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## Nata

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LumCAT: 2-1050-M

Luminaire:

Report No: NT2015092201

Voltage(V): 17.2000

Test No: GC2015092201

Current(A): 0.4500

LampCAT: XTM LES19

Power (W): 7.7400

Lamp flux(lm): 862.7

PF: 0.0000

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

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Lumens(lm): 781.66

Efficiency(%): 90.61%

Lumens(lm)/Power(W): 100.99

Central intensity(cd): 3235.052

Maximum intensity(cd): 3235.052

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

Beam Angle(50%Imax): [C0/180]Total=18.6

[C90/270]Total=18.6

Field angle(10%Imax): [C0/180]Total=54.1

[C90/270]Total=54.1

Maximum s/h(1/2): C0\_180=0.32 C90\_270=0.32

Maximum s/h(1/4): C0\_180=0.36 C90\_270=0.36

Up flux rate of lamp(%): 2.84%

Down flux rate of lamp(%): 87.77%

Up flux rate of LUM(%): 3.14%

Down flux rate of LUM(%): 96.86%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 95.364%

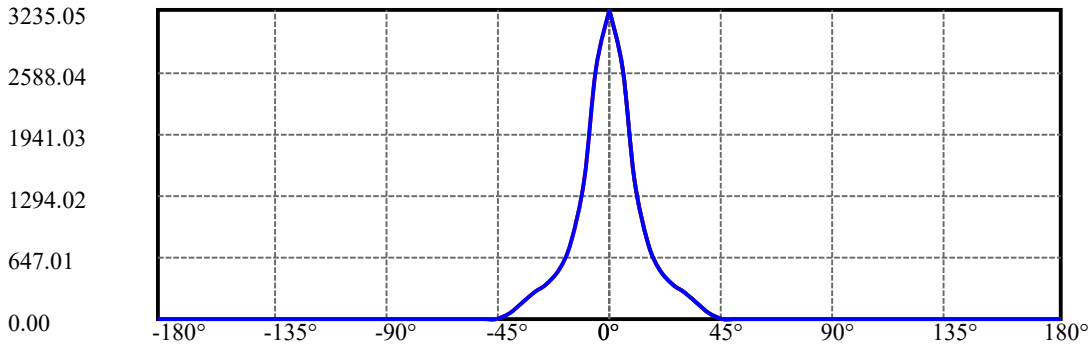
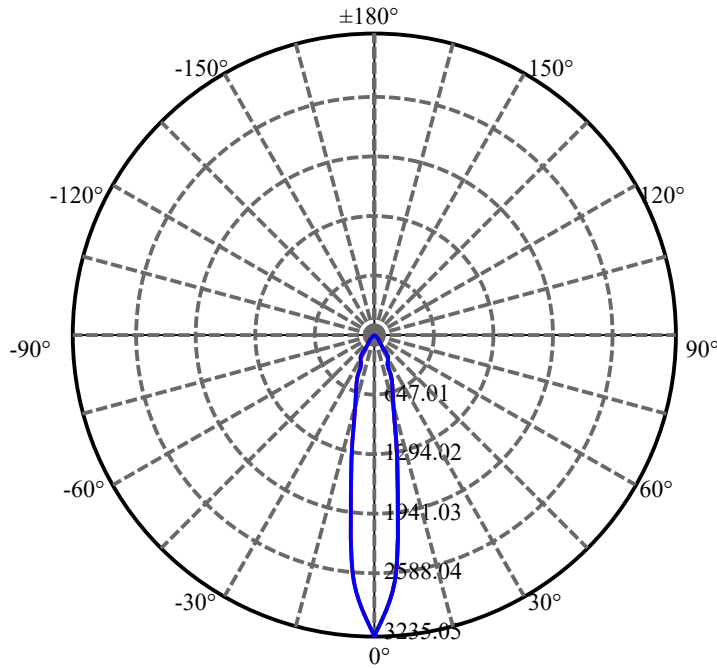
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3235.052	0.000	0	.000%	.000%
5.0	2606.617	69.835	69.835	8.095%	8.934%
10.0	1461.536	145.531	215.366	16.869%	27.552%
15.0	813.407	134.948	350.314	15.643%	44.817%
20.0	514.967	109.477	459.791	12.690%	58.822%
25.0	359.202	91.684	551.475	10.628%	70.552%
30.0	273.038	80.010	631.486	9.275%	80.788%
35.0	154.703	62.988	694.473	7.301%	88.846%
40.0	50.299	34.203	728.677	3.965%	93.222%
45.0	8.337	10.857	739.533	1.258%	94.610%
50.0	3.917	2.476	742.009	.287%	94.927%
55.0	3.805	1.679	743.688	.195%	95.142%
60.0	3.693	1.733	745.421	.201%	95.364%
65.0	3.693	1.795	747.217	.208%	95.593%
70.0	3.637	1.856	749.073	.215%	95.831%
75.0	3.637	1.901	750.974	.220%	96.074%
80.0	3.749	1.976	752.95	.229%	96.327%
85.0	4.028	2.113	755.063	.245%	96.597%
90.0	3.581	2.083	757.147	.242%	96.864%
95.0	3.637	1.976	759.123	.229%	97.117%
100.0	3.637	1.976	761.099	.229%	97.369%
105.0	3.581	1.931	763.03	.224%	97.616%
110.0	3.581	1.872	764.902	.217%	97.856%
115.0	3.581	1.813	766.716	.210%	98.088%
120.0	3.581	1.741	768.457	.202%	98.311%
125.0	3.637	1.668	770.125	.193%	98.524%
130.0	3.637	1.582	771.707	.183%	98.726%
135.0	3.637	1.470	773.176	.170%	98.914%
140.0	3.693	1.357	774.533	.157%	99.088%
145.0	3.861	1.260	775.794	.146%	99.249%
150.0	4.308	1.203	776.997	.139%	99.403%
155.0	5.036	1.182	778.179	.137%	99.554%
160.0	5.763	1.133	779.312	.131%	99.699%
165.0	6.155	0.982	780.294	.114%	99.825%
170.0	6.434	0.747	781.04	.087%	99.921%
175.0	6.546	0.464	781.505	.054%	99.980%
180.0	6.546	0.157	781.661	.018%	100.000%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	631.49	73.20%	80.79%
0-40	728.68	84.47%	93.22%
0-60	745.42	86.41%	95.36%
0-90	757.15	87.77%	96.86%
0-120	768.46	89.08%	98.31%
0-180	781.66	90.61%	100.00%
60-90	13.46	1.56%	1.72%
90-120	13.39	1.55%	1.71%
90-130	16.64	1.93%	2.13%
90-150	21.93	2.54%	2.81%
90-180	26.44	3.07%	3.38%
0-29.62	625.33	72.49%	80.00%

