
Nata

Client:

LumCAT: 4-2705-L

Luminaire: 92.70.129.00

Report No: NT2018011017

Test No: GC2018011017

LampCAT: CREE CXA1820

Lamp flux(lm): 2182.0

Number of Lamps: 1

Length(mm): 102

Phm Type: C

Voltage(V): 37.1000

Current(A): 0.6500

Power (W): 24.1150

PF: 0.0000

Ballast type: DC

Width(mm): 102

Height(mm): 0

Photometric Results

Lumens(lm): 2157.60, Efficiency(%): 98.88% , Luminous Efficacy(lm/W): 89.47

Central intensity(cd): 10924.980, Maximum intensity(cd): 10924.980

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=22.4

[C90/270]Total=22.4

Field angle(10%Imax): [C0/180]Total=39.0

[C90/270]Total=39.0

Maximum s/h(1/2): C0_180=0.38 C90_270=0.38

Maximum s/h(1/4): C0_180=0.36 C90_270=0.36

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 101.78%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 95.817%

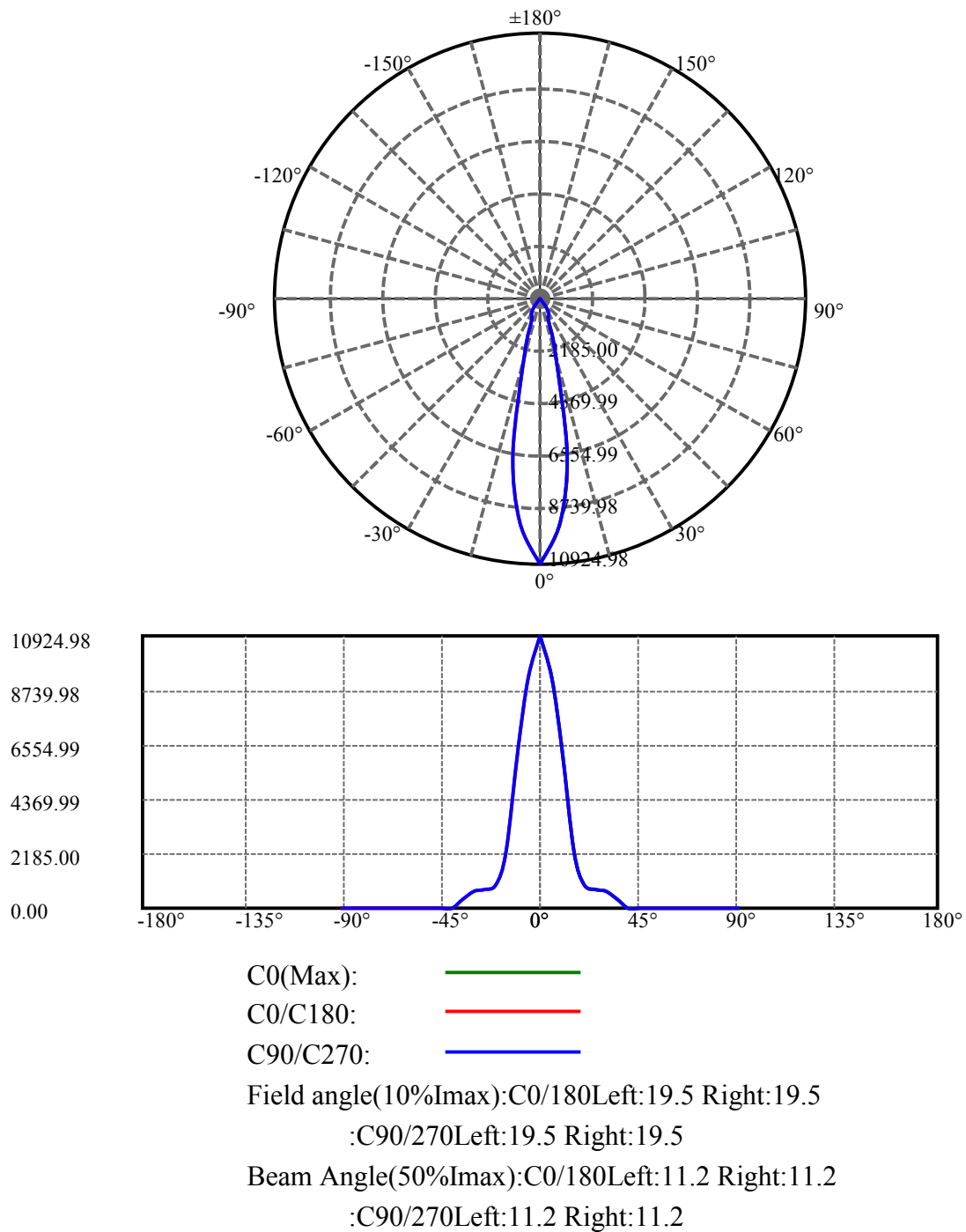
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	10924.979	65.334	65.334	2.994%	3.028%
5.0	9213.895	440.178	505.512	20.173%	23.429%
10.0	6409.047	610.033	1115.545	27.958%	51.703%
15.0	2306.381	327.203	1442.747	14.996%	66.868%
20.0	972.117	182.247	1624.994	8.352%	75.315%
25.0	759.999	176.056	1801.05	8.069%	83.475%
30.0	678.570	185.975	1987.025	8.523%	92.094%
35.0	350.957	110.340	2097.365	5.057%	97.208%
40.0	21.252	7.488	2104.853	.343%	97.555%
45.0	15.388	5.964	2110.817	.273%	97.832%
50.0	13.860	5.820	2116.637	.267%	98.101%
55.0	12.691	5.698	2122.335	.261%	98.365%
60.0	11.920	5.658	2127.994	.259%	98.628%
65.0	11.176	5.552	2133.546	.254%	98.885%
70.0	10.481	5.399	2138.945	.247%	99.135%
75.0	10.027	5.309	2144.254	.243%	99.381%
80.0	9.890	5.338	2149.592	.245%	99.629%
85.0	9.800	5.351	2154.943	.245%	99.877%
90.0	9.704	2.659	2157.603	.122%	100.000%

