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LumCAT: 61.0011.03

Luminaire:

Report No: NATA0100

Voltage(V): 34.8800

Test No: GC2019120601

Current(A): 0.1470

LampCAT: LUMINUS CXM-4-AC40

Power (W): 5.1200

Lamp flux(lm): 602.0

PF: 1.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

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### Photometric Results

Lumens(lm): 504.23

Efficiency(%): 83.76%

Lumens(lm)/Power(W): 98.48

Central intensity(cd): 528.117

Maximum intensity(cd): 528.117

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=49.4

[C90/270]Total=49.4

Field angle(10%Imax): [C0/180]Total=97.7

[C90/270]Total=97.7

Maximum s/h(1/2): C0\_180=0.78 C90\_270=0.78

Maximum s/h(1/4): C0\_180=0.79 C90\_270=0.79

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 83.76%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 90.352%

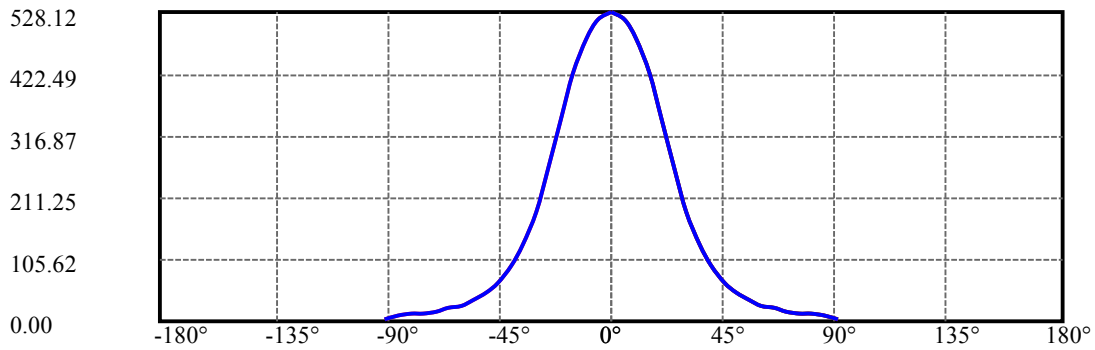
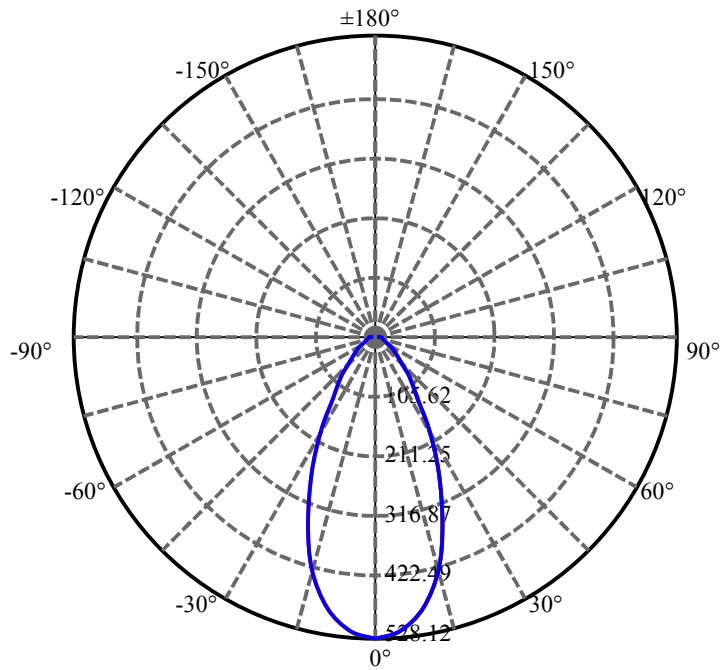
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	528.117	0.000	0	.000%	.000%
5.0	516.143	12.484	12.484	2.074%	2.476%
10.0	481.479	35.688	48.172	5.928%	9.554%
15.0	423.063	53.657	101.829	8.913%	20.195%
20.0	346.380	63.413	165.242	10.534%	32.771%
25.0	259.263	63.521	228.763	10.552%	45.368%
30.0	186.933	56.466	285.229	9.380%	56.567%
35.0	130.507	46.745	331.974	7.765%	65.838%
40.0	94.352	37.516	369.49	6.232%	73.278%
45.0	66.748	29.829	399.319	4.955%	79.194%
50.0	48.734	23.335	422.654	3.876%	83.821%
55.0	35.592	18.335	440.989	3.046%	87.458%
60.0	27.541	14.593	455.582	2.424%	90.352%
65.0	21.776	11.989	467.572	1.992%	92.729%
70.0	17.290	9.892	477.463	1.643%	94.691%
75.0	13.788	8.123	485.587	1.349%	96.302%
80.0	13.908	7.411	492.997	1.231%	97.772%
85.0	11.257	6.838	499.835	1.136%	99.128%
90.0	4.802	4.397	504.232	.730%	100.000%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	285.23	47.38%	56.57%
0-40	369.49	61.38%	73.28%
0-60	455.58	75.68%	90.35%
0-90	499.84	83.03%	99.13%
0-120	499.84	83.03%	99.13%
0-180	504.23	83.76%	100.00%
60-90	58.85	9.78%	11.67%
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%
0-45.87	403.39	67.01%	80.00%

