



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: 3-1546-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): 84

Width(mm): 84

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1549.21, Efficiency(%): 91.02% , Luminous Efficacy(lm/W): 111.45

Central intensity(cd): 5720.344, Maximum intensity(cd): 5720.344

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=24.8

[C90/270]Total=24.8

Field angle(10%Imax): [C0/180]Total=55.0

[C90/270]Total=55.0

Maximum s/h(1/2): C0_180=0.42 C90_270=0.42

Maximum s/h(1/4): C0_180=0.42 C90_270=0.42

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 91.02%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.541%

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	5720.344	0.000	0	.000%	.000%
1.0	5707.055	5.468	5.468	.321%	.353%
2.0	5661.492	16.317	21.785	.959%	1.406%
3.0	5566.711	26.854	48.639	1.578%	3.140%
4.0	5421.023	36.779	85.419	2.161%	5.514%
5.0	5239.969	45.863	131.282	2.695%	8.474%
6.0	5004.773	53.839	185.121	3.163%	11.949%
7.0	4718.391	60.352	245.472	3.546%	15.845%
8.0	4432.711	65.493	310.965	3.848%	20.073%
9.0	4098.234	69.139	380.103	4.062%	24.535%
10.0	3714.117	70.699	450.802	4.154%	29.099%
11.0	3378.164	70.866	521.669	4.164%	33.673%
12.0	3024.422	69.989	591.658	4.112%	38.191%
13.0	2637.070	67.188	658.846	3.948%	42.528%
14.0	2313.563	63.368	722.213	3.723%	46.618%
15.0	2011.359	59.374	781.588	3.489%	50.451%
16.0	1726.805	54.775	836.363	3.218%	53.986%
17.0	1482.469	49.977	886.34	2.936%	57.212%
18.0	1277.198	45.501	931.84	2.673%	60.150%
19.0	1104.609	41.439	973.279	2.435%	62.824%
20.0	974.313	38.050	1011.329	2.236%	65.280%
21.0	856.294	35.151	1046.48	2.065%	67.549%
22.0	766.891	32.619	1079.099	1.916%	69.655%
23.0	704.918	30.883	1109.982	1.814%	71.648%
24.0	658.111	29.801	1139.782	1.751%	73.572%
25.0	624.593	29.166	1168.948	1.714%	75.455%
26.0	600.968	28.930	1197.878	1.700%	77.322%
27.0	580.971	28.916	1226.794	1.699%	79.189%
28.0	564.195	28.993	1255.787	1.703%	81.060%
29.0	549.647	29.141	1284.928	1.712%	82.941%
30.0	537.757	29.360	1314.288	1.725%	84.836%
31.0	525.881	29.600	1343.888	1.739%	86.747%
32.0	508.739	29.641	1373.528	1.742%	88.660%
33.0	470.679	28.854	1402.382	1.695%	90.523%
34.0	412.587	26.730	1429.113	1.571%	92.248%
35.0	340.854	23.399	1452.512	1.375%	93.758%
36.0	281.644	19.820	1472.332	1.165%	95.038%
37.0	196.509	15.595	1487.927	.916%	96.044%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	124.552	10.717	1498.643	.630%	96.736%
39.0	66.558	6.523	1505.166	.383%	97.157%
40.0	34.088	3.510	1508.677	.206%	97.384%
41.0	23.013	2.033	1510.71	.119%	97.515%
42.0	19.617	1.549	1512.259	.091%	97.615%
43.0	16.552	1.340	1513.599	.079%	97.702%
44.0	14.182	1.160	1514.759	.068%	97.776%
45.0	11.215	0.976	1515.735	.057%	97.839%
46.0	9.387	0.806	1516.54	.047%	97.891%
47.0	9.042	0.733	1517.273	.043%	97.939%
48.0	8.845	0.723	1517.996	.042%	97.985%
49.0	8.663	0.719	1518.715	.042%	98.032%
50.0	8.508	0.716	1519.431	.042%	98.078%
51.0	8.388	0.715	1520.146	.042%	98.124%
52.0	8.276	0.715	1520.861	.042%	98.170%
53.0	8.163	0.715	1521.576	.042%	98.216%
54.0	8.072	0.716	1522.292	.042%	98.263%
55.0	7.980	0.717	1523.008	.042%	98.309%
56.0	7.903	0.718	1523.726	.042%	98.355%
57.0	7.812	0.719	1524.445	.042%	98.402%
58.0	7.734	0.719	1525.163	.042%	98.448%
59.0	7.671	0.720	1525.884	.042%	98.495%
60.0	7.629	0.723	1526.606	.042%	98.541%
61.0	7.573	0.725	1527.332	.043%	98.588%
62.0	7.538	0.728	1528.06	.043%	98.635%
63.0	7.495	0.731	1528.791	.043%	98.682%
64.0	7.460	0.734	1529.525	.043%	98.730%
65.0	7.397	0.735	1530.26	.043%	98.777%
66.0	7.383	0.737	1530.998	.043%	98.825%
67.0	7.348	0.741	1531.738	.044%	98.872%
68.0	7.305	0.742	1532.481	.044%	98.920%
69.0	7.284	0.744	1533.225	.044%	98.968%
70.0	7.263	0.747	1533.972	.044%	99.017%
71.0	7.242	0.750	1534.722	.044%	99.065%
72.0	7.214	0.752	1535.474	.044%	99.114%
73.0	7.186	0.753	1536.227	.044%	99.162%
74.0	7.179	0.755	1536.982	.044%	99.211%
75.0	7.158	0.757	1537.739	.045%	99.260%

