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## NATA

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LumCAT: CR01D07038BM	
Luminaire: 92.70.109.00	
Report No: NATA0100	Voltage(V): 36.9000
Test No: GC2018112703	Current(A): 0.3000
LampCAT: CREE CXA1507	Power (W): 11.0700
Lamp flux(lm): 1176.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 70	Width(mm): 70
Phm Type: C	Height(mm): 0

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## Photometric Results

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Lumens(lm): 1020.32  
Efficiency(%): 86.76%  
Lumens(lm)/Power(W): 93.16  
Central intensity(cd): 2003.484  
Maximum intensity(cd): 2003.484  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=35.5  
                                  [C90/270]Total=35.5  
Field angle(10%Imax): [C0/180]Total=65.0  
                                  [C90/270]Total=65.0  
Maximum s/h(1/2): C0\_180=0.58 C90\_270=0.58  
Maximum s/h(1/4): C0\_180=0.59 C90\_270=0.59  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 87.70%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 90.579%

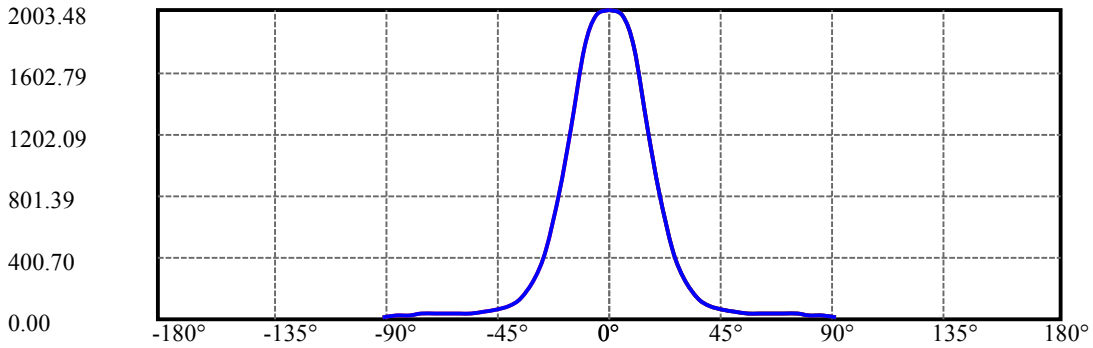
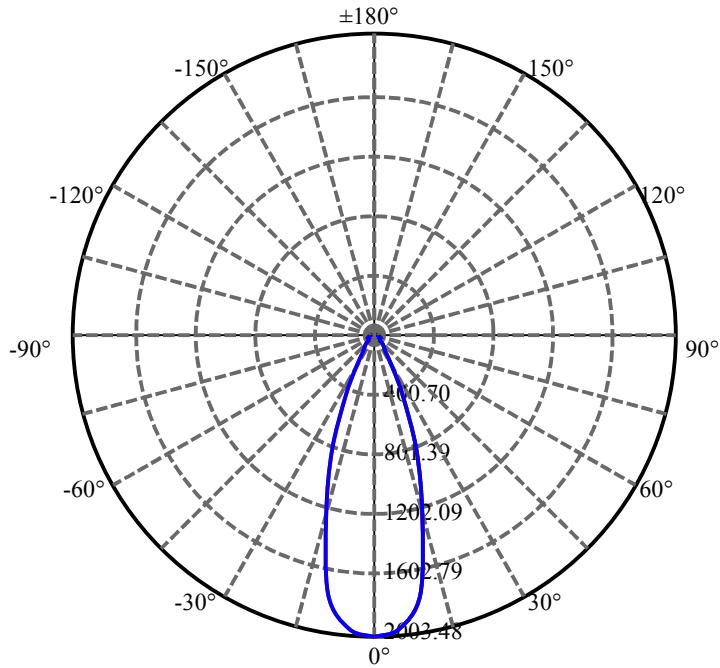
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2003.484	11.981	11.981	1.019%	1.174%
5.0	1961.367	93.701	105.682	7.968%	10.358%
10.0	1749.305	166.504	272.186	14.159%	26.677%
15.0	1231.355	174.690	446.877	14.855%	43.798%
20.0	817.341	153.230	600.107	13.030%	58.816%
25.0	443.827	102.814	702.921	8.743%	68.892%
30.0	260.065	71.276	774.196	6.061%	75.878%
35.0	140.407	44.144	818.34	3.754%	80.204%
40.0	92.334	32.533	850.873	2.766%	83.393%
45.0	65.145	25.249	876.122	2.147%	85.868%
50.0	51.518	21.632	897.754	1.839%	87.988%
55.0	42.462	19.066	916.82	1.621%	89.856%
60.0	36.548	17.350	934.17	1.475%	91.557%
65.0	34.509	17.144	951.313	1.458%	93.237%
70.0	32.273	16.623	967.937	1.414%	94.866%
75.0	41.456	21.949	989.886	1.866%	97.017%
80.0	27.900	15.061	1004.947	1.281%	98.494%
85.0	21.073	11.507	1016.454	.978%	99.621%
90.0	14.098	3.864	1020.317	.329%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	774.20	65.83%	75.88%
0-40	850.87	72.35%	83.39%
0-60	934.17	79.44%	91.56%
0-90	1016.45	86.43%	99.62%
0-120	1016.45	86.43%	99.62%
0-180	1020.32	86.76%	100.00%
60-90	99.63	8.47%	9.76%
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%
0-34.76	816.25	69.41%	80.00%

