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## Nata

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LumCAT: 1676-A  
Luminaire: 92.70.064.00+92.70.147.00  
Report No: NT2017092608  
Test No: GC2017092608  
LampCAT: SEOUL SAWx10  
Lamp flux(lm): 1461.0  
Number of Lamps: 1  
Length(mm): 46  
Phm Type: C

Voltage(V):  
Current(A):  
Power (W): 10.3500  
PF:  
Ballast type:  
Width(mm): 46  
Height(mm): 0

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## Photometric Results

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Lumens(lm): 1246.96  
Efficiency(%): 85.35%  
Lumens(lm)/Power(W): 120.48  
Central intensity(cd): 4311.857  
Maximum intensity(cd): 4311.857  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=21.4  
                                  [C90/270]Total=21.4  
Field angle(10%Imax): [C0/180]Total=47.1  
                                  [C90/270]Total=47.1  
Maximum s/h(1/2): C0\_180=0.36 C90\_270=0.36  
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(%): 85.35%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 97.608%

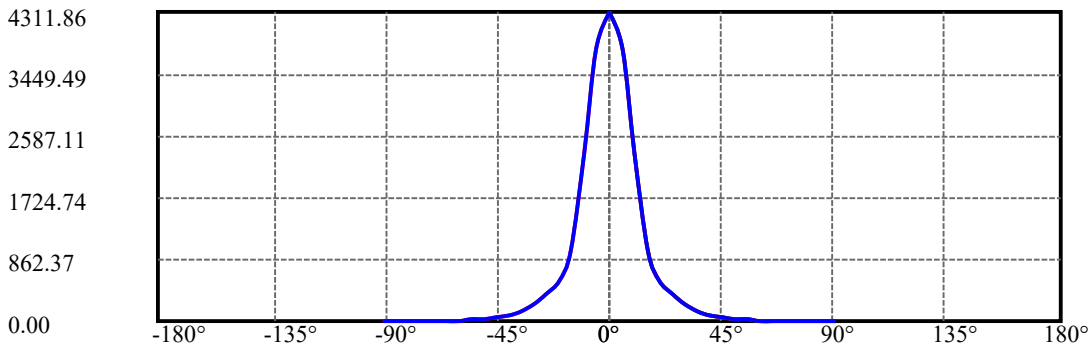
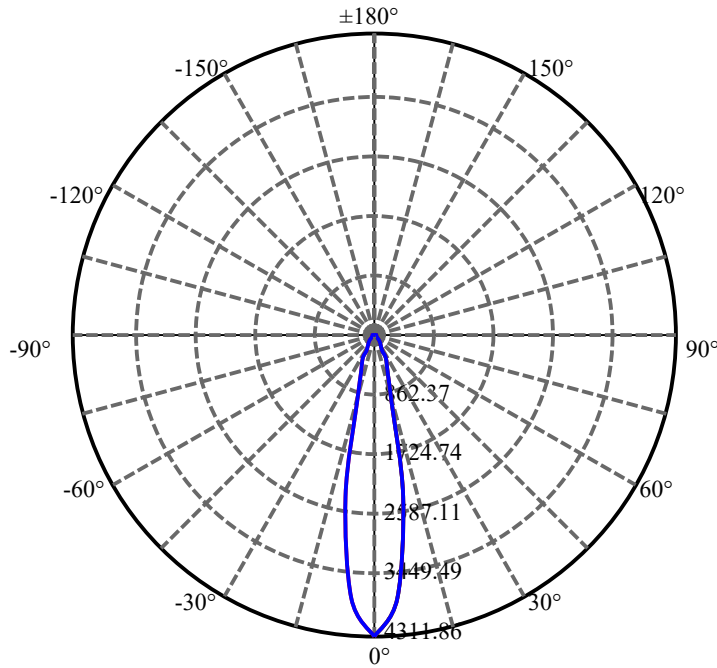
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4311.857	0.000	0	.000%	.000%
5.0	3774.076	96.665	96.665	8.250%	9.667%
10.0	2349.870	219.073	315.738	18.698%	31.574%
15.0	993.721	198.340	514.077	16.928%	51.408%
20.0	570.278	128.895	642.973	11.001%	64.297%
25.0	375.719	99.218	742.191	8.468%	74.219%
30.0	238.414	77.719	819.91	6.633%	81.991%
35.0	139.280	55.618	875.528	4.747%	87.553%
40.0	86.871	37.732	913.259	3.220%	91.326%
45.0	52.597	25.824	939.083	2.204%	93.909%
50.0	33.391	17.375	956.458	1.483%	95.646%
55.0	23.131	12.290	968.748	1.049%	96.875%
60.0	8.560	7.325	976.073	.625%	97.608%
65.0	7.192	3.829	979.902	.327%	97.991%
70.0	7.230	3.652	983.554	.312%	98.356%
75.0	8.323	4.065	987.619	.347%	98.762%
80.0	8.665	4.545	992.165	.388%	99.217%
85.0	8.047	4.541	996.706	.388%	99.671%
90.0	3.974	3.291	999.997	.281%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	819.91	56.12%	81.99%
0-40	913.26	62.51%	91.33%
0-60	976.07	66.81%	97.61%
0-90	996.71	68.22%	99.67%
0-120	996.71	68.22%	99.67%
0-180	1000.00	68.45%	100.00%
60-90	27.96	1.91%	2.80%
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%
0-28.72	800.00	54.76%	80.00%

