

---

Nata

---

LumCAT: 3-1864-A  
Luminaire: LMOP009-3225DH+92.76.340.00  
Report No: GC2016112205      Voltage(V): 218.0000  
Test No: NT-0010      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: DC  
Length(mm): 79      Width(mm): 79  
Phm Type: C      Height(mm): 0

---

Photometric Results

---

Lumens(lm): 1614.74  
Efficiency(%): 92.91%  
Lumens(lm)/Power(W): 101.56  
Central intensity(cd): 9634.458  
Maximum intensity(cd): 9634.458  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=16.8  
                                  [C90/270]Total=16.8  
Field angle(10%Imax): [C0/180]Total=37.4  
                                  [C90/270]Total=37.4  
Maximum s/h(1/2): C0\_180=0.29 C90\_270=0.29  
Maximum s/h(1/4): C0\_180=0.30 C90\_270=0.30  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 92.91%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.791%

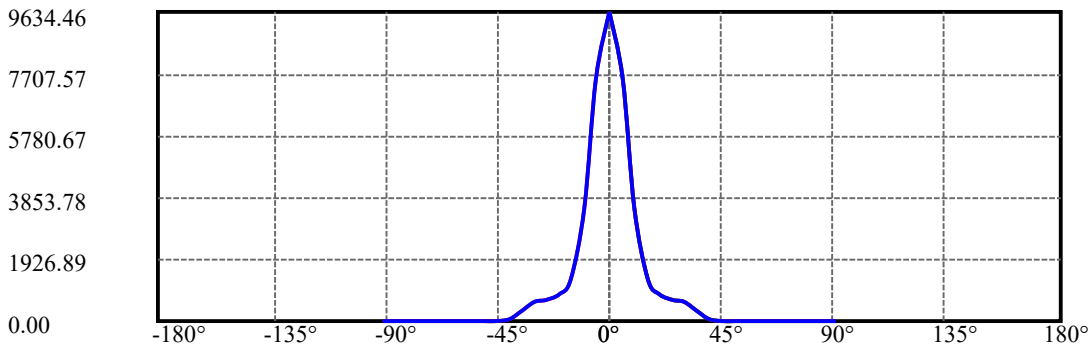
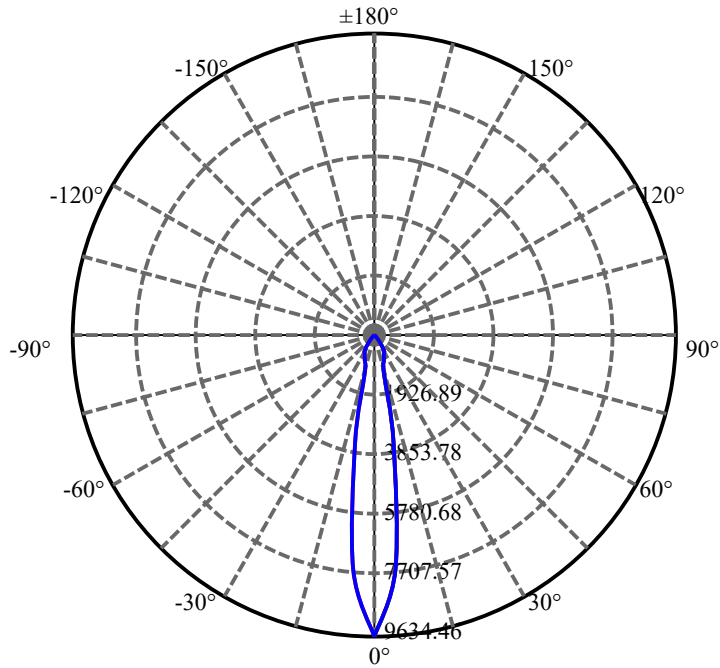
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	9634.457	0.000	0	.000%	.000%
5.0	7518.708	205.061	205.061	11.799%	12.699%
10.0	3519.067	394.856	599.917	22.719%	37.153%
15.0	1294.658	285.547	885.464	16.430%	54.836%
20.0	848.027	176.587	1062.052	10.160%	65.772%
25.0	679.203	160.178	1222.23	9.216%	75.692%
30.0	586.124	160.128	1382.358	9.213%	85.609%
35.0	312.872	132.383	1514.741	7.617%	93.807%
40.0	49.509	60.461	1575.202	3.479%	97.551%
45.0	8.678	10.774	1585.976	.620%	98.219%
50.0	7.075	3.183	1589.159	.183%	98.416%
55.0	6.703	2.996	1592.155	.172%	98.601%
60.0	6.538	3.061	1595.215	.176%	98.791%
65.0	6.393	3.144	1598.359	.181%	98.985%
70.0	6.283	3.210	1601.569	.185%	99.184%
75.0	6.194	3.261	1604.83	.188%	99.386%
80.0	6.139	3.300	1608.13	.190%	99.591%
85.0	6.084	3.321	1611.451	.191%	99.796%
90.0	5.932	3.290	1614.741	.189%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1382.36	79.54%	85.61%
0-40	1575.20	90.63%	97.55%
0-60	1595.22	91.78%	98.79%
0-90	1611.45	92.72%	99.80%
0-120	1611.45	92.72%	99.80%
0-180	1614.74	92.91%	100.00%
60-90	19.30	1.11%	1.20%
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%
0-27.17	1291.79	74.33%	80.00%

