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NATA

LumCAT: 3-2035-M
Luminaire: 92.70.131.00
Report No: NATA0100
Test No: GC2019123015
LampCAT: LUMINUS CXM-14-AC40
Lamp flux(lm): 2608.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 34.3600
Current(A): 0.6000
Power (W): 20.6160
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 2324.17
Efficiency(%): 89.12%
Lumens(lm)/Power(W): 112.74
Central intensity(cd): 4110.328
Maximum intensity(cd): 4110.328
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=41.5
[C90/270]Total=41.5
Field angle(10%Imax): [C0/180]Total=73.6
[C90/270]Total=73.6
Maximum s/h(1/2): C0_180=0.66 C90_270=0.66
Maximum s/h(1/4): C0_180=0.69 C90_270=0.69
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.12%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.512%

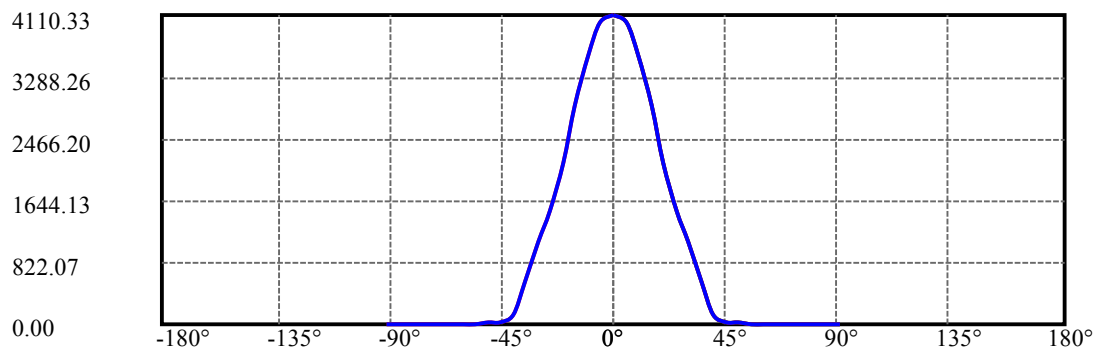
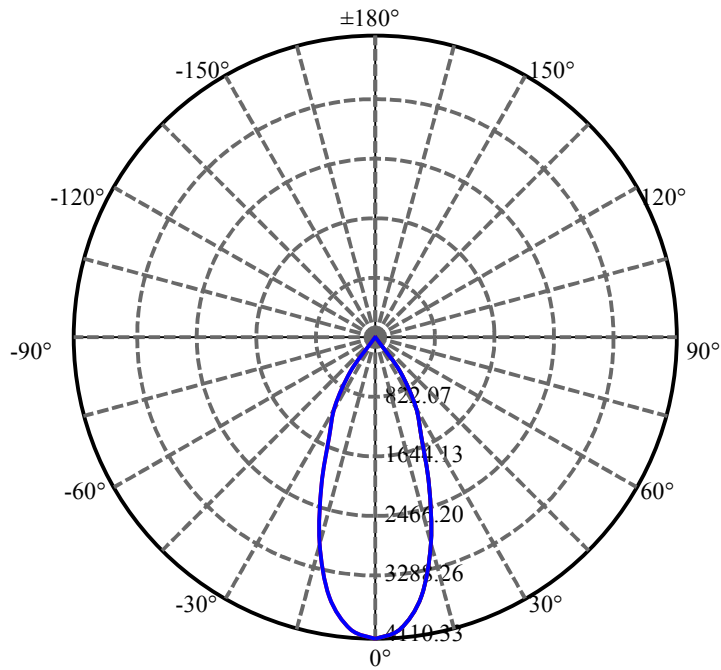
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4110.328	0.000	0	.000%	.000%
5.0	3999.516	96.951	96.951	3.717%	4.171%
10.0	3578.906	271.104	368.055	10.395%	15.836%
15.0	2902.148	384.452	752.507	14.741%	32.377%
20.0	2154.094	416.705	1169.212	15.978%	50.307%
25.0	1507.641	384.048	1553.26	14.726%	66.831%
30.0	1102.866	330.362	1883.622	12.667%	81.045%
35.0	571.352	246.540	2130.163	9.453%	91.653%
40.0	125.220	116.218	2246.38	4.456%	96.653%
45.0	16.200	26.185	2272.565	1.004%	97.780%
50.0	13.177	5.936	2278.501	.228%	98.035%
55.0	12.284	5.536	2284.037	.212%	98.273%
60.0	11.742	5.553	2289.591	.213%	98.512%
65.0	11.377	5.620	2295.211	.215%	98.754%
70.0	11.102	5.692	2300.903	.218%	98.999%
75.0	10.898	5.751	2306.653	.221%	99.246%
80.0	10.800	5.806	2312.459	.223%	99.496%
85.0	10.723	5.848	2318.307	.224%	99.748%
90.0	10.680	5.860	2324.168	.225%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1883.62	72.22%	81.05%
0-40	2246.38	86.13%	96.65%
0-60	2289.59	87.79%	98.51%
0-90	2318.31	88.89%	99.75%
0-120	2318.31	88.89%	99.75%
0-180	2324.17	89.12%	100.00%
60-90	34.27	1.31%	1.47%
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%
0-29.63	1859.33	71.29%	80.00%

