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Nata

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LumCAT: 4-2222-A  
Luminaire: BJB 47.319.2021  
Report No: GC2017051014  
Test No: NT-0010  
LampCAT: CITIZEN CLU036  
Lamp flux(lm): 2279.0  
Number of Lamps: 1  
Length(mm): 100  
Phm Type: C

Voltage(V): 218.3000  
Current(A): 0.1030  
Power (W): 20.5000  
PF: 0.9080  
Ballast type: DC  
Width(mm): 100  
Height(mm): 0

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Photometric Results

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Lumens(lm): 2077.92  
Efficiency(%): 91.18%  
Lumens(lm)/Power(W): 101.36  
Central intensity(cd): 2248.159  
Maximum intensity(cd): 2248.159  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=62.2  
                                  [C90/270]Total=62.2  
Field angle(10%Imax): [C0/180]Total=78.4  
                                  [C90/270]Total=78.4  
Maximum s/h(1/2): C0\_180=1.01 C90\_270=1.01  
Maximum s/h(1/4): C0\_180=0.91 C90\_270=0.91  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 91.18%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.701%

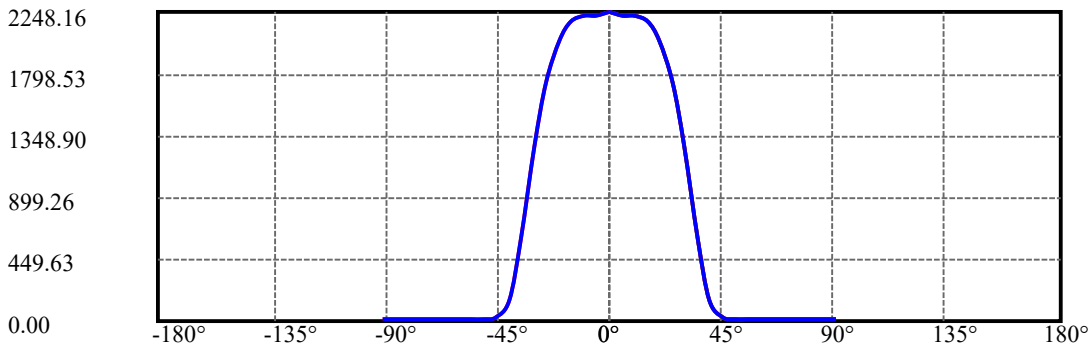
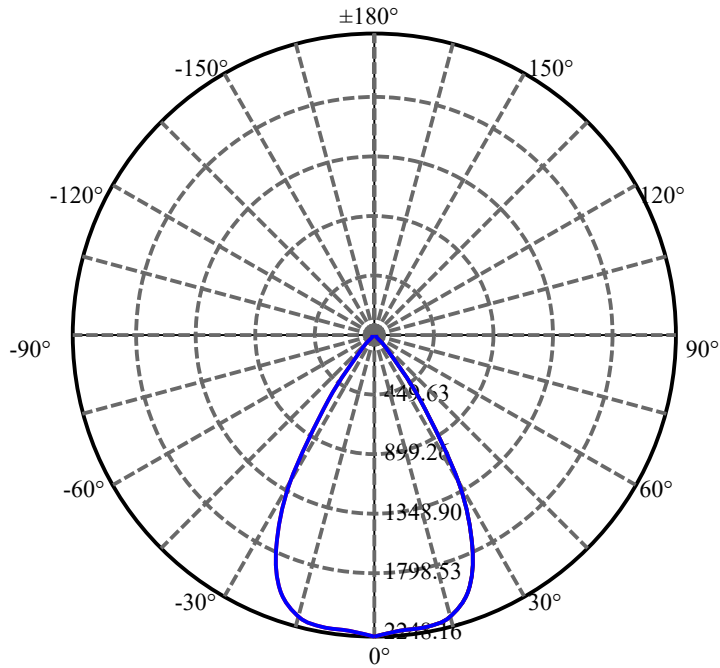
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2248.159	0.000	0	.000%	.000%
5.0	2217.190	53.382	53.382	2.342%	2.569%
10.0	2214.781	158.546	211.928	6.957%	10.199%
15.0	2176.104	260.464	472.392	11.429%	22.734%
20.0	2033.921	346.965	819.357	15.224%	39.432%
25.0	1735.928	395.388	1214.745	17.349%	58.460%
30.0	1267.247	380.054	1594.799	16.676%	76.750%
35.0	601.360	275.166	1869.965	12.074%	89.992%
40.0	154.440	126.100	1996.064	5.533%	96.061%
45.0	34.094	34.909	2030.973	1.532%	97.741%
50.0	14.824	9.885	2040.857	.434%	98.216%
55.0	10.399	5.484	2046.342	.241%	98.480%
60.0	9.470	4.593	2050.934	.202%	98.701%
65.0	8.926	4.472	2055.406	.196%	98.916%
70.0	8.575	4.431	2059.838	.194%	99.130%
75.0	8.424	4.443	2064.281	.195%	99.344%
80.0	8.382	4.497	2068.778	.197%	99.560%
85.0	8.410	4.563	2073.34	.200%	99.780%
90.0	8.320	4.581	2077.921	.201%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1594.80	69.98%	76.75%
0-40	1996.06	87.59%	96.06%
0-60	2050.93	89.99%	98.70%
0-90	2073.34	90.98%	99.78%
0-120	2073.34	90.98%	99.78%
0-180	2077.92	91.18%	100.00%
60-90	27.00	1.18%	1.30%
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%
0-31.23	1662.34	72.94%	80.00%

