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Nata

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LumCAT: 3-1699-N  
Luminaire: 92.70.065.00+92.70.089.00  
Report No: NT2018041602  
Test No: nata-0100  
LampCAT: CITIZEN CLU038  
Lamp flux(lm): 2449.1  
Number of Lamps: 1  
Length(mm): 79  
Phm Type: C

Voltage(V): 36.6000  
Current(A): 0.6000  
Power (W): 21.9600  
PF: 0.0000  
Ballast type: DC  
Width(mm): 79  
Height(mm): 0

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Photometric Results

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Lumens(lm): 1945.28  
Efficiency(%): 79.43%  
Lumens(lm)/Power(W): 88.58  
Central intensity(cd): 8055.027  
Maximum intensity(cd): 8055.027  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=23.4  
                                  [C90/270]Total=23.4  
Field angle(10%Imax): [C0/180]Total=46.4  
                                  [C90/270]Total=46.4  
Maximum s/h(1/2): C0\_180=0.40 C90\_270=0.40  
Maximum s/h(1/4): C0\_180=0.41 C90\_270=0.41  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 81.32%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 95.979%

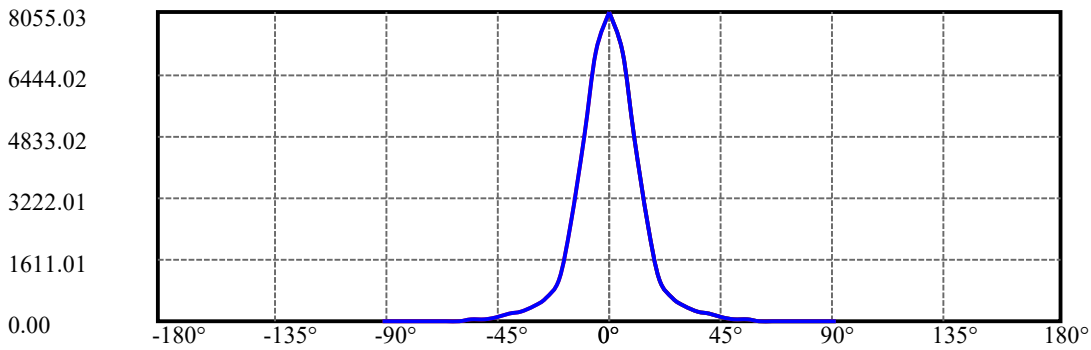
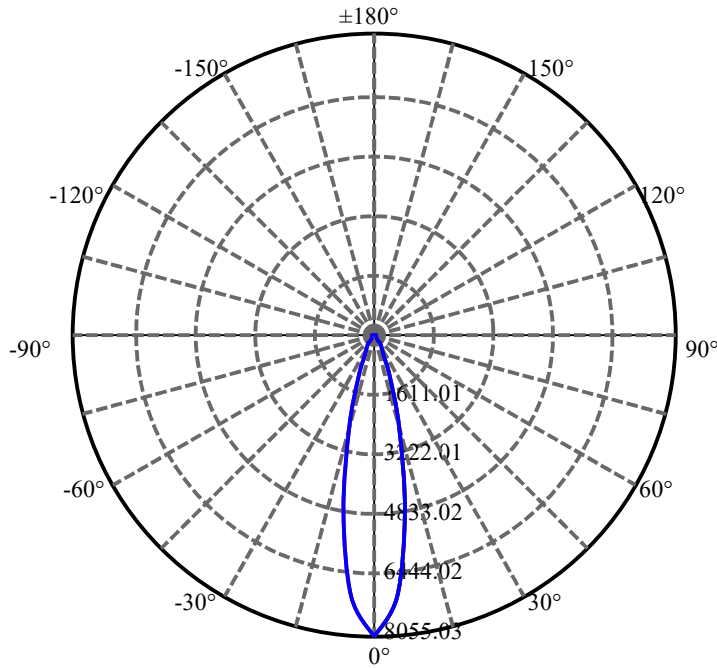
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8055.027	48.171	48.171	1.967%	2.476%
5.0	6996.292	334.236	382.407	13.647%	19.658%
10.0	4810.002	457.831	840.238	18.694%	43.194%
15.0	2528.878	358.768	1199.005	14.649%	61.637%
20.0	1125.146	210.936	1409.941	8.613%	72.480%
25.0	622.124	144.117	1554.058	5.884%	79.889%
30.0	420.872	115.348	1669.406	4.710%	85.818%
35.0	273.431	85.966	1755.372	3.510%	90.238%
40.0	178.390	62.853	1818.225	2.566%	93.469%
45.0	107.897	41.820	1860.045	1.708%	95.618%
50.0	63.783	26.782	1886.827	1.094%	96.995%
55.0	34.754	15.605	1902.432	.637%	97.797%
60.0	19.125	9.079	1911.511	.371%	98.264%
65.0	14.893	7.398	1918.909	.302%	98.645%
70.0	13.420	6.912	1925.822	.282%	99.000%
75.0	12.223	6.471	1932.293	.264%	99.333%
80.0	10.812	5.836	1938.129	.238%	99.633%
85.0	9.188	5.017	1943.146	.205%	99.890%
90.0	7.777	2.131	1945.277	.087%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1669.41	68.16%	85.82%
0-40	1818.22	74.24%	93.47%
0-60	1911.51	78.05%	98.26%
0-90	1943.15	79.34%	99.89%
0-120	1943.15	79.34%	99.89%
0-180	1945.28	79.43%	100.00%
60-90	40.71	1.66%	2.09%
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%
0-25.09	1556.22	63.54%	80.00%

