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LumCAT: 61.0010.03

Luminaire:

Report No: NATA0100

Voltage(V): 35.1100

Test No: GC2019120518

Current(A): 0.1470

LampCAT: LUMINUS CXM-4-AC40

Power (W): 5.1600

Lamp flux(lm): 602.0

PF: 1.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

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### Photometric Results

Lumens(lm): 553.76

Efficiency(%): 91.99%

Lumens(lm)/Power(W): 107.32

Central intensity(cd): 1858.500

Maximum intensity(cd): 1858.500

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

Beam Angle(50%Imax): [C0/180]Total=25.4

[C90/270]Total=25.4

Field angle(10%Imax): [C0/180]Total=51.3

[C90/270]Total=51.3

Maximum s/h(1/2): C0\_180=0.43 C90\_270=0.43

Maximum s/h(1/4): C0\_180=0.45 C90\_270=0.45

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 91.99%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 94.270%

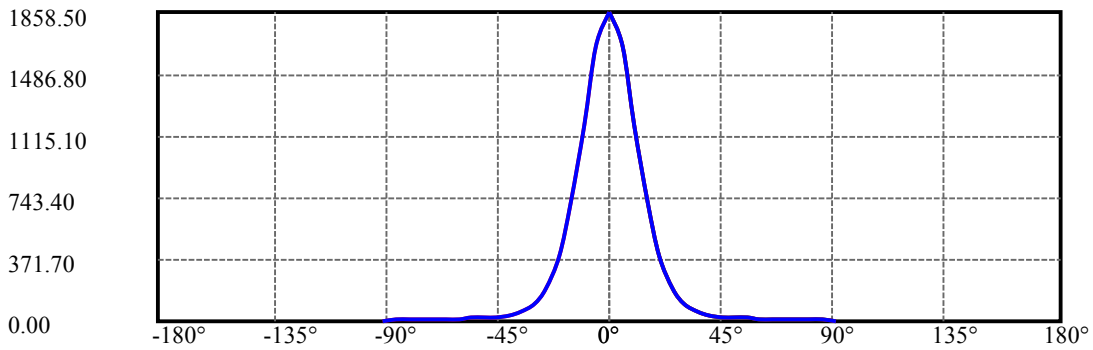
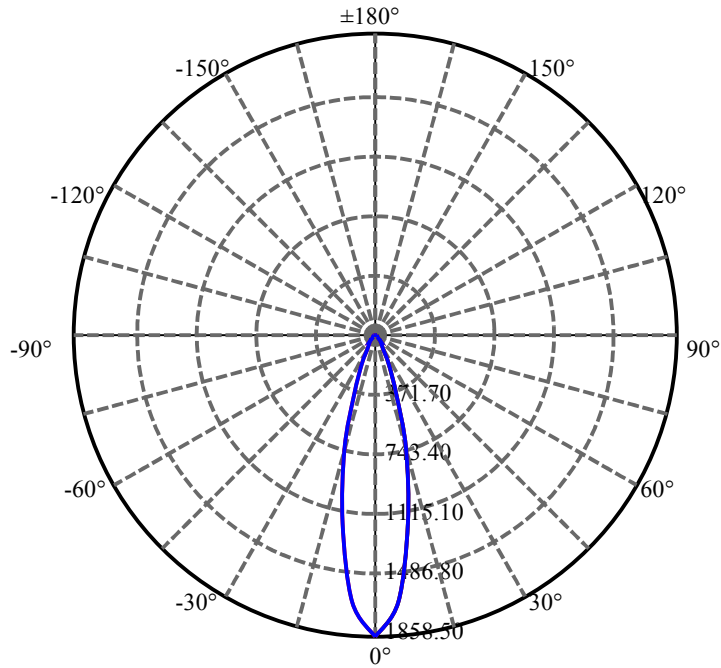
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1858.500	0.000	0	.000%	.000%
5.0	1650.867	41.953	41.953	6.969%	7.576%
10.0	1179.028	101.234	143.188	16.816%	25.858%
15.0	717.335	112.491	255.679	18.686%	46.172%
20.0	388.835	91.164	346.843	15.144%	62.635%
25.0	198.570	61.608	408.451	10.234%	73.760%
30.0	99.204	37.683	446.134	6.260%	80.565%
35.0	54.935	22.698	468.832	3.770%	84.664%
40.0	36.499	15.255	484.087	2.534%	87.419%
45.0	26.698	11.701	495.789	1.944%	89.532%
50.0	21.938	9.827	505.616	1.632%	91.307%
55.0	18.225	8.733	514.349	1.451%	92.884%
60.0	14.991	7.678	522.027	1.275%	94.270%
65.0	12.642	6.718	528.744	1.116%	95.483%
70.0	10.526	5.866	534.61	.974%	96.543%
75.0	8.852	5.065	539.676	.841%	97.457%
80.0	9.942	5.029	544.704	.835%	98.365%
85.0	9.759	5.353	550.058	.889%	99.332%
90.0	3.748	3.698	553.756	.614%	100.000%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	446.13	74.11%	80.57%
0-40	484.09	80.41%	87.42%
0-60	522.03	86.72%	94.27%
0-90	550.06	91.37%	99.33%
0-120	550.06	91.37%	99.33%
0-180	553.76	91.99%	100.00%
60-90	35.71	5.93%	6.45%
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%
0-29.58	443.00	73.59%	80.00%

