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Nata

Client:

LumCAT: 3-2044-M

Luminaire: 92.70.131.00

Report No:

Voltage(V): 33.9400

Test No: GC20190824010

Current(A): 0.4470

LampCAT: TRIDONIC SLE 15MM G7

Power (W): 15.1700

Lamp flux(lm): 2050.0

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): 1765.10, Efficiency(%): 86.10% , Luminous Efficacy(lm/W): 116.35

Central intensity(cd): 5957.297, Maximum intensity(cd): 5957.297

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=26.8

[C90/270]Total=26.8

Field angle(10%Imax): [C0/180]Total=61.4

[C90/270]Total=61.4

Maximum s/h(1/2): C0_180=0.45 C90_270=0.45

Maximum s/h(1/4): C0_180=0.44 C90_270=0.44

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 86.10%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.510%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5957.297	0.000	0	.000%	.000%
1.0	5951.742	5.698	5.698	.278%	.323%
2.0	5923.617	17.045	22.743	.831%	1.288%
3.0	5868.914	28.204	50.947	1.376%	2.886%
4.0	5764.992	38.942	89.889	1.900%	5.093%
5.0	5619.164	48.974	138.863	2.389%	7.867%
6.0	5426.719	58.049	196.912	2.832%	11.156%
7.0	5187.445	65.882	262.794	3.214%	14.888%
8.0	4913.578	72.291	335.085	3.526%	18.984%
9.0	4589.367	77.016	412.101	3.757%	23.347%
10.0	4241.180	79.913	492.015	3.898%	27.875%
11.0	3888.492	81.232	573.247	3.963%	32.477%
12.0	3521.672	81.004	654.251	3.951%	37.066%
13.0	3127.852	78.913	733.164	3.849%	41.537%
14.0	2759.836	75.362	808.526	3.676%	45.806%
15.0	2409.750	70.970	879.496	3.462%	49.827%
16.0	2089.336	65.924	945.42	3.216%	53.562%
17.0	1797.047	60.521	1005.941	2.952%	56.990%
18.0	1527.764	54.819	1060.76	2.674%	60.096%
19.0	1323.084	49.599	1110.359	2.419%	62.906%
20.0	1143.225	45.140	1155.5	2.202%	65.464%
21.0	995.780	41.073	1196.573	2.004%	67.790%
22.0	892.680	37.949	1234.522	1.851%	69.940%
23.0	808.622	35.698	1270.22	1.741%	71.963%
24.0	746.128	33.992	1304.213	1.658%	73.889%
25.0	703.948	32.972	1337.184	1.608%	75.757%
26.0	676.027	32.574	1369.759	1.589%	77.602%
27.0	653.780	32.534	1402.293	1.587%	79.445%
28.0	637.235	32.686	1434.978	1.594%	81.297%
29.0	623.798	32.992	1467.971	1.609%	83.166%
30.0	610.559	33.327	1501.298	1.626%	85.054%
31.0	588.621	33.371	1534.669	1.628%	86.945%
32.0	555.405	32.775	1567.444	1.599%	88.802%
33.0	505.505	31.255	1598.699	1.525%	90.573%
34.0	443.721	28.726	1627.426	1.401%	92.200%
35.0	375.391	25.439	1652.864	1.241%	93.641%
36.0	298.427	21.455	1674.319	1.047%	94.857%
37.0	228.635	17.190	1691.509	.839%	95.831%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	155.285	12.815	1704.323	.625%	96.557%
39.0	93.220	8.482	1712.805	.414%	97.037%
40.0	53.592	5.120	1717.926	.250%	97.327%
41.0	31.134	3.017	1720.943	.147%	97.498%
42.0	18.654	1.809	1722.752	.088%	97.601%
43.0	15.272	1.257	1724.008	.061%	97.672%
44.0	13.170	1.073	1725.082	.052%	97.733%
45.0	11.848	0.961	1726.043	.047%	97.787%
46.0	11.032	0.895	1726.938	.044%	97.838%
47.0	10.709	0.865	1727.803	.042%	97.887%
48.0	10.491	0.857	1728.66	.042%	97.935%
49.0	10.259	0.852	1729.512	.042%	97.984%
50.0	10.076	0.848	1730.36	.041%	98.032%
51.0	9.921	0.846	1731.206	.041%	98.080%
52.0	9.773	0.845	1732.051	.041%	98.127%
53.0	9.626	0.844	1732.895	.041%	98.175%
54.0	9.499	0.843	1733.738	.041%	98.223%
55.0	9.380	0.843	1734.58	.041%	98.271%
56.0	9.274	0.843	1735.423	.041%	98.318%
57.0	9.176	0.844	1736.267	.041%	98.366%
58.0	9.098	0.845	1737.112	.041%	98.414%
59.0	9.014	0.847	1737.959	.041%	98.462%
60.0	8.951	0.849	1738.807	.041%	98.510%
61.0	8.866	0.850	1739.658	.041%	98.558%
62.0	8.810	0.852	1740.509	.042%	98.607%
63.0	8.747	0.854	1741.363	.042%	98.655%
64.0	8.698	0.856	1742.219	.042%	98.703%
65.0	8.670	0.859	1743.079	.042%	98.752%
66.0	8.627	0.863	1743.942	.042%	98.801%
67.0	8.585	0.865	1744.807	.042%	98.850%
68.0	8.529	0.867	1745.674	.042%	98.899%
69.0	8.494	0.868	1746.543	.042%	98.948%
70.0	8.466	0.871	1747.414	.042%	98.998%
71.0	8.430	0.873	1748.287	.043%	99.047%
72.0	8.402	0.875	1749.162	.043%	99.097%
73.0	8.367	0.877	1750.039	.043%	99.146%
74.0	8.346	0.879	1750.918	.043%	99.196%
75.0	8.311	0.880	1751.798	.043%	99.246%