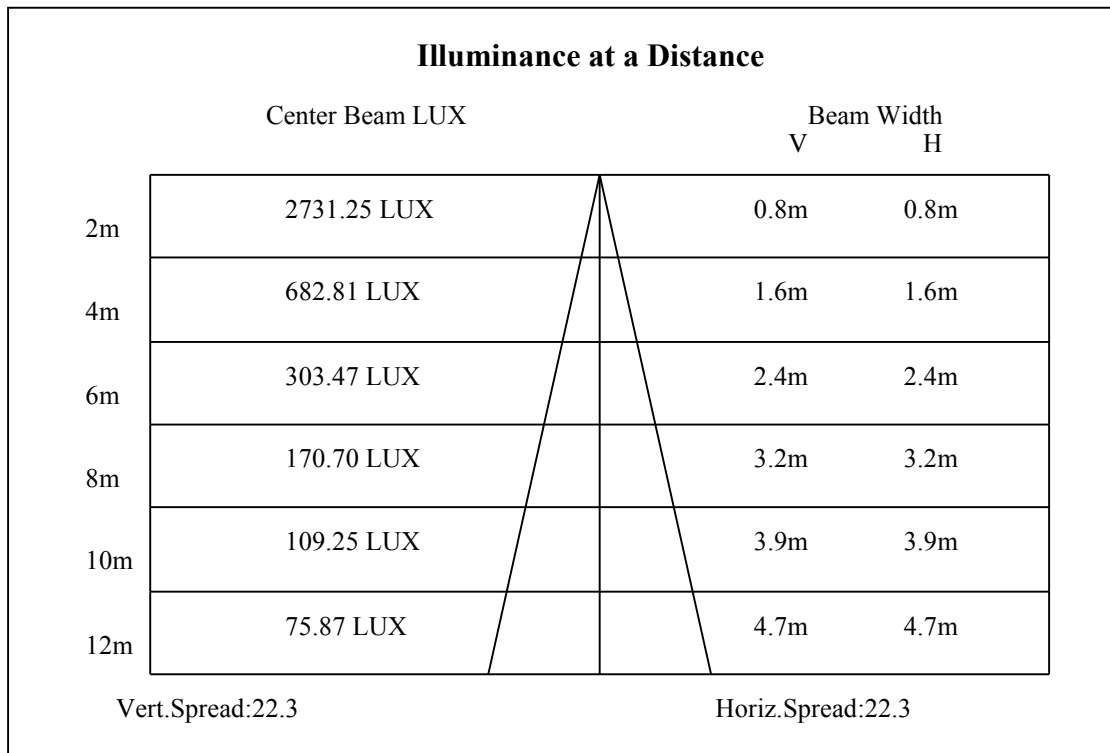
ZONAL LUMEN SUMMARY

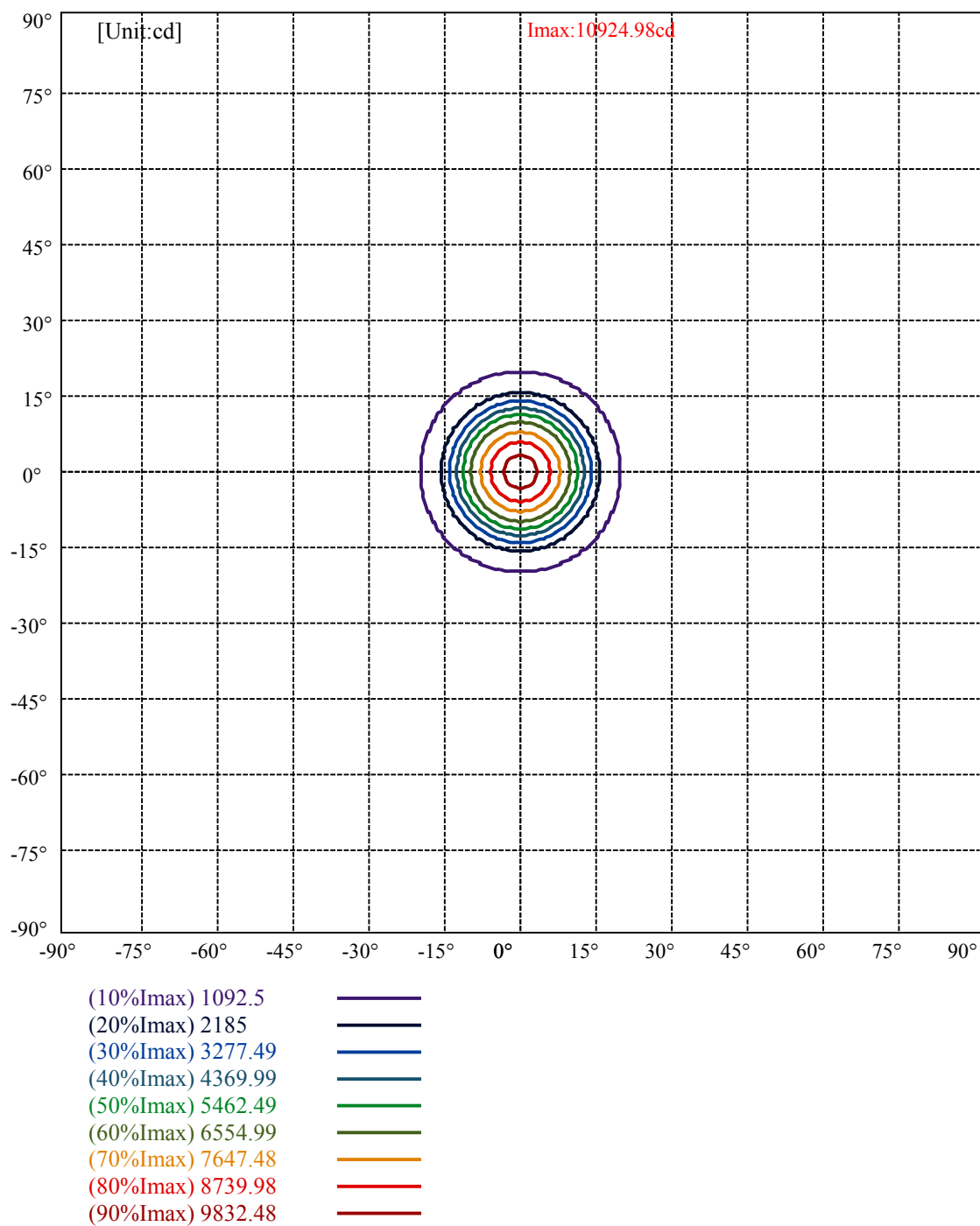
Zone	Lumens	%Lamp	%Fixt
0-30	1987.02	91.06%	92.09%
0-40	2104.85	96.46%	97.56%
0-60	2127.99	97.52%	98.63%
0-90	2154.94	98.76%	99.88%
0-120	2154.94	98.76%	99.88%
0-180	2157.60	98.88%	100.00%
60-90	32.61	1.49%	1.51%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-22.87	1726.08	79.11%	80.00%

