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Nata

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LumCAT: 2-1052-M

Luminaire:

Report No: NT2014112903

Voltage(V): 17.2000

Test No: GC2014112903

Current(A): 0.5000

LampCAT: XTM LES19

Power (W): 8.6000

Lamp flux(lm): 1062.0

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): 877.76

Efficiency(%): 82.65%

Lumens(lm)/Power(W): 102.07

Central intensity(cd): 1389.948

Maximum intensity(cd): 1389.948

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

Beam Angle(50%Imax): [C0/180]Total=41.8

[C90/270]Total=41.8

Field angle(10%Imax): [C0/180]Total=76.2

[C90/270]Total=76.2

Maximum s/h(1/2): C0\_180=0.67 C90\_270=0.67

Maximum s/h(1/4): C0\_180=0.70 C90\_270=0.70

Up flux rate of lamp(%): 3.16%

Down flux rate of lamp(%): 79.50%

Up flux rate of LUM(%): 3.82%

Down flux rate of LUM(%): 96.18%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 94.157%

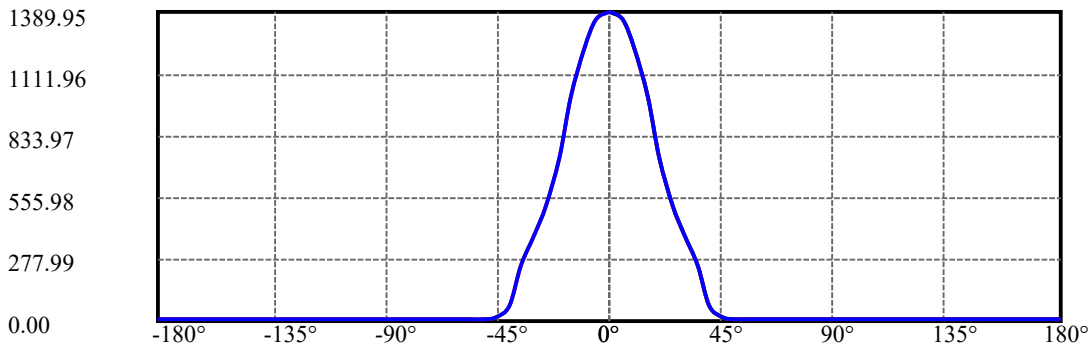
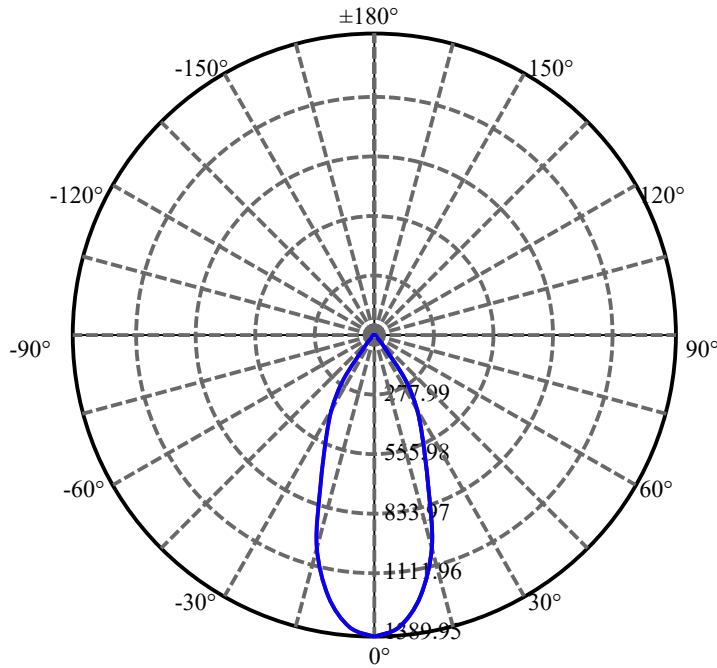
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1389.948	0.000	0	.000%	.000%
5.0	1352.321	32.783	32.783	3.087%	3.735%
10.0	1225.244	92.208	124.991	8.682%	14.240%
15.0	1010.408	132.617	257.608	12.488%	29.348%
20.0	731.894	143.590	401.198	13.521%	45.707%
25.0	521.423	131.450	532.648	12.378%	60.683%
30.0	388.212	115.115	647.763	10.839%	73.797%
35.0	248.741	93.796	741.559	8.832%	84.483%
40.0	70.945	53.337	794.896	5.022%	90.560%
45.0	19.730	16.789	811.685	1.581%	92.472%
50.0	12.078	6.427	818.113	.605%	93.205%
55.0	9.008	4.585	822.697	.432%	93.727%
60.0	7.316	3.773	826.471	.355%	94.157%
65.0	6.343	3.321	829.791	.313%	94.535%
70.0	5.735	3.058	832.849	.288%	94.883%
75.0	5.322	2.890	835.74	.272%	95.213%
80.0	5.064	2.779	838.519	.262%	95.529%
85.0	5.539	2.881	841.399	.271%	95.858%
90.0	4.847	2.844	844.243	.268%	96.182%
95.0	5.203	2.752	846.995	.259%	96.495%
100.0	4.868	2.737	849.732	.258%	96.807%
105.0	4.854	2.601	852.333	.245%	97.103%
110.0	4.854	2.537	854.87	.239%	97.392%
115.0	4.854	2.458	857.328	.231%	97.672%
120.0	4.861	2.362	859.69	.222%	97.941%
125.0	4.868	2.249	861.938	.212%	98.197%
130.0	4.903	2.124	864.063	.200%	98.439%
135.0	4.973	1.995	866.058	.188%	98.667%
140.0	5.057	1.857	867.915	.175%	98.878%
145.0	5.350	1.736	869.651	.163%	99.076%
150.0	5.966	1.666	871.318	.157%	99.266%
155.0	6.840	1.621	872.938	.153%	99.451%
160.0	7.749	1.530	874.468	.144%	99.625%
165.0	8.546	1.343	875.811	.126%	99.778%
170.0	9.155	1.050	876.861	.099%	99.898%
175.0	9.547	0.669	877.53	.063%	99.974%
180.0	9.679	0.230	877.76	.022%	100.000%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	647.76	60.99%	73.80%
0-40	794.90	74.85%	90.56%
0-60	826.47	77.82%	94.16%
0-90	844.24	79.50%	96.18%
0-120	859.69	80.95%	97.94%
0-180	877.76	82.65%	100.00%
60-90	21.55	2.03%	2.45%
90-120	18.29	1.72%	2.08%
90-130	22.66	2.13%	2.58%
90-150	29.92	2.82%	3.41%
90-180	36.13	3.40%	4.12%
0-32.90	702.21	66.12%	80.00%

