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Nata

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LumCAT: 3-1698-N  
Luminaire: 92.70.045.00+92.70.089.00  
Report No: NT2017111309  
Test No: nata-0100  
LampCAT: CREE CXA2520  
Lamp flux(lm): 2164.0  
Number of Lamps: 1  
Length(mm): 81  
Phm Type: C

Voltage(V): 35.3000  
Current(A): 0.7000  
Power (W): 24.7100  
PF: 0.0000  
Ballast type: DC  
Width(mm): 81  
Height(mm): 0

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Photometric Results

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Lumens(lm): 1692.52  
Efficiency(%): 78.21%  
Lumens(lm)/Power(W): 70.30  
Central intensity(cd): 7745.609  
Maximum intensity(cd): 7745.609  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=21.6  
                                  [C90/270]Total=21.6  
Field angle(10%Imax): [C0/180]Total=43.3  
                                  [C90/270]Total=43.3  
Maximum s/h(1/2): C0\_180=0.37 C90\_270=0.37  
Maximum s/h(1/4): C0\_180=0.36 C90\_270=0.36  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 80.28%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 95.624%

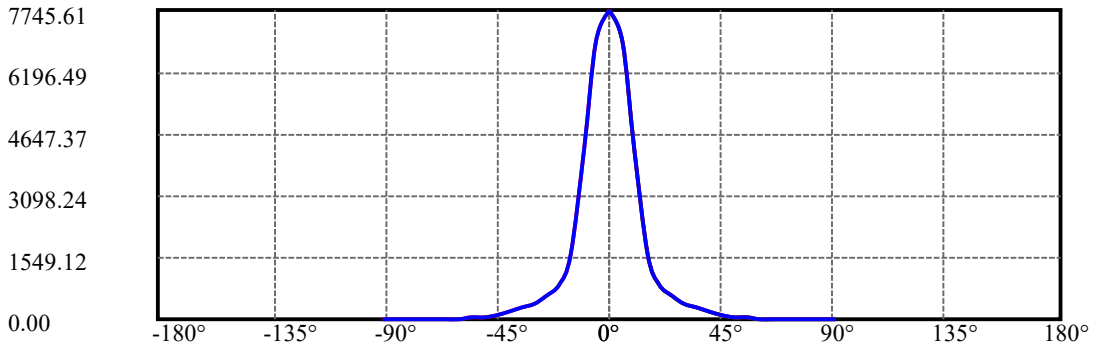
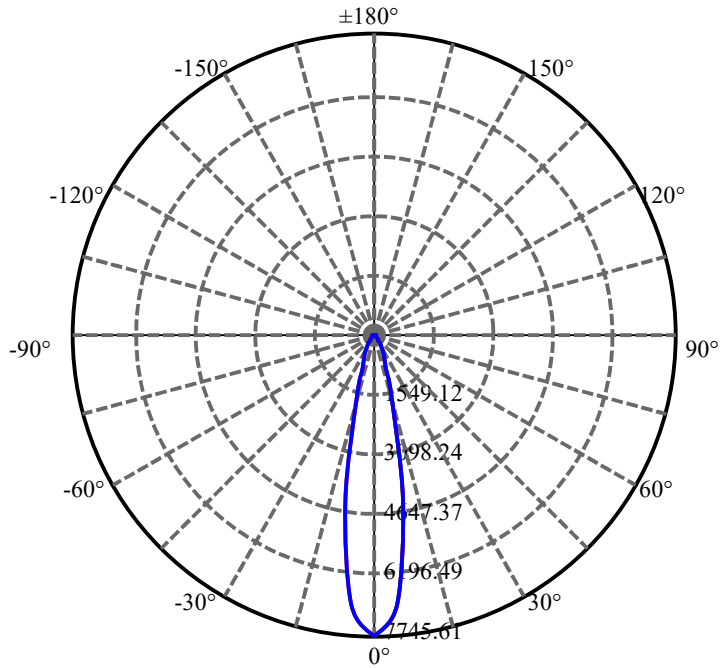
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7745.610	46.320	46.32	2.140%	2.737%
5.0	6918.456	330.518	376.838	15.273%	22.265%
10.0	4291.990	408.525	785.363	18.878%	46.402%
15.0	1622.092	230.124	1015.486	10.634%	59.999%
20.0	877.833	164.571	1180.057	7.605%	69.722%
25.0	568.712	131.744	1311.801	6.088%	77.506%
30.0	391.031	107.169	1418.97	4.952%	83.838%
35.0	266.879	83.906	1502.877	3.877%	88.795%
40.0	178.692	62.960	1565.837	2.909%	92.515%
45.0	113.925	44.157	1609.993	2.041%	95.124%
50.0	66.749	28.028	1638.021	1.295%	96.780%
55.0	33.426	15.009	1653.029	.694%	97.667%
60.0	17.212	8.171	1661.2	.378%	98.150%
65.0	13.558	6.735	1667.935	.311%	98.548%
70.0	12.099	6.232	1674.167	.288%	98.916%
75.0	11.115	5.885	1680.052	.272%	99.263%
80.0	10.530	5.684	1685.736	.263%	99.599%
85.0	8.933	4.878	1690.613	.225%	99.887%
90.0	6.951	1.905	1692.518	.088%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1418.97	65.57%	83.84%
0-40	1565.84	72.36%	92.52%
0-60	1661.20	76.77%	98.15%
0-90	1690.61	78.12%	99.89%
0-120	1690.61	78.12%	99.89%
0-180	1692.52	78.21%	100.00%
60-90	37.58	1.74%	2.22%
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%
0-26.97	1354.02	62.57%	80.00%