## ZONAL LUMEN SUMMARY

0-10	143.19
10-20	203.65
20-30	99.29
30-40	37.95
40-50	21.53
50-60	16.41
60-70	12.58
70-80	10.09
80-90	5.35
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: —————

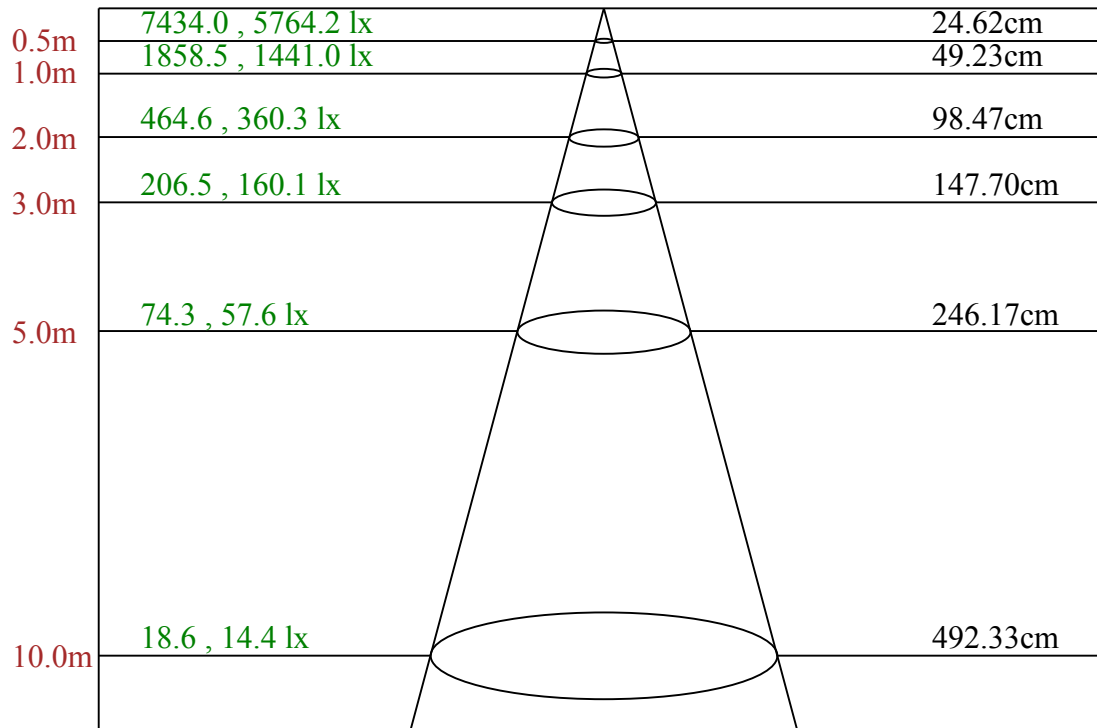
C90/C270: —————

Field angle(10%Imax):C0/180Left:25.6 Right:25.6

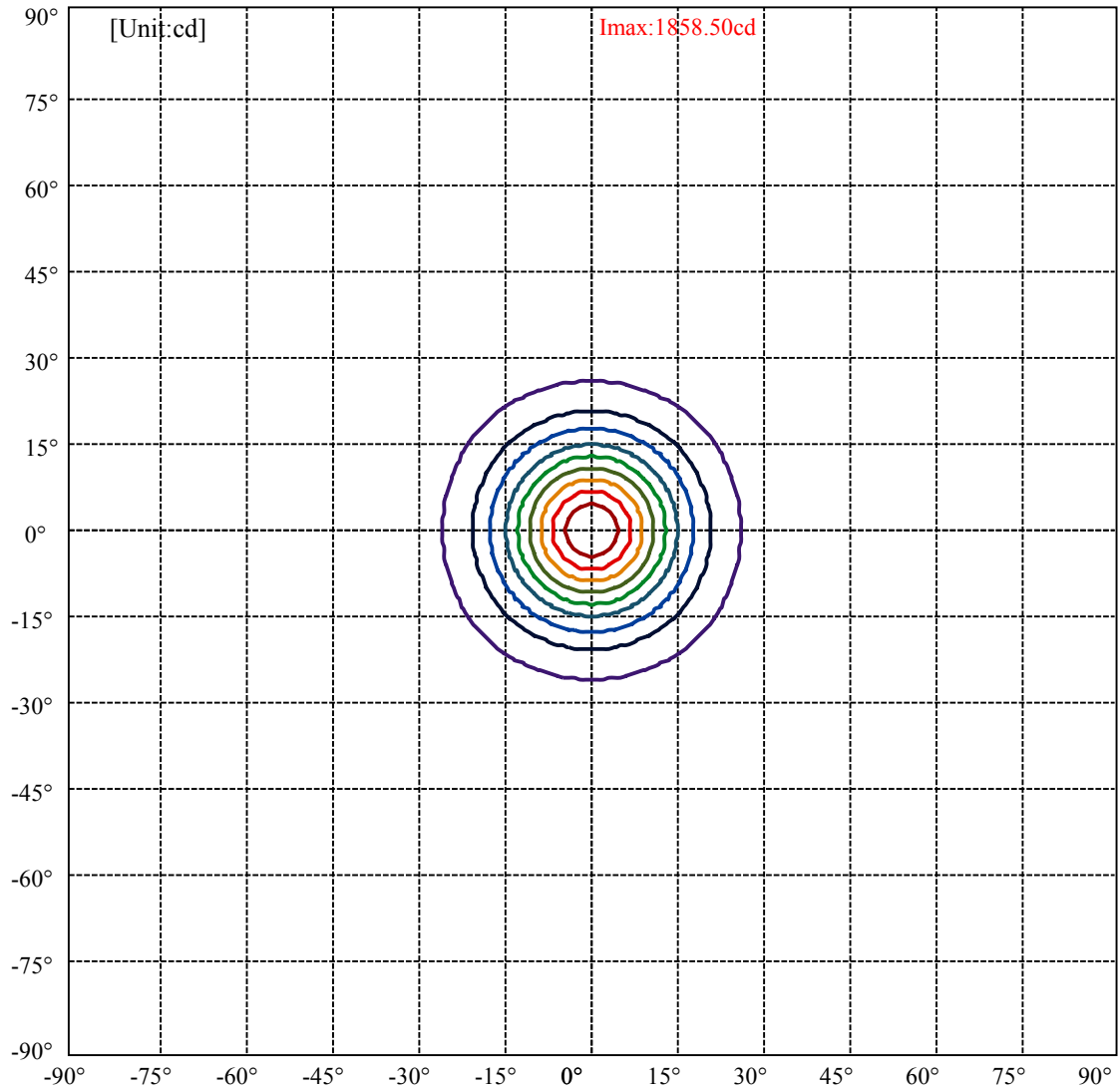