ZONAL LUMEN SUMMARY

0-10	272.19
10-20	327.92
20-30	174.09
30-40	76.68
40-50	46.88
50-60	36.42
60-70	33.77
70-80	37.01
80-90	11.51
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



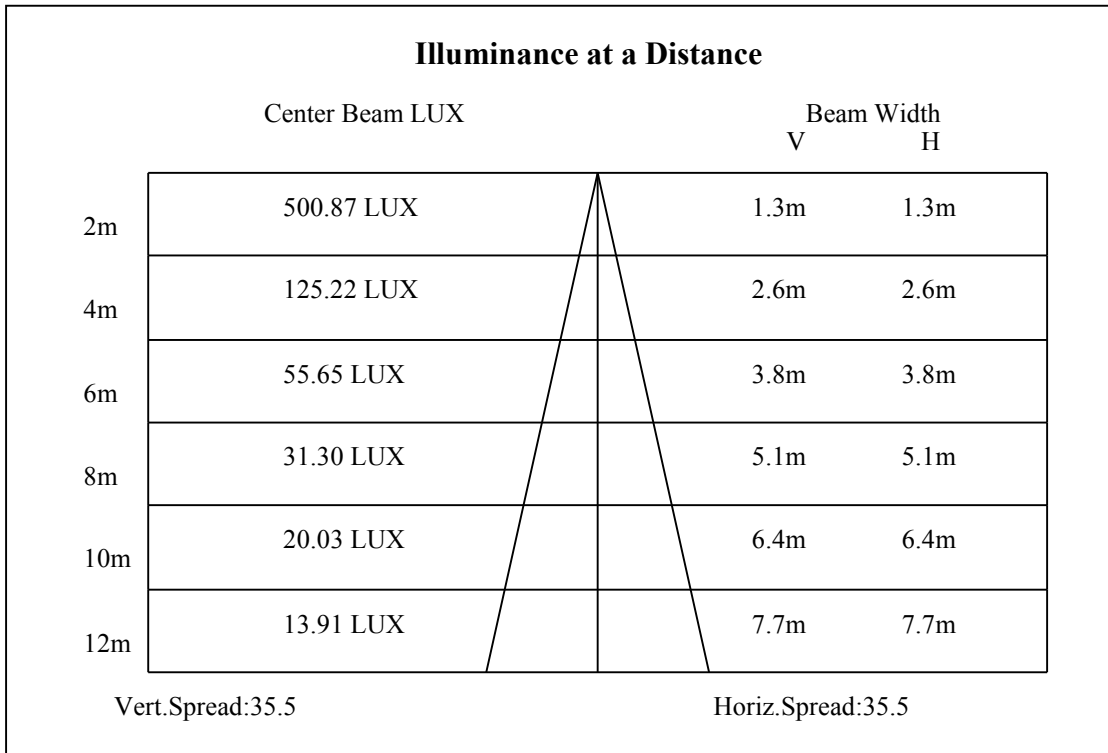