ZONAL LUMEN SUMMARY

0-10	368.05
10-20	801.16
20-30	714.41
30-40	362.76
40-50	32.12
50-60	11.09
60-70	11.31
70-80	11.56
80-90	5.85
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

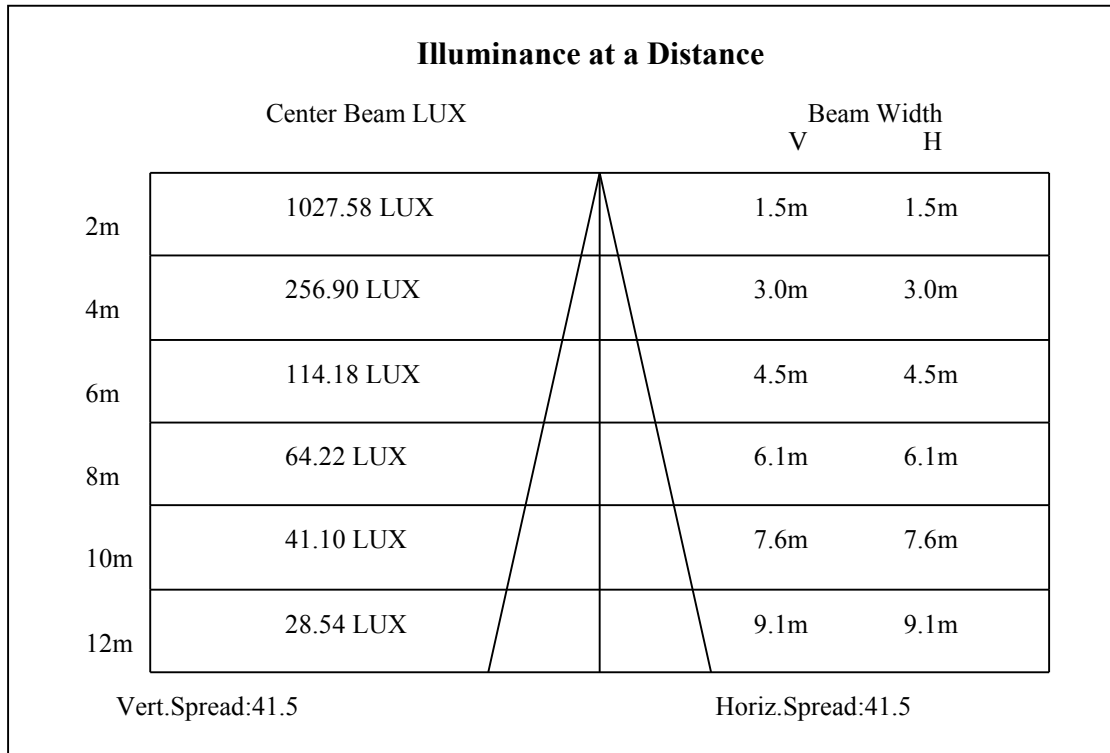
C0(Max): —————C0/C180: —————C90/C270: —————

