



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: 3-1547-A3
Luminaire: 99.02.73.172+92.76.365.00
Report No: 200407-B007
Test No: 200407-C007
LampCAT: LUMINUS CXM-14-AC40
Lamp flux(lm): 1553.5
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 33.2300
Current(A): 0.3490
Power (W): 11.5970
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 1411.92
Efficiency(%): 90.89%
Lumens(lm)/Power(W): 121.75
Central intensity(cd): 2595.797
Maximum intensity(cd): 2602.055
Angle of maximum intensity: C=0.0 γ =5.0
Beam Angle(50%Imax): [C0/180]Total=41.3
 [C90/270]Total=41.3
Field angle(10%Imax): [C0/180]Total=71.3
 [C90/270]Total=71.3
Maximum s/h(1/2): C0_180=0.68 C90_270=0.68
Maximum s/h(1/4): C0_180=0.66 C90_270=0.66
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.89%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.644%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2595.797	0.000	0	.000%	.000%
1.0	2595.797	2.484	2.484	.160%	.176%
2.0	2595.234	7.451	9.935	.480%	.704%
3.0	2596.430	12.417	22.351	.799%	1.583%
4.0	2599.383	17.392	39.744	1.120%	2.815%
5.0	2602.055	22.376	62.12	1.440%	4.400%
6.0	2596.922	27.322	89.442	1.759%	6.335%
7.0	2578.289	32.122	121.564	2.068%	8.610%
8.0	2550.797	36.708	158.272	2.363%	11.210%
9.0	2506.430	40.986	199.258	2.638%	14.113%
10.0	2448.141	44.837	244.095	2.886%	17.288%
11.0	2384.719	48.290	292.386	3.108%	20.708%
12.0	2308.078	51.299	343.685	3.302%	24.342%
13.0	2215.336	53.682	397.366	3.456%	28.144%
14.0	2111.484	55.383	452.749	3.565%	32.066%
15.0	1998.281	56.421	509.17	3.632%	36.062%
16.0	1873.688	56.735	565.905	3.652%	40.081%
17.0	1752.961	56.477	622.381	3.635%	44.081%
18.0	1624.781	55.692	678.073	3.585%	48.025%
19.0	1499.836	54.362	732.435	3.499%	51.875%
20.0	1377.127	52.656	785.091	3.390%	55.605%
21.0	1257.532	50.591	835.682	3.257%	59.188%
22.0	1146.248	48.305	883.987	3.109%	62.609%
23.0	1052.648	46.139	930.126	2.970%	65.877%
24.0	961.453	44.035	974.162	2.835%	68.996%
25.0	868.971	41.620	1015.781	2.679%	71.944%
26.0	796.978	39.325	1055.106	2.531%	74.729%
27.0	728.016	37.309	1092.416	2.402%	77.371%
28.0	667.491	35.331	1127.747	2.274%	79.874%
29.0	621.893	33.734	1161.481	2.171%	82.263%
30.0	578.953	32.423	1193.903	2.087%	84.559%
31.0	529.024	30.833	1224.737	1.985%	86.743%
32.0	479.482	28.893	1253.629	1.860%	88.789%
33.0	427.964	26.734	1280.363	1.721%	90.683%
34.0	366.314	24.037	1304.4	1.547%	92.385%
35.0	299.067	20.664	1325.064	1.330%	93.849%
36.0	240.553	17.182	1342.246	1.106%	95.066%
37.0	177.497	13.634	1355.881	.878%	96.031%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	116.508	9.813	1365.694	.632%	96.726%
39.0	73.371	6.481	1372.175	.417%	97.185%
40.0	42.919	4.056	1376.231	.261%	97.473%
41.0	24.307	2.394	1378.625	.154%	97.642%
42.0	16.144	1.470	1380.094	.095%	97.746%
43.0	12.206	1.050	1381.145	.068%	97.821%
44.0	10.287	0.849	1381.994	.055%	97.881%
45.0	9.499	0.760	1382.754	.049%	97.935%
46.0	8.986	0.723	1383.477	.047%	97.986%
47.0	8.655	0.702	1384.178	.045%	98.036%
48.0	8.388	0.689	1384.867	.044%	98.084%
49.0	8.156	0.679	1385.547	.044%	98.132%
50.0	7.966	0.672	1386.219	.043%	98.180%
51.0	7.798	0.667	1386.886	.043%	98.227%
52.0	7.622	0.662	1387.548	.043%	98.274%
53.0	7.502	0.658	1388.206	.042%	98.321%
54.0	7.390	0.656	1388.862	.042%	98.367%
55.0	7.263	0.654	1389.516	.042%	98.414%
56.0	7.158	0.652	1390.168	.042%	98.460%
57.0	7.066	0.650	1390.818	.042%	98.506%
58.0	6.968	0.649	1391.467	.042%	98.552%
59.0	6.891	0.648	1392.115	.042%	98.598%
60.0	6.806	0.647	1392.762	.042%	98.643%
61.0	6.715	0.645	1393.407	.042%	98.689%
62.0	6.645	0.644	1394.051	.041%	98.735%
63.0	6.588	0.644	1394.695	.041%	98.780%
64.0	6.539	0.644	1395.339	.041%	98.826%
65.0	6.476	0.644	1395.983	.041%	98.872%
66.0	6.413	0.643	1396.626	.041%	98.917%
67.0	6.370	0.643	1397.269	.041%	98.963%
68.0	6.307	0.642	1397.911	.041%	99.008%
69.0	6.265	0.641	1398.552	.041%	99.054%
70.0	6.216	0.641	1399.193	.041%	99.099%
71.0	6.188	0.641	1399.834	.041%	99.144%
72.0	6.152	0.642	1400.476	.041%	99.190%
73.0	6.103	0.641	1401.117	.041%	99.235%
74.0	6.061	0.639	1401.756	.041%	99.280%
75.0	6.033	0.639	1402.395	.041%	99.326%

