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Nata

LumCAT: 1-0918-M
Luminaire: 99.02.73.179+92.76.853.00
Report No: 220609-B014
Test No: 220609-C014
LampCAT: Bridgelux C10-(30C2000C)
Lamp flux(lm): 1182.2
Number of Lamps: 1
Length(mm): 43
Phm Type: C
Voltage(V): 37.1500
Current(A): 0.3610
Power (W): 13.4110
PF: 0.0000
Ballast type: DC
Width(mm): 43
Height(mm): 0

Photometric Results

Lumens(lm): 848.91
Efficiency(%): 71.81%
Lumens(lm)/Power(W): 63.30
Central intensity(cd): 7559.339
Maximum intensity(cd): 7559.339
Angle of maximum intensity: $C=0.0$ $\gamma=0.0$
Beam Angle(50%Imax): [C0/180]Total=15.4
[C90/270]Total=15.4
Field angle(10%Imax): [C0/180]Total=35.7
[C90/270]Total=35.7
Maximum s/h(1/2): C0_180=0.26 C90_270=0.26
Maximum s/h(1/4): C0_180=0.29 C90_270=0.29
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 71.81%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.547%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7559.339	0.000	0	.000%	.000%
1.0	7482.930	7.197	7.197	.609%	.848%
2.0	7249.745	21.146	28.343	1.789%	3.339%
3.0	6807.947	33.621	61.965	2.844%	7.299%
4.0	6248.585	43.704	105.669	3.697%	12.448%
5.0	5615.876	51.040	156.709	4.317%	18.460%
6.0	4857.164	55.039	211.748	4.656%	24.944%
7.0	4175.309	56.064	267.812	4.742%	31.548%
8.0	3597.125	55.626	323.438	4.705%	38.101%
9.0	3025.289	53.671	377.109	4.540%	44.423%
10.0	2568.180	50.619	427.728	4.282%	50.386%
11.0	2225.049	47.894	475.622	4.051%	56.028%
12.0	1913.064	45.235	520.858	3.826%	61.356%
13.0	1613.866	41.856	562.713	3.541%	66.287%
14.0	1409.623	38.700	601.414	3.274%	70.846%
15.0	1195.738	35.768	637.181	3.026%	75.059%
16.0	1048.925	32.891	670.072	2.782%	78.934%
17.0	883.932	30.100	700.172	2.546%	82.479%
18.0	737.358	26.732	726.903	2.261%	85.628%
19.0	604.318	23.342	750.246	1.975%	88.378%
20.0	481.377	19.871	770.117	1.681%	90.719%
21.0	365.411	16.260	786.377	1.375%	92.634%
22.0	273.496	12.839	799.216	1.086%	94.147%
23.0	193.749	9.804	809.02	.829%	95.302%
24.0	114.897	6.748	815.768	.571%	96.096%
25.0	64.570	4.081	819.849	.345%	96.577%
26.0	35.045	2.351	822.2	.199%	96.854%
27.0	19.300	1.330	823.53	.112%	97.011%
28.0	12.824	0.813	824.343	.069%	97.107%
29.0	10.128	0.601	824.944	.051%	97.177%
30.0	8.597	0.506	825.449	.043%	97.237%
31.0	7.805	0.456	825.906	.039%	97.291%
32.0	7.267	0.432	826.338	.037%	97.342%
33.0	6.834	0.415	826.753	.035%	97.390%
34.0	6.431	0.401	827.155	.034%	97.438%
35.0	6.117	0.390	827.544	.033%	97.484%
36.0	5.856	0.381	827.926	.032%	97.529%
37.0	5.602	0.374	828.299	.032%	97.573%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	5.393	0.367	828.666	.031%	97.616%
39.0	5.206	0.362	829.028	.031%	97.658%
40.0	5.057	0.358	829.386	.030%	97.701%
41.0	4.922	0.355	829.741	.030%	97.742%
42.0	4.803	0.353	830.095	.030%	97.784%
43.0	4.713	0.352	830.447	.030%	97.826%
44.0	4.631	0.353	830.8	.030%	97.867%
45.0	4.549	0.353	831.152	.030%	97.909%
46.0	4.452	0.352	831.504	.030%	97.950%
47.0	4.392	0.352	831.856	.030%	97.992%
48.0	4.354	0.354	832.21	.030%	98.033%
49.0	4.287	0.355	832.565	.030%	98.075%
50.0	4.250	0.356	832.921	.030%	98.117%
51.0	4.190	0.357	833.278	.030%	98.159%
52.0	4.160	0.358	833.636	.030%	98.201%
53.0	4.130	0.361	833.997	.031%	98.244%
54.0	4.101	0.363	834.359	.031%	98.286%
55.0	4.048	0.364	834.723	.031%	98.329%
56.0	4.033	0.365	835.088	.031%	98.372%
57.0	4.011	0.368	835.456	.031%	98.416%
58.0	3.981	0.370	835.826	.031%	98.459%
59.0	3.966	0.372	836.197	.031%	98.503%
60.0	3.959	0.374	836.572	.032%	98.547%
61.0	3.921	0.376	836.948	.032%	98.591%
62.0	3.914	0.378	837.325	.032%	98.636%
63.0	3.899	0.380	837.705	.032%	98.681%
64.0	3.899	0.383	838.088	.032%	98.726%
65.0	3.891	0.386	838.473	.033%	98.771%
66.0	3.891	0.388	838.862	.033%	98.817%
67.0	3.876	0.391	839.252	.033%	98.863%
68.0	3.884	0.393	839.645	.033%	98.909%
69.0	3.862	0.395	840.041	.033%	98.956%
70.0	3.862	0.397	840.437	.034%	99.002%
71.0	3.862	0.399	840.836	.034%	99.049%
72.0	3.862	0.402	841.238	.034%	99.097%
73.0	3.951	0.409	841.646	.035%	99.145%
74.0	4.056	0.421	842.067	.036%	99.194%
75.0	4.153	0.434	842.501	.037%	99.246%

