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Nata

LumCAT: 1-0810-S
Luminaire: 92.70.208.00
Report No: NATA0100
Test No: GC2019103004
LampCAT: OSRAM 5050
Lamp flux(lm): 878.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 34.0000
Current(A): 0.2970
Power (W): 10.1000
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 812.78
Efficiency(%): 92.57%
Lumens(lm)/Power(W): 80.47
Central intensity(cd): 1908.492
Maximum intensity(cd): 1908.492
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=32.0
[C90/270]Total=32.0
Field angle(10%Imax): [C0/180]Total=74.2
[C90/270]Total=74.2
Maximum s/h(1/2): C0_180=0.53 C90_270=0.53
Maximum s/h(1/4): C0_180=0.54 C90_270=0.54
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 92.57%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.662%

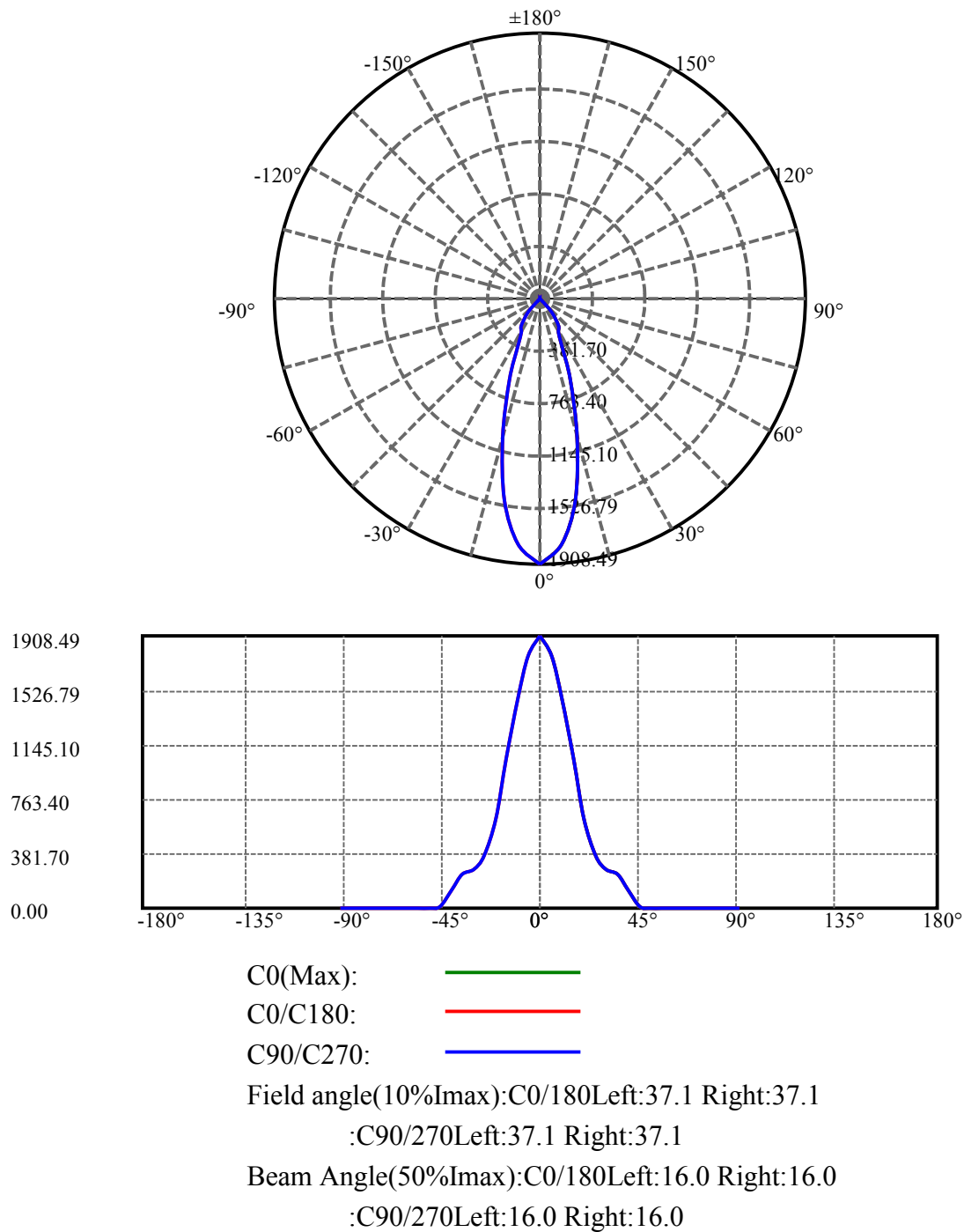
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1908.492	0.000	0	.000%	.000%
5.0	1766.566	43.934	43.934	5.004%	5.405%
10.0	1468.828	115.740	159.675	13.182%	19.645%
15.0	1037.858	148.695	308.369	16.936%	37.940%
20.0	624.923	137.037	445.406	15.608%	54.800%
25.0	373.170	104.682	550.088	11.923%	67.679%
30.0	275.382	82.075	632.162	9.348%	77.777%
35.0	234.116	75.027	707.19	8.545%	87.008%
40.0	130.352	60.809	767.998	6.926%	94.490%
45.0	14.463	26.814	794.812	3.054%	97.789%
50.0	4.064	3.744	798.556	.426%	98.249%
55.0	3.681	1.684	800.24	.192%	98.457%
60.0	3.554	1.672	801.912	.190%	98.662%
65.0	3.505	1.716	803.628	.195%	98.873%
70.0	3.477	1.768	805.396	.201%	99.091%
75.0	3.452	1.811	807.208	.206%	99.314%
80.0	3.428	1.841	809.048	.210%	99.540%
85.0	3.428	1.863	810.911	.212%	99.770%
90.0	3.414	1.873	812.784	.213%	100.000%

