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Nata

Client:

LumCAT: LM01D06915BJ

Luminaire: 92.70.074.00

Report No:

Voltage(V): 34.7000

Test No: GC2019072301

Current(A): 0.2970

LampCAT: CREE CXA1830

Power (W): 10.3100

Lamp flux(lm): 1109.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 69

Width(mm): 69

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 980.50, Efficiency(%): 88.41% , Luminous Efficacy(lm/W): 95.10

Central intensity(cd): 7727.766, Maximum intensity(cd): 7727.766

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=16.4

[C90/270]Total=16.4

Field angle(10%Imax): [C0/180]Total=30.0

[C90/270]Total=30.0

Maximum s/h(1/2): C0_180=0.28 C90_270=0.28

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(%): 88.41%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 94.637%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7727.766	0.000	0	.000%	.000%
1.0	7688.883	7.377	7.377	.665%	.752%
2.0	7532.086	21.847	29.223	1.970%	2.980%
3.0	7266.375	35.393	64.616	3.191%	6.590%
4.0	6900.328	47.420	112.037	4.276%	11.426%
5.0	6348.164	56.994	169.031	5.139%	17.239%
6.0	5681.039	63.217	232.248	5.700%	23.687%
7.0	4893.328	65.635	297.883	5.918%	30.381%
8.0	4047.539	63.988	361.871	5.770%	36.907%
9.0	3226.711	58.954	420.825	5.316%	42.919%
10.0	2507.695	51.894	472.719	4.679%	48.212%
11.0	1912.711	44.169	516.888	3.983%	52.717%
12.0	1443.930	36.693	553.581	3.309%	56.459%
13.0	1123.242	30.466	584.046	2.747%	59.566%
14.0	922.985	26.192	610.238	2.362%	62.237%
15.0	767.123	23.203	633.441	2.092%	64.604%
16.0	646.896	20.719	654.16	1.868%	66.717%
17.0	552.171	18.673	672.833	1.684%	68.621%
18.0	476.698	16.964	689.796	1.530%	70.351%
19.0	417.923	15.565	705.361	1.403%	71.939%
20.0	364.563	14.322	719.683	1.291%	73.400%
21.0	320.372	13.152	732.835	1.186%	74.741%
22.0	290.672	12.279	745.114	1.107%	75.993%
23.0	253.617	11.421	756.535	1.030%	77.158%
24.0	223.770	10.437	766.972	.941%	78.222%
25.0	196.995	9.567	776.539	.863%	79.198%
26.0	177.082	8.830	785.369	.796%	80.099%
27.0	158.850	8.219	793.588	.741%	80.937%
28.0	142.868	7.639	801.227	.689%	81.716%
29.0	129.466	7.125	808.352	.642%	82.443%
30.0	118.273	6.689	815.041	.603%	83.125%
31.0	108.141	6.301	821.342	.568%	83.768%
32.0	99.394	5.946	827.287	.536%	84.374%
33.0	92.004	5.639	832.926	.508%	84.949%
34.0	85.057	5.358	838.284	.483%	85.496%
35.0	79.109	5.098	843.383	.460%	86.016%
36.0	74.138	4.879	848.262	.440%	86.513%
37.0	70.024	4.702	852.964	.424%	86.993%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	66.087	4.543	857.507	.410%	87.456%
39.0	62.297	4.382	861.889	.395%	87.903%
40.0	58.971	4.229	866.118	.381%	88.334%
41.0	55.835	4.088	870.207	.369%	88.751%
42.0	52.931	3.952	874.158	.356%	89.154%
43.0	50.280	3.823	877.982	.345%	89.544%
44.0	48.016	3.710	881.692	.335%	89.923%
45.0	45.886	3.609	885.3	.325%	90.291%
46.0	43.882	3.511	888.811	.317%	90.649%
47.0	41.857	3.410	892.221	.307%	90.996%
48.0	40.015	3.310	895.531	.298%	91.334%
49.0	38.243	3.214	898.744	.290%	91.662%
50.0	36.288	3.107	901.852	.280%	91.979%
51.0	34.636	3.001	904.853	.271%	92.285%
52.0	32.977	2.901	907.754	.262%	92.581%
53.0	31.359	2.799	910.553	.252%	92.866%
54.0	29.925	2.701	913.254	.244%	93.142%
55.0	28.709	2.617	915.871	.236%	93.409%
56.0	27.584	2.544	918.415	.229%	93.668%
57.0	26.494	2.473	920.887	.223%	93.920%
58.0	25.488	2.404	923.291	.217%	94.165%
59.0	24.638	2.343	925.634	.211%	94.404%
60.0	23.773	2.287	927.922	.206%	94.638%
61.0	22.971	2.231	930.152	.201%	94.865%
62.0	22.261	2.180	932.332	.197%	95.087%
63.0	21.614	2.134	934.466	.192%	95.305%
64.0	20.834	2.083	936.549	.188%	95.517%
65.0	20.138	2.028	938.576	.183%	95.724%
66.0	19.498	1.978	940.554	.178%	95.926%
67.0	18.928	1.932	942.486	.174%	96.123%
68.0	18.373	1.890	944.375	.170%	96.316%
69.0	17.852	1.848	946.223	.167%	96.504%
70.0	17.367	1.809	948.032	.163%	96.689%
71.0	16.868	1.769	949.802	.160%	96.869%
72.0	16.334	1.726	951.528	.156%	97.045%
73.0	15.841	1.683	953.211	.152%	97.217%
74.0	15.413	1.643	954.854	.148%	97.384%
75.0	14.984	1.606	956.46	.145%	97.548%

