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Nata

Client:

LumCAT: 2-2182-M

Luminaire: BJB 47.360.1010

Report No: 200407-B005

Test No: 200407-C005

LampCAT: LUMINUS CXM-14-AC40

Lamp flux(lm): 1578.8

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 33.2100

Current(A): 0.3490

Power (W): 11.5900

PF: 0.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 1203.69, Efficiency(%): 76.24% , Luminous Efficacy(lm/W): 103.86

Central intensity(cd): 3330.984, Maximum intensity(cd): 3330.984

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=36.4

[C90/270]Total=36.4

Field angle(10%Imax): [C0/180]Total=54.6

[C90/270]Total=54.6

Maximum s/h(1/2): C0_180=0.60 C90_270=0.60

Maximum s/h(1/4): C0_180=0.57 C90_270=0.57

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 76.24%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.148%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3330.984	0.000	0	.000%	.000%
1.0	3324.305	3.184	3.184	.202%	.265%
2.0	3303.281	9.513	12.697	.603%	1.055%
3.0	3267.984	15.716	28.413	.995%	2.361%
4.0	3224.180	21.731	50.145	1.376%	4.166%
5.0	3169.758	27.506	77.651	1.742%	6.451%
6.0	3096.422	32.930	110.581	2.086%	9.187%
7.0	3014.789	37.932	148.514	2.403%	12.338%
8.0	2931.961	42.560	191.073	2.696%	15.874%
9.0	2830.570	46.702	237.776	2.958%	19.754%
10.0	2720.742	50.237	288.013	3.182%	23.928%
11.0	2617.945	53.344	341.357	3.379%	28.359%
12.0	2506.992	56.023	397.38	3.548%	33.014%
13.0	2378.953	57.984	455.364	3.673%	37.831%
14.0	2263.008	59.417	514.781	3.763%	42.767%
15.0	2139.820	60.444	575.225	3.829%	47.789%
16.0	1999.125	60.647	635.872	3.841%	52.827%
17.0	1850.273	59.945	695.817	3.797%	57.807%
18.0	1694.039	58.438	754.255	3.701%	62.662%
19.0	1537.102	56.215	810.471	3.561%	67.332%
20.0	1361.834	53.059	863.529	3.361%	71.740%
21.0	1216.582	49.511	913.04	3.136%	75.854%
22.0	1058.105	45.711	958.751	2.895%	79.651%
23.0	921.101	41.529	1000.28	2.630%	83.101%
24.0	767.580	36.921	1037.201	2.339%	86.169%
25.0	619.228	31.533	1068.734	1.997%	88.788%
26.0	491.857	26.227	1094.961	1.661%	90.967%
27.0	373.683	21.176	1116.136	1.341%	92.727%
28.0	252.401	15.851	1131.988	1.004%	94.043%
29.0	185.055	11.445	1143.433	.725%	94.994%
30.0	104.048	7.806	1151.238	.494%	95.643%
31.0	60.511	4.579	1155.818	.290%	96.023%
32.0	40.071	2.882	1158.699	.183%	96.263%
33.0	28.463	2.019	1160.718	.128%	96.430%
34.0	20.152	1.471	1162.19	.093%	96.553%
35.0	14.955	1.090	1163.28	.069%	96.643%
36.0	12.122	0.862	1164.142	.055%	96.715%
37.0	10.596	0.741	1164.883	.047%	96.776%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	9.696	0.677	1165.56	.043%	96.833%
39.0	9.162	0.644	1166.204	.041%	96.886%
40.0	8.838	0.628	1166.832	.040%	96.938%
41.0	8.620	0.622	1167.453	.039%	96.990%
42.0	8.452	0.620	1168.074	.039%	97.041%
43.0	8.367	0.623	1168.697	.039%	97.093%
44.0	8.297	0.629	1169.326	.040%	97.145%
45.0	8.290	0.637	1169.963	.040%	97.198%
46.0	8.304	0.649	1170.612	.041%	97.252%
47.0	8.325	0.661	1171.273	.042%	97.307%
48.0	8.353	0.674	1171.948	.043%	97.363%
49.0	8.416	0.689	1172.636	.044%	97.421%
50.0	8.473	0.704	1173.34	.045%	97.479%
51.0	8.550	0.720	1174.061	.046%	97.539%
52.0	8.670	0.739	1174.8	.047%	97.600%
53.0	8.775	0.759	1175.558	.048%	97.663%
54.0	8.866	0.778	1176.336	.049%	97.728%
55.0	9.007	0.798	1177.134	.051%	97.794%
56.0	9.091	0.818	1177.952	.052%	97.862%
57.0	9.183	0.836	1178.787	.053%	97.932%
58.0	9.260	0.853	1179.64	.054%	98.002%
59.0	9.323	0.869	1180.509	.055%	98.075%
60.0	9.387	0.884	1181.393	.056%	98.148%
61.0	9.450	0.899	1182.292	.057%	98.223%
62.0	9.464	0.911	1183.203	.058%	98.298%
63.0	9.429	0.919	1184.122	.058%	98.375%
64.0	9.345	0.921	1185.043	.058%	98.451%
65.0	9.204	0.918	1185.961	.058%	98.528%
66.0	9.035	0.910	1186.871	.058%	98.603%
67.0	8.845	0.899	1187.77	.057%	98.678%
68.0	8.705	0.889	1188.659	.056%	98.752%
69.0	8.550	0.880	1189.539	.056%	98.825%
70.0	8.402	0.871	1190.41	.055%	98.897%
71.0	8.163	0.856	1191.266	.054%	98.968%
72.0	7.805	0.830	1192.097	.053%	99.037%
73.0	7.446	0.798	1192.894	.051%	99.103%
74.0	7.221	0.771	1193.665	.049%	99.168%
75.0	6.841	0.743	1194.408	.047%	99.229%

