
Client:

LumCAT: 1656-S

Luminaire: 92.70.123.00

Report No: nt0100

Test No: GC2019121804

LampCAT: LUMINUS CXM-6-AC40

Lamp flux(lm): 830.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 34.5400

Current(A): 0.1970

Power (W): 6.8000

PF: 1.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 741.65, Efficiency(%): 89.36% , Luminous Efficacy(lm/W): 109.07

Central intensity(cd): 7463.250, Maximum intensity(cd): 7463.250

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=12.2

[C90/270]Total=12.2

Field angle(10%Imax): [C0/180]Total=26.6

[C90/270]Total=26.6

Maximum s/h(1/2): C0_180=0.21 C90_270=0.21

Maximum s/h(1/4): C0_180=0.23 C90_270=0.23

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 89.36%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.522%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7463.250	0.000	0	.000%	.000%
1.0	7308.773	7.068	7.068	.852%	.953%
2.0	6810.680	20.266	27.334	2.442%	3.686%
3.0	6129.844	30.949	58.283	3.729%	7.859%
4.0	5387.977	38.554	96.837	4.645%	13.057%
5.0	4516.313	42.608	139.445	5.133%	18.802%
6.0	3769.172	43.542	182.987	5.246%	24.673%
7.0	3080.953	42.519	225.506	5.123%	30.406%
8.0	2462.203	39.671	265.177	4.780%	35.755%
9.0	1953.563	35.787	300.964	4.312%	40.580%
10.0	1539.401	31.610	332.574	3.808%	44.842%
11.0	1184.695	27.219	359.794	3.279%	48.513%
12.0	965.138	23.501	383.295	2.831%	51.681%
13.0	784.737	20.767	404.061	2.502%	54.481%
14.0	638.220	18.214	422.275	2.194%	56.937%
15.0	544.620	16.239	438.513	1.956%	59.127%
16.0	473.168	14.913	453.427	1.797%	61.138%
17.0	418.767	13.890	467.317	1.673%	63.010%
18.0	381.122	13.188	480.505	1.589%	64.789%
19.0	355.247	12.811	493.316	1.544%	66.516%
20.0	333.478	12.606	505.922	1.519%	68.216%
21.0	318.157	12.513	518.435	1.508%	69.903%
22.0	307.427	12.571	531.006	1.515%	71.598%
23.0	297.900	12.701	543.708	1.530%	73.310%
24.0	291.016	12.876	556.583	1.551%	75.047%
25.0	285.469	13.108	569.691	1.579%	76.814%
26.0	280.554	13.361	583.052	1.610%	78.615%
27.0	274.795	13.587	596.639	1.637%	80.447%
28.0	270.309	13.801	610.44	1.663%	82.308%
29.0	265.282	14.013	624.453	1.688%	84.198%
30.0	260.128	14.186	638.639	1.709%	86.110%
31.0	252.443	14.264	652.903	1.719%	88.034%
32.0	237.185	14.027	666.93	1.690%	89.925%
33.0	212.344	13.243	680.173	1.596%	91.711%
34.0	180.077	11.876	692.049	1.431%	93.312%
35.0	142.376	10.014	702.063	1.207%	94.662%
36.0	102.227	7.788	709.851	.938%	95.712%
37.0	69.328	5.595	715.447	.674%	96.467%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	40.155	3.654	719.101	.440%	96.960%
39.0	20.623	2.075	721.176	.250%	97.239%
40.0	12.396	1.152	722.327	.139%	97.395%
41.0	9.204	0.769	723.096	.093%	97.498%
42.0	7.748	0.616	723.712	.074%	97.581%
43.0	6.638	0.533	724.245	.064%	97.653%
44.0	5.766	0.468	724.713	.056%	97.716%
45.0	5.175	0.420	725.134	.051%	97.773%
46.0	4.887	0.393	725.527	.047%	97.826%
47.0	4.690	0.381	725.908	.046%	97.877%
48.0	4.528	0.373	726.281	.045%	97.928%
49.0	4.395	0.366	726.647	.044%	97.977%
50.0	4.275	0.361	727.009	.044%	98.026%
51.0	4.163	0.357	727.366	.043%	98.074%
52.0	4.254	0.361	727.727	.044%	98.123%
53.0	4.254	0.370	728.097	.045%	98.172%
54.0	4.359	0.380	728.476	.046%	98.224%
55.0	4.430	0.392	728.869	.047%	98.277%
56.0	4.184	0.389	729.258	.047%	98.329%
57.0	4.134	0.380	729.638	.046%	98.380%
58.0	3.691	0.362	730	.044%	98.429%
59.0	3.663	0.344	730.344	.041%	98.475%
60.0	3.614	0.344	730.688	.041%	98.522%
61.0	3.600	0.344	731.032	.041%	98.568%
62.0	3.579	0.346	731.378	.042%	98.615%
63.0	3.558	0.347	731.725	.042%	98.662%
64.0	3.523	0.347	732.073	.042%	98.709%
65.0	3.502	0.348	732.42	.042%	98.755%
66.0	3.488	0.349	732.769	.042%	98.802%
67.0	3.473	0.350	733.119	.042%	98.850%
68.0	3.480	0.352	733.471	.042%	98.897%
69.0	3.452	0.354	733.825	.043%	98.945%
70.0	3.452	0.355	734.179	.043%	98.993%
71.0	3.431	0.356	734.535	.043%	99.041%
72.0	3.417	0.356	734.891	.043%	99.089%
73.0	3.410	0.357	735.248	.043%	99.137%
74.0	3.410	0.359	735.607	.043%	99.185%
75.0	3.389	0.359	735.966	.043%	99.234%

