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Nata

LumCAT: 1-0926-M	
Luminaire: 92.70.132.00	
Report No: NATA0100	Voltage(V): 35.4800
Test No: GC2019091906	Current(A): 0.2970
LampCAT: LUMILEDS LUXEON 1203	Power (W): 10.5000
Lamp flux(lm): 1330.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1021.66
Efficiency(%): 76.82%
Lumens(lm)/Power(W): 97.30
Central intensity(cd): 8045.016
Maximum intensity(cd): 8045.016
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=16.9
[C90/270]Total=16.9
Field angle(10%Imax): [C0/180]Total=37.6
[C90/270]Total=37.6
Maximum s/h(1/2): C0_180=0.29 C90_270=0.29
Maximum s/h(1/4): C0_180=0.32 C90_270=0.32
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 76.82%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.506%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8045.016	0.000	0	.000%	.000%
1.0	7956.914	7.657	7.657	.576%	.749%
2.0	7638.258	22.384	30.04	1.683%	2.940%
3.0	7212.656	35.519	65.559	2.671%	6.417%
4.0	6705.070	46.587	112.146	3.503%	10.977%
5.0	6074.156	54.976	167.121	4.134%	16.358%
6.0	5448.094	60.552	227.674	4.553%	22.285%
7.0	4862.742	63.999	291.673	4.812%	28.549%
8.0	4259.813	65.288	356.962	4.909%	34.939%
9.0	3726.563	64.725	421.687	4.867%	41.275%
10.0	3249.000	63.126	484.813	4.746%	47.453%
11.0	2809.898	60.541	545.354	4.552%	53.379%
12.0	2460.305	57.611	602.965	4.332%	59.018%
13.0	2127.516	54.446	657.411	4.094%	64.347%
14.0	1811.320	50.417	707.827	3.791%	69.282%
15.0	1575.309	46.493	754.321	3.496%	73.833%
16.0	1330.059	42.572	796.892	3.201%	78.000%
17.0	1122.968	38.200	835.093	2.872%	81.739%
18.0	937.962	33.980	869.073	2.555%	85.065%
19.0	772.460	29.758	898.831	2.237%	87.977%
20.0	601.833	25.153	923.984	1.891%	90.439%
21.0	466.854	20.521	944.505	1.543%	92.448%
22.0	333.155	16.077	960.581	1.209%	94.021%
23.0	232.622	11.872	972.453	.893%	95.183%
24.0	137.981	8.103	980.556	.609%	95.976%
25.0	86.027	5.093	985.649	.383%	96.475%
26.0	45.387	3.102	988.751	.233%	96.779%
27.0	22.950	1.672	990.423	.126%	96.942%
28.0	14.323	0.944	991.367	.071%	97.035%
29.0	11.707	0.681	992.048	.051%	97.101%
30.0	10.308	0.594	992.642	.045%	97.159%
31.0	9.457	0.550	993.192	.041%	97.213%
32.0	8.726	0.521	993.713	.039%	97.264%
33.0	8.184	0.498	994.211	.037%	97.313%
34.0	7.741	0.482	994.693	.036%	97.360%
35.0	7.320	0.468	995.161	.035%	97.406%
36.0	7.003	0.456	995.617	.034%	97.451%
37.0	6.743	0.448	996.065	.034%	97.495%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	6.525	0.443	996.508	.033%	97.538%
39.0	6.314	0.438	996.946	.033%	97.581%
40.0	6.180	0.436	997.382	.033%	97.623%
41.0	6.040	0.435	997.817	.033%	97.666%
42.0	5.899	0.434	998.251	.033%	97.708%
43.0	5.808	0.434	998.685	.033%	97.751%
44.0	5.709	0.435	999.119	.033%	97.793%
45.0	5.625	0.436	999.555	.033%	97.836%
46.0	5.562	0.437	999.993	.033%	97.879%
47.0	5.491	0.440	1000.432	.033%	97.922%
48.0	5.428	0.441	1000.874	.033%	97.965%
49.0	5.393	0.444	1001.318	.033%	98.009%
50.0	5.344	0.448	1001.766	.034%	98.052%
51.0	5.309	0.451	1002.216	.034%	98.097%
52.0	5.266	0.454	1002.67	.034%	98.141%
53.0	5.231	0.457	1003.127	.034%	98.186%
54.0	5.203	0.460	1003.587	.035%	98.231%
55.0	5.161	0.463	1004.049	.035%	98.276%
56.0	5.133	0.465	1004.514	.035%	98.322%
57.0	5.098	0.468	1004.982	.035%	98.367%
58.0	5.077	0.470	1005.453	.035%	98.413%
59.0	5.055	0.474	1005.926	.036%	98.460%
60.0	5.027	0.476	1006.403	.036%	98.506%
61.0	5.013	0.479	1006.882	.036%	98.553%
62.0	4.999	0.482	1007.364	.036%	98.600%
63.0	4.985	0.486	1007.85	.037%	98.648%
64.0	4.957	0.488	1008.338	.037%	98.696%
65.0	4.943	0.490	1008.828	.037%	98.744%
66.0	4.936	0.493	1009.321	.037%	98.792%
67.0	4.915	0.495	1009.816	.037%	98.840%
68.0	4.908	0.498	1010.314	.037%	98.889%
69.0	4.894	0.500	1010.814	.038%	98.938%
70.0	4.894	0.503	1011.316	.038%	98.987%
71.0	4.887	0.506	1011.822	.038%	99.037%
72.0	4.880	0.508	1012.33	.038%	99.086%
73.0	4.866	0.510	1012.839	.038%	99.136%
74.0	4.859	0.511	1013.35	.038%	99.186%
75.0	4.845	0.513	1013.863	.039%	99.237%

