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## NATA

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LumCAT: LM01D03050AE

Luminaire:

Report No: NATA0100

Voltage(V): 35.1000

Test No: GC2018123002

Current(A): 0.1500

LampCAT: LUMILEDS LUXEON 1202S

Power (W): 5.2650

Lamp flux(lm): 832.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 30

Width(mm): 30

Phm Type: C

Height(mm): 0

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## Photometric Results

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Lumens(lm): 698.82

Efficiency(%): 83.99%

Lumens(lm)/Power(W): 133.41

Central intensity(cd): 708.103

Maximum intensity(cd): 708.103

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

Beam Angle(50%Imax): [C0/180]Total=50.5

[C90/270]Total=50.5

Field angle(10%Imax): [C0/180]Total=99.6

[C90/270]Total=99.6

Maximum s/h(1/2): C0\_180=0.78 C90\_270=0.78

Maximum s/h(1/4): C0\_180=0.81 C90\_270=0.81

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 84.42%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 90.645%

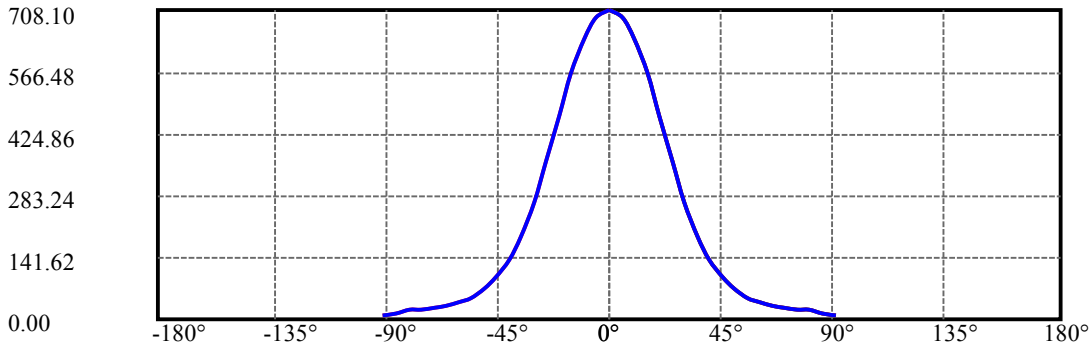
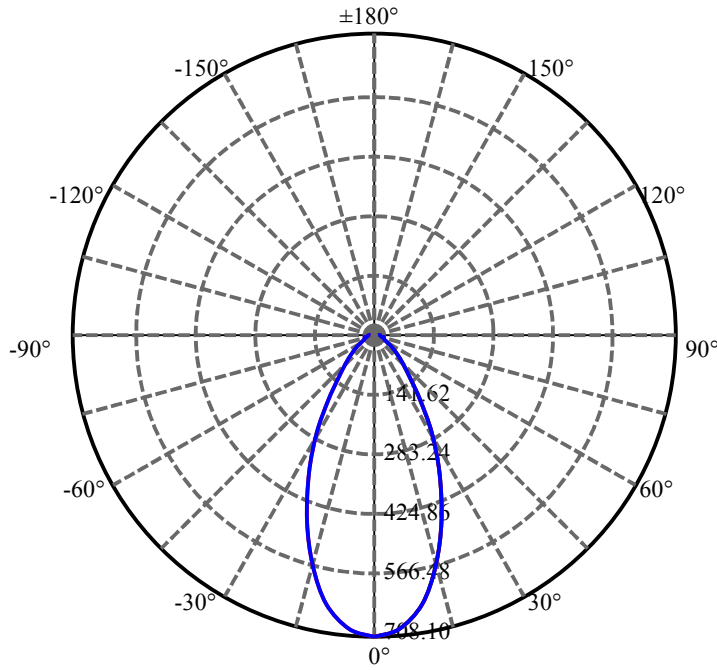
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	708.103	4.235	4.235	.509%	.606%
5.0	690.673	32.996	37.23	3.966%	5.328%
10.0	641.032	61.015	98.246	7.334%	14.059%
15.0	561.649	79.680	177.926	9.577%	25.461%
20.0	464.998	87.175	265.101	10.478%	37.935%
25.0	358.931	83.147	348.248	9.994%	49.833%
30.0	268.031	73.459	421.707	8.829%	60.345%
35.0	189.098	59.452	481.16	7.146%	68.853%
40.0	135.921	47.890	529.05	5.756%	75.706%
45.0	96.694	37.478	566.527	4.505%	81.069%
50.0	69.595	29.223	595.75	3.512%	85.250%
55.0	50.280	22.576	618.327	2.714%	88.481%
60.0	38.672	18.358	636.684	2.206%	91.108%
65.0	31.219	15.509	652.193	1.864%	93.327%
70.0	26.023	13.404	665.597	1.611%	95.245%
75.0	21.867	11.578	677.175	1.392%	96.902%
80.0	20.292	10.954	688.128	1.317%	98.469%
85.0	15.391	8.405	696.533	1.010%	99.672%
90.0	8.360	2.291	698.824	.275%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	421.71	50.69%	60.35%
0-40	529.05	63.59%	75.71%
0-60	636.68	76.52%	91.11%
0-90	696.53	83.72%	99.67%
0-120	696.53	83.72%	99.67%
0-180	698.82	83.99%	100.00%
60-90	78.21	9.40%	11.19%
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%
0-44.00	559.06	67.19%	80.00%

