



NATA LIGHTING CO.,LTD.
www.nata.cn
Email:info@nata.com
Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: LN01D04515DA-N

Luminaire: 97.70.234.00

Report No: 210701-B008

Test No: 210701-C008

LampCAT: Fortimo LED SLM 1202 G7N

Lamp flux(lm): 1511.8

Number of Lamps: 1

Length(mm): 570

Phm Type: C

Voltage(V): 37.2900

Current(A): 0.3040

Power (W): 11.3360

PF: 0.0000

Ballast type: DC

Width(mm): 45

Height(mm): 20

Photometric Results

Lumens(lm): 1315.83

Efficiency(%): 87.04%

Lumens(lm)/Power(W): 116.08

Central intensity(cd): 6648.469

Maximum intensity(cd): 6648.469

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=21.4

[C90/270]Total=21.4

Field angle(10%Imax): [C0/180]Total=41.6

[C90/270]Total=41.6

Maximum s/h(1/2): C0_180=0.36 C90_270=0.36

Maximum s/h(1/4): C0_180=0.37 C90_270=0.37

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 87.04%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.108%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6648.469	0.000	0	.000%	.000%
1.0	6617.039	6.347	6.347	.420%	.482%
2.0	6480.844	18.799	25.147	1.243%	1.911%
3.0	6276.094	30.510	55.657	2.018%	4.230%
4.0	6012.773	41.135	96.792	2.721%	7.356%
5.0	5692.008	50.353	147.145	3.331%	11.183%
6.0	5299.242	57.762	204.907	3.821%	15.572%
7.0	4911.820	63.380	268.287	4.192%	20.389%
8.0	4514.906	67.465	335.752	4.463%	25.516%
9.0	4063.992	69.527	405.28	4.599%	30.800%
10.0	3625.945	69.591	474.871	4.603%	36.089%
11.0	3204.773	68.253	543.124	4.515%	41.276%
12.0	2796.539	65.603	608.727	4.339%	46.262%
13.0	2386.477	61.509	670.236	4.069%	50.936%
14.0	2048.133	56.763	726.999	3.755%	55.250%
15.0	1745.859	52.086	779.084	3.445%	59.209%
16.0	1479.966	47.267	826.351	3.127%	62.801%
17.0	1226.433	42.146	868.497	2.788%	66.004%
18.0	1054.786	37.612	906.11	2.488%	68.862%
19.0	898.622	33.985	940.095	2.248%	71.445%
20.0	760.416	30.365	970.46	2.009%	73.753%
21.0	642.023	26.930	997.39	1.781%	75.799%
22.0	552.403	24.003	1021.392	1.588%	77.624%
23.0	469.800	21.449	1042.841	1.419%	79.254%
24.0	398.524	18.985	1061.825	1.256%	80.696%
25.0	345.628	16.920	1078.746	1.119%	81.982%
26.0	302.203	15.292	1094.038	1.012%	83.145%
27.0	259.650	13.746	1107.784	.909%	84.189%
28.0	223.706	12.238	1120.021	.809%	85.119%
29.0	194.998	10.954	1130.976	.725%	85.952%
30.0	172.181	9.914	1140.89	.656%	86.705%
31.0	152.726	9.042	1149.931	.598%	87.392%
32.0	135.823	8.267	1158.198	.547%	88.021%
33.0	122.133	7.599	1165.797	.503%	88.598%
34.0	110.890	7.052	1172.849	.466%	89.134%
35.0	100.139	6.554	1179.403	.434%	89.632%
36.0	91.463	6.101	1185.504	.404%	90.096%
37.0	84.171	5.728	1191.232	.379%	90.531%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	77.407	5.393	1196.625	.357%	90.941%
39.0	70.903	5.062	1201.687	.335%	91.326%
40.0	65.820	4.768	1206.456	.315%	91.688%
41.0	60.954	4.514	1210.97	.299%	92.031%
42.0	56.398	4.264	1215.234	.282%	92.355%
43.0	52.432	4.031	1219.265	.267%	92.662%
44.0	48.628	3.814	1223.079	.252%	92.951%
45.0	45.232	3.607	1226.687	.239%	93.226%
46.0	41.906	3.408	1230.094	.225%	93.485%
47.0	38.953	3.216	1233.31	.213%	93.729%
48.0	36.499	3.050	1236.361	.202%	93.961%
49.0	34.270	2.906	1239.267	.192%	94.182%
50.0	32.027	2.764	1242.031	.183%	94.392%
51.0	30.291	2.637	1244.667	.174%	94.592%
52.0	28.779	2.535	1247.202	.168%	94.785%
53.0	27.295	2.439	1249.641	.161%	94.970%
54.0	25.973	2.348	1251.989	.155%	95.148%
55.0	24.870	2.270	1254.259	.150%	95.321%
56.0	23.822	2.200	1256.459	.146%	95.488%
57.0	22.767	2.130	1258.589	.141%	95.650%
58.0	21.881	2.065	1260.654	.137%	95.807%
59.0	21.038	2.006	1262.66	.133%	95.959%
60.0	20.215	1.949	1264.609	.129%	96.108%
61.0	19.477	1.894	1266.503	.125%	96.252%
62.0	18.935	1.851	1268.354	.122%	96.392%
63.0	18.534	1.822	1270.177	.121%	96.531%
64.0	18.450	1.815	1271.991	.120%	96.669%
65.0	18.584	1.833	1273.824	.121%	96.808%
66.0	18.766	1.864	1275.688	.123%	96.950%
67.0	19.069	1.902	1277.59	.126%	97.094%
68.0	19.596	1.959	1279.549	.130%	97.243%
69.0	19.842	2.012	1281.561	.133%	97.396%
70.0	20.215	2.057	1283.618	.136%	97.552%
71.0	20.637	2.111	1285.73	.140%	97.713%
72.0	20.784	2.154	1287.883	.142%	97.876%
73.0	21.291	2.200	1290.083	.146%	98.044%
74.0	21.403	2.245	1292.328	.148%	98.214%
75.0	21.565	2.270	1294.598	.150%	98.387%