C0(Max): —————

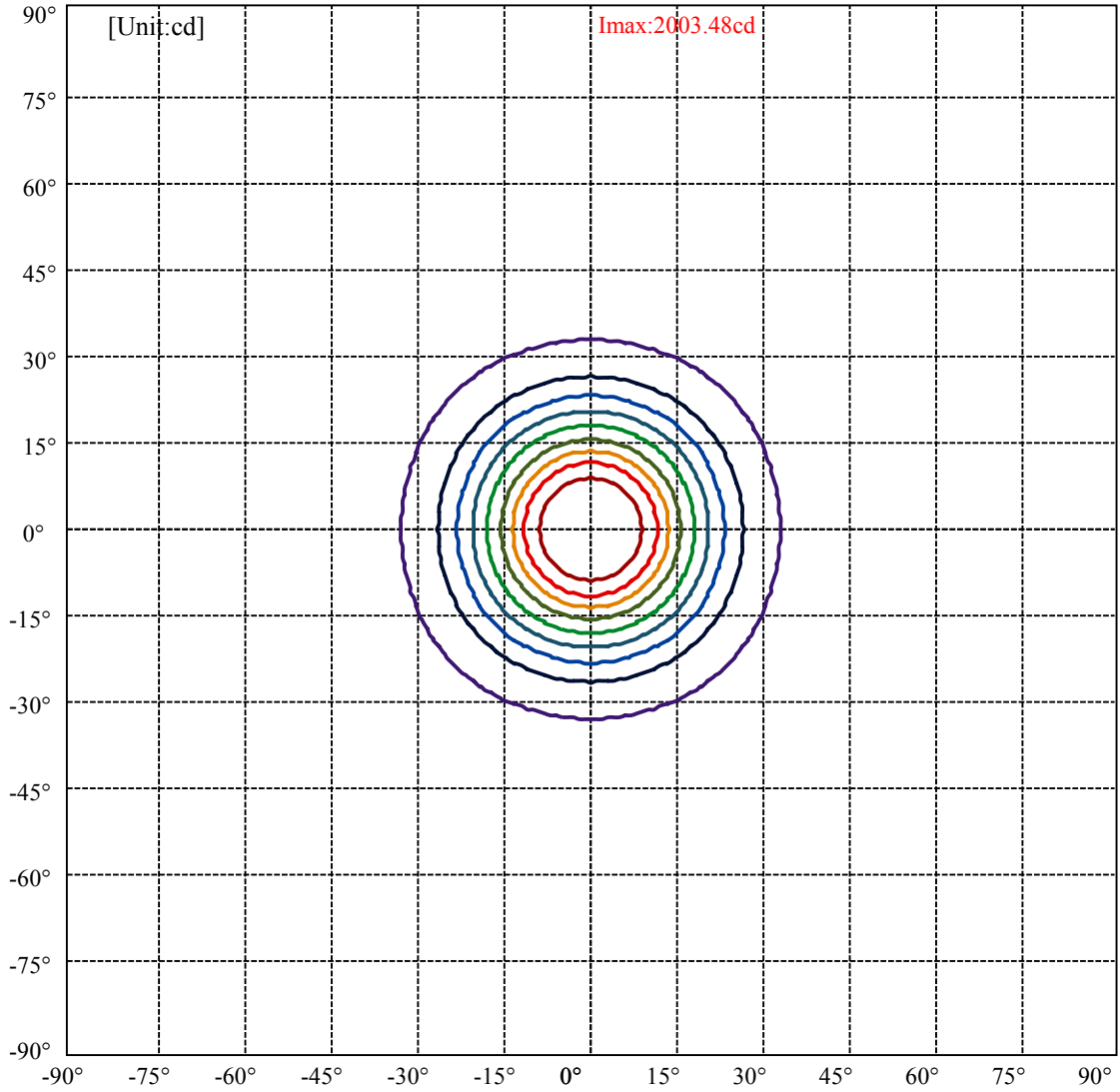
C0/C180: —————

C90/C270: —————

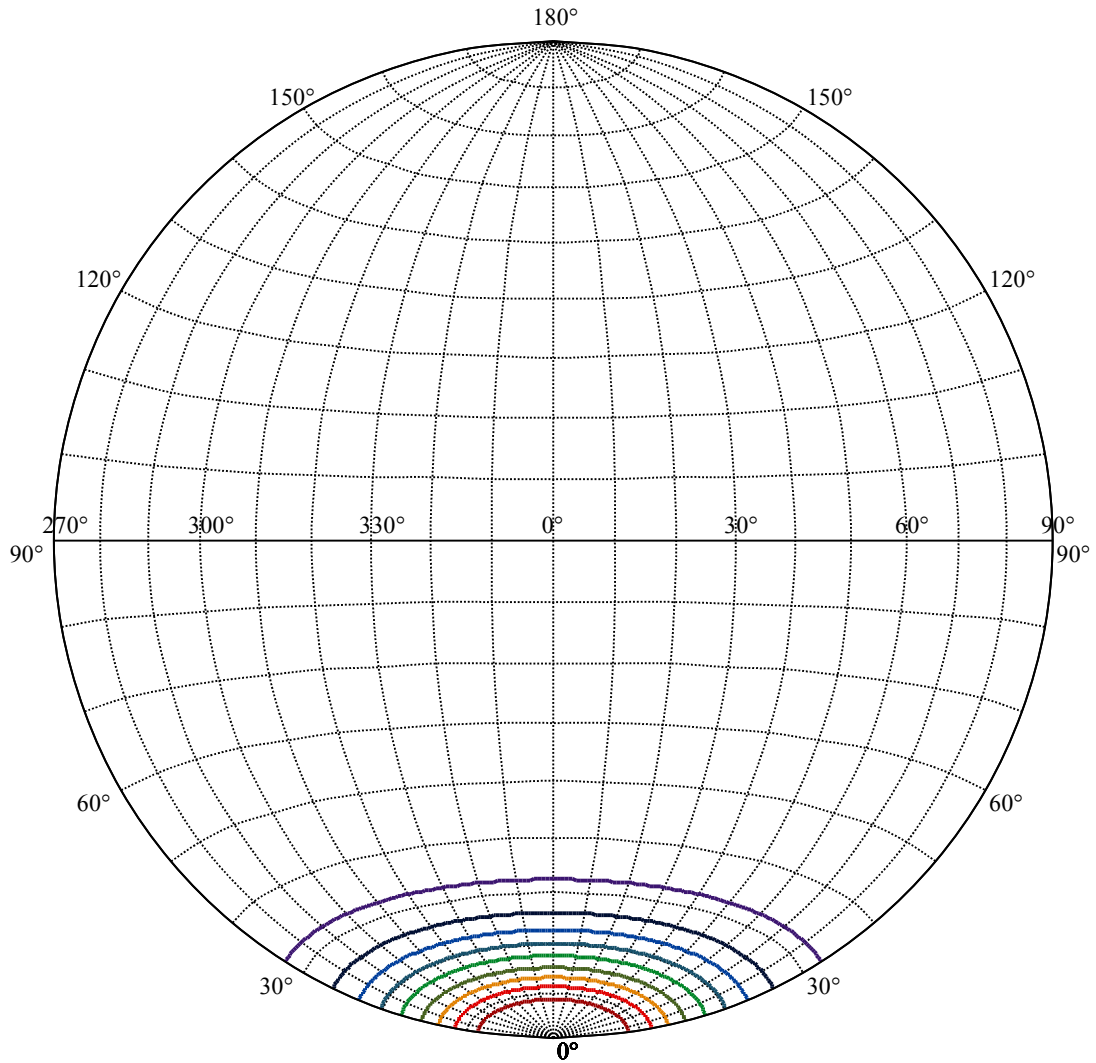
Field angle(10%Imax):C0/180Left:32.5 Right:32.5  
:C90/270Left:32.5 Right:32.5