ZONAL LUMEN SUMMARY

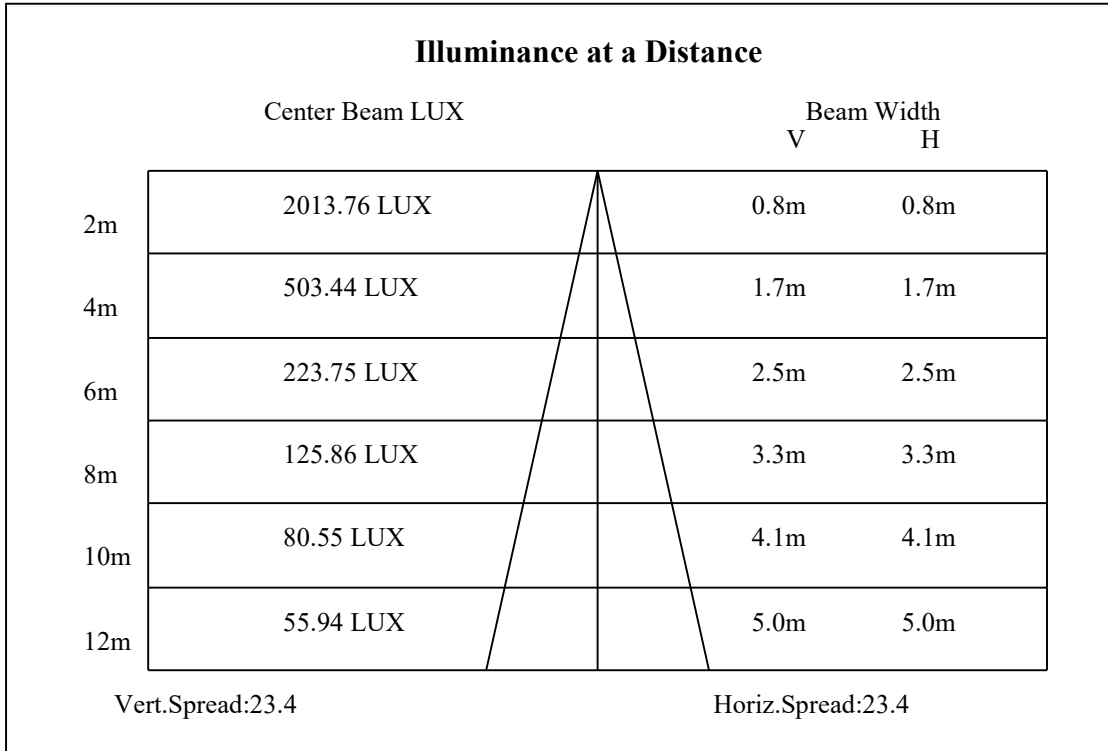
0-10	840.24
10-20	569.70
20-30	259.46
30-40	148.82
40-50	68.60
50-60	24.68
60-70	14.31
70-80	12.31
80-90	5.02
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