ZONAL LUMEN SUMMARY

0-10	98.25
10-20	166.86
20-30	156.61
30-40	107.34
40-50	66.70
50-60	40.93
60-70	28.91
70-80	22.53
80-90	8.40
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



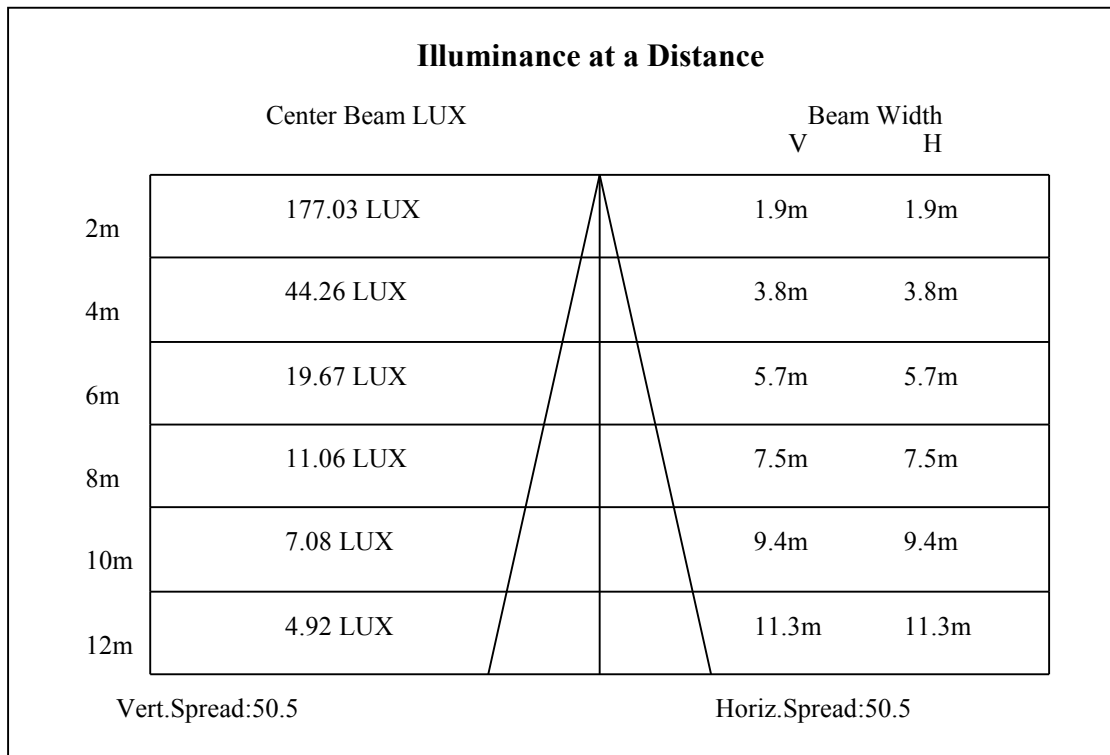
