



SOTEN LIGHTING LTD.
www.soten.hk
Email:info@soten.hk
Tel:+86-750-377-8800 Fax:+86-750-377-8811
Address:Jin Ou Road,Jiangmen City,GuangDong,China

SOTEN

LumCAT: D1029

Luminaire:

Report No:

Voltage(V): 220.4000

Test No:

Current(A): 0.0730

LampCAT: SMD 4000K Ra80

Power (W): 15.2500

Lamp flux(lm): 1643.0

PF: 0.9380

Number of Lamps: 1

Ballast type: Philips Certa 15W 350mA

Length(mm): 85

Width(mm): 85

Phm Type: C

Height(mm): 1

Photometric Results

Lumens(lm): 1312.52

Efficiency(%): 79.89%

Lumens(lm)/Power(W): 86.07

Central intensity(cd): 798.230

Maximum intensity(cd): 808.253

Angle of maximum intensity: C=0.0 γ =15.0

Beam Angle(50%Imax): [C0/180]Total=81.6

[C90/270]Total=81.6

Field angle(10%Imax): [C0/180]Total=108.9

[C90/270]Total=108.9

Maximum s/h(1/2): C0_180=1.26 C90_270=1.26

Maximum s/h(1/4): C0_180=1.80 C90_270=1.19

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 79.89%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 99.066%

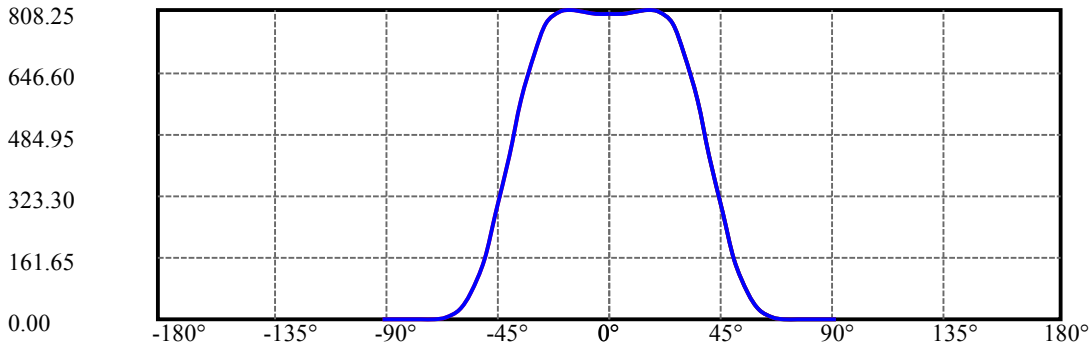
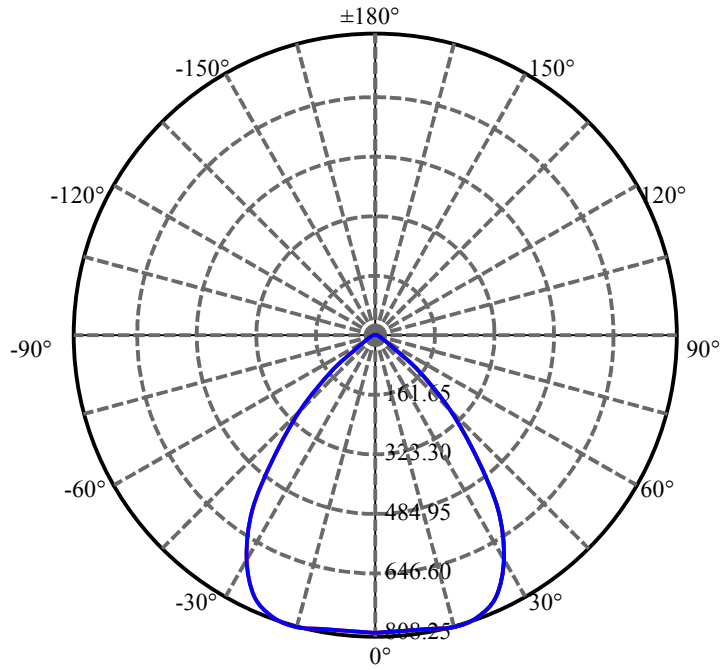
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	798.230	.000	.000	.000%	.000%
5.0	797.905	19.081	19.081	1.161%	1.161%
10.0	801.803	57.227	76.308	3.483%	4.644%
15.0	808.253	95.507	171.815	5.813%	10.457%
20.0	804.680	132.928	304.744	8.091%	18.548%
25.0	773.172	165.488	470.231	10.072%	28.620%
30.0	692.152	185.438	655.670	11.287%	39.907%
35.0	573.174	186.328	841.998	11.341%	51.248%
40.0	426.957	166.864	1008.862	10.156%	61.404%
45.0	283.339	131.517	1140.379	8.005%	69.408%
50.0	153.827	88.336	1228.715	5.376%	74.785%
55.0	71.832	49.066	1277.781	2.986%	77.771%
60.0	25.429	22.482	1300.262	1.368%	79.140%
65.0	4.594	7.299	1307.561	.444%	79.584%
70.0	1.810	1.621	1309.182	.099%	79.682%
75.0	1.624	.898	1310.080	.055%	79.737%
80.0	1.531	.844	1310.924	.051%	79.788%
85.0	1.439	.807	1311.731	.049%	79.838%
90.0	1.439	.788	1312.519	.048%	79.886%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	655.67	39.91%	49.96%
0-40	1008.86	61.40%	76.86%
0-60	1300.26	79.14%	99.07%
0-90	1311.73	79.84%	99.94%
0-120	1311.73	79.84%	99.94%
0-180	1312.52	79.89%	100.00%
60-90	33.95	2.07%	2.59%
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%
0-41.56	1050.02	63.91%	80.00%