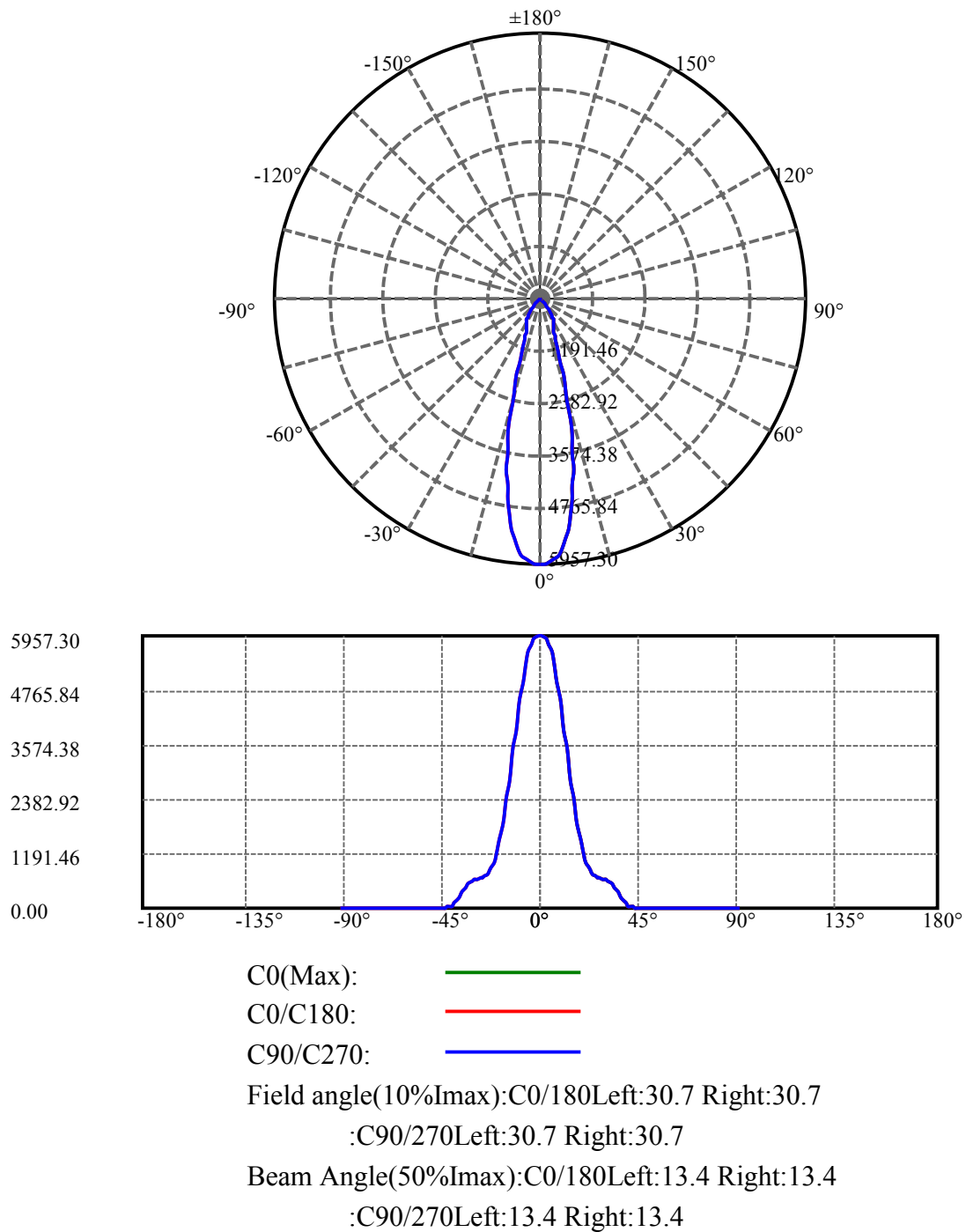
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.276	0.880	1752.678	.043%	99.296%
77.0	8.276	0.882	1753.561	.043%	99.346%
78.0	8.255	0.885	1754.446	.043%	99.396%
79.0	8.234	0.886	1755.332	.043%	99.446%
80.0	8.227	0.887	1756.219	.043%	99.497%
81.0	8.191	0.888	1757.107	.043%	99.547%
82.0	8.191	0.888	1757.995	.043%	99.597%
83.0	8.184	0.890	1758.885	.043%	99.648%
84.0	8.149	0.890	1759.775	.043%	99.698%
85.0	8.142	0.889	1760.664	.043%	99.748%
86.0	8.135	0.890	1761.554	.043%	99.799%
87.0	8.114	0.889	1762.444	.043%	99.849%
88.0	8.100	0.888	1763.332	.043%	99.900%
89.0	8.079	0.887	1764.218	.043%	99.950%
90.0	8.079	0.886	1765.104	.043%	100.000%

