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## NATA

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LumCAT: LM01D03060AE

Luminaire:

Report No: NATA0100

Voltage(V): 36.7000

Test No: GC2018122605

Current(A): 0.2500

LampCAT: LUMILEDS LUXEON 1202S

Power (W): 9.1750

Lamp flux(lm): 1218.0

PF: 1.0000

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): 1066.83

Efficiency(%): 87.59%

Lumens(lm)/Power(W): 116.86

Central intensity(cd): 1060.467

Maximum intensity(cd): 1060.467

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

Beam Angle(50%Imax): [C0/180]Total=55.5

[C90/270]Total=55.5

Field angle(10%Imax): [C0/180]Total=92.5

[C90/270]Total=92.5

Maximum s/h(1/2): C0\_180=0.86 C90\_270=0.86

Maximum s/h(1/4): C0\_180=0.85 C90\_270=0.85

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 88.03%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 91.950%

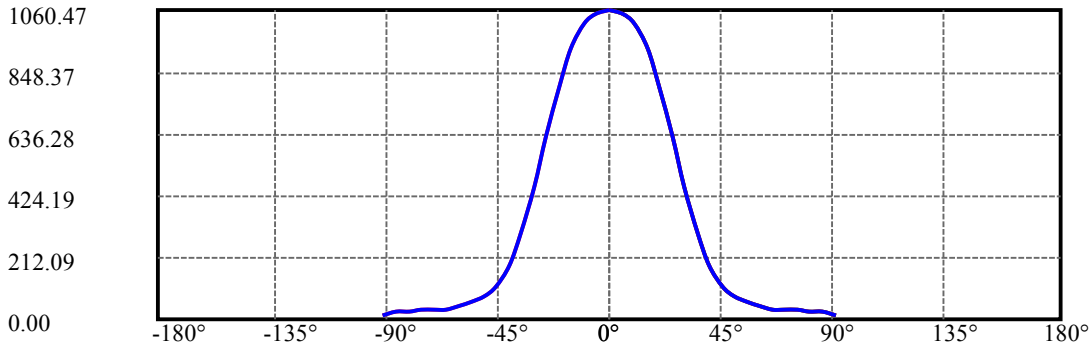
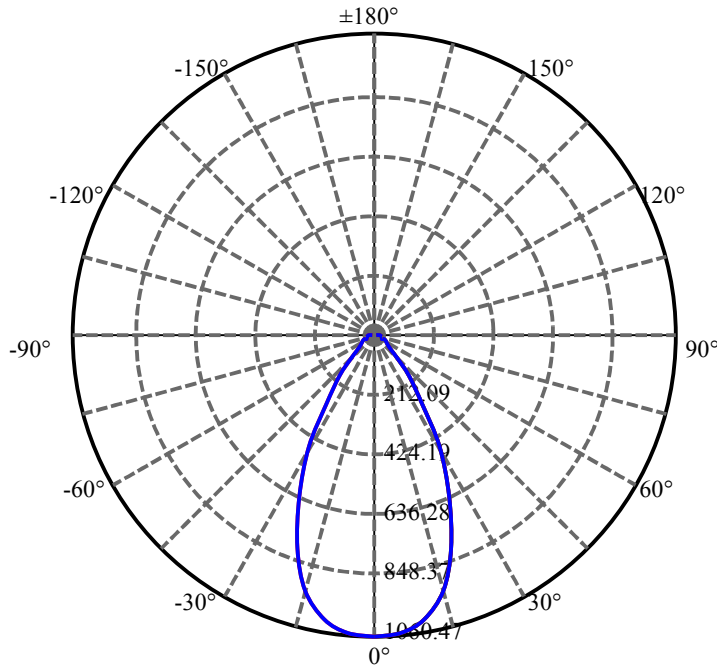
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1060.467	6.342	6.342	.521%	.594%
5.0	1050.328	50.178	56.519	4.120%	5.298%
10.0	1012.908	96.412	152.931	7.916%	14.335%
15.0	926.599	131.455	284.386	10.793%	26.657%
20.0	795.923	149.215	433.601	12.251%	40.644%
25.0	624.776	144.731	578.332	11.883%	54.210%
30.0	453.881	124.395	702.727	10.213%	65.871%
35.0	294.272	92.519	795.246	7.596%	74.543%
40.0	184.788	65.108	860.353	5.345%	80.646%
45.0	114.420	44.348	904.701	3.641%	84.803%
50.0	80.339	33.734	938.435	2.770%	87.965%
55.0	58.746	26.377	964.813	2.166%	90.437%
60.0	44.311	21.034	985.847	1.727%	92.409%
65.0	34.875	17.325	1003.173	1.422%	94.033%
70.0	31.620	16.287	1019.459	1.337%	95.560%
75.0	30.445	16.120	1035.579	1.323%	97.071%
80.0	28.990	15.649	1051.228	1.285%	98.537%
85.0	23.513	12.839	1064.067	1.054%	99.741%
90.0	10.083	2.763	1066.83	.227%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	702.73	57.70%	65.87%
0-40	860.35	70.64%	80.65%
0-60	985.85	80.94%	92.41%
0-90	1064.07	87.36%	99.74%
0-120	1064.07	87.36%	99.74%
0-180	1066.83	87.59%	100.00%
60-90	99.25	8.15%	9.30%
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%
0-39.47	853.46	70.07%	80.00%

