
NATA

LumCAT: 3-1866-E
Luminaire: LMOP009-3225DH +92.76.340.00
Report No: 201610019 Voltage(V): 218.0000
Test No: 201600019 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

Photometric Results

Lumens(lm): 1558.98
Efficiency(%): 89.70%
Lumens(lm)/Power(W): 98.05
Central intensity(cd): 2772.090
Maximum intensity(cd): 2775.944
Angle of maximum intensity: C=45.0 $\gamma=0.0$
Beam Angle(50%Imax): [C0/180]Total=42.4
[C90/270]Total=42.4
Field angle(10%Imax): [C0/180]Total=72.0
[C90/270]Total=72.3
Maximum s/h(1/2): C0_180=0.67 C90_270=0.67
Maximum s/h(1/4): C0_180=0.71 C90_270=0.71
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.70%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.638%

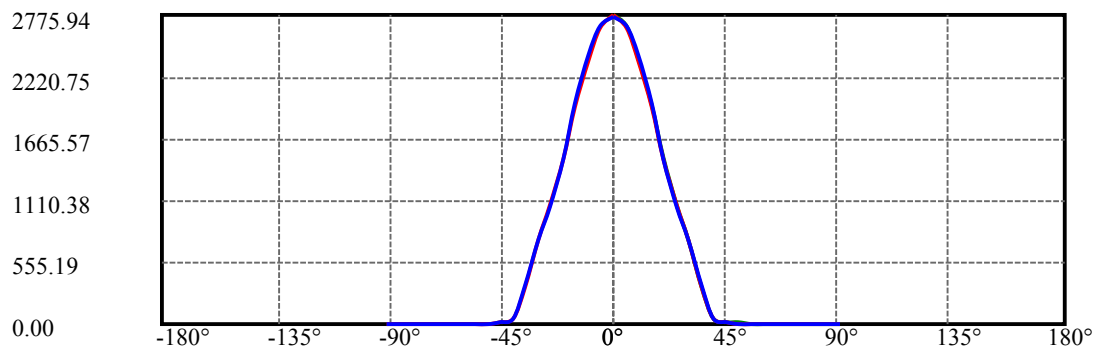
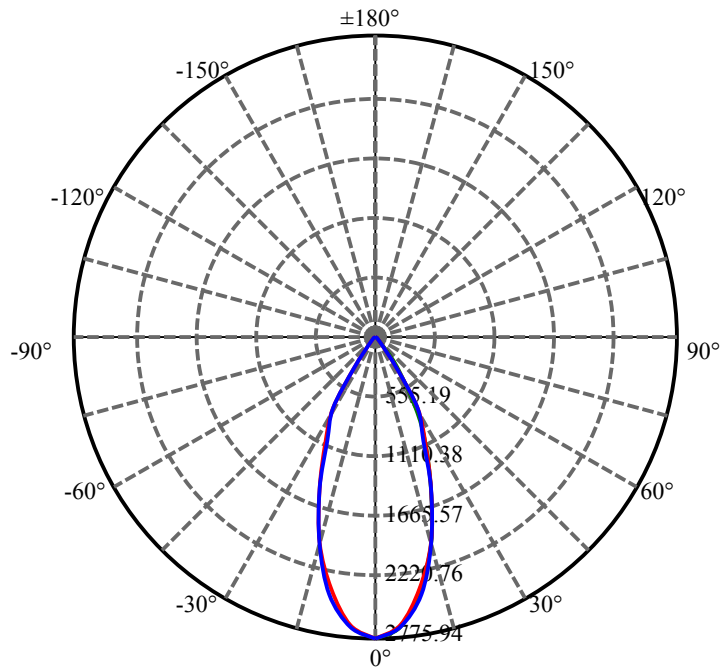
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2770.989	0.000	0	.000%	.000%
5.0	2672.851	65.080	65.08	3.745%	4.174%
10.0	2379.675	180.745	245.824	10.400%	15.768%
15.0	1968.129	257.909	503.733	14.839%	32.312%
20.0	1490.927	285.075	788.808	16.402%	50.598%
25.0	1067.482	268.330	1057.138	15.439%	67.810%
30.0	761.237	231.426	1288.564	13.316%	82.654%
35.0	337.138	161.743	1450.307	9.306%	93.029%
40.0	51.154	64.784	1515.091	3.727%	97.185%
45.0	10.791	11.470	1526.56	.660%	97.920%
50.0	8.699	3.938	1530.499	.227%	98.173%
55.0	8.018	3.635	1534.133	.209%	98.406%
60.0	7.605	3.611	1537.744	.208%	98.638%
65.0	7.281	3.619	1541.363	.208%	98.870%
70.0	6.999	3.616	1544.979	.208%	99.102%
75.0	6.738	3.591	1548.57	.207%	99.332%
80.0	6.504	3.543	1552.113	.204%	99.559%
85.0	6.283	3.474	1555.587	.200%	99.782%
90.0	6.111	3.394	1558.981	.195%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1288.56	74.14%	82.65%
0-40	1515.09	87.17%	97.18%
0-60	1537.74	88.48%	98.64%
0-90	1555.59	89.50%	99.78%
0-120	1555.59	89.50%	99.78%
0-180	1558.98	89.70%	100.00%
60-90	21.45	1.23%	1.38%
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%
0-29.11	1247.19	71.76%	80.00%

