

Test report: 2026000074

Test type	Measurement of the luminaire light distribution in C-Gamma
Test date	09/03/2026
Laboratory	MILAB S.r.l.s. - Viale della Resistenza, 48 - 20094 Corsico (MI)
Operator	Manuel O

The measurement have been performed in the following laboratory ambient conditions

Temperature	25+/-1
Relative humidity	55+/-20
Air turbulence	0.02

Used instruments

Photogoniometer	Model: Photoglobe P4FASC S.N: 2407-71
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	TORCHE PARETE
Manufacturer	Foscarini S.p.A
Luminaire dimensions (mm)	95 x 125 x 180
Luminous area dimensions (mm)	25 x 0
Type of light source	10W LED 2700K
Correlated Colour Temperature (CCT)	2558
Colour Rendering Index (CRI)	94
Total luminous flux of the light source (lm)	499.46
Output luminous flux of the luminaire (lm)	499.46
Source power (W)	10
Power included ballast (W)	10.2

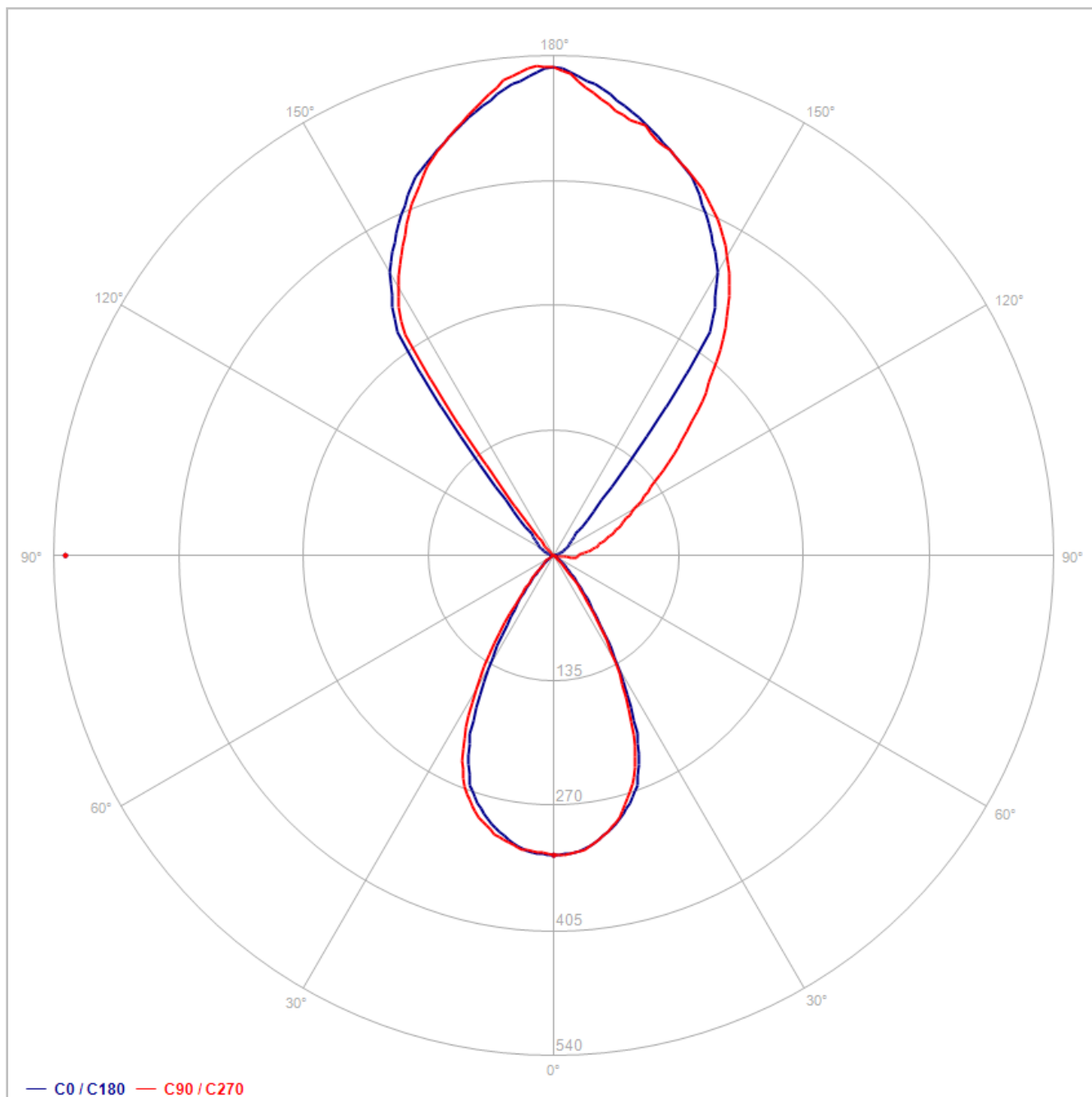
Luminaire efficiency

Light Output Ratio of luminaire (LOR)	100
Downward Flux Fraction (DFF)	29.74
Upward Flux Fraction (UFF)	70.26

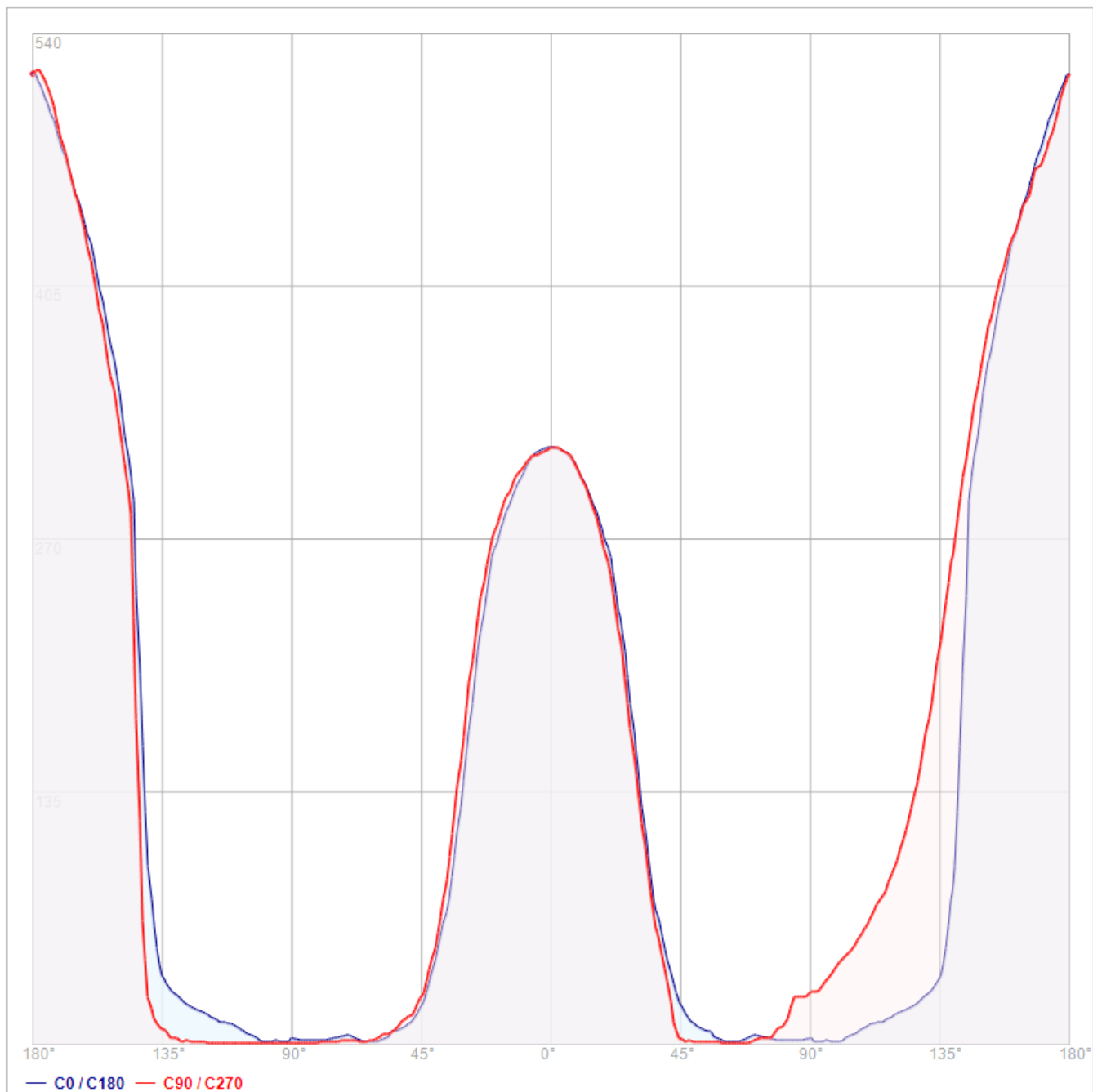
Luminaire efficacy

LED module efficacy (lm/W)	49.95
System light efficacy (lm/W)	48.97
Luminaire light efficacy (lm/W)	48.97

