



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

---

Client:

LumCAT: 2-1120-A3

Luminaire: 99.02.73.172+92.76.365.00

Report No:

Voltage(V): 34.9200

Test No: GC20190823010

Current(A): 0.3980

LampCAT: TRIDONIC SLE 13MM G7

Power (W): 13.9000

Lamp flux(lm): 1702.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 71

Width(mm): 71

Phm Type: C

Height(mm): 0

---

## Photometric Results

---

Lumens(lm): 1563.22, Efficiency(%): 91.85% , Luminous Efficacy(lm/W): 112.46

Central intensity(cd): 11202.330, Maximum intensity(cd): 11202.330

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=15.2

[C90/270]Total=15.2

Field angle(10%Imax): [C0/180]Total=30.2

[C90/270]Total=30.2

Maximum s/h(1/2): C0\_180=0.26 C90\_270=0.26

Maximum s/h(1/4): C0\_180=0.26 C90\_270=0.26

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 91.85%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 98.624%

---

Equipment: GMS1980  
Temperature(°C): 25.0

Date: 2019/8/23  
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	11202.328	0.000	0	.000%	.000%
1.0	11119.570	10.681	10.681	.628%	.683%
2.0	10849.219	31.532	42.212	1.853%	2.700%
3.0	10336.078	50.668	92.881	2.977%	5.942%
4.0	9586.758	66.688	159.569	3.918%	10.208%
5.0	8655.328	78.477	238.045	4.611%	15.228%
6.0	7479.773	84.794	322.839	4.982%	20.652%
7.0	6251.977	85.233	408.072	5.008%	26.105%
8.0	5118.469	81.376	489.448	4.781%	31.310%
9.0	4012.031	73.998	563.446	4.348%	36.044%
10.0	3094.172	64.309	627.755	3.778%	40.158%
11.0	2467.125	55.569	683.323	3.265%	43.712%
12.0	2054.320	49.426	732.749	2.904%	46.874%
13.0	1547.480	42.744	775.493	2.511%	49.609%
14.0	1289.152	36.309	811.802	2.133%	51.931%
15.0	1127.053	33.171	844.973	1.949%	54.053%
16.0	1008.134	31.286	876.259	1.838%	56.055%
17.0	899.719	29.710	905.97	1.746%	57.955%
18.0	824.456	28.428	934.398	1.670%	59.774%
19.0	768.691	27.718	962.115	1.629%	61.547%
20.0	727.172	27.378	989.494	1.609%	63.298%
21.0	695.405	27.316	1016.81	1.605%	65.046%
22.0	670.177	27.442	1044.252	1.612%	66.801%
23.0	648.436	27.668	1071.92	1.626%	68.571%
24.0	626.794	27.881	1099.801	1.638%	70.355%
25.0	607.141	28.057	1127.858	1.648%	72.150%
26.0	590.365	28.267	1156.125	1.661%	73.958%
27.0	574.840	28.507	1184.632	1.675%	75.781%
28.0	560.081	28.734	1213.366	1.688%	77.619%
29.0	548.051	28.992	1242.358	1.703%	79.474%
30.0	537.335	29.305	1271.663	1.722%	81.349%
31.0	527.604	29.636	1301.299	1.741%	83.245%
32.0	517.662	29.946	1331.244	1.759%	85.160%
33.0	500.702	30.001	1361.246	1.763%	87.079%
34.0	472.901	29.464	1390.71	1.731%	88.964%
35.0	426.016	27.917	1418.627	1.640%	90.750%
36.0	371.700	25.399	1444.026	1.492%	92.375%
37.0	317.545	22.479	1466.506	1.321%	93.813%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	256.985	19.177	1485.683	1.127%	95.040%
39.0	198.288	15.540	1501.222	.913%	96.034%
40.0	134.065	11.591	1512.814	.681%	96.775%
41.0	84.558	7.785	1520.599	.457%	97.273%
42.0	45.548	4.727	1525.326	.278%	97.576%
43.0	24.420	2.592	1527.918	.152%	97.741%
44.0	16.467	1.543	1529.461	.091%	97.840%
45.0	14.112	1.175	1530.636	.069%	97.915%
46.0	11.841	1.015	1531.651	.060%	97.980%
47.0	10.357	0.883	1532.534	.052%	98.037%
48.0	9.373	0.798	1533.331	.047%	98.088%
49.0	8.782	0.746	1534.077	.044%	98.135%
50.0	8.360	0.715	1534.792	.042%	98.181%
51.0	8.191	0.700	1535.492	.041%	98.226%
52.0	8.044	0.697	1536.189	.041%	98.271%
53.0	7.889	0.693	1536.882	.041%	98.315%
54.0	7.784	0.691	1537.572	.041%	98.359%
55.0	7.685	0.690	1538.263	.041%	98.403%
56.0	7.587	0.690	1538.953	.041%	98.447%
57.0	7.502	0.690	1539.643	.041%	98.492%
58.0	7.411	0.690	1540.333	.041%	98.536%
59.0	7.334	0.689	1541.022	.041%	98.580%
60.0	7.263	0.690	1541.711	.041%	98.624%
61.0	7.200	0.690	1542.402	.041%	98.668%
62.0	7.158	0.692	1543.094	.041%	98.712%
63.0	7.130	0.695	1543.788	.041%	98.757%
64.0	7.073	0.697	1544.485	.041%	98.801%
65.0	7.045	0.699	1545.184	.041%	98.846%
66.0	7.017	0.702	1545.886	.041%	98.891%
67.0	6.975	0.704	1546.589	.041%	98.936%
68.0	6.947	0.705	1547.295	.041%	98.981%
69.0	6.919	0.707	1548.002	.042%	99.026%
70.0	6.905	0.710	1548.712	.042%	99.072%
71.0	6.877	0.712	1549.424	.042%	99.117%
72.0	6.848	0.714	1550.138	.042%	99.163%
73.0	6.834	0.716	1550.853	.042%	99.209%
74.0	6.813	0.717	1551.571	.042%	99.255%
75.0	6.799	0.719	1552.29	.042%	99.301%

