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## Nata

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LumCAT: 1-0918-M	
Luminaire: 92.70.124.00	
Report No: 210716-B007	Voltage(V): 36.2800
Test No: 210716-C007	Current(A): 0.4510
LampCAT: Fortimo LED SLM 1203 G7N	Power (W): 16.3620
Lamp flux(lm): 1566.1	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): 1329.00  
Efficiency(%): 84.86%  
Lumens(lm)/Power(W): 81.22  
Central intensity(cd): 7906.500  
Maximum intensity(cd): 7906.500  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=21.1  
                                  [C90/270]Total=21.1  
Field angle(10%Imax): [C0/180]Total=41.5  
                                  [C90/270]Total=41.5  
Maximum s/h(1/2): C0\_180=0.36 C90\_270=0.36  
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(%): 84.86%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.593%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7906.500	0.000	0	.000%	.000%
1.0	7855.102	7.542	7.542	.482%	.567%
2.0	7703.297	22.331	29.873	1.426%	2.248%
3.0	7530.469	36.434	66.307	2.326%	4.989%
4.0	7279.594	49.574	115.881	3.165%	8.719%
5.0	6934.219	61.147	177.028	3.904%	13.320%
6.0	6431.414	70.240	247.268	4.485%	18.606%
7.0	5873.555	76.377	323.644	4.877%	24.352%
8.0	5359.852	80.395	404.04	5.134%	30.402%
9.0	4755.586	81.980	486.02	5.235%	36.570%
10.0	4197.305	81.020	567.04	5.173%	42.667%
11.0	3745.828	79.368	646.409	5.068%	48.639%
12.0	3288.023	76.890	723.299	4.910%	54.424%
13.0	2841.750	72.745	796.044	4.645%	59.898%
14.0	2487.656	68.216	864.26	4.356%	65.031%
15.0	2162.602	63.841	928.1	4.076%	69.834%
16.0	1856.531	58.892	986.992	3.760%	74.266%
17.0	1591.664	53.698	1040.69	3.429%	78.306%
18.0	1306.688	47.788	1088.477	3.051%	81.902%
19.0	1134.070	42.464	1130.941	2.711%	85.097%
20.0	934.059	37.853	1168.794	2.417%	87.945%
21.0	743.435	32.211	1201.005	2.057%	90.369%
22.0	581.323	26.622	1227.627	1.700%	92.372%
23.0	431.670	21.255	1248.882	1.357%	93.971%
24.0	293.759	15.860	1264.742	1.013%	95.165%
25.0	214.938	11.567	1276.309	.739%	96.035%
26.0	109.441	7.657	1283.966	.489%	96.611%
27.0	55.856	4.044	1288.01	.258%	96.916%
28.0	28.645	2.139	1290.15	.137%	97.077%
29.0	18.563	1.235	1291.385	.079%	97.169%
30.0	15.405	0.917	1292.302	.059%	97.238%
31.0	13.774	0.812	1293.114	.052%	97.300%
32.0	12.579	0.755	1293.869	.048%	97.356%
33.0	11.644	0.714	1294.582	.046%	97.410%
34.0	10.821	0.680	1295.262	.043%	97.461%
35.0	10.146	0.651	1295.913	.042%	97.510%
36.0	9.605	0.629	1296.542	.040%	97.558%
37.0	9.127	0.611	1297.153	.039%	97.603%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	8.754	0.597	1297.75	.038%	97.648%
39.0	8.402	0.586	1298.336	.037%	97.692%
40.0	8.114	0.576	1298.912	.037%	97.736%
41.0	7.882	0.570	1299.481	.036%	97.779%
42.0	7.678	0.565	1300.047	.036%	97.821%
43.0	7.495	0.562	1300.609	.036%	97.863%
44.0	7.362	0.561	1301.169	.036%	97.906%
45.0	7.221	0.560	1301.73	.036%	97.948%
46.0	7.095	0.560	1302.29	.036%	97.990%
47.0	6.975	0.560	1302.849	.036%	98.032%
48.0	6.898	0.561	1303.41	.036%	98.074%
49.0	6.799	0.562	1303.973	.036%	98.117%
50.0	6.722	0.564	1304.536	.036%	98.159%
51.0	6.652	0.566	1305.102	.036%	98.202%
52.0	6.574	0.568	1305.67	.036%	98.244%
53.0	6.511	0.569	1306.239	.036%	98.287%
54.0	6.462	0.572	1306.811	.037%	98.330%
55.0	6.413	0.575	1307.385	.037%	98.373%
56.0	6.377	0.578	1307.963	.037%	98.417%
57.0	6.321	0.581	1308.544	.037%	98.461%
58.0	6.265	0.582	1309.126	.037%	98.504%
59.0	6.237	0.584	1309.71	.037%	98.548%
60.0	6.209	0.588	1310.298	.038%	98.593%
61.0	6.166	0.591	1310.889	.038%	98.637%
62.0	6.145	0.593	1311.482	.038%	98.682%
63.0	6.110	0.596	1312.078	.038%	98.727%
64.0	6.096	0.599	1312.677	.038%	98.772%
65.0	6.061	0.602	1313.279	.038%	98.817%
66.0	6.047	0.604	1313.883	.039%	98.862%
67.0	6.033	0.607	1314.49	.039%	98.908%
68.0	6.012	0.610	1315.1	.039%	98.954%
69.0	5.998	0.613	1315.713	.039%	99.000%
70.0	5.984	0.615	1316.328	.039%	99.046%
71.0	5.963	0.617	1316.946	.039%	99.093%
72.0	5.955	0.620	1317.565	.040%	99.139%
73.0	5.948	0.622	1318.188	.040%	99.186%
74.0	5.941	0.625	1318.813	.040%	99.233%
75.0	5.934	0.627	1319.44	.040%	99.280%