## ZONAL LUMEN SUMMARY

0-10	124.99
10-20	276.21
20-30	246.56
30-40	147.13
40-50	23.22
50-60	8.36
60-70	6.38
70-80	5.67
80-90	5.72
90-100	5.49
100-110	5.14
110-120	4.82
120-130	4.37
130-140	3.85
140-150	3.40
150-160	3.15
160-170	2.39
170-180	0.67



C0(Max): —————

C0/C180: —————

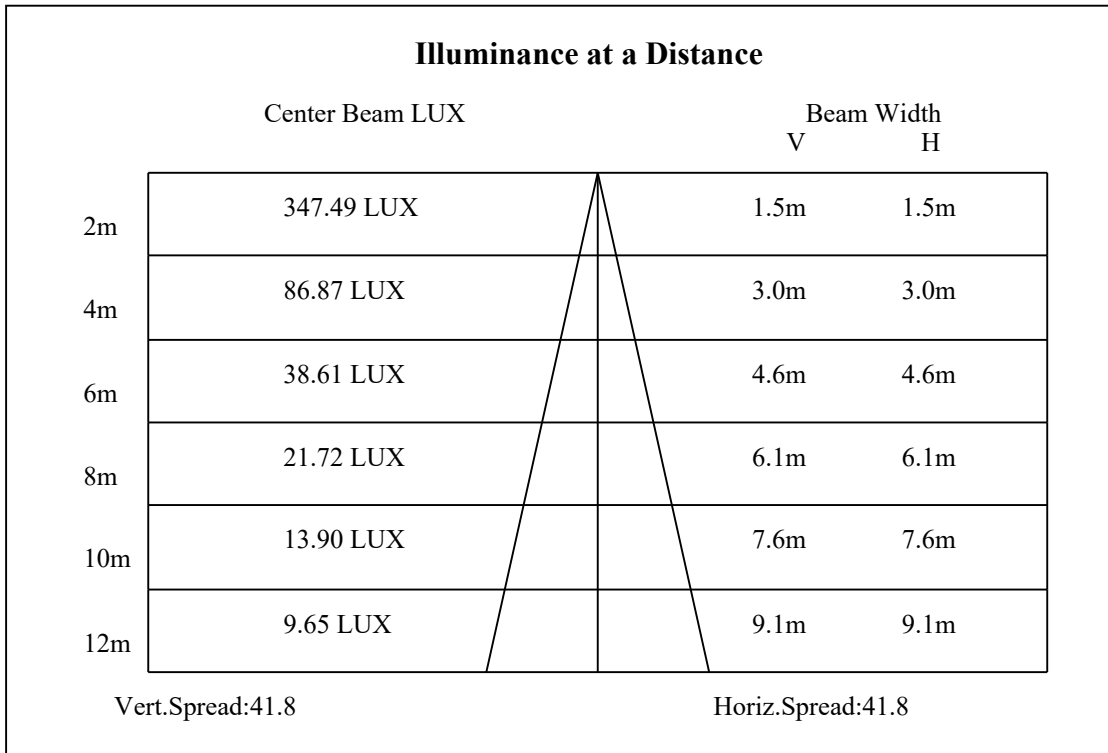
C90/C270: —————

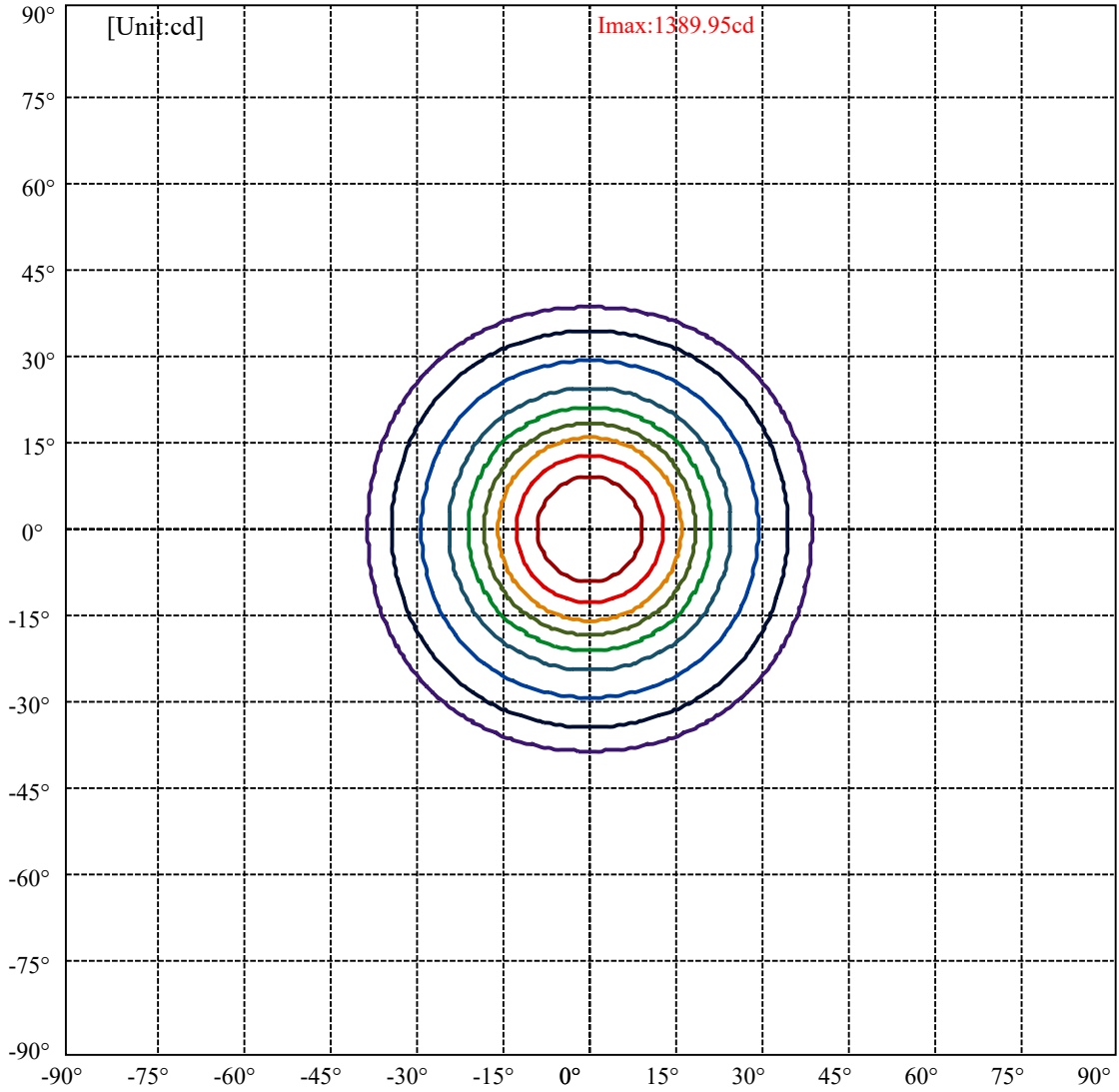
Field angle(10%Imax):C0/180Left:38.1 Right:38.1

