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Nata

Client:

LumCAT: 3-2040-M

Luminaire: 92.70.131.00

Report No:

Voltage(V): 34.3900

Test No: GC20190824010

Current(A): 0.3970

LampCAT: TRIDONIC SLE 13MM G7

Power (W): 13.6500

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): 1435.22, Efficiency(%): 84.33% , Luminous Efficacy(lm/W): 105.14

Central intensity(cd): 6802.031, Maximum intensity(cd): 6802.031

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=45.0

[C90/270]Total=45.0

Maximum s/h(1/2): C0_180=0.34 C90_270=0.34

Maximum s/h(1/4): C0_180=0.36 C90_270=0.36

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 84.33%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.524%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6802.031	0.000	0	.000%	.000%
1.0	6737.063	6.478	6.478	.381%	.451%
2.0	6532.383	19.046	25.524	1.119%	1.778%
3.0	6261.258	30.598	56.122	1.798%	3.910%
4.0	5946.047	40.862	96.984	2.401%	6.757%
5.0	5566.008	49.524	146.508	2.910%	10.208%
6.0	5171.414	56.428	202.936	3.315%	14.140%
7.0	4751.156	61.589	264.525	3.619%	18.431%
8.0	4320.773	64.926	329.451	3.815%	22.955%
9.0	3865.359	66.344	395.795	3.898%	27.577%
10.0	3428.930	66.011	461.806	3.878%	32.177%
11.0	3002.344	64.262	526.068	3.776%	36.654%
12.0	2602.266	61.266	587.334	3.600%	40.923%
13.0	2240.297	57.469	644.803	3.377%	44.927%
14.0	1905.961	53.072	697.875	3.118%	48.625%
15.0	1639.617	48.675	746.55	2.860%	52.016%
16.0	1394.072	44.452	791.002	2.612%	55.114%
17.0	1189.048	40.226	831.228	2.363%	57.916%
18.0	1052.234	36.954	868.182	2.171%	60.491%
19.0	945.675	34.760	902.942	2.042%	62.913%
20.0	841.697	32.714	935.656	1.922%	65.192%
21.0	764.606	30.844	966.5	1.812%	67.342%
22.0	708.082	29.594	996.094	1.739%	69.404%
23.0	653.175	28.563	1024.657	1.678%	71.394%
24.0	608.379	27.582	1052.239	1.621%	73.316%
25.0	576.731	26.947	1079.186	1.583%	75.193%
26.0	550.301	26.604	1105.79	1.563%	77.047%
27.0	532.048	26.480	1132.269	1.556%	78.892%
28.0	518.984	26.610	1158.879	1.563%	80.746%
29.0	507.438	26.854	1185.733	1.578%	82.617%
30.0	497.784	27.141	1212.874	1.595%	84.508%
31.0	488.046	27.434	1240.308	1.612%	86.419%
32.0	469.371	27.429	1267.737	1.612%	88.331%
33.0	432.809	26.579	1294.316	1.562%	90.182%
34.0	382.950	24.687	1319.003	1.450%	91.903%
35.0	320.808	21.856	1340.859	1.284%	93.425%
36.0	261.352	18.536	1359.395	1.089%	94.717%
37.0	199.835	15.041	1374.437	.884%	95.765%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	130.648	11.031	1385.468	.648%	96.533%
39.0	76.950	7.086	1392.554	.416%	97.027%
40.0	39.340	4.056	1396.609	.238%	97.310%
41.0	20.370	2.126	1398.736	.125%	97.458%
42.0	16.404	1.336	1400.072	.078%	97.551%
43.0	14.309	1.138	1401.209	.067%	97.630%
44.0	12.375	1.007	1402.216	.059%	97.700%
45.0	10.948	0.896	1403.113	.053%	97.763%
46.0	9.984	0.819	1403.931	.048%	97.820%
47.0	9.534	0.776	1404.708	.046%	97.874%
48.0	9.274	0.760	1405.468	.045%	97.927%
49.0	9.021	0.751	1406.219	.044%	97.979%
50.0	8.768	0.742	1406.961	.044%	98.031%
51.0	8.571	0.734	1407.695	.043%	98.082%
52.0	8.409	0.729	1408.423	.043%	98.133%
53.0	8.220	0.723	1409.147	.043%	98.183%
54.0	8.002	0.715	1409.862	.042%	98.233%
55.0	7.833	0.707	1410.568	.042%	98.282%
56.0	7.664	0.700	1411.269	.041%	98.331%
57.0	7.523	0.694	1411.963	.041%	98.380%
58.0	7.439	0.692	1412.655	.041%	98.428%
59.0	7.341	0.691	1413.346	.041%	98.476%
60.0	7.270	0.690	1414.036	.041%	98.524%
61.0	7.200	0.691	1414.727	.041%	98.572%
62.0	7.137	0.691	1415.418	.041%	98.620%
63.0	7.088	0.692	1416.109	.041%	98.668%
64.0	7.038	0.693	1416.803	.041%	98.717%
65.0	6.982	0.694	1417.496	.041%	98.765%
66.0	6.933	0.694	1418.191	.041%	98.813%
67.0	6.905	0.696	1418.886	.041%	98.862%
68.0	6.863	0.697	1419.584	.041%	98.911%
69.0	6.834	0.699	1420.283	.041%	98.959%
70.0	6.806	0.701	1420.983	.041%	99.008%
71.0	6.799	0.703	1421.686	.041%	99.057%
72.0	6.764	0.705	1422.392	.041%	99.106%
73.0	6.736	0.706	1423.098	.041%	99.155%
74.0	6.708	0.707	1423.804	.042%	99.205%
75.0	6.694	0.708	1424.512	.042%	99.254%

