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## Nata

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LumCAT: 1-1005-M	
Luminaire: 92.70.124.00	
Report No: 210715-B014	Voltage(V): 36.8200
Test No: 210715-C014	Current(A): 0.3050
LampCAT: Fortimo LED SLM 1202 G7N	Power (W): 11.2300
Lamp flux(lm): 1504.1	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 570	Width(mm): 45
Phm Type: C	Height(mm): 20

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## Photometric Results

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Lumens(lm): 1094.93  
Efficiency(%): 72.80%  
Lumens(lm)/Power(W): 97.50  
Central intensity(cd): 6403.078  
Maximum intensity(cd): 6403.078  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=21.5  
                                  [C90/270]Total=21.5  
Field angle(10%Imax): [C0/180]Total=41.5  
                                  [C90/270]Total=41.5  
Maximum s/h(1/2): C0\_180=0.37 C90\_270=0.37  
Maximum s/h(1/4): C0\_180=0.38 C90\_270=0.38  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 72.80%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.525%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6403.078	0.000	0	.000%	.000%
1.0	6376.992	6.115	6.115	.407%	.558%
2.0	6282.492	18.170	24.285	1.208%	2.218%
3.0	6186.516	29.822	54.107	1.983%	4.942%
4.0	6016.289	40.847	94.954	2.716%	8.672%
5.0	5705.297	50.426	145.379	3.353%	13.277%
6.0	5337.141	58.031	203.41	3.858%	18.577%
7.0	4899.445	63.538	266.948	4.224%	24.380%
8.0	4431.375	66.779	333.727	4.440%	30.479%
9.0	3958.242	67.993	401.721	4.521%	36.689%
10.0	3515.414	67.634	469.355	4.497%	42.866%
11.0	3102.188	66.123	535.478	4.396%	48.905%
12.0	2734.523	63.804	599.282	4.242%	54.732%
13.0	2377.195	60.663	659.945	4.033%	60.273%
14.0	2040.258	56.543	716.488	3.759%	65.437%
15.0	1771.945	52.336	768.823	3.480%	70.217%
16.0	1517.836	48.205	817.028	3.205%	74.619%
17.0	1254.558	43.174	860.202	2.870%	78.562%
18.0	1091.320	38.678	898.88	2.572%	82.095%
19.0	926.086	35.099	933.979	2.334%	85.300%
20.0	753.166	30.735	964.714	2.043%	88.107%
21.0	601.031	26.003	990.717	1.729%	90.482%
22.0	472.388	21.571	1012.288	1.434%	92.452%
23.0	344.334	17.137	1029.425	1.139%	94.017%
24.0	249.356	12.980	1042.405	.863%	95.203%
25.0	155.461	9.205	1051.61	.612%	96.044%
26.0	83.784	5.647	1057.257	.375%	96.559%
27.0	41.948	3.076	1060.333	.205%	96.840%
28.0	24.982	1.695	1062.028	.113%	96.995%
29.0	15.729	1.065	1063.093	.071%	97.092%
30.0	11.918	0.746	1063.839	.050%	97.161%
31.0	10.568	0.626	1064.465	.042%	97.218%
32.0	9.661	0.580	1065.045	.039%	97.271%
33.0	9.000	0.550	1065.594	.037%	97.321%
34.0	8.487	0.529	1066.124	.035%	97.369%
35.0	8.058	0.514	1066.637	.034%	97.416%
36.0	7.650	0.500	1067.138	.033%	97.462%
37.0	7.362	0.490	1067.627	.033%	97.506%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	7.080	0.482	1068.109	.032%	97.550%
39.0	6.855	0.476	1068.585	.032%	97.594%
40.0	6.666	0.472	1069.056	.031%	97.637%
41.0	6.511	0.469	1069.526	.031%	97.680%
42.0	6.356	0.467	1069.993	.031%	97.723%
43.0	6.265	0.468	1070.461	.031%	97.765%
44.0	6.145	0.468	1070.929	.031%	97.808%
45.0	6.047	0.469	1071.398	.031%	97.851%
46.0	5.991	0.471	1071.868	.031%	97.894%
47.0	5.920	0.474	1072.342	.031%	97.937%
48.0	5.871	0.477	1072.819	.032%	97.981%
49.0	5.801	0.479	1073.298	.032%	98.024%
50.0	5.752	0.482	1073.78	.032%	98.068%
51.0	5.716	0.485	1074.265	.032%	98.113%
52.0	5.674	0.489	1074.754	.032%	98.157%
53.0	5.639	0.492	1075.246	.033%	98.202%
54.0	5.590	0.495	1075.741	.033%	98.247%
55.0	5.569	0.498	1076.239	.033%	98.293%
56.0	5.534	0.502	1076.741	.033%	98.339%
57.0	5.505	0.505	1077.245	.034%	98.385%
58.0	5.484	0.508	1077.754	.034%	98.431%
59.0	5.470	0.512	1078.266	.034%	98.478%
60.0	5.435	0.515	1078.781	.034%	98.525%
61.0	5.428	0.518	1079.299	.034%	98.572%
62.0	5.407	0.522	1079.821	.035%	98.620%
63.0	5.386	0.525	1080.346	.035%	98.668%
64.0	5.365	0.528	1080.874	.035%	98.716%
65.0	5.358	0.531	1081.404	.035%	98.765%
66.0	5.344	0.534	1081.938	.035%	98.813%
67.0	5.330	0.537	1082.475	.036%	98.863%
68.0	5.316	0.539	1083.014	.036%	98.912%
69.0	5.295	0.541	1083.556	.036%	98.961%
70.0	5.295	0.544	1084.099	.036%	99.011%
71.0	5.259	0.545	1084.645	.036%	99.061%
72.0	5.259	0.547	1085.192	.036%	99.111%
73.0	5.252	0.550	1085.742	.037%	99.161%
74.0	5.245	0.552	1086.293	.037%	99.211%
75.0	5.231	0.554	1086.847	.037%	99.262%