C0(Max): —————

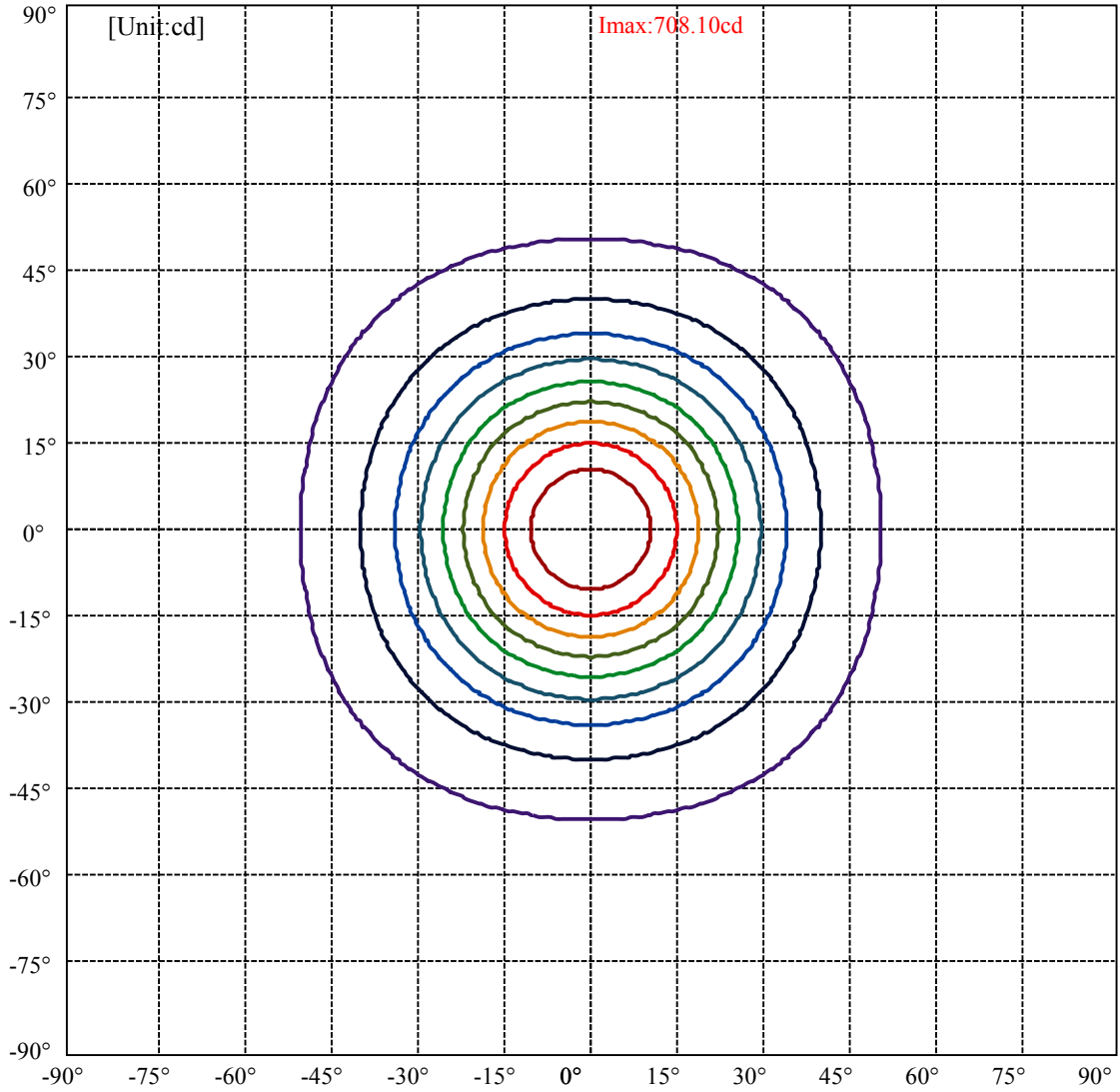
C0/C180: —————

C90/C270: —————

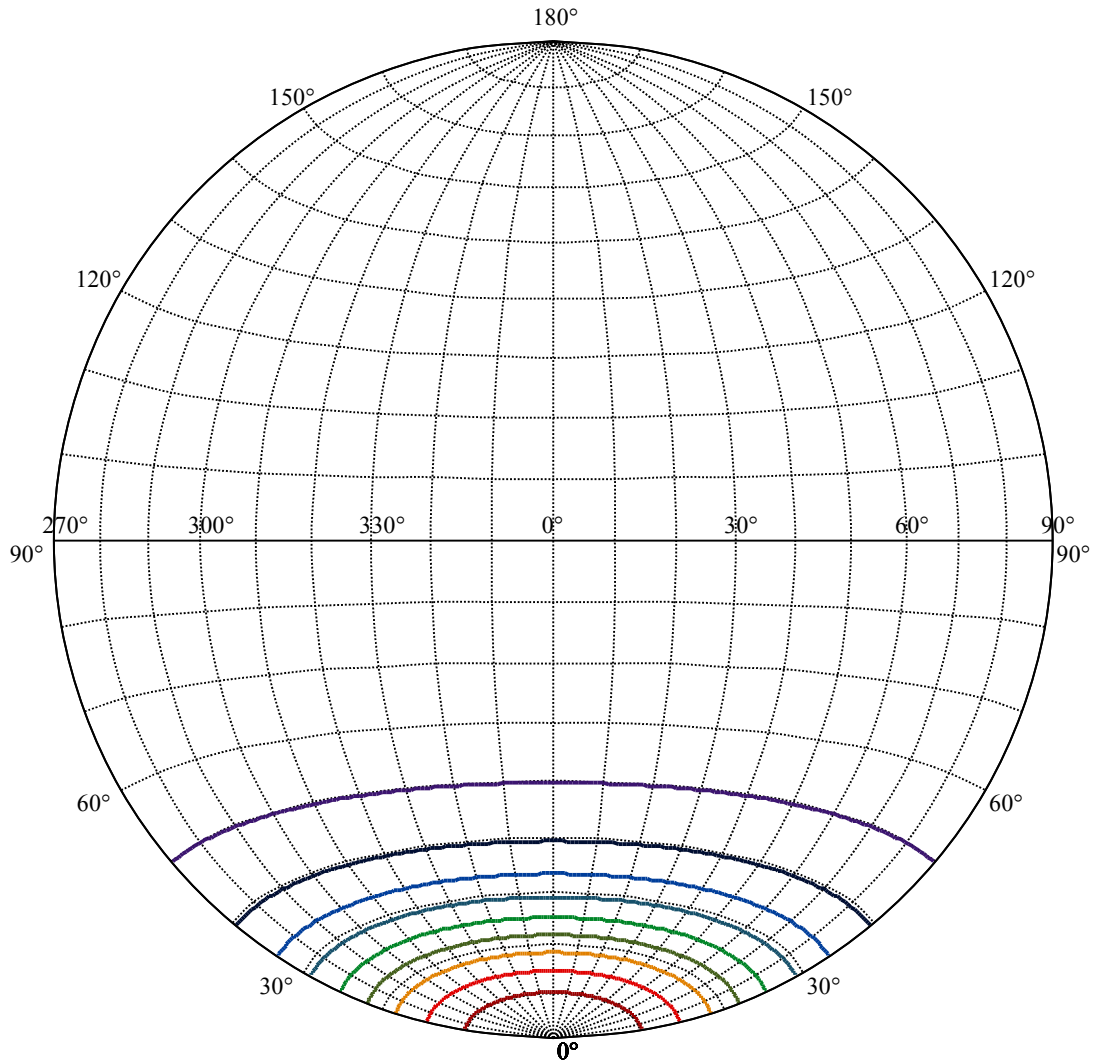
Field angle(10%Imax):C0/180Left:49.8 Right:49.8  
:C90/270Left:49.8 Right:49.8

