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NATA

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LumCAT: 3-1865-E  
Luminaire: LMOP009-3225DH + 92.76.340.00  
Report No: 201610018                      Voltage(V): 218.0000  
Test No: 201600018                      Current(A): 0.0730  
LampCAT: CITIZEN CLC251                Power (W): 15.9000  
Lamp flux(lm): 1738.0                    PF: 0.9980  
Number of Lamps: 1                      Ballast type: AC  
Length(mm): 0                            Width(mm): 0  
Phm Type: C                                Height(mm): 0

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Photometric Results

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Lumens(lm): 1599.96  
Efficiency(%): 92.06%  
Lumens(lm)/Power(W): 100.63  
Central intensity(cd): 5825.518  
Maximum intensity(cd): 5836.529  
Angle of maximum intensity: C=45.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=23.9  
  [C90/270]Total=24.0  
Field angle(10%Imax): [C0/180]Total=59.5  
  [C90/270]Total=59.9  
Maximum s/h(1/2): C0\_180=0.40 C90\_270=0.41  
Maximum s/h(1/4): C0\_180=0.43 C90\_270=0.43  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 92.06%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.744%

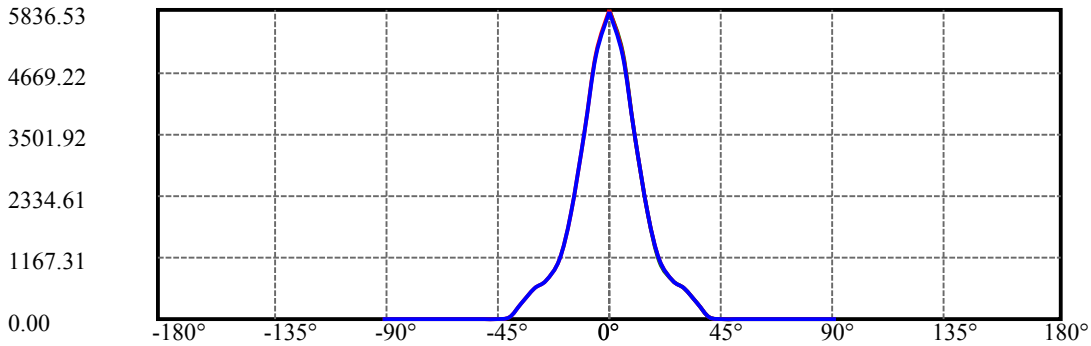
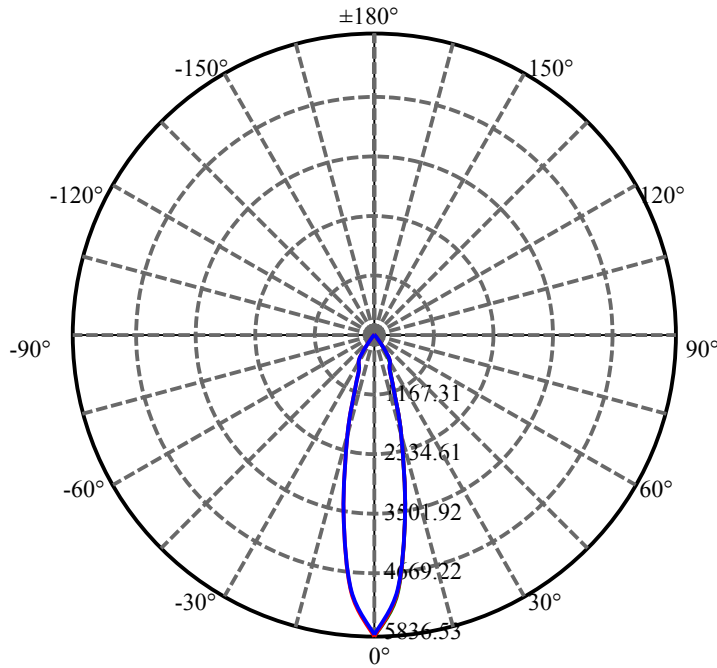
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5831.712	0.000	0	.000%	.000%
5.0	5005.521	129.556	129.556	7.454%	8.097%
10.0	3517.140	304.882	434.438	17.542%	27.153%
15.0	1990.702	326.721	761.16	18.799%	47.574%
20.0	1103.846	255.034	1016.194	14.674%	63.514%
25.0	720.165	191.305	1207.499	11.007%	75.471%
30.0	581.058	164.671	1372.17	9.475%	85.763%
35.0	303.602	130.272	1502.443	7.496%	93.905%
40.0	44.135	58.017	1560.46	3.338%	97.531%
45.0	8.726	9.788	1570.248	.563%	98.143%
50.0	7.446	3.268	1573.515	.188%	98.347%
55.0	7.027	3.147	1576.662	.181%	98.544%
60.0	6.813	3.199	1579.861	.184%	98.744%
65.0	6.641	3.271	1583.132	.188%	98.948%
70.0	6.531	3.335	1586.467	.192%	99.157%
75.0	6.407	3.382	1589.849	.195%	99.368%
80.0	6.283	3.396	1593.245	.195%	99.580%
85.0	6.146	3.377	1596.622	.194%	99.792%
90.0	6.036	3.335	1599.958	.192%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1372.17	78.95%	85.76%
0-40	1560.46	89.78%	97.53%
0-60	1579.86	90.90%	98.74%
0-90	1596.62	91.87%	99.79%
0-120	1596.62	91.87%	99.79%
0-180	1599.96	92.06%	100.00%
60-90	19.96	1.15%	1.25%
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%
0-27.20	1279.97	73.65%	80.00%