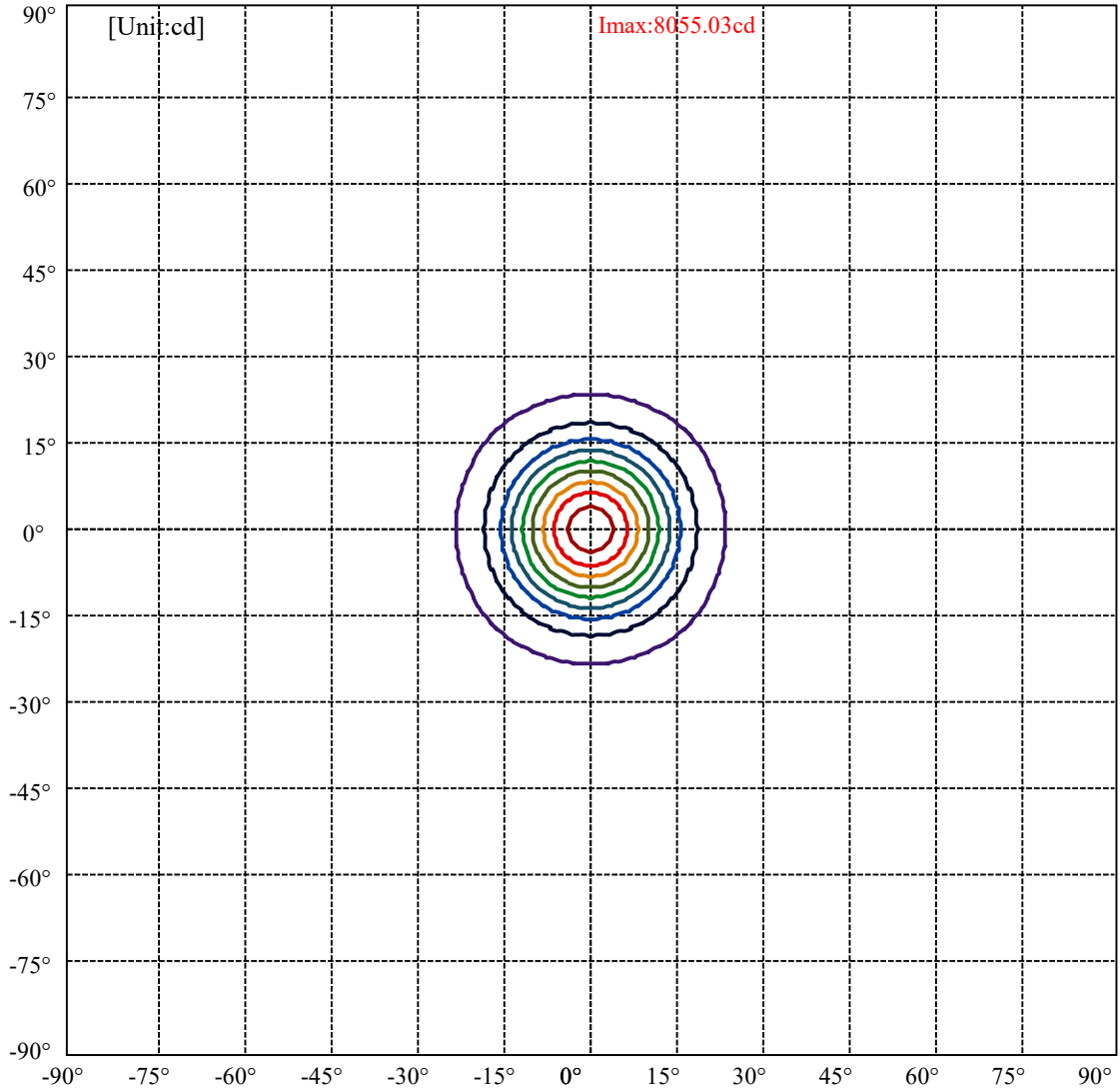


C0(Max): —————  
C0/C180: —————  
C90/C270: —————

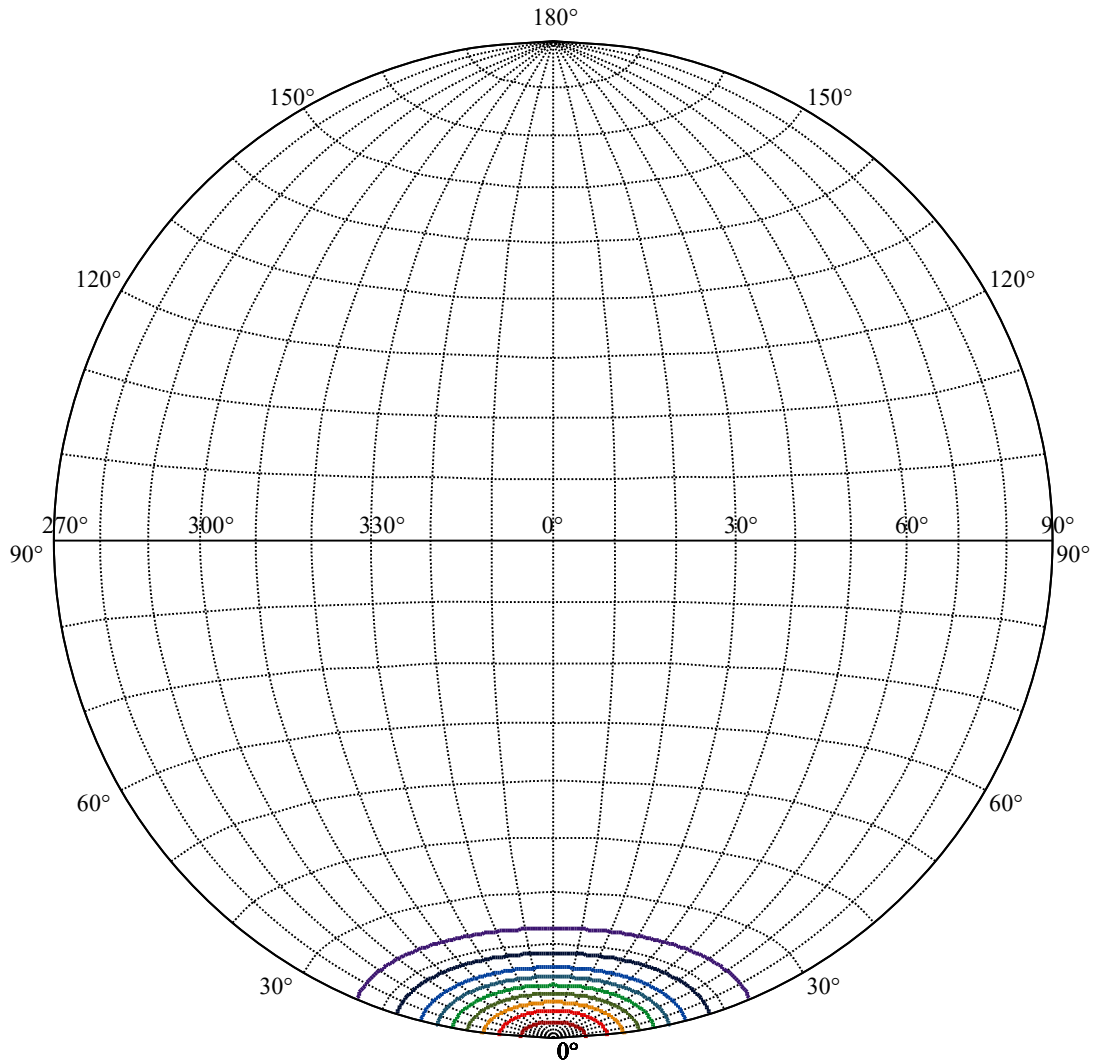
Field angle(10%Imax):C0/180Left:23.2 Right:23.2  
:C90/270Left:23.2 Right:23.2