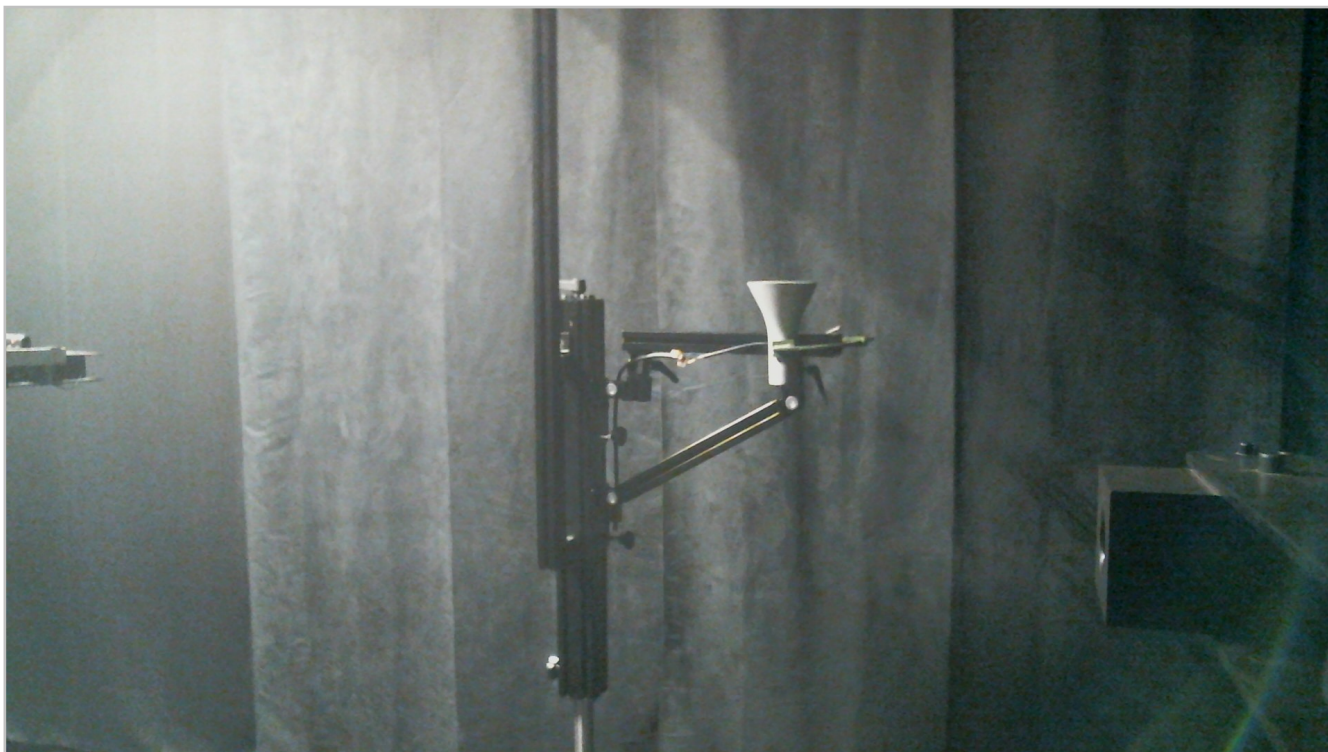
Photometric Polar Diagram



Photometric Cartesian Diagram



Light Emission Photo



Light intensities distribution values (cd/klm)

Gamma	C0°	C10°	C20°	C30°	C40°	C50°	C60°	C70°	C80°	C90°	C100°	C110°
0°	323.49	323.49	323.49	323.49	323.49	323.49	323.49	323.49	323.49	323.49	323.49	323.49
1°	323.62	323.58	323.55	323.55	323.52	323.49	323.49	323.49	323.49	323.49	323.49	323.49
2°	322.88	322.81	322.81	322.88	322.97	323.13	323.33	323.36	323.42	323.49	323.42	323.36
3°	322.23	322.10	322.01	322.04	322.17	322.20	322.36	322.68	322.59	322.49	322.59	322.68
4°	321.20	321.04	321.01	321.52	320.94	320.94	321.11	321.59	321.78	321.46	321.78	321.59
5°	320.53	320.36	320.27	319.95	319.56	319.62	319.75	320.04	320.53	320.59	320.53	320.04
6°	318.30	317.95	318.14	318.76	318.66	318.01	318.14	318.47	319.05	319.72	319.05	318.47
7°	316.31	315.50	315.50	316.34	316.82	316.50	316.37	316.24	316.70	316.89	316.70	316.24
8°	313.77	312.67	312.77	313.99	313.93	314.44	313.60	313.54	314.18	314.02	314.18	313.54
9°	310.68	309.48	309.65	310.42	310.93	311.25	311.19	310.29	310.51	310.87	310.51	310.29
10°	307.68	306.43	306.46	306.78	307.36	308.07	308.07	306.65	306.75	307.71	306.75	306.65
11°	304.27	303.05	303.27	303.50	303.50	303.82	303.56	302.98	302.98	303.75	302.98	302.98
12°	300.86	299.67	299.76	300.08	299.51	298.57	299.02	299.31	299.28	299.76	299.28	299.31
13°	297.06	296.19	296.09	295.71	295.19	293.49	294.71	295.64	295.06	295.80	295.06	295.64
14°	292.78	292.55	292.07	291.26	290.30	289.01	290.43	291.59	290.75	291.81	290.75	291.59
15°	288.50	288.79	287.85	286.63	285.73	284.50	285.28	287.37	285.66	286.08	285.66	287.37
16°	283.89	284.31	283.63	281.86	280.80	279.45	280.00	281.96	280.42	280.32	280.42	281.96
17°	279.45	279.48	278.36	277.13	275.39	274.27	274.14	276.36	274.52	274.27	274.52	276.36
18°	274.30	274.11	272.30	271.66	269.50	269.05	268.02	269.34	268.41	268.22	268.41	269.34
19°	269.08	268.47	266.03	265.35	263.48	261.97	260.88	262.26	261.39	261.55	261.39	262.26
20°	264.03	262.71	259.46	257.95	256.50	254.34	253.25	253.83	254.02	254.89	254.02	253.83
21°	254.31	253.99	252.70	249.35	247.77	245.81	244.49	245.13	244.68	244.91	244.68	245.13
22°	244.33	243.65	242.95	239.98	237.63	236.25	234.25	234.54	234.61	234.93	234.61	234.54
23°	234.06	232.61	231.16	230.55	226.95	226.17	223.57	223.50	223.57	223.82	223.57	223.50
24°	223.37	221.35	218.80	218.19	216.07	214.46	211.95	211.59	212.14	212.72	212.14	211.59
25°	213.10	210.08	206.18	204.77	203.87	201.68	200.20	199.23	199.39	198.84	199.39	199.23
26°	198.75	196.69	193.47	191.28	191.99	188.77	187.32	185.90	186.06	184.94	186.06	185.90
27°	184.68	182.23	180.27	177.86	178.95	175.96	174.51	172.03	172.93	171.74	172.93	172.03
28°	170.26	168.17	165.37	164.50	164.08	162.98	160.44	157.86	159.89	158.54	159.89	157.86
29°	156.09	154.13	151.84	151.78	149.75	149.30	146.18	143.86	146.53	145.83	146.53	143.86
30°	142.70	140.58	138.65	136.84	135.78	135.78	133.01	130.76	132.88	133.11	132.88	130.76
31°	128.51	126.96	125.67	122.42	122.49	123.10	120.91	118.59	119.94	119.98	119.94	118.59
32°	115.24	113.76	113.31	109.74	110.38	111.41	108.74	106.58	107.39	106.81	107.39	106.58
33°	102.79	101.95	101.18	98.54	98.83	99.34	97.12	95.03	95.51	94.77	95.51	95.03
34°	90.71	90.71	89.65	86.95	87.11	87.59	86.40	84.18	84.12	82.70	84.12	84.18
35°	79.42	79.83	78.71	76.04	75.91	76.97	76.81	74.26	74.04	72.72	74.04	74.26
36°	72.11	70.72	68.44	66.15	66.93	67.60	67.47	64.96	65.12	62.74	65.12	64.96
37°	65.41	64.19	60.07	58.49	58.75	62.32	59.04	57.17	57.01	55.37	57.01	57.17
38°	58.49	58.14	53.50	51.92	50.96	51.54	51.31	49.77	49.57	47.96	49.57	49.77
39°	51.51	53.79	48.64	46.03	43.78	44.87	45.13	43.04	42.62	41.14	42.62	43.04
40°	45.36	46.00	43.97	39.34	37.53	39.63	39.11	36.79	35.93	34.32	35.93	36.79
41°	38.34	40.37	38.63	33.16	32.42	35.15	33.83	31.77	29.42	23.21	29.42	31.77
42°	32.67	34.25	33.70	28.65	27.91	30.16	28.75	27.23	23.21	12.10	23.21	27.23
43°	27.59	29.10	29.29	26.07	24.30	25.75	26.17	24.05	17.74	7.89	17.74	24.05
44°	23.18	24.43	25.27	23.76	21.21	22.15	23.76	20.92	12.88	3.67	12.88	20.92
45°	19.64	20.47	21.92	21.60	18.38	18.70	20.70	17.51	9.01	2.64	9.01	17.51

