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Nata

Client:

LumCAT: 2-2185-M

Luminaire: BJB 47.360.5080

Report No: nt0100

Test No: GC2020031336

LampCAT: NICHIA NFCWJ120B-V3

Lamp flux(lm): 2445.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 220.6000

Current(A): 0.1080

Power (W): 22.8600

PF: 0.9560

Ballast type: AC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 1806.88, Efficiency(%): 73.90% , Luminous Efficacy(lm/W): 79.04

Central intensity(cd): 6348.255, Maximum intensity(cd): 6348.255

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=32.0

[C90/270]Total=32.0

Field angle(10%Imax): [C0/180]Total=49.0

[C90/270]Total=49.0

Maximum s/h(1/2): C0_180=0.54 C90_270=0.54

Maximum s/h(1/4): C0_180=0.51 C90_270=0.51

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 73.90%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.709%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6348.256	0.000	0	.000%	.000%
1.0	6330.043	6.066	6.066	.248%	.336%
2.0	6284.277	18.105	24.172	.741%	1.338%
3.0	6210.844	29.884	54.056	1.222%	2.992%
4.0	6103.536	41.220	95.276	1.686%	5.273%
5.0	5972.621	51.951	147.227	2.125%	8.148%
6.0	5806.961	61.905	209.132	2.532%	11.574%
7.0	5618.911	70.920	280.052	2.901%	15.499%
8.0	5410.212	78.933	358.985	3.228%	19.868%
9.0	5183.880	85.859	444.845	3.512%	24.619%
10.0	4934.752	91.570	536.415	3.745%	29.687%
11.0	4684.522	96.116	632.531	3.931%	35.007%
12.0	4397.401	99.278	731.809	4.060%	40.501%
13.0	4108.830	100.948	832.757	4.129%	46.088%
14.0	3819.796	101.486	934.243	4.151%	51.705%
15.0	3519.102	100.752	1034.994	4.121%	57.281%
16.0	3179.778	98.157	1133.151	4.015%	62.713%
17.0	2880.186	94.370	1227.521	3.860%	67.936%
18.0	2544.110	89.435	1316.956	3.658%	72.885%
19.0	2209.020	82.695	1399.651	3.382%	77.462%
20.0	1829.869	73.923	1473.574	3.023%	81.553%
21.0	1547.929	64.861	1538.434	2.653%	85.143%
22.0	1254.451	56.315	1594.749	2.303%	88.260%
23.0	944.499	46.140	1640.889	1.887%	90.813%
24.0	741.746	36.867	1677.757	1.508%	92.854%
25.0	527.119	28.851	1706.608	1.180%	94.450%
26.0	361.383	20.973	1727.581	.858%	95.611%
27.0	250.114	14.960	1742.541	.612%	96.439%
28.0	147.905	10.077	1752.618	.412%	96.997%
29.0	90.080	6.226	1758.845	.255%	97.341%
30.0	52.610	3.853	1762.697	.158%	97.555%
31.0	17.691	1.956	1764.654	.080%	97.663%
32.0	13.144	0.883	1765.537	.036%	97.712%
33.0	11.473	0.725	1766.262	.030%	97.752%
34.0	10.690	0.671	1766.933	.027%	97.789%
35.0	10.244	0.650	1767.583	.027%	97.825%
36.0	9.878	0.641	1768.224	.026%	97.860%
37.0	9.547	0.634	1768.858	.026%	97.895%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	9.257	0.628	1769.485	.026%	97.930%
39.0	9.008	0.623	1770.109	.025%	97.965%
40.0	8.776	0.620	1770.729	.025%	97.999%
41.0	8.585	0.618	1771.347	.025%	98.033%
42.0	8.428	0.618	1771.965	.025%	98.067%
43.0	8.295	0.619	1772.585	.025%	98.102%
44.0	8.184	0.622	1773.207	.025%	98.136%
45.0	8.092	0.626	1773.832	.026%	98.171%
46.0	7.981	0.629	1774.461	.026%	98.206%
47.0	7.877	0.631	1775.091	.026%	98.240%
48.0	7.825	0.635	1775.726	.026%	98.276%
49.0	7.720	0.638	1776.365	.026%	98.311%
50.0	7.616	0.639	1777.004	.026%	98.346%
51.0	7.558	0.642	1777.646	.026%	98.382%
52.0	7.465	0.645	1778.291	.026%	98.418%
53.0	7.390	0.646	1778.937	.026%	98.453%
54.0	7.320	0.648	1779.585	.027%	98.489%
55.0	7.268	0.651	1780.236	.027%	98.525%
56.0	7.216	0.654	1780.891	.027%	98.561%
57.0	7.181	0.658	1781.549	.027%	98.598%
58.0	7.140	0.662	1782.211	.027%	98.635%
59.0	7.135	0.667	1782.879	.027%	98.671%
60.0	7.071	0.671	1783.55	.027%	98.709%
61.0	7.030	0.673	1784.223	.028%	98.746%
62.0	7.013	0.677	1784.899	.028%	98.783%
63.0	7.030	0.683	1785.582	.028%	98.821%
64.0	7.123	0.694	1786.277	.028%	98.860%
65.0	7.245	0.711	1786.988	.029%	98.899%
66.0	7.512	0.736	1787.724	.030%	98.940%
67.0	7.854	0.773	1788.497	.032%	98.982%
68.0	8.318	0.819	1789.316	.034%	99.028%
69.0	8.909	0.879	1790.195	.036%	99.076%
70.0	9.588	0.950	1791.145	.039%	99.129%
71.0	10.342	1.030	1792.175	.042%	99.186%
72.0	11.090	1.114	1793.289	.046%	99.248%
73.0	11.769	1.195	1794.485	.049%	99.314%
74.0	12.332	1.267	1795.752	.052%	99.384%
75.0	12.697	1.322	1797.074	.054%	99.457%

