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Nata

LumCAT: 1-0935-N	
Luminaire: 92.70.246.00	
Report No: 210630-B014	Voltage(V): 36.9200
Test No: 210630-C014	Current(A): 0.3050
LampCAT: Fortimo LED SLM 1202 G7N	Power (W): 11.2600
Lamp flux(lm): 1492.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 570	Width(mm): 45
Phm Type: C	Height(mm): 20

Photometric Results

Lumens(lm): 1172.71
Efficiency(%): 78.60%
Lumens(lm)/Power(W): 104.15
Central intensity(cd): 5882.766
Maximum intensity(cd): 5882.766
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=19.3
 [C90/270]Total=19.3
Field angle(10%Imax): [C0/180]Total=47.4
 [C90/270]Total=47.4
Maximum s/h(1/2): C0_180=0.33 C90_270=0.33
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(%): 78.60%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.983%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5882.766	0.000	0	.000%	.000%
1.0	5859.492	5.618	5.618	.377%	.479%
2.0	5766.961	16.687	22.306	1.118%	1.902%
3.0	5612.133	27.215	49.521	1.824%	4.223%
4.0	5376.305	36.782	86.303	2.465%	7.359%
5.0	4997.672	44.628	130.931	2.991%	11.165%
6.0	4566.727	50.263	181.194	3.369%	15.451%
7.0	4118.836	53.911	235.106	3.613%	20.048%
8.0	3621.234	55.394	290.5	3.713%	24.772%
9.0	3192.609	55.222	345.722	3.701%	29.481%
10.0	2819.813	54.410	400.133	3.647%	34.120%
11.0	2491.172	53.068	453.2	3.557%	38.645%
12.0	2244.164	51.764	504.964	3.469%	43.059%
13.0	2005.102	50.428	555.392	3.380%	47.360%
14.0	1785.094	48.514	603.906	3.252%	51.496%
15.0	1612.266	46.640	650.547	3.126%	55.474%
16.0	1454.273	44.933	695.48	3.012%	59.305%
17.0	1280.095	42.581	738.062	2.854%	62.936%
18.0	1152.373	40.106	778.168	2.688%	66.356%
19.0	1040.752	38.156	816.324	2.557%	69.610%
20.0	929.236	36.056	852.38	2.417%	72.684%
21.0	828.443	33.751	886.131	2.262%	75.562%
22.0	741.980	31.558	917.689	2.115%	78.253%
23.0	651.909	29.248	946.937	1.960%	80.747%
24.0	560.658	26.511	973.448	1.777%	83.008%
25.0	483.602	23.744	997.192	1.591%	85.033%
26.0	405.886	20.996	1018.189	1.407%	86.823%
27.0	336.248	18.156	1036.345	1.217%	88.372%
28.0	271.090	15.377	1051.722	1.031%	89.683%
29.0	211.198	12.618	1064.34	.846%	90.759%
30.0	161.438	10.061	1074.401	.674%	91.617%
31.0	122.829	7.911	1082.311	.530%	92.291%
32.0	93.445	6.196	1088.507	.415%	92.820%
33.0	74.412	4.945	1093.453	.331%	93.241%
34.0	64.962	4.218	1097.67	.283%	93.601%
35.0	59.119	3.853	1101.524	.258%	93.929%
36.0	55.350	3.645	1105.169	.244%	94.240%
37.0	51.968	3.500	1108.669	.235%	94.539%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	48.291	3.346	1112.015	.224%	94.824%
39.0	44.086	3.153	1115.168	.211%	95.093%
40.0	40.402	2.947	1118.115	.197%	95.344%
41.0	36.591	2.742	1120.856	.184%	95.578%
42.0	32.520	2.511	1123.367	.168%	95.792%
43.0	29.067	2.281	1125.649	.153%	95.987%
44.0	26.142	2.084	1127.732	.140%	96.164%
45.0	23.534	1.909	1129.642	.128%	96.327%
46.0	21.445	1.759	1131.401	.118%	96.477%
47.0	19.814	1.641	1133.042	.110%	96.617%
48.0	18.422	1.546	1134.587	.104%	96.749%
49.0	17.339	1.469	1136.056	.098%	96.874%
50.0	16.263	1.401	1137.457	.094%	96.994%
51.0	15.370	1.338	1138.795	.090%	97.108%
52.0	14.653	1.288	1140.084	.086%	97.218%
53.0	13.922	1.243	1141.327	.083%	97.324%
54.0	13.268	1.198	1142.525	.080%	97.426%
55.0	12.734	1.161	1143.686	.078%	97.525%
56.0	12.241	1.129	1144.814	.076%	97.621%
57.0	11.742	1.097	1145.911	.073%	97.714%
58.0	11.377	1.069	1146.98	.072%	97.806%
59.0	11.046	1.048	1148.028	.070%	97.895%
60.0	10.709	1.028	1149.056	.069%	97.983%
61.0	10.413	1.008	1150.064	.068%	98.069%
62.0	10.153	0.991	1151.055	.066%	98.153%
63.0	9.921	0.976	1152.031	.065%	98.236%
64.0	9.689	0.962	1152.993	.064%	98.318%
65.0	9.485	0.949	1153.942	.064%	98.399%
66.0	9.274	0.936	1154.878	.063%	98.479%
67.0	9.056	0.922	1155.8	.062%	98.558%
68.0	8.838	0.906	1156.707	.061%	98.635%
69.0	8.599	0.890	1157.596	.060%	98.711%
70.0	8.402	0.873	1158.469	.059%	98.785%
71.0	8.170	0.857	1159.326	.057%	98.858%
72.0	7.896	0.835	1160.161	.056%	98.930%
73.0	7.678	0.814	1160.976	.055%	98.999%
74.0	7.453	0.795	1161.771	.053%	99.067%
75.0	7.256	0.777	1162.548	.052%	99.133%

