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Nata

LumCAT: LN01D03536EE-N

Luminaire: 92.70.307.00

Report No: 210520-B008

Test No: 210520-C008

LampCAT: CITIZEN CLU7A2 LES4.5

Lamp flux(lm): 671.4

Number of Lamps: 1

Length(mm): 74

Phm Type: C

Voltage(V): 221.5000

Current(A): 0.0760

Power (W): 8.5000

PF: 0.5040

Ballast type: DC

Width(mm): 74

Height(mm): 56

Photometric Results

Lumens(lm): 458.13

Efficiency(%): 68.23%

Lumens(lm)/Power(W): 53.90

Central intensity(cd): 866.348

Maximum intensity(cd): 866.348

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=37.5

[C90/270]Total=37.5

Field angle(10%Imax): [C0/180]Total=66.8

[C90/270]Total=66.8

Maximum s/h(1/2): C0_180=0.62 C90_270=0.62

Maximum s/h(1/4): C0_180=0.61 C90_270=0.61

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 68.23%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 93.303%

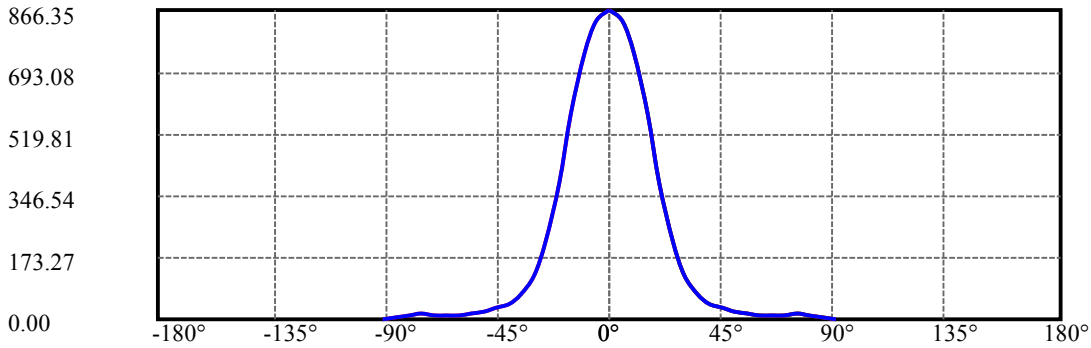
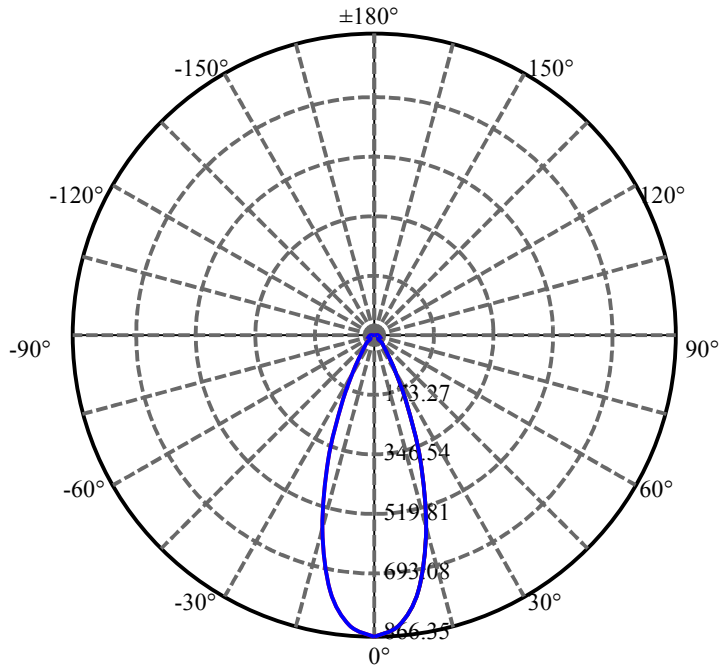
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	866.348	0.000	0	.000%	.000%
5.0	836.360	20.355	20.355	3.032%	4.443%
10.0	742.556	56.483	76.838	8.412%	16.772%
15.0	575.803	78.204	155.042	11.648%	33.842%
20.0	384.574	79.149	234.191	11.788%	51.119%
25.0	220.331	63.443	297.634	9.449%	64.967%
30.0	122.428	43.376	341.011	6.460%	74.435%
35.0	69.595	28.277	369.288	4.211%	80.608%
40.0	44.339	19.009	388.297	2.831%	84.757%
45.0	29.665	13.702	401.999	2.041%	87.748%
50.0	21.656	10.370	412.369	1.545%	90.011%
55.0	16.348	8.263	420.633	1.231%	91.815%
60.0	13.141	6.816	427.449	1.015%	93.303%
65.0	10.772	5.813	433.262	.866%	94.572%
70.0	11.946	5.752	439.015	.857%	95.828%
75.0	14.442	6.897	445.912	1.027%	97.333%
80.0	10.652	6.715	452.627	1.000%	98.799%
85.0	3.663	3.890	456.517	.579%	99.648%
90.0	2.229	1.613	458.13	.240%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	341.01	50.79%	74.44%
0-40	388.30	57.83%	84.76%
0-60	427.45	63.66%	93.30%
0-90	456.52	67.99%	99.65%
0-120	456.52	67.99%	99.65%
0-180	458.13	68.23%	100.00%
60-90	35.88	5.34%	7.83%
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%
0-34.51	366.50	54.59%	80.00%