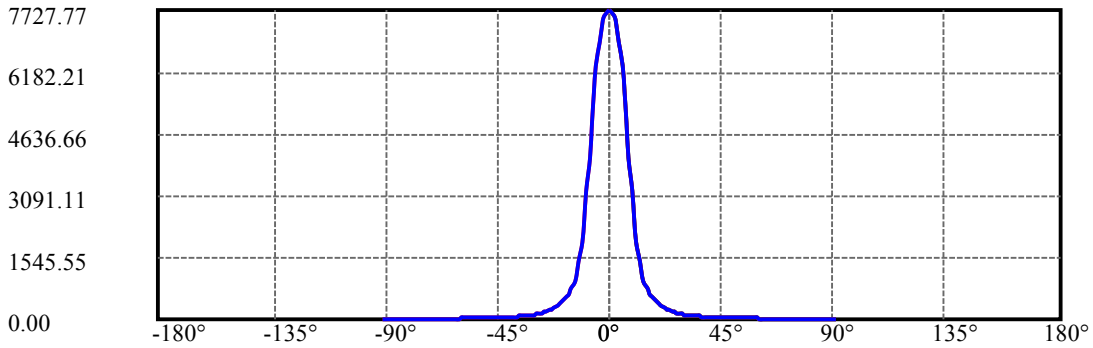
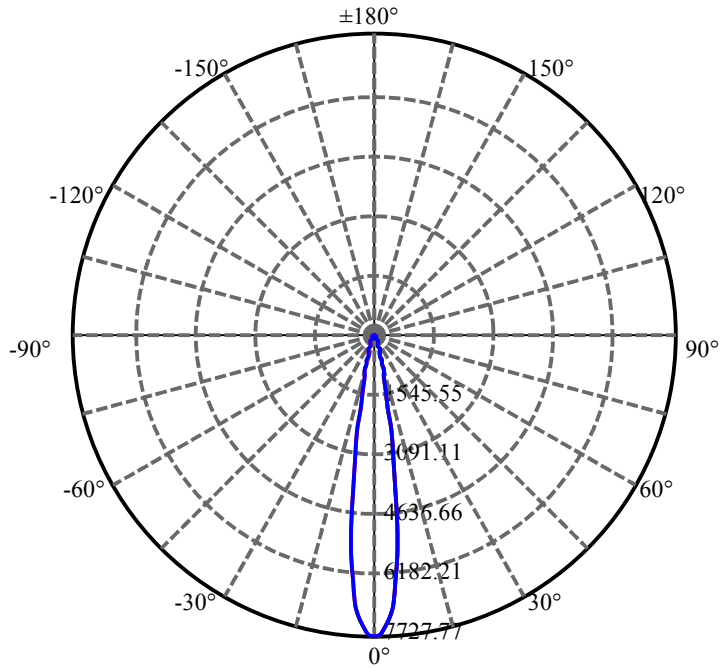
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	14.653	1.573	958.033	.142%	97.709%
77.0	14.597	1.559	959.592	.141%	97.868%
78.0	15.363	1.604	961.196	.145%	98.031%
79.0	16.636	1.719	962.916	.155%	98.207%
80.0	17.789	1.856	964.771	.167%	98.396%
81.0	18.323	1.953	966.724	.176%	98.595%
82.0	16.615	1.895	968.619	.171%	98.788%
83.0	14.766	1.706	970.325	.154%	98.962%
84.0	14.161	1.576	971.901	.142%	99.123%
85.0	14.224	1.549	973.45	.140%	99.281%
86.0	14.041	1.545	974.995	.139%	99.438%
87.0	13.324	1.498	976.493	.135%	99.591%
88.0	12.621	1.421	977.914	.128%	99.736%
89.0	11.742	1.335	979.249	.120%	99.872%
90.0	11.081	1.251	980.501	.113%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	815.04	73.49%	83.12%
0-40	866.12	78.10%	88.33%
0-60	927.92	83.67%	94.64%
0-90	979.25	88.30%	99.87%
0-120	979.25	88.30%	99.87%
0-180	980.50	88.41%	100.00%
60-90	53.61	4.83%	5.47%
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%
0-25.89	784.40	70.73%	80.00%

ZONAL LUMEN SUMMARY

0-10	472.72
10-20	246.96
20-30	95.36
30-40	51.08
40-50	35.73
50-60	26.07
60-70	20.11
70-80	16.74
80-90	14.48
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