Beam Angle(50%Imax):C0/180Left:25.3 Right:25.3  
:C90/270Left:25.3 Right:25.3





(10%Imax) 70.8103	—
(20%Imax) 141.621	—
(30%Imax) 212.431	—
(40%Imax) 283.241	—
(50%Imax) 354.052	—
(60%Imax) 424.862	—
(70%Imax) 495.672	—
(80%Imax) 566.483	—
(90%Imax) 637.293	—












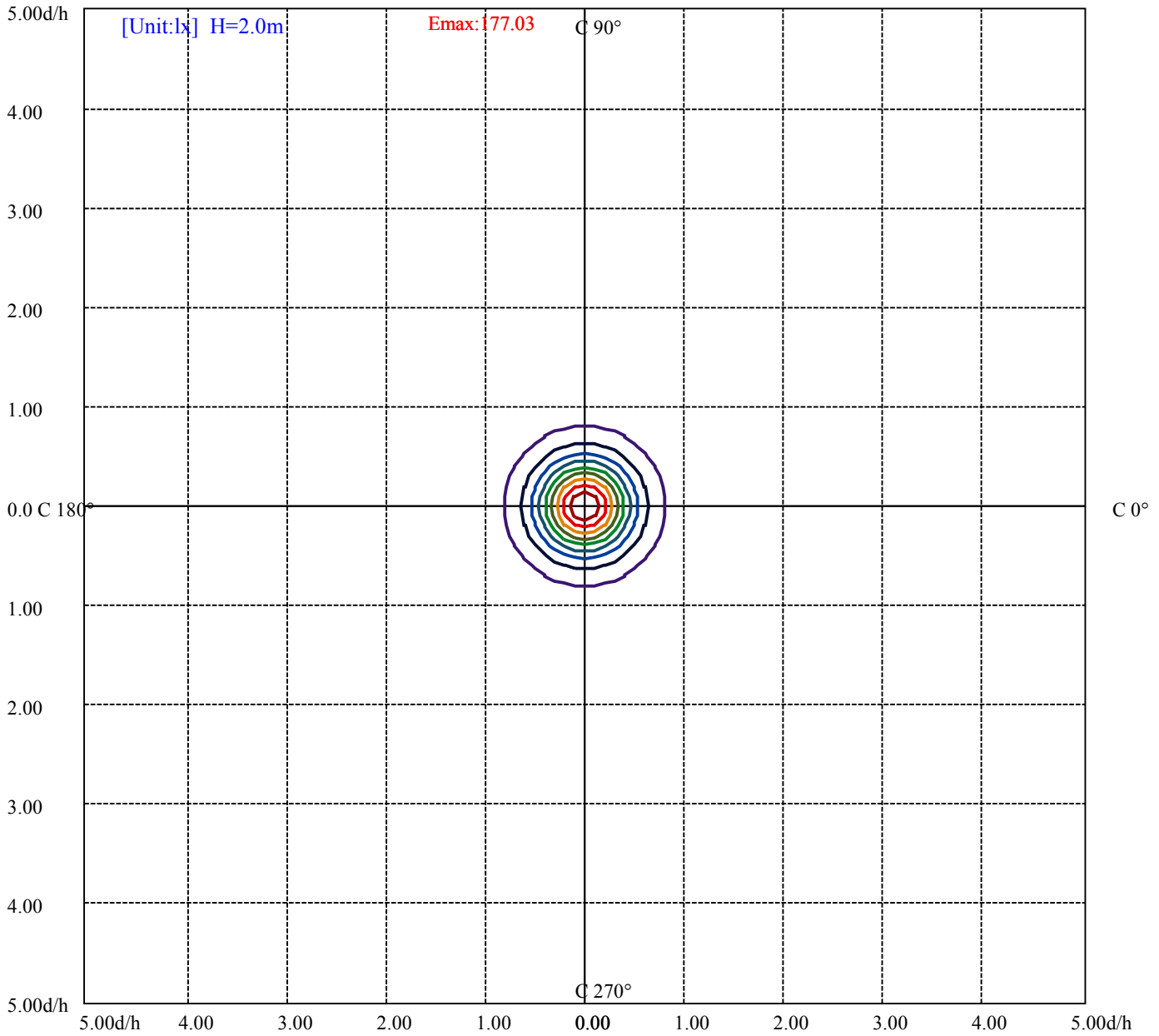
House

[Unit:cd]