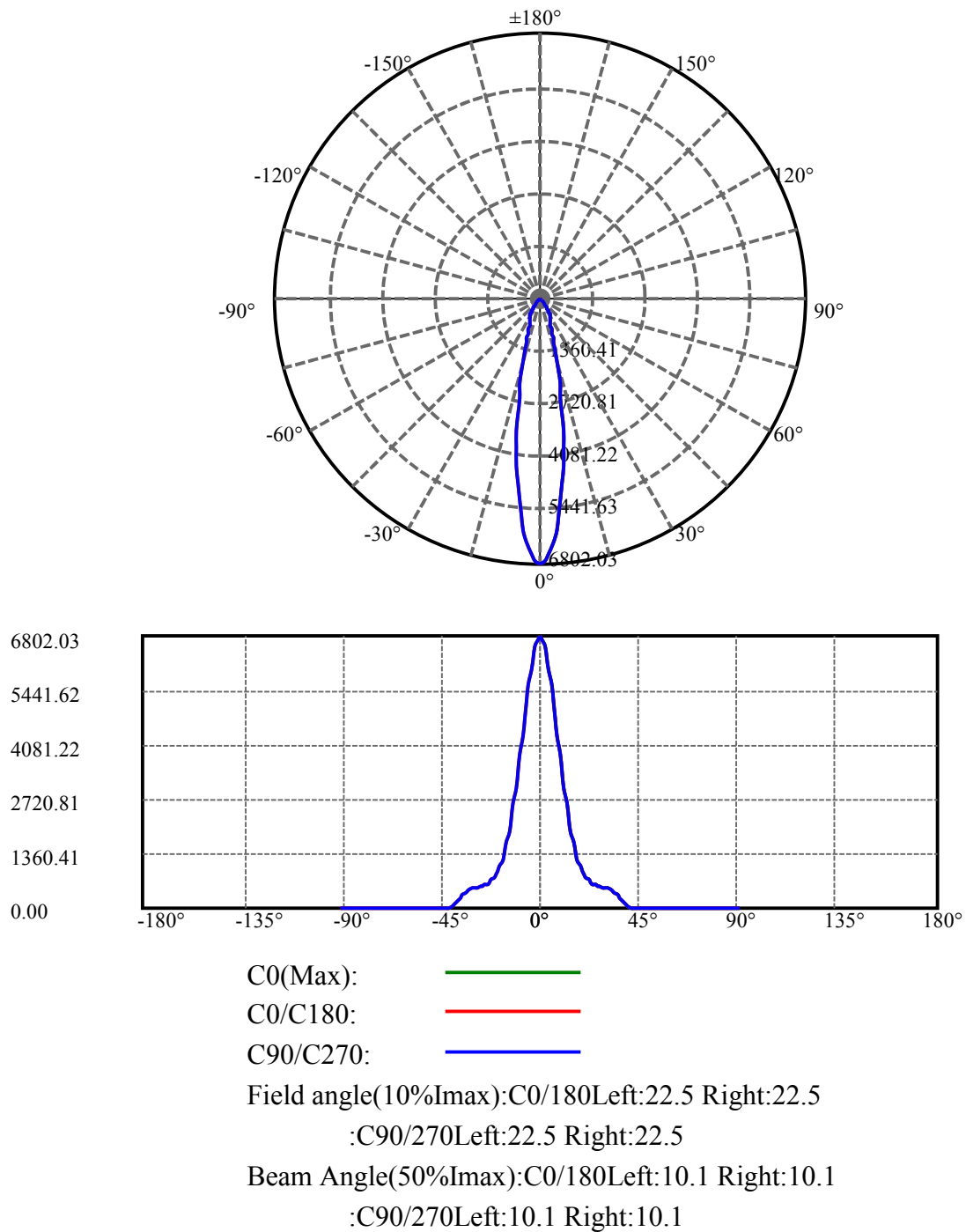
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	6.673	0.710	1425.222	.042%	99.303%
77.0	6.659	0.711	1425.933	.042%	99.353%
78.0	6.645	0.712	1426.645	.042%	99.403%
79.0	6.616	0.713	1427.357	.042%	99.452%
80.0	6.609	0.713	1428.07	.042%	99.502%
81.0	6.602	0.714	1428.785	.042%	99.552%
82.0	6.574	0.715	1429.499	.042%	99.601%
83.0	6.574	0.715	1430.214	.042%	99.651%
84.0	6.567	0.716	1430.93	.042%	99.701%
85.0	6.560	0.716	1431.647	.042%	99.751%
86.0	6.546	0.716	1432.363	.042%	99.801%
87.0	6.532	0.716	1433.079	.042%	99.851%
88.0	6.525	0.715	1433.794	.042%	99.901%
89.0	6.497	0.714	1434.508	.042%	99.950%
90.0	6.497	0.712	1435.22	.042%	100.000%

