



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: 3-1548-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 15MM G7

Power (W): 15.2400

Lamp flux(lm): 2050.0

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): 1719.15, Efficiency(%): 83.86% , Luminous Efficacy(lm/W): 112.80

Central intensity(cd): 11608.030, Maximum intensity(cd): 11608.030

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=15.6

[C90/270]Total=15.6

Field angle(10%Imax): [C0/180]Total=32.8

[C90/270]Total=32.8

Maximum s/h(1/2): C0_180=0.27 C90_270=0.27

Maximum s/h(1/4): C0_180=0.27 C90_270=0.27

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 83.86%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.548%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	11608.031	0.000	0	.000%	.000%
1.0	11593.477	11.101	11.101	.542%	.646%
2.0	11138.906	32.628	43.729	1.592%	2.544%
3.0	10511.016	51.779	95.509	2.526%	5.556%
4.0	9761.766	67.859	163.368	3.310%	9.503%
5.0	8815.008	79.916	243.284	3.898%	14.151%
6.0	7678.828	86.679	329.964	4.228%	19.193%
7.0	6680.953	89.131	419.095	4.348%	24.378%
8.0	5632.172	88.123	507.218	4.299%	29.504%
9.0	4646.461	83.303	590.52	4.064%	34.350%
10.0	3766.148	76.131	666.651	3.714%	38.778%
11.0	3042.914	68.037	734.688	3.319%	42.736%
12.0	2455.594	60.107	794.794	2.932%	46.232%
13.0	1978.102	52.617	847.411	2.567%	49.293%
14.0	1636.664	46.269	893.68	2.257%	51.984%
15.0	1397.391	41.653	935.333	2.032%	54.407%
16.0	1215.141	38.281	973.614	1.867%	56.634%
17.0	1083.452	35.795	1009.409	1.746%	58.716%
18.0	989.023	34.171	1043.579	1.667%	60.703%
19.0	921.030	33.231	1076.81	1.621%	62.636%
20.0	861.827	32.631	1109.442	1.592%	64.534%
21.0	816.342	32.224	1141.666	1.572%	66.409%
22.0	784.568	32.171	1173.837	1.569%	68.280%
23.0	758.102	32.369	1206.206	1.579%	70.163%
24.0	731.658	32.571	1238.778	1.589%	72.058%
25.0	712.603	32.839	1271.617	1.602%	73.968%
26.0	693.309	33.187	1304.804	1.619%	75.898%
27.0	675.499	33.488	1338.292	1.634%	77.846%
28.0	657.190	33.741	1372.033	1.646%	79.809%
29.0	640.216	33.944	1405.977	1.656%	81.783%
30.0	622.631	34.097	1440.073	1.663%	83.767%
31.0	599.302	34.005	1474.078	1.659%	85.745%
32.0	561.045	33.243	1507.321	1.622%	87.678%
33.0	515.257	31.708	1539.029	1.547%	89.523%
34.0	461.095	29.547	1568.576	1.441%	91.242%
35.0	389.313	26.411	1594.987	1.288%	92.778%
36.0	322.080	22.651	1617.638	1.105%	94.095%
37.0	264.818	19.141	1636.779	.934%	95.209%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	185.745	15.039	1651.818	.734%	96.084%
39.0	129.178	10.749	1662.567	.524%	96.709%
40.0	78.356	7.238	1669.805	.353%	97.130%
41.0	45.717	4.418	1674.223	.216%	97.387%
42.0	29.496	2.733	1676.956	.133%	97.546%
43.0	21.263	1.880	1678.836	.092%	97.655%
44.0	17.923	1.479	1680.315	.072%	97.741%
45.0	14.885	1.261	1681.576	.062%	97.815%
46.0	12.621	1.076	1682.652	.052%	97.877%
47.0	11.166	0.946	1683.598	.046%	97.932%
48.0	10.364	0.870	1684.468	.042%	97.983%
49.0	10.041	0.838	1685.306	.041%	98.032%
50.0	9.780	0.826	1686.133	.040%	98.080%
51.0	9.591	0.820	1686.952	.040%	98.127%
52.0	9.422	0.816	1687.768	.040%	98.175%
53.0	9.239	0.812	1688.58	.040%	98.222%
54.0	9.091	0.808	1689.388	.039%	98.269%
55.0	8.944	0.805	1690.193	.039%	98.316%
56.0	8.824	0.803	1690.996	.039%	98.363%
57.0	8.677	0.800	1691.796	.039%	98.409%
58.0	8.578	0.798	1692.594	.039%	98.455%
59.0	8.487	0.798	1693.392	.039%	98.502%
60.0	8.409	0.798	1694.19	.039%	98.548%
61.0	8.318	0.798	1694.988	.039%	98.595%
62.0	8.248	0.798	1695.786	.039%	98.641%
63.0	8.184	0.799	1696.585	.039%	98.688%
64.0	8.128	0.800	1697.386	.039%	98.734%
65.0	8.079	0.802	1698.188	.039%	98.781%
66.0	8.044	0.804	1698.992	.039%	98.828%
67.0	8.002	0.807	1699.799	.039%	98.875%
68.0	7.973	0.809	1700.608	.039%	98.922%
69.0	7.931	0.811	1701.42	.040%	98.969%
70.0	7.903	0.813	1702.233	.040%	99.016%
71.0	7.875	0.815	1703.049	.040%	99.064%
72.0	7.875	0.819	1703.867	.040%	99.111%
73.0	7.833	0.821	1704.689	.040%	99.159%
74.0	7.812	0.822	1705.511	.040%	99.207%
75.0	7.791	0.824	1706.336	.040%	99.255%