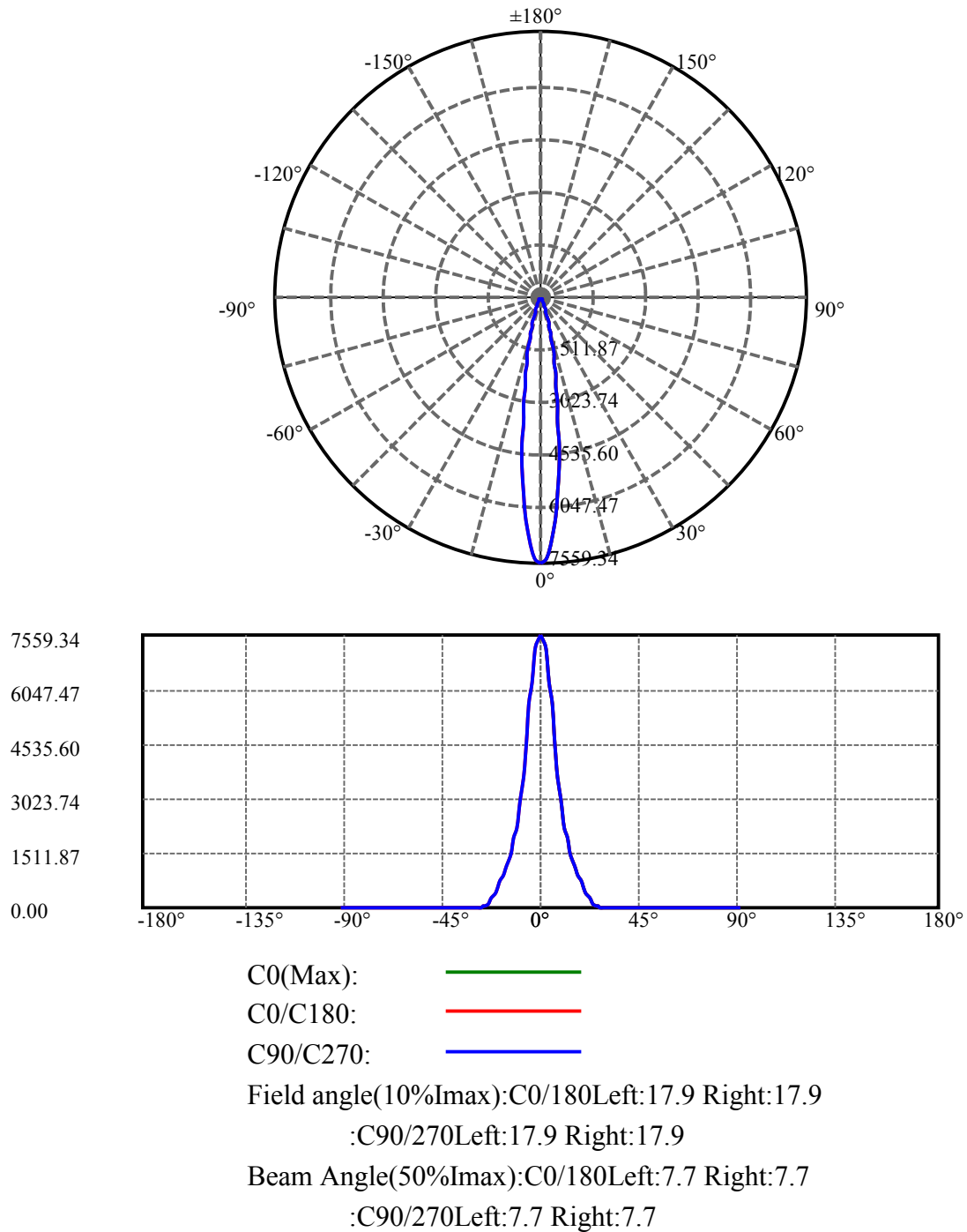
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.257	0.446	842.948	.038%	99.298%
77.0	4.295	0.456	843.404	.039%	99.352%
78.0	4.250	0.457	843.861	.039%	99.406%
79.0	4.168	0.452	844.313	.038%	99.459%
80.0	4.011	0.441	844.754	.037%	99.511%
81.0	3.981	0.432	845.186	.037%	99.562%
82.0	4.033	0.435	845.621	.037%	99.613%
83.0	4.071	0.441	846.061	.037%	99.665%
84.0	4.078	0.444	846.505	.038%	99.717%
85.0	3.757	0.428	846.933	.036%	99.768%
86.0	3.675	0.406	847.339	.034%	99.815%
87.0	3.585	0.397	847.737	.034%	99.862%
88.0	3.540	0.390	848.127	.033%	99.908%
89.0	3.555	0.389	848.516	.033%	99.954%
90.0	3.555	0.390	848.906	.033%	100.000%