ZONAL LUMEN SUMMARY

0-10	152.93
10-20	280.67
20-30	269.13
30-40	157.63
40-50	78.08
50-60	47.41
60-70	33.61
70-80	31.77
80-90	12.84
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

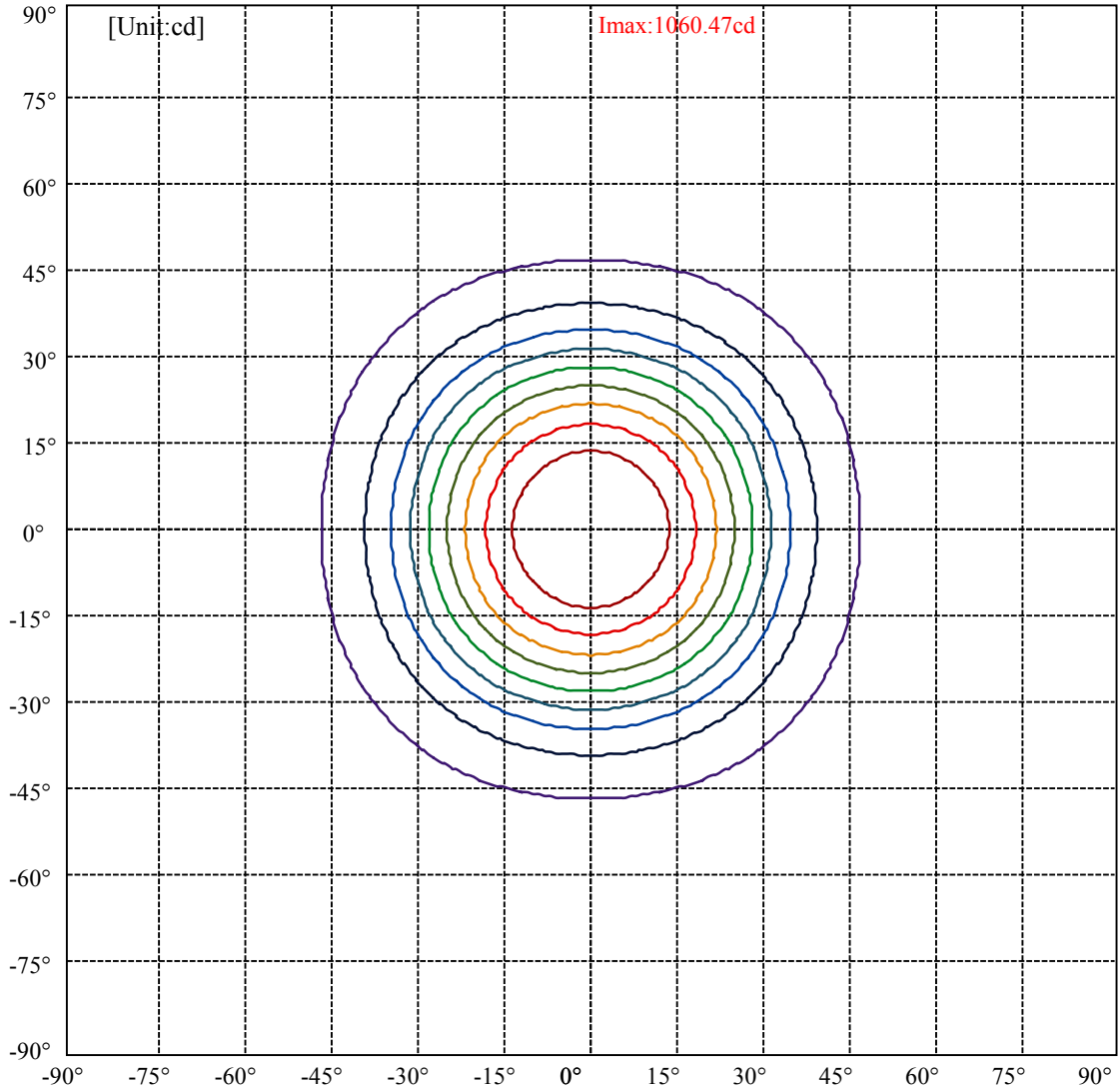


C0(Max): ———  
C0/C180: ———  
C90/C270: ———

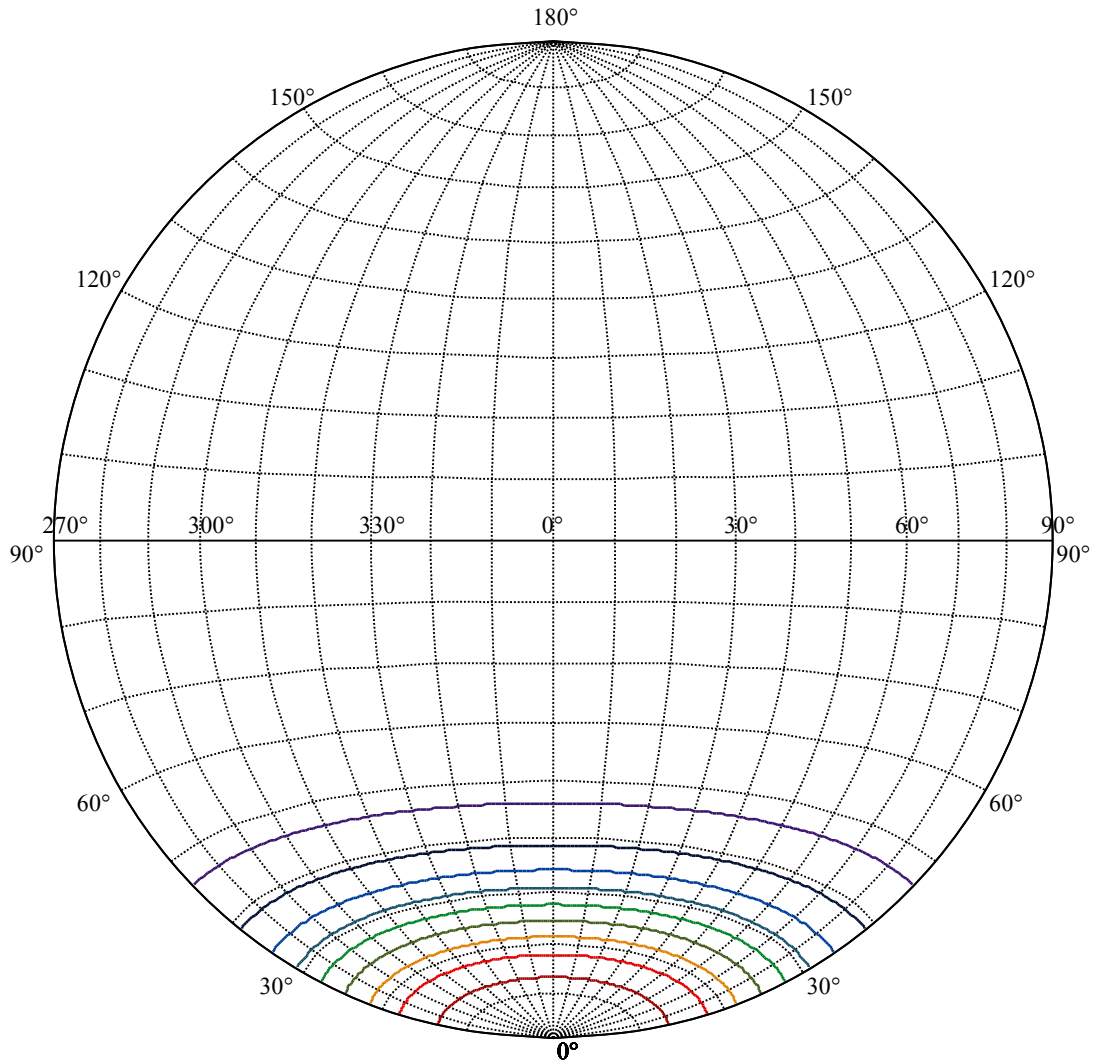
Field angle(10%Imax):C0/180Left:46.2 Right:46.2  
:C90/270Left:46.2 Right:46.2

Beam Angle(50%Imax):C0/180Left:27.8 Right:27.8  
:C90/270Left:27.8 Right:27.8





(10% $I_{max}$ ) 106.047	—
(20% $I_{max}$ ) 212.093	—
(30% $I_{max}$ ) 318.14	—
(40% $I_{max}$ ) 424.187	—
(50% $I_{max}$ ) 530.234	—
(60% $I_{max}$ ) 636.28	—
(70% $I_{max}$ ) 742.327	—
(80% $I_{max}$ ) 848.374	—
(90% $I_{max}$ ) 954.421	—