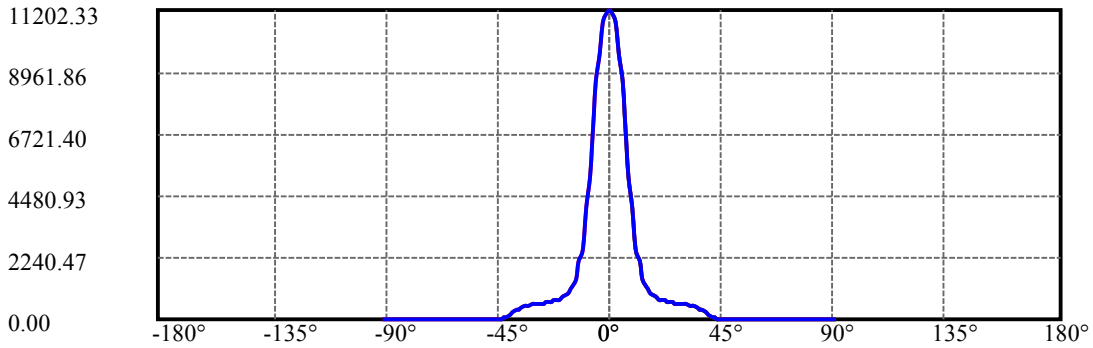
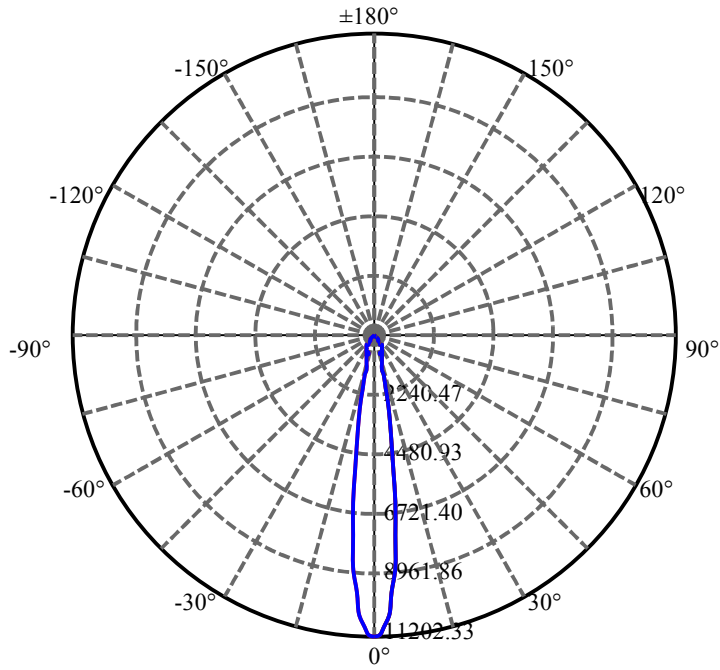
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	6.785	0.721	1553.011	.042%	99.347%
77.0	6.764	0.722	1553.733	.042%	99.393%
78.0	6.757	0.724	1554.457	.043%	99.439%
79.0	6.750	0.726	1555.183	.043%	99.486%
80.0	6.743	0.727	1555.91	.043%	99.532%
81.0	6.729	0.729	1556.639	.043%	99.579%
82.0	6.715	0.729	1557.368	.043%	99.625%
83.0	6.715	0.730	1558.098	.043%	99.672%
84.0	6.694	0.730	1558.829	.043%	99.719%
85.0	6.708	0.731	1559.56	.043%	99.766%
86.0	6.708	0.733	1560.293	.043%	99.813%
87.0	6.715	0.735	1561.028	.043%	99.860%
88.0	6.680	0.734	1561.762	.043%	99.906%
89.0	6.659	0.731	1562.493	.043%	99.953%
90.0	6.666	0.731	1563.223	.043%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1271.66	74.72%	81.35%
0-40	1512.81	88.88%	96.78%
0-60	1541.71	90.58%	98.62%
0-90	1562.49	91.80%	99.95%
0-120	1562.49	91.80%	99.95%
0-180	1563.22	91.85%	100.00%
60-90	21.47	1.26%	1.37%
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%
0-29.28	1250.58	73.48%	80.00%

ZONAL LUMEN SUMMARY

0-10	627.75
10-20	361.74
20-30	282.17
30-40	241.15
40-50	21.98
50-60	6.92
60-70	7.00
70-80	7.20
80-90	6.58
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