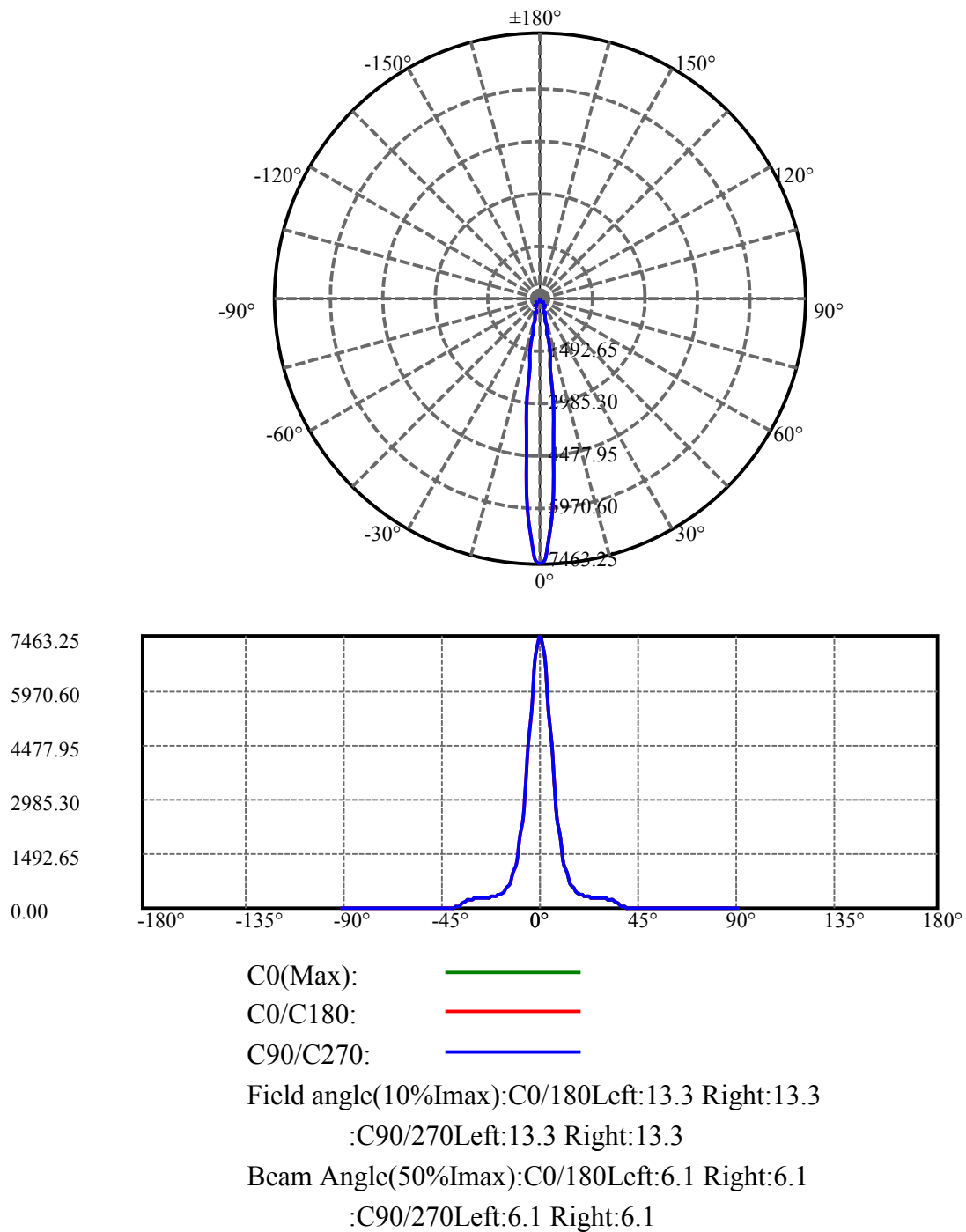
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.396	0.360	736.326	.043%	99.282%
77.0	3.389	0.362	736.688	.044%	99.331%
78.0	3.375	0.362	737.05	.044%	99.380%
79.0	3.375	0.363	737.413	.044%	99.429%
80.0	3.382	0.364	737.777	.044%	99.478%
81.0	3.375	0.365	738.143	.044%	99.527%
82.0	3.368	0.366	738.508	.044%	99.576%
83.0	3.368	0.366	738.874	.044%	99.626%
84.0	3.361	0.367	739.241	.044%	99.675%
85.0	3.628	0.381	739.622	.046%	99.727%
86.0	3.741	0.403	740.025	.049%	99.781%
87.0	3.663	0.405	740.43	.049%	99.835%
88.0	3.832	0.411	740.841	.049%	99.891%
89.0	3.656	0.410	741.251	.049%	99.946%
90.0	3.628	0.399	741.651	.048%	100.000%