ZONAL LUMEN SUMMARY

0-10	434.44
10-20	581.76
20-30	355.98
30-40	188.29
40-50	13.06
50-60	6.35
60-70	6.61
70-80	6.78
80-90	3.38
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

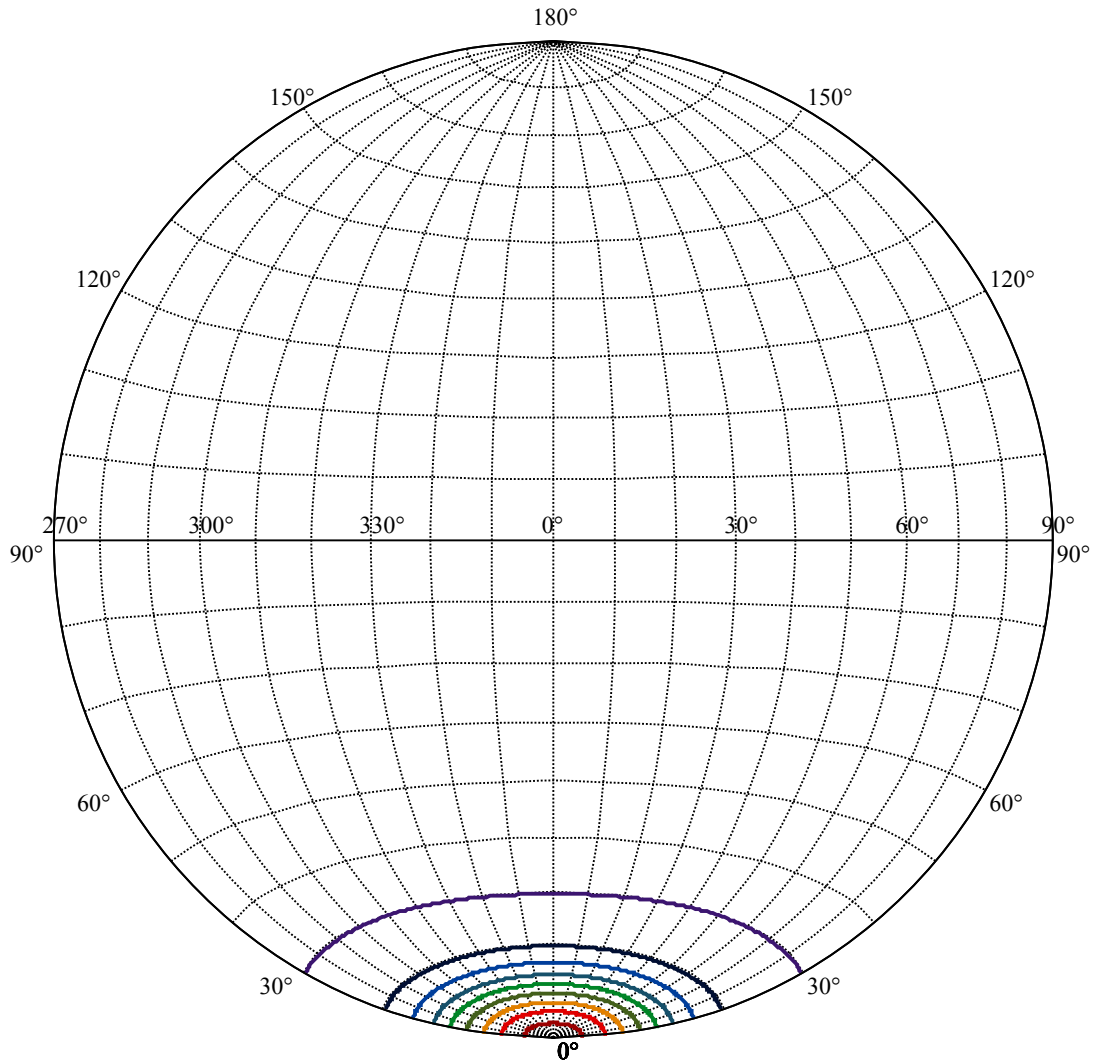


C45(Max): —————  