ZONAL LUMEN SUMMARY

0-10	76.31
10-20	228.44
20-30	350.93
30-40	353.19
40-50	219.85
50-60	71.55
60-70	8.92
70-80	1.74
80-90	0.81
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: —————

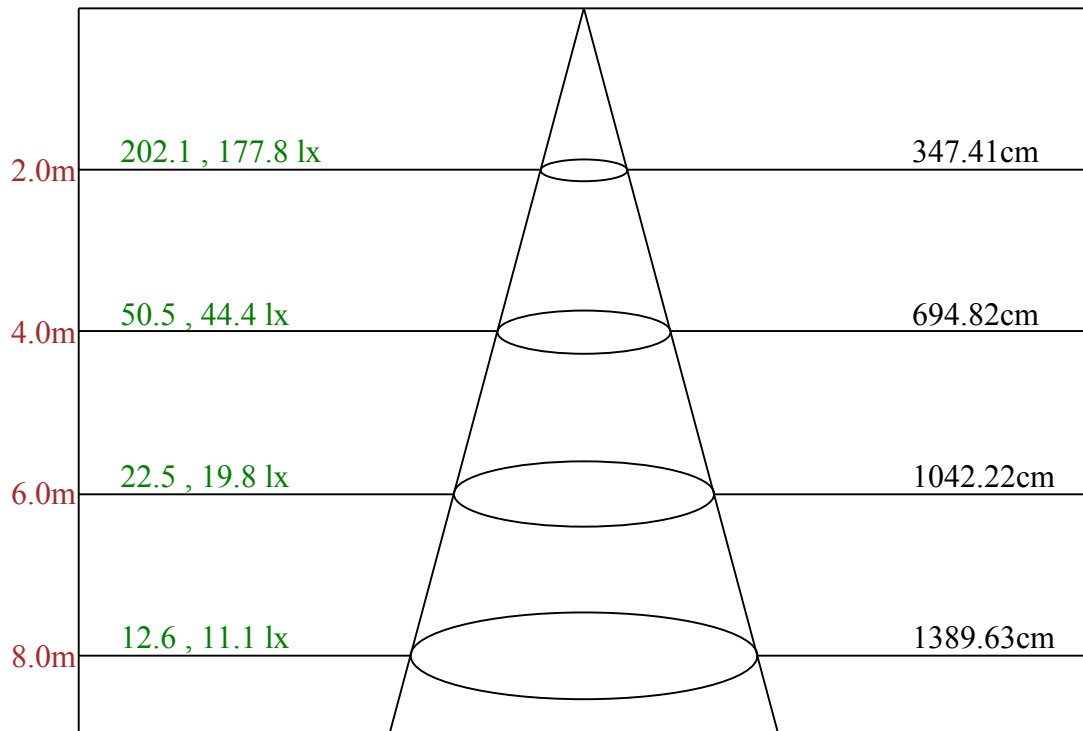
C90/C270: —————