ZONAL LUMEN SUMMARY

0-10	599.92
10-20	462.13
20-30	320.31
30-40	192.84
40-50	13.96
50-60	6.06
60-70	6.35
70-80	6.56
80-90	3.32
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: —————

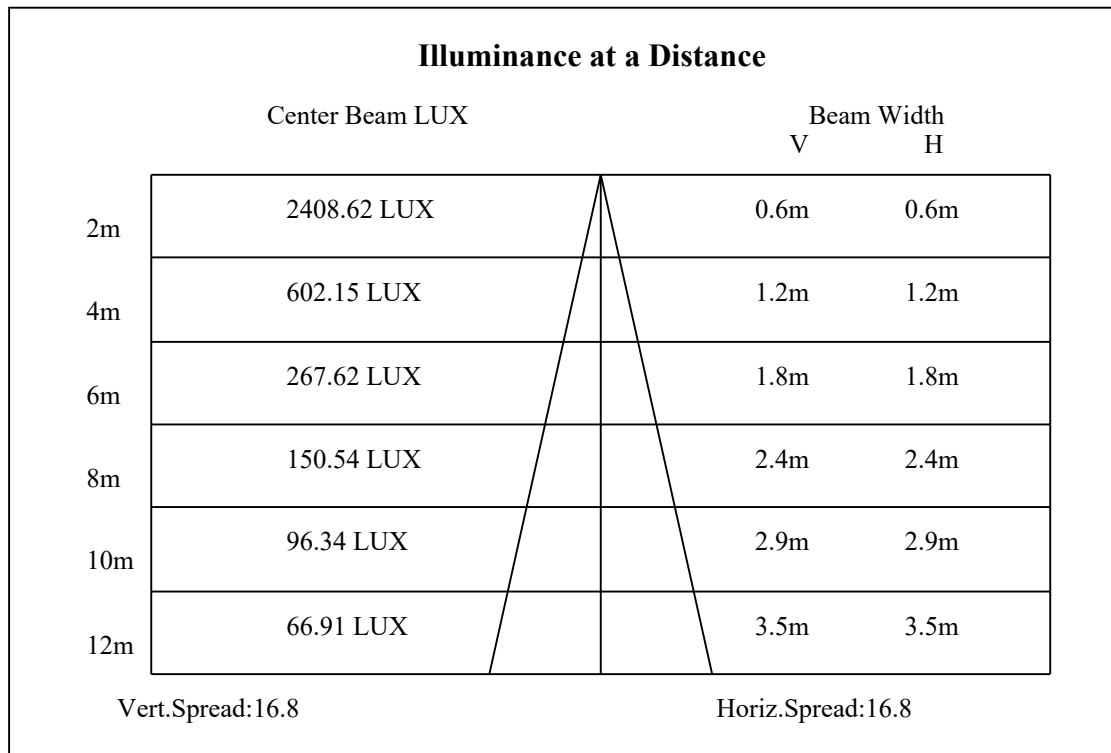