C0/C180: —————  
C90/C270: —————

Field angle(10%Imax):C0/180Left:29.8 Right:29.8  
:C90/270Left:29.9 Right:29.9

Beam Angle(50%Imax):C0/180Left:11.9 Right:11.9  
:C90/270Left:12.0 Right:12.0





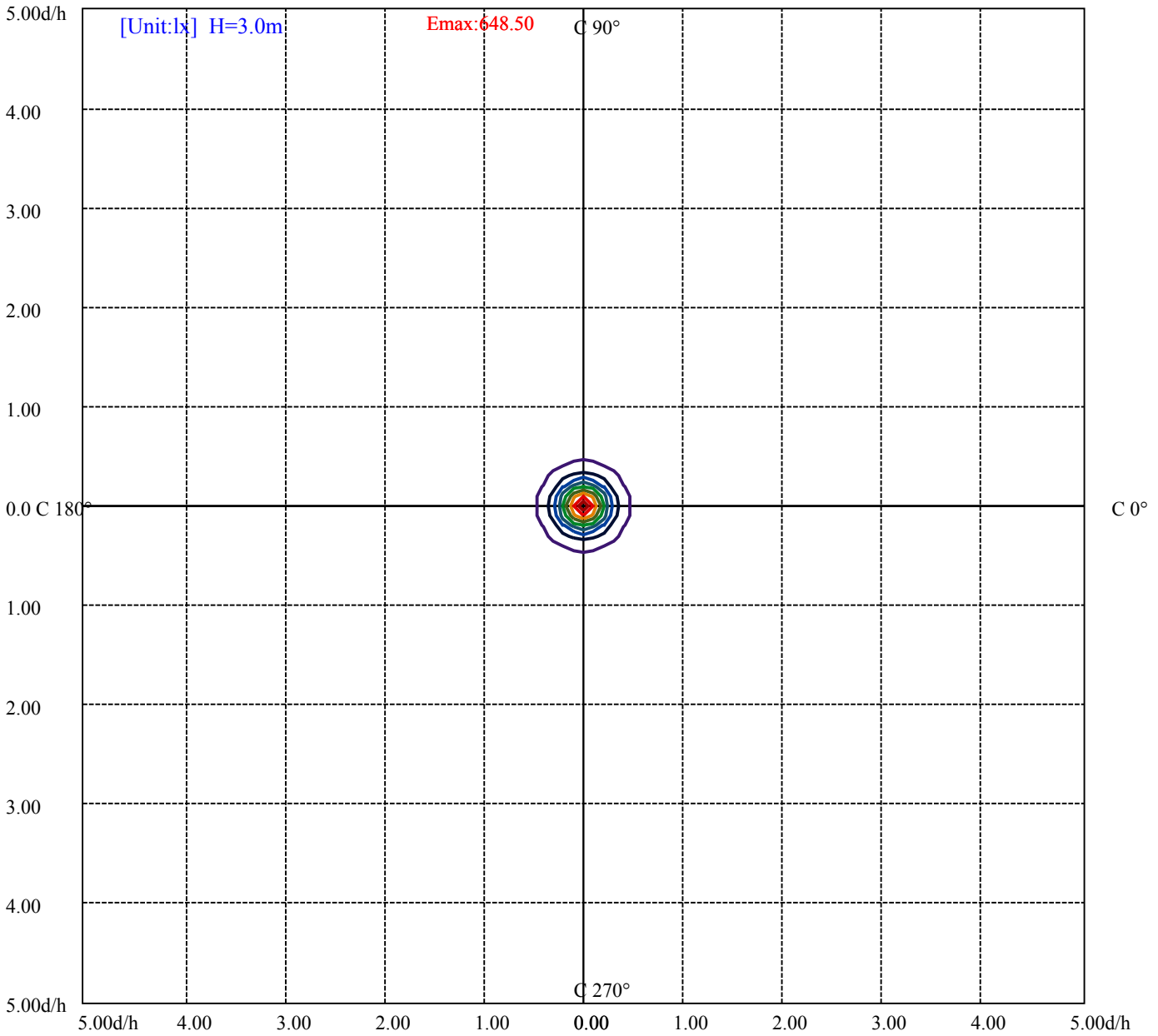
House

[Unit:cd]