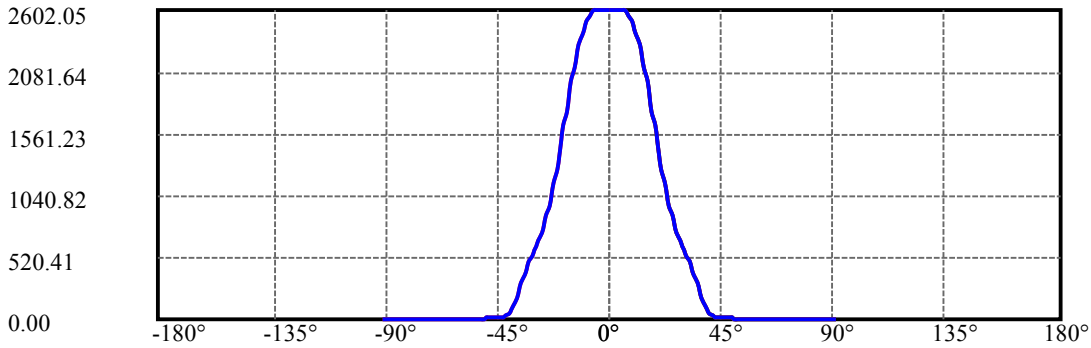
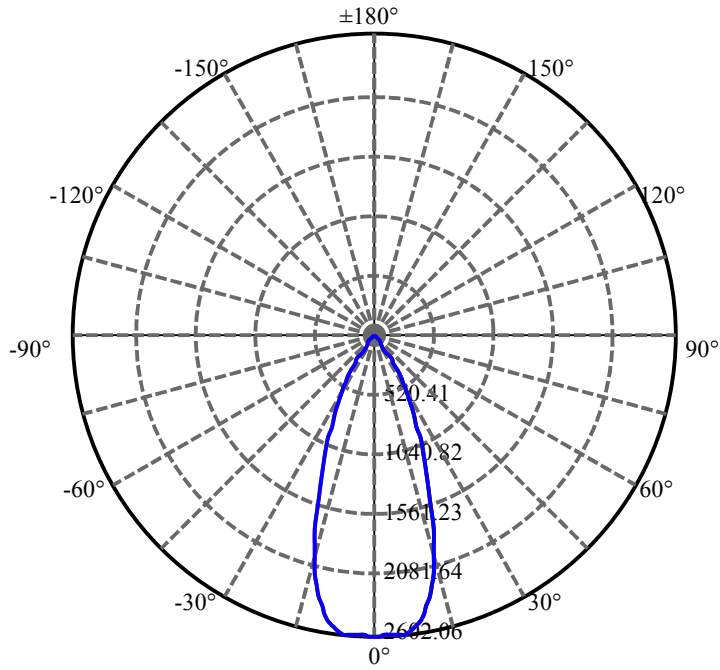
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	6.005	0.639	1403.034	.041%	99.371%
77.0	5.977	0.639	1403.673	.041%	99.416%
78.0	5.941	0.638	1404.311	.041%	99.461%
79.0	5.927	0.638	1404.949	.041%	99.507%
80.0	5.892	0.637	1405.586	.041%	99.552%
81.0	5.885	0.637	1406.223	.041%	99.597%
82.0	5.857	0.637	1406.86	.041%	99.642%
83.0	5.843	0.636	1407.496	.041%	99.687%
84.0	5.822	0.635	1408.131	.041%	99.732%
85.0	5.794	0.634	1408.765	.041%	99.777%
86.0	5.780	0.633	1409.398	.041%	99.822%
87.0	5.766	0.632	1410.03	.041%	99.866%
88.0	5.738	0.630	1410.66	.041%	99.911%
89.0	5.723	0.628	1411.288	.040%	99.956%
90.0	5.716	0.627	1411.915	.040%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1193.90	76.85%	84.56%
0-40	1376.23	88.59%	97.47%
0-60	1392.76	89.65%	98.64%
0-90	1411.29	90.85%	99.96%
0-120	1411.29	90.85%	99.96%
0-180	1411.92	90.89%	100.00%
60-90	19.17	1.23%	1.36%
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%
0-28.05	1129.53	72.71%	80.00%

ZONAL LUMEN SUMMARY

0-10	244.10
10-20	541.00
20-30	408.81
30-40	182.33
40-50	9.99
50-60	6.54
60-70	6.43
70-80	6.39
80-90	5.70
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: —————