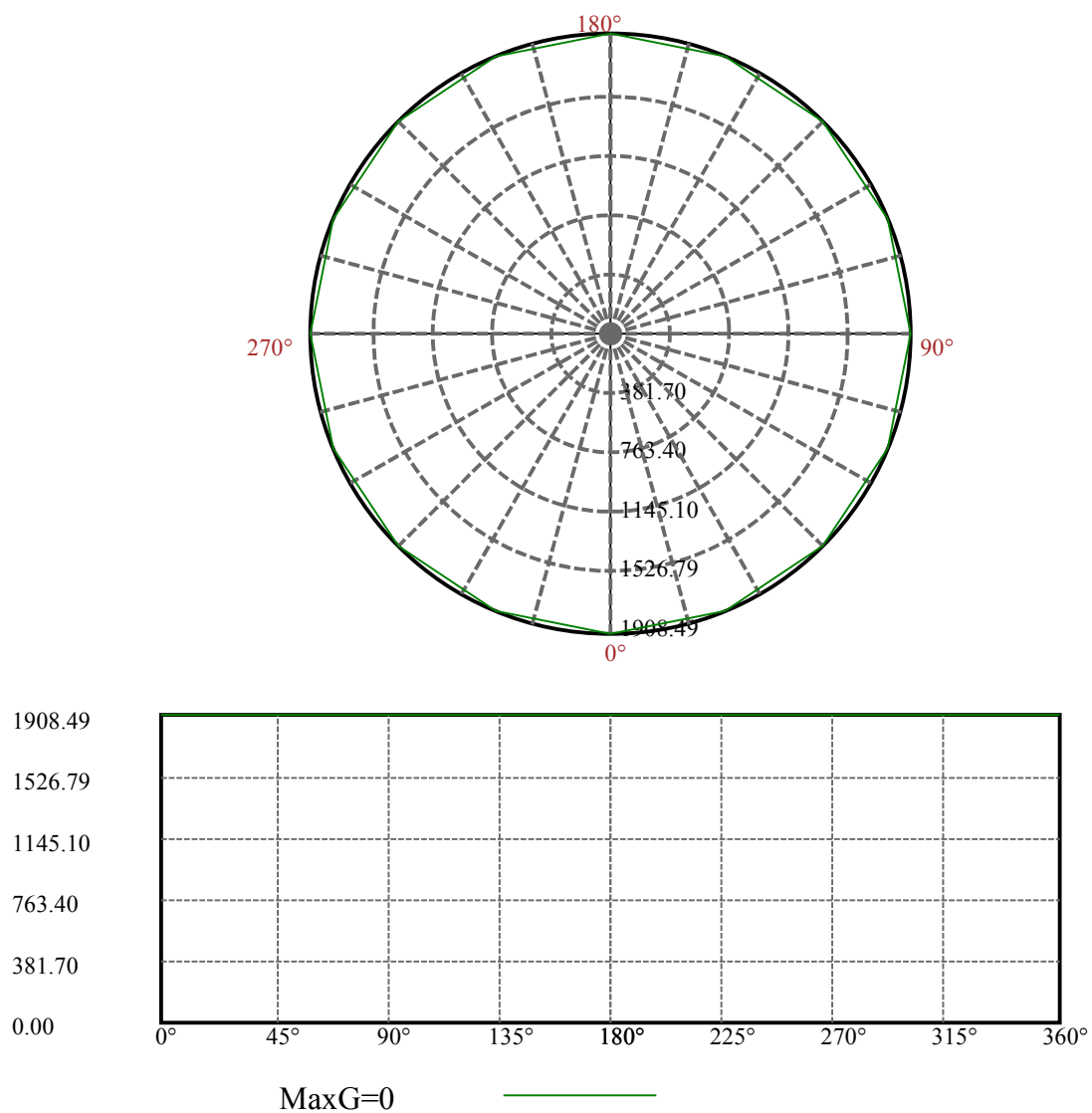
ZONAL LUMEN SUMMARY

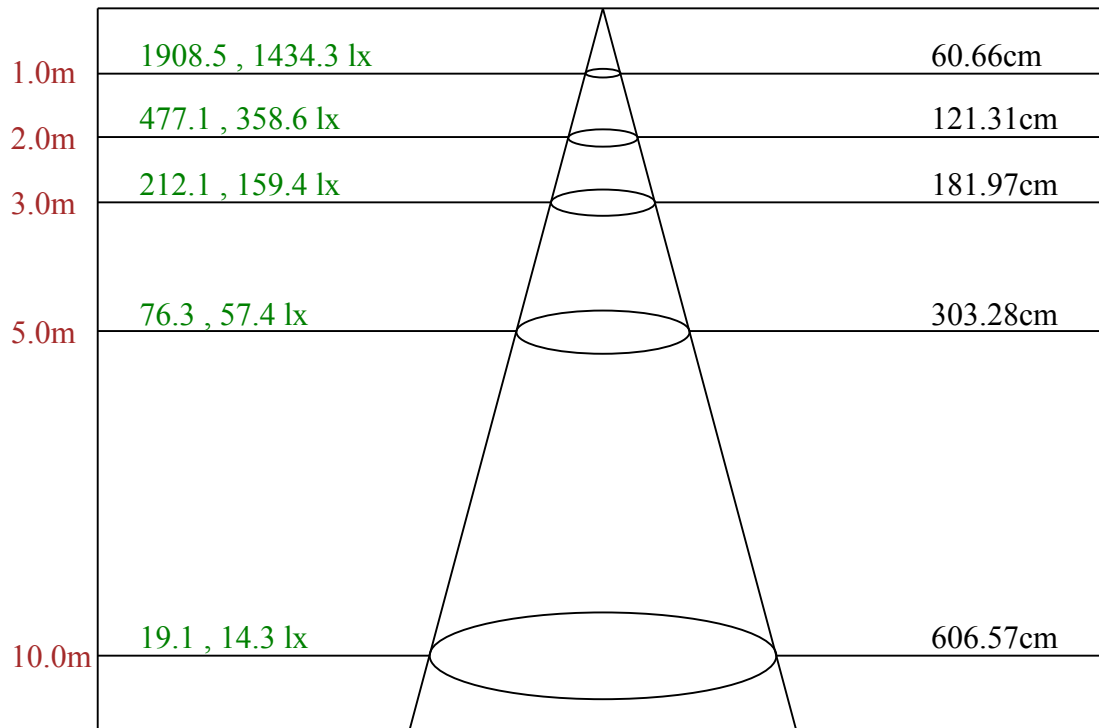
Zone	Lumens	%Lamp	%Fixt
0-30	632.16	72.00%	77.78%
0-40	768.00	87.47%	94.49%
0-60	801.91	91.33%	98.66%
0-90	810.91	92.36%	99.77%
0-120	810.91	92.36%	99.77%
0-180	812.78	92.57%	100.00%