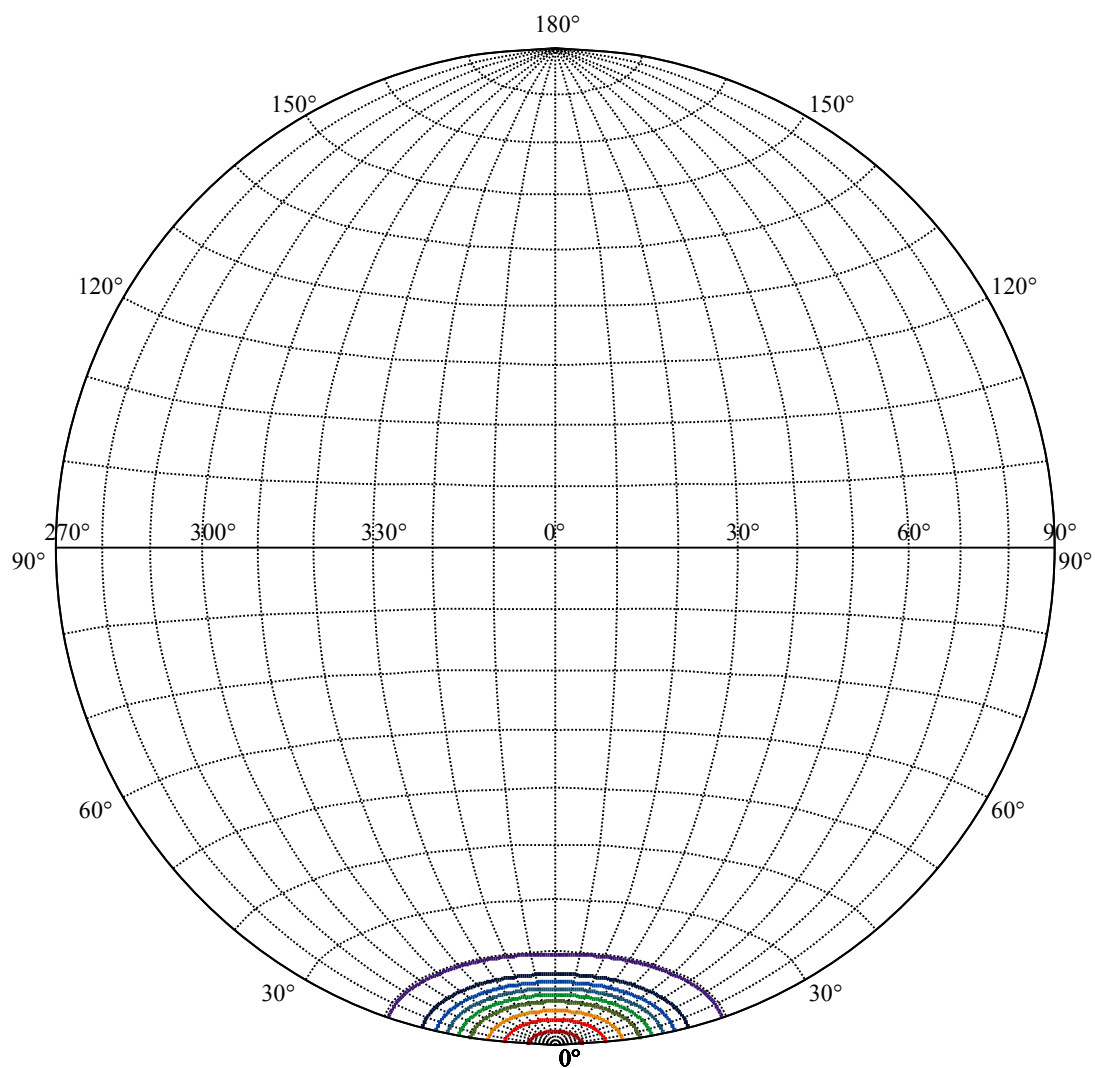
ZONAL LUMEN SUMMARY

0-10	1115.54
10-20	509.45
20-30	362.03
30-40	117.83
40-50	11.78
50-60	11.36
60-70	10.95
70-80	10.65
80-90	5.35
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