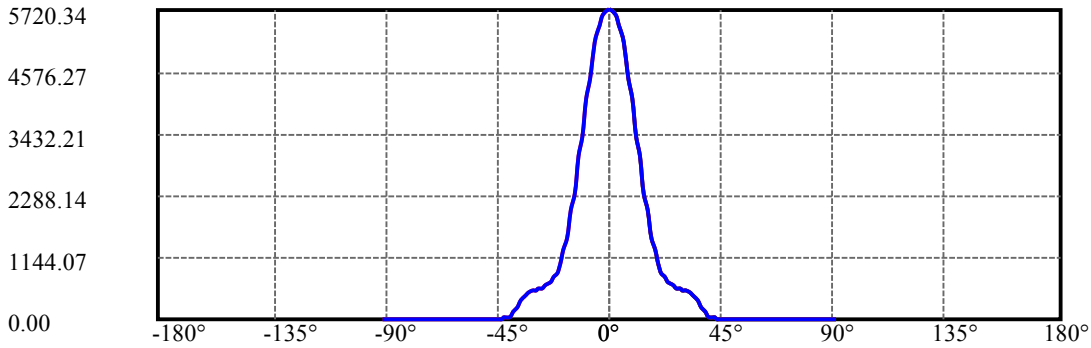
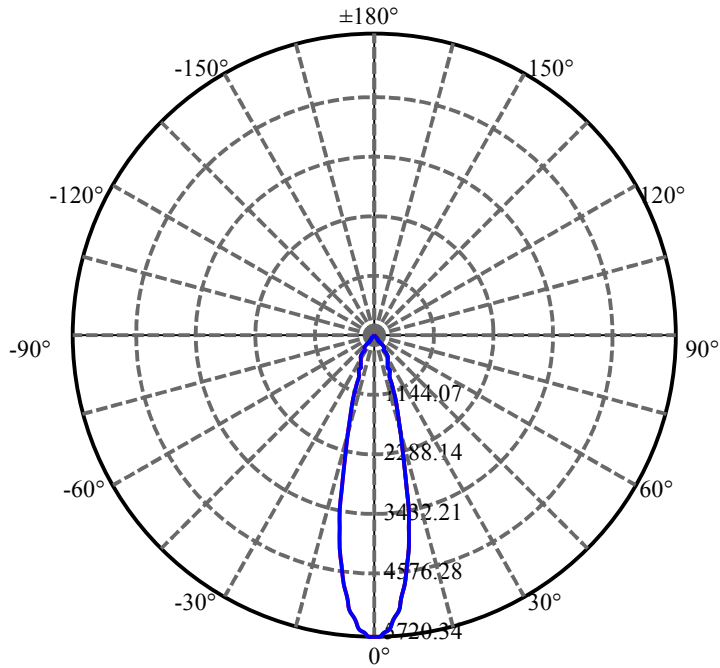
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	7.151	0.760	1538.499	.045%	99.309%
77.0	7.123	0.761	1539.26	.045%	99.358%
78.0	7.095	0.761	1540.021	.045%	99.407%
79.0	7.088	0.762	1540.783	.045%	99.456%
80.0	7.073	0.763	1541.546	.045%	99.506%
81.0	7.052	0.764	1542.31	.045%	99.555%
82.0	7.052	0.765	1543.075	.045%	99.604%
83.0	7.045	0.766	1543.841	.045%	99.654%
84.0	7.017	0.766	1544.608	.045%	99.703%
85.0	7.024	0.766	1545.374	.045%	99.753%
86.0	7.059	0.770	1546.144	.045%	99.802%
87.0	7.045	0.772	1546.916	.045%	99.852%
88.0	6.968	0.768	1547.683	.045%	99.902%
89.0	6.947	0.763	1548.446	.045%	99.951%
90.0	6.933	0.761	1549.207	.045%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1314.29	77.22%	84.84%
0-40	1508.68	88.64%	97.38%
0-60	1526.61	89.69%	98.54%
0-90	1548.45	90.98%	99.95%
0-120	1548.45	90.98%	99.95%
0-180	1549.21	91.02%	100.00%
60-90	22.56	1.33%	1.46%
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%
0-27.43	1239.37	72.82%	80.00%

ZONAL LUMEN SUMMARY

0-10	450.80
10-20	560.53
20-30	302.96
30-40	194.39
40-50	10.75
50-60	7.18
60-70	7.37
70-80	7.57
80-90	6.90
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: —————

