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## Nata

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LumCAT: LM01D03040AE

Luminaire:

Report No: NATA0100

Voltage(V): 35.7500

Test No: GC2019092614

Current(A): 0.1550

LampCAT: CITIZEN CLU7A2

Power (W): 5.5400

Lamp flux(lm): 543.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 30

Width(mm): 30

Phm Type: C

Height(mm): 0

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## Photometric Results

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Lumens(lm): 497.91

Efficiency(%): 91.70%

Lumens(lm)/Power(W): 89.88

Central intensity(cd): 1001.841

Maximum intensity(cd): 1001.841

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

Beam Angle(50%Imax): [C0/180]Total=34.9

[C90/270]Total=34.9

Field angle(10%Imax): [C0/180]Total=67.5

[C90/270]Total=67.5

Maximum s/h(1/2): C0\_180=0.57 C90\_270=0.57

Maximum s/h(1/4): C0\_180=0.59 C90\_270=0.59

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 91.70%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 94.425%

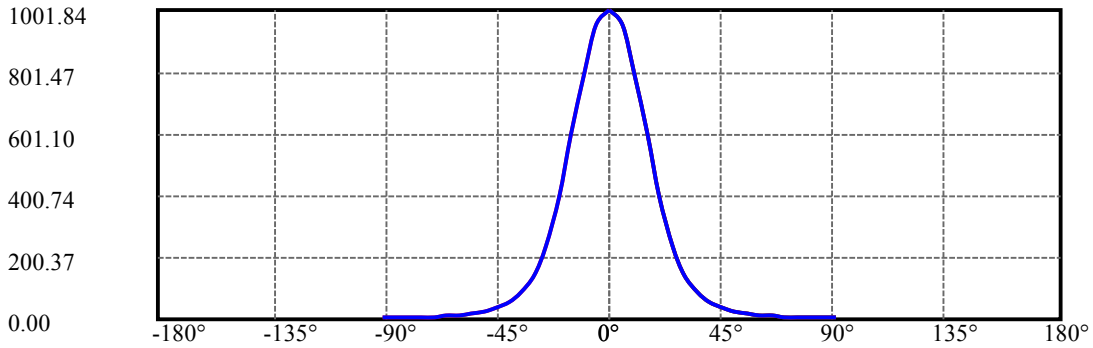
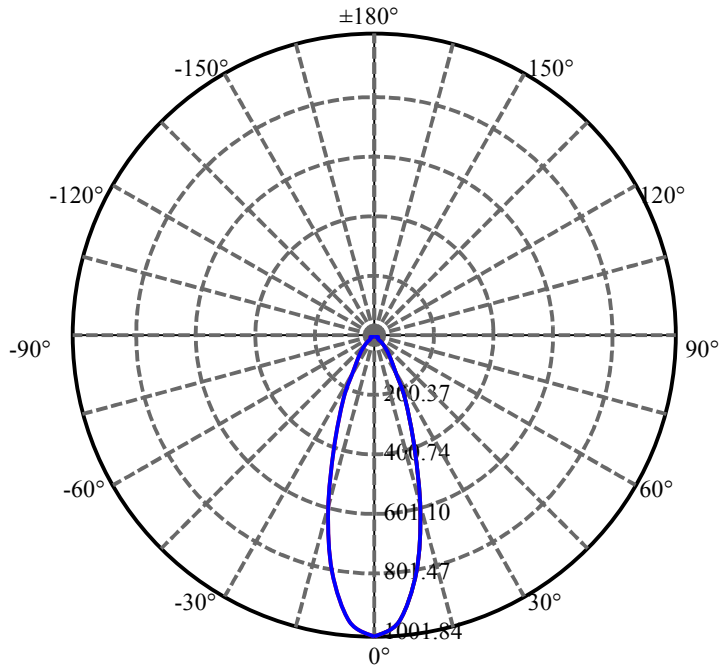
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1001.841	0.000	0	.000%	.000%
5.0	952.988	23.369	23.369	4.304%	4.693%
10.0	795.241	62.540	85.909	11.517%	17.254%
15.0	599.688	82.746	168.655	15.239%	33.873%
20.0	399.340	82.334	250.989	15.163%	50.408%
25.0	234.471	66.475	317.464	12.242%	63.759%
30.0	140.063	47.398	364.862	8.729%	73.279%
35.0	86.562	33.372	398.234	6.146%	79.981%
40.0	57.959	24.112	422.346	4.441%	84.824%
45.0	38.271	17.818	440.164	3.281%	88.402%
50.0	25.938	12.974	453.138	2.389%	91.008%
55.0	18.211	9.600	462.738	1.768%	92.936%
60.0	13.859	7.413	470.15	1.365%	94.425%
65.0	10.005	5.801	475.952	1.068%	95.590%
70.0	8.888	4.784	480.736	.881%	96.551%
75.0	8.121	4.446	485.181	.819%	97.443%
80.0	8.135	4.350	489.531	.801%	98.317%
85.0	8.761	4.591	494.122	.846%	99.239%
90.0	5.077	3.789	497.911	.698%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	364.86	67.19%	73.28%
0-40	422.35	77.78%	84.82%
0-60	470.15	86.58%	94.42%
0-90	494.12	91.00%	99.24%
0-120	494.12	91.00%	99.24%
0-180	497.91	91.70%	100.00%
60-90	31.38	5.78%	6.30%
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%
0-35.02	398.33	73.36%	80.00%