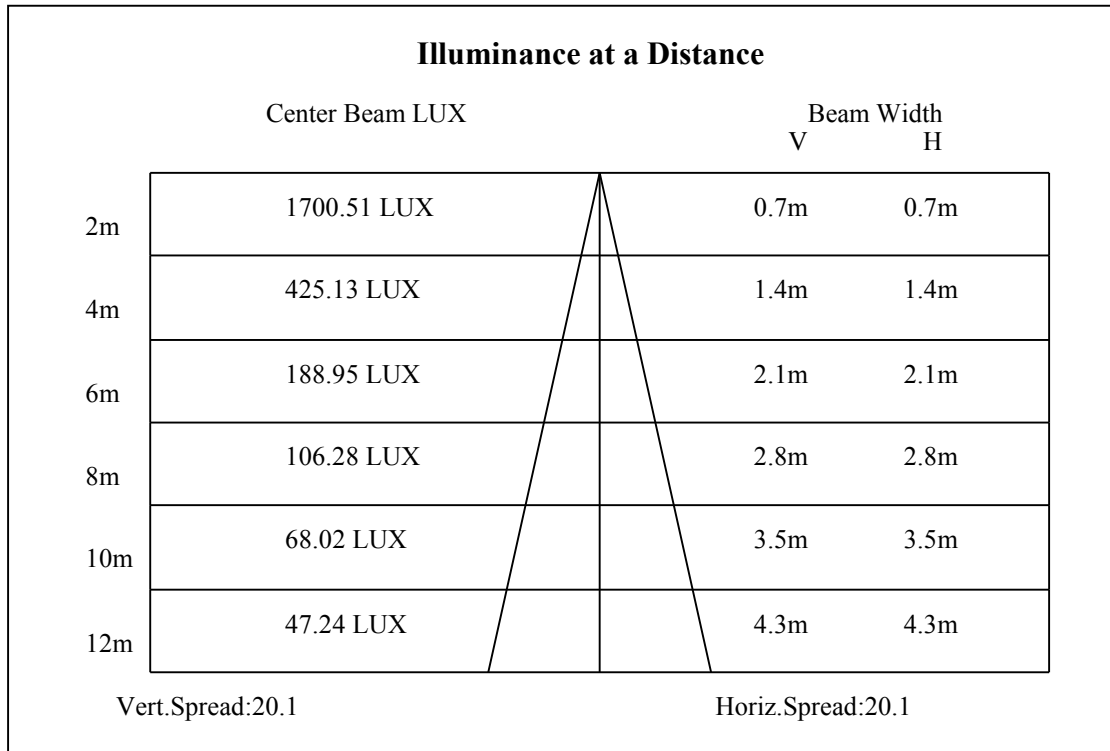
ZONAL LUMEN SUMMARY

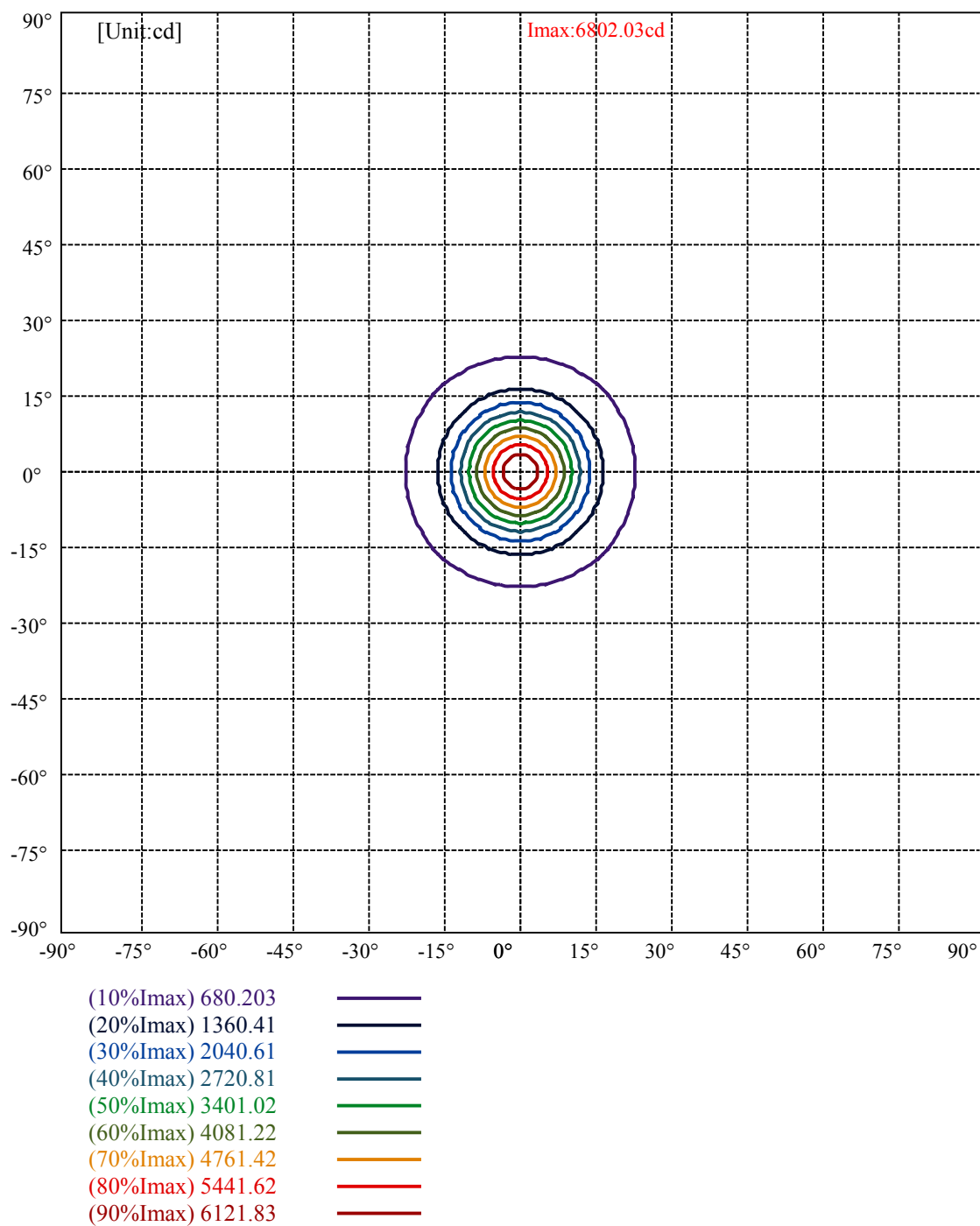
Zone	Lumens	%Lamp	%Fixt
0-30	1212.87	71.26%	84.51%
0-40	1396.61	82.06%	97.31%
0-60	1414.04	83.08%	98.52%
0-90	1434.51	84.28%	99.95%
0-120	1434.51	84.28%	99.95%
0-180	1435.22	84.33%	100.00%
60-90	21.16	1.24%	1.47%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.60	1148.18	67.46%	80.00%

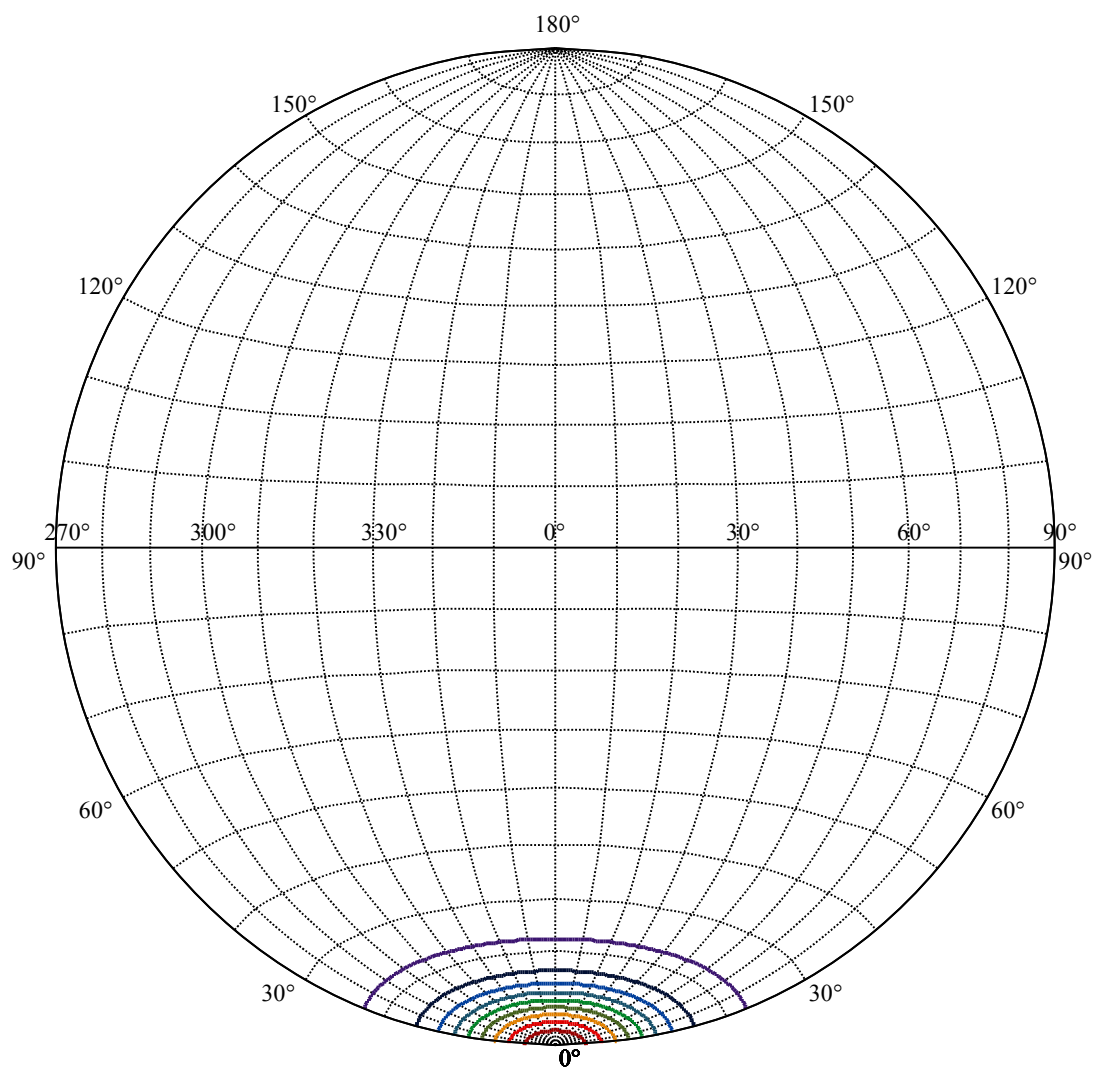
ZONAL LUMEN SUMMARY

0-10	461.81
10-20	473.85
20-30	277.22
30-40	183.74
40-50	10.35
50-60	7.08
60-70	6.95
70-80	7.09
80-90	6.44
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