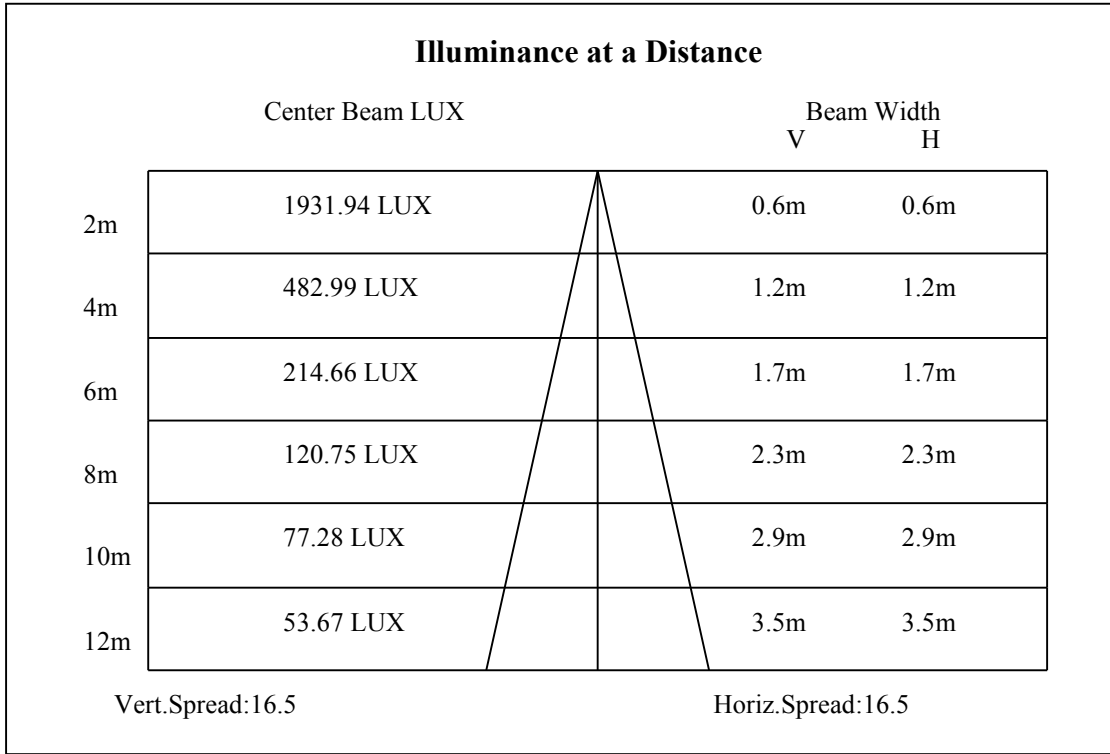
C0(Max): —————

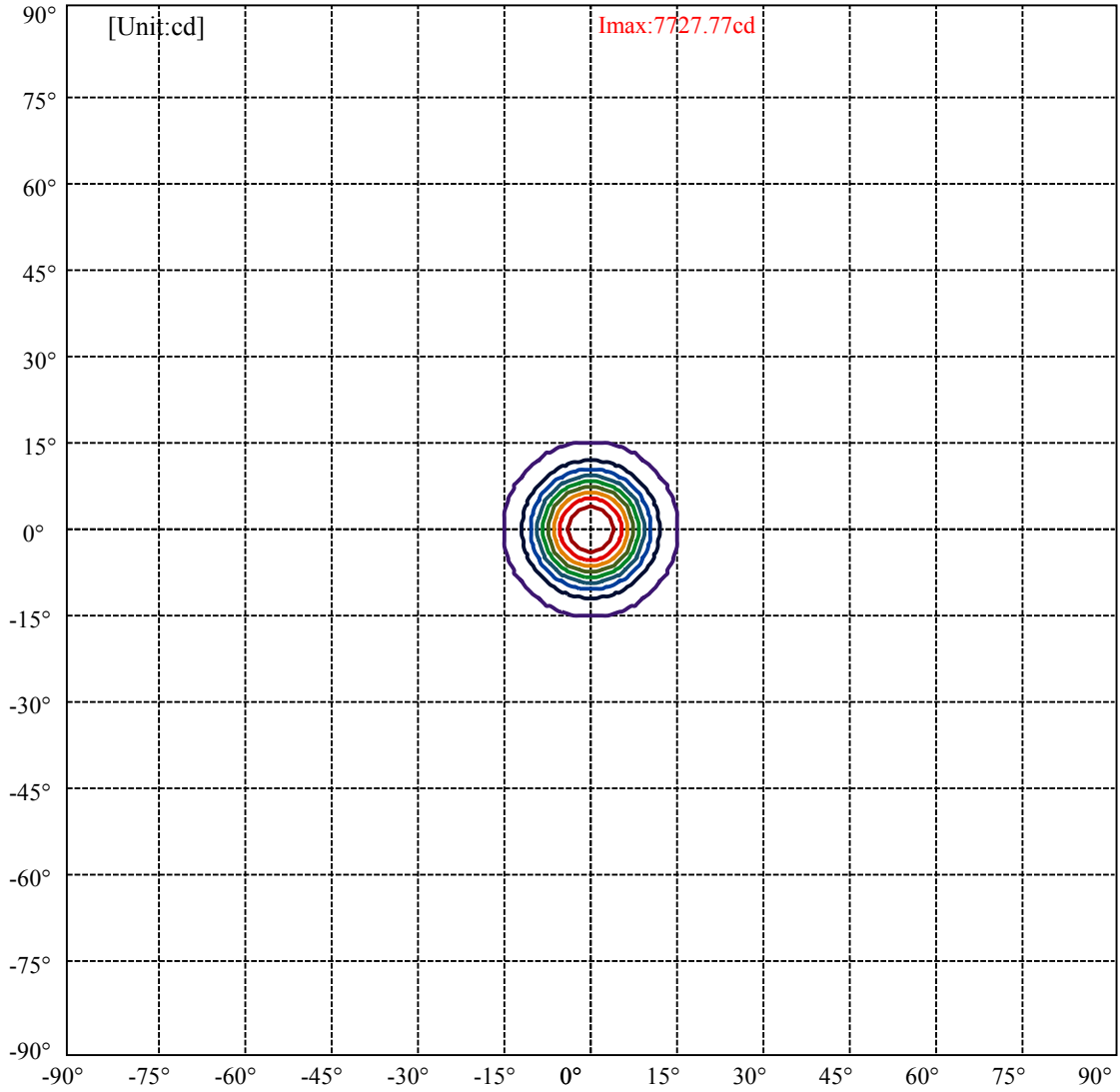
C0/C180: —————

C90/C270: —————

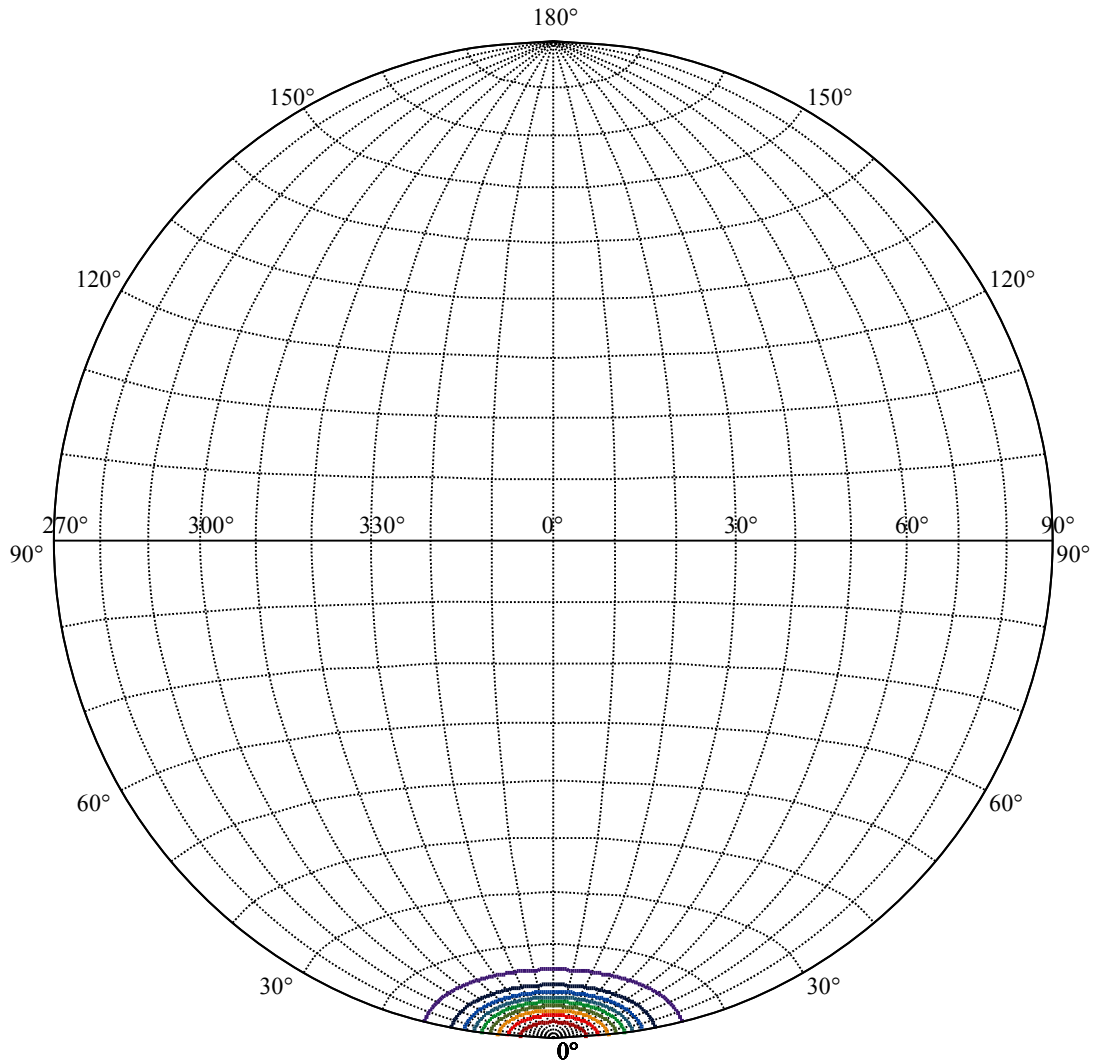
Field angle(10%Imax):C0/180Left:15.0 Right:15.0
:C90/270Left:15.0 Right:15.0

