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Nata

Client:

LumCAT: LM04L05030BQ(91.61.0070.000)

Luminaire:

Report No:

Voltage(V): 12.1000

Test No: GC2019080701

Current(A): 0.1990

LampCAT: LUMILEDS LUXEON 3030 2D

Power (W): 2.4100

Lamp flux(lm): 254.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 50

Width(mm): 50

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 236.84, Efficiency(%): 93.24% , Luminous Efficacy(lm/W): 98.27

Central intensity(cd): 492.314, Maximum intensity(cd): 492.314

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=31.6

[C90/270]Total=31.6

Field angle(10%Imax): [C0/180]Total=64.8

[C90/270]Total=64.8

Maximum s/h(1/2): C0_180=0.52 C90_270=0.52

Maximum s/h(1/4): C0_180=0.55 C90_270=0.55

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 93.24%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 91.729%

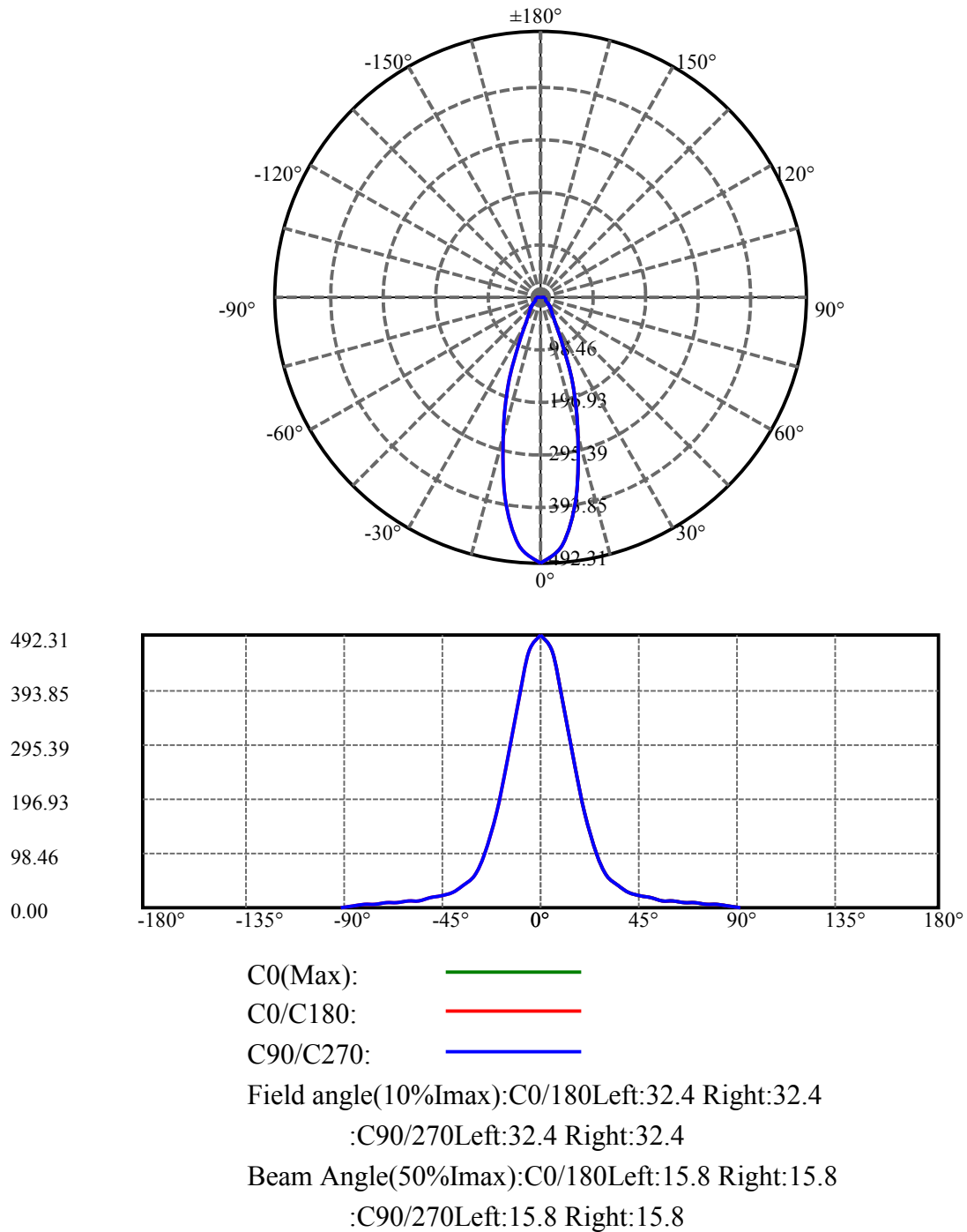
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	492.314	0.000	0	.000%	.000%
5.0	460.849	11.395	11.395	4.486%	4.811%
10.0	374.217	29.873	41.268	11.761%	17.424%
15.0	260.747	37.666	78.933	14.829%	33.328%
20.0	170.571	35.547	114.48	13.995%	48.336%
25.0	98.459	28.216	142.696	11.109%	60.250%
30.0	58.802	19.902	162.598	7.835%	68.653%
35.0	38.637	14.349	176.946	5.649%	74.711%
40.0	28.005	11.119	188.065	4.377%	79.406%
45.0	20.995	9.073	197.138	3.572%	83.237%
50.0	16.854	7.648	204.786	3.011%	86.466%
55.0	13.732	6.650	211.436	2.618%	89.274%
60.0	11.426	5.815	217.252	2.289%	91.729%
65.0	9.422	5.068	222.32	1.995%	93.869%
70.0	7.910	4.389	226.708	1.728%	95.722%
75.0	6.251	3.701	230.41	1.457%	97.285%
80.0	4.838	2.967	233.377	1.168%	98.538%
85.0	3.438	2.249	235.625	.885%	99.487%
90.0	0.998	1.215	236.84	.478%	100.000%

