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Nata

Client:

LumCAT: 3-1549-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): 79

Width(mm): 79

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1543.36, Efficiency(%): 90.68% , Luminous Efficacy(lm/W): 111.03

Central intensity(cd): 6333.328, Maximum intensity(cd): 6333.328

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=22.2

[C90/270]Total=22.2

Field angle(10%Imax): [C0/180]Total=51.6

[C90/270]Total=51.6

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

Maximum s/h(1/4): C0_180=0.39 C90_270=0.39

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 90.68%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.529%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6333.328	0.000	0	.000%	.000%
1.0	6280.664	6.036	6.036	.355%	.391%
2.0	6138.844	17.826	23.861	1.047%	1.546%
3.0	5920.313	28.842	52.703	1.695%	3.415%
4.0	5674.781	38.812	91.515	2.280%	5.930%
5.0	5408.086	47.678	139.193	2.801%	9.019%
6.0	5063.133	55.029	194.222	3.233%	12.584%
7.0	4716.492	60.702	254.924	3.567%	16.518%
8.0	4372.945	65.051	319.976	3.822%	20.732%
9.0	3989.531	67.773	387.749	3.982%	25.124%
10.0	3560.133	68.322	456.071	4.014%	29.551%
11.0	3197.672	67.524	523.595	3.967%	33.926%
12.0	2842.242	66.025	589.62	3.879%	38.204%
13.0	2448.141	62.784	652.403	3.689%	42.272%
14.0	2152.266	58.885	711.288	3.460%	46.087%
15.0	1877.344	55.320	766.608	3.250%	49.672%
16.0	1624.008	51.305	817.913	3.014%	52.996%
17.0	1400.906	47.106	865.019	2.768%	56.048%
18.0	1204.172	42.952	907.971	2.524%	58.831%
19.0	1089.408	39.904	947.875	2.345%	61.416%
20.0	979.727	37.871	985.746	2.225%	63.870%
21.0	891.232	35.926	1021.672	2.111%	66.198%
22.0	814.205	34.271	1055.943	2.014%	68.419%
23.0	756.113	32.949	1088.893	1.936%	70.554%
24.0	700.165	31.839	1120.732	1.871%	72.617%
25.0	657.780	30.877	1151.609	1.814%	74.617%
26.0	628.552	30.364	1181.973	1.784%	76.585%
27.0	606.080	30.206	1212.178	1.775%	78.542%
28.0	580.662	30.046	1242.224	1.765%	80.489%
29.0	563.428	29.933	1272.157	1.759%	82.428%
30.0	548.648	30.026	1302.183	1.764%	84.373%
31.0	532.786	30.095	1332.277	1.768%	86.323%
32.0	513.464	29.974	1362.251	1.761%	88.266%
33.0	473.941	29.089	1391.341	1.709%	90.150%
34.0	412.348	26.822	1418.162	1.576%	91.888%
35.0	342.703	23.449	1441.611	1.378%	93.408%
36.0	283.999	19.954	1461.566	1.172%	94.700%
37.0	210.586	16.131	1477.696	.948%	95.746%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	139.873	11.698	1489.394	.687%	96.504%
39.0	81.816	7.567	1496.961	.445%	96.994%
40.0	38.152	4.184	1501.145	.246%	97.265%
41.0	24.145	2.218	1503.363	.130%	97.409%
42.0	21.030	1.641	1505.005	.096%	97.515%
43.0	18.120	1.450	1506.455	.085%	97.609%
44.0	16.235	1.297	1507.752	.076%	97.693%
45.0	14.562	1.184	1508.935	.070%	97.770%
46.0	10.927	0.997	1509.932	.059%	97.834%
47.0	9.844	0.826	1510.758	.049%	97.888%
48.0	9.584	0.785	1511.543	.046%	97.939%
49.0	9.338	0.777	1512.32	.046%	97.989%
50.0	9.141	0.770	1513.091	.045%	98.039%
51.0	9.000	0.768	1513.858	.045%	98.089%
52.0	8.824	0.765	1514.623	.045%	98.138%
53.0	8.670	0.761	1515.384	.045%	98.188%
54.0	8.522	0.758	1516.142	.045%	98.237%
55.0	8.402	0.755	1516.897	.044%	98.286%
56.0	8.283	0.754	1517.651	.044%	98.334%
57.0	8.149	0.751	1518.403	.044%	98.383%
58.0	8.058	0.749	1519.152	.044%	98.432%
59.0	7.966	0.749	1519.901	.044%	98.480%
60.0	7.875	0.748	1520.65	.044%	98.529%
61.0	7.791	0.748	1521.397	.044%	98.577%
62.0	7.727	0.748	1522.145	.044%	98.626%
63.0	7.657	0.748	1522.893	.044%	98.674%
64.0	7.587	0.748	1523.641	.044%	98.723%
65.0	7.530	0.748	1524.389	.044%	98.771%
66.0	7.474	0.749	1525.138	.044%	98.820%
67.0	7.425	0.749	1525.887	.044%	98.868%
68.0	7.397	0.751	1526.638	.044%	98.917%
69.0	7.362	0.753	1527.391	.044%	98.966%
70.0	7.313	0.754	1528.145	.044%	99.014%
71.0	7.284	0.754	1528.899	.044%	99.063%
72.0	7.256	0.756	1529.655	.044%	99.112%
73.0	7.214	0.757	1530.412	.044%	99.161%
74.0	7.193	0.757	1531.169	.045%	99.210%
75.0	7.165	0.759	1531.928	.045%	99.260%

