



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

Client:

LumCAT: 1657-S

Luminaire: 92.70.123.00

Report No: nt0100

Test No: GC2019121805

LampCAT: LUMINUS CXM-6-AC40

Lamp flux(lm): 830.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 34.4900

Current(A): 0.1970

Power (W): 6.7900

PF: 1.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 713.35, Efficiency(%): 85.95% , Luminous Efficacy(lm/W): 105.06

Central intensity(cd): 3513.023, Maximum intensity(cd): 3513.023

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=20.2

[C90/270]Total=20.2

Field angle(10%Imax): [C0/180]Total=40.2

[C90/270]Total=40.2

Maximum s/h(1/2): C0_180=0.35 C90_270=0.35

Maximum s/h(1/4): C0_180=0.35 C90_270=0.35

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 85.95%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.350%

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/12/18
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3513.023	0.000	0	.000%	.000%
1.0	3491.438	3.352	3.352	.404%	.470%
2.0	3432.867	9.938	13.29	1.197%	1.863%
3.0	3328.383	16.171	29.461	1.948%	4.130%
4.0	3191.344	21.824	51.284	2.629%	7.189%
5.0	3024.633	26.741	78.025	3.222%	10.938%
6.0	2801.883	30.620	108.645	3.689%	15.230%
7.0	2562.750	33.298	141.943	4.012%	19.898%
8.0	2326.641	34.992	176.936	4.216%	24.804%
9.0	2056.500	35.523	212.459	4.280%	29.783%
10.0	1789.805	34.808	247.266	4.194%	34.663%
11.0	1528.650	33.158	280.424	3.995%	39.311%
12.0	1332.534	31.277	311.701	3.768%	43.696%
13.0	1095.715	28.817	340.518	3.472%	47.735%
14.0	939.544	26.051	366.57	3.139%	51.387%
15.0	788.273	23.720	390.29	2.858%	54.712%
16.0	647.184	21.033	411.323	2.534%	57.661%
17.0	538.066	18.458	429.781	2.224%	60.248%
18.0	456.933	16.405	446.186	1.977%	62.548%
19.0	394.369	14.811	460.997	1.784%	64.624%
20.0	353.215	13.683	474.68	1.649%	66.543%
21.0	326.292	13.048	487.728	1.572%	68.372%
22.0	308.116	12.749	500.477	1.536%	70.159%
23.0	296.831	12.693	513.17	1.529%	71.938%
24.0	287.304	12.771	525.941	1.539%	73.729%
25.0	280.807	12.918	538.859	1.556%	75.539%
26.0	275.484	13.131	551.99	1.582%	77.380%
27.0	271.174	13.374	565.364	1.611%	79.255%
28.0	264.783	13.569	578.934	1.635%	81.157%
29.0	259.467	13.716	592.649	1.653%	83.080%
30.0	254.489	13.877	606.526	1.672%	85.025%
31.0	245.201	13.906	620.432	1.675%	86.975%
32.0	229.732	13.606	634.038	1.639%	88.882%
33.0	208.575	12.913	646.951	1.556%	90.692%
34.0	175.584	11.626	658.577	1.401%	92.322%
35.0	140.477	9.816	668.392	1.183%	93.698%
36.0	105.666	7.837	676.23	.944%	94.797%
37.0	70.882	5.758	681.987	.694%	95.604%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	44.325	3.845	685.833	.463%	96.143%
39.0	26.241	2.409	688.242	.290%	96.481%
40.0	16.130	1.478	689.719	.178%	96.688%
41.0	12.417	1.017	690.736	.122%	96.830%
42.0	10.927	0.848	691.584	.102%	96.949%
43.0	9.541	0.758	692.342	.091%	97.055%
44.0	8.599	0.685	693.027	.082%	97.151%
45.0	8.002	0.638	693.665	.077%	97.241%
46.0	7.594	0.610	694.275	.073%	97.326%
47.0	7.320	0.593	694.868	.071%	97.409%
48.0	7.080	0.582	695.45	.070%	97.491%
49.0	6.806	0.570	696.02	.069%	97.571%
50.0	6.588	0.558	696.579	.067%	97.649%
51.0	6.384	0.549	697.128	.066%	97.726%
52.0	6.138	0.537	697.665	.065%	97.802%
53.0	5.941	0.525	698.19	.063%	97.875%
54.0	5.745	0.515	698.705	.062%	97.947%
55.0	5.562	0.505	699.21	.061%	98.018%
56.0	5.365	0.494	699.704	.059%	98.087%
57.0	5.196	0.483	700.187	.058%	98.155%
58.0	5.020	0.472	700.659	.057%	98.221%
59.0	4.880	0.463	701.122	.056%	98.286%
60.0	4.718	0.453	701.575	.055%	98.350%
61.0	4.591	0.444	702.02	.054%	98.412%
62.0	4.479	0.437	702.457	.053%	98.473%
63.0	4.373	0.431	702.887	.052%	98.534%
64.0	4.261	0.424	703.311	.051%	98.593%
65.0	4.191	0.418	703.729	.050%	98.652%
66.0	4.099	0.414	704.143	.050%	98.710%
67.0	4.029	0.409	704.552	.049%	98.767%
68.0	3.966	0.405	704.957	.049%	98.824%
69.0	3.930	0.403	705.359	.049%	98.880%
70.0	3.867	0.400	705.76	.048%	98.936%
71.0	3.804	0.396	706.156	.048%	98.992%
72.0	3.755	0.393	706.549	.047%	99.047%
73.0	3.698	0.390	706.939	.047%	99.102%
74.0	3.677	0.388	707.327	.047%	99.156%
75.0	3.649	0.387	707.714	.047%	99.210%

