



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: 3-1545-A3
Luminaire: 99.02.73.172+92.76.365.00
Report No: 200407-B009
Test No: 200407-C009
LampCAT: LUMINUS CXM-14-AC40
Lamp flux(lm): 1553.5
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 33.3900
Current(A): 0.3490
Power (W): 11.6530
PF: 1.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 1402.63
Efficiency(%): 90.29%
Lumens(lm)/Power(W): 120.37
Central intensity(cd): 11023.030
Maximum intensity(cd): 11023.030
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=14.4
 [C90/270]Total=14.4
Field angle(10%Imax): [C0/180]Total=29.4
 [C90/270]Total=29.4
Maximum s/h(1/2): C0_180=0.25 C90_270=0.25
Maximum s/h(1/4): C0_180=0.25 C90_270=0.25
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.29%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.702%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	11023.031	0.000	0	.000%	.000%
1.0	10936.547	10.507	10.507	.676%	.749%
2.0	10588.781	30.895	41.402	1.989%	2.952%
3.0	9999.211	49.240	90.642	3.170%	6.462%
4.0	9228.727	64.362	155.004	4.143%	11.051%
5.0	8108.086	74.582	229.586	4.801%	16.368%
6.0	6970.008	79.239	308.826	5.101%	22.018%
7.0	5722.523	78.782	387.608	5.071%	27.634%
8.0	4564.969	73.626	461.234	4.739%	32.883%
9.0	3571.523	65.942	527.175	4.245%	37.585%
10.0	2770.664	57.394	584.57	3.695%	41.677%
11.0	2166.469	49.332	633.902	3.176%	45.194%
12.0	1733.421	42.631	676.533	2.744%	48.233%
13.0	1420.966	37.435	713.968	2.410%	50.902%
14.0	1207.575	33.645	747.613	2.166%	53.301%
15.0	1055.194	31.064	778.677	2.000%	55.515%
16.0	929.827	29.086	807.764	1.872%	57.589%
17.0	844.102	27.625	835.388	1.778%	59.559%
18.0	776.862	26.726	862.115	1.720%	61.464%
19.0	731.334	26.240	888.354	1.689%	63.335%
20.0	692.473	26.060	914.414	1.677%	65.193%
21.0	663.258	26.033	940.446	1.676%	67.049%
22.0	641.405	26.218	966.664	1.688%	68.918%
23.0	620.156	26.471	993.135	1.704%	70.805%
24.0	602.859	26.740	1019.875	1.721%	72.712%
25.0	587.433	27.065	1046.939	1.742%	74.641%
26.0	572.498	27.380	1074.32	1.762%	76.593%
27.0	557.796	27.653	1101.973	1.780%	78.565%
28.0	545.963	27.945	1129.917	1.799%	80.557%
29.0	532.737	28.222	1158.139	1.817%	82.569%
30.0	514.146	28.266	1186.405	1.819%	84.584%
31.0	490.029	27.945	1214.35	1.799%	86.576%
32.0	453.023	27.017	1241.367	1.739%	88.503%
33.0	412.439	25.497	1266.864	1.641%	90.320%
34.0	368.079	23.621	1290.485	1.520%	92.005%
35.0	305.234	20.911	1311.395	1.346%	93.495%
36.0	243.605	17.475	1328.87	1.125%	94.741%
37.0	188.677	14.099	1342.969	.908%	95.746%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	136.561	10.856	1353.825	.699%	96.520%
39.0	85.662	7.585	1361.41	.488%	97.061%
40.0	56.531	4.959	1366.369	.319%	97.415%
41.0	33.539	3.207	1369.576	.206%	97.643%
42.0	19.709	1.935	1371.511	.125%	97.781%
43.0	15.623	1.309	1372.82	.084%	97.875%
44.0	12.572	1.064	1373.884	.069%	97.950%
45.0	10.610	0.891	1374.775	.057%	98.014%
46.0	9.661	0.793	1375.568	.051%	98.070%
47.0	8.409	0.719	1376.286	.046%	98.122%
48.0	8.128	0.669	1376.955	.043%	98.169%
49.0	7.896	0.658	1377.613	.042%	98.216%
50.0	7.664	0.649	1378.262	.042%	98.263%
51.0	7.460	0.640	1378.902	.041%	98.308%
52.0	7.298	0.633	1379.535	.041%	98.353%
53.0	7.130	0.628	1380.162	.040%	98.398%
54.0	6.954	0.621	1380.783	.040%	98.442%
55.0	6.827	0.615	1381.398	.040%	98.486%
56.0	6.715	0.612	1382.01	.039%	98.530%
57.0	6.567	0.607	1382.618	.039%	98.573%
58.0	6.490	0.604	1383.221	.039%	98.616%
59.0	6.405	0.603	1383.824	.039%	98.659%
60.0	6.314	0.601	1384.425	.039%	98.702%
61.0	6.244	0.599	1385.024	.039%	98.745%
62.0	6.195	0.599	1385.624	.039%	98.787%
63.0	6.110	0.598	1386.222	.039%	98.830%
64.0	6.068	0.598	1386.82	.038%	98.873%
65.0	6.019	0.598	1387.418	.039%	98.915%
66.0	5.977	0.598	1388.017	.039%	98.958%
67.0	5.941	0.599	1388.616	.039%	99.001%
68.0	5.906	0.600	1389.216	.039%	99.044%
69.0	5.864	0.600	1389.816	.039%	99.086%
70.0	5.836	0.601	1390.417	.039%	99.129%
71.0	5.808	0.602	1391.019	.039%	99.172%
72.0	5.787	0.603	1391.622	.039%	99.215%
73.0	5.759	0.604	1392.226	.039%	99.258%
74.0	5.759	0.605	1392.831	.039%	99.301%
75.0	5.738	0.607	1393.439	.039%	99.345%