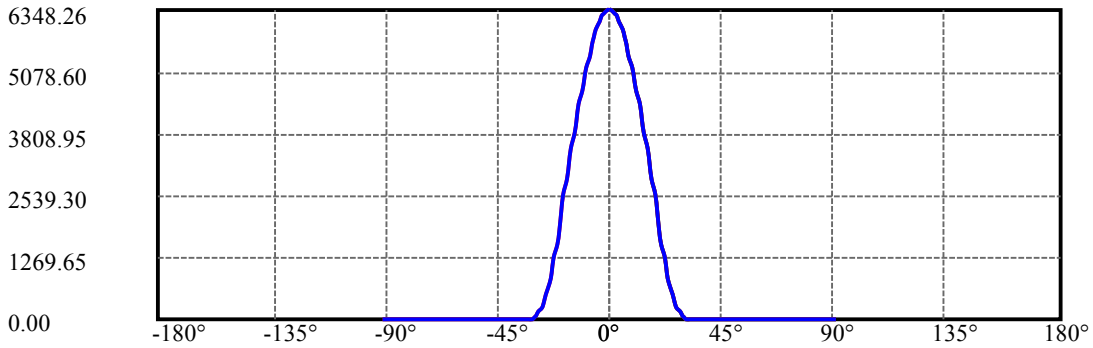
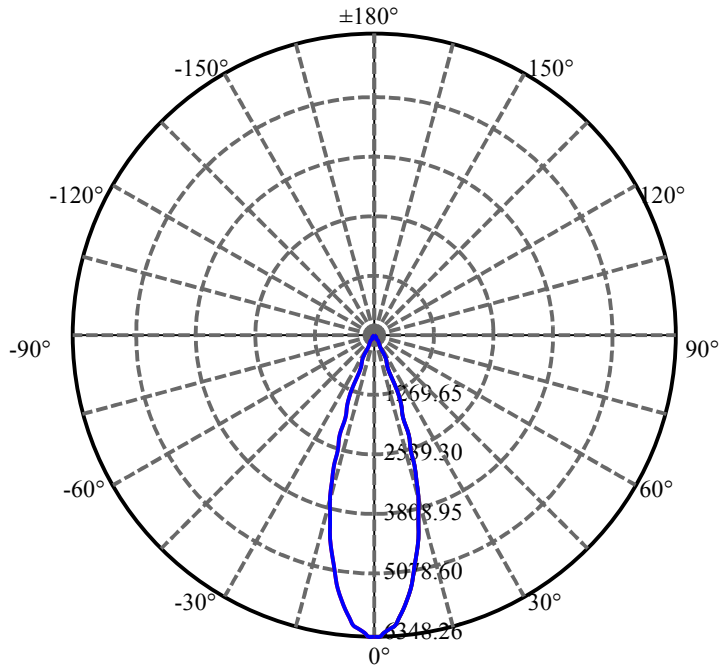
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	12.709	1.349	1798.423	.055%	99.532%
77.0	12.297	1.333	1799.756	.055%	99.606%
78.0	11.282	1.262	1801.018	.052%	99.675%
79.0	9.925	1.139	1802.158	.047%	99.738%
80.0	8.022	0.968	1803.125	.040%	99.792%
81.0	5.998	0.758	1803.883	.031%	99.834%
82.0	4.426	0.565	1804.448	.023%	99.865%
83.0	3.376	0.424	1804.873	.017%	99.889%
84.0	2.686	0.330	1805.203	.014%	99.907%
85.0	2.454	0.280	1805.483	.011%	99.922%
86.0	2.436	0.267	1805.751	.011%	99.937%
87.0	2.436	0.267	1806.017	.011%	99.952%
88.0	2.558	0.274	1806.291	.011%	99.967%
89.0	2.738	0.290	1806.581	.012%	99.983%
90.0	2.784	0.303	1806.884	.012%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1762.70	72.09%	97.55%
0-40	1770.73	72.42%	98.00%
0-60	1783.55	72.95%	98.71%
0-90	1806.58	73.89%	99.98%
0-120	1806.58	73.89%	99.98%
0-180	1806.88	73.90%	100.00%
60-90	23.70	0.97%	1.31%
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%
0-19.62	1445.51	59.12%	80.00%

ZONAL LUMEN SUMMARY

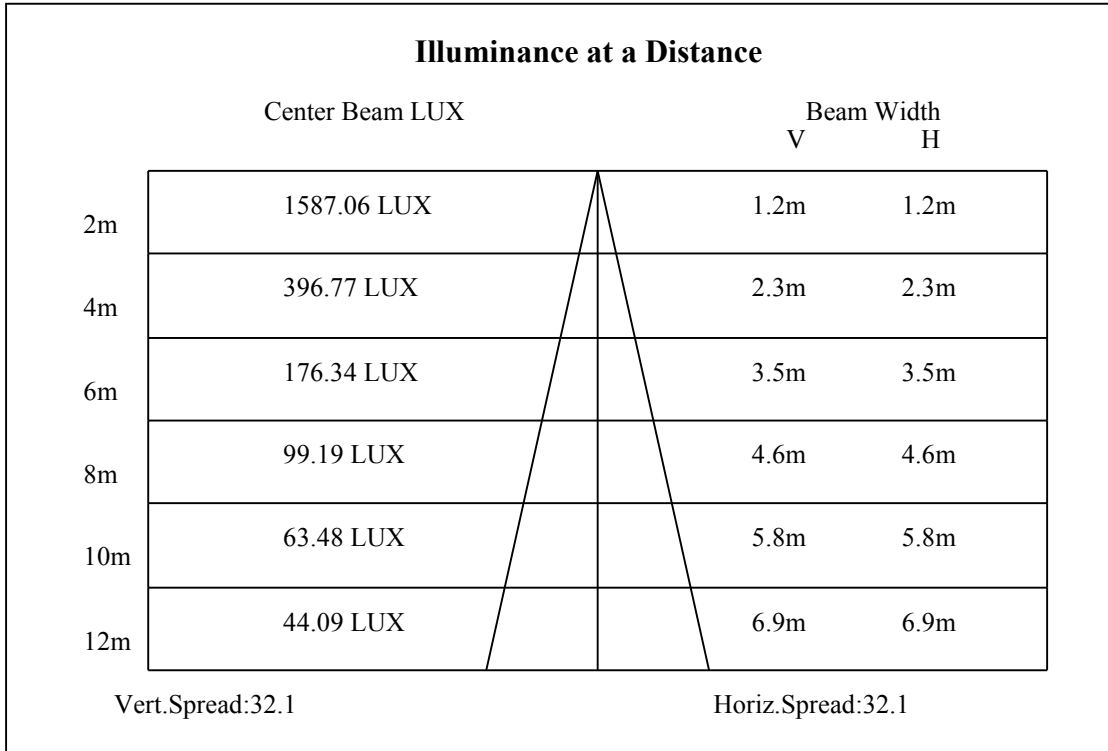
0-10	536.41
10-20	937.16
20-30	289.12
30-40	8.03
40-50	6.28
50-60	6.55
60-70	7.59
70-80	11.98
80-90	3.46
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