ZONAL LUMEN SUMMARY

0-10	85.91
10-20	165.08
20-30	113.87
30-40	57.48
40-50	30.79
50-60	17.01
60-70	10.59
70-80	8.80
80-90	4.59
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: —————

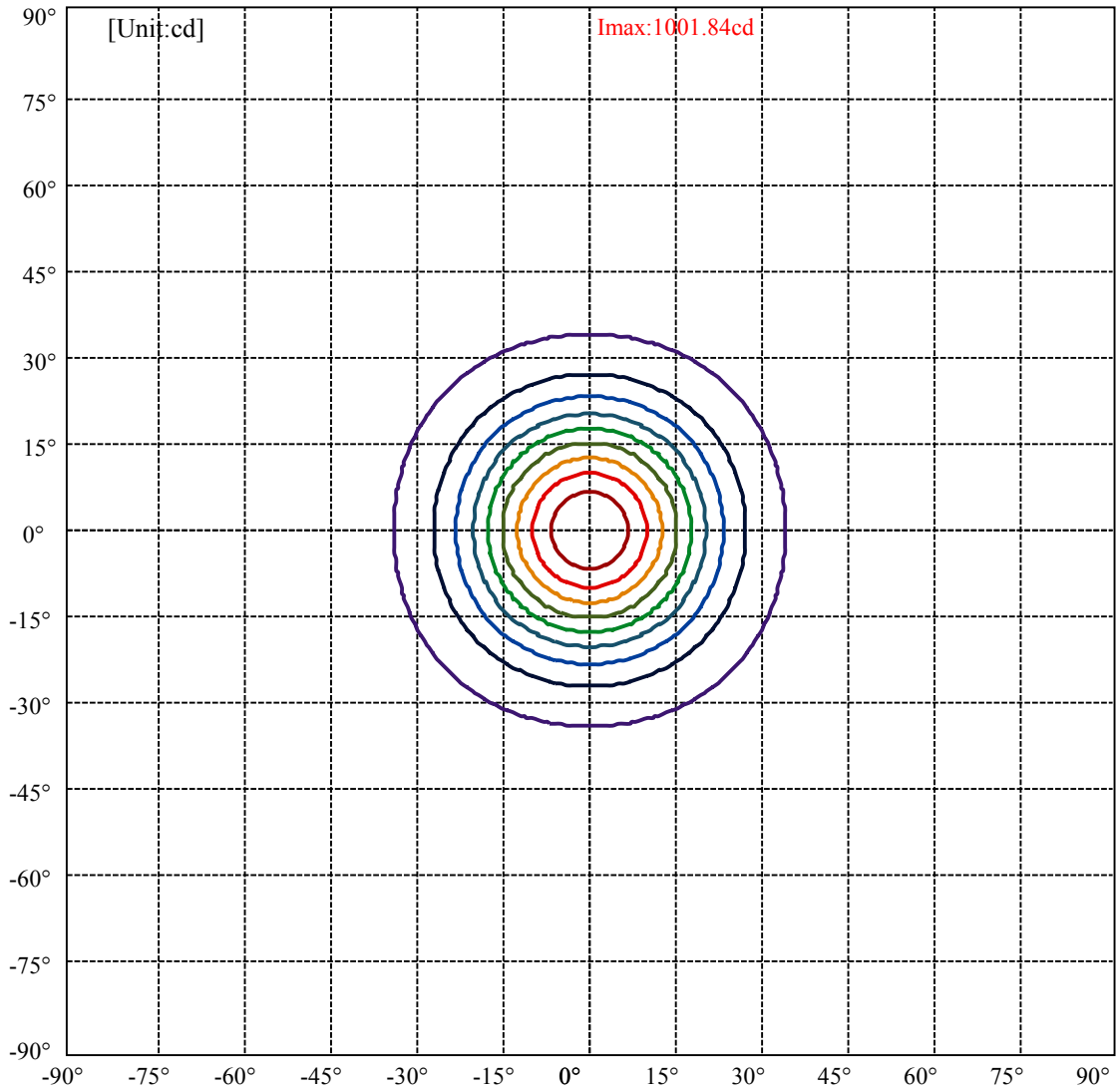
Field angle(10%Imax):C0/180Left:33.7 Right:33.7