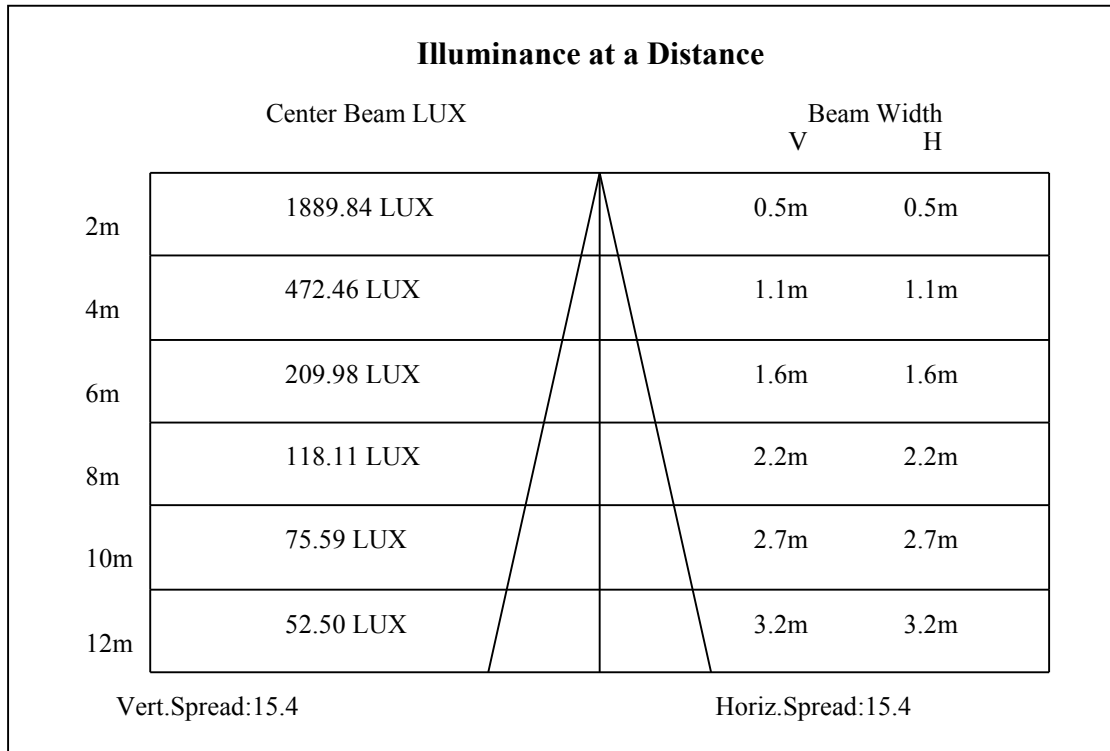
ZONAL LUMEN SUMMARY

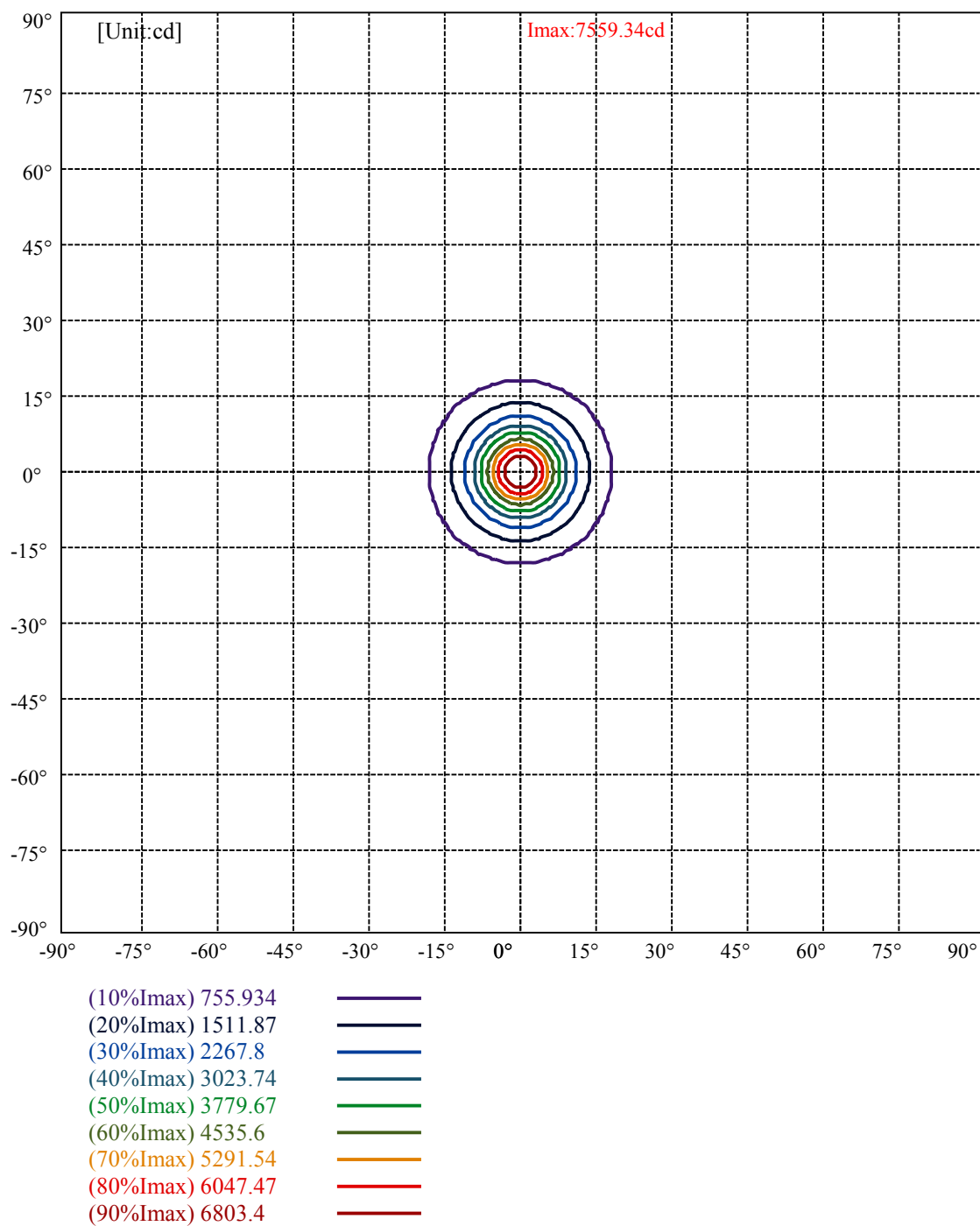
Zone	Lumens	%Lamp	%Fixt
0-30	825.45	69.82%	97.24%
0-40	829.39	70.16%	97.70%
0-60	836.57	70.76%	98.55%
0-90	848.52	71.77%	99.95%
0-120	848.52	71.77%	99.95%
0-180	848.91	71.81%	100.00%
60-90	12.32	1.04%	1.45%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-16.30	679.12	57.45%	80.00%

