



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: 3-1550-A3
Luminaire: 99.02.73.172+92.76.365.00
Report No: 200407-B011
Test No: 200407-C011
LampCAT: LUMINUS CXM-14-AC40
Lamp flux(lm): 1553.5
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 33.4200
Current(A): 0.3470
Power (W): 11.5970
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 1384.49
Efficiency(%): 89.12%
Lumens(lm)/Power(W): 119.38
Central intensity(cd): 2350.828
Maximum intensity(cd): 2350.828
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=43.9
 [C90/270]Total=43.9
Field angle(10%Imax): [C0/180]Total=73.3
 [C90/270]Total=73.3
Maximum s/h(1/2): C0_180=0.70 C90_270=0.70
Maximum s/h(1/4): C0_180=0.73 C90_270=0.73
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.12%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.661%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2350.828	0.000	0	.000%	.000%
1.0	2347.172	2.248	2.248	.145%	.162%
2.0	2334.234	6.719	8.967	.433%	.648%
3.0	2311.172	11.110	20.077	.715%	1.450%
4.0	2282.344	15.376	35.453	.990%	2.561%
5.0	2246.836	19.484	54.938	1.254%	3.968%
6.0	2204.719	23.394	78.332	1.506%	5.658%
7.0	2165.836	27.128	105.46	1.746%	7.617%
8.0	2133.281	30.768	136.228	1.981%	9.840%
9.0	2081.883	34.162	170.389	2.199%	12.307%
10.0	2022.680	37.145	207.534	2.391%	14.990%
11.0	1968.188	39.877	247.411	2.567%	17.870%
12.0	1909.828	42.392	289.803	2.729%	20.932%
13.0	1841.484	44.519	334.322	2.866%	24.148%
14.0	1784.883	46.417	380.739	2.988%	27.500%
15.0	1732.781	48.292	429.031	3.109%	30.988%
16.0	1656.141	49.657	478.688	3.196%	34.575%
17.0	1576.055	50.334	529.022	3.240%	38.211%
18.0	1495.195	50.638	579.661	3.260%	41.868%
19.0	1418.625	50.695	630.355	3.263%	45.530%
20.0	1331.360	50.332	680.687	3.240%	49.165%
21.0	1251.204	49.590	730.278	3.192%	52.747%
22.0	1169.880	48.653	778.931	3.132%	56.261%
23.0	1106.276	47.760	826.691	3.074%	59.711%
24.0	1035.338	46.823	873.514	3.014%	63.093%
25.0	974.841	45.707	919.221	2.942%	66.394%
26.0	914.604	44.601	963.821	2.871%	69.616%
27.0	856.821	43.338	1007.16	2.790%	72.746%
28.0	798.933	41.920	1049.08	2.698%	75.774%
29.0	749.658	40.516	1089.595	2.608%	78.700%
30.0	698.006	39.087	1128.682	2.516%	81.524%
31.0	638.655	37.197	1165.879	2.394%	84.210%
32.0	570.691	34.646	1200.526	2.230%	86.713%
33.0	501.708	31.593	1232.119	2.034%	88.995%
34.0	427.430	28.118	1260.238	1.810%	91.026%
35.0	350.508	24.160	1284.397	1.555%	92.771%
36.0	278.634	20.032	1304.429	1.289%	94.218%
37.0	209.805	15.930	1320.36	1.025%	95.368%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	150.602	12.030	1332.39	.774%	96.237%
39.0	94.233	8.357	1340.746	.538%	96.841%
40.0	58.015	5.310	1346.056	.342%	97.224%
41.0	35.466	3.329	1349.385	.214%	97.465%
42.0	23.231	2.133	1351.518	.137%	97.619%
43.0	17.480	1.508	1353.026	.097%	97.728%
44.0	13.999	1.188	1354.214	.076%	97.813%
45.0	11.805	0.992	1355.206	.064%	97.885%
46.0	10.420	0.869	1356.075	.056%	97.948%
47.0	9.612	0.797	1356.871	.051%	98.005%
48.0	9.218	0.761	1357.633	.049%	98.060%
49.0	8.909	0.744	1358.377	.048%	98.114%
50.0	8.613	0.731	1359.108	.047%	98.167%
51.0	8.367	0.718	1359.826	.046%	98.219%
52.0	8.156	0.709	1360.535	.046%	98.270%
53.0	7.959	0.701	1361.236	.045%	98.321%
54.0	7.763	0.693	1361.929	.045%	98.371%
55.0	7.594	0.685	1362.614	.044%	98.420%
56.0	7.439	0.679	1363.294	.044%	98.469%
57.0	7.277	0.673	1363.967	.043%	98.518%
58.0	7.137	0.667	1364.633	.043%	98.566%
59.0	7.010	0.661	1365.295	.043%	98.614%
60.0	6.884	0.656	1365.951	.042%	98.661%
61.0	6.813	0.654	1366.605	.042%	98.708%
62.0	6.680	0.650	1367.255	.042%	98.755%
63.0	6.623	0.647	1367.902	.042%	98.802%
64.0	6.511	0.644	1368.546	.041%	98.849%
65.0	6.405	0.639	1369.185	.041%	98.895%
66.0	6.335	0.636	1369.821	.041%	98.941%
67.0	6.237	0.632	1370.453	.041%	98.986%
68.0	6.202	0.630	1371.083	.041%	99.032%
69.0	6.145	0.630	1371.713	.041%	99.077%
70.0	6.047	0.626	1372.339	.040%	99.123%
71.0	6.019	0.624	1372.963	.040%	99.168%
72.0	5.984	0.624	1373.587	.040%	99.213%
73.0	5.871	0.620	1374.207	.040%	99.258%
74.0	5.843	0.616	1374.823	.040%	99.302%
75.0	5.780	0.614	1375.437	.040%	99.346%

