



NATA LIGHTING CO.,LTD.
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Nata

Client: NT

LumCAT: 3-3209-A

Luminaire: 92.70.121.00

Report No: 20260325-B009

Ballast type: DC

Test No: 20260325-C009

Voltage(V): 35.580

LampCAT: CITIZEN CLU038

Current(A): 0.711

Lamp flux(lm): 3692.0

Power (W): 25.290

Number of Lamps: 1

PF: 0.000

Length(mm): 65

Width(mm): 65

Phm Type: C

Height(mm): 34

Photometric Results

Lumens(lm): 3322.19, Efficiency(%): 89.98% , Luminous Efficacy(lm/W): 131.36

Central intensity(cd): 3824.291, Maximum intensity(cd): 3824.291

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=60.2

[C90/270]Total=60.2

Field angle(10%Imax): [C0/180]Total=81.4

[C90/270]Total=81.4

Maximum s/h(1/2): C0_180=0.93 C90_270=0.93

Maximum s/h(1/4): C0_180=0.91 C90_270=0.91

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 89.98%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 99.371%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3824.291	0.000	0	0.00%	0.00%
1.0	3822.089	3.659	3.659	0.10%	0.11%
2.0	3814.432	10.961	14.619	0.30%	0.44%
3.0	3803.210	18.219	32.838	0.49%	0.99%
4.0	3789.366	25.415	58.253	0.69%	1.75%
5.0	3774.997	32.541	90.794	0.88%	2.73%
6.0	3753.916	39.566	130.361	1.07%	3.92%
7.0	3727.695	46.438	176.799	1.26%	5.32%
8.0	3698.853	53.150	229.95	1.44%	6.92%
9.0	3666.444	59.692	289.641	1.62%	8.72%
10.0	3621.345	65.952	355.593	1.79%	10.70%
11.0	3582.224	71.978	427.571	1.95%	12.87%
12.0	3530.936	77.757	505.329	2.11%	15.21%
13.0	3479.649	83.198	588.526	2.25%	17.72%
14.0	3426.474	88.398	676.924	2.39%	20.38%
15.0	3368.789	93.288	770.213	2.53%	23.18%
16.0	3304.496	97.782	867.995	2.65%	26.13%
17.0	3239.364	101.905	969.9	2.76%	29.19%
18.0	3168.884	105.658	1075.558	2.86%	32.38%
19.0	3090.747	108.905	1184.463	2.95%	35.65%
20.0	3006.002	111.587	1296.051	3.02%	39.01%
21.0	2925.662	113.900	1409.951	3.09%	42.44%
22.0	2838.925	115.842	1525.792	3.14%	45.93%
23.0	2747.468	117.218	1643.01	3.17%	49.46%
24.0	2643.635	117.869	1760.879	3.19%	53.00%
25.0	2541.899	117.908	1878.787	3.19%	56.55%
26.0	2438.486	117.563	1996.349	3.18%	60.09%
27.0	2318.605	116.383	2112.732	3.15%	63.59%
28.0	2203.655	114.494	2227.226	3.10%	67.04%
29.0	2081.992	112.125	2339.351	3.04%	70.42%
30.0	1924.228	108.167	2447.518	2.93%	73.67%
31.0	1788.228	103.312	2550.83	2.80%	76.78%
32.0	1699.823	99.929	2650.759	2.71%	79.79%
33.0	1562.637	96.113	2746.872	2.60%	82.68%
34.0	1403.321	89.759	2836.631	2.43%	85.38%
35.0	1236.297	81.977	2918.608	2.22%	87.85%
36.0	1065.454	73.288	2991.896	1.99%	90.06%
37.0	901.157	64.140	3056.036	1.74%	91.99%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	742.743	54.871	3110.907	1.49%	93.64%
39.0	588.367	45.434	3156.341	1.23%	95.01%
40.0	457.034	36.460	3192.801	0.99%	96.11%
41.0	354.963	28.915	3221.716	0.78%	96.98%
42.0	270.029	22.707	3244.423	0.62%	97.66%
43.0	180.061	16.673	3261.096	0.45%	98.16%
44.0	95.568	10.403	3271.499	0.28%	98.47%
45.0	63.055	6.096	3277.595	0.17%	98.66%
46.0	45.225	4.235	3281.829	0.11%	98.79%
47.0	35.272	3.202	3285.031	0.09%	98.88%
48.0	27.553	2.540	3287.571	0.07%	98.96%
49.0	21.637	2.020	3289.591	0.05%	99.02%
50.0	17.442	1.629	3291.22	0.04%	99.07%
51.0	14.883	1.368	3292.587	0.04%	99.11%
52.0	13.236	1.207	3293.794	0.03%	99.15%
53.0	12.114	1.103	3294.897	0.03%	99.18%
54.0	11.275	1.031	3295.928	0.03%	99.21%
55.0	10.646	0.978	3296.906	0.03%	99.24%
56.0	10.069	0.936	3297.842	0.03%	99.27%
57.0	9.607	0.900	3298.742	0.02%	99.29%
58.0	9.219	0.871	3299.612	0.02%	99.32%
59.0	8.915	0.848	3300.46	0.02%	99.35%
60.0	8.632	0.829	3301.289	0.02%	99.37%
61.0	8.401	0.813	3302.102	0.02%	99.40%
62.0	8.170	0.799	3302.901	0.02%	99.42%
63.0	8.002	0.787	3303.687	0.02%	99.44%
64.0	7.824	0.777	3304.464	0.02%	99.47%
65.0	7.677	0.767	3305.231	0.02%	99.49%
66.0	7.541	0.759	3305.99	0.02%	99.51%
67.0	7.394	0.751	3306.741	0.02%	99.54%
68.0	7.279	0.743	3307.484	0.02%	99.56%
69.0	7.174	0.737	3308.222	0.02%	99.58%
70.0	7.069	0.731	3308.953	0.02%	99.60%
71.0	6.975	0.726	3309.679	0.02%	99.62%
72.0	6.870	0.720	3310.399	0.02%	99.65%
73.0	6.807	0.715	3311.114	0.02%	99.67%
74.0	6.733	0.712	3311.826	0.02%	99.69%
75.0	6.608	0.705	3312.531	0.02%	99.71%