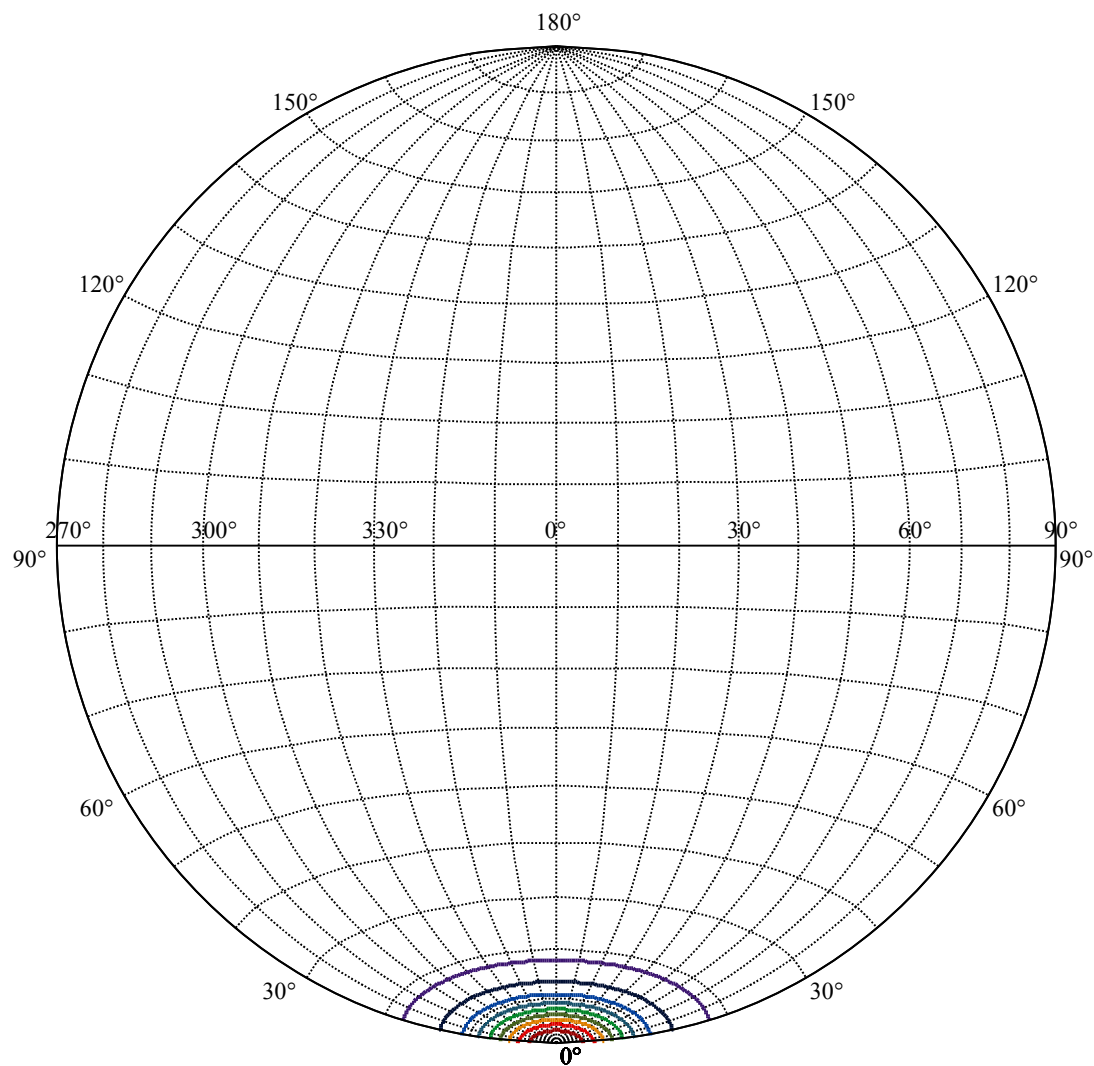
ZONAL LUMEN SUMMARY

0-10	427.73
10-20	342.39
20-30	55.33
30-40	3.94
40-50	3.53
50-60	3.65
60-70	3.87
70-80	4.32
80-90	3.76
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