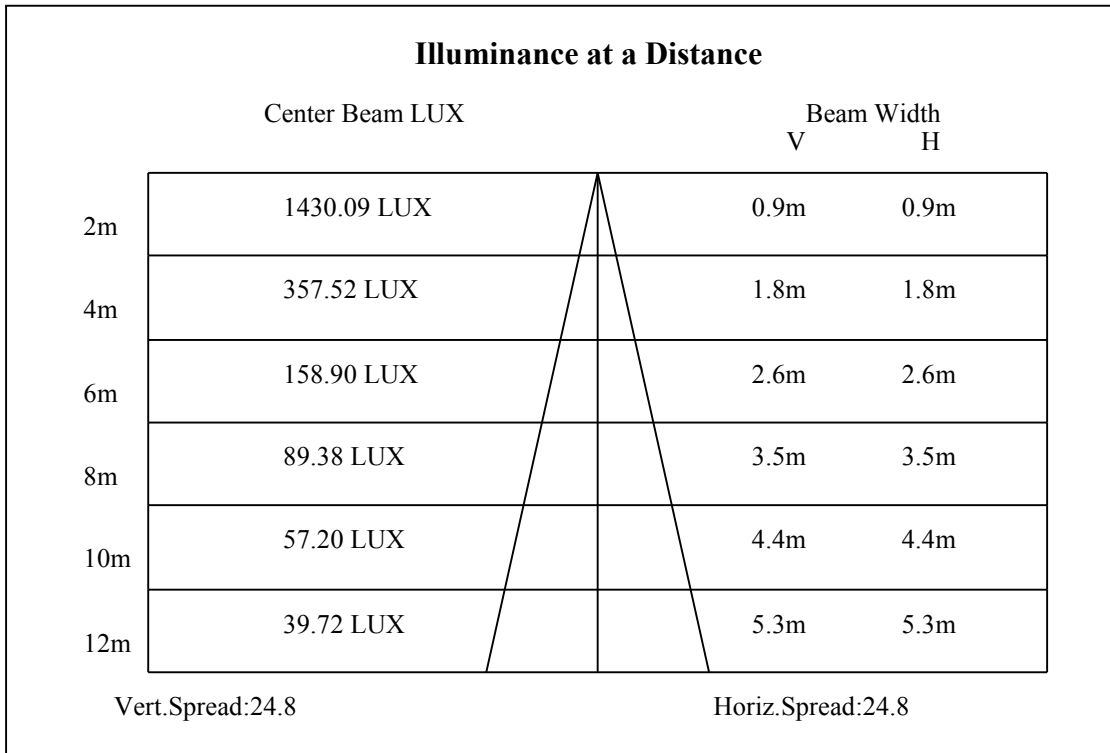
C90/C270: —————

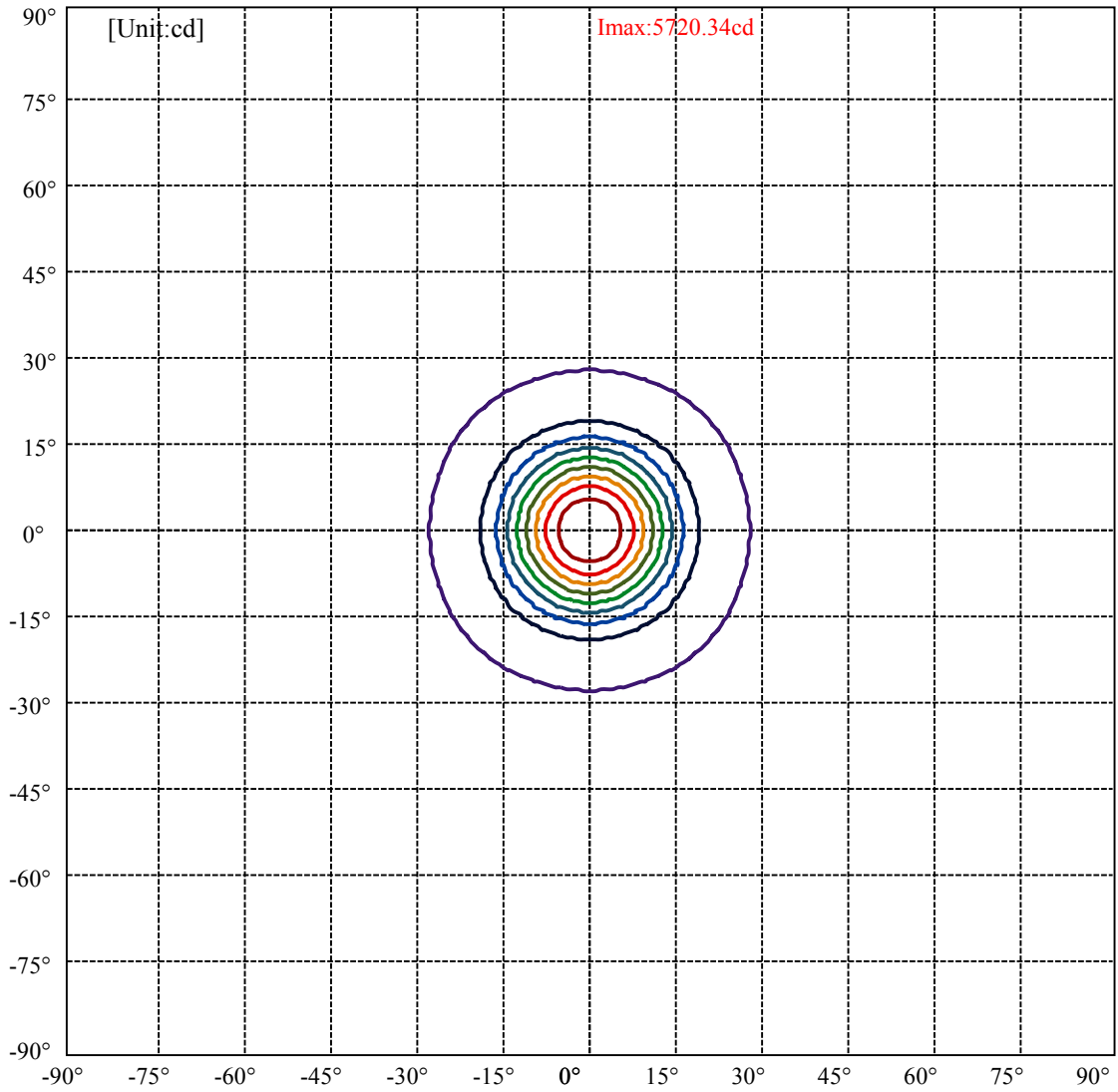
Field angle(10%Imax):C0/180Left:27.5 Right:27.5

:C90/270Left:27.5 Right:27.5

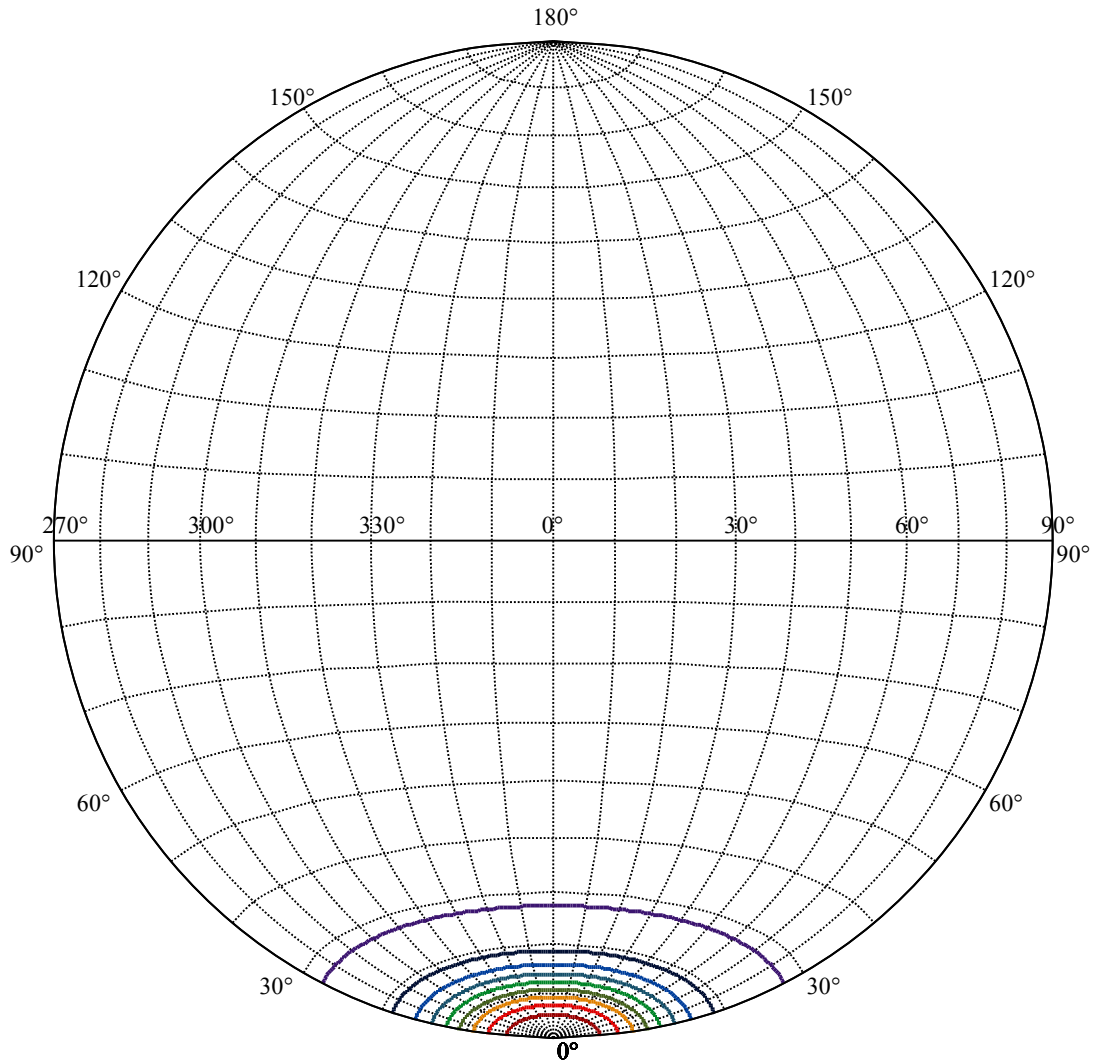
Beam Angle(50%Imax):C0/180Left:12.4 Right:12.4