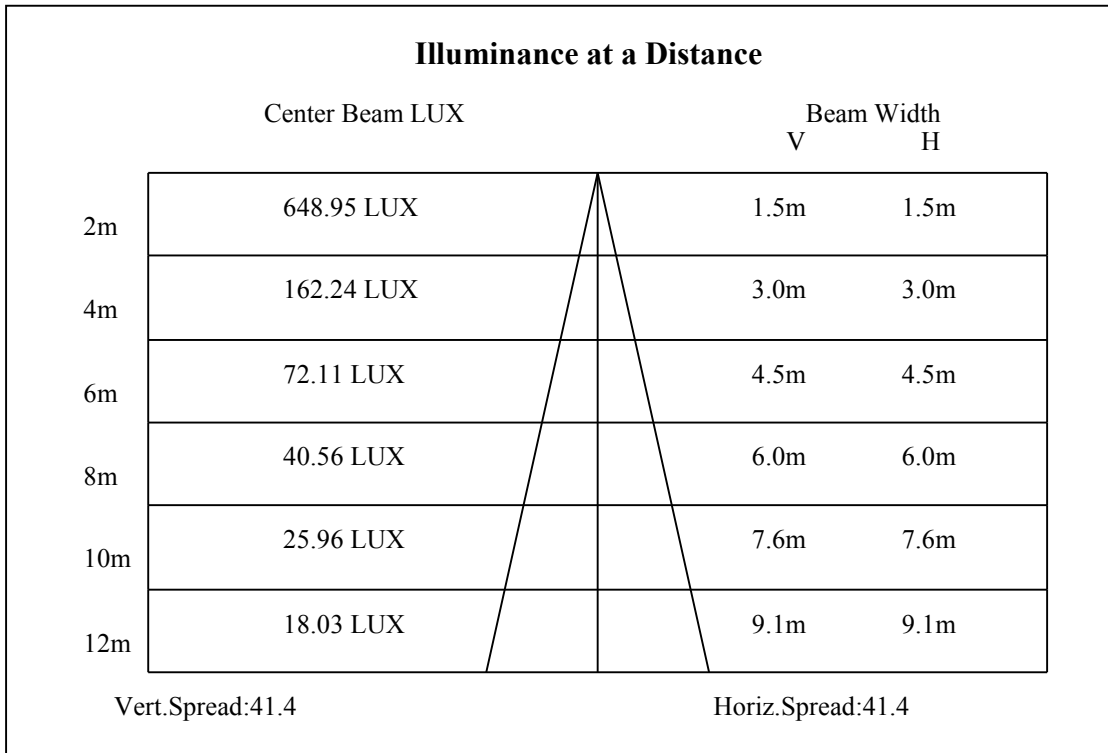
C90/C270: —————

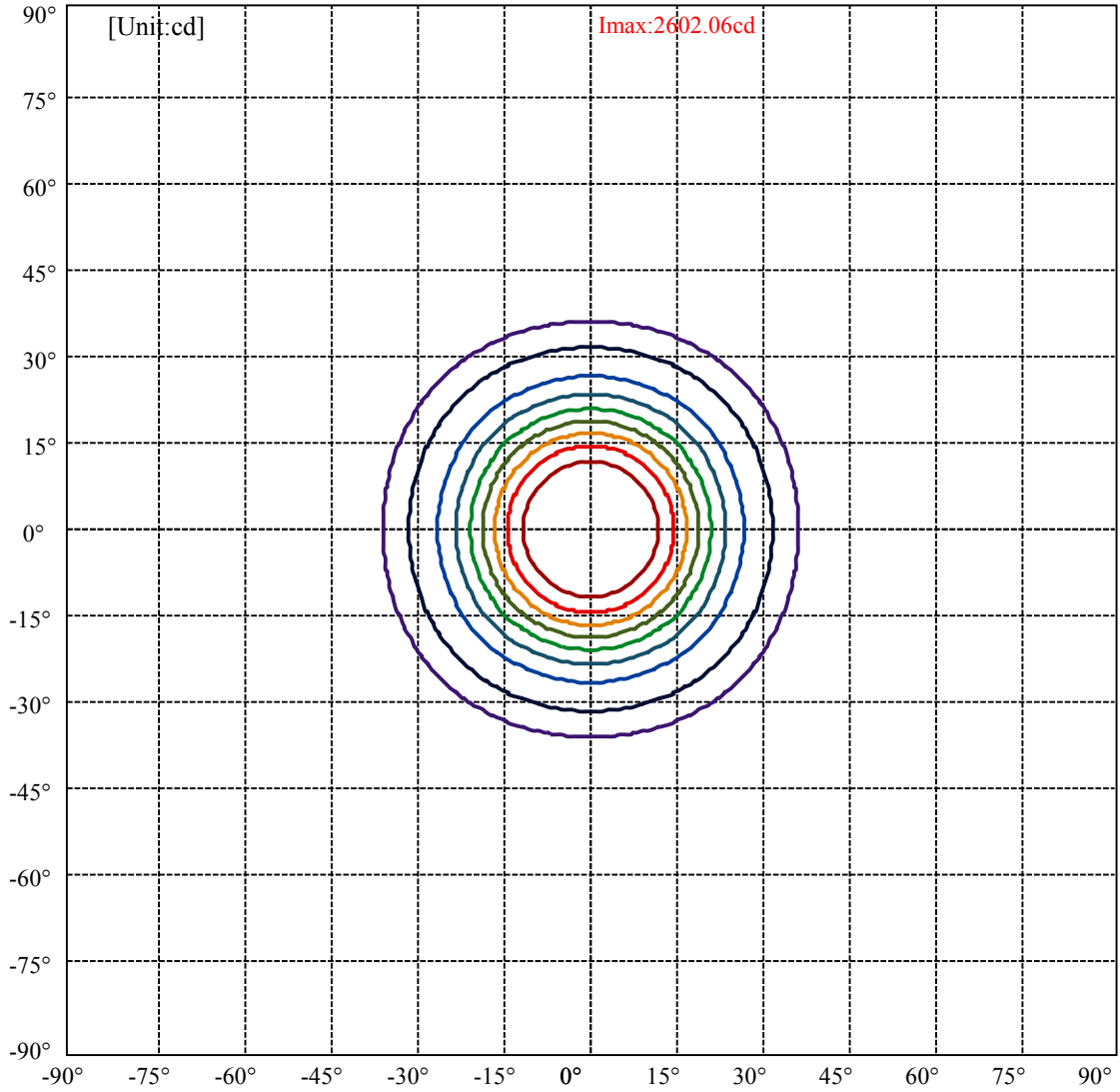
Field angle(10%Imax):C0/180Left:40.7 Right:30.7

