
Nata

Client:

LumCAT: 2-1680-M2

Luminaire: 92.70.125.00+92.70.152.00

Report No: 200915-B014

Test No: 200914-C014

LampCAT: Vesta DW LES9 Gen2 PD

Lamp flux(lm): 1286.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 34.8600

Current(A): 0.3700

Power (W): 12.8980

PF: 0.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 1089.69, Efficiency(%): 84.73% , Luminous Efficacy(lm/W): 84.49

Central intensity(cd): 2737.828, Maximum intensity(cd): 2737.828

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=28.4

[C90/270]Total=28.4

Field angle(10%Imax): [C0/180]Total=71.8

[C90/270]Total=71.8

Maximum s/h(1/2): C0_180=0.48 C90_270=0.48

Maximum s/h(1/4): C0_180=0.51 C90_270=0.51

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 84.73%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.569%

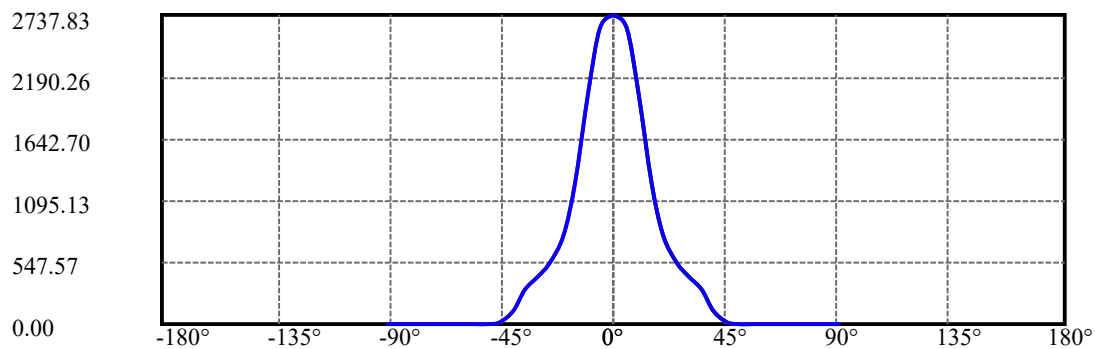
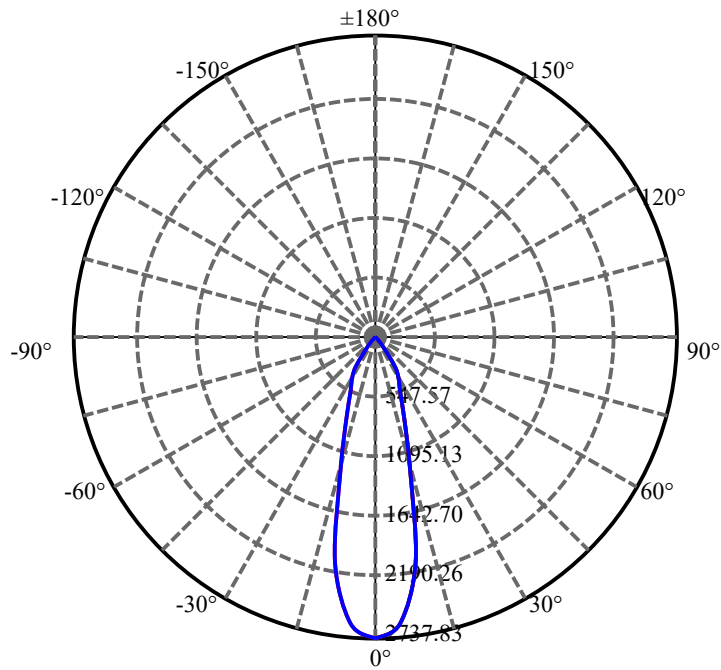
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2737.828	0.000	0	.000%	.000%
5.0	2615.344	63.996	63.996	4.976%	5.873%
10.0	2065.922	167.464	231.459	13.022%	21.241%
15.0	1233.232	195.704	427.163	15.218%	39.200%
20.0	786.691	166.470	593.633	12.945%	54.477%
25.0	548.909	140.080	733.713	10.893%	67.332%
30.0	428.513	123.693	857.406	9.618%	78.684%
35.0	310.085	108.764	966.17	8.458%	88.665%
40.0	113.048	70.597	1036.766	5.490%	95.143%
45.0	25.179	25.594	1062.36	1.990%	97.492%
50.0	7.186	6.540	1068.9	.509%	98.092%
55.0	5.428	2.743	1071.643	.213%	98.344%
60.0	5.168	2.449	1074.092	.190%	98.569%
65.0	5.006	2.473	1076.566	.192%	98.796%
70.0	4.943	2.519	1079.085	.196%	99.027%
75.0	4.922	2.579	1081.663	.201%	99.264%
80.0	4.936	2.638	1084.301	.205%	99.506%
85.0	4.999	2.700	1087.001	.210%	99.753%
90.0	4.816	2.688	1089.688	.209%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	857.41	66.67%	78.68%
0-40	1036.77	80.62%	95.14%
0-60	1074.09	83.52%	98.57%
0-90	1087.00	84.53%	99.75%
0-120	1087.00	84.53%	99.75%
0-180	1089.69	84.73%	100.00%
60-90	15.36	1.19%	1.41%
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%
0-30.66	871.75	67.79%	80.00%

