
Nata

LumCAT: 3-2035-M	
Luminaire: 92.70.131.00	
Report No: NT2017051107	Voltage(V): 34.6000
Test No: GC2017051107	Current(A): 0.5000
LampCAT: bridgelux V13B	Power (W): 17.3000
Lamp flux(lm): 2479.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 78	Width(mm): 78
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 2206.63
Efficiency(%): 89.01%
Lumens(lm)/Power(W): 127.55
Central intensity(cd): 3897.993
Maximum intensity(cd): 3897.993
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=42.3
[C90/270]Total=42.3
Field angle(10%Imax): [C0/180]Total=72.5
[C90/270]Total=72.5
Maximum s/h(1/2): C0_180=0.68 C90_270=0.68
Maximum s/h(1/4): C0_180=0.71 C90_270=0.71
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.01%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.694%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3897.993	0.000	0	.000%	.000%
1.0	3894.208	3.728	3.728	.150%	.169%
2.0	3879.136	11.157	14.885	.450%	.675%
3.0	3851.815	18.490	33.375	.746%	1.513%
4.0	3816.441	25.668	59.043	1.035%	2.676%
5.0	3766.959	32.623	91.667	1.316%	4.154%
6.0	3709.631	39.291	130.958	1.585%	5.935%
7.0	3648.588	45.672	176.631	1.842%	8.005%
8.0	3569.582	51.659	228.29	2.084%	10.346%
9.0	3488.029	57.198	285.488	2.307%	12.938%
10.0	3396.223	62.300	347.788	2.513%	15.761%
11.0	3292.304	66.832	414.62	2.696%	18.790%
12.0	3191.275	70.875	485.495	2.859%	22.002%
13.0	3078.892	74.411	559.906	3.002%	25.374%
14.0	2954.395	77.226	637.131	3.115%	28.873%
15.0	2841.254	79.565	716.697	3.210%	32.479%
16.0	2717.928	81.458	798.154	3.286%	36.171%
17.0	2565.835	82.282	880.437	3.319%	39.900%
18.0	2428.813	82.351	962.787	3.322%	43.632%
19.0	2288.488	82.071	1044.859	3.311%	47.351%
20.0	2119.671	80.682	1125.54	3.255%	51.007%
21.0	1969.712	78.524	1204.065	3.168%	54.566%
22.0	1841.774	76.593	1280.658	3.090%	58.037%
23.0	1706.335	74.449	1355.107	3.003%	61.411%
24.0	1595.947	72.200	1427.307	2.912%	64.683%
25.0	1500.218	70.400	1497.707	2.840%	67.873%
26.0	1406.553	68.615	1566.322	2.768%	70.982%
27.0	1315.986	66.608	1632.929	2.687%	74.001%
28.0	1230.641	64.475	1697.404	2.601%	76.923%
29.0	1154.911	62.413	1759.817	2.518%	79.751%
30.0	1074.921	60.205	1820.022	2.429%	82.480%
31.0	988.496	57.422	1877.444	2.316%	85.082%
32.0	887.805	53.754	1931.198	2.168%	87.518%
33.0	782.847	49.218	1980.416	1.985%	89.748%
34.0	668.515	43.923	2024.338	1.772%	91.739%
35.0	533.765	37.338	2061.677	1.506%	93.431%
36.0	417.314	30.283	2091.959	1.222%	94.803%
37.0	311.475	23.769	2115.728	.959%	95.880%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	205.333	17.250	2132.979	.696%	96.662%
39.0	136.863	11.680	2144.659	.471%	97.192%
40.0	76.033	7.425	2152.084	.300%	97.528%
41.0	43.680	4.263	2156.347	.172%	97.721%
42.0	25.581	2.516	2158.863	.102%	97.835%
43.0	20.488	1.707	2160.57	.069%	97.913%
44.0	17.260	1.425	2161.994	.057%	97.977%
45.0	14.679	1.227	2163.222	.050%	98.033%
46.0	13.337	1.096	2164.318	.044%	98.082%
47.0	12.512	1.028	2165.346	.041%	98.129%
48.0	12.092	0.995	2166.34	.040%	98.174%
49.0	11.775	0.980	2167.32	.040%	98.219%
50.0	11.507	0.971	2168.291	.039%	98.263%
51.0	11.280	0.964	2169.255	.039%	98.306%
52.0	11.066	0.959	2170.214	.039%	98.350%
53.0	10.867	0.954	2171.168	.038%	98.393%
54.0	10.708	0.951	2172.119	.038%	98.436%
55.0	10.571	0.950	2173.069	.038%	98.479%
56.0	10.433	0.949	2174.018	.038%	98.522%
57.0	10.316	0.949	2174.967	.038%	98.565%
58.0	10.206	0.949	2175.916	.038%	98.608%
59.0	10.096	0.949	2176.865	.038%	98.651%
60.0	9.986	0.949	2177.814	.038%	98.694%
61.0	9.910	0.949	2178.763	.038%	98.737%
62.0	9.821	0.951	2179.714	.038%	98.780%
63.0	9.711	0.950	2180.664	.038%	98.823%
64.0	9.649	0.950	2181.614	.038%	98.866%
65.0	9.566	0.951	2182.565	.038%	98.909%
66.0	9.483	0.950	2183.515	.038%	98.952%
67.0	9.428	0.951	2184.466	.038%	98.996%
68.0	9.360	0.952	2185.418	.038%	99.039%
69.0	9.325	0.953	2186.371	.038%	99.082%
70.0	9.249	0.954	2187.325	.038%	99.125%
71.0	9.208	0.954	2188.279	.038%	99.168%
72.0	9.126	0.953	2189.232	.038%	99.212%
73.0	9.112	0.954	2190.186	.038%	99.255%
74.0	9.084	0.957	2191.143	.039%	99.298%
75.0	9.057	0.959	2192.101	.039%	99.342%