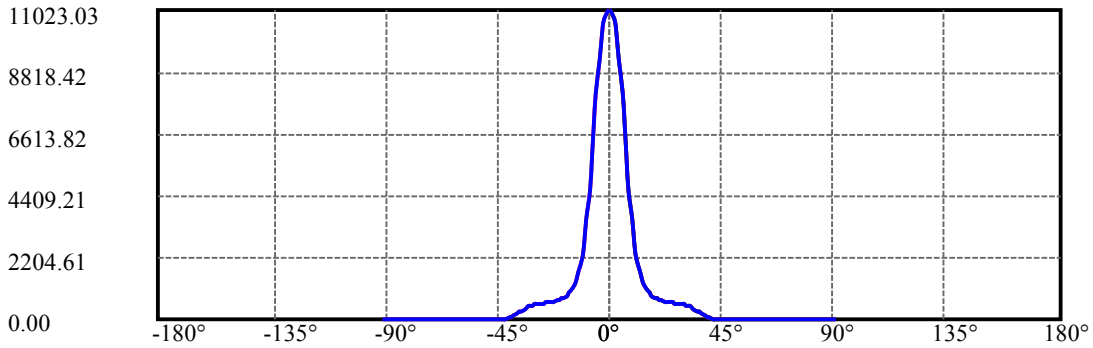
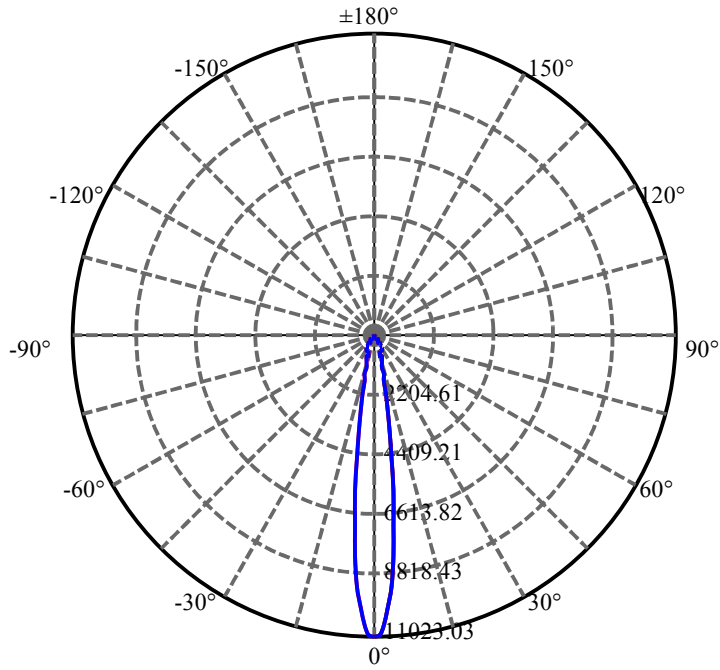
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	5.723	0.608	1394.047	.039%	99.388%
77.0	5.688	0.608	1394.655	.039%	99.431%
78.0	5.695	0.609	1395.265	.039%	99.475%
79.0	5.681	0.611	1395.876	.039%	99.518%
80.0	5.674	0.612	1396.488	.039%	99.562%
81.0	5.681	0.614	1397.102	.040%	99.606%
82.0	5.660	0.615	1397.717	.040%	99.650%
83.0	5.660	0.615	1398.333	.040%	99.693%
84.0	5.653	0.616	1398.949	.040%	99.737%
85.0	5.632	0.616	1399.565	.040%	99.781%
86.0	5.618	0.615	1400.18	.040%	99.825%
87.0	5.597	0.614	1400.794	.040%	99.869%
88.0	5.597	0.613	1401.407	.039%	99.913%
89.0	5.583	0.613	1402.02	.039%	99.956%
90.0	5.583	0.612	1402.632	.039%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1186.40	76.37%	84.58%
0-40	1366.37	87.95%	97.41%
0-60	1384.43	89.12%	98.70%
0-90	1402.02	90.25%	99.96%
0-120	1402.02	90.25%	99.96%
0-180	1402.63	90.29%	100.00%
60-90	18.20	1.17%	1.30%
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%
0-27.72	1122.11	72.23%	80.00%

