
Nata

Client:

LumCAT: 2-1778-L

Luminaire: 92.70.131.00

Report No: NT2018011002

Test No: GC2018011002

LampCAT: CITIZEN CLU038

Lamp flux(lm): 2870.0

Number of Lamps: 1

Length(mm): 64

Phm Type: C

Voltage(V): 34.8000

Current(A): 0.6400

Power (W): 22.2720

PF: 0.0000

Ballast type: DC

Width(mm): 64

Height(mm): 0

Photometric Results

Lumens(lm): 2778.25, Efficiency(%): 96.80% , Luminous Efficacy(lm/W): 124.74

Central intensity(cd): 9503.836, Maximum intensity(cd): 9503.836

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=27.0

[C90/270]Total=27.0

Field angle(10%Imax): [C0/180]Total=56.2

[C90/270]Total=56.2

Maximum s/h(1/2): C0_180=0.46 C90_270=0.46

Maximum s/h(1/4): C0_180=0.46 C90_270=0.46

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 98.69%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.473%

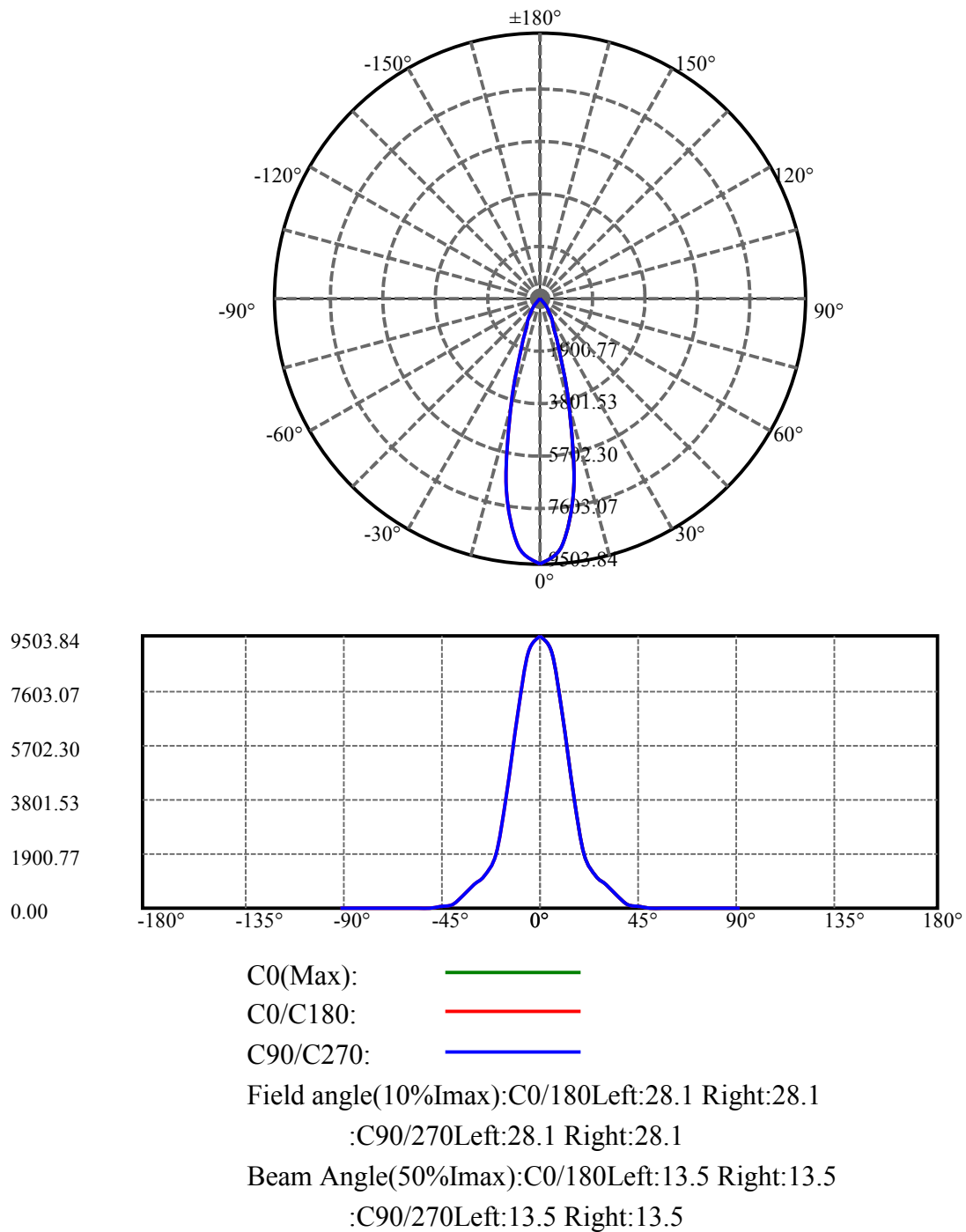
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	9503.836	56.835	56.835	1.980%	2.046%
5.0	8890.783	424.742	481.577	14.799%	17.334%
10.0	6842.616	651.301	1132.878	22.693%	40.777%
15.0	3878.242	550.200	1683.078	19.171%	60.580%
20.0	1881.208	352.678	2035.756	12.288%	73.275%
25.0	1114.362	258.145	2293.901	8.995%	82.566%
30.0	851.736	233.434	2527.335	8.134%	90.969%
35.0	404.320	127.118	2654.453	4.429%	95.544%
40.0	91.600	32.274	2686.727	1.125%	96.706%
45.0	31.864	12.350	2699.077	.430%	97.150%
50.0	28.216	11.848	2710.925	.413%	97.577%
55.0	24.906	11.183	2722.108	.390%	97.979%
60.0	21.995	10.441	2732.549	.364%	98.355%
65.0	19.648	9.761	2742.31	.340%	98.706%
70.0	17.157	8.837	2751.147	.308%	99.024%
75.0	15.285	8.093	2759.24	.282%	99.316%
80.0	14.466	7.809	2767.049	.272%	99.597%
85.0	13.950	7.617	2774.667	.265%	99.871%
90.0	13.083	3.586	2778.252	.125%	100.000%

