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## Nata

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LumCAT: LN01D04536DA-N

Luminaire: 97.70.234.00

Report No: 210106-B015

Test No: 210106-C015

LampCAT: SEOUL SAWX10 LES9.8

Lamp flux(lm): 1759.0

Number of Lamps: 1

Length(mm): 92

Phm Type: C

Voltage(V): 35.4700

Current(A): 0.3810

Power (W): 13.5140

PF: 0.0000

Ballast type: DC

Width(mm): 92

Height(mm): 50

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## Photometric Results

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Lumens(lm): 1616.64

Efficiency(%): 91.91%

Lumens(lm)/Power(W): 119.63

Central intensity(cd): 3070.125

Maximum intensity(cd): 3070.125

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

Beam Angle(50%Imax): [C0/180]Total=41.1

[C90/270]Total=41.1

Field angle(10%Imax): [C0/180]Total=66.4

[C90/270]Total=66.4

Maximum s/h(1/2): C0\_180=0.68 C90\_270=0.68

Maximum s/h(1/4): C0\_180=0.64 C90\_270=0.64

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 91.91%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 96.828%

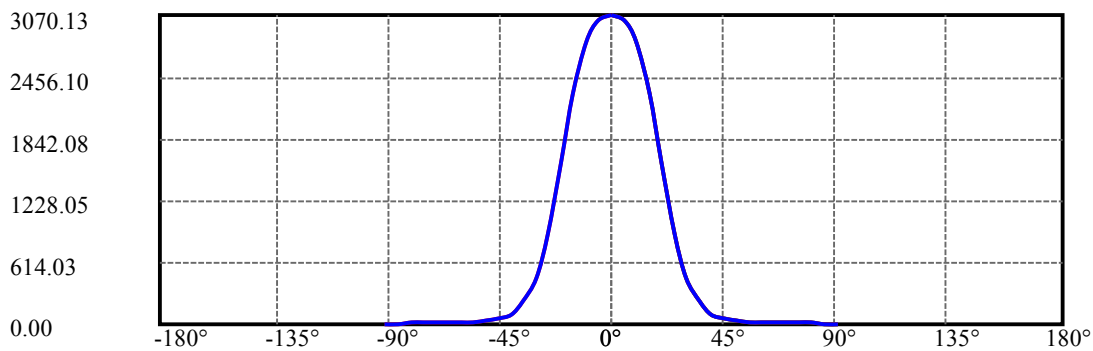
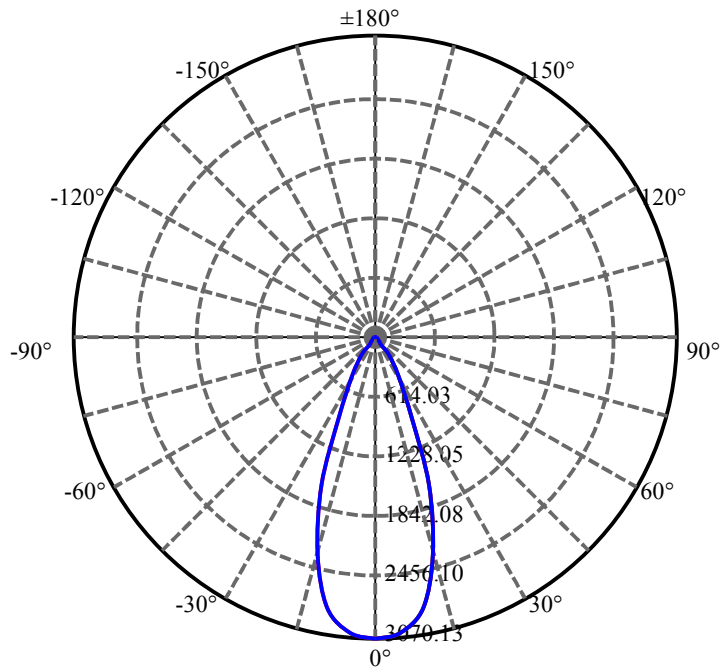
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3070.125	0.000	0	.000%	.000%
5.0	3018.727	72.790	72.79	4.138%	4.503%
10.0	2804.836	208.327	281.118	11.844%	17.389%
15.0	2294.930	302.515	583.632	17.198%	36.101%
20.0	1612.336	322.014	905.646	18.307%	56.020%
25.0	900.837	263.585	1169.231	14.985%	72.325%
30.0	450.745	171.044	1340.275	9.724%	82.905%
35.0	225.232	99.542	1439.818	5.659%	89.062%
40.0	102.171	54.625	1494.442	3.105%	92.441%
45.0	55.603	29.213	1523.655	1.661%	94.248%
50.0	36.134	18.537	1542.192	1.054%	95.395%
55.0	24.553	13.195	1555.388	.750%	96.211%
60.0	18.598	9.974	1565.362	.567%	96.828%
65.0	16.376	8.502	1573.864	.483%	97.354%
70.0	18.647	8.868	1582.732	.504%	97.902%
75.0	21.628	10.527	1593.259	.598%	98.553%
80.0	19.336	10.961	1604.22	.623%	99.231%
85.0	9.436	7.818	1612.038	.444%	99.715%
90.0	7.390	4.607	1616.645	.262%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1340.28	76.20%	82.90%
0-40	1494.44	84.96%	92.44%
0-60	1565.36	88.99%	96.83%
0-90	1612.04	91.65%	99.72%
0-120	1612.04	91.65%	99.72%
0-180	1616.64	91.91%	100.00%
60-90	56.65	3.22%	3.50%
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%
0-28.63	1293.32	73.53%	80.00%