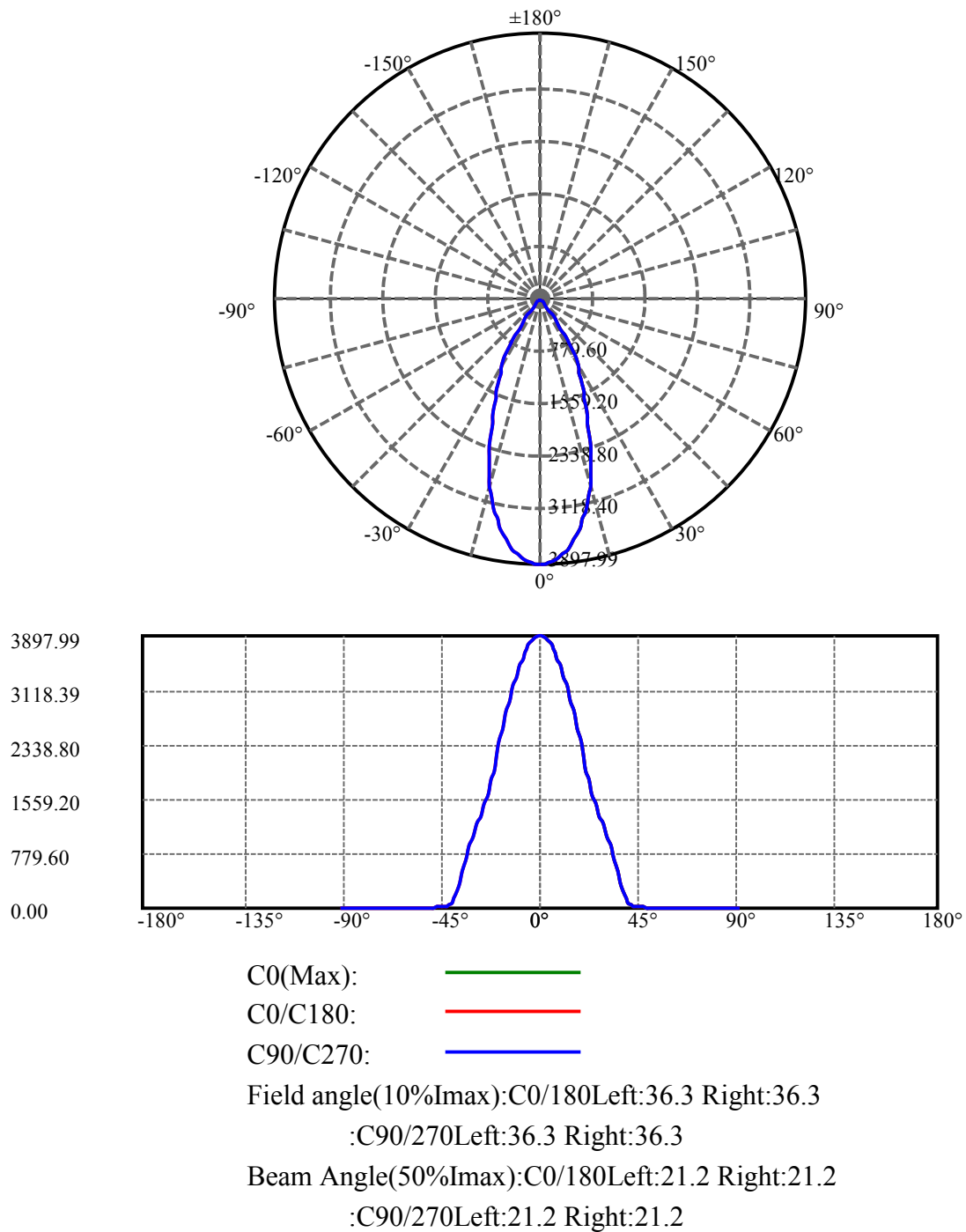
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	9.043	0.961	2193.062	.039%	99.385%
77.0	9.002	0.962	2194.024	.039%	99.429%
78.0	9.009	0.964	2194.988	.039%	99.472%
79.0	8.981	0.967	2195.955	.039%	99.516%
80.0	8.967	0.968	2196.922	.039%	99.560%
81.0	8.940	0.968	2197.891	.039%	99.604%
82.0	8.926	0.969	2198.859	.039%	99.648%
83.0	8.940	0.971	2199.831	.039%	99.692%
84.0	8.940	0.974	2200.805	.039%	99.736%
85.0	8.919	0.975	2201.779	.039%	99.780%
86.0	8.898	0.974	2202.753	.039%	99.824%
87.0	8.864	0.972	2203.725	.039%	99.868%
88.0	8.830	0.969	2204.695	.039%	99.912%
89.0	8.823	0.968	2205.662	.039%	99.956%
90.0	8.843	0.969	2206.631	.039%	100.000%