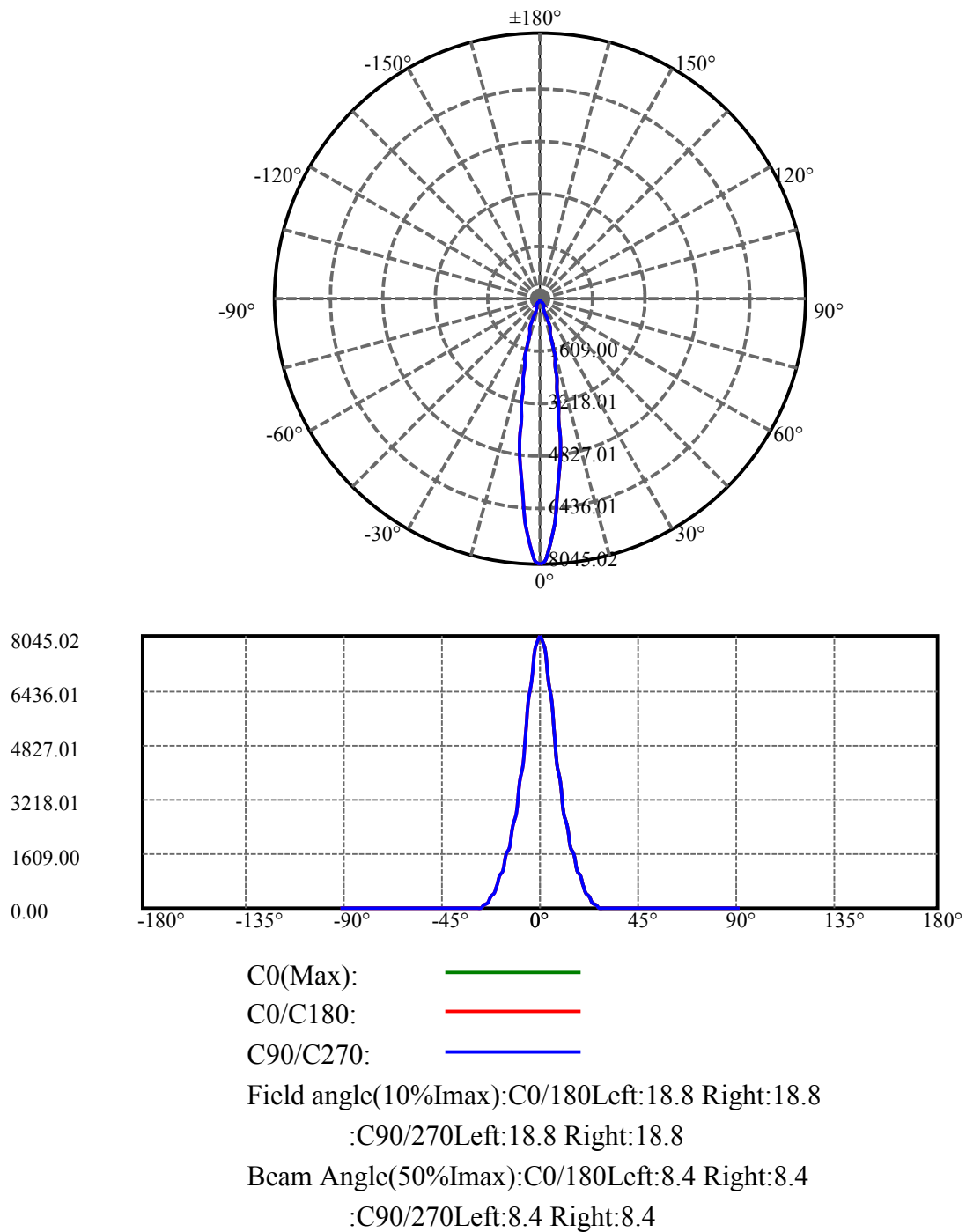
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.830	0.514	1014.377	.039%	99.287%
77.0	4.830	0.515	1014.892	.039%	99.337%
78.0	4.823	0.517	1015.409	.039%	99.388%
79.0	4.809	0.518	1015.926	.039%	99.439%
80.0	4.823	0.519	1016.445	.039%	99.489%
81.0	4.809	0.521	1016.966	.039%	99.540%
82.0	4.802	0.521	1017.488	.039%	99.591%
83.0	4.802	0.522	1018.01	.039%	99.642%
84.0	4.802	0.523	1018.533	.039%	99.694%
85.0	4.781	0.523	1019.056	.039%	99.745%
86.0	4.760	0.522	1019.578	.039%	99.796%
87.0	4.760	0.521	1020.099	.039%	99.847%
88.0	4.760	0.522	1020.62	.039%	99.898%
89.0	4.753	0.521	1021.141	.039%	99.949%
90.0	4.753	0.521	1021.663	.039%	100.000%

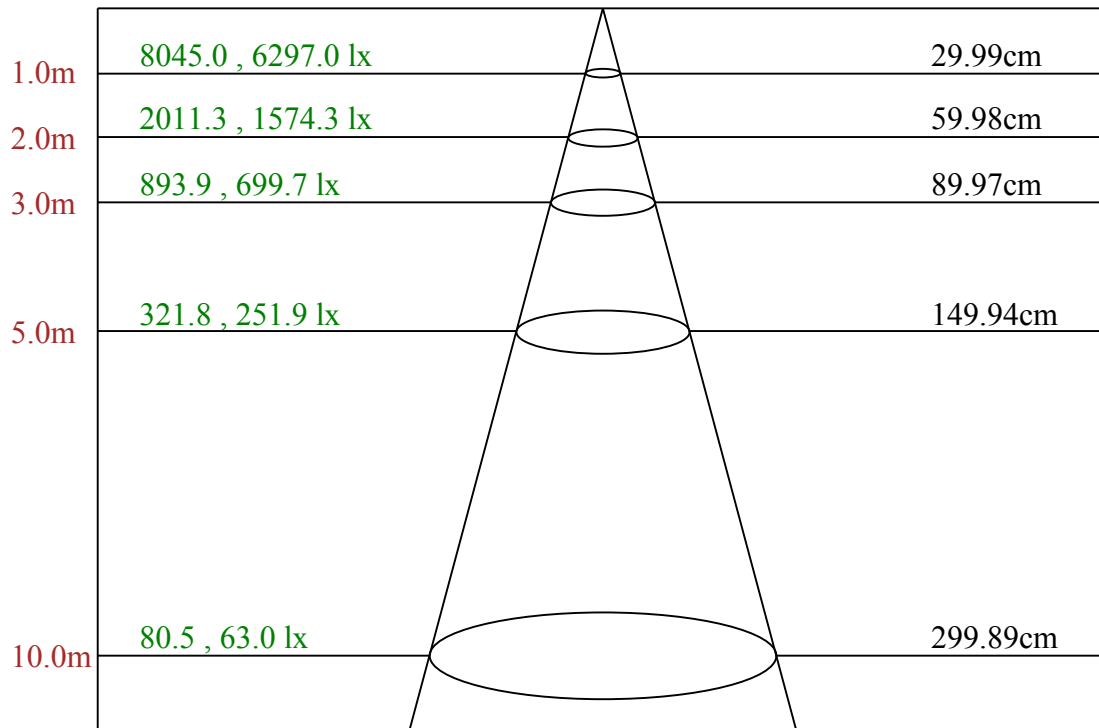
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	992.64	74.63%	97.16%
0-40	997.38	74.99%	97.62%
0-60	1006.40	75.67%	98.51%
0-90	1021.14	76.78%	99.95%
0-120	1021.14	76.78%	99.95%
0-180	1021.66	76.82%	100.00%
60-90	15.22	1.14%	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%
0-16.54	817.33	61.45%	80.00%

