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Nata

Client: NT

LumCAT: 2-2890-L2

Luminaire: 92.70.412.00

Report No: 20260629-B004

Ballast type: DC

Test No: 20260629-C004

LampCAT: CITIZEN CLU038

Lamp flux(lm): 3154.5

Number of Lamps: 1

Length(mm): 75

Phm Type: C

Voltage(V): 35.860

Current(A): 0.723

Power (W): 25.926

PF: 0.000

Width(mm): 75

Height(mm): 43

Photometric Results

Lumens(lm): 3079.88, Efficiency(%): 97.64% , Luminous Efficacy(lm/W): 118.80

Central intensity(cd): 3428.467, Maximum intensity(cd): 3439.794

Angle of maximum intensity: C=0.0 γ =9.0

Beam Angle(50%Imax): [C0/180]Total=60.6

[C90/270]Total=60.6

Field angle(10%Imax): [C0/180]Total=77.6

[C90/270]Total=77.6

Maximum s/h(1/2): C0_180=0.99 C90_270=0.99

Maximum s/h(1/4): C0_180=0.88 C90_270=0.88

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 97.64%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 99.274%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3428.467	0.000	0	0.00%	0.00%
1.0	3428.467	3.281	3.281	0.10%	0.11%
2.0	3429.516	9.843	13.124	0.31%	0.43%
3.0	3431.194	16.409	29.533	0.52%	0.96%
4.0	3433.186	22.977	52.51	0.73%	1.70%
5.0	3435.389	29.548	82.058	0.94%	2.66%
6.0	3438.326	36.123	118.181	1.15%	3.84%
7.0	3438.745	42.686	160.867	1.35%	5.22%
8.0	3438.011	49.216	210.083	1.56%	6.82%
9.0	3439.794	55.741	265.824	1.77%	8.63%
10.0	3435.494	62.219	328.043	1.97%	10.65%
11.0	3429.725	68.598	396.64	2.17%	12.88%
12.0	3422.279	74.902	471.542	2.37%	15.31%
13.0	3409.483	81.076	552.618	2.57%	17.94%
14.0	3390.185	87.035	639.653	2.76%	20.77%
15.0	3365.223	92.741	732.395	2.94%	23.78%
16.0	3335.332	98.182	830.576	3.11%	26.97%
17.0	3292.540	103.214	933.79	3.27%	30.32%
18.0	3244.084	107.775	1041.565	3.42%	33.82%
19.0	3188.497	111.914	1153.479	3.55%	37.45%
20.0	3116.233	115.394	1268.873	3.66%	41.20%
21.0	3033.271	118.083	1386.956	3.74%	45.03%
22.0	2942.024	120.076	1507.032	3.81%	48.93%
23.0	2825.605	121.020	1628.052	3.84%	52.86%
24.0	2706.144	120.944	1748.996	3.83%	56.79%
25.0	2575.252	120.087	1869.083	3.81%	60.69%
26.0	2435.549	118.280	1987.364	3.75%	64.53%
27.0	2248.523	114.597	2101.961	3.63%	68.25%
28.0	2039.451	108.562	2210.523	3.44%	71.77%
29.0	1936.646	104.026	2314.549	3.30%	75.15%
30.0	1788.909	100.589	2415.138	3.19%	78.42%
31.0	1570.073	93.476	2508.614	2.96%	81.45%
32.0	1402.010	85.147	2593.761	2.70%	84.22%
33.0	1210.170	76.956	2670.716	2.44%	86.71%
34.0	1023.890	67.609	2738.326	2.14%	88.91%
35.0	845.129	58.045	2796.37	1.84%	90.79%
36.0	682.184	48.630	2845	1.54%	92.37%
37.0	524.221	39.346	2884.347	1.25%	93.65%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	425.716	31.708	2916.054	1.01%	94.68%
39.0	328.564	25.746	2941.8	0.82%	95.52%
40.0	226.168	19.347	2961.147	0.61%	96.14%
41.0	181.970	14.534	2975.68	0.46%	96.62%
42.0	161.466	12.478	2988.158	0.40%	97.02%
43.0	117.415	10.331	2998.489	0.33%	97.36%
44.0	98.977	8.167	3006.656	0.26%	97.62%
45.0	82.867	6.988	3013.644	0.22%	97.85%
46.0	70.502	5.998	3019.642	0.19%	98.04%
47.0	60.842	5.224	3024.866	0.17%	98.21%
48.0	52.158	4.568	3029.434	0.14%	98.36%
49.0	45.057	3.992	3033.426	0.13%	98.49%
50.0	39.362	3.520	3036.946	0.11%	98.61%
51.0	34.643	3.131	3040.077	0.10%	98.71%
52.0	30.416	2.792	3042.869	0.09%	98.80%
53.0	26.913	2.494	3045.363	0.08%	98.88%
54.0	24.091	2.248	3047.611	0.07%	98.95%
55.0	21.658	2.042	3049.653	0.06%	99.02%
56.0	19.456	1.858	3051.511	0.06%	99.08%
57.0	17.536	1.691	3053.202	0.05%	99.13%
58.0	16.036	1.553	3054.755	0.05%	99.18%
59.0	14.725	1.438	3056.193	0.05%	99.23%
60.0	13.582	1.337	3057.53	0.04%	99.27%
61.0	12.481	1.244	3058.774	0.04%	99.31%
62.0	11.589	1.160	3059.934	0.04%	99.35%
63.0	10.855	1.092	3061.025	0.03%	99.39%
64.0	10.174	1.032	3062.057	0.03%	99.42%
65.0	9.576	0.977	3063.035	0.03%	99.45%
66.0	9.093	0.931	3063.966	0.03%	99.48%
67.0	8.600	0.890	3064.856	0.03%	99.51%
68.0	8.244	0.853	3065.709	0.03%	99.54%
69.0	7.845	0.821	3066.53	0.03%	99.57%
70.0	7.541	0.790	3067.32	0.03%	99.59%
71.0	7.237	0.764	3068.084	0.02%	99.62%
72.0	7.006	0.741	3068.824	0.02%	99.64%
73.0	6.786	0.721	3069.546	0.02%	99.66%
74.0	6.597	0.704	3070.249	0.02%	99.69%
75.0	6.398	0.687	3070.936	0.02%	99.71%