Beam Angle(50%Imax):C0/180Left:8.2 Right:8.2
:C90/270Left:8.2 Right:8.2





(10%Imax) 772.777	—
(20%Imax) 1545.55	—
(30%Imax) 2318.33	—
(40%Imax) 3091.11	—
(50%Imax) 3863.88	—
(60%Imax) 4636.66	—
(70%Imax) 5409.44	—
(80%Imax) 6182.21	—
(90%Imax) 6954.99	—



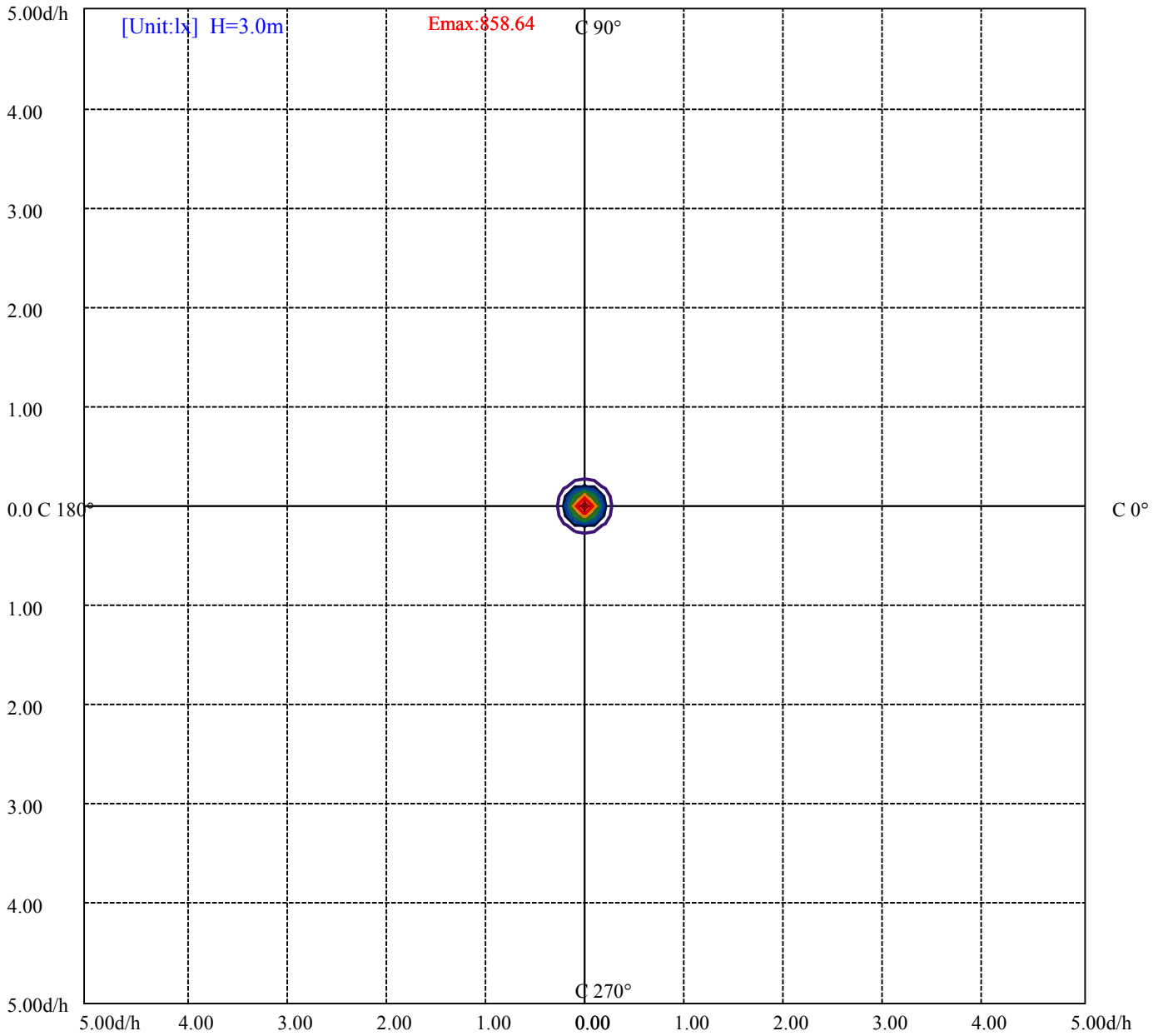
House

[Unit:cd]

