



NATA LIGHTING CO.,LTD.
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Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Client:

LumCAT: 1405-N

Luminaire: 92.70.043.00

Report No: nt0100

Test No: GC2019122006

LampCAT: LUMINUS CXM-6-AC40

Lamp flux(lm): 823.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 34.8300

Current(A): 0.1970

Power (W): 6.8600

PF: 1.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 713.23, Efficiency(%): 86.66% , Luminous Efficacy(lm/W): 103.97

Central intensity(cd): 1780.594, Maximum intensity(cd): 1780.594

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=23.0

[C90/270]Total=23.0

Field angle(10%Imax): [C0/180]Total=74.2

[C90/270]Total=74.2

Maximum s/h(1/2): C0_180=0.38 C90_270=0.38

Maximum s/h(1/4): C0_180=0.43 C90_270=0.43

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 86.66%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 95.352%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1780.594	0.000	0	.000%	.000%
1.0	1774.266	1.701	1.701	.207%	.238%
2.0	1742.625	5.048	6.749	.613%	.946%
3.0	1688.063	8.205	14.954	.997%	2.097%
4.0	1624.500	11.088	26.042	1.347%	3.651%
5.0	1544.414	13.633	39.674	1.656%	5.563%
6.0	1439.374	15.681	55.355	1.905%	7.761%
7.0	1344.945	17.282	72.637	2.100%	10.184%
8.0	1244.545	18.532	91.17	2.252%	12.783%
9.0	1135.913	19.292	110.462	2.344%	15.488%
10.0	1027.941	19.582	130.044	2.379%	18.233%
11.0	928.463	19.548	149.593	2.375%	20.974%
12.0	844.777	19.384	168.977	2.355%	23.692%
13.0	751.057	18.939	187.915	2.301%	26.347%
14.0	678.565	18.299	206.214	2.223%	28.913%
15.0	615.178	17.761	223.975	2.158%	31.403%
16.0	555.511	17.154	241.129	2.084%	33.808%
17.0	504.499	16.507	257.636	2.006%	36.122%
18.0	463.289	15.957	273.593	1.939%	38.360%
19.0	428.203	15.510	289.103	1.885%	40.534%
20.0	398.405	15.129	304.233	1.838%	42.656%
21.0	372.783	14.808	319.041	1.799%	44.732%
22.0	351.408	14.553	333.594	1.768%	46.772%
23.0	334.146	14.385	347.979	1.748%	48.789%
24.0	317.440	14.246	362.225	1.731%	50.786%
25.0	303.286	14.114	376.339	1.715%	52.765%
26.0	290.939	14.027	390.365	1.704%	54.732%
27.0	281.327	14.001	404.366	1.701%	56.695%
28.0	267.792	13.903	418.268	1.689%	58.644%
29.0	257.723	13.749	432.017	1.671%	60.572%
30.0	248.590	13.670	445.688	1.661%	62.489%
31.0	238.092	13.544	459.231	1.646%	64.387%
32.0	228.783	13.375	472.607	1.625%	66.263%
33.0	219.804	13.216	485.822	1.606%	68.116%
34.0	209.637	12.996	498.819	1.579%	69.938%
35.0	199.554	12.708	511.526	1.544%	71.720%
36.0	189.935	12.401	523.928	1.507%	73.458%
37.0	179.297	12.042	535.97	1.463%	75.147%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	169.348	11.637	547.607	1.414%	76.778%
39.0	158.266	11.182	558.79	1.359%	78.346%
40.0	147.052	10.648	569.438	1.294%	79.839%
41.0	137.145	10.120	579.558	1.230%	81.258%
42.0	126.541	9.580	589.138	1.164%	82.601%
43.0	115.369	8.961	598.1	1.089%	83.858%
44.0	106.263	8.365	606.465	1.016%	85.031%
45.0	97.313	7.824	614.288	.951%	86.127%
46.0	87.462	7.226	621.514	.878%	87.141%
47.0	79.798	6.652	628.167	.808%	88.073%
48.0	72.717	6.165	634.332	.749%	88.938%
49.0	65.482	5.675	640.007	.690%	89.733%
50.0	59.189	5.198	645.205	.632%	90.462%
51.0	53.993	4.789	649.994	.582%	91.134%
52.0	48.987	4.419	654.413	.537%	91.753%
53.0	44.747	4.077	658.49	.495%	92.325%
54.0	40.901	3.775	662.265	.459%	92.854%
55.0	37.455	3.498	665.763	.425%	93.345%
56.0	34.671	3.259	669.022	.396%	93.802%
57.0	31.943	3.046	672.068	.370%	94.229%
58.0	29.475	2.840	674.908	.345%	94.627%
59.0	27.513	2.664	677.572	.324%	95.000%
60.0	25.601	2.509	680.082	.305%	95.352%
61.0	23.738	2.355	682.436	.286%	95.682%
62.0	22.212	2.214	684.65	.269%	95.993%
63.0	20.827	2.093	686.743	.254%	96.286%
64.0	19.371	1.972	688.716	.240%	96.563%
65.0	18.148	1.857	690.573	.226%	96.823%
66.0	17.058	1.757	692.329	.213%	97.069%
67.0	15.996	1.662	693.991	.202%	97.302%
68.0	14.955	1.568	695.559	.191%	97.522%
69.0	14.034	1.479	697.038	.180%	97.730%
70.0	13.148	1.396	698.434	.170%	97.925%
71.0	12.298	1.315	699.749	.160%	98.110%
72.0	11.482	1.236	700.986	.150%	98.283%
73.0	10.737	1.162	702.148	.141%	98.446%
74.0	10.027	1.092	703.239	.133%	98.599%
75.0	9.295	1.021	704.26	.124%	98.742%