Beam Angle(50%Imax):C0/180Left:11.7 Right:11.7  
:C90/270Left:11.7 Right:11.7





(10%Imax) 805.503	—
(20%Imax) 1611.01	—
(30%Imax) 2416.51	—
(40%Imax) 3222.01	—
(50%Imax) 4027.51	—
(60%Imax) 4833.02	—
(70%Imax) 5638.52	—
(80%Imax) 6444.02	—
(90%Imax) 7249.52	—



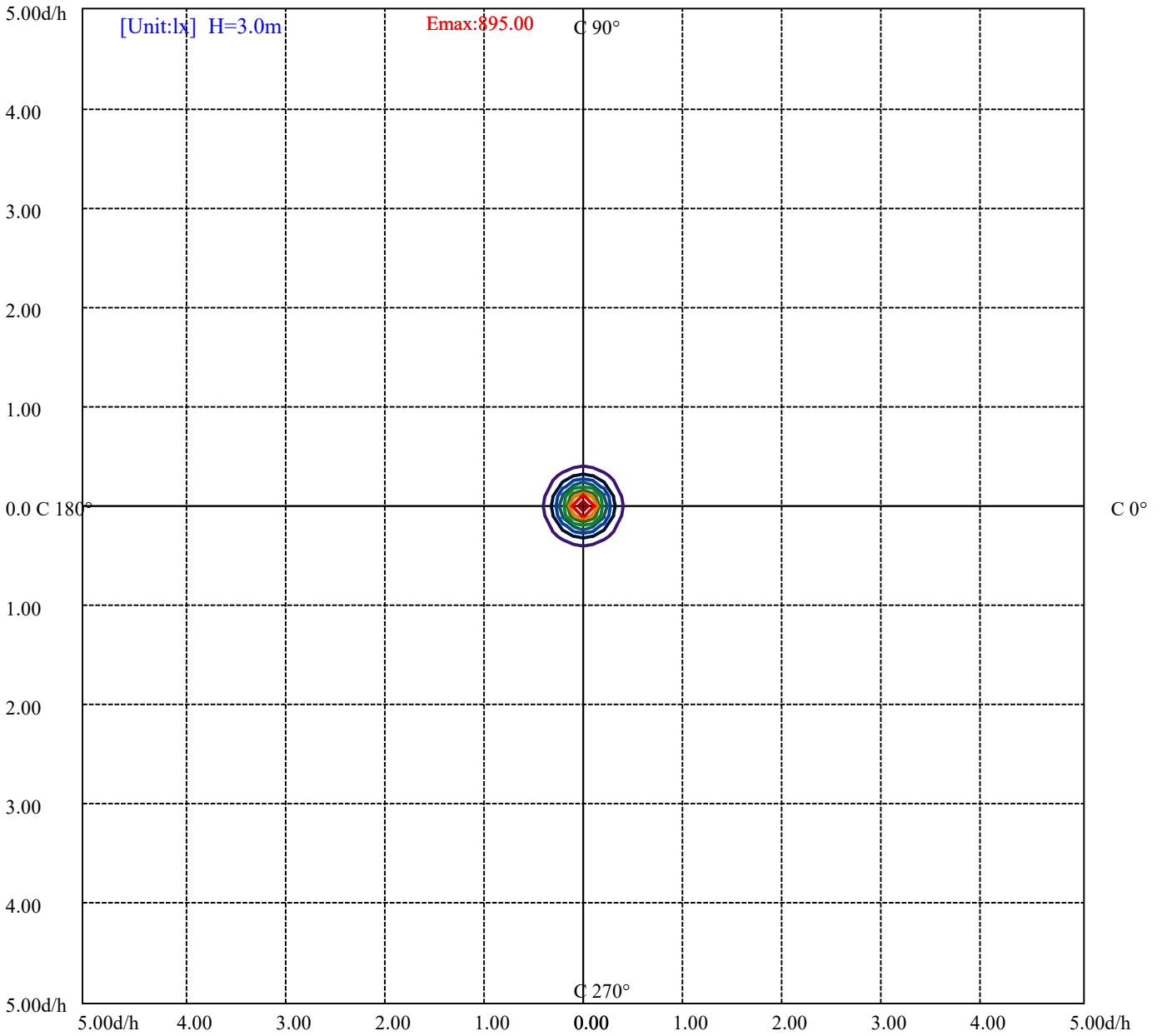
House

[Unit:cd]

Road