Beam Angle(50%Imax):C0/180Left:17.8 Right:17.8  
:C90/270Left:17.8 Right:17.8





(10%Imax) 200.348	—
(20%Imax) 400.697	—
(30%Imax) 601.045	—
(40%Imax) 801.394	—
(50%Imax) 1001.74	—
(60%Imax) 1202.09	—
(70%Imax) 1402.44	—
(80%Imax) 1602.79	—
(90%Imax) 1803.14	—



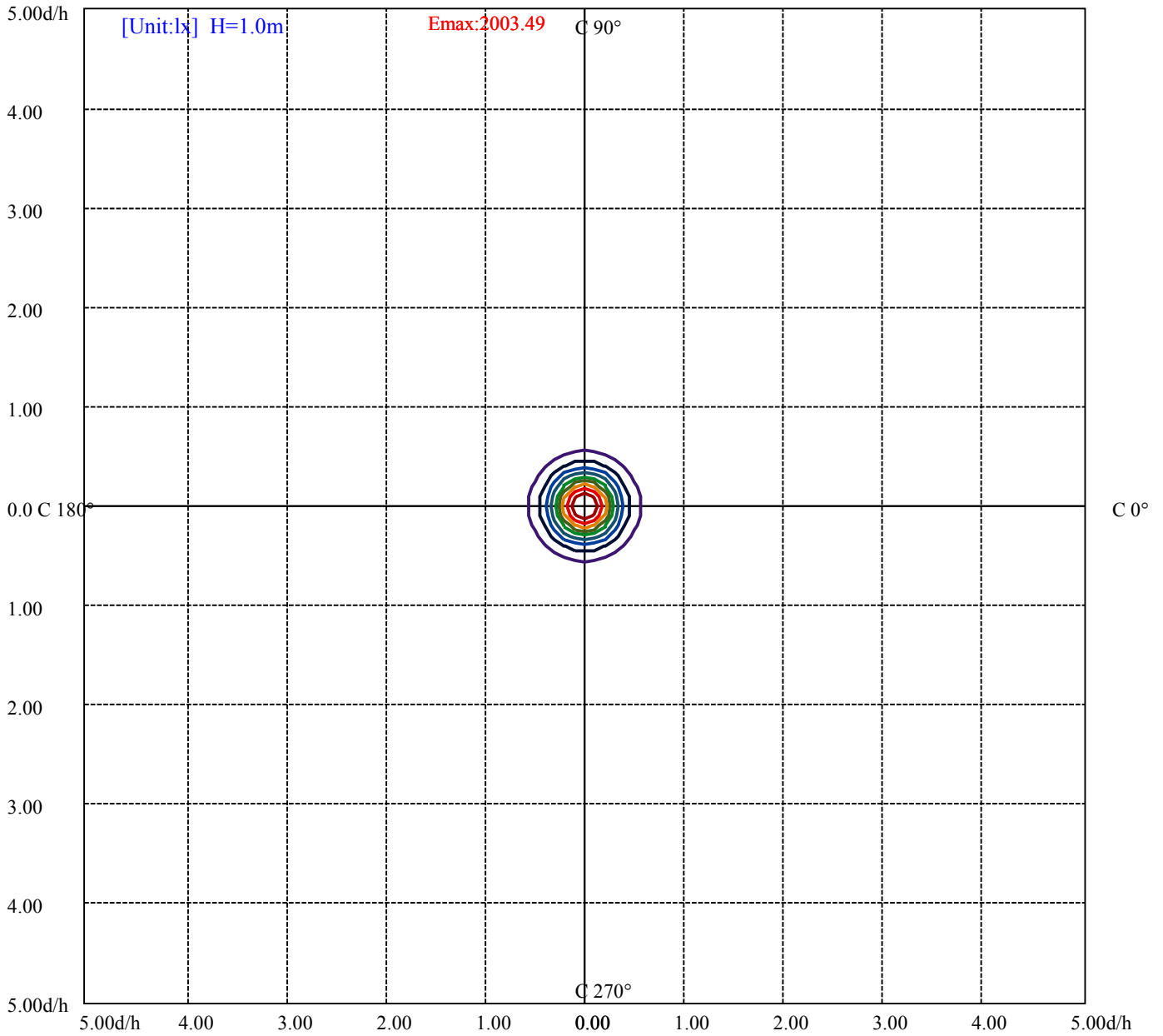
House

[Unit:cd]

Road

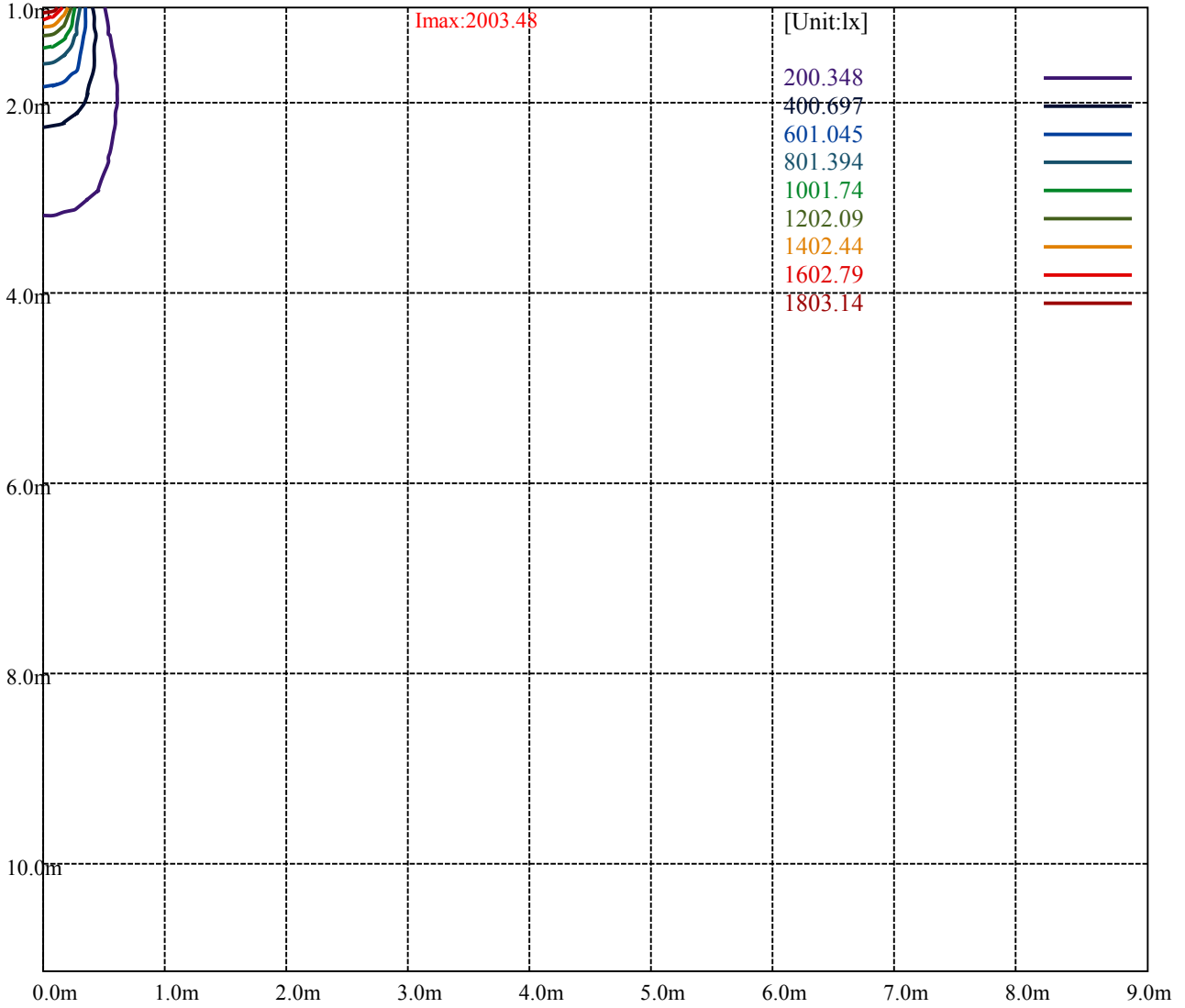
Imax:2003.48

(10%Imax)	200.348	—
(20%Imax)	400.697	—
(30%Imax)	601.045	—
(40%Imax)	801.394	—
(50%Imax)	1001.74	—
(60%Imax)	1202.09	—
(70%Imax)	1402.44	—
(80%Imax)	1602.79	—
(90%Imax)	1803.14	—



