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Nata

LumCAT: 1-1213-L

Luminaire:

Report No: 220923-B012

Voltage(V): 35.7400

Test No: 220923-C012

Current(A): 0.2820

LampCAT: CITIZEN CLU028

Power (W): 10.0780

Lamp flux(lm): 1199.6

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 43

Width(mm): 43

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1006.66

Efficiency(%): 83.92%

Lumens(lm)/Power(W): 99.89

Central intensity(cd): 2493.339

Maximum intensity(cd): 2493.339

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=34.7

[C90/270]Total=34.7

Field angle(10%Imax): [C0/180]Total=60.2

[C90/270]Total=60.2

Maximum s/h(1/2): C0_180=0.57 C90_270=0.57

Maximum s/h(1/4): C0_180=0.58 C90_270=0.58

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 83.92%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.902%

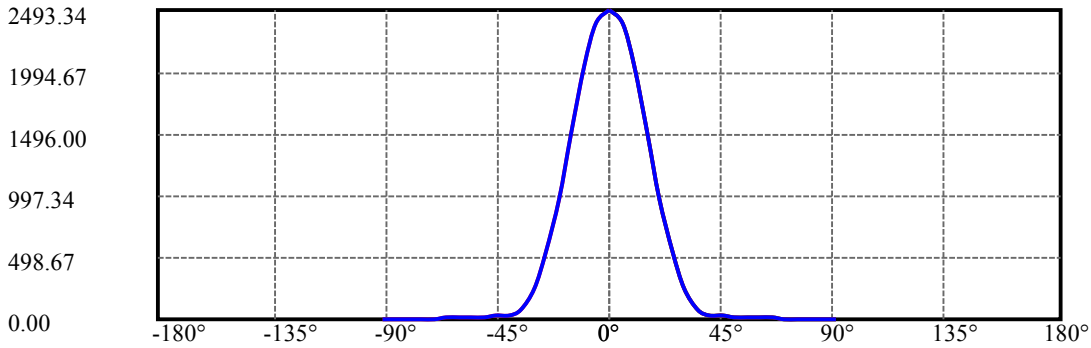
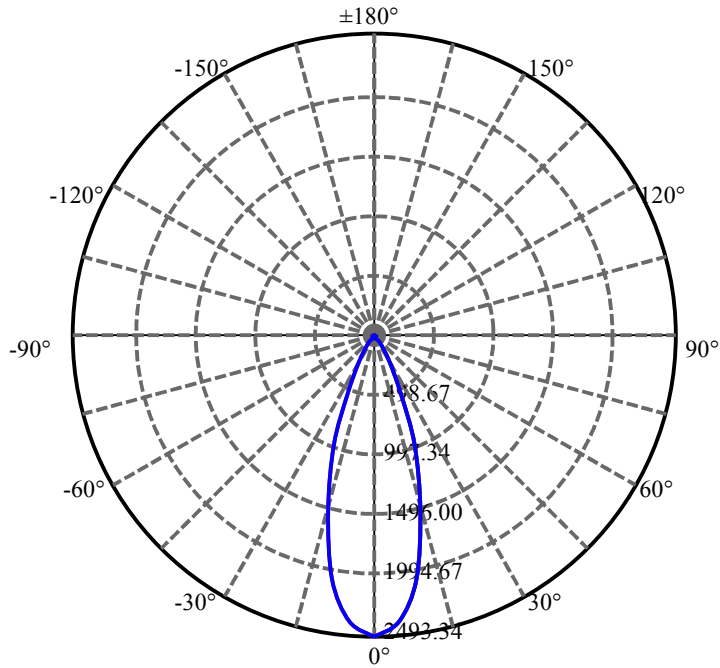
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2493.339	0.000	0	.000%	.000%
5.0	2380.107	58.261	58.261	4.857%	5.788%
10.0	2048.703	158.432	216.693	13.207%	21.526%
15.0	1490.491	209.943	426.636	17.501%	42.381%
20.0	969.939	202.774	629.41	16.904%	62.525%
25.0	543.415	158.723	788.133	13.231%	78.292%
30.0	253.270	100.821	888.954	8.405%	88.307%
35.0	69.844	47.581	936.535	3.966%	93.034%
40.0	35.613	17.595	954.129	1.467%	94.782%
45.0	23.401	10.927	965.056	.911%	95.867%
50.0	17.216	8.207	973.263	.684%	96.683%
55.0	13.392	6.655	979.919	.555%	97.344%
60.0	10.897	5.614	985.533	.468%	97.901%
65.0	8.806	4.790	990.323	.399%	98.377%
70.0	7.394	4.102	994.425	.342%	98.785%
75.0	6.334	3.588	998.014	.299%	99.141%
80.0	5.572	3.186	1001.199	.266%	99.458%
85.0	4.930	2.854	1004.053	.238%	99.741%
90.0	4.586	2.605	1006.658	.217%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	888.95	74.10%	88.31%
0-40	954.13	79.54%	94.78%
0-60	985.53	82.16%	97.90%
0-90	1004.05	83.70%	99.74%
0-120	1004.05	83.70%	99.74%
0-180	1006.66	83.92%	100.00%
60-90	24.13	2.01%	2.40%
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%
0-25.85	805.33	67.13%	80.00%

