

Test report: Asso SE317AN INT

Test type	Measurement of the luminaire light distribution in C-Gamma
Test date	10/15/2025
Laboratory	Sedis Light Technology
Operator	Cristina Maftai

The measurement have been performed in the following laboratory ambient conditions

Temperature	23°C ± 2°C
Relative humidity	50% U.R. ± 15% U.R.
Air turbulence	< 2 m/s

Used instruments

Photogoniometer	Model Photoglobe 4FASC, S.N. 2407-79, Brand Sedis Light Technology
Photogoniometer classification	Type 4 according to EN 13032-1 Type C according to IES LM 75-19

Applied standards

Photometric measurement	EN 13032-1; EN 13032-4; IES LM 79-08; IES LM 79-19
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Tested luminaire data

Luminaire name	ASSO SE317AN INT
Manufacturer	KARMAN
Luminaire dimensions (mm)	Diameter: 420 x H 160
Luminous area dimensions (mm)	420 x 0
Type of light source	LED
Correlated Colour Temperature (CCT)	3000
Colour Rendering Index (CRI)	N.A.
Total luminous flux of the light source (lm)	N.A.
Output luminous flux of the luminaire (lm)	882.87
Source power (W)	N.A.
Power included ballast (W)	23.2

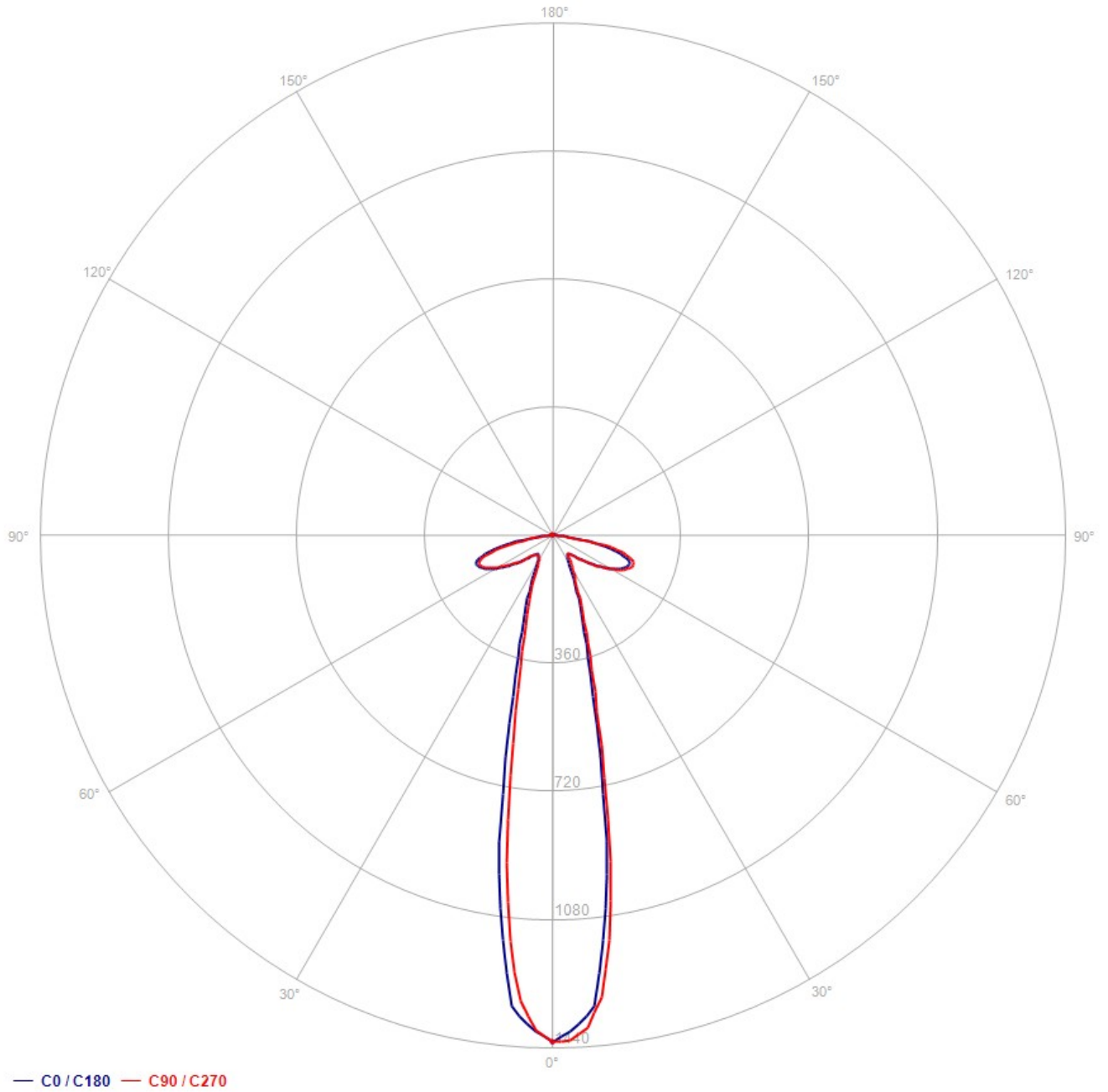
Luminaire efficiency

Light Output Ratio of luminaire (LOR)	100
Downward Flux Fraction (DFF)	98.89
Upward Flux Fraction (UFF)	1.11

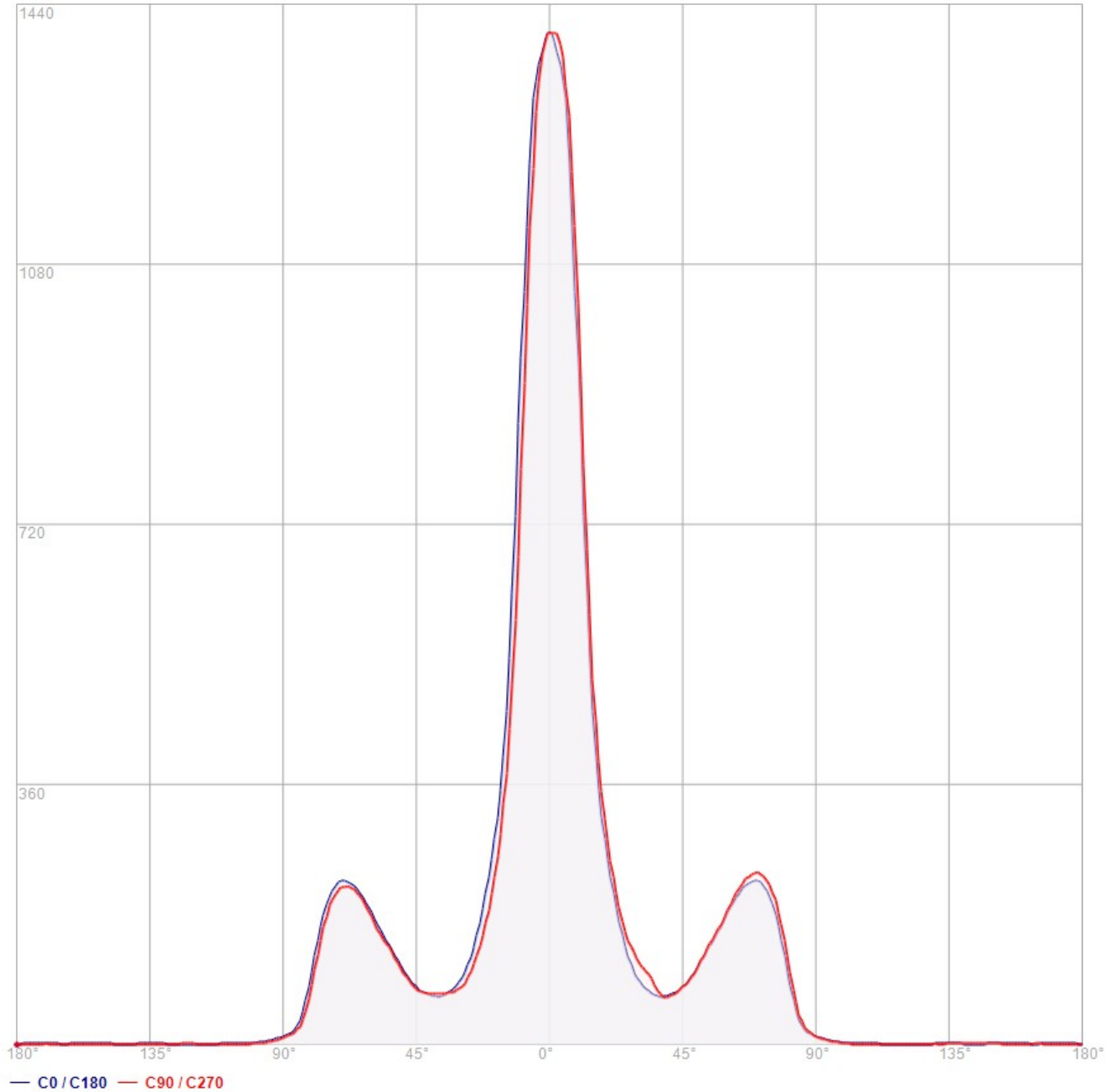
Luminaire efficacy

LED module efficacy (lm/W)	N.A.
System light efficacy (lm/W)	Not available
Luminaire light efficacy (lm/W)	38.05

Photometric Polar Diagram



Photometric Cartesian Diagram



Light Emission Photo



Light intensities distribution values (cd/klm)

Gamma	C0°	C5°	C10°	C15°	C20°	C25°	C30°	C35°	C40°	C45°	C50°	C55°
0°	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46
1°	1408.95	1408.86	1409.04	1409.08	1409.39	1409.71	1410.17	1410.75	1411.35	1412.10	1412.99	1413.90
2°	1393.74	1393.80	1393.98	1394.49	1395.15	1396.07	1397.17	1398.39	1399.90	1401.57	1403.23	1405.16
3°	1375.62	1375.97	1376.84	1377.86	1379.36	1381.12	1383.14	1385.40	1387.92	1388.30	1387.62	1387.61
4°	1353.75	1354.77	1356.21	1358.43	1360.98	1364.28	1377.01	1365.24	1364.11	1362.71	1362.02	1362.31
5°	1329.24	1330.50	1332.72	1335.65	1339.55	1341.60	1338.38	1336.58	1335.01	1334.52	1335.14	1333.25
6°	1238.00	1240.77	1248.09	1259.95	1273.08	1280.62	1292.98	1302.92	1302.18	1295.42	1286.84	1279.76
7°	1147.86	1152.19	1160.97	1174.04	1181.55	1190.03	1202.56	1219.97	1227.93	1237.62	1228.42	1222.90
8°	1058.44	1063.81	1074.39	1088.01	1092.84	1101.20	1115.40	1117.46	1125.66	1139.30	1157.22	1148.87
9°	965.49	972.41	986.52	997.01	1003.35	1014.91	1016.84	1020.19	1028.43	1035.00	1044.63	1061.86
10°	873.28	882.50	897.91	905.10	913.20	920.87	919.78	924.86	926.59	928.97	938.19	948.33
11°	743.07	755.51	779.30	792.95	813.31	822.42	823.84	824.84	823.86	827.52	828.08	829.27
12°	634.63	647.52	667.21	680.34	697.78	706.27	721.26	721.95	722.35	722.97	721.48	719.71
13°	543.46	555.24	572.32	586.24	598.44	607.44	614.72	619.75	625.70	625.70	623.23	624.01
14°	467.77	478.43	493.43	507.38	514.96	524.45	528.02	532.81	538.94	585.40	541.17	538.14
15°	403.93	414.25	426.58	440.60	445.54	453.64	458.50	463.28	468.07	471.58	471.76	468.70
16°	357.27	365.46	374.75	384.09	387.35	393.58	399.03	403.60	408.30	410.19	414.23	414.14
17°	319.17	326.51	333.07	338.35	340.42	343.86	347.32	351.02	354.99	357.40	364.22	366.56
18°	287.70	293.53	297.99	300.32	301.76	304.35	305.93	307.66	309.99	315.55	319.55	329.20
19°	260.66	265.98	268.54	268.65	269.33	271.49	273.24	273.17	275.35	279.80	286.39	293.26
20°	235.38	240.59	241.99	240.46	240.59	243.07	245.60	244.61	246.65	250.77	257.74	263.08
21°	212.53	217.13	218.41	214.97	214.38	217.64	220.34	220.54	222.10	226.07	231.34	235.53
22°	190.54	194.20	196.39	193.59	192.51	195.30	198.38	200.03	201.23	203.89	206.70	210.83
23°	170.86	172.62	174.46	173.84	174.94	178.32	180.05	182.08	182.35	182.99	184.33	189.20
24°	153.08	152.96	154.58	156.13	159.38	162.59	164.05	165.98	164.99	164.45	165.21	168.64
25°	136.35	134.13	136.99	140.03	144.31	147.47	149.42	151.10	149.26	148.06	148.20	150.22
26°	123.67	121.18	123.42	125.28	129.54	133.00	135.84	137.46	135.25	134.40	134.34	134.25
27°	111.98	110.96	113.51	114.38	116.86	119.47	122.74	124.89	122.78	122.43	123.22	122.74
28°	102.04	102.80	105.52	105.88	107.32	107.14	109.52	112.76	113.02	113.06	113.98	114.20
29°	93.64	95.37	98.52	98.87	99.63	98.47	97.21	102.02	104.71	105.73	107.46	107.54
30°	87.23	89.25	92.00	92.13	92.77	91.68	89.73	93.81	97.89	100.27	102.06	102.11
31°	81.93	83.68	85.94	85.88	86.49	86.63	86.25	88.32	92.17	95.97	97.23	97.07
32°	77.62	78.89	80.44	80.68	81.13	83.04	84.26	86.25	87.36	91.88	92.28	92.59
33°	74.07	74.72	75.98	76.49	77.87	80.97	83.04	84.85	84.37	87.01	87.43	88.07
34°	71.22	71.32	72.66	73.50	75.61	79.75	82.26	83.55	82.77	83.03	83.28	84.19
35°	69.04	68.62	70.15	71.90	74.43	78.60	81.97	82.61	82.06	80.53	79.89	79.98
36°	67.58	67.02	68.55	71.37	74.25	77.93	81.97	82.41	81.39	79.09	77.32	76.41
37°	66.73	66.31	68.06	71.35	74.59	77.85	81.79	82.26	80.89	78.13	75.47	73.92
38°	66.82	66.67	68.73	71.70	74.94	78.05	81.68	82.01	80.80	78.14	75.49	73.37
39°	67.69	68.27	69.64	72.57	75.43	78.22	81.70	82.10	81.13	78.42	75.98	73.72
40°	69.31	70.31	71.99	73.97	76.09	78.96	81.73	82.64	81.99	79.58	77.18	74.87
41°	71.30	72.74	74.01	75.76	77.40	80.26	82.15	83.77	83.10	81.22	78.64	76.60
42°	72.54	75.12	76.58	77.98	79.64	82.13	83.10	85.05	84.41	83.19	80.66	78.47
43°	73.70	77.05	79.18	81.11	82.26	84.46	85.05	86.52	86.14	85.50	82.79	80.29
44°	76.91	79.38	81.86	84.46	85.74	87.01	87.71	88.87	87.81	87.87	85.21	82.61
45°	81.48	82.90	84.92	87.41	89.27	88.94	90.95	91.88	90.93	89.76	88.22	85.94