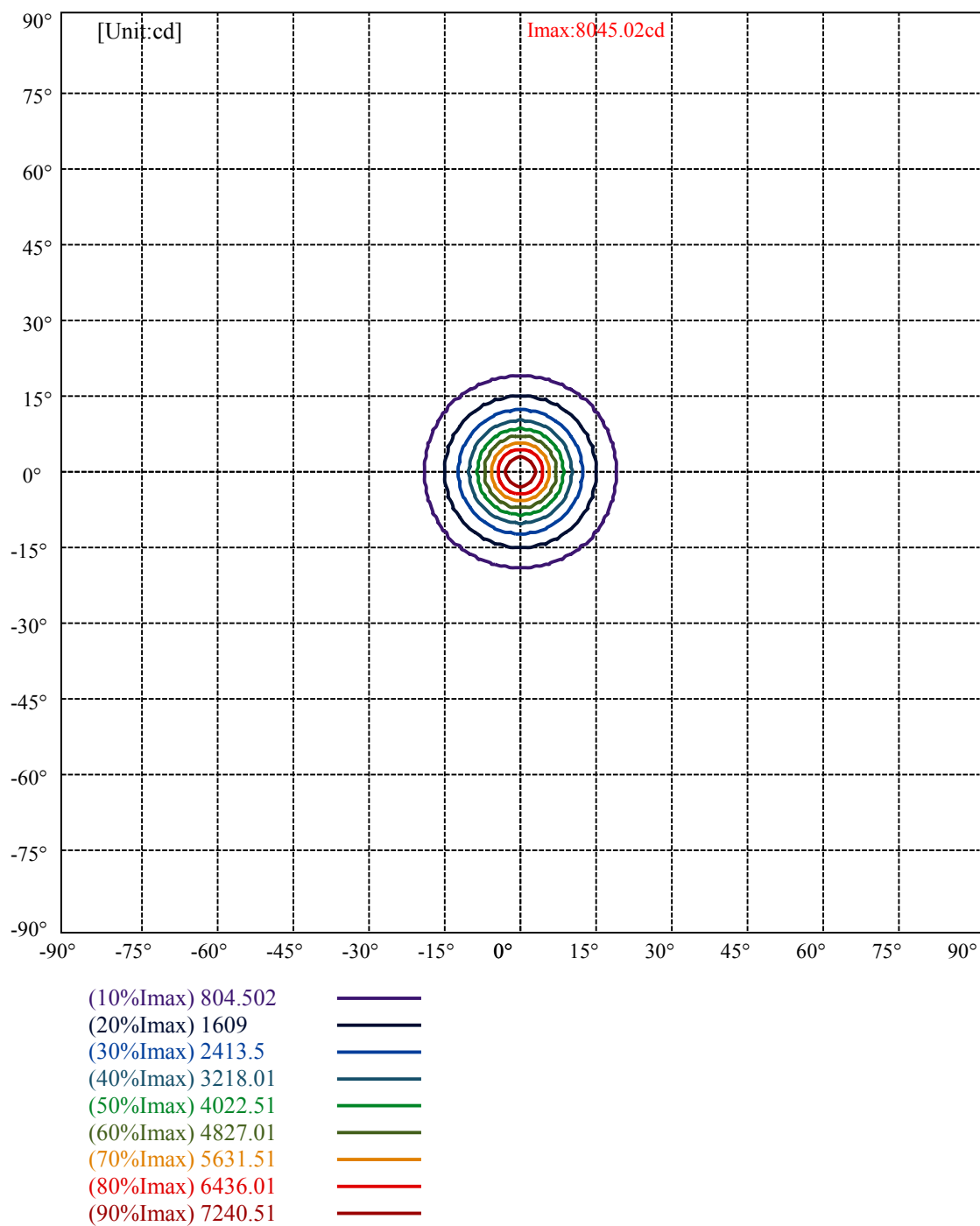
ZONAL LUMEN SUMMARY

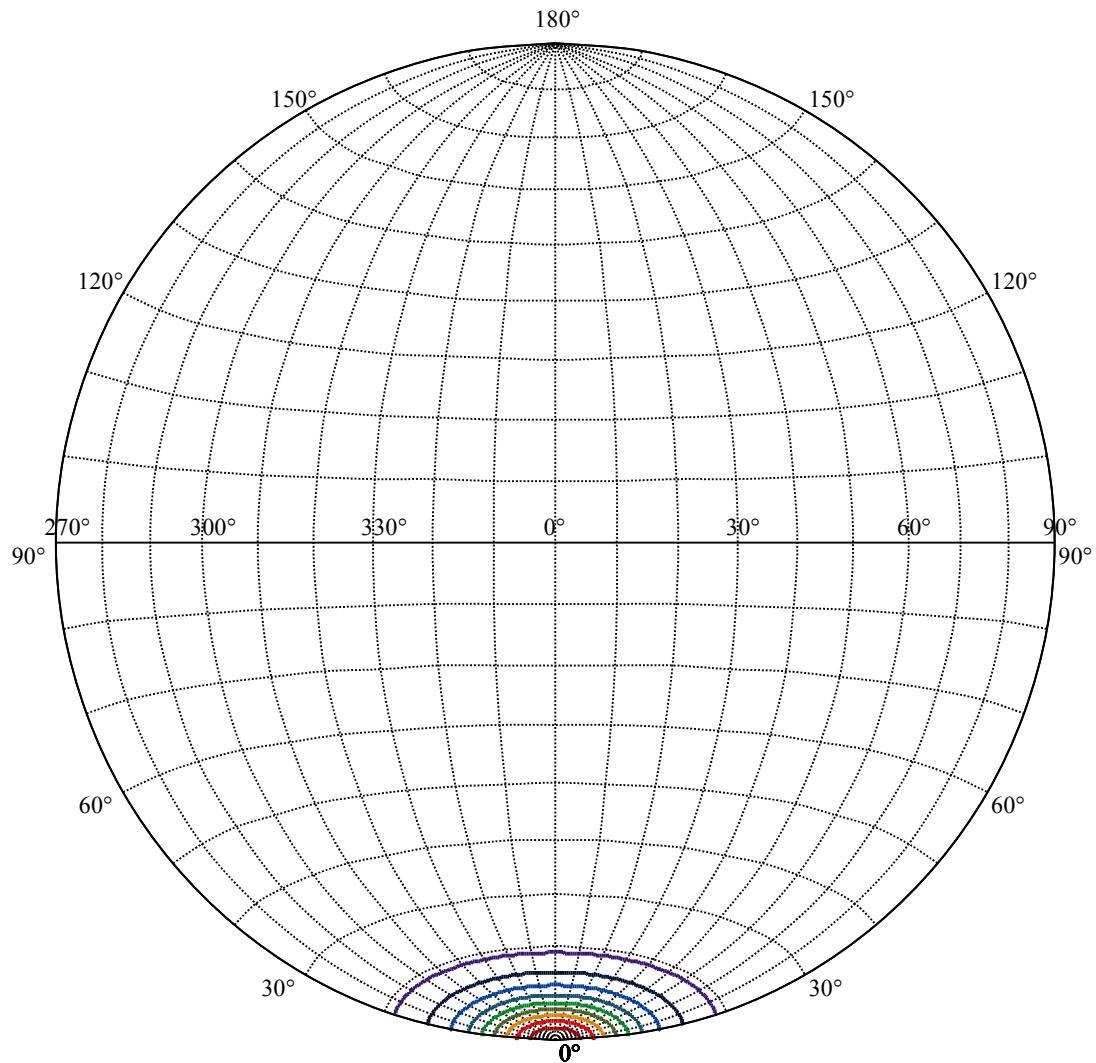
0-10	484.81
10-20	439.17
20-30	68.66
30-40	4.74
40-50	4.38
50-60	4.64
60-70	4.91