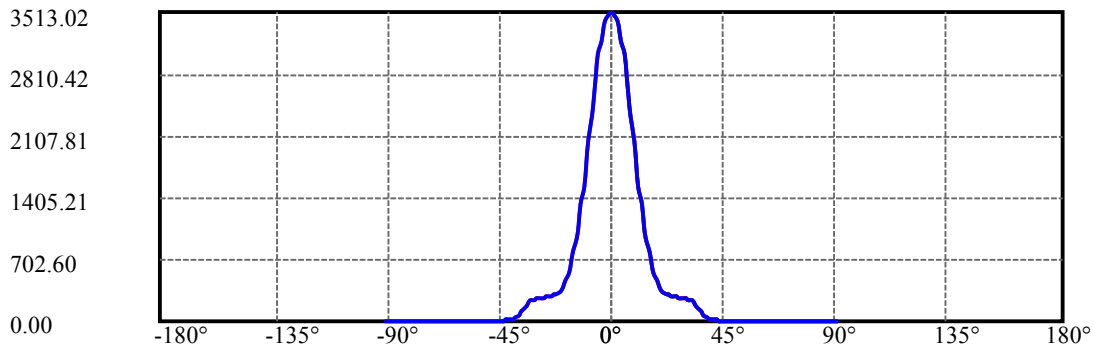
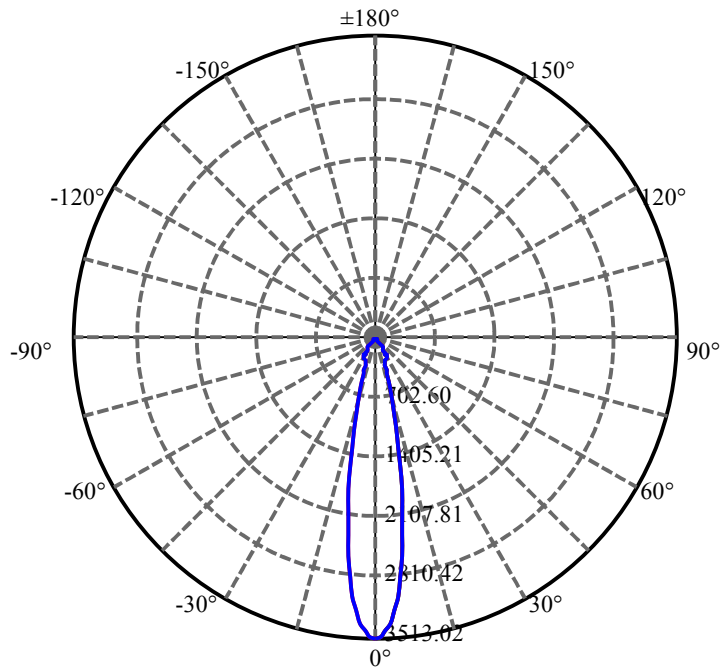
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.621	0.386	708.1	.046%	99.264%
77.0	3.600	0.385	708.485	.046%	99.318%
78.0	3.586	0.385	708.87	.046%	99.372%
79.0	3.544	0.383	709.253	.046%	99.426%
80.0	3.523	0.381	709.634	.046%	99.479%
81.0	3.488	0.379	710.013	.046%	99.533%
82.0	3.488	0.378	710.391	.046%	99.586%
83.0	3.452	0.377	710.768	.045%	99.638%
84.0	3.417	0.374	711.142	.045%	99.691%
85.0	3.410	0.373	711.515	.045%	99.743%
86.0	3.382	0.371	711.886	.045%	99.795%
87.0	3.354	0.369	712.255	.044%	99.847%
88.0	3.333	0.366	712.621	.044%	99.898%
89.0	3.319	0.365	712.986	.044%	99.949%
90.0	3.277	0.362	713.347	.044%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	606.53	73.08%	85.03%
0-40	689.72	83.10%	96.69%
0-60	701.58	84.53%	98.35%
0-90	712.99	85.90%	99.95%
0-120	712.99	85.90%	99.95%
0-180	713.35	85.95%	100.00%
60-90	11.86	1.43%	1.66%
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%
0-27.39	570.68	68.76%	80.00%

ZONAL LUMEN SUMMARY

0-10	247.27
10-20	227.41
20-30	131.85
30-40	83.19
40-50	6.86
50-60	5.00
60-70	4.18
70-80	3.87
80-90	3.35
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