46°	85.77	87.23	88.69	90.75	92.93	91.46	94.10	94.08	94.44	92.49	92.19	90.20
47°	90.58	92.24	93.15	95.65	97.36	95.61	97.78	96.52	98.16	97.61	97.19	95.77
48°	96.36	97.87	98.69	101.18	103.11	101.71	103.04	101.86	103.31	103.28	102.97	101.69
49°	102.60	103.95	105.15	107.36	109.81	108.87	109.89	108.98	109.61	110.12	109.52	108.28
50°	109.56	110.69	111.91	114.06	116.48	116.81	117.21	116.48	116.33	117.17	116.55	115.24
51°	117.01	117.77	119.28	121.27	123.14	124.97	124.55	124.00	123.51	123.96	124.24	122.71
52°	124.42	125.11	127.37	128.97	130.19	132.54	132.09	131.67	130.99	131.05	131.96	130.47
53°	131.69	132.58	135.25	136.40	137.82	139.88	140.24	139.77	138.70	138.93	139.77	138.57
54°	139.24	140.21	142.43	143.27	145.49	146.87	148.48	147.38	146.27	146.40	146.98	146.18
55°	146.51	147.31	148.90	149.79	152.59	152.92	155.89	153.74	153.19	152.70	153.45	153.01
56°	153.99	154.32	154.81	156.14	159.02	158.37	162.17	159.93	159.31	158.62	159.60	159.75
57°	161.02	161.30	161.24	162.39	165.25	164.10	168.25	166.85	164.76	164.70	165.65	166.61
58°	168.45	168.78	168.05	168.75	171.46	169.89	173.43	173.63	170.24	171.35	173.03	174.54
59°	176.81	177.23	175.79	176.08	178.69	177.58	178.91	181.07	178.65	178.74	181.00	183.30
60°	186.05	186.10	184.86	184.13	186.92	186.25	187.48	189.72	188.16	187.39	189.45	192.31
61°	193.60	194.02	194.41	192.80	195.33	195.19	196.48	198.23	197.25	196.35	197.74	201.22
62°	200.00	200.60	202.47	201.33	202.76	203.47	204.84	206.01	205.71	204.38	205.62	209.21
63°	206.24	206.93	208.45	209.72	209.36	210.87	211.96	213.16	213.25	211.83	212.82	216.86
64°	212.91	213.16	213.93	216.88	215.71	217.44	218.41	219.59	219.79	218.48	219.28	223.12
65°	218.68	218.83	218.94	221.19	221.38	222.92	223.63	225.05	225.78	224.33	224.73	228.62
66°	222.74	222.98	223.38	224.53	226.22	226.89	227.99	229.41	230.54	229.17	229.39	232.74
67°	225.69	225.73	227.24	227.06	230.12	229.75	231.39	232.63	234.49	232.78	232.43	236.00
68°	227.97	227.73	228.50	229.08	231.56	231.67	233.58	234.72	237.11	235.51	234.82	238.51
69°	229.50	229.08	228.93	230.35	231.70	232.69	234.43	235.84	237.71	236.49	235.82	239.33
70°	230.50	229.88	228.26	229.90	230.28	232.12	234.00	235.54	237.15	236.15	235.60	239.48
71°	227.15	227.93	226.57	226.93	227.62	230.23	232.08	233.05	235.22	234.67	234.07	236.95
72°	222.25	221.54	223.98	222.32	223.65	226.73	227.82	228.86	230.70	230.88	229.92	233.30
73°	215.80	214.04	217.99	215.77	217.70	220.90	221.49	223.03	224.62	225.22	224.45	227.46
74°	207.21	205.02	206.84	207.79	209.83	211.98	212.69	214.15	216.75	217.48	215.97	218.90
75°	197.21	195.10	193.82	197.77	199.05	200.31	201.62	203.15	205.28	206.15	205.24	208.52
76°	181.99	182.35	179.13	185.92	183.41	185.45	187.16	189.49	191.51	192.75	192.75	194.30
77°	165.32	158.80	162.63	168.56	165.96	167.76	169.77	172.75	175.23	176.96	175.25	178.51
78°	145.80	137.93	145.09	146.40	145.94	147.68	150.08	152.96	155.40	157.05	156.36	158.98
79°	123.76	118.63	125.15	125.20	125.11	126.22	128.95	131.49	133.91	135.89	135.56	137.62
80°	101.91	99.05	101.66	102.17	103.80	104.37	106.92	109.16	111.38	114.17	112.80	114.95
81°	81.02	80.55	80.46	81.19	82.57	82.39	84.85	86.83	88.43	91.04	90.16	92.20
82°	62.45	63.83	62.96	61.70	62.77	61.94	64.23	65.62	67.55	70.02	69.06	70.68
83°	46.53	50.12	47.24	46.13	46.31	45.11	47.08	48.26	50.21	51.43	51.39	52.21
84°	33.89	37.81	35.06	33.67	33.95	32.12	33.98	35.11	36.57	38.28	36.30	38.17
85°	25.42	28.01	26.17	24.93	25.55	23.42	25.30	26.15	26.72	29.05	27.30	27.30
86°	19.43	21.36	20.21	19.72	20.09	18.34	19.80	20.47	21.00	22.56	21.14	21.69
87°	16.17	17.90	16.92	16.68	16.94	14.86	16.79	17.01	17.54	18.78	17.03	17.45
88°	13.62	15.72	14.82	14.59	15.26	12.42	14.84	14.57	15.06	16.54	14.97	15.50
89°	11.73	13.44	12.18	11.98	12.69	10.51	12.13	12.18	13.04	14.46	12.82	13.28
90°	10.60	11.64	10.64	9.74	10.73	8.20	10.05	10.07	11.05	12.18	10.58	10.93
91°	9.51	9.74	8.89	8.32	8.85	6.50	7.99	8.23	8.98	10.71	8.96	9.18
92°	8.25	8.41	7.54	7.07	7.52	5.45	6.96	6.96	7.70	9.34	7.54	7.63
93°	7.12	7.27	6.50	5.83	6.26	4.08	5.63	5.75	6.72	8.05	6.32	6.45
94°	6.21	6.12	5.15	5.15	5.04	3.15	4.68	4.90	5.74	6.76	5.30	5.41

95°	5.41	4.95	4.50	4.08	4.04	2.49	4.01	4.19	4.75	5.94	4.37	4.43
96°	4.33	4.10	3.68	3.61	3.22	1.86	3.33	3.37	3.73	5.24	3.55	3.66
97°	3.50	3.44	3.00	2.93	2.55	1.22	2.66	2.75	3.04	4.50	2.90	3.06
98°	2.90	2.95	2.22	2.40	2.13	0.82	1.97	2.17	2.62	3.95	2.37	2.68
99°	2.40	2.06	2.04	2.11	1.57	0.64	1.57	1.62	2.44	3.39	1.97	2.26
100°	2.00	1.95	1.57	1.80	1.15	0.38	1.49	1.26	2.22	2.64	1.57	1.82
101°	1.71	1.68	1.35	1.69	0.98	0.40	1.11	1.09	1.86	2.31	1.20	1.48
102°	1.49	1.33	1.46	1.31	0.69	0.33	0.97	1.07	1.48	2.06	1.00	1.22
103°	1.29	1.00	1.24	1.55	0.49	0.35	0.84	0.93	1.53	1.97	0.91	1.06
104°	1.13	0.66	1.11	1.48	0.24	0.27	0.47	1.13	1.57	2.08	0.87	0.89
105°	1.00	0.71	1.06	0.97	0.05	0.29	0.46	0.95	1.60	1.91	0.78	0.76
106°	1.00	0.95	1.11	0.80	0.04	0.33	0.36	0.73	1.64	1.58	0.73	0.86
107°	1.02	1.07	1.20	0.62	0.07	0.36	0.35	0.78	1.49	1.44	0.64	0.84
108°	1.07	1.13	1.11	0.44	0.13	0.33	0.20	0.84	1.57	1.37	0.73	0.71
109°	1.17	1.20	0.89	0.24	0.16	0.33	0.04	0.89	1.80	1.31	0.78	0.67
110°	1.24	1.09	0.67	0.05	0.22	0.36	0.15	0.93	1.86	1.24	0.67	0.67
111°	0.98	0.86	0.46	0.04	0.27	0.36	0.24	1.00	2.09	1.17	0.67	0.67
112°	0.75	0.62	0.24	0.11	0.33	0.35	0.44	1.06	2.48	1.09	0.73	0.67
113°	0.49	0.36	0.00	0.16	0.36	0.35	0.62	1.13	2.37	1.06	0.86	0.69
114°	0.25	0.13	0.00	0.22	0.36	0.35	0.69	1.20	2.15	0.98	0.98	0.71
115°	0.00	0.00	0.02	0.29	0.36	0.35	0.76	1.29	2.00	0.75	0.98	0.76
116°	0.00	0.02	0.02	0.35	0.36	0.40	0.84	1.42	1.84	0.67	0.98	0.76
117°	0.02	0.02	0.02	0.36	0.35	0.49	0.93	1.57	1.68	0.71	0.98	0.75
118°	0.02	0.02	0.04	0.35	0.35	0.58	1.00	1.73	1.51	0.73	0.97	0.73
119°	0.04	0.04	0.07	0.27	0.35	0.67	1.07	1.95	1.33	0.75	0.95	0.71
120°	0.04	0.05	0.13	0.24	0.42	0.76	1.18	2.24	1.17	0.78	0.91	0.73
121°	0.09	0.13	0.18	0.29	0.51	0.86	1.31	2.20	0.98	0.82	0.89	0.75
122°	0.16	0.18	0.24	0.35	0.62	0.95	1.46	2.00	0.80	0.86	0.87	0.75
123°	0.22	0.24	0.31	0.46	0.73	1.06	1.66	1.78	0.62	0.89	0.86	0.78
124°	0.29	0.31	0.38	0.58	0.84	1.17	1.89	1.58	0.66	0.91	0.84	0.80
125°	0.35	0.38	0.51	0.69	0.95	1.29	2.26	1.37	0.71	0.95	0.80	0.82
126°	0.47	0.51	0.62	0.80	1.06	1.46	2.17	1.15	0.75	0.98	0.78	0.84
127°	0.62	0.66	0.75	0.93	1.17	1.71	1.91	0.91	0.78	0.95	0.76	0.86
128°	0.75	0.78	0.87	1.04	1.33	2.06	1.68	0.69	0.82	0.93	0.73	0.87
129°	0.89	0.91	0.98	1.17	1.53	2.28	1.42	0.66	0.87	0.89	0.71	0.89
130°	1.02	1.06	1.11	1.33	1.80	1.99	1.17	0.71	0.91	0.86	0.73	0.91
131°	1.15	1.18	1.27	1.57	2.22	1.71	0.89	0.75	0.97	0.84	0.76	0.93
132°	1.35	1.37	1.51	1.89	2.08	1.42	0.64	0.80	0.97	0.80	0.78	0.95
133°	1.57	1.62	1.82	2.33	1.77	1.13	0.67	0.86	0.93	0.76	0.80	0.97
134°	1.88	1.97	2.29	2.00	1.48	0.86	0.73	0.91	0.89	0.75	0.84	1.00
135°	2.35	2.28	2.06	1.69	1.18	0.64	0.78	0.95	0.86	0.71	0.86	1.00
136°	2.00	1.93	1.71	1.37	0.87	0.69	0.84	0.97	0.82	0.75	0.89	1.00
137°	1.66	1.58	1.38	1.04	0.64	0.75	0.89	0.93	0.80	0.76	0.91	1.00
138°	1.31	1.24	1.04	0.71	0.69	0.82	0.95	0.89	0.76	0.80	0.95	1.00
139°	0.97	0.89	0.71	0.67	0.76	0.87	0.97	0.86	0.73	0.84	0.97	1.02
140°	0.62	0.64	0.67	0.73	0.82	0.93	0.91	0.80	0.75	0.87	0.98	1.04
141°	0.62	0.71	0.76	0.80	0.89	0.98	0.87	0.76	0.78	0.91	1.00	1.06
142°	0.62	0.76	0.82	0.87	0.97	1.00	0.89	0.73	0.82	0.95	1.02	1.07
143°	0.64	0.82	0.89	0.95	1.00	1.00	0.97	0.73	0.86	0.97	1.06	1.11

144°	0.64	0.87	0.97	0.98	1.00	1.04	1.07	0.78	0.89	1.00	1.04	1.07
145°	0.64	0.91	0.97	1.00	1.02	1.06	1.11	0.84	0.93	1.00	1.06	1.04
146°	0.73	0.93	0.95	1.04	1.04	1.09	1.09	0.95	0.97	1.02	1.07	0.98
147°	0.82	0.97	0.89	1.06	1.07	1.11	1.07	1.02	0.98	1.04	1.09	0.95
148°	0.93	1.00	0.82	1.09	1.11	1.11	1.06	1.02	1.00	1.06	1.11	0.89
149°	1.02	1.06	0.75	1.11	1.17	1.09	1.04	0.98	1.02	1.07	1.06	0.84
150°	1.11	1.11	0.78	1.11	1.20	1.09	1.00	1.00	1.04	1.09	1.00	0.80
151°	1.15	1.13	0.86	1.07	1.22	1.11	0.98	1.04	1.07	1.11	1.00	0.75
152°	1.18	1.15	0.93	1.04	1.26	1.18	1.00	1.06	1.09	1.07	1.06	0.78
153°	1.22	1.17	0.97	1.00	1.26	1.24	1.04	1.07	1.11	0.98	0.98	0.89
154°	1.24	1.18	0.98	0.98	1.18	1.24	1.07	1.09	1.07	0.93	0.84	1.06
155°	1.27	1.22	0.98	1.00	1.13	1.20	1.13	1.11	1.00	0.86	0.71	1.07
156°	1.24	1.20	1.02	1.02	1.09	1.17	1.13	1.06	0.93	0.80	0.66	1.20
157°	1.20	1.17	1.04	1.04	1.09	1.15	1.09	0.98	0.87	0.73	0.80	1.42
158°	1.18	1.15	1.06	1.06	1.09	1.09	1.00	0.91	0.80	0.67	1.04	1.62
159°	1.15	1.13	1.07	1.09	1.07	1.00	0.93	0.84	0.73	0.76	1.27	1.82
160°	1.11	1.09	1.07	1.07	1.04	0.93	0.86	0.76	0.66	1.02	1.51	2.04
161°	1.02	1.00	0.98	1.04	1.02	0.84	0.76	0.67	0.86	1.27	1.75	2.24
162°	0.93	0.91	0.89	0.97	1.04	0.78	0.69	0.76	1.13	1.55	1.99	2.46
163°	0.82	0.82	0.80	0.87	1.07	0.80	0.76	1.07	1.42	1.80	2.22	2.51
164°	0.73	0.73	0.71	0.75	1.00	1.00	1.09	1.38	1.69	2.06	2.46	2.48
165°	0.64	0.66	0.73	0.87	1.13	1.27	1.42	1.68	1.99	2.33	2.49	2.44
166°	1.02	1.04	1.11	1.22	1.37	1.49	1.69	1.99	2.28	2.37	2.40	2.39
167°	1.40	1.42	1.48	1.58	1.69	1.77	1.95	2.28	2.51	2.39	2.28	2.24
168°	1.77	1.78	1.84	1.93	2.04	2.13	2.33	2.49	2.39	2.28	2.19	2.09
169°	2.15	2.17	2.22	2.29	2.40	2.53	2.46	2.39	2.29	2.19	2.11	2.04
170°	2.53	2.53	2.51	2.48	2.44	2.39	2.35	2.29	2.20	2.13	2.06	1.99
171°	2.37	2.37	2.35	2.33	2.31	2.28	2.24	2.17	2.11	2.06	1.99	1.93
172°	2.24	2.24	2.22	2.20	2.19	2.17	2.13	2.08	2.04	1.99	1.93	1.78
173°	2.13	2.11	2.11	2.09	2.08	2.06	2.02	1.99	1.95	1.89	1.75	1.60
174°	2.02	2.00	2.00	1.99	1.97	1.95	1.93	1.88	1.78	1.68	1.55	1.42
175°	1.91	1.91	1.89	1.86	1.82	1.77	1.69	1.62	1.55	1.44	1.35	1.24
176°	1.60	1.58	1.58	1.55	1.51	1.48	1.27	1.37	1.29	1.22	1.15	1.06
177°	1.27	1.27	1.26	1.24	1.22	1.18	1.15	1.11	1.06	1.00	0.95	0.87
178°	0.97	0.97	0.95	0.95	0.93	0.89	0.87	0.86	0.82	0.78	0.73	0.69
179°	0.64	0.64	0.64	0.64	0.62	0.62	0.60	0.58	0.56	0.55	0.53	0.51
180°	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Gamma	C60°	C65°	C70°	C75°	C80°	C85°	C90°	C95°	C100°	C105°	C110°	C115°
0°	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46
1°	1414.81	1415.87	1416.94	1418.02	1419.24	1420.31	1421.55	1420.31	1419.24	1418.02	1416.94	1415.87
2°	1407.26	1409.35	1411.75	1414.05	1416.51	1419.15	1421.62	1419.15	1416.51	1414.05	1411.75	1409.35
3°	1388.23	1389.45	1391.28	1393.78	1397.06	1400.54	1404.58	1400.54	1397.06	1393.78	1391.28	1389.45
4°	1363.24	1365.21	1368.05	1371.89	1376.39	1381.67	1387.52	1381.67	1376.39	1371.89	1368.05	1365.21
5°	1328.46	1326.05	1325.71	1327.87	1332.06	1337.94	1345.79	1337.94	1332.06	1327.87	1325.71	1326.05
6°	1276.15	1274.41	1275.53	1279.01	1285.28	1293.56	1304.07	1293.56	1285.28	1279.01	1275.53	1274.41
7°	1217.84	1211.01	1206.79	1206.48	1209.83	1216.64	1227.29	1216.64	1209.83	1206.48	1206.79	1211.01
8°	1138.88	1131.26	1127.75	1127.28	1130.79	1138.62	1150.50	1138.62	1130.79	1127.28	1127.75	1131.26
9°	1058.13	1046.15	1033.16	1025.66	1023.75	1029.04	1041.46	1029.04	1023.75	1025.66	1033.16	1046.15
10°	956.40	937.21	924.08	915.81	914.46	919.69	932.43	919.69	914.46	915.81	924.08	937.21