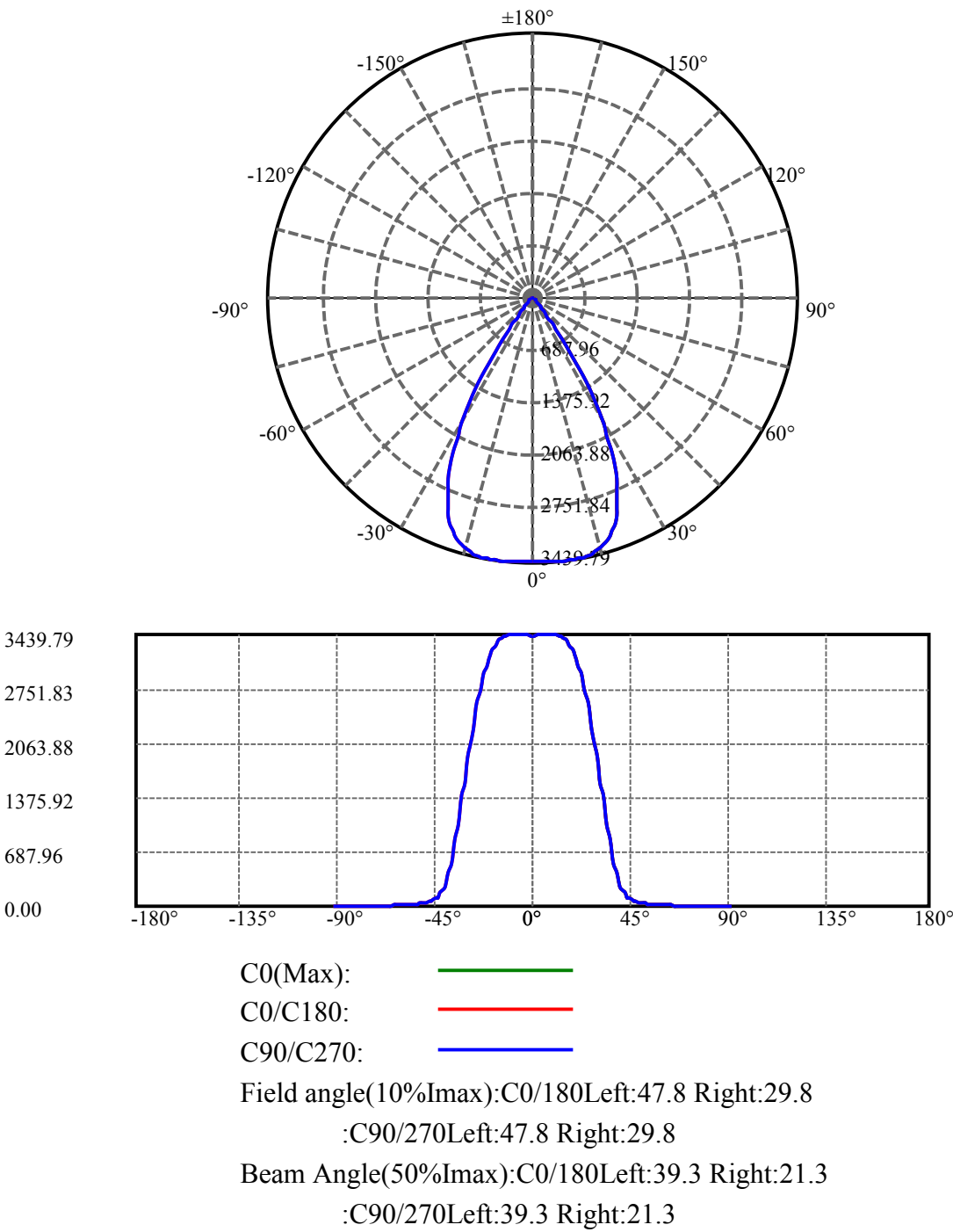
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	6.240	0.671	3071.607	0.02%	99.73%
77.0	6.094	0.658	3072.264	0.02%	99.75%
78.0	5.968	0.646	3072.91	0.02%	99.77%
79.0	5.831	0.634	3073.544	0.02%	99.79%
80.0	5.737	0.624	3074.168	0.02%	99.81%
81.0	5.601	0.613	3074.781	0.02%	99.83%
82.0	5.496	0.602	3075.382	0.02%	99.85%
83.0	5.401	0.592	3075.975	0.02%	99.87%
84.0	5.307	0.583	3076.558	0.02%	99.89%
85.0	5.213	0.574	3077.132	0.02%	99.91%
86.0	5.118	0.565	3077.697	0.02%	99.93%
87.0	5.055	0.557	3078.254	0.02%	99.95%
88.0	4.992	0.550	3078.804	0.02%	99.96%
89.0	4.898	0.542	3079.346	0.02%	99.98%
90.0	4.877	0.536	3079.882	0.02%	100.00%

