



NATA LIGHTING CO.,LTD.  
www.nata.cn  
Email:info@nata.cn  
Tel:+86-750-3770000 Fax:+86-750-3771111  
Address:380 JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

---

## NATA

---

LumCAT: 2-1537-A  
Luminaire: 99.02.73.180+92.76.323.00  
Report No: NT2016120901      Voltage(V): 217.5000  
Test No: GC2016120901      Current(A): 0.1000  
LampCAT: CREE CXA1830      Power (W): 19.5000  
Lamp flux(lm): 2002.0      PF: 0.8960  
Number of Lamps: 1      Ballast type: DC  
Length(mm): 70      Width(mm): 70  
Phm Type: C      Height(mm): 0

---

## Photometric Results

---

Lumens(lm): 1839.85  
Efficiency(%): 91.90%  
Lumens(lm)/Power(W): 94.35  
Central intensity(cd): 3955.665  
Maximum intensity(cd): 3955.665  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=35.8  
                                  [C90/270]Total=35.8  
Field angle(10%Imax): [C0/180]Total=71.8  
                                  [C90/270]Total=71.8  
Maximum s/h(1/2): C0\_180=0.59 C90\_270=0.59  
Maximum s/h(1/4): C0\_180=0.60 C90\_270=0.60  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 92.99%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 97.559%

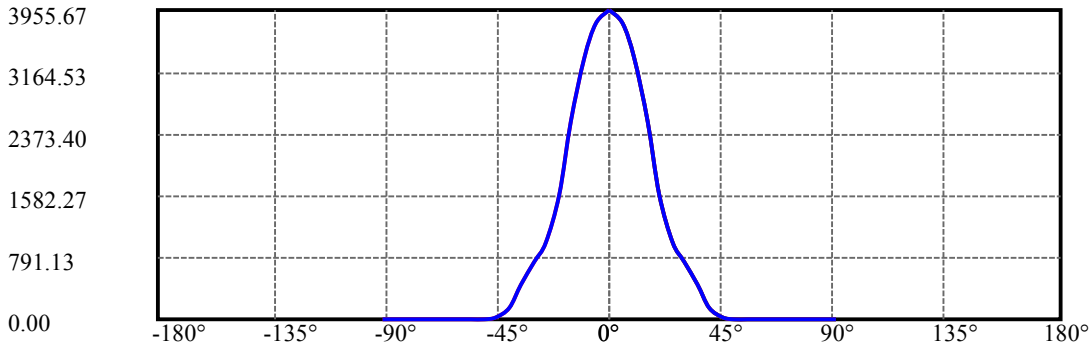
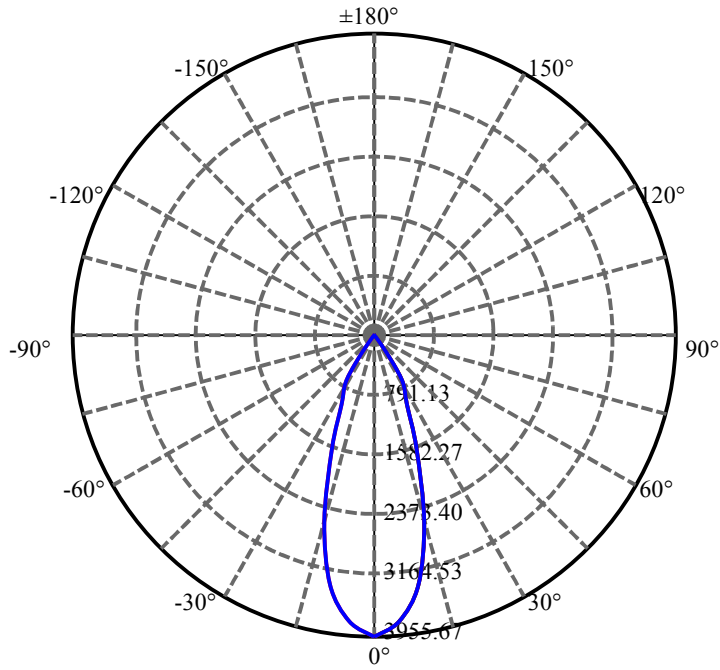
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3955.665	23.656	23.656	1.182%	1.286%
5.0	3776.318	180.407	204.063	9.011%	11.091%
10.0	3332.013	317.151	521.214	15.842%	28.329%
15.0	2525.506	358.289	879.504	17.897%	47.803%
20.0	1585.968	297.328	1176.832	14.852%	63.964%
25.0	989.364	229.189	1406.02	11.448%	76.421%
30.0	739.531	202.682	1608.703	10.124%	87.437%
35.0	450.774	141.723	1750.426	7.079%	95.140%
40.0	136.099	47.953	1798.378	2.395%	97.746%
45.0	15.209	5.895	1804.273	.294%	98.067%
50.0	9.463	3.973	1808.247	.198%	98.283%
55.0	8.878	3.986	1812.233	.199%	98.499%
60.0	8.582	4.074	1816.307	.203%	98.721%
65.0	8.355	4.151	1820.457	.207%	98.946%
70.0	8.217	4.233	1824.69	.211%	99.176%
75.0	8.107	4.292	1828.982	.214%	99.410%
80.0	8.031	4.335	1833.318	.217%	99.645%
85.0	7.963	4.348	1837.666	.217%	99.881%
90.0	7.956	2.180	1839.846	.109%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1608.70	80.35%	87.44%
0-40	1798.38	89.83%	97.75%
0-60	1816.31	90.72%	98.72%
0-90	1837.67	91.79%	99.88%
0-120	1837.67	91.79%	99.88%
0-180	1839.85	91.90%	100.00%
60-90	25.43	1.27%	1.38%
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%
0-26.62	1471.88	73.52%	80.00%