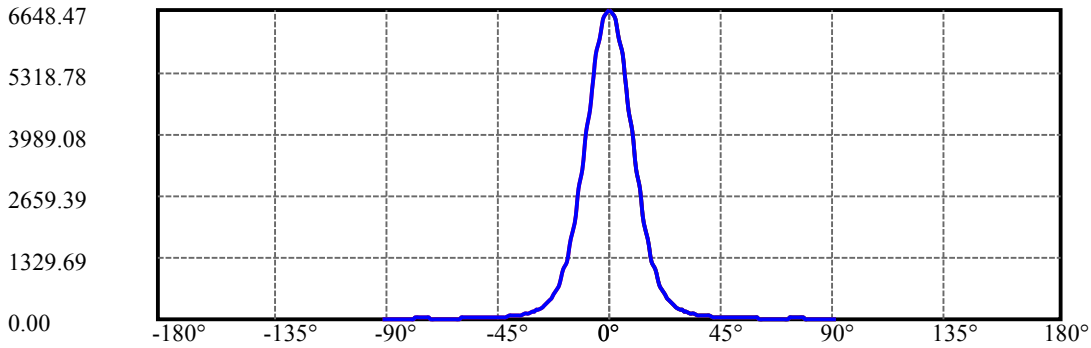
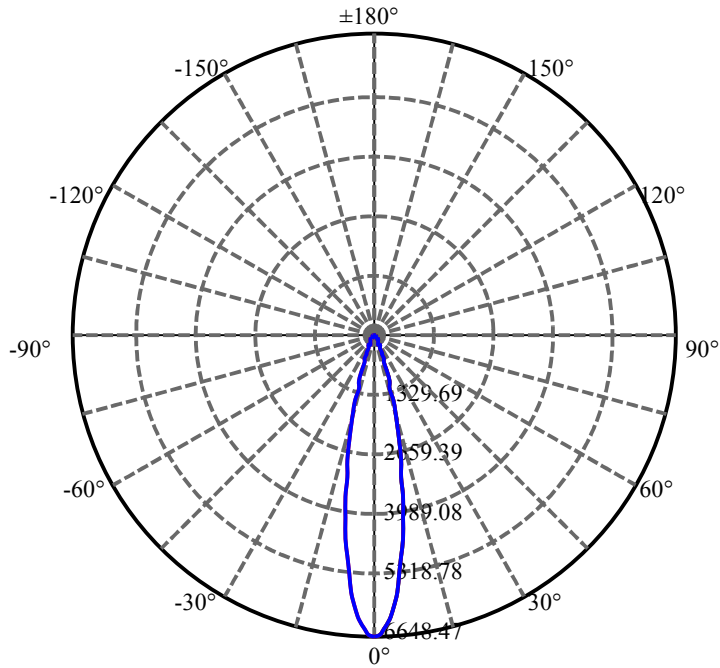
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	21.495	2.286	1296.884	.151%	98.560%
77.0	20.890	2.260	1299.144	.149%	98.732%
78.0	20.187	2.199	1301.343	.145%	98.899%
79.0	18.991	2.105	1303.448	.139%	99.059%
80.0	17.058	1.943	1305.391	.129%	99.207%
81.0	15.434	1.757	1307.148	.116%	99.340%
82.0	13.521	1.570	1308.718	.104%	99.460%
83.0	11.334	1.351	1310.07	.089%	99.562%
84.0	9.696	1.146	1311.215	.076%	99.650%
85.0	8.381	0.987	1312.202	.065%	99.724%
86.0	7.284	0.856	1313.058	.057%	99.790%
87.0	6.623	0.761	1313.819	.050%	99.847%
88.0	6.173	0.701	1314.52	.046%	99.901%
89.0	5.920	0.663	1315.183	.044%	99.951%
90.0	5.822	0.644	1315.827	.043%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1140.89	75.47%	86.71%
0-40	1206.46	79.80%	91.69%
0-60	1264.61	83.65%	96.11%
0-90	1315.18	86.99%	99.95%
0-120	1315.18	86.99%	99.95%
0-180	1315.83	87.04%	100.00%
60-90	52.52	3.47%	3.99%
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%
0-23.52	1052.66	69.63%	80.00%

ZONAL LUMEN SUMMARY

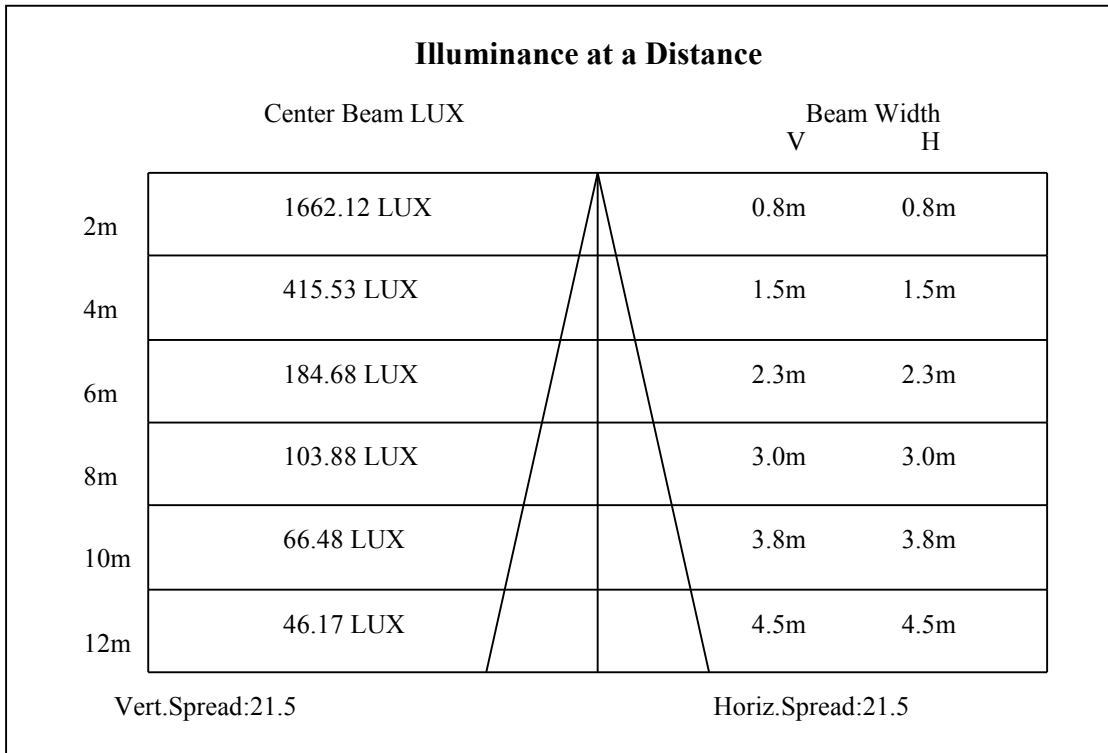
0-10	474.87
10-20	495.59
20-30	170.43
30-40	65.57
40-50	35.58
50-60	22.58
60-70	19.01
70-80	21.77
80-90	9.79
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