ZONAL LUMEN SUMMARY

0-10	245.82
10-20	542.98
20-30	499.76
30-40	226.53
40-50	15.41
50-60	7.25
60-70	7.23
70-80	7.13
80-90	3.47
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

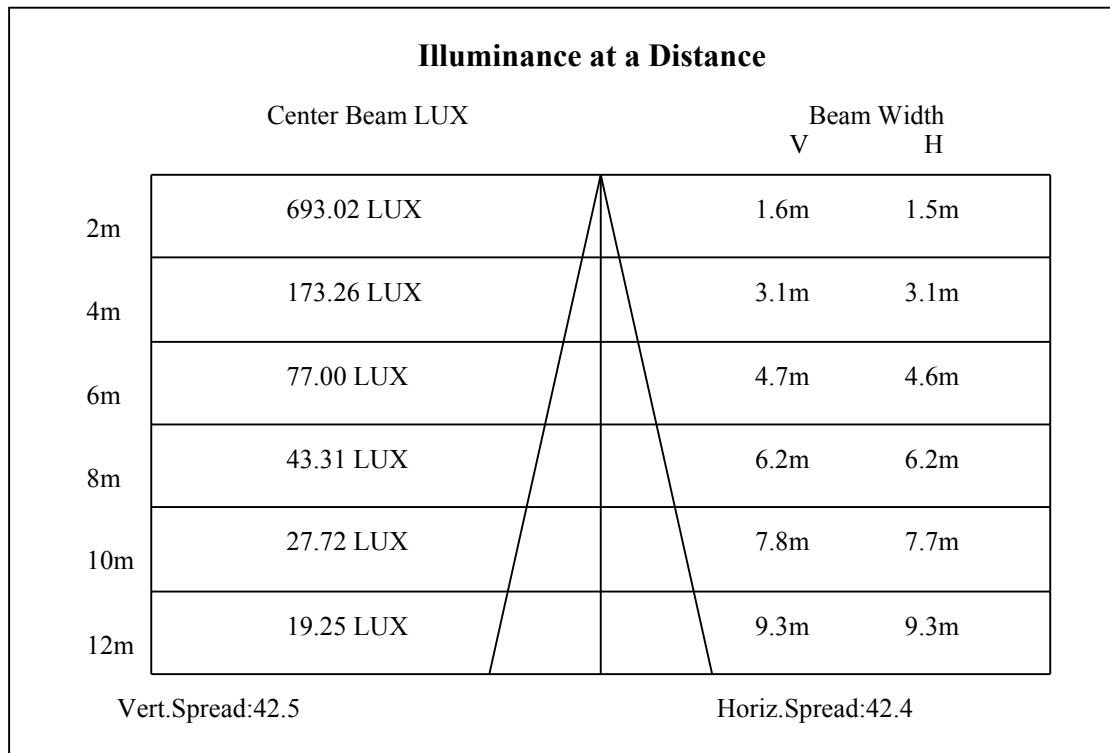
C45(Max): —————C0/C180: —————C90/C270: —————