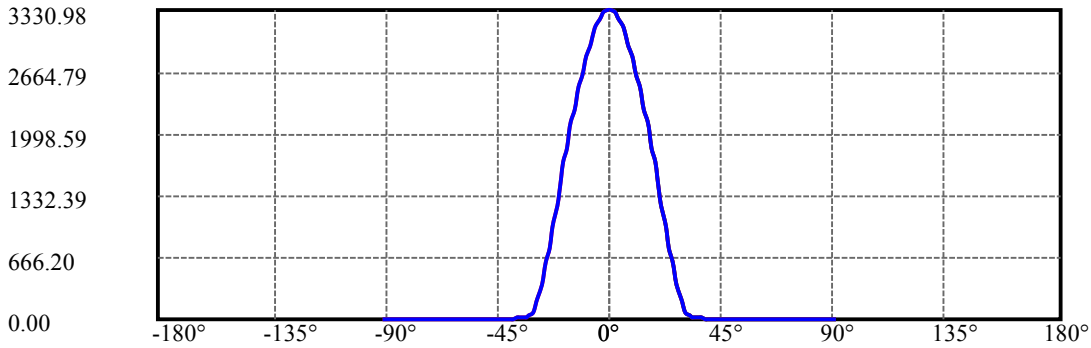
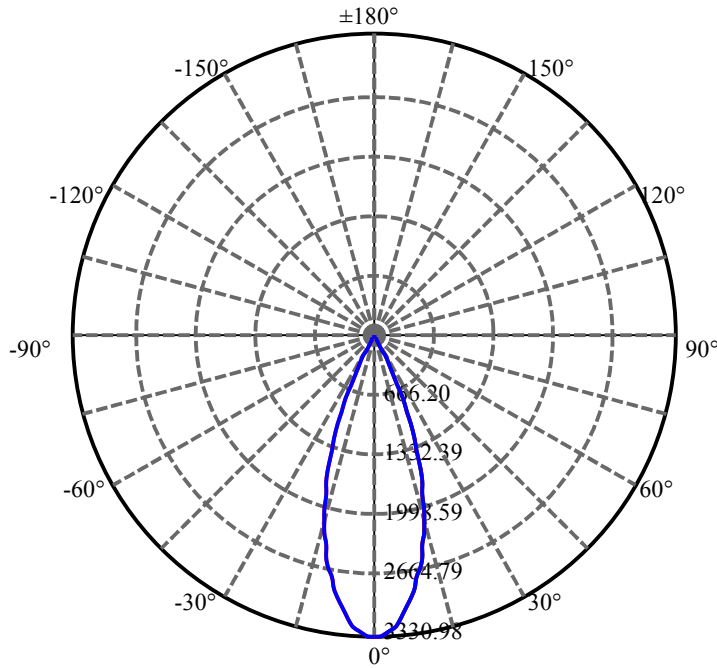
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	6.532	0.710	1195.118	.045%	99.288%
77.0	6.321	0.685	1195.803	.043%	99.345%
78.0	6.202	0.670	1196.474	.042%	99.401%
79.0	6.047	0.658	1197.132	.042%	99.456%
80.0	5.878	0.643	1197.775	.041%	99.509%
81.0	5.745	0.629	1198.403	.040%	99.561%
82.0	5.639	0.617	1199.021	.039%	99.612%
83.0	5.548	0.608	1199.629	.039%	99.663%
84.0	5.505	0.602	1200.231	.038%	99.713%
85.0	5.442	0.598	1200.828	.038%	99.763%
86.0	5.407	0.593	1201.421	.038%	99.812%
87.0	5.280	0.585	1202.006	.037%	99.861%
88.0	5.133	0.570	1202.577	.036%	99.908%
89.0	5.034	0.557	1203.134	.035%	99.954%
90.0	5.020	0.551	1203.685	.035%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1151.24	72.92%	95.64%
0-40	1166.83	73.91%	96.94%
0-60	1181.39	74.83%	98.15%
0-90	1203.13	76.21%	99.95%
0-120	1203.13	76.21%	99.95%
0-180	1203.69	76.24%	100.00%
60-90	22.63	1.43%	1.88%
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%
0-22.10	962.95	60.99%	80.00%

ZONAL LUMEN SUMMARY

0-10	288.01
10-20	575.52
20-30	287.71
30-40	15.59
40-50	6.51
50-60	8.05
60-70	9.02
70-80	7.36
80-90	5.36
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: —————