C90/C270: —————

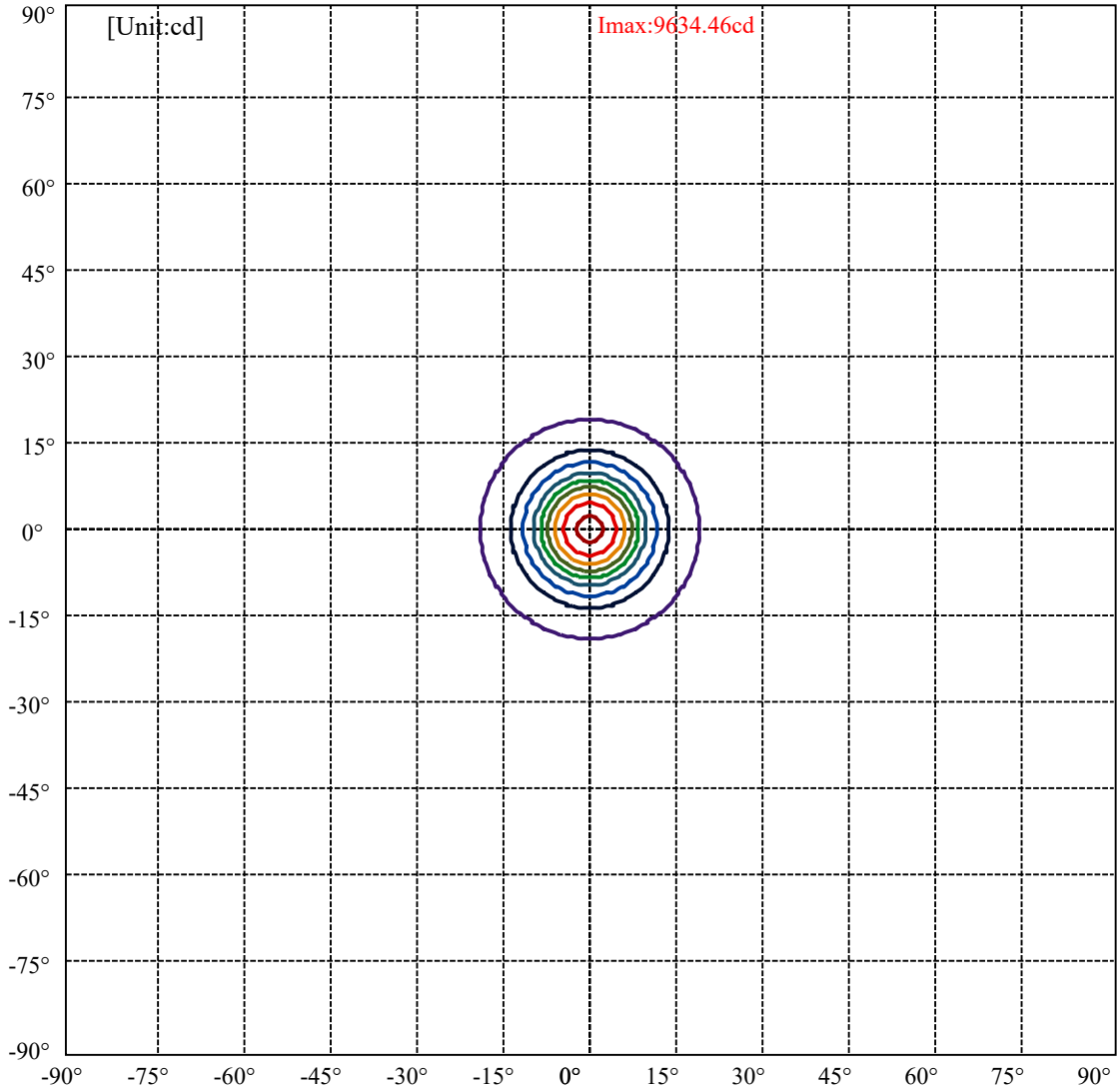
Field angle(10%Imax):C0/180Left:18.7 Right:18.7

:C90/270Left:18.7 Right:18.7

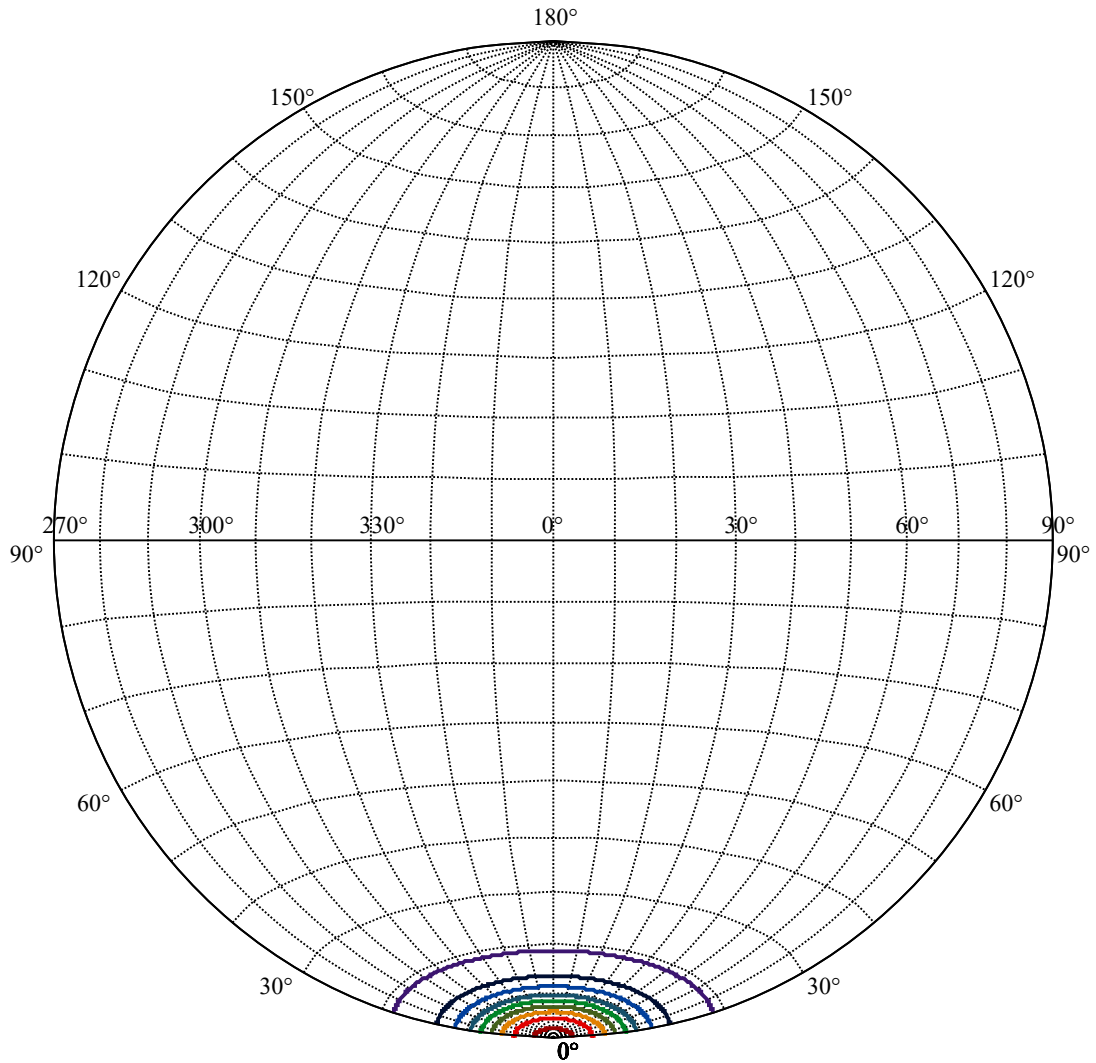
Beam Angle(50%Imax):C0/180Left:8.4 Right:8.4