ZONAL LUMEN SUMMARY

0-10	281.12
10-20	624.53
20-30	434.63
30-40	154.17
40-50	47.75
50-60	23.17
60-70	17.37
70-80	21.49
80-90	7.82
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: ———

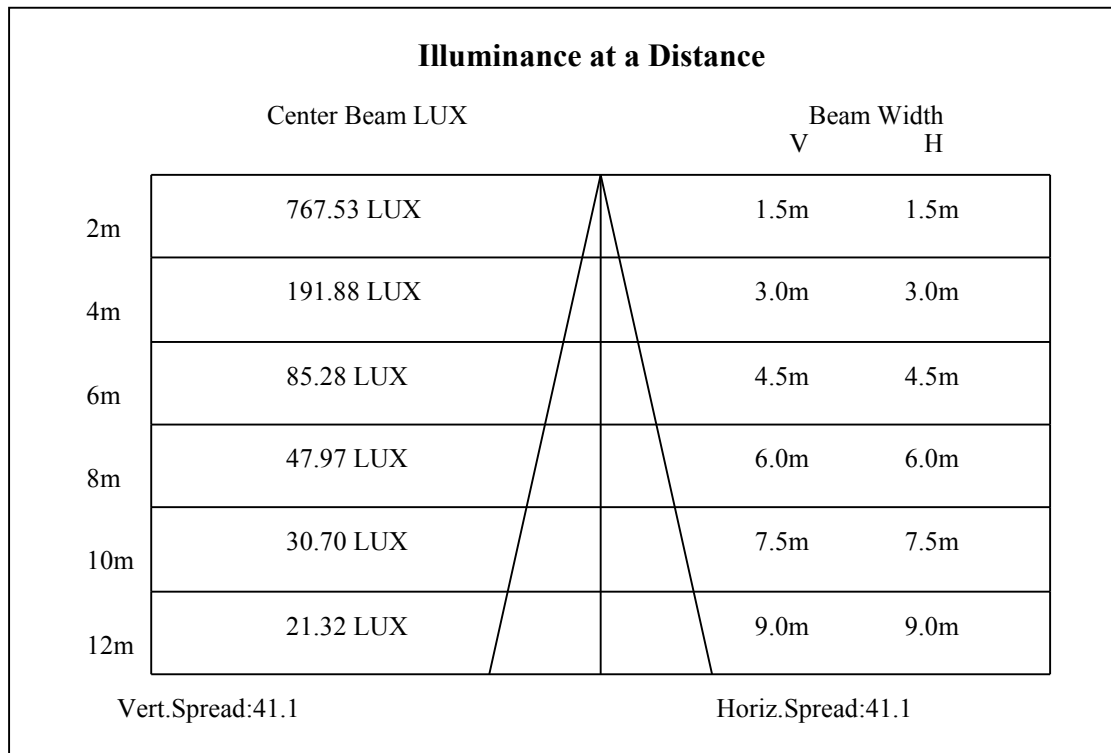