70-80	5.13
80-90	4.70
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00





Max , Ave Beam angle of C0 plane 17.06





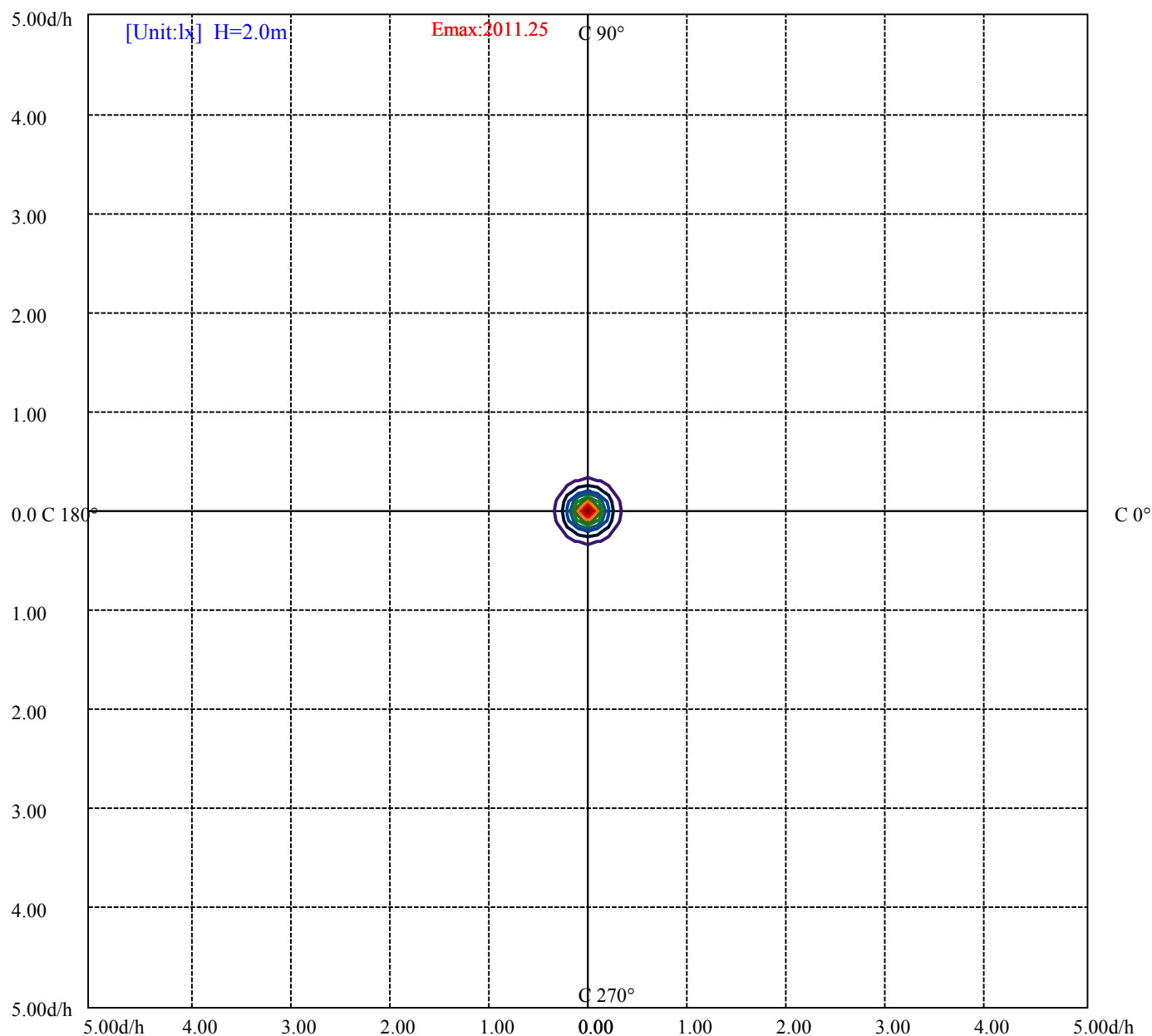
House

[Unit:cd]

