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## Nata

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LumCAT: 1-1006-M	
Luminaire: 92.70.124.00	
Report No: 210715-B013	Voltage(V): 36.7200
Test No: 210715-C013	Current(A): 0.3050
LampCAT: Fortimo LED SLM 1202 G7N	Power (W): 11.1990
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): 1074.18  
Efficiency(%): 71.42%  
Lumens(lm)/Power(W): 95.92  
Central intensity(cd): 5189.203  
Maximum intensity(cd): 5189.203  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=25.8  
                                  [C90/270]Total=25.8  
Field angle(10%Imax): [C0/180]Total=43.3  
                                  [C90/270]Total=43.3  
Maximum s/h(1/2): C0\_180=0.44 C90\_270=0.44  
Maximum s/h(1/4): C0\_180=0.42 C90\_270=0.42  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 71.42%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.507%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5189.203	0.000	0	.000%	.000%
1.0	5183.859	4.963	4.963	.330%	.462%
2.0	5136.258	14.812	19.776	.985%	1.841%
3.0	5050.688	24.364	44.14	1.620%	4.109%
4.0	4944.094	33.456	77.595	2.224%	7.224%
5.0	4798.758	41.913	119.509	2.787%	11.126%
6.0	4637.180	49.588	169.097	3.297%	15.742%
7.0	4429.758	56.278	225.375	3.742%	20.981%
8.0	4178.672	61.609	286.984	4.096%	26.717%
9.0	3890.813	65.399	352.383	4.348%	32.805%
10.0	3574.547	67.559	419.942	4.492%	39.094%
11.0	3218.836	67.880	487.822	4.513%	45.413%
12.0	2895.750	66.841	554.663	4.444%	51.636%
13.0	2552.133	64.653	619.315	4.299%	57.655%
14.0	2191.430	60.717	680.033	4.037%	63.307%
15.0	1903.359	56.215	736.248	3.738%	68.540%
16.0	1619.578	51.621	787.869	3.432%	73.346%
17.0	1365.680	46.488	834.357	3.091%	77.674%
18.0	1140.272	41.318	875.675	2.747%	81.520%
19.0	959.210	36.527	912.201	2.429%	84.921%
20.0	766.652	31.588	943.789	2.100%	87.861%
21.0	604.898	26.337	970.126	1.751%	90.313%
22.0	472.514	21.651	991.777	1.439%	92.329%
23.0	343.835	17.129	1008.906	1.139%	93.923%
24.0	237.748	12.715	1021.622	.845%	95.107%
25.0	155.412	8.940	1030.561	.594%	95.939%
26.0	85.570	5.688	1036.25	.378%	96.469%
27.0	43.439	3.156	1039.406	.210%	96.763%
28.0	25.369	1.742	1041.148	.116%	96.925%
29.0	17.044	1.110	1042.258	.074%	97.028%
30.0	13.219	0.817	1043.075	.054%	97.104%
31.0	11.278	0.682	1043.757	.045%	97.168%
32.0	10.160	0.614	1044.371	.041%	97.225%
33.0	9.373	0.575	1044.946	.038%	97.278%
34.0	8.761	0.549	1045.495	.036%	97.329%
35.0	8.255	0.528	1046.023	.035%	97.379%
36.0	7.777	0.510	1046.534	.034%	97.426%
37.0	7.439	0.496	1047.03	.033%	97.472%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	7.109	0.486	1047.516	.032%	97.518%
39.0	6.841	0.476	1047.992	.032%	97.562%
40.0	6.652	0.471	1048.462	.031%	97.606%
41.0	6.490	0.468	1048.93	.031%	97.649%
42.0	6.342	0.466	1049.397	.031%	97.693%
43.0	6.216	0.465	1049.862	.031%	97.736%
44.0	6.124	0.466	1050.327	.031%	97.779%
45.0	6.026	0.467	1050.794	.031%	97.823%
46.0	5.948	0.468	1051.263	.031%	97.866%
47.0	5.878	0.470	1051.733	.031%	97.910%
48.0	5.822	0.473	1052.206	.031%	97.954%
49.0	5.766	0.476	1052.682	.032%	97.999%
50.0	5.723	0.479	1053.161	.032%	98.043%
51.0	5.695	0.483	1053.644	.032%	98.088%
52.0	5.653	0.487	1054.131	.032%	98.133%
53.0	5.604	0.490	1054.621	.033%	98.179%
54.0	5.583	0.493	1055.114	.033%	98.225%
55.0	5.555	0.497	1055.611	.033%	98.271%
56.0	5.505	0.500	1056.111	.033%	98.318%
57.0	5.491	0.503	1056.613	.033%	98.365%
58.0	5.477	0.507	1057.121	.034%	98.412%
59.0	5.435	0.510	1057.631	.034%	98.459%
60.0	5.421	0.513	1058.144	.034%	98.507%
61.0	5.386	0.516	1058.659	.034%	98.555%
62.0	5.386	0.519	1059.179	.035%	98.603%
63.0	5.365	0.523	1059.701	.035%	98.652%
64.0	5.344	0.525	1060.227	.035%	98.701%
65.0	5.316	0.528	1060.754	.035%	98.750%
66.0	5.316	0.530	1061.285	.035%	98.799%
67.0	5.288	0.533	1061.818	.035%	98.849%
68.0	5.295	0.536	1062.354	.036%	98.899%
69.0	5.288	0.540	1062.894	.036%	98.949%
70.0	5.259	0.542	1063.436	.036%	99.000%
71.0	5.259	0.544	1063.979	.036%	99.050%
72.0	5.238	0.546	1064.525	.036%	99.101%
73.0	5.231	0.547	1065.073	.036%	99.152%
74.0	5.266	0.552	1065.624	.037%	99.203%
75.0	5.337	0.560	1066.185	.037%	99.256%