ZONAL LUMEN SUMMARY

0-10	216.69
10-20	412.72
20-30	259.54
30-40	65.18
40-50	19.13
50-60	12.27
60-70	8.89
70-80	6.77
80-90	2.85
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



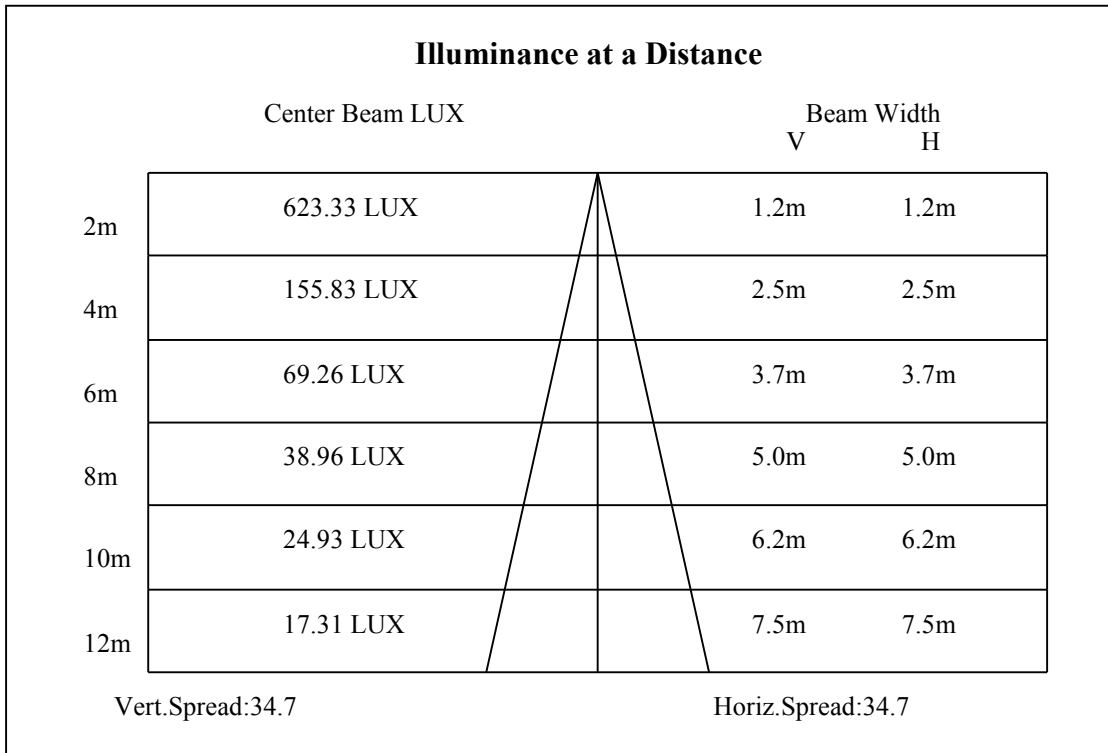