:C90/270Left:33.7 Right:33.7

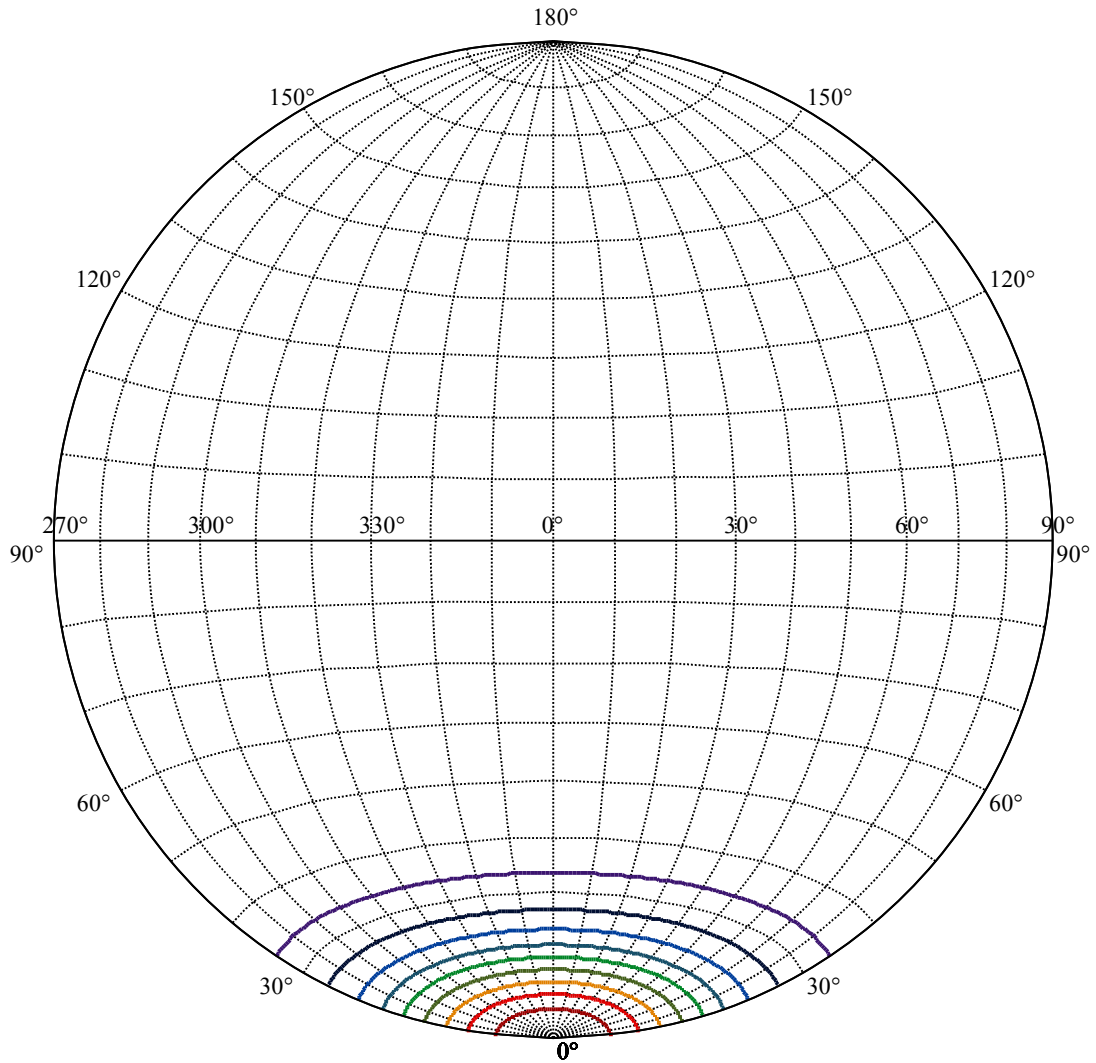
Beam Angle(50%Imax):C0/180Left:17.5 Right:17.5