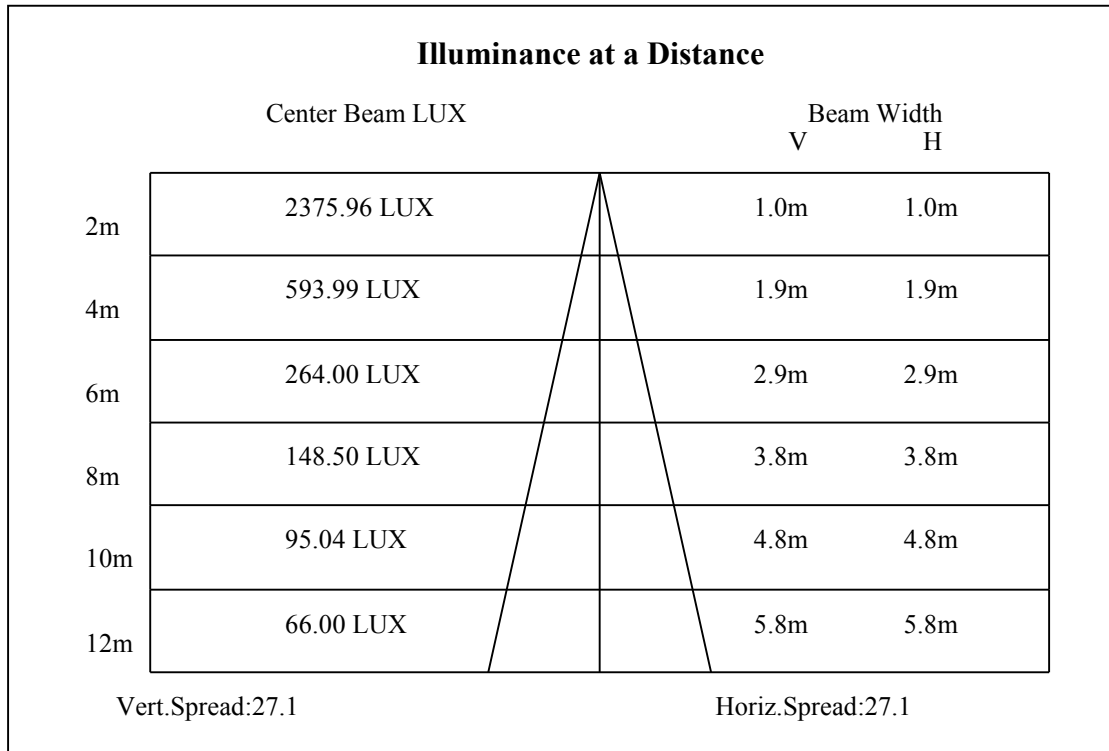
ZONAL LUMEN SUMMARY

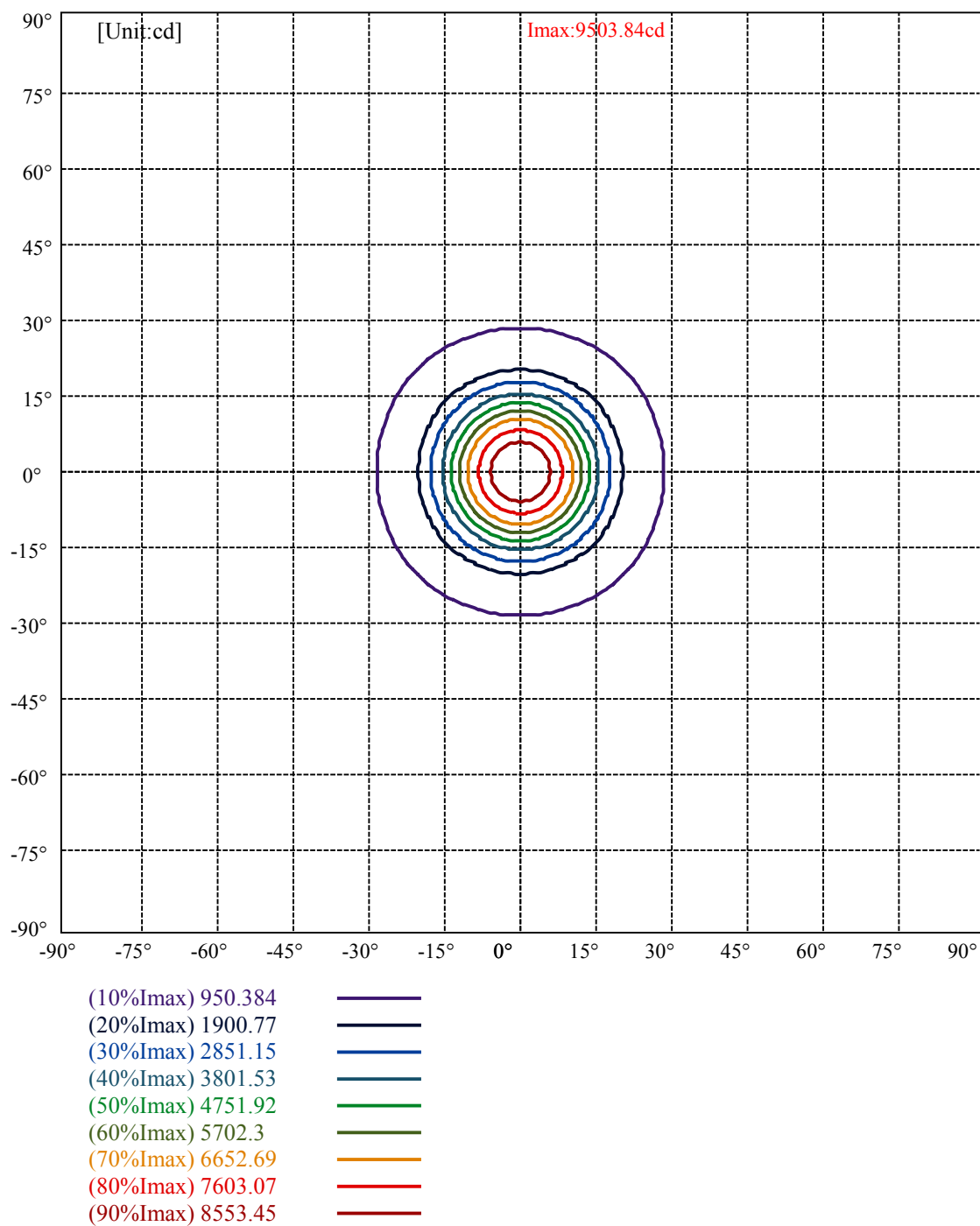
Zone	Lumens	%Lamp	%Fixt
0-30	2527.34	88.06%	90.97%
0-40	2686.73	93.61%	96.71%
0-60	2732.55	95.21%	98.35%
0-90	2774.67	96.68%	99.87%
0-120	2774.67	96.68%	99.87%
0-180	2778.25	96.80%	100.00%
60-90	52.56	1.83%	1.89%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-23.62	2222.60	77.44%	80.00%