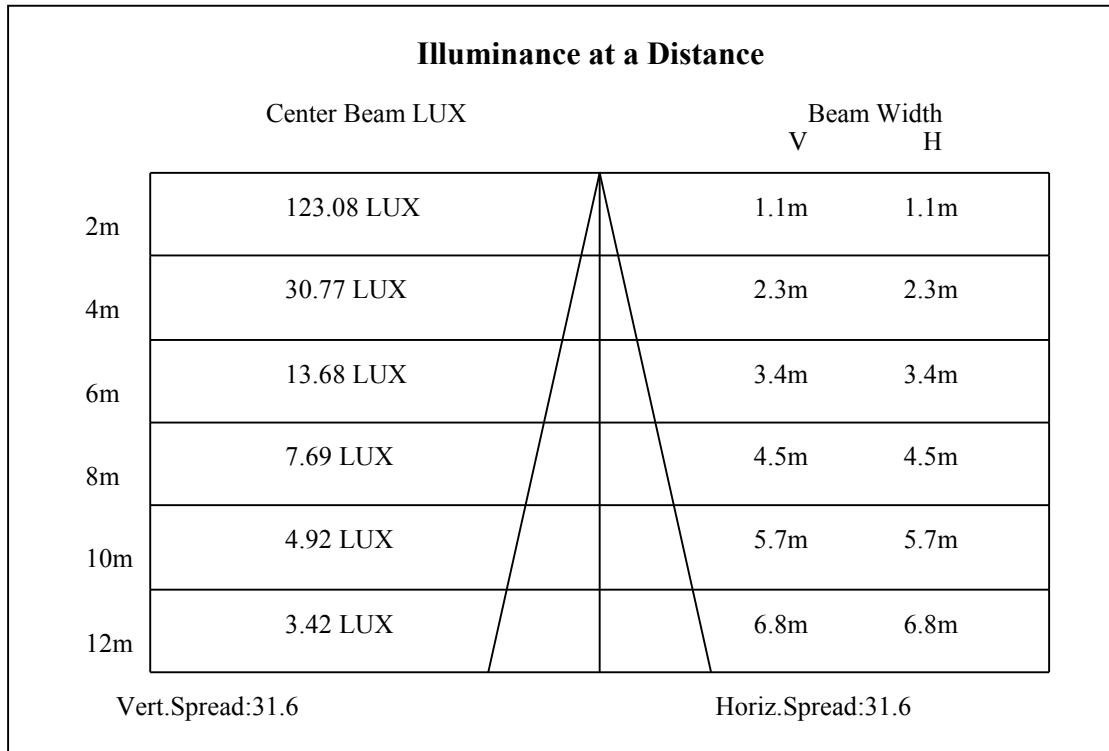
ZONAL LUMEN SUMMARY

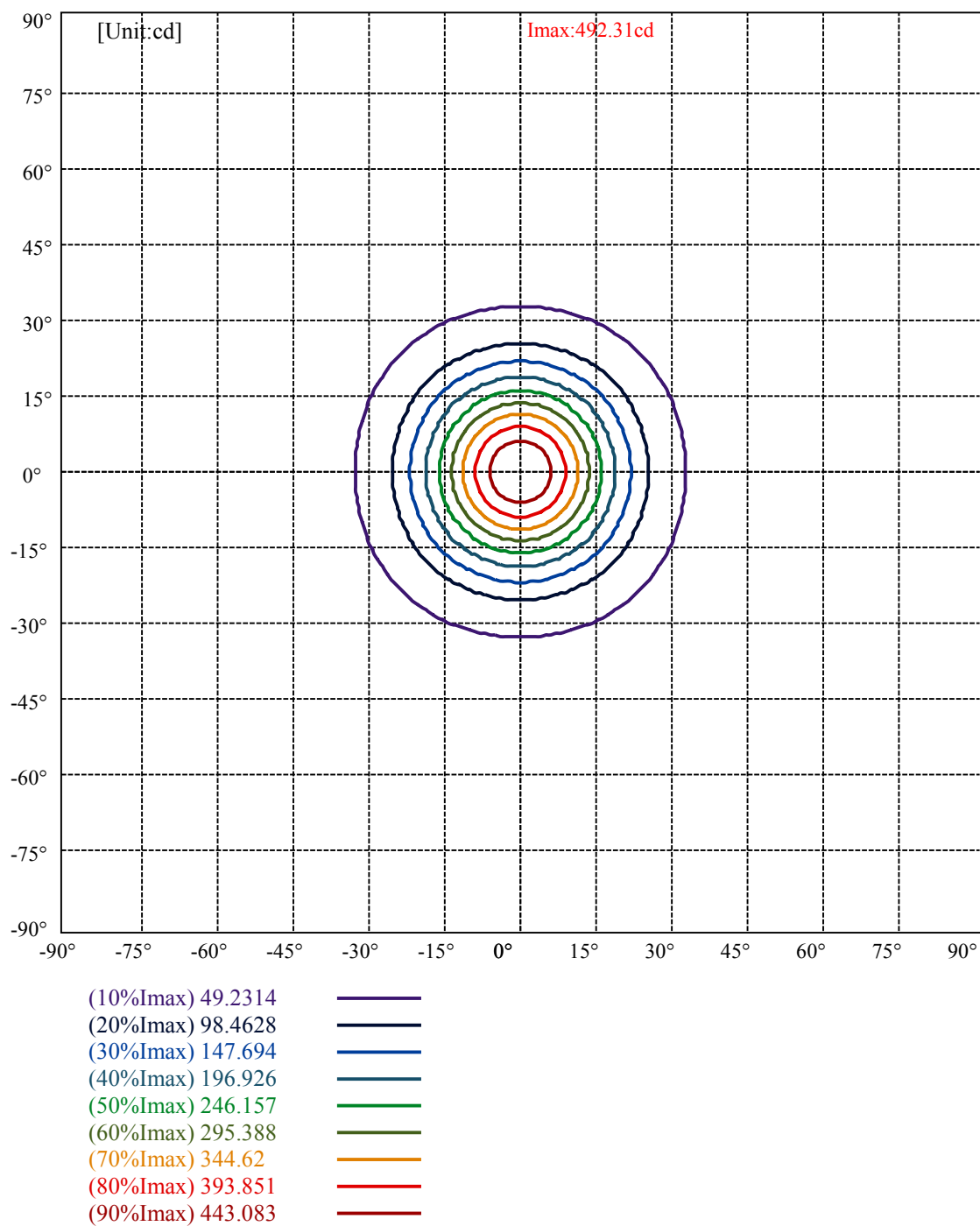
Zone	Lumens	%Lamp	%Fixt
0-30	162.60	64.01%	68.65%
0-40	188.07	74.04%	79.41%
0-60	217.25	85.53%	91.73%
0-90	235.63	92.77%	99.49%
0-120	235.63	92.77%	99.49%
0-180	236.84	93.24%	100.00%
60-90	24.19	9.52%	10.21%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-40.78	189.47	74.60%	80.00%