:C90/270Left:8.4 Right:8.4





(10%I <sub>max</sub> ) 963.446	—
(20%I <sub>max</sub> ) 1926.89	—
(30%I <sub>max</sub> ) 2890.34	—
(40%I <sub>max</sub> ) 3853.78	—
(50%I <sub>max</sub> ) 4817.23	—
(60%I <sub>max</sub> ) 5780.67	—
(70%I <sub>max</sub> ) 6744.12	—
(80%I <sub>max</sub> ) 7707.57	—
(90%I <sub>max</sub> ) 8671.01	—



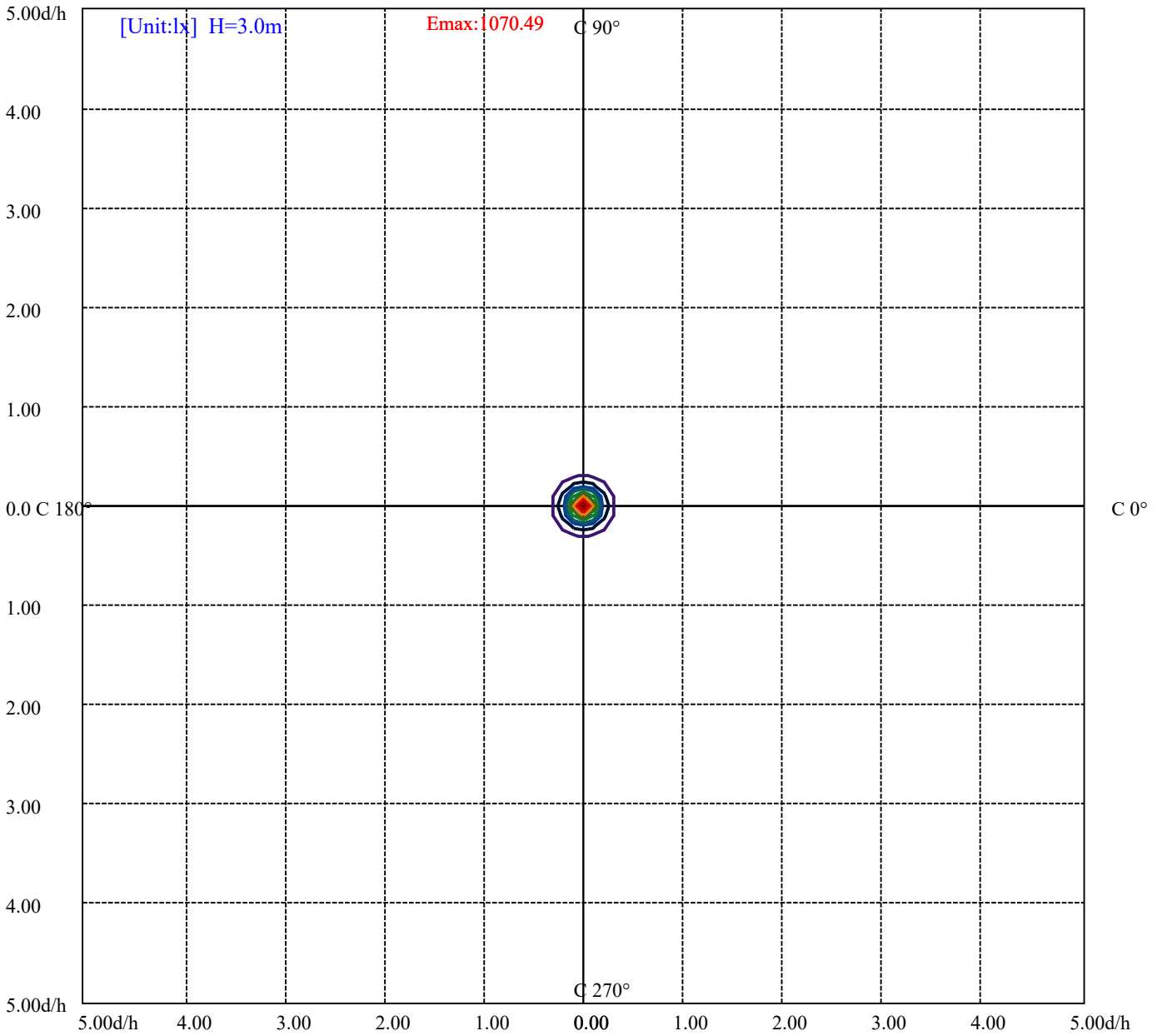
House

[Unit:cd]

Road

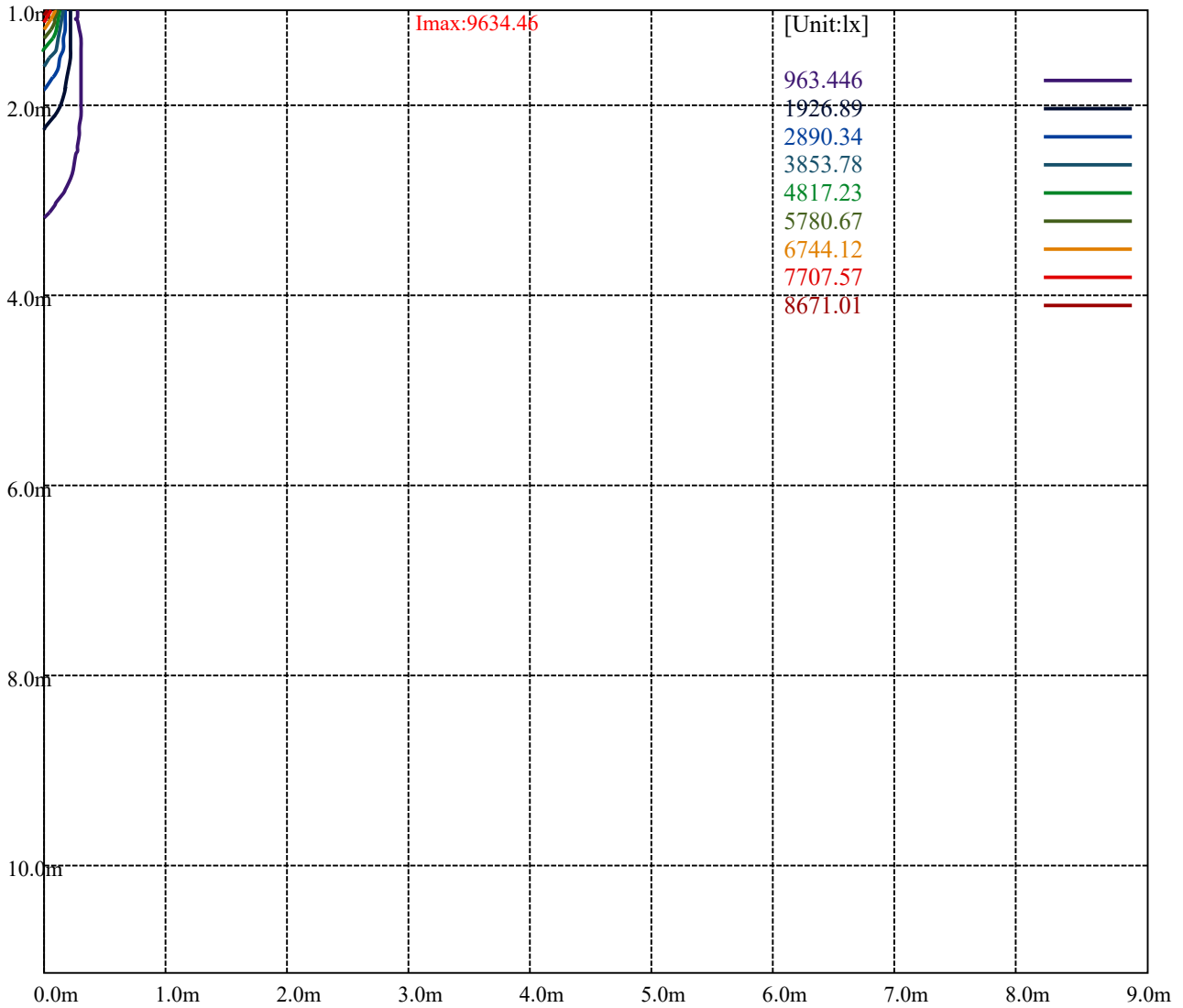
Imax:9634.46

(10%Imax)	963.446	—
(20%Imax)	1926.89	—
(30%Imax)	2890.34	—
(40%Imax)	3853.78	—
(50%Imax)	4817.23	—
(60%Imax)	5780.67	—
(70%Imax)	6744.12	—
(80%Imax)	7707.57	—
(90%Imax)	8671.01	—