:C90/270Left:12.4 Right:12.4





(10%Imax) 572.034	—
(20%Imax) 1144.07	—
(30%Imax) 1716.1	—
(40%Imax) 2288.14	—
(50%Imax) 2860.17	—
(60%Imax) 3432.21	—
(70%Imax) 4004.24	—
(80%Imax) 4576.27	—
(90%Imax) 5148.31	—



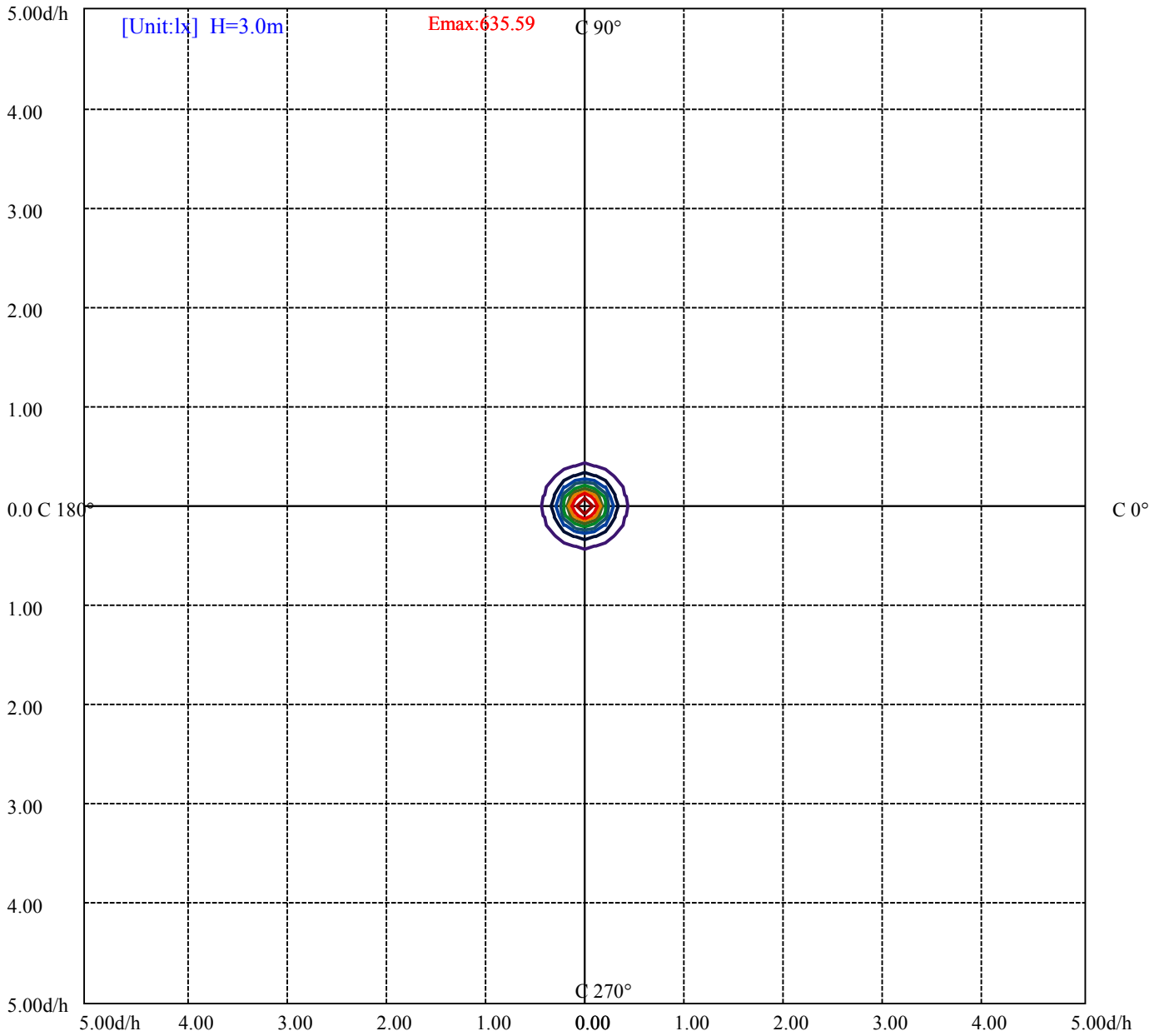
House

[Unit:cd]