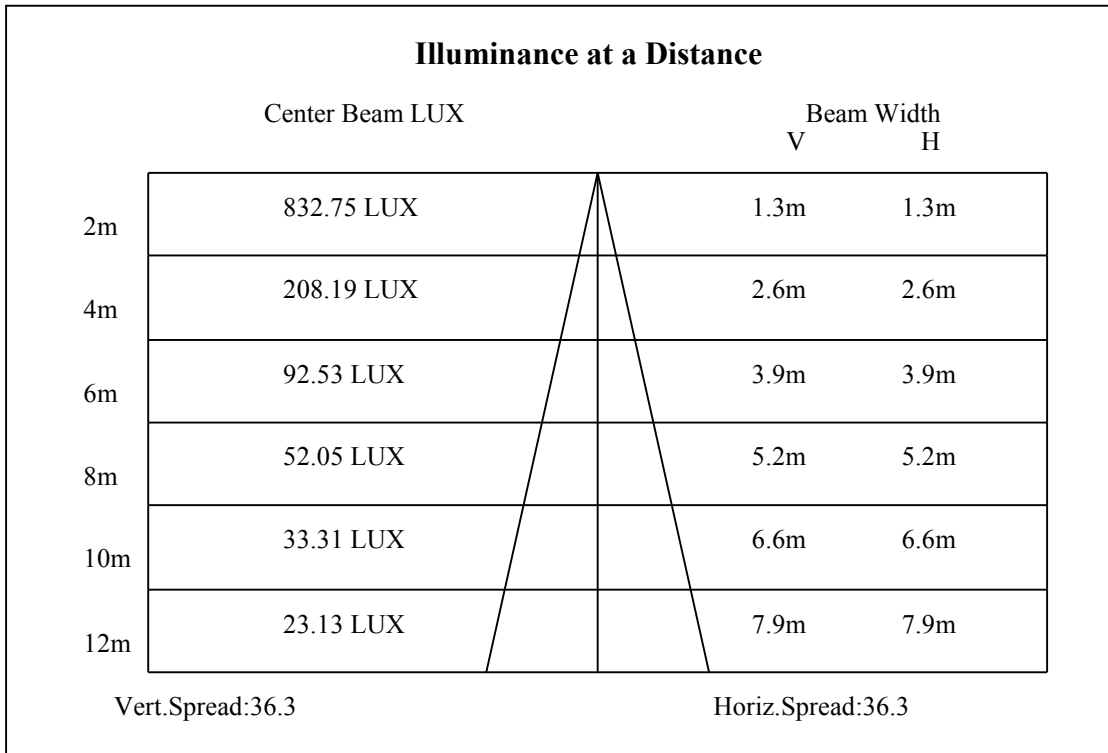
C90/C270: —————

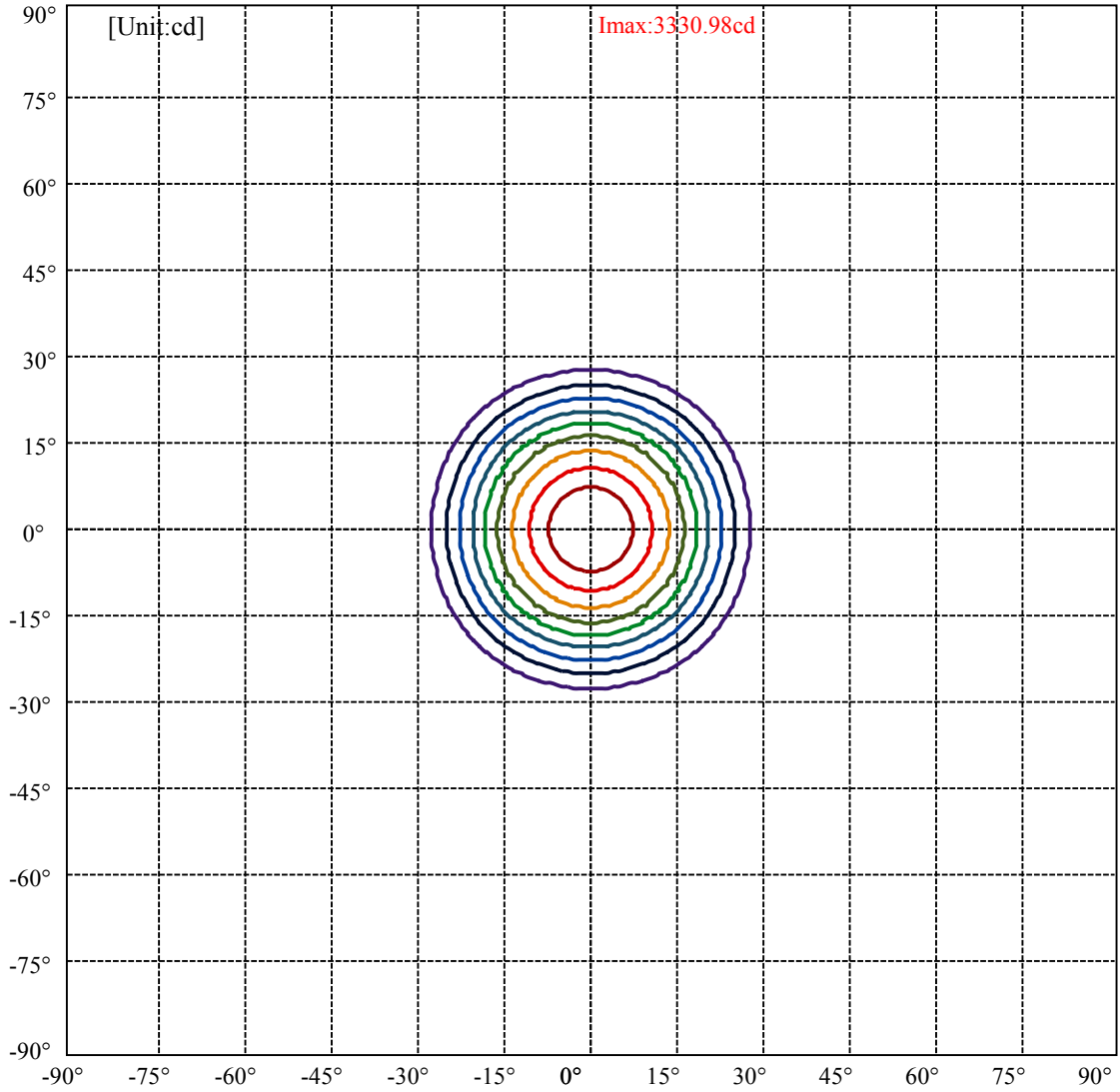
Field angle(10%Imax):C0/180Left:27.3 Right:27.3

:C90/270Left:27.3 Right:27.3

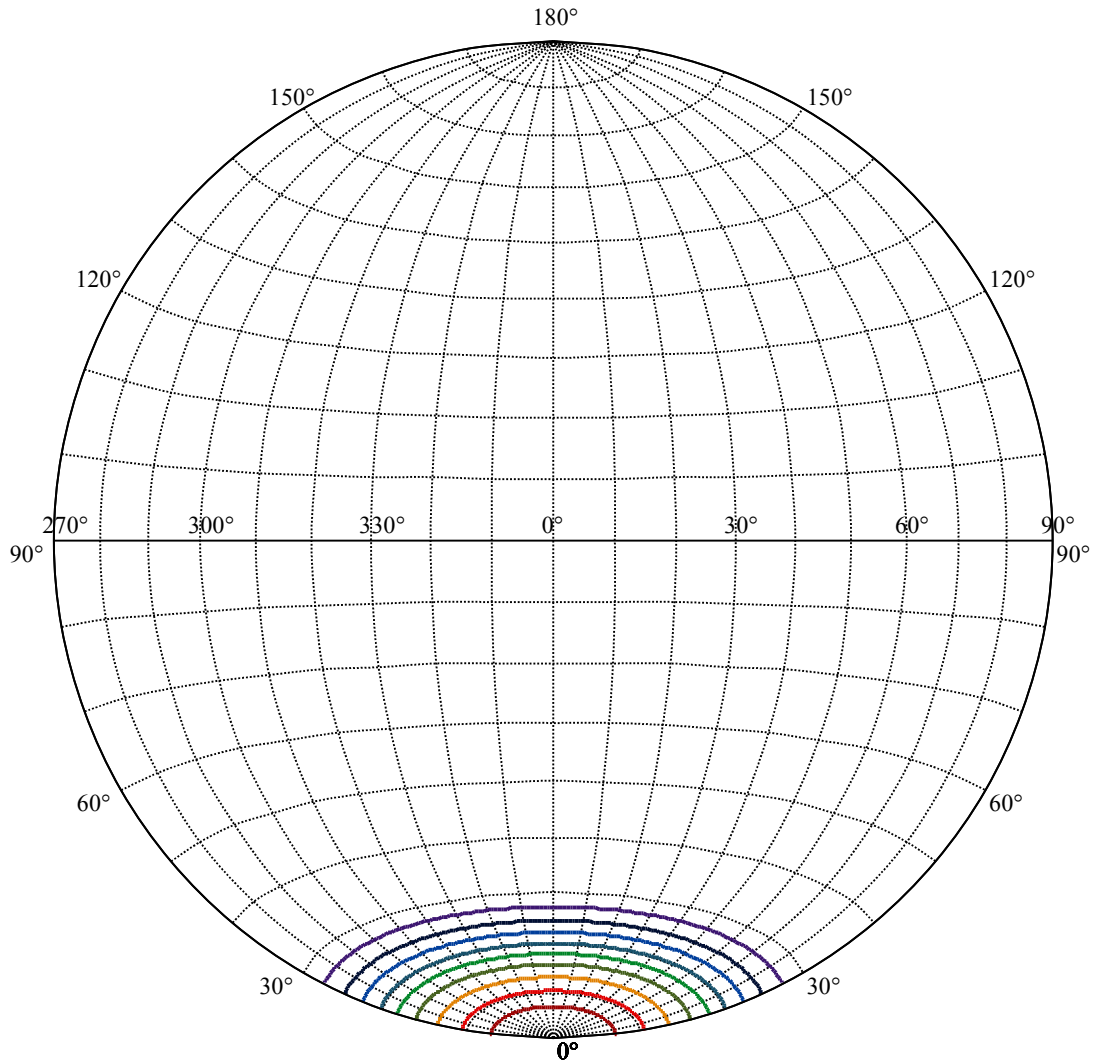
Beam Angle(50%Imax):C0/180Left:18.2 Right:18.2