11°	832.47	827.36	814.92	805.41	799.66	802.52	814.13	802.52	799.66	805.41	814.92	827.36
12°	720.86	723.08	706.29	693.89	685.93	685.29	695.83	685.29	685.93	693.89	706.29	723.08
13°	620.84	615.76	607.89	599.93	595.47	596.75	604.43	596.75	595.47	599.93	607.89	615.76
14°	533.95	534.46	529.91	519.17	511.28	508.93	513.01	508.93	511.28	519.17	529.91	534.46
15°	468.08	462.53	457.65	453.50	450.73	450.22	454.68	450.22	450.73	453.50	457.65	462.53
16°	408.88	407.59	406.22	401.18	395.91	393.78	396.33	393.78	395.91	401.18	406.22	407.59
17°	366.16	362.75	357.78	357.01	354.57	353.94	356.79	353.94	354.57	357.01	357.78	362.75
18°	327.29	324.63	323.36	322.05	317.86	315.31	317.24	315.31	317.86	322.05	323.36	324.63
19°	295.79	292.95	289.85	290.25	287.14	285.81	287.74	285.81	287.14	290.25	289.85	292.95
20°	267.65	263.88	262.92	262.79	258.78	256.65	258.22	256.65	258.78	262.79	262.92	263.88
21°	241.06	240.12	237.13	237.15	234.85	233.34	234.76	233.34	234.85	237.15	237.13	240.12
22°	216.82	217.41	215.58	215.13	212.74	210.78	211.29	210.78	212.74	215.13	215.58	217.41
23°	194.37	197.61	194.88	194.81	193.51	191.69	191.67	191.69	193.51	194.81	194.88	197.61
24°	173.88	178.20	177.25	177.25	175.61	173.01	172.06	173.01	175.61	177.25	177.25	178.20
25°	154.12	160.91	160.64	161.11	161.66	159.69	158.95	159.69	161.66	161.11	160.64	160.91
26°	139.41	144.40	146.98	148.79	149.66	146.98	145.84	146.98	149.66	148.79	146.98	144.40
27°	126.17	131.87	135.00	137.17	139.64	137.93	137.82	137.93	139.64	137.17	135.00	131.87
28°	116.73	120.70	123.96	127.73	130.57	129.21	129.81	129.21	130.57	127.73	123.96	120.70
29°	109.03	111.38	113.84	118.50	122.22	121.18	121.36	121.18	122.22	118.50	113.84	111.38
30°	102.82	103.24	105.42	110.71	114.29	113.22	112.89	113.22	114.29	110.71	105.42	103.24
31°	97.69	97.92	99.69	103.18	106.61	106.68	107.77	106.68	106.61	103.18	99.69	97.92
32°	93.50	94.17	95.08	96.67	99.16	100.18	102.66	100.18	99.16	96.67	95.08	94.17
33°	90.09	90.67	91.20	90.73	93.41	95.86	97.89	95.86	93.41	90.73	91.20	90.67
34°	86.67	87.29	87.51	87.29	88.71	91.75	93.10	91.75	88.71	87.29	87.51	87.29
35°	83.19	83.61	83.86	83.99	84.43	85.21	84.03	85.21	84.43	83.99	83.86	83.61
36°	79.66	79.47	80.69	81.42	80.62	78.55	74.94	78.55	80.62	81.42	80.69	79.47
37°	75.89	75.94	78.87	78.98	76.56	73.26	70.77	73.26	76.56	78.98	78.87	75.94
38°	72.97	74.05	77.14	76.54	72.43	68.16	66.58	68.16	72.43	76.54	77.14	74.05
39°	72.97	73.06	75.50	74.34	70.71	68.00	66.73	68.00	70.71	74.34	75.50	73.06
40°	73.43	73.39	74.16	73.17	70.61	68.46	66.85	68.46	70.61	73.17	74.16	73.39
41°	74.67	73.90	73.37	71.88	71.79	70.55	69.02	70.55	71.79	71.88	73.37	73.90
42°	76.05	74.54	73.50	73.97	73.96	72.84	71.17	72.84	73.96	73.97	73.50	74.54
43°	77.82	75.89	76.09	76.18	76.54	75.76	74.59	75.76	76.54	76.18	76.09	75.89
44°	79.93	79.33	79.11	80.02	79.49	78.75	78.00	78.75	79.49	80.02	79.11	79.33
45°	84.21	83.23	83.57	84.01	83.32	82.59	81.55	82.59	83.32	84.01	83.57	83.23
46°	88.96	88.20	88.23	89.07	87.85	86.56	85.10	86.56	87.85	89.07	88.23	88.20
47°	94.37	93.39	93.57	94.13	93.13	92.09	90.87	92.09	93.13	94.13	93.57	93.39
48°	99.93	99.25	99.12	100.00	98.92	97.79	96.63	97.79	98.92	100.00	99.12	99.25
49°	106.57	105.39	105.61	105.90	105.55	104.81	103.59	104.81	105.55	105.90	105.61	105.39
50°	113.47	112.84	112.55	113.40	112.71	112.00	110.54	112.00	112.71	113.40	112.55	112.84
51°	121.38	120.34	120.47	120.92	120.43	120.08	118.56	120.08	120.43	120.92	120.47	120.34
52°	129.37	128.39	128.39	129.26	128.59	128.32	126.57	128.32	128.59	129.26	128.39	128.39
53°	137.28	136.24	136.17	137.60	136.51	136.04	134.64	136.04	136.51	137.60	136.17	136.24
54°	144.96	143.45	143.69	144.69	144.12	143.76	142.69	143.76	144.12	144.69	143.69	143.45
55°	151.92	150.63	150.59	151.68	151.24	150.68	149.33	150.68	151.24	151.68	150.59	150.63
56°	158.89	157.42	157.51	158.46	157.93	157.53	155.96	157.53	157.93	158.46	157.51	157.42
57°	165.85	164.70	164.61	165.41	165.39	164.98	163.41	164.98	165.39	165.41	164.61	164.70
58°	173.30	172.73	172.35	173.50	173.28	172.48	170.84	172.48	173.28	173.50	172.35	172.73
59°	182.46	181.29	180.95	181.78	181.95	181.38	179.96	181.38	181.95	181.78	180.95	181.29

60°	191.62	190.42	189.74	191.05	191.09	190.54	189.09	190.54	191.09	191.05	189.74	190.42
61°	200.83	199.23	198.68	200.21	199.67	199.12	197.79	199.12	199.67	200.21	198.68	199.23
62°	209.30	207.66	206.97	208.25	207.81	207.64	206.48	207.64	207.81	208.25	206.97	207.66
63°	216.77	215.20	214.47	216.02	215.29	215.13	213.87	215.13	215.29	216.02	214.47	215.20
64°	223.34	222.03	221.07	222.60	222.34	222.49	221.25	222.49	222.34	222.60	221.07	222.03
65°	229.21	227.60	226.84	228.62	228.06	227.91	226.84	227.91	228.06	228.62	226.84	227.60
66°	233.89	232.63	231.46	232.90	233.05	233.07	232.41	233.07	233.05	232.90	231.46	232.63
67°	238.02	236.04	235.42	236.71	236.69	236.45	235.65	236.45	236.69	236.71	235.42	236.04
68°	240.21	239.13	237.77	239.19	239.68	239.68	238.88	239.68	239.68	239.19	237.77	239.13
69°	241.92	240.02	239.42	240.77	240.75	240.75	240.15	240.75	240.75	240.77	239.42	240.02
70°	241.50	240.46	239.02	240.50	240.99	241.61	241.41	241.61	240.99	240.50	239.02	240.46
71°	240.08	238.33	238.04	239.02	239.19	239.28	239.06	239.28	239.19	239.02	238.04	238.33
72°	236.36	235.22	233.85	235.54	236.60	236.67	236.69	236.67	236.60	235.54	233.85	235.22
73°	230.59	229.43	229.17	230.14	230.88	230.63	230.54	230.63	230.88	230.14	229.17	229.43
74°	222.87	221.79	220.72	222.16	223.98	224.36	224.38	224.36	223.98	222.16	220.72	221.79
75°	211.67	211.43	211.76	211.83	213.04	213.16	213.40	213.16	213.04	211.83	211.76	211.43
76°	199.07	198.01	197.54	199.03	200.85	201.76	202.40	201.76	200.85	199.03	197.54	198.01
77°	181.62	182.33	182.24	183.00	184.26	184.53	185.39	184.53	184.26	183.00	182.24	182.33
78°	162.99	162.59	162.75	164.30	166.72	166.83	168.38	166.83	166.72	164.30	162.75	162.59
79°	140.96	141.41	142.08	142.99	145.13	144.94	146.11	144.94	145.13	142.99	142.08	141.41
80°	118.30	118.19	119.07	119.99	122.40	122.89	123.84	122.89	122.40	119.99	119.07	118.19
81°	94.72	94.97	96.48	97.23	99.74	99.83	100.64	99.83	99.74	97.23	96.48	94.97
82°	73.37	73.88	74.54	74.90	76.87	76.98	77.42	76.98	76.87	74.90	74.54	73.88
83°	52.89	54.72	55.82	56.71	59.15	59.11	59.30	59.11	59.15	56.71	55.82	54.72
84°	39.77	40.37	40.34	40.30	41.96	41.23	41.18	41.23	41.96	40.30	40.34	40.37
85°	28.50	29.34	30.08	30.59	32.65	32.51	31.74	32.51	32.65	30.59	30.08	29.34
86°	22.38	22.71	22.78	22.53	24.04	23.98	22.29	23.98	24.04	22.53	22.78	22.71
87°	18.08	18.48	18.81	18.79	20.51	20.49	18.90	20.49	20.51	18.79	18.81	18.48
88°	15.93	15.68	15.95	15.73	17.26	17.12	15.50	17.12	17.26	15.73	15.95	15.68
89°	13.62	13.31	13.60	13.33	15.15	14.99	13.33	14.99	15.15	13.33	13.60	13.31
90°	11.25	11.07	11.35	10.98	13.04	12.88	11.16	12.88	13.04	10.98	11.35	11.07
91°	9.74	9.51	9.85	9.40	11.24	11.13	9.47	11.13	11.24	9.40	9.85	9.51
92°	8.29	7.98	8.34	7.83	9.47	9.34	7.78	9.34	9.47	7.83	8.34	7.98
93°	6.99	6.77	6.81	6.57	8.20	8.38	6.36	8.38	8.20	6.57	6.81	6.77
94°	5.79	5.70	5.48	5.45	6.96	7.39	4.92	7.39	6.96	5.45	5.48	5.70
95°	4.68	4.81	4.73	4.94	6.30	6.25	4.32	6.25	6.30	4.94	4.73	4.81
96°	3.95	4.02	3.97	4.41	5.65	5.12	3.72	5.12	5.65	4.41	3.97	4.02
97°	3.33	3.31	3.22	3.68	4.99	4.46	2.95	4.46	4.99	3.68	3.22	3.31
98°	2.90	2.77	2.64	3.00	4.33	3.82	2.19	3.82	4.33	3.00	2.64	2.77
99°	2.39	2.26	2.26	2.48	3.70	3.50	1.89	3.50	3.70	2.48	2.26	2.26
100°	1.73	1.91	2.00	1.99	3.17	3.15	1.58	3.15	3.17	1.99	2.00	1.91
101°	1.46	1.60	1.82	1.62	3.17	3.00	1.09	3.00	3.17	1.62	1.82	1.60
102°	1.44	1.40	1.62	1.35	3.13	2.86	0.58	2.86	3.13	1.35	1.62	1.40
103°	1.31	1.26	1.40	1.22	2.97	2.68	0.60	2.68	2.97	1.22	1.40	1.26
104°	1.15	1.26	1.22	1.07	2.80	2.49	0.62	2.49	2.80	1.07	1.22	1.26
105°	1.11	1.17	1.06	0.91	2.62	2.17	0.47	2.17	2.62	0.91	1.06	1.17
106°	1.02	0.98	0.89	0.95	2.48	1.86	0.33	1.86	2.48	0.95	0.89	0.98
107°	0.80	0.82	0.75	1.11	2.48	1.84	0.33	1.84	2.48	1.11	0.75	0.82
108°	0.67	0.67	0.75	1.20	2.46	1.84	0.33	1.84	2.46	1.20	0.75	0.67

109°	0.67	0.64	0.76	1.20	2.46	1.82	0.33	1.82	2.46	1.20	0.76	0.64
110°	0.67	0.64	0.78	1.22	2.44	1.82	0.33	1.82	2.44	1.22	0.78	0.64
111°	0.67	0.64	0.78	1.24	2.44	1.80	0.33	1.80	2.44	1.24	0.78	0.64
112°	0.67	0.64	0.80	1.26	2.42	1.80	0.33	1.80	2.42	1.26	0.80	0.64
113°	0.67	0.64	0.80	1.27	2.42	1.78	0.33	1.78	2.42	1.27	0.80	0.64
114°	0.78	0.66	0.82	1.27	2.40	1.78	0.33	1.78	2.40	1.27	0.82	0.66
115°	0.87	0.75	0.84	1.29	2.40	1.77	0.33	1.77	2.40	1.29	0.84	0.75
116°	0.87	0.84	0.84	1.31	2.40	1.75	0.33	1.75	2.40	1.31	0.84	0.84
117°	0.89	0.93	0.87	1.31	2.40	1.73	0.33	1.73	2.40	1.31	0.87	0.93
118°	0.91	1.00	0.89	1.33	2.42	1.75	0.33	1.75	2.42	1.33	0.89	1.00
119°	0.91	1.00	0.87	1.38	2.49	1.89	0.33	1.89	2.49	1.38	0.87	1.00
120°	0.93	1.02	0.84	1.42	2.53	2.02	0.33	2.02	2.53	1.42	0.84	1.02
121°	0.95	1.07	0.82	1.46	2.49	2.00	0.35	2.00	2.49	1.46	0.82	1.07
122°	0.97	1.09	0.80	1.51	2.48	1.99	0.36	1.99	2.48	1.51	0.80	1.09
123°	0.97	1.11	0.78	1.57	2.48	1.99	0.51	1.99	2.48	1.57	0.78	1.11
124°	0.97	1.11	0.76	1.62	2.46	2.00	0.64	2.00	2.46	1.62	0.76	1.11
125°	0.98	1.09	0.75	1.68	2.44	1.99	0.64	1.99	2.44	1.68	0.75	1.09
126°	1.02	1.09	0.73	1.75	2.42	1.97	0.64	1.97	2.42	1.75	0.73	1.09
127°	1.06	1.07	0.71	1.80	2.42	1.95	0.64	1.95	2.42	1.80	0.71	1.07
128°	1.07	1.04	0.69	1.86	2.42	1.91	0.64	1.91	2.42	1.86	0.69	1.04
129°	1.11	1.02	0.67	1.93	2.42	1.82	0.82	1.82	2.42	1.93	0.67	1.02
130°	1.11	0.98	0.66	1.99	2.42	1.73	1.00	1.73	2.42	1.99	0.66	0.98
131°	1.09	0.97	0.66	2.06	2.44	1.80	0.82	1.80	2.44	2.06	0.66	0.97
132°	1.09	0.95	0.75	2.11	2.44	1.84	0.64	1.84	2.44	2.11	0.75	0.95
133°	1.07	0.91	0.84	2.19	2.42	1.77	0.82	1.77	2.42	2.19	0.84	0.91
134°	1.06	0.89	0.93	2.26	2.42	1.69	1.00	1.69	2.42	2.26	0.93	0.89
135°	1.07	0.86	1.02	2.33	2.42	1.66	1.00	1.66	2.42	2.33	1.02	0.86
136°	1.07	0.82	1.11	2.40	2.46	1.64	1.00	1.64	2.46	2.40	1.11	0.82
137°	1.09	0.80	1.20	2.46	2.53	1.68	1.00	1.68	2.53	2.46	1.20	0.80
138°	1.06	0.76	1.31	2.53	2.59	1.71	1.00	1.71	2.59	2.53	1.31	0.76
139°	1.02	0.75	1.40	2.53	2.59	1.68	1.00	1.68	2.59	2.53	1.40	0.75
140°	0.98	0.71	1.51	2.53	2.59	1.64	1.00	1.64	2.59	2.53	1.51	0.71
141°	0.95	0.67	1.60	2.53	2.55	1.60	1.00	1.60	2.55	2.53	1.60	0.67
142°	0.91	0.64	1.71	2.53	2.57	1.58	1.00	1.58	2.57	2.53	1.71	0.64
143°	0.87	0.75	1.82	2.51	2.60	1.57	1.00	1.57	2.60	2.51	1.82	0.75
144°	0.84	0.87	1.93	2.51	2.60	1.55	1.00	1.55	2.60	2.51	1.93	0.87
145°	0.80	1.00	2.04	2.51	2.59	1.53	1.00	1.53	2.59	2.51	2.04	1.00
146°	0.75	1.15	2.15	2.53	2.57	1.51	1.00	1.51	2.57	2.53	2.15	1.15
147°	0.71	1.27	2.26	2.53	2.57	1.51	1.00	1.51	2.57	2.53	2.26	1.27
148°	0.67	1.42	2.37	2.53	2.57	1.51	1.00	1.51	2.57	2.53	2.37	1.42
149°	0.67	1.57	2.48	2.55	2.57	1.48	1.00	1.48	2.57	2.55	2.48	1.57
150°	0.84	1.69	2.53	2.57	2.55	1.46	1.00	1.46	2.55	2.57	2.53	1.69
151°	1.00	1.84	2.53	2.59	2.46	1.44	1.00	1.44	2.46	2.59	2.53	1.84
152°	1.18	1.99	2.53	2.57	2.39	1.44	1.00	1.44	2.39	2.57	2.53	1.99
153°	1.35	2.13	2.53	2.53	2.35	1.46	0.82	1.46	2.35	2.53	2.53	2.13
154°	1.46	2.26	2.55	2.55	2.33	1.48	0.64	1.48	2.33	2.55	2.55	2.26
155°	1.53	2.39	2.57	2.59	2.26	1.44	0.64	1.44	2.26	2.59	2.57	2.39
156°	1.77	2.53	2.57	2.59	2.20	1.40	0.62	1.40	2.20	2.59	2.57	2.53
157°	2.04	2.53	2.57	2.59	2.13	1.38	0.62	1.38	2.13	2.59	2.57	2.53