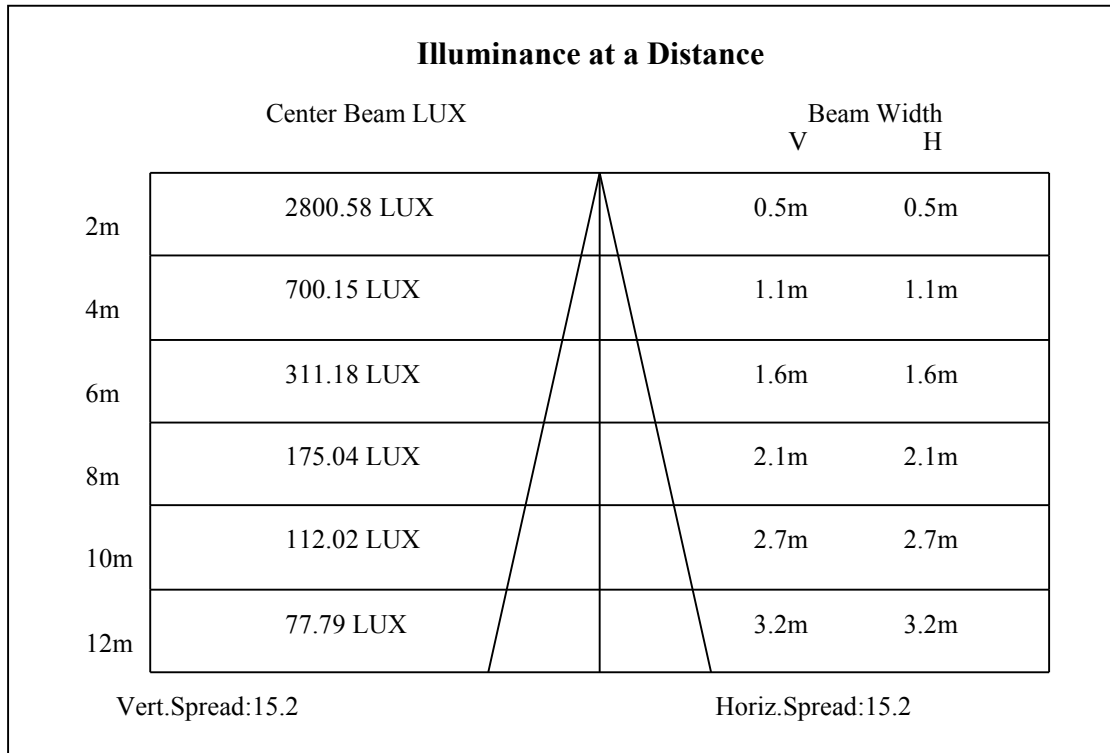
C0(Max): —————

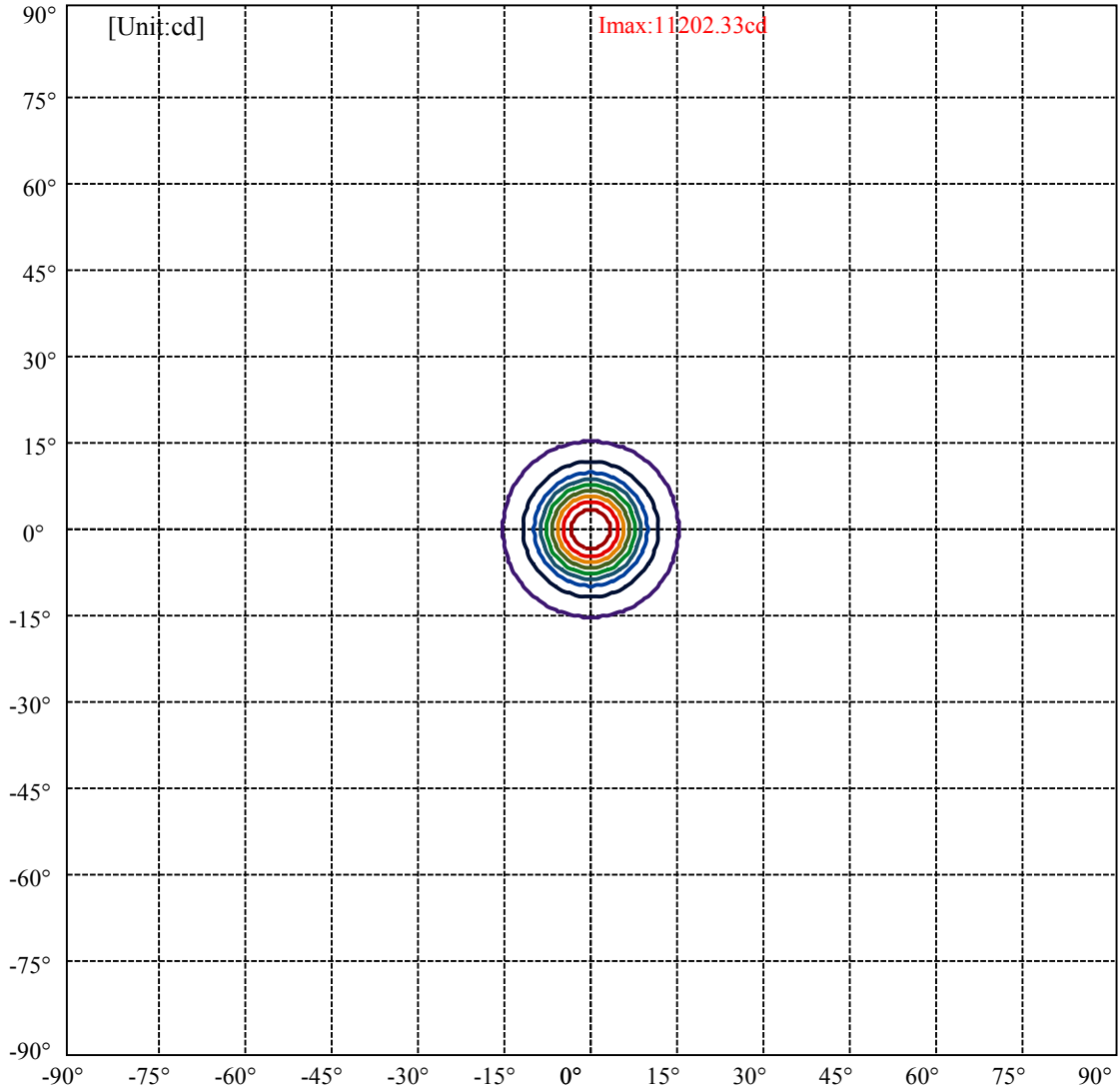
C0/C180: —————

C90/C270: —————

Field angle(10%Imax):C0/180Left:15.1 Right:15.1  
:C90/270Left:15.1 Right:15.1

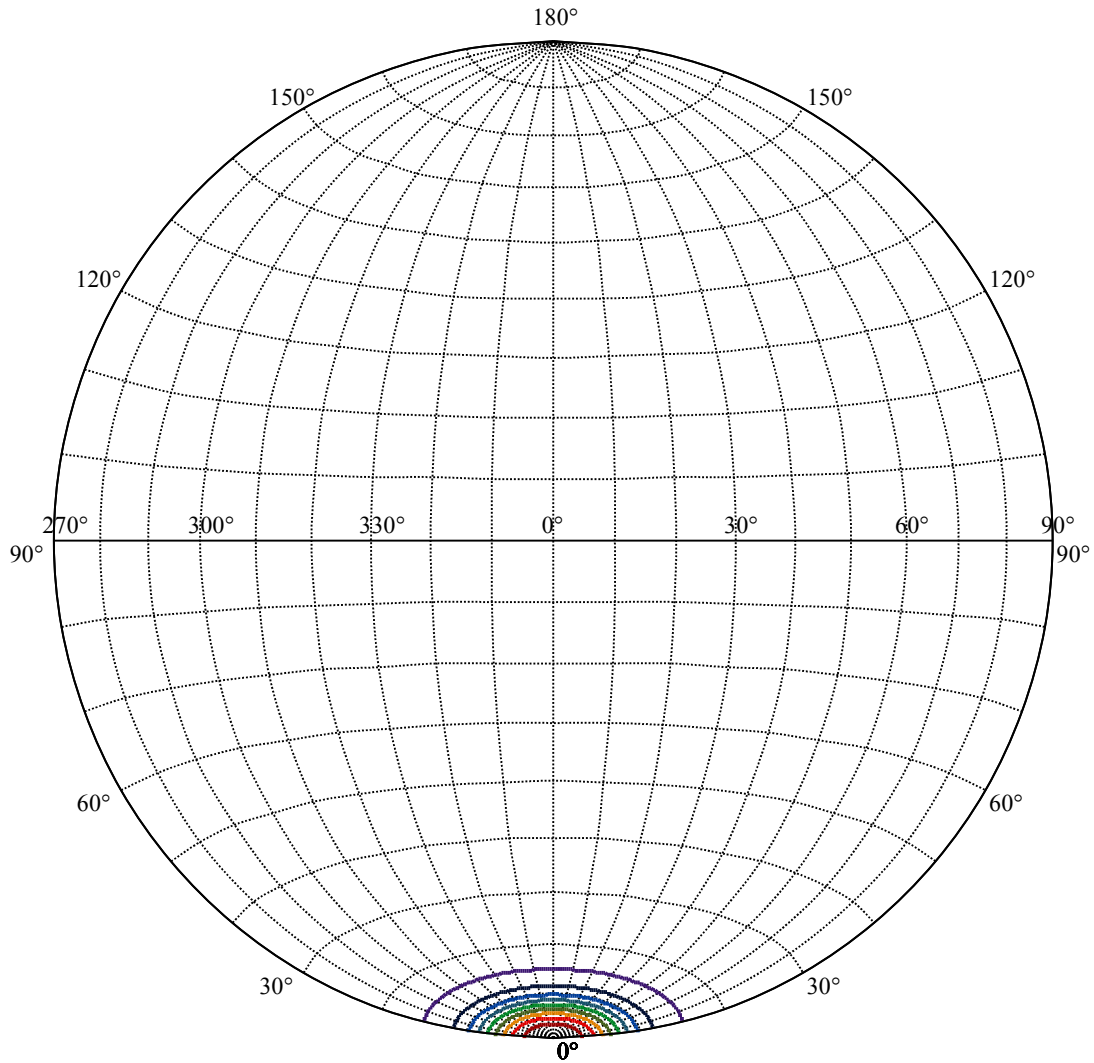
Beam Angle(50%Imax):C0/180Left:7.6 Right:7.6  
:C90/270Left:7.6 Right:7.6