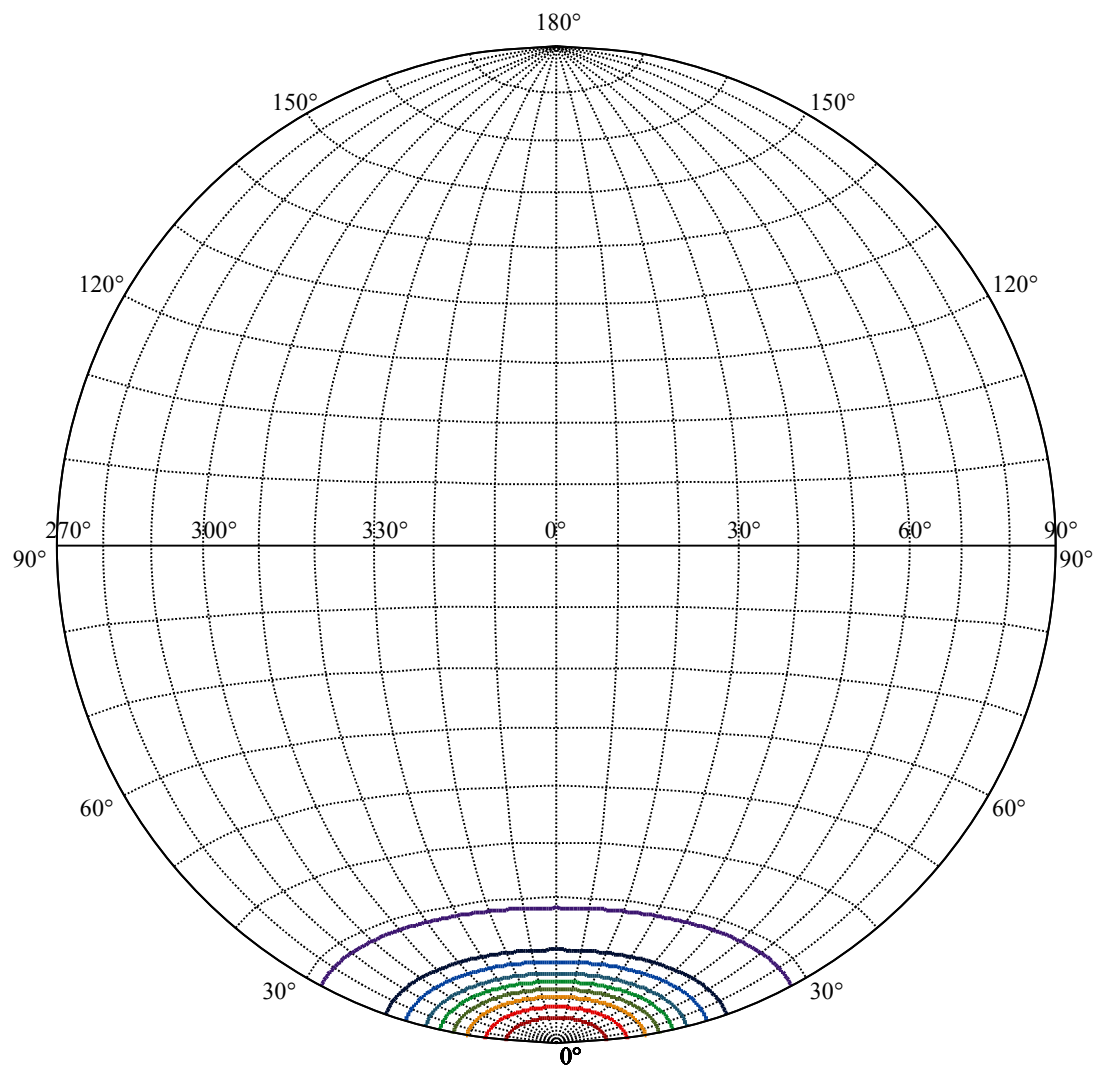
ZONAL LUMEN SUMMARY

0-10	1132.88
10-20	902.88
20-30	491.58
30-40	159.39
40-50	24.20
50-60	21.62
60-70	18.60
70-80	15.90
80-90	7.62
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