158°	2.22	2.55	2.57	2.57	2.08	1.35	0.62	1.35	2.08	2.57	2.57	2.55
159°	2.40	2.57	2.59	2.57	2.02	1.33	0.64	1.33	2.02	2.57	2.59	2.57
160°	2.53	2.57	2.57	2.57	1.95	1.29	0.64	1.29	1.95	2.57	2.57	2.57
161°	2.55	2.57	2.57	2.49	1.89	1.27	0.64	1.27	1.89	2.49	2.57	2.57
162°	2.53	2.55	2.57	2.39	1.80	1.24	0.64	1.24	1.80	2.39	2.57	2.55
163°	2.49	2.53	2.57	2.19	1.62	1.22	0.82	1.22	1.62	2.19	2.57	2.53
164°	2.46	2.46	2.46	1.95	1.49	1.22	1.00	1.22	1.49	1.95	2.46	2.46
165°	2.42	2.39	2.29	1.78	1.42	1.18	1.00	1.18	1.42	1.78	2.29	2.39
166°	2.39	2.35	2.17	1.69	1.38	1.17	1.00	1.17	1.38	1.69	2.17	2.35
167°	2.26	2.28	2.08	1.69	1.37	1.07	0.82	1.07	1.37	1.69	2.08	2.28
168°	2.08	2.08	1.86	1.58	1.29	0.97	0.64	0.97	1.29	1.58	1.86	2.08
169°	1.95	1.80	1.57	1.33	1.07	0.78	0.49	0.78	1.07	1.33	1.57	1.80
170°	1.91	1.66	1.40	1.15	0.87	0.60	0.33	0.60	0.87	1.15	1.40	1.66
171°	1.75	1.53	1.29	1.06	0.82	0.58	0.33	0.58	0.82	1.06	1.29	1.53
172°	1.58	1.40	1.20	0.98	0.76	0.55	0.33	0.55	0.76	0.98	1.20	1.40
173°	1.44	1.26	1.09	0.89	0.71	0.53	0.33	0.53	0.71	0.89	1.09	1.26
174°	1.27	1.13	0.98	0.82	0.66	0.49	0.33	0.49	0.66	0.82	0.98	1.13
175°	1.13	1.00	0.87	0.73	0.60	0.47	0.33	0.47	0.60	0.73	0.87	1.00
176°	0.97	0.86	0.76	0.66	0.55	0.44	0.33	0.44	0.55	0.66	0.76	0.86
177°	0.80	0.73	0.66	0.58	0.49	0.42	0.33	0.42	0.49	0.58	0.66	0.73
178°	0.64	0.60	0.55	0.49	0.44	0.38	0.33	0.38	0.44	0.49	0.55	0.60
179°	0.49	0.46	0.44	0.42	0.38	0.36	0.33	0.36	0.38	0.42	0.44	0.46
180°	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Gamma	C120°	C125°	C130°	C135°	C140°	C145°	C150°	C155°	C160°	C165°	C170°	C175°
0°	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46
1°	1414.81	1413.90	1412.99	1412.10	1411.35	1410.75	1410.17	1409.71	1409.39	1409.08	1409.04	1408.86
2°	1407.26	1405.16	1403.23	1401.57	1399.90	1398.39	1397.17	1396.07	1395.15	1394.49	1393.98	1393.80
3°	1388.23	1387.61	1387.62	1388.30	1387.92	1385.40	1383.14	1381.12	1379.36	1377.86	1376.84	1375.97
4°	1363.24	1362.31	1362.02	1362.71	1364.11	1365.24	1357.14	1364.28	1360.98	1358.43	1356.21	1354.77
5°	1328.46	1333.25	1335.14	1334.52	1335.01	1336.58	1338.38	1341.60	1339.55	1335.65	1332.72	1330.50
6°	1276.15	1279.76	1286.84	1295.42	1302.18	1302.92	1292.98	1280.62	1273.08	1259.95	1248.09	1240.77
7°	1217.84	1222.90	1228.42	1237.62	1227.93	1219.97	1202.56	1190.03	1181.55	1174.04	1160.97	1152.19
8°	1138.88	1148.87	1157.22	1139.30	1125.66	1117.46	1115.40	1101.20	1092.84	1088.01	1074.39	1063.81
9°	1058.13	1061.86	1044.63	1035.00	1028.43	1020.19	1016.84	1014.91	1003.35	997.01	986.52	972.41
10°	956.40	948.33	938.19	928.97	926.59	924.86	919.78	920.87	913.20	905.10	897.91	882.50
11°	832.47	829.27	828.08	827.52	823.86	824.84	823.84	822.42	813.31	792.95	779.30	755.51
12°	720.86	719.71	721.48	722.97	722.35	721.95	721.26	706.27	697.78	680.34	667.21	647.52
13°	620.84	624.01	623.23	625.70	625.70	619.75	614.72	607.44	598.44	586.24	572.32	555.24
14°	533.95	538.14	541.17	533.26	538.94	532.81	528.02	524.45	514.96	507.38	493.43	478.43
15°	468.08	468.70	471.76	471.58	468.07	463.28	458.50	453.64	445.54	440.60	426.58	414.25
16°	408.88	414.14	414.23	410.19	408.30	403.60	399.03	393.58	387.35	384.09	374.75	365.46
17°	366.16	366.56	364.22	357.40	354.99	351.02	347.32	343.86	340.42	338.35	333.07	326.51
18°	327.29	329.20	319.55	315.55	309.99	307.66	305.93	304.35	301.76	300.32	297.99	293.53
19°	295.79	293.26	286.39	279.80	275.35	273.17	273.24	271.49	269.33	268.65	268.54	265.98
20°	267.65	263.08	257.74	250.77	246.65	244.61	245.60	243.07	240.59	240.46	241.99	240.59
21°	241.06	235.53	231.34	226.07	222.10	220.54	220.34	217.64	214.38	214.97	218.41	217.13
22°	216.82	210.83	206.70	203.89	201.23	200.03	198.38	195.30	192.51	193.59	196.39	194.20
23°	194.37	189.20	184.33	182.99	182.35	182.08	180.05	178.32	174.94	173.84	174.46	172.62
24°	173.88	168.64	165.21	164.45	164.99	165.98	164.05	162.59	159.38	156.13	154.58	152.96

25°	154.12	150.22	148.20	148.06	149.26	151.10	149.42	147.47	144.31	140.03	136.99	134.13
26°	139.41	134.25	134.34	134.40	135.25	137.46	135.84	133.00	129.54	125.28	123.42	121.18
27°	126.17	122.74	123.22	122.43	122.78	124.89	122.74	119.47	116.86	114.38	113.51	110.96
28°	116.73	114.20	113.98	113.06	113.02	112.76	109.52	107.14	107.32	105.88	105.52	102.80
29°	109.03	107.54	107.46	105.73	104.71	102.02	97.21	98.47	99.63	98.87	98.52	95.37
30°	102.82	102.11	102.06	100.27	97.89	93.81	89.73	91.68	92.77	92.13	92.00	89.25
31°	97.69	97.07	97.23	95.97	92.17	88.32	86.25	86.63	86.49	85.88	85.94	83.68
32°	93.50	92.59	92.28	91.88	87.36	86.25	84.26	83.04	81.13	80.68	80.44	78.89
33°	90.09	88.07	87.43	87.01	84.37	84.85	83.04	80.97	77.87	76.49	75.98	74.72
34°	86.67	84.19	83.28	83.03	82.77	83.55	82.26	79.75	75.61	73.50	72.66	71.32
35°	83.19	79.98	79.89	80.53	82.06	82.61	81.97	78.60	74.43	71.90	70.15	68.62
36°	79.66	76.41	77.32	79.09	81.39	82.41	81.97	77.93	74.25	71.37	68.55	67.02
37°	75.89	73.92	75.49	78.13	80.89	82.26	81.79	77.85	74.59	71.35	68.06	66.31
38°	72.97	73.37	75.49	78.14	80.80	82.01	81.68	78.05	74.94	71.70	68.73	66.67
39°	72.97	73.72	75.98	78.42	81.13	82.10	81.70	78.22	75.43	72.57	71.33	68.27
40°	73.43	74.87	77.18	79.58	81.99	82.64	81.73	78.96	76.09	73.97	71.99	70.31
41°	74.67	76.60	78.64	81.22	83.10	83.77	82.15	80.26	77.40	75.76	74.01	72.74
42°	76.05	78.47	80.66	83.19	84.41	85.05	83.10	82.13	79.64	77.98	76.58	75.12
43°	77.82	80.29	82.79	85.50	86.14	86.52	85.05	84.46	82.26	81.11	79.18	77.05
44°	79.93	82.61	85.21	87.87	87.81	88.87	87.71	87.01	85.74	84.46	81.86	79.38
45°	84.21	85.94	88.22	89.76	90.93	91.88	90.95	88.94	89.27	87.41	84.92	82.90
46°	88.96	90.20	92.19	92.49	94.44	94.08	94.10	91.46	92.93	90.75	88.69	87.23
47°	94.37	95.77	97.19	97.61	98.16	96.52	97.78	95.61	97.36	95.65	93.15	92.24
48°	99.93	101.69	102.97	103.28	103.31	101.86	103.04	101.71	103.11	101.18	98.69	97.87
49°	106.57	108.28	109.52	110.12	109.61	108.98	109.89	108.87	109.81	107.36	105.15	103.95
50°	113.47	115.24	116.55	117.17	116.33	116.48	117.21	116.81	116.48	114.06	111.91	110.69
51°	121.38	122.71	124.24	123.96	123.51	124.00	124.55	124.97	123.14	121.27	119.28	117.77
52°	129.37	130.47	131.96	131.05	130.99	131.67	132.09	132.54	130.19	128.97	127.37	125.11
53°	137.28	138.57	139.77	138.93	138.70	139.77	140.24	139.88	137.82	136.40	135.25	132.58
54°	144.96	146.18	146.98	146.40	146.27	147.38	148.48	146.87	145.49	143.27	142.43	140.21
55°	151.92	153.01	153.45	152.70	153.19	153.74	155.89	152.92	152.59	149.79	148.90	147.31
56°	158.89	159.75	159.60	158.62	159.31	159.93	162.17	158.37	159.02	156.14	154.81	154.32
57°	165.85	166.61	165.65	164.70	164.76	166.85	168.25	164.10	165.25	162.39	161.24	161.30
58°	173.30	174.54	173.03	171.35	170.24	173.63	173.43	169.89	171.46	168.75	168.05	168.78
59°	182.46	183.30	181.00	178.74	178.65	181.07	178.91	177.58	178.69	176.08	175.79	177.23
60°	191.62	192.31	189.45	187.39	188.16	189.72	187.48	186.25	186.92	184.13	184.86	186.10
61°	200.83	201.22	197.74	196.35	197.25	198.23	196.48	195.19	195.33	192.80	194.41	194.02
62°	209.30	209.21	205.62	204.38	205.71	206.01	204.84	203.47	202.76	201.33	202.47	200.60
63°	216.77	216.86	212.82	211.83	213.25	213.16	211.96	210.87	209.36	209.72	208.45	206.93
64°	223.34	223.12	219.28	218.48	219.79	219.59	218.41	217.44	215.71	216.88	213.93	213.16
65°	229.21	228.62	224.73	224.33	225.78	225.05	223.63	222.92	221.38	221.19	218.94	218.83
66°	233.89	232.74	229.39	229.17	230.54	229.41	227.99	226.89	226.22	224.53	223.38	222.98
67°	238.02	236.00	232.43	232.78	234.49	232.63	231.39	229.75	230.12	227.06	227.24	225.73
68°	240.21	238.51	234.82	235.51	237.11	234.72	233.58	231.67	231.56	229.08	228.50	227.73
69°	241.92	239.33	235.82	236.49	237.71	235.84	234.43	232.69	231.70	230.35	228.93	229.08
70°	241.50	239.48	235.60	236.15	237.15	235.54	234.00	232.12	230.28	229.90	228.26	229.88
71°	240.08	236.95	234.07	234.67	235.22	233.05	232.08	230.23	227.62	226.93	226.57	227.93
72°	236.36	233.30	229.92	230.88	230.70	228.86	227.82	226.73	223.65	222.32	223.98	221.54
73°	230.59	227.46	224.45	225.22	224.62	223.03	221.49	220.90	217.70	215.77	217.99	214.04

74°	222.87	218.90	215.97	217.48	216.75	214.15	212.69	211.98	209.83	207.79	206.84	205.02
75°	211.67	208.52	205.24	206.15	205.28	203.15	201.62	200.31	199.05	197.77	193.82	195.10
76°	199.07	194.30	192.75	192.75	191.51	189.49	187.16	185.45	183.41	185.92	179.13	182.35
77°	181.62	178.51	175.25	176.96	175.23	172.75	169.77	167.76	165.96	168.56	162.63	158.80
78°	162.99	158.98	156.36	157.05	155.40	152.96	150.08	147.68	145.94	146.40	145.09	137.93
79°	140.96	137.62	135.56	135.89	133.91	131.49	128.95	126.22	125.11	125.20	125.15	118.63
80°	118.30	114.95	112.80	110.65	111.38	109.16	106.92	104.37	103.80	102.17	101.66	99.05
81°	94.72	92.20	90.16	91.04	88.43	86.83	84.85	82.39	82.57	81.19	80.46	80.55
82°	73.37	70.68	69.06	70.02	67.55	65.62	64.23	61.94	62.77	61.70	62.96	63.83
83°	52.89	52.21	51.39	51.43	50.21	48.26	47.08	45.11	46.31	46.13	47.24	50.12
84°	39.77	38.17	36.30	38.28	36.57	35.11	33.98	32.12	33.95	33.67	35.06	37.81
85°	28.50	27.30	27.30	29.05	26.72	26.15	25.30	23.42	25.55	24.93	26.17	28.01
86°	22.38	21.69	21.14	22.56	21.00	20.47	19.80	18.34	20.09	19.72	20.21	21.36
87°	18.08	17.45	17.03	18.78	17.54	17.01	16.79	14.86	16.94	16.68	16.92	17.90
88°	15.93	15.50	14.97	16.54	15.06	14.57	14.77	12.42	15.26	14.59	14.82	15.72
89°	13.62	13.28	12.82	14.46	13.04	12.18	12.06	10.51	12.69	11.98	12.18	13.44
90°	11.25	10.93	10.58	12.18	11.05	10.07	10.05	8.20	10.73	9.74	10.64	11.64
91°	9.74	9.18	8.96	10.71	8.98	8.23	8.01	6.50	8.85	8.32	8.89	9.74
92°	8.29	7.63	7.54	9.34	7.70	6.96	7.08	5.45	7.52	7.07	7.54	8.41
93°	6.99	6.45	6.32	8.05	6.72	5.75	5.63	4.08	6.26	5.83	6.50	7.27
94°	5.79	5.41	5.30	6.76	5.74	4.90	4.68	3.15	5.04	5.15	5.15	6.12
95°	4.68	4.43	4.37	5.94	4.75	4.19	4.01	2.49	4.04	4.08	4.50	4.95
96°	3.95	3.66	3.55	5.24	3.73	3.37	3.33	1.86	3.22	3.61	3.68	4.10
97°	3.33	3.06	2.90	4.50	3.04	2.75	2.66	1.22	2.55	2.93	3.00	3.44
98°	2.90	2.68	2.37	3.95	2.62	2.17	1.97	0.82	2.13	2.40	2.22	2.95
99°	2.39	2.26	1.97	3.39	2.44	1.62	1.57	0.64	1.57	2.11	2.04	2.06
100°	1.73	1.82	1.57	3.53	2.22	1.26	1.49	0.38	1.15	1.80	1.57	1.95
101°	1.46	1.48	1.20	2.31	1.86	1.09	1.11	0.40	0.98	1.69	1.35	1.68
102°	1.44	1.22	1.00	2.06	1.48	1.07	0.97	0.33	0.69	1.31	1.46	1.33
103°	1.31	1.06	0.91	1.97	1.53	0.93	0.84	0.35	0.49	1.55	1.24	1.00
104°	1.15	0.89	0.87	2.08	1.57	1.13	0.47	0.27	0.24	1.48	1.11	0.66
105°	1.11	0.76	0.78	1.91	1.60	0.95	0.46	0.29	0.05	0.97	1.06	0.71
106°	1.02	0.86	0.73	1.58	1.64	0.73	0.36	0.33	0.04	0.80	1.11	0.95
107°	0.80	0.84	0.64	1.44	1.49	0.78	0.35	0.36	0.07	0.62	1.20	1.07
108°	0.67	0.71	0.73	1.37	1.57	0.84	0.20	0.33	0.13	0.44	1.11	1.13
109°	0.67	0.67	0.78	1.31	1.80	0.89	0.04	0.33	0.16	0.24	0.89	1.20
110°	0.67	0.67	0.67	1.24	1.86	0.93	0.15	0.36	0.22	0.05	0.67	1.09
111°	0.67	0.67	0.67	1.17	2.09	1.00	0.24	0.36	0.27	0.04	0.46	0.86
112°	0.67	0.67	0.73	1.09	2.48	1.06	0.44	0.35	0.33	0.11	0.24	0.62
113°	0.67	0.69	0.86	1.06	2.37	1.13	0.62	0.35	0.36	0.16	0.00	0.36
114°	0.78	0.71	0.98	0.98	2.15	1.20	0.69	0.35	0.36	0.22	0.00	0.13
115°	0.87	0.76	0.98	0.75	2.00	1.29	0.76	0.35	0.36	0.29	0.02	0.00
116°	0.87	0.76	0.98	0.67	1.84	1.42	0.84	0.40	0.36	0.35	0.02	0.02
117°	0.89	0.75	0.98	0.71	1.68	1.57	0.93	0.49	0.35	0.36	0.02	0.02
118°	0.91	0.73	0.97	0.73	1.51	1.73	1.00	0.58	0.35	0.35	0.04	0.02
119°	0.91	0.71	0.95	0.75	1.33	1.95	1.07	0.67	0.35	0.27	0.07	0.04
120°	0.93	0.73	0.91	0.78	1.17	2.24	1.18	0.76	0.42	0.24	0.13	0.05
121°	0.95	0.75	0.89	0.82	0.98	2.20	1.31	0.86	0.51	0.29	0.18	0.13
122°	0.97	0.75	0.87	0.86	0.80	2.00	1.46	0.95	0.62	0.35	0.24	0.18