ZONAL LUMEN SUMMARY

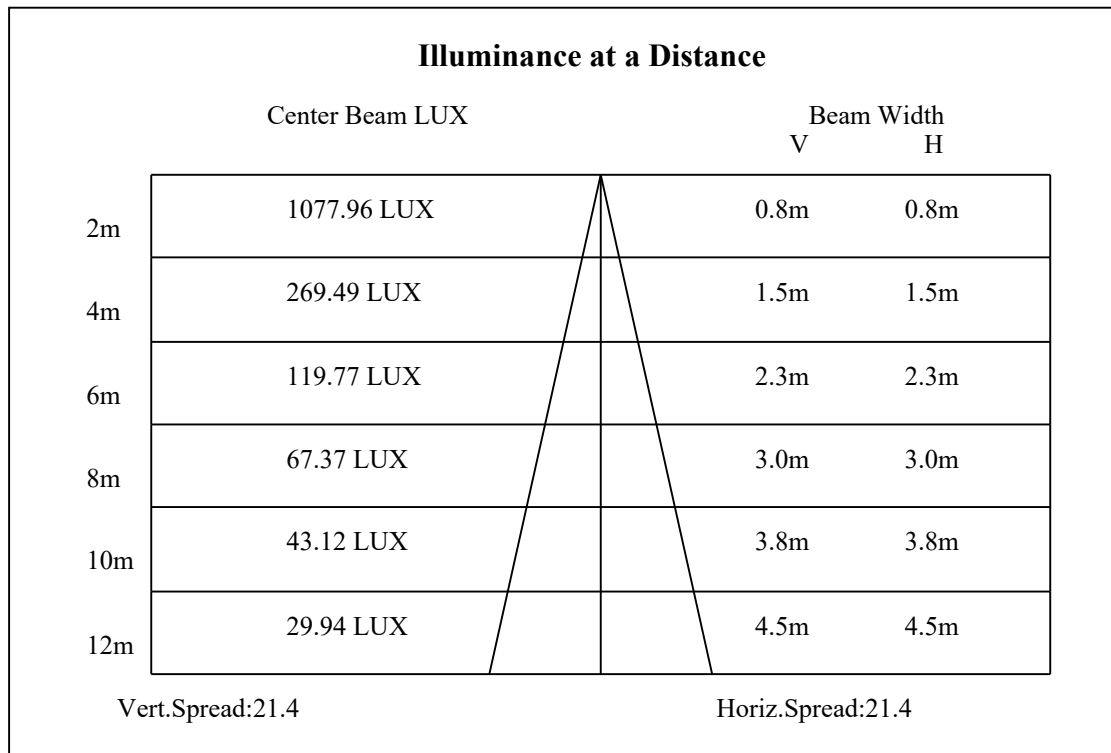
0-10	315.74
10-20	327.24
20-30	176.94
30-40	93.35
40-50	43.20
50-60	19.61
60-70	7.48
70-80	8.61
80-90	4.54
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