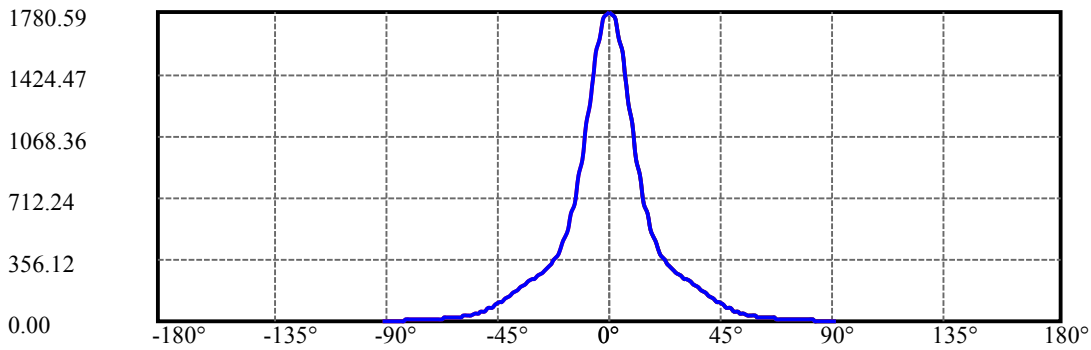
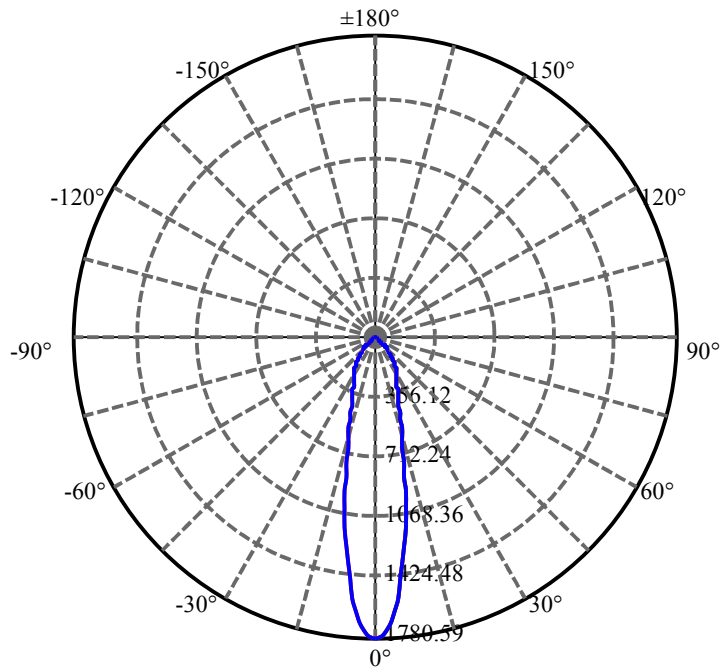
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.634	0.952	705.212	.116%	98.876%
77.0	8.037	0.889	706.101	.108%	99.000%
78.0	7.460	0.830	706.93	.101%	99.117%
79.0	6.870	0.770	707.7	.094%	99.224%
80.0	6.342	0.712	708.412	.087%	99.324%
81.0	5.871	0.660	709.073	.080%	99.417%
82.0	5.414	0.612	709.685	.074%	99.503%
83.0	4.978	0.565	710.25	.069%	99.582%
84.0	4.605	0.522	710.772	.063%	99.655%
85.0	4.303	0.486	711.258	.059%	99.723%
86.0	3.902	0.449	711.707	.054%	99.786%
87.0	3.649	0.413	712.12	.050%	99.844%
88.0	3.445	0.389	712.509	.047%	99.899%
89.0	3.277	0.368	712.877	.045%	99.950%
90.0	3.185	0.354	713.231	.043%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	445.69	54.15%	62.49%
0-40	569.44	69.19%	79.84%
0-60	680.08	82.63%	95.35%
0-90	712.88	86.62%	99.95%
0-120	712.88	86.62%	99.95%
0-180	713.23	86.66%	100.00%
60-90	35.30	4.29%	4.95%
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%
0-40.11	570.59	69.33%	80.00%

ZONAL LUMEN SUMMARY

0-10	130.04
10-20	174.19
20-30	141.46
30-40	123.75
40-50	75.77
50-60	34.88
60-70	18.35
70-80	9.98
80-90	4.46
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