ZONAL LUMEN SUMMARY

0-10	76.84
10-20	157.35
20-30	106.82
30-40	47.29
40-50	24.07
50-60	15.08
60-70	11.57
70-80	13.61
80-90	3.89
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: —————

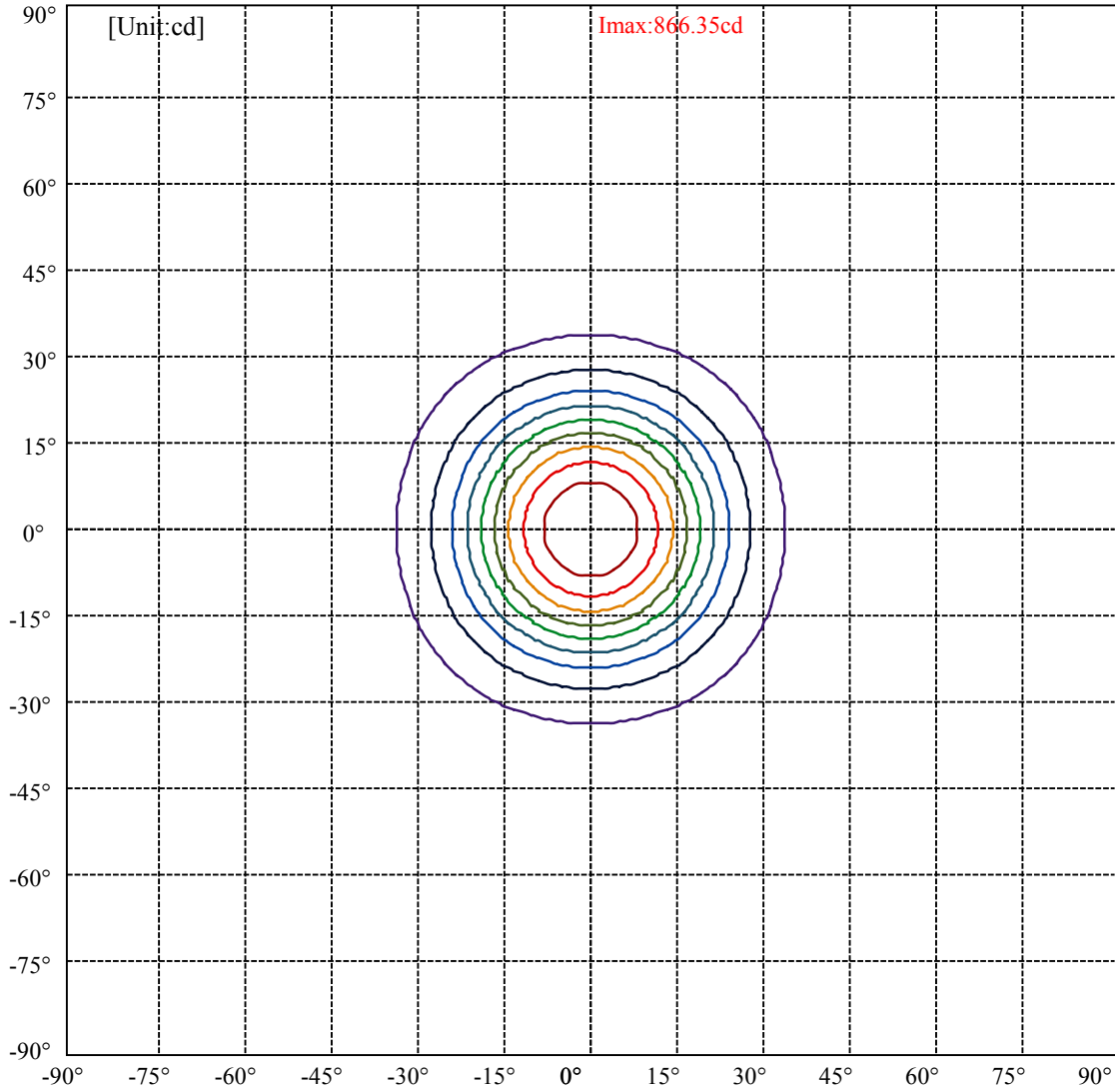
C90/C270: —————

Field angle(10%Imax):C0/180Left:33.4 Right:33.4

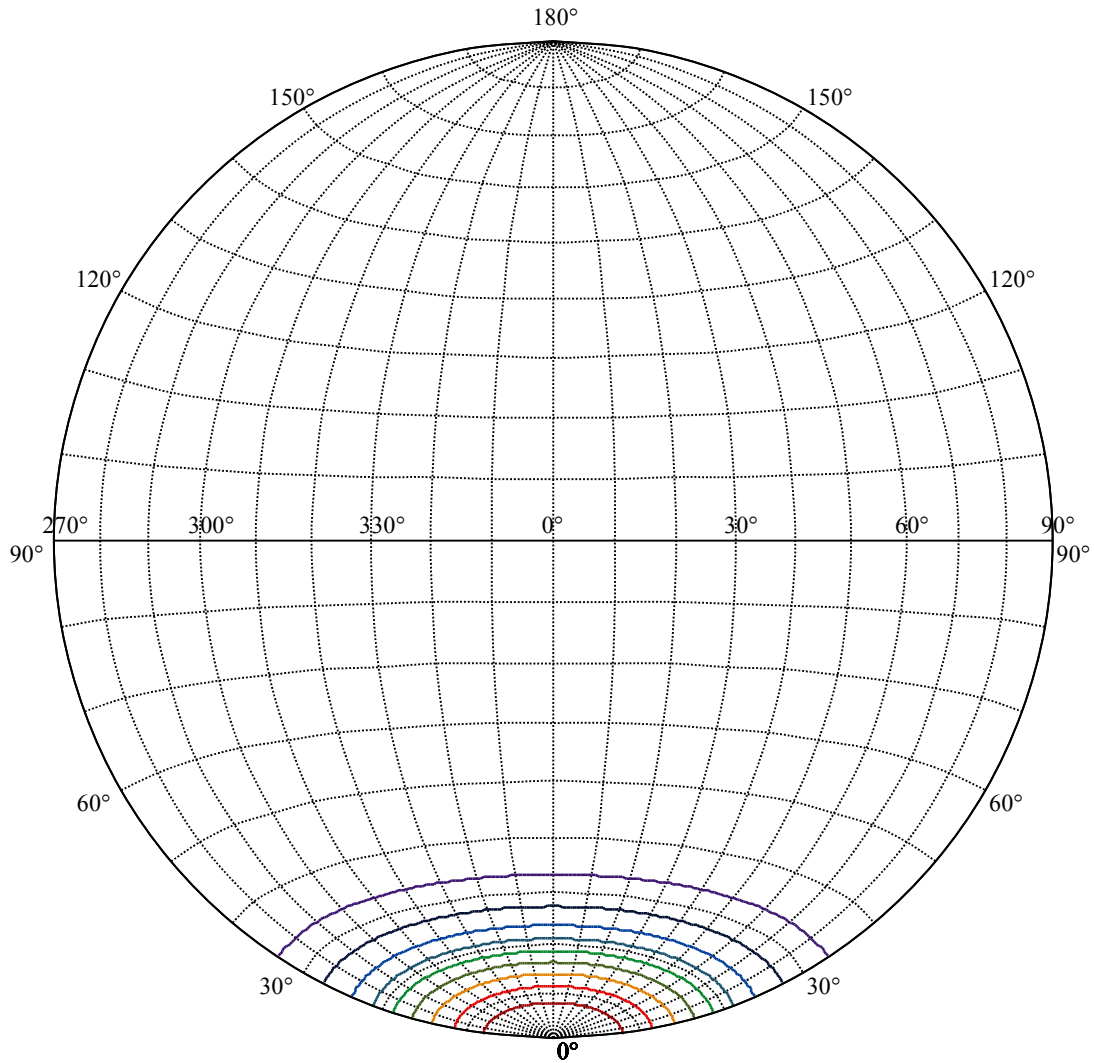
:C90/270Left:33.4 Right:33.4

Beam Angle(50%Imax):C0/180Left:18.7 Right:18.7

:C90/270Left:18.7 Right:18.7



(10%I _{max}) 86.6348	—
(20%I _{max}) 173.27	—
(30%I _{max}) 259.905	—
(40%I _{max}) 346.539	—
(50%I _{max}) 433.174	—
(60%I _{max}) 519.809	—
(70%I _{max}) 606.444	—
(80%I _{max}) 693.079	—
(90%I _{max}) 779.714	—



House

[Unit:cd]