123°	0.97	0.78	0.86	0.89	0.62	1.78	1.66	1.06	0.73	0.46	0.31	0.24
124°	0.97	0.80	0.84	0.91	0.66	1.58	1.89	1.17	0.84	0.58	0.38	0.31
125°	0.98	0.82	0.80	0.95	0.71	1.37	2.26	1.29	0.95	0.69	0.51	0.38
126°	1.02	0.84	0.78	0.98	0.75	1.15	2.17	1.46	1.06	0.80	0.62	0.51
127°	1.06	0.86	0.76	0.95	0.78	0.91	1.91	1.71	1.17	0.93	0.75	0.66
128°	1.07	0.87	0.73	0.93	0.82	0.69	1.68	2.06	1.33	1.04	0.87	0.78
129°	1.11	0.89	0.71	0.89	0.87	0.66	1.42	2.28	1.53	1.17	0.98	0.91
130°	1.11	0.91	0.73	0.86	0.91	0.71	1.17	1.99	1.80	1.33	1.11	1.06
131°	1.09	0.93	0.76	0.84	0.97	0.75	0.89	1.71	2.22	1.57	1.27	1.18
132°	1.09	0.95	0.78	0.80	0.97	0.80	0.64	1.42	2.08	1.89	1.51	1.37
133°	1.07	0.97	0.80	0.76	0.93	0.86	0.67	1.13	1.77	2.33	1.82	1.62
134°	1.06	1.00	0.84	0.75	0.89	0.91	0.73	0.86	1.48	2.00	2.29	1.97
135°	1.07	1.00	0.86	0.71	0.86	0.95	0.78	0.64	1.18	1.69	2.06	2.28
136°	1.07	1.00	0.89	0.75	0.82	0.97	0.84	0.69	0.87	1.37	1.71	1.93
137°	1.09	1.00	0.91	0.76	0.80	0.93	0.89	0.75	0.64	1.04	1.38	1.58
138°	1.06	1.00	0.95	0.80	0.76	0.89	0.95	0.82	0.69	0.71	1.04	1.24
139°	1.02	1.02	0.97	0.84	0.73	0.86	0.97	0.87	0.76	0.67	0.71	0.89
140°	0.98	1.04	0.98	0.87	0.75	0.80	0.91	0.93	0.82	0.73	0.67	0.64
141°	0.95	1.06	1.00	0.91	0.78	0.76	0.87	0.98	0.89	0.80	0.69	0.71
142°	0.91	1.07	1.02	0.95	0.82	0.73	0.89	1.00	0.97	0.87	0.82	0.76
143°	0.87	1.11	1.02	0.97	0.86	0.73	0.97	1.00	1.00	0.95	0.89	0.82
144°	0.84	1.07	1.04	1.00	0.89	0.78	1.07	1.04	1.00	0.98	0.97	0.87
145°	0.80	1.04	1.06	1.00	0.93	0.84	1.11	1.06	1.02	1.00	0.97	0.91
146°	0.75	0.98	1.07	1.02	0.97	0.95	1.09	1.09	1.04	1.04	0.95	0.93
147°	0.71	0.95	1.09	1.04	0.98	1.02	1.07	1.11	1.07	1.06	0.89	0.97
148°	0.67	0.89	1.11	1.06	1.00	1.02	1.06	1.11	1.11	1.09	0.82	1.00
149°	0.67	0.84	1.06	1.07	1.02	0.98	1.04	1.09	1.17	1.11	0.75	1.06
150°	0.84	0.80	1.00	1.09	1.04	1.00	1.00	1.09	1.20	1.11	0.78	1.11
151°	1.00	0.75	1.00	1.11	1.07	1.04	0.98	1.11	1.22	1.07	0.86	1.13
152°	1.18	0.78	1.06	1.07	1.09	1.06	1.00	1.18	1.26	1.04	0.93	1.15
153°	1.35	0.89	0.98	0.98	1.11	1.07	1.04	1.24	1.26	1.00	0.97	1.17
154°	1.46	1.06	0.84	0.93	1.07	1.09	1.07	1.24	1.18	0.98	0.98	1.18
155°	1.53	1.07	0.71	0.86	1.00	1.11	1.13	1.20	1.13	1.00	0.98	1.22
156°	1.77	1.20	0.66	0.80	0.93	1.06	1.13	1.17	1.09	1.02	1.02	1.20
157°	2.04	1.42	0.80	0.73	0.87	0.98	1.09	1.15	1.09	1.04	1.04	1.17
158°	2.22	1.62	1.04	0.67	0.80	0.91	1.00	1.09	1.09	1.06	1.06	1.15
159°	2.40	1.82	1.27	0.76	0.73	0.84	0.93	1.00	1.07	1.09	1.07	1.13
160°	2.53	2.04	1.51	1.02	0.66	0.76	0.86	0.93	1.04	1.07	1.07	1.09
161°	2.55	2.24	1.75	1.27	0.86	0.67	0.76	0.84	1.02	1.04	0.98	1.00
162°	2.53	2.46	1.99	1.55	1.13	0.76	0.69	0.78	1.04	0.97	0.89	0.91
163°	2.49	2.51	2.22	1.80	1.42	1.07	0.76	0.80	1.07	0.87	0.80	0.82
164°	2.46	2.48	2.46	2.06	1.69	1.38	1.09	1.00	1.00	0.75	0.71	0.73
165°	2.42	2.44	2.49	2.33	1.99	1.68	1.42	1.27	1.13	0.87	0.73	0.66
166°	2.39	2.39	2.40	2.53	2.28	1.99	1.69	1.49	1.37	1.22	1.11	1.04
167°	2.26	2.24	2.28	2.39	2.51	2.28	1.95	1.77	1.69	1.58	1.48	1.42
168°	2.08	2.09	2.19	2.28	2.39	2.49	2.33	2.13	2.04	1.93	1.84	1.78
169°	1.95	2.04	2.11	2.19	2.29	2.39	2.46	2.53	2.40	2.29	2.22	2.17
170°	1.91	1.99	2.06	2.13	2.20	2.29	2.35	2.39	2.44	2.48	2.51	2.53
171°	1.75	1.93	1.99	2.06	2.11	2.17	2.24	2.28	2.31	2.33	2.35	2.37

172°	1.58	1.78	1.93	1.99	2.04	2.08	2.13	2.17	2.19	2.20	2.22	2.24
173°	1.44	1.60	1.75	1.89	1.95	1.99	2.02	2.06	2.08	2.09	2.11	2.11
174°	1.27	1.42	1.55	1.68	1.78	1.88	1.93	1.95	1.97	1.99	2.00	2.00
175°	1.13	1.24	1.35	1.44	1.55	1.62	1.69	1.77	1.82	1.86	1.89	1.91
176°	0.97	1.06	1.15	1.22	1.29	1.37	1.60	1.48	1.51	1.55	1.58	1.58
177°	0.80	0.87	0.95	1.00	1.06	1.11	1.15	1.18	1.22	1.24	1.26	1.27
178°	0.64	0.69	0.73	0.78	0.82	0.86	0.87	0.89	0.93	0.95	0.95	0.97
179°	0.49	0.51	0.53	0.55	0.56	0.58	0.60	0.62	0.62	0.64	0.64	0.64
180°	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Gamma	C180°	C185°	C190°	C195°	C200°	C205°	C210°	C215°	C220°	C225°	C230°	C235°
0°	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46
1°	1408.95	1407.49	1406.45	1405.11	1404.21	1403.32	1402.58	1402.14	1401.72	1401.45	1401.48	1401.70
2°	1393.74	1390.81	1387.88	1385.46	1383.42	1381.54	1380.25	1379.16	1378.65	1378.72	1378.83	1379.54
3°	1375.62	1370.56	1366.10	1361.87	1358.50	1355.83	1353.88	1352.66	1352.19	1349.34	1345.21	1342.13
4°	1353.75	1346.08	1338.95	1333.12	1328.22	1324.81	1307.35	1312.56	1305.69	1299.01	1294.05	1291.43
5°	1329.24	1318.24	1308.62	1300.03	1293.34	1284.71	1270.65	1258.93	1249.11	1242.54	1238.78	1233.74
6°	1238.00	1225.18	1216.80	1213.85	1212.65	1205.37	1203.05	1199.63	1188.16	1174.84	1162.31	1152.24
7°	1147.86	1133.01	1122.72	1117.37	1107.03	1098.16	1094.61	1096.15	1092.33	1093.33	1079.02	1069.55
8°	1058.44	1040.37	1027.77	1019.32	1002.86	991.42	987.74	973.37	968.27	971.33	981.57	962.52
9°	965.49	944.00	930.14	914.30	895.99	884.30	866.66	852.36	844.38	841.20	839.30	842.03
10°	873.28	848.53	830.87	809.56	790.22	772.54	752.34	735.46	726.12	717.85	712.97	712.59
11°	743.07	721.53	710.73	696.53	686.05	669.90	650.74	633.99	623.86	612.68	607.98	607.71
12°	634.63	617.29	606.25	594.21	584.22	571.05	559.41	548.09	535.16	528.40	523.14	516.38
13°	543.46	529.86	521.19	512.10	502.63	490.72	480.36	470.67	463.88	457.18	449.38	449.33
14°	467.77	455.79	448.67	441.93	432.46	422.74	414.07	405.66	402.58	391.23	394.91	391.49
15°	403.93	393.89	387.06	381.87	373.40	367.70	360.18	356.43	352.52	351.28	348.80	346.12
16°	357.27	348.24	341.79	335.85	327.68	323.91	318.73	316.62	314.76	313.38	311.92	311.30
17°	319.17	312.38	307.11	302.20	296.46	289.90	286.43	283.84	283.91	282.09	281.51	280.71
18°	287.70	282.24	277.58	273.48	268.96	261.42	258.45	257.00	256.91	255.63	253.70	256.45
19°	260.66	255.39	251.08	247.27	242.50	236.11	233.49	232.34	232.41	231.08	230.75	232.74
20°	235.38	229.68	226.20	222.78	217.86	213.07	210.74	209.25	209.47	208.76	208.90	210.76
21°	212.53	207.70	205.11	201.13	196.04	192.06	189.52	188.01	187.67	188.36	188.40	189.89
22°	190.54	188.50	186.97	183.28	177.60	173.43	170.86	169.46	169.11	169.38	170.09	170.62
23°	170.86	170.46	169.62	166.40	161.95	158.60	155.05	153.72	153.68	153.59	153.78	153.34
24°	153.08	153.96	153.67	150.92	148.33	146.27	143.14	140.81	140.61	140.50	140.28	138.02
25°	136.35	138.35	139.57	137.62	136.48	135.20	132.65	130.03	129.23	128.99	128.46	123.73
26°	123.67	126.20	127.77	126.44	125.80	124.58	122.83	120.78	119.16	119.30	116.81	110.54
27°	111.98	114.91	117.41	116.77	116.11	114.88	114.28	112.82	110.78	110.78	105.10	100.49
28°	102.04	104.15	107.26	107.87	107.72	107.15	106.83	105.75	104.02	100.89	94.50	91.53
29°	93.64	94.37	97.08	99.80	100.56	100.69	100.54	99.51	97.85	91.51	86.79	84.32
30°	87.23	86.63	87.67	91.37	94.12	94.81	95.35	94.30	91.53	84.04	79.86	79.11
31°	81.93	80.99	80.53	83.19	87.41	89.58	90.66	89.58	84.86	78.82	75.87	74.85
32°	77.62	76.63	75.89	77.40	80.66	84.63	85.88	84.04	78.65	73.99	72.88	71.70
33°	74.07	73.56	72.66	73.32	75.92	79.55	80.91	78.07	74.30	71.35	70.50	68.80
34°	71.22	71.11	70.61	70.61	72.61	74.67	74.59	72.61	70.59	69.35	68.40	67.35
35°	69.04	69.29	69.35	69.17	70.19	69.46	68.15	67.75	67.76	67.69	66.76	66.00
36°	67.58	68.18	68.44	68.40	67.95	65.00	62.90	63.92	65.89	66.42	65.89	64.83
37°	66.73	67.65	67.89	67.27	65.18	61.66	60.32	60.99	63.56	65.16	65.16	63.81
38°	66.82	67.60	67.78	65.43	62.99	59.86	59.37	59.55	61.66	63.99	64.32	63.63

39°	67.69	68.18	66.93	63.54	62.15	59.71	59.70	59.86	60.95	62.88	63.16	63.47
40°	69.31	68.82	66.25	62.94	62.50	61.08	61.06	61.01	61.63	62.76	62.32	63.43
41°	71.30	69.18	65.69	63.83	63.92	63.08	62.63	62.94	63.07	63.74	61.99	64.18
42°	72.54	69.84	67.16	65.80	65.78	65.49	64.83	65.32	65.18	65.52	64.10	65.69
43°	73.70	71.86	70.24	69.26	67.86	68.27	67.58	67.95	68.15	67.98	67.36	68.04
44°	76.91	75.85	74.52	73.15	71.52	71.46	70.37	70.93	71.42	71.33	71.08	71.13
45°	81.48	80.80	79.33	77.80	75.90	75.01	74.16	74.37	75.19	75.59	75.19	75.19
46°	85.77	85.47	84.63	82.97	80.80	79.58	78.80	78.73	79.26	80.09	79.89	79.67
47°	90.58	90.20	89.82	88.71	86.41	85.10	84.12	83.81	84.21	85.27	85.19	84.54
48°	96.36	95.65	95.03	94.46	93.13	91.40	90.00	89.87	89.93	90.97	91.13	90.05
49°	102.60	101.95	101.07	100.80	100.36	98.40	96.96	96.68	96.39	97.78	97.79	96.90
50°	109.56	109.23	108.07	107.76	107.48	106.37	104.81	104.17	103.55	104.84	105.01	104.13
51°	117.01	116.68	115.73	115.11	114.71	114.80	112.89	111.87	111.22	112.18	112.89	111.96
52°	124.42	124.13	123.65	122.93	122.14	122.56	121.20	119.63	119.12	119.76	120.78	119.81
53°	131.69	131.58	130.99	130.52	129.94	129.88	129.61	127.37	126.82	127.39	128.41	127.53
54°	139.24	138.97	137.77	137.42	137.68	136.91	137.44	134.78	134.03	134.62	135.60	135.07
55°	146.51	145.80	144.47	143.96	144.80	143.70	144.56	142.21	141.06	141.30	142.50	142.39
56°	153.99	152.57	151.65	150.59	151.26	150.63	151.14	149.57	148.08	148.00	149.44	149.64
57°	161.02	159.46	158.67	157.69	157.91	157.95	158.04	156.98	155.38	155.00	156.49	156.87
58°	168.45	166.87	166.10	165.65	165.39	165.56	165.63	165.07	163.23	162.54	164.27	165.07
59°	176.81	175.59	174.39	173.94	173.90	173.61	173.70	174.12	171.71	170.95	172.35	173.88
60°	186.05	184.88	183.42	182.17	182.77	181.82	182.22	183.11	180.42	179.54	180.87	182.75
61°	193.60	192.71	192.62	190.54	191.20	190.20	190.67	191.51	189.29	187.92	189.14	191.53
62°	200.00	199.16	200.49	198.85	198.74	198.12	198.52	198.99	197.41	195.64	196.54	199.12
63°	206.24	205.44	206.42	206.88	205.51	205.31	205.40	205.88	204.55	202.75	203.35	206.28
64°	212.91	211.63	211.67	213.49	211.23	211.58	211.60	211.61	210.78	208.63	209.36	212.12
65°	218.68	217.64	216.42	217.52	216.46	216.70	216.50	216.60	216.31	213.80	214.06	217.10
66°	222.74	221.87	220.81	220.81	221.27	220.70	220.48	220.79	220.61	218.08	217.79	220.57
67°	225.69	224.44	224.64	223.54	225.25	223.56	223.14	223.52	224.00	220.96	220.30	223.11
68°	227.97	226.29	225.93	225.35	226.62	225.42	224.95	225.24	225.89	222.94	222.10	224.75
69°	229.50	227.60	226.13	226.15	226.75	225.80	225.55	225.97	225.84	223.34	222.21	224.60
70°	230.50	228.33	225.53	225.31	225.02	224.69	224.42	224.56	224.58	222.23	220.98	223.76
71°	227.15	226.38	223.74	222.47	221.92	222.40	222.12	221.54	221.79	220.01	218.33	220.05
72°	222.25	220.23	220.85	218.10	217.57	218.64	217.57	217.06	217.04	215.24	213.25	215.28
73°	215.80	212.98	214.82	211.74	211.23	212.54	210.78	210.65	210.32	208.59	206.84	208.21
74°	207.21	204.28	203.71	202.67	202.51	202.73	201.14	200.51	201.03	199.92	197.08	198.07
75°	197.21	193.95	190.22	191.38	190.20	189.98	188.98	188.16	188.60	187.50	184.64	185.96
76°	181.99	180.86	176.10	178.89	175.79	174.94	174.25	173.70	173.95	172.84	170.26	169.89
77°	165.32	159.17	160.28	162.24	159.15	158.11	157.29	157.27	156.76	155.60	151.54	152.41
78°	145.80	139.19	142.25	141.72	139.33	138.30	137.42	136.71	136.29	135.15	131.89	131.96
79°	123.76	119.92	121.36	120.25	117.74	116.59	115.88	115.06	114.97	114.15	110.96	110.78
80°	101.91	99.12	100.09	99.05	96.85	95.14	94.50	93.51	93.35	90.13	89.85	89.16
81°	81.02	78.85	79.06	77.74	75.69	73.45	73.46	73.12	72.23	72.70	69.77	69.68
82°	62.45	60.59	59.28	58.15	56.67	54.54	54.89	54.71	54.38	54.96	52.39	52.03
83°	46.53	45.15	43.12	42.00	40.98	38.75	40.03	39.34	40.27	40.12	39.01	38.43
84°	33.89	33.13	31.29	30.49	30.47	28.21	29.34	29.28	29.70	30.50	28.25	28.83
85°	25.42	25.37	24.09	23.40	23.22	21.23	22.20	22.51	22.56	24.11	22.33	22.14
86°	19.43	20.62	19.30	18.90	18.92	16.86	17.76	18.17	18.76	19.85	18.23	18.68
87°	16.17	18.07	16.83	16.03	16.28	14.10	15.39	15.35	16.03	17.32	15.37	15.70