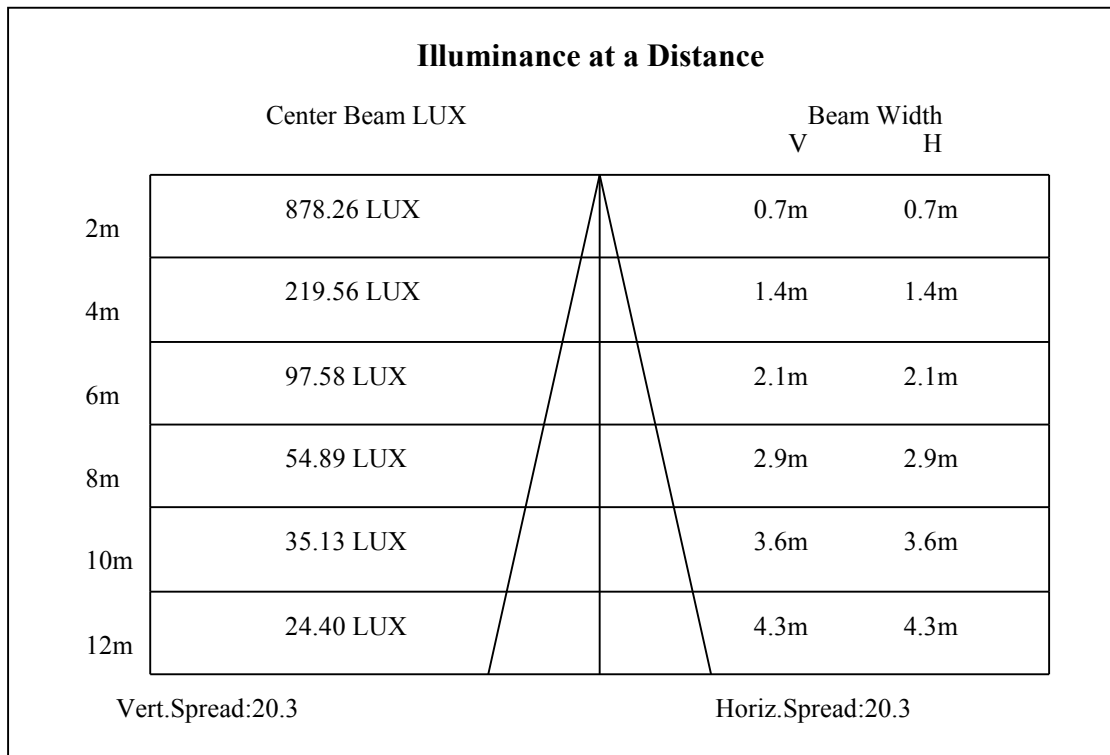
C0(Max): —————

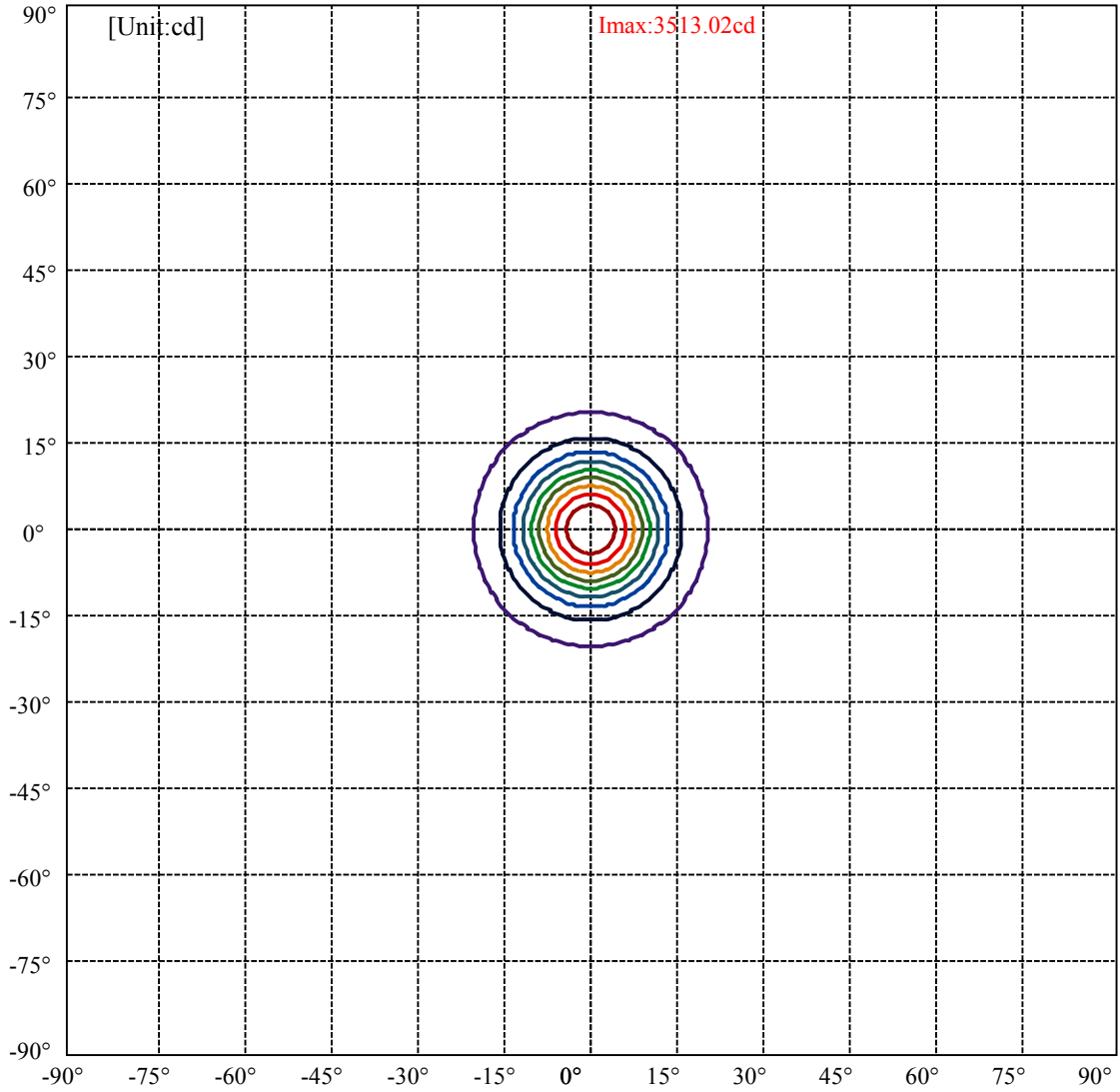
C0/C180: —————

C90/C270: —————

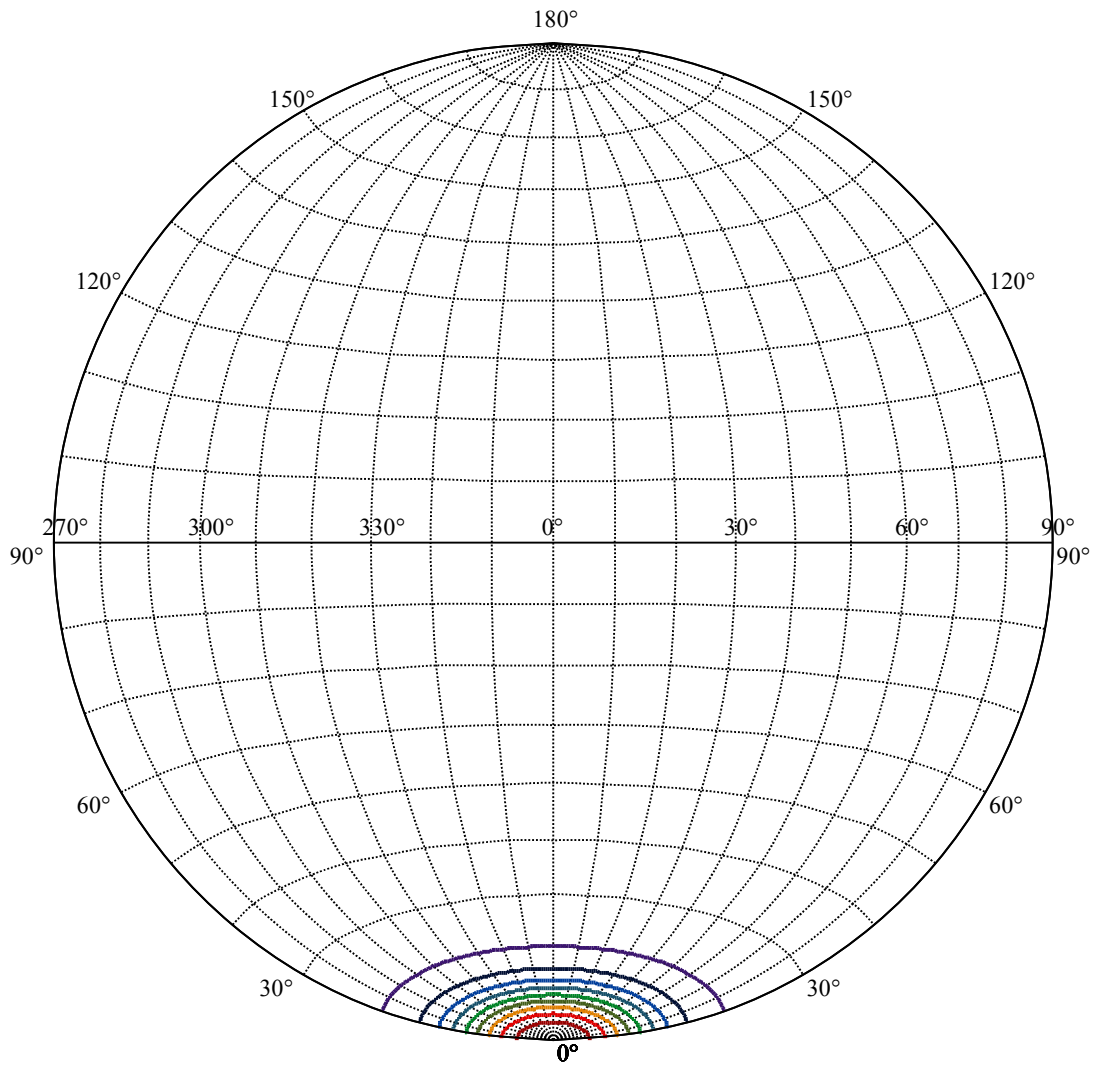
Field angle(10%Imax):C0/180Left:20.1 Right:20.1
:C90/270Left:20.1 Right:20.1