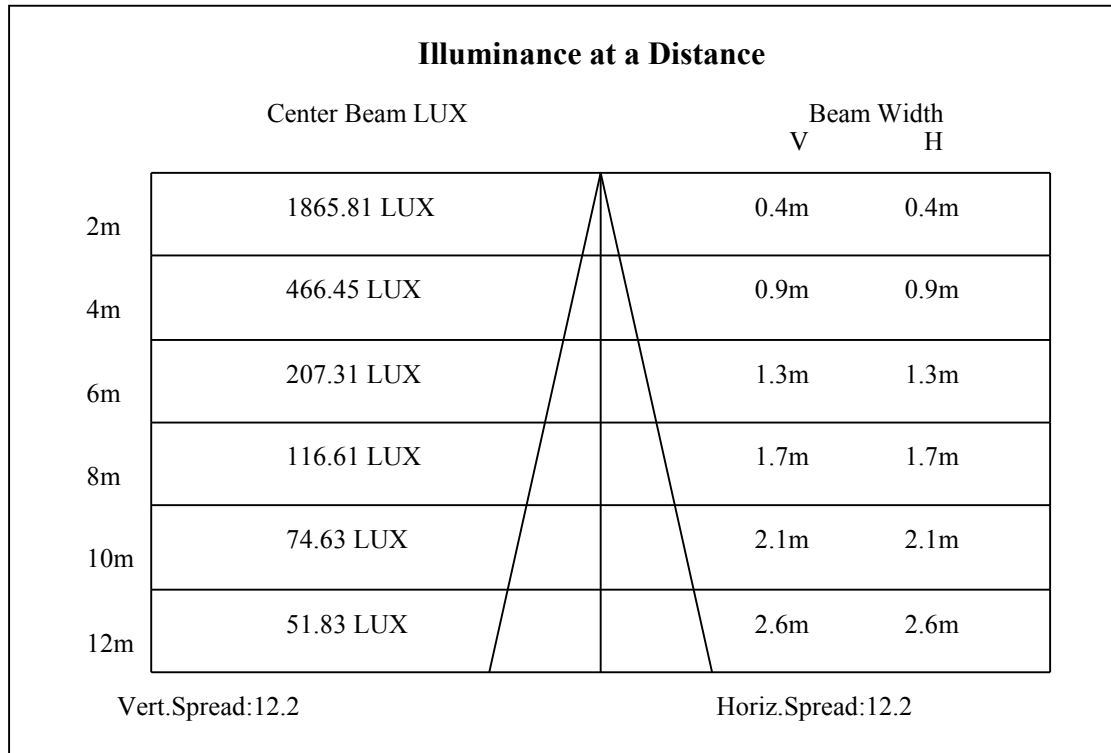
ZONAL LUMEN SUMMARY

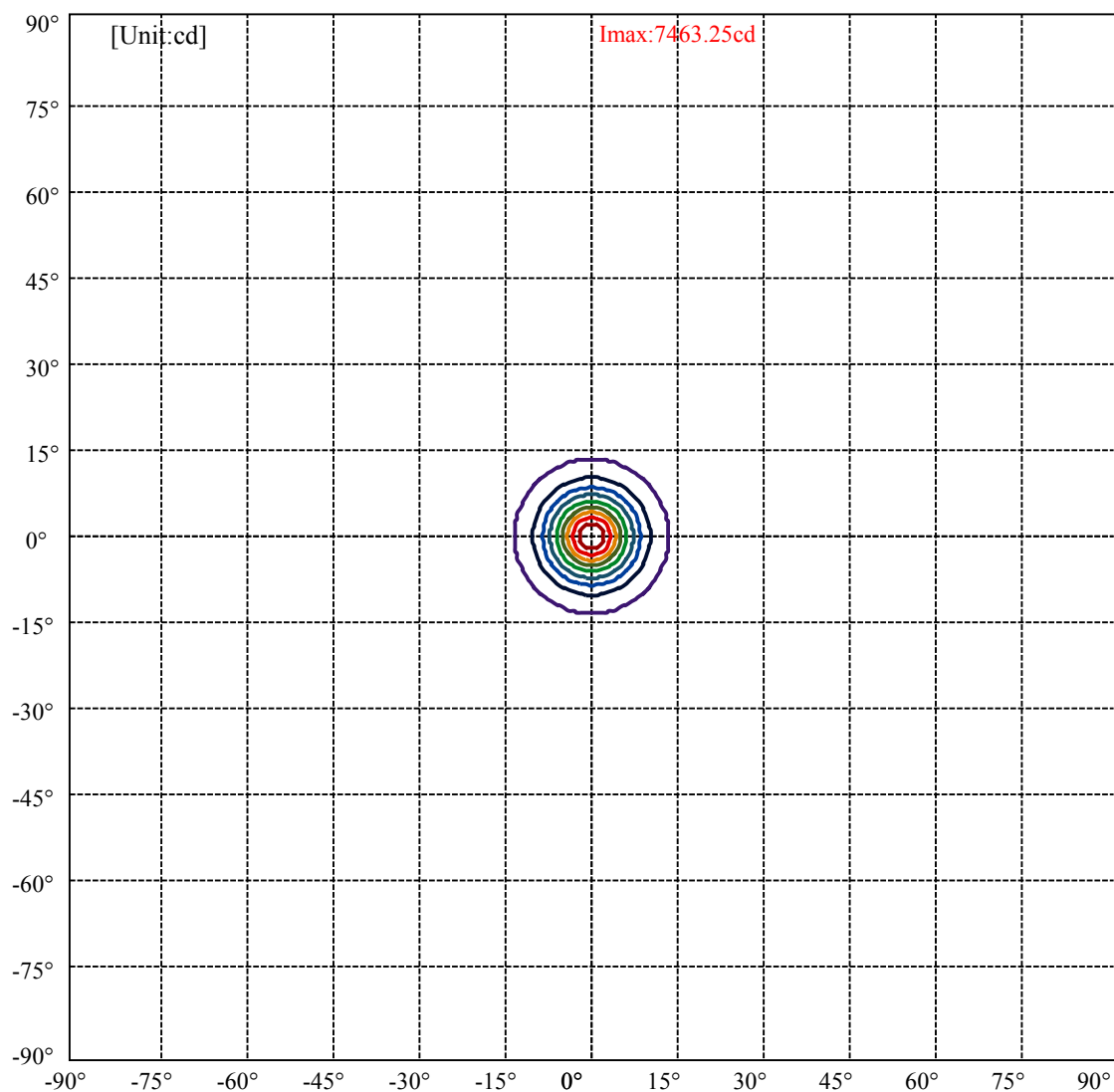
Zone	Lumens	%Lamp	%Fixt
0-30	638.64	76.94%	86.11%
0-40	722.33	87.03%	97.39%
0-60	730.69	88.03%	98.52%
0-90	741.25	89.31%	99.95%
0-120	741.25	89.31%	99.95%
0-180	741.65	89.36%	100.00%
60-90	10.91	1.31%	1.47%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-26.76	593.32	71.48%	80.00%

ZONAL LUMEN SUMMARY

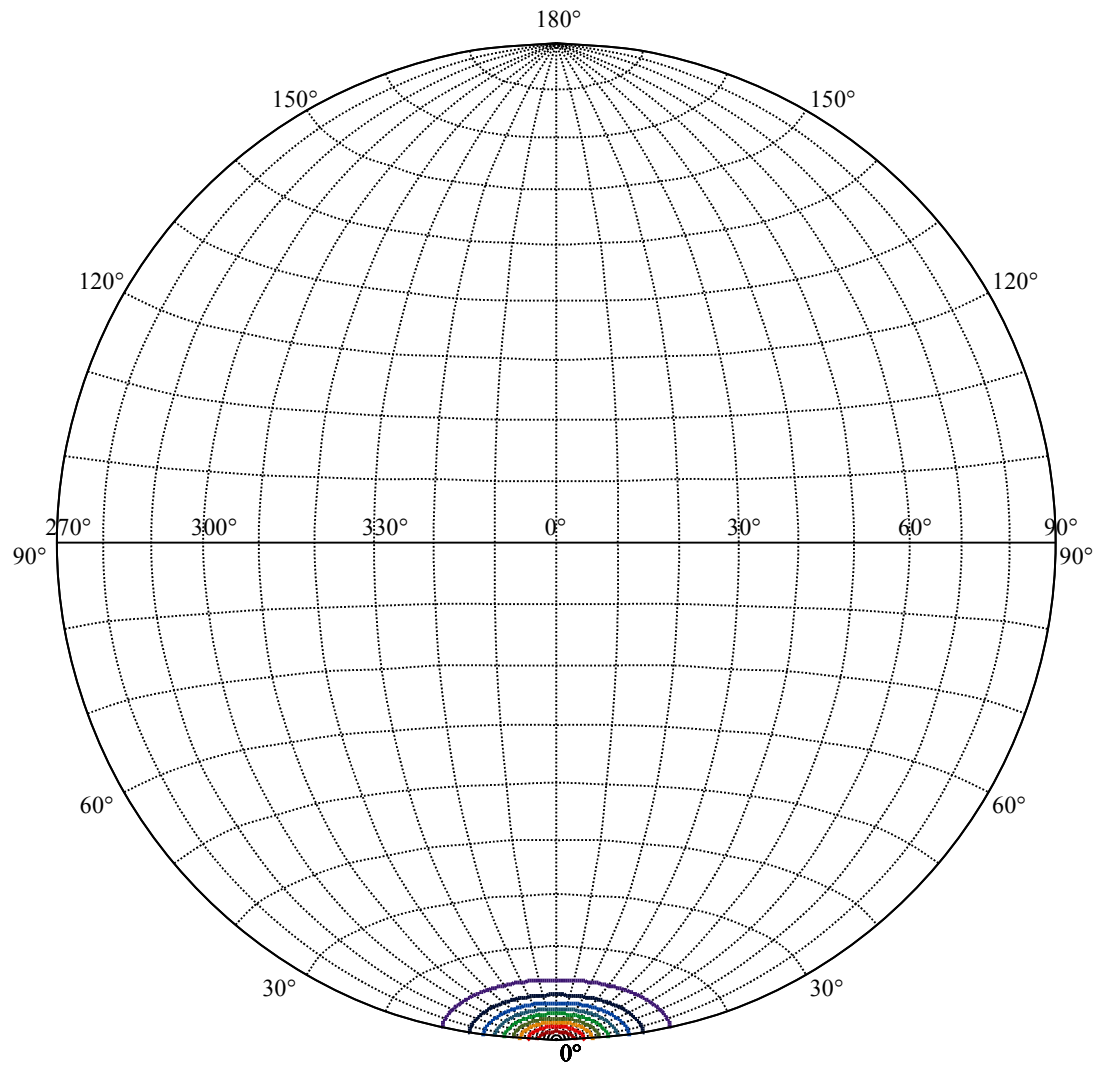
0-10	332.57
10-20	173.35
20-30	132.72
30-40	83.69
40-50	4.68
50-60	3.68
60-70	3.49
70-80	3.60
80-90	3.47
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00