:C90/270Left:38.1 Right:38.1

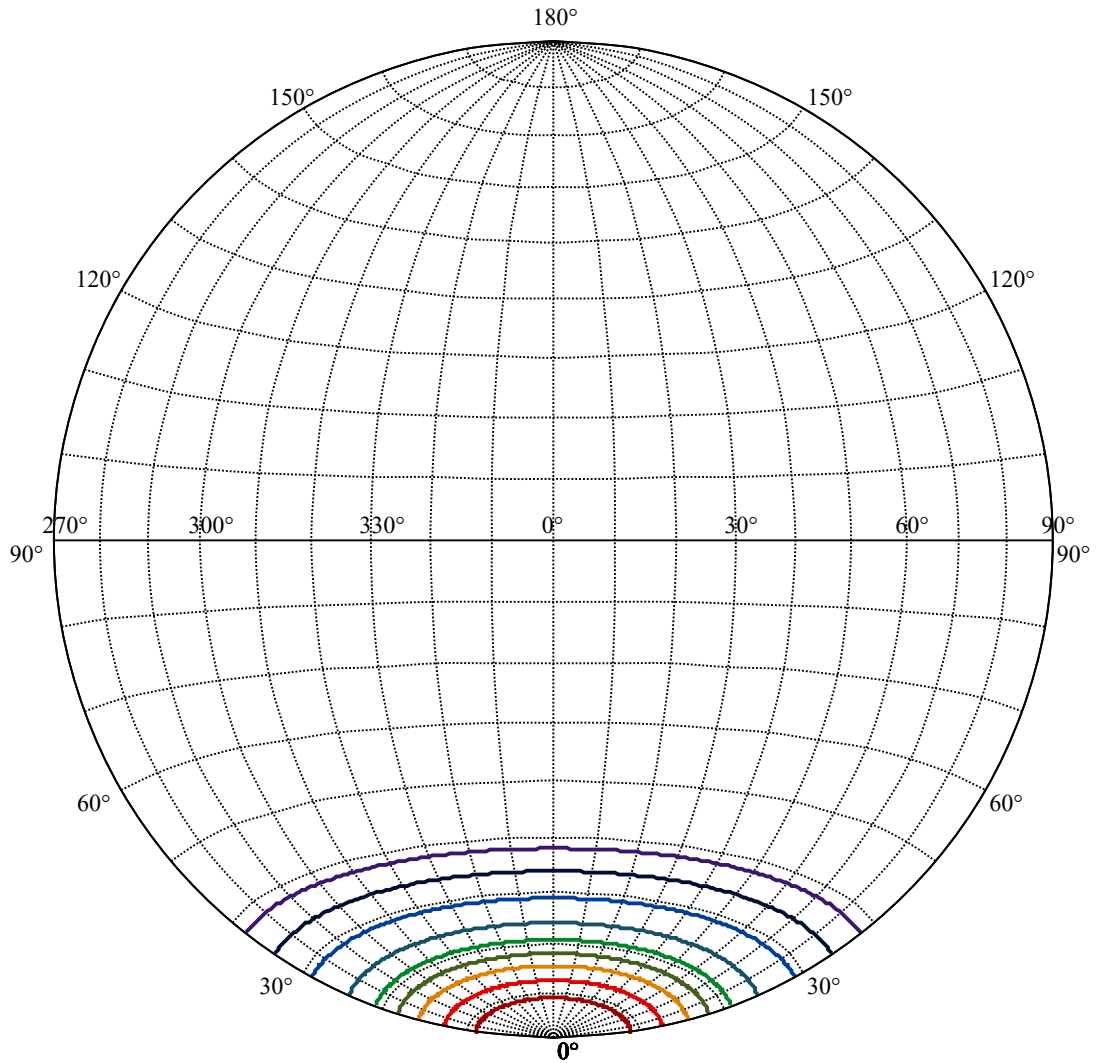
Beam Angle(50%Imax):C0/180Left:20.9 Right:20.9

:C90/270Left:20.9 Right:20.9





(10%Imax) 138.995	—
(20%Imax) 277.99	—
(30%Imax) 416.984	—
(40%Imax) 555.979	—
(50%Imax) 694.974	—
(60%Imax) 833.969	—
(70%Imax) 972.963	—
(80%Imax) 1111.96	—
(90%Imax) 1250.95	—