ZONAL LUMEN SUMMARY

0-10	231.46
10-20	362.17
20-30	263.77
30-40	179.36
40-50	32.13
50-60	5.19
60-70	4.99
70-80	5.22
80-90	2.70
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:

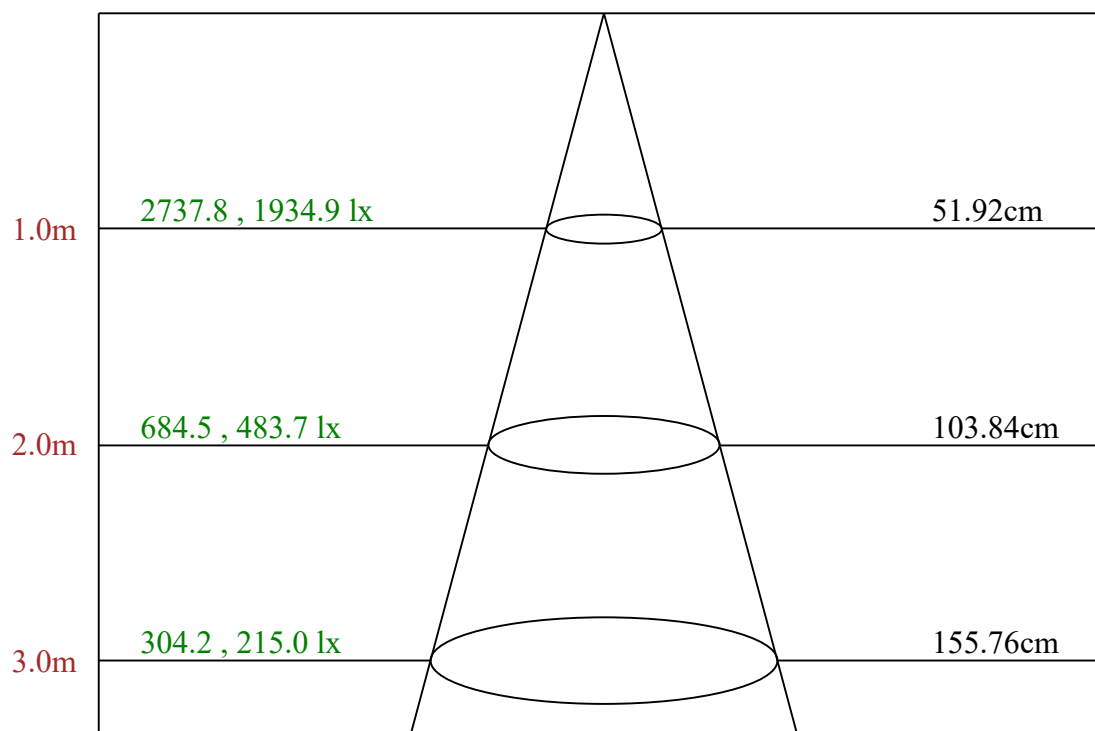
C90/C270:

Field angle(10%Imax):C0/180Left:35.9 Right:35.9

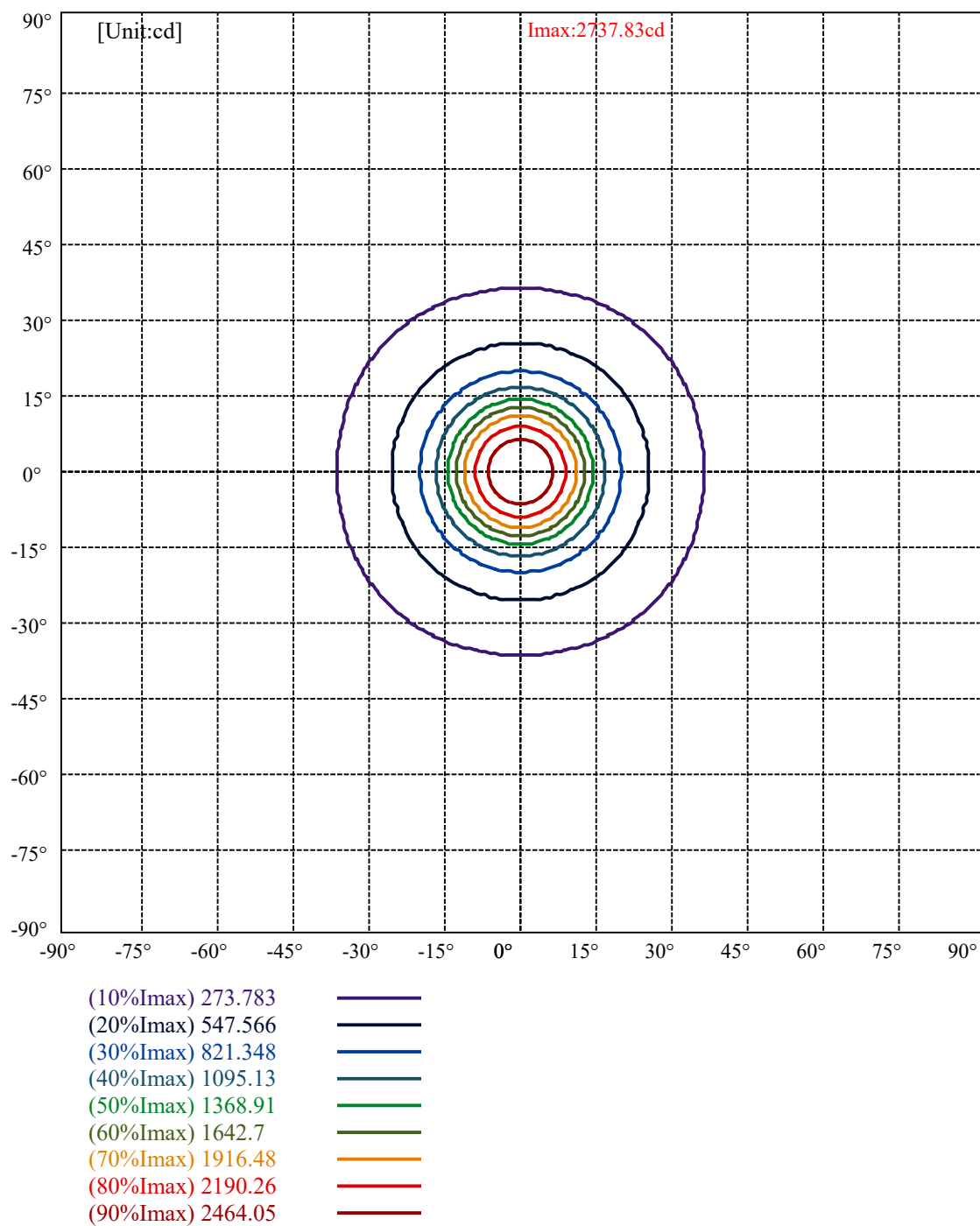