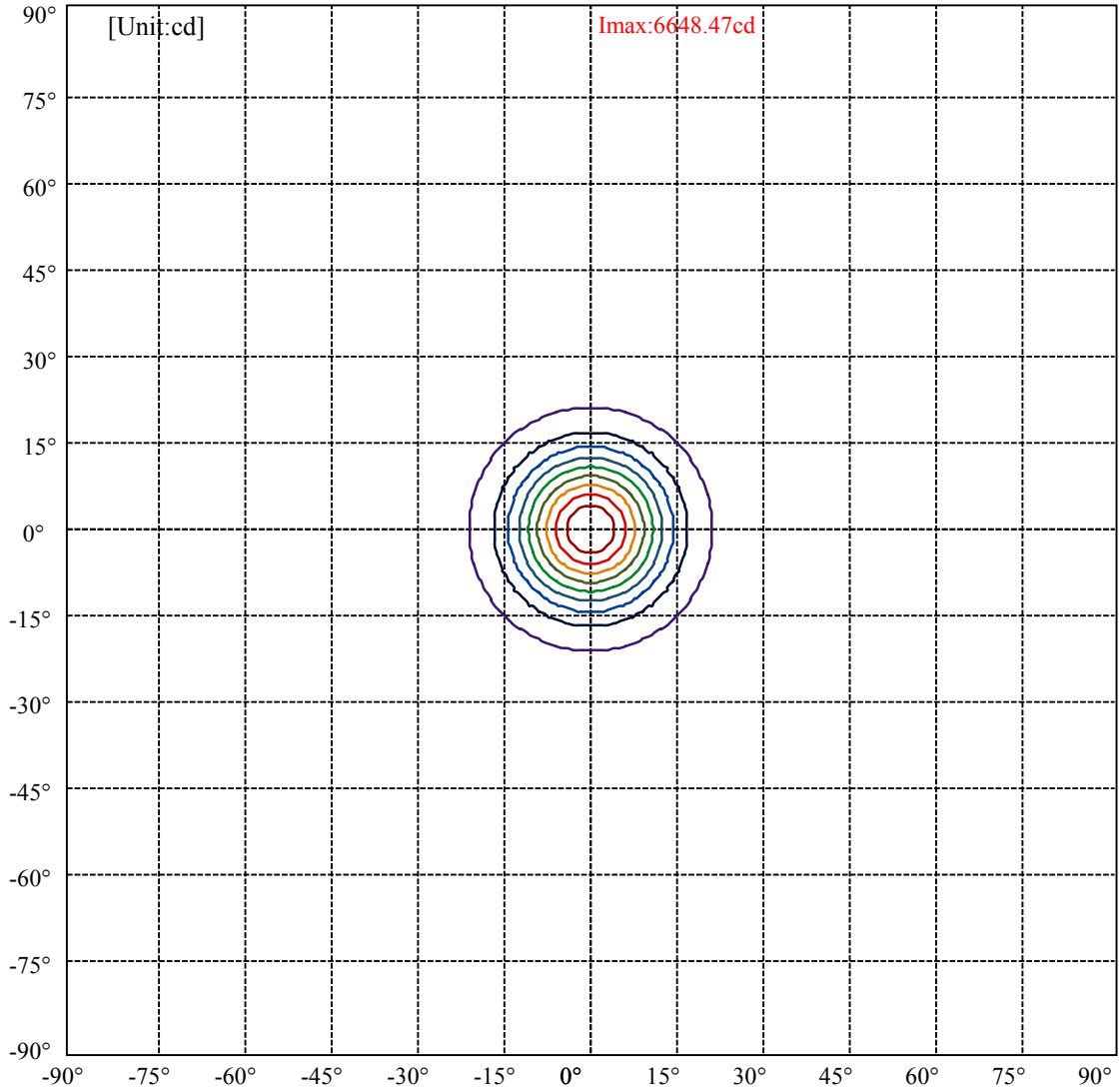


C0(Max): ———
C0/C180: ———
C90/C270: ———

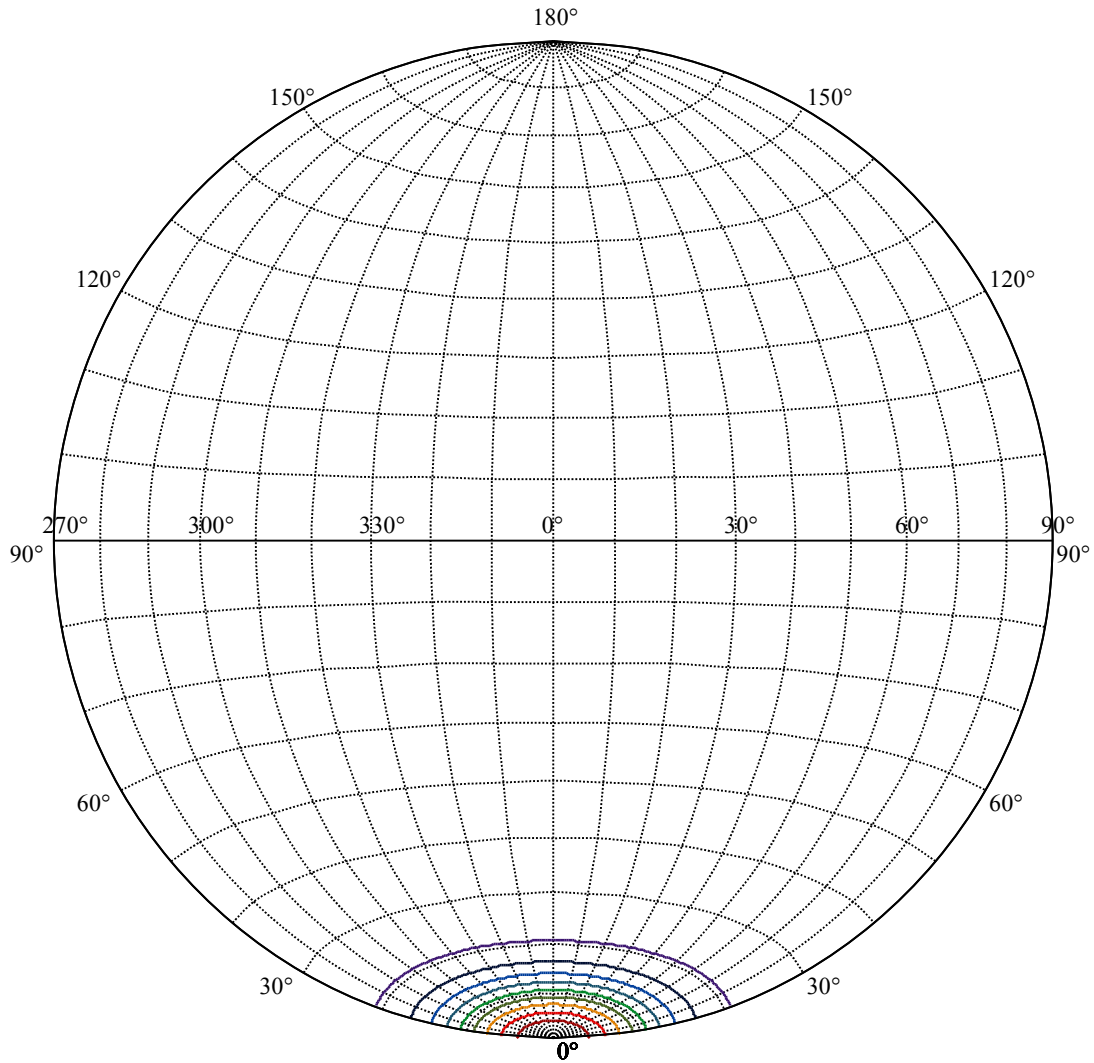
Field angle(10%Imax):C0/180Left:20.8 Right:20.8
:C90/270Left:20.8 Right:20.8

Beam Angle(50%Imax):C0/180Left:10.7 Right:10.7
:C90/270Left:10.7 Right:10.7





(10%Imax) 664.847	—
(20%Imax) 1329.69	—
(30%Imax) 1994.54	—
(40%Imax) 2659.39	—
(50%Imax) 3324.23	—
(60%Imax) 3989.08	—
(70%Imax) 4653.93	—
(80%Imax) 5318.78	—
(90%Imax) 5983.62	—