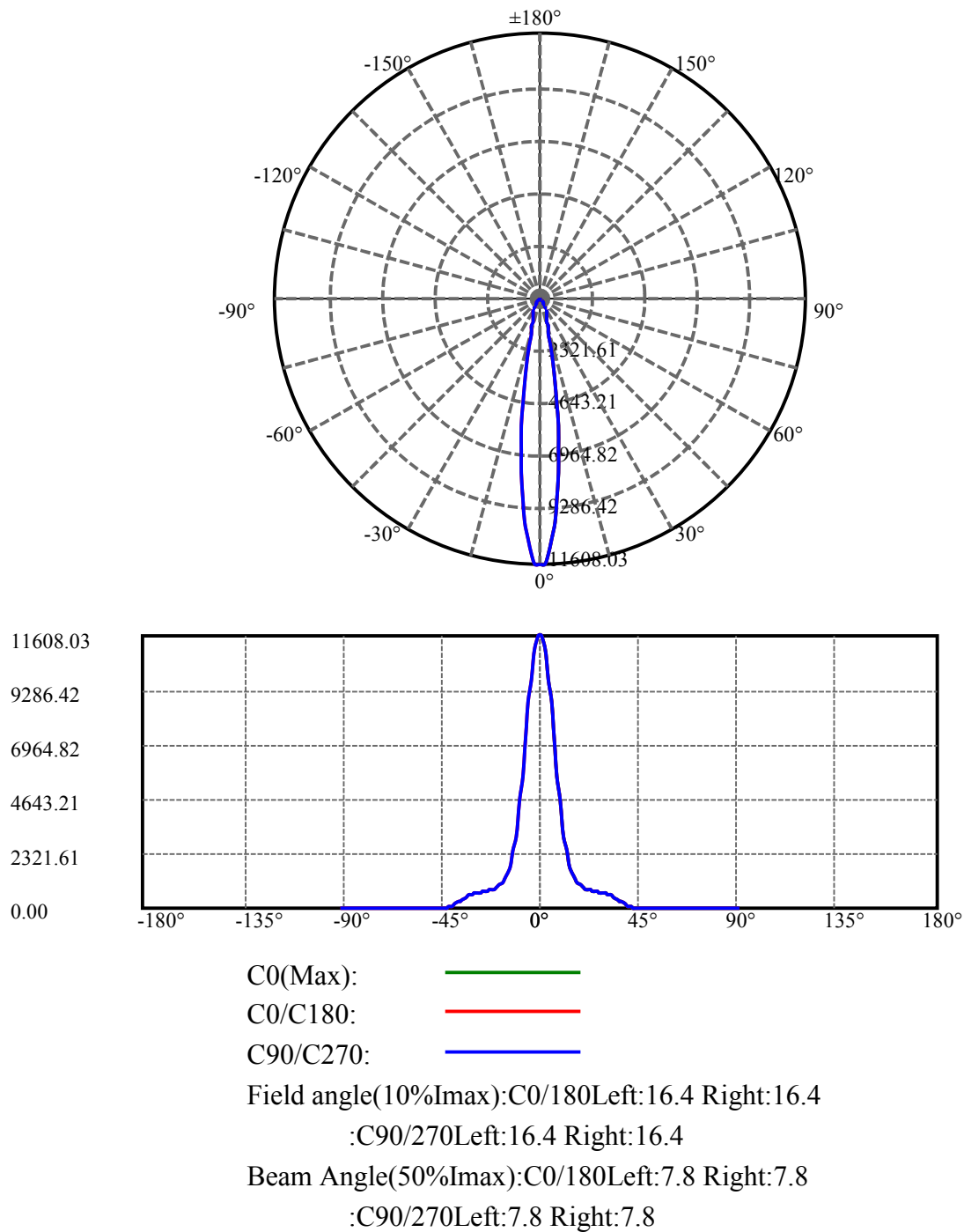
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	7.777	0.826	1707.162	.040%	99.303%
77.0	7.770	0.829	1707.991	.040%	99.351%
78.0	7.741	0.830	1708.821	.041%	99.399%
79.0	7.763	0.833	1709.654	.041%	99.448%
80.0	8.051	0.853	1710.507	.042%	99.497%
81.0	8.388	0.889	1711.396	.043%	99.549%
82.0	8.466	0.914	1712.31	.045%	99.602%
83.0	7.945	0.892	1713.202	.044%	99.654%
84.0	7.931	0.865	1714.067	.042%	99.705%
85.0	7.952	0.867	1714.934	.042%	99.755%
86.0	7.966	0.870	1715.804	.042%	99.806%
87.0	7.650	0.855	1716.658	.042%	99.855%
88.0	7.552	0.833	1717.491	.041%	99.904%
89.0	7.552	0.828	1718.319	.040%	99.952%
90.0	7.538	0.827	1719.146	.040%	100.000%

