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NATA

Client:

LumCAT: LN01D063215BF

Luminaire: 92.70.131.00

Report No:

Voltage(V): 220.4000

Test No: GC2019082941

Current(A): 0.0710

LampCAT: TRIDONIC SLE G7 13MM

Power (W): 14.4700

Lamp flux(lm): 1504.0

PF: 0.9200

Number of Lamps: 1

Ballast type: AC

Length(mm): 63

Width(mm): 63

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1404.34, Efficiency(%): 93.37% , Luminous Efficacy(lm/W): 97.05

Central intensity(cd): 8172.834, Maximum intensity(cd): 8172.834

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=19.2

[C90/270]Total=19.2

Field angle(10%Imax): [C0/180]Total=37.8

[C90/270]Total=37.8

Maximum s/h(1/2): C0_180=0.33 C90_270=0.33

Maximum s/h(1/4): C0_180=0.33 C90_270=0.33

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 93.37%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.125%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8172.835	0.000	0	.000%	.000%
1.0	8151.258	7.811	7.811	.519%	.556%
2.0	8085.133	23.304	31.115	1.549%	2.216%
3.0	7930.030	38.303	69.418	2.547%	4.943%
4.0	7658.628	52.180	121.598	3.469%	8.659%
5.0	7297.378	64.340	185.938	4.278%	13.240%
6.0	6754.865	73.848	259.786	4.910%	18.499%
7.0	6047.910	79.467	339.253	5.284%	24.158%
8.0	5319.958	81.358	420.61	5.409%	29.951%
9.0	4539.570	79.906	500.517	5.313%	35.641%
10.0	3835.283	75.789	576.306	5.039%	41.038%
11.0	3254.545	70.842	647.148	4.710%	46.082%
12.0	2757.391	65.719	712.867	4.370%	50.762%
13.0	2301.594	60.037	772.904	3.992%	55.037%
14.0	1928.859	54.149	827.054	3.600%	58.893%
15.0	1632.864	48.897	875.951	3.251%	62.375%
16.0	1365.743	43.938	919.889	2.921%	65.503%
17.0	1106.952	38.506	958.395	2.560%	68.245%
18.0	934.389	33.657	992.052	2.238%	70.642%
19.0	805.991	30.279	1022.331	2.013%	72.798%
20.0	671.369	27.040	1049.371	1.798%	74.724%
21.0	560.402	23.652	1073.024	1.573%	76.408%
22.0	473.680	20.780	1093.804	1.382%	77.888%
23.0	394.237	18.211	1112.015	1.211%	79.184%
24.0	335.490	15.954	1127.97	1.061%	80.320%
25.0	285.618	14.123	1142.092	.939%	81.326%
26.0	247.591	12.586	1154.679	.837%	82.222%
27.0	225.509	11.574	1166.253	.770%	83.047%
28.0	201.611	10.814	1177.067	.719%	83.817%
29.0	176.971	9.905	1186.972	.659%	84.522%
30.0	157.418	9.028	1196	.600%	85.165%
31.0	146.205	8.449	1204.45	.562%	85.766%
32.0	137.017	8.114	1212.564	.539%	86.344%
33.0	128.172	7.813	1220.376	.519%	86.901%
34.0	121.066	7.543	1227.919	.502%	87.438%
35.0	113.688	7.291	1235.21	.485%	87.957%
36.0	106.403	7.008	1242.217	.466%	88.456%
37.0	99.286	6.708	1248.926	.446%	88.934%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	92.261	6.394	1255.319	.425%	89.389%
39.0	85.527	6.068	1261.388	.403%	89.821%
40.0	79.100	5.742	1267.129	.382%	90.230%
41.0	73.364	5.429	1272.558	.361%	90.616%
42.0	68.700	5.161	1277.72	.343%	90.984%
43.0	64.582	4.937	1282.657	.328%	91.335%
44.0	61.264	4.750	1287.407	.316%	91.674%
45.0	58.236	4.593	1291.999	.305%	92.001%
46.0	56.003	4.468	1296.467	.297%	92.319%
47.0	53.810	4.368	1300.835	.290%	92.630%
48.0	52.111	4.282	1305.116	.285%	92.935%
49.0	50.458	4.212	1309.329	.280%	93.235%
50.0	48.944	4.144	1313.473	.276%	93.530%
51.0	47.488	4.080	1317.553	.271%	93.820%
52.0	45.719	4.000	1321.552	.266%	94.105%
53.0	44.077	3.906	1325.459	.260%	94.383%
54.0	42.117	3.799	1329.258	.253%	94.654%
55.0	40.487	3.687	1332.945	.245%	94.916%
56.0	38.915	3.588	1336.533	.239%	95.172%
57.0	37.384	3.489	1340.021	.232%	95.420%
58.0	35.968	3.392	1343.413	.226%	95.662%
59.0	34.628	3.300	1346.714	.219%	95.897%
60.0	33.300	3.209	1349.923	.213%	96.125%
61.0	31.949	3.114	1353.037	.207%	96.347%
62.0	30.626	3.015	1356.052	.200%	96.562%
63.0	29.431	2.921	1358.973	.194%	96.770%
64.0	28.161	2.826	1361.799	.188%	96.971%
65.0	26.995	2.730	1364.529	.181%	97.165%
66.0	25.812	2.635	1367.163	.175%	97.353%
67.0	24.698	2.540	1369.703	.169%	97.534%
68.0	23.573	2.445	1372.148	.163%	97.708%
69.0	22.419	2.346	1374.495	.156%	97.875%
70.0	21.473	2.254	1376.749	.150%	98.036%
71.0	20.371	2.163	1378.912	.144%	98.190%
72.0	19.431	2.070	1380.981	.138%	98.337%
73.0	18.445	1.981	1382.962	.132%	98.478%
74.0	17.593	1.895	1384.857	.126%	98.613%
75.0	16.636	1.808	1386.665	.120%	98.742%

