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Nata

LumCAT: 2-2181-M
Luminaire: BJB 47.360.1010
Report No: NATA0100
Test No: GC2020021318
LampCAT: TRIDONIC SLE G7 15MM
Lamp flux(lm): 2640.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 34.8000
Current(A): 0.5970
Power (W): 20.8000
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 2002.57
Efficiency(%): 75.85%
Lumens(lm)/Power(W): 96.28
Central intensity(cd): 8782.032
Maximum intensity(cd): 8782.032
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=25.2
 [C90/270]Total=25.2
Field angle(10%Imax): [C0/180]Total=47.6
 [C90/270]Total=47.6
Maximum s/h(1/2): C0_180=0.43 C90_270=0.43
Maximum s/h(1/4): C0_180=0.44 C90_270=0.44
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 75.85%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.774%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8782.031	0.000	0	.000%	.000%
1.0	8746.594	8.387	8.387	.318%	.419%
2.0	8638.594	24.953	33.34	.945%	1.665%
3.0	8460.633	40.896	74.236	1.549%	3.707%
4.0	8227.617	55.861	130.097	2.116%	6.496%
5.0	7935.891	69.535	199.631	2.634%	9.969%
6.0	7567.523	81.475	281.106	3.086%	14.037%
7.0	7144.664	91.318	372.424	3.459%	18.597%
8.0	6731.930	99.312	471.736	3.762%	23.557%
9.0	6212.250	104.906	576.642	3.974%	28.795%
10.0	5695.102	107.757	684.399	4.082%	34.176%
11.0	5215.430	109.019	793.418	4.129%	39.620%
12.0	4703.344	108.426	901.844	4.107%	45.034%
13.0	4197.938	105.636	1007.48	4.001%	50.309%
14.0	3758.414	101.841	1109.32	3.858%	55.395%
15.0	3323.813	97.228	1206.548	3.683%	60.250%
16.0	2927.250	91.596	1298.144	3.470%	64.824%
17.0	2585.602	85.850	1383.994	3.252%	69.111%
18.0	2250.211	79.732	1463.726	3.020%	73.092%
19.0	1972.055	73.459	1537.185	2.783%	76.761%
20.0	1719.281	67.562	1604.746	2.559%	80.134%
21.0	1436.379	60.595	1665.341	2.295%	83.160%
22.0	1241.606	53.815	1719.157	2.038%	85.847%
23.0	1031.027	47.686	1766.843	1.806%	88.229%
24.0	837.113	40.844	1807.687	1.547%	90.268%
25.0	651.551	33.849	1841.536	1.282%	91.959%
26.0	488.067	26.901	1868.437	1.019%	93.302%
27.0	346.880	20.427	1888.864	.774%	94.322%
28.0	228.009	14.555	1903.419	.551%	95.049%
29.0	138.902	9.599	1913.018	.364%	95.528%
30.0	62.754	5.445	1918.463	.206%	95.800%
31.0	27.872	2.522	1920.985	.096%	95.926%
32.0	19.034	1.344	1922.329	.051%	95.993%
33.0	17.691	1.082	1923.411	.041%	96.047%
34.0	17.086	1.052	1924.463	.040%	96.100%
35.0	16.552	1.045	1925.508	.040%	96.152%
36.0	16.116	1.040	1926.548	.039%	96.204%
37.0	15.778	1.040	1927.588	.039%	96.256%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	15.483	1.043	1928.631	.040%	96.308%
39.0	15.251	1.049	1929.68	.040%	96.360%
40.0	15.068	1.057	1930.738	.040%	96.413%
41.0	14.934	1.068	1931.806	.040%	96.466%
42.0	14.829	1.081	1932.888	.041%	96.520%
43.0	14.752	1.096	1933.983	.042%	96.575%
44.0	14.780	1.115	1935.098	.042%	96.631%
45.0	14.836	1.138	1936.236	.043%	96.687%
46.0	14.970	1.166	1937.402	.044%	96.746%
47.0	15.202	1.200	1938.602	.045%	96.806%
48.0	15.391	1.237	1939.838	.047%	96.867%
49.0	15.652	1.275	1941.113	.048%	96.931%
50.0	15.940	1.317	1942.43	.050%	96.997%
51.0	16.165	1.358	1943.789	.051%	97.065%
52.0	16.453	1.400	1945.188	.053%	97.135%
53.0	16.770	1.445	1946.633	.055%	97.207%
54.0	17.044	1.490	1948.124	.056%	97.281%
55.0	17.402	1.538	1949.661	.058%	97.358%
56.0	17.684	1.585	1951.247	.060%	97.437%
57.0	17.923	1.628	1952.875	.062%	97.518%
58.0	18.162	1.669	1954.544	.063%	97.602%
59.0	18.359	1.707	1956.251	.065%	97.687%
60.0	18.499	1.741	1957.992	.066%	97.774%
61.0	18.752	1.778	1959.77	.067%	97.863%
62.0	18.949	1.817	1961.587	.069%	97.953%
63.0	19.188	1.855	1963.441	.070%	98.046%
64.0	19.392	1.893	1965.335	.072%	98.141%
65.0	19.484	1.924	1967.258	.073%	98.237%
66.0	19.470	1.944	1969.202	.074%	98.334%
67.0	19.301	1.949	1971.151	.074%	98.431%
68.0	18.991	1.940	1973.091	.073%	98.528%
69.0	18.626	1.919	1975.01	.073%	98.624%
70.0	18.162	1.889	1976.9	.072%	98.718%
71.0	17.522	1.844	1978.744	.070%	98.810%
72.0	16.699	1.779	1980.523	.067%	98.899%
73.0	15.827	1.701	1982.224	.064%	98.984%
74.0	14.723	1.606	1983.83	.061%	99.064%
75.0	13.767	1.505	1985.336	.057%	99.139%

