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Nata

LumCAT: 1680-S	
Luminaire: 92.70.064.00	
Report No: NATA0100	Voltage(V): 33.8200
Test No: GC20190603	Current(A): 0.2970
LampCAT: XICATOXOB LES 9.8MM	Power (W): 9.9100
Lamp flux(lm): 990.9	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 861.58
Efficiency(%): 86.95%
Lumens(lm)/Power(W): 86.94
Central intensity(cd): 854.255
Maximum intensity(cd): 854.255
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=63.8
[C90/270]Total=63.8
Field angle(10%Imax): [C0/180]Total=84.3
[C90/270]Total=84.3
Maximum s/h(1/2): C0_180=1.03 C90_270=1.03
Maximum s/h(1/4): C0_180=0.93 C90_270=0.93
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 86.95%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.157%

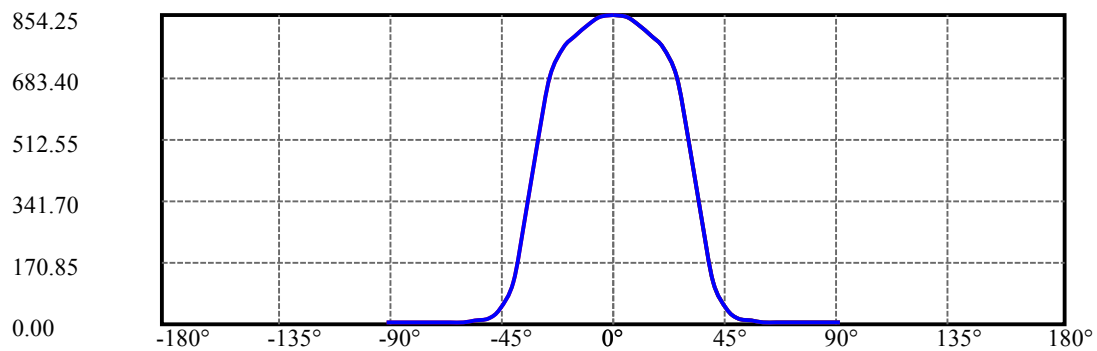
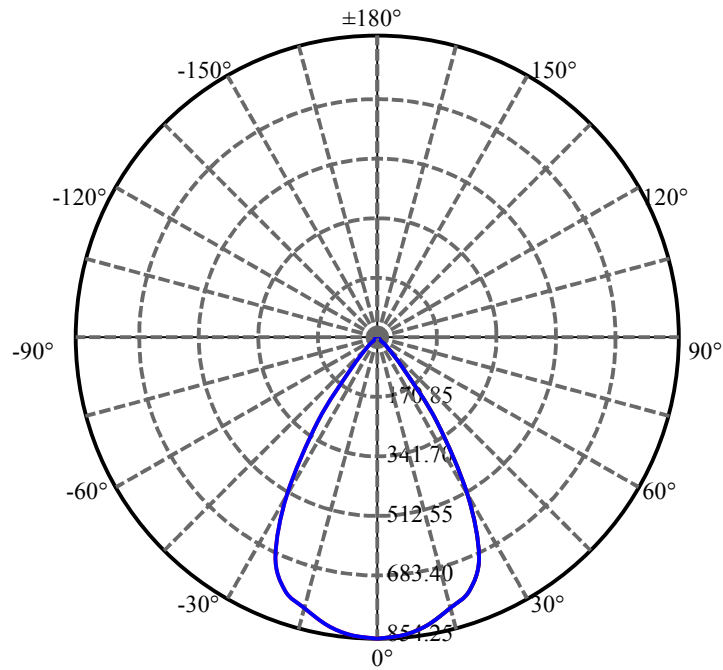
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	854.255	0.000	0	.000%	.000%
5.0	848.538	20.356	20.356	2.054%	2.363%
10.0	827.740	59.966	80.322	6.052%	9.323%
15.0	795.748	96.304	176.626	9.719%	20.500%
20.0	763.545	128.508	305.134	12.969%	35.416%
25.0	682.059	151.617	456.751	15.301%	53.013%
30.0	512.902	151.223	607.974	15.261%	70.565%
35.0	290.088	118.246	726.22	11.933%	84.289%
40.0	118.877	68.233	794.453	6.886%	92.209%
45.0	41.688	29.730	824.183	3.000%	95.659%
50.0	16.791	11.817	836	1.193%	97.031%
55.0	9.654	5.750	841.75	.580%	97.698%
60.0	7.432	3.949	845.699	.399%	98.157%
65.0	6.216	3.318	849.017	.335%	98.542%
70.0	5.477	2.961	851.977	.299%	98.885%
75.0	4.852	2.700	854.677	.272%	99.199%
80.0	4.423	2.482	857.159	.250%	99.487%
85.0	4.029	2.296	859.455	.232%	99.753%
90.0	3.734	2.125	861.581	.214%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	607.97	61.36%	70.56%
0-40	794.45	80.17%	92.21%
0-60	845.70	85.35%	98.16%
0-90	859.46	86.73%	99.75%
0-120	859.46	86.73%	99.75%
0-180	861.58	86.95%	100.00%
60-90	17.71	1.79%	2.06%
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%
0-33.44	689.26	69.56%	80.00%