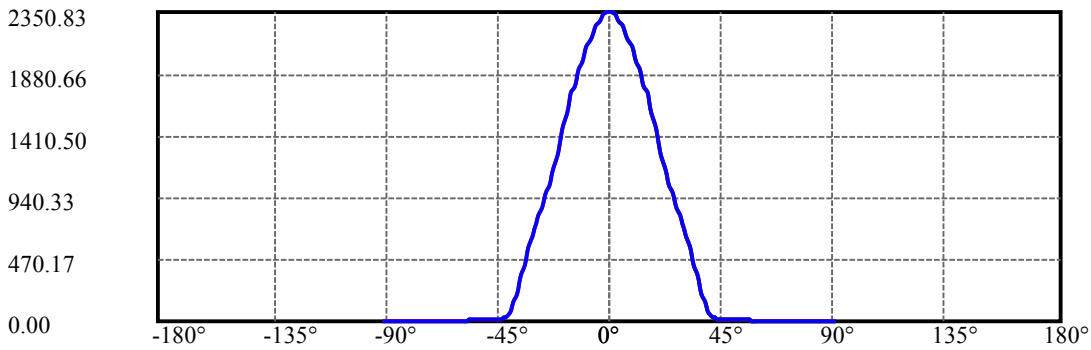
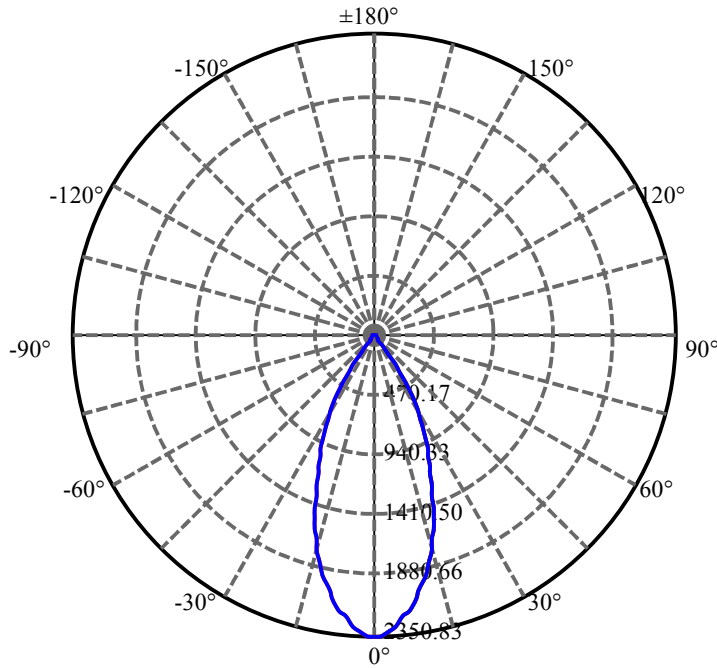
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	5.730	0.611	1376.048	.039%	99.391%
77.0	5.702	0.610	1376.658	.039%	99.435%
78.0	5.688	0.610	1377.267	.039%	99.479%
79.0	5.632	0.608	1377.876	.039%	99.523%
80.0	5.618	0.607	1378.482	.039%	99.566%
81.0	5.597	0.606	1379.089	.039%	99.610%
82.0	5.562	0.605	1379.694	.039%	99.654%
83.0	5.541	0.604	1380.297	.039%	99.697%
84.0	5.505	0.602	1380.899	.039%	99.741%
85.0	5.498	0.601	1381.5	.039%	99.784%
86.0	5.477	0.600	1382.099	.039%	99.828%
87.0	5.470	0.599	1382.699	.039%	99.871%
88.0	5.456	0.599	1383.297	.039%	99.914%
89.0	5.407	0.595	1383.893	.038%	99.957%
90.0	5.414	0.593	1384.486	.038%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1128.68	72.65%	81.52%
0-40	1346.06	86.65%	97.22%
0-60	1365.95	87.93%	98.66%
0-90	1383.89	89.08%	99.96%
0-120	1383.89	89.08%	99.96%
0-180	1384.49	89.12%	100.00%
60-90	18.60	1.20%	1.34%
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%
0-29.46	1107.59	71.30%	80.00%

ZONAL LUMEN SUMMARY

0-10	207.53
10-20	473.15
20-30	447.99
30-40	217.37
40-50	13.05
50-60	6.84
60-70	6.39
70-80	6.14
80-90	5.41
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: —————