Field angle(10%Imax):C0/180Left:69.5 Right:39.5

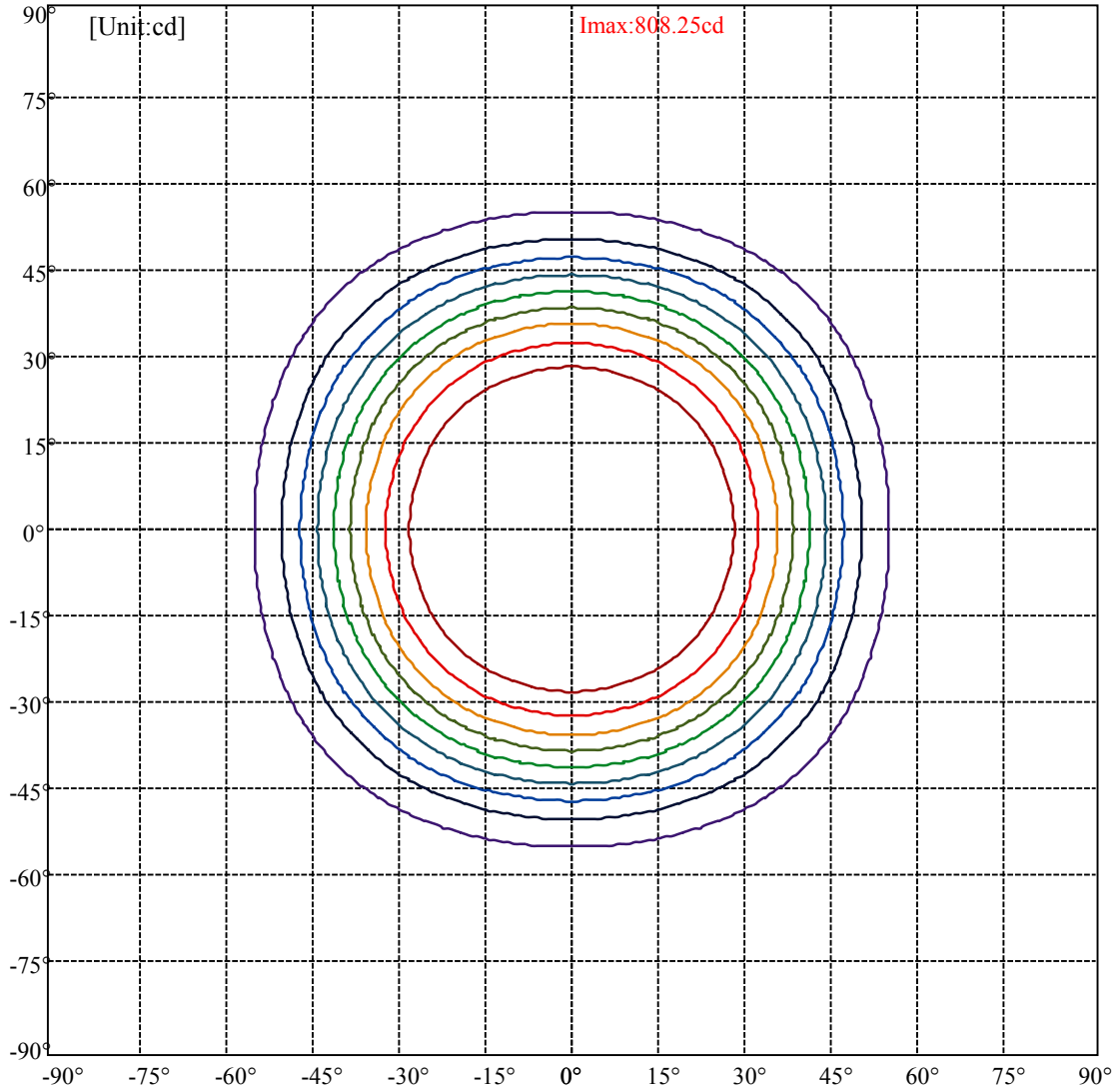
:C90/270Left:69.5 Right:39.5

Beam Angle(50%Imax):C0/180Left:55.8 Right:25.8

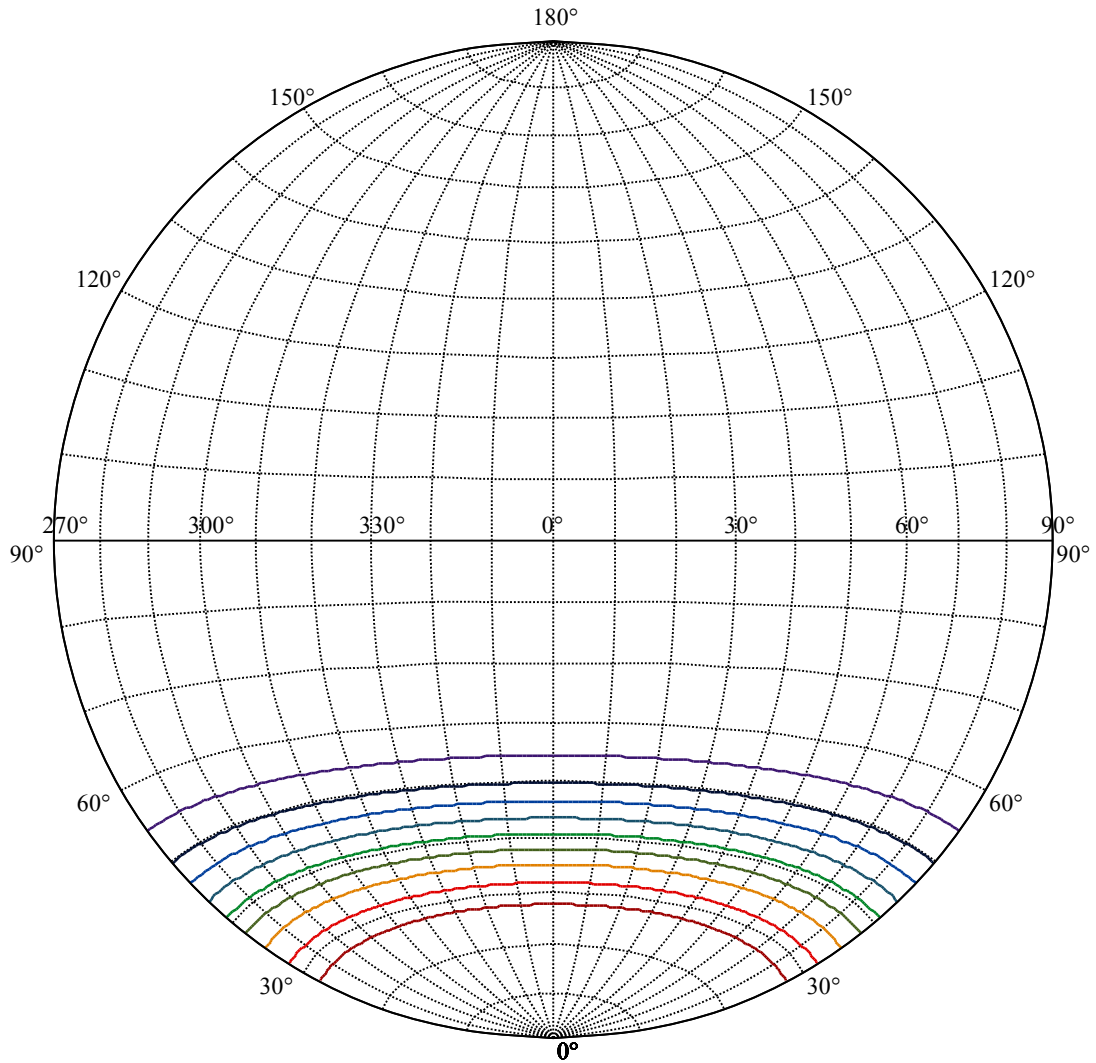
:C90/270Left:55.8 Right:25.8



Max , Ave Beam angle of C0plane81.95