(10%Imax) 1120.23	—
(20%Imax) 2240.47	—
(30%Imax) 3360.7	—
(40%Imax) 4480.93	—
(50%Imax) 5601.16	—
(60%Imax) 6721.4	—
(70%Imax) 7841.63	—
(80%Imax) 8961.86	—
(90%Imax) 10082.1	—





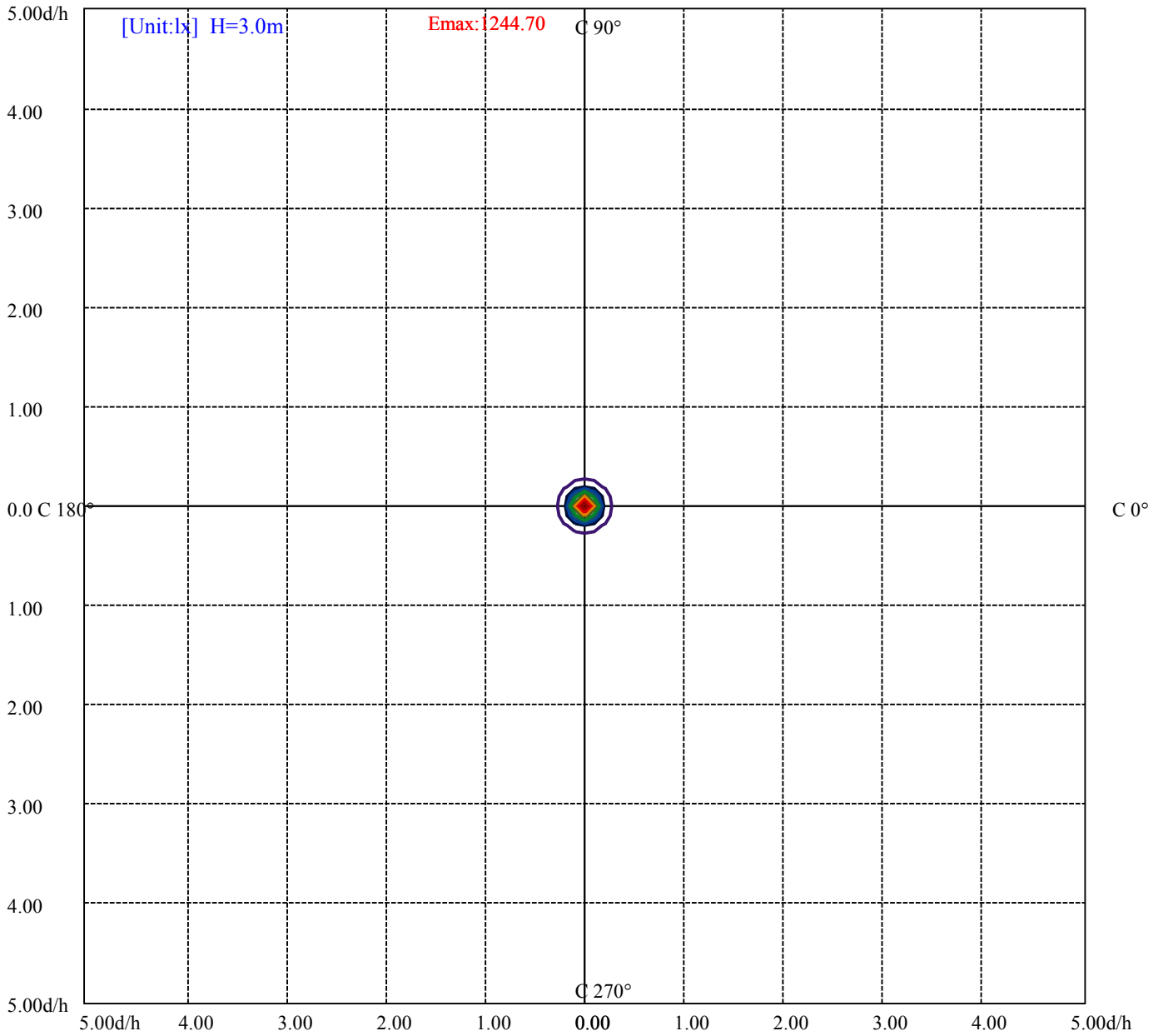
House

[Unit:cd]