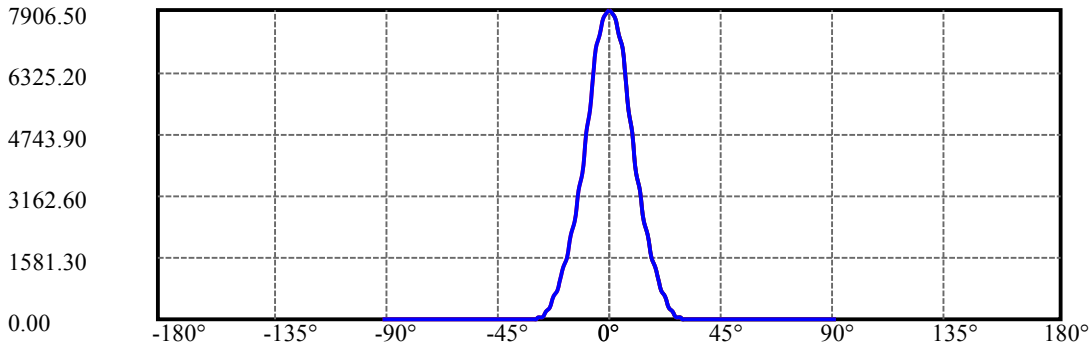
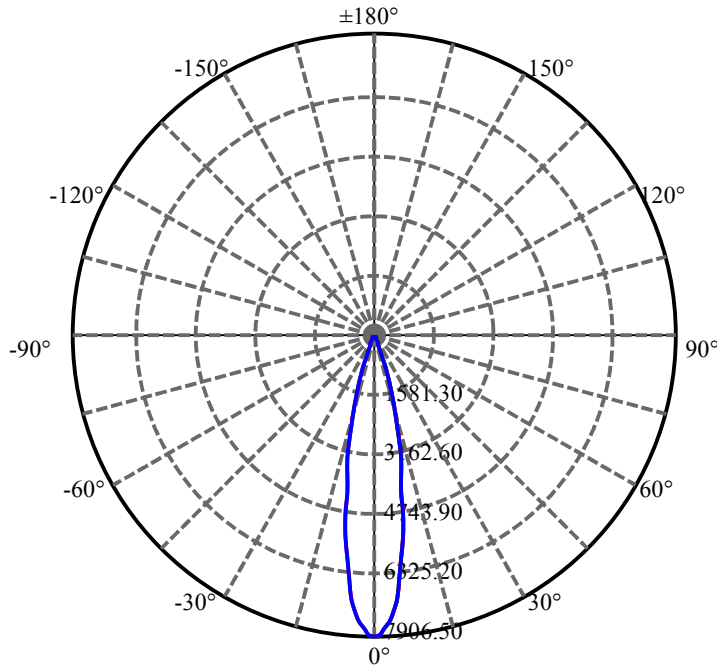
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	5.913	0.629	1320.069	.040%	99.328%
77.0	5.906	0.630	1320.7	.040%	99.375%
78.0	5.906	0.632	1321.332	.040%	99.423%
79.0	5.892	0.634	1321.966	.040%	99.471%
80.0	5.899	0.636	1322.602	.041%	99.518%
81.0	5.906	0.638	1323.24	.041%	99.566%
82.0	5.913	0.641	1323.881	.041%	99.615%
83.0	5.927	0.644	1324.525	.041%	99.663%
84.0	5.970	0.648	1325.173	.041%	99.712%
85.0	5.941	0.650	1325.823	.042%	99.761%
86.0	5.794	0.641	1326.464	.041%	99.809%
87.0	5.787	0.634	1327.098	.040%	99.857%
88.0	5.794	0.634	1327.732	.041%	99.904%
89.0	5.787	0.635	1328.367	.041%	99.952%
90.0	5.808	0.636	1329.003	.041%	100.000%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1292.30	82.52%	97.24%
0-40	1298.91	82.94%	97.74%
0-60	1310.30	83.67%	98.59%
0-90	1328.37	84.82%	99.95%
0-120	1328.37	84.82%	99.95%
0-180	1329.00	84.86%	100.00%
60-90	18.66	1.19%	1.40%
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%
0-17.47	1063.20	67.89%	80.00%

## ZONAL LUMEN SUMMARY

0-10	567.04
10-20	601.75
20-30	123.51
30-40	6.61
40-50	5.62
50-60	5.76
60-70	6.03
70-80	6.27
80-90	5.77
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