ZONAL LUMEN SUMMARY

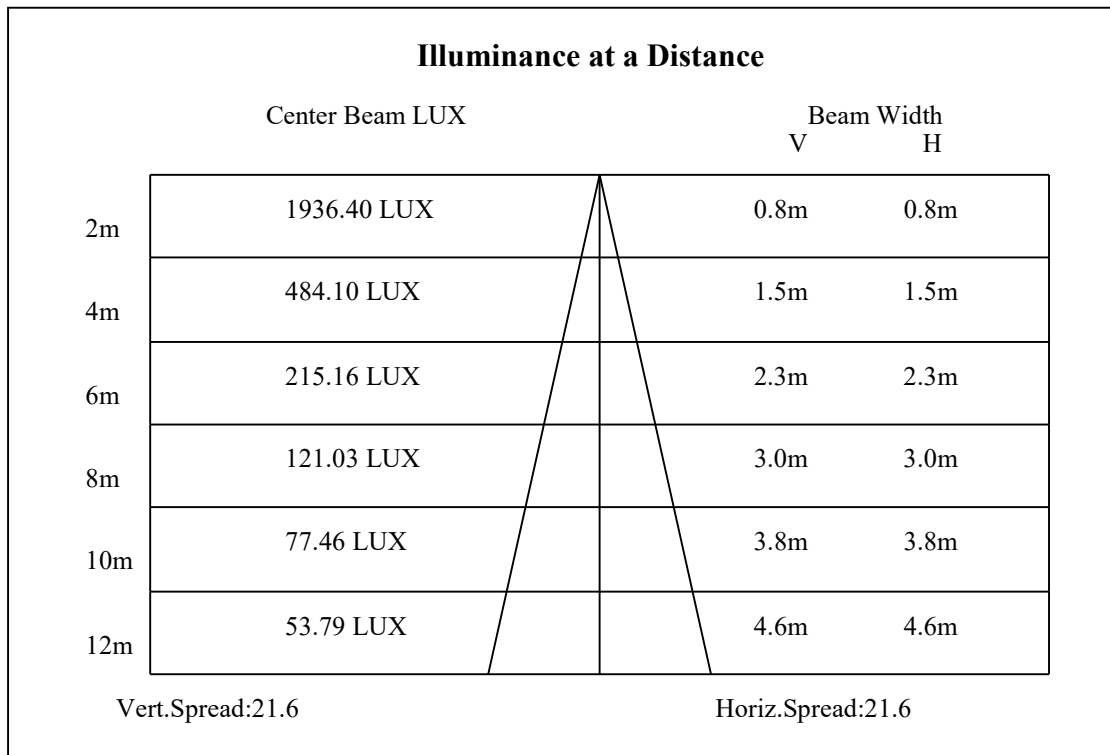
0-10	785.36
10-20	394.69
20-30	238.91
30-40	146.87
40-50	72.18
50-60	23.18
60-70	12.97
70-80	11.57
80-90	4.88
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