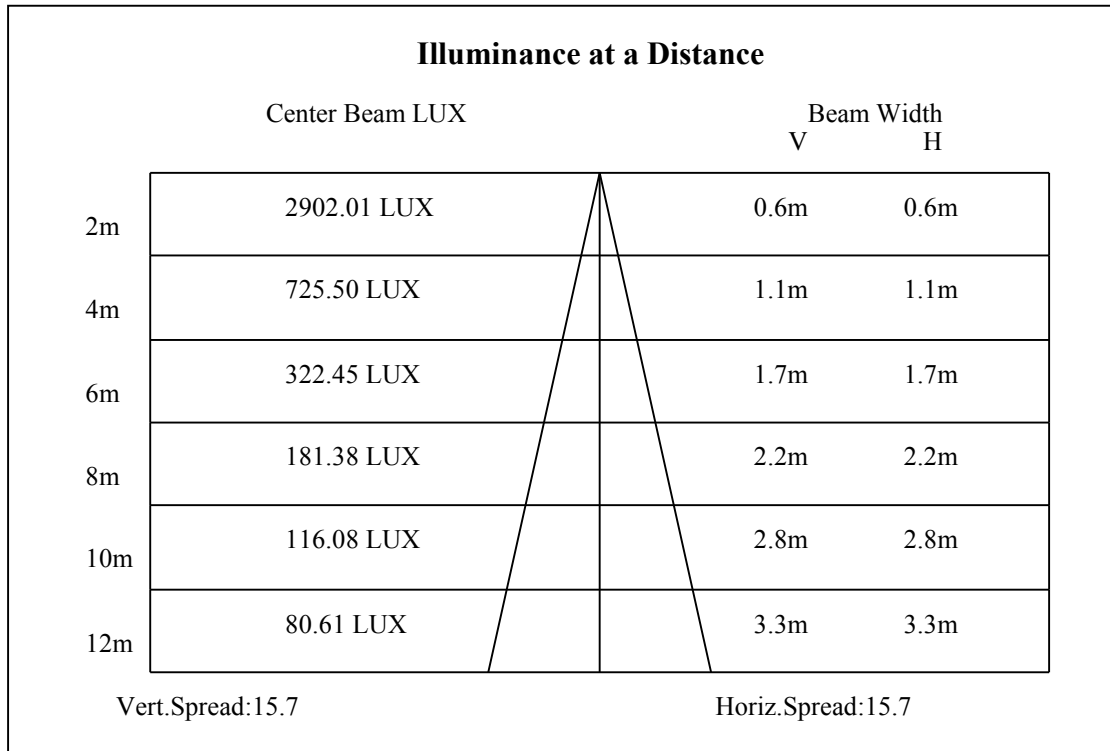
ZONAL LUMEN SUMMARY

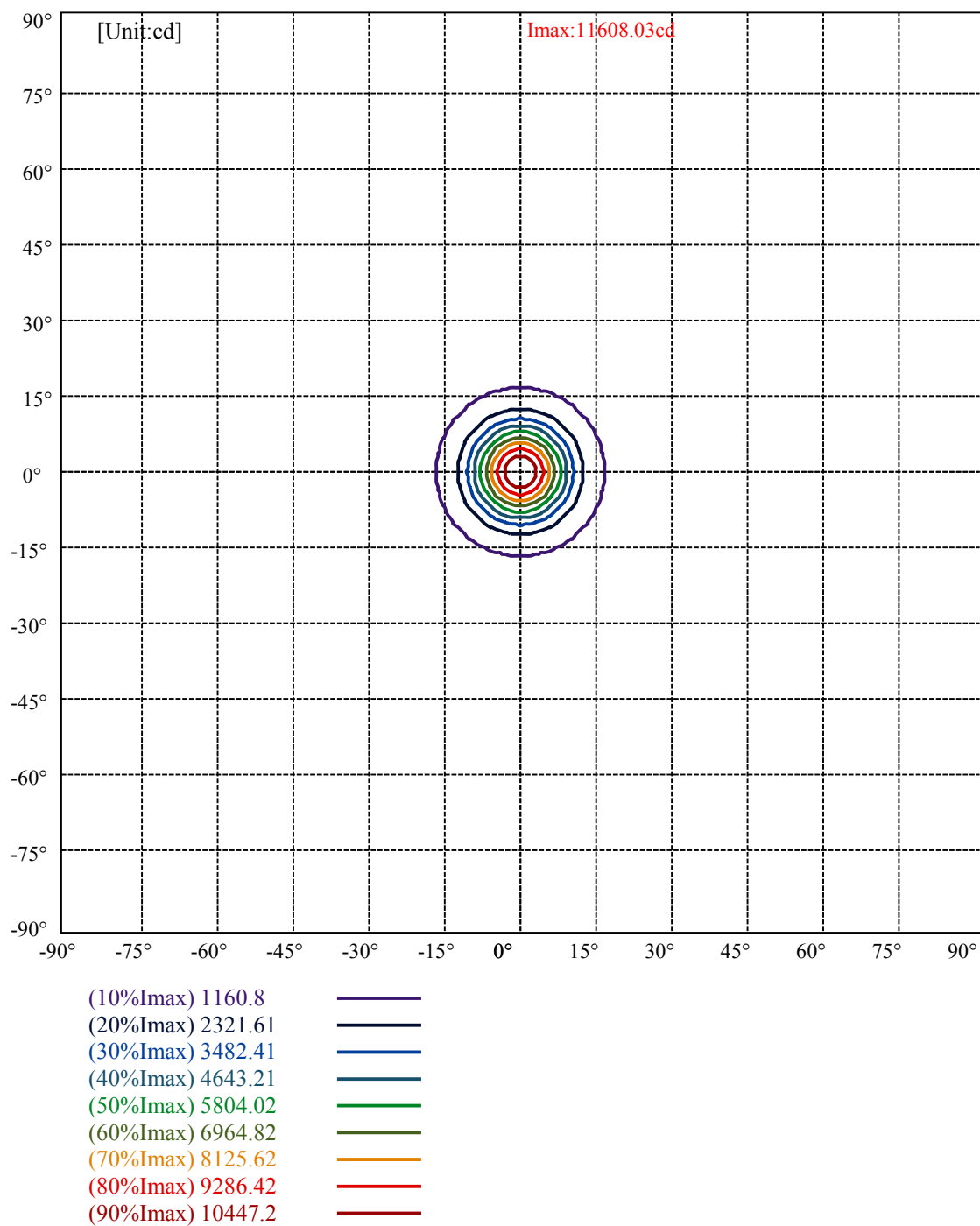
Zone	Lumens	%Lamp	%Fixt
0-30	1440.07	70.25%	83.77%
0-40	1669.81	81.45%	97.13%
0-60	1694.19	82.64%	98.55%
0-90	1718.32	83.82%	99.95%
0-120	1718.32	83.82%	99.95%
0-180	1719.15	83.86%	100.00%
60-90	24.93	1.22%	1.45%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.10	1375.32	67.09%	80.00%

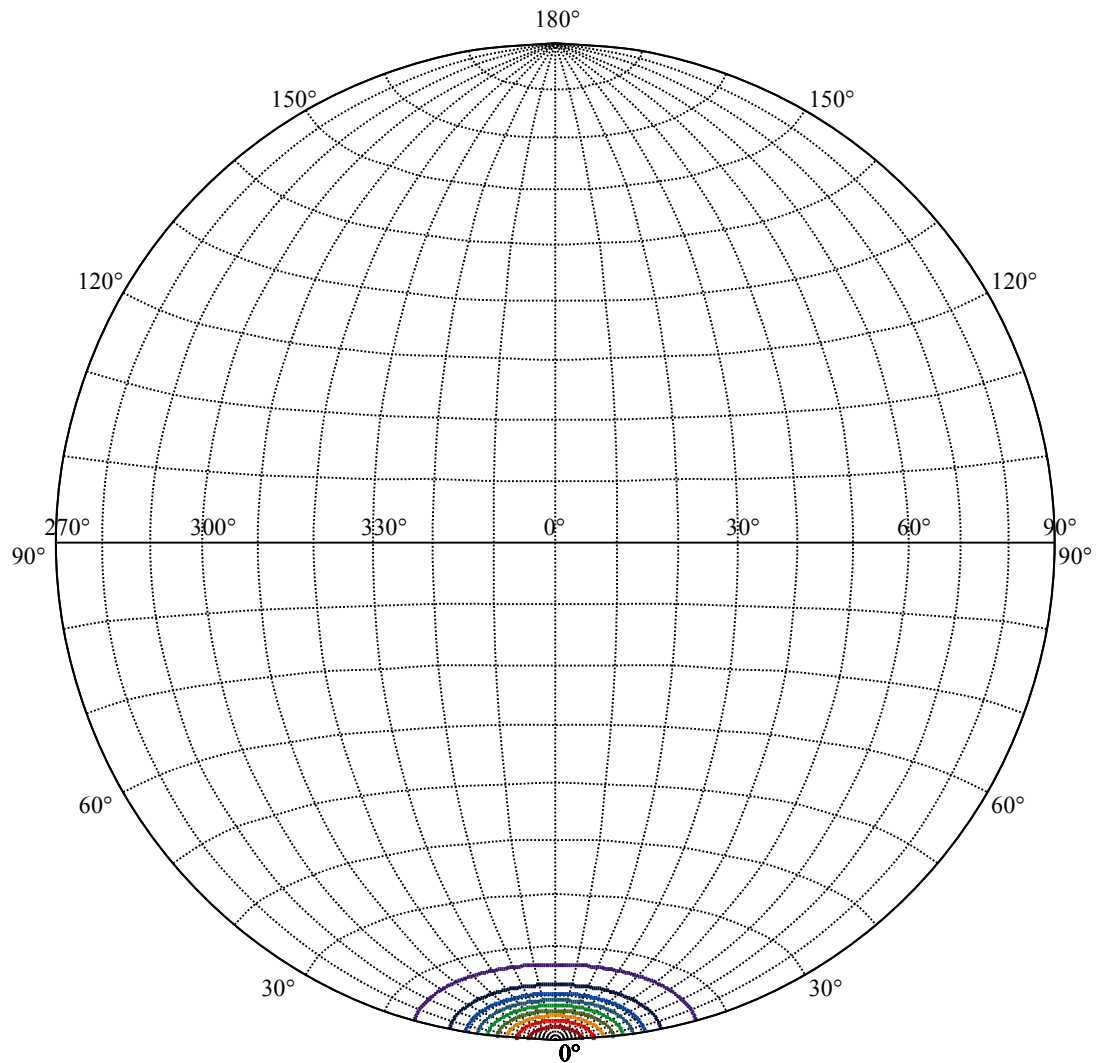
ZONAL LUMEN SUMMARY

0-10	666.65
10-20	442.79
20-30	330.63
30-40	229.73
40-50	16.33
50-60	8.06
60-70	8.04
70-80	8.27
80-90	7.81
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