## ZONAL LUMEN SUMMARY

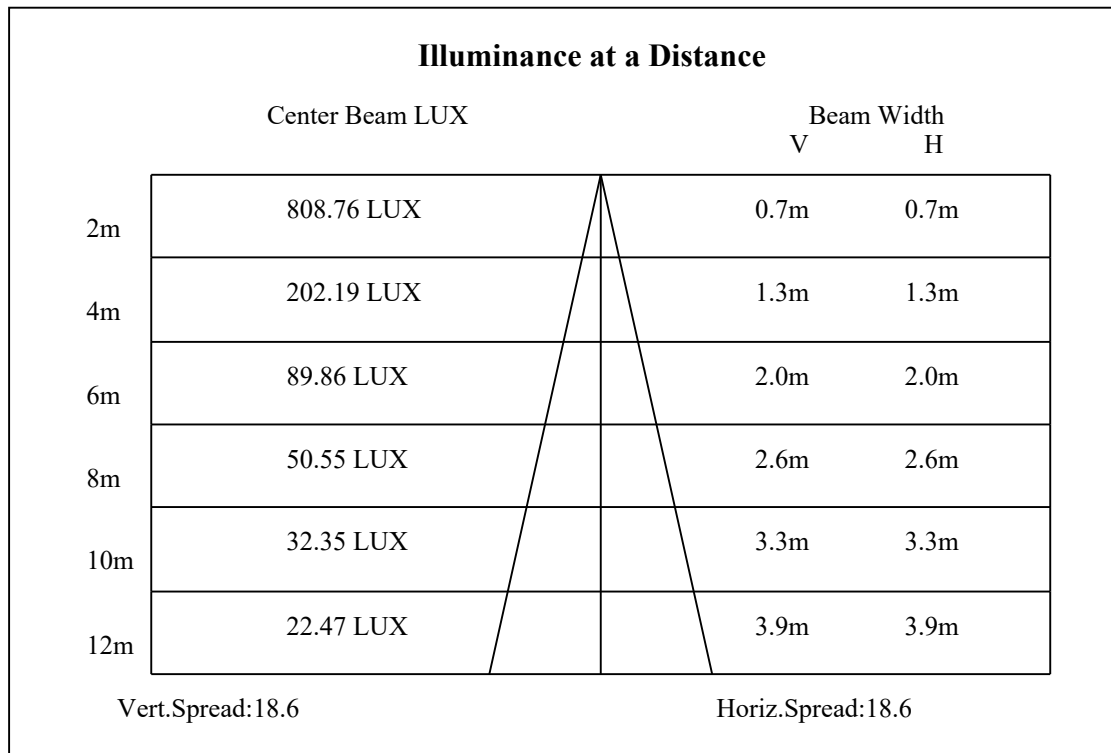
0-10	215.37
10-20	244.42
20-30	171.69
30-40	97.19
40-50	13.33
50-60	3.41
60-70	3.65
70-80	3.88
80-90	4.20
90-100	3.95
100-110	3.80
110-120	3.55
120-130	3.25
130-140	2.83
140-150	2.46
150-160	2.32
160-170	1.73
170-180	0.46