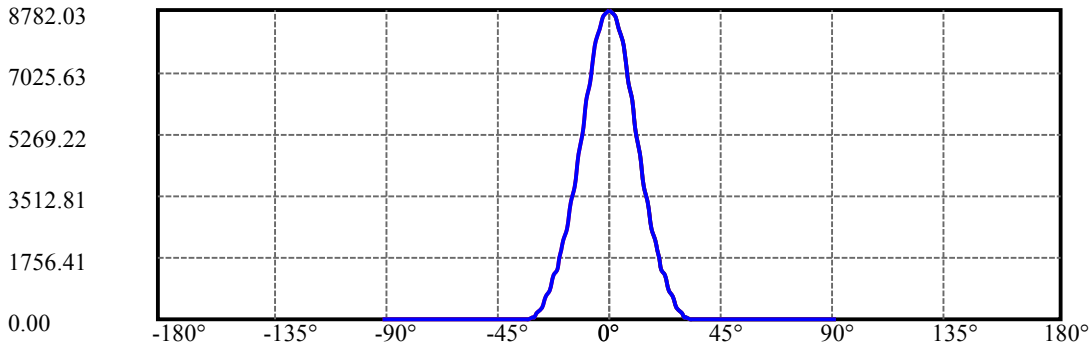
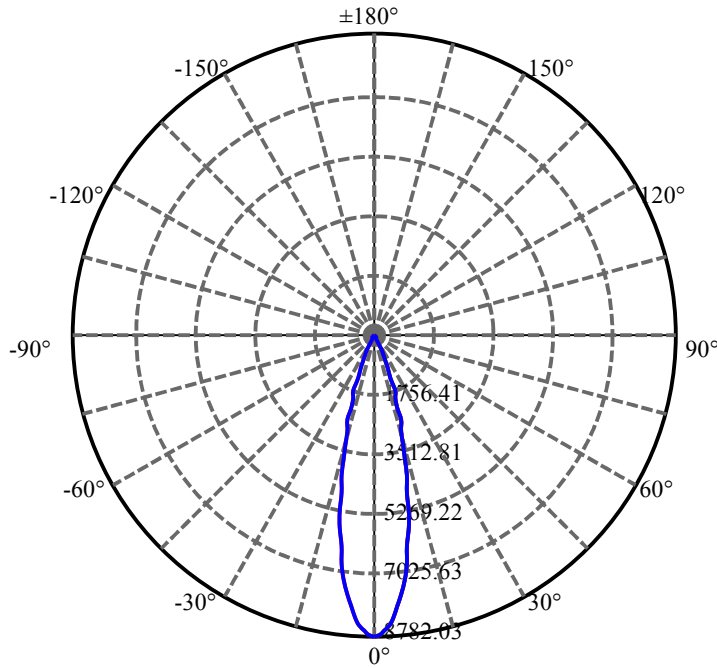
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	13.212	1.432	1986.768	.054%	99.211%
77.0	12.431	1.367	1988.135	.052%	99.279%
78.0	11.777	1.296	1989.431	.049%	99.344%
79.0	11.299	1.240	1990.671	.047%	99.406%
80.0	11.018	1.203	1991.874	.046%	99.466%
81.0	10.779	1.179	1993.053	.045%	99.525%
82.0	10.533	1.156	1994.208	.044%	99.582%
83.0	10.406	1.138	1995.347	.043%	99.639%
84.0	10.202	1.123	1996.469	.043%	99.695%
85.0	10.027	1.104	1997.573	.042%	99.750%
86.0	10.146	1.103	1998.676	.042%	99.805%
87.0	9.872	1.096	1999.772	.041%	99.860%
88.0	8.430	1.003	2000.774	.038%	99.910%
89.0	8.149	0.909	2001.683	.034%	99.956%
90.0	8.051	0.888	2002.571	.034%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1918.46	72.67%	95.80%
0-40	1930.74	73.13%	96.41%
0-60	1957.99	74.17%	97.77%
0-90	2001.68	75.82%	99.96%
0-120	2001.68	75.82%	99.96%
0-180	2002.57	75.85%	100.00%
60-90	45.43	1.72%	2.27%
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%
0-19.96	1602.06	60.68%	80.00%

ZONAL LUMEN SUMMARY

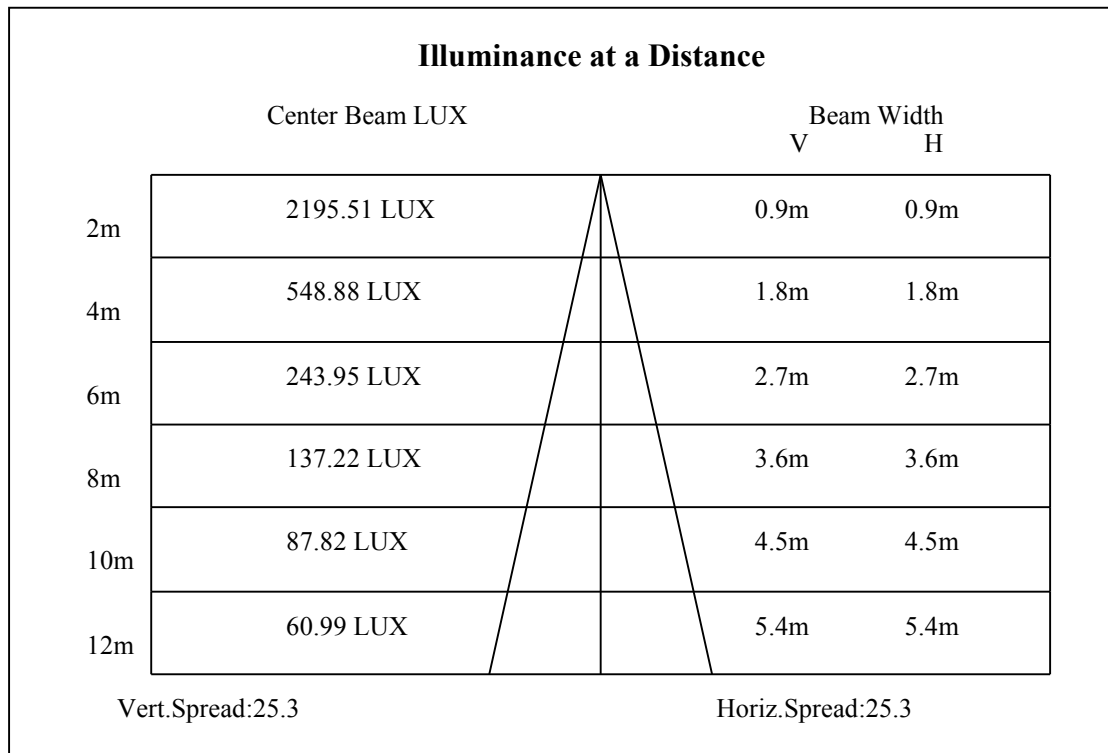
0-10	684.40
10-20	920.35
20-30	313.72
30-40	12.27
40-50	11.69
50-60	15.56
60-70	18.91
70-80	14.97
80-90	9.81
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