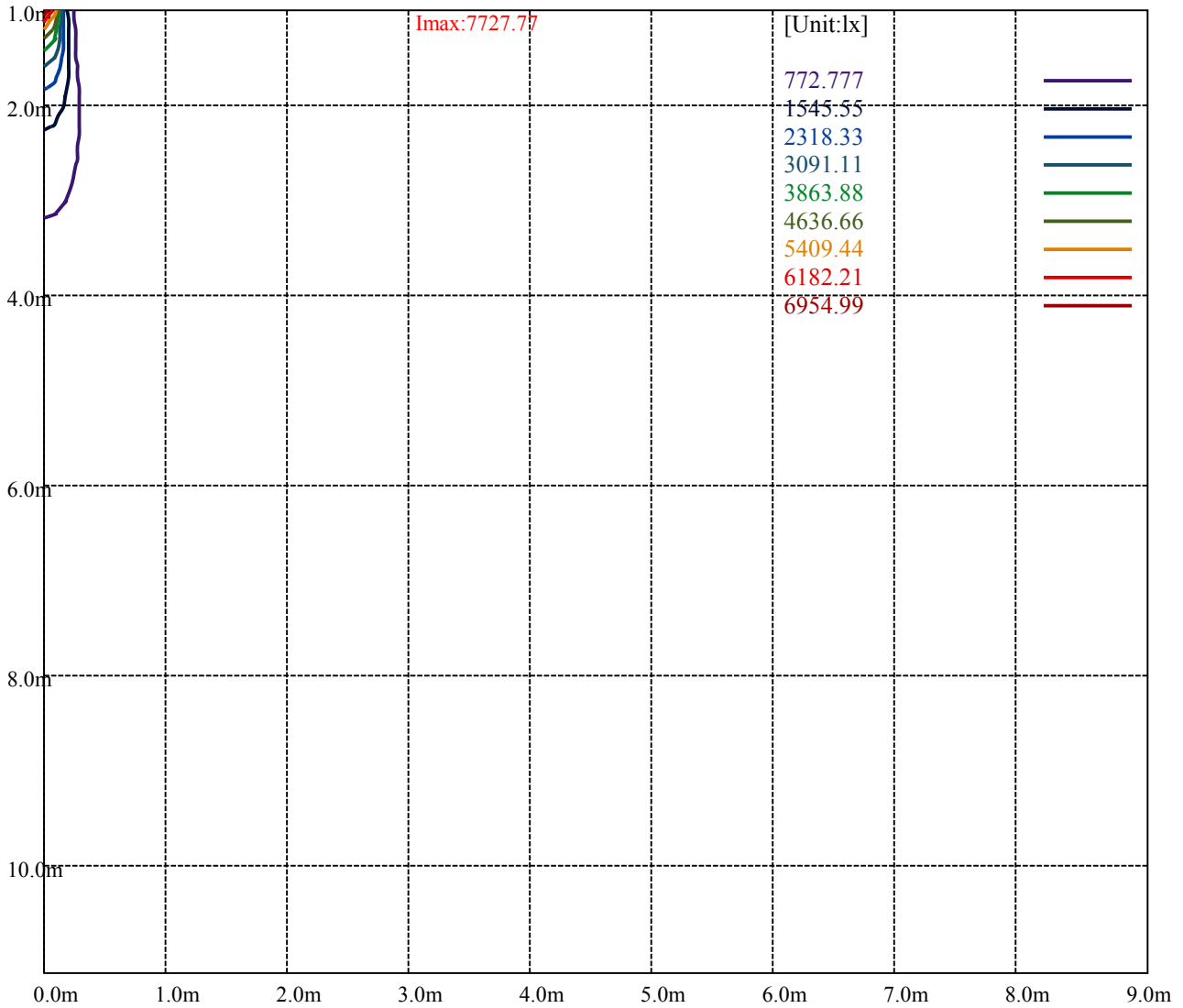
Road

Imax:7727.77

(10%Imax) 772.777	—
(20%Imax) 1545.55	—
(30%Imax) 2318.33	—
(40%Imax) 3091.11	—
(50%Imax) 3863.88	—
(60%Imax) 4636.66	—
(70%Imax) 5409.44	—
(80%Imax) 6182.21	—
(90%Imax) 6954.99	—



- (10%E_{max}) 85.864
- (20%E_{max}) 171.7278
- (30%E_{max}) 257.5922
- (40%E_{max}) 343.4556
- (50%E_{max}) 429.32
- (60%E_{max}) 515.1844
- (70%E_{max}) 601.0478
- (80%E_{max}) 686.9122
- (90%E_{max}) 772.7756



Luminance Table

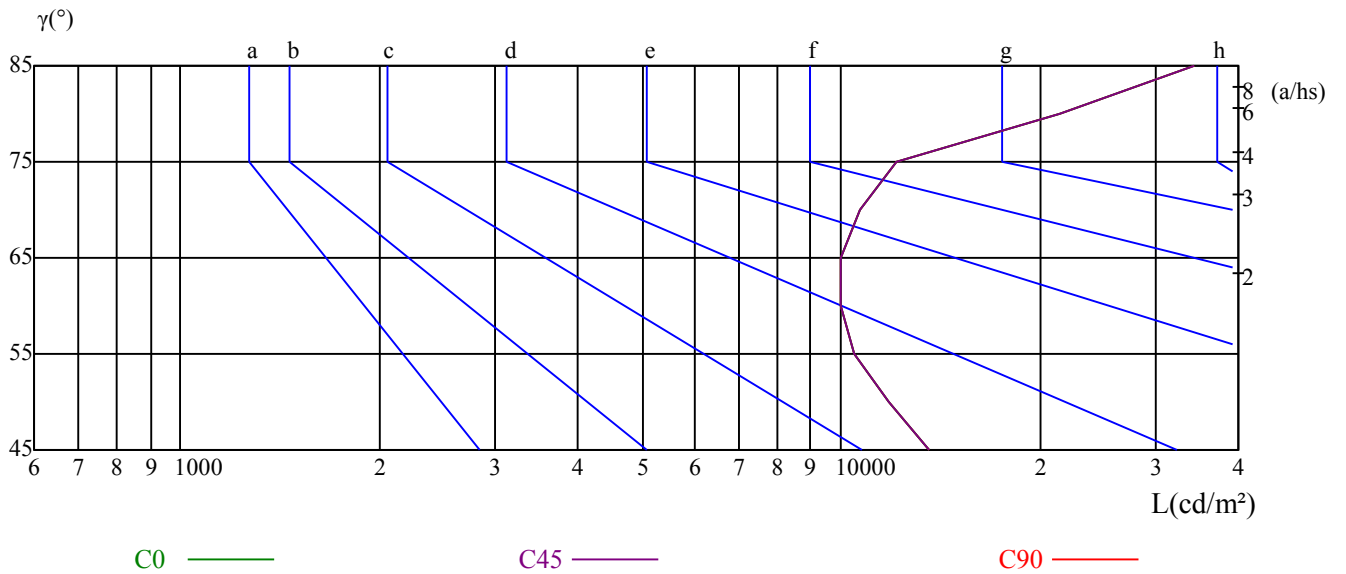
γ	45	50	55	60	65	70	75	80	85
C0	13630	11858	10513	9986	10008	10665	12160	21517	34279
C45	13630	11858	10513	9986	10008	10665	12160	21517	34279
C90	13630	11858	10513	9986	10008	10665	12160	21517	34279