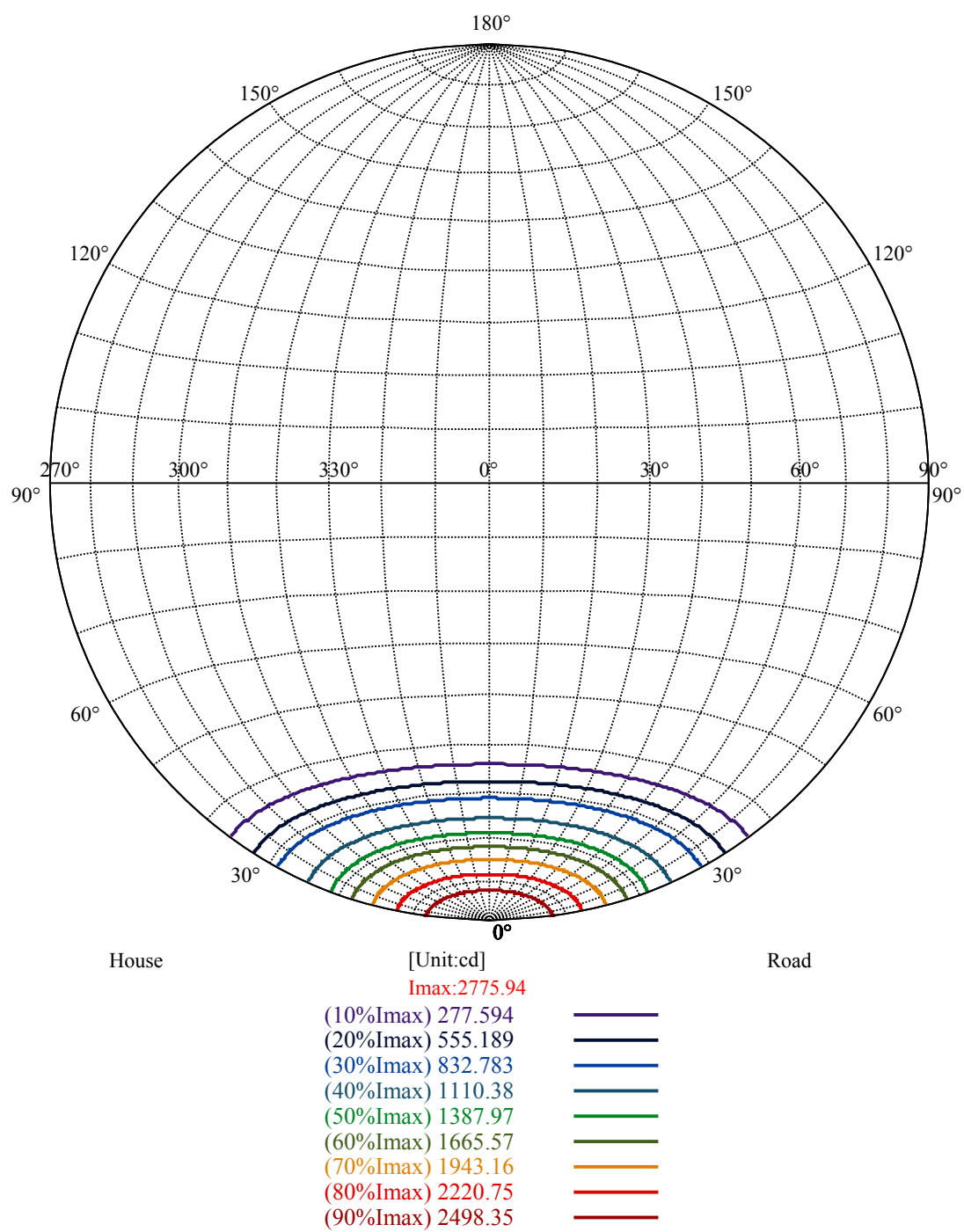
Field angle(10%Imax):C0/180Left:36.0 Right:36.0