46°	16.84	17.25	18.77	19.64	15.90	16.06	17.54	14.52	5.92	1.61	5.92	14.52
47°	14.61	14.58	16.00	17.99	13.65	14.32	16.13	12.52	4.06	1.83	4.06	12.52
48°	12.72	12.65	13.97	17.19	11.23	12.62	14.94	10.98	3.15	2.03	3.15	10.98
49°	11.14	11.11	12.39	15.39	9.95	11.04	13.65	10.98	2.41	1.58	2.41	10.98
50°	9.72	9.91	11.04	13.36	9.85	10.01	12.30	10.53	1.80	1.09	1.80	10.53
51°	8.95	9.01	9.43	11.65	9.95	9.59	10.78	8.72	1.58	1.09	1.58	8.72
52°	8.24	8.18	8.05	9.66	9.98	8.79	9.34	7.53	1.71	1.09	1.71	7.53
53°	7.66	7.53	6.92	7.40	9.63	7.60	9.11	7.60	1.48	1.09	1.48	7.60
54°	7.11	6.70	5.99	5.86	8.95	6.63	8.95	7.34	1.00	1.09	1.00	7.34
55°	6.70	5.86	5.25	5.02	8.47	5.96	7.79	6.41	0.97	1.09	0.97	6.41
56°	4.44	5.38	4.83	4.67	8.53	5.05	6.73	5.44	1.29	1.09	1.29	5.44
57°	3.32	4.60	4.28	4.15	8.95	3.86	6.79	4.47	1.42	1.09	1.42	4.47
58°	2.58	3.83	3.86	3.73	7.95	3.51	6.70	3.96	1.42	1.09	1.42	3.96
59°	2.09	3.19	3.48	3.64	6.50	3.57	5.44	4.22	1.09	0.77	1.09	4.22
60°	1.71	2.74	2.77	2.83	5.70	2.80	4.31	4.09	0.61	0.42	0.61	4.09
61°	1.64	2.38	2.03	1.87	4.76	1.87	3.32	3.38	0.39	0.42	0.39	3.38
62°	1.61	2.12	2.25	1.71	3.80	1.71	2.74	3.19	0.35	0.42	0.35	3.19
63°	1.55	2.00	2.64	1.80	3.19	1.77	2.54	3.38	0.32	0.42	0.32	3.38
64°	1.51	1.87	2.06	2.03	3.09	2.12	2.32	3.48	0.32	0.42	0.32	3.48
65°	1.45	1.64	1.64	2.00	3.35	2.22	2.06	3.61	0.29	0.42	0.29	3.61
66°	2.16	1.45	1.51	1.87	3.12	2.19	1.90	3.73	0.26	0.42	0.26	3.73
67°	2.86	1.48	1.58	1.16	2.96	2.22	1.80	3.83	0.26	0.42	0.26	3.83
68°	3.54	2.09	1.58	1.29	2.77	2.25	1.42	3.93	0.23	0.42	0.23	3.93
69°	4.25	2.74	0.80	2.03	1.83	2.48	1.13	4.02	0.19	1.22	0.19	4.02
70°	4.96	3.38	0.77	3.15	1.83	2.99	1.06	4.18	0.19	2.03	0.19	4.18
71°	4.70	3.99	1.38	1.96	2.83	3.99	1.06	4.35	0.80	2.61	0.80	4.35
72°	4.41	4.60	2.48	2.12	3.09	4.09	1.16	3.90	1.71	3.15	1.71	3.90
73°	4.09	4.83	2.86	2.96	3.67	3.90	1.32	3.48	2.38	3.22	2.38	3.48
74°	3.83	4.54	1.61	3.64	4.76	3.90	1.48	4.93	2.96	3.25	2.96	4.93
75°	3.64	4.31	2.96	4.38	4.64	4.93	1.80	6.25	4.02	3.51	4.02	6.25
76°	3.09	4.12	3.64	4.31	5.09	6.76	2.09	6.70	5.25	3.77	5.25	6.70
77°	2.74	3.77	5.47	4.96	5.83	7.60	3.03	7.02	6.15	5.79	6.15	7.02
78°	2.41	3.67	4.31	5.28	6.02	8.59	4.25	6.99	6.95	7.82	6.95	6.99
79°	2.16	1.71	5.31	5.54	7.18	9.75	6.18	6.92	7.34	8.92	7.34	6.92
80°	1.93	1.90	4.93	6.73	8.56	11.49	7.92	6.70	7.66	9.98	7.66	6.70
81°	1.90	2.86	6.31	6.60	9.88	13.29	9.27	7.34	9.53	11.88	9.53	7.34
82°	1.87	3.09	8.14	6.57	11.43	14.68	11.23	9.27	11.75	13.75	11.75	9.27
83°	1.83	2.58	8.08	8.59	11.65	16.03	13.55	11.23	15.93	19.77	15.93	11.23
84°	1.83	2.77	8.31	8.56	11.91	17.58	16.55	13.20	20.51	25.75	20.51	13.20
85°	1.80	2.70	8.34	8.14	12.65	20.22	19.15	18.06	19.35	25.82	19.35	18.06
86°	2.00	2.51	9.21	10.59	13.33	21.44	20.25	24.56	17.58	25.85	17.58	24.56
87°	2.19	3.73	10.27	8.56	13.20	21.79	20.96	26.11	20.83	25.85	20.83	26.11
88°	2.45	2.58	8.76	10.56	14.13	21.57	21.25	25.98	24.43	25.85	24.43	25.98
89°	2.80	3.19	10.49	10.53	15.32	21.63	21.12	26.85	25.46	27.07	25.46	26.85
90°	3.28	4.09	10.91	10.66	15.07	22.02	20.86	27.85	26.46	28.30	26.46	27.85
91°	1.35	3.99	10.49	12.65	15.61	23.44	22.02	28.10	26.56	28.36	26.56	28.10
92°	1.45	3.86	11.75	10.82	16.51	24.18	23.24	28.55	26.69	28.42	26.69	28.55
93°	1.58	5.41	11.49	12.81	17.35	24.14	24.69	30.16	28.91	30.26	28.91	30.16
94°	1.67	5.63	12.39	12.52	17.83	26.72	26.49	32.09	31.10	32.06	31.10	32.09

95°	1.80	6.05	12.46	12.72	17.71	28.78	28.55	34.93	32.93	33.96	32.93	34.93
96°	1.77	6.21	12.46	13.39	19.02	29.91	29.10	37.21	34.77	35.83	34.77	37.21
97°	1.71	6.50	12.72	14.87	20.15	30.13	29.45	38.53	36.54	38.15	36.54	38.53
98°	1.67	7.02	14.26	14.97	21.05	30.65	31.77	40.27	38.21	40.43	38.21	40.27
99°	1.61	7.69	13.58	16.96	22.12	32.16	34.09	42.36	39.37	42.52	39.37	42.36
100°	1.58	8.59	14.84	16.64	23.56	33.67	36.50	44.39	40.82	44.62	40.82	44.39
101°	2.41	9.34	14.74	17.45	24.75	35.38	38.18	46.42	43.72	46.52	43.72	46.42
102°	3.25	10.11	15.64	18.83	25.69	37.76	39.31	47.90	46.45	48.38	46.45	47.90
103°	4.12	10.56	15.71	19.83	26.33	38.98	41.56	49.22	48.54	49.51	48.54	49.22
104°	4.96	11.49	15.48	20.18	27.36	39.63	44.07	51.73	50.67	50.60	50.67	51.73
105°	5.79	12.43	16.42	21.09	28.78	42.11	46.07	54.43	52.57	53.73	52.57	54.43
106°	6.53	13.65	16.84	23.11	30.58	43.97	48.25	56.50	54.72	56.82	54.72	56.50
107°	7.34	15.19	18.48	24.05	32.00	45.32	50.77	58.52	57.75	58.72	57.75	58.52
108°	8.24	15.84	18.99	24.50	33.67	47.80	53.50	60.33	60.45	60.58	60.45	60.33
109°	9.24	15.52	18.64	25.53	35.41	50.44	56.40	62.29	62.35	63.71	62.35	62.29
110°	10.49	16.00	18.86	27.88	36.76	52.41	58.91	65.35	64.61	66.80	64.61	65.35
111°	10.98	16.71	19.89	28.39	39.31	54.15	61.20	68.31	67.89	69.73	67.89	68.31
112°	11.36	16.80	20.63	29.33	42.43	55.56	64.16	71.01	70.95	72.62	70.95	71.01
113°	11.62	16.64	21.47	30.48	44.52	58.68	67.21	74.01	73.65	75.78	73.65	74.01
114°	11.85	17.19	22.37	31.71	46.64	62.23	69.76	77.48	76.55	78.93	76.55	77.48
115°	12.14	17.87	23.37	33.03	48.93	64.99	72.88	80.54	79.83	81.09	79.83	80.54
116°	13.07	18.51	24.56	34.99	53.31	68.31	77.45	83.08	83.05	83.21	83.05	83.08
117°	14.00	18.83	25.78	37.89	57.40	72.69	81.57	86.18	86.21	88.17	86.21	86.18
118°	14.94	18.96	26.88	40.21	60.78	76.58	85.02	89.97	89.91	93.10	89.91	89.97
119°	15.74	20.38	28.20	42.59	65.67	80.28	89.52	94.19	94.45	96.32	94.45	94.19
120°	16.71	22.12	29.68	45.84	71.85	84.89	94.90	98.83	99.21	99.50	99.21	98.83
121°	17.38	23.76	31.26	49.41	77.55	89.88	99.53	103.88	104.36	105.52	104.36	103.88
122°	18.19	24.75	33.03	53.69	84.15	96.06	103.72	109.13	109.55	111.51	109.55	109.13
123°	18.86	25.91	35.09	58.01	91.71	102.30	109.03	114.66	114.76	116.82	114.76	114.66
124°	19.38	27.43	37.47	62.45	98.38	108.77	114.60	120.36	120.52	122.13	120.52	120.36
125°	20.05	28.59	40.40	68.44	105.81	115.37	121.68	126.29	126.99	128.44	126.99	126.29
126°	21.15	29.49	43.88	75.91	113.70	122.00	128.96	132.37	133.66	134.75	133.66	132.37
127°	22.40	30.65	48.38	85.31	121.46	129.47	137.13	139.45	140.58	142.64	140.58	139.45
128°	23.60	32.19	53.79	96.15	129.54	138.00	145.41	146.86	148.30	150.53	148.30	146.86
129°	24.79	34.48	59.88	107.78	138.45	147.24	153.39	155.45	156.93	159.70	156.93	155.45
130°	26.20	37.41	66.70	120.52	148.14	156.61	161.86	164.53	165.78	168.87	165.78	164.53
131°	27.65	41.24	75.39	134.78	158.32	166.14	171.67	173.67	174.89	177.11	174.89	173.67
132°	29.42	46.03	88.27	151.49	168.97	175.80	181.49	182.91	184.58	185.36	184.58	182.91
133°	31.39	51.76	104.36	165.82	180.17	186.13	191.63	192.63	194.85	196.62	194.85	192.63
134°	33.67	59.42	122.16	179.21	191.50	197.20	201.81	202.64	205.28	207.89	205.28	202.64
135°	37.08	73.01	142.61	192.15	202.48	208.18	212.81	213.17	215.97	218.93	215.97	213.17
136°	43.39	90.39	166.49	204.93	213.56	219.03	224.05	224.05	227.17	229.97	227.17	224.05
137°	52.28	111.73	191.92	218.03	225.63	230.20	236.57	235.64	239.08	240.34	239.08	235.64
138°	64.22	136.72	209.37	232.29	238.02	241.53	248.13	247.48	250.45	250.67	250.45	247.48
139°	78.74	166.88	226.27	245.01	249.93	253.21	258.40	258.94	260.97	262.26	260.97	258.94
140°	96.89	193.44	241.59	256.18	261.65	265.64	268.99	270.40	272.14	273.85	272.14	270.40
141°	126.45	225.30	256.79	267.76	272.95	277.71	279.97	281.35	284.09	285.18	284.09	281.35
142°	162.15	240.11	273.53	279.29	284.12	288.24	290.75	291.84	295.16	296.48	295.16	291.84
143°	200.74	262.74	287.79	290.91	295.26	304.01	301.28	302.50	305.40	307.52	305.40	302.50