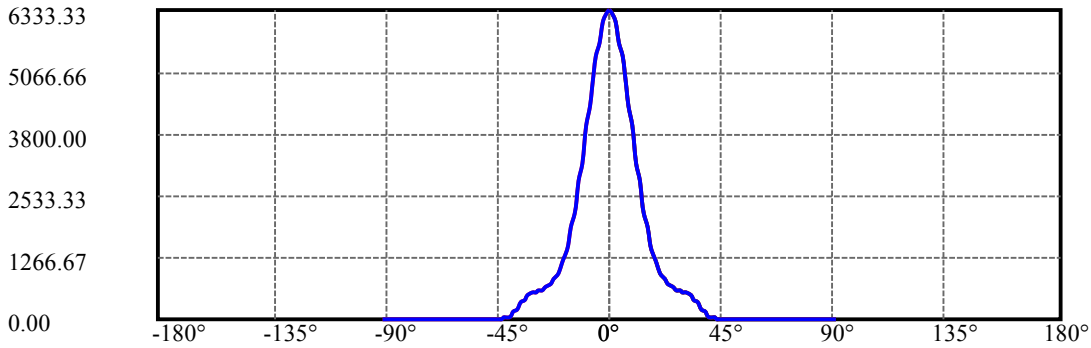
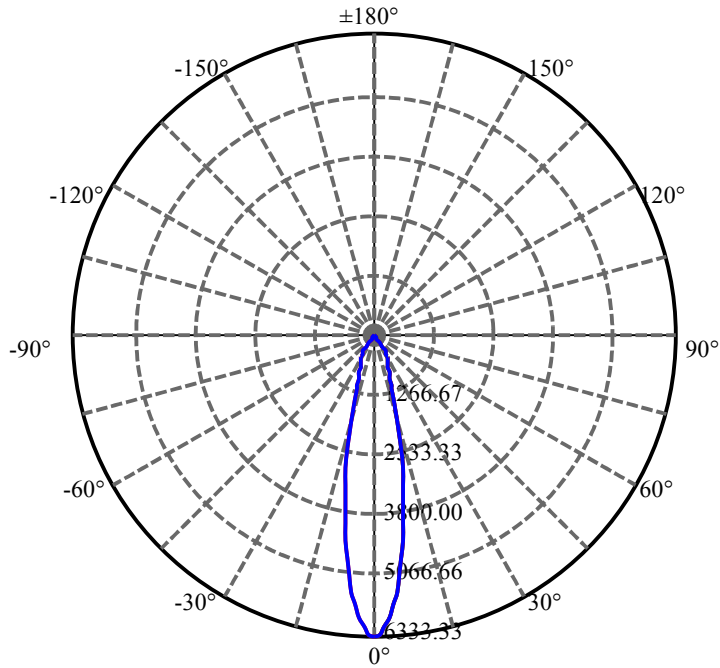
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	7.144	0.760	1532.687	.045%	99.309%
77.0	7.116	0.760	1533.448	.045%	99.358%
78.0	7.095	0.761	1534.208	.045%	99.407%
79.0	7.080	0.762	1534.97	.045%	99.457%
80.0	7.059	0.762	1535.732	.045%	99.506%
81.0	7.045	0.763	1536.495	.045%	99.555%
82.0	7.031	0.763	1537.258	.045%	99.605%
83.0	7.010	0.763	1538.022	.045%	99.654%
84.0	7.003	0.763	1538.785	.045%	99.704%
85.0	6.989	0.764	1539.549	.045%	99.753%
86.0	6.996	0.764	1540.313	.045%	99.803%
87.0	6.996	0.766	1541.079	.045%	99.852%
88.0	6.919	0.762	1541.841	.045%	99.902%
89.0	6.912	0.758	1542.599	.045%	99.951%
90.0	6.891	0.757	1543.356	.044%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1302.18	76.51%	84.37%
0-40	1501.15	88.20%	97.26%
0-60	1520.65	89.34%	98.53%
0-90	1542.60	90.63%	99.95%
0-120	1542.60	90.63%	99.95%
0-180	1543.36	90.68%	100.00%
60-90	22.70	1.33%	1.47%
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%
0-27.75	1234.69	72.54%	80.00%

ZONAL LUMEN SUMMARY

0-10	456.07
10-20	529.68
20-30	316.44
30-40	198.96
40-50	11.95
50-60	7.56
60-70	7.49
70-80	7.59
80-90	6.87
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