C90/C270: ———

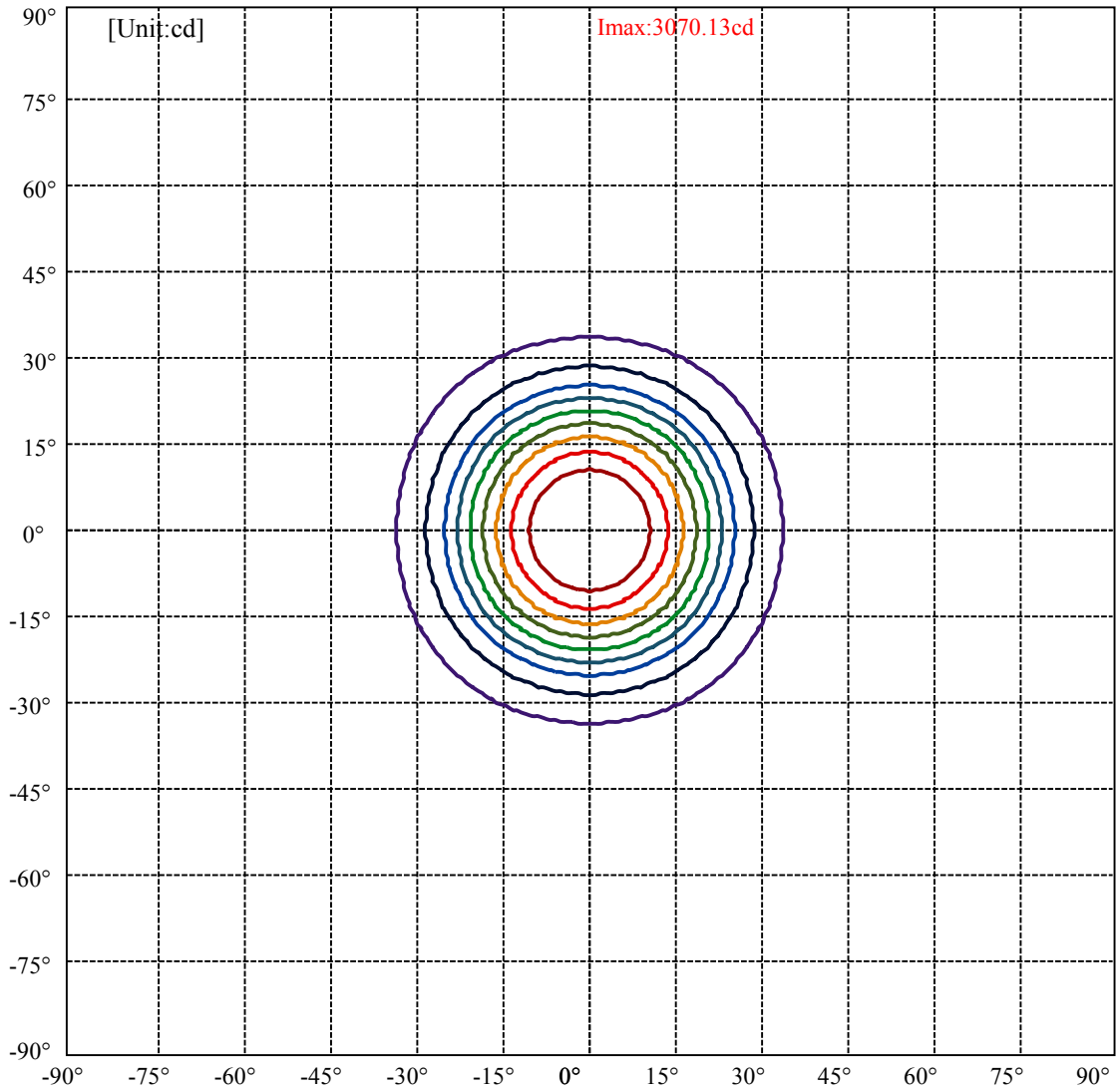
Field angle(10%Imax):C0/180Left:33.2 Right:33.2

:C90/270Left:33.2 Right:33.2

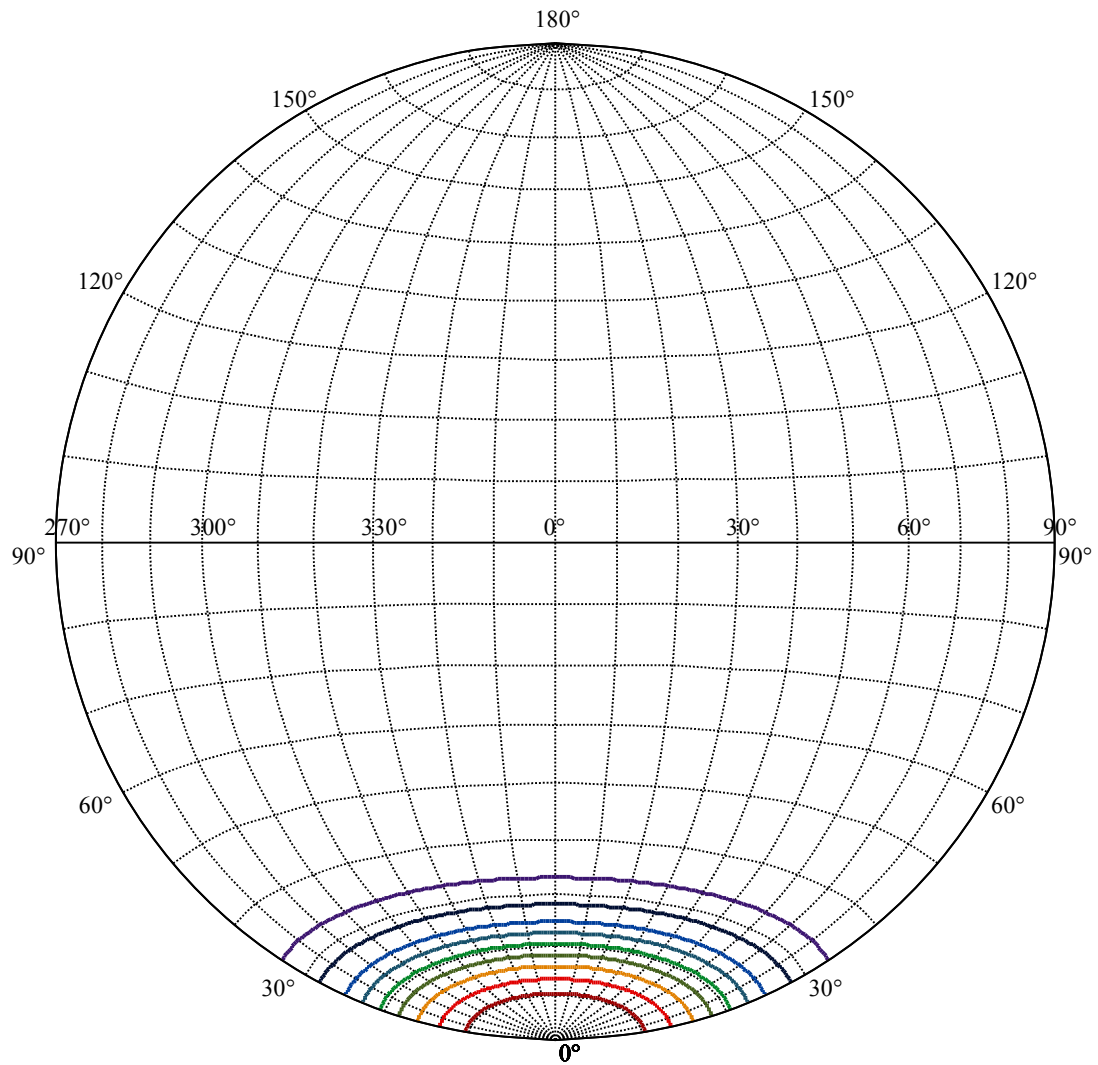
Beam Angle(50%Imax):C0/180Left:20.5 Right:20.5

