



NATA LIGHTING CO.,LTD.
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Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Client:

LumCAT: 1405-S

Luminaire: 92.70.043.00

Report No: nt0100

Test No: GC2019112605

LampCAT: LUMINUS CXM-3-AC40

Lamp flux(lm): 346.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 35.6300

Current(A): 0.0970

Power (W): 3.4500

PF: 1.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 295.96, Efficiency(%): 85.54% , Luminous Efficacy(lm/W): 85.79

Central intensity(cd): 1105.312, Maximum intensity(cd): 1105.312

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=16.2

[C90/270]Total=16.2

Field angle(10%Imax): [C0/180]Total=57.6

[C90/270]Total=57.6

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

Maximum s/h(1/4): C0_180=0.31 C90_270=0.31

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 85.54%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 94.840%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1105.313	0.000	0	.000%	.000%
1.0	1092.832	1.052	1.052	.304%	.355%
2.0	1053.323	3.080	4.132	.890%	1.396%
3.0	990.851	4.889	9.021	1.413%	3.048%
4.0	916.777	6.385	15.407	1.846%	5.206%
5.0	827.845	7.505	22.912	2.169%	7.741%
6.0	734.527	8.211	31.123	2.373%	10.516%
7.0	645.180	8.564	39.686	2.475%	13.409%
8.0	563.084	8.647	48.334	2.499%	16.331%
9.0	484.502	8.490	56.824	2.454%	19.200%
10.0	417.150	8.160	64.983	2.358%	21.957%
11.0	362.327	7.789	72.772	2.251%	24.588%
12.0	316.751	7.423	80.195	2.145%	27.097%
13.0	277.552	7.053	87.248	2.038%	29.480%
14.0	246.199	6.704	93.952	1.938%	31.745%
15.0	222.511	6.435	100.387	1.860%	33.919%
16.0	202.880	6.233	106.62	1.801%	36.025%
17.0	186.328	6.061	112.681	1.752%	38.073%
18.0	173.531	5.933	118.614	1.715%	40.078%
19.0	163.463	5.863	124.477	1.695%	42.059%
20.0	154.230	5.815	130.292	1.681%	44.023%
21.0	146.623	5.777	136.069	1.670%	45.975%
22.0	140.625	5.772	141.841	1.668%	47.926%
23.0	134.902	5.781	147.623	1.671%	49.879%
24.0	129.853	5.788	153.411	1.673%	51.835%
25.0	125.445	5.805	159.216	1.678%	53.796%
26.0	121.366	5.826	165.042	1.684%	55.765%
27.0	117.394	5.841	170.883	1.688%	57.738%
28.0	113.562	5.847	176.731	1.690%	59.714%
29.0	109.709	5.841	182.572	1.688%	61.688%
30.0	105.877	5.821	188.393	1.682%	63.654%
31.0	101.918	5.783	194.175	1.671%	65.608%
32.0	97.643	5.717	199.893	1.652%	67.540%
33.0	93.516	5.632	205.524	1.628%	69.443%
34.0	89.262	5.531	211.055	1.599%	71.312%
35.0	84.452	5.395	216.45	1.559%	73.135%
36.0	79.502	5.220	221.671	1.509%	74.898%
37.0	74.440	5.021	226.691	1.451%	76.595%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	69.005	4.788	231.479	1.384%	78.213%
39.0	63.295	4.516	235.995	1.305%	79.738%
40.0	58.141	4.235	240.231	1.224%	81.169%
41.0	52.995	3.957	244.188	1.144%	82.507%
42.0	47.700	3.658	247.846	1.057%	83.743%
43.0	42.954	3.358	251.205	.971%	84.877%
44.0	38.756	3.084	254.288	.891%	85.919%
45.0	34.643	2.821	257.109	.815%	86.873%
46.0	31.092	2.571	259.68	.743%	87.741%
47.0	27.970	2.349	262.029	.679%	88.535%
48.0	25.193	2.149	264.178	.621%	89.261%
49.0	22.816	1.972	266.15	.570%	89.927%
50.0	20.651	1.812	267.962	.524%	90.539%
51.0	18.837	1.671	269.633	.483%	91.104%
52.0	17.395	1.555	271.187	.449%	91.629%
53.0	15.954	1.451	272.638	.419%	92.119%
54.0	14.695	1.351	273.989	.390%	92.576%
55.0	13.753	1.270	275.259	.367%	93.005%
56.0	12.839	1.202	276.461	.347%	93.411%
57.0	12.002	1.136	277.596	.328%	93.795%
58.0	11.327	1.079	278.675	.312%	94.159%
59.0	10.709	1.030	279.705	.298%	94.507%
60.0	10.104	0.983	280.689	.284%	94.840%
61.0	9.584	0.940	281.628	.272%	95.157%
62.0	9.134	0.902	282.53	.261%	95.462%
63.0	8.698	0.867	283.397	.251%	95.755%
64.0	8.276	0.833	284.23	.241%	96.036%
65.0	7.896	0.800	285.031	.231%	96.307%
66.0	7.523	0.769	285.8	.222%	96.567%
67.0	7.193	0.740	286.54	.214%	96.817%
68.0	6.848	0.711	287.251	.206%	97.057%
69.0	6.511	0.682	287.933	.197%	97.287%
70.0	6.209	0.653	288.586	.189%	97.508%
71.0	5.878	0.625	289.211	.181%	97.719%
72.0	5.576	0.596	289.806	.172%	97.920%
73.0	5.295	0.568	290.375	.164%	98.112%
74.0	5.006	0.542	290.916	.157%	98.295%
75.0	4.704	0.513	291.429	.148%	98.469%