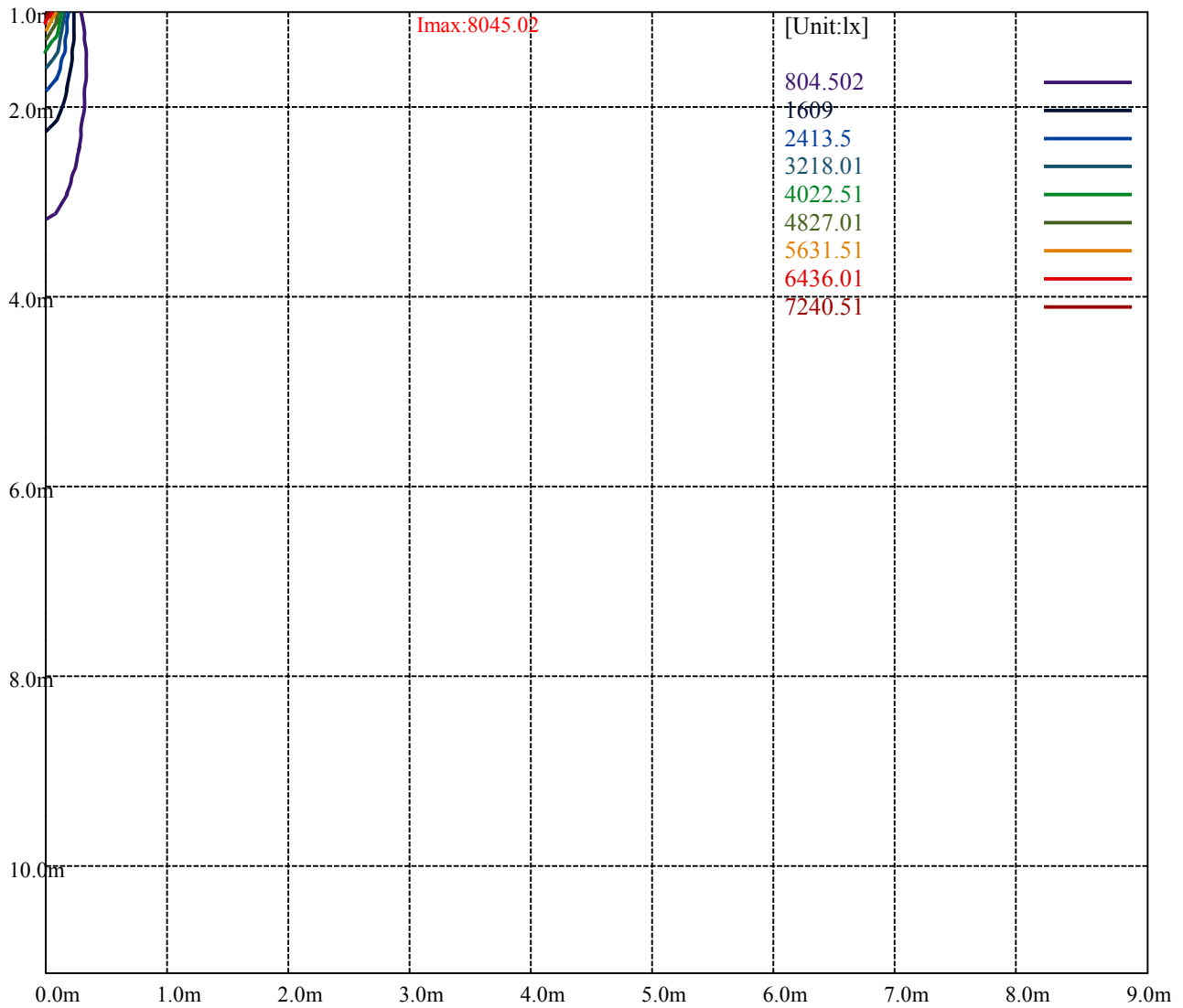
Road

Imax:8045.02

(10%Imax)	804.502	—
(20%Imax)	1609	—
(30%Imax)	2413.5	—
(40%Imax)	3218.01	—
(50%Imax)	4022.51	—
(60%Imax)	4827.01	—
(70%Imax)	5631.51	—
(80%Imax)	6436.01	—
(90%Imax)	7240.51	—



(10%Emax) 201.125	—
(20%Emax) 402.25	—
(30%Emax) 603.375	—
(40%Emax) 804.5	—
(50%Emax) 1005.625	—
(60%Emax) 1206.75	—
(70%Emax) 1407.875	—
(80%Emax) 1609	—
(90%Emax) 1810.125	—



Luminance Table

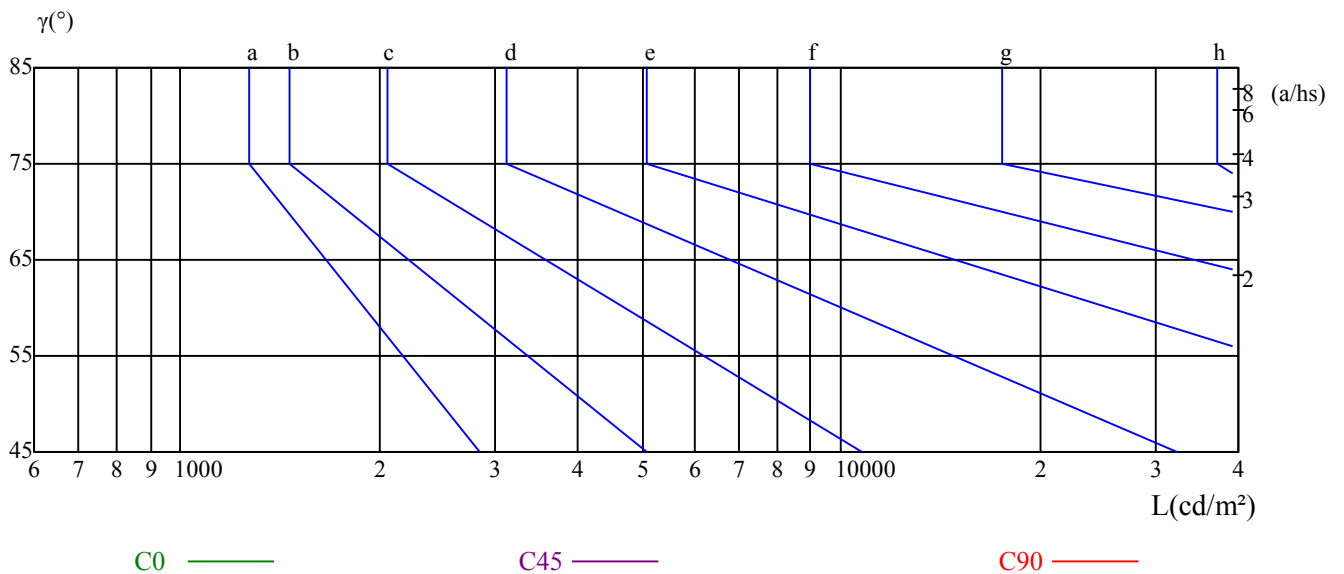
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