:C90/270Left:25.6 Right:25.6

Beam Angle(50%Imax):C0/180Left:12.7 Right:12.7

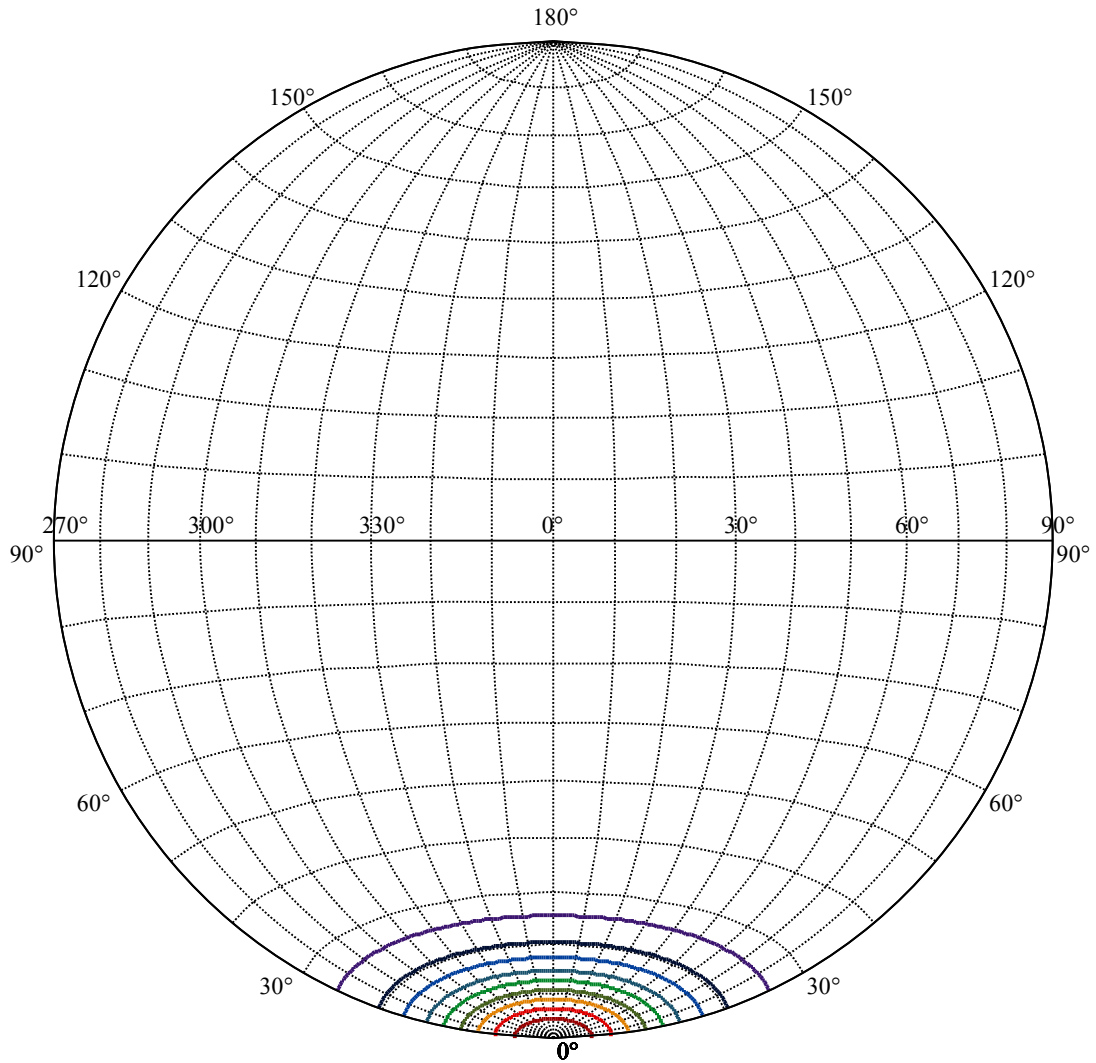
:C90/270Left:12.7 Right:12.7



Max , Ave      Beam angle of C0 plane 27.66



(10%Imax) 185.85	—
(20%Imax) 371.7	—
(30%Imax) 557.55	—
(40%Imax) 743.4	—
(50%Imax) 929.25	—
(60%Imax) 1115.1	—
(70%Imax) 1300.95	—
(80%Imax) 1486.8	—
(90%Imax) 1672.65	—



