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Nata

Client:

LumCAT: 3-1546-A3

Luminaire: 99.02.73.172+92.76.365.00

Report No:

Voltage(V): 34.0200

Test No: GC20190823010

Current(A): 0.4480

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): 84

Width(mm): 84

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1707.58, Efficiency(%): 83.30% , Luminous Efficacy(lm/W): 112.05

Central intensity(cd): 5817.585, Maximum intensity(cd): 5817.585

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=26.0

[C90/270]Total=26.0

Field angle(10%Imax): [C0/180]Total=62.0

[C90/270]Total=62.0

Maximum s/h(1/2): C0_180=0.44 C90_270=0.44

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(%): 83.30%

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	5817.586	0.000	0	.000%	.000%
1.0	5803.523	5.560	5.56	.271%	.326%
2.0	5761.477	16.599	22.16	.810%	1.298%
3.0	5674.852	27.352	49.512	1.334%	2.900%
4.0	5555.250	37.591	87.102	1.834%	5.101%
5.0	5391.703	47.093	134.196	2.297%	7.859%
6.0	5180.133	55.558	189.753	2.710%	11.112%
7.0	4907.180	62.612	252.365	3.054%	14.779%
8.0	4635.563	68.296	320.661	3.331%	18.779%
9.0	4302.914	72.441	393.102	3.534%	23.021%
10.0	3954.023	74.722	467.824	3.645%	27.397%
11.0	3628.688	75.767	543.591	3.696%	31.834%
12.0	3283.734	75.563	619.154	3.686%	36.259%
13.0	2909.039	73.493	692.647	3.585%	40.563%
14.0	2568.516	70.112	762.759	3.420%	44.669%
15.0	2252.039	66.179	828.938	3.228%	48.545%
16.0	1943.438	61.475	890.413	2.999%	52.145%
17.0	1689.820	56.580	946.993	2.760%	55.458%
18.0	1473.581	52.158	999.15	2.544%	58.513%
19.0	1277.360	47.861	1047.011	2.335%	61.316%
20.0	1130.555	44.072	1091.083	2.150%	63.896%
21.0	997.945	40.872	1131.954	1.994%	66.290%
22.0	903.790	38.216	1170.17	1.864%	68.528%
23.0	831.213	36.405	1206.575	1.776%	70.660%
24.0	776.405	35.148	1241.724	1.715%	72.718%
25.0	730.990	34.275	1275.998	1.672%	74.726%
26.0	701.726	33.819	1309.818	1.650%	76.706%
27.0	676.343	33.715	1343.533	1.645%	78.681%
28.0	656.325	33.740	1377.273	1.646%	80.656%
29.0	638.508	33.876	1411.149	1.653%	82.640%
30.0	615.600	33.861	1445.01	1.652%	84.623%
31.0	581.970	33.327	1478.337	1.626%	86.575%
32.0	542.250	32.208	1510.544	1.571%	88.461%
33.0	493.924	30.526	1541.07	1.489%	90.249%
34.0	426.516	27.855	1568.926	1.359%	91.880%
35.0	362.862	24.515	1593.441	1.196%	93.316%
36.0	301.261	21.146	1614.586	1.032%	94.554%
37.0	218.841	16.963	1631.549	.827%	95.548%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	154.856	12.474	1644.023	.608%	96.278%
39.0	119.644	9.369	1653.392	.457%	96.827%
40.0	64.582	6.425	1659.817	.313%	97.203%
41.0	40.577	3.745	1663.562	.183%	97.422%
42.0	25.699	2.408	1665.97	.117%	97.563%
43.0	19.069	1.658	1667.628	.081%	97.660%
44.0	16.031	1.325	1668.953	.065%	97.738%
45.0	13.711	1.143	1670.096	.056%	97.805%
46.0	12.009	1.006	1671.102	.049%	97.864%
47.0	10.772	0.906	1672.008	.044%	97.917%
48.0	9.991	0.839	1672.847	.041%	97.966%
49.0	9.731	0.810	1673.657	.040%	98.013%
50.0	9.548	0.804	1674.461	.039%	98.061%
51.0	9.408	0.802	1675.263	.039%	98.108%
52.0	9.253	0.801	1676.064	.039%	98.154%
53.0	9.105	0.799	1676.863	.039%	98.201%
54.0	8.986	0.797	1677.66	.039%	98.248%
55.0	8.873	0.797	1678.457	.039%	98.295%
56.0	8.768	0.797	1679.254	.039%	98.341%
57.0	8.684	0.798	1680.052	.039%	98.388%
58.0	8.599	0.799	1680.851	.039%	98.435%
59.0	8.515	0.800	1681.652	.039%	98.482%
60.0	8.452	0.802	1682.453	.039%	98.529%
61.0	8.388	0.804	1683.257	.039%	98.576%
62.0	8.318	0.805	1684.062	.039%	98.623%
63.0	8.283	0.807	1684.869	.039%	98.670%
64.0	8.234	0.810	1685.68	.040%	98.718%
65.0	8.177	0.812	1686.492	.040%	98.765%
66.0	8.128	0.814	1687.305	.040%	98.813%
67.0	8.107	0.816	1688.122	.040%	98.861%
68.0	8.065	0.819	1688.941	.040%	98.909%
69.0	8.030	0.821	1689.762	.040%	98.957%
70.0	8.023	0.824	1690.586	.040%	99.005%
71.0	7.980	0.827	1691.413	.040%	99.053%
72.0	7.945	0.828	1692.242	.040%	99.102%
73.0	7.931	0.830	1693.072	.040%	99.150%
74.0	7.910	0.833	1693.905	.041%	99.199%
75.0	7.889	0.835	1694.739	.041%	99.248%