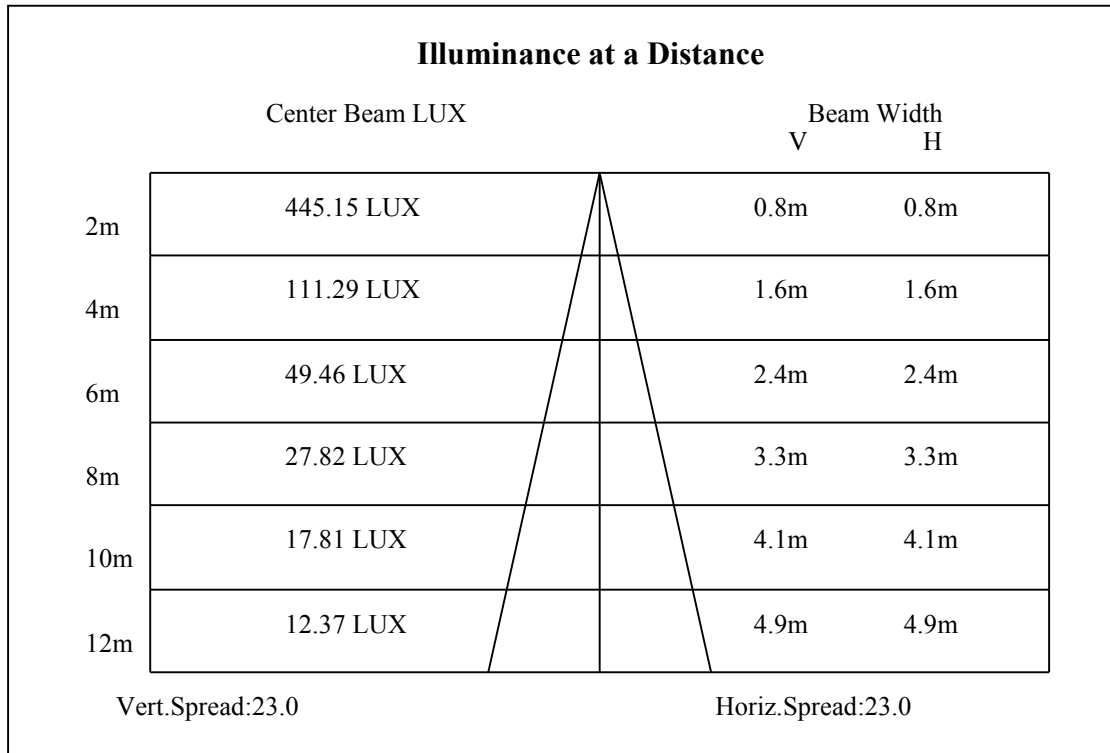
C0(Max): —————

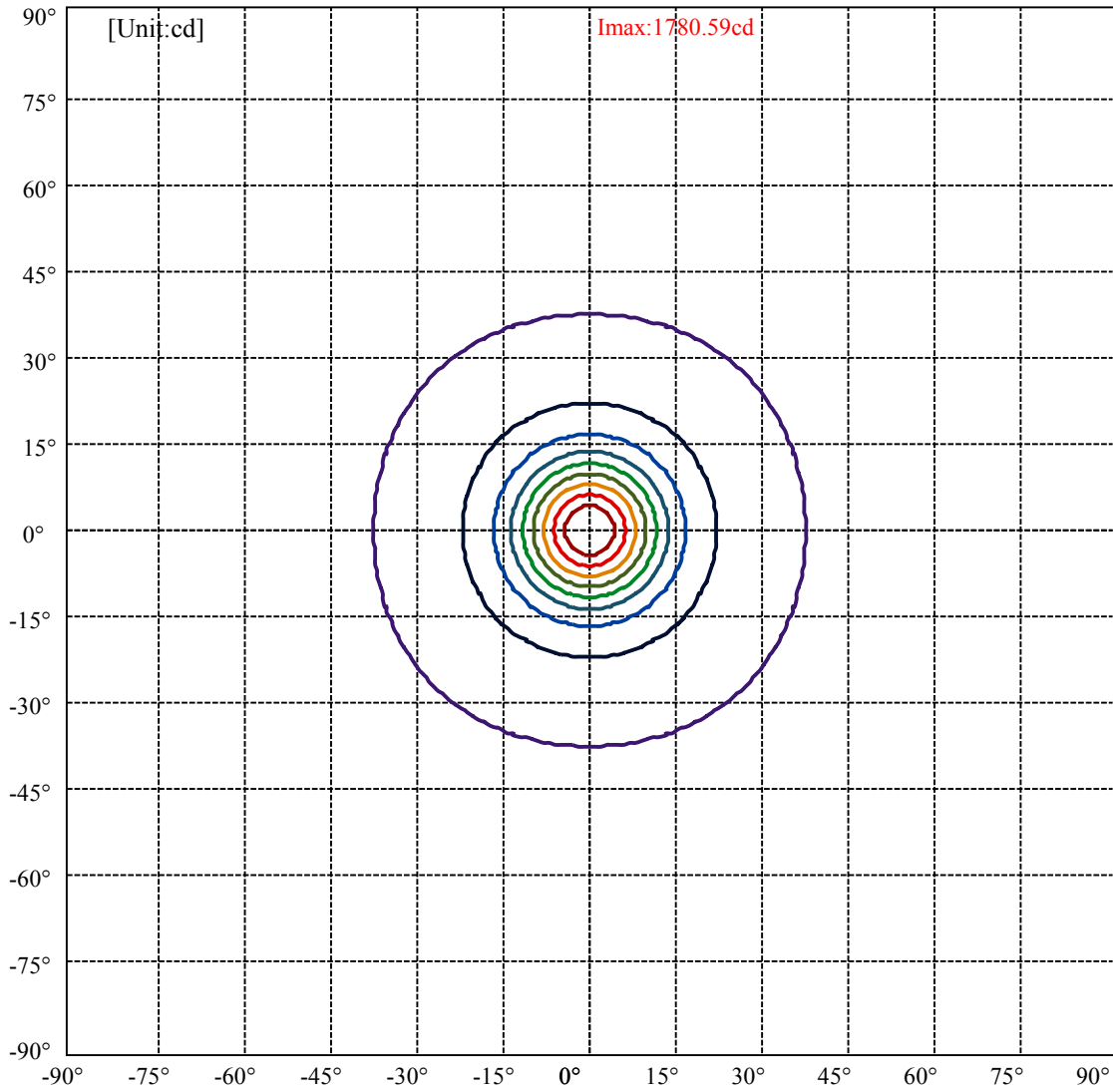
C0/C180: —————

C90/C270: —————

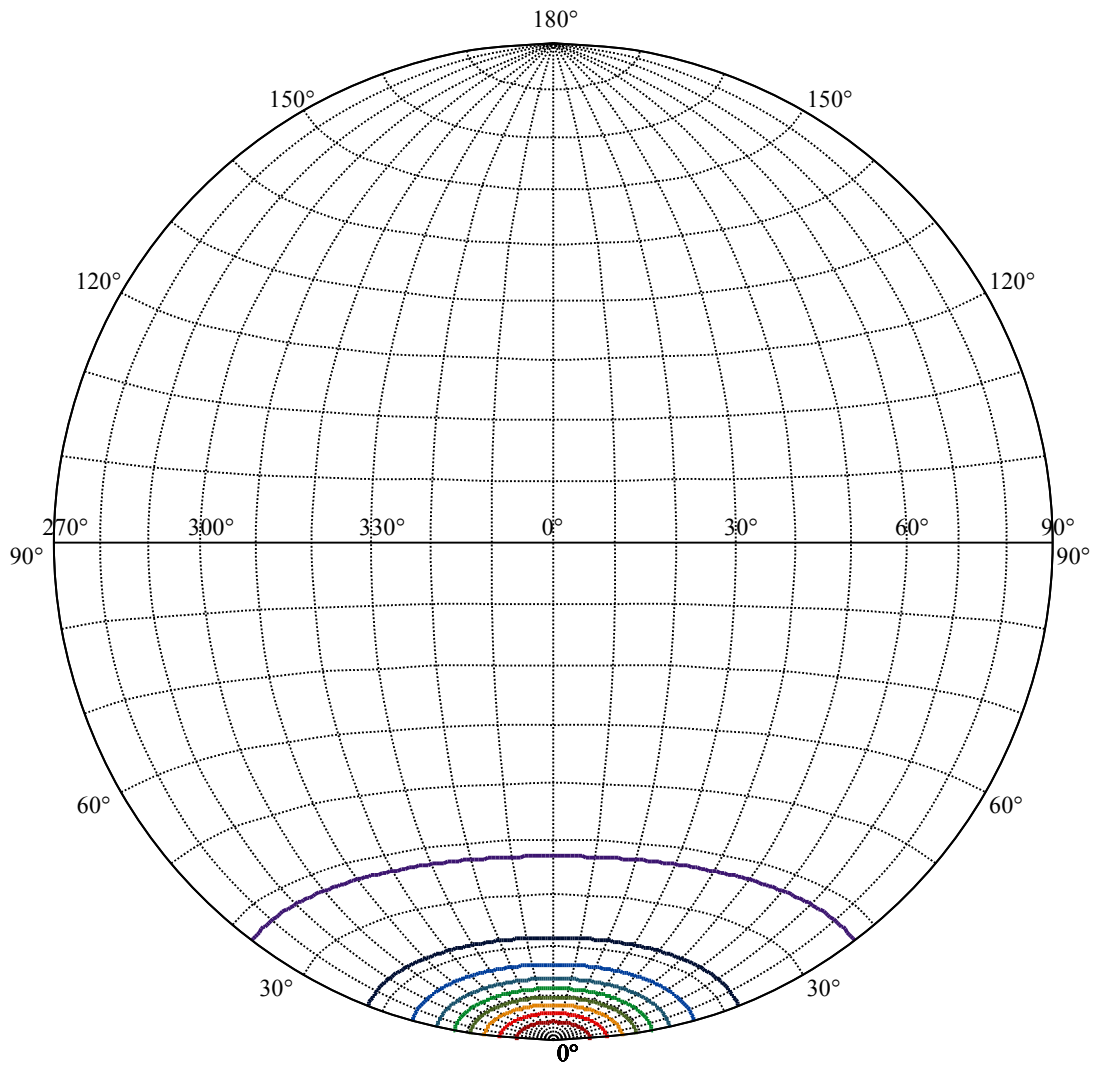
Field angle(10%Imax):C0/180Left:37.1 Right:37.1
:C90/270Left:37.1 Right:37.1