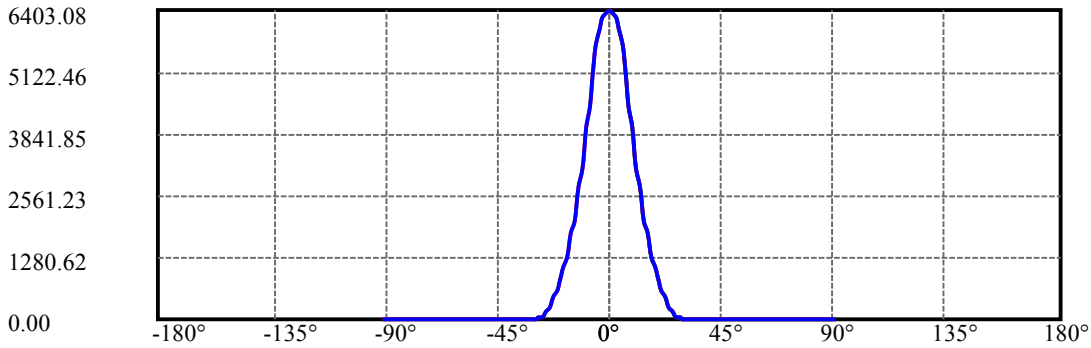
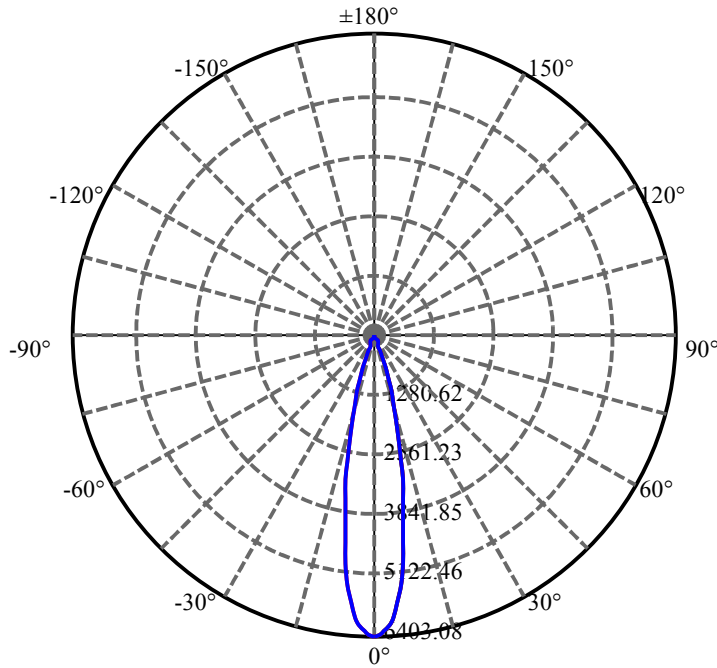
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	5.210	0.554	1087.401	.037%	99.312%
77.0	5.196	0.555	1087.956	.037%	99.363%
78.0	5.154	0.554	1088.51	.037%	99.414%
79.0	5.105	0.551	1089.061	.037%	99.464%
80.0	5.027	0.546	1089.608	.036%	99.514%
81.0	4.957	0.540	1090.148	.036%	99.563%
82.0	4.929	0.536	1090.684	.036%	99.612%
83.0	4.908	0.535	1091.218	.036%	99.661%
84.0	4.901	0.534	1091.753	.036%	99.710%
85.0	4.887	0.534	1092.287	.036%	99.759%
86.0	4.838	0.532	1092.818	.035%	99.807%
87.0	4.830	0.529	1093.348	.035%	99.855%
88.0	4.823	0.529	1093.876	.035%	99.904%
89.0	4.795	0.527	1094.404	.035%	99.952%
90.0	4.802	0.526	1094.93	.035%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1063.84	70.73%	97.16%
0-40	1069.06	71.08%	97.64%
0-60	1078.78	71.72%	98.53%
0-90	1094.40	72.76%	99.95%
0-120	1094.40	72.76%	99.95%
0-180	1094.93	72.80%	100.00%
60-90	16.14	1.07%	1.47%
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%
0-17.41	875.94	58.24%	80.00%

ZONAL LUMEN SUMMARY

0-10	469.35
10-20	495.36
20-30	99.13
30-40	5.22
40-50	4.72
50-60	5.00
60-70	5.32
70-80	5.51
80-90	4.80
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: —————