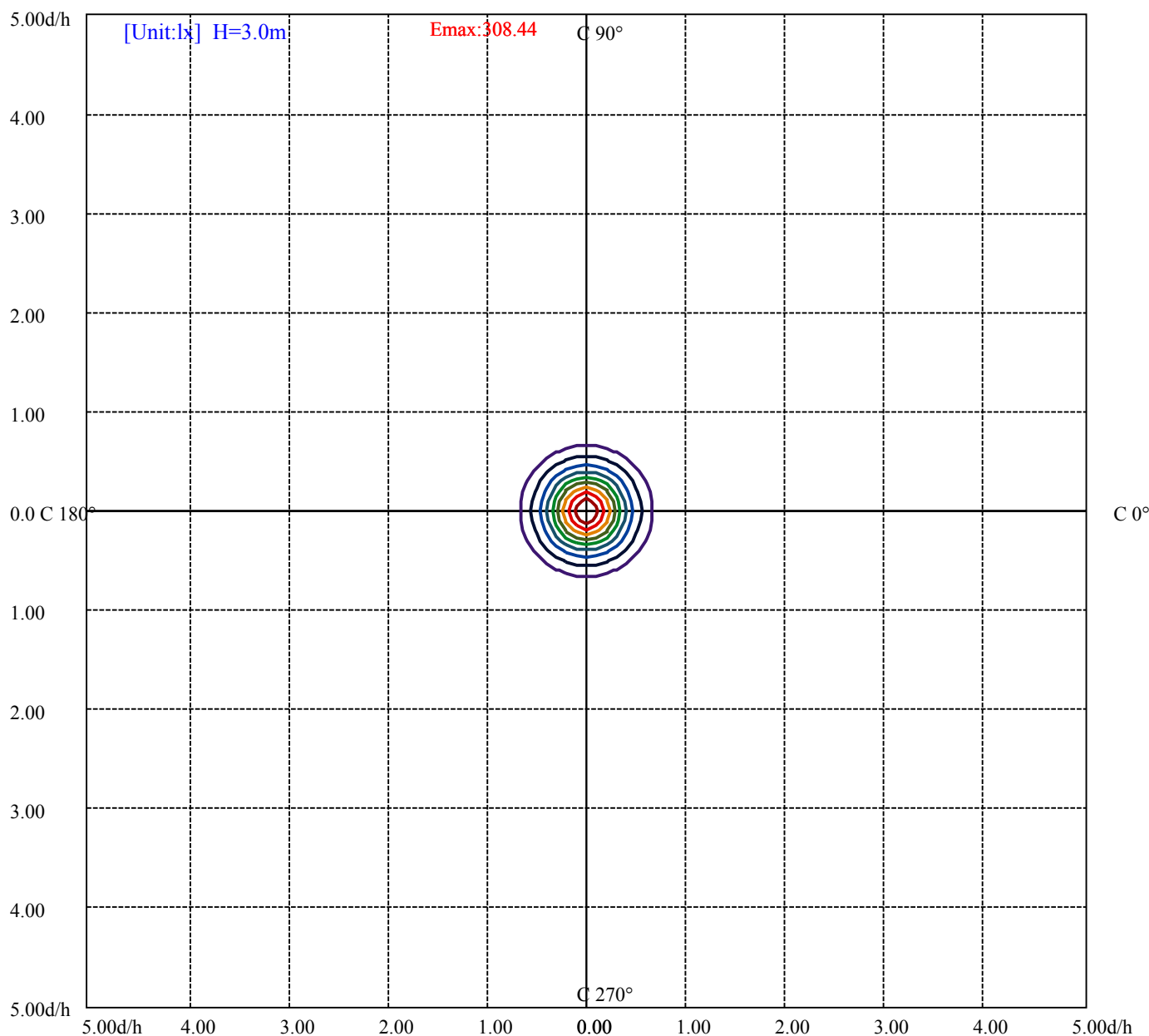
:C90/270Left:36.1 Right:36.1

