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## Nata

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### Client:

LumCAT: 2-1682-M3

Luminaire: 92.70.125.00+92.70.152.00

Report No: 200915-B013

Voltage(V): 34.9900

Test No: 200914-C013

Current(A): 0.3720

LampCAT: Vesta DW LES9 Gen2 PD

Power (W): 13.0160

Lamp flux(lm): 1286.0

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): 1078.23, Efficiency(%): 83.84% , Luminous Efficacy(lm/W): 82.84

Central intensity(cd): 1711.688, Maximum intensity(cd): 1711.688

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

Beam Angle(50%Imax): [C0/180]Total=44.0

[C90/270]Total=44.0

Field angle(10%Imax): [C0/180]Total=77.4

[C90/270]Total=77.4

Maximum s/h(1/2): C0\_180=0.69 C90\_270=0.69

Maximum s/h(1/4): C0\_180=0.74 C90\_270=0.74

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 83.84%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 98.561%

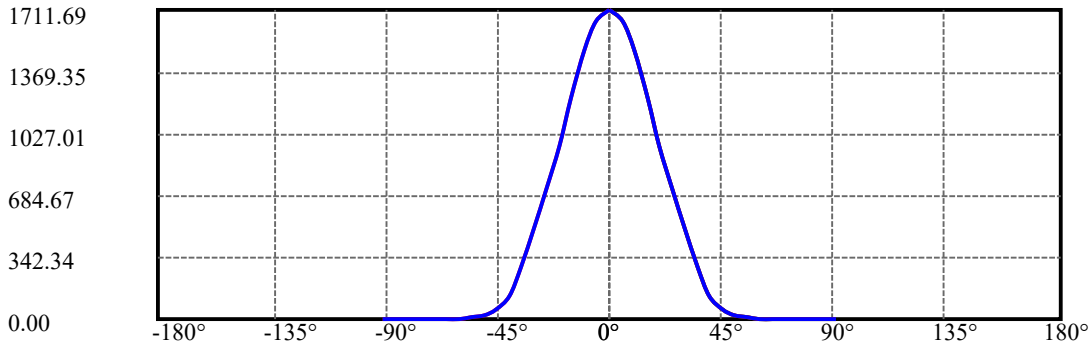
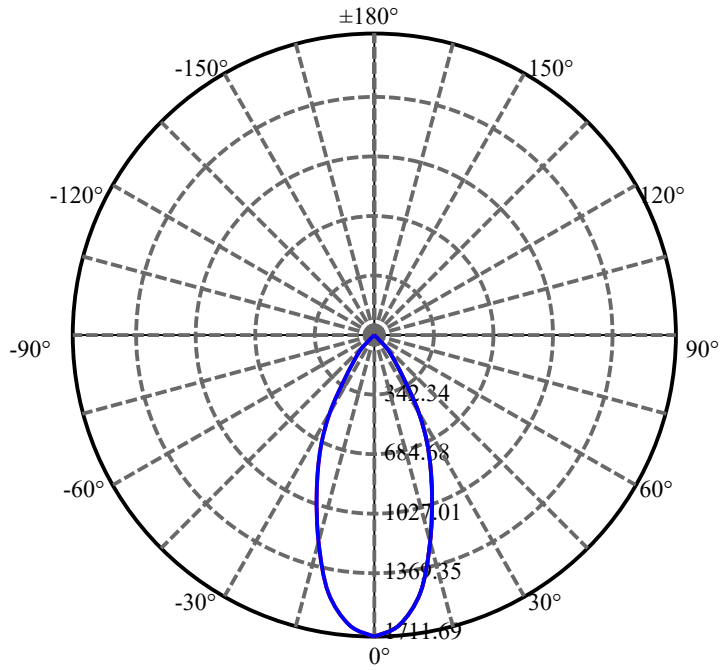
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1711.688	0.000	0	.000%	.000%
5.0	1652.133	40.214	40.214	3.127%	3.730%
10.0	1485.000	112.225	152.439	8.727%	14.138%
15.0	1218.663	160.379	312.818	12.471%	29.012%
20.0	955.139	179.152	491.97	13.931%	45.627%
25.0	711.956	174.848	666.818	13.596%	61.844%
30.0	508.718	154.477	821.295	12.012%	76.170%
35.0	288.626	117.414	938.709	9.130%	87.060%
40.0	129.720	69.798	1008.507	5.428%	93.533%
45.0	49.521	33.188	1041.695	2.581%	96.611%
50.0	16.488	13.338	1055.033	1.037%	97.848%
55.0	6.434	4.984	1060.017	.388%	98.311%
60.0	5.245	2.700	1062.717	.210%	98.561%
65.0	5.027	2.497	1065.214	.194%	98.793%
70.0	4.922	2.519	1067.733	.196%	99.026%
75.0	4.866	2.558	1070.291	.199%	99.264%
80.0	4.908	2.615	1072.906	.203%	99.506%
85.0	4.922	2.671	1075.577	.208%	99.754%
90.0	4.774	2.655	1078.232	.206%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	821.29	63.86%	76.17%
0-40	1008.51	78.42%	93.53%
0-60	1062.72	82.64%	98.56%
0-90	1075.58	83.64%	99.75%
0-120	1075.58	83.64%	99.75%
0-180	1078.23	83.84%	100.00%
60-90	15.56	1.21%	1.44%
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%
0-31.76	862.59	67.08%	80.00%

