



NATA LIGHTING CO.,LTD.
www.nata.cn
Email:info@nata.com
Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: 1-1060-N	
Luminaire: 92.70.246.00	
Report No: 210709-B004	Voltage(V): 36.0100
Test No: 210709-C005	Current(A): 0.5100
LampCAT: Fortimo LED SLM 1204 G7N	Power (W): 18.3650
Lamp flux(lm): 2429.4	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): 2020.65
Efficiency(%): 83.17%
Lumens(lm)/Power(W): 110.03
Central intensity(cd): 11009.670
Maximum intensity(cd): 11009.670
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=18.0
 [C90/270]Total=18.0
Field angle(10%Imax): [C0/180]Total=46.4
 [C90/270]Total=46.4
Maximum s/h(1/2): C0_180=0.31 C90_270=0.31
Maximum s/h(1/4): C0_180=0.35 C90_270=0.35
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 83.17%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.173%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	11009.672	0.000	0	.000%	.000%
1.0	10927.617	10.497	10.497	.432%	.519%
2.0	10655.297	30.978	41.474	1.275%	2.053%
3.0	10221.188	49.930	91.404	2.055%	4.523%
4.0	9645.609	66.501	157.905	2.737%	7.815%
5.0	8939.250	79.951	237.856	3.291%	11.771%
6.0	8023.570	89.144	327	3.669%	16.183%
7.0	7142.977	94.139	421.138	3.875%	20.842%
8.0	6322.570	96.370	517.509	3.967%	25.611%
9.0	5499.422	95.811	613.32	3.944%	30.353%
10.0	4721.766	92.498	705.818	3.807%	34.930%
11.0	4148.016	88.627	794.445	3.648%	39.316%
12.0	3680.016	85.572	880.016	3.522%	43.551%
13.0	3251.602	82.261	962.277	3.386%	47.622%
14.0	2911.078	78.882	1041.159	3.247%	51.526%
15.0	2645.508	76.283	1117.442	3.140%	55.301%
16.0	2389.922	73.783	1191.225	3.037%	58.952%
17.0	2150.086	70.700	1261.926	2.910%	62.451%
18.0	1956.586	67.710	1329.636	2.787%	65.802%
19.0	1768.430	64.808	1394.443	2.668%	69.010%
20.0	1587.234	61.418	1455.861	2.528%	72.049%
21.0	1406.032	57.477	1513.338	2.366%	74.894%
22.0	1268.965	53.755	1567.093	2.213%	77.554%
23.0	1126.877	50.271	1617.365	2.069%	80.042%
24.0	994.936	46.390	1663.755	1.910%	82.337%
25.0	870.708	42.421	1706.176	1.746%	84.437%
26.0	757.723	38.439	1744.615	1.582%	86.339%
27.0	654.209	34.543	1779.158	1.422%	88.049%
28.0	546.040	30.388	1809.546	1.251%	89.553%
29.0	450.865	26.082	1835.628	1.074%	90.843%
30.0	370.856	22.186	1857.814	.913%	91.941%
31.0	286.924	18.305	1876.119	.753%	92.847%
32.0	212.562	14.310	1890.429	.589%	93.555%
33.0	172.920	11.356	1901.785	.467%	94.117%
34.0	127.631	9.096	1910.881	.374%	94.567%
35.0	102.980	7.162	1918.043	.295%	94.922%
36.0	88.959	6.111	1924.154	.252%	95.224%
37.0	77.948	5.444	1929.598	.224%	95.494%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	68.597	4.891	1934.489	.201%	95.736%
39.0	59.998	4.389	1938.878	.181%	95.953%
40.0	52.741	3.932	1942.81	.162%	96.148%
41.0	46.835	3.546	1946.356	.146%	96.323%
42.0	41.794	3.220	1949.576	.133%	96.482%
43.0	37.132	2.924	1952.5	.120%	96.627%
44.0	33.687	2.673	1955.173	.110%	96.759%
45.0	30.839	2.480	1957.653	.102%	96.882%
46.0	28.146	2.307	1959.959	.095%	96.996%
47.0	26.135	2.159	1962.118	.089%	97.103%
48.0	24.497	2.047	1964.165	.084%	97.204%
49.0	22.964	1.949	1966.114	.080%	97.301%
50.0	21.572	1.857	1967.971	.076%	97.393%
51.0	20.503	1.780	1969.751	.073%	97.481%
52.0	19.533	1.718	1971.469	.071%	97.566%
53.0	18.696	1.663	1973.132	.068%	97.648%
54.0	17.880	1.612	1974.744	.066%	97.728%
55.0	17.234	1.567	1976.312	.065%	97.806%
56.0	16.706	1.534	1977.845	.063%	97.881%
57.0	16.179	1.504	1979.349	.062%	97.956%
58.0	15.778	1.478	1980.827	.061%	98.029%
59.0	15.462	1.460	1982.287	.060%	98.101%
60.0	15.173	1.447	1983.734	.060%	98.173%
61.0	14.878	1.434	1985.169	.059%	98.244%
62.0	14.660	1.423	1986.592	.059%	98.314%
63.0	14.456	1.416	1988.008	.058%	98.384%
64.0	14.273	1.410	1989.418	.058%	98.454%
65.0	14.098	1.404	1990.822	.058%	98.524%
66.0	13.929	1.398	1992.22	.058%	98.593%
67.0	13.711	1.390	1993.61	.057%	98.662%
68.0	13.493	1.378	1994.988	.057%	98.730%
69.0	13.268	1.365	1996.353	.056%	98.797%
70.0	12.938	1.346	1997.699	.055%	98.864%
71.0	12.635	1.322	1999.021	.054%	98.929%
72.0	12.284	1.296	2000.317	.053%	98.994%
73.0	12.002	1.270	2001.587	.052%	99.056%
74.0	11.770	1.250	2002.836	.051%	99.118%
75.0	11.510	1.230	2004.066	.051%	99.179%