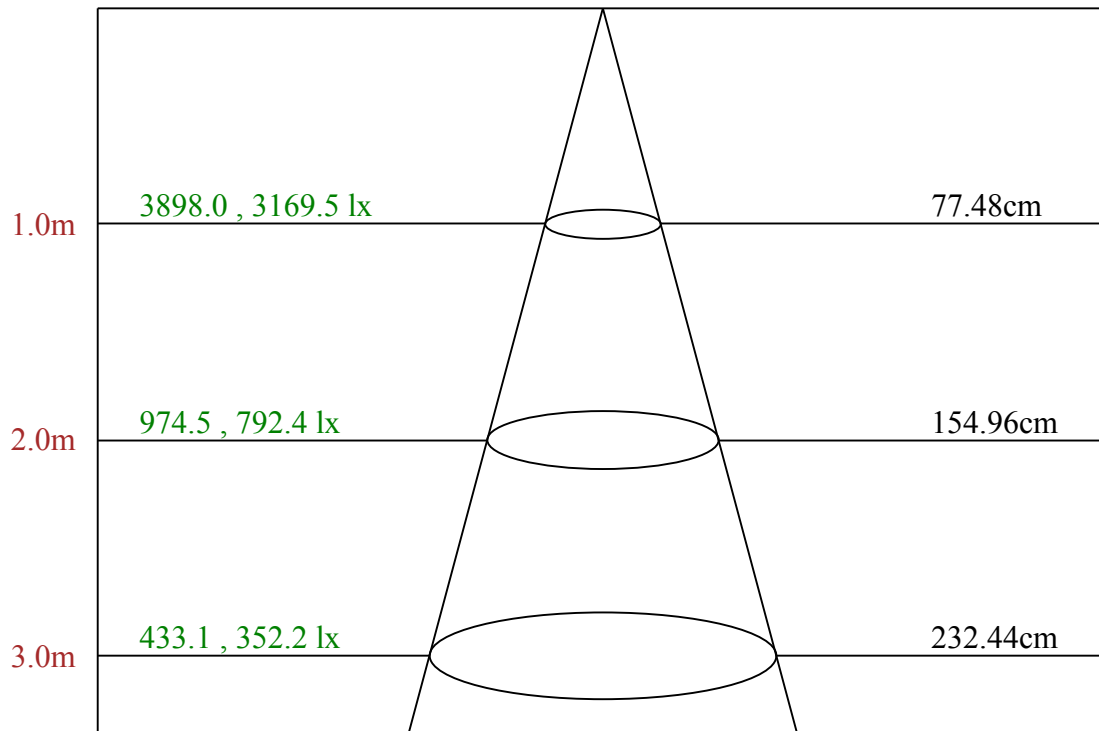
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1820.02	73.42%	82.48%
0-40	2152.08	86.81%	97.53%
0-60	2177.81	87.85%	98.69%
0-90	2205.66	88.97%	99.96%
0-120	2205.66	88.97%	99.96%
0-180	2206.63	89.01%	100.00%
60-90	28.80	1.16%	1.31%
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%
0-29.09	1765.31	71.21%	80.00%