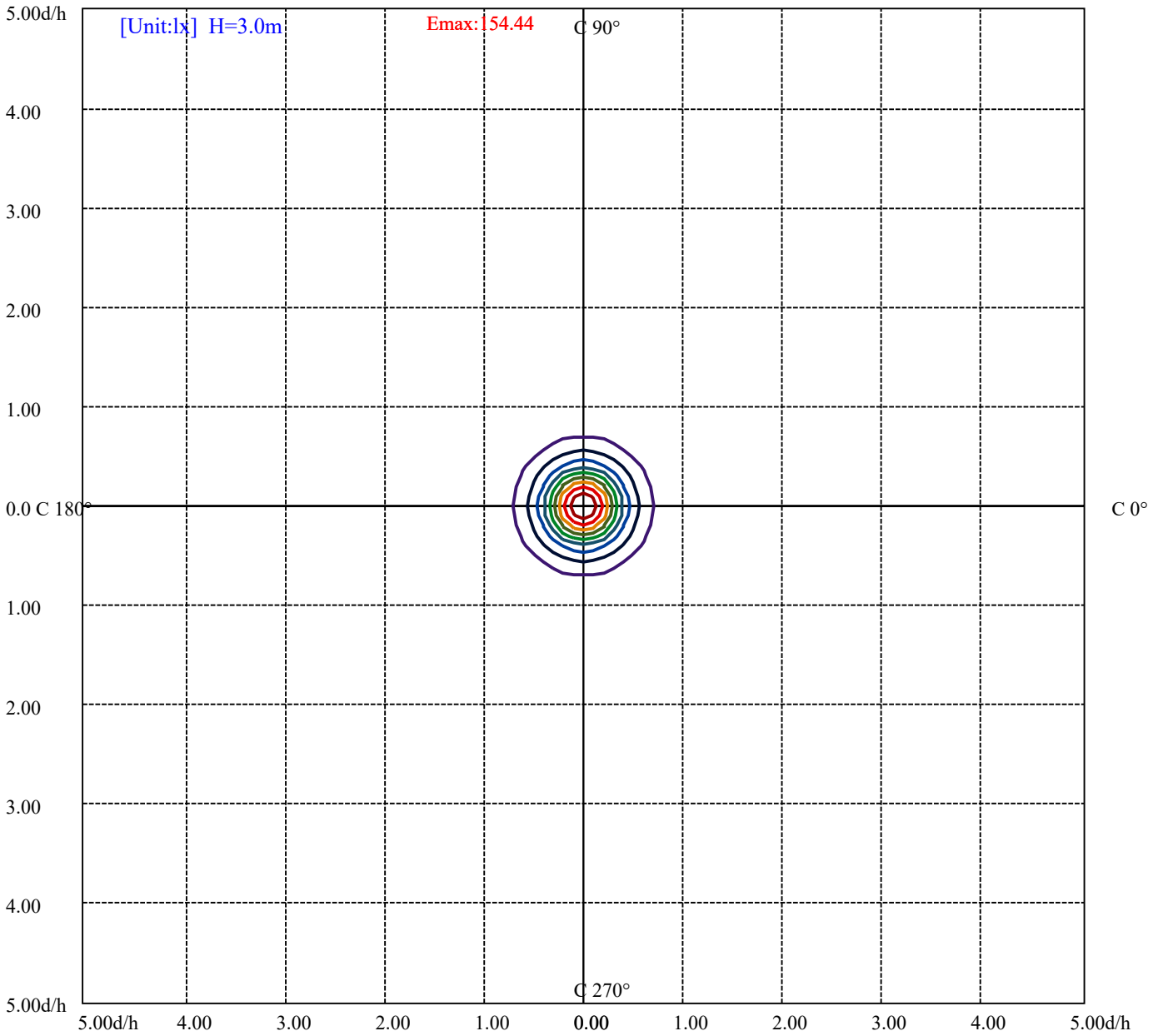
House

[Unit:cd]