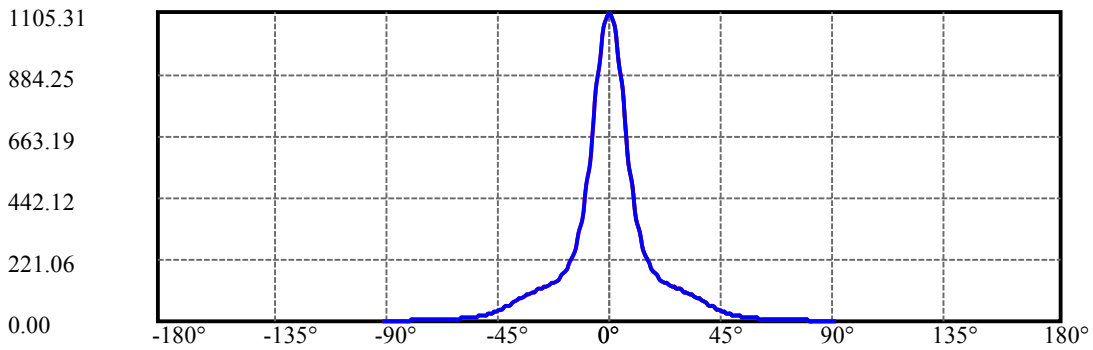
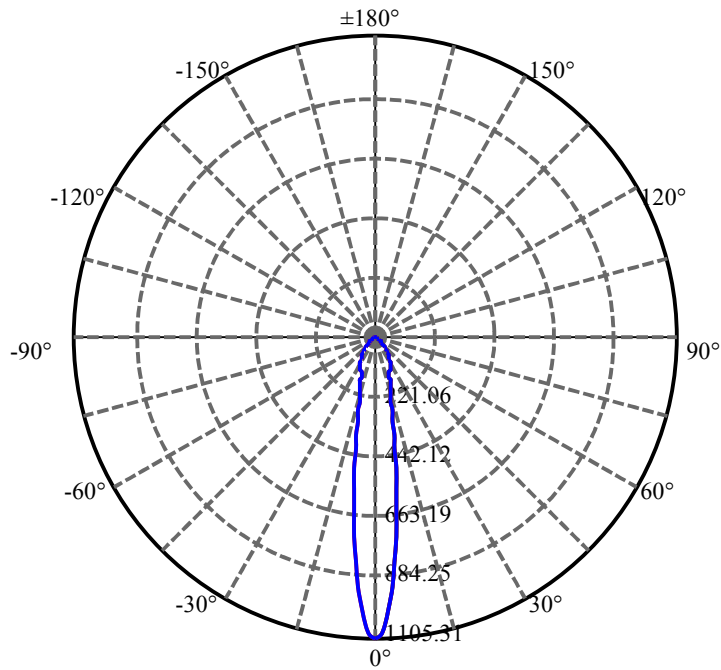
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.451	0.486	291.915	.140%	98.633%
77.0	4.163	0.459	292.374	.133%	98.788%
78.0	3.888	0.431	292.805	.125%	98.934%
79.0	3.628	0.404	293.209	.117%	99.070%
80.0	3.361	0.377	293.586	.109%	99.197%
81.0	3.087	0.349	293.935	.101%	99.315%
82.0	2.855	0.322	294.257	.093%	99.424%
83.0	2.595	0.296	294.553	.086%	99.524%
84.0	2.355	0.270	294.823	.078%	99.615%
85.0	2.116	0.244	295.067	.071%	99.698%
86.0	1.898	0.219	295.286	.063%	99.772%
87.0	1.666	0.195	295.481	.056%	99.838%
88.0	1.505	0.174	295.655	.050%	99.896%
89.0	1.385	0.158	295.814	.046%	99.950%
90.0	1.315	0.148	295.962	.043%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	188.39	54.45%	63.65%
0-40	240.23	69.43%	81.17%
0-60	280.69	81.12%	94.84%
0-90	295.81	85.50%	99.95%
0-120	295.81	85.50%	99.95%
0-180	295.96	85.54%	100.00%
60-90	16.11	4.66%	5.44%
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%
0-39.18	236.77	68.43%	80.00%

ZONAL LUMEN SUMMARY

0-10	64.98
10-20	65.31
20-30	58.10
30-40	51.84
40-50	27.73
50-60	12.73
60-70	7.90
70-80	5.00
80-90	2.23
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