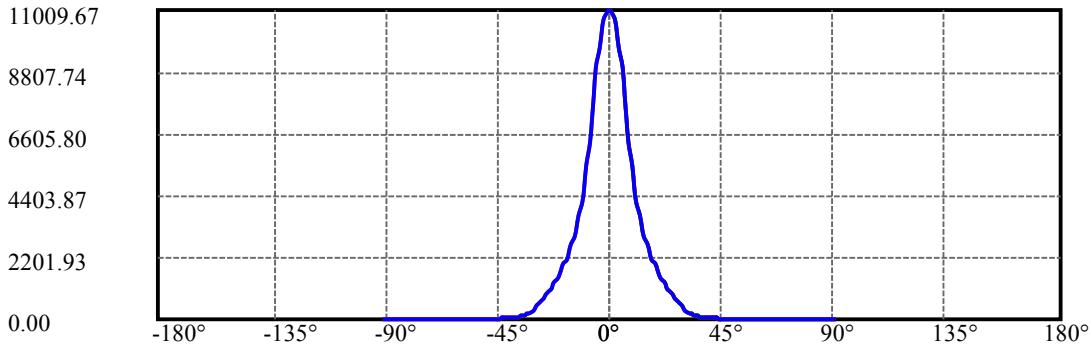
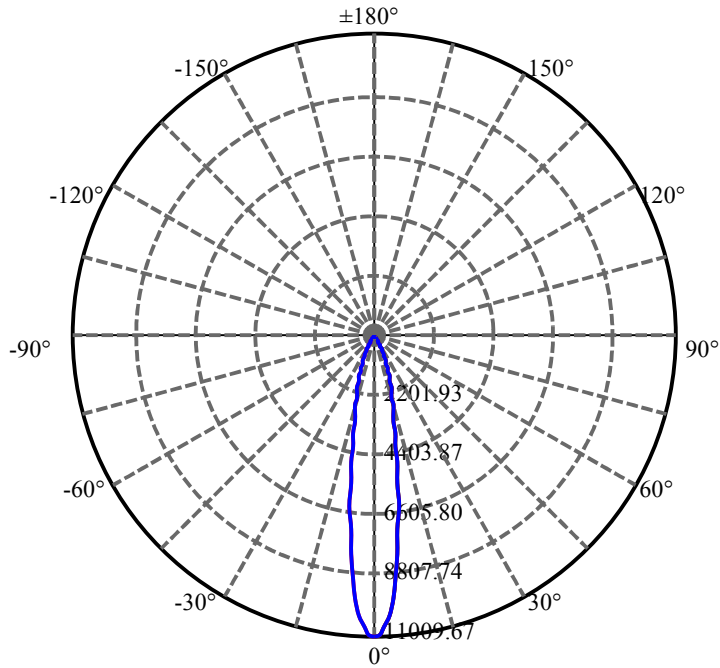
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	11.299	1.211	2005.277	.050%	99.239%
77.0	11.130	1.196	2006.473	.049%	99.298%
78.0	10.976	1.183	2007.656	.049%	99.357%
79.0	10.814	1.171	2008.827	.048%	99.415%
80.0	10.751	1.163	2009.99	.048%	99.472%
81.0	10.610	1.155	2011.145	.048%	99.529%
82.0	10.512	1.145	2012.29	.047%	99.586%
83.0	10.477	1.141	2013.431	.047%	99.643%
84.0	10.385	1.137	2014.568	.047%	99.699%
85.0	9.935	1.109	2015.677	.046%	99.754%
86.0	9.309	1.052	2016.729	.043%	99.806%
87.0	9.084	1.007	2017.735	.041%	99.856%
88.0	8.909	0.986	2018.721	.041%	99.904%
89.0	8.803	0.971	2019.692	.040%	99.952%
90.0	8.733	0.961	2020.653	.040%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1857.81	76.47%	91.94%
0-40	1942.81	79.97%	96.15%
0-60	1983.73	81.65%	98.17%
0-90	2019.69	83.13%	99.95%
0-120	2019.69	83.13%	99.95%
0-180	2020.65	83.17%	100.00%
60-90	37.40	1.54%	1.85%
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%
0-22.98	1616.52	66.54%	80.00%

ZONAL LUMEN SUMMARY

0-10	705.82
10-20	750.04
20-30	401.95
30-40	85.00
40-50	25.16
50-60	15.76
60-70	13.96
70-80	12.29
80-90	9.70
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