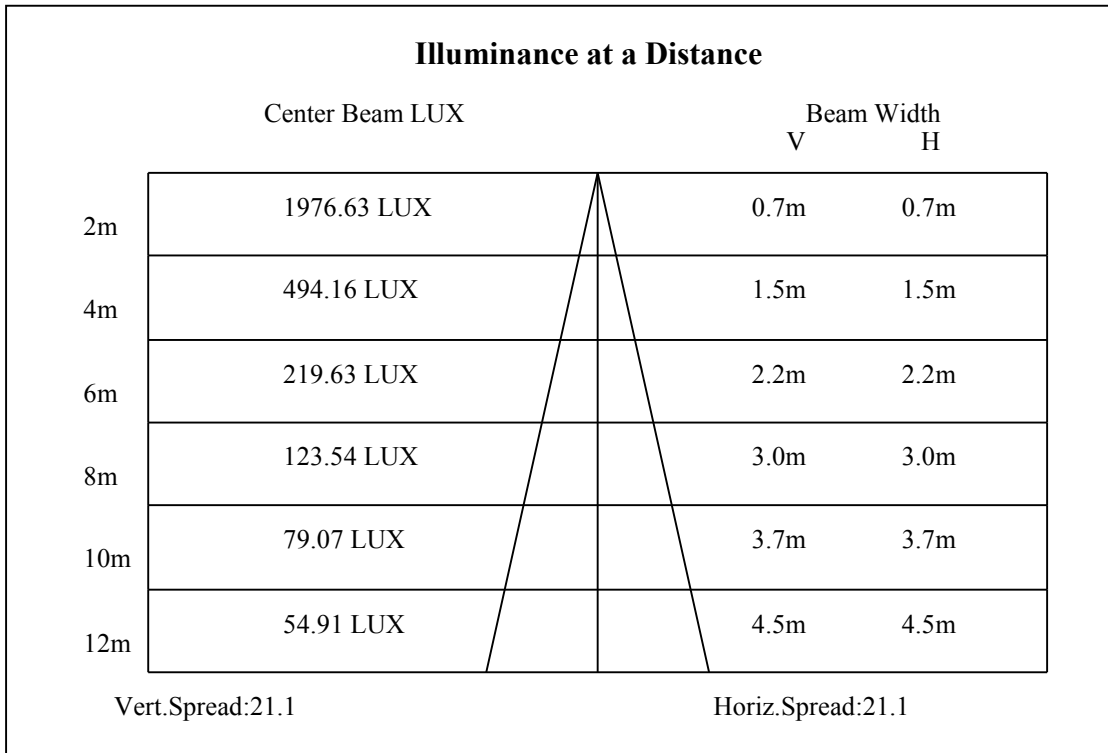
C0(Max): —————

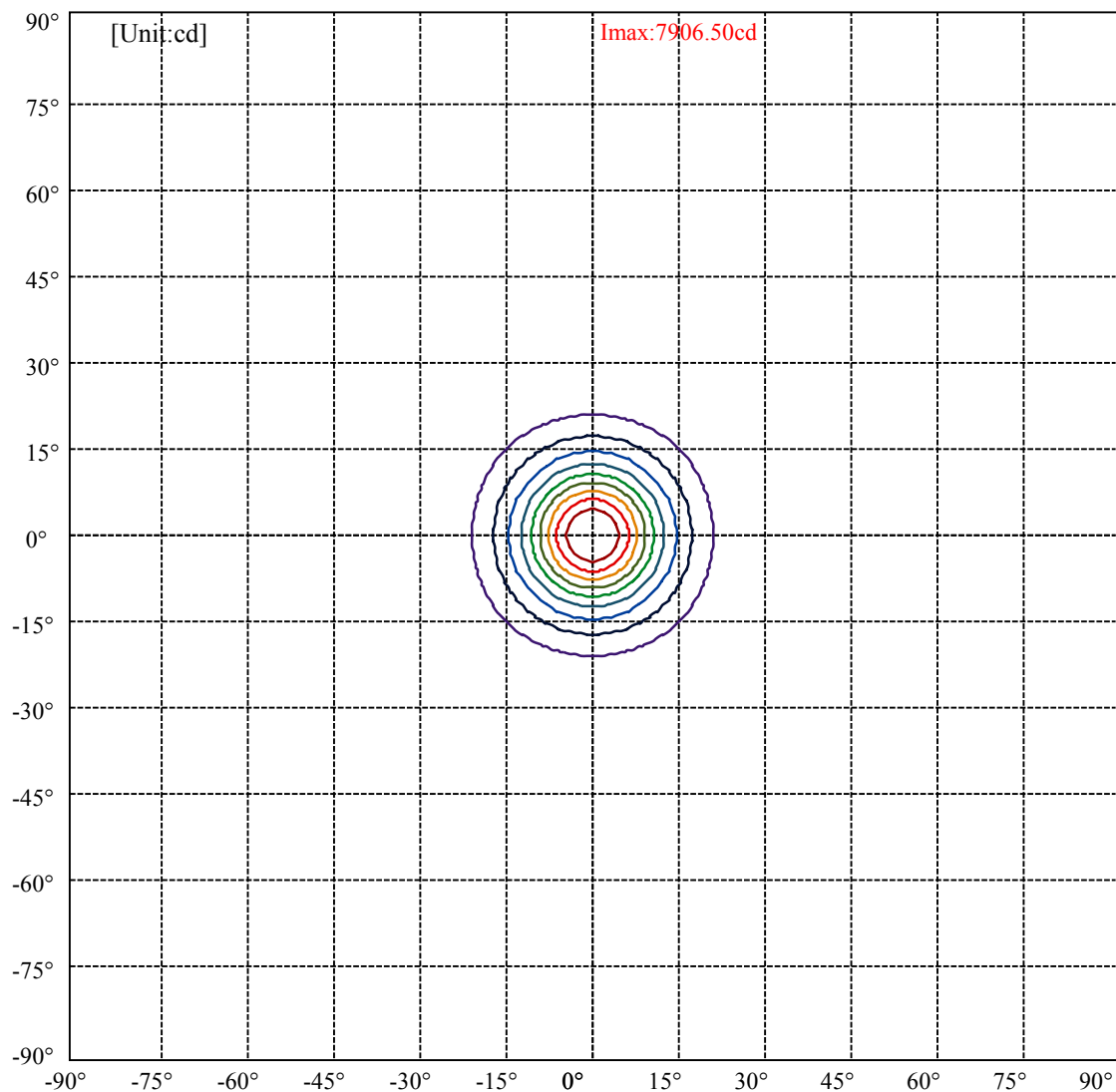
C0/C180: —————

C90/C270: —————

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

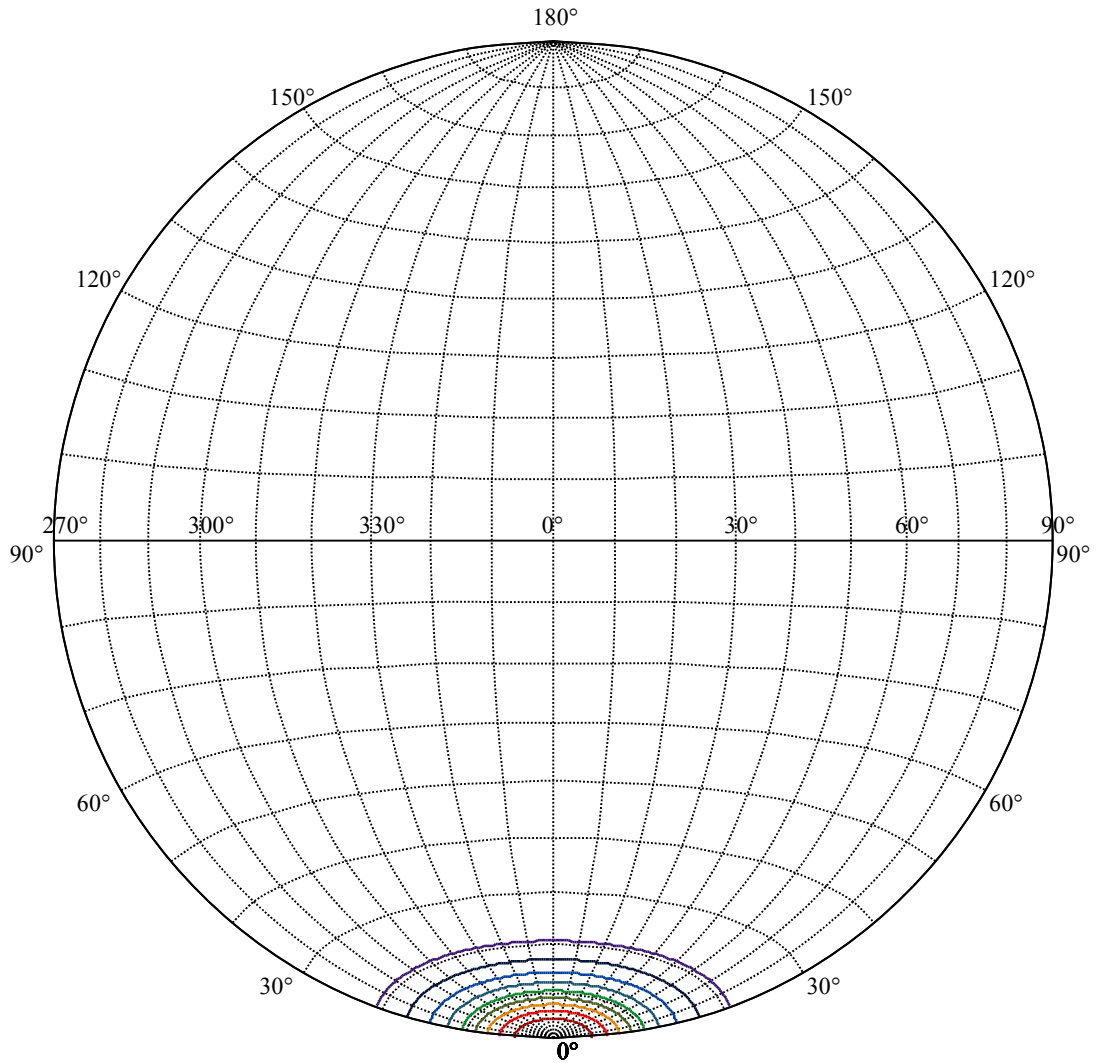
Beam Angle(50%Imax):C0/180Left:10.5 Right:10.5  
:C90/270Left:10.5 Right:10.5





(10%Imax) 790.65	—
(20%Imax) 1581.3	—
(30%Imax) 2371.95	—
(40%Imax) 3162.6	—
(50%Imax) 3953.25	—
(60%Imax) 4743.9	—
(70%Imax) 5534.55	—
(80%Imax) 6325.2	—
(90%Imax) 7115.85	—