Road

Imax:866.35

(10%Imax) 86.6348

(20%Imax) 173.27

(30%Imax) 259.905

(40%Imax) 346.539

(50%Imax) 433.174

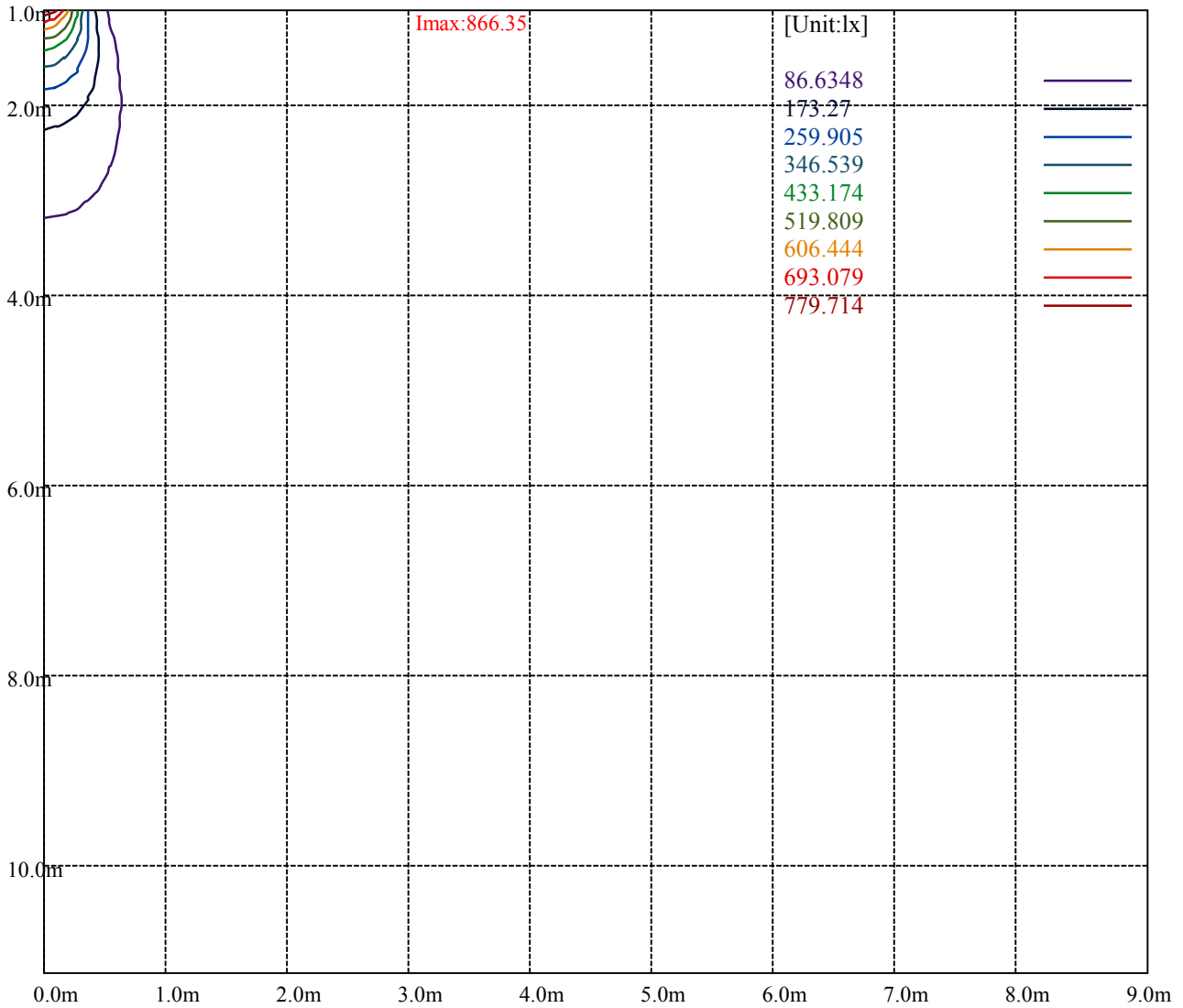
(60%Imax) 519.809

(70%Imax) 606.444

(80%Imax) 693.079

(90%Imax) 779.714