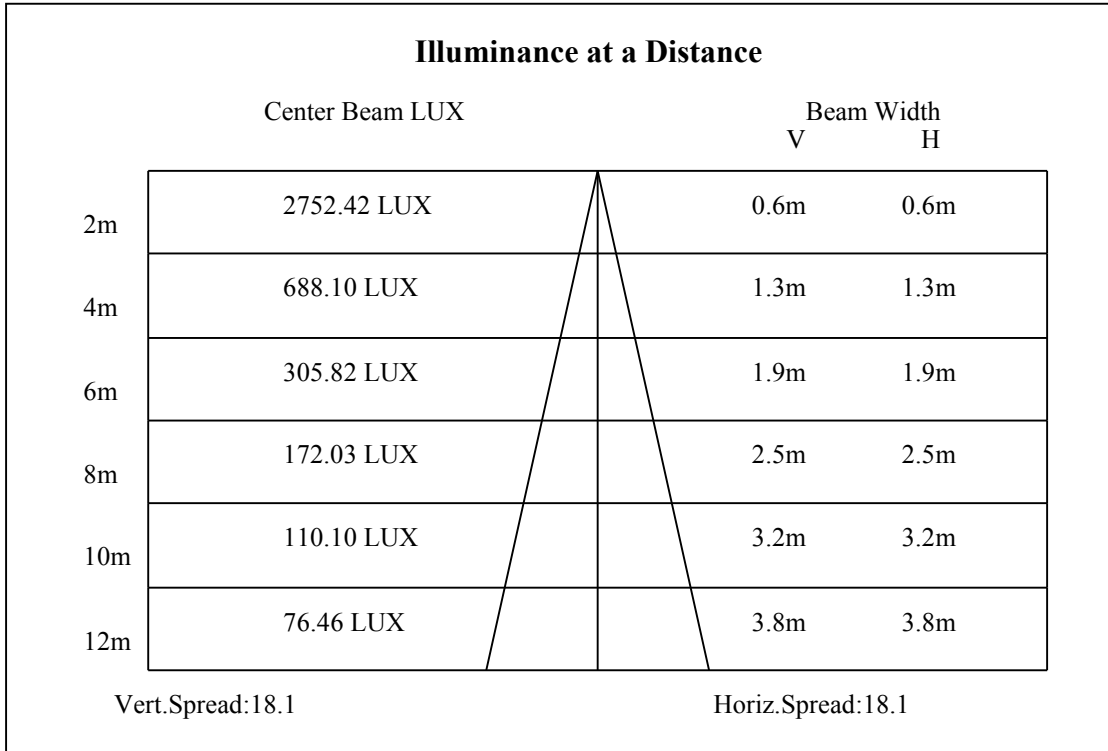
C0(Max): —————

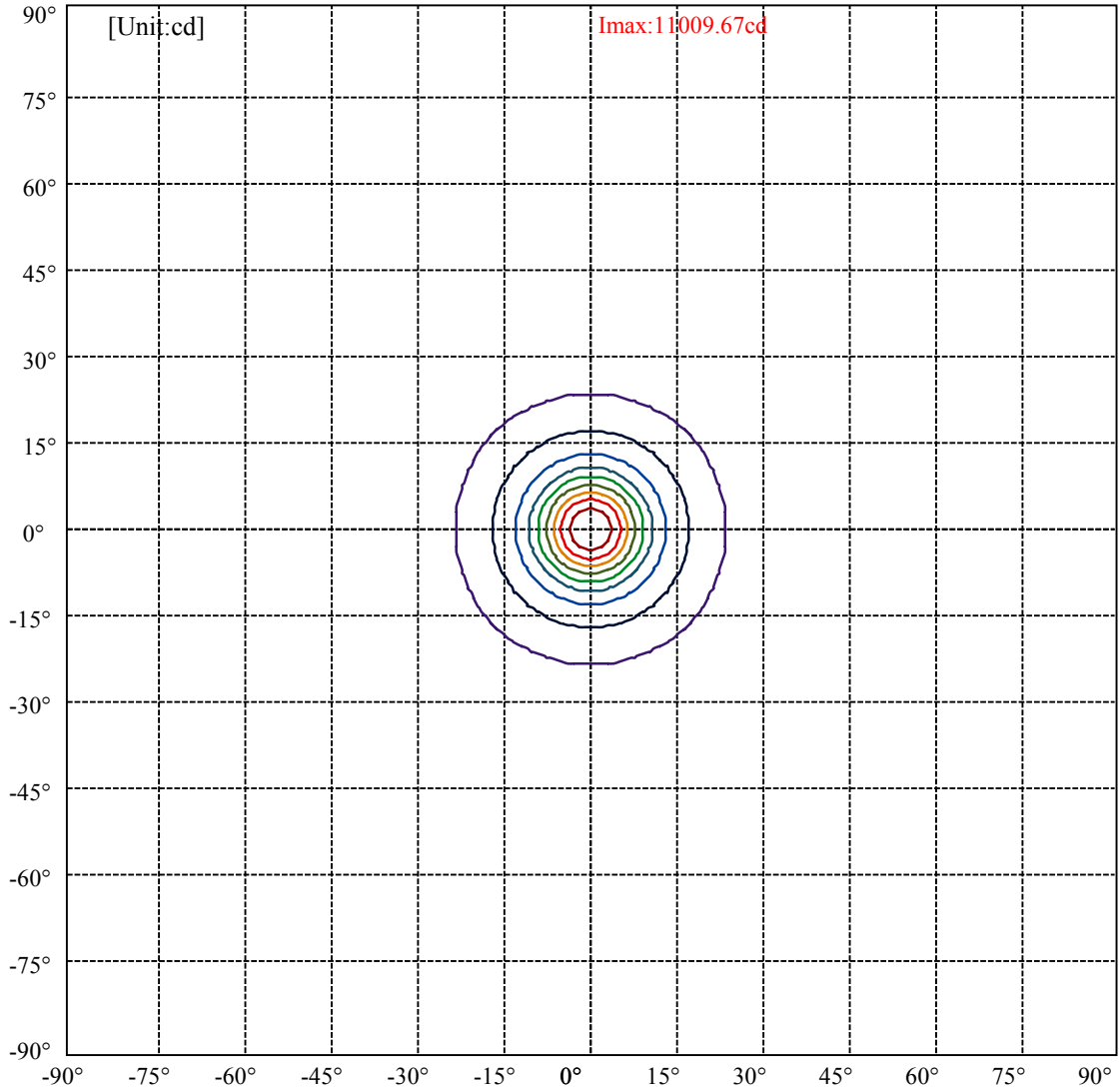
C0/C180: —————

C90/C270: —————

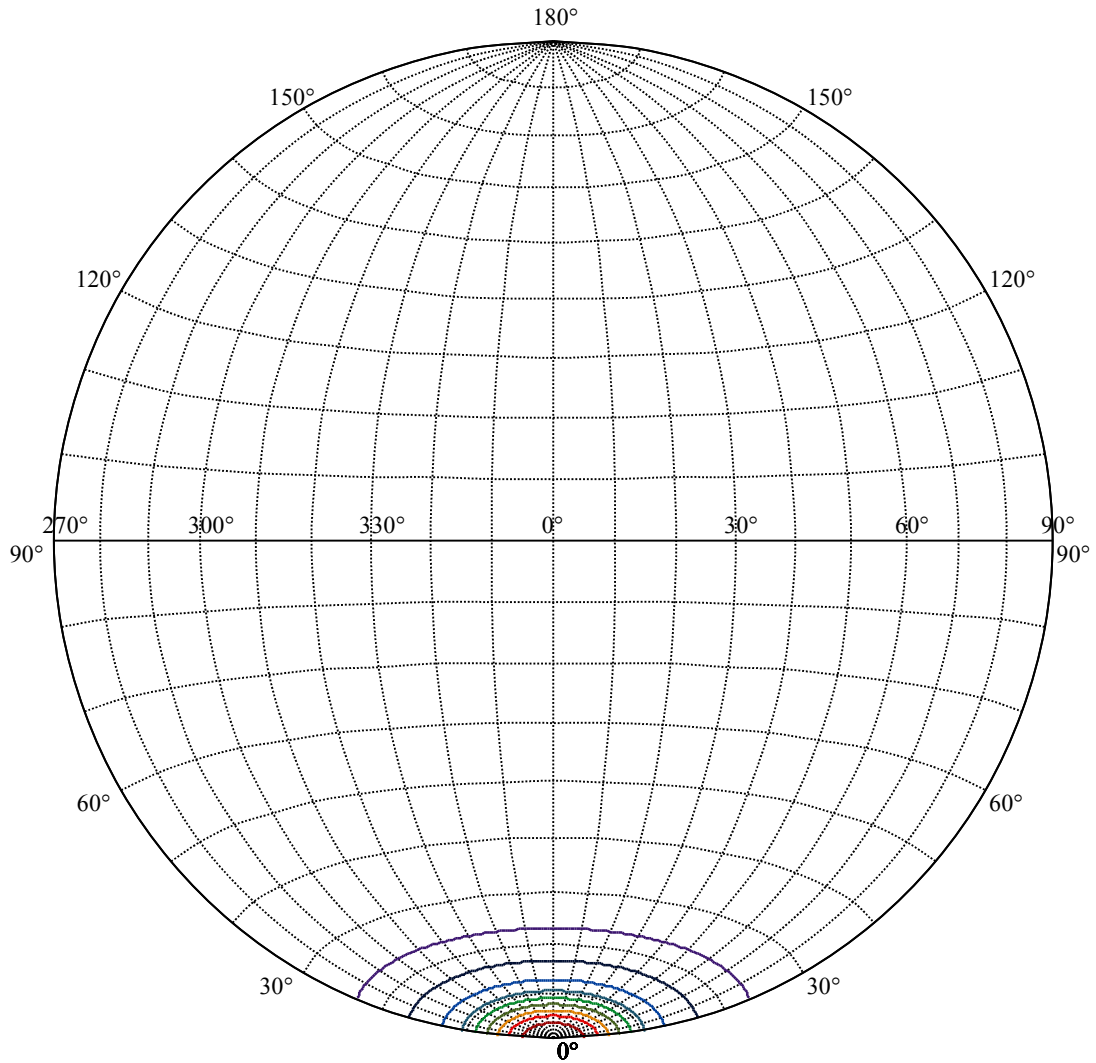
Field angle(10%Imax):C0/180Left:23.2 Right:23.2
:C90/270Left:23.2 Right:23.2

Beam Angle(50%Imax):C0/180Left:9.0 Right:9.0
:C90/270Left:9.0 Right:9.0





(10%Imax) 1100.97	—
(20%Imax) 2201.93	—
(30%Imax) 3302.9	—
(40%Imax) 4403.87	—
(50%Imax) 5504.84	—
(60%Imax) 6605.8	—
(70%Imax) 7706.77	—
(80%Imax) 8807.74	—
(90%Imax) 9908.71	—