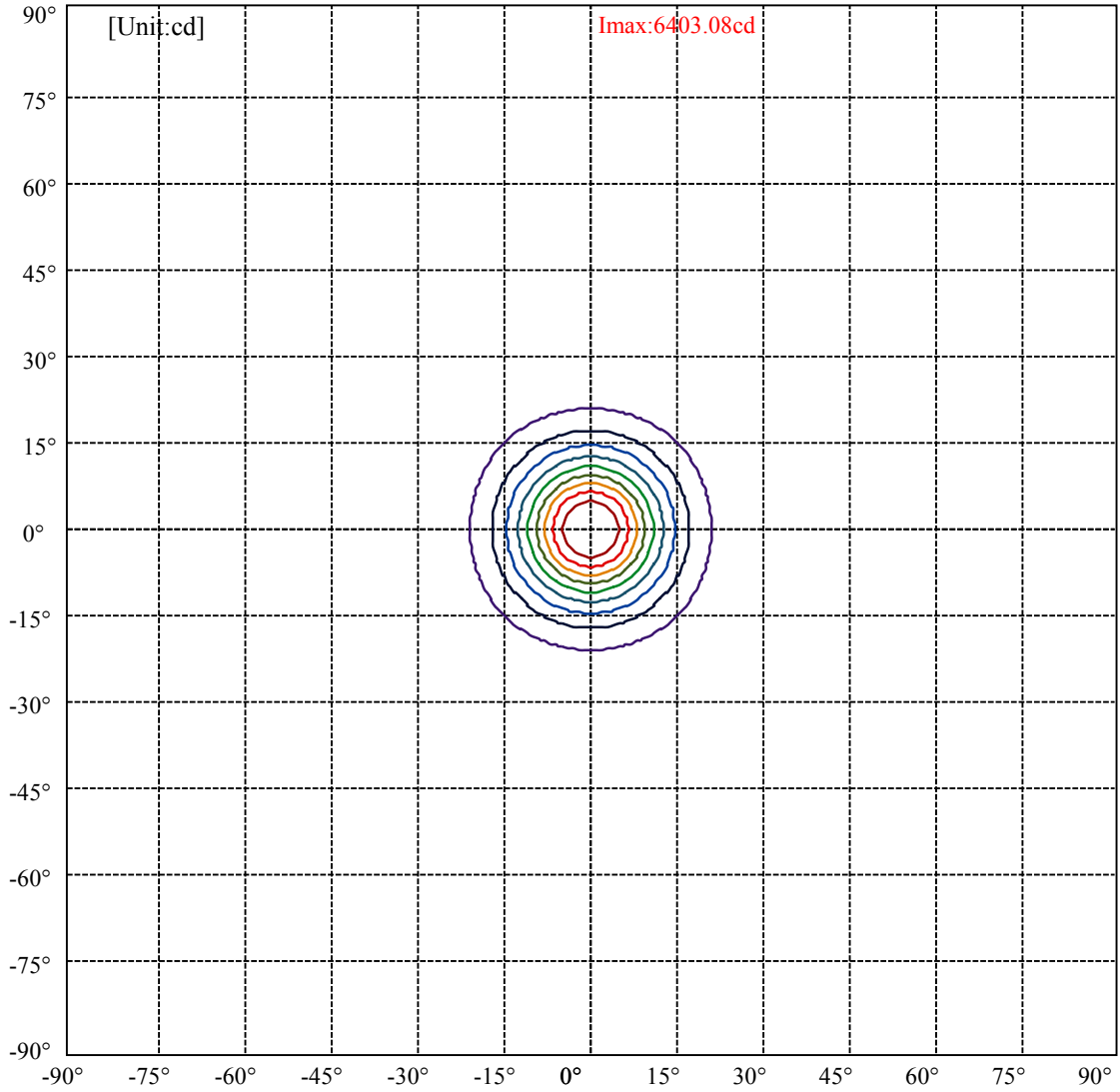
Field angle(10%Imax):C0/180Left:20.7 Right:20.7