Luminance Table

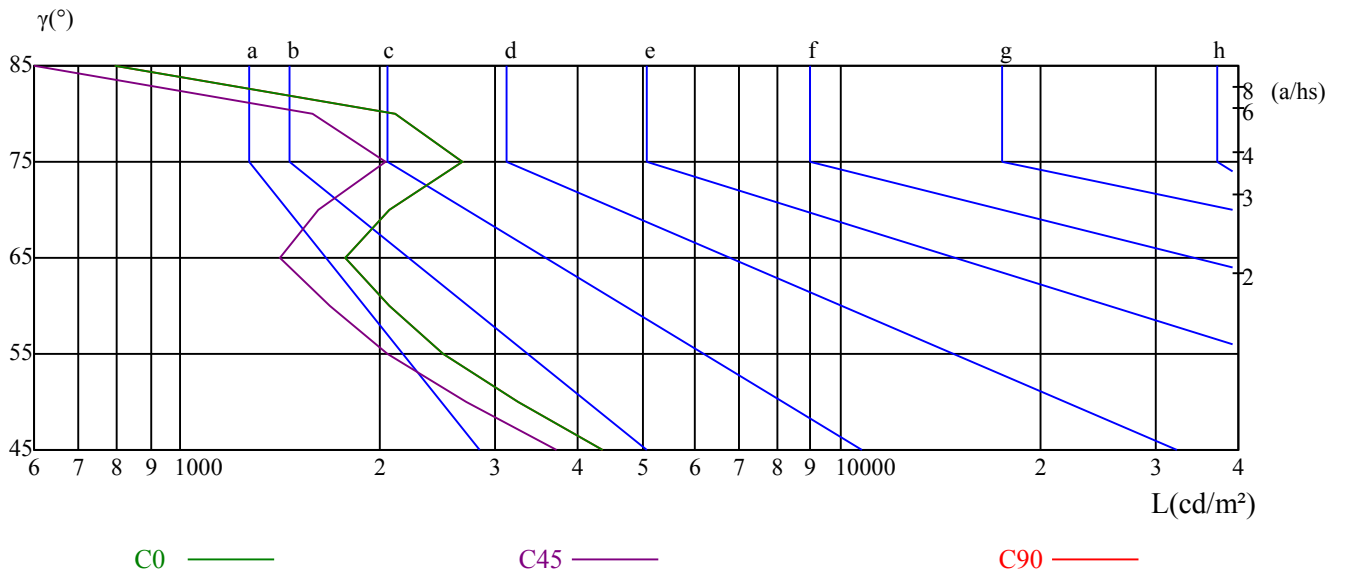
γ	45	50	55	60	65	70	75	80	85
C0	4361	3235	2501	2077	1775	2071	2665	2117	795
C45	3701	2704	2058	1682	1413	1619	2040	1585	580
C90	4361	3235	2501	2077	1775	2071	2665	2117	795

