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Nata

LumCAT: 2-1740-M	
Luminaire: 92.70.136.00	
Report No: NATA0100	Voltage(V): 51.2500
Test No: NT2017071305	Current(A): 0.8000
LampCAT: CITIZEN CLU044	Power (W): 41.0000
Lamp flux(lm): 5855.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 70	Width(mm): 70
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 5201.86
Efficiency(%): 88.84%
Lumens(lm)/Power(W): 128.47
Central intensity(cd): 11770.310
Maximum intensity(cd): 11770.310
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=35.0
[C90/270]Total=35.0
Field angle(10%Imax): [C0/180]Total=69.4
[C90/270]Total=69.4
Maximum s/h(1/2): C0_180=0.59 C90_270=0.59
Maximum s/h(1/4): C0_180=0.56 C90_270=0.56
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.96%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.579%

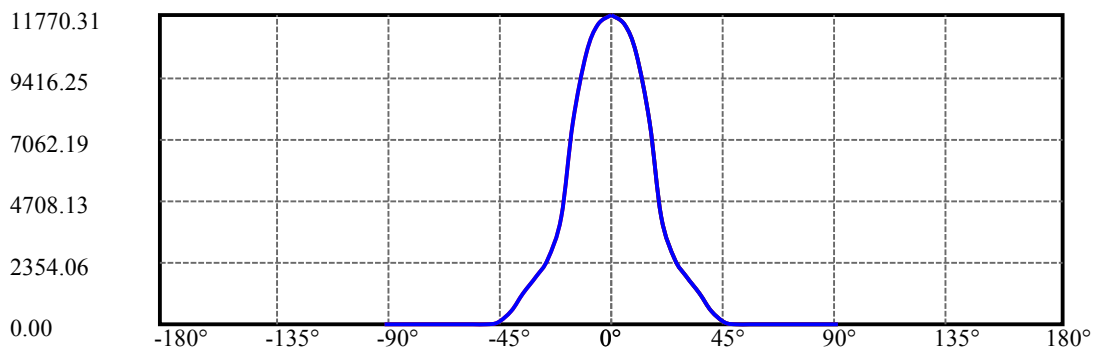
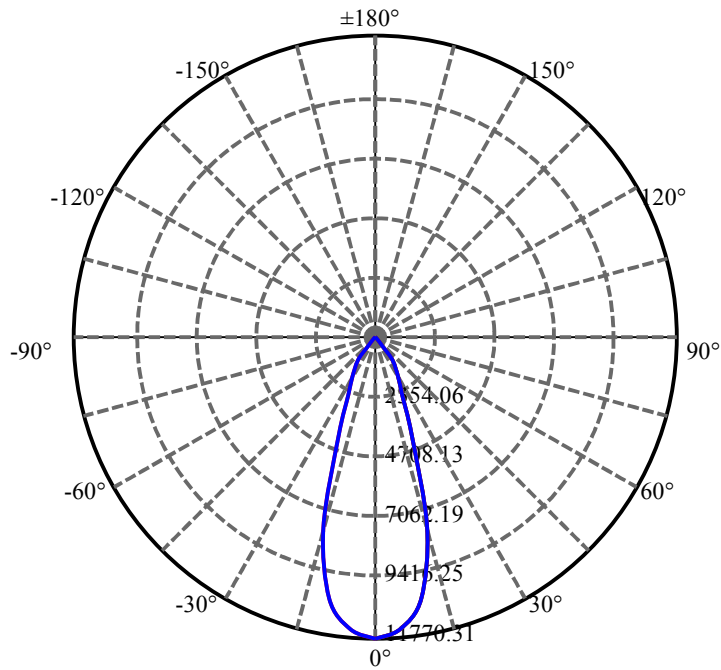
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	11770.313	70.389	70.389	1.202%	1.353%
5.0	11434.247	546.252	616.641	9.330%	11.854%
10.0	10315.650	981.875	1598.516	16.770%	30.730%
15.0	7708.234	1093.555	2692.071	18.677%	51.752%
20.0	4089.210	766.621	3458.691	13.093%	66.490%
25.0	2468.148	571.754	4030.445	9.765%	77.481%
30.0	1815.286	497.513	4527.958	8.497%	87.045%
35.0	1135.244	356.919	4884.877	6.096%	93.906%
40.0	520.725	183.470	5068.347	3.134%	97.433%
45.0	101.968	39.522	5107.869	.675%	98.193%
50.0	26.017	10.925	5118.794	.187%	98.403%
55.0	23.151	10.395	5129.189	.178%	98.603%
60.0	22.323	10.597	5139.786	.181%	98.807%
65.0	21.822	10.841	5150.626	.185%	99.015%
70.0	21.558	11.104	5161.731	.190%	99.229%
75.0	21.342	11.300	5173.031	.193%	99.446%
80.0	21.273	11.483	5184.514	.196%	99.667%
85.0	21.217	11.586	5196.099	.198%	99.889%
90.0	21.015	5.760	5201.859	.098%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	4527.96	77.33%	87.04%
0-40	5068.35	86.56%	97.43%
0-60	5139.79	87.78%	98.81%
0-90	5196.10	88.75%	99.89%
0-120	5196.10	88.75%	99.89%
0-180	5201.86	88.84%	100.00%
60-90	66.91	1.14%	1.29%
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%
0-26.32	4161.49	71.08%	80.00%