ZONAL LUMEN SUMMARY

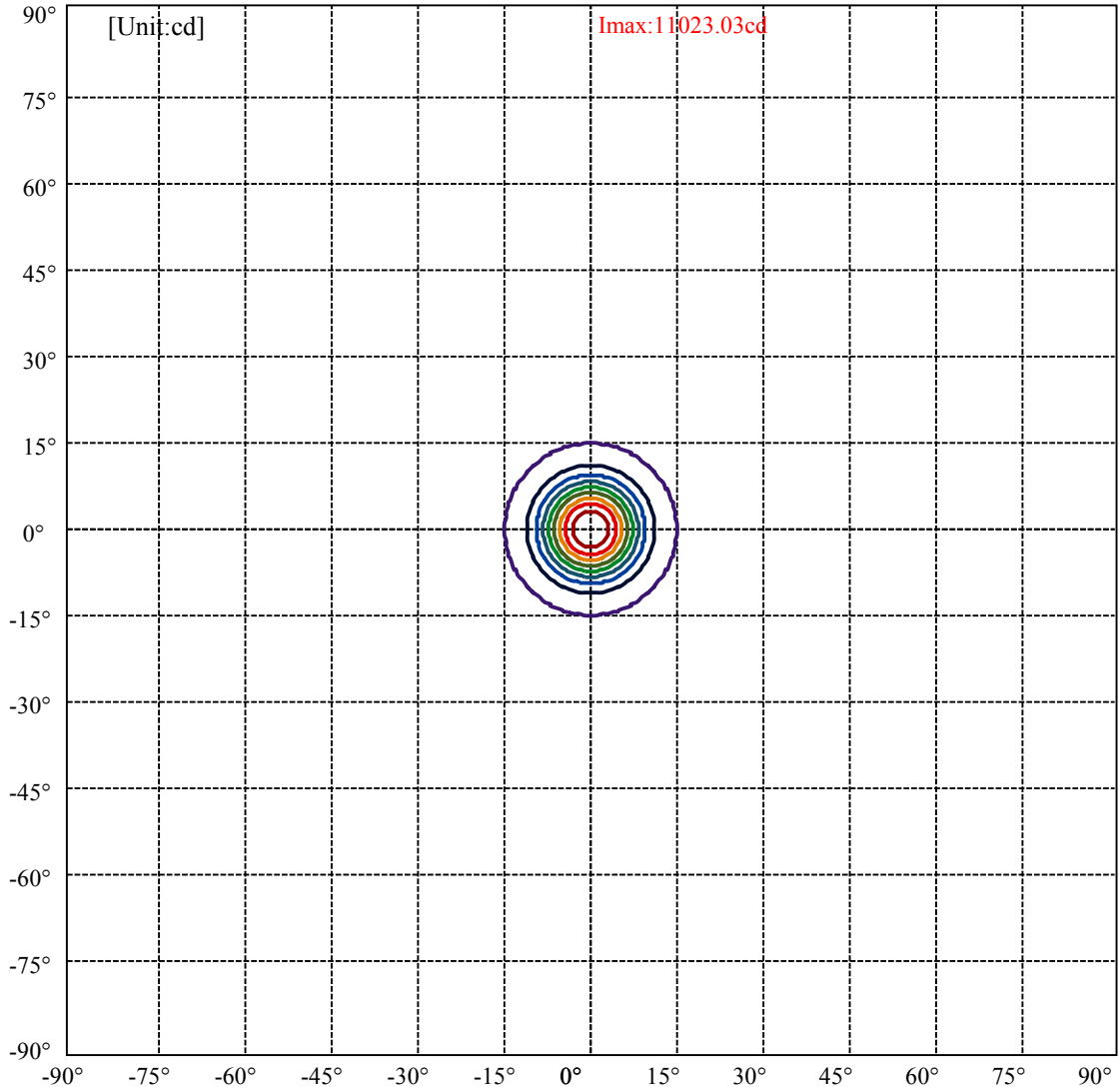
0-10	584.57
10-20	329.84
20-30	271.99
30-40	179.96
40-50	11.89
50-60	6.16
60-70	5.99
70-80	6.07
80-90	5.53
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



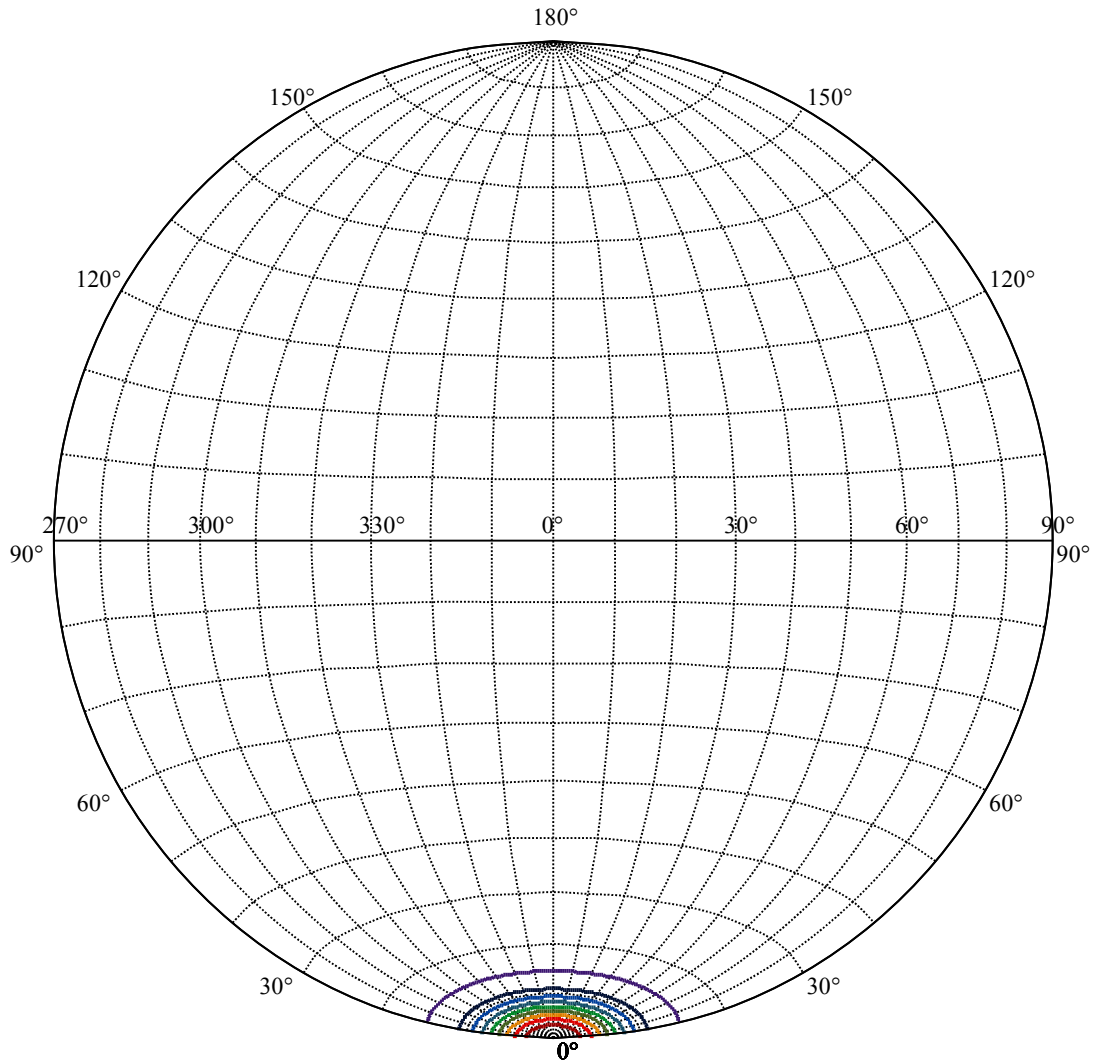
C0(Max): —————
C0/C180: —————
C90/C270: —————