60-90	10.67	1.22%	1.31%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-31.20	650.23	74.06%	80.00%

ZONAL LUMEN SUMMARY

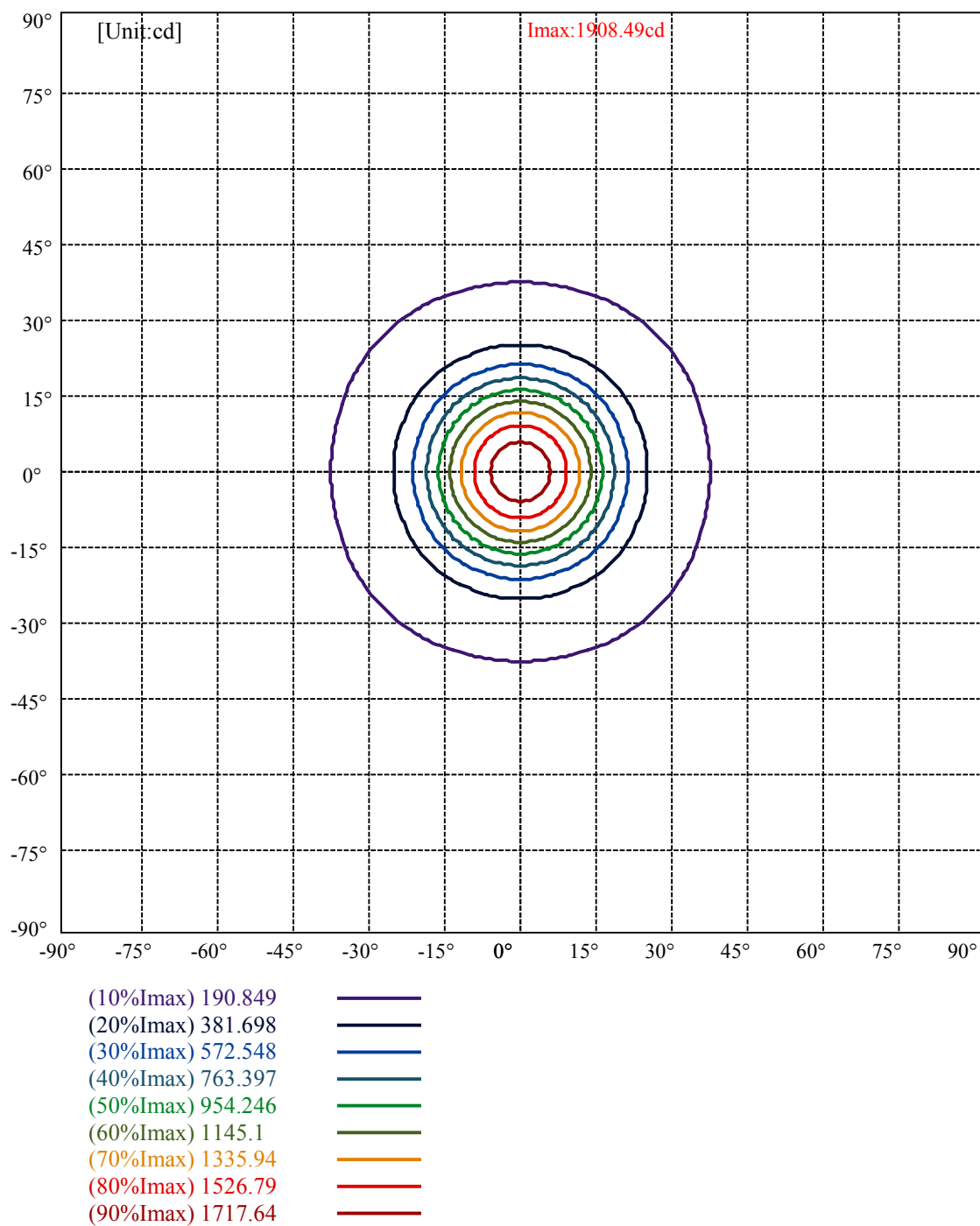
0-10	159.67
10-20	285.73
20-30	186.76
30-40	135.84
40-50	30.56
50-60	3.36
60-70	3.48
70-80	3.65
80-90	1.86
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

