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## NATA

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LumCAT: CR01D02945AC

Luminaire:

Report No: NATA0100

Voltage(V): 34.9000

Test No: GC2018123003

Current(A): 0.3000

LampCAT: CREE CXA1512

Power (W): 10.4700

Lamp flux(lm): 1542.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 29

Width(mm): 29

Phm Type: C

Height(mm): 0

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## Photometric Results

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Lumens(lm): 1354.28

Efficiency(%): 87.83%

Lumens(lm)/Power(W): 130.34

Central intensity(cd): 1955.672

Maximum intensity(cd): 1955.672

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=45.6

[C90/270]Total=45.6

Field angle(10%Imax): [C0/180]Total=76.7

[C90/270]Total=76.7

Maximum s/h(1/2): C0\_180=0.73 C90\_270=0.73

Maximum s/h(1/4): C0\_180=0.73 C90\_270=0.73

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 88.50%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 93.978%

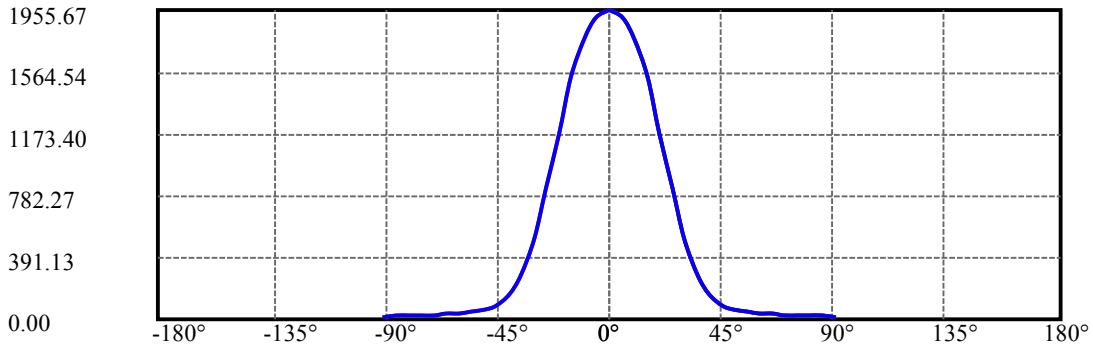
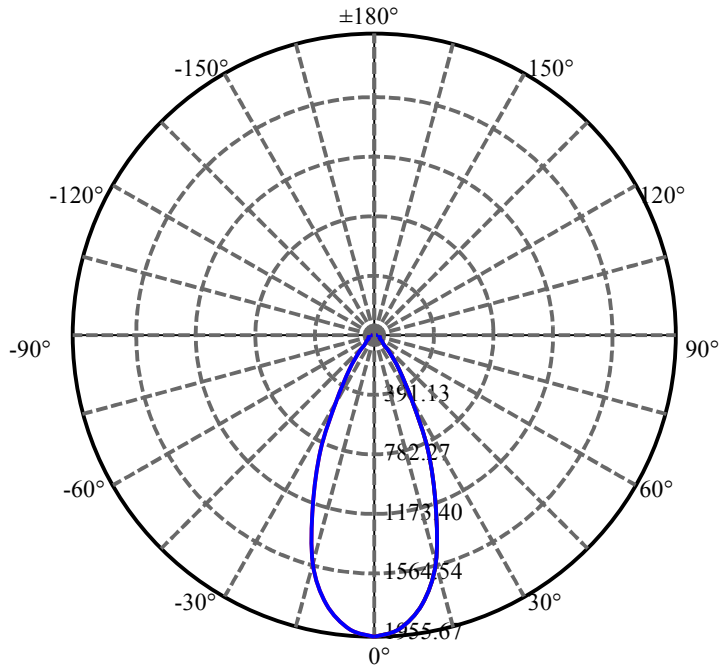
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1955.672	11.695	11.695	.758%	.864%
5.0	1909.266	91.212	102.907	5.915%	7.599%
10.0	1772.930	168.753	271.66	10.944%	20.059%
15.0	1536.469	217.976	489.636	14.136%	36.155%
20.0	1173.495	220.000	709.636	14.267%	52.399%
25.0	824.977	191.108	900.744	12.394%	66.511%
30.0	508.373	139.329	1040.074	9.036%	76.799%
35.0	280.807	88.285	1128.359	5.725%	83.318%
40.0	153.844	54.205	1182.564	3.515%	87.320%
45.0	90.548	35.096	1217.66	2.276%	89.912%
50.0	62.227	26.129	1243.788	1.694%	91.841%
55.0	46.814	21.020	1264.808	1.363%	93.393%
60.0	37.287	17.700	1282.508	1.148%	94.700%
65.0	31.971	15.883	1298.391	1.030%	95.873%
70.0	28.554	14.708	1313.098	.954%	96.959%
75.0	25.411	13.454	1326.553	.873%	97.952%
80.0	24.075	12.996	1339.548	.843%	98.912%
85.0	22.120	12.079	1351.627	.783%	99.804%
90.0	9.689	2.655	1354.283	.172%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1040.07	67.45%	76.80%
0-40	1182.56	76.69%	87.32%
0-60	1282.51	83.17%	94.70%
0-90	1351.63	87.65%	99.80%
0-120	1351.63	87.65%	99.80%
0-180	1354.28	87.83%	100.00%
60-90	86.82	5.63%	6.41%
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%
0-32.46	1083.43	70.26%	80.00%