:C90/270Left:20.5 Right:20.5





(10%Imax) 307.013	—
(20%Imax) 614.025	—
(30%Imax) 921.037	—
(40%Imax) 1228.05	—
(50%Imax) 1535.06	—
(60%Imax) 1842.07	—
(70%Imax) 2149.09	—
(80%Imax) 2456.1	—
(90%Imax) 2763.11	—



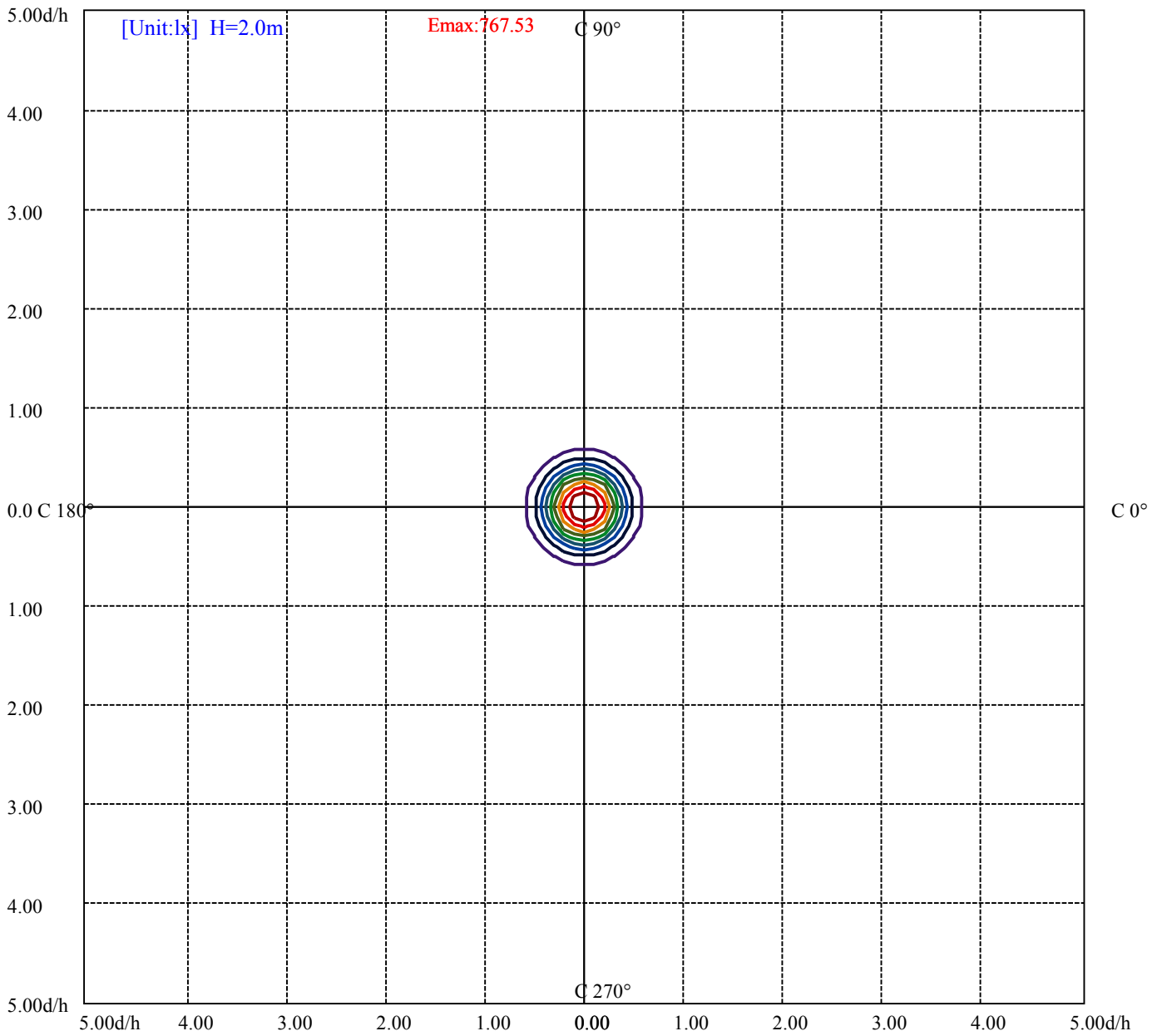
House