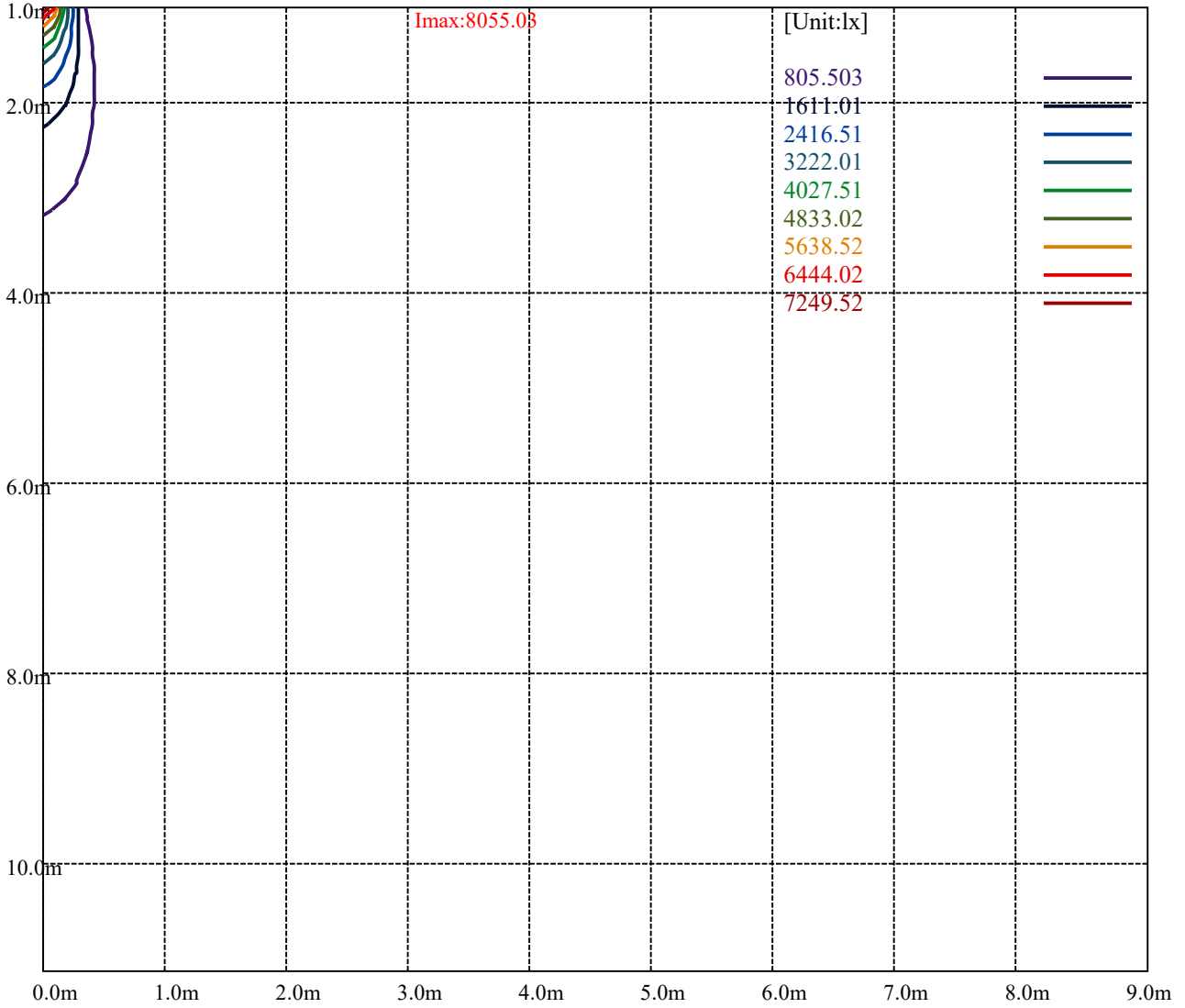
**I<sub>max</sub>:8055.03**

(10%I <sub>max</sub> ) 805.503	—
(20%I <sub>max</sub> ) 1611.01	—
(30%I <sub>max</sub> ) 2416.51	—
(40%I <sub>max</sub> ) 3222.01	—
(50%I <sub>max</sub> ) 4027.51	—
(60%I <sub>max</sub> ) 4833.02	—
(70%I <sub>max</sub> ) 5638.52	—
(80%I <sub>max</sub> ) 6444.02	—
(90%I <sub>max</sub> ) 7249.52	—