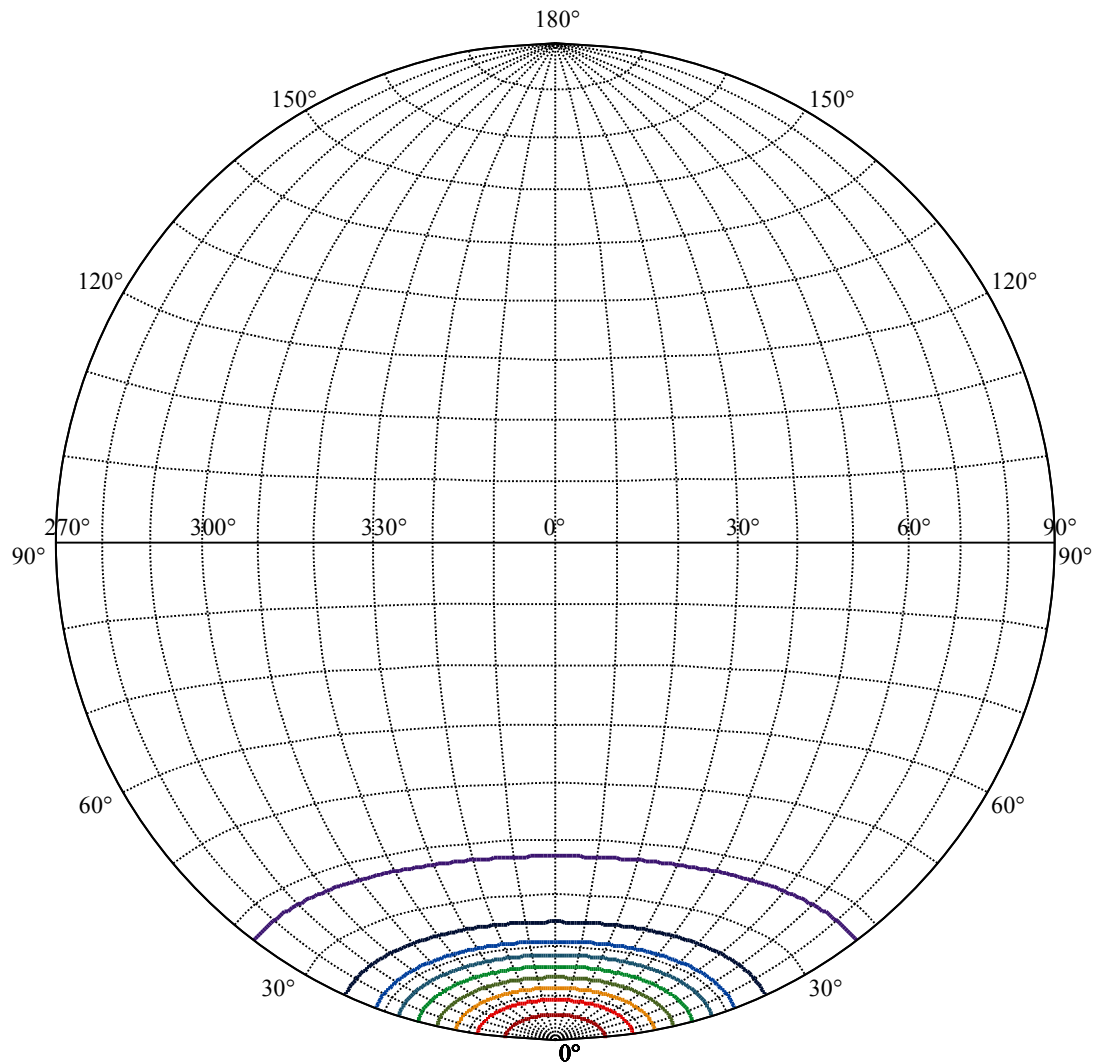






Max , Ave Beam angle of C0 plane 33.74





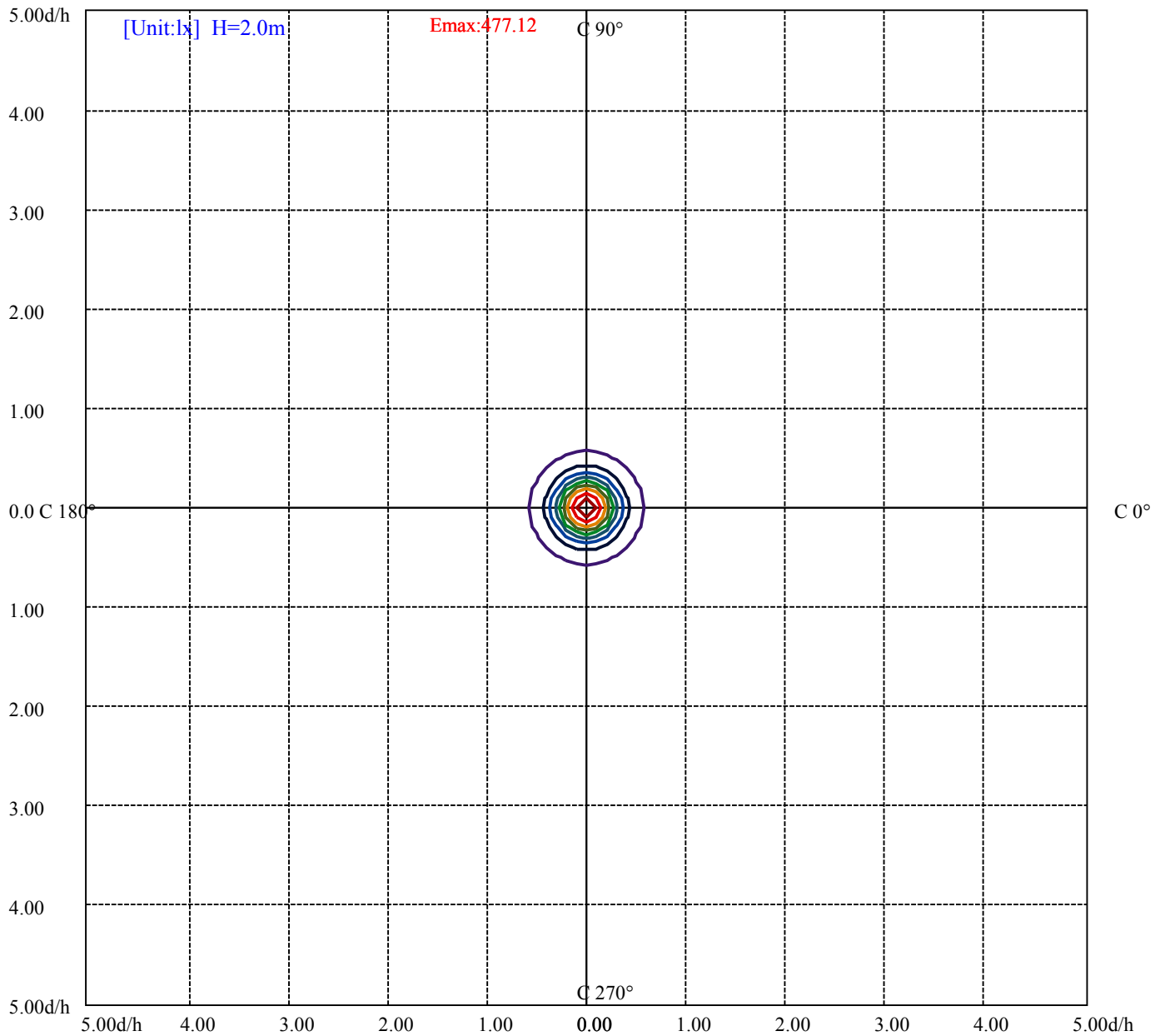
House

[Unit:cd]