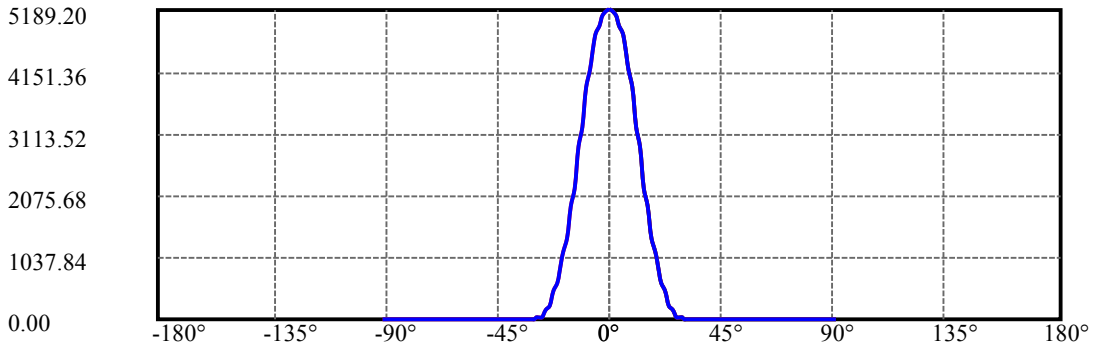
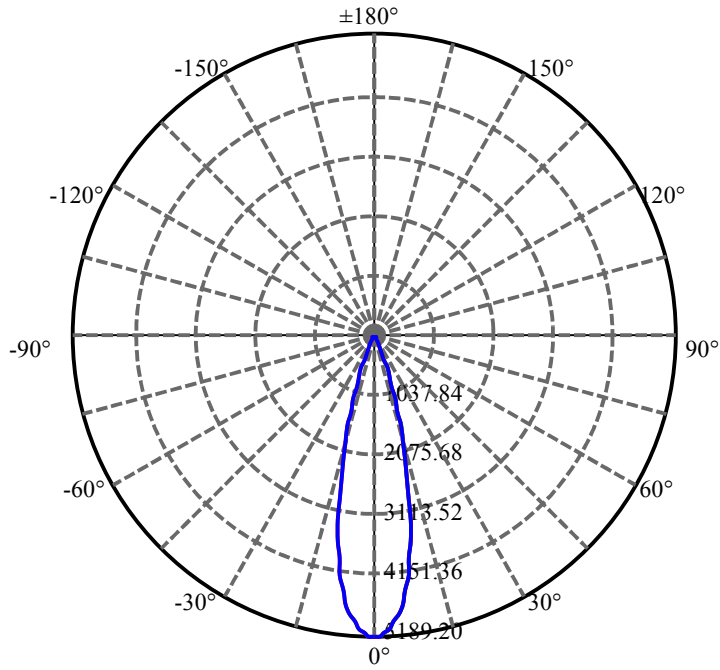
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	5.302	0.565	1066.749	.038%	99.308%
77.0	5.266	0.563	1067.313	.037%	99.361%
78.0	5.077	0.554	1067.866	.037%	99.412%
79.0	5.020	0.543	1068.409	.036%	99.463%
80.0	4.957	0.538	1068.947	.036%	99.513%
81.0	4.894	0.533	1069.48	.035%	99.562%
82.0	4.873	0.530	1070.009	.035%	99.612%
83.0	4.859	0.529	1070.538	.035%	99.661%
84.0	4.866	0.530	1071.068	.035%	99.710%
85.0	4.816	0.528	1071.596	.035%	99.759%
86.0	4.746	0.523	1072.119	.035%	99.808%
87.0	4.711	0.518	1072.637	.034%	99.856%
88.0	4.690	0.515	1073.152	.034%	99.904%
89.0	4.704	0.515	1073.666	.034%	99.952%
90.0	4.683	0.515	1074.181	.034%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1043.07	69.35%	97.10%
0-40	1048.46	69.71%	97.61%
0-60	1058.14	70.35%	98.51%
0-90	1073.67	71.38%	99.95%
0-120	1073.67	71.38%	99.95%
0-180	1074.18	71.42%	100.00%
60-90	16.04	1.07%	1.49%
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%
0-17.60	859.34	57.13%	80.00%

ZONAL LUMEN SUMMARY

0-10	419.94
10-20	523.85
20-30	99.29
30-40	5.39
40-50	4.70
50-60	4.98
60-70	5.29
70-80	5.51
80-90	4.72
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: —————