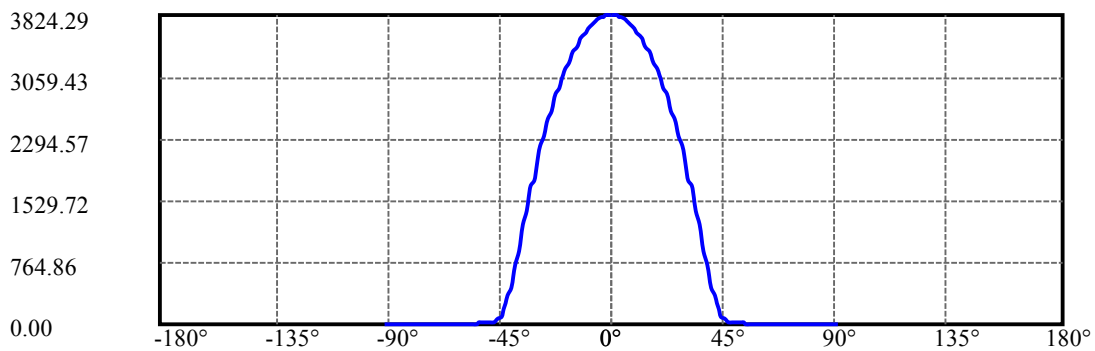
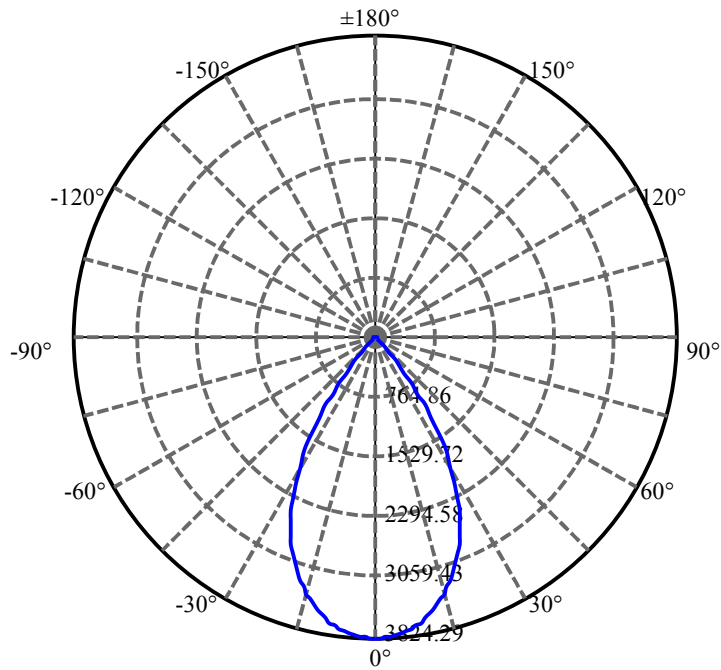
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	6.566	0.699	3313.23	0.02%	99.73%
77.0	6.461	0.695	3313.925	0.02%	99.75%
78.0	6.377	0.687	3314.612	0.02%	99.77%
79.0	6.282	0.680	3315.292	0.02%	99.79%
80.0	6.209	0.673	3315.965	0.02%	99.81%
81.0	6.115	0.666	3316.632	0.02%	99.83%
82.0	6.041	0.659	3317.291	0.02%	99.85%
83.0	5.926	0.651	3317.942	0.02%	99.87%
84.0	5.800	0.639	3318.58	0.02%	99.89%
85.0	5.695	0.627	3319.208	0.02%	99.91%
86.0	5.569	0.616	3319.824	0.02%	99.93%
87.0	5.496	0.606	3320.429	0.02%	99.95%
88.0	5.391	0.596	3321.025	0.02%	99.97%
89.0	5.307	0.586	3321.612	0.02%	99.98%
90.0	5.202	0.576	3322.188	0.02%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2447.52	66.29%	73.67%
0-40	3192.80	86.48%	96.11%
0-60	3301.29	89.42%	99.37%
0-90	3321.61	89.97%	99.98%
0-120	3321.61	89.97%	99.98%
0-180	3322.19	89.98%	100.00%
60-90	20.32	0.55%	0.61%
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%
0-32.07	2657.75	71.99%	80.00%

ZONAL LUMEN SUMMARY

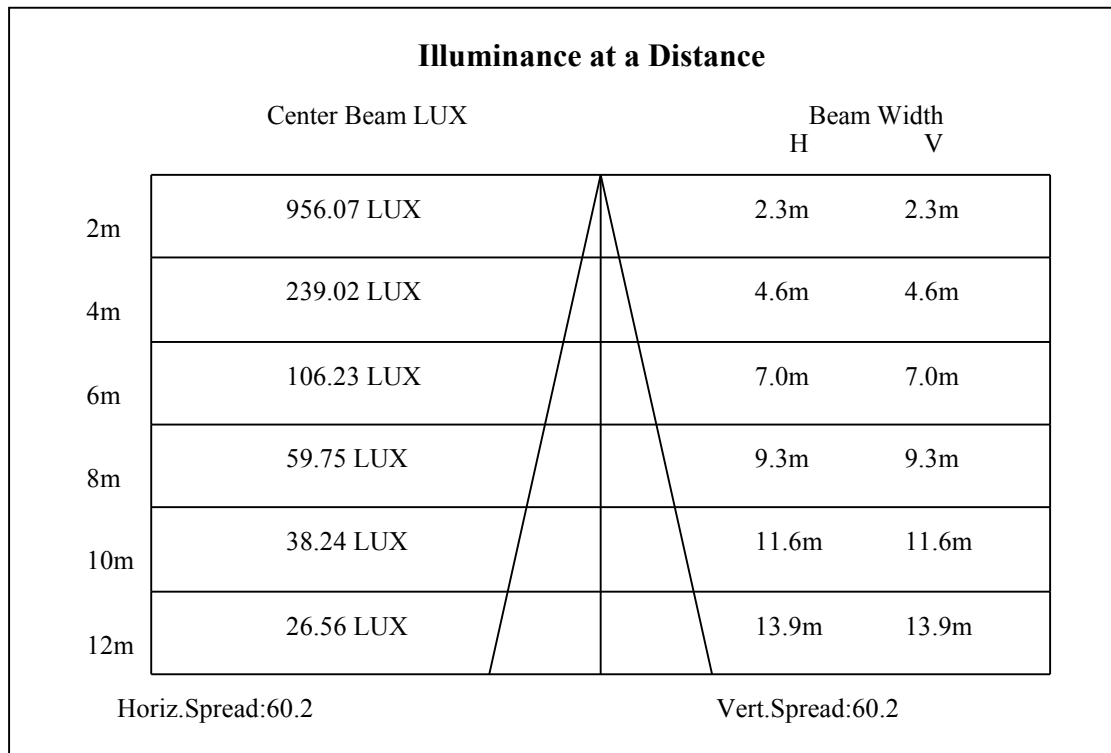
0-10	355.59
10-20	940.46
20-30	1151.47
30-40	745.28
40-50	98.42
50-60	10.07
60-70	7.66
70-80	7.01
80-90	5.65
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