Road

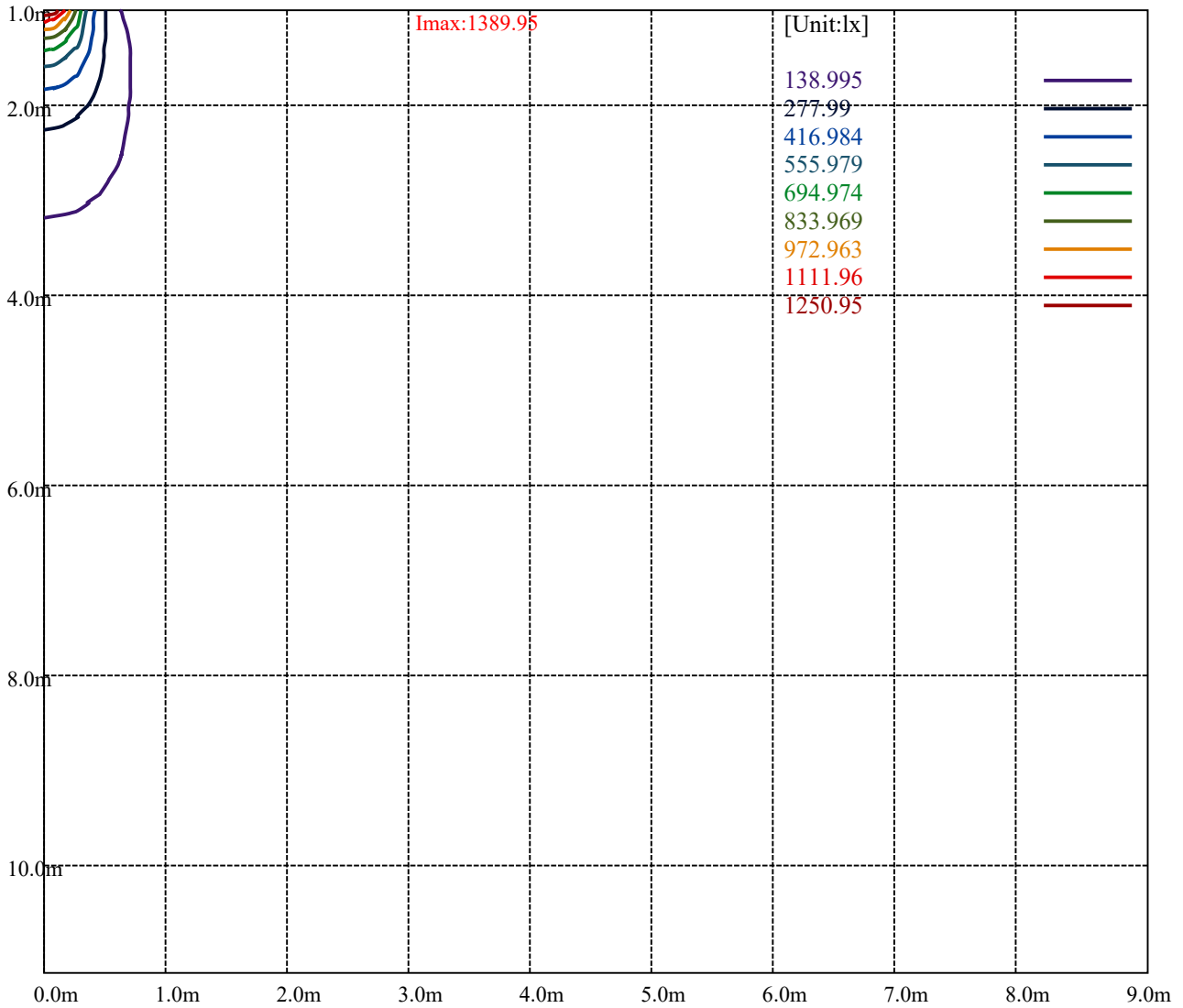
**Imax:1389.95**

(10%Imax) 138.995	—
(20%Imax) 277.99	—
(30%Imax) 416.984	—
(40%Imax) 555.979	—
(50%Imax) 694.974	—
(60%Imax) 833.969	—
(70%Imax) 972.963	—
(80%Imax) 1111.96	—
(90%Imax) 1250.95	—



(10%Emax) 15.44389	—