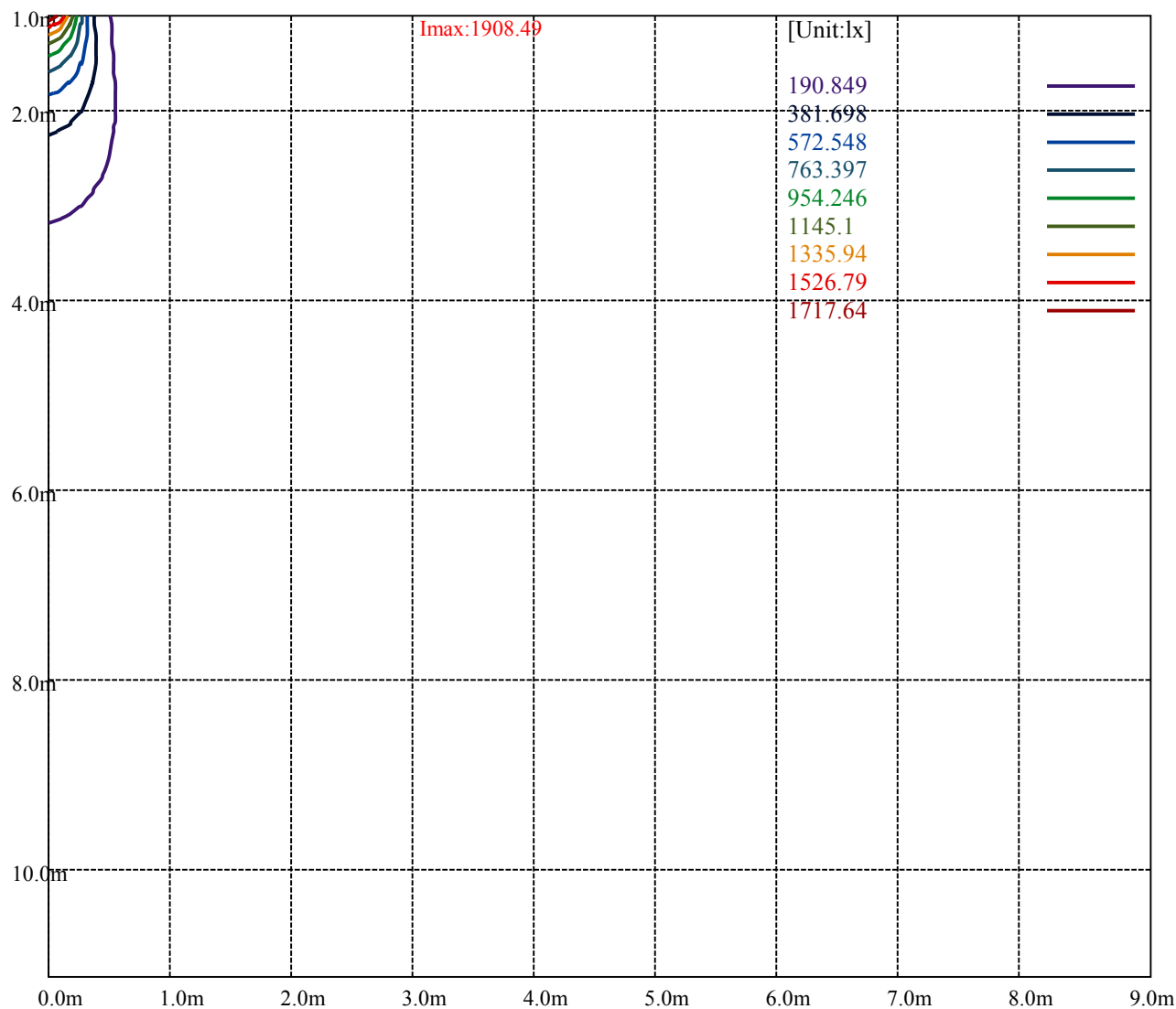
Road

Imax:1908.49

(10%Imax)	190.849	—
(20%Imax)	381.698	—
(30%Imax)	572.548	—
(40%Imax)	763.397	—
(50%Imax)	954.246	—
(60%Imax)	1145.1	—
(70%Imax)	1335.94	—
(80%Imax)	1526.79	—
(90%Imax)	1717.64	—



(10%Emax)	47.71225	—
(20%Emax)	95.4245	—
(30%Emax)	143.1365	—
(40%Emax)	190.8488	—
(50%Emax)	238.561	—
(60%Emax)	286.2725	—
(70%Emax)	333.985	—
(80%Emax)	381.6975	—
(90%Emax)	429.41	—



Luminance Table

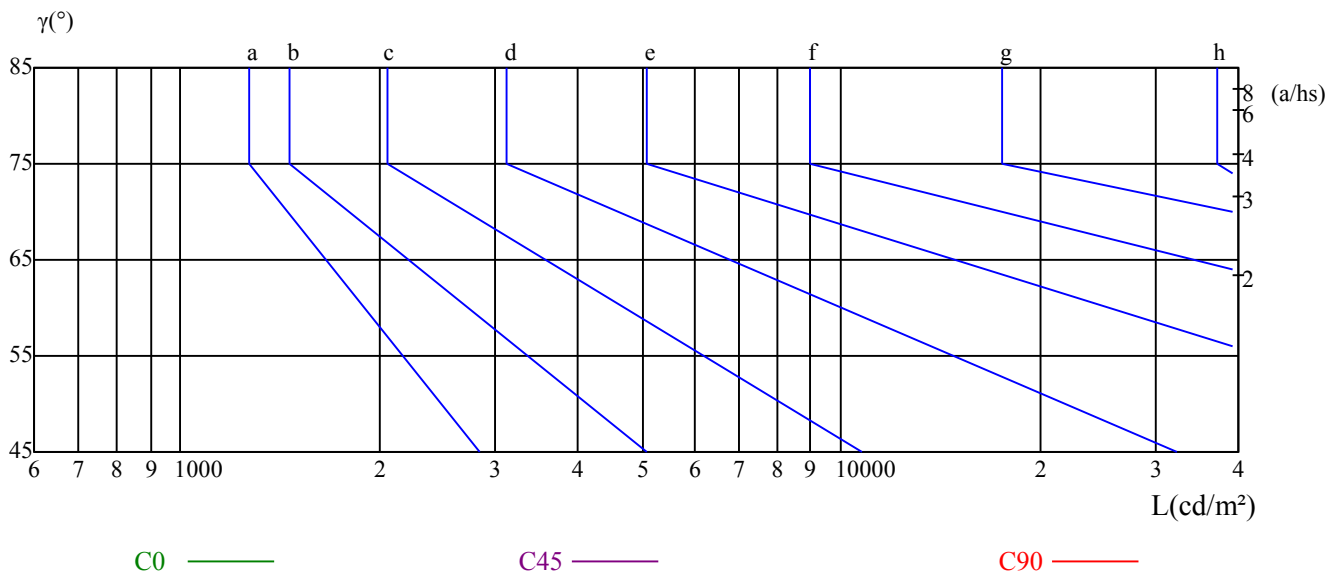
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