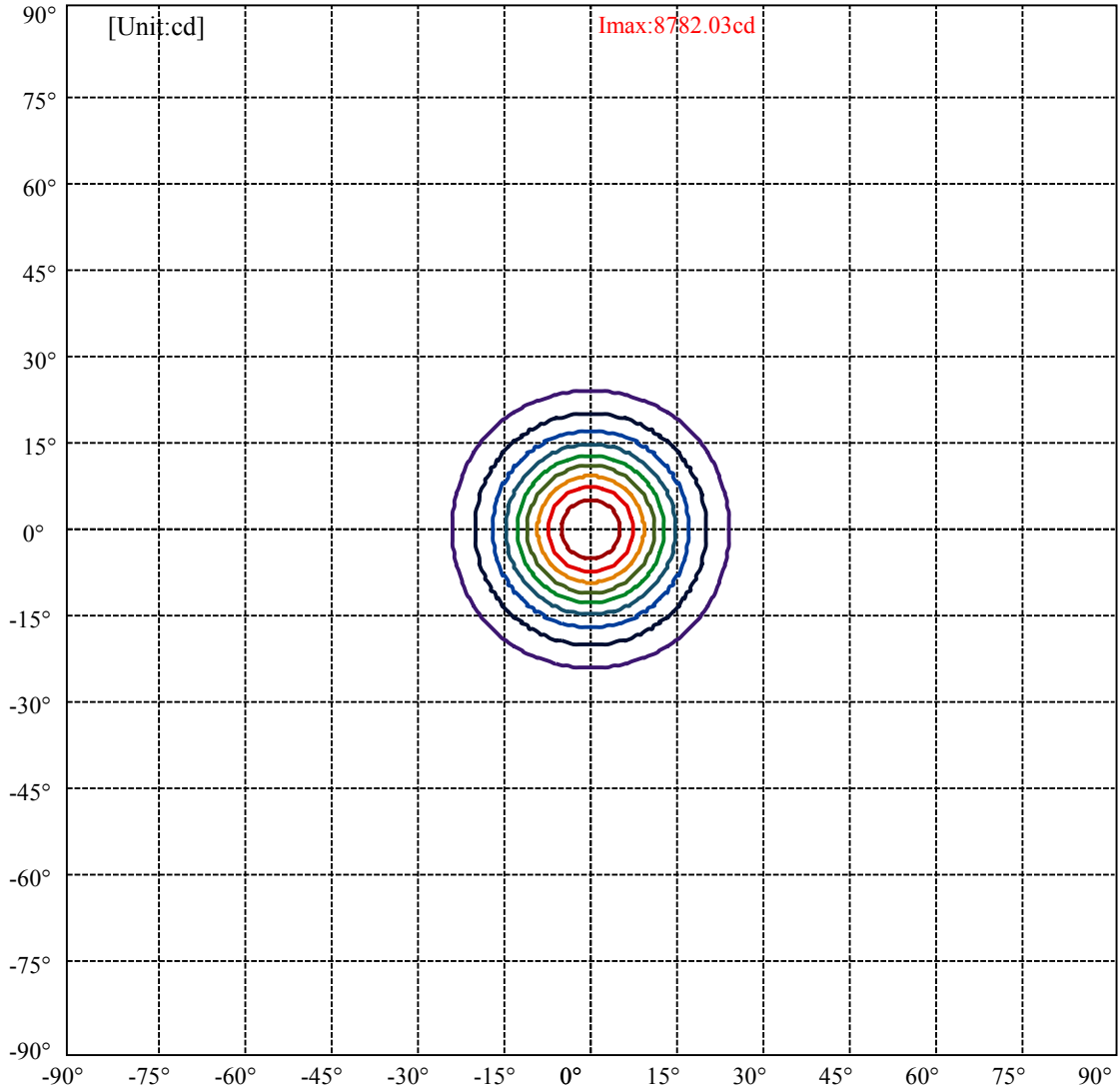


C0(Max): ———
C0/C180: ———
C90/C270: ———

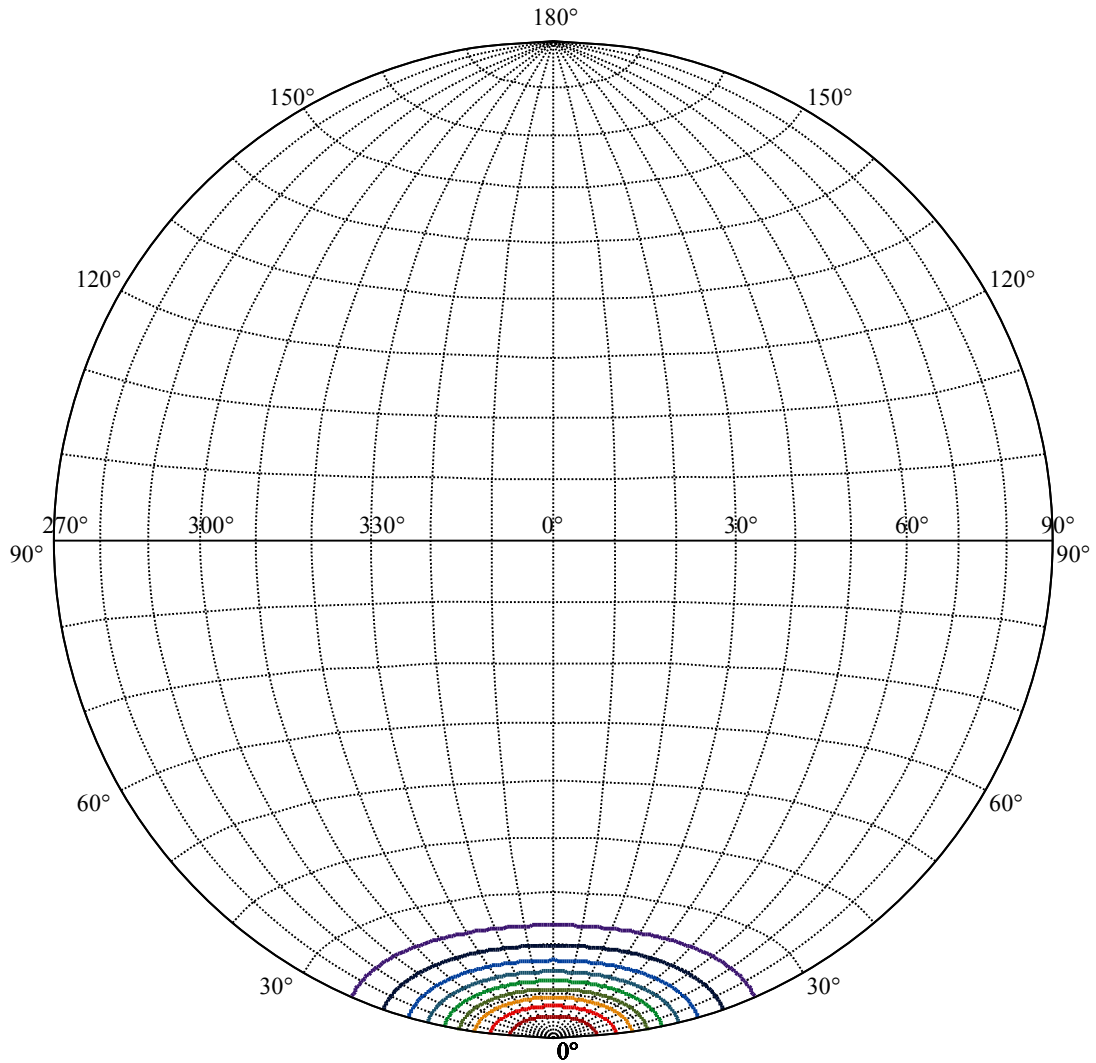
Field angle(10%Imax):C0/180Left:23.8 Right:23.8
:C90/270Left:23.8 Right:23.8

Beam Angle(50%Imax):C0/180Left:12.6 Right:12.6