Beam Angle(50%Imax):C0/180Left:11.5 Right:11.5
:C90/270Left:11.5 Right:11.5





(10%Imax) 178.059	—
(20%Imax) 356.119	—
(30%Imax) 534.178	—
(40%Imax) 712.237	—
(50%Imax) 890.297	—
(60%Imax) 1068.36	—
(70%Imax) 1246.42	—
(80%Imax) 1424.47	—
(90%Imax) 1602.53	—



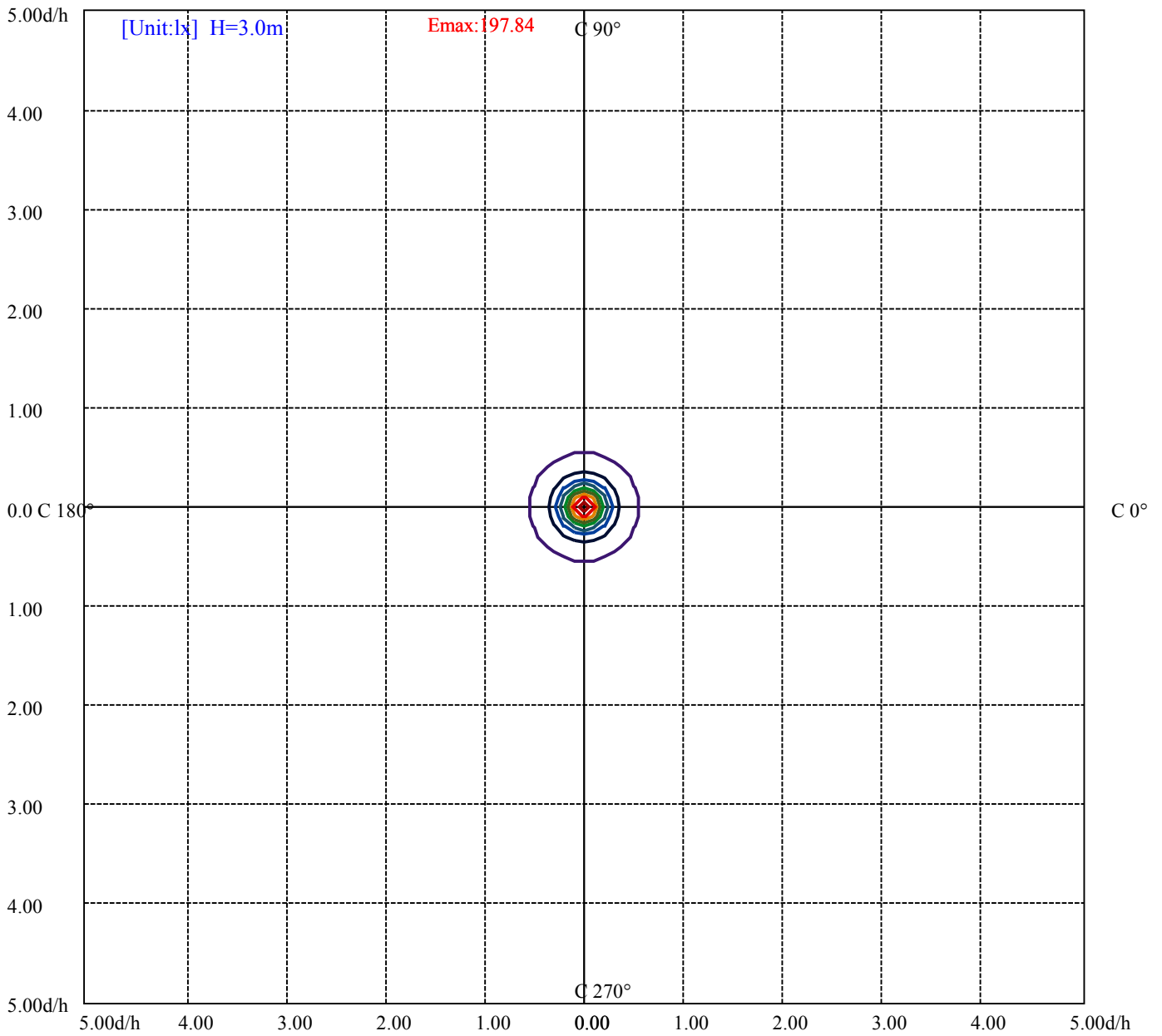
House

[Unit:cd]