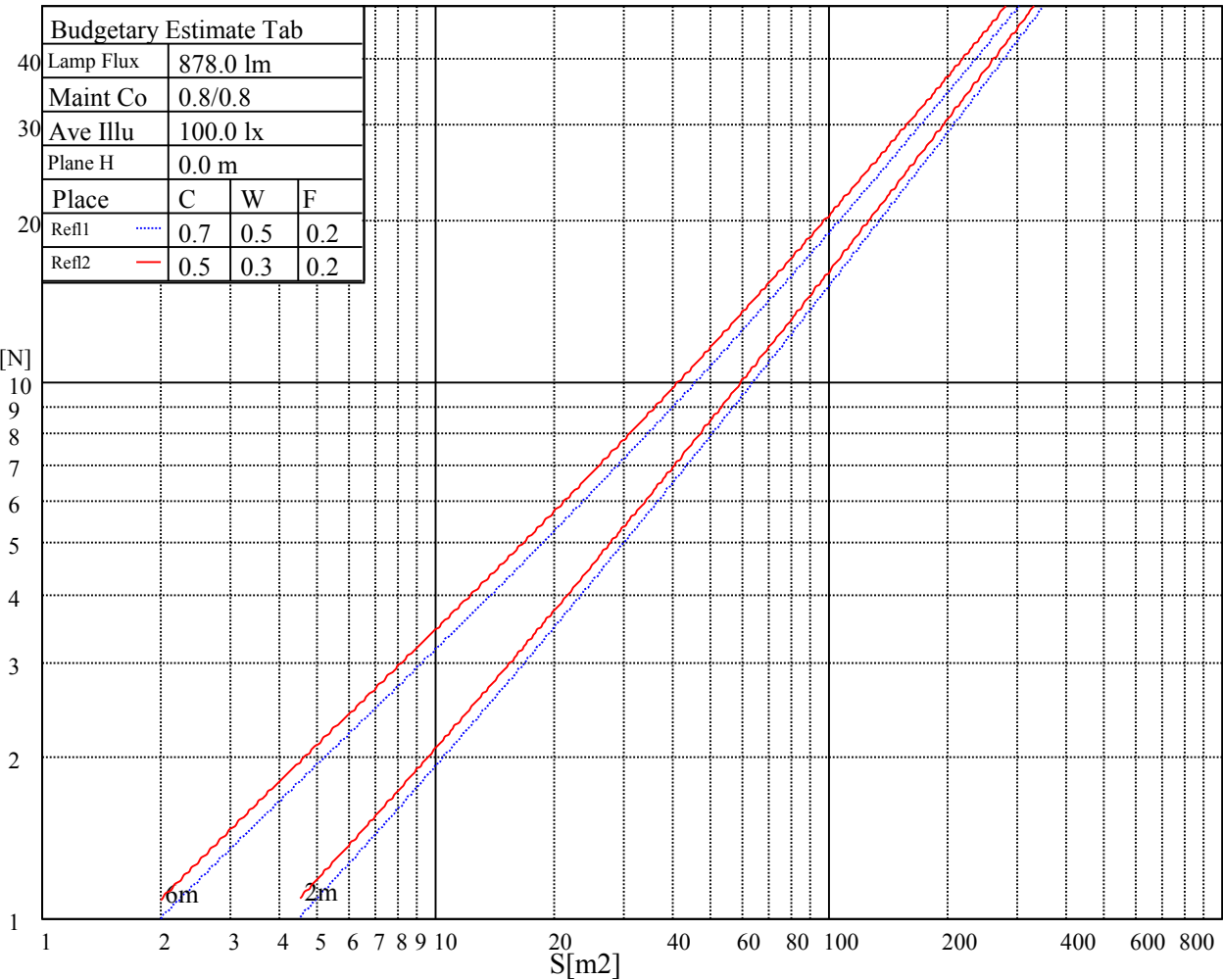
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

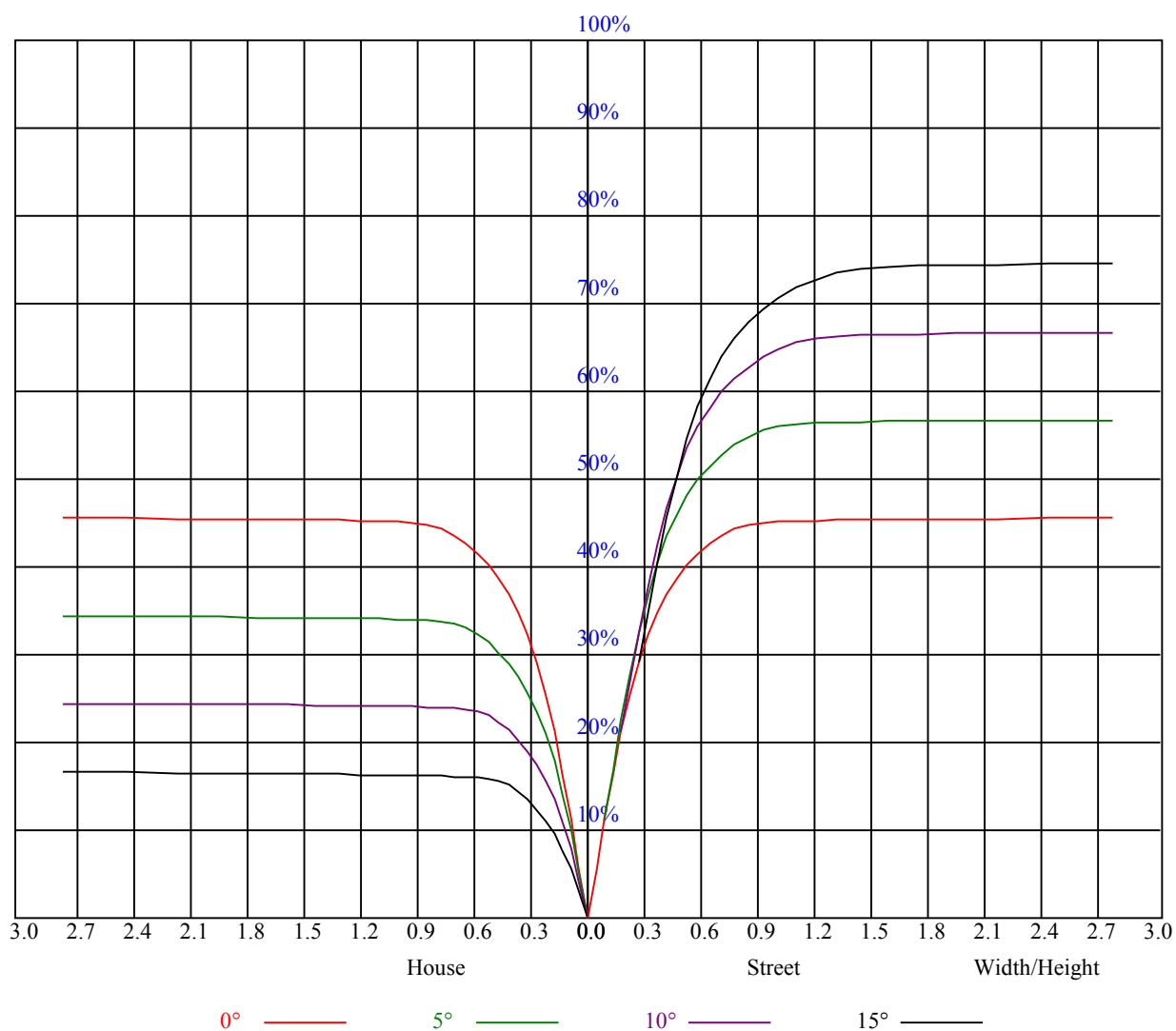
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	1.10	1.10	1.10	1.08	1.08	1.08	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.93
1	1.03	1.01	0.99	1.01	0.99	0.97	0.97	0.96	0.94	0.94	0.93	0.91	0.91	0.90	0.89	0.87
2	0.97	0.93	0.90	0.95	0.92	0.89	0.92	0.89	0.87	0.89	0.87	0.85	0.87	0.85	0.84	0.82
3	0.91	0.87	0.83	0.90	0.86	0.83	0.87	0.84	0.81	0.85	0.82	0.80	0.83	0.81	0.79	0.78
4	0.86	0.81	0.78	0.85	0.81	0.77	0.83	0.79	0.76	0.81	0.78	0.75	0.79	0.77	0.75	0.73
5	0.81	0.76	0.73	0.80	0.76	0.73	0.79	0.75	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.69
6	0.77	0.72	0.69	0.76	0.72	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.66
7	0.73	0.68	0.65	0.73	0.68	0.65	0.72	0.68	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.63
8	0.70	0.65	0.62	0.70	0.65	0.62	0.69	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.61	0.60
9	0.67	0.62	0.59	0.66	0.62	0.59	0.66	0.61	0.58	0.65	0.61	0.58	0.64	0.61	0.58	0.57
10	0.64	0.59	0.56	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.62	0.58	0.56	0.55