C0(Max): —————

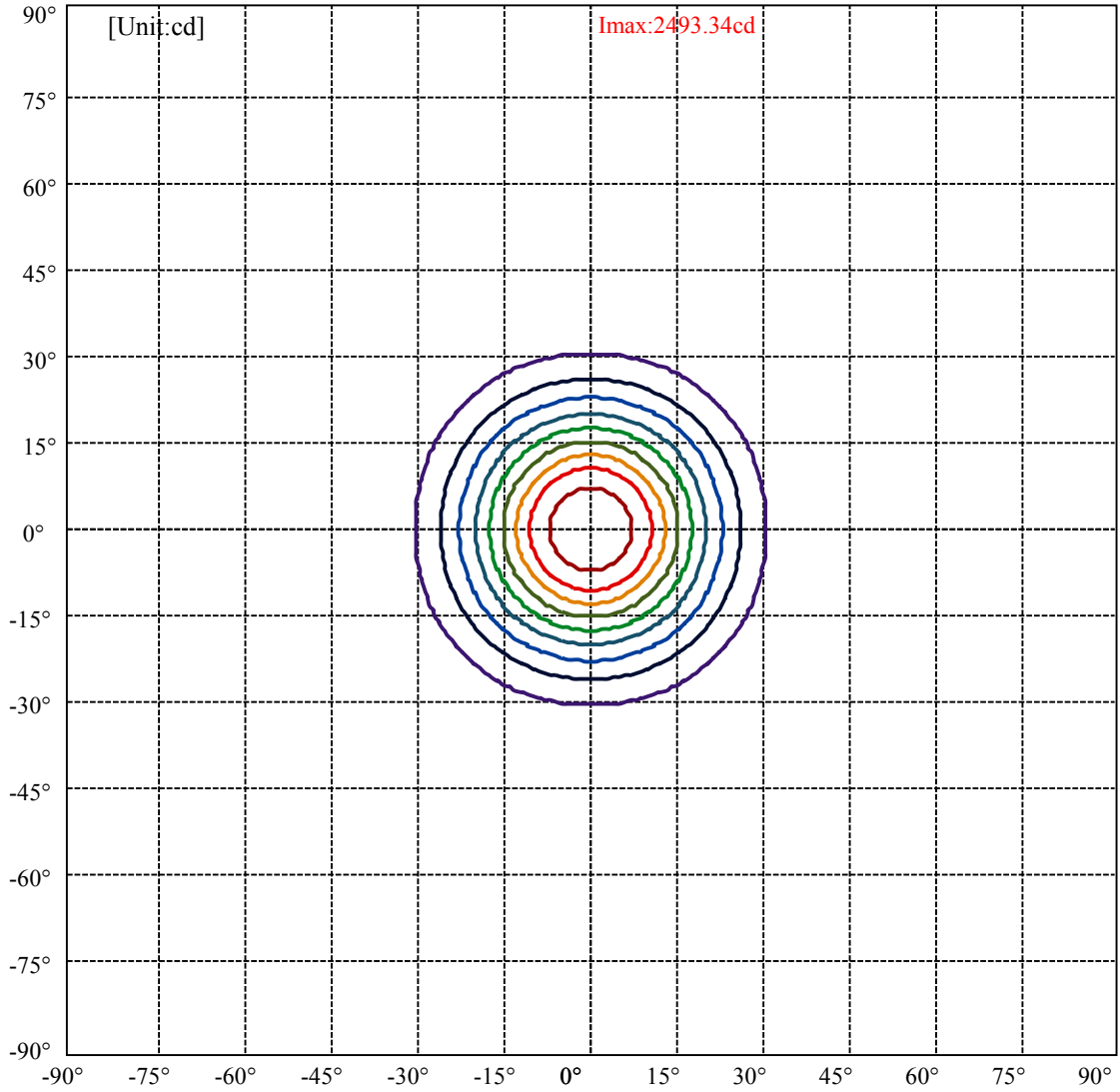
C0/C180: —————

C90/C270: —————

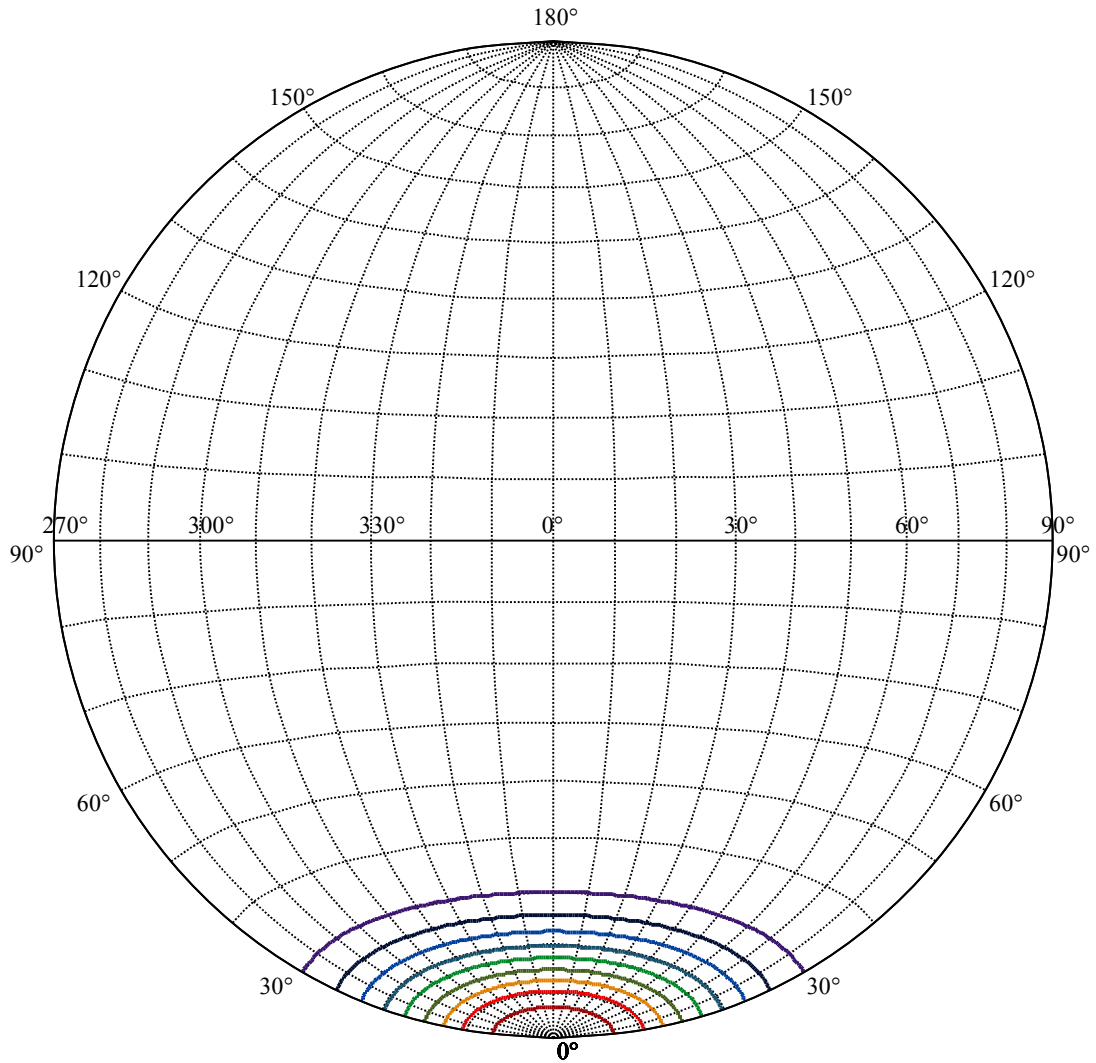
Field angle(10%Imax):C0/180Left:30.1 Right:30.1
:C90/270Left:30.1 Right:30.1