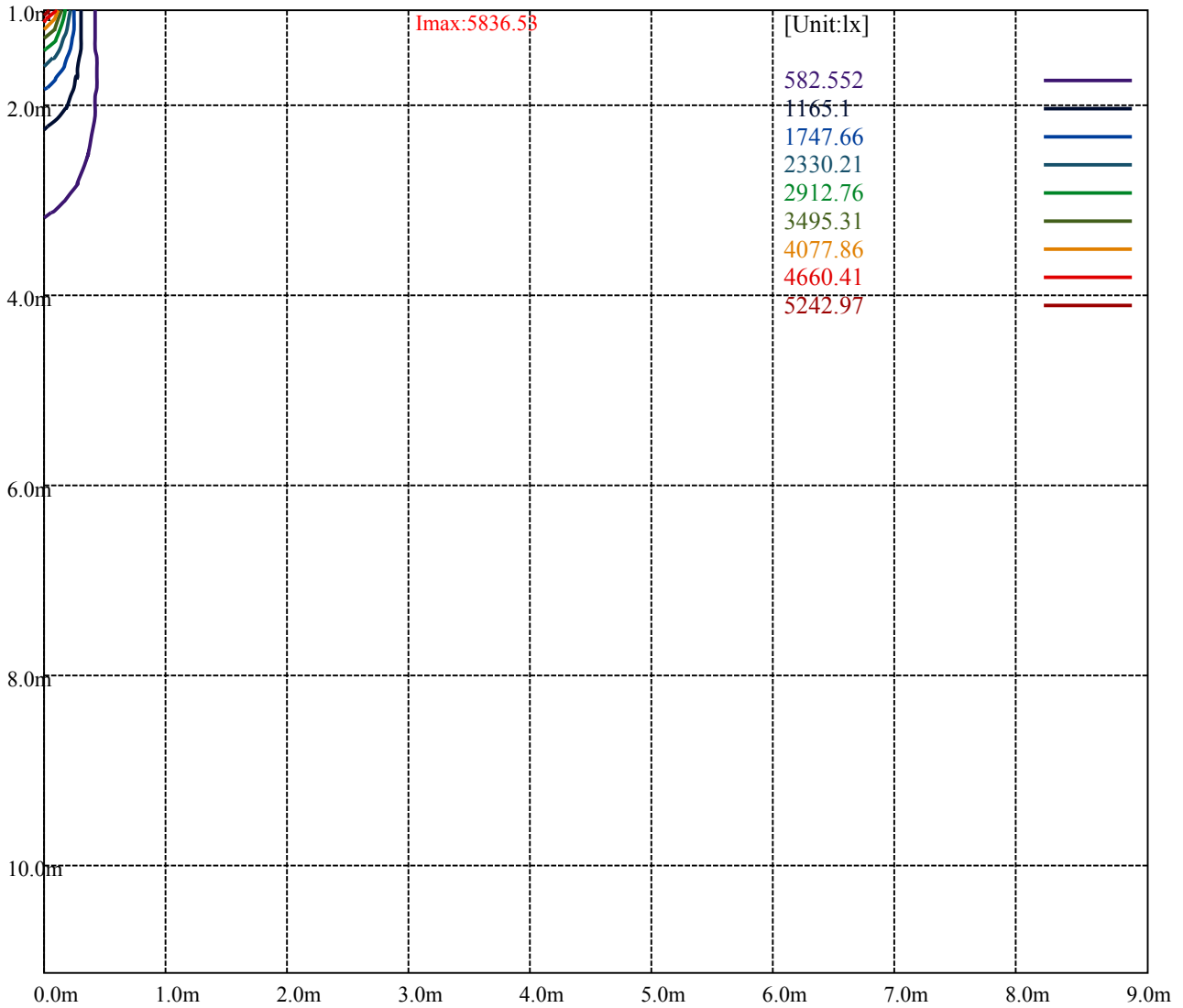
Road

**Imax:5836.53**

(10%Imax) 585.139	—
(20%Imax) 1170.28	—
(30%Imax) 1755.42	—
(40%Imax) 2340.56	—
(50%Imax) 2925.7	—
(60%Imax) 3510.84	—
(70%Imax) 4095.98	—
(80%Imax) 4681.12	—
(90%Imax) 5266.25	—



- (10%Emax) 64.85001