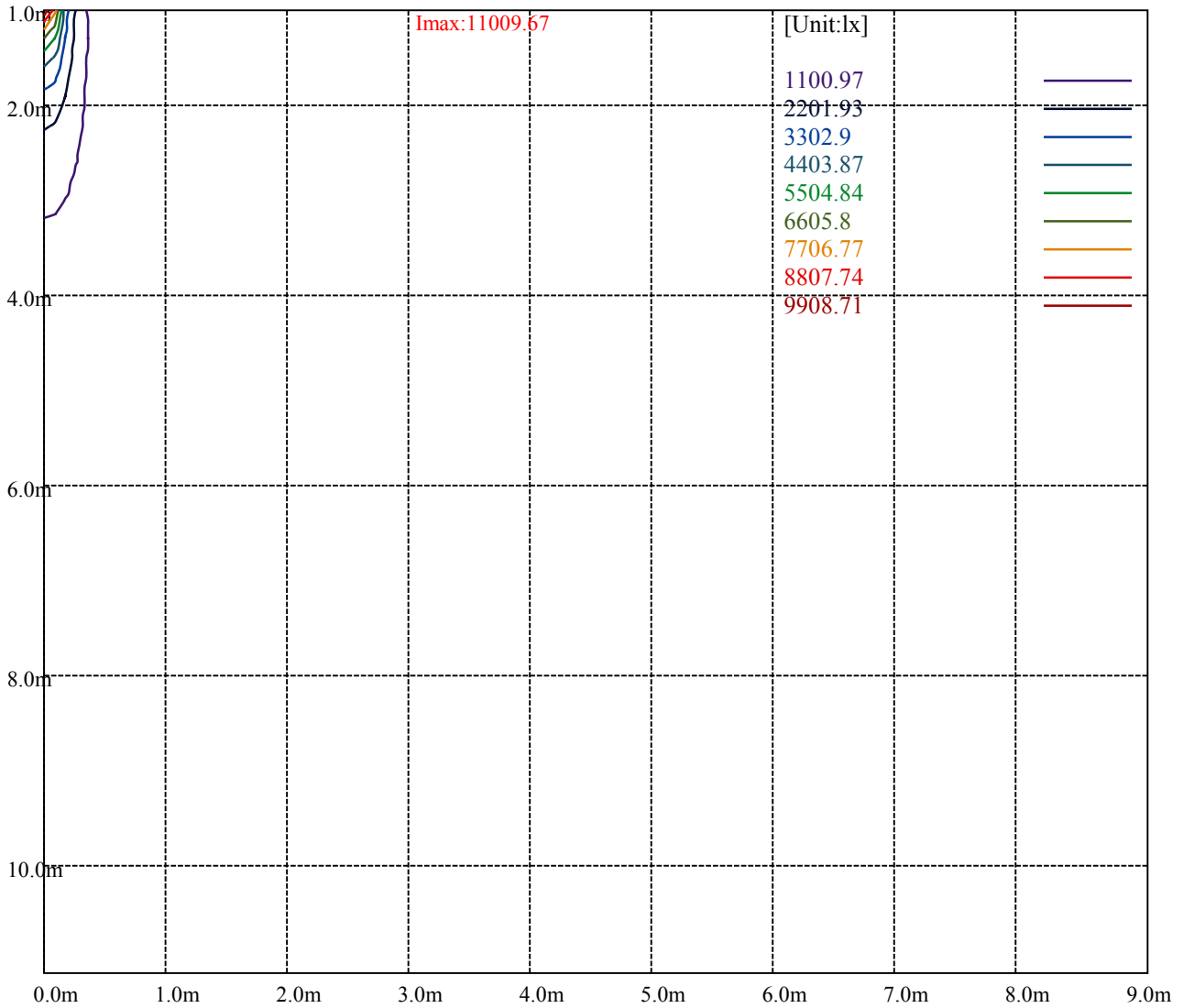
House

[Unit:cd]

Road

I_{max}:11009.67

(10%I _{max})	1100.97	—
(20%I _{max})	2201.93	—
(30%I _{max})	3302.9	—
(40%I _{max})	4403.87	—
(50%I _{max})	5504.84	—
(60%I _{max})	6605.8	—
(70%I _{max})	7706.77	—
(80%I _{max})	8807.74	—
(90%I _{max})	9908.71	—



Luminance Table

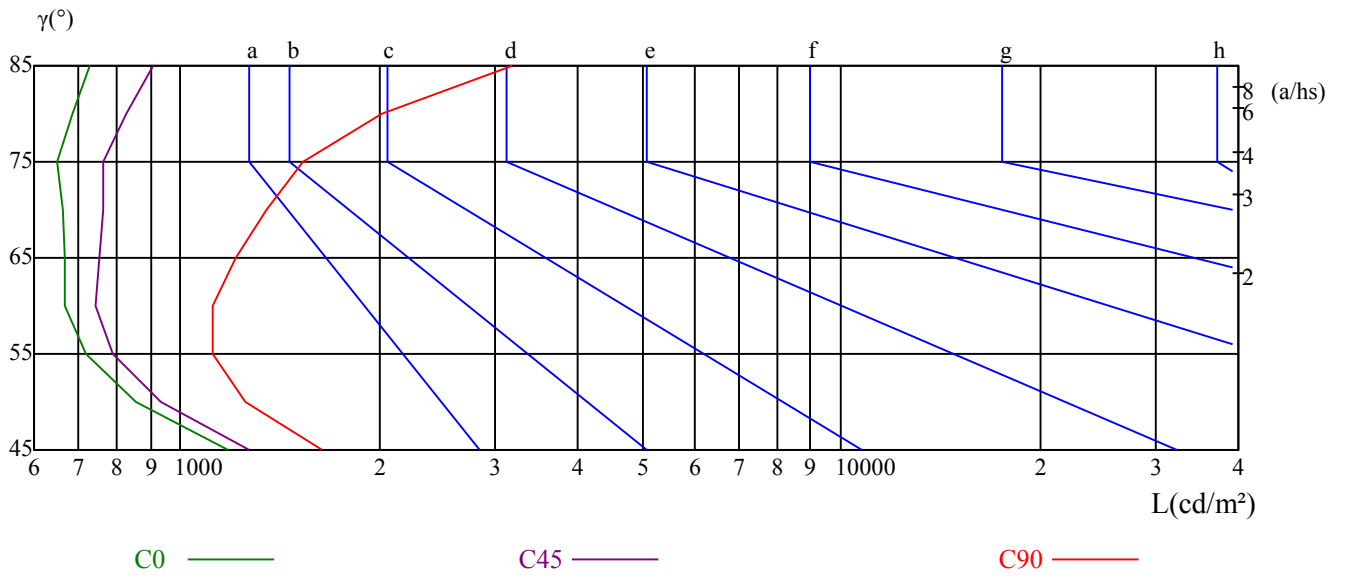
γ	45	50	55	60	65	70	75	80	85
C0	1177	855	717	669	666	664	652	686	731
C45	1270	932	789	745	753	763	765	826	911
C90	1643	1256	1115	1115	1209	1345	1533	2013	3172