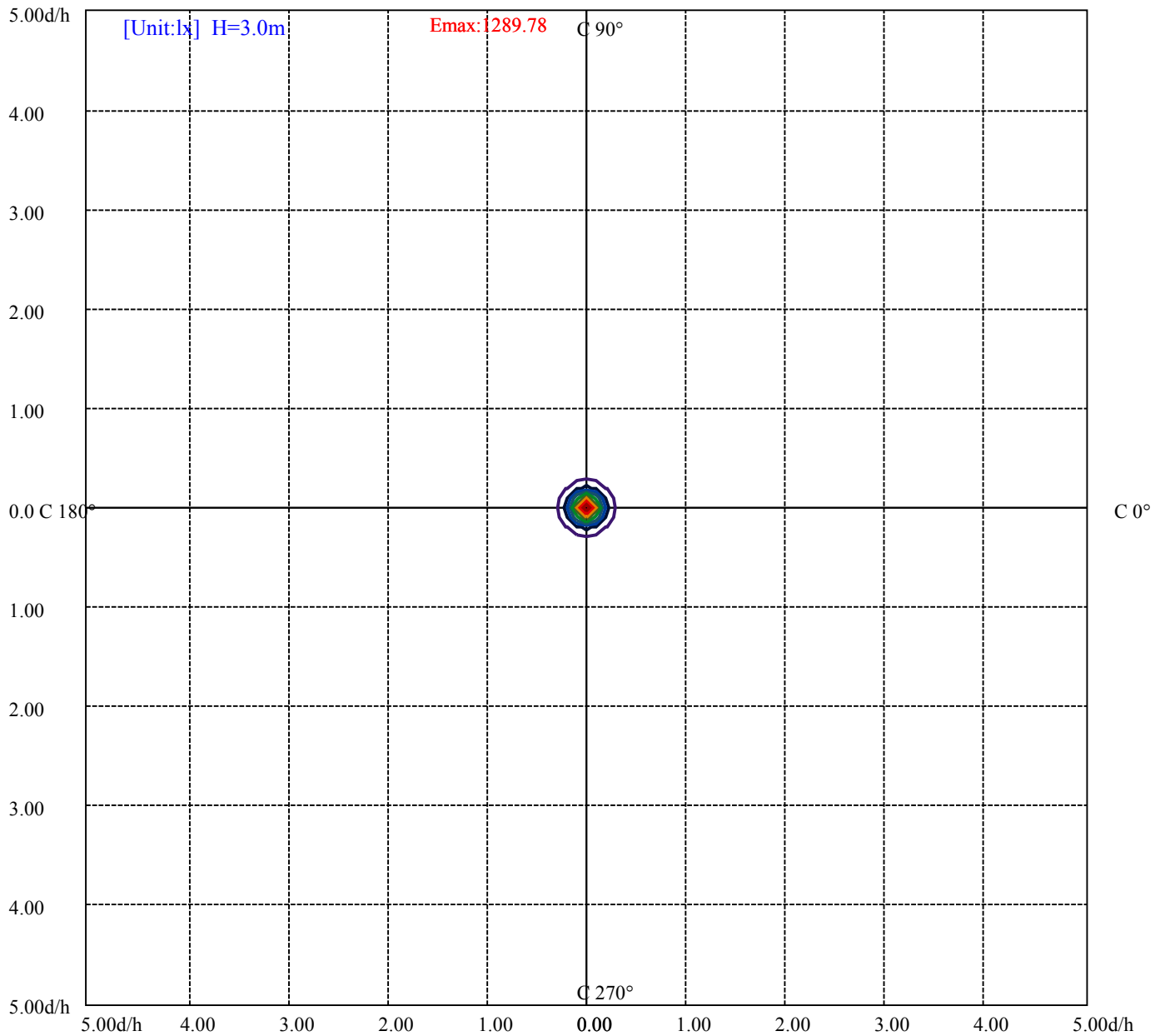
House

[Unit:cd]

