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Nata

LumCAT: LN01D04536DA-N

Luminaire: 97.70.273.00

Report No: 200708-B004

Test No: 200708-C004

LampCAT: LUMILEDS LUXEON 1202S

Lamp flux(lm): 695.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 34.9300

Current(A): 0.1510

Power (W): 5.2700

PF: 0.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 628.33

Efficiency(%): 90.41%

Lumens(lm)/Power(W): 119.23

Central intensity(cd): 1413.281

Maximum intensity(cd): 1414.055

Angle of maximum intensity: C=0.0 γ =2.0

Beam Angle(50%Imax): [C0/180]Total=38.0

[C90/270]Total=38.0

Field angle(10%Imax): [C0/180]Total=59.4

[C90/270]Total=59.4

Maximum s/h(1/2): C0_180=0.63 C90_270=0.63

Maximum s/h(1/4): C0_180=0.59 C90_270=0.59

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 90.41%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.134%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1413.281	0.000	0	.000%	.000%
1.0	1413.281	1.352	1.352	.195%	.215%
2.0	1414.055	4.058	5.411	.584%	.861%
3.0	1411.242	6.757	12.168	.972%	1.937%
4.0	1406.391	9.432	21.599	1.357%	3.438%
5.0	1398.023	12.064	33.664	1.736%	5.358%
6.0	1386.141	14.632	48.295	2.105%	7.686%
7.0	1369.828	17.106	65.401	2.461%	10.409%
8.0	1346.977	19.444	84.845	2.798%	13.503%
9.0	1318.148	21.599	106.444	3.108%	16.941%
10.0	1283.063	23.540	129.984	3.387%	20.687%
11.0	1236.157	25.172	155.157	3.622%	24.693%
12.0	1188.935	26.510	181.666	3.814%	28.913%
13.0	1139.780	27.636	209.302	3.976%	33.311%
14.0	1075.795	28.359	237.662	4.080%	37.824%
15.0	1012.627	28.671	266.332	4.125%	42.387%
16.0	942.216	28.644	294.976	4.121%	46.946%
17.0	862.291	28.101	323.077	4.043%	51.418%
18.0	780.272	27.082	350.16	3.897%	55.729%
19.0	706.788	25.872	376.031	3.723%	59.846%
20.0	624.853	24.373	400.404	3.507%	63.725%
21.0	549.802	22.556	422.96	3.245%	67.315%
22.0	484.812	20.791	443.751	2.992%	70.624%
23.0	420.047	18.986	462.737	2.732%	73.646%
24.0	362.032	17.099	479.836	2.460%	76.367%
25.0	312.968	15.348	495.184	2.208%	78.810%
26.0	271.273	13.791	508.975	1.984%	81.004%
27.0	225.710	12.159	521.134	1.749%	82.940%
28.0	190.547	10.539	531.673	1.516%	84.617%
29.0	159.117	9.148	540.821	1.316%	86.073%
30.0	133.910	7.912	548.733	1.138%	87.332%
31.0	112.809	6.866	555.599	.988%	88.425%
32.0	93.389	5.907	561.506	.850%	89.365%
33.0	78.961	5.077	566.583	.731%	90.173%
34.0	66.909	4.414	570.998	.635%	90.875%
35.0	56.714	3.839	574.837	.552%	91.487%
36.0	48.410	3.347	578.184	.482%	92.019%
37.0	42.539	2.966	581.151	.427%	92.491%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	37.230	2.663	583.813	.383%	92.915%
39.0	32.660	2.386	586.199	.343%	93.295%
40.0	29.433	2.166	588.364	.312%	93.639%
41.0	26.508	1.992	590.356	.287%	93.956%
42.0	23.752	1.826	592.182	.263%	94.247%
43.0	21.579	1.679	593.862	.242%	94.514%
44.0	19.645	1.556	595.418	.224%	94.762%
45.0	17.902	1.443	596.86	.208%	94.992%
46.0	16.369	1.340	598.201	.193%	95.205%
47.0	14.970	1.246	599.447	.179%	95.403%
48.0	13.732	1.160	600.607	.167%	95.588%
49.0	12.684	1.085	601.692	.156%	95.761%
50.0	11.672	1.015	602.708	.146%	95.922%
51.0	10.779	0.950	603.658	.137%	96.073%
52.0	10.104	0.896	604.554	.129%	96.216%
53.0	9.387	0.848	605.401	.122%	96.351%
54.0	8.761	0.800	606.201	.115%	96.478%
55.0	8.276	0.760	606.962	.109%	96.599%
56.0	7.812	0.727	607.689	.105%	96.715%
57.0	7.383	0.695	608.384	.100%	96.825%
58.0	7.066	0.668	609.052	.096%	96.932%
59.0	6.757	0.646	609.698	.093%	97.035%
60.0	6.462	0.625	610.322	.090%	97.134%
61.0	6.230	0.606	610.928	.087%	97.230%
62.0	6.019	0.590	611.518	.085%	97.324%
63.0	5.815	0.576	612.094	.083%	97.416%
64.0	5.667	0.563	612.657	.081%	97.506%
65.0	5.498	0.553	613.21	.080%	97.594%
66.0	5.358	0.542	613.752	.078%	97.680%
67.0	5.245	0.533	614.285	.077%	97.765%
68.0	5.154	0.527	614.811	.076%	97.848%
69.0	5.323	0.534	615.346	.077%	97.934%
70.0	5.674	0.565	615.911	.081%	98.023%
71.0	6.145	0.611	616.522	.088%	98.121%
72.0	6.827	0.675	617.196	.097%	98.228%
73.0	7.376	0.743	617.939	.107%	98.346%
74.0	7.826	0.799	618.738	.115%	98.473%
75.0	8.262	0.850	619.588	.122%	98.609%