(10%Imax) 746.325
(20%Imax) 1492.65
(30%Imax) 2238.97
(40%Imax) 2985.3
(50%Imax) 3731.62
(60%Imax) 4477.95
(70%Imax) 5224.27
(80%Imax) 5970.6
(90%Imax) 6716.92

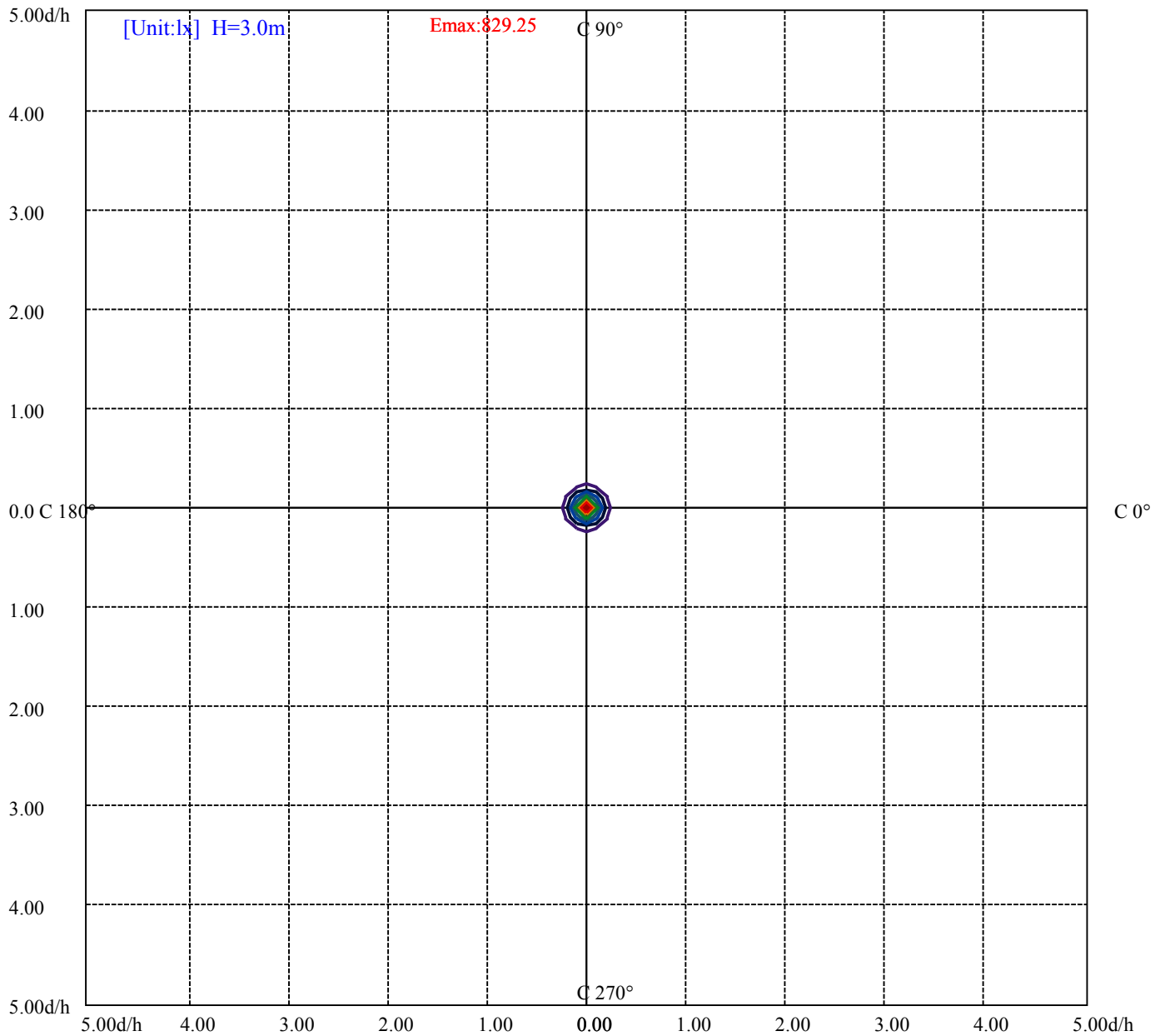


House

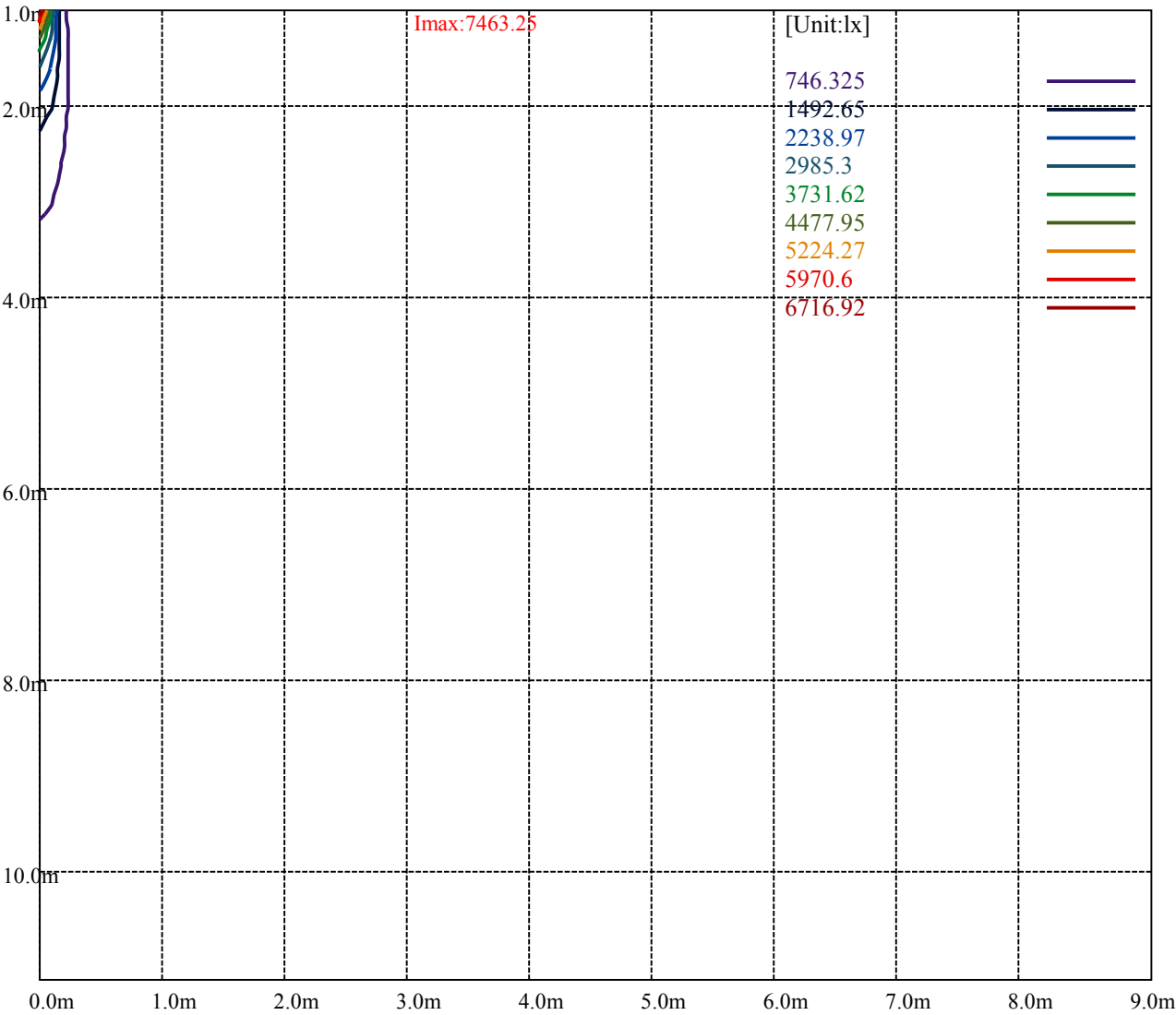
[Unit:cd]

Road

Imax:7463.25	
(10%Imax) 746.325	—
(20%Imax) 1492.65	—
(30%Imax) 2238.97	—
(40%Imax) 2985.3	—
(50%Imax) 3731.62	—
(60%Imax) 4477.95	—
(70%Imax) 5224.27	—
(80%Imax) 5970.6	—
(90%Imax) 6716.92	—



(10%E _{max}) 82.92477	—
(20%E _{max}) 165.85	—