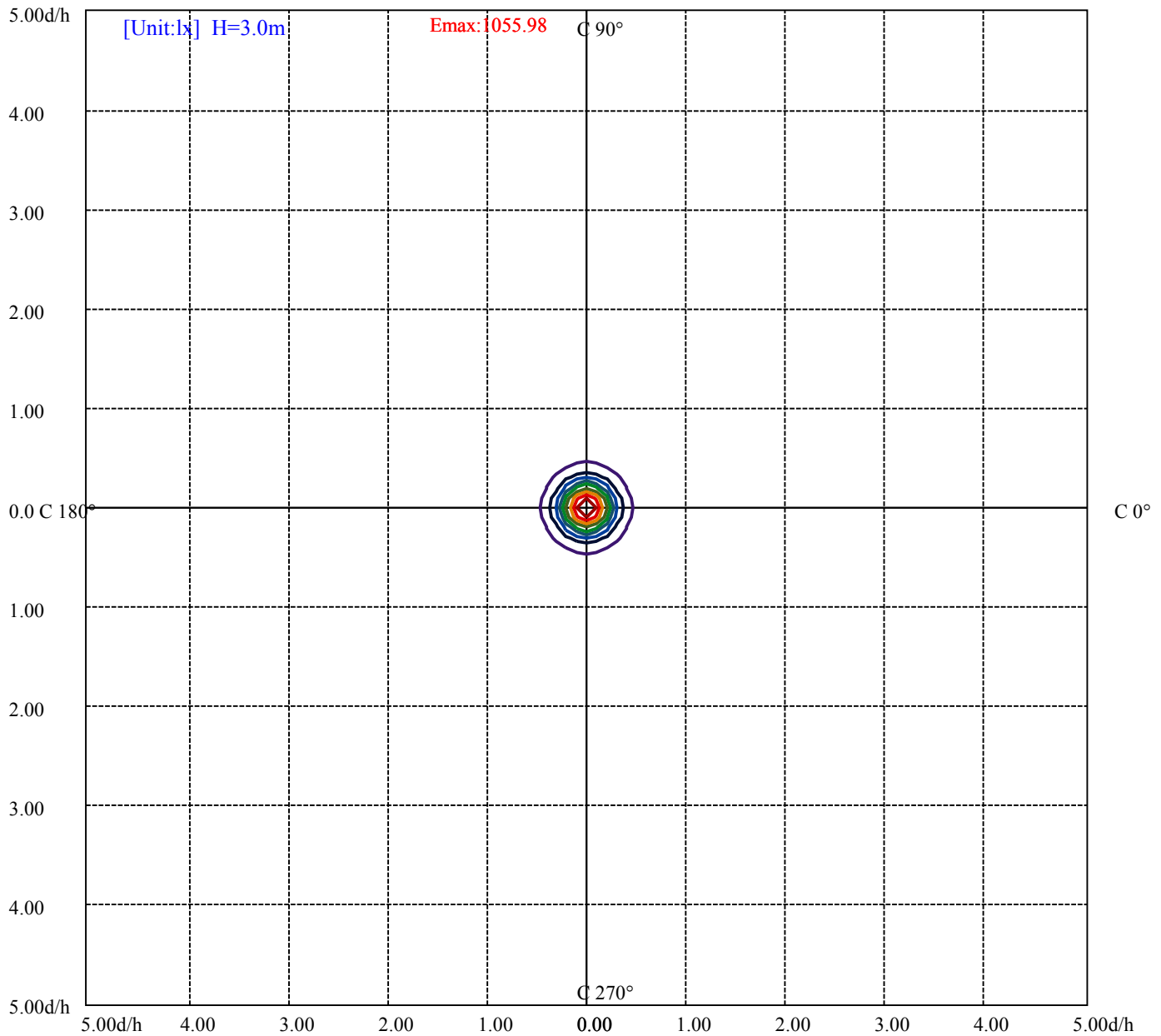


House

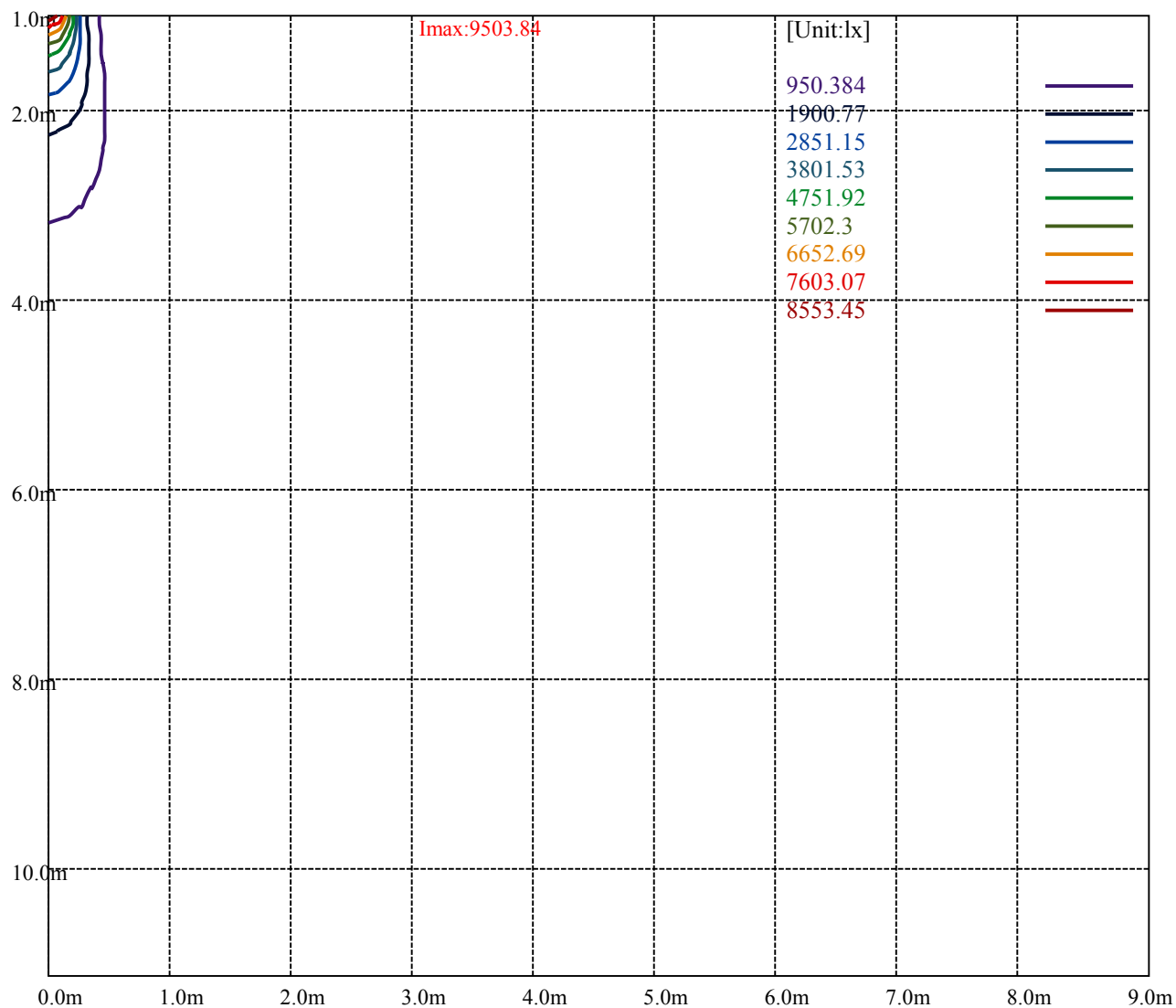
[Unit:cd]

Road

Imax:9503.84	
(10%Imax) 950.384	
(20%Imax) 1900.77	
(30%Imax) 2851.15	
(40%Imax) 3801.53	
(50%Imax) 4751.92	
(60%Imax) 5702.3	
(70%Imax) 6652.69	
(80%Imax) 7603.07	
(90%Imax) 8553.45	



(10%Emax)	105.598	—
(20%Emax)	211.1956	—
(30%Emax)	316.7944	—