ZONAL LUMEN SUMMARY

0-10	152.44
10-20	339.53
20-30	329.32
30-40	187.21
40-50	46.53
50-60	7.68
60-70	5.02
70-80	5.17
80-90	2.67
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: —————

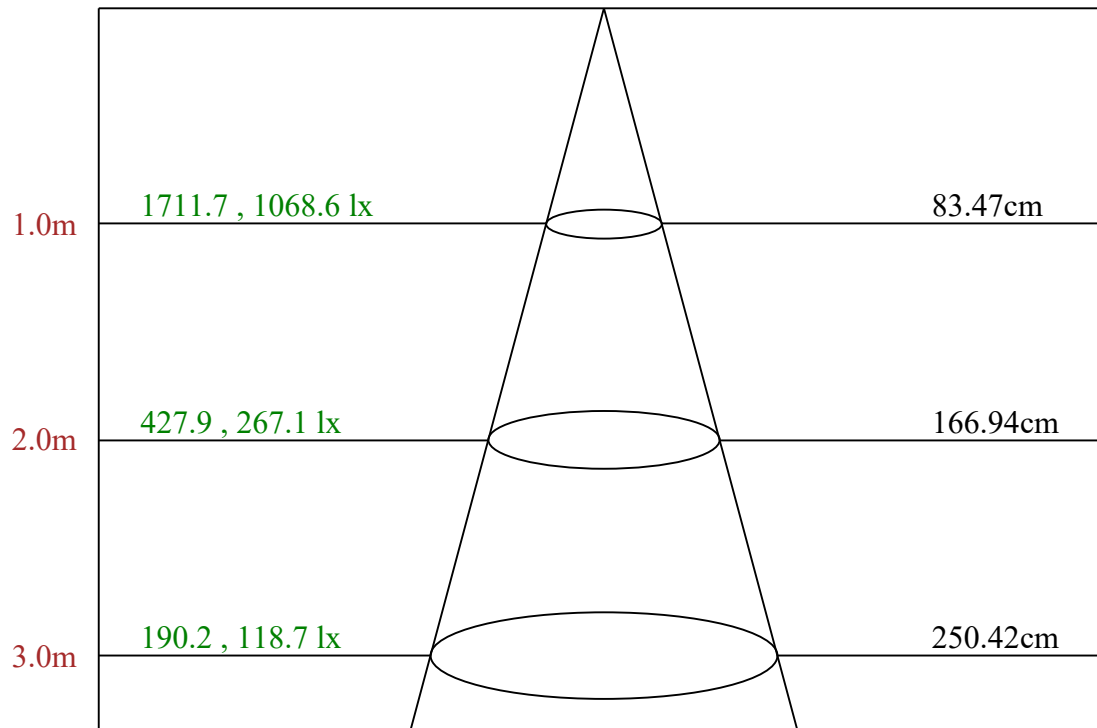
C90/C270: —————