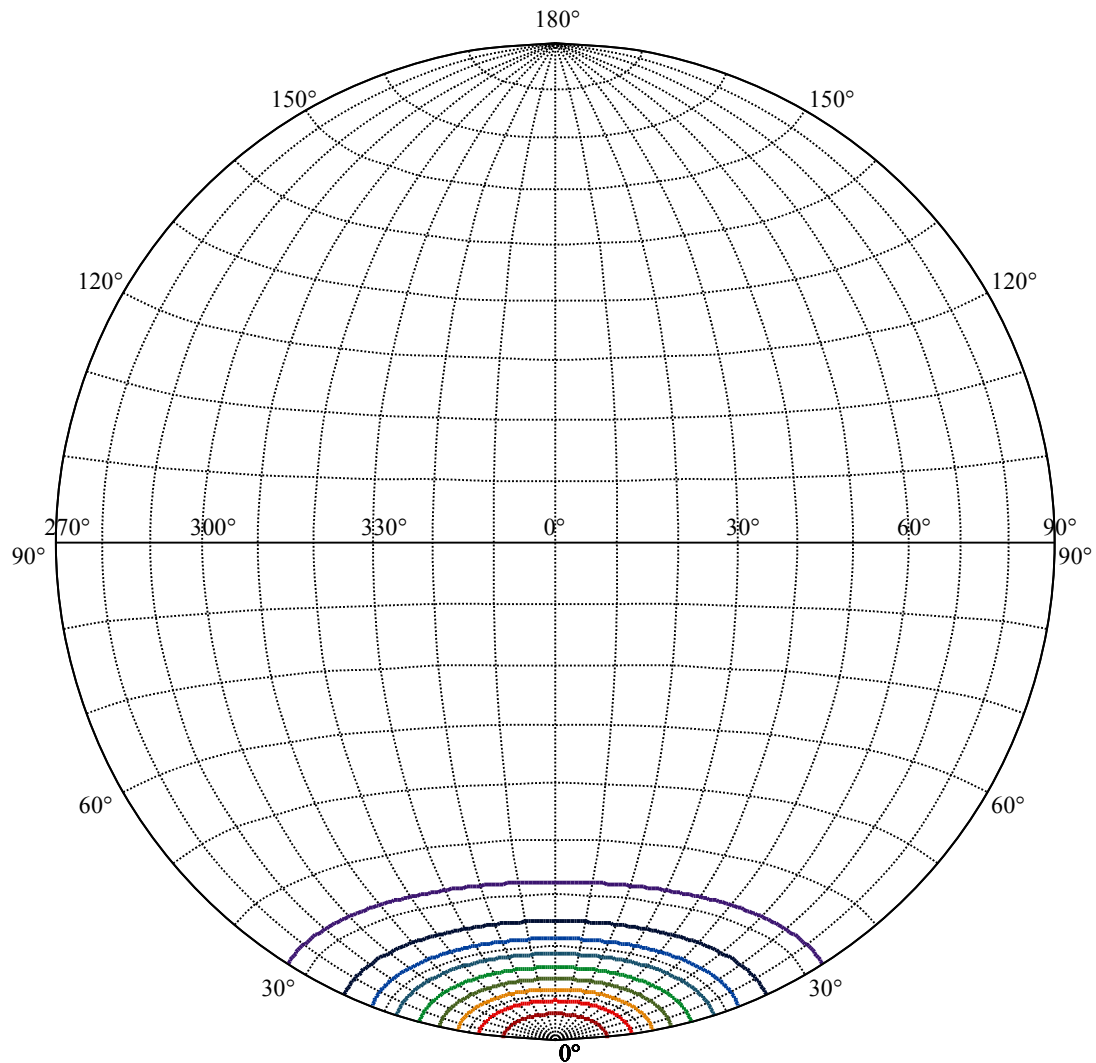
ZONAL LUMEN SUMMARY

0-10	41.27
10-20	73.21
20-30	48.12
30-40	25.47
40-50	16.72
50-60	12.47
60-70	9.46
70-80	6.67
80-90	2.25
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