:C90/270Left:35.9 Right:35.9

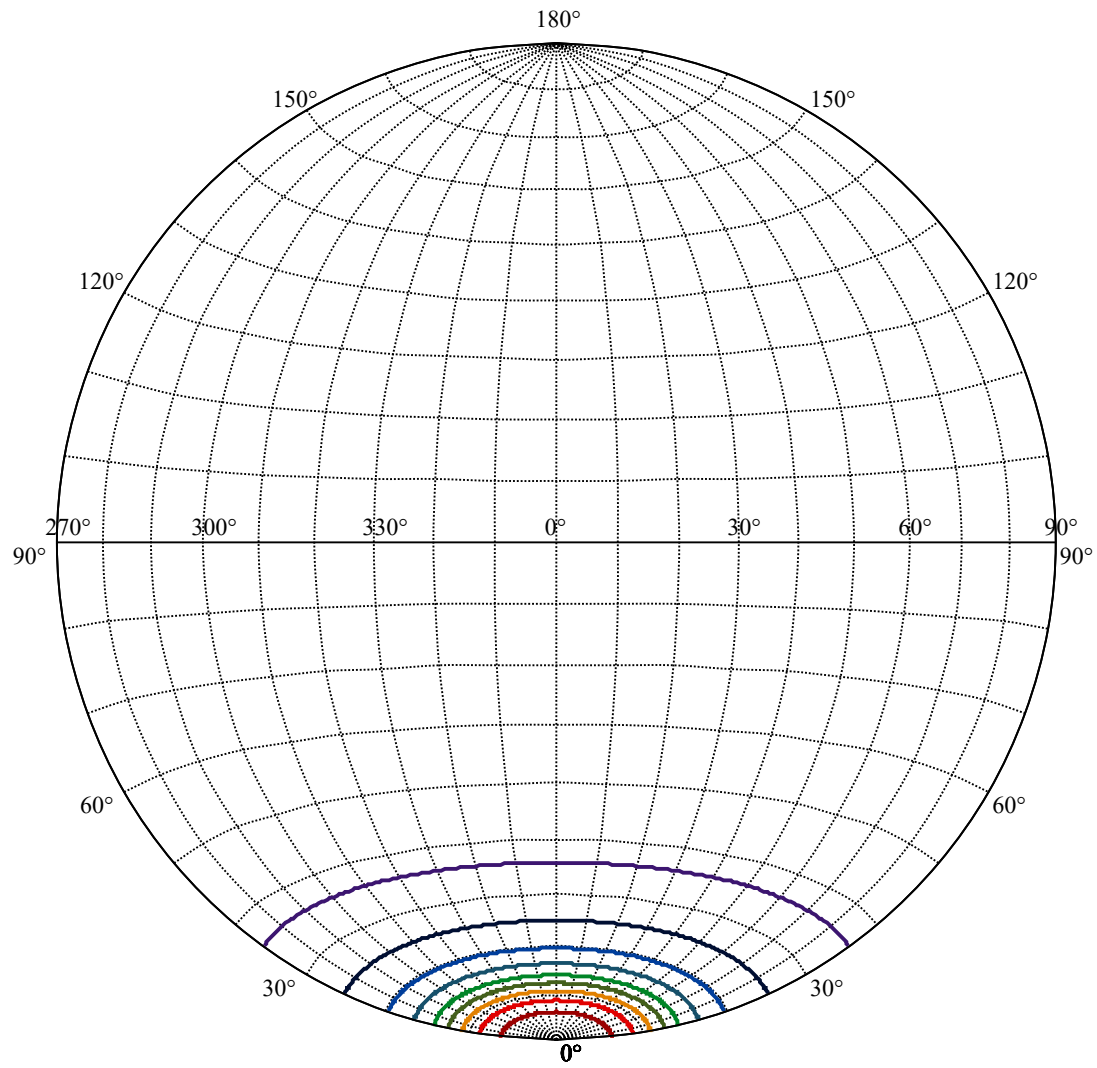
Beam Angle(50%Imax):C0/180Left:14.2 Right:14.2