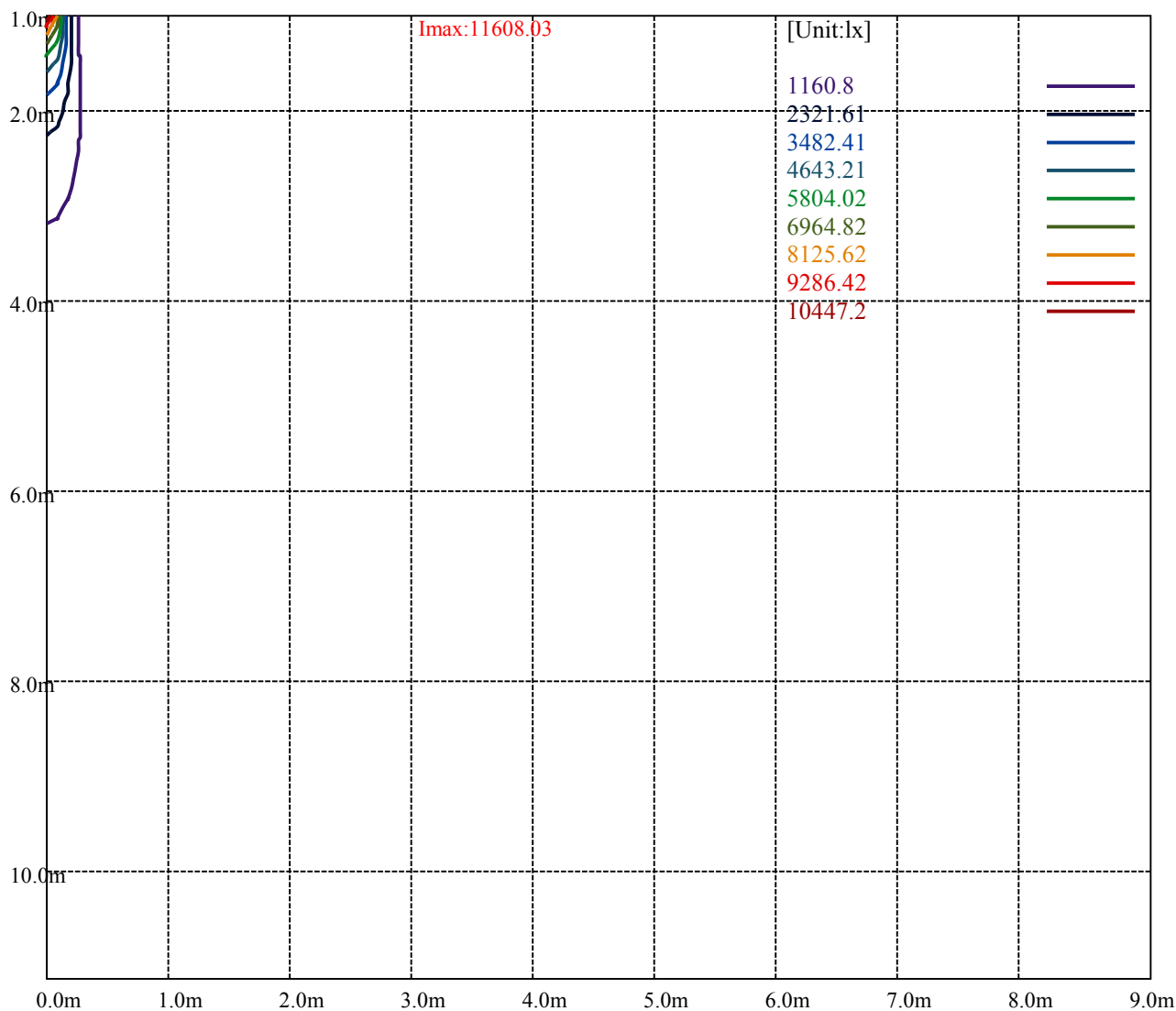
Road

Imax:11608.03

(10%Imax)	1160.8	—
(20%Imax)	2321.61	—
(30%Imax)	3482.41	—
(40%Imax)	4643.21	—
(50%Imax)	5804.02	—
(60%Imax)	6964.82	—
(70%Imax)	8125.62	—
(80%Imax)	9286.42	—
(90%Imax)	10447.2	—



(10%Emax)	128.9778	—
(20%Emax)	257.9567	—
(30%Emax)	386.9344	—
(40%Emax)	515.9122	—
(50%Emax)	644.89	—
(60%Emax)	773.8689	—
(70%Emax)	902.8467	—
(80%Emax)	1031.824	—
(90%Emax)	1160.8	—



Luminance Table

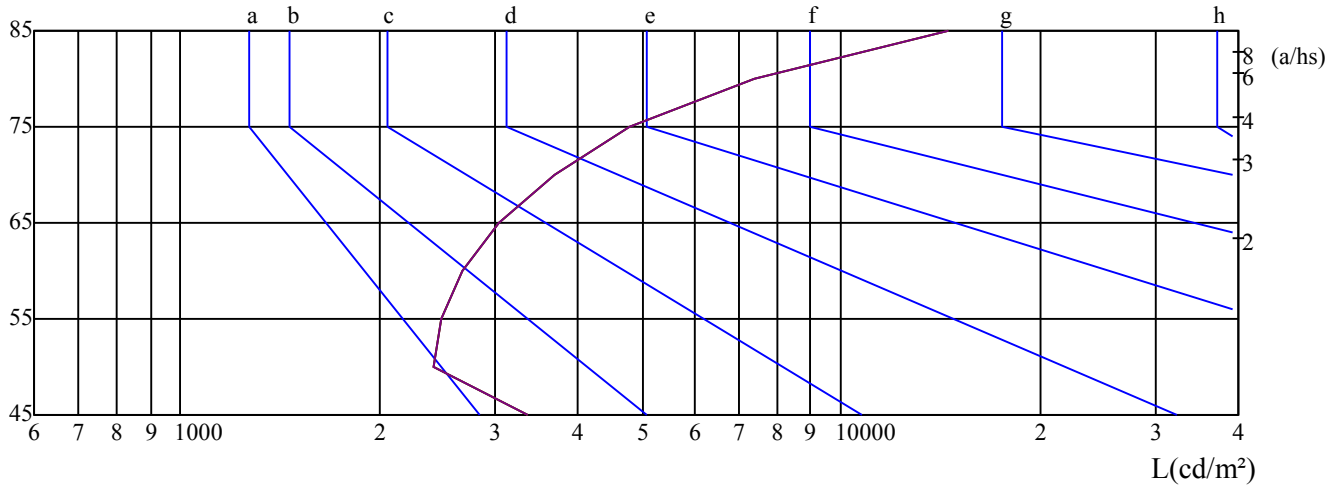
γ	45	50	55	60	65	70	75	80	85
C0	3348	2420	2480	2675	3040	3675	4787	7373	14510
C45	3348	2420	2480	2675	3040	3675	4787	7373	14510
C90	3348	2420	2480	2675	3040	3675	4787	7373	14510

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3040	3040	3040	4787	4787	4787	14510	14510	14510

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

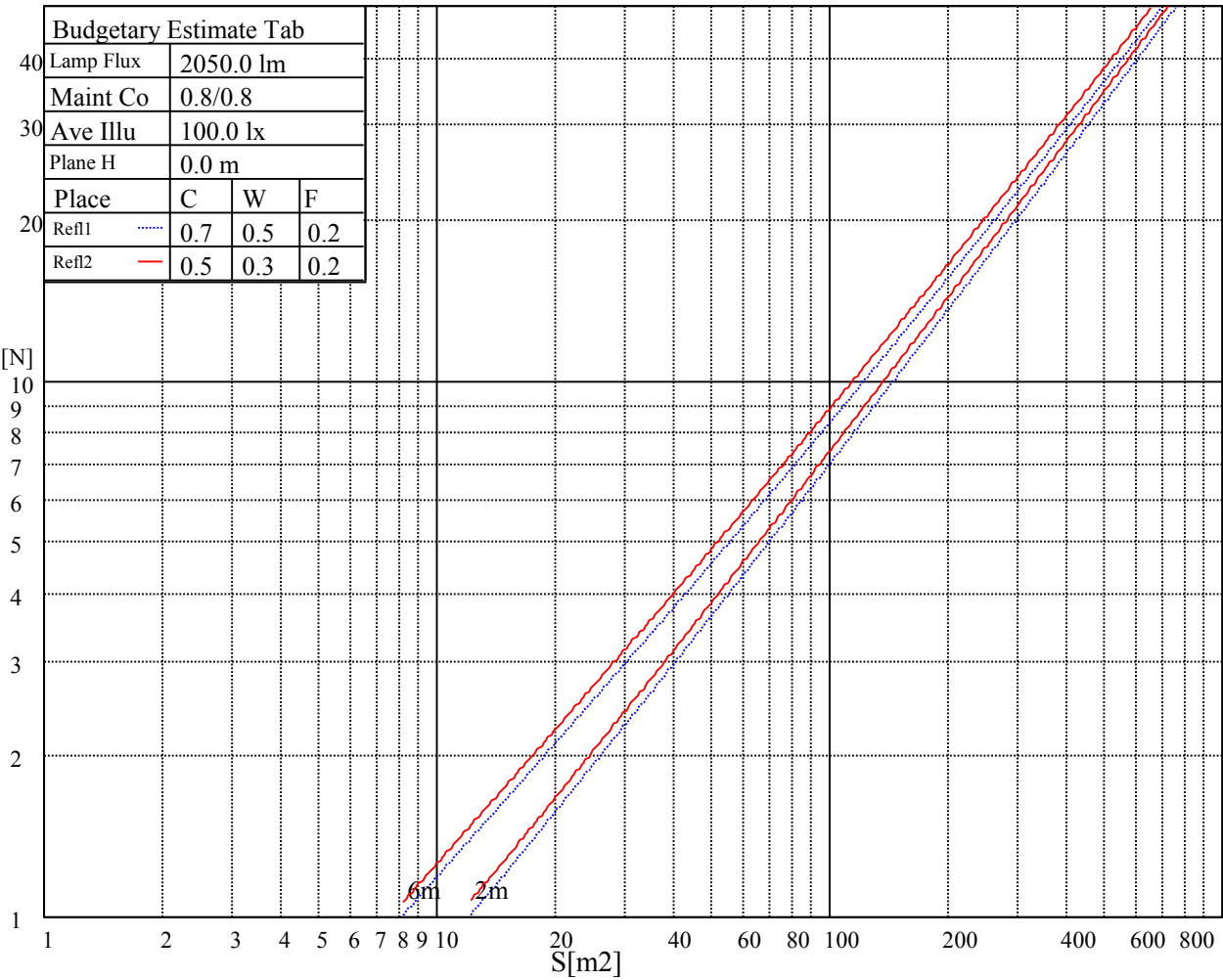
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