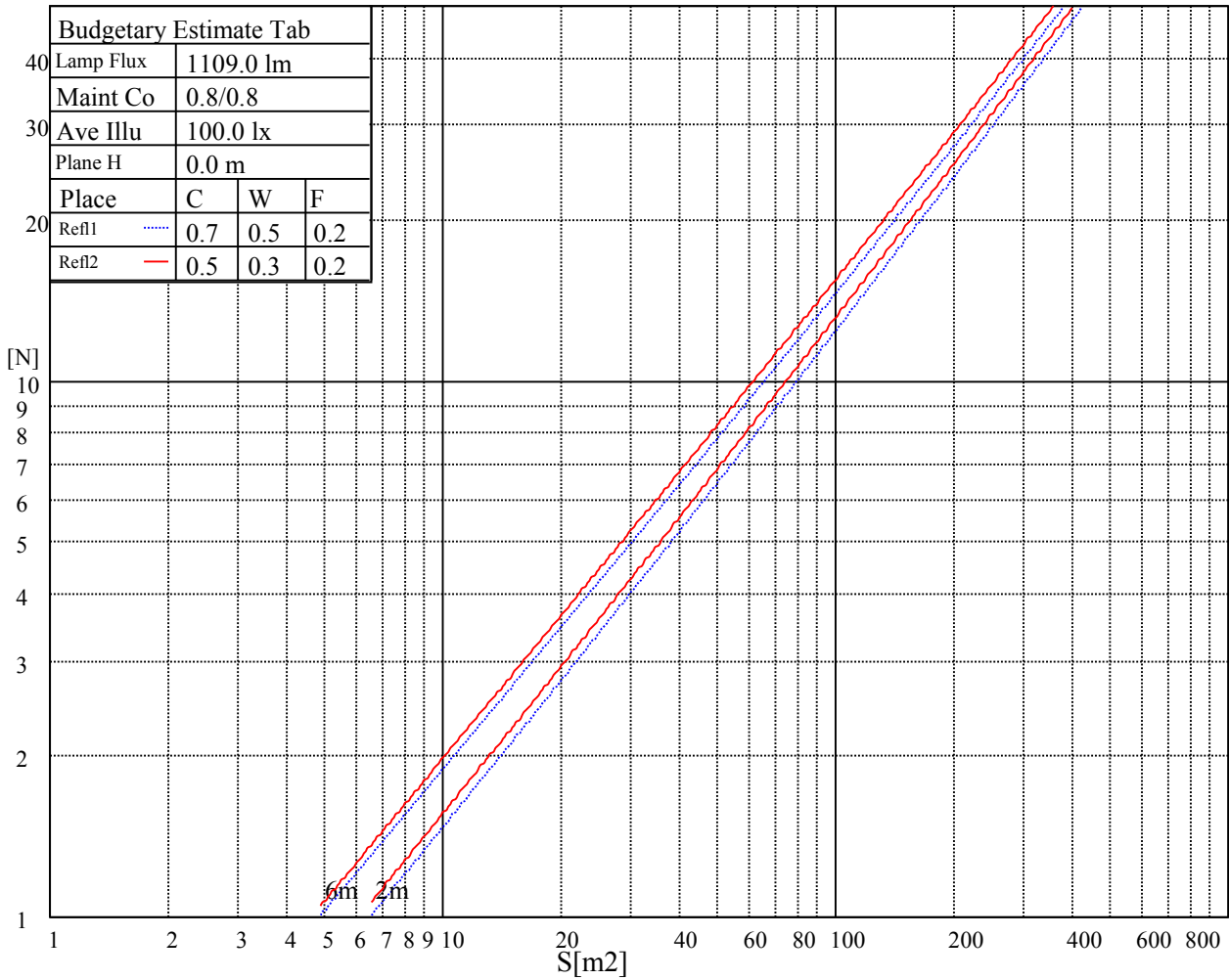
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
10008	10008	10008	12160	12160	12160	34279	34279	34279

Glare Table

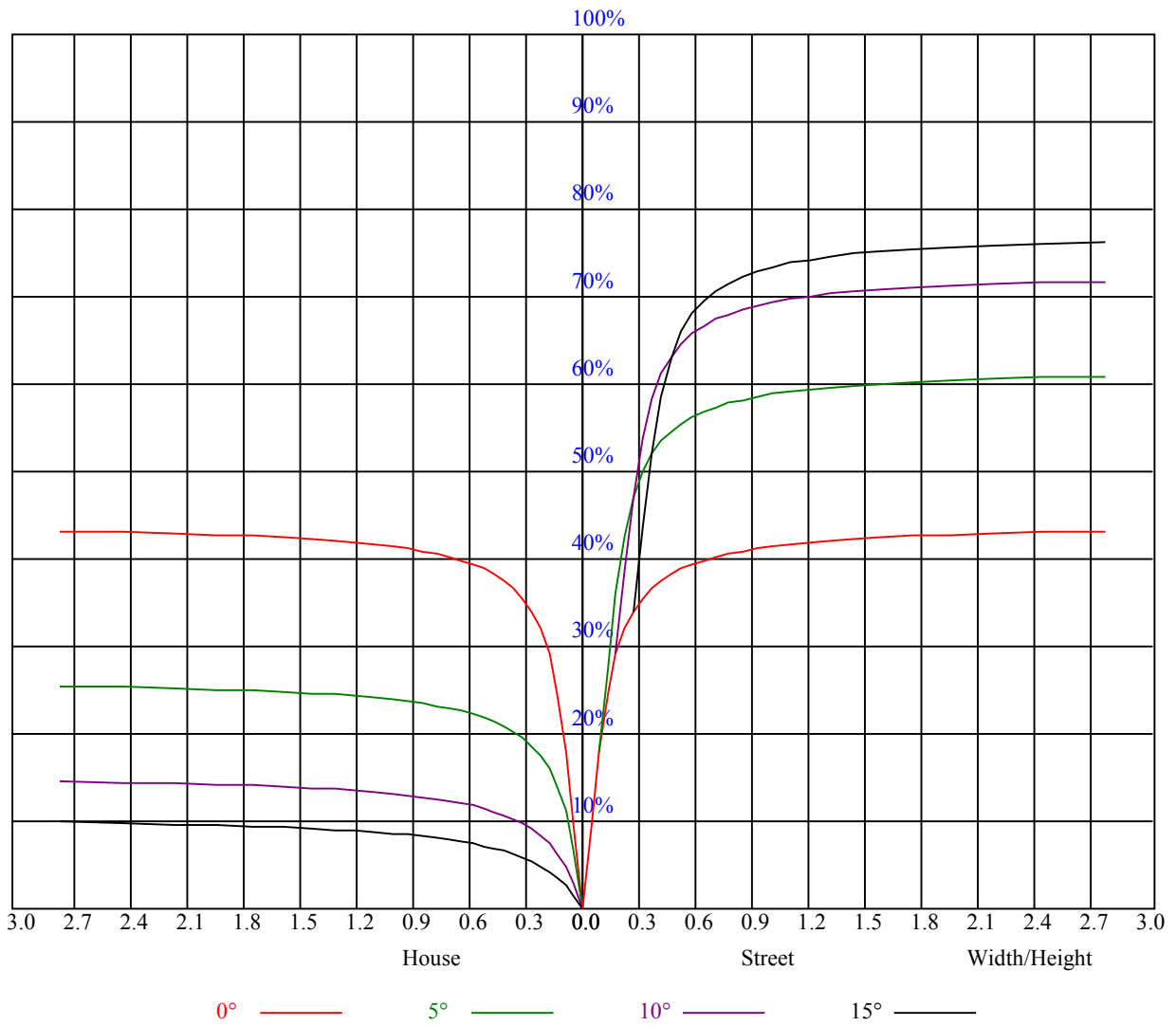
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