- (20%Emax) 129.7
- (30%Emax) 194.55
- (40%Emax) 259.4
- (50%Emax) 324.25
- (60%Emax) 389.1
- (70%Emax) 453.95
- (80%Emax) 518.8
- (90%Emax) 583.65





Luminance Table

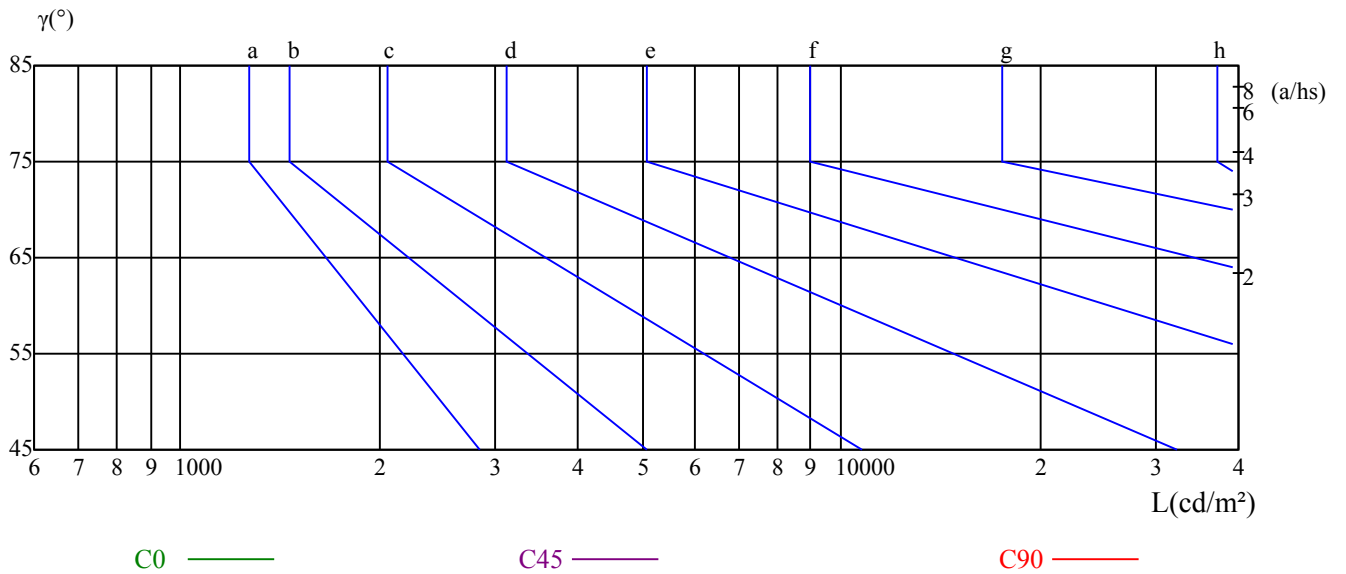
$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