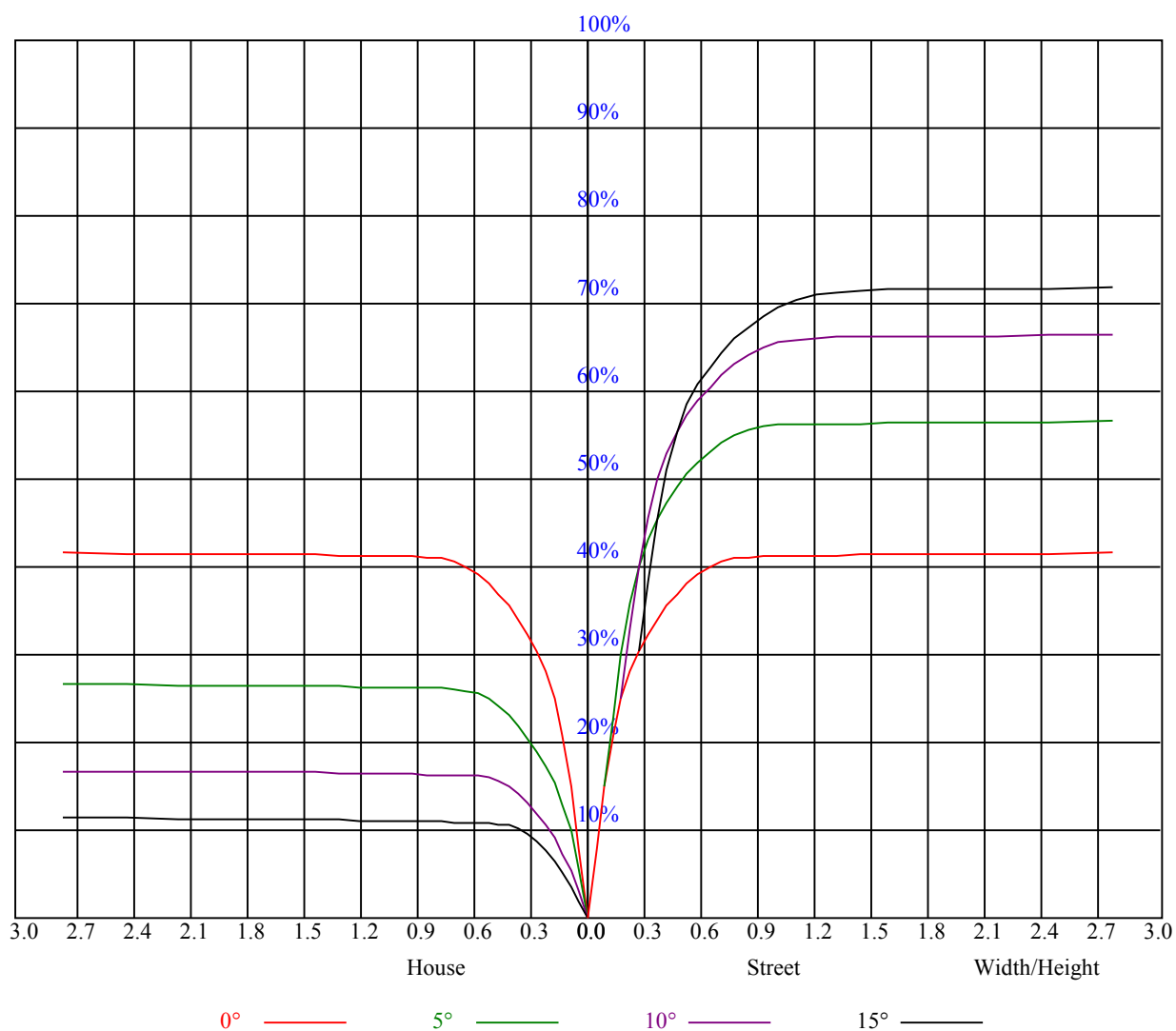
C0 ———

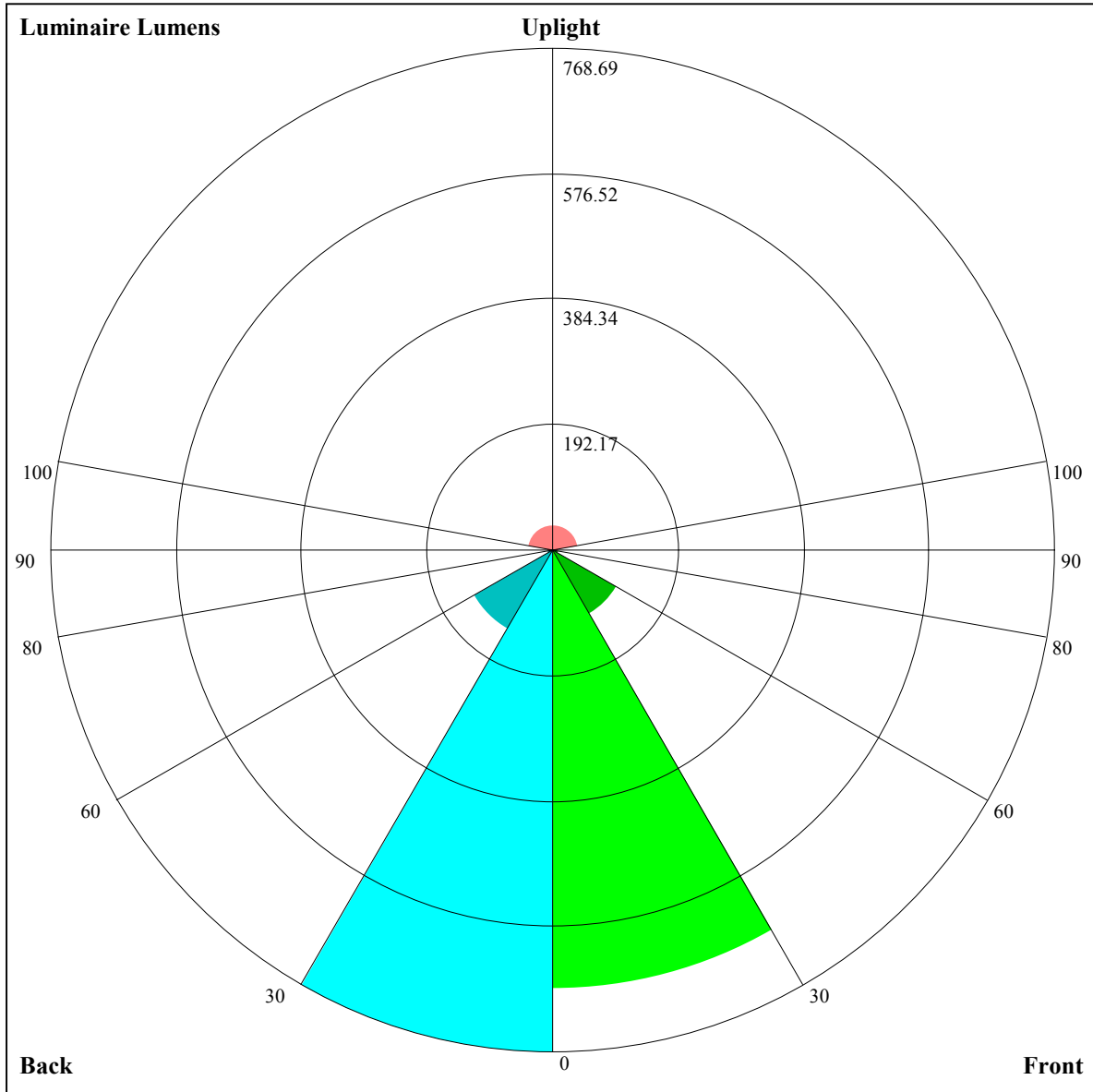
C45 ———

C90 ———



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	1.00	1.00	1.00	0.98	0.98	0.98	0.93	0.93	0.93	0.89	0.89	0.89	0.86	0.86	0.86	0.84
1	0.94	0.92	0.91	0.92	0.91	0.89	0.89	0.88	0.86	0.86	0.85	0.84	0.83	0.82	0.81	0.80
2	0.89	0.86	0.84	0.88	0.85	0.83	0.85	0.83	0.81	0.83	0.81	0.79	0.80	0.79	0.78	0.77
3	0.85	0.81	0.79	0.84	0.81	0.78	0.81	0.79	0.77	0.80	0.77	0.76	0.78	0.76	0.75	0.73
4	0.81	0.77	0.74	0.80	0.77	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.75	0.73	0.72	0.70
5	0.78	0.74	0.71	0.77	0.73	0.71	0.75	0.72	0.70	0.74	0.71	0.69	0.73	0.71	0.69	0.68
6	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.65
7	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.69	0.67	0.64	0.69	0.66	0.64	0.63
8	0.69	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.67	0.64	0.62	0.61
9	0.67	0.63	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.65	0.62	0.60	0.65	0.62	0.60	0.59
10	0.65	0.61	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.64	0.61	0.59	0.63	0.60	0.58	0.58





Luminaire Lumens:

FL=671.82,FM=114.05,FH=8.15,FVH=4.25

BL=768.69,BM=139.97,BH=8.2,BVH=4.34

UL=8.22,UH=39.14

BUG Rating:B2-U2-G0

Intensity data(cd)									
Appendix Page: 17 Total:19									
C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	11750.63	11379.38	10760.63	9742.50	8752.50	7700.63	6390.00	5540.63	4505.63
45.0	11733.75	11700.00	11328.75	10777.50	10063.13	9067.50	7942.50	6868.13	5709.38
90.0	11739.38	11801.25	11217.38	11150.44	10528.88	9628.31	8532.56	7469.44	6262.31
135.0	11208.38	11863.13	11919.38	11711.25	11289.38	10670.63	9658.13	8673.75	7638.75
180.0	11750.63	11885.63	11790.00	11193.19	10884.38	10042.88	9006.19	7973.44	6787.69
225.0	11733.75	11610.00	11041.88	10379.81	9542.25	8441.44	7309.69	6324.75	5279.06
270.0	11739.38	11458.13	10861.88	9990.00	9050.63	8038.13	6772.50	5816.25	4933.13
315.0	11208.38	11050.31	10191.38	9143.44	7983.00	6930.56	5819.06	4781.25	3941.44
360.0	11750.63	11379.38	10760.63	9742.50	8752.50	7700.63	6390.00	5540.63	4505.63
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3476.25	2863.13	2261.81	1830.94	1524.94	1325.81	1155.94	1032.19	951.19
45.0	4640.63	3751.88	2863.13	2506.50	1814.06	1502.44	1297.13	1154.81	1014.75
90.0	5243.63	4176.56	3232.69	2543.06	1992.38	1630.69	1406.25	1116.17	1073.19