Beam Angle(50%Imax):C0/180Left:10.1 Right:10.1
:C90/270Left:10.1 Right:10.1





(10%Imax) 351.302	—
(20%Imax) 702.605	—
(30%Imax) 1053.91	—
(40%Imax) 1405.21	—
(50%Imax) 1756.51	—
(60%Imax) 2107.81	—
(70%Imax) 2459.12	—
(80%Imax) 2810.42	—
(90%Imax) 3161.72	—












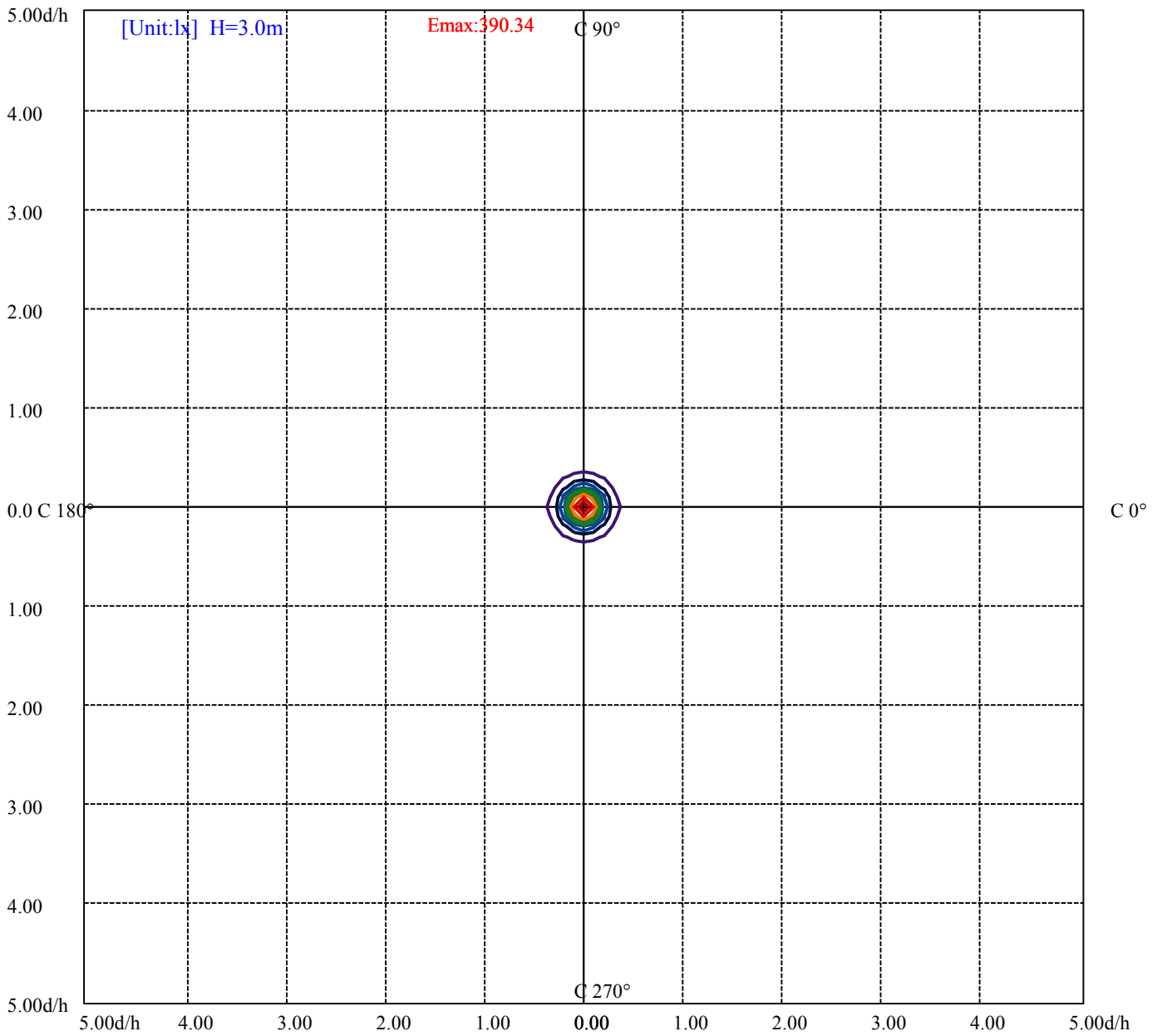
House

[Unit:cd]