ZONAL LUMEN SUMMARY

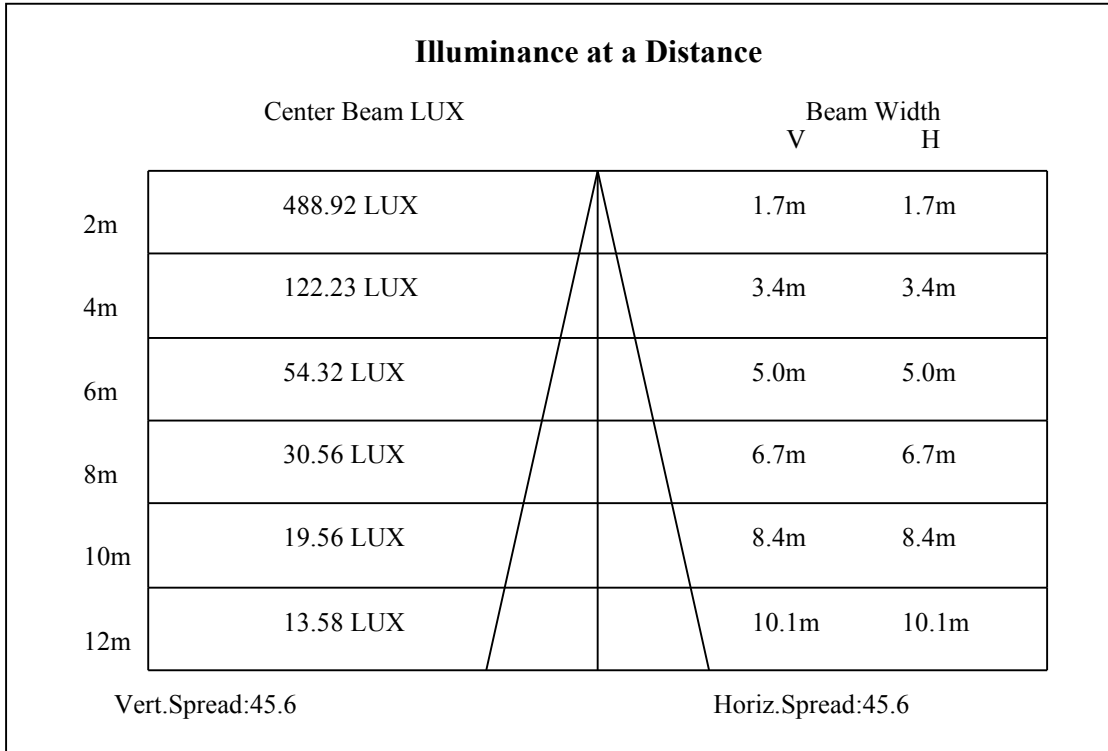
0-10	271.66
10-20	437.98
20-30	330.44
30-40	142.49
40-50	61.22
50-60	38.72
60-70	30.59
70-80	26.45
80-90	12.08
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