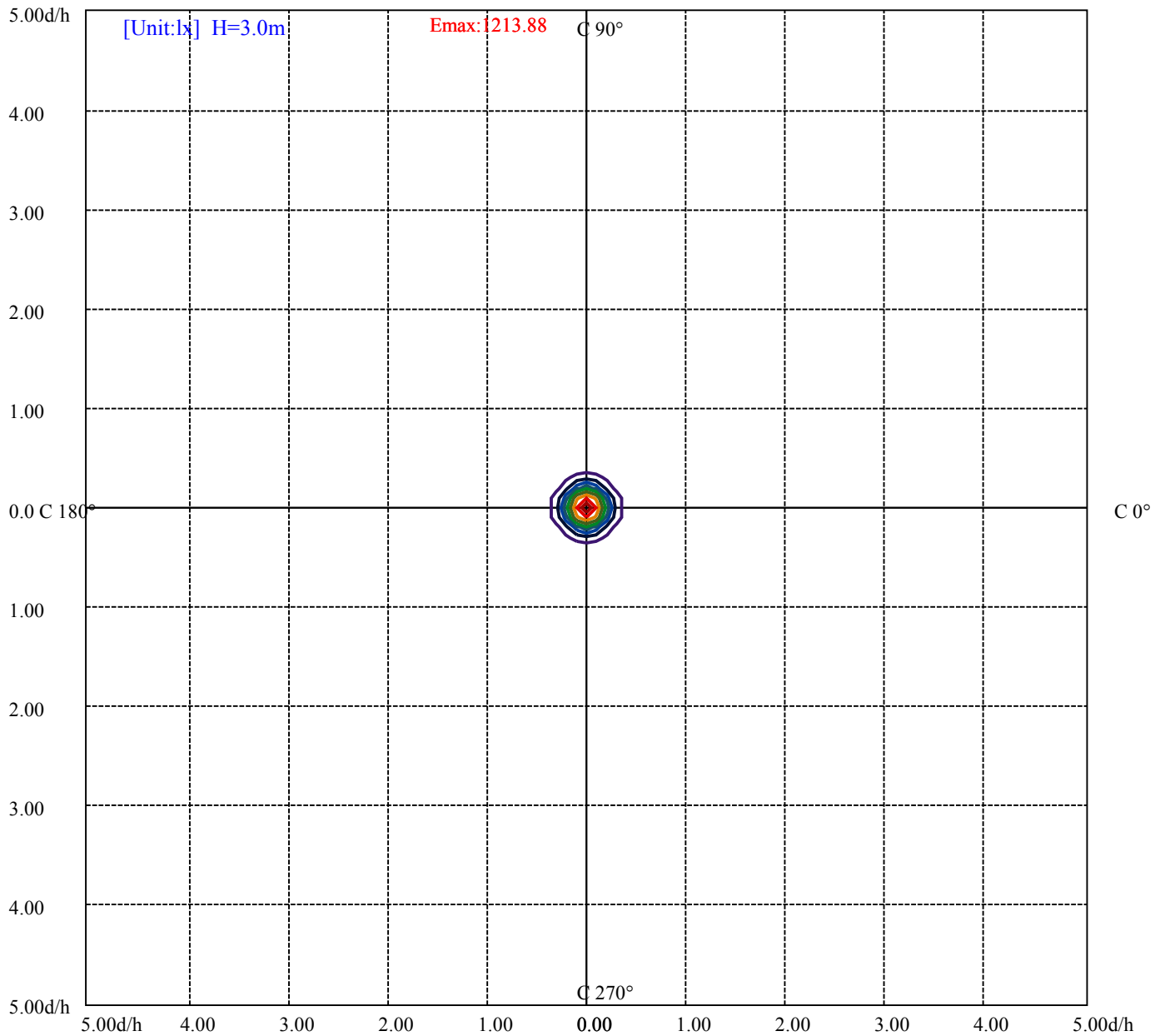
House

[Unit:cd]