ZONAL LUMEN SUMMARY

0-10	1598.52
10-20	1860.18
20-30	1069.27
30-40	540.39
40-50	50.45
50-60	20.99
60-70	21.95
70-80	22.78
80-90	11.59
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: —————

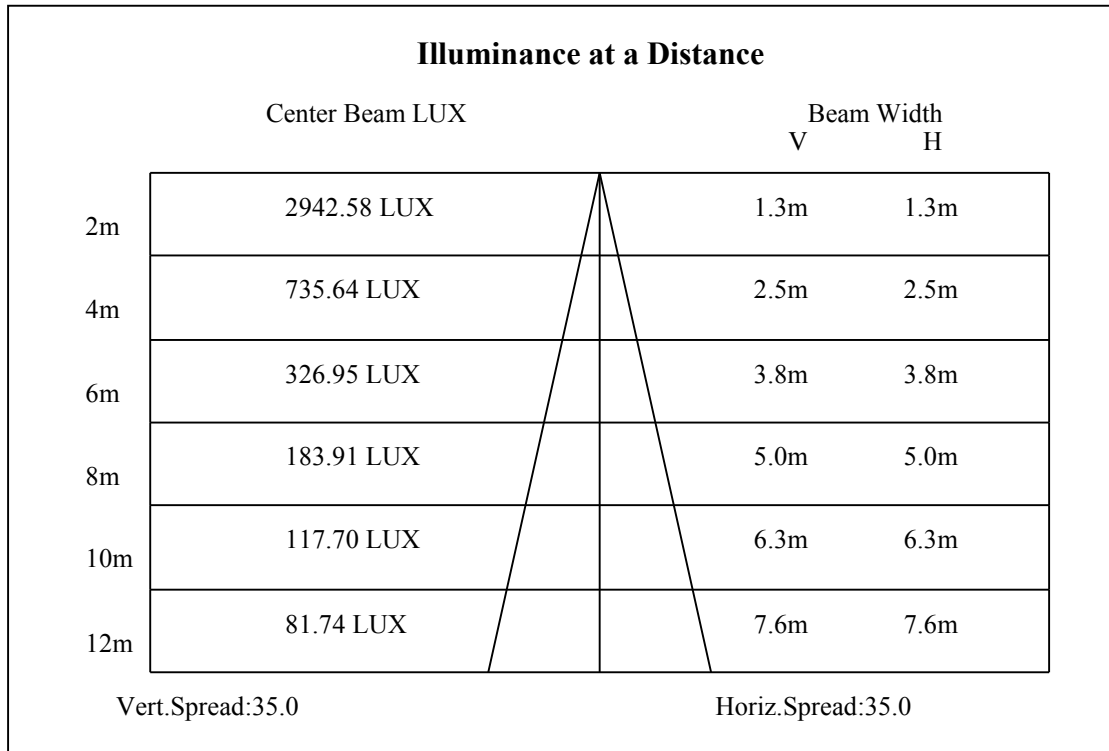
C90/C270: —————

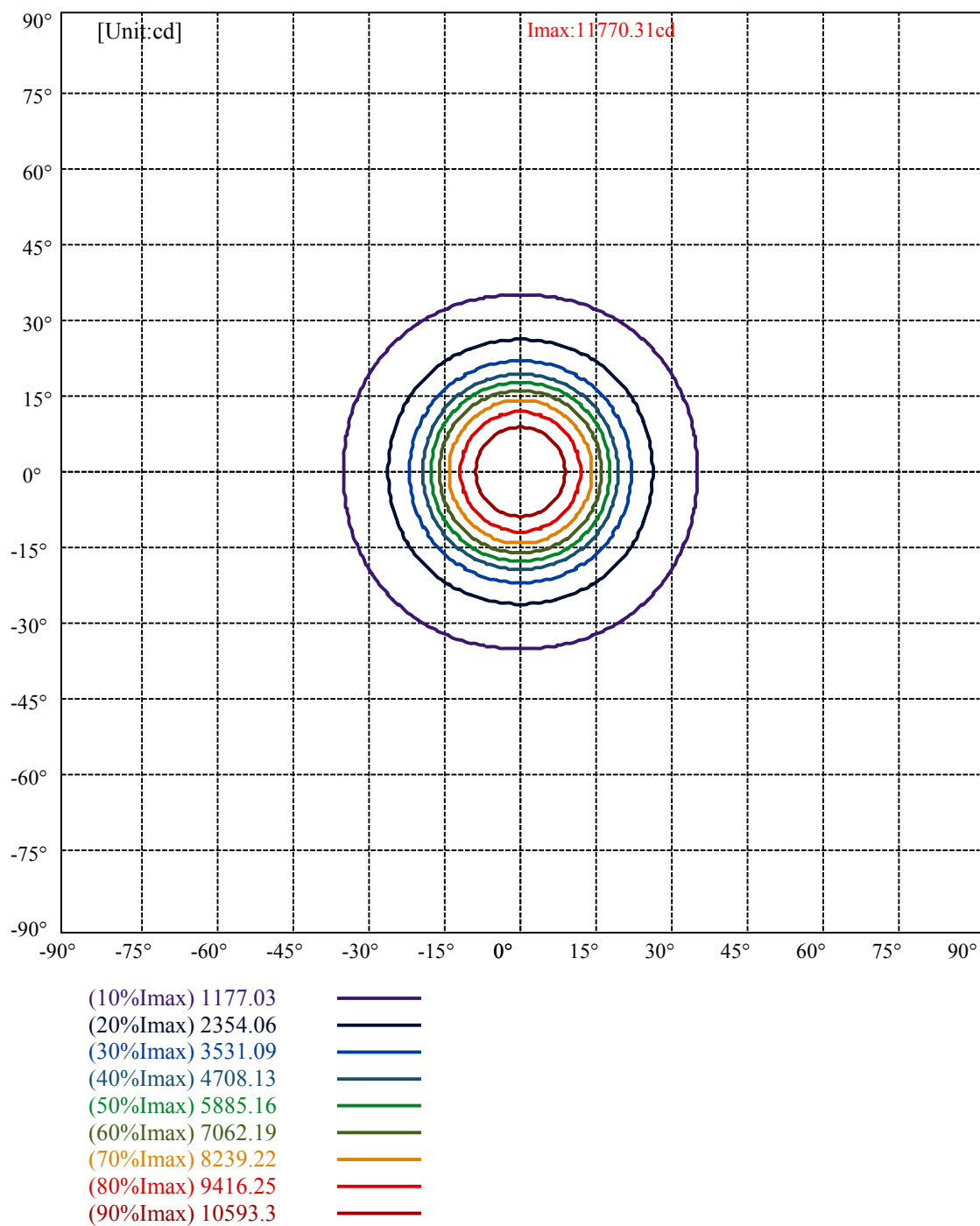
Field angle(10%Imax):C0/180Left:34.7 Right:34.7