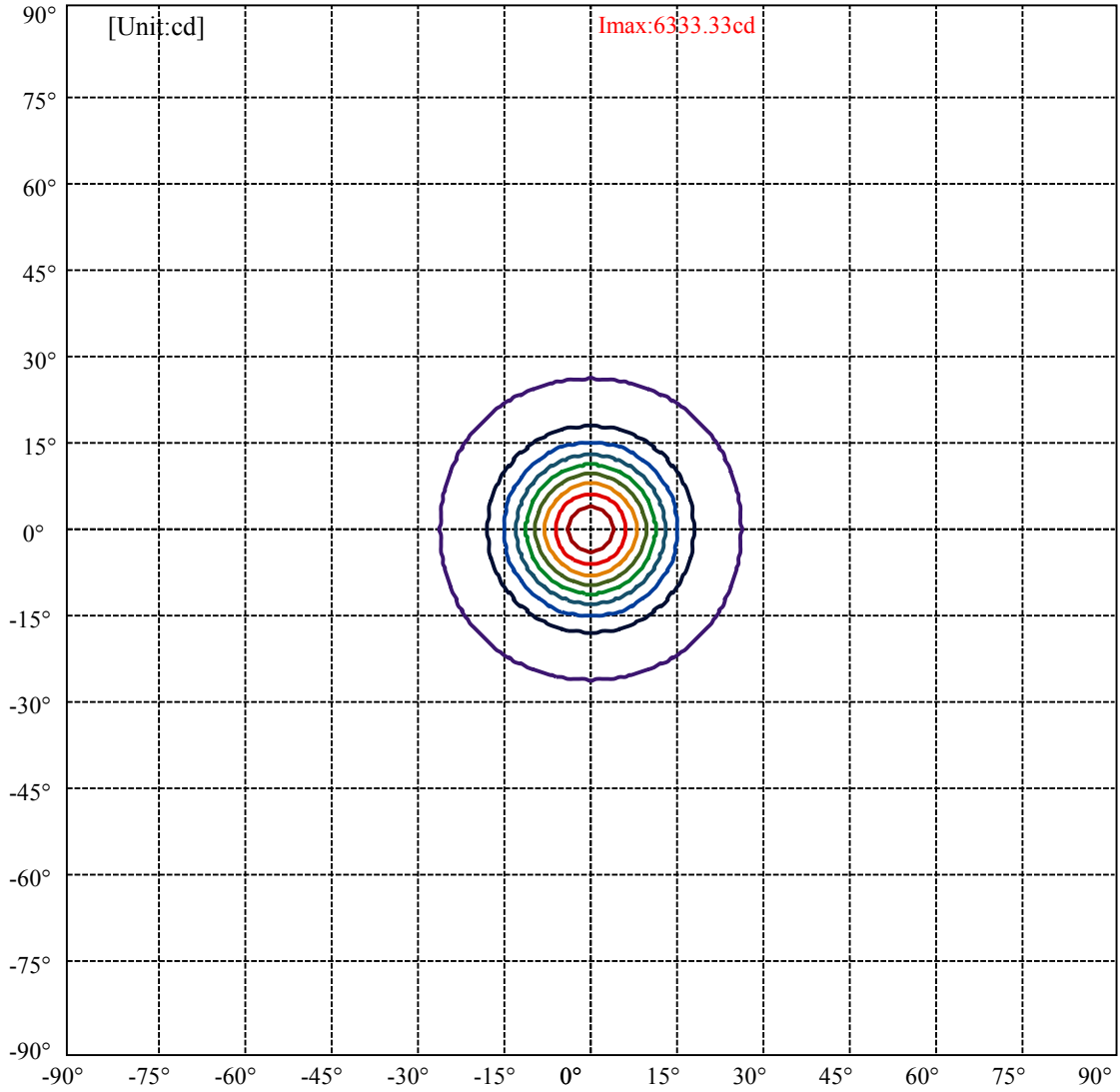
C0(Max): —————

C0/C180: —————

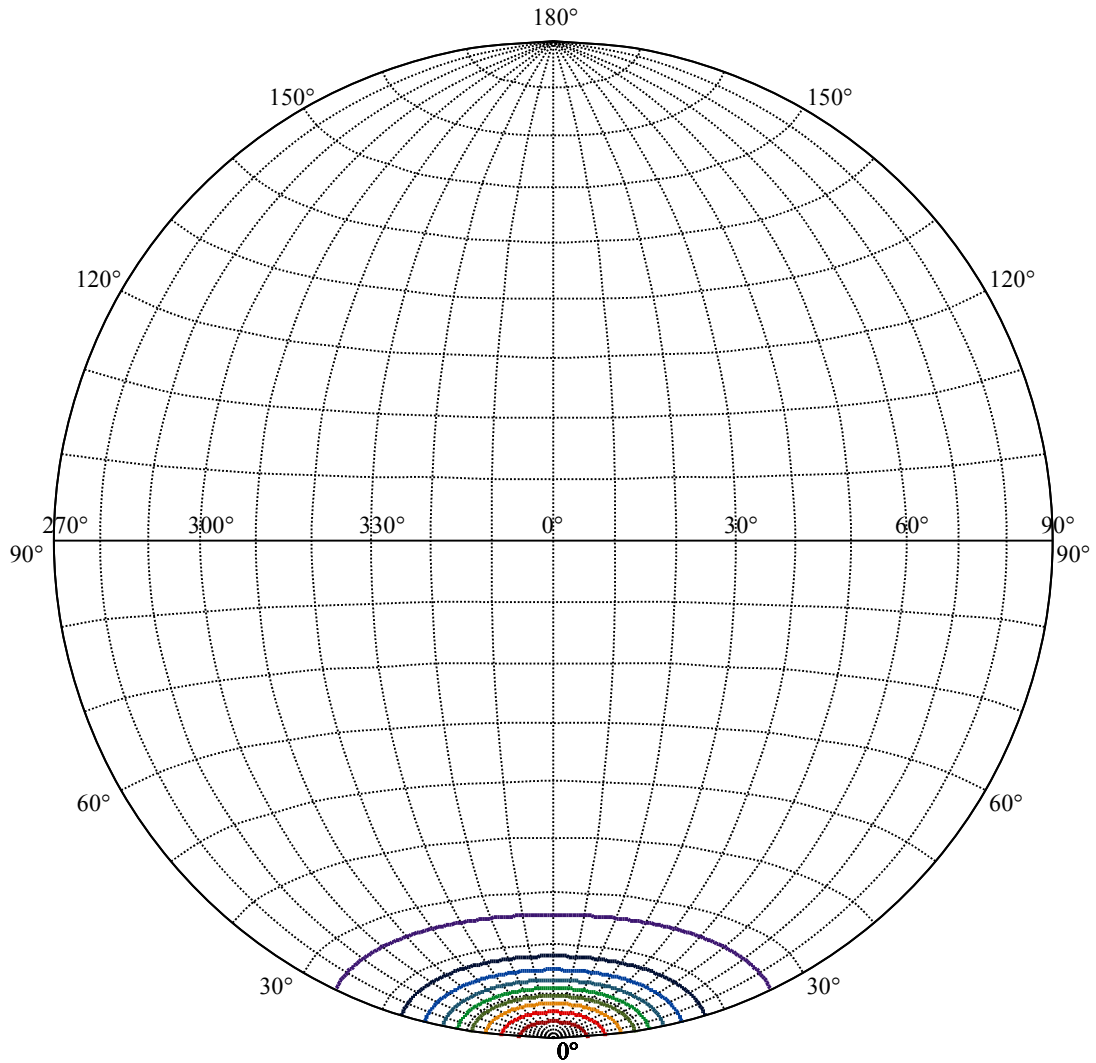
C90/C270: —————

Field angle(10%Imax):C0/180Left:25.8 Right:25.8
:C90/270Left:25.8 Right:25.8

Beam Angle(50%Imax):C0/180Left:11.1 Right:11.1
:C90/270Left:11.1 Right:11.1



(10%Imax) 633.333	—
(20%Imax) 1266.67	—
(30%Imax) 1900	—
(40%Imax) 2533.33	—
(50%Imax) 3166.66	—
(60%Imax) 3800	—
(70%Imax) 4433.33	—
(80%Imax) 5066.66	—
(90%Imax) 5700	—