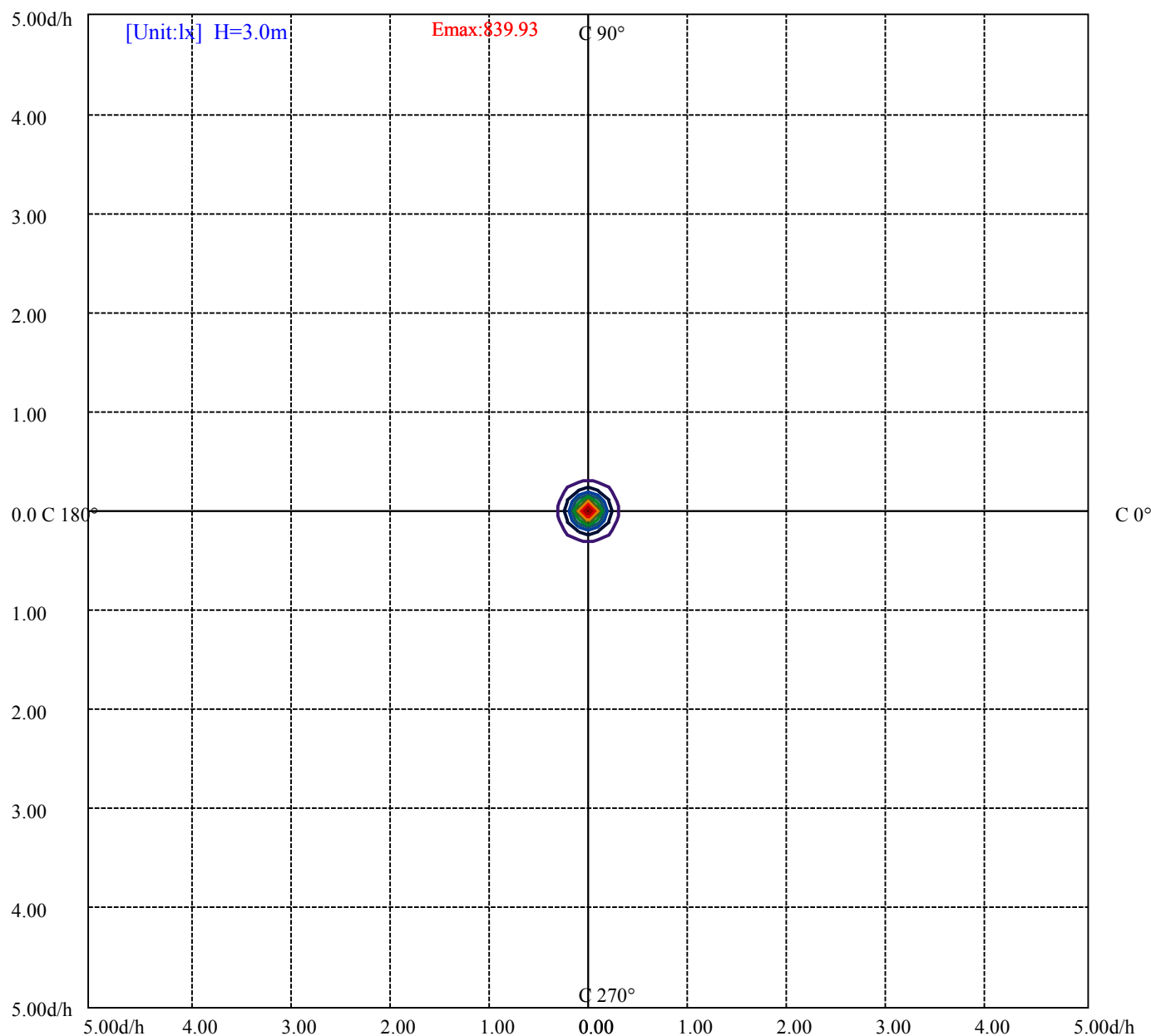


House

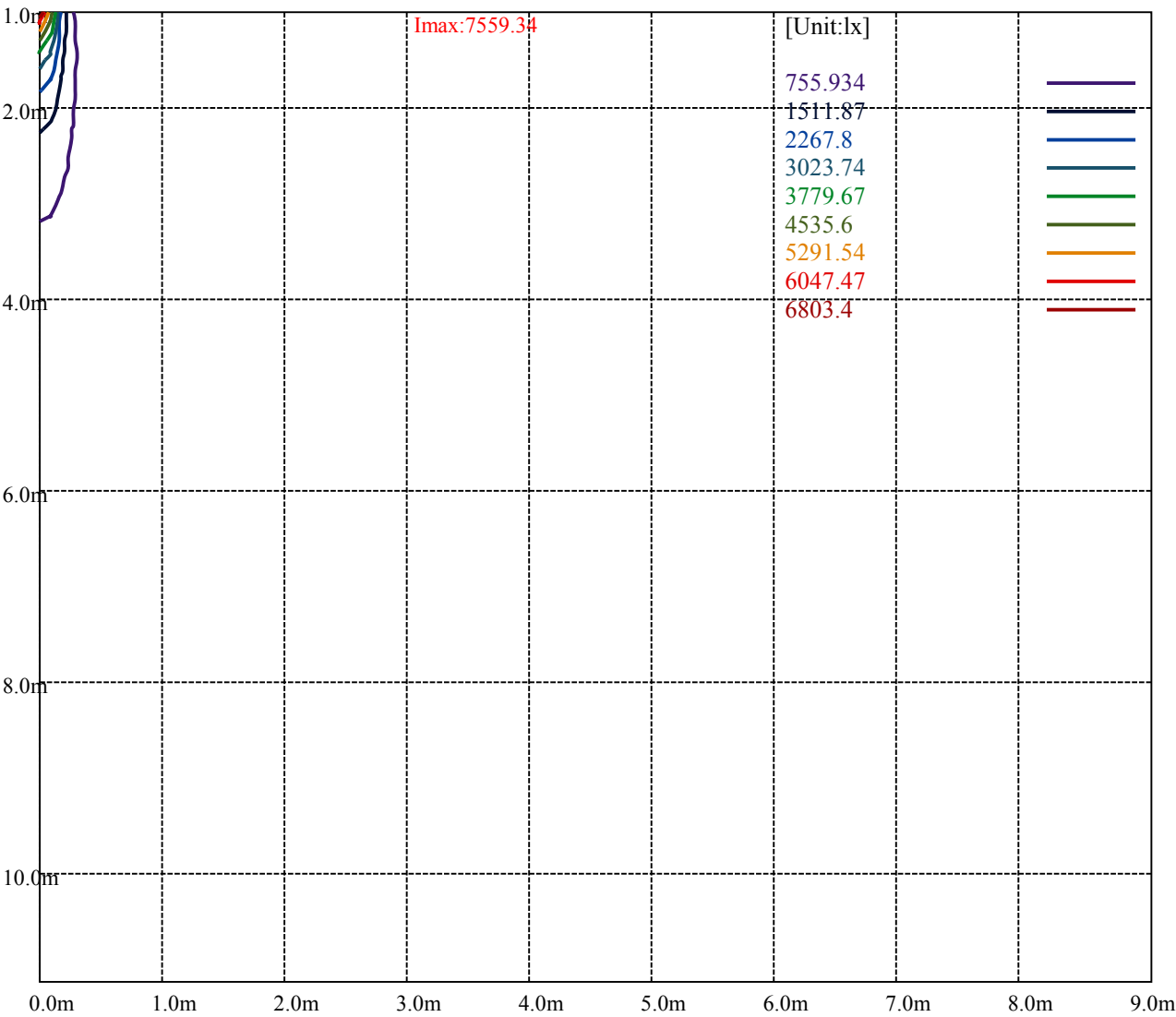
[Unit:cd]

Road

Imax:7559.34	
(10%Imax) 755.934	—
(20%Imax) 1511.87	—
(30%Imax) 2267.8	—
(40%Imax) 3023.74	—
(50%Imax) 3779.67	—
(60%Imax) 4535.6	—
(70%Imax) 5291.54	—
(80%Imax) 6047.47	—
(90%Imax) 6803.4	—



(10%Emax)	83.99255	—
(20%Emax)	167.9855	—
(30%Emax)	251.9778	—
(40%Emax)	335.97	—
(50%Emax)	419.9622	—
(60%Emax)	503.9556	—
(70%Emax)	587.9478	—
(80%Emax)	671.94	—
(90%Emax)	755.9323	—