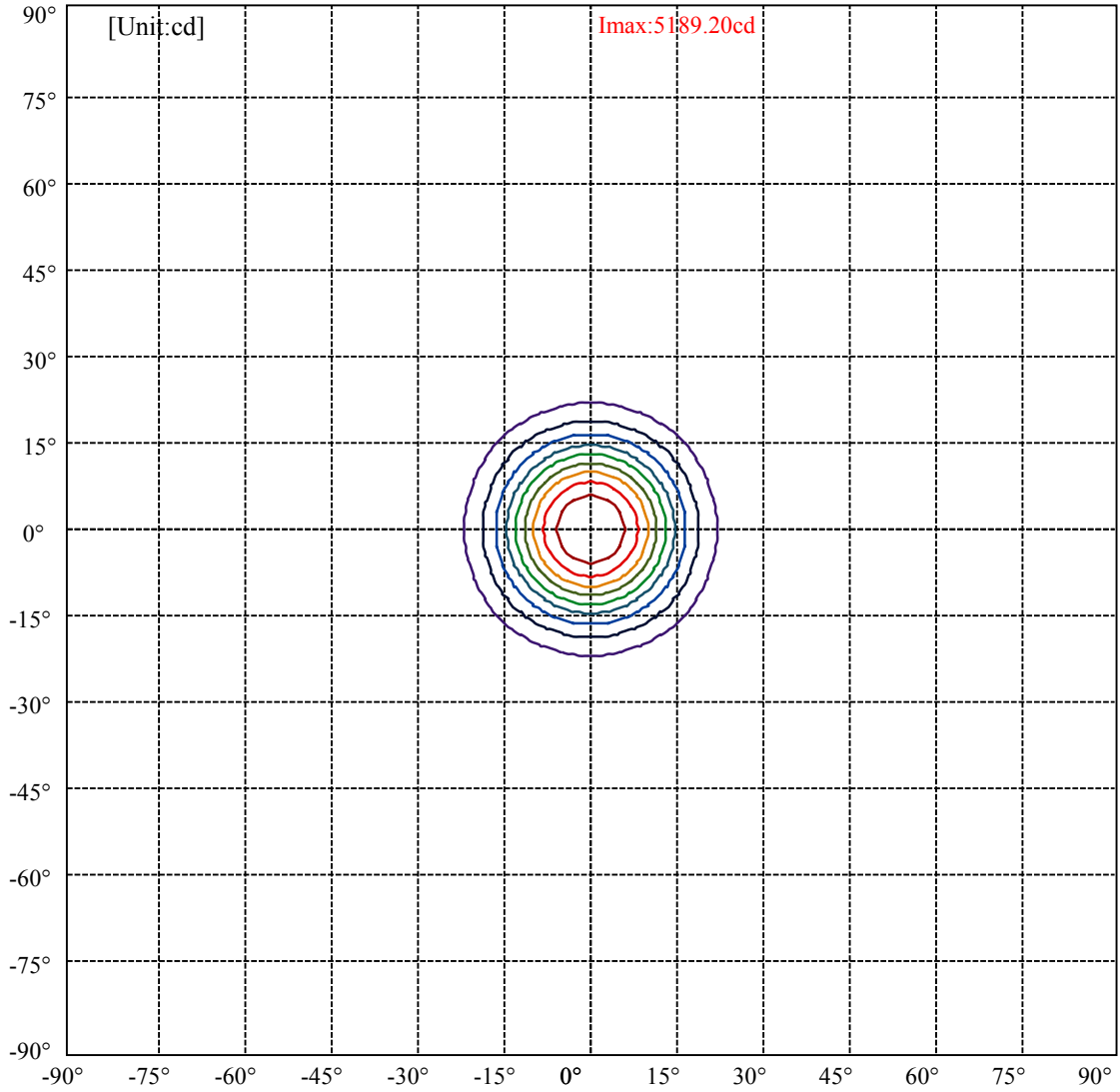
Field angle(10%Imax):C0/180Left:21.6 Right:21.6