(10%Emax) 200.348	—
(20%Emax) 400.697	—
(30%Emax) 601.045	—
(40%Emax) 801.393	—
(50%Emax) 1001.74	—
(60%Emax) 1202.09	—
(70%Emax) 1402.44	—
(80%Emax) 1602.79	—
(90%Emax) 1803.13	—





Luminance Table

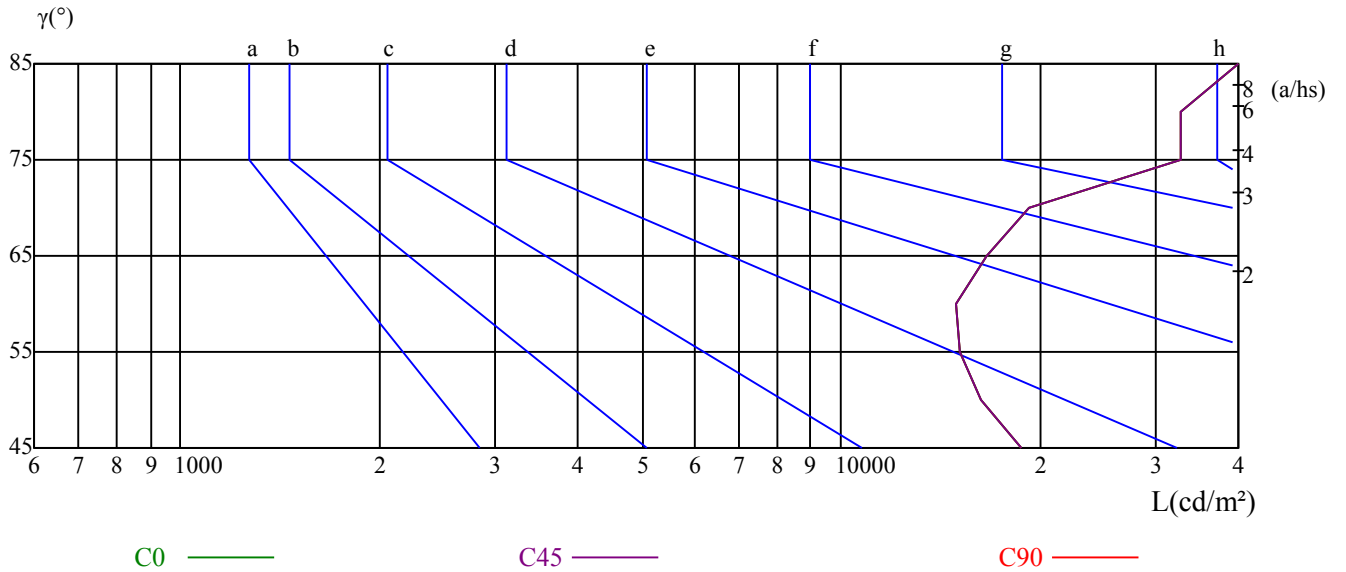
$\gamma$	45	50	55	60	65	70	75	80	85
C0	18802	16357	15108	14918	16665	19257	32689	32790	49343
C45	18802	16357	15108	14918	16665	19257	32689	32790	49343
C90	18802	16357	15108	14918	16665	19257	32689	32790	49343