Luminance Table

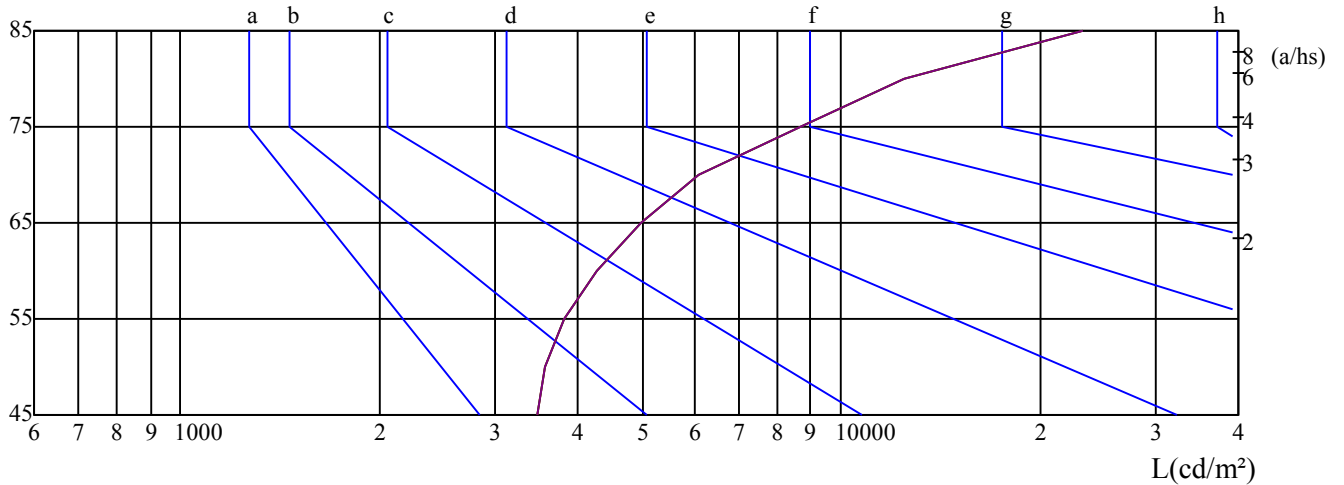
γ	45	50	55	60	65	70	75	80	85
C0	3479	3576	3817	4282	4980	6106	8678	12492	23313
C45	3479	3576	3817	4282	4980	6106	8678	12492	23313
C90	3479	3576	3817	4282	4980	6106	8678	12492	23313

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4980	4980	4980	8678	8678	8678	23313	23313	23313

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

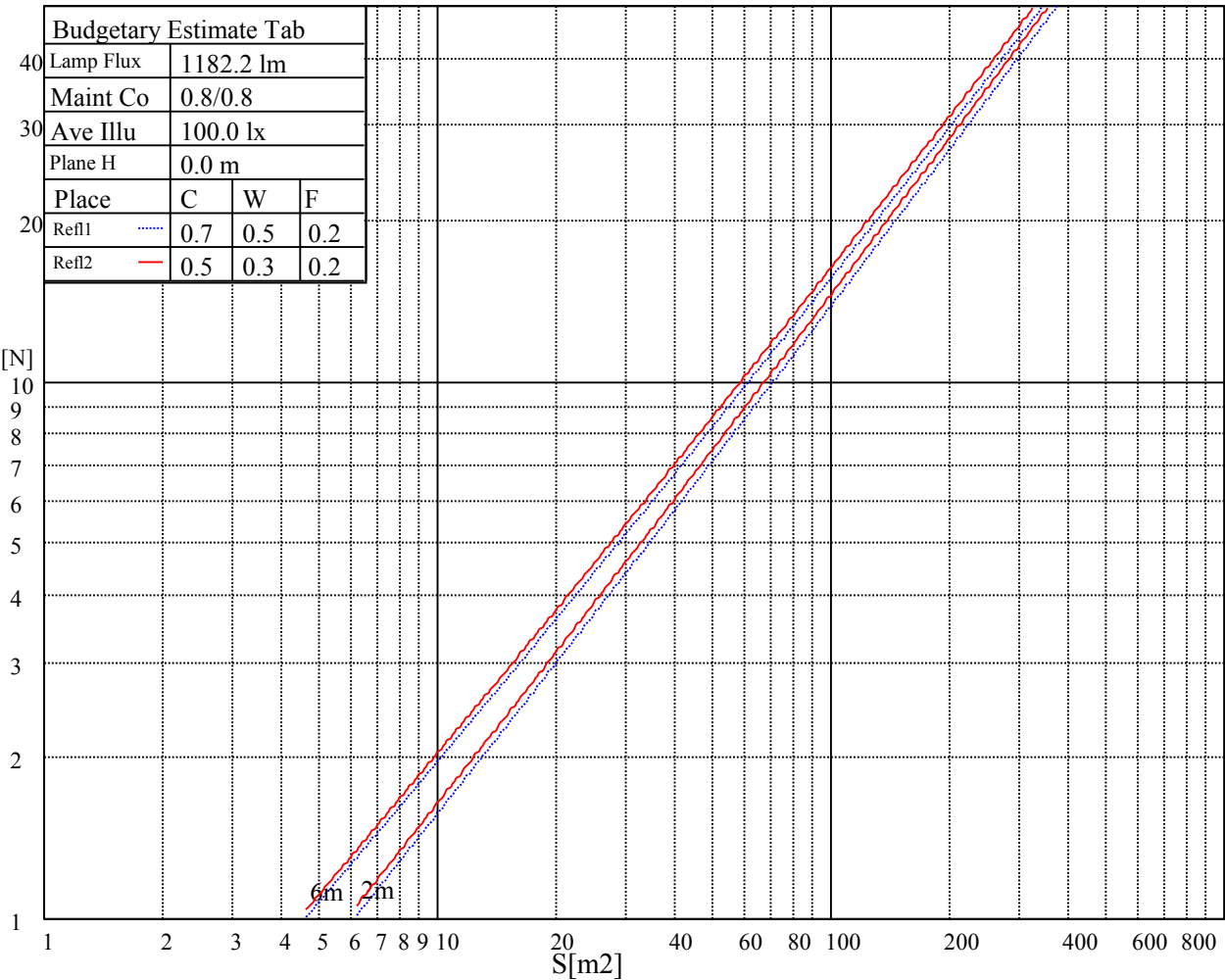
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