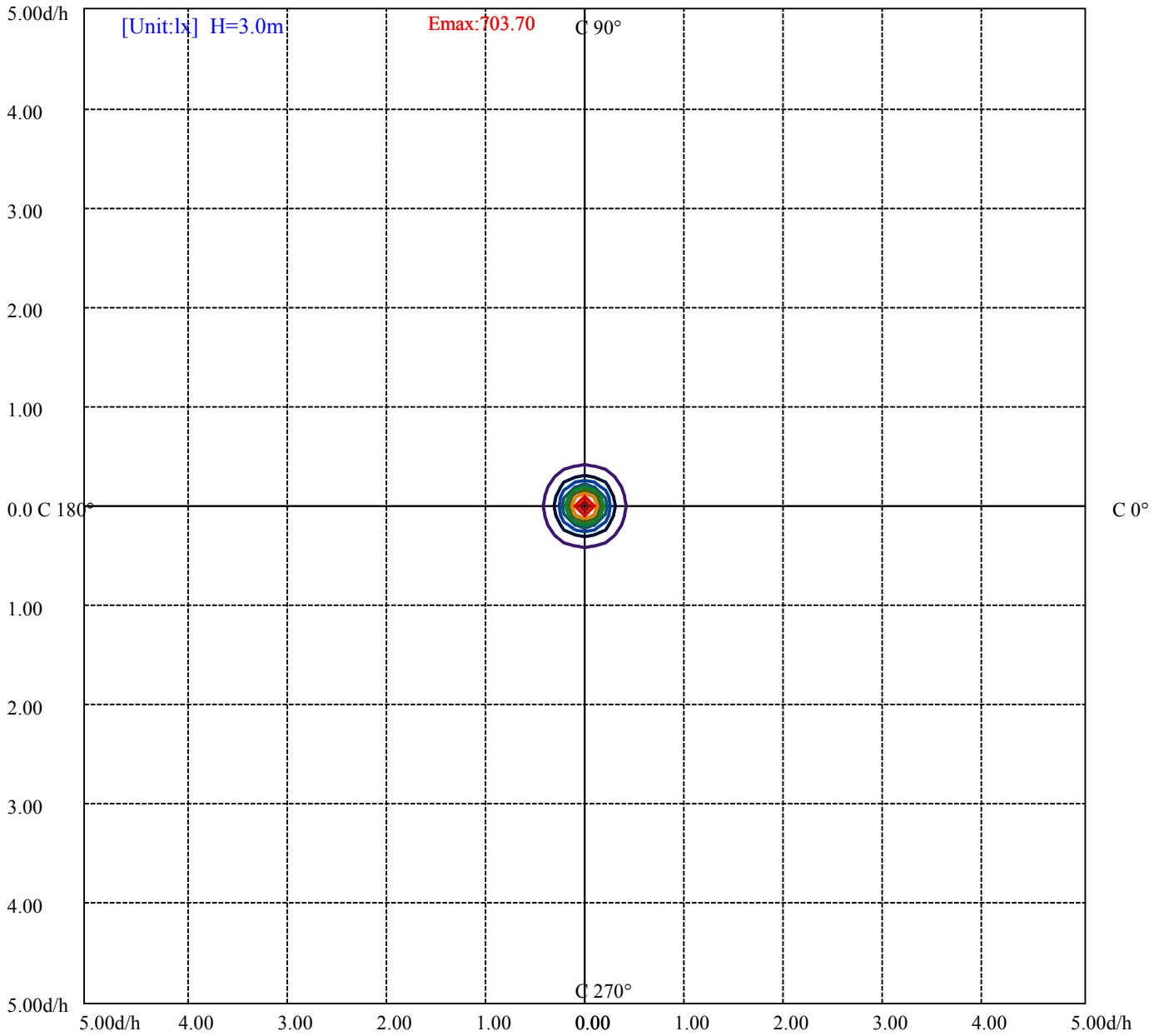
House

[Unit:cd]

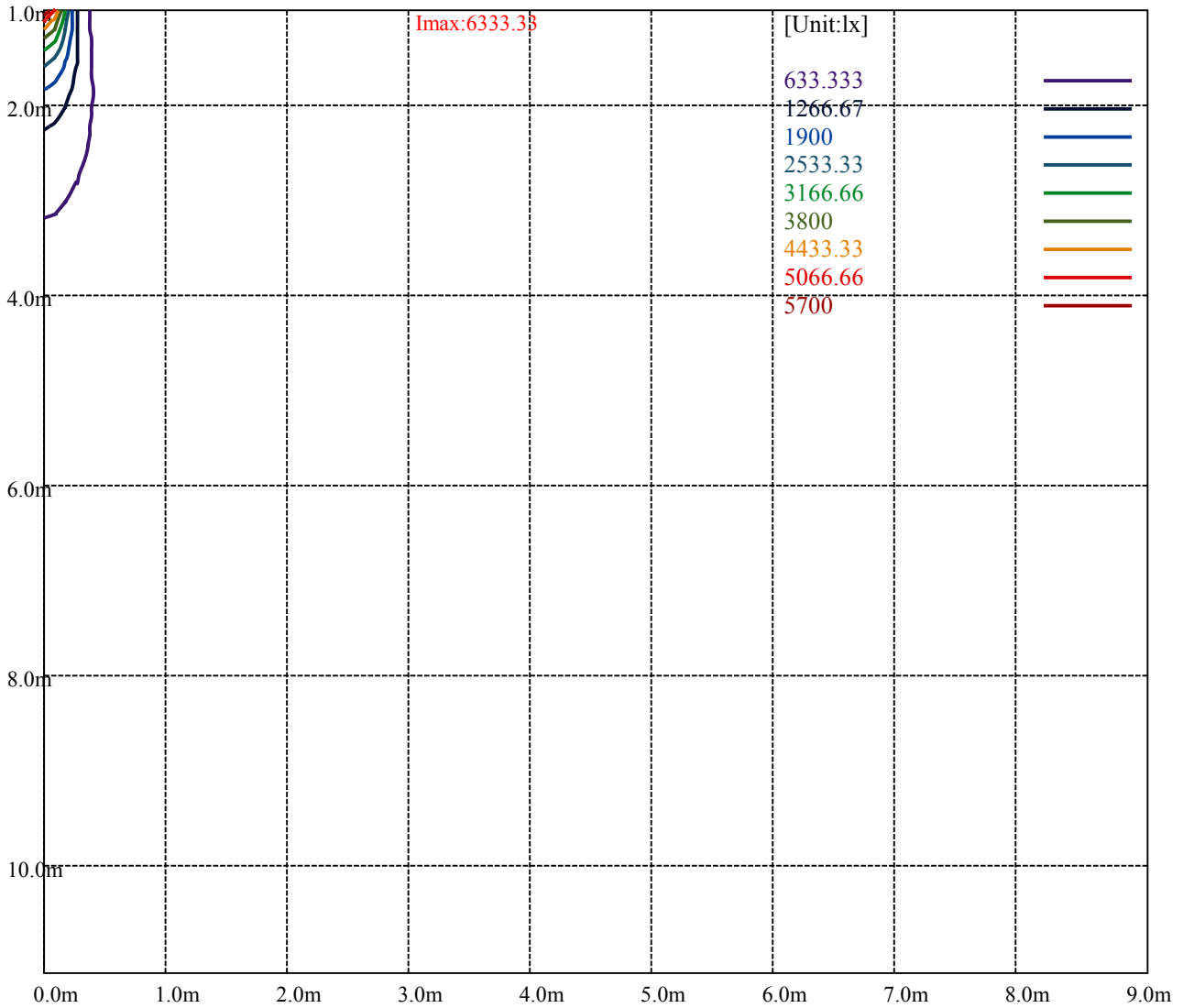
Road

Imax:6333.33

(10%Imax) 633.333	—
(20%Imax) 1266.67	—
(30%Imax) 1900	—
(40%Imax) 2533.33	—
(50%Imax) 3166.66	—
(60%Imax) 3800	—
(70%Imax) 4433.33	—
(80%Imax) 5066.66	—
(90%Imax) 5700	—