:C90/270Left:12.6 Right:12.6





(10%Imax) 878.203	—
(20%Imax) 1756.41	—
(30%Imax) 2634.61	—
(40%Imax) 3512.81	—
(50%Imax) 4391.02	—
(60%Imax) 5269.22	—
(70%Imax) 6147.42	—
(80%Imax) 7025.63	—
(90%Imax) 7903.83	—



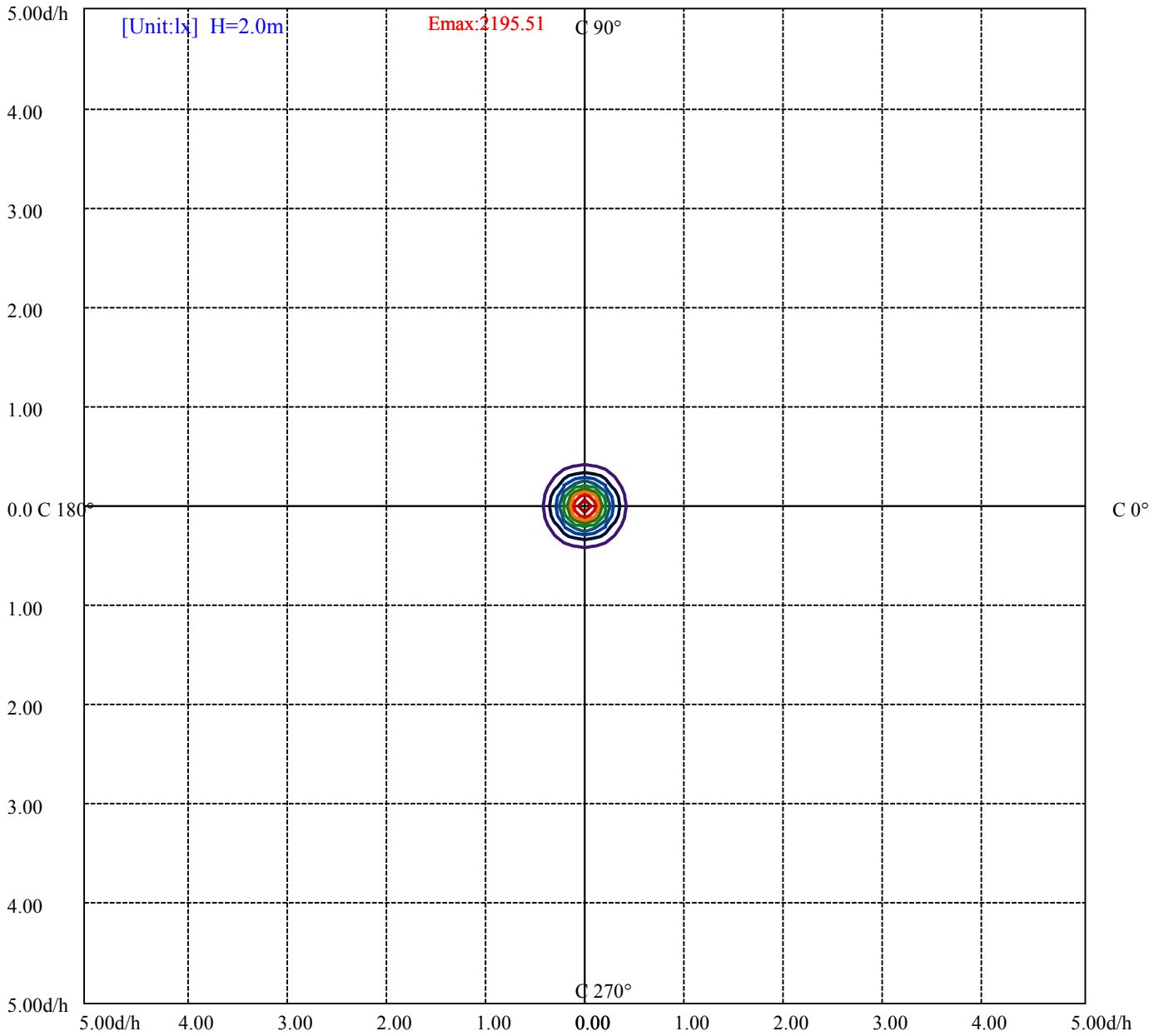
House

[Unit:cd]