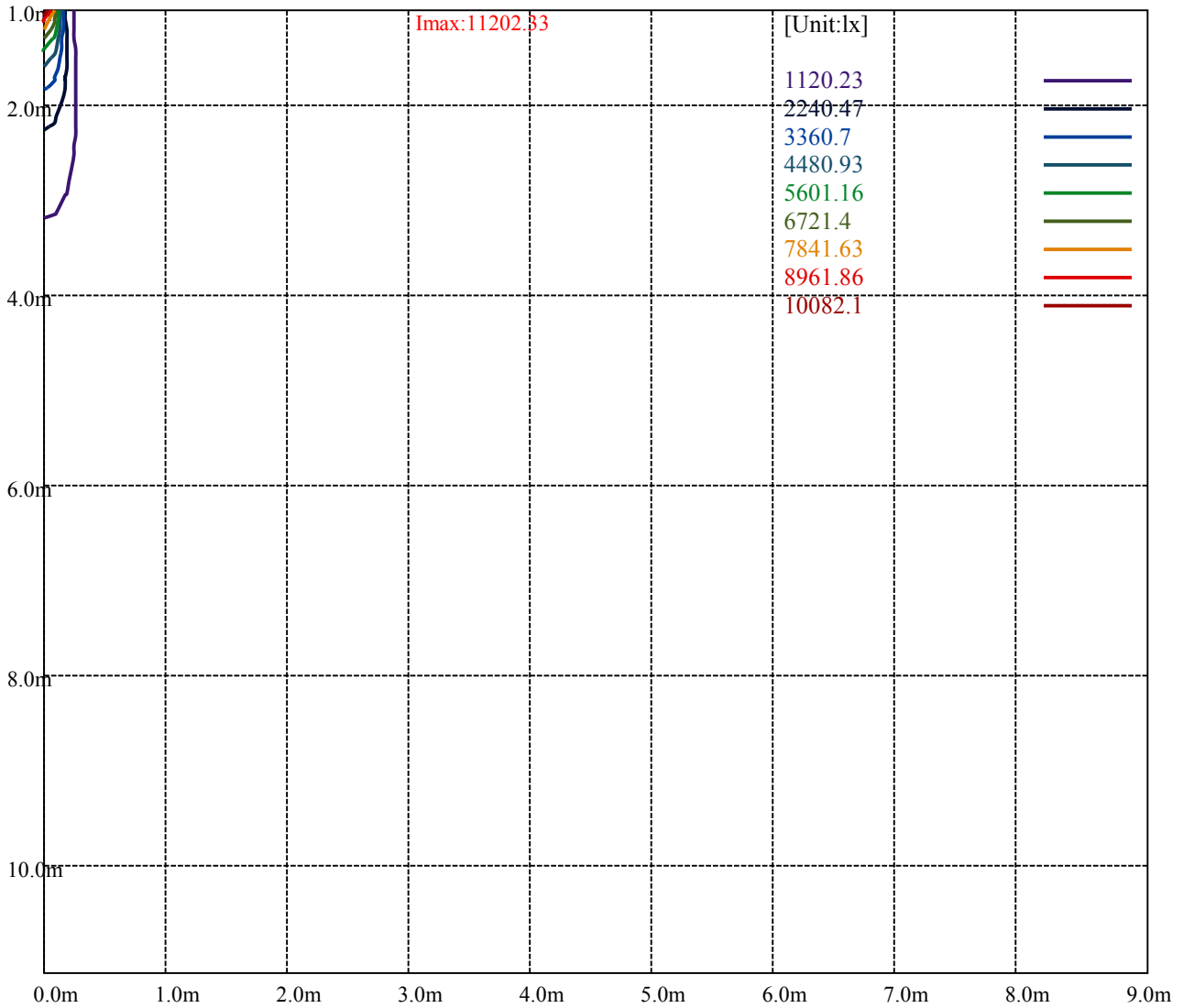
Road

**Imax:11202.33**

(10%Imax) 1120.23	—
(20%Imax) 2240.47	—
(30%Imax) 3360.7	—
(40%Imax) 4480.93	—
(50%Imax) 5601.16	—
(60%Imax) 6721.4	—
(70%Imax) 7841.63	—
(80%Imax) 8961.86	—
(90%Imax) 10082.1	—



- (10%Emax) 124.47
- (20%Emax) 248.94
- (30%Emax) 373.41
- (40%Emax) 497.8811
- (50%Emax) 622.3511
- (60%Emax) 746.8211
- (70%Emax) 871.2911
- (80%Emax) 995.761
- (90%Emax) 1120.233



Luminance Table

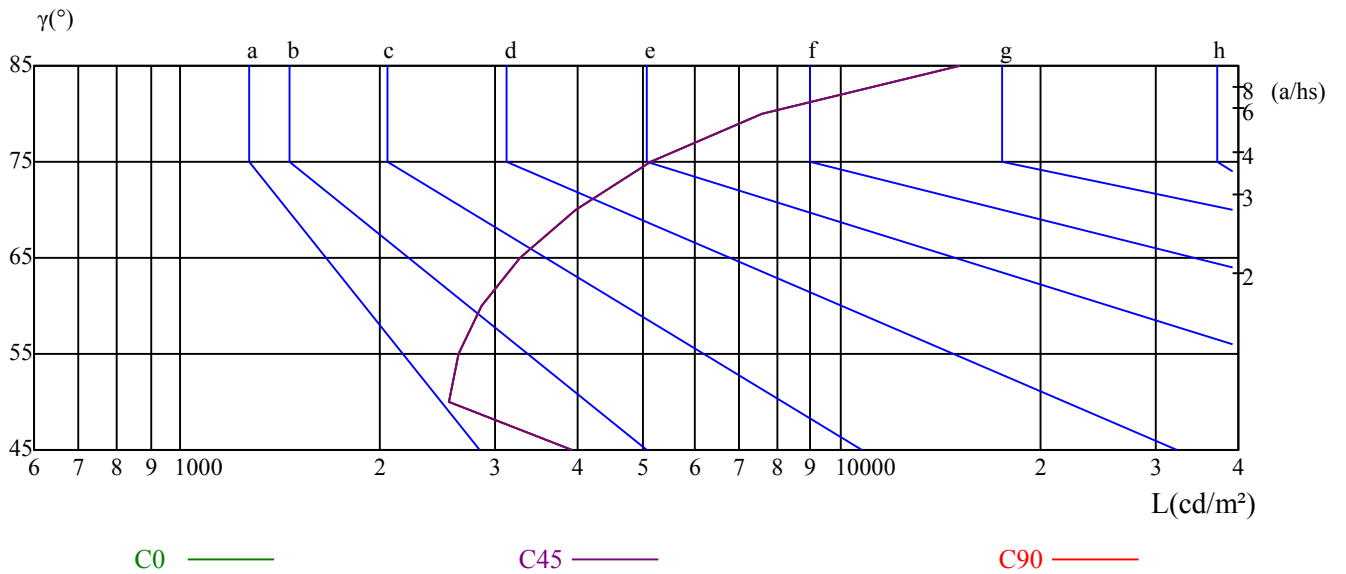
$\gamma$	45	50	55	60	65	70	75	80	85
C0	3915	2551	2628	2849	3270	3960	5153	7617	15097
C45	3915	2551	2628	2849	3270	3960	5153	7617	15097
C90	3915	2551	2628	2849	3270	3960	5153	7617	15097