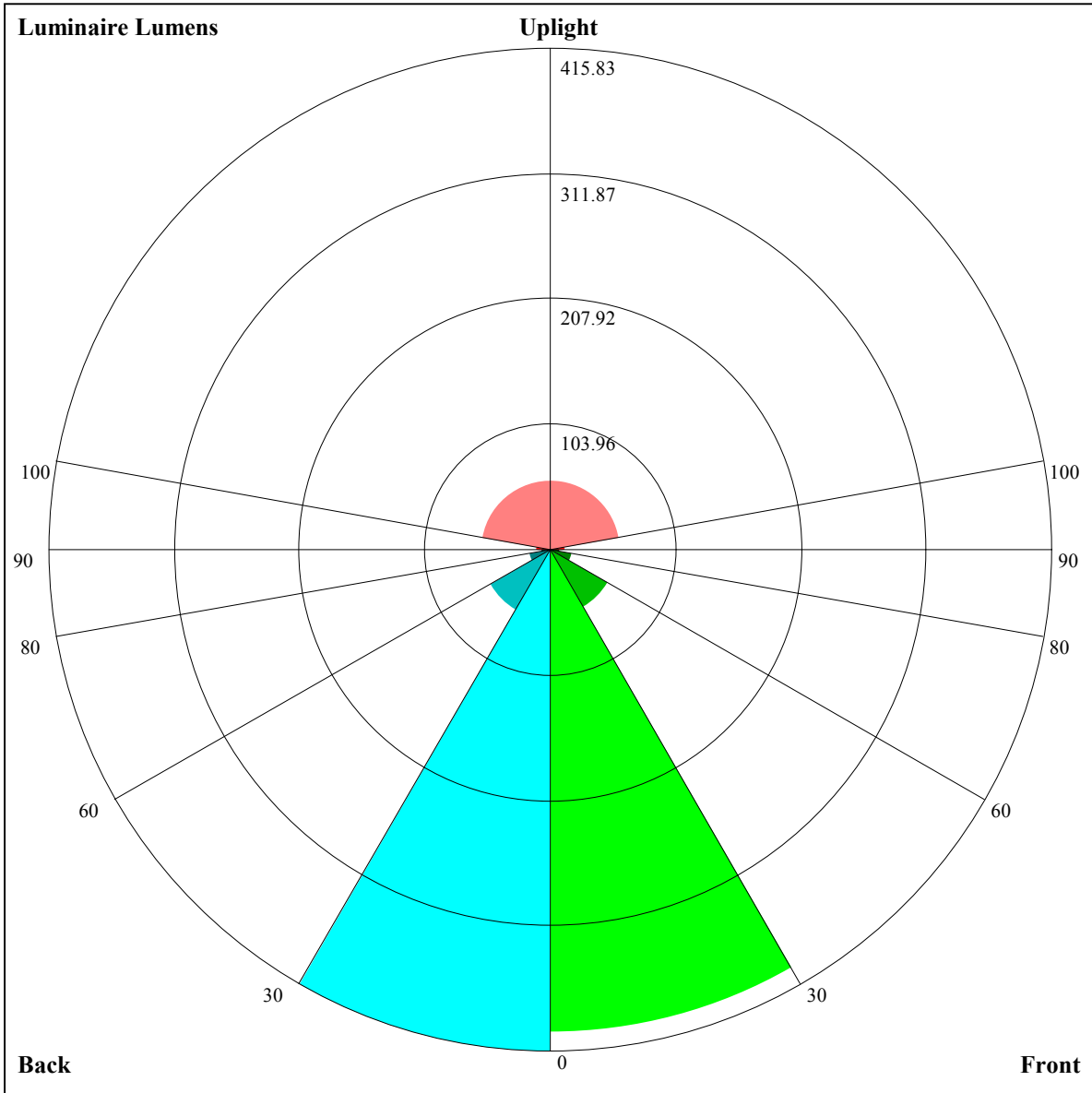
Luminance Limiting Curve





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	1.05	1.05	1.05	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.88
1	0.98	0.96	0.94	0.96	0.95	0.93	0.93	0.91	0.90	0.90	0.88	0.87	0.87	0.86	0.85	0.83
2	0.93	0.90	0.87	0.91	0.89	0.86	0.89	0.86	0.84	0.86	0.84	0.82	0.84	0.82	0.81	0.79
3	0.88	0.85	0.82	0.87	0.84	0.81	0.85	0.82	0.80	0.83	0.81	0.79	0.81	0.79	0.78	0.76
4	0.85	0.81	0.78	0.84	0.80	0.77	0.82	0.79	0.76	0.80	0.78	0.76	0.79	0.77	0.75	0.74
5	0.82	0.78	0.75	0.81	0.77	0.74	0.79	0.76	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.71
6	0.79	0.75	0.72	0.78	0.74	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.69
7	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.73	0.71	0.69	0.68
8	0.74	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.72	0.69	0.67	0.66
9	0.72	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.66	0.65
10	0.71	0.67	0.65	0.70	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.69	0.66	0.64	0.63





Luminaire Lumens:

FL=399.75,FM=54.97,FH=18.09,FVH=7.59

BL=415.83,BM=57.67,BH=18.88,BVH=7.82

UL=12.09,UH=57.54

BUG Rating:B1-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	7745.63	7696.13	7527.94	7250.06	6850.69	6255.56	5486.63	4731.19	3960.00
45.0	7719.19	7724.25	7632.00	7452.00	7169.06	6649.88	6083.44	5371.88	4492.69
90.0	7727.63	7728.75	7597.13	7364.81	7034.06	6527.81	5848.88	5101.88	4196.25
135.0	7718.63	7745.63	7682.06	7490.25	7228.69	6811.31	6226.31	5562.56	4781.81
180.0	7745.63	7711.31	7587.00	7326.00	6950.81	6498.00	5911.88	4980.94	4165.31
225.0	7719.19	7618.50	7399.13	7060.50	6635.25	5994.00	5307.75	4444.88	3569.06
270.0	7727.63	7697.81	7463.81	7189.88	6869.25	6209.44	5462.44	4803.19	3832.31
315.0	7718.63	7588.69	7367.63	6997.50	6464.81	5839.31	5121.00	4150.13	3382.88
360.0	7745.63	7696.13	7527.94	7250.06	6850.69	6255.56	5486.63	4731.19	3960.00
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3043.69	2397.94	1865.25	1411.31	1089.00	886.50	721.13	597.38	517.50
45.0	3633.75	2910.38	2206.13	1707.75	1301.06	1024.88	848.25	700.31	590.63
90.0	3410.44	2613.38	1960.31	1519.88	1115.04	966.71	794.31	678.88	574.93
135.0	3792.94	3049.31	2383.88	1790.44	1368.00	1114.88	913.50	763.88	662.63
180.0	3385.13	2536.88	1978.31	1549.69	1096.88	977.85	826.76	709.88	606.21
225.0	2857.50	2171.81	1637.44	1095.41	1041.64	829.01	703.97	604.63	516.54
270.0	3012.19	2435.63	1769.63	1371.94	1058.06	842.63	702.00	594.00	492.75
315.0	2678.06	1946.25	1500.75	1105.03	916.26	741.43	627.08	526.22	456.19
360.0	3043.69	2397.94	1865.25	1411.31	1089.00	886.50	721.13	597.38	517.50
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	444.94	391.50	340.31	297.56	285.19	230.46	202.84	181.35	163.69
45.0	511.31	446.63	379.13	338.06	301.50	288.00	228.66	205.88	186.92
90.0	492.41	433.29	382.28	329.74	293.51	261.84	227.70	205.03	184.50
135.0	568.13	500.06	433.13	384.19	340.31	300.94	285.75	234.17	210.66
180.0	523.13	455.57	404.61	354.94	317.70	279.23	249.86	221.34	196.88
225.0	447.53	397.41	346.95	304.14	270.11	237.32	212.68	188.61	169.20
270.0	432.00	381.38	326.25	288.56	284.06	223.54	196.93	176.63	157.22
315.0	394.14	337.56	303.86	265.78	232.99	207.62	185.74	162.96	147.60
360.0	444.94	391.50	340.31	297.56	285.19	230.46	202.84	181.35	163.69
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	144.39	131.63	121.05	110.87	101.87	94.73	87.75	81.62	76.89
45.0	163.41	147.32	134.04	121.50	111.26	103.50	95.51	86.91	81.00
90.0	165.15	148.33	135.06	121.44	111.43	101.64	93.32	86.85	80.38
135.0	190.01	167.29	152.04	138.94	124.54	114.69	105.75	95.85	89.33
180.0	178.82	162.79	145.13	132.75	122.23	110.64	102.60	95.34	88.20
225.0	153.23	139.33	124.37	114.41	105.92	96.30	89.38	83.53	76.39
270.0	142.09	127.07	114.64	105.47	96.47	88.59	82.41	77.01	71.10
315.0	133.71	119.19	109.41	100.80	91.41	85.05	79.31	73.35	69.58
360.0	144.39	131.63	121.05	110.87	101.87	94.73	87.75	81.62	76.89
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	72.11	68.63	64.74	60.92	57.77	55.13	52.09	49.84	47.76
45.0	76.44	72.56	68.29	63.62	60.58	57.32	53.66	51.08	48.77
90.0	75.04	71.16	67.73	63.51	60.24	57.43	54.39	51.58	49.33
135.0	83.31	77.57	72.73	68.91	64.69	61.09	57.60	54.45	51.92
180.0	82.07	77.06	72.28	67.78	63.96	59.91	56.81	53.78	51.08
225.0	71.33	67.33	62.78	59.40	56.31	52.43	50.18	47.70	45.17
270.0	67.16	63.68	60.53	57.43	54.79	52.14	49.61	47.53	45.45
315.0	65.64	62.21	59.63	56.81	53.44	51.24	49.11	46.29	44.66
360.0	72.11	68.63	64.74	60.92	57.77	55.13	52.09	49.84	47.76