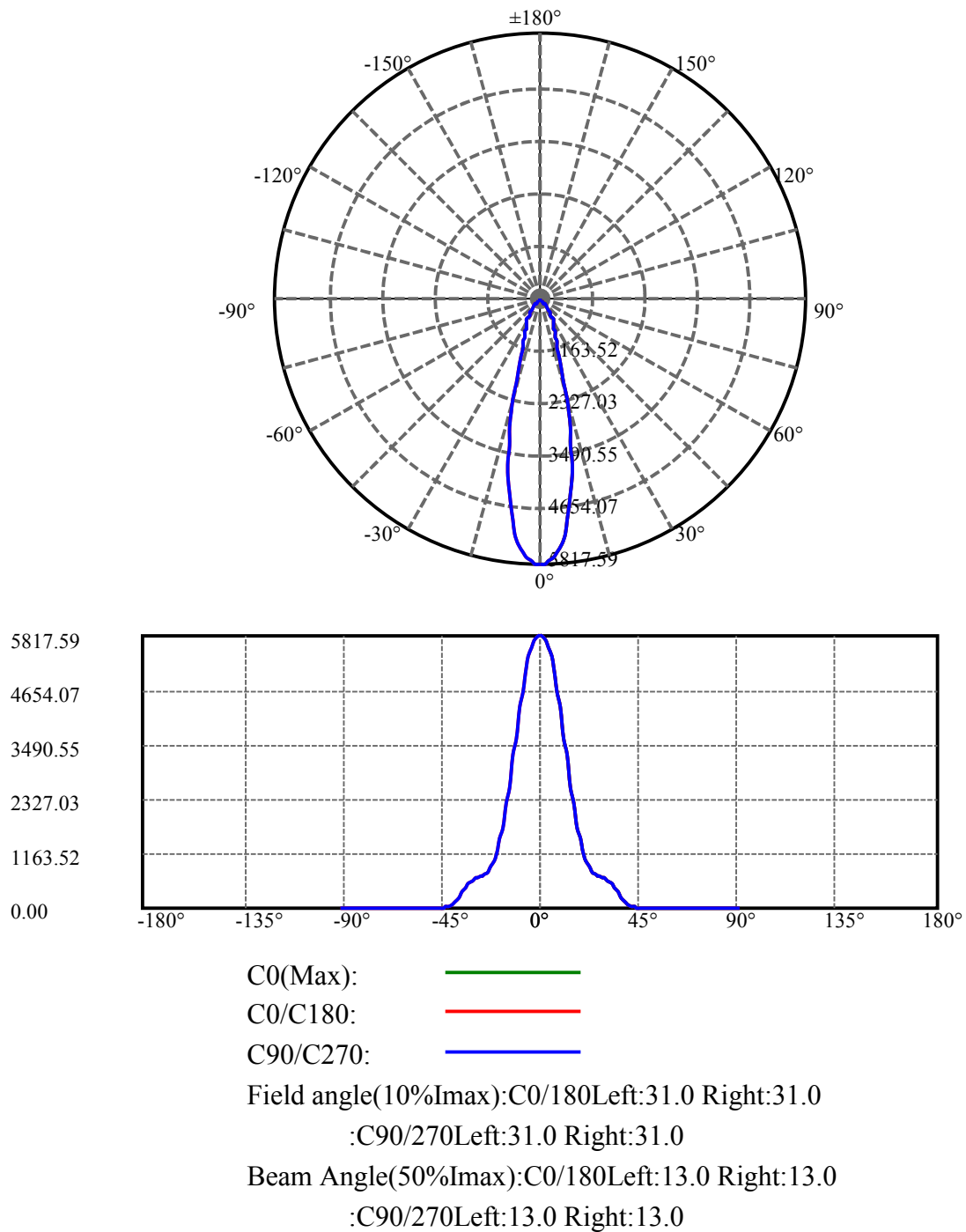
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	7.868	0.836	1695.576	.041%	99.297%
77.0	7.854	0.838	1696.414	.041%	99.346%
78.0	7.833	0.840	1697.254	.041%	99.395%
79.0	7.840	0.842	1698.096	.041%	99.445%
80.0	8.009	0.854	1698.95	.042%	99.495%
81.0	8.269	0.880	1699.83	.043%	99.546%
82.0	8.213	0.894	1700.724	.044%	99.599%
83.0	8.009	0.882	1701.606	.043%	99.650%
84.0	8.009	0.873	1702.479	.043%	99.701%
85.0	7.903	0.868	1703.347	.042%	99.752%
86.0	7.931	0.866	1704.213	.042%	99.803%
87.0	7.727	0.857	1705.07	.042%	99.853%
88.0	7.664	0.843	1705.913	.041%	99.902%
89.0	7.580	0.836	1706.748	.041%	99.951%
90.0	7.573	0.831	1707.579	.041%	100.000%