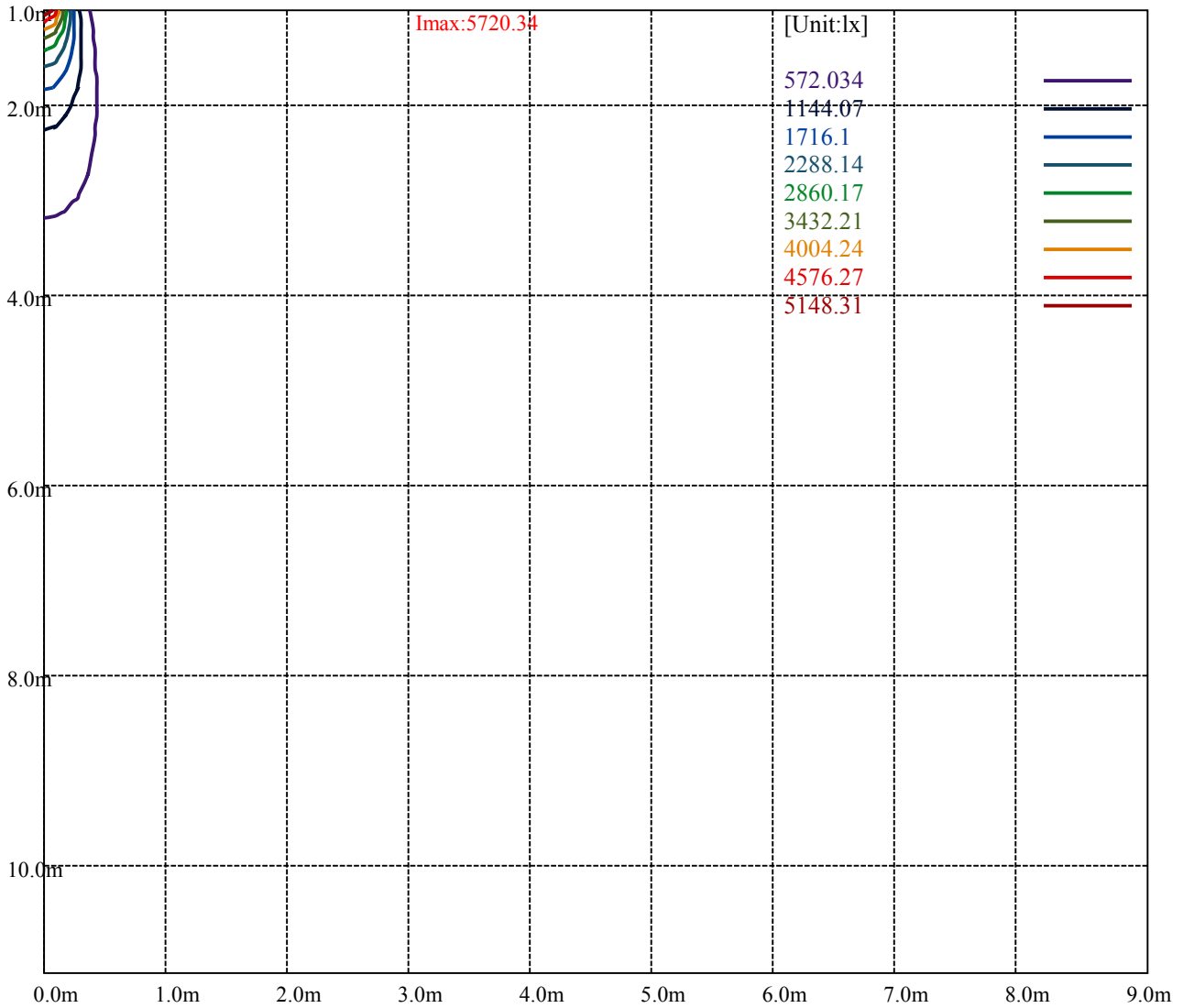
Road

Imax:5720.34

(10%Imax) 572.034	—
(20%Imax) 1144.07	—
(30%Imax) 1716.1	—
(40%Imax) 2288.14	—
(50%Imax) 2860.17	—
(60%Imax) 3432.21	—
(70%Imax) 4004.24	—
(80%Imax) 4576.27	—
(90%Imax) 5148.31	—



(10%Emax) 63.55933	—
(20%Emax) 127.1189	—
(30%Emax) 190.6778	—
(40%Emax) 254.2378	—
(50%Emax) 317.7967	—
(60%Emax) 381.3567	—
(70%Emax) 444.9156	—
(80%Emax) 508.4745	—
(90%Emax) 572.0344	—



Luminance Table

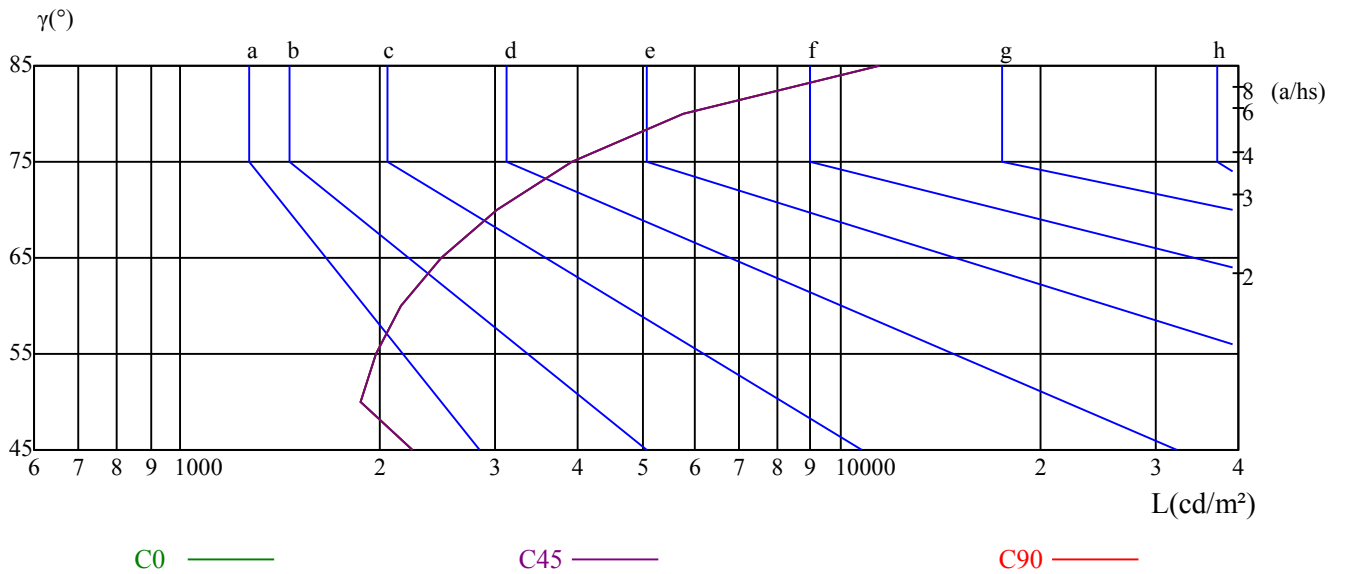
γ	45	50	55	60	65	70	75	80	85
C0	2248	1876	1972	2162	2481	3010	3919	5773	11422
C45	2248	1876	1972	2162	2481	3010	3919	5773	11422
C90	2248	1876	1972	2162	2481	3010	3919	5773	11422

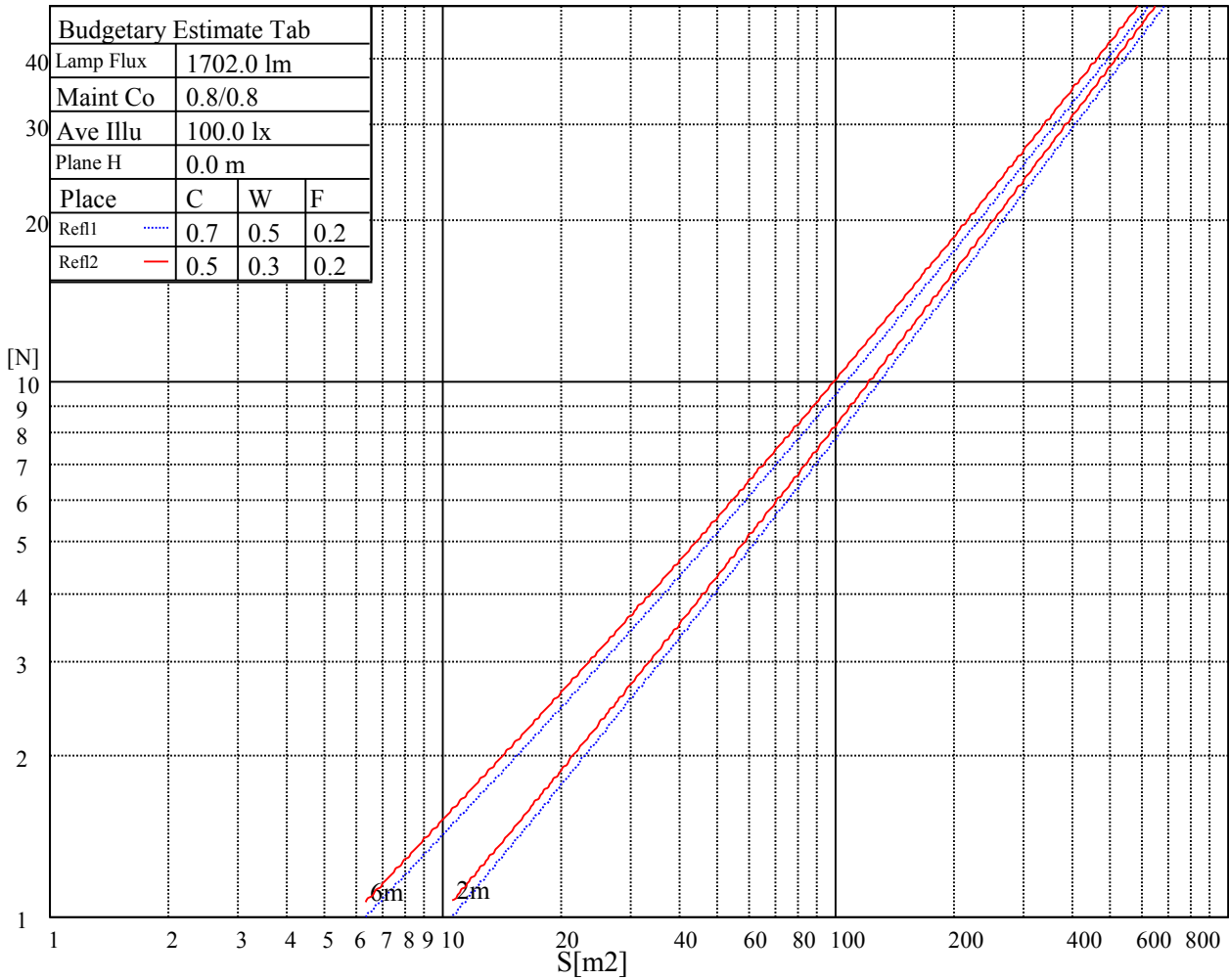
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2481	2481	2481	3919	3919	3919	11422	11422	11422