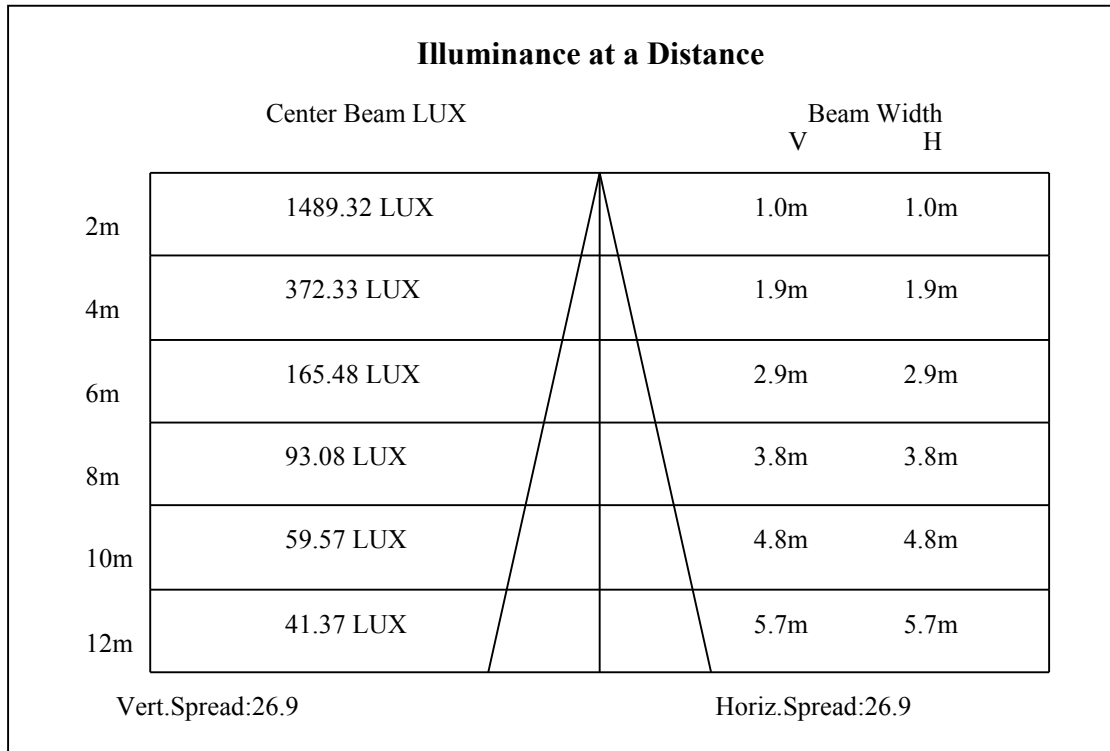
ZONAL LUMEN SUMMARY

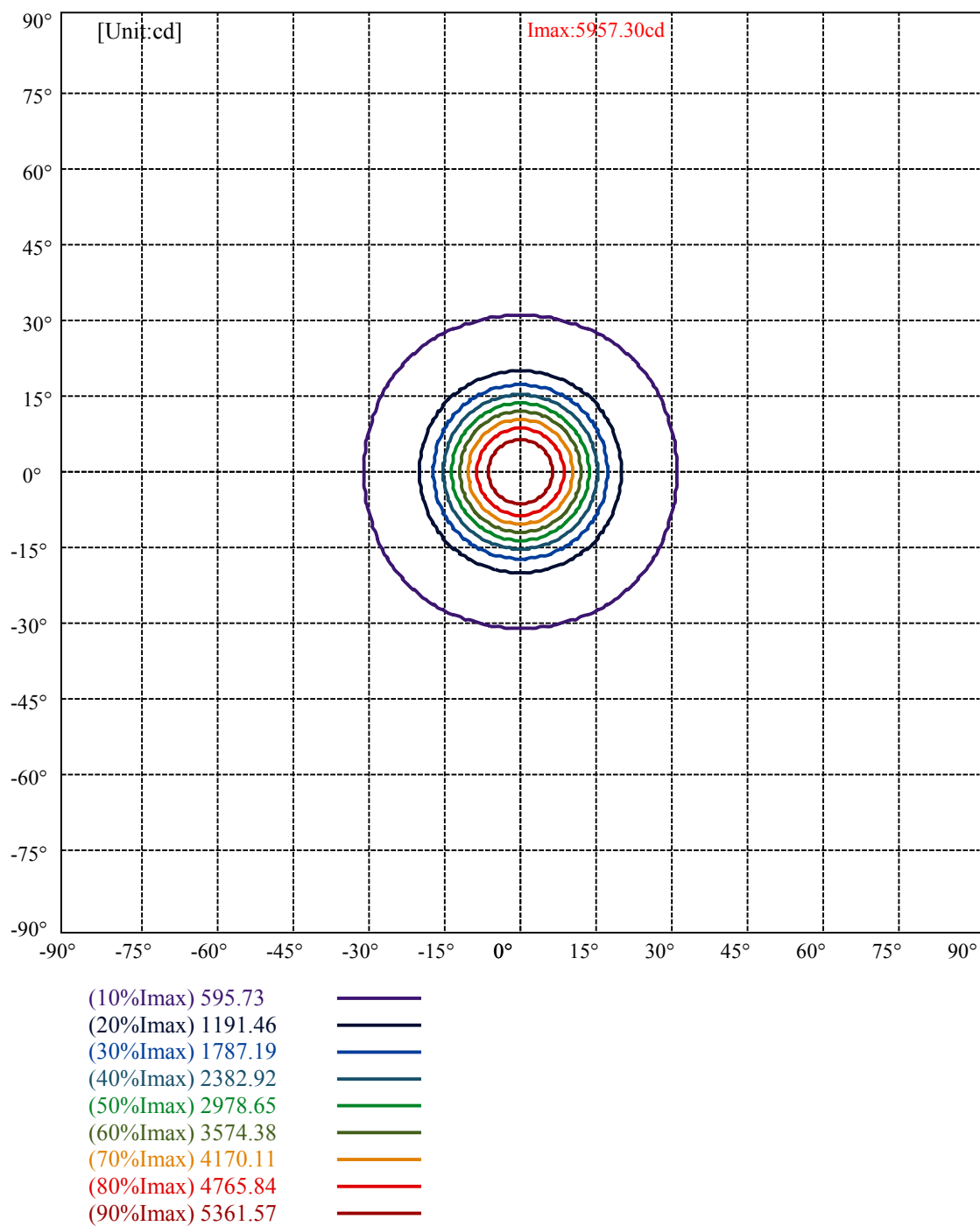
Zone	Lumens	%Lamp	%Fixt
0-30	1501.30	73.23%	85.05%
0-40	1717.93	83.80%	97.33%
0-60	1738.81	84.82%	98.51%
0-90	1764.22	86.06%	99.95%
0-120	1764.22	86.06%	99.95%
0-180	1765.10	86.10%	100.00%
60-90	26.26	1.28%	1.49%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.30	1412.08	68.88%	80.00%

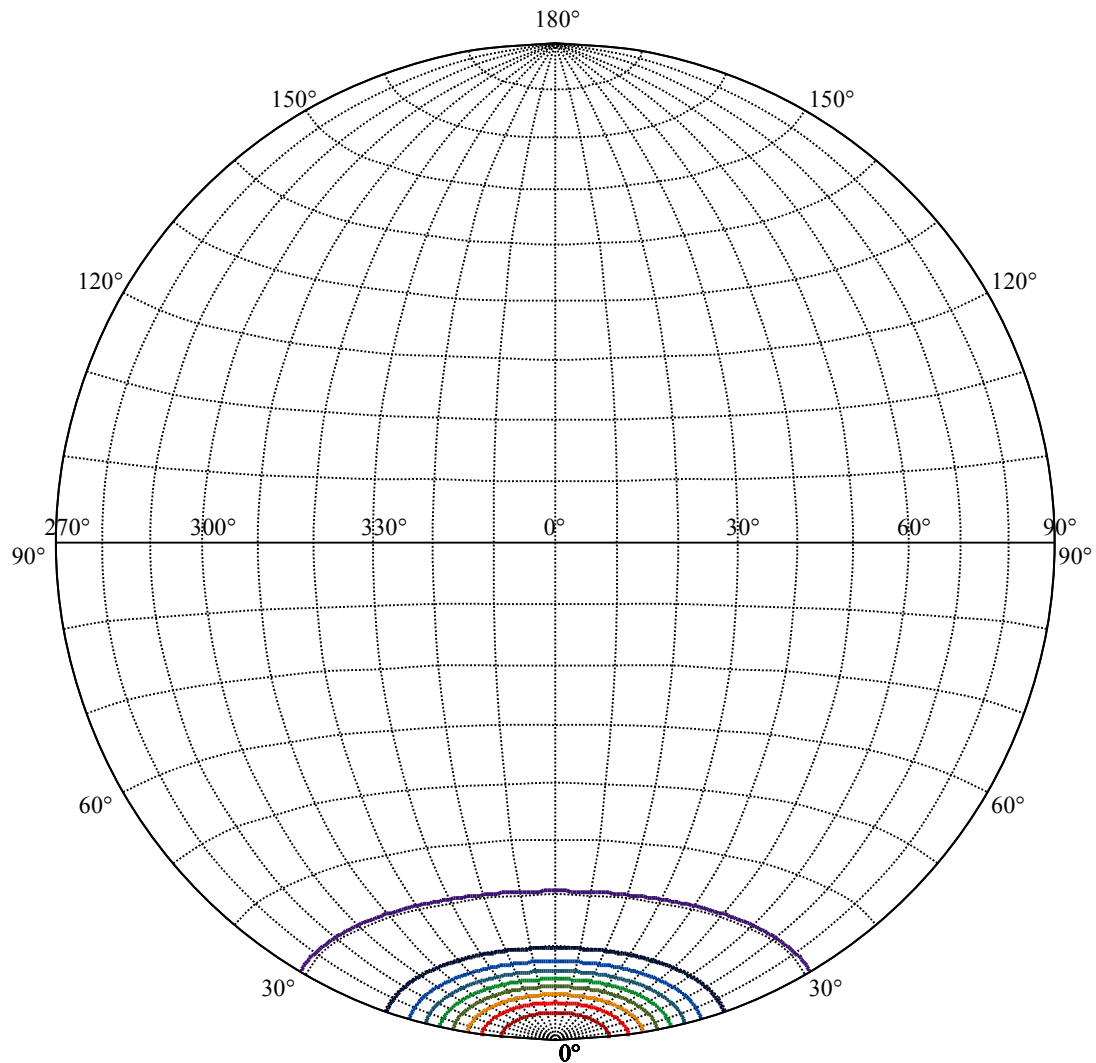
ZONAL LUMEN SUMMARY

0-10	492.01
10-20	663.48
20-30	345.80
30-40	216.63
40-50	12.43
50-60	8.45
60-70	8.61
70-80	8.81
80-90	8.00
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