House

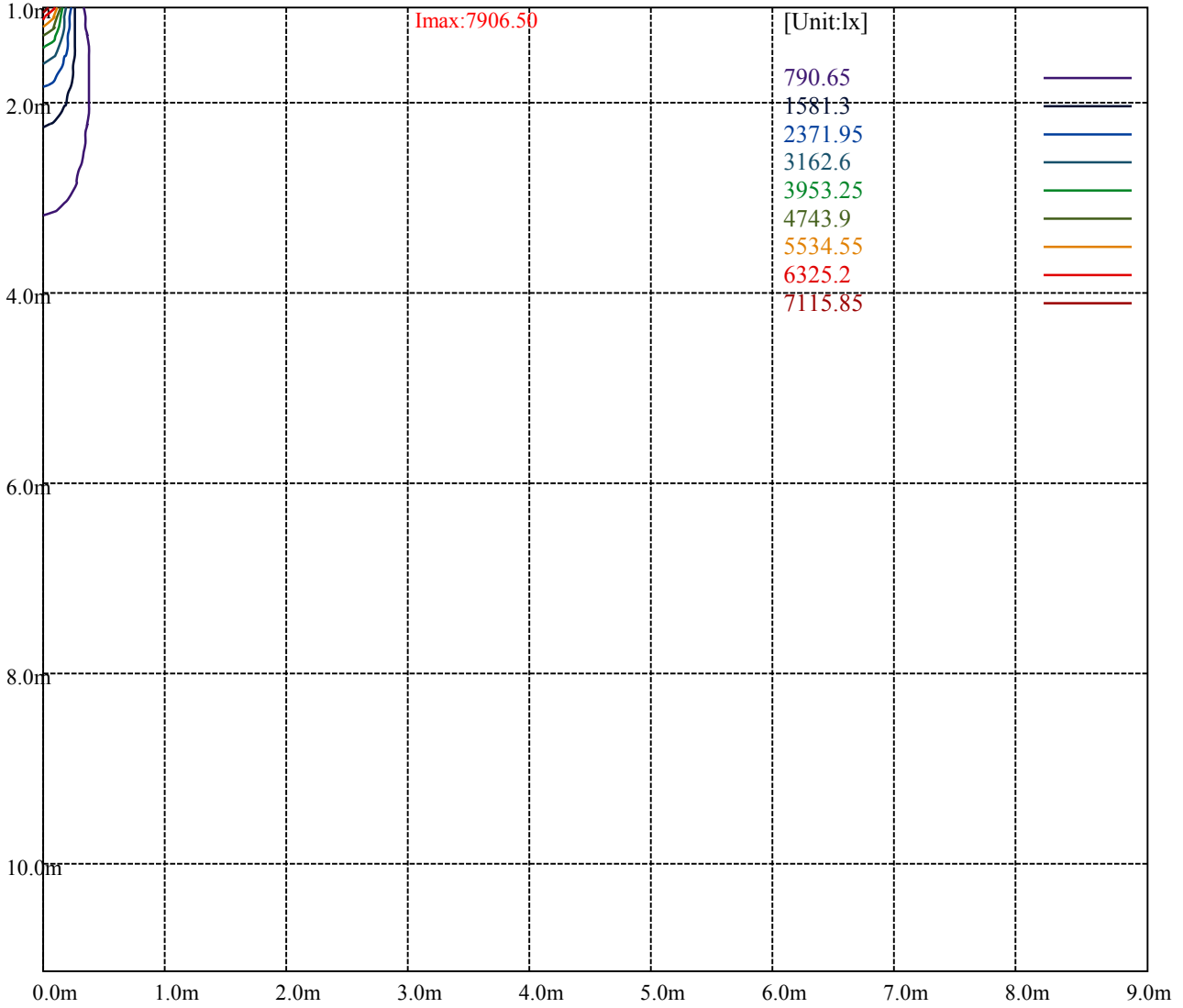
[Unit:cd]

Road

**Imax:7906.50**

(10%Imax) 790.65	—
(20%Imax) 1581.3	—
(30%Imax) 2371.95	—
(40%Imax) 3162.6	—
(50%Imax) 3953.25	—
(60%Imax) 4743.9	—
(70%Imax) 5534.55	—
(80%Imax) 6325.2	—
(90%Imax) 7115.85	—





Luminance Table

$\gamma$	45	50	55	60	65	70	75	80	85
C0	276	267	267	274	286	307	336	376	437
C45	297	290	294	305	324	353	395	453	545
C90	385	391	415	456	520	622	790	1105	1897

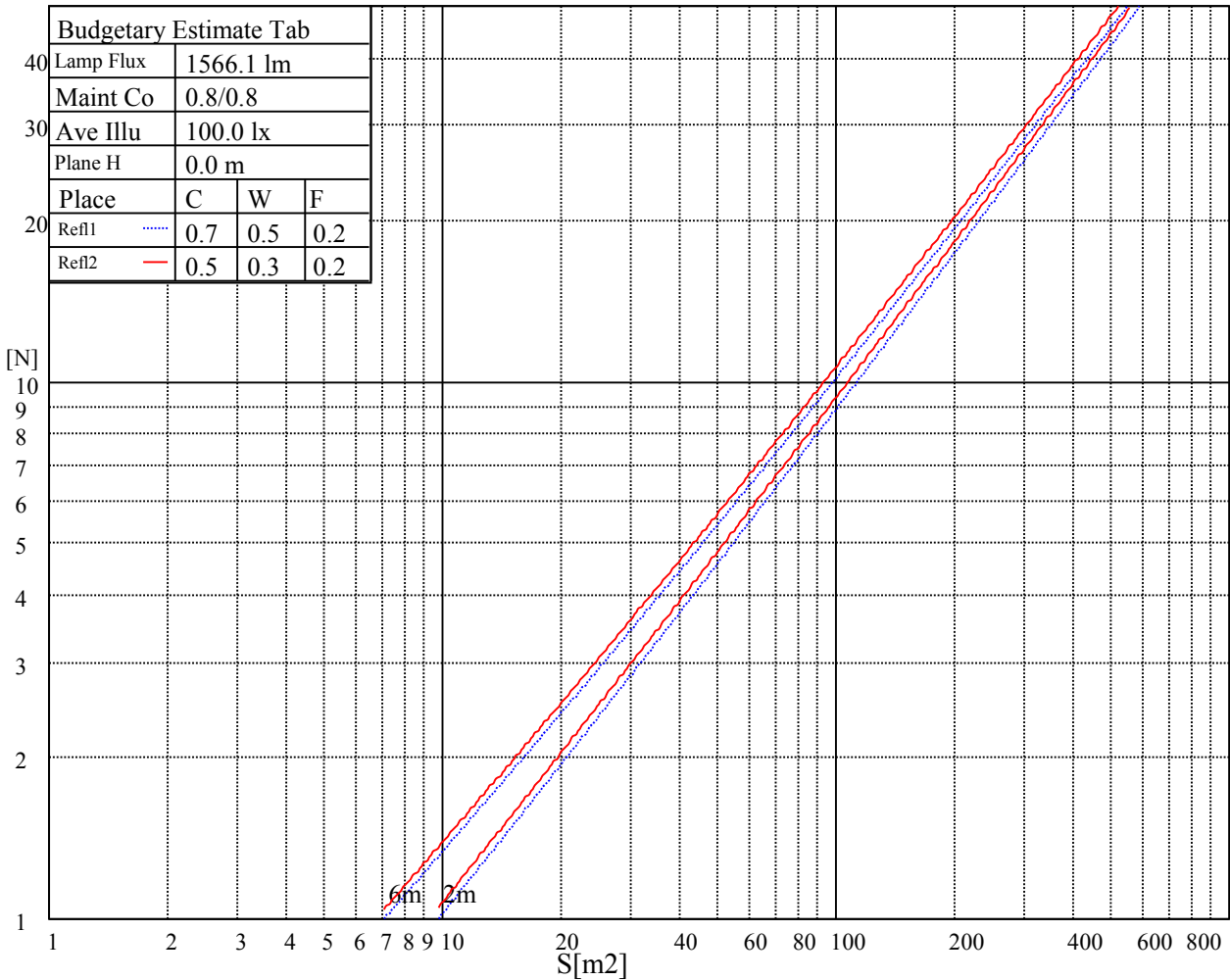
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
559	559	559	894	894	894	2658	2658	2658