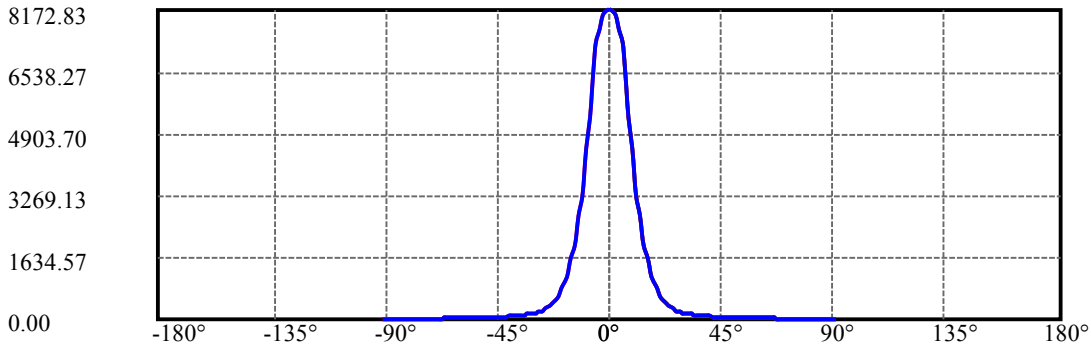
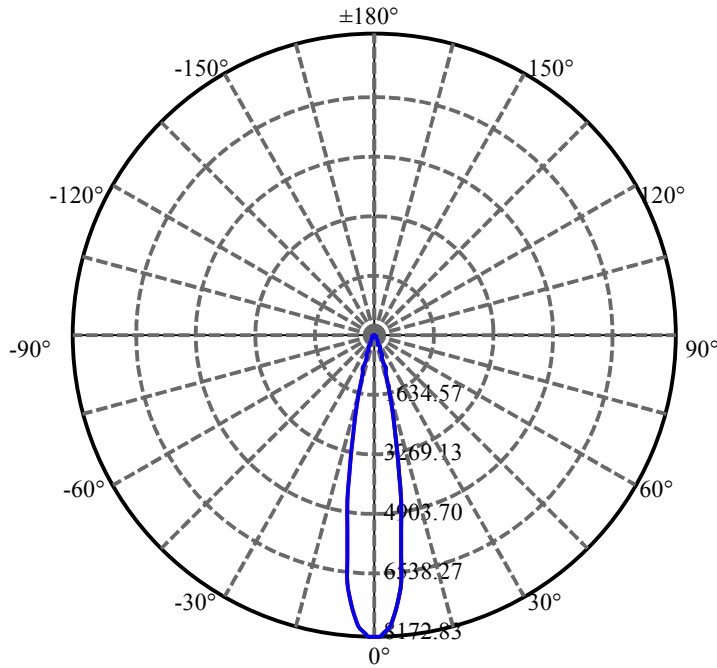
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	15.754	1.719	1388.384	.114%	98.864%
77.0	15.017	1.641	1390.025	.109%	98.981%
78.0	14.223	1.565	1391.59	.104%	99.092%
79.0	13.457	1.487	1393.077	.099%	99.198%
80.0	12.697	1.410	1394.487	.094%	99.299%
81.0	11.885	1.329	1395.817	.088%	99.393%
82.0	11.125	1.248	1397.065	.083%	99.482%
83.0	10.319	1.166	1398.23	.078%	99.565%
84.0	9.489	1.079	1399.31	.072%	99.642%
85.0	8.741	0.995	1400.305	.066%	99.713%
86.0	8.022	0.916	1401.221	.061%	99.778%
87.0	7.465	0.848	1402.068	.056%	99.838%
88.0	7.024	0.794	1402.862	.053%	99.895%
89.0	6.688	0.752	1403.614	.050%	99.949%
90.0	6.496	0.723	1404.337	.048%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1196.00	79.52%	85.16%
0-40	1267.13	84.25%	90.23%
0-60	1349.92	89.76%	96.13%
0-90	1403.61	93.33%	99.95%
0-120	1403.61	93.33%	99.95%
0-180	1404.34	93.37%	100.00%
60-90	56.90	3.78%	4.05%
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%
0-23.72	1123.47	74.70%	80.00%

ZONAL LUMEN SUMMARY

0-10	576.31
10-20	473.07
20-30	146.63
30-40	71.13
40-50	46.34
50-60	36.45
60-70	26.83
70-80	17.74
80-90	9.13
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: —————