Field angle(10%Imax):C0/180Left:38.7 Right:38.7

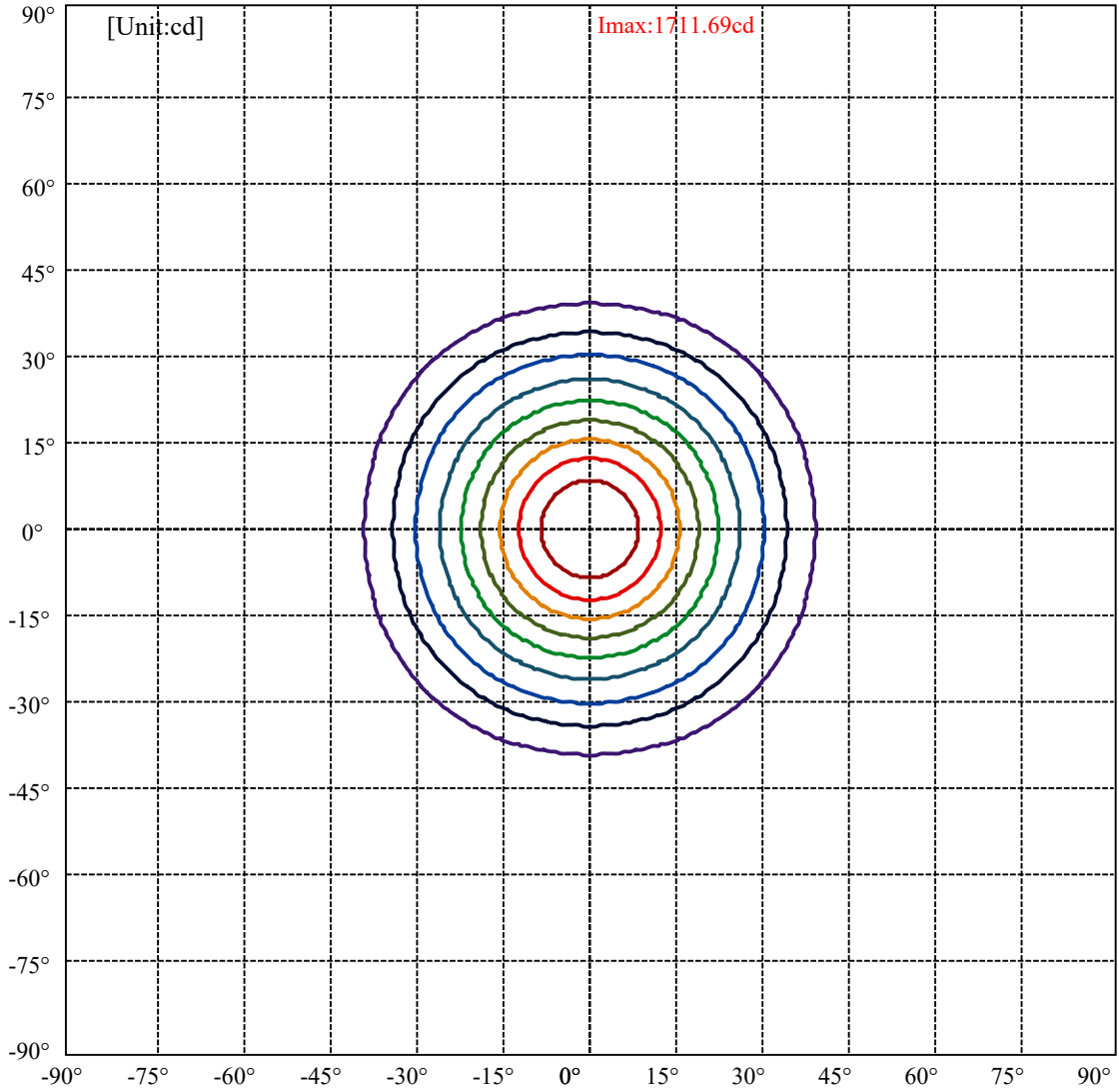
:C90/270Left:38.7 Right:38.7

Beam Angle(50%Imax):C0/180Left:22.0 Right:22.0

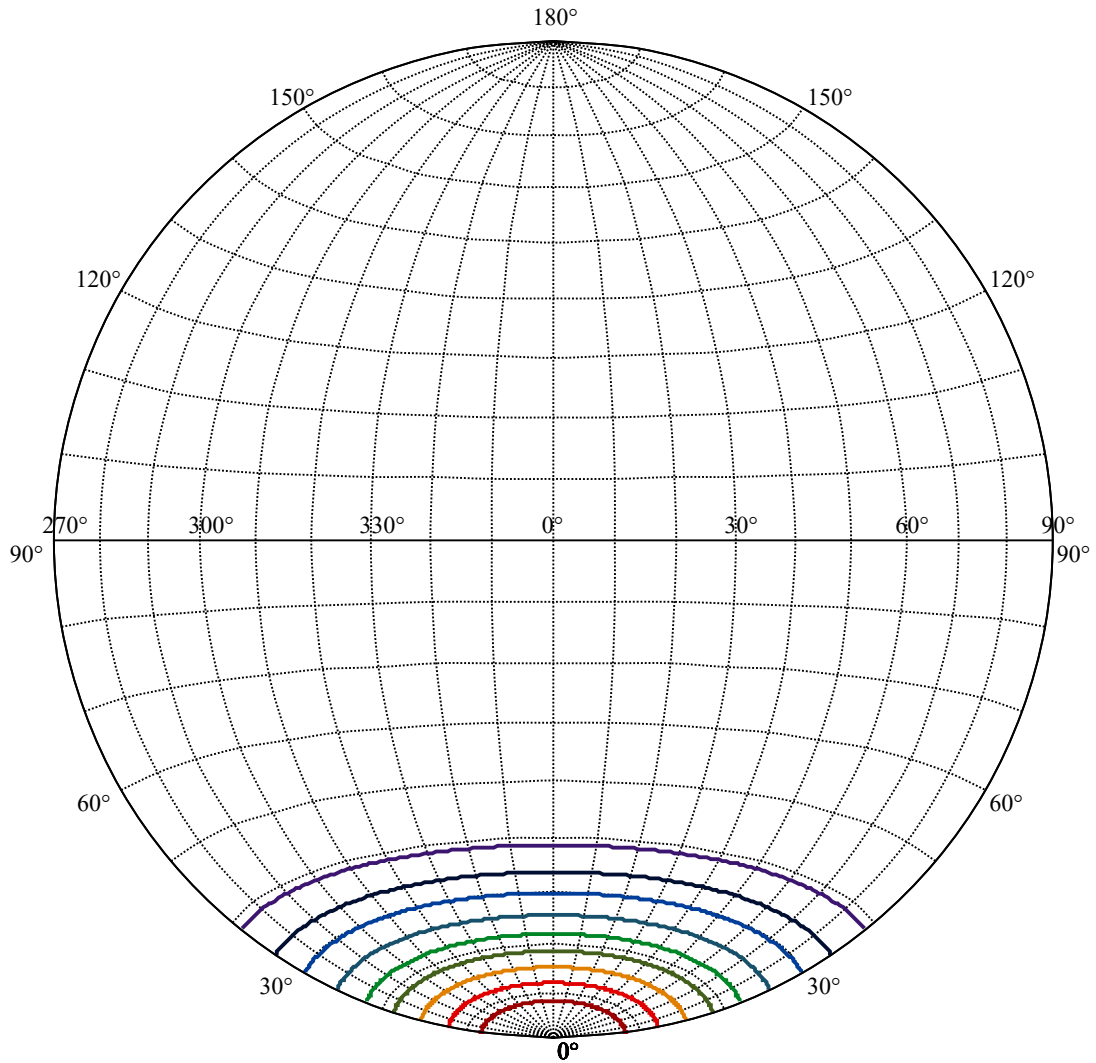
:C90/270Left:22.0 Right:22.0



Max , Ave      Beam angle of C0 plane 45.31



(10%Imax)	171.169	—
(20%Imax)	342.337	—
(30%Imax)	513.506	—
(40%Imax)	684.675	—
(50%Imax)	855.844	—
(60%Imax)	1027.01	—
(70%Imax)	1198.18	—
(80%Imax)	1369.35	—
(90%Imax)	1540.52	—