Road

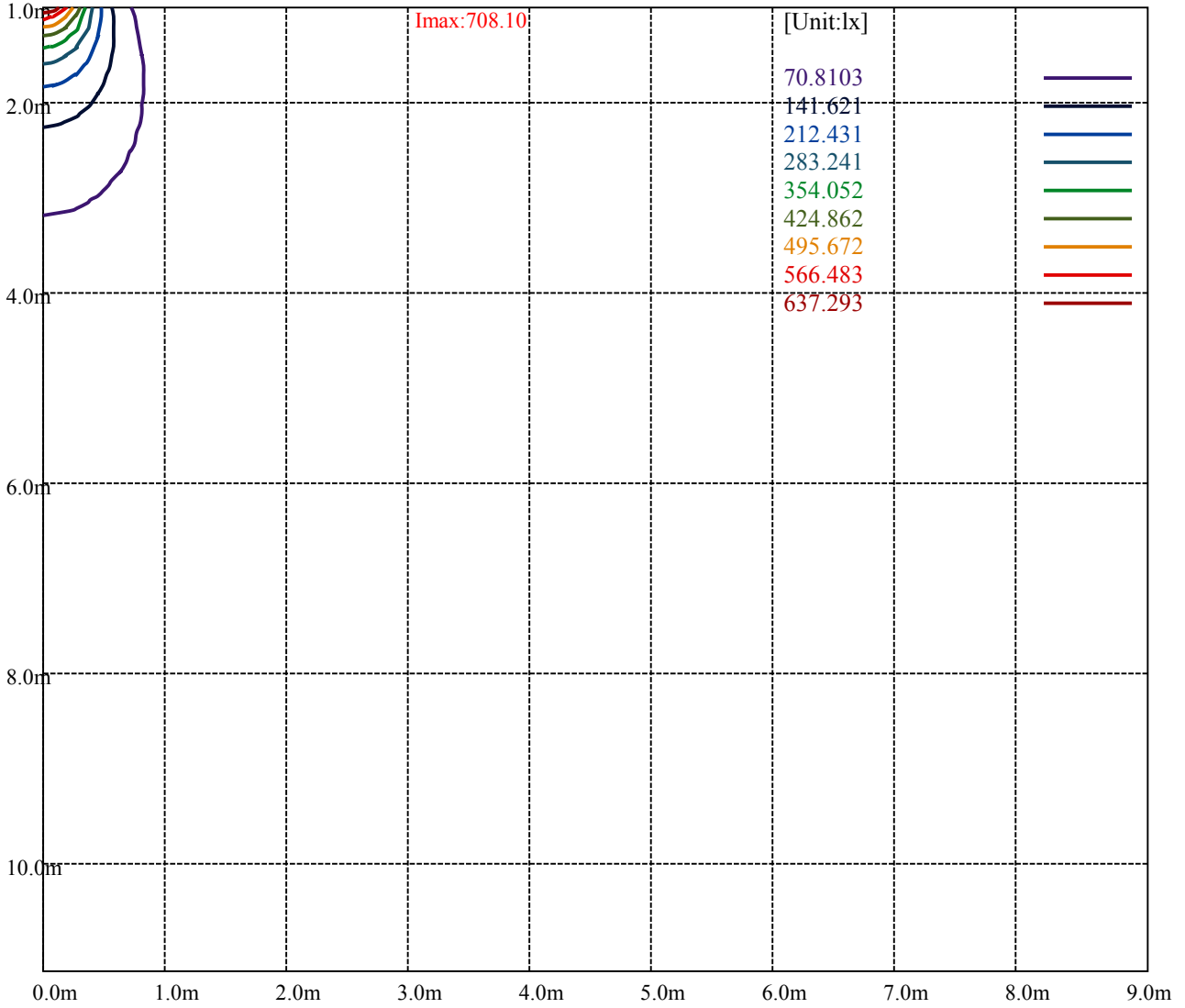
**Imax:708.10**

(10%Imax) 70.8103	
(20%Imax) 141.621	
(30%Imax) 212.431	
(40%Imax) 283.241	
(50%Imax) 354.052	
(60%Imax) 424.862	
(70%Imax) 495.672	
(80%Imax) 566.483	
(90%Imax) 637.293	



(10%Emax) 17.70258	—
(20%Emax) 35.40525	—
(30%Emax) 53.10775	—
(40%Emax) 70.81025	—
(50%Emax) 88.51275	—
(60%Emax) 106.2155	—
(70%Emax) 123.918	—
(80%Emax) 141.6205	—
(90%Emax) 159.323	—