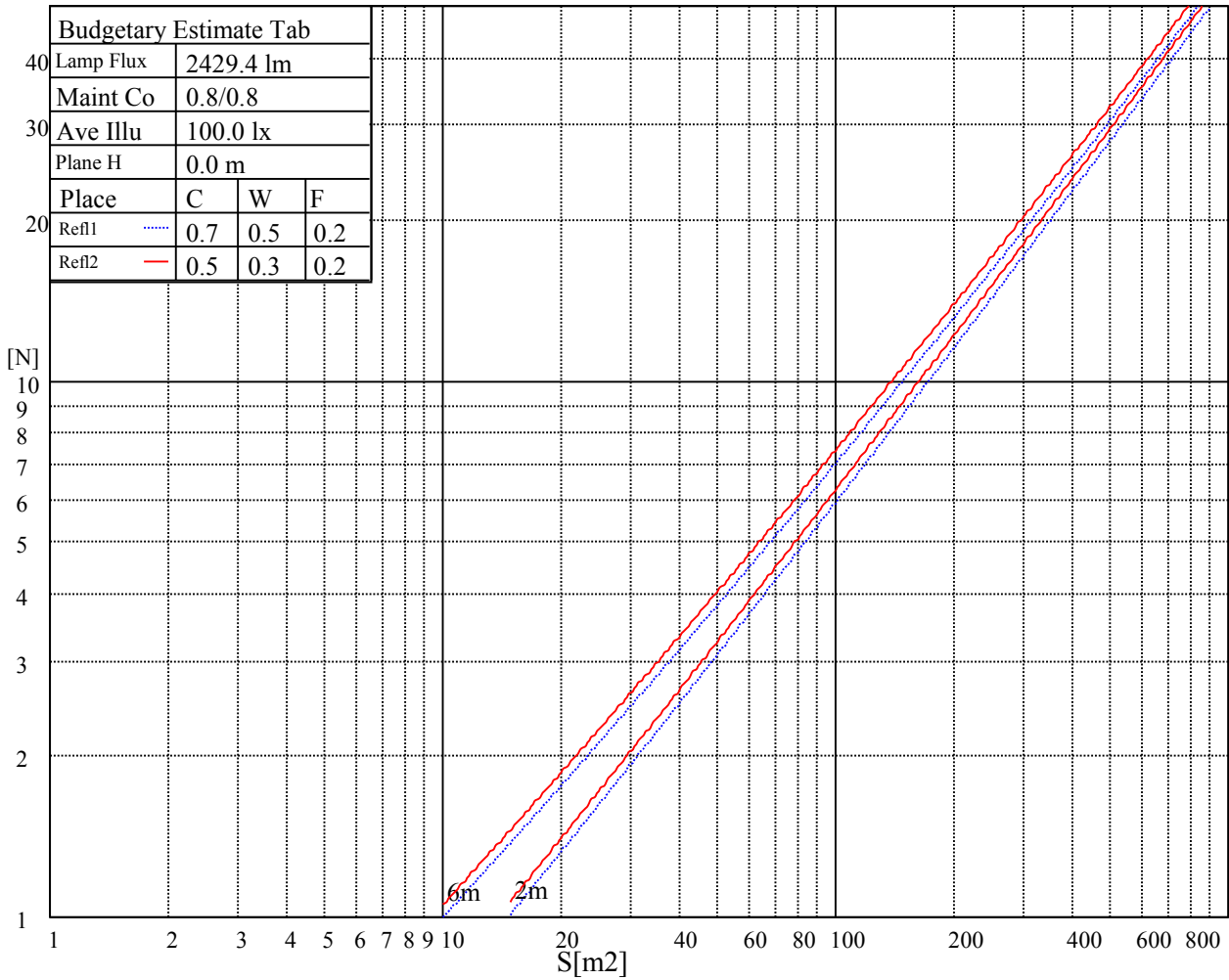
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1301	1301	1301	1734	1734	1734	4444	4444	4444

Glare Table

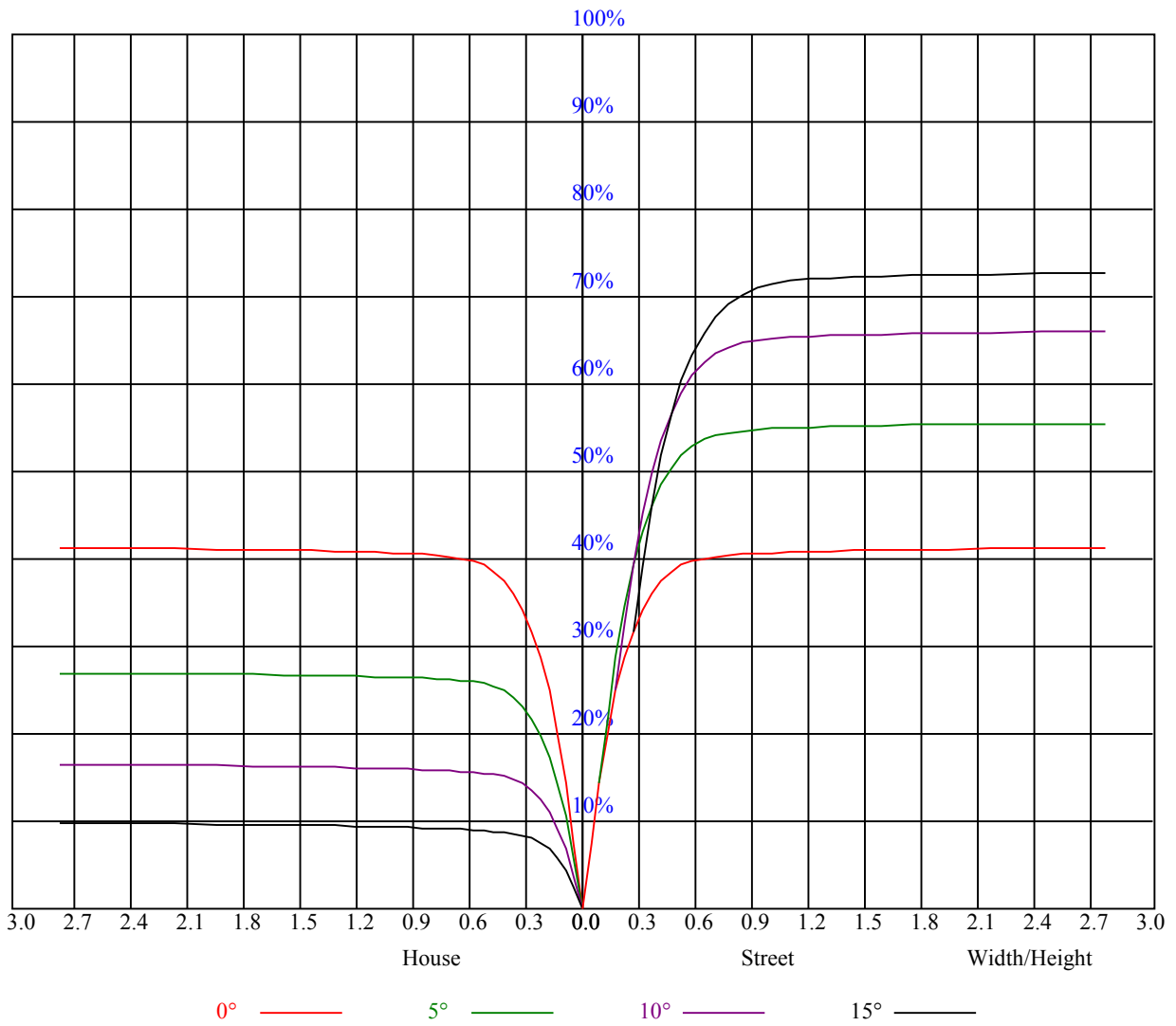
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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