(40%Emax)	422.3922	—
(50%Emax)	527.99	—
(60%Emax)	633.5878	—
(70%Emax)	739.1855	—
(80%Emax)	844.7833	—
(90%Emax)	950.3823	—



Luminance Table

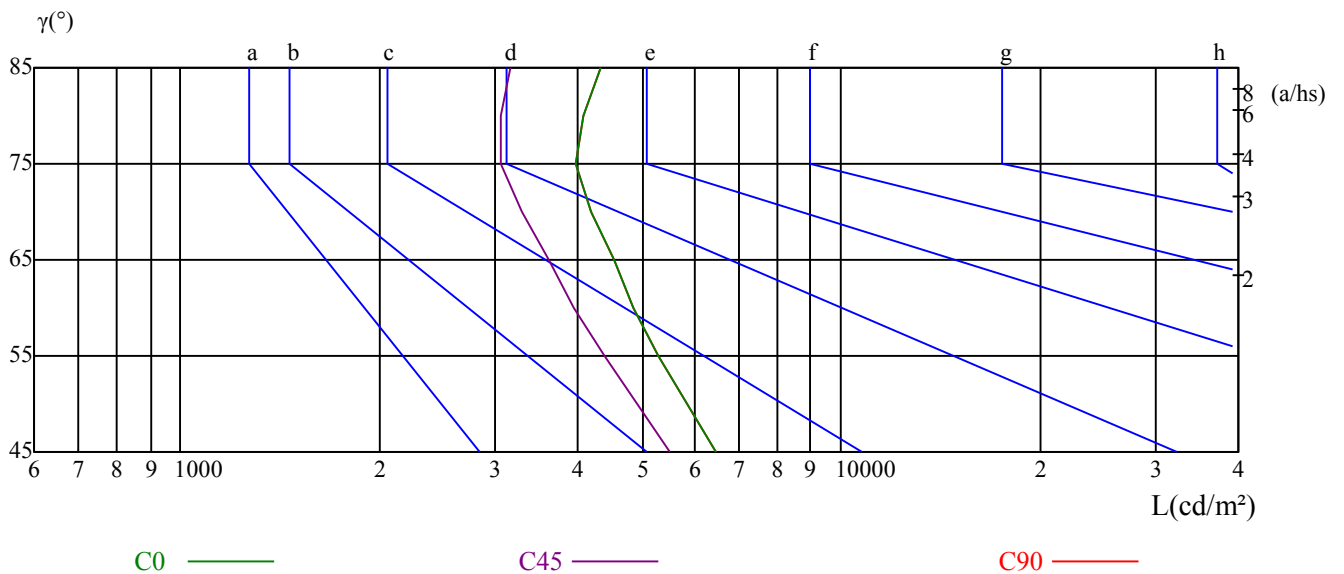
γ	45	50	55	60	65	70	75	80	85
C0	6460	5831	5290	4842	4526	4177	3978	4078	4324
C45	5516	4905	4380	3945	3624	3282	3061	3063	3160
C90	6460	5831	5290	4842	4526	4177	3978	4078	4324