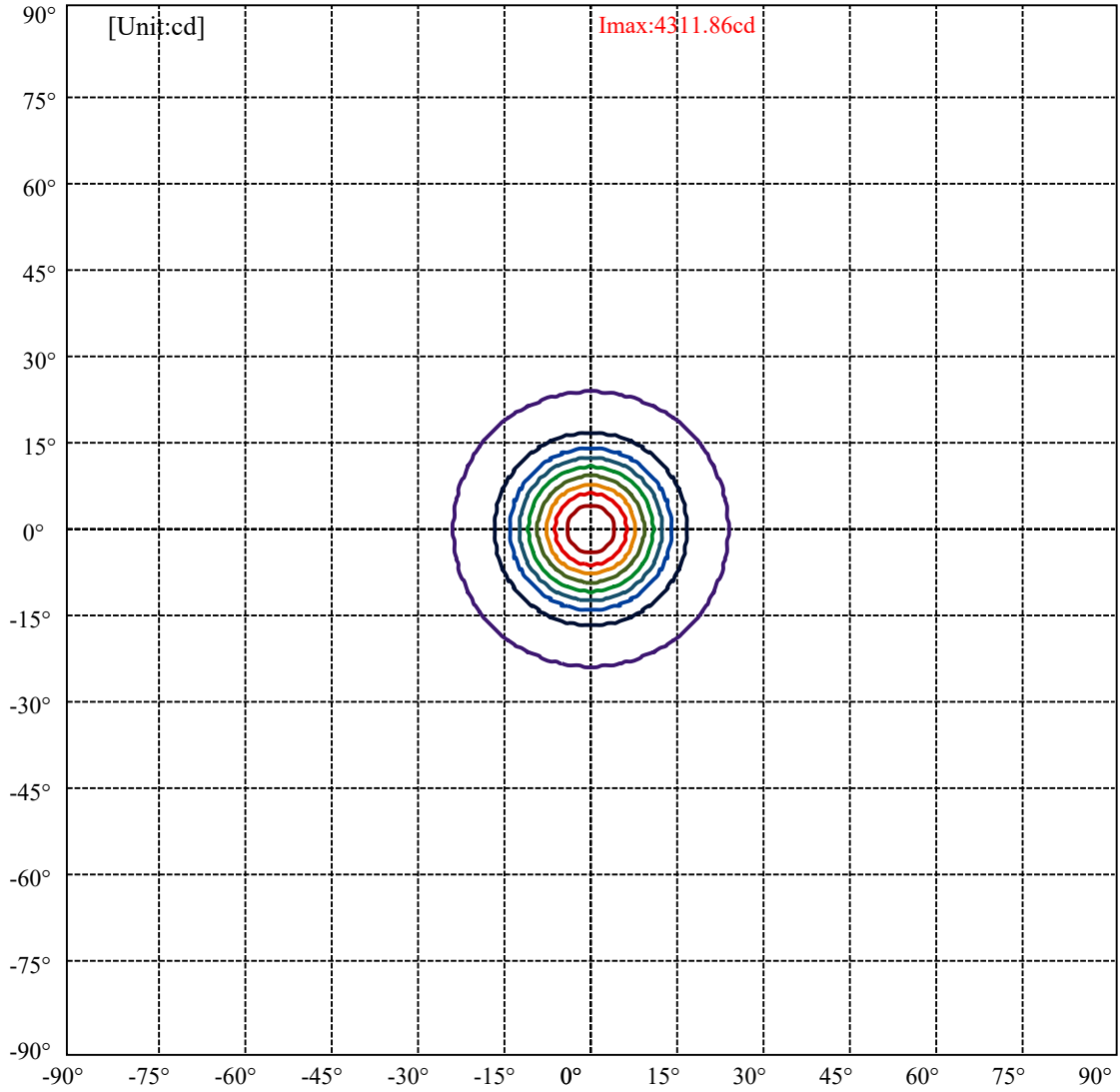


C0(Max): —————  
C0/C180: —————  
C90/C270: —————

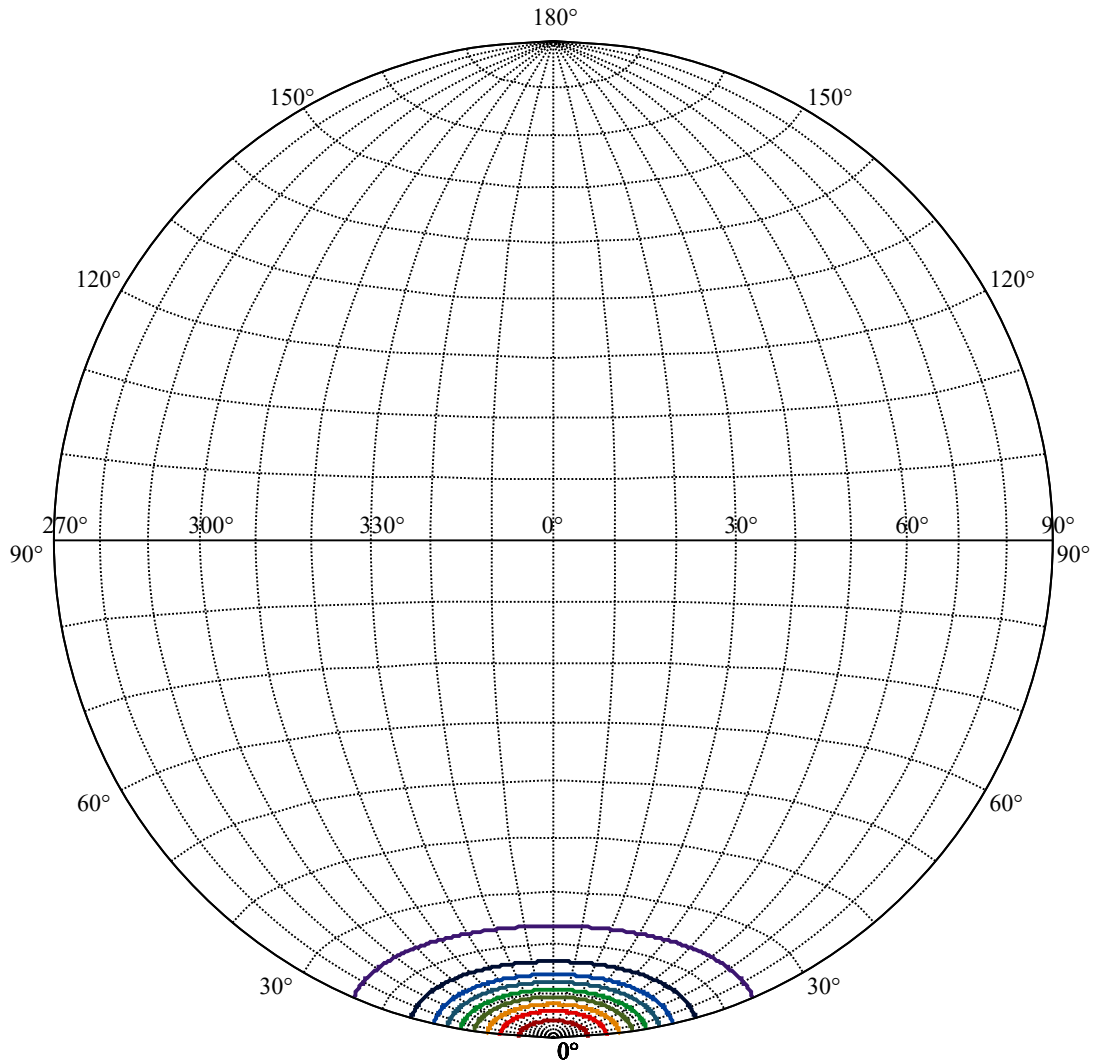
Field angle(10%Imax):C0/180Left:23.6 Right:23.6  
:C90/270Left:23.6 Right:23.6

Beam Angle(50%Imax):C0/180Left:10.7 Right:10.7  
:C90/270Left:10.7 Right:10.7





(10%Imax) 431.186	—
(20%Imax) 862.371	—
(30%Imax) 1293.56	—
(40%Imax) 1724.74	—
(50%Imax) 2155.93	—
(60%Imax) 2587.11	—
(70%Imax) 3018.3	—
(80%Imax) 3449.49	—
(90%Imax) 3880.67	—