[Unit:cd]

Road

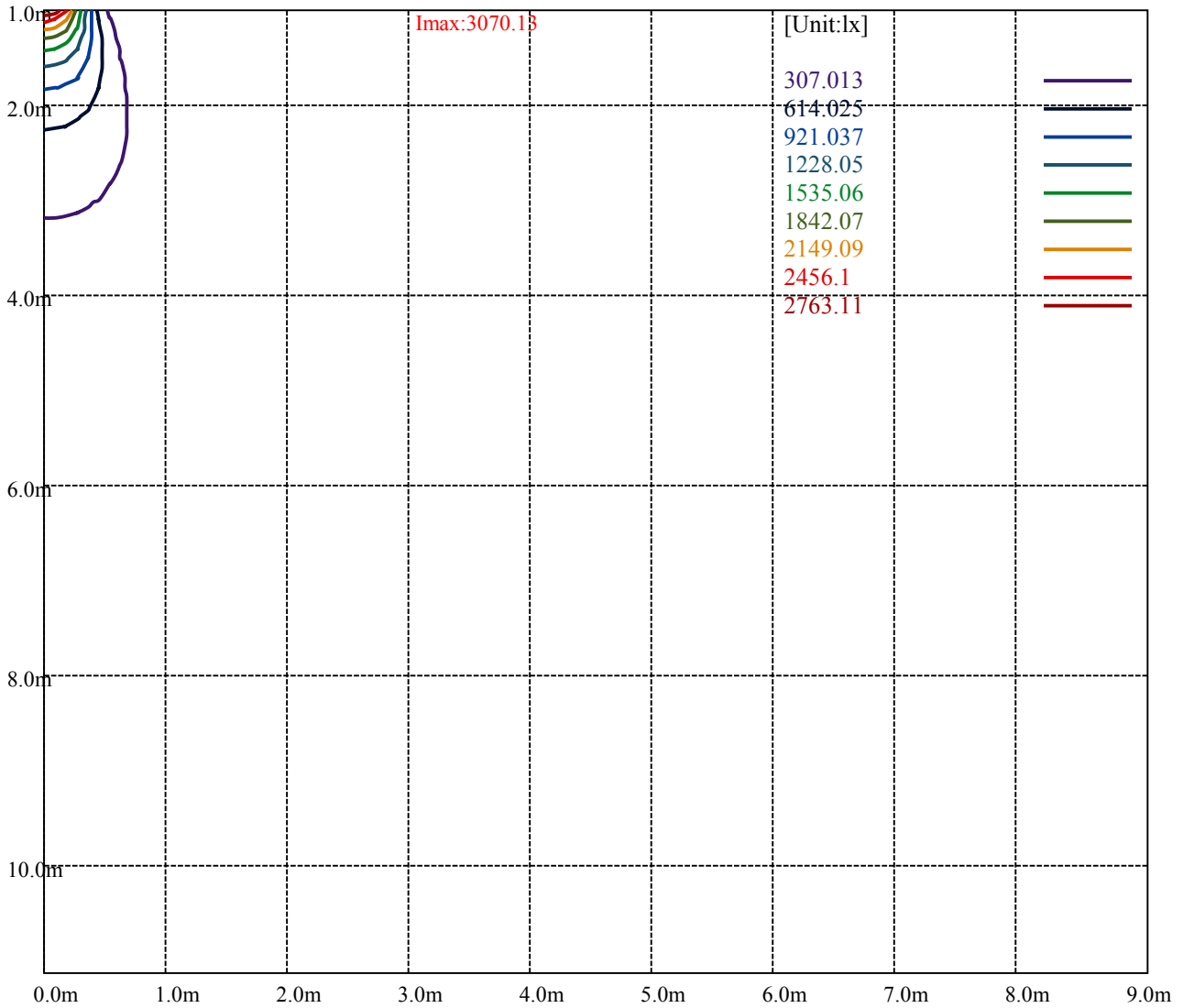
**Imax:3070.13**

(10%Imax) 307.013	—
(20%Imax) 614.025	—
(30%Imax) 921.037	—
(40%Imax) 1228.05	—
(50%Imax) 1535.06	—
(60%Imax) 1842.07	—
(70%Imax) 2149.09	—
(80%Imax) 2456.1	—
(90%Imax) 2763.11	—