:C90/270Left:17.5 Right:17.5





(10%Imax) 100.184	—
(20%Imax) 200.368	—
(30%Imax) 300.552	—
(40%Imax) 400.736	—
(50%Imax) 500.92	—
(60%Imax) 601.104	—
(70%Imax) 701.288	—
(80%Imax) 801.472	—
(90%Imax) 901.656	—



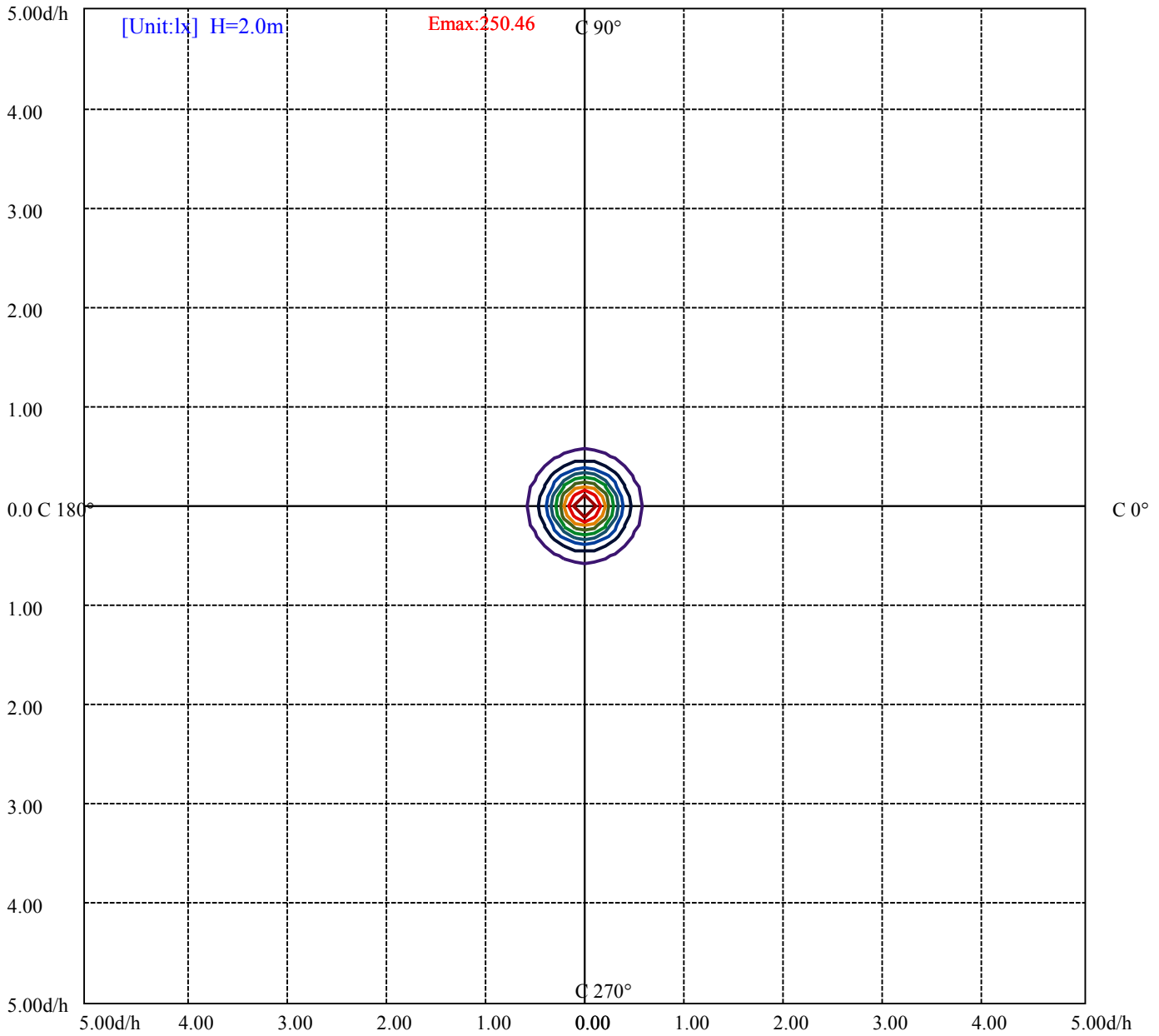
House

[Unit:cd]