(10%Imax) 80.8253	—
(20%Imax) 161.651	—
(30%Imax) 242.476	—
(40%Imax) 323.301	—
(50%Imax) 404.127	—
(60%Imax) 484.952	—
(70%Imax) 565.777	—
(80%Imax) 646.603	—
(90%Imax) 727.428	—



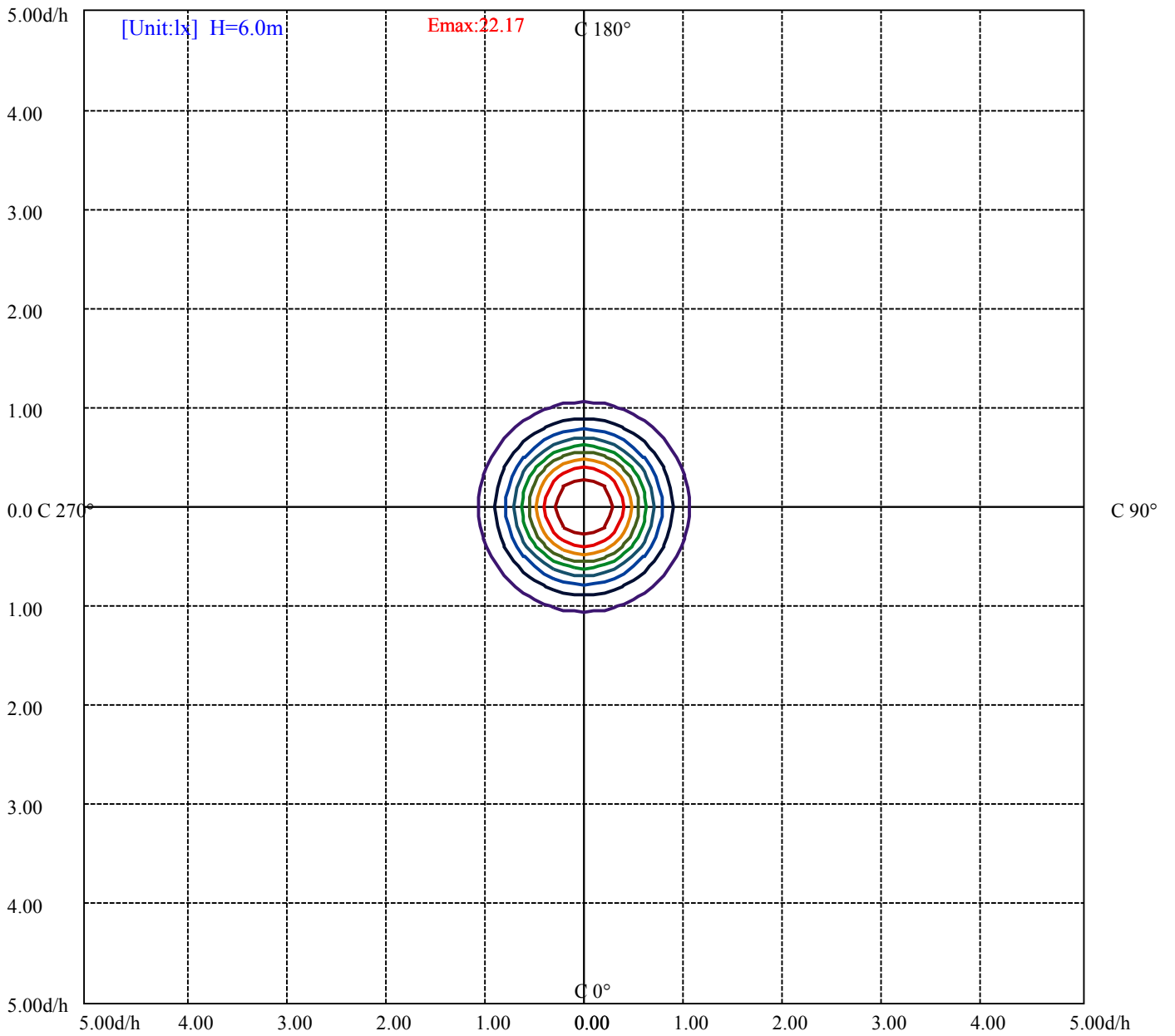
House

[Unit:cd]