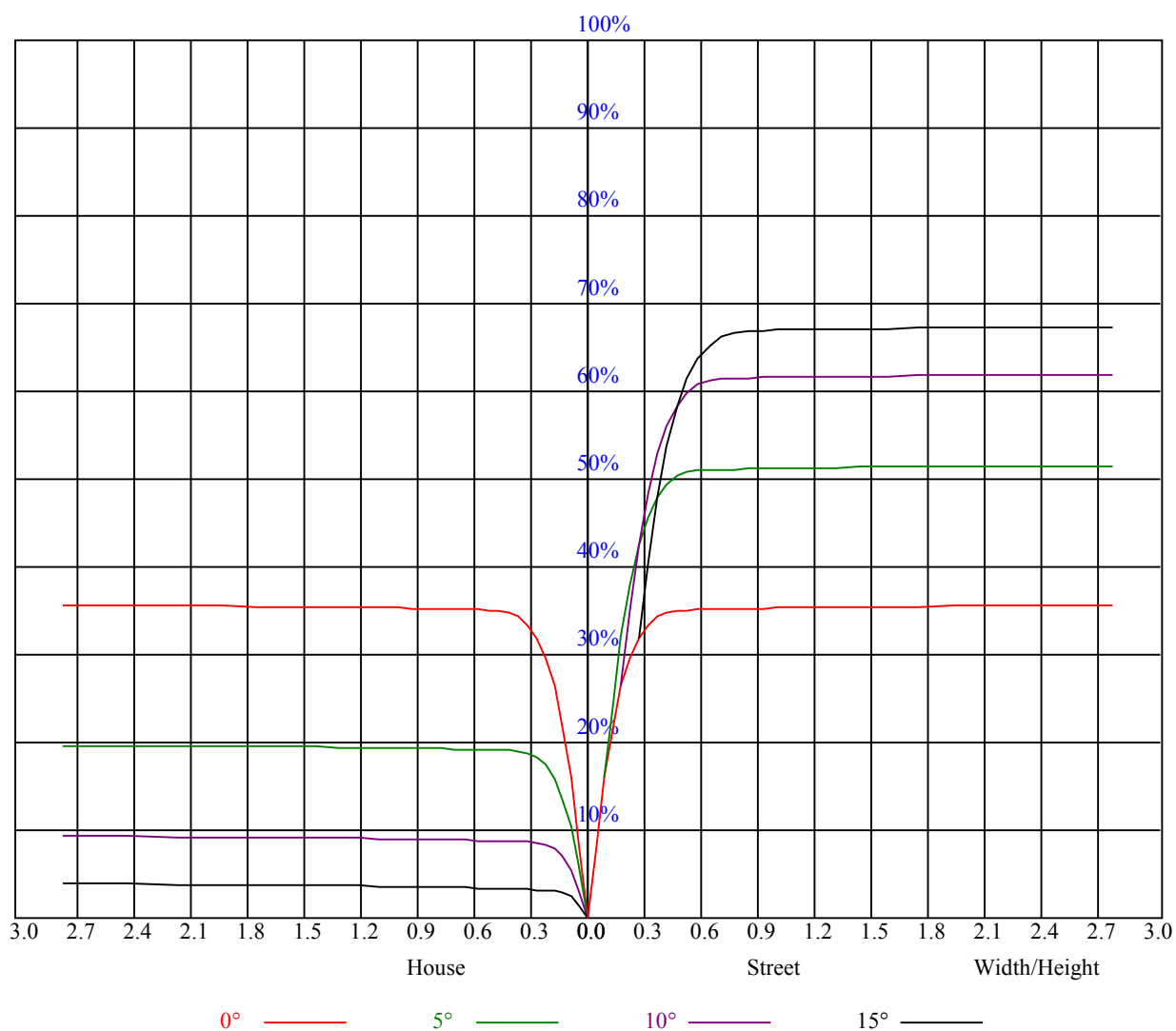
C0 ———

C45 ———

C90 ———



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



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Intensity data(cd)									
Appendix Page: 16 Total:18									
C/ γ (°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	7494.21	7619.69	7648.37	7511.54	7195.44	6681.57	5885.66	5215.23	4539.43
45.0	7641.20	7511.54	7197.83	6691.13	5996.80	5338.92	4573.49	3853.46	3315.09
90.0	7526.48	7271.33	6837.52	6108.54	5451.85	4783.22	3983.73	3419.06	2950.00
135.0	7575.47	7399.20	6955.84	6311.10	5674.73	4943.36	4215.57	3624.01	3122.09
180.0	7494.21	7163.18	6668.42	5959.16	5209.86	4543.01	3818.81	3206.34	2758.79
225.0	7641.20	7624.47	7504.37	7101.03	6579.39	5944.22	5092.14	4415.14	3776.38
270.0	7526.48	7623.27	7602.96	7438.04	7032.32	6455.70	5717.76	4950.53	4267.55
315.0	7575.47	7650.76	7582.64	7343.03	6848.28	6237.01	5570.17	4718.69	4047.66
360.0	7494.21	7619.69	7648.37	7511.54	7195.44	6681.57	5885.66	5215.23	4539.43
C/ γ (°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3746.51	3209.93	2763.57	2339.33	1988.58	1727.46	1480.08	1291.26	1100.65
45.0	2804.80	2388.32	2082.39	1823.66	1544.61	1354.60	1178.92	1004.45	838.33
90.0	2474.97	2167.84	1904.92	1623.49	1426.90	1183.65	1063.18	909.62	759.58
135.0	2612.40	2272.40	1989.17	1716.10	1482.47	1296.04	1110.81	939.91	801.29
180.0	2385.93	2009.49	1757.33	1542.22	1176.06	1135.19	980.43	836.18	673.12
225.0	3161.53	2663.19	2298.10	1952.13	1668.30	1459.17	1187.11	1087.02	914.76
270.0	3566.05	2991.23	2564.00	2207.27	1839.19	1598.99	1392.84	1190.88	1008.03
315.0	3450.13	2843.04	2440.91	2100.31	1784.82	1521.91	1172.53	1132.08	975.71
360.0	3746.51	3209.93	2763.57	2339.33	1988.58	1727.46	1480.08	1291.26	1100.65
C/ γ (°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	928.56	792.32	648.32	520.45	414.09	313.11	203.04	135.40	79.41
45.0	707.47	571.24	442.17	331.03	301.75	155.60	89.39	44.81	21.39
90.0	613.72	493.02	383.14	274.21	185.83	123.03	59.45	28.20	16.13
135.0	654.89	532.40	408.71	306.53	201.19	126.62	74.69	32.92	17.63
180.0	553.37	439.12	319.56	218.46	148.31	87.36	42.13	21.93	14.46
225.0	762.98	636.07	519.61	382.54	285.14	202.26	119.09	70.63	35.02
270.0	861.64	714.64	576.62	461.29	347.16	310.72	170.42	101.76	53.24
315.0	816.22	655.73	552.89	428.79	304.50	231.30	160.97	80.91	43.08
360.0	928.56	792.32	648.32	520.45	414.09	313.11	203.04	135.40	79.41
C/ γ (°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	35.79	19.60	14.52	10.46	8.96	8.31	7.71	7.23	6.81
45.0	15.30	10.52	8.66	7.95	7.41	6.93	6.51	6.15	5.86
90.0	11.77	8.78	8.01	7.47	6.93	6.51	6.15	5.86	5.62
135.0	12.25	8.90	8.01	7.53	6.93	6.57	6.33	5.92	5.74
180.0	10.46	8.37	7.77	7.29	6.87	6.39	6.15	5.92	5.62
225.0	19.24	13.68	10.28	8.78	8.13	7.53	6.99	6.57	6.27
270.0	26.53	16.43	12.19	9.80	8.66	8.07	7.53	6.99	6.57
315.0	23.06	16.31	11.59	9.50	8.54	7.83	7.29	6.81	6.45
360.0	35.79	19.60	14.52	10.46	8.96	8.31	7.71	7.23	6.81
C/ γ (°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	6.39	6.04	5.74	5.44	5.26	5.08	4.90	4.78	4.72
45.0	5.62	5.38	5.20	5.02	4.90	4.78	4.66	4.60	4.48
90.0	5.44	5.20	5.08	4.90	4.78	4.66	4.60	4.54	4.42
135.0	5.50	5.38	5.14	5.08	4.96	4.78	4.72	4.66	4.60
180.0	5.50	5.32	5.20	5.08	4.96	4.84	4.78	4.72	4.66
225.0	5.98	5.74	5.50	5.32	5.14	5.02	4.90	4.78	4.72
270.0	6.33	5.98	5.74	5.50	5.32	5.20	5.02	4.90	4.78
315.0	6.09	5.80	5.56	5.32	5.14	5.02	4.84	4.72	4.66
360.0	6.39	6.04	5.74	5.44	5.26	5.08	4.90	4.78	4.72