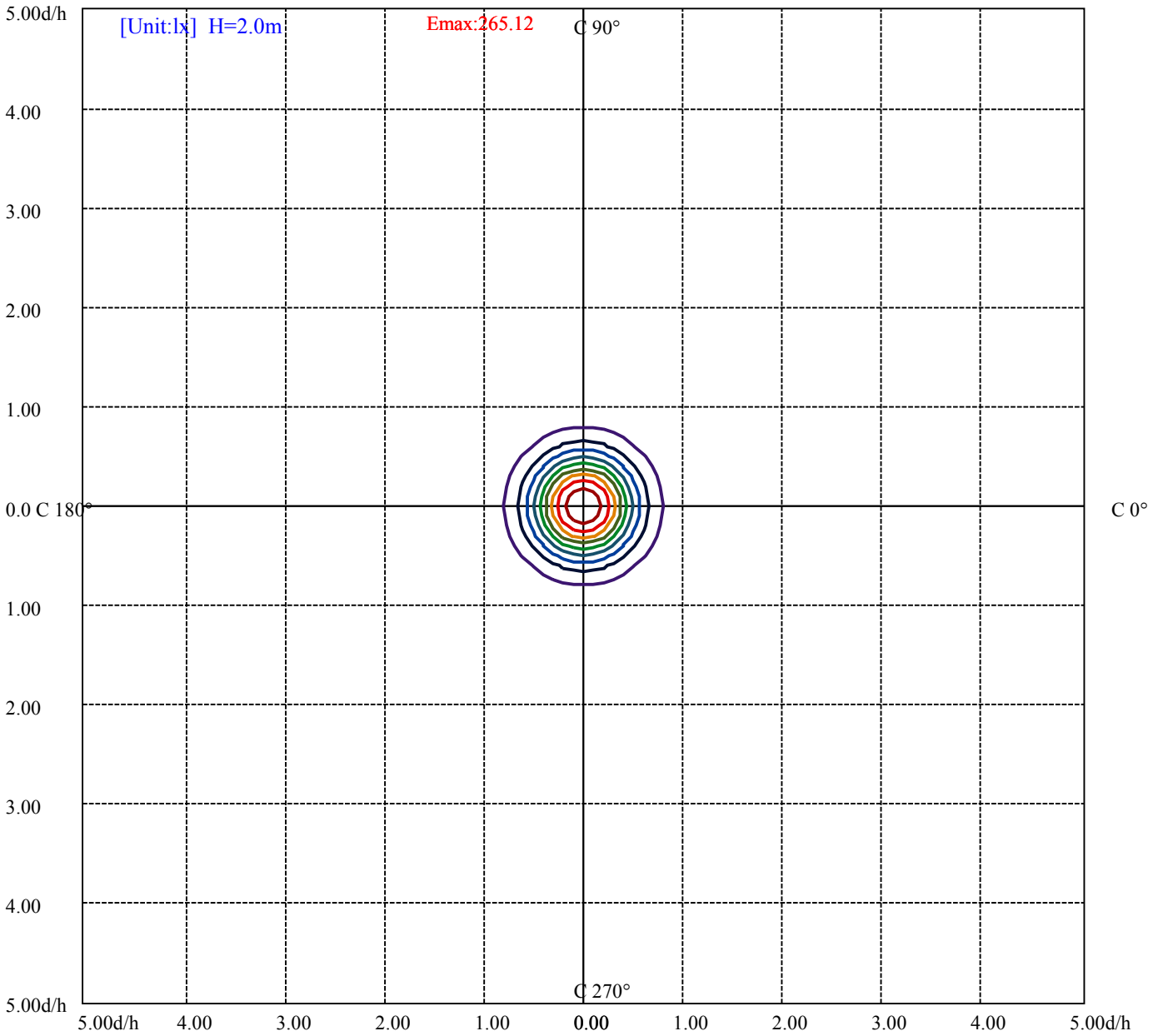
House

[Unit:cd]