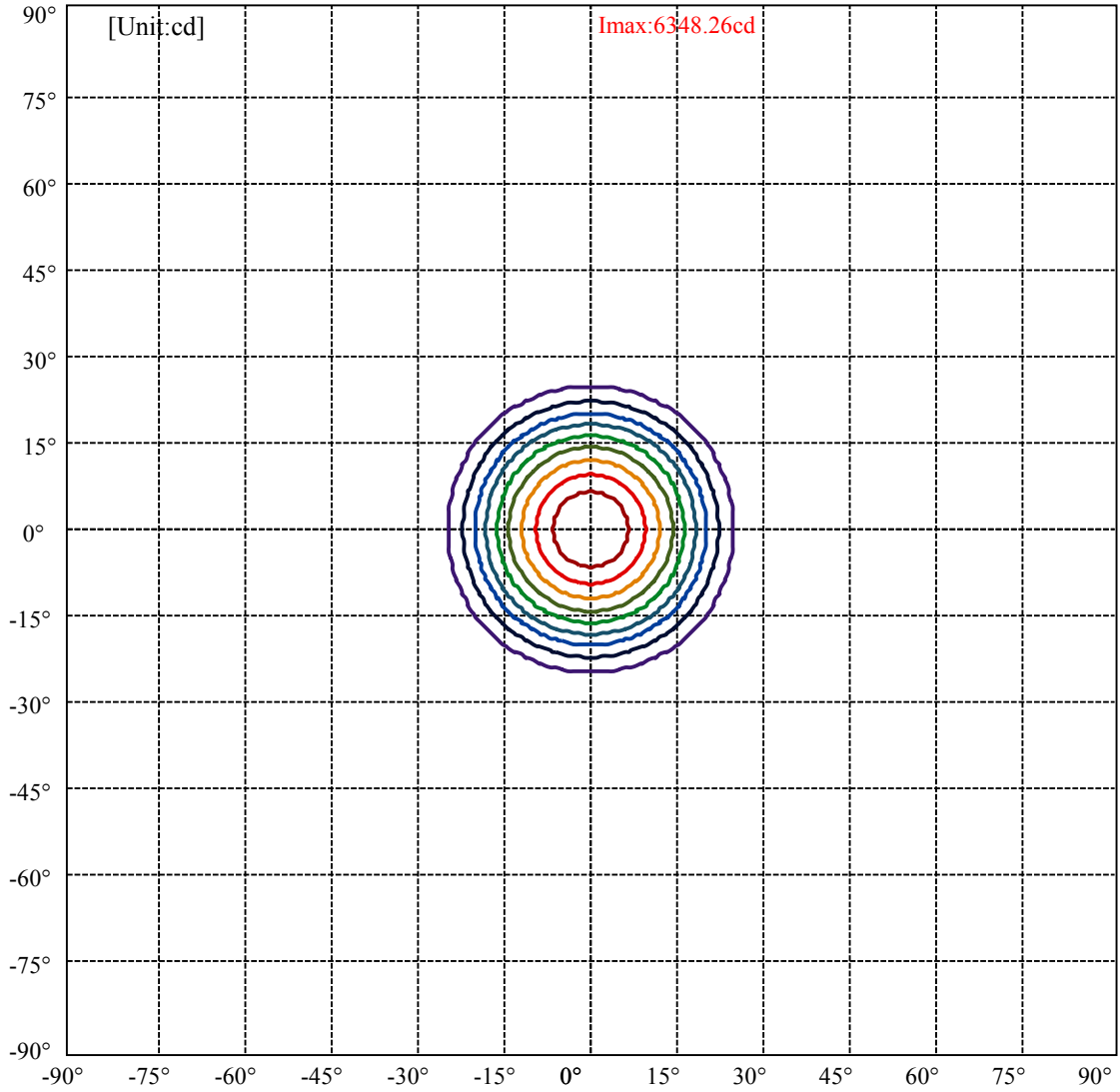


C0(Max): —
C0/C180: —
C90/C270: —

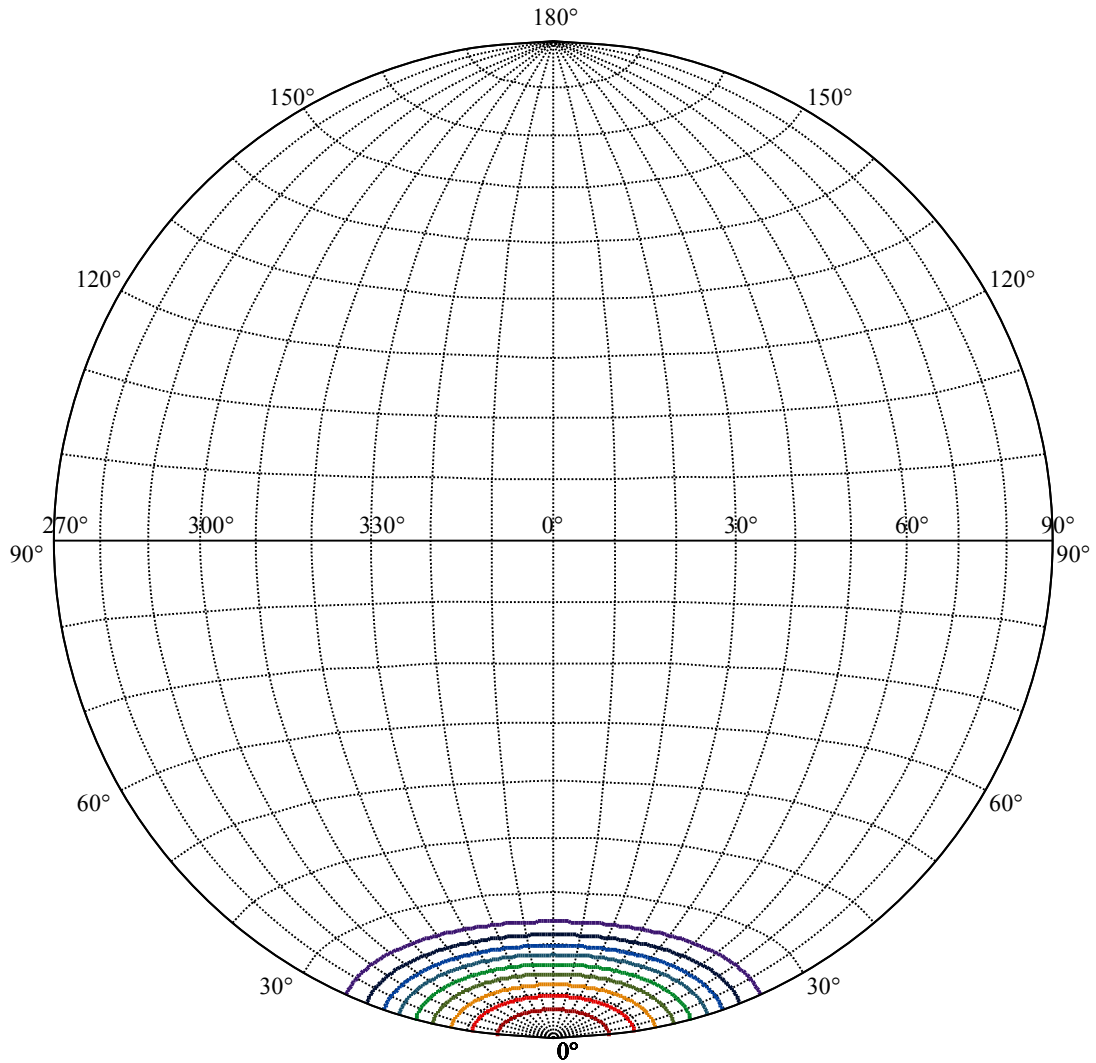
Field angle(10%Imax):C0/180Left:24.5 Right:24.5
:C90/270Left:24.5 Right:24.5