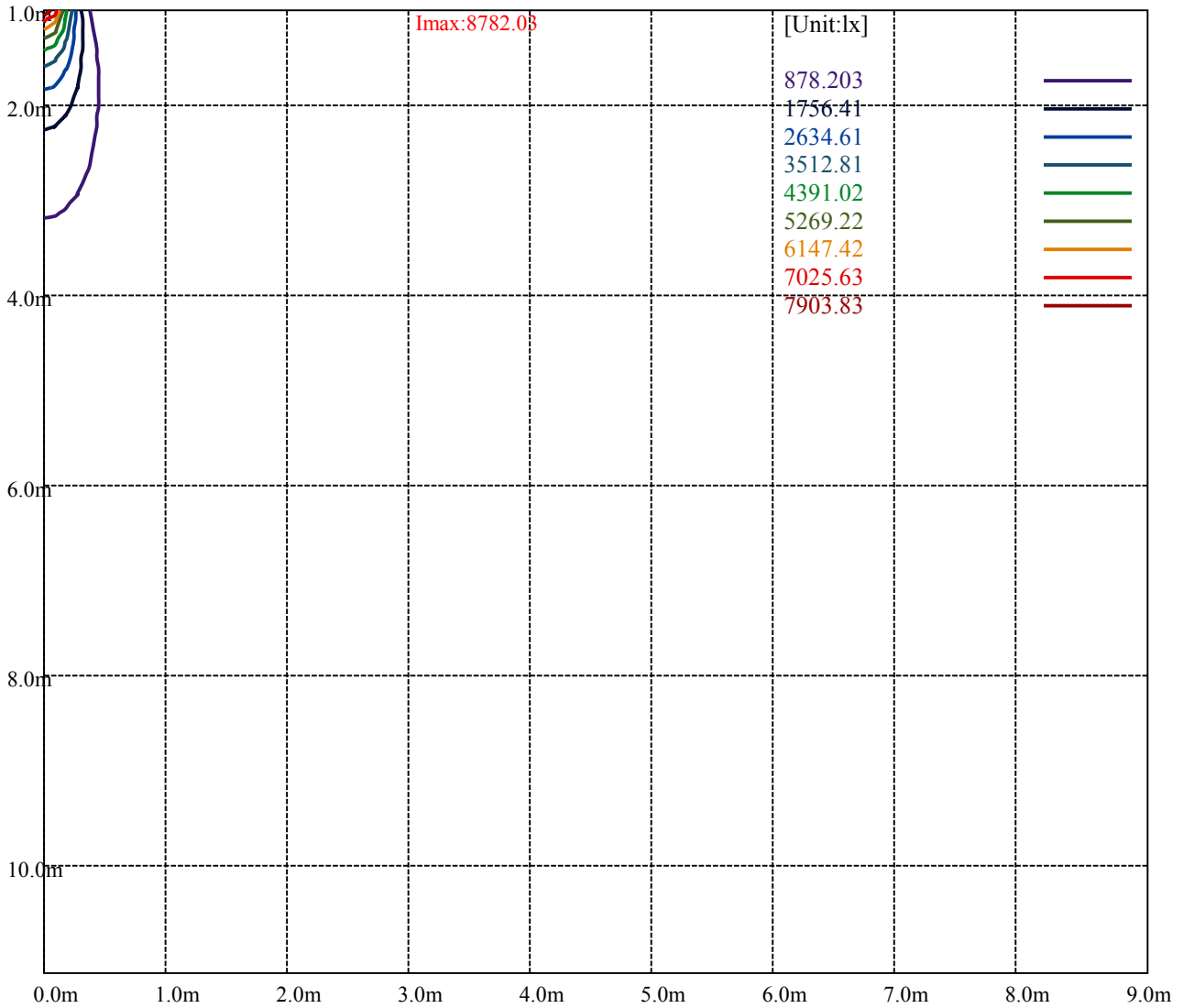
Road

I_{max}:8782.03

(10%I _{max}) 878.203	—
(20%I _{max}) 1756.41	—
(30%I _{max}) 2634.61	—
(40%I _{max}) 3512.81	—
(50%I _{max}) 4391.02	—
(60%I _{max}) 5269.22	—
(70%I _{max}) 6147.42	—
(80%I _{max}) 7025.63	—
(90%I _{max}) 7903.83	—



(10%Emax) 219.5508	—
(20%Emax) 439.1025	—
(30%Emax) 658.6525	—
(40%Emax) 878.2025	—
(50%Emax) 1097.752	—
(60%Emax) 1317.305	—
(70%Emax) 1536.855	—
(80%Emax) 1756.405	—
(90%Emax) 1975.955	—