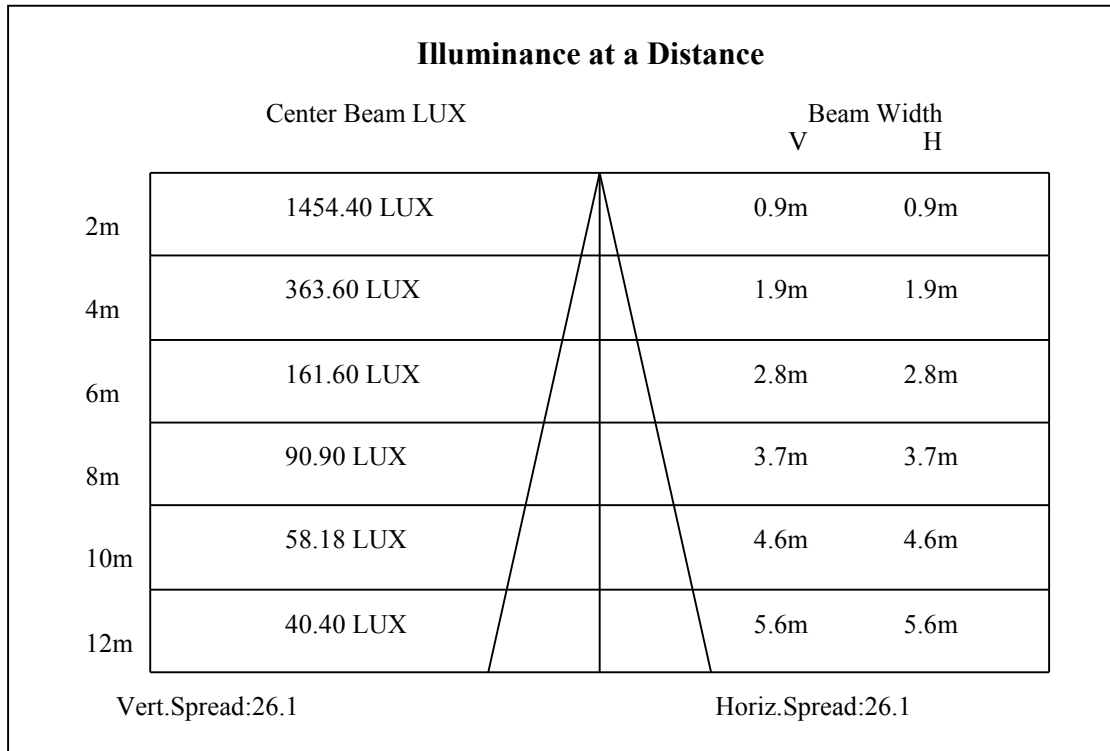
ZONAL LUMEN SUMMARY

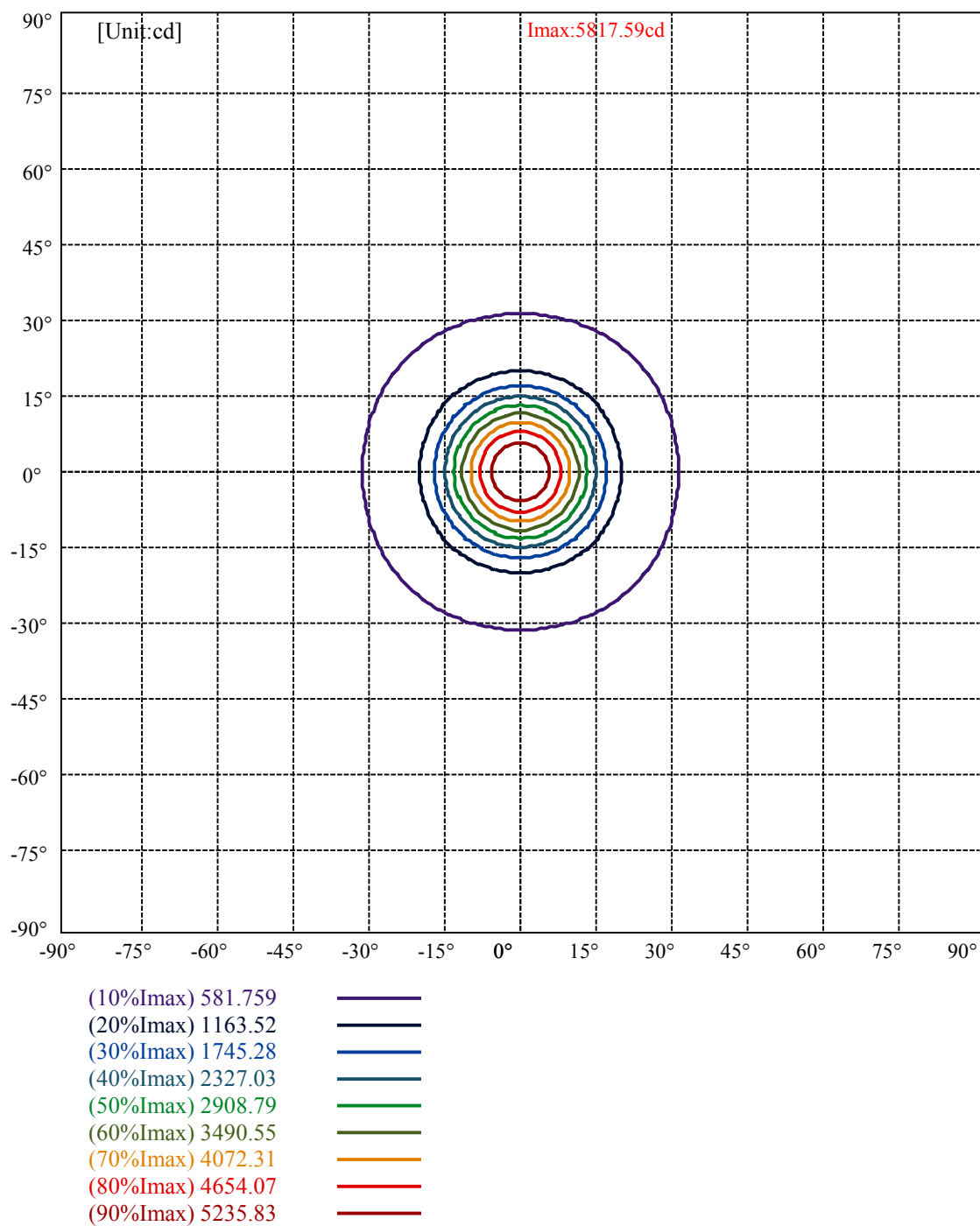
Zone	Lumens	%Lamp	%Fixt
0-30	1445.01	70.49%	84.62%
0-40	1659.82	80.97%	97.20%
0-60	1682.45	82.07%	98.53%
0-90	1706.75	83.26%	99.95%
0-120	1706.75	83.26%	99.95%
0-180	1707.58	83.30%	100.00%
60-90	25.10	1.22%	1.47%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.67	1366.06	66.64%	80.00%

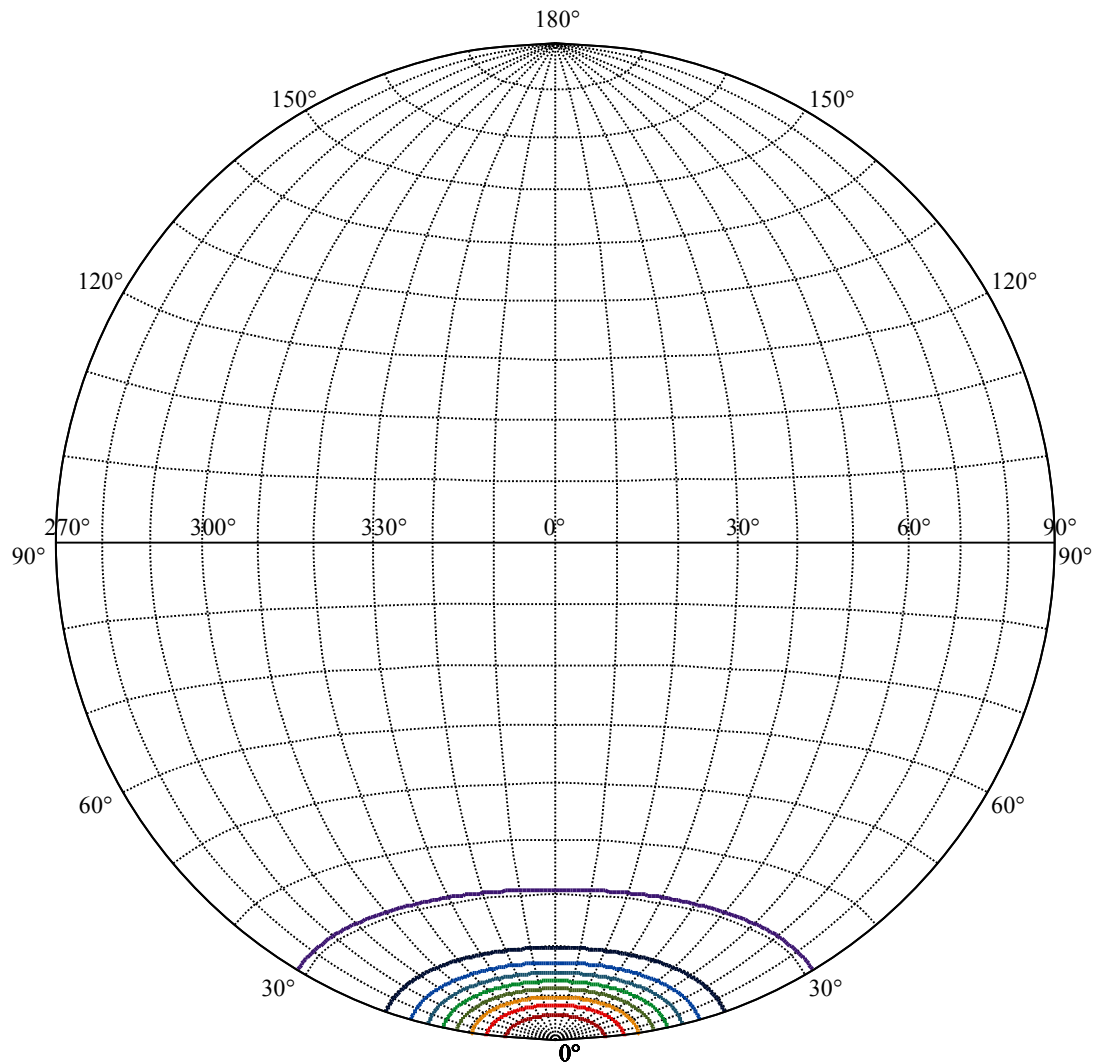
ZONAL LUMEN SUMMARY

0-10	467.82
10-20	623.26
20-30	353.93
30-40	214.81
40-50	14.64
50-60	7.99
60-70	8.13
70-80	8.36
80-90	7.80
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