ZONAL LUMEN SUMMARY

0-10	521.21
10-20	655.62
20-30	431.87
30-40	189.68
40-50	9.87
50-60	8.06
60-70	8.38
70-80	8.63
80-90	4.35
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: —————

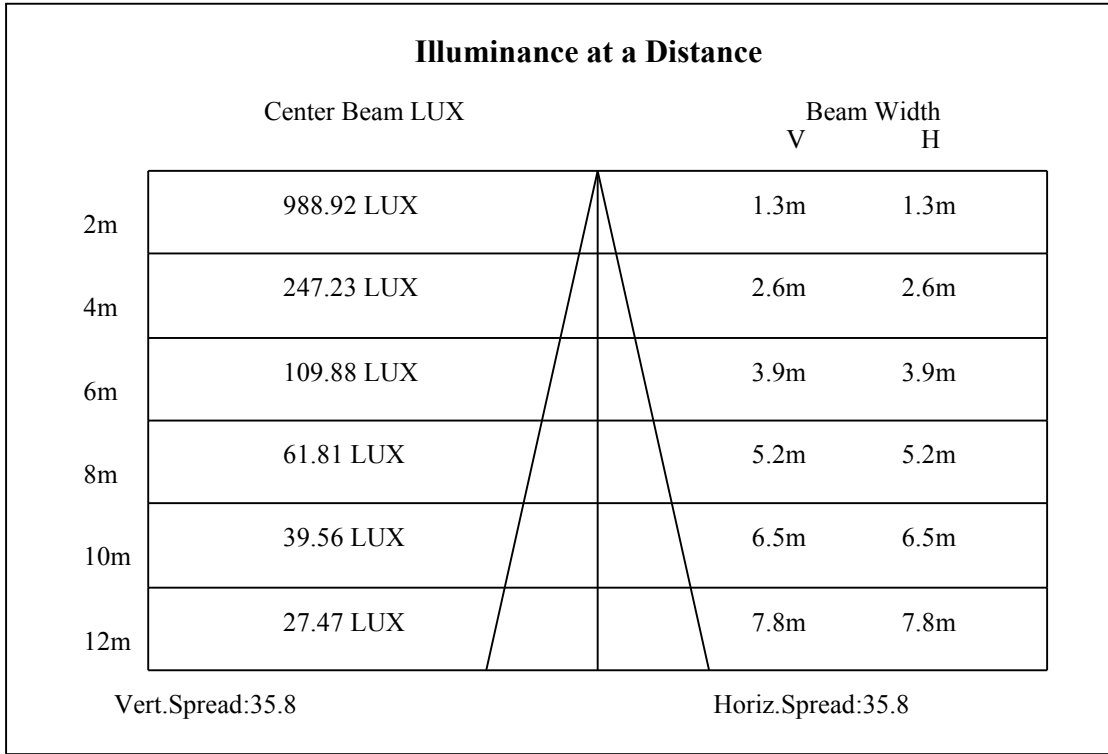