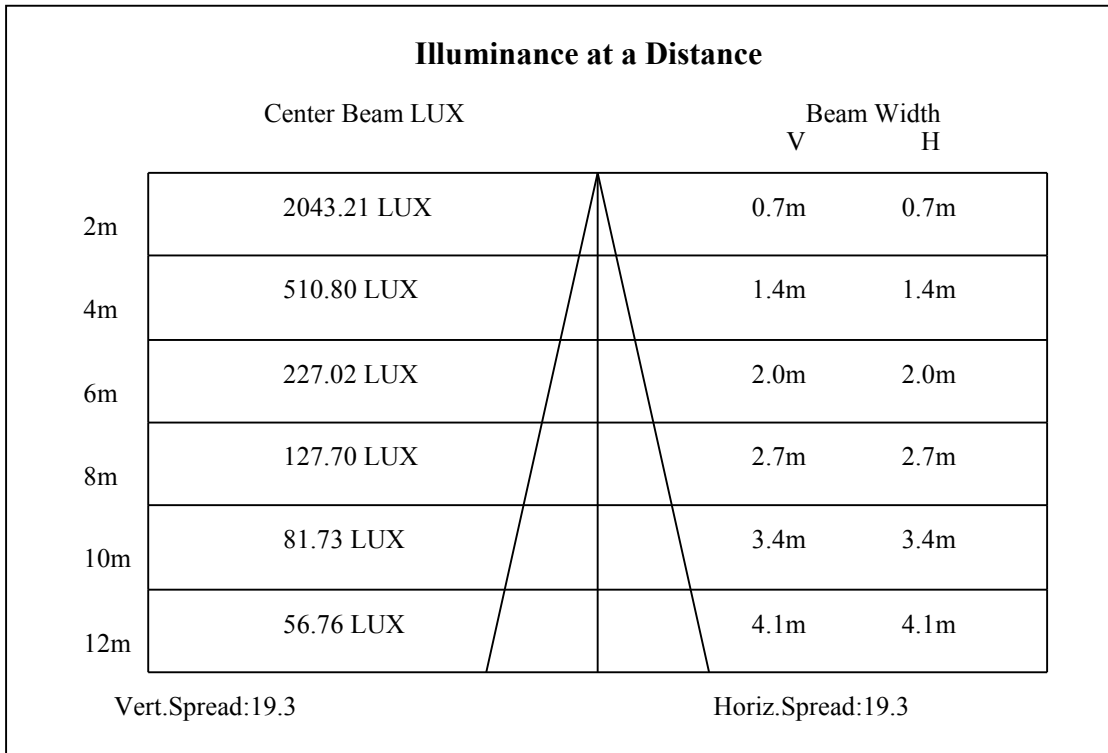
C90/C270: —————

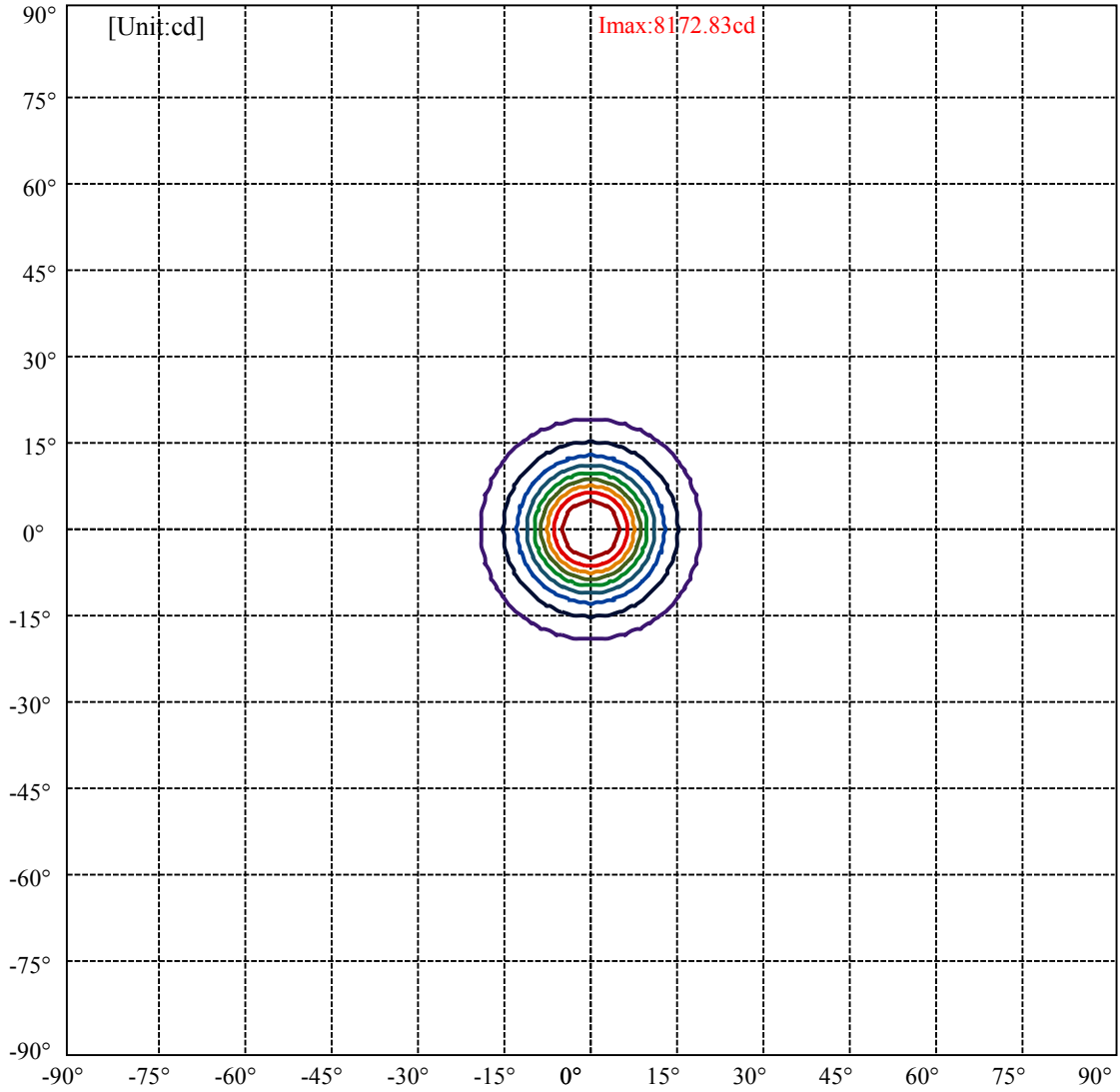
Field angle(10%Imax):C0/180Left:18.9 Right:18.9

:C90/270Left:18.9 Right:18.9

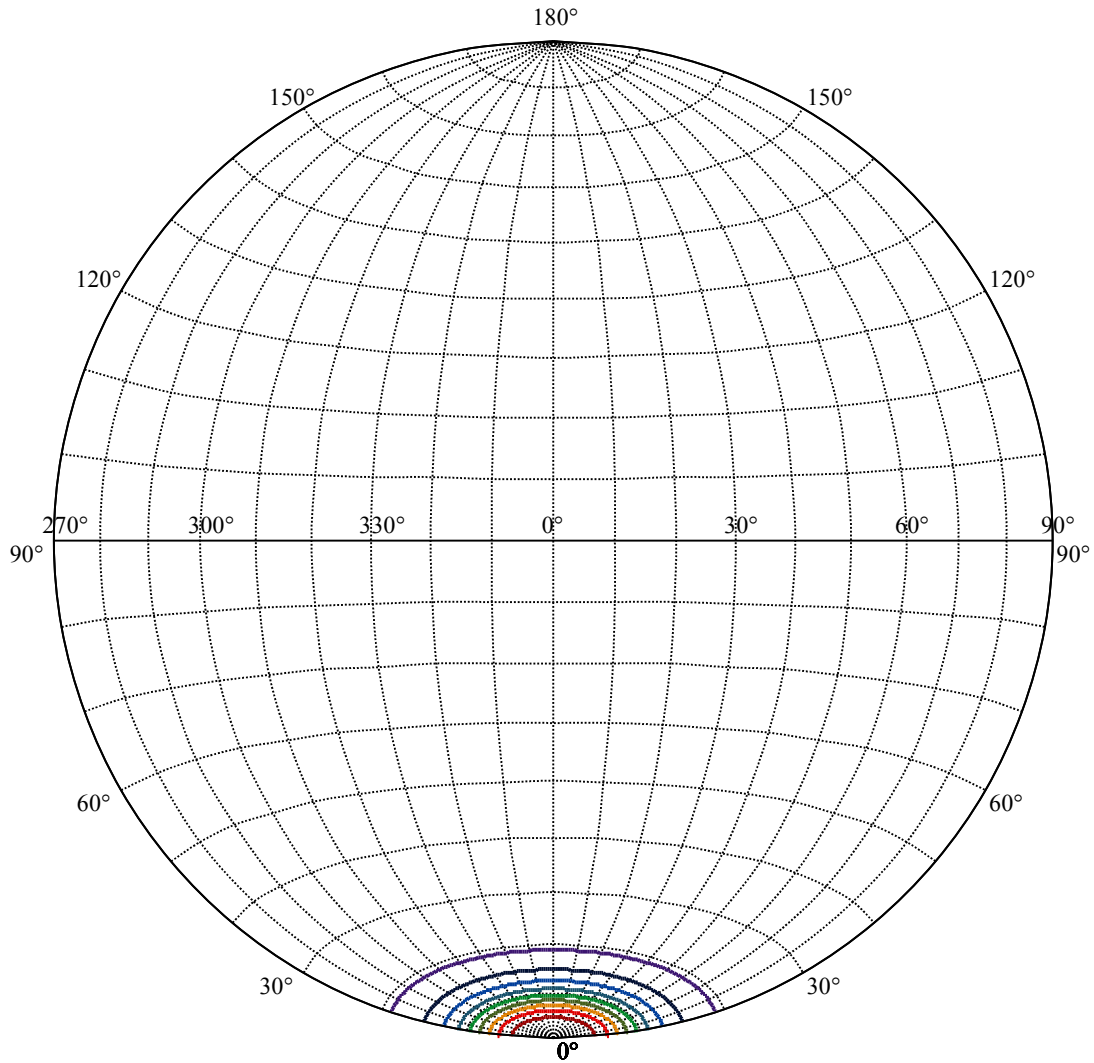
Beam Angle(50%Imax):C0/180Left:9.6 Right:9.6