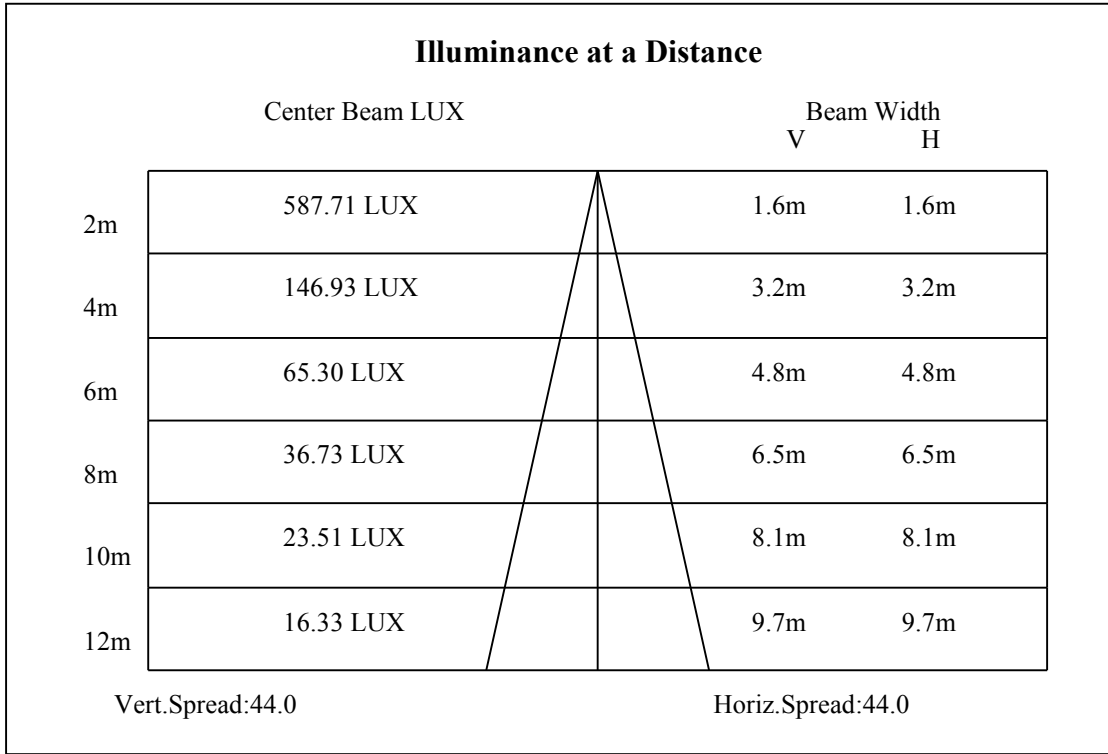
C90/C270: —————

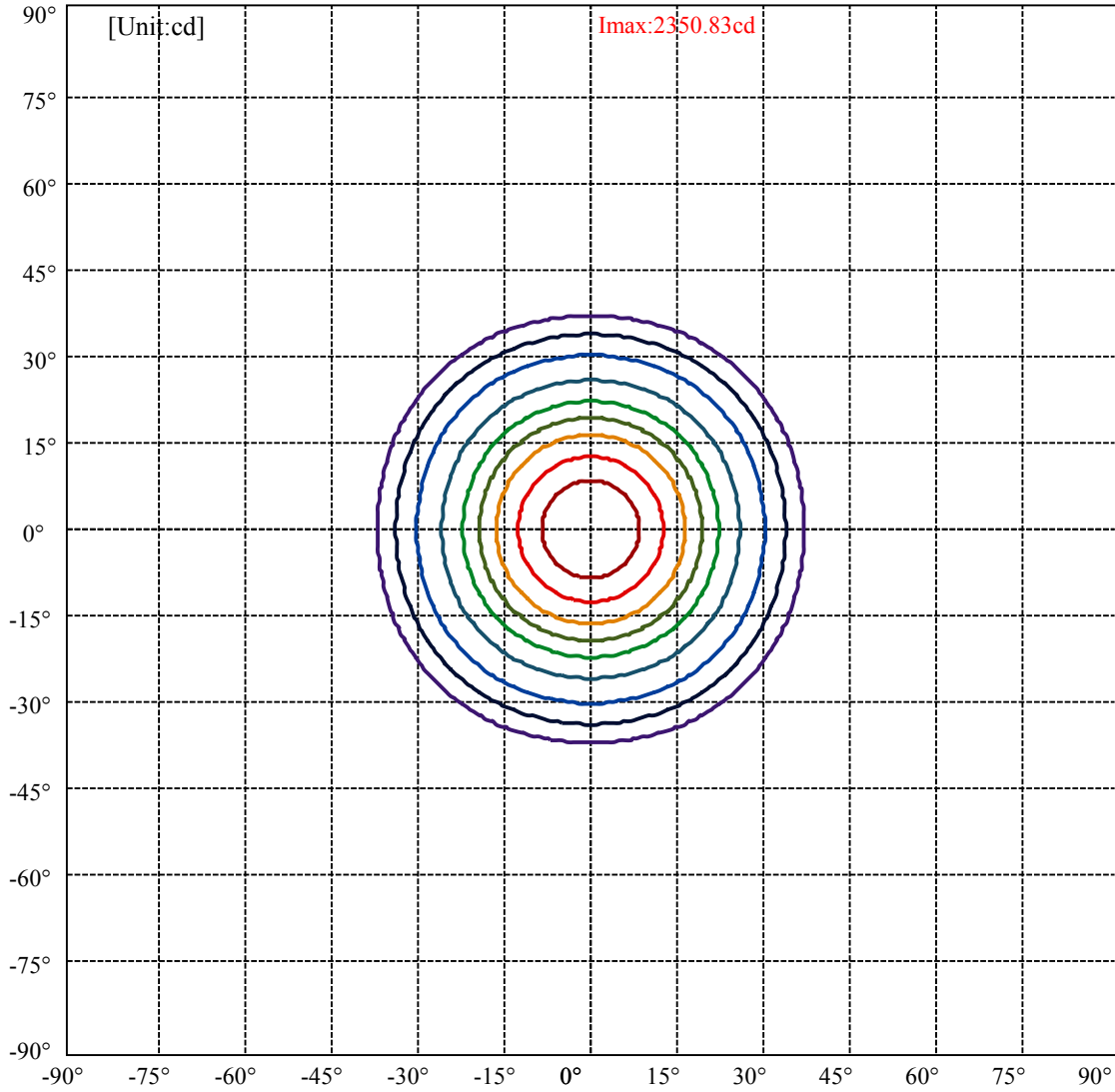
Field angle(10%Imax):C0/180Left:36.6 Right:36.6