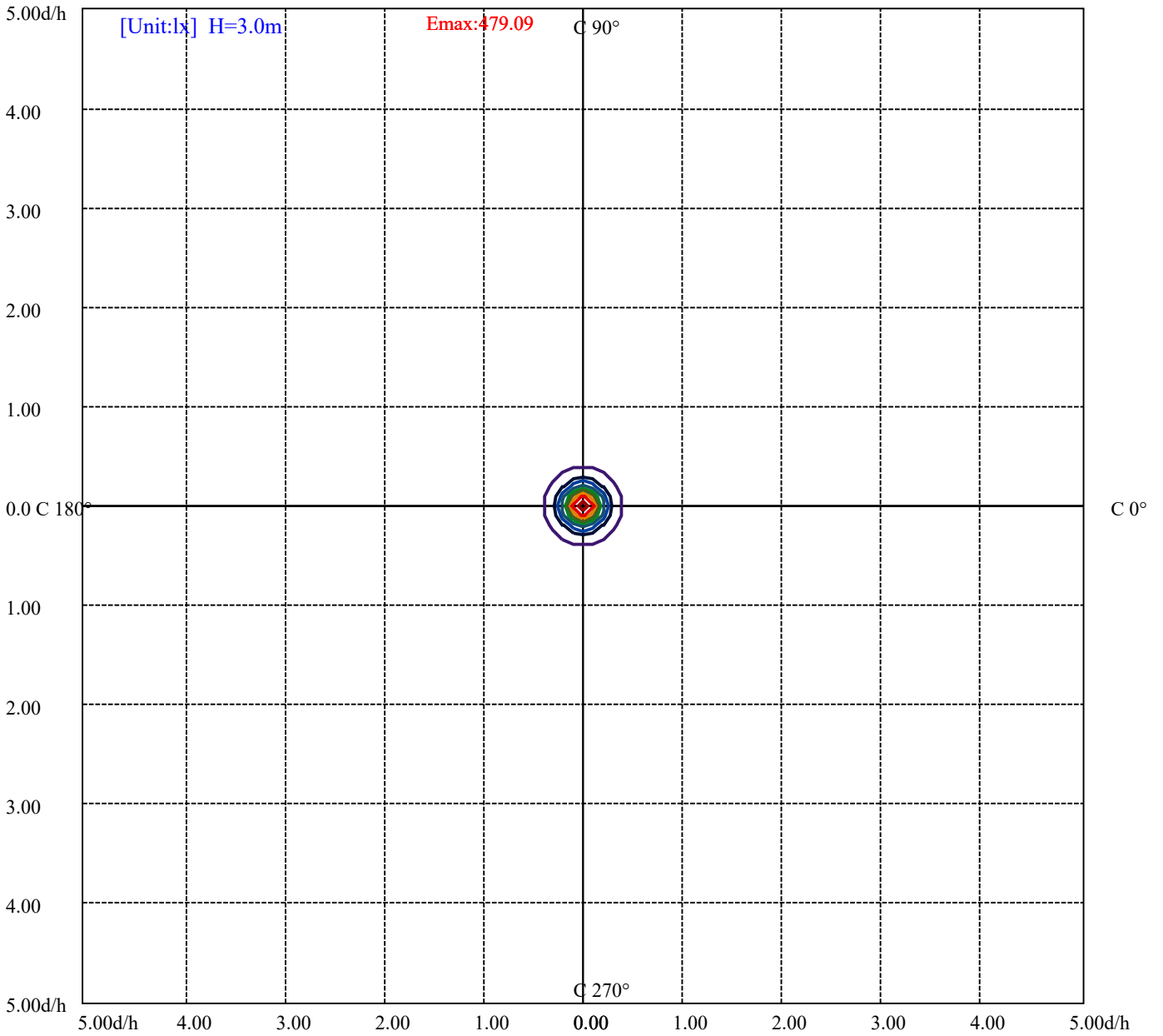
House

[Unit:cd]