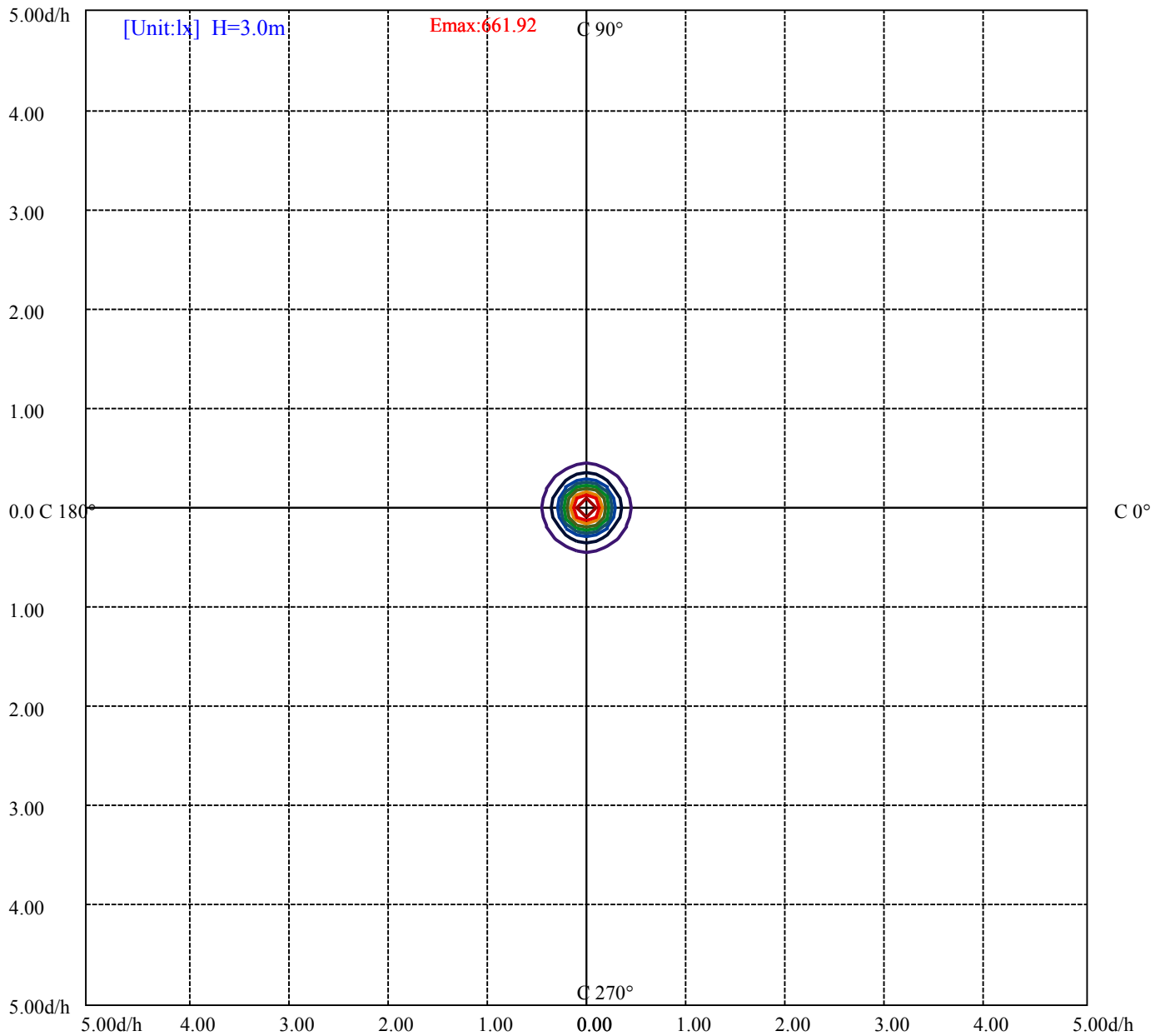
House

[Unit:cd]