Field angle(10%Imax):C0/180Left:14.7 Right:14.7
:C90/270Left:14.7 Right:14.7

Beam Angle(50%Imax):C0/180Left:7.2 Right:7.2
:C90/270Left:7.2 Right:7.2



- (10%Imax) 1102.3
- (20%Imax) 2204.61
- (30%Imax) 3306.91
- (40%Imax) 4409.21
- (50%Imax) 5511.52
- (60%Imax) 6613.82
- (70%Imax) 7716.12
- (80%Imax) 8818.42
- (90%Imax) 9920.73



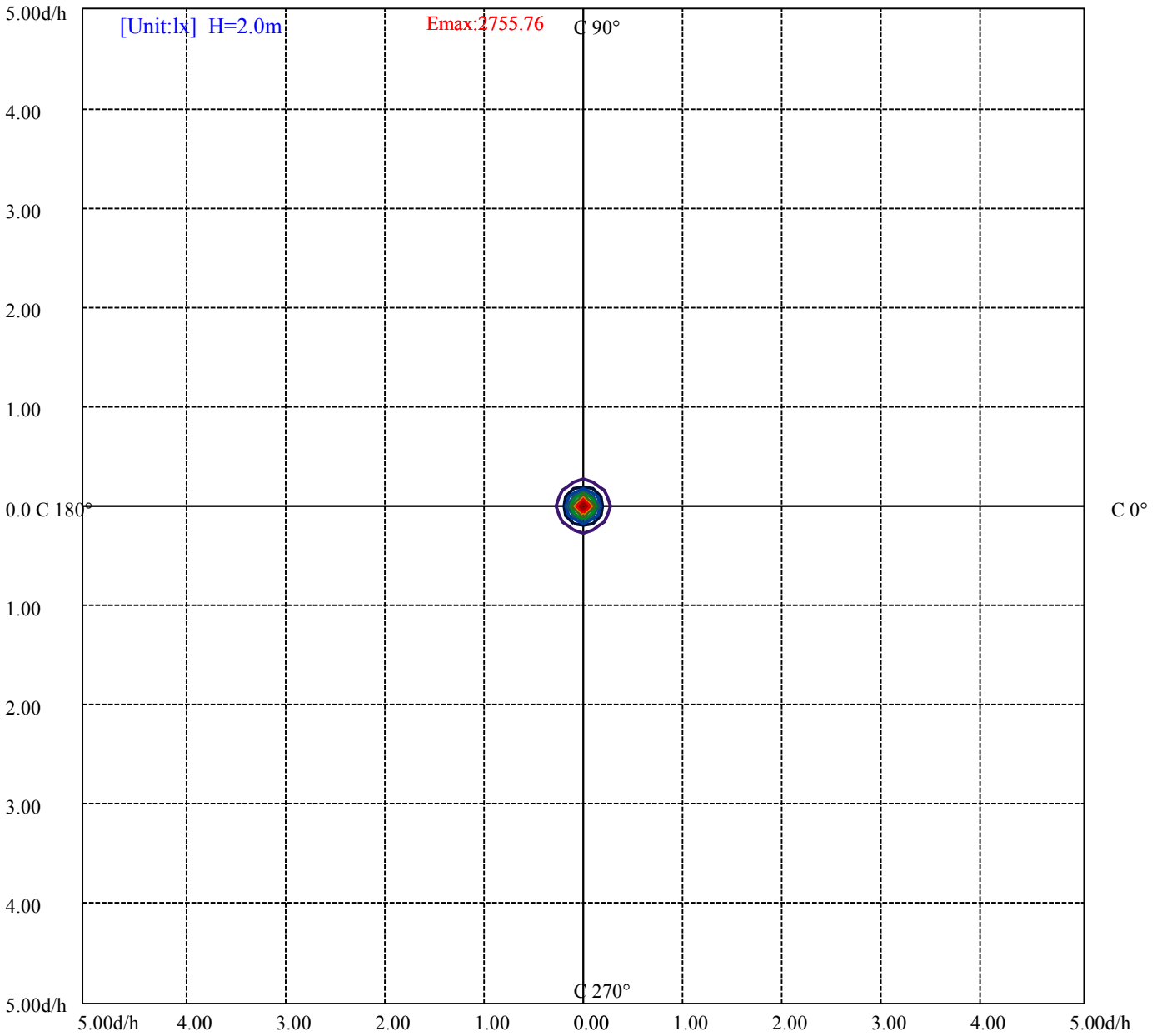
House

[Unit:cd]