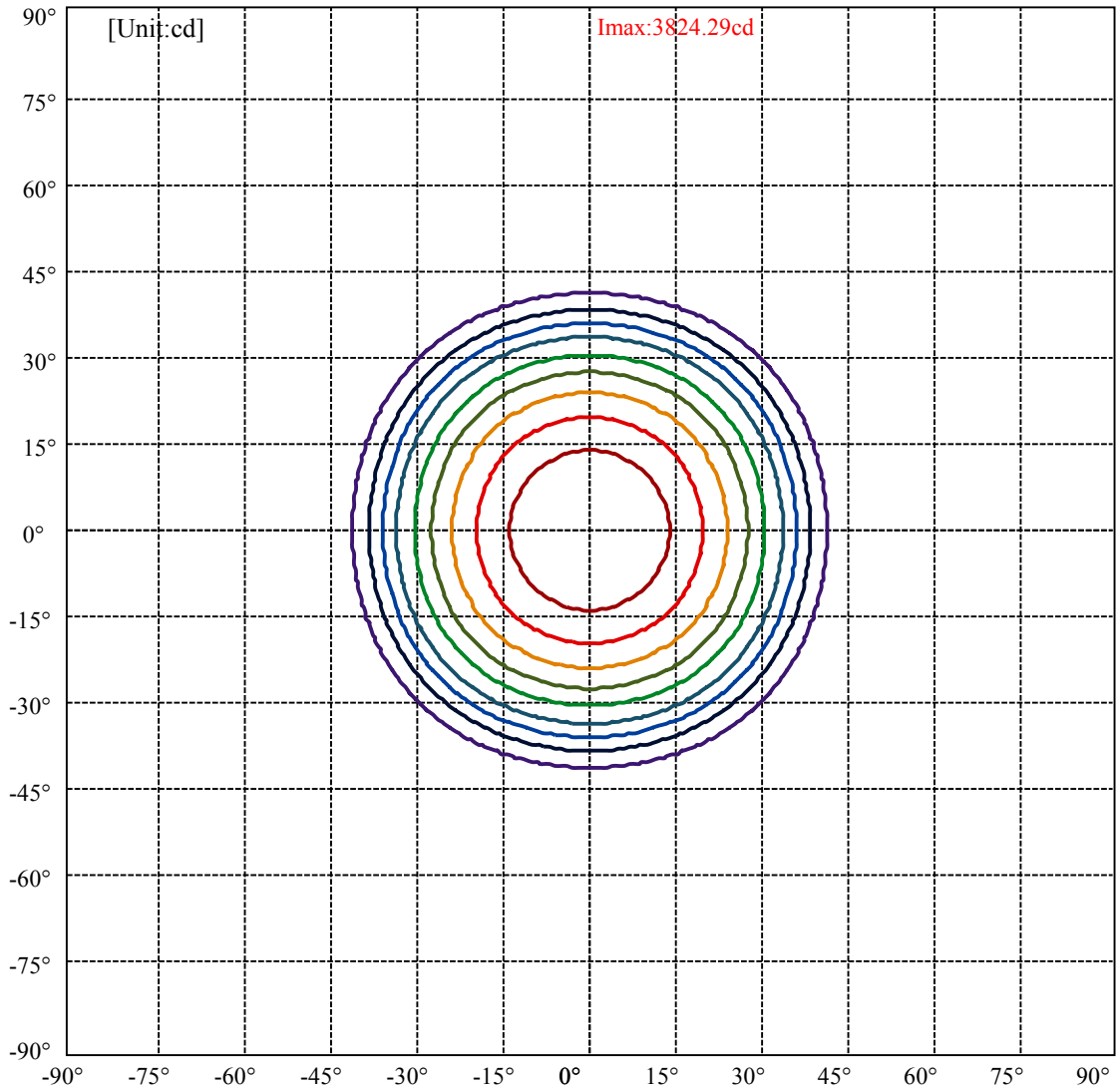


C90/C270: —————

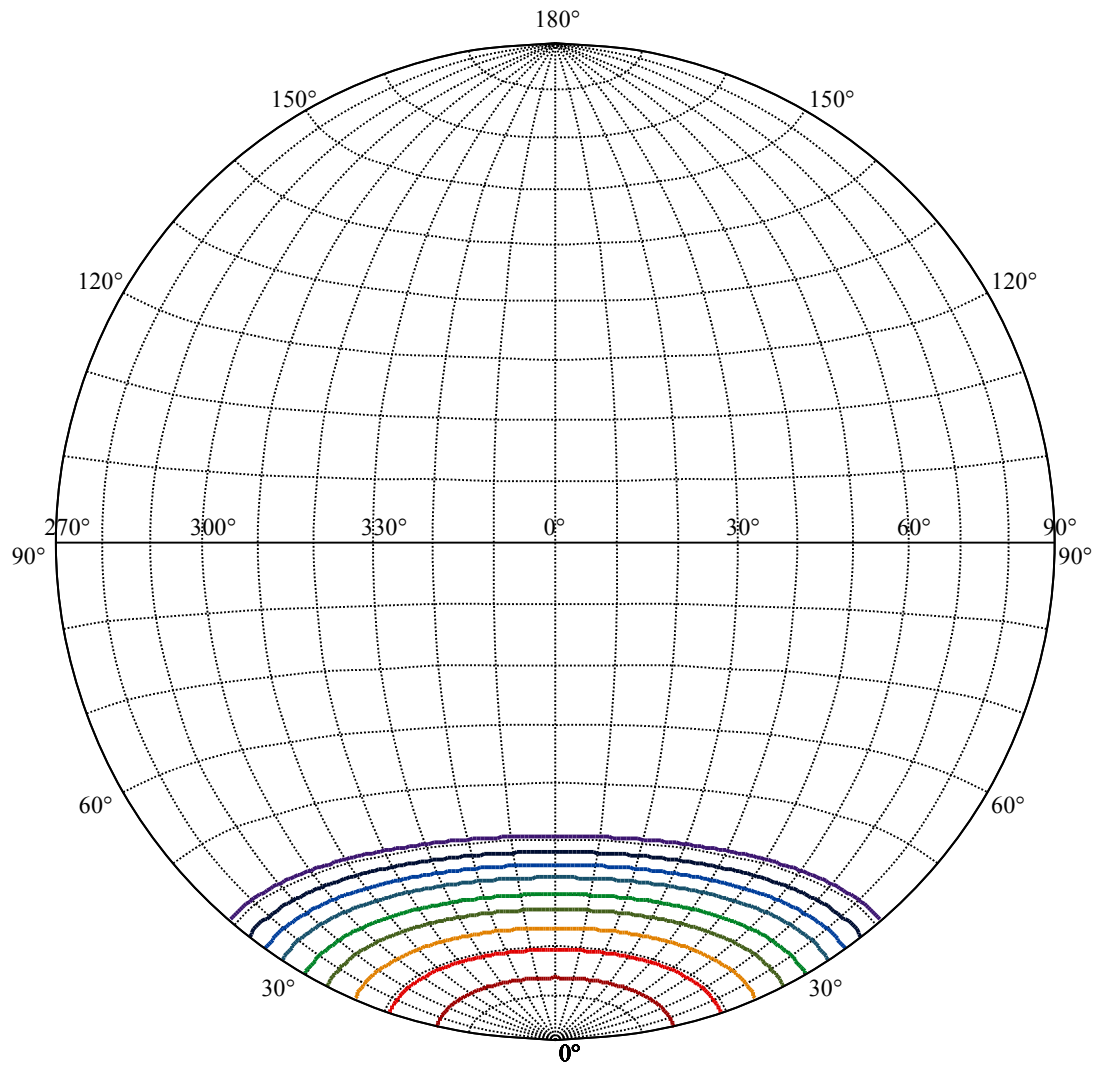
Field angle(10%Imax):C90/270Left:40.7 Right:40.7