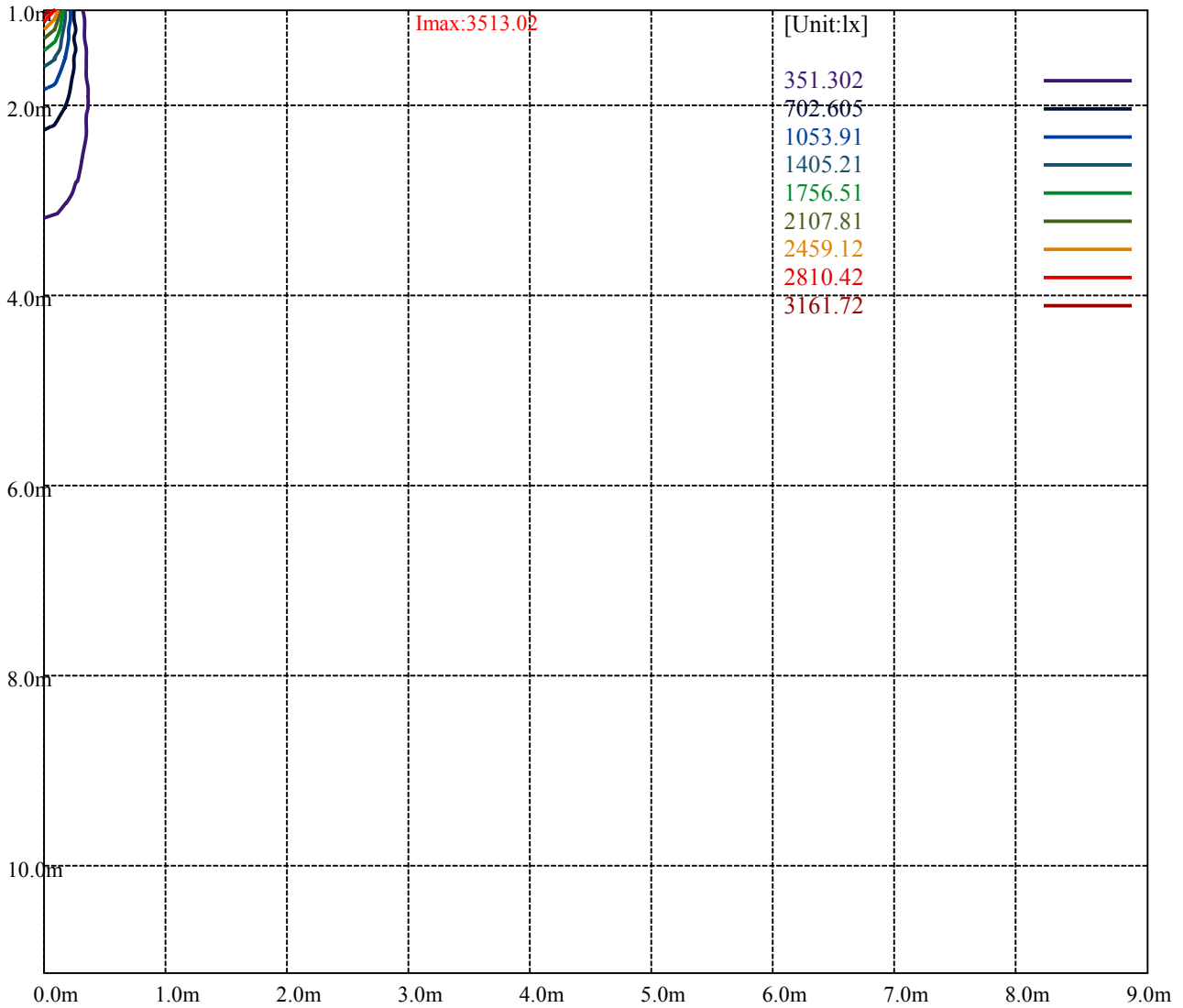
Road

Imax:3513.02

(10%Imax)	351.302	
(20%Imax)	702.605	
(30%Imax)	1053.91	
(40%Imax)	1405.21	
(50%Imax)	1756.51	
(60%Imax)	2107.81	
(70%Imax)	2459.12	
(80%Imax)	2810.42	
(90%Imax)	3161.72	



- (10%Emax) 39.03355
- (20%Emax) 78.06711
- (30%Emax) 117.1011
- (40%Emax) 156.1344
- (50%Emax) 195.1678
- (60%Emax) 234.2011
- (70%Emax) 273.2345
- (80%Emax) 312.2689
- (90%Emax) 351.3022



Luminance Limiting Curve(no luminous side)

Luminance Table

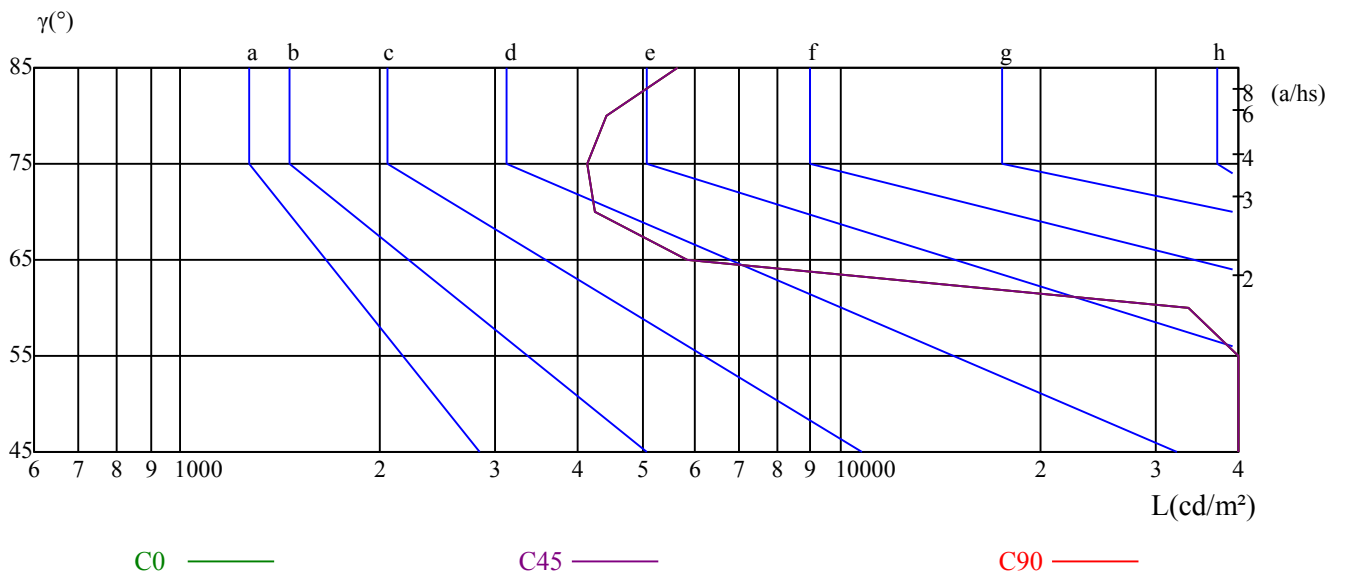
γ	45	50	55	60	65	70	75	80	85
C0	46650	52836	53885	33658	5848	4245	4131	4405	5640
C45	46650	52836	53885	33658	5848	4245	4131	4405	5640
C90	46650	52836	53885	33658	5848	4245	4131	4405	5640