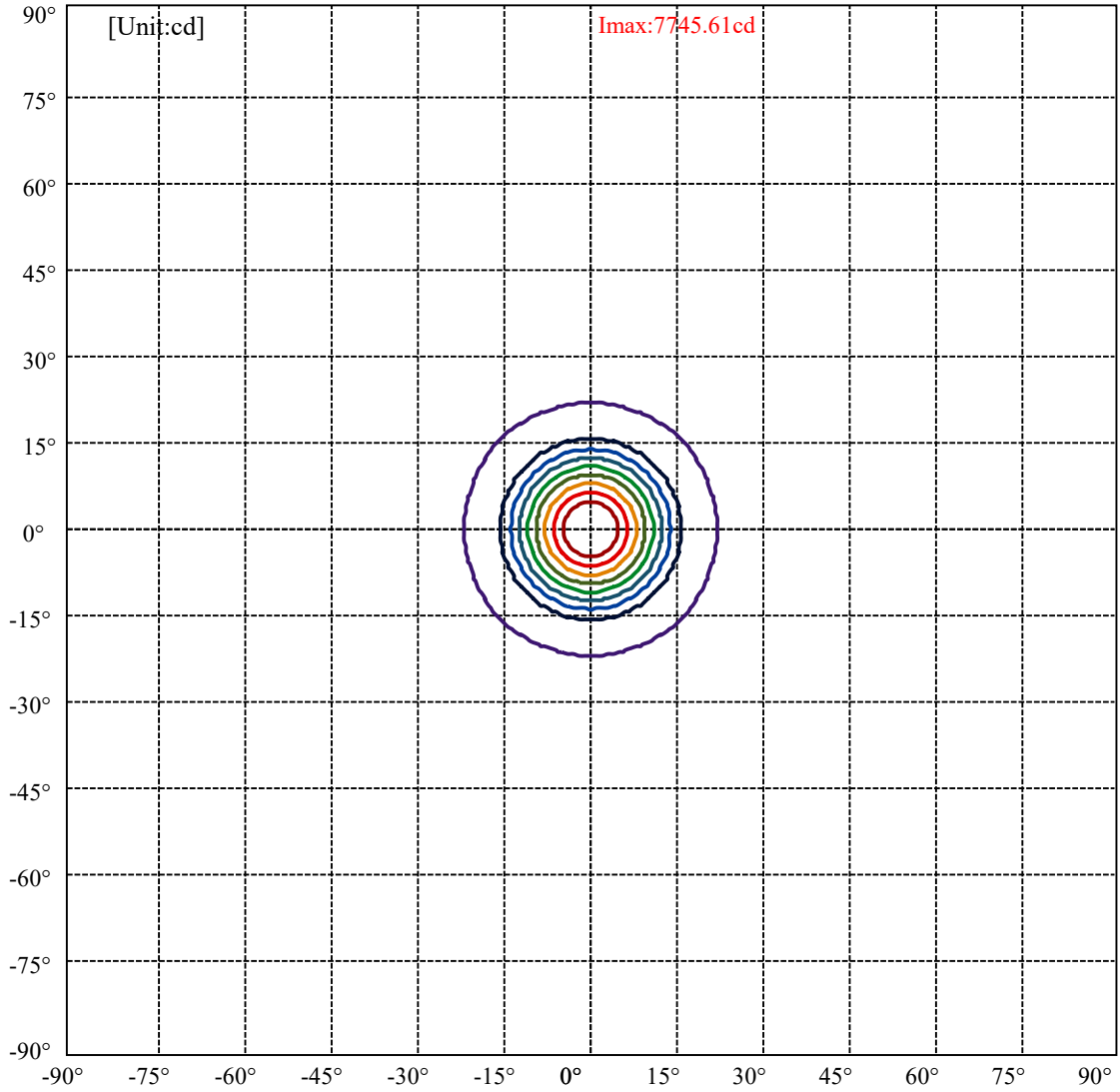


C0(Max): —————  
C0/C180: —————  
C90/C270: —————

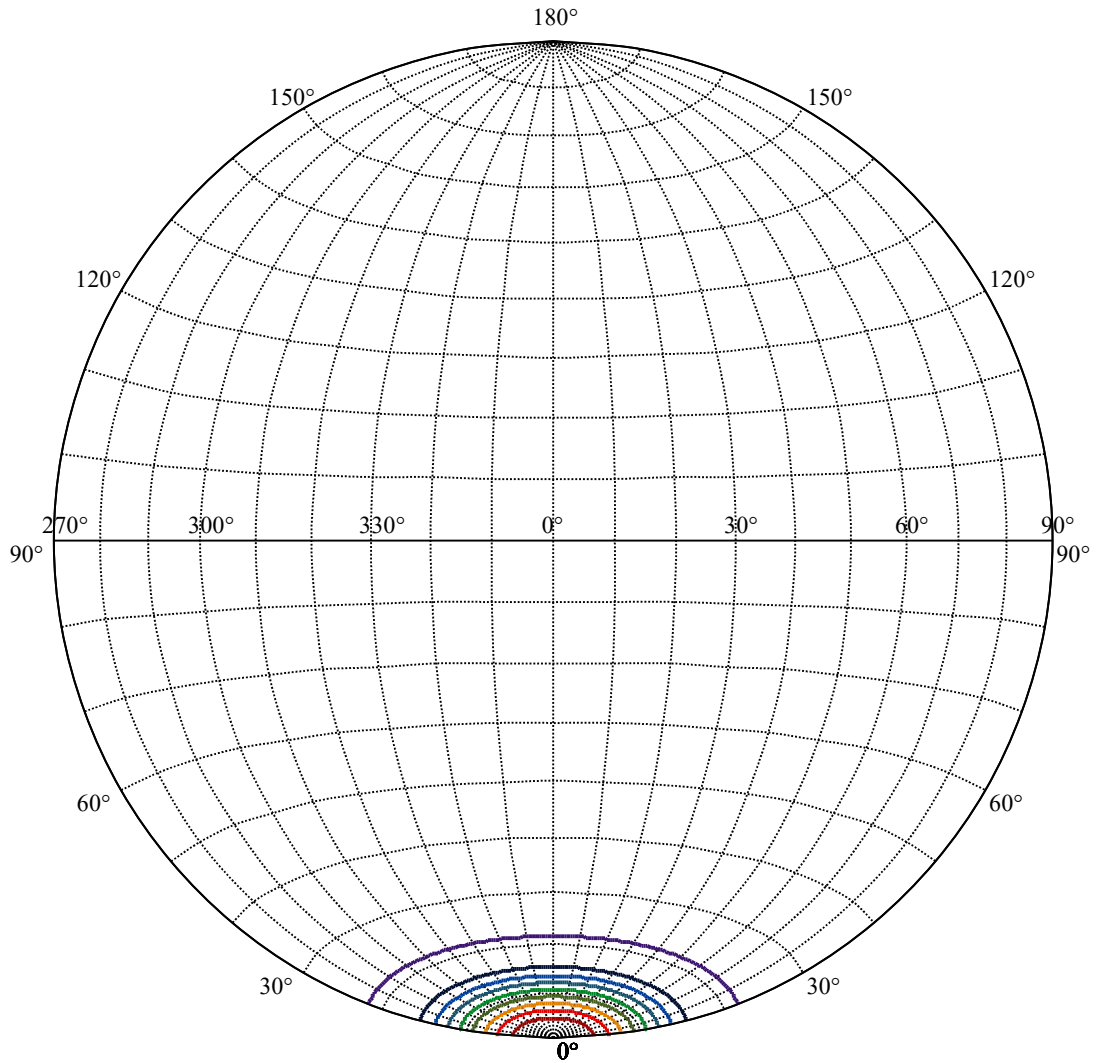
Field angle(10%Imax):C0/180Left:21.7 Right:21.7  
:C90/270Left:21.7 Right:21.7