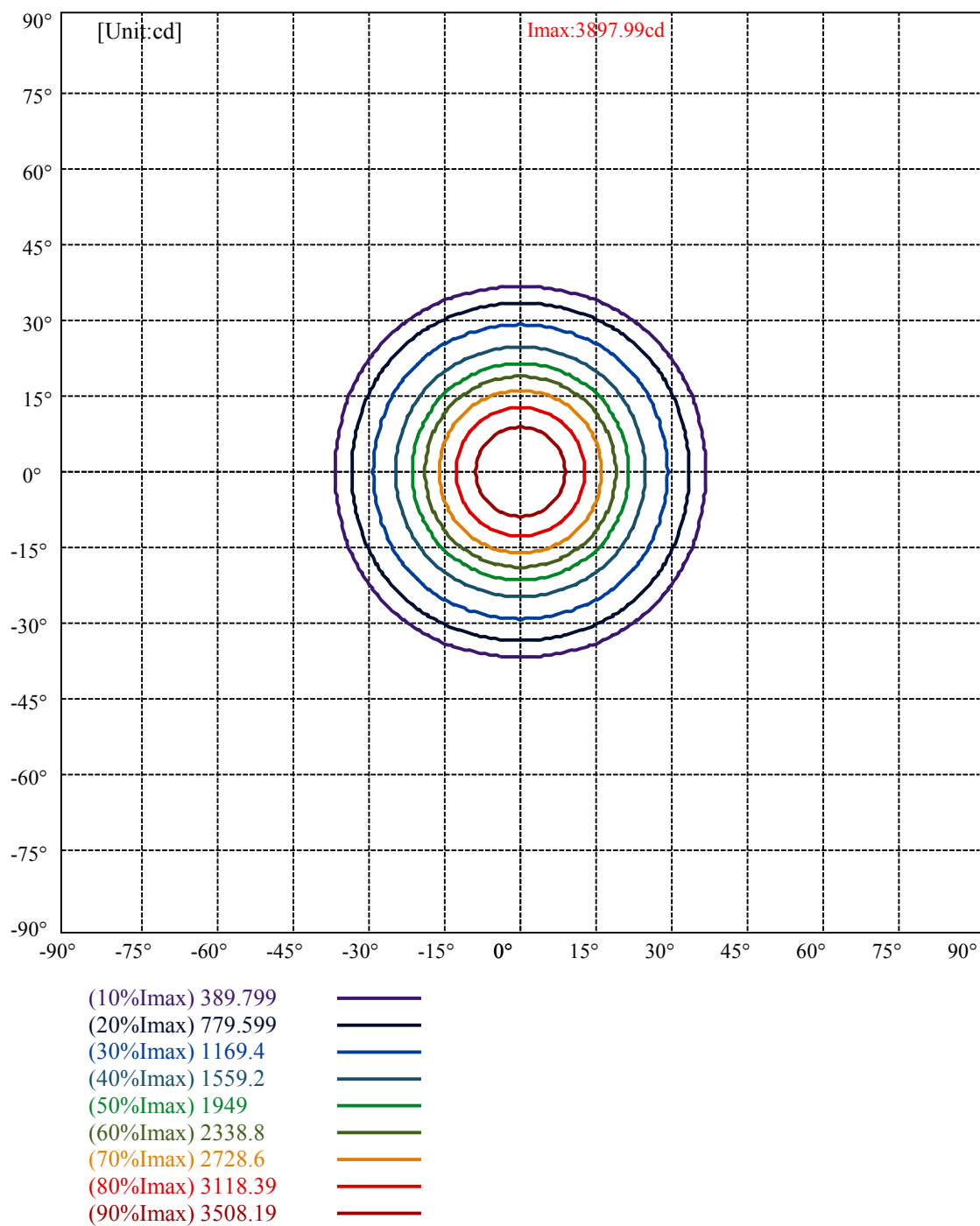
ZONAL LUMEN SUMMARY

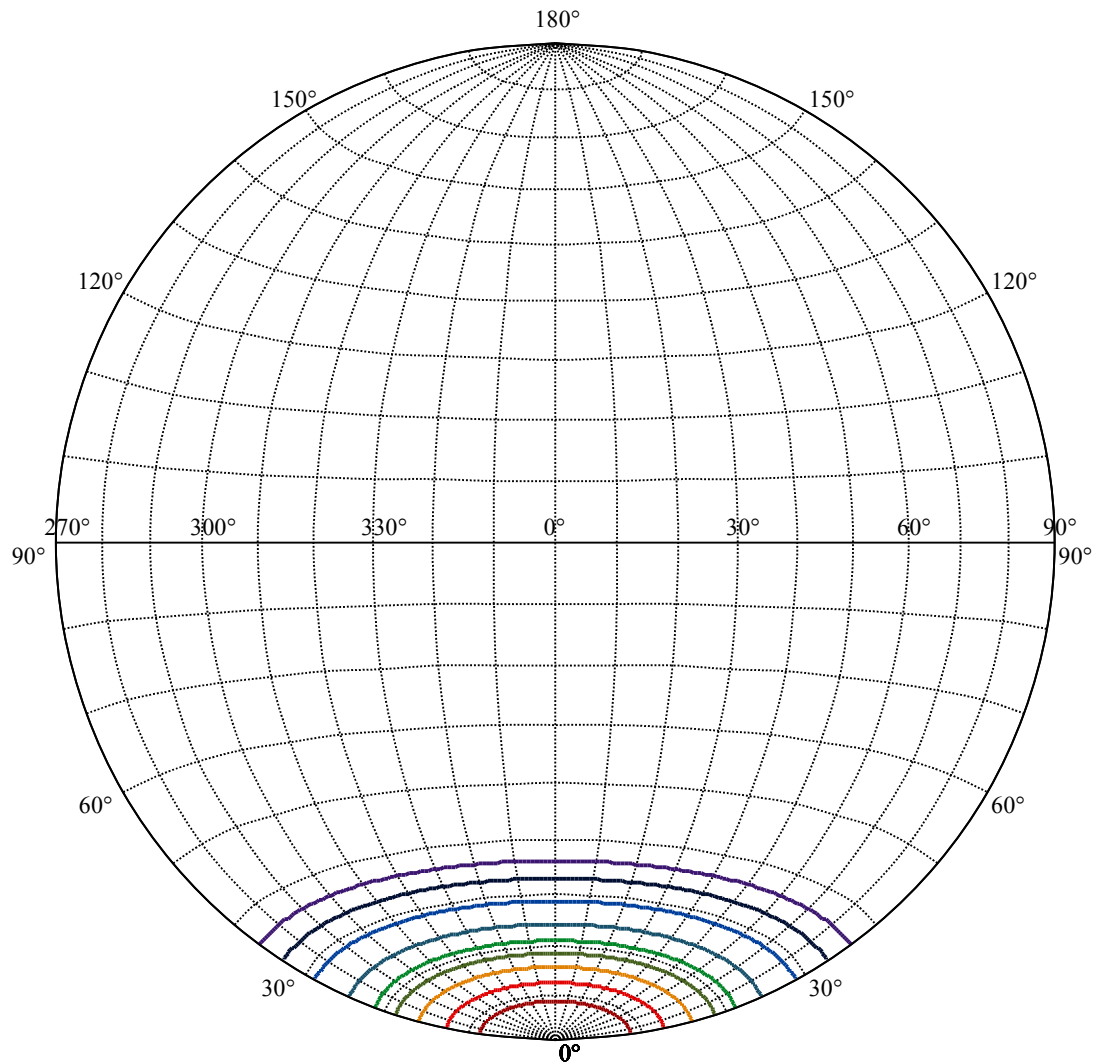
0-10	347.79
10-20	777.75
20-30	694.48
30-40	332.06
40-50	16.21
50-60	9.52
60-70	9.51
70-80	9.60
80-90	8.74
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00





Max , Ave Beam angle of C0 plane 42.35





House

[Unit:cd]