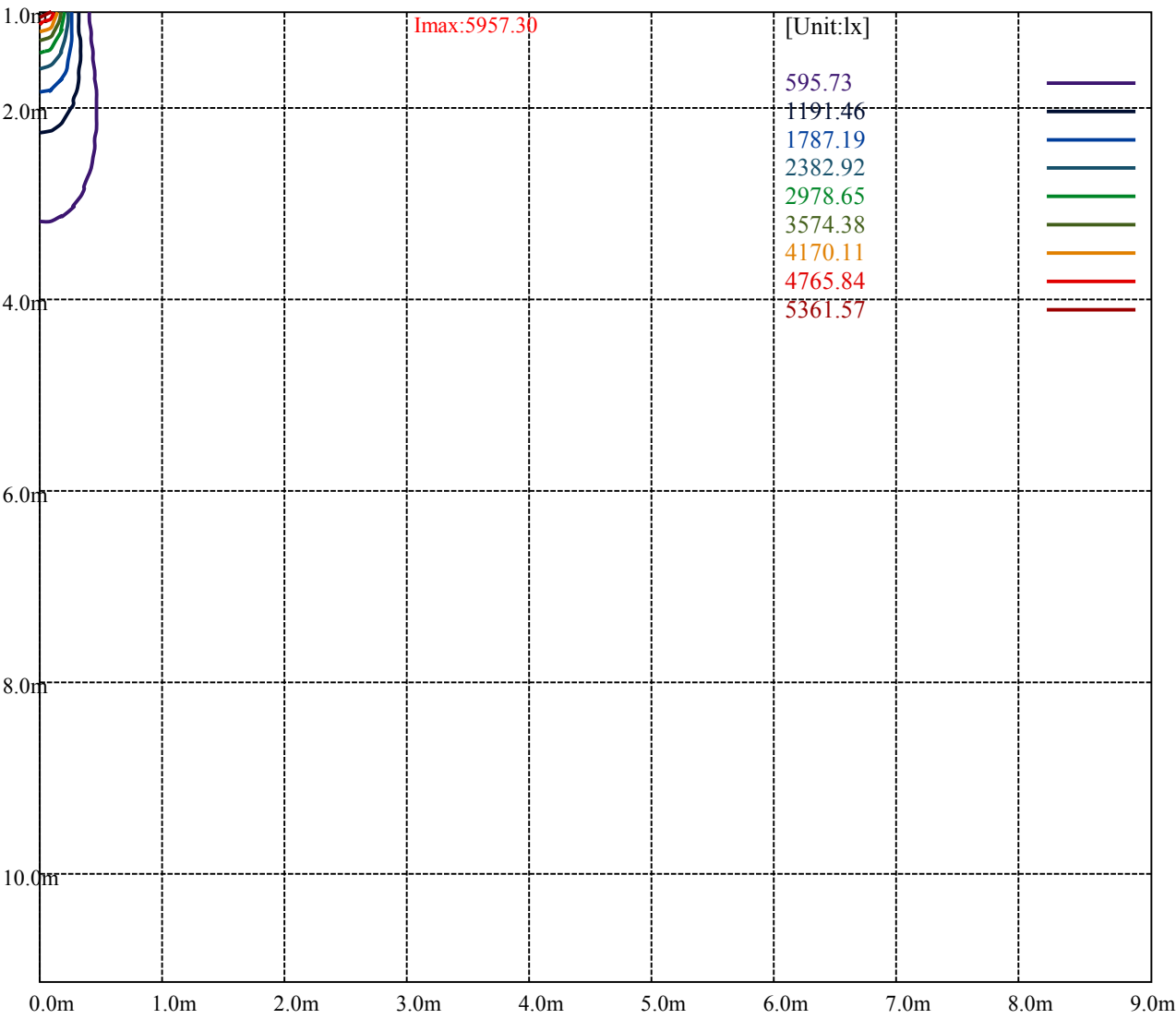
Road

Imax:5957.30

(10%Imax)	595.73	—
(20%Imax)	1191.46	—
(30%Imax)	1787.19	—
(40%Imax)	2382.92	—
(50%Imax)	2978.65	—
(60%Imax)	3574.38	—
(70%Imax)	4170.11	—
(80%Imax)	4765.84	—
(90%Imax)	5361.57	—



(10%Emax)	66.19222	—
(20%Emax)	132.3844	—
(30%Emax)	198.5767	—
(40%Emax)	264.7689	—
(50%Emax)	330.9611	—
(60%Emax)	397.1533	—
(70%Emax)	463.3456	—
(80%Emax)	529.5378	—
(90%Emax)	595.73	—



Luminance Table

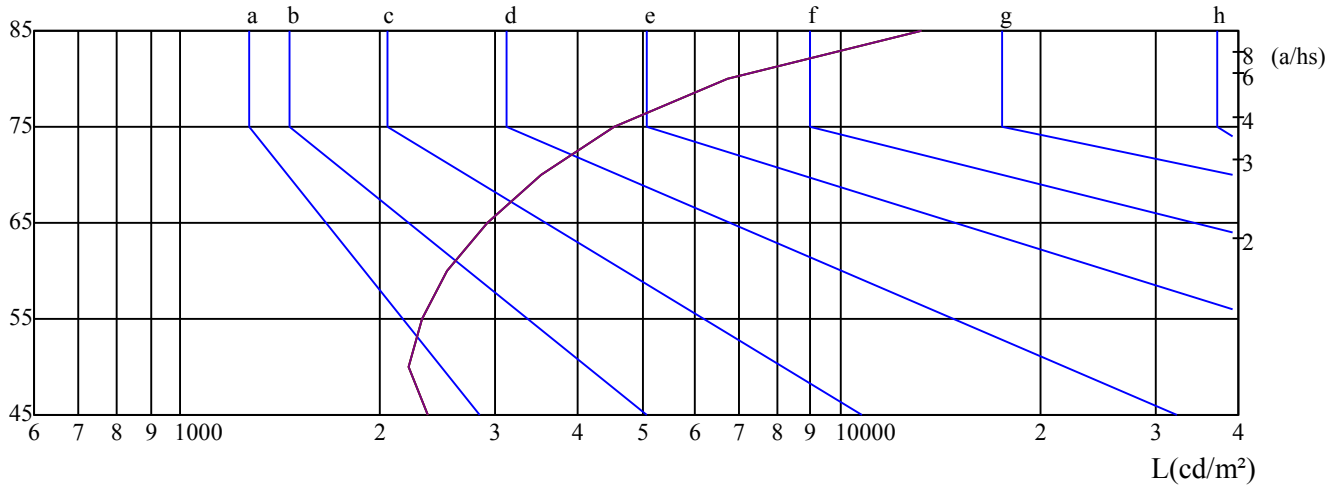
γ	45	50	55	60	65	70	75	80	85
C0	2375	2222	2318	2537	2907	3508	4551	6714	13240
C45	2375	2222	2318	2537	2907	3508	4551	6714	13240
C90	2375	2222	2318	2537	2907	3508	4551	6714	13240

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2907	2907	2907	4551	4551	4551	13240	13240	13240