Beam Angle(50%Imax):C0/180Left:16.0 Right:16.0
:C90/270Left:16.0 Right:16.0





(10%I _{max}) 634.826	—
(20%I _{max}) 1269.65	—
(30%I _{max}) 1904.48	—
(40%I _{max}) 2539.3	—
(50%I _{max}) 3174.13	—
(60%I _{max}) 3808.95	—
(70%I _{max}) 4443.78	—
(80%I _{max}) 5078.6	—
(90%I _{max}) 5713.43	—



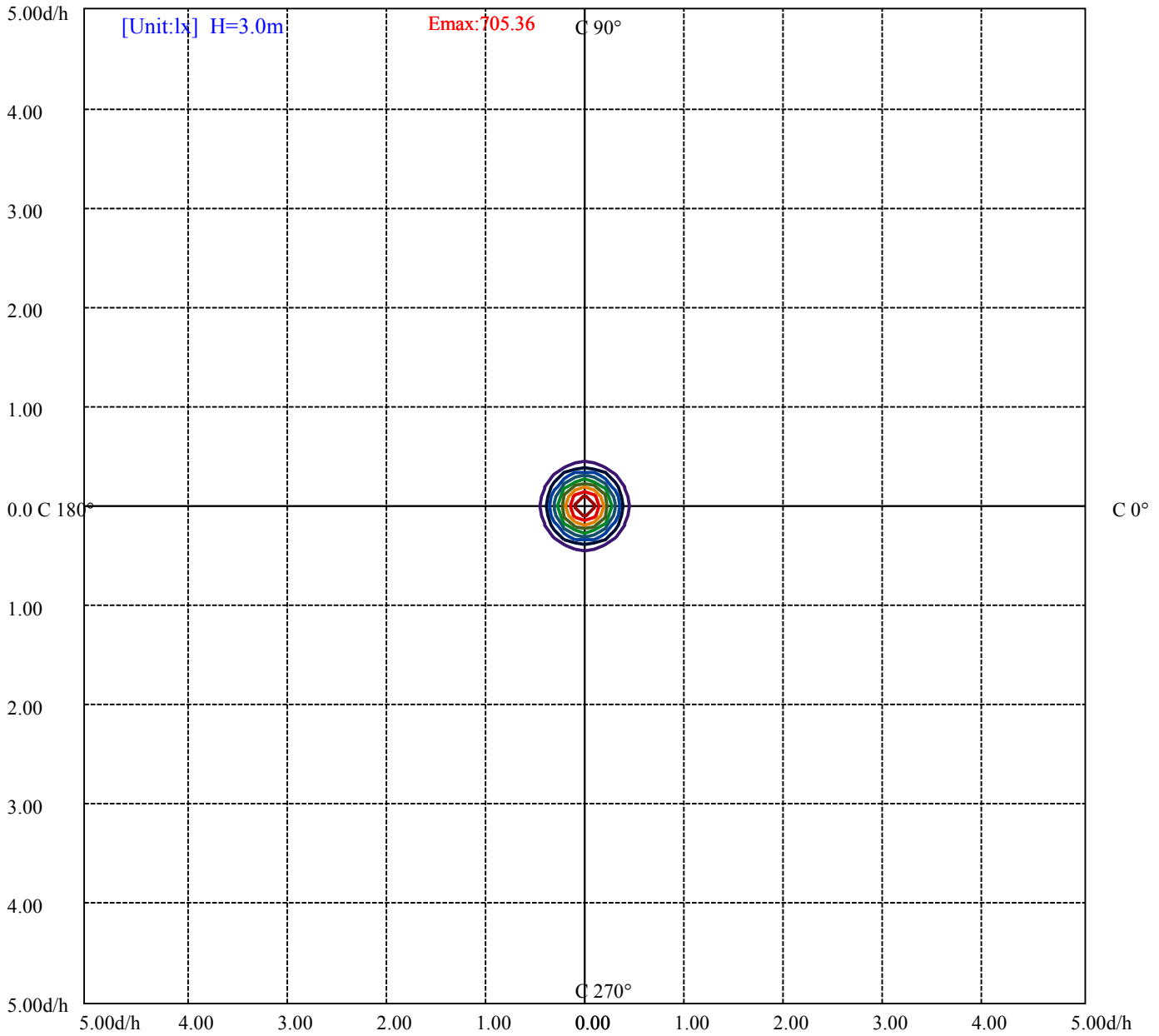
House

[Unit:cd]