Road

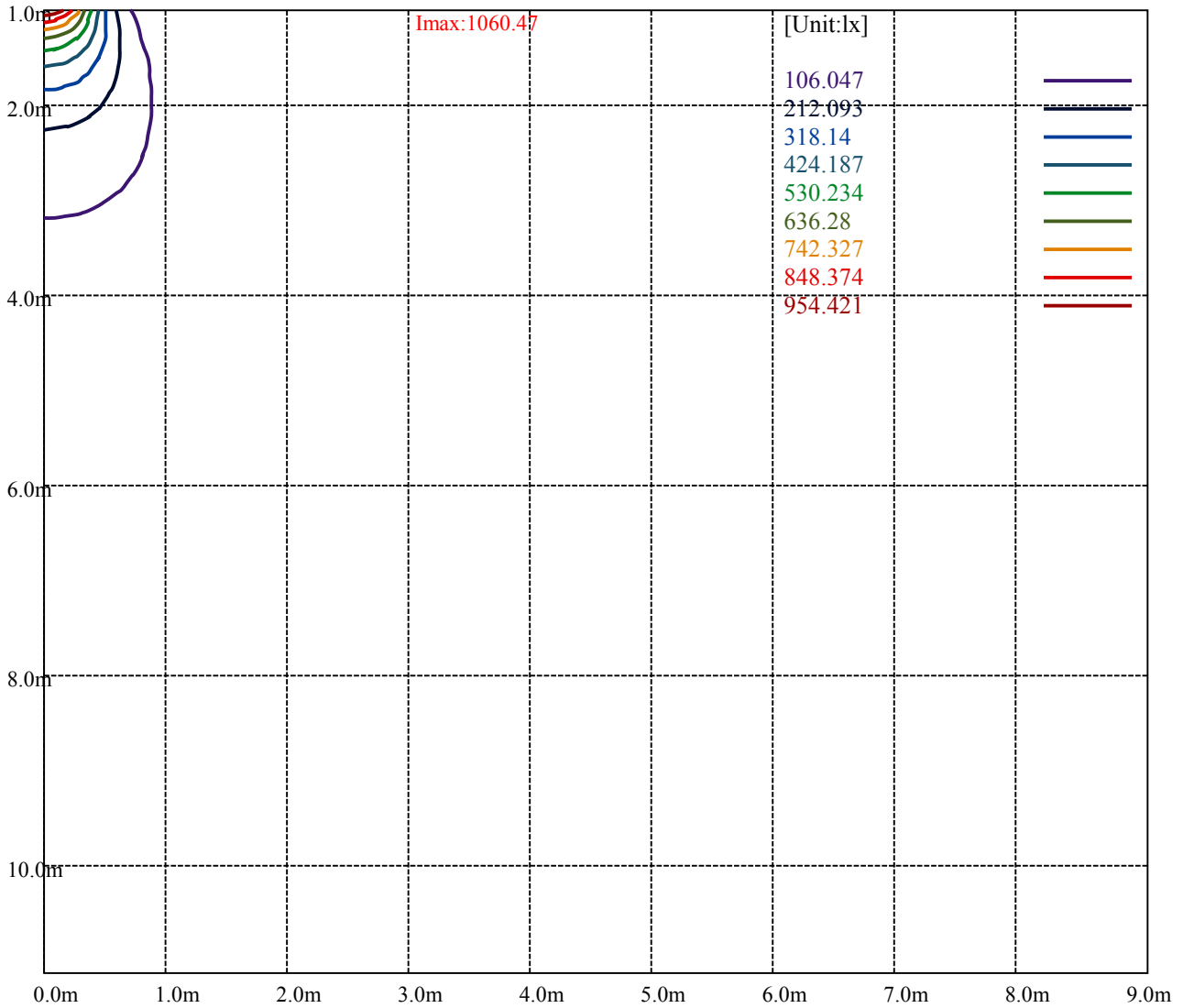
Imax:1060.47

(10%Imax)	106.047	—
(20%Imax)	212.093	—
(30%Imax)	318.14	—
(40%Imax)	424.187	—
(50%Imax)	530.234	—
(60%Imax)	636.28	—
(70%Imax)	742.327	—
(80%Imax)	848.374	—
(90%Imax)	954.421	—



(10%Emax) 26.51175	—
(20%Emax) 53.02325	—
(30%Emax) 79.535	—
(40%Emax) 106.0468	—
(50%Emax) 132.5582	—
(60%Emax) 159.07	—
(70%Emax) 185.5818	—
(80%Emax) 212.0935	—
(90%Emax) 238.605	—