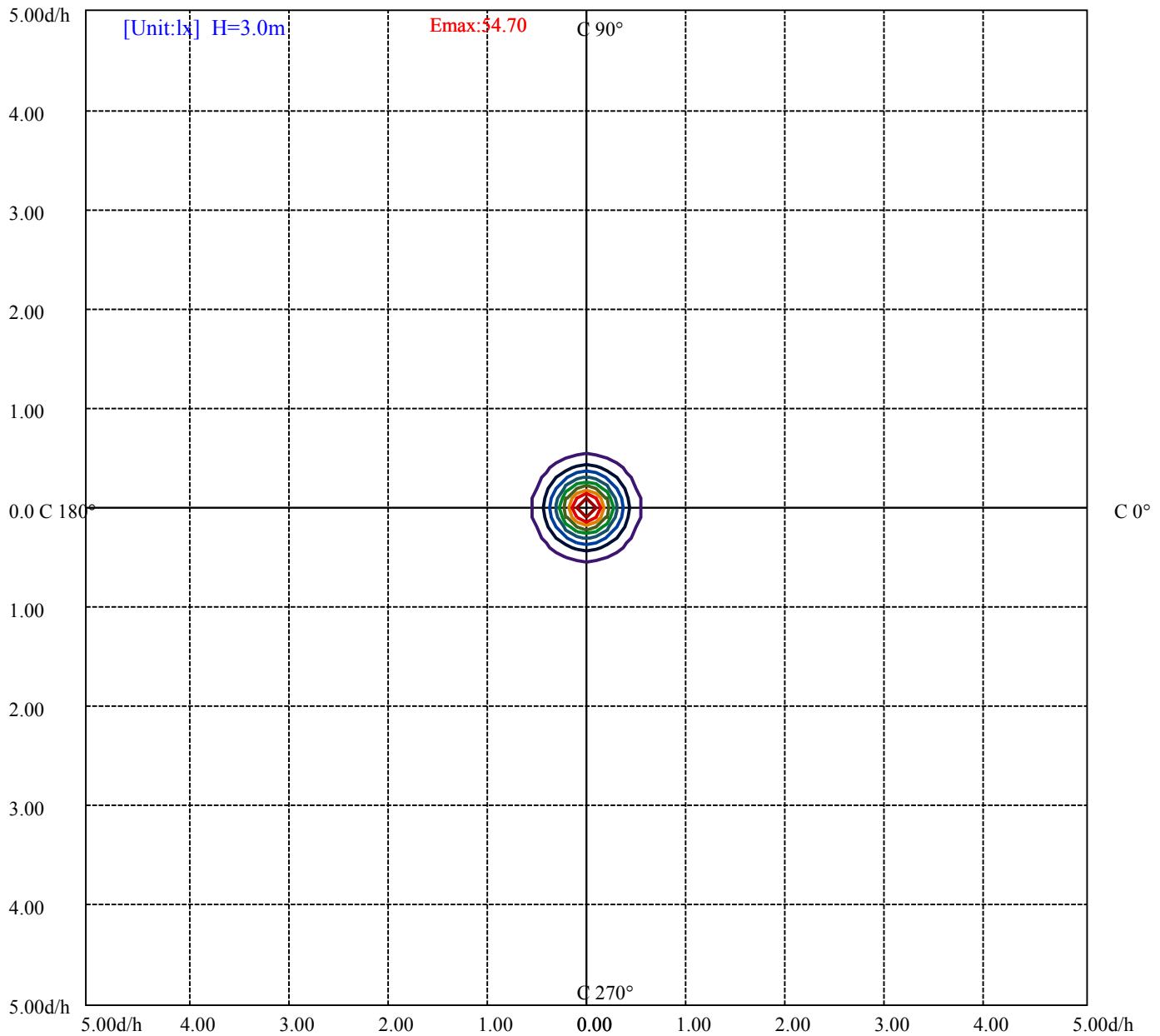
House

[Unit:cd]