- (10%Emax) 107.0488
- (20%Emax) 214.0978
- (30%Emax) 321.1467
- (40%Emax) 428.1956
- (50%Emax) 535.2444
- (60%Emax) 642.2933
- (70%Emax) 749.3422
- (80%Emax) 856.3911
- (90%Emax) 963.44





Luminance Table

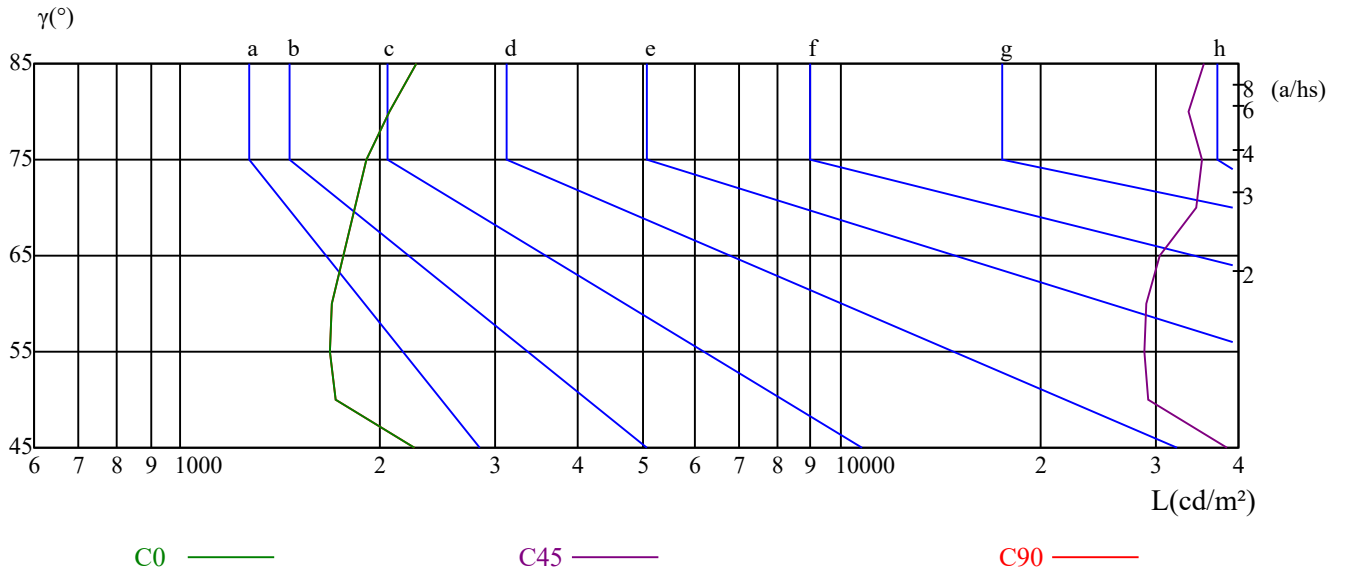
$\gamma$	45	50	55	60	65	70	75	80	85
C0	2253	1719	1682	1697	1759	1834	1913	2076	2280
C45	38462	29106	28730	28947	30492	34573	35306	33696	35497
C90	2253	1719	1682	1697	1759	1834	1913	2076	2280