Luminance Table

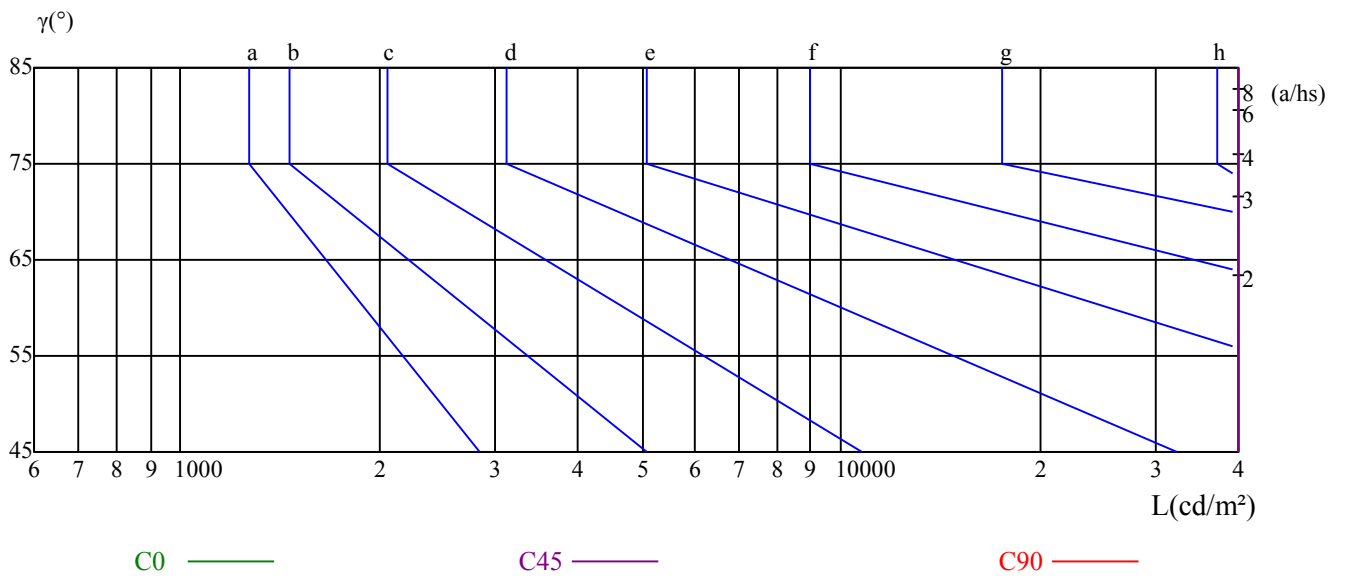
$\gamma$	45	50	55	60	65	70	75	80	85
C0	179793	138873	113801	98469	91690	102722	130702	185495	299751
C45	179793	138873	113801	98469	91690	102722	130702	185495	299751
C90	179793	138873	113801	98469	91690	102722	130702	185495	299751

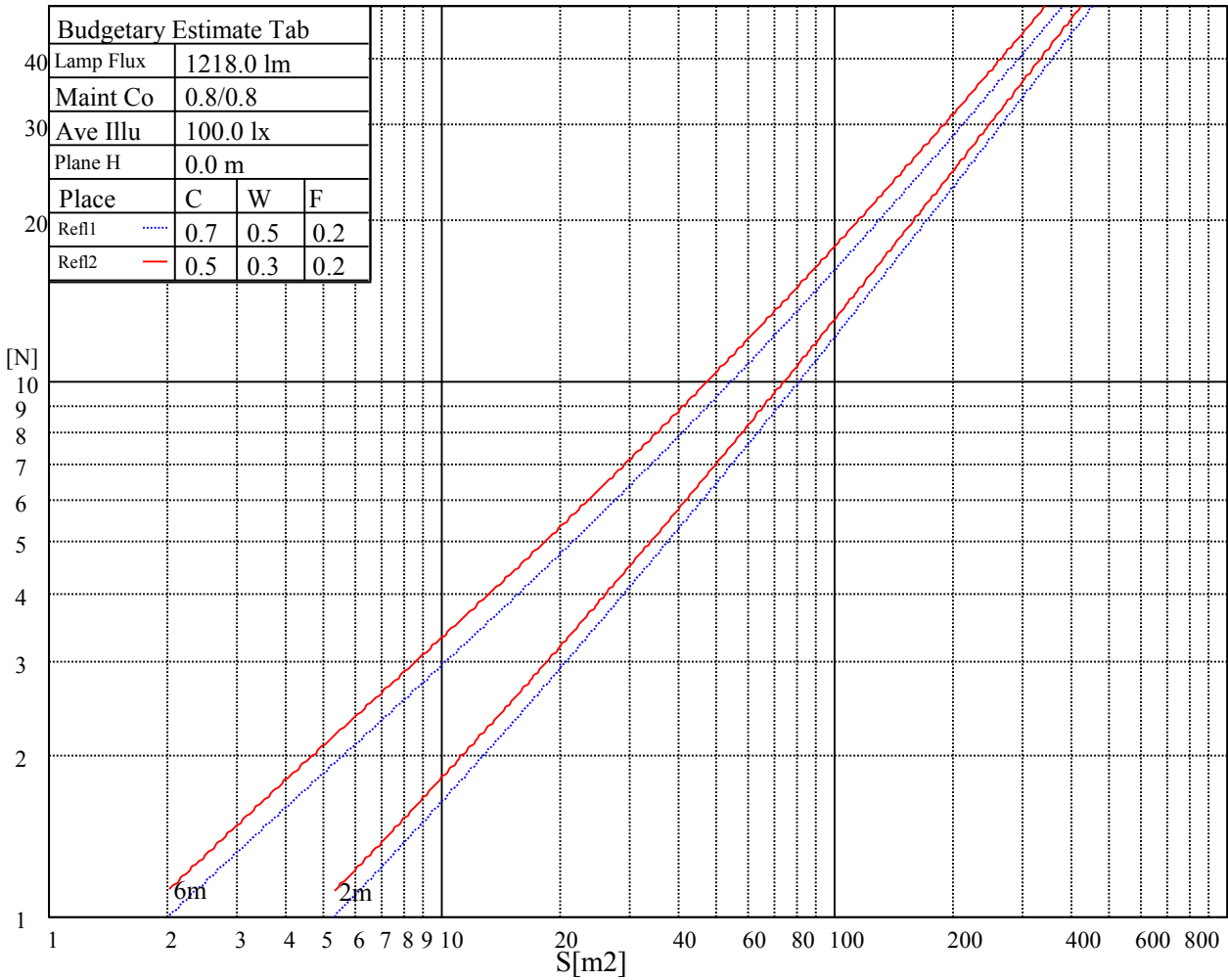
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
91690	91690	91690	130702	130702	130702	299751	299751	299751