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

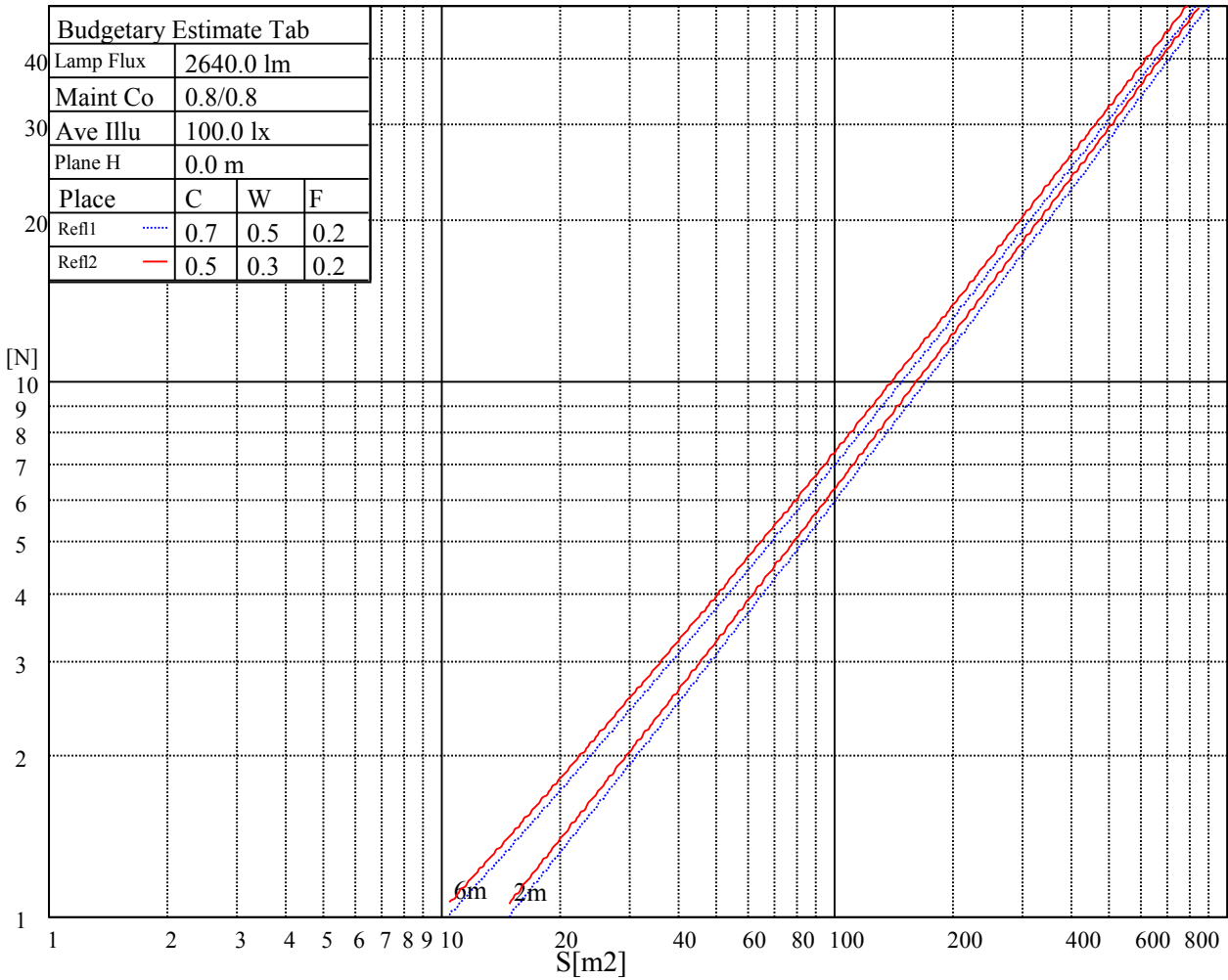
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