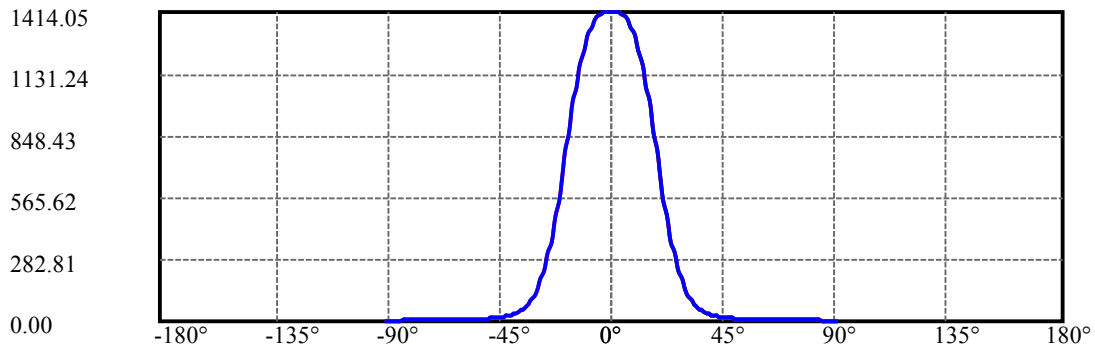
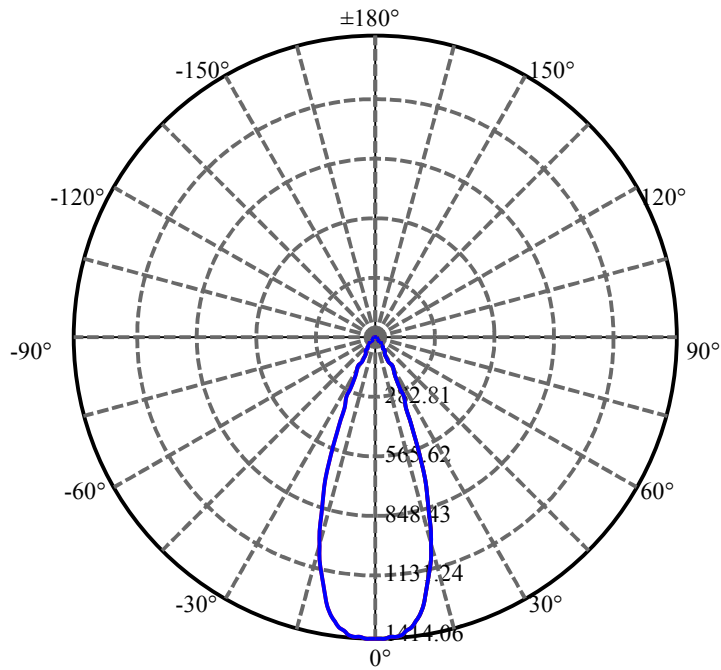
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.557	0.893	620.481	.128%	98.751%
77.0	8.564	0.913	621.394	.131%	98.896%
78.0	8.205	0.898	622.291	.129%	99.039%
79.0	7.727	0.856	623.147	.123%	99.175%
80.0	7.024	0.795	623.943	.114%	99.302%
81.0	6.188	0.714	624.657	.103%	99.415%
82.0	5.407	0.629	625.286	.090%	99.516%
83.0	4.486	0.538	625.824	.077%	99.601%
84.0	3.755	0.449	626.273	.065%	99.673%
85.0	3.473	0.394	626.667	.057%	99.735%
86.0	3.248	0.367	627.035	.053%	99.794%
87.0	3.002	0.342	627.377	.049%	99.848%
88.0	2.911	0.324	627.701	.047%	99.900%
89.0	2.862	0.316	628.017	.046%	99.950%
90.0	2.848	0.313	628.33	.045%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	548.73	78.95%	87.33%
0-40	588.36	84.66%	93.64%
0-60	610.32	87.82%	97.13%
0-90	628.02	90.36%	99.95%
0-120	628.02	90.36%	99.95%
0-180	628.33	90.41%	100.00%
60-90	18.32	2.64%	2.92%
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%
0-25.54	502.66	72.33%	80.00%

ZONAL LUMEN SUMMARY

0-10	129.98
10-20	270.42
20-30	148.33
30-40	39.63
40-50	14.34
50-60	7.61
60-70	5.59
70-80	8.03
80-90	4.07
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:

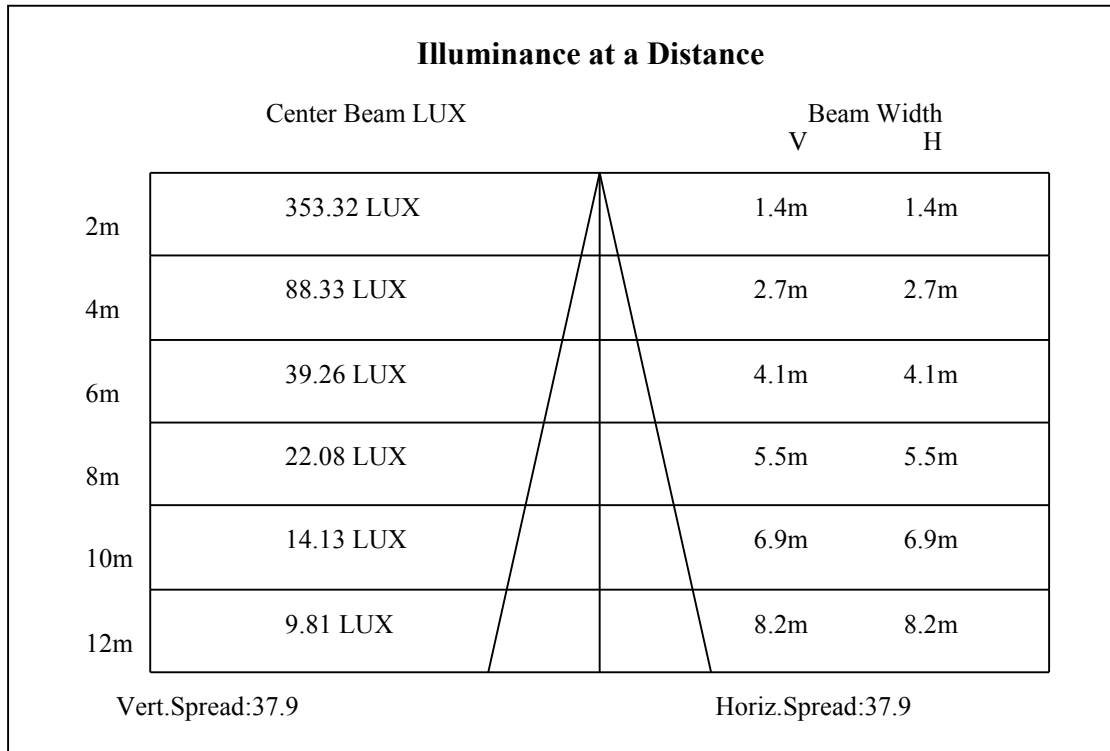
C90/C270:

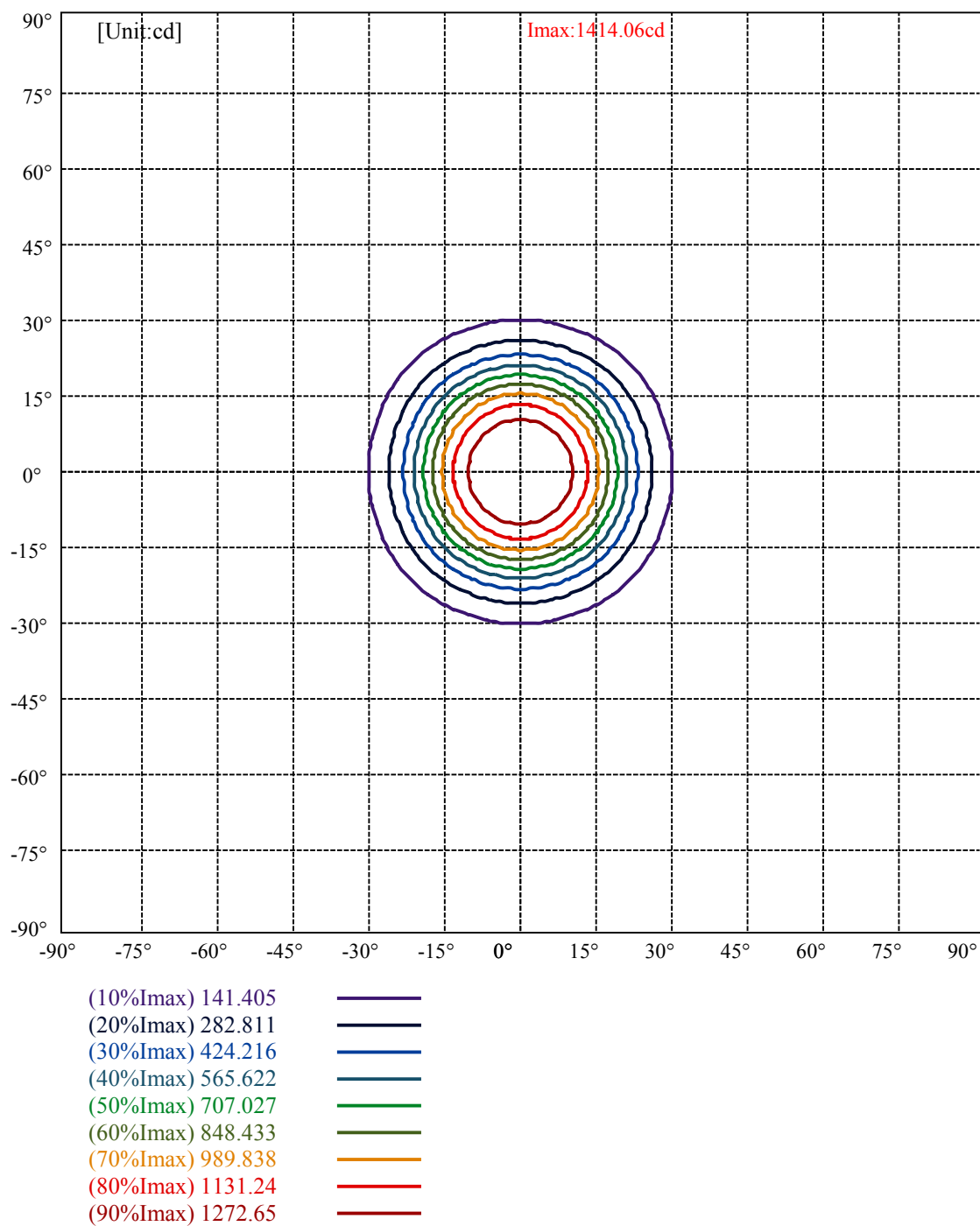
Field angle(10%Imax):C0/180Left:31.7 Right:27.7