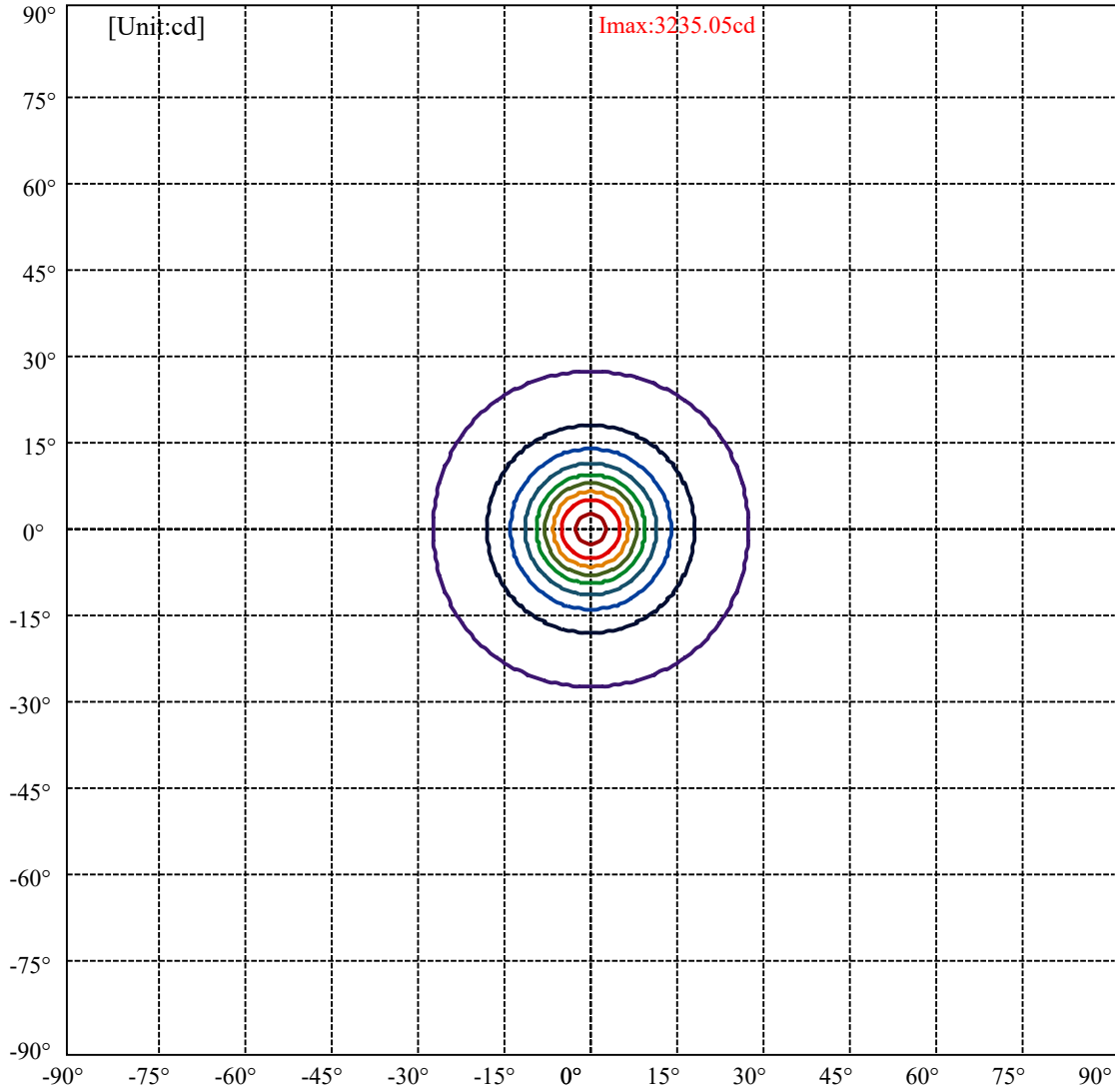


C0(Max): ———  
C0/C180: ———  
C90/C270: ———

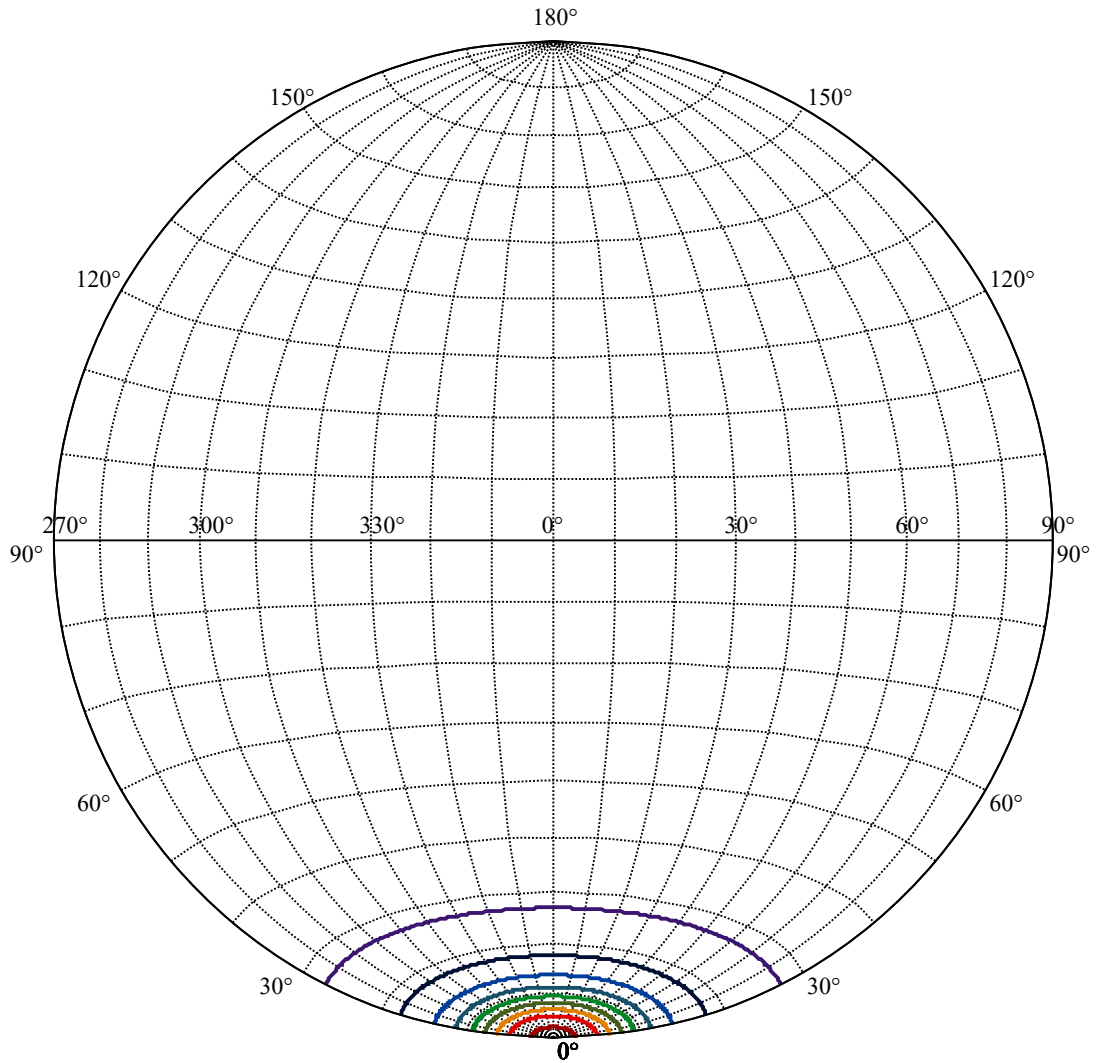
Field angle(10%Imax):C0/180Left:27.1 Right:27.1  
:C90/270Left:27.1 Right:27.1

Beam Angle(50%Imax):C0/180Left:9.3 Right:9.3  
:C90/270Left:9.3 Right:9.3





(10%Imax) 323.505	—
(20%Imax) 647.01	—
(30%Imax) 970.516	—
(40%Imax) 1294.02	—
(50%Imax) 1617.53	—
(60%Imax) 1941.03	—
(70%Imax) 2264.54	—
(80%Imax) 2588.04	—
(90%Imax) 2911.55	—