(10%Emax) 89.5	—
(20%Emax) 179	—
(30%Emax) 268.5	—
(40%Emax) 358	—
(50%Emax) 447.5	—
(60%Emax) 537	—
(70%Emax) 626.5	—
(80%Emax) 716	—
(90%Emax) 805.5	—





Luminance Table

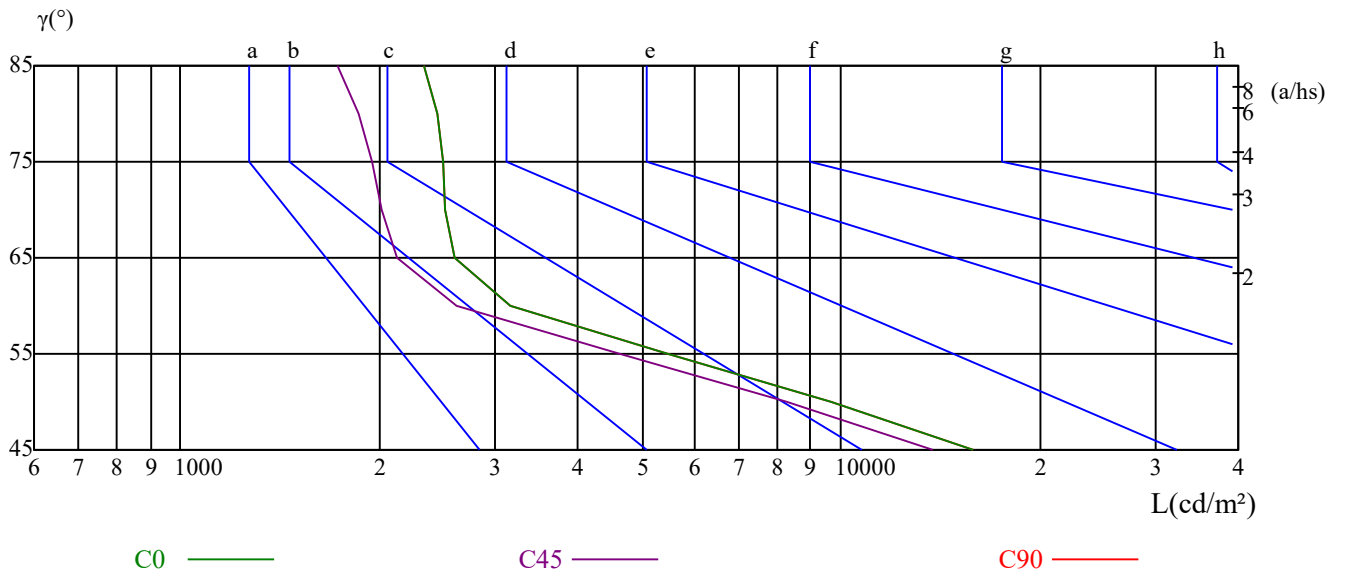
$\gamma$	45	50	55	60	65	70	75	80	85
C0	15832	9644	5463	3155	2605	2519	2496	2441	2339
C45	13815	8292	4625	2627	2130	2018	1954	1859	1724
C90	15832	9644	5463	3155	2605	2519	2496	2441	2339