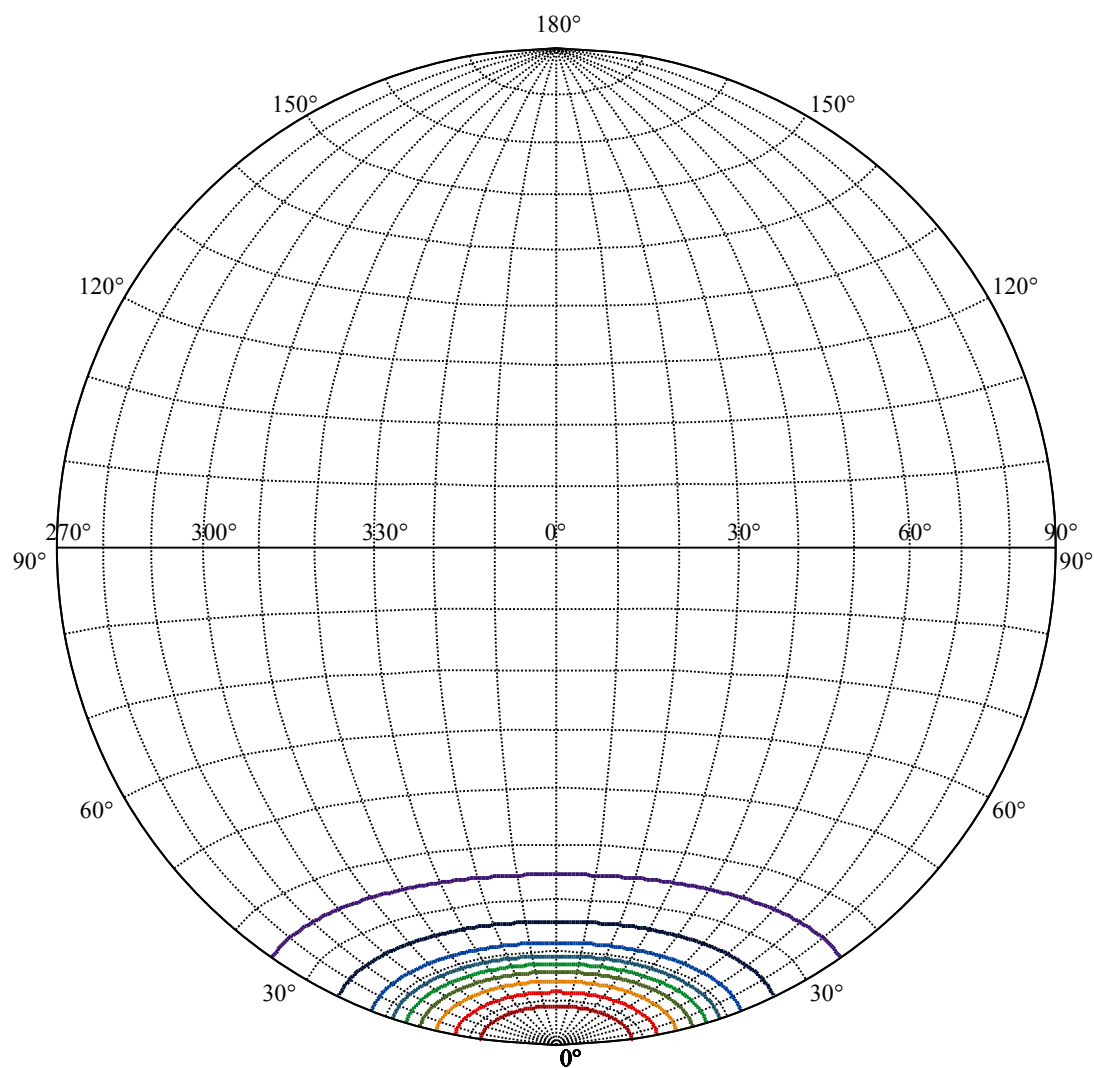
:C90/270Left:34.7 Right:34.7

Beam Angle(50%Imax):C0/180Left:17.5 Right:17.5

:C90/270Left:17.5 Right:17.5







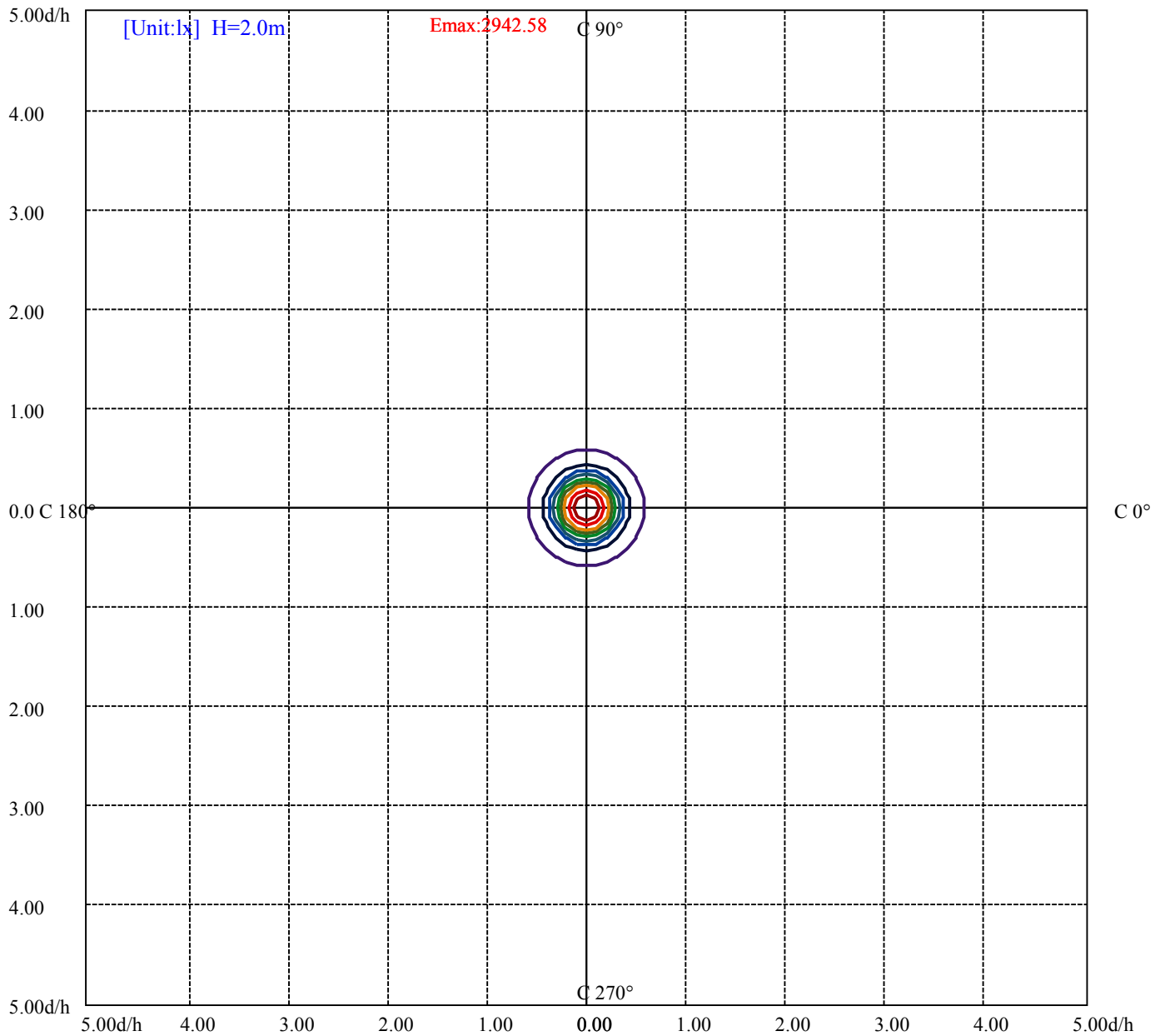
House

[Unit:cd]

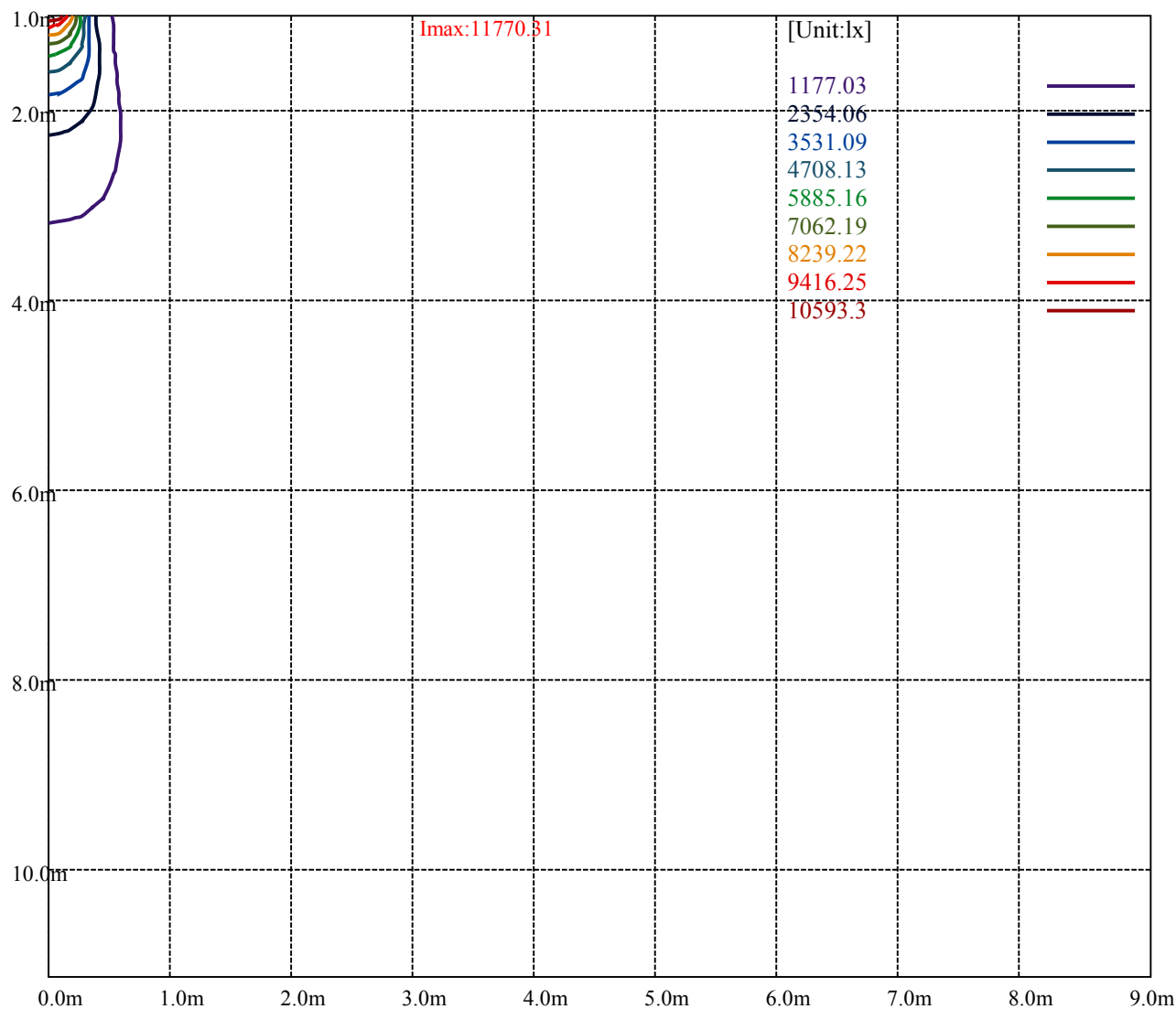
Road

I_{max}:11770.31

(10%I _{max})	1177.03	
(20%I _{max})	2354.06	
(30%I _{max})	3531.09	
(40%I _{max})	4708.13	
(50%I _{max})	5885.16	
(60%I _{max})	7062.19	
(70%I _{max})	8239.22	
(80%I _{max})	9416.25	
(90%I _{max})	10593.3	