- (10%Emax) 76.753
- (20%Emax) 153.5063
- (30%Emax) 230.2592
- (40%Emax) 307.0125
- (50%Emax) 383.765
- (60%Emax) 460.5175
- (70%Emax) 537.2725
- (80%Emax) 614.025
- (90%Emax) 690.7775





Luminance Table

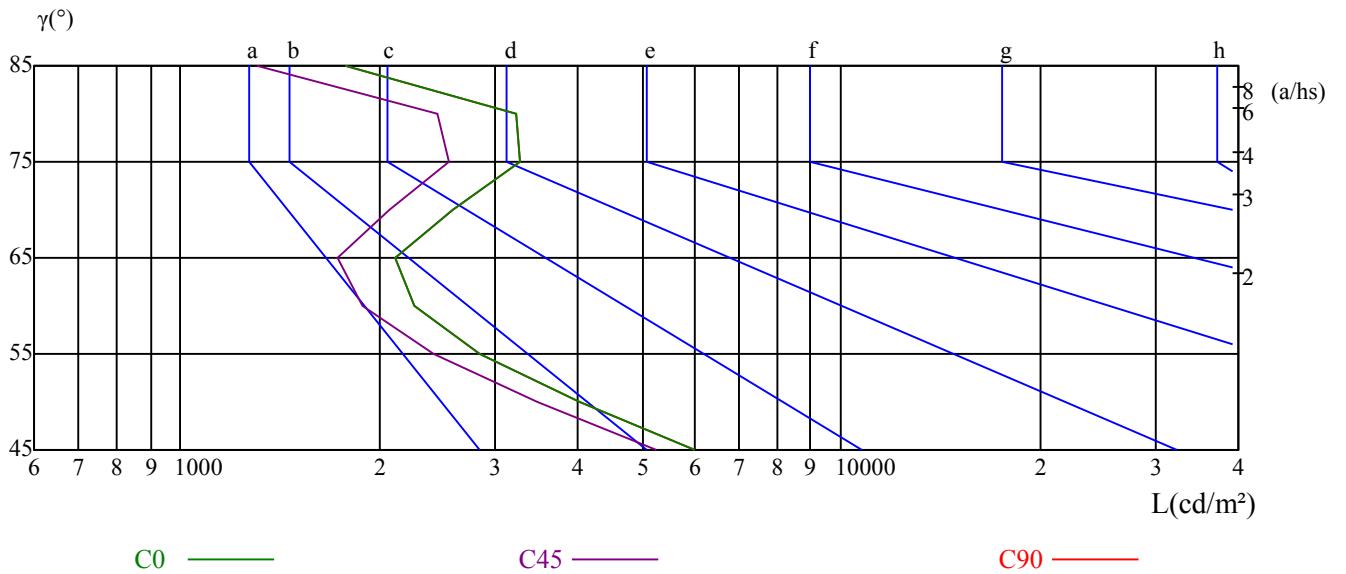
$\gamma$	45	50	55	60	65	70	75	80	85
C0	6019	4031	2847	2264	2114	2584	3260	3223	1774
C45	5253	3466	2411	1885	1729	2070	2552	2455	1307
C90	6019	4031	2847	2264	2114	2584	3260	3223	1774