:C90/270Left:36.6 Right:36.6

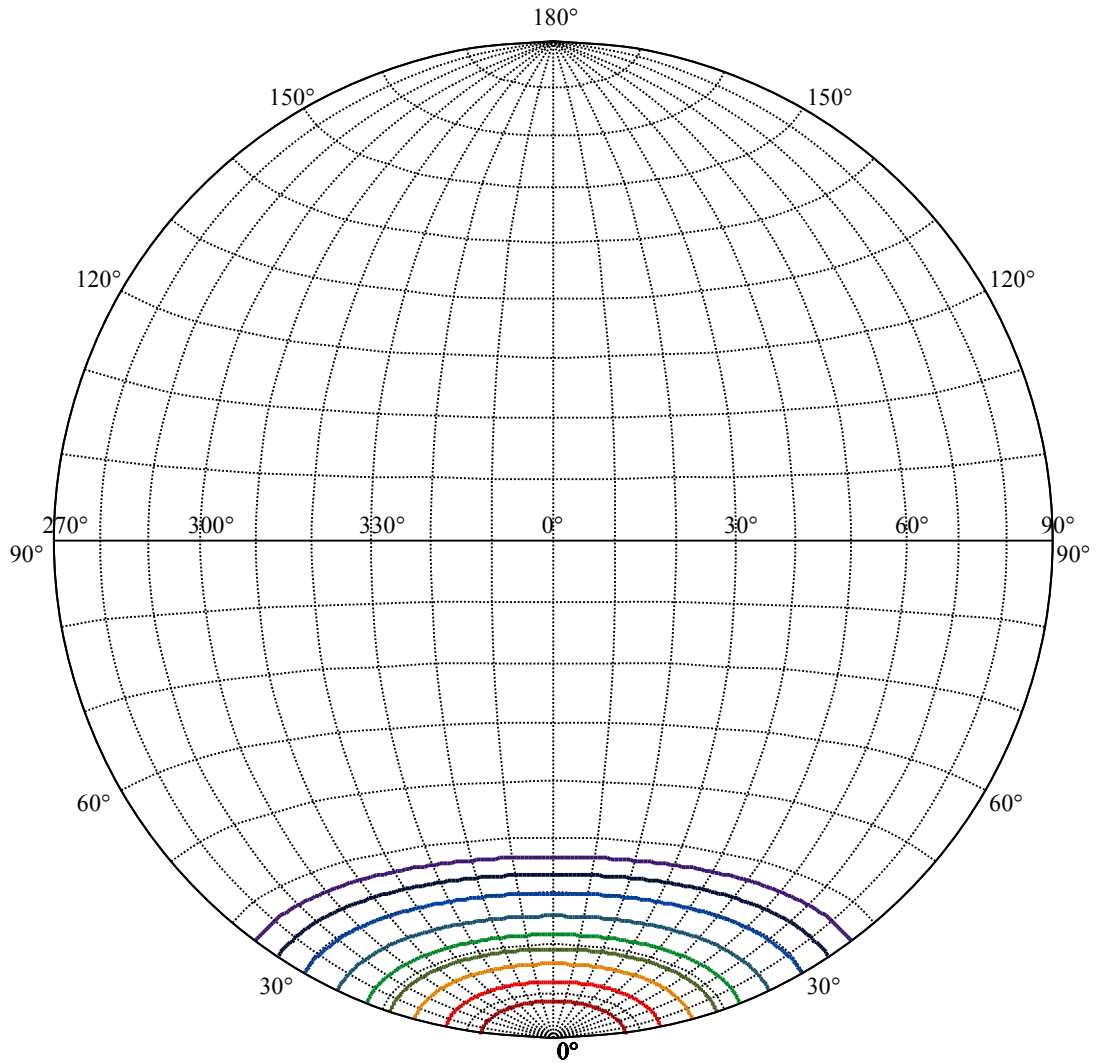
Beam Angle(50%Imax):C0/180Left:21.9 Right:21.9

:C90/270Left:21.9 Right:21.9





(10%I _{max}) 235.083	—
(20%I _{max}) 470.166	—
(30%I _{max}) 705.249	—
(40%I _{max}) 940.331	—
(50%I _{max}) 1175.41	—
(60%I _{max}) 1410.5	—
(70%I _{max}) 1645.58	—
(80%I _{max}) 1880.66	—
(90%I _{max}) 2115.75	—