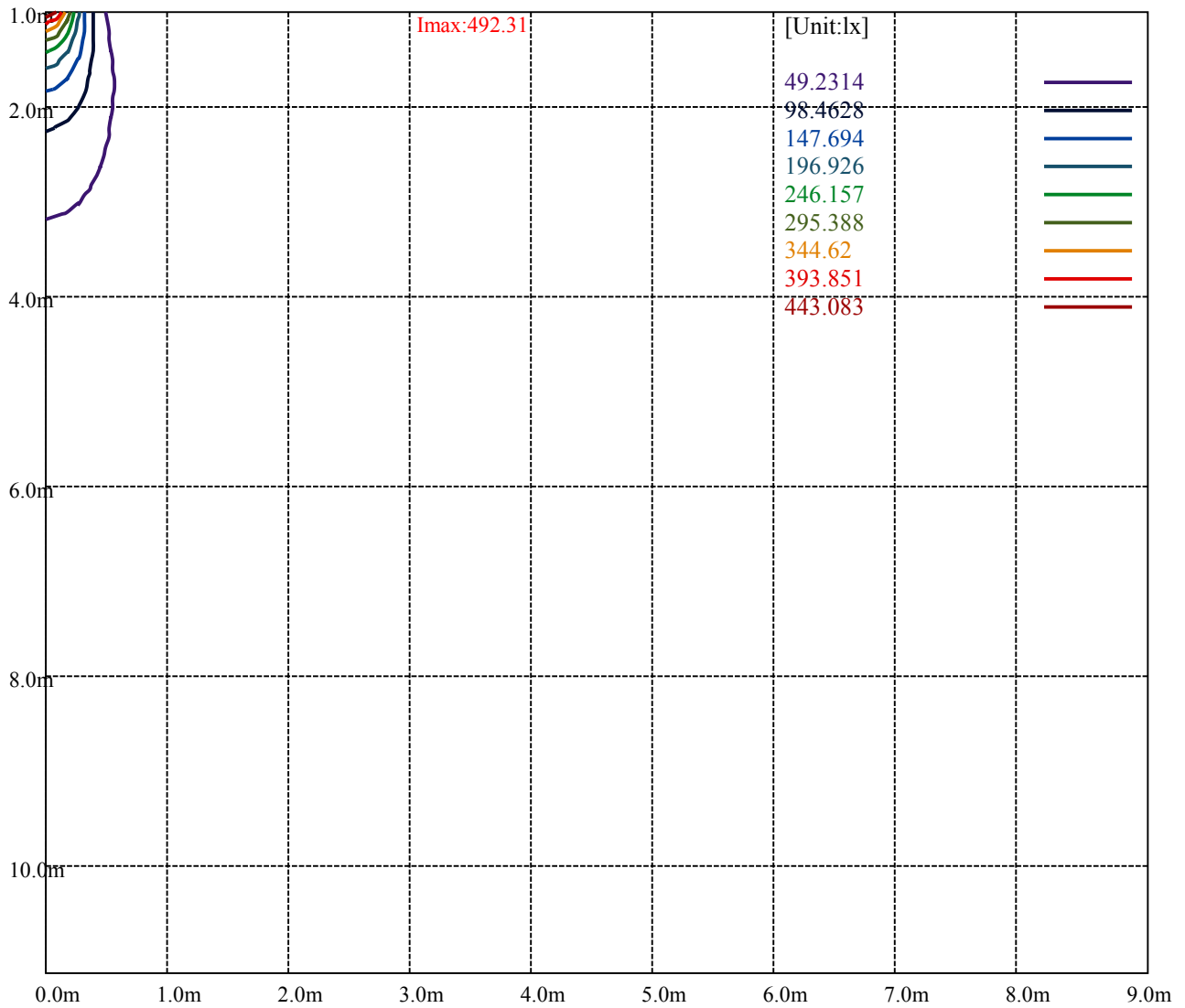
Road

Imax:492.31
 (10%Imax) 49.2314
 (20%Imax) 98.4628
 (30%Imax) 147.694
 (40%Imax) 196.926
 (50%Imax) 246.157
 (60%Imax) 295.388
 (70%Imax) 344.62
 (80%Imax) 393.851
 (90%Imax) 443.083





(10%Emax) 5.470144	—
(20%Emax) 10.94029	—
(30%Emax) 16.41044	—
(40%Emax) 21.88056	—
(50%Emax) 27.35078	—
(60%Emax) 32.82089	—
(70%Emax) 38.291	—
(80%Emax) 43.76111	—
(90%Emax) 49.23133	—



Luminance Table

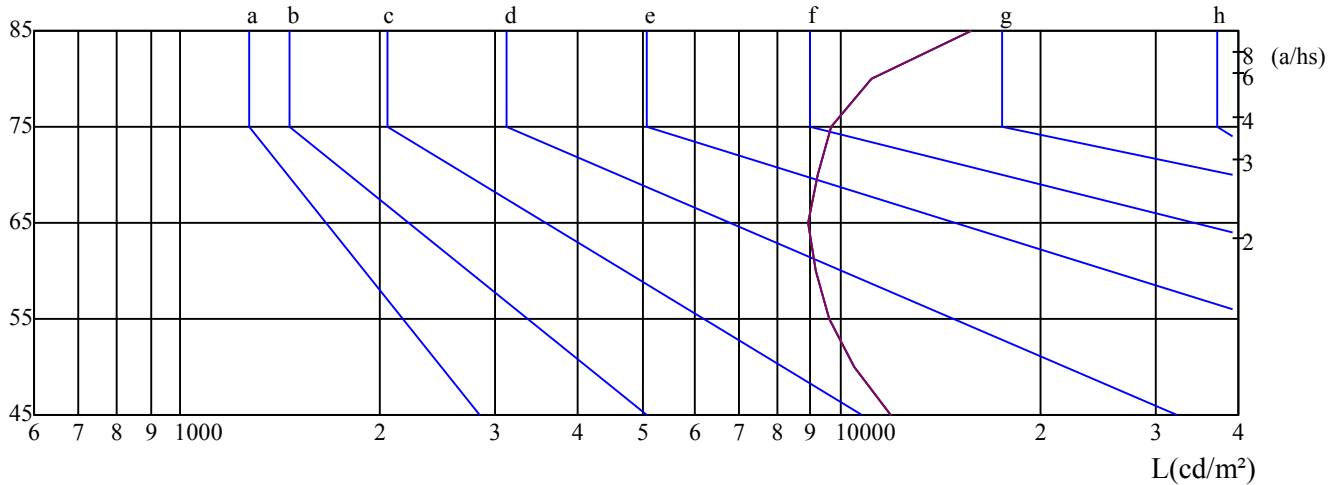
γ	45	50	55	60	65	70	75	80	85
C0	11877	10488	9576	9141	8918	9251	9660	11143	15780
C45	11877	10488	9576	9141	8918	9251	9660	11143	15780
C90	11877	10488	9576	9141	8918	9251	9660	11143	15780