:C90/270Left:21.6 Right:21.6

Beam Angle(50%Imax):C0/180Left:12.9 Right:12.9

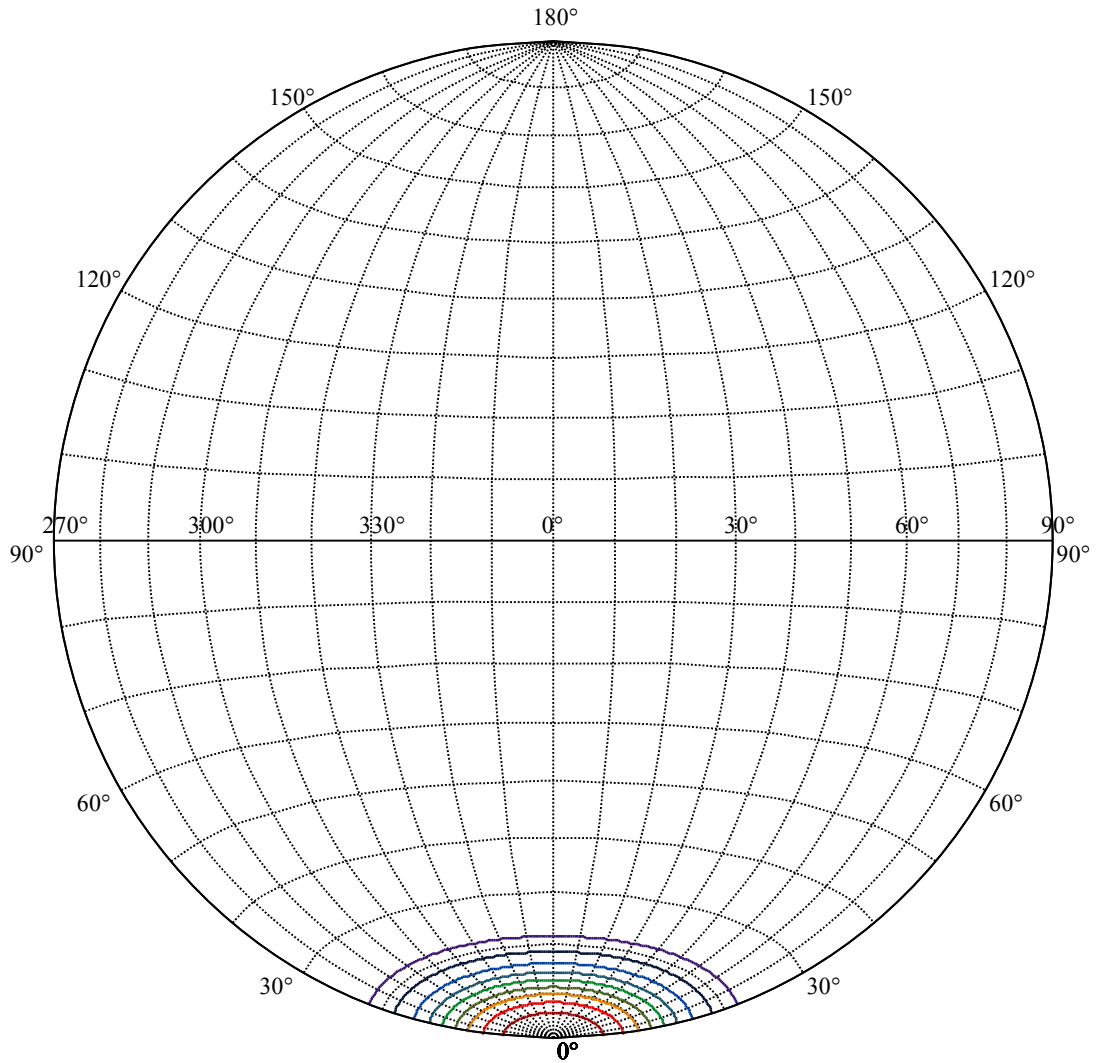
:C90/270Left:12.9 Right:12.9





(10%I <sub>max</sub> ) 518.92	—
(20%I <sub>max</sub> ) 1037.84	—
(30%I <sub>max</sub> ) 1556.76	—
(40%I <sub>max</sub> ) 2075.68	—
(50%I <sub>max</sub> ) 2594.6	—
(60%I <sub>max</sub> ) 3113.52	—
(70%I <sub>max</sub> ) 3632.44	—
(80%I <sub>max</sub> ) 4151.36	—
(90%I <sub>max</sub> ) 4670.28	—





House

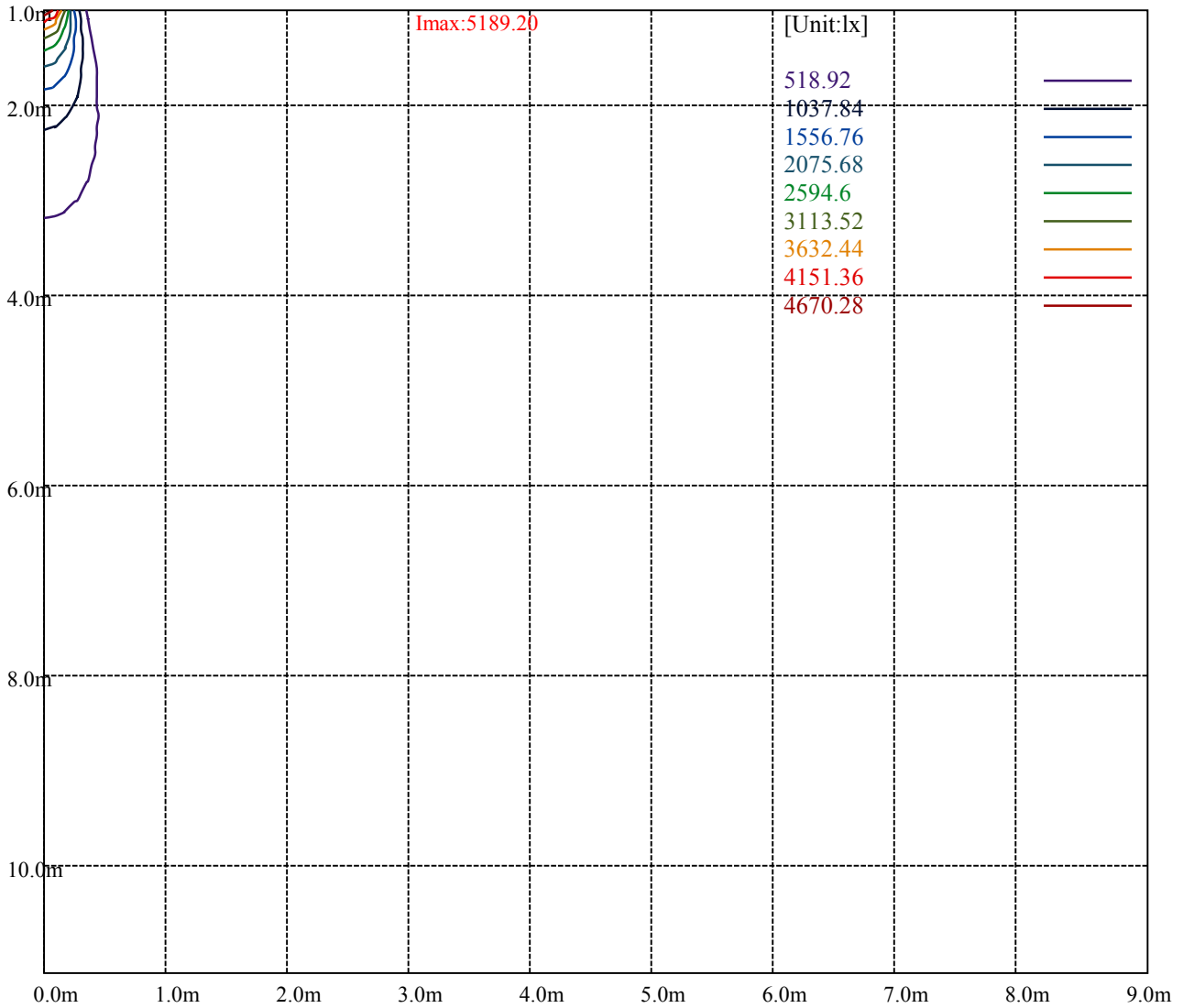
[Unit:cd]