(30%E _{max}) 248.7744	—
(40%E _{max}) 331.6989	—
(50%E _{max}) 414.6234	—
(60%E _{max}) 497.5489	—
(70%E _{max}) 580.4733	—
(80%E _{max}) 663.3978	—
(90%E _{max}) 746.3222	—



Luminance Table

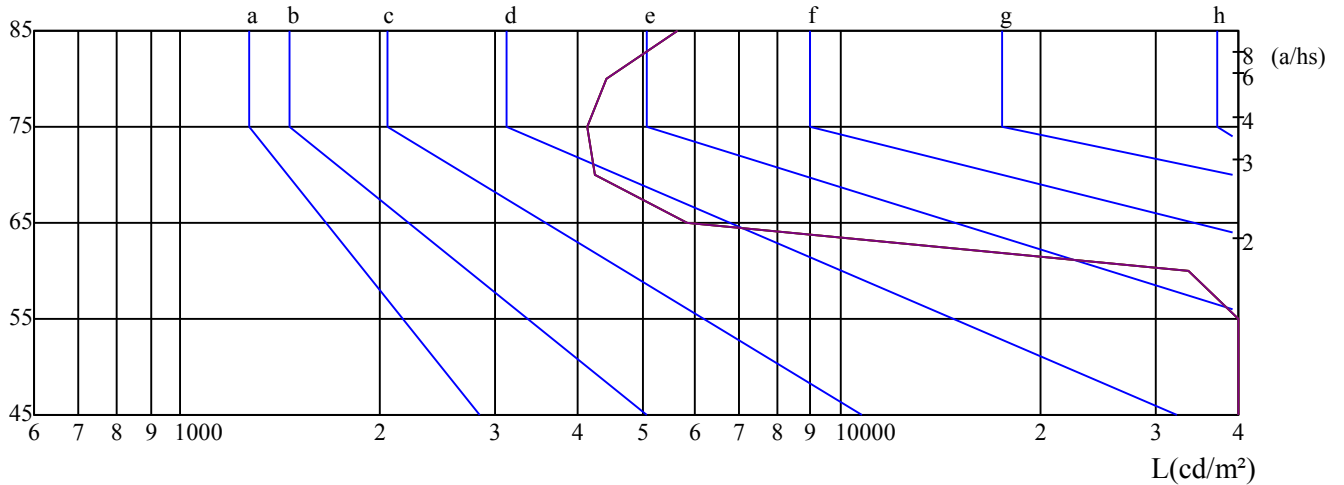
γ	45	50	55	60	65	70	75	80	85
C0	46650	52836	53885	33658	5848	4245	4131	4405	5640
C45	46650	52836	53885	33658	5848	4245	4131	4405	5640
C90	46650	52836	53885	33658	5848	4245	4131	4405	5640

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5848	5848	5848	4131	4131	4131	5640	5640	5640