C90/C270: —————

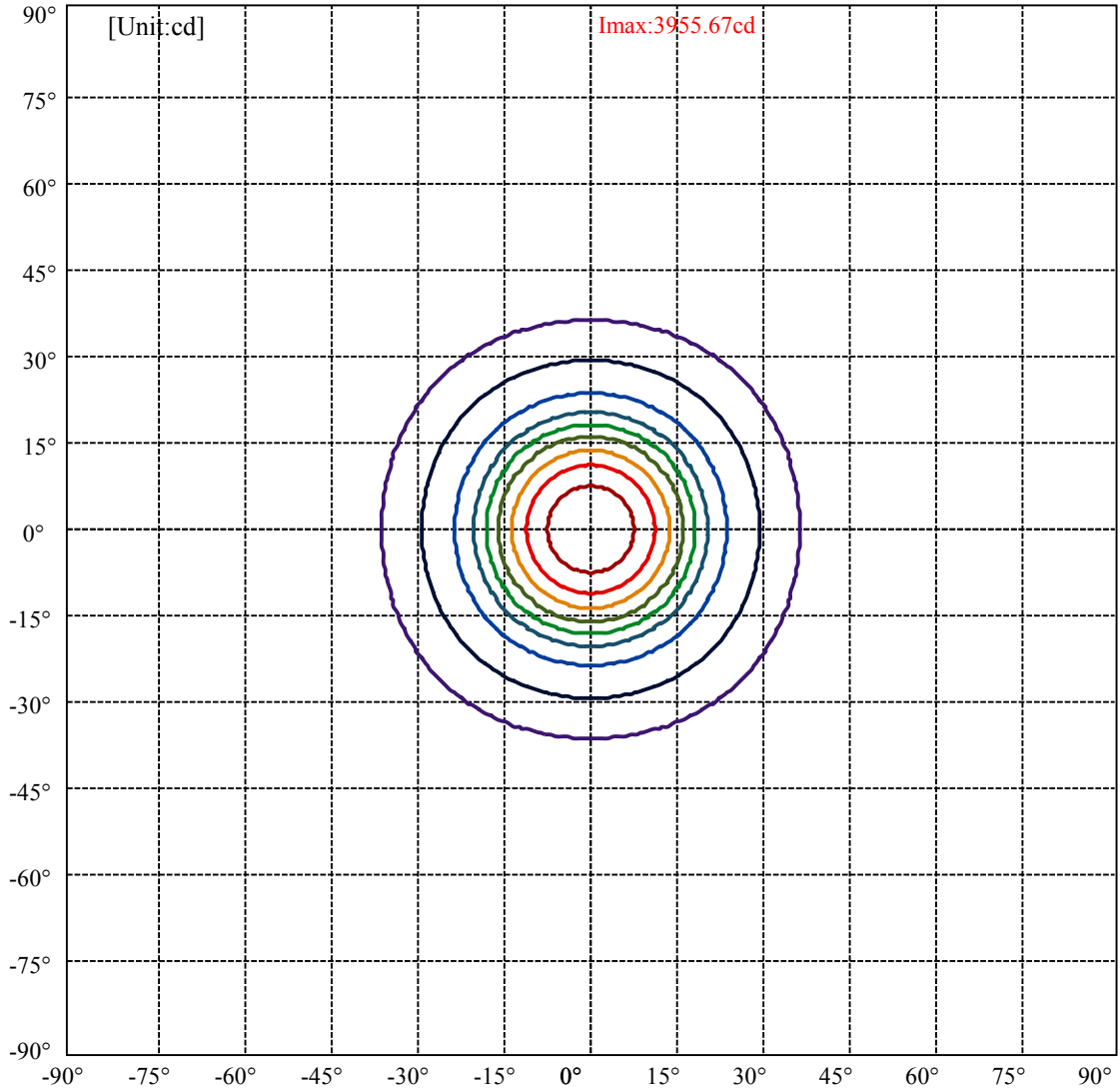
Field angle(10%Imax):C0/180Left:35.9 Right:35.9

:C90/270Left:35.9 Right:35.9

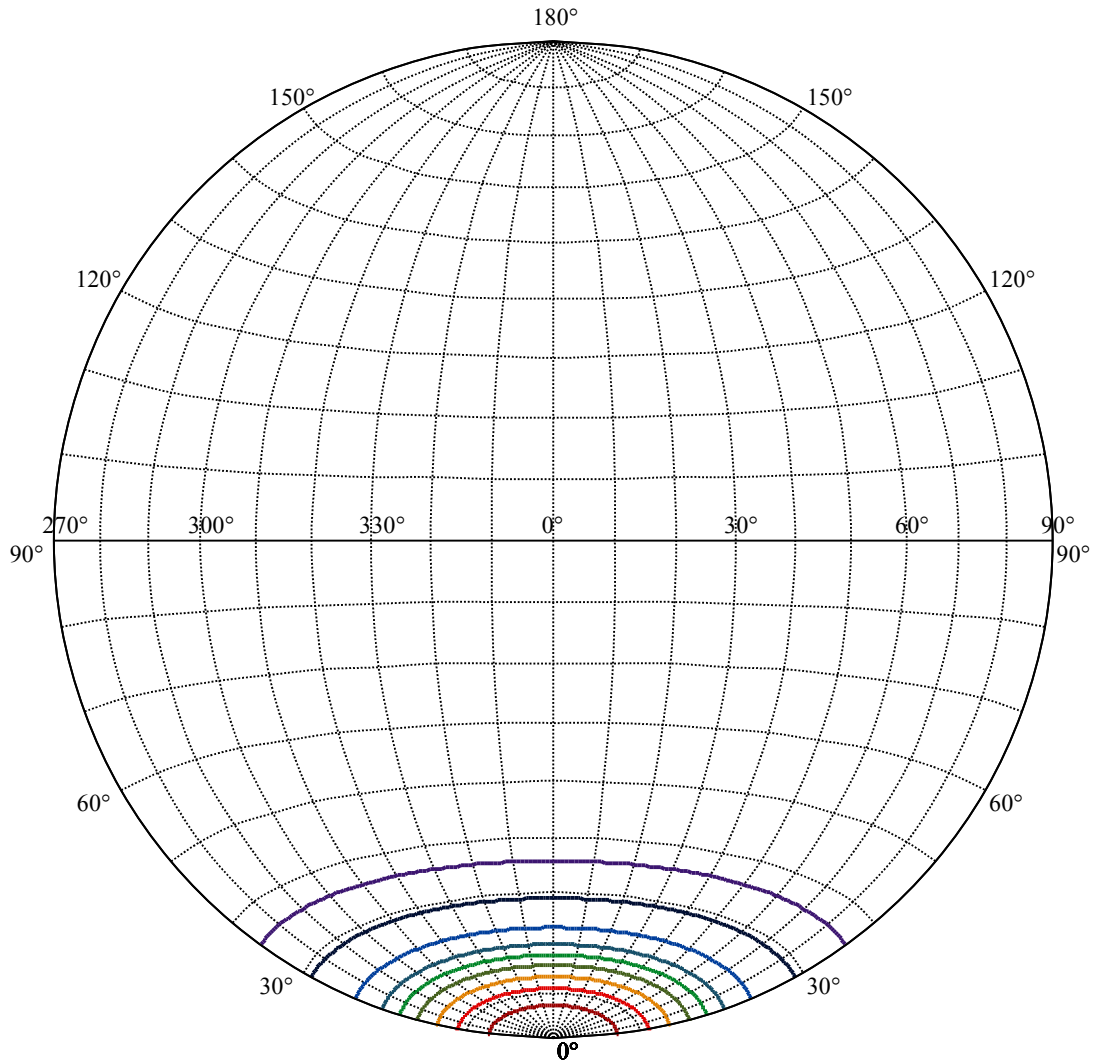
Beam Angle(50%Imax):C0/180Left:17.9 Right:17.9