Road

**Imax:5189.20**

(10%Imax) 518.92	—
(20%Imax) 1037.84	—
(30%Imax) 1556.76	—
(40%Imax) 2075.68	—
(50%Imax) 2594.6	—
(60%Imax) 3113.52	—
(70%Imax) 3632.44	—
(80%Imax) 4151.36	—
(90%Imax) 4670.28	—





Luminance Table

$\gamma$	45	50	55	60	65	70	75	80	85
C0	230	227	231	239	251	270	302	316	354
C45	248	247	254	266	284	310	355	381	442
C90	321	333	360	398	456	547	711	928	1538

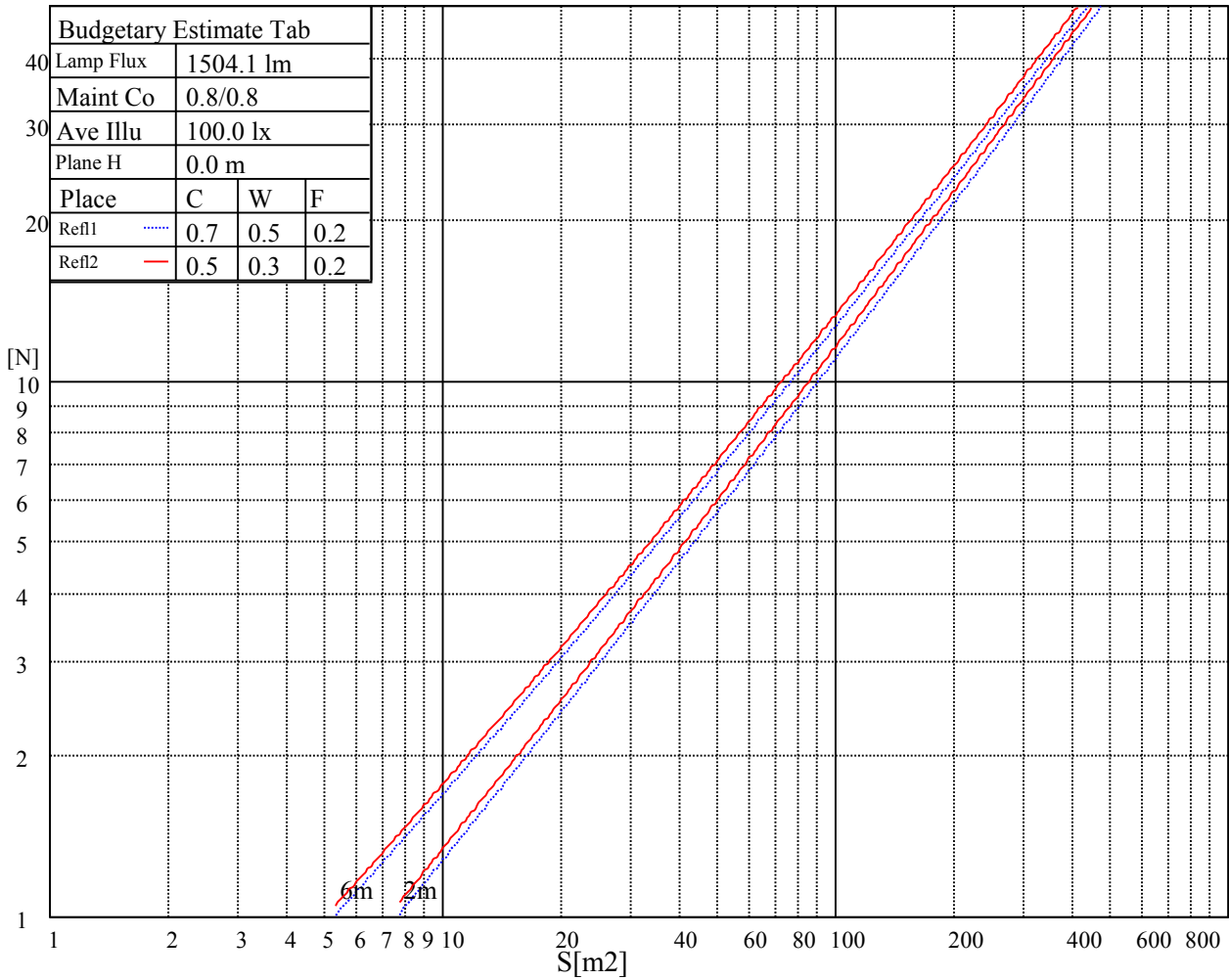
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
490	490	490	804	804	804	2154	2154	2154