ZONAL LUMEN SUMMARY

0-10	211.93
10-20	607.43
20-30	775.44
30-40	401.27
40-50	44.79
50-60	10.08
60-70	8.90
70-80	8.94
80-90	4.56
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



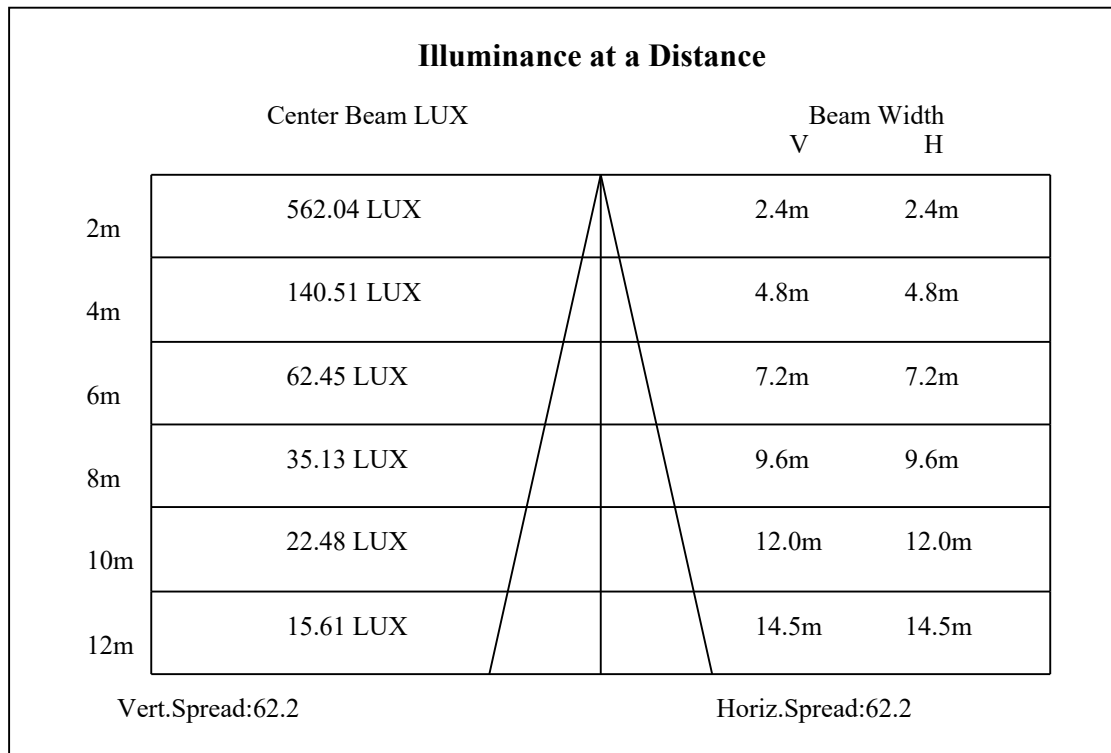