Glare Table

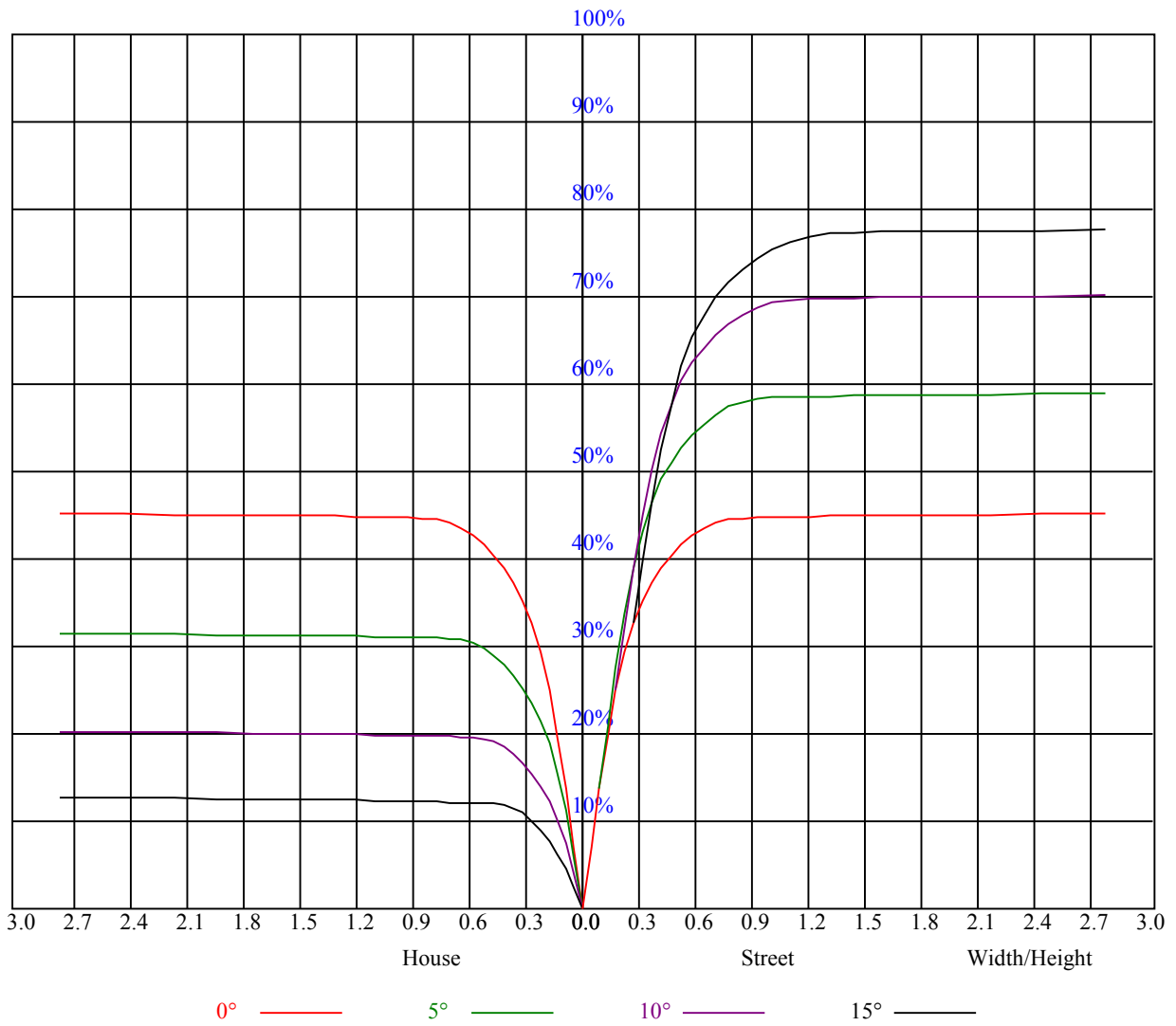
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