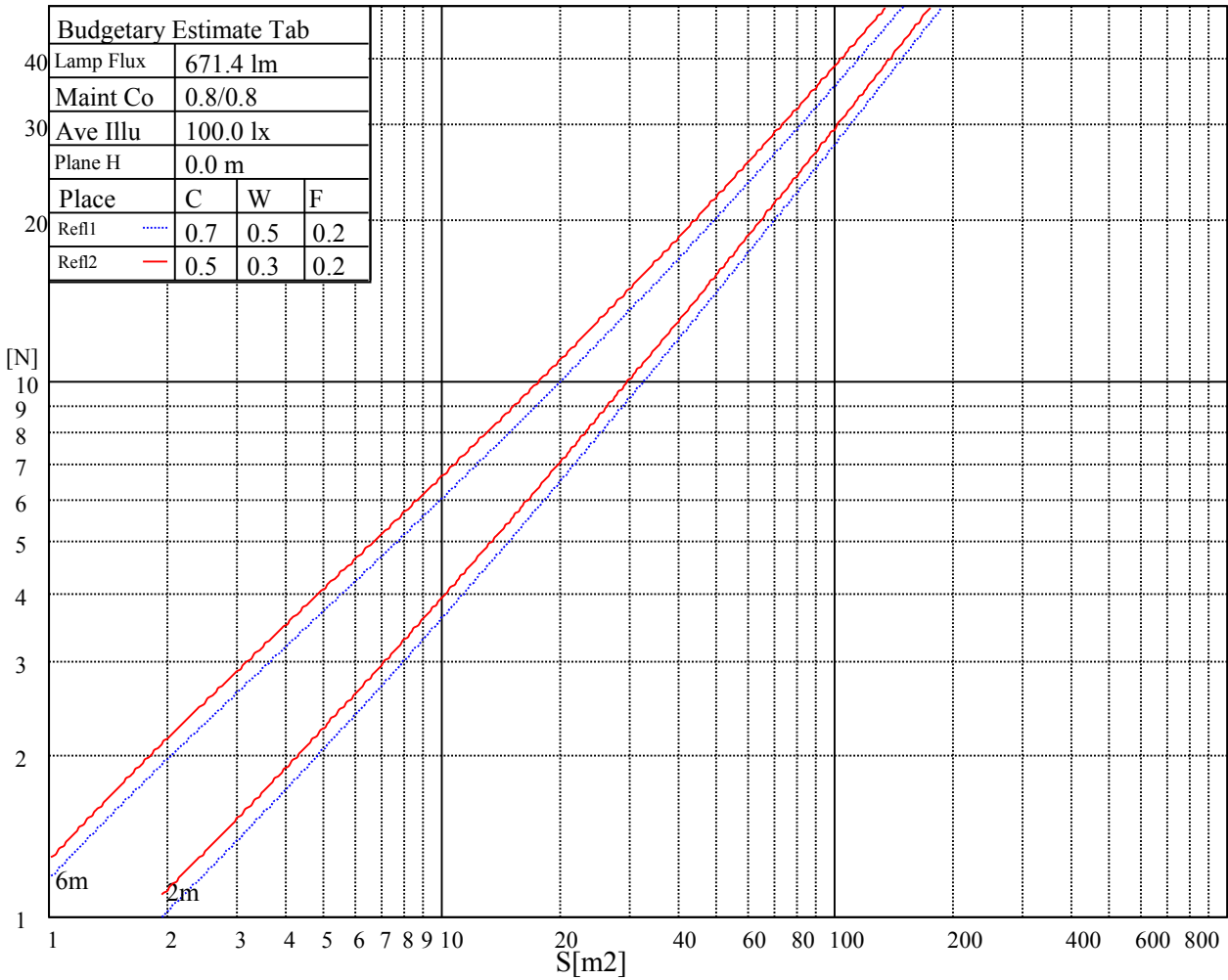
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4655	4655	4655	10190	10190	10190	7676	7676	7676