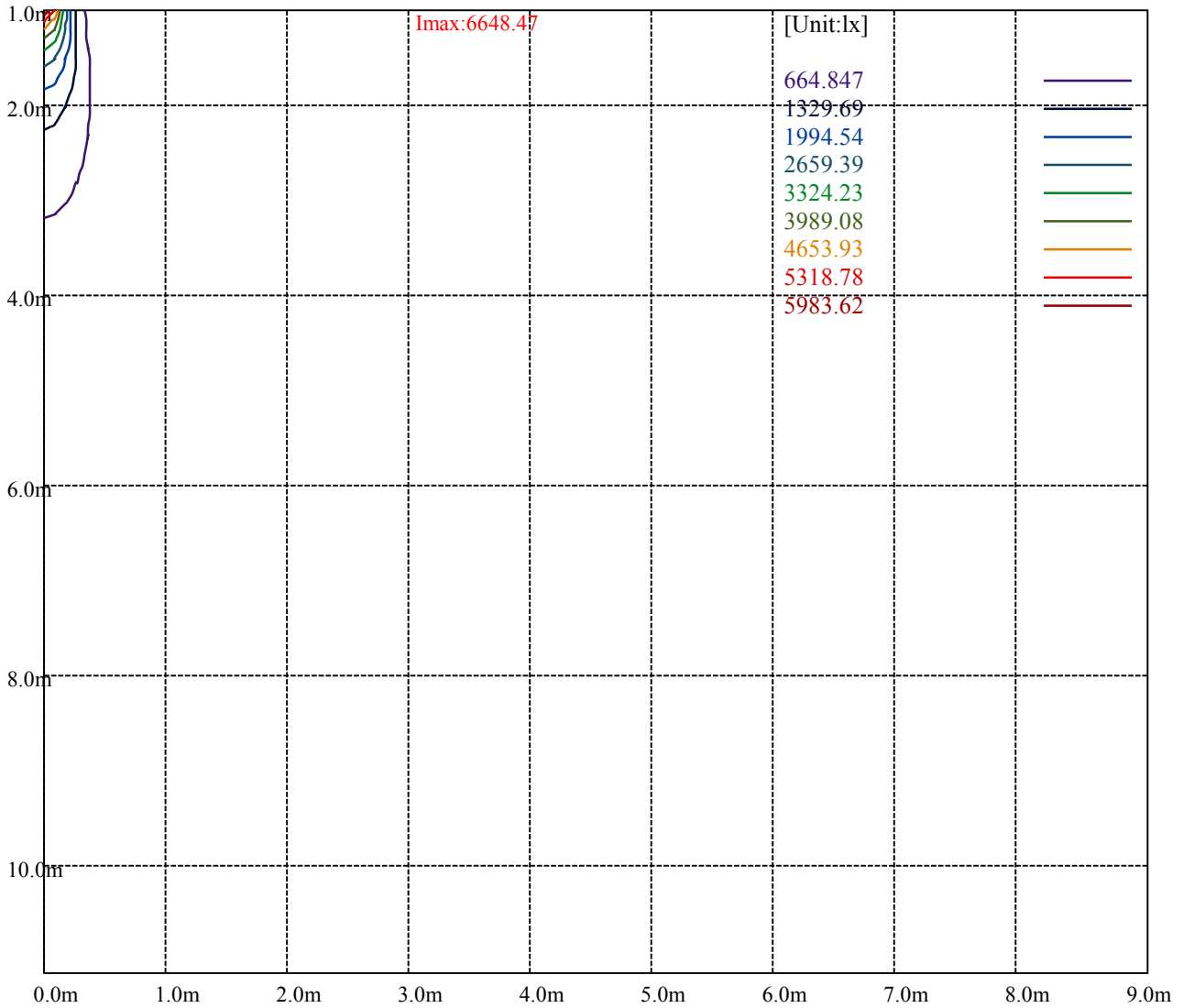
House

[Unit:cd]

Road

Imax:6648.47

(10%Imax) 664.847	—
(20%Imax) 1329.69	—
(30%Imax) 1994.54	—
(40%Imax) 2659.39	—
(50%Imax) 3324.23	—
(60%Imax) 3989.08	—
(70%Imax) 4653.93	—
(80%Imax) 5318.78	—
(90%Imax) 5983.62	—



Luminance Table

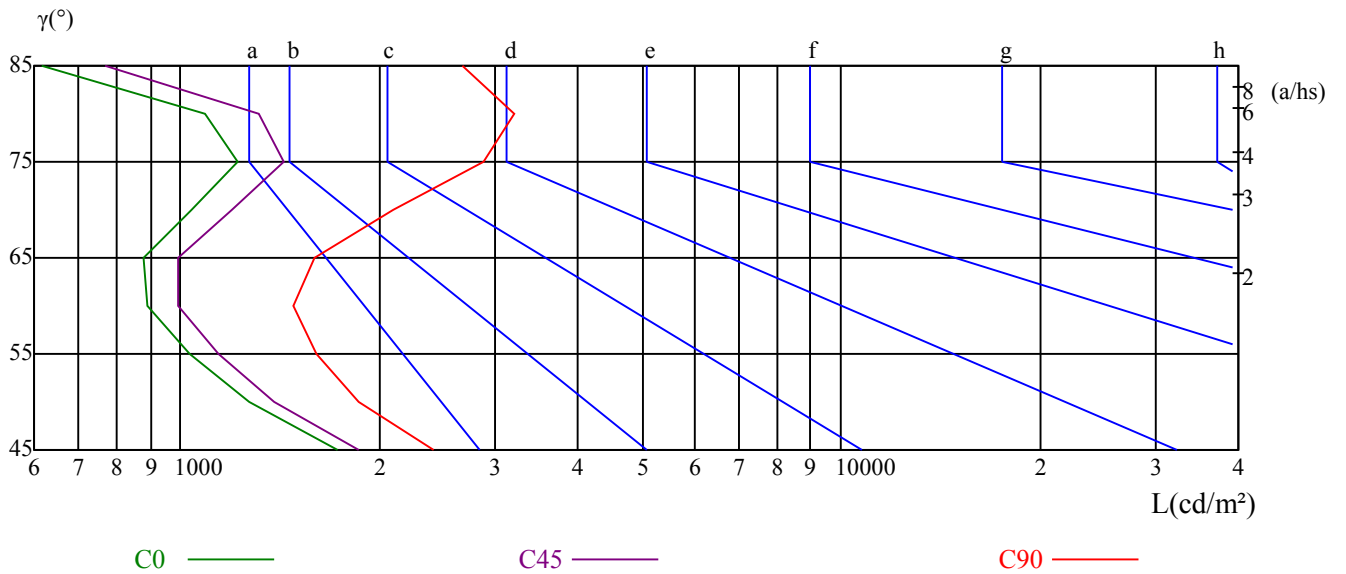
γ	45	50	55	60	65	70	75	80	85
C0	1727	1270	1034	891	878	1037	1222	1088	617
C45	1862	1383	1139	993	993	1193	1434	1310	769
C90	2409	1865	1610	1486	1594	2102	2872	3194	2676