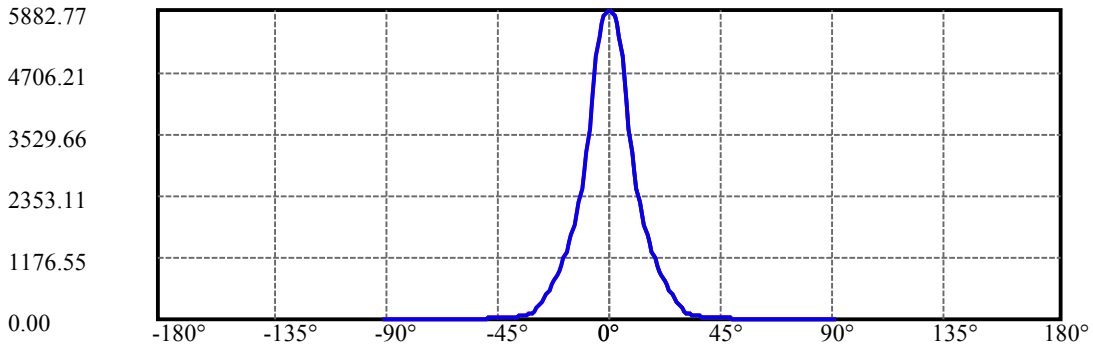
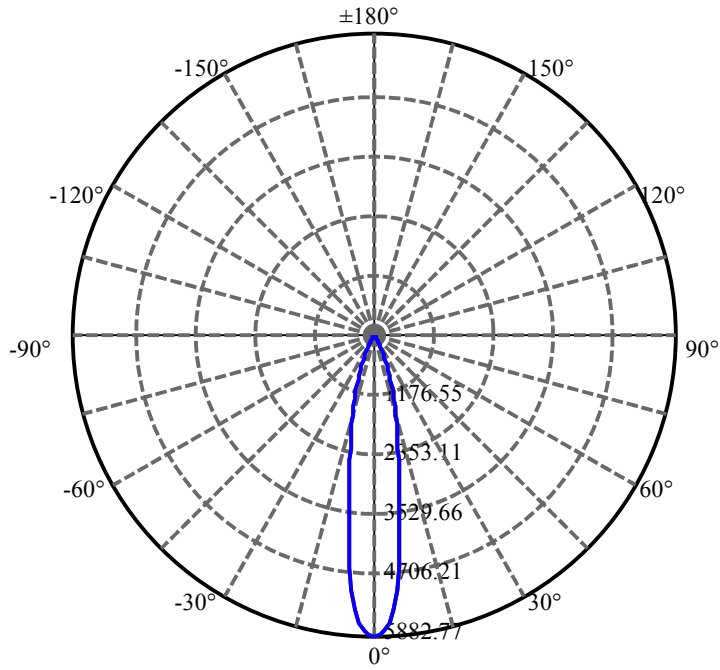
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	7.123	0.763	1163.312	.051%	99.198%
77.0	6.968	0.751	1164.063	.050%	99.262%
78.0	6.806	0.737	1164.8	.049%	99.325%
79.0	6.673	0.724	1165.524	.049%	99.387%
80.0	6.553	0.713	1166.237	.048%	99.448%
81.0	6.462	0.704	1166.941	.047%	99.508%
82.0	6.384	0.697	1167.638	.047%	99.567%
83.0	6.441	0.697	1168.335	.047%	99.627%
84.0	6.209	0.689	1169.024	.046%	99.685%
85.0	6.124	0.673	1169.697	.045%	99.743%
86.0	5.934	0.659	1170.356	.044%	99.799%
87.0	5.463	0.624	1170.98	.042%	99.852%
88.0	5.316	0.590	1171.571	.040%	99.903%
89.0	5.196	0.576	1172.147	.039%	99.952%
90.0	5.140	0.567	1172.714	.038%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1074.40	72.01%	91.62%
0-40	1118.11	74.94%	95.34%
0-60	1149.06	77.01%	97.98%
0-90	1172.15	78.56%	99.95%
0-120	1172.15	78.56%	99.95%
0-180	1172.71	78.60%	100.00%
60-90	24.12	1.62%	2.06%
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%
0-22.70	938.17	62.88%	80.00%

ZONAL LUMEN SUMMARY

0-10	400.13
10-20	452.25
20-30	222.02
30-40	43.71
40-50	19.34
50-60	11.60
60-70	9.41
70-80	7.77
80-90	5.91
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