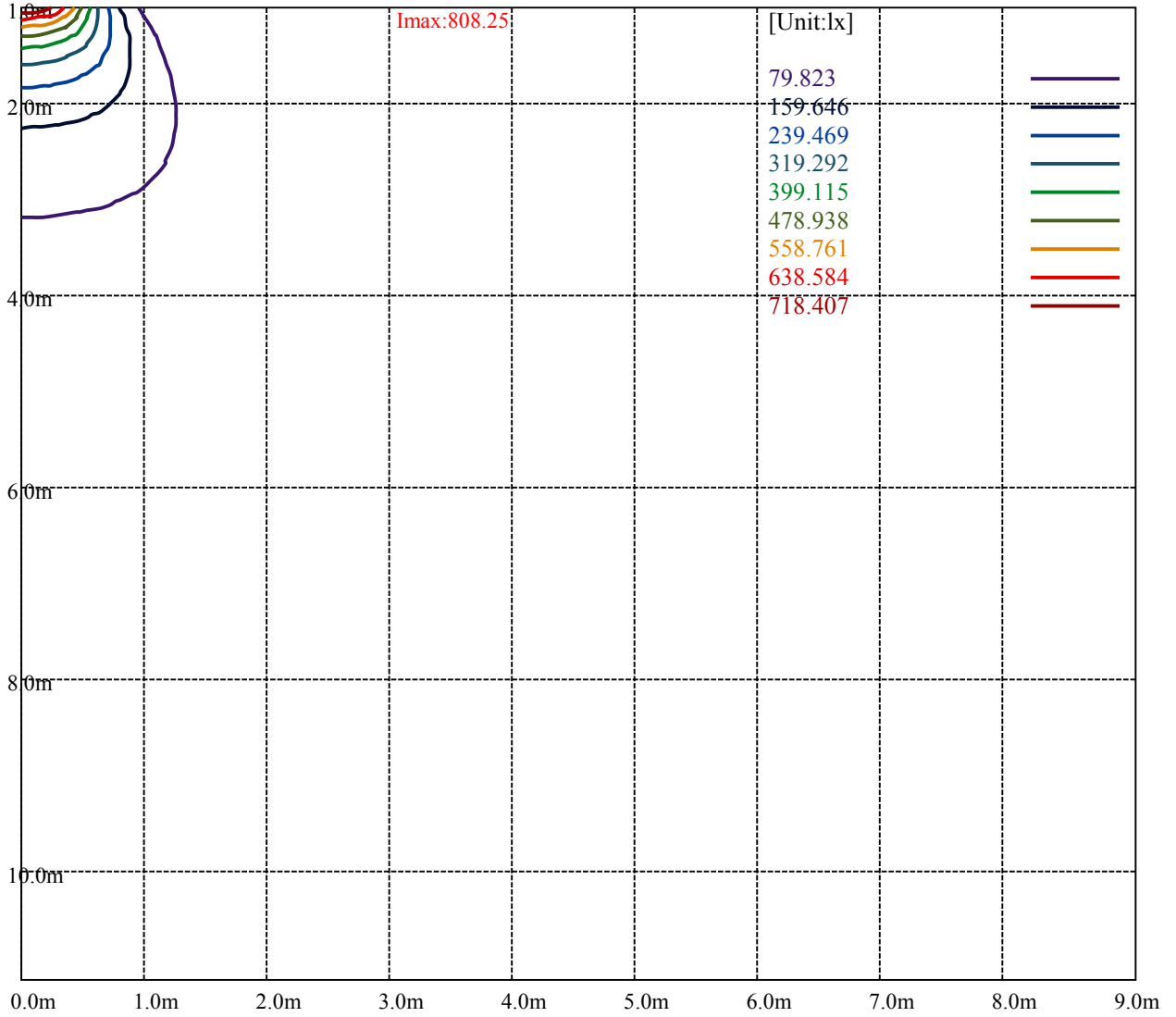
Road

Imax:808.25

(10%Imax) 80.8253	—
(20%Imax) 161.651	—
(30%Imax) 242.476	—
(40%Imax) 323.301	—
(50%Imax) 404.127	—
(60%Imax) 484.952	—
(70%Imax) 565.777	—
(80%Imax) 646.603	—
(90%Imax) 727.428	—



- (10%Emax) 2.217305
- (20%Emax) 4.434611
- (30%Emax) 6.651917
- (40%Emax) 8.869222
- (50%Emax) 11.08653
- (60%Emax) 13.30383
- (70%Emax) 15.52114
- (80%Emax) 17.73844
- (90%Emax) 19.95575