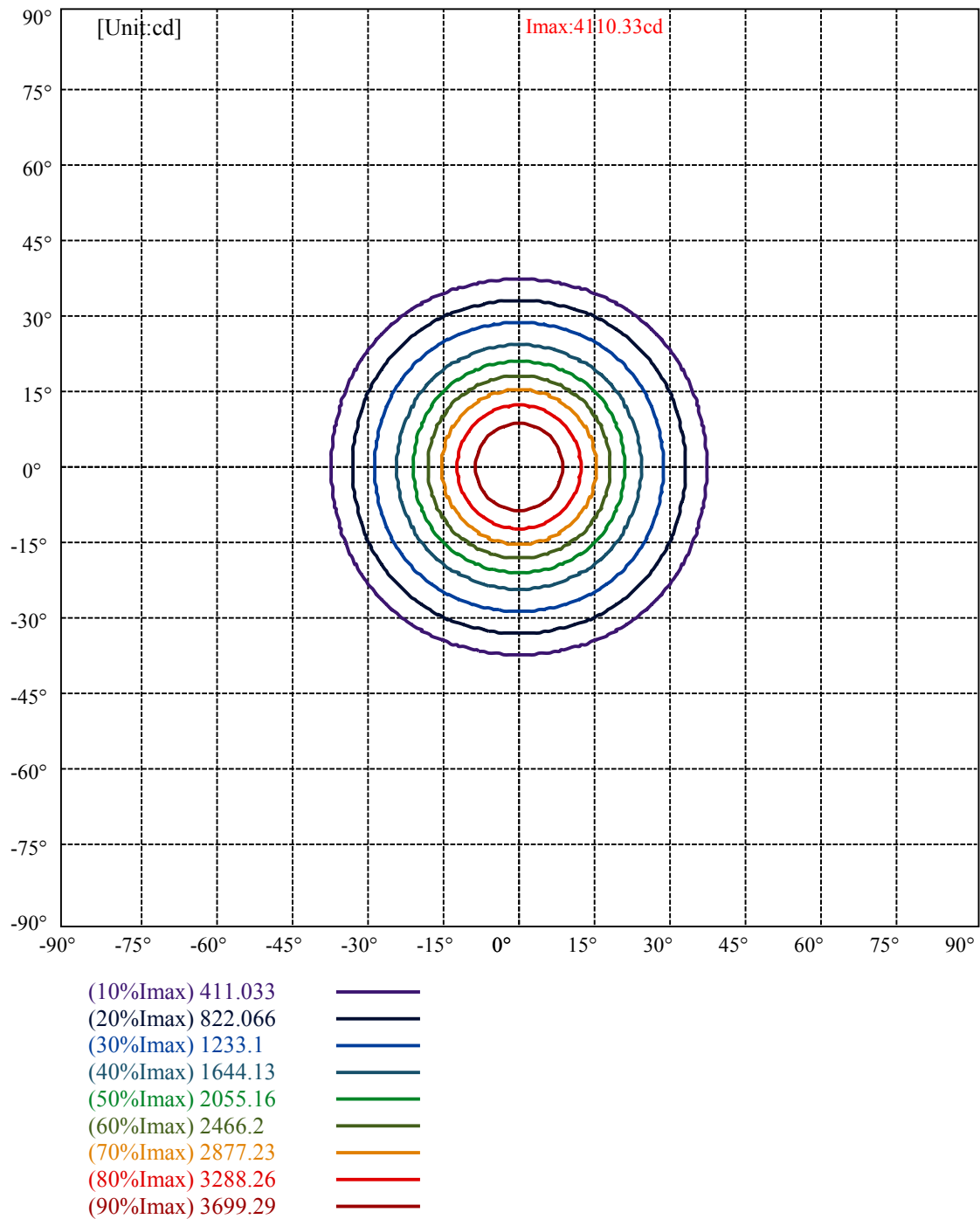
Field angle(10%Imax):C0/180Left:36.8 Right:36.8