Glare Table

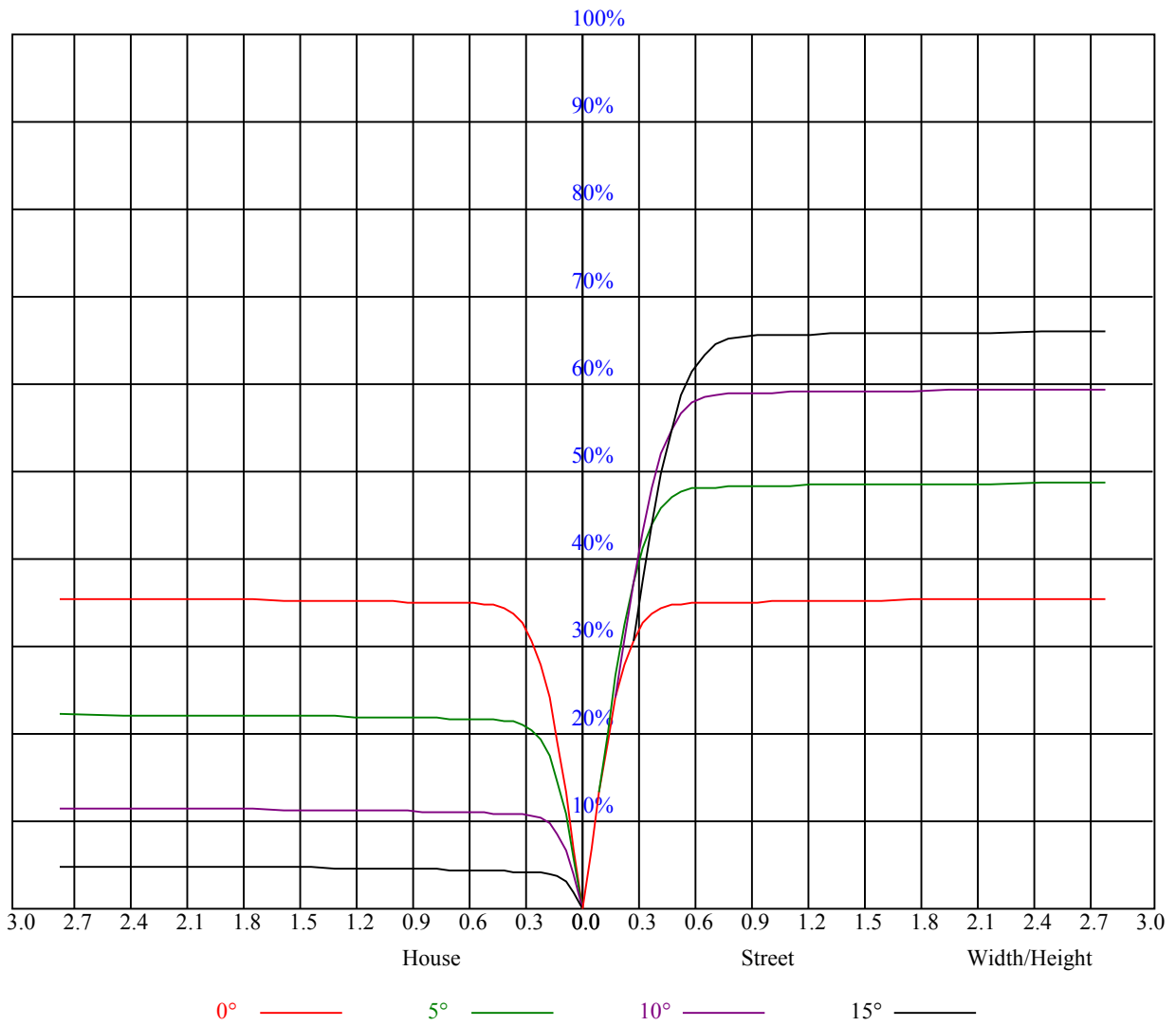
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.85	0.85	0.85	0.83	0.83	0.83	0.79	0.79	0.79	0.76	0.76	0.76	0.73	0.73	0.73	0.71
1	0.81	0.79	0.78	0.79	0.78	0.77	0.76	0.75	0.74	0.74	0.73	0.72	0.71	0.71	0.70	0.69
2	0.77	0.75	0.73	0.76	0.74	0.72	0.74	0.72	0.71	0.71	0.70	0.69	0.70	0.69	0.68	0.67
3	0.74	0.71	0.69	0.73	0.71	0.69	0.71	0.69	0.68	0.70	0.68	0.67	0.68	0.67	0.66	0.65
4	0.71	0.69	0.66	0.70	0.68	0.66	0.69	0.67	0.65	0.68	0.66	0.65	0.67	0.65	0.64	0.63
5	0.69	0.66	0.64	0.68	0.66	0.64	0.67	0.65	0.63	0.66	0.64	0.63	0.65	0.64	0.62	0.61
6	0.67	0.64	0.62	0.66	0.64	0.62	0.65	0.63	0.61	0.65	0.63	0.61	0.64	0.62	0.61	0.60
7	0.65	0.62	0.60	0.65	0.62	0.60	0.64	0.61	0.60	0.63	0.61	0.59	0.62	0.61	0.59	0.58
8	0.63	0.60	0.59	0.63	0.60	0.58	0.62	0.60	0.58	0.62	0.60	0.58	0.61	0.59	0.58	0.57
9	0.62	0.59	0.57	0.61	0.59	0.57	0.61	0.58	0.57	0.60	0.58	0.57	0.60	0.58	0.56	0.56
10	0.60	0.57	0.56	0.60	0.57	0.56	0.59	0.57	0.55	0.59	0.57	0.55	0.59	0.57	0.55	0.55