Beam Angle(50%Imax):C0/180Left:17.3 Right:17.3
:C90/270Left:17.3 Right:17.3





(10%Imax) 249.334	—
(20%Imax) 498.668	—
(30%Imax) 748.002	—
(40%Imax) 997.336	—
(50%Imax) 1246.67	—
(60%Imax) 1496	—
(70%Imax) 1745.34	—
(80%Imax) 1994.67	—
(90%Imax) 2244	—



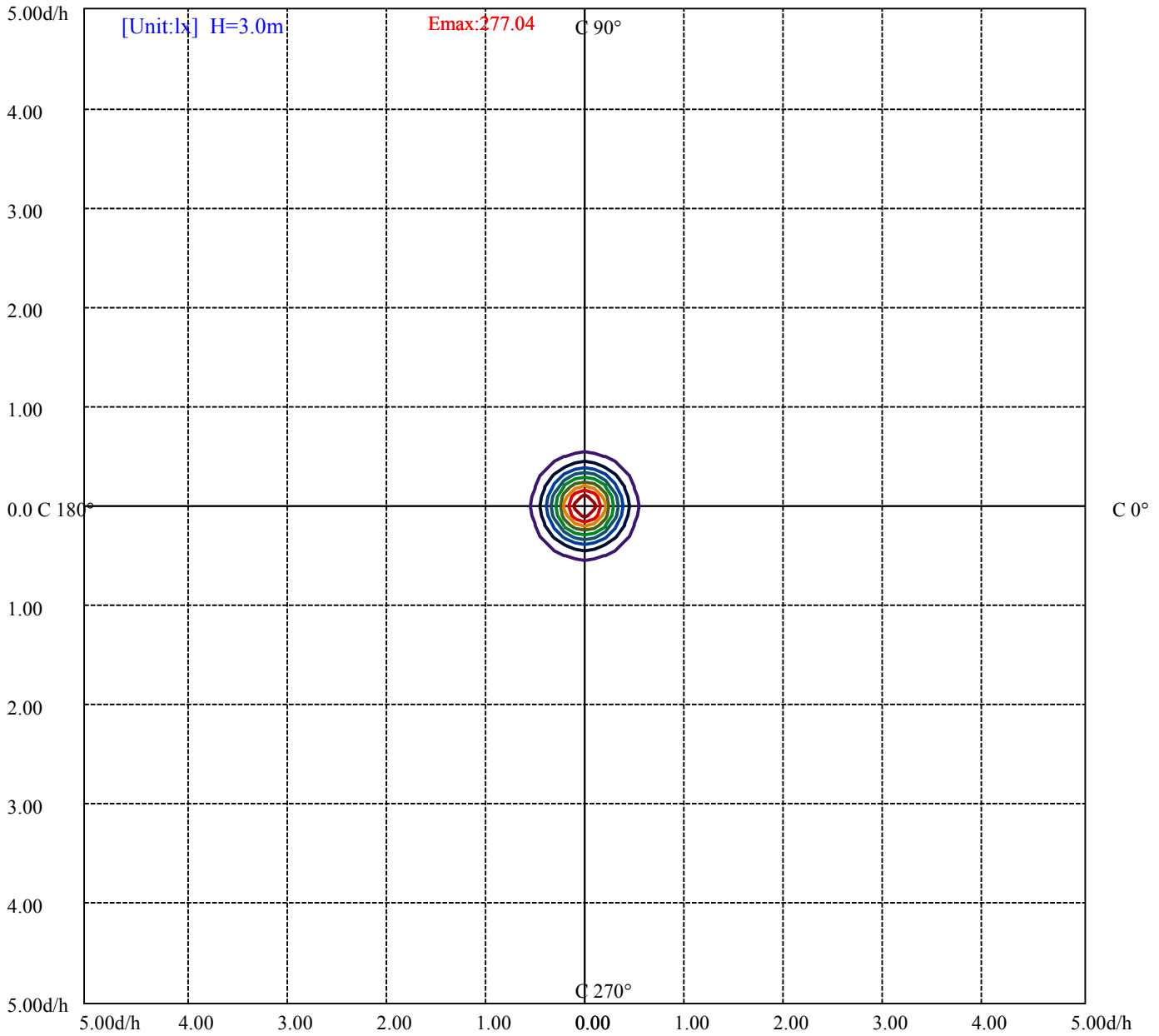
House

[Unit:cd]

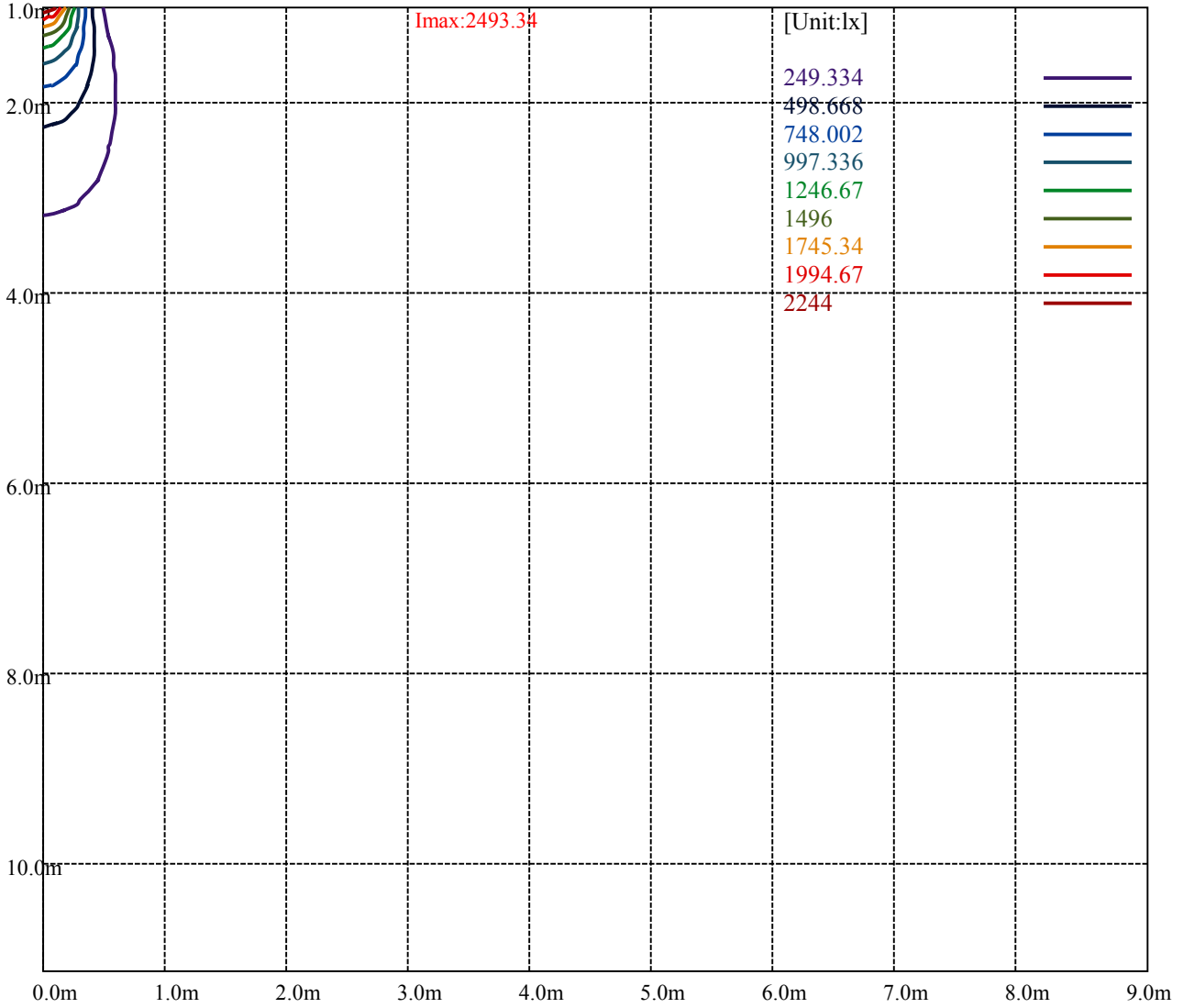
Road

Imax:2493.34

(10%Imax) 249.334	—
(20%Imax) 498.668	—
(30%Imax) 748.002	—
(40%Imax) 997.336	—
(50%Imax) 1246.67	—
(60%Imax) 1496	—
(70%Imax) 1745.34	—
(80%Imax) 1994.67	—
(90%Imax) 2244	—