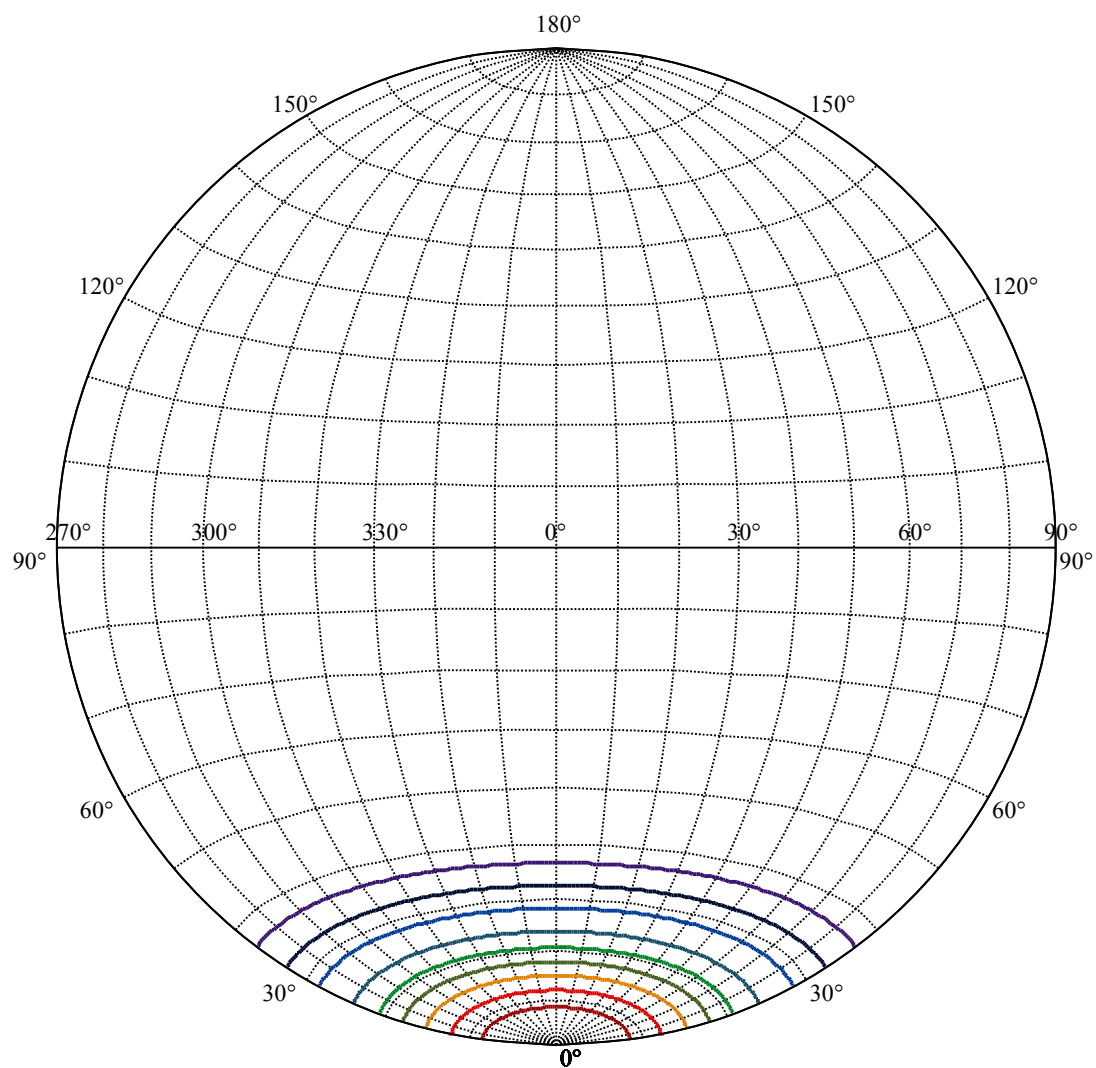
:C90/270Left:36.8 Right:36.8

Beam Angle(50%Imax):C0/180Left:20.8 Right:20.8

:C90/270Left:20.8 Right:20.8







House

[Unit:cd]