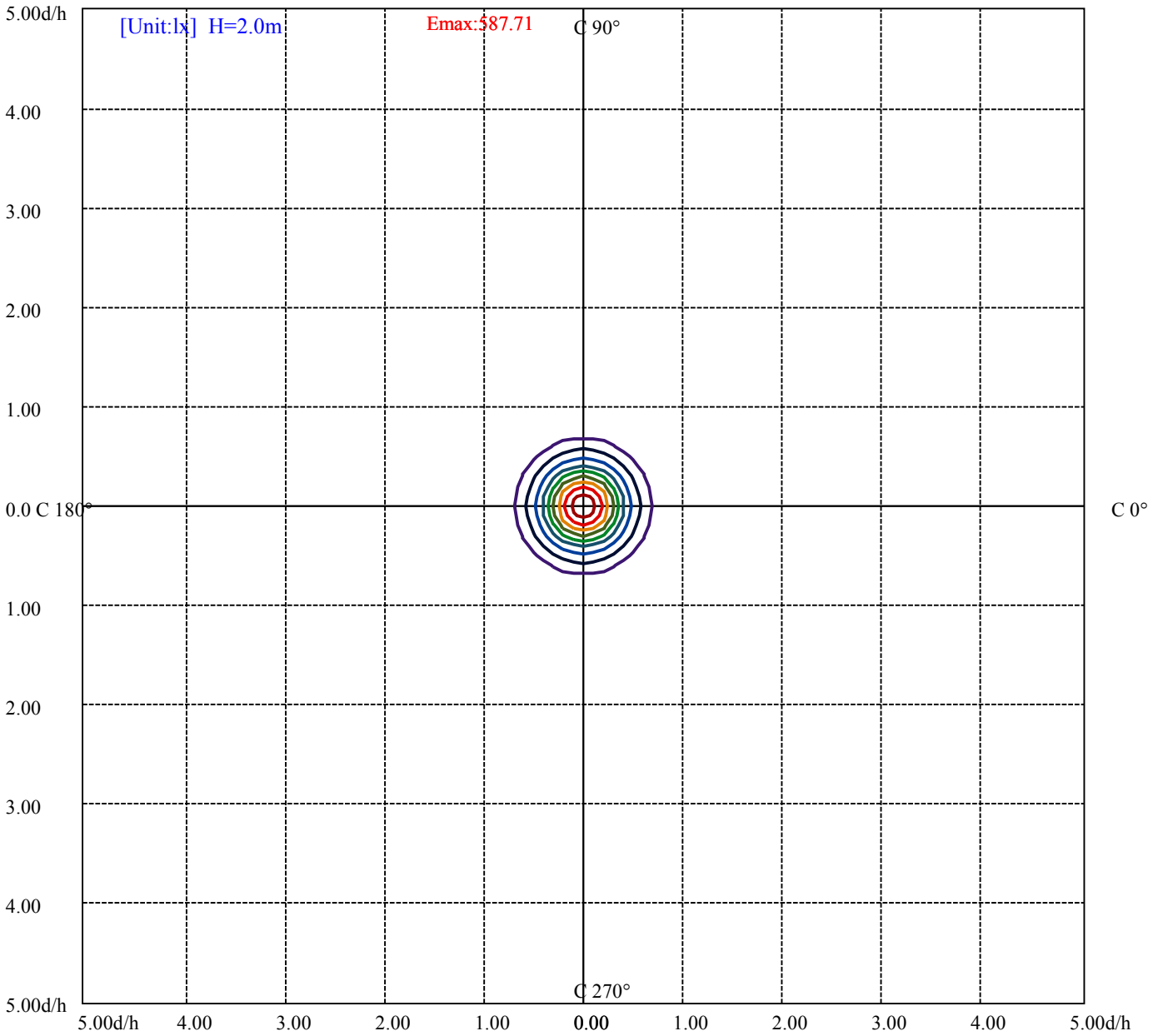
House

[Unit:cd]

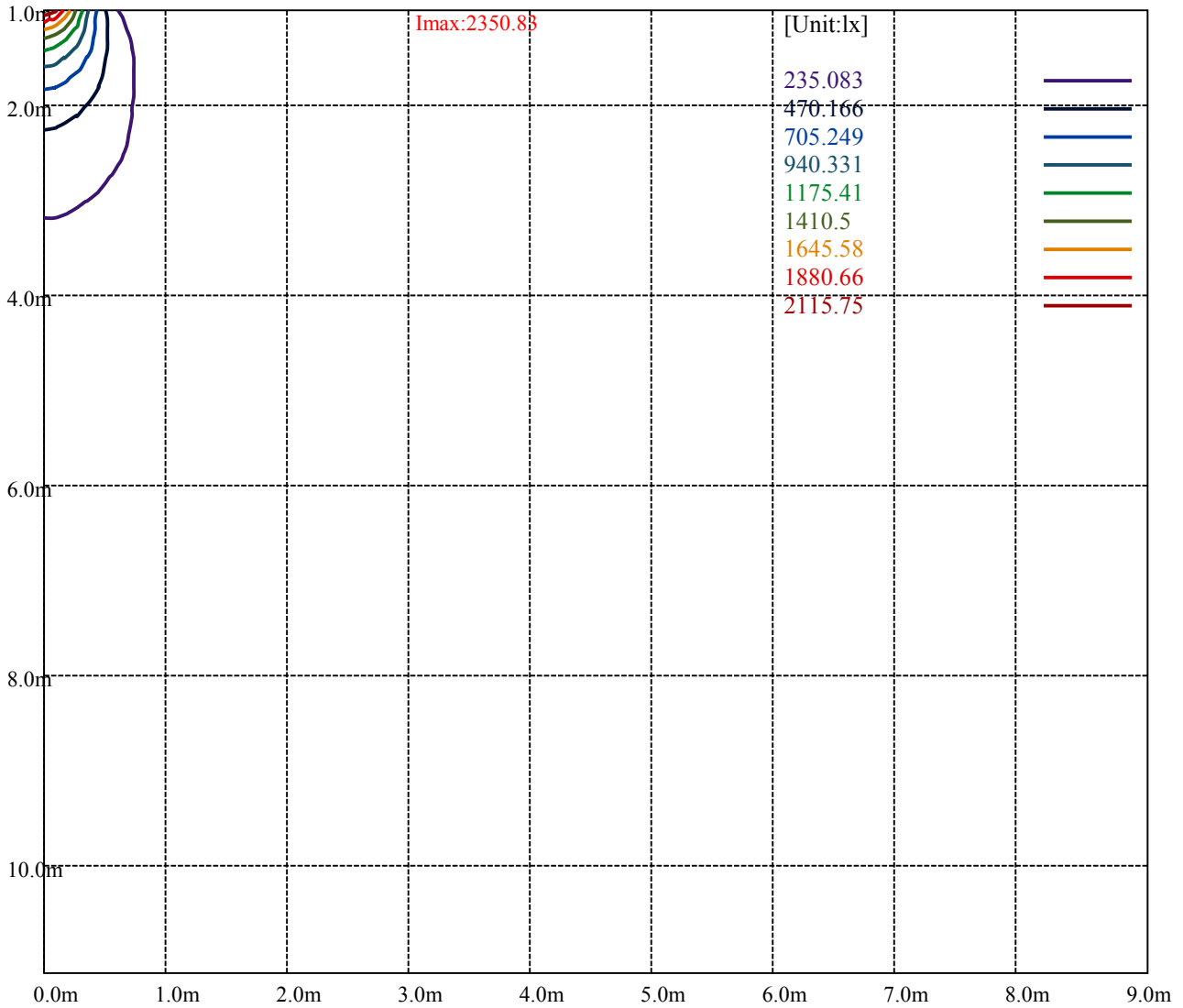
Road

I_{max}:2350.83

(10%I _{max})	235.083	—
(20%I _{max})	470.166	—
(30%I _{max})	705.249	—
(40%I _{max})	940.331	—
(50%I _{max})	1175.41	—
(60%I _{max})	1410.5	—
(70%I _{max})	1645.58	—
(80%I _{max})	1880.66	—
(90%I _{max})	2115.75	—



- (10%Emax) 58.77075
- (20%Emax) 117.5415
- (30%Emax) 176.312
- (40%Emax) 235.0827
- (50%Emax) 293.8525
- (60%Emax) 352.625
- (70%Emax) 411.395
- (80%Emax) 470.165
- (90%Emax) 528.9375