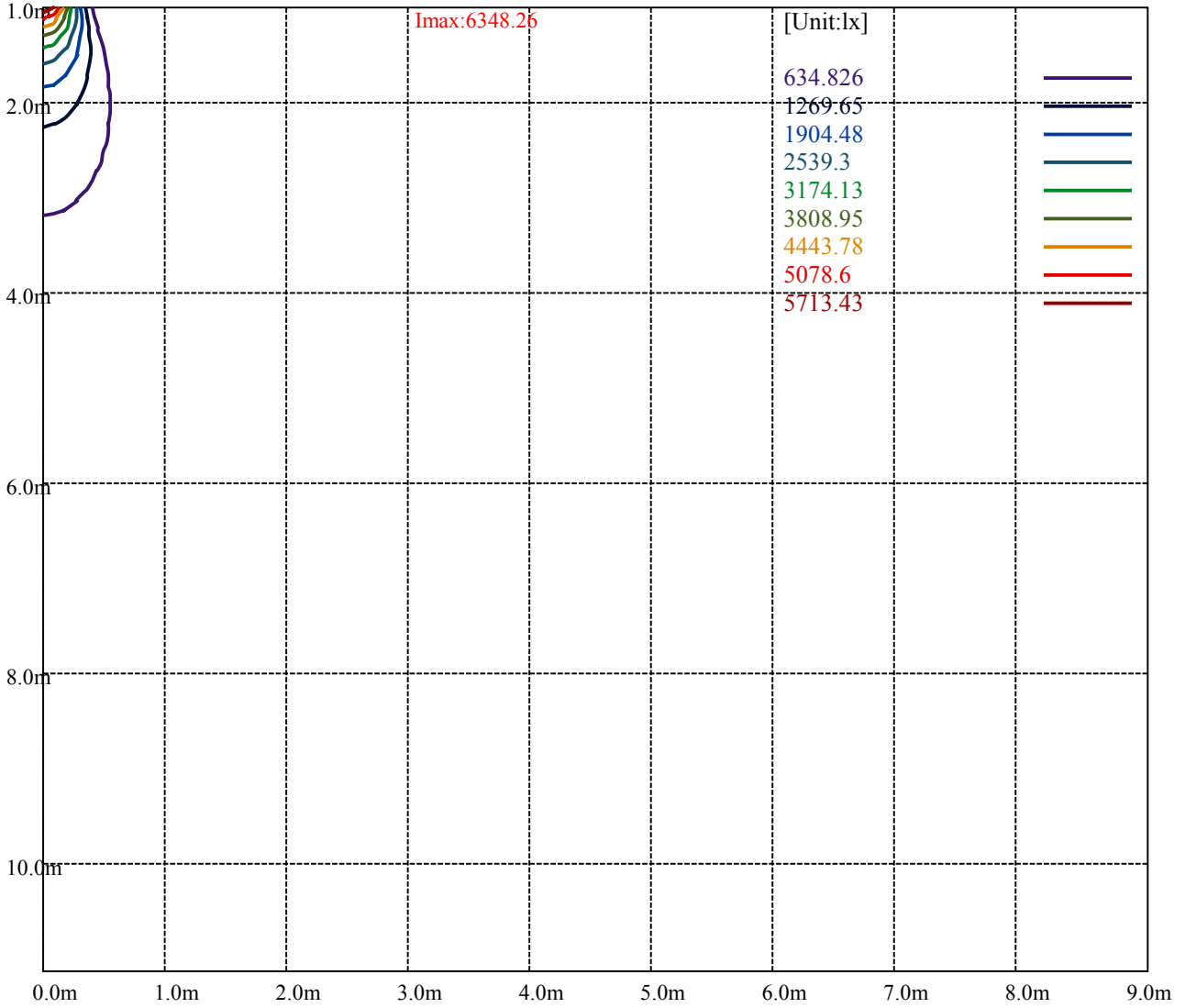
Road

Imax:6348.26

(10%Imax) 634.826	—
(20%Imax) 1269.65	—
(30%Imax) 1904.48	—
(40%Imax) 2539.3	—
(50%Imax) 3174.13	—
(60%Imax) 3808.95	—
(70%Imax) 4443.78	—
(80%Imax) 5078.6	—
(90%Imax) 5713.43	—



(10%Emax) 70.53611	—
(20%Emax) 141.0722	—
(30%Emax) 211.6089	—
(40%Emax) 282.1444	—
(50%Emax) 352.6811	—
(60%Emax) 423.2167	—
(70%Emax) 493.7533	—
(80%Emax) 564.2889	—
(90%Emax) 634.8256	—



Luminance Table

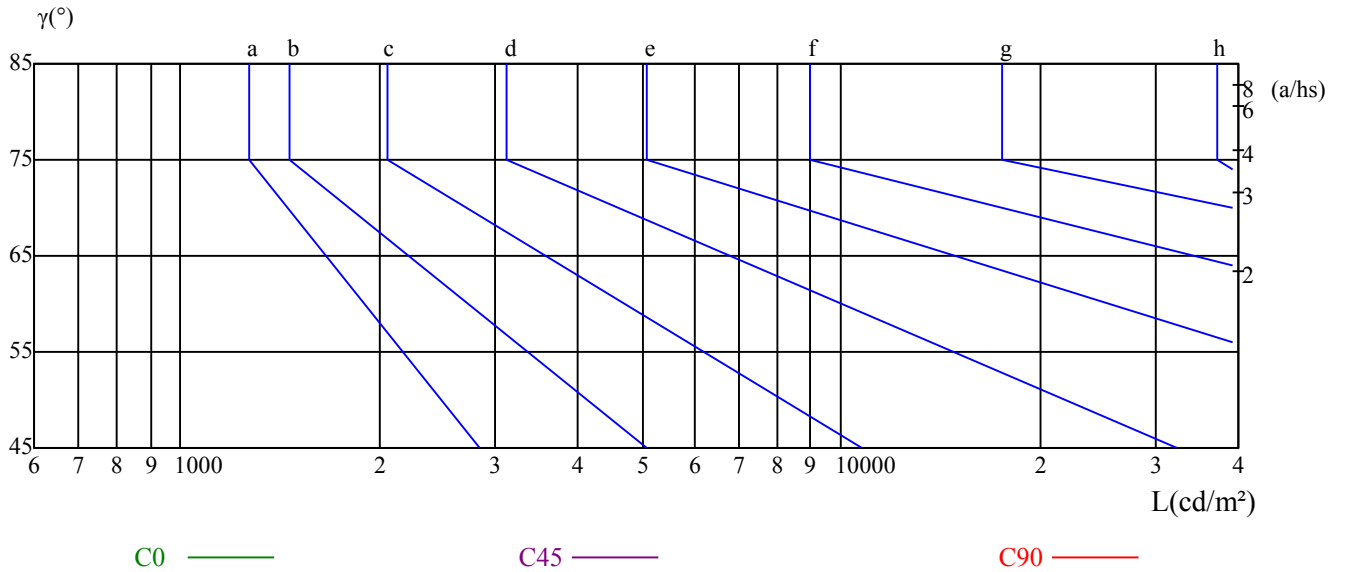
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

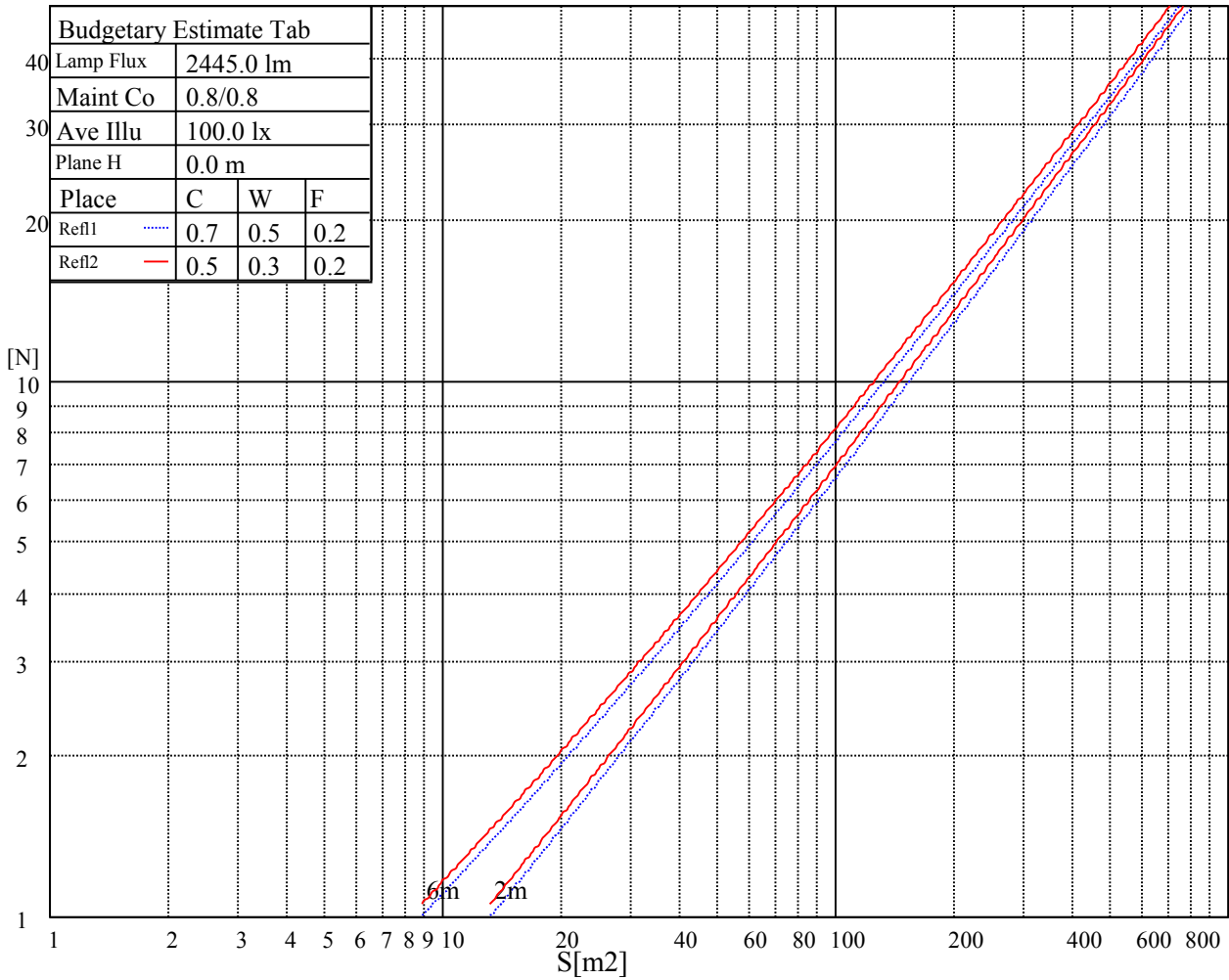
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