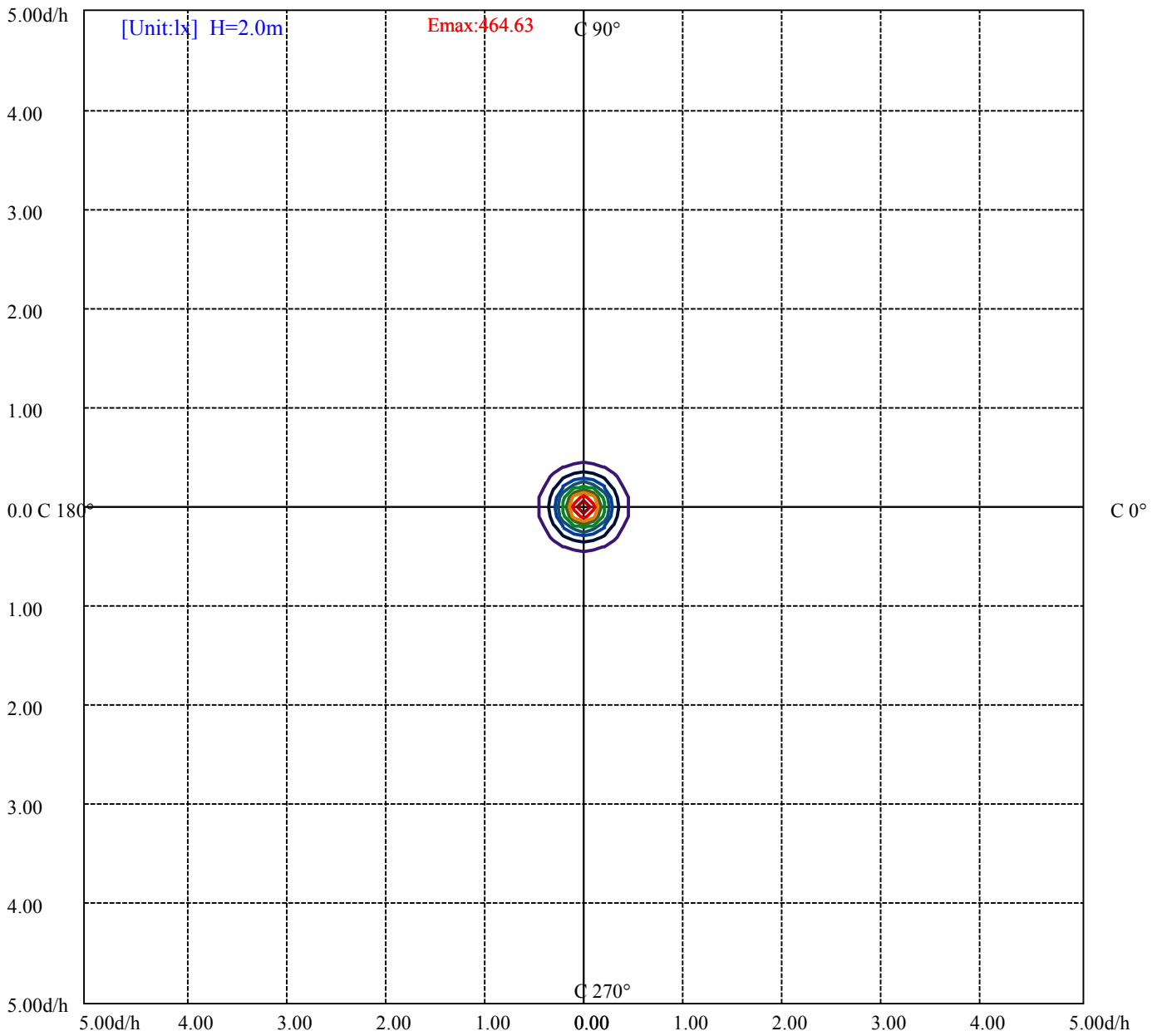
House

[Unit:cd]