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

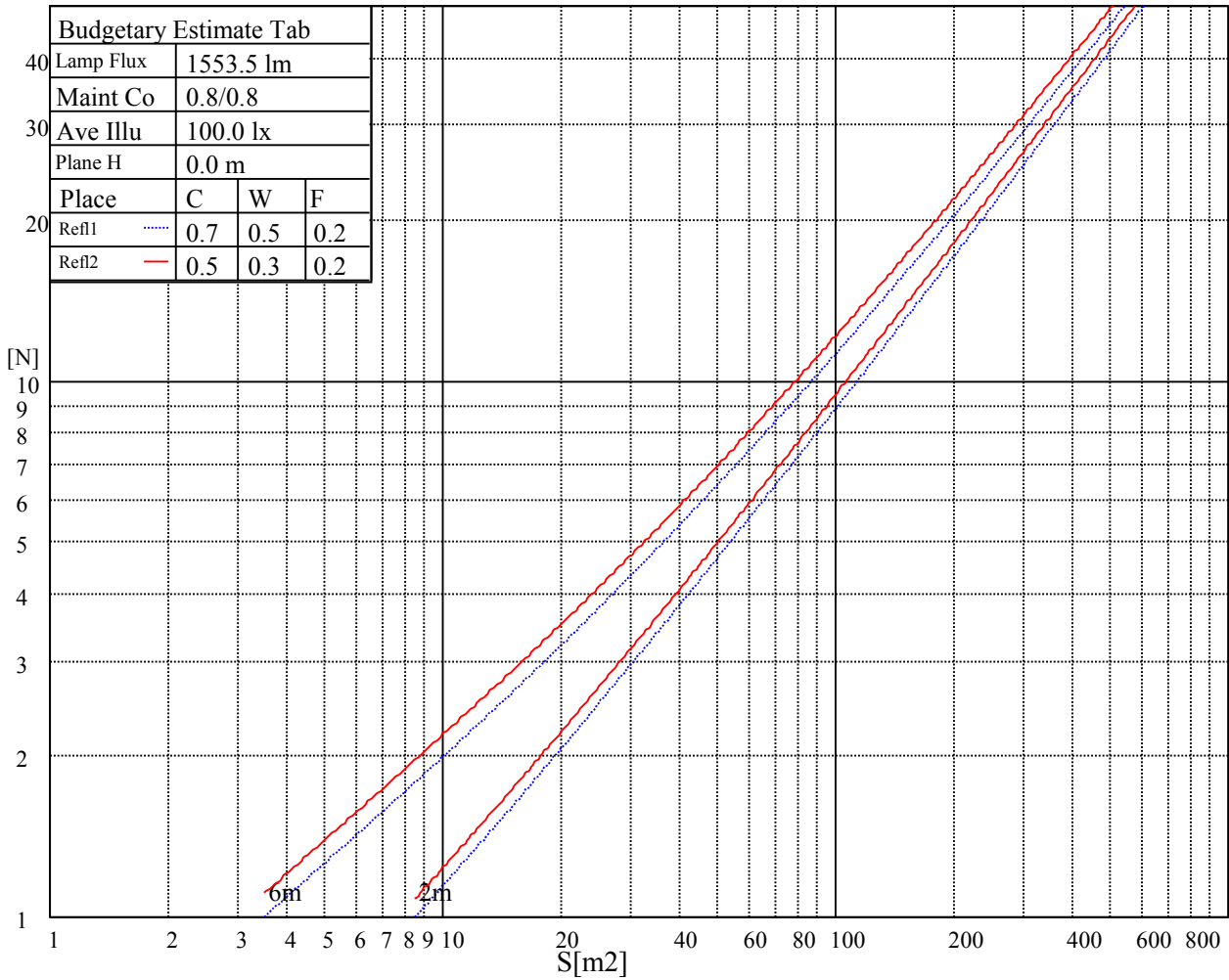
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

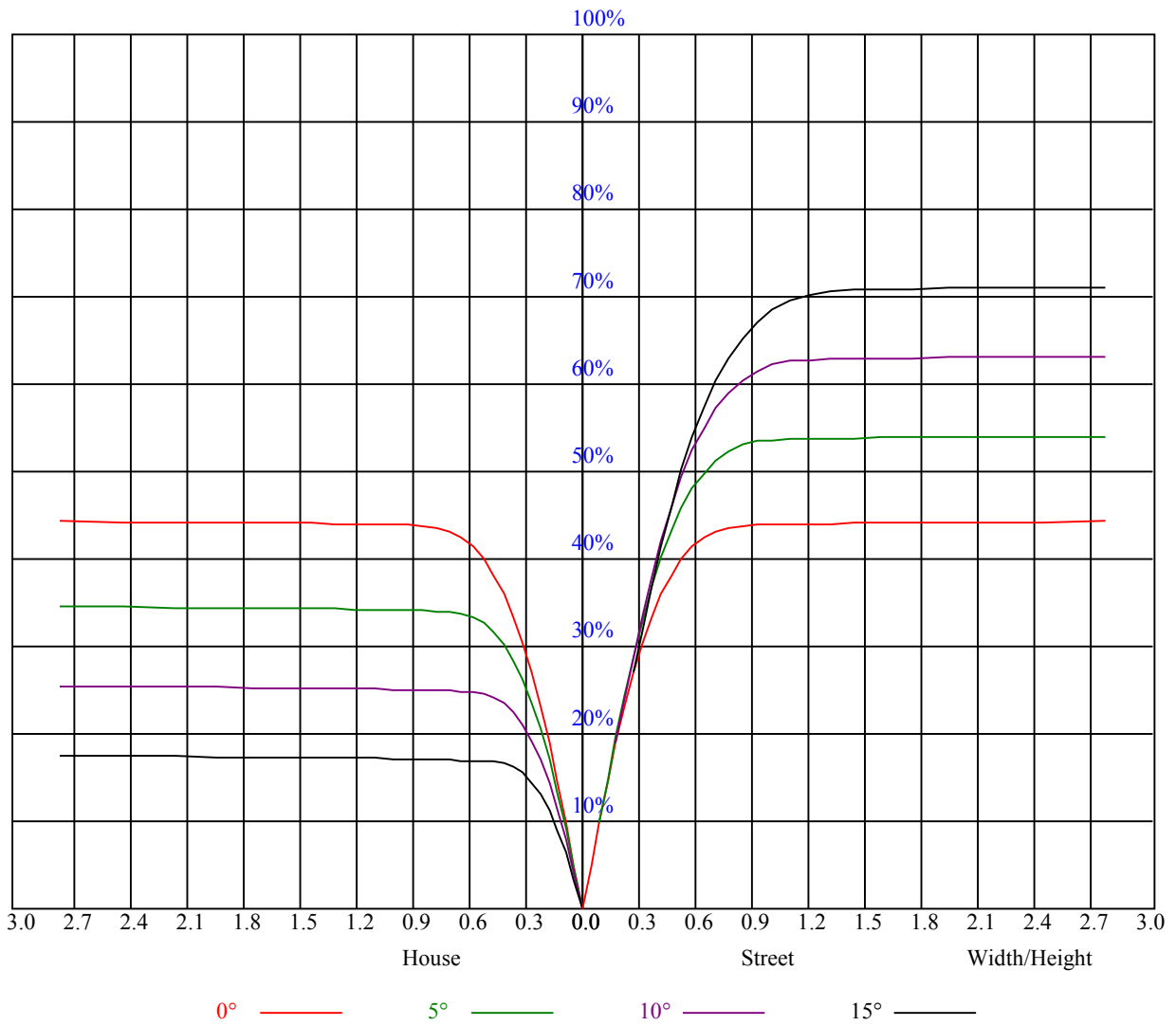
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.06	1.06	1.06	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	0.99	0.97	0.95	0.97	0.95	0.93	0.94	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84
2	0.93	0.89	0.87	0.91	0.88	0.86	0.88	0.86	0.84	0.86	0.84	0.82	0.83	0.82	0.80	0.79
3	0.87	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.78	0.82	0.79	0.77	0.80	0.77	0.76	0.74
4	0.82	0.78	0.74	0.81	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.72	0.76	0.73	0.71	0.70
5	0.78	0.73	0.70	0.77	0.73	0.69	0.75	0.72	0.69	0.74	0.71	0.68	0.73	0.70	0.67	0.66
6	0.74	0.69	0.65	0.73	0.68	0.65	0.72	0.68	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.63
7	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	0.60	0.59
8	0.66	0.62	0.58	0.66	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.56
9	0.63	0.58	0.55	0.63	0.58	0.55	0.62	0.58	0.55	0.61	0.58	0.55	0.61	0.57	0.55	0.54
10	0.60	0.56	0.53	0.60	0.55	0.52	0.59	0.55	0.52	0.59	0.55	0.52	0.58	0.55	0.52	0.51