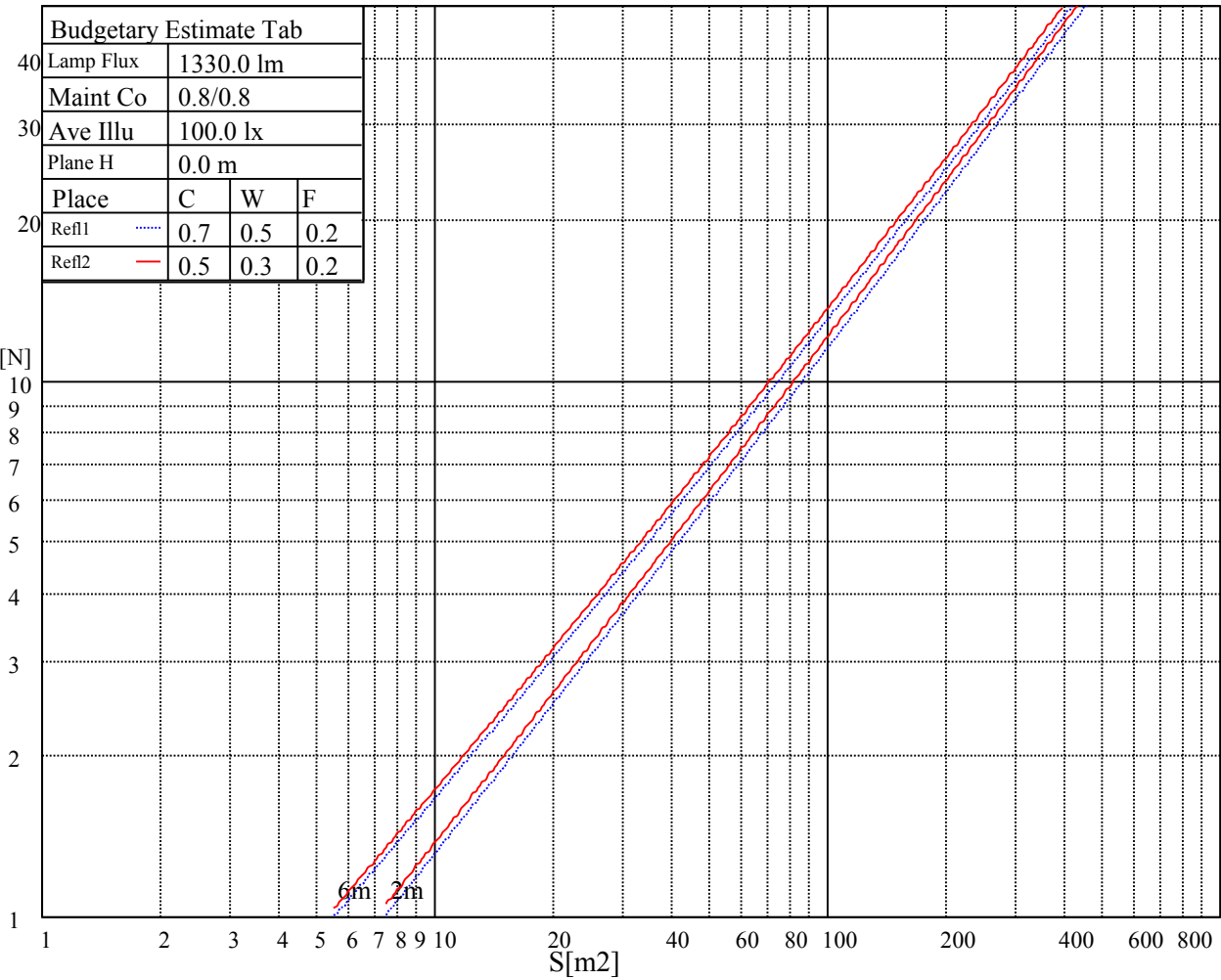
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