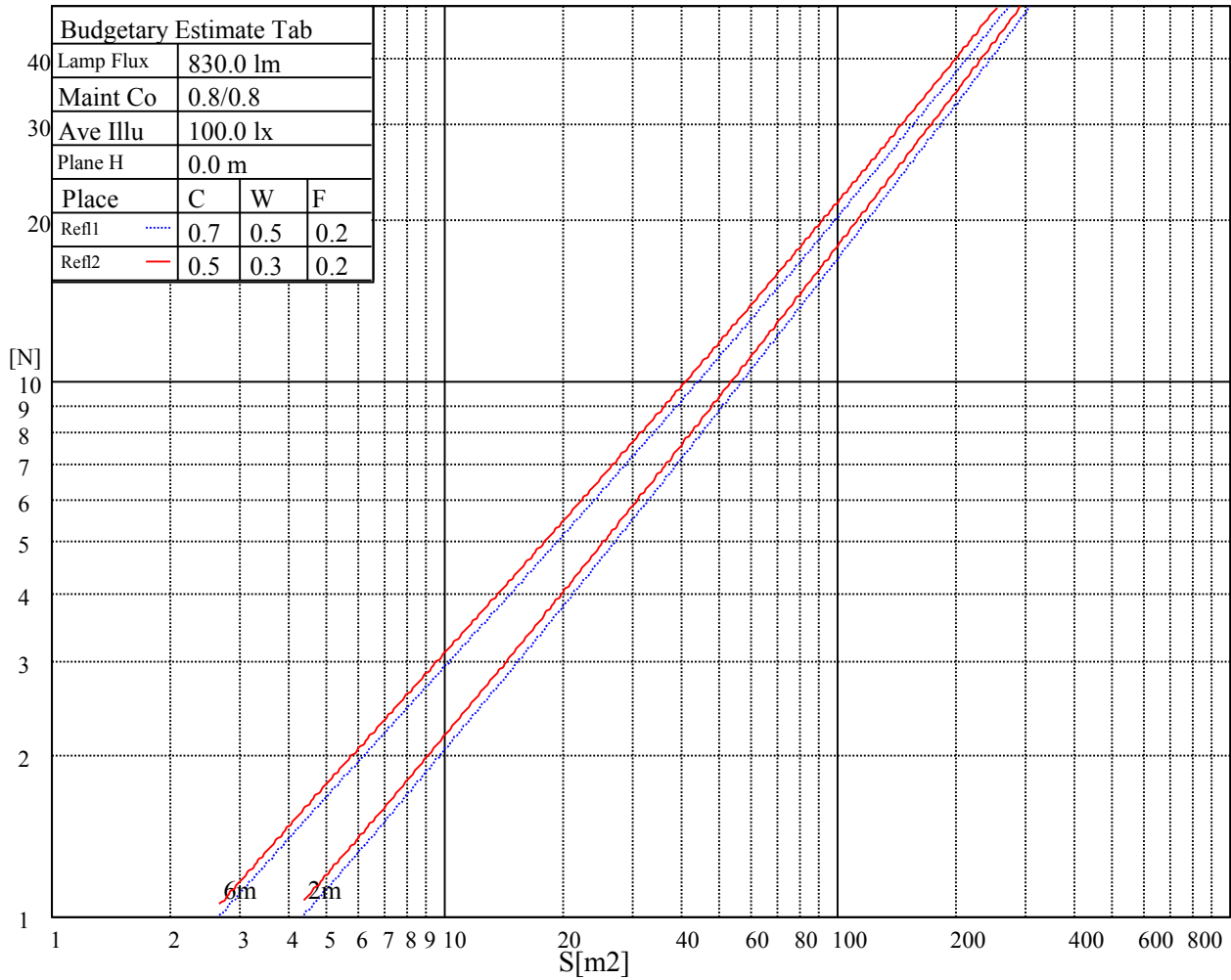
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5848	5848	5848	4131	4131	4131	5640	5640	5640

Glare Table

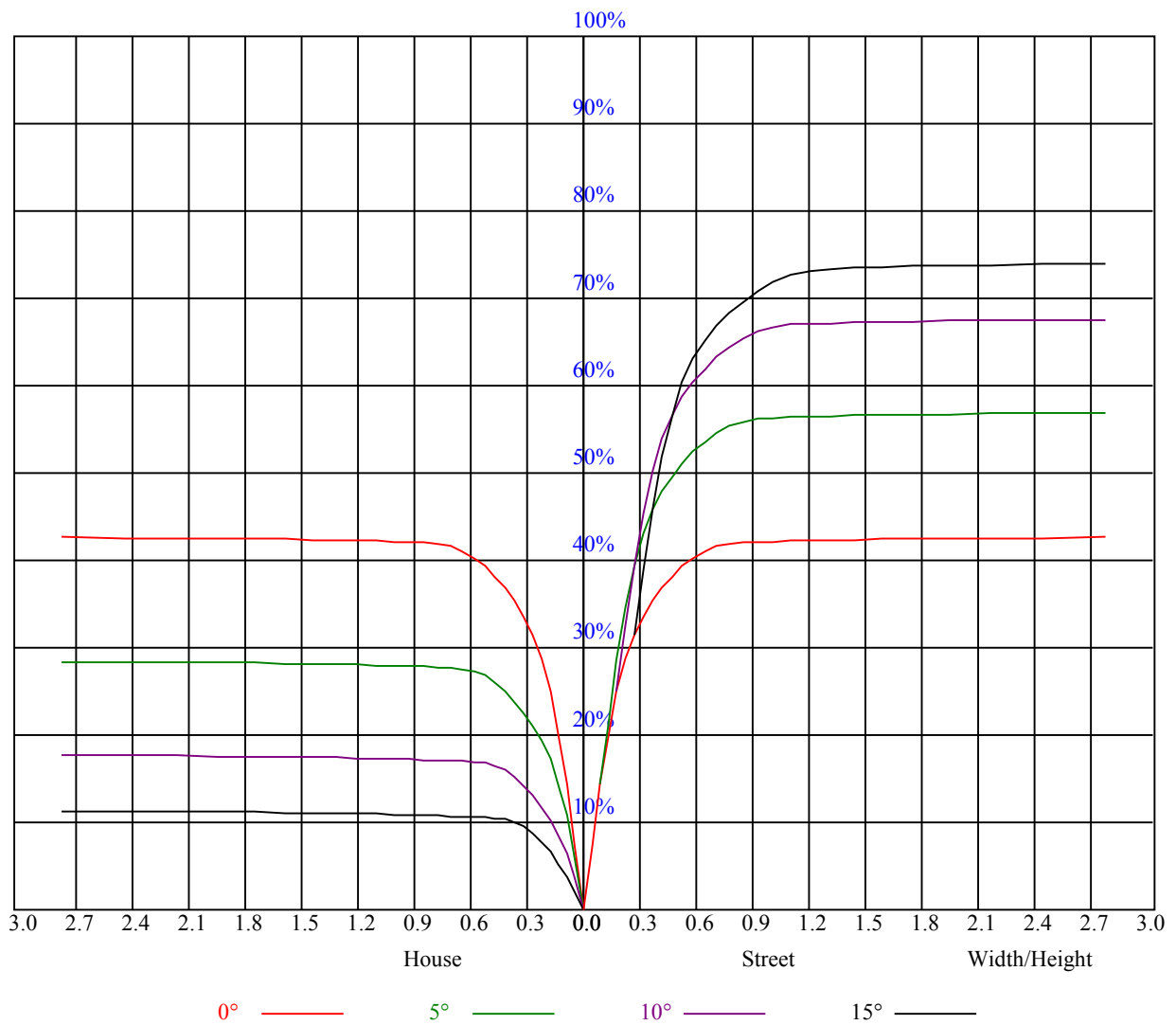
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