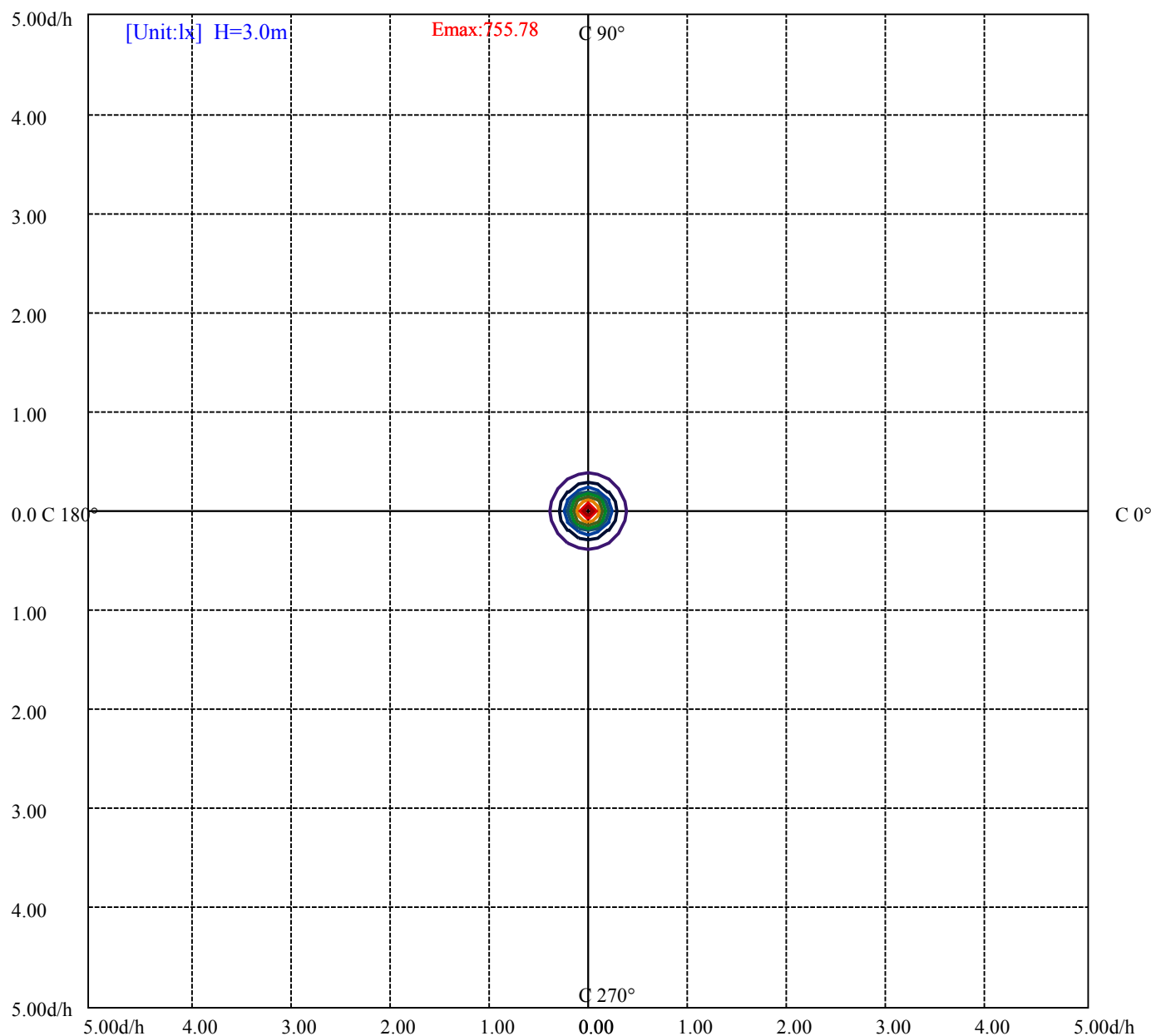
House

[Unit:cd]