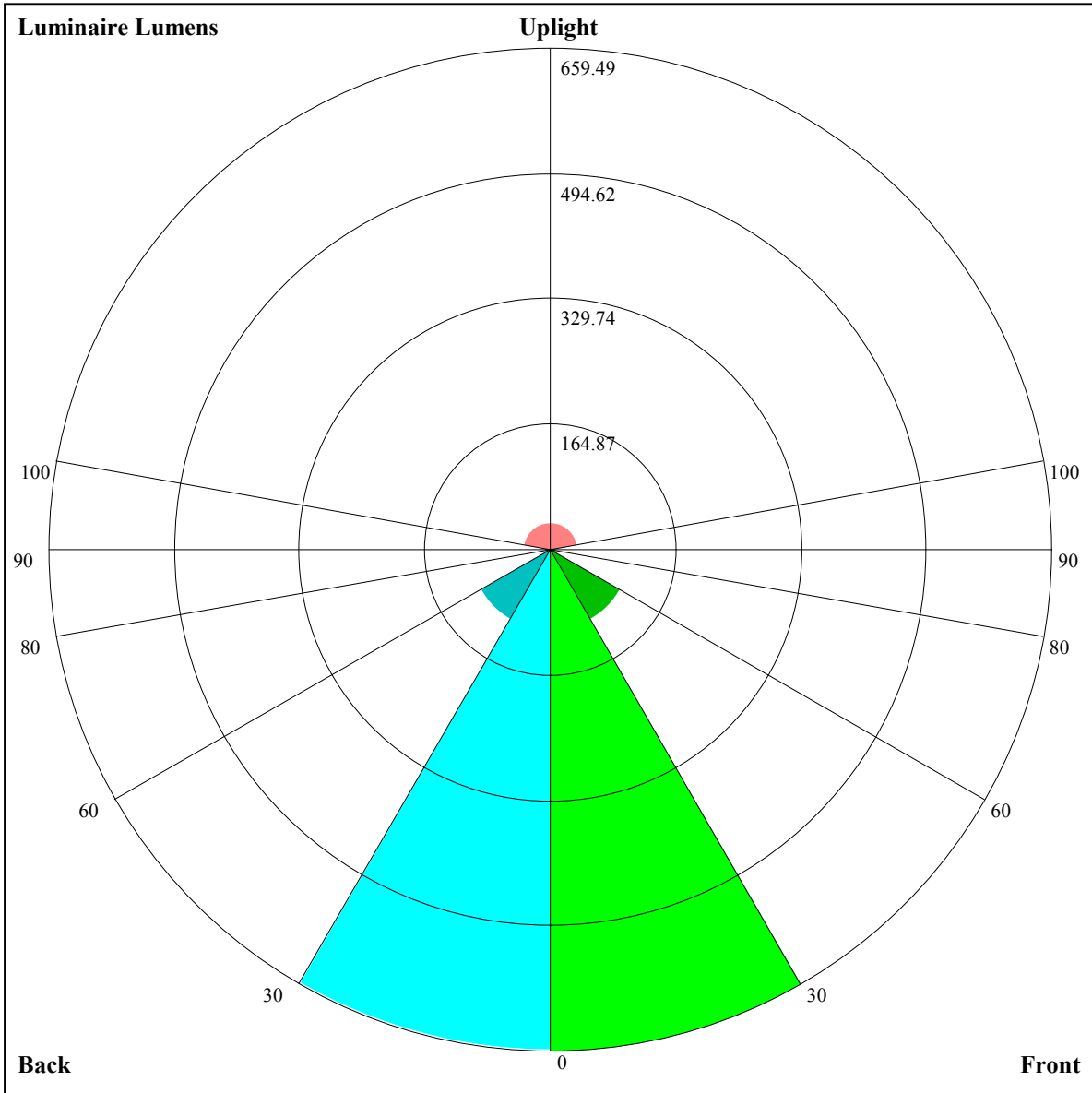
Luminance Limiting Curve





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	1.06	1.06	1.06	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.02	1.00	0.98	1.00	0.98	0.96	0.96	0.95	0.93	0.93	0.92	0.91	0.90	0.89	0.88	0.87
2	0.96	0.93	0.90	0.95	0.92	0.89	0.92	0.89	0.88	0.89	0.87	0.86	0.87	0.85	0.84	0.82
3	0.91	0.88	0.85	0.90	0.87	0.84	0.88	0.85	0.83	0.86	0.83	0.81	0.84	0.82	0.80	0.79
4	0.87	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.78	0.82	0.80	0.77	0.81	0.79	0.77	0.75
5	0.83	0.79	0.76	0.82	0.78	0.75	0.81	0.77	0.75	0.79	0.76	0.74	0.78	0.75	0.73	0.72
6	0.80	0.75	0.72	0.79	0.75	0.72	0.78	0.74	0.71	0.77	0.73	0.71	0.75	0.73	0.71	0.69
7	0.76	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.67
8	0.74	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	0.65	0.64
9	0.71	0.67	0.64	0.70	0.66	0.64	0.70	0.66	0.63	0.69	0.66	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	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.60





Luminaire Lumens:

FL=659.49,FM=105.24,FH=7.46,FVH=3.83

BL=657.23,BM=107.12,BH=7.48,BVH=3.83

UL=7.56,UH=36

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	5704.31	5712.19	5685.19	5613.75	5465.25	5266.69	5046.19	4757.06	4463.44
45.0	5716.13	5708.25	5653.13	5576.06	5394.38	5203.69	4974.19	4636.13	4337.44
90.0	5719.50	5666.63	5572.69	5384.25	5187.38	4961.25	4708.13	4336.31	4023.00
135.0	5741.44	5695.88	5611.50	5502.38	5329.13	5136.75	4872.38	4566.94	4275.00
180.0	5704.31	5670.00	5614.88	5507.44	5368.50	5201.44	4965.19	4681.13	4390.31
225.0	5716.13	5702.63	5666.63	5561.44	5452.88	5297.06	5020.88	4812.19	4537.69
270.0	5719.50	5743.69	5747.63	5717.81	5626.13	5470.31	5322.38	5072.06	4833.56
315.0	5741.44	5757.19	5740.31	5670.56	5544.56	5382.56	5128.88	4885.31	4601.25
360.0	5704.31	5712.19	5685.19	5613.75	5465.25	5266.69	5046.19	4757.06	4463.44
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4110.75	3742.88	3408.75	3069.56	2643.75	2318.06	2026.13	1706.63	1489.50
45.0	4018.50	3607.88	3261.38	2909.25	2494.13	2188.13	1913.06	1639.69	1413.00
90.0	3690.56	3264.19	2936.25	2616.19	2278.69	1963.13	1712.25	1460.25	1221.19
135.0	3925.69	3561.19	3228.19	2898.00	2503.69	2207.81	1932.75	1671.75	1411.88
180.0	4037.06	3674.81	3344.06	2970.56	2651.63	2311.31	1998.56	1746.00	1517.06
225.0	4197.38	3831.19	3495.94	3116.25	2732.06	2406.94	2068.88	1795.50	1528.88
270.0	4556.81	4161.94	3826.69	3484.69	3053.25	2705.06	2369.25	1992.38	1730.81
315.0	4249.13	3868.88	3524.06	3130.88	2739.38	2408.06	2070.00	1802.25	1547.44
360.0	4110.75	3742.88	3408.75	3069.56	2643.75	2318.06	2026.13	1706.63	1489.50
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1303.31	1123.31	972.00	862.88	769.50	708.19	658.69	622.13	597.38
45.0	1225.13	1043.44	912.38	813.38	725.63	671.06	630.56	599.63	580.50
90.0	1098.90	959.68	855.90	762.30	695.42	654.24	624.15	595.86	578.53
135.0	1234.13	1081.69	942.75	841.50	757.13	690.19	648.56	620.44	596.81
180.0	1212.75	1109.53	976.05	838.80	756.90	699.24	649.63	620.16	597.77
225.0	1306.13	1121.57	1003.44	875.93	778.84	717.41	669.21	635.79	613.24
270.0	1508.06	1291.50	1111.50	976.50	858.38	770.63	714.38	667.69	636.19
315.0	1329.19	1106.16	1020.49	879.08	793.35	728.38	669.71	635.06	607.33
360.0	1303.31	1123.31	972.00	862.88	769.50	708.19	658.69	622.13	597.38
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	576.56	561.38	547.31	537.19	525.38	511.88	471.38	401.06	335.25
45.0	565.31	550.69	538.88	530.44	519.75	500.63	458.44	392.06	315.56
90.0	564.36	548.66	536.06	525.71	513.11	467.66	411.13	338.51	272.14
135.0	578.81	563.63	547.88	537.19	525.38	508.50	461.25	415.13	319.50
180.0	578.08	563.96	547.82	534.88	524.31	514.01	466.20	414.51	346.67
225.0	593.89	574.03	558.96	545.46	532.18	520.82	497.76	438.02	364.22
270.0	608.06	586.69	570.94	554.63	540.00	529.88	520.31	475.88	419.63
315.0	582.69	564.53	549.34	536.57	526.95	516.54	478.97	425.53	353.87
360.0	576.56	561.38	547.31	537.19	525.38	511.88	471.38	401.06	335.25
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	291.38	188.38	104.06	52.99	24.13	20.70	17.78	14.91	13.11
45.0	289.69	168.41	97.88	48.71	23.79	21.43	18.96	16.09	14.06
90.0	197.38	127.29	73.86	35.89	25.76	23.06	19.97	17.21	13.67
135.0	289.69	179.49	110.70	55.69	29.25	23.12	20.08	17.61	15.24
180.0	261.73	194.01	130.11	63.56	30.99	21.60	19.35	15.86	14.29
225.0	294.19	217.46	150.41	84.21	37.86	21.94	19.29	15.69	13.50
270.0	353.81	292.50	190.74	125.27	70.82	29.31	22.16	18.79	15.53
315.0	275.29	204.53	138.66	66.15	30.09	22.95	19.35	16.26	14.06
360.0	291.38	188.38	104.06	52.99	24.13	20.70	17.78	14.91	13.11