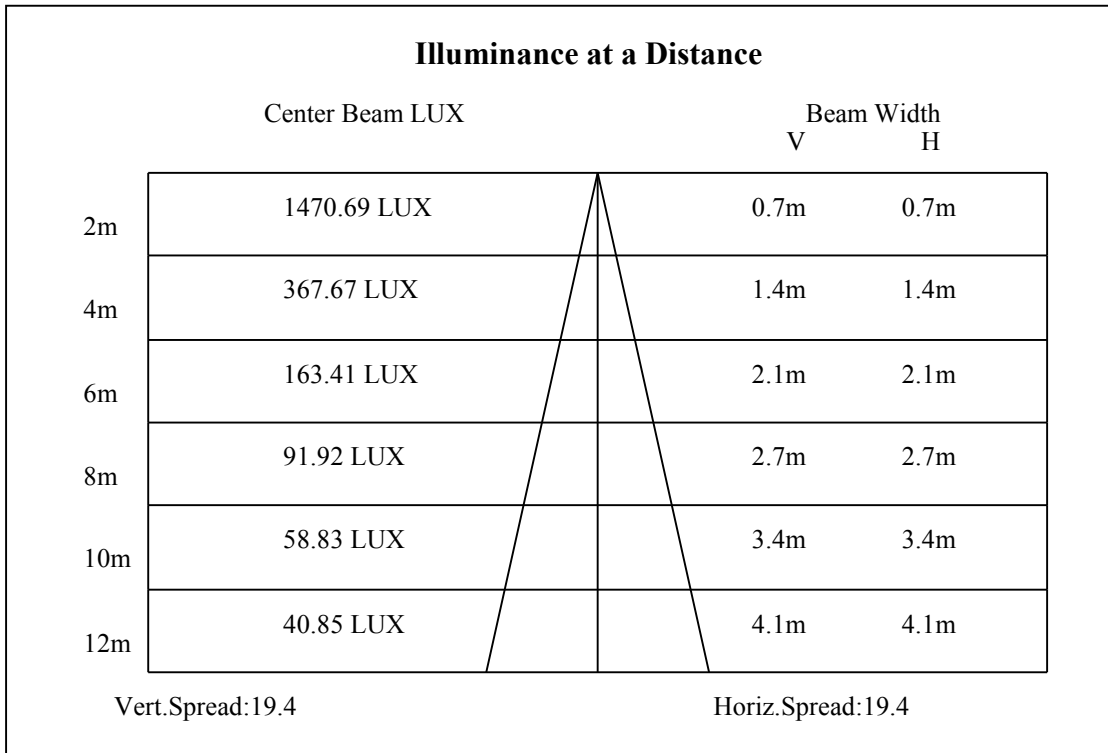
C0(Max): —————

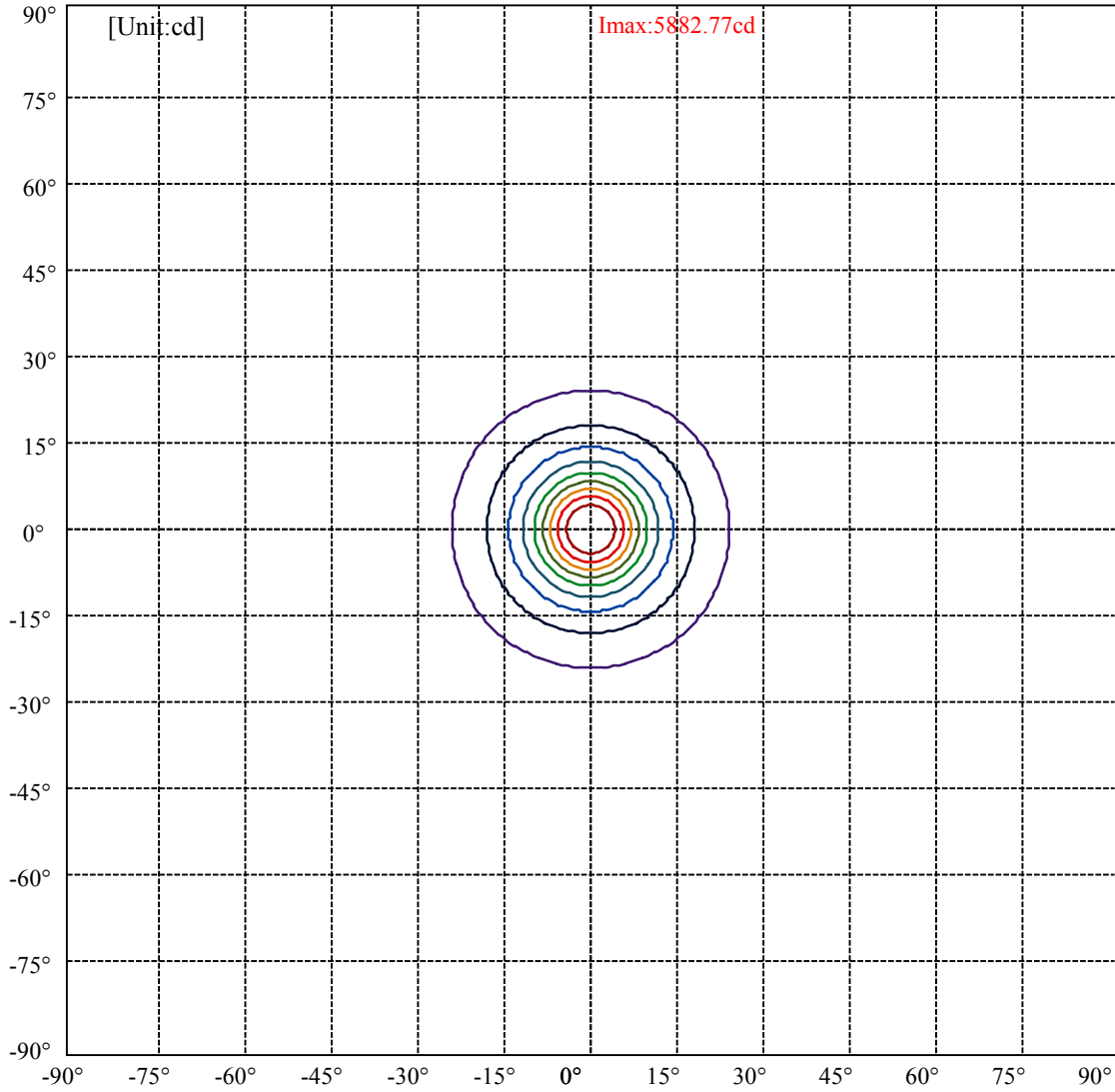
C0/C180: —————

C90/C270: —————

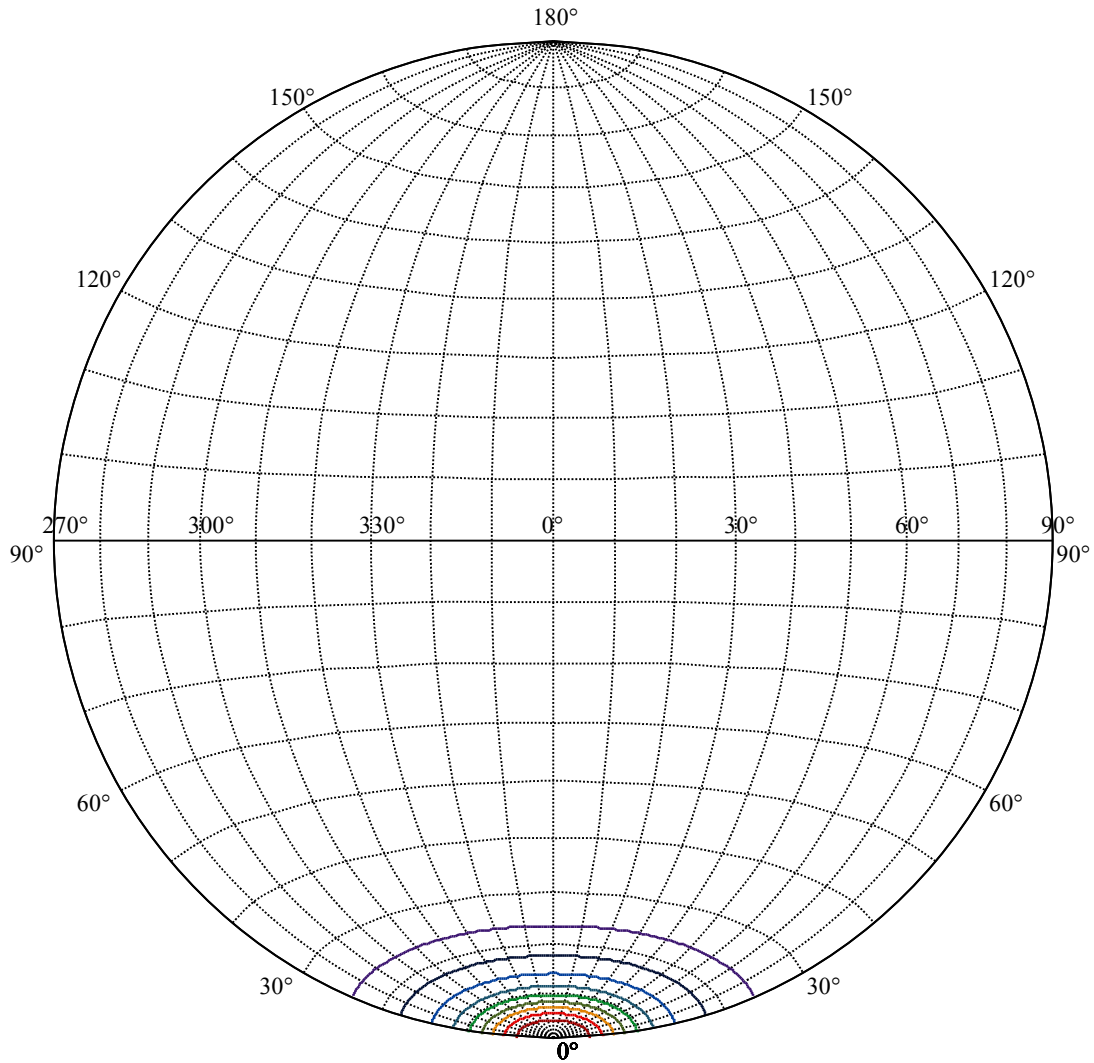
Field angle(10%Imax):C0/180Left:23.7 Right:23.7
:C90/270Left:23.7 Right:23.7

Beam Angle(50%Imax):C0/180Left:9.7 Right:9.7
:C90/270Left:9.7 Right:9.7





(10%Imax) 588.277	—
(20%Imax) 1176.55	—
(30%Imax) 1764.83	—
(40%Imax) 2353.11	—
(50%Imax) 2941.38	—
(60%Imax) 3529.66	—
(70%Imax) 4117.94	—
(80%Imax) 4706.21	—
(90%Imax) 5294.49	—