88°	13.62	15.81	14.37	14.00	14.30	11.60	13.40	13.15	13.62	15.02	12.95	13.13
89°	11.73	12.93	11.86	11.36	11.91	9.62	10.69	10.84	11.49	12.89	10.87	11.09
90°	10.60	11.24	10.22	9.49	10.07	7.59	9.40	9.05	9.74	10.98	9.05	9.34
91°	9.51	9.72	8.85	7.92	8.21	6.23	7.74	7.50	8.20	9.49	7.61	7.96
92°	8.25	8.20	7.18	7.01	7.21	4.86	6.39	6.23	7.07	8.25	6.37	6.65
93°	7.12	6.96	6.08	5.74	6.08	3.81	5.35	5.04	5.96	7.19	5.39	5.46
94°	6.21	5.94	5.30	4.63	4.70	2.71	4.37	4.19	4.75	6.08	4.55	4.57
95°	5.41	4.84	4.17	4.01	3.59	1.89	3.35	3.61	4.02	5.30	3.66	3.81
96°	4.33	3.93	3.46	3.02	3.33	1.22	2.93	2.95	3.50	4.59	2.62	3.22
97°	3.50	3.37	2.84	2.80	2.49	0.73	2.04	2.08	3.02	3.86	2.13	2.64
98°	2.90	2.90	2.19	2.48	1.97	0.46	1.75	1.80	2.57	3.37	1.80	2.06
99°	2.40	1.91	1.93	2.19	1.58	0.36	1.35	1.77	2.08	2.95	1.62	1.78
100°	2.00	1.95	1.46	1.80	1.27	0.33	1.22	1.42	1.88	3.21	1.44	1.58
101°	1.71	1.68	1.33	1.53	0.89	0.29	1.04	1.15	1.80	2.20	1.22	1.40
102°	1.49	1.33	1.46	1.42	0.80	0.42	0.71	1.07	1.78	2.13	1.04	1.22
103°	1.29	1.00	1.24	1.60	0.49	0.51	0.51	0.95	1.58	2.26	0.87	1.04
104°	1.13	0.80	1.11	1.48	0.24	0.25	0.53	0.76	1.57	2.04	0.73	0.97
105°	1.00	1.02	1.04	0.97	0.05	0.29	0.58	0.71	1.55	1.80	0.73	0.91
106°	1.00	1.06	1.11	0.80	0.04	0.33	0.36	0.73	1.48	1.60	0.75	0.89
107°	1.02	1.09	1.20	0.62	0.07	0.36	0.35	0.78	1.49	1.49	0.76	0.89
108°	1.07	1.13	1.11	0.44	0.13	0.36	0.35	0.84	1.57	1.38	0.78	0.87
109°	1.17	1.20	0.89	0.24	0.16	0.36	0.35	0.89	1.69	1.29	0.80	0.87
110°	1.24	1.09	0.67	0.05	0.22	0.36	0.42	0.95	1.78	1.18	0.82	0.86
111°	0.98	0.86	0.46	0.04	0.27	0.36	0.47	1.00	1.99	1.07	0.84	0.84
112°	0.75	0.62	0.24	0.11	0.33	0.35	0.55	1.06	2.19	0.95	0.87	0.82
113°	0.49	0.36	0.00	0.16	0.36	0.35	0.62	1.11	2.26	0.82	0.89	0.82
114°	0.25	0.13	0.07	0.22	0.36	0.35	0.69	1.22	2.11	0.69	0.91	0.80
115°	0.00	0.04	0.13	0.29	0.36	0.35	0.76	1.29	1.97	0.64	0.93	0.78
116°	0.00	0.11	0.20	0.35	0.36	0.40	0.84	1.42	1.80	0.66	0.97	0.76
117°	0.02	0.18	0.27	0.36	0.35	0.49	0.93	1.55	1.66	0.69	0.98	0.75
118°	0.02	0.25	0.33	0.36	0.35	0.58	1.00	1.71	1.49	0.71	0.97	0.73
119°	0.04	0.33	0.36	0.36	0.35	0.67	1.07	1.93	1.33	0.75	0.95	0.71
120°	0.04	0.36	0.36	0.35	0.42	0.76	1.18	2.22	1.15	0.78	0.97	0.73
121°	0.09	0.36	0.36	0.35	0.51	0.86	1.31	2.19	0.97	0.82	1.00	0.78
122°	0.16	0.35	0.35	0.35	0.62	0.95	1.46	2.00	0.78	0.86	1.00	0.97
123°	0.22	0.33	0.35	0.47	0.73	1.06	1.64	1.78	0.62	0.89	1.02	1.07
124°	0.29	0.33	0.38	0.58	0.84	1.17	1.91	1.58	0.66	0.91	1.04	1.13
125°	0.35	0.38	0.51	0.71	0.95	1.29	2.26	1.37	0.71	0.95	1.06	1.15
126°	0.47	0.53	0.64	0.84	1.06	1.48	2.17	1.15	0.75	0.98	1.07	1.11
127°	0.62	0.66	0.76	0.95	1.18	1.73	1.91	0.91	0.78	1.00	1.07	1.06
128°	0.75	0.78	0.89	1.07	1.37	2.06	1.68	0.69	0.82	1.00	1.09	1.04
129°	0.89	0.93	1.02	1.22	1.58	2.28	1.42	0.66	0.87	1.00	1.11	1.09
130°	1.02	1.06	1.17	1.40	1.88	1.99	1.17	0.71	0.91	1.02	1.13	1.20
131°	1.15	1.20	1.33	1.64	2.28	1.71	0.89	0.75	0.97	1.04	1.15	1.26
132°	1.35	1.38	1.55	1.95	2.11	1.42	0.64	0.80	0.98	1.07	1.17	1.27
133°	1.57	1.62	1.86	2.33	1.80	1.15	0.67	0.86	0.98	1.09	1.17	1.27
134°	1.88	1.97	2.29	2.00	1.49	0.86	0.73	0.91	1.00	1.09	1.18	1.29
135°	2.35	2.28	2.06	1.69	1.18	0.64	0.78	0.95	1.04	1.11	1.20	1.29
136°	2.00	1.93	1.71	1.37	0.87	0.69	0.84	0.98	1.06	1.11	1.22	1.26

137°	1.66	1.58	1.38	1.04	0.62	0.75	0.89	1.00	1.09	1.11	1.18	1.22
138°	1.31	1.24	1.04	0.71	0.62	0.82	0.95	1.02	1.09	1.15	1.07	1.20
139°	0.97	0.89	0.71	0.62	0.62	0.87	1.00	1.02	1.11	1.18	1.04	1.15
140°	0.62	0.64	0.62	0.62	0.64	0.87	1.02	1.06	1.13	1.22	1.17	1.09
141°	0.62	0.71	0.62	0.62	0.64	0.80	1.02	1.07	1.15	1.24	1.24	1.09
142°	0.62	0.78	0.64	0.64	0.64	0.78	1.06	1.11	1.18	1.26	1.22	1.11
143°	0.64	0.86	0.64	0.62	0.69	0.82	1.07	1.13	1.20	1.27	1.20	1.11
144°	0.64	0.93	0.64	0.67	0.78	0.91	1.09	1.11	1.20	1.26	1.18	1.11
145°	0.64	0.98	0.69	0.75	0.86	0.98	1.11	1.06	1.24	1.24	1.17	1.09
146°	0.73	1.02	0.78	0.86	0.95	1.07	1.09	1.04	1.18	1.22	1.15	1.09
147°	0.82	1.04	0.87	0.95	1.04	1.13	1.06	1.02	1.07	1.20	1.13	1.07
148°	0.93	1.06	0.97	1.04	1.11	1.15	1.07	1.00	1.00	1.18	1.11	1.07
149°	1.02	1.09	1.07	1.11	1.15	1.18	1.15	0.98	1.02	1.13	1.09	1.07
150°	1.11	1.11	1.13	1.15	1.18	1.20	1.24	1.00	1.06	1.09	1.09	1.07
151°	1.15	1.15	1.17	1.18	1.22	1.24	1.27	1.06	1.07	1.11	1.07	1.06
152°	1.18	1.20	1.20	1.22	1.24	1.27	1.22	1.11	1.09	1.09	1.07	1.04
153°	1.22	1.24	1.24	1.26	1.27	1.24	1.20	1.15	1.11	1.09	1.07	1.02
154°	1.24	1.26	1.26	1.27	1.26	1.22	1.18	1.15	1.09	1.09	1.06	1.09
155°	1.27	1.27	1.26	1.24	1.22	1.20	1.17	1.11	1.04	1.07	1.04	1.17
156°	1.24	1.24	1.22	1.20	1.20	1.18	1.13	1.06	0.93	1.00	1.02	1.27
157°	1.20	1.20	1.18	1.18	1.17	1.15	1.09	0.98	0.87	0.86	1.09	1.38
158°	1.18	1.17	1.15	1.15	1.13	1.09	1.00	0.91	0.80	0.67	1.13	1.53
159°	1.15	1.13	1.11	1.11	1.07	1.02	0.93	0.84	0.73	0.76	1.27	1.73
160°	1.11	1.09	1.06	1.04	1.00	0.93	0.86	0.76	0.66	1.02	1.51	2.00
161°	1.02	1.00	0.98	0.95	0.91	0.84	0.76	0.67	0.86	1.27	1.75	2.24
162°	0.93	0.91	0.89	0.86	0.82	0.76	0.69	0.76	1.13	1.55	1.99	2.46
163°	0.82	0.82	0.80	0.76	0.73	0.67	0.76	1.07	1.42	1.80	2.22	2.55
164°	0.73	0.73	0.71	0.67	0.64	0.84	1.09	1.38	1.69	2.06	2.46	2.53
165°	0.64	0.66	0.73	0.84	0.98	1.18	1.42	1.68	1.99	2.33	2.49	2.46
166°	1.02	1.04	1.09	1.20	1.35	1.51	1.75	1.99	2.28	2.53	2.46	2.40
167°	1.40	1.42	1.48	1.57	1.69	1.86	2.06	2.29	2.53	2.48	2.44	2.39
168°	1.77	1.78	1.84	1.93	2.06	2.20	2.39	2.51	2.48	2.44	2.40	2.37
169°	2.15	2.17	2.22	2.29	2.40	2.53	2.49	2.46	2.42	2.39	2.37	2.33
170°	2.53	2.53	2.51	2.48	2.44	2.39	2.39	2.40	2.39	2.37	2.33	2.29
171°	2.37	2.37	2.35	2.33	2.29	2.26	2.26	2.29	2.33	2.31	2.29	2.28
172°	2.24	2.24	2.24	2.22	2.19	2.15	2.11	2.15	2.19	2.24	2.26	2.09
173°	2.13	2.13	2.13	2.11	2.09	2.06	2.02	1.99	2.02	2.06	1.97	1.84
174°	2.02	2.02	2.02	2.00	2.00	1.97	1.93	1.88	1.78	1.71	1.62	1.53
175°	1.91	1.91	1.89	1.86	1.82	1.77	1.69	1.62	1.55	1.44	1.35	1.24
176°	1.60	1.58	1.58	1.55	1.51	1.48	1.60	1.37	1.29	1.22	1.15	1.06
177°	1.27	1.27	1.26	1.24	1.22	1.18	1.15	1.11	1.06	1.00	0.95	0.87
178°	0.97	0.97	0.95	0.95	0.93	0.89	0.87	0.86	0.82	0.78	0.73	0.69
179°	0.64	0.64	0.64	0.64	0.62	0.62	0.60	0.58	0.56	0.55	0.53	0.51
180°	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Gamma	C240°	C245°	C250°	C255°	C260°	C265°	C270°	C275°	C280°	C285°	C290°	C295°
0°	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46
1°	1401.94	1402.47	1403.16	1403.87	1405.03	1405.91	1407.22	1405.91	1405.03	1403.87	1403.16	1402.47
2°	1380.80	1381.92	1383.58	1385.42	1387.62	1390.30	1392.96	1390.30	1387.62	1385.42	1383.58	1381.92
3°	1340.31	1339.73	1340.38	1341.64	1344.37	1347.58	1352.06	1347.58	1344.37	1341.64	1340.38	1339.73

4°	1290.34	1290.16	1291.78	1295.40	1299.15	1304.60	1311.16	1304.60	1299.15	1295.40	1291.78	1290.16
5°	1226.64	1222.27	1218.82	1218.15	1220.03	1223.41	1230.13	1223.41	1220.03	1218.15	1218.82	1222.27
6°	1146.38	1140.93	1138.64	1136.91	1138.69	1142.03	1149.11	1142.03	1138.69	1136.91	1138.64	1140.93
7°	1060.15	1046.66	1035.31	1029.26	1027.44	1030.65	1039.37	1030.65	1027.44	1029.26	1035.31	1046.66
8°	943.47	928.15	918.21	912.33	911.36	917.21	929.61	917.21	911.36	912.33	918.21	928.15
9°	826.15	811.31	801.22	794.30	791.68	795.94	807.85	795.94	791.68	794.30	801.22	811.31
10°	719.05	702.06	688.55	678.21	673.98	676.15	686.09	676.15	673.98	678.21	688.55	702.06
11°	606.78	596.84	590.19	585.93	583.60	586.75	595.71	586.75	583.60	585.93	590.19	596.84
12°	517.55	522.61	512.52	505.25	500.06	499.10	505.33	499.10	500.06	505.25	512.52	522.61
13°	447.85	446.54	443.86	439.82	437.11	437.93	443.10	437.93	437.11	439.82	443.86	446.54
14°	388.57	392.58	393.45	385.97	379.65	377.54	380.87	377.54	379.65	385.97	393.45	392.58
15°	346.92	346.56	347.18	342.13	337.71	335.51	338.09	335.51	337.71	342.13	347.18	346.56
16°	309.15	310.47	311.94	306.91	299.70	295.13	295.30	295.13	299.70	306.91	311.94	310.47
17°	281.29	280.62	278.94	275.68	269.18	265.12	264.86	265.12	269.18	275.68	278.94	280.62
18°	255.94	254.30	252.13	248.51	241.19	235.89	234.43	235.89	241.19	248.51	252.13	254.30
19°	233.69	231.06	226.68	223.27	217.19	213.16	212.03	213.16	217.19	223.27	226.68	231.06
20°	212.91	208.74	204.11	200.72	194.66	190.62	189.62	190.62	194.66	200.72	204.11	208.74
21°	191.49	187.07	181.78	179.09	175.08	171.86	171.09	171.86	175.08	179.09	181.78	187.07
22°	169.98	165.85	161.59	159.49	156.67	153.58	152.57	153.58	156.67	159.49	161.59	165.85
23°	150.57	146.71	141.61	141.30	140.66	139.10	139.01	139.10	140.66	141.30	141.61	146.71
24°	133.51	128.06	126.70	126.42	125.64	124.87	125.44	124.87	125.64	126.42	126.70	128.06
25°	117.68	115.93	113.87	113.06	113.47	113.16	114.18	113.16	113.47	113.06	113.87	115.93
26°	107.19	104.50	103.79	103.20	102.77	101.82	102.93	101.82	102.77	103.20	103.79	104.50
27°	97.21	96.28	95.35	94.35	94.63	93.86	93.99	93.86	94.63	94.35	95.35	96.28
28°	89.80	88.89	88.76	88.42	87.94	86.30	85.03	86.30	87.94	88.42	88.76	88.89
29°	83.23	83.26	83.63	82.86	82.95	82.06	81.51	82.06	82.95	82.86	83.63	83.26
30°	77.87	78.27	79.07	78.65	78.78	78.14	77.98	78.14	78.78	78.65	79.07	78.27
31°	73.45	74.27	75.03	74.67	75.52	75.78	75.94	75.78	75.52	74.67	75.03	74.27
32°	70.39	71.13	71.68	72.04	72.84	73.52	73.88	73.52	72.84	72.04	71.68	71.13
33°	68.51	68.47	69.13	69.55	71.06	72.35	73.14	72.35	71.06	69.55	69.13	68.47
34°	66.67	66.09	67.16	68.37	69.82	71.30	72.39	71.30	69.82	68.37	67.16	66.09
35°	64.83	64.39	66.13	67.31	69.08	70.62	71.64	70.62	69.08	67.31	66.13	64.39
36°	63.41	63.72	65.51	67.24	68.77	70.00	70.90	70.00	68.77	67.24	65.51	63.72
37°	63.25	63.47	65.72	67.24	68.82	69.99	70.71	69.99	68.82	67.24	65.72	63.47
38°	63.27	64.03	66.18	67.87	69.17	70.06	70.53	70.06	69.17	67.87	66.18	64.03
39°	64.41	64.98	67.20	68.55	69.77	70.48	70.70	70.48	69.77	68.55	67.20	64.98
40°	65.43	66.13	68.26	69.73	70.53	70.95	70.86	70.95	70.53	69.73	68.26	66.13
41°	65.60	67.07	69.15	70.95	71.83	72.50	72.10	72.50	71.83	70.95	69.15	67.07
42°	65.87	68.24	70.15	72.39	73.45	74.19	73.34	74.19	73.45	72.39	70.15	68.24
43°	68.04	69.79	71.59	73.77	74.79	74.99	74.14	74.99	74.79	73.77	71.59	69.79
44°	70.81	72.41	73.48	75.78	75.98	75.70	74.94	75.70	75.98	75.78	73.48	72.41
45°	75.03	75.65	77.02	77.98	78.89	79.27	78.96	79.27	78.89	77.98	77.02	75.65
46°	79.56	80.33	81.02	82.81	83.15	83.19	82.99	83.19	83.15	82.81	81.02	80.33
47°	84.86	85.27	86.16	87.67	88.23	88.54	88.40	88.54	88.23	87.67	86.16	85.27
48°	90.42	90.86	91.51	93.55	93.97	94.10	93.79	94.10	93.97	93.55	91.51	90.86
49°	97.01	96.72	97.63	99.47	100.31	100.47	100.31	100.47	100.31	99.47	97.63	96.72
50°	103.93	103.79	104.26	106.61	107.03	106.95	106.81	106.95	107.03	106.61	104.26	103.79
51°	111.45	111.05	112.14	113.80	114.38	114.60	114.38	114.60	114.38	113.80	112.14	111.05
52°	119.01	119.21	120.03	121.69	122.20	122.40	121.94	122.40	122.20	121.69	120.03	119.21