(10%Emax)	294.2575	—
(20%Emax)	588.515	—
(30%Emax)	882.7725	—
(40%Emax)	1177.03	—
(50%Emax)	1471.287	—
(60%Emax)	1765.545	—
(70%Emax)	2059.802	—
(80%Emax)	2354.06	—
(90%Emax)	2648.325	—



Luminance Table

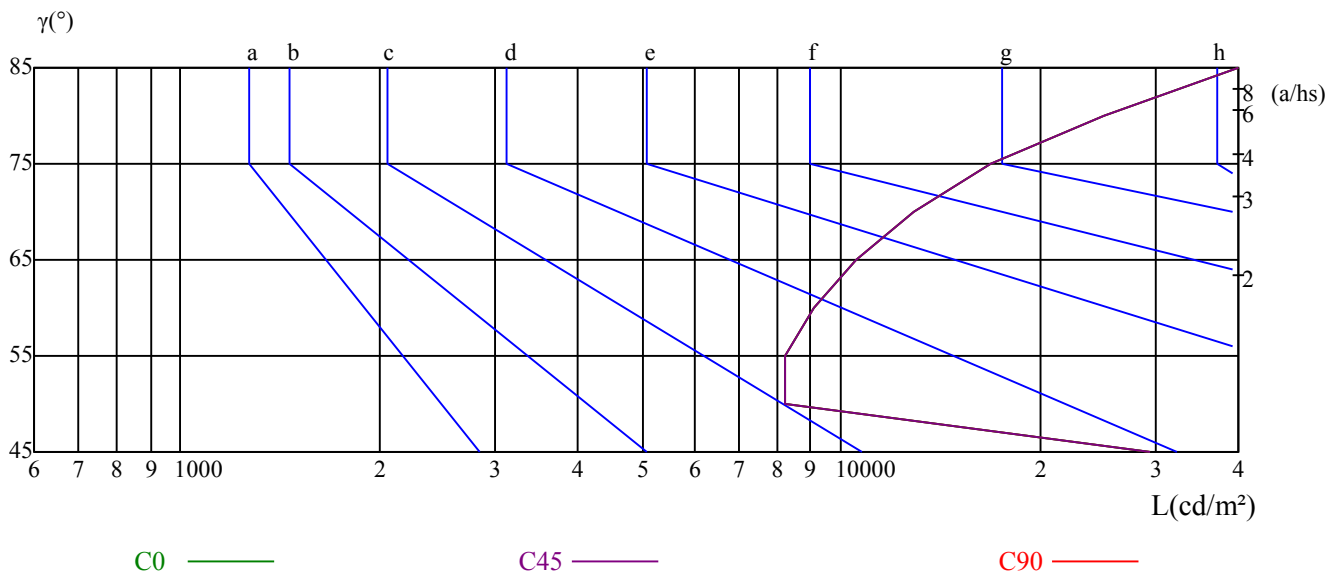
γ	45	50	55	60	65	70	75	80	85
C0	29429	8260	8237	9112	10538	12864	16829	25001	49682
C45	29429	8260	8237	9112	10538	12864	16829	25001	49682
C90	29429	8260	8237	9112	10538	12864	16829	25001	49682