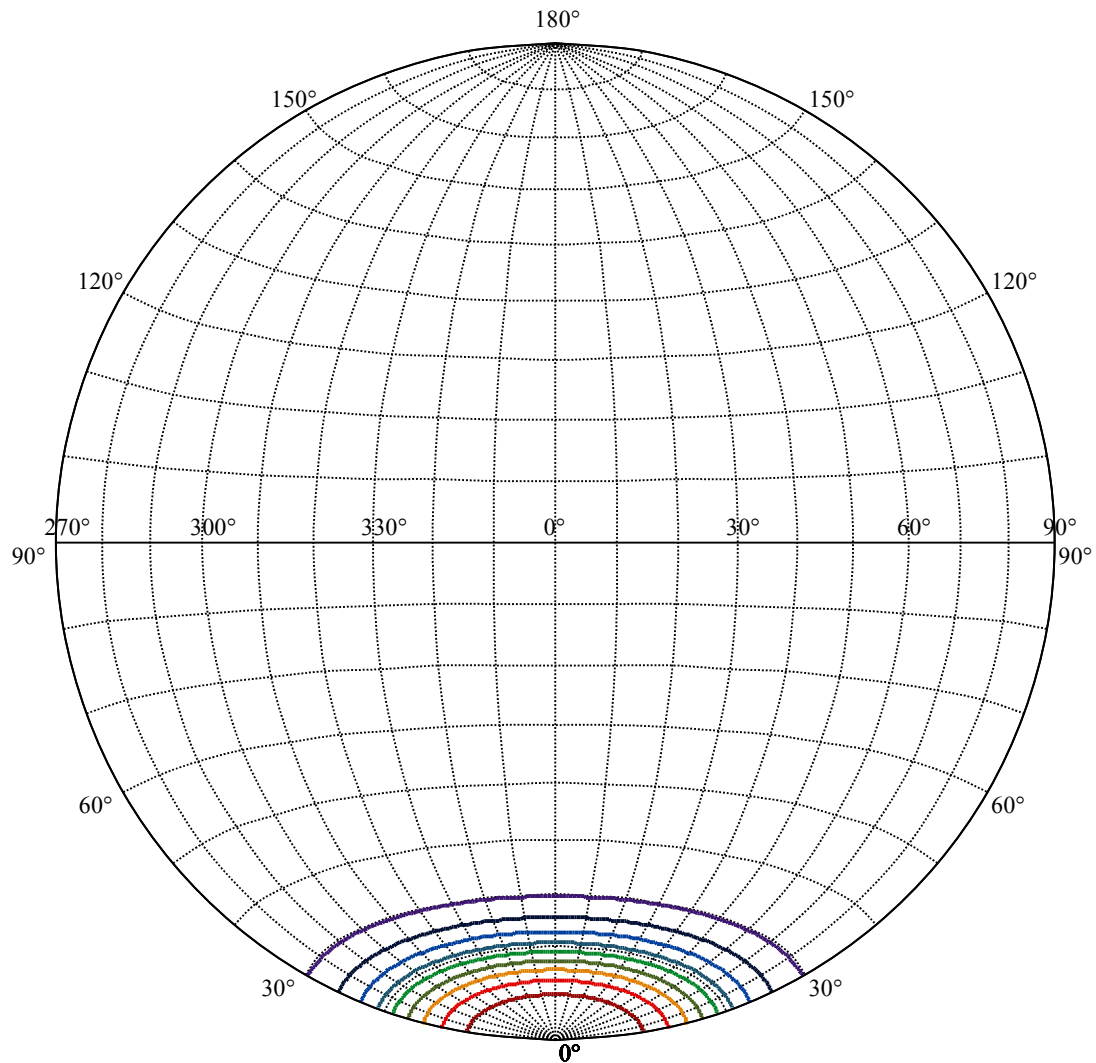
:C90/270Left:31.7 Right:27.7

Beam Angle(50%Imax):C0/180Left:21.0 Right:17.0

:C90/270Left:21.0 Right:17.0







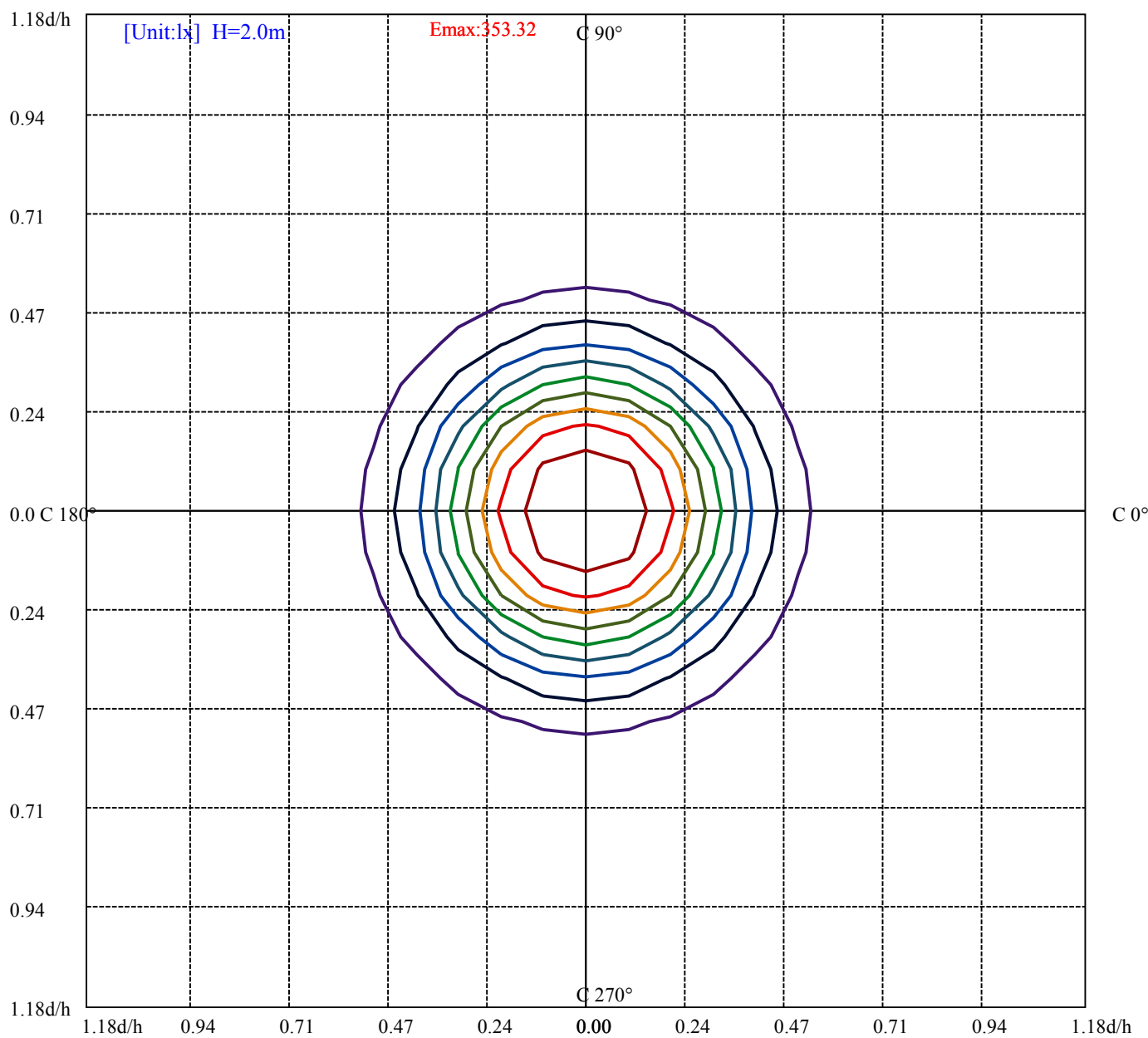
House

[Unit:cd]

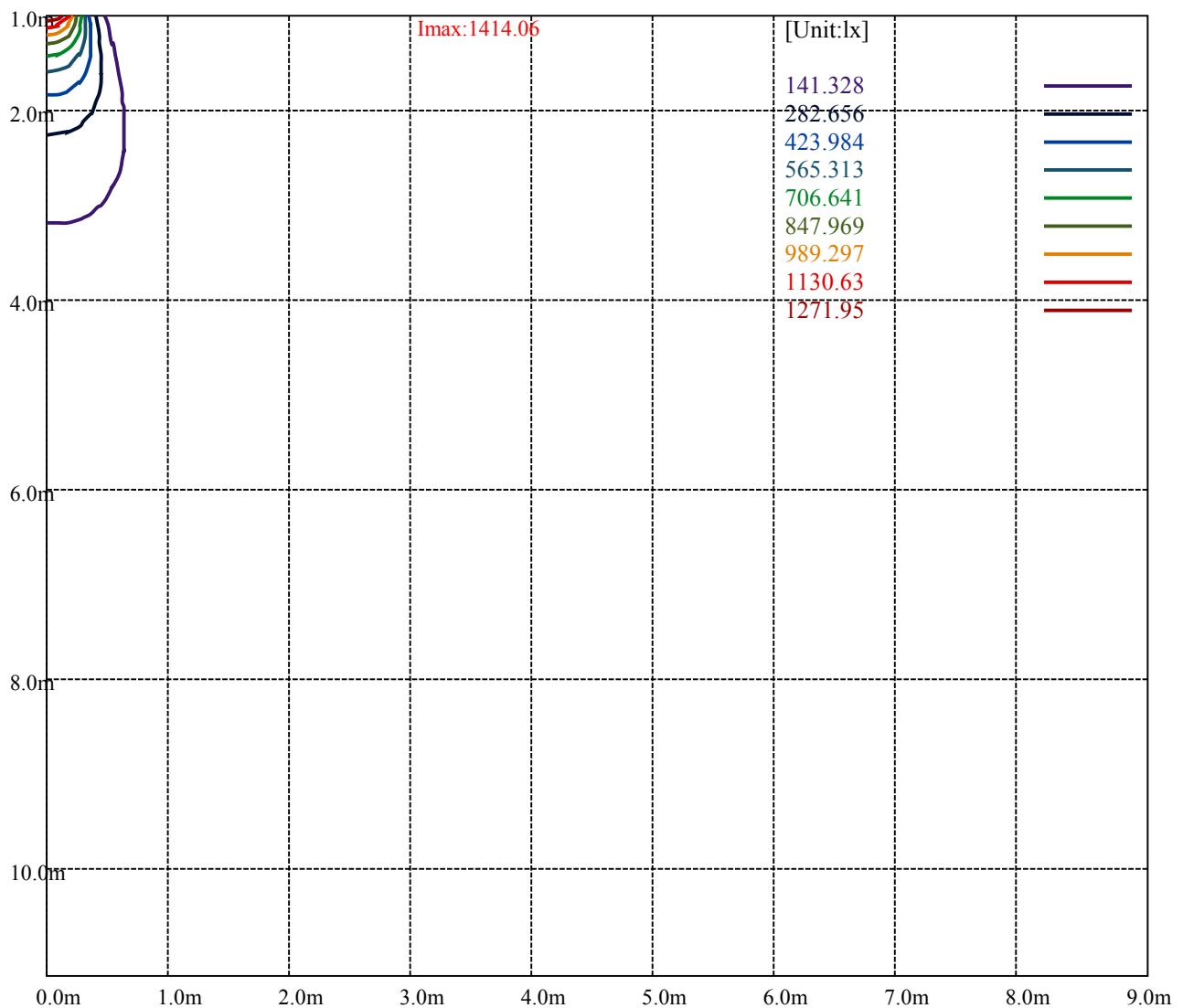
Road

Imax:1414.06

(10%Imax)	141.405	—
(20%Imax)	282.811	—
(30%Imax)	424.216	—
(40%Imax)	565.622	—
(50%Imax)	707.027	—
(60%Imax)	848.433	—
(70%Imax)	989.838	—
(80%Imax)	1131.24	—
(90%Imax)	1272.65	—



(10%Emax) 35.332	—
(20%Emax) 70.664	—
(30%Emax) 105.996	—
(40%Emax) 141.3282	—
(50%Emax) 176.6602	—
(60%Emax) 211.9922	—
(70%Emax) 247.3242	—
(80%Emax) 282.6575	—
(90%Emax) 317.9875	—