Road

Imax:3897.99

(10%Imax) 389.799

(20%Imax) 779.599

(30%Imax) 1169.4

(40%Imax) 1559.2

(50%Imax) 1949

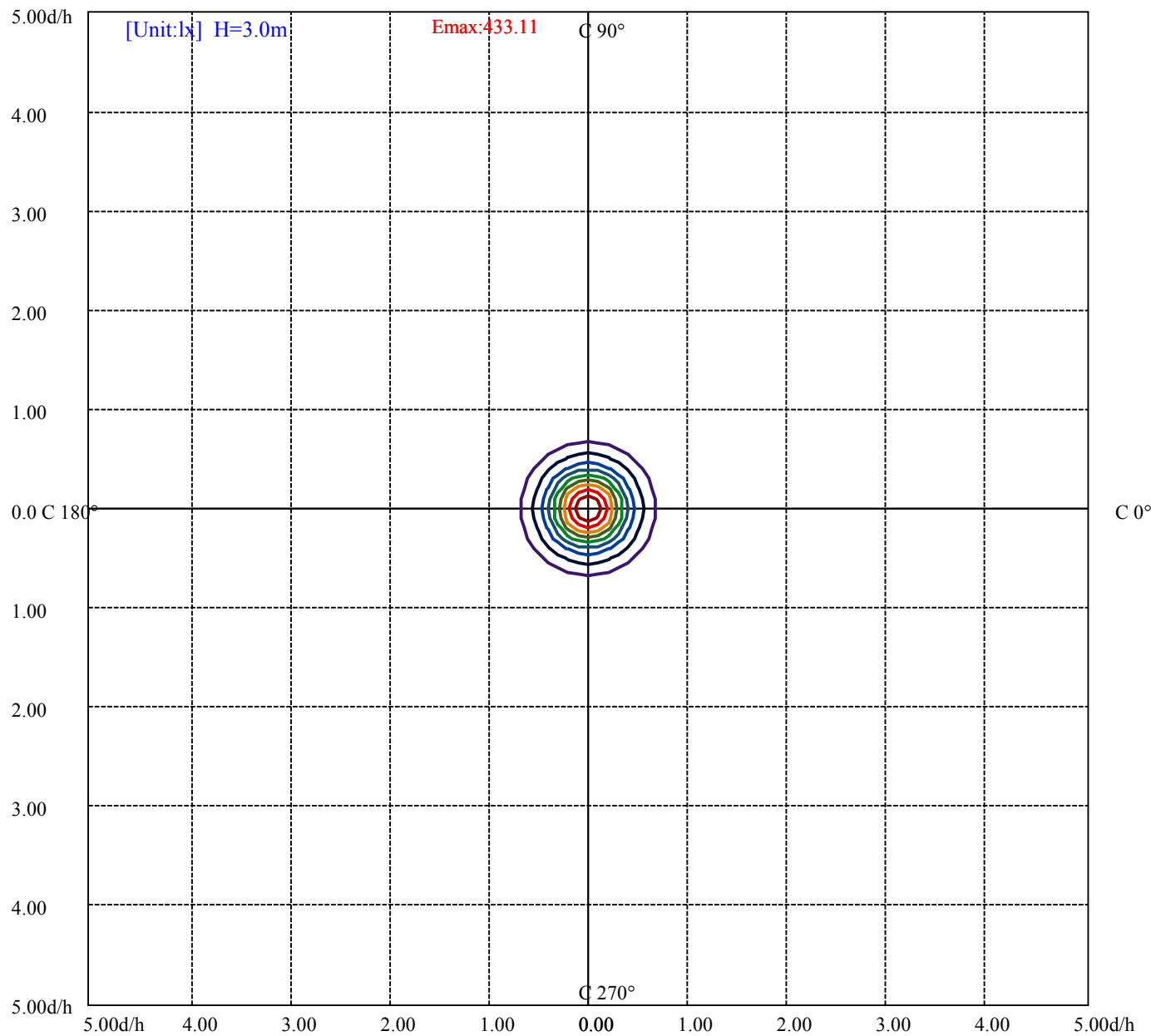
(60%Imax) 2338.8

(70%Imax) 2728.6

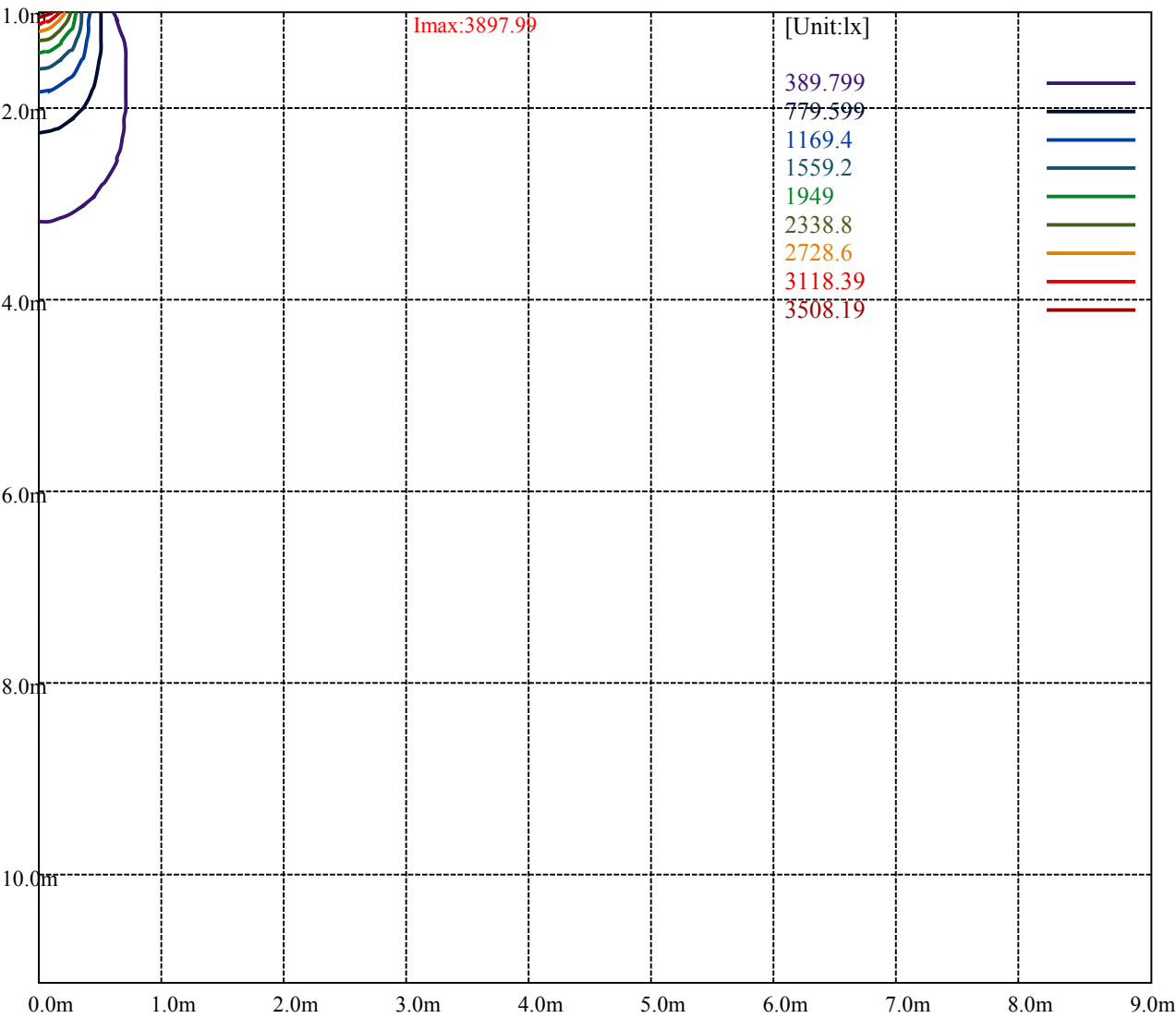
(80%Imax) 3118.39

(90%Imax) 3508.19





(10%Emax)	43.311	
(20%Emax)	86.62211	
(30%Emax)	129.9333	
(40%Emax)	173.2444	
(50%Emax)	216.5556	
(60%Emax)	259.8667	
(70%Emax)	303.1767	
(80%Emax)	346.4878	
(90%Emax)	389.7989	