Road

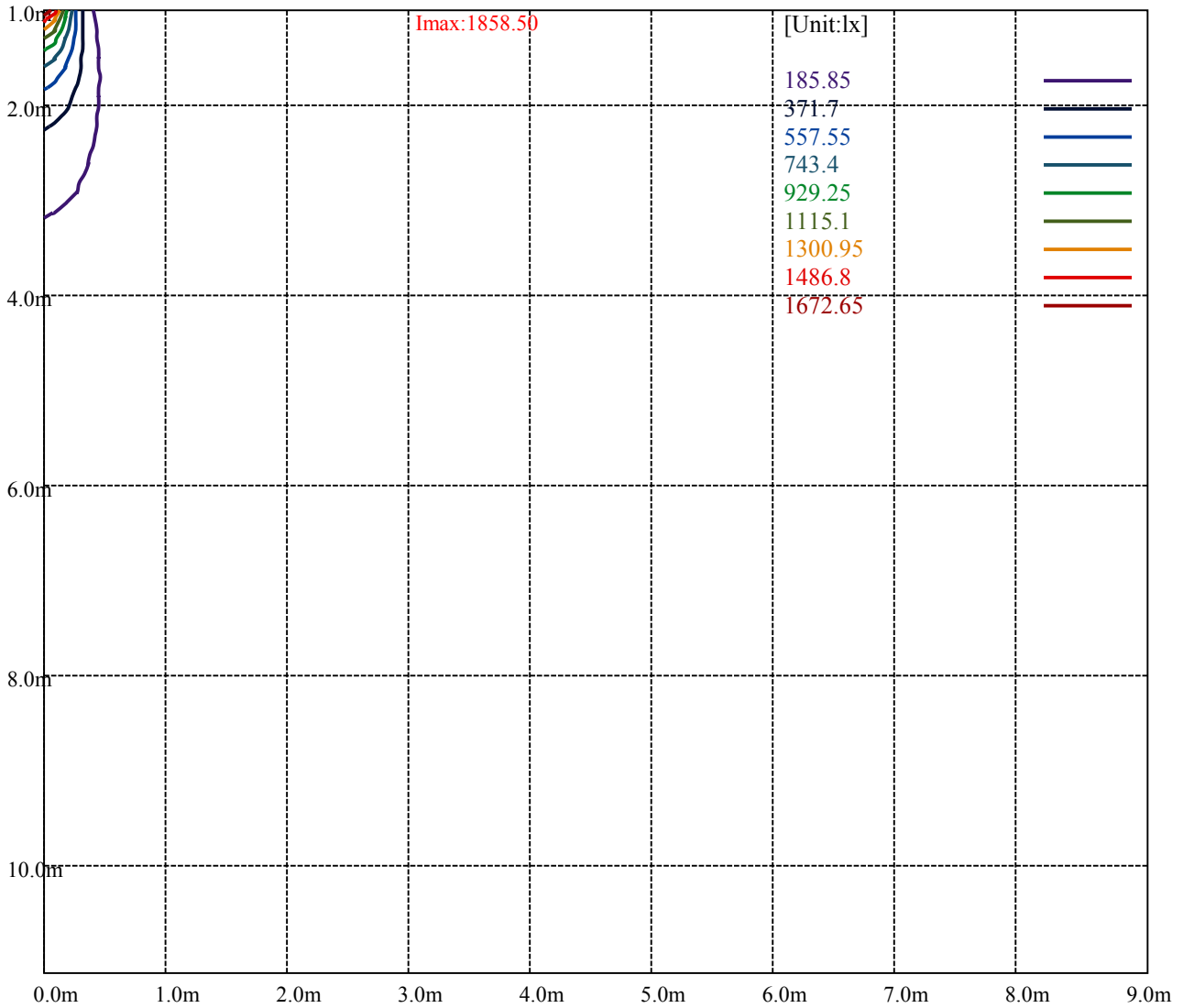
**Imax:1858.50**

(10%Imax) 185.85	—
(20%Imax) 371.7	—
(30%Imax) 557.55	—
(40%Imax) 743.4	—
(50%Imax) 929.25	—
(60%Imax) 1115.1	—
(70%Imax) 1300.95	—
(80%Imax) 1486.8	—
(90%Imax) 1672.65	—



(10%Emax) 46.46225	—
(20%Emax) 92.92475	—
(30%Emax) 139.387	—