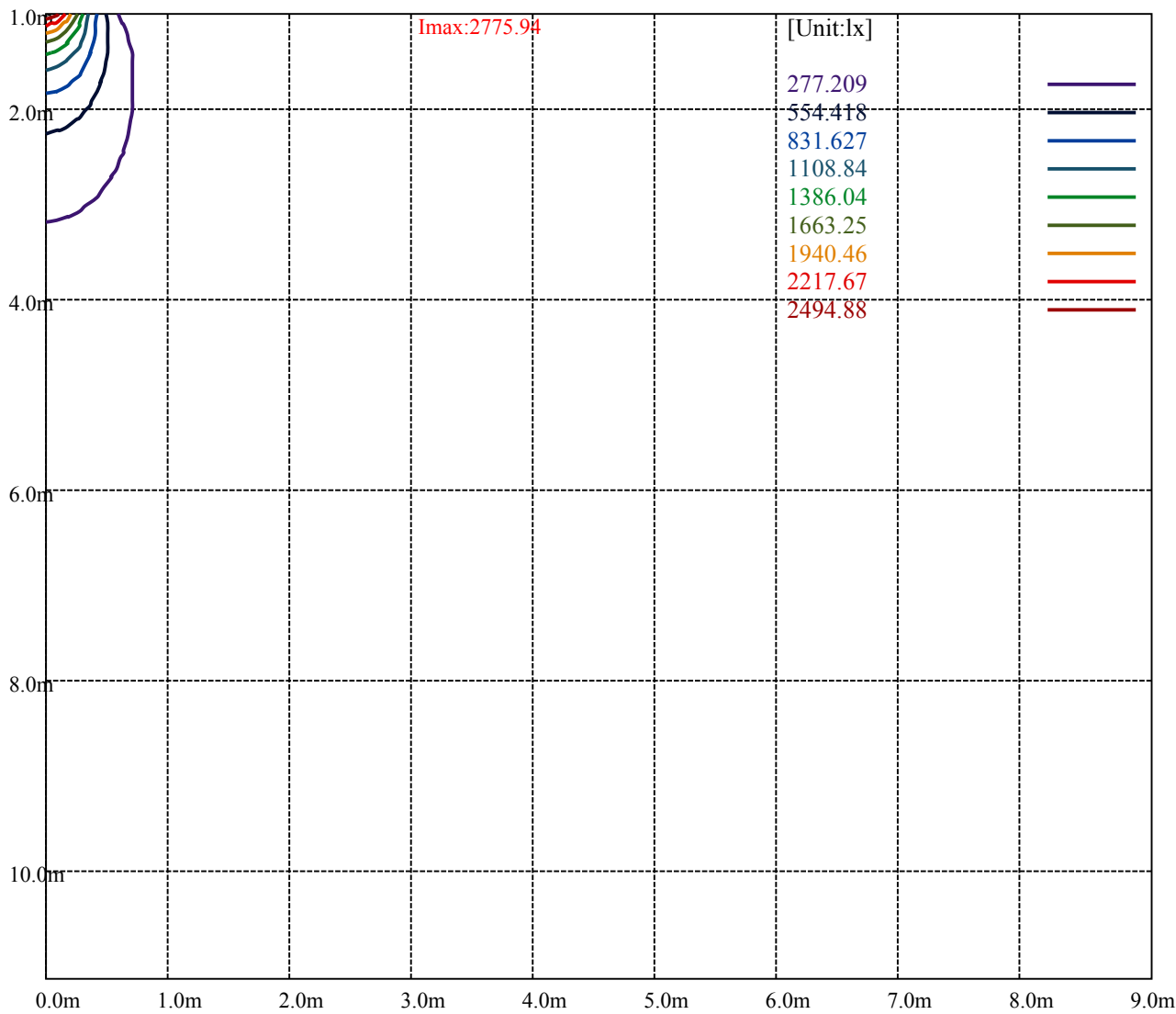
Beam Angle(50%Imax):C0/180Left:21.2 Right:21.2