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
8918	8918	8918	9660	9660	9660	15780	15780	15780

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

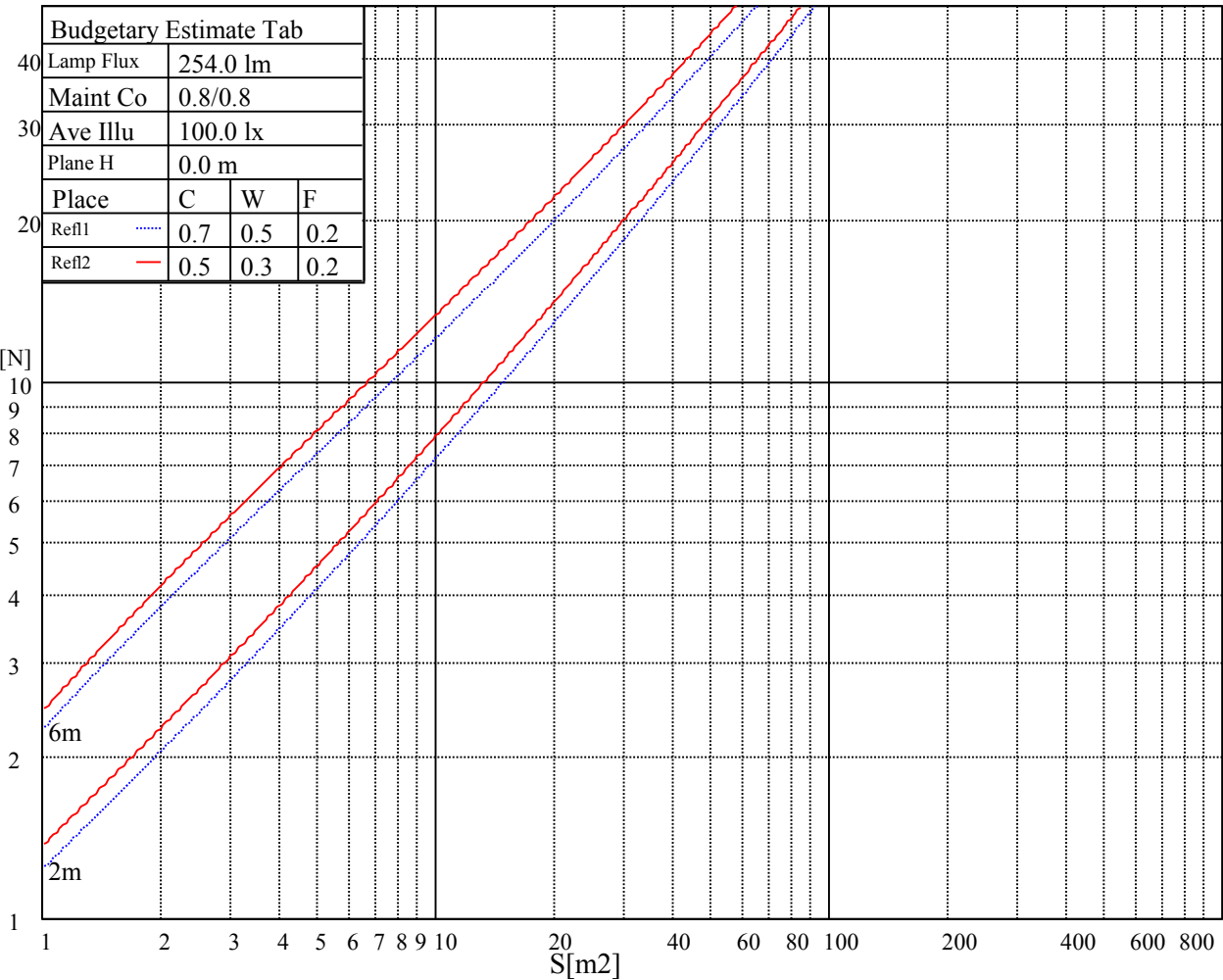
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

