

---

Nata

---

LumCAT: 3-2097-M  
Luminaire: 92.70.136.00  
Report No: GC2017071303  
Test No: NT-0010  
LampCAT: CITIZEN CLU044  
Lamp flux(lm): 5855.0  
Number of Lamps: 1  
Length(mm): 78  
Phm Type: C

Voltage(V): 51.2500  
Current(A): 0.8000  
Power (W): 41.0000  
PF: 0.0000  
Ballast type: DC  
Width(mm): 78  
Height(mm): 0

---

Photometric Results

---

Lumens(lm): 5149.64  
Efficiency(%): 87.95%  
Lumens(lm)/Power(W): 125.60  
Central intensity(cd): 8729.371  
Maximum intensity(cd): 8729.371  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=44.1  
                                  [C90/270]Total=44.1  
Field angle(10%Imax): [C0/180]Total=73.9  
                                  [C90/270]Total=73.9  
Maximum s/h(1/2): C0\_180=0.70 C90\_270=0.70  
Maximum s/h(1/4): C0\_180=0.72 C90\_270=0.72  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 87.95%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.661%

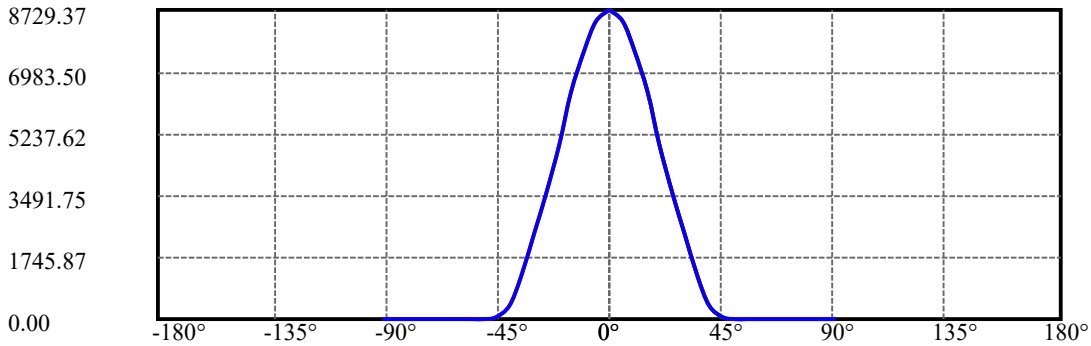
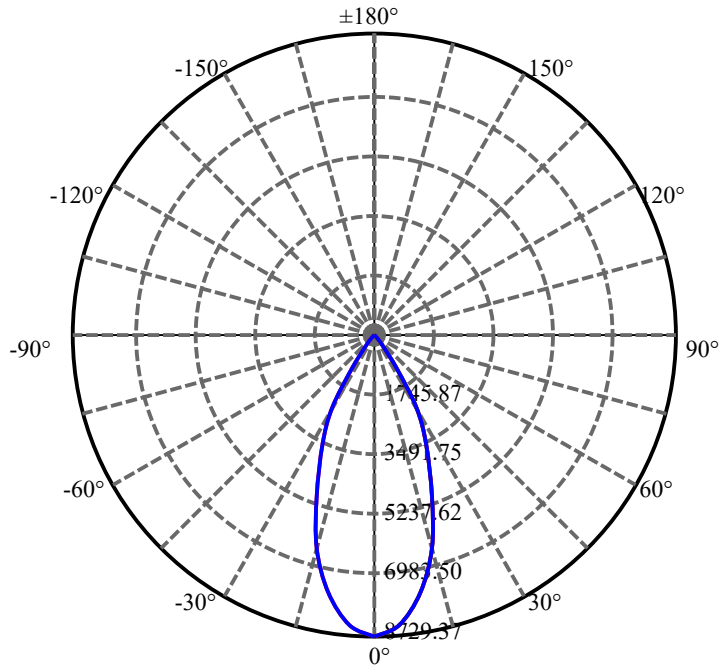
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8729.371	0.000	0	.000%	.000%
5.0	8406.244	204.851	204.851	3.499%	3.978%
10.0	7586.426	572.108	776.96	9.771%	15.088%
15.0	6381.152	828.547	1605.507	14.151%	31.177%
20.0	4952.714	934.070	2539.577	15.953%	49.316%
25.0	3501.390	886.680	3426.256	15.144%	66.534%
30.0	2437.053	751.515	4177.771	12.835%	81.127%
35.0	1196.697	535.095	4712.866	9.139%	91.518%
40.0	355.878	259.035	4971.902	4.424%	96.549%
45.0	40.709	73.431	5045.333	1.254%	97.974%
50.0	26.017	13.483	5058.816	.230%	98.236%
55.0	24.167	10.912	5069.728	.186%	98.448%
60.0	23.221	10.953	5080.681	.187%	98.661%
65.0	22.504	11.116	5091.797	.190%	98.877%
70.0	22.059	11.284	5103.081	.193%	99.096%
75.0	21.753	11.452	5114.532	.196%	99.318%
80.0	21.628	11.607	5126.14	.198%	99.544%
85.0	21.593	11.744	5137.884	.201%	99.772%
90.0	21.349	11.758	5149.642	.201%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	4177.77	71.35%	81.13%
0-40	4971.90	84.92%	96.55%
0-60	5080.68	86.78%	98.66%
0-90	5137.88	87.75%	99.77%
0-120	5137.88	87.75%	99.77%
0-180	5149.64	87.95%	100.00%
60-90	68.16	1.16%	1.32%
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%
0-29.61	4119.71	70.36%	80.00%