:C90/270Left:17.9 Right:17.9





(10%Imax) 395.566	—
(20%Imax) 791.133	—
(30%Imax) 1186.7	—
(40%Imax) 1582.27	—
(50%Imax) 1977.83	—
(60%Imax) 2373.4	—
(70%Imax) 2768.97	—
(80%Imax) 3164.53	—
(90%Imax) 3560.1	—



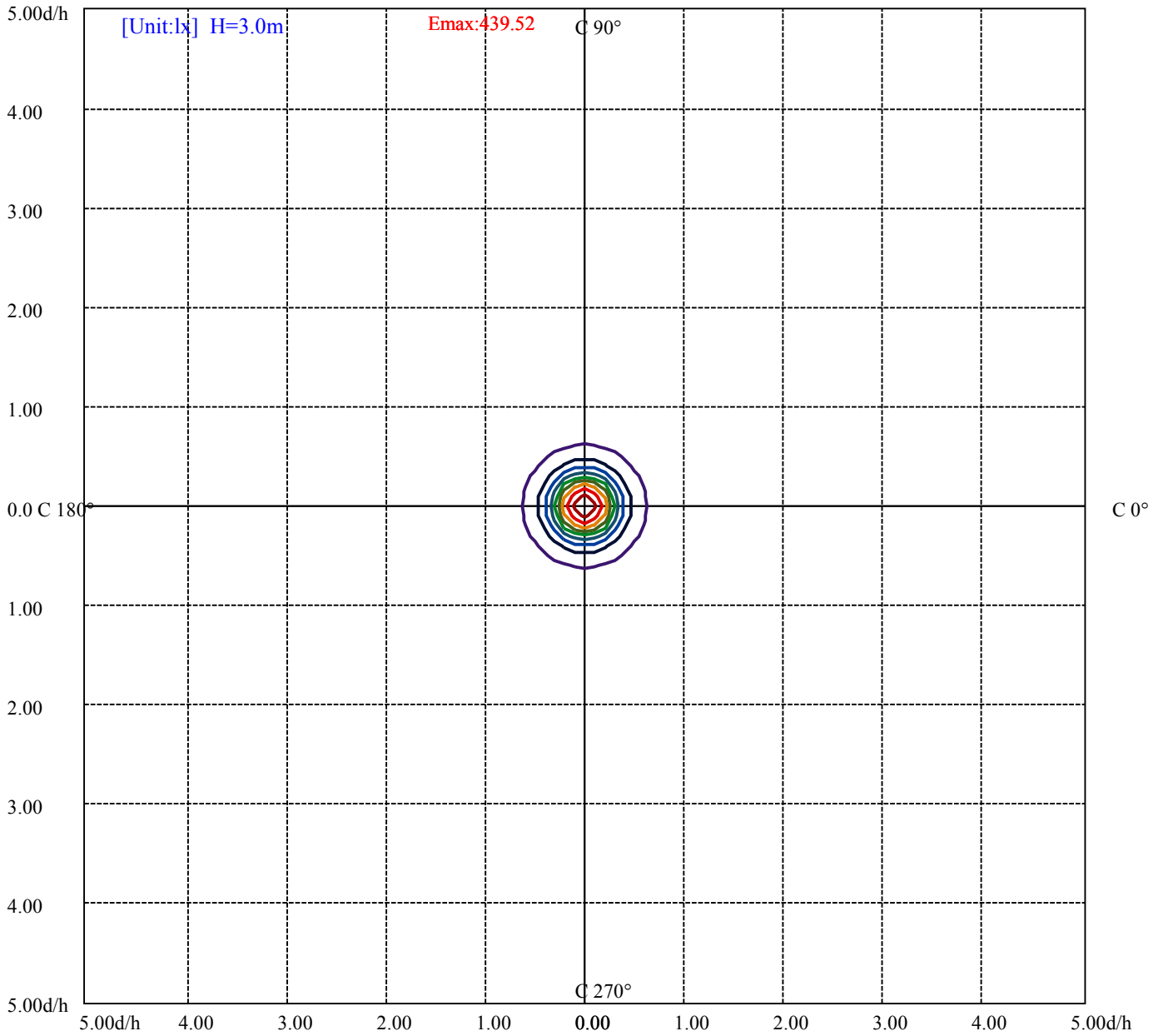
House