:C90/270Left:18.2 Right:18.2





(10%Imax) 333.098	—
(20%Imax) 666.197	—
(30%Imax) 999.295	—
(40%Imax) 1332.39	—
(50%Imax) 1665.49	—
(60%Imax) 1998.59	—
(70%Imax) 2331.69	—
(80%Imax) 2664.79	—
(90%Imax) 2997.89	—



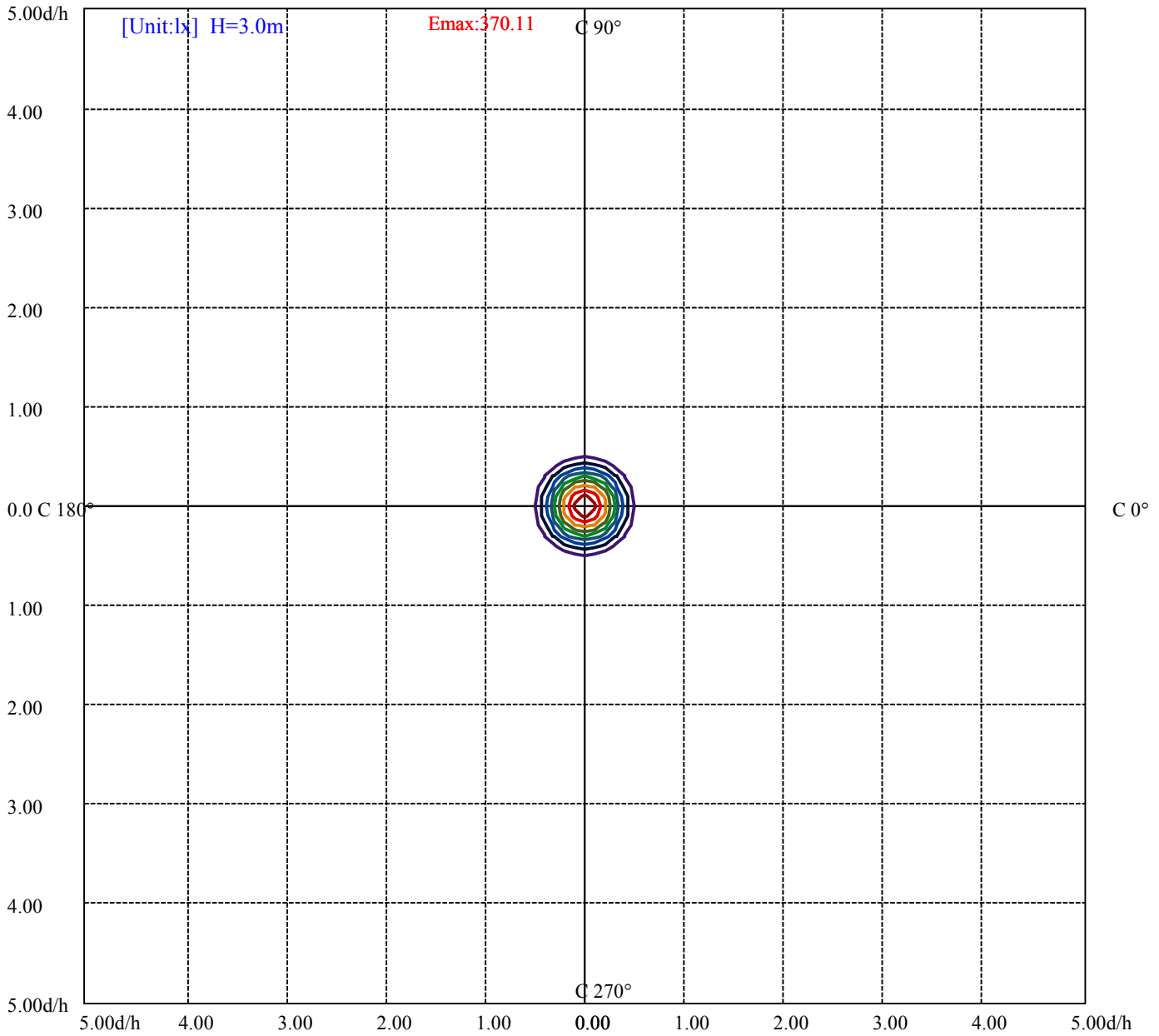
House

[Unit:cd]