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	2347.88	2342.25	2325.94	2301.19	2261.81	2220.75	2177.44	2129.63	2084.06
45.0	2350.69	2353.50	2347.31	2328.75	2301.19	2264.63	2220.19	2178.00	2136.38
90.0	2356.31	2359.69	2352.94	2340.56	2323.13	2291.63	2252.25	2203.88	2168.44
135.0	2348.44	2355.75	2356.88	2332.13	2308.50	2268.00	2217.38	2183.06	2231.44
180.0	2347.88	2349.00	2339.44	2320.31	2300.06	2274.75	2236.50	2206.13	2173.50
225.0	2350.69	2341.13	2325.94	2301.19	2270.25	2239.88	2205.56	2169.00	2131.88
270.0	2356.31	2343.94	2322.56	2298.38	2261.25	2225.81	2184.75	2137.50	2094.19
315.0	2348.44	2332.13	2302.88	2266.88	2232.56	2189.25	2143.69	2119.50	2046.38
360.0	2347.88	2342.25	2325.94	2301.19	2261.81	2220.75	2177.44	2129.63	2084.06
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2034.00	1966.50	1909.69	1855.13	1784.25	1723.50	1658.81	1576.69	1491.19
45.0	2080.13	2028.94	1974.94	1926.00	1851.75	1796.63	1745.44	1659.38	1585.13
90.0	2131.31	2095.88	2016.56	1949.06	1898.44	1851.75	1793.25	1730.81	1644.19
135.0	2177.44	2135.81	2089.13	2025.56	1978.88	1950.75	1875.94	1771.88	1720.13
180.0	2130.19	2079.56	2077.31	1959.19	1841.06	1790.44	1819.13	1756.69	1679.63
225.0	2087.44	2025.56	1975.50	1923.19	1863.00	1797.19	1735.88	1660.50	1576.69
270.0	2040.19	1980.56	1926.56	1864.69	1800.00	1736.44	1662.75	1593.00	1511.44
315.0	1974.38	1868.63	1775.81	1775.81	1714.50	1632.38	1571.06	1500.19	1400.06
360.0	2034.00	1966.50	1909.69	1855.13	1784.25	1723.50	1658.81	1576.69	1491.19
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1412.44	1325.81	1250.44	1170.56	1101.38	1041.19	975.94	912.94	858.38
45.0	1488.94	1407.94	1328.06	1261.69	1171.69	1108.13	1032.75	975.38	919.13
90.0	1568.81	1491.19	1400.06	1311.75	1235.81	1121.85	1083.71	1022.01	957.26
135.0	1647.56	1599.75	1505.81	1396.13	1314.56	1255.50	1146.94	1081.13	999.00
180.0	1596.38	1519.88	1439.44	1340.44	1262.25	1190.81	1100.19	1045.86	987.13
225.0	1501.31	1412.44	1334.81	1249.31	1119.43	1104.13	1042.65	970.54	915.53
270.0	1424.25	1348.31	1274.06	1182.38	1118.81	1056.94	984.38	929.81	875.81
315.0	1321.88	1243.69	1118.19	1097.38	1035.11	971.66	916.14	861.08	804.60
360.0	1412.44	1325.81	1250.44	1170.56	1101.38	1041.19	975.94	912.94	858.38
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	806.63	747.56	704.81	656.44	587.25	509.06	434.25	351.00	289.13
45.0	863.44	800.44	751.50	702.00	643.50	577.13	509.63	428.06	344.81
90.0	901.58	840.88	781.48	731.14	679.89	625.89	565.09	496.07	405.90
135.0	930.38	870.75	827.44	781.88	725.63	664.31	614.81	554.63	480.38
180.0	915.81	861.81	807.47	755.94	705.43	647.49	584.38	505.91	425.93
225.0	862.59	796.39	748.18	703.24	649.35	576.17	503.27	420.30	347.96
270.0	818.44	764.44	720.00	668.81	600.75	532.13	447.75	375.75	296.44
315.0	755.72	709.20	656.38	584.61	517.44	433.35	354.49	287.72	213.53
360.0	806.63	747.56	704.81	656.44	587.25	509.06	434.25	351.00	289.13
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	202.11	150.41	85.44	43.14	26.94	21.32	15.75	13.28	11.36
45.0	284.06	201.99	136.69	87.75	44.78	27.28	21.15	15.36	12.77
90.0	335.03	266.63	194.91	128.59	78.98	40.05	26.10	20.36	14.79
135.0	401.63	335.81	288.00	187.20	129.43	74.42	39.71	25.88	19.46
180.0	345.60	277.99	214.09	147.43	89.89	51.24	29.08	22.28	16.99
225.0	270.45	198.51	140.68	84.15	43.54	28.86	23.40	17.04	14.18
270.0	245.14	155.59	99.51	49.44	29.03	24.30	17.44	14.12	12.71
315.0	145.07	91.52	45.51	26.16	21.54	16.26	13.22	11.53	9.73
360.0	202.11	150.41	85.44	43.14	26.94	21.32	15.75	13.28	11.36