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

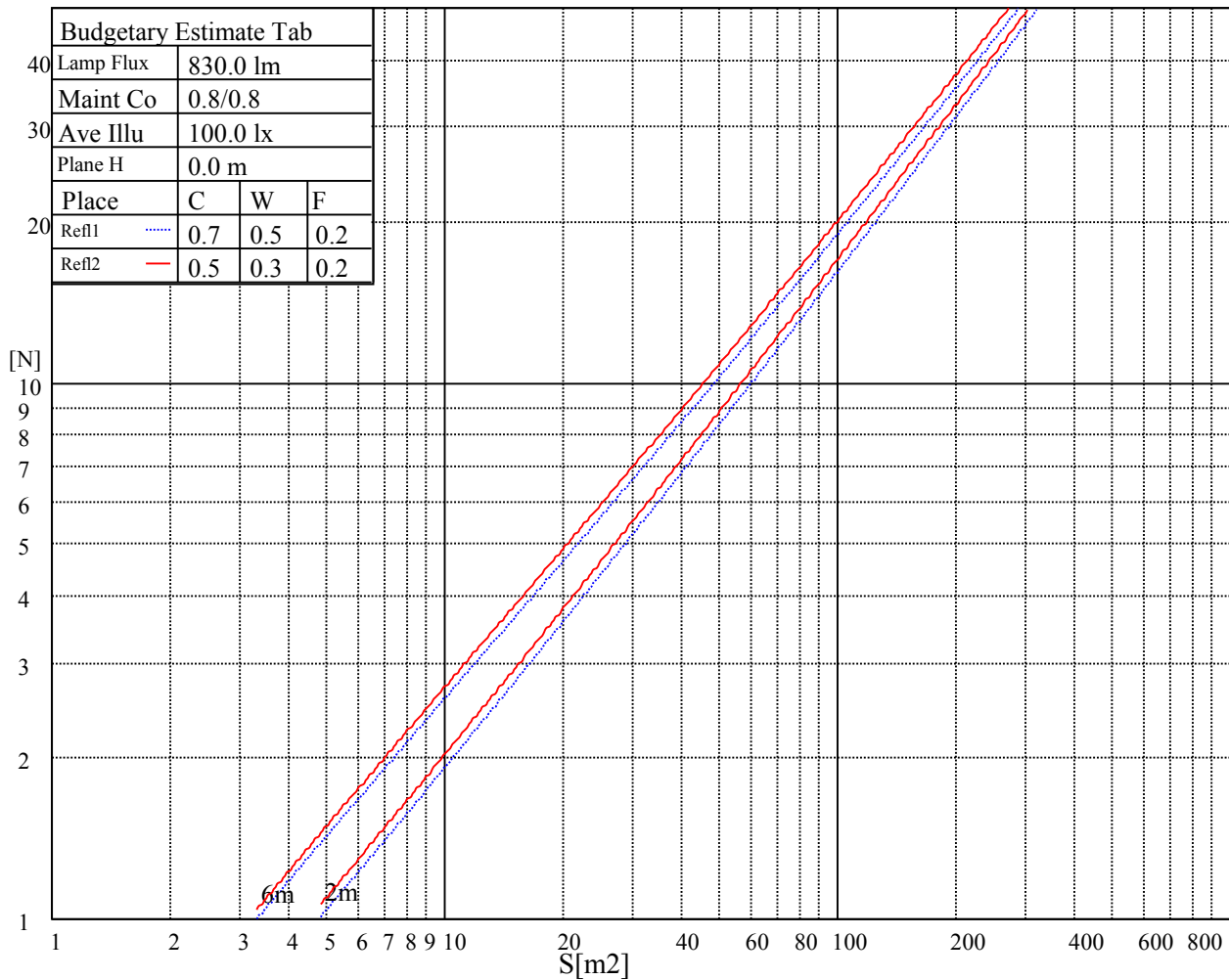
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