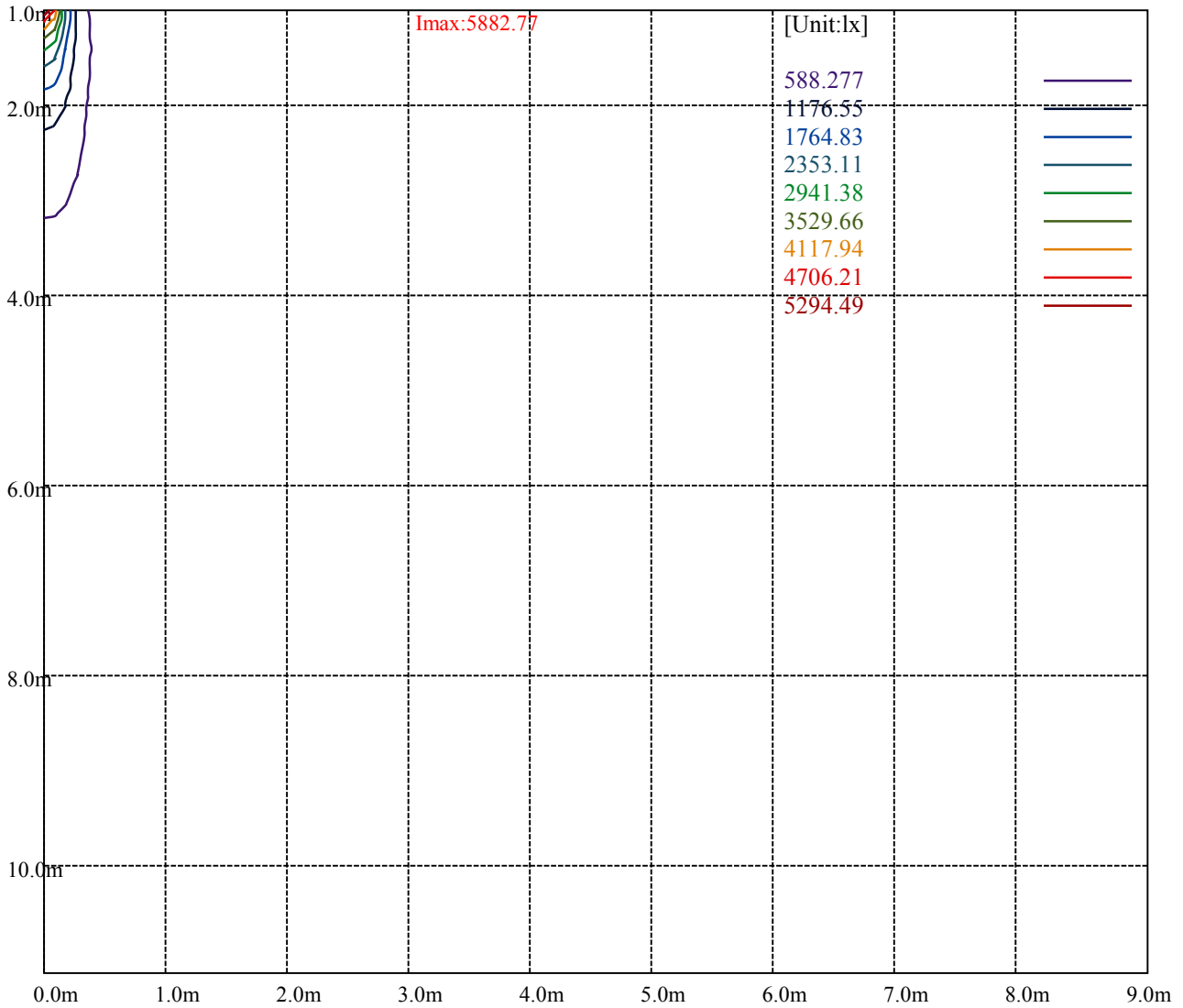
House

[Unit:cd]

Road

Imax:5882.77

(10%Imax) 588.277	—
(20%Imax) 1176.55	—
(30%Imax) 1764.83	—
(40%Imax) 2353.11	—
(50%Imax) 2941.38	—
(60%Imax) 3529.66	—
(70%Imax) 4117.94	—
(80%Imax) 4706.21	—
(90%Imax) 5294.49	—



Luminance Table

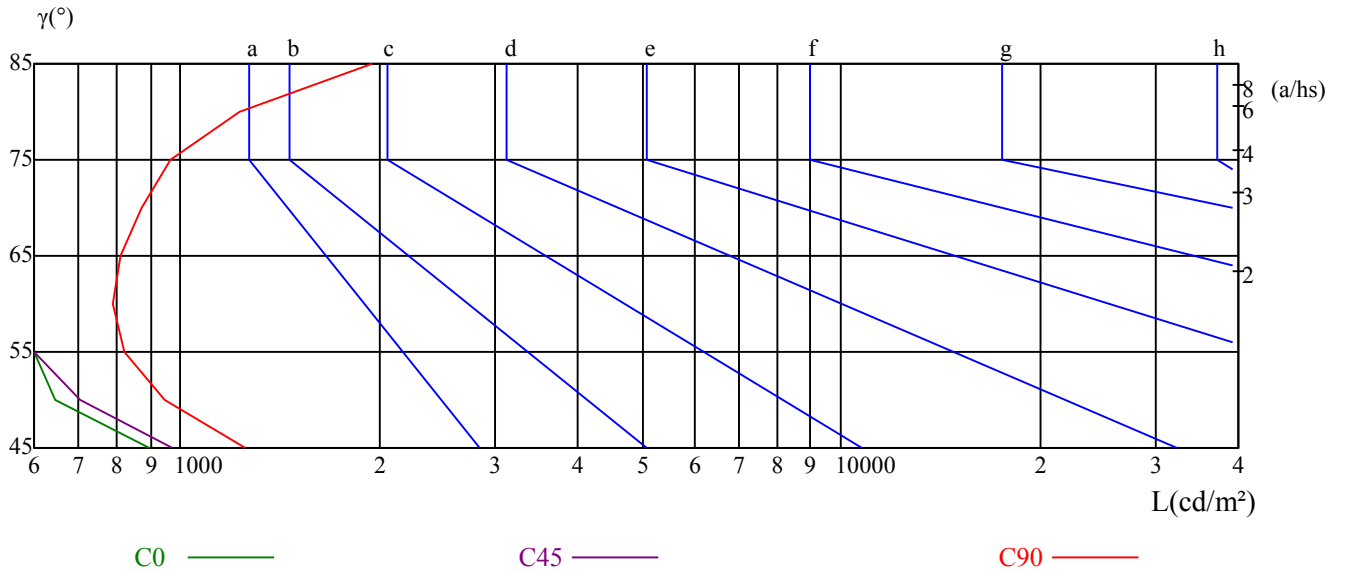
γ	45	50	55	60	65	70	75	80	85
C0	898	645	529	472	448	431	411	418	451
C45	969	703	583	526	507	496	482	503	562
C90	1254	947	824	787	814	874	966	1227	1955