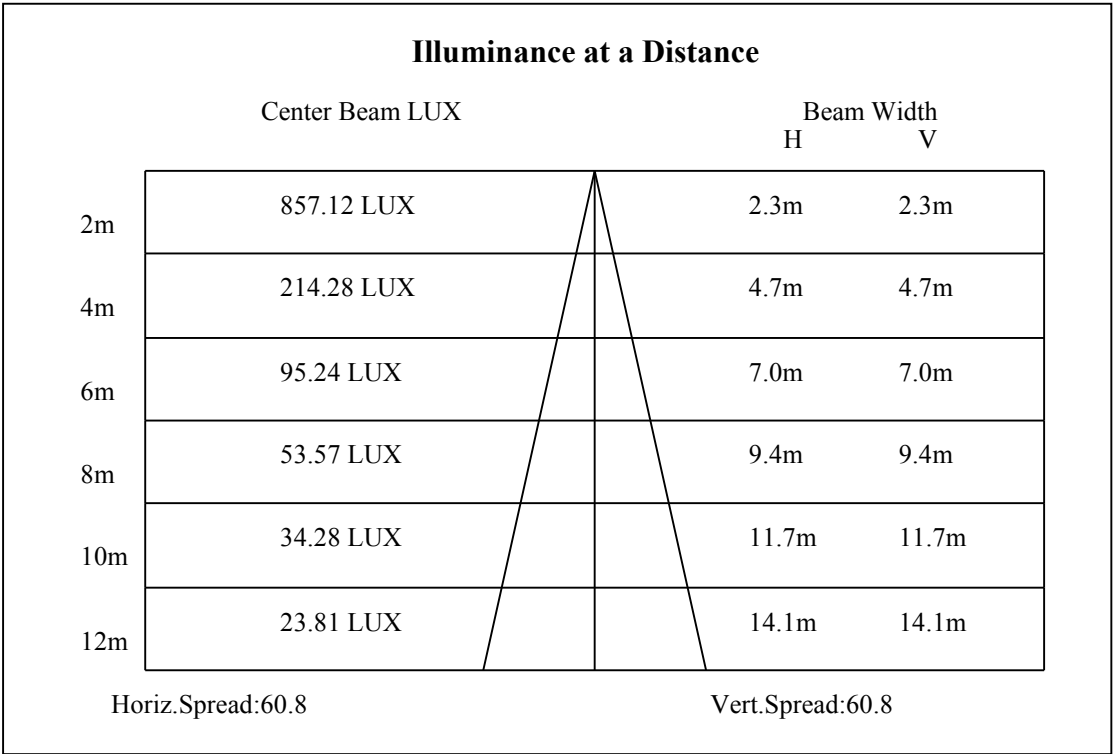
ZONAL LUMEN SUMMARY

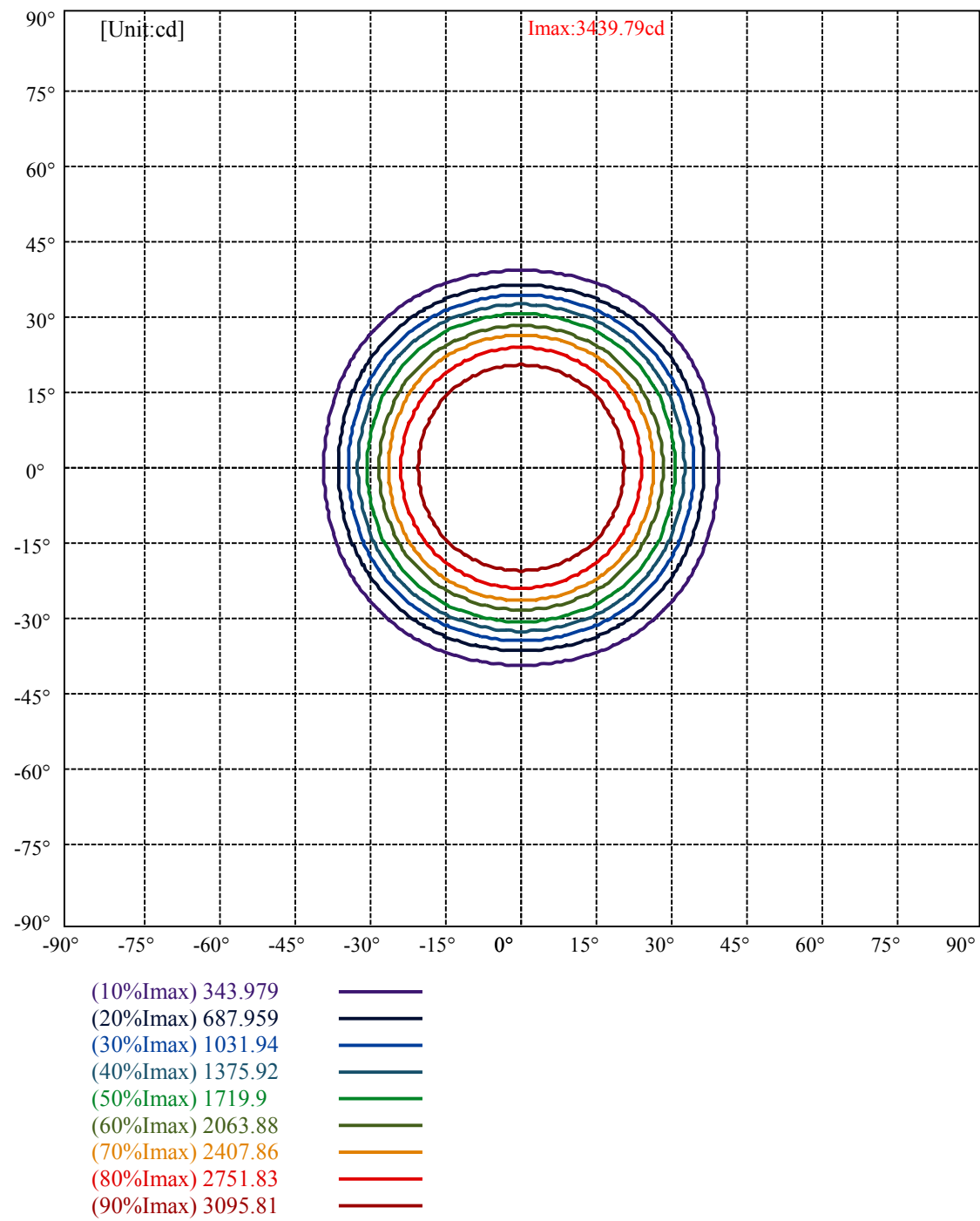
Zone	Lumens	%Lamp	%Fixt
0-30	2415.14	76.56%	78.42%
0-40	2961.15	93.87%	96.14%
0-60	3057.53	96.93%	99.27%
0-90	3079.35	97.62%	99.98%
0-120	3079.35	97.62%	99.98%
0-180	3079.88	97.64%	100.00%
60-90	21.82	0.69%	0.71%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-30.52	2463.91	78.11%	80.00%

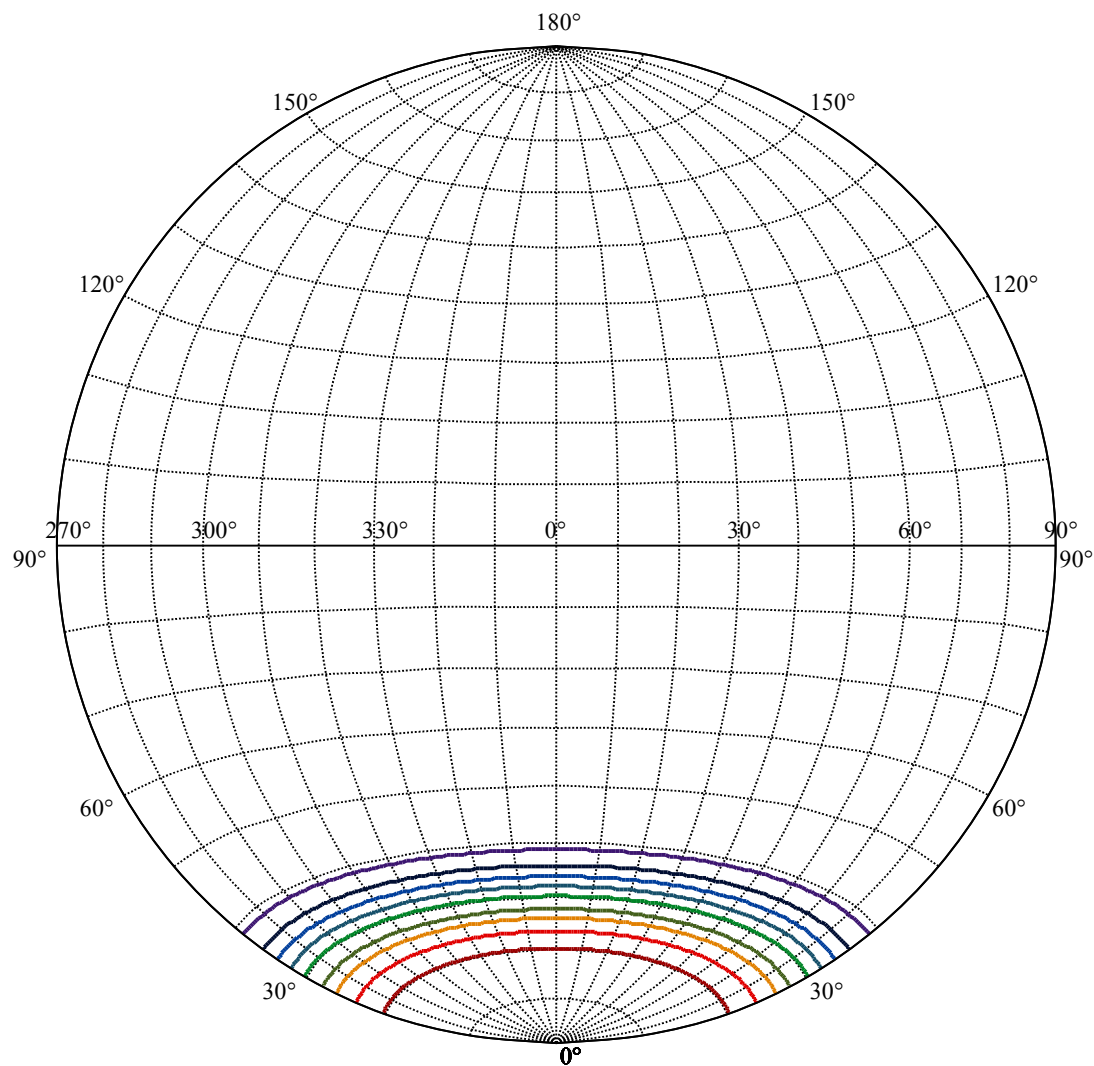
ZONAL LUMEN SUMMARY

0-10	328.04
10-20	940.83
20-30	1146.27
30-40	546.01
40-50	75.80
50-60	20.58
60-70	9.79
70-80	6.85
80-90	5.18
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