Luminance Table

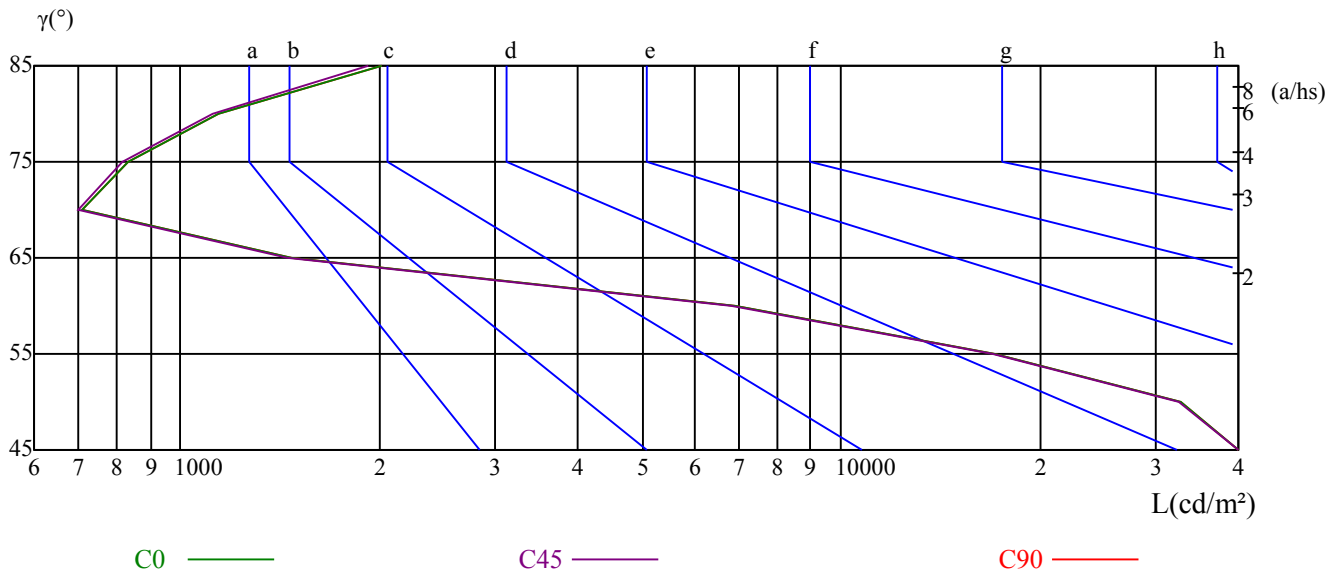
γ	45	50	55	60	65	70	75	80	85
C0	54816	32665	17047	6899	1467	709	832	1144	2014
C45	54553	32479	16931	6842	1453	700	818	1115	1919
C90	54816	32665	17047	6899	1467	709	832	1144	2014

L横(65)	L纵(65)	L45(65)	L横(75)	L纵(75)	L45(75)	L横(85)	L纵(85)	L45(85)
1505	1505	1505	869	869	869	2284	2284	2284