Glare Table

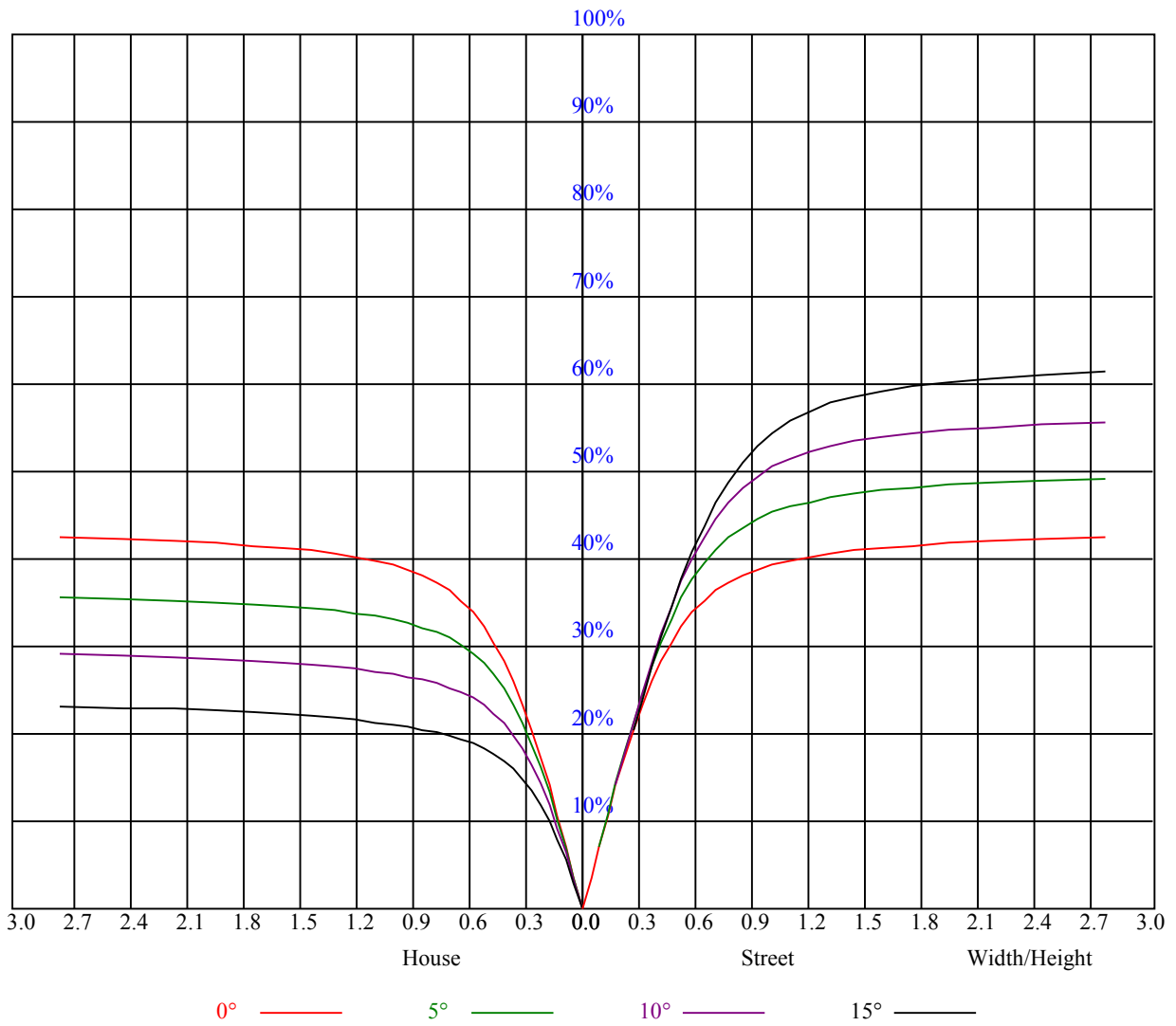
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.05	1.05	1.05	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.88
1	0.95	0.92	0.90	0.93	0.91	0.88	0.89	0.87	0.86	0.86	0.84	0.83	0.83	0.82	0.81	0.79
2	0.87	0.83	0.79	0.86	0.82	0.79	0.83	0.80	0.77	0.80	0.77	0.75	0.78	0.75	0.74	0.72
3	0.81	0.76	0.72	0.80	0.75	0.71	0.77	0.73	0.70	0.75	0.72	0.69	0.73	0.70	0.68	0.66
4	0.75	0.70	0.65	0.74	0.69	0.65	0.72	0.68	0.64	0.70	0.67	0.63	0.69	0.65	0.63	0.61
5	0.70	0.65	0.60	0.69	0.64	0.60	0.68	0.63	0.59	0.66	0.62	0.59	0.65	0.61	0.58	0.57
6	0.66	0.60	0.56	0.65	0.60	0.56	0.64	0.59	0.55	0.62	0.58	0.55	0.61	0.58	0.55	0.53
7	0.62	0.56	0.52	0.61	0.56	0.52	0.60	0.55	0.52	0.59	0.55	0.52	0.58	0.54	0.51	0.50
8	0.59	0.53	0.49	0.58	0.53	0.49	0.57	0.52	0.49	0.56	0.52	0.49	0.55	0.51	0.48	0.47
9	0.55	0.50	0.46	0.55	0.50	0.46	0.54	0.49	0.46	0.53	0.49	0.46	0.53	0.49	0.46	0.45
10	0.53	0.47	0.44	0.52	0.47	0.44	0.52	0.47	0.44	0.51	0.47	0.44	0.50	0.46	0.43	0.42