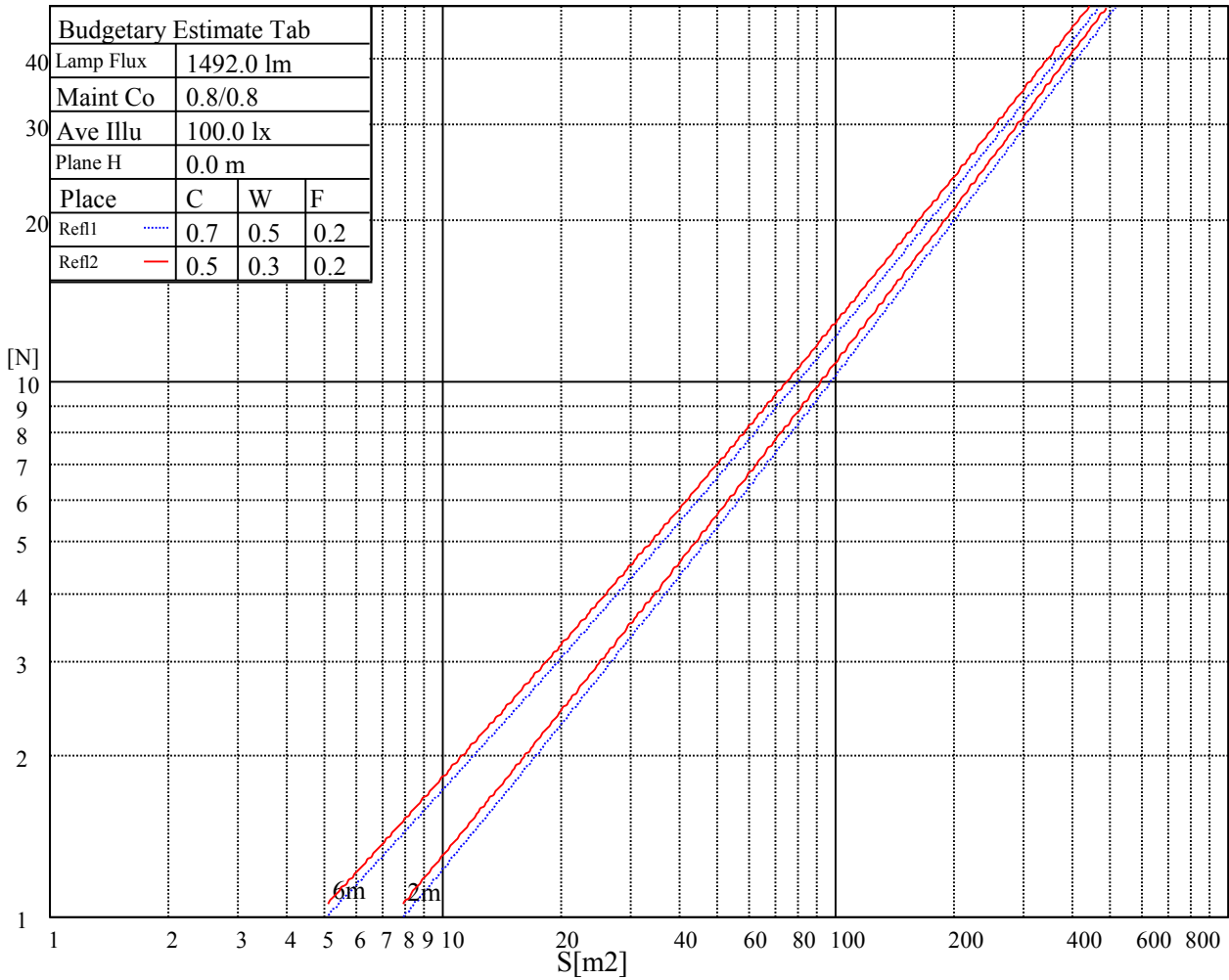
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
875	875	875	1093	1093	1093	2739	2739	2739