House

[Unit:cd]

Road

Imax:3439.79

(10%Imax) 343.979

(20%Imax) 687.959

(30%Imax) 1031.94

(40%Imax) 1375.92

(50%Imax) 1719.9

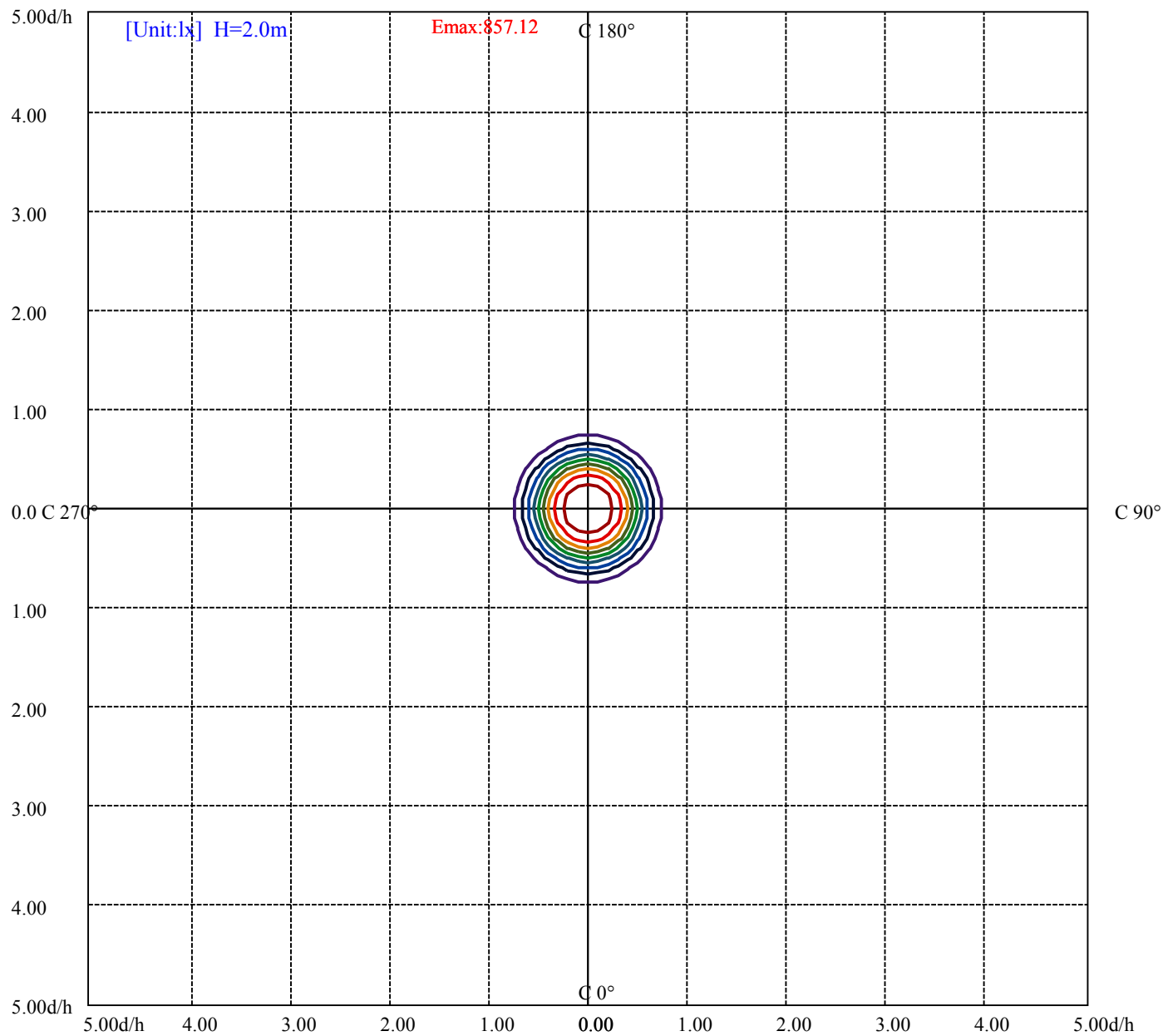
(60%Imax) 2063.88

(70%Imax) 2407.86

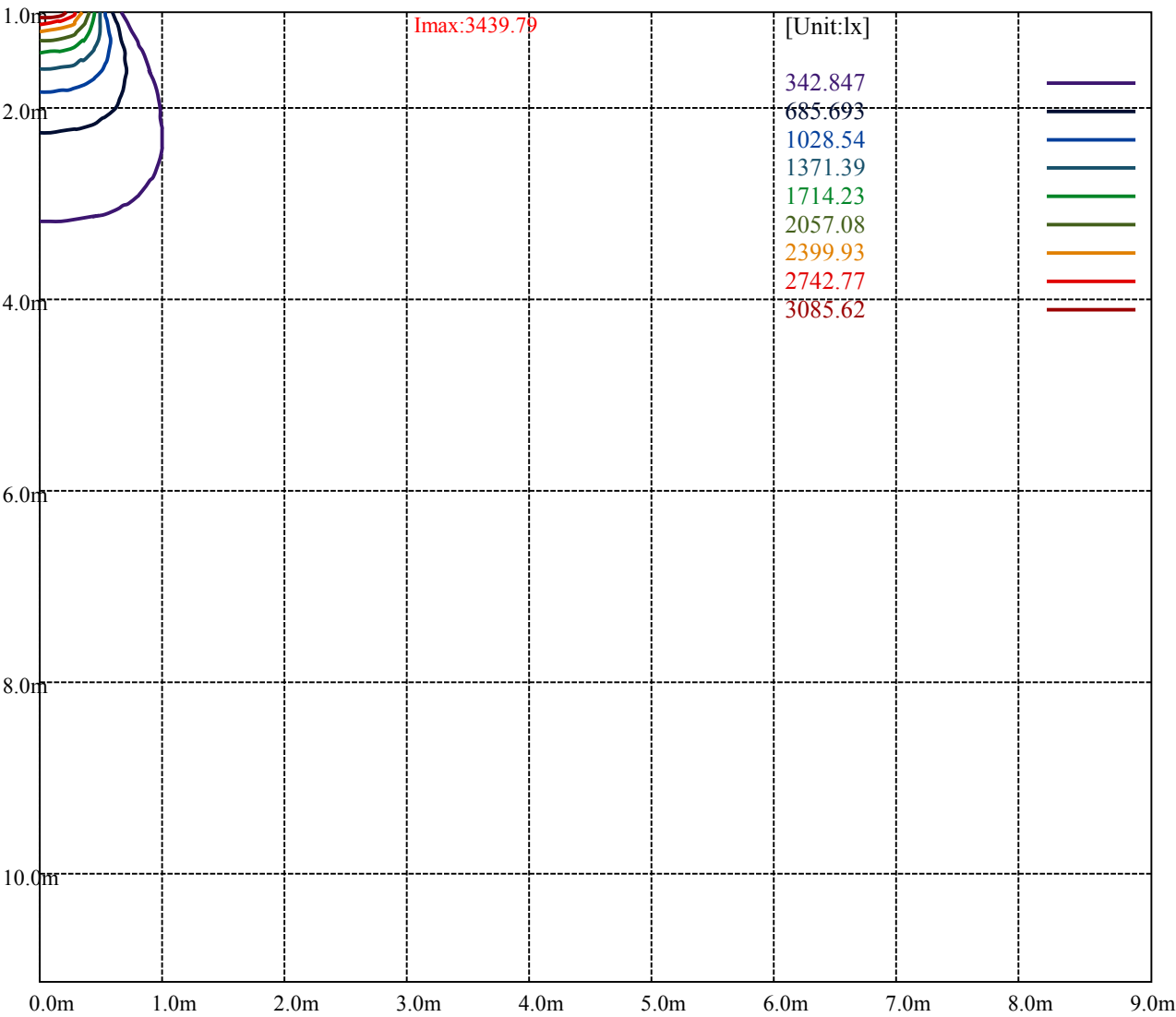
(80%Imax) 2751.83

(90%Imax) 3095.81





(10%Emax) 85.71175	—
(20%Emax) 171.4232	—
(30%Emax) 257.135	—
(40%Emax) 342.8475	—
(50%Emax) 428.5575	—
(60%Emax) 514.27	—
(70%Emax) 599.9825	—