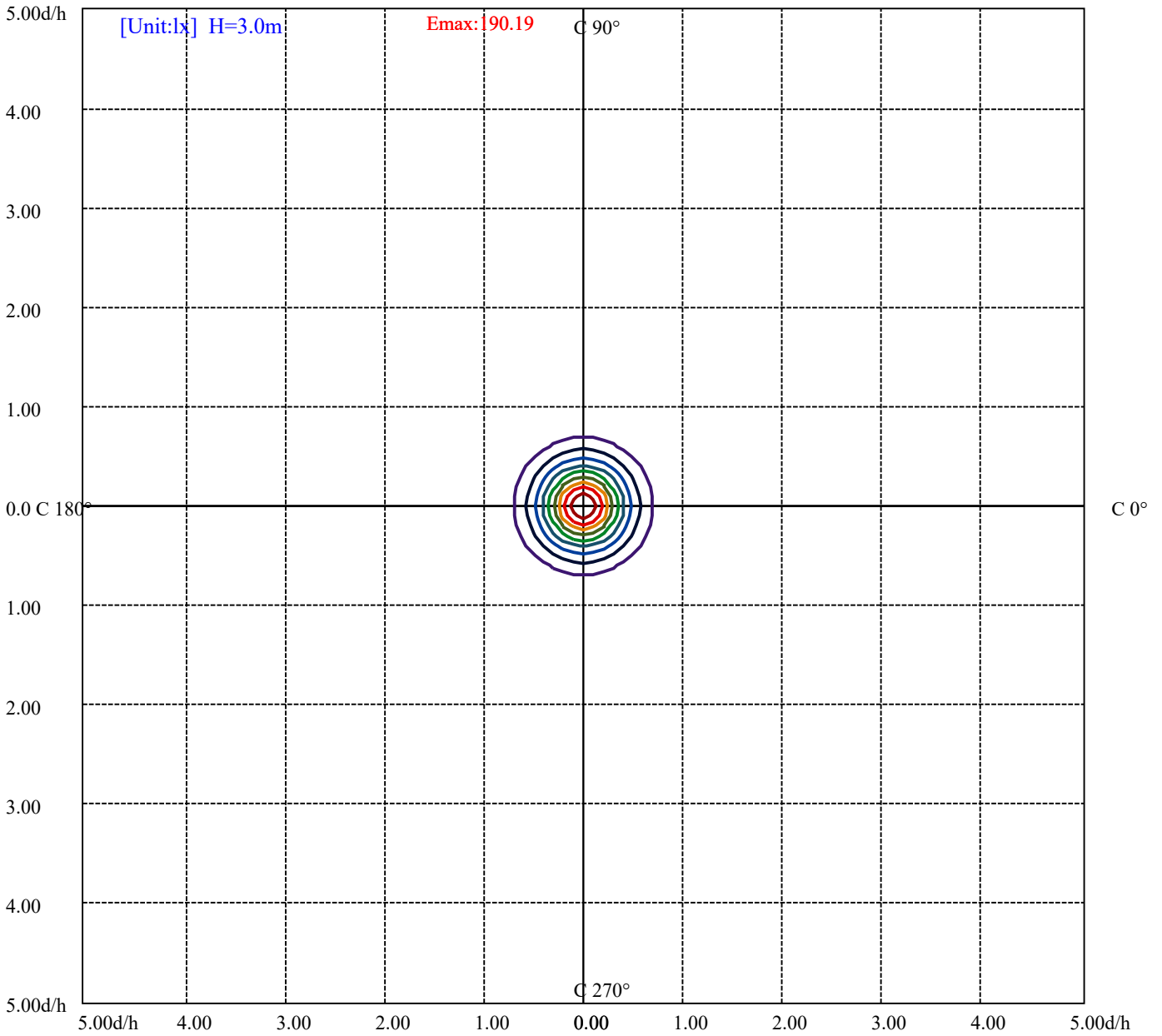
House

[Unit:cd]

Road

**Imax:1711.69**

(10%Imax)	171.169	—
(20%Imax)	342.337	—
(30%Imax)	513.506	—
(40%Imax)	684.675	—
(50%Imax)	855.844	—
(60%Imax)	1027.01	—
(70%Imax)	1198.18	—
(80%Imax)	1369.35	—
(90%Imax)	1540.52	—



(10%Emax) 19.01878	—