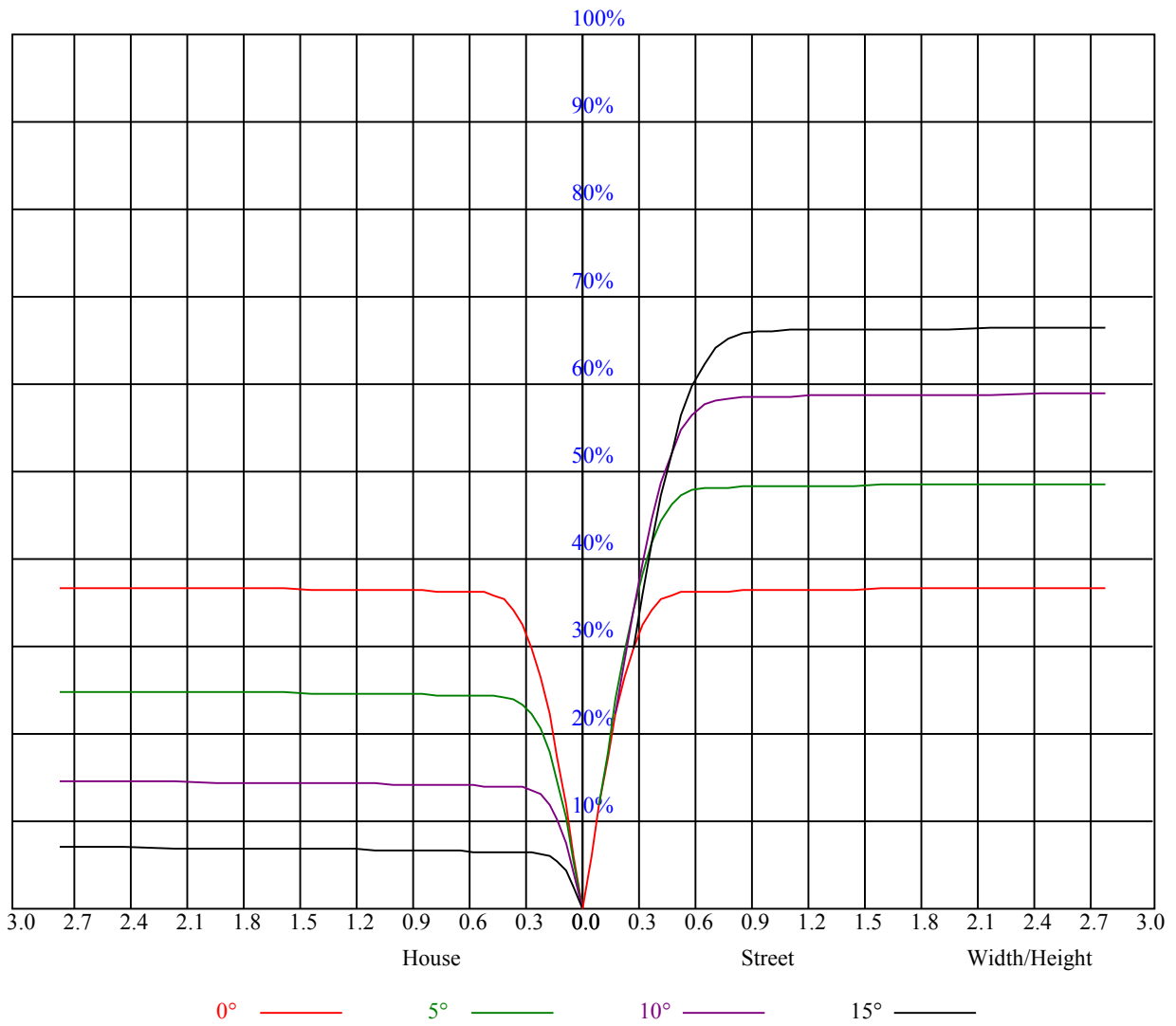
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