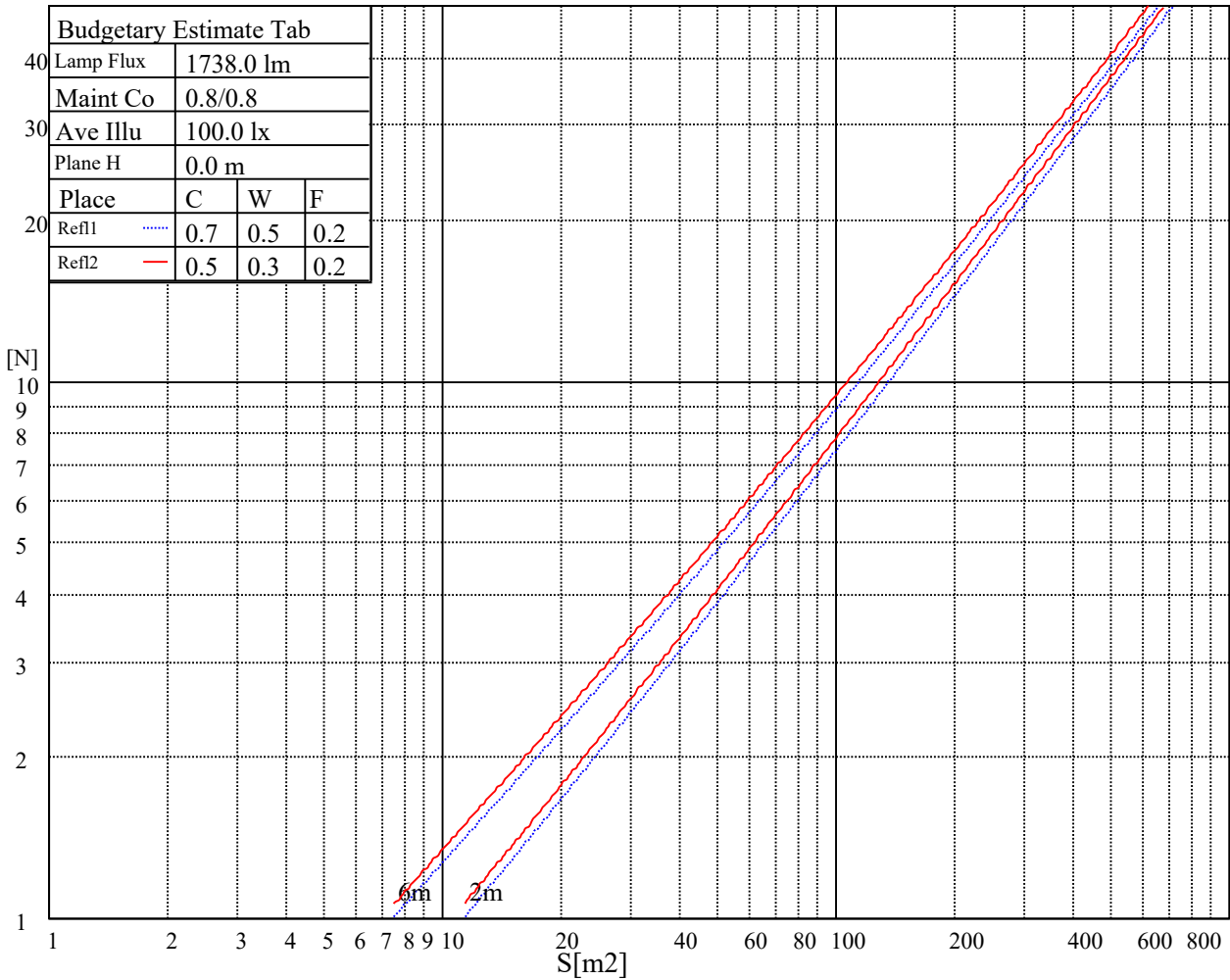
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4305	4305	92912	6733	6733	161085	19872	19872	422808