Beam Angle(50%Imax):C0/180Left:10.8 Right:10.8  
:C90/270Left:10.8 Right:10.8





(10%Imax) 774.561	—
(20%Imax) 1549.12	—
(30%Imax) 2323.68	—
(40%Imax) 3098.24	—
(50%Imax) 3872.8	—
(60%Imax) 4647.37	—
(70%Imax) 5421.93	—
(80%Imax) 6196.49	—
(90%Imax) 6971.05	—



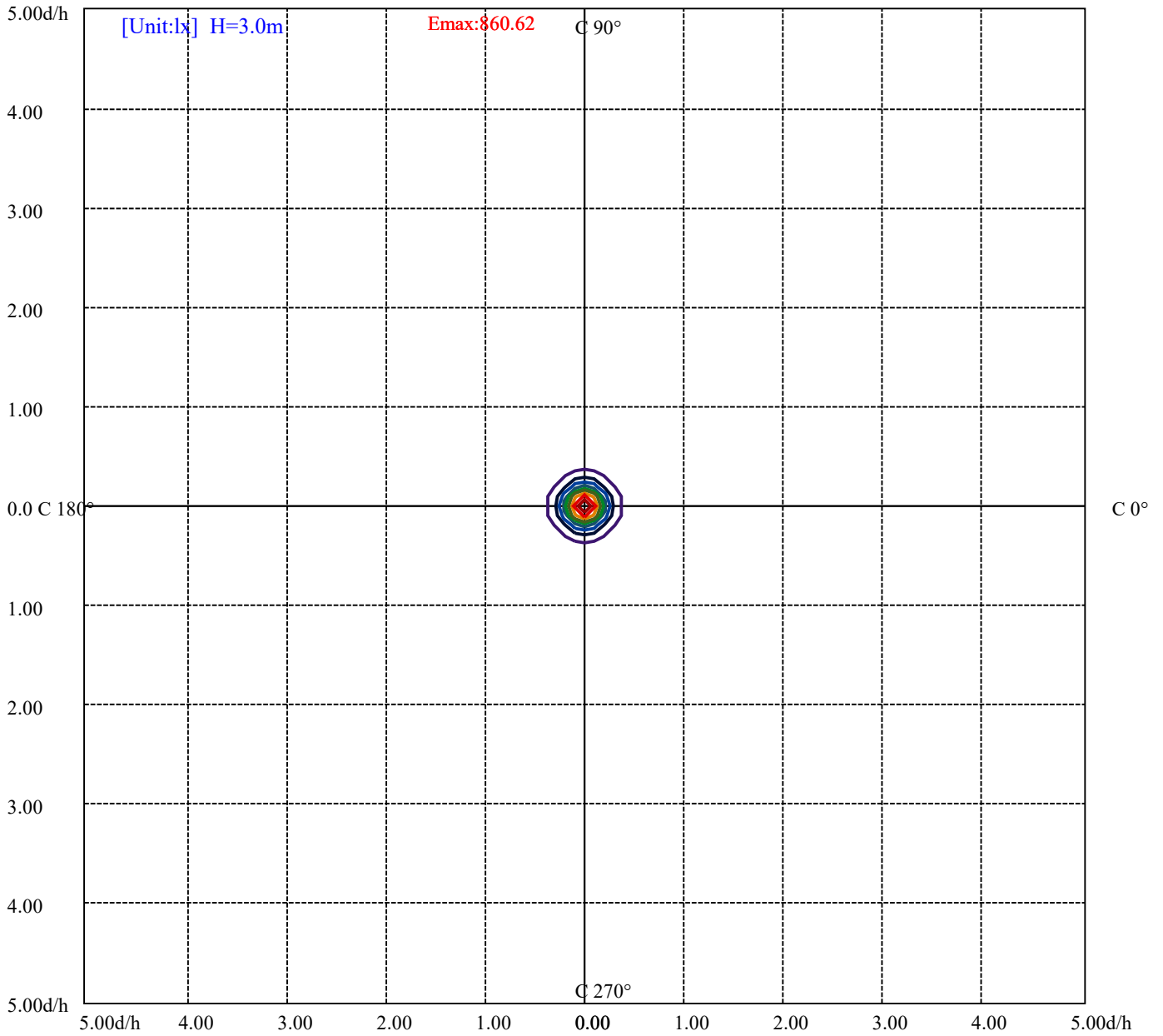
House

[Unit:cd]

Road

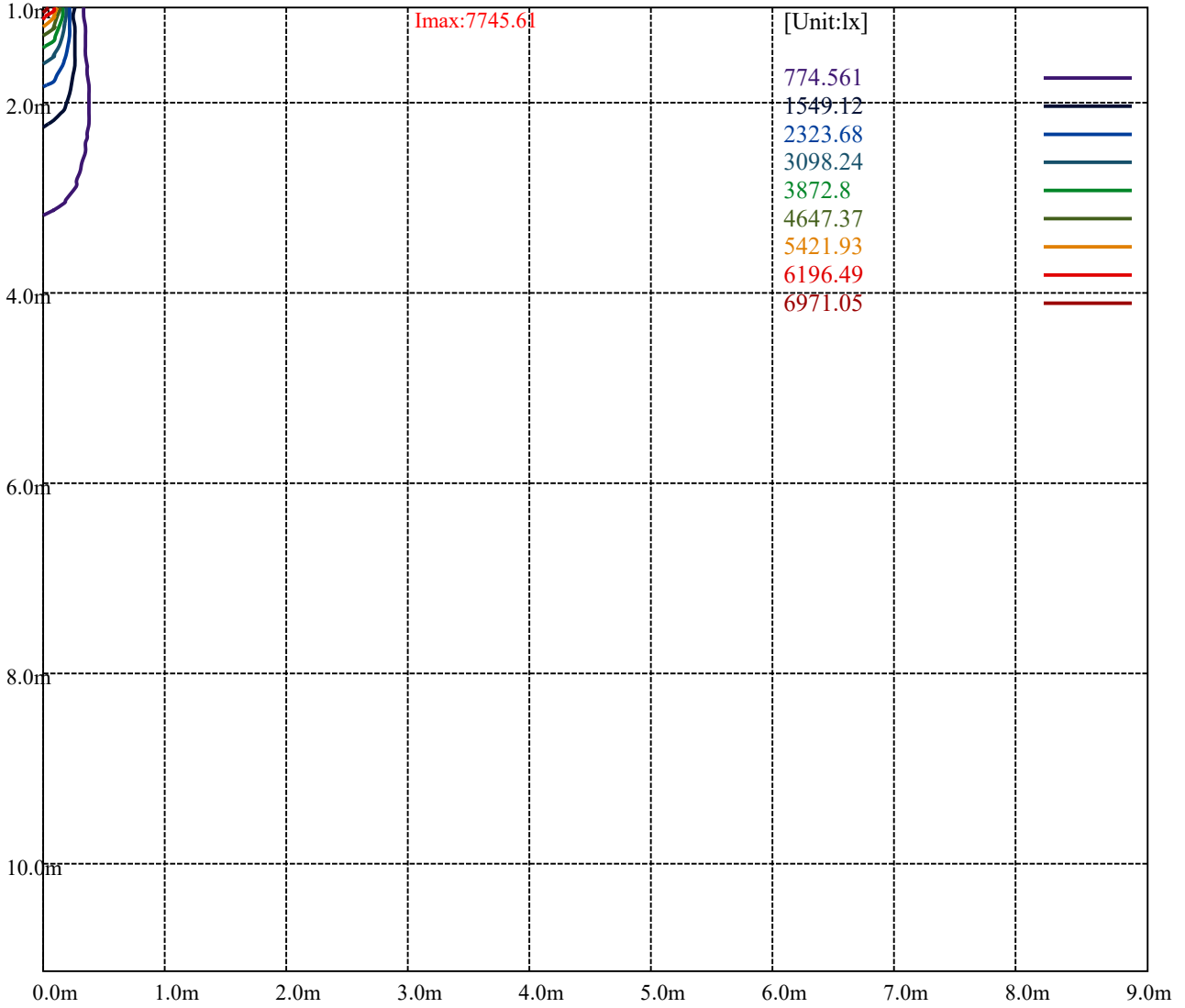
**Imax:7745.61**

(10%Imax) 774.561	—
(20%Imax) 1549.12	—
(30%Imax) 2323.68	—
(40%Imax) 3098.24	—
(50%Imax) 3872.8	—
(60%Imax) 4647.37	—
(70%Imax) 5421.93	—
(80%Imax) 6196.49	—
(90%Imax) 6971.05	—