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	9.90	9.28	8.89	8.61	8.27	8.04	7.88	7.76	7.54
45.0	11.48	9.84	9.39	9.06	8.72	8.49	8.27	8.04	7.82
90.0	12.54	10.91	9.79	9.45	9.11	8.72	8.49	8.27	8.04
135.0	14.85	12.66	10.74	9.90	9.62	9.17	8.78	8.55	8.33
180.0	14.01	11.81	10.52	10.13	9.73	9.39	9.11	8.83	8.55
225.0	12.09	10.35	9.90	9.56	9.23	8.89	8.66	8.44	8.21
270.0	10.41	9.62	9.17	8.83	8.55	8.33	8.04	7.88	7.71
315.0	9.17	8.89	8.49	8.21	8.04	7.88	7.71	7.48	7.48
360.0	9.90	9.28	8.89	8.61	8.27	8.04	7.88	7.76	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	7.26	7.14	7.03	6.92	6.81	6.69	6.64	6.53
45.0	7.71	7.54	7.43	7.26	7.14	7.03	6.92	6.86	6.75
90.0	7.88	7.65	7.54	7.37	7.26	7.09	7.03	6.86	6.75
135.0	8.04	7.82	7.59	7.48	7.14	6.98	6.69	6.69	6.47
180.0	8.38	8.16	7.93	7.76	7.59	7.48	7.31	7.20	7.03
225.0	8.04	7.88	7.71	7.54	7.37	7.26	7.14	6.98	6.86
270.0	7.54	7.43	7.31	7.09	7.03	6.92	6.81	6.75	6.64
315.0	7.14	7.03	6.86	6.69	6.64	6.53	6.47	6.53	6.41
360.0	7.37	7.26	7.14	7.03	6.92	6.81	6.69	6.64	6.53
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	6.41	6.36	6.30	6.24	6.19	6.13	6.08	5.96	5.96
45.0	6.64	6.53	6.47	6.36	6.30	6.24	6.24	6.13	6.08
90.0	6.64	6.58	6.47	6.41	6.30	6.24	6.19	6.08	6.02
135.0	6.75	6.47	6.24	6.24	6.19	6.13	6.08	6.02	6.02
180.0	6.92	6.81	6.69	6.58	6.24	6.36	6.24	6.19	6.19
225.0	6.75	6.64	6.58	6.47	6.36	6.30	6.24	6.13	6.08
270.0	6.53	6.47	6.36	6.30	6.24	6.19	6.13	6.02	5.96
315.0	6.36	6.24	6.13	6.08	6.08	6.02	5.96	5.85	5.85
360.0	6.41	6.36	6.30	6.24	6.19	6.13	6.08	5.96	5.96
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	5.91	5.91	5.91	5.79	5.79	5.74	5.79	5.68	5.68
45.0	6.02	5.96	5.91	5.91	5.91	5.85	5.79	5.79	5.79
90.0	6.02	5.96	5.91	5.85	5.85	5.79	5.74	5.74	5.74
135.0	5.85	5.85	5.79	5.68	5.57	5.63	5.63	5.51	5.40
180.0	6.19	5.63	5.57	5.51	5.46	5.46	5.40	5.40	5.34
225.0	6.08	5.96	5.96	5.85	5.85	5.85	5.85	5.74	5.79
270.0	5.96	5.85	5.85	5.85	5.74	5.63	5.68	5.57	5.57
315.0	5.85	5.85	5.85	5.79	5.68	5.68	5.63	5.63	5.63
360.0	5.91	5.91	5.91	5.79	5.79	5.74	5.79	5.68	5.68
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.68	5.68	5.63	5.57	5.57	5.57	5.51	5.57	5.57
45.0	5.74	5.68	5.74	5.68	5.68	5.68	5.63	5.63	5.63
90.0	5.74	5.68	5.68	5.63	5.63	5.63	5.63	5.57	5.57
135.0	5.40	5.40	5.34	5.29	5.29	5.29	5.34	5.34	5.23
180.0	5.29	5.18	5.18	5.18	5.18	5.12	5.12	5.06	5.01
225.0	5.74	5.74	5.68	5.68	5.68	5.68	5.68	5.63	5.63
270.0	5.57	5.57	5.51	5.46	5.51	5.40	5.40	5.40	5.29
315.0	5.63	5.57	5.57	5.57	5.46	5.46	5.46	5.46	5.34
360.0	5.68	5.68	5.63	5.57	5.57	5.57	5.51	5.57	5.57

Intensity data(cd)

C/ γ (°)	90.0
0.0	5.51
45.0	5.63
90.0	5.57
135.0	5.23
180.0	4.95
225.0	5.63
270.0	5.23
315.0	5.57
360.0	5.51