Glare Table

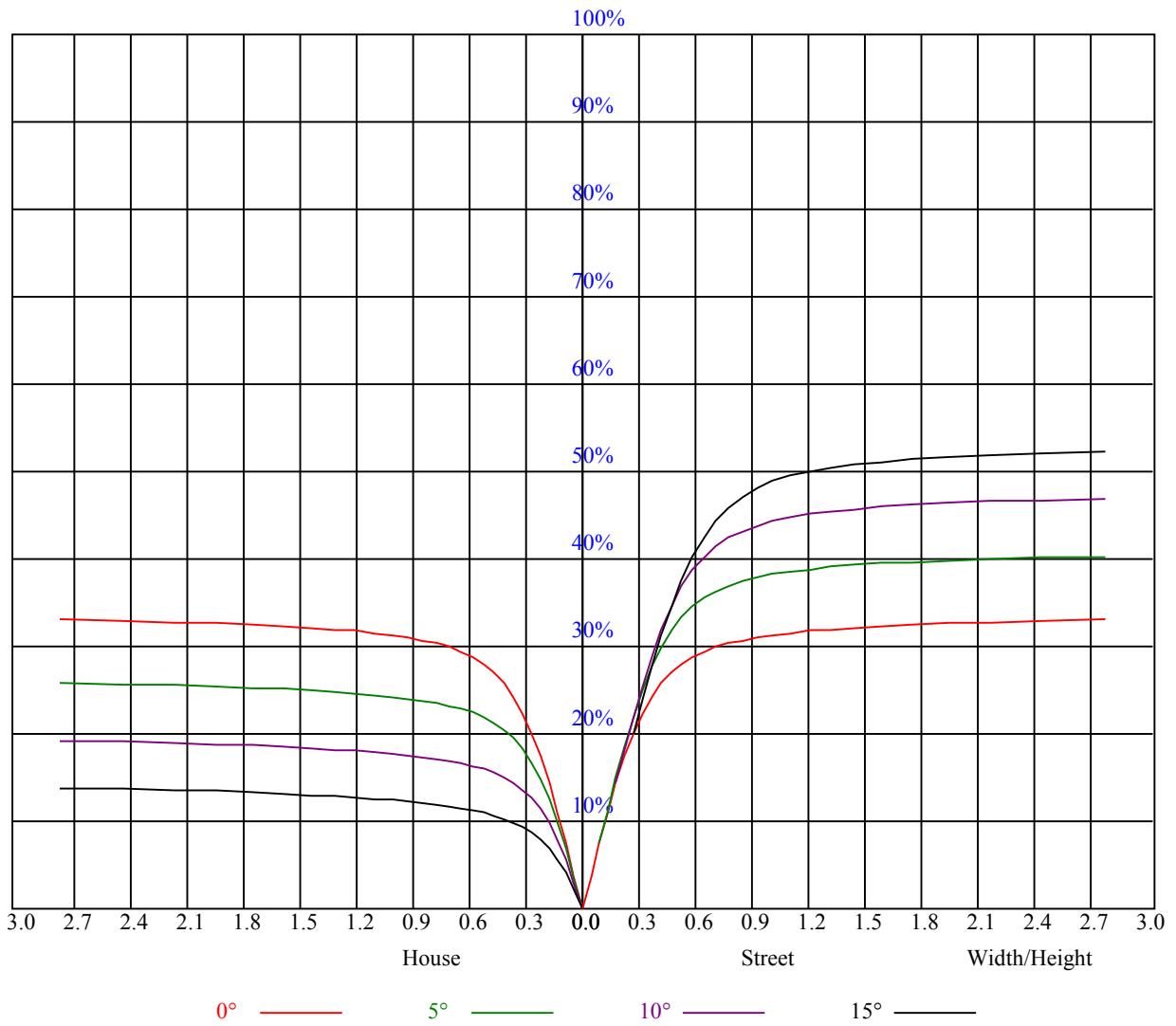
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.81	0.81	0.81	0.79	0.79	0.79	0.76	0.76	0.76	0.73	0.73	0.73	0.70	0.70	0.70	0.68
1	0.75	0.73	0.71	0.73	0.71	0.70	0.70	0.69	0.68	0.68	0.67	0.66	0.66	0.65	0.64	0.63
2	0.69	0.66	0.64	0.68	0.65	0.63	0.66	0.64	0.62	0.64	0.62	0.60	0.62	0.60	0.59	0.58
3	0.65	0.61	0.58	0.64	0.60	0.58	0.62	0.59	0.57	0.60	0.58	0.56	0.59	0.57	0.55	0.54
4	0.61	0.57	0.54	0.60	0.56	0.53	0.58	0.55	0.53	0.57	0.54	0.52	0.56	0.53	0.52	0.51
5	0.57	0.53	0.50	0.56	0.53	0.50	0.55	0.52	0.49	0.54	0.51	0.49	0.53	0.51	0.49	0.48
6	0.54	0.50	0.47	0.53	0.50	0.47	0.52	0.49	0.47	0.52	0.49	0.46	0.51	0.48	0.46	0.45
7	0.51	0.47	0.44	0.51	0.47	0.44	0.50	0.47	0.44	0.49	0.46	0.44	0.48	0.46	0.44	0.43
8	0.49	0.45	0.42	0.48	0.45	0.42	0.48	0.44	0.42	0.47	0.44	0.42	0.46	0.44	0.42	0.41
9	0.47	0.43	0.40	0.46	0.43	0.40	0.46	0.42	0.40	0.45	0.42	0.40	0.44	0.42	0.40	0.39
10	0.44	0.41	0.38	0.44	0.41	0.38	0.44	0.40	0.38	0.43	0.40	0.38	0.43	0.40	0.38	0.37