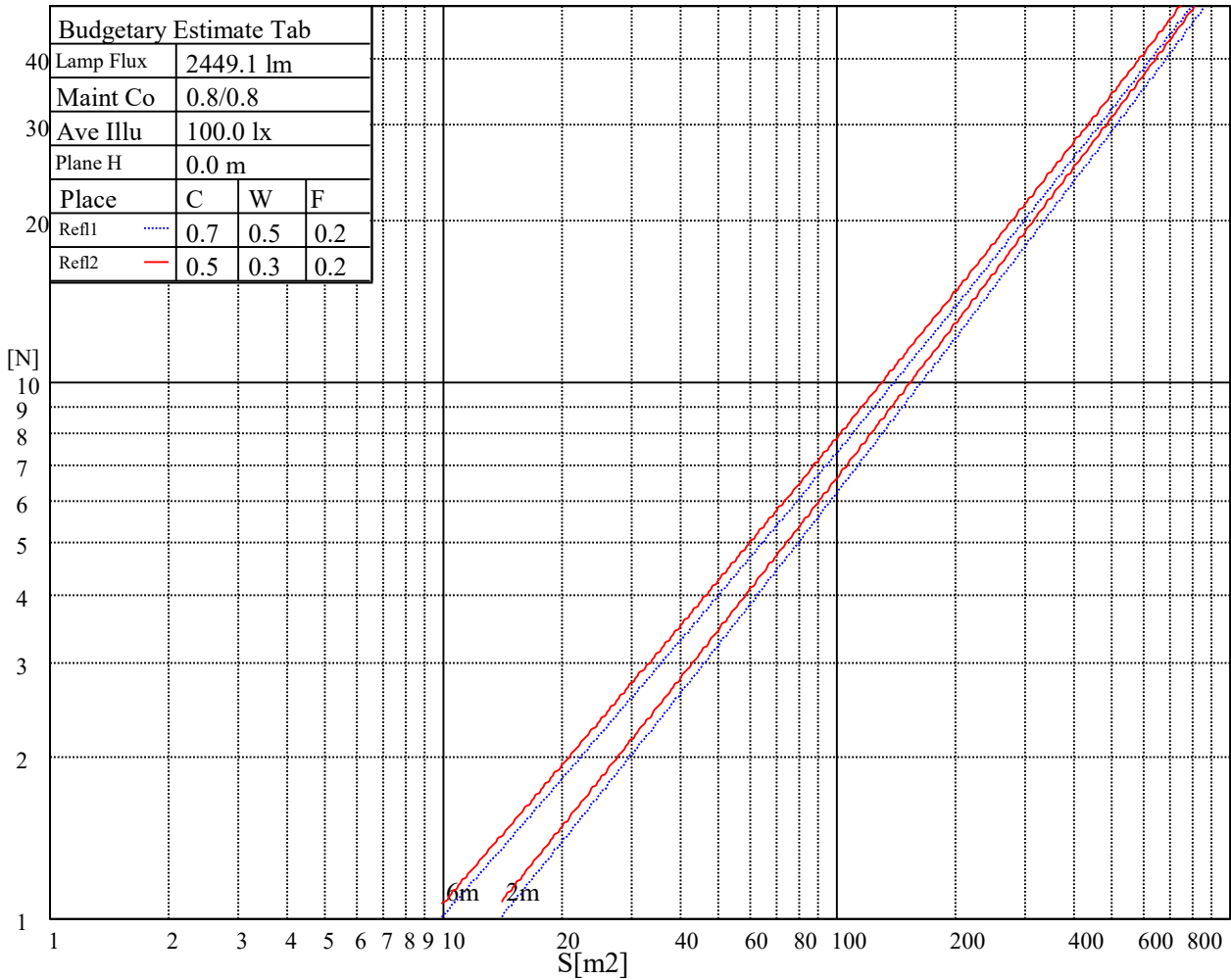
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5646	5646	5646	7567	7567	7567	16891	16891	16891