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	10894.50	11115.00	11167.31	11025.56	10672.31	10198.69	9362.81	8584.88	7741.69
45.0	11107.13	11033.44	10762.88	10299.94	9737.44	9032.63	7984.69	7120.69	6377.06
90.0	10974.38	10696.50	10136.81	9555.75	8823.94	7893.56	6899.06	6046.88	5202.56
135.0	11062.69	10743.19	10256.63	9677.25	8872.88	8040.94	7156.69	6085.13	5321.25
180.0	10894.50	10520.44	9951.75	9223.31	8445.94	7576.88	6458.06	5628.38	4901.06
225.0	11107.13	11017.13	10757.81	10303.31	9691.31	8987.06	8172.00	7089.19	6246.00
270.0	10974.38	11106.00	11065.50	10833.75	10455.75	9864.00	9100.69	8331.75	7377.19
315.0	11062.69	11189.25	11143.69	10850.63	10465.31	9920.25	9054.56	8256.94	7413.75
360.0	10894.50	11115.00	11167.31	11025.56	10672.31	10198.69	9362.81	8584.88	7741.69
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	6778.13	5824.13	5076.00	4439.25	3811.50	3411.56	3119.06	2762.44	2482.88
45.0	5296.50	4628.25	4080.94	3592.13	3197.81	2898.56	2607.19	2354.63	2150.44
90.0	4483.13	3967.88	3513.94	3170.81	2878.31	2563.88	2340.00	2140.31	1910.81
135.0	4654.13	3964.50	3537.00	3186.00	2819.81	2564.44	2340.56	2117.25	1909.13
180.0	4277.81	3672.56	3295.69	2982.38	2652.75	2421.00	2210.06	1999.13	1799.44
225.0	5448.94	4604.63	4055.06	3609.56	3246.75	2871.00	2617.31	2389.50	2156.06
270.0	6517.13	5608.13	4820.63	4244.63	3769.88	3290.06	2973.38	2702.25	2403.00
315.0	6539.63	5604.06	4804.88	4215.38	3636.00	3268.13	2956.50	2653.88	2388.94
360.0	6778.13	5824.13	5076.00	4439.25	3811.50	3411.56	3119.06	2762.44	2482.88
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2294.44	2057.06	1860.75	1718.44	1517.06	1365.19	1222.88	1073.25	954.00
45.0	1937.25	1764.56	1575.56	1406.81	1251.00	1105.88	978.75	862.88	752.06
90.0	1735.31	1569.94	1393.88	1115.27	1101.49	970.99	841.56	730.13	623.98
135.0	1734.19	1552.50	1369.13	1235.81	1091.25	970.88	842.63	726.19	627.75
180.0	1630.13	1449.56	1299.38	1114.99	1014.36	902.76	783.39	669.71	575.94
225.0	1949.63	1778.06	1595.81	1420.31	1274.06	1109.03	1005.64	872.94	746.89
270.0	2190.94	2004.19	1807.31	1623.94	1464.75	1298.25	1164.38	1027.69	893.25
315.0	2180.81	1971.56	1796.06	1612.69	1437.75	1292.06	1120.28	1002.88	887.91
360.0	2294.44	2057.06	1860.75	1718.44	1517.06	1365.19	1222.88	1073.25	954.00
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	839.81	708.19	609.75	516.94	405.00	321.19	290.81	177.47	129.83
45.0	631.69	540.00	450.56	358.88	290.81	195.30	141.02	110.59	96.53
90.0	535.61	438.19	344.48	269.04	200.87	137.08	110.87	97.37	84.15
135.0	540.56	435.94	345.94	291.94	181.74	135.56	112.22	96.30	84.09
180.0	485.04	376.71	293.63	223.54	160.54	121.89	104.23	91.46	80.04
225.0	645.41	554.01	443.76	361.29	285.75	202.39	152.04	122.74	103.73
270.0	776.81	659.25	552.94	466.31	385.31	288.56	244.13	162.51	123.30
315.0	778.73	656.04	565.88	478.91	385.37	298.52	228.04	162.62	122.18
360.0	839.81	708.19	609.75	516.94	405.00	321.19	290.81	177.47	129.83
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	109.35	94.73	84.15	73.29	63.84	56.64	50.23	44.16	39.71
45.0	84.54	75.15	65.42	57.88	51.13	45.34	40.05	36.06	32.85
90.0	74.53	66.04	56.98	50.57	45.00	39.38	36.00	32.34	29.31
135.0	75.32	65.64	58.11	51.58	45.00	40.44	36.11	32.63	30.04
180.0	71.21	62.44	55.46	48.88	43.31	38.98	35.44	31.67	29.25
225.0	90.51	80.16	69.98	60.98	54.17	47.48	42.53	37.91	33.92
270.0	102.60	89.89	79.76	68.23	60.13	53.49	46.86	41.34	37.35
315.0	103.61	89.55	78.92	68.57	59.34	52.93	47.14	40.95	37.07
360.0	109.35	94.73	84.15	73.29	63.84	56.64	50.23	44.16	39.71