Road

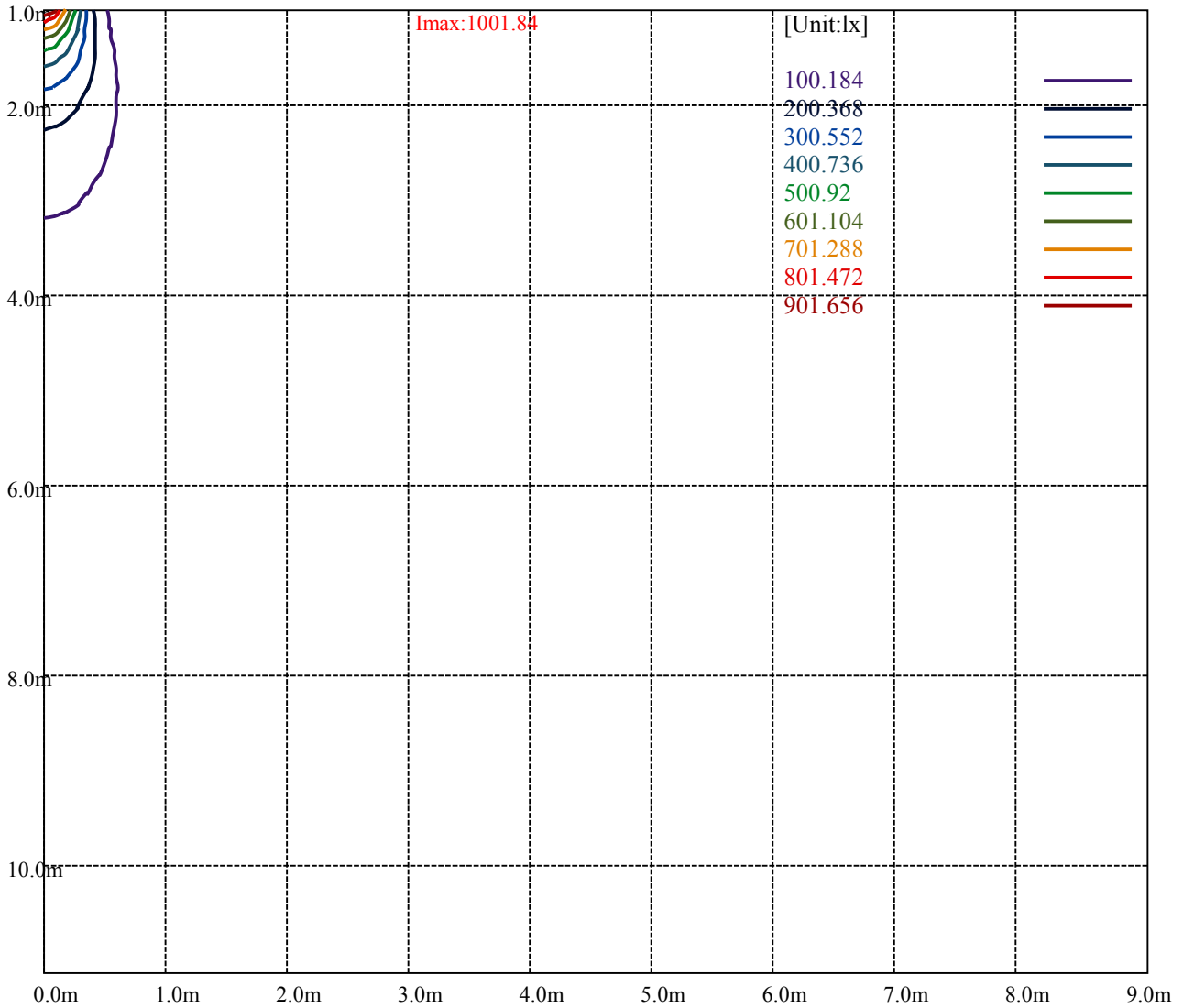
**Imax:1001.84**

(10%Imax) 100.184	—
(20%Imax) 200.368	—
(30%Imax) 300.552	—
(40%Imax) 400.736	—
(50%Imax) 500.92	—
(60%Imax) 601.104	—
(70%Imax) 701.288	—
(80%Imax) 801.472	—
(90%Imax) 901.656	—



- (10%Emax) 25.046
- (20%Emax) 50.092
- (30%Emax) 75.138
- (40%Emax) 100.184
- (50%Emax) 125.23
- (60%Emax) 150.2758
- (70%Emax) 175.3217
- (80%Emax) 200.3678
- (90%Emax) 225.4138