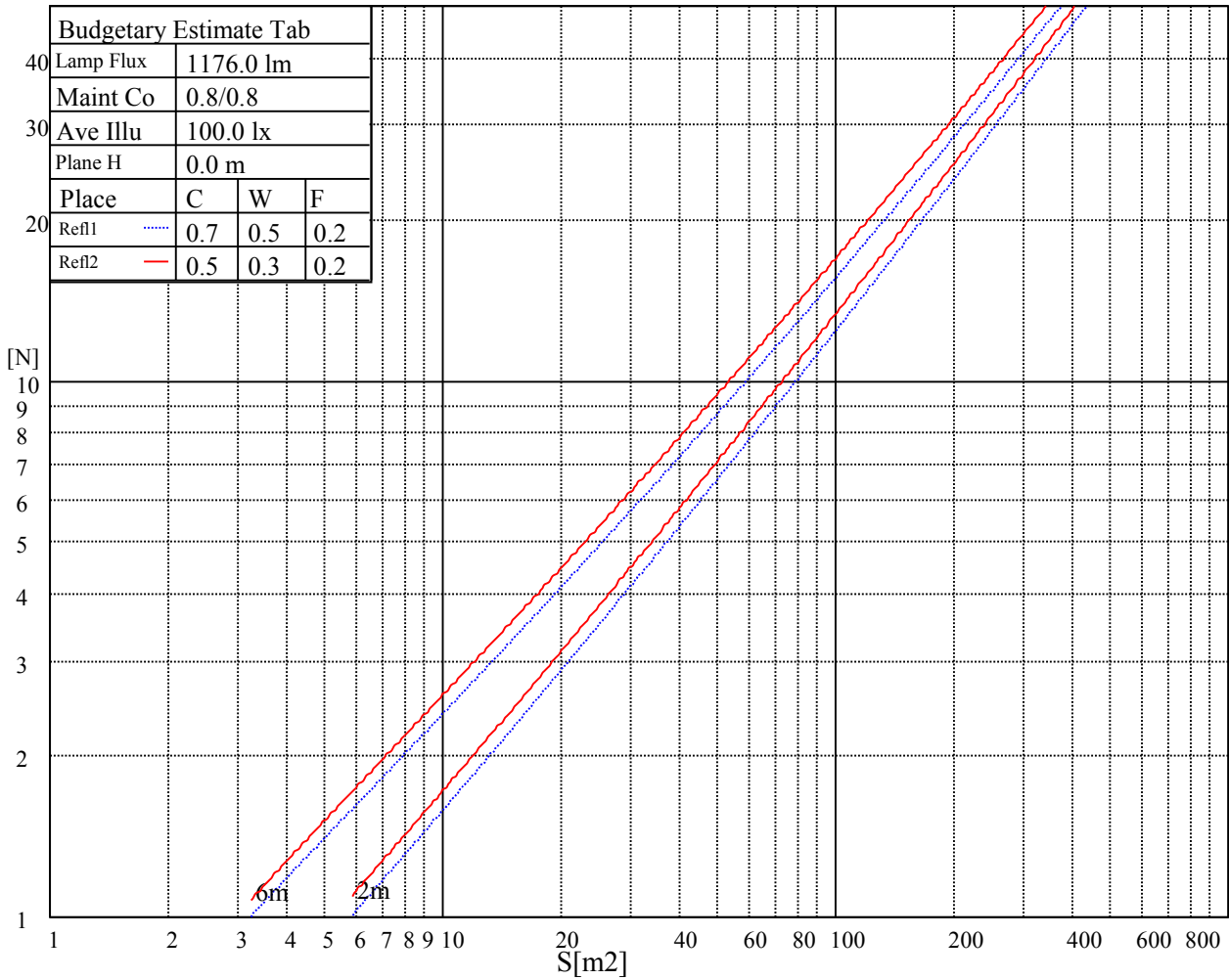
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
16665	16665	16665	32689	32689	32689	49343	49343	49343