53°	126.79	127.06	127.79	129.57	129.77	130.01	129.72	130.01	129.77	129.57	127.79	127.06
54°	134.38	134.02	135.18	136.38	137.06	137.68	137.48	137.68	137.06	136.38	135.18	134.02
55°	141.16	140.90	141.65	143.07	143.25	143.05	142.74	143.05	143.25	143.07	141.65	140.90
56°	147.98	147.44	148.20	149.08	148.60	148.18	148.00	148.18	148.60	149.08	148.20	147.44
57°	154.98	154.50	155.05	155.41	155.36	155.09	154.96	155.09	155.36	155.41	155.05	154.50
58°	162.52	162.52	162.59	163.59	162.97	162.19	161.90	162.19	162.97	163.59	162.59	162.52
59°	171.48	170.91	171.04	171.95	171.42	170.86	170.84	170.86	171.42	171.95	171.04	170.91
60°	180.36	179.65	179.54	180.71	180.38	179.80	179.78	179.80	180.38	180.71	179.54	179.65
61°	189.07	187.94	187.96	189.32	188.65	187.98	188.03	187.98	188.65	189.32	187.96	187.94
62°	197.17	195.70	195.77	196.72	196.41	196.08	196.28	196.08	196.41	196.72	195.77	195.70
63°	204.60	202.64	202.76	203.78	203.22	202.87	202.93	202.87	203.22	203.78	202.76	202.64
64°	210.65	208.88	208.77	209.63	209.47	209.52	209.58	209.52	209.47	209.63	208.77	208.88
65°	215.62	213.84	213.91	214.93	214.29	213.82	213.87	213.82	214.29	214.93	213.91	213.84
66°	219.61	218.23	217.57	218.43	218.39	217.84	218.17	217.84	218.39	218.43	217.57	218.23
67°	223.11	220.57	220.34	221.30	220.88	220.06	220.36	220.06	220.88	221.30	220.34	220.57
68°	224.45	222.49	221.54	222.52	222.58	222.16	222.52	222.16	222.58	222.52	221.54	222.49
69°	225.25	222.25	222.03	222.89	222.27	221.61	221.56	221.61	222.27	222.89	222.03	222.25
70°	223.49	221.52	220.12	221.41	221.07	220.83	220.59	220.83	221.07	221.41	220.12	221.52
71°	220.76	217.92	217.53	218.50	217.55	216.88	216.42	216.88	217.55	218.50	217.53	217.92
72°	215.97	213.27	211.76	213.13	213.13	212.63	212.25	212.63	213.13	213.13	211.76	213.27
73°	208.81	205.79	205.55	205.77	205.31	204.38	203.62	204.38	205.31	205.77	205.55	205.79
74°	199.36	196.32	194.70	195.77	196.21	195.86	194.99	195.86	196.21	195.77	194.70	196.32
75°	186.39	183.81	183.31	183.08	182.80	181.75	180.46	181.75	182.80	183.08	183.31	183.81
76°	172.02	168.33	166.74	167.47	168.07	167.42	165.90	167.42	168.07	167.47	166.74	168.33
77°	153.07	150.59	149.35	149.37	149.11	148.37	146.25	148.37	149.11	149.37	149.35	150.59
78°	133.27	130.37	128.74	129.19	129.30	128.86	126.59	128.86	129.30	129.19	128.74	130.37
79°	111.56	109.32	107.85	108.36	108.45	107.70	105.06	107.70	108.45	108.36	107.85	109.32
80°	90.40	88.40	86.85	87.12	87.16	86.43	83.52	86.43	87.16	87.12	86.85	88.40
81°	69.86	67.91	67.64	68.11	68.84	67.95	65.29	67.95	68.84	68.11	67.64	67.91
82°	53.03	51.79	51.05	50.46	50.83	49.77	47.04	49.77	50.83	50.46	51.05	51.79
83°	37.77	37.68	37.97	38.04	39.21	38.77	36.22	38.77	39.21	38.04	37.97	37.68
84°	29.50	28.77	28.30	27.68	28.32	27.88	25.40	27.88	28.32	27.68	28.30	28.77
85°	22.55	22.11	22.31	22.16	23.55	23.26	21.07	23.26	23.55	22.16	22.31	22.11
86°	18.85	18.45	18.39	17.85	19.34	18.76	16.72	18.76	19.34	17.85	18.39	18.45
87°	15.63	15.53	15.55	15.26	16.66	16.43	14.24	16.43	16.66	15.26	15.55	15.53
88°	13.04	13.09	13.09	12.95	14.06	14.19	11.75	14.19	14.06	12.95	13.09	13.09
89°	11.07	11.07	11.31	11.15	12.27	12.24	10.07	12.24	12.27	11.15	11.31	11.07
90°	9.36	9.18	9.63	9.36	10.51	10.29	8.38	10.29	10.51	9.36	9.63	9.18
91°	8.07	7.96	8.12	7.90	9.21	9.01	6.97	9.01	9.21	7.90	8.12	7.96
92°	6.83	6.76	6.65	6.48	7.92	7.70	5.55	7.70	7.92	6.48	6.65	6.76
93°	5.74	5.72	5.68	5.39	6.96	6.74	4.63	6.74	6.96	5.39	5.68	5.72
94°	4.75	4.73	4.77	4.35	6.01	5.77	3.70	5.77	6.01	4.35	4.77	4.73
95°	3.88	3.88	4.01	3.66	5.17	5.12	3.10	5.12	5.17	3.66	4.01	3.88
96°	3.21	3.21	3.33	3.00	4.37	4.46	2.48	4.46	4.37	3.00	3.33	3.21
97°	2.60	2.66	2.79	2.46	4.06	3.99	2.04	3.99	4.06	2.46	2.79	2.66
98°	2.39	2.40	2.31	2.02	3.75	3.50	1.58	3.50	3.75	2.02	2.31	2.40
99°	2.11	2.22	1.95	1.88	3.42	3.00	1.27	3.00	3.42	1.88	1.95	2.22
100°	1.68	1.89	1.69	1.78	3.08	2.51	0.95	2.51	3.08	1.78	1.69	1.89
101°	1.49	1.57	1.49	1.80	2.77	2.53	0.78	2.53	2.77	1.80	1.49	1.57

102°	1.48	1.40	1.42	1.68	2.55	2.53	0.62	2.53	2.55	1.68	1.42	1.40
103°	1.29	1.24	1.37	1.29	2.70	2.51	0.64	2.51	2.70	1.29	1.37	1.24
104°	1.07	1.07	1.22	1.02	2.79	2.49	0.64	2.49	2.79	1.02	1.22	1.07
105°	0.89	0.98	1.04	0.89	2.64	2.35	0.49	2.35	2.64	0.89	1.04	0.98
106°	0.78	0.98	1.02	0.87	2.49	2.19	0.33	2.19	2.49	0.87	1.02	0.98
107°	0.78	0.98	1.02	0.91	2.46	2.00	0.33	2.00	2.46	0.91	1.02	0.98
108°	0.80	1.00	1.00	0.95	2.44	1.84	0.33	1.84	2.44	0.95	1.00	1.00
109°	0.80	1.00	0.98	0.97	2.48	2.00	0.33	2.00	2.48	0.97	0.98	1.00
110°	0.82	1.00	0.98	0.98	2.51	2.17	0.33	2.17	2.51	0.98	0.98	1.00
111°	0.82	1.02	0.97	1.02	2.51	2.15	0.33	2.15	2.51	1.02	0.97	1.02
112°	0.84	1.02	0.95	1.06	2.51	2.13	0.33	2.13	2.51	1.06	0.95	1.02
113°	0.84	1.02	0.95	1.09	2.49	2.13	0.35	2.13	2.49	1.09	0.95	1.02
114°	0.86	1.02	0.93	1.13	2.48	2.11	0.36	2.11	2.48	1.13	0.93	1.02
115°	0.87	1.04	0.91	1.18	2.48	2.11	0.51	2.11	2.48	1.18	0.91	1.04
116°	0.89	1.07	0.91	1.22	2.46	2.11	0.64	2.11	2.46	1.22	0.91	1.07
117°	0.91	1.07	0.89	1.27	2.46	2.24	0.64	2.24	2.46	1.27	0.89	1.07
118°	0.91	1.09	0.87	1.31	2.46	2.33	0.64	2.33	2.46	1.31	0.87	1.09
119°	0.93	1.09	0.87	1.37	2.48	2.24	0.82	2.24	2.48	1.37	0.87	1.09
120°	0.95	1.09	0.86	1.42	2.48	2.15	1.00	2.15	2.48	1.42	0.86	1.09
121°	0.97	1.09	0.84	1.46	2.49	2.11	1.00	2.11	2.49	1.46	0.84	1.09
122°	0.98	1.11	0.82	1.51	2.51	2.11	1.00	2.11	2.51	1.51	0.82	1.11
123°	0.98	1.11	0.80	1.57	2.55	2.08	1.00	2.08	2.55	1.57	0.80	1.11
124°	1.00	1.11	0.78	1.62	2.55	2.06	1.00	2.06	2.55	1.62	0.78	1.11
125°	1.11	1.11	0.86	1.68	2.51	2.13	0.82	2.13	2.51	1.68	0.86	1.11
126°	1.24	1.11	1.00	1.69	2.55	2.19	0.62	2.19	2.55	1.69	1.00	1.11
127°	1.13	1.09	1.04	1.69	2.70	2.17	0.62	2.17	2.70	1.69	1.04	1.09
128°	1.02	1.09	1.04	1.78	2.75	2.15	0.62	2.15	2.75	1.78	1.04	1.09
129°	1.04	1.07	1.04	1.88	2.71	2.13	0.62	2.13	2.71	1.88	1.04	1.07
130°	1.06	1.07	1.02	1.93	2.68	2.11	0.62	2.11	2.68	1.93	1.02	1.07
131°	1.11	1.09	1.02	1.99	2.68	2.09	0.62	2.09	2.68	1.99	1.02	1.09
132°	1.17	1.07	1.07	2.08	2.68	2.06	0.62	2.06	2.68	2.08	1.07	1.07
133°	1.29	1.07	1.11	2.20	2.68	2.04	0.62	2.04	2.68	2.20	1.11	1.07
134°	1.42	1.13	1.15	2.31	2.66	2.02	0.62	2.02	2.66	2.31	1.15	1.13
135°	1.42	1.17	1.18	2.44	2.64	2.00	0.62	2.00	2.64	2.44	1.18	1.17
136°	1.40	1.17	1.24	2.59	2.64	1.97	0.62	1.97	2.64	2.59	1.24	1.17
137°	1.26	1.15	1.27	2.73	2.66	1.95	0.62	1.95	2.66	2.73	1.27	1.15
138°	1.09	1.09	1.33	2.86	2.68	1.91	0.62	1.91	2.68	2.86	1.33	1.09
139°	1.09	1.04	1.38	2.84	2.68	1.89	0.62	1.89	2.68	2.84	1.38	1.04
140°	1.09	1.04	1.46	2.84	2.68	1.88	0.62	1.88	2.68	2.84	1.46	1.04
141°	1.07	1.04	1.55	2.82	2.64	1.84	0.62	1.84	2.64	2.82	1.55	1.04
142°	1.06	1.02	1.64	2.80	2.62	1.82	0.62	1.82	2.62	2.80	1.64	1.02
143°	1.06	1.06	1.73	2.77	2.60	1.78	0.62	1.78	2.60	2.77	1.73	1.06
144°	1.06	1.11	1.84	2.77	2.60	1.77	0.62	1.77	2.60	2.77	1.84	1.11
145°	1.06	1.15	1.97	2.77	2.60	1.73	0.62	1.73	2.60	2.77	1.97	1.15
146°	1.04	1.20	2.09	2.75	2.60	1.71	0.62	1.71	2.60	2.75	2.09	1.20
147°	1.04	1.29	2.29	2.70	2.59	1.68	0.62	1.68	2.59	2.70	2.29	1.29
148°	1.02	1.37	2.53	2.70	2.57	1.66	0.62	1.66	2.57	2.70	2.53	1.37
149°	1.04	1.48	2.75	2.68	2.57	1.62	0.62	1.62	2.57	2.68	2.75	1.48
150°	1.09	1.58	2.84	2.70	2.57	1.60	0.62	1.60	2.57	2.70	2.84	1.58

151°	1.15	1.75	2.82	2.73	2.49	1.57	0.62	1.57	2.49	2.73	2.82	1.75
152°	1.24	1.93	2.79	2.71	2.44	1.53	0.62	1.53	2.44	2.71	2.79	1.93
153°	1.33	2.08	2.77	2.70	2.39	1.51	0.62	1.51	2.39	2.70	2.77	2.08
154°	1.46	2.33	2.79	2.68	2.33	1.48	0.62	1.48	2.33	2.68	2.79	2.33
155°	1.58	2.64	2.77	2.64	2.26	1.44	0.62	1.44	2.26	2.64	2.77	2.64
156°	1.77	2.86	2.71	2.62	2.20	1.40	0.62	1.40	2.20	2.62	2.71	2.86
157°	1.99	2.84	2.68	2.60	2.13	1.38	0.62	1.38	2.13	2.60	2.68	2.84
158°	2.24	2.80	2.70	2.60	2.08	1.35	0.62	1.35	2.08	2.60	2.70	2.80
159°	2.60	2.79	2.70	2.59	2.00	1.31	0.62	1.31	2.00	2.59	2.70	2.79
160°	2.77	2.77	2.66	2.57	1.95	1.29	0.62	1.29	1.95	2.57	2.66	2.77
161°	2.62	2.68	2.62	2.49	1.88	1.26	0.62	1.26	1.88	2.49	2.62	2.68
162°	2.55	2.59	2.59	2.40	1.82	1.22	0.62	1.22	1.82	2.40	2.59	2.59
163°	2.59	2.55	2.59	2.31	1.75	1.18	0.62	1.18	1.75	2.31	2.59	2.55
164°	2.60	2.57	2.57	2.22	1.69	1.17	0.62	1.17	1.69	2.22	2.57	2.57
165°	2.49	2.53	2.57	2.11	1.62	1.13	0.62	1.13	1.62	2.11	2.57	2.53
166°	2.39	2.42	2.35	1.97	1.55	1.09	0.62	1.09	1.55	1.97	2.35	2.42
167°	2.35	2.29	2.11	1.78	1.42	1.02	0.62	1.02	1.42	1.78	2.11	2.29
168°	2.33	2.28	1.93	1.62	1.31	0.97	0.62	0.97	1.31	1.62	1.93	2.28
169°	2.29	2.11	1.77	1.51	1.27	1.04	0.82	1.04	1.27	1.51	1.77	2.11
170°	2.28	1.93	1.64	1.42	1.24	1.11	1.00	1.11	1.24	1.42	1.64	1.93
171°	2.08	1.80	1.53	1.27	1.06	0.86	0.67	0.86	1.06	1.27	1.53	1.80
172°	1.88	1.64	1.38	1.13	0.87	0.60	0.33	0.60	0.87	1.13	1.38	1.64
173°	1.68	1.48	1.26	1.04	0.80	0.56	0.33	0.56	0.80	1.04	1.26	1.48
174°	1.40	1.26	1.09	0.91	0.73	0.53	0.33	0.53	0.73	0.91	1.09	1.26
175°	1.15	1.04	0.91	0.76	0.64	0.47	0.33	0.47	0.64	0.76	0.91	1.04
176°	0.97	0.86	0.76	0.66	0.55	0.44	0.33	0.44	0.55	0.66	0.76	0.86
177°	0.80	0.73	0.66	0.58	0.49	0.42	0.33	0.42	0.49	0.58	0.66	0.73
178°	0.64	0.60	0.55	0.49	0.44	0.38	0.33	0.38	0.44	0.49	0.55	0.60
179°	0.49	0.46	0.44	0.42	0.38	0.36	0.33	0.36	0.38	0.42	0.44	0.46
180°	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Gamma	C300°	C305°	C310°	C315°	C320°	C325°	C330°	C335°	C340°	C345°	C350°	C355°
0°	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46	1421.46
1°	1401.94	1401.70	1401.48	1401.45	1401.72	1402.14	1402.58	1403.32	1404.21	1405.11	1406.45	1407.49
2°	1380.80	1379.54	1378.83	1378.72	1378.65	1379.16	1380.25	1381.54	1383.42	1385.46	1387.88	1390.81
3°	1340.31	1342.13	1345.21	1349.34	1352.19	1352.66	1353.88	1355.83	1358.50	1361.87	1366.10	1370.56
4°	1290.34	1291.43	1294.05	1299.01	1305.69	1312.56	1335.32	1324.81	1328.22	1333.12	1338.95	1346.08
5°	1226.64	1233.74	1238.78	1242.54	1249.11	1258.93	1270.65	1284.71	1293.34	1300.03	1308.62	1318.24
6°	1146.38	1152.24	1162.31	1174.84	1188.16	1199.63	1203.05	1205.37	1212.65	1213.85	1216.80	1225.18
7°	1060.15	1069.55	1079.02	1093.33	1092.33	1096.15	1094.61	1098.16	1107.03	1117.37	1122.72	1133.01
8°	943.47	962.52	981.57	971.33	968.27	973.37	987.74	991.42	1002.86	1019.32	1027.77	1040.37
9°	826.15	842.03	839.30	841.20	844.38	852.36	866.66	884.30	895.99	914.30	930.14	944.00
10°	719.05	712.59	712.97	717.85	726.12	735.46	752.34	772.54	790.22	809.56	830.87	848.53
11°	606.78	607.71	607.98	612.68	623.86	633.99	650.74	669.90	686.05	696.53	710.73	721.53
12°	517.55	516.38	523.14	528.40	535.16	548.09	559.41	571.05	584.22	594.21	606.25	617.29
13°	447.85	449.33	449.38	457.18	463.88	470.67	480.36	490.72	502.63	512.10	521.19	529.86
14°	388.57	391.49	394.91	424.96	402.58	405.66	414.07	422.74	432.46	441.93	448.67	455.79
15°	346.92	346.12	348.80	351.28	352.52	356.43	360.18	367.70	373.40	381.87	387.06	393.89
16°	309.15	311.30	311.92	313.38	314.76	316.62	318.73	323.91	327.68	335.85	341.79	348.24
17°	281.29	280.71	281.51	282.09	283.91	283.84	286.43	289.90	296.46	302.20	307.11	312.38