- (10%Emax) 86.062
- (20%Emax) 172.1245
- (30%Emax) 258.1866
- (40%Emax) 344.2478
- (50%Emax) 430.31
- (60%Emax) 516.3723
- (70%Emax) 602.4344
- (80%Emax) 688.4967
- (90%Emax) 774.5588





Luminance Table

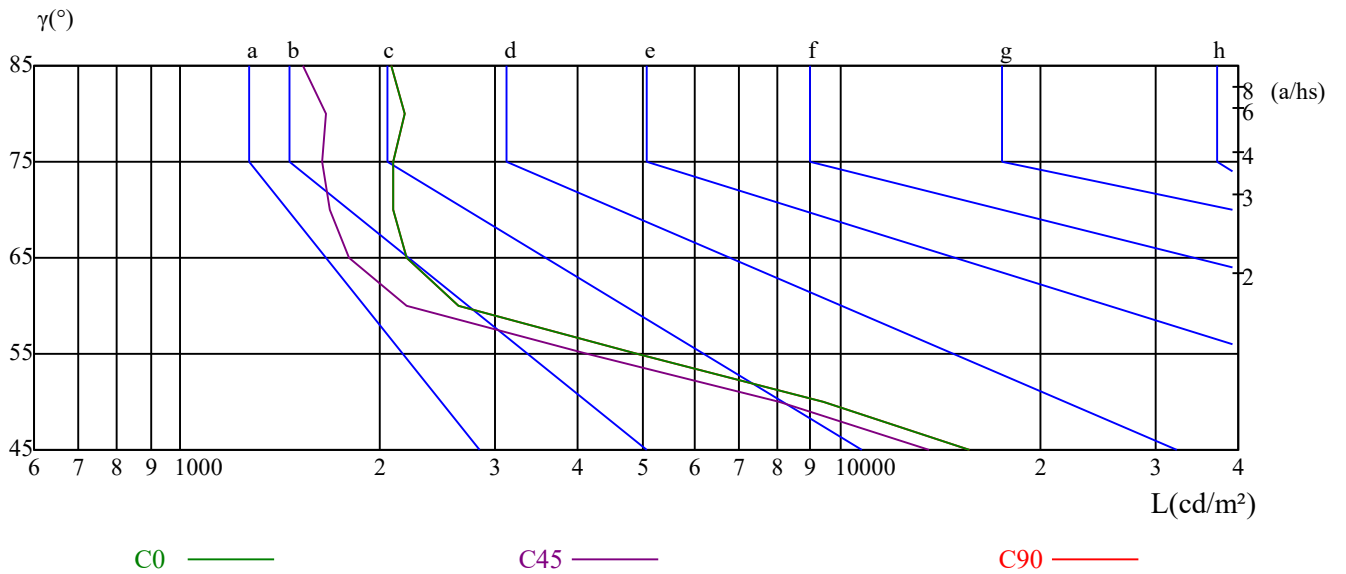
$\gamma$	45	50	55	60	65	70	75	80	85
C0	15662	9439	4905	2645	2205	2106	2098	2190	2085
C45	13619	8087	4137	2194	1796	1681	1637	1664	1535
C90	15662	9439	4905	2645	2205	2106	2098	2190	2085