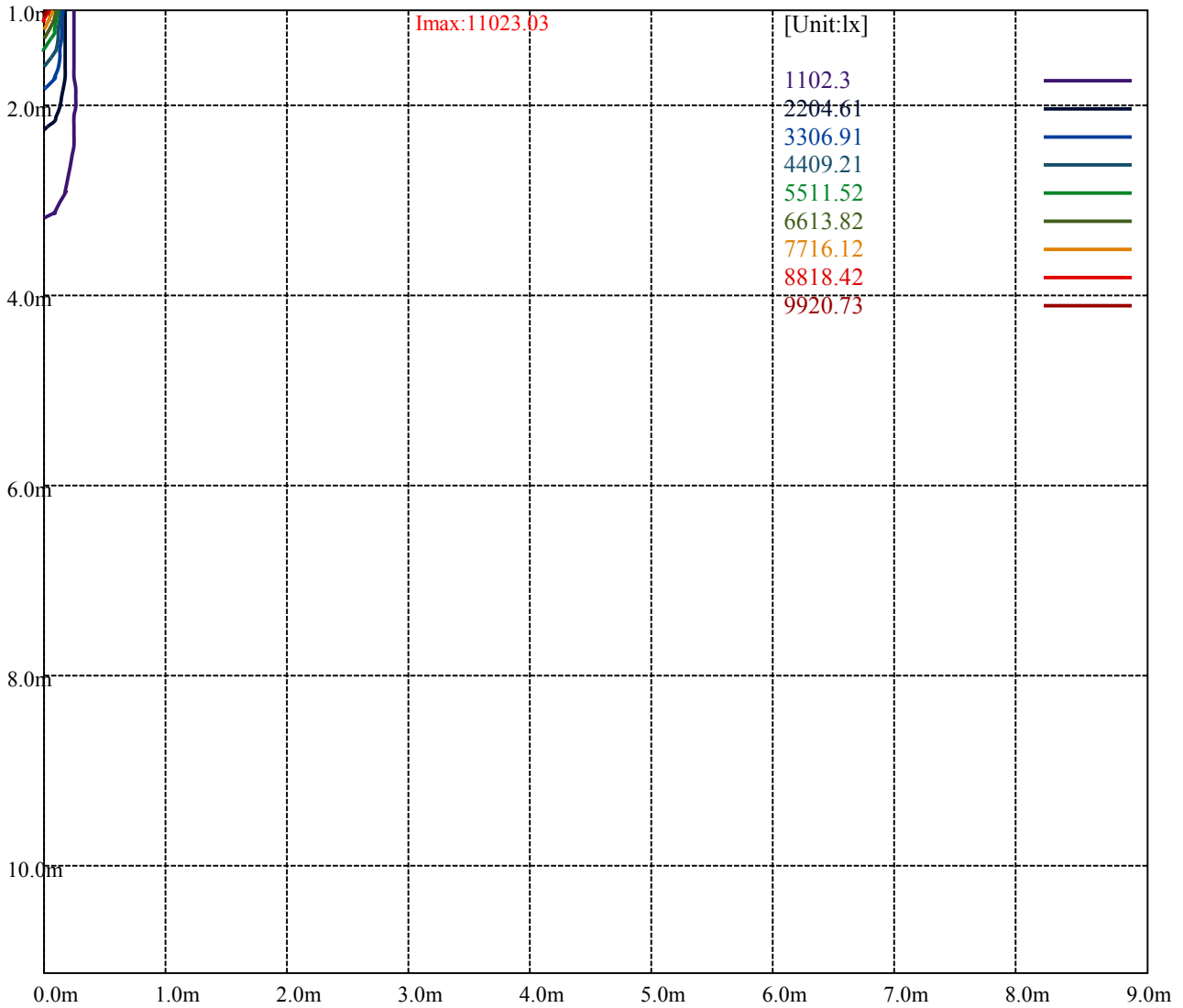
Road

Imax:11023.03

(10%Imax) 1102.3	—
(20%Imax) 2204.61	—
(30%Imax) 3306.91	—
(40%Imax) 4409.21	—
(50%Imax) 5511.52	—
(60%Imax) 6613.82	—
(70%Imax) 7716.12	—
(80%Imax) 8818.42	—
(90%Imax) 9920.73	—



(10%Emax) 275.575	—
(20%Emax) 551.15	—
(30%Emax) 826.7275	—
(40%Emax) 1102.302	—
(50%Emax) 1377.877	—
(60%Emax) 1653.453	—
(70%Emax) 1929.027	—
(80%Emax) 2204.605	—
(90%Emax) 2480.18	—



Luminance Table

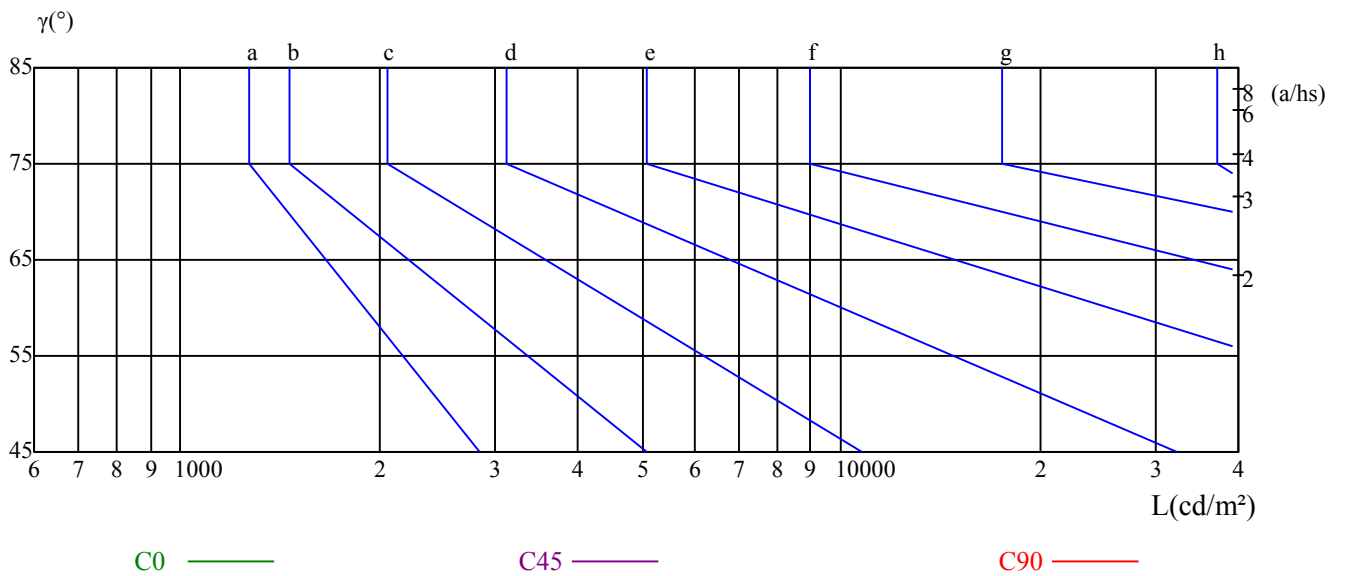
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