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

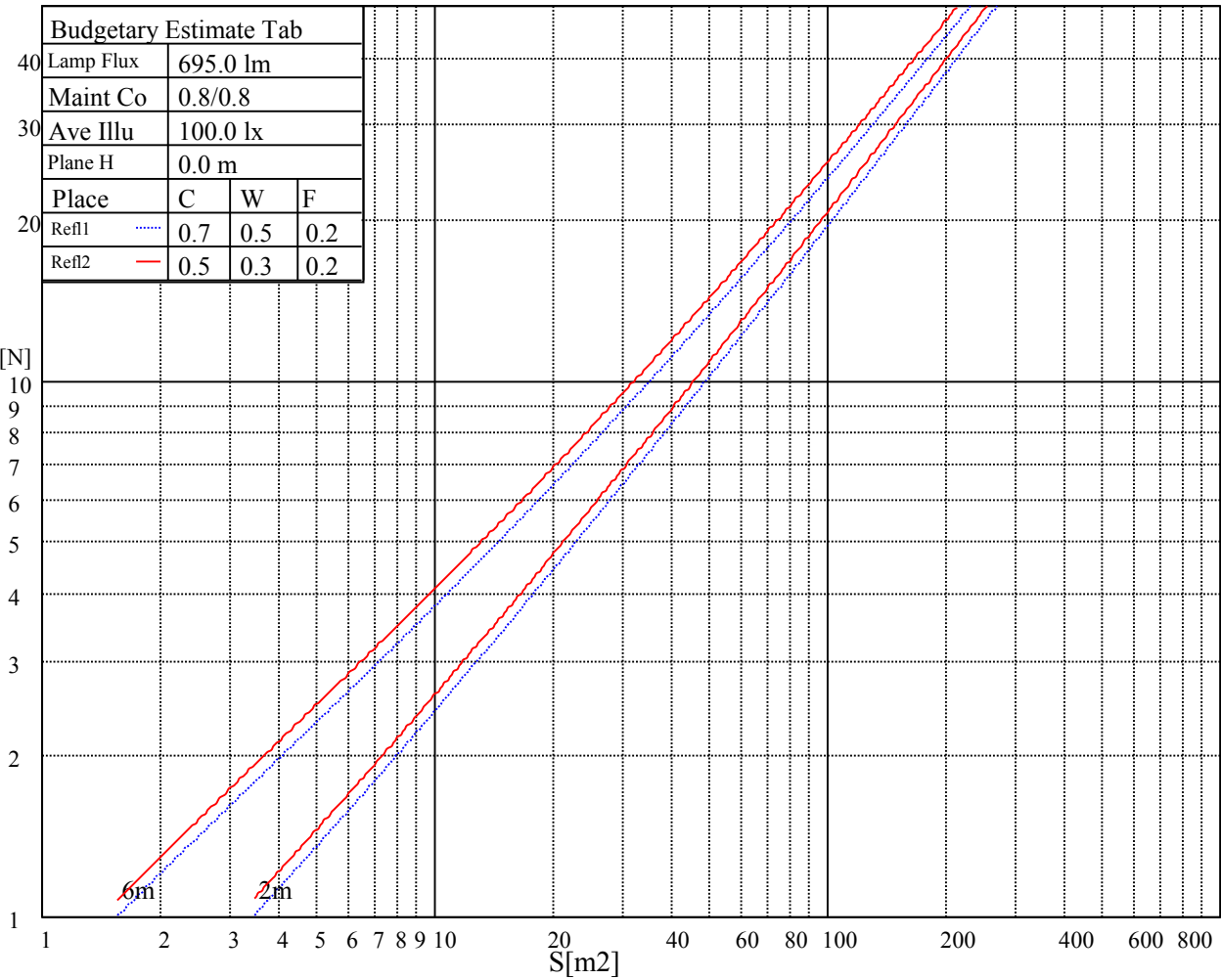
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

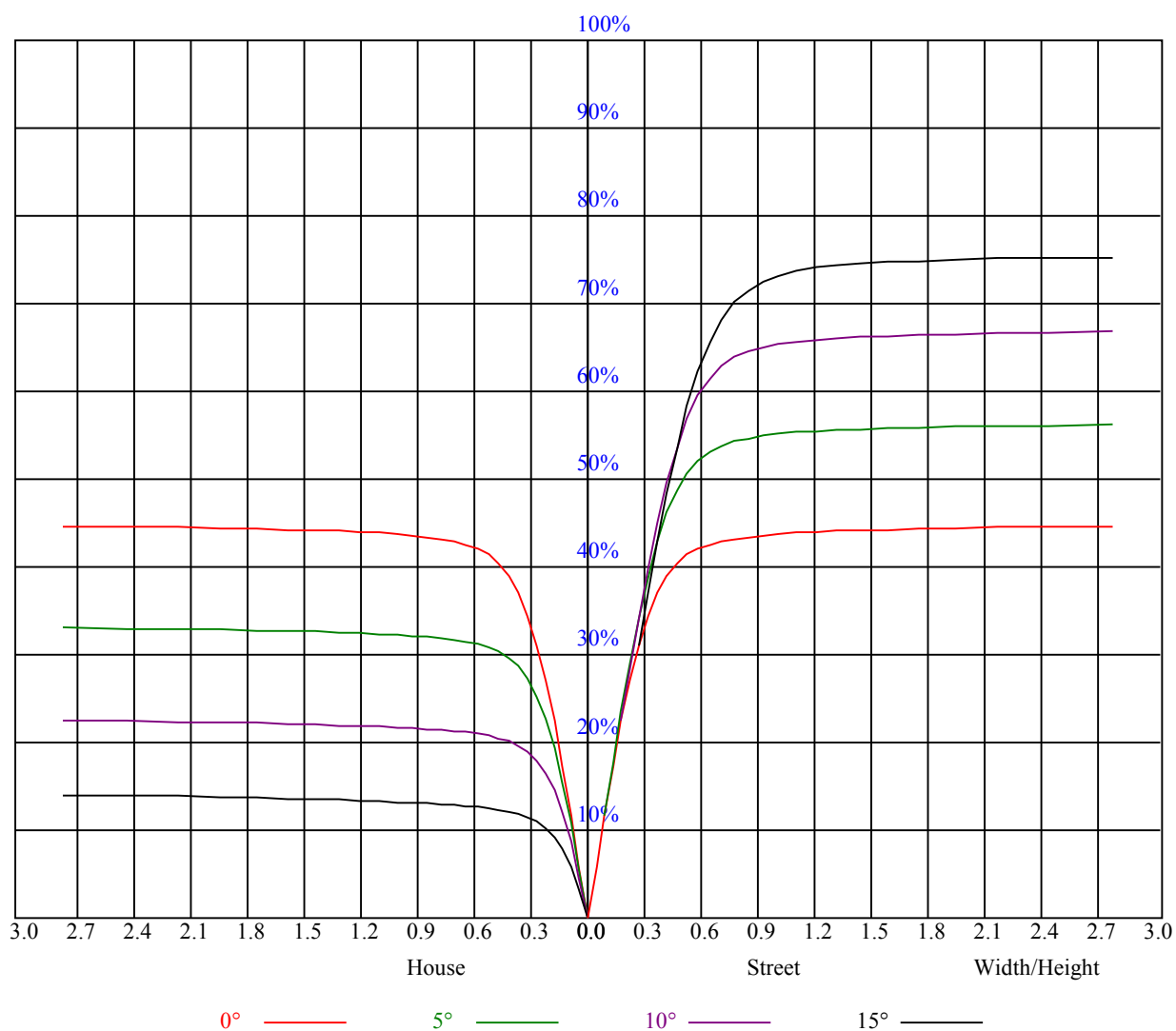
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	1.05	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	0.98	0.96	0.99	0.97	0.95	0.95	0.93	0.92	0.92	0.90	0.89	0.88	0.88	0.87	0.85
2	0.95	0.91	0.88	0.93	0.90	0.87	0.90	0.88	0.85	0.87	0.85	0.84	0.85	0.83	0.82	0.81
3	0.89	0.85	0.82	0.88	0.84	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.76
4	0.85	0.80	0.77	0.84	0.80	0.77	0.82	0.78	0.76	0.80	0.77	0.75	0.79	0.76	0.74	0.73
5	0.81	0.76	0.73	0.80	0.76	0.73	0.78	0.75	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.70
6	0.77	0.73	0.69	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.67
7	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.64
8	0.71	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.69	0.65	0.62	0.68	0.65	0.62	0.61
9	0.68	0.63	0.60	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.59
10	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.57