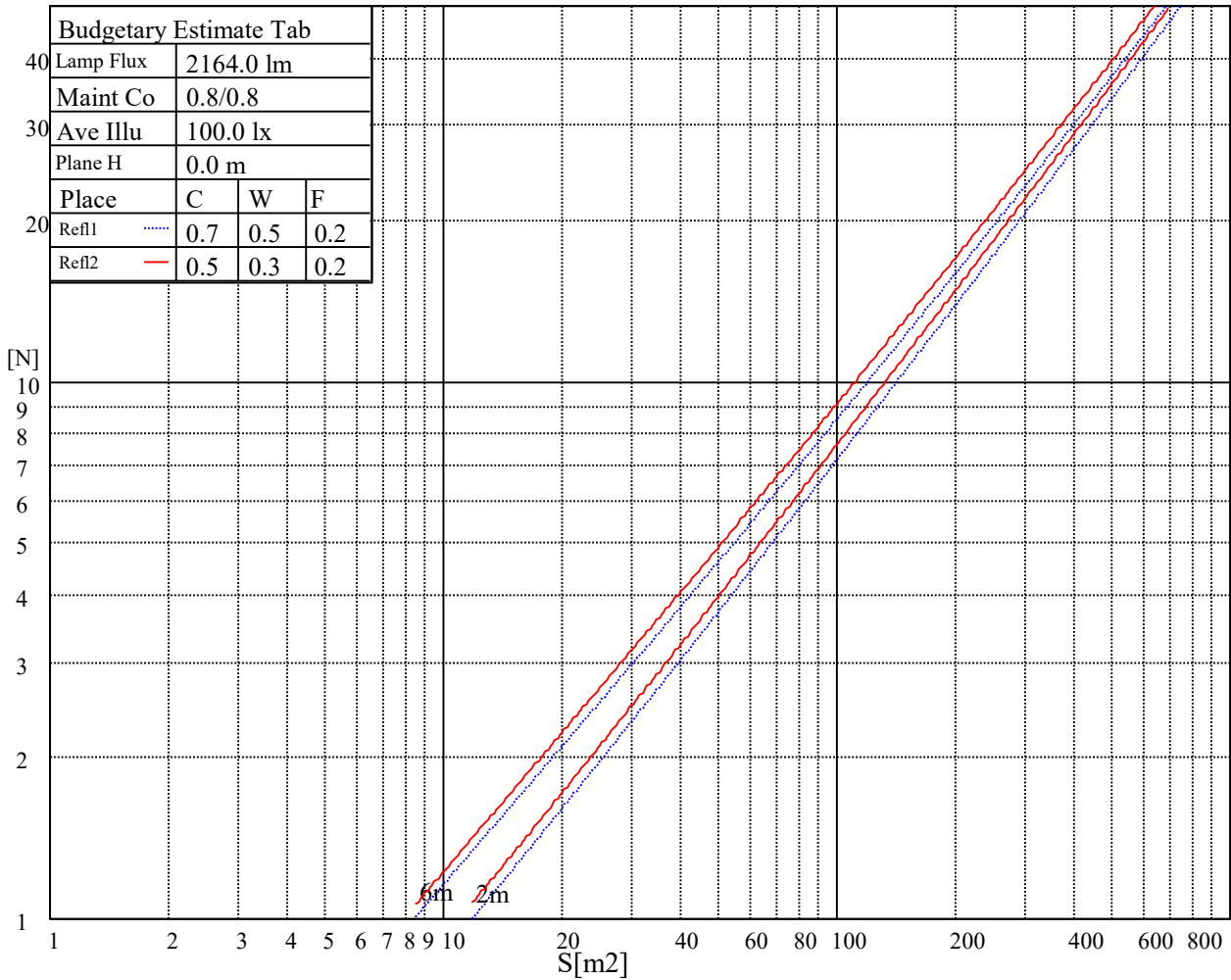
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4890	4890	4890	6545	6545	6545	15622	15622	15622