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	4.60	4.48	4.42	4.36	4.30	4.24	4.18	4.12	4.12
45.0	4.42	4.36	4.30	4.24	4.18	4.18	4.06	4.06	4.06
90.0	4.36	4.24	4.24	4.18	4.12	4.12	4.06	4.00	4.00
135.0	4.54	4.42	4.36	4.36	4.30	4.24	4.18	4.18	4.12
180.0	4.60	4.54	4.48	4.42	4.42	4.42	4.42	4.36	4.30
225.0	4.60	4.48	4.42	4.42	4.36	4.30	4.24	4.24	4.18
270.0	4.66	4.60	4.48	4.48	4.36	4.30	4.24	4.18	4.12
315.0	4.60	4.48	4.42	4.36	4.24	4.18	4.12	4.12	4.12
360.0	4.60	4.48	4.42	4.36	4.30	4.24	4.18	4.12	4.12
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	4.06	4.00	4.00	3.94	3.94	3.88	3.88	3.82	3.82
45.0	4.00	3.94	3.94	3.94	3.94	3.88	3.88	3.88	3.82
90.0	3.94	3.94	3.94	3.88	3.82	3.82	3.82	3.82	3.76
135.0	4.12	4.06	4.06	4.00	4.00	4.00	4.00	3.94	3.94
180.0	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30
225.0	4.18	4.12	4.06	4.06	4.00	4.00	4.00	3.94	3.94
270.0	4.12	4.06	4.00	4.00	3.94	3.94	3.88	3.82	3.88
315.0	4.06	3.94	3.94	3.94	3.88	3.88	3.88	3.82	3.82
360.0	4.06	4.00	4.00	3.94	3.94	3.88	3.88	3.82	3.82
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	3.82	3.82	3.76	3.76	3.76	3.76	3.70	3.70	3.70
45.0	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82
90.0	3.76	3.76	3.76	3.76	3.70	3.76	3.70	3.70	3.70
135.0	3.94	3.94	3.88	3.94	3.88	3.88	3.88	3.88	3.88
180.0	4.30	4.30	4.36	4.36	4.36	4.42	4.42	4.42	4.48
225.0	3.94	3.94	3.94	3.94	3.94	3.94	3.88	3.88	3.88
270.0	3.82	3.82	3.82	3.76	3.76	3.70	3.76	3.76	3.70
315.0	3.76	3.76	3.76	3.76	3.76	3.76	3.70	3.70	3.70
360.0	3.82	3.82	3.76	3.76	3.76	3.76	3.70	3.70	3.70
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.70	3.70	3.70	3.70	3.70	3.70	3.64	3.70	3.64
45.0	3.82	3.82	3.82	3.82	3.88	3.88	3.88	3.94	4.00
90.0	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.76	3.76
135.0	3.88	3.88	3.88	3.88	3.88	3.88	3.94	3.94	4.00
180.0	4.48	5.14	5.92	6.69	7.53	7.83	7.53	6.63	5.44
225.0	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88
270.0	3.70	3.76	3.76	3.76	3.76	3.76	3.70	3.76	3.70
315.0	3.70	3.70	3.76	3.76	3.70	3.70	3.70	3.70	3.64
360.0	3.70	3.70	3.70	3.70	3.70	3.70	3.64	3.70	3.64
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	3.64	3.70	3.70	3.70	3.82	3.82	3.64	3.53	3.53
45.0	4.00	4.06	4.18	4.30	3.70	3.59	3.53	3.59	3.59
90.0	3.76	3.82	3.88	4.00	3.53	3.53	3.53	3.53	3.59
135.0	4.06	4.18	4.24	4.30	4.00	3.53	3.59	3.53	3.53
180.0	5.08	5.26	5.26	5.02	3.59	3.53	3.53	3.53	3.53
225.0	3.88	3.88	3.88	3.94	4.00	3.59	3.59	3.59	3.59
270.0	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.53	3.59
315.0	3.70	3.64	3.70	3.64	3.70	3.70	3.59	3.53	3.53
360.0	3.64	3.70	3.70	3.70	3.82	3.82	3.64	3.53	3.53

Intensity data(cd)

Appendix Page: 18 Total:18

C/γ(°)	90.0
0.0	3.59
45.0	3.59
90.0	3.59
135.0	3.53
180.0	3.53
225.0	3.59
270.0	3.53
315.0	3.53
360.0	3.59