ZONAL LUMEN SUMMARY

0-10	776.96
10-20	1762.62
20-30	1638.19
30-40	794.13
40-50	86.91
50-60	21.87
60-70	22.40
70-80	23.06
80-90	11.74
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: ———

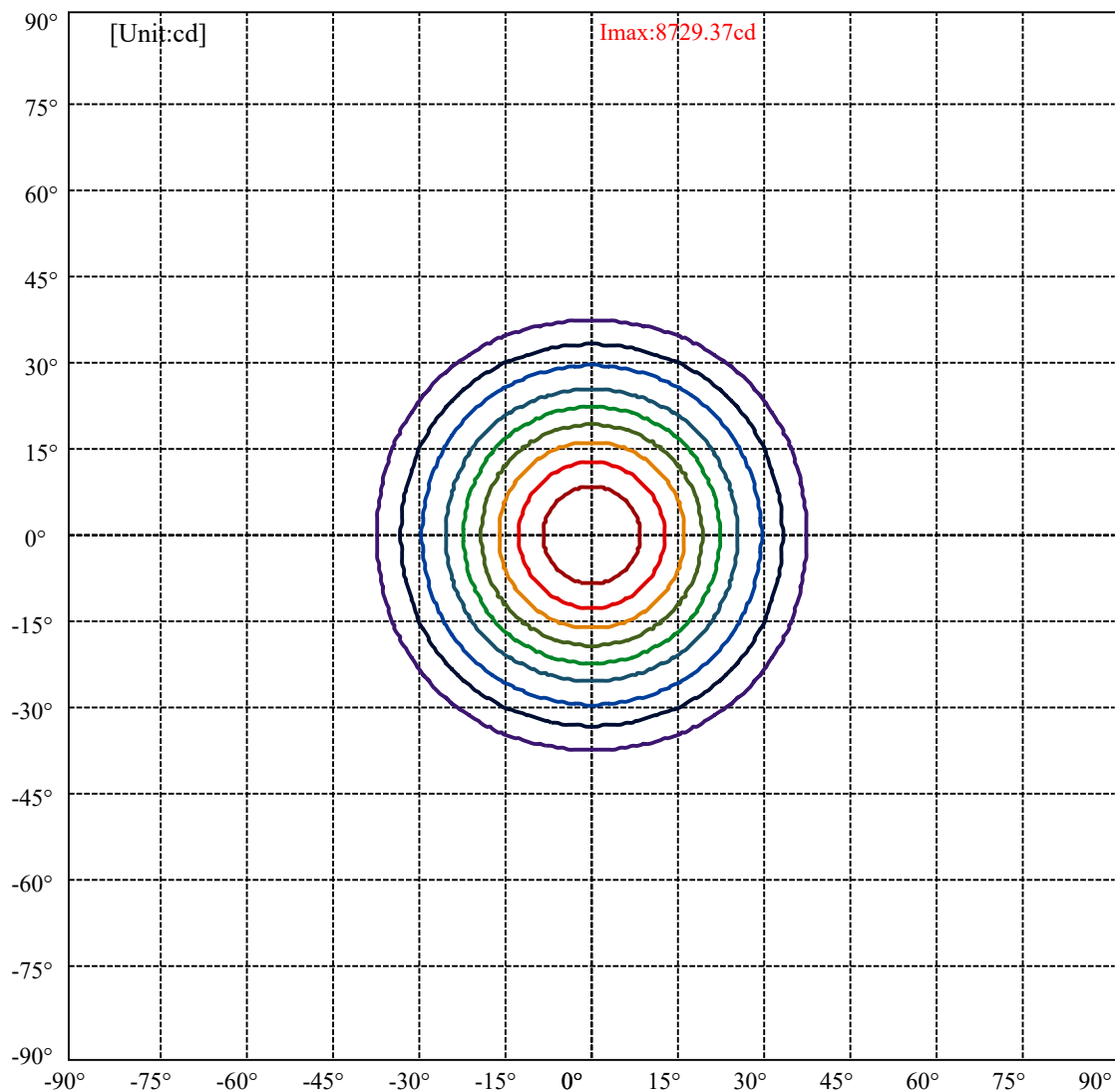
Field angle(10%Imax):C0/180Left:36.9 Right:36.9