(80%Emax) 685.6925	—
(90%Emax) 771.405	—



Luminance Table

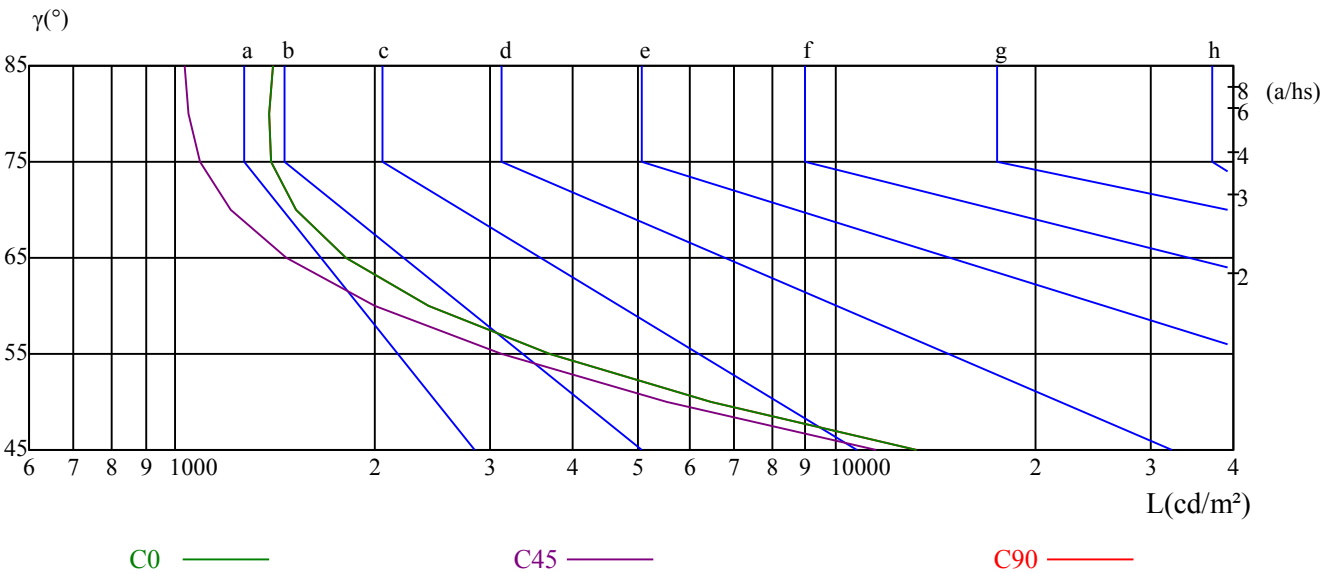
γ	45	50	55	60	65	70	75	80	85
C0	13242	6467	3691	2423	1807	1522	1400	1381	1408
C45	11505	5537	3111	2009	1471	1214	1092	1049	1036
C90	13242	6467	3691	2423	1807	1522	1400	1381	1408

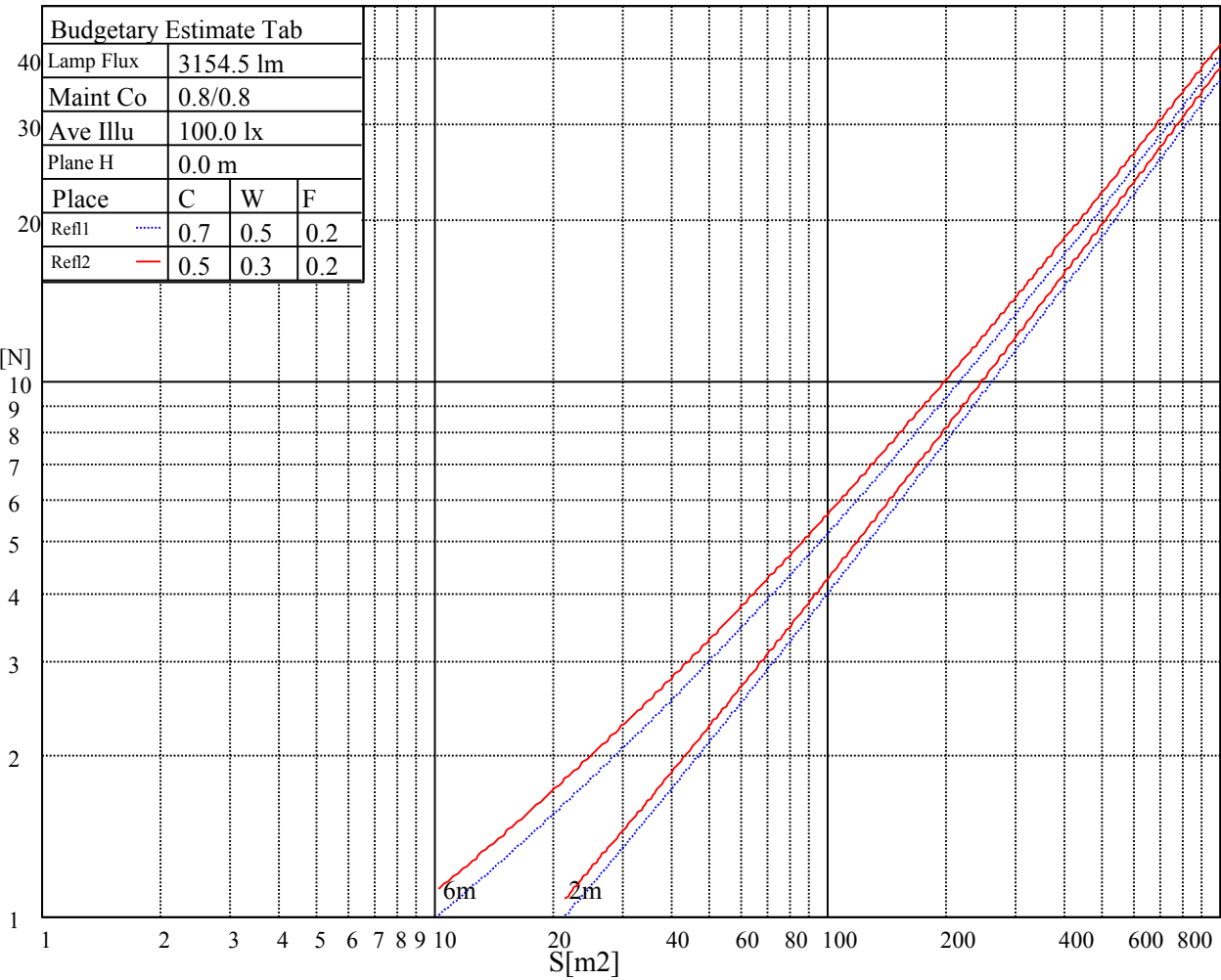
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4028	4028	4028	4395	4395	4395	10633	10633	10633