135.0	6485.63	5377.50	4426.88	3487.50	2857.50	2247.75	1778.06	1533.38	1334.81
180.0	5784.75	4735.69	3798.00	3075.19	2436.19	1944.56	1695.38	1473.19	1211.06
225.0	4417.88	3540.38	2806.31	2312.44	1908.00	1613.81	1404.56	1196.44	1089.96
270.0	3915.00	3206.25	2896.88	2145.94	1789.31	1547.44	1331.44	1183.50	1058.06
315.0	3207.94	2477.81	2057.63	1743.19	1502.44	1280.81	1110.38	1031.46	934.59
360.0	3476.25	2863.13	2261.81	1830.94	1524.94	1325.81	1155.94	1032.19	951.19
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	886.50	844.88	807.75	776.81	754.88	735.75	712.69	693.00	675.00
45.0	933.75	877.50	818.44	783.56	756.56	736.88	710.44	693.56	675.00
90.0	977.18	909.34	845.78	805.89	775.29	746.38	725.91	704.98	679.61
135.0	1144.69	1042.31	958.50	885.38	837.00	802.13	765.00	742.50	721.13
180.0	1120.61	1015.37	928.46	865.07	822.43	784.13	752.68	730.46	710.66
225.0	1003.16	934.20	880.71	829.80	795.60	766.18	736.71	718.54	701.61
270.0	965.25	903.94	852.75	813.38	785.81	764.44	736.88	723.38	707.63
315.0	881.04	840.71	802.24	770.85	748.97	728.94	712.97	694.41	675.84
360.0	886.50	844.88	807.75	776.81	754.88	735.75	712.69	693.00	675.00
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	657.00	639.56	626.63	609.19	564.19	509.63	440.44	374.06	298.69
45.0	657.00	641.25	627.75	614.81	598.50	550.13	496.13	437.63	360.00
90.0	663.86	646.03	626.46	614.19	601.59	572.51	533.03	479.53	396.73
135.0	699.75	678.38	660.38	639.56	622.69	606.38	591.75	563.06	505.13
180.0	694.58	676.63	658.01	639.56	622.86	602.89	585.17	544.95	486.51
225.0	687.43	669.60	652.67	633.94	617.63	589.61	540.11	482.06	419.63
270.0	686.81	667.13	648.56	628.88	609.75	570.94	511.31	450.56	377.44
315.0	657.56	638.94	621.28	600.92	557.21	486.28	424.13	356.91	270.39
360.0	657.00	639.56	626.63	609.19	564.19	509.63	440.44	374.06	298.69
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	248.51	159.81	98.49	54.56	30.43	26.61	21.99	18.17	15.58
45.0	284.63	243.68	158.06	91.69	53.04	31.95	26.83	23.01	19.86
90.0	342.28	275.91	202.61	136.01	85.28	42.24	29.25	25.54	21.66
135.0	441.00	378.00	311.06	286.31	166.61	107.94	54.45	28.91	25.37
180.0	420.69	358.09	283.78	210.43	147.99	79.20	42.75	26.27	20.59
225.0	335.14	266.91	189.84	120.09	70.20	31.44	23.34	17.38	13.89
270.0	297.00	288.00	155.53	93.38	47.76	24.47	19.29	15.41	13.22
315.0	207.39	148.16	86.57	40.95	25.54	21.88	18.06	15.41	13.22
360.0	248.51	159.81	98.49	54.56	30.43	26.61	21.99	18.17	15.58