:C90/270Left:36.9 Right:36.9

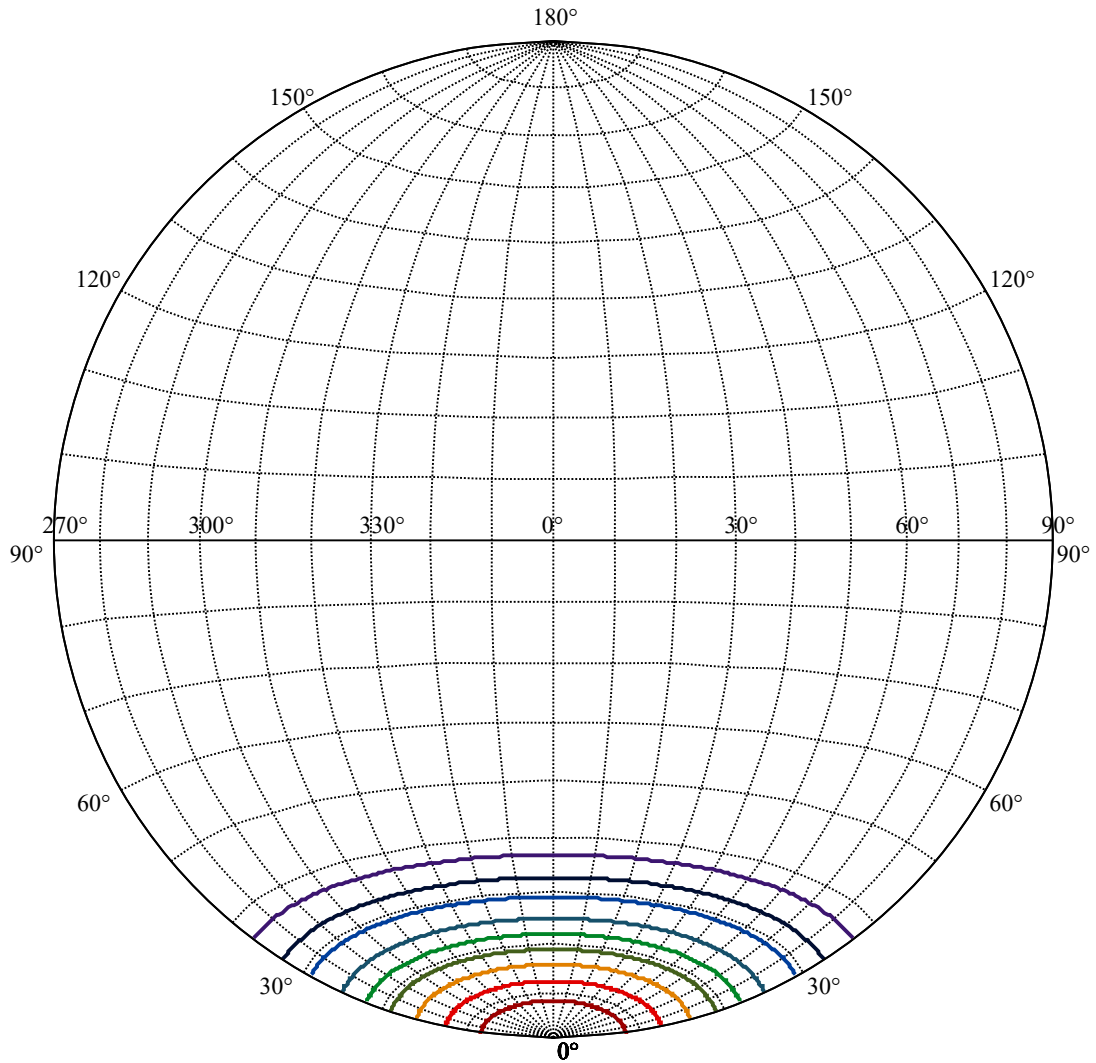
Beam Angle(50%Imax):C0/180Left:22.0 Right:22.0