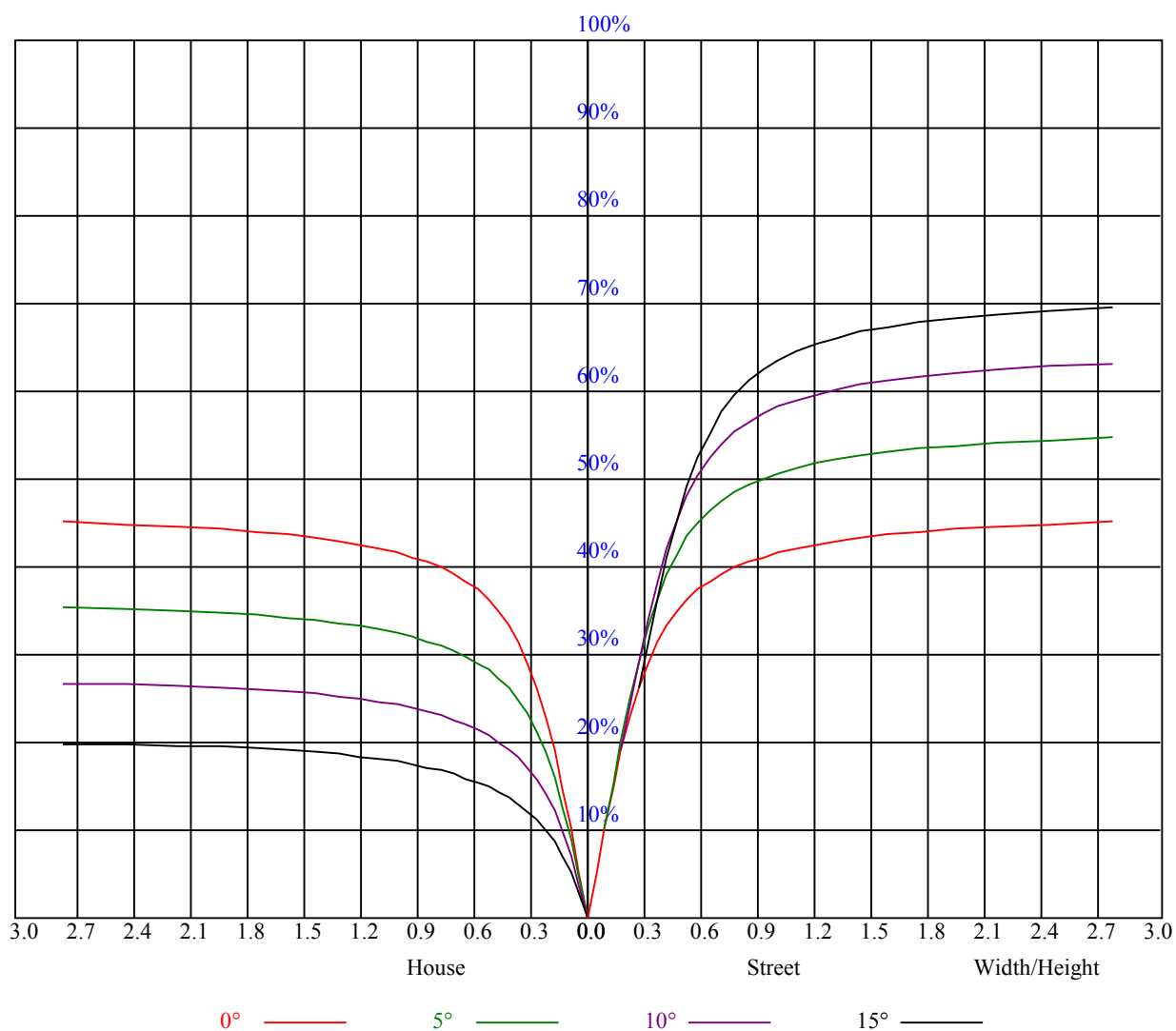
C0 ———

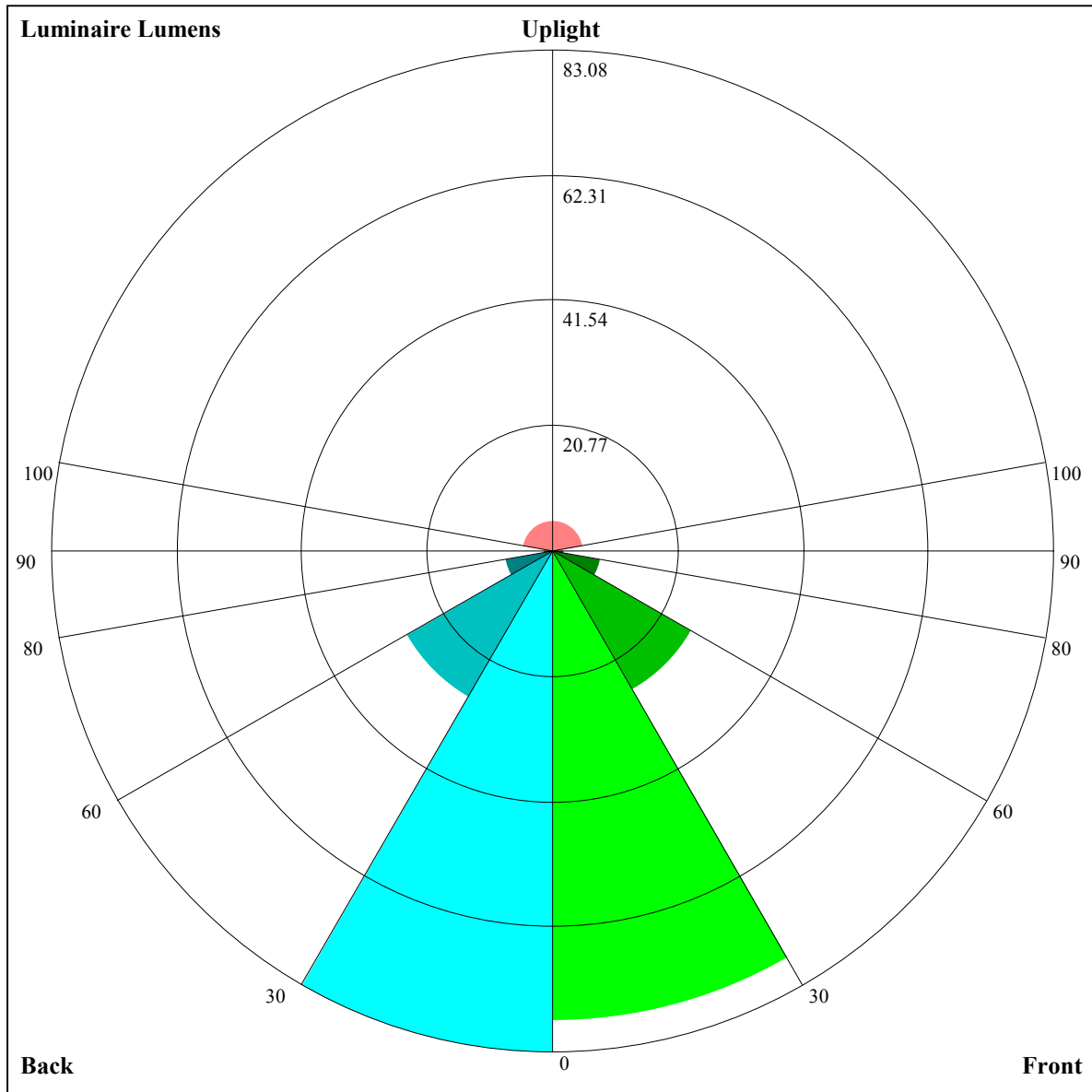
C45 ———

C90 ———



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	1.11	1.11	1.11	1.08	1.08	1.08	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.93
1	1.02	0.99	0.96	1.00	0.97	0.95	0.96	0.94	0.92	0.92	0.91	0.89	0.89	0.88	0.86	0.85
2	0.94	0.89	0.86	0.92	0.88	0.85	0.89	0.86	0.83	0.86	0.83	0.81	0.83	0.81	0.79	0.78
3	0.87	0.82	0.78	0.86	0.81	0.77	0.83	0.79	0.76	0.81	0.77	0.74	0.79	0.76	0.73	0.72
4	0.81	0.76	0.71	0.80	0.75	0.71	0.78	0.73	0.70	0.76	0.72	0.69	0.74	0.71	0.68	0.67
5	0.76	0.70	0.66	0.75	0.70	0.66	0.74	0.69	0.65	0.72	0.68	0.65	0.70	0.67	0.64	0.63
6	0.72	0.66	0.62	0.71	0.66	0.62	0.70	0.65	0.61	0.68	0.64	0.61	0.67	0.63	0.60	0.59
7	0.68	0.62	0.58	0.67	0.62	0.58	0.66	0.61	0.58	0.65	0.61	0.57	0.64	0.60	0.57	0.56
8	0.65	0.59	0.55	0.64	0.59	0.55	0.63	0.58	0.55	0.62	0.58	0.54	0.61	0.57	0.54	0.53
9	0.61	0.56	0.52	0.61	0.56	0.52	0.60	0.55	0.52	0.59	0.55	0.52	0.59	0.55	0.52	0.50
10	0.59	0.53	0.50	0.58	0.53	0.50	0.58	0.53	0.50	0.57	0.53	0.49	0.56	0.52	0.49	0.48





Luminaire Lumens:

FL=77.88,FM=26.56,FH=7.95,FVH=1.77

BL=83.08,BM=28.02,BH=7.98,BVH=1.65

UL=1.09,UH=5.18

BUG Rating:B0-U1-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	493.99	436.56	348.47	246.21	159.64	95.57	56.64	36.96	26.16