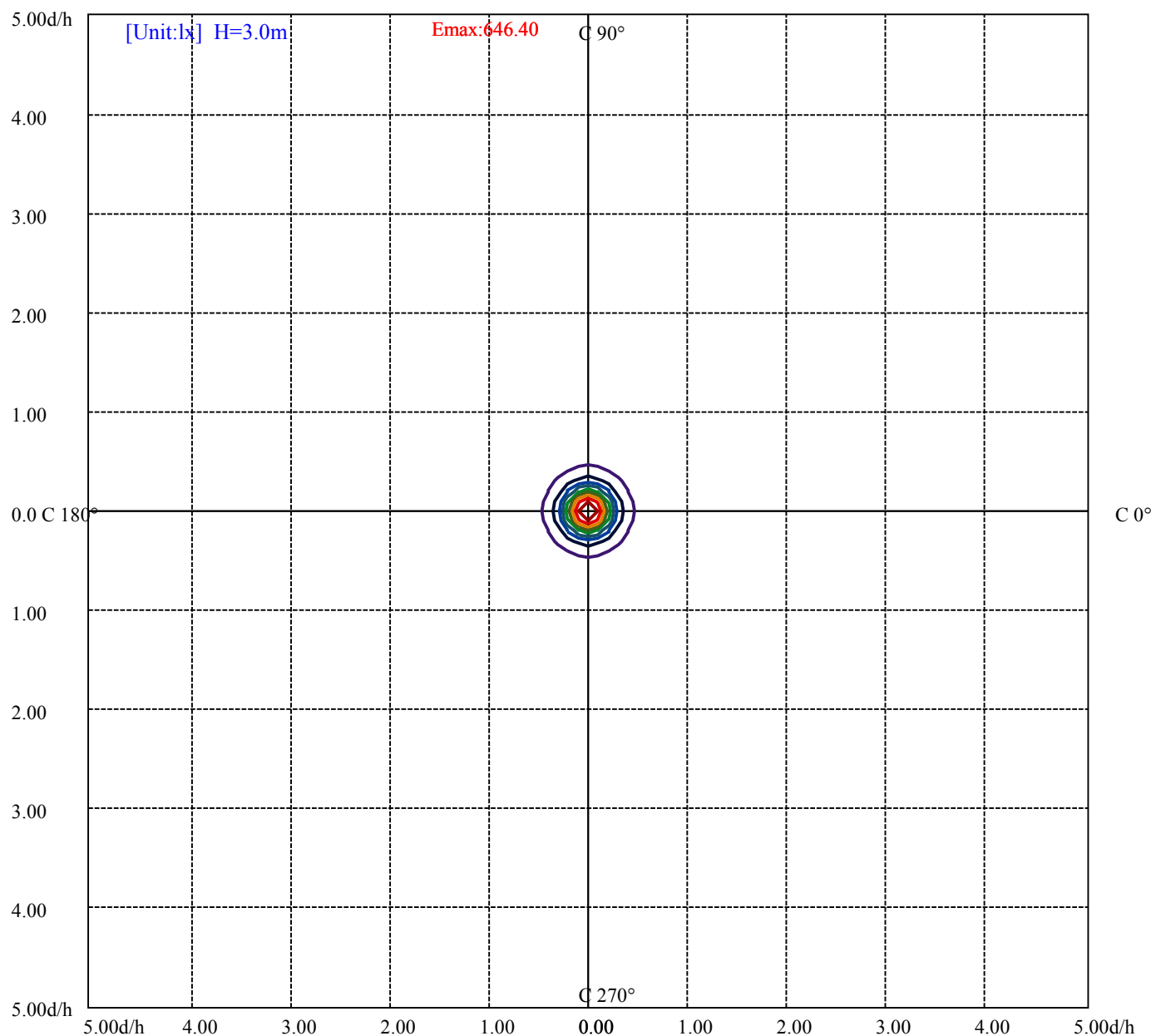
House

[Unit:cd]