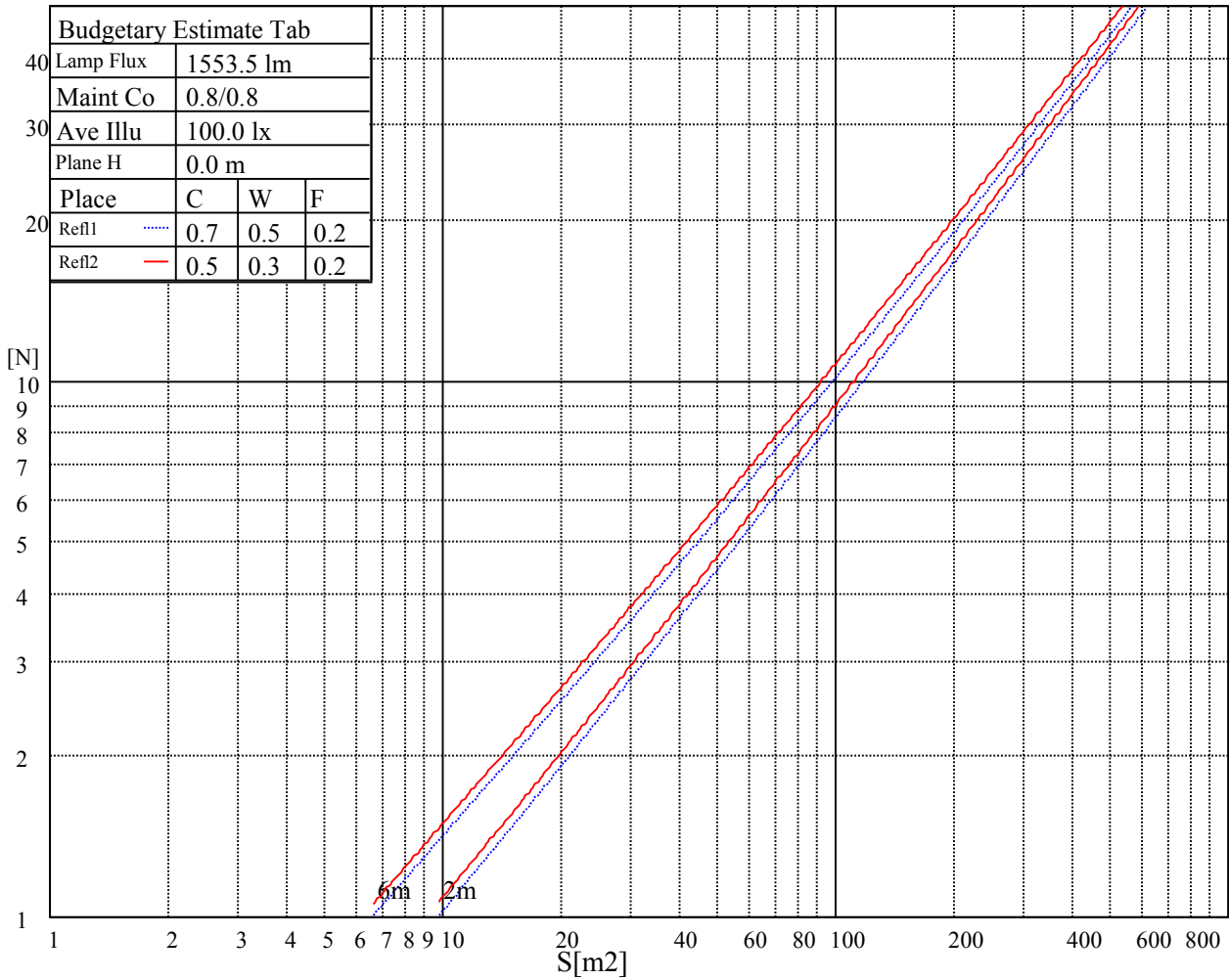
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

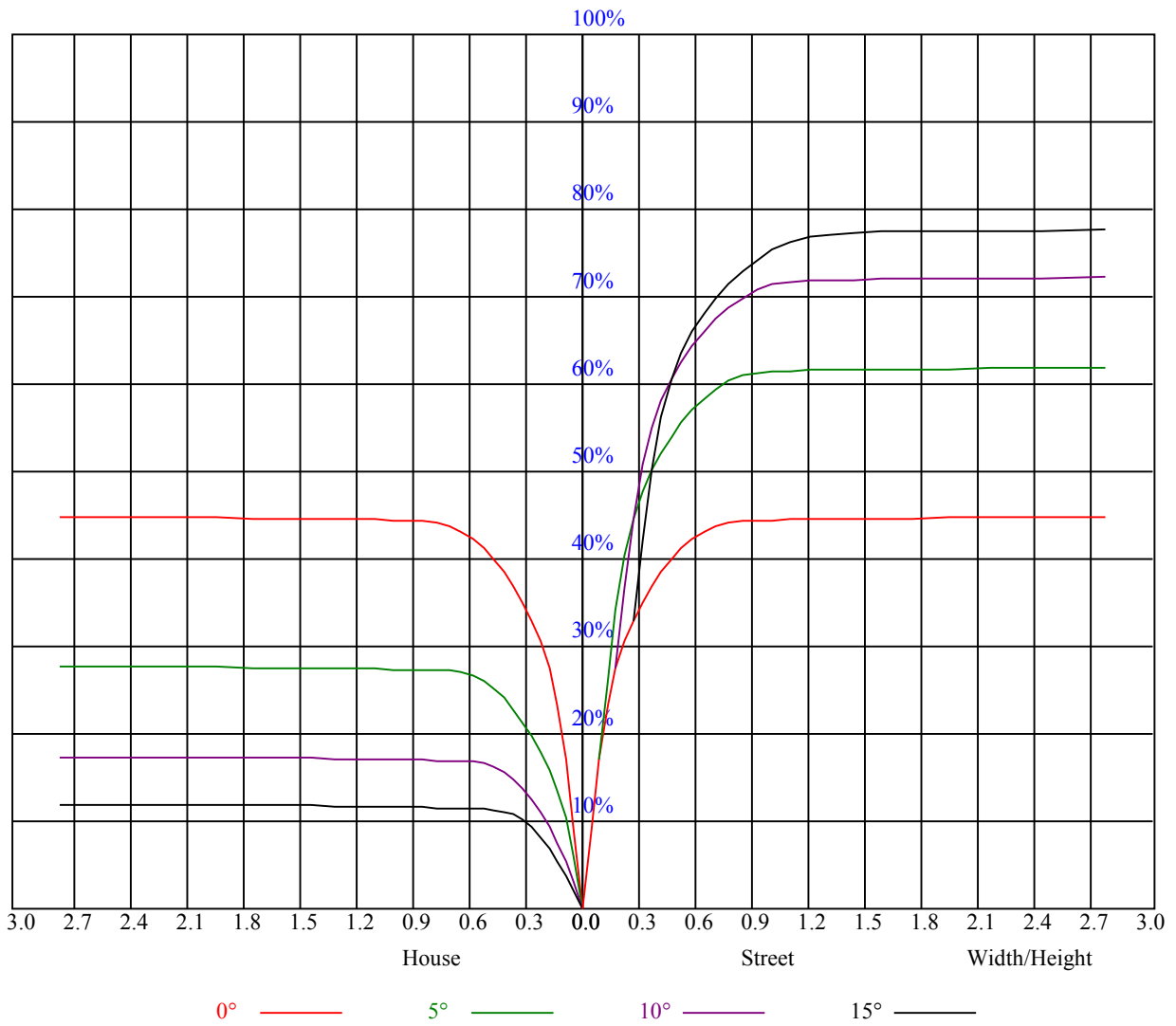
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.07	1.07	1.07	1.05	1.05	1.05	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	1.01	0.99	0.98	0.99	0.98	0.96	0.96	0.94	0.93	0.92	0.91	0.90	0.89	0.89	0.88	0.86
2	0.96	0.93	0.91	0.95	0.92	0.90	0.92	0.90	0.88	0.89	0.87	0.86	0.87	0.85	0.84	0.83
3	0.92	0.88	0.85	0.90	0.87	0.85	0.88	0.85	0.83	0.86	0.84	0.82	0.84	0.82	0.81	0.80
4	0.88	0.84	0.81	0.87	0.83	0.80	0.85	0.82	0.79	0.83	0.81	0.79	0.82	0.79	0.78	0.77
5	0.84	0.80	0.77	0.83	0.80	0.77	0.82	0.79	0.76	0.80	0.78	0.75	0.79	0.77	0.75	0.74
6	0.81	0.77	0.74	0.80	0.76	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.77	0.74	0.72	0.71
7	0.78	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.69
8	0.75	0.71	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.73	0.70	0.68	0.67
9	0.73	0.69	0.67	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.71	0.68	0.66	0.65
10	0.71	0.67	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.69	0.66	0.64	0.63