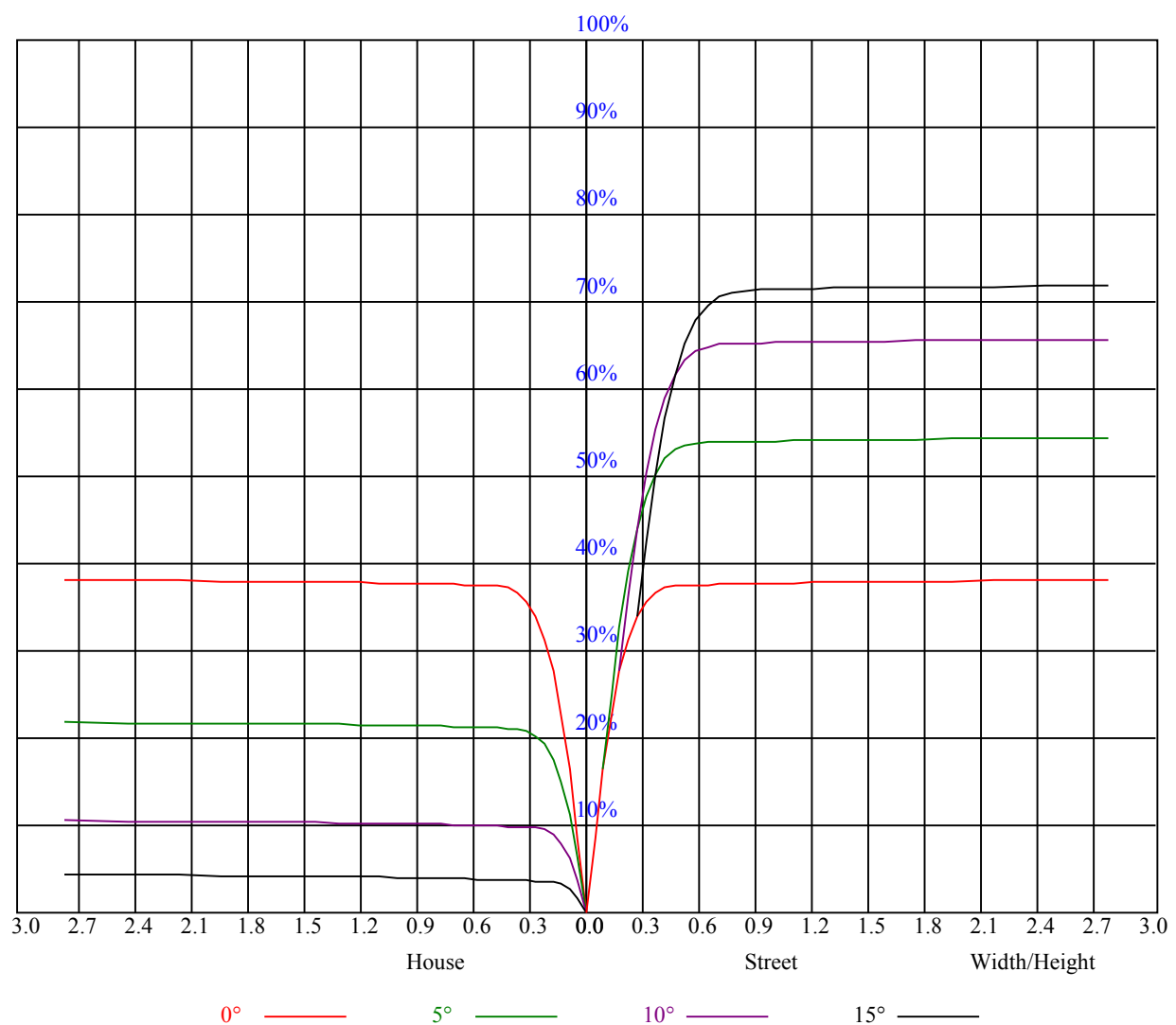
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	0.91	0.91	0.91	0.89	0.89	0.89	0.85	0.85	0.85	0.82	0.82	0.82	0.78	0.78	0.78	0.77
1	0.87	0.85	0.84	0.85	0.84	0.83	0.82	0.81	0.80	0.79	0.79	0.78	0.77	0.76	0.76	0.74
2	0.83	0.81	0.79	0.82	0.80	0.78	0.80	0.78	0.77	0.77	0.76	0.75	0.75	0.74	0.73	0.72
3	0.80	0.78	0.75	0.79	0.77	0.75	0.77	0.75	0.74	0.76	0.74	0.73	0.74	0.73	0.72	0.71
4	0.78	0.75	0.73	0.77	0.74	0.72	0.75	0.73	0.71	0.74	0.72	0.71	0.73	0.71	0.70	0.69
5	0.75	0.72	0.70	0.75	0.72	0.70	0.73	0.71	0.69	0.72	0.70	0.69	0.71	0.70	0.68	0.68
6	0.73	0.70	0.68	0.73	0.70	0.68	0.72	0.69	0.68	0.71	0.69	0.67	0.70	0.68	0.67	0.66
7	0.71	0.69	0.67	0.71	0.68	0.66	0.70	0.68	0.66	0.69	0.67	0.66	0.69	0.67	0.66	0.65
8	0.70	0.67	0.65	0.69	0.67	0.65	0.69	0.66	0.65	0.68	0.66	0.64	0.67	0.66	0.64	0.64
9	0.68	0.65	0.64	0.68	0.65	0.64	0.67	0.65	0.63	0.67	0.65	0.63	0.66	0.64	0.63	0.62
10	0.67	0.64	0.62	0.67	0.64	0.62	0.66	0.64	0.62	0.66	0.64	0.62	0.65	0.63	0.62	0.61



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	8149.50	7588.69	6816.94	6202.13	5565.94	4840.31	4173.75	3658.50	3166.88
45.0	8128.13	7779.38	7156.13	6621.19	6053.06	5376.94	4678.88	4096.69	3585.94
90.0	8044.31	7966.13	7630.31	7149.38	6663.94	6051.38	5373.56	4746.38	4090.50
135.0	7858.13	8283.94	8503.88	8385.19	8043.19	7426.13	6888.38	6316.88	5627.25
180.0	8149.50	8564.06	8766.56	8620.88	8252.44	7664.63	7003.13	6408.00	5699.81
225.0	8128.13	8262.00	8126.44	7742.81	7215.75	6717.38	6177.38	5517.56	4827.94
270.0	8044.31	7896.94	7435.69	6965.44	6449.06	5825.25	5163.19	4581.56	3974.63
315.0	7858.13	7314.19	6670.13	6014.25	5397.19	4691.25	4126.50	3576.38	3105.56
360.0	8149.50	7588.69	6816.94	6202.13	5565.94	4840.31	4173.75	3658.50	3166.88
C/ γ (°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2751.75	2413.69	2072.81	1807.88	1555.88	1324.13	1139.06	963.56	771.19
45.0	3056.63	2685.94	2349.00	2009.81	1716.75	1490.63	1260.56	1056.94	891.56
90.0	3581.44	3104.44	2680.31	2345.63	2009.25	1721.25	1493.44	1115.61	1046.53
135.0	4914.56	4304.81	3708.00	3260.25	2815.88	2417.06	2103.19	1797.19	1526.63
180.0	5048.44	4351.50	3750.75	3301.31	2857.50	2459.25	2145.94	1866.94	1560.94
225.0	4253.06	3689.44	3203.44	2822.63	2477.25	2094.19	1824.75	1586.25	1341.56
270.0	3466.13	3075.75	2676.38	2354.63	2028.38	1743.75	1515.38	1302.75	1066.50
315.0	2740.50	2366.44	2038.50	1780.31	1559.25	1240.31	1120.16	951.24	778.84
360.0	2751.75	2413.69	2072.81	1807.88	1555.88	1324.13	1139.06	963.56	771.19
C/ γ (°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	623.25	484.31	321.75	291.94	122.46	50.96	21.26	15.19	12.38
45.0	718.31	573.75	427.50	297.56	177.69	91.86	34.71	18.06	13.11
90.0	880.20	727.76	545.79	411.08	292.50	171.45	96.19	43.48	18.51
135.0	1306.13	1113.19	902.25	741.94	583.31	414.00	293.06	228.88	108.68
180.0	1339.31	1113.58	958.50	758.42	609.53	474.53	333.17	210.21	124.99
225.0	1122.30	948.88	774.79	608.46	467.16	321.98	214.54	118.29	49.73
270.0	904.50	749.25	561.38	423.56	298.13	284.06	88.20	37.97	22.50
315.0	609.69	468.96	322.71	201.88	114.47	52.14	22.73	16.14	13.22
360.0	623.25	484.31	321.75	291.94	122.46	50.96	21.26	15.19	12.38
C/ γ (°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	10.97	9.79	8.94	8.27	7.71	7.26	6.98	6.69	6.36
45.0	10.97	10.01	9.28	8.55	8.04	7.65	7.31	6.98	6.69
90.0	13.78	11.53	10.29	9.62	9.00	8.27	7.93	7.59	7.14
135.0	42.19	20.87	14.91	12.21	10.91	10.01	9.28	8.66	8.16
180.0	55.63	22.39	15.58	12.54	11.31	10.18	9.34	8.66	8.10
225.0	22.89	16.37	13.33	12.04	10.91	9.84	9.11	8.49	7.93
270.0	15.58	13.16	11.98	10.58	9.68	9.06	8.33	7.93	7.54
315.0	11.59	10.46	9.34	8.66	8.10	7.54	7.20	6.92	6.64
360.0	10.97	9.79	8.94	8.27	7.71	7.26	6.98	6.69	6.36
C/ γ (°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	6.19	6.02	5.85	5.74	5.63	5.57	5.46	5.40	5.34
45.0	6.47	6.30	6.19	6.02	5.96	5.85	5.74	5.68	5.57
90.0	6.98	6.75	6.53	6.36	6.24	6.08	5.96	5.85	5.74
135.0	7.71	7.37	7.09	6.81	6.64	6.47	6.24	6.13	6.02
180.0	7.65	7.26	6.98	6.64	6.47	6.24	6.08	5.96	5.85
225.0	7.48	7.14	6.86	6.58	6.41	6.24	6.08	5.96	5.85
270.0	7.14	6.86	6.64	6.41	6.24	6.13	5.96	5.91	5.79
315.0	6.41	6.24	6.08	5.96	5.85	5.74	5.68	5.57	5.51
360.0	6.19	6.02	5.85	5.74	5.63	5.57	5.46	5.40	5.34