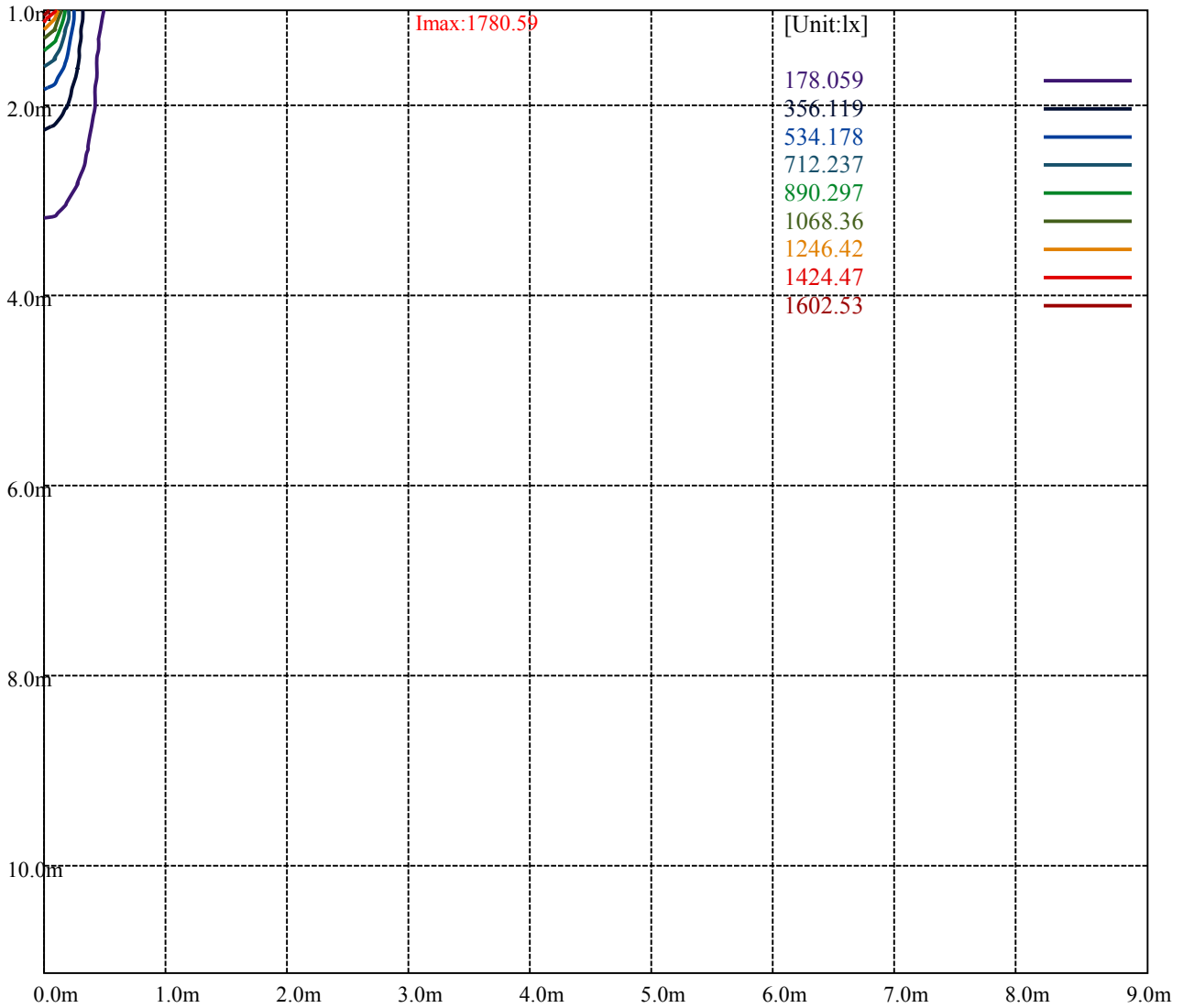
Road

Imax:1780.59

(10%Imax) 178.059	—
(20%Imax) 356.119	—
(30%Imax) 534.178	—
(40%Imax) 712.237	—
(50%Imax) 890.297	—
(60%Imax) 1068.36	—
(70%Imax) 1246.42	—
(80%Imax) 1424.47	—
(90%Imax) 1602.53	—



(10%Emax) 19.78433	—
(20%Emax) 39.56878	—
(30%Emax) 59.35311	—
(40%Emax) 79.13744	—
(50%Emax) 98.92178	—
(60%Emax) 118.7067	—
(70%Emax) 138.49	—
(80%Emax) 158.2744	—
(90%Emax) 178.0589	—



Luminance Table

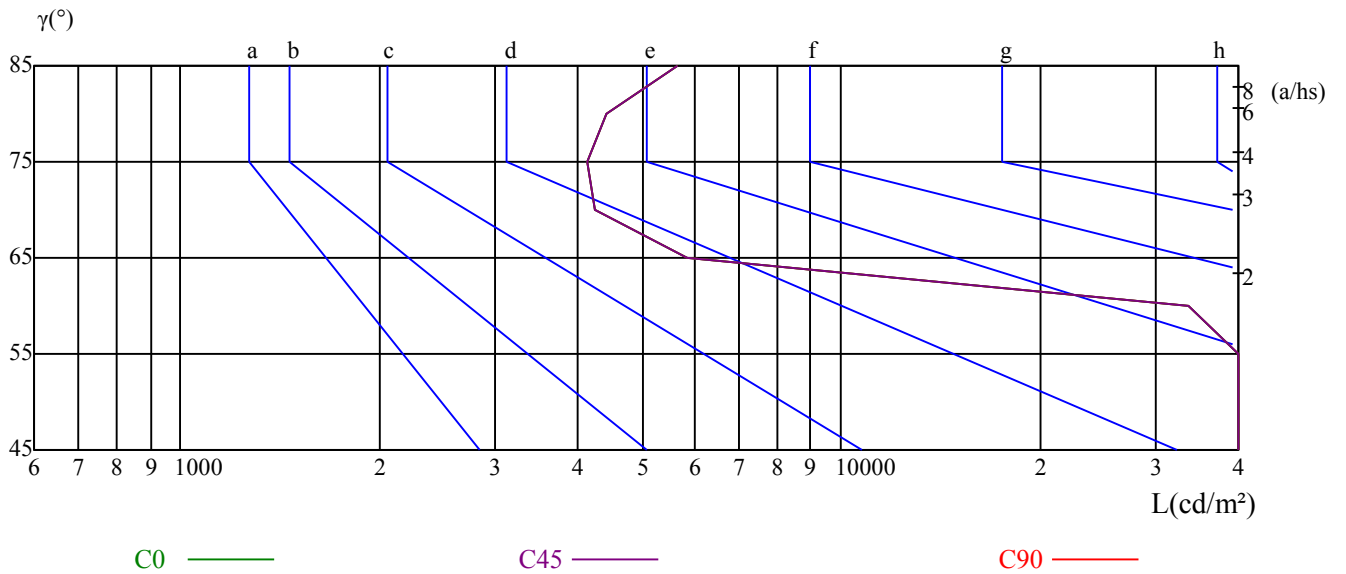
γ	45	50	55	60	65	70	75	80	85
C0	46650	52836	53885	33658	5848	4245	4131	4405	5640
C45	46650	52836	53885	33658	5848	4245	4131	4405	5640
C90	46650	52836	53885	33658	5848	4245	4131	4405	5640

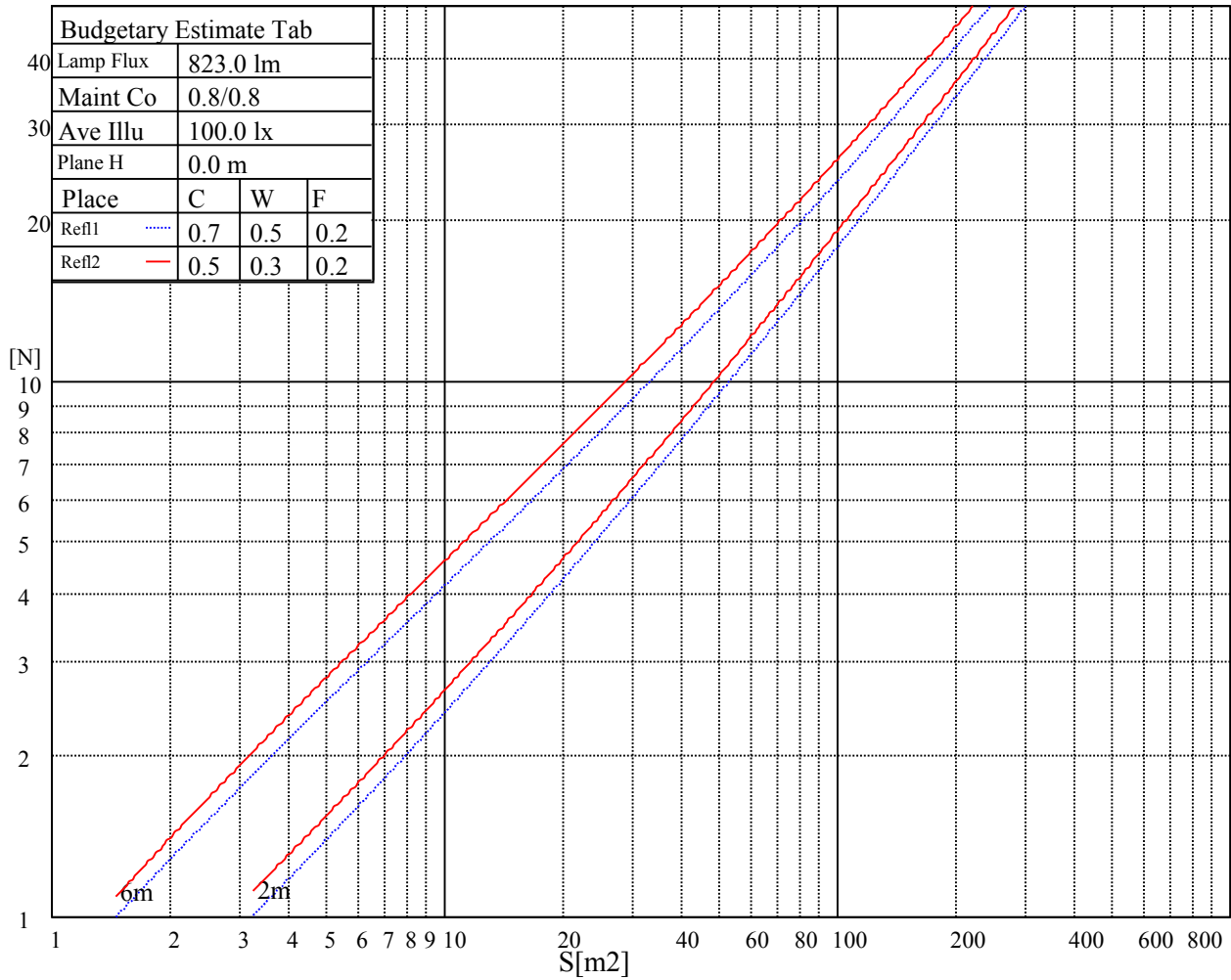
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5848	5848	5848	4131	4131	4131	5640	5640	5640