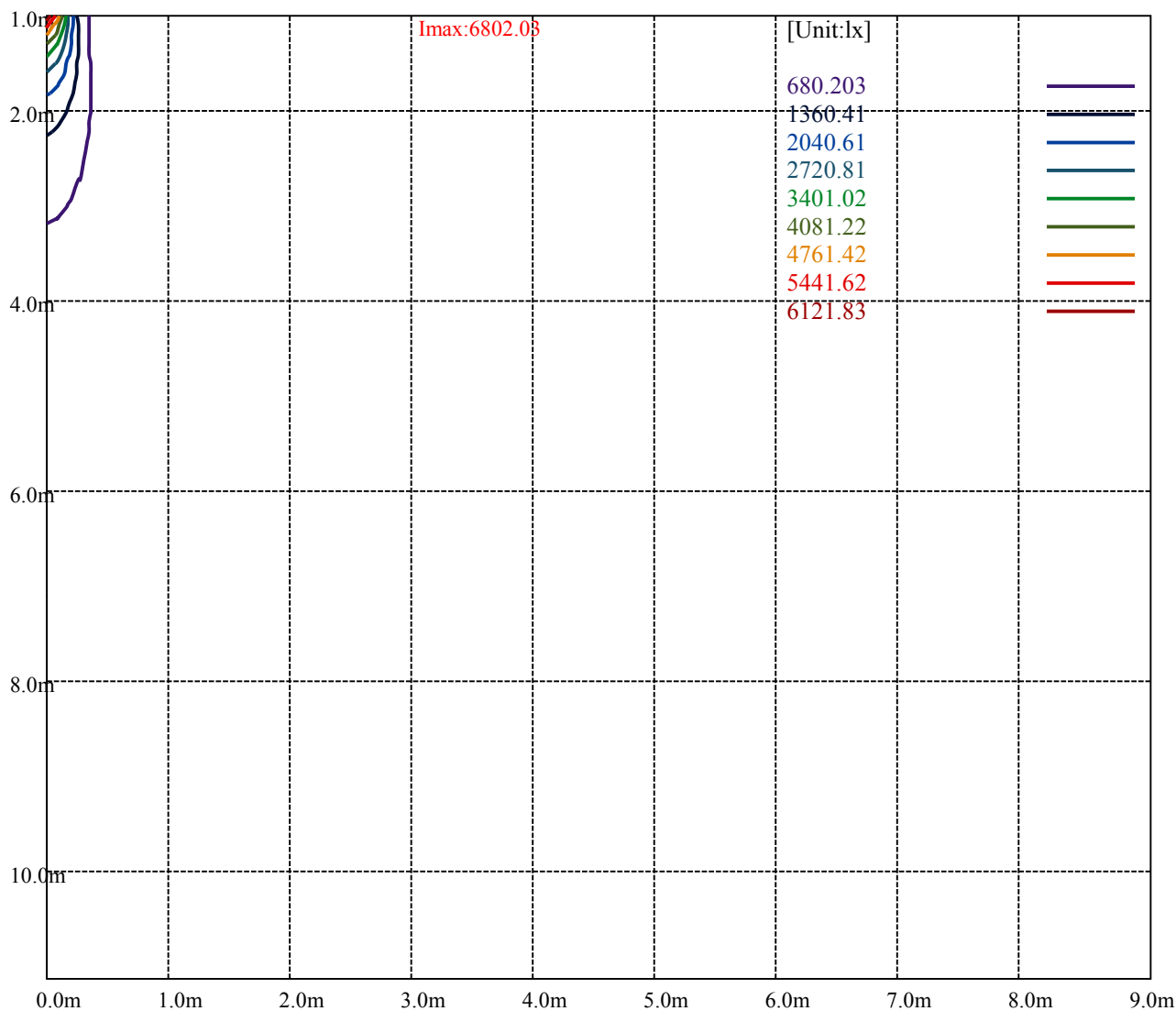
Road

Imax:6802.03

(10%Imax)	680.203	—
(20%Imax)	1360.41	—
(30%Imax)	2040.61	—
(40%Imax)	2720.81	—
(50%Imax)	3401.02	—
(60%Imax)	4081.22	—
(70%Imax)	4761.42	—
(80%Imax)	5441.62	—
(90%Imax)	6121.83	—



(10%E _{max}) 75.578	—
(20%E _{max}) 151.1556	—
(30%E _{max}) 226.7344	—
(40%E _{max}) 302.3122	—
(50%E _{max}) 377.89	—
(60%E _{max}) 453.4678	—
(70%E _{max}) 529.0456	—
(80%E _{max}) 604.6245	—
(90%E _{max}) 680.2022	—



Luminance Table

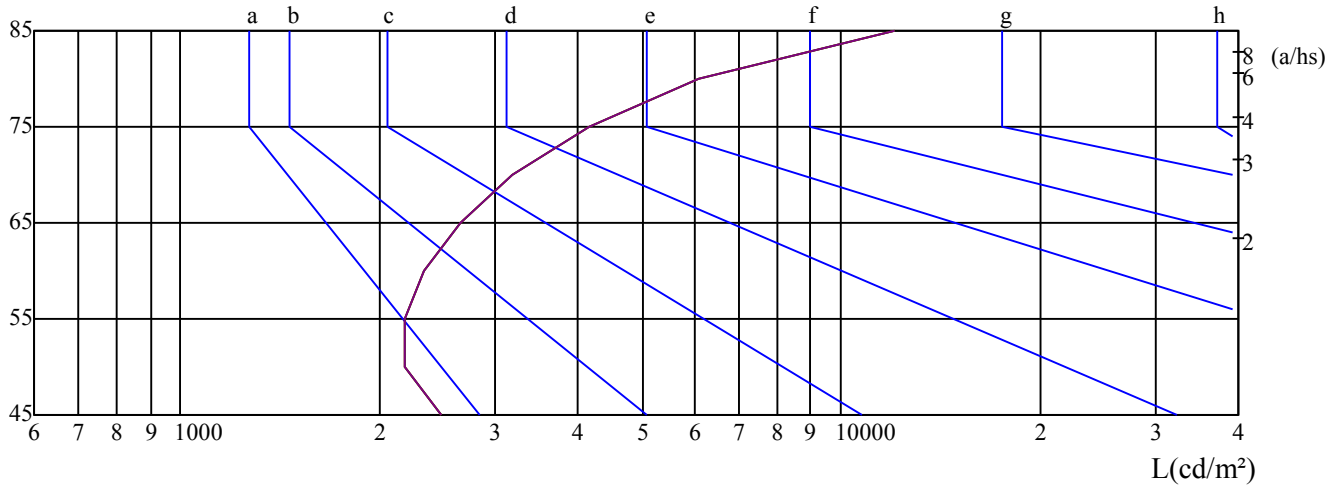
γ	45	50	55	60	65	70	75	80	85
C0	2481	2186	2188	2330	2647	3189	4144	6099	12060
C45	2481	2186	2188	2330	2647	3189	4144	6099	12060
C90	2481	2186	2188	2330	2647	3189	4144	6099	12060

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2647	2647	2647	4144	4144	4144	12060	12060	12060