Road

Imax:4110.33

(10%Imax) 411.033

(20%Imax) 822.066

(30%Imax) 1233.1

(40%Imax) 1644.13

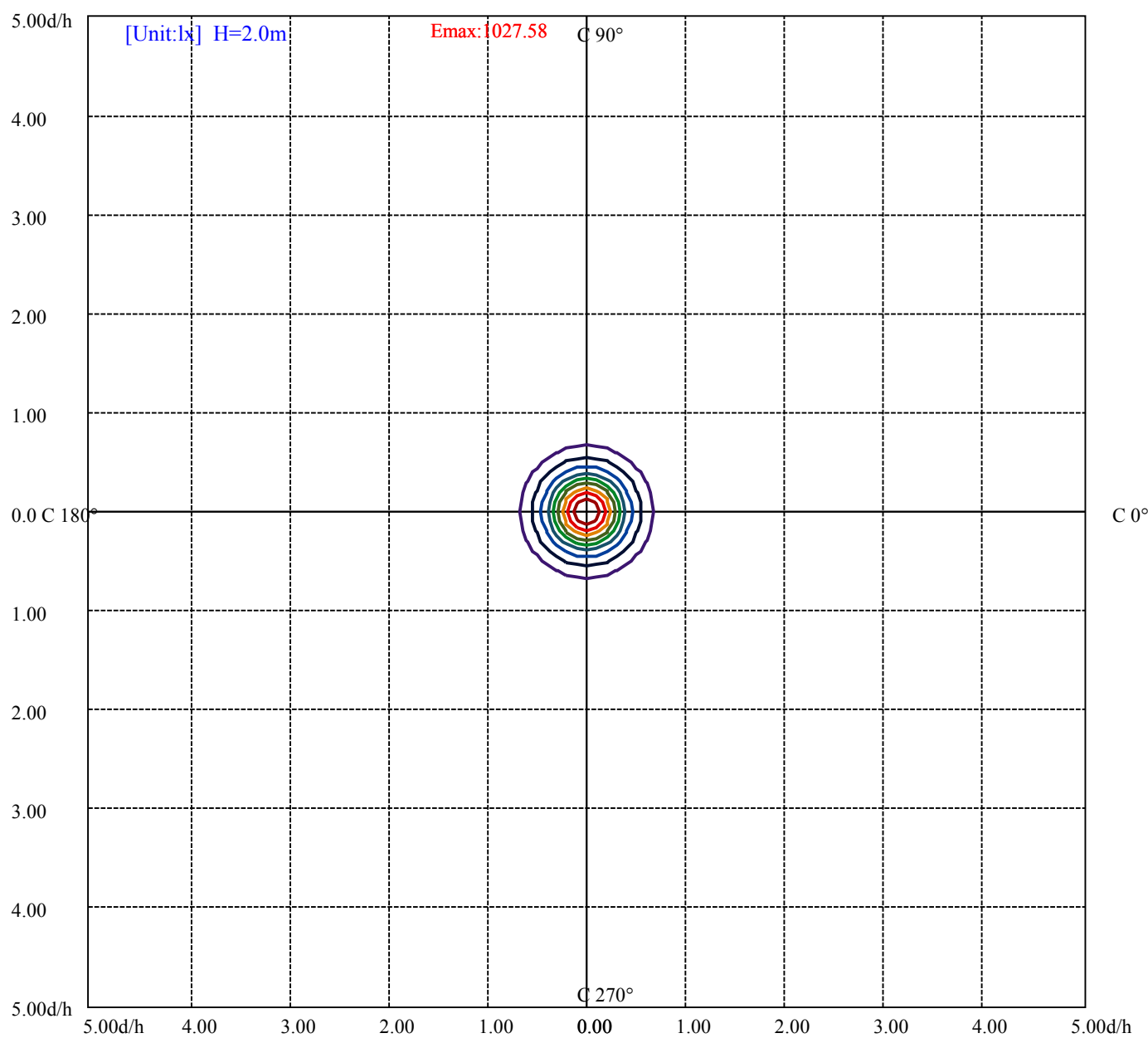
(50%Imax) 2055.16

(60%Imax) 2466.2

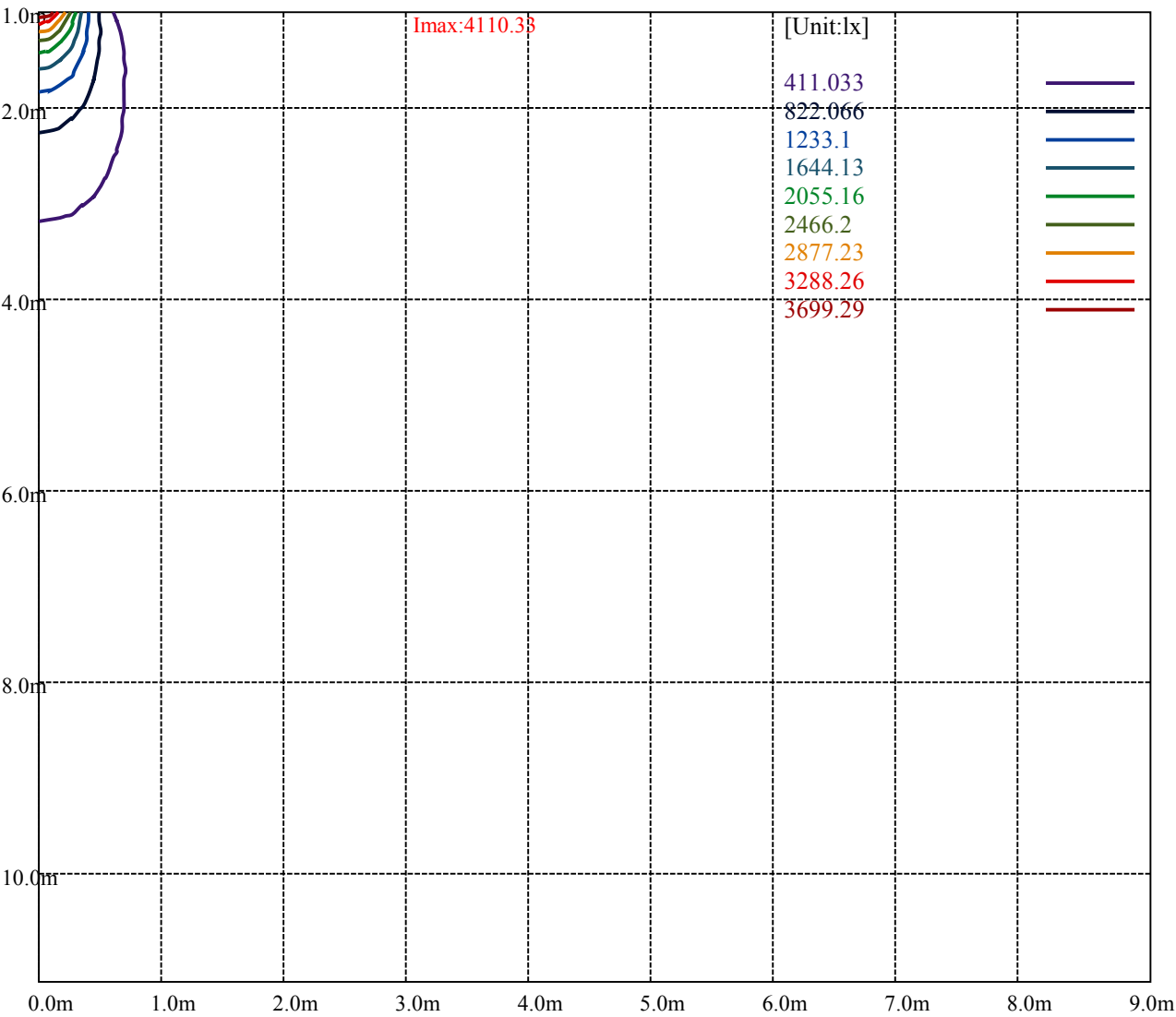
(70%Imax) 2877.23

(80%Imax) 3288.26

(90%Imax) 3699.29



(10%E _{max}) 102.758	—
(20%E _{max}) 205.5163	—