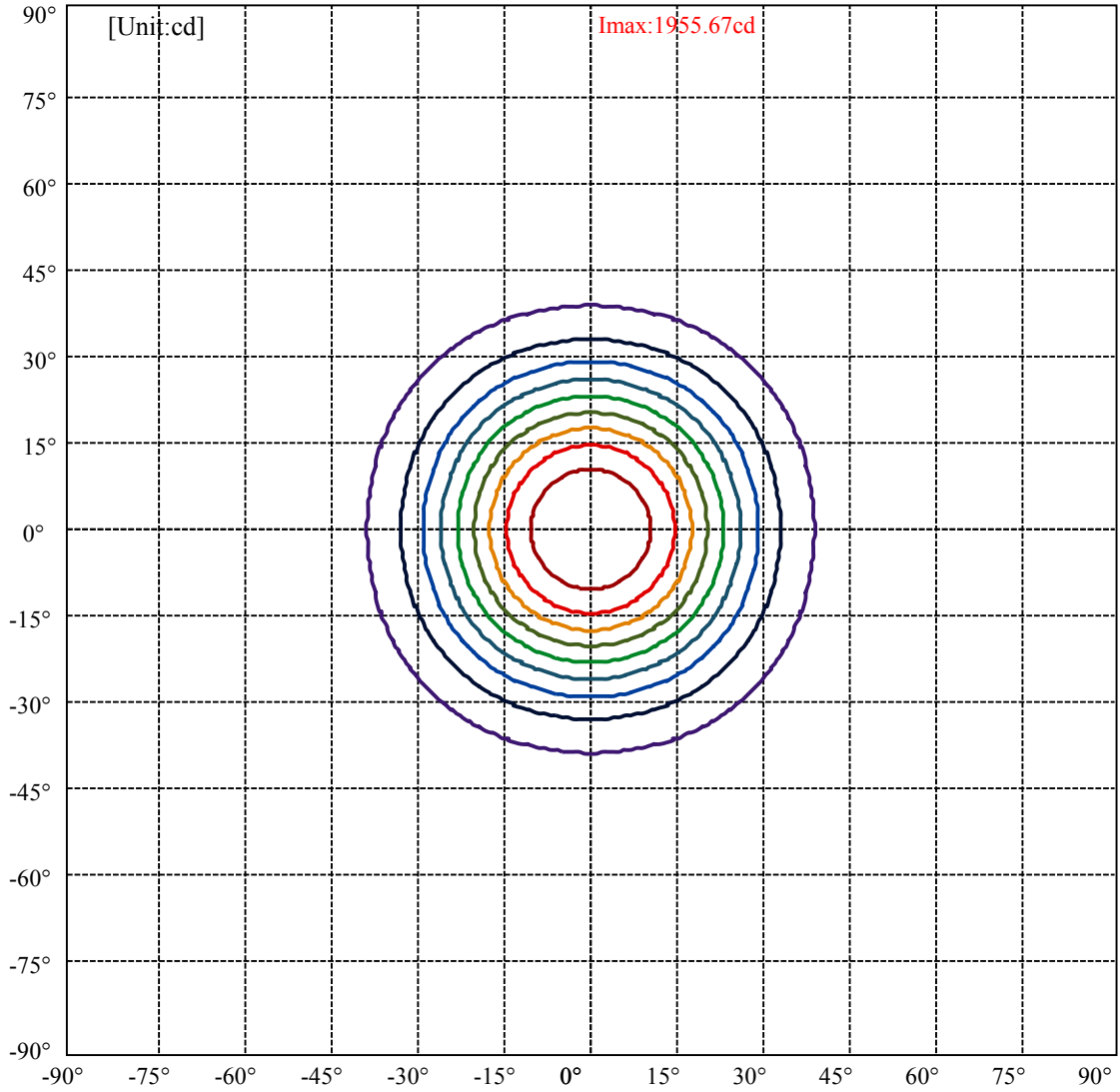


C0(Max): —————  
C0/C180: —————  
C90/C270: —————

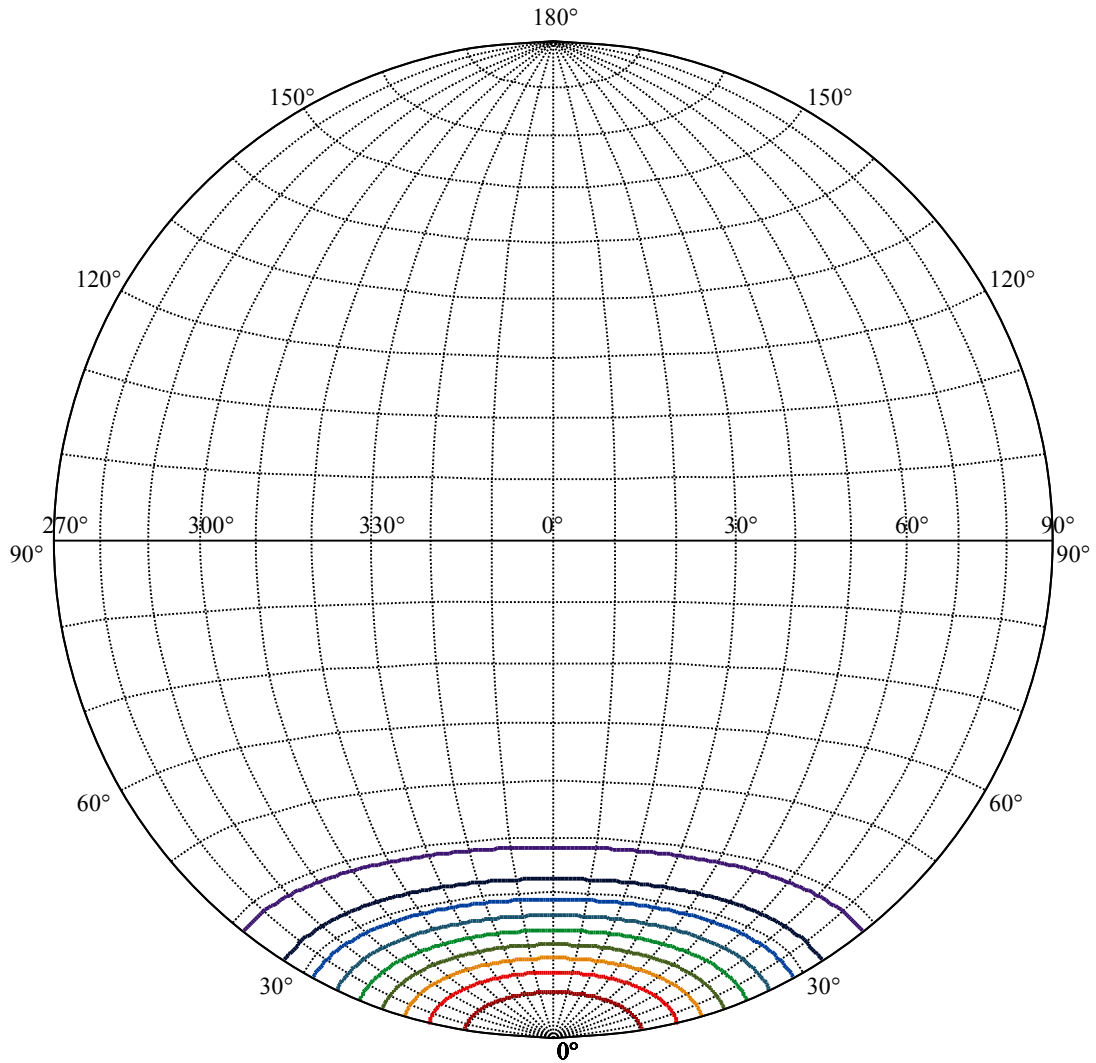
Field angle(10%Imax):C0/180Left:38.4 Right:38.4  
:C90/270Left:38.4 Right:38.4