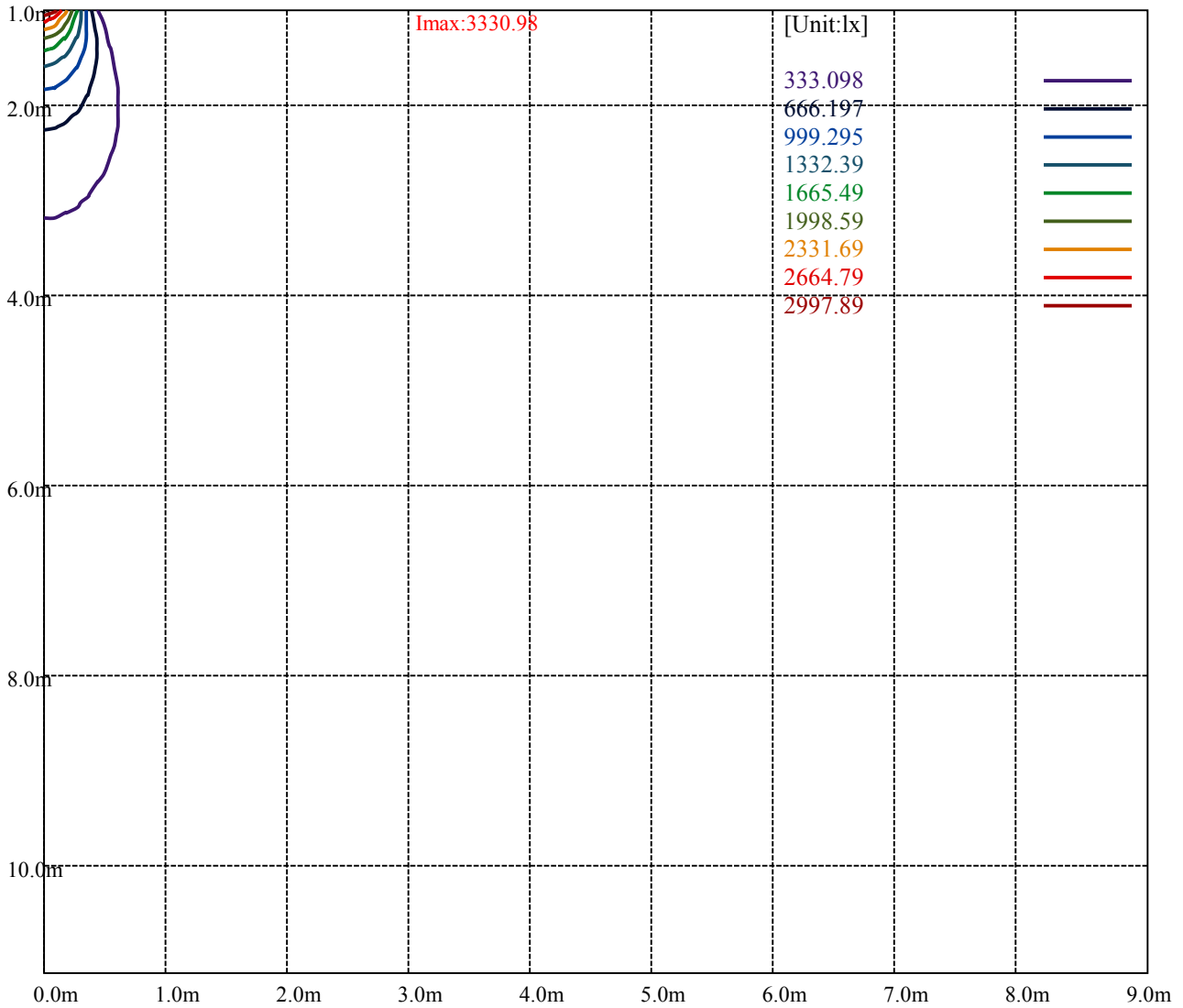
Road

Imax:3330.98

(10%Imax)	333.098	—
(20%Imax)	666.197	—
(30%Imax)	999.295	—
(40%Imax)	1332.39	—
(50%Imax)	1665.49	—
(60%Imax)	1998.59	—
(70%Imax)	2331.69	—
(80%Imax)	2664.79	—
(90%Imax)	2997.89	—



(10%Emax) 37.01089	—
(20%Emax) 74.02189	—
(30%Emax) 111.0328	—
(40%Emax) 148.0433	—
(50%Emax) 185.0544	—
(60%Emax) 222.0656	—
(70%Emax) 259.0767	—
(80%Emax) 296.0878	—
(90%Emax) 333.0989	—



Luminance Table

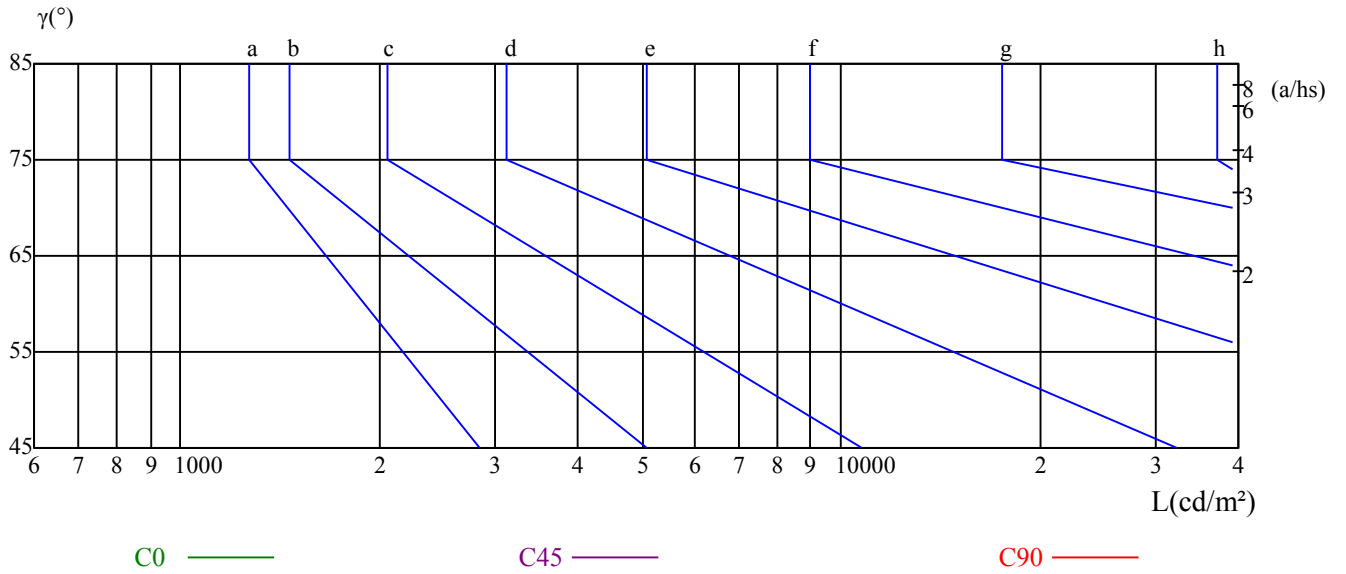
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

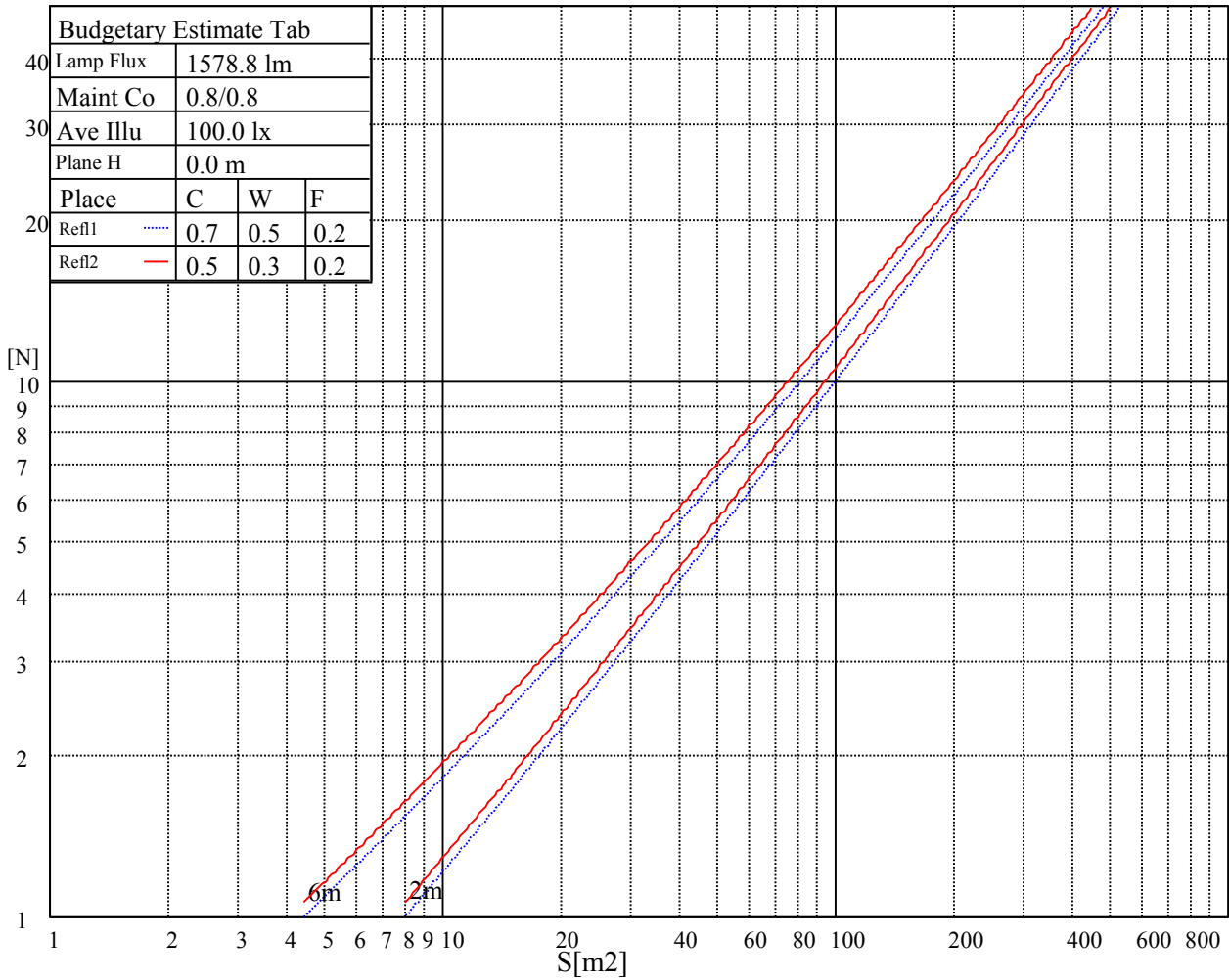
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