144°	243.33	288.79	299.73	302.79	306.04	309.55	311.64	313.41	316.02	318.56	316.02	313.41
145°	294.74	306.14	310.51	314.31	317.11	320.33	322.23	323.84	327.00	328.35	327.00	323.84
146°	307.81	316.73	320.88	324.55	327.99	331.25	332.60	333.95	337.43	338.13	337.43	333.95
147°	319.08	326.64	331.60	334.69	337.81	342.51	341.97	343.61	346.83	348.11	346.83	343.61
148°	330.09	336.40	342.48	344.03	346.89	352.33	350.79	352.78	356.06	358.06	356.06	352.78
149°	341.45	346.44	352.07	353.33	355.71	359.51	359.54	361.34	365.11	366.27	365.11	361.34
150°	353.26	356.16	361.22	362.89	364.95	367.07	368.17	369.58	373.54	374.48	373.54	369.58
151°	362.44	365.14	369.04	371.77	374.16	375.03	376.57	377.76	381.04	382.36	381.04	377.76
152°	371.10	373.51	375.99	379.18	382.88	383.01	384.43	385.81	388.45	390.25	388.45	385.81
153°	379.24	381.40	382.91	386.39	391.19	390.44	391.96	393.44	395.60	396.92	395.60	393.44
154°	387.13	389.29	390.32	393.99	397.69	397.33	399.01	400.46	402.52	403.58	402.52	400.46
155°	395.79	396.95	397.82	402.61	403.26	403.87	406.12	407.18	408.92	409.66	408.92	407.18
156°	403.16	404.16	405.35	411.40	409.15	410.02	411.76	413.36	414.85	415.71	414.85	413.36
157°	411.14	411.88	412.91	419.35	414.81	416.10	417.32	419.38	420.06	421.51	420.06	419.38
158°	419.13	419.51	420.19	423.28	420.58	421.28	422.89	425.15	425.50	427.30	425.50	425.15
159°	427.08	426.56	426.40	428.11	426.43	426.56	428.37	430.72	431.01	432.10	431.01	430.72
160°	434.45	432.97	431.65	433.23	432.00	431.81	433.29	435.22	436.16	436.86	436.16	435.22
161°	439.21	438.15	437.41	438.38	437.28	437.03	437.96	439.54	440.50	440.86	440.50	439.54
162°	444.72	443.43	442.88	443.46	442.50	442.11	442.63	444.20	444.98	444.82	444.98	444.20
163°	450.22	448.55	447.74	448.26	447.81	446.30	447.29	449.00	449.48	450.03	449.48	449.00
164°	455.25	453.47	452.86	452.67	452.90	450.26	451.83	453.28	453.83	455.21	453.83	453.28
165°	460.23	458.40	457.92	457.14	457.63	455.15	456.18	457.66	457.43	458.17	457.43	457.66
166°	465.64	463.55	462.81	461.52	461.68	460.72	460.46	461.55	461.26	461.10	461.26	461.55
167°	471.08	468.64	467.64	465.87	465.93	466.29	465.10	465.71	466.64	467.77	466.64	465.71
168°	476.23	473.66	472.50	470.60	469.89	470.38	469.83	469.76	471.69	474.43	471.69	469.76
169°	481.26	478.55	477.59	475.59	474.66	474.46	474.24	473.63	474.50	475.91	474.50	473.63
170°	486.37	483.54	482.25	480.64	479.52	478.68	478.36	477.39	477.39	477.39	477.39	477.39
171°	490.95	488.24	487.05	485.99	484.51	483.28	481.96	481.22	481.22	481.16	481.22	481.22
172°	495.93	493.49	492.07	491.27	489.50	488.18	486.21	485.57	485.18	484.93	485.18	485.57
173°	501.18	498.70	497.13	496.10	494.90	492.68	491.01	490.46	490.46	490.17	490.46	490.46
174°	505.85	503.69	502.37	501.21	499.51	497.22	496.26	495.68	495.84	495.42	495.84	495.68
175°	510.58	508.62	507.10	505.40	503.60	502.44	501.57	501.28	501.44	500.92	501.44	501.28
176°	513.48	511.93	510.94	512.13	509.07	508.01	507.36	507.27	506.94	506.43	506.94	507.27
177°	517.79	516.54	515.57	515.02	514.83	514.25	513.93	514.06	513.45	513.25	513.45	514.06
178°	521.78	520.82	520.17	519.76	519.63	519.76	520.21	519.98	519.92	520.08	519.92	519.98
179°	525.68	525.16	524.68	524.26	523.91	523.62	523.43	523.36	523.39	523.49	523.39	523.36
180°	526.90	526.90	526.90	526.90	526.90	526.90	526.90	526.90	526.90	526.90	526.90	526.90
Gamma	C120°	C130°	C140°	C150°	C160°	C170°	C180°	C190°	C200°	C210°	C220°	C230°
0°	323.49	323.49	323.49	323.49	323.49	323.49	323.49	323.49	323.49	323.49	323.49	323.49
1°	323.49	323.49	323.52	323.55	323.55	323.58	323.62	323.46	323.29	323.13	322.97	322.84
2°	323.33	323.13	322.97	322.88	322.81	322.81	322.88	322.59	322.36	322.17	322.07	322.01
3°	322.36	322.20	322.17	322.04	322.01	322.10	322.23	321.85	321.52	321.27	321.04	320.85
4°	321.11	320.94	320.94	320.59	321.01	321.04	321.20	320.62	320.24	319.40	319.82	319.53
5°	319.75	319.62	319.56	319.95	320.27	320.36	320.53	319.72	319.08	318.56	318.14	317.98
6°	318.14	318.01	318.66	318.76	318.14	317.95	318.30	317.37	316.95	317.11	316.95	317.02
7°	316.37	316.50	316.82	316.34	315.50	315.50	316.31	315.31	314.57	314.44	315.57	316.44
8°	313.60	314.44	313.93	313.99	312.77	312.67	313.77	312.70	312.00	311.77	313.54	315.50
9°	311.19	311.25	310.93	310.42	309.65	309.48	310.68	309.61	309.00	309.29	311.48	312.54
10°	308.07	308.07	307.36	306.78	306.46	306.43	307.68	306.46	306.01	306.68	308.29	309.45

11°	303.56	303.82	303.50	303.50	303.27	303.05	304.27	303.24	303.01	304.01	304.95	306.46
12°	299.02	298.57	299.51	300.08	299.76	299.67	300.86	299.96	299.83	301.15	301.73	303.75
13°	294.71	293.49	295.19	295.71	296.09	296.19	297.06	296.32	296.83	297.80	298.86	301.08
14°	290.43	289.01	290.30	291.26	292.07	292.55	292.78	292.68	293.71	294.10	295.55	297.73
15°	285.28	284.50	285.73	286.63	287.85	288.79	288.50	289.20	290.33	290.17	292.10	294.39
16°	280.00	279.45	280.80	281.86	283.63	284.31	283.89	284.95	286.73	286.34	288.24	290.30
17°	274.14	274.27	275.39	277.13	278.36	279.48	279.45	280.48	281.51	282.48	283.89	285.41
18°	268.02	269.05	269.50	271.66	272.30	274.11	274.30	275.68	276.39	277.65	279.19	280.32
19°	260.88	261.97	263.48	265.35	266.03	268.47	269.08	270.31	270.98	271.66	273.66	274.30
20°	253.25	254.34	256.50	257.95	259.46	262.71	264.03	264.29	264.77	264.93	267.28	267.96
21°	244.49	245.81	247.77	249.35	252.70	253.99	254.31	255.44	258.17	257.46	259.75	260.97
22°	234.25	236.25	237.63	239.98	242.95	243.65	244.33	245.07	248.93	249.42	251.32	253.09
23°	223.57	226.17	226.95	230.55	231.16	232.61	234.06	234.25	237.76	241.46	242.27	244.68
24°	211.95	214.46	216.07	218.19	218.80	221.35	223.37	223.44	226.40	230.23	232.64	234.90
25°	200.20	201.68	203.87	204.77	206.18	210.08	213.10	212.85	214.84	217.84	221.31	223.99
26°	187.32	188.77	191.99	191.28	193.47	196.69	198.75	199.87	203.09	205.31	210.01	211.91
27°	174.51	175.96	178.95	177.86	180.27	182.23	184.68	185.90	190.51	192.02	197.07	199.17
28°	160.44	162.98	164.08	164.50	165.37	168.17	170.26	172.42	175.34	178.21	181.91	185.90
29°	146.18	149.30	149.75	151.78	151.84	154.13	156.09	158.67	160.54	164.95	167.20	171.26
30°	133.01	135.78	135.78	136.84	138.65	140.58	142.70	144.80	145.73	149.72	152.84	157.12
31°	120.91	123.10	122.49	122.42	125.67	126.96	128.51	131.11	131.60	135.14	139.52	143.86
32°	108.74	111.41	110.38	109.74	113.31	113.76	115.24	117.95	119.46	121.75	127.09	130.89
33°	97.12	99.34	98.83	98.54	101.18	101.95	102.79	105.59	106.91	108.81	114.47	117.66
34°	86.40	87.59	87.11	86.95	89.65	90.71	90.71	93.68	94.80	96.77	102.01	104.65
35°	76.81	76.97	75.91	76.04	78.71	79.83	79.42	82.25	83.73	86.27	90.10	92.45
36°	67.47	67.60	66.93	66.15	68.44	70.72	72.11	72.69	73.65	76.65	79.32	82.02
37°	59.04	57.49	58.75	58.49	60.07	64.19	65.41	65.28	64.12	66.86	69.37	71.27
38°	51.31	51.54	50.96	51.92	53.50	58.14	58.49	58.30	56.27	58.39	60.45	63.74
39°	45.13	44.87	43.78	46.03	48.64	47.71	51.51	47.10	50.22	50.89	52.41	55.18
40°	39.11	39.63	37.53	39.34	43.97	46.00	45.36	45.23	44.42	43.94	45.16	47.96
41°	33.83	35.15	32.42	33.16	38.63	40.37	38.34	39.43	39.98	37.82	38.73	41.40
42°	28.75	30.16	27.91	28.65	33.70	34.25	32.67	33.74	35.99	33.22	33.25	35.54
43°	26.17	25.75	24.30	26.07	29.29	29.10	27.59	28.91	32.48	30.00	28.75	30.48
44°	23.76	22.15	21.21	23.76	25.27	24.43	23.18	24.63	27.81	27.10	24.56	25.98
45°	20.70	18.70	18.38	21.60	21.92	20.47	19.64	21.12	23.24	24.43	21.25	21.79
46°	17.54	16.06	15.90	19.64	18.77	17.25	16.84	18.22	19.35	22.05	18.61	18.74
47°	16.13	14.32	13.65	17.99	16.00	14.58	14.61	15.81	16.16	19.89	16.35	16.80
48°	14.94	12.62	11.23	17.19	13.97	12.65	12.72	13.87	13.94	18.06	14.23	14.90
49°	13.65	11.04	9.95	15.39	12.39	11.11	11.14	12.14	12.17	14.81	12.78	12.94
50°	12.30	10.01	9.85	13.36	11.04	9.91	9.72	10.49	10.78	12.52	11.81	10.88
51°	10.78	9.59	9.95	11.65	9.43	9.01	8.95	9.08	9.30	10.94	11.04	8.40
52°	9.34	8.79	9.98	9.66	8.05	8.18	8.24	8.14	7.95	9.56	10.56	7.05
53°	9.11	7.60	9.63	7.40	6.92	7.53	7.66	7.56	7.05	8.31	10.08	6.86
54°	8.95	6.63	8.95	5.86	5.99	6.70	7.11	7.24	6.70	7.37	9.50	6.21
55°	7.79	5.96	8.47	5.02	5.25	5.86	6.70	7.11	6.31	6.63	9.08	5.12
56°	6.73	5.05	8.53	4.67	4.83	5.38	4.44	6.50	5.47	6.05	8.95	4.51
57°	6.79	3.86	8.95	4.15	4.28	4.60	3.32	5.05	5.25	5.57	8.79	4.18
58°	6.70	3.51	7.95	3.73	3.86	3.83	2.58	3.86	4.60	4.35	6.99	4.15
59°	5.44	3.57	6.50	3.64	3.48	3.19	2.09	3.22	3.57	2.74	6.15	4.28