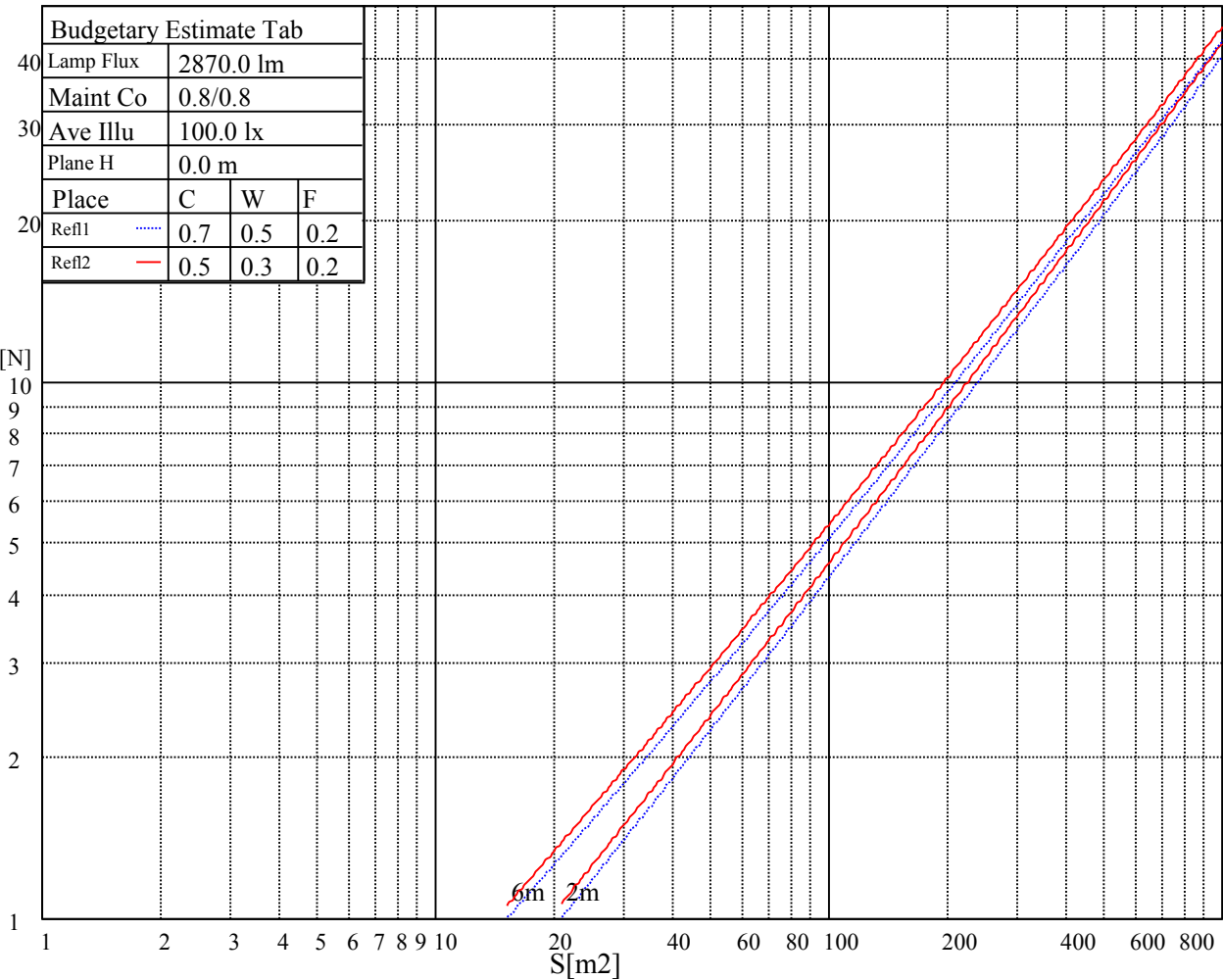
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
11351	11351	11351	14418	14418	14418	39076	39076	39076