## ZONAL LUMEN SUMMARY

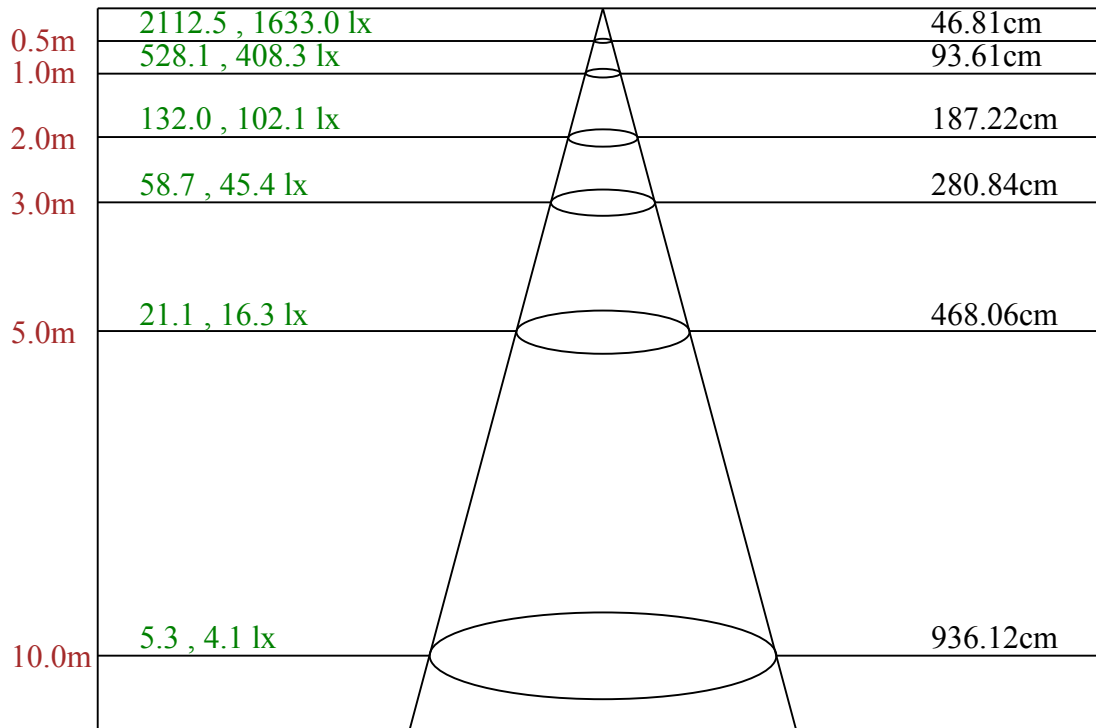
0-10	48.17
10-20	117.07
20-30	119.99
30-40	84.26
40-50	53.16
50-60	32.93
60-70	21.88
70-80	15.53
80-90	6.84
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