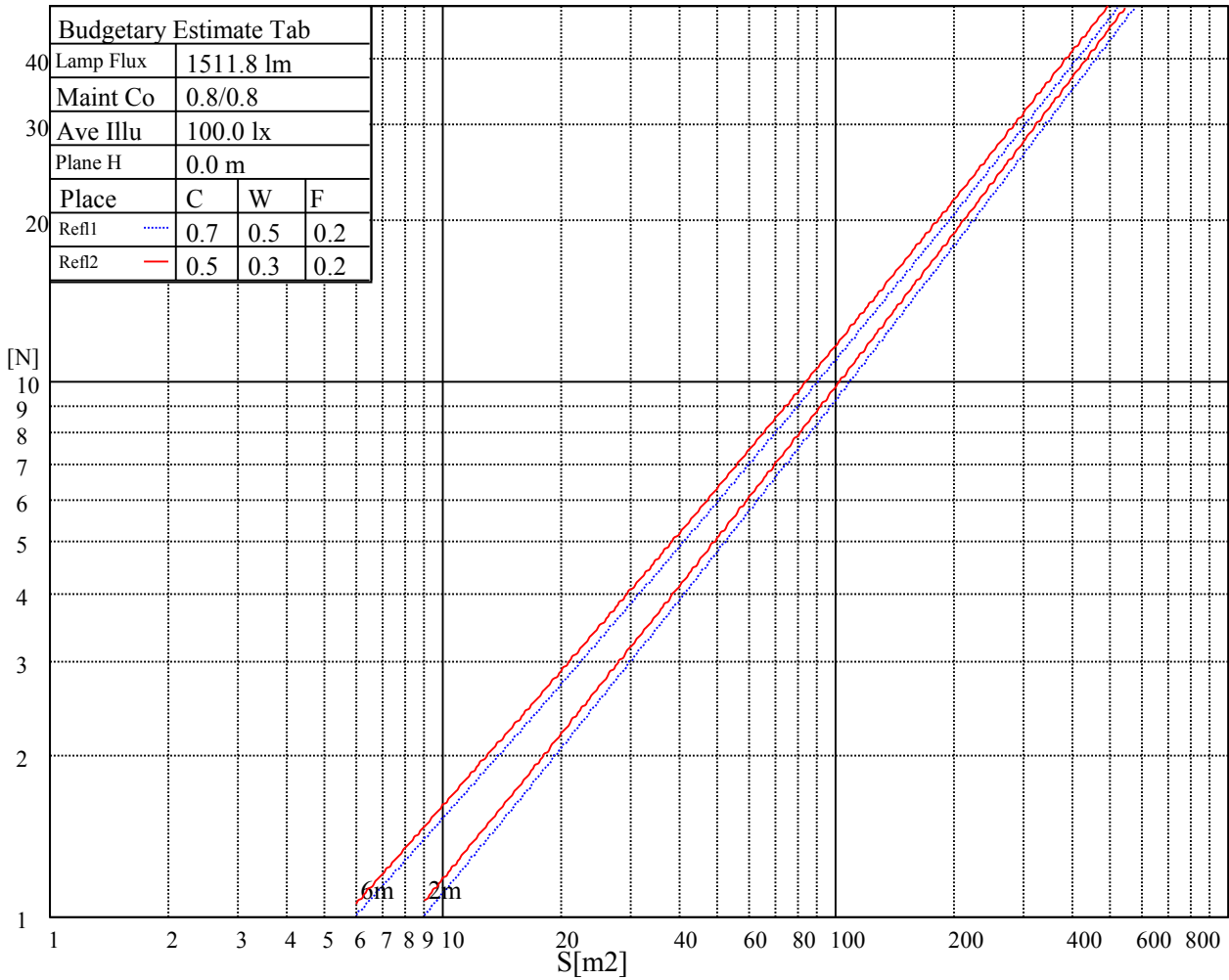
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1714	1714	1714	3248	3248	3248	3749	3749	3749

Glare Table

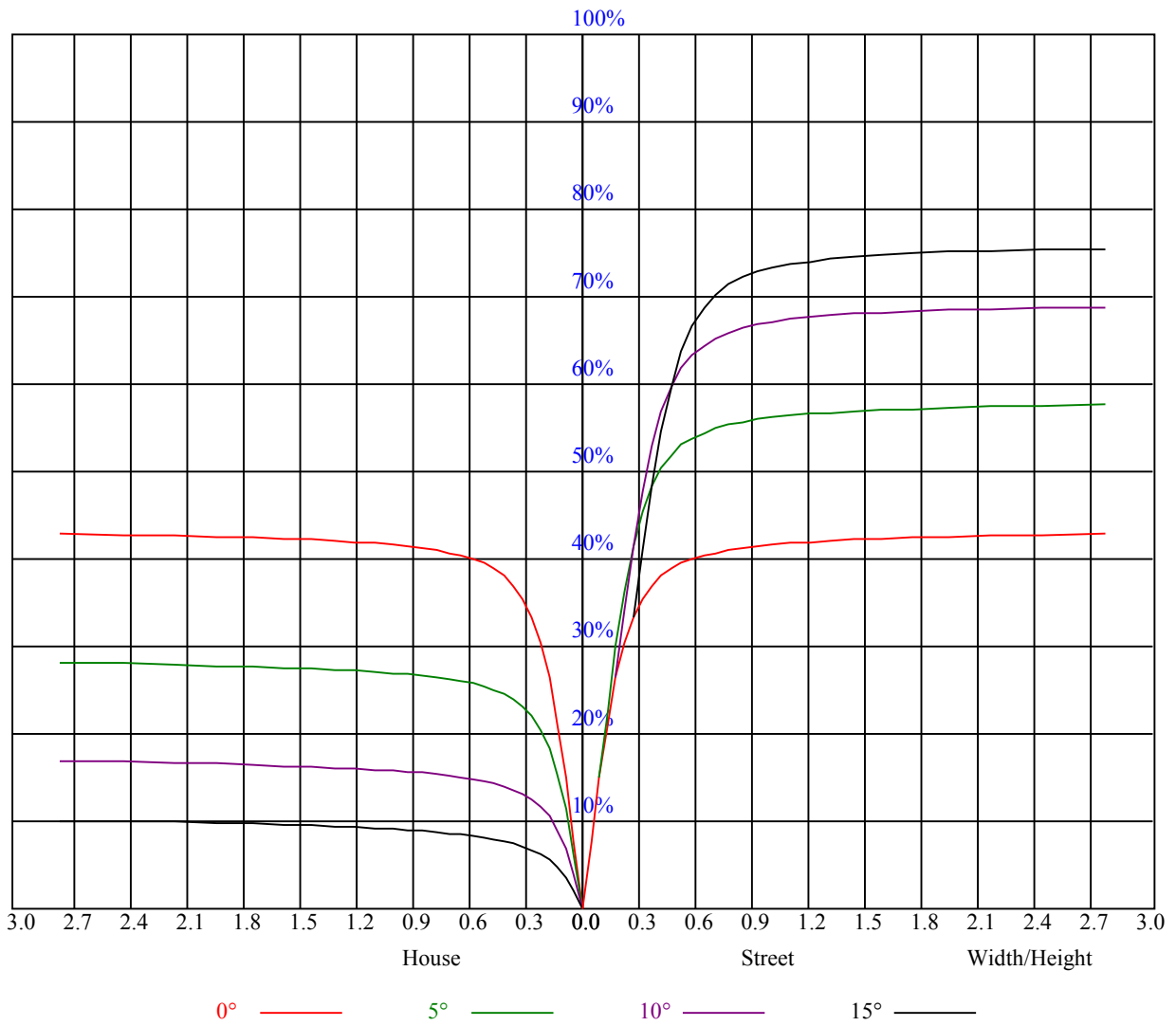
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.04	1.04	1.04	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.87
1	0.97	0.95	0.93	0.95	0.93	0.92	0.92	0.90	0.89	0.88	0.87	0.86	0.86	0.85	0.84	0.82
2	0.92	0.89	0.86	0.90	0.87	0.85	0.87	0.85	0.83	0.85	0.83	0.82	0.83	0.81	0.80	0.79
3	0.87	0.84	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.80	0.78	0.76	0.75
4	0.83	0.79	0.76	0.82	0.79	0.76	0.81	0.78	0.75	0.79	0.76	0.74	0.77	0.75	0.74	0.72
5	0.80	0.76	0.73	0.79	0.76	0.73	0.78	0.75	0.72	0.76	0.74	0.71	0.75	0.73	0.71	0.70
6	0.77	0.73	0.70	0.76	0.73	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.73	0.71	0.69	0.68
7	0.74	0.70	0.68	0.74	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.65
8	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.69	0.67	0.65	0.64
9	0.70	0.66	0.63	0.69	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.67	0.65	0.63	0.62
10	0.68	0.64	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.60