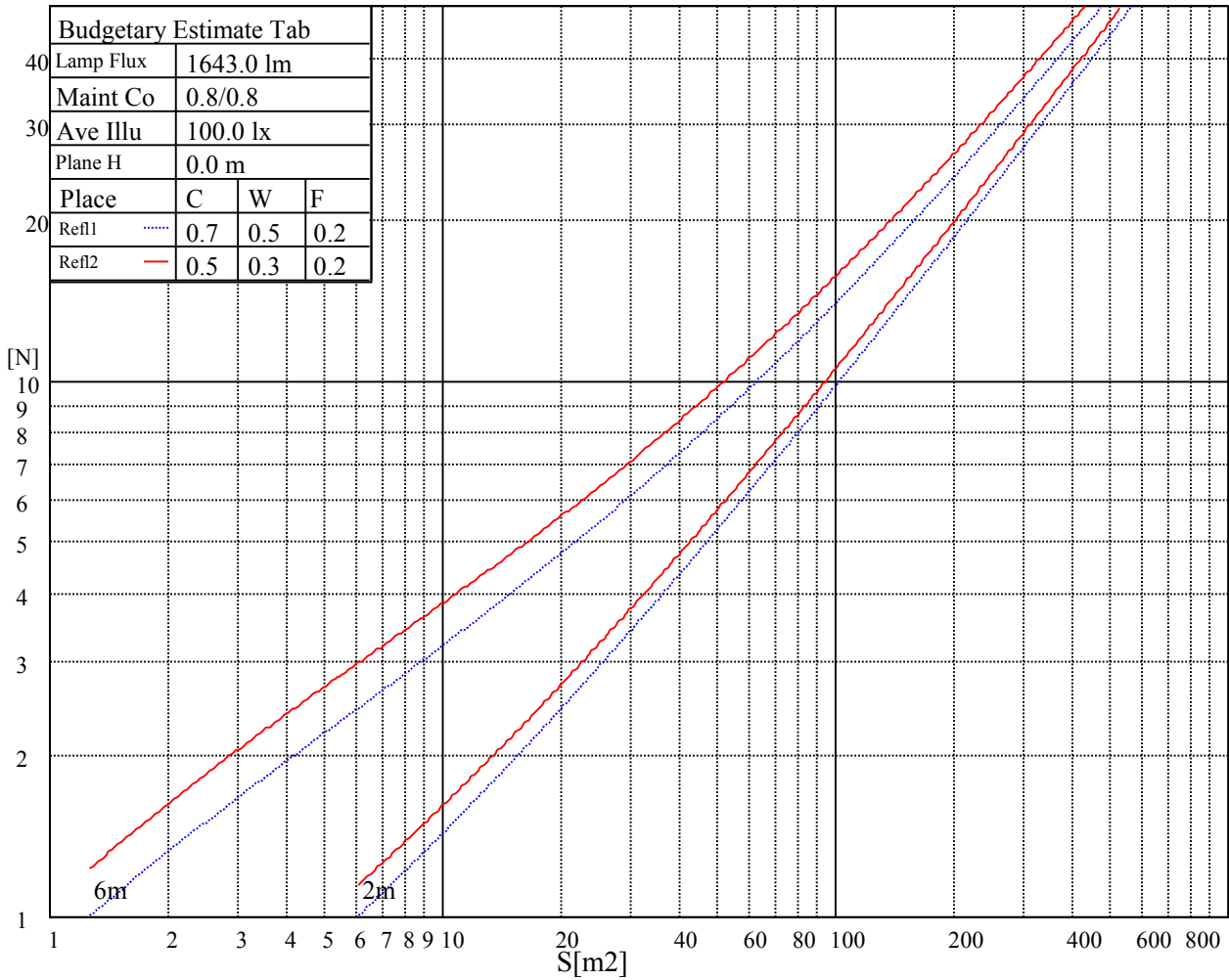
Glare Table

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

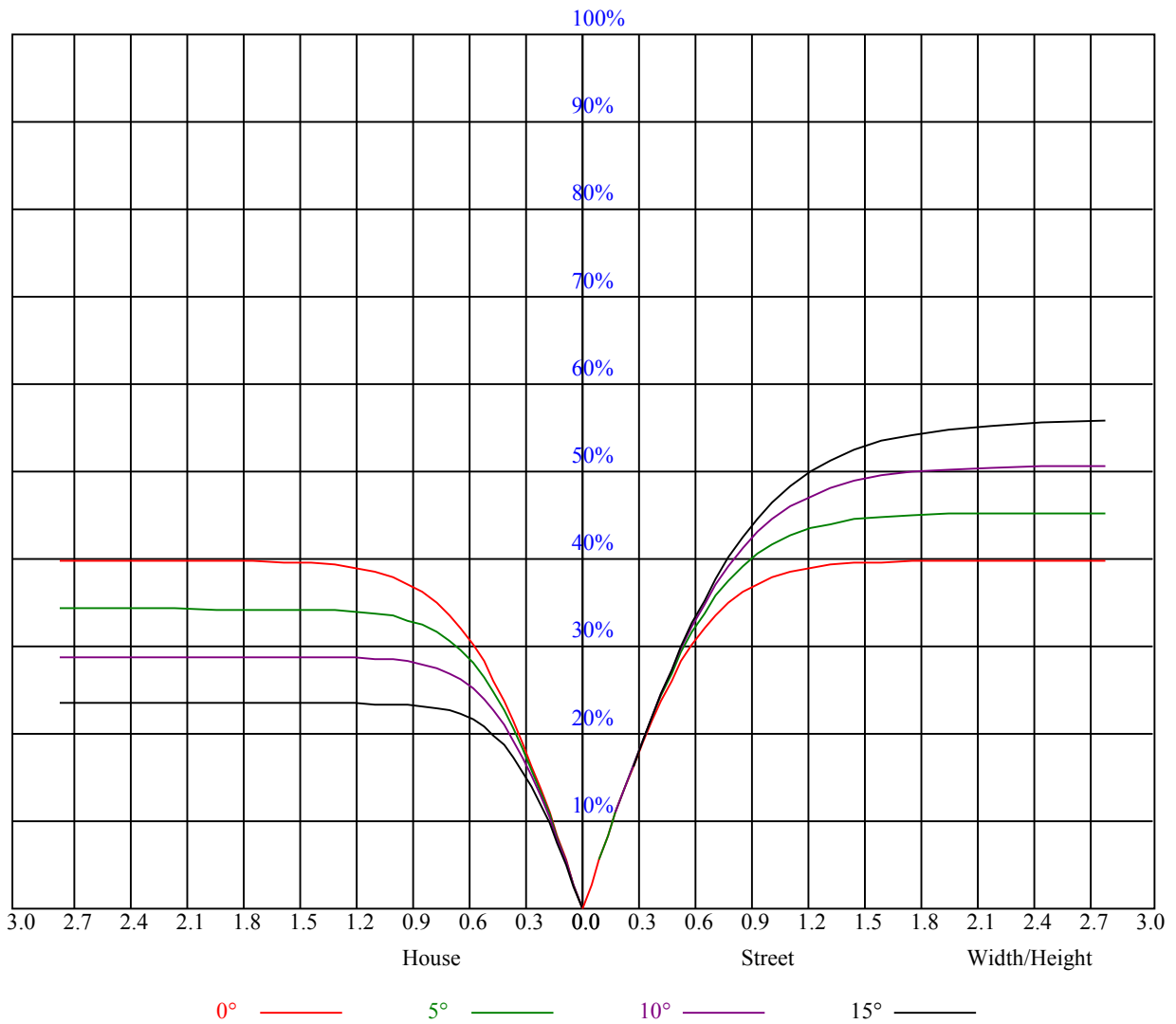
Luminance Limiting Curve



Illuminatin assessment according UGR											
Rf of Ceiling	70	70	50	50	30	70	70	50	50	30	
Rf of Wall	50	30	50	30	30	50	30	50	30	30	
Rf of Floor	20	20	20	20	20	20	20	20	20	20	
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	17.9	18.9	18.1	19.1	19.3	17.9	18.9	18.1	19.1	19.3
	3H	17.7	18.6	18.0	18.8	19.1	17.7	18.6	18.0	18.8	19.1
	4H	17.5	18.2	17.9	18.6	18.9	17.5	18.2	17.9	18.6	18.9
	6H	17.5	18.2	17.9	18.6	18.9	17.5	18.2	17.9	18.6	18.9
	8H	17.5	18.3	17.9	18.6	18.9	17.5	18.3	17.9	18.6	18.9
	12H	17.3	17.9	17.7	18.2	18.6	17.3	17.9	17.7	18.2	18.6
4H	2H	17.5	18.3	17.9	18.6	18.9	17.5	18.3	17.9	18.6	18.9
	3H	17.4	17.9	17.8	18.3	18.7	17.4	17.9	17.8	18.3	18.7
	4H	17.4	17.9	17.8	18.3	18.7	17.4	17.9	17.8	18.3	18.7
	6H	17.4	17.9	17.8	18.3	18.7	17.4	17.9	17.8	18.3	18.7
	8H	17.2	17.5	17.7	18.0	18.5	17.2	17.5	17.7	18.0	18.5
	12H	17.2	17.5	17.7	18.0	18.5	17.2	17.5	17.7	18.0	18.5
8H	4H	17.2	17.5	17.7	18.0	18.5	17.2	17.5	17.7	18.0	18.5
	6H	17.2	17.5	17.7	18.0	18.5	17.2	17.5	17.7	18.0	18.5
	8H	17.2	17.5	17.7	18.0	18.5	17.2	17.5	17.7	18.0	18.5
	12H	17.2	17.5	17.7	18.0	18.5	17.2	17.5	17.7	18.0	18.5
12H	4H	17.2	17.5	17.7	18.0	18.5	17.2	17.5	17.7	18.0	18.5
	6H	17.2	17.5	17.7	18.0	18.5	17.2	17.5	17.7	18.0	18.5
	8H	17.2	17.5	17.7	18.0	18.5	17.2	17.5	17.7	18.0	18.5
Variation with the observer position at spacings:											
S = 1.0H		1.8/-5.1					1.8/-5.1				
S = 1.5H		3.9/-13.4					3.9/-13.4				
S = 2.0H		6.3/-17.7					6.3/-17.7				
Standard tables:		BK0					BK0				
Uncorrected UGR		4.1					4.1				



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	0.95	0.95	0.95	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.82	0.82	0.82	0.80
1	0.87	0.85	0.83	0.86	0.84	0.82	0.82	0.81	0.79	0.79	0.78	0.77	0.77	0.76	0.75	0.73
2	0.80	0.76	0.73	0.79	0.75	0.72	0.76	0.73	0.71	0.73	0.71	0.69	0.71	0.69	0.68	0.66