45.0	491.29	441.23	348.30	238.39	156.54	90.68	53.89	34.99	25.99
90.0	490.73	449.89	354.26	230.34	151.65	86.79	52.48	35.94	26.10
135.0	493.26	479.76	398.81	281.59	184.50	103.78	62.27	41.46	30.21
180.0	493.99	480.99	390.77	271.46	173.70	98.04	58.95	37.74	28.24
225.0	491.29	479.53	399.66	282.77	180.68	103.05	61.82	41.01	29.81
270.0	490.73	476.78	401.29	289.46	192.66	113.51	67.11	43.37	30.38
315.0	493.26	442.07	352.18	245.76	165.21	96.24	57.26	37.63	27.17
360.0	493.99	436.56	348.47	246.21	159.64	95.57	56.64	36.96	26.16
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	19.63	15.98	12.99	10.86	9.06	7.37	5.79	4.44	3.15
45.0	19.58	15.92	13.28	11.25	9.62	8.38	6.81	5.46	4.16
90.0	19.69	16.03	13.05	10.74	8.61	7.09	5.57	4.28	3.15
135.0	22.61	18.28	14.74	12.38	10.29	8.78	6.92	5.34	3.77
180.0	21.15	16.82	13.56	11.08	8.78	7.03	5.40	3.94	2.36
225.0	22.33	17.78	14.34	11.98	9.90	8.49	6.75	5.23	3.54
270.0	22.39	17.55	14.23	11.59	9.34	7.65	5.96	4.67	3.32
315.0	20.59	16.48	13.67	11.53	9.79	8.49	6.81	5.34	4.05
360.0	19.63	15.98	12.99	10.86	9.06	7.37	5.79	4.44	3.15
C/ γ (°)	90.0								
0.0	1.18								
45.0	1.01								
90.0	0.96								
135.0	0.90								
180.0	0.96								
225.0	0.96								
270.0	0.96								
315.0	1.07								
360.0	1.18								