:C90/270Left:22.0 Right:22.0





(10%Imax) 872.937	—
(20%Imax) 1745.87	—
(30%Imax) 2618.81	—
(40%Imax) 3491.75	—
(50%Imax) 4364.69	—
(60%Imax) 5237.62	—
(70%Imax) 6110.56	—
(80%Imax) 6983.5	—
(90%Imax) 7856.43	—



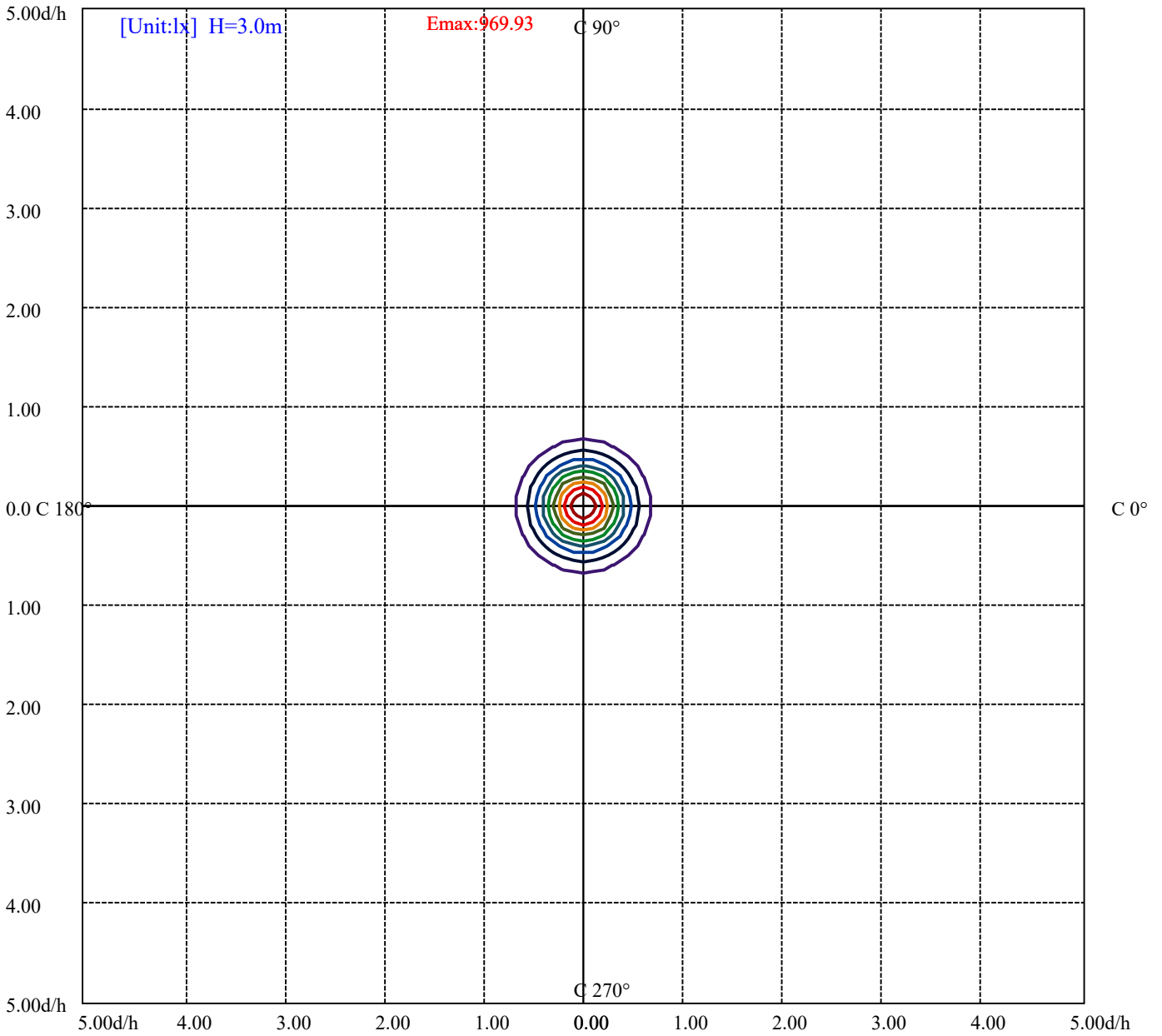
House

[Unit:cd]