60°	4.31	2.80	5.70	2.83	2.77	2.74	1.71	2.77	3.03	2.19	5.83	2.96
61°	3.32	1.87	4.76	1.87	2.03	2.38	1.64	2.38	2.80	1.93	5.44	1.58
62°	2.74	1.71	3.80	1.71	2.25	2.12	1.61	2.12	2.74	1.71	4.70	1.58
63°	2.54	1.77	3.19	1.80	2.64	2.00	1.55	2.00	2.67	1.74	3.70	1.67
64°	2.32	2.12	3.09	2.03	2.06	1.87	1.51	1.87	2.41	1.87	3.28	1.74
65°	2.06	2.22	3.35	2.00	1.64	1.64	1.45	1.64	2.06	1.80	3.32	2.00
66°	1.90	2.19	3.12	1.87	1.51	1.45	2.16	1.45	1.58	1.64	3.12	2.35
67°	1.80	2.22	2.96	1.16	1.58	1.48	2.86	1.48	1.58	1.32	2.58	2.51
68°	1.42	2.25	2.77	1.29	1.58	2.09	3.54	2.09	1.58	1.29	1.55	2.61
69°	1.13	2.48	1.83	2.03	0.80	2.74	4.25	2.74	1.55	1.35	1.42	2.70
70°	1.06	2.99	1.83	3.15	0.77	3.38	4.96	3.38	1.51	1.38	1.38	2.86
71°	1.06	3.99	2.83	1.96	1.38	3.99	4.70	3.99	1.51	1.45	1.32	3.09
72°	1.16	4.09	3.09	2.12	2.48	4.60	4.41	4.60	1.48	1.32	1.29	3.15
73°	1.32	3.90	3.67	2.96	2.86	4.83	4.09	4.83	1.45	1.19	1.26	3.25
74°	1.48	3.90	4.76	3.64	1.61	4.54	3.83	4.57	1.32	1.06	1.22	3.57
75°	1.80	4.93	4.64	4.38	2.96	4.31	3.64	4.31	1.58	0.93	0.97	3.83
76°	2.09	6.76	5.09	4.31	3.64	4.12	3.09	4.09	1.96	0.80	0.77	3.99
77°	3.03	7.60	5.83	4.96	5.47	3.77	2.74	3.93	2.35	0.71	0.71	4.15
78°	4.25	8.59	6.02	5.28	4.31	3.67	2.41	3.77	2.70	0.61	0.68	4.60
79°	6.18	9.75	7.18	5.54	5.31	1.71	2.16	3.54	2.80	0.52	0.61	5.54
80°	7.92	11.49	8.56	6.73	4.93	1.90	1.93	3.15	3.09	0.42	0.55	5.86
81°	9.27	13.29	9.88	6.60	6.31	2.86	1.90	2.80	3.32	0.35	0.52	6.02
82°	11.23	14.68	11.43	6.57	8.14	3.09	1.87	2.61	3.54	0.29	0.48	6.15
83°	13.55	16.03	11.65	8.59	8.08	2.58	1.83	2.38	3.77	0.23	0.45	6.28
84°	16.55	17.58	11.91	8.56	8.31	2.77	1.83	2.12	3.93	0.16	0.42	6.37
85°	19.15	20.22	12.65	8.14	8.34	2.70	1.80	1.90	3.96	0.10	0.39	6.47
86°	20.25	21.44	13.33	10.59	9.21	2.51	2.00	1.74	4.15	0.06	0.35	6.53
87°	20.96	21.79	13.20	8.56	10.27	3.73	2.19	1.58	4.28	0.03	0.35	6.60
88°	21.25	21.57	14.13	10.08	8.76	2.58	2.45	1.48	4.38	0.00	0.32	6.63
89°	21.12	21.63	15.32	10.08	10.49	3.19	2.80	1.42	4.41	0.00	0.32	6.66
90°	20.86	22.02	15.07	10.66	10.91	4.09	3.28	1.38	4.44	0.00	0.32	6.66
91°	22.02	23.44	15.61	12.23	10.49	3.99	1.35	1.03	4.41	0.00	0.32	6.66
92°	23.24	24.18	16.51	10.20	11.75	3.86	1.45	1.42	4.02	0.00	0.32	6.63
93°	24.69	24.14	17.35	12.81	11.49	5.41	1.58	1.38	3.90	0.03	0.35	6.60
94°	26.49	26.72	17.83	12.52	12.39	5.63	1.67	1.16	3.77	0.06	0.35	6.53
95°	28.55	28.78	17.71	12.72	12.46	6.05	1.80	1.61	3.61	0.10	0.39	6.47
96°	29.10	29.91	19.02	13.39	12.46	6.21	1.77	1.96	3.44	0.16	0.42	6.37
97°	29.45	30.13	20.15	14.87	12.72	6.50	1.71	2.16	3.44	0.23	0.45	6.28
98°	31.77	30.65	21.05	14.97	14.26	7.02	1.67	2.00	3.54	0.29	0.48	6.15
99°	34.09	32.16	22.12	16.96	13.58	7.69	1.61	1.45	3.32	0.35	0.52	6.02
100°	36.50	33.67	23.56	16.64	14.84	8.59	1.58	1.45	3.25	0.42	0.55	5.86
101°	38.18	35.38	24.75	17.45	14.74	9.34	2.41	1.51	3.06	0.52	0.61	5.70
102°	39.31	37.76	25.69	18.83	15.64	10.11	3.25	1.96	2.70	1.09	0.74	5.50
103°	41.56	38.98	26.33	19.83	15.71	10.56	4.12	3.06	2.99	1.51	1.09	4.86
104°	44.07	39.63	27.36	20.18	15.48	11.49	4.96	3.80	2.86	1.71	1.16	3.99
105°	46.07	42.11	28.78	21.09	16.42	12.43	5.79	4.35	1.19	2.32	1.42	3.83
106°	48.25	43.97	30.58	23.11	16.84	13.65	6.53	5.25	1.51	1.26	1.96	3.64
107°	50.77	45.32	32.00	24.05	18.48	15.19	7.34	6.28	2.64	1.22	2.19	3.41
108°	53.50	47.80	33.67	24.50	18.99	15.84	8.24	6.21	2.48	2.25	1.93	3.19