(20%Emax) 30.88767	—
(30%Emax) 46.33156	—
(40%Emax) 61.77544	—
(50%Emax) 77.21922	—
(60%Emax) 92.66312	—
(70%Emax) 108.107	—
(80%Emax) 123.5511	—
(90%Emax) 138.9944	—





Luminance Table

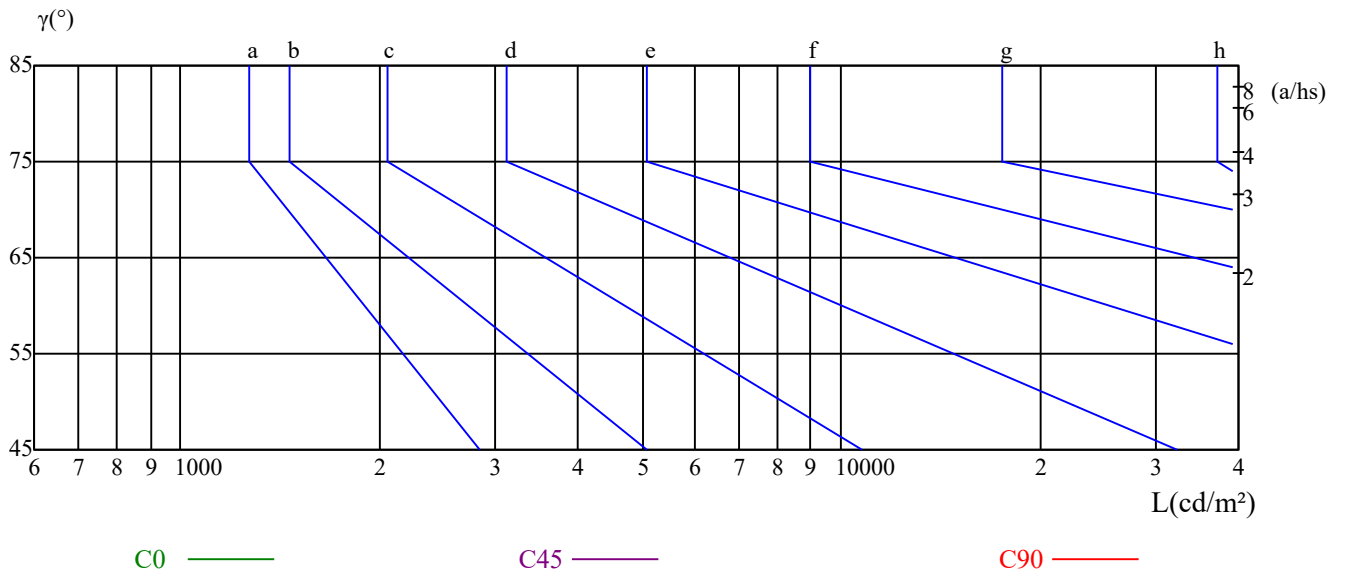
$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