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	851.01	875.25	835.43	701.44	511.99	303.19	165.60	92.03	54.84
45.0	874.80	890.66	825.24	641.53	414.28	242.78	124.71	69.41	43.31
90.0	877.05	860.01	743.85	541.01	326.59	178.31	97.20	56.59	37.18
135.0	862.54	826.09	715.73	522.56	337.28	184.33	103.11	60.30	40.39
180.0	851.01	769.11	637.43	453.83	289.01	160.26	91.24	55.91	37.01
225.0	874.80	805.05	693.51	542.70	356.74	195.75	116.27	66.21	42.41
270.0	877.05	826.09	736.31	593.10	416.59	252.28	140.01	78.13	51.02
315.0	862.54	838.63	752.96	610.26	424.13	245.76	141.30	78.19	48.54
360.0	851.01	875.25	835.43	701.44	511.99	303.19	165.60	92.03	54.84
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	35.21	24.69	18.28	14.23	11.42	9.62	7.82	6.08	4.33
45.0	29.36	21.26	16.14	13.11	10.86	18.00	37.01	29.93	3.99
90.0	26.10	19.41	14.68	11.64	9.68	7.99	6.13	4.67	2.93
135.0	27.51	20.36	16.03	13.39	10.69	8.55	6.58	4.89	3.26
180.0	25.82	19.69	15.08	12.21	9.96	8.21	6.19	4.44	2.81
225.0	29.25	21.26	16.09	13.05	10.91	24.69	36.00	23.51	4.05
270.0	32.85	23.51	17.33	13.73	10.91	9.11	7.31	5.57	3.77
315.0	31.22	23.06	17.16	13.78	11.76	9.39	8.49	6.13	4.16
360.0	35.21	24.69	18.28	14.23	11.42	9.62	7.82	6.08	4.33
C/ γ (°)	90.0								
0.0	2.59								
45.0	1.97								
90.0	2.19								
135.0	2.31								
180.0	2.08								
225.0	1.91								
270.0	2.25								
315.0	2.53								
360.0	2.59								