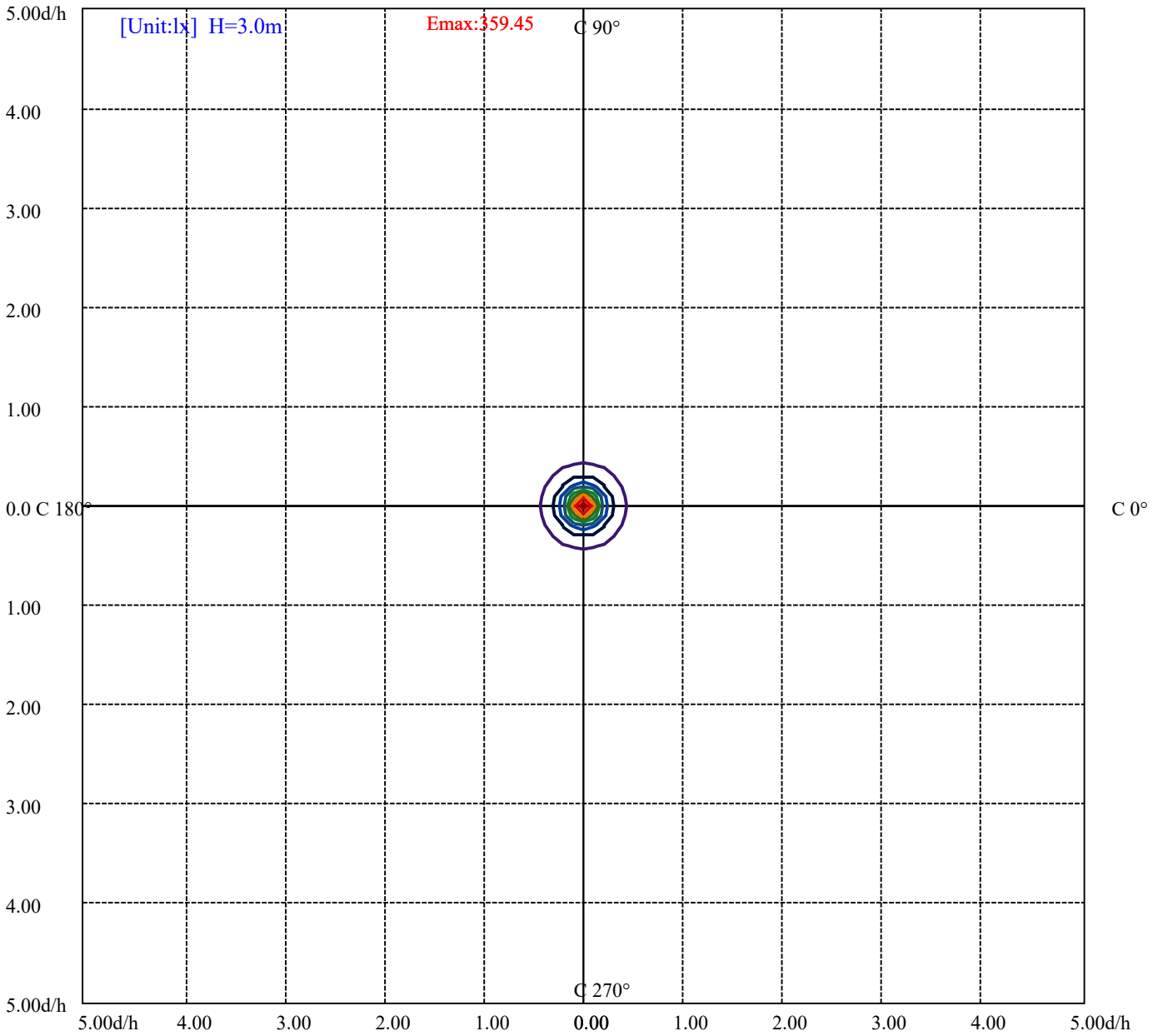
House

[Unit:cd]