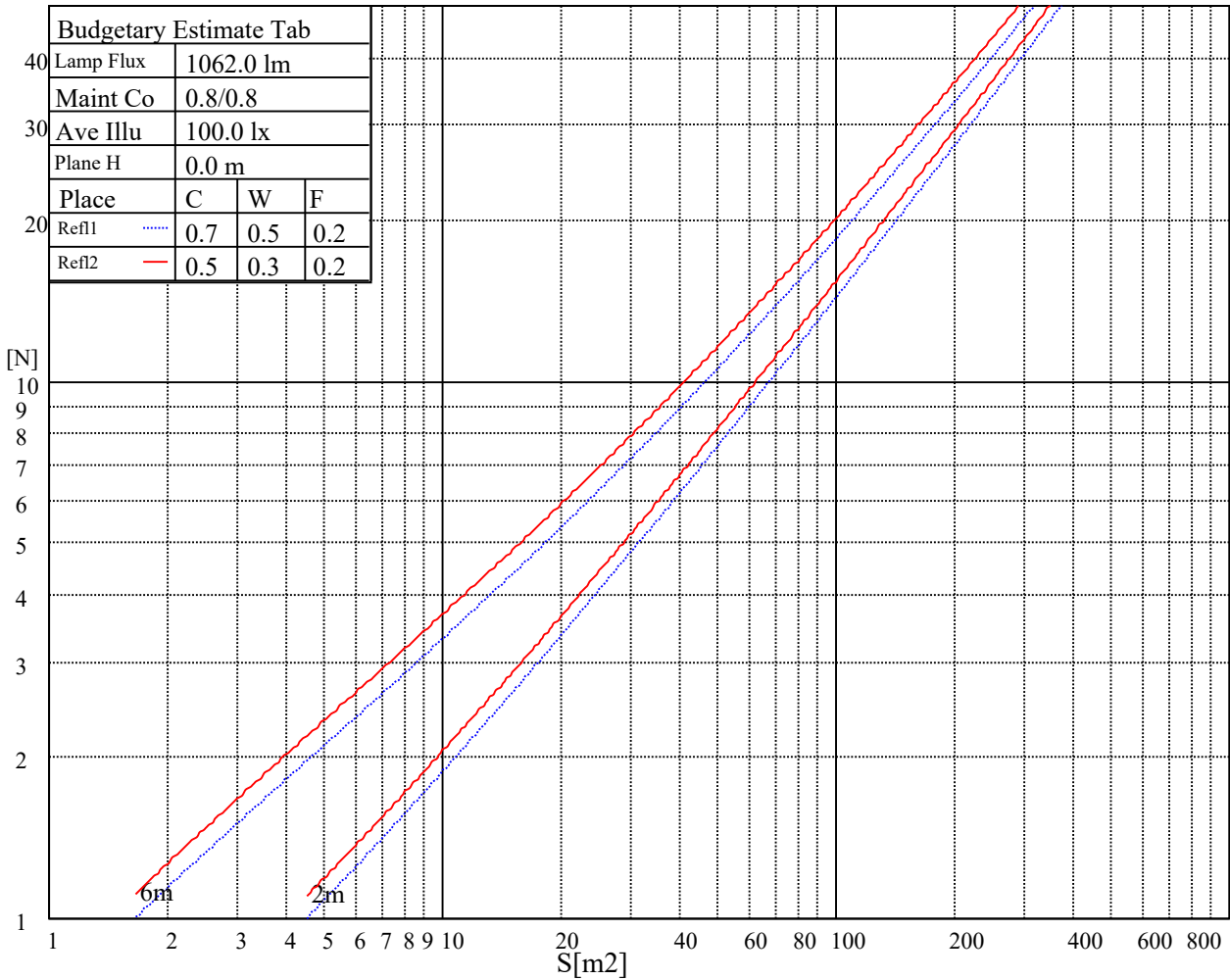
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

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	0.98	0.98	0.98	0.95	0.95	0.95	0.90	0.90	0.90	0.86	0.86	0.86	0.81	0.81	0.81	0.79
1	0.91	0.88	0.87	0.88	0.87	0.85	0.85	0.83	0.82	0.81	0.80	0.79	0.78	0.77	0.76	0.74
2	0.84	0.81	0.78	0.83	0.80	0.77	0.80	0.77	0.75	0.77	0.75	0.73	0.74	0.72	0.71	0.70
3	0.79	0.75	0.72	0.78	0.74	0.71	0.75	0.72	0.69	0.73	0.70	0.68	0.70	0.68	0.67	0.65
4	0.74	0.70	0.66	0.73	0.69	0.66	0.71	0.67	0.65	0.69	0.66	0.64	0.67	0.65	0.63	0.61
5	0.70	0.65	0.62	0.69	0.65	0.61	0.67	0.63	0.61	0.65	0.62	0.60	0.64	0.61	0.59	0.58
6	0.66	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.57	0.62	0.59	0.56	0.61	0.58	0.56	0.54
7	0.62	0.58	0.54	0.62	0.57	0.54	0.60	0.56	0.54	0.59	0.56	0.53	0.58	0.55	0.53	0.51
8	0.59	0.54	0.51	0.59	0.54	0.51	0.57	0.53	0.51	0.56	0.53	0.50	0.55	0.52	0.50	0.49
9	0.56	0.52	0.48	0.56	0.51	0.48	0.55	0.51	0.48	0.54	0.50	0.48	0.53	0.50	0.47	0.46
10	0.53	0.49	0.46	0.53	0.49	0.46	0.52	0.48	0.46	0.51	0.48	0.45	0.51	0.47	0.45	0.44

Intensity data(cd)