Glare Table

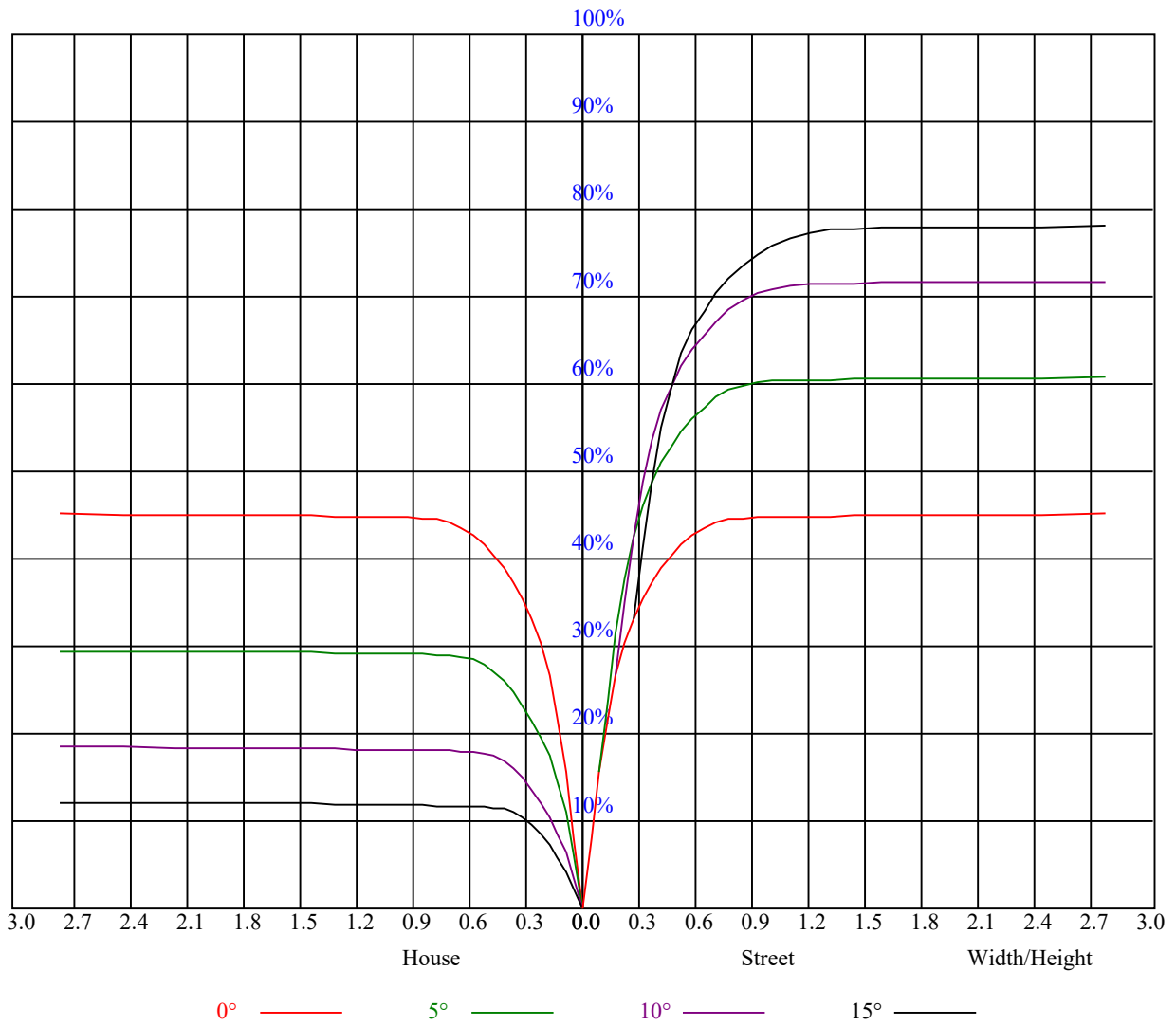
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.11	1.11	1.11	1.08	1.08	1.08	1.03	1.03	1.03	0.99	0.99	0.99	0.95	0.95	0.95	0.93
1	1.04	1.02	1.00	1.02	1.00	0.99	0.98	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89
2	0.99	0.96	0.93	0.97	0.94	0.92	0.94	0.92	0.90	0.92	0.90	0.88	0.89	0.88	0.86	0.85
3	0.94	0.90	0.87	0.93	0.89	0.87	0.90	0.88	0.85	0.88	0.86	0.84	0.86	0.84	0.83	0.82
4	0.90	0.86	0.83	0.89	0.85	0.82	0.87	0.84	0.81	0.85	0.83	0.80	0.84	0.81	0.80	0.78
5	0.86	0.82	0.79	0.85	0.81	0.79	0.84	0.80	0.78	0.82	0.79	0.77	0.81	0.79	0.77	0.75
6	0.83	0.79	0.75	0.82	0.78	0.75	0.81	0.77	0.75	0.80	0.77	0.74	0.79	0.76	0.74	0.73
7	0.80	0.76	0.73	0.79	0.75	0.72	0.78	0.75	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.70
8	0.77	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.68
9	0.74	0.70	0.68	0.74	0.70	0.67	0.73	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.66
10	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.64



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	9648.08	7595.58	3523.61	1358.79	834.10	677.74	585.25	295.65	46.80
45.0	9671.76	7365.45	3439.92	1370.90	854.48	678.85	586.90	329.79	44.98
90.0	9595.23	6869.39	3137.11	1083.29	811.64	667.56	573.69	293.40	41.84
135.0	9622.76	7860.95	4160.06	1648.39	923.85	700.32	611.13	395.86	90.18
180.0	9648.08	7557.59	3419.55	1276.76	856.68	678.24	593.12	325.82	53.40
225.0	9671.76	7849.39	3587.48	1067.54	851.12	681.60	589.60	310.24	46.41
270.0	9595.23	8043.19	3893.59	1479.92	864.39	687.65	602.32	329.24	46.47
315.0	9622.76	7008.13	2991.21	1071.67	787.97	661.67	546.99	222.98	25.99
360.0	9648.08	7595.58	3523.61	1358.79	834.10	677.74	585.25	295.65	46.80
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	8.42	6.99	6.66	6.55	6.39	6.33	6.22	6.17	6.11
45.0	8.48	7.21	6.83	6.61	6.44	6.33	6.28	6.22	6.11
90.0	7.98	6.99	6.66	6.50	6.33	6.28	6.17	6.11	6.06
135.0	9.97	7.05	6.66	6.50	6.39	6.22	6.17	6.11	6.06
180.0	8.59	7.05	6.66	6.50	6.39	6.22	6.06	6.06	6.00
225.0	8.81	7.27	6.83	6.61	6.44	6.28	6.28	6.17	6.17
270.0	9.63	7.21	6.77	6.55	6.44	6.39	6.28	6.17	6.11
315.0	7.54	6.83	6.55	6.50	6.33	6.22	6.11	6.11	6.06
360.0	8.42	6.99	6.66	6.55	6.39	6.33	6.22	6.17	6.11
C/γ(°)	90.0								
0.0	5.89								
45.0	5.95								
90.0	5.95								
135.0	5.95								
180.0	5.89								
225.0	5.95								
270.0	5.95								
315.0	5.95								
360.0	5.89								