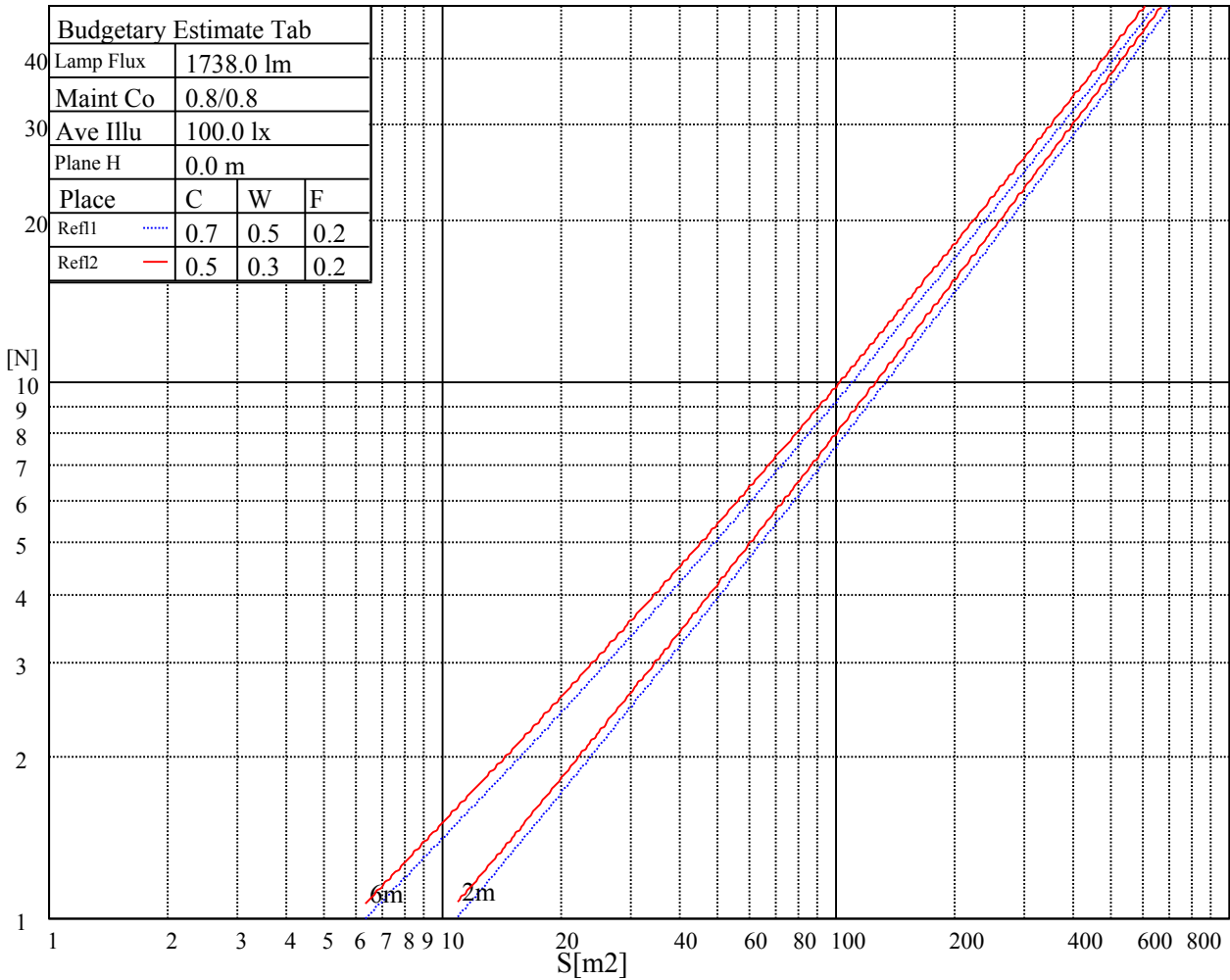
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