Glare Table

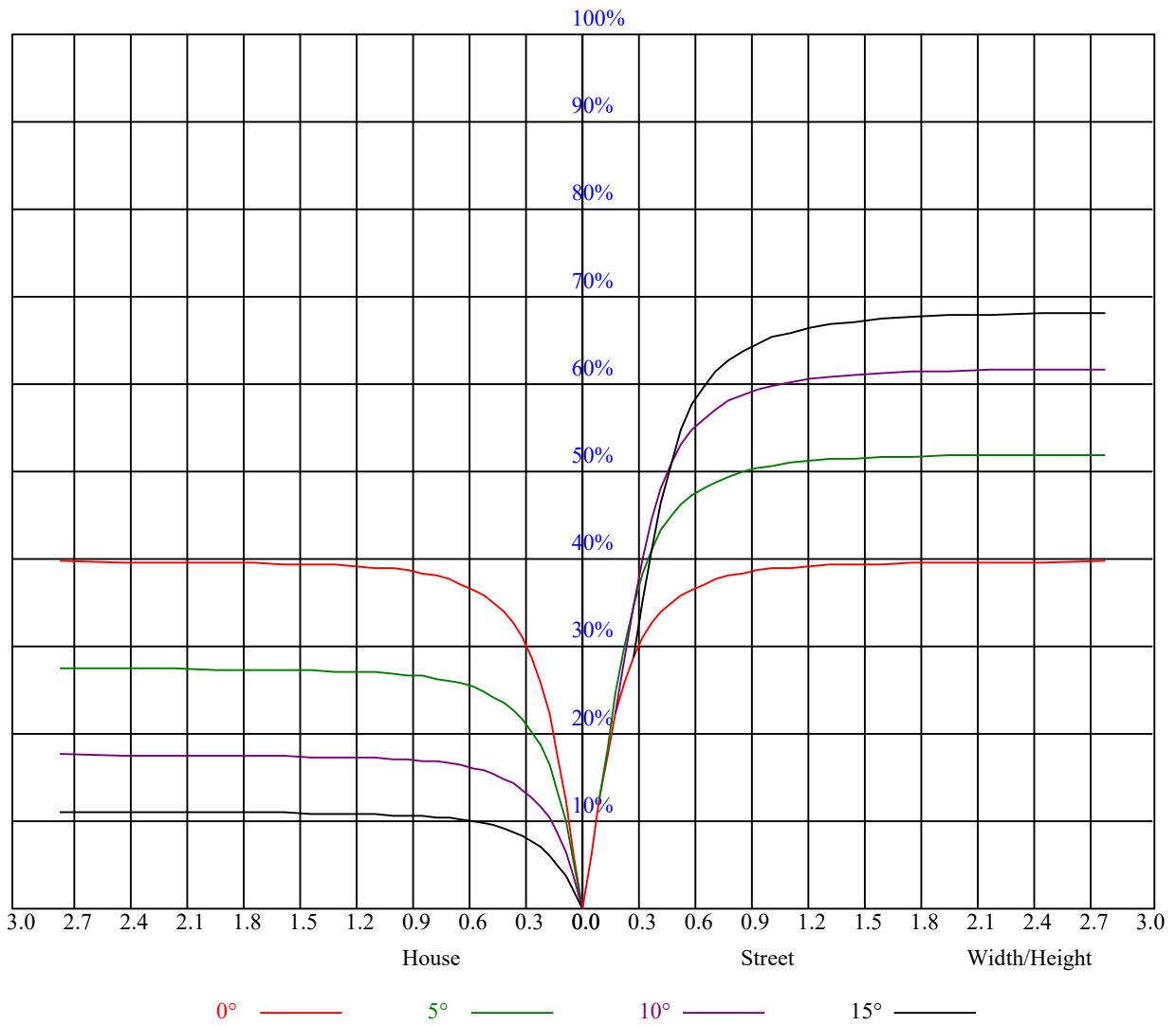
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.97	0.97	0.97	0.95	0.95	0.95	0.90	0.90	0.90	0.87	0.87	0.87	0.83	0.83	0.83	0.81
1	0.89	0.86	0.84	0.87	0.85	0.83	0.84	0.82	0.80	0.80	0.79	0.78	0.78	0.77	0.76	0.74
2	0.84	0.81	0.78	0.83	0.80	0.77	0.80	0.78	0.75	0.78	0.76	0.74	0.75	0.74	0.72	0.71
3	0.80	0.76	0.73	0.79	0.75	0.73	0.77	0.74	0.72	0.75	0.72	0.70	0.73	0.71	0.69	0.68
4	0.76	0.73	0.70	0.76	0.72	0.69	0.74	0.71	0.68	0.72	0.70	0.68	0.71	0.69	0.67	0.66
5	0.73	0.69	0.66	0.73	0.69	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.69	0.66	0.64	0.63
6	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.61
7	0.68	0.64	0.62	0.68	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.65	0.62	0.61	0.60
8	0.66	0.62	0.60	0.66	0.62	0.59	0.65	0.62	0.59	0.64	0.61	0.59	0.63	0.61	0.59	0.58
9	0.64	0.60	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.62	0.59	0.57	0.62	0.59	0.57	0.56
10	0.62	0.59	0.56	0.62	0.59	0.56	0.61	0.58	0.56	0.61	0.58	0.56	0.60	0.58	0.56	0.55



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	8031.63	7408.39	5358.09	3028.65	1354.94	683.80	455.32	300.06	194.90
45.0	8022.27	7369.85	5178.05	2978.00	1258.04	651.87	449.26	286.84	184.38
90.0	8049.80	6632.64	4342.85	2201.71	977.36	569.50	390.90	247.92	161.70
135.0	8116.41	6920.04	4710.63	2350.91	1125.35	608.37	410.72	279.14	172.38
180.0	8031.63	6676.14	4261.92	2042.04	961.67	566.42	377.41	245.33	161.37
225.0	8022.27	6453.71	4445.80	2165.92	982.04	579.91	390.74	251.66	167.32
270.0	8049.80	7313.69	5251.28	2815.58	1255.29	677.19	451.46	292.35	195.67
315.0	8116.41	7195.87	4931.40	2648.21	1086.48	639.92	441.17	284.15	189.39
360.0	8031.63	7408.39	5358.09	3028.65	1354.94	683.80	455.32	300.06	194.90

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	119.69	73.23	40.19	21.31	15.42	13.76	12.61	11.12	9.30
45.0	114.90	69.10	37.66	20.87	15.09	13.49	12.39	10.79	9.19
90.0	98.88	58.08	30.83	17.62	14.37	13.05	11.67	10.30	8.75
135.0	102.52	60.07	33.03	18.17	14.65	13.38	12.17	10.68	8.75
180.0	95.80	54.51	30.72	17.29	14.42	13.16	11.95	10.41	8.92
225.0	99.82	58.14	31.11	17.56	14.59	13.21	12.00	10.68	9.14
270.0	118.81	69.59	37.93	20.76	15.31	13.60	12.50	11.23	9.74
315.0	112.76	67.55	36.56	19.43	15.31	13.71	12.50	11.29	9.69
360.0	119.69	73.23	40.19	21.31	15.42	13.76	12.61	11.12	9.30

C/γ(°)	90.0
0.0	7.87
45.0	7.76
90.0	7.71
135.0	7.76
180.0	7.82
225.0	7.71
270.0	7.76
315.0	7.82
360.0	7.87