(30%E _{max}) 308.275	—
(40%E _{max}) 411.0325	—
(50%E _{max}) 513.79	—
(60%E _{max}) 616.5475	—
(70%E _{max}) 719.3075	—
(80%E _{max}) 822.065	—
(90%E _{max}) 924.8225	—



Luminance Table

γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

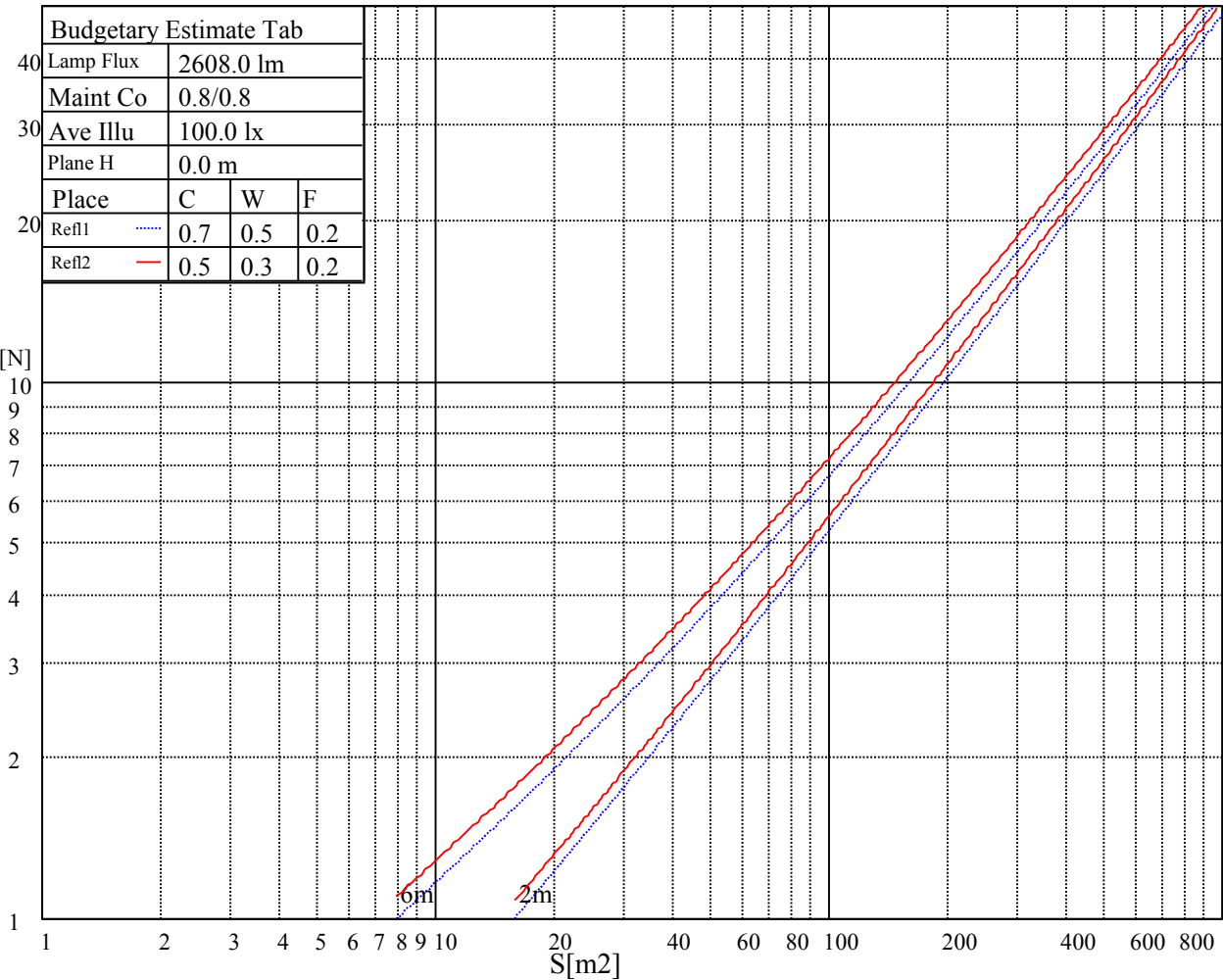
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