:C90/270Left:14.2 Right:14.2



Max , Ave Beam angle of C0 plane 29.11



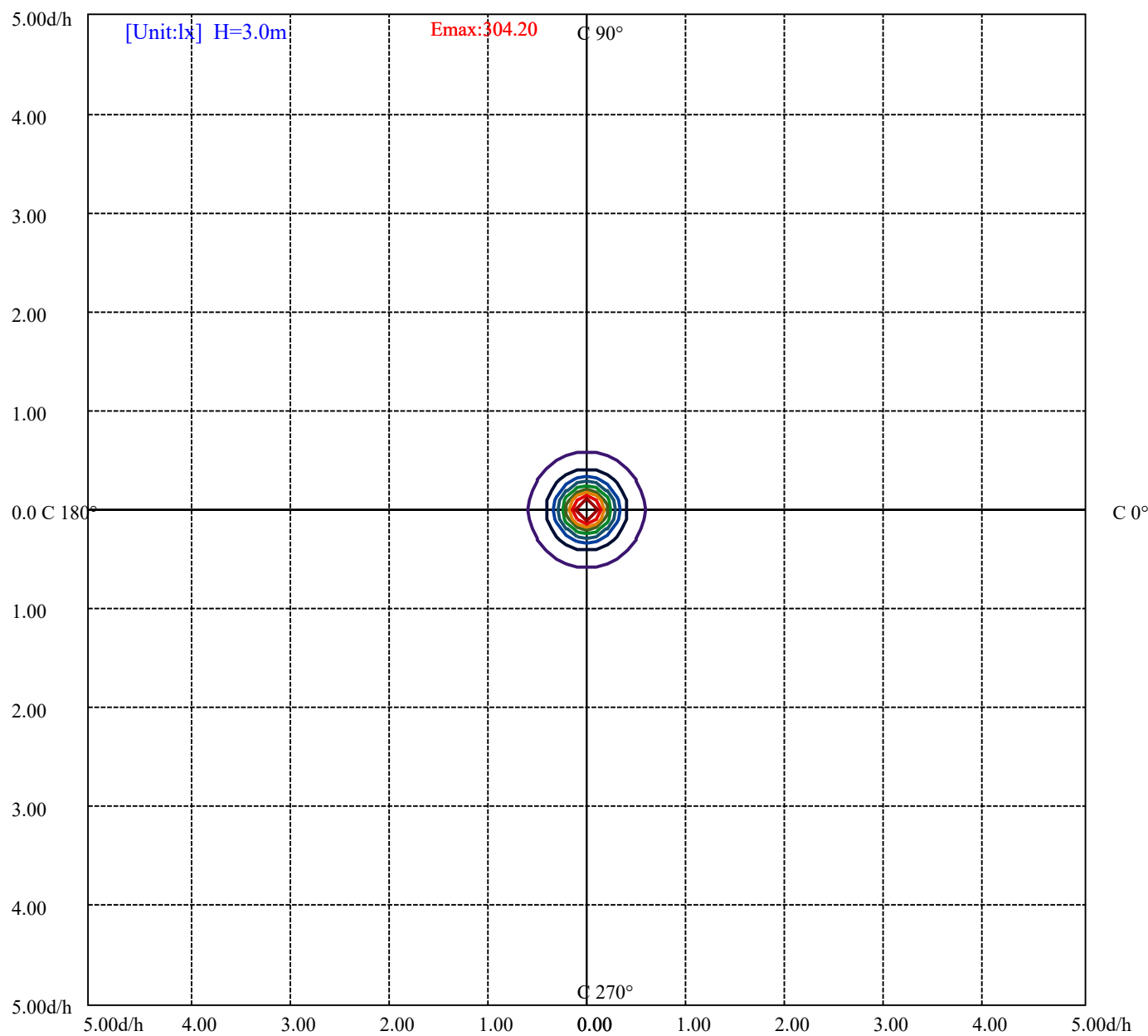


House

[Unit:cd]

Road

I _{max} :2737.83	
(10%I _{max})	273.783
(20%I _{max})	547.566
(30%I _{max})	821.348
(40%I _{max})	1095.13
(50%I _{max})	1368.91
(60%I _{max})	1642.7
(70%I _{max})	1916.48
(80%I _{max})	2190.26