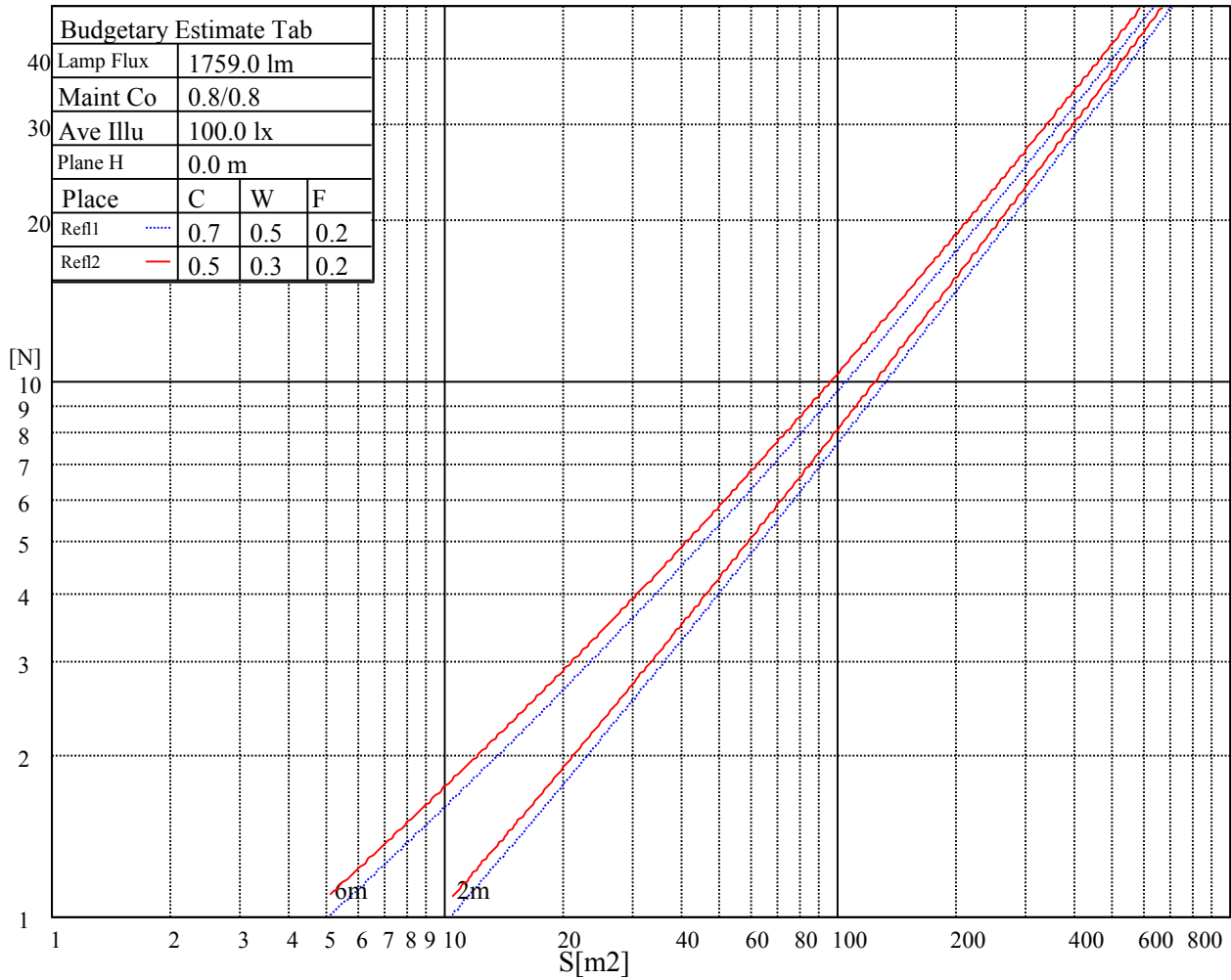
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4578	4578	4578	9873	9873	9873	12791	12791	12791