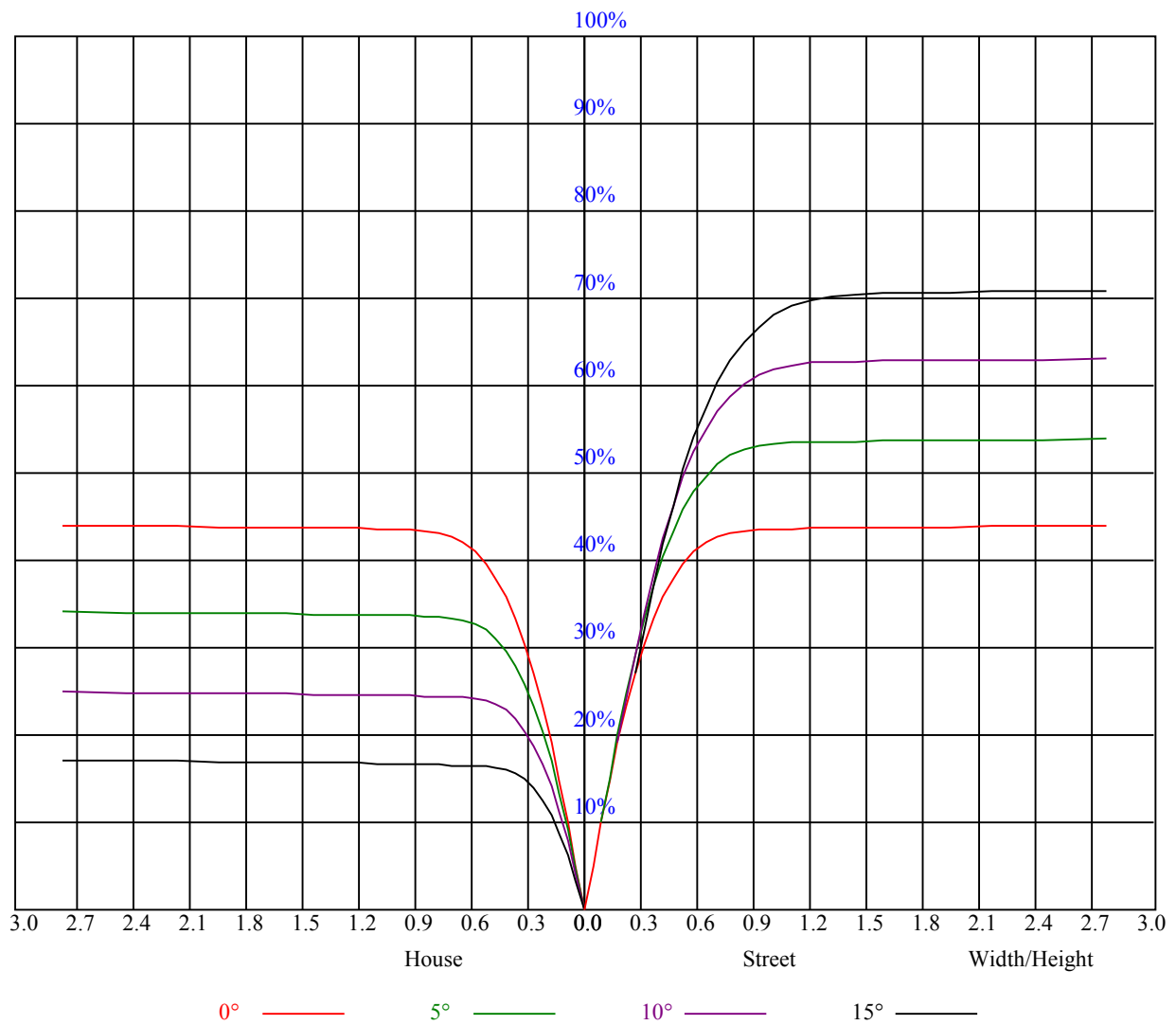
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	1.06	1.06	1.06	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	0.99	0.97	0.95	0.97	0.95	0.93	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84
2	0.93	0.89	0.87	0.91	0.88	0.86	0.88	0.86	0.84	0.86	0.84	0.82	0.83	0.82	0.80	0.79
3	0.87	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.78	0.82	0.79	0.77	0.80	0.77	0.76	0.74
4	0.82	0.78	0.74	0.81	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.72	0.76	0.74	0.71	0.70
5	0.78	0.73	0.70	0.77	0.73	0.69	0.75	0.72	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.66
6	0.74	0.69	0.65	0.73	0.69	0.65	0.72	0.68	0.65	0.71	0.67	0.64	0.69	0.66	0.64	0.63
7	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.60
8	0.67	0.62	0.58	0.66	0.62	0.58	0.65	0.61	0.58	0.64	0.61	0.58	0.64	0.60	0.58	0.57
9	0.64	0.59	0.56	0.63	0.59	0.55	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.54
10	0.61	0.56	0.53	0.60	0.56	0.53	0.60	0.55	0.53	0.59	0.55	0.52	0.58	0.55	0.52	0.51