Luminance Table

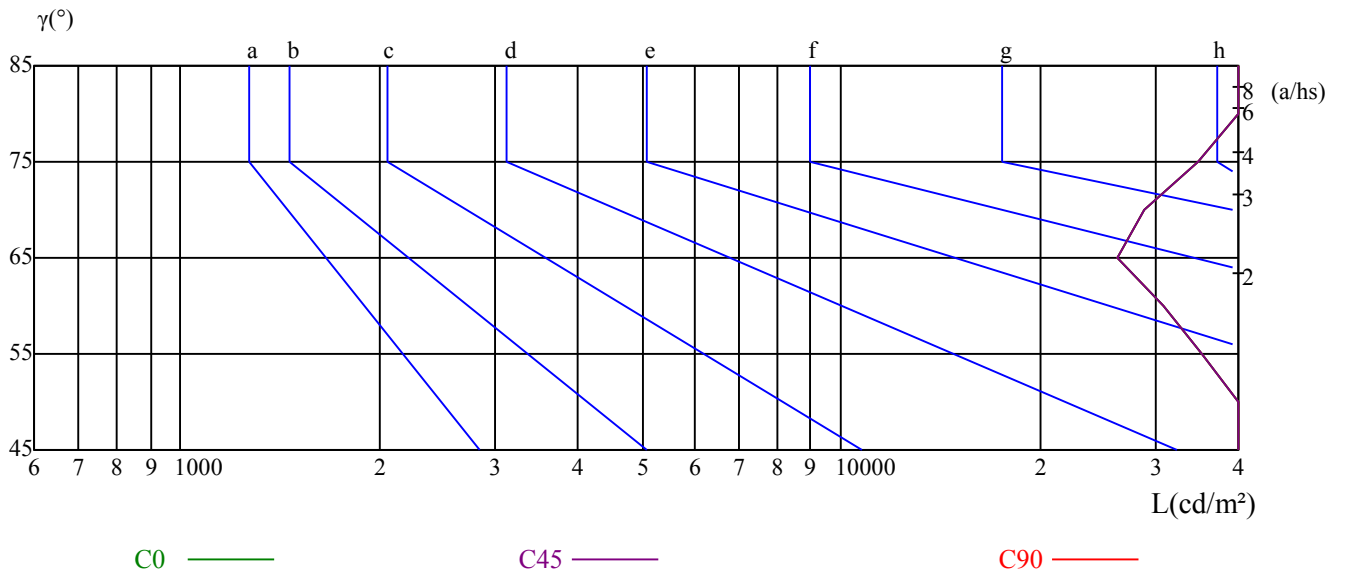
$\gamma$	45	50	55	60	65	70	75	80	85
C0	60137	44836	35278	30797	26306	28873	34864	52054	111689
C45	60137	44836	35278	30797	26306	28873	34864	52054	111689
C90	60137	44836	35278	30797	26306	28873	34864	52054	111689

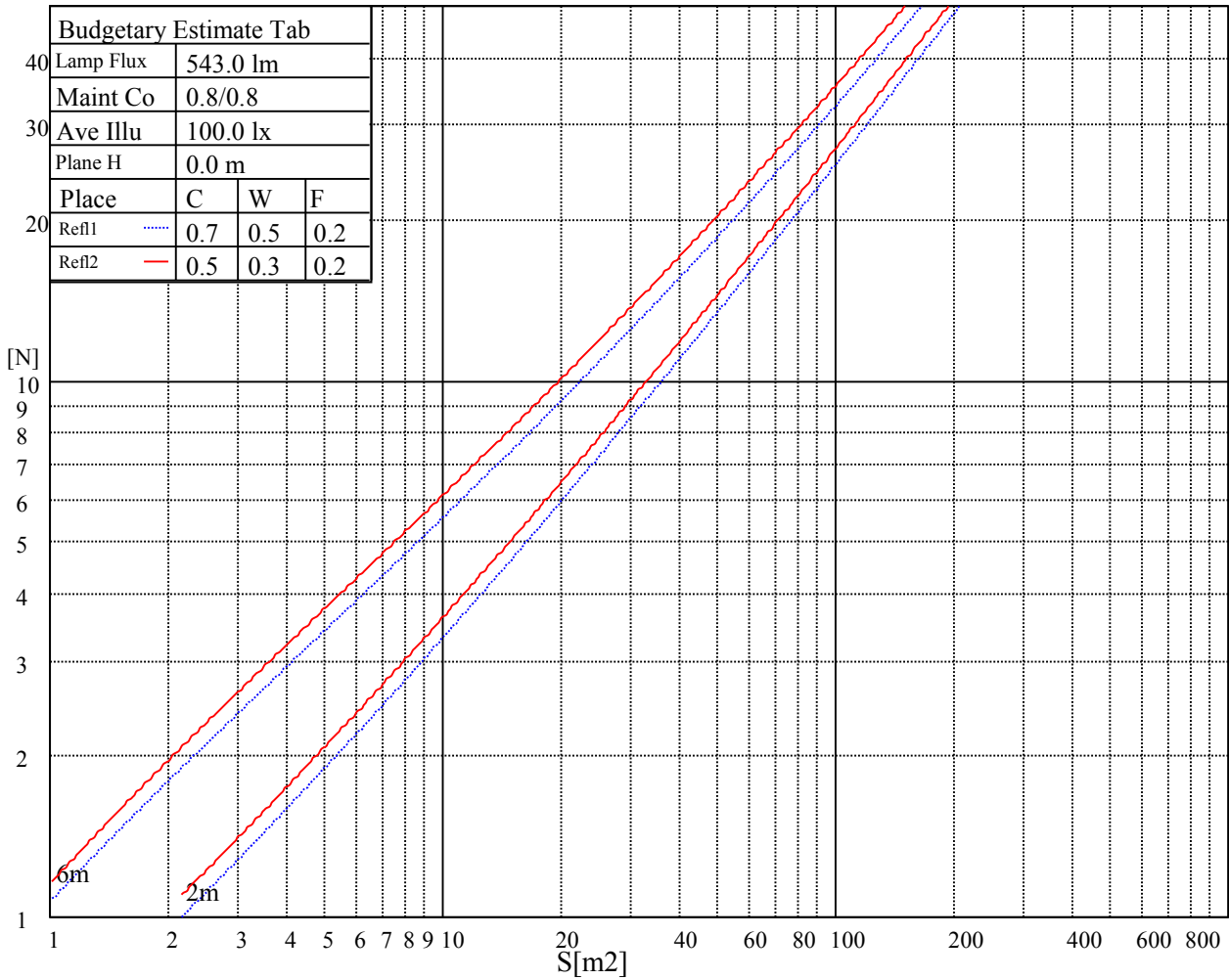
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
26306	26306	26306	34864	34864	34864	111689	111689	111689