Luminance Table

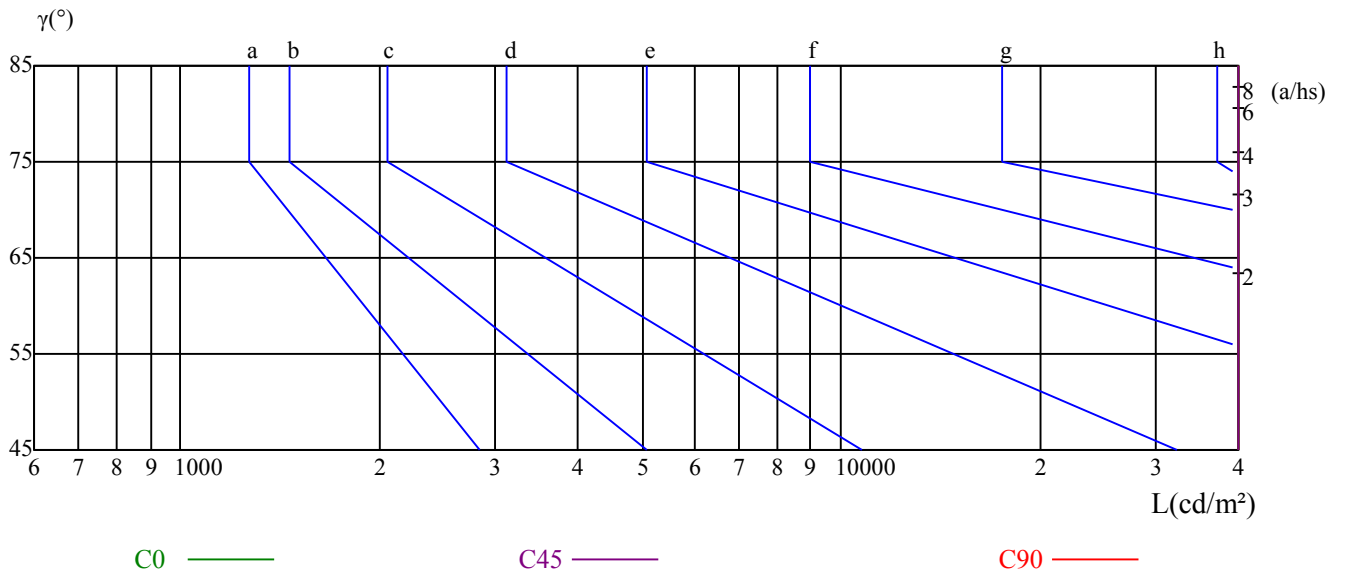
$\gamma$	45	50	55	60	65	70	75	80	85
C0	151940	120301	97401	85938	82078	84539	93876	129842	196218
C45	151940	120301	97401	85938	82078	84539	93876	129842	196218
C90	151940	120301	97401	85938	82078	84539	93876	129842	196218

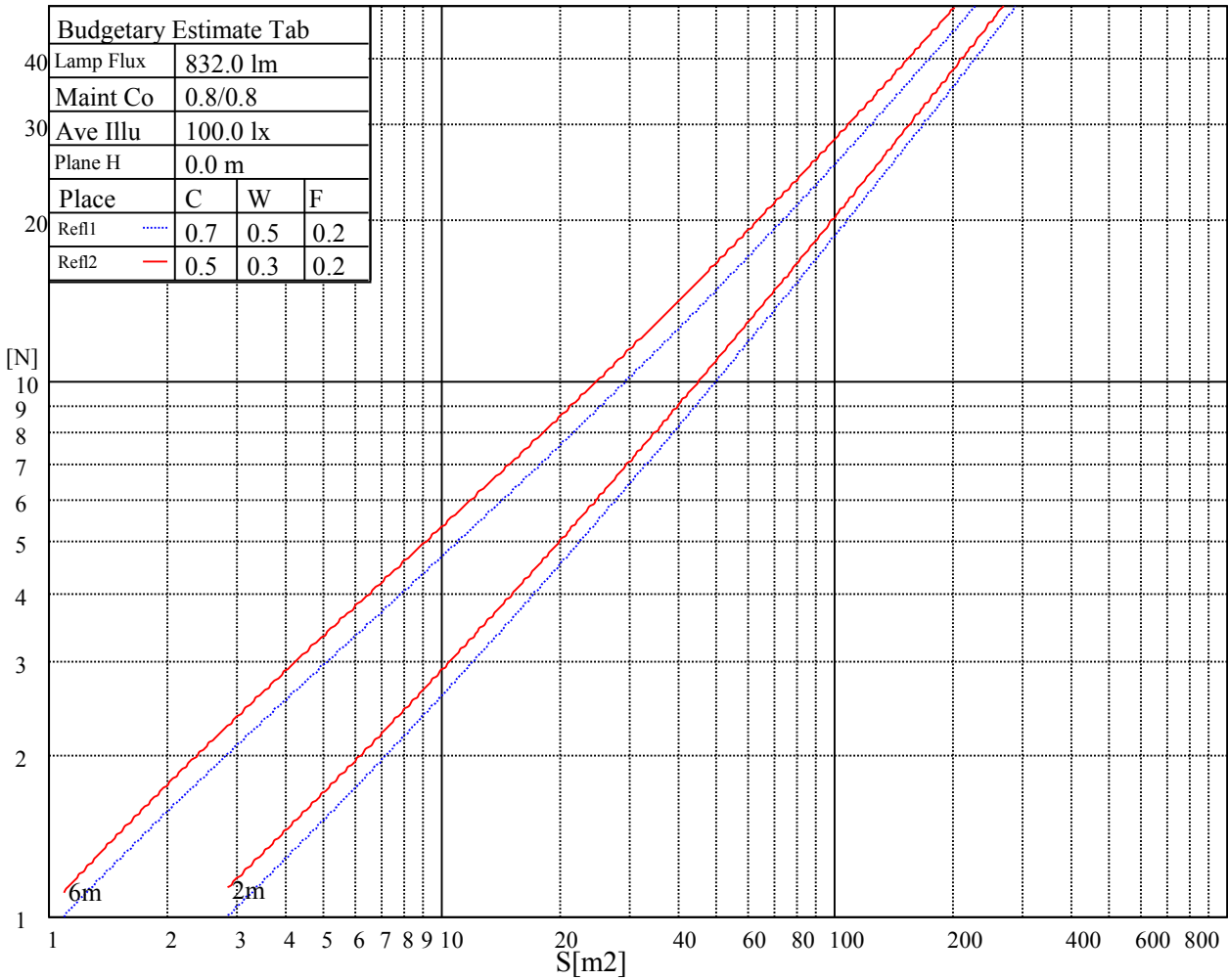
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
82078	82078	82078	93876	93876	93876	196218	196218	196218