Luminance Table

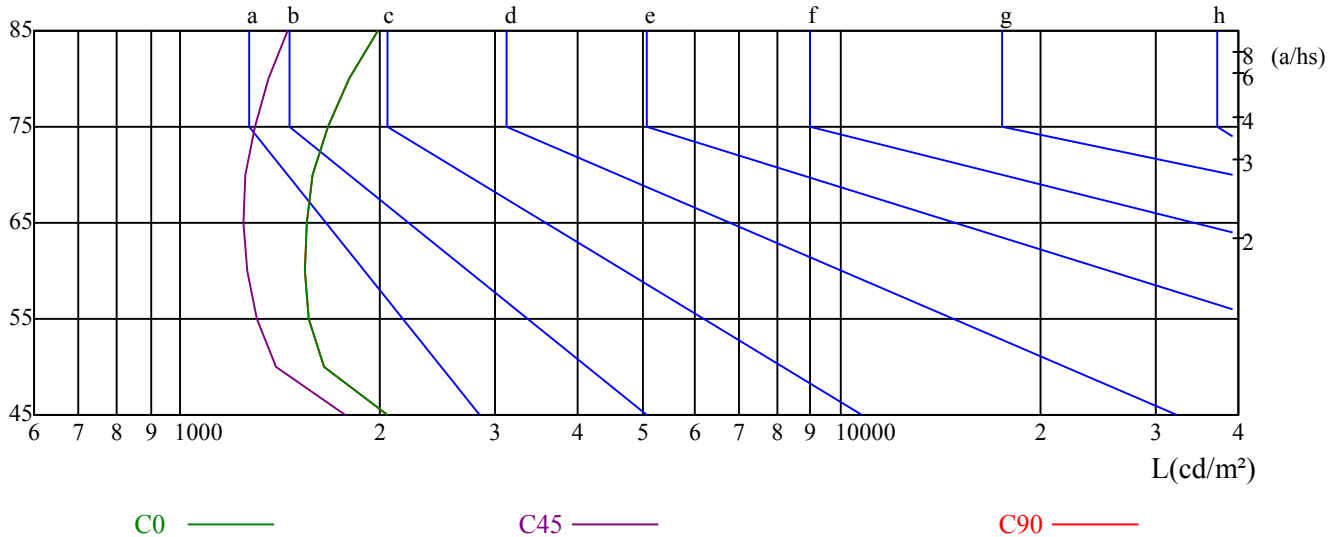
γ	45	50	55	60	65	70	75	80	85
C0	2063	1654	1566	1539	1549	1590	1672	1803	1985
C45	1773	1400	1305	1262	1247	1255	1292	1359	1454
C90	2063	1654	1566	1539	1549	1590	1672	1803	1985

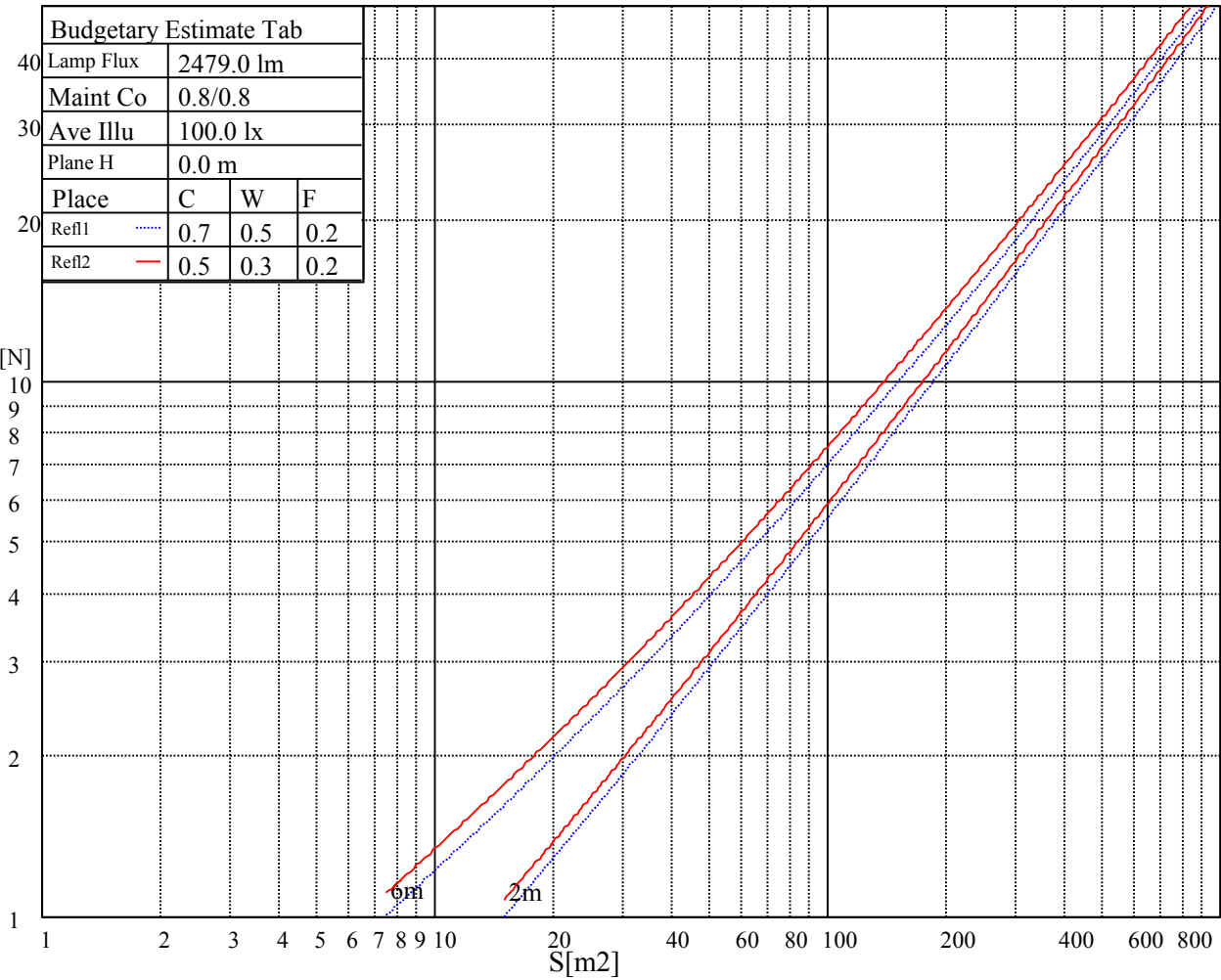
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3720	3720	3720	5752	5752	5752	16820	16820	16820