(20%Emax) 38.03745	—
(30%Emax) 57.05622	—
(40%Emax) 76.07489	—
(50%Emax) 95.09367	—
(60%Emax) 114.1122	—
(70%Emax) 133.1311	—
(80%Emax) 152.15	—
(90%Emax) 171.1689	—



Luminance Table

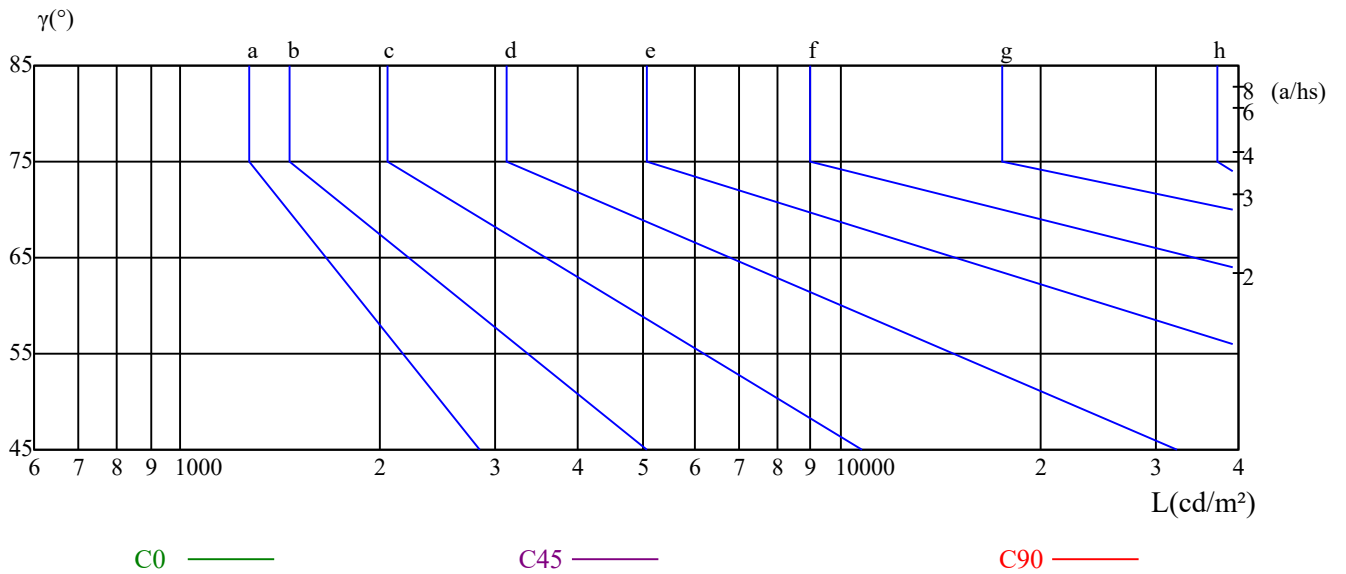
$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