[Unit:cd]

Road

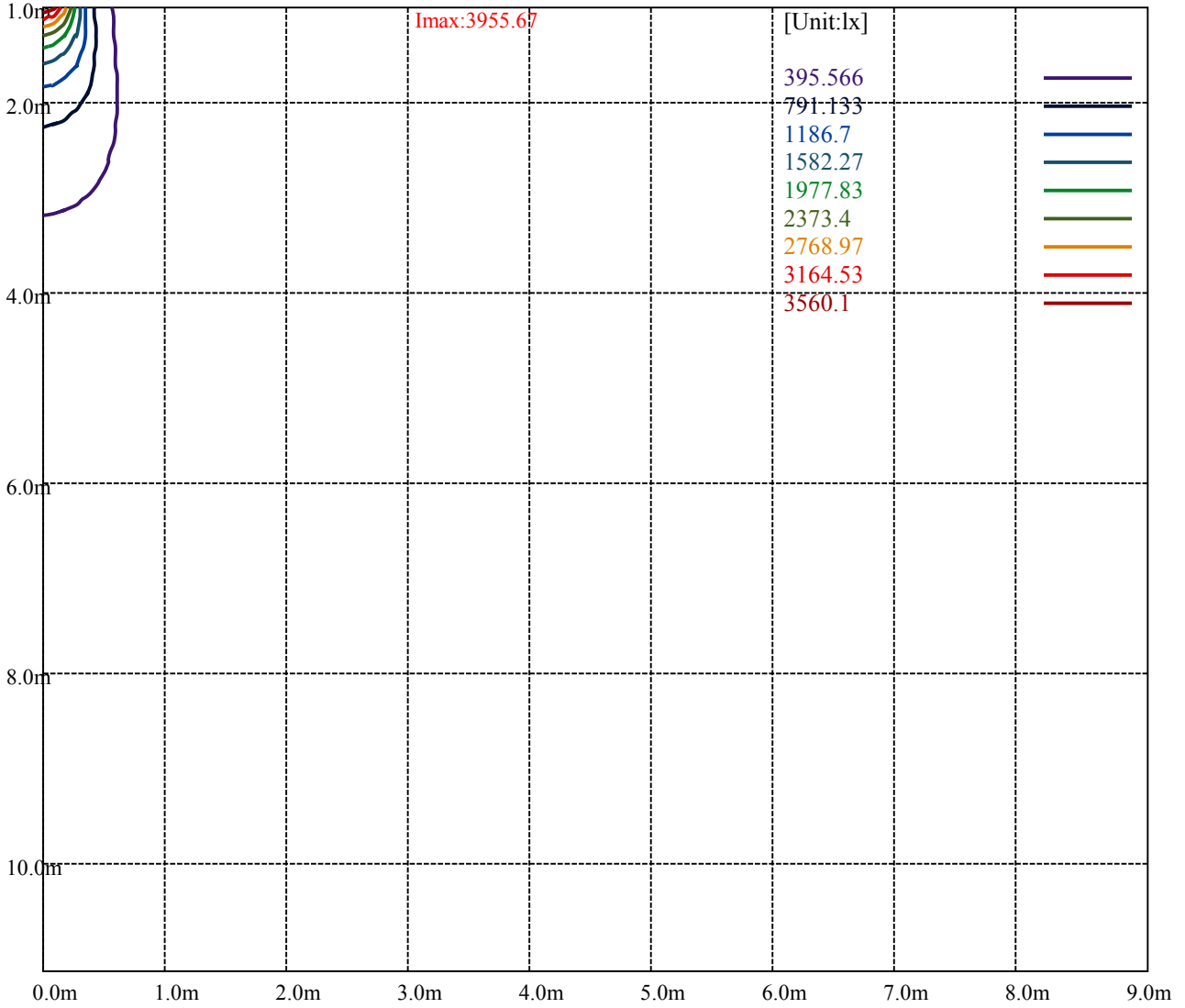
**Imax:3955.67**

(10%Imax) 395.566	—
(20%Imax) 791.133	—
(30%Imax) 1186.7	—
(40%Imax) 1582.27	—
(50%Imax) 1977.83	—
(60%Imax) 2373.4	—
(70%Imax) 2768.97	—
(80%Imax) 3164.53	—
(90%Imax) 3560.1	—