:C90/270Left:20.7 Right:20.7

Beam Angle(50%Imax):C0/180Left:10.8 Right:10.8

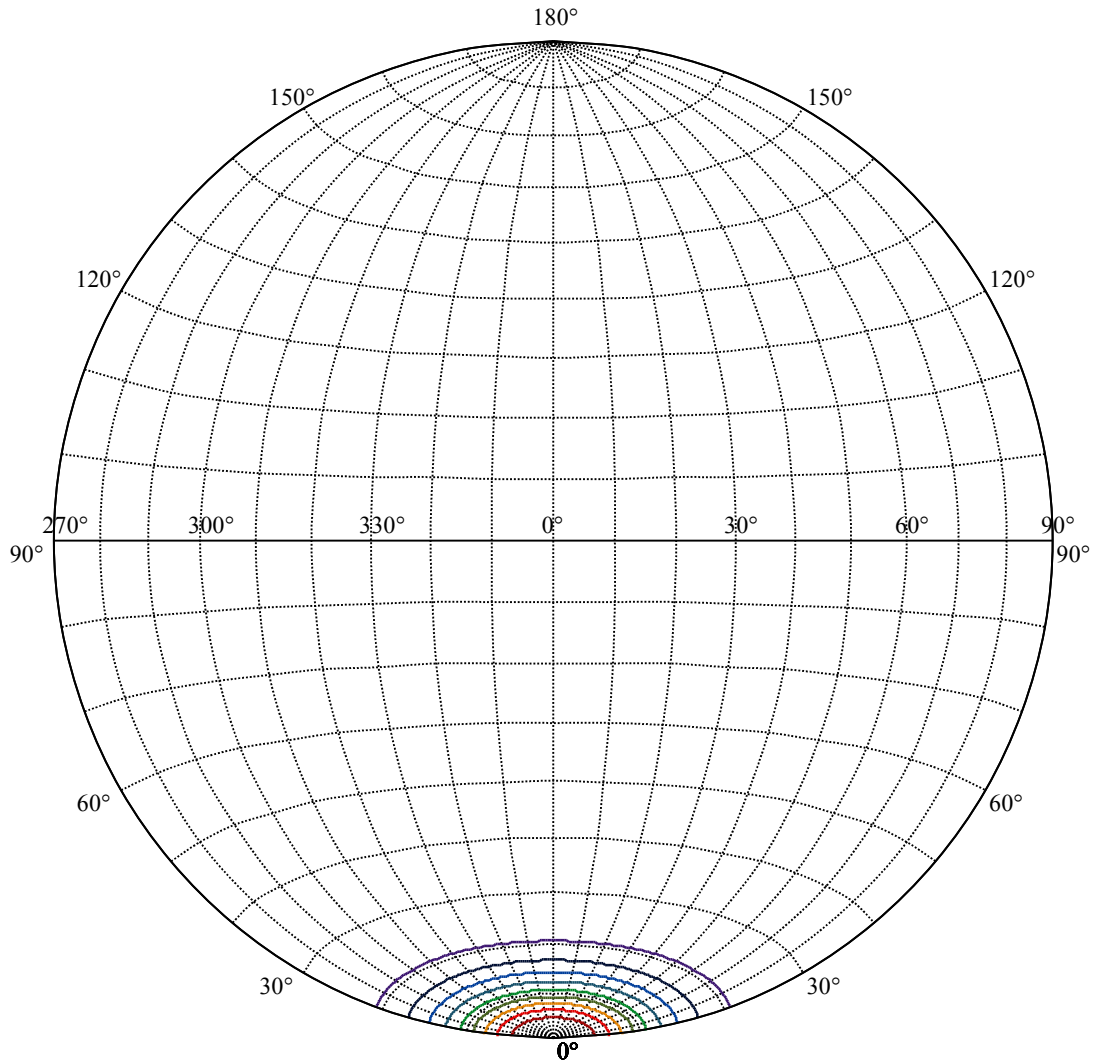
:C90/270Left:10.8 Right:10.8





(10%I <sub>max</sub> ) 640.308	—
(20%I <sub>max</sub> ) 1280.62	—
(30%I <sub>max</sub> ) 1920.92	—
(40%I <sub>max</sub> ) 2561.23	—
(50%I <sub>max</sub> ) 3201.54	—
(60%I <sub>max</sub> ) 3841.85	—
(70%I <sub>max</sub> ) 4482.15	—
(80%I <sub>max</sub> ) 5122.46	—
(90%I <sub>max</sub> ) 5762.77	—





House

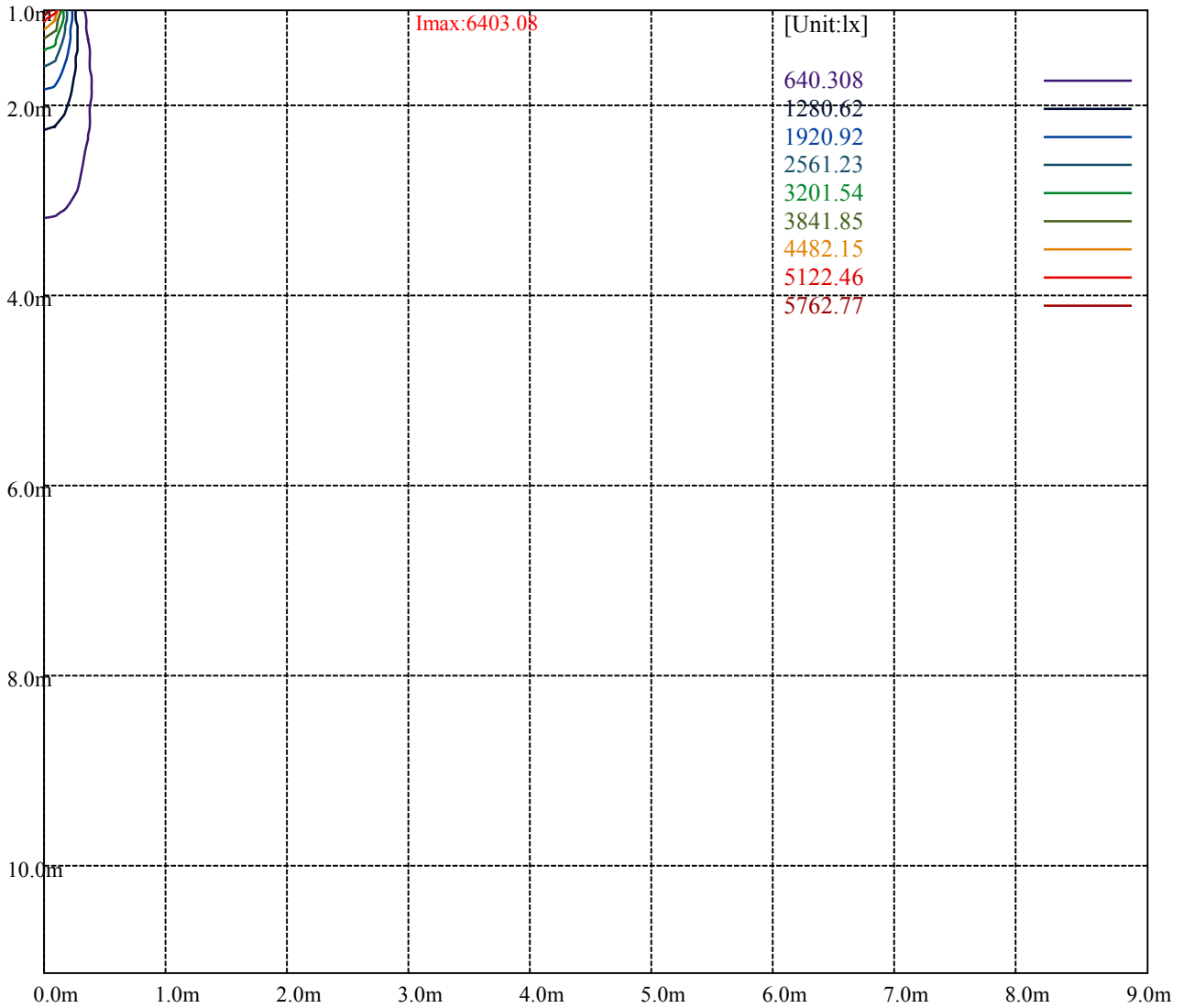
[Unit:cd]