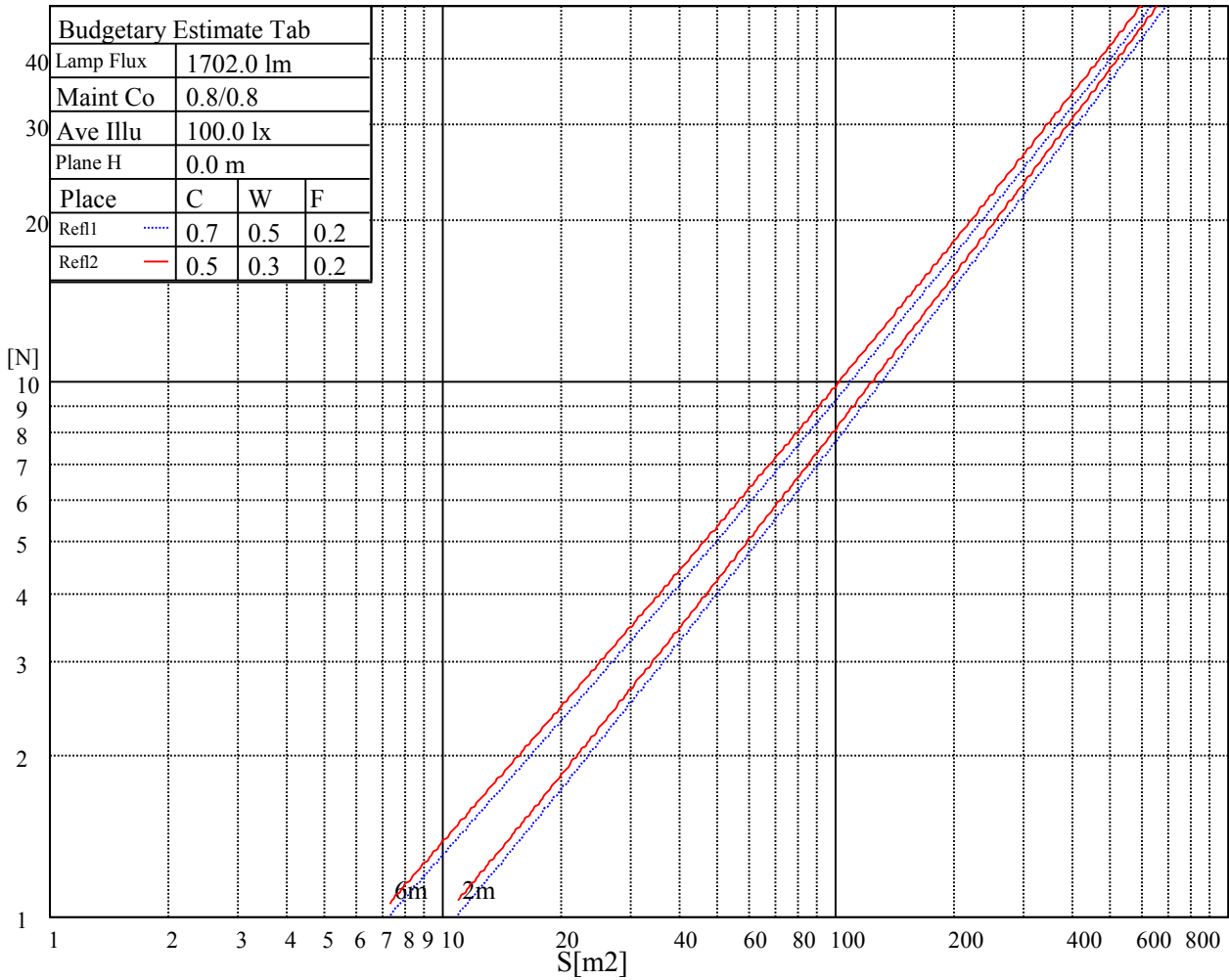
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3270	3270	3270	5153	5153	5153	15097	15097	15097

Glare Table

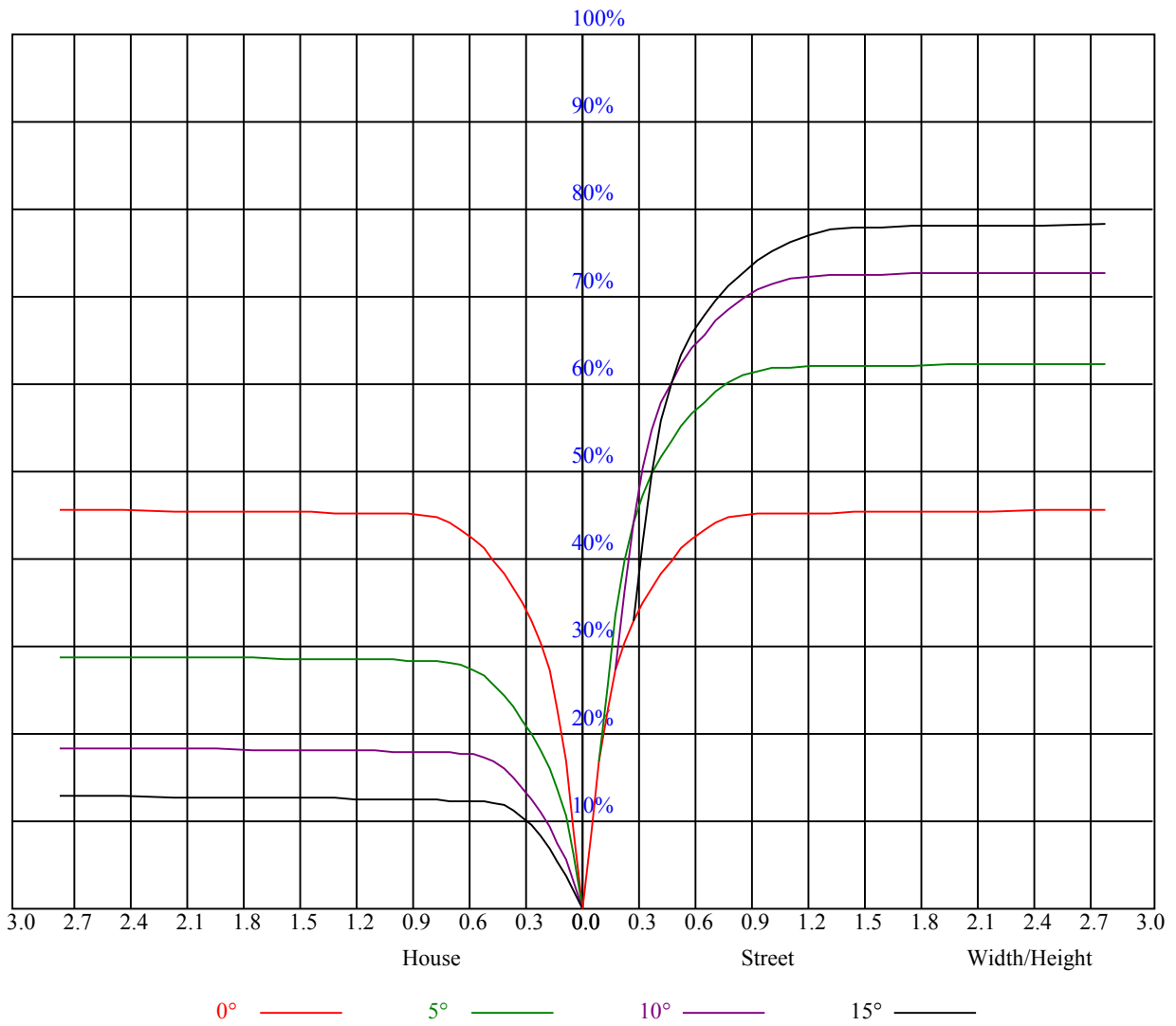
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