(10%Emax) 43.95178	—
(20%Emax) 87.90356	—
(30%Emax) 131.8555	—
(40%Emax) 175.8067	—
(50%Emax) 219.7589	—
(60%Emax) 263.7111	—
(70%Emax) 307.6622	—
(80%Emax) 351.6144	—
(90%Emax) 395.5656	—





Luminance Table

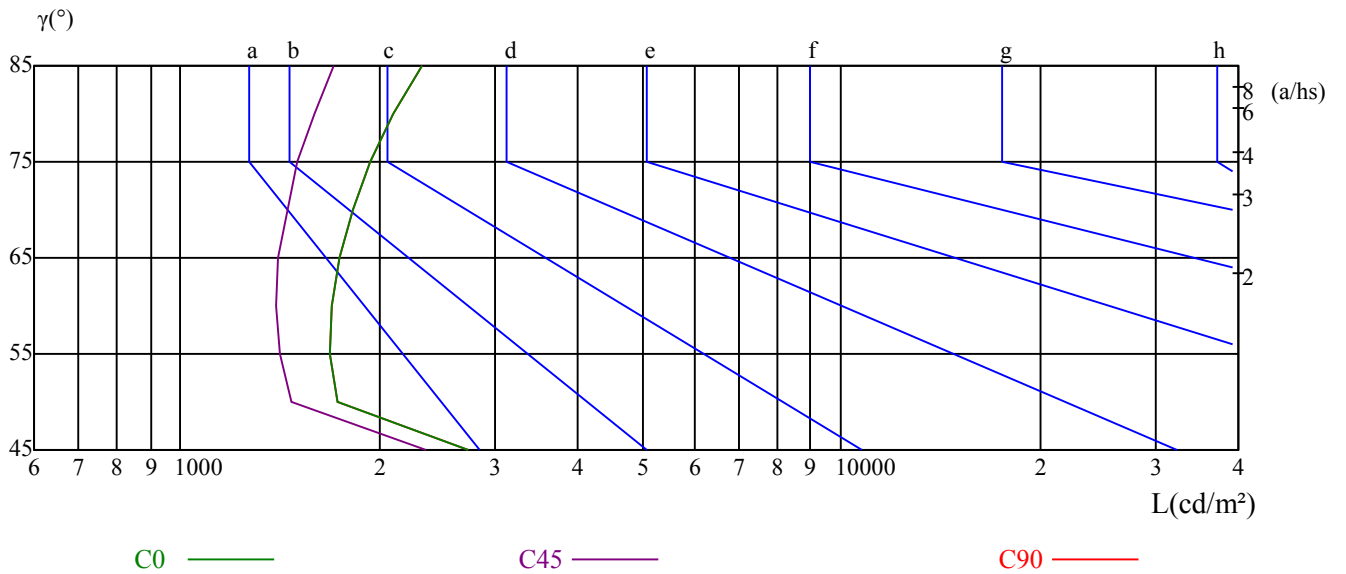
$\gamma$	45	50	55	60	65	70	75	80	85
C0	2719	1735	1683	1697	1741	1824	1942	2105	2324
C45	2349	1476	1410	1399	1409	1448	1507	1593	1706
C90	2719	1735	1683	1697	1741	1824	1942	2105	2324