Road

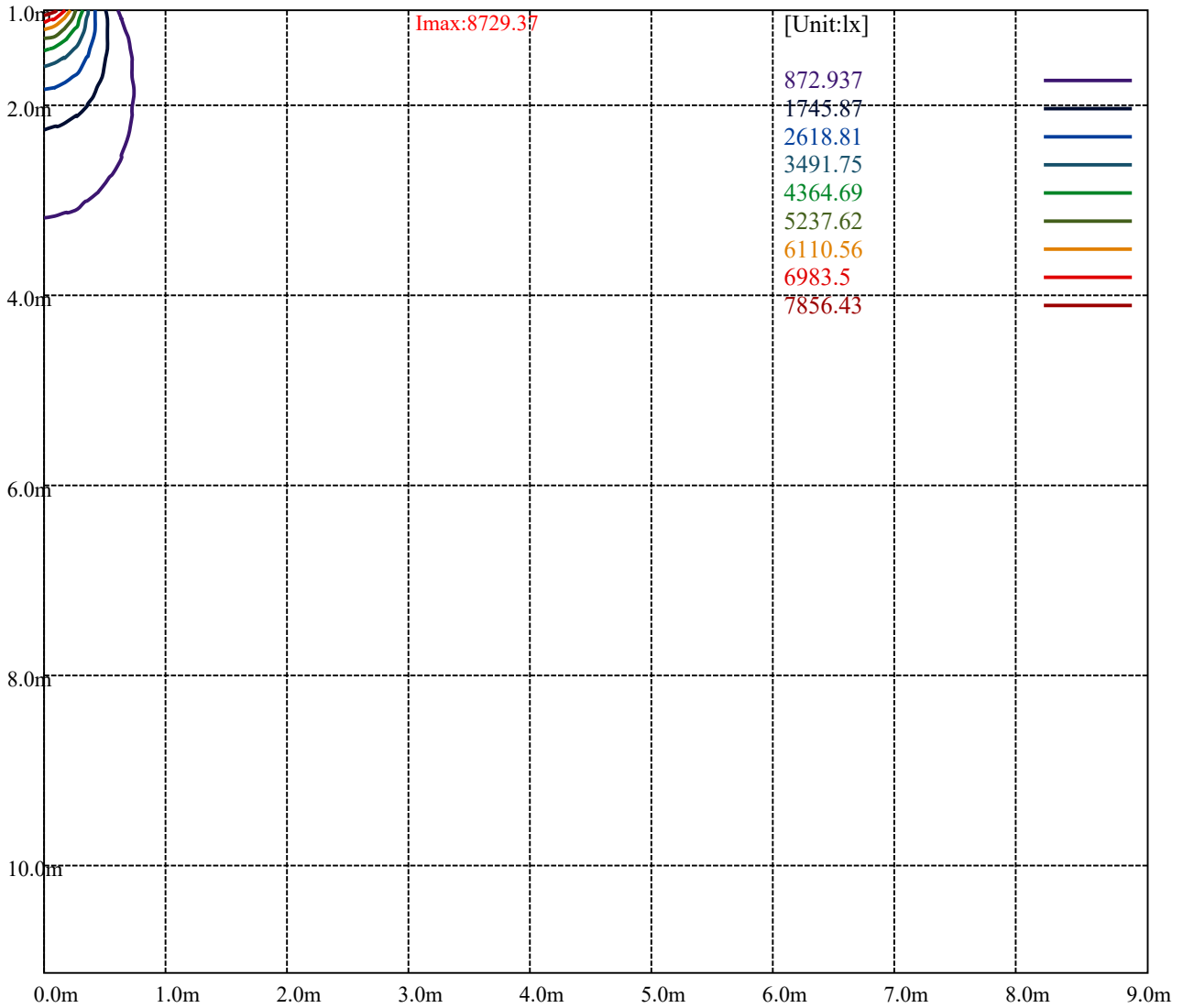
Imax:8729.37

(10%Imax) 872.937	—
(20%Imax) 1745.87	—
(30%Imax) 2618.81	—
(40%Imax) 3491.75	—
(50%Imax) 4364.69	—
(60%Imax) 5237.62	—
(70%Imax) 6110.56	—
(80%Imax) 6983.5	—
(90%Imax) 7856.43	—



- (10%Emax) 96.99289 ———
- (20%Emax) 193.9855 ———
- (30%Emax) 290.9789 ———
- (40%Emax) 387.9711 ———
- (50%Emax) 484.9645 ———
- (60%Emax) 581.9578 ———
- (70%Emax) 678.95 ———
- (80%Emax) 775.9434 ———
- (90%Emax) 872.9367 ———