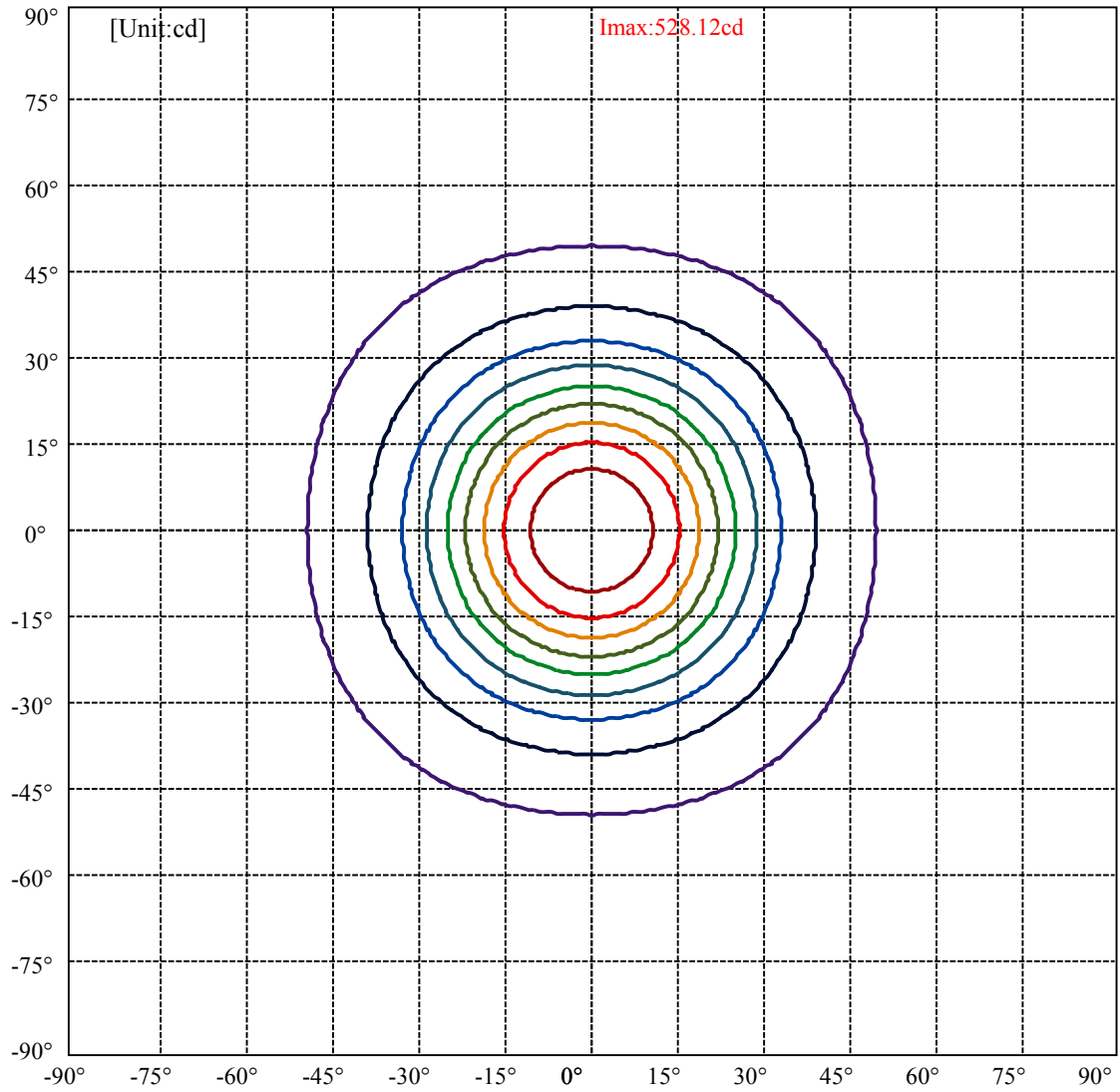
C0(Max): —————  
 C0/C180: —————  
 C90/C270: —————