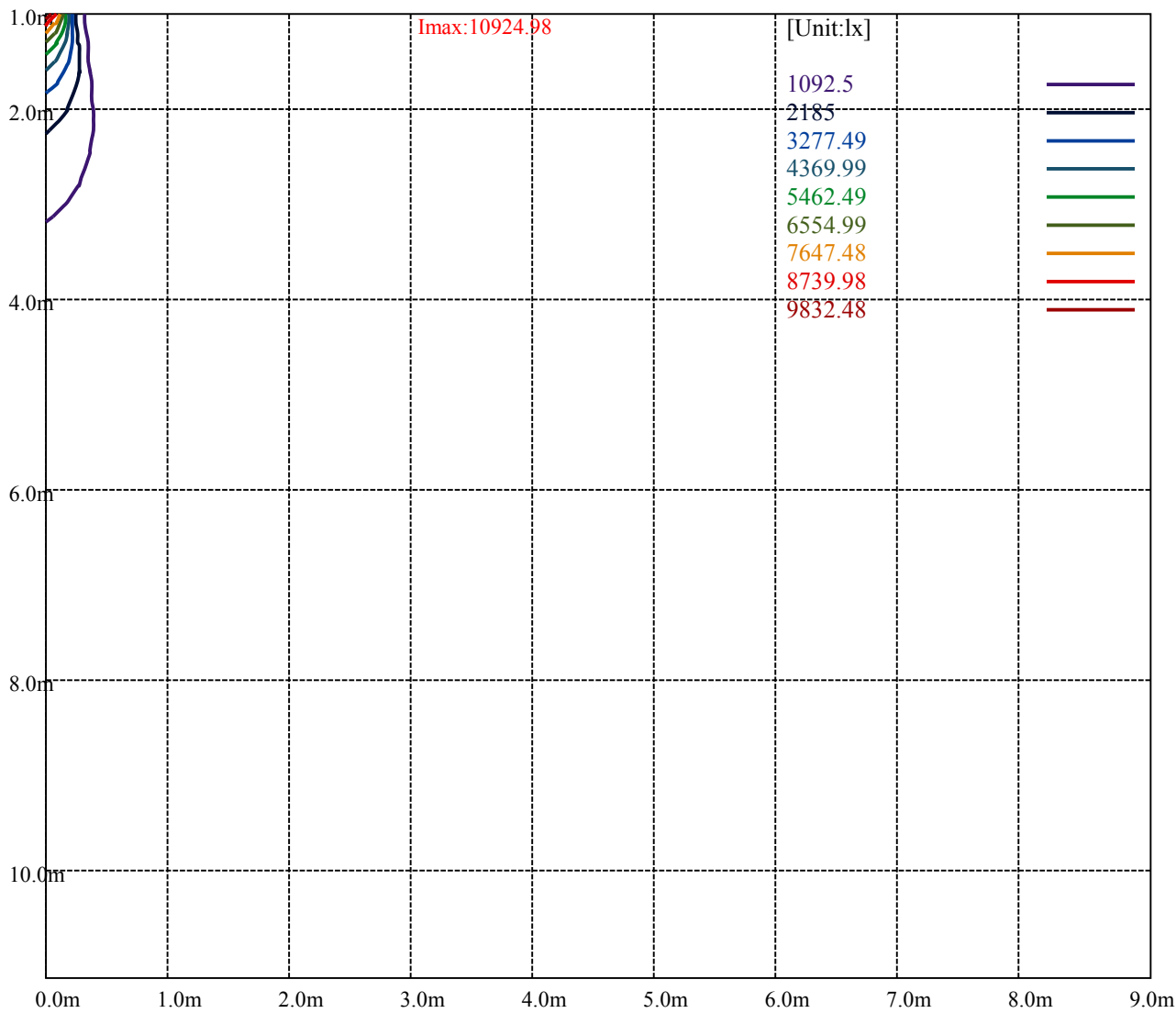
Road

Imax:10924.98

(10%Imax)	1092.5	—
(20%Imax)	2185	—
(30%Imax)	3277.49	—
(40%Imax)	4369.99	—
(50%Imax)	5462.49	—
(60%Imax)	6554.99	—
(70%Imax)	7647.48	—
(80%Imax)	8739.98	—
(90%Imax)	9832.48	—



(10%Emax)	121.3878	
(20%Emax)	242.7767	
(30%Emax)	364.1644	
(40%Emax)	485.5522	
(50%Emax)	606.94	
(60%Emax)	728.3289	
(70%Emax)	849.7167	
(80%Emax)	971.1045	
(90%Emax)	1092.492	



Luminance Table

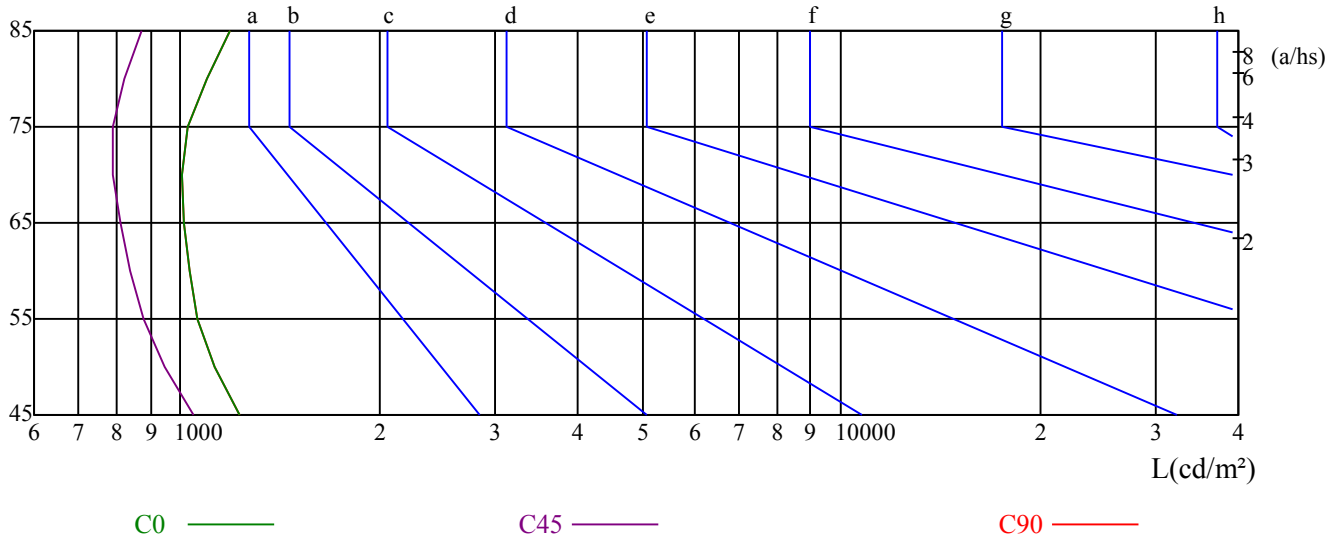
γ	45	50	55	60	65	70	75	80	85
C0	1226	1126	1059	1031	1011	1002	1025	1094	1192
C45	1047	947	877	840	809	787	788	822	871
C90	1226	1126	1059	1031	1011	1002	1025	1094	1192