Road

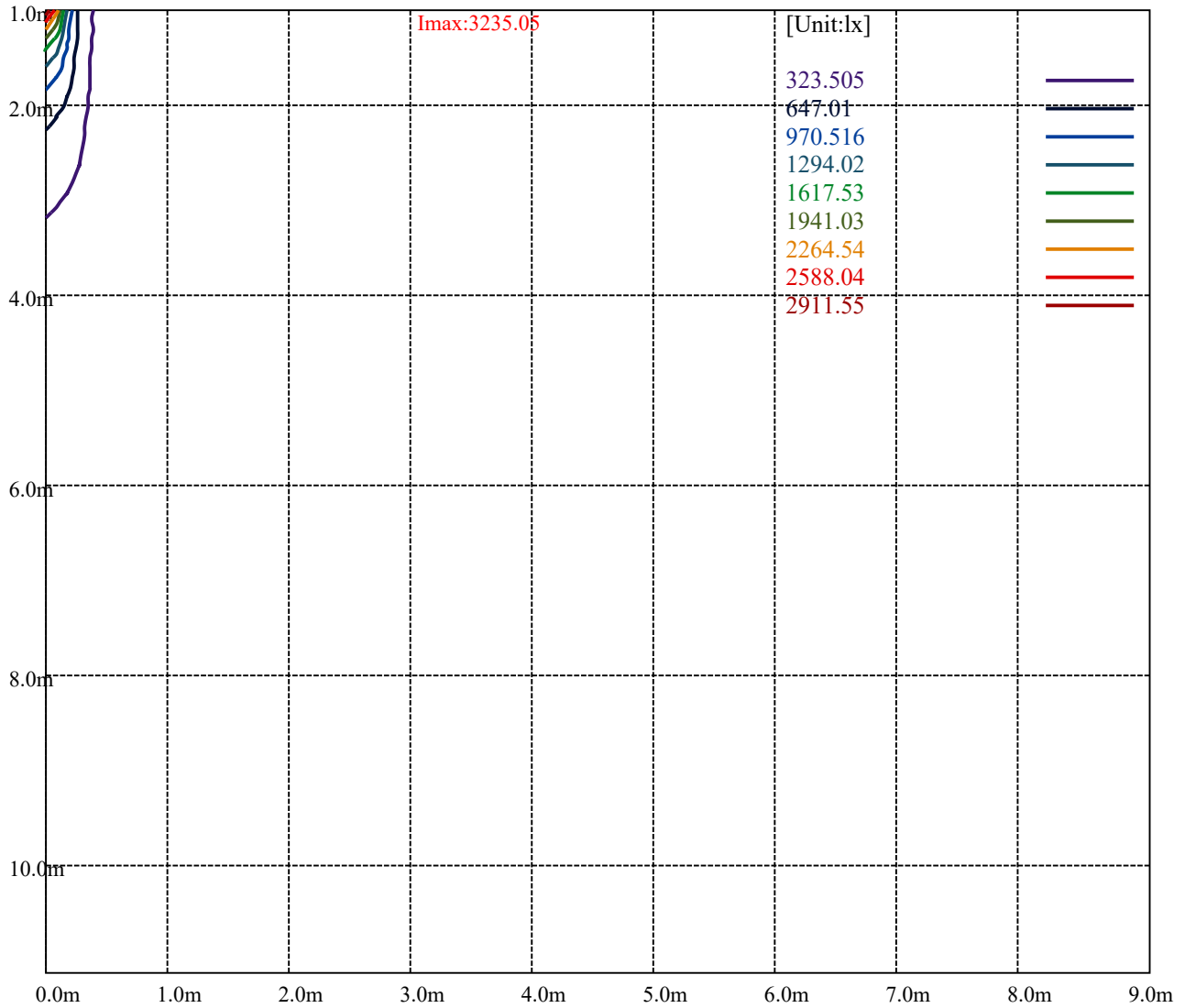
**Imax:3235.05**

(10%Imax)	323.505	—
(20%Imax)	647.01	—
(30%Imax)	970.516	—
(40%Imax)	1294.02	—
(50%Imax)	1617.53	—
(60%Imax)	1941.03	—
(70%Imax)	2264.54	—
(80%Imax)	2588.04	—
(90%Imax)	2911.55	—



- (10%Emax) 35.94478
- (20%Emax) 71.88967
- (30%Emax) 107.8344
- (40%Emax) 143.7789
- (50%Emax) 179.7244
- (60%Emax) 215.6689
- (70%Emax) 251.6133
- (80%Emax) 287.5589
- (90%Emax) 323.5033





Luminance Table

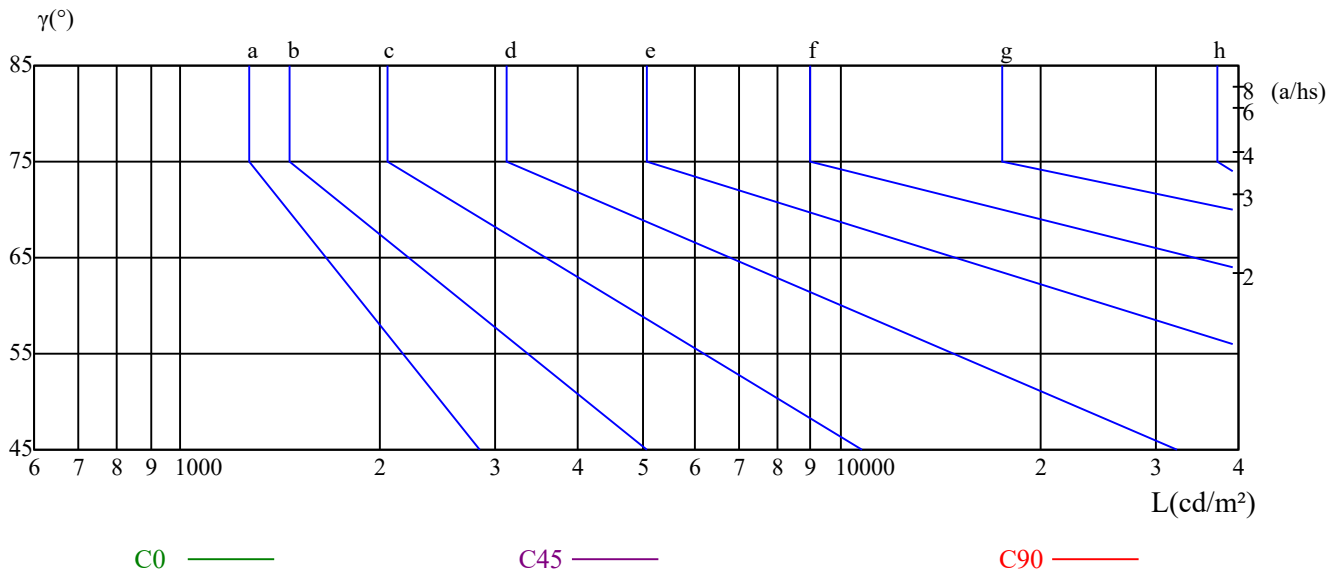
$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