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

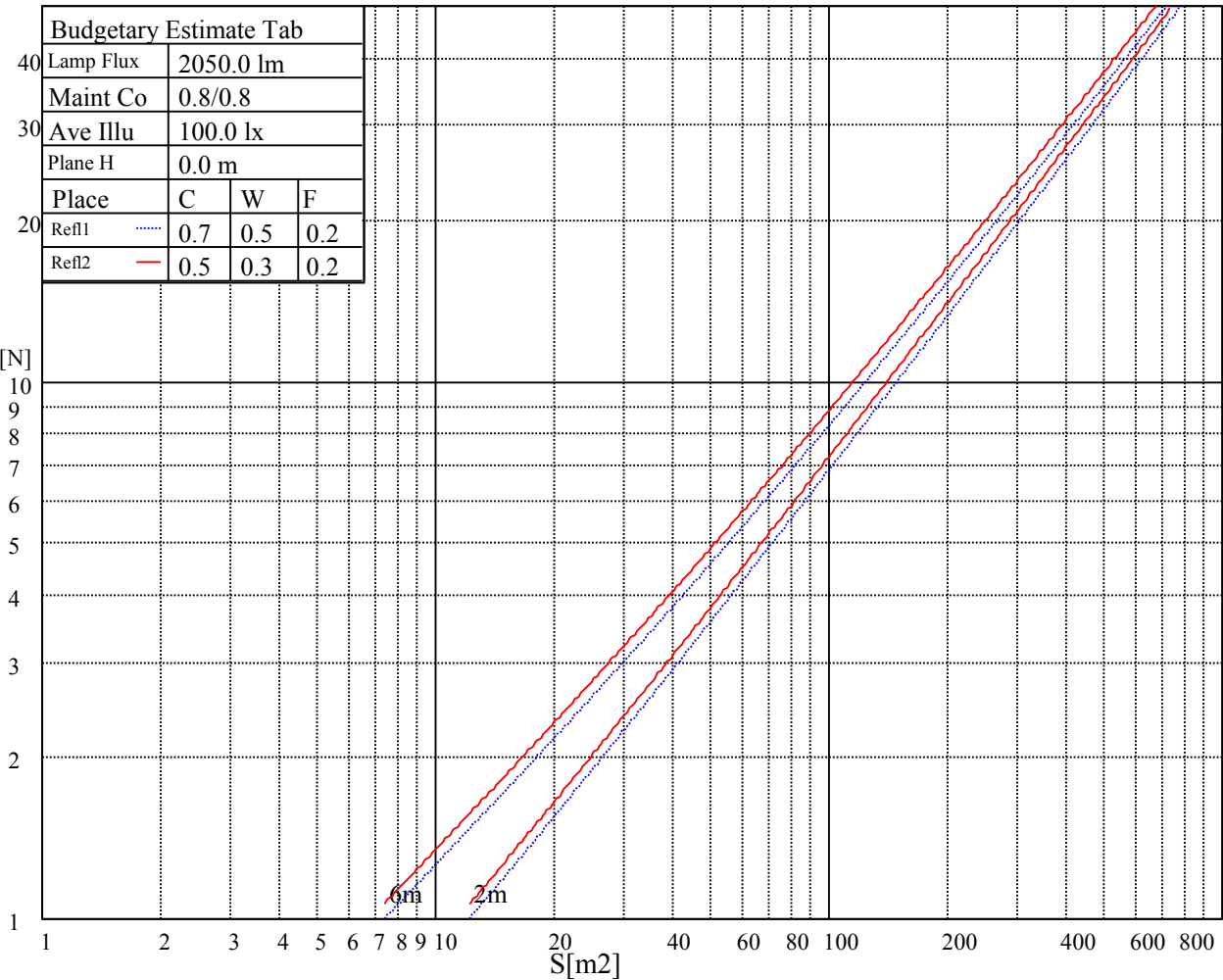
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