Intensity data(cd)

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	1893.94	1821.38	1523.25	1115.44	698.63	416.25	285.75	239.40	140.23
22.5	1898.44	1820.25	1564.31	1157.06	717.19	429.75	290.81	240.53	160.93
45.0	1914.19	1787.06	1471.50	1070.38	644.91	387.90	271.24	236.03	138.83
67.5	1910.25	1860.75	1559.81	1157.63	708.75	406.13	289.69	244.35	162.84
90.0	1905.75	1807.31	1498.50	1031.18	609.13	367.76	274.11	240.64	142.09
112.5	1923.75	1825.88	1535.63	1153.69	687.94	390.94	284.63	242.66	154.58
135.0	1897.31	1689.19	1422.00	1014.47	587.59	372.09	265.16	232.31	128.48
157.5	1924.31	1761.19	1478.25	1093.50	677.81	403.31	292.50	240.86	135.23
180.0	1893.94	1690.31	1383.75	933.13	606.15	363.94	263.81	228.15	112.84
202.5	1898.44	1676.81	1397.25	931.61	568.63	349.48	259.20	223.76	97.37
225.0	1914.19	1722.38	1472.63	1030.50	614.25	361.13	286.88	232.26	117.62
247.5	1910.25	1705.50	1387.69	924.47	526.22	326.19	254.42	219.71	100.97
270.0	1905.75	1811.81	1491.19	1004.63	591.19	344.25	286.31	235.13	119.48
292.5	1923.75	1725.75	1405.13	935.49	511.76	325.86	253.52	223.76	113.74
315.0	1897.31	1809.56	1467.56	1067.06	635.06	362.81	288.00	234.90	140.06
337.5	1924.31	1749.94	1442.81	985.50	613.58	362.93	260.10	231.41	120.38
360.0	1893.94	1821.38	1523.25	1115.44	698.63	416.25	285.75	239.40	140.23

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	16.14	4.22	3.77	3.54	3.49	3.49	3.43	3.43	3.49
22.5	27.28	4.16	3.71	3.60	3.54	3.49	3.49	3.43	3.43
45.0	17.44	4.11	3.66	3.54	3.49	3.49	3.43	3.43	3.43
67.5	32.85	4.22	3.66	3.54	3.54	3.49	3.43	3.43	3.38
90.0	14.40	4.11	3.66	3.54	3.49	3.49	3.43	3.43	3.43
112.5	28.74	4.16	3.71	3.54	3.49	3.49	3.43	3.38	3.38
135.0	12.66	3.99	3.71	3.54	3.49	3.49	3.43	3.43	3.43
157.5	12.60	4.05	3.77	3.60	3.54	3.49	3.49	3.43	3.43
180.0	4.56	3.94	3.71	3.60	3.54	3.49	3.49	3.43	3.43
202.5	4.95	3.99	3.66	3.60	3.54	3.49	3.49	3.49	3.43
225.0	12.99	4.11	3.71	3.60	3.54	3.49	3.54	3.43	3.43
247.5	5.46	3.94	3.60	3.54	3.49	3.49	3.43	3.43	3.43
270.0	7.31	3.94	3.60	3.49	3.49	3.43	3.43	3.43	3.43
292.5	6.47	3.88	3.60	3.49	3.43	3.43	3.43	3.38	3.43
315.0	18.34	4.16	3.66	3.54	3.49	3.49	3.43	3.43	3.43
337.5	9.23	4.05	3.71	3.54	3.49	3.43	3.43	3.43	3.43
360.0	16.14	4.22	3.77	3.54	3.49	3.49	3.43	3.43	3.49

C/γ(°)	90.0
0.0	3.43
22.5	3.43
45.0	3.43
67.5	3.38
90.0	3.43
112.5	3.38
135.0	3.38
157.5	3.38
180.0	3.43
202.5	3.43
225.0	3.43
247.5	3.43
270.0	3.43
292.5	3.43
315.0	3.38
337.5	3.43
360.0	3.43