(90%I _{max})	2464.05



(10%Emax) 30.42022	
(20%Emax) 60.84056	
(30%Emax) 91.26077	
(40%Emax) 121.6811	
(50%Emax) 152.1011	
(60%Emax) 182.5211	
(70%Emax) 212.9422	
(80%Emax) 243.3622	
(90%Emax) 273.7822	

Luminance Table

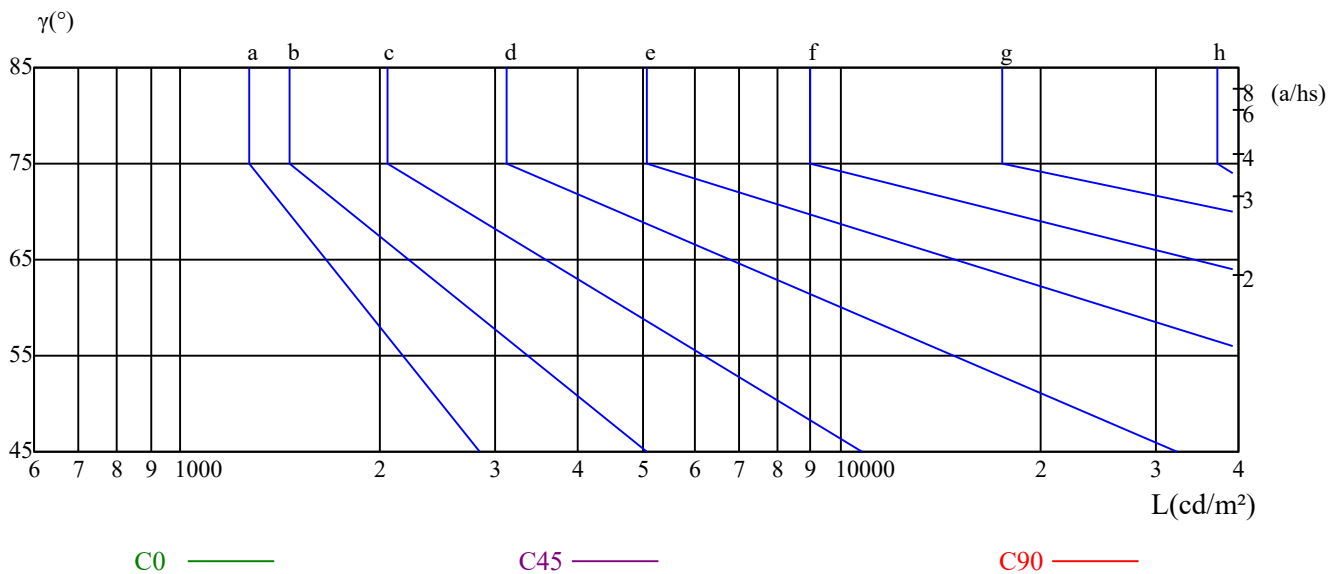
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