C0(Max): —————

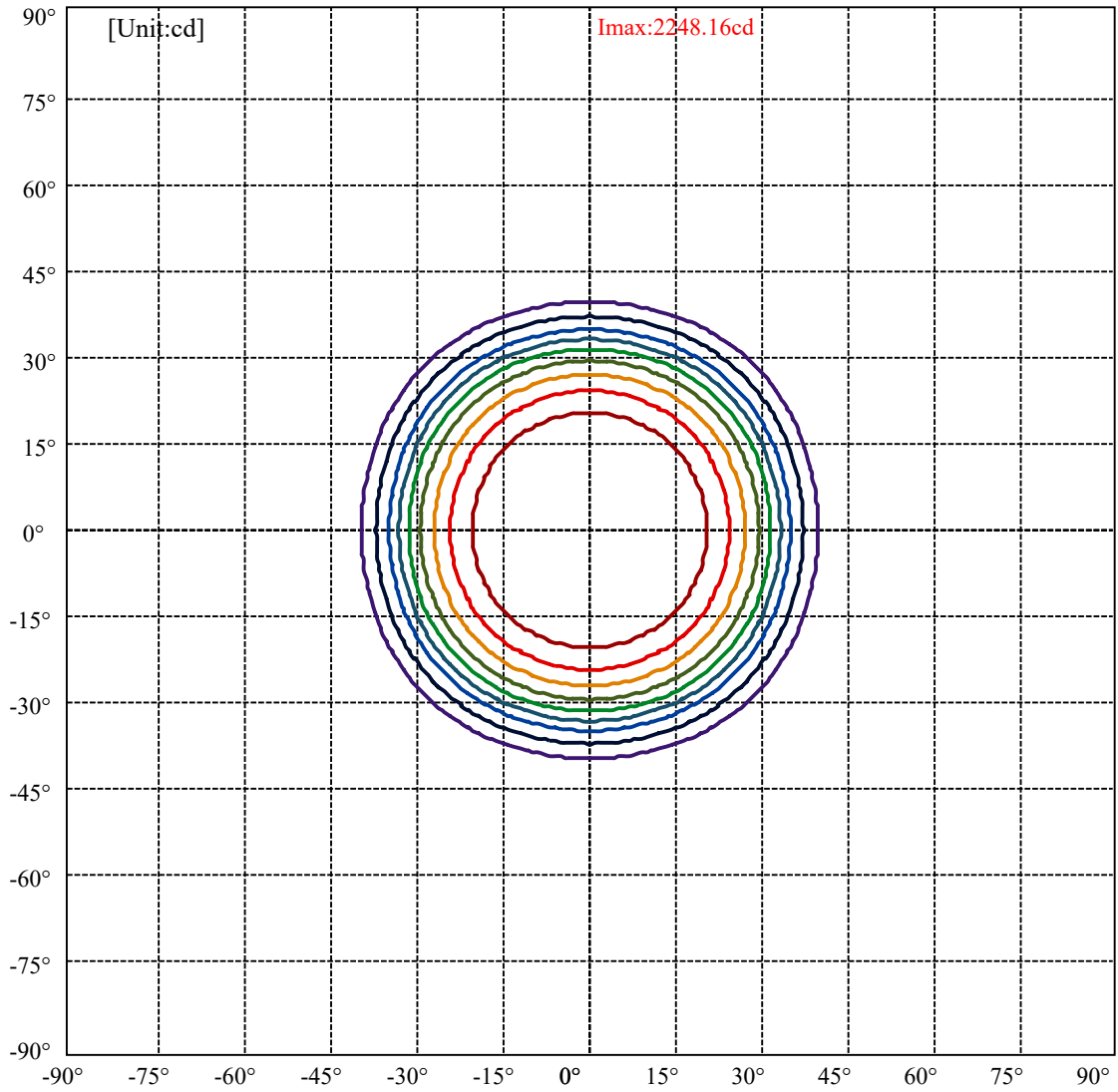
C0/C180: —————

C90/C270: —————

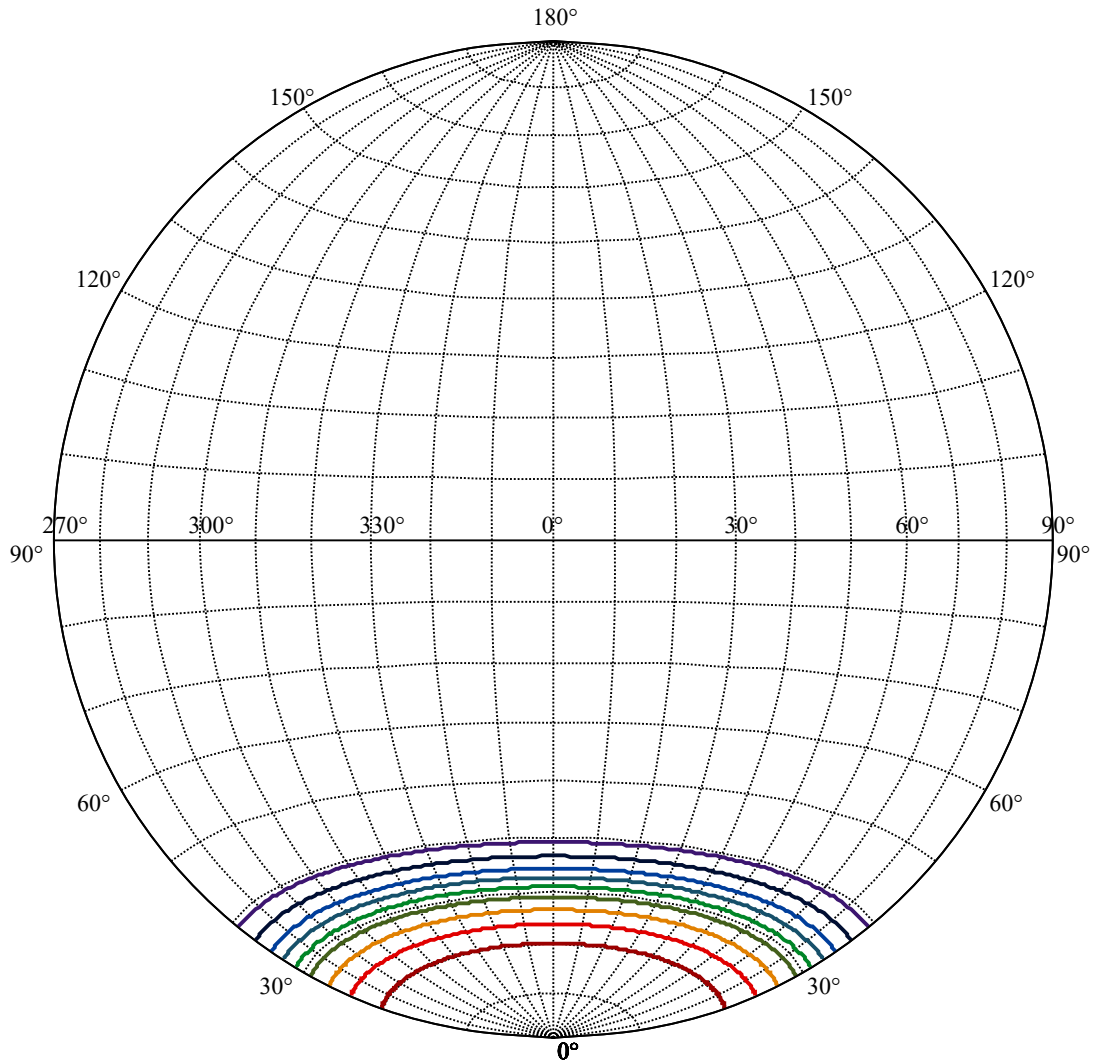
Field angle(10%Imax):C0/180Left:39.2 Right:39.2  
:C90/270Left:39.2 Right:39.2