:C90/270Left:40.7 Right:30.7

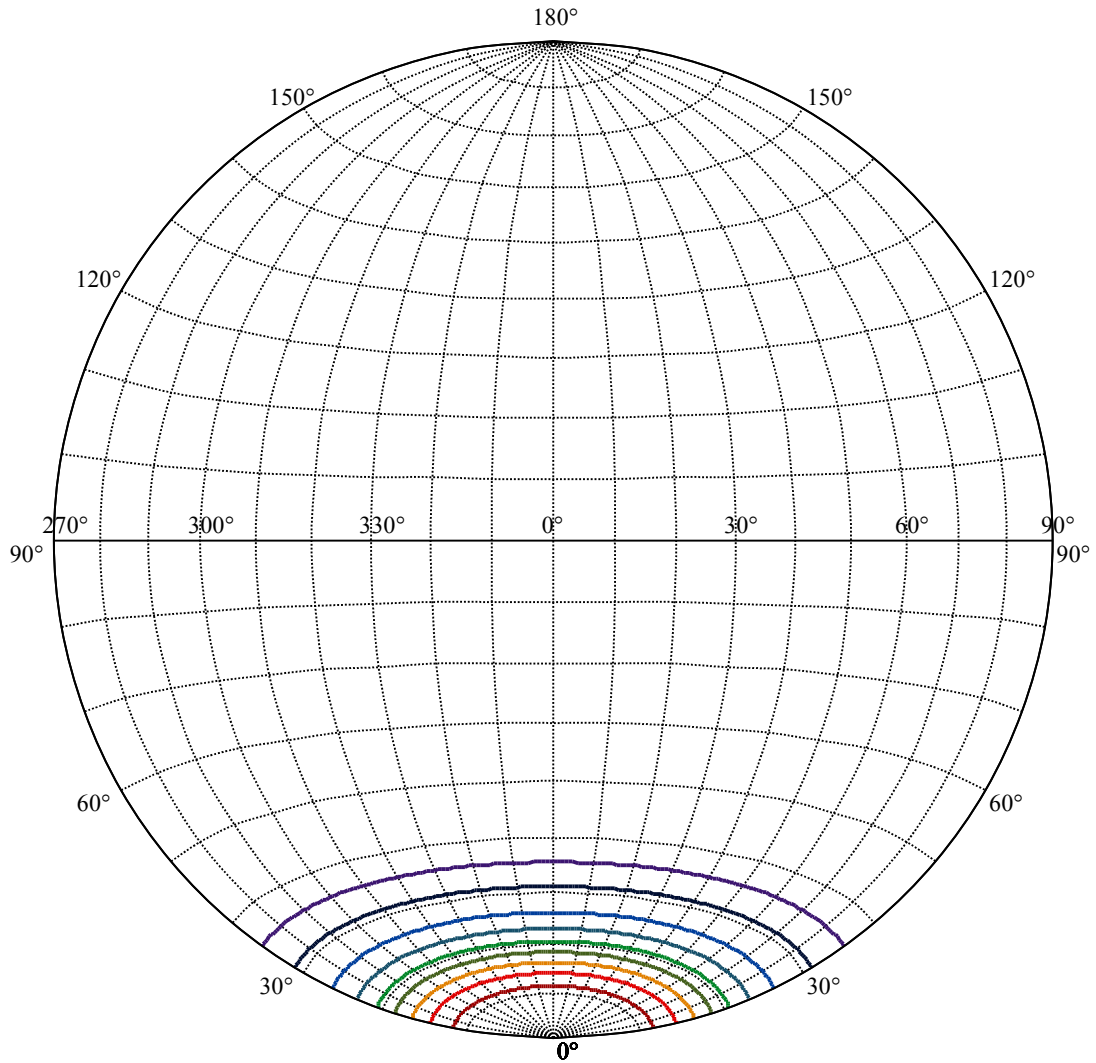
Beam Angle(50%Imax):C0/180Left:25.6 Right:15.6

:C90/270Left:25.6 Right:15.6





(10%Imax) 260.205	—
(20%Imax) 520.411	—
(30%Imax) 780.616	—
(40%Imax) 1040.82	—
(50%Imax) 1301.03	—
(60%Imax) 1561.23	—
(70%Imax) 1821.44	—
(80%Imax) 2081.64	—
(90%Imax) 2341.85	—