- (10%Emax) 27.70378
- (20%Emax) 55.40744
- (30%Emax) 83.11122
- (40%Emax) 110.8149
- (50%Emax) 138.5189
- (60%Emax) 166.2222
- (70%Emax) 193.9256
- (80%Emax) 221.63
- (90%Emax) 249.3333



Luminance Table

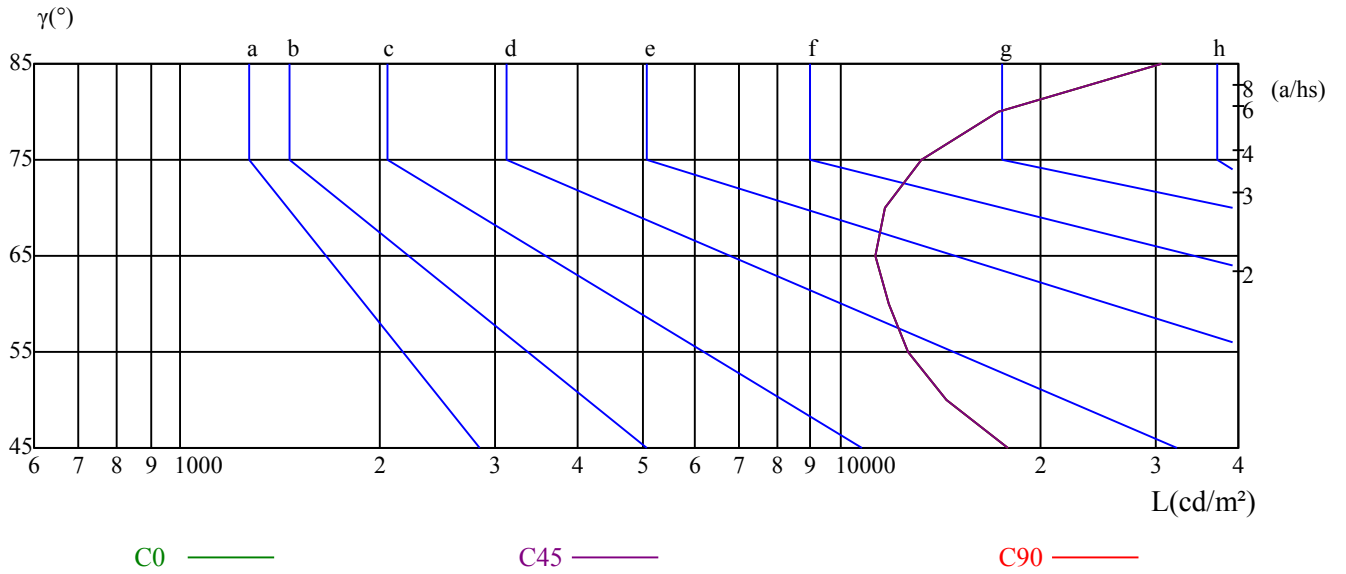
γ	45	50	55	60	65	70	75	80	85
C0	17898	14486	12628	11787	11269	11693	13235	17354	30590
C45	17898	14486	12628	11787	11269	11693	13235	17354	30590
C90	17898	14486	12628	11787	11269	11693	13235	17354	30590