Glare Table

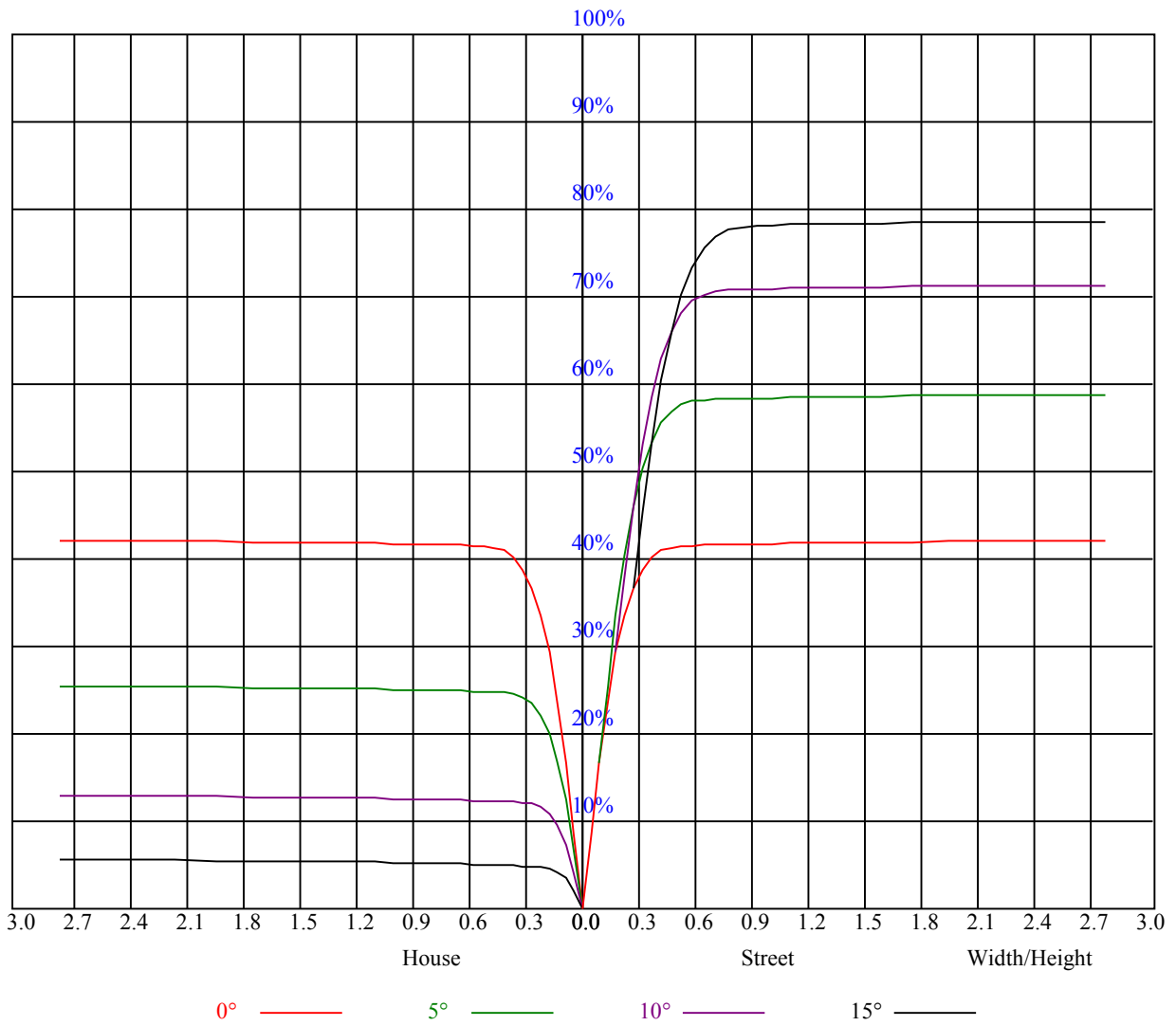
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.01	1.01	1.01	0.99	0.99	0.99	0.94	0.94	0.94	0.90	0.90	0.90	0.87	0.87	0.87	0.85
1	0.96	0.94	0.93	0.94	0.93	0.91	0.91	0.90	0.88	0.88	0.87	0.86	0.85	0.84	0.83	0.82
2	0.92	0.89	0.87	0.90	0.88	0.86	0.88	0.86	0.84	0.85	0.84	0.82	0.83	0.82	0.81	0.80
3	0.88	0.85	0.83	0.87	0.84	0.82	0.85	0.83	0.81	0.83	0.81	0.80	0.81	0.80	0.79	0.77
4	0.85	0.82	0.79	0.84	0.81	0.79	0.83	0.80	0.78	0.81	0.79	0.77	0.80	0.78	0.76	0.75
5	0.82	0.79	0.77	0.82	0.79	0.76	0.80	0.78	0.76	0.79	0.77	0.75	0.78	0.76	0.75	0.74
6	0.80	0.77	0.74	0.79	0.76	0.74	0.78	0.76	0.74	0.77	0.75	0.73	0.76	0.74	0.73	0.72
7	0.78	0.75	0.72	0.77	0.74	0.72	0.76	0.74	0.72	0.76	0.73	0.71	0.75	0.73	0.71	0.70
8	0.76	0.73	0.70	0.75	0.72	0.70	0.75	0.72	0.70	0.74	0.72	0.70	0.73	0.71	0.70	0.69
9	0.74	0.71	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.72	0.70	0.68	0.72	0.70	0.68	0.67
10	0.72	0.69	0.67	0.72	0.69	0.67	0.71	0.69	0.67	0.71	0.69	0.67	0.70	0.68	0.67	0.66