Beam Angle(50%Imax):C90/270Left:30.1 Right:30.1





(10%Imax) 382.429	—
(20%Imax) 764.858	—
(30%Imax) 1147.29	—
(40%Imax) 1529.72	—
(50%Imax) 1912.15	—
(60%Imax) 2294.57	—
(70%Imax) 2677	—
(80%Imax) 3059.43	—
(90%Imax) 3441.86	—



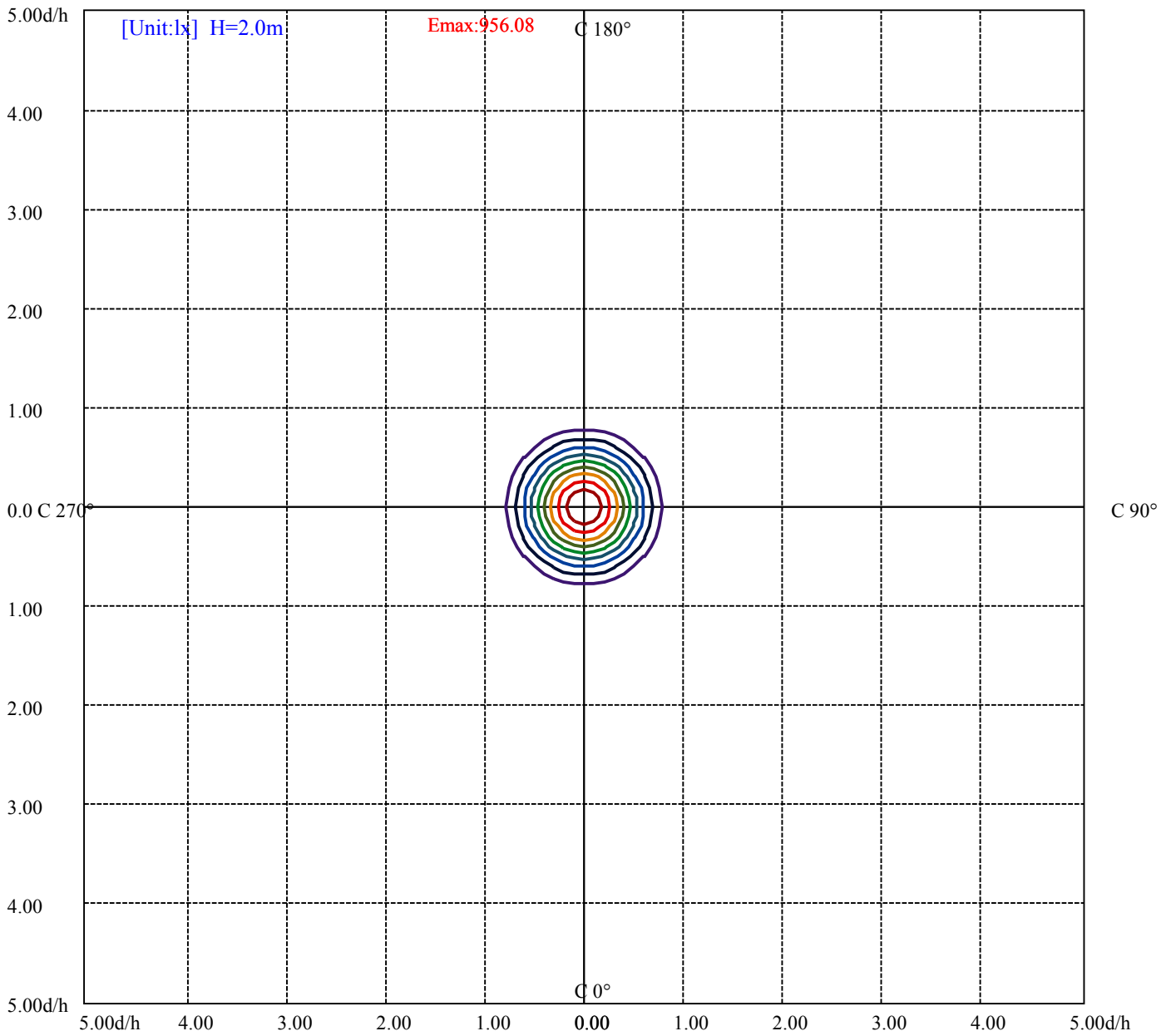
House

[Unit:cd]