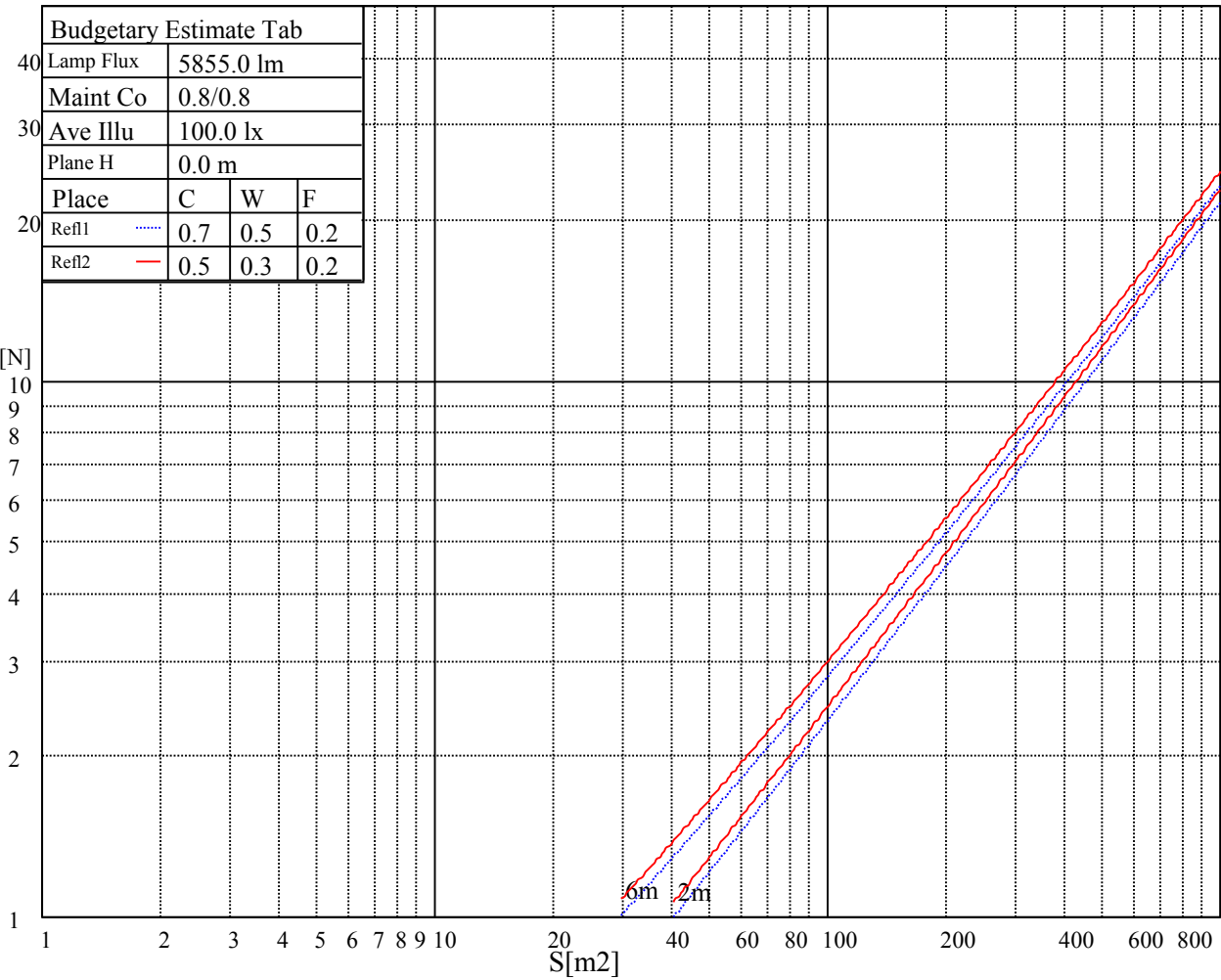
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
10538	10538	10538	16829	16829	16829	49682	49682	49682