- (10%Emax) 70.37022
- (20%Emax) 140.74
- (30%Emax) 211.1111
- (40%Emax) 281.4811
- (50%Emax) 351.8511
- (60%Emax) 422.2211
- (70%Emax) 492.5911
- (80%Emax) 562.9622
- (90%Emax) 633.3323



Luminance Table

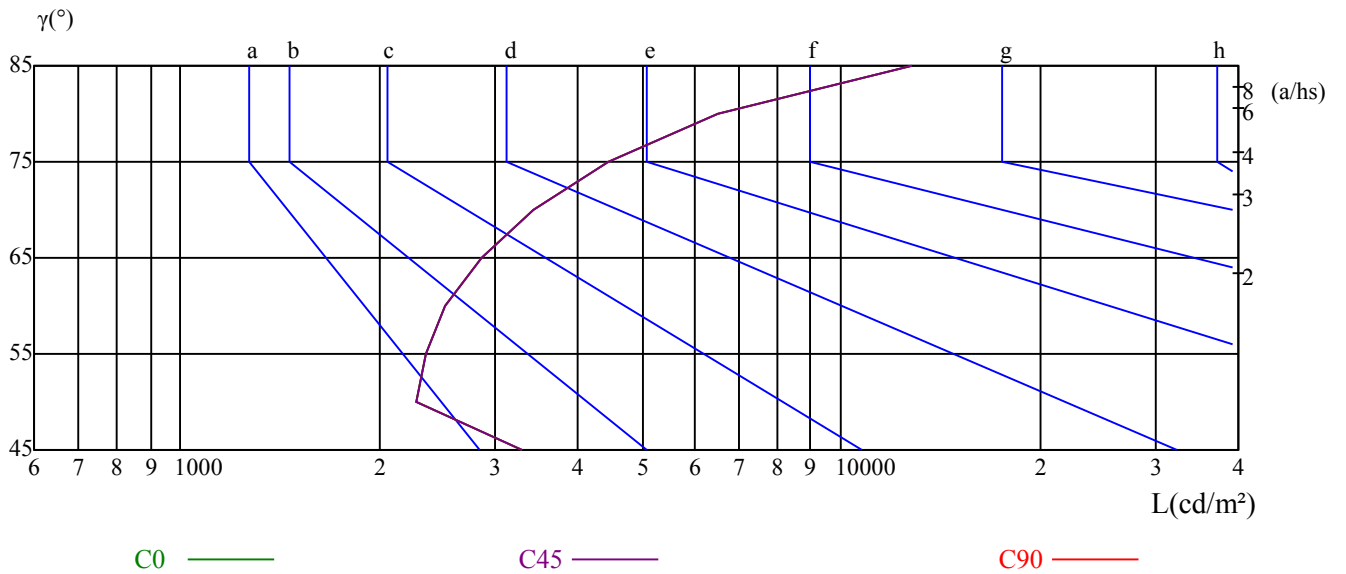
γ	45	50	55	60	65	70	75	80	85
C0	3300	2279	2347	2524	2855	3426	4436	6514	12849
C45	3300	2279	2347	2524	2855	3426	4436	6514	12849
C90	3300	2279	2347	2524	2855	3426	4436	6514	12849

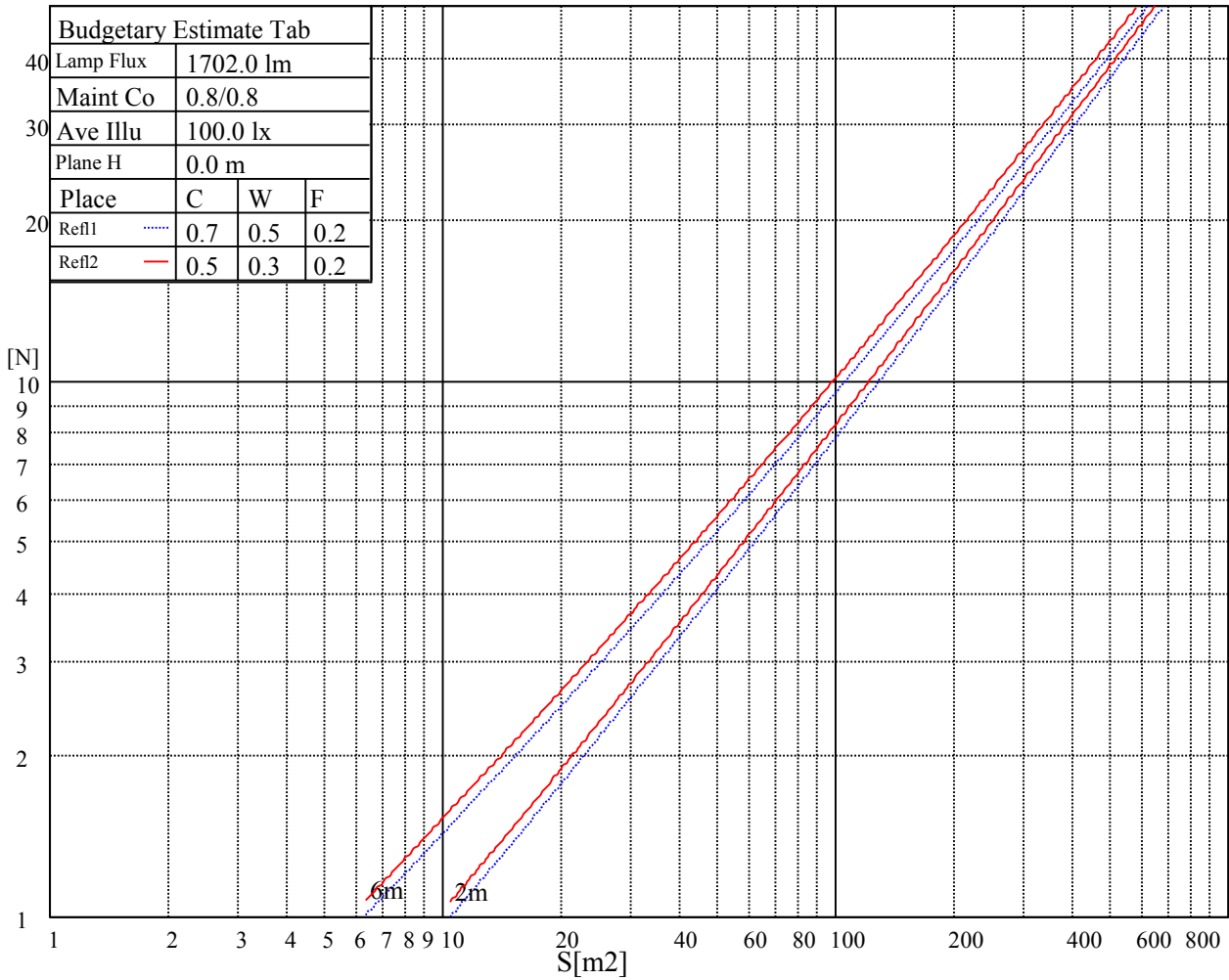
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2855	2855	2855	4436	4436	4436	12849	12849	12849