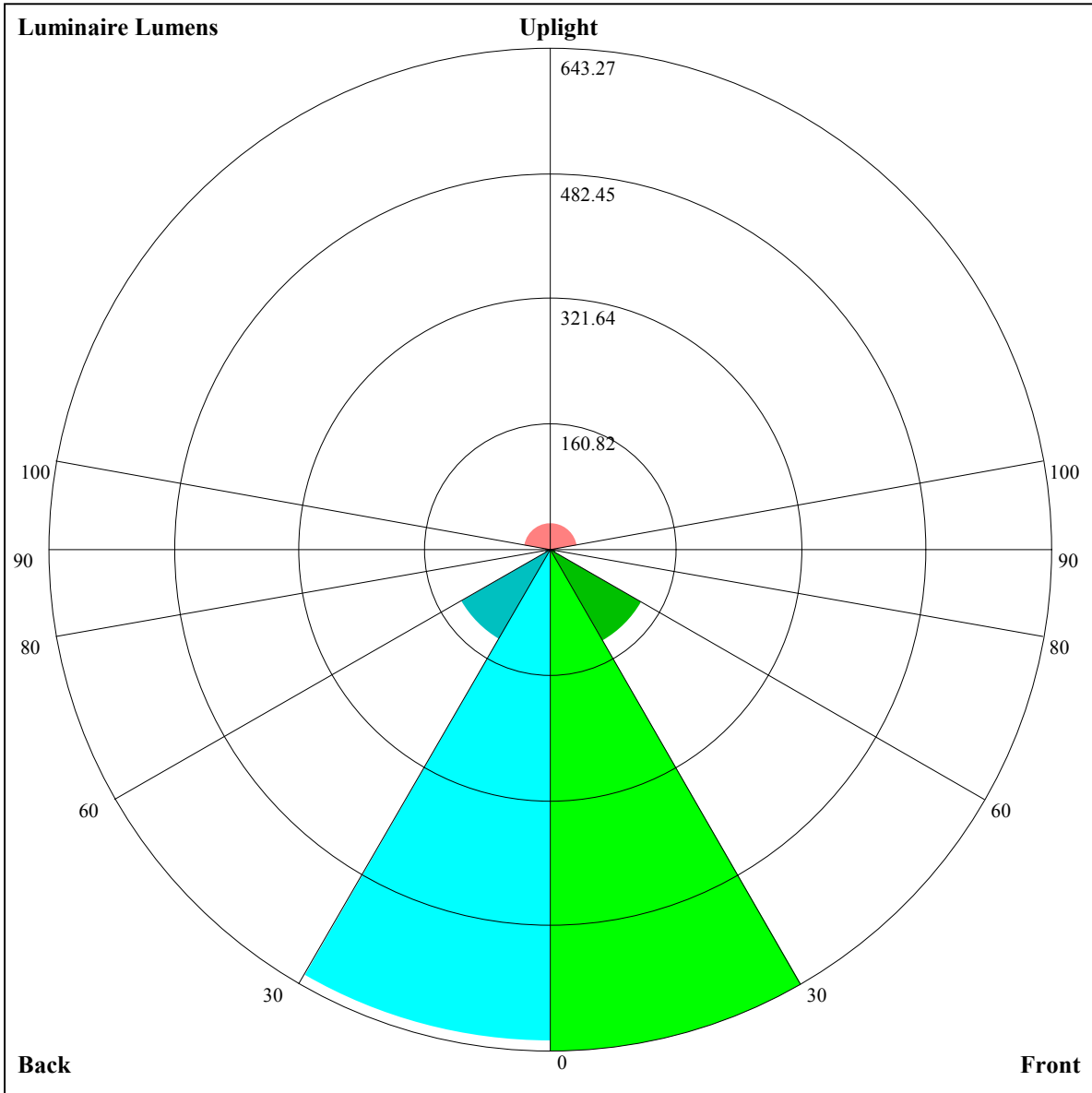
Luminance Limiting Curve





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	1.09	1.09	1.09	1.07	1.07	1.07	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.03	1.01	0.99	1.01	0.99	0.98	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88
2	0.97	0.94	0.92	0.96	0.93	0.91	0.93	0.91	0.89	0.90	0.89	0.87	0.88	0.86	0.85	0.84
3	0.93	0.89	0.86	0.91	0.88	0.85	0.89	0.86	0.84	0.87	0.85	0.83	0.85	0.83	0.81	0.80
4	0.88	0.84	0.81	0.87	0.84	0.81	0.86	0.82	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.77
5	0.85	0.81	0.77	0.84	0.80	0.77	0.82	0.79	0.76	0.81	0.78	0.76	0.80	0.77	0.75	0.74
6	0.81	0.77	0.74	0.81	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.77	0.75	0.72	0.71
7	0.78	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.69
8	0.76	0.71	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.73	0.70	0.68	0.67
9	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.71	0.68	0.66	0.65
10	0.71	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.69	0.66	0.64	0.63





Luminaire Lumens:

FL=643.27,FM=136.02,FH=7.09,FVH=3.66

BL=631.03,BM=133.66,BH=7.12,BVH=3.66

UL=7.27,UH=34.61

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	11221.88	11176.88	10895.63	10428.75	9703.13	8679.38	7503.75	6395.63	5146.88
45.0	11167.31	11222.44	11148.75	10935.00	10361.25	9663.75	8780.63	7447.50	6305.63
90.0	11216.25	11219.63	11138.06	10750.50	10199.81	9452.25	8202.38	7072.31	5897.25
135.0	11203.88	11226.94	11109.38	10839.38	10321.88	9495.00	8561.25	7306.88	6148.13
180.0	11221.88	11150.44	10856.81	10325.25	9582.75	8653.50	7297.31	6129.00	4973.63
225.0	11167.31	10921.50	10419.19	9633.94	8681.63	7578.00	6298.31	5027.06	3976.31
270.0	11216.25	11047.50	10648.13	10051.88	9056.25	7998.75	6727.50	5445.00	4365.00
315.0	11203.88	10991.25	10577.81	9723.94	8787.38	7722.00	6467.06	5192.44	4134.94
360.0	11221.88	11176.88	10895.63	10428.75	9703.13	8679.38	7503.75	6395.63	5146.88
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4005.00	3166.88	2902.50	2001.38	1624.50	1356.75	1182.94	1052.44	929.25
45.0	5191.88	3898.13	3054.38	2874.38	1866.38	1560.94	1338.75	1148.06	1011.94
90.0	4627.69	3509.44	2749.50	2136.94	1708.31	1435.50	1118.70	1069.20	944.33
135.0	4905.00	3763.13	2930.63	2840.63	1879.31	1494.56	1274.63	1105.88	960.19
180.0	3801.38	2863.13	2264.06	1793.81	1469.25	1093.05	1075.89	958.33	860.51
225.0	3096.00	2288.81	1841.63	1521.00	1118.59	1085.51	975.04	878.85	802.24
270.0	3318.75	2846.25	2039.06	1677.38	1357.88	1175.06	1040.63	925.31	839.25
315.0	3150.56	2417.63	1955.25	1589.06	1355.63	1111.84	1009.86	927.00	850.05
360.0	4005.00	3166.88	2902.50	2001.38	1624.50	1356.75	1182.94	1052.44	929.25
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	853.88	797.63	744.75	712.69	687.38	663.75	640.13	619.88	600.19
45.0	912.94	824.63	768.38	727.88	691.88	666.00	642.38	620.44	603.56
90.0	860.12	790.76	746.61	710.49	683.83	663.69	641.76	620.78	603.28
135.0	873.00	804.94	750.38	717.75	692.44	665.44	646.88	626.63	605.25
180.0	789.86	742.89	708.41	676.63	654.92	634.84	610.88	592.65	576.84
225.0	752.29	714.15	689.34	664.76	641.76	622.86	602.72	585.00	571.84
270.0	784.13	740.25	706.50	682.31	660.38	641.81	621.00	601.31	585.56
315.0	769.44	734.29	703.01	670.73	648.84	629.10	608.63	590.46	576.39
360.0	853.88	797.63	744.75	712.69	687.38	663.75	640.13	619.88	600.19
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	584.44	569.81	555.19	543.94	533.81	523.69	515.81	493.31	442.69
45.0	587.25	570.94	558.56	546.75	534.94	525.38	516.94	507.38	477.00
90.0	586.58	567.84	554.18	541.97	530.78	520.31	511.76	496.41	455.63
135.0	586.13	570.94	556.88	544.50	534.38	523.13	515.25	502.31	468.56
180.0	559.91	549.00	538.31	526.89	519.69	510.41	496.52	469.80	424.29
225.0	560.25	546.58	537.24	528.81	519.41	506.98	476.66	426.49	367.88
270.0	571.50	554.63	543.94	534.94	524.81	516.94	489.38	449.44	385.31
315.0	562.67	550.91	540.11	530.89	523.01	514.46	483.30	438.08	386.78
360.0	584.44	569.81	555.19	543.94	533.81	523.69	515.81	493.31	442.69
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	389.81	332.44	288.00	194.34	140.34	86.34	44.49	21.94	15.36
45.0	428.06	371.25	314.44	285.19	192.04	132.19	77.18	40.11	17.49
90.0	409.28	351.39	294.69	231.41	169.03	115.43	69.36	27.11	17.21
135.0	423.00	375.19	304.88	289.69	185.06	128.48	69.75	34.14	18.51
180.0	363.60	315.73	258.08	179.04	132.08	81.73	37.13	19.07	16.99
225.0	313.20	249.98	192.99	131.51	75.49	39.09	20.93	17.72	15.53
270.0	329.06	285.75	203.46	142.20	92.14	46.69	22.11	18.79	16.37
315.0	317.59	258.64	199.35	132.92	86.34	46.52	23.46	16.48	14.29
360.0	389.81	332.44	288.00	194.34	140.34	86.34	44.49	21.94	15.36