Beam Angle(50%Imax):C0/180Left:22.8 Right:22.8  
:C90/270Left:22.8 Right:22.8





(10%Imax) 195.567	—
(20%Imax) 391.134	—
(30%Imax) 586.702	—
(40%Imax) 782.269	—
(50%Imax) 977.836	—
(60%Imax) 1173.4	—
(70%Imax) 1368.97	—
(80%Imax) 1564.54	—
(90%Imax) 1760.1	—



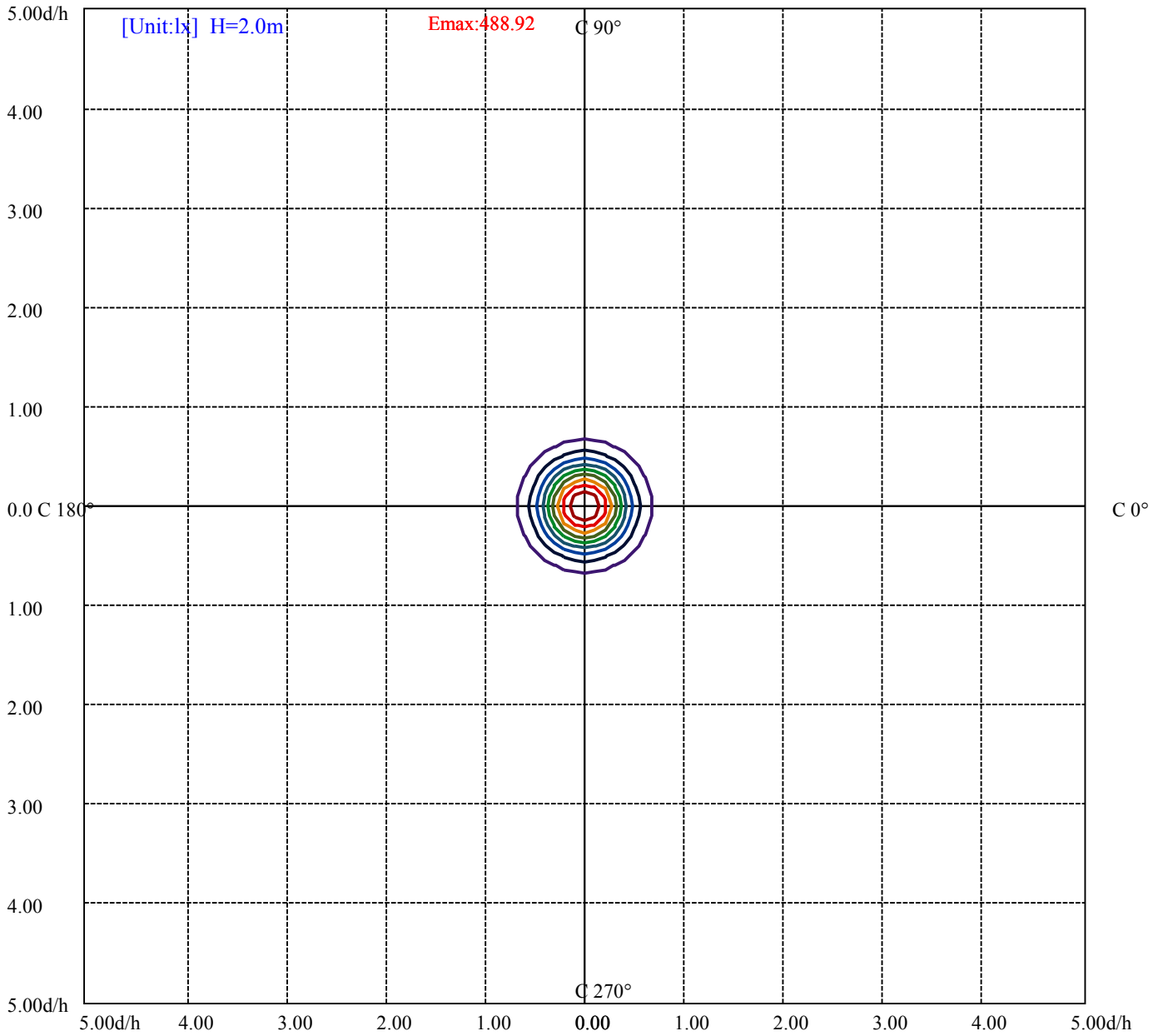
House

[Unit:cd]

Road

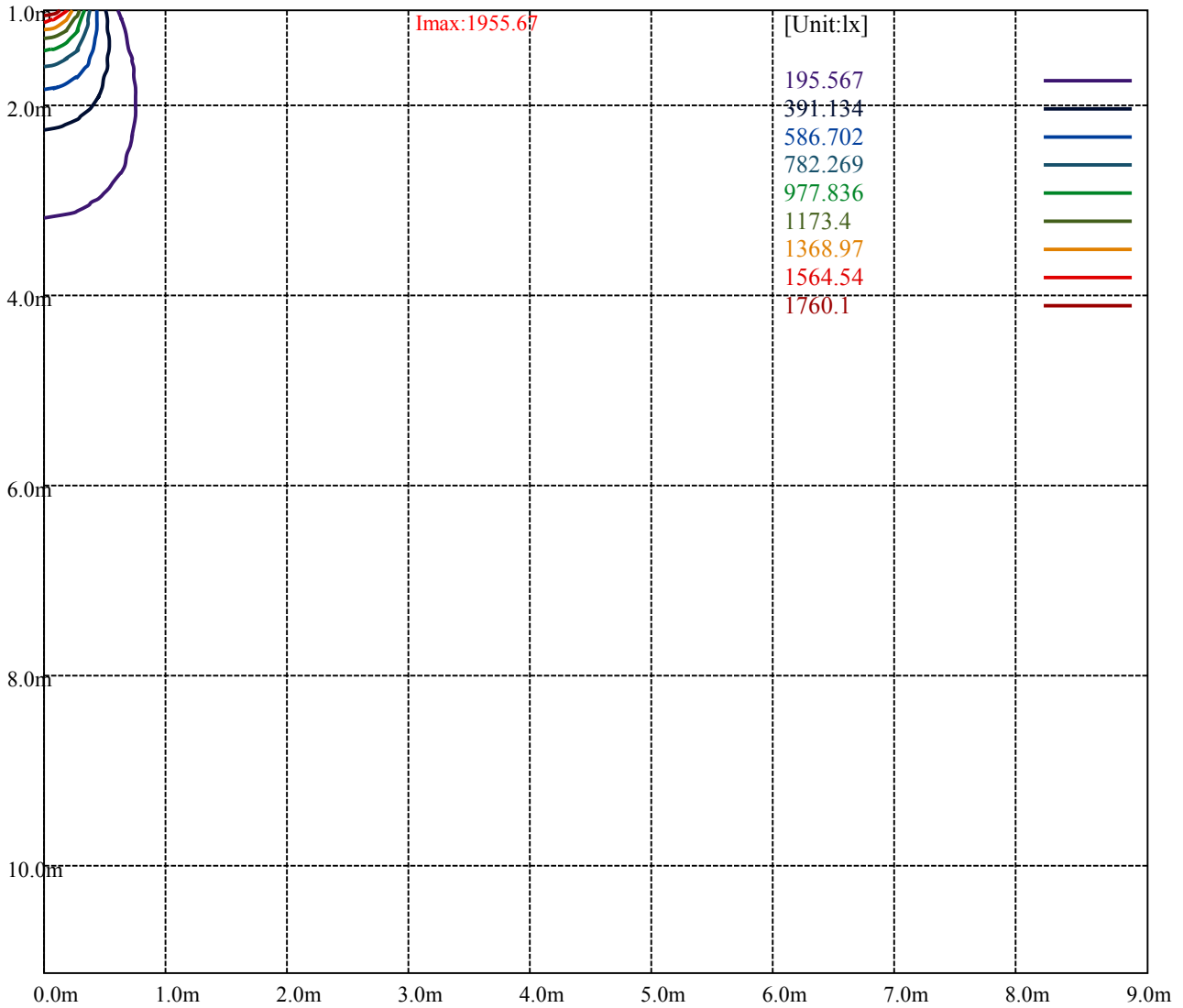
**Imax:1955.67**

(10%Imax) 195.567	—
(20%Imax) 391.134	—
(30%Imax) 586.702	—
(40%Imax) 782.269	—
(50%Imax) 977.836	—
(60%Imax) 1173.4	—
(70%Imax) 1368.97	—
(80%Imax) 1564.54	—
(90%Imax) 1760.1	—