Glare Table

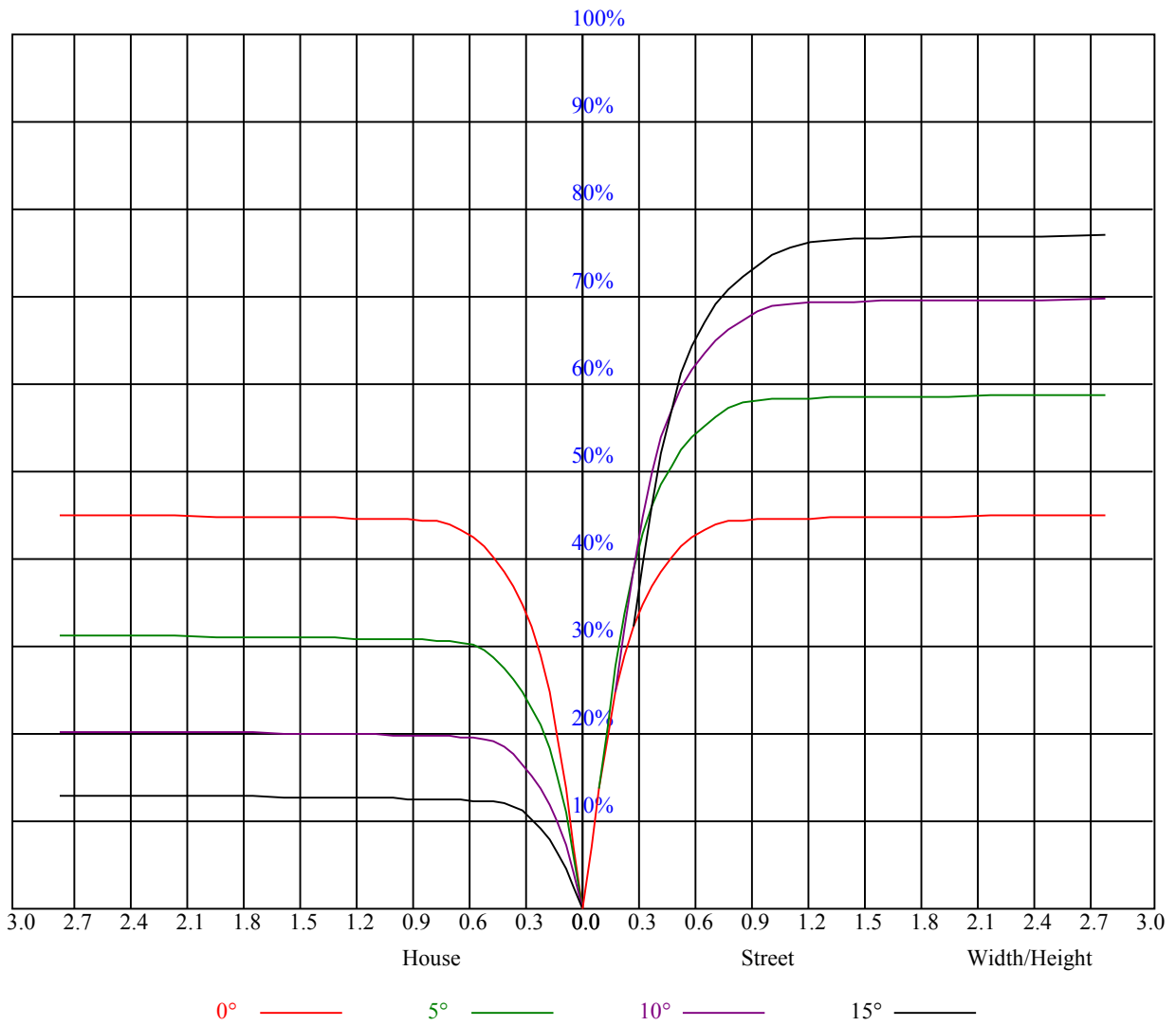
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