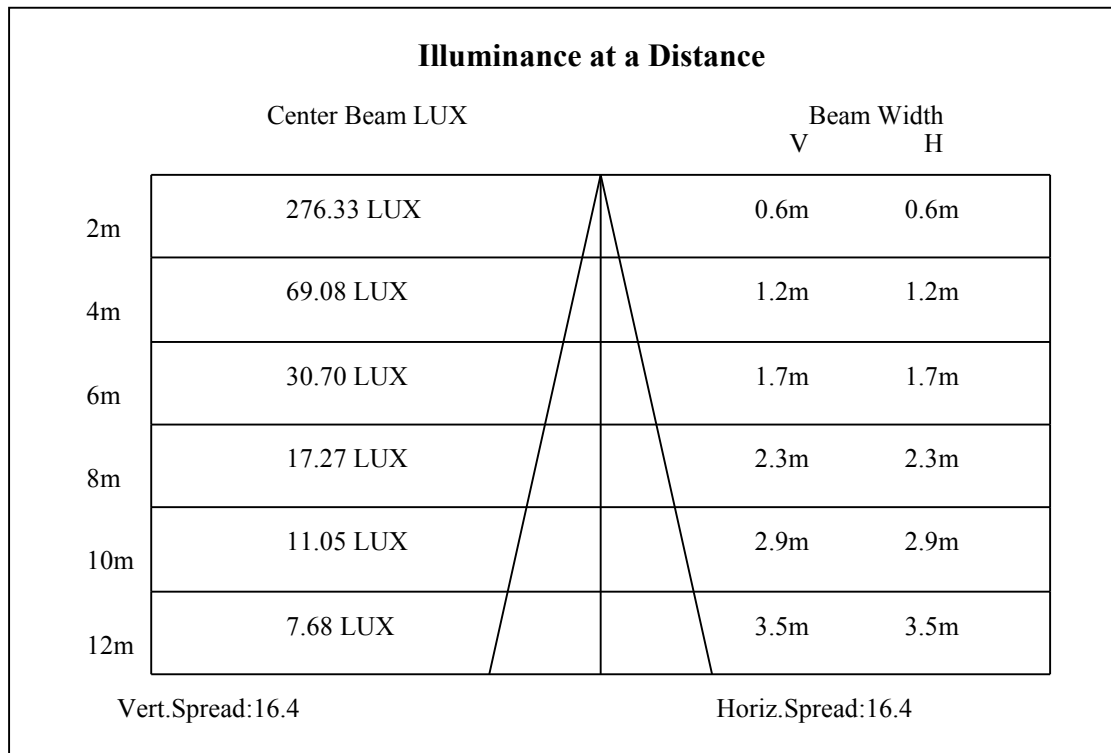
C0(Max): —————

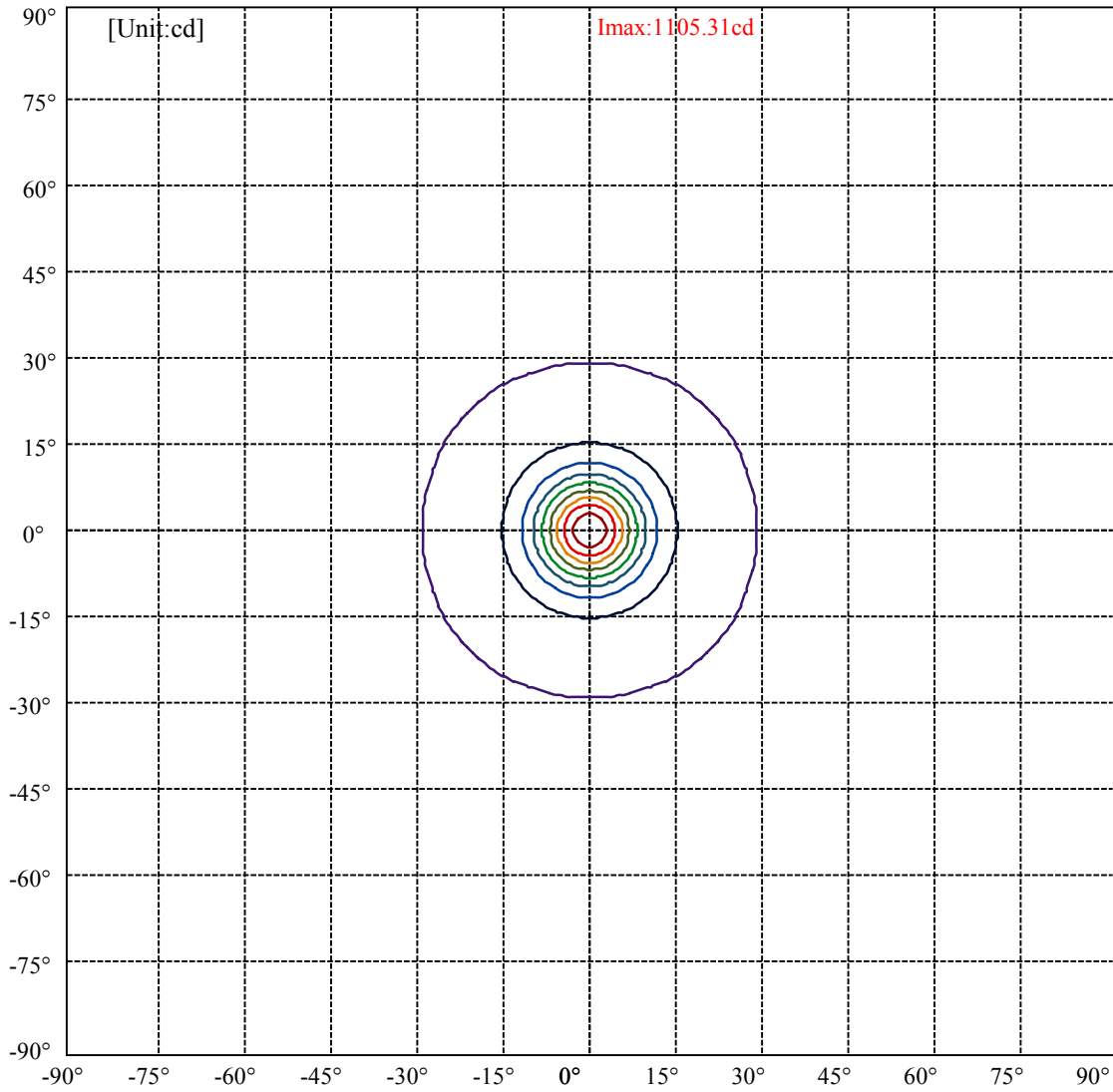
C0/C180: —————

C90/C270: —————

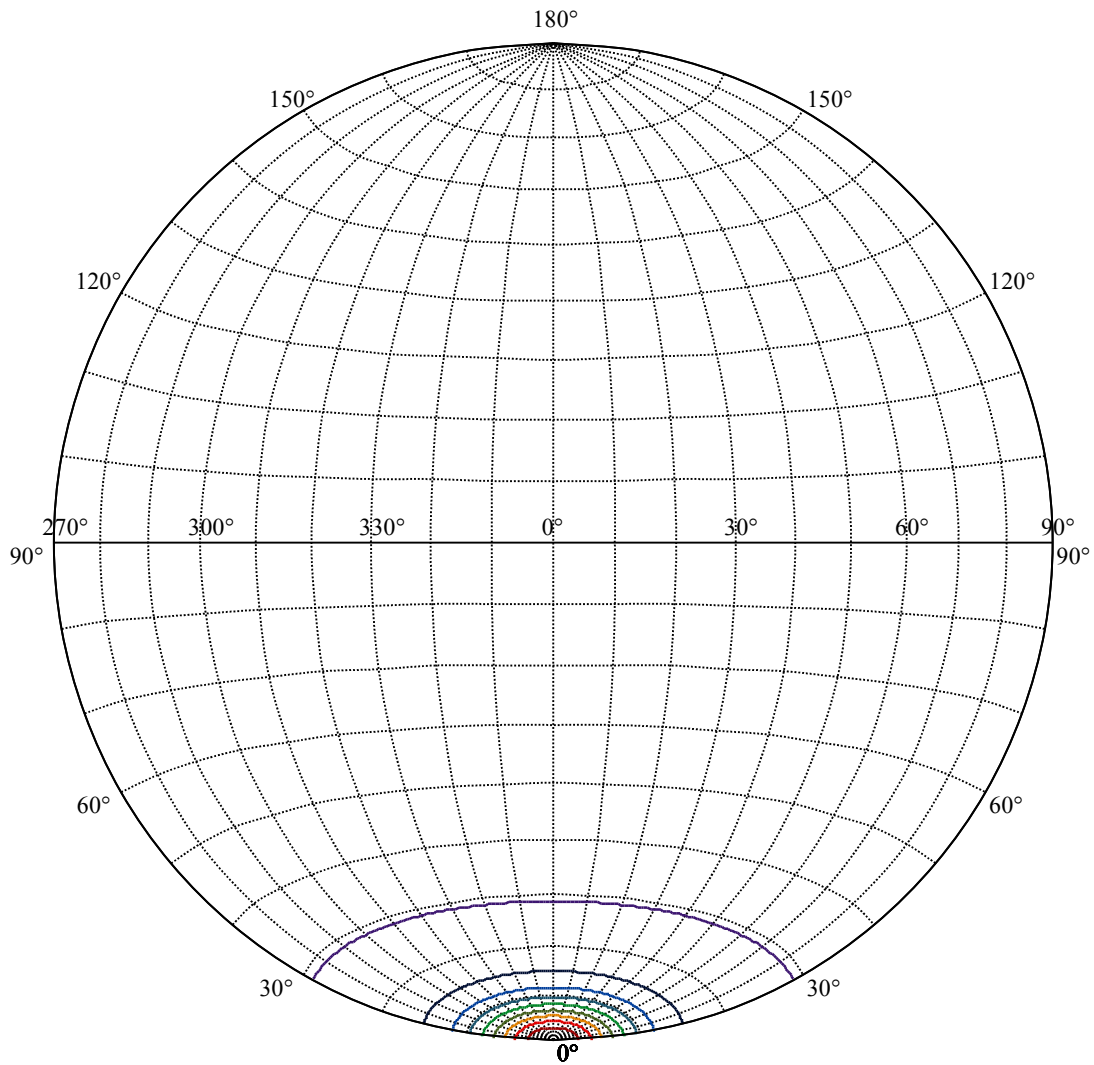
Field angle(10%Imax):C0/180Left:28.8 Right:28.8
:C90/270Left:28.8 Right:28.8