Field angle(10%Imax):C0/180Left:48.9 Right:48.9  
 :C90/270Left:48.9 Right:48.9

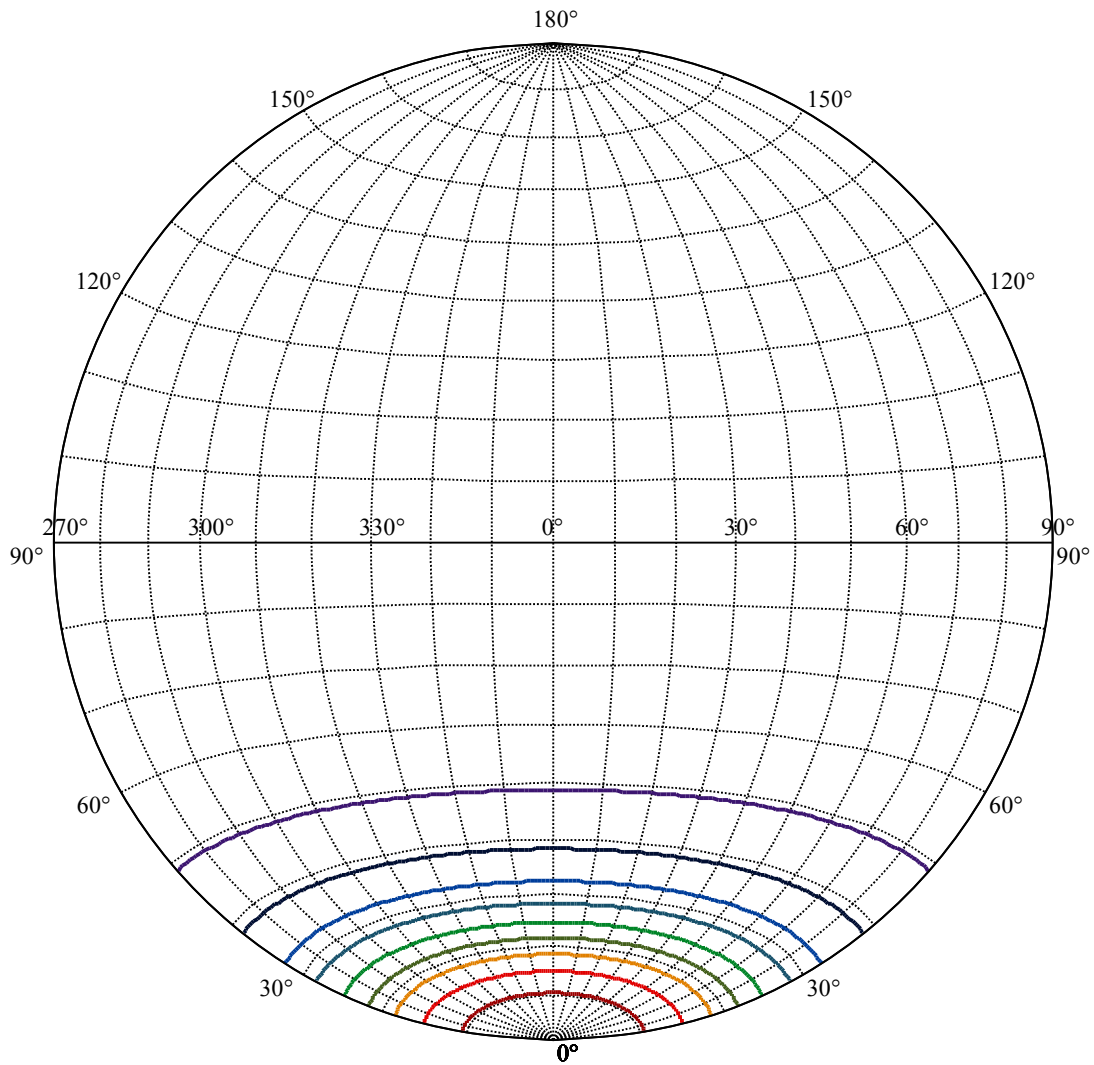
Beam Angle(50%Imax):C0/180Left:24.7 Right:24.7  
 :C90/270Left:24.7 Right:24.7



Max , Ave      Beam angle of C0 plane 50.16



(10%Imax) 52.8117	—
(20%Imax) 105.623	—
(30%Imax) 158.435	—
(40%Imax) 211.247	—
(50%Imax) 264.059	—
(60%Imax) 316.87	—
(70%Imax) 369.682	—
(80%Imax) 422.494	—
(90%Imax) 475.305	—



House

[Unit:cd]