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

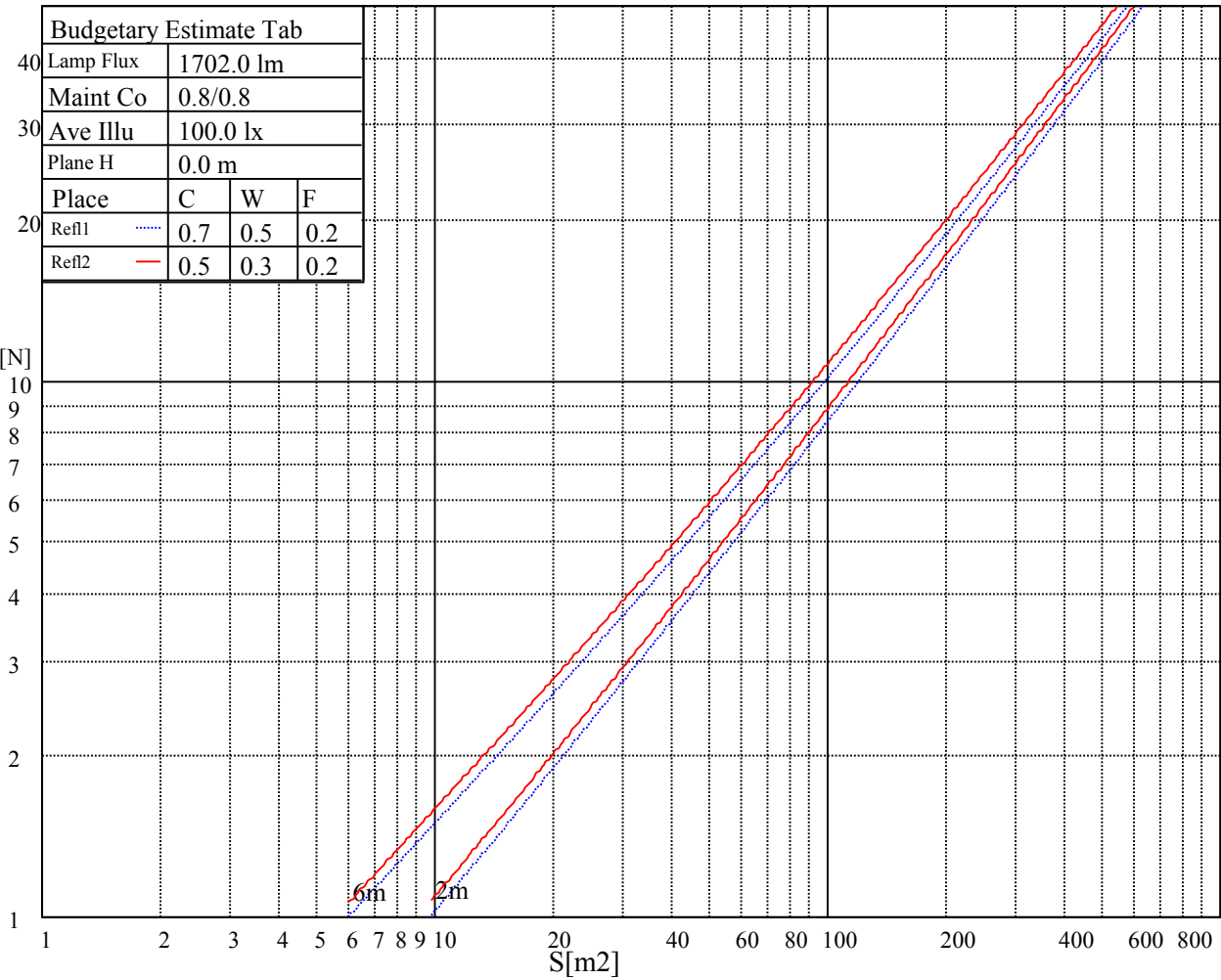
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