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

 $\gamma(^{\circ})$ 



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	1.06	1.06	1.06	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	0.99	0.97	0.95	0.97	0.95	0.93	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84
2	0.93	0.90	0.87	0.91	0.88	0.86	0.88	0.86	0.84	0.86	0.84	0.82	0.83	0.82	0.80	0.79
3	0.87	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.75
4	0.83	0.78	0.75	0.82	0.77	0.74	0.80	0.76	0.73	0.78	0.75	0.72	0.76	0.74	0.72	0.70
5	0.78	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.67
6	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.63
7	0.70	0.66	0.62	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.61	0.67	0.64	0.61	0.60
8	0.67	0.62	0.59	0.66	0.62	0.59	0.66	0.61	0.59	0.65	0.61	0.58	0.64	0.61	0.58	0.57
9	0.64	0.59	0.56	0.63	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.55	0.61	0.58	0.55	0.54
10	0.61	0.56	0.53	0.61	0.56	0.53	0.60	0.56	0.53	0.59	0.56	0.53	0.59	0.55	0.53	0.52

Intensity data(cd)									
Appendix Page: 15 Total:17									
C/ γ (°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	3905.70	3901.30	3878.17	3845.69	3804.95	3745.49	3682.17	3624.36	3526.36
45.0	3897.44	3903.50	3905.15	3895.24	3876.52	3839.63	3791.18	3746.04	3689.88
90.0	3897.44	3907.35	3907.90	3901.85	3880.38	3846.79	3798.89	3752.64	3695.39
135.0	3891.39	3904.05	3909.55	3906.25	3889.73	3858.35	3819.81	3774.67	3716.86
180.0	3905.70	3907.35	3902.40	3882.58	3848.99	3800.54	3739.98	3690.43	3618.86
225.0	3897.44	3879.27	3849.54	3801.64	3751.54	3690.43	3630.97	3553.34	3458.64
270.0	3897.44	3882.03	3845.14	3801.09	3749.34	3689.88	3619.41	3542.88	3447.08
315.0	3891.39	3868.81	3835.23	3780.17	3730.07	3664.55	3594.63	3504.34	3403.59
360.0	3905.70	3901.30	3878.17	3845.69	3804.95	3745.49	3682.17	3624.36	3526.36
C/ γ (°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3431.11	3348.53	3227.41	3126.65	3020.39	2878.35	2764.93	2644.36	2479.19
45.0	3610.05	3529.67	3447.63	3335.32	3227.41	3117.29	3004.98	2878.35	2763.28
90.0	3633.17	3550.04	3454.79	3362.84	3251.08	3140.42	3036.36	2924.05	2777.60
135.0	3652.44	3585.27	3495.53	3408.54	3299.53	3186.66	3083.71	2964.79	2837.61
180.0	3545.63	3448.73	3344.68	3246.68	3135.46	3020.94	2911.38	2800.72	2652.62
225.0	3370.00	3265.40	3150.33	3048.47	2935.61	2797.97	2677.94	2548.56	2392.75
270.0	3355.14	3247.23	3137.66	3032.51	2906.98	2778.70	2659.22	2527.09	2349.81
315.0	3306.69	3194.92	3080.41	2969.19	2854.67	2714.83	2591.50	2455.52	2273.83
360.0	3431.11	3348.53	3227.41	3126.65	3020.39	2878.35	2764.93	2644.36	2479.19
C/ γ (°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2338.80	2191.80	2007.36	1862.01	1741.43	1624.71	1519.01	1435.32	1340.62
45.0	2628.39	2494.61	2334.94	2169.22	2016.17	1855.40	1723.27	1620.86	1538.83
90.0	2656.47	2524.34	2362.47	2192.90	2045.35	1879.07	1744.19	1641.78	1536.07
135.0	2720.89	2598.66	2431.84	2286.49	2135.64	1949.00	1815.76	1705.65	1588.93
180.0	2521.03	2377.89	2229.23	2037.09	1887.88	1764.56	1636.28	1541.58	1456.24
225.0	2233.64	2086.64	1921.47	1773.92	1670.41	1556.44	1472.21	1376.96	1285.57
270.0	2205.01	2058.56	1871.37	1748.59	1646.19	1539.38	1444.13	1358.24	1277.86
315.0	2126.28	1975.42	1798.69	1687.48	1591.13	1482.12	1412.75	1321.35	1228.31
360.0	2338.80	2191.80	2007.36	1862.01	1741.43	1624.71	1519.01	1435.32	1340.62
C/ γ (°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	1264.09	1183.16	1107.73	1044.97	968.44	851.17	735.55	612.78	459.17
45.0	1421.01	1339.52	1270.15	1174.35	1097.82	1039.46	942.02	830.80	722.89
90.0	1451.29	1352.74	1263.54	1187.57	1094.36	1026.80	957.76	856.95	712.37
135.0	1483.77	1398.98	1302.63	1220.60	1134.71	1057.08	989.91	893.01	763.08
180.0	1357.14	1266.85	1190.32	1084.89	1035.34	959.14	850.07	735.77	601.71
225.0	1209.59	1098.49	1049.65	985.73	893.73	753.45	630.62	505.97	357.98
270.0	1191.97	1111.59	1038.91	971.19	858.33	726.74	605.07	485.05	339.70
315.0	1149.03	1093.81	1016.34	930.07	825.24	688.59	551.78	427.79	313.22
360.0	1264.09	1183.16	1107.73	1044.97	968.44	851.17	735.55	612.78	459.17
C/ γ (°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	342.45	289.05	119.97	56.76	32.26	26.76	21.31	17.18	14.87
45.0	562.68	439.35	329.79	279.14	113.20	55.50	29.62	24.94	20.10
90.0	591.47	472.44	359.24	233.16	142.65	69.81	33.42	26.59	21.80
135.0	646.91	525.24	382.09	288.50	170.78	96.84	40.96	28.90	23.78
180.0	468.75	355.94	252.10	140.06	69.26	35.73	27.91	22.08	17.67
225.0	250.40	158.67	68.60	35.13	28.02	21.91	18.06	14.81	13.10
270.0	285.74	140.56	76.91	31.55	26.37	22.02	16.35	14.20	13.27
315.0	190.11	110.55	53.96	30.61	25.71	20.87	17.01	15.20	13.49
360.0	342.45	289.05	119.97	56.76	32.26	26.76	21.31	17.18	14.87