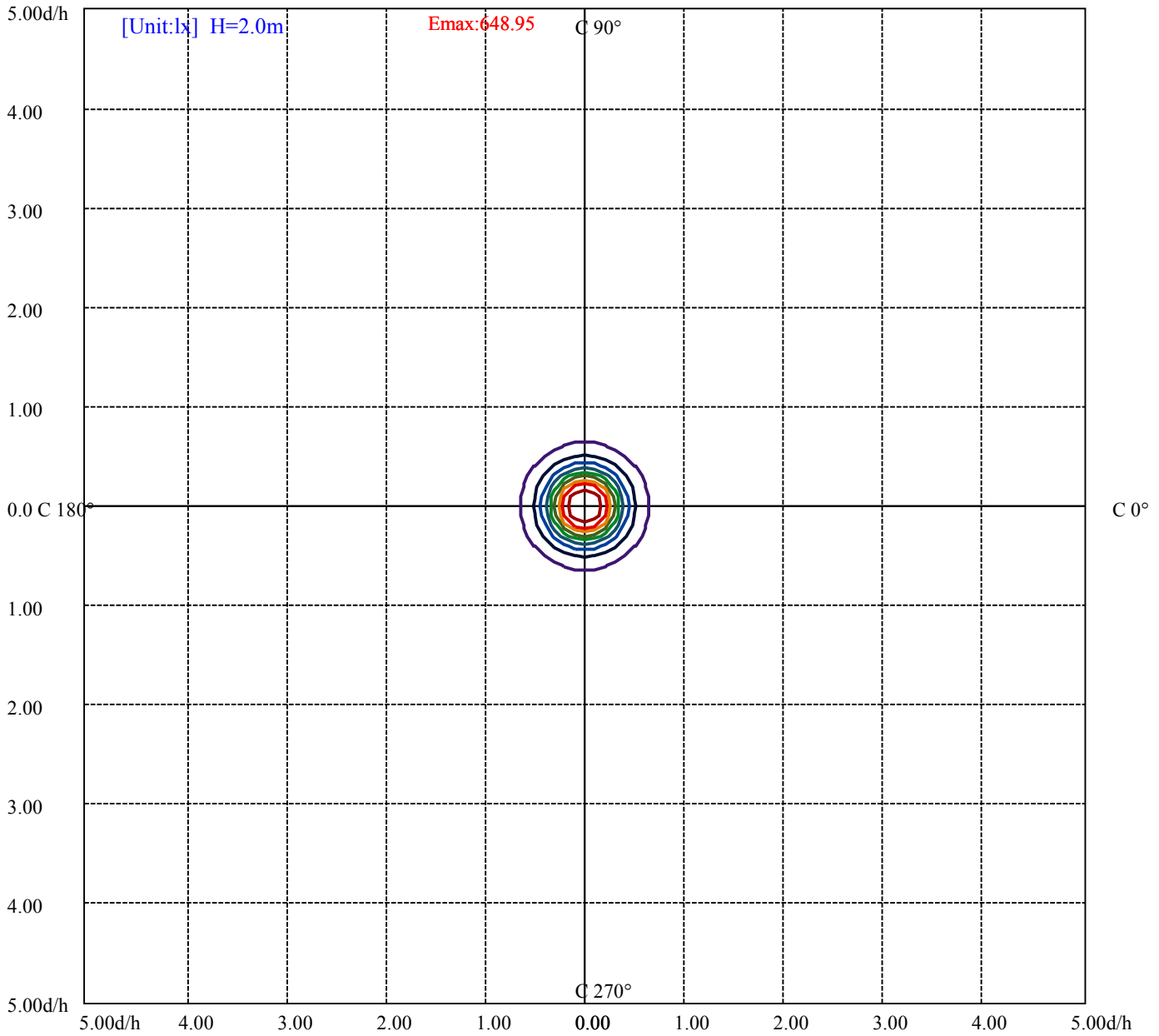
House

[Unit:cd]

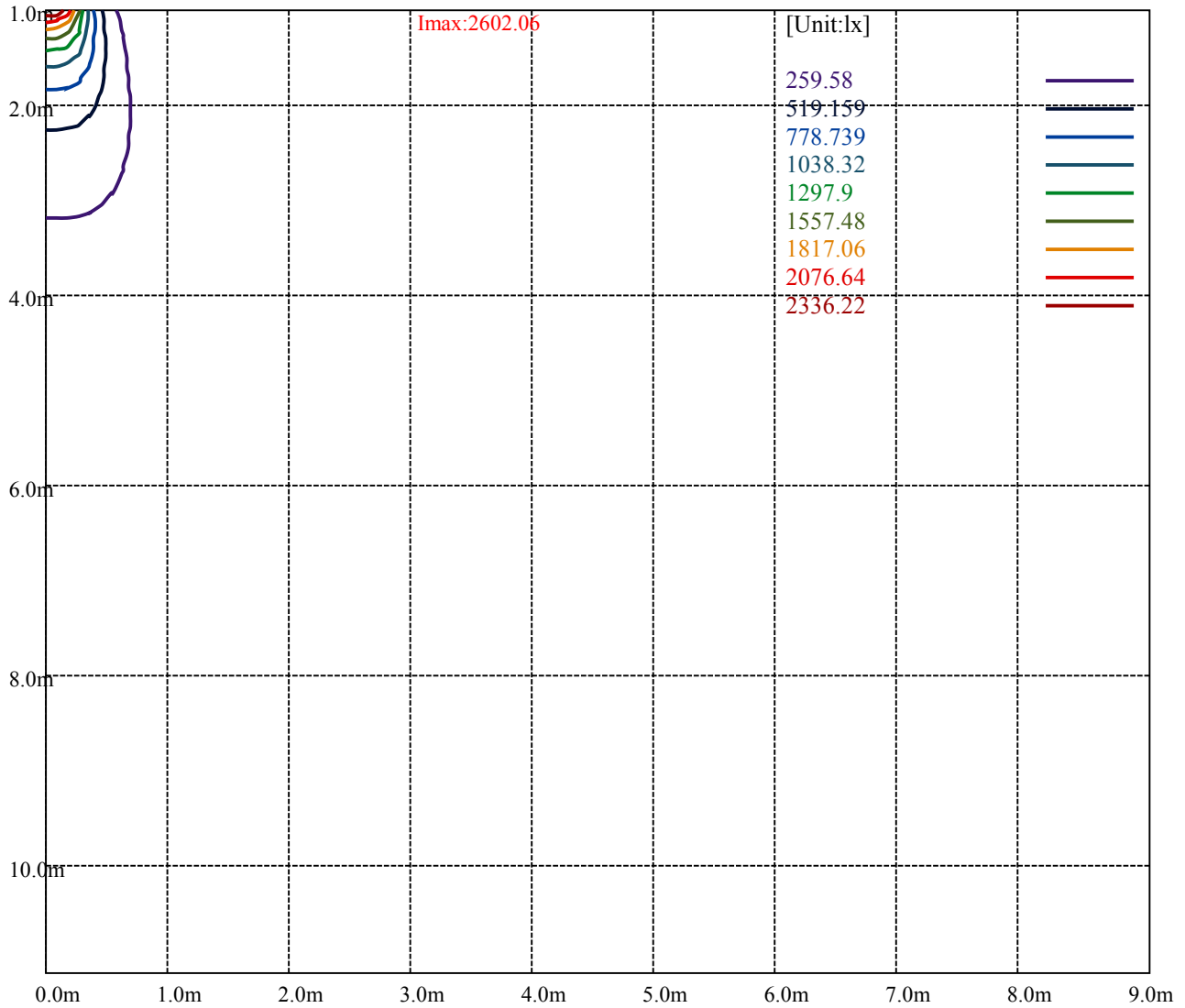
Road

Imax:2602.06

(10%Imax) 260.205	—
(20%Imax) 520.411	—
(30%Imax) 780.616	—
(40%Imax) 1040.82	—
(50%Imax) 1301.03	—
(60%Imax) 1561.23	—
(70%Imax) 1821.44	—
(80%Imax) 2081.64	—
(90%Imax) 2341.85	—



(10%Emax) 64.895	—
(20%Emax) 129.7897	—
(30%Emax) 194.6848	—
(40%Emax) 259.58	—
(50%Emax) 324.475	—
(60%Emax) 389.37	—
(70%Emax) 454.265	—
(80%Emax) 519.16	—
(90%Emax) 584.055	—