Glare Table

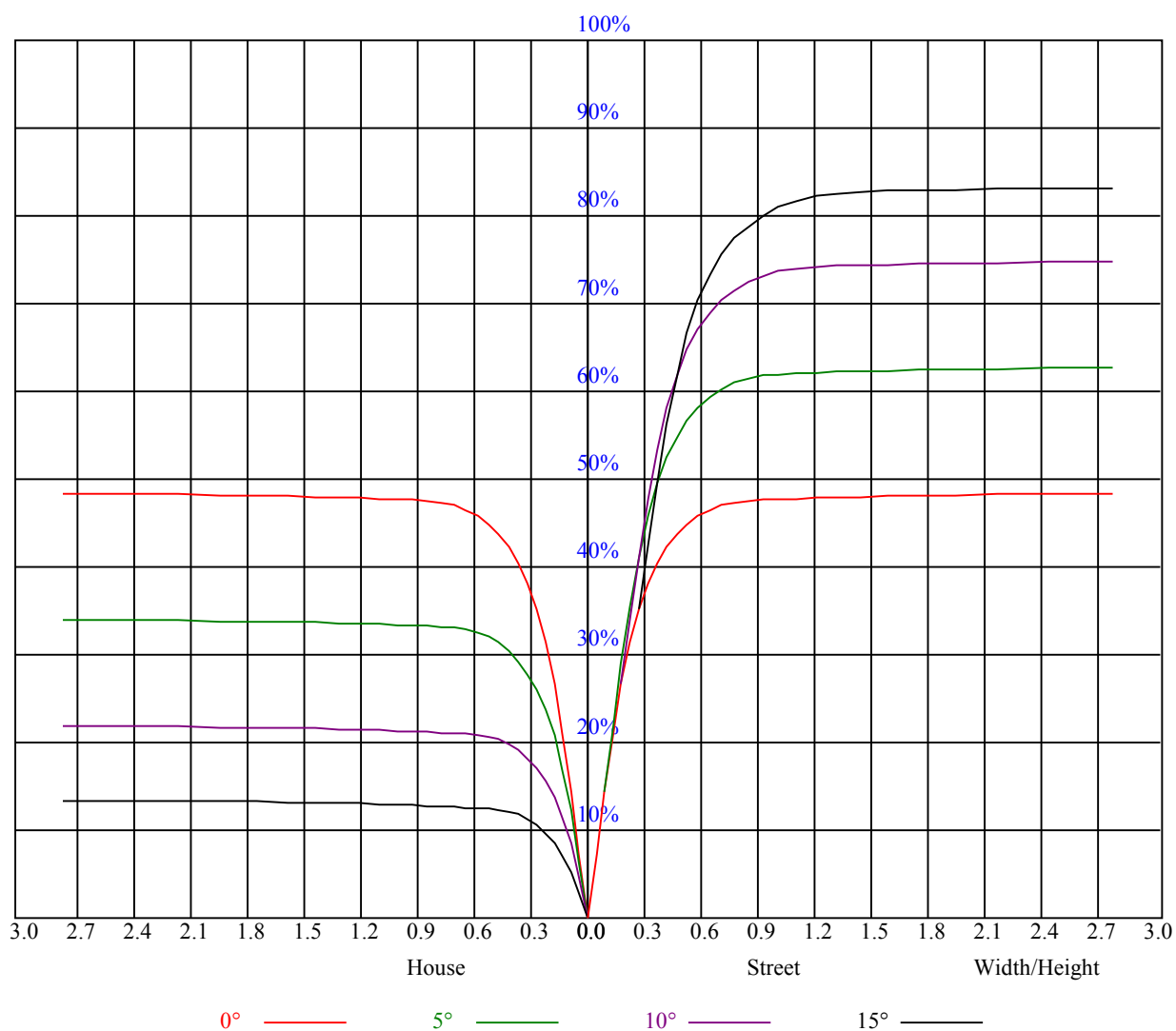
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