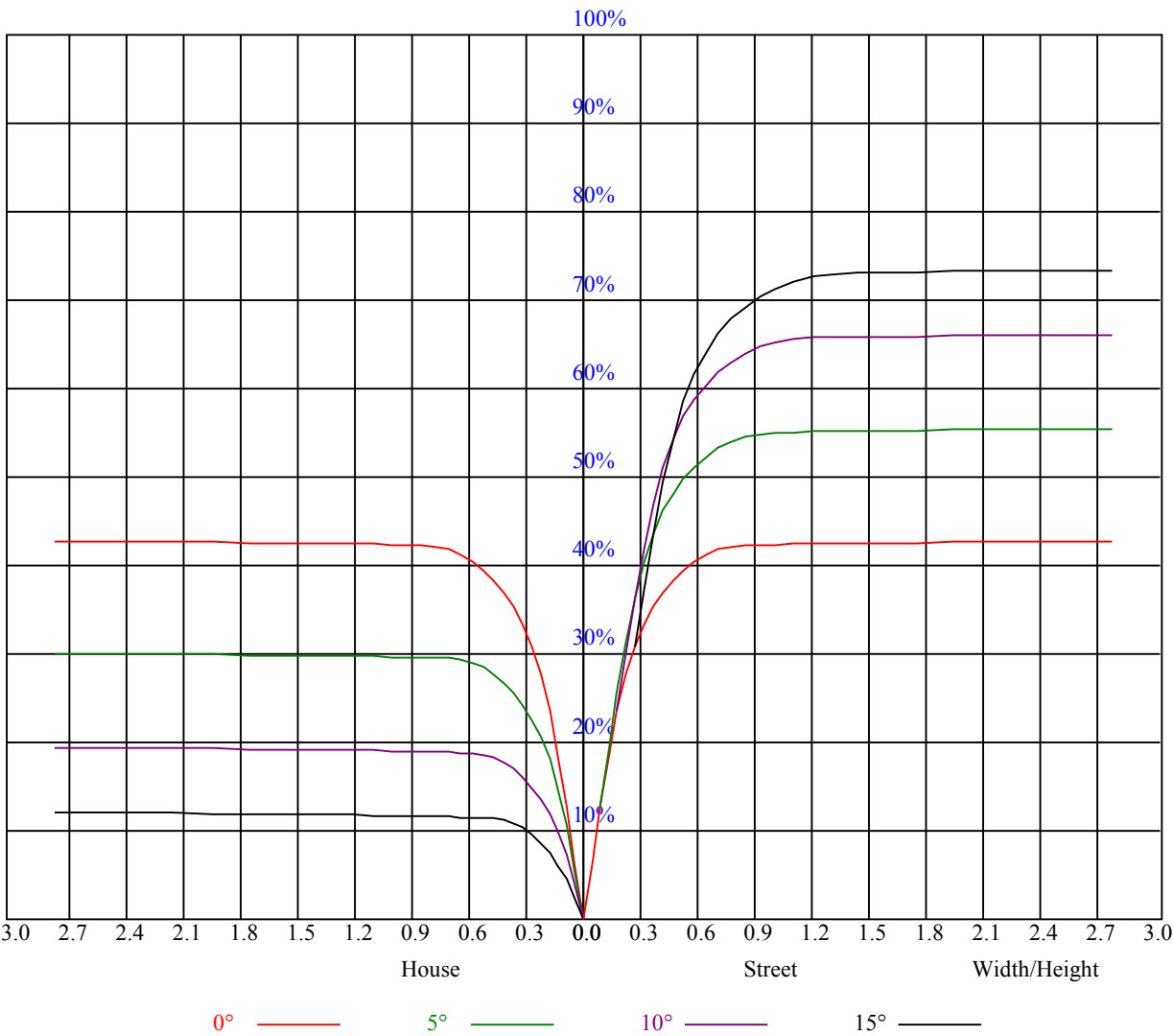
C0 ———

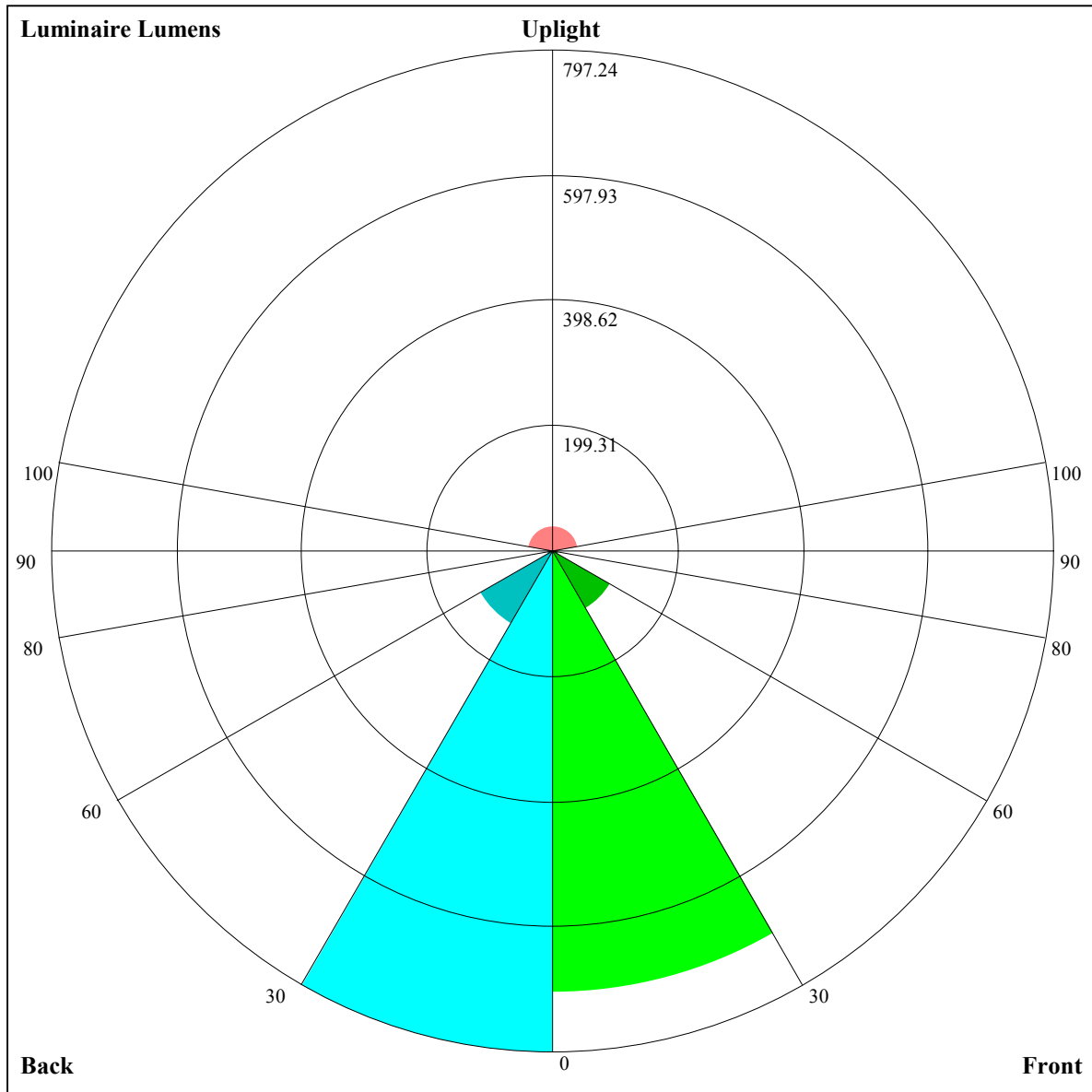
C45 ———

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	1.03	1.03	1.03	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.86
1	0.96	0.94	0.93	0.94	0.93	0.91	0.91	0.90	0.88	0.88	0.87	0.86	0.85	0.84	0.83	0.82
2	0.91	0.88	0.85	0.89	0.87	0.85	0.87	0.85	0.83	0.84	0.82	0.81	0.82	0.81	0.79	0.78
3	0.86	0.83	0.80	0.85	0.82	0.79	0.83	0.80	0.78	0.81	0.79	0.77	0.79	0.77	0.76	0.74
4	0.82	0.78	0.75	0.81	0.78	0.75	0.79	0.76	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.71
5	0.78	0.74	0.71	0.78	0.74	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.68
6	0.75	0.71	0.68	0.75	0.71	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.69	0.67	0.66
7	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.63
8	0.69	0.65	0.62	0.69	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.67	0.64	0.62	0.61
9	0.67	0.63	0.60	0.66	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.64	0.62	0.59	0.58
10	0.64	0.61	0.58	0.64	0.60	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.62	0.59	0.57	0.56





Luminaire Lumens:

FL=704.16,FM=105.3,FH=8.7,FVH=4.45

BL=797.24,BM=133.02,BH=8.74,BVH=4.45

UL=8.81,UH=41.95

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	5950.69	5920.31	5851.13	5743.13	5566.50	5333.06	5083.88	4788.56	4404.94
45.0	5962.50	5956.31	5934.94	5871.94	5753.25	5559.75	5355.56	5100.75	4772.25
90.0	5973.75	5977.69	5968.69	5917.50	5818.50	5691.94	5492.81	5233.50	4966.88
135.0	5942.25	5983.31	5992.31	5996.25	5961.94	5898.38	5776.31	5598.56	5391.56
180.0	5950.69	5976.56	5981.63	5979.38	5936.63	5876.44	5754.94	5584.50	5387.63
225.0	5962.50	5954.63	5938.88	5905.13	5832.00	5727.94	5557.50	5339.25	5107.50
270.0	5973.75	5945.63	5904.56	5849.44	5735.81	5565.38	5388.75	5142.94	4883.06
315.0	5942.25	5899.50	5816.81	5688.56	5515.31	5300.44	5004.00	4711.50	4394.81
360.0	5950.69	5920.31	5851.13	5743.13	5566.50	5333.06	5083.88	4788.56	4404.94
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4078.69	3729.38	3280.50	2921.63	2567.81	2202.19	1881.00	1632.94	1397.25
45.0	4419.56	4088.25	3692.25	3318.19	2916.00	2519.44	2184.19	1913.06	1600.31
90.0	4615.88	4247.44	3902.06	3501.56	3139.31	2739.38	2356.88	2048.06	1769.06
135.0	5114.25	4780.69	4460.06	4109.63	3684.94	3318.75	2947.50	2548.13	2178.00
180.0	5108.06	4778.44	4470.19	4136.63	3709.13	3346.88	2989.13	2593.69	2224.69
225.0	4797.56	4458.38	4137.19	3754.13	3401.44	3003.75	2607.75	2280.94	1990.13
270.0	4555.13	4204.13	3880.13	3544.88	3106.69	2759.06	2423.81	2050.88	1794.94
315.0	4025.81	3642.75	3285.56	2886.75	2497.50	2189.25	1887.75	1647.00	1422.00
360.0	4078.69	3729.38	3280.50	2921.63	2567.81	2202.19	1881.00	1632.94	1397.25
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1224.00	1065.38	937.69	848.25	776.81	729.00	699.19	675.56	651.94
45.0	1386.56	1200.94	1019.25	905.63	824.06	744.75	706.50	678.94	655.88
90.0	1469.81	1209.38	1105.82	948.15	852.47	781.43	724.11	691.31	668.31
135.0	1883.81	1580.63	1336.50	1163.81	1010.25	891.00	801.56	741.94	708.75
180.0	1888.31	1625.06	1380.38	1120.22	1031.12	912.49	813.15	746.10	705.04
225.0	1675.13	1460.81	1225.13	1086.30	957.83	858.49	777.83	725.12	692.27
270.0	1575.00	1356.75	1174.50	1035.56	910.69	822.38	753.75	707.06	679.50
315.0	1119.49	1085.74	966.54	858.32	778.22	729.45	692.94	665.55	646.54
360.0	1224.00	1065.38	937.69	848.25	776.81	729.00	699.19	675.56	651.94
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	637.88	627.19	613.69	594.00	551.25	493.88	411.75	340.88	295.88
45.0	638.44	627.19	615.94	604.69	583.31	533.25	473.06	398.81	319.50
90.0	646.54	635.46	622.41	607.56	597.88	566.89	503.49	451.91	383.74
135.0	681.19	656.44	640.13	629.44	612.00	601.88	589.50	545.06	481.50
180.0	677.19	651.04	634.50	621.68	607.50	597.15	586.13	545.85	481.95
225.0	664.59	646.37	631.74	618.36	608.34	595.86	550.97	491.79	423.11
270.0	653.06	636.19	625.50	614.25	601.31	571.50	523.13	442.69	369.56
315.0	631.35	618.02	606.49	594.51	547.37	482.85	406.01	332.78	247.89
360.0	637.88	627.19	613.69	594.00	551.25	493.88	411.75	340.88	295.88
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	182.81	109.91	61.31	22.78	19.35	16.54	13.22	12.09	11.03
45.0	284.63	174.77	99.62	49.28	22.84	19.07	15.24	13.05	11.36
90.0	285.75	221.96	153.62	87.24	36.73	21.54	17.72	14.40	12.99
135.0	417.38	335.25	290.81	182.48	111.43	59.63	23.96	19.63	16.09
180.0	415.46	336.38	256.56	189.00	118.46	65.25	26.38	19.58	16.48
225.0	330.69	259.76	190.13	112.67	62.94	29.31	20.70	16.71	13.73
270.0	293.06	284.06	133.99	78.19	37.97	21.43	18.17	14.91	12.66
315.0	177.64	106.99	56.25	24.13	19.01	16.31	13.84	11.81	11.03
360.0	182.81	109.91	61.31	22.78	19.35	16.54	13.22	12.09	11.03