Intensity data(cd)

C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	6719.06	6643.69	6460.88	6257.81	5991.75	5635.69	5245.88	4872.94	4435.31
45.0	6624.56	6466.50	6235.31	5941.13	5631.75	5240.25	4806.56	4401.56	3982.50
90.0	6582.94	6434.44	6225.19	5914.69	5559.75	5214.38	4786.31	4327.31	3916.69
135.0	6667.31	6639.75	6490.69	6299.44	6036.75	5720.06	5282.44	4906.69	4530.94
180.0	6719.06	6705.00	6537.94	6348.94	6097.50	5761.13	5370.75	4986.00	4543.31
225.0	6624.56	6739.88	6737.06	6598.13	6385.50	6144.19	5853.94	5437.69	5081.06
270.0	6582.94	6671.81	6683.63	6561.00	6377.06	6158.25	5755.50	5422.50	5122.13
315.0	6667.31	6635.25	6476.06	6287.63	6022.13	5662.13	5292.56	4939.88	4507.31
360.0	6719.06	6643.69	6460.88	6257.81	5991.75	5635.69	5245.88	4872.94	4435.31
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3970.69	3554.44	3092.06	2703.94	2297.25	1929.38	1644.75	1396.69	1131.19
45.0	3466.69	3058.88	2668.50	2271.94	1924.88	1657.13	1397.25	1180.69	1018.13
90.0	3502.69	3058.88	2634.75	2279.25	1937.81	1640.81	1411.88	1121.85	1001.59
135.0	4023.00	3605.06	3197.25	2756.25	2354.06	2027.25	1712.81	1475.44	1248.19
180.0	4137.19	3672.00	3214.13	2820.94	2403.00	2028.94	1733.06	1477.69	1102.11
225.0	4691.25	4192.31	3778.31	3373.31	2882.81	2513.25	2185.88	1848.38	1587.38
270.0	4615.88	4224.38	3877.31	3380.63	2925.00	2597.63	2166.19	1865.81	1605.94
315.0	4104.56	3641.63	3175.88	2786.06	2367.00	1990.69	1715.06	1473.19	1116.96
360.0	3970.69	3554.44	3092.06	2703.94	2297.25	1929.38	1644.75	1396.69	1131.19
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	954.00	806.63	657.00	557.44	473.06	394.31	329.63	288.56	261.84
45.0	861.19	745.31	636.75	544.50	473.63	405.00	350.44	309.38	285.19
90.0	859.33	741.83	629.66	536.18	464.18	395.89	339.02	295.48	254.08
135.0	1049.63	903.38	765.56	649.13	561.94	493.88	408.38	356.06	316.13
180.0	1013.01	856.35	691.37	584.72	494.66	402.24	342.28	292.73	247.44
225.0	1339.88	1108.13	971.66	820.52	707.29	600.19	519.24	441.79	378.23
270.0	1326.94	1141.88	984.94	815.06	702.56	606.94	507.94	441.00	382.50
315.0	1034.33	885.49	746.38	628.65	541.91	459.96	391.28	340.03	292.22
360.0	954.00	806.63	657.00	557.44	473.06	394.31	329.63	288.56	261.84
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	205.82	177.36	159.64	139.11	124.31	114.53	103.05	95.46	88.76
45.0	231.30	206.89	182.53	162.62	142.31	128.81	115.43	103.11	94.56
90.0	223.43	194.96	170.61	151.93	136.29	120.32	109.46	99.90	89.83
135.0	286.31	232.71	203.79	178.43	157.39	142.09	126.34	114.19	103.05
180.0	214.76	184.73	157.84	142.88	128.42	112.73	104.79	96.86	87.81
225.0	331.03	285.36	246.88	218.19	193.78	168.24	150.36	135.23	120.60
270.0	327.38	284.63	243.96	211.22	184.39	163.91	144.79	130.67	117.06
315.0	257.18	223.03	194.74	173.08	154.91	135.96	122.85	111.71	99.45
360.0	205.82	177.36	159.64	139.11	124.31	114.53	103.05	95.46	88.76
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	81.39	76.05	71.21	65.70	61.65	57.83	53.61	50.34	47.19
45.0	86.57	78.86	72.17	66.77	61.43	56.98	51.92	48.43	44.72
90.0	82.97	76.56	70.54	64.97	60.36	55.69	51.98	48.15	44.61
135.0	93.09	85.56	78.92	71.49	66.15	61.43	56.19	52.26	48.71
180.0	82.63	77.34	71.89	66.94	62.83	58.50	54.96	51.24	47.64
225.0	108.28	98.89	89.49	81.39	75.09	68.79	63.73	58.78	54.28
270.0	105.69	96.41	88.54	79.99	74.08	68.96	62.94	58.50	54.34
315.0	91.07	83.70	76.50	69.98	64.97	59.46	55.86	51.75	47.53
360.0	81.39	76.05	71.21	65.70	61.65	57.83	53.61	50.34	47.19