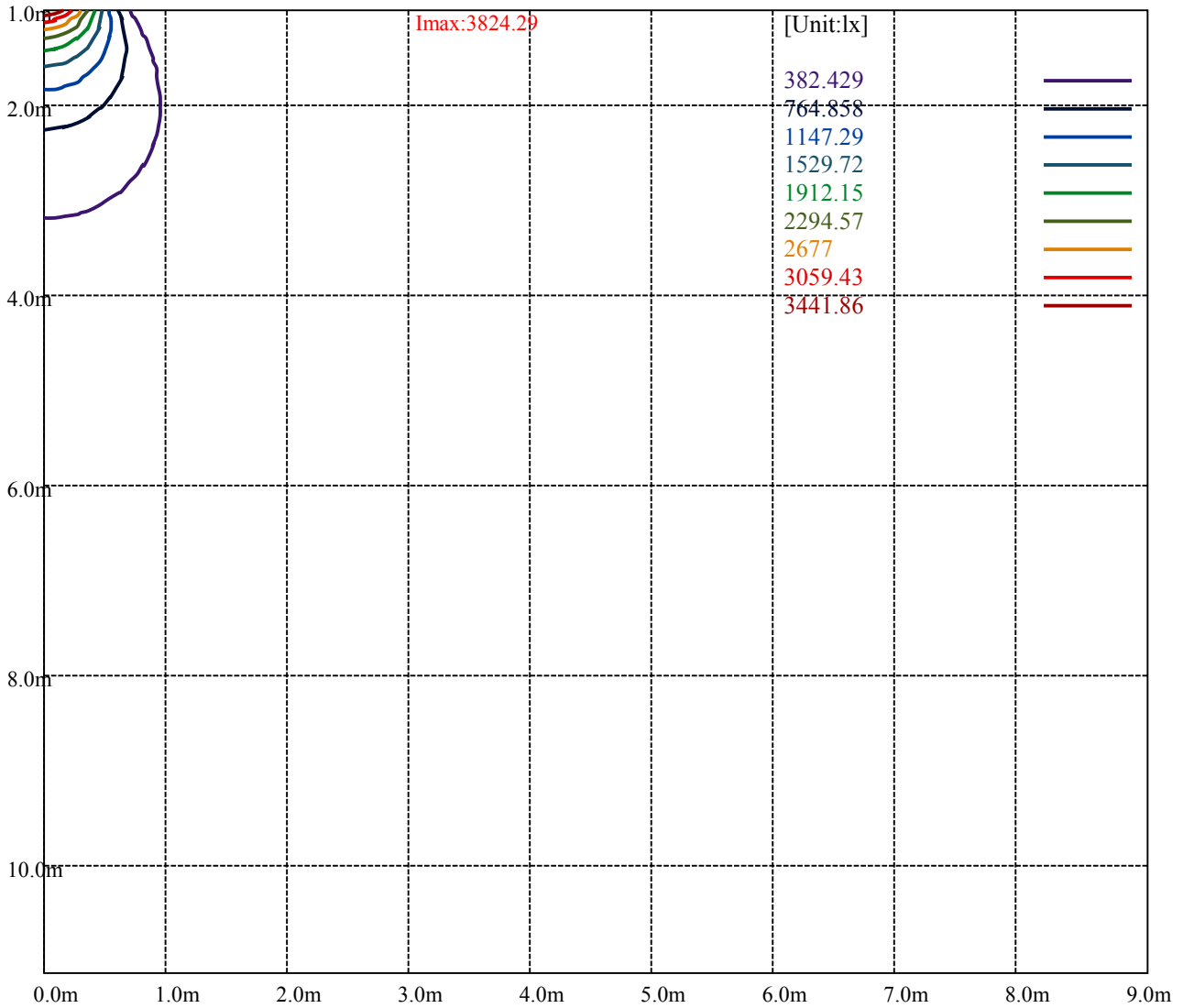
Road

Imax:3824.29

(10%Imax)	382.429	—
(20%Imax)	764.858	—
(30%Imax)	1147.29	—
(40%Imax)	1529.72	—
(50%Imax)	1912.15	—
(60%Imax)	2294.57	—
(70%Imax)	2677	—
(80%Imax)	3059.43	—
(90%Imax)	3441.86	—



(10%Emax) 95.60725	—
(20%Emax) 191.2145	—
(30%Emax) 286.8225	—
(40%Emax) 382.43	—
(50%Emax) 478.0375	—
(60%Emax) 573.6425	—
(70%Emax) 669.25	—
(80%Emax) 764.8575	—
(90%Emax) 860.465	—



Luminance Table

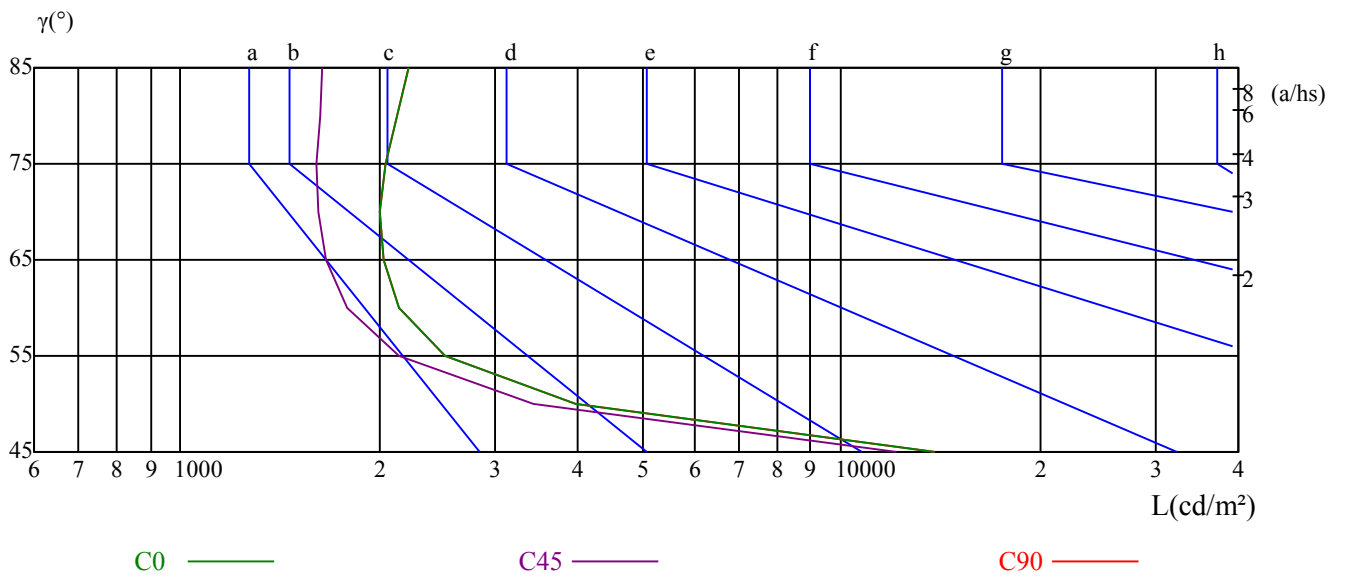
γ	45	50	55	60	65	70	75	80	85
C0	13858	3956	2514	2144	2026	2007	2047	2134	2216
C45	12132	3413	2136	1791	1662	1613	1607	1629	1636
C90	13858	3956	2514	2144	2026	2007	2047	2134	2216

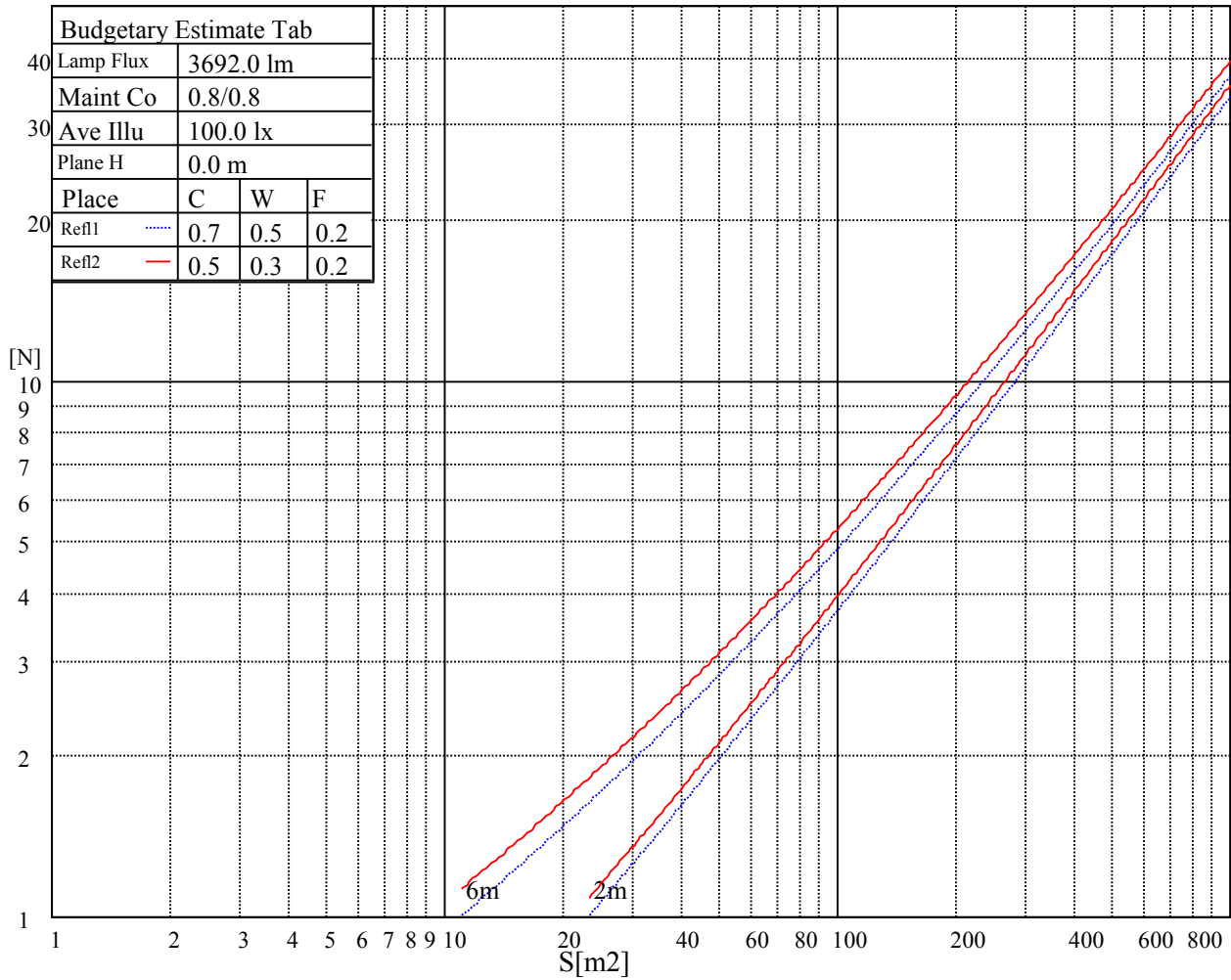
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4300	4300	4300	6043	6043	6043	15466	15466	15466