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	7900.31	7905.94	7812.56	7610.63	7474.50	7247.25	6726.38	6270.75	5845.50
45.0	7915.50	7881.19	7734.94	7557.19	7367.06	7017.19	6537.38	6048.56	5528.25
90.0	7902.56	7859.81	7671.38	7518.38	7230.38	6873.19	6423.75	5778.56	5234.06
135.0	7907.63	7891.31	7769.81	7588.69	7376.06	7044.19	6504.75	6001.88	5466.94
180.0	7900.31	7752.94	7623.00	7414.88	7043.06	6625.69	6064.31	5448.38	4892.06
225.0	7915.50	7843.50	7670.25	7526.81	7238.81	6861.94	6393.94	5752.69	5212.13
270.0	7902.56	7902.00	7716.38	7544.25	7353.56	6978.38	6478.88	5986.13	5469.75
315.0	7907.63	7804.13	7628.06	7482.94	7153.31	6825.94	6321.94	5701.50	5230.13
360.0	7900.31	7905.94	7812.56	7610.63	7474.50	7247.25	6726.38	6270.75	5845.50
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	5116.50	4601.25	4186.13	3633.19	3169.69	2795.06	2413.69	2106.56	1798.31
45.0	4852.13	4342.50	3865.50	3370.50	2923.88	2566.13	2247.19	1885.50	1647.56
90.0	4699.69	4066.31	3604.50	3184.88	2763.00	2390.63	2093.06	1788.19	1547.44
135.0	4798.69	4292.44	3818.25	3330.00	2886.75	2539.69	2188.13	1902.94	1629.56
180.0	4372.88	3789.56	3358.13	2967.75	2526.75	2212.88	1928.25	1675.13	1388.25
225.0	4690.13	4073.63	3624.75	3204.56	2772.00	2389.50	2086.31	1779.19	1537.31
270.0	4808.25	4310.44	3848.63	3366.56	2925.00	2575.13	2212.88	1890.56	1636.88
315.0	4706.44	4102.31	3660.75	3246.75	2766.94	2432.25	2131.31	1824.19	1548.00
360.0	5116.50	4601.25	4186.13	3633.19	3169.69	2795.06	2413.69	2106.56	1798.31
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1523.81	1307.81	1089.56	887.63	717.19	561.94	389.81	284.63	169.09
45.0	1392.75	1185.19	968.63	779.63	611.44	452.81	309.38	295.88	123.64
90.0	1228.50	1075.89	893.76	704.19	535.95	399.54	282.71	163.07	94.11
135.0	1370.25	1168.88	956.25	761.06	594.56	452.25	298.13	229.39	115.37
180.0	1099.80	978.41	782.04	605.14	463.95	318.66	201.15	122.01	60.08
225.0	1120.95	1073.25	891.23	702.06	533.81	392.63	276.36	154.63	87.58
270.0	1384.88	1179.56	970.88	776.25	616.50	458.44	315.00	288.00	125.61
315.0	1332.56	1103.57	920.14	731.53	577.18	417.09	277.54	181.91	100.07
360.0	1523.81	1307.81	1089.56	887.63	717.19	561.94	389.81	284.63	169.09
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	88.26	42.58	24.02	17.16	15.08	13.73	12.49	11.59	10.74
45.0	62.44	29.76	18.73	15.47	13.61	12.49	11.59	10.74	10.18
90.0	48.88	23.85	16.65	14.51	13.16	11.98	11.19	10.41	9.84
135.0	56.08	29.25	18.56	14.96	13.44	12.38	11.36	10.63	10.01
180.0	31.56	18.96	15.08	13.67	12.54	11.42	10.69	10.13	9.51
225.0	46.07	25.82	17.72	15.69	13.95	12.83	11.93	11.03	10.35
270.0	60.19	30.99	19.86	16.37	14.46	13.28	12.26	11.19	10.52
315.0	53.38	27.96	17.89	15.41	13.95	12.54	11.64	10.86	10.01
360.0	88.26	42.58	24.02	17.16	15.08	13.73	12.49	11.59	10.74
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	10.01	9.51	9.06	8.61	8.27	8.04	7.76	7.59	7.43
45.0	9.68	9.17	8.78	8.49	8.21	7.99	7.82	7.59	7.48
90.0	9.39	8.94	8.66	8.38	8.04	7.82	7.65	7.48	7.37
135.0	9.51	9.06	8.72	8.33	8.10	7.88	7.65	7.48	7.37
180.0	9.06	8.72	8.38	8.10	7.88	7.65	7.48	7.37	7.20
225.0	9.73	9.17	8.83	8.49	8.10	7.93	7.71	7.54	7.37
270.0	9.96	9.39	8.94	8.55	8.27	7.99	7.76	7.54	7.43
315.0	9.51	9.06	8.66	8.27	8.04	7.76	7.59	7.37	7.26
360.0	10.01	9.51	9.06	8.61	8.27	8.04	7.76	7.59	7.43