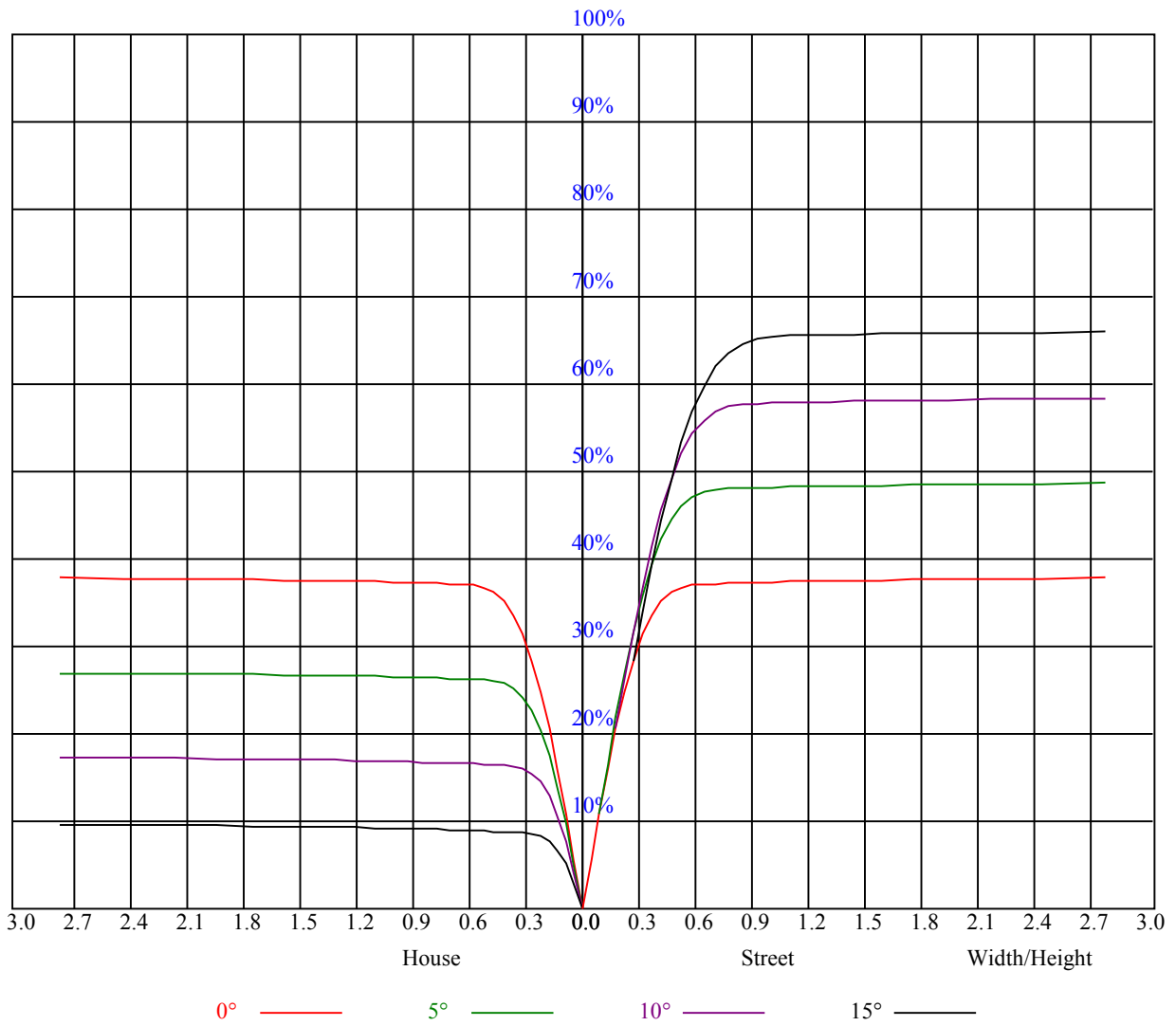
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