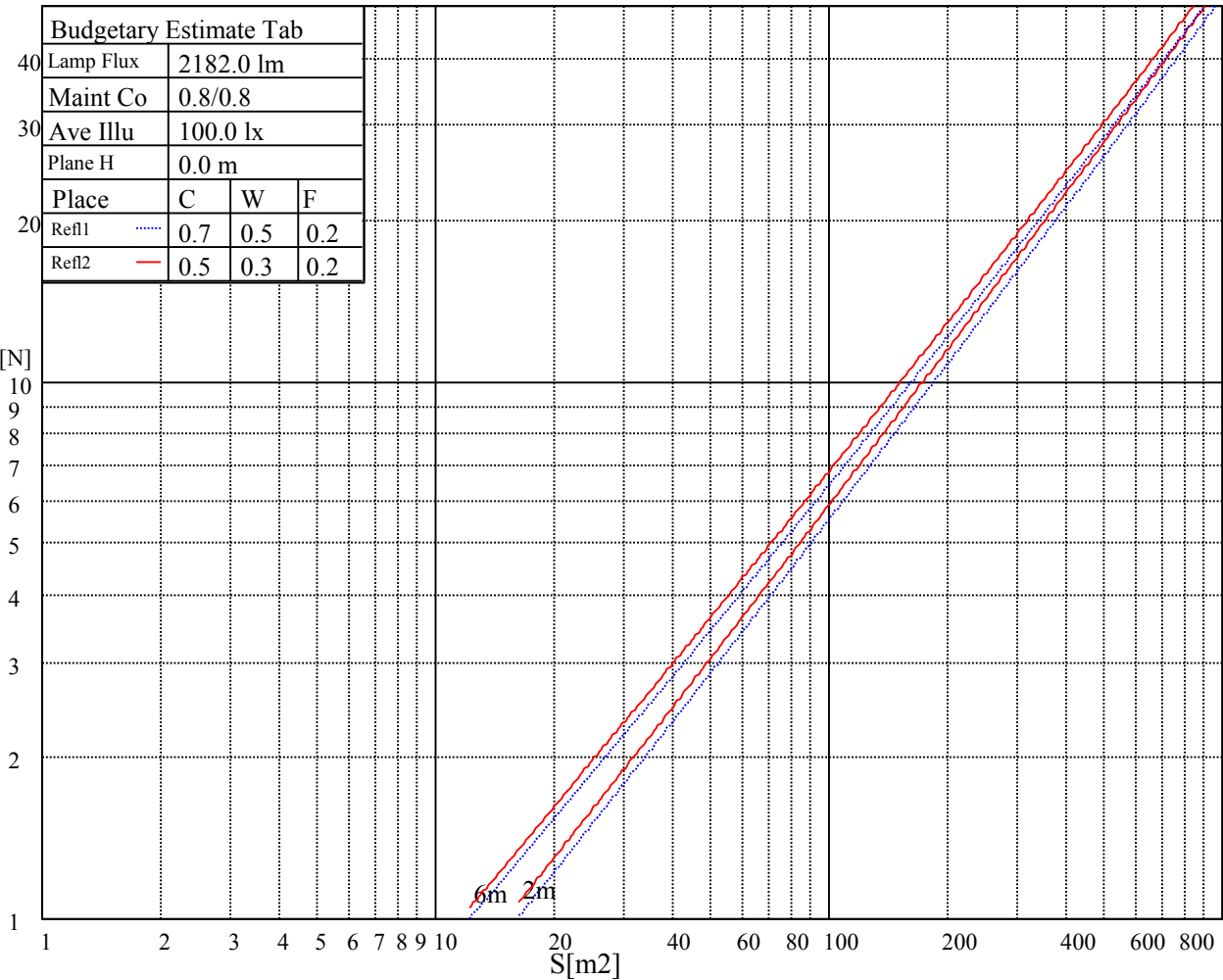
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2542	2542	2542	3724	3724	3724	10808	10808	10808