(10%Emax) 48.89175	—
(20%Emax) 97.7835	—
(30%Emax) 146.6752	—
(40%Emax) 195.567	—
(50%Emax) 244.4588	—
(60%Emax) 293.35	—
(70%Emax) 342.2425	—
(80%Emax) 391.135	—
(90%Emax) 440.025	—





Luminance Table

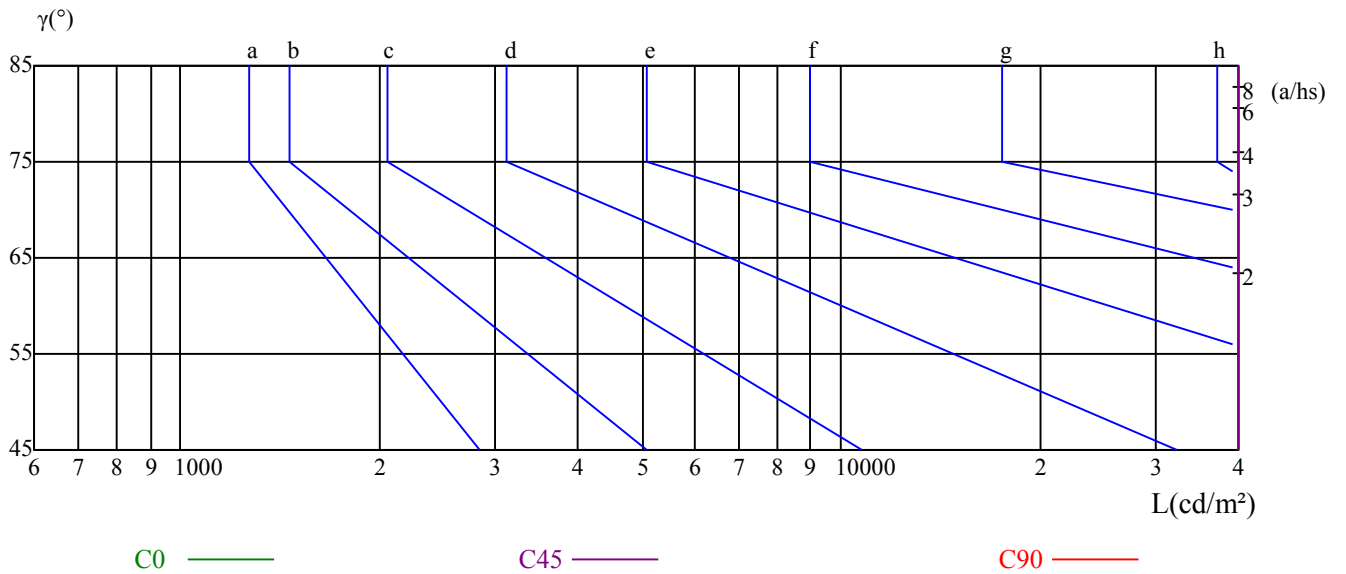
$\gamma$	45	50	55	60	65	70	75	80	85
C0	152265	115110	97049	88672	89953	99270	116742	164854	301786
C45	152265	115110	97049	88672	89953	99270	116742	164854	301786
C90	152265	115110	97049	88672	89953	99270	116742	164854	301786