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	5.29	5.23	5.18	5.12	5.12	5.06	5.06	5.01	5.01
45.0	5.51	5.46	5.46	5.40	5.34	5.29	5.29	5.23	5.23
90.0	5.74	5.68	5.57	5.51	5.46	5.40	5.40	5.40	5.34
135.0	5.85	5.79	5.74	5.63	5.57	5.57	5.46	5.40	5.40
180.0	5.68	5.63	5.51	5.46	5.40	5.34	5.29	5.23	5.18
225.0	5.79	5.68	5.57	5.51	5.51	5.46	5.40	5.34	5.29
270.0	5.68	5.63	5.57	5.51	5.51	5.40	5.40	5.34	5.29
315.0	5.46	5.40	5.34	5.29	5.23	5.23	5.18	5.18	5.12
360.0	5.29	5.23	5.18	5.12	5.12	5.06	5.06	5.01	5.01
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	4.95	4.95	4.95	4.89	4.84	4.84	4.84	4.84	4.84
45.0	5.18	5.18	5.12	5.12	5.12	5.06	5.06	5.01	5.01
90.0	5.29	5.23	5.23	5.18	5.18	5.18	5.12	5.06	5.06
135.0	5.34	5.29	5.23	5.23	5.18	5.12	5.12	5.12	5.06
180.0	5.18	5.12	5.06	5.01	4.95	4.95	4.95	4.95	4.95
225.0	5.29	5.23	5.18	5.18	5.18	5.12	5.06	5.06	5.06
270.0	5.29	5.23	5.23	5.18	5.18	5.18	5.12	5.12	5.06
315.0	5.12	5.06	5.06	5.01	5.01	5.01	4.95	4.95	4.95
360.0	4.95	4.95	4.95	4.89	4.84	4.84	4.84	4.84	4.84
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	4.78	4.78	4.78	4.78	4.78	4.73	4.73	4.73	4.73
45.0	5.01	5.01	4.95	4.95	4.89	4.95	4.89	4.95	4.89
90.0	5.06	5.06	5.06	5.01	5.01	5.01	5.01	5.01	5.01
135.0	5.06	5.01	5.01	5.01	5.01	5.01	4.95	4.89	4.89
180.0	4.89	4.84	4.84	4.84	4.78	4.78	4.78	4.78	4.78
225.0	5.06	5.01	4.95	4.95	4.95	4.95	4.95	4.95	4.95
270.0	5.06	5.06	5.06	5.06	5.01	5.01	5.01	5.01	5.01
315.0	4.95	4.89	4.89	4.89	4.89	4.84	4.84	4.84	4.84
360.0	4.78	4.78	4.78	4.78	4.78	4.73	4.73	4.73	4.73
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	4.73	4.73	4.73	4.67	4.67	4.67	4.67	4.67	4.67
45.0	4.89	4.89	4.89	4.89	4.84	4.84	4.89	4.84	4.84
90.0	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.89	4.95
135.0	4.95	4.89	4.89	4.84	4.84	4.84	4.84	4.84	4.84
180.0	4.78	4.73	4.73	4.73	4.73	4.73	4.67	4.67	4.67
225.0	4.89	4.89	4.89	4.89	4.89	4.89	4.84	4.84	4.89
270.0	5.01	5.01	5.01	5.01	4.95	4.95	4.95	4.95	4.95
315.0	4.84	4.84	4.78	4.78	4.78	4.78	4.78	4.78	4.78
360.0	4.73	4.73	4.73	4.67	4.67	4.67	4.67	4.67	4.67
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	4.67	4.67	4.67	4.67	4.67	4.61	4.61	4.67	4.61
45.0	4.84	4.84	4.84	4.84	4.78	4.78	4.78	4.78	4.78
90.0	4.95	4.89	4.89	4.89	4.84	4.84	4.84	4.84	4.84
135.0	4.78	4.78	4.78	4.78	4.78	4.78	4.78	4.78	4.78
180.0	4.67	4.67	4.67	4.67	4.67	4.61	4.61	4.61	4.61
225.0	4.84	4.84	4.84	4.84	4.84	4.84	4.84	4.78	4.78
270.0	4.95	4.95	4.95	4.95	4.89	4.89	4.84	4.84	4.84
315.0	4.78	4.78	4.78	4.78	4.78	4.73	4.78	4.78	4.78
360.0	4.67	4.67	4.67	4.67	4.67	4.61	4.61	4.67	4.61

Intensity data(cd)

Appendix Page: 18 Total:18

C/ γ (°)	90.0
0.0	4.61
45.0	4.78
90.0	4.84
135.0	4.78
180.0	4.61
225.0	4.78
270.0	4.84
315.0	4.78
360.0	4.61