Glare Table

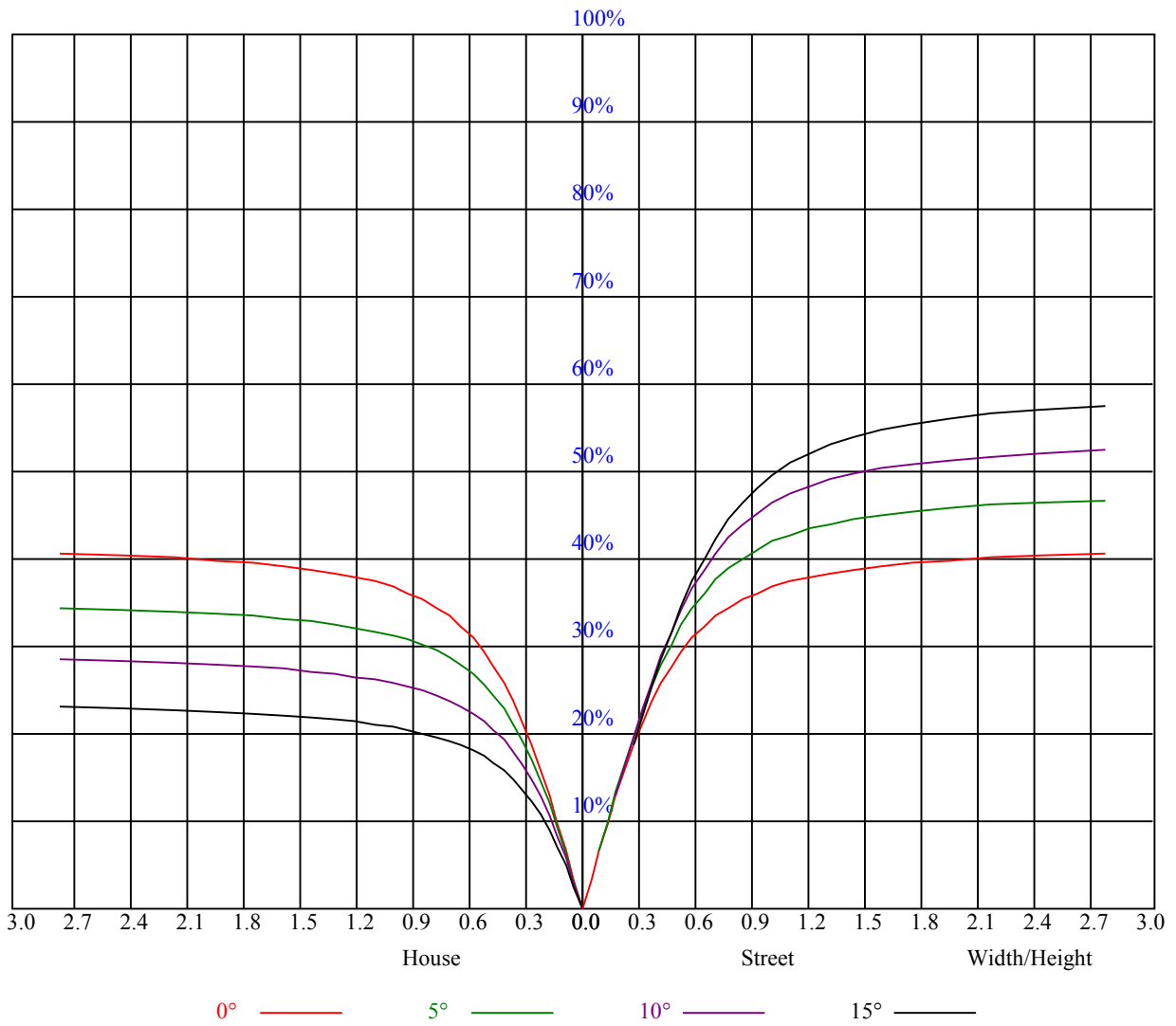
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.01	1.01	1.01	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.84
1	0.91	0.88	0.85	0.89	0.86	0.84	0.85	0.83	0.81	0.82	0.80	0.79	0.79	0.78	0.77	0.75
2	0.83	0.79	0.75	0.81	0.77	0.74	0.79	0.75	0.72	0.76	0.73	0.71	0.74	0.71	0.69	0.68
3	0.76	0.71	0.67	0.75	0.70	0.66	0.73	0.69	0.65	0.71	0.67	0.64	0.69	0.66	0.63	0.62
4	0.71	0.65	0.61	0.70	0.64	0.60	0.68	0.63	0.60	0.66	0.62	0.59	0.64	0.61	0.58	0.57
5	0.66	0.60	0.56	0.65	0.59	0.55	0.63	0.59	0.55	0.62	0.58	0.54	0.60	0.57	0.54	0.53
6	0.61	0.56	0.52	0.61	0.55	0.51	0.59	0.55	0.51	0.58	0.54	0.51	0.57	0.53	0.50	0.49
7	0.58	0.52	0.48	0.57	0.52	0.48	0.56	0.51	0.48	0.55	0.50	0.47	0.54	0.50	0.47	0.46
8	0.54	0.49	0.45	0.54	0.48	0.45	0.53	0.48	0.45	0.52	0.48	0.44	0.51	0.47	0.44	0.43
9	0.51	0.46	0.42	0.51	0.46	0.42	0.50	0.45	0.42	0.49	0.45	0.42	0.48	0.45	0.42	0.40
10	0.49	0.43	0.40	0.48	0.43	0.40	0.47	0.43	0.40	0.47	0.43	0.39	0.46	0.42	0.39	0.38