:C90/270Left:9.6 Right:9.6





(10%Imax) 817.283	—
(20%Imax) 1634.57	—
(30%Imax) 2451.85	—
(40%Imax) 3269.13	—
(50%Imax) 4086.42	—
(60%Imax) 4903.7	—
(70%Imax) 5720.98	—
(80%Imax) 6538.27	—
(90%Imax) 7355.55	—



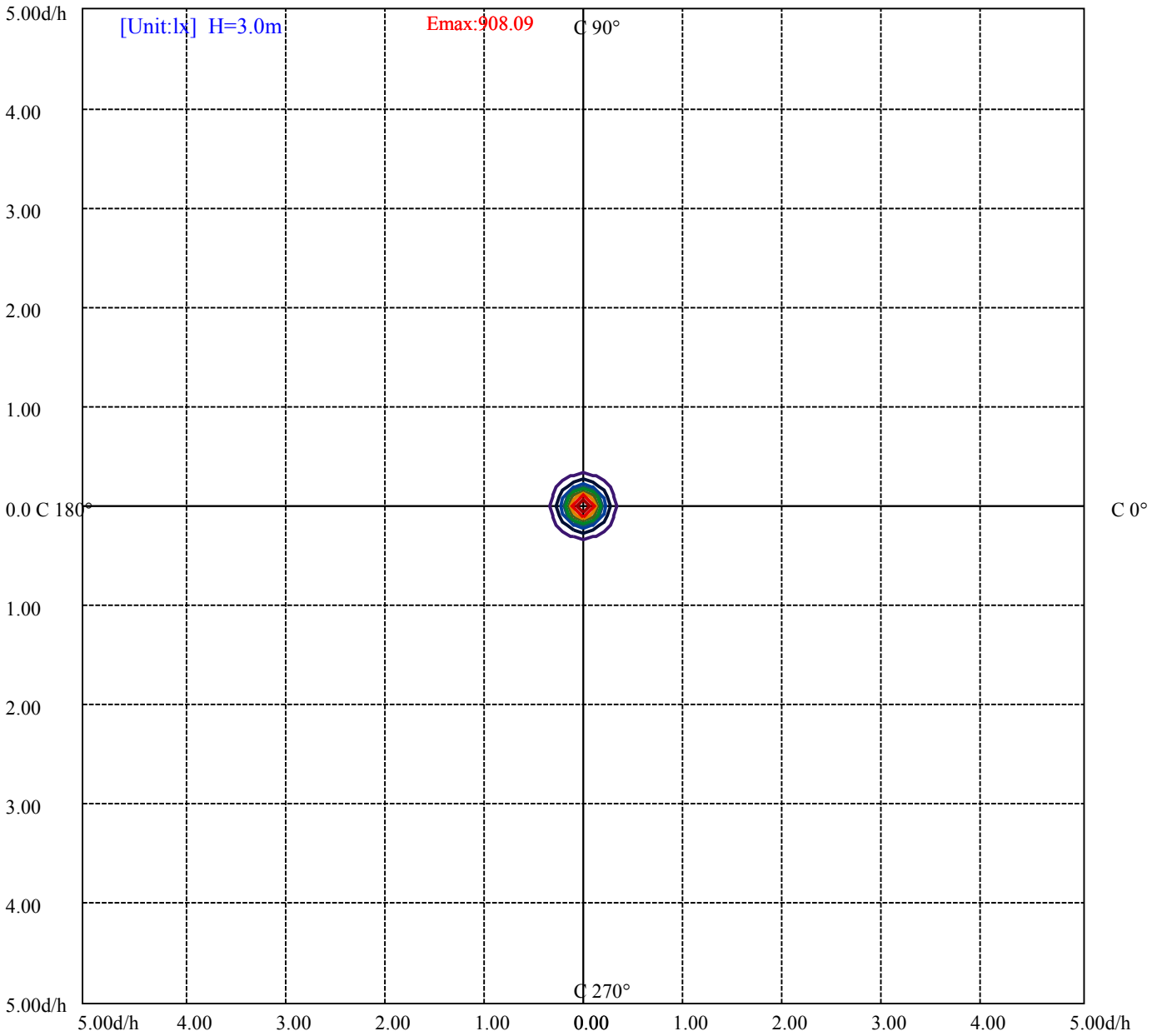
House

[Unit:cd]