Glare Table

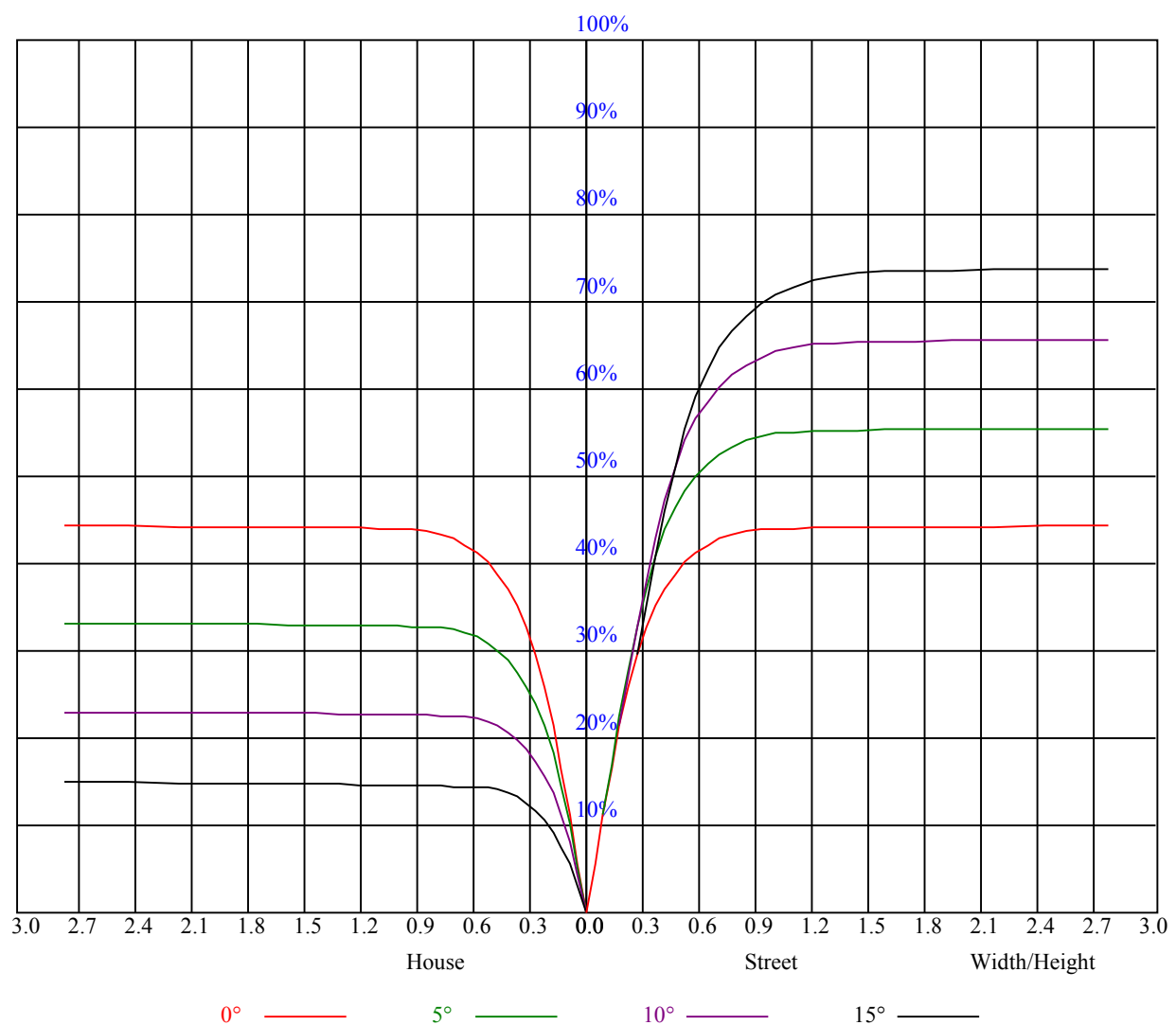
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