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	11034.56	11124.56	11044.69	10826.44	10356.75	9600.75	8689.50	7477.31	6319.13
45.0	11044.69	10991.81	10689.19	10209.38	9516.38	8348.06	7223.63	6013.13	4735.69
90.0	11005.88	10694.81	9947.81	9039.94	7948.13	6438.94	5343.75	4047.75	2953.69
135.0	11007.00	10787.06	10145.25	9272.81	8180.44	6651.56	5373.00	4181.63	3134.81
180.0	11034.56	10745.44	10176.75	9018.00	7882.31	6647.06	5194.69	3892.50	3001.50
225.0	11044.69	10959.75	10620.00	9954.00	9065.25	7827.75	6603.75	5218.88	3976.31
270.0	11005.88	11127.94	11095.88	10911.94	10517.63	9641.25	8648.44	7498.13	6132.94
315.0	11007.00	11061.00	10990.69	10761.19	10362.94	9709.31	8683.31	7450.88	6265.69
360.0	11034.56	11124.56	11044.69	10826.44	10356.75	9600.75	8689.50	7477.31	6319.13
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	5049.00	3911.06	3099.94	2494.13	1938.38	1613.81	1368.56	1139.63	1003.50
45.0	3642.75	2877.75	2237.63	1820.81	1490.63	1253.81	1096.31	959.06	860.06
90.0	2398.50	1868.06	1455.19	1122.41	1084.95	948.60	850.95	785.25	736.93
135.0	2377.69	1881.00	1480.50	1230.75	1041.19	914.63	834.75	768.38	720.56
180.0	2260.13	1740.94	1414.13	1111.89	1002.38	884.14	802.58	746.83	701.72
225.0	3101.63	2368.13	1842.19	1502.44	1114.03	1024.43	926.78	843.58	773.49
270.0	4799.81	3752.44	2850.19	2278.69	1806.75	1470.94	1255.50	1079.44	953.44
315.0	4942.69	3765.94	2952.00	2306.25	1889.44	1550.25	1306.13	1116.45	1003.11
360.0	5049.00	3911.06	3099.94	2494.13	1938.38	1613.81	1368.56	1139.63	1003.50
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	903.94	822.94	764.44	724.50	692.44	662.63	642.94	626.06	610.31
45.0	791.44	744.75	702.00	676.13	653.63	633.94	616.50	601.88	586.13
90.0	694.58	670.11	650.25	629.21	613.74	598.84	583.20	568.80	556.65
135.0	686.81	665.44	641.25	623.81	608.06	585.00	571.50	559.13	542.81
180.0	660.43	637.93	619.93	600.86	586.97	573.98	557.94	545.63	534.38
225.0	723.94	690.86	661.73	639.68	622.41	603.23	587.14	570.38	553.78
270.0	872.44	808.88	744.75	704.81	676.13	649.13	631.13	614.81	598.50
315.0	881.33	809.78	755.44	707.06	677.87	654.53	632.53	612.79	597.43
360.0	903.94	822.94	764.44	724.50	692.44	662.63	642.94	626.06	610.31
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	594.00	581.06	568.13	556.31	543.38	531.00	519.19	483.75	431.44
45.0	572.06	560.81	546.75	534.94	520.88	496.69	456.19	399.94	334.13
90.0	542.53	528.92	517.61	494.61	453.99	394.93	330.86	273.15	213.64
135.0	528.75	519.75	507.38	482.63	440.44	373.50	316.69	288.00	181.91
180.0	520.93	512.04	500.74	462.38	422.78	363.83	292.11	243.28	185.29
225.0	539.78	527.23	512.04	502.14	485.21	437.34	388.01	332.78	275.34
270.0	582.19	568.69	553.50	538.88	524.25	510.19	493.31	451.69	394.88
315.0	582.13	569.19	555.75	541.29	529.31	516.71	503.16	472.05	425.25
360.0	594.00	581.06	568.13	556.31	543.38	531.00	519.19	483.75	431.44
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	376.31	316.13	285.75	176.85	122.23	69.30	33.69	24.36	17.83
45.0	290.25	216.56	151.26	93.49	52.76	29.53	19.80	15.02	12.60
90.0	145.24	93.38	50.85	22.84	18.51	14.29	11.48	10.29	9.00
135.0	128.25	80.72	33.98	20.25	16.76	12.43	10.63	9.84	8.78
180.0	113.63	73.35	38.25	20.81	16.59	12.77	10.97	9.84	8.72
225.0	202.33	147.32	96.30	45.34	24.98	20.70	15.53	12.66	11.19
270.0	337.50	286.31	200.87	143.94	91.91	46.35	25.20	20.87	15.75
315.0	355.33	295.65	235.24	161.78	108.51	62.94	30.38	22.11	16.71
360.0	376.31	316.13	285.75	176.85	122.23	69.30	33.69	24.36	17.83