Luminance Table

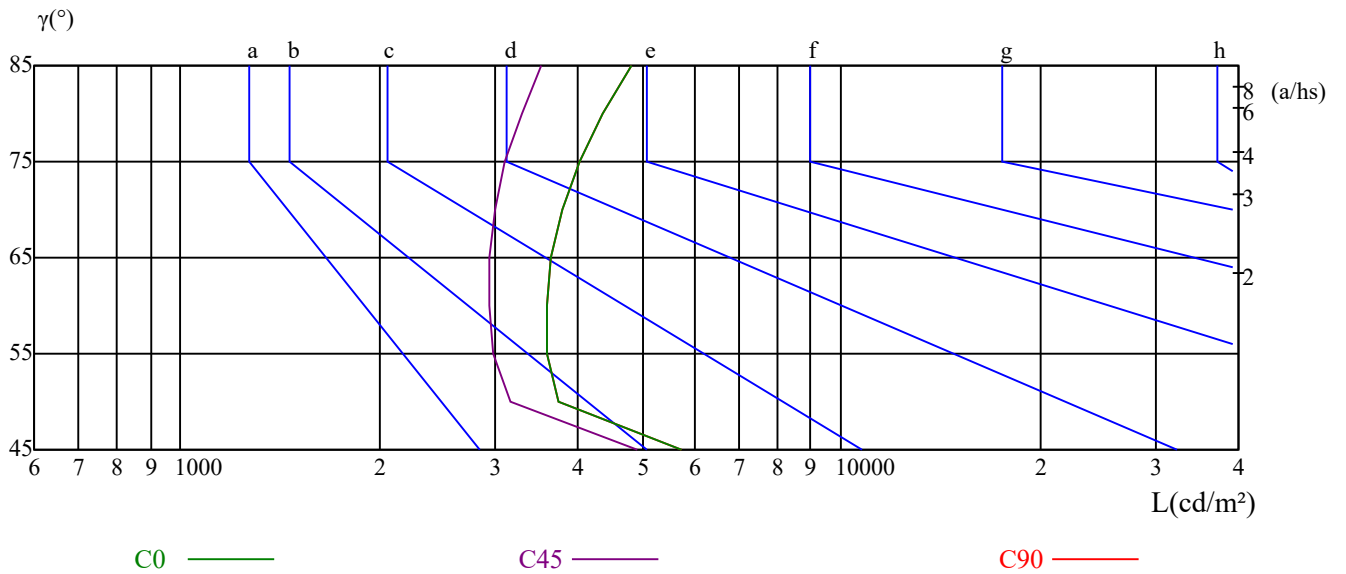
$\gamma$	45	50	55	60	65	70	75	80	85
C0	5722	3739	3581	3580	3644	3791	4016	4348	4806
C45	4917	3165	2984	2934	2934	2994	3104	3279	3520
C90	5722	3739	3581	3580	3644	3791	4016	4348	4806

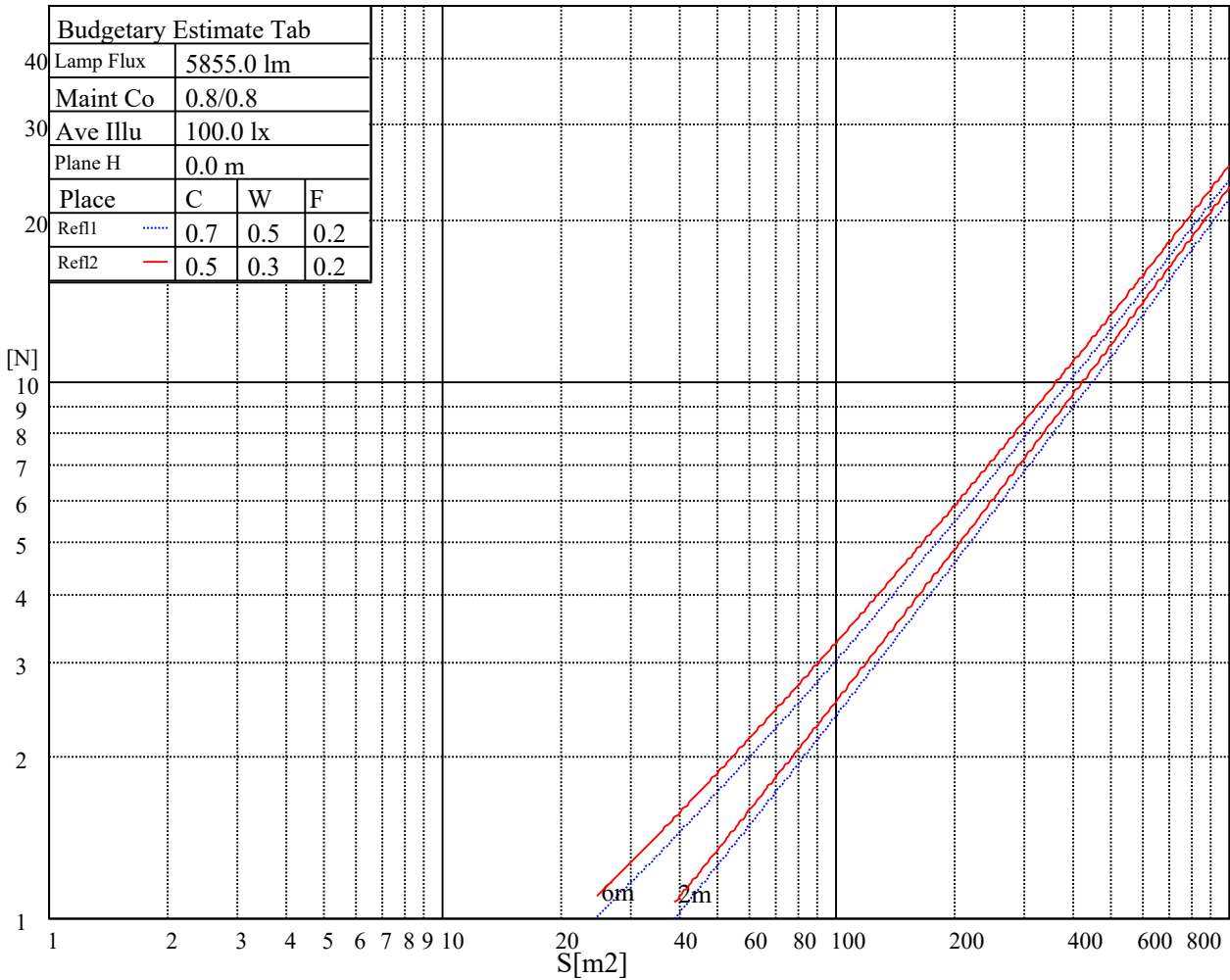
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
8752	8752	8752	13814	13814	13814	40722	40722	40722