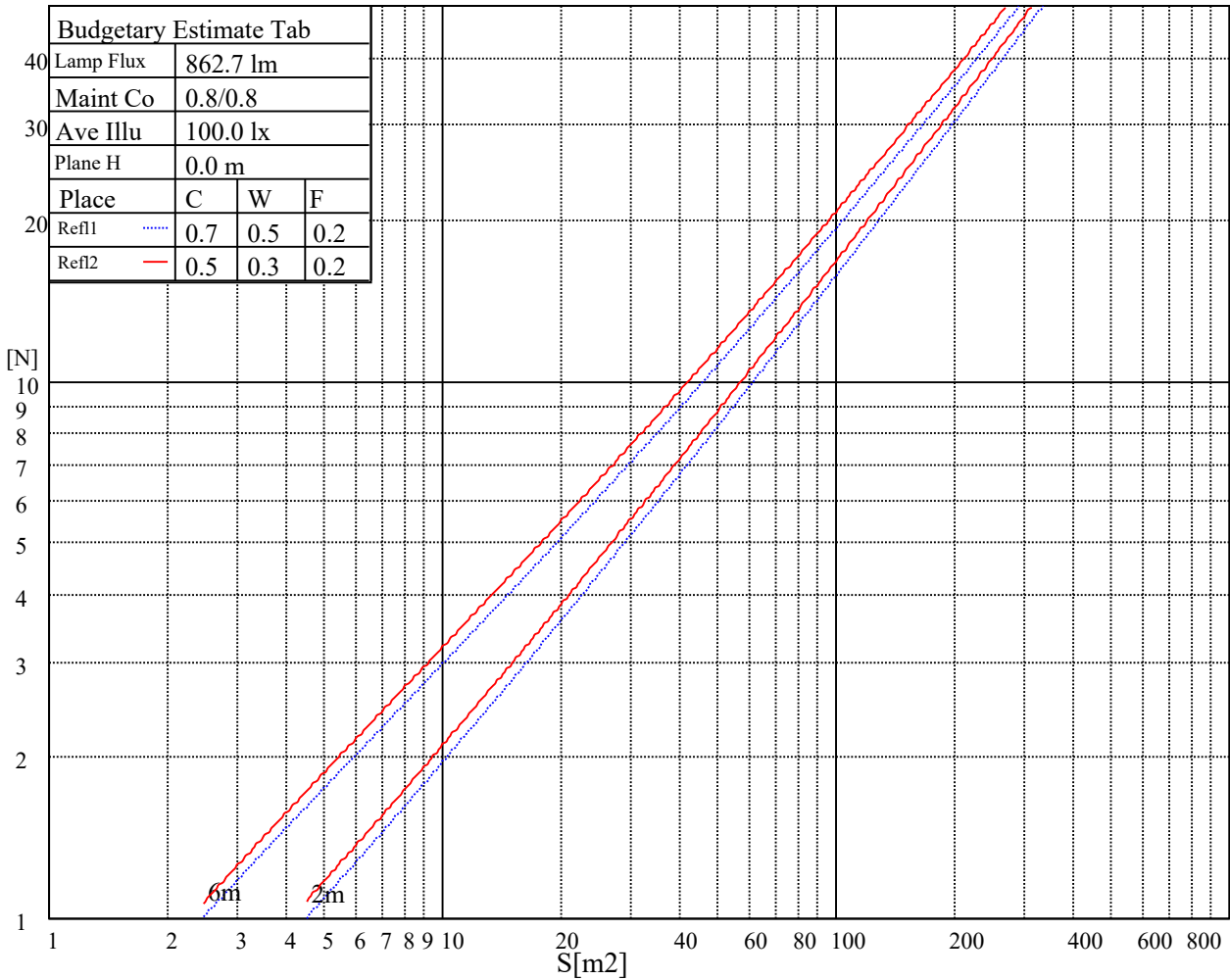
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