Intensity data(cd)

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	43.99	40.95	38.53	36.00	33.92	31.95	30.26	28.86	27.51
45.0	41.06	38.36	35.94	33.92	31.61	30.04	28.63	27.23	25.88
90.0	41.79	38.64	36.11	34.26	32.63	30.71	29.31	27.73	26.10
135.0	45.11	41.68	39.09	36.39	34.31	32.18	30.32	28.91	27.51
180.0	44.83	41.79	38.87	36.56	34.48	32.12	30.54	29.03	27.73
225.0	50.51	46.91	42.75	39.88	37.24	34.43	32.34	30.60	28.91
270.0	49.73	45.39	42.08	38.70	35.89	33.19	30.77	29.08	27.39
315.0	44.83	41.51	38.25	36.28	34.09	31.61	30.15	28.80	27.34
360.0	43.99	40.95	38.53	36.00	33.92	31.95	30.26	28.86	27.51
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	26.21	25.14	24.19	22.95	22.11	21.32	20.31	19.52	18.79
45.0	24.75	23.68	22.56	21.66	20.76	19.97	19.13	18.28	17.66
90.0	24.98	24.08	23.23	22.56	22.05	21.49	20.93	20.70	21.43
135.0	26.16	25.14	24.08	22.89	22.05	21.15	20.19	19.41	18.68
180.0	26.27	25.14	24.13	23.01	22.11	21.32	20.42	19.52	18.79
225.0	27.45	26.16	24.92	23.91	22.73	21.71	20.87	19.97	19.13
270.0	25.88	24.69	23.68	22.44	21.49	20.64	19.91	19.29	18.73
315.0	26.10	24.92	23.79	22.73	21.77	20.70	19.97	19.13	18.28
360.0	26.21	25.14	24.19	22.95	22.11	21.32	20.31	19.52	18.79
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	18.00	17.33	16.76	16.03	15.53	14.96	14.40	13.95	13.39
45.0	17.10	16.26	15.75	15.36	14.63	14.23	13.89	13.44	13.05
90.0	22.95	26.61	30.71	33.41	35.78	39.15	41.29	43.93	46.69
135.0	17.89	17.16	16.54	15.86	15.36	14.79	14.18	13.78	13.22
180.0	18.06	17.44	16.76	16.09	15.53	14.91	14.29	13.84	13.39
225.0	18.45	17.78	16.99	16.37	15.81	15.19	14.57	14.18	13.73
270.0	18.23	18.11	18.96	21.38	24.86	29.03	32.12	35.04	38.53
315.0	17.61	16.93	16.20	15.64	15.08	14.51	14.01	13.56	13.11
360.0	18.00	17.33	16.76	16.03	15.53	14.96	14.40	13.95	13.39
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	12.94	12.54	12.15	11.59	11.19	10.80	10.35	10.01	9.68
45.0	12.83	12.60	12.38	12.09	11.76	11.42	10.91	10.07	9.51
90.0	48.15	50.63	52.43	53.78	53.72	49.61	45.34	39.66	30.49
135.0	12.71	12.26	11.81	11.25	10.86	10.52	10.13	9.73	9.34
180.0	12.83	12.49	12.04	11.53	11.08	10.69	10.35	9.96	9.62
225.0	13.28	12.94	12.49	12.15	11.93	11.64	11.42	11.14	10.63
270.0	40.95	44.72	46.24	48.94	50.57	52.03	52.99	51.69	47.93
315.0	12.60	12.15	11.70	11.19	10.86	10.41	10.01	9.68	9.28
360.0	12.94	12.54	12.15	11.59	11.19	10.80	10.35	10.01	9.68
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	9.34	9.00	8.66	8.27	7.93	7.65	7.14	6.41	6.19
45.0	8.89	8.33	7.93	7.54	6.92	6.36	5.96	5.74	5.68
90.0	24.64	17.61	10.24	7.99	6.98	6.47	6.13	5.91	5.51
135.0	8.94	8.55	8.16	7.71	7.03	6.58	6.24	5.91	5.74
180.0	9.34	9.00	8.61	8.21	7.93	7.48	6.69	6.36	6.19
225.0	10.13	9.62	8.94	8.61	8.16	7.71	7.09	6.64	6.19
270.0	43.20	37.46	29.98	21.43	14.63	9.00	7.43	6.47	6.13
315.0	9.00	8.61	8.16	7.82	7.48	7.03	6.30	5.96	5.74
360.0	9.34	9.00	8.66	8.27	7.93	7.65	7.14	6.41	6.19

Intensity data(cd)

C/γ(°)	90.0
0.0	6.24
45.0	5.63
90.0	5.51
135.0	5.57
180.0	6.13
225.0	5.96
270.0	5.91
315.0	5.63
360.0	6.24