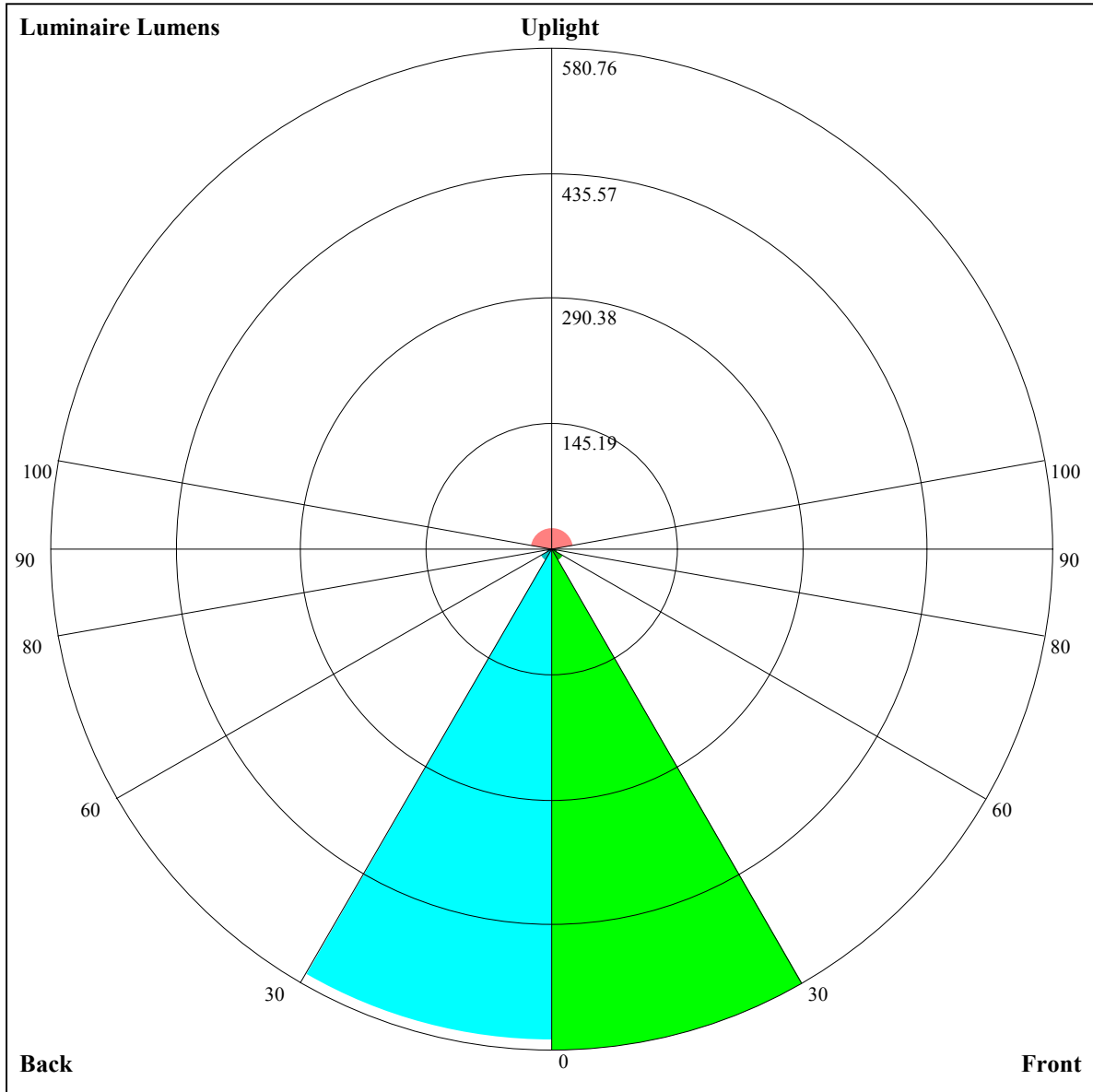
Luminance Limiting Curve





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	0.91	0.91	0.91	0.89	0.89	0.89	0.85	0.85	0.85	0.81	0.81	0.81	0.78	0.78	0.78	0.76
1	0.85	0.84	0.82	0.84	0.82	0.81	0.81	0.80	0.78	0.78	0.77	0.76	0.75	0.75	0.74	0.73
2	0.81	0.78	0.76	0.80	0.77	0.75	0.77	0.75	0.74	0.75	0.73	0.72	0.73	0.72	0.71	0.69
3	0.77	0.74	0.71	0.76	0.73	0.71	0.74	0.72	0.70	0.72	0.70	0.69	0.71	0.69	0.68	0.67
4	0.73	0.70	0.68	0.73	0.70	0.67	0.71	0.68	0.66	0.70	0.67	0.66	0.68	0.66	0.65	0.64
5	0.70	0.67	0.64	0.70	0.66	0.64	0.68	0.66	0.63	0.67	0.65	0.63	0.66	0.64	0.62	0.61
6	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.65	0.62	0.60	0.64	0.62	0.60	0.59
7	0.65	0.61	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.63	0.60	0.58	0.62	0.60	0.58	0.57
8	0.63	0.59	0.57	0.62	0.59	0.57	0.61	0.59	0.56	0.61	0.58	0.56	0.60	0.58	0.56	0.55
9	0.60	0.57	0.55	0.60	0.57	0.55	0.59	0.56	0.54	0.59	0.56	0.54	0.58	0.56	0.54	0.53
10	0.58	0.55	0.53	0.58	0.55	0.53	0.58	0.55	0.53	0.57	0.54	0.52	0.57	0.54	0.52	0.52





Luminaire Lumens:

FL=580.76,FM=15.66,FH=8.07,FVH=2.96

BL=568.47,BM=15.17,BH=7.77,BVH=2.92

UL=5.48,UH=26.07

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	3333.94	3331.69	3314.25	3282.75	3245.06	3196.69	3119.06	3048.75	2968.88
45.0	3328.31	3336.19	3327.75	3306.94	3273.19	3227.63	3173.63	3101.06	3027.94
90.0	3334.50	3337.31	3327.19	3298.50	3265.88	3222.56	3158.44	3081.38	3003.19
135.0	3327.19	3336.19	3325.50	3307.50	3269.81	3228.19	3175.31	3092.63	3015.00
180.0	3333.94	3321.56	3294.00	3259.13	3208.50	3152.25	3074.63	2984.06	2895.75
225.0	3328.31	3308.06	3277.13	3225.38	3171.38	3107.81	3024.00	2929.50	2839.50
270.0	3334.50	3315.94	3283.31	3243.38	3186.00	3113.44	3040.31	2948.63	2861.44
315.0	3327.19	3307.50	3277.13	3220.31	3173.63	3109.50	3006.00	2932.31	2844.00
360.0	3333.94	3331.69	3314.25	3282.75	3245.06	3196.69	3119.06	3048.75	2968.88
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2861.44	2765.81	2665.69	2561.63	2426.06	2314.13	2199.94	2061.56	1909.69
45.0	2935.69	2834.44	2735.44	2632.50	2500.31	2391.19	2279.81	2135.25	2007.00
90.0	2895.19	2802.38	2702.81	2587.50	2481.75	2358.56	2232.56	2111.63	1960.31
135.0	2930.06	2814.19	2714.06	2610.00	2476.69	2366.44	2254.50	2121.75	1975.50
180.0	2800.69	2673.56	2568.38	2461.50	2322.56	2209.50	2088.56	1941.19	1780.88
225.0	2729.81	2613.94	2507.06	2383.31	2270.81	2140.31	1999.13	1861.31	1715.06
270.0	2755.13	2640.94	2535.75	2427.75	2288.81	2174.63	2052.56	1884.38	1740.38
315.0	2736.56	2620.69	2514.38	2391.75	2264.63	2149.31	2011.50	1875.94	1713.38
360.0	2861.44	2765.81	2665.69	2561.63	2426.06	2314.13	2199.94	2061.56	1909.69
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1765.69	1604.81	1442.25	1296.56	1135.69	992.81	831.38	674.44	542.81
45.0	1856.25	1694.81	1531.69	1380.94	1211.63	1050.75	911.25	755.44	617.63
90.0	1795.50	1645.31	1495.13	1311.75	1113.41	1025.94	866.64	711.34	579.54
135.0	1823.06	1659.38	1498.50	1344.38	1177.88	1040.06	884.81	725.06	592.31
180.0	1632.38	1464.19	1316.81	1116.00	992.64	852.58	700.09	555.86	436.67
225.0	1532.81	1387.13	1118.42	1047.71	921.60	779.91	626.74	485.27	371.36
270.0	1595.81	1434.38	1274.06	1132.88	971.44	829.69	675.56	545.06	408.94
315.0	1550.81	1406.81	1217.81	1102.44	940.56	797.06	644.18	501.36	385.59
360.0	1765.69	1604.81	1442.25	1296.56	1135.69	992.81	831.38	674.44	542.81
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	434.81	284.63	226.80	116.61	63.17	44.66	31.84	21.88	15.98
45.0	474.75	349.31	287.44	155.53	82.24	46.35	32.51	21.99	15.86
90.0	456.75	317.70	219.26	135.62	71.61	44.16	29.76	20.93	15.24
135.0	467.44	331.31	293.06	142.71	74.03	49.78	36.17	25.09	17.83
180.0	328.67	211.44	133.26	80.21	52.93	37.46	27.84	20.53	15.98
225.0	256.89	170.89	99.28	60.69	43.93	30.60	21.66	16.65	13.50
270.0	288.56	182.93	113.85	72.56	48.43	34.88	24.86	18.06	12.88
315.0	281.59	171.00	107.49	68.46	47.76	32.68	23.06	16.09	12.38
360.0	434.81	284.63	226.80	116.61	63.17	44.66	31.84	21.88	15.98
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	13.16	11.59	10.80	10.35	10.07	9.96	9.96	10.07	10.18
45.0	12.88	11.53	10.29	9.90	9.56	9.28	9.06	8.94	8.78
90.0	11.14	9.45	8.44	7.76	7.43	7.14	6.92	6.75	6.58
135.0	13.95	11.42	10.13	9.34	8.83	8.55	8.27	8.10	8.04
180.0	13.44	11.76	10.86	10.24	9.96	9.68	9.56	9.62	9.73
225.0	11.31	10.35	9.79	9.28	9.06	8.83	8.72	8.61	8.49
270.0	10.52	9.11	8.21	7.71	7.37	7.20	6.98	6.86	6.69
315.0	10.58	9.56	9.06	8.72	8.44	8.33	8.16	7.99	7.88
360.0	13.16	11.59	10.80	10.35	10.07	9.96	9.96	10.07	10.18