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	1066.28	1042.99	968.79	820.52	642.54	455.68	302.74	184.28	119.87
45.0	1055.87	1049.12	1015.76	919.52	768.99	581.40	406.13	255.43	157.44
90.0	1060.99	1058.63	1020.99	941.91	809.33	633.32	455.96	283.11	174.88
135.0	1058.74	1065.38	1049.68	1007.04	921.66	775.35	611.04	415.24	258.30
180.0	1066.28	1064.93	1049.01	1016.49	943.54	803.98	626.34	434.48	277.54
225.0	1055.87	1040.68	1017.96	954.79	845.83	675.28	498.94	324.51	197.33
270.0	1060.99	1046.70	1016.61	928.01	790.99	610.31	427.28	274.56	168.36
315.0	1058.74	1034.21	964.46	824.51	644.51	462.88	302.63	182.59	124.59
360.0	1066.28	1042.99	968.79	820.52	642.54	455.68	302.74	184.28	119.87

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	88.76	67.16	48.38	37.01	33.30	32.51	32.12	29.76	30.83
45.0	101.08	75.21	57.09	42.86	32.06	28.13	25.09	24.86	21.09
90.0	105.13	73.24	55.91	42.92	32.46	26.27	25.54	29.98	16.93
135.0	147.49	96.58	68.34	51.19	38.81	29.19	24.75	28.58	21.26
180.0	158.57	100.74	72.73	56.64	41.29	31.11	27.39	23.74	19.46
225.0	119.93	86.79	64.86	48.60	37.29	34.88	30.94	25.43	21.88
270.0	106.48	78.24	55.74	39.54	31.84	34.82	40.67	38.76	26.94
315.0	87.92	64.74	46.91	35.72	31.95	36.06	37.07	30.83	29.70
360.0	88.76	67.16	48.38	37.01	33.30	32.51	32.12	29.76	30.83

C/γ(°)	90.0
0.0	10.58
45.0	10.69
90.0	9.62
135.0	11.81
180.0	10.41
225.0	8.89
270.0	8.89
315.0	9.79
360.0	10.58