Glare Table

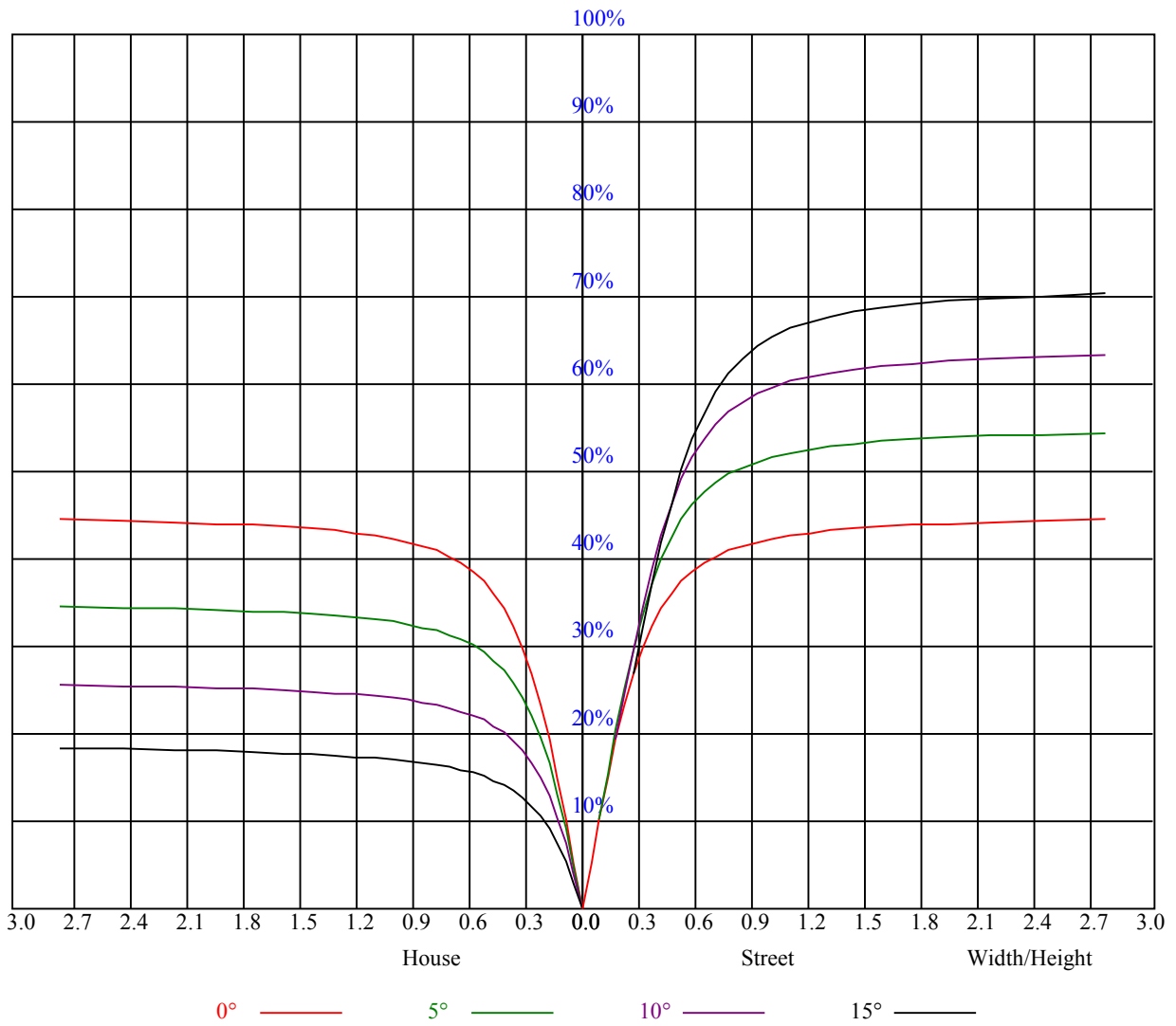
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.09	1.09	1.09	1.07	1.07	1.07	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.00	0.98	0.96	0.98	0.96	0.94	0.95	0.93	0.91	0.91	0.90	0.88	0.88	0.87	0.86	0.84
2	0.93	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	0.80	0.78
3	0.87	0.82	0.78	0.86	0.81	0.78	0.83	0.80	0.77	0.81	0.78	0.75	0.79	0.76	0.74	0.73
4	0.82	0.76	0.73	0.81	0.76	0.72	0.79	0.75	0.71	0.77	0.73	0.70	0.75	0.72	0.70	0.68
5	0.77	0.72	0.68	0.76	0.71	0.67	0.74	0.70	0.67	0.73	0.69	0.66	0.71	0.68	0.66	0.64
6	0.73	0.67	0.63	0.72	0.67	0.63	0.71	0.66	0.63	0.69	0.65	0.62	0.68	0.65	0.62	0.61
7	0.69	0.64	0.60	0.68	0.63	0.60	0.67	0.63	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.57
8	0.66	0.60	0.57	0.65	0.60	0.57	0.64	0.60	0.56	0.63	0.59	0.56	0.62	0.59	0.56	0.55
9	0.63	0.57	0.54	0.62	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.53	0.60	0.56	0.53	0.52
10	0.60	0.55	0.51	0.59	0.55	0.51	0.59	0.54	0.51	0.58	0.54	0.51	0.57	0.54	0.51	0.50



