 𐄂	61.95 Z	4.00 𐄂	5.09 𐄂	6.57 𐄂	6.84 𐄂	5.72 𐄂	4.36 𐄂	4.00 𐄂	5.46 𐄂	6.87 𐄂	6.84 𐄂	5.44 𐄂	4.02 𐄂
70	5.30 𐄂	61.81 Z	9.13 𐄂	10.38 𐄂	11.62 𐄂	11.53 𐄂	10.29 𐄂	9.12 𐄂	9.13 𐄂	10.69 𐄂	11.87 𐄂	11.53 𐄂	10.06 𐄂	8.84 𐄂
75	4.04 𐄂	61.70 Z	14.30 𐄂	15.66 𐄂	16.62 𐄂	16.19 𐄂	14.87 𐄂	13.94 𐄂	14.30 𐄂	15.88 𐄂	16.80 𐄂	16.19 𐄂	14.70 𐄂	13.73 𐄂
80	2.73 𐄂	61.62 Z	19.52 𐄂	20.90 𐄂	21.54 𐄂	20.81 𐄂	19.47 𐄂	18.82 𐄂	19.52 𐄂	21.05 𐄂	21.66 𐄂	20.81 𐄂	19.36 𐄂	18.68 𐄂
85	1.37 𐄂	61.58 Z	24.75 𐄂	26.09 𐄂	26.40 𐄂	25.41 𐄂	24.12 𐄂	23.77 𐄂	24.75 𐄂	26.16 𐄂	26.46 𐄂	25.41 𐄂	24.06 𐄂	23.69 𐄂
90	0.00 𐄂	61.56 Z	0.00 𐄂	1.23 𐄂	1.20 𐄂	0.00 𐄂	28.80 𐄂	28.77 𐄂	0.00 𐄂	1.23 𐄂	1.20 𐄂	0.00 𐄂	28.80 𐄂	28.77 𐄂
95	28.63 𐄂	61.58 Z	5.25 𐄂	6.31 𐄂	5.94 𐄂	4.59 𐄂	3.54 𐄂	3.84 𐄂	5.25 𐄂	6.23 𐄂	5.88 𐄂	4.59 𐄂	3.60 𐄂	3.91 𐄂
100	27.27 𐄂	61.62 Z	10.48 𐄂	11.32 𐄂	10.64 𐄂	9.19 𐄂	8.34 𐄂	8.95 𐄂	10.48 𐄂	11.18 𐄂	10.53 𐄂	9.19 𐄂	8.46 𐄂	9.10 𐄂
105	25.96 𐄂	61.70 Z	15.70 𐄂	16.27 𐄂	15.30 𐄂	13.81 𐄂	13.20 𐄂	14.12 𐄂	15.70 𐄂	16.06 𐄂	15.13 𐄂	13.81 𐄂	13.38 𐄂	14.34 𐄂
110	24.70 𐄂	61.81 Z	20.87 𐄂	21.16 𐄂	19.94 𐄂	18.47 𐄂	18.13 𐄂	19.31 𐄂	20.87 𐄂	20.88 𐄂	19.71 𐄂	18.47 𐄂	18.38 𐄂	19.62 𐄂
115	23.51 𐄂	61.95 Z	26.00 𐄂	25.98 𐄂	24.56 𐄂	23.16 𐄂	23.13 𐄂	24.54 𐄂	26.00 𐄂	25.64 𐄂	24.28 𐄂	23.16 𐄂	23.43 𐄂	24.91 𐄂
120	22.41 𐄂	62.12 Z	1.08 𐄂	0.75 𐄂	29.17 𐄂	27.91 𐄂	28.20 𐄂	29.78 𐄂	1.08 𐄂	0.35 𐄂	28.83 𐄂	27.91 𐄂	28.56 𐄂	0.22 𐄂
125	21.41 𐄂	62.32 Z	6.11 𐄂	5.47 𐄂	3.78 𐄂	2.72 𐄂	3.33 𐄂	5.02 𐄂	6.11 𐄂	5.02 𐄂	3.40 𐄂	2.72 𐄂	3.75 𐄂	5.53 𐄂
130	20.51 𐄂	62.55 Z	11.07 𐄂	10.15 𐄂	8.41 𐄂	7.59 𐄂	8.52 𐄂	10.26 𐄂	11.07 𐄂	9.64 𐄂	7.98 𐄂	7.59 𐄂	9.00 𐄂	10.82 𐄂
135	19.72 𐄂	62.81 Z	15.97 𐄂	14.79 𐄂	13.07 𐄂	12.54 𐄂	13.76 𐄂	15.47 𐄂	15.97 𐄂	14.23 𐄂	12.59 𐄂	12.54 𐄂	14.29 𐄂	16.09 𐄂
140	19.04 𐄂	63.09 Z	20.81 𐄂	19.41 𐄂	17.76 𐄂	17.55 𐄂	19.04 𐄂	20.64 𐄂	20.81 𐄂	18.80 𐄂	17.24 𐄂	17.55 𐄂	19.62 𐄂	21.31 𐄂
145	18.48 𐄂	63.39 Z	25.59 𐄂	24.01 𐄂	22.50 𐄂	22.65 𐄂	24.35 𐄂	25.78 𐄂	25.59 𐄂	23.36 𐄂	21.94 𐄂	22.65 𐄂	24.97 𐄂	26.49 𐄂
150	18.04 𐄂	63.72 Z	0.32 𐄂	28.61 𐄂	27.30 𐄂	27.82 𐄂	29.68 𐄂	0.86 𐄂	0.32 𐄂	27.92 𐄂	26.69 𐄂	27.82 𐄂	0.34 𐄂	1.60 𐄂
155	17.71 𐄂	64.07 Z	5.00 𐄂	3.22 𐄂	2.16 𐄂	3.06 𐄂	5.01 𐄂	5.89 𐄂	5.00 𐄂	2.50 𐄂	1.51 𐄂	3.06 𐄂	5.70 𐄂	6.66 𐄂
160	17.48 𐄂	64.44 Z	9.65 𐄂	7.84 𐄂	7.10 𐄂	8.36 𐄂	10.33 𐄂	10.86 𐄂	9.65 𐄂	7.09 𐄂	6.41 𐄂	8.36 𐄂	11.04 𐄂	11.65 𐄂
165	17.37 𐄂	64.83 Z	14.26 𐄂	12.50 𐄂	12.11 𐄂	13.72 𐄂	15.63 𐄂	15.77 𐄂	14.26 𐄂	11.71 𐄂	11.39 𐄂	13.72 𐄂	16.36 𐄂	16.57 𐄂
170	17.35 𐄂	65.23 Z	18.85 𐄂	17.20 𐄂	17.20 𐄂	19.12 𐄂	20.89 𐄂	20.62 𐄂	18.85 𐄂	16.38 𐄂	16.46 𐄂	19.12 𐄂	21.63 𐄂	21.43 𐄂
175	17.43 𐄂	65.64 Z	23.43 𐄂	21.94 𐄂	22.37 𐄂	24.55 𐄂	26.11 𐄂	25.42 𐄂	23.43 𐄂	21.11 𐄂	21.61 𐄂	24.55 𐄂	26.85 𐄂	26.23 𐄂
180	17.60 𐄂	66.06 Z	28.01 𐄂	26.75 𐄂	27.62 𐄂	0.00 𐄂	1.27 𐄂	0.16 𐄂	28.01 𐄂	25.90 𐄂	26.84 𐄂	0.00 𐄂	2.00 𐄂	0.96 𐄂

5° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	17.85 ☞	66.49 Z	2.60 ☞	1.62 ☞	2.95 ☞	5.45 ☞	6.37 ☞	4.86 II	2.60 ☞	0.76 ☞	2.16 ☞	5.45 ☞	7.09 ☞	5.65 ☞
190	18.18 ☞	66.93 Z	7.21 ☞	6.58 ☞	8.34 ☞	10.88 ☞	11.41 ☞	9.51 II	7.21 ☞	5.71 ☞	7.55 ☞	10.88 ☞	12.11 ☞	10.29 ☞
195	18.59 ☞	67.36 Z	11.85 ☞	11.61 ☞	13.79 ☞	16.28 ☞	16.38 ☞	14.14 II	11.85 ☞	10.74 ☞	13.01 ☞	16.28 ☞	17.06 ☞	14.90 ☞
200	19.06 ☞	67.80 Z	16.54 ☞	16.73 ☞	19.28 ☞	21.64 ☞	21.28 ☞	18.75 II	16.54 ☞	15.86 ☞	18.52 ☞	21.64 ☞	21.94 ☞	19.49 ☞
205	19.59 ☞	68.22 Z	21.28 ☞	21.93 ☞	24.81 ☞	26.94 ☞	26.13 ☞	23.34 II	21.28 ☞	21.08 ☞	24.07 ☞	26.94 ☞	26.75 ☞	24.06 ☞
210	20.18 ☞	68.64 Z	26.08 ☞	27.22 ☞	0.34 ☞	2.18 ☞	0.91 II	27.94 II	26.08 ☞	26.39 ☞	29.63 ☞	2.18 ☞	1.50 ☞	28.62 ☞
215	20.83 ☞	69.05 Z	0.96 ☞	2.59 ☞	5.88 ☞	7.35 ☞	5.65 II	2.54 ☞	0.96 ☞	1.79 ☞	5.21 ☞	7.35 ☞	6.20 ☞	3.20 ☞
220	21.52 ☞	69.44 Z	5.92 ☞	8.02 ☞	11.39 ☞	12.45 ☞	10.33 II	7.17 ☞	5.92 ☞	7.27 ☞	10.77 ☞	12.45 ☞	10.85 ☞	7.79 ☞
225	22.25 ☞	69.80 Z	10.97 ☞	13.52 ☞	16.87 ☞	17.46 ☞	14.99 II	11.83 ☞	10.97 ☞	12.82 ☞	16.30 ☞	17.46 ☞	15.46 ☞	12.41 ☞
230	23.02 ☞	70.14 Z	16.10 ☞	19.07 ☞	22.29 ☞	22.41 ☞	19.62 II	16.54 ☞	16.10 ☞	18.43 ☞	21.78 ☞	22.41 ☞	20.04 ☞	17.07 ☞
235	23.82 ☞	70.46 Z	21.33 ☞	24.65 ☞	27.66 ☞	27.28 ☞	24.23 II	21.30 ☞	21.33 ☞	24.08 ☞	27.20 ☞	27.28 ☞	24.61 ☞	21.78 ☞
240	24.65 ☞	70.74 Z	26.65 ☞	0.25 ☞	2.95 ☞	2.09 ☞	28.84 II	26.12 ☞	26.65 ☞	29.75 ☞	2.56 ☞	2.09 ☞	29.17 ☞	26.55 ☞
245	25.51 ☞	70.98 Z	2.06 ☞	5.84 ☞	8.16 ☞	6.84 ☞	3.45 ☞	1.02 ☞	2.06 ☞	5.42 ☞	7.84 ☞	6.84 ☞	3.74 ☞	1.39 ☞
250	26.38 ☞	71.19 Z	7.54 ☞	11.42 ☞	13.29 ☞	11.53 ☞	8.09 ☞	6.00 ☞	7.54 ☞	11.07 ☞	13.03 ☞	11.53 ☞	8.32 ☞	6.30 ☞
255	27.27 ☞	71.35 Z	13.09 ☞	16.95 ☞	18.33 ☞	16.19 ☞	12.75 ☞	11.07 ☞	13.09 ☞	16.69 ☞	18.14 ☞	16.19 ☞	12.92 ☞	11.30 ☞
260	28.18 ☞	71.47 Z	18.70 ☞	22.43 ☞	23.30 ☞	20.81 ☞	17.45 ☞	16.22 ☞	18.70 ☞	22.26 ☞	23.17 ☞	20.81 ☞	17.57 ☞	16.38 ☞
265	29.09 ☞	71.54 Z	24.34 ☞	27.85 ☞	28.18 ☞	25.41 ☞	22.20 ☞	21.47 ☞	24.34 ☞	27.76 ☞	28.12 ☞	25.41 ☞	22.26 ☞	21.55 ☞
270	0.00 ☞	71.56 Z	0.00 ☞	3.19 ☞	3.00 ☞	0.00 ☞	27.00 ☞	26.81 ☞	0.00 ☞	3.19 ☞	3.00 ☞	0.00 ☞	27.00 ☞	26.81 ☞
275	0.91 ☞	71.54 Z	5.66 ☞	8.45 ☞	7.74 ☞	4.59 ☞	1.88 ☞	2.24 ☞	5.66 ☞	8.53 ☞	7.80 ☞	4.59 ☞	1.82 ☞	2.15 ☞
280	1.82 ☞	71.47 Z	11.30 ☞	13.62 ☞	12.43 ☞	9.19 ☞	6.83 ☞	7.74 ☞	11.30 ☞	13.78 ☞	12.55 ☞	9.19 ☞	6.70 ☞	7.57 ☞
285	2.73 ☞	71.35 Z	16.91 ☞	18.70 ☞	17.08 ☞	13.81 ☞	11.86 ☞	13.31 ☞	16.91 ☞	18.93 ☞	17.25 ☞	13.81 ☞	11.67 ☞	13.05 ☞
290	3.62 ☞	71.19 Z	22.46 ☞	23.70 ☞	21.68 ☞	18.47 ☞	16.97 ☞	18.93 ☞	22.46 ☞	24.00 ☞	21.91 ☞	18.47 ☞	16.71 ☞	18.58 ☞
295	4.49 ☞	70.98 Z	27.94 ☞	28.61 ☞	26.26 ☞	23.16 ☞	22.16 ☞	24.58 ☞	27.94 ☞	28.98 ☞	26.55 ☞	23.16 ☞	21.84 ☞	24.16 ☞
300	5.35 ☞	70.74 Z	3.35 ☞	3.45 ☞	0.83 ☞	27.91 ☞	27.44 ☞	0.25 ☞	3.35 ☞	3.88 ☞	1.16 ☞	27.91 ☞	27.05 ☞	29.75 ☞
305	6.18 ☞	70.46 Z	8.67 ☞	8.22 ☞	5.39 ☞	2.72 ☞	2.80 ☞	5.92 ☞	8.67 ☞	8.70 ☞	5.77 ☞	2.72 ☞	2.34 ☞	5.35 ☞
310	6.98 ☞	70.14 Z	13.90 ☞	12.93 ☞	9.96 ☞	7.59 ☞	8.22 ☞	11.57 ☞	13.90 ☞	13.46 ☞	10.38 ☞	7.59 ☞	7.71 ☞	10.93 ☞
315	7.75 ☞	69.80 Z	19.03 ☞	17.59 ☞	14.54 ☞	12.54 ☞	13.70 ☞	17.18 ☞	19.03 ☞	18.17 ☞	15.01 ☞	12.54 ☞	13.13 ☞	16.48 ☞
320	8.48 ☞	69.44 Z	24.08 ☞	22.21 ☞	19.15 ☞	17.55 ☞	19.23 ☞	22.73 ☞	24.08 ☞	22.83 ☞	19.67 ☞	17.55 ☞	18.61 ☞	21.98 ☞
325	9.17 ☞	69.05 Z	29.04 ☞	26.80 ☞	23.80 ☞	22.65 ☞	24.79 ☞	28.21 ☞	29.04 ☞	27.46 ☞	24.35 ☞	22.65 ☞	24.12 ☞	27.41 ☞
330	9.82 ☞	68.64 Z	3.92 ☞	1.38 ☞	28.50 ☞	27.82 ☞	0.37 ☞	3.61 ☞	3.92 ☞	2.06 ☞	29.09 ☞	27.82 ☞	29.66 ☞	2.78 ☞
335	10.41 ☞	68.22 Z	8.72 ☞	5.94 ☞	3.25 ☞	3.06 ☞	5.93 ☞	8.92 ☞	8.72 ☞	6.66 ☞	3.87 ☞	3.06 ☞	5.19 ☞	8.07 ☞
340	10.94 ☞	67.80 Z	13.46 ☞	10.51 ☞	8.06 ☞	8.36 ☞	11.48 ☞	14.14 ☞	13.46 ☞	11.25 ☞	8.72 ☞	8.36 ☞	10.72 ☞	13.27 ☞
345	11.41 ☞	67.36 Z	18.15 ☞	15.10 ☞	12.94 ☞	13.72 ☞	16.99 ☞	19.26 ☞	18.15 ☞	15.86 ☞	13.62 ☞	13.72 ☞	16.21 ☞	18.39 ☞
350	11.82 ☞	66.93 Z	22.79 ☞	19.71 ☞	17.89 ☞	19.12 ☞	22.45 ☞	24.29 ☞	22.79 ☞	20.49 ☞	18.59 ☞	19.12 ☞	21.66 ☞	23.42 ☞
355	12.15 ☞	66.49 Z	27.40 ☞	24.35 ☞	22.91 ☞	24.55 ☞	27.84 ☞	29.24 ☞	27.40 ☞	25.14 ☞	23.63 ☞	24.55 ☞	27.05 ☞	28.38 ☞
360	12.40 ☞	66.06 Z	1.99 ☞	29.04 ☞	28.00 ☞	0.00 ☞	3.16 ☞	4.10 ☞	1.99 ☞	29.84 ☞	28.73 ☞	0.00 ☞	2.38 ☞	3.25 ☞

10° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	23.91 𐄂	64.63 Z	4.01 𐄂	0.14 𐄂	28.16 𐄂	0.00 𐄂	4.22 𐄂	6.23 𐄂	4.01 𐄂	1.71 𐄂	29.59 𐄂	0.00 𐄂	2.60 𐄂	4.47 𐄂
5	24.60 𐄂	63.83 Z	8.57 𐄂	4.81 𐄂	3.24 𐄂	5.45 𐄂	9.52 𐄂	11.05 𐄂	8.57 𐄂	6.38 𐄂	4.67 𐄂	5.45 𐄂	7.94 𐄂	9.33 𐄂
10	25.16 𐄂	63.07 Z	13.12 𐄂	9.53 𐄂	8.37 𐄂	10.88 𐄂	14.72 𐄂	15.79 𐄂	13.12 𐄂	11.09 𐄂	9.80 𐄂	10.88 𐄂	13.19 𐄂	14.13 𐄂
15	25.57 𐄂	62.33 Z	17.66 𐄂	14.30 𐄂	13.56 𐄂	16.28 𐄂	19.83 𐄂	20.46 𐄂	17.66 𐄂	15.84 𐄂	14.97 𐄂	16.28 𐄂	18.35 𐄂	18.86 𐄂
20	25.82 𐄂	61.63 Z	22.22 𐄂	19.13 𐄂	18.79 𐄂	21.64 𐄂	24.84 𐄂	25.08 𐄂	22.22 𐄂	20.64 𐄂	20.17 𐄂	21.64 𐄂	23.43 𐄂	23.54 𐄂
25	25.88 𐄂	60.97 Z	26.80 𐄂	24.02 𐄂	24.05 𐄂	26.94 𐄂	29.76 𐄂	29.65 𐄂	26.80 𐄂	25.48 𐄂	25.38 𐄂	26.94 𐄂	28.43 𐄂	28.19 𐄂
30	25.73 𐄂	60.34 Z	1.41 𐄂	28.96 𐄂	29.33 𐄂	2.18 𐄂	4.59 𐄂	4.19 𐄂	1.41 𐄂	0.37 𐄂	0.60 𐄂	2.18 𐄂	3.34 𐄂	2.81 𐄂
35	25.34 𐄂	59.76 Z	6.06 𐄂	3.96 𐄂	4.61 𐄂	7.35 𐄂	9.35 𐄂	8.71 𐄂	6.06 𐄂	5.31 𐄂	5.82 𐄂	7.35 𐄂	8.19 𐄂	7.41 𐄂
40	24.69 𐄂	59.22 Z	10.74 𐄂	9.02 𐄂	9.89 𐄂	12.45 𐄂	14.04 𐄂	13.21 𐄂	10.74 𐄂	10.28 𐄂	11.02 𐄂	12.45 𐄂	12.97 𐄂	12.01 𐄂
45	23.75 𐄂	58.73 Z	15.47 𐄂	14.11 𐄂	15.15 𐄂	17.46 𐄂	18.67 𐄂	17.72 𐄂	15.47 𐄂	15.29 𐄂	16.19 𐄂	17.46 𐄂	17.70 𐄂	16.62 𐄂
50	22.48 𐄂	58.28 Z	20.25 𐄂	19.24 𐄂	20.38 𐄂	22.41 𐄂	23.26 𐄂	22.25 𐄂	20.25 𐄂	20.32 𐄂	21.32 𐄂	22.41 𐄂	22.39 𐄂	21.24 𐄂
55	20.87 𐄂	57.88 Z	25.08 𐄂	24.40 𐄂	25.57 𐄂	27.28 𐄂	27.82 𐄂	26.79 𐄂	25.08 𐄂	25.36 𐄂	26.40 𐄂	27.28 𐄂	27.05 𐄂	25.89 𐄂
60	18.89 𐄂	57.54 Z	29.96 𐄂	29.57 𐄂	0.71 𐄂	2.09 𐄂	2.35 𐄂	1.36 𐄂	29.96 𐄂	0.41 𐄂	1.42 𐄂	2.09 𐄂	1.68 𐄂	0.57 𐄂
65	16.53 𐄂	57.24 Z	4.89 𐄂	4.75 𐄂	5.79 𐄂	6.84 𐄂	6.88 𐄂	5.96 𐄂	4.89 𐄂	5.46 𐄂	6.39 𐄂	6.84 𐄂	6.31 𐄂	5.30 𐄂
70	13.79 𐄂	57.00 Z	9.85 𐄂	9.92 𐄂	10.81 𐄂	11.53 𐄂	11.40 𐄂	10.61 𐄂	9.85 𐄂	10.49 𐄂	11.29 𐄂	11.53 𐄂	10.94 𐄂	10.07 𐄂
75	10.70 𐄂	56.81 Z	14.86 𐄂	15.07 𐄂	15.78 𐄂	16.19 𐄂	15.93 𐄂	15.31 𐄂	14.86 𐄂	15.50 𐄂	16.14 𐄂	16.19 𐄂	15.59 𐄂	14.89 𐄂
80	7.32 𐄂	56.67 Z	19.89 𐄂	20.19 𐄂	20.68 𐄂	20.81 𐄂	20.48 𐄂	20.05 𐄂	19.89 𐄂	20.48 𐄂	20.92 𐄂	20.81 𐄂	20.25 𐄂	19.77 𐄂
85	3.72 𐄂	56.59 Z	24.94 𐄂	25.27 𐄂	25.52 𐄂	25.41 𐄂	25.07 𐄂	24.84 𐄂	24.94 𐄂	25.42 𐄂	25.64 𐄂	25.41 𐄂	24.95 𐄂	24.70 𐄂
90	0.00 𐄂	56.56 Z	0.00 𐄂	0.31 𐄂	0.31 𐄂	0.00 𐄂	29.69 𐄂	29.69 𐄂	0.00 𐄂	0.31 𐄂	0.31 𐄂	0.00 𐄂	29.69 𐄂	29.69 𐄂
95	26.28 𐄂	56.59 Z	5.06 𐄂	5.30 𐄂	5.05 𐄂	4.59 𐄂	4.36 𐄂	4.58 𐄂	5.06 𐄂	5.16 𐄂	4.93 𐄂	4.59 𐄂	4.48 𐄂	4.73 𐄂
100	22.68 𐄂	56.67 Z	10.11 𐄂	10.23 𐄂	9.75 𐄂	9.19 𐄂	9.08 𐄂	9.52 𐄂	10.11 𐄂	9.95 𐄂	9.52 𐄂	9.19 𐄂	9.32 𐄂	9.81 𐄂
105	19.30 𐄂	56.81 Z	15.14 𐄂	15.11 𐄂	14.41 𐄂	13.81 𐄂	13.86 𐄂	14.50 𐄂	15.14 𐄂	14.69 𐄂	14.07 𐄂	13.81 𐄂	14.22 𐄂	14.93 𐄂
110	16.21 𐄂	57.00 Z	20.15 𐄂	19.93 𐄂	19.06 𐄂	18.47 𐄂	18.71 𐄂	19.51 𐄂	20.15 𐄂	19.39 𐄂	18.60 𐄂	18.47 𐄂	19.19 𐄂	20.08 𐄂
115	13.47 𐄂	57.24 Z	25.11 𐄂	24.70 𐄂	23.69 𐄂	23.16 𐄂	23.61 𐄂	24.54 𐄂	25.11 𐄂	24.04 𐄂	23.12 𐄂	23.16 𐄂	24.21 𐄂	25.25 𐄂
120	11.11 𐄂	57.54 Z	0.04 𐄂	29.43 𐄂	28.32 𐄂	27.91 𐄂	28.58 𐄂	29.59 𐄂	0.04 𐄂	28.64 𐄂	27.65 𐄂	27.91 𐄂	29.29 𐄂	0.43 𐄂
125	9.13 𐄂	57.88 Z	4.92 𐄂	4.11 𐄂	2.95 𐄂	2.72 𐄂	3.60 𐄂	4.64 𐄂	4.92 𐄂	3.21 𐄂	2.18 𐄂	2.72 𐄂	4.43 𐄂	5.60 𐄂
130	7.52 𐄂	58.28 Z	9.75 𐄂	8.76 𐄂	7.61 𐄂	7.59 𐄂	8.68 𐄂	9.68 𐄂	9.75 𐄂	7.75 𐄂	6.74 𐄂	7.59 𐄂	9.62 𐄂	10.76 𐄂
135	6.25 𐄂	58.73 Z	14.53 𐄂	13.38 𐄂	12.30 𐄂	12.54 𐄂	13.81 𐄂	14.71 𐄂	14.53 𐄂	12.28 𐄂	11.33 𐄂	12.54 𐄂	14.85 𐄂	15.89 𐄂
140	5.31 𐄂	59.22 Z	19.26 𐄂	17.99 𐄂	17.03 𐄂	17.55 𐄂	18.98 𐄂	19.72 𐄂	19.26 𐄂	16.79 𐄂	15.96 𐄂	17.55 𐄂	20.11 𐄂	20.98 𐄂
145	4.66 𐄂	59.76 Z	23.94 𐄂	22.59 𐄂	21.81 𐄂	22.65 𐄂	24.18 𐄂	24.69 𐄂	23.94 𐄂	21.29 𐄂	20.65 𐄂	22.65 𐄂	25.39 𐄂	26.04 𐄂
150	4.27 𐄂	60.34 Z	28.59 𐄂	27.19 𐄂	26.66 𐄂	27.82 𐄂	29.40 𐄂	29.63 𐄂	28.59 𐄂	25.81 𐄂	25.41 𐄂	27.82 𐄂	0.67 𐄂	1.04 𐄂
155	4.12 𐄂	60.97 Z	3.20 𐄂	1.81 𐄂	1.57 𐄂	3.06 𐄂	4.62 𐄂	4.52 𐄂	3.20 𐄂	0.35 𐄂	0.24 𐄂	3.06 𐄂	5.95 𐄂	5.98 𐄂
160	4.18 𐄂	61.63 Z	7.78 𐄂	6.46 𐄂	6.57 𐄂	8.36 𐄂	9.83 𐄂	9.36 𐄂	7.78 𐄂	4.92 𐄂	5.16 𐄂	8.36 𐄂	11.21 𐄂	10.87 𐄂
165	4.43 𐄂	62.33 Z	12.34 𐄂	11.14 𐄂	11.65 𐄂	13.72 𐄂	15.03 𐄂	14.16 𐄂	12.34 𐄂	9.54 𐄂	10.17 𐄂	13.72 𐄂	16.44 𐄂	15.70 𐄂
170	4.84 𐄂	63.07 Z	16.88 𐄂	15.87 𐄂	16.81 𐄂	19.12 𐄂	20.20 𐄂	18.91 𐄂	16.88 𐄂	14.21 𐄂	15.28 𐄂	19.12 𐄂	21.63 𐄂	20.47 𐄂
175	5.40 𐄂	63.83 Z	21.43 𐄂	20.67 𐄂	22.06 𐄂	24.55 𐄂	25.33 𐄂	23.62 𐄂	21.43 𐄂	18.95 𐄂	20.48 𐄂	24.55 𐄂	26.76 𐄂	25.19 𐄂
180	6.09 𐄂	64.63 Z	25.99 𐄂	25.53 𐄂	27.40 𐄂	0.00 𐄂	0.41 𐄂	28.29 𐄂	25.99 𐄂	23.77 𐄂	25.78 𐄂	0.00 𐄂	1.84 𐄂	29.86 𐄂

10° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	6.90 ☞	65.45 Z	0.57 ☞	0.47 ☞	2.82 ☞	5.45 ☞	5.44 ☞	2.92 II	0.57 ☞	28.68 ☞	1.17 ☞	5.45 ☞	6.85 ☞	4.48 ☞
190	7.82 ☞	66.28 Z	5.17 ☞	5.50 ☞	8.30 ☞	10.88 ☞	10.42 ☞	7.53 II	5.17 ☞	3.69 ☞	6.66 ☞	10.88 ☞	11.79 ☞	9.07 ☞
195	8.82 ☞	67.13 Z	9.83 ☞	10.63 ☞	13.85 ☞	16.28 ☞	15.33 ☞	12.12 II	9.83 ☞	8.80 ☞	12.22 ☞	16.28 ☞	16.67 ☞	13.63 ☞
200	9.91 ☞	68.00 Z	14.54 ☞	15.85 ☞	19.44 ☞	21.64 ☞	20.19 ☞	16.69 II	14.54 ☞	14.03 ☞	17.84 ☞	21.64 ☞	21.48 ☞	18.17 ☞
205	11.08 ☞	68.87 Z	19.31 ☞	21.17 ☞	25.07 ☞	26.94 ☞	25.00 ☞	21.27 II	19.31 ☞	19.37 ☞	23.51 ☞	26.94 ☞	26.23 ☞	22.70 ☞
210	12.31 ☞	69.73 Z	24.17 ☞	26.58 ☞	0.70 ☞	2.18 ☞	29.76 ☞	25.86 II	24.17 ☞	24.82 ☞	29.21 ☞	2.18 ☞	0.93 ☞	27.24 ☞
215	13.59 ☞	70.59 Z	29.11 ☞	2.09 ☞	6.33 ☞	7.35 ☞	4.47 ☞	0.47 ☞	29.11 ☞	0.39 ☞	4.92 ☞	7.35 ☞	5.57 ☞	1.79 ☞
220	14.93 ☞	71.43 Z	4.15 ☞	7.67 ☞	11.93 ☞	12.45 ☞	9.15 ☞	5.11 ☞	4.15 ☞	6.06 ☞	10.62 ☞	12.45 ☞	10.17 ☞	6.36 ☞
225	16.32 ☞	72.25 Z	9.29 ☞	13.33 ☞	17.48 ☞	17.46 ☞	13.80 ☞	9.80 ☞	9.29 ☞	11.81 ☞	16.28 ☞	17.46 ☞	14.74 ☞	10.97 ☞
230	17.74 ☞	73.03 Z	14.55 ☞	19.03 ☞	22.98 ☞	22.41 ☞	18.43 ☞	14.54 ☞	14.55 ☞	17.65 ☞	21.90 ☞	22.41 ☞	19.28 ☞	15.63 ☞
235	19.20 ☞	73.77 Z	19.91 ☞	24.78 ☞	28.40 ☞	27.28 ☞	23.05 ☞	19.36 ☞	19.91 ☞	23.53 ☞	27.46 ☞	27.28 ☞	23.81 ☞	20.35 ☞
240	20.69 ☞	74.44 Z	25.39 ☞	0.53 ☞	3.75 ☞	2.09 ☞	27.67 ☞	24.25 ☞	25.39 ☞	29.44 ☞	2.94 ☞	2.09 ☞	28.34 ☞	25.13 ☞
245	22.21 ☞	75.05 Z	0.97 ☞	6.28 ☞	9.00 ☞	6.84 ☞	2.30 ☞	29.23 ☞	0.97 ☞	5.36 ☞	8.33 ☞	6.84 ☞	2.87 ☞	0.00 ☞
250	23.74 ☞	75.57 Z	6.64 ☞	12.01 ☞	14.17 ☞	11.53 ☞	6.96 ☞	4.32 ☞	6.64 ☞	11.27 ☞	13.63 ☞	11.53 ☞	7.43 ☞	4.95 ☞
255	25.29 ☞	75.99 Z	12.40 ☞	17.68 ☞	19.24 ☞	16.19 ☞	11.66 ☞	9.50 ☞	12.40 ☞	17.13 ☞	18.84 ☞	16.19 ☞	12.02 ☞	9.99 ☞
260	26.85 ☞	76.30 Z	18.23 ☞	23.29 ☞	24.22 ☞	20.81 ☞	16.40 ☞	14.80 ☞	18.23 ☞	22.93 ☞	23.96 ☞	20.81 ☞	16.64 ☞	15.14 ☞
265	28.43 ☞	76.50 Z	24.10 ☞	28.83 ☞	29.12 ☞	25.41 ☞	21.20 ☞	20.21 ☞	24.10 ☞	28.65 ☞	28.99 ☞	25.41 ☞	21.32 ☞	20.38 ☞
270	0.00 ☞	76.56 Z	0.00 ☞	4.27 ☞	3.93 ☞	0.00 ☞	26.07 ☞	25.73 ☞	0.00 ☞	4.27 ☞	3.93 ☞	0.00 ☞	26.07 ☞	25.73 ☞
275	1.57 ☞	76.50 Z	5.90 ☞	9.62 ☞	8.68 ☞	4.59 ☞	1.01 ☞	1.35 ☞	5.90 ☞	9.79 ☞	8.80 ☞	4.59 ☞	0.88 ☞	1.17 ☞
280	3.15 ☞	76.30 Z	11.77 ☞	14.86 ☞	13.36 ☞	9.19 ☞	6.04 ☞	7.07 ☞	11.77 ☞	15.20 ☞	13.60 ☞	9.19 ☞	5.78 ☞	6.71 ☞
285	4.71 ☞	75.99 Z	17.60 ☞	20.01 ☞	17.98 ☞	13.81 ☞	11.16 ☞	12.87 ☞	17.60 ☞	20.50 ☞	18.34 ☞	13.81 ☞	10.76 ☞	12.32 ☞
290	6.26 ☞	75.57 Z	23.36 ☞	25.05 ☞	22.57 ☞	18.47 ☞	16.37 ☞	18.73 ☞	23.36 ☞	25.68 ☞	23.04 ☞	18.47 ☞	15.83 ☞	17.99 ☞
295	7.79 ☞	75.05 Z	29.03 ☞	0.00 ☞	27.13 ☞	23.16 ☞	21.67 ☞	24.64 ☞	29.03 ☞	0.77 ☞	27.70 ☞	23.16 ☞	21.00 ☞	23.72 ☞
300	9.31 ☞	74.44 Z	4.61 ☞	4.87 ☞	1.66 ☞	27.91 ☞	27.06 ☞	0.56 ☞	4.61 ☞	5.75 ☞	2.33 ☞	27.91 ☞	26.25 ☞	29.47 ☞
305	10.80 ☞	73.77 Z	10.09 ☞	9.65 ☞	6.19 ☞	2.72 ☞	2.54 ☞	6.47 ☞	10.09 ☞	10.64 ☞	6.95 ☞	2.72 ☞	1.60 ☞	5.22 ☞
310	12.26 ☞	73.03 Z	15.45 ☞	14.37 ☞	10.72 ☞	7.59 ☞	8.10 ☞	12.35 ☞	15.45 ☞	15.46 ☞	11.57 ☞	7.59 ☞	7.02 ☞	10.97 ☞
315	13.68 ☞	72.25 Z	20.71 ☞	19.03 ☞	15.26 ☞	12.54 ☞	13.72 ☞	18.19 ☞	20.71 ☞	20.20 ☞	16.20 ☞	12.54 ☞	12.52 ☞	16.67 ☞
320	15.07 ☞	71.43 Z	25.85 ☞	23.64 ☞	19.83 ☞	17.55 ☞	19.38 ☞	23.94 ☞	25.85 ☞	24.89 ☞	20.85 ☞	17.55 ☞	18.07 ☞	22.33 ☞
325	16.41 ☞	70.59 Z	0.89 ☞	28.21 ☞	24.43 ☞	22.65 ☞	25.08 ☞	29.61 ☞	0.89 ☞	29.53 ☞	25.53 ☞	22.65 ☞	23.67 ☞	27.91 ☞
330	17.69 ☞	69.73 Z	5.83 ☞	2.76 ☞	29.07 ☞	27.82 ☞	0.79 ☞	5.18 ☞	5.83 ☞	4.14 ☞	0.24 ☞	27.82 ☞	29.30 ☞	3.42 ☞
335	18.92 ☞	68.87 Z	10.69 ☞	7.30 ☞	3.77 ☞	3.06 ☞	6.49 ☞	10.63 ☞	10.69 ☞	8.73 ☞	5.00 ☞	3.06 ☞	4.93 ☞	8.83 ☞
340	20.09 ☞	68.00 Z	15.46 ☞	11.83 ☞	8.52 ☞	8.36 ☞	12.16 ☞	15.97 ☞	15.46 ☞	13.31 ☞	9.81 ☞	8.36 ☞	10.56 ☞	14.15 ☞
345	21.18 ☞	67.13 Z	20.17 ☞	16.37 ☞	13.33 ☞	13.72 ☞	17.78 ☞	21.20 ☞	20.17 ☞	17.88 ☞	14.67 ☞	13.72 ☞	16.15 ☞	19.37 ☞
350	22.18 ☞	66.28 Z	24.83 ☞	20.93 ☞	18.21 ☞	19.12 ☞	23.34 ☞	26.31 ☞	24.83 ☞	22.47 ☞	19.58 ☞	19.12 ☞	21.70 ☞	24.50 ☞
355	23.10 ☞	65.45 Z	29.43 ☞	25.52 ☞	23.15 ☞	24.55 ☞	28.83 ☞	1.32 ☞	29.43 ☞	27.08 ☞	24.56 ☞	24.55 ☞	27.18 ☞	29.53 ☞
360	23.91 ☞	64.63 Z	4.01 ☞	0.14 ☞	28.16 ☞	0.00 ☞	4.22 ☞	6.23 ☞	4.01 ☞	1.71 ☞	29.59 ☞	0.00 ☞	2.60 ☞	4.47 ☞

15° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	3.96 𐄂	62.40 Z	6.08 𐄂	1.25 𐄂	28.32 𐄂	0.00 𐄂	5.40 𐄂	8.51 𐄂	6.08 𐄂	3.55 𐄂	0.42 𐄂	0.00 𐄂	2.85 𐄂	5.77 𐄂
5	5.35 𐄂	61.31 Z	10.61 𐄂	5.85 𐄂	3.31 𐄂	5.45 𐄂	10.76 𐄂	13.34 𐄂	10.61 𐄂	8.14 𐄂	5.42 𐄂	5.45 𐄂	8.28 𐄂	10.69 𐄂
10	6.62 𐄂	60.27 Z	15.11 𐄂	10.48 𐄂	8.37 𐄂	10.88 𐄂	16.02 𐄂	18.09 𐄂	15.11 𐄂	12.75 𐄂	10.46 𐄂	10.88 𐄂	13.62 𐄂	15.52 𐄂
15	7.76 𐄂	59.27 Z	19.61 𐄂	15.17 𐄂	13.47 𐄂	16.28 𐄂	21.16 𐄂	22.74 𐄂	19.61 𐄂	17.40 𐄂	15.54 𐄂	16.28 𐄂	18.86 𐄂	20.29 𐄂
20	8.75 𐄂	58.32 Z	24.10 𐄂	19.90 𐄂	18.61 𐄂	21.64 𐄂	26.19 𐄂	27.34 𐄂	24.10 𐄂	22.08 𐄂	20.64 𐄂	21.64 𐄂	24.00 𐄂	25.00 𐄂
25	9.57 𐄂	57.43 Z	28.61 𐄂	24.69 𐄂	23.79 𐄂	26.94 𐄂	1.12 𐄂	1.87 𐄂	28.61 𐄂	26.80 𐄂	25.75 𐄂	26.94 𐄂	29.06 𐄂	29.66 𐄂
30	10.17 𐄂	56.59 Z	3.14 𐄂	29.53 𐄂	28.99 𐄂	2.18 𐄂	5.95 𐄂	6.36 𐄂	3.14 𐄂	1.55 𐄂	0.86 𐄂	2.18 𐄂	4.03 𐄂	4.28 𐄂
35	10.52 𐄂	55.81 Z	7.69 𐄂	4.41 𐄂	4.20 𐄂	7.35 𐄂	10.71 𐄂	10.83 𐄂	7.69 𐄂	6.34 𐄂	5.97 𐄂	7.35 𐄂	8.92 𐄂	8.88 𐄂
40	10.57 𐄂	55.09 Z	12.27 𐄂	9.34 𐄂	9.40 𐄂	12.45 𐄂	15.38 𐄂	15.27 𐄂	12.27 𐄂	11.15 𐄂	11.05 𐄂	12.45 𐄂	13.74 𐄂	13.47 𐄂
45	10.23 𐄂	54.43 Z	16.89 𐄂	14.32 𐄂	14.60 𐄂	17.46 𐄂	20.00 𐄂	19.71 𐄂	16.89 𐄂	15.99 𐄂	16.11 𐄂	17.46 𐄂	18.51 𐄂	18.06 𐄂
50	9.43 𐄂	53.84 Z	21.55 𐄂	19.32 𐄂	19.76 𐄂	22.41 𐄂	24.56 𐄂	24.14 𐄂	21.55 𐄂	20.85 𐄂	21.13 𐄂	22.41 𐄂	23.23 𐄂	22.65 𐄂
55	8.04 𐄂	53.31 Z	26.24 𐄂	24.35 𐄂	24.89 𐄂	27.28 𐄂	29.08 𐄂	28.59 𐄂	26.24 𐄂	25.71 𐄂	26.11 𐄂	27.28 𐄂	27.91 𐄂	27.27 𐄂
60	5.93 𐄂	52.85 Z	0.98 𐄂	29.39 𐄂	29.98 𐄂	2.09 𐄂	3.58 𐄂	3.06 𐄂	0.98 𐄂	0.58 𐄂	1.03 𐄂	2.09 𐄂	2.57 𐄂	1.91 𐄂
65	2.91 𐄂	52.46 Z	5.75 𐄂	4.44 𐄂	5.02 𐄂	6.84 𐄂	8.06 𐄂	7.56 𐄂	5.75 𐄂	5.44 𐄂	5.90 𐄂	6.84 𐄂	7.21 𐄂	6.58 𐄂
70	28.79 𐄂	52.14 Z	10.55 𐄂	9.48 𐄂	10.00 𐄂	11.53 𐄂	12.54 𐄂	12.08 𐄂	10.55 𐄂	10.29 𐄂	10.71 𐄂	11.53 𐄂	11.85 𐄂	11.29 𐄂
75	23.39 𐄂	51.89 Z	15.39 𐄂	14.50 𐄂	14.93 𐄂	16.19 𐄂	17.02 𐄂	16.65 𐄂	15.39 𐄂	15.12 𐄂	15.46 𐄂	16.19 𐄂	16.50 𐄂	16.05 𐄂
80	16.64 𐄂	51.71 Z	20.25 𐄂	19.51 𐄂	19.81 𐄂	20.81 𐄂	21.51 𐄂	21.25 𐄂	20.25 𐄂	19.92 𐄂	20.16 𐄂	20.81 𐄂	21.17 𐄂	20.85 𐄂
85	8.69 𐄂	51.60 Z	25.12 𐄂	24.48 𐄂	24.63 𐄂	25.41 𐄂	26.04 𐄂	25.90 𐄂	25.12 𐄂	24.68 𐄂	24.81 𐄂	25.41 𐄂	25.86 𐄂	25.69 𐄂
90	0.00 𐄂	51.56 Z	0.00 𐄂	29.41 𐄂	29.41 𐄂	0.00 𐄂	0.59 𐄂	0.59 𐄂	0.00 𐄂	29.41 𐄂	29.41 𐄂	0.00 𐄂	0.59 𐄂	0.59 𐄂
95	21.31 𐄂	51.60 Z	4.88 𐄂	4.31 𐄂	4.14 𐄂	4.59 𐄂	5.19 𐄂	5.32 𐄂	4.88 𐄂	4.10 𐄂	3.96 𐄂	4.59 𐄂	5.37 𐄂	5.52 𐄂
100	13.36 𐄂	51.71 Z	9.75 𐄂	9.15 𐄂	8.83 𐄂	9.19 𐄂	9.84 𐄂	10.08 𐄂	9.75 𐄂	8.75 𐄂	8.49 𐄂	9.19 𐄂	10.19 𐄂	10.49 𐄂
105	6.61 𐄂	51.89 Z	14.61 𐄂	13.95 𐄂	13.50 𐄂	13.81 𐄂	14.54 𐄂	14.88 𐄂	14.61 𐄂	13.35 𐄂	12.98 𐄂	13.81 𐄂	15.07 𐄂	15.50 𐄂
110	1.21 𐄂	52.14 Z	19.45 𐄂	18.71 𐄂	18.15 𐄂	18.47 𐄂	19.29 𐄂	19.71 𐄂	19.45 𐄂	17.92 𐄂	17.46 𐄂	18.47 𐄂	20.00 𐄂	20.52 𐄂
115	27.09 𐄂	52.46 Z	24.25 𐄂	23.42 𐄂	22.79 𐄂	23.16 𐄂	24.10 𐄂	24.56 𐄂	24.25 𐄂	22.44 𐄂	21.94 𐄂	23.16 𐄂	24.98 𐄂	25.56 𐄂
120	24.07 𐄂	52.85 Z	29.02 𐄂	28.09 𐄂	27.43 𐄂	27.91 𐄂	28.97 𐄂	29.42 𐄂	29.02 𐄂	26.94 𐄂	26.42 𐄂	27.91 𐄂	0.02 𐄂	0.61 𐄂
125	21.96 𐄂	53.31 Z	3.76 𐄂	2.73 𐄂	2.09 𐄂	2.72 𐄂	3.89 𐄂	4.29 𐄂	3.76 𐄂	1.41 𐄂	0.92 𐄂	2.72 𐄂	5.11 𐄂	5.65 𐄂
130	20.57 𐄂	53.84 Z	8.45 𐄂	7.35 𐄂	6.77 𐄂	7.59 𐄂	8.87 𐄂	9.15 𐄂	8.45 𐄂	5.86 𐄂	5.44 𐄂	7.59 𐄂	10.24 𐄂	10.68 𐄂
135	19.77 𐄂	54.43 Z	13.11 𐄂	11.94 𐄂	11.49 𐄂	12.54 𐄂	13.89 𐄂	14.01 𐄂	13.11 𐄂	10.29 𐄂	10.00 𐄂	12.54 𐄂	15.40 𐄂	15.68 𐄂
140	19.43 𐄂	55.09 Z	17.73 𐄂	16.53 𐄂	16.26 𐄂	17.55 𐄂	18.95 𐄂	18.85 𐄂	17.73 𐄂	14.73 𐄂	14.62 𐄂	17.55 𐄂	20.60 𐄂	20.66 𐄂
145	19.48 𐄂	55.81 Z	22.31 𐄂	21.12 𐄂	21.08 𐄂	22.65 𐄂	24.03 𐄂	23.66 𐄂	22.31 𐄂	19.17 𐄂	19.29 𐄂	22.65 𐄂	25.80 𐄂	25.59 𐄂
150	19.83 𐄂	56.59 Z	26.86 𐄂	25.72 𐄂	25.97 𐄂	27.82 𐄂	29.14 𐄂	28.45 𐄂	26.86 𐄂	23.64 𐄂	24.05 𐄂	27.82 𐄂	1.01 𐄂	0.47 𐄂
155	20.43 𐄂	57.43 Z	1.39 𐄂	0.34 𐄂	0.94 𐄂	3.06 𐄂	4.25 𐄂	3.20 𐄂	1.39 𐄂	28.13 𐄂	28.88 𐄂	3.06 𐄂	6.21 𐄂	5.31 𐄂
160	21.25 𐄂	58.32 Z	5.90 𐄂	5.00 𐄂	6.00 𐄂	8.36 𐄂	9.36 𐄂	7.92 𐄂	5.90 𐄂	2.66 𐄂	3.81 𐄂	8.36 𐄂	11.39 𐄂	10.10 𐄂
165	22.24 𐄂	59.27 Z	10.39 𐄂	9.71 𐄂	11.14 𐄂	13.72 𐄂	14.46 𐄂	12.60 𐄂	10.39 𐄂	7.26 𐄂	8.84 𐄂	13.72 𐄂	16.53 𐄂	14.83 𐄂
170	23.38 𐄂	60.27 Z	14.89 𐄂	14.48 𐄂	16.38 𐄂	19.12 𐄂	19.54 𐄂	17.25 𐄂	14.89 𐄂	11.91 𐄂	13.98 𐄂	19.12 𐄂	21.63 𐄂	19.52 𐄂
175	24.65 𐄂	61.31 Z	19.39 𐄂	19.31 𐄂	21.72 𐄂	24.55 𐄂	24.58 𐄂	21.86 𐄂	19.39 𐄂	16.66 𐄂	19.24 𐄂	24.55 𐄂	26.69 𐄂	24.15 𐄂
180	26.04 𐄂	62.40 Z	23.92 𐄂	24.23 𐄂	27.15 𐄂	0.00 𐄂	29.58 𐄂	26.45 𐄂	23.92 𐄂	21.49 𐄂	24.60 𐄂	0.00 𐄂	1.68 𐄂	28.75 𐄂

15° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	27.51 ㄴ	63.53 Z	28.47 ㄱ	29.24 ㄷ	2.66 ㄹ	5.45 ㄱ	4.54 ㄷ	1.01 ㄴ	28.47 ㄴ	26.43 ㄷ	0.07 ㄴ	5.45 ㄴ	6.62 ㄴ	3.31 ㄱ
190	29.07 ㄴ	64.70 Z	3.07 ㄷ	4.35 ㄴ	8.25 ㄹ	10.88 ㄱ	9.45 ㄷ	5.56 ㄴ	3.07 ㄷ	1.49 ㄷ	5.65 ㄴ	10.88 ㄴ	11.49 ㄴ	7.83 ㄱ
195	0.71 ㄱ	65.90 Z	7.72 ㄷ	9.57 ㄴ	13.90 ㄹ	16.28 ㄱ	14.31 ㄷ	10.09 ㄴ	7.72 ㄷ	6.68 ㄷ	11.32 ㄴ	16.28 ㄴ	16.29 ㄴ	12.34 ㄱ
200	2.41 ㄱ	67.14 Z	12.44 ㄷ	14.90 ㄴ	19.60 ㄹ	21.64 ㄱ	19.12 ㄷ	14.63 ㄴ	12.44 ㄷ	12.00 ㄷ	17.06 ㄴ	21.64 ㄴ	21.04 ㄴ	16.83 ㄱ
205	4.17 ㄱ	68.39 Z	17.24 ㄷ	20.34 ㄴ	25.33 ㄹ	26.94 ㄱ	23.89 ㄷ	19.17 ㄴ	17.24 ㄷ	17.46 ㄷ	22.87 ㄴ	26.94 ㄴ	25.72 ㄴ	21.32 ㄱ
210	5.98 ㄱ	69.67 Z	22.13 ㄷ	25.89 ㄴ	1.07 ㄱ	2.18 ㄷ	28.61 ㄷ	23.74 ㄴ	22.13 ㄷ	23.06 ㄷ	28.71 ㄴ	2.18 ㄴ	0.36 ㄱ	25.82 ㄱ
215	7.83 ㄱ	70.96 Z	27.13 ㄷ	1.55 ㄹ	6.80 ㄱ	7.35 ㄷ	3.30 ㄴ	28.34 ㄴ	27.13 ㄷ	28.81 ㄷ	4.57 ㄴ	7.35 ㄴ	4.94 ㄱ	0.34 ㄷ
220	9.73 ㄱ	72.25 Z	2.24 ㄴ	7.29 ㄹ	12.49 ㄱ	12.45 ㄷ	7.96 ㄴ	2.99 ㄷ	2.24 ㄷ	4.67 ㄴ	10.42 ㄴ	12.45 ㄴ	9.49 ㄱ	4.90 ㄷ
225	11.66 ㄱ	73.54 Z	7.48 ㄴ	13.12 ㄹ	18.13 ㄱ	17.46 ㄷ	12.59 ㄴ	7.69 ㄷ	7.48 ㄷ	10.66 ㄴ	16.24 ㄴ	17.46 ㄴ	14.01 ㄱ	9.49 ㄷ
230	13.62 ㄱ	74.82 Z	12.85 ㄴ	19.01 ㄹ	23.71 ㄱ	22.41 ㄷ	17.22 ㄴ	12.46 ㄷ	12.85 ㄷ	16.74 ㄴ	22.01 ㄴ	22.41 ㄴ	18.51 ㄱ	14.14 ㄷ
235	15.61 ㄱ	76.06 Z	18.35 ㄴ	24.93 ㄹ	29.20 ㄱ	27.28 ㄷ	21.84 ㄴ	17.32 ㄷ	18.35 ㄷ	22.89 ㄴ	27.71 ㄴ	27.28 ㄴ	23.00 ㄱ	18.85 ㄷ
240	17.63 ㄱ	77.26 Z	23.99 ㄴ	0.86 ㄱ	4.60 ㄷ	2.09 ㄴ	26.47 ㄴ	22.27 ㄷ	23.99 ㄷ	29.08 ㄴ	3.33 ㄴ	2.09 ㄱ	27.49 ㄱ	23.65 ㄷ
245	19.66 ㄱ	78.39 Z	29.76 ㄴ	6.79 ㄱ	9.90 ㄷ	6.84 ㄴ	1.12 ㄷ	27.33 ㄷ	29.76 ㄷ	5.28 ㄴ	8.85 ㄴ	6.84 ㄱ	1.99 ㄷ	28.53 ㄷ
250	21.71 ㄱ	79.41 Z	5.65 ㄹ	12.67 ㄱ	15.10 ㄷ	11.53 ㄴ	5.80 ㄷ	2.51 ㄷ	5.65 ㄴ	11.46 ㄴ	14.27 ㄴ	11.53 ㄱ	6.51 ㄷ	3.51 ㄴ
255	23.77 ㄱ	80.29 Z	11.64 ㄹ	18.50 ㄱ	20.20 ㄷ	16.19 ㄴ	10.53 ㄷ	7.82 ㄷ	11.64 ㄴ	17.60 ㄴ	19.58 ㄴ	16.19 ㄱ	11.08 ㄷ	8.60 ㄴ
260	25.84 ㄱ	80.97 Z	17.71 ㄹ	24.25 ㄱ	25.19 ㄷ	20.81 ㄴ	15.31 ㄷ	13.26 ㄷ	17.71 ㄴ	23.65 ㄴ	24.79 ㄴ	20.81 ㄱ	15.68 ㄷ	13.80 ㄴ
265	27.92 ㄱ	81.41 Z	23.84 ㄹ	29.90 ㄱ	0.10 ㄴ	25.41 ㄴ	20.16 ㄷ	18.84 ㄷ	23.84 ㄴ	29.61 ㄴ	29.90 ㄴ	25.41 ㄱ	20.35 ㄷ	19.12 ㄴ
270	0.00 ㄷ	81.56 Z	0.00 ㄱ	5.45 ㄷ	4.91 ㄴ	0.00 ㄷ	25.09 ㄷ	24.55 ㄷ	0.00 ㄴ	5.45 ㄴ	4.91 ㄱ	0.00 ㄷ	25.09 ㄷ	24.55 ㄴ
275	2.08 ㄷ	81.41 Z	6.16 ㄱ	10.88 ㄷ	9.65 ㄴ	4.59 ㄷ	0.10 ㄷ	0.39 ㄴ	6.16 ㄴ	11.16 ㄴ	9.84 ㄱ	4.59 ㄷ	29.90 ㄷ	0.10 ㄹ
280	4.16 ㄷ	80.97 Z	12.29 ㄱ	16.20 ㄷ	14.32 ㄴ	9.19 ㄷ	5.21 ㄷ	6.35 ㄴ	12.29 ㄴ	16.74 ㄴ	14.69 ㄱ	9.19 ㄷ	4.81 ㄴ	5.75 ㄹ
285	6.23 ㄷ	80.29 Z	18.36 ㄱ	21.40 ㄷ	18.92 ㄴ	13.81 ㄷ	10.42 ㄷ	12.40 ㄴ	18.36 ㄴ	22.18 ㄴ	19.47 ㄱ	13.81 ㄷ	9.80 ㄴ	11.50 ㄹ
290	8.29 ㄷ	79.41 Z	24.35 ㄱ	26.49 ㄷ	23.49 ㄴ	18.47 ㄷ	15.73 ㄷ	18.54 ㄴ	24.35 ㄴ	27.49 ㄴ	24.20 ㄱ	18.47 ㄷ	14.90 ㄴ	17.33 ㄹ
295	10.34 ㄷ	78.39 Z	0.24 ㄷ	1.47 ㄴ	28.01 ㄴ	23.16 ㄷ	21.15 ㄷ	24.72 ㄴ	0.24 ㄴ	2.67 ㄱ	28.88 ㄱ	23.16 ㄷ	20.10 ㄴ	23.21 ㄹ
300	12.37 ㄷ	77.26 Z	6.01 ㄷ	6.35 ㄴ	2.51 ㄷ	27.91 ㄷ	26.67 ㄷ	0.92 ㄴ	6.01 ㄴ	7.73 ㄱ	3.53 ㄷ	27.91 ㄷ	25.40 ㄴ	29.14 ㄹ
305	14.39 ㄷ	76.06 Z	11.65 ㄷ	11.15 ㄴ	7.00 ㄷ	2.72 ㄷ	2.29 ㄴ	7.11 ㄴ	11.65 ㄴ	12.68 ㄱ	8.16 ㄷ	2.72 ㄴ	0.80 ㄹ	5.07 ㄱ
310	16.38 ㄷ	74.82 Z	17.15 ㄷ	15.86 ㄴ	11.49 ㄷ	7.59 ㄷ	7.99 ㄴ	13.26 ㄴ	17.15 ㄴ	17.54 ㄱ	12.78 ㄷ	7.59 ㄴ	6.29 ㄹ	10.99 ㄱ
315	18.34 ㄷ	73.54 Z	22.52 ㄷ	20.51 ㄴ	15.99 ㄷ	12.54 ㄷ	13.76 ㄴ	19.34 ㄴ	22.52 ㄴ	22.31 ㄱ	17.41 ㄷ	12.54 ㄴ	11.87 ㄹ	16.88 ㄱ
320	20.27 ㄷ	72.25 Z	27.76 ㄷ	25.10 ㄴ	20.51 ㄷ	17.55 ㄷ	19.58 ㄴ	25.33 ㄴ	27.76 ㄴ	27.01 ㄱ	22.04 ㄷ	17.55 ㄴ	17.51 ㄹ	22.71 ㄱ
325	22.17 ㄷ	70.96 Z	2.87 ㄴ	29.66 ㄴ	25.06 ㄷ	22.65 ㄷ	25.43 ㄴ	1.19 ㄴ	2.87 ㄱ	1.66 ㄷ	26.70 ㄷ	22.65 ㄴ	23.20 ㄹ	28.45 ㄱ
330	24.02 ㄷ	69.67 Z	7.87 ㄴ	4.18 ㄷ	29.64 ㄷ	27.82 ㄷ	1.29 ㄴ	6.94 ㄴ	7.87 ㄱ	6.26 ㄷ	1.39 ㄴ	27.82 ㄴ	28.93 ㄹ	4.11 ㄷ
335	25.83 ㄷ	68.39 Z	12.76 ㄴ	8.68 ㄷ	4.28 ㄷ	3.06 ㄴ	7.13 ㄴ	12.54 ㄴ	12.76 ㄱ	10.83 ㄷ	6.11 ㄴ	3.06 ㄹ	4.67 ㄱ	9.66 ㄷ
340	27.59 ㄷ	67.14 Z	17.56 ㄴ	13.17 ㄷ	8.96 ㄷ	8.36 ㄴ	12.94 ㄴ	18.00 ㄴ	17.56 ㄱ	15.37 ㄷ	10.88 ㄴ	8.36 ㄹ	10.40 ㄱ	15.10 ㄷ
345	29.29 ㄷ	65.90 Z	22.28 ㄴ	17.66 ㄷ	13.71 ㄷ	13.72 ㄴ	18.68 ㄴ	23.32 ㄴ	22.28 ㄱ	19.91 ㄷ	15.69 ㄴ	13.72 ㄹ	16.10 ㄱ	20.43 ㄷ
350	0.93 ㄴ	64.70 Z	26.93 ㄴ	22.17 ㄷ	18.51 ㄷ	19.12 ㄴ	24.35 ㄴ	28.51 ㄴ	26.93 ㄱ	24.44 ㄷ	20.55 ㄴ	19.12 ㄹ	21.75 ㄱ	25.65 ㄷ
355	2.49 ㄴ	63.53 Z	1.53 ㄷ	26.69 ㄷ	23.38 ㄷ	24.55 ㄴ	29.93 ㄴ	3.57 ㄱ	1.53 ㄷ	28.99 ㄷ	25.46 ㄴ	24.55 ㄹ	27.34 ㄱ	0.76 ㄴ
360	3.96 ㄴ	62.40 Z	6.08 ㄷ	1.25 ㄷ	28.32 ㄷ	0.00 ㄴ	5.40 ㄴ	8.51 ㄱ	6.08 ㄷ	3.55 ㄴ	0.42 ㄹ	0.00 ㄱ	2.85 ㄷ	5.77 ㄴ

20° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	12.46 ☾	59.56 Z	8.24 ☾	2.38 ♀	28.47 ♀	0.00 ♁	6.73 ♀	10.99 ♀	8.24 ☾	5.38 ☾	1.22 ♀	0.00 ♀	3.15 ♂	7.18 II
5	14.52 ☾	58.24 Z	12.71 ☾	6.90 ♀	3.38 ♀	5.45 ♁	12.15 ♀	15.82 ♀	12.71 ☾	9.88 ☾	6.15 ♀	5.45 ♀	8.67 ♂	12.15 II
10	16.53 ☾	56.98 Z	17.16 ☾	11.45 ♀	8.35 ♀	10.88 ♁	17.45 ♀	20.54 ♀	17.16 ☾	14.39 ☾	11.10 ♀	10.88 ♀	14.09 ♂	17.03 II
15	18.47 ☾	55.79 Z	21.59 ☾	16.05 ♀	13.37 ♀	16.28 ♁	22.62 ♀	25.17 ♀	21.59 ☾	18.93 ☾	16.08 ♀	16.28 ♀	19.41 ♂	21.82 II
20	20.34 ☾	54.65 Z	26.01 ☾	20.68 ♀	18.43 ♀	21.64 ♁	27.67 ♀	29.72 ♀	26.01 ☾	23.49 ☾	21.08 ♀	21.64 ♀	24.63 ♂	26.54 II
25	22.12 ☾	53.58 Z	0.44 ♀	25.37 ♀	23.53 ♀	26.94 ♁	2.60 ♀	4.20 ☾	0.44 ☾	28.08 ☾	26.08 ♀	26.94 ♀	29.74 ♂	1.21 ☾
30	23.79 ☾	52.57 Z	4.87 ♀	0.10 ♀	28.65 ♀	2.18 ♀	7.43 ♀	8.63 ☾	4.87 ☾	2.69 ♀	1.09 ♀	2.18 ♂	4.77 II	5.83 ☾
35	25.33 ☾	51.64 Z	9.32 ♀	4.87 ♀	3.78 ♁	7.35 ♀	12.17 ♀	13.02 ☾	9.32 ☾	7.33 ♀	6.09 ♀	7.35 ♂	9.71 II	10.42 ☾
40	26.70 ☾	50.78 Z	13.80 ♀	9.68 ♀	8.91 ♁	12.45 ♀	16.82 ♀	17.39 ☾	13.80 ☾	11.99 ♀	11.07 ♀	12.45 ♂	14.57 II	14.99 ☾
45	27.87 ☾	49.99 Z	18.30 ♀	14.53 ♀	14.03 ♁	17.46 ♀	21.41 ♀	21.74 ☾	18.30 ☾	16.67 ♀	16.02 ♀	17.46 ♂	19.37 II	19.55 ☾
50	28.75 ☾	49.28 Z	22.83 ♀	19.40 ♀	19.14 ♁	22.41 ♀	25.93 ♀	26.08 ☾	22.83 ☾	21.35 ♀	20.93 ♀	22.41 ♂	24.12 II	24.11 ☾
55	29.24 ☾	48.65 Z	27.38 ♀	24.30 ♀	24.21 ♁	27.28 ♀	0.42 ☾	0.42 ☾	27.38 ☾	26.04 ♀	25.80 ♀	27.28 ♂	28.82 II	28.68 ☾
60	29.18 ☾	48.10 Z	1.97 ♀	29.22 ♀	29.24 ♁	2.09 ♀	4.87 ☾	4.78 ☾	1.97 ♀	0.73 ♀	0.62 ♂	2.09 II	3.49 ☾	3.27 ♀
65	28.27 ☾	47.63 Z	6.59 ♀	4.13 ♁	4.23 ♀	6.84 ♀	9.30 ☾	9.16 ☾	6.59 ♀	5.42 ♀	5.39 ♂	6.84 II	8.15 ☾	7.88 ♀
70	26.00 ☾	47.25 Z	11.24 ♀	9.05 ♁	9.18 ♀	11.53 ♀	13.72 ☾	13.56 ☾	11.24 ♀	10.09 ♀	10.11 ♂	11.53 II	12.80 ☾	12.53 ♀
75	21.39 ☾	46.95 Z	15.91 ♀	13.95 ♁	14.08 ♀	16.19 ♀	18.14 ☾	17.99 ☾	15.91 ♀	14.74 ♀	14.78 ♂	16.19 II	17.45 ☾	17.21 ♀
80	12.52 ☾	46.73 Z	20.59 ♀	18.84 ♁	18.92 ♀	20.81 ♀	22.58 ☾	22.45 ☾	20.59 ♀	19.36 ♀	19.39 ♂	20.81 II	22.11 ☾	21.93 ♀
85	25.98 ☾	46.60 Z	25.29 ♀	23.70 ♁	23.72 ♀	25.41 ♀	27.03 ☾	26.94 ☾	25.29 ♀	23.96 ♀	23.96 ♂	25.41 II	26.80 ☾	26.68 ♀
90	0.00 ☾	46.56 Z	0.00 ♁	28.52 ♁	28.48 ♀	0.00 ☾	1.52 ☾	1.48 ♀	0.00 ♀	28.52 ♀	28.48 ♂	0.00 ☾	1.52 ♀	1.48 ♀
95	4.02 ♀	46.60 Z	4.71 ♁	3.32 ♀	3.20 ♀	4.59 ☾	6.04 ☾	6.04 ♀	4.71 ♀	3.06 ♂	2.97 II	4.59 ☾	6.28 ♀	6.30 ♀
100	17.48 ♀	46.73 Z	9.41 ♁	8.07 ♀	7.89 ♀	9.19 ☾	10.61 ☾	10.64 ♀	9.41 ♀	7.55 ♂	7.42 II	9.19 ☾	11.08 ♀	11.16 ♀
105	8.61 ♀	46.95 Z	14.09 ♁	12.79 ♀	12.55 ♀	13.81 ☾	15.22 ☾	15.26 ♀	14.09 ♀	12.01 ♂	11.86 II	13.81 ☾	15.92 ♀	16.05 ♀
110	4.00 ♀	47.25 Z	18.76 ♁	17.47 ♀	17.20 ♀	18.47 ☾	19.89 ☾	19.91 ♀	18.76 ♀	16.44 ♂	16.28 II	18.47 ☾	20.82 ♀	20.95 ♀
115	1.73 ♀	47.63 Z	23.41 ♁	22.12 ♀	21.85 ♀	23.16 ☾	24.61 ☾	24.58 ♀	23.41 ♀	20.84 ♂	20.70 II	23.16 ☾	25.77 ♀	25.87 ♀
120	0.82 ♀	48.10 Z	28.03 ♁	26.73 ♀	26.51 ♀	27.91 ☾	29.38 ☾	29.27 ♀	28.03 ♀	25.22 ♂	25.13 II	27.91 ☾	0.76 ♀	0.78 ♁
125	0.76 ♀	48.65 Z	2.62 ♀	1.32 ♀	1.18 ☾	2.72 ☾	4.20 ♀	3.96 ♀	2.62 ♂	29.58 ♂	29.58 II	2.72 ♀	5.79 ♀	5.70 ♁
130	1.25 ♀	49.28 Z	7.17 ♀	5.89 ♀	5.88 ☾	7.59 ☾	9.07 ♀	8.65 ♀	7.17 ♂	3.92 II	4.07 ☾	7.59 ♀	10.86 ♀	10.60 ♁
135	2.13 ♀	49.99 Z	11.70 ♀	10.45 ♀	10.63 ☾	12.54 ☾	13.98 ♀	13.33 ♀	11.70 ♂	8.26 II	8.59 ☾	12.54 ♀	15.97 ♀	15.47 ♁
140	3.30 ♀	50.78 Z	16.20 ♀	15.01 ♀	15.43 ☾	17.55 ☾	18.93 ♀	18.01 ♀	16.20 ♂	12.61 II	13.18 ☾	17.55 ♀	21.09 ♀	20.32 ♁
145	4.67 ♀	51.64 Z	20.68 ♀	19.58 ♀	20.29 ☾	22.65 ☾	23.91 ♀	22.67 ♀	20.68 ♂	16.98 II	17.83 ☾	22.65 ♀	26.22 ♀	25.13 ♁
150	6.21 ♀	52.57 Z	25.13 ♀	24.17 ♀	25.23 ☾	27.82 ☾	28.91 ♀	27.31 ♀	25.13 ♂	21.37 II	22.57 ☾	27.82 ♀	1.35 ♁	29.90 ♁
155	7.88 ♀	53.58 Z	29.56 ♀	28.79 ♀	0.26 ☾	3.06 ♀	3.92 ♀	1.92 ♂	29.56 ♂	25.80 II	27.40 ☾	3.06 ♀	6.47 ♁	4.63 ♀
160	9.66 ♀	54.65 Z	3.99 ♀	3.46 ☾	5.37 ☾	8.36 ♀	8.92 ♀	6.51 ♂	3.99 II	0.28 ☾	2.33 ♀	8.36 ♀	11.57 ♁	9.32 ♀
165	11.53 ♀	55.79 Z	8.41 ♀	8.18 ☾	10.59 ☾	13.72 ♀	13.92 ♀	11.07 ♂	8.41 II	4.83 ☾	7.38 ♀	13.72 ♀	16.63 ♁	13.95 ♀
170	13.47 ♀	56.98 Z	12.84 ♀	12.97 ☾	15.91 ☾	19.12 ♀	18.90 ♀	15.61 ♂	12.84 II	9.46 ☾	12.55 ♀	19.12 ♀	21.65 ♁	18.55 ♀
175	15.48 ♀	58.24 Z	17.29 ♀	17.85 ☾	21.33 ☾	24.55 ♀	23.85 ♀	20.12 ♂	17.29 II	14.18 ☾	17.85 ♀	24.55 ♀	26.62 ♁	23.10 ♀
180	17.54 ♀	59.56 Z	21.76 ♀	22.82 ☾	26.85 ☾	0.00 ♀	28.78 ♀	24.62 ♂	21.76 II	19.01 ☾	23.27 ♀	0.00 ♁	1.53 ♀	27.62 ♀

20° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	19.66 ㄴ	60.93 Z	26.28 ㄶ	27.89 ㄷ	2.47 ㄸ	5.45 ㄹ	3.66 ㄺ	29.10 ㄻ	26.28 ㄼ	23.97 ㄽ	28.82 ㄾ	5.45 ㄿ	6.39 ㅀ	2.11 ㄺ
190	21.82 ㄴ	62.35 Z	0.85 ㄷ	3.08 ㄸ	8.17 ㄹ	10.88 ㄺ	8.50 ㄻ	3.57 ㄼ	0.85 ㄽ	29.06 ㄾ	4.49 ㄿ	10.88 ㅀ	11.18 ㅁ	6.57 ㄺ
195	24.02 ㄴ	63.81 Z	5.48 ㄷ	8.40 ㄸ	13.94 ㄹ	16.28 ㄺ	13.30 ㄻ	8.04 ㄼ	5.48 ㄽ	4.31 ㄾ	10.27 ㄿ	16.28 ㅀ	15.92 ㅁ	11.02 ㄺ
200	26.26 ㄴ	65.32 Z	10.20 ㄷ	13.85 ㄸ	19.76 ㄹ	21.64 ㄺ	18.06 ㄻ	12.53 ㄼ	10.20 ㄽ	9.72 ㄾ	16.15 ㄿ	21.64 ㅀ	20.59 ㅁ	15.46 ㄺ
205	28.53 ㄴ	66.87 Z	15.01 ㄷ	19.42 ㄸ	25.60 ㄹ	26.94 ㄺ	22.78 ㄻ	17.03 ㄼ	15.01 ㄽ	15.30 ㄾ	22.10 ㄿ	26.94 ㅀ	25.21 ㅁ	19.90 ㄺ
210	0.83 ㄶ	68.46 Z	19.93 ㄷ	25.13 ㄸ	1.46 ㄹ	2.18 ㄺ	27.47 ㄻ	21.56 ㄼ	19.93 ㄽ	21.05 ㄾ	28.10 ㄿ	2.18 ㅀ	29.78 ㅁ	24.36 ㄺ
215	3.16 ㄶ	70.08 Z	24.97 ㄷ	0.95 ㄸ	7.30 ㄹ	7.35 ㄺ	2.12 ㄻ	26.14 ㄼ	24.97 ㄽ	26.98 ㄾ	4.13 ㄿ	7.35 ㅀ	4.31 ㅁ	28.84 ㄺ
220	5.52 ㄶ	71.73 Z	0.15 ㄸ	6.88 ㄹ	13.09 ㄺ	12.45 ㄻ	6.75 ㄼ	0.77 ㄽ	0.15 ㄾ	3.07 ㄿ	10.15 ㅀ	12.45 ㅁ	8.80 ㄺ	3.36 ㄷ
225	7.90 ㄶ	73.41 Z	5.48 ㄸ	12.90 ㄹ	18.83 ㄺ	17.46 ㄻ	11.37 ㄼ	5.47 ㄽ	5.48 ㄾ	9.30 ㄿ	16.15 ㅀ	17.46 ㅁ	13.27 ㄺ	7.93 ㄷ
230	10.30 ㄶ	75.10 Z	10.96 ㄸ	18.99 ㄹ	24.49 ㄺ	22.41 ㄻ	15.98 ㄼ	10.26 ㄽ	10.96 ㄾ	15.66 ㄿ	22.09 ㅀ	22.41 ㅁ	17.71 ㄺ	12.56 ㄷ
235	12.73 ㄶ	76.80 Z	16.61 ㄸ	25.12 ㄹ	0.06 ㄺ	27.28 ㄻ	20.59 ㄼ	15.14 ㄽ	16.61 ㄾ	22.11 ㄿ	27.96 ㅀ	27.28 ㅁ	22.16 ㄺ	17.27 ㄷ
240	15.16 ㄶ	78.51 Z	22.42 ㄸ	1.25 ㄹ	5.52 ㄺ	2.09 ㄻ	25.23 ㄼ	20.14 ㄽ	22.42 ㄾ	28.62 ㄿ	3.73 ㅀ	2.09 ㄺ	26.60 ㅁ	22.06 ㄷ
245	17.61 ㄶ	80.21 Z	28.39 ㄸ	7.37 ㄹ	10.87 ㄺ	6.84 ㄻ	29.89 ㄼ	25.27 ㄽ	28.39 ㄾ	5.15 ㄿ	9.39 ㅀ	6.84 ㄺ	1.06 ㄷ	26.95 ㄷ
250	20.08 ㄶ	81.89 Z	4.51 ㄸ	13.44 ㄹ	16.11 ㄺ	11.53 ㄻ	4.59 ㄼ	0.54 ㄽ	4.51 ㄾ	11.66 ㄿ	14.94 ㅀ	11.53 ㄺ	5.56 ㄷ	1.95 ㄸ
255	22.55 ㄶ	83.50 Z	10.76 ㄸ	19.43 ㄹ	21.23 ㄺ	16.19 ㄻ	9.34 ㄼ	5.97 ㄽ	10.76 ㄾ	18.11 ㄿ	20.37 ㅀ	16.19 ㄺ	10.09 ㄷ	7.07 ㄸ
260	25.03 ㄶ	84.96 Z	17.11 ㄸ	25.33 ㄹ	26.24 ㄺ	20.81 ㄻ	14.16 ㄼ	11.56 ㄽ	17.11 ㄾ	24.46 ㄿ	25.68 ㅀ	20.81 ㄺ	14.67 ㄷ	12.33 ㄸ
265	27.51 ㄶ	86.10 Z	23.54 ㄸ	1.11 ㄹ	1.15 ㄺ	25.41 ㄻ	19.06 ㄼ	17.31 ㄽ	23.54 ㄾ	0.69 ㄿ	0.87 ㅀ	25.41 ㄺ	19.32 ㄷ	17.71 ㄸ
270	0.00 ㄷ	86.56 Z	0.00 ㄹ	6.77 ㄺ	5.96 ㄻ	0.00 ㄼ	24.04 ㄽ	23.23 ㄾ	0.00 ㄿ	6.77 ㅀ	5.96 ㄺ	0.00 ㄷ	24.04 ㄷ	23.23 ㄸ
275	2.49 ㄷ	86.10 Z	6.46 ㄹ	12.29 ㄺ	10.68 ㄻ	4.59 ㄼ	29.13 ㄽ	29.31 ㄾ	6.46 ㄿ	12.69 ㅀ	10.94 ㄺ	4.59 ㄷ	28.85 ㄷ	28.89 ㄸ
280	4.97 ㄷ	84.96 Z	12.89 ㄹ	17.67 ㄺ	15.33 ㄻ	9.19 ㄼ	4.32 ㄽ	5.54 ㄾ	12.89 ㄿ	18.44 ㅀ	15.84 ㄺ	9.19 ㄷ	3.76 ㄸ	4.67 ㄸ
285	7.45 ㄷ	83.50 Z	19.24 ㄹ	22.93 ㄺ	19.91 ㄻ	13.81 ㄼ	9.63 ㄽ	11.89 ㄾ	19.24 ㄿ	24.03 ㅀ	20.66 ㄺ	13.81 ㄷ	8.77 ㄸ	10.57 ㄸ
290	9.92 ㄷ	81.89 Z	25.49 ㄹ	28.05 ㄺ	24.44 ㄻ	18.47 ㄼ	15.06 ㄽ	18.34 ㄾ	25.49 ㄿ	29.46 ㅀ	25.41 ㄺ	18.47 ㄷ	13.89 ㄸ	16.56 ㄸ
295	12.39 ㄷ	80.21 Z	1.61 ㄺ	3.05 ㄻ	28.94 ㄼ	23.16 ㄽ	20.61 ㄾ	24.85 ㄿ	1.61 ㅀ	4.73 ㄺ	0.11 ㄷ	23.16 ㄷ	19.13 ㄸ	22.63 ㄸ
300	14.84 ㄷ	78.51 Z	7.58 ㄺ	7.94 ㄻ	3.40 ㄼ	27.91 ㄽ	26.27 ㄾ	1.38 ㄿ	7.58 ㅀ	9.86 ㄺ	4.77 ㄷ	27.91 ㄷ	24.48 ㄸ	28.75 ㄸ
305	17.27 ㄷ	76.80 Z	13.39 ㄺ	12.73 ㄻ	7.84 ㄼ	2.72 ㄽ	2.04 ㄾ	7.89 ㄿ	13.39 ㅀ	14.86 ㄺ	9.41 ㄷ	2.72 ㄸ	29.94 ㄸ	4.88 ㄹ
310	19.70 ㄷ	75.10 Z	19.04 ㄺ	17.44 ㄻ	12.29 ㄼ	7.59 ㄽ	7.91 ㄾ	14.34 ㄿ	19.04 ㅀ	19.74 ㄺ	14.02 ㄷ	7.59 ㄸ	5.51 ㄸ	11.01 ㄹ
315	22.10 ㄷ	73.41 Z	24.52 ㄺ	22.07 ㄻ	16.73 ㄼ	12.54 ㄽ	13.85 ㄾ	20.70 ㄿ	24.52 ㅀ	24.53 ㄺ	18.63 ㄷ	12.54 ㄸ	11.17 ㄸ	17.10 ㄹ
320	24.48 ㄷ	71.73 Z	29.85 ㄺ	26.64 ㄻ	21.20 ㄼ	17.55 ㄽ	19.85 ㄾ	26.93 ㄿ	29.85 ㅀ	29.23 ㄺ	23.25 ㄷ	17.55 ㄸ	16.91 ㄸ	23.12 ㄹ
325	26.84 ㄷ	70.08 Z	5.03 ㄻ	1.16 ㄼ	25.69 ㄽ	22.65 ㄾ	25.87 ㄿ	3.02 ㅀ	5.03 ㄺ	3.86 ㄷ	27.88 ㄷ	22.65 ㄸ	22.70 ㄸ	29.05 ㄹ
330	29.17 ㄷ	68.46 Z	10.07 ㄻ	5.64 ㄼ	0.22 ㄽ	27.82 ㄾ	1.90 ㄿ	8.95 ㅀ	10.07 ㄺ	8.44 ㄷ	2.53 ㄸ	27.82 ㄸ	28.54 ㄸ	4.87 ㄺ
335	1.47 ㄸ	66.87 Z	14.99 ㄻ	10.10 ㄼ	4.79 ㄽ	3.06 ㄾ	7.90 ㄿ	14.70 ㅀ	14.99 ㄺ	12.97 ㄷ	7.22 ㄸ	3.06 ㄸ	4.40 ㄹ	10.58 ㄺ
340	3.74 ㄸ	65.32 Z	19.80 ㄻ	14.54 ㄼ	9.41 ㄽ	8.36 ㄾ	13.85 ㄿ	20.28 ㅀ	19.80 ㄺ	17.47 ㄷ	11.94 ㄸ	8.36 ㄸ	10.24 ㄹ	16.15 ㄺ
345	5.98 ㄸ	63.81 Z	24.52 ㄻ	18.98 ㄼ	14.08 ㄽ	13.72 ㄾ	19.73 ㄿ	25.69 ㅀ	24.52 ㄺ	21.96 ㄷ	16.70 ㄸ	13.72 ㄸ	16.06 ㄹ	21.60 ㄺ
350	8.18 ㄸ	62.35 Z	29.15 ㄻ	23.43 ㄼ	18.82 ㄽ	19.12 ㄾ	25.51 ㄿ	0.94 ㅀ	29.15 ㄺ	26.43 ㄷ	21.50 ㄸ	19.12 ㄸ	21.83 ㄹ	26.92 ㄺ
355	10.34 ㄸ	60.93 Z	3.72 ㄼ	27.89 ㄽ	23.61 ㄾ	24.55 ㄿ	1.18 ㅀ	6.03 ㄺ	3.72 ㄷ	0.90 ㄸ	26.34 ㄸ	24.55 ㄸ	27.53 ㄹ	2.11 ㄻ
360	12.46 ㄸ	59.56 Z	8.24 ㄼ	2.38 ㄽ	28.47 ㄾ	0.00 ㄿ	6.73 ㅀ	10.99 ㄺ	8.24 ㄷ	5.38 ㄸ	1.22 ㄸ	0.00 ㄹ	3.15 ㄺ	7.18 ㄻ

25° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	19.53 𐄂	56.26 Z	10.51 𐄂	3.54 𐄂	28.61 𐄂	0.00 𐄂	8.26 𐄂	13.72 𐄂	10.51 𐄂	7.23 𐄂	2.02 𐄂	0.00 𐄂	3.49 𐄂	8.75 𐄂
5	22.19 𐄂	54.77 Z	14.92 𐄂	7.98 𐄂	3.44 𐄂	5.45 𐄂	13.74 𐄂	18.53 𐄂	14.92 𐄂	11.63 𐄂	6.86 𐄂	5.45 𐄂	9.12 𐄂	13.77 𐄂
10	24.84 𐄂	53.35 Z	19.30 𐄂	12.45 𐄂	8.33 𐄂	10.88 𐄂	19.07 𐄂	23.21 𐄂	19.30 𐄂	16.03 𐄂	11.72 𐄂	10.88 𐄂	14.64 𐄂	18.67 𐄂
15	27.49 𐄂	52.00 Z	23.65 𐄂	16.95 𐄂	13.27 𐄂	16.28 𐄂	24.26 𐄂	27.79 𐄂	23.65 𐄂	20.45 𐄂	16.60 𐄂	16.28 𐄂	20.04 𐄂	23.48 𐄂
20	0.15 𐄂	50.72 Z	27.98 𐄂	21.49 𐄂	18.25 𐄂	21.64 𐄂	29.32 𐄂	2.27 𐄂	27.98 𐄂	24.89 𐄂	21.50 𐄂	21.64 𐄂	25.33 𐄂	28.21 𐄂
25	2.82 𐄂	49.51 Z	2.31 𐄂	26.07 𐄂	23.26 𐄂	26.94 𐄂	4.24 𐄂	6.68 𐄂	2.31 𐄂	29.34 𐄂	26.40 𐄂	26.94 𐄂	0.51 𐄂	2.88 𐄂
30	5.52 𐄂	48.37 Z	6.65 𐄂	0.69 𐄂	28.30 𐄂	2.18 𐄂	9.06 𐄂	11.03 𐄂	6.65 𐄂	3.81 𐄂	1.30 𐄂	2.18 𐄂	5.59 𐄂	7.49 𐄂
35	8.25 𐄂	47.32 Z	10.99 𐄂	5.34 𐄂	3.35 𐄂	7.35 𐄂	13.77 𐄂	15.33 𐄂	10.99 𐄂	8.30 𐄂	6.19 𐄂	7.35 𐄂	10.57 𐄂	12.05 𐄂
40	11.03 𐄂	46.34 Z	15.34 𐄂	10.03 𐄂	8.41 𐄂	12.45 𐄂	18.39 𐄂	19.60 𐄂	15.34 𐄂	12.80 𐄂	11.06 𐄂	12.45 𐄂	15.48 𐄂	16.59 𐄂
45	13.89 𐄂	45.45 Z	19.72 𐄂	14.75 𐄂	13.46 𐄂	17.46 𐄂	22.93 𐄂	23.84 𐄂	19.72 𐄂	17.32 𐄂	15.90 𐄂	17.46 𐄂	20.31 𐄂	21.11 𐄂
50	16.85 𐄂	44.65 Z	24.11 𐄂	19.50 𐄂	18.50 𐄂	22.41 𐄂	27.41 𐄂	28.08 𐄂	24.11 𐄂	21.84 𐄂	20.71 𐄂	22.41 𐄂	25.08 𐄂	25.63 𐄂
55	19.97 𐄂	43.93 Z	28.53 𐄂	24.27 𐄂	23.51 𐄂	27.28 𐄂	1.84 𐄂	2.31 𐄂	28.53 𐄂	26.36 𐄂	25.47 𐄂	27.28 𐄂	29.80 𐄂	0.15 𐄂
60	23.33 𐄂	43.31 Z	2.97 𐄂	29.05 𐄂	28.49 𐄂	2.09 𐄂	6.24 𐄂	6.54 𐄂	2.97 𐄂	0.87 𐄂	0.19 𐄂	2.09 𐄂	4.48 𐄂	4.68 𐄂
65	27.09 𐄂	42.78 Z	7.43 𐄂	3.84 𐄂	3.43 𐄂	6.84 𐄂	10.61 𐄂	10.79 𐄂	7.43 𐄂	5.38 𐄂	4.86 𐄂	6.84 𐄂	9.15 𐄂	9.23 𐄂
70	1.53 𐄂	42.34 Z	11.92 𐄂	8.63 𐄂	8.33 𐄂	11.53 𐄂	14.97 𐄂	15.06 𐄂	11.92 𐄂	9.87 𐄂	9.49 𐄂	11.53 𐄂	13.80 𐄂	13.80 𐄂
75	7.31 𐄂	42.00 Z	16.42 𐄂	13.41 𐄂	13.19 𐄂	16.19 𐄂	19.33 𐄂	19.34 𐄂	16.42 𐄂	14.35 𐄂	14.06 𐄂	16.19 𐄂	18.45 𐄂	18.39 𐄂
80	16.22 𐄂	41.76 Z	20.94 𐄂	18.17 𐄂	18.00 𐄂	20.81 𐄂	23.70 𐄂	23.66 𐄂	20.94 𐄂	18.80 𐄂	18.59 𐄂	20.81 𐄂	23.11 𐄂	23.02 𐄂
85	4.97 𐄂	41.61 Z	25.47 𐄂	22.91 𐄂	22.78 𐄂	25.41 𐄂	28.08 𐄂	28.00 𐄂	25.47 𐄂	23.23 𐄂	23.07 𐄂	25.41 𐄂	27.79 𐄂	27.68 𐄂
90	0.00 𐄂	41.56 Z	0.00 𐄂	27.63 𐄂	27.51 𐄂	0.00 𐄂	2.49 𐄂	2.37 𐄂	0.00 𐄂	27.63 𐄂	27.51 𐄂	0.00 𐄂	2.49 𐄂	2.37 𐄂
95	25.03 𐄂	41.61 Z	4.53 𐄂	2.32 𐄂	2.21 𐄂	4.59 𐄂	6.93 𐄂	6.77 𐄂	4.53 𐄂	2.00 𐄂	1.92 𐄂	4.59 𐄂	7.22 𐄂	7.09 𐄂
100	13.78 𐄂	41.76 Z	9.06 𐄂	6.98 𐄂	6.89 𐄂	9.19 𐄂	11.41 𐄂	11.20 𐄂	9.06 𐄂	6.34 𐄂	6.30 𐄂	9.19 𐄂	12.00 𐄂	11.83 𐄂
105	22.69 𐄂	42.00 Z	13.58 𐄂	11.61 𐄂	11.55 𐄂	13.81 𐄂	15.94 𐄂	15.65 𐄂	13.58 𐄂	10.66 𐄂	10.67 𐄂	13.81 𐄂	16.81 𐄂	16.59 𐄂
110	28.47 𐄂	42.34 Z	18.08 𐄂	16.20 𐄂	16.20 𐄂	18.47 𐄂	20.51 𐄂	20.13 𐄂	18.08 𐄂	14.94 𐄂	15.03 𐄂	18.47 𐄂	21.67 𐄂	21.37 𐄂
115	2.91 𐄂	42.78 Z	22.57 𐄂	20.77 𐄂	20.85 𐄂	23.16 𐄂	25.14 𐄂	24.62 𐄂	22.57 𐄂	19.21 𐄂	19.39 𐄂	23.16 𐄂	26.57 𐄂	26.16 𐄂
120	6.67 𐄂	43.31 Z	27.03 𐄂	25.32 𐄂	25.52 𐄂	27.91 𐄂	29.81 𐄂	29.13 𐄂	27.03 𐄂	23.46 𐄂	23.76 𐄂	27.91 𐄂	1.51 𐄂	0.95 𐄂
125	10.03 𐄂	43.93 Z	1.47 𐄂	29.85 𐄂	0.20 𐄂	2.72 𐄂	4.53 𐄂	3.64 𐄂	1.47 𐄂	27.69 𐄂	28.16 𐄂	2.72 𐄂	6.49 𐄂	5.73 𐄂
130	13.15 𐄂	44.65 Z	5.89 𐄂	4.37 𐄂	4.92 𐄂	7.59 𐄂	9.29 𐄂	8.16 𐄂	5.89 𐄂	1.92 𐄂	2.59 𐄂	7.59 𐄂	11.50 𐄂	10.50 𐄂
135	16.11 𐄂	45.45 Z	10.28 𐄂	8.89 𐄂	9.69 𐄂	12.54 𐄂	14.10 𐄂	12.68 𐄂	10.28 𐄂	6.16 𐄂	7.07 𐄂	12.54 𐄂	16.54 𐄂	15.25 𐄂
140	18.97 𐄂	46.34 Z	14.66 𐄂	13.41 𐄂	14.52 𐄂	17.55 𐄂	18.94 𐄂	17.20 𐄂	14.66 𐄂	10.40 𐄂	11.61 𐄂	17.55 𐄂	21.59 𐄂	19.97 𐄂
145	21.75 𐄂	47.32 Z	19.01 𐄂	17.95 𐄂	19.43 𐄂	22.65 𐄂	23.81 𐄂	21.70 𐄂	19.01 𐄂	14.67 𐄂	16.23 𐄂	22.65 𐄂	26.65 𐄂	24.66 𐄂
150	24.48 𐄂	48.37 Z	23.35 𐄂	22.51 𐄂	24.41 𐄂	27.82 𐄂	28.70 𐄂	26.19 𐄂	23.35 𐄂	18.97 𐄂	20.94 𐄂	27.82 𐄂	1.70 𐄂	29.31 𐄂
155	27.18 𐄂	49.51 Z	27.69 𐄂	27.12 𐄂	29.49 𐄂	3.06 𐄂	3.60 𐄂	0.66 𐄂	27.69 𐄂	23.32 𐄂	25.76 𐄂	3.06 𐄂	6.74 𐄂	3.93 𐄂
160	29.85 𐄂	50.72 Z	2.02 𐄂	1.79 𐄂	4.67 𐄂	8.36 𐄂	8.50 𐄂	5.11 𐄂	2.02 𐄂	27.73 𐄂	0.68 𐄂	8.36 𐄂	11.75 𐄂	8.51 𐄂
165	2.51 𐄂	52.00 Z	6.35 𐄂	6.52 𐄂	9.96 𐄂	13.72 𐄂	13.40 𐄂	9.55 𐄂	6.35 𐄂	2.21 𐄂	5.74 𐄂	13.72 𐄂	16.73 𐄂	13.05 𐄂
170	5.16 𐄂	53.35 Z	10.70 𐄂	11.33 𐄂	15.36 𐄂	19.12 𐄂	18.28 𐄂	13.97 𐄂	10.70 𐄂	6.79 𐄂	10.93 𐄂	19.12 𐄂	21.67 𐄂	17.55 𐄂
175	7.81 𐄂	54.77 Z	15.08 𐄂	16.23 𐄂	20.88 𐄂	24.55 𐄂	23.14 𐄂	18.37 𐄂	15.08 𐄂	11.47 𐄂	16.26 𐄂	24.55 𐄂	26.56 𐄂	22.02 𐄂
180	10.47 𐄂	56.26 Z	19.49 𐄂	21.25 𐄂	26.51 𐄂	0.00 𐄂	27.98 𐄂	22.77 𐄂	19.49 𐄂	16.28 𐄂	21.74 𐄂	0.00 𐄂	1.39 𐄂	26.46 𐄂

25° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	13.12 ㄴ	57.80 Z	23.95 ㄶ	26.39 ㄷ	2.24 ㄸ	5.45 ㄹ	2.79 ㄺ	27.16 ㄻ	23.95 ㄼ	21.23 ㄽ	27.37 ㄾ	5.45 ㄿ	6.17 ㅀ	0.87 ㅁ
190	15.79 ㄴ	59.40 Z	28.48 ㄶ	1.67 ㅂ	8.06 ㄸ	10.88 ㄹ	7.56 ㄺ	1.55 ㄻ	28.48 ㄼ	26.34 ㄽ	3.14 ㅆ	10.88 ㅈ	10.89 ㅉ	5.26 ㅊ
195	18.47 ㄴ	61.05 Z	3.08 ㄷ	7.09 ㅂ	13.95 ㄸ	16.28 ㄹ	12.29 ㄺ	5.95 ㄻ	3.08 ㄼ	1.63 ㄽ	9.04 ㅆ	16.28 ㅈ	15.54 ㅉ	9.64 ㅊ
200	21.15 ㄴ	62.75 Z	7.78 ㄷ	12.66 ㅂ	19.90 ㄸ	21.64 ㄹ	16.99 ㄺ	10.36 ㄻ	7.78 ㄼ	7.12 ㄽ	15.06 ㅆ	21.64 ㅈ	20.15 ㅉ	14.02 ㅊ
205	23.85 ㄴ	64.50 Z	12.58 ㄷ	18.38 ㅂ	25.89 ㄸ	26.94 ㄹ	21.66 ㄺ	14.80 ㄻ	12.58 ㄼ	12.81 ㄽ	21.17 ㅆ	26.94 ㅈ	24.70 ㅉ	18.41 ㅊ
210	26.57 ㄴ	66.29 Z	17.51 ㄷ	24.26 ㅂ	1.87 ㄹ	2.18 ㄺ	26.29 ㄻ	19.29 ㄼ	17.51 ㄽ	18.71 ㄾ	27.35 ㅆ	2.18 ㅈ	29.20 ㅉ	22.82 ㅊ
215	29.29 ㄴ	68.12 Z	22.59 ㄷ	0.27 ㄸ	7.83 ㄹ	7.35 ㄺ	0.91 ㄻ	23.82 ㄼ	22.59 ㄽ	24.82 ㄾ	3.57 ㅈ	7.35 ㅉ	3.67 ㅊ	27.26 ㅋ
220	2.03 ㄶ	69.98 Z	27.82 ㄷ	6.42 ㄸ	13.75 ㄹ	12.45 ㄺ	5.51 ㄻ	28.42 ㄼ	27.82 ㄽ	1.15 ㅆ	9.80 ㅈ	12.45 ㅉ	8.09 ㅊ	1.74 ㅋ
225	4.79 ㄶ	71.88 Z	3.23 ㅂ	12.66 ㄸ	19.60 ㄹ	17.46 ㄺ	10.10 ㄻ	3.11 ㄼ	3.23 ㄽ	7.66 ㅆ	15.99 ㅈ	17.46 ㅉ	12.50 ㅊ	6.27 ㅋ
230	7.55 ㄶ	73.80 Z	8.83 ㅂ	18.99 ㄸ	25.35 ㄹ	22.41 ㄺ	14.69 ㄻ	7.89 ㄼ	8.83 ㄽ	14.34 ㅆ	22.13 ㅈ	22.41 ㅉ	16.89 ㅊ	10.87 ㅋ
235	10.33 ㄶ	75.75 Z	14.62 ㅂ	25.35 ㄸ	1.00 ㄹ	27.28 ㄺ	19.29 ㄻ	12.79 ㄼ	14.62 ㄽ	21.15 ㅆ	28.19 ㅈ	27.28 ㅉ	21.28 ㅊ	15.56 ㅋ
240	13.12 ㄶ	77.72 Z	20.62 ㅂ	1.72 ㄹ	6.53 ㄺ	2.09 ㄻ	23.92 ㄼ	17.82 ㄽ	20.62 ㄾ	28.04 ㅆ	4.14 ㅈ	2.09 ㅊ	25.67 ㅋ	20.34 ㅌ
245	15.92 ㄶ	79.70 Z	26.81 ㅂ	8.06 ㄹ	11.93 ㄺ	6.84 ㄻ	28.58 ㄼ	23.01 ㄽ	26.81 ㄾ	4.96 ㅈ	9.97 ㅉ	6.84 ㅊ	0.09 ㅋ	25.23 ㅌ
250	18.72 ㄶ	81.69 Z	3.19 ㄸ	14.34 ㄹ	17.21 ㄺ	11.53 ㄻ	3.29 ㄼ	28.36 ㄽ	3.19 ㅆ	11.86 ㅈ	15.66 ㅉ	11.53 ㅊ	4.54 ㅋ	0.24 ㅌ
255	21.54 ㄶ	83.67 Z	9.73 ㄸ	20.52 ㄹ	22.35 ㄺ	16.19 ㄻ	8.07 ㄼ	3.90 ㄽ	9.73 ㅆ	18.68 ㅈ	21.22 ㅉ	16.19 ㅊ	9.03 ㅋ	5.39 ㅌ
260	24.35 ㄶ	85.62 Z	16.41 ㄸ	26.58 ㄹ	27.38 ㄺ	20.81 ㄻ	12.92 ㄼ	9.64 ㄽ	16.41 ㅆ	25.37 ㅈ	26.64 ㅉ	20.81 ㅊ	13.58 ㅋ	10.68 ㅌ
265	27.18 ㄶ	87.42 Z	23.18 ㄸ	2.50 ㄹ	2.29 ㄺ	25.41 ㄻ	17.86 ㄼ	15.58 ㄽ	23.18 ㅆ	1.91 ㅈ	1.93 ㅉ	25.41 ㅊ	18.20 ㅋ	16.13 ㅌ
270	0.00 ㄷ	88.44 Z	0.00 ㄹ	8.26 ㄺ	7.09 ㄻ	0.00 ㄼ	22.91 ㄽ	21.74 ㄾ	0.00 ㅈ	8.26 ㅉ	7.09 ㅊ	0.00 ㅋ	22.91 ㅌ	21.74 ㅍ
275	2.82 ㄷ	87.42 Z	6.82 ㄹ	13.87 ㄺ	11.80 ㄻ	4.59 ㄼ	28.07 ㄽ	28.09 ㄾ	6.82 ㅈ	14.42 ㅉ	12.14 ㅊ	4.59 ㅋ	27.71 ㅌ	27.50 ㅍ
280	5.65 ㄷ	85.62 Z	13.59 ㄹ	19.32 ㄺ	16.42 ㄻ	9.19 ㄼ	3.36 ㄽ	4.63 ㅆ	13.59 ㅈ	20.36 ㅉ	17.08 ㅊ	9.19 ㅋ	2.62 ㅌ	3.42 ㅍ
285	8.46 ㄷ	83.67 Z	20.27 ㄹ	24.61 ㄺ	20.97 ㄻ	13.81 ㄼ	8.78 ㄽ	11.32 ㅆ	20.27 ㅈ	26.10 ㅉ	21.93 ㅊ	13.81 ㅋ	7.65 ㅌ	9.48 ㅍ
290	11.28 ㄷ	81.69 Z	26.81 ㄹ	29.76 ㄺ	25.46 ㄻ	18.47 ㄼ	14.34 ㄽ	18.14 ㅆ	26.81 ㅈ	1.64 ㅉ	26.71 ㅊ	18.47 ㅋ	12.79 ㅌ	15.66 ㅍ
295	14.08 ㄷ	79.70 Z	3.19 ㄺ	4.77 ㄻ	29.91 ㄼ	23.16 ㄽ	20.03 ㄾ	25.04 ㅆ	3.19 ㅈ	6.99 ㅉ	1.42 ㅊ	23.16 ㅋ	18.07 ㅌ	21.94 ㅍ
300	16.88 ㄷ	77.72 Z	9.38 ㄻ	9.66 ㄼ	4.33 ㄽ	27.91 ㄾ	25.86 ㄿ	1.96 ㅈ	9.38 ㅉ	12.18 ㅊ	6.08 ㅋ	27.91 ㅌ	23.47 ㅍ	28.28 ㅑ
305	19.67 ㄷ	75.75 Z	15.38 ㄻ	14.44 ㄼ	8.72 ㄽ	2.72 ㄾ	1.81 ㅆ	8.85 ㅈ	15.38 ㅉ	17.21 ㅊ	10.71 ㅋ	2.72 ㅌ	29.00 ㅍ	4.65 ㅑ
310	22.45 ㄷ	73.80 Z	21.17 ㄻ	19.13 ㄼ	13.11 ㄽ	7.59 ㄾ	7.87 ㅆ	15.66 ㅈ	21.17 ㅉ	22.11 ㅊ	15.31 ㅋ	7.59 ㅌ	4.65 ㅍ	11.01 ㅑ
315	25.21 ㄷ	71.88 Z	26.77 ㄻ	23.73 ㄼ	17.50 ㄽ	12.54 ㄾ	14.01 ㅆ	22.34 ㅈ	26.77 ㅉ	26.89 ㅊ	19.90 ㅋ	12.54 ㅌ	10.40 ㅍ	17.34 ㅑ
320	27.97 ㄷ	69.98 Z	2.18 ㄼ	28.26 ㄽ	21.91 ㄾ	17.55 ㄿ	20.20 ㅆ	28.85 ㅈ	2.18 ㅉ	1.58 ㅊ	24.49 ㅋ	17.55 ㅌ	16.25 ㅍ	23.58 ㅑ
325	0.71 ㅂ	68.12 Z	7.41 ㄼ	2.74 ㄽ	26.33 ㄾ	22.65 ㄿ	26.43 ㅆ	5.18 ㅈ	7.41 ㅉ	6.18 ㅊ	29.09 ㅋ	22.65 ㅌ	22.17 ㅍ	29.73 ㅑ
330	3.43 ㅂ	66.29 Z	12.49 ㄼ	7.18 ㄽ	0.80 ㄾ	27.82 ㄿ	2.65 ㅈ	11.29 ㅉ	12.49 ㅊ	10.71 ㅋ	3.71 ㅌ	27.82 ㅍ	28.13 ㅑ	5.74 ㅒ
335	6.15 ㅂ	64.50 Z	17.42 ㄼ	11.59 ㄽ	5.30 ㄾ	3.06 ㅆ	8.83 ㅈ	17.19 ㅉ	17.42 ㅊ	15.20 ㅋ	8.34 ㅌ	3.06 ㅍ	4.11 ㅑ	11.62 ㅒ
340	8.85 ㅂ	62.75 Z	22.22 ㄼ	15.98 ㄽ	9.85 ㄾ	8.36 ㅆ	14.94 ㅈ	22.88 ㅉ	22.22 ㅊ	19.64 ㅋ	13.01 ㅌ	8.36 ㅍ	10.10 ㅑ	17.34 ㅒ
345	11.53 ㅂ	61.05 Z	26.92 ㄼ	20.36 ㄽ	14.46 ㄾ	13.72 ㅆ	20.96 ㅈ	28.37 ㅉ	26.92 ㅊ	24.05 ㅋ	17.71 ㅌ	13.72 ㅍ	16.05 ㅑ	22.91 ㅒ
350	14.21 ㅂ	59.40 Z	1.52 ㄽ	24.74 ㄾ	19.11 ㄿ	19.12 ㅆ	26.86 ㅈ	3.66 ㅉ	1.52 ㅊ	28.45 ㅋ	22.44 ㅌ	19.12 ㅍ	21.94 ㅑ	28.33 ㅒ
355	16.88 ㅂ	57.80 Z	6.05 ㄽ	29.13 ㄾ	23.83 ㄿ	24.55 ㅆ	2.63 ㅈ	8.77 ㅉ	6.05 ㅊ	2.84 ㅋ	27.21 ㅌ	24.55 ㅍ	27.76 ㅑ	3.61 ㅒ
360	19.53 ㅂ	56.26 Z	10.51 ㄽ	3.54 ㄾ	28.61 ㄿ	0.00 ㅈ	8.26 ㅉ	13.72 ㅊ	10.51 ㅋ	7.23 ㅌ	2.02 ㅍ	0.00 ㅑ	3.49 ㅒ	8.75 ㅓ

30° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	25.43 ☾	52.61 Z	12.93 ☾	4.77 ♀	28.75 ♀	0.00 ♁	10.07 ♀	16.78 ♂	12.93 ☾	9.12 ☾	2.81 ♀	0.00 ♀	3.91 ♂	10.51 II
5	28.56 ☾	51.01 Z	17.27 ☾	9.12 ♀	3.51 ♀	5.45 ♁	15.60 ♀	21.53 ♂	17.27 ☾	13.40 ☾	7.56 ♀	5.45 ♀	9.65 ♂	15.57 II
10	1.73 ♀	49.47 Z	21.55 ☾	13.49 ♀	8.31 ♀	10.88 ♁	20.95 ♀	26.15 ♂	21.55 ☾	17.69 ☾	12.33 ♀	10.88 ♀	15.27 ♂	20.51 II
15	4.95 ♀	48.00 Z	25.81 ☾	17.90 ♀	13.16 ♀	16.28 ♁	26.15 ♀	0.64 ☾	25.81 ☾	21.98 ☾	17.11 ♀	16.28 ♀	20.76 ♂	25.33 II
20	8.24 ♀	46.60 Z	0.04 ♀	22.33 ♀	18.06 ♀	21.64 ♁	1.19 ♂	5.04 ☾	0.04 ☾	26.29 ☾	21.91 ♀	21.64 ♀	26.13 ♂	0.05 ☾
25	11.61 ♀	45.28 Z	4.26 ♀	26.80 ♀	22.99 ♀	26.94 ♁	6.10 ♂	9.35 ☾	4.26 ☾	0.60 ♀	26.71 ♀	26.94 ♀	1.37 II	4.70 ☾
30	15.11 ♀	44.04 Z	8.48 ♀	1.30 ♀	27.94 ♀	2.18 ♀	10.88 ♂	13.59 ☾	8.48 ☾	4.93 ♀	1.50 ♀	2.18 ♂	6.51 II	9.28 ☾
35	18.76 ♀	42.88 Z	12.70 ♀	5.84 ♀	2.91 ♁	7.35 ♀	15.54 ♂	17.78 ☾	12.70 ☾	9.26 ♀	6.28 ♀	7.35 ♂	11.54 II	13.82 ☾
40	22.62 ♀	41.81 Z	16.93 ♀	10.41 ♀	7.89 ♁	12.45 ♀	20.11 ♂	21.94 ☾	16.93 ☾	13.61 ♀	11.03 ♀	12.45 ♂	16.48 II	18.31 ☾
45	26.75 ♀	40.84 Z	21.17 ♀	15.00 ♀	12.87 ♁	17.46 ♀	24.60 ♂	26.06 ☾	21.17 ☾	17.96 ♀	15.76 ♀	17.46 ♂	21.34 II	22.79 ☾
50	1.24 ♀	39.96 Z	25.42 ♀	19.62 ♀	17.83 ♁	22.41 ♀	29.03 ♂	0.17 ☾	25.42 ☾	22.31 ♀	20.46 ♀	22.41 ♂	26.13 II	27.25 ☾
55	6.23 ♀	39.17 Z	29.69 ♀	24.25 ♀	22.78 ♁	27.28 ♀	3.40 ☾	4.27 ☾	29.69 ☾	26.65 ♀	25.12 ♀	27.28 ♂	0.87 ☾	1.70 ♀
60	11.92 ♀	38.49 Z	3.98 ♀	28.90 ♀	27.70 ♁	2.09 ♂	7.73 ☾	8.37 ☾	3.98 ♀	1.00 ♀	29.73 ♀	2.09 II	5.56 ☾	6.16 ♀
65	18.64 ♀	37.90 Z	8.28 ♀	3.55 ♁	2.59 ♀	6.84 ♂	12.03 ☾	12.48 ☾	8.28 ♀	5.33 ♀	4.30 ♂	6.84 II	10.23 ☾	10.63 ♀
70	26.86 ♀	37.42 Z	12.61 ♀	8.21 ♁	7.44 ♀	11.53 ♂	16.32 ☾	16.60 ☾	12.61 ♀	9.65 ♀	8.82 ♂	11.53 II	14.88 ☾	15.12 ♀
75	7.31 ♂	37.05 Z	16.94 ♀	12.86 ♁	12.25 ♀	16.19 ♂	20.60 ☾	20.74 ☾	16.94 ♀	13.95 ♀	13.30 ♂	16.19 II	19.52 ☾	19.62 ♀
80	21.02 ♂	36.78 Z	21.29 ♀	17.49 ♁	17.03 ♀	20.81 ♂	24.89 ☾	24.89 ☾	21.29 ♀	18.23 ♀	17.73 ♂	20.81 II	24.17 ☾	24.15 ♀
85	8.83 II	36.61 Z	25.64 ♀	22.11 ♁	21.77 ♀	25.41 ♂	29.19 ☾	29.08 ☾	25.64 ♀	22.48 ♀	22.13 ♂	25.41 II	28.83 ☾	28.71 ♀
90	0.00 ☾	36.56 Z	0.00 ♁	26.72 ♁	26.48 ♀	0.00 ☾	3.52 ☾	3.28 ♀	0.00 ♀	26.72 ♀	26.48 ♂	0.00 ☾	3.52 ♀	3.28 ♀
95	21.17 ☾	36.61 Z	4.36 ♁	1.29 ♀	1.17 ♂	4.59 ☾	7.87 ☾	7.52 ♀	4.36 ♀	0.92 ♂	0.81 II	4.59 ☾	8.23 ♀	7.89 ♀
100	8.98 ♀	36.78 Z	8.71 ♁	5.85 ♀	5.83 ♂	9.19 ☾	12.27 ☾	11.77 ♀	8.71 ♀	5.11 ♂	5.11 II	9.19 ☾	12.97 ♀	12.51 ♀
105	22.69 ♀	37.05 Z	13.06 ♁	10.38 ♀	10.48 ♂	13.81 ☾	16.70 ☾	16.05 ♀	13.06 ♀	9.26 ♂	9.40 II	13.81 ☾	17.75 ♀	17.14 ♀
110	3.14 ♀	37.42 Z	17.39 ♁	14.88 ♀	15.12 ♂	18.47 ☾	21.18 ☾	20.35 ♀	17.39 ♀	13.40 ♂	13.68 II	18.47 ☾	22.56 ♀	21.79 ♀
115	11.36 ♀	37.90 Z	21.72 ♁	19.37 ♀	19.77 ♂	23.16 ☾	25.70 ☾	24.67 ♀	21.72 ♀	17.52 ♂	17.97 II	23.16 ☾	27.41 ♀	26.45 ♀
120	18.08 ♀	38.49 Z	26.02 ♁	23.84 ♀	24.44 ♂	27.91 ☾	0.27 ♀	29.00 ♀	26.02 ♀	21.63 ♂	22.27 II	27.91 ☾	2.30 ♀	1.10 ♁
125	23.77 ♀	39.17 Z	0.31 ♀	28.30 ♀	29.13 ♂	2.72 ☾	4.88 ♀	3.35 ♀	0.31 ♂	25.73 ♂	26.60 II	2.72 ♀	7.22 ♀	5.75 ♁
130	28.76 ♀	39.96 Z	4.58 ♀	2.75 ♂	3.87 ☾	7.59 ☾	9.54 ♀	7.69 ♀	4.58 ♂	29.83 ♂	0.97 ☾	7.59 ♀	12.17 ♀	10.38 ♁
135	3.25 ♁	40.84 Z	8.83 ♀	7.21 ♂	8.66 ☾	12.54 ☾	14.24 ♀	12.04 ♀	8.83 ♂	3.94 II	5.40 ☾	12.54 ♀	17.13 ♀	15.00 ♁
140	7.38 ♁	41.81 Z	13.07 ♀	11.69 ♂	13.52 ☾	17.55 ☾	18.97 ♀	16.39 ♀	13.07 ♂	8.06 II	9.89 ☾	17.55 ♀	22.11 ♀	19.59 ♁
145	11.24 ♁	42.88 Z	17.30 ♀	16.18 ♂	18.46 ☾	22.65 ☾	23.72 ♀	20.74 ♀	17.30 ♂	12.22 II	14.46 ☾	22.65 ♀	27.09 ♀	24.16 ♁
150	14.89 ♁	44.04 Z	21.52 ♀	20.72 ♂	23.49 ☾	27.82 ☾	28.50 ♀	25.07 ♀	21.52 ♂	16.41 II	19.12 ☾	27.82 ♀	2.06 ♁	28.70 ♁
155	18.39 ♁	45.28 Z	25.74 ♀	25.30 ♂	28.63 ☾	3.06 ♀	3.29 ♀	29.40 ♀	25.74 ♂	20.65 II	23.90 ☾	3.06 ♀	7.01 ♁	3.20 ♀
160	21.76 ♁	46.60 Z	29.96 ♀	29.95 ♂	3.87 ☾	8.36 ♀	8.09 ♀	3.71 ♂	29.96 ♂	24.96 II	28.81 ☾	8.36 ♀	11.94 ♁	7.67 ♀
165	25.05 ♁	48.00 Z	4.19 ♂	4.67 ☾	9.24 ☾	13.72 ♀	12.89 ♀	8.02 ♂	4.19 II	29.36 II	3.85 ♀	13.72 ♀	16.84 ♁	12.10 ♀
170	28.27 ♁	49.47 Z	8.45 ♂	9.49 ☾	14.73 ☾	19.12 ♀	17.67 ♀	12.31 ♂	8.45 II	3.85 ☾	9.05 ♀	19.12 ♀	21.69 ♁	16.51 ♀
175	1.44 ♀	51.01 Z	12.73 ♂	14.43 ☾	20.35 ☾	24.55 ♀	22.44 ♀	16.60 ♂	12.73 II	8.47 ☾	14.40 ♀	24.55 ♀	26.49 ♁	20.88 ♀
180	4.57 ♀	52.61 Z	17.07 ♂	19.49 ☾	26.09 ☾	0.00 ♀	27.19 ♀	20.88 ♂	17.07 II	13.22 ☾	19.93 ♀	0.00 ♁	1.25 ♀	25.23 ♀

30° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	7.66 ㉓	54.28 Z	21.45 ㄨ	24.69 ㄨ	1.95 ㄨ	5.45 ㄨ	1.91 ㄨ	25.17 ㄨ	21.45 ㄨ	18.14 ㄨ	25.63 ㄨ	5.45 ㄨ	5.94 ㉓	29.56 ㉓
190	10.74 ㉓	56.01 Z	25.91 ㄨ	0.05 ㄨ	7.90 ㄨ	10.88 ㄨ	6.60 ㄨ	29.46 ㄨ	25.91 ㄨ	23.24 ㄨ	1.50 ㄨ	10.88 ㄨ	10.58 ㉓	3.87 ㄨ
195	13.80 ㉓	57.78 Z	0.46 ㄨ	5.57 ㄨ	13.94 ㄨ	16.28 ㄨ	11.26 ㄨ	3.77 ㄨ	0.46 ㄨ	28.54 ㄨ	7.53 ㄨ	16.28 ㄨ	15.16 ㉓	8.19 ㄨ
200	16.86 ㉓	59.61 Z	5.12 ㄨ	11.28 ㄨ	20.04 ㄨ	21.64 ㄨ	15.90 ㄨ	8.10 ㄨ	5.12 ㄨ	4.08 ㄨ	13.71 ㄨ	21.64 ㄨ	19.69 ㉓	12.50 ㄨ
205	19.91 ㉓	61.48 Z	9.89 ㄨ	17.17 ㄨ	26.18 ㄨ	26.94 ㄨ	20.50 ㄨ	12.47 ㄨ	9.89 ㄨ	9.86 ㄨ	20.01 ㄨ	26.94 ㄨ	24.17 ㉓	16.82 ㄨ
210	22.96 ㉓	63.38 Z	14.82 ㄨ	23.24 ㄨ	2.31 ㄨ	2.18 ㄨ	25.09 ㄨ	16.88 ㄨ	14.82 ㄨ	15.90 ㄨ	26.39 ㄨ	2.18 ㄨ	28.60 ㉓	21.17 ㄨ
215	26.02 ㉓	65.32 Z	19.90 ㄨ	29.48 ㄨ	8.42 ㄨ	7.35 ㄨ	29.65 ㄨ	21.36 ㄨ	19.90 ㄨ	22.21 ㄨ	2.84 ㄨ	7.35 ㄨ	3.00 ㄨ	25.56 ㄨ
220	29.08 ㉓	67.28 Z	25.18 ㄨ	5.87 ㄨ	14.47 ㄨ	12.45 ㄨ	4.21 ㄨ	25.91 ㄨ	25.18 ㄨ	28.79 ㄨ	9.30 ㄨ	12.45 ㄨ	7.36 ㄨ	29.98 ㄨ
225	2.14 ㄨ	69.26 Z	0.66 ㄨ	12.39 ㄨ	20.44 ㄨ	17.46 ㄨ	8.76 ㄨ	0.56 ㄨ	0.66 ㄨ	5.63 ㄨ	15.74 ㄨ	17.46 ㄨ	11.70 ㄨ	4.47 ㄨ
230	5.21 ㄨ	71.25 Z	6.36 ㄨ	19.00 ㄨ	26.31 ㄨ	22.41 ㄨ	13.32 ㄨ	5.31 ㄨ	6.36 ㄨ	12.68 ㄨ	22.12 ㄨ	22.41 ㄨ	16.02 ㄨ	9.03 ㄨ
235	8.29 ㄨ	73.23 Z	12.30 ㄨ	25.65 ㄨ	2.05 ㄨ	27.28 ㄨ	17.90 ㄨ	10.20 ㄨ	12.30 ㄨ	19.92 ㄨ	28.40 ㄨ	27.28 ㄨ	20.35 ㄨ	13.68 ㄨ
240	11.37 ㄨ	75.20 Z	18.49 ㄨ	2.31 ㄨ	7.66 ㄨ	2.09 ㄨ	22.52 ㄨ	15.25 ㄨ	18.49 ㄨ	27.27 ㄨ	4.57 ㄨ	2.09 ㄨ	24.68 ㄨ	18.44 ㄨ
245	14.47 ㄨ	77.11 Z	24.92 ㄨ	8.92 ㄨ	13.12 ㄨ	6.84 ㄨ	27.17 ㄨ	20.48 ㄨ	24.92 ㄨ	4.67 ㄨ	10.59 ㄨ	6.84 ㄨ	29.04 ㄨ	23.31 ㄨ
250	17.57 ㄨ	78.95 Z	1.60 ㄨ	15.44 ㄨ	18.44 ㄨ	11.53 ㄨ	1.89 ㄨ	25.90 ㄨ	1.60 ㄨ	12.04 ㄨ	16.46 ㄨ	11.53 ㄨ	3.44 ㄨ	28.32 ㄨ
255	20.67 ㄨ	80.64 Z	8.49 ㄨ	21.83 ㄨ	23.61 ㄨ	16.19 ㄨ	6.68 ㄨ	1.55 ㄨ	8.49 ㄨ	19.32 ㄨ	22.16 ㄨ	16.19 ㄨ	7.88 ㄨ	3.48 ㄨ
260	23.78 ㄨ	82.07 Z	15.55 ㄨ	28.07 ㄨ	28.65 ㄨ	20.81 ㄨ	11.56 ㄨ	7.44 ㄨ	15.55 ㄨ	26.43 ㄨ	27.71 ㄨ	20.81 ㄨ	12.39 ㄨ	8.80 ㄨ
265	26.89 ㄨ	83.07 Z	22.74 ㄨ	4.13 ㄨ	3.55 ㄨ	25.41 ㄨ	16.55 ㄨ	13.58 ㄨ	22.74 ㄨ	3.34 ㄨ	3.10 ㄨ	25.41 ㄨ	16.98 ㄨ	14.30 ㄨ
270	0.00 ㄨ	83.44 Z	0.00 ㄨ	10.01 ㄨ	8.34 ㄨ	0.00 ㄨ	21.66 ㄨ	19.99 ㄨ	0.00 ㄨ	10.01 ㄨ	8.34 ㄨ	0.00 ㄨ	21.66 ㄨ	19.99 ㄨ
275	3.11 ㄨ	83.07 Z	7.26 ㄨ	15.70 ㄨ	13.02 ㄨ	4.59 ㄨ	26.90 ㄨ	26.66 ㄨ	7.26 ㄨ	16.42 ㄨ	13.45 ㄨ	4.59 ㄨ	26.45 ㄨ	25.87 ㄨ
280	6.22 ㄨ	82.07 Z	14.45 ㄨ	21.20 ㄨ	17.61 ㄨ	9.19 ㄨ	2.29 ㄨ	3.57 ㄨ	14.45 ㄨ	22.56 ㄨ	18.44 ㄨ	9.19 ㄨ	1.35 ㄨ	1.93 ㄨ
285	9.33 ㄨ	80.64 Z	21.51 ㄨ	26.52 ㄨ	22.12 ㄨ	13.81 ㄨ	7.84 ㄨ	10.68 ㄨ	21.51 ㄨ	28.45 ㄨ	23.32 ㄨ	13.81 ㄨ	6.39 ㄨ	8.17 ㄨ
290	12.43 ㄨ	78.95 Z	28.40 ㄨ	1.68 ㄨ	26.56 ㄨ	18.47 ㄨ	13.54 ㄨ	17.96 ㄨ	28.40 ㄨ	4.10 ㄨ	28.11 ㄨ	18.47 ㄨ	11.56 ㄨ	14.56 ㄨ
295	15.53 ㄨ	77.11 Z	5.08 ㄨ	6.69 ㄨ	0.96 ㄨ	23.16 ㄨ	19.41 ㄨ	25.33 ㄨ	5.08 ㄨ	9.52 ㄨ	2.83 ㄨ	23.16 ㄨ	16.88 ㄨ	21.08 ㄨ
300	18.63 ㄨ	75.20 Z	11.51 ㄨ	11.56 ㄨ	5.32 ㄨ	27.91 ㄨ	25.43 ㄨ	2.73 ㄨ	11.51 ㄨ	14.75 ㄨ	7.48 ㄨ	27.91 ㄨ	22.34 ㄨ	27.69 ㄨ
305	21.71 ㄨ	73.23 Z	17.70 ㄨ	16.32 ㄨ	9.65 ㄨ	2.72 ㄨ	1.60 ㄨ	10.08 ㄨ	17.70 ㄨ	19.80 ㄨ	12.10 ㄨ	2.72 ㄨ	27.95 ㄨ	4.35 ㄨ
310	24.79 ㄨ	71.25 Z	23.64 ㄨ	20.97 ㄨ	13.98 ㄨ	7.59 ㄨ	7.88 ㄨ	17.32 ㄨ	23.64 ㄨ	24.69 ㄨ	16.68 ㄨ	7.59 ㄨ	3.69 ㄨ	11.00 ㄨ
315	27.86 ㄨ	69.26 Z	29.34 ㄨ	25.53 ㄨ	18.30 ㄨ	12.54 ㄨ	14.26 ㄨ	24.37 ㄨ	29.34 ㄨ	29.44 ㄨ	21.24 ㄨ	12.54 ㄨ	9.56 ㄨ	17.61 ㄨ
320	0.92 ㄨ	67.28 Z	4.82 ㄨ	0.02 ㄨ	22.64 ㄨ	17.55 ㄨ	20.70 ㄨ	1.21 ㄨ	4.82 ㄨ	4.09 ㄨ	25.79 ㄨ	17.55 ㄨ	15.53 ㄨ	24.13 ㄨ
325	3.98 ㄨ	65.32 Z	10.10 ㄨ	4.44 ㄨ	27.00 ㄨ	22.65 ㄨ	27.16 ㄨ	7.79 ㄨ	10.10 ㄨ	8.64 ㄨ	0.35 ㄨ	22.65 ㄨ	21.58 ㄨ	0.52 ㄨ
330	7.04 ㄨ	63.38 Z	15.18 ㄨ	8.83 ㄨ	1.40 ㄨ	27.82 ㄨ	3.61 ㄨ	14.10 ㄨ	15.18 ㄨ	13.12 ㄨ	4.91 ㄨ	27.82 ㄨ	27.69 ㄨ	6.76 ㄨ
335	10.09 ㄨ	61.48 Z	20.11 ㄨ	13.18 ㄨ	5.83 ㄨ	3.06 ㄨ	9.99 ㄨ	20.14 ㄨ	20.11 ㄨ	17.53 ㄨ	9.50 ㄨ	3.06 ㄨ	3.82 ㄨ	12.83 ㄨ
340	13.14 ㄨ	59.61 Z	24.88 ㄨ	17.50 ㄨ	10.31 ㄨ	8.36 ㄨ	16.29 ㄨ	25.92 ㄨ	24.88 ㄨ	21.90 ㄨ	14.10 ㄨ	8.36 ㄨ	9.96 ㄨ	18.72 ㄨ
345	16.20 ㄨ	57.78 Z	29.54 ㄨ	21.81 ㄨ	14.84 ㄨ	13.72 ㄨ	22.47 ㄨ	1.46 ㄨ	29.54 ㄨ	26.23 ㄨ	18.74 ㄨ	13.72 ㄨ	16.06 ㄨ	24.43 ㄨ
350	19.26 ㄨ	56.01 Z	4.09 ㄨ	26.13 ㄨ	19.42 ㄨ	19.12 ㄨ	28.50 ㄨ	6.76 ㄨ	4.09 ㄨ	0.54 ㄨ	23.40 ㄨ	19.12 ㄨ	22.10 ㄨ	29.95 ㄨ
355	22.34 ㄨ	54.28 Z	8.55 ㄨ	0.44 ㄨ	24.06 ㄨ	24.55 ㄨ	4.37 ㄨ	11.86 ㄨ	8.55 ㄨ	4.83 ㄨ	28.09 ㄨ	24.55 ㄨ	28.05 ㄨ	5.31 ㄨ
360	25.43 ㄨ	52.61 Z	12.93 ㄨ	4.77 ㄨ	28.75 ㄨ	0.00 ㄨ	10.07 ㄨ	16.78 ㄨ	12.93 ㄨ	9.12 ㄨ	2.81 ㄨ	0.00 ㄨ	3.91 ㄨ	10.51 ㄨ

35° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	0.40 𐄀	48.73 Z	15.56 𐄀	6.09 𐄀	28.90 𐄀	0.00 𐄀	12.25 𐄀	20.25 𐄀	15.56 𐄀	11.06 𐄀	3.62 𐄀	0.00 𐄀	4.42 𐄀	12.56 𐄀
5	3.90 𐄀	47.03 Z	19.79 𐄀	10.34 𐄀	3.57 𐄀	5.45 𐄀	17.81 𐄀	24.91 𐄀	19.79 𐄀	15.23 𐄀	8.27 𐄀	5.45 𐄀	10.29 𐄀	17.65 𐄀
10	7.46 𐄀	45.39 Z	23.97 𐄀	14.61 𐄀	8.29 𐄀	10.88 𐄀	23.18 𐄀	29.42 𐄀	23.97 𐄀	19.39 𐄀	12.94 𐄀	10.88 𐄀	16.02 𐄀	22.59 𐄀
15	11.10 𐄀	43.83 Z	28.11 𐄀	18.91 𐄀	13.05 𐄀	16.28 𐄀	28.36 𐄀	3.80 𐄀	28.11 𐄀	23.55 𐄀	17.62 𐄀	16.28 𐄀	21.61 𐄀	27.40 𐄀
20	14.86 𐄀	42.34 Z	2.22 𐄀	23.23 𐄀	17.86 𐄀	21.64 𐄀	3.37 𐄀	8.08 𐄀	2.22 𐄀	27.71 𐄀	22.31 𐄀	21.64 𐄀	27.06 𐄀	2.11 𐄀
25	18.75 𐄀	40.93 Z	6.32 𐄀	27.58 𐄀	22.70 𐄀	26.94 𐄀	8.23 𐄀	12.26 𐄀	6.32 𐄀	1.88 𐄀	27.00 𐄀	26.94 𐄀	2.37 𐄀	6.73 𐄀
30	22.80 𐄀	39.60 Z	10.41 𐄀	1.96 𐄀	27.56 𐄀	2.18 𐄀	12.96 𐄀	16.37 𐄀	10.41 𐄀	6.05 𐄀	1.68 𐄀	2.18 𐄀	7.56 𐄀	11.27 𐄀
35	27.08 𐄀	38.37 Z	14.49 𐄀	6.37 𐄀	2.45 𐄀	7.35 𐄀	17.56 𐄀	20.43 𐄀	14.49 𐄀	10.23 𐄀	6.34 𐄀	7.35 𐄀	12.64 𐄀	15.75 𐄀
40	1.62 𐄀	37.22 Z	18.58 𐄀	10.81 𐄀	7.35 𐄀	12.45 𐄀	22.06 𐄀	24.44 𐄀	18.58 𐄀	14.41 𐄀	10.98 𐄀	12.45 𐄀	17.61 𐄀	20.19 𐄀
45	6.51 𐄀	36.17 Z	22.67 𐄀	15.27 𐄀	12.24 𐄀	17.46 𐄀	26.48 𐄀	28.43 𐄀	22.67 𐄀	18.59 𐄀	15.60 𐄀	17.46 𐄀	22.49 𐄀	24.60 𐄀
50	11.84 𐄀	35.22 Z	26.78 𐄀	19.75 𐄀	17.13 𐄀	22.41 𐄀	0.82 𐄀	2.39 𐄀	26.78 𐄀	22.77 𐄀	20.18 𐄀	22.41 𐄀	27.30 𐄀	28.99 𐄀
55	17.74 𐄀	34.38 Z	0.89 𐄀	24.25 𐄀	22.01 𐄀	27.28 𐄀	5.11 𐄀	6.34 𐄀	0.89 𐄀	26.95 𐄀	24.73 𐄀	27.28 𐄀	2.05 𐄀	3.37 𐄀
60	24.37 𐄀	33.64 Z	5.02 𐄀	28.75 𐄀	26.86 𐄀	2.09 𐄀	9.36 𐄀	10.29 𐄀	5.02 𐄀	1.11 𐄀	29.23 𐄀	2.09 𐄀	6.76 𐄀	7.74 𐄀
65	1.94 𐄀	33.01 Z	9.16 𐄀	3.27 𐄀	1.69 𐄀	6.84 𐄀	13.58 𐄀	14.25 𐄀	9.16 𐄀	5.27 𐄀	3.69 𐄀	6.84 𐄀	11.42 𐄀	12.12 𐄀
70	10.69 𐄀	32.49 Z	13.31 𐄀	7.78 𐄀	6.49 𐄀	11.53 𐄀	17.78 𐄀	18.21 𐄀	13.31 𐄀	9.40 𐄀	8.11 𐄀	11.53 𐄀	16.07 𐄀	16.51 𐄀
75	20.87 𐄀	32.08 Z	17.47 𐄀	12.30 𐄀	11.26 𐄀	16.19 𐄀	21.98 𐄀	22.19 𐄀	17.47 𐄀	13.53 𐄀	12.49 𐄀	16.19 𐄀	20.70 𐄀	20.91 𐄀
80	2.63 𐄀	31.79 Z	21.64 𐄀	16.80 𐄀	15.99 𐄀	20.81 𐄀	26.18 𐄀	26.18 𐄀	21.64 𐄀	17.63 𐄀	16.82 𐄀	20.81 𐄀	25.33 𐄀	25.33 𐄀
85	15.86 𐄀	31.62 Z	25.82 𐄀	21.29 𐄀	20.70 𐄀	25.41 𐄀	0.39 𐄀	0.20 𐄀	25.82 𐄀	21.71 𐄀	21.11 𐄀	25.41 𐄀	29.97 𐄀	29.77 𐄀
90	0.00 𐄀	31.56 Z	0.00 𐄀	25.77 𐄀	25.37 𐄀	0.00 𐄀	4.63 𐄀	4.23 𐄀	0.00 𐄀	25.77 𐄀	25.37 𐄀	0.00 𐄀	4.63 𐄀	4.23 𐄀
95	14.14 𐄀	31.62 Z	4.18 𐄀	0.23 𐄀	0.03 𐄀	4.59 𐄀	8.89 𐄀	8.29 𐄀	4.18 𐄀	29.80 𐄀	29.61 𐄀	4.59 𐄀	9.30 𐄀	8.71 𐄀
100	27.37 𐄀	31.79 Z	8.36 𐄀	4.67 𐄀	4.67 𐄀	9.19 𐄀	13.18 𐄀	12.37 𐄀	8.36 𐄀	3.82 𐄀	3.82 𐄀	9.19 𐄀	14.01 𐄀	13.20 𐄀
105	9.13 𐄀	32.08 Z	12.53 𐄀	9.09 𐄀	9.30 𐄀	13.81 𐄀	17.51 𐄀	16.47 𐄀	12.53 𐄀	7.81 𐄀	8.02 𐄀	13.81 𐄀	18.74 𐄀	17.70 𐄀
110	19.31 𐄀	32.49 Z	16.69 𐄀	13.49 𐄀	13.93 𐄀	18.47 𐄀	21.89 𐄀	20.60 𐄀	16.69 𐄀	11.79 𐄀	12.22 𐄀	18.47 𐄀	23.51 𐄀	22.22 𐄀
115	28.06 𐄀	33.01 Z	20.84 𐄀	17.88 𐄀	18.58 𐄀	23.16 𐄀	26.31 𐄀	24.73 𐄀	20.84 𐄀	15.75 𐄀	16.42 𐄀	23.16 𐄀	28.31 𐄀	26.73 𐄀
120	5.63 𐄀	33.64 Z	24.98 𐄀	22.26 𐄀	23.24 𐄀	27.91 𐄀	0.77 𐄀	28.89 𐄀	24.98 𐄀	19.71 𐄀	20.64 𐄀	27.91 𐄀	3.14 𐄀	1.25 𐄀
125	12.26 𐄀	34.38 Z	29.11 𐄀	26.63 𐄀	27.95 𐄀	2.72 𐄀	5.27 𐄀	3.05 𐄀	29.11 𐄀	23.66 𐄀	24.89 𐄀	2.72 𐄀	7.99 𐄀	5.75 𐄀
130	18.16 𐄀	35.22 Z	3.22 𐄀	1.01 𐄀	2.70 𐄀	7.59 𐄀	9.82 𐄀	7.23 𐄀	3.22 𐄀	27.61 𐄀	29.18 𐄀	7.59 𐄀	12.87 𐄀	10.25 𐄀
135	23.49 𐄀	36.17 Z	7.33 𐄀	5.40 𐄀	7.51 𐄀	12.54 𐄀	14.40 𐄀	11.41 𐄀	7.33 𐄀	1.57 𐄀	3.52 𐄀	12.54 𐄀	17.76 𐄀	14.73 𐄀
140	28.38 𐄀	37.22 Z	11.42 𐄀	9.81 𐄀	12.39 𐄀	17.55 𐄀	19.02 𐄀	15.59 𐄀	11.42 𐄀	5.56 𐄀	7.94 𐄀	17.55 𐄀	22.65 𐄀	19.19 𐄀
145	2.92 𐄀	38.37 Z	15.51 𐄀	14.25 𐄀	17.36 𐄀	22.65 𐄀	23.66 𐄀	19.77 𐄀	15.51 𐄀	9.57 𐄀	12.44 𐄀	22.65 𐄀	27.55 𐄀	23.63 𐄀
150	7.20 𐄀	39.60 Z	19.59 𐄀	18.73 𐄀	22.44 𐄀	27.82 𐄀	28.32 𐄀	23.95 𐄀	19.59 𐄀	13.63 𐄀	17.04 𐄀	27.82 𐄀	2.44 𐄀	28.04 𐄀
155	11.25 𐄀	40.93 Z	23.68 𐄀	23.27 𐄀	27.63 𐄀	3.06 𐄀	3.00 𐄀	28.12 𐄀	23.68 𐄀	17.74 𐄀	21.77 𐄀	3.06 𐄀	7.30 𐄀	2.42 𐄀
160	15.14 𐄀	42.34 Z	27.78 𐄀	27.89 𐄀	2.94 𐄀	8.36 𐄀	7.69 𐄀	2.29 𐄀	27.78 𐄀	21.92 𐄀	26.63 𐄀	8.36 𐄀	12.14 𐄀	6.77 𐄀
165	18.90 𐄀	43.83 Z	1.89 𐄀	2.60 𐄀	8.39 𐄀	13.72 𐄀	12.38 𐄀	6.45 𐄀	1.89 𐄀	26.20 𐄀	1.64 𐄀	13.72 𐄀	16.95 𐄀	11.09 𐄀
170	22.54 𐄀	45.39 Z	6.03 𐄀	7.41 𐄀	13.98 𐄀	19.12 𐄀	17.06 𐄀	10.61 𐄀	6.03 𐄀	0.58 𐄀	6.82 𐄀	19.12 𐄀	21.71 𐄀	15.39 𐄀
175	26.10 𐄀	47.03 Z	10.21 𐄀	12.35 𐄀	19.71 𐄀	24.55 𐄀	21.73 𐄀	14.77 𐄀	10.21 𐄀	5.09 𐄀	12.19 𐄀	24.55 𐄀	26.43 𐄀	19.66 𐄀
180	29.60 𐄀	48.73 Z	14.44 𐄀	17.44 𐄀	25.58 𐄀	0.00 𐄀	26.38 𐄀	18.94 𐄀	14.44 𐄀	9.75 𐄀	17.75 𐄀	0.00 𐄀	1.10 𐄀	23.91 𐄀

35° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	3.04 ㄴ	50.48 Z	18.73 ㄶ	22.70 ㄷ	1.57 ㄸ	5.45 ㄹ	1.01 ㄺ	23.10 ㄻ	18.73 ㄼ	14.59 ㄽ	23.51 ㄾ	5.45 ㄿ	5.71 ㅀ	28.15 ㅁ
190	6.45 ㄴ	52.30 Z	23.10 ㄶ	28.14 ㄷ	7.69 ㄸ	10.88 ㄹ	5.62 ㄺ	27.29 ㄻ	23.10 ㄼ	19.63 ㄽ	29.48 ㄾ	10.88 ㄿ	10.27 ㅀ	2.38 ㅁ
195	9.83 ㄴ	54.16 Z	27.57 ㄶ	3.78 ㄷ	13.89 ㄸ	16.28 ㄹ	10.20 ㄺ	1.49 ㄻ	27.57 ㄼ	24.91 ㄽ	5.64 ㄾ	16.28 ㄿ	14.77 ㅀ	6.61 ㅁ
200	13.18 ㄴ	56.06 Z	2.15 ㄷ	9.63 ㄷ	20.17 ㄸ	21.64 ㄹ	14.76 ㄺ	5.72 ㄻ	2.15 ㄼ	0.46 ㄽ	11.99 ㄾ	21.64 ㄿ	19.22 ㅀ	10.85 ㅁ
205	16.52 ㄴ	57.99 Z	6.87 ㄷ	15.71 ㄷ	26.48 ㄸ	26.94 ㄹ	19.30 ㄺ	9.99 ㄻ	6.87 ㄼ	6.30 ㄽ	18.50 ㄾ	26.94 ㄿ	23.62 ㅀ	15.10 ㅁ
210	19.86 ㄴ	59.96 Z	11.76 ㄷ	22.01 ㄷ	2.79 ㄹ	2.18 ㄺ	23.82 ㄻ	14.32 ㄼ	11.76 ㄽ	12.46 ㄾ	25.13 ㄿ	2.18 ㅀ	27.97 ㅁ	19.38 ㅂ
215	23.18 ㄴ	61.94 Z	16.83 ㄷ	28.52 ㄷ	9.07 ㄹ	7.35 ㄺ	28.33 ㄻ	18.71 ㄼ	16.83 ㄽ	18.96 ㄾ	1.84 ㄿ	7.35 ㅀ	2.29 ㅁ	23.69 ㅂ
220	26.51 ㄴ	63.92 Z	22.11 ㄷ	5.21 ㄸ	15.28 ㄹ	12.45 ㄺ	2.84 ㄻ	23.19 ㄼ	22.11 ㄽ	25.81 ㄾ	8.59 ㄿ	12.45 ㅀ	6.58 ㅁ	28.06 ㅂ
225	29.84 ㄴ	65.91 Z	27.64 ㄷ	12.07 ㄸ	21.40 ㄹ	17.46 ㄺ	7.34 ㄻ	27.77 ㄼ	27.64 ㄽ	3.00 ㄾ	15.33 ㄿ	17.46 ㅀ	10.84 ㅁ	2.49 ㅂ
230	3.17 ㄶ	67.87 Z	3.43 ㄷ	19.03 ㄸ	27.39 ㄹ	22.41 ㄺ	11.87 ㄻ	2.47 ㄼ	3.43 ㄽ	10.50 ㄾ	22.01 ㄿ	22.41 ㅀ	15.10 ㅁ	6.99 ㅂ
235	6.51 ㄶ	69.79 Z	9.51 ㄷ	26.05 ㄸ	3.24 ㄹ	27.28 ㄺ	16.41 ㄻ	7.33 ㄼ	9.51 ㄽ	18.26 ㄾ	28.58 ㄿ	27.28 ㅀ	19.35 ㅁ	11.59 ㅂ
240	9.85 ㄶ	71.65 Z	15.90 ㄷ	3.05 ㄹ	8.94 ㄺ	2.09 ㄻ	21.00 ㄼ	12.36 ㄽ	15.90 ㄾ	26.19 ㄿ	5.00 ㅀ	2.09 ㅁ	23.61 ㅂ	16.30 ㅃ
245	13.20 ㄶ	73.40 Z	22.61 ㄷ	9.99 ㄹ	14.47 ㄺ	6.84 ㄻ	25.64 ㄼ	17.59 ㄽ	22.61 ㄾ	4.21 ㄿ	11.27 ㅀ	6.84 ㅁ	27.90 ㅂ	21.14 ㅃ
250	16.55 ㄶ	75.01 Z	29.63 ㄷ	16.81 ㄹ	19.84 ㄺ	11.53 ㄻ	0.35 ㄼ	23.07 ㄽ	29.63 ㄾ	12.20 ㄿ	17.34 ㅀ	11.53 ㅁ	2.23 ㅂ	26.12 ㅃ
255	19.91 ㄶ	76.39 Z	6.93 ㄸ	23.45 ㄹ	25.04 ㄺ	16.19 ㄻ	5.15 ㄼ	28.81 ㄽ	6.93 ㄾ	20.06 ㄿ	23.23 ㅀ	16.19 ㅁ	6.61 ㅂ	1.27 ㅃ
260	23.27 ㄶ	77.49 Z	14.47 ㄸ	29.90 ㄹ	0.09 ㄺ	20.81 ㄻ	10.05 ㄼ	4.84 ㄽ	14.47 ㄾ	27.70 ㄿ	28.92 ㅀ	20.81 ㅁ	11.06 ㅂ	6.60 ㅃ
265	26.63 ㄶ	78.19 Z	22.19 ㄸ	6.11 ㄹ	4.99 ㄺ	25.41 ㄻ	15.08 ㄼ	11.20 ㄽ	22.19 ㄾ	5.06 ㅀ	4.42 ㅁ	25.41 ㅂ	15.60 ㅃ	12.14 ㅄ
270	0.00 ㄷ	78.44 Z	0.00 ㄹ	12.10 ㄺ	9.75 ㄻ	0.00 ㄼ	20.25 ㄽ	17.90 ㄾ	0.00 ㄿ	12.10 ㅀ	9.75 ㅁ	0.00 ㅂ	20.25 ㅃ	17.90 ㅄ
275	3.37 ㄷ	78.19 Z	7.81 ㄹ	17.86 ㄺ	14.40 ㄻ	4.59 ㄼ	25.58 ㄽ	24.94 ㄾ	7.81 ㄿ	18.80 ㅀ	14.92 ㅁ	4.59 ㅂ	25.01 ㅃ	23.89 ㅄ
280	6.73 ㄷ	77.49 Z	15.53 ㄹ	23.40 ㄺ	18.94 ㄻ	9.19 ㄼ	1.08 ㄽ	2.30 ㄾ	15.53 ㄿ	25.16 ㅀ	19.95 ㅁ	9.19 ㅂ	29.91 ㅃ	0.10 ㅄ
285	10.09 ㄷ	76.39 Z	23.07 ㄹ	28.73 ㄺ	23.39 ㄻ	13.81 ㄼ	6.77 ㄽ	9.94 ㄾ	23.07 ㄿ	1.19 ㅀ	24.85 ㅁ	13.81 ㅂ	4.96 ㅃ	6.55 ㅄ
290	13.45 ㄷ	75.01 Z	0.37 ㄹ	3.88 ㄺ	27.77 ㄻ	18.47 ㄼ	12.66 ㄽ	17.80 ㄾ	0.37 ㄿ	6.93 ㅀ	29.65 ㅁ	18.47 ㅂ	10.16 ㅃ	13.19 ㅄ
295	16.80 ㄷ	73.40 Z	7.39 ㄹ	8.86 ㄺ	2.10 ㄻ	23.16 ㄼ	18.73 ㄽ	25.79 ㄾ	7.39 ㄿ	12.41 ㅀ	4.36 ㅁ	23.16 ㅂ	15.53 ㅃ	20.01 ㅄ
300	20.15 ㄷ	71.65 Z	14.10 ㄹ	13.70 ㄺ	6.39 ㄻ	27.91 ㄼ	25.00 ㄽ	3.81 ㄾ	14.10 ㄿ	17.64 ㅀ	9.00 ㅁ	27.91 ㅂ	21.06 ㅃ	26.95 ㅄ
305	23.49 ㄷ	69.79 Z	20.49 ㄹ	18.41 ㄺ	10.65 ㄻ	2.72 ㄼ	1.42 ㄽ	11.74 ㄾ	20.49 ㄿ	22.67 ㅀ	13.59 ㅁ	2.72 ㅂ	26.76 ㅃ	3.95 ㅄ
310	26.83 ㄷ	67.87 Z	26.57 ㄹ	23.01 ㄺ	14.90 ㄻ	7.59 ㄼ	7.99 ㄽ	19.50 ㄾ	26.57 ㄿ	27.53 ㅀ	18.13 ㅁ	7.59 ㅂ	2.61 ㅃ	10.97 ㅄ
315	0.16 ㄷ	65.91 Z	2.36 ㄹ	27.51 ㄺ	19.16 ㄻ	12.54 ㄼ	14.67 ㄽ	27.00 ㄾ	2.36 ㄿ	2.23 ㅀ	22.66 ㅁ	12.54 ㅂ	8.60 ㅃ	17.93 ㅄ
320	3.49 ㄷ	63.92 Z	7.89 ㄹ	1.94 ㄺ	23.42 ㄻ	17.55 ㄼ	21.41 ㄽ	4.19 ㄾ	7.89 ㄿ	6.81 ㅀ	27.16 ㅁ	17.55 ㅂ	14.72 ㅃ	24.79 ㅄ
325	6.82 ㄷ	61.94 Z	13.17 ㄹ	6.31 ㄺ	27.71 ㄻ	22.65 ㄼ	28.16 ㄽ	11.04 ㄾ	13.17 ㄿ	11.29 ㅀ	1.67 ㅁ	22.65 ㅂ	20.93 ㅃ	1.48 ㅄ
330	10.14 ㄷ	59.96 Z	18.24 ㄹ	10.62 ㄺ	2.03 ㄻ	27.82 ㄼ	4.87 ㄽ	17.54 ㄾ	18.24 ㄿ	15.68 ㅀ	6.18 ㅁ	27.82 ㅂ	27.21 ㅃ	7.99 ㅄ
335	13.48 ㄷ	57.99 Z	23.13 ㄹ	14.90 ㄺ	6.38 ㄻ	3.06 ㄼ	11.50 ㄽ	23.70 ㄾ	23.13 ㄿ	20.01 ㅀ	10.70 ㅁ	3.06 ㅂ	3.52 ㅃ	14.29 ㅄ
340	16.82 ㄷ	56.06 Z	27.85 ㄹ	19.15 ㄺ	10.78 ㄻ	8.36 ㄼ	18.01 ㄽ	29.54 ㄾ	27.85 ㄿ	24.28 ㅀ	15.24 ㅁ	8.36 ㅂ	9.83 ㅃ	20.37 ㅄ
345	20.17 ㄷ	54.16 Z	2.43 ㄹ	23.39 ㄺ	15.23 ㄻ	13.72 ㄼ	24.36 ㄽ	5.09 ㄾ	2.43 ㄿ	28.51 ㅀ	19.80 ㅁ	13.72 ㅂ	16.11 ㅃ	26.22 ㅄ
350	23.55 ㄷ	52.30 Z	6.90 ㄹ	27.62 ㄺ	19.73 ㄻ	19.12 ㄼ	0.52 ㄽ	10.37 ㄾ	6.90 ㄿ	2.71 ㅀ	24.38 ㅁ	19.12 ㅂ	22.31 ㅃ	1.86 ㅄ
355	26.96 ㄷ	50.48 Z	11.27 ㄹ	1.85 ㄺ	24.29 ㄻ	24.55 ㄼ	6.49 ㄽ	15.41 ㄾ	11.27 ㄿ	6.90 ㅀ	28.99 ㅁ	24.55 ㅂ	28.43 ㅃ	7.30 ㅄ
360	0.40 ㄸ	48.73 Z	15.56 ㄹ	6.09 ㄺ	28.90 ㄻ	0.00 ㄼ	12.25 ㄽ	20.25 ㄾ	15.56 ㄿ	11.06 ㅀ	3.62 ㅁ	0.00 ㅂ	4.42 ㅃ	12.56 ㅄ

40° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	4.64 𐄂	44.65 Z	18.46 𐄂	7.52 𐄂	29.07 𐄂	0.00 𐄂	14.97 𐄂	24.26 𐄂	18.46 𐄂	13.11 𐄂	4.45 𐄂	0.00 𐄂	5.08 𐄂	14.97 𐄂
5	8.42 𐄂	42.89 Z	22.55 𐄂	11.67 𐄂	3.64 𐄂	5.45 𐄂	20.54 𐄂	28.78 𐄂	22.55 𐄂	17.13 𐄂	9.00 𐄂	5.45 𐄂	11.09 𐄂	20.07 𐄂
10	12.28 𐄂	41.18 Z	26.60 𐄂	15.83 𐄂	8.27 𐄂	10.88 𐄂	25.88 𐄂	3.13 𐄂	26.60 𐄂	21.15 𐄂	13.56 𐄂	10.88 𐄂	16.94 𐄂	25.01 𐄂
15	16.24 𐄂	39.54 Z	0.60 𐄂	20.01 𐄂	12.94 𐄂	16.28 𐄂	1.01 𐄂	7.35 𐄂	0.60 𐄂	25.17 𐄂	18.13 𐄂	16.28 𐄂	22.64 𐄂	29.79 𐄂
20	20.32 𐄂	37.98 Z	4.57 𐄂	24.21 𐄂	17.65 𐄂	21.64 𐄂	5.96 𐄂	11.46 𐄂	4.57 𐄂	29.18 𐄂	22.71 𐄂	21.64 𐄂	28.17 𐄂	4.46 𐄂
25	24.56 𐄂	36.50 Z	8.52 𐄂	28.43 𐄂	22.39 𐄂	26.94 𐄂	10.75 𐄂	15.48 𐄂	8.52 𐄂	3.19 𐄂	27.28 𐄂	26.94 𐄂	3.55 𐄂	9.02 𐄂
30	28.99 𐄂	35.10 Z	12.46 𐄂	2.68 𐄂	27.17 𐄂	2.18 𐄂	15.39 𐄂	19.43 𐄂	12.46 𐄂	7.21 𐄂	1.84 𐄂	2.18 𐄂	8.80 𐄂	13.50 𐄂
35	3.65 𐄂	33.79 Z	16.39 𐄂	6.96 𐄂	1.96 𐄂	7.35 𐄂	19.90 𐄂	23.32 𐄂	16.39 𐄂	11.22 𐄂	6.38 𐄂	7.35 𐄂	13.92 𐄂	17.92 𐄂
40	8.59 𐄂	32.58 Z	20.32 𐄂	11.25 𐄂	6.77 𐄂	12.45 𐄂	24.30 𐄂	27.17 𐄂	20.32 𐄂	15.23 𐄂	10.91 𐄂	12.45 𐄂	18.92 𐄂	22.28 𐄂
45	13.88 𐄂	31.47 Z	24.26 𐄂	15.57 𐄂	11.58 𐄂	17.46 𐄂	28.62 𐄂	0.99 𐄂	24.26 𐄂	19.24 𐄂	15.40 𐄂	17.46 𐄂	23.83 𐄂	26.60 𐄂
50	19.59 𐄂	30.46 Z	28.20 𐄂	19.91 𐄂	16.39 𐄂	22.41 𐄂	2.87 𐄂	4.78 𐄂	28.20 𐄂	23.24 𐄂	19.87 𐄂	22.41 𐄂	28.65 𐄂	0.90 𐄂
55	25.82 𐄂	29.56 Z	2.14 𐄂	24.26 𐄂	21.19 𐄂	27.28 𐄂	7.05 𐄂	8.57 𐄂	2.14 𐄂	27.23 𐄂	24.29 𐄂	27.28 𐄂	3.40 𐄂	5.18 𐄂
60	2.66 𐄂	28.78 Z	6.10 𐄂	28.62 𐄂	25.97 𐄂	2.09 𐄂	11.20 𐄂	12.35 𐄂	6.10 𐄂	1.22 𐄂	28.68 𐄂	2.09 𐄂	8.10 𐄂	9.46 𐄂
65	10.23 𐄂	28.11 Z	10.07 𐄂	2.98 𐄂	0.73 𐄂	6.84 𐄂	15.32 𐄂	16.13 𐄂	10.07 𐄂	5.19 𐄂	3.02 𐄂	6.84 𐄂	12.76 𐄂	13.73 𐄂
70	18.61 𐄂	27.55 Z	14.04 𐄂	7.35 𐄂	5.46 𐄂	11.53 𐄂	19.42 𐄂	19.92 𐄂	14.04 𐄂	9.14 𐄂	7.33 𐄂	11.53 𐄂	17.39 𐄂	18.01 𐄂
75	27.87 𐄂	27.12 Z	18.02 𐄂	11.72 𐄂	10.17 𐄂	16.19 𐄂	23.51 𐄂	23.72 𐄂	18.02 𐄂	13.08 𐄂	11.59 𐄂	16.19 𐄂	22.01 𐄂	22.29 𐄂
80	7.99 𐄂	26.81 Z	22.01 𐄂	16.08 𐄂	14.86 𐄂	20.81 𐄂	27.61 𐄂	27.54 𐄂	22.01 𐄂	17.00 𐄂	15.81 𐄂	20.81 𐄂	26.61 𐄂	26.59 𐄂
85	18.79 𐄂	26.62 Z	26.00 𐄂	20.43 𐄂	19.52 𐄂	25.41 𐄂	1.72 𐄂	1.37 𐄂	26.00 𐄂	20.89 𐄂	20.00 𐄂	25.41 𐄂	1.22 𐄂	0.90 𐄂
90	0.00 𐄂	26.56 Z	0.00 𐄂	24.77 𐄂	24.16 𐄂	0.00 𐄂	5.84 𐄂	5.23 𐄂	0.00 𐄂	24.77 𐄂	24.16 𐄂	0.00 𐄂	5.84 𐄂	5.23 𐄂
95	11.21 𐄂	26.62 Z	4.00 𐄂	29.10 𐄂	28.78 𐄂	4.59 𐄂	10.00 𐄂	9.11 𐄂	4.00 𐄂	28.63 𐄂	28.28 𐄂	4.59 𐄂	10.48 𐄂	9.57 𐄂
100	22.01 𐄂	26.81 Z	7.99 𐄂	3.41 𐄂	3.39 𐄂	9.19 𐄂	14.19 𐄂	13.00 𐄂	7.99 𐄂	2.46 𐄂	2.39 𐄂	9.19 𐄂	15.14 𐄂	13.92 𐄂
105	2.13 𐄂	27.12 Z	11.98 𐄂	7.71 𐄂	7.99 𐄂	13.81 𐄂	18.41 𐄂	16.92 𐄂	11.98 𐄂	6.28 𐄂	6.49 𐄂	13.81 𐄂	19.83 𐄂	18.28 𐄂
110	11.39 𐄂	27.55 Z	15.96 𐄂	11.99 𐄂	12.61 𐄂	18.47 𐄂	22.67 𐄂	20.86 𐄂	15.96 𐄂	10.08 𐄂	10.58 𐄂	18.47 𐄂	24.54 𐄂	22.65 𐄂
115	19.77 𐄂	28.11 Z	19.93 𐄂	16.27 𐄂	17.24 𐄂	23.16 𐄂	26.98 𐄂	24.81 𐄂	19.93 𐄂	13.87 𐄂	14.68 𐄂	23.16 𐄂	29.27 𐄂	27.02 𐄂
120	27.34 𐄂	28.78 Z	23.90 𐄂	20.54 𐄂	21.90 𐄂	27.91 𐄂	1.32 𐄂	28.78 𐄂	23.90 𐄂	17.65 𐄂	18.80 𐄂	27.91 𐄂	4.03 𐄂	1.38 𐄂
125	4.18 𐄂	29.56 Z	27.86 𐄂	24.82 𐄂	26.60 𐄂	2.72 𐄂	5.71 𐄂	2.77 𐄂	27.86 𐄂	21.43 𐄂	22.95 𐄂	2.72 𐄂	8.81 𐄂	5.74 𐄂
130	10.41 𐄂	30.46 Z	1.80 𐄂	29.10 𐄂	1.35 𐄂	7.59 𐄂	10.13 𐄂	6.76 𐄂	1.80 𐄂	25.22 𐄂	27.13 𐄂	7.59 𐄂	13.61 𐄂	10.09 𐄂
135	16.12 𐄂	31.47 Z	5.74 𐄂	3.40 𐄂	6.17 𐄂	12.54 𐄂	14.60 𐄂	10.76 𐄂	5.74 𐄂	29.01 𐄂	1.38 𐄂	12.54 𐄂	18.42 𐄂	14.43 𐄂
140	21.41 𐄂	32.58 Z	9.68 𐄂	7.72 𐄂	11.08 𐄂	17.55 𐄂	19.09 𐄂	14.77 𐄂	9.68 𐄂	2.83 𐄂	5.70 𐄂	17.55 𐄂	23.23 𐄂	18.75 𐄂
145	26.35 𐄂	33.79 Z	13.61 𐄂	12.08 𐄂	16.08 𐄂	22.65 𐄂	23.62 𐄂	18.78 𐄂	13.61 𐄂	6.68 𐄂	10.10 𐄂	22.65 𐄂	28.04 𐄂	23.04 𐄂
150	1.01 𐄂	35.10 Z	17.54 𐄂	16.50 𐄂	21.20 𐄂	27.82 𐄂	28.16 𐄂	22.79 𐄂	17.54 𐄂	10.57 𐄂	14.61 𐄂	27.82 𐄂	2.83 𐄂	27.32 𐄂
155	5.44 𐄂	36.50 Z	21.48 𐄂	20.98 𐄂	26.45 𐄂	3.06 𐄂	2.72 𐄂	26.81 𐄂	21.48 𐄂	14.52 𐄂	19.25 𐄂	3.06 𐄂	7.61 𐄂	1.57 𐄂
160	9.68 𐄂	37.98 Z	25.43 𐄂	25.54 𐄂	1.83 𐄂	8.36 𐄂	7.29 𐄂	0.82 𐄂	25.43 𐄂	18.54 𐄂	24.04 𐄂	8.36 𐄂	12.35 𐄂	5.79 𐄂
165	13.76 𐄂	39.54 Z	29.40 𐄂	0.21 𐄂	7.36 𐄂	13.72 𐄂	11.87 𐄂	4.83 𐄂	29.40 𐄂	22.65 𐄂	28.99 𐄂	13.72 𐄂	17.06 𐄂	9.99 𐄂
170	17.72 𐄂	41.18 Z	3.40 𐄂	4.99 𐄂	13.06 𐄂	19.12 𐄂	16.44 𐄂	8.85 𐄂	3.40 𐄂	26.87 𐄂	4.12 𐄂	19.12 𐄂	21.73 𐄂	14.17 𐄂
175	21.58 𐄂	42.89 Z	7.45 𐄂	9.93 𐄂	18.91 𐄂	24.55 𐄂	21.00 𐄂	12.87 𐄂	7.45 𐄂	1.22 𐄂	9.46 𐄂	24.55 𐄂	26.36 𐄂	18.33 𐄂
180	25.36 𐄂	44.65 Z	11.54 𐄂	15.03 𐄂	24.92 𐄂	0.00 𐄂	25.55 𐄂	16.89 𐄂	11.54 𐄂	5.74 𐄂	15.03 𐄂	0.00 𐄂	0.93 𐄂	22.48 𐄂

40° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	29.08 ㊟	46.48 Z	15.71 ㄨ	20.32 ㄨ	1.08 ㄨ	5.45 ㄨ	0.09 ㄨ	20.93 ㄨ	15.71 ㄨ	10.44 ㄨ	20.83 ㄨ	5.45 ㊟	5.46 ㄨ	26.61 ㄨ
190	2.75 ㄨ	48.35 Z	19.95 ㄨ	25.83 ㄨ	7.38 ㄨ	10.88 ㄨ	4.60 ㄨ	24.98 ㄨ	19.95 ㄨ	15.37 ㄨ	26.88 ㄨ	10.88 ㊟	9.93 ㄨ	0.74 ㄨ
195	6.38 ㄨ	50.26 Z	24.31 ㄨ	1.58 ㄨ	13.78 ㄨ	16.28 ㄨ	9.10 ㄨ	29.06 ㄨ	24.31 ㄨ	20.56 ㄨ	3.18 ㄨ	16.28 ㊟	14.34 ㄨ	4.88 ㄨ
200	9.98 ㄨ	52.21 Z	28.78 ㄨ	7.59 ㄨ	20.26 ㄨ	21.64 ㄨ	13.58 ㄨ	3.17 ㄨ	28.78 ㄨ	26.05 ㄨ	9.71 ㄨ	21.64 ㊟	18.71 ㄨ	9.02 ㄨ
205	13.56 ㄨ	54.18 Z	3.41 ㄨ	13.88 ㄨ	26.78 ㄨ	26.94 ㄨ	18.04 ㄨ	7.33 ㄨ	3.41 ㄨ	1.89 ㄨ	16.46 ㄨ	26.94 ㊟	23.03 ㄨ	13.18 ㄨ
210	17.13 ㄨ	56.17 Z	8.21 ㄨ	20.45 ㄨ	3.30 ㄨ	2.18 ㄨ	22.49 ㄨ	11.54 ㄨ	8.21 ㄨ	8.11 ㄨ	23.38 ㄨ	2.18 ㄨ	27.30 ㄨ	17.38 ㄨ
215	20.69 ㄨ	58.16 Z	13.22 ㄨ	27.28 ㄨ	9.79 ㄨ	7.35 ㄨ	26.93 ㄨ	15.82 ㄨ	13.22 ㄨ	14.77 ㄨ	0.42 ㊟	7.35 ㄨ	1.54 ㄨ	21.61 ㄨ
220	24.24 ㄨ	60.13 Z	18.48 ㄨ	4.37 ㄨ	16.20 ㄨ	12.45 ㄨ	1.37 ㄨ	20.19 ㄨ	18.48 ㄨ	21.88 ㄨ	7.54 ㊟	12.45 ㄨ	5.74 ㄨ	25.90 ㄨ
225	27.80 ㄨ	62.08 Z	24.01 ㄨ	11.66 ㄨ	22.49 ㄨ	17.46 ㄨ	5.82 ㄨ	24.68 ㄨ	24.01 ㄨ	29.46 ㄨ	14.66 ㊟	17.46 ㄨ	9.92 ㄨ	0.25 ㄨ
230	1.36 ㄨ	63.99 Z	29.86 ㄨ	19.08 ㄨ	28.64 ㄨ	22.41 ㄨ	10.28 ㄨ	29.29 ㄨ	29.86 ㄨ	7.49 ㄨ	21.72 ㊟	22.41 ㄨ	14.09 ㄨ	4.69 ㄨ
235	4.92 ㄨ	65.82 Z	6.07 ㄨ	26.58 ㄨ	4.63 ㄨ	27.28 ㄨ	14.78 ㄨ	4.07 ㄨ	6.07 ㄨ	15.90 ㄨ	28.66 ㊟	27.28 ㄨ	18.26 ㄨ	9.21 ㄨ
240	8.49 ㄨ	67.56 Z	12.66 ㄨ	4.05 ㄨ	10.43 ㄨ	2.09 ㄨ	19.32 ㄨ	9.04 ㄨ	12.66 ㄨ	24.60 ㄨ	5.43 ㄨ	2.09 ㄨ	22.43 ㄨ	13.85 ㄨ
245	12.06 ㄨ	69.16 Z	19.67 ㄨ	11.41 ㄨ	16.05 ㄨ	6.84 ㄨ	23.93 ㄨ	14.25 ㄨ	19.67 ㄨ	3.44 ㊟	12.00 ㄨ	6.84 ㄨ	26.63 ㄨ	18.63 ㄨ
250	15.64 ㄨ	70.58 Z	27.08 ㄨ	18.60 ㄨ	21.47 ㄨ	11.53 ㄨ	28.62 ㄨ	19.74 ㄨ	27.08 ㄨ	12.27 ㊟	18.34 ㄨ	11.53 ㄨ	0.87 ㄨ	23.55 ㄨ
255	19.23 ㄨ	71.77 Z	4.90 ㄨ	25.55 ㄨ	26.70 ㄨ	16.19 ㄨ	3.41 ㄨ	25.54 ㄨ	4.90 ㄨ	20.92 ㊟	24.44 ㄨ	16.19 ㄨ	5.17 ㄨ	28.66 ㄨ
260	22.82 ㄨ	72.68 Z	13.05 ㄨ	2.22 ㄨ	1.76 ㄨ	20.81 ㄨ	8.33 ㄨ	1.71 ㄨ	13.05 ㄨ	29.26 ㊟	0.31 ㄨ	20.81 ㄨ	9.55 ㄨ	3.97 ㄨ
265	26.41 ㄨ	73.24 Z	21.46 ㄨ	8.60 ㄨ	6.64 ㄨ	25.41 ㄨ	13.39 ㄨ	8.29 ㄨ	21.46 ㄨ	7.20 ㄨ	5.95 ㄨ	25.41 ㄨ	14.03 ㄨ	9.51 ㄨ
270	0.00 ㄨ	73.44 Z	0.00 ㄨ	14.69 ㄨ	11.38 ㄨ	0.00 ㄨ	18.62 ㄨ	15.31 ㄨ	0.00 ㊟	14.69 ㄨ	11.38 ㄨ	0.00 ㄨ	18.62 ㄨ	15.31 ㄨ
275	3.59 ㄨ	73.24 Z	8.54 ㄨ	20.49 ㄨ	15.97 ㄨ	4.59 ㄨ	24.05 ㄨ	22.80 ㄨ	8.54 ㊟	21.71 ㄨ	16.61 ㄨ	4.59 ㄨ	23.36 ㄨ	21.40 ㄨ
280	7.18 ㄨ	72.68 Z	16.95 ㄨ	26.03 ㄨ	20.45 ㄨ	9.19 ㄨ	29.69 ㄨ	0.74 ㄨ	16.95 ㊟	28.29 ㄨ	21.67 ㄨ	9.19 ㄨ	28.24 ㄨ	27.78 ㄨ
285	10.77 ㄨ	71.77 Z	25.10 ㄨ	1.34 ㄨ	24.83 ㄨ	13.81 ㄨ	5.56 ㄨ	9.08 ㄨ	25.10 ㊟	4.46 ㄨ	26.59 ㄨ	13.81 ㄨ	3.30 ㄨ	4.45 ㄨ
290	14.36 ㄨ	70.58 Z	2.92 ㄨ	6.45 ㄨ	29.13 ㄨ	18.47 ㄨ	11.66 ㄨ	17.73 ㄨ	2.92 ㄨ	10.26 ㄨ	1.38 ㄨ	18.47 ㄨ	8.53 ㄨ	11.40 ㄨ
295	17.94 ㄨ	69.16 Z	10.33 ㄨ	11.37 ㄨ	3.37 ㄨ	23.16 ㄨ	18.00 ㄨ	26.56 ㄨ	10.33 ㄨ	15.75 ㄨ	6.07 ㄨ	23.16 ㄨ	13.95 ㄨ	18.59 ㄨ
300	21.51 ㄨ	67.56 Z	17.34 ㄨ	16.15 ㄨ	7.57 ㄨ	27.91 ㄨ	24.57 ㄨ	5.40 ㊟	17.34 ㄨ	20.96 ㄨ	10.68 ㄨ	27.91 ㄨ	19.57 ㄨ	25.95 ㄨ
305	25.08 ㄨ	65.82 Z	23.93 ㄨ	20.79 ㄨ	11.74 ㄨ	2.72 ㄨ	1.34 ㄨ	14.10 ㊟	23.93 ㄨ	25.93 ㄨ	15.22 ㄨ	2.72 ㄨ	25.37 ㄨ	3.42 ㄨ
310	28.64 ㄨ	63.99 Z	0.14 ㄨ	25.31 ㄨ	15.91 ㄨ	7.59 ㄨ	8.28 ㄨ	22.51 ㊟	0.14 ㄨ	0.71 ㄨ	19.72 ㄨ	7.59 ㄨ	1.36 ㄨ	10.92 ㄨ
315	2.20 ㄨ	62.08 Z	5.99 ㄨ	29.75 ㄨ	20.08 ㄨ	12.54 ㄨ	15.34 ㄨ	0.54 ㄨ	5.99 ㄨ	5.32 ㄨ	24.18 ㄨ	12.54 ㄨ	7.51 ㄨ	18.34 ㄨ
320	5.76 ㄨ	60.13 Z	11.52 ㄨ	4.10 ㄨ	24.26 ㄨ	17.55 ㄨ	22.46 ㄨ	8.12 ㄨ	11.52 ㄨ	9.81 ㄨ	28.63 ㄨ	17.55 ㄨ	13.80 ㄨ	25.63 ㄨ
325	9.31 ㄨ	58.16 Z	16.78 ㄨ	8.39 ㄨ	28.46 ㄨ	22.65 ㄨ	29.58 ㄨ	15.23 ㄨ	16.78 ㄨ	14.18 ㄨ	3.07 ㄨ	22.65 ㄨ	20.21 ㄨ	2.72 ㄨ
330	12.87 ㄨ	56.17 Z	21.79 ㄨ	12.62 ㄨ	2.70 ㄨ	27.82 ㄨ	6.62 ㊟	21.89 ㄨ	21.79 ㄨ	18.46 ㄨ	7.51 ㄨ	27.82 ㄨ	26.70 ㄨ	9.55 ㄨ
335	16.44 ㄨ	54.18 Z	26.59 ㄨ	16.82 ㄨ	6.97 ㄨ	3.06 ㄨ	13.54 ㊟	28.11 ㄨ	26.59 ㄨ	22.67 ㄨ	11.96 ㄨ	3.06 ㄨ	3.22 ㄨ	16.12 ㄨ
340	20.02 ㄨ	52.21 Z	1.22 ㄨ	20.98 ㄨ	11.29 ㄨ	8.36 ㄨ	20.29 ㊟	3.95 ㄨ	1.22 ㄨ	26.83 ㄨ	16.42 ㄨ	8.36 ㄨ	9.74 ㄨ	22.41 ㄨ
345	23.62 ㄨ	50.26 Z	5.69 ㄨ	25.12 ㄨ	15.66 ㄨ	13.72 ㄨ	26.82 ㊟	9.44 ㄨ	5.69 ㄨ	0.94 ㄨ	20.90 ㄨ	13.72 ㄨ	16.22 ㄨ	28.42 ㄨ
350	27.25 ㄨ	48.35 Z	10.05 ㄨ	29.26 ㄨ	20.07 ㄨ	19.12 ㄨ	3.12 ㄨ	14.63 ㄨ	10.05 ㄨ	5.02 ㄨ	25.40 ㄨ	19.12 ㄨ	22.62 ㄨ	4.17 ㄨ
355	0.92 ㄨ	46.48 Z	14.29 ㄨ	3.39 ㄨ	24.54 ㄨ	24.55 ㄨ	9.17 ㄨ	19.56 ㄨ	14.29 ㄨ	9.07 ㄨ	29.91 ㄨ	24.55 ㄨ	28.92 ㄨ	9.68 ㄨ
360	4.64 ㄨ	44.65 Z	18.46 ㄨ	7.52 ㄨ	29.07 ㄨ	0.00 ㊟	14.97 ㄨ	24.26 ㄨ	18.46 ㄨ	13.11 ㄨ	4.45 ㄨ	0.00 ㄨ	5.08 ㄨ	14.97 ㄨ

45° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	8.31 𠄎	40.45 Z	21.69 𠄎	9.13 𠄎	29.25 𠄎	0.00 𠄎	18.48 𠄎	28.96 𠄎	21.69 𠄎	15.28 𠄎	5.31 𠄎	0.00 𠄎	5.93 𠄎	17.92 𠄎
5	12.31 𠄎	38.63 Z	25.62 𠄎	13.16 𠄎	3.73 𠄎	5.45 𠄎	23.99 𠄎	3.25 𠄎	25.62 𠄎	19.15 𠄎	9.75 𠄎	5.45 𠄎	12.11 𠄎	22.99 𠄎
10	16.39 𠄎	36.86 Z	29.50 𠄎	17.19 𠄎	8.26 𠄎	10.88 𠄎	29.26 𠄎	7.39 𠄎	29.50 𠄎	23.01 𠄎	14.20 𠄎	10.88 𠄎	18.10 𠄎	27.88 𠄎
15	20.58 𠄎	35.17 Z	3.33 𠄎	21.23 𠄎	12.82 𠄎	16.28 𠄎	4.29 𠄎	11.39 𠄎	3.33 𠄎	26.87 𠄎	18.65 𠄎	16.28 𠄎	23.91 𠄎	2.61 𠄎
20	24.89 𠄎	33.54 Z	7.13 𠄎	25.30 𠄎	17.43 𠄎	21.64 𠄎	9.13 𠄎	15.28 𠄎	7.13 𠄎	0.72 𠄎	23.11 𠄎	21.64 𠄎	29.53 𠄎	7.20 𠄎
25	29.37 𠄎	32.00 Z	10.92 𠄎	29.38 𠄎	22.08 𠄎	26.94 𠄎	13.78 𠄎	19.09 𠄎	10.92 𠄎	4.56 𠄎	27.55 𠄎	26.94 𠄎	4.99 𠄎	11.68 𠄎
30	4.03 𠄎	30.54 Z	14.68 𠄎	3.48 𠄎	26.75 𠄎	2.18 𠄎	18.29 𠄎	22.84 𠄎	14.68 𠄎	8.40 𠄎	1.99 𠄎	2.18 𠄎	10.29 𠄎	16.06 𠄎
35	8.91 𠄎	29.17 Z	18.44 𠄎	7.61 𠄎	1.44 𠄎	7.35 𠄎	22.67 𠄎	26.52 𠄎	18.44 𠄎	12.24 𠄎	6.40 𠄎	7.35 𠄎	15.44 𠄎	20.38 𠄎
40	14.07 𠄎	27.90 Z	22.20 𠄎	11.75 𠄎	6.15 𠄎	12.45 𠄎	26.94 𠄎	0.17 𠄎	22.20 𠄎	16.07 𠄎	10.80 𠄎	12.45 𠄎	20.47 𠄎	24.63 𠄎
45	19.54 𠄎	26.74 Z	25.95 𠄎	15.91 𠄎	10.87 𠄎	17.46 𠄎	1.12 𠄎	3.79 𠄎	25.95 𠄎	19.90 𠄎	15.16 𠄎	17.46 𠄎	25.39 𠄎	28.85 𠄎
50	25.39 𠄎	25.68 Z	29.71 𠄎	20.09 𠄎	15.58 𠄎	22.41 𠄎	5.23 𠄎	7.39 𠄎	29.71 𠄎	23.71 𠄎	19.50 𠄎	22.41 𠄎	0.22 𠄎	3.03 𠄎
55	1.67 𠄎	24.73 Z	3.48 𠄎	24.28 𠄎	20.29 𠄎	27.28 𠄎	9.29 𠄎	10.98 𠄎	3.48 𠄎	27.52 𠄎	23.79 𠄎	27.28 𠄎	4.97 𠄎	7.19 𠄎
60	8.43 𠄎	23.90 Z	7.25 𠄎	28.48 𠄎	24.99 𠄎	2.09 𠄎	13.31 𠄎	14.57 𠄎	7.25 𠄎	1.31 𠄎	28.05 𠄎	2.09 𠄎	9.66 𠄎	11.35 𠄎
65	15.74 𠄎	23.19 Z	11.03 𠄎	2.69 𠄎	29.67 𠄎	6.84 𠄎	17.30 𠄎	18.16 𠄎	11.03 𠄎	5.09 𠄎	2.27 𠄎	6.84 𠄎	14.30 𠄎	15.49 𠄎
70	23.63 𠄎	22.61 Z	14.81 𠄎	6.90 𠄎	4.33 𠄎	11.53 𠄎	21.27 𠄎	21.76 𠄎	14.81 𠄎	8.85 𠄎	6.45 𠄎	11.53 𠄎	18.91 𠄎	19.64 𠄎
75	2.08 𠄎	22.15 Z	18.60 𠄎	11.11 𠄎	8.98 𠄎	16.19 𠄎	25.24 𠄎	25.37 𠄎	18.60 𠄎	12.59 𠄎	10.59 𠄎	16.19 𠄎	23.49 𠄎	23.79 𠄎
80	11.05 𠄎	21.82 Z	22.40 𠄎	15.31 𠄎	13.60 𠄎	20.81 𠄎	29.22 𠄎	29.00 𠄎	22.40 𠄎	16.31 𠄎	14.69 𠄎	20.81 𠄎	28.07 𠄎	27.95 𠄎
85	20.42 𠄎	21.63 Z	26.20 𠄎	19.51 𠄎	18.20 𠄎	25.41 𠄎	3.20 𠄎	2.64 𠄎	26.20 𠄎	20.02 𠄎	18.75 𠄎	25.41 𠄎	2.64 𠄎	2.12 𠄎
90	0.00 𠄎	21.56 Z	0.00 𠄎	23.70 𠄎	22.79 𠄎	0.00 𠄎	7.21 𠄎	6.30 𠄎	0.00 𠄎	23.70 𠄎	22.79 𠄎	0.00 𠄎	7.21 𠄎	6.30 𠄎
95	9.58 𠄎	21.63 Z	3.80 𠄎	27.88 𠄎	27.36 𠄎	4.59 𠄎	11.25 𠄎	9.98 𠄎	3.80 𠄎	27.36 𠄎	26.80 𠄎	4.59 𠄎	11.80 𠄎	10.49 𠄎
100	18.95 𠄎	21.82 Z	7.60 𠄎	2.05 𠄎	1.93 𠄎	9.19 𠄎	15.31 𠄎	13.69 𠄎	7.60 𠄎	1.00 𠄎	0.78 𠄎	9.19 𠄎	16.40 𠄎	14.69 𠄎
105	27.92 𠄎	22.15 Z	11.40 𠄎	6.21 𠄎	6.51 𠄎	13.81 𠄎	19.41 𠄎	17.41 𠄎	11.40 𠄎	4.63 𠄎	4.76 𠄎	13.81 𠄎	21.02 𠄎	18.89 𠄎
110	6.37 𠄎	22.61 Z	15.19 𠄎	10.36 𠄎	11.09 𠄎	18.47 𠄎	23.55 𠄎	21.15 𠄎	15.19 𠄎	8.24 𠄎	8.73 𠄎	18.47 𠄎	25.67 𠄎	23.10 𠄎
115	14.26 𠄎	23.19 Z	18.97 𠄎	14.51 𠄎	15.70 𠄎	23.16 𠄎	27.73 𠄎	24.91 𠄎	18.97 𠄎	11.84 𠄎	12.70 𠄎	23.16 𠄎	0.33 𠄎	27.31 𠄎
120	21.57 𠄎	23.90 Z	22.75 𠄎	18.65 𠄎	20.34 𠄎	27.91 𠄎	1.95 𠄎	28.69 𠄎	22.75 𠄎	15.43 𠄎	16.69 𠄎	27.91 𠄎	5.01 𠄎	1.52 𠄎
125	28.33 𠄎	24.73 Z	26.52 𠄎	22.81 𠄎	25.03 𠄎	2.72 𠄎	6.21 𠄎	2.48 𠄎	26.52 𠄎	19.02 𠄎	20.71 𠄎	2.72 𠄎	9.71 𠄎	5.72 𠄎
130	4.61 𠄎	25.68 Z	0.29 𠄎	26.97 𠄎	29.78 𠄎	7.59 𠄎	10.50 𠄎	6.29 𠄎	0.29 𠄎	22.61 𠄎	24.77 𠄎	7.59 𠄎	14.42 𠄎	9.91 𠄎
135	10.46 𠄎	26.74 Z	4.05 𠄎	1.15 𠄎	4.61 𠄎	12.54 𠄎	14.84 𠄎	10.10 𠄎	4.05 𠄎	26.21 𠄎	28.88 𠄎	12.54 𠄎	19.13 𠄎	14.09 𠄎
140	15.93 𠄎	27.90 Z	7.80 𠄎	5.37 𠄎	9.53 𠄎	17.55 𠄎	19.20 𠄎	13.93 𠄎	7.80 𠄎	29.83 𠄎	3.06 𠄎	17.55 𠄎	23.85 𠄎	18.25 𠄎
145	21.09 𠄎	29.17 Z	11.56 𠄎	9.62 𠄎	14.56 𠄎	22.65 𠄎	23.60 𠄎	17.76 𠄎	11.56 𠄎	3.48 𠄎	7.33 𠄎	22.65 𠄎	28.56 𠄎	22.39 𠄎
150	25.97 𠄎	30.54 Z	15.32 𠄎	13.94 𠄎	19.71 𠄎	27.82 𠄎	28.01 𠄎	21.60 𠄎	15.32 𠄎	7.16 𠄎	11.71 𠄎	27.82 𠄎	3.25 𠄎	26.52 𠄎
155	0.63 𠄎	32.00 Z	19.08 𠄎	18.32 𠄎	25.01 𠄎	3.06 𠄎	2.45 𠄎	25.44 𠄎	19.08 𠄎	10.91 𠄎	16.22 𠄎	3.06 𠄎	7.92 𠄎	0.62 𠄎
160	5.11 𠄎	33.54 Z	22.87 𠄎	22.80 𠄎	0.47 𠄎	8.36 𠄎	6.89 𠄎	29.28 𠄎	22.87 𠄎	14.72 𠄎	20.87 𠄎	8.36 𠄎	12.57 𠄎	4.70 𠄎
165	9.42 𠄎	35.17 Z	26.67 𠄎	27.39 𠄎	6.09 𠄎	13.72 𠄎	11.35 𠄎	3.13 𠄎	26.67 𠄎	18.61 𠄎	25.71 𠄎	13.72 𠄎	17.18 𠄎	8.77 𠄎
170	13.61 𠄎	36.86 Z	0.50 𠄎	2.12 𠄎	11.90 𠄎	19.12 𠄎	15.80 𠄎	6.99 𠄎	0.50 𠄎	22.61 𠄎	0.74 𠄎	19.12 𠄎	21.74 𠄎	12.81 𠄎
175	17.69 𠄎	38.63 Z	4.38 𠄎	7.01 𠄎	17.89 𠄎	24.55 𠄎	20.25 𠄎	10.85 𠄎	4.38 𠄎	26.75 𠄎	6.01 𠄎	24.55 𠄎	26.27 𠄎	16.84 𠄎
180	21.69 𠄎	40.45 Z	8.31 𠄎	12.08 𠄎	24.07 𠄎	0.00 𠄎	24.69 𠄎	14.72 𠄎	8.31 𠄎	1.04 𠄎	11.52 𠄎	0.00 𠄎	0.75 𠄎	20.87 𠄎

45° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	25.62 ♁	42.32 Z	12.31 ♀	17.39 ☾	0.42 ♀	5.45 ♀	29.12 ♀	18.61 ♂	12.31 II	5.52 ☽	17.32 ♀	5.45 ♁	5.17 ♀	24.88 ♀
190	29.50 ♁	44.23 Z	16.39 ♀	22.94 ☾	6.92 ♀	10.88 ♀	3.53 ♂	22.52 ♂	16.39 II	10.24 ☽	23.42 ♀	10.88 ♁	9.55 ♀	28.89 ♀
195	3.33 ♀	46.18 Z	20.58 ♀	28.79 ☾	13.56 ♀	16.28 ♀	7.93 ♂	26.45 ♂	20.58 II	15.24 ☽	29.82 ♀	16.28 ♁	13.88 ♀	2.92 ♀
200	7.13 ♀	48.16 Z	24.89 ♀	4.96 ☽	20.29 ♀	21.64 ♀	12.32 ♂	0.42 II	24.89 II	20.57 ☽	6.54 ♀	21.64 ♁	18.15 ♀	6.95 ♀
205	10.92 ♀	50.14 Z	29.37 ♀	11.48 ☽	27.08 ♀	26.94 ♀	16.69 ♂	4.43 II	29.37 II	26.29 ☽	13.54 ♀	26.94 ♁	22.38 ♀	11.01 ♀
210	14.68 ♀	52.13 Z	4.03 ☾	18.37 ☽	3.86 ♀	2.18 ♂	21.05 ♂	8.50 II	4.03 ☽	2.47 ♀	20.81 ♀	2.18 ♀	26.57 ♀	15.10 ♀
215	18.44 ♀	54.10 Z	8.91 ☾	25.61 ☽	10.60 ♀	7.35 ♂	25.41 ♂	12.64 II	8.91 ☽	9.18 ♀	28.27 ♀	7.35 ♀	0.72 ♀	19.24 ♀
220	22.20 ♀	56.05 Z	14.07 ☾	3.20 ♀	17.25 ♀	12.45 ♂	29.77 ♂	16.87 II	14.07 ☽	16.50 ♀	5.87 ♁	12.45 ♀	4.83 ♀	23.43 ♀
225	25.95 ♀	57.96 Z	19.54 ☾	11.07 ♀	23.76 ♀	17.46 ♂	4.14 II	21.21 II	19.54 ☽	24.46 ♀	13.50 ♁	17.46 ♀	8.92 ♀	27.68 ♀
230	29.71 ♀	59.79 Z	25.39 ☾	19.14 ♀	0.11 ♂	22.41 ♂	8.54 II	25.69 II	25.39 ☽	3.08 ♀	21.09 ♁	22.41 ♀	12.99 ♀	2.02 ☾
235	3.48 ♀	61.54 Z	1.67 ☽	27.30 ♀	6.26 ♂	27.28 ♂	12.97 II	0.34 ☽	1.67 ♀	12.33 ♀	28.54 ♁	27.28 ♀	17.05 ♀	6.45 ☾
240	7.25 ♀	63.17 Z	8.43 ☽	5.42 ♀	12.20 ♂	2.09 II	17.45 II	5.20 ☽	8.43 ♀	22.06 ♀	5.79 ♀	2.09 ♀	21.12 ♀	10.99 ☾
245	11.03 ♀	64.65 Z	15.74 ☽	13.37 ♀	17.92 ♂	6.84 II	22.00 II	10.31 ☽	15.74 ♀	2.08 ♁	12.78 ♀	6.84 ♀	25.21 ♀	15.66 ☾
250	14.81 ♀	65.93 Z	23.63 ☽	21.05 ♀	23.41 ♂	11.53 II	26.65 II	15.74 ☽	23.63 ♀	12.12 ♁	19.48 ♀	11.53 ♀	29.34 ♀	20.48 ☾
255	18.60 ♀	66.99 Z	2.08 ♀	28.39 ♀	28.69 ♂	16.19 II	1.41 ☽	21.55 ☽	2.08 ♀	21.92 ♁	25.87 ♀	16.19 ♀	3.52 ☾	25.49 ☾
260	22.40 ♀	67.78 Z	11.05 ♀	5.33 ♂	3.75 II	20.81 II	6.32 ☽	27.81 ☽	11.05 ♀	1.24 ♀	1.96 ♀	20.81 ♀	7.80 ☾	0.71 ☽
265	26.20 ♀	68.27 Z	20.42 ♀	11.86 ♂	8.62 II	25.41 II	11.41 ☽	4.60 ♀	20.42 ♀	9.96 ♀	7.76 ♀	25.41 ♀	12.18 ☾	6.20 ☽
270	0.00 ☾	68.44 Z	0.00 ♀	18.01 ♂	13.30 II	0.00 ☽	16.70 ☽	11.99 ♀	0.00 ♁	18.01 ♀	13.30 ♀	0.00 ☾	16.70 ☾	11.99 ☽
275	3.80 ☾	68.27 Z	9.58 ♀	23.80 ♂	17.82 II	4.59 ☽	22.24 ☽	20.04 ♀	9.58 ♁	25.40 ♀	18.59 ♀	4.59 ☾	21.38 ☾	18.14 ☽
280	7.60 ☾	67.78 Z	18.95 ♀	29.29 ♂	22.20 II	9.19 ☽	28.04 ☽	28.76 ♀	18.95 ♁	2.19 ♀	23.68 ♀	9.19 ☾	26.25 ☾	24.67 ☽
285	11.40 ☾	66.99 Z	27.92 ♀	4.51 II	26.48 II	13.81 ☽	4.13 ♀	8.08 ♀	27.92 ♁	8.45 ♀	28.59 ♀	13.81 ☾	1.31 ☽	1.61 ♀
290	15.19 ☾	65.93 Z	6.37 ♂	9.52 II	0.66 ☽	18.47 ☽	10.52 ♀	17.88 ♀	6.37 ♀	14.26 ♀	3.35 ☾	18.47 ☾	6.59 ☽	8.95 ♀
295	18.97 ☾	64.65 Z	14.26 ♂	14.34 II	4.79 ☽	23.16 ☽	17.22 ♀	27.92 ♀	14.26 ♀	19.69 ♀	8.00 ☾	23.16 ☾	12.08 ☽	16.63 ♀
300	22.75 ☾	63.17 Z	21.57 ♂	19.01 II	8.88 ☽	27.91 ☽	24.21 ♀	7.94 ♁	21.57 ♀	24.80 ♀	12.55 ☾	27.91 ☾	17.80 ☽	24.58 ♀
305	26.52 ☾	61.54 Z	28.33 ♂	23.55 II	12.95 ☽	2.72 ♀	1.46 ♀	17.67 ♁	28.33 ♀	29.66 ♀	17.03 ☾	2.72 ☽	23.74 ☽	2.70 ♀
310	0.29 ☽	59.79 Z	4.61 II	27.98 II	17.01 ☽	7.59 ♀	8.91 ♀	26.92 ♁	4.61 ♀	4.31 ☾	21.46 ☾	7.59 ☽	29.89 ☽	10.86 ♀
315	4.05 ☽	57.96 Z	10.46 II	2.32 ☽	21.08 ☽	12.54 ♀	16.50 ♀	5.54 ♀	10.46 ♀	8.79 ☾	25.86 ☾	12.54 ☽	6.24 ♀	18.93 ♀
320	7.80 ☽	56.05 Z	15.93 II	6.57 ☽	25.17 ☽	17.55 ♀	24.13 ♀	13.50 ♀	15.93 ♀	13.13 ☾	0.23 ☽	17.55 ☽	12.75 ♀	26.80 ♀
325	11.56 ☽	54.10 Z	21.09 II	10.76 ☽	29.28 ☽	22.65 ♀	1.73 ♁	20.82 ♀	21.09 ♀	17.36 ☾	4.59 ☽	22.65 ☽	19.40 ♀	4.39 ♂
330	15.32 ☽	52.13 Z	25.97 II	14.90 ☽	3.43 ♀	27.82 ♀	9.19 ♁	27.53 ♀	25.97 ♀	21.50 ☾	8.95 ☽	27.82 ☽	26.14 ♀	11.63 ♂
335	19.08 ☽	50.14 Z	0.63 ☽	18.99 ☽	7.62 ♀	3.06 ♀	16.46 ♁	3.71 ♀	0.63 ☾	25.57 ☾	13.31 ☽	3.06 ♀	2.92 ♀	18.52 ♂
340	22.87 ☽	48.16 Z	5.11 ☽	23.05 ☽	11.85 ♀	8.36 ♀	23.46 ♁	9.43 ♀	5.11 ☾	29.58 ☾	17.68 ☽	8.36 ♀	9.71 ♀	25.04 ♂
345	26.67 ☽	46.18 Z	9.42 ☽	27.08 ☽	16.12 ♀	13.72 ♀	0.18 ♀	14.76 ♀	9.42 ☾	3.55 ☽	22.07 ☽	13.72 ♀	16.44 ♀	1.21 II
350	0.50 ♀	44.23 Z	13.61 ☽	1.11 ♀	20.45 ♀	19.12 ♀	6.58 ♀	19.76 ♀	13.61 ☾	7.48 ☽	26.47 ☽	19.12 ♀	23.08 ♀	7.06 II
355	4.38 ♀	42.32 Z	17.69 ☽	5.12 ♀	24.83 ♀	24.55 ♀	12.68 ♀	24.48 ♀	17.69 ☾	11.39 ☽	0.88 ♀	24.55 ♀	29.58 ♀	12.61 II
360	8.31 ♀	40.45 Z	21.69 ☽	9.13 ♀	29.25 ♀	0.00 ♁	18.48 ♀	28.96 ♀	21.69 ☾	15.28 ☽	5.31 ♀	0.00 ♀	5.93 ♂	17.92 II

49° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	10.93 𠄎	37.01 Z	24.59 𠄎	10.59 𠄎	29.43 𠄎	0.00 𠄎	22.12 𠄎	3.34 𠄎	24.59 𠄎	17.13 𠄎	6.04 𠄎	0.00 𠄎	6.83 𠄎	20.79 𠄎
5	15.06 𠄎	35.15 Z	28.35 𠄎	14.49 𠄎	3.83 𠄎	5.45 𠄎	27.53 𠄎	7.39 𠄎	28.35 𠄎	20.87 𠄎	10.38 𠄎	5.45 𠄎	13.16 𠄎	25.81 𠄎
10	19.28 𠄎	33.35 Z	2.06 𠄎	18.41 𠄎	8.26 𠄎	10.88 𠄎	2.66 𠄎	11.28 𠄎	2.06 𠄎	24.59 𠄎	14.73 𠄎	10.88 𠄎	19.28 𠄎	0.63 𠄎
15	23.60 𠄎	31.62 Z	5.74 𠄎	22.33 𠄎	12.74 𠄎	16.28 𠄎	7.55 𠄎	15.06 𠄎	5.74 𠄎	28.31 𠄎	19.08 𠄎	16.28 𠄎	25.18 𠄎	5.26 𠄎
20	28.05 𠄎	29.95 Z	9.38 𠄎	26.27 𠄎	17.26 𠄎	21.64 𠄎	12.23 𠄎	18.74 𠄎	9.38 𠄎	2.01 𠄎	23.43 𠄎	21.64 𠄎	0.88 𠄎	9.76 𠄎
25	2.65 𠄎	28.36 Z	13.01 𠄎	0.23 𠄎	21.81 𠄎	26.94 𠄎	16.73 𠄎	22.34 𠄎	13.01 𠄎	5.71 𠄎	27.77 𠄎	26.94 𠄎	6.40 𠄎	14.14 𠄎
30	7.43 𠄎	26.86 Z	16.62 𠄎	4.20 𠄎	26.40 𠄎	2.18 𠄎	21.08 𠄎	25.88 𠄎	16.62 𠄎	9.41 𠄎	2.09 𠄎	2.18 𠄎	11.73 𠄎	18.42 𠄎
35	12.42 𠄎	25.45 Z	20.22 𠄎	8.19 𠄎	1.00 𠄎	7.35 𠄎	25.30 𠄎	29.37 𠄎	20.22 𠄎	13.09 𠄎	6.40 𠄎	7.35 𠄎	16.91 𠄎	22.62 𠄎
40	17.67 𠄎	24.14 Z	23.82 𠄎	12.20 𠄎	5.62 𠄎	12.45 𠄎	29.43 𠄎	2.83 𠄎	23.82 𠄎	16.77 𠄎	10.68 𠄎	12.45 𠄎	21.96 𠄎	26.77 𠄎
45	23.19 𠄎	22.93 Z	27.42 𠄎	16.23 𠄎	10.25 𠄎	17.46 𠄎	3.46 𠄎	6.26 𠄎	27.42 𠄎	20.44 𠄎	14.93 𠄎	17.46 𠄎	26.88 𠄎	0.87 𠄎
50	29.05 𠄎	21.84 Z	1.02 𠄎	20.27 𠄎	14.88 𠄎	22.41 𠄎	7.44 𠄎	9.68 𠄎	1.02 𠄎	24.10 𠄎	19.15 𠄎	22.41 𠄎	1.70 𠄎	4.94 𠄎
55	5.28 𠄎	20.86 Z	4.62 𠄎	24.32 𠄎	19.51 𠄎	27.28 𠄎	11.36 𠄎	13.10 𠄎	4.62 𠄎	27.75 𠄎	23.34 𠄎	27.28 𠄎	6.44 𠄎	8.99 𠄎
60	11.91 𠄎	19.99 Z	8.23 𠄎	28.38 𠄎	24.13 𠄎	2.09 𠄎	15.25 𠄎	16.51 𠄎	8.23 𠄎	1.38 𠄎	27.49 𠄎	2.09 𠄎	11.11 𠄎	13.02 𠄎
65	18.98 𠄎	19.26 Z	11.85 𠄎	2.45 𠄎	28.74 𠄎	6.84 𠄎	19.11 𠄎	19.93 𠄎	11.85 𠄎	4.99 𠄎	1.59 𠄎	6.84 𠄎	15.72 𠄎	17.05 𠄎
70	26.48 𠄎	18.65 Z	15.47 𠄎	6.52 𠄎	3.33 𠄎	11.53 𠄎	22.97 𠄎	23.36 𠄎	15.47 𠄎	8.59 𠄎	5.66 𠄎	11.53 𠄎	20.30 𠄎	21.07 𠄎
75	4.41 𠄎	18.18 Z	19.10 𠄎	10.59 𠄎	7.91 𠄎	16.19 𠄎	26.82 𠄎	26.80 𠄎	19.10 𠄎	12.17 𠄎	9.69 𠄎	16.19 𠄎	24.85 𠄎	25.10 𠄎
80	12.71 𠄎	17.84 Z	22.73 𠄎	14.66 𠄎	12.47 𠄎	20.81 𠄎	0.68 𠄎	0.25 𠄎	22.73 𠄎	15.72 𠄎	13.68 𠄎	20.81 𠄎	29.39 𠄎	29.14 𠄎
85	21.28 𠄎	17.63 Z	26.36 𠄎	18.72 𠄎	17.02 𠄎	25.41 𠄎	4.55 𠄎	3.73 𠄎	26.36 𠄎	19.26 𠄎	17.63 𠄎	25.41 𠄎	3.92 𠄎	3.18 𠄎
90	0.00 𠄎	17.56 Z	0.00 𠄎	22.78 𠄎	21.55 𠄎	0.00 𠄎	8.45 𠄎	7.22 𠄎	0.00 𠄎	22.78 𠄎	21.55 𠄎	0.00 𠄎	8.45 𠄎	7.22 𠄎
95	8.72 𠄎	17.63 Z	3.64 𠄎	26.82 𠄎	26.08 𠄎	4.59 𠄎	12.37 𠄎	10.74 𠄎	3.64 𠄎	26.27 𠄎	25.45 𠄎	4.59 𠄎	12.98 𠄎	11.28 𠄎
100	17.29 𠄎	17.84 Z	7.27 𠄎	0.86 𠄎	0.61 𠄎	9.19 𠄎	16.32 𠄎	14.28 𠄎	7.27 𠄎	29.75 𠄎	29.32 𠄎	9.19 𠄎	17.53 𠄎	15.34 𠄎
105	25.59 𠄎	18.18 Z	10.90 𠄎	4.90 𠄎	5.15 𠄎	13.81 𠄎	20.31 𠄎	17.83 𠄎	10.90 𠄎	3.20 𠄎	3.18 𠄎	13.81 𠄎	22.09 𠄎	19.41 𠄎
110	3.52 𠄎	18.65 Z	14.53 𠄎	8.93 𠄎	9.70 𠄎	18.47 𠄎	24.34 𠄎	21.41 𠄎	14.53 𠄎	6.64 𠄎	7.03 𠄎	18.47 𠄎	26.67 𠄎	23.48 𠄎
115	11.02 𠄎	19.26 Z	18.15 𠄎	12.95 𠄎	14.28 𠄎	23.16 𠄎	28.41 𠄎	25.01 𠄎	18.15 𠄎	10.07 𠄎	10.89 𠄎	23.16 𠄎	1.26 𠄎	27.55 𠄎
120	18.09 𠄎	19.99 Z	21.77 𠄎	16.98 𠄎	18.89 𠄎	27.91 𠄎	2.51 𠄎	28.62 𠄎	21.77 𠄎	13.49 𠄎	14.75 𠄎	27.91 𠄎	5.87 𠄎	1.62 𠄎
125	24.72 𠄎	20.86 Z	25.38 𠄎	21.01 𠄎	23.56 𠄎	2.72 𠄎	6.66 𠄎	2.25 𠄎	25.38 𠄎	16.90 𠄎	18.64 𠄎	2.72 𠄎	10.49 𠄎	5.68 𠄎
130	0.95 𠄎	21.84 Z	28.98 𠄎	25.06 𠄎	28.30 𠄎	7.59 𠄎	10.85 𠄎	5.90 𠄎	28.98 𠄎	20.32 𠄎	22.56 𠄎	7.59 𠄎	15.12 𠄎	9.73 𠄎
135	6.81 𠄎	22.93 Z	2.58 𠄎	29.13 𠄎	3.12 𠄎	12.54 𠄎	15.07 𠄎	9.56 𠄎	2.58 𠄎	23.74 𠄎	26.54 𠄎	12.54 𠄎	19.75 𠄎	13.77 𠄎
140	12.33 𠄎	24.14 Z	6.18 𠄎	3.23 𠄎	8.04 𠄎	17.55 𠄎	19.32 𠄎	13.23 𠄎	6.18 𠄎	27.17 𠄎	0.57 𠄎	17.55 𠄎	24.38 𠄎	17.80 𠄎
145	17.58 𠄎	25.45 Z	9.78 𠄎	7.38 𠄎	13.09 𠄎	22.65 𠄎	23.60 𠄎	16.91 𠄎	9.78 𠄎	0.63 𠄎	4.70 𠄎	22.65 𠄎	29.00 𠄎	21.81 𠄎
150	22.57 𠄎	26.86 Z	13.38 𠄎	11.58 𠄎	18.27 𠄎	27.82 𠄎	27.91 𠄎	20.59 𠄎	13.38 𠄎	4.12 𠄎	8.92 𠄎	27.82 𠄎	3.60 𠄎	25.80 𠄎
155	27.35 𠄎	28.36 Z	16.99 𠄎	15.86 𠄎	23.60 𠄎	3.06 𠄎	2.23 𠄎	24.29 𠄎	16.99 𠄎	7.66 𠄎	13.27 𠄎	3.06 𠄎	8.19 𠄎	29.77 𠄎
160	1.95 𠄎	29.95 Z	20.62 𠄎	20.24 𠄎	29.12 𠄎	8.36 𠄎	6.57 𠄎	27.99 𠄎	20.62 𠄎	11.26 𠄎	17.77 𠄎	8.36 𠄎	12.74 𠄎	3.73 𠄎
165	6.40 𠄎	31.62 Z	24.26 𠄎	24.74 𠄎	4.82 𠄎	13.72 𠄎	10.92 𠄎	1.69 𠄎	24.26 𠄎	14.94 𠄎	22.45 𠄎	13.72 𠄎	17.26 𠄎	7.67 𠄎
170	10.72 𠄎	33.35 Z	27.94 𠄎	29.37 𠄎	10.72 𠄎	19.12 𠄎	15.27 𠄎	5.41 𠄎	27.94 𠄎	18.72 𠄎	27.34 𠄎	19.12 𠄎	21.74 𠄎	11.59 𠄎
175	14.94 𠄎	35.15 Z	1.65 𠄎	4.19 𠄎	16.84 𠄎	24.55 𠄎	19.62 𠄎	9.13 𠄎	1.65 𠄎	22.61 𠄎	2.47 𠄎	24.55 𠄎	26.17 𠄎	15.51 𠄎
180	19.07 𠄎	37.01 Z	5.41 𠄎	9.21 𠄎	23.17 𠄎	0.00 𠄎	23.96 𠄎	12.87 𠄎	5.41 𠄎	26.66 𠄎	7.88 𠄎	0.00 𠄎	0.57 𠄎	19.41 𠄎

49° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	23.14 ♄	38.91 Z	9.24 ♃	14.47 ☾	29.69 ☿	5.45 ♃	28.29 ♃	16.62 ☾	9.24 II	0.89 ☾	13.61 ♀	5.45 ♄	4.91 ♀	23.31 ♀
190	27.15 ♄	40.85 Z	13.15 ♃	20.03 ☾	6.41 ♃	10.88 ♃	2.62 ☾	20.39 ☾	13.15 II	5.35 ☾	19.67 ♀	10.88 ♄	9.20 ♀	27.21 ♀
195	1.12 ♀	42.81 Z	17.16 ♃	25.93 ☾	13.27 ♃	16.28 ♃	6.93 ☾	24.19 ☾	17.16 II	10.08 ☾	26.12 ♀	16.28 ♄	13.45 ♀	1.13 ♃
200	5.07 ♀	44.80 Z	21.30 ♃	2.21 ☿	20.25 ♃	21.64 ♃	11.23 ☾	28.02 ☾	21.30 II	15.15 ☾	2.95 ♃	21.64 ♄	17.65 ♀	5.06 ♃
205	8.99 ♀	46.79 Z	25.59 ♃	8.92 ☿	27.29 ♃	26.94 ♃	15.52 ☾	1.90 II	25.59 II	20.64 ☾	10.16 ♃	26.94 ♄	21.80 ♀	9.01 ♃
210	12.89 ♀	48.77 Z	0.08 ☾	16.09 ☿	4.33 ♃	2.18 ☾	19.81 ☾	5.83 II	0.08 ☾	26.63 ☾	17.74 ♃	2.18 ♀	25.91 ♀	13.00 ♃
215	16.79 ♀	50.72 Z	4.79 ☾	23.74 ☿	11.32 ♃	7.35 ☾	24.09 ☾	9.82 II	4.79 ☾	3.24 ♀	25.62 ♃	7.35 ♀	29.99 ♀	17.04 ♃
220	20.69 ♀	52.64 Z	9.79 ☾	1.85 ♃	18.21 ♃	12.45 ☾	28.38 ☾	13.91 II	9.79 ☾	10.57 ♀	3.71 ♄	12.45 ♀	4.02 ♃	21.13 ♃
225	24.59 ♀	54.51 Z	15.13 ☾	10.36 ♃	24.94 ♃	17.46 ☾	2.68 II	18.10 II	15.13 ☾	18.73 ♀	11.91 ♄	17.46 ♀	8.03 ♃	25.28 ♃
230	28.49 ♀	56.29 Z	20.88 ☾	19.15 ♃	1.48 ☾	22.41 ☾	7.00 II	22.43 II	20.88 ☾	27.82 ♀	20.09 ♄	22.41 ♀	12.01 ♃	29.52 ♃
235	2.40 ♃	57.98 Z	27.14 ☾	28.07 ♃	7.80 ☾	27.28 ☾	11.36 II	26.92 II	27.14 ☾	7.85 ♃	28.13 ♄	27.28 ♀	15.98 ♃	3.85 ☾
240	6.32 ♃	59.53 Z	3.98 ☿	6.93 ♃	13.87 ☾	2.09 II	15.77 II	1.63 ☾	3.98 ♀	18.70 ♃	5.92 ♀	2.09 ♃	19.95 ♃	8.28 ☾
245	10.25 ♃	60.93 Z	11.50 ☿	15.55 ♃	19.70 ☾	6.84 II	20.26 II	6.60 ☾	11.50 ♀	0.09 ♄	13.39 ♀	6.84 ♃	23.93 ♃	12.83 ☾
250	14.19 ♃	62.13 Z	19.79 ☿	23.78 ♃	25.27 ☾	11.53 II	24.85 II	11.91 ☾	19.79 ♀	11.61 ♄	20.50 ♀	11.53 ♃	27.93 ♃	17.53 ☾
255	18.14 ♃	63.11 Z	28.88 ☿	1.50 ☾	0.59 II	16.19 II	29.56 II	17.65 ☾	28.88 ♀	22.79 ♄	27.21 ♀	16.19 ♃	2.00 ☾	22.39 ☾
260	22.09 ♃	63.84 Z	8.72 ♃	8.68 ☾	5.66 II	20.81 II	4.45 ☾	23.91 ☾	8.72 ♃	3.28 ♀	3.54 ♃	20.81 ♃	6.16 ☾	27.47 ☾
265	26.04 ♃	64.29 Z	19.19 ♃	15.32 ☾	10.50 II	25.41 II	9.53 ☾	0.83 ♀	19.19 ♃	12.85 ♀	9.50 ♃	25.41 ♃	10.43 ☾	2.83 ☿
270	0.00 ☾	64.44 Z	0.00 ♃	21.46 ☾	15.13 II	0.00 ☾	14.87 ☾	8.54 ♀	0.00 ♄	21.46 ♀	15.13 ♃	0.00 ☾	14.87 ☾	8.54 ☿
275	3.96 ☾	64.29 Z	10.81 ♃	27.17 ☾	19.57 II	4.59 ☾	20.50 ☾	17.15 ♀	10.81 ♄	29.17 ♀	20.47 ♃	4.59 ☾	19.50 ☾	14.68 ☿
280	7.91 ☾	63.84 Z	21.28 ♃	2.53 II	23.84 II	9.19 ☾	26.46 ☾	26.72 ♀	21.28 ♄	6.09 ♃	25.55 ♃	9.19 ☾	24.34 ☾	21.32 ☿
285	11.86 ☾	63.11 Z	1.12 ☾	7.61 II	28.00 II	13.81 ☾	2.79 ♀	7.21 ♃	1.12 ♀	12.35 ♃	0.44 ☾	13.81 ☾	29.41 ☾	28.50 ☿
290	15.81 ☾	62.13 Z	10.21 ☾	12.47 II	2.07 ☾	18.47 ☾	9.50 ♀	18.39 ♃	10.21 ♀	18.09 ♃	5.15 ☾	18.47 ☾	4.73 ☿	6.22 ♃
295	19.75 ☾	60.93 Z	18.50 ☾	17.17 II	6.07 ☾	23.16 ☾	16.61 ♀	29.91 ♃	18.50 ♀	23.40 ♃	9.74 ☾	23.16 ☾	10.30 ☿	14.45 ♃
300	23.68 ☾	59.53 Z	26.02 ☾	21.72 II	10.05 ☾	27.91 ☾	24.08 ♀	11.30 ♄	26.02 ♀	28.37 ♃	14.23 ☾	27.91 ☾	16.13 ☿	23.07 ♃
305	27.60 ☾	57.98 Z	2.86 II	26.15 II	14.02 ☾	2.72 ♀	1.87 ♃	22.15 ♄	2.86 ♃	3.08 ☾	18.64 ☾	2.72 ☿	22.20 ☿	1.93 ♃
310	1.51 ☿	56.29 Z	9.12 II	0.48 ☾	17.99 ☾	7.59 ♀	9.91 ♃	2.18 ♀	9.12 ♃	7.57 ☾	23.00 ☾	7.59 ☿	28.52 ☿	10.85 ♃
315	5.41 ☿	54.51 Z	14.87 II	4.72 ☾	21.97 ☾	12.54 ♀	18.09 ♃	11.27 ♀	14.87 ♃	11.90 ☾	27.32 ☾	12.54 ☿	5.06 ♃	19.64 ♃
320	9.31 ☿	52.64 Z	20.21 II	8.87 ☾	25.98 ☾	17.55 ♀	26.29 ♃	19.43 ♀	20.21 ♃	16.09 ☾	1.62 ☿	17.55 ☿	11.79 ♃	28.15 ♃
325	13.21 ☿	50.72 Z	25.21 II	12.96 ☾	0.01 ♀	22.65 ♀	4.38 ♄	26.76 ♀	25.21 ♃	20.18 ☾	5.91 ☿	22.65 ☿	18.68 ♃	6.26 ☾
330	17.11 ☿	48.77 Z	29.92 II	17.00 ☾	4.09 ♀	27.82 ♀	12.26 ♄	3.37 ♃	29.92 ♃	24.17 ☾	10.19 ☿	27.82 ☿	25.67 ♃	13.91 ☾
335	21.01 ☿	46.79 Z	4.41 ☾	20.99 ☾	8.20 ♀	3.06 ♃	19.84 ♄	9.36 ♃	4.41 ☾	28.10 ☾	14.48 ☿	3.06 ♃	2.71 ♃	21.08 ☾
340	24.93 ☿	44.80 Z	8.70 ☾	24.94 ☾	12.35 ♀	8.36 ♃	27.05 ♄	14.85 ♃	8.70 ☾	1.98 ☿	18.77 ☿	8.36 ♃	9.75 ♃	27.79 ☾
345	28.88 ☿	42.81 Z	12.84 ☾	28.87 ☾	16.55 ♀	13.72 ♃	3.88 ♀	19.92 ♃	12.84 ☾	5.81 ☿	23.07 ☿	13.72 ♃	16.73 ♃	4.07 II
350	2.85 ♃	40.85 Z	16.85 ☾	2.79 ♀	20.80 ♀	19.12 ♃	10.33 ♀	24.65 ♃	16.85 ☾	9.61 ☿	27.38 ☿	19.12 ♃	23.59 ♃	9.97 II
355	6.86 ♃	38.91 Z	20.76 ☾	6.69 ♀	25.09 ♀	24.55 ♃	16.39 ♀	29.11 ♃	20.76 ☾	13.38 ☿	1.71 ♃	24.55 ♃	0.31 ☾	15.53 II
360	10.93 ♃	37.01 Z	24.59 ☾	10.59 ♀	29.43 ♀	0.00 ♄	22.12 ♀	3.34 ☾	24.59 ☾	17.13 ☿	6.04 ♃	0.00 ♃	6.83 ☾	20.79 II

50° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	11.54 ㄸ	36.14 Z	25.36 ㊄	10.98 ㊂	29.49 ㊂	0.00 ㊄	23.18 ㄴ	4.54 ㄾ	25.36 ㄾ	17.61 ㄿ	6.23 ㄸ	0.00 ㄿ	7.10 ㄾ	21.61 ㄴ
5	15.71 ㄸ	34.28 Z	29.08 ㊄	14.85 ㊂	3.85 ㄴ	5.45 ㊄	28.55 ㄴ	8.51 ㄾ	29.08 ㄾ	21.31 ㄿ	10.55 ㄸ	5.45 ㄿ	13.47 ㄾ	26.60 ㄴ
10	19.95 ㄸ	32.47 Z	2.75 ㊂	18.73 ㊂	8.27 ㄴ	10.88 ㊄	3.63 ㄾ	12.34 ㄾ	2.75 ㄿ	25.00 ㄿ	14.87 ㄸ	10.88 ㄿ	19.62 ㄾ	1.39 ㊄
15	24.31 ㄸ	30.72 Z	6.38 ㊂	22.63 ㊂	12.72 ㄴ	16.28 ㊄	8.47 ㄾ	16.05 ㄾ	6.38 ㄿ	28.68 ㄿ	19.19 ㄸ	16.28 ㄿ	25.55 ㄾ	6.00 ㊄
20	28.78 ㄸ	29.05 Z	9.98 ㊂	26.53 ㊂	17.22 ㄴ	21.64 ㊄	13.10 ㄾ	19.66 ㄾ	9.98 ㄿ	2.35 ㄸ	23.51 ㄸ	21.64 ㄿ	1.27 ㄴ	10.46 ㊄
25	3.41 ㄿ	27.45 Z	13.56 ㊂	0.45 ㄴ	21.75 ㄴ	26.94 ㊄	17.55 ㄾ	23.20 ㄾ	13.56 ㄿ	6.01 ㄸ	27.82 ㄸ	26.94 ㄿ	6.79 ㄴ	14.81 ㊄
30	8.21 ㄿ	25.94 Z	17.13 ㊂	4.39 ㄴ	26.30 ㄴ	2.18 ㄴ	21.86 ㄾ	26.69 ㄾ	17.13 ㄿ	9.67 ㄸ	2.11 ㄿ	2.18 ㄾ	12.14 ㄴ	19.06 ㊄
35	13.22 ㄿ	24.52 Z	20.69 ㊂	8.35 ㄴ	0.88 ㊄	7.35 ㄴ	26.04 ㄾ	0.12 ㄿ	20.69 ㄿ	13.32 ㄸ	6.39 ㄿ	7.35 ㄾ	17.32 ㄴ	23.23 ㊄
40	18.48 ㄿ	23.20 Z	24.24 ㊂	12.32 ㄴ	5.48 ㊄	12.45 ㄴ	0.11 ㄾ	3.53 ㄿ	24.24 ㄿ	16.95 ㄸ	10.64 ㄿ	12.45 ㄾ	22.37 ㄴ	27.35 ㊄
45	24.01 ㄿ	21.98 Z	27.80 ㊂	16.31 ㄴ	10.08 ㊄	17.46 ㄴ	4.11 ㄾ	6.92 ㄿ	27.80 ㄿ	20.58 ㄸ	14.87 ㄿ	17.46 ㄾ	27.29 ㄴ	1.42 ㊂
50	29.86 ㄿ	20.87 Z	1.36 ㄴ	20.32 ㄴ	14.69 ㊄	22.41 ㄴ	8.04 ㄾ	10.29 ㄿ	1.36 ㄸ	24.20 ㄸ	19.06 ㄿ	22.41 ㄾ	2.11 ㊄	5.45 ㊂
55	6.07 ㄾ	19.89 Z	4.92 ㄴ	24.33 ㄴ	19.30 ㊄	27.28 ㄴ	11.93 ㄾ	13.65 ㄿ	4.92 ㄸ	27.80 ㄸ	23.21 ㄿ	27.28 ㄾ	6.84 ㊄	9.47 ㊂
60	12.66 ㄾ	19.02 Z	8.49 ㄴ	28.36 ㄴ	23.90 ㊄	2.09 ㄾ	15.78 ㄾ	17.02 ㄿ	8.49 ㄸ	1.39 ㄿ	27.33 ㄿ	2.09 ㄴ	11.50 ㊄	13.47 ㊂
65	19.67 ㄾ	18.28 Z	12.06 ㄴ	2.39 ㊄	28.49 ㊄	6.84 ㄾ	19.61 ㄾ	20.39 ㄿ	12.06 ㄸ	4.96 ㄿ	1.41 ㄾ	6.84 ㄴ	16.11 ㊄	17.46 ㊂
70	27.08 ㄾ	17.66 Z	15.64 ㄴ	6.42 ㊄	3.06 ㄴ	11.53 ㄾ	23.43 ㄾ	23.78 ㄿ	15.64 ㄸ	8.52 ㄿ	5.45 ㄾ	11.53 ㄴ	20.68 ㊄	21.46 ㊂
75	4.90 ㄴ	17.18 Z	19.23 ㄴ	10.46 ㊄	7.62 ㄴ	16.19 ㄾ	27.25 ㄾ	27.17 ㄿ	19.23 ㄸ	12.05 ㄿ	9.45 ㄾ	16.19 ㄴ	25.22 ㊄	25.45 ㊂
80	13.05 ㄴ	16.84 Z	22.82 ㄴ	14.49 ㊄	12.17 ㄴ	20.81 ㄾ	1.07 ㄿ	0.58 ㄸ	22.82 ㄸ	15.57 ㄿ	13.41 ㄾ	20.81 ㄴ	29.75 ㊄	29.45 ㊂
85	21.46 ㄴ	16.63 Z	26.41 ㄴ	18.51 ㊄	16.70 ㄴ	25.41 ㄾ	4.91 ㄿ	4.02 ㄸ	26.41 ㄸ	19.06 ㄿ	17.33 ㄾ	25.41 ㄴ	4.26 ㊂	3.45 ㄴ
90	0.00 ㊄	16.56 Z	0.00 ㊄	22.53 ㊄	21.22 ㄴ	0.00 ㄾ	8.78 ㄿ	7.47 ㄸ	0.00 ㄿ	22.53 ㄿ	21.22 ㄾ	0.00 ㊄	8.78 ㊂	7.47 ㄴ
95	8.54 ㊄	16.63 Z	3.59 ㊄	26.55 ㊄	25.74 ㄴ	4.59 ㄾ	12.67 ㄿ	10.94 ㄸ	3.59 ㄿ	25.98 ㄿ	25.09 ㄾ	4.59 ㊄	13.30 ㊂	11.49 ㄴ
100	16.95 ㊄	16.84 Z	7.18 ㊄	0.55 ㄴ	0.25 ㄾ	9.19 ㄾ	16.59 ㄿ	14.43 ㄸ	7.18 ㄿ	29.42 ㄿ	28.93 ㄾ	9.19 ㊄	17.83 ㊂	15.51 ㄴ
105	25.10 ㊄	17.18 Z	10.77 ㊄	4.55 ㄴ	4.78 ㄾ	13.81 ㄾ	20.55 ㄿ	17.95 ㄸ	10.77 ㄿ	2.83 ㄾ	2.75 ㄴ	13.81 ㊄	22.38 ㊂	19.54 ㄴ
110	2.92 ㊂	17.66 Z	14.36 ㊄	8.54 ㄴ	9.32 ㄾ	18.47 ㄾ	24.55 ㄿ	21.48 ㄸ	14.36 ㄿ	6.22 ㄾ	6.57 ㄴ	18.47 ㊄	26.94 ㊂	23.58 ㄴ
115	10.33 ㊂	18.28 Z	17.94 ㊄	12.54 ㄴ	13.89 ㄾ	23.16 ㄾ	28.59 ㄿ	25.04 ㄸ	17.94 ㄿ	9.61 ㄾ	10.39 ㄴ	23.16 ㊄	1.51 ㄴ	27.61 ㄴ
120	17.34 ㊂	19.02 Z	21.51 ㊄	16.53 ㄴ	18.50 ㄾ	27.91 ㄾ	2.67 ㄸ	28.61 ㄸ	21.51 ㄿ	12.98 ㄾ	14.22 ㄴ	27.91 ㊄	6.10 ㄴ	1.64 ㊄
125	23.93 ㊂	19.89 Z	25.08 ㊄	20.53 ㄴ	23.16 ㄾ	2.72 ㄿ	6.79 ㄸ	2.20 ㄿ	25.08 ㄿ	16.35 ㄾ	18.07 ㄴ	2.72 ㊂	10.70 ㄴ	5.67 ㊄
130	0.14 ㄴ	20.87 Z	28.64 ㊄	24.55 ㄴ	27.89 ㄾ	7.59 ㄿ	10.94 ㄸ	5.80 ㄿ	28.64 ㄿ	19.71 ㄾ	21.96 ㄴ	7.59 ㊂	15.31 ㄴ	9.68 ㊄
135	5.99 ㄴ	21.98 Z	2.20 ㄴ	28.58 ㄴ	2.71 ㄾ	12.54 ㄿ	15.13 ㄸ	9.42 ㄿ	2.20 ㄾ	23.08 ㄾ	25.89 ㄴ	12.54 ㊂	19.92 ㄴ	13.69 ㊄
140	11.52 ㄴ	23.20 Z	5.76 ㄴ	2.65 ㄾ	7.63 ㄾ	17.55 ㄿ	19.36 ㄸ	13.05 ㄿ	5.76 ㄾ	26.47 ㄾ	29.89 ㄴ	17.55 ㊂	24.52 ㄴ	17.68 ㊄
145	16.78 ㄴ	24.52 Z	9.31 ㄴ	6.77 ㄾ	12.68 ㄾ	22.65 ㄿ	23.61 ㄸ	16.68 ㄿ	9.31 ㄾ	29.88 ㄾ	3.96 ㊄	22.65 ㊂	29.12 ㄴ	21.65 ㊄
150	21.79 ㄴ	25.94 Z	12.87 ㄴ	10.94 ㄾ	17.86 ㄾ	27.82 ㄿ	27.89 ㄸ	20.33 ㄿ	12.87 ㄾ	3.31 ㄴ	8.14 ㊄	27.82 ㊂	3.70 ㊄	25.61 ㊄
155	26.59 ㄴ	27.45 Z	16.44 ㄴ	15.19 ㄾ	23.21 ㄾ	3.06 ㄸ	2.18 ㄿ	23.99 ㄿ	16.44 ㄾ	6.80 ㄴ	12.45 ㊄	3.06 ㄴ	8.25 ㊄	29.55 ㊄
160	1.22 ㊄	29.05 Z	20.02 ㄴ	19.54 ㄾ	28.73 ㄾ	8.36 ㄸ	6.49 ㄿ	27.65 ㄿ	20.02 ㄾ	10.34 ㄴ	16.90 ㊄	8.36 ㄴ	12.78 ㊄	3.47 ㄴ
165	5.69 ㊄	30.72 Z	23.62 ㄴ	24.00 ㄾ	4.45 ㄿ	13.72 ㄸ	10.81 ㄿ	1.32 ㄾ	23.62 ㄾ	13.95 ㄴ	21.53 ㊄	13.72 ㄴ	17.28 ㊄	7.37 ㄴ
170	10.05 ㊄	32.47 Z	27.25 ㄴ	28.61 ㄾ	10.38 ㄿ	19.12 ㄸ	15.13 ㄿ	5.00 ㄾ	27.25 ㄾ	17.66 ㄴ	26.37 ㊄	19.12 ㄴ	21.73 ㊄	11.27 ㄴ
175	14.29 ㊄	34.28 Z	0.92 ㄾ	3.40 ㄾ	16.53 ㄿ	24.55 ㄸ	19.45 ㄿ	8.69 ㄾ	0.92 ㄴ	21.49 ㄴ	1.45 ㊂	24.55 ㄴ	26.15 ㊄	15.15 ㄴ
180	18.46 ㊄	36.14 Z	4.64 ㄾ	8.39 ㄾ	22.90 ㄿ	0.00 ㄿ	23.77 ㄿ	12.39 ㄾ	4.64 ㄴ	25.46 ㄴ	6.82 ㊂	0.00 ㊄	0.51 ㄴ	19.02 ㄴ

50° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	22.55 ♄	38.05 Z	8.42 ♃	13.65 ☾	29.48 ☿	5.45 ♀	28.08 ♀	16.10 ♂	8.42 ♀	29.62 ♀	12.51 ♀	5.45 ♄	4.84 ♀	22.89 ♀
190	26.60 ♄	39.99 Z	12.28 ♃	19.20 ☾	6.25 ♀	10.88 ♀	2.38 ♂	19.84 ♂	12.28 ♀	3.99 ☿	18.55 ♀	10.88 ♄	9.11 ♀	26.76 ♀
195	0.60 ♀	41.96 Z	16.24 ♃	25.10 ☾	13.18 ♀	16.28 ♀	6.67 ♂	23.60 ♂	16.24 ♀	8.64 ☿	24.99 ♀	16.28 ♄	13.33 ♀	0.64 ♃
200	4.57 ♀	43.94 Z	20.32 ♃	1.40 ☿	20.22 ♀	21.64 ♀	10.95 ♂	27.39 ♂	20.32 ♀	13.63 ☿	1.84 ♀	21.64 ♄	17.51 ♀	4.54 ♃
205	8.52 ♀	45.93 Z	24.56 ♃	8.16 ☿	27.33 ♀	26.94 ♀	15.22 ♂	1.23 ♀	24.56 ♀	19.03 ☿	9.10 ♀	26.94 ♄	21.65 ♀	8.46 ♃
210	12.46 ♀	47.91 Z	28.99 ♃	15.40 ☿	4.45 ♀	2.18 ♂	19.48 ♂	5.12 ♀	28.99 ♀	24.95 ☿	16.75 ♀	2.18 ♀	25.74 ♀	12.43 ♃
215	16.39 ♀	49.86 Z	3.65 ☾	23.17 ☿	11.52 ♀	7.35 ♂	23.74 ♂	9.08 ♀	3.65 ☿	1.48 ♀	24.75 ♀	7.35 ♀	29.79 ♀	16.43 ♃
220	20.32 ♀	51.78 Z	8.59 ☾	1.43 ♀	18.47 ♀	12.45 ♂	28.01 ♂	13.12 ♀	8.59 ☿	8.78 ♀	2.99 ♄	12.45 ♀	3.81 ♃	20.49 ♃
225	24.26 ♀	53.63 Z	13.88 ☾	10.13 ♀	25.26 ♀	17.46 ♂	2.29 ♀	17.27 ♀	13.88 ☿	16.96 ♀	11.36 ♄	17.46 ♀	7.79 ♃	24.62 ♃
230	28.20 ♀	55.40 Z	19.59 ☾	19.14 ♀	1.86 ♂	22.41 ♂	6.59 ♀	21.55 ♀	19.59 ☿	26.15 ♀	19.72 ♄	22.41 ♀	11.75 ♃	28.83 ♃
235	2.14 ♃	57.07 Z	25.82 ☾	28.30 ♀	8.22 ♂	27.28 ♂	10.93 ♀	26.00 ♀	25.82 ☿	6.38 ♀	27.95 ♄	27.28 ♀	15.70 ♃	3.13 ☾
240	6.10 ♃	58.61 Z	2.66 ☿	7.39 ♀	14.34 ♂	2.09 ♀	15.32 ♀	0.66 ☿	2.66 ♀	17.55 ♀	5.91 ♀	2.09 ♃	19.64 ♃	7.53 ☾
245	10.07 ♃	59.99 Z	10.23 ☿	16.22 ♀	20.19 ♂	6.84 ♀	19.79 ♀	5.59 ☿	10.23 ♀	29.37 ♀	13.53 ♀	6.84 ♃	23.58 ♃	12.05 ☾
250	14.04 ♃	61.17 Z	18.61 ☿	24.61 ♀	25.79 ♂	11.53 ♀	24.36 ♀	10.85 ☿	18.61 ♀	11.37 ♄	20.76 ♀	11.53 ♃	27.56 ♃	16.70 ☾
255	18.02 ♃	62.14 Z	27.87 ☿	2.45 ♂	1.12 ♀	16.19 ♀	29.06 ♀	16.55 ☿	27.87 ♀	23.01 ♄	27.57 ♀	16.19 ♃	1.59 ☾	21.52 ☾
260	22.01 ♃	62.85 Z	7.99 ♀	9.70 ♂	6.20 ♀	20.81 ♀	3.93 ☿	22.80 ☿	7.99 ♀	3.87 ♀	3.97 ♃	20.81 ♃	5.70 ☾	26.55 ☾
265	26.00 ♃	63.29 Z	18.79 ♀	16.35 ♂	11.03 ♀	25.41 ♀	9.01 ☿	29.74 ☿	18.79 ♀	13.70 ♀	9.98 ♃	25.41 ♃	9.95 ☾	1.86 ☿
270	0.00 ☾	63.44 Z	0.00 ♀	22.47 ♂	15.64 ♀	0.00 ☿	14.36 ☿	7.53 ♀	0.00 ♄	22.47 ♀	15.64 ♃	0.00 ☾	14.36 ☾	7.53 ☿
275	4.00 ☾	63.29 Z	11.21 ♀	28.14 ♂	20.05 ♀	4.59 ☿	20.02 ☿	16.30 ♀	11.21 ♄	0.26 ♃	20.99 ♃	4.59 ☾	18.97 ☾	13.65 ☿
280	7.99 ☾	62.85 Z	22.01 ♀	3.45 ♀	24.30 ♀	9.19 ☿	26.03 ☿	26.13 ♀	22.01 ♄	7.20 ♃	26.07 ♃	9.19 ☾	23.80 ☾	20.30 ☿
285	11.98 ☾	62.14 Z	2.13 ♂	8.48 ♀	28.41 ♀	13.81 ☿	2.43 ♀	6.99 ♀	2.13 ♀	13.45 ♃	0.94 ☾	13.81 ☾	28.88 ☾	27.55 ☿
290	15.96 ☾	61.17 Z	11.39 ♂	13.30 ♀	2.44 ☿	18.47 ☿	9.24 ♀	18.63 ♀	11.39 ♀	19.15 ♃	5.64 ☾	18.47 ☾	4.21 ☿	5.39 ♀
295	19.93 ☾	59.99 Z	19.77 ♂	17.95 ♀	6.42 ☿	23.16 ☿	16.47 ♀	0.63 ♄	19.77 ♀	24.41 ♃	10.21 ☾	23.16 ☾	9.81 ☿	13.78 ♀
300	23.90 ☾	58.61 Z	27.34 ♂	22.47 ♀	10.36 ☿	27.91 ☿	24.09 ♀	12.45 ♄	27.34 ♀	29.34 ♃	14.68 ☾	27.91 ☾	15.66 ☿	22.61 ♀
305	27.86 ☾	57.07 Z	4.18 ♀	26.87 ♀	14.30 ☿	2.72 ♀	2.05 ♀	23.62 ♄	4.18 ♃	4.00 ☾	19.07 ☾	2.72 ☿	21.78 ☿	1.70 ♀
310	1.80 ☿	55.40 Z	10.41 ♀	1.17 ☿	18.25 ☿	7.59 ♀	10.28 ♀	3.85 ♀	10.41 ♃	8.45 ☾	23.41 ☾	7.59 ☿	28.14 ☿	10.86 ♀
315	5.74 ☿	53.63 Z	16.12 ♀	5.38 ☿	22.21 ☿	12.54 ♀	18.64 ♀	13.04 ♀	16.12 ♃	12.73 ☾	27.71 ☾	12.54 ☿	4.74 ♀	19.87 ♀
320	9.68 ☿	51.78 Z	21.41 ♀	9.51 ☿	26.19 ☿	17.55 ♀	27.01 ♀	21.22 ♀	21.41 ♃	16.88 ☾	1.99 ☿	17.55 ☿	11.53 ♀	28.57 ♀
325	13.61 ☿	49.86 Z	26.35 ♀	13.57 ☿	0.21 ♀	22.65 ♀	5.25 ♄	28.52 ♀	26.35 ♃	20.92 ☾	6.26 ☿	22.65 ☿	18.48 ♀	6.83 ♂
330	17.54 ☿	47.91 Z	1.01 ☿	17.57 ☿	4.26 ♀	27.82 ♀	13.25 ♄	5.05 ♃	1.01 ☾	24.88 ☾	10.52 ☿	27.82 ☿	25.55 ♀	14.60 ♂
335	21.48 ☿	45.93 Z	5.44 ☿	21.54 ☿	8.35 ♀	3.06 ♀	20.90 ♄	10.97 ♃	5.44 ☾	28.77 ☾	14.78 ☿	3.06 ♀	2.67 ♀	21.84 ♂
340	25.43 ☿	43.94 Z	9.68 ☿	25.46 ☿	12.49 ♀	8.36 ♀	28.16 ♄	16.37 ♃	9.68 ☾	2.61 ☿	19.05 ☿	8.36 ♀	9.78 ♀	28.60 ♂
345	29.40 ☿	41.96 Z	13.76 ☿	29.36 ☿	16.67 ♀	13.72 ♀	5.01 ♀	21.36 ♃	13.76 ☾	6.40 ☿	23.33 ☿	13.72 ♀	16.82 ♀	4.90 ♀
350	3.40 ♀	39.99 Z	17.72 ☿	3.24 ♀	20.89 ♀	19.12 ♀	11.45 ♀	26.01 ♃	17.72 ☾	10.16 ☿	27.62 ☿	19.12 ♀	23.75 ♀	10.80 ♀
355	7.45 ♀	38.05 Z	21.58 ☿	7.11 ♀	25.16 ♀	24.55 ♀	17.49 ♀	0.38 ☾	21.58 ☾	13.90 ☿	1.92 ♀	24.55 ♀	0.52 ♂	16.35 ♀
360	11.54 ♀	36.14 Z	25.36 ☿	10.98 ♀	29.49 ♀	0.00 ♄	23.18 ♀	4.54 ☾	25.36 ☾	17.61 ☿	6.23 ♀	0.00 ♀	7.10 ♂	21.61 ♀

51° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	12.15 𠄎	35.27 Z	26.16 𠄎	11.39 𠄎	29.54 𠄎	0.00 𠄎	24.32 𠄎	5.78 𠄎	26.16 𠄎	18.11 𠄎	6.42 𠄎	0.00 𠄎	7.39 𠄎	22.46 𠄎
5	16.34 𠄎	33.40 Z	29.83 𠄎	15.23 𠄎	3.89 𠄎	5.45 𠄎	29.64 𠄎	9.67 𠄎	29.83 𠄎	21.77 𠄎	10.71 𠄎	5.45 𠄎	13.79 𠄎	27.43 𠄎
10	20.61 𠄎	31.58 Z	3.45 𠄎	19.07 𠄎	8.28 𠄎	10.88 𠄎	4.67 𠄎	13.43 𠄎	3.45 𠄎	25.42 𠄎	15.01 𠄎	10.88 𠄎	19.98 𠄎	2.19 𠄎
15	24.99 𠄎	29.83 Z	7.03 𠄎	22.93 𠄎	12.71 𠄎	16.28 𠄎	9.45 𠄎	17.07 𠄎	7.03 𠄎	29.06 𠄎	19.30 𠄎	16.28 𠄎	25.93 𠄎	6.77 𠄎
20	29.49 𠄎	28.14 Z	10.59 𠄎	26.80 𠄎	17.18 𠄎	21.64 𠄎	14.02 𠄎	20.62 𠄎	10.59 𠄎	2.69 𠄎	23.59 𠄎	21.64 𠄎	1.67 𠄎	11.20 𠄎
25	4.14 𠄎	26.54 Z	14.12 𠄎	0.69 𠄎	21.68 𠄎	26.94 𠄎	18.42 𠄎	24.10 𠄎	14.12 𠄎	6.32 𠄎	27.87 𠄎	26.94 𠄎	7.21 𠄎	15.51 𠄎
30	8.97 𠄎	25.01 Z	17.65 𠄎	4.59 𠄎	26.21 𠄎	2.18 𠄎	22.67 𠄎	27.52 𠄎	17.65 𠄎	9.93 𠄎	2.14 𠄎	2.18 𠄎	12.57 𠄎	19.72 𠄎
35	13.99 𠄎	23.58 Z	21.16 𠄎	8.51 𠄎	0.77 𠄎	7.35 𠄎	26.80 𠄎	0.90 𠄎	21.16 𠄎	13.54 𠄎	6.38 𠄎	7.35 𠄎	17.76 𠄎	23.86 𠄎
40	19.26 𠄎	22.25 Z	24.68 𠄎	12.45 𠄎	5.34 𠄎	12.45 𠄎	0.83 𠄎	4.25 𠄎	24.68 𠄎	17.14 𠄎	10.61 𠄎	12.45 𠄎	22.80 𠄎	27.94 𠄎
45	24.79 𠄎	21.03 Z	28.19 𠄎	16.40 𠄎	9.92 𠄎	17.46 𠄎	4.78 𠄎	7.59 𠄎	28.19 𠄎	20.72 𠄎	14.80 𠄎	17.46 𠄎	27.72 𠄎	1.98 𠄎
50	0.64 𠄎	19.91 Z	1.71 𠄎	20.37 𠄎	14.50 𠄎	22.41 𠄎	8.67 𠄎	10.91 𠄎	1.71 𠄎	24.30 𠄎	18.96 𠄎	22.41 𠄎	2.53 𠄎	5.98 𠄎
55	6.82 𠄎	18.91 Z	5.23 𠄎	24.35 𠄎	19.09 𠄎	27.28 𠄎	12.52 𠄎	14.23 𠄎	5.23 𠄎	27.86 𠄎	23.09 𠄎	27.28 𠄎	7.26 𠄎	9.96 𠄎
60	13.38 𠄎	18.04 Z	8.75 𠄎	28.33 𠄎	23.66 𠄎	2.09 𠄎	16.33 𠄎	17.54 𠄎	8.75 𠄎	1.41 𠄎	27.17 𠄎	2.09 𠄎	11.92 𠄎	13.93 𠄎
65	20.32 𠄎	17.29 Z	12.28 𠄎	2.33 𠄎	28.23 𠄎	6.84 𠄎	20.12 𠄎	20.87 𠄎	12.28 𠄎	4.94 𠄎	1.22 𠄎	6.84 𠄎	16.52 𠄎	17.89 𠄎
70	27.65 𠄎	16.67 Z	15.82 𠄎	6.32 𠄎	2.79 𠄎	11.53 𠄎	23.90 𠄎	24.20 𠄎	15.82 𠄎	8.45 𠄎	5.23 𠄎	11.53 𠄎	21.08 𠄎	21.85 𠄎
75	5.35 𠄎	16.19 Z	19.36 𠄎	10.32 𠄎	7.33 𠄎	16.19 𠄎	27.69 𠄎	27.55 𠄎	19.36 𠄎	11.94 𠄎	9.20 𠄎	16.19 𠄎	25.61 𠄎	25.80 𠄎
80	13.37 𠄎	15.84 Z	22.90 𠄎	14.31 𠄎	11.86 𠄎	20.81 𠄎	1.48 𠄎	0.92 𠄎	22.90 𠄎	15.41 𠄎	13.12 𠄎	20.81 𠄎	0.12 𠄎	29.77 𠄎
85	21.62 𠄎	15.63 Z	26.45 𠄎	18.30 𠄎	16.37 𠄎	25.41 𠄎	5.29 𠄎	4.31 𠄎	26.45 𠄎	18.86 𠄎	17.02 𠄎	25.41 𠄎	4.62 𠄎	3.74 𠄎
90	0.00 𠄎	15.56 Z	0.00 𠄎	22.29 𠄎	20.88 𠄎	0.00 𠄎	9.12 𠄎	7.71 𠄎	0.00 𠄎	22.29 𠄎	20.88 𠄎	0.00 𠄎	9.12 𠄎	7.71 𠄎
95	8.38 𠄎	15.63 Z	3.55 𠄎	26.26 𠄎	25.38 𠄎	4.59 𠄎	12.98 𠄎	11.14 𠄎	3.55 𠄎	25.69 𠄎	24.71 𠄎	4.59 𠄎	13.63 𠄎	11.70 𠄎
100	16.63 𠄎	15.84 Z	7.10 𠄎	0.23 𠄎	29.88 𠄎	9.19 𠄎	16.88 𠄎	14.59 𠄎	7.10 𠄎	29.08 𠄎	28.52 𠄎	9.19 𠄎	18.14 𠄎	15.69 𠄎
105	24.65 𠄎	16.19 Z	10.64 𠄎	4.20 𠄎	4.39 𠄎	13.81 𠄎	20.80 𠄎	18.06 𠄎	10.64 𠄎	2.45 𠄎	2.31 𠄎	13.81 𠄎	22.67 𠄎	19.68 𠄎
110	2.35 𠄎	16.67 Z	14.18 𠄎	8.15 𠄎	8.92 𠄎	18.47 𠄎	24.77 𠄎	21.55 𠄎	14.18 𠄎	5.80 𠄎	6.10 𠄎	18.47 𠄎	27.21 𠄎	23.68 𠄎
115	9.68 𠄎	17.29 Z	17.72 𠄎	12.11 𠄎	13.48 𠄎	23.16 𠄎	28.78 𠄎	25.06 𠄎	17.72 𠄎	9.13 𠄎	9.88 𠄎	23.16 𠄎	1.77 𠄎	27.67 𠄎
120	16.62 𠄎	18.04 Z	21.25 𠄎	16.07 𠄎	18.08 𠄎	27.91 𠄎	2.83 𠄎	28.59 𠄎	21.25 𠄎	12.46 𠄎	13.67 𠄎	27.91 𠄎	6.34 𠄎	1.67 𠄎
125	23.18 𠄎	18.91 Z	24.77 𠄎	20.04 𠄎	22.74 𠄎	2.72 𠄎	6.91 𠄎	2.14 𠄎	24.77 𠄎	15.77 𠄎	17.48 𠄎	2.72 𠄎	10.91 𠄎	5.65 𠄎
130	29.36 𠄎	19.91 Z	28.29 𠄎	24.02 𠄎	27.47 𠄎	7.59 𠄎	11.04 𠄎	5.70 𠄎	28.29 𠄎	19.09 𠄎	21.33 𠄎	7.59 𠄎	15.50 𠄎	9.63 𠄎
135	5.21 𠄎	21.03 Z	1.81 𠄎	28.02 𠄎	2.28 𠄎	12.54 𠄎	15.20 𠄎	9.28 𠄎	1.81 𠄎	22.41 𠄎	25.22 𠄎	12.54 𠄎	20.08 𠄎	13.60 𠄎
140	10.74 𠄎	22.25 Z	5.32 𠄎	2.06 𠄎	7.20 𠄎	17.55 𠄎	19.39 𠄎	12.86 𠄎	5.32 𠄎	25.75 𠄎	29.17 𠄎	17.55 𠄎	24.66 𠄎	17.55 𠄎
145	16.01 𠄎	23.58 Z	8.84 𠄎	6.14 𠄎	12.24 𠄎	22.65 𠄎	23.62 𠄎	16.46 𠄎	8.84 𠄎	29.10 𠄎	3.20 𠄎	22.65 𠄎	29.23 𠄎	21.49 𠄎
150	21.03 𠄎	25.01 Z	12.35 𠄎	10.28 𠄎	17.43 𠄎	27.82 𠄎	27.86 𠄎	20.07 𠄎	12.35 𠄎	2.48 𠄎	7.33 𠄎	27.82 𠄎	3.79 𠄎	25.41 𠄎
155	25.86 𠄎	26.54 Z	15.88 𠄎	14.49 𠄎	22.79 𠄎	3.06 𠄎	2.13 𠄎	23.68 𠄎	15.88 𠄎	5.90 𠄎	11.58 𠄎	3.06 𠄎	8.32 𠄎	29.31 𠄎
160	0.51 𠄎	28.14 Z	19.41 𠄎	18.80 𠄎	28.33 𠄎	8.36 𠄎	6.41 𠄎	27.31 𠄎	19.41 𠄎	9.38 𠄎	15.98 𠄎	8.36 𠄎	12.82 𠄎	3.20 𠄎
165	5.01 𠄎	29.83 Z	22.97 𠄎	23.23 𠄎	4.07 𠄎	13.72 𠄎	10.70 𠄎	0.94 𠄎	22.97 𠄎	12.93 𠄎	20.55 𠄎	13.72 𠄎	17.29 𠄎	7.07 𠄎
170	9.39 𠄎	31.58 Z	26.55 𠄎	27.81 𠄎	10.02 𠄎	19.12 𠄎	14.99 𠄎	4.58 𠄎	26.55 𠄎	16.57 𠄎	25.33 𠄎	19.12 𠄎	21.72 𠄎	10.93 𠄎
175	13.66 𠄎	33.40 Z	0.17 𠄎	2.57 𠄎	16.21 𠄎	24.55 𠄎	19.29 𠄎	8.23 𠄎	0.17 𠄎	20.33 𠄎	0.36 𠄎	24.55 𠄎	26.11 𠄎	14.77 𠄎
180	17.85 𠄎	35.27 Z	3.84 𠄎	7.54 𠄎	22.61 𠄎	0.00 𠄎	23.58 𠄎	11.89 𠄎	3.84 𠄎	24.22 𠄎	5.68 𠄎	0.00 𠄎	0.46 𠄎	18.61 𠄎

51° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	21.98 ♄	37.18 Z	7.57 ♁	12.77 ☾	29.24 ☿	5.45 ♀	27.86 ♀	15.57 ☽	7.57 ♀	28.29 ♀	11.32 ♀	5.45 ♄	4.76 ♀	22.45 ♀
190	26.05 ♄	39.13 Z	11.38 ♁	18.31 ☾	6.07 ♀	10.88 ♀	2.14 ☽	19.27 ☽	11.38 ♀	2.58 ☿	17.34 ♀	10.88 ♄	9.01 ♀	26.29 ♀
195	0.08 ♀	41.10 Z	15.28 ♁	24.21 ☾	13.07 ♀	16.28 ♀	6.40 ☽	22.99 ☽	15.28 ♀	7.14 ☿	23.76 ♀	16.28 ♄	13.21 ♀	0.14 ♁
200	4.09 ♀	43.09 Z	19.31 ♁	0.53 ☿	20.19 ♀	21.64 ♀	10.66 ☽	26.75 ☽	19.31 ♀	12.03 ☿	0.62 ♀	21.64 ♄	17.37 ♀	4.00 ♁
205	8.07 ♀	45.08 Z	23.49 ♁	7.33 ☿	27.38 ♀	26.94 ♀	14.91 ☽	0.55 ♀	23.49 ♀	17.33 ☿	7.92 ♀	26.94 ♄	21.48 ♀	7.90 ♁
210	12.04 ♀	47.05 Z	27.85 ♁	14.65 ☿	4.57 ♀	2.18 ☽	19.15 ☽	4.40 ♀	27.85 ♀	23.15 ☿	15.66 ♀	2.18 ♀	25.55 ♀	11.83 ♁
215	16.00 ♀	49.00 Z	2.45 ☾	22.53 ☿	11.71 ♀	7.35 ☽	23.39 ☽	8.32 ♀	2.45 ☿	29.61 ☿	23.77 ♀	7.35 ♀	29.59 ♀	15.80 ♁
220	19.97 ♀	50.90 Z	7.33 ☾	0.95 ♀	18.74 ♀	12.45 ☽	27.63 ☽	12.31 ♀	7.33 ☿	6.84 ♀	2.17 ♄	12.45 ♀	3.58 ♁	19.84 ♁
225	23.93 ♀	52.75 Z	12.56 ☾	9.86 ♀	25.60 ♀	17.46 ☽	1.89 ♀	16.42 ♀	12.56 ☿	15.02 ♀	10.72 ♄	17.46 ♀	7.55 ♁	23.94 ♁
230	27.91 ♀	54.51 Z	18.22 ☾	19.12 ♀	2.25 ☽	22.41 ☽	6.17 ♀	20.65 ♀	18.22 ☿	24.29 ♀	19.29 ♄	22.41 ♀	11.49 ♁	28.12 ♁
235	1.89 ♁	56.16 Z	24.41 ☾	28.54 ♀	8.66 ☽	27.28 ☽	10.49 ♀	25.05 ♀	24.41 ☿	4.71 ♀	27.72 ♄	27.28 ♀	15.41 ♁	2.38 ☾
240	5.88 ♁	57.68 Z	1.25 ☿	7.89 ♀	14.82 ☽	2.09 ♀	14.86 ♀	29.66 ♀	1.25 ♀	16.23 ♀	5.87 ♀	2.09 ♁	19.32 ♁	6.75 ☾
245	9.88 ♁	59.04 Z	8.84 ☿	16.94 ♀	20.71 ☽	6.84 ♀	19.31 ♀	4.53 ☿	8.84 ♀	28.52 ♀	13.66 ♀	6.84 ♁	23.23 ♁	11.23 ☾
250	13.89 ♁	60.21 Z	17.32 ☿	25.52 ♀	26.33 ☽	11.53 ♀	23.86 ♀	9.74 ☿	17.32 ♀	11.06 ♄	21.03 ♀	11.53 ♁	27.17 ♁	15.84 ☾
255	17.91 ♁	61.16 Z	26.77 ☿	3.48 ☽	1.67 ♀	16.19 ♀	28.54 ♀	15.40 ☿	26.77 ♀	23.22 ♄	27.95 ♀	16.19 ♁	1.16 ☾	20.60 ☾
260	21.94 ♁	61.86 Z	7.16 ♀	10.79 ☽	6.76 ♀	20.81 ♀	3.39 ☿	21.62 ☿	7.16 ♀	4.50 ♀	4.43 ♁	20.81 ♁	5.24 ☾	25.57 ☾
265	25.97 ♁	62.29 Z	18.35 ♀	17.46 ☽	11.58 ♀	25.41 ♀	8.47 ☿	28.58 ☿	18.35 ♀	14.62 ♀	10.49 ♁	25.41 ♁	9.44 ☾	0.82 ☿
270	0.00 ☾	62.44 Z	0.00 ♀	23.56 ☽	16.17 ♀	0.00 ☿	13.83 ☿	6.44 ♀	0.00 ♄	23.56 ♀	16.17 ♁	0.00 ☾	13.83 ☾	6.44 ☿
275	4.03 ☾	62.29 Z	11.65 ♀	29.18 ☽	20.56 ♀	4.59 ☿	19.51 ☿	15.38 ♀	11.65 ♄	1.42 ♁	21.53 ♁	4.59 ☾	18.42 ☾	12.54 ☿
280	8.06 ☾	61.86 Z	22.84 ♀	4.43 ♀	24.76 ♀	9.19 ☿	25.57 ☿	25.50 ♀	22.84 ♄	8.38 ♁	26.61 ♁	9.19 ☾	23.24 ☾	19.21 ☿
285	12.09 ☾	61.16 Z	3.23 ☽	9.40 ♀	28.84 ♀	13.81 ☿	2.05 ♀	6.78 ♀	3.23 ♀	14.60 ♁	1.46 ☾	13.81 ☾	28.33 ☾	26.52 ☿
290	16.11 ☾	60.21 Z	12.68 ☽	14.16 ♀	2.83 ☿	18.47 ☿	8.97 ♀	18.94 ♀	12.68 ♀	20.26 ♁	6.14 ☾	18.47 ☾	3.67 ☿	4.48 ♀
295	20.12 ☾	59.04 Z	21.16 ☽	18.77 ♀	6.77 ☿	23.16 ☿	16.34 ♀	1.48 ♄	21.16 ♀	25.47 ♁	10.69 ☾	23.16 ☾	9.29 ☿	13.06 ♀
300	24.12 ☾	57.68 Z	28.75 ☽	23.25 ♀	10.68 ☿	27.91 ☿	24.13 ♀	13.77 ♄	28.75 ♀	0.34 ☾	15.14 ☾	27.91 ☾	15.18 ☿	22.11 ♀
305	28.11 ☾	56.16 Z	5.59 ♀	27.62 ♀	14.59 ☿	2.72 ♀	2.28 ♀	25.29 ♄	5.59 ♁	4.95 ☾	19.51 ☾	2.72 ☿	21.34 ☿	1.46 ♀
310	2.09 ☿	54.51 Z	11.78 ♀	1.88 ☿	18.51 ☿	7.59 ♀	10.71 ♀	5.71 ♀	11.78 ♁	9.35 ☾	23.83 ☾	7.59 ☿	27.75 ☿	10.88 ♀
315	6.07 ☿	52.75 Z	17.44 ♀	6.06 ☿	22.45 ☿	12.54 ♀	19.28 ♀	14.98 ♀	17.44 ♁	13.58 ☾	28.11 ☾	12.54 ☿	4.40 ♀	20.14 ♀
320	10.03 ☿	50.90 Z	22.67 ♀	10.16 ☿	26.42 ☿	17.55 ♀	27.83 ♀	23.16 ♀	22.67 ♁	17.69 ☾	2.37 ☿	17.55 ☿	11.26 ♀	29.05 ♀
325	14.00 ☿	49.00 Z	27.55 ♀	14.20 ☿	0.41 ♀	22.65 ♀	6.23 ♄	0.39 ♁	27.55 ♁	21.68 ☾	6.61 ☿	22.65 ☿	18.29 ♀	7.47 ☽
330	17.96 ☿	47.05 Z	2.15 ☿	18.17 ☿	4.45 ♀	27.82 ♀	14.34 ♄	6.85 ♁	2.15 ☾	25.60 ☾	10.85 ☿	27.82 ☿	25.43 ♀	15.35 ☽
335	21.93 ☿	45.08 Z	6.51 ☿	22.10 ☿	8.52 ♀	3.06 ♀	22.08 ♄	12.67 ♁	6.51 ☾	29.45 ☾	15.09 ☿	3.06 ♀	2.62 ♀	22.67 ☽
340	25.91 ☿	43.09 Z	10.69 ☿	26.00 ☿	12.63 ♀	8.36 ♀	29.38 ♄	17.97 ♁	10.69 ☾	3.25 ☿	19.34 ☿	8.36 ♀	9.81 ♀	29.47 ☽
345	29.92 ☿	41.10 Z	14.72 ☿	29.86 ☿	16.79 ♀	13.72 ♀	6.24 ♀	22.86 ♁	14.72 ☾	7.01 ☿	23.60 ☿	13.72 ♀	16.93 ♀	5.79 ♀
350	3.95 ♀	39.13 Z	18.62 ☿	3.71 ♀	20.99 ♀	19.12 ♀	12.66 ♀	27.42 ♁	18.62 ☾	10.73 ☿	27.86 ☿	19.12 ♀	23.93 ♀	11.69 ♀
355	8.02 ♀	37.18 Z	22.43 ☿	7.55 ♀	25.24 ♀	24.55 ♀	18.68 ♀	1.71 ☾	22.43 ☾	14.43 ☿	2.14 ♀	24.55 ♀	0.76 ☽	17.23 ♀
360	12.15 ♀	35.27 Z	26.16 ☿	11.39 ♀	29.54 ♀	0.00 ♄	24.32 ♀	5.78 ☾	26.16 ☾	18.11 ☿	6.42 ♀	0.00 ♀	7.39 ☽	22.46 ♀

52° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	12.74 𠄎	34.39 Z	26.98 𠄎	11.81 𠄎	29.60 𠄎	0.00 𠄎	25.54 𠄎	7.06 𠄎	26.98 𠄎	18.61 𠄎	6.61 𠄎	0.00 𠄎	7.69 𠄎	23.36 𠄎
5	16.96 𠄎	32.52 Z	0.60 𠄎	15.61 𠄎	3.92 𠄎	5.45 𠄎	0.80 𠄎	10.88 𠄎	0.60 𠄎	22.23 𠄎	10.88 𠄎	5.45 𠄎	14.14 𠄎	28.30 𠄎
10	21.26 𠄎	30.69 Z	4.17 𠄎	19.42 𠄎	8.28 𠄎	10.88 𠄎	5.76 𠄎	14.55 𠄎	4.17 𠄎	25.84 𠄎	15.15 𠄎	10.88 𠄎	20.36 𠄎	3.02 𠄎
15	25.66 𠄎	28.93 Z	7.70 𠄎	23.24 𠄎	12.69 𠄎	16.28 𠄎	10.49 𠄎	18.12 𠄎	7.70 𠄎	29.45 𠄎	19.41 𠄎	16.28 𠄎	26.34 𠄎	7.57 𠄎
20	0.18 𠄎	27.24 Z	11.21 𠄎	27.08 𠄎	17.13 𠄎	21.64 𠄎	15.00 𠄎	21.60 𠄎	11.21 𠄎	3.04 𠄎	23.67 𠄎	21.64 𠄎	2.10 𠄎	11.96 𠄎
25	4.85 𠄎	25.62 Z	14.70 𠄎	0.93 𠄎	21.61 𠄎	26.94 𠄎	19.34 𠄎	25.01 𠄎	14.70 𠄎	6.62 𠄎	27.92 𠄎	26.94 𠄎	7.65 𠄎	16.23 𠄎
30	9.70 𠄎	24.09 Z	18.18 𠄎	4.80 𠄎	26.12 𠄎	2.18 𠄎	23.53 𠄎	28.38 𠄎	18.18 𠄎	10.20 𠄎	2.16 𠄎	2.18 𠄎	13.02 𠄎	20.41 𠄎
35	14.74 𠄎	22.65 Z	21.65 𠄎	8.68 𠄎	0.65 𠄎	7.35 𠄎	27.60 𠄎	1.70 𠄎	21.65 𠄎	13.76 𠄎	6.38 𠄎	7.35 𠄎	18.21 𠄎	24.51 𠄎
40	20.01 𠄎	21.31 Z	25.12 𠄎	12.58 𠄎	5.19 𠄎	12.45 𠄎	1.58 𠄎	5.00 𠄎	25.12 𠄎	17.32 𠄎	10.57 𠄎	12.45 𠄎	23.25 𠄎	28.56 𠄎
45	25.55 𠄎	20.07 Z	28.59 𠄎	16.50 𠄎	9.75 𠄎	17.46 𠄎	5.48 𠄎	8.28 𠄎	28.59 𠄎	20.87 𠄎	14.73 𠄎	17.46 𠄎	28.17 𠄎	2.56 𠄎
50	1.38 𠄎	18.95 Z	2.06 𠄎	20.42 𠄎	14.31 𠄎	22.41 𠄎	9.33 𠄎	11.54 𠄎	2.06 𠄎	24.40 𠄎	18.86 𠄎	22.41 𠄎	2.98 𠄎	6.53 𠄎
55	7.54 𠄎	17.94 Z	5.54 𠄎	24.36 𠄎	18.87 𠄎	27.28 𠄎	13.13 𠄎	14.81 𠄎	5.54 𠄎	27.92 𠄎	22.95 𠄎	27.28 𠄎	7.70 𠄎	10.47 𠄎
60	14.06 𠄎	17.06 Z	9.02 𠄎	28.31 𠄎	23.42 𠄎	2.09 𠄎	16.90 𠄎	18.08 𠄎	9.02 𠄎	1.42 𠄎	27.01 𠄎	2.09 𠄎	12.35 𠄎	14.40 𠄎
65	20.94 𠄎	16.31 Z	12.50 𠄎	2.27 𠄎	27.97 𠄎	6.84 𠄎	20.65 𠄎	21.35 𠄎	12.50 𠄎	4.91 𠄎	1.03 𠄎	6.84 𠄎	16.94 𠄎	18.32 𠄎
70	28.19 𠄎	15.68 Z	16.00 𠄎	6.22 𠄎	2.50 𠄎	11.53 𠄎	24.40 𠄎	24.64 𠄎	16.00 𠄎	8.37 𠄎	5.00 𠄎	11.53 𠄎	21.49 𠄎	22.25 𠄎
75	5.78 𠄎	15.19 Z	19.49 𠄎	10.18 𠄎	7.03 𠄎	16.19 𠄎	28.14 𠄎	27.95 𠄎	19.49 𠄎	11.82 𠄎	8.94 𠄎	16.19 𠄎	26.00 𠄎	26.17 𠄎
80	13.67 𠄎	14.84 Z	22.99 𠄎	14.14 𠄎	11.54 𠄎	20.81 𠄎	1.90 𠄎	1.27 𠄎	22.99 𠄎	15.25 𠄎	12.83 𠄎	20.81 𠄎	0.50 𠄎	0.09 𠄎
85	21.78 𠄎	14.63 Z	26.50 𠄎	18.09 𠄎	16.03 𠄎	25.41 𠄎	5.68 𠄎	4.61 𠄎	26.50 𠄎	18.65 𠄎	16.70 𠄎	25.41 𠄎	4.99 𠄎	4.03 𠄎
90	0.00 𠄎	14.56 Z	0.00 𠄎	22.03 𠄎	20.52 𠄎	0.00 𠄎	9.48 𠄎	7.97 𠄎	0.00 𠄎	22.03 𠄎	20.52 𠄎	0.00 𠄎	9.48 𠄎	7.97 𠄎
95	8.22 𠄎	14.63 Z	3.50 𠄎	25.97 𠄎	25.01 𠄎	4.59 𠄎	13.30 𠄎	11.35 𠄎	3.50 𠄎	25.39 𠄎	24.32 𠄎	4.59 𠄎	13.97 𠄎	11.91 𠄎
100	16.33 𠄎	14.84 Z	7.01 𠄎	29.91 𠄎	29.50 𠄎	9.19 𠄎	17.17 𠄎	14.75 𠄎	7.01 𠄎	28.73 𠄎	28.10 𠄎	9.19 𠄎	18.46 𠄎	15.86 𠄎
105	24.22 𠄎	15.19 Z	10.51 𠄎	3.83 𠄎	4.00 𠄎	13.81 𠄎	21.06 𠄎	18.18 𠄎	10.51 𠄎	2.05 𠄎	1.86 𠄎	13.81 𠄎	22.97 𠄎	19.82 𠄎
110	1.81 𠄎	15.68 Z	14.00 𠄎	7.75 𠄎	8.51 𠄎	18.47 𠄎	25.00 𠄎	21.63 𠄎	14.00 𠄎	5.36 𠄎	5.60 𠄎	18.47 𠄎	27.50 𠄎	23.78 𠄎
115	9.06 𠄎	16.31 Z	17.50 𠄎	11.68 𠄎	13.06 𠄎	23.16 𠄎	28.97 𠄎	25.09 𠄎	17.50 𠄎	8.65 𠄎	9.35 𠄎	23.16 𠄎	2.03 𠄎	27.73 𠄎
120	15.94 𠄎	17.06 Z	20.98 𠄎	15.60 𠄎	17.65 𠄎	27.91 𠄎	2.99 𠄎	28.58 𠄎	20.98 𠄎	11.92 𠄎	13.10 𠄎	27.91 𠄎	6.58 𠄎	1.69 𠄎
125	22.46 𠄎	17.94 Z	24.46 𠄎	19.53 𠄎	22.30 𠄎	2.72 𠄎	7.05 𠄎	2.08 𠄎	24.46 𠄎	15.19 𠄎	16.87 𠄎	2.72 𠄎	11.13 𠄎	5.64 𠄎
130	28.62 𠄎	18.95 Z	27.94 𠄎	23.47 𠄎	27.02 𠄎	7.59 𠄎	11.14 𠄎	5.60 𠄎	27.94 𠄎	18.46 𠄎	20.67 𠄎	7.59 𠄎	15.69 𠄎	9.58 𠄎
135	4.45 𠄎	20.07 Z	1.41 𠄎	27.44 𠄎	1.83 𠄎	12.54 𠄎	15.27 𠄎	9.13 𠄎	1.41 𠄎	21.72 𠄎	24.52 𠄎	12.54 𠄎	20.25 𠄎	13.50 𠄎
140	9.99 𠄎	21.31 Z	4.88 𠄎	1.44 𠄎	6.75 𠄎	17.55 𠄎	19.43 𠄎	12.68 𠄎	4.88 𠄎	25.00 𠄎	28.42 𠄎	17.55 𠄎	24.81 𠄎	17.42 𠄎
145	15.26 𠄎	22.65 Z	8.35 𠄎	5.49 𠄎	11.79 𠄎	22.65 𠄎	23.62 𠄎	16.24 𠄎	8.35 𠄎	28.30 𠄎	2.40 𠄎	22.65 𠄎	29.35 𠄎	21.32 𠄎
150	20.30 𠄎	24.09 Z	11.82 𠄎	9.59 𠄎	16.98 𠄎	27.82 𠄎	27.84 𠄎	19.80 𠄎	11.82 𠄎	1.62 𠄎	6.47 𠄎	27.82 𠄎	3.88 𠄎	25.20 𠄎
155	25.15 𠄎	25.62 Z	15.30 𠄎	13.77 𠄎	22.35 𠄎	3.06 𠄎	2.08 𠄎	23.38 𠄎	15.30 𠄎	4.99 𠄎	10.66 𠄎	3.06 𠄎	8.39 𠄎	29.07 𠄎
160	29.82 𠄎	27.24 Z	18.79 𠄎	18.04 𠄎	27.90 𠄎	8.36 𠄎	6.33 𠄎	26.96 𠄎	18.79 𠄎	8.40 𠄎	15.00 𠄎	8.36 𠄎	12.87 𠄎	2.92 𠄎
165	4.34 𠄎	28.93 Z	22.30 𠄎	22.43 𠄎	3.66 𠄎	13.72 𠄎	10.59 𠄎	0.55 𠄎	22.30 𠄎	11.88 𠄎	19.51 𠄎	13.72 𠄎	17.31 𠄎	6.76 𠄎
170	8.74 𠄎	30.69 Z	25.83 𠄎	26.98 𠄎	9.64 𠄎	19.12 𠄎	14.85 𠄎	4.16 𠄎	25.83 𠄎	15.45 𠄎	24.24 𠄎	19.12 𠄎	21.72 𠄎	10.58 𠄎
175	13.04 𠄎	32.52 Z	29.40 𠄎	1.70 𠄎	15.86 𠄎	24.55 𠄎	19.12 𠄎	7.77 𠄎	29.40 𠄎	19.12 𠄎	29.20 𠄎	24.55 𠄎	26.08 𠄎	14.39 𠄎
180	17.26 𠄎	34.39 Z	3.02 𠄎	6.64 𠄎	22.31 𠄎	0.00 𠄎	23.39 𠄎	11.39 𠄎	3.02 𠄎	22.94 𠄎	4.46 𠄎	0.00 𠄎	0.40 𠄎	18.19 𠄎

52° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	21.42 ♁	36.31 Z	6.69 ♀	11.84 ☾	28.99 ☿	5.45 ♀	27.64 ♀	15.03 ☾	6.69 II	26.92 II	10.05 ♀	5.45 ♁	4.67 III	21.99 III
190	25.52 ♁	38.26 Z	10.44 ♀	17.36 ☾	5.88 ♀	10.88 ♀	1.89 ☾	18.69 ☾	10.44 II	1.11 ☿	16.02 ♀	10.88 ♁	8.90 III	25.80 III
195	29.58 ♁	40.24 Z	14.29 ♀	23.26 ☾	12.95 ♀	16.28 ♀	6.13 ☾	22.38 ☾	14.29 II	5.56 ☿	22.42 ♀	16.28 ♁	13.08 III	29.61 III
200	3.61 III	42.23 Z	18.26 ♀	29.59 ☾	20.15 ♀	21.64 ♀	10.36 ☾	26.09 ☾	18.26 II	10.34 ☿	29.27 ♀	21.64 ♁	17.22 III	3.45 ♀
205	7.62 III	44.21 Z	22.37 ♀	6.43 ☿	27.42 ♀	26.94 ♀	14.59 ☾	29.85 ☾	22.37 II	15.54 ☿	6.61 III	26.94 ♁	21.31 III	7.31 ♀
210	11.62 III	46.19 Z	26.67 ♀	13.83 ☿	4.70 ♀	2.18 ☾	18.81 ☾	3.66 II	26.67 II	21.24 ☿	14.42 III	2.18 III	25.36 III	11.20 ♀
215	15.62 III	48.13 Z	1.20 ☾	21.83 ☿	11.92 ♀	7.35 ☾	23.02 ☾	7.53 II	1.20 ☿	27.59 ☿	22.66 III	7.35 III	29.37 III	15.15 ♀
220	19.61 III	50.03 Z	6.01 ☾	0.42 ♀	19.02 ♀	12.45 ☾	27.25 ☾	11.49 II	6.01 ☿	4.75 ♀	1.22 ♁	12.45 III	3.35 ♀	19.15 ♀
225	23.61 III	51.86 Z	11.17 ☾	9.55 ♀	25.95 ♀	17.46 ☾	1.48 II	15.54 II	11.17 ☿	12.90 ♀	9.98 ♁	17.46 III	7.30 ♀	23.22 ♀
230	27.62 III	53.61 Z	16.77 ☾	19.08 ♀	2.66 ☾	22.41 ☾	5.74 II	19.72 II	16.77 ☿	22.21 ♀	18.77 ♁	22.41 III	11.21 ♀	27.37 ♀
235	1.63 ♀	55.25 Z	22.91 ☾	28.79 ♀	9.12 ☾	27.28 ☾	10.04 II	24.07 II	22.91 ☿	2.82 III	27.43 ♁	27.28 III	15.11 ♀	1.60 ☾
240	5.66 ♀	56.75 Z	29.72 ☾	8.43 ♀	15.32 ☾	2.09 II	14.39 II	28.62 II	29.72 ☿	14.69 III	5.80 III	2.09 ♀	18.99 ♀	5.93 ☾
245	9.70 ♀	58.10 Z	7.34 ☿	17.74 ♀	21.25 ☾	6.84 II	18.81 II	3.43 ☿	7.34 ♀	27.51 III	13.78 III	6.84 ♀	22.87 ♀	10.37 ☾
250	13.74 ♀	59.25 Z	15.91 ☿	26.51 ♀	26.89 ☾	11.53 II	23.33 II	8.58 ☿	15.91 ♀	10.66 ♁	21.30 III	11.53 ♀	26.76 ♀	14.93 ☾
255	17.80 ♀	60.18 Z	25.54 ☿	4.61 ☾	2.25 II	16.19 II	27.99 II	14.19 ☿	25.54 ♀	23.41 ♁	28.34 III	16.19 ♀	0.71 ☾	19.64 ☾
260	21.86 ♀	60.87 Z	6.24 ♀	11.99 ☾	7.34 II	20.81 II	2.83 ☿	20.38 ☿	6.24 III	5.17 III	4.91 ♀	20.81 ♀	4.75 ☾	24.54 ☾
265	25.93 ♀	61.30 Z	17.85 ♀	18.67 ☾	12.16 II	25.41 II	7.90 ☿	27.34 ☿	17.85 III	15.61 III	11.02 ♀	25.41 ♀	8.92 ☾	29.72 ☾
270	0.00 ☾	61.44 Z	0.00 ♀	24.73 ☾	16.73 II	0.00 ☿	13.27 ☿	5.27 ♀	0.00 ♁	24.73 III	16.73 ♀	0.00 ☾	13.27 ☾	5.27 ☿
275	4.07 ☾	61.30 Z	12.15 ♀	0.28 II	21.08 II	4.59 ☿	18.98 ☿	14.39 ♀	12.15 ♁	2.66 ♀	22.10 ♀	4.59 ☾	17.84 ☾	11.33 ☿
280	8.14 ☾	60.87 Z	23.76 ♀	5.46 II	25.25 II	9.19 ☿	25.09 ☿	24.83 ♀	23.76 ♁	9.62 ♀	27.17 ♀	9.19 ☾	22.66 ☾	18.01 ☿
285	12.20 ☾	60.18 Z	4.46 ☾	10.36 II	29.29 II	13.81 ☿	1.66 ♀	6.59 III	4.46 III	15.81 ♀	2.01 ☾	13.81 ☾	27.75 ☾	25.39 ☿
290	16.26 ☾	59.25 Z	14.09 ☾	15.07 II	3.24 ☿	18.47 ☿	8.70 ♀	19.34 III	14.09 III	21.42 ♀	6.67 ☾	18.47 ☾	3.11 ☿	3.49 ♀
295	20.30 ☾	58.10 Z	22.66 ☾	19.63 II	7.13 ☿	23.16 ☿	16.22 ♀	2.49 ♁	22.66 III	26.57 ♀	11.19 ☾	23.16 ☾	8.75 ☿	12.26 ♀
300	24.34 ☾	56.75 Z	0.28 II	24.07 II	11.01 ☿	27.91 ☿	24.20 ♀	15.31 ♁	0.28 ♀	1.38 ☾	15.61 ☾	27.91 ☾	14.68 ☿	21.57 ♀
305	28.37 ☾	55.25 Z	7.09 II	28.40 II	14.89 ☿	2.72 ♀	2.57 III	27.18 ♁	7.09 ♀	5.93 ☾	19.96 ☾	2.72 ☿	20.88 ☿	1.21 ♀
310	2.38 ☿	53.61 Z	13.23 II	2.63 ☿	18.79 ☿	7.59 ♀	11.23 III	7.79 III	13.23 ♀	10.28 ☾	24.26 ☾	7.59 ☿	27.34 ☿	10.92 ♀
315	6.39 ☿	51.86 Z	18.83 II	6.78 ☿	22.70 ☿	12.54 ♀	20.02 III	17.10 III	18.83 ♀	14.46 ☾	28.52 ☾	12.54 ☿	4.05 ♀	20.45 ♀
320	10.39 ☿	50.03 Z	23.99 II	10.85 ☿	26.65 ☿	17.55 ♀	28.78 III	25.25 III	23.99 ♀	18.51 ☾	2.75 ☿	17.55 ☿	10.98 ♀	29.58 ♀
325	14.38 ☿	48.13 Z	28.80 II	14.85 ☿	0.63 ♀	22.65 ♀	7.34 ♁	2.41 ♀	28.80 ♀	22.47 ☾	6.98 ☿	22.65 ☿	18.08 ♀	8.17 ☾
330	18.38 ☿	46.19 Z	3.33 ☿	18.80 ☿	4.64 ♀	27.82 ♀	15.58 ♁	8.76 ♀	3.33 ☾	26.34 ☾	11.19 ☿	27.82 ☿	25.30 ♀	16.17 ☾
335	22.38 ☿	44.21 Z	7.63 ☿	22.69 ☿	8.69 ♀	3.06 III	23.39 ♁	14.46 ♀	7.63 ☾	0.15 ☿	15.41 ☿	3.06 ♀	2.58 ♀	23.57 ☾
340	26.39 ☿	42.23 Z	11.74 ☿	26.55 ☿	12.78 ♀	8.36 III	0.73 III	19.66 ♀	11.74 ☾	3.91 ☿	19.64 ☿	8.36 ♀	9.85 ♀	0.41 II
345	0.42 ♀	40.24 Z	15.71 ☿	0.39 ♀	16.92 ♀	13.72 III	7.58 III	24.44 ♀	15.71 ☾	7.62 ☿	23.87 ☿	13.72 ♀	17.05 ♀	6.74 II
350	4.48 ♀	38.26 Z	19.56 ☿	4.20 ♀	21.10 ♀	19.12 III	13.98 III	28.89 ♀	19.56 ☾	11.31 ☿	28.11 ☿	19.12 ♀	24.12 ♀	12.64 II
355	8.58 ♀	36.31 Z	23.31 ☿	8.01 ♀	25.33 ♀	24.55 III	19.95 III	3.08 ☾	23.31 ☾	14.97 ☿	2.36 ♀	24.55 ♀	1.01 ☾	18.16 II
360	12.74 ♀	34.39 Z	26.98 ☿	11.81 ♀	29.60 ♀	0.00 ♁	25.54 III	7.06 ☾	26.98 ☾	18.61 ☿	6.61 ♀	0.00 ♀	7.69 ☾	23.36 II

53° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	13.31 𐄀	33.51 Z	27.83 𐄀	12.24 𐄀	29.66 𐄀	0.00 𐄀	26.85 𐄀	8.40 𐄀	27.83 𐄀	19.12 𐄀	6.81 𐄀	0.00 𐄀	8.02 𐄀	24.32 𐄀
5	17.56 𐄀	31.63 Z	1.39 𐄀	16.01 𐄀	3.96 𐄀	5.45 𐄀	2.04 𐄀	12.12 𐄀	1.39 𐄀	22.71 𐄀	11.05 𐄀	5.45 𐄀	14.52 𐄀	29.22 𐄀
10	21.88 𐄀	29.80 Z	4.91 𐄀	19.78 𐄀	8.30 𐄀	10.88 𐄀	6.93 𐄀	15.71 𐄀	4.91 𐄀	26.28 𐄀	15.29 𐄀	10.88 𐄀	20.77 𐄀	3.90 𐄀
15	26.31 𐄀	28.03 Z	8.39 𐄀	23.57 𐄀	12.68 𐄀	16.28 𐄀	11.58 𐄀	19.20 𐄀	8.39 𐄀	29.84 𐄀	19.52 𐄀	16.28 𐄀	26.78 𐄀	8.40 𐄀
20	0.86 𐄀	26.33 Z	11.85 𐄀	27.37 𐄀	17.09 𐄀	21.64 𐄀	16.03 𐄀	22.61 𐄀	11.85 𐄀	3.39 𐄀	23.75 𐄀	21.64 𐄀	2.56 𐄀	12.75 𐄀
25	5.55 𐄀	24.70 Z	15.29 𐄀	1.18 𐄀	21.54 𐄀	26.94 𐄀	20.30 𐄀	25.96 𐄀	15.29 𐄀	6.93 𐄀	27.97 𐄀	26.94 𐄀	8.12 𐄀	16.99 𐄀
30	10.40 𐄀	23.16 Z	18.72 𐄀	5.01 𐄀	26.02 𐄀	2.18 𐄀	24.43 𐄀	29.26 𐄀	18.72 𐄀	10.47 𐄀	2.18 𐄀	2.18 𐄀	13.49 𐄀	21.13 𐄀
35	15.46 𐄀	21.71 Z	22.15 𐄀	8.85 𐄀	0.52 𐄀	7.35 𐄀	28.44 𐄀	2.52 𐄀	22.15 𐄀	13.99 𐄀	6.36 𐄀	7.35 𐄀	18.69 𐄀	25.19 𐄀
40	20.74 𐄀	20.36 Z	25.57 𐄀	12.71 𐄀	5.04 𐄀	12.45 𐄀	2.37 𐄀	5.76 𐄀	25.57 𐄀	17.51 𐄀	10.52 𐄀	12.45 𐄀	23.73 𐄀	29.20 𐄀
45	26.27 𐄀	19.12 Z	29.00 𐄀	16.59 𐄀	9.57 𐄀	17.46 𐄀	6.22 𐄀	8.98 𐄀	29.00 𐄀	21.01 𐄀	14.66 𐄀	17.46 𐄀	28.64 𐄀	3.16 𐄀
50	2.09 𐄀	17.99 Z	2.42 𐄀	20.48 𐄀	14.11 𐄀	22.41 𐄀	10.01 𐄀	12.20 𐄀	2.42 𐄀	24.50 𐄀	18.75 𐄀	22.41 𐄀	3.45 𐄀	7.09 𐄀
55	8.23 𐄀	16.97 Z	5.85 𐄀	24.38 𐄀	18.64 𐄀	27.28 𐄀	13.76 𐄀	15.41 𐄀	5.85 𐄀	27.98 𐄀	22.82 𐄀	27.28 𐄀	8.16 𐄀	10.99 𐄀
60	14.70 𐄀	16.08 Z	9.29 𐄀	28.29 𐄀	23.18 𐄀	2.09 𐄀	17.49 𐄀	18.63 𐄀	9.29 𐄀	1.44 𐄀	26.84 𐄀	2.09 𐄀	12.80 𐄀	14.89 𐄀
65	21.52 𐄀	15.32 Z	12.73 𐄀	2.20 𐄀	27.70 𐄀	6.84 𐄀	21.20 𐄀	21.85 𐄀	12.73 𐄀	4.88 𐄀	0.82 𐄀	6.84 𐄀	17.38 𐄀	18.77 𐄀
70	28.69 𐄀	14.69 Z	16.18 𐄀	6.12 𐄀	2.21 𐄀	11.53 𐄀	24.91 𐄀	25.09 𐄀	16.18 𐄀	8.30 𐄀	4.77 𐄀	11.53 𐄀	21.91 𐄀	22.66 𐄀
75	6.19 𐄀	14.20 Z	19.63 𐄀	10.04 𐄀	6.71 𐄀	16.19 𐄀	28.62 𐄀	28.35 𐄀	19.63 𐄀	11.70 𐄀	8.67 𐄀	16.19 𐄀	26.42 𐄀	26.54 𐄀
80	13.96 𐄀	13.85 Z	23.08 𐄀	13.95 𐄀	11.20 𐄀	20.81 𐄀	2.34 𐄀	1.62 𐄀	23.08 𐄀	15.08 𐄀	12.53 𐄀	20.81 𐄀	0.90 𐄀	0.43 𐄀
85	21.92 𐄀	13.63 Z	26.54 𐄀	17.87 𐄀	15.68 𐄀	25.41 𐄀	6.08 𐄀	4.91 𐄀	26.54 𐄀	18.44 𐄀	16.36 𐄀	25.41 𐄀	5.37 𐄀	4.32 𐄀
90	0.00 𐄀	13.56 Z	0.00 𐄀	21.77 𐄀	20.16 𐄀	0.00 𐄀	9.84 𐄀	8.23 𐄀	0.00 𐄀	21.77 𐄀	20.16 𐄀	0.00 𐄀	9.84 𐄀	8.23 𐄀
95	8.08 𐄀	13.63 Z	3.46 𐄀	25.68 𐄀	24.63 𐄀	4.59 𐄀	13.64 𐄀	11.56 𐄀	3.46 𐄀	25.09 𐄀	23.92 𐄀	4.59 𐄀	14.32 𐄀	12.13 𐄀
100	16.04 𐄀	13.85 Z	6.92 𐄀	29.57 𐄀	29.10 𐄀	9.19 𐄀	17.47 𐄀	14.92 𐄀	6.92 𐄀	28.38 𐄀	27.66 𐄀	9.19 𐄀	18.80 𐄀	16.05 𐄀
105	23.81 𐄀	14.20 Z	10.37 𐄀	3.46 𐄀	3.58 𐄀	13.81 𐄀	21.33 𐄀	18.30 𐄀	10.37 𐄀	1.65 𐄀	1.38 𐄀	13.81 𐄀	23.29 𐄀	19.96 𐄀
110	1.31 𐄀	14.69 Z	13.82 𐄀	7.34 𐄀	8.09 𐄀	18.47 𐄀	25.23 𐄀	21.70 𐄀	13.82 𐄀	4.91 𐄀	5.09 𐄀	18.47 𐄀	27.79 𐄀	23.88 𐄀
115	8.48 𐄀	15.32 Z	17.27 𐄀	11.23 𐄀	12.62 𐄀	23.16 𐄀	29.18 𐄀	25.12 𐄀	17.27 𐄀	8.15 𐄀	8.80 𐄀	23.16 𐄀	2.30 𐄀	27.80 𐄀
120	15.30 𐄀	16.08 Z	20.71 𐄀	15.11 𐄀	17.20 𐄀	27.91 𐄀	3.16 𐄀	28.56 𐄀	20.71 𐄀	11.37 𐄀	12.51 𐄀	27.91 𐄀	6.82 𐄀	1.71 𐄀
125	21.77 𐄀	16.97 Z	24.15 𐄀	19.01 𐄀	21.84 𐄀	2.72 𐄀	7.18 𐄀	2.02 𐄀	24.15 𐄀	14.59 𐄀	16.24 𐄀	2.72 𐄀	11.36 𐄀	5.62 𐄀
130	27.91 𐄀	17.99 Z	27.58 𐄀	22.91 𐄀	26.55 𐄀	7.59 𐄀	11.25 𐄀	5.50 𐄀	27.58 𐄀	17.80 𐄀	19.99 𐄀	7.59 𐄀	15.89 𐄀	9.52 𐄀
135	3.73 𐄀	19.12 Z	1.00 𐄀	26.84 𐄀	1.36 𐄀	12.54 𐄀	15.34 𐄀	8.99 𐄀	1.00 𐄀	21.02 𐄀	23.78 𐄀	12.54 𐄀	20.43 𐄀	13.41 𐄀
140	9.26 𐄀	20.36 Z	4.43 𐄀	0.80 𐄀	6.27 𐄀	17.55 𐄀	19.48 𐄀	12.49 𐄀	4.43 𐄀	24.24 𐄀	27.63 𐄀	17.55 𐄀	24.96 𐄀	17.29 𐄀
145	14.54 𐄀	21.71 Z	7.85 𐄀	4.81 𐄀	11.31 𐄀	22.65 𐄀	23.64 𐄀	16.01 𐄀	7.85 𐄀	27.48 𐄀	1.56 𐄀	22.65 𐄀	29.48 𐄀	21.15 𐄀
150	19.60 𐄀	23.16 Z	11.28 𐄀	8.87 𐄀	16.51 𐄀	27.82 𐄀	27.82 𐄀	19.53 𐄀	11.28 𐄀	0.74 𐄀	5.57 𐄀	27.82 𐄀	3.98 𐄀	24.99 𐄀
155	24.45 𐄀	24.70 Z	14.71 𐄀	13.01 𐄀	21.88 𐄀	3.06 𐄀	2.03 𐄀	23.07 𐄀	14.71 𐄀	4.04 𐄀	9.70 𐄀	3.06 𐄀	8.46 𐄀	28.82 𐄀
160	29.14 𐄀	26.33 Z	18.15 𐄀	17.25 𐄀	27.44 𐄀	8.36 𐄀	6.25 𐄀	26.61 𐄀	18.15 𐄀	7.39 𐄀	13.97 𐄀	8.36 𐄀	12.91 𐄀	2.63 𐄀
165	3.69 𐄀	28.03 Z	21.61 𐄀	21.60 𐄀	3.22 𐄀	13.72 𐄀	10.48 𐄀	0.16 𐄀	21.61 𐄀	10.80 𐄀	18.42 𐄀	13.72 𐄀	17.32 𐄀	6.43 𐄀
170	8.12 𐄀	29.80 Z	25.09 𐄀	26.10 𐄀	9.23 𐄀	19.12 𐄀	14.71 𐄀	3.72 𐄀	25.09 𐄀	14.29 𐄀	23.07 𐄀	19.12 𐄀	21.70 𐄀	10.22 𐄀
175	12.44 𐄀	31.63 Z	28.61 𐄀	0.78 𐄀	15.48 𐄀	24.55 𐄀	18.95 𐄀	7.29 𐄀	28.61 𐄀	17.88 𐄀	27.96 𐄀	24.55 𐄀	26.04 𐄀	13.99 𐄀
180	16.69 𐄀	33.51 Z	2.17 𐄀	5.68 𐄀	21.98 𐄀	0.00 𐄀	23.19 𐄀	10.88 𐄀	2.17 𐄀	21.60 𐄀	3.15 𐄀	0.00 𐄀	0.34 𐄀	17.76 𐄀

53° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	20.86 ㊄	35.44 Z	5.79 ㄥ	10.86 ㄥ	28.71 ㄥ	5.45 ㄥ	27.42 ㄥ	14.48 ㄥ	5.79 ㄥ	25.49 ㄥ	8.67 ㄥ	5.45 ㊄	4.59 ㄥ	21.52 ㄥ
190	24.99 ㊄	37.40 Z	9.48 ㄥ	16.35 ㄥ	5.67 ㄥ	10.88 ㄥ	1.64 ㄥ	18.10 ㄥ	9.48 ㄥ	29.57 ㄥ	14.59 ㄥ	10.88 ㊄	8.79 ㄥ	25.29 ㄥ
195	29.08 ㊄	39.37 Z	13.27 ㄥ	22.24 ㄥ	12.81 ㄥ	16.28 ㄥ	5.86 ㄥ	21.74 ㄥ	13.27 ㄥ	3.92 ㄥ	20.94 ㄥ	16.28 ㊄	12.95 ㄥ	29.07 ㄥ
200	3.14 ㄥ	41.36 Z	17.17 ㄥ	28.58 ㄥ	20.09 ㄥ	21.64 ㄥ	10.06 ㄥ	25.42 ㄥ	17.17 ㄥ	8.58 ㄥ	27.79 ㄥ	21.64 ㊄	17.06 ㄥ	2.87 ㄥ
205	7.18 ㄥ	43.35 Z	21.21 ㄥ	5.45 ㄥ	27.45 ㄥ	26.94 ㄥ	14.26 ㄥ	29.14 ㄥ	21.21 ㄥ	13.64 ㄥ	5.15 ㄥ	26.94 ㊄	21.13 ㄥ	6.69 ㄥ
210	11.21 ㄥ	45.32 Z	25.44 ㄥ	12.92 ㄥ	4.82 ㄥ	2.18 ㄥ	18.46 ㄥ	2.90 ㄥ	25.44 ㄥ	19.22 ㄥ	13.03 ㄥ	2.18 ㄥ	25.16 ㄥ	10.55 ㄥ
215	15.24 ㄥ	47.25 Z	29.89 ㄥ	21.04 ㄥ	12.12 ㄥ	7.35 ㄥ	22.65 ㄥ	6.73 ㄥ	29.89 ㄥ	25.44 ㄥ	21.39 ㄥ	7.35 ㄥ	29.16 ㄥ	14.46 ㄥ
220	19.26 ㄥ	49.14 Z	4.62 ㄥ	29.82 ㄥ	19.31 ㄥ	12.45 ㄥ	26.85 ㄥ	10.63 ㄥ	4.62 ㄥ	2.48 ㄥ	0.13 ㊄	12.45 ㄥ	3.11 ㄥ	18.43 ㄥ
225	23.30 ㄥ	50.97 Z	9.70 ㄥ	9.20 ㄥ	26.31 ㄥ	17.46 ㄥ	1.06 ㄥ	14.64 ㄥ	9.70 ㄥ	10.56 ㄥ	9.11 ㊄	17.46 ㄥ	7.03 ㄥ	22.46 ㄥ
230	27.33 ㄥ	52.70 Z	15.23 ㄥ	19.02 ㄥ	3.08 ㄥ	22.41 ㄥ	5.30 ㄥ	18.77 ㄥ	15.23 ㄥ	19.89 ㄥ	18.15 ㊄	22.41 ㄥ	10.93 ㄥ	26.58 ㄥ
235	1.38 ㄥ	54.33 Z	21.31 ㄥ	29.05 ㄥ	9.60 ㄥ	27.28 ㄥ	9.57 ㄥ	23.05 ㄥ	21.31 ㄥ	0.66 ㄥ	27.07 ㊄	27.28 ㄥ	14.80 ㄥ	0.78 ㄥ
240	5.44 ㄥ	55.82 Z	28.07 ㄥ	9.01 ㄥ	15.85 ㄥ	2.09 ㄥ	13.90 ㄥ	27.54 ㄥ	28.07 ㄥ	12.90 ㄥ	5.68 ㄥ	2.09 ㄥ	18.65 ㄥ	5.08 ㄥ
245	9.52 ㄥ	57.15 Z	5.70 ㄥ	18.60 ㄥ	21.81 ㄥ	6.84 ㄥ	18.30 ㄥ	2.29 ㄥ	5.70 ㄥ	26.28 ㄥ	13.87 ㄥ	6.84 ㄥ	22.49 ㄥ	9.47 ㄥ
250	13.60 ㄥ	58.29 Z	14.34 ㄥ	27.59 ㄥ	27.48 ㄥ	11.53 ㄥ	22.80 ㄥ	7.37 ㄥ	14.34 ㄥ	10.14 ㊄	21.57 ㄥ	11.53 ㄥ	26.35 ㄥ	13.98 ㄥ
255	17.69 ㄥ	59.21 Z	24.16 ㄥ	5.84 ㄥ	2.86 ㄥ	16.19 ㄥ	27.43 ㄥ	12.91 ㄥ	24.16 ㄥ	23.58 ㊄	28.75 ㄥ	16.19 ㄥ	0.25 ㄥ	18.62 ㄥ
260	21.79 ㄥ	59.88 Z	5.19 ㄥ	13.29 ㄥ	7.96 ㄥ	20.81 ㄥ	2.25 ㄥ	19.06 ㄥ	5.19 ㄥ	5.88 ㄥ	5.41 ㄥ	20.81 ㄥ	4.24 ㄥ	23.45 ㄥ
265	25.89 ㄥ	60.30 Z	17.28 ㄥ	19.97 ㄥ	12.77 ㄥ	25.41 ㄥ	7.31 ㄥ	26.01 ㄥ	17.28 ㄥ	16.68 ㄥ	11.58 ㄥ	25.41 ㄥ	8.36 ㄥ	28.53 ㄥ
270	0.00 ㄥ	60.44 Z	0.00 ㄥ	25.99 ㄥ	17.32 ㄥ	0.00 ㄥ	12.68 ㄥ	4.01 ㄥ	0.00 ㊄	25.99 ㄥ	17.32 ㄥ	0.00 ㄥ	12.68 ㄥ	4.01 ㄥ
275	4.11 ㄥ	60.30 Z	12.72 ㄥ	1.47 ㄥ	21.64 ㄥ	4.59 ㄥ	18.42 ㄥ	13.32 ㄥ	12.72 ㊄	3.99 ㄥ	22.69 ㄥ	4.59 ㄥ	17.23 ㄥ	10.03 ㄥ
280	8.21 ㄥ	59.88 Z	24.81 ㄥ	6.55 ㄥ	25.76 ㄥ	9.19 ㄥ	24.59 ㄥ	24.12 ㄥ	24.81 ㊄	10.94 ㄥ	27.75 ㄥ	9.19 ㄥ	22.04 ㄥ	16.71 ㄥ
285	12.31 ㄥ	59.21 Z	5.84 ㄥ	11.38 ㄥ	29.75 ㄥ	13.81 ㄥ	1.25 ㄥ	6.42 ㄥ	5.84 ㄥ	17.09 ㄥ	2.57 ㄥ	13.81 ㄥ	27.14 ㄥ	24.16 ㄥ
290	16.40 ㄥ	58.29 Z	15.66 ㄥ	16.02 ㄥ	3.65 ㄥ	18.47 ㄥ	8.43 ㄥ	19.86 ㄥ	15.66 ㄥ	22.63 ㄥ	7.20 ㄥ	18.47 ㄥ	2.52 ㄥ	2.41 ㄥ
295	20.48 ㄥ	57.15 Z	24.30 ㄥ	20.53 ㄥ	7.51 ㄥ	23.16 ㄥ	16.13 ㄥ	3.72 ㊄	24.30 ㄥ	27.71 ㄥ	11.70 ㄥ	23.16 ㄥ	8.19 ㄥ	11.40 ㄥ
300	24.56 ㄥ	55.82 Z	1.93 ㄥ	24.92 ㄥ	11.35 ㄥ	27.91 ㄥ	24.32 ㄥ	17.10 ㊄	1.93 ㄥ	2.46 ㄥ	16.10 ㄥ	27.91 ㄥ	14.15 ㄥ	20.99 ㄥ
305	28.62 ㄥ	54.33 Z	8.69 ㄥ	29.22 ㄥ	15.20 ㄥ	2.72 ㄥ	2.93 ㄥ	29.34 ㊄	8.69 ㄥ	6.95 ㄥ	20.43 ㄥ	2.72 ㄥ	20.40 ㄥ	0.95 ㄥ
310	2.67 ㄥ	52.70 Z	14.77 ㄥ	3.42 ㄥ	19.07 ㄥ	7.59 ㄥ	11.85 ㄥ	10.11 ㄥ	14.77 ㄥ	11.23 ㄥ	24.70 ㄥ	7.59 ㄥ	26.92 ㄥ	10.98 ㄥ
315	6.70 ㄥ	50.97 Z	20.30 ㄥ	7.54 ㄥ	22.97 ㄥ	12.54 ㄥ	20.89 ㄥ	19.44 ㄥ	20.30 ㄥ	15.36 ㄥ	28.94 ㄥ	12.54 ㄥ	3.69 ㄥ	20.80 ㄥ
320	10.74 ㄥ	49.14 Z	25.38 ㄥ	11.57 ㄥ	26.89 ㄥ	17.55 ㄥ	29.87 ㄥ	27.52 ㄥ	25.38 ㄥ	19.37 ㄥ	3.15 ㄥ	17.55 ㄥ	10.69 ㄥ	0.18 ㄥ
325	14.76 ㄥ	47.25 Z	0.11 ㄥ	15.54 ㄥ	0.84 ㄥ	22.65 ㄥ	8.61 ㊄	4.56 ㄥ	0.11 ㄥ	23.27 ㄥ	7.35 ㄥ	22.65 ㄥ	17.88 ㄥ	8.96 ㄥ
330	18.79 ㄥ	45.32 Z	4.56 ㄥ	19.45 ㄥ	4.84 ㄥ	27.82 ㄥ	16.97 ㊄	10.78 ㄥ	4.56 ㄥ	27.10 ㄥ	11.54 ㄥ	27.82 ㄥ	25.18 ㄥ	17.08 ㄥ
335	22.82 ㄥ	43.35 Z	8.79 ㄥ	23.31 ㄥ	8.87 ㄥ	3.06 ㄥ	24.85 ㊄	16.36 ㄥ	8.79 ㄥ	0.86 ㄥ	15.74 ㄥ	3.06 ㄥ	2.55 ㄥ	24.55 ㄥ
340	26.86 ㄥ	41.36 Z	12.83 ㄥ	27.13 ㄥ	12.94 ㄥ	8.36 ㄥ	2.21 ㄥ	21.42 ㄥ	12.83 ㄥ	4.58 ㄥ	19.94 ㄥ	8.36 ㄥ	9.91 ㄥ	1.42 ㄥ
345	0.92 ㄥ	39.37 Z	16.73 ㄥ	0.93 ㄥ	17.05 ㄥ	13.72 ㄥ	9.06 ㄥ	26.08 ㄥ	16.73 ㄥ	8.26 ㄥ	24.14 ㄥ	13.72 ㄥ	17.19 ㄥ	7.76 ㄥ
350	5.01 ㄥ	37.40 Z	20.52 ㄥ	4.71 ㄥ	21.21 ㄥ	19.12 ㄥ	15.41 ㄥ	0.43 ㄥ	20.52 ㄥ	11.90 ㄥ	28.36 ㄥ	19.12 ㄥ	24.33 ㄥ	13.65 ㄥ
355	9.14 ㄥ	35.44 Z	24.21 ㄥ	8.48 ㄥ	25.41 ㄥ	24.55 ㄥ	21.33 ㄥ	4.51 ㄥ	24.21 ㄥ	15.52 ㄥ	2.58 ㄥ	24.55 ㄥ	1.29 ㄥ	19.14 ㄥ
360	13.31 ㄥ	33.51 Z	27.83 ㄥ	12.24 ㄥ	29.66 ㄥ	0.00 ㊄	26.85 ㄥ	8.40 ㄥ	27.83 ㄥ	19.12 ㄥ	6.81 ㄥ	0.00 ㄥ	8.02 ㄥ	24.32 ㄥ

54° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	13.88 𠄎	32.63 Z	28.70 𠄎	12.69 𠄎	29.73 𠄎	0.00 𠄎	28.27 𠄎	9.78 𠄎	28.70 𠄎	19.64 𠄎	7.01 𠄎	0.00 𠄎	8.38 𠄎	25.32 𠄎
5	18.15 𠄎	30.75 Z	2.20 𠄎	16.42 𠄎	4.00 𠄎	5.45 𠄎	3.37 𠄎	13.41 𠄎	2.20 𠄎	23.19 𠄎	11.22 𠄎	5.45 𠄎	14.92 𠄎	0.18 𠄎
10	22.50 𠄎	28.91 Z	5.67 𠄎	20.16 𠄎	8.31 𠄎	10.88 𠄎	8.18 𠄎	16.92 𠄎	5.67 𠄎	26.72 𠄎	15.43 𠄎	10.88 𠄎	21.21 𠄎	4.82 𠄎
15	26.95 𠄎	27.13 Z	9.10 𠄎	23.90 𠄎	12.66 𠄎	16.28 𠄎	12.75 𠄎	20.33 𠄎	9.10 𠄎	0.24 𠄎	19.64 𠄎	16.28 𠄎	27.25 𠄎	9.28 𠄎
20	1.51 𠄎	25.42 Z	12.51 𠄎	27.66 𠄎	17.05 𠄎	21.64 𠄎	17.11 𠄎	23.66 𠄎	12.51 𠄎	3.75 𠄎	23.84 𠄎	21.64 𠄎	3.04 𠄎	13.59 𠄎
25	6.22 𠄎	23.78 Z	15.90 𠄎	1.44 𠄎	21.48 𠄎	26.94 𠄎	21.31 𠄎	26.93 𠄎	15.90 𠄎	7.25 𠄎	28.03 𠄎	26.94 𠄎	8.62 𠄎	17.78 𠄎
30	11.09 𠄎	22.23 Z	19.28 𠄎	5.23 𠄎	25.93 𠄎	2.18 𠄎	25.37 𠄎	0.17 𠄎	19.28 𠄎	10.74 𠄎	2.20 𠄎	2.18 𠄎	13.99 𠄎	21.87 𠄎
35	16.15 𠄎	20.78 Z	22.66 𠄎	9.03 𠄎	0.40 𠄎	7.35 𠄎	29.33 𠄎	3.36 𠄎	22.66 𠄎	14.23 𠄎	6.35 𠄎	7.35 𠄎	19.19 𠄎	25.89 𠄎
40	21.43 𠄎	19.42 Z	26.04 𠄎	12.85 𠄎	4.89 𠄎	12.45 𠄎	3.19 𠄎	6.54 𠄎	26.04 𠄎	17.70 𠄎	10.48 𠄎	12.45 𠄎	24.23 𠄎	29.86 𠄎
45	26.97 𠄎	18.16 Z	29.41 𠄎	16.69 𠄎	9.40 𠄎	17.46 𠄎	6.98 𠄎	9.71 𠄎	29.41 𠄎	21.16 𠄎	14.58 𠄎	17.46 𠄎	29.14 𠄎	3.78 𠄎
50	2.77 𠄎	17.02 Z	2.79 𠄎	20.54 𠄎	13.90 𠄎	22.41 𠄎	10.72 𠄎	12.86 𠄎	2.79 𠄎	24.60 𠄎	18.64 𠄎	22.41 𠄎	3.94 𠄎	7.67 𠄎
55	8.88 𠄎	16.00 Z	6.18 𠄎	24.40 𠄎	18.41 𠄎	27.28 𠄎	14.43 𠄎	16.02 𠄎	6.18 𠄎	28.03 𠄎	22.67 𠄎	27.28 𠄎	8.64 𠄎	11.53 𠄎
60	15.32 𠄎	15.10 Z	9.57 𠄎	28.27 𠄎	22.92 𠄎	2.09 𠄎	18.11 𠄎	19.19 𠄎	9.57 𠄎	1.45 𠄎	26.66 𠄎	2.09 𠄎	13.27 𠄎	15.39 𠄎
65	22.08 𠄎	14.34 Z	12.96 𠄎	2.14 𠄎	27.42 𠄎	6.84 𠄎	21.78 𠄎	22.36 𠄎	12.96 𠄎	4.84 𠄎	0.61 𠄎	6.84 𠄎	17.83 𠄎	19.23 𠄎
70	29.17 𠄎	13.70 Z	16.36 𠄎	6.02 𠄎	1.91 𠄎	11.53 𠄎	25.44 𠄎	25.55 𠄎	16.36 𠄎	8.22 𠄎	4.52 𠄎	11.53 𠄎	22.36 𠄎	23.08 𠄎
75	6.57 𠄎	13.21 Z	19.77 𠄎	9.89 𠄎	6.39 𠄎	16.19 𠄎	29.11 𠄎	28.76 𠄎	19.77 𠄎	11.58 𠄎	8.39 𠄎	16.19 𠄎	26.85 𠄎	26.92 𠄎
80	14.22 𠄎	12.85 Z	23.18 𠄎	13.77 𠄎	10.86 𠄎	20.81 𠄎	2.79 𠄎	1.98 𠄎	23.18 𠄎	14.91 𠄎	12.22 𠄎	20.81 𠄎	1.32 𠄎	0.77 𠄎
85	22.06 𠄎	12.63 Z	26.59 𠄎	17.64 𠄎	15.32 𠄎	25.41 𠄎	6.50 𠄎	5.22 𠄎	26.59 𠄎	18.22 𠄎	16.02 𠄎	25.41 𠄎	5.77 𠄎	4.63 𠄎
90	0.00 𠄎	12.56 Z	0.00 𠄎	21.51 𠄎	19.78 𠄎	0.00 𠄎	10.22 𠄎	8.49 𠄎	0.00 𠄎	21.51 𠄎	19.78 𠄎	0.00 𠄎	10.22 𠄎	8.49 𠄎
95	7.94 𠄎	12.63 Z	3.41 𠄎	25.37 𠄎	24.23 𠄎	4.59 𠄎	13.98 𠄎	11.78 𠄎	3.41 𠄎	24.78 𠄎	23.50 𠄎	4.59 𠄎	14.68 𠄎	12.36 𠄎
100	15.78 𠄎	12.85 Z	6.82 𠄎	29.23 𠄎	28.68 𠄎	9.19 𠄎	17.78 𠄎	15.09 𠄎	6.82 𠄎	28.02 𠄎	27.21 𠄎	9.19 𠄎	19.14 𠄎	16.23 𠄎
105	23.43 𠄎	13.21 Z	10.23 𠄎	3.08 𠄎	3.15 𠄎	13.81 𠄎	21.61 𠄎	18.42 𠄎	10.23 𠄎	1.24 𠄎	0.89 𠄎	13.81 𠄎	23.61 𠄎	20.11 𠄎
110	0.83 𠄎	13.70 Z	13.64 𠄎	6.92 𠄎	7.64 𠄎	18.47 𠄎	25.48 𠄎	21.78 𠄎	13.64 𠄎	4.45 𠄎	4.56 𠄎	18.47 𠄎	28.09 𠄎	23.98 𠄎
115	7.92 𠄎	14.34 Z	17.04 𠄎	10.77 𠄎	12.17 𠄎	23.16 𠄎	29.39 𠄎	25.16 𠄎	17.04 𠄎	7.64 𠄎	8.22 𠄎	23.16 𠄎	2.58 𠄎	27.86 𠄎
120	14.68 𠄎	15.10 Z	20.43 𠄎	14.61 𠄎	16.73 𠄎	27.91 𠄎	3.34 𠄎	28.55 𠄎	20.43 𠄎	10.81 𠄎	11.89 𠄎	27.91 𠄎	7.08 𠄎	1.73 𠄎
125	21.12 𠄎	16.00 Z	23.82 𠄎	18.47 𠄎	21.36 𠄎	2.72 𠄎	7.33 𠄎	1.97 𠄎	23.82 𠄎	13.98 𠄎	15.57 𠄎	2.72 𠄎	11.59 𠄎	5.60 𠄎
130	27.23 𠄎	17.02 Z	27.21 𠄎	22.33 𠄎	26.06 𠄎	7.59 𠄎	11.36 𠄎	5.40 𠄎	27.21 𠄎	17.14 𠄎	19.28 𠄎	7.59 𠄎	16.10 𠄎	9.46 𠄎
135	3.03 𠄎	18.16 Z	0.59 𠄎	26.22 𠄎	0.86 𠄎	12.54 𠄎	15.42 𠄎	8.84 𠄎	0.59 𠄎	20.29 𠄎	23.02 𠄎	12.54 𠄎	20.60 𠄎	13.31 𠄎
140	8.57 𠄎	19.42 Z	3.96 𠄎	0.14 𠄎	5.77 𠄎	17.55 𠄎	19.52 𠄎	12.30 𠄎	3.96 𠄎	23.46 𠄎	26.81 𠄎	17.55 𠄎	25.11 𠄎	17.15 𠄎
145	13.85 𠄎	20.78 Z	7.34 𠄎	4.11 𠄎	10.81 𠄎	22.65 𠄎	23.65 𠄎	15.77 𠄎	7.34 𠄎	26.64 𠄎	0.67 𠄎	22.65 𠄎	29.60 𠄎	20.97 𠄎
150	18.91 𠄎	22.23 Z	10.72 𠄎	8.13 𠄎	16.01 𠄎	27.82 𠄎	27.80 𠄎	19.26 𠄎	10.72 𠄎	29.83 𠄎	4.63 𠄎	27.82 𠄎	4.07 𠄎	24.77 𠄎
155	23.78 𠄎	23.78 Z	14.10 𠄎	12.22 𠄎	21.38 𠄎	3.06 𠄎	1.97 𠄎	22.75 𠄎	14.10 𠄎	3.07 𠄎	8.69 𠄎	3.06 𠄎	8.52 𠄎	28.56 𠄎
160	28.49 𠄎	25.42 Z	17.49 𠄎	16.41 𠄎	26.96 𠄎	8.36 𠄎	6.16 𠄎	26.25 𠄎	17.49 𠄎	6.34 𠄎	12.89 𠄎	8.36 𠄎	12.95 𠄎	2.34 𠄎
165	3.05 𠄎	27.13 Z	20.90 𠄎	20.72 𠄎	2.75 𠄎	13.72 𠄎	10.36 𠄎	29.76 𠄎	20.90 𠄎	9.67 𠄎	17.25 𠄎	13.72 𠄎	17.34 𠄎	6.10 𠄎
170	7.50 𠄎	28.91 Z	24.33 𠄎	25.18 𠄎	8.79 𠄎	19.12 𠄎	14.57 𠄎	3.28 𠄎	24.33 𠄎	13.08 𠄎	21.82 𠄎	19.12 𠄎	21.69 𠄎	9.84 𠄎
175	11.85 𠄎	30.75 Z	27.80 𠄎	29.82 𠄎	15.08 𠄎	24.55 𠄎	18.78 𠄎	6.81 𠄎	27.80 𠄎	16.59 𠄎	26.63 𠄎	24.55 𠄎	26.00 𠄎	13.58 𠄎
180	16.12 𠄎	32.63 Z	1.30 𠄎	4.68 𠄎	21.62 𠄎	0.00 𠄎	22.99 𠄎	10.36 𠄎	1.30 𠄎	20.22 𠄎	1.73 𠄎	0.00 𠄎	0.27 𠄎	17.31 𠄎

54° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	20.32 ♁	34.56 Z	4.86 ♀	9.81 ♂	28.41 ≍	5.45 ♀	27.19 ♀	13.92 ♂	4.86 II	24.00 II	7.18 ♀	5.45 ♁	4.49 III	21.03 III
190	24.48 ♁	36.52 Z	8.49 ♀	15.28 ♂	5.44 ♀	10.88 ♀	1.38 ♂	17.49 ♂	8.49 II	27.97 II	13.02 ♀	10.88 ♁	8.67 III	24.76 III
195	28.59 ♁	38.50 Z	12.21 ♀	21.14 ♂	12.66 ♀	16.28 ♀	5.57 ♂	21.10 ♂	12.21 II	2.19 ☽	19.32 ♀	16.28 ♁	12.81 III	28.50 III
200	2.68 III	40.49 Z	16.03 ♀	27.48 ♂	20.03 ♀	21.64 ♀	9.75 ♂	24.73 ♂	16.03 II	6.72 ☽	26.14 ♀	21.64 ♁	16.90 III	2.26 ♀
205	6.75 III	42.48 Z	20.00 ♀	4.38 ≍	27.48 ♀	26.94 ♀	13.93 ♂	28.40 ♂	20.00 II	11.64 ☽	3.51 III	26.94 ♁	20.95 III	6.05 ♀
210	10.81 III	44.44 Z	24.15 ♀	11.93 ≍	4.94 ♀	2.18 ♂	18.10 ♂	2.12 II	24.15 II	17.06 ☽	11.45 III	2.18 III	24.95 III	9.87 ♀
215	14.86 III	46.37 Z	28.51 ♀	20.17 ≍	12.34 ♀	7.35 ♂	22.27 ♂	5.90 II	28.51 II	23.13 ☽	19.93 III	7.35 III	28.92 III	13.74 ♀
220	18.92 III	48.26 Z	3.16 ♂	29.14 ≍	19.61 ♀	12.45 ♂	26.45 ♂	9.76 II	3.16 ☽	0.03 ♀	28.86 III	12.45 III	2.86 ♀	17.67 ♀
225	22.98 III	50.07 Z	8.15 ♂	8.78 ♀	26.68 ♀	17.46 ♂	0.64 II	13.71 II	8.15 ☽	8.00 ♀	8.08 ♁	17.46 III	6.76 ♀	21.67 ♀
230	27.05 III	51.79 Z	13.59 ♂	18.93 ♀	3.53 ♂	22.41 ♂	4.85 II	17.78 II	13.59 ☽	17.30 ♀	17.40 ♁	22.41 III	10.63 ♀	25.75 ♀
235	1.14 ♀	53.41 Z	19.58 ♂	29.33 ♀	10.11 ♂	27.28 ♂	9.10 II	22.01 II	19.58 ☽	28.20 ♀	26.61 ♁	27.28 III	14.48 ♀	29.92 ♀
240	5.23 ♀	54.88 Z	26.30 ♂	9.65 ♀	16.40 ♂	2.09 II	13.39 II	26.42 II	26.30 ☽	10.79 III	5.50 III	2.09 ♀	18.30 ♀	4.17 ♂
245	9.34 ♀	56.20 Z	3.90 ≍	19.56 ♀	22.40 ♂	6.84 II	17.77 II	1.10 ☽	3.90 ♀	24.80 III	13.94 III	6.84 ♀	22.11 ♀	8.53 ♂
250	13.45 ♀	57.32 Z	12.61 ≍	28.79 ♀	28.10 ♂	11.53 II	22.24 II	6.11 ☽	12.61 ♀	9.47 ♁	21.84 III	11.53 ♀	25.92 ♀	12.98 ♂
255	17.58 ♀	58.23 Z	22.62 ≍	7.19 ♂	3.50 II	16.19 II	26.84 II	11.57 ☽	22.62 ♀	23.71 ♁	29.16 III	16.19 ♀	29.77 ♀	17.55 ♂
260	21.72 ♀	58.89 Z	4.00 ♀	14.71 ♂	8.61 II	20.81 II	1.64 ☽	17.66 ☽	4.00 III	6.64 III	5.93 ♀	20.81 ♀	3.71 ♂	22.28 ♂
265	25.86 ♀	59.30 Z	16.62 ♀	21.39 ♂	13.41 II	25.41 II	6.69 ☽	24.59 ☽	16.62 III	17.84 III	12.17 ♀	25.41 ♀	7.78 ♂	27.27 ♂
270	0.00 ♂	59.44 Z	0.00 ♀	27.35 ♂	17.94 II	0.00 ☽	12.06 ☽	2.65 ♀	0.00 ♁	27.35 III	17.94 ♀	0.00 ♂	12.06 ♂	2.65 ≍
275	4.14 ♂	59.30 Z	13.38 ♀	2.73 II	22.22 II	4.59 ☽	17.83 ☽	12.16 ♀	13.38 ♁	5.41 ♀	23.31 ♀	4.59 ♂	16.59 ♂	8.61 ≍
280	8.28 ♂	58.89 Z	26.00 ♀	7.72 II	26.29 II	9.19 ☽	24.07 ☽	23.36 ♀	26.00 ♁	12.34 ♀	28.36 ♀	9.19 ♂	21.39 ♂	15.29 ≍
285	12.42 ♂	58.23 Z	7.38 ♂	12.45 II	0.23 ☽	13.81 ☽	0.84 ♀	6.29 III	7.38 III	18.43 ♀	3.16 ♂	13.81 ♂	26.50 ♂	22.81 ≍
290	16.55 ♂	57.32 Z	17.39 ♂	17.02 II	4.08 ☽	18.47 ☽	8.16 ♀	20.53 III	17.39 III	23.89 ♀	7.76 ♂	18.47 ♂	1.90 ≍	1.21 ♀
295	20.66 ♂	56.20 Z	26.10 ♂	21.47 II	7.89 ☽	23.16 ☽	16.06 ♀	5.20 ♁	26.10 III	28.90 ♀	12.23 ♂	23.16 ♂	7.60 ≍	10.44 ♀
300	24.77 ♂	54.88 Z	3.70 II	25.83 II	11.70 ☽	27.91 ☽	24.50 ♀	19.21 ♁	3.70 ♀	3.58 ♂	16.61 ♂	27.91 ♂	13.60 ≍	20.35 ♀
305	28.86 ♂	53.41 Z	10.42 II	0.08 ☽	15.52 ☽	2.72 ♀	3.39 III	1.80 III	10.42 ♀	7.99 ♂	20.90 ♂	2.72 ≍	19.89 ≍	0.67 ♀
310	2.95 ≍	51.79 Z	16.41 II	4.25 ☽	19.37 ☽	7.59 ♀	12.60 III	12.70 III	16.41 ♀	12.22 ♂	25.15 ♂	7.59 ≍	26.47 ≍	11.07 ♀
315	7.02 ≍	50.07 Z	21.85 II	8.33 ☽	23.24 ☽	12.54 ♀	21.92 III	22.00 III	21.85 ♀	16.29 ♂	29.36 ♂	12.54 ≍	3.32 ♀	21.22 ♀
320	11.08 ≍	48.26 Z	26.84 II	12.33 ☽	27.14 ☽	17.55 ♀	1.14 ♁	29.97 III	26.84 ♀	20.24 ♂	3.55 ≍	17.55 ≍	10.39 ♀	0.86 ♂
325	15.14 ≍	46.37 Z	1.49 ☽	16.26 ☽	1.08 ♀	22.65 ♀	10.07 ♁	6.87 ♀	1.49 ♂	24.10 ♂	7.73 ≍	22.65 ≍	17.66 ♀	9.83 ♂
330	19.19 ≍	44.44 Z	5.85 ☽	20.13 ☽	5.05 ♀	27.82 ♀	18.55 ♁	12.94 ♀	5.85 ♂	27.88 ♂	11.90 ≍	27.82 ≍	25.06 ♀	18.07 ♂
335	23.25 ≍	42.48 Z	10.00 ☽	23.95 ☽	9.05 ♀	3.06 III	26.49 ♁	18.36 ♀	10.00 ♂	1.60 ≍	16.07 ≍	3.06 ♀	2.52 ♀	25.62 ♂
340	27.32 ≍	40.49 Z	13.97 ☽	27.74 ☽	13.10 ♀	8.36 III	3.86 III	23.28 ♀	13.97 ♂	5.27 ≍	20.25 ≍	8.36 ♀	9.97 ♀	2.52 II
345	1.41 ♀	38.50 Z	17.79 ☽	1.50 ♀	17.19 ♀	13.72 III	10.68 III	27.81 ♀	17.79 ♂	8.90 ≍	24.43 ≍	13.72 ♀	17.34 ♀	8.86 II
350	5.52 ♀	36.52 Z	21.51 ☽	5.24 ♀	21.33 ♀	19.12 III	16.98 III	2.03 ♂	21.51 ♂	12.51 ≍	28.62 ≍	19.12 ♀	24.56 ♀	14.72 II
355	9.68 ♀	34.56 Z	25.14 ☽	8.97 ♀	25.51 ♀	24.55 III	22.82 III	6.00 ♂	25.14 ♂	16.08 ≍	2.81 ♀	24.55 ♀	1.59 ♂	20.19 II
360	13.88 ♀	32.63 Z	28.70 ☽	12.69 ♀	29.73 ♀	0.00 ♁	28.27 III	9.78 ♂	28.70 ♂	19.64 ≍	7.01 ♀	0.00 ♀	8.38 ♂	25.32 II

55° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	14.44 𠄎	31.75 Z	29.60 𠄎	13.16 𠄎	29.80 𠄎	0.00 𠄎	29.79 𠄎	11.22 𠄎	29.60 𠄎	20.18 𠄎	7.22 𠄎	0.00 𠄎	8.77 𠄎	26.39 𠄎
5	18.73 𠄎	29.86 Z	3.04 𠄎	16.85 𠄎	4.05 𠄎	5.45 𠄎	4.79 𠄎	14.75 𠄎	3.04 𠄎	23.68 𠄎	11.40 𠄎	5.45 𠄎	15.36 𠄎	1.20 𠄎
10	23.10 𠄎	28.01 Z	6.45 𠄎	20.55 𠄎	8.33 𠄎	10.88 𠄎	9.51 𠄎	18.16 𠄎	6.45 𠄎	27.17 𠄎	15.58 𠄎	10.88 𠄎	21.68 𠄎	5.79 𠄎
15	27.57 𠄎	26.23 Z	9.83 𠄎	24.25 𠄎	12.65 𠄎	16.28 𠄎	13.99 𠄎	21.48 𠄎	9.83 𠄎	0.65 𠄎	19.75 𠄎	16.28 𠄎	27.75 𠄎	10.19 𠄎
20	2.15 𠄎	24.51 Z	13.18 𠄎	27.97 𠄎	17.01 𠄎	21.64 𠄎	18.27 𠄎	24.74 𠄎	13.18 𠄎	4.12 𠄎	23.92 𠄎	21.64 𠄎	3.56 𠄎	14.45 𠄎
25	6.87 𠄎	22.86 Z	16.52 𠄎	1.70 𠄎	21.41 𠄎	26.94 𠄎	22.38 𠄎	27.94 𠄎	16.52 𠄎	7.58 𠄎	28.08 𠄎	26.94 𠄎	9.14 𠄎	18.60 𠄎
30	11.76 𠄎	21.30 Z	19.86 𠄎	5.45 𠄎	25.83 𠄎	2.18 𠄎	26.37 𠄎	1.10 𠄎	19.86 𠄎	11.03 𠄎	2.22 𠄎	2.18 𠄎	14.52 𠄎	22.65 𠄎
35	16.83 𠄎	19.84 Z	23.18 𠄎	9.22 𠄎	0.28 𠄎	7.35 𠄎	0.25 𠄎	4.23 𠄎	23.18 𠄎	14.46 𠄎	6.34 𠄎	7.35 𠄎	19.72 𠄎	26.62 𠄎
40	22.11 𠄎	18.47 Z	26.51 𠄎	13.00 𠄎	4.74 𠄎	12.45 𠄎	4.05 𠄎	7.35 𠄎	26.51 𠄎	17.89 𠄎	10.43 𠄎	12.45 𠄎	24.76 𠄎	0.54 𠄎
45	27.64 𠄎	17.21 Z	29.84 𠄎	16.79 𠄎	9.21 𠄎	17.46 𠄎	7.78 𠄎	10.45 𠄎	29.84 𠄎	21.31 𠄎	14.50 𠄎	17.46 𠄎	29.66 𠄎	4.42 𠄎
50	3.43 𠄎	16.06 Z	3.17 𠄎	20.60 𠄎	13.69 𠄎	22.41 𠄎	11.47 𠄎	13.55 𠄎	3.17 𠄎	24.71 𠄎	18.53 𠄎	22.41 𠄎	4.45 𠄎	8.27 𠄎
55	9.51 𠄎	15.03 Z	6.51 𠄎	24.42 𠄎	18.18 𠄎	27.28 𠄎	15.12 𠄎	16.65 𠄎	6.51 𠄎	28.09 𠄎	22.52 𠄎	27.28 𠄎	9.14 𠄎	12.09 𠄎
60	15.90 𠄎	14.13 Z	9.85 𠄎	28.24 𠄎	22.66 𠄎	2.09 𠄎	18.75 𠄎	19.76 𠄎	9.85 𠄎	1.46 𠄎	26.48 𠄎	2.09 𠄎	13.76 𠄎	15.90 𠄎
65	22.61 𠄎	13.35 Z	13.20 𠄎	2.08 𠄎	27.13 𠄎	6.84 𠄎	22.37 𠄎	22.89 𠄎	13.20 𠄎	4.81 𠄎	0.40 𠄎	6.84 𠄎	18.31 𠄎	19.71 𠄎
70	29.63 𠄎	12.71 Z	16.55 𠄎	5.91 𠄎	1.60 𠄎	11.53 𠄎	25.99 𠄎	26.02 𠄎	16.55 𠄎	8.14 𠄎	4.27 𠄎	11.53 𠄎	22.82 𠄎	23.51 𠄎
75	6.93 𠄎	12.21 Z	19.91 𠄎	9.75 𠄎	6.06 𠄎	16.19 𠄎	29.62 𠄎	29.18 𠄎	19.91 𠄎	11.45 𠄎	8.11 𠄎	16.19 𠄎	27.29 𠄎	27.32 𠄎
80	14.47 𠄎	11.85 Z	23.27 𠄎	13.58 𠄎	10.51 𠄎	20.81 𠄎	3.26 𠄎	2.35 𠄎	23.27 𠄎	14.73 𠄎	11.90 𠄎	20.81 𠄎	1.75 𠄎	1.13 𠄎
85	22.19 𠄎	11.63 Z	26.63 𠄎	17.41 𠄎	14.95 𠄎	25.41 𠄎	6.93 𠄎	5.54 𠄎	26.63 𠄎	18.00 𠄎	15.66 𠄎	25.41 𠄎	6.19 𠄎	4.94 𠄎
90	0.00 𠄎	11.56 Z	0.00 𠄎	21.24 𠄎	19.38 𠄎	0.00 𠄎	10.62 𠄎	8.76 𠄎	0.00 𠄎	21.24 𠄎	19.38 𠄎	0.00 𠄎	10.62 𠄎	8.76 𠄎
95	7.81 𠄎	11.63 Z	3.37 𠄎	25.06 𠄎	23.81 𠄎	4.59 𠄎	14.34 𠄎	12.00 𠄎	3.37 𠄎	24.46 𠄎	23.07 𠄎	4.59 𠄎	15.05 𠄎	12.59 𠄎
100	15.53 𠄎	11.85 Z	6.73 𠄎	28.87 𠄎	28.25 𠄎	9.19 𠄎	18.10 𠄎	15.27 𠄎	6.73 𠄎	27.65 𠄎	26.74 𠄎	9.19 𠄎	19.49 𠄎	16.42 𠄎
105	23.07 𠄎	12.21 Z	10.09 𠄎	2.68 𠄎	2.71 𠄎	13.81 𠄎	21.89 𠄎	18.55 𠄎	10.09 𠄎	0.82 𠄎	0.38 𠄎	13.81 𠄎	23.94 𠄎	20.25 𠄎
110	0.37 𠄎	12.71 Z	13.45 𠄎	6.49 𠄎	7.18 𠄎	18.47 𠄎	25.73 𠄎	21.86 𠄎	13.45 𠄎	3.98 𠄎	4.01 𠄎	18.47 𠄎	28.40 𠄎	24.09 𠄎
115	7.39 𠄎	13.35 Z	16.80 𠄎	10.29 𠄎	11.69 𠄎	23.16 𠄎	29.60 𠄎	25.19 𠄎	16.80 𠄎	7.11 𠄎	7.63 𠄎	23.16 𠄎	2.87 𠄎	27.92 𠄎
120	14.10 𠄎	14.13 Z	20.15 𠄎	14.10 𠄎	16.24 𠄎	27.91 𠄎	3.52 𠄎	28.54 𠄎	20.15 𠄎	10.24 𠄎	11.25 𠄎	27.91 𠄎	7.34 𠄎	1.76 𠄎
125	20.49 𠄎	15.03 Z	23.49 𠄎	17.91 𠄎	20.86 𠄎	2.72 𠄎	7.48 𠄎	1.91 𠄎	23.49 𠄎	13.35 𠄎	14.88 𠄎	2.72 𠄎	11.82 𠄎	5.58 𠄎
130	26.57 𠄎	16.06 Z	26.83 𠄎	21.73 𠄎	25.55 𠄎	7.59 𠄎	11.47 𠄎	5.29 𠄎	26.83 𠄎	16.45 𠄎	18.53 𠄎	7.59 𠄎	16.31 𠄎	9.40 𠄎
135	2.36 𠄎	17.21 Z	0.16 𠄎	25.58 𠄎	0.34 𠄎	12.54 𠄎	15.50 𠄎	8.69 𠄎	0.16 𠄎	19.55 𠄎	22.22 𠄎	12.54 𠄎	20.79 𠄎	13.21 𠄎
140	7.89 𠄎	18.47 Z	3.49 𠄎	29.46 𠄎	5.24 𠄎	17.55 𠄎	19.57 𠄎	12.11 𠄎	3.49 𠄎	22.65 𠄎	25.95 𠄎	17.55 𠄎	25.26 𠄎	17.00 𠄎
145	13.17 𠄎	19.84 Z	6.82 𠄎	3.38 𠄎	10.28 𠄎	22.65 𠄎	23.66 𠄎	15.54 𠄎	6.82 𠄎	25.77 𠄎	29.75 𠄎	22.65 𠄎	29.72 𠄎	20.78 𠄎
150	18.24 𠄎	21.30 Z	10.14 𠄎	7.35 𠄎	15.48 𠄎	27.82 𠄎	27.78 𠄎	18.97 𠄎	10.14 𠄎	28.90 𠄎	3.63 𠄎	27.82 𠄎	4.17 𠄎	24.55 𠄎
155	23.13 𠄎	22.86 Z	13.48 𠄎	11.40 𠄎	20.86 𠄎	3.06 𠄎	1.92 𠄎	22.42 𠄎	13.48 𠄎	2.06 𠄎	7.62 𠄎	3.06 𠄎	8.59 𠄎	28.30 𠄎
160	27.85 𠄎	24.51 Z	16.82 𠄎	15.55 𠄎	26.44 𠄎	8.36 𠄎	6.08 𠄎	25.88 𠄎	16.82 𠄎	5.26 𠄎	11.73 𠄎	8.36 𠄎	12.99 𠄎	2.03 𠄎
165	2.43 𠄎	26.23 Z	20.17 𠄎	19.81 𠄎	2.25 𠄎	13.72 𠄎	10.25 𠄎	29.35 𠄎	20.17 𠄎	8.52 𠄎	16.01 𠄎	13.72 𠄎	17.35 𠄎	5.75 𠄎
170	6.90 𠄎	28.01 Z	23.55 𠄎	24.21 𠄎	8.32 𠄎	19.12 𠄎	14.42 𠄎	2.83 𠄎	23.55 𠄎	11.84 𠄎	20.49 𠄎	19.12 𠄎	21.67 𠄎	9.45 𠄎
175	11.27 𠄎	29.86 Z	26.96 𠄎	28.80 𠄎	14.64 𠄎	24.55 𠄎	18.60 𠄎	6.32 𠄎	26.96 𠄎	15.25 𠄎	25.21 𠄎	24.55 𠄎	25.95 𠄎	13.15 𠄎
180	15.56 𠄎	31.75 Z	0.40 𠄎	3.61 𠄎	21.23 𠄎	0.00 𠄎	22.78 𠄎	9.82 𠄎	0.40 𠄎	18.78 𠄎	0.21 𠄎	0.00 𠄎	0.20 𠄎	16.84 𠄎

55° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	19.79 ♄	33.69 Z	3.90 ♁	8.70 ☾	28.09 ☿	5.45 ♀	26.95 ♀	13.34 ☽	3.90 ♀	22.45 ♀	5.56 ♀	5.45 ♄	4.39 ♃	20.52 ♃
190	23.97 ♄	35.65 Z	7.46 ♁	14.12 ☾	5.18 ♁	10.88 ♀	1.12 ☽	16.88 ☽	7.46 ♀	26.31 ♀	11.31 ♀	10.88 ♄	8.55 ♃	24.21 ♃
195	28.11 ♄	37.63 Z	11.10 ♁	19.96 ☾	12.49 ♁	16.28 ♀	5.28 ☽	20.44 ☽	11.10 ♀	0.39 ☿	17.54 ♀	16.28 ♄	12.66 ♃	27.91 ♃
200	2.22 ♃	39.62 Z	14.86 ♁	26.29 ☾	19.95 ♁	21.64 ♀	9.44 ☽	24.03 ☽	14.86 ♀	4.78 ☿	24.30 ♀	21.64 ♄	16.72 ♃	1.63 ♁
205	6.32 ♃	41.60 Z	18.75 ♁	3.21 ☿	27.50 ♁	26.94 ♀	13.59 ☽	27.65 ☽	18.75 ♀	9.53 ☿	1.66 ♃	26.94 ♄	20.75 ♃	5.38 ♁
210	10.41 ♃	43.56 Z	22.80 ♁	10.82 ☿	5.06 ♀	2.18 ☽	17.73 ☽	1.33 ♀	22.80 ♀	14.78 ☿	9.65 ♃	2.18 ♃	24.73 ♃	9.16 ♁
215	14.49 ♃	45.49 Z	27.08 ♁	19.19 ☿	12.56 ♀	7.35 ☽	21.88 ☽	5.06 ♀	27.08 ♀	20.66 ☿	18.24 ♃	7.35 ♃	28.68 ♃	12.99 ♁
220	18.58 ♃	47.37 Z	1.62 ☾	28.36 ☿	19.92 ♀	12.45 ☽	26.03 ☽	8.86 ♀	1.62 ☿	27.38 ☿	27.36 ♃	12.45 ♃	2.60 ♁	16.88 ♁
225	22.67 ♃	49.17 Z	6.51 ☾	8.29 ♁	27.08 ♀	17.46 ☽	0.19 ♀	12.76 ♀	6.51 ☿	5.18 ♀	6.85 ♄	17.46 ♃	6.48 ♁	20.84 ♁
230	26.78 ♃	50.88 Z	11.84 ☾	18.81 ♁	3.99 ☽	22.41 ☽	4.38 ♀	16.77 ♀	11.84 ☿	14.40 ♀	16.49 ♄	22.41 ♃	10.33 ♁	24.88 ♁
235	0.89 ♁	52.48 Z	17.74 ☾	29.62 ♁	10.63 ☽	27.28 ☽	8.60 ♀	20.92 ♀	17.74 ☿	25.36 ♀	26.03 ♄	27.28 ♃	14.15 ♁	29.01 ♁
240	5.02 ♁	53.94 Z	24.37 ☾	10.34 ♀	16.97 ☽	2.09 ♀	12.88 ♀	25.27 ♀	24.37 ☿	8.28 ♃	5.24 ♃	2.09 ♁	17.94 ♁	3.22 ☾
245	9.16 ♁	55.24 Z	1.94 ☿	20.60 ♀	23.01 ☽	6.84 ♀	17.22 ♀	29.86 ♀	1.94 ♀	22.97 ♃	13.96 ♃	6.84 ♁	21.71 ♁	7.53 ☾
250	13.31 ♁	56.35 Z	10.69 ☿	0.10 ☽	28.75 ☽	11.53 ♀	21.66 ♀	4.79 ☿	10.69 ♀	8.58 ♄	22.09 ♃	11.53 ♁	25.48 ♁	11.93 ☾
255	17.47 ♁	57.24 Z	20.87 ☿	8.68 ☽	4.17 ♀	16.19 ♀	26.24 ♀	10.16 ☿	20.87 ♀	23.78 ♄	29.59 ♃	16.19 ♁	29.28 ♁	16.42 ☾
260	21.64 ♁	57.90 Z	2.63 ♁	16.27 ☽	9.29 ♀	20.81 ♀	1.00 ☿	16.17 ☿	2.63 ♃	7.45 ♃	6.48 ♁	20.81 ♁	3.15 ☾	21.05 ☾
265	25.82 ♁	58.30 Z	15.86 ♁	22.94 ☽	14.09 ♀	25.41 ♀	6.03 ☿	23.07 ☿	15.86 ♃	19.10 ♃	12.79 ♁	25.41 ♁	7.17 ☾	25.91 ☾
270	0.00 ☾	58.44 Z	0.00 ♀	28.82 ☽	18.60 ♀	0.00 ☿	11.40 ☿	1.18 ♀	0.00 ♄	28.82 ♃	18.60 ♁	0.00 ☾	11.40 ☾	1.18 ☿
275	4.18 ☾	58.30 Z	14.14 ♀	4.09 ♀	22.83 ♀	4.59 ☿	17.21 ☿	10.90 ♀	14.14 ♄	6.93 ♁	23.97 ♁	4.59 ☾	15.91 ☾	7.06 ☿
280	8.36 ☾	57.90 Z	27.37 ♀	8.95 ♀	26.85 ♀	9.19 ☿	23.52 ☿	22.55 ♀	27.37 ♄	13.83 ♁	29.00 ♁	9.19 ☾	20.71 ☾	13.73 ☿
285	12.53 ☾	57.24 Z	9.13 ☽	13.58 ♀	0.72 ☿	13.81 ☿	0.41 ♀	6.22 ♃	9.13 ♃	19.84 ♁	3.76 ☾	13.81 ☾	25.83 ☾	21.32 ☿
290	16.69 ☾	56.35 Z	19.31 ☽	18.07 ♀	4.52 ☿	18.47 ☿	7.91 ♀	21.42 ♃	19.31 ♃	25.21 ♁	8.34 ☾	18.47 ☾	1.25 ☿	29.90 ☿
295	20.84 ☾	55.24 Z	28.06 ☽	22.47 ♀	8.29 ☿	23.16 ☿	16.04 ♀	7.03 ♄	28.06 ♃	0.14 ☾	12.78 ☾	23.16 ☾	6.99 ☿	9.40 ♁
300	24.98 ☾	53.94 Z	5.63 ♀	26.78 ♀	12.06 ☿	27.91 ☿	24.76 ♀	21.72 ♄	5.63 ♁	4.73 ☾	17.12 ☾	27.91 ☾	13.03 ☿	19.66 ♁
305	29.11 ☾	52.48 Z	12.26 ♀	0.99 ☿	15.85 ☿	2.72 ♀	3.97 ♃	4.64 ♃	12.26 ♁	9.08 ☾	21.40 ☾	2.72 ☿	19.37 ☿	0.38 ♀
310	3.22 ☿	50.88 Z	18.16 ♀	5.12 ☿	19.67 ☿	7.59 ♀	13.51 ♃	15.60 ♃	18.16 ♁	13.23 ☾	25.62 ☾	7.59 ☿	26.01 ☿	11.19 ♀
315	7.33 ☿	49.17 Z	23.49 ♀	9.16 ☿	23.52 ☿	12.54 ♀	23.15 ♃	24.82 ♃	23.49 ♁	17.24 ☾	29.81 ☾	12.54 ☿	2.92 ♁	21.71 ♀
320	11.42 ☿	47.37 Z	28.38 ♀	13.12 ☿	27.40 ☿	17.55 ♀	2.64 ♄	2.62 ♁	28.38 ♁	21.14 ☾	3.97 ☿	17.55 ☿	10.08 ♁	1.64 ☽
325	15.51 ☿	45.49 Z	2.92 ☿	17.01 ☿	1.32 ♀	22.65 ♀	11.76 ♄	9.34 ♁	2.92 ☾	24.94 ☾	8.12 ☿	22.65 ☿	17.44 ♁	10.81 ☽
330	19.59 ☿	43.56 Z	7.20 ☿	20.84 ☿	5.27 ♀	27.82 ♀	20.35 ♄	15.22 ♁	7.20 ☾	28.67 ☾	12.27 ☿	27.82 ☿	24.94 ♁	19.18 ☽
335	23.68 ☿	41.60 Z	11.25 ☿	24.62 ☿	9.25 ♀	3.06 ♃	28.34 ♄	20.47 ♁	11.25 ☾	2.35 ☿	16.41 ☿	3.06 ♁	2.50 ♀	26.79 ☽
340	27.78 ☿	39.62 Z	15.14 ☿	28.37 ☿	13.28 ♀	8.36 ♃	5.70 ♃	25.22 ♁	15.14 ☾	5.97 ☿	20.56 ☿	8.36 ♁	10.05 ♀	3.71 ♀
345	1.89 ♁	37.63 Z	18.90 ☿	2.09 ♀	17.34 ♀	13.72 ♃	12.46 ♃	29.61 ♁	18.90 ☾	9.56 ☿	24.72 ☿	13.72 ♁	17.51 ♀	10.04 ♀
350	6.03 ♁	35.65 Z	22.54 ☿	5.79 ♀	21.45 ♀	19.12 ♃	18.69 ♃	3.69 ☾	22.54 ☾	13.12 ☿	28.88 ☿	19.12 ♁	24.82 ♀	15.88 ♀
355	10.21 ♁	33.69 Z	26.10 ☿	9.48 ♀	25.61 ♀	24.55 ♃	24.44 ♃	7.55 ☾	26.10 ☾	16.66 ☿	3.05 ♁	24.55 ♁	1.91 ☽	21.30 ♀
360	14.44 ♁	31.75 Z	29.60 ☿	13.16 ♀	29.80 ♀	0.00 ♄	29.79 ♃	11.22 ☾	29.60 ☾	20.18 ☿	7.22 ♁	0.00 ♀	8.77 ☽	26.39 ♀

60° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	17.07 𠄎	27.31 Z	4.57 𠄎	15.82 𠄎	0.28 𠄎	0.00 𠄎	9.50 𠄎	19.24 𠄎	4.57 𠄎	23.04 𠄎	8.32 𠄎	0.00 𠄎	11.31 𠄎	2.80 𠄎
5	21.45 𠄎	25.39 Z	7.66 𠄎	19.27 𠄎	4.36 𠄎	5.45 𠄎	13.71 𠄎	22.17 𠄎	7.66 𠄎	26.31 𠄎	12.34 𠄎	5.45 𠄎	18.16 𠄎	7.24 𠄎
10	25.91 𠄎	23.51 Z	10.74 𠄎	22.73 𠄎	8.49 𠄎	10.88 𠄎	17.71 𠄎	25.05 𠄎	10.74 𠄎	29.57 𠄎	16.35 𠄎	10.88 𠄎	24.67 𠄎	11.46 𠄎
15	0.46 𠄎	21.69 Z	13.80 𠄎	26.21 𠄎	12.65 𠄎	16.28 𠄎	21.52 𠄎	27.88 𠄎	13.80 𠄎	2.82 𠄎	20.35 𠄎	16.28 𠄎	0.86 𠄎	15.52 𠄎
20	5.12 𠄎	19.93 Z	16.86 𠄎	29.70 𠄎	16.85 𠄎	21.64 𠄎	25.20 𠄎	0.68 𠄎	16.86 𠄎	6.06 𠄎	24.35 𠄎	21.64 𠄎	6.75 𠄎	19.46 𠄎
25	9.89 𠄎	18.25 Z	19.91 𠄎	3.20 𠄎	21.08 𠄎	26.94 𠄎	28.77 𠄎	3.46 𠄎	19.91 𠄎	9.29 𠄎	28.33 𠄎	26.94 𠄎	12.36 𠄎	23.29 𠄎
30	14.82 𠄎	16.65 Z	22.96 𠄎	6.72 𠄎	25.33 𠄎	2.18 𠄎	2.27 𠄎	6.22 𠄎	22.96 𠄎	12.51 𠄎	2.29 𠄎	2.18 𠄎	17.74 𠄎	27.04 𠄎
35	19.90 𠄎	15.14 Z	26.02 𠄎	10.26 𠄎	29.61 𠄎	7.35 𠄎	5.69 𠄎	8.98 𠄎	26.02 𠄎	15.72 𠄎	6.23 𠄎	7.35 𠄎	22.91 𠄎	0.74 𠄎
40	25.18 𠄎	13.73 Z	29.08 𠄎	13.81 𠄎	3.92 𠄎	12.45 𠄎	9.08 𠄎	11.74 𠄎	29.08 𠄎	18.91 𠄎	10.14 𠄎	12.45 𠄎	27.90 𠄎	4.39 𠄎
45	0.66 𠄎	12.42 Z	2.14 𠄎	17.38 𠄎	8.23 𠄎	17.46 𠄎	12.44 𠄎	14.51 𠄎	2.14 𠄎	22.08 𠄎	14.02 𠄎	17.46 𠄎	2.74 𠄎	8.01 𠄎
50	6.36 𠄎	11.24 Z	5.21 𠄎	20.96 𠄎	12.56 𠄎	22.41 𠄎	15.78 𠄎	17.29 𠄎	5.21 𠄎	25.24 𠄎	17.87 𠄎	22.41 𠄎	7.46 𠄎	11.60 𠄎
55	12.30 𠄎	10.17 Z	8.29 𠄎	24.55 𠄎	16.89 𠄎	27.28 𠄎	19.11 𠄎	20.08 𠄎	8.29 𠄎	28.39 𠄎	21.67 𠄎	27.28 𠄎	12.07 𠄎	15.18 𠄎
60	18.49 𠄎	9.23 Z	11.37 𠄎	28.15 𠄎	21.22 𠄎	2.09 𠄎	22.44 𠄎	22.89 𠄎	11.37 𠄎	1.51 𠄎	25.44 𠄎	2.09 𠄎	16.60 𠄎	18.76 𠄎
65	24.92 𠄎	8.43 Z	14.47 𠄎	1.75 𠄎	25.55 𠄎	6.84 𠄎	25.78 𠄎	25.72 𠄎	14.47 𠄎	4.61 𠄎	29.17 𠄎	6.84 𠄎	21.06 𠄎	22.33 𠄎
70	1.60 𠄎	7.76 Z	17.57 𠄎	5.35 𠄎	29.88 𠄎	11.53 𠄎	29.14 𠄎	28.57 𠄎	17.57 𠄎	7.69 𠄎	2.85 𠄎	11.53 𠄎	25.47 𠄎	25.90 𠄎
75	8.49 𠄎	7.24 Z	20.67 𠄎	8.96 𠄎	4.20 𠄎	16.19 𠄎	2.52 𠄎	1.45 𠄎	20.67 𠄎	10.75 𠄎	6.49 𠄎	16.19 𠄎	29.85 𠄎	29.47 𠄎
80	15.55 𠄎	6.86 Z	23.78 𠄎	12.57 𠄎	8.52 𠄎	20.81 𠄎	5.93 𠄎	4.35 𠄎	23.78 𠄎	13.78 𠄎	10.09 𠄎	20.81 𠄎	4.20 𠄎	3.05 𠄎
85	22.74 𠄎	6.64 Z	26.89 𠄎	16.17 𠄎	12.84 𠄎	25.41 𠄎	9.37 𠄎	7.28 𠄎	26.89 𠄎	16.79 𠄎	13.64 𠄎	25.41 𠄎	8.53 𠄎	6.64 𠄎
90	0.00 𠄎	6.56 Z	0.00 𠄎	19.77 𠄎	17.15 𠄎	0.00 𠄎	12.85 𠄎	10.23 𠄎	0.00 𠄎	19.77 𠄎	17.15 𠄎	0.00 𠄎	12.85 𠄎	10.23 𠄎
95	7.26 𠄎	6.64 Z	3.11 𠄎	23.36 𠄎	21.47 𠄎	4.59 𠄎	16.36 𠄎	13.21 𠄎	3.11 𠄎	22.72 𠄎	20.63 𠄎	4.59 𠄎	17.16 𠄎	13.83 𠄎
100	14.45 𠄎	6.86 Z	6.22 𠄎	26.95 𠄎	25.80 𠄎	9.19 𠄎	19.91 𠄎	16.22 𠄎	6.22 𠄎	25.65 𠄎	24.07 𠄎	9.19 𠄎	21.48 𠄎	17.43 𠄎
105	21.51 𠄎	7.24 Z	9.33 𠄎	0.53 𠄎	0.15 𠄎	13.81 𠄎	23.51 𠄎	19.25 𠄎	9.33 𠄎	28.55 𠄎	27.48 𠄎	13.81 𠄎	25.80 𠄎	21.04 𠄎
110	28.40 𠄎	7.76 Z	12.43 𠄎	4.10 𠄎	4.53 𠄎	18.47 𠄎	27.15 𠄎	22.31 𠄎	12.43 𠄎	1.43 𠄎	0.86 𠄎	18.47 𠄎	0.12 𠄎	24.65 𠄎
115	5.08 𠄎	8.43 Z	15.53 𠄎	7.67 𠄎	8.94 𠄎	23.16 𠄎	0.83 𠄎	25.39 𠄎	15.53 𠄎	4.28 𠄎	4.22 𠄎	23.16 𠄎	4.45 𠄎	28.25 𠄎
120	11.51 𠄎	9.23 Z	18.63 𠄎	11.24 𠄎	13.40 𠄎	27.91 𠄎	4.56 𠄎	28.49 𠄎	18.63 𠄎	7.11 𠄎	7.56 𠄎	27.91 𠄎	8.78 𠄎	1.85 𠄎
125	17.70 𠄎	10.17 Z	21.71 𠄎	14.82 𠄎	17.93 𠄎	2.72 𠄎	8.33 𠄎	1.61 𠄎	21.71 𠄎	9.92 𠄎	10.89 𠄎	2.72 𠄎	13.11 𠄎	5.45 𠄎
130	23.64 𠄎	11.24 Z	24.79 𠄎	18.40 𠄎	22.54 𠄎	7.59 𠄎	12.13 𠄎	4.76 𠄎	24.79 𠄎	12.71 𠄎	14.22 𠄎	7.59 𠄎	17.44 𠄎	9.04 𠄎
135	29.34 𠄎	12.42 Z	27.86 𠄎	21.99 𠄎	27.26 𠄎	12.54 𠄎	15.98 𠄎	7.92 𠄎	27.86 𠄎	15.49 𠄎	17.56 𠄎	12.54 𠄎	21.77 𠄎	12.62 𠄎
140	4.82 𠄎	13.73 Z	0.92 𠄎	25.61 𠄎	2.10 𠄎	17.55 𠄎	19.86 𠄎	11.09 𠄎	0.92 𠄎	18.26 𠄎	20.92 𠄎	17.55 𠄎	26.08 𠄎	16.19 𠄎
145	10.10 𠄎	15.14 Z	3.98 𠄎	29.26 𠄎	7.09 𠄎	22.65 𠄎	23.77 𠄎	14.28 𠄎	3.98 𠄎	21.02 𠄎	24.31 𠄎	22.65 𠄎	0.39 𠄎	19.74 𠄎
150	15.18 𠄎	16.65 Z	7.04 𠄎	2.96 𠄎	12.26 𠄎	27.82 𠄎	27.71 𠄎	17.49 𠄎	7.04 𠄎	23.78 𠄎	27.73 𠄎	27.82 𠄎	4.67 𠄎	23.28 𠄎
155	20.11 𠄎	18.25 Z	10.09 𠄎	6.71 𠄎	17.64 𠄎	3.06 𠄎	1.67 𠄎	20.71 𠄎	10.09 𠄎	26.54 𠄎	1.23 𠄎	3.06 𠄎	8.92 𠄎	26.80 𠄎
160	24.88 𠄎	19.93 Z	13.14 𠄎	10.54 𠄎	23.25 𠄎	8.36 𠄎	5.65 𠄎	23.94 𠄎	13.14 𠄎	29.32 𠄎	4.80 𠄎	8.36 𠄎	13.15 𠄎	0.30 𠄎
165	29.54 𠄎	21.69 Z	16.20 𠄎	14.48 𠄎	29.14 𠄎	13.72 𠄎	9.65 𠄎	27.18 𠄎	16.20 𠄎	2.12 𠄎	8.48 𠄎	13.72 𠄎	17.35 𠄎	3.79 𠄎
170	4.09 𠄎	23.51 Z	19.26 𠄎	18.54 𠄎	5.33 𠄎	19.12 𠄎	13.65 𠄎	0.43 𠄎	19.26 𠄎	4.95 𠄎	12.29 𠄎	19.12 𠄎	21.51 𠄎	7.27 𠄎
175	8.55 𠄎	25.39 Z	22.34 𠄎	22.76 𠄎	11.84 𠄎	24.55 𠄎	17.66 𠄎	3.69 𠄎	22.34 𠄎	7.83 𠄎	16.29 𠄎	24.55 𠄎	25.64 𠄎	10.73 𠄎
180	12.93 𠄎	27.31 Z	25.43 𠄎	27.20 𠄎	18.69 𠄎	0.00 𠄎	21.68 𠄎	6.96 𠄎	25.43 𠄎	10.76 𠄎	20.50 𠄎	0.00 𠄎	29.72 𠄎	14.18 𠄎

60° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	17.27 ♁	29.26 Z	28.56 𐌆	1.90 𐌸	25.89 𐌿	5.45 𐌶	25.69 𐌶	10.24 𐌹	28.56 𐌹	13.78 𐌱	25.00 𐌵	5.45 ♁	3.76 𐌆	17.63 𐌆
190	21.55 ♁	31.24 Z	1.73 𐌸	6.95 𐌸	3.41 𐌸	10.88 𐌶	29.70 𐌶	13.55 𐌹	1.73 𐌱	16.90 𐌱	29.87 𐌵	10.88 ♁	7.76 𐌆	21.07 𐌆
195	25.81 ♁	33.22 Z	4.95 𐌸	12.44 𐌸	11.23 𐌸	16.28 𐌶	3.71 𐌹	16.87 𐌹	4.95 𐌱	20.17 𐌱	5.19 𐌹	16.28 ♁	11.72 𐌆	24.52 𐌆
200	0.04 𐌆	35.21 Z	8.24 𐌸	18.49 𐌸	19.26 𐌸	21.64 𐌶	7.72 𐌹	20.21 𐌹	8.24 𐌱	23.61 𐌱	11.11 𐌹	21.64 ♁	15.65 𐌆	27.98 𐌆
205	4.26 𐌆	37.18 Z	11.61 𐌸	25.26 𐌸	27.43 𐌸	26.94 𐌶	11.72 𐌹	23.58 𐌹	11.61 𐌱	27.30 𐌱	17.75 𐌹	26.94 ♁	19.54 𐌆	1.46 𐌸
210	8.48 𐌆	39.12 Z	15.11 𐌸	2.97 𐌿	5.63 𐌶	2.18 𐌹	15.73 𐌹	26.99 𐌹	15.11 𐌱	1.30 𐌵	25.31 𐌹	2.18 𐌆	23.39 𐌆	4.98 𐌸
215	12.70 𐌆	41.02 Z	18.76 𐌸	11.84 𐌿	13.74 𐌶	7.35 𐌹	19.73 𐌹	0.44 𐌱	18.76 𐌱	5.75 𐌵	3.94 𐌶	7.35 𐌆	27.21 𐌆	8.53 𐌸
220	16.93 𐌆	42.86 Z	22.62 𐌸	22.10 𐌿	21.67 𐌶	12.45 𐌹	23.74 𐌹	3.94 𐌱	22.62 𐌱	10.82 𐌵	13.78 𐌶	12.45 𐌆	1.01 𐌸	12.15 𐌸
225	21.17 𐌆	44.61 Z	26.75 𐌸	3.87 𐌸	29.33 𐌶	17.46 𐌹	27.77 𐌹	7.52 𐌱	26.75 𐌱	16.79 𐌵	24.80 𐌶	17.46 𐌆	4.78 𐌸	15.83 𐌸
230	25.42 𐌆	46.27 Z	1.24 𐌸	16.99 𐌸	6.68 𐌹	22.41 𐌹	1.82 𐌱	11.18 𐌱	1.24 𐌵	24.09 𐌵	6.74 ♁	22.41 𐌆	8.52 𐌸	19.60 𐌸
235	29.69 𐌆	47.81 Z	6.23 𐌸	0.92 𐌶	13.66 𐌹	27.28 𐌹	5.89 𐌱	14.95 𐌱	6.23 𐌵	3.45 𐌹	19.09 ♁	27.28 𐌆	12.23 𐌸	23.48 𐌸
240	3.98 𐌸	49.21 Z	11.92 𐌸	14.76 𐌶	20.29 𐌹	2.09 𐌱	10.01 𐌱	18.86 𐌱	11.92 𐌵	16.03 𐌹	1.20 𐌆	2.09 𐌸	15.90 𐌸	27.45 𐌸
245	8.28 𐌸	50.44 Z	18.64 𐌸	27.63 𐌶	26.56 𐌹	6.84 𐌱	14.19 𐌱	22.95 𐌱	18.64 𐌵	3.38 𐌶	12.49 𐌆	6.84 𐌸	19.51 𐌸	1.52 𐌸
250	12.61 𐌸	51.49 Z	26.86 𐌸	9.00 𐌹	2.48 𐌱	11.53 𐌱	18.45 𐌱	27.29 𐌱	26.86 𐌵	26.08 𐌶	22.67 𐌆	11.53 𐌸	23.06 𐌸	5.62 𐌸
255	16.94 𐌸	52.32 Z	7.31 𐌿	18.70 𐌹	8.05 𐌱	16.19 𐌱	22.81 𐌱	1.99 𐌵	7.31 𐌹	20.77 ♁	1.67 𐌸	16.19 𐌸	26.54 𐌸	9.67 𐌸
260	21.29 𐌸	52.94 Z	21.02 𐌿	26.76 𐌹	13.28 𐌱	20.81 𐌱	27.36 𐌱	7.26 𐌵	21.02 𐌹	11.86 𐌆	9.57 𐌸	20.81 𐌸	0.01 𐌸	13.58 𐌸
265	25.64 𐌸	53.31 Z	8.83 𐌸	3.28 𐌱	18.11 𐌱	25.41 𐌱	2.20 𐌵	13.54 𐌵	8.83 𐌶	27.38 𐌆	16.46 𐌸	25.41 𐌸	3.60 𐌸	17.42 𐌸
270	0.00 𐌸	53.44 Z	0.00 𐌶	8.41 𐌱	22.48 𐌱	0.00 𐌵	7.52 𐌵	21.59 𐌵	0.00 ♁	8.41 𐌸	22.48 𐌸	0.00 𐌸	7.52 𐌸	21.59 𐌸
275	4.36 𐌸	53.31 Z	21.17 𐌶	12.58 𐌱	26.40 𐌱	4.59 𐌵	13.54 𐌵	2.62 𐌹	21.17 ♁	16.46 𐌸	27.80 𐌸	4.59 𐌸	11.89 𐌸	26.72 𐌸
280	8.71 𐌸	52.94 Z	8.98 𐌹	16.42 𐌱	29.99 𐌱	9.19 𐌵	20.43 𐌵	18.14 𐌹	8.98 𐌆	22.74 𐌸	2.64 𐌸	9.19 𐌸	16.72 𐌸	3.24 𐌿
285	13.06 𐌸	52.32 Z	22.69 𐌹	20.33 𐌱	3.46 𐌵	13.81 𐌵	28.33 𐌵	9.23 𐌶	22.69 𐌆	28.01 𐌸	7.19 𐌸	13.81 𐌸	21.95 𐌸	11.30 𐌿
290	17.39 𐌸	51.49 Z	3.14 𐌱	24.38 𐌱	6.94 𐌵	18.47 𐌵	7.33 𐌹	3.92 ♁	3.14 𐌸	2.71 𐌸	11.55 𐌸	18.47 𐌸	27.52 𐌸	21.00 𐌿
295	21.72 𐌸	50.44 Z	11.36 𐌱	28.48 𐌱	10.49 𐌵	23.16 𐌵	17.51 𐌹	26.62 ♁	11.36 𐌸	7.05 𐌸	15.81 𐌸	23.16 𐌸	3.44 𐌿	2.37 𐌸
300	26.02 𐌸	49.21 Z	18.08 𐌱	2.55 𐌵	14.10 𐌵	27.91 𐌵	28.80 𐌹	13.97 𐌆	18.08 𐌸	11.14 𐌸	19.99 𐌸	27.91 𐌸	9.71 𐌿	15.24 𐌸
305	0.31 𐌿	47.81 Z	23.77 𐌱	6.52 𐌵	17.77 𐌵	2.72 𐌹	10.91 𐌶	26.55 𐌆	23.77 𐌸	15.05 𐌸	24.11 𐌸	2.72 𐌿	16.34 𐌿	29.08 𐌸
310	4.58 𐌿	46.27 Z	28.76 𐌱	10.40 𐌵	21.48 𐌵	7.59 𐌹	23.26 𐌶	5.91 𐌸	28.76 𐌸	18.82 𐌸	28.18 𐌸	7.59 𐌿	23.32 𐌿	13.01 𐌶
315	8.83 𐌿	44.61 Z	3.25 𐌵	14.17 𐌵	25.22 𐌵	12.54 𐌹	5.20 ♁	13.21 𐌸	3.25 𐌸	22.48 𐌸	2.23 𐌿	12.54 𐌿	0.67 𐌸	26.13 𐌶
320	13.07 𐌿	42.86 Z	7.38 𐌵	17.85 𐌵	28.99 𐌵	17.55 𐌹	16.22 ♁	19.18 𐌸	7.38 𐌸	26.06 𐌸	6.26 𐌿	17.55 𐌿	8.33 𐌸	7.90 𐌹
325	17.30 𐌿	41.02 Z	11.24 𐌵	21.47 𐌵	2.79 𐌹	22.65 𐌹	26.06 ♁	24.25 𐌸	11.24 𐌸	29.56 𐌸	10.27 𐌿	22.65 𐌿	16.26 𐌸	18.16 𐌹
330	21.52 𐌿	39.12 Z	14.89 𐌵	25.02 𐌵	6.61 𐌹	27.82 𐌹	4.69 𐌆	28.70 𐌸	14.89 𐌸	3.01 𐌿	14.27 𐌿	27.82 𐌿	24.37 𐌸	27.03 𐌹
335	25.74 𐌿	37.18 Z	18.39 𐌵	28.54 𐌵	10.46 𐌹	3.06 𐌶	12.25 𐌆	2.70 𐌸	18.39 𐌸	6.42 𐌿	18.28 𐌿	3.06 𐌸	2.57 𐌶	4.74 𐌱
340	29.96 𐌿	35.21 Z	21.76 𐌵	2.02 𐌹	14.35 𐌹	8.36 𐌶	18.89 𐌆	6.39 𐌸	21.76 𐌸	9.79 𐌿	22.28 𐌿	8.36 𐌸	10.74 𐌶	11.51 𐌱
345	4.19 𐌸	33.22 Z	25.05 𐌵	5.48 𐌹	18.28 𐌹	13.72 𐌶	24.81 𐌆	9.83 𐌸	25.05 𐌸	13.13 𐌿	26.29 𐌿	13.72 𐌸	18.77 𐌶	17.56 𐌱
350	8.45 𐌸	31.24 Z	28.27 𐌵	8.93 𐌹	22.24 𐌹	19.12 𐌶	0.13 𐌸	13.10 𐌸	28.27 𐌸	16.45 𐌿	0.30 𐌸	19.12 𐌸	26.59 𐌶	23.05 𐌱
355	12.73 𐌸	29.26 Z	1.44 𐌹	12.37 𐌹	26.24 𐌹	24.55 𐌶	5.00 𐌸	16.22 𐌸	1.44 𐌿	19.76 𐌿	4.31 𐌸	24.55 𐌸	4.11 𐌹	28.10 𐌱
360	17.07 𐌸	27.31 Z	4.57 𐌹	15.82 𐌹	0.28 𐌶	0.00 ♁	9.50 𐌸	19.24 𐌸	4.57 𐌿	23.04 𐌿	8.32 𐌸	0.00 𐌶	11.31 𐌹	2.80 𐌵

65° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	19.49 𠄎	22.81 Z	10.47 𠄎	19.17 𠄎	1.06 𠄎	0.00 𠄎	24.14 𠄎	28.76 𠄎	10.47 𠄎	26.31 𠄎	9.59 𠄎	0.00 𠄎	15.54 𠄎	11.63 𠄎
5	23.95 𠄎	20.87 Z	13.12 𠄎	22.30 𠄎	4.93 𠄎	5.45 𠄎	26.80 𠄎	0.97 𠄎	13.12 𠄎	29.31 𠄎	13.40 𠄎	5.45 𠄎	22.67 𠄎	15.37 𠄎
10	28.48 𠄎	18.97 Z	15.79 𠄎	25.46 𠄎	8.84 𠄎	10.88 𠄎	29.46 𠄎	3.19 𠄎	15.79 𠄎	2.30 𠄎	17.21 𠄎	10.88 𠄎	29.34 𠄎	18.96 𠄎
15	3.08 𠄎	17.12 Z	18.47 𠄎	28.64 𠄎	12.79 𠄎	16.28 𠄎	2.12 𠄎	5.42 𠄎	18.47 𠄎	5.28 𠄎	21.01 𠄎	16.28 𠄎	5.59 𠄎	22.46 𠄎
20	7.78 𠄎	15.33 Z	21.15 𠄎	1.83 𠄎	16.77 𠄎	21.64 𠄎	4.79 𠄎	7.67 𠄎	21.15 𠄎	8.26 𠄎	24.80 𠄎	21.64 𠄎	11.47 𠄎	25.88 𠄎
25	12.58 𠄎	13.61 Z	23.85 𠄎	5.05 𠄎	20.79 𠄎	26.94 𠄎	7.48 𠄎	9.94 𠄎	23.85 𠄎	11.22 𠄎	28.57 𠄎	26.94 𠄎	17.03 𠄎	29.24 𠄎
30	17.51 𠄎	11.98 Z	26.57 𠄎	8.29 𠄎	24.83 𠄎	2.18 𠄎	10.20 𠄎	12.22 𠄎	26.57 𠄎	14.17 𠄎	2.32 𠄎	2.18 𠄎	22.32 𠄎	2.56 𠄎
35	22.59 𠄎	10.43 Z	29.29 𠄎	11.55 𠄎	28.90 𠄎	7.35 𠄎	12.94 𠄎	14.54 𠄎	29.29 𠄎	17.11 𠄎	6.04 𠄎	7.35 𠄎	27.38 𠄎	5.86 𠄎
40	27.82 𠄎	8.98 Z	2.03 𠄎	14.83 𠄎	3.00 𠄎	12.45 𠄎	15.71 𠄎	16.87 𠄎	2.03 𠄎	20.03 𠄎	9.73 𠄎	12.45 𠄎	2.24 𠄎	9.13 𠄎
45	3.23 𠄎	7.63 Z	4.79 𠄎	18.12 𠄎	7.11 𠄎	17.46 𠄎	18.52 𠄎	19.24 𠄎	4.79 𠄎	22.93 𠄎	13.39 𠄎	17.46 𠄎	6.94 𠄎	12.40 𠄎
50	8.83 𠄎	6.41 Z	7.55 𠄎	21.43 𠄎	11.23 𠄎	22.41 𠄎	21.36 𠄎	21.64 𠄎	7.55 𠄎	25.82 𠄎	17.02 𠄎	22.41 𠄎	11.51 𠄎	15.66 𠄎
55	14.62 𠄎	5.30 Z	10.33 𠄎	24.75 𠄎	15.37 𠄎	27.28 𠄎	24.24 𠄎	24.06 𠄎	10.33 𠄎	28.69 𠄎	20.60 𠄎	27.28 𠄎	15.97 𠄎	18.92 𠄎
60	20.62 𠄎	4.33 Z	13.12 𠄎	28.07 𠄎	19.51 𠄎	2.09 𠄎	27.16 𠄎	26.52 𠄎	13.12 𠄎	1.53 𠄎	24.14 𠄎	2.09 𠄎	20.35 𠄎	22.18 𠄎
65	26.81 𠄎	3.50 Z	15.92 𠄎	1.40 𠄎	23.65 𠄎	6.84 𠄎	0.12 𠄎	29.01 𠄎	15.92 𠄎	4.36 𠄎	27.63 𠄎	6.84 𠄎	24.65 𠄎	25.45 𠄎
70	3.19 𠄎	2.81 Z	18.72 𠄎	4.74 𠄎	27.79 𠄎	11.53 𠄎	3.13 𠄎	1.53 𠄎	18.72 𠄎	7.15 𠄎	1.08 𠄎	11.53 𠄎	28.91 𠄎	28.73 𠄎
75	9.73 𠄎	2.26 Z	21.54 𠄎	8.07 𠄎	1.94 𠄎	16.19 𠄎	6.18 𠄎	4.08 𠄎	21.54 𠄎	9.92 𠄎	4.48 𠄎	16.19 𠄎	3.12 𠄎	2.02 𠄎
80	16.41 𠄎	1.87 Z	24.35 𠄎	11.41 𠄎	6.08 𠄎	20.81 𠄎	9.28 𠄎	6.67 𠄎	24.35 𠄎	12.67 𠄎	7.82 𠄎	20.81 𠄎	7.31 𠄎	5.32 𠄎
85	23.18 𠄎	1.64 Z	27.18 𠄎	14.74 𠄎	10.22 𠄎	25.41 𠄎	12.43 𠄎	9.29 𠄎	27.18 𠄎	15.38 𠄎	11.12 𠄎	25.41 𠄎	11.48 𠄎	8.62 𠄎
90	0.00 𠄎	1.56 Z	0.00 𠄎	18.06 𠄎	14.37 𠄎	0.00 𠄎	15.63 𠄎	11.94 𠄎	0.00 𠄎	18.06 𠄎	14.37 𠄎	0.00 𠄎	15.63 𠄎	11.94 𠄎
95	6.82 𠄎	1.64 Z	2.82 𠄎	21.38 𠄎	18.52 𠄎	4.59 𠄎	18.88 𠄎	14.62 𠄎	2.82 𠄎	20.71 𠄎	17.57 𠄎	4.59 𠄎	19.78 𠄎	15.26 𠄎
100	13.59 𠄎	1.87 Z	5.65 𠄎	24.68 𠄎	22.69 𠄎	9.19 𠄎	22.18 𠄎	17.33 𠄎	5.65 𠄎	23.33 𠄎	20.72 𠄎	9.19 𠄎	23.92 𠄎	18.59 𠄎
105	20.27 𠄎	2.26 Z	8.46 𠄎	27.98 𠄎	26.88 𠄎	13.81 𠄎	25.52 𠄎	20.08 𠄎	8.46 𠄎	25.92 𠄎	23.82 𠄎	13.81 𠄎	28.06 𠄎	21.93 𠄎
110	26.81 𠄎	2.81 Z	11.28 𠄎	1.27 𠄎	1.09 𠄎	18.47 𠄎	28.92 𠄎	22.85 𠄎	11.28 𠄎	28.47 𠄎	26.87 𠄎	18.47 𠄎	2.21 𠄎	25.26 𠄎
115	3.19 𠄎	3.50 Z	14.08 𠄎	4.55 𠄎	5.35 𠄎	23.16 𠄎	2.37 𠄎	25.64 𠄎	14.08 𠄎	0.99 𠄎	29.88 𠄎	23.16 𠄎	6.35 𠄎	28.60 𠄎
120	9.38 𠄎	4.33 Z	16.88 𠄎	7.82 𠄎	9.65 𠄎	27.91 𠄎	5.86 𠄎	28.47 𠄎	16.88 𠄎	3.48 𠄎	2.84 𠄎	27.91 𠄎	10.49 𠄎	1.93 𠄎
125	15.38 𠄎	5.30 Z	19.67 𠄎	11.08 𠄎	14.03 𠄎	2.72 𠄎	9.40 𠄎	1.31 𠄎	19.67 𠄎	5.94 𠄎	5.76 𠄎	2.72 𠄎	14.63 𠄎	5.25 𠄎
130	21.17 𠄎	6.41 Z	22.45 𠄎	14.34 𠄎	18.49 𠄎	7.59 𠄎	12.98 𠄎	4.18 𠄎	22.45 𠄎	8.36 𠄎	8.64 𠄎	7.59 𠄎	18.77 𠄎	8.57 𠄎
135	26.77 𠄎	7.63 Z	25.21 𠄎	17.60 𠄎	23.06 𠄎	12.54 𠄎	16.61 𠄎	7.07 𠄎	25.21 𠄎	10.76 𠄎	11.48 𠄎	12.54 𠄎	22.89 𠄎	11.88 𠄎
140	2.18 𠄎	8.98 Z	27.97 𠄎	20.87 𠄎	27.76 𠄎	17.55 𠄎	20.27 𠄎	9.97 𠄎	27.97 𠄎	13.13 𠄎	14.29 𠄎	17.55 𠄎	27.00 𠄎	15.17 𠄎
145	7.41 𠄎	10.43 Z	0.71 𠄎	24.14 𠄎	2.62 𠄎	22.65 𠄎	23.96 𠄎	12.89 𠄎	0.71 𠄎	15.46 𠄎	17.06 𠄎	22.65 𠄎	1.10 𠄎	18.45 𠄎
150	12.49 𠄎	11.98 Z	3.43 𠄎	27.44 𠄎	7.68 𠄎	27.82 𠄎	27.68 𠄎	15.83 𠄎	3.43 𠄎	17.78 𠄎	19.80 𠄎	27.82 𠄎	5.17 𠄎	21.71 𠄎
155	17.42 𠄎	13.61 Z	6.15 𠄎	0.76 𠄎	12.97 𠄎	3.06 𠄎	1.43 𠄎	18.78 𠄎	6.15 𠄎	20.06 𠄎	22.52 𠄎	3.06 𠄎	9.21 𠄎	24.95 𠄎
160	22.22 𠄎	15.33 Z	8.85 𠄎	4.12 𠄎	18.53 𠄎	8.36 𠄎	5.20 𠄎	21.74 𠄎	8.85 𠄎	22.33 𠄎	25.21 𠄎	8.36 𠄎	13.23 𠄎	28.17 𠄎
165	26.92 𠄎	17.12 Z	11.53 𠄎	7.54 𠄎	24.41 𠄎	13.72 𠄎	8.99 𠄎	24.72 𠄎	11.53 𠄎	24.58 𠄎	27.88 𠄎	13.72 𠄎	17.21 𠄎	1.36 𠄎
170	1.52 𠄎	18.97 Z	14.21 𠄎	11.04 𠄎	0.66 𠄎	19.12 𠄎	12.79 𠄎	27.70 𠄎	14.21 𠄎	26.81 𠄎	0.54 𠄎	19.12 𠄎	21.16 𠄎	4.54 𠄎
175	6.05 𠄎	20.87 Z	16.88 𠄎	14.63 𠄎	7.33 𠄎	24.55 𠄎	16.60 𠄎	0.69 𠄎	16.88 𠄎	29.03 𠄎	3.20 𠄎	24.55 𠄎	25.07 𠄎	7.70 𠄎
180	10.51 𠄎	22.81 Z	19.53 𠄎	18.37 𠄎	14.46 𠄎	0.00 𠄎	20.41 𠄎	3.69 𠄎	19.53 𠄎	1.24 𠄎	5.86 𠄎	0.00 𠄎	28.94 𠄎	10.83 𠄎

65° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	14.92 ♄	24.78 Z	22.19 ♍	22.28 ♁	22.08 ♃	5.45 ♀	24.23 ♀	6.69 ♂	22.19 ♂	3.45 ♀	8.55 ☽	5.45 ♄	2.76 ♍	13.94 ♍
190	19.30 ♄	26.77 Z	24.84 ♍	26.44 ♁	0.18 ♁	10.88 ♀	28.05 ♀	9.71 ♂	24.84 ♂	5.67 ♀	11.28 ☽	10.88 ♄	6.54 ♍	17.04 ♍
195	23.65 ♄	28.75 Z	27.49 ♍	0.94 ☾	8.74 ♁	16.28 ♀	1.87 ♂	12.74 ♂	27.49 ♂	7.89 ♀	14.09 ☽	16.28 ♄	10.29 ♍	20.12 ♍
200	27.98 ♄	30.73 Z	0.15 ♁	5.90 ☾	17.66 ♁	21.64 ♀	5.68 ♂	15.78 ♂	0.15 ♀	10.14 ♀	17.02 ☽	21.64 ♄	13.99 ♍	23.19 ♍
205	2.31 ♍	32.69 Z	2.82 ♁	11.51 ☾	26.82 ♁	26.94 ♀	9.50 ♂	18.83 ♂	2.82 ♀	12.42 ♀	20.14 ☽	26.94 ♄	17.65 ♍	26.25 ♍
210	6.65 ♍	34.61 Z	5.52 ♁	18.08 ☾	6.05 ♀	2.18 ♂	13.32 ♂	21.91 ♂	5.52 ♀	14.76 ♀	23.56 ☽	2.18 ♍	21.28 ♍	29.31 ♍
215	10.99 ♍	36.48 Z	8.25 ♁	26.07 ☾	15.17 ♀	7.35 ♂	17.14 ♂	25.00 ♂	8.25 ♀	17.17 ♀	27.44 ☽	7.35 ♍	24.87 ♍	2.37 ♁
220	15.34 ♍	38.28 Z	11.03 ♁	6.21 ♃	24.01 ♀	12.45 ♂	20.97 ♂	28.13 ♂	11.03 ♀	19.70 ♀	2.07 ♁	12.45 ♍	28.45 ♍	5.45 ♁
225	19.72 ♍	39.99 Z	13.89 ♁	19.55 ♃	2.44 ♂	17.46 ♂	24.81 ♂	1.30 ♀	13.89 ♀	22.38 ♀	7.94 ♁	17.46 ♍	2.00 ♁	8.56 ♁
230	24.11 ♍	41.60 Z	16.85 ♁	7.14 ♁	10.40 ♂	22.41 ♂	28.68 ♂	4.51 ♀	16.85 ♀	25.32 ♀	15.91 ♁	22.41 ♍	5.54 ♁	11.70 ♁
235	28.53 ♍	43.08 Z	19.97 ♁	28.60 ♁	17.85 ♂	27.28 ♂	2.57 ♀	7.79 ♀	19.97 ♀	28.66 ♀	27.58 ♁	27.28 ♍	9.07 ♁	14.92 ♁
240	2.97 ♁	44.42 Z	23.33 ♁	20.59 ♀	24.80 ♂	2.09 ♀	6.50 ♀	11.14 ♀	23.33 ♀	2.69 ☽	15.44 ♁	2.09 ♁	12.61 ♁	18.23 ♁
245	7.43 ♁	45.60 Z	27.09 ♁	9.22 ♂	1.27 ♀	6.84 ♀	10.49 ♀	14.60 ♀	27.09 ♀	8.06 ☽	10.70 ♄	6.84 ♁	16.16 ♁	21.69 ♁
250	11.92 ♁	46.59 Z	1.53 ☾	23.46 ♂	7.32 ♀	11.53 ♀	14.54 ♀	18.20 ♀	1.53 ☽	16.63 ☽	7.42 ♍	11.53 ♁	19.69 ♁	25.33 ♁
255	16.42 ♁	47.39 Z	7.31 ☾	4.20 ♀	12.99 ♀	16.19 ♀	18.67 ♀	21.96 ♀	7.31 ☽	6.29 ♁	27.73 ♍	16.19 ♁	23.16 ♁	29.16 ♁
260	20.94 ♁	47.97 Z	16.22 ☾	12.55 ♀	18.33 ♀	20.81 ♀	22.91 ♀	25.96 ♀	16.22 ☽	14.88 ♄	11.36 ♁	20.81 ♁	26.40 ♁	2.93 ☾
265	25.47 ♁	48.32 Z	4.97 ♃	19.24 ♀	23.39 ♀	25.41 ♀	27.28 ♀	0.31 ☽	4.97 ♁	8.13 ♁	20.92 ♁	25.41 ♁	29.18 ♁	5.47 ☾
270	0.00 ☾	48.44 Z	0.00 ♀	23.63 ♀	27.87 ♀	0.00 ☽	2.13 ☽	6.37 ☽	0.00 ♄	23.63 ♁	27.87 ♁	0.00 ☾	2.13 ☾	6.37 ☾
275	4.53 ☾	48.32 Z	25.03 ♂	24.53 ♀	0.82 ☽	4.59 ☽	9.08 ☽	21.87 ☽	25.03 ♍	29.69 ♁	2.72 ☾	4.59 ☾	6.61 ☾	10.76 ☾
280	9.06 ☾	47.97 Z	13.78 ♀	27.07 ♀	3.60 ☽	9.19 ☽	18.64 ☽	15.12 ♁	13.78 ♁	4.04 ☾	7.09 ☾	9.19 ☾	11.67 ☾	17.45 ☾
285	13.58 ☾	47.39 Z	22.69 ♀	0.84 ☽	6.84 ☽	13.81 ☽	2.27 ♁	23.71 ♍	22.69 ♁	8.04 ☾	11.33 ☾	13.81 ☾	17.01 ☾	25.80 ☾
290	18.08 ☾	46.59 Z	28.47 ♀	4.67 ☽	10.31 ☽	18.47 ☽	22.58 ♁	13.37 ♁	28.47 ♁	11.80 ☾	15.46 ☾	18.47 ☾	22.68 ☾	6.54 ♃
295	22.57 ☾	45.60 Z	2.91 ☽	8.31 ☽	13.84 ☽	23.16 ☽	19.30 ♁	21.94 ♁	2.91 ☾	15.40 ☾	19.51 ☾	23.16 ☾	28.73 ☾	20.78 ♃
300	27.03 ☾	44.42 Z	6.67 ☽	11.77 ☽	17.39 ☽	27.91 ☽	14.56 ♄	27.31 ♁	6.67 ☾	18.86 ☾	23.50 ☾	27.91 ☾	5.20 ♃	9.41 ♁
305	1.47 ♃	43.08 Z	10.03 ☽	15.08 ☽	20.93 ☽	2.72 ♁	2.42 ♍	1.34 ☾	10.03 ☾	22.21 ☾	27.43 ☾	2.72 ♃	12.15 ♃	1.40 ♀
310	5.89 ♃	41.60 Z	13.15 ☽	18.30 ☽	24.46 ☽	7.59 ♁	14.09 ♍	4.68 ☾	13.15 ☾	25.49 ☾	1.32 ♃	7.59 ♃	19.60 ♃	22.86 ♀
315	10.28 ♃	39.99 Z	16.11 ☽	21.44 ☽	28.00 ☽	12.54 ♁	22.06 ♍	7.62 ☾	16.11 ☾	28.70 ☾	5.19 ♃	12.54 ♃	27.56 ♃	10.45 ♂
320	14.66 ♃	38.28 Z	18.97 ☽	24.55 ☽	1.55 ♁	17.55 ♁	27.93 ♍	10.30 ☾	18.97 ☾	1.87 ♃	9.03 ♃	17.55 ♃	5.99 ♁	23.79 ♂
325	19.01 ♃	36.48 Z	21.75 ☽	27.63 ☽	5.13 ♁	22.65 ♁	2.56 ♁	12.83 ☾	21.75 ☾	5.00 ♃	12.86 ♃	22.65 ♃	14.83 ♁	3.93 ♀
330	23.35 ♃	34.61 Z	24.48 ☽	0.69 ♁	8.72 ♁	27.82 ♁	6.44 ♁	15.24 ☾	24.48 ☾	8.09 ♃	16.68 ♃	27.82 ♃	23.95 ♁	11.92 ♀
335	27.69 ♃	32.69 Z	27.18 ☽	3.75 ♁	12.35 ♁	3.06 ♁	9.86 ♁	17.58 ☾	27.18 ☾	11.17 ♃	20.50 ♃	3.06 ♁	3.18 ♀	18.49 ♀
340	2.02 ♁	30.73 Z	29.85 ☽	6.81 ♁	16.01 ♁	8.36 ♁	12.98 ♁	19.86 ☾	29.85 ☾	14.22 ♃	24.32 ♃	8.36 ♁	12.34 ♀	24.10 ♀
345	6.35 ♁	28.75 Z	2.51 ♁	9.88 ♁	19.71 ♁	13.72 ♁	15.91 ♁	22.11 ☾	2.51 ♃	17.26 ♃	28.13 ♃	13.72 ♁	21.26 ♀	29.06 ♀
350	10.70 ♁	26.77 Z	5.16 ♁	12.96 ♁	23.46 ♁	19.12 ♁	18.72 ♁	24.33 ☾	5.16 ♃	20.29 ♃	1.95 ♁	19.12 ♁	29.82 ♀	3.56 ☽
355	15.08 ♁	24.78 Z	7.81 ♁	16.06 ♁	27.24 ♁	24.55 ♁	21.45 ♁	26.55 ☾	7.81 ♃	23.31 ♃	5.77 ♁	24.55 ♁	7.92 ♂	7.72 ☽
360	19.49 ♁	22.81 Z	10.47 ♁	19.17 ♁	1.06 ♁	0.00 ♄	24.14 ♁	28.76 ☾	10.47 ♃	26.31 ♃	9.59 ♁	0.00 ♀	15.54 ♂	11.63 ☽

70° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
0	21.76 𐄀	18.29 Z	17.54 𐄀	23.55 𐄀	2.45 𐄀	0.00 𐄀	15.06 𐄀	9.76 𐄀	17.54 𐄀	0.16 𐄀	11.12 𐄀	0.00 𐄀	23.54 𐄀	23.86 𐄀
5	26.28 𐄀	16.33 Z	19.66 𐄀	26.24 𐄀	5.98 𐄀	5.45 𐄀	15.39 𐄀	11.19 𐄀	19.66 𐄀	2.83 𐄀	14.68 𐄀	5.45 𐄀	0.78 𐄀	26.41 𐄀
10	0.85 𐄀	14.41 Z	21.82 𐄀	28.98 𐄀	9.57 𐄀	10.88 𐄀	16.04 𐄀	12.69 𐄀	21.82 𐄀	5.49 𐄀	18.23 𐄀	10.88 𐄀	7.39 𐄀	29.00 𐄀
15	5.48 𐄀	12.54 Z	24.02 𐄀	1.76 𐄀	13.21 𐄀	16.28 𐄀	16.97 𐄀	14.25 𐄀	24.02 𐄀	8.14 𐄀	21.77 𐄀	16.28 𐄀	13.46 𐄀	1.61 𐄀
20	10.20 𐄀	10.72 Z	26.26 𐄀	4.57 𐄀	16.90 𐄀	21.64 𐄀	18.13 𐄀	15.88 𐄀	26.26 𐄀	10.79 𐄀	25.29 𐄀	21.64 𐄀	19.09 𐄀	4.26 𐄀
25	15.01 𐄀	8.96 Z	28.53 𐄀	7.42 𐄀	20.62 𐄀	26.94 𐄀	19.51 𐄀	17.56 𐄀	28.53 𐄀	13.44 𐄀	28.79 𐄀	26.94 𐄀	24.35 𐄀	6.93 𐄀
30	19.93 𐄀	7.29 Z	0.83 𐄀	10.31 𐄀	24.38 𐄀	2.18 𐄀	21.08 𐄀	19.30 𐄀	0.83 𐄀	16.07 𐄀	2.27 𐄀	2.18 𐄀	29.33 𐄀	9.63 𐄀
35	24.97 𐄀	5.70 Z	3.16 𐄀	13.21 𐄀	28.16 𐄀	7.35 𐄀	22.81 𐄀	21.09 𐄀	3.16 𐄀	18.69 𐄀	5.73 𐄀	7.35 𐄀	4.07 𐄀	12.36 𐄀
40	0.15 𐄀	4.22 Z	5.52 𐄀	16.15 𐄀	1.98 𐄀	12.45 𐄀	24.69 𐄀	22.94 𐄀	5.52 𐄀	21.30 𐄀	9.15 𐄀	12.45 𐄀	8.61 𐄀	15.12 𐄀
45	5.48 𐄀	2.84 Z	7.90 𐄀	19.10 𐄀	5.81 𐄀	17.46 𐄀	26.71 𐄀	24.83 𐄀	7.90 𐄀	23.88 𐄀	12.53 𐄀	17.46 𐄀	13.00 𐄀	17.90 𐄀
50	10.96 𐄀	1.57 Z	10.30 𐄀	22.07 𐄀	9.67 𐄀	22.41 𐄀	28.84 𐄀	26.78 𐄀	10.30 𐄀	26.45 𐄀	15.87 𐄀	22.41 𐄀	17.27 𐄀	20.71 𐄀
55	16.61 𐄀	0.44 Z	12.73 𐄀	25.05 𐄀	13.53 𐄀	27.28 𐄀	1.08 𐄀	28.77 𐄀	12.73 𐄀	29.00 𐄀	19.17 𐄀	27.28 𐄀	21.44 𐄀	23.54 𐄀
60	22.42 𐄀	0.57 N	15.16 𐄀	28.04 𐄀	17.41 𐄀	2.09 𐄀	3.42 𐄀	0.81 𐄀	15.16 𐄀	1.52 𐄀	22.42 𐄀	2.09 𐄀	25.53 𐄀	26.40 𐄀
65	28.39 𐄀	1.43 N	17.61 𐄀	1.04 𐄀	21.29 𐄀	6.84 𐄀	5.85 𐄀	2.90 𐄀	17.61 𐄀	4.01 𐄀	25.62 𐄀	6.84 𐄀	29.56 𐄀	29.28 𐄀
70	4.51 𐄀	2.15 N	20.08 𐄀	4.04 𐄀	25.18 𐄀	11.53 𐄀	8.38 𐄀	5.03 𐄀	20.08 𐄀	6.48 𐄀	28.77 𐄀	11.53 𐄀	3.55 𐄀	2.18 𐄀
75	10.76 𐄀	2.71 N	22.55 𐄀	7.05 𐄀	29.07 𐄀	16.19 𐄀	10.98 𐄀	7.21 𐄀	22.55 𐄀	8.92 𐄀	1.86 𐄀	16.19 𐄀	7.51 𐄀	5.10 𐄀
80	17.11 𐄀	3.11 N	25.03 𐄀	10.05 𐄀	2.96 𐄀	20.81 𐄀	13.67 𐄀	9.42 𐄀	25.03 𐄀	11.32 𐄀	4.88 𐄀	20.81 𐄀	11.44 𐄀	8.05 𐄀
85	23.54 𐄀	3.36 N	27.51 𐄀	13.04 𐄀	6.85 𐄀	25.41 𐄀	16.42 𐄀	11.68 𐄀	27.51 𐄀	13.69 𐄀	7.85 𐄀	25.41 𐄀	15.35 𐄀	11.00 𐄀
90	0.00 𐄀	3.44 N	0.00 𐄀	16.02 𐄀	10.75 𐄀	0.00 𐄀	19.25 𐄀	13.98 𐄀	0.00 𐄀	16.02 𐄀	10.75 𐄀	0.00 𐄀	19.25 𐄀	13.98 𐄀
95	6.46 𐄀	3.36 N	2.49 𐄀	19.00 𐄀	14.65 𐄀	4.59 𐄀	22.15 𐄀	16.31 𐄀	2.49 𐄀	18.32 𐄀	13.58 𐄀	4.59 𐄀	23.15 𐄀	16.96 𐄀
100	12.89 𐄀	3.11 N	4.97 𐄀	21.95 𐄀	18.56 𐄀	9.19 𐄀	25.12 𐄀	18.68 𐄀	4.97 𐄀	20.58 𐄀	16.33 𐄀	9.19 𐄀	27.04 𐄀	19.95 𐄀
105	19.24 𐄀	2.71 N	7.45 𐄀	24.90 𐄀	22.49 𐄀	13.81 𐄀	28.14 𐄀	21.08 𐄀	7.45 𐄀	22.79 𐄀	19.02 𐄀	13.81 𐄀	0.93 𐄀	22.95 𐄀
110	25.49 𐄀	2.15 N	9.92 𐄀	27.82 𐄀	26.45 𐄀	18.47 𐄀	1.23 𐄀	23.52 𐄀	9.92 𐄀	24.97 𐄀	21.62 𐄀	18.47 𐄀	4.82 𐄀	25.96 𐄀
115	1.61 𐄀	1.43 N	12.39 𐄀	0.72 𐄀	0.44 𐄀	23.16 𐄀	4.38 𐄀	25.99 𐄀	12.39 𐄀	27.10 𐄀	24.15 𐄀	23.16 𐄀	8.71 𐄀	28.96 𐄀
120	7.58 𐄀	0.57 N	14.84 𐄀	3.60 𐄀	4.47 𐄀	27.91 𐄀	7.58 𐄀	28.48 𐄀	14.84 𐄀	29.19 𐄀	26.58 𐄀	27.91 𐄀	12.59 𐄀	1.96 𐄀
125	13.39 𐄀	0.44 Z	17.27 𐄀	6.46 𐄀	8.56 𐄀	2.72 𐄀	10.83 𐄀	1.00 𐄀	17.27 𐄀	1.23 𐄀	28.92 𐄀	2.72 𐄀	16.47 𐄀	4.95 𐄀
130	19.04 𐄀	1.57 Z	19.70 𐄀	9.29 𐄀	12.73 𐄀	7.59 𐄀	14.13 𐄀	3.55 𐄀	19.70 𐄀	3.22 𐄀	1.16 𐄀	7.59 𐄀	20.33 𐄀	7.93 𐄀
135	24.52 𐄀	2.84 Z	22.10 𐄀	12.10 𐄀	17.00 𐄀	12.54 𐄀	17.47 𐄀	6.12 𐄀	22.10 𐄀	5.17 𐄀	3.29 𐄀	12.54 𐄀	24.19 𐄀	10.90 𐄀
140	29.85 𐄀	4.22 Z	24.48 𐄀	14.88 𐄀	21.39 𐄀	17.55 𐄀	20.85 𐄀	8.70 𐄀	24.48 𐄀	7.06 𐄀	5.31 𐄀	17.55 𐄀	28.02 𐄀	13.85 𐄀
145	5.03 𐄀	5.70 Z	26.84 𐄀	17.64 𐄀	25.93 𐄀	22.65 𐄀	24.27 𐄀	11.31 𐄀	26.84 𐄀	8.91 𐄀	7.19 𐄀	22.65 𐄀	1.84 𐄀	16.79 𐄀
150	10.07 𐄀	7.29 Z	29.17 𐄀	20.37 𐄀	0.67 𐄀	27.82 𐄀	27.73 𐄀	13.93 𐄀	29.17 𐄀	10.70 𐄀	8.92 𐄀	27.82 𐄀	5.62 𐄀	19.69 𐄀
155	14.99 𐄀	8.96 Z	1.47 𐄀	23.07 𐄀	5.65 𐄀	3.06 𐄀	1.21 𐄀	16.56 𐄀	1.47 𐄀	12.44 𐄀	10.49 𐄀	3.06 𐄀	9.38 𐄀	22.58 𐄀
160	19.80 𐄀	10.72 Z	3.74 𐄀	25.74 𐄀	10.91 𐄀	8.36 𐄀	4.71 𐄀	19.21 𐄀	3.74 𐄀	14.12 𐄀	11.87 𐄀	8.36 𐄀	13.10 𐄀	25.43 𐄀
165	24.52 𐄀	12.54 Z	5.98 𐄀	28.39 𐄀	16.54 𐄀	13.72 𐄀	8.23 𐄀	21.86 𐄀	5.98 𐄀	15.75 𐄀	13.03 𐄀	13.72 𐄀	16.79 𐄀	28.24 𐄀
170	29.15 𐄀	14.41 Z	8.18 𐄀	1.00 𐄀	22.61 𐄀	19.12 𐄀	11.77 𐄀	24.51 𐄀	8.18 𐄀	17.31 𐄀	13.96 𐄀	19.12 𐄀	20.43 𐄀	1.02 𐄀
175	3.72 𐄀	16.33 Z	10.34 𐄀	3.59 𐄀	29.22 𐄀	24.55 𐄀	15.32 𐄀	27.17 𐄀	10.34 𐄀	18.81 𐄀	14.61 𐄀	24.55 𐄀	24.02 𐄀	3.76 𐄀
180	8.24 𐄀	18.29 Z	12.46 𐄀	6.14 𐄀	6.46 𐄀	0.00 𐄀	18.88 𐄀	29.84 𐄀	12.46 𐄀	20.24 𐄀	14.94 𐄀	0.00 𐄀	27.55 𐄀	6.45 𐄀

70° NB

α_z	λ_z	β_z	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
185	12.71 ♎	20.27 Z	14.52 ♎	8.66 ♎	14.46 ♎	5.45 ♎	22.44 ♎	2.50 ♎	14.52 ♎	21.60 ♎	14.92 ♎	5.45 ♎	1.03 ♎	9.09 ♎
190	17.16 ♎	22.25 Z	16.53 ♎	11.13 ♎	23.30 ♎	10.88 ♎	26.00 ♎	5.16 ♎	16.53 ♎	22.88 ♎	14.50 ♎	10.88 ♎	4.45 ♎	11.68 ♎
195	21.59 ♎	24.24 Z	18.47 ♎	13.56 ♎	3.01 ♎	16.28 ♎	29.55 ♎	7.81 ♎	18.47 ♎	24.07 ♎	13.66 ♎	16.28 ♎	7.79 ♎	14.20 ♎
200	26.01 ♎	26.21 Z	20.34 ♎	15.92 ♎	13.54 ♎	21.64 ♎	3.11 ♎	10.46 ♎	20.34 ♎	25.17 ♎	12.38 ♎	21.64 ♎	11.06 ♎	16.64 ♎
205	0.44 ♎	28.15 Z	22.12 ♎	18.18 ♎	24.70 ♎	26.94 ♎	6.66 ♎	13.10 ♎	22.12 ♎	26.17 ♎	10.68 ♎	26.94 ♎	14.24 ♎	19.00 ♎
210	4.87 ♎	30.05 Z	23.79 ♎	20.30 ♎	6.15 ♎	2.18 ♎	10.20 ♎	15.72 ♎	23.79 ♎	27.05 ♎	8.63 ♎	2.18 ♎	17.32 ♎	21.25 ♎
215	9.32 ♎	31.88 Z	25.33 ♎	22.18 ♎	17.48 ♎	7.35 ♎	13.74 ♎	18.32 ♎	25.33 ♎	27.80 ♎	6.35 ♎	7.35 ♎	20.27 ♎	23.37 ♎
220	13.80 ♎	33.65 Z	26.70 ♎	23.60 ♎	28.32 ♎	12.45 ♎	17.27 ♎	20.90 ♎	26.70 ♎	28.41 ♎	4.03 ♎	12.45 ♎	23.05 ♎	25.32 ♎
225	18.30 ♎	35.32 Z	27.87 ♎	24.06 ♎	8.41 ♎	17.46 ♎	20.80 ♎	23.44 ♎	27.87 ♎	28.87 ♎	1.92 ♎	17.46 ♎	25.58 ♎	27.03 ♎
230	22.83 ♎	36.88 Z	28.75 ♎	22.03 ♎	17.64 ♎	22.41 ♎	24.32 ♎	25.93 ♎	28.75 ♎	29.16 ♎	0.28 ♎	22.41 ♎	27.72 ♎	28.39 ♎
235	27.38 ♎	38.32 Z	29.24 ♎	11.50 ♎	26.03 ♎	27.28 ♎	27.83 ♎	28.33 ♎	29.24 ♎	29.29 ♎	29.39 ♎	27.28 ♎	29.12 ♎	29.20 ♎
240	1.97 ♎	39.61 Z	29.18 ♎	29.07 ♎	28.79 ♎	2.09 ♎	29.49 ♎	29.28 ♎	29.18 ♎	20.44 ♎	3.56 ♎	2.09 ♎	1.36 ♎	0.64 ♎
245	6.59 ♎	40.74 Z	28.27 ♎	27.00 ♎	22.30 ♎	6.84 ♎	0.77 ♎	29.25 ♎	28.27 ♎	5.51 ♎	10.07 ♎	6.84 ♎	4.99 ♎	3.05 ♎
250	11.24 ♎	41.69 Z	26.00 ♎	20.02 ♎	23.46 ♎	11.53 ♎	3.38 ♎	29.41 ♎	26.00 ♎	4.14 ♎	15.82 ♎	11.53 ♎	8.75 ♎	5.58 ♎
255	15.91 ♎	42.44 Z	21.39 ♎	25.61 ♎	11.57 ♎	16.19 ♎	7.36 ♎	0.27 ♎	21.39 ♎	5.69 ♎	21.03 ♎	16.19 ♎	12.64 ♎	8.23 ♎
260	20.59 ♎	42.99 Z	12.52 ♎	23.72 ♎	3.76 ♎	20.81 ♎	12.54 ♎	2.63 ♎	12.52 ♎	8.28 ♎	25.89 ♎	20.81 ♎	16.66 ♎	10.88 ♎
265	25.29 ♎	43.33 Z	25.98 ♎	23.72 ♎	3.54 ♎	25.41 ♎	18.44 ♎	7.19 ♎	25.98 ♎	11.86 ♎	0.66 ♎	25.41 ♎	20.67 ♎	13.06 ♎
270	0.00 ♎	43.44 Z	0.00 ♎	16.90 ♎	5.78 ♎	0.00 ♎	24.22 ♎	13.10 ♎	0.00 ♎	16.90 ♎	5.78 ♎	0.00 ♎	24.22 ♎	13.10 ♎
275	4.71 ♎	43.33 Z	4.02 ♎	16.94 ♎	9.33 ♎	4.59 ♎	29.34 ♎	18.14 ♎	4.02 ♎	22.81 ♎	11.56 ♎	4.59 ♎	26.46 ♎	6.28 ♎
280	9.41 ♎	42.99 Z	17.48 ♎	19.12 ♎	13.34 ♎	9.19 ♎	4.11 ♎	21.72 ♎	17.48 ♎	27.37 ♎	17.46 ♎	9.19 ♎	26.24 ♎	6.28 ♎
285	14.09 ♎	42.44 Z	8.61 ♎	21.77 ♎	17.36 ♎	13.81 ♎	8.97 ♎	24.31 ♎	8.61 ♎	29.73 ♎	22.64 ♎	13.81 ♎	18.43 ♎	4.39 ♎
290	18.76 ♎	41.69 Z	4.00 ♎	24.42 ♎	21.25 ♎	18.47 ♎	14.18 ♎	25.86 ♎	4.00 ♎	0.59 ♎	26.62 ♎	18.47 ♎	6.54 ♎	9.98 ♎
295	23.41 ♎	40.74 Z	1.73 ♎	26.95 ♎	25.01 ♎	23.16 ♎	19.93 ♎	24.49 ♎	1.73 ♎	0.75 ♎	29.23 ♎	23.16 ♎	7.70 ♎	3.00 ♎
300	28.03 ♎	39.61 Z	0.82 ♎	29.36 ♎	28.64 ♎	27.91 ♎	26.44 ♎	9.56 ♎	0.82 ♎	0.72 ♎	0.51 ♎	27.91 ♎	1.21 ♎	0.93 ♎
305	2.62 ♎	38.32 Z	0.76 ♎	0.80 ♎	0.88 ♎	2.72 ♎	0.61 ♎	0.71 ♎	0.76 ♎	1.67 ♎	2.17 ♎	2.72 ♎	3.97 ♎	18.50 ♎
310	7.17 ♎	36.88 Z	1.25 ♎	1.61 ♎	2.28 ♎	7.59 ♎	29.72 ♎	0.84 ♎	1.25 ♎	4.07 ♎	5.68 ♎	7.59 ♎	12.36 ♎	7.97 ♎
315	11.70 ♎	35.32 Z	2.13 ♎	2.97 ♎	4.42 ♎	12.54 ♎	28.08 ♎	1.13 ♎	2.13 ♎	6.56 ♎	9.20 ♎	12.54 ♎	21.59 ♎	5.94 ♎
320	16.20 ♎	33.65 Z	3.30 ♎	4.68 ♎	6.95 ♎	17.55 ♎	25.97 ♎	1.59 ♎	3.30 ♎	9.10 ♎	12.73 ♎	17.55 ♎	1.68 ♎	6.40 ♎
325	20.68 ♎	31.88 Z	4.67 ♎	6.63 ♎	9.73 ♎	22.65 ♎	23.65 ♎	2.20 ♎	4.67 ♎	11.68 ♎	16.26 ♎	22.65 ♎	12.52 ♎	7.82 ♎
330	25.13 ♎	30.05 Z	6.21 ♎	8.75 ♎	12.68 ♎	27.82 ♎	21.37 ♎	2.95 ♎	6.21 ♎	14.28 ♎	19.80 ♎	27.82 ♎	23.85 ♎	9.70 ♎
335	29.56 ♎	28.15 Z	7.88 ♎	11.00 ♎	15.76 ♎	3.06 ♎	19.32 ♎	3.83 ♎	7.88 ♎	16.90 ♎	23.34 ♎	3.06 ♎	5.30 ♎	11.82 ♎
340	3.99 ♎	26.21 Z	9.66 ♎	13.36 ♎	18.94 ♎	8.36 ♎	17.62 ♎	4.83 ♎	9.66 ♎	19.54 ♎	26.89 ♎	8.36 ♎	16.46 ♎	14.08 ♎
345	8.41 ♎	24.24 Z	11.53 ♎	15.80 ♎	22.21 ♎	13.72 ♎	16.34 ♎	5.93 ♎	11.53 ♎	22.19 ♎	0.45 ♎	13.72 ♎	26.99 ♎	16.44 ♎
350	12.84 ♎	22.25 Z	13.47 ♎	18.32 ♎	25.55 ♎	19.12 ♎	15.50 ♎	7.12 ♎	13.47 ♎	24.84 ♎	4.00 ♎	19.12 ♎	6.70 ♎	18.87 ♎
355	17.29 ♎	20.27 Z	15.48 ♎	20.91 ♎	28.97 ♎	24.55 ♎	15.08 ♎	8.40 ♎	15.48 ♎	27.50 ♎	7.56 ♎	24.55 ♎	15.54 ♎	21.34 ♎
360	21.76 ♎	18.29 Z	17.54 ♎	23.55 ♎	2.45 ♎	0.00 ♎	15.06 ♎	9.76 ♎	17.54 ♎	0.16 ♎	11.12 ♎	0.00 ♎	23.54 ♎	23.86 ♎