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	1405.13	1406.81	1407.38	1405.13	1399.50	1388.81	1376.44	1357.31	1330.31
45.0	1414.13	1420.31	1428.75	1432.13	1433.25	1430.44	1422.56	1410.75	1395.00
90.0	1418.63	1426.50	1433.81	1438.31	1440.00	1441.69	1437.19	1432.13	1414.13
135.0	1415.25	1418.06	1422.56	1424.25	1422.00	1419.75	1410.19	1402.88	1387.13
180.0	1405.13	1404.00	1403.44	1396.69	1388.25	1378.13	1361.81	1345.50	1322.44
225.0	1414.13	1407.38	1403.44	1397.81	1387.13	1377.00	1362.38	1339.88	1316.81
270.0	1418.63	1413.00	1405.13	1398.38	1394.44	1381.50	1367.44	1346.63	1320.75
315.0	1415.25	1410.19	1407.94	1397.25	1386.56	1366.88	1351.13	1323.56	1289.25
360.0	1405.13	1406.81	1407.38	1405.13	1399.50	1388.81	1376.44	1357.31	1330.31
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1296.00	1258.88	1216.69	1168.88	1100.81	1040.63	974.81	901.13	807.75
45.0	1367.44	1332.56	1297.13	1245.94	1189.13	1137.94	1058.63	975.94	908.44
90.0	1389.94	1355.06	1312.31	1268.44	1219.50	1120.11	1078.54	1006.93	911.03
135.0	1363.50	1335.94	1299.94	1260.00	1209.94	1153.69	1099.69	1031.06	951.75
180.0	1289.81	1254.94	1218.94	1174.50	1119.15	1068.36	1006.76	945.00	872.16
225.0	1287.00	1251.00	1208.81	1117.58	1110.83	1047.38	981.28	922.95	845.27
270.0	1290.38	1260.56	1216.13	1170.00	1116.00	1054.13	992.81	916.88	835.88
315.0	1261.13	1215.56	1119.32	1106.16	1052.89	984.15	908.49	837.84	766.07
360.0	1296.00	1258.88	1216.69	1168.88	1100.81	1040.63	974.81	901.13	807.75
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	732.94	659.81	573.75	510.75	450.00	387.56	330.75	289.69	235.80
45.0	803.81	727.31	652.50	562.50	491.06	433.13	362.25	313.88	288.56
90.0	827.66	747.00	648.28	576.51	509.23	431.78	382.11	323.78	267.58
135.0	876.38	804.94	711.56	639.56	563.63	489.38	425.81	374.63	318.94
180.0	793.86	722.19	651.54	566.04	504.06	446.51	381.26	332.61	289.46
225.0	766.86	695.59	618.64	544.05	480.49	415.52	362.48	309.60	262.74
270.0	763.88	692.44	603.56	537.75	475.88	403.88	351.56	304.31	287.44
315.0	676.80	605.03	538.99	461.25	404.16	352.63	300.04	255.26	219.66
360.0	732.94	659.81	573.75	510.75	450.00	387.56	330.75	289.69	235.80
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	200.64	170.49	139.44	118.41	100.58	82.18	70.37	60.58	50.79
45.0	215.61	184.73	154.63	126.79	104.51	88.54	73.97	62.21	54.11
90.0	233.49	199.01	157.78	135.79	114.24	90.34	78.19	66.32	56.03
135.0	287.44	233.55	196.54	165.60	137.87	113.85	96.30	79.88	66.43
180.0	246.43	208.35	178.65	149.57	127.41	106.37	88.71	75.66	63.17
225.0	226.13	190.46	160.59	136.86	116.66	96.02	81.84	69.98	59.01
270.0	211.95	181.29	154.80	129.43	108.51	92.53	77.63	65.36	56.31
315.0	183.99	156.49	130.50	108.84	92.70	77.29	64.69	55.29	47.87
360.0	200.64	170.49	139.44	118.41	100.58	82.18	70.37	60.58	50.79
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	44.55	39.71	35.04	31.28	28.35	25.71	23.29	21.26	19.35
45.0	46.46	41.29	36.28	32.18	28.91	26.27	23.34	21.32	19.52
90.0	47.36	41.79	36.73	32.34	29.31	25.99	23.51	21.21	19.07
135.0	56.59	48.66	41.68	36.39	32.57	28.86	26.04	23.79	21.60
180.0	53.44	46.35	40.84	35.04	31.50	28.29	24.98	22.67	20.59
225.0	50.18	44.10	38.19	33.36	29.87	26.61	23.96	21.60	19.52
270.0	48.15	42.24	36.84	32.34	29.03	26.61	23.29	21.21	19.52
315.0	40.56	36.17	32.23	28.35	25.93	23.74	21.60	19.58	18.00
360.0	44.55	39.71	35.04	31.28	28.35	25.71	23.29	21.26	19.35