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	1.07	1.07	1.07	1.04	1.04	1.04	0.99	0.99	0.99	0.94	0.94	0.94	0.90	0.90	0.90	0.88
1	1.00	0.98	0.96	0.98	0.96	0.95	0.94	0.93	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.83
2	0.94	0.91	0.88	0.93	0.90	0.87	0.89	0.87	0.85	0.86	0.84	0.83	0.83	0.82	0.81	0.79
3	0.89	0.85	0.82	0.88	0.84	0.81	0.85	0.82	0.80	0.83	0.80	0.78	0.80	0.78	0.77	0.75
4	0.85	0.81	0.77	0.84	0.80	0.77	0.81	0.78	0.75	0.79	0.77	0.74	0.77	0.75	0.73	0.72
5	0.81	0.76	0.73	0.80	0.76	0.73	0.78	0.74	0.72	0.76	0.73	0.71	0.75	0.72	0.70	0.69
6	0.77	0.73	0.69	0.76	0.72	0.69	0.75	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.66
7	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.71	0.67	0.65	0.69	0.67	0.64	0.63
8	0.71	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.61
9	0.68	0.64	0.61	0.68	0.63	0.61	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.59
10	0.66	0.61	0.58	0.65	0.61	0.58	0.64	0.61	0.58	0.63	0.60	0.58	0.63	0.60	0.57	0.56

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	3235.05	2606.62	1461.54	813.41	514.97	359.20	273.04	154.70	50.30
45.0	3235.05	2606.62	1461.54	813.41	514.97	359.20	273.04	154.70	50.30
90.0	3235.05	2606.62	1461.54	813.41	514.97	359.20	273.04	154.70	50.30
135.0	3235.05	2606.62	1461.54	813.41	514.97	359.20	273.04	154.70	50.30
180.0	3235.05	2606.62	1461.54	813.41	514.97	359.20	273.04	154.70	50.30
225.0	3235.05	2606.62	1461.54	813.41	514.97	359.20	273.04	154.70	50.30
270.0	3235.05	2606.62	1461.54	813.41	514.97	359.20	273.04	154.70	50.30
315.0	3235.05	2606.62	1461.54	813.41	514.97	359.20	273.04	154.70	50.30
360.0	3235.05	2606.62	1461.54	813.41	514.97	359.20	273.04	154.70	50.30
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	8.34	3.92	3.80	3.69	3.69	3.64	3.64	3.75	4.03
45.0	8.34	3.92	3.80	3.69	3.69	3.64	3.64	3.75	4.03
90.0	8.34	3.92	3.80	3.69	3.69	3.64	3.64	3.75	4.03
135.0	8.34	3.92	3.80	3.69	3.69	3.64	3.64	3.75	4.03
180.0	8.34	3.92	3.80	3.69	3.69	3.64	3.64	3.75	4.03
225.0	8.34	3.92	3.80	3.69	3.69	3.64	3.64	3.75	4.03
270.0	8.34	3.92	3.80	3.69	3.69	3.64	3.64	3.75	4.03
315.0	8.34	3.92	3.80	3.69	3.69	3.64	3.64	3.75	4.03
360.0	8.34	3.92	3.80	3.69	3.69	3.64	3.64	3.75	4.03
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	3.58	3.64	3.64	3.58	3.58	3.58	3.58	3.64	3.64
45.0	3.58	3.64	3.64	3.58	3.58	3.58	3.58	3.64	3.64
90.0	3.58	3.64	3.64	3.58	3.58	3.58	3.58	3.64	3.64
135.0	3.58	3.64	3.64	3.58	3.58	3.58	3.58	3.64	3.64
180.0	3.58	3.64	3.64	3.58	3.58	3.58	3.58	3.64	3.64
225.0	3.58	3.64	3.64	3.58	3.58	3.58	3.58	3.64	3.64
270.0	3.58	3.64	3.64	3.58	3.58	3.58	3.58	3.64	3.64
315.0	3.58	3.64	3.64	3.58	3.58	3.58	3.58	3.64	3.64
360.0	3.58	3.64	3.64	3.58	3.58	3.58	3.58	3.64	3.64
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	3.64	3.69	3.86	4.31	5.04	5.76	6.15	6.43	6.55
45.0	3.64	3.69	3.86	4.31	5.04	5.76	6.15	6.43	6.55
90.0	3.64	3.69	3.86	4.31	5.04	5.76	6.15	6.43	6.55
135.0	3.64	3.69	3.86	4.31	5.04	5.76	6.15	6.43	6.55
180.0	3.64	3.69	3.86	4.31	5.04	5.76	6.15	6.43	6.55
225.0	3.64	3.69	3.86	4.31	5.04	5.76	6.15	6.43	6.55
270.0	3.64	3.69	3.86	4.31	5.04	5.76	6.15	6.43	6.55
315.0	3.64	3.69	3.86	4.31	5.04	5.76	6.15	6.43	6.55
360.0	3.64	3.69	3.86	4.31	5.04	5.76	6.15	6.43	6.55
C/γ(°)	180.0								
0.0	6.55								
45.0	6.55								
90.0	6.55								
135.0	6.55								
180.0	6.55								
225.0	6.55								
270.0	6.55								
315.0	6.55								
360.0	6.55								