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	5190.75	5202.00	5189.63	5134.50	5032.13	4912.88	4803.75	4654.13	4467.94
45.0	5190.19	5175.00	5076.56	4955.63	4874.63	4762.13	4622.63	4417.31	4179.94
90.0	5181.19	5133.38	5030.44	4920.75	4787.44	4619.81	4420.69	4150.13	3839.63
135.0	5194.69	5179.50	5117.63	5008.50	4872.38	4677.75	4475.25	4237.88	3939.75
180.0	5190.75	5173.88	5098.50	4953.94	4810.50	4641.75	4424.63	4151.81	3869.44
225.0	5190.19	5202.56	5178.38	5088.38	4961.25	4825.69	4668.75	4462.88	4212.56
270.0	5181.19	5201.44	5207.63	5186.81	5114.25	4969.13	4845.38	4706.44	4507.88
315.0	5194.69	5203.13	5191.31	5157.00	5100.19	4980.94	4836.38	4657.50	4412.25
360.0	5190.75	5202.00	5189.63	5134.50	5032.13	4912.88	4803.75	4654.13	4467.94
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4217.63	3956.63	3630.94	3319.88	2957.63	2588.06	2273.63	1950.75	1660.50
45.0	3848.06	3551.06	3197.25	2869.31	2500.31	2189.81	1870.88	1582.88	1346.63
90.0	3530.25	3164.06	2795.06	2467.69	2156.63	1805.06	1547.44	1242.56	1053.79
135.0	3606.75	3282.19	2899.69	2563.88	2206.13	1879.88	1617.19	1358.44	1119.38
180.0	3512.81	3136.50	2800.13	2431.13	2126.81	1820.81	1544.63	1329.19	1112.96
225.0	3943.13	3600.56	3232.69	2901.94	2566.13	2172.38	1895.06	1636.88	1377.00
270.0	4263.19	4002.75	3671.44	3363.75	2990.81	2611.13	2283.19	1949.06	1644.19
315.0	4204.69	3902.63	3523.50	3248.44	2912.63	2464.31	2194.88	1906.88	1611.00
360.0	4217.63	3956.63	3630.94	3319.88	2957.63	2588.06	2273.63	1950.75	1660.50
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1423.69	1244.81	979.31	807.19	672.19	483.75	363.94	293.63	153.00
45.0	1113.75	934.88	738.56	571.50	440.44	300.38	235.35	122.34	64.63
90.0	865.07	700.93	516.54	398.03	281.98	171.51	109.13	53.78	28.69
135.0	943.88	766.69	576.00	446.06	342.56	285.19	130.28	70.03	33.13
180.0	904.89	742.67	595.74	435.99	313.03	221.51	126.62	60.36	32.18
225.0	1107.90	973.41	792.28	629.16	483.86	349.99	247.05	145.07	78.98
270.0	1407.94	1209.94	970.88	802.69	648.56	478.13	359.44	288.56	160.20
315.0	1355.06	1100.36	963.90	748.58	597.49	460.24	330.19	209.53	133.76
360.0	1423.69	1244.81	979.31	807.19	672.19	483.75	363.94	293.63	153.00
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	76.44	41.40	23.91	17.27	13.39	11.42	10.46	9.62	8.89
45.0	31.61	20.98	15.36	11.70	10.29	9.56	8.83	8.33	7.88
90.0	19.58	14.46	11.31	10.46	9.73	8.89	8.44	8.04	7.65
135.0	19.52	14.79	12.38	11.25	10.29	9.56	9.00	8.49	8.10
180.0	18.34	14.23	11.98	10.80	10.01	9.28	8.72	8.27	7.93
225.0	39.26	21.94	15.02	12.54	11.31	10.18	9.39	8.78	8.21
270.0	75.77	39.32	24.19	15.92	12.43	11.19	9.96	9.17	8.61
315.0	66.99	35.83	22.22	15.81	12.77	11.19	10.18	9.39	8.78
360.0	76.44	41.40	23.91	17.27	13.39	11.42	10.46	9.62	8.89
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	8.38	7.93	7.43	7.09	6.86	6.64	6.41	6.30	6.19
45.0	7.48	7.20	6.92	6.69	6.53	6.36	6.19	6.08	6.02
90.0	7.37	7.09	6.86	6.69	6.53	6.47	6.36	6.24	6.19
135.0	7.76	7.54	7.20	7.03	6.92	6.75	6.69	6.58	6.47
180.0	7.54	7.26	7.03	6.81	6.69	6.58	6.47	6.36	6.30
225.0	7.65	7.31	6.98	6.69	6.47	6.30	6.13	6.02	5.91
270.0	7.93	7.48	7.14	6.75	6.53	6.30	6.13	5.96	5.85
315.0	8.10	7.71	7.31	6.98	6.69	6.53	6.36	6.19	6.08
360.0	8.38	7.93	7.43	7.09	6.86	6.64	6.41	6.30	6.19