Glare Table

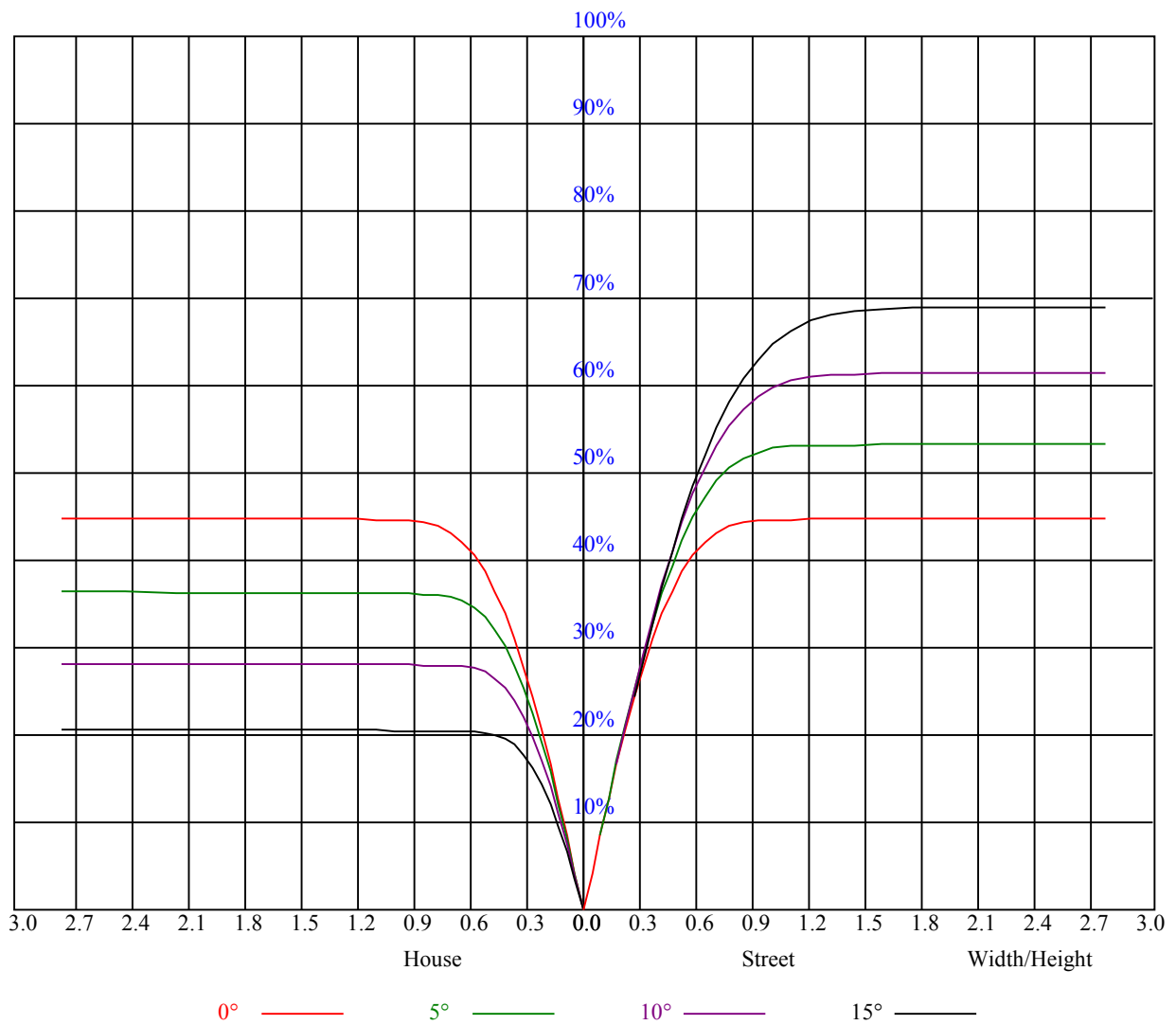
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