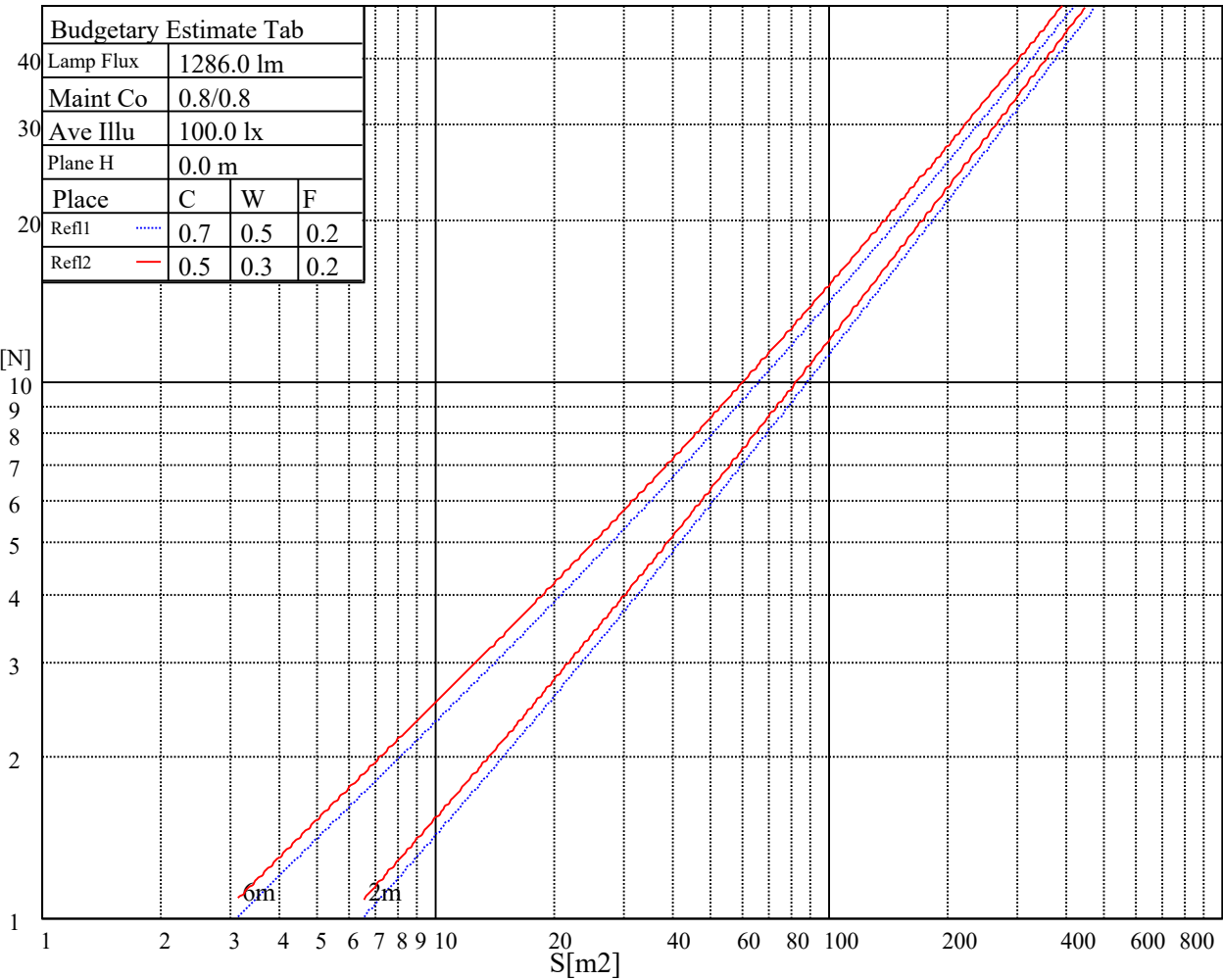
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