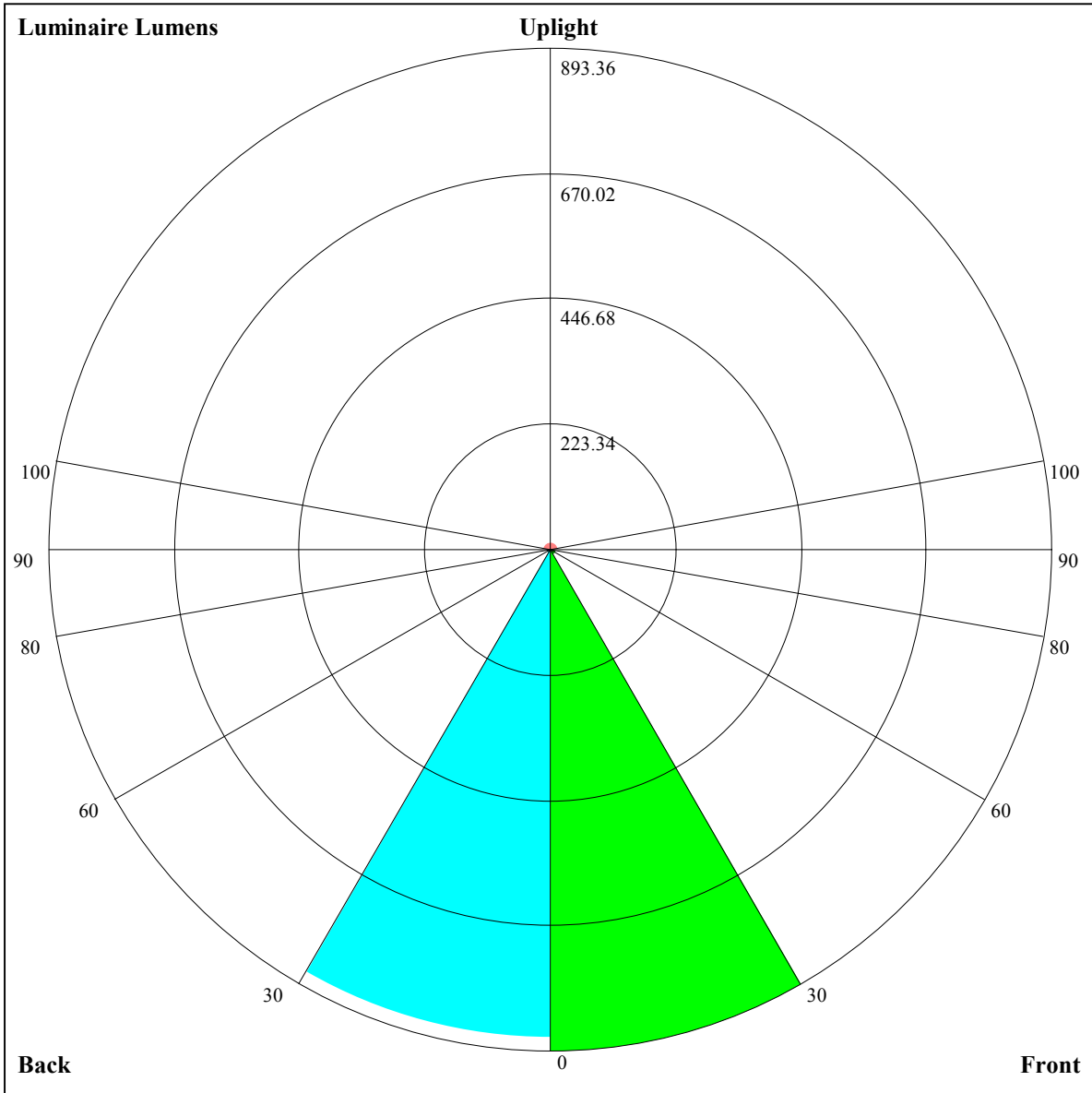
Luminance Limiting Curve





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	0.88	0.88	0.88	0.86	0.86	0.86	0.82	0.82	0.82	0.79	0.79	0.79	0.75	0.75	0.75	0.74
1	0.83	0.82	0.80	0.82	0.80	0.79	0.79	0.78	0.77	0.76	0.75	0.74	0.73	0.73	0.72	0.71
2	0.79	0.77	0.75	0.78	0.76	0.74	0.76	0.74	0.72	0.73	0.72	0.71	0.71	0.70	0.69	0.68
3	0.76	0.73	0.71	0.75	0.72	0.70	0.73	0.71	0.69	0.71	0.69	0.68	0.70	0.68	0.67	0.66
4	0.73	0.70	0.67	0.72	0.69	0.67	0.70	0.68	0.66	0.69	0.67	0.65	0.68	0.66	0.65	0.64
5	0.70	0.67	0.65	0.69	0.66	0.64	0.68	0.66	0.64	0.67	0.65	0.63	0.66	0.64	0.63	0.62
6	0.68	0.64	0.62	0.67	0.64	0.62	0.66	0.63	0.62	0.65	0.63	0.61	0.64	0.62	0.61	0.60
7	0.65	0.62	0.60	0.65	0.62	0.60	0.64	0.61	0.59	0.63	0.61	0.59	0.63	0.60	0.59	0.58
8	0.63	0.60	0.58	0.63	0.60	0.58	0.62	0.60	0.58	0.62	0.59	0.57	0.61	0.59	0.57	0.56
9	0.61	0.58	0.56	0.61	0.58	0.56	0.60	0.58	0.56	0.60	0.57	0.56	0.59	0.57	0.56	0.55
10	0.60	0.57	0.54	0.59	0.56	0.54	0.59	0.56	0.54	0.58	0.56	0.54	0.58	0.56	0.54	0.53





Luminaire Lumens:

FL=893.36,FM=12.56,FH=11.14,FVH=2.27

BL=870.2,BM=9.43,BH=8.62,BVH=1.64

UL=3.04,UH=14.46

BUG Rating:B2-U2-G0

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	6359.16	6341.53	6294.66	6216.24	6106.26	5963.34	5789.79	5593.04	5372.16
45.0	6330.85	6362.87	6376.33	6361.02	6320.65	6251.04	6148.95	6015.31	5849.65
90.0	6369.37	6377.26	6357.30	6309.51	6233.87	6127.14	5989.79	5817.63	5623.67
135.0	6333.64	6355.91	6350.34	6315.54	6252.43	6156.38	6028.30	5867.75	5681.21
180.0	6359.16	6348.95	6308.58	6236.19	6177.72	5993.04	5822.27	5708.59	5498.84
225.0	6330.85	6241.76	6130.86	6016.24	5803.71	5642.23	5420.42	5179.59	4922.98
270.0	6369.37	6333.17	6262.64	6157.77	6015.78	5915.08	5727.61	5422.74	5278.89
315.0	6333.64	6278.88	6193.50	6074.24	5917.86	5732.72	5528.54	5346.64	5054.30
360.0	6359.16	6341.53	6294.66	6216.24	6106.26	5963.34	5789.79	5593.04	5372.16
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	5134.58	4885.39	4622.75	4346.18	4063.59	3766.61	3446.89	3245.50	2898.86
45.0	5660.79	5448.73	5213.00	4966.60	4708.59	4438.53	4159.64	3871.48	3561.04
90.0	5408.82	5171.24	4920.19	4656.16	4382.84	4104.42	3933.19	3503.03	3304.89
135.0	5472.86	5241.30	5093.28	4733.65	4461.26	4295.60	4013.47	3581.92	3384.71
180.0	5264.97	5017.64	4756.85	4484.47	4202.33	3906.28	3590.74	3254.31	2908.14
225.0	4653.37	4372.17	4083.08	3775.42	3443.64	3095.15	2746.20	2411.63	2090.05
270.0	5027.38	4763.35	4487.25	4203.26	3902.57	3579.60	3237.61	2890.05	2548.05
315.0	4848.27	4578.20	4299.78	4013.47	3705.82	3372.18	3025.08	2680.30	2345.74
360.0	5134.58	4885.39	4622.75	4346.18	4063.59	3766.61	3446.89	3245.50	2898.86
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2418.12	2215.34	1880.77	1552.24	859.16	859.16	659.11	444.17	273.13
45.0	3366.61	2887.73	2679.84	2336.45	1992.61	1659.89	1341.10	1045.05	775.91
90.0	2962.90	2615.80	2274.74	1936.46	1600.50	896.51	896.51	693.13	475.45
135.0	3044.11	2699.79	2361.05	2023.23	1691.91	1375.44	1079.39	808.39	569.42
180.0	2563.83	2235.30	1905.37	1581.47	1272.89	984.73	723.94	496.56	310.02
225.0	1762.45	1441.80	771.46	771.46	722.27	491.97	302.83	161.85	75.50
270.0	2219.98	1892.37	1570.34	1262.68	976.84	713.73	484.96	297.96	297.96
315.0	2014.88	1684.02	1195.40	919.44	919.44	574.57	446.12	269.84	113.69
360.0	2418.12	2215.34	1880.77	1552.24	859.16	859.16	659.11	444.17	273.13
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	157.31	73.64	27.70	17.77	14.25	13.60	12.39	11.93	11.69
45.0	540.18	350.86	258.51	258.51	46.54	24.59	17.87	16.06	15.08
90.0	299.07	176.10	92.34	52.90	21.21	15.92	14.99	13.74	13.27
135.0	371.74	274.29	274.29	45.20	19.40	13.92	11.74	10.77	10.12
180.0	310.02	246.91	29.56	14.99	11.51	10.58	9.65	9.10	8.77
225.0	21.76	13.46	10.86	10.07	9.23	8.72	8.35	8.03	7.80
270.0	237.17	25.80	13.78	10.72	9.65	8.72	8.21	7.80	7.42
315.0	63.67	22.18	13.60	10.72	9.74	9.10	8.58	8.12	7.80
360.0	157.31	73.64	27.70	17.77	14.25	13.60	12.39	11.93	11.69
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	11.37	11.18	10.95	10.63	10.39	10.21	10.02	9.88	9.79
45.0	14.48	13.92	13.55	13.22	12.81	12.48	12.25	11.97	11.79
90.0	12.71	12.20	11.74	11.37	11.14	10.90	10.72	10.53	10.49
135.0	9.70	9.33	9.00	8.68	8.40	8.26	8.07	7.84	7.75
180.0	8.54	8.26	7.98	7.80	7.61	7.38	7.24	7.19	7.05
225.0	7.52	7.29	7.10	7.01	6.82	6.68	6.59	6.54	6.45
270.0	7.15	6.87	6.68	6.45	6.26	6.17	6.08	6.03	5.85
315.0	7.56	7.33	7.05	6.91	6.77	6.59	6.45	6.36	6.31
360.0	11.37	11.18	10.95	10.63	10.39	10.21	10.02	9.88	9.79