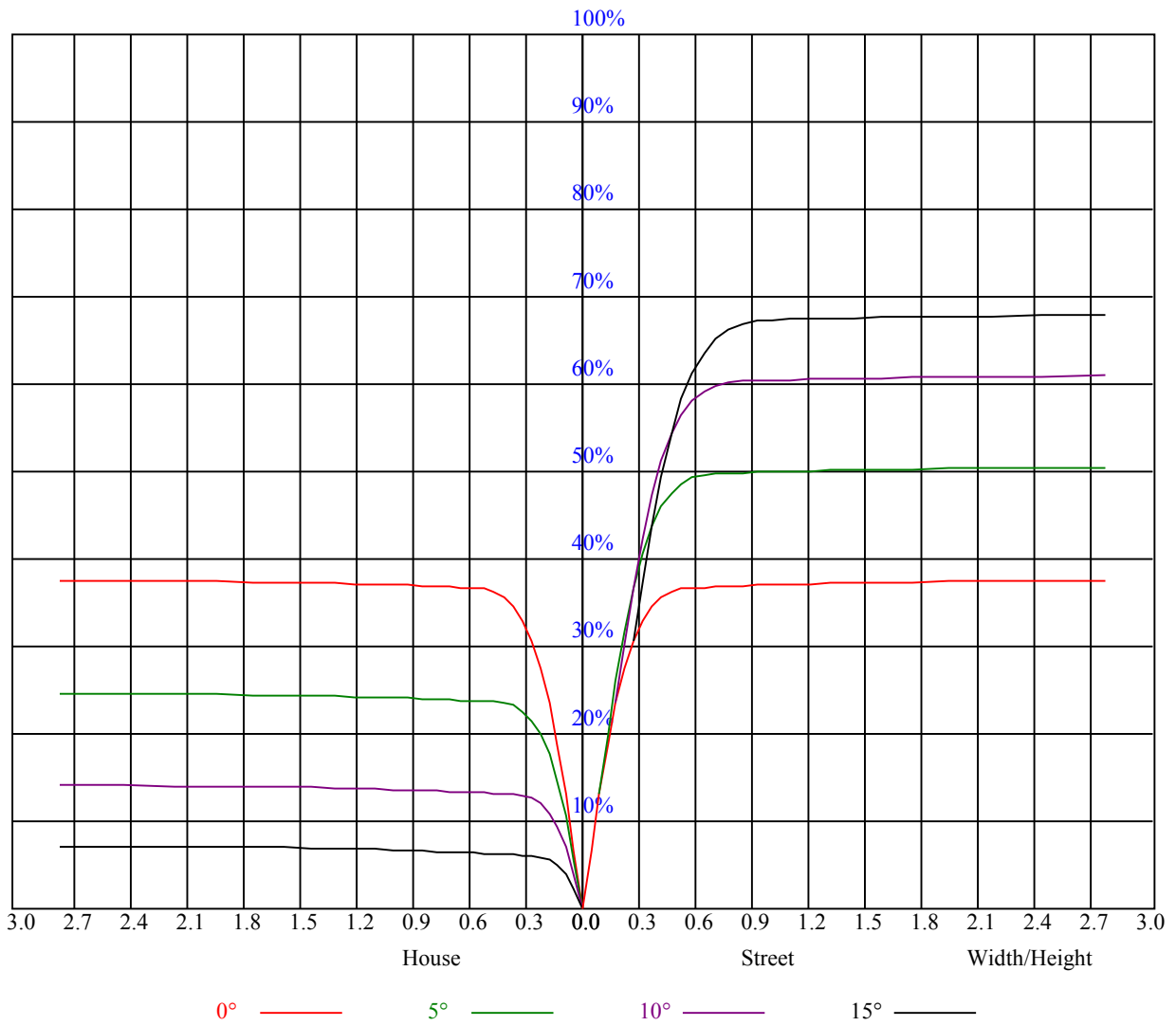
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.90	0.90	0.90	0.88	0.88	0.88	0.84	0.84	0.84	0.81	0.81	0.81	0.77	0.77	0.77	0.76
1	0.85	0.84	0.82	0.84	0.82	0.81	0.81	0.79	0.78	0.78	0.77	0.76	0.75	0.75	0.74	0.73
2	0.81	0.79	0.77	0.80	0.78	0.76	0.77	0.76	0.74	0.75	0.74	0.73	0.73	0.72	0.71	0.70
3	0.77	0.75	0.72	0.76	0.74	0.72	0.75	0.72	0.71	0.73	0.71	0.70	0.71	0.70	0.69	0.67
4	0.74	0.71	0.69	0.74	0.71	0.68	0.72	0.70	0.68	0.71	0.69	0.67	0.69	0.68	0.66	0.65
5	0.72	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.69	0.66	0.65	0.68	0.66	0.64	0.63
6	0.69	0.66	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.64	0.63	0.66	0.64	0.62	0.61
7	0.67	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.64	0.62	0.60	0.60
8	0.65	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.63	0.61	0.59	0.63	0.60	0.59	0.58
9	0.63	0.60	0.58	0.63	0.60	0.58	0.62	0.59	0.58	0.62	0.59	0.57	0.61	0.59	0.57	0.57
10	0.61	0.58	0.56	0.61	0.58	0.56	0.61	0.58	0.56	0.60	0.58	0.56	0.60	0.57	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	8762.63	8804.25	8763.19	8642.81	8480.25	8283.94	7904.25	7571.81	7250.63
45.0	8797.50	8762.63	8652.94	8471.81	8250.75	7949.81	7583.06	7203.94	6797.81
90.0	8763.75	8638.88	8462.25	8205.75	7889.63	7547.63	7159.50	6627.38	6168.94
135.0	8804.25	8709.19	8537.06	8296.88	8024.63	7659.56	7237.69	6809.06	6411.94
180.0	8762.63	8645.63	8462.81	8243.44	7929.56	7592.63	7153.88	6653.81	6189.19
225.0	8797.50	8755.88	8651.25	8471.81	8219.81	7934.63	7585.31	7098.19	6666.75
270.0	8763.75	8818.31	8795.81	8690.06	8539.31	8292.38	7976.25	7641.56	7259.63
315.0	8804.25	8838.00	8783.44	8662.50	8487.00	8226.56	7940.25	7551.56	7110.56
360.0	8762.63	8804.25	8763.19	8642.81	8480.25	8283.94	7904.25	7571.81	7250.63
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	6682.50	6238.13	5825.25	5230.69	4698.00	4299.19	3760.31	3359.25	2944.69
45.0	6251.06	5773.50	5285.81	4755.38	4248.56	3818.81	3369.38	2962.69	2634.75
90.0	5693.06	5090.06	4622.06	4181.06	3663.00	3276.56	2918.81	2515.50	2258.44
135.0	5767.88	5286.94	4863.38	4290.19	3809.25	3452.63	2984.06	2607.75	2347.31
180.0	5703.75	5162.06	4631.06	4186.13	3711.38	3267.00	2901.94	2572.88	2204.44
225.0	6203.81	5597.44	5110.88	4637.25	4124.81	3647.25	3255.75	2846.81	2517.75
270.0	6725.25	6261.19	5779.13	5229.00	4691.25	4232.25	3745.69	3291.19	2923.31
315.0	6670.69	6151.50	5605.88	5117.06	4637.25	4073.63	3654.56	3261.94	2854.13
360.0	6682.50	6238.13	5825.25	5230.69	4698.00	4299.19	3760.31	3359.25	2944.69
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2574.56	2283.19	1987.88	1719.56	1499.06	1296.56	1045.13	853.88	675.00
45.0	2290.50	2018.25	1746.56	1489.50	1279.69	1056.38	843.19	662.63	500.06
90.0	1952.44	1647.56	1456.31	1100.48	1025.94	818.21	646.59	468.84	317.31
135.0	1998.56	1739.25	1527.19	1247.63	1056.38	865.69	650.25	488.81	347.06
180.0	1939.50	1699.88	1455.19	1121.68	1027.58	819.06	626.40	470.31	322.20
225.0	2194.88	1907.44	1677.38	1435.50	1103.46	1008.23	820.74	604.86	450.28
270.0	2556.56	2268.56	1977.75	1712.25	1494.00	1267.31	1046.25	857.25	678.94
315.0	2494.69	2212.31	1926.00	1664.44	1446.75	1116.79	1018.35	805.84	613.69
360.0	2574.56	2283.19	1987.88	1719.56	1499.06	1296.56	1045.13	853.88	675.00
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	493.88	333.56	289.69	115.99	42.13	19.74	15.41	14.46	13.61
45.0	330.75	288.00	127.58	64.01	20.98	18.06	17.61	17.04	16.59
90.0	211.16	123.58	42.98	23.51	20.98	20.14	19.58	19.18	18.84
135.0	288.00	111.15	49.11	21.83	19.18	18.62	18.17	17.89	17.61
180.0	209.14	105.86	35.49	19.63	16.99	15.92	15.24	14.74	14.23
225.0	313.88	202.95	92.42	36.06	21.60	18.90	18.23	17.66	17.10
270.0	471.38	336.38	288.56	121.73	41.34	22.56	19.91	18.96	18.28
315.0	456.86	322.59	185.40	99.28	39.77	18.34	17.38	16.76	16.14
360.0	493.88	333.56	289.69	115.99	42.13	19.74	15.41	14.46	13.61
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	12.88	12.32	11.93	11.48	11.19	11.03	10.80	10.63	10.58
45.0	16.26	15.92	15.69	15.53	15.41	15.24	15.19	15.08	15.08
90.0	18.56	18.39	18.17	18.06	18.00	18.11	18.34	18.73	19.41
135.0	17.33	17.16	16.99	16.82	16.71	16.59	16.43	16.37	16.20
180.0	13.89	13.56	13.28	13.11	12.99	12.88	12.83	12.66	12.66
225.0	16.59	16.26	15.86	15.58	15.36	15.13	15.02	14.85	14.79
270.0	17.72	17.27	16.93	16.65	16.37	16.20	15.98	15.81	15.75
315.0	15.69	15.36	15.02	14.79	14.51	14.29	14.06	13.89	13.78
360.0	12.88	12.32	11.93	11.48	11.19	11.03	10.80	10.63	10.58