Glare Table

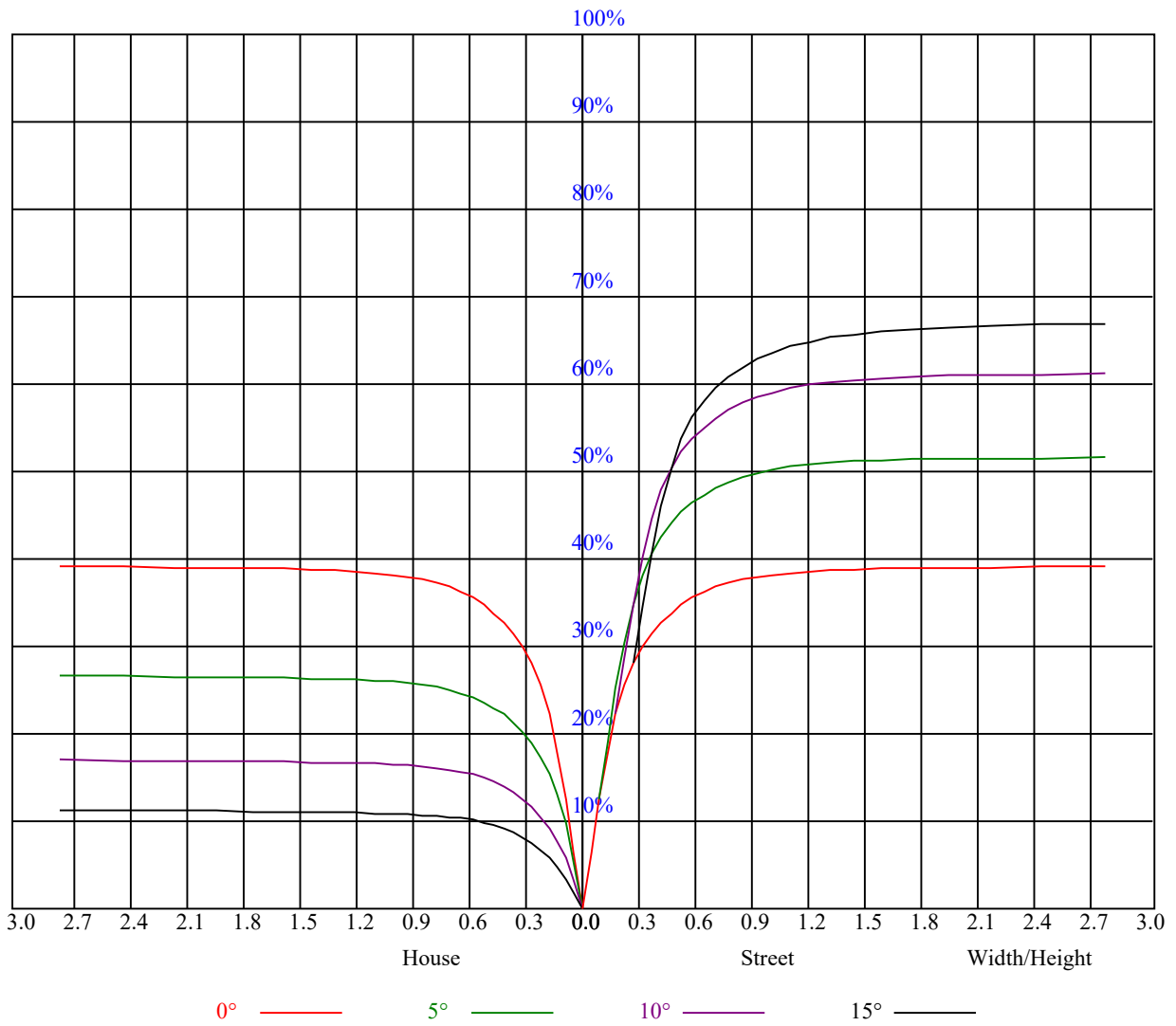
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.96	0.96	0.96	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.82	0.82	0.82	0.80
1	0.87	0.85	0.83	0.85	0.83	0.81	0.82	0.80	0.79	0.79	0.78	0.76	0.76	0.75	0.74	0.73
2	0.83	0.79	0.76	0.81	0.78	0.76	0.79	0.76	0.74	0.76	0.74	0.72	0.74	0.72	0.71	0.70
3	0.78	0.75	0.72	0.77	0.74	0.71	0.75	0.72	0.70	0.73	0.71	0.69	0.72	0.70	0.68	0.67
4	0.75	0.71	0.68	0.74	0.70	0.68	0.72	0.69	0.67	0.71	0.68	0.66	0.69	0.67	0.65	0.64
5	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.67	0.65	0.63	0.62
6	0.69	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.60
7	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.65	0.62	0.60	0.64	0.61	0.59	0.58
8	0.65	0.61	0.58	0.64	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.62	0.60	0.58	0.57
9	0.63	0.59	0.57	0.63	0.59	0.57	0.62	0.59	0.56	0.61	0.58	0.56	0.61	0.58	0.56	0.55
10	0.61	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.60	0.57	0.55	0.59	0.57	0.55	0.54



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	7731.02	7200.83	4588.95	1869.16	936.51	599.01	417.33	282.99	182.35
45.0	7742.58	7280.11	5022.24	2031.03	962.39	603.42	421.73	282.44	191.82
90.0	7778.92	7141.37	4549.31	1869.72	923.41	598.57	420.36	283.87	195.06
135.0	7729.92	7384.16	4991.41	2033.23	1017.44	637.55	426.14	282.44	192.09
180.0	7731.02	6567.13	3847.89	1488.73	837.41	550.34	373.67	245.11	171.28
225.0	7742.58	6410.22	3644.18	1065.56	766.88	511.53	350.82	236.25	164.67
270.0	7778.92	6896.36	4164.47	1539.93	804.92	542.86	373.83	287.39	171.06
315.0	7729.92	6467.48	3527.46	1079.38	773.71	506.41	344.38	234.54	161.21
360.0	7731.02	7200.83	4588.95	1869.16	936.51	599.01	417.33	282.99	182.35

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	119.53	69.76	36.12	18.39	14.04	12.39	11.23	10.85	9.19
45.0	123.82	72.84	37.33	18.88	13.82	12.28	11.18	10.46	9.19
90.0	123.60	73.23	36.72	17.45	13.76	12.11	10.96	10.13	8.75
135.0	126.19	77.90	39.97	19.49	13.82	12.17	10.96	10.24	8.92
180.0	108.63	62.60	30.72	16.08	13.16	11.84	11.01	10.46	8.86
225.0	104.44	59.24	28.02	15.53	13.10	11.84	11.18	10.74	9.03
270.0	106.37	60.62	30.06	16.30	13.60	12.28	11.29	10.85	8.81
315.0	98.83	57.81	28.46	15.58	13.16	11.89	11.12	10.52	8.70
360.0	119.53	69.76	36.12	18.39	14.04	12.39	11.23	10.85	9.19

C/γ(°)	90.0
0.0	7.05
45.0	7.10
90.0	6.99
135.0	6.94
180.0	6.72
225.0	6.94
270.0	6.88
315.0	6.99
360.0	7.05