Road

**Imax:528.12**

(10%Imax) 52.8117

(20%Imax) 105.623

(30%Imax) 158.435

(40%Imax) 211.247

(50%Imax) 264.059

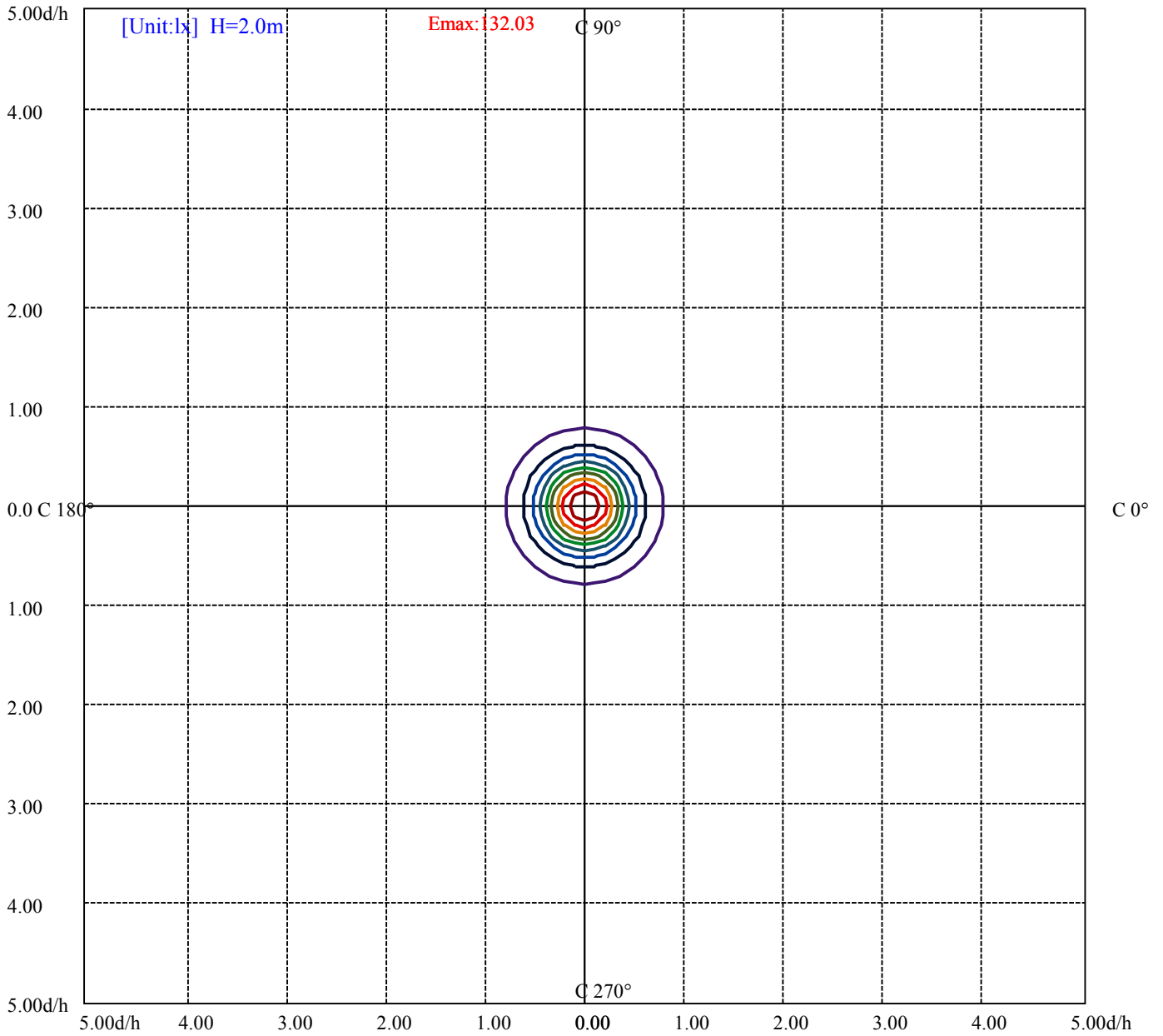
(60%Imax) 316.87

(70%Imax) 369.682

(80%Imax) 422.494

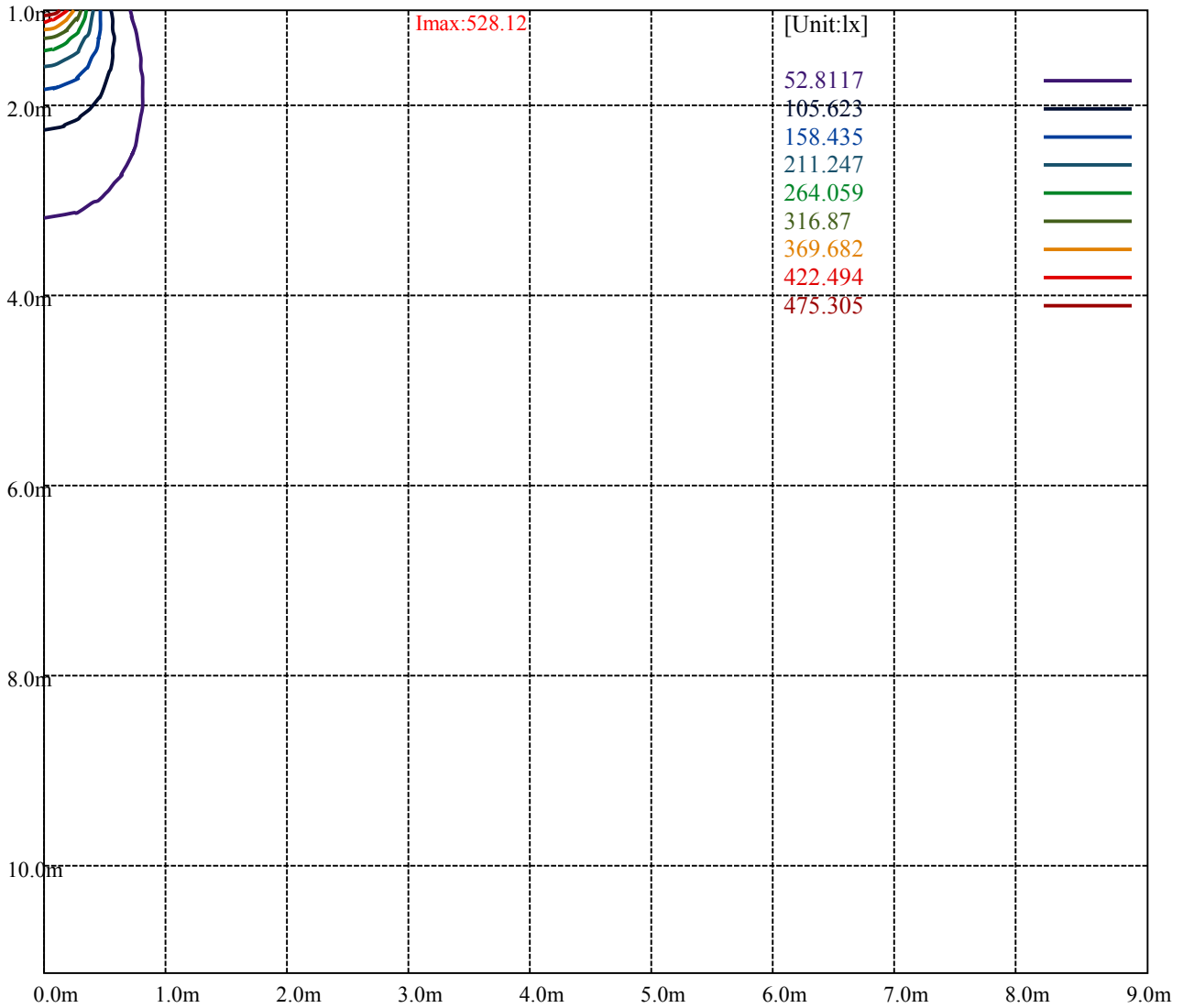
(90%Imax) 475.305





(10%Emax) 13.20292	—
(20%Emax) 26.40575	—