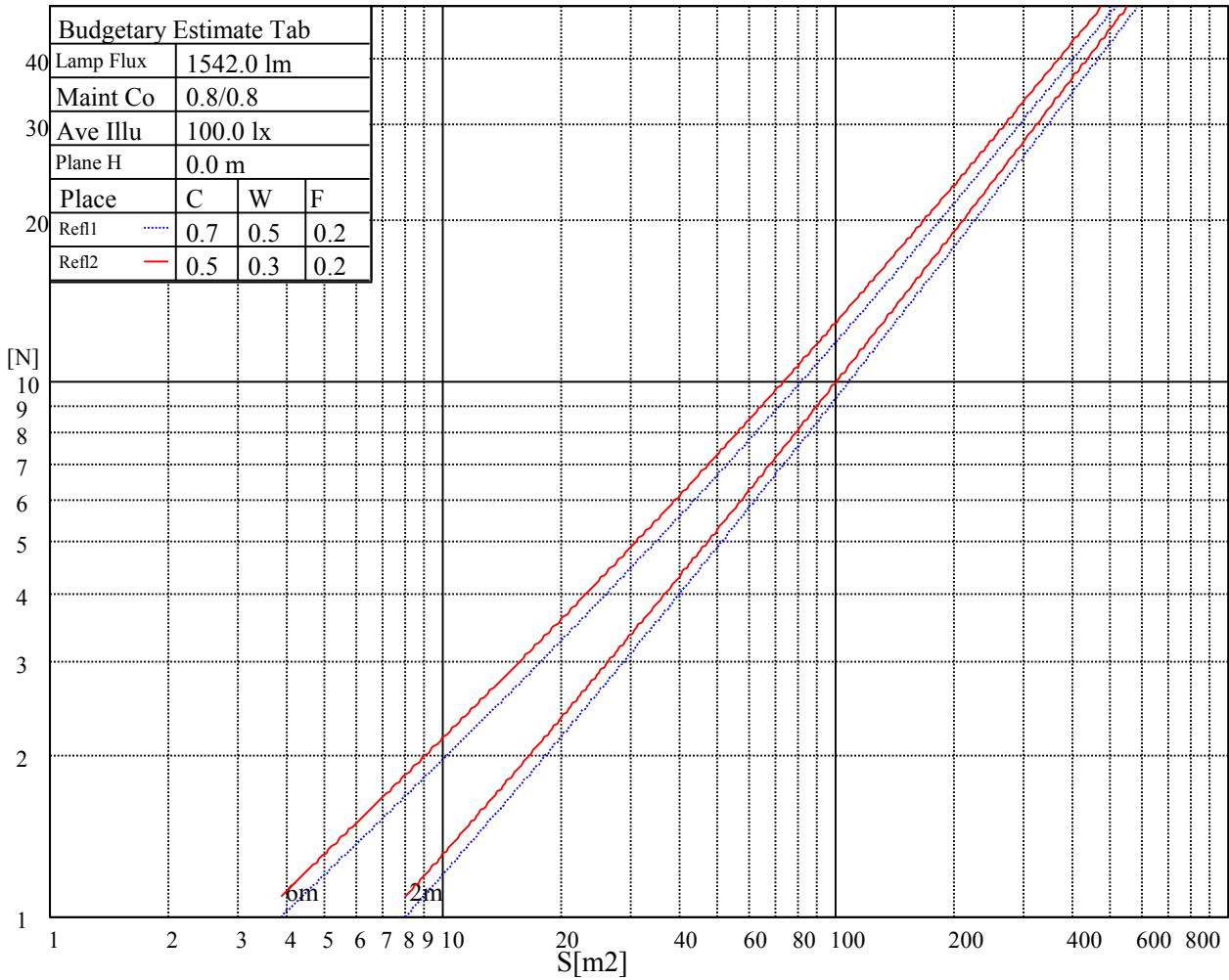
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
89953	89953	89953	116742	116742	116742	301786	301786	301786