Beam Angle(50%Imax):C0/180Left:31.1 Right:31.1  
:C90/270Left:31.1 Right:31.1





(10%Imax) 224.816	—
(20%Imax) 449.632	—
(30%Imax) 674.448	—
(40%Imax) 899.264	—
(50%Imax) 1124.08	—
(60%Imax) 1348.9	—
(70%Imax) 1573.71	—
(80%Imax) 1798.53	—
(90%Imax) 2023.34	—



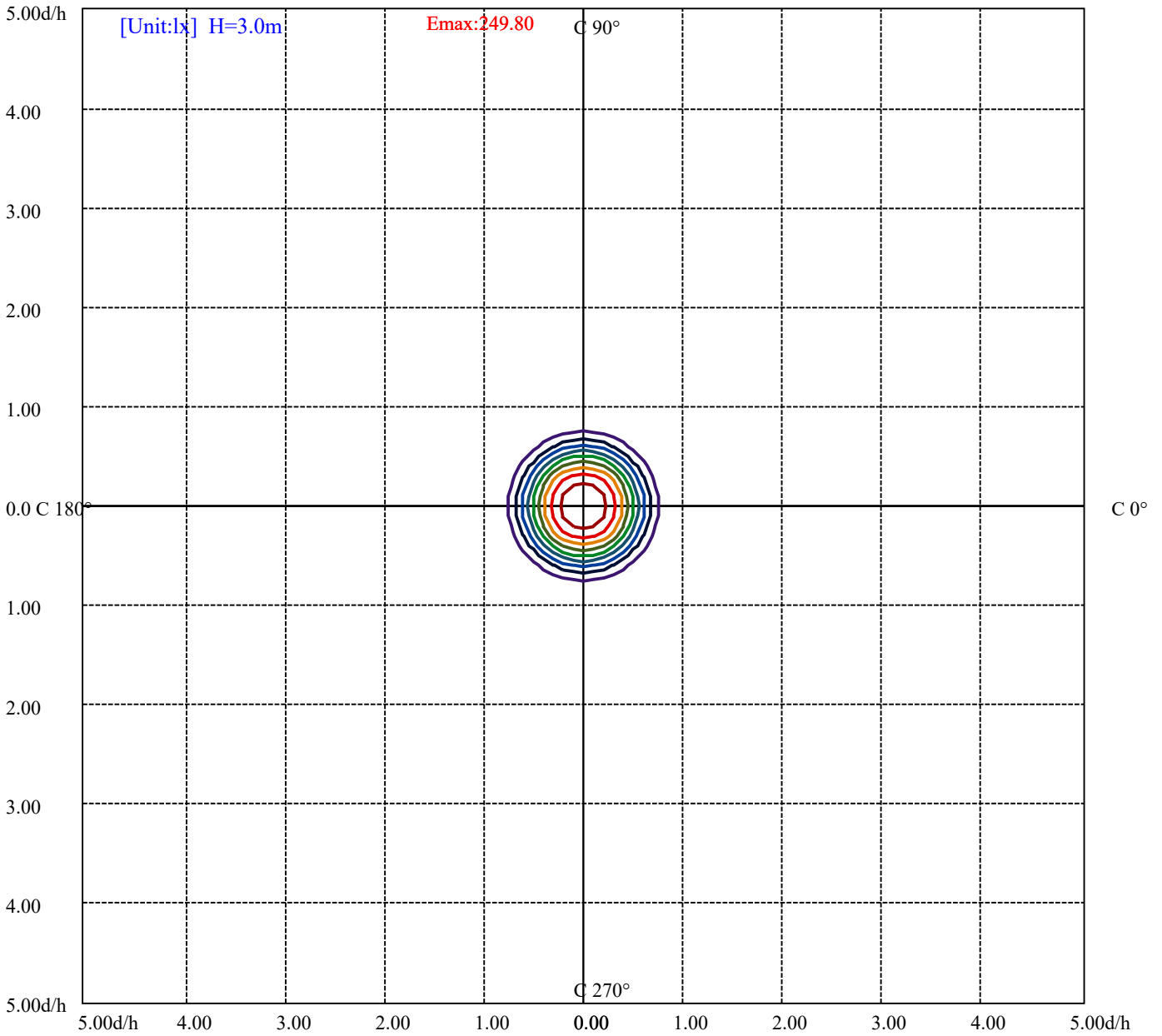
House

[Unit:cd]

Road

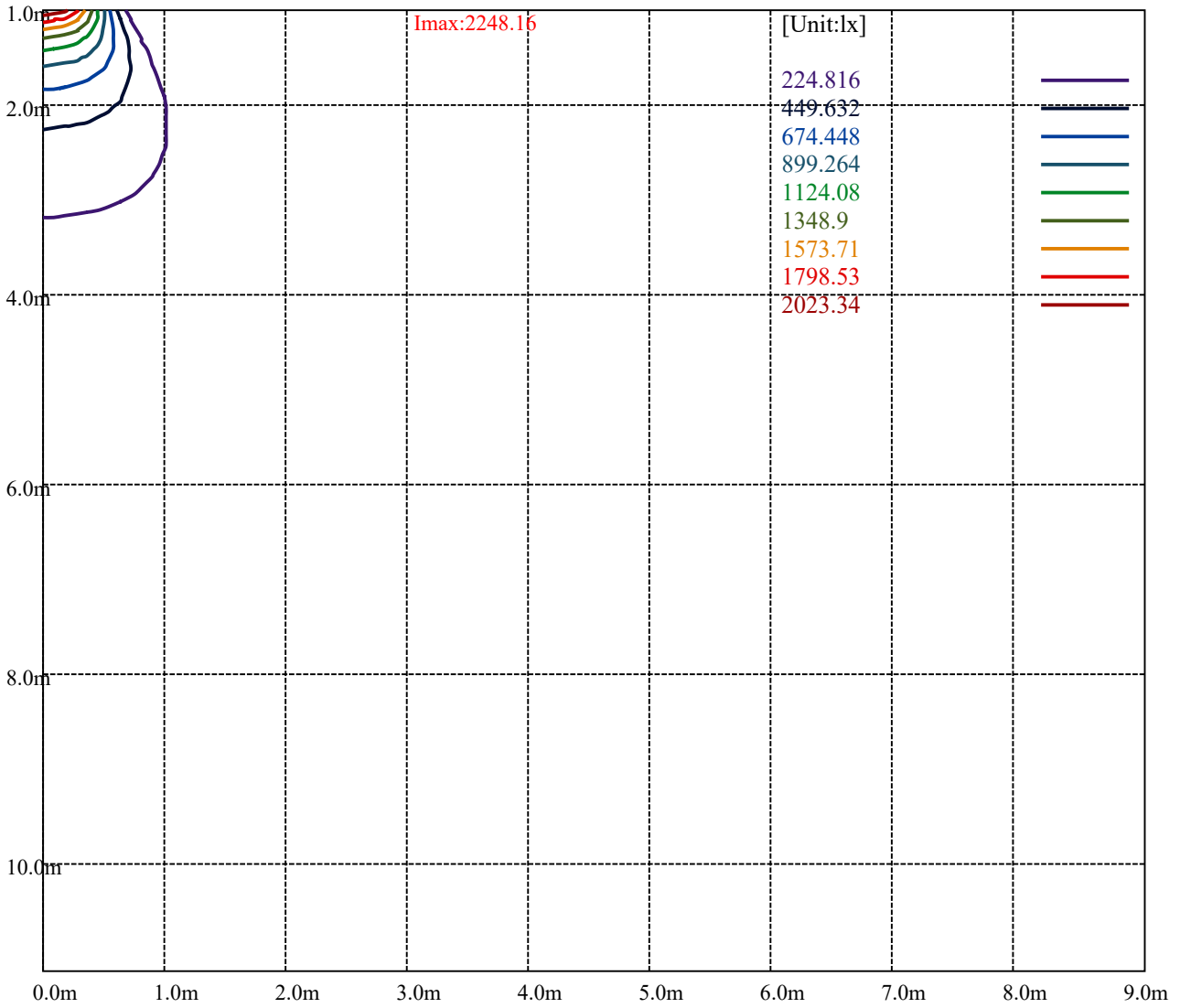
**Imax:2248.16**

(10%Imax)	224.816	—
(20%Imax)	449.632	—
(30%Imax)	674.448	—
(40%Imax)	899.264	—
(50%Imax)	1124.08	—
(60%Imax)	1348.9	—
(70%Imax)	1573.71	—
(80%Imax)	1798.53	—
(90%Imax)	2023.34	—