(40%Emax) 185.8495	—
(50%Emax) 232.3118	—
(60%Emax) 278.775	—
(70%Emax) 325.2375	—
(80%Emax) 371.7	—
(90%Emax) 418.16	—





Luminance Table

$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

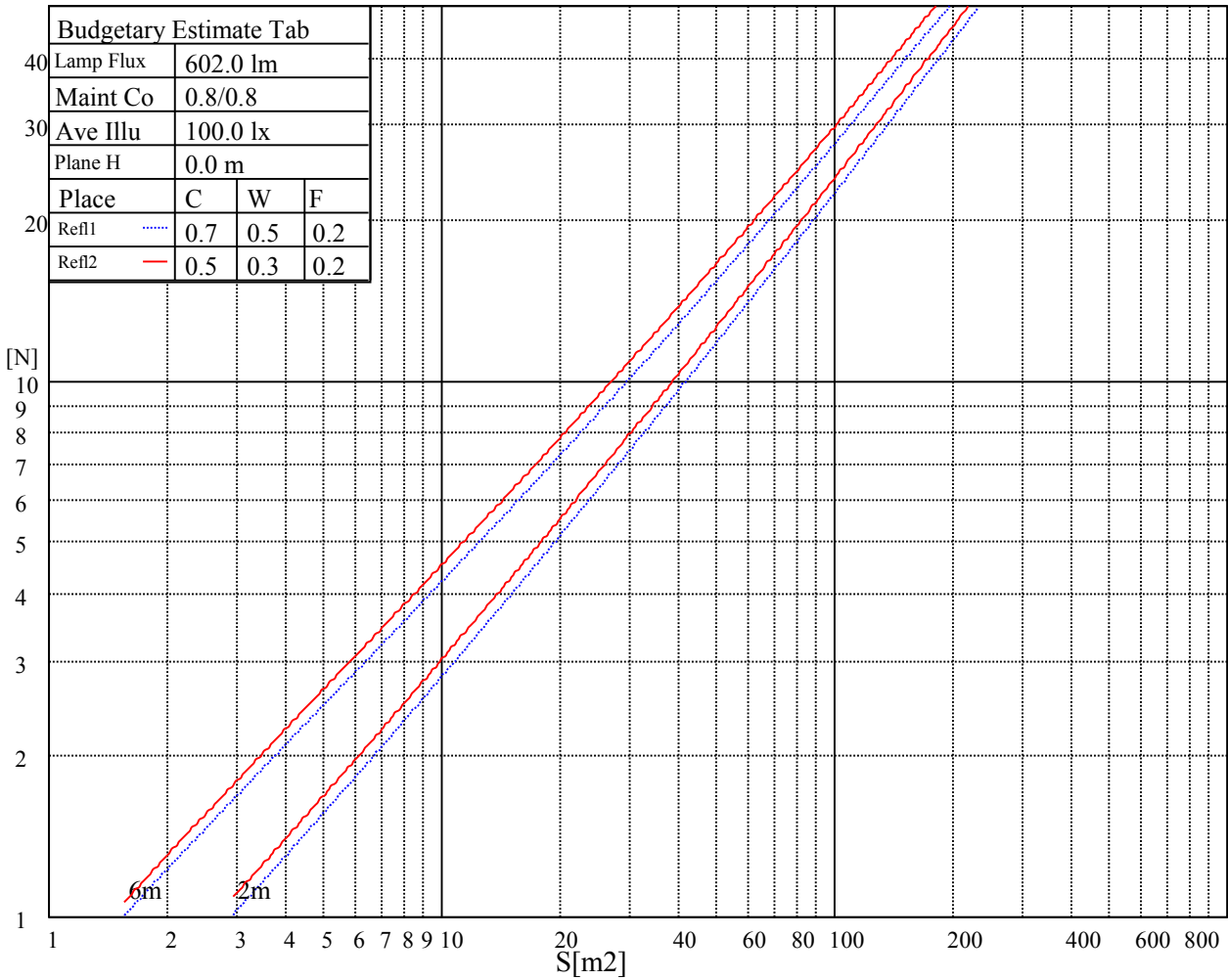
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