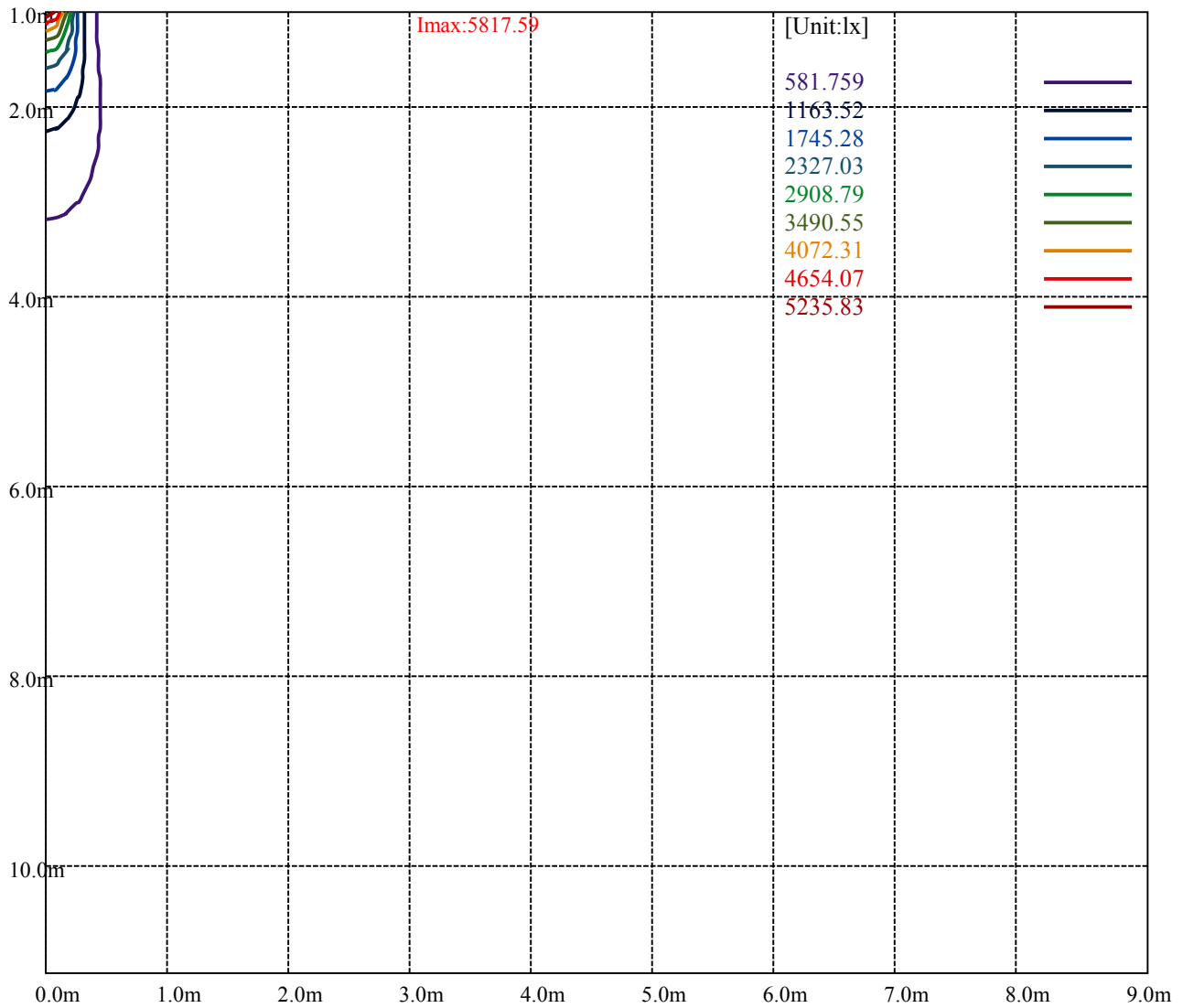
Road

Imax:5817.59

(10%Imax)	581.759	—
(20%Imax)	1163.52	—
(30%Imax)	1745.28	—
(40%Imax)	2327.03	—
(50%Imax)	2908.79	—
(60%Imax)	3490.55	—
(70%Imax)	4072.31	—
(80%Imax)	4654.07	—
(90%Imax)	5235.83	—



(10%Emax) 64.63978	—
(20%Emax) 129.28	—
(30%Emax) 193.92	—
(40%Emax) 258.5589	—
(50%Emax) 323.1989	—
(60%Emax) 387.8389	—
(70%Emax) 452.4789	—
(80%Emax) 517.1189	—
(90%Emax) 581.7589	—



Luminance Table

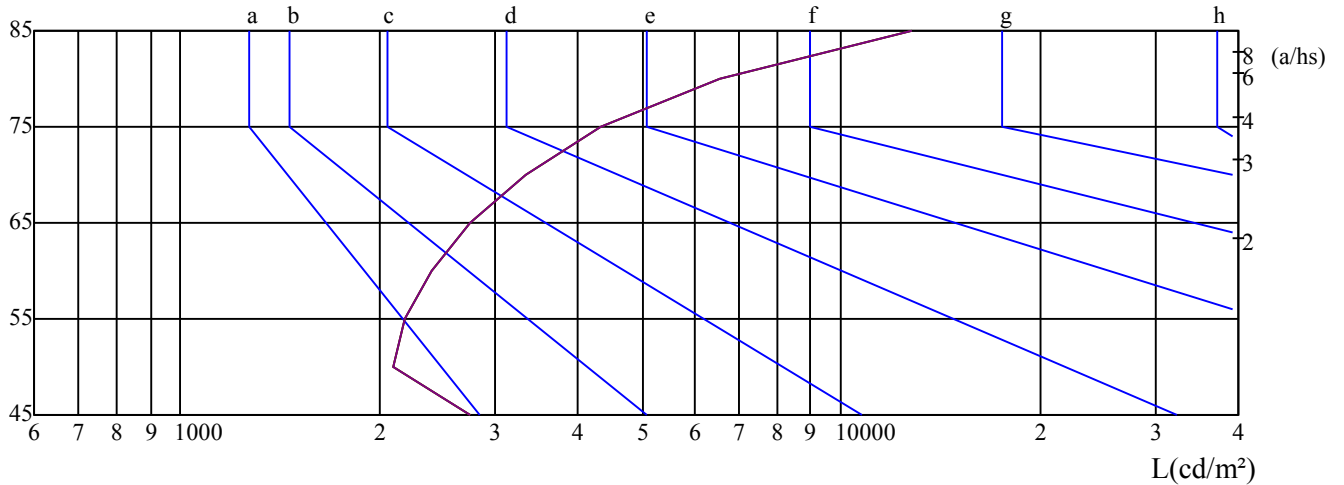
γ	45	50	55	60	65	70	75	80	85
C0	2748	2105	2193	2396	2742	3324	4320	6536	12851
C45	2748	2105	2193	2396	2742	3324	4320	6536	12851
C90	2748	2105	2193	2396	2742	3324	4320	6536	12851

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2742	2742	2742	4320	4320	4320	12851	12851	12851

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

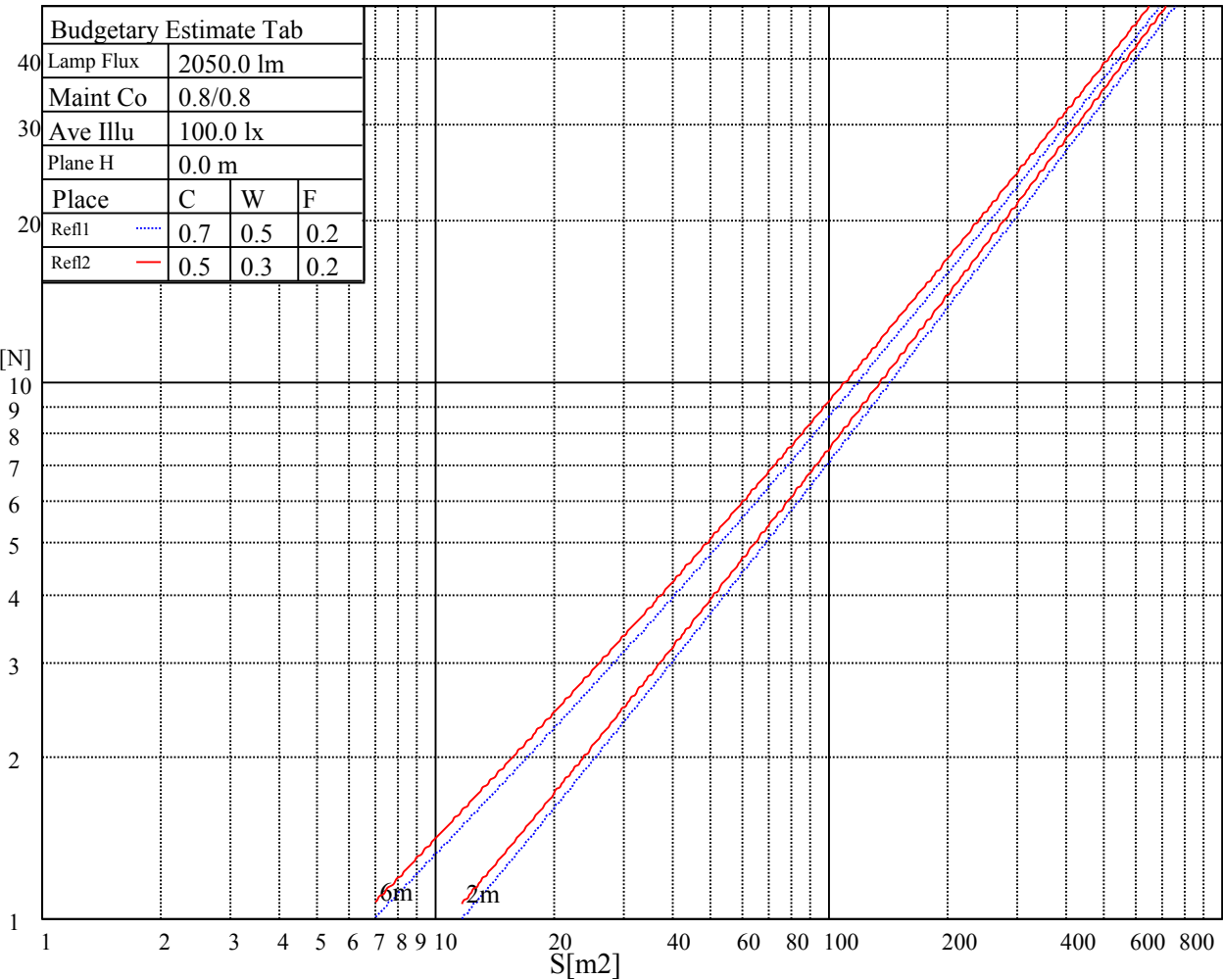
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