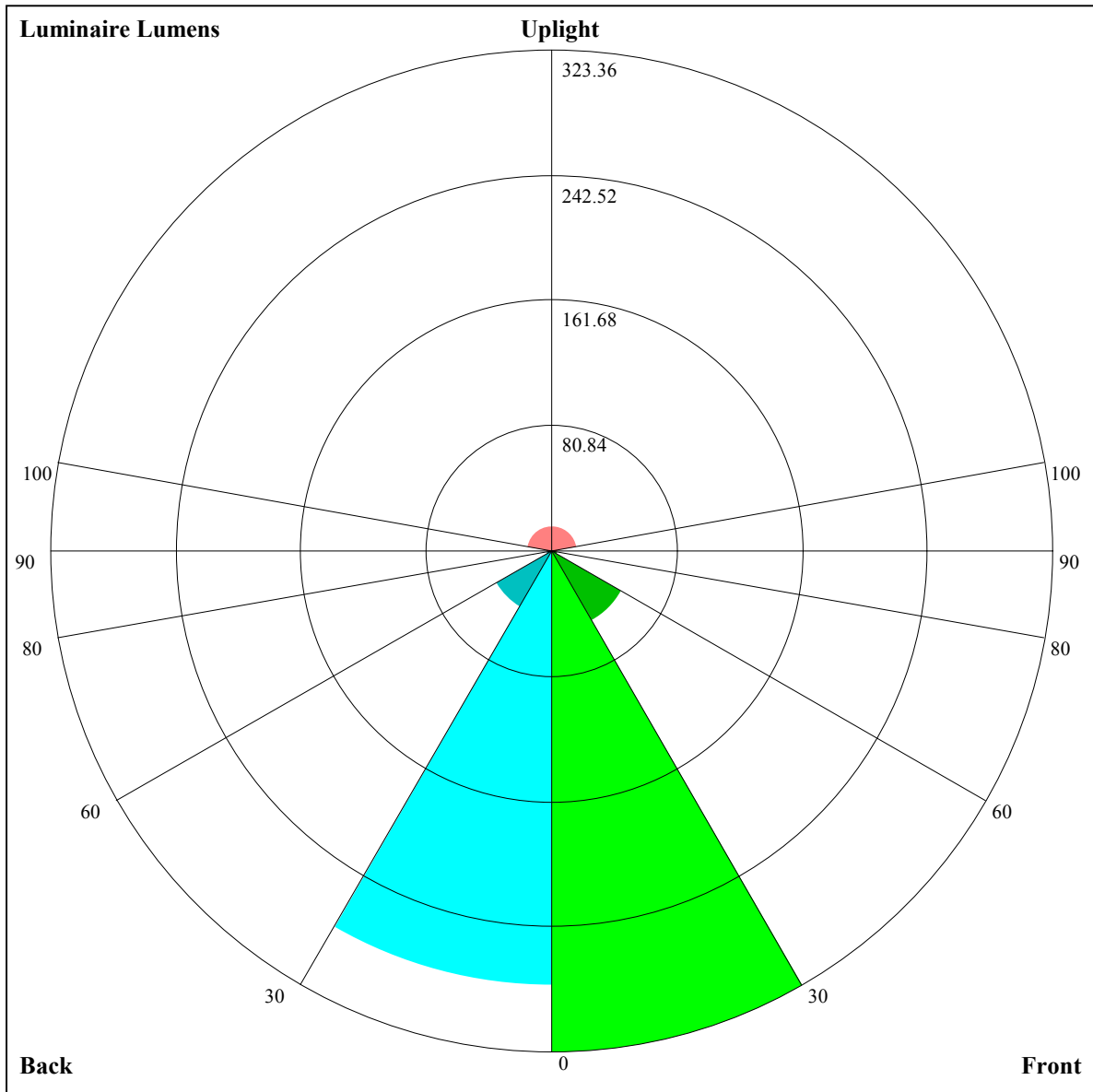
Luminance Limiting Curve





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	1.02	1.02	1.02	1.00	1.00	1.00	0.95	0.95	0.95	0.91	0.91	0.91	0.88	0.88	0.88	0.86
1	0.96	0.94	0.93	0.94	0.93	0.91	0.91	0.90	0.88	0.88	0.87	0.86	0.85	0.84	0.83	0.82
2	0.91	0.88	0.86	0.90	0.87	0.85	0.87	0.85	0.83	0.84	0.83	0.81	0.82	0.81	0.80	0.78
3	0.87	0.83	0.80	0.85	0.82	0.80	0.83	0.81	0.78	0.81	0.79	0.77	0.79	0.78	0.76	0.75
4	0.83	0.79	0.76	0.82	0.78	0.76	0.80	0.77	0.75	0.78	0.76	0.74	0.77	0.75	0.73	0.72
5	0.79	0.75	0.72	0.78	0.75	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.74	0.72	0.70	0.69
6	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.70	0.68	0.67
7	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.64
8	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.62
9	0.68	0.64	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.60
10	0.66	0.62	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.58





Luminaire Lumens:

FL=323.36,FM=52.18,FH=4.15,FVH=1.87

BL=280.44,BM=42.24,BH=3.94,BVH=1.85

UL=3.57,UH=17.01

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	3503.25	3546.56	3554.44	3517.88	3440.81	3312.56	3149.44	2963.81	2757.94
45.0	3497.63	3524.06	3508.31	3458.25	3363.19	3220.88	3059.44	2838.38	2614.50
90.0	3514.50	3471.75	3401.44	3267.00	3124.69	2944.13	2674.13	2434.50	2189.25
135.0	3537.56	3481.31	3382.88	3240.00	3078.00	2892.38	2627.44	2386.13	2138.63
180.0	3503.25	3411.56	3299.63	3137.63	2937.38	2729.25	2501.44	2193.75	1945.13
225.0	3497.63	3429.56	3325.50	3164.06	2994.19	2792.81	2515.50	2271.94	2027.25
270.0	3512.81	3512.25	3461.63	3384.00	3254.06	3105.00	2883.38	2639.25	2403.56
315.0	3537.56	3554.44	3529.13	3458.25	3338.44	3200.06	3004.31	2774.25	2536.88
360.0	3503.25	3546.56	3554.44	3517.88	3440.81	3312.56	3149.44	2963.81	2757.94
C/ γ (°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2476.69	2237.06	1995.19	1722.38	1469.81	1258.88	1045.69	858.94	716.06
45.0	2347.88	2069.44	1825.88	1598.06	1322.44	1130.06	955.69	774.00	642.94
90.0	1934.44	1639.13	1422.00	1119.04	987.41	830.76	698.74	572.34	471.88
135.0	1833.75	1600.88	1384.31	1152.56	952.88	801.56	662.06	556.88	460.13
180.0	1704.38	1429.88	1114.43	1048.95	871.71	721.58	611.72	510.64	441.06
225.0	1728.00	1503.56	1117.46	1070.66	903.38	739.91	606.26	511.26	434.64
270.0	2130.75	1851.19	1620.56	1424.81	1144.13	964.13	822.94	650.81	526.50
315.0	2296.13	1987.31	1749.38	1523.81	1113.98	1069.48	903.09	742.61	611.33
360.0	2476.69	2237.06	1995.19	1722.38	1469.81	1258.88	1045.69	858.94	716.06
C/ γ (°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	586.13	496.69	423.00	374.63	345.38	325.69	308.81	299.25	291.94
45.0	545.06	456.19	394.88	357.75	330.75	313.31	301.50	292.50	285.75
90.0	403.82	351.34	321.41	300.09	286.88	276.13	267.41	260.72	256.16
135.0	394.88	354.94	326.81	311.63	301.50	294.75	287.44	284.06	276.19
180.0	384.13	345.88	324.45	308.42	297.62	290.53	284.91	278.61	273.88
225.0	371.36	338.23	317.36	302.63	293.63	288.28	284.91	281.14	278.38
270.0	453.38	375.19	330.75	306.00	284.63	276.24	266.23	261.90	259.54
315.0	516.71	436.50	387.06	349.20	324.56	309.71	297.23	288.28	282.04
360.0	586.13	496.69	423.00	374.63	345.38	325.69	308.81	299.25	291.94
C/ γ (°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	284.63	279.51	273.32	268.93	262.18	257.34	252.11	230.74	201.21
45.0	284.63	273.54	269.27	264.49	257.96	253.24	242.83	214.59	182.42
90.0	252.79	246.54	240.41	236.31	232.14	214.03	187.37	152.78	116.10
135.0	272.87	267.58	262.58	258.13	245.25	219.88	192.32	149.68	110.93
180.0	269.38	263.19	256.56	250.20	231.08	198.39	164.25	131.06	92.19
225.0	273.88	269.27	263.70	259.43	246.60	219.60	186.02	144.06	105.98
270.0	254.70	247.84	243.28	236.81	230.85	224.44	205.88	177.53	143.94
315.0	276.53	270.79	266.63	261.62	255.54	250.93	237.83	204.24	171.06
360.0	284.63	279.51	273.32	268.93	262.18	257.34	252.11	230.74	201.21
C/ γ (°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	166.50	127.63	86.29	53.33	25.09	13.33	10.97	9.23	7.76
45.0	146.53	104.91	66.04	38.87	20.42	12.71	11.25	10.01	8.61
90.0	84.94	52.37	29.87	17.49	14.57	13.28	12.04	10.74	10.01
135.0	77.46	44.78	23.68	14.12	12.71	11.53	10.24	9.23	8.44
180.0	56.31	30.60	15.64	12.26	10.97	9.39	8.21	7.03	6.58
225.0	66.32	37.35	20.98	14.91	13.56	12.09	10.86	9.68	9.00
270.0	111.94	76.67	48.04	25.82	16.71	14.74	13.05	11.59	10.52
315.0	135.34	92.76	64.07	33.13	15.02	12.26	10.80	8.83	7.88
360.0	166.50	127.63	86.29	53.33	25.09	13.33	10.97	9.23	7.76