:C90/270Left:21.2 Right:21.2









Luminance Table

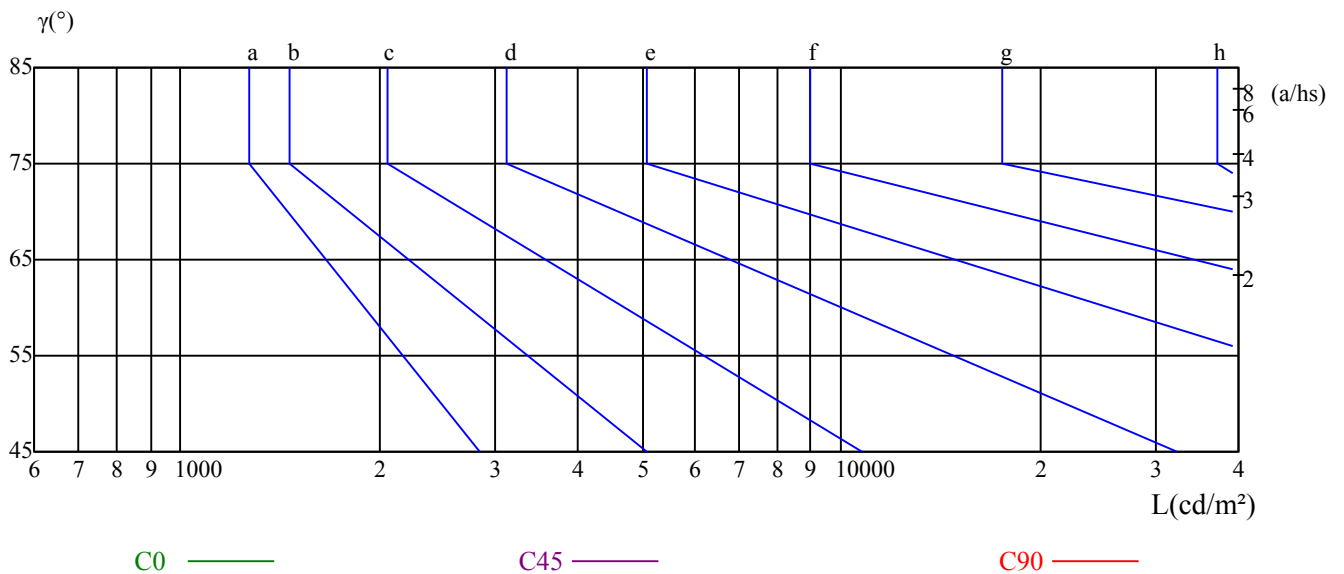
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

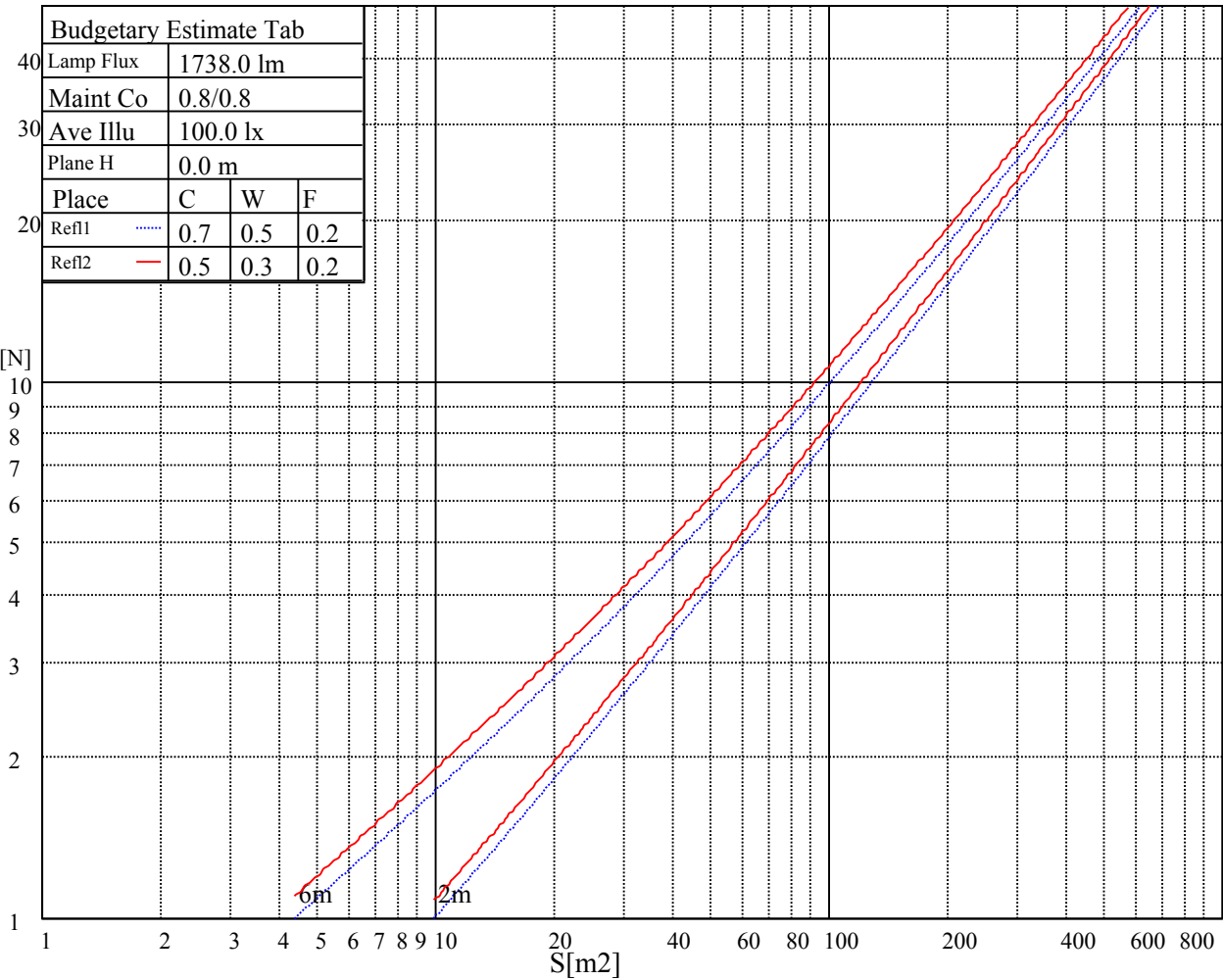
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