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	10.41	10.69	10.91	11.19	11.53	11.87	12.26	12.66	13.11
45.0	8.66	8.61	8.61	8.55	8.55	8.49	8.55	8.61	8.78
90.0	6.53	6.41	6.41	6.30	6.30	6.24	6.19	6.19	6.19
135.0	7.88	7.82	7.71	7.71	7.65	7.59	7.54	7.48	7.48
180.0	10.01	10.29	10.52	10.80	11.19	11.59	11.98	12.49	12.83
225.0	8.44	8.33	8.27	8.21	8.16	8.16	8.16	8.21	8.21
270.0	6.64	6.58	6.53	6.47	6.41	6.41	6.36	6.41	6.36
315.0	7.76	7.71	7.65	7.59	7.54	7.43	7.37	7.31	7.26
360.0	10.41	10.69	10.91	11.19	11.53	11.87	12.26	12.66	13.11
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	13.50	13.89	14.23	14.57	14.85	15.08	15.24	15.41	15.58
45.0	8.83	8.94	9.11	9.17	9.23	9.28	9.28	9.34	9.39
90.0	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.19	6.19
135.0	7.43	7.43	7.37	7.37	7.31	7.31	7.31	7.26	7.26
180.0	13.28	13.78	14.01	14.34	14.63	14.79	15.02	15.36	15.36
225.0	8.21	8.33	8.38	8.38	8.49	8.49	8.61	8.55	8.49
270.0	6.36	6.36	6.30	6.36	6.36	6.41	6.41	6.41	6.41
315.0	7.20	7.20	7.20	7.14	7.09	7.09	7.09	7.09	7.03
360.0	13.50	13.89	14.23	14.57	14.85	15.08	15.24	15.41	15.58
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	15.69	15.64	15.36	14.85	14.06	13.22	12.32	11.42	10.13
45.0	9.34	9.34	9.23	9.11	9.00	9.06	9.11	9.17	9.17
90.0	6.19	6.24	6.24	6.30	6.53	6.86	7.14	7.54	7.88
135.0	7.20	7.20	7.14	7.09	7.03	6.92	6.81	6.75	6.75
180.0	15.13	14.57	13.84	13.05	12.09	11.14	10.35	9.39	8.44
225.0	8.44	8.33	8.21	8.21	8.27	8.33	8.38	8.38	8.21
270.0	6.41	6.47	6.64	6.75	6.92	7.26	7.48	7.82	8.04
315.0	7.03	6.98	6.98	6.92	6.86	6.86	6.81	6.75	6.69
360.0	15.69	15.64	15.36	14.85	14.06	13.22	12.32	11.42	10.13
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	8.38	7.09	6.92	6.75	6.47	6.30	6.13	6.02	5.91
45.0	9.00	8.72	8.49	7.93	7.43	7.09	6.98	6.75	6.47
90.0	8.10	7.71	7.31	6.58	6.30	6.02	5.85	5.63	5.51
135.0	6.69	6.69	6.58	6.47	6.41	6.30	6.19	6.02	5.85
180.0	7.43	6.86	6.69	6.53	6.30	6.13	6.02	5.91	5.79
225.0	8.16	7.99	7.93	7.59	7.03	6.69	6.53	6.36	6.13
270.0	8.04	7.93	7.31	6.47	6.02	5.85	5.79	5.68	5.51
315.0	6.64	6.58	6.53	6.41	6.30	6.19	6.13	6.02	5.85
360.0	8.38	7.09	6.92	6.75	6.47	6.30	6.13	6.02	5.91
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.79	5.63	5.57	5.57	5.46	5.46	5.46	5.29	5.01
45.0	6.19	6.02	5.85	5.79	5.74	5.74	5.79	5.34	5.12
90.0	5.46	5.40	5.34	5.34	5.23	5.29	5.12	5.12	5.01
135.0	5.79	5.74	5.51	5.46	5.34	5.34	5.29	5.06	5.06
180.0	5.68	5.51	5.51	5.40	5.34	5.34	5.01	4.95	4.95
225.0	5.85	5.74	5.68	5.68	5.74	5.40	5.18	5.06	5.06
270.0	5.46	5.46	5.40	5.34	5.34	5.34	5.12	5.12	5.01
315.0	5.74	5.63	5.51	5.46	5.34	5.34	5.29	5.12	5.06
360.0	5.79	5.63	5.57	5.57	5.46	5.46	5.46	5.29	5.01

Intensity data(cd)

C/γ(°)	90.0
0.0	4.95
45.0	5.06
90.0	5.01
135.0	5.06
180.0	4.95
225.0	5.06
270.0	5.01
315.0	5.06
360.0	4.95