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	13.76	13.16	12.61	12.28	11.89	11.62	11.45	11.23	10.96
45.0	15.86	13.93	12.94	12.33	12.00	11.73	11.45	11.23	11.01
90.0	17.07	14.65	12.83	12.28	11.95	11.62	11.29	11.07	10.85
135.0	17.51	14.87	13.54	12.88	12.44	12.06	11.84	11.56	11.34
180.0	15.20	13.32	12.66	12.28	11.95	11.67	11.40	11.18	10.96
225.0	12.66	12.22	11.73	11.51	11.29	11.07	10.96	10.74	10.63
270.0	12.61	12.17	11.84	11.51	11.23	11.07	10.85	10.68	10.52
315.0	12.77	12.39	11.95	11.67	11.45	11.23	11.01	10.85	10.68
360.0	13.76	13.16	12.61	12.28	11.89	11.62	11.45	11.23	10.96
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	10.79	10.63	10.52	10.41	10.30	10.13	10.02	9.97	9.86
45.0	10.90	10.79	10.57	10.41	10.30	10.19	10.13	10.02	9.97
90.0	10.74	10.57	10.46	10.30	10.24	10.13	10.02	9.91	9.86
135.0	11.07	10.90	10.79	10.63	10.52	10.35	10.19	10.13	10.08
180.0	10.79	10.68	10.52	10.35	10.24	10.13	10.02	9.97	9.86
225.0	10.41	10.30	10.13	10.13	9.97	9.91	9.86	9.80	9.63
270.0	10.46	10.30	10.24	10.13	10.02	9.97	9.80	9.74	9.63
315.0	10.52	10.41	10.24	10.19	10.08	9.97	9.86	9.74	9.69
360.0	10.79	10.63	10.52	10.41	10.30	10.13	10.02	9.97	9.86
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	9.74	9.63	9.58	9.47	9.47	9.36	9.30	9.19	9.19
45.0	9.86	9.74	9.69	9.58	9.52	9.41	9.41	9.36	9.30
90.0	9.69	9.63	9.63	9.52	9.41	9.41	9.36	9.25	9.30
135.0	9.91	9.86	9.74	9.69	9.69	9.52	9.41	9.36	9.30
180.0	9.74	9.69	9.58	9.52	9.41	9.36	9.41	9.25	9.19
225.0	9.58	9.52	9.41	9.36	9.30	9.30	9.25	9.19	9.14
270.0	9.52	9.58	9.41	9.41	9.30	9.25	9.19	9.19	9.14
315.0	9.63	9.52	9.47	9.30	9.30	9.25	9.25	9.19	9.08
360.0	9.74	9.63	9.58	9.47	9.47	9.36	9.30	9.19	9.19
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	9.14	9.08	9.03	9.03	9.03	9.03	8.97	8.92	8.92
45.0	9.19	9.19	9.14	9.14	9.14	9.14	9.19	9.19	9.19
90.0	9.19	9.14	9.08	9.08	9.03	8.97	8.97	8.97	8.97
135.0	9.25	9.25	9.19	9.14	9.14	9.08	9.03	9.03	8.97
180.0	9.08	9.03	9.03	9.03	8.97	8.92	8.92	8.86	8.86
225.0	9.14	9.08	9.08	9.03	9.08	9.03	8.97	8.97	8.97
270.0	9.08	9.08	9.08	9.03	8.97	9.03	9.03	8.97	8.97
315.0	8.92	9.03	9.03	8.97	8.97	8.81	8.97	8.92	8.86
360.0	9.14	9.08	9.03	9.03	9.03	9.03	8.97	8.92	8.92
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	8.86	8.86	8.86	8.86	8.86	8.86	8.86	8.81	8.75
45.0	9.03	8.97	9.03	9.08	8.97	8.97	8.97	8.92	8.92
90.0	8.97	8.86	8.92	8.86	8.92	8.92	8.92	8.81	8.81
135.0	9.03	9.03	8.97	8.97	8.97	8.97	8.86	8.81	8.81
180.0	8.86	8.86	8.86	8.86	8.81	8.81	8.75	8.75	8.75
225.0	8.97	8.97	8.97	8.97	8.97	8.97	8.86	8.86	8.92
270.0	8.92	8.97	8.97	8.97	8.97	8.86	8.86	8.86	8.86
315.0	8.86	8.86	8.92	8.92	8.86	8.81	8.81	8.81	8.75
360.0	8.86	8.86	8.86	8.86	8.86	8.86	8.86	8.81	8.75

Intensity data(cd)

Appendix Page: 17 Total:17

C/ γ (°)	90.0
0.0	8.75
45.0	8.86
90.0	8.92
135.0	8.81
180.0	8.81
225.0	8.86
270.0	8.86
315.0	8.86
360.0	8.75