109°	56.40	50.44	35.41	25.53	18.64	15.52	9.24	5.79	2.29	3.35	1.38	3.03
110°	58.91	52.41	36.76	27.88	18.86	16.00	10.49	5.34	2.51	3.32	1.77	3.09
111°	61.20	54.15	39.31	28.39	19.89	16.71	10.98	5.09	3.09	2.70	2.41	2.70
112°	64.16	55.56	42.43	29.33	20.63	16.80	11.36	5.28	2.45	2.74	3.15	2.29
113°	67.21	58.68	44.52	30.48	21.47	16.64	11.62	5.34	3.22	3.54	2.45	2.12
114°	69.76	62.23	46.64	31.71	22.37	17.19	11.85	5.44	4.06	4.80	2.58	2.12
115°	72.88	64.99	48.93	33.03	23.37	17.87	12.14	5.86	4.28	4.18	3.41	2.96
116°	77.45	68.31	53.31	34.99	24.56	18.51	13.07	6.70	4.57	3.48	5.15	2.93
117°	81.57	72.69	57.40	37.89	25.78	18.83	14.00	7.60	5.18	3.93	6.31	1.58
118°	85.02	76.58	60.78	40.21	26.88	18.96	14.94	8.24	6.15	4.60	6.05	2.29
119°	89.52	80.28	65.67	42.59	28.20	20.38	15.74	8.76	6.99	5.57	6.76	3.67
120°	94.90	84.89	71.85	45.84	29.68	22.12	16.71	9.63	7.40	6.34	8.43	3.57
121°	99.53	89.88	77.55	49.41	31.26	23.76	17.38	10.78	8.08	7.24	9.56	3.38
122°	103.72	96.06	84.15	53.69	33.03	24.75	18.19	12.43	9.27	8.14	10.53	3.80
123°	109.03	102.30	91.71	58.01	35.09	25.91	18.86	14.26	10.11	9.01	11.20	4.25
124°	114.60	108.77	98.38	62.45	37.47	27.43	19.38	15.97	10.49	10.14	11.14	5.09
125°	121.68	115.37	105.81	68.44	40.40	28.59	20.05	17.00	11.20	10.94	11.85	6.05
126°	128.96	122.00	113.70	75.91	43.88	29.49	21.15	17.67	12.62	11.36	12.59	7.11
127°	137.13	129.47	121.46	85.31	48.38	30.65	22.40	18.28	13.97	12.36	13.26	7.63
128°	145.41	138.00	129.54	96.15	53.79	32.19	23.60	18.86	15.03	13.75	13.17	7.63
129°	153.39	147.24	138.45	107.78	59.88	34.48	24.79	19.54	16.00	15.19	12.59	8.24
130°	161.86	156.61	148.14	120.52	66.70	37.41	26.20	20.99	17.22	17.09	12.91	9.43
131°	171.67	166.14	158.32	134.78	75.39	41.24	27.65	22.47	18.74	19.54	13.81	10.46
132°	181.49	175.80	168.97	151.49	88.27	46.03	29.42	23.69	20.54	21.44	14.74	11.46
133°	191.63	186.13	180.17	165.82	104.36	51.76	31.39	24.59	22.31	21.79	15.74	12.78
134°	201.81	197.20	191.50	179.21	122.16	59.42	33.67	25.40	23.89	22.12	16.55	14.39
135°	212.81	208.18	202.48	192.15	142.61	73.01	37.08	26.91	25.75	21.99	17.25	15.64
136°	224.05	219.03	213.56	204.93	166.49	90.39	43.39	29.13	28.26	21.70	18.41	16.64
137°	236.57	230.20	225.63	218.03	191.92	111.73	52.28	32.22	31.10	22.63	20.57	18.48
138°	248.13	241.53	238.02	232.29	209.37	136.72	64.22	36.60	32.83	25.01	23.18	21.76
139°	258.40	253.21	249.93	245.01	226.27	166.88	78.74	43.65	38.28	31.48	28.36	27.10
140°	268.99	265.64	261.65	256.18	241.59	193.44	96.89	58.01	49.12	44.84	39.37	38.11
141°	279.97	277.71	272.95	267.76	256.79	199.65	126.45	63.93	67.31	66.80	59.23	54.82
142°	290.75	288.24	284.12	279.29	273.53	240.11	162.15	115.60	91.26	100.47	86.92	86.05
143°	301.28	296.93	295.26	290.91	287.79	262.74	200.74	156.67	126.64	143.70	124.51	116.66
144°	311.64	309.55	306.04	302.79	299.73	288.79	243.33	203.70	168.42	199.17	174.31	174.80
145°	322.23	320.33	317.11	314.31	310.51	306.14	294.74	241.88	209.02	253.63	228.30	227.24
146°	332.60	331.25	327.99	324.55	320.88	316.73	307.81	269.21	247.90	282.96	282.86	268.73
147°	341.97	342.51	337.81	334.69	331.60	326.64	319.08	291.97	289.20	306.88	311.83	302.18
148°	350.79	352.33	346.89	344.03	342.48	336.40	330.09	313.57	328.70	320.65	323.33	322.71
149°	359.54	359.51	355.71	353.33	352.07	346.44	341.45	335.91	338.59	333.11	333.02	332.34
150°	368.17	367.07	364.95	362.89	361.22	356.16	353.26	351.59	348.34	344.64	342.61	341.90
151°	376.57	375.03	374.16	371.77	369.04	365.14	362.44	360.86	357.03	355.03	351.94	350.88
152°	384.43	383.01	382.88	379.18	375.99	373.51	371.10	369.62	365.27	364.27	361.76	360.22
153°	391.96	390.44	391.19	386.39	382.91	381.40	379.24	377.95	374.54	374.19	371.81	369.71
154°	399.01	397.33	397.69	393.99	390.32	389.29	387.13	386.58	384.04	384.01	381.08	378.50
155°	406.12	403.87	403.26	402.61	397.82	396.95	395.79	395.47	393.60	393.70	390.09	387.74
156°	411.76	410.02	409.15	411.40	405.35	404.16	403.16	403.87	403.00	403.19	399.59	397.24
157°	417.32	416.10	414.81	419.35	412.91	411.88	411.14	412.56	412.27	411.92	408.89	406.57

158°	422.89	421.28	420.58	423.28	420.19	419.51	419.13	421.22	421.06	419.35	417.94	415.52
159°	428.37	426.56	426.43	428.11	426.40	426.56	427.08	429.46	428.78	426.69	426.47	424.54
160°	433.29	431.81	432.00	433.23	431.65	432.97	434.45	436.57	435.19	433.93	434.13	432.71
161°	437.96	437.03	437.28	438.38	437.41	438.15	439.21	441.92	441.85	440.69	441.11	440.15
162°	442.63	442.11	442.50	443.46	442.88	443.43	444.72	447.29	448.42	447.39	447.46	447.42
163°	447.29	446.30	447.81	448.26	447.74	448.55	450.22	452.77	454.60	453.93	453.38	453.51
164°	451.83	450.26	452.90	452.67	452.86	453.47	455.25	458.01	460.40	460.11	459.43	459.33
165°	456.18	455.15	457.63	457.14	457.92	458.40	460.23	463.10	465.29	465.77	465.39	464.93
166°	460.46	460.72	461.68	461.52	462.81	463.55	465.64	467.86	470.28	471.12	470.95	470.47
167°	465.10	466.29	465.93	465.87	467.64	468.64	471.08	472.79	475.36	476.20	476.33	476.49
168°	469.83	470.38	469.89	470.60	472.50	473.66	476.23	477.84	480.52	481.29	481.61	482.70
169°	474.24	474.46	474.66	475.59	477.59	478.55	481.26	482.70	485.28	486.08	487.31	489.53
170°	478.36	478.68	479.52	480.64	482.25	483.54	486.37	487.24	489.56	491.14	493.10	495.45
171°	481.96	483.28	484.51	485.99	487.05	488.24	490.95	492.10	494.39	496.64	498.61	500.22
172°	486.21	488.18	489.50	491.27	492.07	493.49	495.93	497.54	499.83	502.28	503.40	505.04
173°	491.01	492.68	494.90	496.10	497.13	498.70	501.18	503.02	505.14	506.82	508.39	508.97
174°	496.26	497.22	499.51	501.21	502.37	503.69	505.85	507.62	510.13	511.48	512.67	512.93
175°	501.57	502.44	503.60	505.40	507.10	508.62	510.58	512.06	513.93	514.93	515.73	517.34
176°	507.36	508.01	509.07	508.36	510.94	511.93	513.48	514.83	516.63	516.54	519.79	520.69
177°	513.93	514.25	514.83	515.02	515.57	516.54	517.79	518.79	520.08	521.59	523.30	524.13
178°	520.21	519.76	519.63	519.76	520.17	520.82	521.78	522.36	523.14	524.07	525.13	526.23
179°	523.43	523.62	523.91	524.26	524.68	525.16	525.68	525.87	526.10	526.32	526.58	526.84
180°	526.90	526.90	526.90	526.90	526.90	526.90	526.90	526.90	526.90	526.90	526.90	526.90
Gamma	C240°	C250°	C260°	C270°	C280°	C290°	C300°	C310°	C320°	C330°	C340°	C350°
0°	323.49	323.49	323.49	323.49	323.49	323.49	323.49	323.49	323.49	323.49	323.49	323.49
1°	322.71	322.62	322.52	322.49	322.52	322.62	322.71	322.84	322.97	323.13	323.29	323.46
2°	321.97	321.75	321.59	321.46	321.59	321.75	321.97	322.01	322.07	322.17	322.36	322.59
3°	320.82	320.91	320.78	320.72	320.78	320.91	320.82	320.85	321.04	321.27	321.52	321.85
4°	319.46	319.69	319.91	319.95	319.91	319.69	319.46	319.53	319.82	320.65	320.24	320.62
5°	318.37	319.05	319.66	319.62	319.66	319.05	318.37	317.98	318.14	318.56	319.08	319.72
6°	317.79	318.66	319.50	319.30	319.50	318.66	317.79	317.02	316.95	317.11	316.95	317.37
7°	316.95	317.15	317.50	317.50	317.50	317.15	316.95	316.44	315.57	314.44	314.57	315.31
8°	314.92	315.05	315.38	315.67	315.38	315.05	314.92	315.50	313.54	311.77	312.00	312.70
9°	313.22	313.12	313.54	313.57	313.54	313.12	313.22	312.54	311.48	309.29	309.00	309.61
10°	311.29	311.22	311.83	311.48	311.83	311.22	311.29	309.45	308.29	306.68	306.01	306.46
11°	308.45	309.03	309.61	309.61	309.61	309.03	308.45	306.46	304.95	304.01	303.01	303.24
12°	305.65	306.75	307.33	307.71	307.33	306.75	305.65	303.75	301.73	301.15	299.83	299.96
13°	302.82	304.21	303.88	303.79	303.88	304.21	302.82	301.08	298.86	297.80	296.83	296.32
14°	299.67	300.41	300.18	299.86	300.18	300.41	299.67	297.73	295.55	294.10	293.71	292.68
15°	295.26	296.58	296.87	296.93	296.87	296.58	295.26	294.39	292.10	290.17	290.33	289.20
16°	290.78	292.49	293.55	293.97	293.55	292.49	290.78	290.30	288.24	286.34	286.73	284.95
17°	285.73	288.27	289.33	288.98	289.33	288.27	285.73	285.41	283.89	282.48	281.51	280.48
18°	280.35	283.25	284.83	283.99	284.83	283.25	280.35	280.32	279.19	277.65	276.39	275.68
19°	274.94	278.29	279.68	279.00	279.68	278.29	274.94	274.30	273.66	271.66	270.98	270.31
20°	269.34	272.30	274.33	274.01	274.33	272.30	269.34	267.96	267.28	264.93	264.77	264.29
21°	262.81	266.03	267.67	266.93	267.67	266.03	262.81	260.97	259.75	257.46	258.17	255.44
22°	255.21	258.01	260.46	259.85	260.46	258.01	255.21	253.09	251.32	249.42	248.93	245.07
23°	246.94	249.58	251.64	251.35	251.64	249.58	246.94	244.68	242.27	241.46	237.76	234.25
24°	236.80	239.53	242.04	242.85	242.04	239.53	236.80	234.90	232.64	230.23	226.40	223.44