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	10.46	10.41	10.46	10.46	10.46	10.46	10.46	10.52	10.58
45.0	15.02	14.96	14.96	14.91	14.85	14.85	14.91	15.02	15.19
90.0	20.08	21.04	22.61	23.68	24.75	26.04	27.11	28.07	29.19
135.0	16.09	16.09	16.03	16.09	15.98	15.98	16.03	16.03	16.09
180.0	12.60	12.60	12.60	12.71	12.71	12.83	12.83	12.88	12.99
225.0	14.74	14.68	14.57	14.46	14.46	14.29	14.18	14.12	14.01
270.0	16.03	16.31	16.76	17.27	18.51	19.63	20.42	21.66	22.84
315.0	13.67	13.67	13.61	13.56	13.50	13.44	13.39	13.33	13.28
360.0	10.46	10.41	10.46	10.46	10.46	10.46	10.46	10.52	10.58
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	10.58	10.69	10.69	10.69	10.80	10.80	10.86	10.86	10.91
45.0	15.41	15.75	16.09	16.43	16.54	16.65	16.76	16.93	17.10
90.0	30.32	31.11	31.84	32.23	32.79	33.30	33.92	34.71	35.55
135.0	16.03	16.09	16.20	16.43	16.59	16.76	16.82	16.99	16.93
180.0	13.05	13.11	13.11	13.28	13.28	13.50	13.44	13.67	13.56
225.0	14.06	14.18	14.18	14.23	14.34	14.40	14.46	14.51	14.63
270.0	23.74	25.14	26.27	27.06	27.84	28.24	28.46	28.97	29.48
315.0	13.16	13.16	13.11	13.05	13.11	13.22	13.28	13.39	13.44
360.0	10.58	10.69	10.69	10.69	10.80	10.80	10.86	10.86	10.91
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	10.91	10.86	10.91	10.86	10.86	10.86	10.91	10.97	11.08
45.0	17.38	17.44	17.44	17.38	17.33	17.33	16.93	16.43	15.98
90.0	36.17	36.17	35.10	33.41	31.28	29.48	28.18	26.33	24.13
135.0	17.10	17.94	19.24	21.04	22.50	23.01	22.78	22.44	22.11
180.0	13.67	13.67	14.23	15.02	16.03	17.04	17.38	17.83	17.89
225.0	14.63	14.51	14.40	14.29	14.23	14.12	13.95	13.67	13.44
270.0	30.21	31.16	31.16	30.49	28.86	26.66	25.09	23.79	21.88
315.0	13.44	13.39	13.39	13.28	13.33	13.44	13.78	13.84	13.67
360.0	10.91	10.86	10.91	10.86	10.86	10.86	10.91	10.97	11.08
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	11.14	11.25	11.42	11.53	11.59	11.64	11.14	10.13	9.68
45.0	15.30	14.51	13.95	13.33	12.71	12.38	11.93	11.42	10.97
90.0	21.43	18.11	14.74	12.49	12.15	11.93	11.64	11.36	11.14
135.0	20.87	20.59	19.80	18.79	17.38	15.41	13.67	13.44	13.33
180.0	17.49	17.38	16.71	15.86	14.91	12.88	11.64	10.91	10.80
225.0	13.16	12.88	12.60	12.38	12.15	11.93	11.76	11.48	11.19
270.0	20.59	18.23	15.02	12.21	11.53	11.36	11.14	10.74	10.52
315.0	13.61	13.67	13.56	13.56	13.28	11.93	11.31	10.91	10.52
360.0	11.14	11.25	11.42	11.53	11.59	11.64	11.14	10.13	9.68
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	9.45	9.28	9.17	9.06	8.94	8.83	8.61	8.38	8.33
45.0	10.52	10.07	9.79	9.51	9.34	9.11	8.16	7.99	7.99
90.0	10.74	10.41	10.13	9.56	8.16	8.10	7.99	7.93	7.88
135.0	13.11	12.83	13.16	12.49	12.32	13.11	11.31	8.66	8.33
180.0	10.97	11.19	11.36	11.76	12.49	13.16	13.78	8.83	8.49
225.0	11.03	10.69	10.52	10.52	10.63	10.74	11.31	8.66	8.16
270.0	10.24	9.96	9.68	9.45	9.28	9.17	9.11	8.78	8.04
315.0	10.18	9.84	9.45	9.28	9.06	8.94	8.72	8.21	7.99
360.0	9.45	9.28	9.17	9.06	8.94	8.83	8.61	8.38	8.33

Intensity data(cd)

C/γ(°)	90.0
0.0	8.33
45.0	7.99
90.0	7.88
135.0	8.04
180.0	8.27
225.0	8.04
270.0	7.88
315.0	7.99
360.0	8.33