Road

**Imax:6403.08**

(10%Imax) 640.308	—
(20%Imax) 1280.62	—
(30%Imax) 1920.92	—
(40%Imax) 2561.23	—
(50%Imax) 3201.54	—
(60%Imax) 3841.85	—
(70%Imax) 4482.15	—
(80%Imax) 5122.46	—
(90%Imax) 5762.77	—





Luminance Table

$\gamma$	45	50	55	60	65	70	75	80	85
C0	231	228	232	239	253	272	296	321	360
C45	249	248	255	267	286	312	348	386	448
C90	322	335	360	400	460	550	697	941	1560

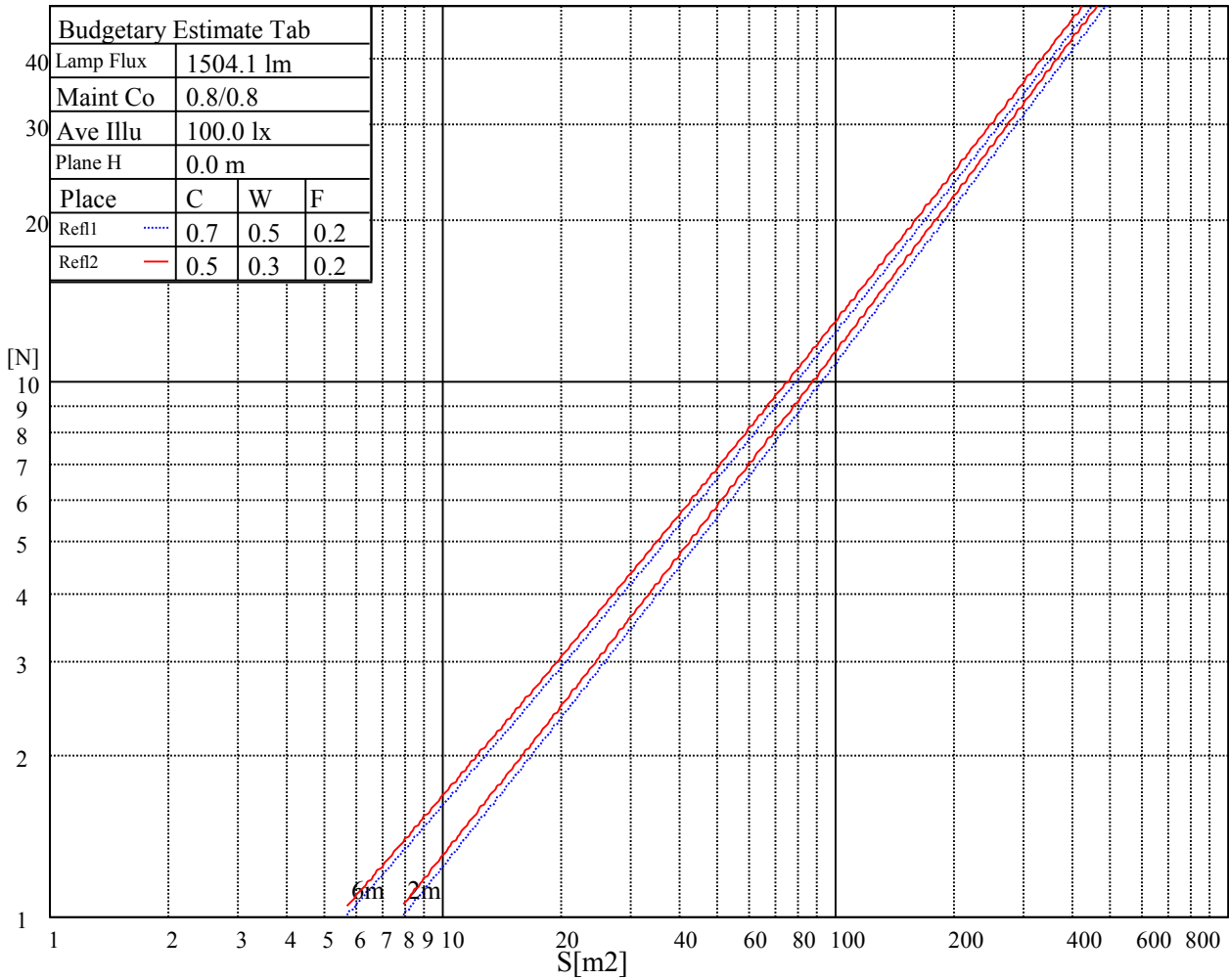
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
494	494	494	788	788	788	2186	2186	2186