Glare Table

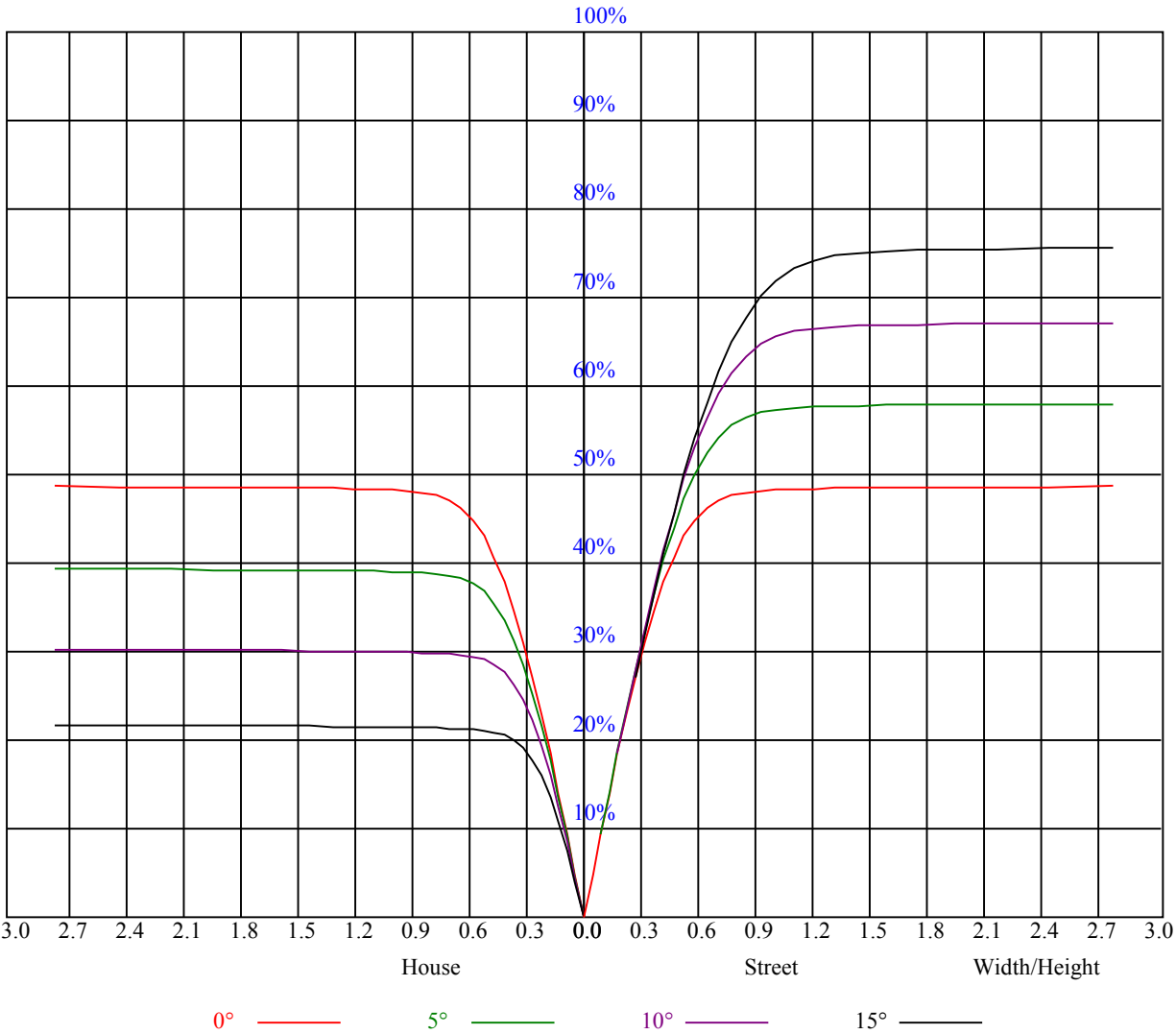
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