Glare Table

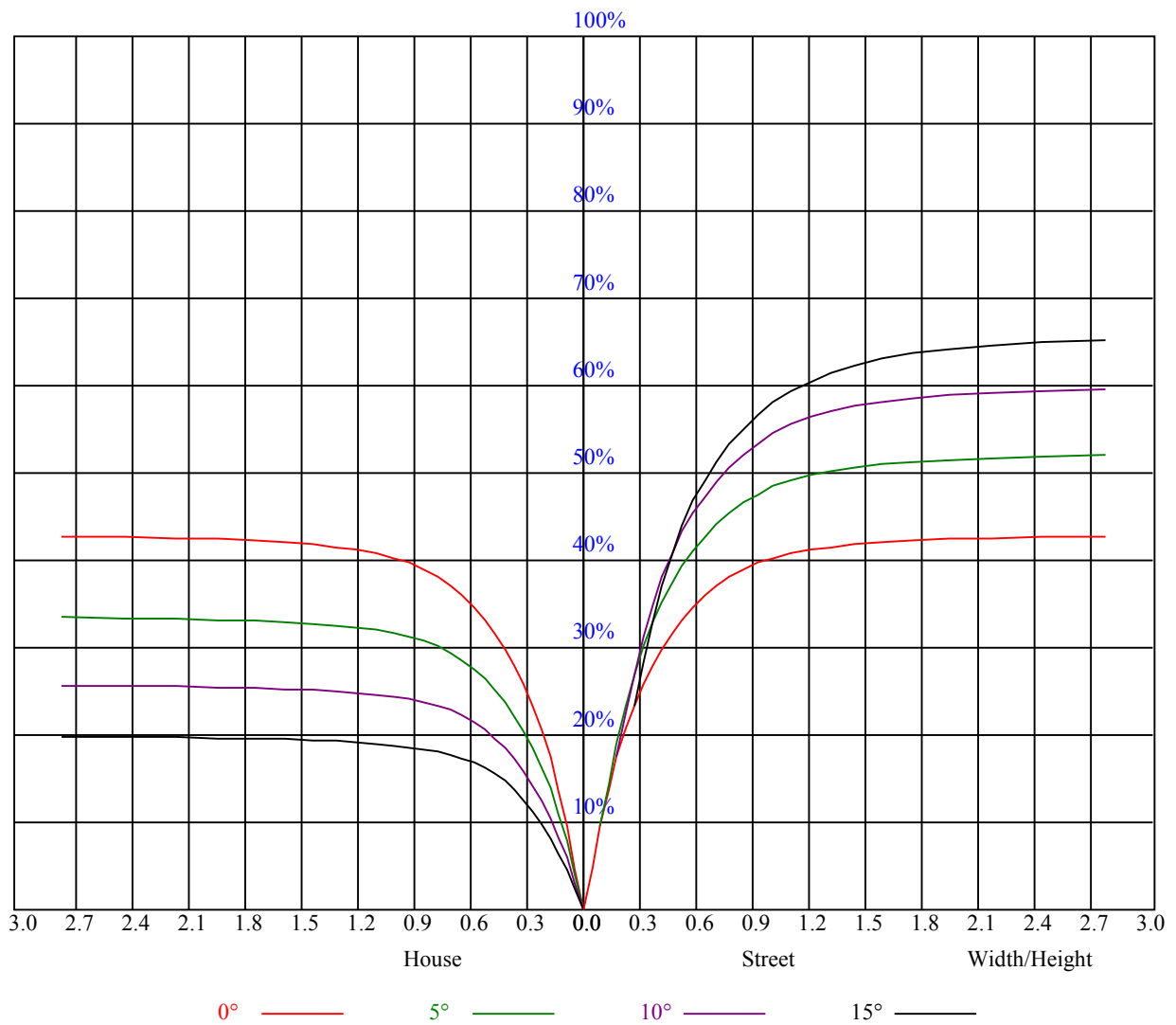
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