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	7.26	7.14	6.98	6.92	6.81	6.75	6.64	6.58	6.53
45.0	7.37	7.20	7.09	7.03	6.92	6.81	6.75	6.69	6.58
90.0	7.26	7.14	6.98	6.92	6.81	6.75	6.69	6.58	6.53
135.0	7.20	7.09	6.98	6.86	6.81	6.75	6.64	6.58	6.53
180.0	7.09	6.98	6.86	6.81	6.69	6.58	6.53	6.47	6.41
225.0	7.26	7.14	7.03	6.92	6.81	6.75	6.69	6.64	6.53
270.0	7.26	7.09	7.03	6.92	6.86	6.75	6.69	6.58	6.58
315.0	7.09	6.98	6.86	6.81	6.69	6.64	6.58	6.47	6.41
360.0	7.26	7.14	6.98	6.92	6.81	6.75	6.64	6.58	6.53
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	6.47	6.41	6.36	6.30	6.24	6.19	6.19	6.13	6.08
45.0	6.58	6.53	6.47	6.41	6.36	6.36	6.30	6.30	6.24
90.0	6.47	6.41	6.41	6.41	6.30	6.30	6.24	6.24	6.19
135.0	6.47	6.41	6.36	6.30	6.24	6.24	6.19	6.13	6.13
180.0	6.41	6.36	6.30	6.19	6.19	6.19	6.13	6.08	6.08
225.0	6.47	6.41	6.41	6.36	6.30	6.24	6.24	6.19	6.19
270.0	6.47	6.47	6.41	6.36	6.30	6.24	6.24	6.19	6.19
315.0	6.36	6.30	6.30	6.24	6.19	6.13	6.13	6.08	6.08
360.0	6.47	6.41	6.36	6.30	6.24	6.19	6.19	6.13	6.08
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	6.08	6.02	6.02	6.02	6.02	5.96	5.96	5.91	5.91
45.0	6.24	6.19	6.13	6.13	6.08	6.08	6.08	6.08	6.02
90.0	6.19	6.19	6.13	6.13	6.13	6.13	6.08	6.08	6.08
135.0	6.08	6.08	6.08	6.02	6.02	5.96	5.96	5.96	5.91
180.0	6.02	6.02	6.02	5.96	5.96	5.96	5.96	5.91	5.91
225.0	6.13	6.13	6.08	6.08	6.02	6.02	6.02	6.02	6.02
270.0	6.13	6.13	6.08	6.08	6.08	6.08	6.02	6.02	5.96
315.0	6.02	6.02	5.96	5.96	5.96	5.91	5.91	5.91	5.91
360.0	6.08	6.02	6.02	6.02	6.02	5.96	5.96	5.91	5.91
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	5.91	5.91	5.91	5.85	5.85	5.85	5.85	5.79	5.79
45.0	6.02	6.02	6.02	6.02	5.96	5.96	5.96	5.96	5.96
90.0	6.08	6.08	6.08	6.02	6.02	6.02	6.08	6.08	6.08
135.0	5.91	5.91	5.91	5.91	5.91	5.85	5.85	5.85	5.85
180.0	5.91	5.91	5.85	5.91	5.85	5.85	5.85	5.85	5.85
225.0	6.02	5.96	5.96	5.96	5.96	5.96	5.91	5.91	5.96
270.0	5.96	5.96	5.96	5.96	5.96	5.96	5.96	5.91	5.91
315.0	5.85	5.85	5.85	5.85	5.79	5.79	5.79	5.79	5.79
360.0	5.91	5.91	5.91	5.85	5.85	5.85	5.85	5.79	5.79
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.79	5.79	5.79	5.79	5.79	5.79	5.74	5.79	5.74
45.0	6.02	6.02	6.08	6.19	6.53	5.85	5.85	5.85	5.85
90.0	6.08	6.13	6.19	6.36	5.96	5.79	5.79	5.79	5.79
135.0	5.85	5.85	5.85	5.85	5.85	5.74	5.74	5.74	5.79
180.0	5.85	5.85	5.85	5.85	5.74	5.74	5.74	5.74	5.74
225.0	5.96	5.91	5.91	5.91	5.91	5.85	5.85	5.85	5.85
270.0	5.91	5.96	5.96	6.02	5.96	5.85	5.85	5.85	5.79
315.0	5.79	5.79	5.79	5.79	5.79	5.74	5.74	5.74	5.74
360.0	5.79	5.79	5.79	5.79	5.79	5.79	5.74	5.79	5.74

Intensity data(cd)

C/ $\gamma$ (°)	90.0
0.0	5.79
45.0	5.85
90.0	5.79
135.0	5.79
180.0	5.74
225.0	5.85
270.0	5.85
315.0	5.79
360.0	5.79