Beam Angle(50%Imax):C0/180Left:8.1 Right:8.1
:C90/270Left:8.1 Right:8.1





(10%Imax) 110.531	—
(20%Imax) 221.062	—
(30%Imax) 331.594	—
(40%Imax) 442.125	—
(50%Imax) 552.656	—
(60%Imax) 663.187	—
(70%Imax) 773.719	—
(80%Imax) 884.25	—
(90%Imax) 994.781	—



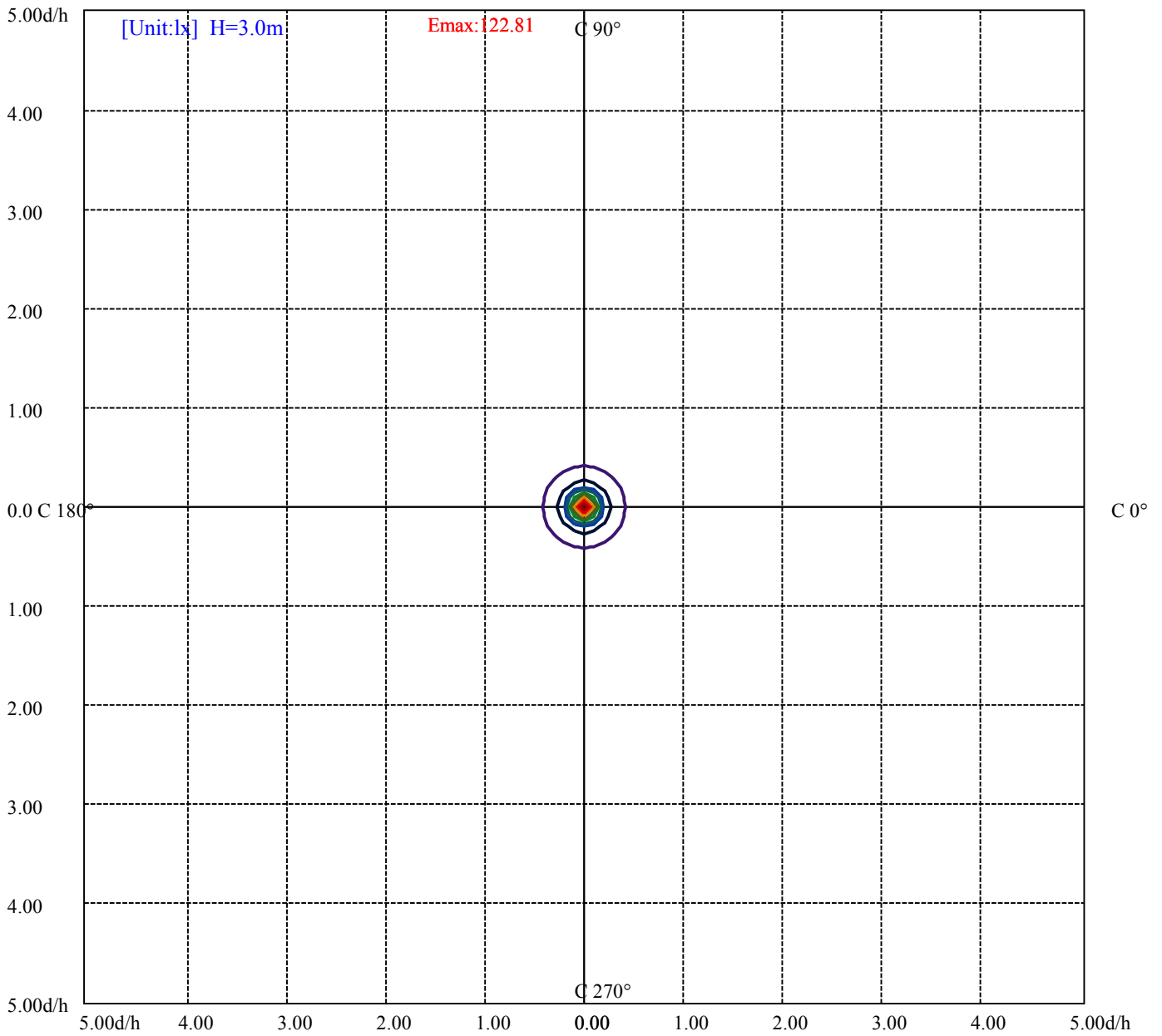
House

[Unit:cd]