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

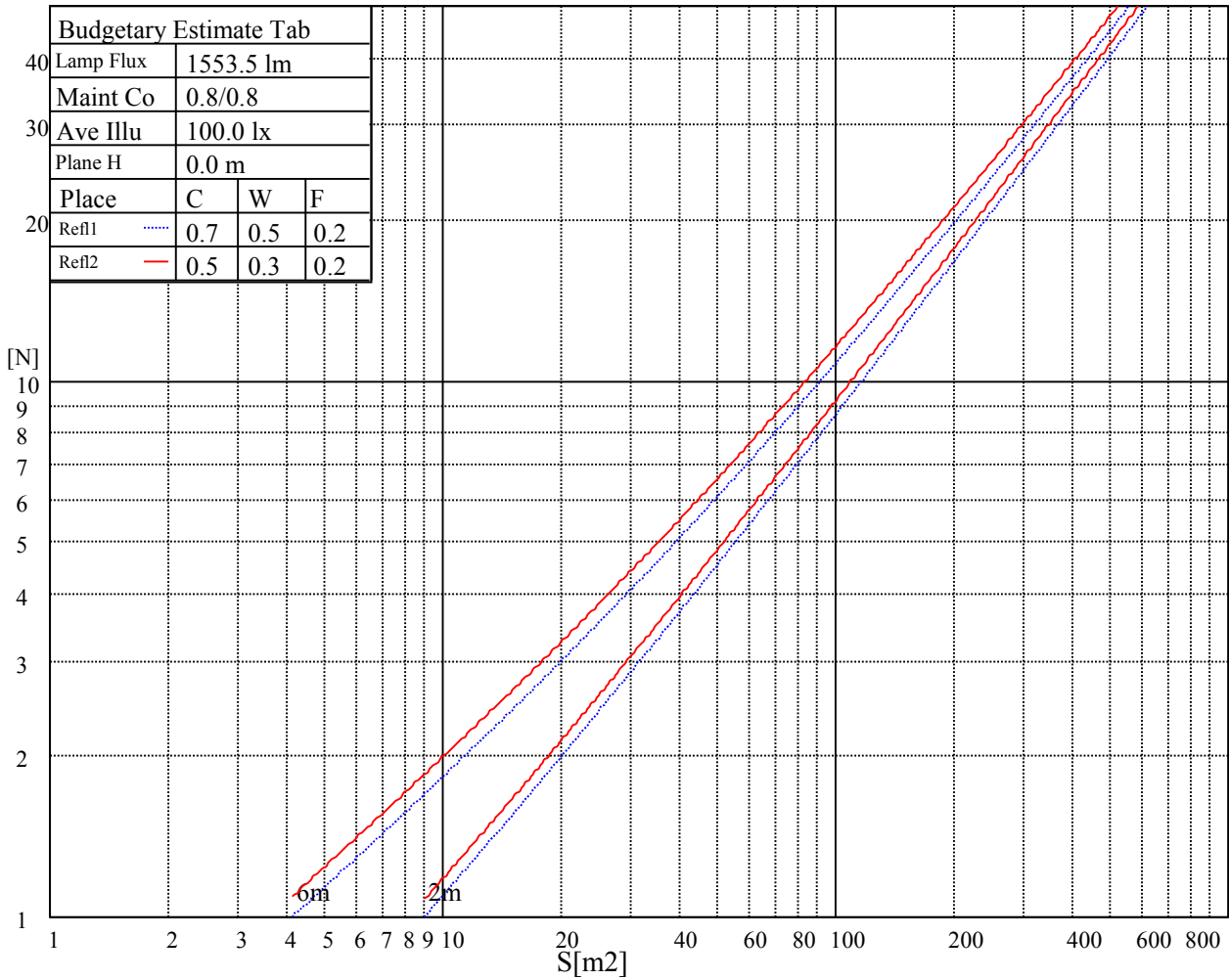
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

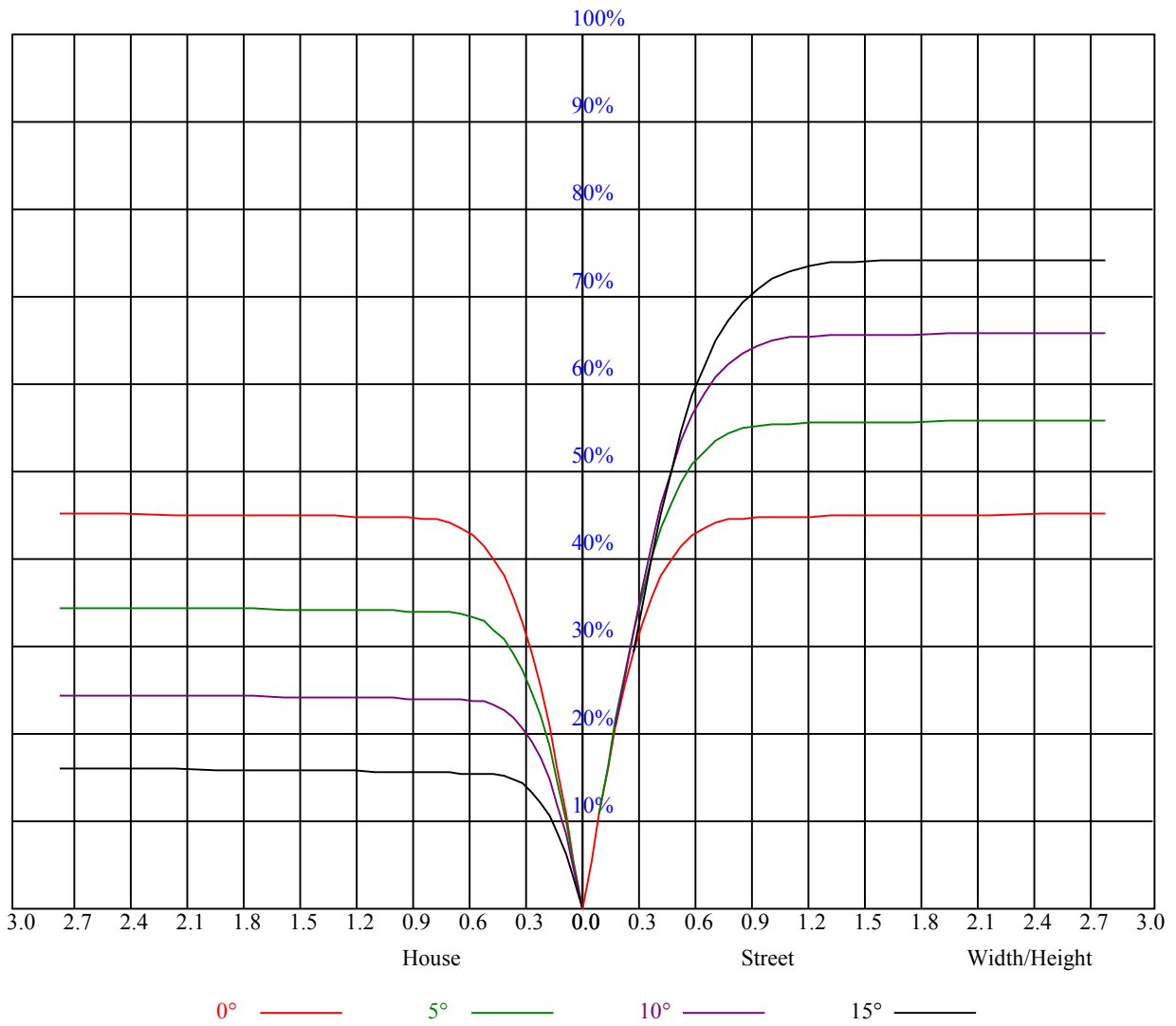
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.08	1.08	1.08	1.06	1.06	1.06	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.01	0.99	0.97	0.99	0.97	0.96	0.96	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86
2	0.95	0.92	0.89	0.94	0.91	0.88	0.91	0.88	0.86	0.88	0.86	0.84	0.86	0.84	0.83	0.81
3	0.90	0.86	0.82	0.88	0.85	0.82	0.86	0.83	0.81	0.84	0.81	0.79	0.82	0.80	0.78	0.77
4	0.85	0.80	0.77	0.84	0.80	0.77	0.82	0.79	0.76	0.80	0.77	0.75	0.79	0.76	0.74	0.73
5	0.81	0.76	0.72	0.80	0.75	0.72	0.78	0.74	0.72	0.77	0.73	0.71	0.75	0.73	0.70	0.69
6	0.77	0.72	0.68	0.76	0.71	0.68	0.75	0.71	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.66
7	0.73	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.64	0.63
8	0.70	0.65	0.62	0.69	0.65	0.61	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.60
9	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.58	0.57
10	0.64	0.59	0.56	0.63	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.56	0.54