- (10%Emax) 24.97956
- (20%Emax) 49.95911
- (30%Emax) 74.93856
- (40%Emax) 99.91811
- (50%Emax) 124.8978
- (60%Emax) 149.8767
- (70%Emax) 174.8567
- (80%Emax) 199.8367
- (90%Emax) 224.8156





Luminance Table

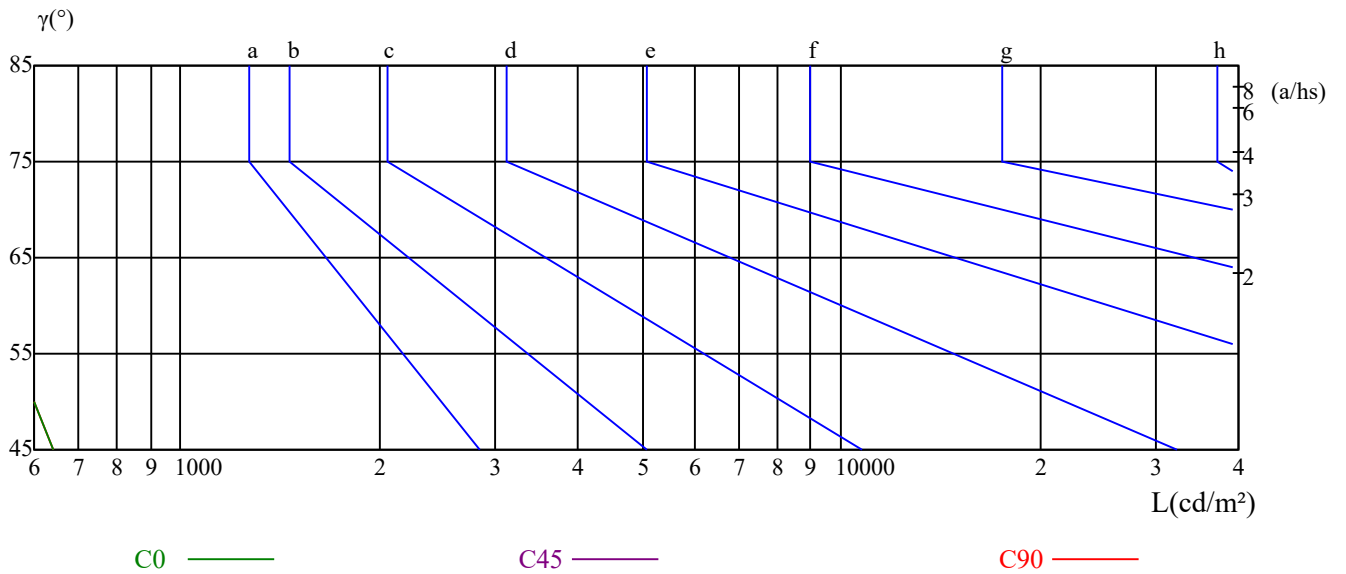
$\gamma$	45	50	55	60	65	70	75	80	85
C0	643	264	176	155	141	133	129	127	128
C45	473	193	128	112	102	95	92	91	91
C90	643	264	176	155	141	133	129	127	128