Glare Table

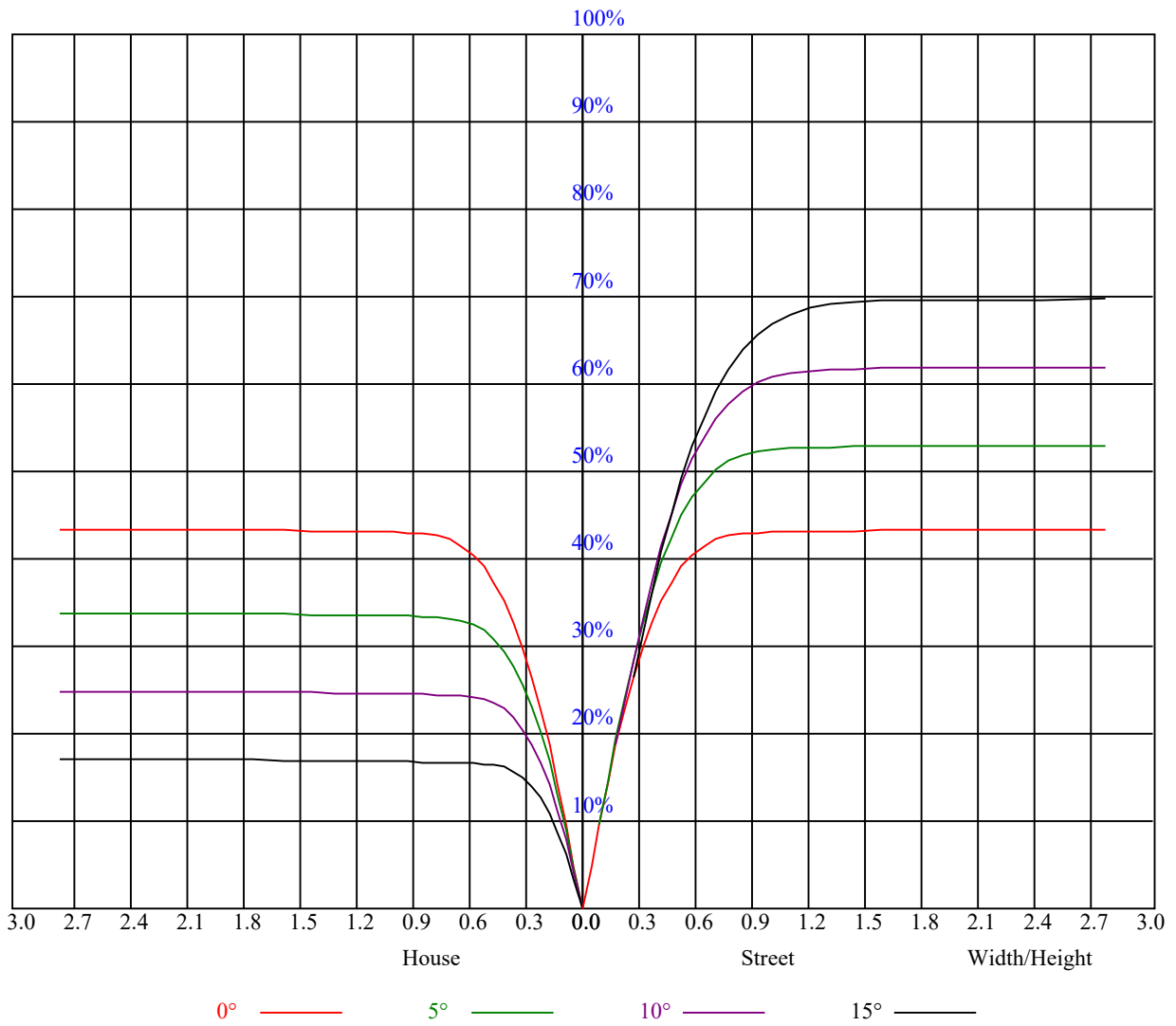
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.05	1.05	1.05	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.88
1	0.98	0.96	0.94	0.96	0.94	0.92	0.92	0.91	0.89	0.89	0.88	0.87	0.86	0.85	0.84	0.83
2	0.92	0.88	0.85	0.90	0.87	0.84	0.87	0.85	0.83	0.85	0.83	0.81	0.82	0.81	0.79	0.78
3	0.86	0.82	0.79	0.85	0.81	0.78	0.83	0.79	0.77	0.80	0.78	0.76	0.79	0.76	0.75	0.73
4	0.81	0.77	0.73	0.80	0.76	0.73	0.78	0.75	0.72	0.77	0.74	0.71	0.75	0.72	0.70	0.69
5	0.77	0.72	0.69	0.76	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.67	0.72	0.69	0.66	0.65
6	0.73	0.68	0.64	0.72	0.67	0.64	0.71	0.67	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.62
7	0.69	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.58
8	0.66	0.61	0.57	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.60	0.57	0.62	0.59	0.57	0.55
9	0.62	0.58	0.54	0.62	0.57	0.54	0.61	0.57	0.54	0.60	0.57	0.54	0.60	0.56	0.54	0.53
10	0.60	0.55	0.52	0.59	0.55	0.52	0.58	0.54	0.52	0.58	0.54	0.51	0.57	0.54	0.51	0.50