(30%Emax) 39.60875	—
(40%Emax) 52.81175	—
(50%Emax) 66.0145	—
(60%Emax) 79.2175	—
(70%Emax) 92.4205	—
(80%Emax) 105.6233	—
(90%Emax) 118.8262	—





Luminance Table

$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

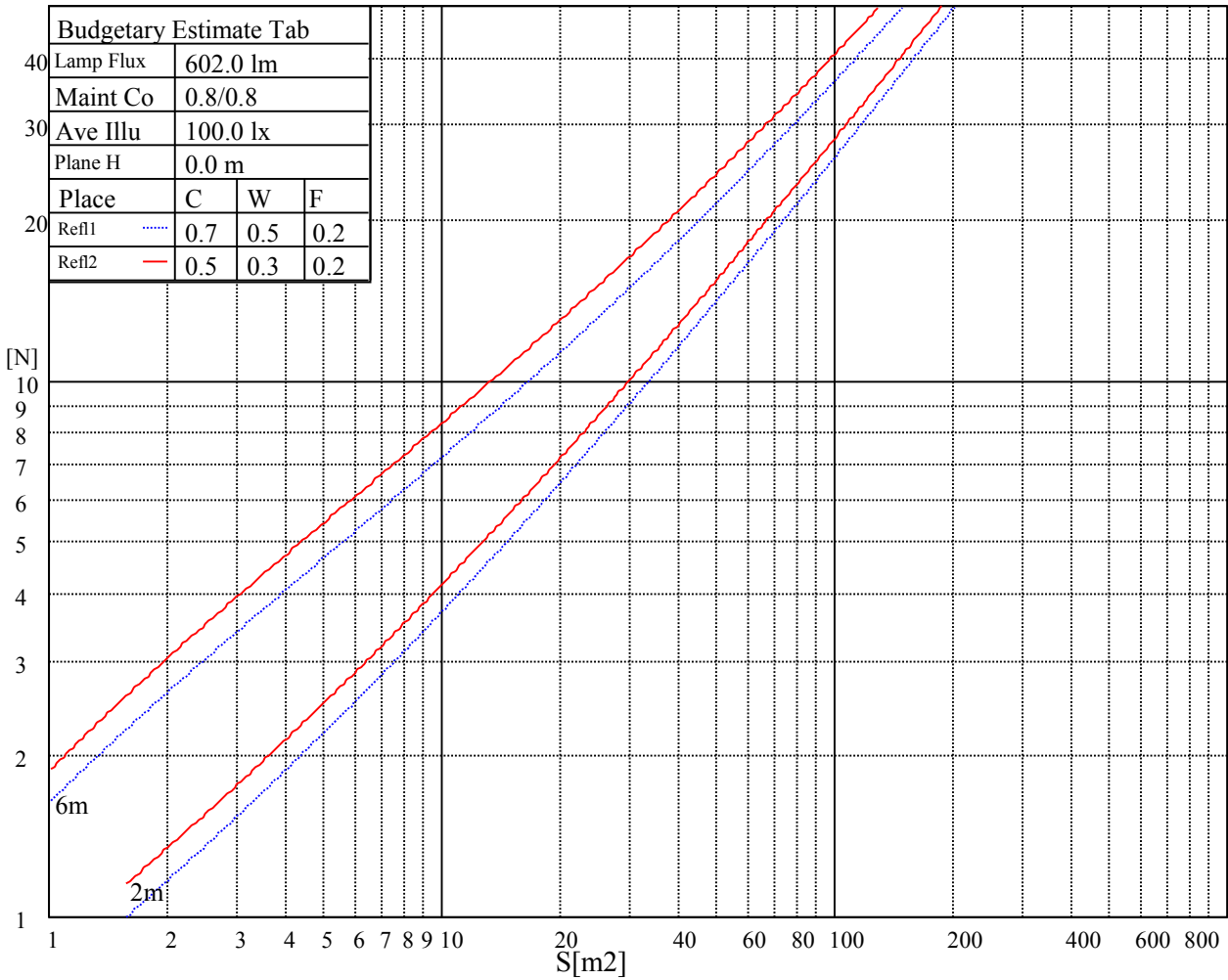
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