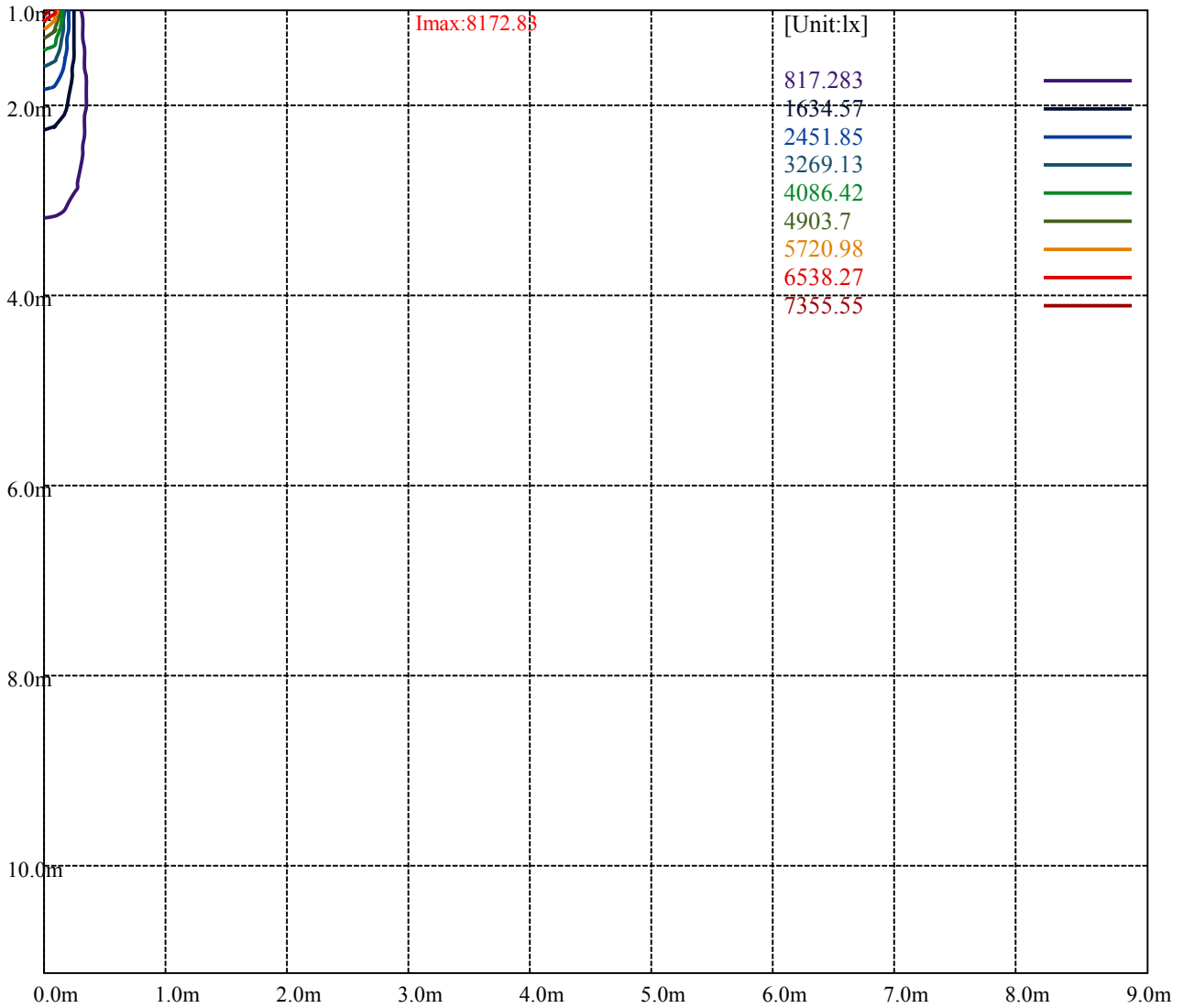
Road

Imax:8172.83

(10%Imax) 817.283	—
(20%Imax) 1634.57	—
(30%Imax) 2451.85	—
(40%Imax) 3269.13	—
(50%Imax) 4086.42	—
(60%Imax) 4903.7	—
(70%Imax) 5720.98	—
(80%Imax) 6538.27	—
(90%Imax) 7355.55	—



(10%Emax) 90.80923	—
(20%Emax) 181.6189	—
(30%Emax) 272.4278	—
(40%Emax) 363.2367	—
(50%Emax) 454.0467	—
(60%Emax) 544.8556	—
(70%Emax) 635.6644	—
(80%Emax) 726.4733	—
(90%Emax) 817.2833	—



Luminance Table

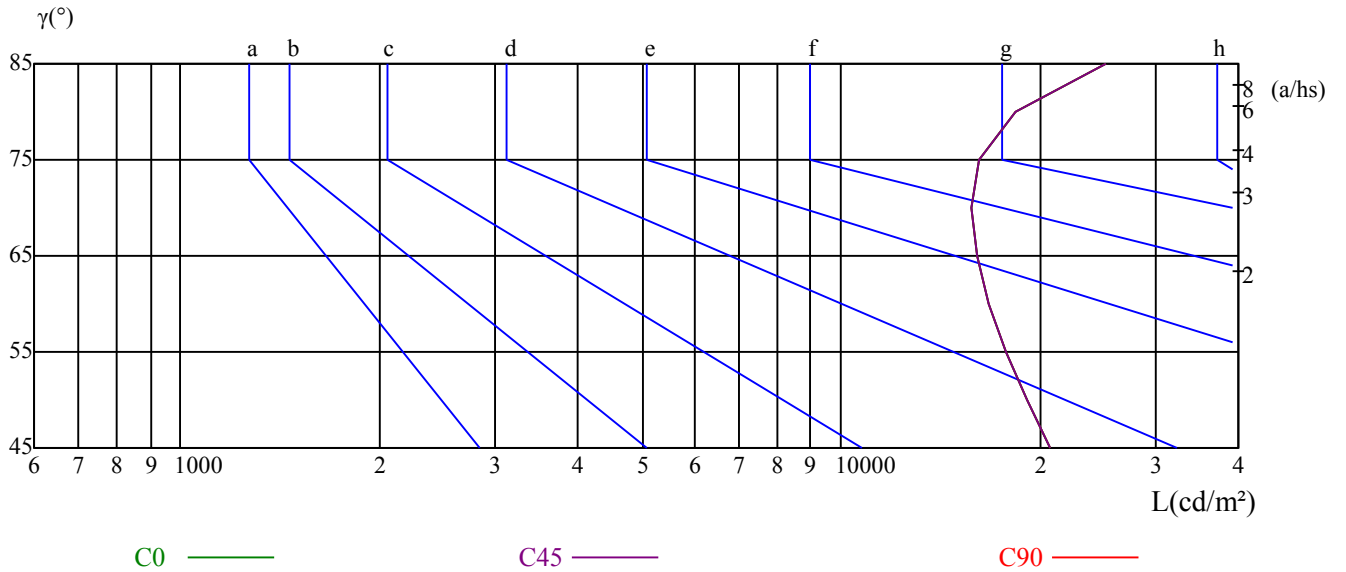
γ	45	50	55	60	65	70	75	80	85
C0	20750	19184	17785	16780	16094	15818	16194	18423	25269
C45	20750	19184	17785	16780	16094	15818	16194	18423	25269
C90	20750	19184	17785	16780	16094	15818	16194	18423	25269