RHOC	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	1.07	1.07	1.07	1.05	1.05	1.05	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	0.99	0.97	0.95	0.97	0.95	0.93	0.94	0.92	0.90	0.90	0.89	0.88	0.87	0.86	0.85	0.84
2	0.94	0.90	0.88	0.92	0.89	0.87	0.89	0.87	0.85	0.87	0.85	0.83	0.84	0.83	0.81	0.80
3	0.89	0.85	0.82	0.88	0.84	0.81	0.86	0.83	0.80	0.83	0.81	0.79	0.81	0.79	0.78	0.76
4	0.85	0.81	0.77	0.84	0.80	0.77	0.82	0.79	0.76	0.80	0.77	0.75	0.79	0.76	0.74	0.73
5	0.81	0.77	0.73	0.80	0.76	0.73	0.79	0.75	0.73	0.77	0.74	0.72	0.76	0.73	0.71	0.70
6	0.78	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.69	0.67
7	0.75	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.65
8	0.72	0.68	0.65	0.71	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.63
9	0.69	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.67	0.64	0.61	0.60
10	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.65	0.62	0.59	0.59



Nata 2-1740-M

Intensity data(cd)										Appendix Page: 14 Total:14
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	
0.0	11775.88	11659.01	10707.37	8620.43	4752.65	2815.97	1933.89	1283.88	650.57	
45.0	11770.31	11492.06	10445.81	7579.75	3967.96	2533.26	1758.03	1079.64	442.43	
90.0	11759.18	11083.02	9717.88	6840.69	3353.57	2158.17	1636.71	984.70	358.12	
135.0	11775.88	11480.93	10128.59	7340.45	3784.31	2271.70	1774.73	1113.03	464.69	
180.0	11775.88	11071.33	9926.58	7133.98	3595.09	2212.15	1692.37	1000.45	371.25	
225.0	11770.31	11597.79	10537.63	8012.16	4342.49	2469.82	1844.29	1103.07	554.40	
270.0	11759.18	11597.79	10657.28	8414.52	4941.86	2838.23	1990.10	1437.48	728.48	
315.0	11775.88	11492.06	10404.07	7723.89	3975.75	2445.89	1892.15	1079.70	595.86	
360.0	11775.88	11659.01	10707.37	8620.43	4752.65	2815.97	1933.89	1283.88	650.57	
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	
0.0	166.90	26.77	23.32	22.37	21.87	21.65	21.37	21.37	21.43	
45.0	51.26	25.10	22.93	22.26	21.76	21.54	21.31	21.20	21.09	
90.0	41.91	24.65	22.98	22.26	21.82	21.54	21.37	21.26	21.20	
135.0	57.99	25.10	22.98	22.26	21.82	21.54	21.31	21.26	21.26	
180.0	47.97	23.99	22.87	22.20	21.93	21.59	21.43	21.31	21.15	
225.0	71.57	25.77	23.10	22.26	21.70	21.48	21.26	21.26	21.26	
270.0	293.84	30.66	23.82	22.65	21.98	21.65	21.43	21.31	21.26	
315.0	84.31	26.10	23.21	22.32	21.70	21.48	21.26	21.20	21.09	
360.0	166.90	26.77	23.32	22.37	21.87	21.65	21.37	21.37	21.43	
C/γ(°)	90.0									
0.0	21.04									
45.0	20.98									
90.0	20.98									
135.0	21.04									
180.0	20.98									
225.0	21.04									
270.0	21.04									
315.0	21.04									
360.0	21.04									