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





RHOC	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 RHOF=20 CU															
0	1.01	1.01	1.01	0.99	0.99	0.99	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.85
1	0.94	0.92	0.90	0.92	0.91	0.89	0.89	0.88	0.86	0.86	0.85	0.84	0.83	0.82	0.81	0.80
2	0.88	0.85	0.83	0.87	0.84	0.82	0.84	0.82	0.80	0.82	0.80	0.78	0.80	0.78	0.77	0.75
3	0.83	0.80	0.77	0.82	0.79	0.76	0.80	0.77	0.75	0.78	0.76	0.74	0.76	0.74	0.72	0.71
4	0.79	0.75	0.71	0.78	0.74	0.71	0.76	0.73	0.70	0.74	0.72	0.69	0.73	0.71	0.69	0.67
5	0.75	0.70	0.67	0.74	0.70	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.64
6	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
7	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.59	0.65	0.62	0.59	0.64	0.61	0.59	0.58
8	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.56	0.62	0.59	0.56	0.55
9	0.62	0.57	0.54	0.61	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.54	0.59	0.56	0.54	0.53
10	0.59	0.55	0.52	0.59	0.55	0.52	0.58	0.54	0.52	0.58	0.54	0.52	0.57	0.54	0.51	0.50

Intensity data(cd)										Appendix Page: 12 Total:12	
C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	2738.81	2686.50	2227.50	1437.19	844.31	569.25	444.38	334.69	133.88		
45.0	2734.88	2647.13	2140.88	1329.19	814.50	554.63	425.25	323.44	128.42		
90.0	2743.88	2603.81	1980.00	1103.85	743.06	532.35	410.29	280.86	101.31		
135.0	2733.75	2685.94	2201.06	1375.31	825.19	577.13	438.19	318.38	137.53		
180.0	2738.81	2585.81	1980.56	1114.20	744.64	520.93	411.02	281.70	88.76		
225.0	2734.88	2550.38	1924.88	1098.00	751.89	534.21	418.95	300.77	94.78		
270.0	2743.88	2591.44	2045.25	1316.25	818.44	571.50	451.13	342.56	130.33		
315.0	2733.75	2571.75	2027.25	1091.87	751.50	531.28	428.91	298.29	89.38		
360.0	2738.81	2686.50	2227.50	1437.19	844.31	569.25	444.38	334.69	133.88		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	28.07	7.65	5.40	5.12	4.95	4.89	4.84	4.78	4.78		
45.0	27.96	8.21	5.51	5.18	5.06	4.89	4.89	4.84	5.01		
90.0	23.01	6.75	5.51	5.23	5.06	5.01	5.01	5.01	4.89		
135.0	26.94	7.82	5.40	5.18	5.01	4.95	4.89	4.89	5.06		
180.0	18.62	6.47	5.34	5.12	4.95	4.95	4.89	4.95	5.23		
225.0	21.15	6.36	5.40	5.18	5.01	4.95	5.01	5.06	5.40		
270.0	32.68	7.82	5.51	5.23	5.06	5.01	5.01	5.06	4.89		
315.0	23.01	6.41	5.34	5.12	4.95	4.89	4.84	4.89	4.73		
360.0	28.07	7.65	5.40	5.12	4.95	4.89	4.84	4.78	4.78		
C/ γ (°)	90.0										
0.0	4.73										
45.0	4.73										
90.0	4.73										
135.0	4.73										
180.0	5.46										
225.0	4.73										
270.0	4.73										
315.0	4.73										
360.0	4.73										