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	2593.69	2607.19	2620.13	2638.13	2656.13	2684.81	2709.00	2720.25	2715.75
45.0	2592.56	2607.75	2621.25	2631.94	2649.38	2663.44	2667.94	2654.44	2624.63
90.0	2598.19	2598.19	2597.63	2600.44	2602.69	2593.13	2566.69	2518.88	2469.38
135.0	2598.75	2590.88	2577.38	2569.50	2560.50	2547.56	2520.56	2484.56	2439.00
180.0	2593.69	2578.50	2565.56	2550.38	2535.75	2522.81	2500.31	2451.94	2412.00
225.0	2592.56	2584.69	2576.81	2568.38	2559.38	2548.69	2530.69	2506.50	2471.63
270.0	2598.19	2593.69	2589.75	2588.63	2589.19	2594.25	2598.19	2598.75	2586.38
315.0	2598.75	2605.50	2613.38	2624.06	2642.06	2661.75	2682.00	2691.00	2687.63
360.0	2593.69	2607.19	2620.13	2638.13	2656.13	2684.81	2709.00	2720.25	2715.75
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2689.88	2647.69	2592.00	2520.56	2437.88	2349.00	2226.94	2093.63	1970.44
45.0	2570.63	2502.00	2434.50	2355.75	2239.88	2131.88	2014.88	1864.13	1740.94
90.0	2409.75	2329.88	2237.06	2143.13	2022.19	1891.69	1774.13	1643.06	1523.25
135.0	2374.31	2310.19	2234.81	2139.75	2031.19	1923.19	1794.38	1670.06	1561.50
180.0	2353.50	2280.38	2219.06	2139.19	2050.88	1927.13	1819.69	1708.88	1569.94
225.0	2418.19	2369.81	2314.13	2233.13	2162.25	2060.44	1935.56	1844.44	1720.13
270.0	2564.44	2519.44	2472.75	2417.63	2338.31	2264.63	2174.63	2045.81	1937.25
315.0	2670.75	2625.75	2573.44	2515.50	2440.13	2343.94	2246.06	2119.50	2000.25
360.0	2689.88	2647.69	2592.00	2520.56	2437.88	2349.00	2226.94	2093.63	1970.44
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1826.44	1695.38	1564.88	1408.50	1297.69	1190.25	1060.31	965.81	880.88
45.0	1606.50	1467.00	1334.81	1227.38	1110.94	1006.88	906.19	822.94	760.50
90.0	1387.13	1258.31	1111.95	1052.94	944.38	868.22	801.00	727.31	676.52
135.0	1446.19	1326.38	1207.69	1092.38	1002.38	921.38	840.94	766.69	705.94
180.0	1463.63	1364.63	1254.38	1113.19	1028.14	939.26	861.47	783.62	714.99
225.0	1581.75	1488.94	1391.06	1259.44	1117.41	1068.58	976.56	874.74	801.79
270.0	1824.19	1678.50	1559.81	1449.00	1334.81	1225.13	1126.69	1016.44	925.88
315.0	1862.44	1719.56	1592.44	1457.44	1334.25	1201.50	1118.48	994.22	909.34
360.0	1826.44	1695.38	1564.88	1408.50	1297.69	1190.25	1060.31	965.81	880.88
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	787.50	726.19	675.56	626.06	586.69	558.56	515.25	462.94	396.56
45.0	700.31	650.81	612.56	579.38	541.13	495.00	438.75	371.25	301.50
90.0	631.13	588.26	553.78	517.50	459.68	400.05	331.88	264.54	203.79
135.0	642.38	600.19	565.31	529.88	452.25	392.06	338.63	285.19	191.53
180.0	661.67	608.51	564.58	520.71	466.48	392.68	330.98	270.96	204.41
225.0	735.69	663.69	615.43	575.66	536.68	480.21	422.33	353.25	291.49
270.0	833.63	754.31	695.25	639.00	592.31	558.56	524.25	462.94	404.44
315.0	831.83	747.96	692.66	643.44	596.98	558.73	521.66	459.45	398.81
360.0	787.50	726.19	675.56	626.06	586.69	558.56	515.25	462.94	396.56
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	325.69	285.75	188.49	123.86	75.21	35.89	22.33	15.30	11.59
45.0	285.75	172.07	110.08	63.73	29.76	20.81	14.34	11.36	10.52
90.0	140.51	82.01	43.59	23.46	17.04	12.60	10.80	10.01	9.34
135.0	135.84	82.13	38.03	21.94	16.76	12.43	10.41	9.79	9.23
180.0	142.14	91.13	46.86	22.33	17.78	12.32	10.24	9.73	9.23
225.0	223.93	160.71	107.38	56.31	26.21	19.63	13.89	10.07	9.51
270.0	342.56	288.56	200.76	142.88	83.31	41.06	23.63	16.82	11.70
315.0	327.99	257.63	196.88	132.47	77.29	39.71	23.51	14.57	11.19
360.0	325.69	285.75	188.49	123.86	75.21	35.89	22.33	15.30	11.59