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	17.89	16.31	14.85	13.73	12.54	11.59	10.74	10.13	9.34
45.0	17.44	15.92	14.68	13.39	12.32	11.42	10.52	9.84	9.11
90.0	17.49	16.09	14.46	13.39	12.38	11.19	10.46	9.79	9.11
135.0	19.80	18.06	16.48	15.24	14.18	12.94	12.04	11.19	10.24
180.0	18.79	17.04	15.75	14.18	13.22	12.15	11.08	10.41	9.68
225.0	17.89	16.43	14.74	13.56	12.49	11.53	10.63	9.96	9.28
270.0	17.44	16.03	14.96	13.61	12.43	11.59	10.63	9.96	9.34
315.0	16.48	15.08	13.84	12.77	11.93	10.97	10.13	9.56	9.00
360.0	17.89	16.31	14.85	13.73	12.54	11.59	10.74	10.13	9.34
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	8.72	8.27	7.76	7.37	7.09	6.75	6.47	6.24	5.96
45.0	8.61	8.10	7.65	7.26	6.92	6.64	6.36	6.19	6.02
90.0	8.49	7.99	7.65	7.20	6.86	6.64	6.30	6.13	5.91
135.0	9.68	9.06	8.44	7.93	7.59	7.20	6.92	6.58	6.30
180.0	8.94	8.49	8.04	7.48	7.20	6.92	6.58	6.30	6.13
225.0	8.72	8.27	7.71	7.37	7.03	6.69	6.41	6.13	5.96
270.0	8.61	8.10	7.76	7.31	6.98	6.69	6.36	6.19	5.96
315.0	8.33	7.93	7.48	7.14	6.86	6.53	6.30	6.08	5.91
360.0	8.72	8.27	7.76	7.37	7.09	6.75	6.47	6.24	5.96
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	5.79	5.63	5.40	5.29	5.18	5.01	4.89	4.78	4.61
45.0	5.74	5.63	5.46	5.34	5.23	5.12	5.01	4.84	4.84
90.0	5.74	5.63	5.51	5.34	5.29	5.18	5.68	7.20	9.28
135.0	6.08	5.91	5.74	5.57	5.40	5.23	5.12	5.01	4.84
180.0	5.96	5.74	5.57	5.40	5.29	5.18	5.01	4.89	4.78
225.0	5.79	5.63	5.40	5.34	5.23	5.12	5.01	4.89	4.73
270.0	5.74	5.63	5.51	5.34	5.23	5.46	7.09	9.11	11.53
315.0	5.68	5.57	5.40	5.23	5.12	4.95	4.78	4.67	4.56
360.0	5.79	5.63	5.40	5.29	5.18	5.01	4.89	4.78	4.61
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	4.56	4.50	4.44	4.39	4.28	4.16	4.11	3.99	3.88
45.0	4.73	4.67	4.67	4.73	4.84	4.84	4.89	4.89	4.73
90.0	11.98	14.63	16.59	18.51	19.91	20.14	19.13	17.49	15.41
135.0	4.73	4.73	4.61	4.56	4.50	4.39	4.33	4.22	4.05
180.0	4.67	4.56	4.50	4.39	4.39	4.33	4.22	4.11	3.99
225.0	4.67	4.61	4.78	4.95	5.29	5.57	5.79	5.85	5.18
270.0	14.79	16.88	18.62	20.25	20.98	20.93	19.13	17.33	15.19
315.0	4.50	4.44	4.39	4.33	4.28	4.16	4.05	3.94	3.77
360.0	4.56	4.50	4.44	4.39	4.28	4.16	4.11	3.99	3.88
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	3.77	3.60	3.49	3.38	3.26	3.09	2.98	2.93	2.93
45.0	4.28	3.94	3.83	3.60	3.43	3.21	2.98	2.93	2.87
90.0	13.33	11.14	8.33	5.34	3.99	3.66	3.04	2.93	2.87
135.0	3.88	3.71	3.54	3.38	3.26	3.09	2.98	2.87	2.87
180.0	3.88	3.77	3.66	3.49	3.38	3.21	3.04	2.98	2.87
225.0	4.73	4.16	3.77	3.66	3.49	3.21	3.04	2.93	2.87
270.0	12.04	9.56	6.02	4.11	3.94	3.54	3.09	2.93	2.81
315.0	3.60	3.38	3.26	3.09	3.04	2.98	2.87	2.81	2.81
360.0	3.77	3.60	3.49	3.38	3.26	3.09	2.98	2.93	2.93

Intensity data(cd)

Appendix Page: 18 Total:18

C/ γ (°)	90.0
0.0	2.93
45.0	2.81
90.0	2.81
135.0	2.81
180.0	2.93
225.0	2.87
270.0	2.81
315.0	2.81
360.0	2.93