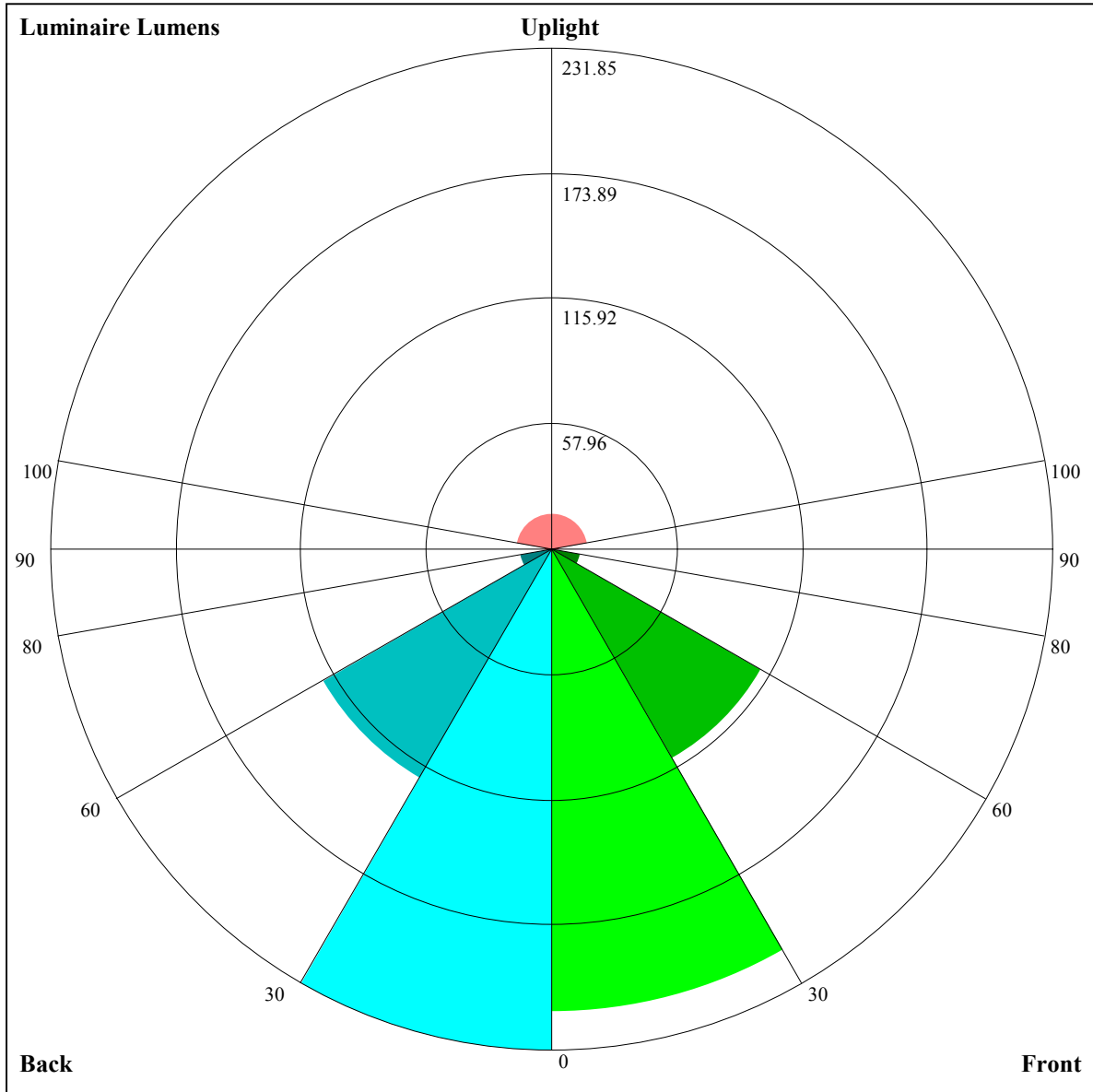
Luminance Limiting Curve





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	1.03	1.03	1.03	1.01	1.01	1.01	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.87
1	0.95	0.93	0.90	0.93	0.91	0.89	0.90	0.88	0.86	0.86	0.85	0.84	0.83	0.82	0.81	0.80
2	0.88	0.84	0.81	0.86	0.83	0.80	0.83	0.80	0.78	0.81	0.78	0.76	0.78	0.76	0.75	0.73
3	0.81	0.77	0.73	0.80	0.76	0.72	0.78	0.74	0.71	0.76	0.73	0.70	0.74	0.71	0.69	0.67
4	0.76	0.71	0.67	0.75	0.70	0.66	0.73	0.69	0.65	0.71	0.67	0.65	0.69	0.66	0.64	0.62
5	0.71	0.65	0.61	0.70	0.65	0.61	0.68	0.64	0.61	0.67	0.63	0.60	0.65	0.62	0.60	0.58
6	0.66	0.61	0.57	0.66	0.61	0.57	0.64	0.60	0.57	0.63	0.59	0.56	0.62	0.58	0.56	0.54
7	0.63	0.57	0.53	0.62	0.57	0.53	0.61	0.56	0.53	0.60	0.56	0.53	0.59	0.55	0.52	0.51
8	0.59	0.54	0.50	0.59	0.54	0.50	0.58	0.53	0.50	0.57	0.53	0.50	0.56	0.52	0.49	0.48
9	0.56	0.51	0.47	0.56	0.51	0.47	0.55	0.50	0.47	0.54	0.50	0.47	0.53	0.50	0.47	0.46
10	0.53	0.48	0.45	0.53	0.48	0.45	0.52	0.48	0.45	0.52	0.48	0.45	0.51	0.47	0.45	0.43





Luminaire Lumens:

FL=214.38,FM=111.46,FH=13.6,FVH=2.3

BL=231.85,BM=122.29,BH=14.83,BVH=2.56

UL=3.48,UH=16.54

BUG Rating:B1-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	1780.88	1741.50	1677.94	1594.13	1508.06	1414.69	1293.19	1196.44	1101.94
45.0	1804.50	1734.75	1628.44	1532.81	1433.25	1306.13	1205.44	1106.44	1001.25
90.0	1753.88	1690.88	1607.06	1477.69	1391.06	1290.94	1112.68	1064.31	972.11
135.0	1783.13	1761.19	1715.06	1655.44	1573.88	1491.19	1377.00	1279.69	1182.94
180.0	1780.88	1801.69	1799.44	1772.44	1721.25	1657.69	1567.13	1461.38	1360.13
225.0	1804.50	1855.69	1888.88	1891.13	1868.63	1814.06	1742.63	1644.19	1528.31
270.0	1753.88	1823.63	1860.75	1869.19	1849.50	1807.31	1744.31	1641.94	1544.63
315.0	1783.13	1784.81	1763.44	1711.69	1650.38	1573.31	1472.63	1365.19	1265.06
360.0	1780.88	1741.50	1677.94	1594.13	1508.06	1414.69	1293.19	1196.44	1101.94

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	988.31	902.81	822.94	740.25	667.13	608.63	559.13	510.19	468.56
45.0	903.94	823.50	740.81	675.56	609.75	555.75	512.44	471.38	435.94
90.0	885.77	786.88	716.23	653.01	583.82	535.50	493.31	452.48	417.60
135.0	1078.31	974.25	885.94	804.94	712.69	648.56	591.19	536.06	489.38
180.0	1255.50	1120.44	1018.69	922.89	812.76	733.11	662.01	592.59	533.25
225.0	1415.81	1283.63	1119.99	1036.63	930.49	822.60	728.21	654.02	589.78
270.0	1438.31	1297.69	1184.06	1074.38	942.19	845.44	758.25	671.63	597.94
315.0	1121.34	1034.33	939.04	850.56	749.64	678.94	616.89	555.75	503.55
360.0	988.31	902.81	822.94	740.25	667.13	608.63	559.13	510.19	468.56