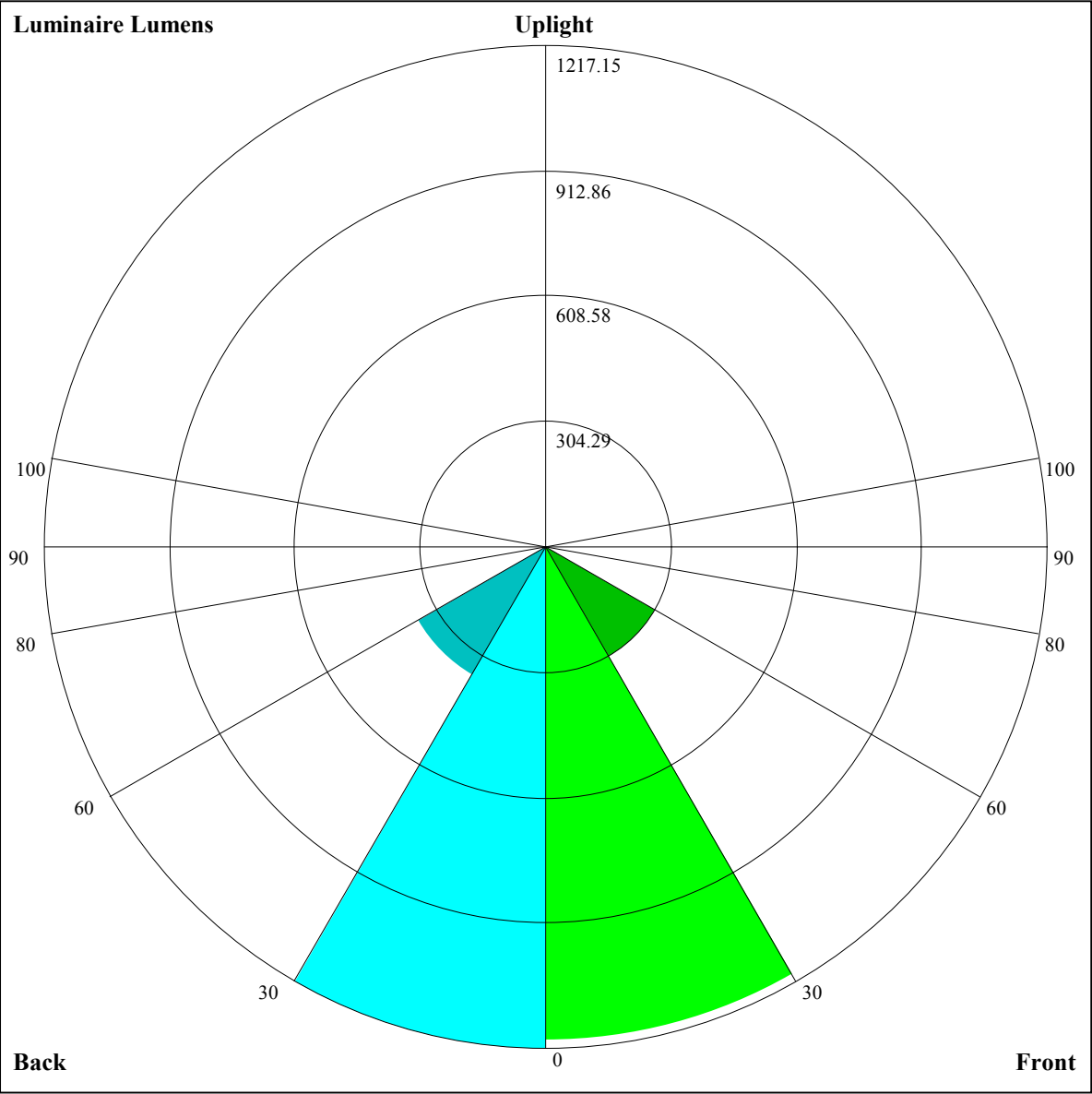
Luminance Limiting Curve





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	COEFFCIENTS OF UTILIZATION RHOFC=20 CU															
0	1.16	1.16	1.16	1.14	1.14	1.14	1.08	1.08	1.08	1.04	1.04	1.04	1.00	1.00	1.00	0.98
1	1.08	1.06	1.04	1.06	1.04	1.02	1.02	1.01	0.99	0.99	0.97	0.96	0.95	0.94	0.93	0.92
2	1.01	0.97	0.94	0.99	0.96	0.93	0.96	0.93	0.91	0.93	0.91	0.89	0.91	0.89	0.87	0.86
3	0.95	0.90	0.86	0.93	0.89	0.86	0.91	0.87	0.84	0.88	0.85	0.83	0.86	0.84	0.82	0.80
4	0.89	0.84	0.80	0.88	0.83	0.79	0.86	0.82	0.78	0.84	0.80	0.77	0.82	0.79	0.76	0.75
5	0.83	0.78	0.74	0.83	0.77	0.74	0.81	0.76	0.73	0.79	0.75	0.72	0.78	0.74	0.72	0.70
6	0.79	0.73	0.69	0.78	0.73	0.69	0.76	0.72	0.68	0.75	0.71	0.68	0.74	0.70	0.67	0.66
7	0.74	0.69	0.65	0.74	0.68	0.64	0.72	0.68	0.64	0.71	0.67	0.64	0.70	0.66	0.63	0.62
8	0.70	0.65	0.61	0.70	0.64	0.61	0.69	0.64	0.60	0.68	0.63	0.60	0.67	0.63	0.60	0.58
9	0.66	0.61	0.57	0.66	0.61	0.57	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.56	0.55
10	0.63	0.57	0.54	0.63	0.57	0.54	0.62	0.57	0.54	0.61	0.57	0.53	0.60	0.56	0.53	0.52





Luminaire Lumens:

FL=1196.82,FM=306.88,FH=8.44,FVH=2.85

BL=1217.15,BM=358.43,BH=8.62,BVH=2.86

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	3427.63	3432.66	3445.25	3455.32	3476.29	3490.56	3509.02	3521.60	3533.35
45.0	3420.92	3425.95	3428.47	3436.86	3441.05	3450.28	3457.83	3468.74	3475.45
90.0	3427.63	3424.27	3423.43	3419.24	3419.24	3416.72	3418.40	3411.69	3413.36
135.0	3437.70	3430.14	3423.43	3413.36	3407.49	3396.58	3387.35	3377.28	3370.57
180.0	3427.63	3415.88	3409.17	3404.97	3393.23	3390.71	3382.32	3377.28	3369.73
225.0	3420.92	3416.72	3410.85	3408.33	3404.13	3399.94	3400.78	3399.94	3391.55
270.0	3427.63	3429.31	3429.31	3433.50	3436.02	3441.05	3443.57	3446.93	3440.21
315.0	3437.70	3452.80	3466.22	3477.97	3488.04	3497.27	3507.34	3506.50	3509.86
360.0	3427.63	3432.66	3445.25	3455.32	3476.29	3490.56	3509.02	3521.60	3533.35
C/ γ (°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3549.29	3551.81	3556.84	3556.84	3545.10	3527.48	3500.63	3465.39	3404.13
45.0	3486.36	3494.75	3494.75	3496.43	3494.75	3487.20	3472.94	3454.48	3420.08
90.0	3407.49	3399.94	3392.39	3387.35	3369.73	3352.95	3326.10	3295.06	3259.82
135.0	3365.54	3358.83	3341.20	3333.65	3321.91	3303.45	3290.02	3272.40	3244.71
180.0	3368.05	3361.34	3352.95	3349.60	3342.88	3333.65	3321.91	3306.80	3284.99
225.0	3393.23	3385.67	3380.64	3374.77	3364.70	3346.24	3327.78	3298.41	3265.69
270.0	3441.05	3436.86	3436.86	3422.59	3408.33	3386.51	3351.27	3314.36	3270.72
315.0	3507.34	3494.75	3482.17	3456.99	3428.47	3384.00	3331.14	3275.76	3190.17
360.0	3549.29	3551.81	3556.84	3556.84	3545.10	3527.48	3500.63	3465.39	3404.13
C/ γ (°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	3343.72	3272.40	3160.81	3046.70	2929.23	2753.03	2597.80	2438.38	2232.81
45.0	3378.12	3334.49	3263.17	3188.50	3105.43	2979.57	2863.78	2737.92	2558.37
90.0	3219.54	3165.00	3110.46	3050.05	2981.25	2879.72	2791.62	2683.38	2574.31
135.0	3216.19	3186.82	3147.38	3111.30	3069.35	3022.36	2946.01	2880.56	2806.73
180.0	3252.26	3222.06	3180.95	3108.79	3032.43	2942.65	2837.77	2674.16	2535.71
225.0	3216.19	3160.81	3094.52	3011.46	2886.44	2769.81	2638.08	2467.75	2320.91
270.0	3219.54	3150.74	3087.81	2983.77	2888.95	2781.55	2636.40	2516.41	2387.20
315.0	3107.11	3015.65	2884.76	2765.61	2643.11	2476.14	2337.69	2203.44	2068.36
360.0	3343.72	3272.40	3160.81	3046.70	2929.23	2753.03	2597.80	2438.38	2232.81
C/ γ (°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	2072.55	1665.95	1665.95	1534.21	1353.15	1171.07	994.11	784.43	629.38
45.0	2412.37	2222.74	2075.07	1924.88	1758.75	1538.91	1357.68	1176.44	996.88
90.0	2429.99	2307.49	2156.46	2018.85	1643.04	1643.04	1460.38	1275.95	1092.28
135.0	2708.56	2575.15	2465.23	2344.41	2187.50	2046.54	1843.49	1663.09	1472.63
180.0	2341.89	2184.99	2015.50	1778.88	1567.44	1368.58	1126.94	944.86	767.82
225.0	2134.64	1632.22	1632.22	1584.05	1340.14	1150.09	961.98	786.45	585.41
270.0	2257.98	2096.88	1940.82	1766.30	1584.22	1356.00	1168.05	987.65	777.05
315.0	1630.20	1630.20	1541.93	1359.69	1126.35	941.84	768.74	572.24	439.58
360.0	2072.55	1665.95	1665.95	1534.21	1353.15	1171.07	994.11	784.43	629.38
C/ γ (°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	486.32	329.92	225.29	148.51	102.53	85.67	71.99	58.90	50.76
45.0	826.55	626.02	481.70	447.30	298.12	157.74	126.53	102.11	85.75
90.0	872.53	708.41	559.48	428.76	310.62	257.59	221.59	191.30	159.34
135.0	1275.45	1031.28	840.82	666.29	474.15	440.59	440.59	218.99	185.43
180.0	601.69	454.01	454.01	192.82	129.89	99.01	79.29	65.87	55.63
225.0	442.27	321.11	224.28	152.79	123.68	102.53	81.47	68.89	54.71
270.0	621.82	486.74	427.16	427.16	235.44	196.76	170.75	148.68	129.30
315.0	330.84	236.28	192.98	164.87	134.92	115.87	99.51	84.58	70.90
360.0	486.32	329.92	225.29	148.51	102.53	85.67	71.99	58.90	50.76