NATA 3-2035-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	4110.75	3935.81	3439.13	2762.44	1993.50	1401.19	1064.81	435.94	31.28		
45.0	4120.88	3959.44	3500.44	2776.50	2002.50	1459.13	1065.94	451.69	42.08		
90.0	4111.31	3978.00	3464.44	2831.06	2025.56	1429.31	1084.22	482.12	41.96		
135.0	4100.63	4062.38	3752.44	3090.38	2402.44	1645.31	1231.88	780.75	288.00		
180.0	4110.75	4066.31	3720.38	3064.50	2323.69	1618.88	1107.51	713.59	178.93		
225.0	4120.88	4045.50	3693.38	3027.38	2287.13	1549.69	1114.59	668.14	103.78		
270.0	4111.31	4023.00	3670.88	2999.81	2257.88	1587.38	1170.56	648.56	286.88		
315.0	4096.13	3925.69	3390.19	2665.13	1940.06	1370.25	983.42	390.04	28.86		
360.0	4110.75	3935.81	3439.13	2762.44	1993.50	1401.19	1064.81	435.94	31.28		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	14.18	12.77	11.98	11.53	11.19	10.97	10.74	10.69	10.63		
45.0	14.63	13.05	12.21	11.76	11.42	11.14	10.97	10.86	10.74		
90.0	14.91	13.16	12.32	11.76	11.42	11.14	10.97	10.86	10.74		
135.0	18.51	13.50	12.49	11.87	11.42	11.14	10.91	10.80	10.74		
180.0	18.00	13.33	12.38	11.70	11.36	11.08	10.80	10.74	10.63		
225.0	18.28	13.44	12.38	11.87	11.48	11.19	10.97	10.86	10.80		
270.0	17.10	13.39	12.49	11.93	11.48	11.19	10.97	10.86	10.80		
315.0	14.01	12.77	12.04	11.53	11.25	10.97	10.86	10.74	10.69		
360.0	14.18	12.77	11.98	11.53	11.19	10.97	10.74	10.69	10.63		
C/γ(°)	90.0										
0.0	10.63										
45.0	10.69										
90.0	10.74										
135.0	10.63										
180.0	10.63										
225.0	10.74										
270.0	10.69										
315.0	10.69										
360.0	10.63										