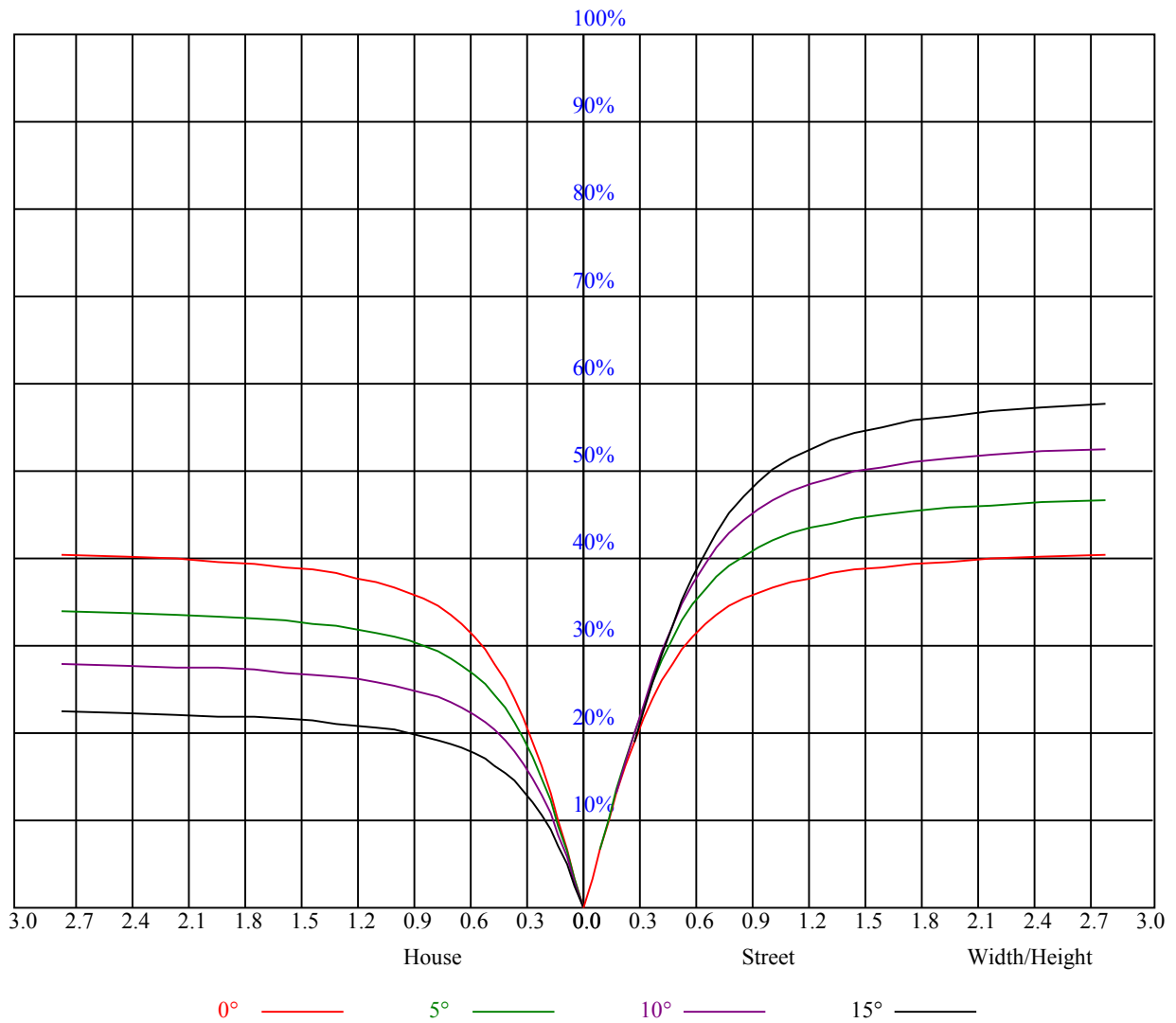
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.00	1.00	1.00	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.84
1	0.90	0.87	0.85	0.88	0.86	0.83	0.85	0.83	0.81	0.82	0.80	0.78	0.79	0.77	0.76	0.74
2	0.82	0.78	0.74	0.80	0.76	0.73	0.78	0.74	0.71	0.75	0.72	0.70	0.73	0.70	0.68	0.67
3	0.75	0.70	0.66	0.74	0.69	0.65	0.71	0.67	0.64	0.69	0.66	0.63	0.67	0.64	0.62	0.60
4	0.69	0.63	0.59	0.68	0.63	0.59	0.66	0.62	0.58	0.64	0.60	0.57	0.63	0.59	0.57	0.55
5	0.64	0.58	0.54	0.63	0.58	0.54	0.61	0.57	0.53	0.60	0.56	0.52	0.59	0.55	0.52	0.51
6	0.59	0.54	0.49	0.59	0.53	0.49	0.57	0.52	0.49	0.56	0.52	0.48	0.55	0.51	0.48	0.47
7	0.55	0.50	0.46	0.55	0.49	0.45	0.54	0.49	0.45	0.53	0.48	0.45	0.52	0.48	0.45	0.43
8	0.52	0.46	0.42	0.51	0.46	0.42	0.50	0.46	0.42	0.50	0.45	0.42	0.49	0.45	0.42	0.40
9	0.49	0.43	0.40	0.48	0.43	0.39	0.48	0.43	0.39	0.47	0.42	0.39	0.46	0.42	0.39	0.38
10	0.46	0.41	0.37	0.46	0.40	0.37	0.45	0.40	0.37	0.44	0.40	0.37	0.44	0.40	0.37	0.35