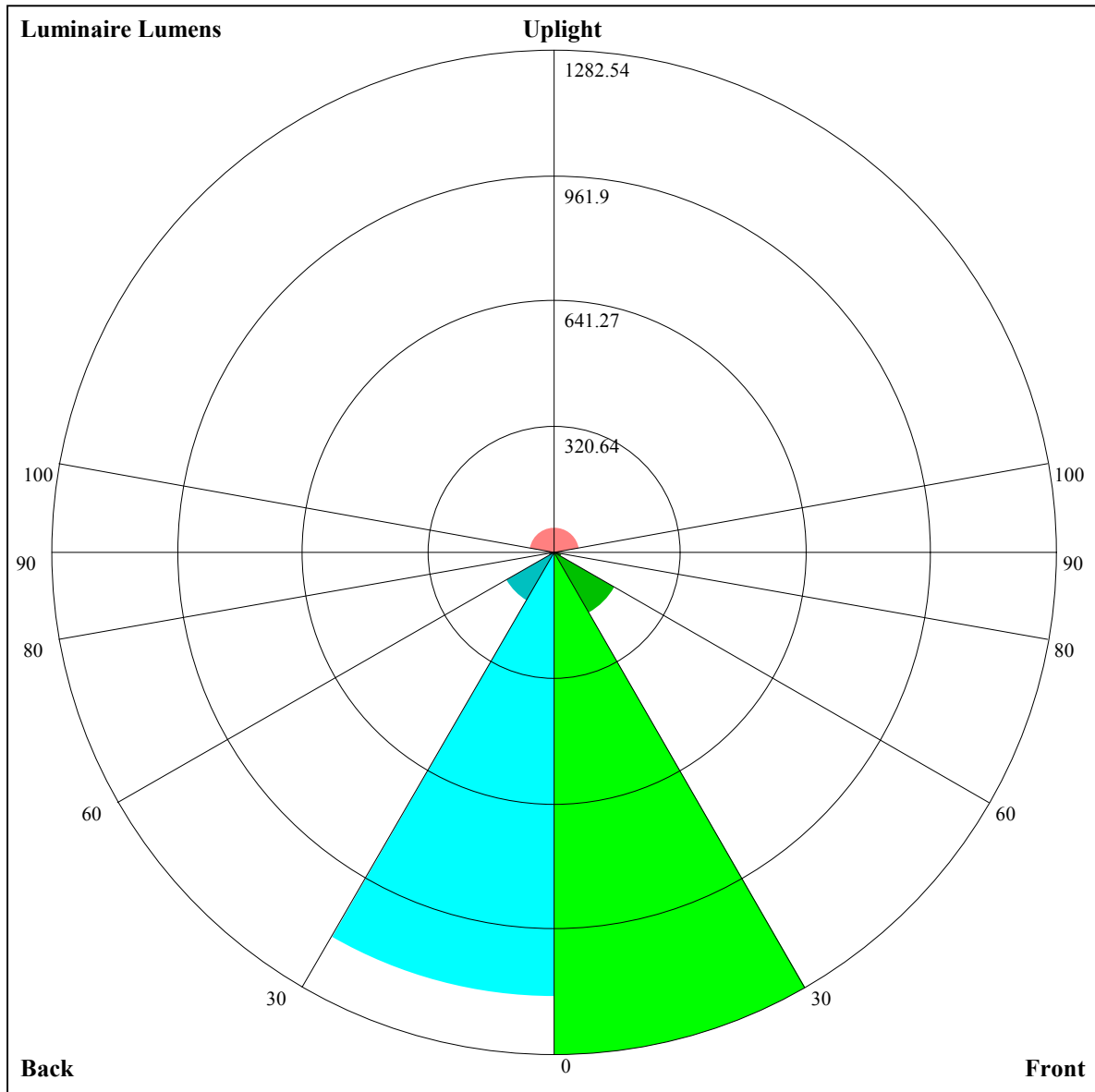
Luminance Limiting Curve





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	1.17	1.17	1.17	1.15	1.15	1.15	1.10	1.10	1.10	1.05	1.05	1.05	1.01	1.01	1.01	0.99
1	1.08	1.06	1.03	1.06	1.04	1.02	1.02	1.00	0.98	0.98	0.97	0.95	0.95	0.94	0.93	0.91
2	1.03	0.99	0.96	1.01	0.98	0.95	0.98	0.95	0.93	0.95	0.93	0.91	0.92	0.91	0.89	0.87
3	0.98	0.94	0.90	0.97	0.93	0.90	0.94	0.91	0.88	0.92	0.89	0.87	0.90	0.87	0.86	0.84
4	0.94	0.89	0.86	0.93	0.89	0.85	0.91	0.87	0.84	0.89	0.86	0.84	0.87	0.85	0.83	0.81
5	0.90	0.86	0.82	0.89	0.85	0.82	0.88	0.84	0.81	0.86	0.83	0.81	0.85	0.82	0.80	0.79
6	0.87	0.82	0.79	0.86	0.82	0.79	0.85	0.81	0.78	0.84	0.80	0.78	0.83	0.80	0.77	0.76
7	0.84	0.80	0.76	0.84	0.79	0.76	0.82	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.75	0.74
8	0.82	0.77	0.74	0.81	0.77	0.74	0.80	0.76	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.72
9	0.79	0.75	0.72	0.79	0.74	0.72	0.78	0.74	0.71	0.77	0.74	0.71	0.76	0.73	0.71	0.70
10	0.77	0.73	0.70	0.76	0.72	0.70	0.76	0.72	0.69	0.75	0.72	0.69	0.75	0.71	0.69	0.68





Luminaire Lumens:

FL=1282.54,FM=181.23,FH=18.26,FVH=7.59

BL=1134.3,BM=141.35,BH=17.57,BVH=7.51

UL=14.27,UH=67.93

BUG Rating:B3-U2-G0

Intensity data(cd)

C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	9462.54	9350.23	8004.65	5129.05	2456.62	1264.09	927.15	579.74	284.64
45.0	9518.70	9190.56	7244.87	4117.67	1955.60	1160.04	911.73	465.78	78.73
90.0	9512.09	8631.19	5960.96	2881.10	1517.35	1053.01	787.42	319.00	42.34
135.0	9522.00	8659.27	6227.98	3274.20	1564.70	1070.85	821.99	332.54	43.00
180.0	9462.54	8268.92	5834.88	2850.27	1338.97	934.03	643.99	204.42	38.15
225.0	9518.70	8756.17	6671.73	3798.34	1768.41	1094.47	840.44	330.83	42.83
270.0	9512.09	9137.16	7515.20	4637.95	2319.53	1248.68	948.62	539.00	99.49
315.0	9522.00	9132.76	7280.66	4337.34	2128.48	1089.73	932.55	463.24	103.62
360.0	9462.54	9350.23	8004.65	5129.05	2456.62	1264.09	927.15	579.74	284.64
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	36.01	30.34	26.48	23.78	20.65	18.28	15.91	14.92	14.31
45.0	31.77	29.84	26.43	23.45	20.54	17.40	15.14	14.26	13.60
90.0	31.55	27.91	24.56	21.42	19.49	16.79	14.92	13.98	13.49
135.0	30.94	27.03	23.78	21.03	19.21	16.57	15.03	14.26	13.60
180.0	31.00	27.20	23.56	20.37	18.28	16.13	14.98	14.53	13.93
225.0	30.17	27.03	24.61	21.80	19.49	16.68	14.98	14.37	14.09
270.0	31.88	28.35	25.00	21.91	19.55	17.62	15.58	14.59	14.09
315.0	31.60	28.02	24.83	22.19	19.99	17.78	15.75	14.81	14.48
360.0	36.01	30.34	26.48	23.78	20.65	18.28	15.91	14.92	14.31
C/ γ (°)	90.0								
0.0	13.38								
45.0	12.88								
90.0	12.83								
135.0	12.94								
180.0	13.10								
225.0	12.94								
270.0	13.27								
315.0	13.32								
360.0	13.38								