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	45.34	43.43	41.68	39.94	37.80	36.17	34.54	32.79	31.22
45.0	46.46	44.66	42.47	39.77	38.19	36.34	34.82	33.30	31.39
90.0	46.97	44.72	42.98	40.95	39.26	37.29	35.38	33.64	32.12
135.0	49.28	46.91	44.89	43.09	40.84	38.98	37.18	35.10	33.30
180.0	48.83	46.80	44.27	42.36	40.78	38.59	36.84	35.27	33.47
225.0	43.54	41.68	39.21	37.91	36.28	33.98	32.57	30.99	29.64
270.0	43.76	41.85	40.11	38.53	37.07	35.10	33.53	32.01	30.32
315.0	42.92	41.01	39.26	37.58	35.72	33.86	32.23	30.71	29.42
360.0	45.34	43.43	41.68	39.94	37.80	36.17	34.54	32.79	31.22
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	30.04	28.91	27.90	26.94	25.88	24.92	24.13	23.29	22.61
45.0	29.59	27.90	26.72	25.31	24.30	23.63	22.44	21.83	21.09
90.0	30.38	29.19	28.18	26.89	25.99	25.14	24.24	23.46	22.73
135.0	31.78	30.32	29.08	28.01	26.94	26.10	25.14	24.24	23.51
180.0	31.95	30.83	29.64	28.69	27.56	26.61	25.88	25.09	24.41
225.0	28.29	27.34	26.04	24.92	23.91	22.95	22.22	21.38	20.64
270.0	29.14	28.07	27.00	25.93	25.09	24.24	23.40	22.67	21.88
315.0	28.24	27.11	26.10	25.26	24.24	23.51	22.73	21.83	21.21
360.0	30.04	28.91	27.90	26.94	25.88	24.92	24.13	23.29	22.61
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	22.11	21.15	20.48	19.91	19.13	18.56	18.11	17.49	16.99
45.0	20.48	19.58	18.84	18.17	17.61	16.99	16.43	15.86	15.24
90.0	21.94	21.15	20.48	19.74	19.18	18.62	18.17	17.66	17.27
135.0	22.84	21.88	21.32	20.64	19.86	19.29	18.79	18.17	17.55
180.0	23.85	23.23	22.44	21.83	21.49	20.87	20.36	20.08	19.29
225.0	19.97	19.35	18.56	17.94	17.44	16.93	16.26	15.81	15.41
270.0	21.26	20.53	19.91	19.35	18.96	18.51	18.11	17.78	17.49
315.0	20.48	19.80	19.07	18.39	17.78	17.21	16.59	16.09	15.69
360.0	22.11	21.15	20.48	19.91	19.13	18.56	18.11	17.49	16.99
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	16.54	15.92	15.36	14.85	14.46	14.34	16.14	19.80	22.05
45.0	14.74	14.34	14.06	13.78	13.61	13.56	15.19	17.78	20.31
90.0	16.88	16.54	16.20	15.75	15.41	14.96	14.57	14.23	13.89
135.0	17.04	16.48	15.98	15.58	15.08	14.68	14.29	14.01	13.89
180.0	18.11	17.10	16.43	15.81	15.13	14.57	15.86	18.45	21.60
225.0	14.96	14.57	14.29	14.01	14.18	16.09	18.96	21.43	23.68
270.0	17.16	16.93	16.59	16.09	15.69	15.24	14.74	14.29	13.95
315.0	15.24	14.85	14.40	14.01	13.67	13.33	13.16	13.11	12.94
360.0	16.54	15.92	15.36	14.85	14.46	14.34	16.14	19.80	22.05
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	23.01	18.84	14.91	13.89	14.18	14.12	13.73	12.60	12.09
45.0	22.22	17.44	15.19	14.40	14.57	14.79	14.46	13.16	12.66
90.0	13.67	13.67	13.84	14.06	14.12	13.95	13.28	12.71	11.70
135.0	13.89	13.84	13.89	14.06	14.23	14.23	13.50	12.94	11.98
180.0	23.18	21.71	16.76	14.46	14.74	14.91	13.11	12.54	11.59
225.0	23.68	20.19	15.92	14.63	14.79	13.95	12.99	12.21	11.42
270.0	14.01	14.12	14.29	14.29	14.18	13.78	13.11	12.49	11.48
315.0	12.94	13.11	13.33	13.50	12.99	12.60	12.43	12.32	11.03
360.0	23.01	18.84	14.91	13.89	14.18	14.12	13.73	12.60	12.09

Intensity data(cd)

C/γ(°)	90.0
0.0	10.97
45.0	11.59
90.0	11.08
135.0	11.14
180.0	11.36
225.0	11.31
270.0	10.69
315.0	10.52
360.0	10.97