Glare Table

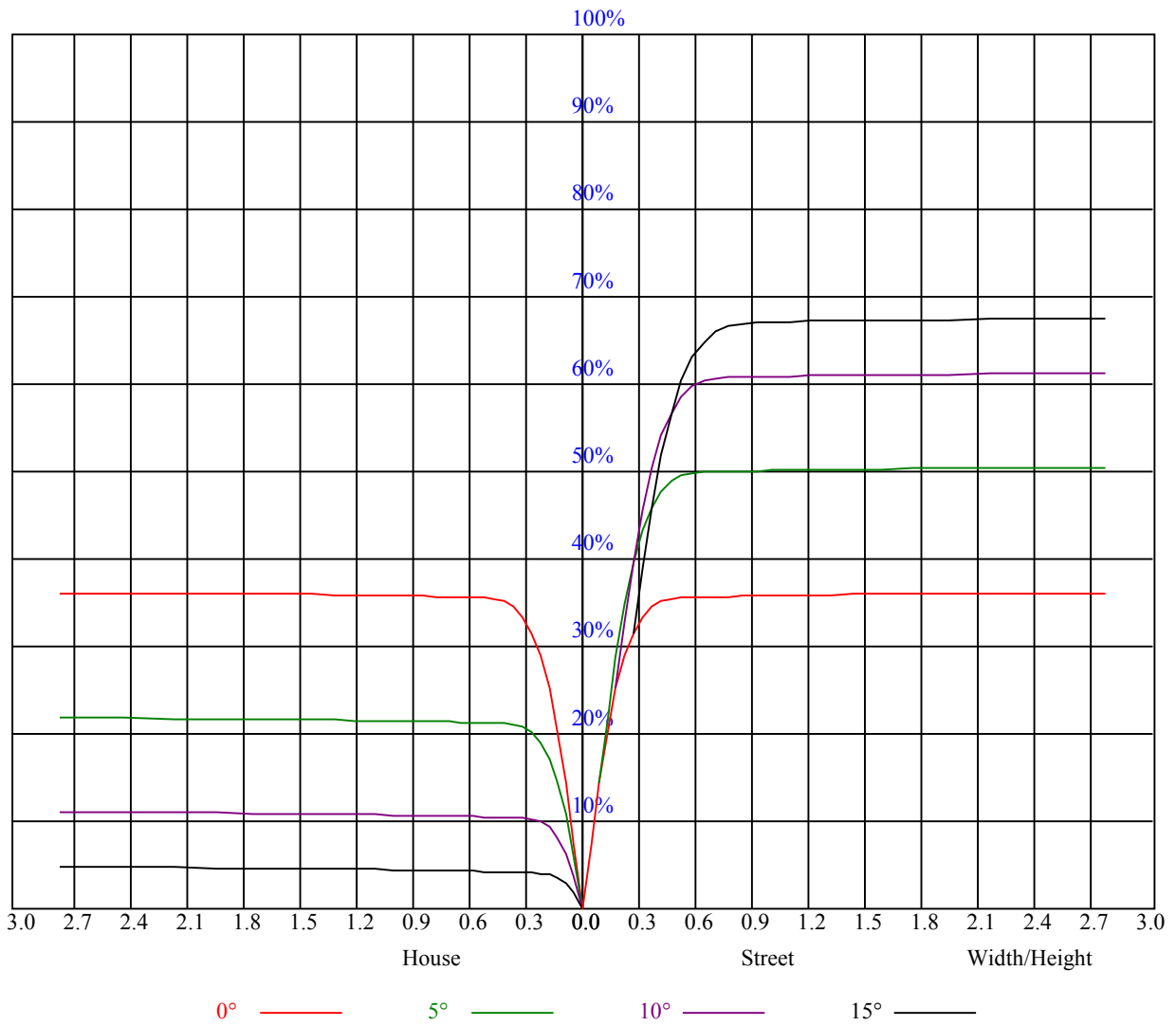
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.87	0.87	0.87	0.85	0.85	0.85	0.81	0.81	0.81	0.77	0.77	0.77	0.74	0.74	0.74	0.73
1	0.82	0.81	0.80	0.81	0.79	0.78	0.78	0.77	0.76	0.75	0.74	0.74	0.73	0.72	0.72	0.70
2	0.79	0.76	0.75	0.77	0.75	0.74	0.75	0.74	0.72	0.73	0.72	0.71	0.71	0.70	0.69	0.68
3	0.76	0.73	0.71	0.75	0.72	0.70	0.73	0.71	0.69	0.71	0.70	0.68	0.70	0.68	0.67	0.66
4	0.73	0.70	0.68	0.72	0.70	0.68	0.71	0.69	0.67	0.69	0.68	0.66	0.68	0.67	0.66	0.65
5	0.71	0.68	0.66	0.70	0.67	0.66	0.69	0.67	0.65	0.68	0.66	0.64	0.67	0.65	0.64	0.63
6	0.69	0.66	0.64	0.68	0.65	0.64	0.67	0.65	0.63	0.66	0.64	0.63	0.65	0.64	0.62	0.62
7	0.67	0.64	0.62	0.66	0.64	0.62	0.66	0.63	0.62	0.65	0.63	0.61	0.64	0.62	0.61	0.60
8	0.65	0.62	0.60	0.65	0.62	0.60	0.64	0.62	0.60	0.63	0.61	0.60	0.63	0.61	0.60	0.59
9	0.64	0.61	0.59	0.63	0.61	0.59	0.63	0.60	0.59	0.62	0.60	0.59	0.62	0.60	0.58	0.58
10	0.62	0.59	0.58	0.62	0.59	0.58	0.61	0.59	0.57	0.61	0.59	0.57	0.60	0.59	0.57	0.57