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	10.29	9.23	8.94	8.78	8.61	8.44	8.33	8.21	8.10
45.0	10.52	9.11	8.89	8.72	8.55	8.38	8.33	8.16	8.10
90.0	9.67	9.28	9.06	8.89	8.72	8.55	8.44	8.33	8.21
135.0	11.93	9.62	9.34	9.17	8.94	8.78	8.66	8.55	8.38
180.0	11.42	9.34	9.11	8.89	8.72	8.55	8.44	8.33	8.21
225.0	11.59	9.11	8.83	8.66	8.49	8.33	8.21	8.10	7.99
270.0	12.94	10.18	9.17	8.89	8.66	8.55	8.38	8.27	8.16
315.0	11.36	9.23	9.00	8.78	8.61	8.49	8.33	8.27	8.16
360.0	10.29	9.23	8.94	8.78	8.61	8.44	8.33	8.21	8.10
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	8.04	7.93	7.88	7.76	7.71	7.65	7.65	7.54	7.54
45.0	7.99	7.93	7.88	7.76	7.71	7.65	7.59	7.54	7.54
90.0	8.16	8.04	7.99	7.88	7.82	7.71	7.71	7.65	7.59
135.0	8.33	8.21	8.10	7.99	7.93	7.88	7.82	7.76	7.71
180.0	8.10	8.04	7.99	7.93	7.76	7.76	7.71	7.65	7.59
225.0	7.93	7.82	7.71	7.65	7.54	7.48	7.48	7.43	7.37
270.0	8.04	7.93	7.88	7.76	7.71	7.65	7.54	7.48	7.48
315.0	7.99	7.93	7.82	7.76	7.71	7.59	7.54	7.54	7.48
360.0	8.04	7.93	7.88	7.76	7.71	7.65	7.65	7.54	7.54
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	7.48	7.48	7.43	7.43	7.37	7.31	7.31	7.31	7.26
45.0	7.48	7.43	7.37	7.37	7.31	7.31	7.26	7.20	7.20
90.0	7.54	7.48	7.43	7.43	7.37	7.31	7.31	7.31	7.26
135.0	7.65	7.59	7.54	7.48	7.48	7.43	7.37	7.37	7.37
180.0	7.59	7.54	7.48	7.43	7.43	7.37	7.37	7.31	7.31
225.0	7.37	7.31	7.26	7.26	7.20	7.20	7.14	7.14	7.09
270.0	7.43	7.43	7.31	7.31	7.31	7.26	7.26	7.20	7.20
315.0	7.43	7.43	7.37	7.37	7.31	7.26	7.26	7.26	7.26
360.0	7.48	7.48	7.43	7.43	7.37	7.31	7.31	7.31	7.26
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	7.26	7.20	7.20	7.20	7.20	7.14	7.14	7.14	7.09
45.0	7.14	7.14	7.14	7.09	7.09	7.09	7.03	7.03	7.03
90.0	7.26	7.20	7.20	7.14	7.14	7.14	7.09	7.09	7.09
135.0	7.31	7.26	7.26	7.20	7.20	7.14	7.14	7.14	7.14
180.0	7.31	7.26	7.26	7.26	7.26	7.26	7.20	7.20	7.14
225.0	7.09	7.09	7.09	7.03	7.03	7.03	6.98	6.98	6.98
270.0	7.14	7.14	7.09	7.14	7.14	7.09	7.09	7.03	7.03
315.0	7.20	7.20	7.20	7.20	7.14	7.09	7.09	7.09	7.09
360.0	7.26	7.20	7.20	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	7.09	7.03	7.03	6.98
45.0	6.98	7.03	6.98	6.98	6.98	6.98	6.92	6.92	6.86
90.0	7.03	7.03	7.03	7.03	7.03	7.09	7.09	6.92	6.92
135.0	7.09	7.09	7.09	7.09	7.03	7.09	7.09	7.03	6.98
180.0	7.14	7.14	7.14	7.09	7.09	7.09	7.20	7.03	6.98
225.0	6.98	6.98	6.98	6.92	6.92	6.98	6.98	6.92	6.92
270.0	7.03	7.03	7.03	6.98	7.03	7.03	7.09	6.92	6.98
315.0	7.09	7.03	7.09	7.03	7.09	7.14	6.98	6.98	6.98
360.0	7.09	7.09	7.03	7.03	7.03	7.09	7.03	7.03	6.98

Intensity data(cd)

C/ γ (°)	90.0
0.0	6.98
45.0	6.86
90.0	6.92
135.0	6.98
180.0	6.98
225.0	6.86
270.0	6.92
315.0	6.98
360.0	6.98