NATA LM01D03050AE

Intensity data(cd)

C/ $\gamma$ (°)	<b>0.0</b>	<b>5.0</b>	<b>10.0</b>	<b>15.0</b>	<b>20.0</b>	<b>25.0</b>	<b>30.0</b>	<b>35.0</b>	<b>40.0</b>
<b>0.0</b>	706.56	705.60	671.18	600.86	511.03	403.03	308.25	220.28	158.29
<b>45.0</b>	708.58	704.59	661.33	589.16	496.18	388.91	292.50	212.46	152.78
<b>90.0</b>	708.81	694.01	641.98	559.35	453.49	354.49	260.21	183.38	132.98
<b>135.0</b>	708.47	687.94	637.93	560.08	462.26	352.46	263.76	184.89	131.74
<b>180.0</b>	706.56	673.20	609.13	517.73	415.13	310.22	227.48	160.43	112.33
<b>225.0</b>	708.58	675.00	608.57	515.48	421.54	316.74	230.29	158.46	116.10
<b>270.0</b>	708.81	689.01	640.18	564.98	468.51	359.55	274.73	190.58	135.90
<b>315.0</b>	708.47	696.04	657.96	585.56	491.85	386.04	287.04	202.33	147.26
<b>360.0</b>	706.56	705.60	671.18	600.86	511.03	403.03	308.25	220.28	158.29
C/ $\gamma$ (°)	<b>45.0</b>	<b>50.0</b>	<b>55.0</b>	<b>60.0</b>	<b>65.0</b>	<b>70.0</b>	<b>75.0</b>	<b>80.0</b>	<b>85.0</b>
<b>0.0</b>	113.63	80.78	58.61	44.61	35.16	28.69	22.11	19.29	16.99
<b>45.0</b>	107.16	78.58	55.69	40.67	32.63	25.82	21.54	24.08	20.70
<b>90.0</b>	92.70	66.04	48.04	37.58	30.32	24.08	19.86	17.16	15.19
<b>135.0</b>	96.81	68.57	49.11	38.53	32.23	28.24	21.77	18.28	14.12
<b>180.0</b>	81.51	59.34	43.76	35.10	28.07	22.22	19.13	17.78	13.50
<b>225.0</b>	82.63	59.74	44.61	34.59	27.39	26.38	28.97	29.81	13.33
<b>270.0</b>	95.01	68.40	48.71	37.18	30.49	24.30	18.17	15.41	13.16
<b>315.0</b>	104.12	75.32	53.72	41.12	33.47	28.46	23.40	20.53	16.14
<b>360.0</b>	113.63	80.78	58.61	44.61	35.16	28.69	22.11	19.29	16.99
C/ $\gamma$ (°)	<b>90.0</b>								
<b>0.0</b>	8.16								
<b>45.0</b>	6.92								
<b>90.0</b>	6.47								
<b>135.0</b>	9.62								
<b>180.0</b>	8.10								
<b>225.0</b>	8.44								
<b>270.0</b>	8.49								
<b>315.0</b>	10.69								
<b>360.0</b>	8.16								