25°	226.46	228.52	231.32	231.55	231.32	228.52	226.46	223.99	221.31	217.84	214.84	212.85
26°	213.65	216.52	220.09	220.25	220.09	216.52	213.65	211.91	210.01	205.31	203.09	199.87
27°	200.52	203.99	207.31	208.34	207.31	203.99	200.52	199.17	197.07	192.02	190.51	185.90
28°	187.00	190.31	193.73	196.43	193.73	190.31	187.00	185.90	181.91	178.21	175.34	172.42
29°	173.35	176.15	180.30	181.72	180.30	176.15	173.35	171.26	167.20	164.95	160.54	158.67
30°	159.60	162.05	166.97	167.01	166.97	162.05	159.60	157.12	152.84	149.72	145.73	144.80
31°	146.08	148.01	153.26	154.03	153.26	148.01	146.08	143.86	139.52	135.14	131.60	131.11
32°	132.31	134.24	139.32	141.03	139.32	134.24	132.31	130.89	127.09	121.75	119.46	117.95
33°	118.85	121.10	125.22	127.64	125.22	121.10	118.85	117.66	114.47	108.81	106.91	105.59
34°	106.29	108.32	111.06	114.25	111.06	108.32	106.29	104.65	102.01	96.77	94.80	93.68
35°	94.90	96.19	98.73	101.63	98.73	96.19	94.90	92.45	90.10	86.27	83.73	82.25
36°	83.95	84.66	87.85	89.01	87.85	84.66	83.95	82.02	79.32	76.65	73.65	72.69
37°	74.84	74.72	77.58	79.00	77.58	74.72	74.84	76.84	69.37	66.86	64.12	65.28
38°	66.18	65.28	67.92	68.95	67.92	65.28	66.18	63.74	60.45	58.39	56.27	58.30
39°	57.94	56.69	59.23	60.55	59.23	56.69	57.94	55.18	52.41	50.89	50.22	53.40
40°	49.96	48.83	51.12	52.15	51.12	48.83	49.96	47.96	45.16	43.94	44.42	45.23
41°	43.78	42.85	44.36	46.29	44.36	42.85	43.78	41.40	38.73	37.82	39.98	39.43
42°	37.86	37.24	38.66	40.43	38.66	37.24	37.86	35.54	33.25	33.22	35.99	33.74
43°	33.54	32.32	33.70	34.22	33.70	32.32	33.54	30.48	28.75	30.00	32.48	28.91
44°	29.04	27.81	29.36	28.01	29.36	27.81	29.04	25.98	24.56	27.10	27.81	24.63
45°	24.88	24.34	25.11	25.04	25.11	24.34	24.88	21.79	21.25	24.43	23.24	21.12
46°	21.05	21.09	20.92	22.08	20.92	21.09	21.05	18.74	18.61	22.05	19.35	18.22
47°	18.61	18.51	17.90	18.99	17.90	18.51	18.61	16.80	16.35	19.89	16.16	15.81
48°	16.32	16.16	15.87	15.87	15.87	16.16	16.32	14.90	14.23	18.06	13.94	13.87
49°	14.32	14.13	13.91	15.03	13.91	14.13	14.32	12.94	12.78	14.81	12.17	12.14
50°	12.49	12.33	12.04	14.16	12.04	12.33	12.49	10.88	11.81	12.52	10.78	10.49
51°	11.23	11.33	10.69	13.10	10.69	11.33	11.23	8.40	11.04	10.94	9.30	9.08
52°	10.14	10.40	9.82	12.01	9.82	10.40	10.14	7.05	10.56	9.56	7.95	8.14
53°	9.66	9.63	8.95	9.98	8.95	9.63	9.66	6.86	10.08	8.31	7.05	7.56
54°	9.30	8.63	8.05	7.95	8.05	8.63	9.30	6.21	9.50	7.37	6.70	7.24
55°	8.24	7.24	6.92	6.66	6.92	7.24	8.24	5.12	9.08	6.63	6.31	7.11
56°	7.18	6.25	5.73	5.38	5.73	6.25	7.18	4.51	8.95	6.05	5.47	6.50
57°	6.79	6.08	4.76	5.34	4.76	6.08	6.79	4.18	8.79	5.57	5.25	5.05
58°	6.28	5.83	3.93	5.28	3.93	5.83	6.28	4.15	6.99	4.35	4.60	3.86
59°	5.02	5.34	3.22	4.28	3.22	5.34	5.02	4.28	6.15	2.74	3.57	3.22
60°	4.15	4.76	2.61	3.25	2.61	4.76	4.15	2.96	5.83	2.19	3.03	2.77
61°	4.22	4.12	2.22	2.70	2.22	4.12	4.22	1.58	5.44	1.93	2.80	2.38
62°	4.02	3.86	1.96	2.16	1.96	3.86	4.02	1.58	4.70	1.71	2.74	2.12
63°	3.48	3.96	1.61	1.90	1.61	3.96	3.48	1.67	3.70	1.74	2.67	2.00
64°	2.99	3.83	1.13	1.61	1.13	3.83	2.99	1.74	3.28	1.87	2.41	1.87
65°	2.61	3.61	0.80	1.61	0.80	3.61	2.61	2.00	3.32	1.80	2.06	1.64
66°	2.38	3.73	0.55	1.61	0.55	3.73	2.38	2.35	3.12	1.64	1.58	1.45
67°	2.12	4.02	0.87	1.83	0.87	4.02	2.12	2.51	2.58	1.32	1.58	1.48
68°	2.03	4.15	1.42	2.03	1.42	4.15	2.03	2.61	1.55	1.29	1.58	2.09
69°	1.90	4.22	1.58	2.03	1.58	4.22	1.90	2.70	1.42	1.35	1.55	2.74
70°	1.61	4.22	1.55	2.03	1.55	4.22	1.61	2.86	1.38	1.38	1.51	3.38
71°	1.42	4.18	1.48	2.03	1.48	4.18	1.42	3.09	1.32	1.45	1.51	3.99
72°	1.38	4.06	1.38	2.03	1.38	4.06	1.38	3.15	1.29	1.32	1.48	4.60
73°	1.29	3.93	1.35	1.77	1.35	3.93	1.29	3.25	1.26	1.19	1.45	4.83

74°	1.19	3.96	1.35	1.51	1.35	3.96	1.19	3.57	1.22	1.06	1.32	4.57
75°	1.09	3.99	0.87	1.32	0.87	3.99	1.09	3.83	0.97	0.93	1.58	4.31
76°	1.03	3.38	0.23	1.09	0.23	3.38	1.03	3.99	0.77	0.80	1.96	4.09
77°	0.93	2.86	0.06	1.09	0.06	2.86	0.93	4.15	0.71	0.71	2.35	3.93
78°	0.84	2.67	0.06	1.09	0.06	2.67	0.84	4.60	0.68	0.61	2.70	3.77
79°	0.74	2.54	0.06	1.09	0.06	2.54	0.74	5.54	0.61	0.52	2.80	3.54
80°	0.68	2.58	0.03	1.09	0.03	2.58	0.68	5.86	0.55	0.42	3.09	3.15
81°	0.64	2.58	0.03	0.77	0.03	2.58	0.64	6.02	0.52	0.35	3.32	2.80
82°	0.58	2.61	0.03	0.42	0.03	2.61	0.58	6.15	0.48	0.29	3.54	2.61
83°	0.55	2.61	0.03	0.42	0.03	2.61	0.55	6.28	0.45	0.23	3.77	2.38
84°	0.52	2.61	0.03	0.42	0.03	2.61	0.52	6.37	0.42	0.16	3.93	2.12
85°	0.45	2.61	0.00	0.42	0.00	2.61	0.45	6.47	0.39	0.10	3.96	1.90
86°	0.16	2.64	0.00	0.42	0.00	2.64	0.16	6.53	0.35	0.06	4.15	1.74
87°	0.03	2.64	0.00	0.42	0.00	2.64	0.03	6.60	0.35	0.03	4.28	1.58
88°	0.00	2.64	0.00	0.42	0.00	2.64	0.00	6.63	0.32	0.29	4.38	1.48
89°	0.64	2.64	0.00	0.42	0.00	2.64	0.64	6.66	0.32	0.29	4.41	1.42
90°	1.48	2.64	0.00	0.42	0.00	2.64	1.48	6.66	0.32	0.00	4.44	1.38
91°	1.48	2.64	0.00	0.42	0.00	2.64	1.48	6.66	0.32	0.29	4.41	1.03
92°	1.48	2.64	0.00	0.42	0.00	2.64	1.48	6.63	0.32	0.29	4.02	1.42
93°	1.48	2.64	0.00	0.42	0.00	2.64	1.48	6.60	0.35	0.03	3.90	1.38
94°	1.51	2.64	0.00	0.42	0.00	2.64	1.51	6.53	0.35	0.06	3.77	1.16
95°	1.51	2.61	0.00	0.42	0.00	2.61	1.51	6.47	0.39	0.10	3.61	1.61
96°	1.51	2.61	0.03	0.42	0.03	2.61	1.51	6.37	0.42	0.16	3.44	1.96
97°	1.55	2.61	0.03	0.42	0.03	2.61	1.55	6.28	0.45	0.23	3.44	2.16
98°	1.55	2.61	0.03	0.42	0.03	2.61	1.55	6.15	0.48	0.29	3.54	2.00
99°	1.38	2.58	0.03	0.42	0.03	2.58	1.38	6.02	0.52	0.35	3.32	1.45
100°	0.87	2.58	0.03	0.42	0.03	2.58	0.87	5.86	0.55	0.42	3.25	1.45
101°	0.68	2.54	0.06	0.42	0.06	2.54	0.68	5.70	0.61	0.52	3.06	1.51
102°	0.74	2.54	0.06	0.42	0.06	2.54	0.74	5.50	0.74	1.09	2.70	1.96
103°	0.77	2.51	0.06	0.42	0.06	2.51	0.77	4.86	1.09	1.51	2.99	3.06
104°	0.84	2.51	0.10	0.42	0.10	2.51	0.84	3.99	1.16	1.71	2.86	3.80
105°	0.97	2.48	0.10	0.42	0.10	2.48	0.97	3.83	1.42	2.32	1.19	4.35
106°	1.09	2.45	0.13	0.42	0.13	2.45	1.09	3.64	1.96	1.26	1.51	5.25
107°	1.26	2.45	0.13	0.42	0.13	2.45	1.26	3.41	2.19	1.22	2.64	6.28
108°	1.42	2.41	0.16	0.42	0.16	2.41	1.42	3.19	1.93	2.25	2.48	6.21
109°	1.51	2.38	0.16	0.42	0.16	2.38	1.51	3.03	1.38	3.35	2.29	5.79
110°	1.77	2.38	0.19	0.42	0.19	2.38	1.77	3.09	1.77	3.32	2.51	5.34
111°	2.09	2.48	0.19	0.42	0.19	2.48	2.09	2.70	2.41	2.70	3.09	5.09
112°	2.22	3.12	0.23	0.42	0.23	3.12	2.22	2.29	3.15	2.74	2.45	5.28
113°	2.32	3.54	0.26	0.42	0.26	3.54	2.32	2.12	2.45	3.54	3.22	5.34
114°	2.45	3.64	0.26	0.42	0.26	3.64	2.45	2.12	2.58	4.80	4.06	5.44
115°	2.51	3.64	0.29	0.42	0.29	3.64	2.51	2.96	3.41	4.18	4.28	5.86
116°	2.54	3.51	0.32	0.42	0.32	3.51	2.54	2.93	5.15	3.48	4.57	6.70
117°	2.86	3.38	0.32	0.42	0.32	3.38	2.86	1.58	6.31	3.93	5.18	7.60
118°	3.54	3.28	0.35	0.42	0.35	3.28	3.54	2.29	6.05	4.60	6.15	8.24
119°	3.80	3.41	0.39	0.77	0.39	3.41	3.80	3.67	6.76	5.57	6.99	8.76
120°	3.61	3.64	0.61	1.09	0.61	3.64	3.61	3.57	8.43	6.34	7.40	9.63
121°	4.06	3.44	1.09	1.09	1.09	3.44	4.06	3.38	9.56	7.24	8.08	10.78
122°	4.86	2.86	1.26	1.09	1.26	2.86	4.86	3.80	10.53	8.14	9.27	12.43