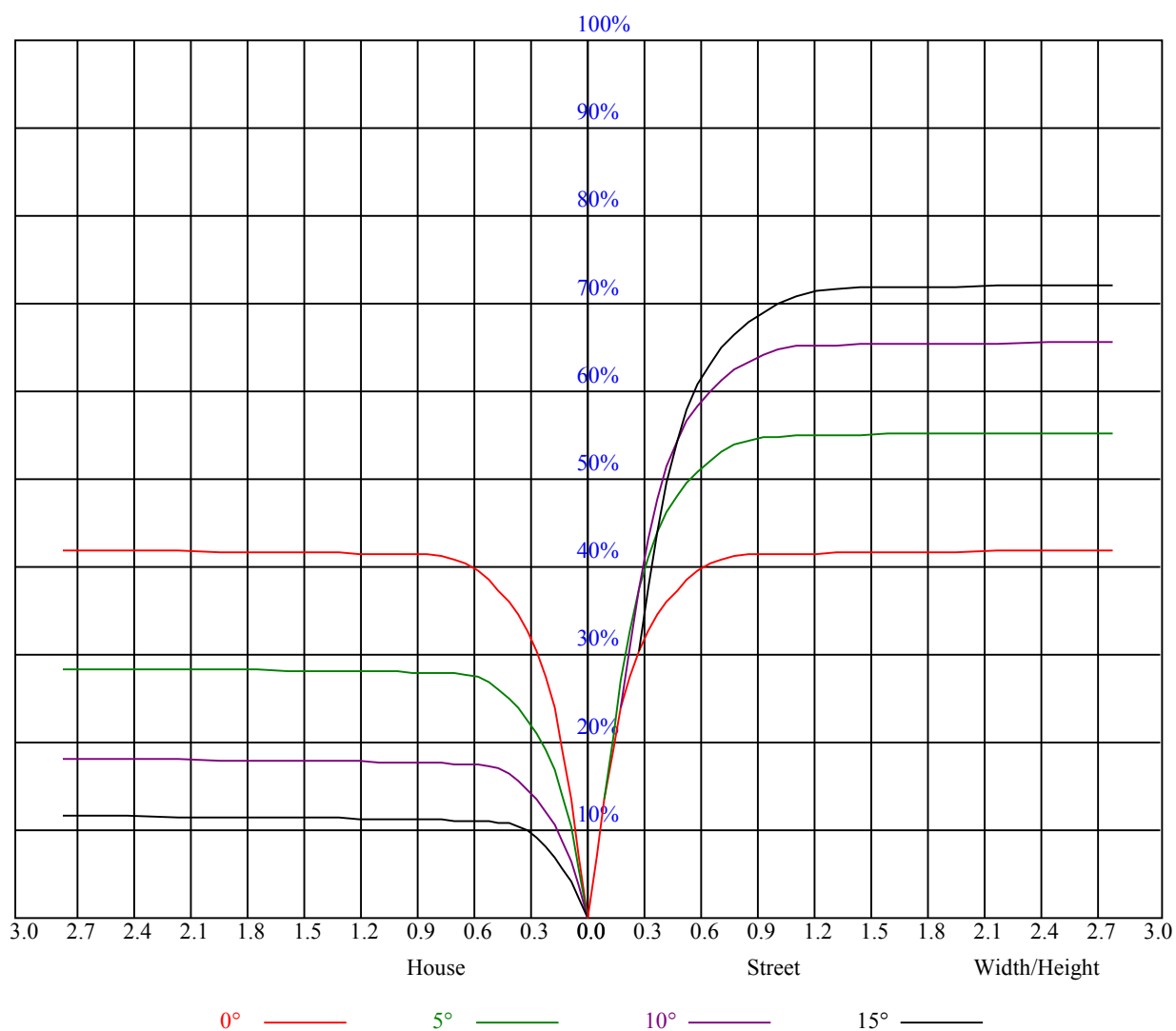
C0 ———

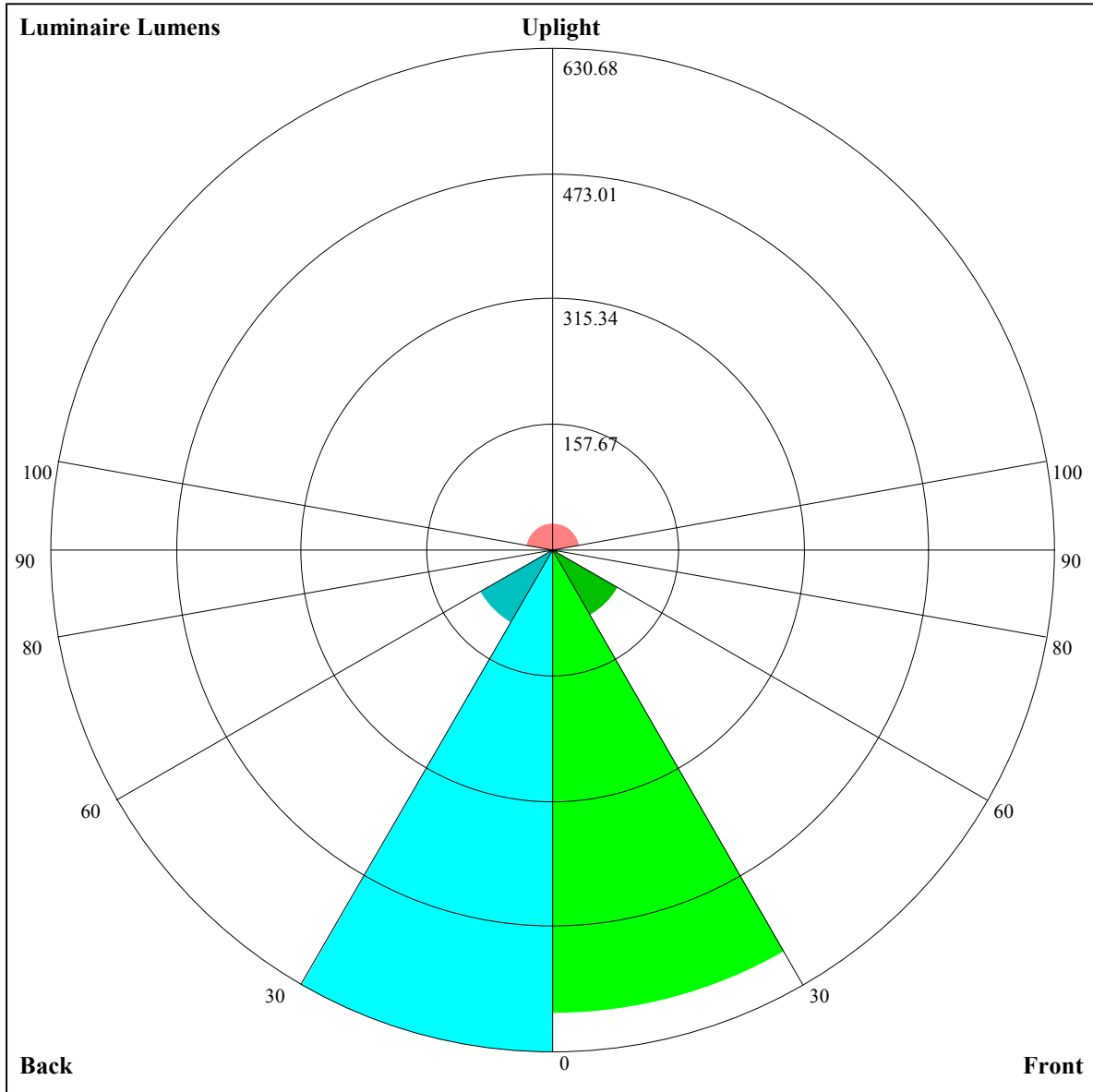
C45 ———

C90 ———



RHOC	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	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.84
1	0.94	0.93	0.91	0.93	0.91	0.89	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.82	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	0.80	0.80	0.79	0.78	0.77
3	0.85	0.81	0.79	0.84	0.80	0.78	0.82	0.79	0.77	0.80	0.77	0.76	0.78	0.76	0.74	0.73
4	0.81	0.77	0.74	0.80	0.76	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.75	0.73	0.71	0.70
5	0.77	0.73	0.70	0.77	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.73	0.70	0.68	0.67
6	0.74	0.70	0.67	0.74	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.70	0.68	0.66	0.65
7	0.71	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.62
8	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.60
9	0.66	0.62	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.58
10	0.64	0.60	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.63	0.60	0.57	0.62	0.59	0.57	0.56





Luminaire Lumens:

FL=583.61,FM=94,FH=7.01,FVH=3.57

BL=630.68,BM=106.95,BH=7.03,BVH=3.58

UL=7.09,UH=33.73

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	6806.25	6621.19	6343.88	6044.63	5668.31	5244.19	4852.13	4387.50	3973.50
45.0	6841.13	6756.19	6496.31	6217.31	5899.50	5508.00	5083.88	4672.13	4257.00
90.0	6809.06	6708.38	6460.31	6183.56	5868.00	5475.38	5046.19	4644.56	4176.56
135.0	6751.69	6814.69	6728.06	6527.81	6234.19	5883.19	5587.31	5153.63	4709.81
180.0	6806.25	6838.31	6738.75	6493.50	6228.00	5875.31	5529.38	5102.44	4701.38
225.0	6841.13	6806.81	6597.56	6349.50	6047.44	5671.13	5262.19	4885.31	4438.13
270.0	6809.06	6774.75	6576.19	6325.88	6018.19	5640.19	5229.56	4839.19	4392.56
315.0	6751.69	6576.19	6318.00	5947.88	5604.75	5230.69	4780.69	4324.50	3917.25
360.0	6806.25	6621.19	6343.88	6044.63	5668.31	5244.19	4852.13	4387.50	3973.50
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3514.50	3065.63	2689.88	2293.88	1946.81	1677.38	1450.13	1216.69	1065.94
45.0	3738.94	3332.25	2880.56	2489.06	2123.44	1793.25	1544.63	1344.38	1136.81
90.0	3759.19	3298.50	2860.88	2498.06	2133.00	1810.13	1566.56	1360.69	1112.96
135.0	4256.44	3852.56	3389.06	2929.50	2574.00	2194.88	1893.38	1588.50	1383.75
180.0	4234.50	3763.13	3349.13	2903.63	2539.13	2162.81	1833.19	1589.06	1378.13
225.0	4026.38	3565.69	3114.56	2729.81	2329.31	1976.63	1707.75	1472.63	1119.21
270.0	3935.25	3535.31	3092.06	2714.06	2320.31	1970.44	1701.56	1473.19	1242.00
315.0	3457.69	3018.38	2642.63	2260.13	1956.38	1662.19	1419.75	1107.45	1073.59
360.0	3514.50	3065.63	2689.88	2293.88	1946.81	1677.38	1450.13	1216.69	1065.94
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	951.75	849.94	771.19	712.13	663.19	613.69	582.75	555.75	537.19
45.0	1003.50	896.63	802.69	735.19	679.50	632.25	584.44	561.94	541.13
90.0	1013.40	907.20	825.69	741.38	685.74	639.45	593.27	566.78	544.33
135.0	1212.19	1083.94	923.06	839.81	780.19	700.88	646.31	612.00	572.63
180.0	1106.33	1026.06	916.20	809.89	745.26	689.29	636.08	592.88	563.18
225.0	1084.50	963.34	844.93	772.31	712.18	651.43	610.93	579.60	551.87
270.0	1099.13	981.00	863.44	789.75	731.25	672.75	626.06	590.63	558.00
315.0	947.08	857.31	786.38	716.40	667.35	625.67	587.19	554.29	534.09
360.0	951.75	849.94	771.19	712.13	663.19	613.69	582.75	555.75	537.19
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	523.13	513.00	502.88	494.44	483.19	451.13	401.63	327.94	289.69
45.0	524.25	513.56	504.00	494.44	484.31	469.13	422.44	369.56	302.63
90.0	528.47	515.19	504.11	492.41	484.71	465.81	419.01	367.43	301.05
135.0	546.75	533.81	518.06	507.38	495.00	485.44	464.63	429.75	359.44
180.0	541.74	524.76	511.82	502.99	491.96	483.47	470.36	430.93	384.41
225.0	534.32	520.37	510.08	500.40	492.86	480.26	453.99	410.34	333.51
270.0	537.75	522.56	511.31	502.88	494.44	483.19	451.69	407.81	338.06
315.0	519.98	508.61	497.25	487.35	477.90	436.56	378.73	319.84	257.68
360.0	523.13	513.00	502.88	494.44	483.19	451.13	401.63	327.94	289.69
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	200.19	140.18	76.28	39.21	19.86	16.71	14.63	12.60	11.08
45.0	286.88	173.03	117.68	59.46	28.12	17.33	15.02	13.33	11.59
90.0	236.14	177.13	120.60	62.78	27.84	18.06	16.26	13.84	12.09
135.0	303.19	290.81	168.30	113.34	63.96	25.20	17.66	15.86	13.50
180.0	314.61	255.04	193.56	133.71	66.99	30.15	18.34	16.37	14.29
225.0	282.43	222.24	146.31	90.51	45.68	19.13	17.38	15.19	12.71
270.0	286.31	215.16	146.08	86.01	43.59	19.58	17.61	15.24	12.77
315.0	181.07	125.10	76.39	30.60	18.68	16.82	14.34	12.04	10.97
360.0	200.19	140.18	76.28	39.21	19.86	16.71	14.63	12.60	11.08