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 RHOF=20 CU															
0	1.10	1.10	1.10	1.07	1.07	1.07	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.03	1.01	0.99	1.01	0.99	0.98	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88
2	0.97	0.94	0.91	0.96	0.93	0.90	0.93	0.90	0.88	0.90	0.88	0.87	0.88	0.86	0.85	0.83
3	0.92	0.88	0.85	0.91	0.88	0.85	0.89	0.86	0.83	0.87	0.84	0.82	0.85	0.83	0.81	0.80
4	0.88	0.84	0.80	0.87	0.83	0.80	0.85	0.82	0.79	0.83	0.80	0.78	0.82	0.79	0.77	0.76
5	0.84	0.79	0.76	0.83	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.75	0.79	0.76	0.74	0.73
6	0.80	0.76	0.73	0.80	0.75	0.72	0.78	0.75	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.70
7	0.77	0.72	0.69	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.67
8	0.74	0.69	0.66	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.65
9	0.71	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.69	0.65	0.63	0.62
10	0.69	0.64	0.61	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.60

Intensity data(cd)

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	5825.52	5281.01	3812.66	2272.73	1234.36	766.39	625.44	387.05	84.29
45.0	5836.53	5095.47	3633.72	2099.85	1145.72	732.25	598.46	314.92	48.56
90.0	5813.41	4722.19	3252.73	1750.24	996.30	687.60	534.93	211.53	20.92
135.0	5851.39	5009.03	3530.22	1951.75	1079.66	719.59	569.28	294.55	37.60
180.0	5825.52	4736.50	3185.56	1708.95	996.47	680.06	525.84	226.06	20.98
225.0	5836.53	4974.90	3393.68	1853.75	1063.08	704.89	570.00	281.01	27.75
270.0	5813.41	5213.29	3795.04	2245.75	1227.21	757.58	623.79	382.09	69.76
315.0	5851.39	5011.78	3533.52	2042.59	1087.97	712.98	600.72	331.60	43.22
360.0	5825.52	5281.01	3812.66	2272.73	1234.36	766.39	625.44	387.05	84.29
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	10.30	7.93	7.27	6.99	6.77	6.61	6.50	6.39	6.22
45.0	9.03	7.65	7.16	6.83	6.66	6.55	6.44	6.33	6.17
90.0	8.20	7.54	7.10	6.94	6.66	6.50	6.28	6.17	6.11
135.0	8.31	7.27	7.05	6.94	6.77	6.50	6.39	6.17	6.06
180.0	7.82	7.16	6.83	6.66	6.66	6.66	6.50	6.28	6.17
225.0	8.09	7.27	6.88	6.66	6.44	6.50	6.39	6.28	6.17
270.0	9.69	7.43	6.99	6.77	6.61	6.55	6.50	6.50	6.17
315.0	8.37	7.32	6.94	6.72	6.55	6.39	6.28	6.17	6.11
360.0	10.30	7.93	7.27	6.99	6.77	6.61	6.50	6.39	6.22
C/ $\gamma$ (°)	90.0								
0.0	6.06								
45.0	6.06								
90.0	6.00								
135.0	6.06								
180.0	6.06								
225.0	6.00								
270.0	6.00								
315.0	6.06								
360.0	6.06								