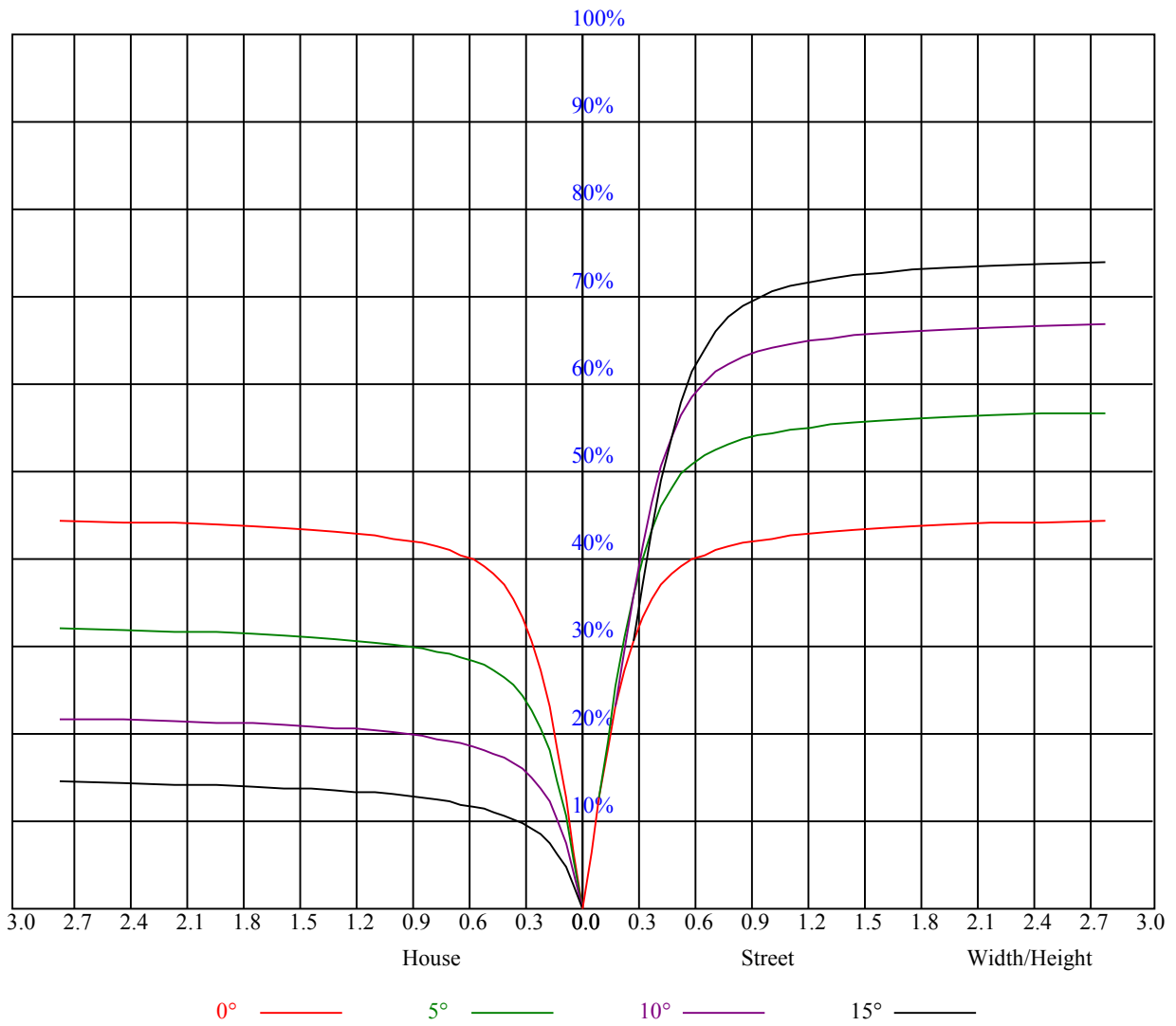
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.10	1.10	1.10	1.07	1.07	1.07	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.01	0.99	0.97	0.99	0.97	0.95	0.96	0.94	0.92	0.92	0.91	0.90	0.89	0.88	0.87	0.85
2	0.95	0.91	0.88	0.93	0.90	0.87	0.90	0.88	0.85	0.88	0.85	0.83	0.85	0.83	0.82	0.80
3	0.89	0.85	0.81	0.88	0.84	0.81	0.86	0.82	0.80	0.83	0.81	0.78	0.81	0.79	0.77	0.76
4	0.85	0.80	0.76	0.84	0.79	0.76	0.82	0.78	0.75	0.80	0.77	0.74	0.78	0.75	0.73	0.72
5	0.80	0.76	0.72	0.80	0.75	0.72	0.78	0.74	0.71	0.77	0.73	0.70	0.75	0.72	0.70	0.69
6	0.77	0.72	0.68	0.76	0.72	0.68	0.75	0.71	0.68	0.74	0.70	0.67	0.72	0.69	0.67	0.66
7	0.74	0.69	0.65	0.73	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.64	0.70	0.67	0.64	0.63
8	0.71	0.66	0.63	0.70	0.66	0.62	0.69	0.65	0.62	0.68	0.65	0.62	0.68	0.64	0.62	0.61
9	0.68	0.63	0.60	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.58
10	0.66	0.61	0.58	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.56