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	1.07	1.07	1.07	1.04	1.04	1.04	1.00	1.00	1.00	0.95	0.95	0.95	0.92	0.92	0.92	0.90
1	1.00	0.98	0.96	0.98	0.96	0.94	0.94	0.93	0.91	0.91	0.90	0.89	0.88	0.87	0.86	0.84
2	0.94	0.90	0.87	0.92	0.89	0.86	0.89	0.87	0.84	0.86	0.84	0.83	0.84	0.82	0.81	0.80
3	0.88	0.84	0.81	0.87	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.80	0.78	0.76	0.75
4	0.83	0.79	0.75	0.82	0.78	0.75	0.80	0.77	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.71
5	0.79	0.74	0.70	0.78	0.73	0.70	0.76	0.72	0.69	0.75	0.71	0.69	0.73	0.71	0.68	0.67
6	0.75	0.70	0.66	0.74	0.69	0.66	0.73	0.69	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.64
7	0.71	0.66	0.63	0.70	0.66	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.60
8	0.67	0.63	0.59	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.57
9	0.64	0.59	0.56	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.59	0.56	0.62	0.58	0.56	0.55
10	0.61	0.57	0.54	0.61	0.56	0.53	0.60	0.56	0.53	0.60	0.56	0.53	0.59	0.56	0.53	0.52

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	2772.09	2641.06	2329.99	1892.84	1421.01	1062.04	725.09	286.29	38.32
45.0	2775.94	2666.38	2358.62	1984.23	1462.85	1036.16	736.65	302.26	29.68
90.0	2767.13	2638.30	2353.11	1934.13	1444.68	1038.53	716.67	306.44	39.97
135.0	2768.79	2696.11	2434.04	2049.75	1631.87	1182.06	830.25	445.96	108.41
180.0	2772.09	2682.90	2391.10	2009.01	1553.14	1071.95	802.34	383.69	61.94
225.0	2775.94	2713.73	2458.82	2025.52	1531.67	1085.60	800.08	357.59	58.30
270.0	2767.13	2713.18	2468.18	2034.33	1522.31	1079.11	806.58	383.19	50.65
315.0	2768.79	2631.15	2243.55	1815.21	1359.89	984.41	672.24	231.68	21.97
360.0	2772.09	2641.06	2329.99	1892.84	1421.01	1062.04	725.09	286.29	38.32
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	9.80	8.48	7.93	7.60	7.27	6.99	6.77	6.44	6.22
45.0	11.12	9.41	8.53	7.98	7.60	7.27	6.99	6.66	6.33
90.0	9.86	8.64	7.98	7.60	7.27	7.05	6.72	6.50	6.28
135.0	11.62	8.26	7.60	7.27	6.99	6.72	6.50	6.39	6.22
180.0	11.12	8.64	7.98	7.60	7.32	6.99	6.72	6.44	6.33
225.0	12.72	9.86	8.81	8.15	7.65	7.32	7.05	6.77	6.39
270.0	11.40	8.59	7.98	7.60	7.32	7.10	6.77	6.61	6.33
315.0	8.70	7.71	7.32	7.05	6.83	6.55	6.39	6.22	6.17
360.0	9.80	8.48	7.93	7.60	7.27	6.99	6.77	6.44	6.22
C/ γ (°)	90.0								
0.0	6.11								
45.0	6.17								
90.0	6.17								
135.0	6.11								
180.0	6.06								
225.0	6.11								
270.0	6.11								
315.0	6.06								
360.0	6.11								