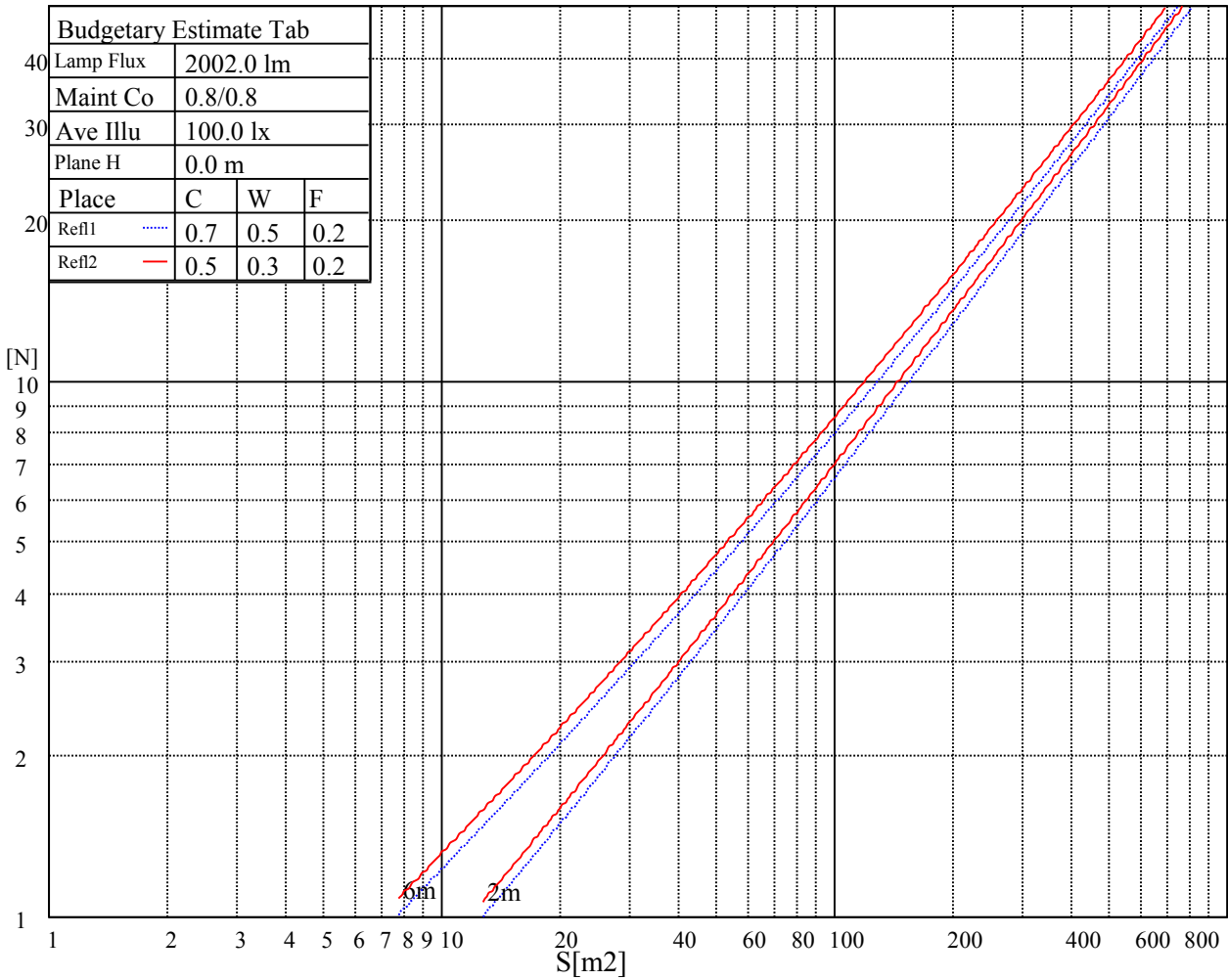
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4035	4035	4035	6393	6393	6393	18645	18645	18645