## Intensity data(cd)

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	527.79	521.27	491.74	431.21	355.56	262.46	185.34	128.48	93.43
45.0	528.81	519.98	493.59	435.21	354.04	262.86	184.11	126.34	93.88
90.0	527.91	516.32	479.70	419.91	338.29	246.77	176.96	122.63	87.58
135.0	527.96	518.06	481.22	422.78	347.91	265.78	193.28	134.89	98.61
180.0	527.79	507.15	466.59	407.03	330.81	248.85	178.48	127.74	90.73
225.0	528.81	515.03	475.82	423.45	349.65	262.69	194.40	136.35	96.64
270.0	527.91	516.60	486.45	429.75	356.85	274.39	198.73	138.38	100.74
315.0	527.96	514.74	476.72	415.18	337.95	250.31	184.16	129.26	93.21
360.0	527.79	521.27	491.74	431.21	355.56	262.46	185.34	128.48	93.43
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	66.99	49.84	37.63	28.97	23.23	19.41	15.36	12.66	10.41
45.0	65.48	48.38	35.49	27.62	21.49	16.76	13.61	11.59	10.07
90.0	62.72	45.56	33.19	26.10	20.98	16.82	13.67	11.87	10.35
135.0	68.57	49.95	36.84	28.58	22.56	17.83	14.12	11.87	15.08
180.0	63.68	46.69	33.58	26.33	21.09	17.16	13.84	11.87	10.91
225.0	68.85	49.22	35.04	25.76	19.46	14.74	11.87	11.14	10.07
270.0	70.71	50.29	36.17	28.52	22.73	17.89	13.95	11.70	9.39
315.0	66.99	49.95	36.79	28.46	22.67	17.72	13.89	11.87	13.78
360.0	66.99	49.84	37.63	28.97	23.23	19.41	15.36	12.66	10.41
C/ $\gamma$ (°)	90.0								
0.0	4.56								
45.0	4.50								
90.0	4.61								
135.0	5.85								
180.0	4.44								
225.0	5.06								
270.0	4.84								
315.0	4.56								
360.0	4.56								