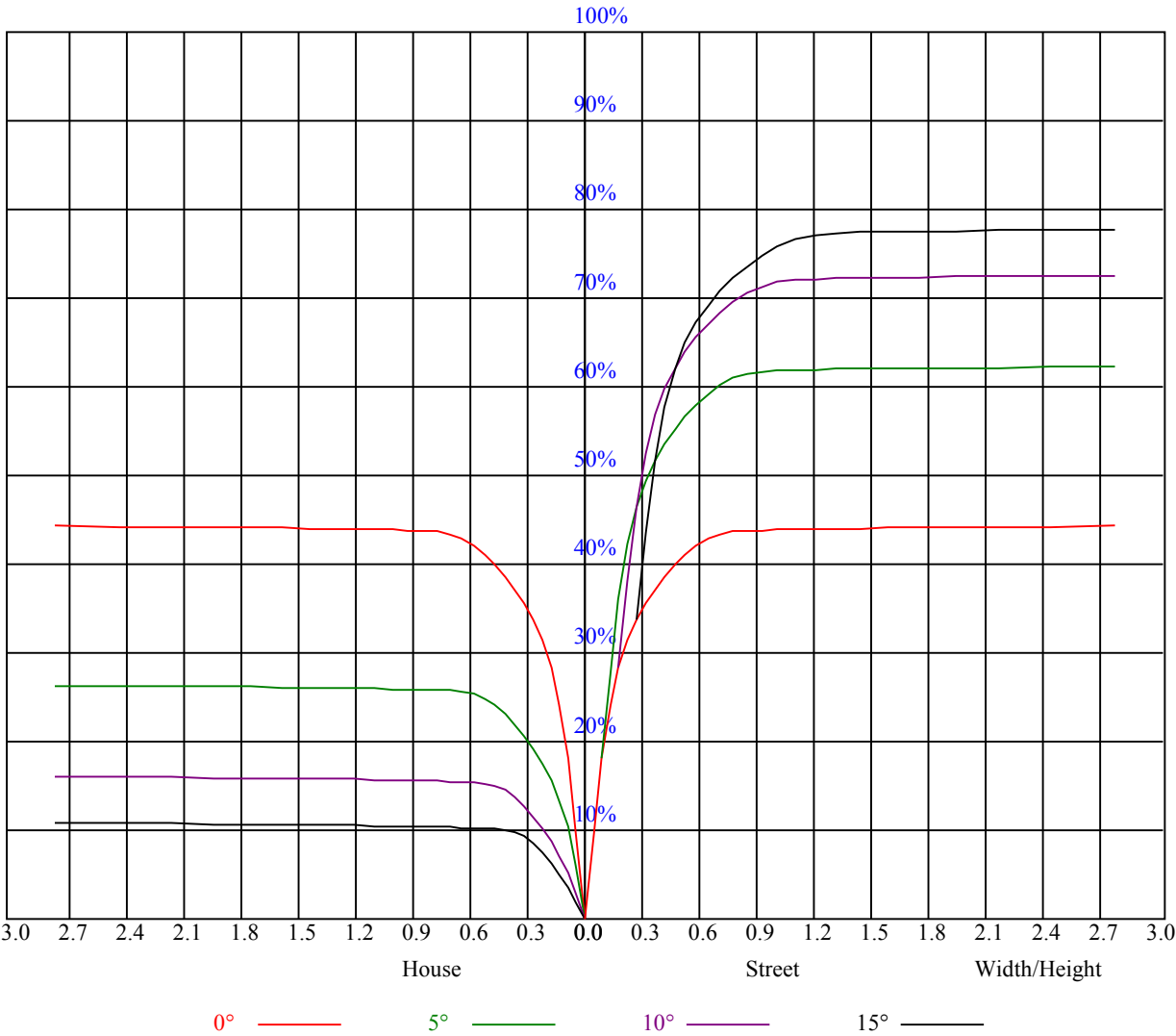
C0 ———

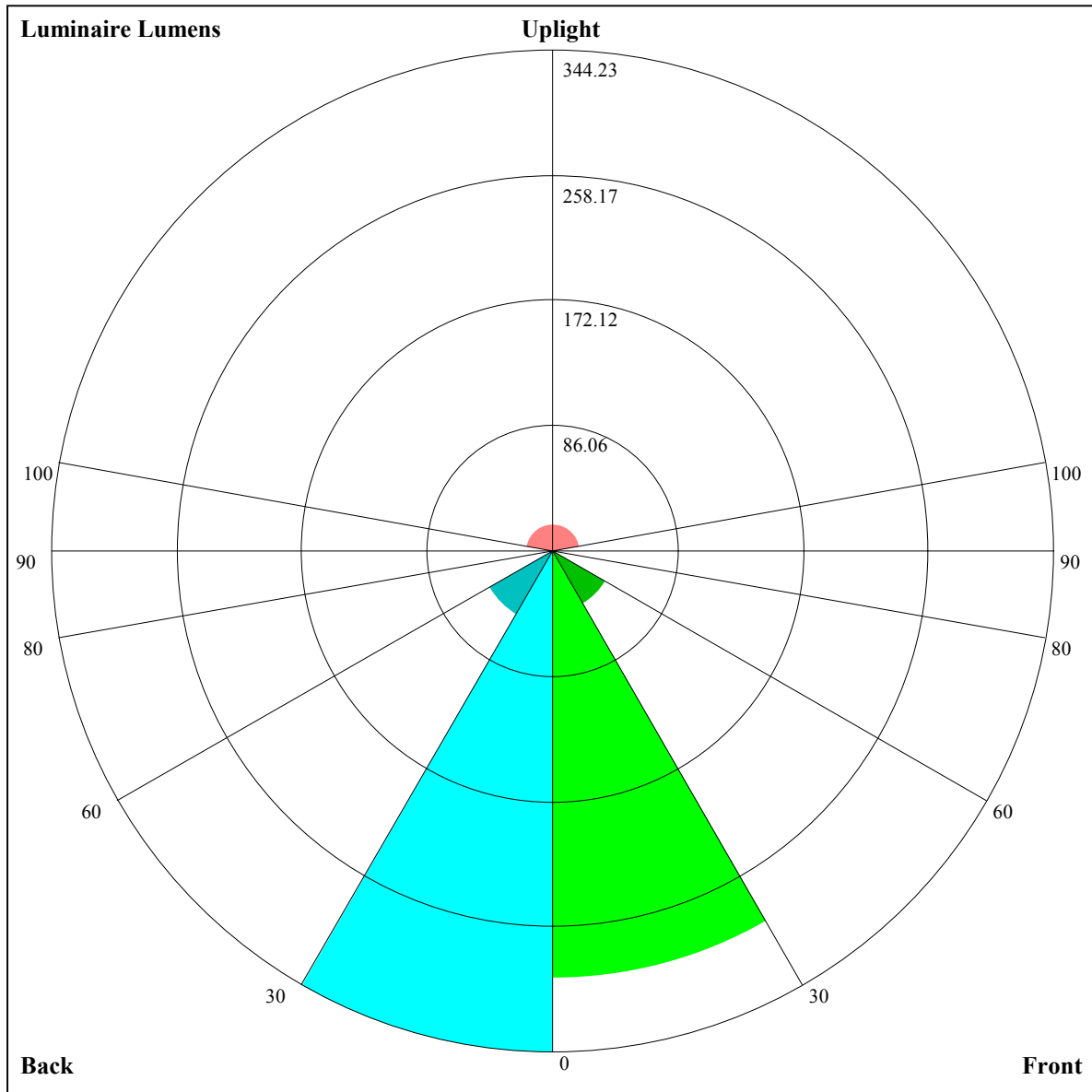
C45 ———

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	1.06	1.06	1.06	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	1.00	0.99	0.97	0.98	0.97	0.95	0.95	0.94	0.92	0.92	0.91	0.90	0.89	0.88	0.87	0.86
2	0.95	0.93	0.90	0.94	0.91	0.89	0.91	0.89	0.87	0.88	0.87	0.85	0.86	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	0.82	0.84	0.82	0.80	0.79
4	0.87	0.84	0.81	0.86	0.83	0.80	0.85	0.82	0.79	0.83	0.80	0.78	0.81	0.79	0.78	0.77
5	0.84	0.80	0.77	0.83	0.80	0.77	0.82	0.79	0.76	0.80	0.78	0.76	0.79	0.77	0.75	0.74
6	0.81	0.77	0.74	0.80	0.77	0.74	0.79	0.76	0.74	0.78	0.75	0.73	0.77	0.75	0.73	0.72
7	0.78	0.74	0.72	0.78	0.74	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.71	0.70
8	0.76	0.72	0.69	0.75	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.69	0.73	0.71	0.69	0.68
9	0.74	0.70	0.67	0.73	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.71	0.69	0.67	0.66
10	0.72	0.68	0.66	0.71	0.68	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.70	0.67	0.65	0.64





Luminaire Lumens:

FL=293.81,FM=41.94,FH=3.55,FVH=1.83

BL=344.23,BM=50.32,BH=3.55,BVH=2.02

UL=3.96,UH=18.84

BUG Rating:B1-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	7525.69	6978.38	6148.13	5330.81	4451.06	3645.56	3002.63	2369.81	1904.06
45.0	7563.38	7266.94	6528.38	5770.69	4998.38	4170.38	3404.81	2784.38	2183.06
90.0	7460.44	7283.25	6760.69	6005.81	5244.19	4394.25	3676.50	2944.13	2311.31
135.0	7303.50	7554.94	7493.63	7134.19	6603.75	5533.88	4726.13	3966.19	3197.81
180.0	7525.69	7725.94	7615.13	7118.44	6415.88	5607.56	4695.75	3858.19	3184.31
225.0	7563.38	7558.31	7213.50	6537.94	5777.44	4892.63	4070.25	3393.56	2712.38
270.0	7460.44	7351.31	6814.69	6117.75	5332.50	4388.06	3694.50	3057.75	2424.94
315.0	7303.50	6751.13	5911.31	5023.13	4280.63	3498.19	2882.81	2273.63	1779.75
360.0	7525.69	6978.38	6148.13	5330.81	4451.06	3645.56	3002.63	2369.81	1904.06
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1493.44	1172.81	953.44	783.00	627.19	537.75	472.50	413.44	380.25
45.0	1705.50	1369.13	1074.94	874.69	704.81	582.75	506.25	448.88	397.13
90.0	1850.63	1439.44	1095.64	915.02	753.24	594.51	522.17	460.35	409.73
135.0	2534.63	2031.19	1575.00	1256.06	979.31	777.94	649.69	545.63	468.00
180.0	2513.81	1959.19	1566.00	1118.98	977.12	777.38	635.85	543.94	474.47
225.0	2192.63	1714.50	1099.01	1069.43	844.48	682.37	575.89	496.91	428.40
270.0	1904.06	1533.38	1200.94	970.88	775.69	632.25	540.56	465.75	414.00
315.0	1433.81	1095.58	912.60	733.05	616.05	520.82	454.05	410.46	378.17
360.0	1493.44	1172.81	953.44	783.00	627.19	537.75	472.50	413.44	380.25
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	354.94	335.81	318.94	308.81	300.94	293.06	288.00	284.63	277.20
45.0	369.00	347.63	327.38	315.56	306.00	297.56	290.25	285.19	284.06
90.0	373.11	349.03	328.78	313.59	303.24	293.91	287.04	280.52	275.01
135.0	419.06	382.50	350.44	330.75	316.13	302.63	295.31	289.13	284.06
180.0	411.98	376.14	349.65	326.14	312.64	302.63	293.68	286.76	281.70
225.0	390.60	362.53	339.47	322.76	311.63	300.77	294.02	288.45	282.60
270.0	381.38	356.63	334.69	321.75	311.06	301.50	294.75	289.13	284.06
315.0	348.92	331.71	318.49	305.89	297.79	291.15	285.08	279.96	275.74
360.0	354.94	335.81	318.94	308.81	300.94	293.06	288.00	284.63	277.20
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	272.64	267.64	262.07	257.51	244.97	216.39	183.49	144.34	104.23
45.0	274.50	269.72	264.99	258.64	252.28	237.94	201.94	168.41	131.34
90.0	270.51	266.23	260.10	254.53	249.53	235.13	210.99	178.59	143.78
135.0	276.86	273.04	268.82	264.94	259.14	253.86	245.25	218.76	183.09
180.0	276.81	272.76	268.43	263.64	258.36	252.84	240.58	216.23	184.39
225.0	278.78	274.11	268.93	264.26	259.20	249.24	230.91	200.87	151.59
270.0	277.37	273.43	268.65	262.97	257.91	246.26	218.70	181.46	144.73
315.0	270.90	265.56	260.27	254.53	238.16	205.82	166.89	131.96	95.85
360.0	272.64	267.64	262.07	257.51	244.97	216.39	183.49	144.34	104.23
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	69.36	39.71	16.31	11.19	9.68	7.93	6.53	5.68	5.18
45.0	85.67	53.61	27.62	12.66	10.41	8.94	7.14	6.08	5.34
90.0	98.16	63.68	37.01	16.03	10.46	9.23	7.76	6.41	5.57
135.0	147.60	113.91	70.48	40.44	19.63	10.35	9.00	7.88	6.58
180.0	142.09	106.99	73.86	37.46	17.83	10.35	8.94	7.76	6.58
225.0	119.14	82.91	47.64	21.49	11.64	9.84	8.61	7.26	6.08
270.0	101.87	65.98	34.03	15.36	10.63	9.51	7.76	6.64	5.74
315.0	53.94	27.84	14.29	10.35	8.89	7.48	6.24	5.40	5.06
360.0	69.36	39.71	16.31	11.19	9.68	7.93	6.53	5.68	5.18

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	4.95	4.78	4.56	4.44	4.33	4.16	4.11	3.99	3.94
45.0	5.01	4.78	4.61	4.50	4.33	4.28	4.16	4.05	3.99
90.0	5.01	4.84	4.67	4.50	4.39	4.28	4.16	4.05	3.99
135.0	5.63	5.06	4.84	4.61	4.50	4.39	4.28	5.63	6.24
180.0	5.46	5.01	4.78	4.56	4.44	4.33	4.16	4.11	3.99
225.0	5.34	4.95	4.78	4.61	4.50	4.33	4.22	4.11	3.99
270.0	5.12	4.95	4.78	4.61	4.44	4.33	4.16	4.11	3.99
315.0	4.89	4.73	4.50	4.39	4.22	4.11	4.05	3.99	3.88
360.0	4.95	4.78	4.56	4.44	4.33	4.16	4.11	3.99	3.94
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	3.83	3.83	3.77	3.71	3.66	3.66	3.60	3.60	3.54
45.0	3.94	3.88	3.83	3.77	3.71	3.66	3.66	3.60	3.60
90.0	3.88	3.83	3.83	3.71	3.71	3.66	3.60	3.60	3.60
135.0	7.65	8.55	6.86	6.98	3.71	3.66	3.60	3.60	3.60
180.0	3.88	3.83	3.77	3.71	3.66	3.66	3.60	3.60	3.54
225.0	3.94	3.88	3.83	3.77	3.71	3.66	3.60	3.60	3.60
270.0	3.94	3.88	3.83	3.77	3.71	3.71	3.66	3.66	3.60
315.0	3.83	3.77	3.77	3.66	3.66	3.66	3.60	3.54	3.54
360.0	3.83	3.83	3.77	3.71	3.66	3.66	3.60	3.60	3.54
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	3.54	3.49	3.49	3.43	3.43	3.43	3.43	3.43	3.38
45.0	3.60	3.54	3.54	3.49	3.49	3.49	3.49	3.49	3.43
90.0	3.54	3.54	3.49	3.49	3.49	3.49	3.49	3.43	3.43
135.0	3.54	3.54	3.49	3.49	3.49	3.49	3.43	3.49	3.43
180.0	3.54	3.49	3.49	3.49	3.43	3.49	3.43	3.43	3.43
225.0	3.60	3.54	3.49	3.49	3.49	3.49	3.49	3.43	3.43
270.0	3.60	3.54	3.54	3.54	3.54	3.54	3.49	3.49	3.49
315.0	3.49	3.49	3.49	3.49	3.43	3.43	3.38	3.43	3.43
360.0	3.54	3.49	3.49	3.43	3.43	3.43	3.43	3.43	3.38
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.32	3.32
45.0	3.43	3.43	3.43	3.38	3.43	3.43	3.38	3.38	3.38
90.0	3.43	3.43	3.43	3.43	3.43	3.38	3.38	3.38	3.43
135.0	3.38	3.43	3.43	3.38	3.38	3.38	3.38	3.38	3.38
180.0	3.43	3.38	3.38	3.38	3.38	3.38	3.32	3.38	3.38
225.0	3.43	3.43	3.43	3.38	3.38	3.38	3.38	3.38	3.38
270.0	3.49	3.43	3.43	3.43	3.43	3.43	3.43	3.43	3.43
315.0	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38
360.0	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.32	3.32
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	3.32	3.32	3.32	3.32	3.32	3.32	3.32	3.32	3.32
45.0	3.38	3.38	3.38	3.38	3.38	3.38	3.32	3.32	3.32
90.0	3.38	3.38	3.38	3.38	3.38	3.38	3.32	3.32	3.32
135.0	3.38	3.38	3.38	3.38	5.40	6.41	6.02	7.37	5.91
180.0	3.38	3.38	3.32	3.32	3.32	3.32	3.32	3.32	3.32
225.0	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38
270.0	3.43	3.43	3.43	3.43	3.49	3.38	3.32	3.32	3.38
315.0	3.38	3.32	3.38	3.32	3.38	3.38	3.32	3.32	3.32
360.0	3.32	3.32	3.32	3.32	3.32	3.32	3.32	3.32	3.32

1656-S

Intensity data(cd)

Appendix Page: 19 Total:19

C/ γ (°)	90.0
0.0	3.32
45.0	3.32
90.0	3.38
135.0	5.63
180.0	3.32
225.0	3.38
270.0	3.38
315.0	3.32
360.0	3.32