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	42.71	37.09	31.97	28.61	26.01	23.66	21.14	19.55	18.12
45.0	69.89	58.99	49.17	42.46	35.91	31.72	28.02	25.00	21.90
90.0	137.94	114.20	98.42	85.84	72.83	63.68	55.88	47.66	42.20
135.0	150.11	127.12	107.90	86.51	73.84	61.33	52.94	46.06	39.02
180.0	45.23	36.83	32.47	29.12	26.18	23.16	21.14	19.47	17.96
225.0	46.57	40.27	35.16	29.87	26.35	23.41	20.98	18.46	16.78
270.0	108.57	95.32	84.07	74.17	63.43	56.05	49.50	42.54	37.76
315.0	61.92	54.20	47.57	40.69	35.91	31.88	27.52	24.58	21.56
360.0	42.71	37.09	31.97	28.61	26.01	23.66	21.14	19.55	18.12
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	16.61	15.61	14.43	13.59	12.92	12.08	11.58	10.99	10.57
45.0	19.80	17.96	16.53	14.94	13.76	12.67	11.91	11.16	10.40
90.0	37.25	33.14	28.70	25.59	22.91	20.64	18.29	16.61	14.77
135.0	34.23	30.21	26.68	23.16	20.72	18.63	16.95	15.19	13.93
180.0	16.36	15.35	14.43	13.59	12.67	12.08	11.50	10.82	10.32
225.0	15.35	14.18	12.92	12.08	11.24	10.57	10.07	9.40	8.98
270.0	33.65	29.12	26.09	22.82	20.56	18.63	16.95	15.02	13.76
315.0	19.47	17.70	15.86	14.52	13.51	12.50	11.41	10.66	9.98
360.0	16.61	15.61	14.43	13.59	12.92	12.08	11.58	10.99	10.57
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	9.98	9.57	9.23	8.89	8.47	8.22	7.97	7.72	7.47
45.0	9.90	9.40	9.06	8.56	8.22	7.97	7.64	7.38	7.13
90.0	13.59	12.59	11.41	10.57	9.98	9.31	8.64	8.22	7.80
135.0	12.84	11.75	10.91	10.24	9.48	9.06	8.56	8.05	7.72
180.0	9.82	9.40	9.06	8.73	8.31	8.05	7.80	7.55	7.22
225.0	8.64	8.22	7.97	7.72	7.47	7.22	6.96	6.80	6.63
270.0	12.59	11.66	10.57	9.90	9.23	8.73	8.14	7.80	7.30
315.0	9.48	8.81	8.39	8.14	7.64	7.38	7.05	6.80	6.63
360.0	9.98	9.57	9.23	8.89	8.47	8.22	7.97	7.72	7.47
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	7.22	6.96	6.80	6.63	6.46	6.29	6.21	6.04	5.87
45.0	6.96	6.71	6.63	6.46	6.29	6.21	6.04	5.87	5.87
90.0	7.47	7.13	6.88	6.63	6.38	6.21	6.04	5.87	5.79
135.0	7.38	7.13	6.88	6.63	6.46	6.29	6.21	5.96	5.87
180.0	7.05	6.88	6.71	6.46	6.38	6.21	6.04	5.96	5.79
225.0	6.46	6.38	6.29	6.13	5.96	5.87	5.79	5.71	5.62
270.0	7.05	6.80	6.46	6.29	6.13	5.96	5.79	5.71	5.62
315.0	6.46	6.29	6.13	5.96	5.87	5.71	5.62	5.54	5.45
360.0	7.22	6.96	6.80	6.63	6.46	6.29	6.21	6.04	5.87
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.71	5.62	5.54	5.37	5.29	5.20	5.12	5.03	4.87
45.0	5.79	5.62	5.54	5.45	5.37	5.29	5.20	5.20	4.95
90.0	5.62	5.54	5.45	5.37	5.20	5.20	5.12	5.03	4.95
135.0	5.71	5.62	5.54	5.45	5.37	5.20	5.12	5.03	5.03
180.0	5.62	5.54	5.37	5.29	5.20	5.12	5.03	5.03	4.87
225.0	5.54	5.37	5.37	5.29	5.20	5.12	5.03	4.95	4.95
270.0	5.45	5.37	5.29	5.20	5.12	5.03	4.95	4.87	4.78
315.0	5.37	5.29	5.12	5.03	4.95	4.78	4.87	4.78	4.78
360.0	5.71	5.62	5.54	5.37	5.29	5.20	5.12	5.03	4.87

Intensity data(cd)

C/ $\gamma(^{\circ})$	90.0
0.0	4.87
45.0	4.95
90.0	4.87
135.0	4.95
180.0	4.87
225.0	4.95
270.0	4.78
315.0	4.78
360.0	4.87