## 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	1863.00	1702.69	1290.38	825.75	491.63	286.88	135.45	72.79	47.14
45.0	1855.69	1663.31	1260.00	817.88	498.94	291.38	154.41	87.02	57.26
90.0	1857.38	1611.56	1094.34	722.14	411.69	212.23	113.79	64.41	44.16
135.0	1857.94	1685.25	1222.31	714.94	370.13	170.16	80.21	40.67	28.80
180.0	1863.00	1589.06	1109.53	616.89	300.43	139.05	67.67	39.54	26.10
225.0	1855.69	1640.25	1094.18	640.41	316.13	158.12	83.14	51.75	33.69
270.0	1857.38	1722.38	1261.69	731.81	370.13	173.53	84.88	46.41	29.87
315.0	1857.94	1592.44	1099.80	668.87	351.62	157.22	74.08	36.90	24.98
360.0	1863.00	1702.69	1290.38	825.75	491.63	286.88	135.45	72.79	47.14
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	35.72	29.53	21.15	14.85	12.26	10.63	8.72	8.21	8.44
45.0	37.46	26.94	19.01	14.23	11.70	9.79	8.27	13.73	15.02
90.0	34.65	28.35	20.48	15.02	12.32	9.96	7.76	7.71	7.65
135.0	23.74	21.54	20.36	19.01	15.69	12.04	9.06	7.93	7.82
180.0	19.41	16.88	16.43	15.53	13.39	10.74	8.83	8.72	8.49
225.0	19.80	14.74	13.67	11.08	9.73	8.66	9.51	16.82	14.96
270.0	21.38	17.89	16.82	15.47	13.95	11.81	9.73	8.94	8.66
315.0	21.43	19.63	17.89	14.74	12.09	10.58	8.94	7.48	7.03
360.0	35.72	29.53	21.15	14.85	12.26	10.63	8.72	8.21	8.44
C/ $\gamma$ (°)	90.0								
0.0	4.39								
45.0	3.26								
90.0	2.87								
135.0	3.43								
180.0	3.60								
225.0	4.11								
270.0	4.16								
315.0	4.16								
360.0	4.39								