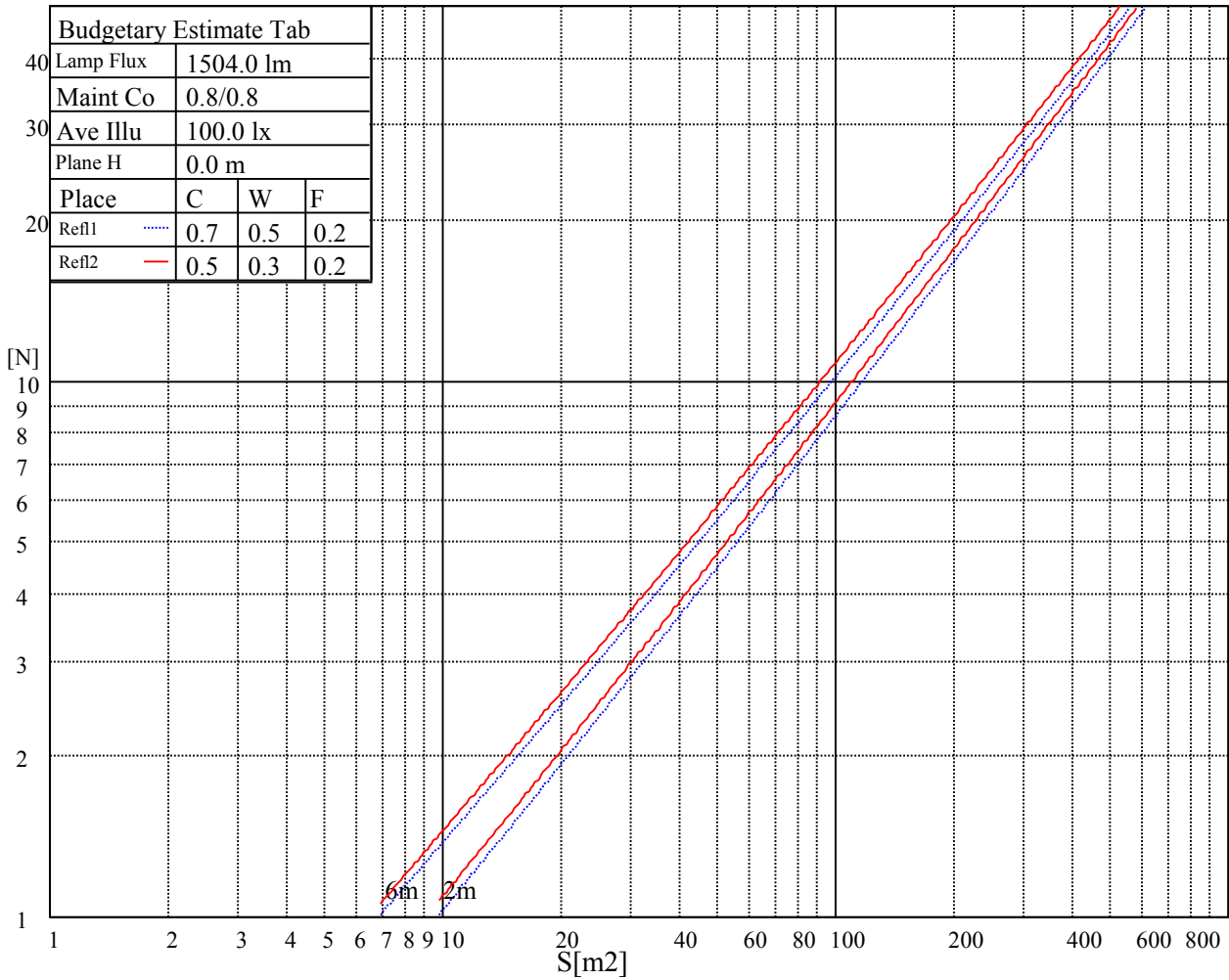
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
16094	16094	16094	16194	16194	16194	25269	25269	25269

Glare Table

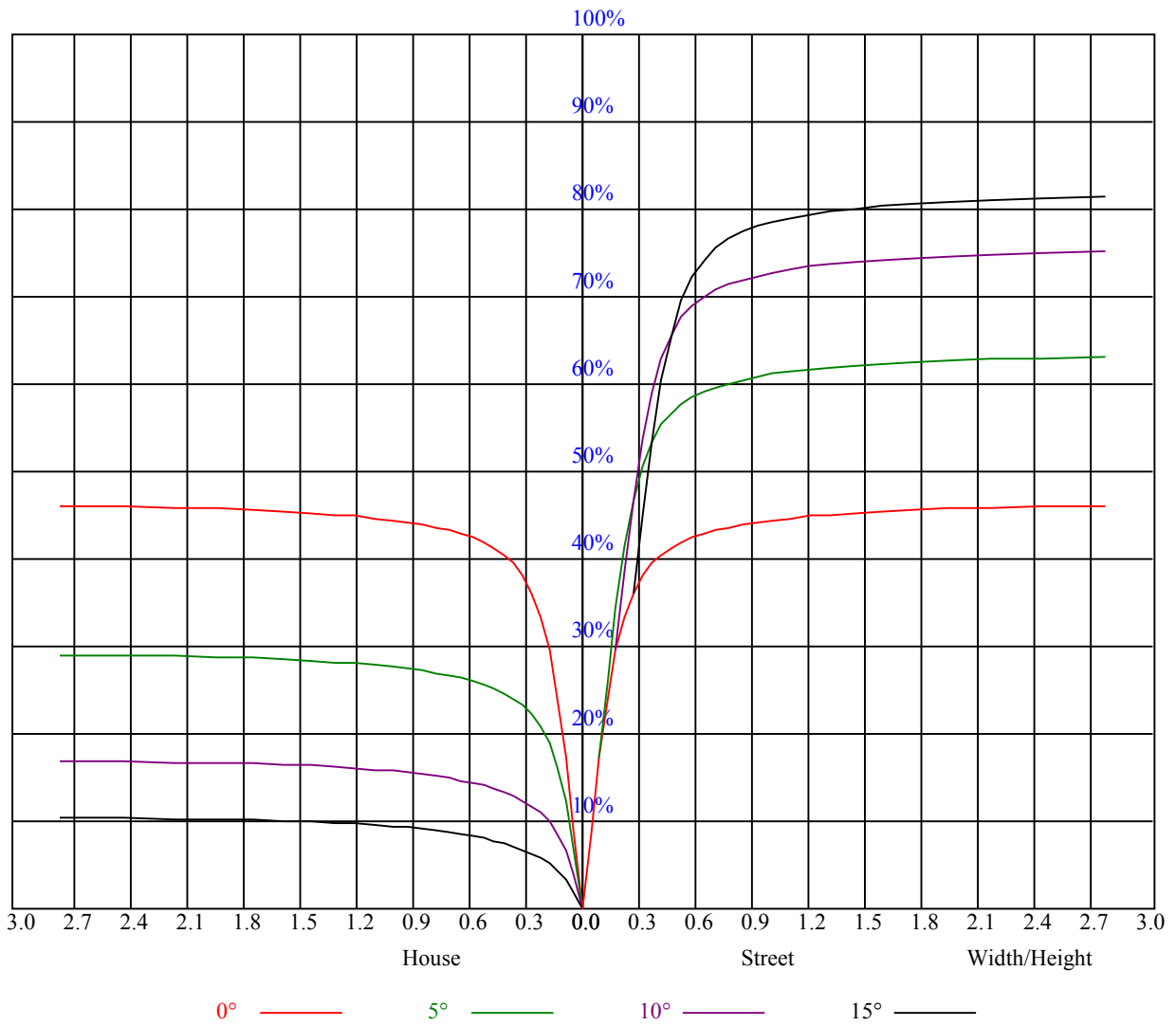
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