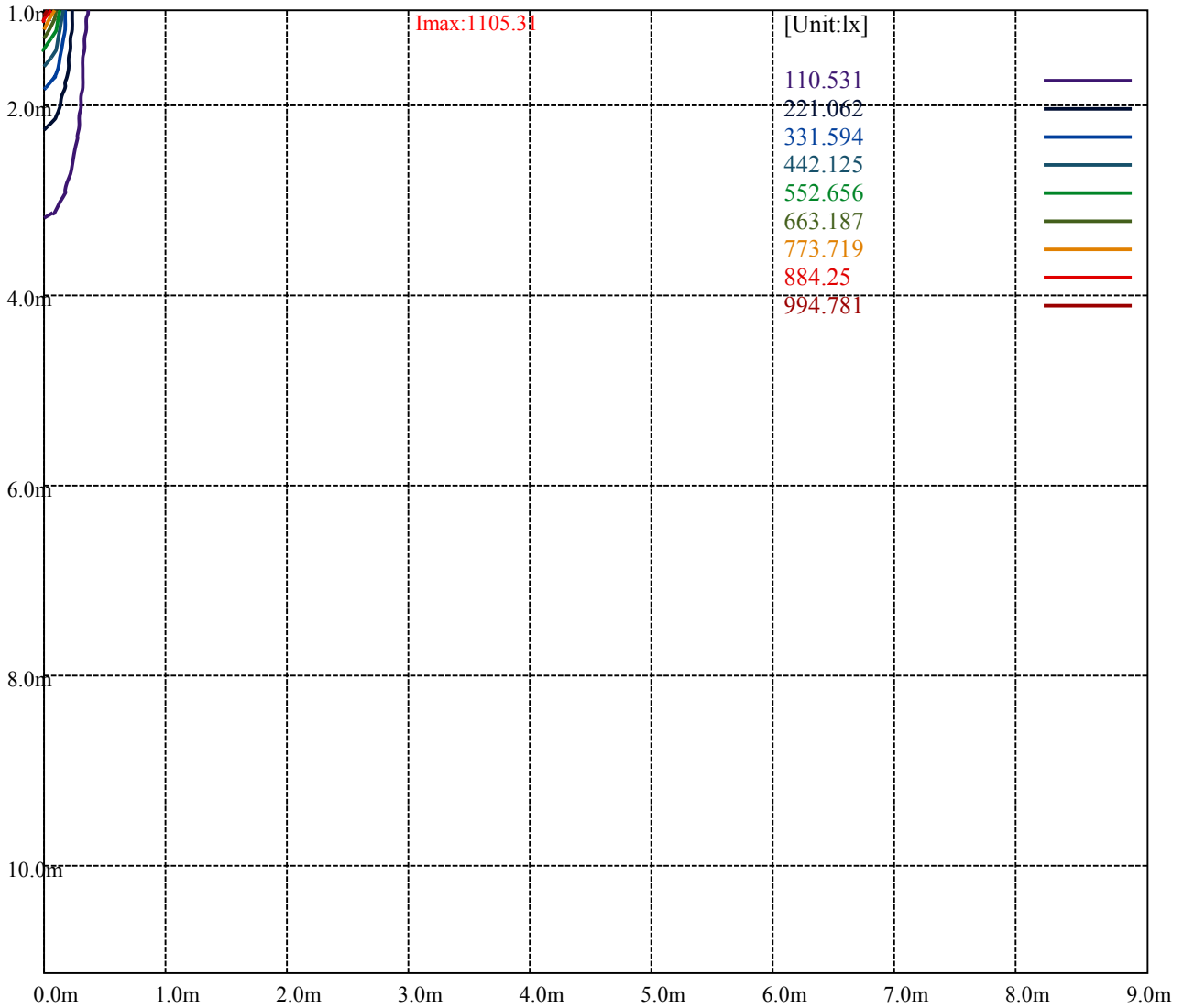
Road

Imax:1105.31

(10%Imax)	110.531	—
(20%Imax)	221.062	—
(30%Imax)	331.594	—
(40%Imax)	442.125	—
(50%Imax)	552.656	—
(60%Imax)	663.187	—
(70%Imax)	773.719	—
(80%Imax)	884.25	—
(90%Imax)	994.781	—



(10%Emax) 12.28122	—
(20%Emax) 24.56244	—
(30%Emax) 36.84367	—
(40%Emax) 49.12489	—
(50%Emax) 61.40611	—
(60%Emax) 73.68733	—
(70%Emax) 85.96855	—
(80%Emax) 98.24978	—
(90%Emax) 110.531	—



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

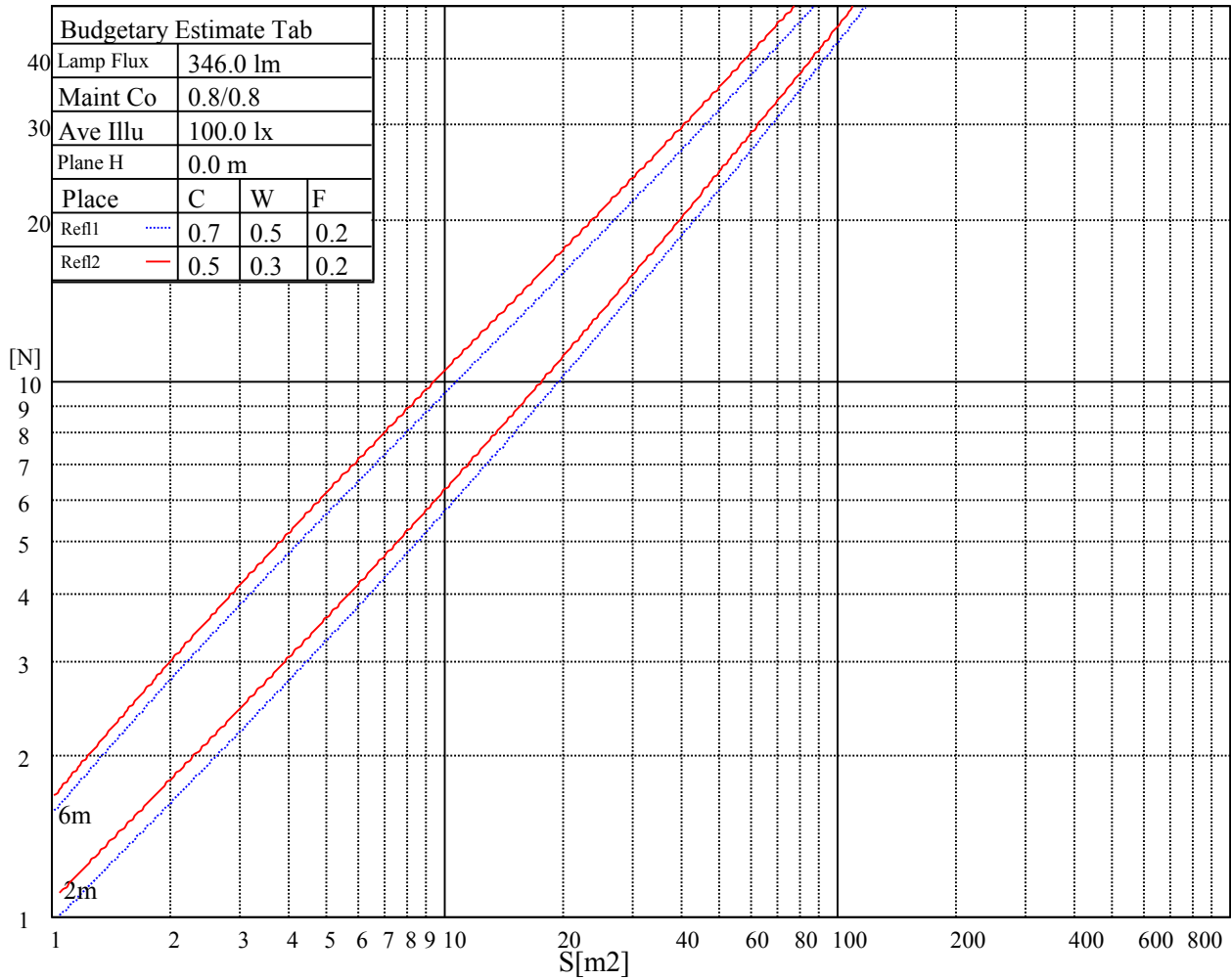
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