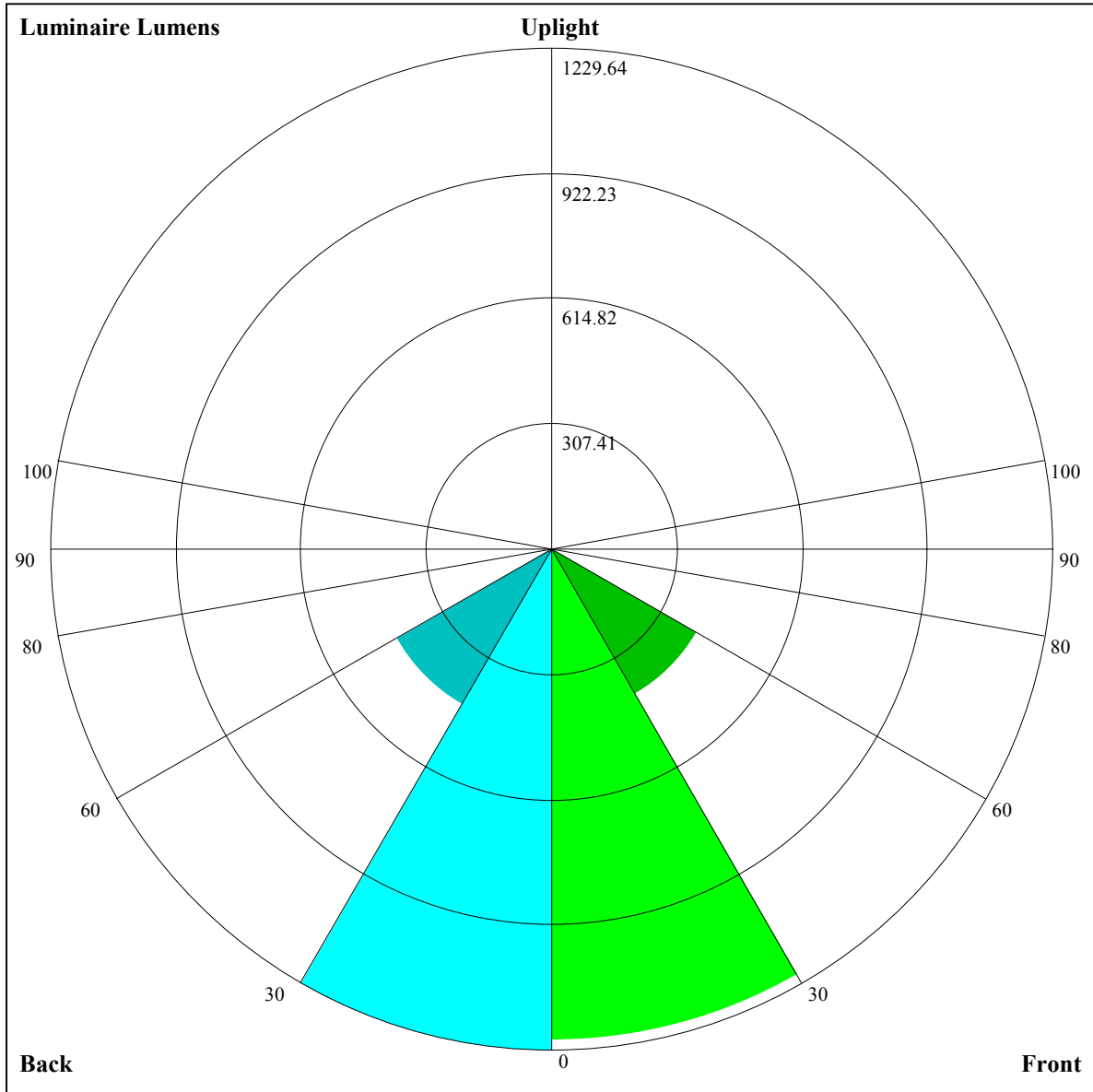
Luminance Limiting Curve





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	1.07	1.07	1.07	1.05	1.05	1.05	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	1.00	0.98	0.96	0.98	0.96	0.94	0.94	0.93	0.91	0.91	0.90	0.88	0.88	0.87	0.86	0.84
2	0.93	0.89	0.86	0.91	0.88	0.85	0.89	0.86	0.84	0.86	0.84	0.82	0.83	0.82	0.80	0.79
3	0.87	0.83	0.79	0.86	0.82	0.78	0.83	0.80	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.73
4	0.81	0.77	0.73	0.80	0.76	0.72	0.78	0.75	0.72	0.77	0.73	0.71	0.75	0.72	0.70	0.69
5	0.76	0.71	0.67	0.75	0.71	0.67	0.74	0.70	0.67	0.72	0.69	0.66	0.71	0.68	0.65	0.64
6	0.72	0.66	0.63	0.71	0.66	0.63	0.70	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.61	0.60
7	0.68	0.62	0.59	0.67	0.62	0.58	0.66	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.57	0.56
8	0.64	0.58	0.55	0.63	0.58	0.55	0.62	0.58	0.54	0.61	0.57	0.54	0.60	0.57	0.54	0.53
9	0.60	0.55	0.51	0.60	0.55	0.51	0.59	0.54	0.51	0.58	0.54	0.51	0.57	0.54	0.51	0.50
10	0.57	0.52	0.48	0.57	0.52	0.48	0.56	0.51	0.48	0.55	0.51	0.48	0.55	0.51	0.48	0.47





Luminaire Lumens:

FL=1204.61,FM=409.36,FH=7.33,FVH=3.09

BL=1229.64,BM=441.42,BH=7.42,BVH=3.13

UL=0,UH=0

BUG Rating:B3-U0-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	3824.50	3809.40	3789.26	3764.93	3738.08	3708.71	3681.02	3647.46	3618.93
45.0	3836.25	3827.02	3815.27	3798.49	3782.55	3766.61	3744.79	3717.10	3683.54
90.0	3823.66	3819.47	3820.31	3816.11	3790.10	3777.51	3762.41	3731.37	3704.52
135.0	3812.75	3827.86	3831.21	3840.44	3843.80	3837.09	3817.79	3800.17	3785.07
180.0	3824.50	3837.09	3843.80	3845.48	3842.96	3841.28	3829.54	3815.27	3794.30
225.0	3836.25	3837.09	3836.25	3824.50	3820.31	3814.43	3790.10	3769.12	3739.76
270.0	3823.66	3821.14	3815.27	3792.62	3781.71	3764.09	3743.11	3718.78	3681.02
315.0	3812.75	3797.65	3764.09	3743.11	3715.42	3690.25	3662.56	3622.29	3583.69
360.0	3824.50	3809.40	3789.26	3764.93	3738.08	3708.71	3681.02	3647.46	3618.93
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3583.69	3531.67	3492.23	3451.12	3410.01	3358.83	3311.84	3253.94	3189.34
45.0	3661.72	3640.75	3613.06	3561.04	3514.05	3468.74	3427.63	3363.86	3316.87
90.0	3679.34	3625.64	3585.37	3529.15	3475.45	3413.36	3356.31	3284.99	3215.35
135.0	3764.09	3724.65	3696.96	3657.53	3597.12	3549.29	3498.11	3430.14	3378.96
180.0	3769.96	3725.49	3683.54	3641.59	3578.66	3532.51	3477.97	3425.11	3360.50
225.0	3696.96	3647.46	3601.31	3537.54	3495.59	3428.47	3369.73	3301.77	3233.81
270.0	3637.39	3600.47	3553.49	3477.13	3427.63	3373.93	3298.41	3230.45	3141.51
315.0	3538.38	3474.61	3431.82	3392.39	3338.69	3286.67	3210.31	3145.70	3078.58
360.0	3583.69	3531.67	3492.23	3451.12	3410.01	3358.83	3311.84	3253.94	3189.34
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	3109.63	3041.66	2970.34	2878.89	2799.17	2696.81	2606.19	2516.41	2393.91
45.0	3257.30	3197.73	3112.98	3039.14	2951.88	2873.01	2795.82	2687.58	2596.12
90.0	3150.74	3057.60	2982.93	2908.25	2822.67	2720.30	2622.13	2531.52	2436.70
135.0	3314.36	3245.55	3162.49	3092.84	3020.69	2946.85	2841.13	2754.70	2663.25
180.0	3288.34	3215.35	3115.50	3036.63	2945.17	2850.36	2730.37	2626.33	2520.61
225.0	3156.61	3048.37	2960.27	2873.01	2784.91	2665.76	2565.08	2434.19	2320.07
270.0	3080.26	2998.03	2894.83	2803.37	2714.43	2637.24	2514.73	2410.69	2303.29
315.0	2993.84	2921.68	2848.68	2773.16	2672.48	2589.41	2473.62	2373.77	2273.93
360.0	3109.63	3041.66	2970.34	2878.89	2799.17	2696.81	2606.19	2516.41	2393.91
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	2294.06	2191.70	2085.14	1950.05	1651.68	1651.68	1534.63	1328.23	1160.75
45.0	2495.44	2366.22	2257.98	2148.91	2041.51	1902.22	1775.53	1628.69	1469.27
90.0	2304.13	2194.22	2086.82	1947.53	1654.79	1654.79	1549.15	1397.45	1244.07
135.0	2534.03	2428.31	2320.07	2179.95	2069.20	1963.47	1820.84	1694.98	1551.50
180.0	2379.65	2271.41	2137.16	2022.21	1919.00	1812.44	1663.09	1516.26	1345.93
225.0	2209.32	2075.91	1969.35	1639.26	1639.26	1567.78	1414.82	1257.66	1063.08
270.0	2184.99	2065.84	1965.15	1852.72	1714.28	1581.70	1439.06	1258.67	1106.80
315.0	2147.23	2035.63	1834.26	1653.19	1616.11	1464.49	1303.98	1144.64	948.97
360.0	2294.06	2191.70	2085.14	1950.05	1651.68	1651.68	1534.63	1328.23	1160.75
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	995.88	836.96	648.09	508.05	356.60	252.64	166.30	89.36	56.72
45.0	1259.51	1095.89	928.92	728.38	589.94	429.68	429.68	293.50	135.42
90.0	1046.22	895.61	747.93	576.68	457.12	348.12	252.72	156.06	98.67
135.0	1358.52	1194.90	1022.89	855.92	671.33	532.88	434.71	434.71	179.47
180.0	1201.61	989.33	839.14	693.98	548.83	449.82	449.82	190.63	105.80
225.0	910.54	760.10	621.49	461.82	347.03	245.68	146.42	92.46	63.01
270.0	950.73	780.41	647.00	516.94	426.32	426.32	184.09	119.99	80.13
315.0	800.63	656.06	486.48	365.16	259.10	154.55	96.49	63.77	45.31
360.0	995.88	836.96	648.09	508.05	356.60	252.64	166.30	89.36	56.72