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	13.84	11.70	9.17	8.78	8.49	8.16	7.93	7.71	7.54
45.0	10.01	9.00	8.66	8.33	8.04	7.88	7.59	7.48	7.31
90.0	8.55	8.27	7.99	7.82	7.59	7.43	7.20	7.09	6.92
135.0	8.38	8.16	7.88	7.65	7.48	7.31	7.14	6.98	6.81
180.0	8.44	8.21	7.93	7.71	7.54	7.37	7.20	7.03	6.86
225.0	8.94	8.38	8.04	7.82	7.65	7.43	7.26	7.09	6.98
270.0	13.56	12.04	8.83	8.49	8.21	7.93	7.76	7.59	7.37
315.0	13.16	11.53	8.78	8.44	8.16	7.82	7.59	7.43	7.26
360.0	13.84	11.70	9.17	8.78	8.49	8.16	7.93	7.71	7.54
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	7.37	7.20	6.92	6.81	6.69	6.58	6.47	6.41	6.30
45.0	7.03	6.92	6.81	6.64	6.53	6.47	6.41	6.30	6.24
90.0	6.75	6.69	6.58	6.47	6.36	6.30	6.24	6.19	6.13
135.0	6.69	6.58	6.53	6.41	6.36	6.30	6.19	6.13	6.13
180.0	6.75	6.64	6.58	6.47	6.41	6.30	6.24	6.19	6.19
225.0	6.81	6.69	6.64	6.47	6.41	6.36	6.24	6.19	6.13
270.0	7.20	7.03	6.86	6.69	6.64	6.53	6.41	6.30	6.24
315.0	7.03	6.86	6.81	6.58	6.53	6.41	6.30	6.24	6.19
360.0	7.37	7.20	6.92	6.81	6.69	6.58	6.47	6.41	6.30
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	6.24	6.19	6.13	6.08	6.02	5.96	5.91	5.91	5.91
45.0	6.13	6.08	6.08	6.02	5.96	5.91	5.85	5.85	5.79
90.0	6.02	6.02	5.96	5.91	5.91	5.85	5.85	5.79	5.79
135.0	6.02	6.02	5.96	5.91	5.91	5.85	5.85	5.79	5.74
180.0	6.13	6.08	6.02	6.02	5.96	5.96	5.91	5.91	5.85
225.0	6.08	6.02	5.96	5.91	5.91	5.91	5.85	5.79	5.79
270.0	6.19	6.08	6.08	6.02	5.96	5.96	5.85	5.85	5.79
315.0	6.08	6.08	5.96	5.96	5.91	5.85	5.85	5.79	5.79
360.0	6.24	6.19	6.13	6.08	6.02	5.96	5.91	5.91	5.91
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	5.85	5.85	5.79	5.85	5.79	5.74	5.79	5.74	5.74
45.0	5.74	5.74	5.74	5.68	5.74	5.68	5.68	5.68	5.63
90.0	5.74	5.68	5.74	5.68	5.68	5.68	5.68	5.63	5.63
135.0	5.79	5.74	5.79	5.74	5.68	5.68	5.68	5.68	5.68
180.0	5.85	5.79	5.79	5.79	5.79	5.74	5.74	5.74	5.74
225.0	5.79	5.74	5.74	5.68	5.68	5.63	5.68	5.63	5.63
270.0	5.79	5.79	5.74	5.74	5.74	5.68	5.68	5.68	5.68
315.0	5.74	5.74	5.74	5.74	5.68	5.68	5.63	5.68	5.68
360.0	5.85	5.85	5.79	5.85	5.79	5.74	5.79	5.74	5.74
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.74	5.74	5.74	5.68	5.68	5.68	5.68	5.63	5.63
45.0	5.68	5.63	5.63	5.63	5.63	5.63	5.57	5.57	5.57
90.0	5.63	5.63	5.63	5.63	5.57	5.57	5.57	5.57	5.63
135.0	5.68	5.63	5.63	5.63	5.57	5.57	5.57	5.57	5.57
180.0	5.74	5.74	5.79	5.79	5.79	5.63	5.63	5.63	5.57
225.0	5.63	5.63	5.63	5.63	5.63	5.63	5.57	5.57	5.57
270.0	5.68	5.68	5.63	5.63	5.63	5.63	5.57	5.63	5.57
315.0	5.68	5.63	5.63	5.63	5.57	5.63	5.63	5.63	5.57
360.0	5.74	5.74	5.74	5.68	5.68	5.68	5.68	5.63	5.63

Intensity data(cd)

C/γ(°)	90.0
0.0	5.63
45.0	5.57
90.0	5.57
135.0	5.57
180.0	5.57
225.0	5.57
270.0	5.57
315.0	5.63
360.0	5.63