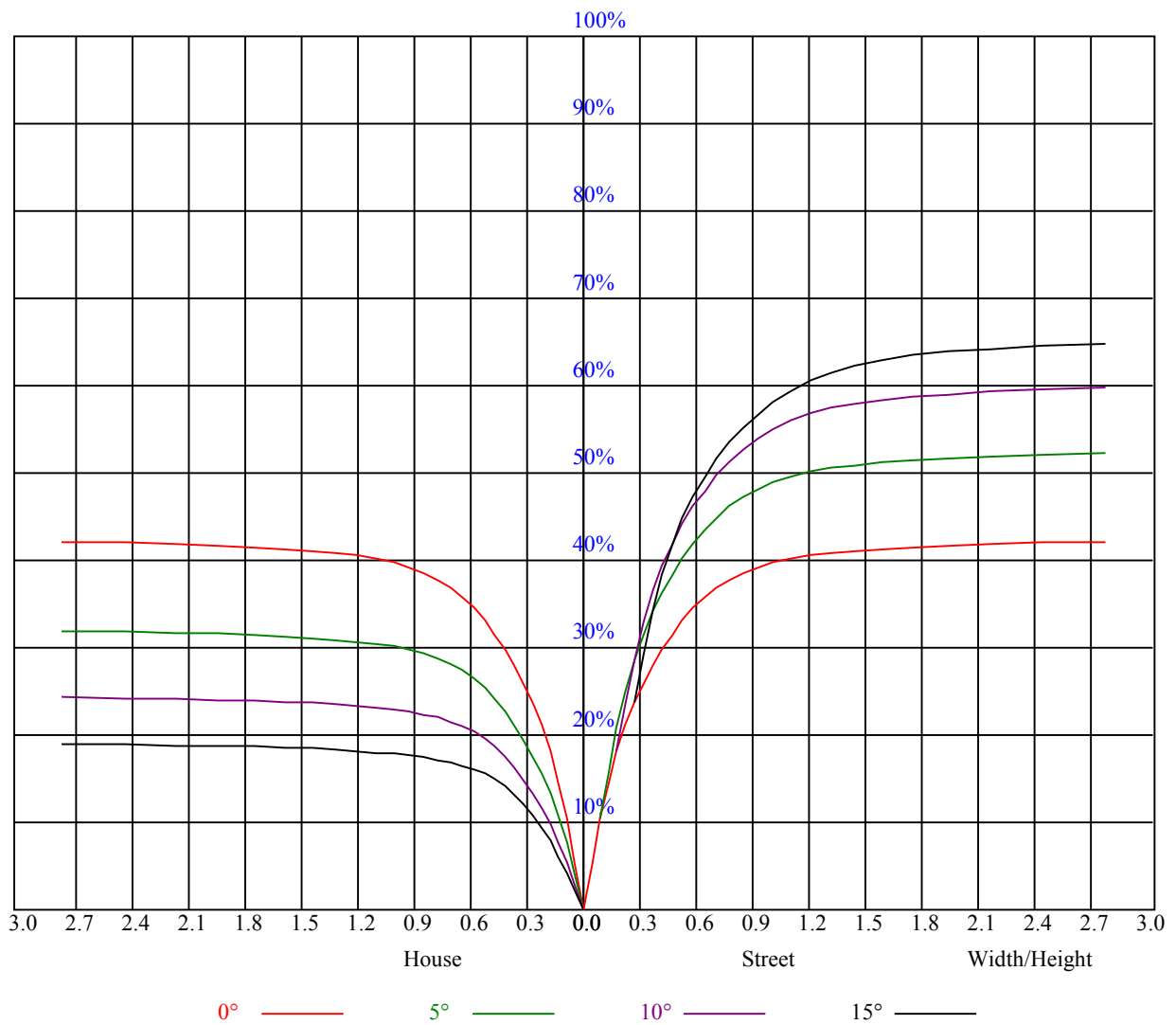
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