Glare Table

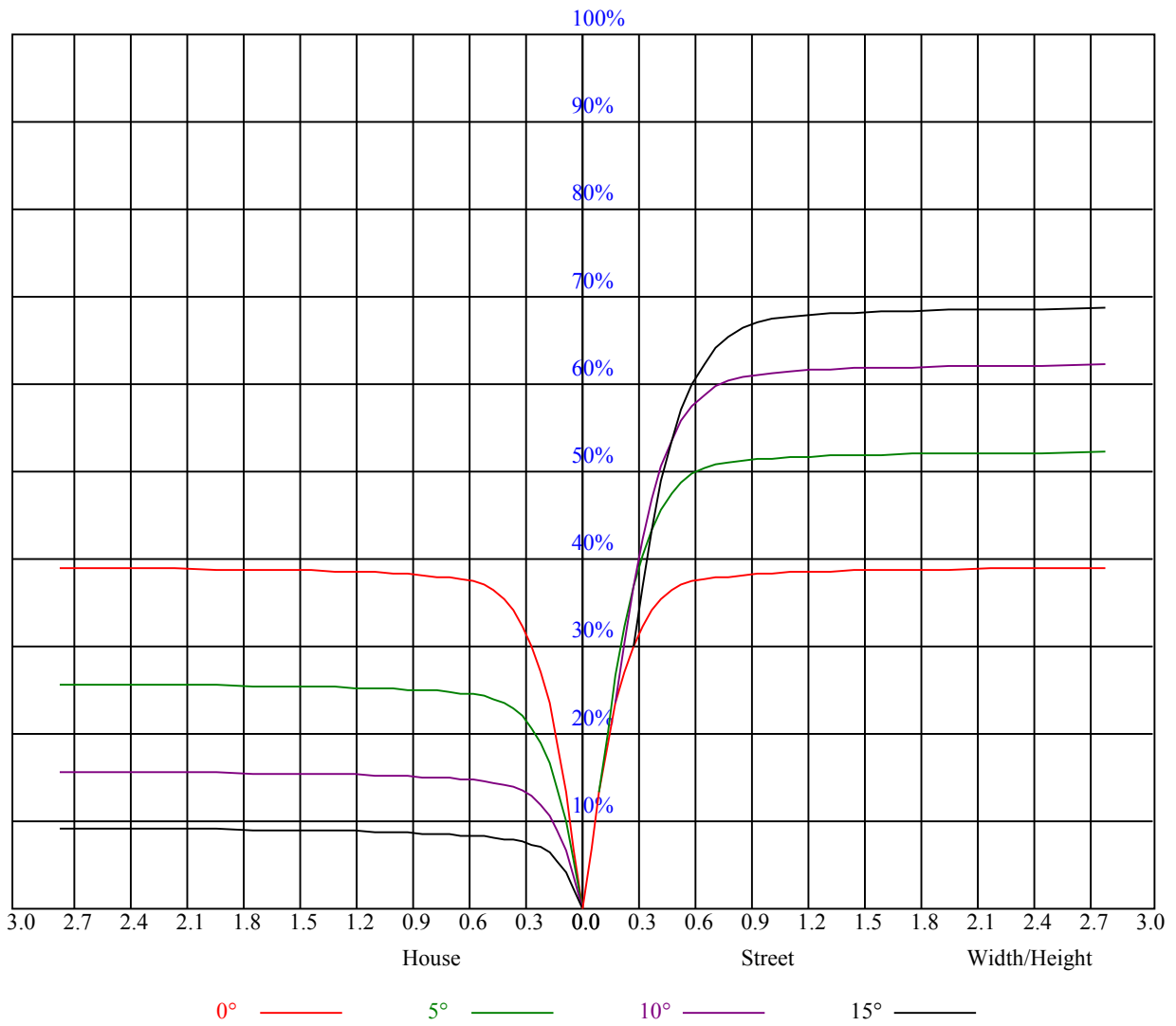
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.94	0.94	0.94	0.91	0.91	0.91	0.87	0.87	0.87	0.84	0.84	0.84	0.80	0.80	0.80	0.79
1	0.88	0.86	0.85	0.86	0.85	0.84	0.83	0.82	0.81	0.80	0.79	0.79	0.78	0.77	0.76	0.75
2	0.84	0.81	0.79	0.82	0.80	0.78	0.80	0.78	0.76	0.77	0.76	0.75	0.75	0.74	0.73	0.72
3	0.80	0.77	0.74	0.79	0.76	0.73	0.77	0.74	0.72	0.75	0.73	0.71	0.73	0.72	0.70	0.69
4	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.72	0.70	0.68	0.71	0.69	0.68	0.67
5	0.73	0.70	0.67	0.73	0.69	0.67	0.71	0.68	0.66	0.70	0.68	0.66	0.69	0.67	0.65	0.64
6	0.70	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.67	0.65	0.63	0.62
7	0.68	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.66	0.63	0.61	0.65	0.63	0.61	0.60
8	0.66	0.62	0.60	0.65	0.62	0.60	0.65	0.62	0.60	0.64	0.61	0.59	0.63	0.61	0.59	0.58
9	0.64	0.60	0.58	0.63	0.60	0.58	0.63	0.60	0.58	0.62	0.60	0.58	0.62	0.59	0.57	0.57
10	0.62	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.56	0.61	0.58	0.56	0.60	0.58	0.56	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	5857.31	5884.31	5812.31	5653.69	5414.06	5051.25	4612.50	4153.50	3653.44
45.0	5895.56	5835.38	5598.56	5352.19	5062.50	4610.81	4155.19	3696.75	3273.19
90.0	5891.63	5807.81	5608.13	5342.06	5049.00	4617.56	4095.56	3617.44	3142.69
135.0	5886.56	5881.50	5815.13	5703.75	5490.00	5106.38	4626.00	4155.19	3640.50
180.0	5857.31	5855.63	5803.31	5648.06	5394.94	4973.06	4547.25	4078.13	3509.44
225.0	5895.56	5860.13	5857.88	5739.75	5531.63	5261.63	4980.38	4579.88	4078.69
270.0	5891.63	5883.75	5842.69	5784.75	5630.63	5339.25	4986.00	4592.25	4087.13
315.0	5886.56	5867.44	5797.69	5672.81	5437.69	5021.44	4530.94	4077.56	3584.81
360.0	5857.31	5884.31	5812.31	5653.69	5414.06	5051.25	4612.50	4153.50	3653.44
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3198.38	2845.69	2521.69	2277.00	2030.06	1809.56	1630.69	1470.38	1292.63
45.0	2815.88	2513.25	2255.63	2007.00	1792.13	1627.31	1455.75	1305.00	1186.88
90.0	2791.69	2458.69	2189.81	1985.63	1774.13	1587.38	1435.50	1300.50	1115.33
135.0	3176.44	2819.25	2482.31	2238.19	2000.81	1784.81	1609.31	1450.69	1272.94
180.0	3156.19	2767.50	2419.31	2212.88	1974.94	1734.75	1585.13	1428.75	1258.31
225.0	3628.69	3168.56	2773.13	2482.31	2234.81	1968.75	1783.69	1614.94	1422.56
270.0	3591.00	3187.69	2805.19	2512.69	2238.19	1994.63	1798.88	1621.69	1426.50
315.0	3182.63	2797.88	2482.31	2237.63	1995.75	1773.56	1599.19	1442.25	1265.63
360.0	3198.38	2845.69	2521.69	2277.00	2030.06	1809.56	1630.69	1470.38	1292.63
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1170.00	1062.56	936.56	844.88	762.19	668.25	573.75	498.38	414.00
45.0	1059.75	954.00	843.19	747.56	662.63	574.31	484.88	410.63	351.56
90.0	1031.74	930.09	826.43	731.81	647.94	546.19	471.66	401.06	317.19
135.0	1146.38	1035.56	911.81	822.38	738.56	646.88	558.00	482.63	402.75
180.0	1118.98	1022.34	922.84	809.83	729.11	647.33	547.54	472.89	401.12
225.0	1289.81	1120.56	1036.91	919.58	821.93	726.69	643.56	556.37	470.42
270.0	1289.81	1167.75	1032.75	931.50	837.56	752.06	649.13	567.56	488.25
315.0	1112.51	1033.14	923.40	820.01	735.92	653.57	556.76	479.31	401.79
360.0	1170.00	1062.56	936.56	844.88	762.19	668.25	573.75	498.38	414.00
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	342.56	288.00	206.89	163.58	121.84	91.52	75.54	66.88	60.98
45.0	289.69	212.91	165.94	126.06	92.31	74.64	64.80	60.02	56.48
90.0	264.94	205.54	155.87	118.91	89.38	68.23	61.88	57.60	53.38
135.0	332.44	285.19	203.96	154.80	114.86	88.48	70.31	61.54	56.76
180.0	326.42	261.79	207.00	156.49	119.70	86.29	68.06	60.19	55.69
225.0	396.79	323.66	255.15	203.79	159.24	116.38	88.37	72.00	62.94
270.0	405.56	327.94	290.81	206.55	158.74	126.68	90.45	74.59	65.87
315.0	331.59	263.70	203.96	161.33	126.56	95.34	75.88	66.88	60.86
360.0	342.56	288.00	206.89	163.58	121.84	91.52	75.54	66.88	60.98
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	57.71	54.39	50.12	45.90	42.30	38.36	33.81	30.26	27.11
45.0	52.99	49.33	45.45	41.18	37.35	33.64	29.36	26.44	24.13
90.0	50.68	47.19	43.54	39.60	35.72	31.84	28.58	25.31	22.84
135.0	53.10	50.12	46.74	42.69	39.21	35.66	31.28	28.18	25.31
180.0	52.14	49.16	45.96	41.74	38.36	34.76	31.05	27.62	24.98
225.0	58.39	55.01	51.19	47.25	43.59	39.38	35.72	31.78	28.29
270.0	60.47	56.64	53.21	48.66	44.89	41.12	36.45	32.85	29.53
315.0	57.32	53.89	50.12	45.68	41.79	37.97	33.92	30.09	26.94
360.0	57.71	54.39	50.12	45.90	42.30	38.36	33.81	30.26	27.11