Glare Table

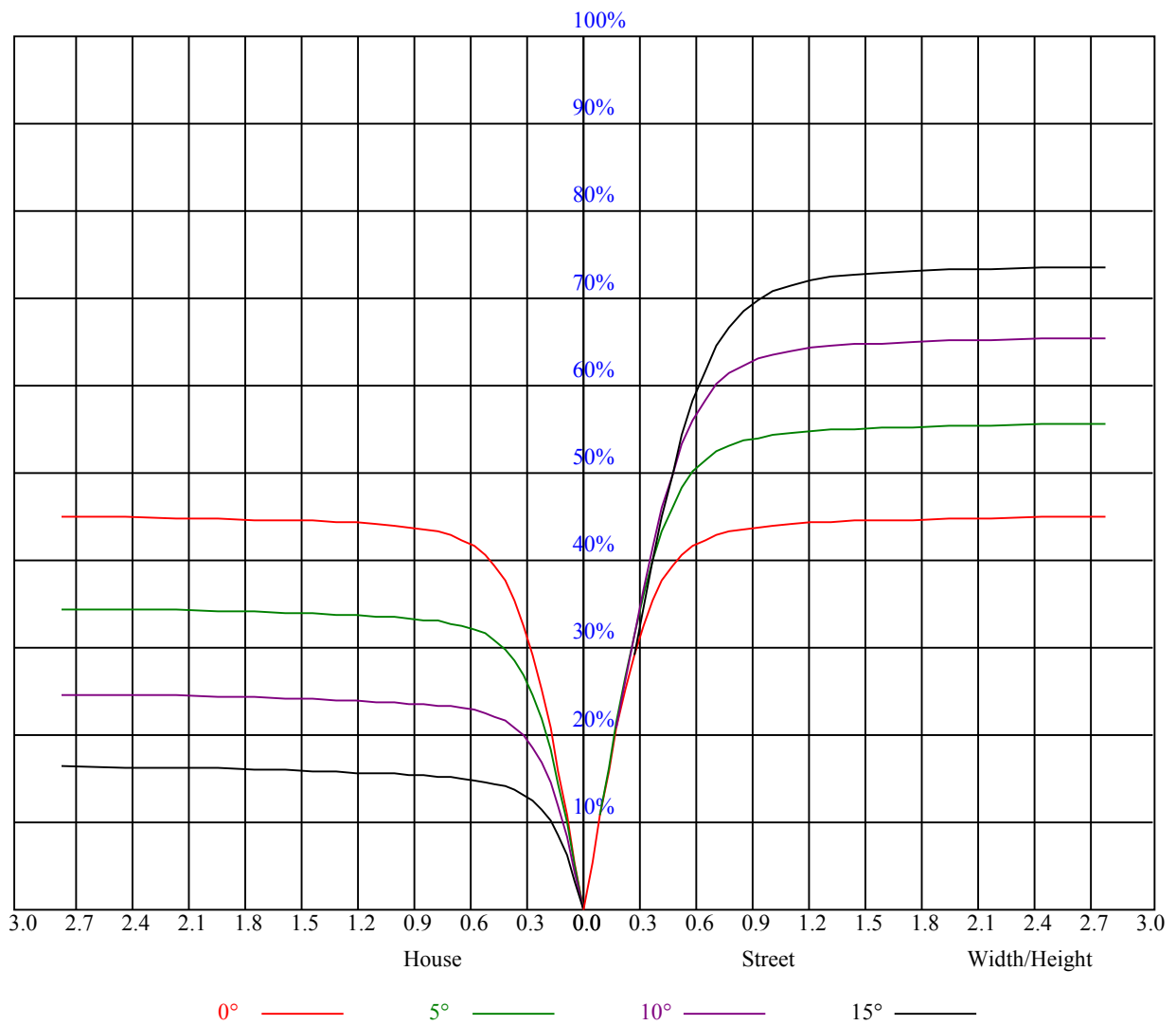
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.09	1.09	1.09	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	1.02	1.00	0.97	1.00	0.98	0.96	0.96	0.94	0.93	0.93	0.91	0.90	0.90	0.89	0.88	0.86
2	0.95	0.92	0.89	0.94	0.90	0.88	0.91	0.88	0.86	0.88	0.86	0.84	0.86	0.84	0.82	0.81
3	0.90	0.85	0.82	0.88	0.84	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.79	0.78	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	0.76	0.73	0.72
5	0.80	0.75	0.72	0.79	0.75	0.71	0.78	0.74	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.68
6	0.76	0.71	0.68	0.76	0.71	0.67	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.65
7	0.73	0.68	0.64	0.72	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.63	0.69	0.66	0.63	0.62
8	0.69	0.64	0.61	0.69	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.60	0.66	0.63	0.60	0.59
9	0.66	0.61	0.58	0.66	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.58	0.64	0.60	0.58	0.56
10	0.63	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.58	0.55	0.54



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	3069.56	2995.31	2742.19	2233.69	1564.31	870.19	432.00	233.83	97.65
45.0	3075.75	2994.19	2755.13	2223.56	1555.31	852.19	423.00	194.91	98.78
90.0	3069.56	3020.06	2799.00	2273.06	1536.19	865.35	425.64	192.26	100.24
135.0	3065.63	3056.06	2921.06	2485.69	1836.00	1068.19	541.69	285.75	115.93
180.0	3069.56	3026.25	2810.81	2310.19	1632.94	912.94	455.96	213.64	101.87
225.0	3075.75	3045.94	2837.25	2266.88	1627.88	899.61	450.34	211.84	104.57
270.0	3069.56	3030.19	2856.94	2422.69	1689.75	951.75	495.00	289.13	109.35
315.0	3065.63	2981.81	2716.31	2143.69	1456.31	786.49	382.33	180.51	88.99
360.0	3069.56	2995.31	2742.19	2233.69	1564.31	870.19	432.00	233.83	97.65
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	54.39	36.11	24.53	18.51	15.02	12.71	11.25	10.07	8.27
45.0	54.90	36.17	24.69	18.84	15.36	13.16	11.76	10.58	8.94
90.0	55.07	35.27	24.41	18.51	15.30	13.78	15.64	13.95	8.72
135.0	59.51	38.14	25.20	18.84	16.48	30.71	45.00	46.41	13.56
180.0	56.19	37.46	25.20	18.90	15.47	12.94	11.36	10.01	8.44
225.0	57.15	37.07	25.03	18.90	15.58	13.28	11.64	10.46	9.28
270.0	58.73	37.46	25.20	18.96	15.53	13.95	16.59	16.26	9.17
315.0	48.88	31.39	22.16	17.33	22.28	38.64	49.78	36.96	9.11
360.0	54.39	36.11	24.53	18.51	15.02	12.71	11.25	10.07	8.27
C/ $\gamma$ (°)	90.0								
0.0	7.14								
45.0	7.71								
90.0	7.43								
135.0	7.20								
180.0	7.20								
225.0	7.82								
270.0	7.37								
315.0	7.26								
360.0	7.14								