123°	5.21	3.03	0.93	1.09	0.93	3.03	5.21	4.25	11.20	9.01	10.11	14.26
124°	5.41	3.70	1.03	1.09	1.03	3.70	5.41	5.09	11.14	10.14	10.49	15.97
125°	5.96	3.73	1.77	1.58	1.77	3.73	5.96	6.05	11.85	10.94	11.20	17.00
126°	6.60	3.44	2.22	2.03	2.22	3.44	6.60	7.11	12.59	11.36	12.62	17.67
127°	6.89	4.06	2.29	1.83	2.29	4.06	6.89	7.63	13.26	12.36	13.97	18.28
128°	7.31	4.96	2.61	1.61	2.61	4.96	7.31	7.63	13.17	13.75	15.03	18.86
129°	8.11	5.89	3.19	2.38	3.19	5.89	8.11	8.24	12.59	15.19	16.00	19.54
130°	8.85	6.79	3.61	3.15	3.61	6.79	8.85	9.43	12.91	17.09	17.22	20.99
131°	10.08	6.99	3.93	3.22	3.93	6.99	10.08	10.46	13.81	19.54	18.74	22.47
132°	11.20	6.92	4.60	3.25	4.60	6.92	11.20	11.46	14.74	21.44	20.54	23.69
133°	11.81	7.82	5.76	5.54	5.76	7.82	11.81	12.78	15.74	21.79	22.31	24.59
134°	12.68	8.92	7.05	7.82	7.05	8.92	12.68	14.39	16.55	22.12	23.89	25.40
135°	14.42	10.17	8.63	8.69	8.63	10.17	14.42	15.64	17.25	21.99	25.75	26.91
136°	16.26	11.69	10.62	9.56	10.62	11.69	16.26	16.64	18.41	21.70	28.26	29.13
137°	17.83	14.32	13.13	11.65	13.13	14.32	17.83	18.48	20.57	22.63	31.10	32.22
138°	19.73	17.32	16.39	13.75	16.39	17.32	19.73	21.76	23.18	25.01	32.83	36.60
139°	26.14	23.40	20.73	19.77	20.73	23.40	26.14	27.10	28.36	31.48	38.28	43.65
140°	34.06	30.87	30.20	25.75	30.20	30.87	34.06	38.11	39.37	44.84	49.12	58.01
141°	55.69	50.54	46.71	46.36	46.71	50.54	55.69	54.82	59.23	66.80	67.31	89.59
142°	80.64	76.23	75.65	66.93	75.65	76.23	80.64	86.05	86.92	100.47	91.26	115.60
143°	127.57	123.61	122.33	121.68	122.33	123.61	127.57	146.44	124.51	143.70	126.64	156.67
144°	179.50	181.11	175.83	176.41	175.83	181.11	179.50	174.80	174.31	199.17	168.42	203.70
145°	229.07	231.52	237.12	231.74	237.12	231.52	229.07	227.24	228.30	253.63	209.02	241.88
146°	273.04	274.85	281.99	287.08	281.99	274.85	273.04	268.73	282.86	282.96	247.90	269.21
147°	300.76	300.70	301.08	301.05	301.08	300.70	300.76	302.18	311.83	306.88	289.20	291.97
148°	318.08	314.92	315.92	314.99	315.92	314.92	318.08	322.71	323.33	320.65	328.70	313.57
149°	329.83	326.48	325.61	325.48	325.61	326.48	329.83	332.34	333.02	333.11	338.59	335.91
150°	339.81	337.07	335.53	335.98	335.53	337.07	339.81	341.90	342.61	344.64	348.34	351.59
151°	349.24	346.57	345.96	345.51	345.96	346.57	349.24	350.88	351.94	355.03	357.03	360.86
152°	358.45	354.97	355.78	355.00	355.78	354.97	358.45	360.22	361.76	364.27	365.27	369.62
153°	367.88	363.98	364.37	363.02	364.37	363.98	367.88	369.71	371.81	374.19	374.54	377.95
154°	376.76	373.83	373.29	371.00	373.29	373.83	376.76	378.50	381.08	384.01	384.04	386.58
155°	385.65	383.59	383.17	380.98	383.17	383.59	385.65	387.74	390.09	393.70	393.60	395.47
156°	394.15	392.50	392.73	390.96	392.73	392.50	394.15	397.24	399.59	403.19	403.00	403.87
157°	402.84	401.16	401.20	399.91	401.20	401.16	402.84	406.57	408.89	411.92	412.27	412.56
158°	411.63	410.82	410.02	408.86	410.02	410.82	411.63	415.52	417.94	419.35	421.06	421.22
159°	420.67	420.32	419.55	417.03	419.55	420.32	420.67	424.54	426.47	426.69	428.78	429.46
160°	429.14	428.62	428.56	425.18	428.56	428.62	429.14	432.71	434.13	433.93	435.19	436.57
161°	437.06	436.61	436.41	433.32	436.41	436.61	437.06	440.15	441.11	440.69	441.85	441.92
162°	444.78	444.43	444.11	441.47	444.11	444.43	444.78	447.42	447.46	447.39	448.42	447.29
163°	452.41	452.80	450.96	447.58	450.96	452.80	452.41	453.51	453.38	453.93	454.60	452.77
164°	459.66	459.40	457.50	453.70	457.50	459.40	459.66	459.33	459.43	460.11	460.40	458.01
165°	465.74	465.80	463.42	460.01	463.42	465.80	465.74	464.93	465.39	465.77	465.29	463.10
166°	471.89	471.50	469.31	466.32	469.31	471.50	471.89	470.47	470.95	471.12	470.28	467.86
167°	477.33	477.30	475.14	472.11	475.14	477.30	477.33	476.49	476.33	476.20	475.36	472.79
168°	482.96	482.51	480.87	477.91	480.87	482.51	482.96	482.70	481.61	481.29	480.52	477.84
169°	489.17	487.66	486.28	483.99	486.28	487.66	489.17	489.53	487.31	486.08	485.28	482.70
170°	495.93	493.49	491.91	490.04	491.91	493.49	495.93	495.45	493.10	491.14	489.56	487.24
171°	500.99	499.83	498.25	496.16	498.25	499.83	500.99	500.22	498.61	496.64	494.39	492.10



Standards & Safety

MILAB S.r.l.s.
Via San Giacomo, 14
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172°	504.79	505.30	504.56	502.28	504.56	505.30	504.79	505.04	503.40	502.28	499.83	497.54
173°	509.71	510.26	510.42	509.29	510.42	510.26	509.71	508.97	508.39	506.82	505.14	503.02
174°	514.12	515.15	516.31	516.31	516.31	515.15	514.12	512.93	512.67	511.48	510.13	507.62
175°	518.34	519.14	519.95	519.79	519.95	519.14	518.34	517.34	515.73	514.93	513.93	512.06
176°	521.85	522.85	523.36	523.26	523.36	522.85	521.85	520.69	519.79	520.88	516.63	514.83
177°	524.87	525.74	525.78	525.90	525.78	525.74	524.87	524.13	523.30	521.59	520.08	518.79
178°	527.42	527.84	528.22	528.54	528.22	527.84	527.42	526.23	525.13	524.07	523.14	522.36
179°	527.10	527.32	527.51	527.74	527.51	527.32	527.10	526.84	526.58	526.32	526.10	525.87
180°	526.90	526.90	526.90	526.90	526.90	526.90	526.90	526.90	526.90	526.90	526.90	526.90