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	8736.74	8514.14	7865.24	6646.47	5270.76	3780.41	2679.62	1468.65	473.04
45.0	8725.06	8308.78	7515.19	6265.26	4801.06	3417.56	2324.57	1141.97	313.88
90.0	8715.60	8207.50	7240.27	5954.72	4492.75	3171.03	1992.33	967.11	174.47
135.0	8740.08	8388.92	7503.51	6388.25	4841.69	3409.77	2399.14	1181.48	307.75
180.0	8736.74	8280.40	7368.83	6116.67	4605.73	3317.95	2244.43	1051.43	226.56
225.0	8725.06	8482.42	7672.13	6461.15	5055.95	3484.35	2563.87	1100.96	365.30
270.0	8715.60	8592.05	7873.03	6777.25	5454.41	3849.42	2778.68	1554.91	590.46
315.0	8740.08	8475.74	7653.21	6439.45	5099.36	3580.62	2513.78	1107.08	395.57
360.0	8736.74	8514.14	7865.24	6646.47	5270.76	3780.41	2679.62	1468.65	473.04

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	50.14	26.66	24.54	23.48	22.71	22.20	21.82	21.76	21.82
45.0	32.95	25.27	23.76	22.98	22.37	21.93	21.70	21.48	21.43
90.0	28.94	25.10	23.71	22.93	22.32	21.98	21.70	21.59	21.65
135.0	34.28	25.99	24.26	23.37	22.59	22.15	21.82	21.70	21.70
180.0	33.39	25.60	24.04	23.26	22.59	22.09	21.82	21.70	21.48
225.0	45.41	26.10	24.10	23.10	22.43	21.93	21.70	21.54	21.59
270.0	57.71	27.16	24.49	23.32	22.54	22.09	21.76	21.65	21.59
315.0	42.85	26.27	24.43	23.32	22.48	22.09	21.70	21.59	21.48
360.0	50.14	26.66	24.54	23.48	22.71	22.20	21.82	21.76	21.82

C/γ(°)	90.0
0.0	21.31
45.0	21.37
90.0	21.37
135.0	21.31
180.0	21.31
225.0	21.37
270.0	21.37
315.0	21.37
360.0	21.31