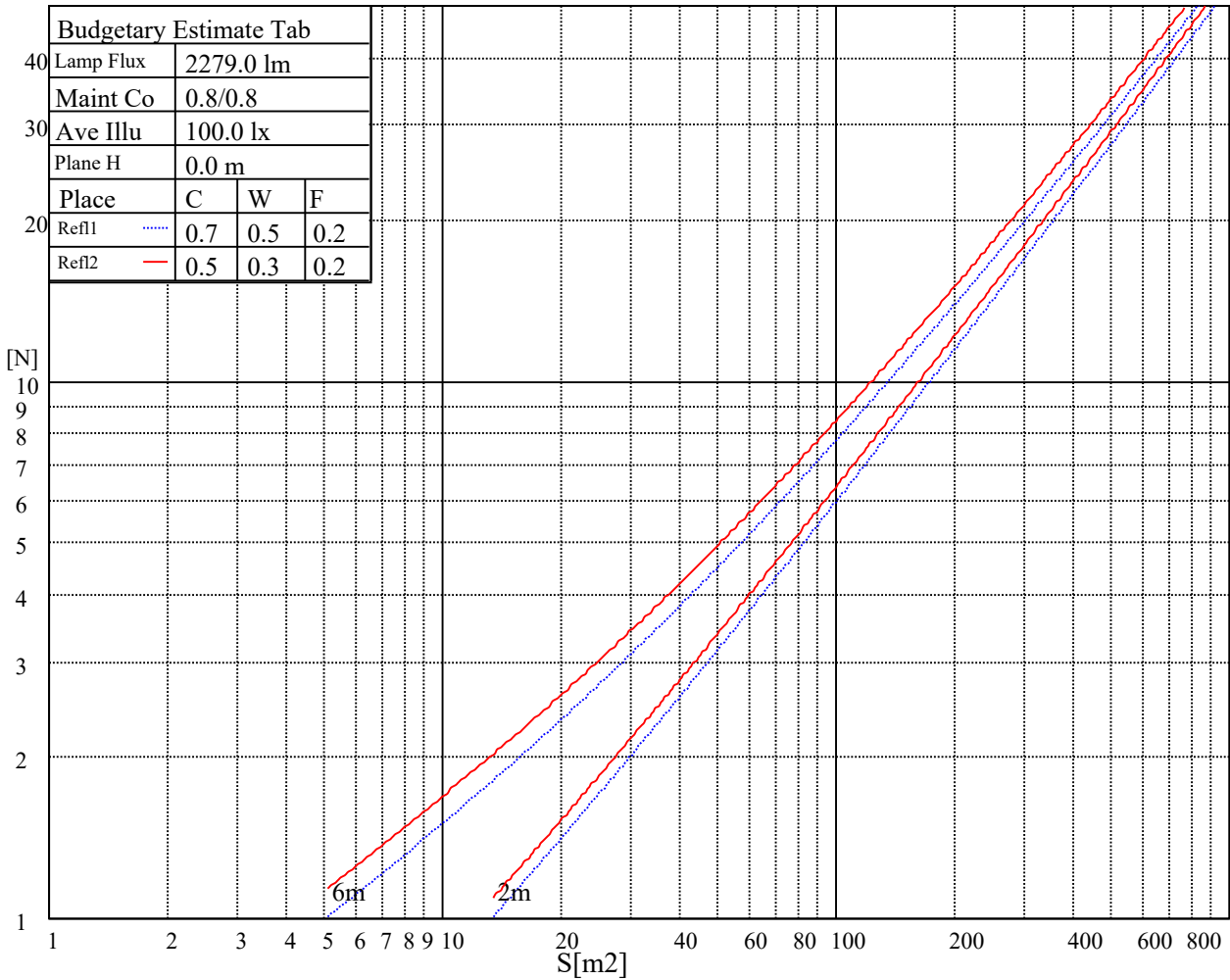
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2112	2112	2112	3255	3255	3255	9649	9649	9649