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	6379.88	6422.06	6329.81	6260.63	6145.31	5888.25	5563.13	5137.88	4704.19
45.0	6419.81	6383.25	6244.31	6180.19	5989.50	5625.00	5247.00	4822.88	4319.44
90.0	6396.19	6315.75	6221.81	6087.38	5833.69	5454.00	5043.38	4542.19	4042.69
135.0	6416.44	6352.88	6263.44	6204.38	6024.38	5668.31	5291.44	4865.06	4368.38
180.0	6379.88	6310.69	6225.75	6111.00	5866.88	5547.38	5110.31	4635.56	4197.38
225.0	6419.81	6402.94	6291.56	6189.19	6052.50	5753.25	5424.75	4984.88	4513.50
270.0	6396.19	6422.63	6365.81	6246.00	6157.69	5909.63	5596.31	5235.19	4775.06
315.0	6416.44	6405.75	6317.44	6213.38	6060.38	5796.56	5420.81	4971.94	4530.38
360.0	6379.88	6422.06	6329.81	6260.63	6145.31	5888.25	5563.13	5137.88	4704.19
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4198.50	3714.19	3308.06	2924.44	2471.06	2142.00	1855.13	1532.81	1307.81
45.0	3840.19	3421.69	2983.50	2623.50	2255.06	1928.25	1671.75	1416.94	1195.31
90.0	3621.38	3185.44	2786.06	2463.19	2168.44	1844.44	1614.38	1406.25	1117.86
135.0	3884.06	3482.44	3056.06	2713.50	2364.75	2053.69	1809.56	1561.50	1329.19
180.0	3722.63	3281.63	2920.50	2553.75	2262.38	1961.44	1688.63	1473.19	1218.38
225.0	4093.31	3632.06	3203.44	2842.31	2505.38	2126.25	1863.56	1621.69	1380.38
270.0	4283.44	3862.13	3409.88	3028.50	2620.13	2248.31	1956.94	1658.25	1399.50
315.0	4022.44	3543.75	3150.00	2727.00	2370.38	2017.69	1715.63	1472.06	1088.04
360.0	4198.50	3714.19	3308.06	2924.44	2471.06	2142.00	1855.13	1532.81	1307.81
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1120.50	922.50	753.19	615.94	469.13	360.56	291.38	170.27	87.24
45.0	1026.00	868.50	685.69	555.75	425.25	300.38	230.96	120.77	72.34
90.0	1011.26	849.66	700.37	531.45	411.64	302.34	192.99	111.15	56.64
135.0	1162.13	990.00	798.75	654.75	534.94	361.69	285.19	166.11	92.03
180.0	1064.48	897.92	745.59	572.96	448.93	331.99	216.06	134.72	74.31
225.0	1122.36	995.12	805.16	657.56	519.36	372.94	277.03	176.63	98.78
270.0	1202.63	1027.69	826.88	680.06	547.88	407.25	293.63	237.49	117.17
315.0	1021.22	857.31	709.71	539.78	421.99	317.53	207.62	126.56	71.78
360.0	1120.50	922.50	753.19	615.94	469.13	360.56	291.38	170.27	87.24
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	44.38	27.06	17.61	13.33	11.48	10.29	9.56	9.00	8.44
45.0	29.93	17.89	13.11	10.52	9.62	9.11	8.44	7.99	7.71
90.0	26.66	15.75	11.53	10.07	9.34	8.66	8.10	7.76	7.43
135.0	42.30	21.83	13.73	11.14	10.01	9.28	8.72	8.21	7.82
180.0	34.48	20.98	12.77	10.29	9.56	8.83	8.21	7.88	7.54
225.0	58.89	34.03	17.94	12.77	11.08	9.84	9.23	8.61	8.10
270.0	59.79	36.51	22.95	14.57	11.98	10.80	10.01	9.28	8.72
315.0	39.15	25.82	16.20	12.66	11.48	10.46	9.73	9.17	8.72
360.0	44.38	27.06	17.61	13.33	11.48	10.29	9.56	9.00	8.44
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	8.04	7.71	7.37	7.14	6.92	6.75	6.58	6.47	6.36
45.0	7.31	7.09	6.92	6.69	6.53	6.41	6.24	6.19	6.08
90.0	7.09	6.86	6.64	6.47	6.30	6.19	6.08	5.96	5.91
135.0	7.48	7.20	6.92	6.75	6.58	6.41	6.30	6.24	6.13
180.0	7.14	6.98	6.75	6.53	6.41	6.30	6.13	6.08	5.96
225.0	7.65	7.31	7.03	6.75	6.58	6.36	6.24	6.13	5.96
270.0	8.27	7.88	7.48	7.26	6.98	6.81	6.58	6.47	6.30
315.0	8.21	7.88	7.54	7.26	7.03	6.86	6.69	6.58	6.47
360.0	8.04	7.71	7.37	7.14	6.92	6.75	6.58	6.47	6.36