3	0.73	0.68	0.65	0.72	0.68	0.64	0.70	0.66	0.63	0.68	0.65	0.62	0.66	0.63	0.61	0.60
4	0.67	0.62	0.58	0.66	0.61	0.58	0.64	0.60	0.57	0.63	0.59	0.56	0.61	0.58	0.55	0.54
5	0.62	0.56	0.52	0.61	0.56	0.52	0.59	0.55	0.51	0.58	0.54	0.51	0.57	0.53	0.50	0.49
6	0.57	0.51	0.47	0.56	0.51	0.47	0.55	0.50	0.47	0.54	0.49	0.46	0.52	0.49	0.46	0.45
7	0.52	0.47	0.43	0.52	0.47	0.43	0.51	0.46	0.42	0.50	0.45	0.42	0.49	0.45	0.42	0.41
8	0.49	0.43	0.39	0.48	0.43	0.39	0.47	0.42	0.39	0.46	0.42	0.39	0.45	0.41	0.39	0.37
9	0.45	0.40	0.36	0.45	0.39	0.36	0.44	0.39	0.36	0.43	0.39	0.36	0.42	0.38	0.35	0.34
10	0.42	0.37	0.33	0.42	0.37	0.33	0.41	0.36	0.33	0.40	0.36	0.33	0.40	0.36	0.33	0.32



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	798.23	797.91	801.80	808.25	804.68	773.17	692.15	573.17	426.96
45.0	798.23	797.91	801.80	808.25	804.68	773.17	692.15	573.17	426.96
90.0	798.23	797.91	801.80	808.25	804.68	773.17	692.15	573.17	426.96
135.0	798.23	797.91	801.80	808.25	804.68	773.17	692.15	573.17	426.96
180.0	798.23	797.91	801.80	808.25	804.68	773.17	692.15	573.17	426.96
225.0	798.23	797.91	801.80	808.25	804.68	773.17	692.15	573.17	426.96
270.0	798.23	797.91	801.80	808.25	804.68	773.17	692.15	573.17	426.96
315.0	798.23	797.91	801.80	808.25	804.68	773.17	692.15	573.17	426.96
360.0	798.23	797.91	801.80	808.25	804.68	773.17	692.15	573.17	426.96

C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	283.34	153.83	71.83	25.43	4.59	1.81	1.62	1.53	1.44
45.0	283.34	153.83	71.83	25.43	4.59	1.81	1.62	1.53	1.44
90.0	283.34	153.83	71.83	25.43	4.59	1.81	1.62	1.53	1.44
135.0	283.34	153.83	71.83	25.43	4.59	1.81	1.62	1.53	1.44
180.0	283.34	153.83	71.83	25.43	4.59	1.81	1.62	1.53	1.44
225.0	283.34	153.83	71.83	25.43	4.59	1.81	1.62	1.53	1.44
270.0	283.34	153.83	71.83	25.43	4.59	1.81	1.62	1.53	1.44
315.0	283.34	153.83	71.83	25.43	4.59	1.81	1.62	1.53	1.44
360.0	283.34	153.83	71.83	25.43	4.59	1.81	1.62	1.53	1.44

C/ γ (°)	90.0
0.0	1.44
45.0	1.44
90.0	1.44
135.0	1.44
180.0	1.44
225.0	1.44
270.0	1.44
315.0	1.44
360.0	1.44