Intensity data(cd)										Appendix Page: 18 Total:19	
C/ γ (°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0		
0.0	9.84	9.56	9.23	9.00	8.72	8.49	8.33	8.21	7.99		
45.0	10.46	9.45	9.17	8.89	8.72	8.55	8.33	8.21	8.04		
90.0	10.41	9.79	9.51	9.28	9.06	8.83	8.61	8.44	8.33		
135.0	11.81	10.46	9.79	9.51	9.28	9.00	8.78	8.66	8.38		
180.0	12.32	11.03	10.01	9.73	9.39	9.17	8.94	8.72	8.55		
225.0	11.36	10.07	9.68	9.39	9.11	8.78	8.61	8.44	8.27		
270.0	11.42	9.84	9.56	9.28	9.00	8.66	8.49	8.27	8.10		
315.0	9.96	9.68	9.34	9.11	8.89	8.66	8.49	8.33	8.10		
360.0	9.84	9.56	9.23	9.00	8.72	8.49	8.33	8.21	7.99		
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0		
0.0	7.82	7.71	7.54	7.43	7.43	7.31	7.26	7.20	7.20		
45.0	7.82	7.65	7.54	7.43	7.37	7.26	7.26	7.14	7.14		
90.0	8.04	7.88	7.71	7.48	7.37	7.31	7.26	7.20	7.14		
135.0	8.21	8.04	7.82	7.71	7.59	7.48	7.37	7.31	7.20		
180.0	8.33	8.10	7.88	7.71	7.59	7.48	7.37	7.31	7.20		
225.0	8.04	7.88	7.71	7.54	7.43	7.31	7.26	7.14	7.09		
270.0	7.93	7.76	7.59	7.48	7.43	7.31	7.26	7.20	7.09		
315.0	7.82	7.65	7.54	7.43	7.31	7.26	7.14	7.09	7.03		
360.0	7.82	7.71	7.54	7.43	7.43	7.31	7.26	7.20	7.20		
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0		
0.0	7.09	7.03	6.98	6.92	6.92	6.86	6.86	6.81	6.81		
45.0	7.09	7.03	6.98	6.92	6.92	6.86	6.86	6.81	6.81		
90.0	7.09	7.03	6.98	6.98	6.92	6.86	6.86	6.81	6.81		
135.0	7.14	7.14	7.09	7.03	6.98	6.92	6.86	6.86	6.86		
180.0	7.14	7.09	7.03	6.98	6.92	6.92	6.86	6.86	6.81		
225.0	7.09	6.98	6.92	6.86	6.86	6.81	6.75	6.75	6.75		
270.0	7.09	7.03	6.98	6.92	6.86	6.86	6.81	6.81	6.81		
315.0	6.98	6.98	6.92	6.86	6.86	6.81	6.81	6.75	6.75		
360.0	7.09	7.03	6.98	6.92	6.92	6.86	6.86	6.81	6.81		
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0		
0.0	6.81	6.75	6.75	6.75	6.69	6.69	6.69	6.64	6.64		
45.0	6.75	6.75	6.69	6.69	6.69	6.69	6.64	6.64	6.58		
90.0	6.81	6.75	6.75	6.69	6.69	6.64	6.64	6.64	6.64		
135.0	6.81	6.81	6.75	6.75	6.69	6.69	6.69	6.64	6.64		
180.0	6.81	6.75	6.69	6.69	6.69	6.69	6.69	6.64	6.64		
225.0	6.69	6.69	6.64	6.64	6.64	6.58	6.58	6.58	6.58		
270.0	6.75	6.69	6.69	6.69	6.64	6.64	6.64	6.58	6.58		
315.0	6.69	6.69	6.69	6.64	6.64	6.64	6.58	6.58	6.58		
360.0	6.81	6.75	6.75	6.75	6.69	6.69	6.69	6.64	6.64		
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0		
0.0	6.64	6.58	6.58	6.58	6.58	6.53	6.53	6.47	6.53		
45.0	6.58	6.58	6.53	6.53	6.58	6.58	6.53	6.53	6.47		
90.0	6.58	6.58	6.58	6.58	6.53	6.58	6.53	6.53	6.53		
135.0	6.58	6.58	6.58	6.64	6.58	6.58	6.58	6.58	6.53		
180.0	6.64	6.64	6.64	6.58	6.58	6.53	6.53	6.53	6.47		
225.0	6.58	6.53	6.53	6.53	6.53	6.53	6.53	6.53	6.47		
270.0	6.64	6.58	6.58	6.53	6.58	6.53	6.53	6.53	6.53		
315.0	6.58	6.53	6.58	6.58	6.53	6.53	6.53	6.53	6.47		
360.0	6.64	6.58	6.58	6.58	6.58	6.53	6.53	6.47	6.53		

Intensity data(cd)

Appendix Page: 19 Total:19

C/ $\gamma(^{\circ})$	90.0
0.0	6.53
45.0	6.47
90.0	6.53
135.0	6.47
180.0	6.47
225.0	6.47
270.0	6.53
315.0	6.53
360.0	6.53