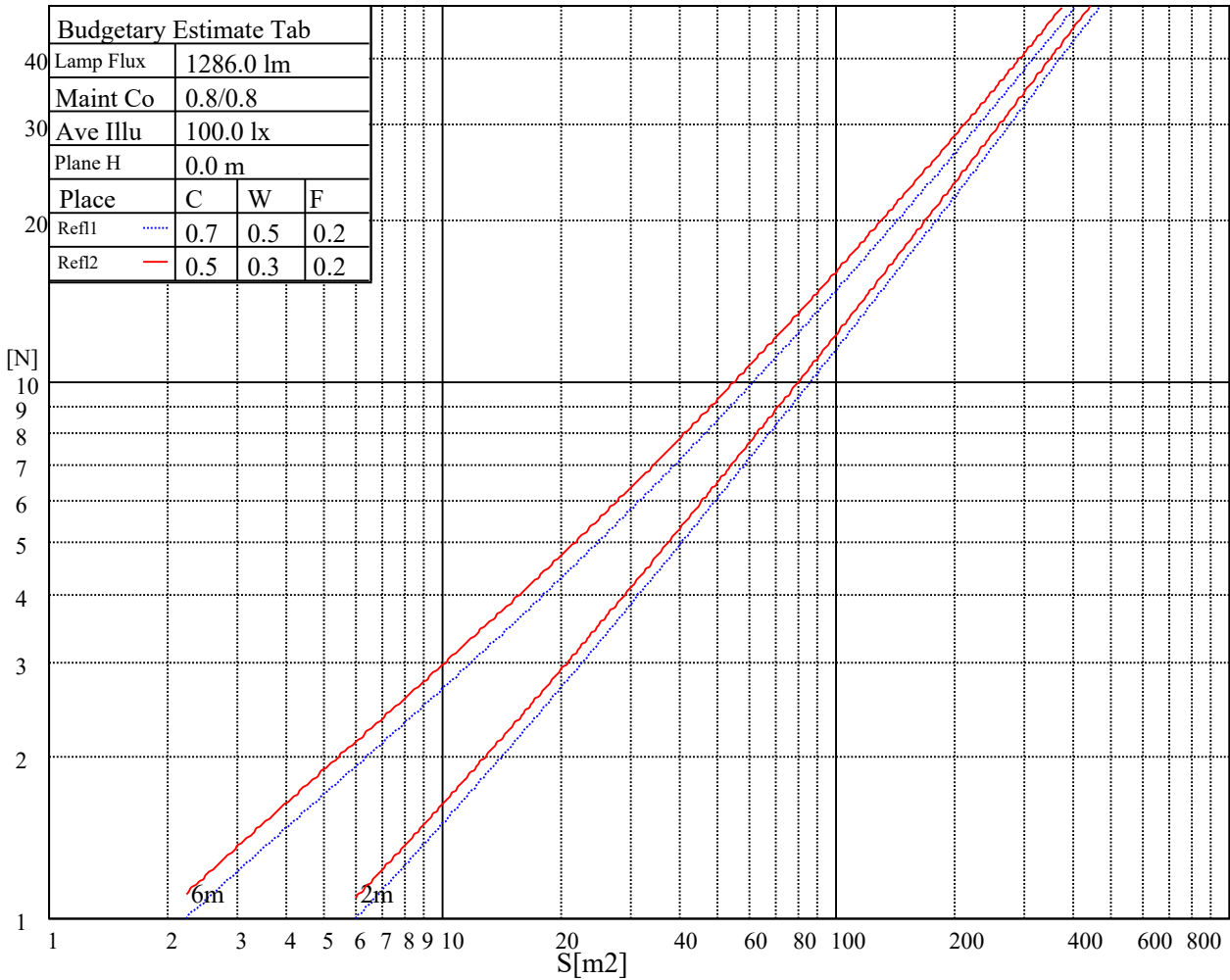
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