Road

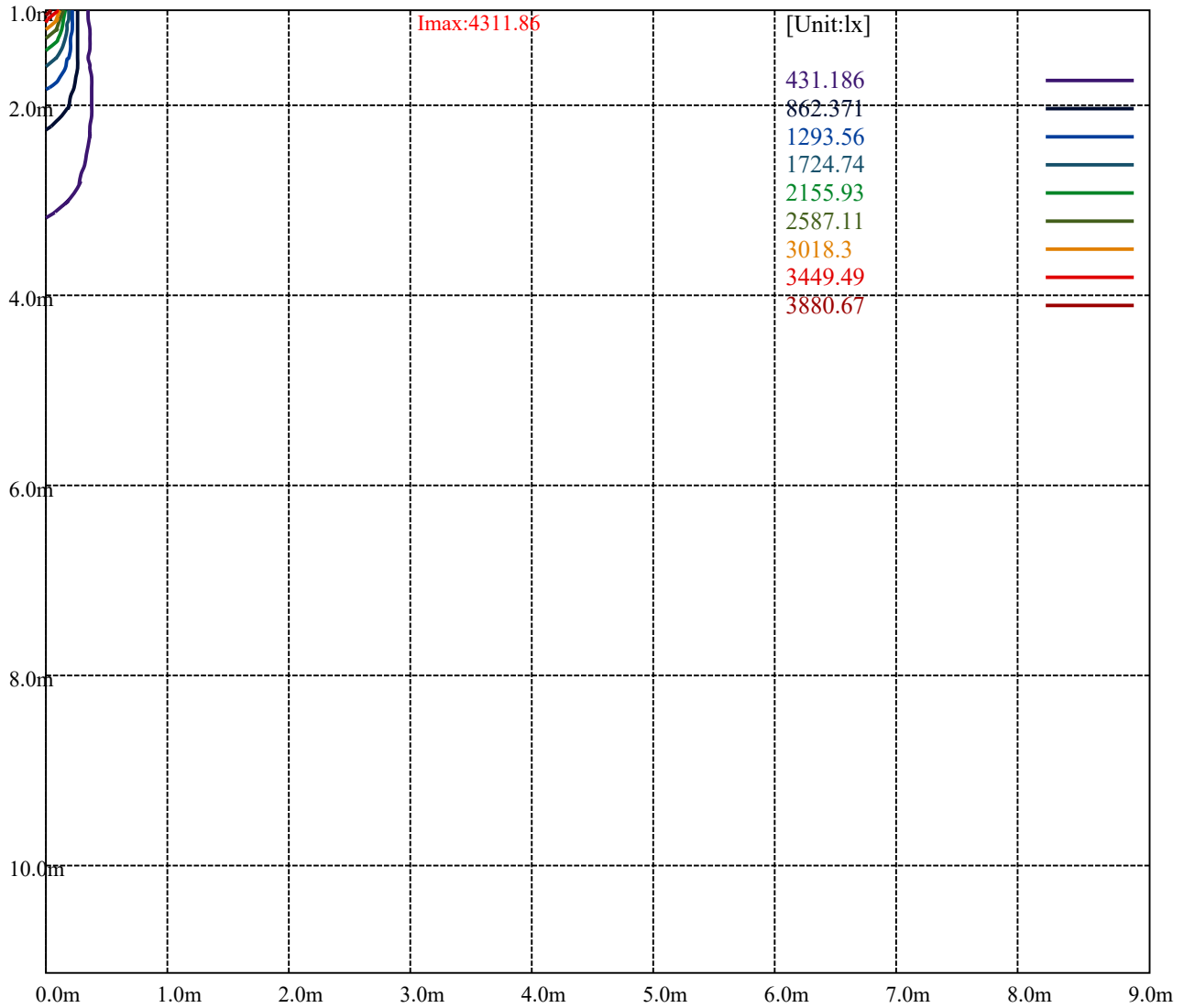
**Imax:4311.86**

(10%Imax)	431.186	—
(20%Imax)	862.371	—
(30%Imax)	1293.56	—
(40%Imax)	1724.74	—
(50%Imax)	2155.93	—
(60%Imax)	2587.11	—
(70%Imax)	3018.3	—
(80%Imax)	3449.49	—
(90%Imax)	3880.67	—



(10%Emax) 47.90933	—
(20%Emax) 95.81866	—
(30%Emax) 143.7278	—
(40%Emax) 191.6378	—
(50%Emax) 239.5467	—
(60%Emax) 287.4556	—
(70%Emax) 335.3656	—
(80%Emax) 383.2744	—
(90%Emax) 431.1844	—