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	24.41	22.05	20.25	18.84	17.61	16.48	15.53	14.74	14.01
45.0	21.71	20.08	18.68	17.38	16.37	15.53	14.68	14.01	13.33
90.0	20.93	19.18	17.83	16.82	15.92	14.96	14.29	13.67	13.05
135.0	22.73	20.76	19.24	17.83	16.88	15.86	14.96	14.29	13.56
180.0	22.61	20.70	19.35	18.00	17.04	16.03	15.19	14.46	13.84
225.0	25.59	23.34	21.26	19.74	18.56	17.27	16.31	15.58	14.63
270.0	26.27	23.63	21.77	20.08	18.79	17.49	16.43	15.64	14.85
315.0	24.02	21.83	20.14	18.68	17.55	16.48	15.58	14.85	14.12
360.0	24.41	22.05	20.25	18.84	17.61	16.48	15.53	14.74	14.01
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	13.33	12.77	12.26	11.81	11.42	11.08	10.69	10.41	10.18
45.0	12.71	12.21	11.76	11.36	11.03	10.69	10.41	10.13	9.84
90.0	12.49	12.04	11.59	11.19	10.91	10.69	10.41	10.13	9.90
135.0	12.94	12.43	12.04	11.48	11.08	10.86	10.52	10.24	10.01
180.0	13.11	12.60	12.15	11.59	11.31	10.97	10.58	10.29	10.01
225.0	14.01	13.39	12.71	12.32	11.87	11.36	11.03	10.69	10.35
270.0	14.12	13.56	13.05	12.38	11.98	11.64	11.25	10.91	10.63
315.0	13.44	12.88	12.38	11.81	11.42	11.08	10.80	10.52	10.29
360.0	13.33	12.77	12.26	11.81	11.42	11.08	10.69	10.41	10.18
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	9.96	9.68	9.45	9.28	9.06	8.83	8.61	8.38	8.16
45.0	9.62	9.34	9.17	9.00	8.72	8.55	8.27	8.10	7.88
90.0	9.68	9.51	9.28	9.06	8.89	8.66	8.44	8.27	8.04
135.0	9.79	9.56	9.39	9.11	8.94	8.72	8.55	8.33	8.16
180.0	9.79	9.56	9.39	9.11	8.89	8.66	8.44	8.27	8.04
225.0	10.18	9.96	9.62	9.45	9.23	9.00	8.78	8.55	8.27
270.0	10.35	10.13	9.96	9.79	9.56	9.34	9.06	8.89	8.61
315.0	10.01	9.79	9.62	9.39	9.17	8.94	8.66	8.44	8.21
360.0	9.96	9.68	9.45	9.28	9.06	8.83	8.61	8.38	8.16
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	7.88	7.71	7.43	7.20	7.09	6.92	6.69	6.58	6.41
45.0	7.59	7.37	7.20	7.03	6.86	6.69	6.53	6.36	6.24
90.0	7.82	7.65	7.48	7.43	7.31	7.26	7.09	6.98	6.92
135.0	7.82	7.59	7.37	7.14	7.03	6.86	6.69	6.53	6.41
180.0	7.76	7.54	7.31	7.09	6.92	6.75	6.58	6.47	6.30
225.0	7.99	7.76	7.54	7.31	7.14	6.92	6.81	6.64	6.47
270.0	8.38	8.10	7.88	7.65	7.54	7.43	7.31	7.26	7.20
315.0	7.93	7.71	7.43	7.20	7.09	6.92	6.75	6.58	6.47
360.0	7.88	7.71	7.43	7.20	7.09	6.92	6.69	6.58	6.41
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	6.30	6.13	5.96	5.85	5.74	5.63	5.46	5.34	5.18
45.0	6.08	5.91	5.74	5.63	5.51	5.34	5.23	5.12	5.06
90.0	6.98	6.86	7.37	5.74	5.57	5.40	5.29	5.12	5.12
135.0	6.30	6.19	6.08	5.96	5.85	5.63	5.46	5.29	5.18
180.0	6.24	6.13	6.08	5.96	5.85	5.63	5.46	5.29	5.12
225.0	6.30	6.19	6.08	6.02	5.96	5.85	5.68	5.51	5.34
270.0	7.20	7.54	8.21	8.61	8.72	8.38	5.68	5.51	5.34
315.0	6.30	6.13	6.02	5.91	5.79	5.63	5.46	5.34	5.23
360.0	6.30	6.13	5.96	5.85	5.74	5.63	5.46	5.34	5.18

Intensity data(cd)

C/γ(°)	90.0
0.0	5.12
45.0	5.06
90.0	5.06
135.0	5.12
180.0	5.12
225.0	5.23
270.0	5.23
315.0	5.18
360.0	5.12