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	6.47	5.68	5.46	5.23	5.01	4.89	4.78	4.67	4.56
45.0	7.71	7.31	7.20	7.14	6.98	6.92	6.86	6.75	6.64
90.0	9.79	9.39	9.06	8.78	8.33	7.93	7.65	7.20	6.92
135.0	8.10	7.76	7.37	7.09	6.75	6.47	6.19	5.91	5.63
180.0	6.36	6.13	5.85	5.63	5.46	5.29	5.06	5.01	4.84
225.0	8.66	8.27	7.82	7.54	7.14	6.86	6.53	6.13	5.96
270.0	9.90	9.51	9.23	8.83	8.49	8.10	7.82	7.37	7.03
315.0	7.03	6.69	6.58	6.41	6.30	6.24	6.19	6.08	5.96
360.0	6.47	5.68	5.46	5.23	5.01	4.89	4.78	4.67	4.56
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	4.50	4.50	4.44	4.44	4.44	4.39	4.39	4.39	4.39
45.0	6.58	6.47	6.24	6.02	5.91	5.68	5.40	5.29	5.06
90.0	6.53	6.19	5.96	5.63	5.29	5.18	4.95	4.73	4.61
135.0	5.34	5.12	4.89	4.73	4.56	4.44	4.33	4.22	4.11
180.0	4.73	4.61	4.44	4.44	4.33	4.28	4.16	4.11	4.11
225.0	5.63	5.40	5.18	4.95	4.73	4.56	4.39	4.28	4.16
270.0	6.75	6.41	6.08	5.85	5.51	5.29	5.06	4.84	4.67
315.0	5.91	5.79	5.68	5.51	5.40	5.23	5.06	4.89	4.73
360.0	4.50	4.50	4.44	4.44	4.44	4.39	4.39	4.39	4.39
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	4.33	4.33	4.28	4.22	4.16	4.05	4.05	3.94	3.94
45.0	4.89	4.73	4.61	4.50	4.39	4.33	4.22	4.11	3.99
90.0	4.44	4.28	4.22	4.11	3.99	3.94	3.88	3.88	3.83
135.0	4.05	3.94	3.88	3.83	3.83	3.77	3.77	3.71	3.66
180.0	4.05	3.94	3.94	3.88	3.83	3.77	3.77	3.71	3.66
225.0	4.11	4.05	3.94	3.88	3.83	3.77	3.77	3.71	3.66
270.0	4.50	4.33	4.28	4.11	4.05	3.99	3.94	3.88	3.83
315.0	4.61	4.50	4.39	4.28	4.16	4.11	4.05	3.99	3.88
360.0	4.33	4.33	4.28	4.22	4.16	4.05	4.05	3.94	3.94
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.88	3.83	3.77	3.71	3.71	3.66	3.60	3.60	3.54
45.0	3.94	3.88	3.83	3.77	3.71	3.71	3.71	3.66	3.60
90.0	3.83	3.71	3.71	3.71	3.71	3.66	3.66	3.60	3.60
135.0	3.60	3.54	3.54	3.54	3.49	3.49	3.49	3.43	3.43
180.0	3.66	3.60	3.54	3.54	3.49	3.49	3.49	3.43	3.43
225.0	3.60	3.60	3.60	3.54	3.54	3.54	3.49	3.49	3.43
270.0	3.77	3.71	3.71	3.71	3.66	3.66	3.66	3.60	3.60
315.0	3.77	3.71	3.71	3.66	3.66	3.60	3.60	3.54	3.54
360.0	3.88	3.83	3.77	3.71	3.71	3.66	3.60	3.60	3.54
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	3.54	3.49	3.49	3.43	3.43	3.43	3.38	3.38	3.38
45.0	3.60	3.54	3.49	3.49	3.43	3.43	3.38	3.32	3.32
90.0	3.54	3.54	3.49	3.43	3.43	3.38	3.32	3.32	3.26
135.0	3.38	3.43	3.38	3.38	3.38	3.38	3.38	3.32	3.32
180.0	3.43	3.43	3.43	3.38	3.43	3.38	3.38	3.38	3.38
225.0	3.38	3.43	3.38	3.38	3.32	3.32	3.32	3.32	3.32
270.0	3.54	3.54	3.54	3.43	3.43	3.38	3.38	3.32	3.26
315.0	3.49	3.49	3.43	3.43	3.43	3.38	3.32	3.32	3.32
360.0	3.54	3.49	3.49	3.43	3.43	3.43	3.38	3.38	3.38

Intensity data(cd)

C/γ(°)	90.0
0.0	3.38
45.0	3.26
90.0	3.21
135.0	3.26
180.0	3.32
225.0	3.26
270.0	3.26
315.0	3.26
360.0	3.38