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	41.45	33.81	24.84	19.13	14.94	12.67	11.58	10.91	10.40
45.0	71.99	47.99	39.52	31.72	23.49	18.38	14.77	13.34	12.25
90.0	66.79	50.93	40.27	32.81	26.35	20.22	17.54	15.10	13.76
135.0	113.86	67.04	48.83	40.36	30.37	23.49	18.12	14.85	13.34
180.0	68.30	47.74	39.02	30.37	23.49	16.61	13.93	12.67	11.66
225.0	47.66	37.84	29.28	21.06	16.78	14.85	13.59	12.25	11.50
270.0	57.48	47.32	37.84	28.11	22.99	19.63	16.78	15.02	13.01
315.0	36.92	29.12	22.57	16.87	14.68	13.68	12.75	11.75	10.99
360.0	41.45	33.81	24.84	19.13	14.94	12.67	11.58	10.91	10.40
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	9.82	9.48	8.98	8.73	8.47	8.31	8.05	7.89	7.72
45.0	11.50	10.82	10.24	9.73	9.31	8.89	8.64	8.47	8.14
90.0	12.42	11.50	10.74	10.24	9.73	9.31	8.98	8.73	8.47
135.0	12.42	11.58	10.91	10.15	9.65	9.23	8.81	8.56	8.31
180.0	10.82	10.24	9.73	9.31	8.98	8.73	8.47	8.22	8.05
225.0	10.82	10.32	9.73	9.40	9.06	8.73	8.56	8.31	8.14
270.0	12.00	11.41	10.82	10.24	9.82	9.57	9.23	8.98	8.64
315.0	10.40	9.82	9.40	9.06	8.73	8.56	8.31	8.05	7.89
360.0	9.82	9.48	8.98	8.73	8.47	8.31	8.05	7.89	7.72
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	7.55	7.47	7.38	7.30	7.13	7.05	6.96	6.88	6.88
45.0	7.97	7.89	7.72	7.55	7.47	7.30	7.22	7.05	7.05
90.0	8.31	8.05	7.89	7.72	7.55	7.47	7.30	7.22	7.05
135.0	8.05	7.89	7.72	7.55	7.38	7.30	7.13	7.05	6.96
180.0	7.89	7.72	7.64	7.47	7.38	7.30	7.22	7.13	7.05
225.0	7.97	7.80	7.64	7.47	7.30	7.22	7.13	7.05	6.96
270.0	8.47	8.22	7.97	7.89	7.72	7.55	7.47	7.30	7.13
315.0	7.80	7.55	7.47	7.38	7.22	7.05	6.96	6.88	6.71
360.0	7.55	7.47	7.38	7.30	7.13	7.05	6.96	6.88	6.88
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	6.80	6.80	6.80	6.63	6.63	6.46	6.46	6.29	6.21
45.0	6.88	6.88	6.80	6.71	6.63	6.63	6.46	6.46	6.38
90.0	6.96	6.88	6.80	6.63	6.54	6.38	6.38	6.29	6.21
135.0	6.88	6.71	6.71	6.63	6.54	6.46	6.38	6.21	6.21
180.0	6.96	6.96	6.88	6.80	6.80	6.63	6.54	6.46	6.38
225.0	6.88	6.80	6.71	6.54	6.54	6.46	6.38	6.29	6.21
270.0	6.96	6.88	6.71	6.63	6.54	6.46	6.38	6.29	6.21
315.0	6.63	6.54	6.46	6.29	6.29	6.21	6.04	5.96	5.87
360.0	6.80	6.80	6.80	6.63	6.63	6.46	6.46	6.29	6.21
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	6.13	6.04	5.96	5.87	5.79	5.62	5.54	5.54	5.37
45.0	6.21	6.13	6.04	6.04	5.79	5.62	5.62	5.54	5.45
90.0	6.13	6.04	5.96	5.87	5.79	5.62	5.54	5.37	5.29
135.0	6.13	6.04	5.96	5.79	5.71	5.62	5.54	5.45	5.37
180.0	6.29	6.21	6.13	5.96	5.87	5.79	5.71	5.62	5.54
225.0	6.13	6.04	5.87	5.71	5.62	5.54	5.54	5.37	5.29
270.0	6.13	6.04	5.87	5.71	5.62	5.37	5.29	5.20	5.12
315.0	5.79	5.79	5.62	5.45	5.37	5.37	5.20	5.03	5.03
360.0	6.13	6.04	5.96	5.87	5.79	5.62	5.54	5.54	5.37

Intensity data(cd)

C/γ(°)	90.0
0.0	5.20
45.0	5.37
90.0	5.20
135.0	5.20
180.0	5.20
225.0	5.29
270.0	5.12
315.0	5.03
360.0	5.20