Glare Table

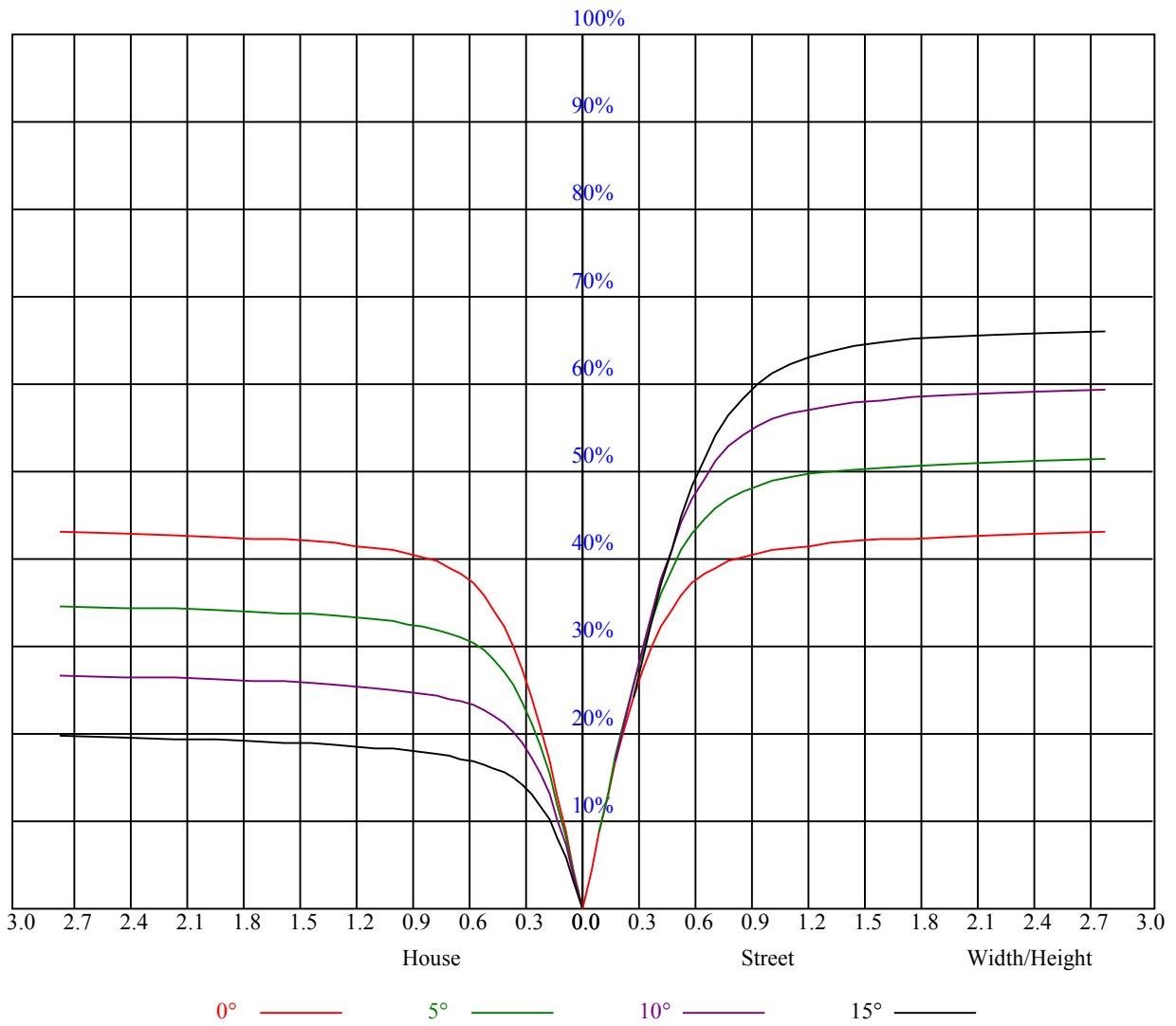
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.89
1	0.96	0.94	0.91	0.94	0.92	0.90	0.91	0.89	0.87	0.88	0.86	0.85	0.84	0.83	0.82	0.80
2	0.90	0.86	0.83	0.88	0.85	0.82	0.85	0.82	0.80	0.83	0.80	0.78	0.80	0.78	0.76	0.75
3	0.84	0.79	0.76	0.83	0.78	0.75	0.80	0.77	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.70
4	0.79	0.74	0.70	0.78	0.73	0.70	0.76	0.72	0.69	0.74	0.71	0.68	0.73	0.70	0.67	0.66
5	0.75	0.69	0.66	0.74	0.69	0.65	0.72	0.68	0.65	0.71	0.67	0.64	0.69	0.66	0.64	0.62
6	0.71	0.65	0.62	0.70	0.65	0.62	0.69	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.60	0.59
7	0.67	0.62	0.58	0.67	0.62	0.58	0.65	0.61	0.58	0.64	0.61	0.58	0.63	0.60	0.57	0.56
8	0.64	0.59	0.55	0.63	0.59	0.55	0.63	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.54
9	0.61	0.56	0.53	0.61	0.56	0.53	0.60	0.56	0.53	0.59	0.55	0.52	0.58	0.55	0.52	0.51
10	0.59	0.54	0.51	0.58	0.54	0.50	0.57	0.53	0.50	0.57	0.53	0.50	0.56	0.53	0.50	0.49



Intensity data(cd)

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	1952.44	1889.44	1747.69	1507.50	1178.44	790.88	490.50	291.38	143.38
45.0	1958.63	1908.56	1780.31	1538.44	1198.69	826.88	503.44	291.38	158.06
90.0	1959.75	1918.13	1775.25	1528.31	1114.54	799.48	480.32	264.04	147.77
135.0	1951.88	1949.06	1833.75	1630.13	1328.63	915.19	578.25	308.81	168.69
180.0	1952.44	1920.94	1798.88	1565.44	1108.24	859.22	523.41	279.90	159.81
225.0	1958.63	1910.81	1764.56	1530.56	1119.32	796.89	512.10	274.39	151.76
270.0	1959.75	1908.56	1770.75	1536.19	1237.50	853.88	527.63	296.44	161.89
315.0	1951.88	1868.63	1712.25	1455.19	1102.61	757.41	451.35	240.13	139.39
360.0	1952.44	1889.44	1747.69	1507.50	1178.44	790.88	490.50	291.38	143.38
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	87.30	60.41	46.18	37.13	32.06	29.53	27.17	26.94	23.18
45.0	92.48	63.34	47.48	37.07	31.73	28.24	24.53	22.61	21.99
90.0	86.96	61.82	47.14	37.58	32.23	28.18	24.41	22.67	22.33
135.0	95.79	65.64	48.71	37.97	32.18	28.46	25.37	23.74	22.61
180.0	93.15	63.73	47.14	38.59	33.41	29.81	26.78	25.59	21.88
225.0	90.45	60.41	44.49	35.83	30.83	27.39	23.79	22.16	20.70
270.0	94.05	64.07	47.25	37.46	32.29	29.03	25.99	23.96	21.49
315.0	84.21	58.39	46.13	36.68	31.05	27.79	25.26	24.92	22.78
360.0	87.30	60.41	46.18	37.13	32.06	29.53	27.17	26.94	23.18
C/ $\gamma$ (°)	90.0								
0.0	7.37								
45.0	9.96								
90.0	10.91								
135.0	12.32								
180.0	10.97								
225.0	10.74								
270.0	8.94								
315.0	6.30								
360.0	7.37								