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	36.11	32.29	29.81	27.68	25.59	23.91	22.61	21.32	20.25
45.0	29.64	27.45	25.59	23.96	22.44	21.21	20.08	19.18	18.34
90.0	27.51	25.43	23.57	22.44	21.26	19.86	19.07	18.28	17.55
135.0	27.96	25.54	23.96	22.67	21.38	20.31	19.41	18.56	17.78
180.0	27.11	25.03	23.57	22.33	20.93	19.97	19.13	18.17	17.61
225.0	31.11	28.74	26.33	24.69	23.29	21.71	20.64	19.74	18.84
270.0	33.64	30.49	28.24	26.10	24.47	22.84	21.49	20.48	19.63
315.0	33.64	30.21	28.01	26.10	24.36	22.78	21.60	20.53	19.58
360.0	36.11	32.29	29.81	27.68	25.59	23.91	22.61	21.32	20.25
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	19.35	18.51	17.89	17.21	16.65	16.20	15.81	15.41	15.19
45.0	17.55	16.99	16.43	15.86	15.47	15.19	14.91	14.68	14.46
90.0	16.82	16.31	15.86	15.47	15.24	14.91	14.68	14.46	14.23
135.0	17.21	16.65	16.14	15.86	15.58	15.30	14.96	14.74	14.57
180.0	16.93	16.31	15.98	15.58	15.24	15.08	14.91	14.63	14.46
225.0	18.00	17.38	16.76	16.26	15.81	15.53	15.24	14.91	14.74
270.0	18.51	17.78	17.27	16.48	16.03	15.69	15.36	15.02	14.74
315.0	18.68	17.94	17.33	16.71	16.20	15.81	15.53	15.19	14.91
360.0	19.35	18.51	17.89	17.21	16.65	16.20	15.81	15.41	15.19
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	15.02	14.79	14.57	14.40	14.18	14.01	13.84	13.56	13.22
45.0	14.23	14.01	13.84	13.67	13.56	13.33	13.05	12.71	12.38
90.0	14.06	13.89	13.67	13.56	13.28	12.94	12.71	12.32	12.09
135.0	14.34	14.23	14.12	14.01	13.73	13.39	13.16	12.71	12.43
180.0	14.29	14.12	13.89	13.73	13.39	13.22	12.88	12.49	12.21
225.0	14.51	14.29	14.12	13.89	13.73	13.50	13.22	12.99	12.60
270.0	14.51	14.34	14.18	13.95	13.84	13.67	13.50	13.28	12.99
315.0	14.68	14.51	14.40	14.23	14.01	13.89	13.78	13.44	13.16
360.0	15.02	14.79	14.57	14.40	14.18	14.01	13.84	13.56	13.22
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	12.88	12.54	12.26	11.93	11.64	11.42	11.25	11.03	10.86
45.0	12.09	11.70	11.48	11.25	11.03	10.86	10.63	10.46	10.29
90.0	11.70	11.53	11.31	11.08	10.91	10.69	10.52	10.29	10.18
135.0	12.15	11.93	11.76	11.59	11.59	11.53	11.53	11.53	12.09
180.0	11.87	11.59	11.42	11.14	10.91	10.74	10.58	10.35	10.18
225.0	12.21	11.93	11.64	11.42	11.14	10.97	10.74	10.58	10.29
270.0	12.54	12.26	11.98	11.64	11.42	11.19	10.97	10.74	10.58
315.0	12.83	12.54	12.32	12.04	11.76	11.64	11.59	11.53	11.53
360.0	12.88	12.54	12.26	11.93	11.64	11.42	11.25	11.03	10.86
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	10.63	10.46	10.29	10.13	9.96	9.73	9.51	9.34	9.17
45.0	10.07	9.96	9.84	9.73	9.56	9.28	9.00	8.78	8.66
90.0	10.07	9.96	9.79	9.62	9.39	9.06	8.78	8.61	8.61
135.0	11.93	11.98	12.15	11.98	9.39	9.11	8.89	8.72	8.66
180.0	10.01	9.84	9.68	9.51	9.28	9.11	8.89	8.72	8.72
225.0	10.18	9.96	9.79	9.56	9.45	9.23	9.06	8.89	8.72
270.0	10.41	10.18	9.96	9.73	9.56	9.39	9.23	9.06	8.89
315.0	11.59	11.76	12.32	12.83	12.88	9.56	9.34	9.17	9.00
360.0	10.63	10.46	10.29	10.13	9.96	9.73	9.51	9.34	9.17

Intensity data(cd)

C/γ(°)	90.0
0.0	8.94
45.0	8.61
90.0	8.55
135.0	8.72
180.0	8.78
225.0	8.61
270.0	8.78
315.0	8.89
360.0	8.94