18°	255.94	256.45	253.70	255.63	256.91	257.00	258.45	261.42	268.96	273.48	277.58	282.24
19°	233.69	232.74	230.75	231.08	232.41	232.34	233.49	236.11	242.50	247.27	251.08	255.39
20°	212.91	210.76	208.90	208.76	209.47	209.25	210.74	213.07	217.86	222.78	226.20	229.68
21°	191.49	189.89	188.40	188.36	187.67	188.01	189.52	192.06	196.04	201.13	205.11	207.70
22°	169.98	170.62	170.09	169.38	169.11	169.46	170.86	173.43	177.60	183.28	186.97	188.50
23°	150.57	153.34	153.78	153.59	153.68	153.72	155.05	158.60	161.95	166.40	169.62	170.46
24°	133.51	138.02	140.28	140.50	140.61	140.81	143.14	146.27	148.33	150.92	153.67	153.96
25°	117.68	123.73	128.46	128.99	129.23	130.03	132.65	135.20	136.48	137.62	139.57	138.35
26°	107.19	110.54	116.81	119.30	119.16	120.78	122.83	124.58	125.80	126.44	127.77	126.20
27°	97.21	100.49	105.10	110.78	110.78	112.82	114.28	114.88	116.11	116.77	117.41	114.91
28°	89.80	91.53	94.50	100.89	104.02	105.75	106.83	107.15	107.72	107.87	107.26	104.15
29°	83.23	84.32	86.79	91.51	97.85	99.51	100.54	100.69	100.56	99.80	97.08	94.37
30°	77.87	79.11	79.86	84.04	91.53	94.30	95.35	94.81	94.12	91.37	87.67	86.63
31°	73.45	74.85	75.87	78.82	84.86	89.58	90.66	89.58	87.41	83.19	80.53	80.99
32°	70.39	71.70	72.88	73.99	78.65	84.04	85.88	84.63	80.66	77.40	75.89	76.63
33°	68.51	68.80	70.50	71.35	74.30	78.07	80.91	79.55	75.92	73.32	72.66	73.56
34°	66.67	67.35	68.40	69.35	70.59	72.61	74.59	74.67	72.61	70.61	70.61	71.11
35°	64.83	66.00	66.76	67.69	67.76	67.75	68.15	69.46	70.19	69.17	69.35	69.29
36°	63.41	64.83	65.89	66.42	65.89	63.92	62.90	65.00	67.95	68.40	68.44	68.18
37°	63.25	63.81	65.23	65.16	63.56	60.99	60.32	61.66	65.18	67.27	67.89	67.65
38°	63.27	63.63	64.32	63.99	61.66	59.55	59.37	59.86	62.99	65.43	67.78	67.60
39°	64.41	63.47	63.16	62.88	60.95	59.86	59.70	59.71	62.15	63.54	67.62	68.18
40°	65.43	63.43	62.32	62.76	61.63	61.01	61.06	61.08	62.50	62.94	66.25	68.82
41°	65.60	64.18	61.99	63.74	63.07	62.94	62.63	63.08	63.92	63.83	65.69	69.18
42°	65.87	65.69	64.10	65.52	65.18	65.32	64.83	65.49	65.78	65.80	67.16	69.84
43°	68.04	68.04	67.36	67.98	68.15	67.95	67.58	68.27	67.86	69.26	70.24	71.86
44°	70.81	71.13	71.08	71.33	71.42	70.93	70.37	71.46	71.52	73.15	74.52	75.85
45°	75.03	75.19	75.19	75.59	75.19	74.37	74.16	75.01	75.90	77.80	79.33	80.80
46°	79.56	79.67	79.89	80.09	79.26	78.73	78.80	79.58	80.80	82.97	84.63	85.47
47°	84.86	84.54	85.19	85.27	84.21	83.81	84.12	85.10	86.41	88.71	89.82	90.20
48°	90.42	90.05	91.13	90.97	89.93	89.87	90.00	91.40	93.13	94.46	95.03	95.65
49°	97.01	96.90	97.79	97.78	96.39	96.68	96.96	98.40	100.36	100.80	101.07	101.95
50°	103.93	104.13	105.01	104.84	103.55	104.17	104.81	106.37	107.48	107.76	108.07	109.23
51°	111.45	111.96	112.89	112.18	111.22	111.87	112.89	114.80	114.71	115.11	115.73	116.68
52°	119.01	119.81	120.78	119.76	119.12	119.63	121.20	122.56	122.14	122.93	123.65	124.13
53°	126.79	127.53	128.41	127.39	126.82	127.37	129.61	129.88	129.94	130.52	130.99	131.58
54°	134.38	135.07	135.60	134.62	134.03	134.78	137.44	136.91	137.68	137.42	137.77	138.97
55°	141.16	142.39	142.50	141.30	141.06	142.21	144.56	143.70	144.80	143.96	144.47	145.80
56°	147.98	149.64	149.44	148.00	148.08	149.57	151.14	150.63	151.26	150.59	151.65	152.57
57°	154.98	156.87	156.49	155.00	155.38	156.98	158.04	157.95	157.91	157.69	158.67	159.46
58°	162.52	165.07	164.27	162.54	163.23	165.07	165.63	165.56	165.39	165.65	166.10	166.87
59°	171.48	173.88	172.35	170.95	171.71	174.12	173.70	173.61	173.90	173.94	174.39	175.59
60°	180.36	182.75	180.87	179.54	180.42	183.11	182.22	181.82	182.77	182.17	183.42	184.88
61°	189.07	191.53	189.14	187.92	189.29	191.51	190.67	190.20	191.20	190.54	192.62	192.71
62°	197.17	199.12	196.54	195.64	197.41	198.99	198.52	198.12	198.74	198.85	200.49	199.16
63°	204.60	206.28	203.35	202.75	204.55	205.88	205.40	205.31	205.51	206.88	206.42	205.44
64°	210.65	212.12	209.36	208.63	210.78	211.61	211.60	211.58	211.23	213.49	211.67	211.63
65°	215.62	217.10	214.06	213.80	216.31	216.60	216.50	216.70	216.46	217.52	216.42	217.64
66°	219.61	220.57	217.79	218.08	220.61	220.79	220.48	220.70	221.27	220.81	220.81	221.87

67°	223.11	223.11	220.30	220.96	224.00	223.52	223.14	223.56	225.25	223.54	224.64	224.44
68°	224.45	224.75	222.10	222.94	225.89	225.24	224.95	225.42	226.62	225.35	225.93	226.29
69°	225.25	224.60	222.21	223.34	225.84	225.97	225.55	225.80	226.75	226.15	226.13	227.60
70°	223.49	223.76	220.98	222.23	224.58	224.56	224.42	224.69	225.02	225.31	225.53	228.33
71°	220.76	220.05	218.33	220.01	221.79	221.54	222.12	222.40	221.92	222.47	223.74	226.38
72°	215.97	215.28	213.25	215.24	217.04	217.06	217.57	218.64	217.57	218.10	220.85	220.23
73°	208.81	208.21	206.84	208.59	210.32	210.65	210.78	212.54	211.23	211.74	214.82	212.98
74°	199.36	198.07	197.08	199.92	201.03	200.51	201.14	202.73	202.51	202.67	203.71	204.28
75°	186.39	185.96	184.64	187.50	188.60	188.16	188.98	189.98	190.20	191.38	190.22	193.95
76°	172.02	169.89	170.26	172.84	173.95	173.70	174.25	174.94	175.79	178.89	176.10	180.86
77°	153.07	152.41	151.54	155.60	156.76	157.27	157.29	158.11	159.15	162.24	160.28	159.17
78°	133.27	131.96	131.89	135.15	136.29	136.71	137.42	138.30	139.33	141.72	142.25	139.19
79°	111.56	110.78	110.96	114.15	114.97	115.06	115.88	116.59	117.74	120.25	121.36	119.92
80°	90.40	89.16	89.85	93.24	93.35	93.51	94.50	95.14	96.85	99.05	100.09	99.12
81°	69.86	69.68	69.77	72.70	72.23	73.12	73.46	73.45	75.69	77.74	79.06	78.85
82°	53.03	52.03	52.39	54.96	54.38	54.71	54.89	54.54	56.67	58.15	59.28	60.59
83°	37.77	38.43	39.01	40.12	40.27	39.34	40.03	38.75	40.98	42.00	43.12	45.15
84°	29.50	28.83	28.25	30.50	29.70	29.28	29.34	28.21	30.47	30.49	31.29	33.13
85°	22.55	22.14	22.33	24.11	22.56	22.51	22.20	21.23	23.22	23.40	24.09	25.37
86°	18.85	18.68	18.23	19.85	18.76	18.17	17.76	16.86	18.92	18.90	19.30	20.62
87°	15.63	15.70	15.37	17.32	16.03	15.35	15.39	14.10	16.28	16.03	16.83	18.07
88°	13.04	13.13	12.95	15.02	13.62	13.15	13.42	11.60	14.30	14.00	14.37	15.81
89°	11.07	11.09	10.87	12.89	11.49	10.84	10.73	9.62	11.91	11.36	11.86	12.93
90°	9.36	9.34	9.05	10.98	9.74	9.05	9.40	7.59	10.07	9.49	10.22	11.24
91°	8.07	7.96	7.61	9.49	8.20	7.50	7.61	6.23	8.21	7.92	8.85	9.72
92°	6.83	6.65	6.37	8.25	7.07	6.23	6.25	4.86	7.21	7.01	7.18	8.20
93°	5.74	5.46	5.39	7.19	5.96	5.04	5.35	3.81	6.08	5.74	6.08	6.96
94°	4.75	4.57	4.55	6.08	4.75	4.19	4.37	2.71	4.70	4.63	5.30	5.94
95°	3.88	3.81	3.66	5.30	4.02	3.61	3.35	1.89	3.59	4.01	4.17	4.84
96°	3.21	3.22	2.62	4.59	3.50	2.95	2.93	1.22	3.33	3.02	3.46	3.93
97°	2.60	2.64	2.13	3.86	3.02	2.08	2.04	0.73	2.49	2.80	2.84	3.37
98°	2.39	2.06	1.80	3.37	2.57	1.80	1.75	0.46	1.97	2.48	2.19	2.90
99°	2.11	1.78	1.62	2.95	2.08	1.77	1.35	0.36	1.58	2.19	1.93	1.91
100°	1.68	1.58	1.44	2.46	1.88	1.42	1.22	0.33	1.27	1.80	1.46	1.95
101°	1.49	1.40	1.22	2.20	1.80	1.15	1.04	0.29	0.89	1.53	1.33	1.68
102°	1.48	1.22	1.04	2.13	1.78	1.07	0.71	0.42	0.80	1.42	1.46	1.33
103°	1.29	1.04	0.87	2.26	1.58	0.95	0.51	0.51	0.49	1.60	1.24	1.00
104°	1.07	0.97	0.73	2.04	1.57	0.76	0.53	0.25	0.24	1.48	1.11	0.80
105°	0.89	0.91	0.73	1.80	1.55	0.71	0.58	0.29	0.05	0.97	1.04	1.02
106°	0.78	0.89	0.75	1.60	1.48	0.73	0.36	0.33	0.04	0.80	1.11	1.06
107°	0.78	0.89	0.76	1.49	1.49	0.78	0.35	0.36	0.07	0.62	1.20	1.09
108°	0.80	0.87	0.78	1.38	1.57	0.84	0.35	0.36	0.13	0.44	1.11	1.13
109°	0.80	0.87	0.80	1.29	1.69	0.89	0.35	0.36	0.16	0.24	0.89	1.20
110°	0.82	0.86	0.82	1.18	1.78	0.95	0.42	0.36	0.22	0.05	0.67	1.09
111°	0.82	0.84	0.84	1.07	1.99	1.00	0.47	0.36	0.27	0.04	0.46	0.86
112°	0.84	0.82	0.87	0.95	2.19	1.06	0.55	0.35	0.33	0.11	0.24	0.62
113°	0.84	0.82	0.89	0.82	2.26	1.11	0.62	0.35	0.36	0.16	0.00	0.36
114°	0.86	0.80	0.91	0.69	2.11	1.22	0.69	0.35	0.36	0.22	0.07	0.13
115°	0.87	0.78	0.93	0.64	1.97	1.29	0.76	0.35	0.36	0.29	0.13	0.04

116°	0.89	0.76	0.97	0.66	1.80	1.42	0.84	0.40	0.36	0.35	0.20	0.11
117°	0.91	0.75	0.98	0.69	1.66	1.55	0.93	0.49	0.35	0.36	0.27	0.18
118°	0.91	0.73	0.97	0.71	1.49	1.71	1.00	0.58	0.35	0.36	0.33	0.25
119°	0.93	0.71	0.95	0.75	1.33	1.93	1.07	0.67	0.35	0.36	0.36	0.33
120°	0.95	0.73	0.97	0.78	1.15	2.22	1.18	0.76	0.42	0.35	0.36	0.36
121°	0.97	0.78	1.00	0.82	0.97	2.19	1.31	0.86	0.51	0.35	0.36	0.36
122°	0.98	0.97	1.00	0.86	0.78	2.00	1.46	0.95	0.62	0.35	0.35	0.35
123°	0.98	1.07	1.02	0.89	0.62	1.78	1.64	1.06	0.73	0.47	0.35	0.33
124°	1.00	1.13	1.04	0.91	0.66	1.58	1.91	1.17	0.84	0.58	0.38	0.33
125°	1.11	1.15	1.06	0.95	0.71	1.37	2.26	1.29	0.95	0.71	0.51	0.38
126°	1.24	1.11	1.07	0.98	0.75	1.15	2.17	1.48	1.06	0.84	0.64	0.53
127°	1.13	1.06	1.07	1.00	0.78	0.91	1.91	1.73	1.18	0.95	0.76	0.66
128°	1.02	1.04	1.09	1.00	0.82	0.69	1.68	2.06	1.37	1.07	0.89	0.78
129°	1.04	1.09	1.11	1.00	0.87	0.66	1.42	2.28	1.58	1.22	1.02	0.93
130°	1.06	1.20	1.13	1.02	0.91	0.71	1.17	1.99	1.88	1.40	1.17	1.06
131°	1.11	1.26	1.15	1.04	0.97	0.75	0.89	1.71	2.28	1.64	1.33	1.20
132°	1.17	1.27	1.17	1.07	0.98	0.80	0.64	1.42	2.11	1.95	1.55	1.38
133°	1.29	1.27	1.17	1.09	0.98	0.86	0.67	1.15	1.80	2.33	1.86	1.62
134°	1.42	1.29	1.18	1.09	1.00	0.91	0.73	0.86	1.49	2.00	2.29	1.97
135°	1.42	1.29	1.20	1.11	1.04	0.95	0.78	0.64	1.18	1.69	2.06	2.28
136°	1.40	1.26	1.22	1.11	1.06	0.98	0.84	0.69	0.87	1.37	1.71	1.93
137°	1.26	1.22	1.18	1.11	1.09	1.00	0.89	0.75	0.62	1.04	1.38	1.58
138°	1.09	1.20	1.07	1.15	1.09	1.02	0.95	0.82	0.62	0.71	1.04	1.24
139°	1.09	1.15	1.04	1.18	1.11	1.02	1.00	0.87	0.62	0.62	0.71	0.89
140°	1.09	1.09	1.17	1.22	1.13	1.06	1.02	0.87	0.64	0.62	0.62	0.64
141°	1.07	1.09	1.24	1.24	1.15	1.07	1.02	0.80	0.64	0.62	0.62	0.71
142°	1.06	1.11	1.22	1.26	1.18	1.11	1.06	0.78	0.64	0.64	0.64	0.78
143°	1.06	1.11	1.18	1.27	1.20	1.13	1.07	0.82	0.69	0.62	0.64	0.86
144°	1.06	1.11	1.18	1.26	1.20	1.11	1.09	0.91	0.78	0.67	0.64	0.93
145°	1.06	1.09	1.17	1.24	1.24	1.06	1.11	0.98	0.86	0.75	0.69	0.98
146°	1.04	1.09	1.15	1.22	1.18	1.04	1.09	1.07	0.95	0.86	0.78	1.02
147°	1.04	1.07	1.13	1.20	1.07	1.02	1.06	1.13	1.04	0.95	0.87	1.04
148°	1.02	1.07	1.11	1.18	1.00	1.00	1.07	1.15	1.11	1.04	0.97	1.06
149°	1.04	1.07	1.09	1.13	1.02	0.98	1.15	1.18	1.15	1.11	1.07	1.09
150°	1.09	1.07	1.09	1.09	1.06	1.00	1.24	1.20	1.18	1.15	1.13	1.11
151°	1.15	1.06	1.07	1.11	1.07	1.06	1.27	1.24	1.22	1.18	1.17	1.15
152°	1.24	1.04	1.07	1.09	1.09	1.11	1.22	1.27	1.24	1.22	1.20	1.20
153°	1.33	1.02	1.07	1.09	1.11	1.15	1.20	1.24	1.27	1.26	1.24	1.24
154°	1.46	1.09	1.06	1.09	1.09	1.15	1.18	1.22	1.26	1.27	1.26	1.26
155°	1.58	1.17	1.04	1.07	1.04	1.11	1.17	1.20	1.22	1.24	1.26	1.27
156°	1.77	1.27	1.02	1.00	0.93	1.06	1.13	1.18	1.20	1.20	1.22	1.24
157°	1.99	1.38	1.09	0.86	0.87	0.98	1.09	1.15	1.17	1.18	1.18	1.20
158°	2.24	1.53	1.13	0.67	0.80	0.91	1.00	1.09	1.13	1.15	1.15	1.17
159°	2.60	1.73	1.27	0.76	0.73	0.84	0.93	1.02	1.07	1.11	1.11	1.13
160°	2.77	2.00	1.51	1.02	0.66	0.76	0.86	0.93	1.00	1.04	1.06	1.09
161°	2.62	2.24	1.75	1.27	0.86	0.67	0.76	0.84	0.91	0.95	0.98	1.00
162°	2.55	2.46	1.99	1.55	1.13	0.76	0.69	0.76	0.82	0.86	0.89	0.91
163°	2.59	2.55	2.22	1.80	1.42	1.07	0.76	0.67	0.73	0.76	0.80	0.82
164°	2.60	2.53	2.46	2.06	1.69	1.38	1.09	0.84	0.64	0.67	0.71	0.73

165°	2.49	2.46	2.49	2.33	1.99	1.68	1.42	1.18	0.98	0.84	0.73	0.66
166°	2.39	2.40	2.46	2.48	2.28	1.99	1.75	1.51	1.35	1.20	1.09	1.04
167°	2.35	2.39	2.44	2.48	2.53	2.29	2.06	1.86	1.69	1.57	1.48	1.42
168°	2.33	2.37	2.40	2.44	2.48	2.51	2.39	2.20	2.06	1.93	1.84	1.78
169°	2.29	2.33	2.37	2.39	2.42	2.46	2.49	2.53	2.40	2.29	2.22	2.17
170°	2.28	2.29	2.33	2.37	2.39	2.40	2.39	2.39	2.44	2.48	2.51	2.53
171°	2.08	2.28	2.29	2.31	2.33	2.29	2.26	2.26	2.29	2.33	2.35	2.37
172°	1.88	2.09	2.26	2.24	2.19	2.15	2.11	2.15	2.19	2.22	2.24	2.24
173°	1.68	1.84	1.97	2.06	2.02	1.99	2.02	2.06	2.09	2.11	2.13	2.13
174°	1.40	1.53	1.62	1.71	1.78	1.88	1.93	1.97	2.00	2.00	2.02	2.02
175°	1.15	1.24	1.35	1.44	1.55	1.62	1.69	1.77	1.82	1.86	1.89	1.91
176°	0.97	1.06	1.15	1.22	1.29	1.37	1.27	1.48	1.51	1.55	1.58	1.58
177°	0.80	0.87	0.95	1.00	1.06	1.11	1.15	1.18	1.22	1.24	1.26	1.27
178°	0.64	0.69	0.73	0.78	0.82	0.86	0.87	0.89	0.93	0.95	0.95	0.97
179°	0.49	0.51	0.53	0.55	0.56	0.58	0.60	0.62	0.62	0.64	0.64	0.64
180°	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33