Glare Table

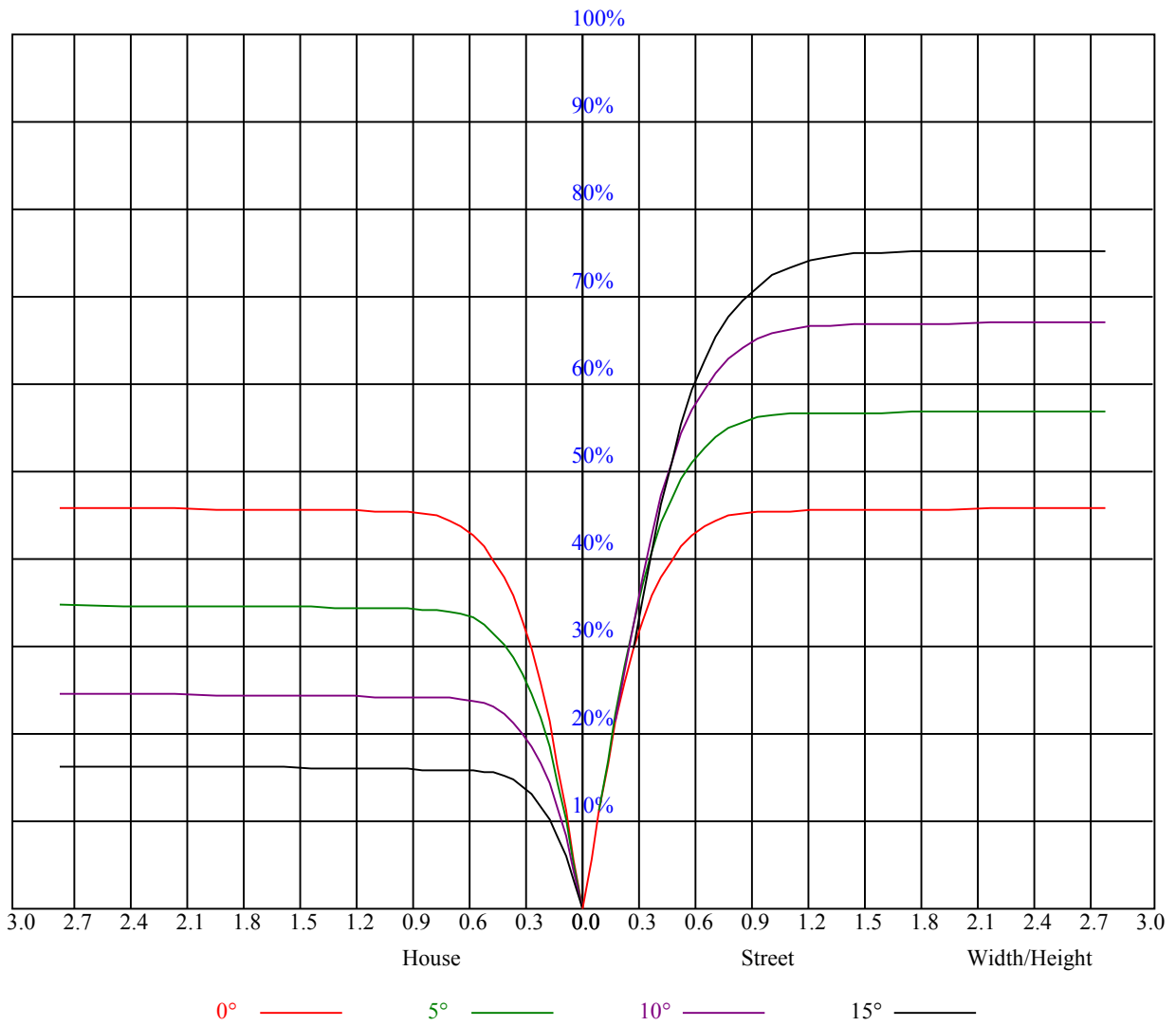
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.11	1.11	1.11	1.08	1.08	1.08	1.03	1.03	1.03	0.99	0.99	0.99	0.95	0.95	0.95	0.93
1	1.03	1.00	0.98	1.01	0.98	0.96	0.97	0.95	0.93	0.93	0.92	0.91	0.90	0.89	0.88	0.86
2	0.97	0.93	0.90	0.95	0.92	0.89	0.92	0.90	0.87	0.90	0.87	0.86	0.87	0.85	0.84	0.82
3	0.92	0.88	0.84	0.91	0.87	0.84	0.88	0.85	0.82	0.86	0.83	0.81	0.84	0.82	0.80	0.79
4	0.87	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.78	0.83	0.80	0.77	0.81	0.78	0.76	0.75
5	0.83	0.79	0.75	0.83	0.78	0.75	0.81	0.77	0.74	0.80	0.76	0.74	0.78	0.75	0.73	0.72
6	0.80	0.75	0.72	0.79	0.75	0.72	0.78	0.74	0.71	0.77	0.73	0.71	0.75	0.73	0.70	0.69
7	0.77	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.66
8	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.64
9	0.71	0.66	0.63	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.62
10	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.61	0.67	0.63	0.61	0.66	0.63	0.60	0.59



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	3948.65	3713.00	3219.70	2353.11	1440.28	928.80	698.12	373.28	53.13
45.0	3972.87	3808.25	3381.56	2614.08	1669.86	1008.08	760.33	480.09	191.32
90.0	3968.47	3775.77	3312.19	2553.52	1609.30	974.83	763.08	465.94	129.11
135.0	3932.68	3893.04	3528.56	2838.71	1908.25	1131.96	818.69	579.74	279.69
180.0	3948.65	3851.75	3471.31	2723.09	1779.97	1074.10	773.43	531.35	195.34
225.0	3972.87	3728.97	3279.71	2410.92	1501.94	944.55	708.47	418.92	96.35
270.0	3968.47	3797.79	3323.20	2488.00	1549.84	968.99	725.64	441.00	108.52
315.0	3932.68	3641.98	3139.87	2222.63	1228.31	883.60	668.49	315.86	35.35
360.0	3948.65	3713.00	3219.70	2353.11	1440.28	928.80	698.12	373.28	53.13
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	12.61	9.25	8.75	8.53	8.26	8.15	8.04	7.98	7.93
45.0	16.35	9.41	8.92	8.64	8.37	8.26	8.15	8.09	8.04
90.0	15.58	9.36	8.81	8.53	8.37	8.20	8.09	8.04	7.98
135.0	20.76	10.02	9.14	8.75	8.48	8.31	8.15	8.09	7.98
180.0	18.06	9.74	8.92	8.59	8.37	8.20	8.09	7.98	7.93
225.0	12.83	9.25	8.75	8.48	8.31	8.20	8.09	8.04	7.93
270.0	13.98	9.36	8.86	8.59	8.37	8.26	8.15	8.04	7.98
315.0	11.51	9.30	8.86	8.53	8.31	8.15	8.09	7.98	7.93
360.0	12.61	9.25	8.75	8.53	8.26	8.15	8.04	7.98	7.93
C/γ(°)	90.0								
0.0	7.93								
45.0	7.98								
90.0	7.98								
135.0	7.93								
180.0	7.93								
225.0	7.98								
270.0	7.98								
315.0	7.93								
360.0	7.93								