Glare Table

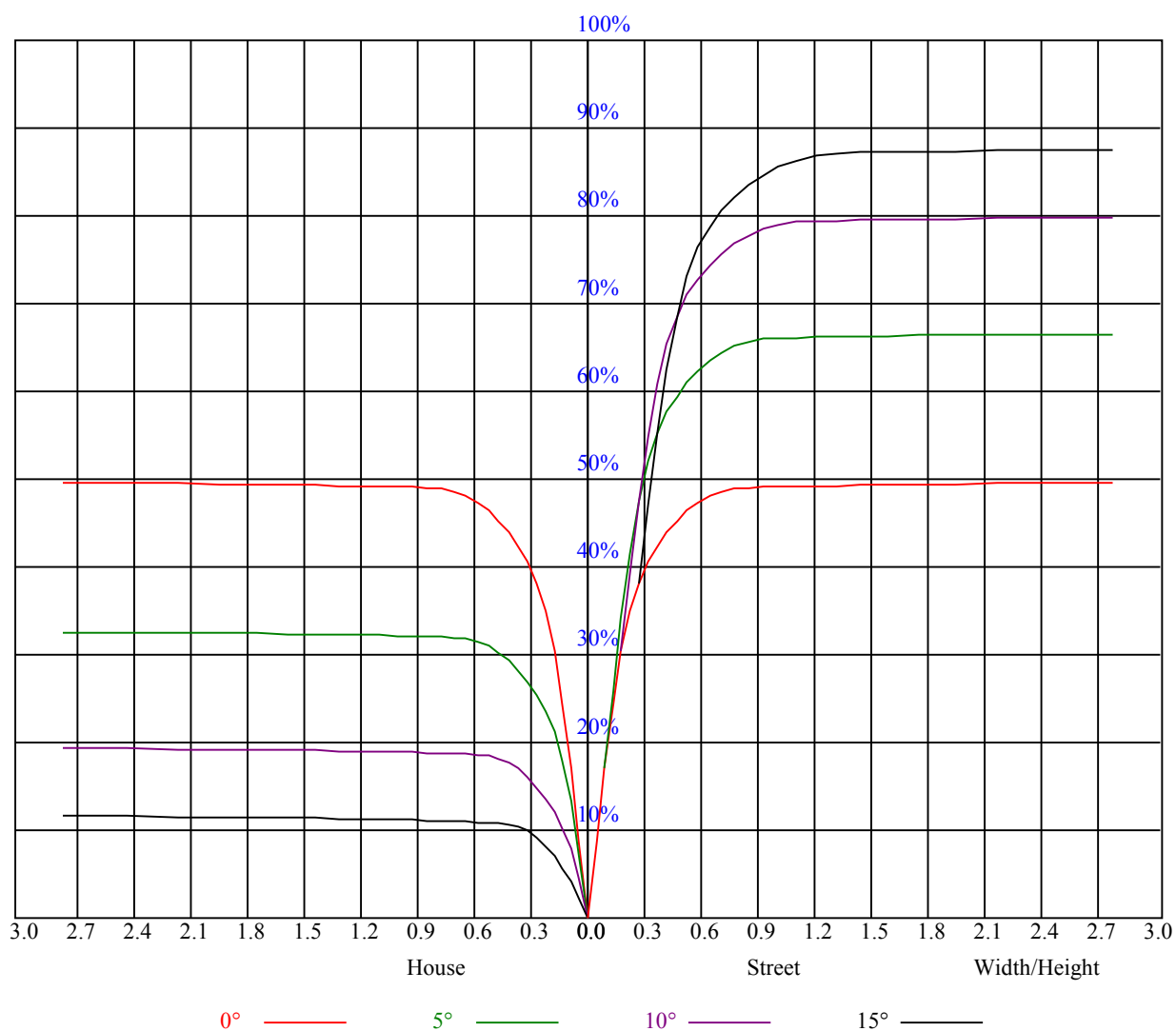
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