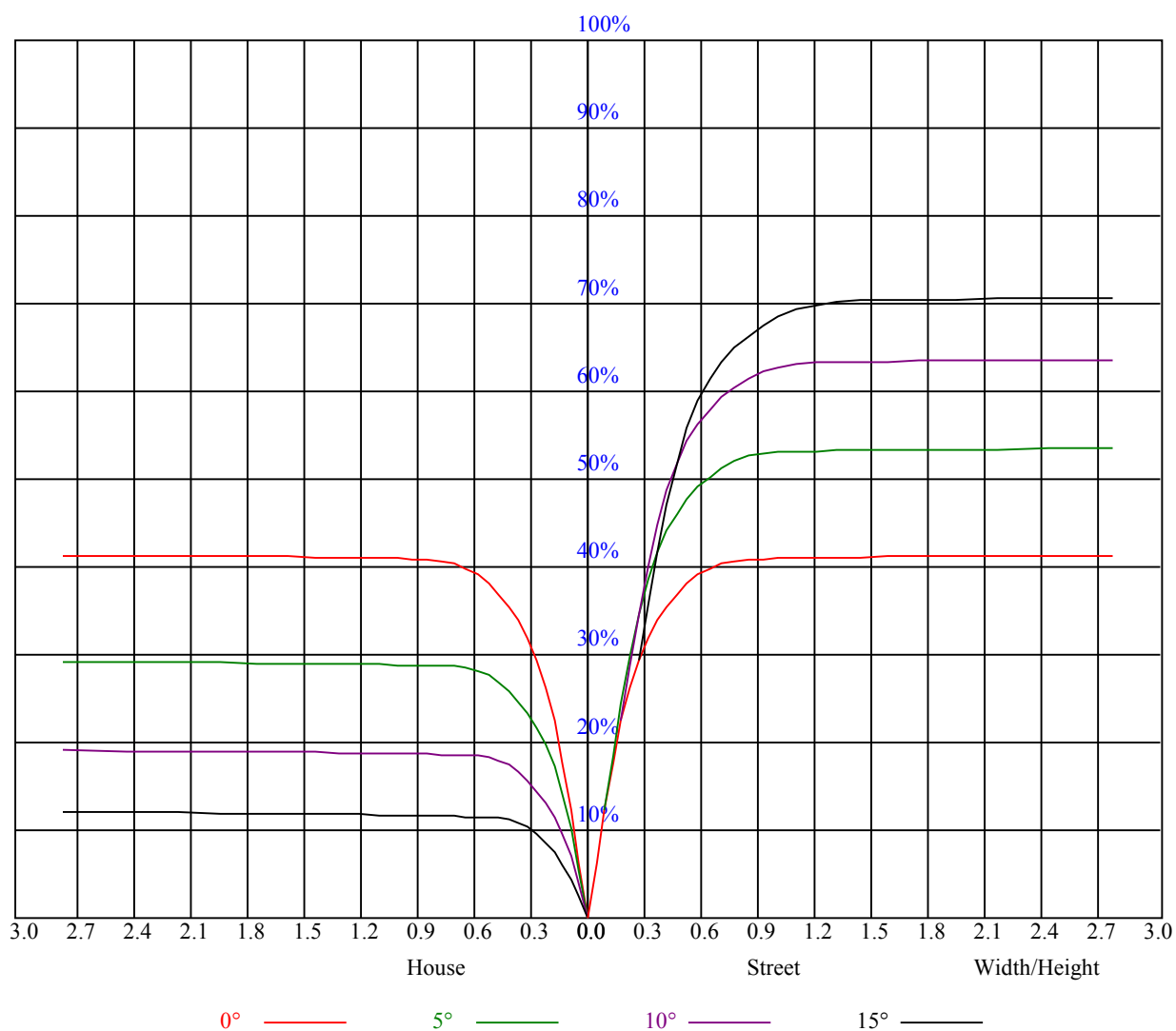
C0 ———

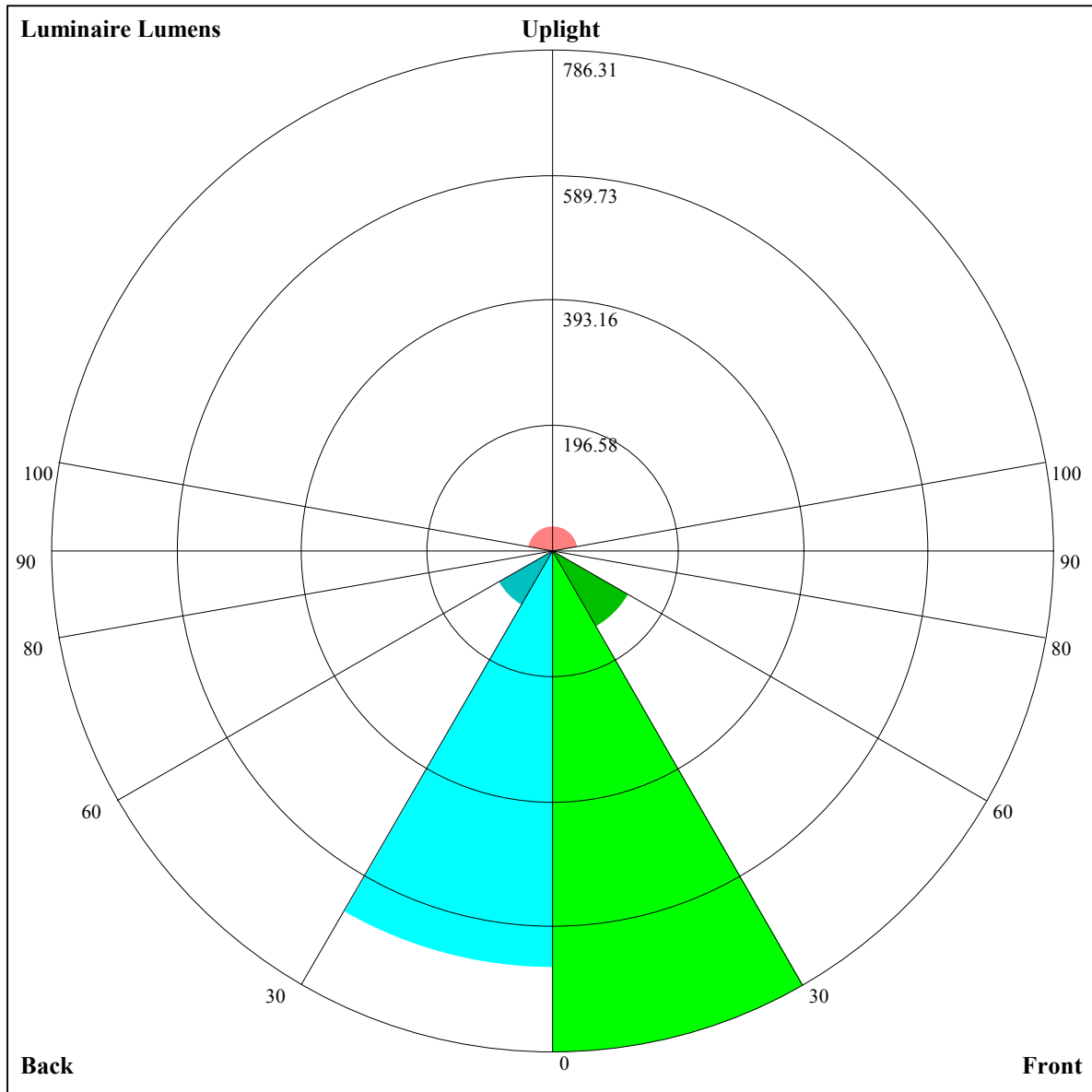
C45 ———

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	0.99	0.99	0.99	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.83
1	0.93	0.91	0.90	0.91	0.90	0.88	0.88	0.87	0.85	0.85	0.84	0.83	0.82	0.81	0.81	0.79
2	0.88	0.85	0.83	0.86	0.84	0.82	0.84	0.82	0.80	0.81	0.80	0.78	0.79	0.78	0.77	0.75
3	0.83	0.80	0.77	0.82	0.79	0.76	0.80	0.77	0.75	0.78	0.76	0.74	0.76	0.75	0.73	0.72
4	0.79	0.75	0.73	0.78	0.75	0.72	0.77	0.74	0.71	0.75	0.73	0.71	0.74	0.72	0.70	0.69
5	0.76	0.72	0.69	0.75	0.71	0.68	0.74	0.70	0.68	0.72	0.69	0.67	0.71	0.69	0.67	0.66
6	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
7	0.69	0.65	0.63	0.69	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.66	0.64	0.61	0.61
8	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.58
9	0.64	0.60	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.56
10	0.62	0.58	0.56	0.62	0.58	0.55	0.61	0.58	0.55	0.60	0.57	0.55	0.60	0.57	0.55	0.54





Luminaire Lumens:

FL=786.31,FM=137.21,FH=8.29,FVH=4.27

BL=654.91,BM=98.93,BH=8.23,BVH=4.33

UL=8.26,UH=39.32

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	5824.13	5877.00	5909.63	5922.56	5907.38	5846.06	5726.81	5570.44	5366.81		
45.0	5771.81	5850.56	5900.63	5919.75	5913.00	5857.88	5760.56	5589.00	5384.25		
90.0	5828.63	5846.06	5835.38	5762.25	5670.56	5524.31	5268.38	5013.56	4721.06		
135.0	5844.94	5818.50	5753.25	5649.19	5482.13	5265.00	5025.94	4698.00	4381.88		
180.0	5824.13	5734.13	5617.69	5438.81	5207.63	4959.56	4671.00	4278.94	3954.94		
225.0	5771.81	5669.44	5530.50	5310.00	5091.75	4838.06	4521.38	4175.44	3861.00		
270.0	5828.63	5785.88	5714.44	5613.19	5460.75	5257.13	5042.81	4762.13	4487.63		
315.0	5846.63	5846.63	5830.31	5783.06	5708.81	5585.63	5424.19	5169.94	4926.94		
360.0	5824.13	5877.00	5909.63	5922.56	5907.38	5846.06	5726.81	5570.44	5366.81		
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0		
0.0	5061.94	4780.69	4476.94	4106.81	3717.56	3363.75	2967.75	2583.56	2267.44		
45.0	5111.44	4784.63	4461.19	4118.06	3678.75	3318.75	2961.56	2548.13	2229.75		
90.0	4365.00	3984.19	3639.38	3254.63	2912.63	2530.69	2167.31	1870.88	1614.94		
135.0	3979.69	3649.50	3309.75	2967.75	2549.25	2214.56	1901.81	1596.94	1378.69		
180.0	3624.75	3203.44	2865.38	2537.44	2187.00	1865.25	1625.63	1396.69	1116.00		