Luminance Table

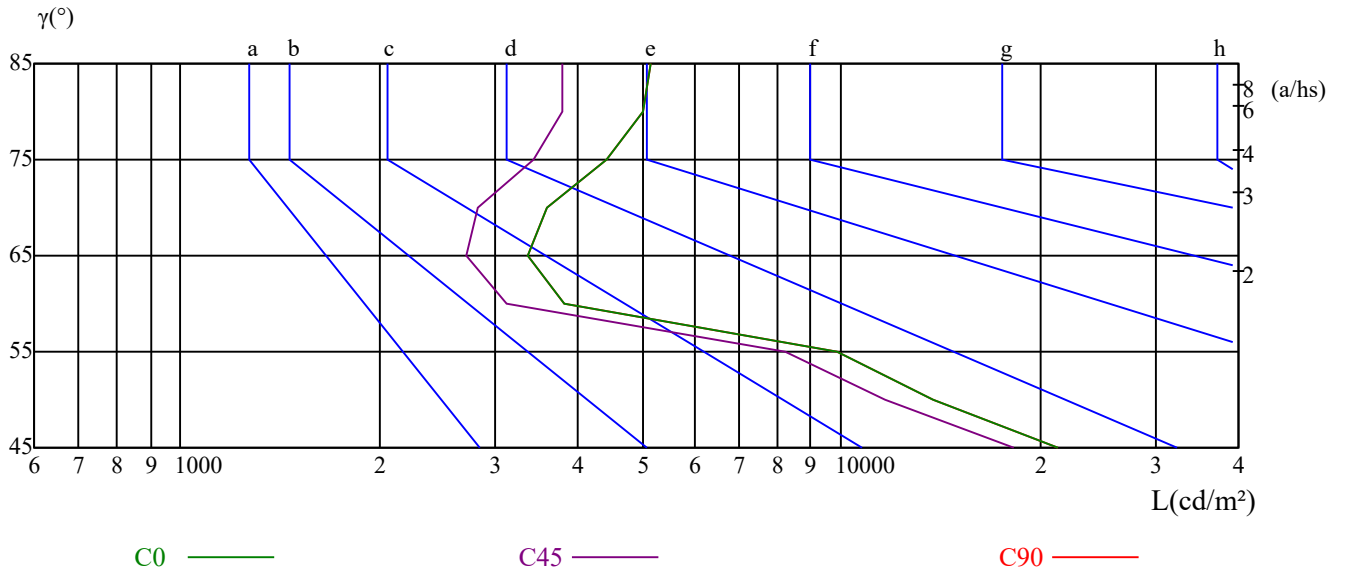
$\gamma$	45	50	55	60	65	70	75	80	85
C0	21277	13813	9868	3799	3353	3578	4425	5019	5161
C45	18287	11695	8225	3115	2701	2827	3421	3785	3780
C90	21277	13813	9868	3799	3353	3578	4425	5019	5161

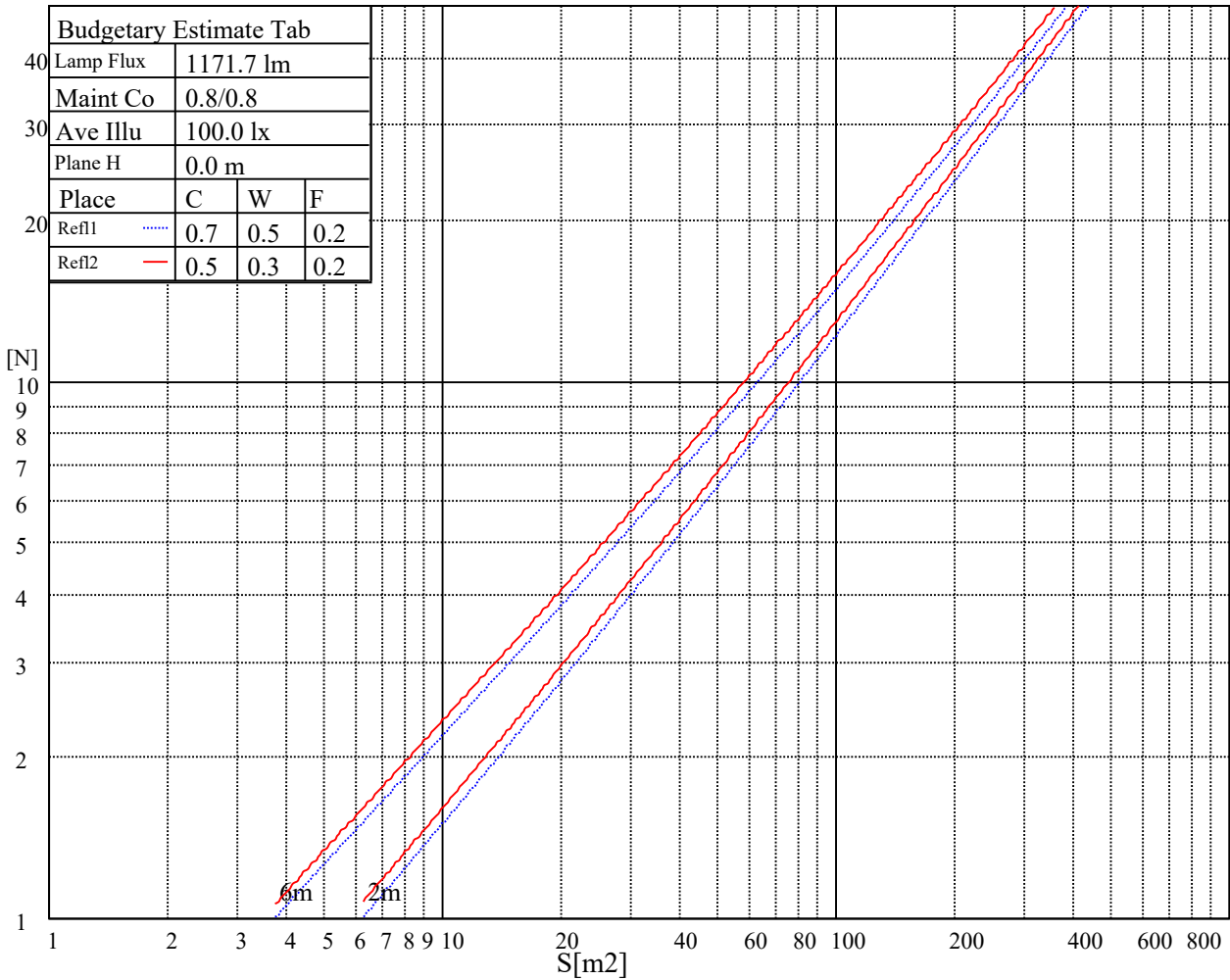
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
8042	8042	8042	15197	15197	15197	43633	43633	43633