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	11.98	10.52	10.24	10.01	9.79	9.56	9.45	9.23	9.06
45.0	16.71	12.15	10.52	10.24	10.01	9.84	9.56	9.45	9.28
90.0	18.79	15.81	10.86	10.18	9.96	9.68	9.51	9.34	9.11
135.0	20.31	16.37	14.57	11.14	10.24	9.90	9.68	9.51	9.34
180.0	15.98	13.22	11.48	10.46	10.13	9.84	9.68	9.51	9.28
225.0	12.38	11.25	10.63	10.35	10.13	9.84	9.68	9.51	9.34
270.0	11.93	11.03	10.69	10.41	10.13	9.90	9.68	9.51	9.34
315.0	11.03	10.63	10.35	10.13	9.96	9.68	9.51	9.34	9.17
360.0	11.98	10.52	10.24	10.01	9.79	9.56	9.45	9.23	9.06
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	8.94	8.83	8.72	8.55	8.44	8.38	8.33	8.21	8.16
45.0	9.17	9.00	8.89	8.72	8.66	8.55	8.44	8.33	8.27
90.0	9.00	8.83	8.72	8.61	8.44	8.38	8.33	8.21	8.16
135.0	9.17	9.06	8.89	8.72	8.66	8.55	8.38	8.33	8.21
180.0	9.06	8.94	8.83	8.66	8.55	8.44	8.38	8.27	8.21
225.0	9.17	9.00	8.89	8.78	8.66	8.55	8.49	8.44	8.33
270.0	9.23	9.06	8.89	8.78	8.66	8.61	8.55	8.44	8.38
315.0	9.00	8.83	8.78	8.61	8.55	8.44	8.38	8.33	8.27
360.0	8.94	8.83	8.72	8.55	8.44	8.38	8.33	8.21	8.16
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	8.10	7.99	7.99	7.93	7.88	7.88	7.82	7.82	7.76
45.0	8.21	8.16	8.10	8.04	7.99	7.99	7.93	7.93	7.88
90.0	8.10	8.04	7.99	7.99	7.93	7.88	7.88	7.82	7.82
135.0	8.16	8.10	8.04	7.99	7.99	7.93	7.88	7.88	7.82
180.0	8.16	8.10	8.04	8.04	7.99	7.93	7.93	7.88	7.88
225.0	8.27	8.21	8.16	8.16	8.10	8.10	8.04	7.99	7.99
270.0	8.33	8.27	8.21	8.16	8.16	8.10	8.04	8.04	7.99
315.0	8.16	8.16	8.10	8.04	7.99	7.99	7.93	7.88	7.88
360.0	8.10	7.99	7.99	7.93	7.88	7.88	7.82	7.82	7.76
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	7.76	7.71	7.71	7.65	7.71	7.65	7.65	7.65	7.65
45.0	7.88	7.88	7.82	7.82	7.82	7.82	7.76	7.76	7.76
90.0	7.82	7.76	7.76	7.76	7.71	7.71	7.71	7.71	7.65
135.0	7.88	7.82	7.82	7.76	7.71	7.71	7.71	7.71	7.65
180.0	7.88	7.82	7.76	7.76	7.76	7.76	7.71	7.71	7.71
225.0	7.99	7.93	7.93	7.93	7.88	7.88	7.88	8.04	9.51
270.0	7.99	7.93	7.93	7.88	7.88	7.88	7.82	7.82	8.10
315.0	7.82	7.82	7.76	7.76	7.76	7.76	7.71	7.71	8.38
360.0	7.76	7.71	7.71	7.65	7.71	7.65	7.65	7.65	7.65
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	7.71	7.65	7.71	7.76	7.76	7.76	7.59	7.54	7.48
45.0	7.76	7.76	7.76	7.76	7.76	7.82	7.65	7.59	7.59
90.0	7.65	7.65	7.65	7.65	7.65	7.65	7.65	7.54	7.59
135.0	7.65	7.65	7.65	7.65	7.65	7.76	7.65	7.54	7.54
180.0	7.93	8.55	8.89	8.04	8.04	8.61	7.48	7.48	7.48
225.0	10.80	11.31	7.93	8.27	8.44	8.10	7.59	7.59	7.59
270.0	9.11	9.34	7.99	8.21	8.10	7.93	7.82	7.59	7.59
315.0	8.49	7.82	7.99	8.10	8.21	8.10	7.76	7.54	7.54
360.0	7.71	7.65	7.71	7.76	7.76	7.76	7.59	7.54	7.48

Intensity data(cd)

Appendix Page: 19 Total:19

C/ $\gamma(^{\circ})$	90.0
0.0	7.48
45.0	7.59
90.0	7.54
135.0	7.54
180.0	7.48
225.0	7.54
270.0	7.59
315.0	7.54
360.0	7.48