225.0	3508.88	3153.94	2836.13	2481.75	2183.63	1881.00	1619.44	1427.06	1266.19		
270.0	4158.00	3809.81	3494.81	3181.50	2789.44	2486.81	2204.44	1886.63	1665.56		
315.0	4613.63	4266.00	3945.94	3621.94	3254.06	2887.31	2568.38	2237.63	1980.00		
360.0	5061.94	4780.69	4476.94	4106.81	3717.56	3363.75	2967.75	2583.56	2267.44		
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0		
0.0	1949.63	1701.00	1458.00	1254.94	1110.38	978.19	874.13	804.94	754.88		
45.0	1928.25	1625.06	1383.19	1211.06	1046.81	930.94	848.25	786.38	748.69		
90.0	1347.75	1119.88	1038.09	919.35	837.34	789.24	756.56	725.74	705.77		
135.0	1213.31	1052.44	930.94	856.69	792.56	754.31	729.56	708.75	694.13		
180.0	1067.68	933.58	863.61	797.29	747.79	723.66	701.44	675.23	659.70		
225.0	1080.84	986.23	899.55	818.10	769.89	732.26	699.41	673.37	654.98		
270.0	1474.31	1290.94	1132.31	1010.81	902.25	819.56	762.75	714.38	682.88		
315.0	1726.88	1509.75	1338.75	1115.33	1023.30	921.54	839.14	759.15	712.80		
360.0	1949.63	1701.00	1458.00	1254.94	1110.38	978.19	874.13	804.94	754.88		
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0		
0.0	712.69	686.81	666.00	645.75	625.50	610.88	596.25	566.44	515.25		
45.0	716.63	694.69	678.38	660.94	637.31	622.13	607.50	572.06	523.13		
90.0	689.46	673.31	655.37	639.90	621.62	590.91	533.93	471.99	401.34		
135.0	678.38	659.81	644.06	628.88	581.63	532.13	475.31	372.94	306.00		
180.0	641.98	625.05	607.67	570.71	506.81	433.63	364.22	283.73	216.84		
225.0	635.29	620.89	602.89	553.78	496.13	421.09	349.48	267.08	197.89		
270.0	657.56	638.44	622.13	609.19	585.56	542.81	483.75	401.06	329.63		
315.0	678.77	651.60	631.58	615.66	601.20	584.44	540.96	476.83	412.82		
360.0	712.69	686.81	666.00	645.75	625.50	610.88	596.25	566.44	515.25		
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0		
0.0	445.50	377.44	295.88	286.88	146.03	88.31	44.89	29.14	24.19		
45.0	463.50	390.38	311.06	293.06	166.78	99.11	47.36	31.84	25.43		
90.0	320.34	242.04	174.15	112.78	52.65	30.54	25.48	19.18	16.26		
135.0	287.44	156.94	92.70	45.68	26.44	22.16	17.33	14.51	11.19		
180.0	146.64	84.49	42.02	24.81	20.03	16.20	13.89	11.08	10.13		
225.0	128.03	69.47	33.75	22.89	18.96	15.53	13.39	10.91	9.84		
270.0	284.06	174.77	104.74	57.26	27.62	22.95	19.07	15.92	14.29		
315.0	334.58	255.21	184.56	113.79	58.16	29.81	24.19	19.97	16.93		
360.0	445.50	377.44	295.88	286.88	146.03	88.31	44.89	29.14	24.19		