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 RHOF=20 CU															
0	1.02	1.02	1.02	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.85
1	0.95	0.93	0.91	0.93	0.91	0.90	0.90	0.88	0.87	0.87	0.86	0.85	0.84	0.83	0.82	0.81
2	0.90	0.86	0.84	0.88	0.85	0.83	0.85	0.83	0.81	0.83	0.81	0.79	0.81	0.79	0.78	0.76
3	0.85	0.81	0.78	0.84	0.80	0.78	0.81	0.79	0.76	0.79	0.77	0.75	0.78	0.76	0.74	0.73
4	0.81	0.77	0.74	0.80	0.76	0.73	0.78	0.75	0.72	0.76	0.74	0.71	0.75	0.73	0.71	0.69
5	0.77	0.73	0.70	0.76	0.72	0.69	0.75	0.71	0.69	0.73	0.70	0.68	0.72	0.70	0.68	0.67
6	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.64
7	0.71	0.67	0.64	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.65	0.62	0.61
8	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.60	0.65	0.62	0.60	0.59
9	0.66	0.62	0.59	0.65	0.61	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.63	0.60	0.58	0.57
10	0.63	0.59	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.62	0.59	0.56	0.61	0.58	0.56	0.55

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	4304.46	3898.70	2457.99	1137.82	557.21	376.62	244.61	139.13	87.82
45.0	4320.80	3849.69	2371.01	1016.40	566.48	376.18	234.01	140.63	85.92
90.0	4322.56	3737.98	2202.79	879.79	549.22	366.69	227.96	129.94	82.83
135.0	4299.61	3974.64	2650.05	1185.95	630.06	409.30	269.77	150.83	93.16
180.0	4304.46	3671.75	2220.01	857.10	555.75	360.95	233.79	138.24	87.64
225.0	4320.80	3687.21	2245.17	871.67	572.49	374.02	224.69	145.18	92.10
270.0	4322.56	3837.77	2458.43	1146.65	603.13	386.78	252.11	144.29	89.06
315.0	4299.61	3534.88	2193.51	854.40	527.89	355.21	220.37	126.01	76.43
360.0	4304.46	3898.70	2457.99	1137.82	557.21	376.62	244.61	139.13	87.82
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	54.62	33.60	23.18	9.32	6.89	6.89	7.11	7.59	7.46
45.0	51.66	33.69	23.40	9.41	7.95	8.04	9.05	9.67	8.74
90.0	48.44	31.53	23.22	8.08	7.37	7.42	8.79	8.35	7.37
135.0	54.53	33.56	22.96	9.45	7.11	7.15	7.29	9.18	8.35
180.0	53.56	34.70	23.05	7.46	7.37	7.55	9.54	9.36	8.39
225.0	57.66	37.09	24.42	8.21	7.02	6.98	7.29	8.08	7.46
270.0	53.65	33.38	24.42	9.41	6.98	6.98	8.39	9.01	8.21
315.0	46.67	29.58	20.40	7.15	6.84	6.84	9.14	8.08	8.39
360.0	54.62	33.60	23.18	9.32	6.89	6.89	7.11	7.59	7.46
C/ $\gamma$ (°)	90.0								
0.0	3.93								
45.0	3.97								
90.0	3.97								
135.0	3.97								
180.0	3.93								
225.0	4.02								
270.0	4.02								
315.0	3.97								
360.0	3.93								