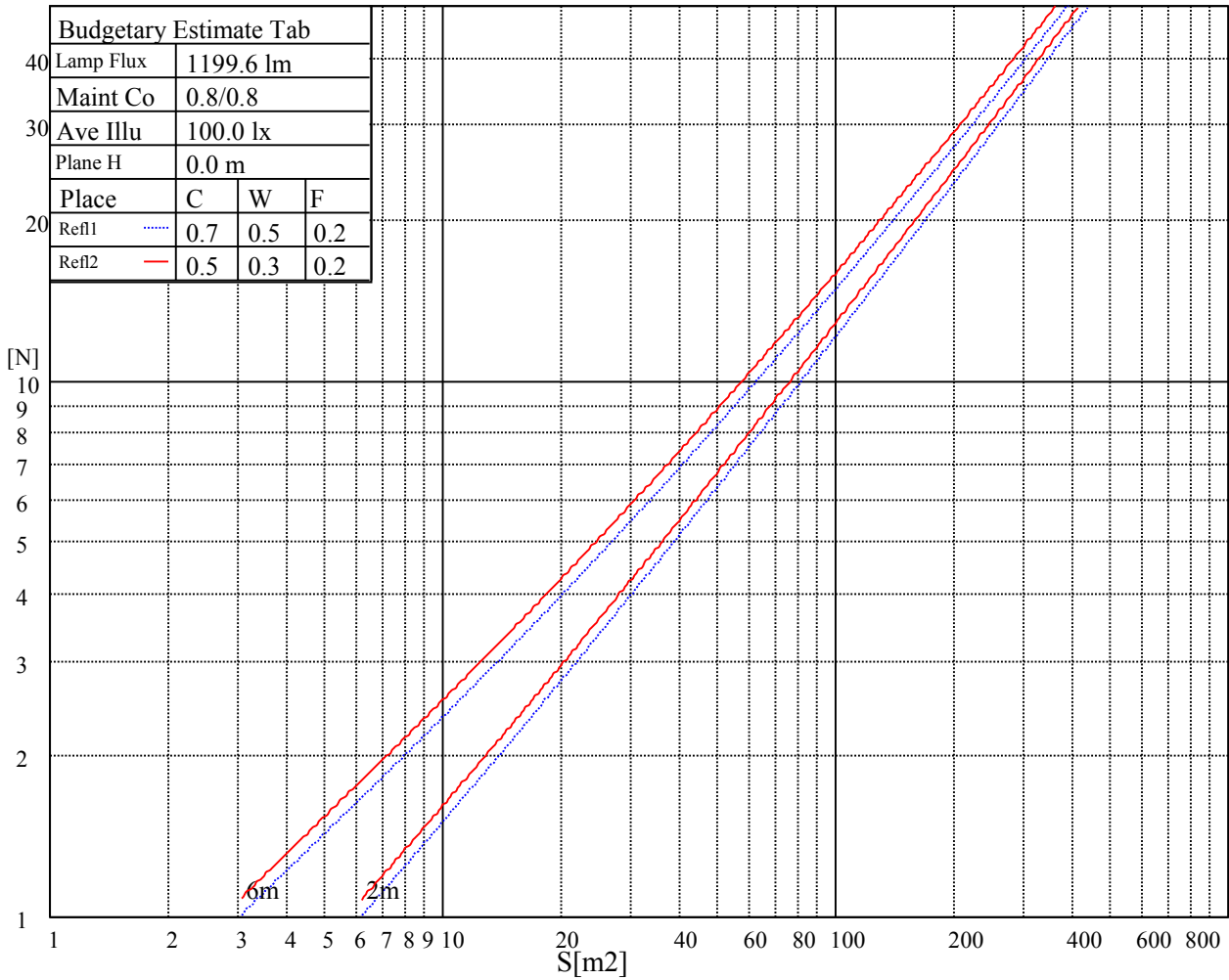
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
11269	11269	11269	13235	13235	13235	30590	30590	30590