Glare Table

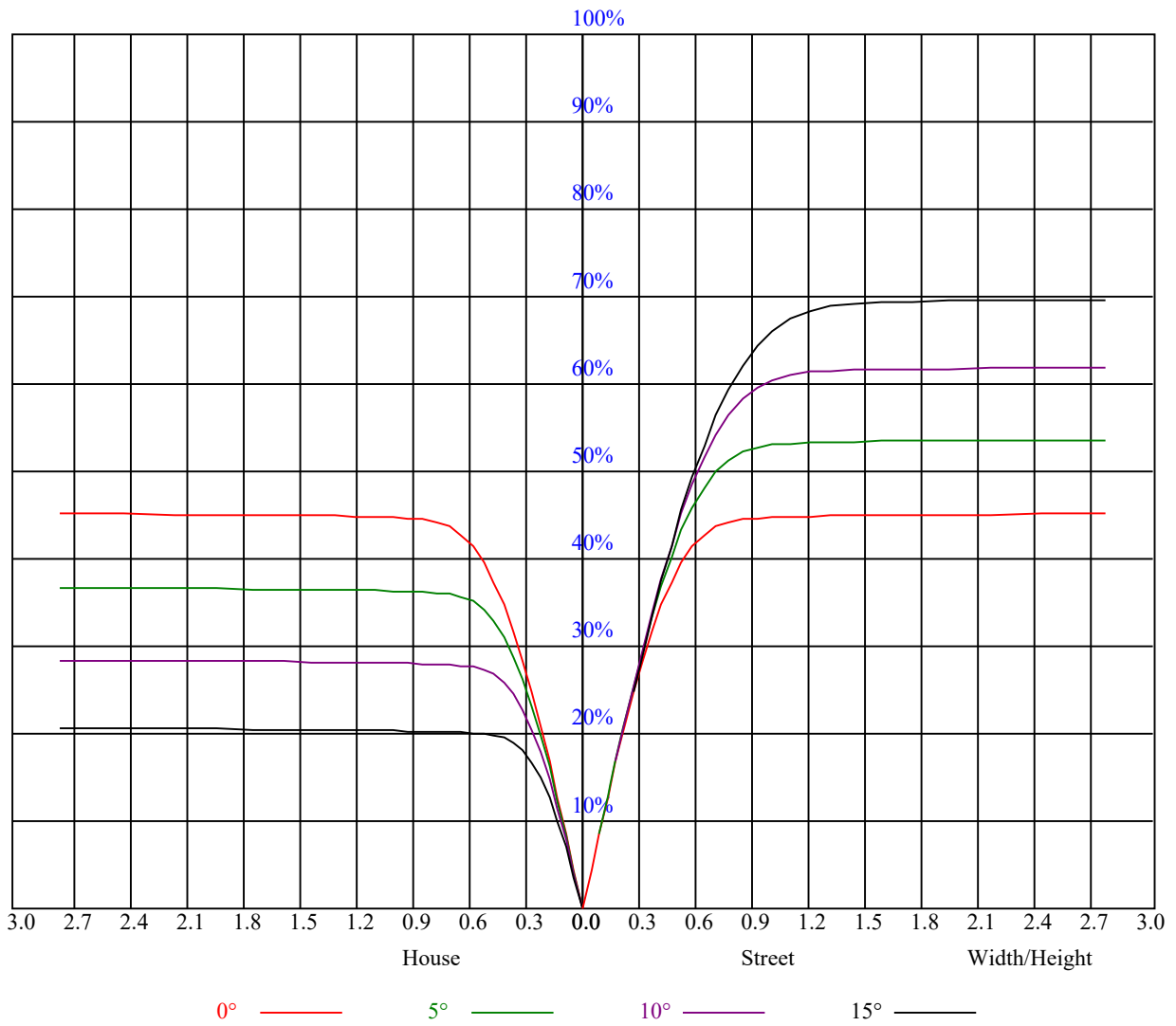
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.06	1.06	1.06	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.01	0.99	0.97	0.99	0.97	0.95	0.95	0.94	0.92	0.92	0.91	0.89	0.89	0.88	0.87	0.85
2	0.94	0.90	0.87	0.93	0.89	0.86	0.90	0.87	0.85	0.87	0.85	0.83	0.84	0.83	0.81	0.79
3	0.88	0.84	0.80	0.87	0.83	0.79	0.84	0.81	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.74
4	0.82	0.78	0.74	0.81	0.77	0.73	0.79	0.76	0.72	0.78	0.74	0.72	0.76	0.73	0.71	0.69
5	0.77	0.72	0.68	0.77	0.72	0.68	0.75	0.71	0.67	0.73	0.70	0.67	0.72	0.69	0.66	0.65
6	0.73	0.68	0.64	0.72	0.67	0.64	0.71	0.66	0.63	0.70	0.66	0.63	0.68	0.65	0.62	0.61
7	0.69	0.63	0.60	0.68	0.63	0.59	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.58	0.57
8	0.65	0.60	0.56	0.64	0.59	0.56	0.63	0.59	0.55	0.62	0.58	0.55	0.62	0.58	0.55	0.54
9	0.61	0.56	0.53	0.61	0.56	0.52	0.60	0.55	0.52	0.59	0.55	0.52	0.58	0.55	0.52	0.51
10	0.58	0.53	0.49	0.58	0.53	0.49	0.57	0.52	0.49	0.56	0.52	0.49	0.56	0.52	0.49	0.48



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	2247.40	2185.19	2180.23	2134.54	1958.36	1587.28	1139.67	363.37	71.74
45.0	2251.81	2191.80	2163.72	2131.23	1968.82	1670.96	1262.44	497.71	75.92
90.0	2258.41	2220.42	2208.31	2174.18	1971.57	1679.77	1061.49	474.37	81.87
135.0	2235.84	2245.20	2220.42	2225.38	2107.56	1853.20	1476.06	855.58	295.65
180.0	2247.40	2213.27	2197.85	2181.89	2094.35	1882.93	1460.10	845.01	181.85
225.0	2250.16	2217.12	2222.63	2158.21	2075.63	1822.92	1320.80	715.57	147.00
270.0	2258.41	2227.58	2279.89	2241.35	2112.51	1803.10	1338.42	708.58	281.89
315.0	2235.84	2236.94	2245.20	2162.06	1982.58	1587.28	1079.00	350.71	99.60
360.0	2247.40	2185.19	2180.23	2134.54	1958.36	1587.28	1139.67	363.37	71.74
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	25.05	12.88	9.97	9.25	8.75	8.37	8.37	8.31	8.53
45.0	19.21	11.84	10.02	9.30	8.92	8.59	8.53	8.42	8.53
90.0	20.32	11.84	10.02	9.36	8.86	8.59	8.42	8.42	8.42
135.0	33.58	14.20	10.46	9.58	9.03	8.64	8.42	8.37	8.37
180.0	42.78	16.85	10.74	9.58	8.92	8.53	8.31	8.26	8.26
225.0	45.20	18.06	10.90	9.69	9.08	8.70	8.48	8.48	8.42
270.0	54.62	18.83	11.01	9.74	9.08	8.70	8.48	8.42	8.42
315.0	31.99	14.09	10.08	9.25	8.75	8.48	8.37	8.37	8.31
360.0	25.05	12.88	9.97	9.25	8.75	8.37	8.37	8.31	8.53
C/ $\gamma$ (°)	90.0								
0.0	8.26								
45.0	8.37								
90.0	8.31								
135.0	8.26								
180.0	8.26								
225.0	8.42								
270.0	8.37								
315.0	8.31								
360.0	8.26								