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	9.74	9.65	9.56	9.51	9.47	9.33	9.37	9.28	9.23
45.0	11.69	11.65	11.55	11.51	11.42	11.37	11.32	11.28	11.23
90.0	10.39	10.26	10.16	10.12	10.02	9.93	9.84	9.84	9.84
135.0	7.61	7.52	7.33	7.24	7.10	6.96	6.91	6.82	6.68
180.0	7.01	6.77	6.68	6.59	6.50	6.36	6.22	6.08	6.08
225.0	6.31	6.22	6.17	6.08	5.94	5.94	5.94	5.85	5.89
270.0	5.85	5.71	5.61	5.61	5.52	5.43	5.43	5.34	5.20
315.0	6.13	6.08	5.94	5.94	5.80	5.61	5.43	5.24	4.97
360.0	9.74	9.65	9.56	9.51	9.47	9.33	9.37	9.28	9.23
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	9.14	9.00	8.91	8.82	8.63	8.49	8.40	8.49	8.68
45.0	11.23	11.18	11.14	11.14	11.04	11.00	10.86	10.86	10.86
90.0	9.79	9.79	9.70	9.65	9.70	9.70	9.56	9.51	9.56
135.0	6.59	6.54	6.50	6.40	6.36	6.36	6.31	6.26	6.17
180.0	5.99	5.85	5.80	5.80	5.75	5.66	5.66	5.61	5.52
225.0	5.89	5.94	5.89	5.89	5.80	5.80	5.80	5.71	5.71
270.0	5.20	5.20	5.10	5.01	5.01	5.06	4.97	4.87	4.78
315.0	4.73	4.64	4.69	4.73	4.83	5.01	5.01	4.92	4.83
360.0	9.14	9.00	8.91	8.82	8.63	8.49	8.40	8.49	8.68
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	8.96	9.28	9.79	10.44	11.14	11.97	12.99	14.06	14.99
45.0	11.00	11.42	11.97	12.62	13.32	14.20	15.22	16.29	17.40
90.0	9.47	9.47	9.56	10.07	10.81	11.93	13.27	14.94	16.71
135.0	6.08	6.03	5.85	5.71	5.57	5.48	5.34	5.15	5.10
180.0	5.43	5.38	5.34	5.24	5.24	5.34	5.57	5.89	6.40
225.0	5.85	6.17	6.54	7.24	8.17	9.14	10.12	11.23	12.30
270.0	4.73	4.64	4.50	4.41	4.41	4.45	4.78	5.20	6.03
315.0	4.73	4.59	4.41	4.36	4.18	4.04	3.99	3.94	3.81
360.0	8.96	9.28	9.79	10.44	11.14	11.97	12.99	14.06	14.99
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	15.96	16.75	17.45	17.73	17.63	17.08	15.59	13.22	9.33
45.0	18.61	19.81	20.97	22.00	22.64	23.48	23.67	23.39	21.76
90.0	18.33	19.54	20.32	20.84	20.70	19.63	16.84	14.39	11.46
135.0	4.92	4.83	4.78	4.64	4.41	4.32	4.13	4.08	3.81
180.0	7.05	7.93	8.77	9.37	9.74	9.84	9.56	8.77	7.47
225.0	13.27	13.97	14.39	14.48	13.87	11.88	9.14	6.17	3.34
270.0	6.87	7.66	8.45	9.14	9.37	8.96	8.26	6.50	4.27
315.0	3.71	3.67	3.53	3.39	3.29	3.20	3.06	2.88	2.74
360.0	15.96	16.75	17.45	17.73	17.63	17.08	15.59	13.22	9.33
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	3.53	2.69	2.32	2.00	2.00	2.13	2.13	2.18	2.37
45.0	18.93	13.64	9.84	5.48	4.04	3.48	3.29	3.29	3.67
90.0	9.19	6.13	4.08	3.81	3.67	3.81	3.62	3.94	4.45
135.0	3.57	3.11	2.88	2.60	2.37	2.27	2.18	2.18	2.41
180.0	5.43	3.34	2.00	1.86	1.81	1.81	1.67	1.62	1.72
225.0	2.46	2.04	1.86	1.90	1.86	1.90	2.13	2.46	2.64
270.0	2.32	2.09	1.95	1.86	1.76	1.86	2.04	2.41	2.46
315.0	2.55	2.37	2.09	2.00	2.13	2.23	2.41	2.37	2.18
360.0	3.53	2.69	2.32	2.00	2.00	2.13	2.13	2.18	2.37

Intensity data(cd)

C/γ(°)	90.0
0.0	2.55
45.0	3.94
90.0	4.36
135.0	2.51
180.0	1.81
225.0	2.55
270.0	2.41
315.0	2.13
360.0	2.55