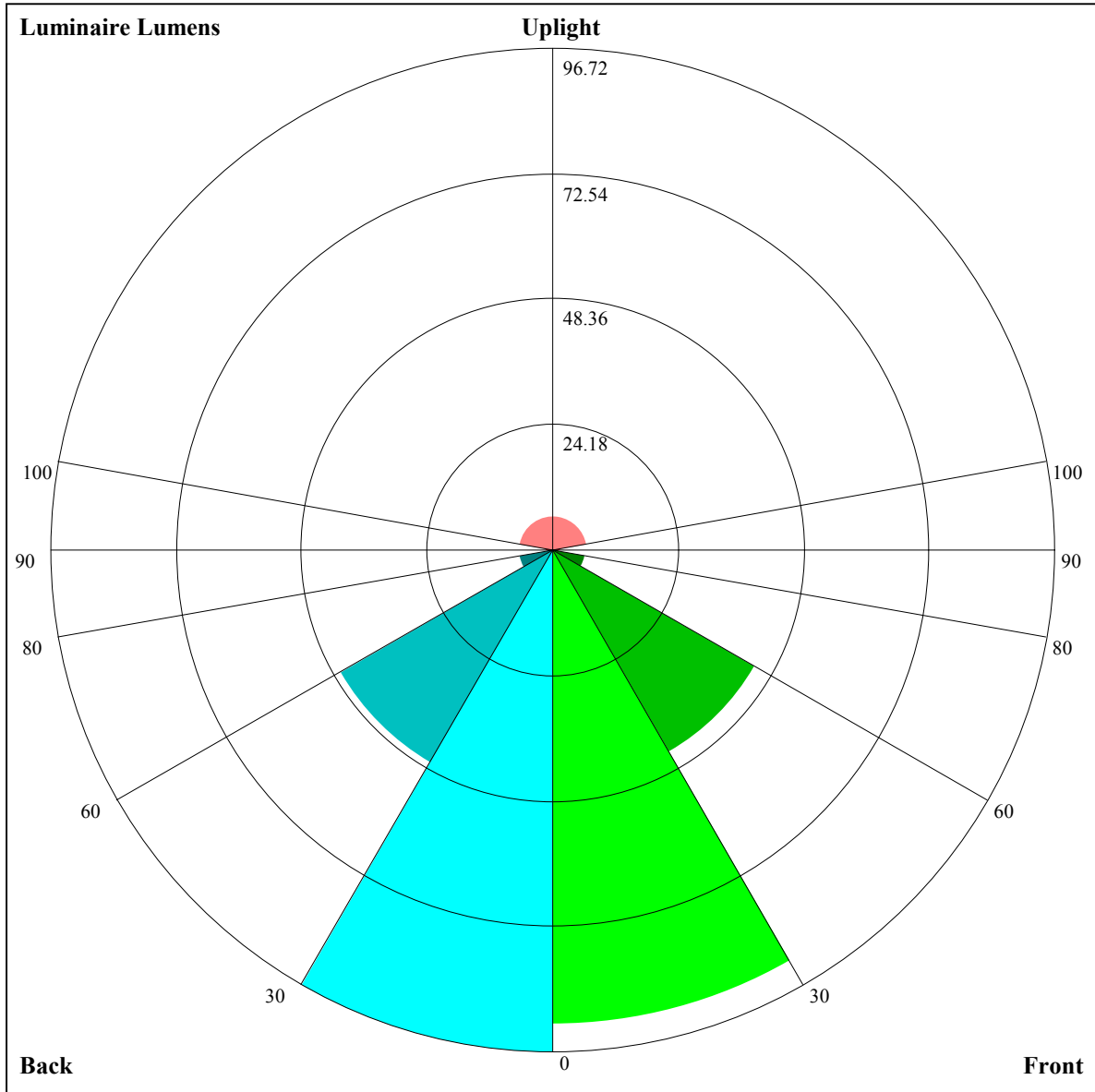
Luminance Limiting Curve





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	1.02	1.02	1.02	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.86
1	0.94	0.91	0.89	0.92	0.90	0.88	0.88	0.87	0.85	0.85	0.84	0.83	0.82	0.81	0.80	0.79
2	0.87	0.83	0.80	0.85	0.82	0.79	0.82	0.80	0.77	0.80	0.78	0.75	0.77	0.76	0.74	0.72
3	0.81	0.76	0.72	0.79	0.75	0.72	0.77	0.74	0.71	0.75	0.72	0.70	0.73	0.71	0.68	0.67
4	0.75	0.70	0.66	0.74	0.70	0.66	0.72	0.68	0.65	0.71	0.67	0.64	0.69	0.66	0.64	0.62
5	0.71	0.65	0.62	0.70	0.65	0.61	0.68	0.64	0.61	0.67	0.63	0.60	0.65	0.62	0.60	0.58
6	0.66	0.61	0.57	0.66	0.61	0.57	0.64	0.60	0.57	0.63	0.59	0.56	0.62	0.59	0.56	0.55
7	0.63	0.58	0.54	0.62	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.53	0.59	0.56	0.53	0.52
8	0.60	0.54	0.51	0.59	0.54	0.51	0.58	0.54	0.51	0.57	0.53	0.50	0.56	0.53	0.50	0.49
9	0.57	0.52	0.48	0.56	0.52	0.48	0.55	0.51	0.48	0.55	0.51	0.48	0.54	0.50	0.48	0.47
10	0.54	0.49	0.46	0.54	0.49	0.46	0.53	0.49	0.46	0.52	0.48	0.46	0.52	0.48	0.46	0.44





Luminaire Lumens:

FL=91.42,FM=44.78,FH=6.25,FVH=1.13

BL=96.72,BM=47.29,BH=6.65,BVH=1.25

UL=1.43,UH=6.83

BUG Rating:B0-U1-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	1112.01	1081.13	1014.98	946.24	867.43	763.09	680.23	601.31	519.98
45.0	1105.71	1080.90	1028.42	965.42	881.83	791.66	710.44	621.68	549.39
90.0	1105.37	1093.50	1053.96	1000.24	924.69	849.21	760.11	672.02	598.05
135.0	1098.17	1119.66	1114.76	1086.64	1039.73	968.57	883.13	800.49	706.56
180.0	1112.01	1121.29	1107.79	1058.34	995.68	906.86	817.37	711.96	621.34
225.0	1105.71	1101.15	1071.11	1000.91	923.91	833.63	726.75	621.96	535.89
270.0	1105.37	1089.84	1049.96	968.79	885.43	793.63	677.64	590.51	510.53
315.0	1098.17	1055.19	985.61	900.23	815.51	716.12	620.55	541.52	462.94
360.0	1112.01	1081.13	1014.98	946.24	867.43	763.09	680.23	601.31	519.98
C/ γ (°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	448.59	393.24	340.43	301.28	265.44	236.93	216.73	198.28	183.77
45.0	476.61	412.43	363.04	321.02	277.59	249.75	227.19	204.08	188.78
90.0	520.88	452.25	399.38	353.64	305.16	273.21	246.54	221.79	201.66
135.0	616.33	540.51	463.84	404.33	347.29	301.28	268.31	241.43	214.43
180.0	526.95	444.77	383.74	327.88	288.06	252.79	225.73	206.72	191.25
225.0	451.18	380.14	328.16	281.76	249.58	221.29	198.84	182.64	169.59
270.0	432.84	367.71	320.01	276.69	246.15	218.64	197.10	181.69	168.13
315.0	402.64	346.16	300.04	267.41	241.14	215.72	199.63	186.41	173.03
360.0	448.59	393.24	340.43	301.28	265.44	236.93	216.73	198.28	183.77
C/ γ (°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	173.25	165.43	154.86	148.33	143.21	136.07	131.63	127.97	123.13
45.0	176.51	164.64	154.18	147.04	139.73	133.37	127.91	122.79	118.69
90.0	186.75	173.08	161.94	153.45	145.29	139.05	132.69	126.96	122.34
135.0	197.89	184.50	171.79	162.28	155.08	147.99	141.98	137.08	132.08
180.0	175.78	166.11	158.12	149.63	144.00	138.94	133.82	129.15	125.38
225.0	156.26	147.49	140.06	132.36	127.35	122.91	118.74	115.26	112.56
270.0	157.28	149.40	143.10	136.63	132.24	128.19	124.20	120.49	117.11
315.0	164.53	157.05	149.79	143.27	138.09	132.69	127.86	123.86	119.64
360.0	173.25	165.43	154.86	148.33	143.21	136.07	131.63	127.97	123.13
C/ γ (°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	118.97	115.82	111.54	108.06	104.46	99.56	95.29	90.84	84.83
45.0	114.64	110.48	106.71	102.94	98.16	94.16	90.00	84.71	80.27
90.0	117.51	113.06	109.01	105.08	100.29	96.36	92.36	87.92	83.14
135.0	127.91	123.19	119.19	114.75	110.36	105.92	101.87	98.04	93.83
180.0	121.33	117.79	113.85	109.80	106.20	101.98	97.65	93.66	89.49
225.0	109.29	106.26	102.66	98.83	95.18	90.84	86.40	82.46	78.24
270.0	113.57	109.91	106.65	103.11	99.79	96.08	92.19	88.37	83.53
315.0	115.93	111.99	108.06	104.46	100.91	96.24	92.36	88.09	82.29
360.0	118.97	115.82	111.54	108.06	104.46	99.56	95.29	90.84	84.83
C/ γ (°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	79.71	74.42	67.50	62.04	56.76	51.13	45.79	41.34	36.84
45.0	76.05	70.59	65.14	60.41	55.13	50.46	45.84	41.12	37.41
90.0	78.81	73.80	68.68	64.13	59.46	54.34	49.44	44.83	40.89
135.0	89.21	83.98	79.14	72.84	67.67	62.49	56.31	51.58	46.97
180.0	83.93	79.26	74.42	68.79	63.00	57.77	52.26	46.97	42.47
225.0	72.96	68.68	64.35	58.84	54.56	50.23	44.83	40.67	36.84
270.0	78.08	72.73	66.99	59.79	54.34	49.16	43.65	38.59	34.59
315.0	77.29	72.06	65.81	59.51	54.23	48.38	43.48	38.53	34.03
360.0	79.71	74.42	67.50	62.04	56.76	51.13	45.79	41.34	36.84