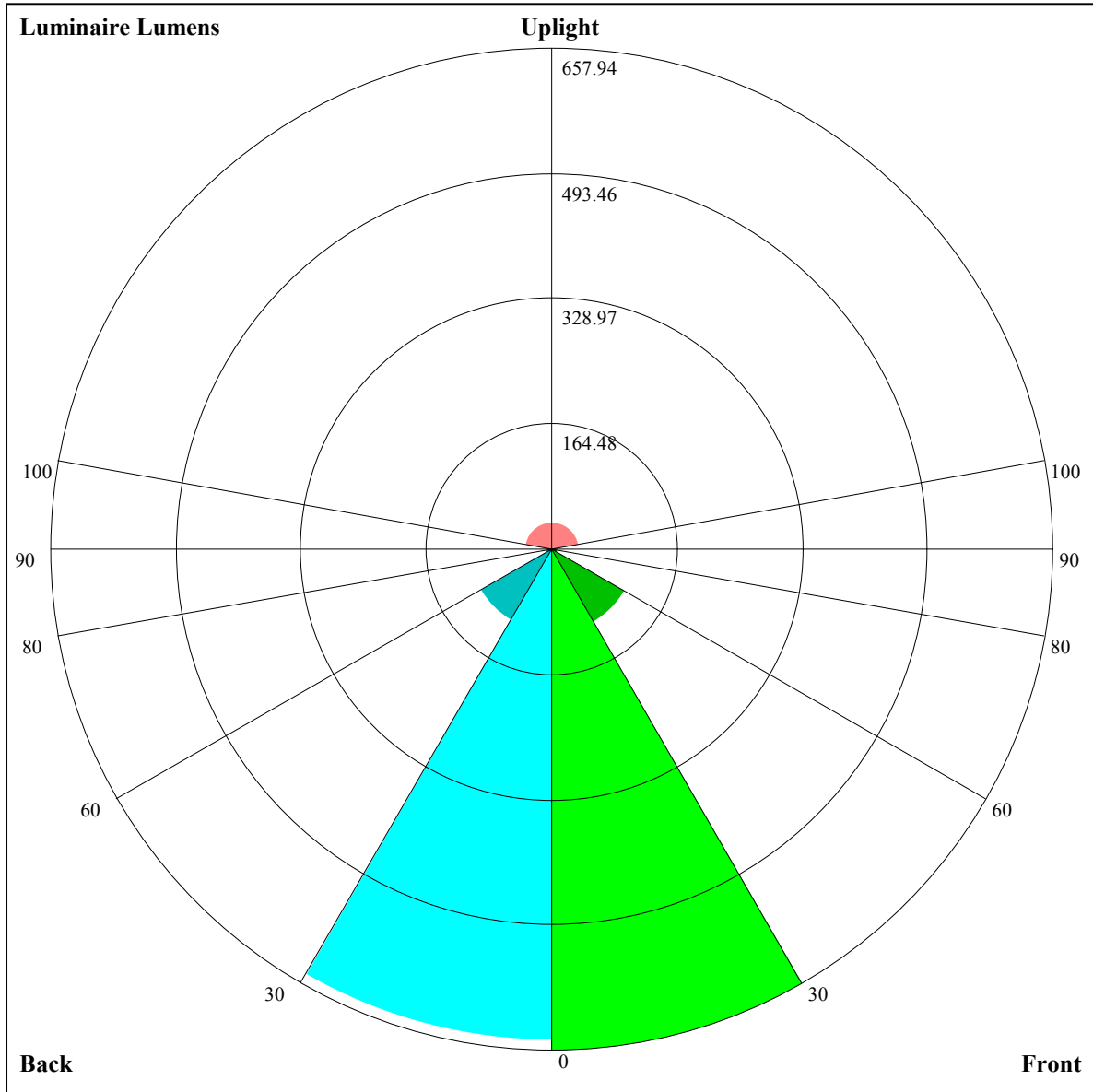
Luminance Limiting Curve





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	1.01	1.01	1.01	0.96	0.96	0.96	0.93	0.93	0.93	0.91
1	1.01	0.99	0.98	0.99	0.98	0.96	0.96	0.94	0.93	0.92	0.91	0.90	0.89	0.89	0.88	0.86
2	0.96	0.93	0.90	0.94	0.91	0.89	0.91	0.89	0.87	0.89	0.87	0.85	0.86	0.85	0.84	0.82
3	0.91	0.87	0.84	0.90	0.86	0.83	0.87	0.85	0.82	0.85	0.83	0.81	0.83	0.81	0.80	0.78
4	0.87	0.82	0.79	0.86	0.82	0.79	0.84	0.80	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.75
5	0.83	0.78	0.75	0.82	0.78	0.75	0.80	0.77	0.74	0.79	0.76	0.74	0.78	0.75	0.73	0.72
6	0.79	0.75	0.72	0.78	0.74	0.71	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.69
7	0.76	0.72	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.70	0.67	0.66
8	0.73	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
9	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.62
10	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.66	0.63	0.60	0.60





Luminaire Lumens:

FL=657.94,FM=110.34,FH=7.53,FVH=3.81

BL=645.84,BM=107.89,BH=7.54,BVH=3.81

UL=7.52,UH=35.78

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	6312.38	6296.06	6163.31	5952.38	5722.31	5463.00	5101.31	4780.69	4441.50
45.0	6332.06	6294.38	6144.75	5943.94	5678.44	5414.63	5082.19	4707.56	4361.06
90.0	6329.81	6188.06	6002.44	5708.81	5439.38	5148.00	4788.56	4395.94	4028.06
135.0	6359.06	6274.69	6102.00	5859.56	5612.06	5336.44	4967.44	4638.94	4289.63
180.0	6312.38	6228.00	6086.81	5866.31	5599.13	5331.94	4996.13	4629.38	4286.81
225.0	6332.06	6271.31	6138.56	5910.19	5679.56	5407.88	5036.06	4715.44	4374.00
270.0	6329.81	6360.19	6284.25	6116.06	5913.56	5668.88	5364.56	5040.56	4718.25
315.0	6359.06	6332.63	6188.63	6005.25	5753.81	5493.94	5168.81	4823.44	4484.25
360.0	6312.38	6296.06	6163.31	5952.38	5722.31	5463.00	5101.31	4780.69	4441.50

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4001.63	3636.56	3278.81	2926.13	2518.88	2221.31	1917.00	1652.06	1447.31
45.0	4008.38	3561.75	3198.94	2845.13	2437.88	2147.63	1881.00	1620.00	1415.25
90.0	3666.94	3206.81	2853.56	2525.06	2193.19	1895.06	1634.63	1435.50	1197.00
135.0	3838.50	3467.81	3101.06	2714.63	2361.94	2077.88	1779.19	1554.75	1355.63
180.0	3929.63	3471.19	3105.56	2754.00	2352.38	2066.63	1816.31	1568.25	1360.13
225.0	4019.63	3560.63	3196.69	2840.63	2433.38	2147.63	1887.75	1626.19	1396.69
270.0	4327.88	3919.50	3557.25	3195.56	2759.63	2431.69	2143.13	1850.63	1592.44
315.0	4123.69	3656.81	3289.50	2936.81	2527.88	2230.31	1959.75	1684.69	1442.81
360.0	4001.63	3636.56	3278.81	2926.13	2518.88	2221.31	1917.00	1652.06	1447.31

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1255.50	1119.94	994.50	907.31	830.81	774.00	711.00	670.50	640.13
45.0	1249.88	1095.75	983.25	902.25	825.19	764.44	712.13	667.69	635.63
90.0	1108.63	987.08	902.42	826.37	762.19	712.97	669.21	636.02	613.13
135.0	1189.13	1062.00	962.44	885.38	810.00	751.50	693.00	655.88	629.44
180.0	1116.45	1057.56	957.49	867.54	795.26	739.69	685.52	642.43	614.87
225.0	1111.67	1081.86	979.76	886.33	808.09	750.32	695.93	653.34	625.11
270.0	1390.50	1207.69	1064.81	959.63	866.81	800.44	736.31	682.31	645.75
315.0	1211.63	1103.40	993.15	895.05	815.29	755.55	698.23	654.08	624.38
360.0	1255.50	1119.94	994.50	907.31	830.81	774.00	711.00	670.50	640.13