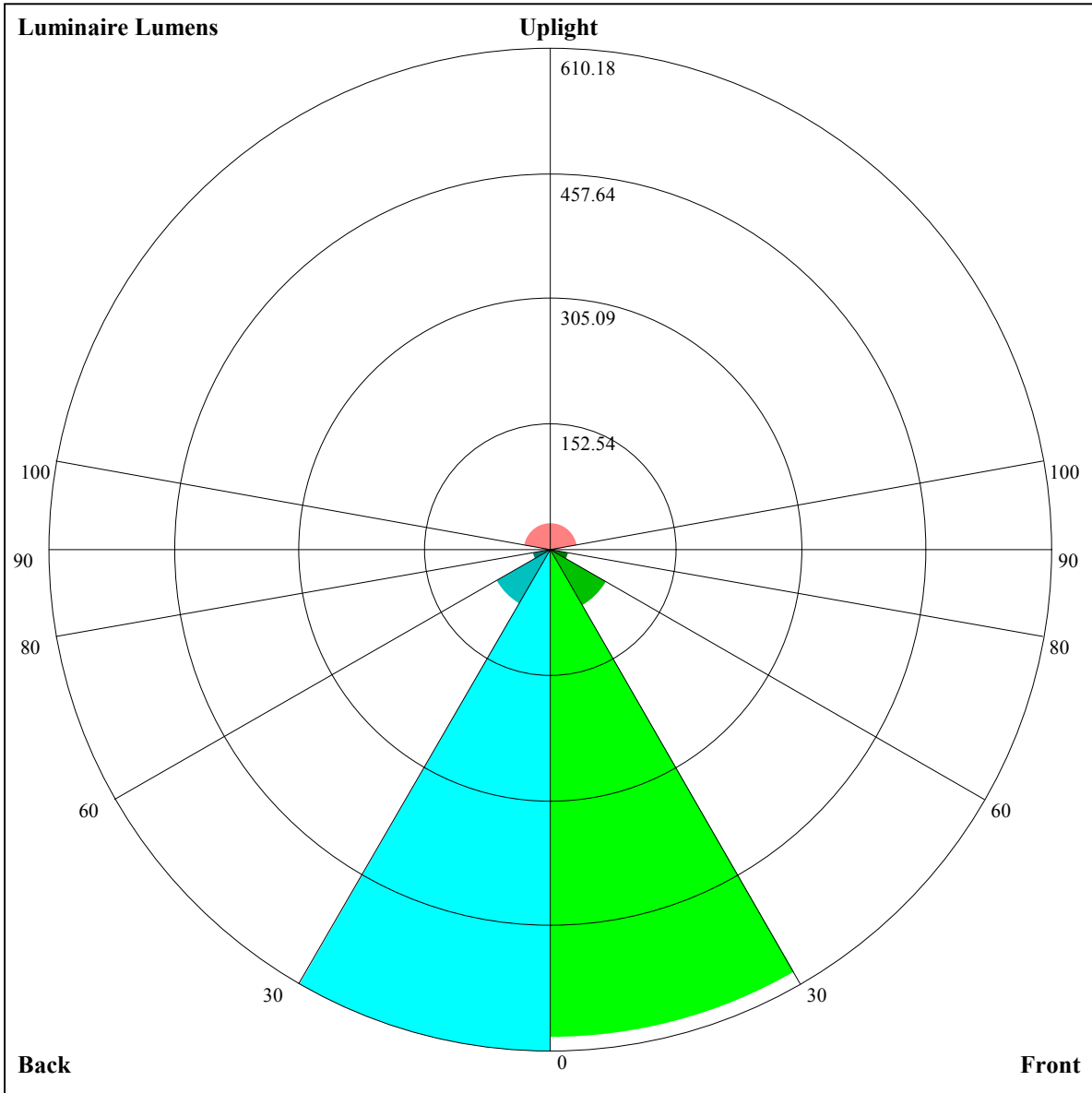
Luminance Limiting Curve





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	1.11	1.11	1.11	1.09	1.09	1.09	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.93
1	1.04	1.02	1.00	1.02	1.00	0.99	0.99	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89
2	0.99	0.95	0.93	0.97	0.94	0.92	0.94	0.92	0.90	0.91	0.89	0.88	0.89	0.87	0.86	0.85
3	0.94	0.90	0.87	0.93	0.89	0.86	0.90	0.87	0.85	0.88	0.86	0.84	0.86	0.84	0.82	0.81
4	0.90	0.86	0.82	0.89	0.85	0.82	0.87	0.84	0.81	0.85	0.82	0.80	0.83	0.81	0.79	0.78
5	0.86	0.82	0.79	0.85	0.81	0.78	0.84	0.80	0.78	0.82	0.79	0.77	0.81	0.79	0.77	0.75
6	0.83	0.79	0.76	0.82	0.78	0.76	0.81	0.78	0.75	0.80	0.77	0.75	0.79	0.76	0.74	0.73
7	0.80	0.76	0.73	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.71
8	0.78	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.69
9	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	0.70	0.68	0.67
10	0.74	0.70	0.67	0.73	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.72	0.69	0.67	0.66





Luminaire Lumens:

FL=593.8,FM=77.83,FH=21.98,FVH=4.87

BL=610.18,BM=76.85,BH=22.55,BVH=5.02

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	8150.33	8110.89	8010.19	7826.90	7521.56	7074.70	6438.97	5654.29	4826.92
45.0	8194.88	8126.66	8045.46	7967.50	7690.47	7396.28	6881.66	6028.77	5373.55
90.0	8139.66	8038.96	7876.55	7567.97	7109.04	6473.78	5683.53	4843.63	4047.81
135.0	8206.48	8171.68	8096.50	7946.62	7689.54	7290.94	6716.93	5964.27	5127.62
180.0	8150.33	8172.14	8159.15	8043.14	7821.79	7505.79	7055.67	6421.81	5640.37
225.0	8194.88	8185.13	8123.42	7943.37	7683.51	7329.45	6833.87	6173.55	5387.94
270.0	8139.66	8212.05	8232.93	8139.19	8007.87	7918.78	7551.26	7112.29	6775.86
315.0	8206.48	8192.56	8136.87	8005.55	7745.23	7389.31	6877.02	6184.68	5379.59
360.0	8150.33	8110.89	8010.19	7826.90	7521.56	7074.70	6438.97	5654.29	4826.92
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4051.06	3389.81	2944.34	2397.71	2031.12	1777.29	1493.31	1245.51	867.46
45.0	4544.79	3788.42	3149.91	2630.19	2215.34	1874.28	1581.47	1323.93	1103.98
90.0	3365.68	2800.49	2337.85	2102.12	1644.58	1373.59	1113.73	892.75	830.67
135.0	4303.96	3579.60	2968.47	2660.35	2227.41	1746.20	1569.87	1303.98	1076.14
180.0	5142.46	4045.03	3628.32	3028.33	2536.45	2131.35	1798.18	1514.65	1264.07
225.0	4585.16	3844.56	3213.94	2695.15	2269.63	1919.29	1624.16	1372.19	1237.62
270.0	5767.98	5284.92	4485.86	3768.93	3148.05	2632.04	2218.13	1877.53	1582.40
315.0	4555.46	3949.44	3307.68	2776.36	2340.17	1976.83	1664.07	1395.39	893.26
360.0	4051.06	3389.81	2944.34	2397.71	2031.12	1777.29	1493.31	1245.51	867.46
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	867.46	721.85	601.25	501.53	418.65	350.53	295.45	251.74	217.86
45.0	923.01	773.13	647.37	542.97	458.05	387.05	350.39	280.79	242.74
90.0	694.33	582.45	490.48	415.08	351.92	300.32	258.79	227.42	201.81
135.0	886.81	732.29	607.93	506.31	423.71	355.50	300.28	256.66	241.34
180.0	1046.44	865.93	717.44	596.33	496.10	414.89	348.54	295.17	252.94
225.0	870.43	870.43	728.21	610.48	514.61	434.34	366.49	311.55	266.45
270.0	1327.65	1106.77	921.62	764.77	636.70	529.04	442.73	371.27	324.41
315.0	858.97	795.07	656.65	545.75	489.69	382.22	321.25	290.35	233.18
360.0	867.46	721.85	601.25	501.53	418.65	350.53	295.45	251.74	217.86
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	191.88	172.02	162.74	146.59	141.07	133.78	124.50	120.79	113.73
45.0	236.70	236.70	182.46	169.42	159.86	151.88	145.15	138.00	130.11
90.0	181.48	165.01	151.92	140.69	131.00	125.75	117.59	109.51	101.67
135.0	241.34	169.51	154.34	138.28	124.64	113.46	103.99	96.15	89.84
180.0	238.56	238.56	174.11	157.08	143.62	132.99	123.76	115.54	108.40
225.0	232.16	205.38	186.22	172.20	164.04	156.33	146.50	139.40	130.35
270.0	268.26	239.02	239.02	186.96	170.30	157.21	147.15	138.61	130.39
315.0	213.69	186.68	164.96	148.12	135.13	124.73	116.75	110.53	105.01
360.0	191.88	172.02	162.74	146.59	141.07	133.78	124.50	120.79	113.73
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	106.22	98.65	91.18	83.99	77.49	72.20	67.98	64.22	61.16
45.0	121.34	112.30	103.67	95.54	87.89	80.97	76.33	69.98	66.31
90.0	94.62	87.89	81.44	75.68	70.81	66.82	63.20	59.77	56.89
135.0	84.69	80.00	76.19	72.44	68.40	64.64	61.44	58.56	55.87
180.0	101.21	94.62	88.49	82.83	77.49	72.39	67.70	64.22	61.16
225.0	120.46	111.00	101.86	92.99	84.73	78.10	72.99	68.91	65.20
270.0	122.78	115.31	107.24	99.54	91.79	83.71	76.57	71.04	66.31
315.0	99.91	94.52	88.03	81.21	74.20	68.07	63.39	59.95	57.22
360.0	106.22	98.65	91.18	83.99	77.49	72.20	67.98	64.22	61.16