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	6.08	5.96	5.85	5.79	5.74	5.74	5.68	5.63	5.57
45.0	5.91	5.79	5.74	5.68	5.63	5.57	5.51	5.51	5.46
90.0	6.13	6.02	5.96	5.91	5.91	5.85	5.85	5.79	5.74
135.0	6.41	6.36	6.30	6.24	6.19	6.13	6.13	6.08	6.08
180.0	6.24	6.19	6.13	6.08	6.02	5.96	5.96	5.91	5.85
225.0	5.79	5.74	5.63	5.57	5.51	5.46	5.46	5.40	5.34
270.0	5.74	5.68	5.63	5.57	5.46	5.46	5.40	5.40	5.34
315.0	5.91	5.85	5.79	5.74	5.68	5.63	5.57	5.51	5.46
360.0	6.08	5.96	5.85	5.79	5.74	5.74	5.68	5.63	5.57
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	5.57	5.51	5.46	5.46	5.46	5.40	5.40	5.34	5.34
45.0	5.40	5.40	5.34	5.29	5.23	5.23	5.23	5.18	5.18
90.0	5.74	5.68	5.68	5.63	5.63	5.57	5.57	5.51	5.51
135.0	6.02	6.02	5.96	5.96	5.96	5.96	5.91	5.91	5.91
180.0	5.85	5.79	5.74	5.74	5.74	5.68	5.63	5.63	5.63
225.0	5.34	5.29	5.23	5.23	5.18	5.12	5.12	5.06	5.06
270.0	5.29	5.29	5.23	5.23	5.23	5.18	5.18	5.12	5.12
315.0	5.46	5.46	5.40	5.40	5.40	5.34	5.34	5.34	5.34
360.0	5.57	5.51	5.46	5.46	5.46	5.40	5.40	5.34	5.34
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	5.34	5.34	5.29	5.29	5.29	5.29	5.29	5.23	5.23
45.0	5.12	5.12	5.06	5.06	5.01	5.01	5.01	4.95	4.95
90.0	5.46	5.46	5.40	5.40	5.34	5.34	5.34	5.29	5.29
135.0	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
180.0	5.57	5.57	5.51	5.51	5.46	5.46	5.46	5.40	5.40
225.0	5.06	5.01	5.01	5.01	4.95	4.95	4.95	4.95	4.95
270.0	5.12	5.06	5.06	5.06	5.06	5.06	5.01	5.01	5.01
315.0	5.34	5.29	5.29	5.29	5.29	5.34	5.34	5.34	5.34
360.0	5.34	5.34	5.29	5.29	5.29	5.29	5.29	5.23	5.23
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	5.18	5.18	5.18	5.18	5.18	5.12	5.12	5.12	5.06
45.0	4.89	4.89	4.89	4.89	4.89	4.89	4.84	4.84	4.84
90.0	5.23	5.18	5.18	5.18	5.12	5.12	5.06	5.01	5.01
135.0	5.91	5.96	6.24	6.81	6.64	6.53	5.29	5.01	4.89
180.0	5.34	5.34	5.34	5.34	5.29	5.29	5.18	5.12	5.01
225.0	4.95	4.95	4.89	4.89	4.89	4.84	4.84	4.84	4.78
270.0	5.06	5.01	5.01	5.01	5.01	4.95	4.95	4.95	4.95
315.0	5.34	5.34	5.40	5.40	5.40	5.40	5.34	5.29	5.12
360.0	5.18	5.18	5.18	5.18	5.18	5.12	5.12	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	5.01	4.95	4.89	4.89	4.84	4.84	4.78	4.78
45.0	4.84	4.78	4.78	4.78	4.78	4.61	4.61	4.61	4.61
90.0	4.95	4.95	4.95	5.06	4.73	4.67	4.67	4.61	4.67
135.0	4.89	4.95	4.95	5.01	5.01	4.78	4.73	4.73	4.73
180.0	4.95	4.89	4.89	4.84	4.89	4.84	4.78	4.78	4.84
225.0	4.73	4.73	4.73	4.73	4.67	4.67	4.61	4.61	4.61
270.0	4.89	4.89	4.84	4.84	4.78	4.78	4.73	4.67	4.67
315.0	4.89	4.78	4.78	4.78	4.78	4.78	4.73	4.73	4.73
360.0	5.01	5.01	4.95	4.89	4.89	4.84	4.84	4.78	4.78

Intensity data(cd)

C/ $\gamma$ (°)	90.0
0.0	4.78
45.0	4.61
90.0	4.61
135.0	4.73
180.0	4.78
225.0	4.61
270.0	4.67
315.0	4.67
360.0	4.78