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	997.03	972.79	823.11	646.03	442.07	266.06	166.28	96.13	61.37
45.0	1002.43	988.88	862.09	666.62	466.65	282.71	169.14	104.06	68.23
90.0	1005.36	961.76	809.94	604.18	405.79	236.76	140.91	89.61	60.13
135.0	1002.54	953.21	797.06	610.82	406.52	234.96	140.74	85.61	56.59
180.0	997.03	924.30	745.76	550.91	339.30	206.27	124.43	75.88	52.03
225.0	1002.43	923.23	743.34	535.84	341.66	193.05	112.56	73.46	50.85
270.0	1005.36	953.16	800.49	602.89	406.07	233.10	135.56	86.68	59.46
315.0	1002.54	946.58	780.13	580.22	386.66	222.86	130.89	81.06	55.01
360.0	997.03	972.79	823.11	646.03	442.07	266.06	166.28	96.13	61.37
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	39.21	26.21	18.17	13.67	10.01	9.34	8.61	7.93	10.91
45.0	44.21	28.80	19.58	14.63	10.24	8.94	7.65	6.24	6.08
90.0	39.60	26.72	18.51	14.01	9.84	8.78	7.71	6.86	7.26
135.0	37.35	25.88	18.23	13.78	9.84	8.27	7.93	8.83	10.91
180.0	34.14	23.23	17.04	13.33	10.07	9.23	9.34	14.06	13.95
225.0	34.54	23.68	16.93	13.33	9.79	8.94	8.16	7.20	7.26
270.0	41.23	28.91	20.03	15.36	10.97	9.11	8.44	7.31	7.43
315.0	35.89	24.08	17.21	12.77	9.28	8.49	7.14	6.64	6.30
360.0	39.21	26.21	18.17	13.67	10.01	9.34	8.61	7.93	10.91
C/ $\gamma$ (°)	90.0								
0.0	4.22								
45.0	4.73								
90.0	5.74								
135.0	6.08								
180.0	5.96								
225.0	5.18								
270.0	4.89								
315.0	3.83								
360.0	4.22								