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	58.51	56.19	54.15	52.34	50.77	49.51	47.61	46.17	44.45
45.0	62.13	59.49	57.40	55.17	53.13	51.32	49.70	48.26	45.85
90.0	54.66	52.57	50.58	48.86	47.38	45.85	44.87	42.00	41.02
135.0	53.60	51.60	49.74	48.82	46.77	45.43	44.55	43.16	41.58
180.0	58.24	55.59	54.38	51.93	50.90	49.42	47.80	46.03	44.22
225.0	61.39	58.79	56.43	54.52	52.81	51.23	49.74	47.89	46.40
270.0	62.55	60.46	56.61	55.36	53.41	51.88	50.39	48.82	47.38
315.0	54.80	53.32	51.18	49.88	48.49	46.91	45.24	43.43	41.72
360.0	58.51	56.19	54.15	52.34	50.77	49.51	47.61	46.17	44.45
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	42.18	40.65	38.93	37.31	35.82	34.48	33.18	31.83	30.44
45.0	43.34	41.35	39.72	38.10	36.57	35.08	33.64	32.20	30.77
90.0	39.44	37.96	36.57	35.08	33.74	32.44	31.09	29.74	28.35
135.0	40.14	38.75	37.31	35.96	34.62	33.36	32.16	30.95	29.79
180.0	42.55	40.83	39.26	37.68	36.33	34.90	33.46	32.02	30.72
225.0	43.53	42.46	41.02	39.67	38.38	37.08	35.82	34.48	33.09
270.0	45.61	43.20	41.21	39.49	38.05	36.71	35.31	33.87	32.53
315.0	40.14	38.70	37.31	35.78	34.25	32.99	31.74	30.49	29.33
360.0	42.18	40.65	38.93	37.31	35.82	34.48	33.18	31.83	30.44
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	29.14	27.89	26.54	25.24	23.99	22.83	21.67	20.56	19.49
45.0	29.93	28.12	27.38	26.17	24.92	23.80	22.60	21.48	20.51
90.0	27.10	26.03	24.92	23.80	22.64	21.62	20.56	19.54	18.51
135.0	28.63	27.47	26.36	25.43	24.41	23.34	22.78	21.76	20.46
180.0	29.51	28.31	27.05	25.85	24.73	23.99	22.51	21.95	20.84
225.0	31.65	30.39	29.09	27.70	26.26	24.92	23.67	22.51	21.25
270.0	31.32	30.02	28.77	27.56	26.54	25.43	23.94	22.92	21.81
315.0	28.17	27.05	25.85	24.73	24.08	22.64	21.62	21.07	20.09
360.0	29.14	27.89	26.54	25.24	23.99	22.83	21.67	20.56	19.49
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	18.47	17.40	16.80	15.87	14.94	14.15	13.46	12.81	12.06
45.0	19.54	18.51	17.45	16.52	15.73	14.99	14.20	13.50	12.76
90.0	17.63	16.84	16.19	15.45	14.48	13.87	13.09	12.34	11.65
135.0	19.95	19.07	18.19	17.40	16.66	15.87	14.94	14.06	13.18
180.0	19.86	18.89	18.00	17.08	16.19	15.50	14.85	14.11	13.27
225.0	20.09	19.03	18.33	16.94	16.01	15.59	14.71	13.87	13.13
270.0	20.70	19.49	18.38	17.35	16.38	15.41	14.66	13.92	13.27
315.0	19.21	18.33	17.40	16.47	15.64	14.76	13.87	13.04	12.25
360.0	18.47	17.40	16.80	15.87	14.94	14.15	13.46	12.81	12.06
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	11.37	10.49	9.74	9.10	8.26	7.66	7.15	6.82	6.36
45.0	12.02	11.28	10.39	9.56	8.77	7.98	7.56	7.19	6.73
90.0	10.90	10.16	9.47	8.63	7.93	7.52	7.05	6.73	6.59
135.0	12.34	11.55	10.53	9.56	8.77	7.89	7.33	6.91	6.59
180.0	12.44	11.65	10.67	9.84	9.14	8.26	7.66	7.10	6.82
225.0	11.97	11.28	10.63	9.74	9.05	8.35	7.70	7.19	6.91
270.0	12.53	11.83	11.18	10.30	9.56	8.72	8.07	7.47	7.05
315.0	11.51	10.77	9.93	9.19	8.45	7.80	7.19	6.77	6.45
360.0	11.37	10.49	9.74	9.10	8.26	7.66	7.15	6.82	6.36

Intensity data(cd)

C/γ(°)	90.0
0.0	6.26
45.0	6.64
90.0	6.64
135.0	6.36
180.0	6.40
225.0	6.73
270.0	6.64
315.0	6.31
360.0	6.26