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	615.38	588.94	570.94	556.31	540.00	524.81	488.25	430.31	360.56
45.0	612.56	585.00	568.69	551.81	534.38	515.81	471.38	411.19	337.50
90.0	593.94	571.11	556.31	541.69	525.99	480.99	427.95	359.44	286.88
135.0	606.94	581.06	563.63	547.88	530.44	513.00	462.38	396.56	329.06
180.0	594.68	570.88	554.51	540.11	527.06	507.88	465.81	401.85	330.86
225.0	604.01	580.39	562.11	546.92	532.74	517.56	477.00	411.08	339.24
270.0	621.00	591.75	572.63	559.69	541.69	530.44	517.50	465.19	402.19
315.0	600.13	576.17	558.62	544.78	529.99	517.22	481.28	423.17	355.33
360.0	615.38	588.94	570.94	556.31	540.00	524.81	488.25	430.31	360.56

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	294.75	243.45	142.43	84.66	37.74	25.20	23.34	20.14	17.89
45.0	290.25	199.69	139.22	77.06	35.32	25.14	22.84	20.25	18.17
90.0	224.04	154.18	97.76	47.36	23.96	22.05	19.80	17.04	15.92
135.0	288.56	189.51	120.94	78.08	33.24	22.73	20.36	17.61	16.03
180.0	265.67	193.95	133.82	75.99	35.55	22.50	20.53	17.38	15.64
225.0	274.28	201.38	139.73	79.76	37.46	22.22	19.91	17.10	15.13
270.0	344.81	288.00	192.32	123.53	67.39	30.83	21.15	18.62	16.03
315.0	289.63	214.54	152.78	88.09	34.54	22.50	20.31	16.82	15.08
360.0	294.75	243.45	142.43	84.66	37.74	25.20	23.34	20.14	17.89

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	16.20	11.81	9.73	9.45	9.23	9.06	8.94	8.78	8.61
45.0	16.20	10.46	9.56	9.34	9.11	8.94	8.83	8.66	8.55
90.0	13.33	9.84	9.62	9.39	9.17	9.00	8.89	8.72	8.55
135.0	14.63	10.35	10.01	9.79	9.56	9.34	9.23	9.06	8.83
180.0	14.06	10.46	10.13	9.90	9.68	9.39	9.23	9.06	8.94
225.0	13.61	10.63	9.96	9.68	9.39	9.23	9.06	8.83	8.72
270.0	14.46	12.66	10.07	9.68	9.39	9.17	9.00	8.83	8.61
315.0	14.01	11.19	9.68	9.45	9.17	9.00	8.83	8.66	8.55
360.0	16.20	11.81	9.73	9.45	9.23	9.06	8.94	8.78	8.61
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	8.49	8.38	8.27	8.16	8.04	7.99	7.93	7.82	7.76
45.0	8.44	8.33	8.21	8.10	7.99	7.93	7.82	7.76	7.71
90.0	8.44	8.33	8.21	8.10	7.99	7.93	7.82	7.76	7.65
135.0	8.72	8.55	8.44	8.33	8.21	8.10	7.99	7.88	7.82
180.0	8.72	8.61	8.44	8.27	8.21	8.10	7.99	7.88	7.82
225.0	8.49	8.38	8.21	8.10	7.99	7.88	7.82	7.71	7.65
270.0	8.49	8.38	8.27	8.10	8.04	7.93	7.82	7.76	7.71
315.0	8.38	8.27	8.21	8.04	7.99	7.88	7.82	7.76	7.71
360.0	8.49	8.38	8.27	8.16	8.04	7.99	7.93	7.82	7.76
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	7.71	7.65	7.54	7.54	7.48	7.43	7.43	7.37	7.31
45.0	7.59	7.59	7.54	7.43	7.37	7.31	7.31	7.26	7.26
90.0	7.59	7.54	7.48	7.43	7.37	7.31	7.31	7.26	7.20
135.0	7.71	7.65	7.59	7.54	7.48	7.43	7.37	7.31	7.31
180.0	7.76	7.65	7.59	7.54	7.48	7.48	7.43	7.37	7.31
225.0	7.59	7.54	7.48	7.43	7.37	7.37	7.31	7.26	7.26
270.0	7.65	7.54	7.48	7.43	7.43	7.43	7.37	7.31	7.31
315.0	7.65	7.54	7.54	7.48	7.43	7.43	7.37	7.37	7.31
360.0	7.71	7.65	7.54	7.54	7.48	7.43	7.43	7.37	7.31
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	7.31	7.26	7.26	7.20	7.20	7.14	7.14	7.14	7.09
45.0	7.20	7.14	7.14	7.09	7.09	7.03	7.03	7.03	6.98
90.0	7.20	7.14	7.14	7.09	7.09	7.03	7.03	7.03	7.03
135.0	7.26	7.26	7.20	7.14	7.14	7.14	7.09	7.09	7.09
180.0	7.31	7.26	7.26	7.26	7.26	7.20	7.20	7.14	7.14
225.0	7.20	7.14	7.14	7.14	7.09	7.09	7.03	7.03	7.03
270.0	7.26	7.26	7.20	7.20	7.14	7.14	7.14	7.09	7.09
315.0	7.31	7.26	7.20	7.20	7.14	7.14	7.09	7.09	7.03
360.0	7.31	7.26	7.26	7.20	7.20	7.14	7.14	7.14	7.09
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	7.09	7.09	7.03	7.03	7.03	6.98	6.98	6.98	6.98
45.0	6.98	6.98	6.98	6.92	6.92	6.92	6.92	6.86	6.86
90.0	7.03	6.98	6.98	6.98	6.98	6.98	6.98	6.92	6.92
135.0	7.03	7.03	6.98	7.03	6.98	7.03	6.98	6.98	6.92
180.0	7.14	7.14	7.09	7.09	7.03	7.03	7.09	6.92	6.92
225.0	6.98	6.98	6.98	6.92	6.92	6.92	6.98	6.86	6.86
270.0	7.09	7.03	7.03	7.03	7.03	7.03	7.09	6.92	6.92
315.0	7.03	7.03	7.03	7.03	7.03	7.09	6.98	6.92	6.92
360.0	7.09	7.09	7.03	7.03	7.03	6.98	6.98	6.98	6.98

Intensity data(cd)

C/ γ (°)	90.0
0.0	6.92
45.0	6.86
90.0	6.86
135.0	6.92
180.0	6.92
225.0	6.86
270.0	6.86
315.0	6.92
360.0	6.92