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	19.74	16.54	13.89	10.74	10.29	10.07	9.90	9.68	9.45
45.0	20.19	17.21	12.88	10.97	10.58	10.24	10.07	9.84	9.62
90.0	12.94	11.08	10.69	10.41	10.18	9.96	9.79	9.62	9.45
135.0	10.63	10.29	10.13	9.90	9.68	9.51	9.39	9.28	9.11
180.0	9.84	9.68	9.51	9.34	9.23	9.11	9.00	8.89	8.83
225.0	9.62	9.45	9.23	9.11	8.94	8.83	8.72	8.61	8.55
270.0	11.76	10.01	9.73	9.56	9.34	9.23	9.06	8.94	8.78
315.0	14.96	11.81	10.13	9.90	9.62	9.45	9.34	9.17	9.06
360.0	19.74	16.54	13.89	10.74	10.29	10.07	9.90	9.68	9.45
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	9.34	9.17	9.06	8.94	8.89	8.78	8.66	8.61	8.49
45.0	9.45	9.34	9.17	9.06	9.00	8.83	8.72	8.66	8.61
90.0	9.34	9.17	9.06	8.94	8.78	8.72	8.66	8.61	8.49
135.0	9.00	8.89	8.83	8.78	8.66	8.55	8.49	8.44	8.38
180.0	8.72	8.66	8.55	8.49	8.44	8.38	8.33	8.27	8.21
225.0	8.44	8.38	8.27	8.21	8.16	8.10	8.10	8.04	7.99
270.0	8.72	8.61	8.55	8.44	8.38	8.33	8.27	8.21	8.16
315.0	8.89	8.78	8.66	8.61	8.49	8.44	8.38	8.27	8.21
360.0	9.34	9.17	9.06	8.94	8.89	8.78	8.66	8.61	8.49
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	8.49	8.44	8.33	8.33	8.27	8.21	8.16	8.16	8.10
45.0	8.49	8.49	8.38	8.33	8.27	8.21	8.21	8.16	8.10
90.0	8.44	8.38	8.33	8.27	8.27	8.21	8.16	8.16	8.10
135.0	8.38	8.27	8.27	8.21	8.21	8.16	8.10	8.10	8.04
180.0	8.21	8.16	8.10	8.04	8.04	7.99	7.99	7.99	7.93
225.0	7.93	7.93	7.88	7.82	7.82	7.82	7.82	7.82	7.76
270.0	8.10	8.04	8.04	7.99	7.93	7.93	7.88	7.88	7.88
315.0	8.21	8.16	8.10	8.04	8.04	7.99	7.93	7.93	7.93
360.0	8.49	8.44	8.33	8.33	8.27	8.21	8.16	8.16	8.10
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	8.04	8.04	8.04	7.99	7.99	7.99	7.93	7.93	7.93
45.0	8.04	8.04	8.04	7.99	7.93	7.88	7.88	7.88	7.82
90.0	8.04	8.04	7.99	7.99	7.93	7.93	7.88	7.88	8.27
135.0	7.99	7.99	7.99	7.93	7.88	7.88	7.88	7.93	8.72
180.0	7.93	7.93	7.88	7.88	7.93	7.88	7.88	7.88	8.16
225.0	7.76	7.76	7.76	7.71	7.71	7.71	7.71	7.71	7.71
270.0	7.88	7.82	7.76	7.82	7.76	7.76	7.76	7.76	7.76
315.0	7.88	7.82	7.82	7.82	7.82	7.82	7.76	7.76	7.71
360.0	8.04	8.04	8.04	7.99	7.99	7.99	7.93	7.93	7.93
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	7.88	7.88	7.88	7.82	7.88	7.99	7.71	7.71	7.71
45.0	7.82	7.88	8.61	8.66	7.93	8.16	7.71	7.54	7.54
90.0	9.17	9.68	8.16	7.99	7.93	7.71	7.82	7.54	7.54
135.0	10.07	9.00	8.04	8.10	8.10	8.16	8.04	8.16	7.59
180.0	8.04	7.99	8.10	8.16	8.21	8.04	7.76	7.71	7.65
225.0	7.71	7.76	7.82	7.82	7.76	7.65	7.59	7.54	7.48
270.0	7.76	7.82	7.82	7.82	7.71	8.04	7.59	7.54	7.54
315.0	7.71	7.71	7.65	7.71	7.71	7.71	7.59	7.59	7.59
360.0	7.88	7.88	7.88	7.82	7.88	7.99	7.71	7.71	7.71

Intensity data(cd)

Appendix Page: 19 Total:19

C/ γ (°)	90.0
0.0	7.71
45.0	7.54
90.0	7.48
135.0	7.59
180.0	7.65
225.0	7.54
270.0	7.48
315.0	7.59
360.0	7.71