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	0.86	0.86	0.86	0.84
1	0.93	0.91	0.89	0.91	0.89	0.88	0.88	0.86	0.85	0.85	0.83	0.82	0.82	0.81	0.80	0.78
2	0.87	0.83	0.81	0.85	0.82	0.80	0.83	0.80	0.78	0.80	0.78	0.76	0.78	0.76	0.75	0.73
3	0.81	0.77	0.74	0.80	0.76	0.73	0.78	0.75	0.72	0.76	0.73	0.71	0.74	0.72	0.70	0.69
4	0.76	0.72	0.69	0.75	0.71	0.68	0.74	0.70	0.67	0.72	0.69	0.67	0.70	0.68	0.66	0.65
5	0.72	0.67	0.64	0.71	0.67	0.63	0.70	0.66	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.61
6	0.68	0.63	0.60	0.67	0.63	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.57
7	0.64	0.59	0.56	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.55	0.61	0.57	0.55	0.54
8	0.61	0.56	0.53	0.60	0.56	0.53	0.59	0.55	0.52	0.59	0.55	0.52	0.58	0.55	0.52	0.51
9	0.58	0.53	0.50	0.57	0.53	0.50	0.57	0.53	0.50	0.56	0.52	0.49	0.55	0.52	0.49	0.48
10	0.55	0.50	0.47	0.55	0.50	0.47	0.54	0.50	0.47	0.53	0.50	0.47	0.53	0.49	0.47	0.46

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	1714.50	1629.00	1434.38	1209.94	936.00	702.56	513.56	286.88	119.87
45.0	1711.13	1631.25	1453.50	1203.75	923.06	720.00	506.25	286.31	128.81
90.0	1712.81	1648.69	1456.88	1091.81	900.17	661.22	469.41	253.63	109.86
135.0	1708.31	1693.13	1550.81	1318.50	996.19	731.81	522.56	312.75	142.59
180.0	1714.50	1672.31	1526.63	1272.38	972.62	719.78	503.89	281.03	131.96
225.0	1711.13	1667.81	1526.06	1273.50	987.41	727.82	527.40	299.31	135.39
270.0	1712.81	1666.69	1515.94	1270.13	1022.63	750.94	546.19	322.31	154.13
315.0	1708.31	1608.19	1415.81	1109.31	903.04	681.53	480.49	266.79	115.14
360.0	1714.50	1629.00	1434.38	1209.94	936.00	702.56	513.56	286.88	119.87
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	47.98	15.58	6.24	5.23	4.95	4.89	4.84	4.89	5.06
45.0	44.66	13.89	5.96	5.23	5.06	4.95	4.95	5.01	5.18
90.0	37.18	12.83	5.79	5.18	5.06	4.95	4.95	5.01	4.84
135.0	54.00	18.45	6.69	5.29	5.06	4.95	4.84	4.89	4.78
180.0	51.47	16.99	6.36	5.18	4.95	4.84	4.78	4.78	4.73
225.0	56.19	18.56	6.75	5.23	5.01	4.89	4.78	4.84	4.78
270.0	60.64	21.15	7.43	5.40	5.12	5.01	4.95	4.95	4.95
315.0	44.04	14.46	6.24	5.23	5.01	4.89	4.84	4.89	5.06
360.0	47.98	15.58	6.24	5.23	4.95	4.89	4.84	4.89	5.06
C/γ(°)	90.0								
0.0	4.78								
45.0	4.78								
90.0	4.78								
135.0	4.78								
180.0	4.78								
225.0	4.78								
270.0	4.78								
315.0	4.73								
360.0	4.78								