Glare Table

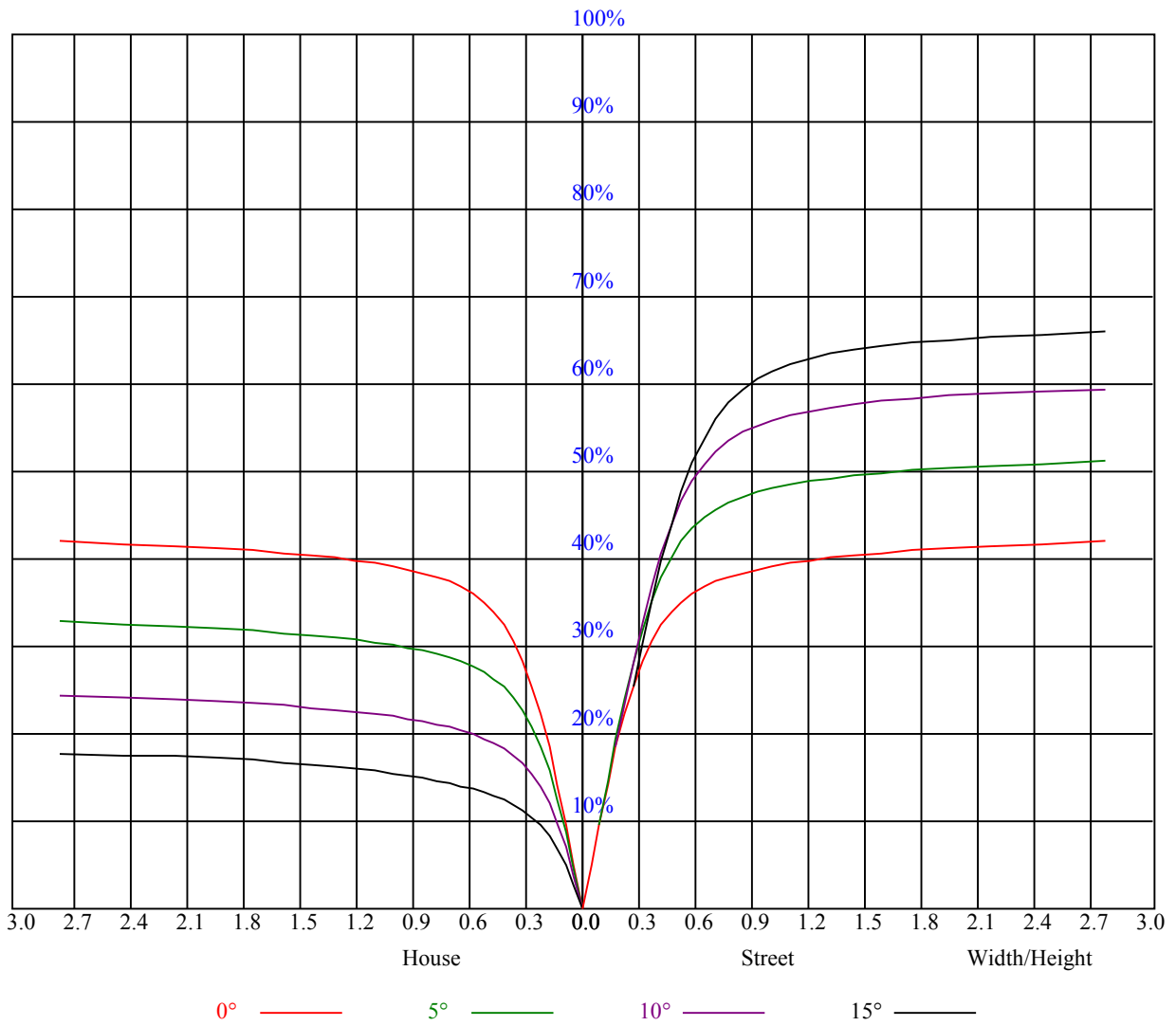
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.04	1.04	1.04	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.88
1	0.95	0.92	0.89	0.93	0.90	0.88	0.89	0.87	0.85	0.86	0.84	0.83	0.83	0.81	0.80	0.79
2	0.88	0.84	0.80	0.86	0.83	0.79	0.83	0.80	0.78	0.81	0.78	0.76	0.78	0.76	0.74	0.73
3	0.82	0.78	0.74	0.81	0.77	0.73	0.79	0.75	0.72	0.77	0.73	0.71	0.75	0.72	0.70	0.68
4	0.78	0.73	0.69	0.77	0.72	0.68	0.75	0.71	0.68	0.73	0.69	0.67	0.71	0.68	0.66	0.65
5	0.74	0.68	0.65	0.73	0.68	0.64	0.71	0.67	0.64	0.70	0.66	0.63	0.68	0.65	0.63	0.61
6	0.70	0.65	0.61	0.69	0.65	0.61	0.68	0.64	0.61	0.67	0.63	0.60	0.66	0.62	0.60	0.59
7	0.67	0.62	0.58	0.66	0.62	0.58	0.65	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.56
8	0.64	0.59	0.56	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.55	0.61	0.58	0.55	0.54
9	0.62	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.53	0.60	0.56	0.53	0.59	0.56	0.53	0.52
10	0.59	0.55	0.52	0.59	0.55	0.52	0.58	0.54	0.51	0.58	0.54	0.51	0.57	0.54	0.51	0.50



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	1992.38	1965.38	1796.06	1376.44	903.38	490.50	291.38	153.39	98.21
45.0	2004.19	1996.88	1778.06	1322.44	810.56	430.31	286.88	137.31	90.00
90.0	2016.56	1996.88	1740.38	1109.81	729.28	411.08	217.91	127.80	85.11
135.0	2000.81	2009.25	1820.25	1348.31	827.44	455.06	291.38	139.22	94.39
180.0	1992.38	1952.44	1713.94	1112.46	758.25	412.76	220.33	134.04	88.82
225.0	2004.19	1937.25	1738.13	1116.90	850.73	454.84	249.19	143.49	95.46
270.0	2016.56	1919.81	1735.31	1346.63	876.38	479.25	286.88	151.37	96.98
315.0	2000.81	1913.06	1672.31	1117.86	782.72	416.81	236.59	136.63	89.72
360.0	1992.38	1965.38	1796.06	1376.44	903.38	490.50	291.38	153.39	98.21

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	67.84	53.27	43.93	38.03	35.27	32.23	44.89	29.25	21.94
45.0	64.18	50.68	41.96	36.34	34.59	31.84	35.21	26.94	19.80
90.0	62.04	49.50	41.12	35.55	33.75	32.18	32.63	25.71	19.58
135.0	65.25	51.58	42.75	36.56	33.98	32.51	35.78	27.34	20.19
180.0	63.62	50.79	41.91	36.11	34.03	32.06	33.92	27.56	20.36
225.0	66.32	51.81	42.69	36.17	34.26	31.95	52.59	28.52	22.11
270.0	68.46	54.11	43.37	37.35	35.21	33.19	54.00	29.53	22.67
315.0	63.45	50.40	41.96	36.28	34.99	32.23	42.64	28.35	21.94
360.0	67.84	53.27	43.93	38.03	35.27	32.23	44.89	29.25	21.94

C/γ(°)	90.0
0.0	14.68
45.0	12.04
90.0	12.83
135.0	14.57
180.0	13.16
225.0	15.30
270.0	15.30
315.0	14.91
360.0	14.68