Glare Table

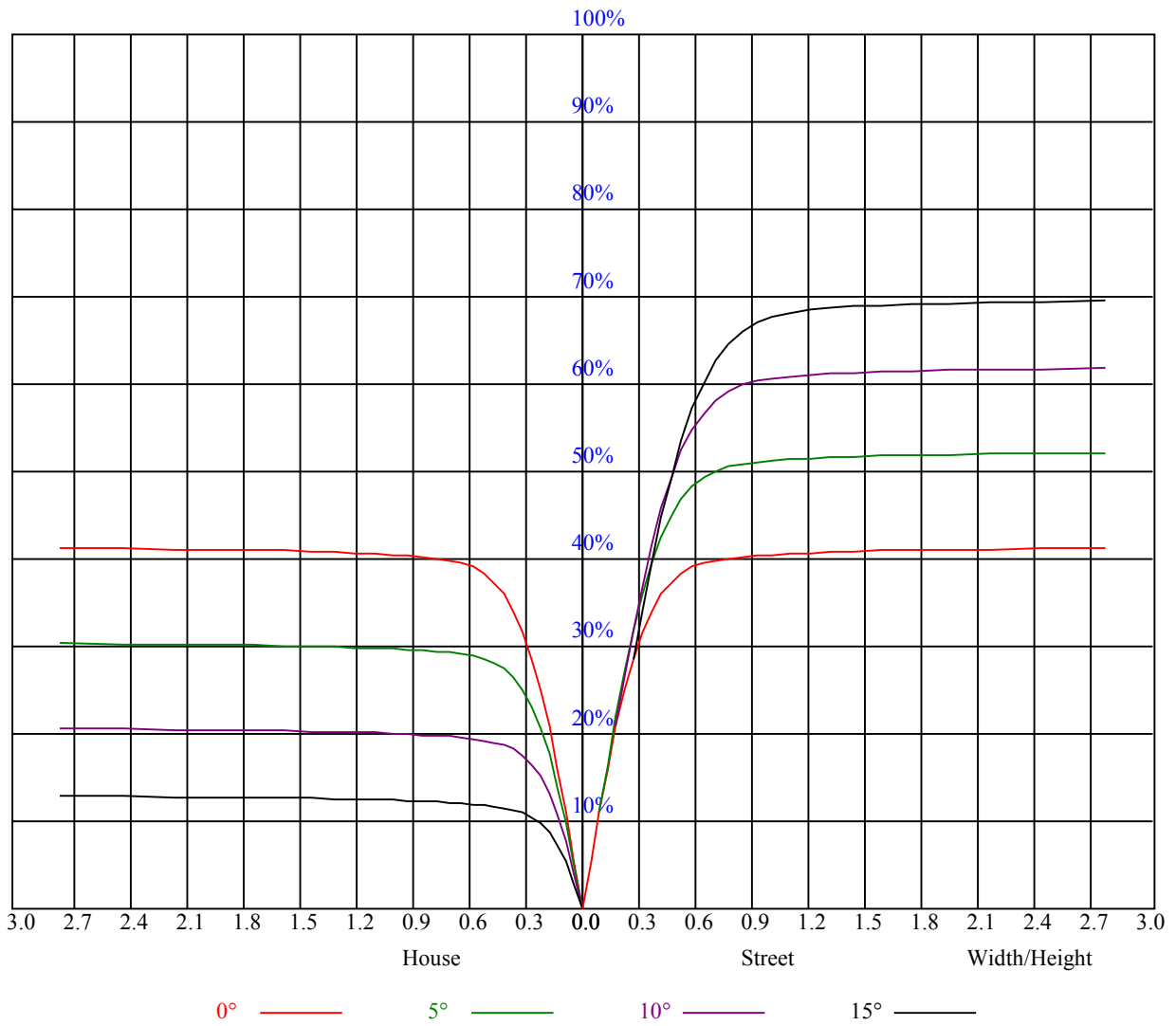
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.00	1.00	1.00	0.98	0.98	0.98	0.93	0.93	0.93	0.89	0.89	0.89	0.86	0.86	0.86	0.84
1	0.94	0.92	0.90	0.92	0.90	0.88	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.81	0.79
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	0.79	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	0.73	0.71
4	0.79	0.75	0.72	0.78	0.75	0.72	0.76	0.73	0.71	0.75	0.72	0.70	0.73	0.71	0.69	0.68
5	0.75	0.71	0.68	0.75	0.71	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.65
6	0.72	0.68	0.65	0.71	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.62
7	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.60
8	0.66	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.63	0.60	0.58	0.57
9	0.63	0.59	0.57	0.63	0.59	0.56	0.62	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.56	0.55
10	0.61	0.57	0.54	0.61	0.57	0.54	0.60	0.57	0.54	0.59	0.56	0.54	0.59	0.56	0.54	0.53



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	2484.53	2451.66	2192.33	1768.69	1159.21	671.62	345.97	99.91	41.23
45.0	2498.27	2405.65	2099.12	1570.90	997.28	570.04	316.09	69.55	35.49
90.0	2494.68	2318.41	1903.13	1178.57	834.57	459.38	189.36	56.17	31.37
135.0	2495.88	2365.02	1987.98	1452.00	890.32	490.57	239.61	59.93	33.10
180.0	2484.53	2289.73	1894.76	1186.69	810.73	425.62	155.06	51.27	31.37
225.0	2498.27	2352.47	2026.22	1485.46	917.51	498.16	214.03	60.41	33.40
270.0	2494.68	2439.71	2164.25	1707.74	1096.47	638.76	313.11	83.30	40.39
315.0	2495.88	2418.20	2121.83	1573.89	1053.44	593.17	252.93	78.22	38.54
360.0	2484.53	2451.66	2192.33	1768.69	1159.21	671.62	345.97	99.91	41.23
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	25.69	18.58	14.16	11.47	9.38	7.83	6.63	5.86	5.08
45.0	22.77	16.61	12.85	10.64	8.60	7.17	6.21	5.50	4.90
90.0	21.33	15.95	12.49	10.22	8.31	7.05	6.09	5.38	4.78
135.0	21.75	16.37	12.73	10.40	8.37	7.11	6.15	5.38	4.78
180.0	21.27	16.01	12.73	10.34	8.37	7.17	6.09	5.38	4.78
225.0	23.72	17.51	13.62	11.17	8.90	7.41	6.33	5.62	4.96
270.0	25.69	18.34	14.40	11.47	9.20	7.65	6.57	5.74	5.08
315.0	24.98	18.34	14.16	11.47	9.32	7.77	6.57	5.74	5.08
360.0	25.69	18.58	14.16	11.47	9.38	7.83	6.63	5.86	5.08
C/ γ (°)	90.0								
0.0	4.78								
45.0	4.42								
90.0	4.60								
135.0	4.60								
180.0	4.54								
225.0	4.42								
270.0	4.60								
315.0	4.72								
360.0	4.78								