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	10.69	10.46	10.29	10.07	9.90	9.79	9.62	9.45	9.34
45.0	10.97	10.74	10.46	10.29	10.13	9.90	9.79	9.68	9.51
90.0	11.36	11.08	10.80	10.58	10.35	10.18	10.01	9.90	9.79
135.0	13.78	11.70	11.19	10.91	10.63	10.46	10.29	10.13	9.96
180.0	13.61	11.59	11.03	10.80	10.52	10.29	10.13	9.96	9.79
225.0	12.26	11.19	10.86	10.63	10.35	10.18	10.01	9.84	9.68
270.0	11.31	11.03	10.74	10.52	10.29	10.07	9.90	9.79	9.62
315.0	10.80	10.46	10.29	10.13	9.90	9.73	9.62	9.45	9.34
360.0	10.69	10.46	10.29	10.07	9.90	9.79	9.62	9.45	9.34
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	9.23	9.17	9.06	9.00	8.94	8.89	8.83	8.78	8.72
45.0	9.39	9.28	9.17	9.11	9.06	8.94	8.89	8.83	8.83
90.0	9.56	9.45	9.34	9.28	9.17	9.06	9.00	8.89	8.83
135.0	9.84	9.68	9.56	9.39	9.34	9.23	9.17	9.06	8.94
180.0	9.68	9.51	9.39	9.28	9.17	9.11	9.00	8.89	8.83
225.0	9.51	9.39	9.28	9.17	9.06	9.00	8.94	8.89	8.78
270.0	9.51	9.39	9.28	9.17	9.11	9.06	8.94	8.89	8.83
315.0	9.28	9.17	9.11	9.00	8.94	8.83	8.83	8.72	8.72
360.0	9.23	9.17	9.06	9.00	8.94	8.89	8.83	8.78	8.72
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	8.66	8.61	8.55	8.55	8.55	8.44	8.44	8.44	8.38
45.0	8.72	8.66	8.66	8.61	8.55	8.49	8.49	8.44	8.44
90.0	8.78	8.72	8.72	8.66	8.61	8.55	8.49	8.49	8.44
135.0	8.89	8.83	8.78	8.72	8.66	8.61	8.55	8.55	8.49
180.0	8.78	8.72	8.72	8.66	8.61	8.55	8.49	8.44	8.44
225.0	8.72	8.72	8.61	8.61	8.55	8.55	8.49	8.44	8.38
270.0	8.78	8.72	8.72	8.66	8.61	8.55	8.55	8.49	8.49
315.0	8.66	8.61	8.61	8.55	8.55	8.49	8.44	8.44	8.38
360.0	8.66	8.61	8.55	8.55	8.55	8.44	8.44	8.44	8.38
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	8.33	8.33	8.27	8.27	8.21	8.21	8.21	8.16	8.16
45.0	8.38	8.33	8.33	8.27	8.27	8.21	8.21	8.21	8.21
90.0	8.44	8.38	8.38	8.33	8.27	8.33	8.27	8.27	8.27
135.0	8.49	8.44	8.44	8.38	8.33	8.33	8.27	8.27	8.27
180.0	8.38	8.33	8.33	8.27	8.27	8.27	8.27	8.21	8.21
225.0	8.38	8.38	8.33	8.33	8.27	8.27	8.21	8.21	8.21
270.0	8.44	8.44	8.38	8.33	8.33	8.33	8.33	8.27	8.27
315.0	8.38	8.33	8.33	8.33	8.27	8.27	8.27	8.27	8.21
360.0	8.33	8.33	8.27	8.27	8.21	8.21	8.21	8.16	8.16
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	8.16	8.16	8.16	8.10	8.10	8.10	8.10	8.10	8.04
45.0	8.16	8.16	8.16	8.10	8.10	8.10	8.10	8.04	8.04
90.0	8.21	8.21	8.21	8.16	8.16	8.16	8.10	8.10	8.10
135.0	8.21	8.21	8.21	8.21	8.21	8.21	8.16	8.16	8.10
180.0	8.16	8.16	8.16	8.10	8.10	8.10	8.10	8.10	8.04
225.0	8.16	8.16	8.16	8.16	8.10	8.10	8.10	8.10	8.10
270.0	8.27	8.27	8.21	8.21	8.21	8.16	8.16	8.10	8.10
315.0	8.21	8.21	8.21	8.16	8.16	8.16	8.10	8.10	8.10
360.0	8.16	8.16	8.16	8.10	8.10	8.10	8.10	8.10	8.04

Intensity data(cd)

Appendix Page: 19 Total:19

C/ $\gamma(^{\circ})$	90.0
0.0	8.04
45.0	8.10
90.0	8.10
135.0	8.10
180.0	8.04
225.0	8.04
270.0	8.10
315.0	8.10
360.0	8.04