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	9.56	9.11	8.78	8.49	8.27	8.10	7.88	7.76
45.0	9.79	9.23	8.89	8.61	8.38	8.16	7.99	7.76	7.65
90.0	8.94	8.66	8.38	8.21	7.99	7.88	7.65	7.54	7.37
135.0	8.83	8.55	8.38	8.16	7.93	7.76	7.65	7.48	7.37
180.0	8.89	8.61	8.33	8.10	7.93	7.76	7.59	7.48	7.37
225.0	9.06	8.72	8.38	8.16	7.99	7.82	7.65	7.48	7.37
270.0	9.84	9.28	8.89	8.55	8.27	8.04	7.88	7.65	7.54
315.0	10.18	9.28	8.89	8.55	8.27	8.04	7.88	7.71	7.59
360.0	10.46	9.56	9.11	8.78	8.49	8.27	8.10	7.88	7.76
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	7.65	7.48	7.37	7.26	7.14	7.09	6.98	6.86	6.81
45.0	7.54	7.37	7.26	7.14	7.03	6.98	6.86	6.75	6.69
90.0	7.31	7.20	7.09	7.03	6.92	6.75	6.75	6.69	6.58
135.0	7.26	7.14	7.09	6.98	6.92	6.86	6.75	6.64	6.64
180.0	7.26	7.14	7.03	6.98	6.86	6.86	6.75	6.64	6.58
225.0	7.26	7.14	7.03	6.92	6.86	6.75	6.69	6.64	6.53
270.0	7.43	7.31	7.20	7.14	7.03	6.92	6.81	6.75	6.64
315.0	7.43	7.31	7.20	7.09	6.98	6.92	6.86	6.75	6.69
360.0	7.65	7.48	7.37	7.26	7.14	7.09	6.98	6.86	6.81
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	6.69	6.64	6.58	6.53	6.47	6.41	6.36	6.30	6.30
45.0	6.64	6.53	6.47	6.41	6.36	6.30	6.24	6.19	6.13
90.0	6.53	6.47	6.41	6.36	6.30	6.24	6.24	6.13	6.13
135.0	6.58	6.53	6.47	6.41	6.36	6.30	6.24	6.24	6.19
180.0	6.53	6.53	6.47	6.41	6.41	6.30	6.30	6.24	6.24
225.0	6.53	6.47	6.41	6.36	6.30	6.24	6.19	6.13	6.13
270.0	6.58	6.58	6.47	6.41	6.36	6.30	6.30	6.24	6.19
315.0	6.64	6.58	6.53	6.41	6.41	6.36	6.24	6.24	6.19
360.0	6.69	6.64	6.58	6.53	6.47	6.41	6.36	6.30	6.30
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	6.24	6.19	6.08	6.08	6.08	6.02	6.02	5.96	5.96
45.0	6.13	6.08	6.08	6.02	5.96	5.91	5.91	5.91	5.85
90.0	6.13	6.08	6.02	6.02	5.96	5.96	5.91	5.91	5.85
135.0	6.19	6.13	6.08	6.02	6.08	6.02	5.96	5.96	5.91
180.0	6.19	6.08	6.08	6.08	6.02	6.02	5.96	5.91	5.91
225.0	6.08	6.02	5.96	5.96	5.91	5.91	5.85	5.85	5.79
270.0	6.13	6.13	6.13	6.08	6.02	5.96	5.96	5.96	5.91
315.0	6.13	6.13	6.08	6.02	6.02	6.02	5.96	5.96	5.96
360.0	6.24	6.19	6.08	6.08	6.08	6.02	6.02	5.96	5.96
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.96	5.91	5.91	5.85	5.85	5.85	5.85	5.79	5.74
45.0	5.85	5.79	5.79	5.79	5.74	5.74	5.74	5.63	5.68
90.0	5.85	5.79	5.79	5.74	5.74	5.74	5.74	5.74	5.68
135.0	5.91	5.91	5.85	5.85	5.79	5.79	5.74	5.74	5.74
180.0	5.91	5.91	5.85	5.85	5.85	5.79	5.79	5.79	5.74
225.0	5.79	5.79	5.79	5.74	5.74	5.74	5.74	5.68	5.68
270.0	5.91	5.85	5.85	5.85	5.79	5.79	5.74	5.74	5.74
315.0	5.91	5.91	5.91	5.91	5.85	5.79	5.79	5.79	5.79
360.0	5.96	5.91	5.91	5.85	5.85	5.85	5.85	5.79	5.74

Intensity data(cd)

C/ γ (°)	90.0
0.0	5.74
45.0	5.63
90.0	5.68
135.0	5.74
180.0	5.79
225.0	5.68
270.0	5.74
315.0	5.74
360.0	5.74