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	13.61	11.08	9.68	9.17	8.66	8.38	8.21	8.04	7.82
45.0	14.74	12.43	10.52	9.56	9.06	8.44	8.27	8.10	7.93
90.0	15.30	12.54	10.63	9.90	9.06	8.49	8.33	8.16	8.04
135.0	16.03	13.73	11.42	10.41	9.51	8.66	8.44	8.27	8.04
180.0	14.51	11.76	10.29	9.45	8.61	8.33	8.16	8.04	7.93
225.0	12.94	11.03	10.13	8.83	8.49	8.27	8.10	7.99	7.88
270.0	13.89	11.87	10.63	8.94	8.49	8.21	8.10	7.93	7.76
315.0	11.87	10.29	9.56	8.72	8.38	8.10	7.93	7.82	7.71
360.0	13.61	11.08	9.68	9.17	8.66	8.38	8.21	8.04	7.82
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	7.71	7.59	7.54	7.43	7.31	7.26	7.20	7.14	7.09
45.0	7.82	7.76	7.65	7.59	7.48	7.43	7.31	7.26	7.20
90.0	7.88	7.82	7.71	7.59	7.48	7.43	7.31	7.26	7.20
135.0	7.99	7.88	7.71	7.65	7.59	7.48	7.37	7.31	7.26
180.0	7.82	7.71	7.59	7.54	7.48	7.37	7.31	7.20	7.20
225.0	7.76	7.65	7.54	7.48	7.37	7.31	7.26	7.20	7.14
270.0	7.71	7.59	7.54	7.43	7.31	7.26	7.20	7.14	7.14
315.0	7.59	7.48	7.43	7.31	7.26	7.14	7.14	7.09	7.03
360.0	7.71	7.59	7.54	7.43	7.31	7.26	7.20	7.14	7.09
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	7.03	6.98	6.98	6.92	6.92	6.86	6.86	6.86	6.86
45.0	7.20	7.14	7.09	7.09	7.03	6.98	6.98	6.98	6.92
90.0	7.20	7.14	7.09	7.09	7.03	6.98	6.98	6.92	6.92
135.0	7.20	7.14	7.09	7.09	7.03	6.98	6.98	6.98	6.92
180.0	7.14	7.09	7.09	7.03	6.98	6.98	6.92	6.92	6.86
225.0	7.14	7.09	7.03	7.03	6.98	6.98	6.92	6.92	6.86
270.0	7.09	7.03	7.03	6.98	6.92	6.92	6.86	6.86	6.86
315.0	7.03	6.98	6.98	6.92	6.86	6.86	6.86	6.81	6.81
360.0	7.03	6.98	6.98	6.92	6.92	6.86	6.86	6.86	6.86
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	6.81	6.81	6.81	6.81	6.81	6.81	6.81	6.75	6.75
45.0	6.86	6.86	6.86	6.81	6.81	6.81	6.81	6.81	6.75
90.0	6.86	6.86	6.81	6.81	6.75	6.75	6.75	6.75	6.75
135.0	6.86	6.86	6.86	6.81	6.81	6.81	6.75	6.75	6.75
180.0	6.86	6.86	6.81	6.81	6.75	6.75	6.75	6.75	6.75
225.0	6.86	6.86	6.81	6.81	6.81	6.75	6.75	6.75	6.75
270.0	6.86	6.81	6.81	6.81	6.81	6.75	6.75	6.75	6.75
315.0	6.81	6.75	6.75	6.75	6.75	6.69	6.69	6.69	6.69
360.0	6.81	6.81	6.81	6.81	6.81	6.81	6.81	6.75	6.75
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	6.75	6.75	6.69	6.75	6.75	6.75	6.75	6.64	6.64
45.0	6.75	6.75	6.75	6.75	6.69	6.75	6.75	6.81	6.69
90.0	6.75	6.75	6.75	6.69	6.69	6.69	6.75	6.69	6.64
135.0	6.75	6.69	6.69	6.69	6.69	6.69	6.69	6.64	6.64
180.0	6.69	6.69	6.69	6.64	6.69	6.64	6.64	6.64	6.64
225.0	6.75	6.69	6.75	6.69	6.69	6.75	6.69	6.69	6.69
270.0	6.69	6.69	6.69	6.69	6.75	6.75	6.75	6.69	6.69
315.0	6.69	6.69	6.69	6.64	6.69	6.64	6.69	6.64	6.64
360.0	6.75	6.75	6.69	6.75	6.75	6.75	6.75	6.64	6.64

Intensity data(cd)

C/ $\gamma$ (°)	90.0
0.0	6.64
45.0	6.69
90.0	6.69
135.0	6.64
180.0	6.64
225.0	6.69
270.0	6.69
315.0	6.64
360.0	6.64