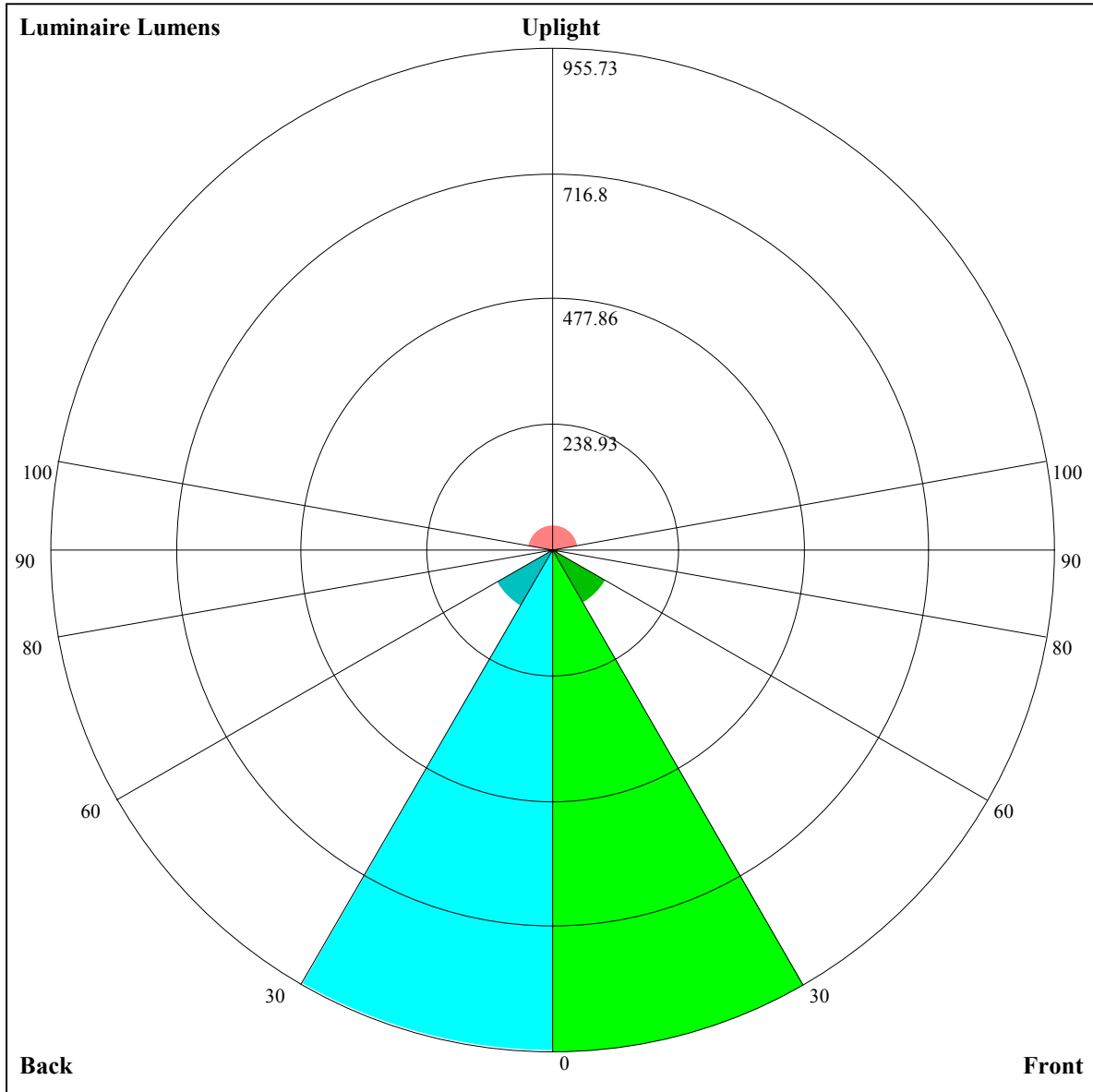
Luminance Limiting Curve

 $\gamma(^{\circ})$ 



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	1.21	1.21	1.21	1.18	1.18	1.18	1.13	1.13	1.13	1.08	1.08	1.08	1.04	1.04	1.04	1.02
1	1.11	1.08	1.05	1.09	1.06	1.03	1.04	1.02	1.00	1.01	0.99	0.97	0.97	0.96	0.94	0.92
2	1.06	1.02	0.98	1.04	1.00	0.97	1.01	0.98	0.95	0.98	0.95	0.93	0.95	0.93	0.91	0.89
3	1.01	0.97	0.93	1.00	0.96	0.92	0.97	0.94	0.91	0.95	0.92	0.90	0.92	0.90	0.88	0.87
4	0.97	0.93	0.89	0.96	0.92	0.89	0.94	0.90	0.88	0.92	0.89	0.87	0.90	0.88	0.86	0.84
5	0.94	0.89	0.86	0.93	0.89	0.85	0.91	0.87	0.85	0.90	0.86	0.84	0.88	0.85	0.83	0.82
6	0.91	0.86	0.83	0.90	0.86	0.83	0.89	0.85	0.82	0.87	0.84	0.82	0.86	0.83	0.81	0.80
7	0.88	0.84	0.80	0.88	0.83	0.80	0.86	0.83	0.80	0.85	0.82	0.79	0.84	0.81	0.79	0.78
8	0.86	0.81	0.78	0.85	0.81	0.78	0.84	0.80	0.78	0.83	0.80	0.78	0.83	0.79	0.77	0.76
9	0.84	0.79	0.76	0.83	0.79	0.76	0.82	0.79	0.76	0.82	0.78	0.76	0.81	0.78	0.76	0.75
10	0.82	0.77	0.75	0.81	0.77	0.74	0.80	0.77	0.74	0.80	0.76	0.74	0.79	0.76	0.74	0.73





Luminaire Lumens:

FL=955.73,FM=114.83,FH=11.01,FVH=5.35

BL=955.51,BM=122.16,BH=10.92,BVH=5.34

UL=10.59,UH=50.38

BUG Rating:B2-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	10903.92	9227.45	6513.17	3094.17	991.02	761.98	682.70	394.75	23.34
45.0	10911.08	9387.12	6755.42	2791.36	1005.88	755.92	678.85	346.86	19.10
90.0	10904.47	9310.59	6566.58	2011.21	967.18	754.38	672.40	361.94	25.44
135.0	10980.45	9596.33	7377.56	2785.85	1046.62	794.46	691.51	484.50	23.40
180.0	10903.92	9106.33	5997.84	1783.28	977.69	769.63	678.18	347.46	22.46
225.0	10911.08	9111.83	6034.73	1825.67	938.38	753.72	677.30	318.28	18.50
270.0	10904.47	9177.90	6463.62	2873.94	964.04	759.23	681.60	364.47	21.91
315.0	10980.45	8793.61	5563.45	1285.57	886.13	730.65	666.02	189.39	15.86
360.0	10903.92	9227.45	6513.17	3094.17	991.02	761.98	682.70	394.75	23.34

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	16.90	15.14	13.54	12.44	11.78	10.90	10.24	10.02	9.74
45.0	13.38	12.17	11.45	11.12	10.85	10.46	10.08	9.91	9.91
90.0	19.21	17.01	14.98	13.54	11.95	10.68	9.97	9.86	9.80
135.0	14.09	12.50	11.56	11.01	10.63	10.30	9.97	9.86	9.80
180.0	16.02	14.42	12.88	11.95	11.29	10.63	10.02	9.86	9.74
225.0	13.32	12.11	11.29	10.85	10.52	10.24	10.02	9.91	9.86
270.0	16.90	15.47	14.59	13.54	11.84	10.46	9.97	9.86	9.80
315.0	13.27	12.06	11.23	10.90	10.57	10.19	9.97	9.86	9.74
360.0	16.90	15.14	13.54	12.44	11.78	10.90	10.24	10.02	9.74

C/γ(°)	90.0
0.0	9.58
45.0	9.80
90.0	9.69
135.0	9.69
180.0	9.63
225.0	9.80
270.0	9.74
315.0	9.69
360.0	9.58