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	32.74	29.59	26.38	23.79	21.43	19.35	17.83	16.48	15.02
45.0	33.58	30.15	27.39	24.92	22.28	20.42	18.79	17.38	15.81
90.0	37.24	33.13	30.15	27.51	24.81	22.44	20.59	18.90	17.04
135.0	42.24	37.91	34.31	30.83	27.62	25.14	22.73	20.76	18.84
180.0	37.86	34.26	30.60	27.39	24.86	22.44	20.25	18.56	17.16
225.0	32.40	29.64	26.49	23.51	21.77	19.69	17.78	16.65	15.53
270.0	30.60	27.11	24.47	21.88	19.97	18.06	16.43	15.30	14.29
315.0	30.49	26.94	23.96	21.71	19.80	17.66	16.31	15.13	13.95
360.0	32.74	29.59	26.38	23.79	21.43	19.35	17.83	16.48	15.02
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	14.01	13.11	12.15	11.48	10.86	10.24	9.62	9.17	8.72
45.0	14.68	13.73	12.66	11.98	11.25	10.63	10.01	9.56	9.06
90.0	15.86	14.74	13.67	12.71	11.98	11.25	10.58	10.07	9.51
135.0	17.27	15.98	14.96	13.67	12.83	12.15	11.25	10.63	10.13
180.0	15.53	14.51	13.56	12.60	11.81	11.14	10.46	9.90	9.45
225.0	14.12	13.39	12.66	11.87	11.25	10.69	10.13	9.62	9.23
270.0	13.16	12.38	11.70	10.97	10.46	9.96	9.56	9.00	8.66
315.0	12.94	12.21	11.36	10.74	10.18	9.62	9.23	8.72	8.33
360.0	14.01	13.11	12.15	11.48	10.86	10.24	9.62	9.17	8.72
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	8.33	7.93	7.54	7.20	6.86	6.58	6.24	5.96	5.63
45.0	8.66	8.21	7.82	7.48	7.09	6.69	6.41	6.13	5.74
90.0	9.06	8.55	8.16	7.76	7.43	7.03	6.75	6.47	6.02
135.0	9.51	9.00	8.66	8.16	7.82	7.43	7.09	6.75	6.41
180.0	9.00	8.55	8.16	7.76	7.43	7.09	6.75	6.41	6.13
225.0	8.78	8.44	8.04	7.65	7.31	7.03	6.58	6.30	6.02
270.0	8.27	7.93	7.59	7.26	6.98	6.64	6.24	5.96	5.68
315.0	7.99	7.59	7.20	6.92	6.64	6.30	6.02	5.68	5.40
360.0	8.33	7.93	7.54	7.20	6.86	6.58	6.24	5.96	5.63
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	5.34	5.06	4.78	4.50	4.28	3.94	3.71	3.49	3.21
45.0	5.46	5.23	4.89	4.56	4.33	4.05	3.71	3.54	3.21
90.0	5.79	5.46	5.18	4.89	4.61	4.33	4.05	3.77	3.54
135.0	6.08	5.79	5.51	5.23	4.95	4.73	4.39	4.11	3.88
180.0	5.79	5.57	5.29	4.95	4.67	4.44	4.16	3.88	3.60
225.0	5.68	5.34	5.06	4.78	4.50	4.16	3.94	3.66	3.38
270.0	5.34	5.06	4.78	4.50	4.22	3.94	3.66	3.38	3.15
315.0	5.12	4.84	4.56	4.22	4.05	3.71	3.49	3.21	2.93
360.0	5.34	5.06	4.78	4.50	4.28	3.94	3.71	3.49	3.21
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.93	2.70	2.42	2.19	1.97	1.74	1.46	1.41	1.29
45.0	2.93	2.76	2.48	2.25	2.03	1.80	1.63	1.41	1.29
90.0	3.26	3.04	2.76	2.59	2.25	2.08	1.80	1.63	1.46
135.0	3.54	3.32	3.04	2.76	2.53	2.31	1.97	1.74	1.58
180.0	3.32	3.09	2.81	2.59	2.31	2.08	1.80	1.63	1.46
225.0	3.09	2.87	2.64	2.42	2.19	1.97	1.74	1.52	1.41
270.0	2.93	2.59	2.36	2.08	1.86	1.69	1.52	1.35	1.29
315.0	2.70	2.48	2.25	1.97	1.80	1.52	1.41	1.35	1.29
360.0	2.93	2.70	2.42	2.19	1.97	1.74	1.46	1.41	1.29

Intensity data(cd)

C/γ($^{\circ}$)	90.0
0.0	1.24
45.0	1.24
90.0	1.35
135.0	1.41
180.0	1.41
225.0	1.41
270.0	1.24
315.0	1.24
360.0	1.24