<b>C/γ(°)</b>	<b>0.0</b>	<b>5.0</b>	<b>10.0</b>	<b>15.0</b>	<b>20.0</b>	<b>25.0</b>	<b>30.0</b>	<b>35.0</b>	<b>40.0</b>
0.0	1387.57	1351.76	1237.06	1025.57	758.13	532.09	404.52	290.94	80.62
45.0	1393.72	1357.36	1240.98	1016.06	753.09	541.60	406.76	287.59	86.72
90.0	1389.81	1341.13	1174.96	983.33	704.36	511.39	376.71	209.76	61.27
135.0	1388.69	1355.68	1251.61	1030.61	760.93	531.53	405.64	283.11	81.02
180.0	1387.57	1348.40	1224.19	993.90	701.17	511.33	370.45	207.35	59.03
225.0	1393.72	1357.36	1225.31	1004.76	713.82	511.61	370.67	214.23	62.33
270.0	1389.81	1361.27	1261.68	1038.44	761.48	529.85	401.72	289.82	78.61
315.0	1388.69	1345.61	1186.15	990.60	702.18	501.99	369.22	207.13	57.96
360.0	1387.57	1351.76	1237.06	1025.57	758.13	532.09	404.52	290.94	80.62
<b>C/γ(°)</b>	<b>45.0</b>	<b>50.0</b>	<b>55.0</b>	<b>60.0</b>	<b>65.0</b>	<b>70.0</b>	<b>75.0</b>	<b>80.0</b>	<b>85.0</b>
0.0	20.09	12.25	9.01	7.33	6.38	5.76	5.37	5.15	6.15
45.0	21.65	13.15	9.57	7.78	6.60	5.93	5.43	5.15	6.38
90.0	18.58	11.97	9.01	7.27	6.32	5.71	5.32	5.04	4.92
135.0	20.87	12.48	9.12	7.39	6.38	5.76	5.32	5.04	4.92
180.0	19.30	11.53	8.73	7.05	6.21	5.60	5.26	4.98	4.87
225.0	19.36	12.09	9.12	7.39	6.32	5.76	5.32	5.09	5.71
270.0	20.31	12.09	9.01	7.33	6.38	5.76	5.37	5.09	6.21
315.0	17.68	11.08	8.50	6.99	6.15	5.60	5.20	4.98	5.15
360.0	20.09	12.25	9.01	7.33	6.38	5.76	5.37	5.15	6.15
<b>C/γ(°)</b>	<b>90.0</b>	<b>95.0</b>	<b>100.0</b>	<b>105.0</b>	<b>110.0</b>	<b>115.0</b>	<b>120.0</b>	<b>125.0</b>	<b>130.0</b>
0.0	4.81	5.87	5.04	4.98	4.87	4.87	4.87	4.87	4.92
45.0	4.87	5.32	4.87	4.87	4.87	4.87	4.87	4.87	4.87
90.0	4.81	4.81	4.81	4.81	4.81	4.81	4.87	4.87	4.87
135.0	4.87	4.92	4.87	4.87	4.81	4.87	4.87	4.87	4.87
180.0	4.87	4.92	4.81	4.81	4.87	4.81	4.81	4.87	4.87
225.0	4.87	4.92	4.81	4.81	4.87	4.87	4.87	4.87	4.92
270.0	4.87	5.76	4.87	4.87	4.87	4.87	4.87	4.87	4.92
315.0	4.81	5.09	4.87	4.81	4.87	4.87	4.87	4.87	4.98
360.0	4.81	5.87	5.04	4.98	4.87	4.87	4.87	4.87	4.92
<b>C/γ(°)</b>	<b>135.0</b>	<b>140.0</b>	<b>145.0</b>	<b>150.0</b>	<b>155.0</b>	<b>160.0</b>	<b>165.0</b>	<b>170.0</b>	<b>175.0</b>
0.0	5.04	5.09	5.43	6.04	6.99	7.89	8.73	9.29	9.68
45.0	4.92	4.98	5.26	5.76	6.60	7.50	8.34	8.90	9.34
90.0	4.92	4.98	5.26	5.87	6.71	7.55	8.34	9.01	9.40
135.0	4.92	4.98	5.20	5.71	6.60	7.50	8.34	8.95	9.51
180.0	4.87	4.98	5.26	5.93	6.77	7.72	8.50	9.18	9.57
225.0	5.04	5.15	5.48	6.15	7.05	8.00	8.67	9.29	9.57
270.0	5.04	5.15	5.43	6.04	6.88	7.83	8.67	9.23	9.62
315.0	5.04	5.15	5.48	6.21	7.11	8.00	8.78	9.40	9.68
360.0	5.04	5.09	5.43	6.04	6.99	7.89	8.73	9.29	9.68
<b>C/γ(°)</b>	<b>180.0</b>								
0.0	9.74								
45.0	9.62								
90.0	9.62								
135.0	9.74								
180.0	9.74								
225.0	9.62								
270.0	9.62								
315.0	9.74								
360.0	9.74								