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	6.24	6.19	6.13	6.08	6.02	5.91	5.85	5.85	5.79
45.0	5.96	5.91	5.85	5.79	5.74	5.68	5.63	5.63	5.57
90.0	5.79	5.79	5.74	5.68	5.63	5.63	5.57	5.51	5.51
135.0	6.02	6.02	5.91	5.85	5.79	5.79	5.74	5.68	5.68
180.0	5.91	5.85	5.79	5.79	5.68	5.63	5.63	5.63	5.57
225.0	5.91	5.85	5.74	5.74	5.63	5.57	5.57	5.46	5.46
270.0	6.19	6.08	6.02	5.96	5.91	5.85	5.79	5.74	5.68
315.0	6.36	6.24	6.19	6.08	6.02	5.96	5.96	5.91	5.85
360.0	6.24	6.19	6.13	6.08	6.02	5.91	5.85	5.85	5.79
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	5.74	5.68	5.68	5.63	5.63	5.63	5.57	5.57	5.51
45.0	5.51	5.46	5.46	5.40	5.40	5.34	5.29	5.29	5.23
90.0	5.46	5.46	5.40	5.40	5.34	5.34	5.34	5.29	5.29
135.0	5.63	5.63	5.63	5.57	5.57	5.57	5.51	5.51	5.51
180.0	5.51	5.51	5.46	5.46	5.46	5.40	5.40	5.40	5.40
225.0	5.40	5.40	5.34	5.29	5.29	5.29	5.23	5.23	5.18
270.0	5.68	5.63	5.57	5.57	5.51	5.51	5.46	5.46	5.46
315.0	5.79	5.79	5.74	5.74	5.68	5.68	5.68	5.68	5.68
360.0	5.74	5.68	5.68	5.63	5.63	5.63	5.57	5.57	5.51
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	5.51	5.46	5.46	5.40	5.40	5.34	5.34	5.34	5.29
45.0	5.23	5.18	5.18	5.18	5.12	5.18	5.12	5.12	5.06
90.0	5.29	5.23	5.23	5.23	5.23	5.18	5.18	5.18	5.12
135.0	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51
180.0	5.34	5.34	5.34	5.29	5.29	5.29	5.29	5.23	5.23
225.0	5.18	5.18	5.12	5.12	5.12	5.06	5.01	5.06	5.01
270.0	5.40	5.40	5.40	5.40	5.34	5.34	5.29	5.29	5.23
315.0	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63
360.0	5.51	5.46	5.46	5.40	5.40	5.34	5.34	5.34	5.29
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	5.29	5.29	5.23	5.23	5.23	5.23	5.18	5.12	5.06
45.0	5.06	5.06	5.06	5.06	5.06	5.01	5.01	5.01	4.95
90.0	5.12	5.12	5.12	5.12	5.06	5.06	5.06	5.06	5.01
135.0	5.51	5.51	5.51	5.51	5.51	5.46	5.40	5.23	5.12
180.0	5.23	5.18	5.18	5.18	5.12	5.12	5.06	5.06	5.01
225.0	5.01	5.01	5.01	4.95	4.95	4.95	4.95	4.95	4.89
270.0	5.23	5.23	5.23	5.18	5.18	5.18	5.12	5.12	5.12
315.0	5.63	5.63	5.63	5.63	5.57	5.57	5.46	5.29	5.06
360.0	5.29	5.29	5.23	5.23	5.23	5.23	5.18	5.12	5.06
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.01	4.89	4.89	4.89	4.84	4.84	4.84	4.84	4.78
45.0	4.95	4.95	4.89	4.89	4.89	4.84	4.84	4.84	4.84
90.0	5.01	4.95	4.95	4.95	4.95	4.84	4.84	4.84	4.78
135.0	4.89	4.89	4.89	4.89	4.89	4.84	4.84	4.84	4.78
180.0	4.95	4.89	4.84	4.84	4.84	4.78	4.78	4.78	4.78
225.0	4.89	4.89	4.89	4.89	4.84	4.84	4.84	4.78	4.78
270.0	5.06	5.06	5.01	4.95	4.95	4.89	4.84	4.84	4.84
315.0	4.89	4.89	4.89	4.89	4.89	4.84	4.84	4.84	4.78
360.0	5.01	4.89	4.89	4.89	4.84	4.84	4.84	4.84	4.78

Intensity data(cd)

C/ $\gamma$ (°)	90.0
0.0	4.78
45.0	4.84
90.0	4.84
135.0	4.84
180.0	4.78
225.0	4.78
270.0	4.78
315.0	4.78
360.0	4.78