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	434.25	408.38	383.63	361.69	344.81	330.75	314.44	302.63	291.38
45.0	408.38	387.56	359.44	342.00	326.81	309.38	295.31	284.63	269.21
90.0	390.60	364.67	345.09	326.14	309.60	296.66	283.50	271.35	261.17
135.0	452.25	417.94	389.25	367.31	345.38	329.63	313.88	299.81	287.44
180.0	488.14	445.73	414.84	386.38	362.93	345.43	328.95	314.89	303.81
225.0	524.48	481.95	446.23	409.44	385.26	365.01	345.77	329.63	317.14
270.0	543.38	491.63	448.88	416.25	386.44	363.94	342.56	323.44	309.38
315.0	464.85	427.78	399.88	373.05	350.04	332.38	315.11	299.93	288.00
360.0	434.25	408.38	383.63	361.69	344.81	330.75	314.44	302.63	291.38

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	284.63	266.79	257.51	249.58	237.38	228.43	219.26	208.46	197.38
45.0	257.51	247.56	236.42	226.46	215.38	204.30	194.51	183.32	172.18
90.0	251.61	239.96	230.79	221.63	211.39	200.93	191.59	181.07	170.38
135.0	284.63	262.07	252.00	242.04	229.95	220.61	211.05	200.48	189.96
180.0	293.85	282.66	274.11	265.89	255.66	247.67	239.29	228.60	219.60
225.0	304.59	294.53	284.23	274.56	266.40	257.46	248.63	240.64	232.37
270.0	296.44	284.06	271.18	262.18	252.00	244.18	236.36	227.42	218.36
315.0	277.37	264.71	255.54	246.38	236.59	226.69	217.74	207.11	196.20
360.0	284.63	266.79	257.51	249.58	237.38	228.43	219.26	208.46	197.38

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	187.14	175.22	164.36	152.10	140.18	129.88	118.69	108.17	99.39
45.0	162.39	152.61	140.46	130.95	121.67	111.54	101.93	93.99	85.67
90.0	160.88	150.02	140.46	129.88	119.48	110.64	102.09	92.14	84.83
135.0	180.56	170.10	160.71	150.08	139.39	130.05	119.81	110.03	101.53
180.0	210.43	198.28	189.28	177.30	163.69	153.90	142.71	127.69	118.46
225.0	221.63	212.63	203.12	191.76	180.23	169.48	157.11	144.56	133.43
270.0	210.09	200.36	191.19	180.45	169.48	159.41	147.49	135.56	124.99
315.0	186.36	175.16	165.21	153.62	142.31	132.24	122.51	110.81	101.81
360.0	187.14	175.22	164.36	152.10	140.18	129.88	118.69	108.17	99.39

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	91.18	81.62	74.59	68.06	61.31	55.18	50.40	45.79	41.63
45.0	78.02	71.72	65.31	60.13	54.84	50.12	46.24	42.69	38.70
90.0	77.96	70.14	64.41	59.29	54.06	49.28	45.39	41.51	38.42
135.0	93.71	84.49	77.68	71.33	63.96	58.61	53.83	48.88	44.49
180.0	108.39	95.29	87.47	79.31	70.93	63.51	57.71	51.92	47.36
225.0	121.16	110.81	99.84	89.78	81.56	72.96	65.53	59.57	54.34
270.0	114.81	102.49	93.32	84.71	75.66	67.61	61.31	55.24	50.01
315.0	93.26	83.14	75.77	69.13	61.54	56.25	51.53	46.29	43.03
360.0	91.18	81.62	74.59	68.06	61.31	55.18	50.40	45.79	41.63
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	38.36	35.16	32.51	29.93	27.62	25.71	23.74	21.94	20.48
45.0	35.83	33.24	30.43	28.41	26.55	24.64	22.89	21.49	19.97
90.0	35.33	32.57	30.38	28.13	26.10	24.47	23.01	21.26	19.97
135.0	40.95	37.46	34.71	31.89	29.42	27.45	25.43	23.68	22.11
180.0	42.98	39.09	36.17	33.24	30.66	28.58	26.78	24.69	23.12
225.0	48.60	44.61	41.06	37.58	34.48	32.12	29.76	27.56	25.82
270.0	45.84	41.79	38.64	35.49	32.74	30.49	28.24	26.21	24.58
315.0	39.32	35.72	33.47	30.88	28.24	26.66	24.98	23.06	21.66
360.0	38.36	35.16	32.51	29.93	27.62	25.71	23.74	21.94	20.48
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	19.18	17.72	16.65	15.64	14.63	13.67	12.83	11.98	11.14
45.0	18.73	17.44	16.26	15.24	14.29	13.28	12.49	11.70	10.80
90.0	18.73	17.33	16.31	15.36	14.34	13.39	12.54	11.70	10.97
135.0	20.76	19.13	17.94	16.88	15.75	14.74	13.84	12.88	11.98
180.0	21.71	20.14	18.96	17.89	16.82	15.69	14.79	13.84	13.05
225.0	24.02	22.61	21.09	19.69	18.56	17.49	16.26	15.36	14.51
270.0	23.12	21.54	20.14	18.96	17.89	16.71	15.75	14.85	13.84
315.0	20.36	19.07	17.83	16.82	15.69	14.68	13.78	12.88	12.09
360.0	19.18	17.72	16.65	15.64	14.63	13.67	12.83	11.98	11.14
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	10.41	9.73	9.11	8.44	7.82	7.26	6.75	6.19	5.74
45.0	10.13	9.45	8.72	7.99	7.43	6.81	6.19	5.74	5.23
90.0	10.18	9.45	8.78	7.99	7.37	6.86	6.30	5.68	5.23
135.0	11.25	10.41	9.73	9.00	8.33	7.71	7.14	6.47	6.02
180.0	12.15	11.42	10.63	10.01	9.23	8.66	8.10	7.54	6.92
225.0	13.50	12.71	11.98	11.14	10.46	9.84	9.17	8.61	7.99
270.0	12.99	12.26	11.48	10.69	10.07	9.34	8.78	8.16	7.54
315.0	11.25	10.46	9.79	9.11	8.38	7.82	7.26	6.58	6.08
360.0	10.41	9.73	9.11	8.44	7.82	7.26	6.75	6.19	5.74
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.29	4.84	4.44	4.11	3.99	3.54	3.38	3.21	3.04
45.0	4.78	4.44	4.11	3.94	3.77	3.26	3.09	3.04	3.04
90.0	4.84	4.39	4.05	3.77	3.60	3.26	3.09	3.04	3.04
135.0	5.57	5.12	4.73	4.33	3.99	3.66	3.43	3.21	3.09
180.0	6.47	5.96	5.51	5.06	4.67	4.28	3.94	3.71	3.38
225.0	7.31	6.86	6.30	5.79	5.34	4.89	4.56	4.22	3.94
270.0	7.03	6.53	5.96	5.51	5.06	4.67	4.28	3.94	3.66
315.0	5.68	5.18	4.73	4.33	3.99	3.66	3.43	3.21	3.04
360.0	5.29	4.84	4.44	4.11	3.99	3.54	3.38	3.21	3.04

Intensity data(cd)

C/γ(°)	90.0
0.0	3.04
45.0	3.04
90.0	3.04
135.0	3.04
180.0	3.21
225.0	3.66
270.0	3.43
315.0	3.04
360.0	3.04