ZONAL LUMEN SUMMARY

0-10	80.32
10-20	224.81
20-30	302.84
30-40	186.48
40-50	41.55
50-60	9.70
60-70	6.28
70-80	5.18
80-90	2.30
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:

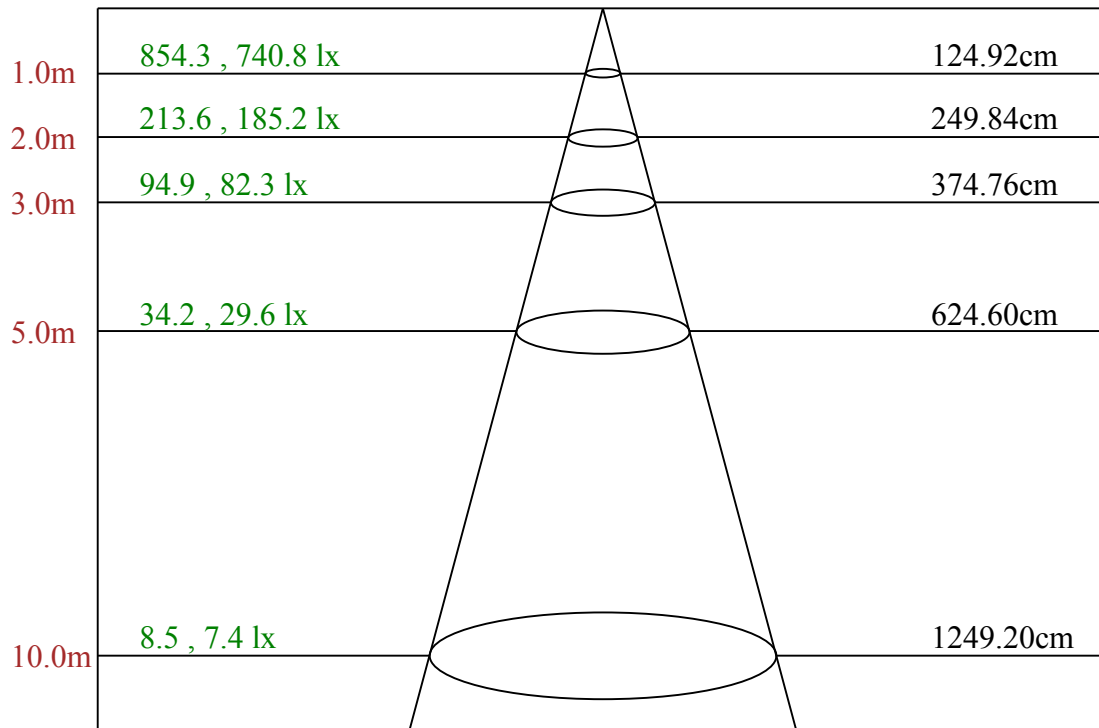
C90/C270:

Field angle(10%Imax):C0/180Left:42.2 Right:42.2

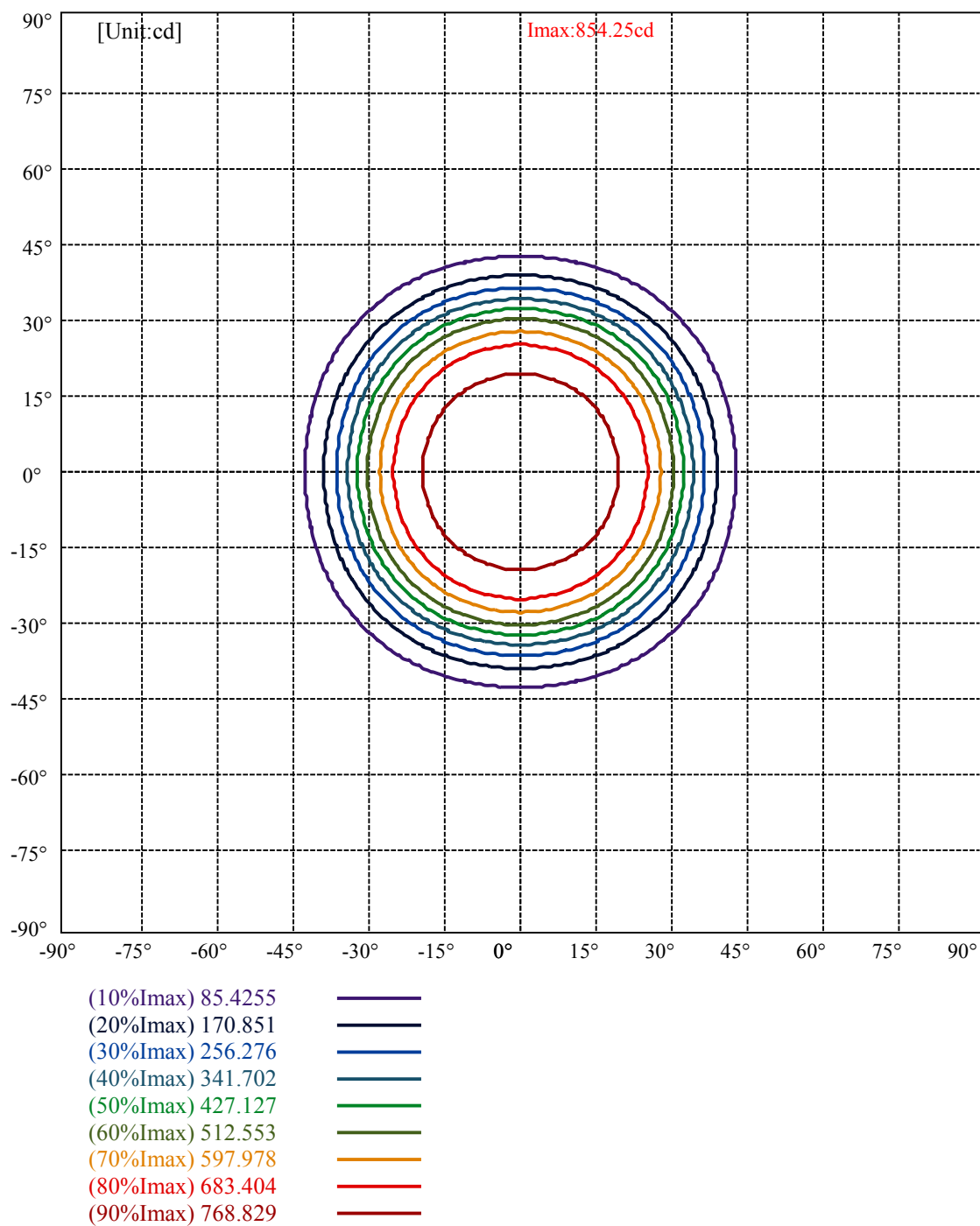
:C90/270Left:42.2 Right:42.2

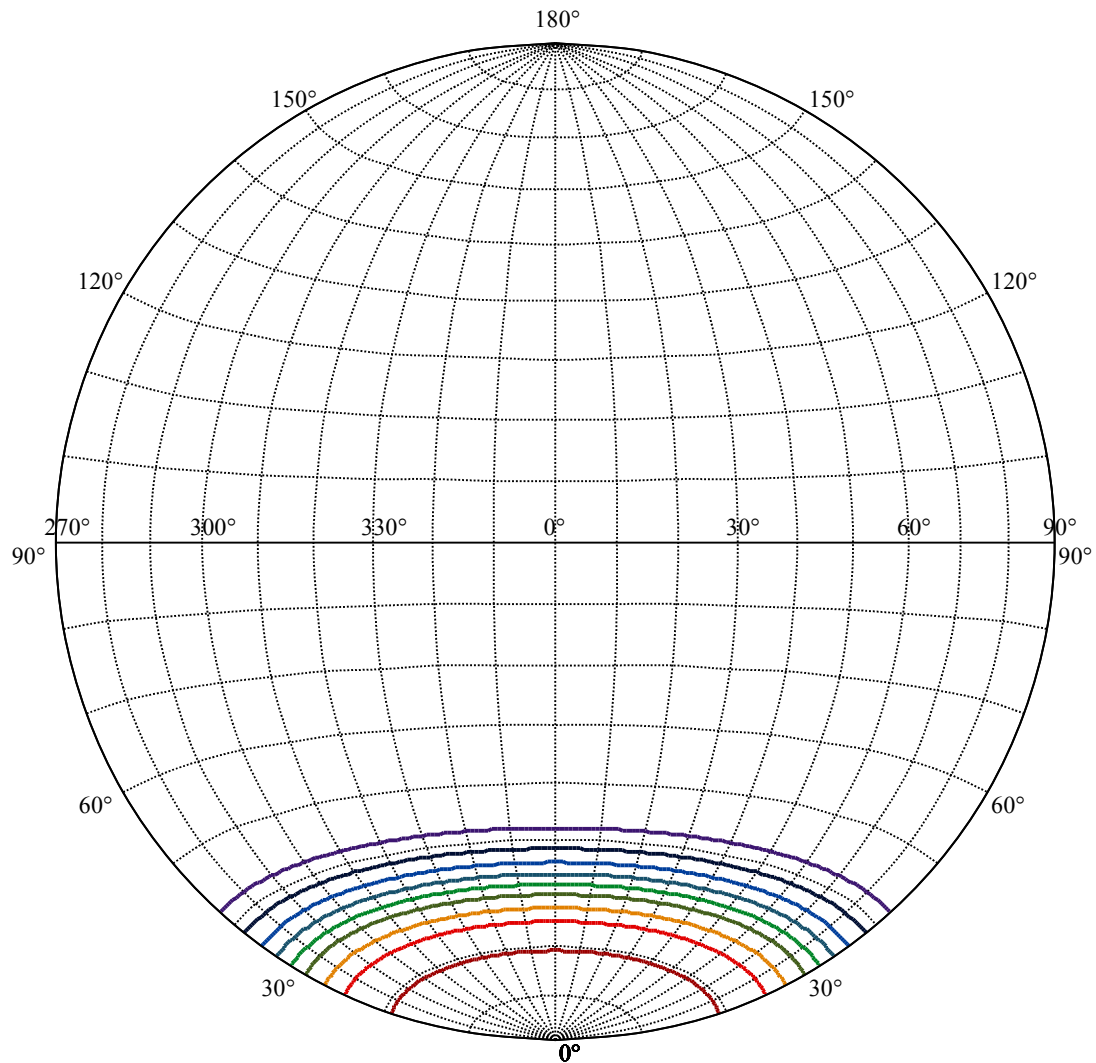
Beam Angle(50%Imax):C0/180Left:31.9 Right:31.9

:C90/270Left:31.9 Right:31.9



Max , Ave Beam angle of C0 plane 63.98





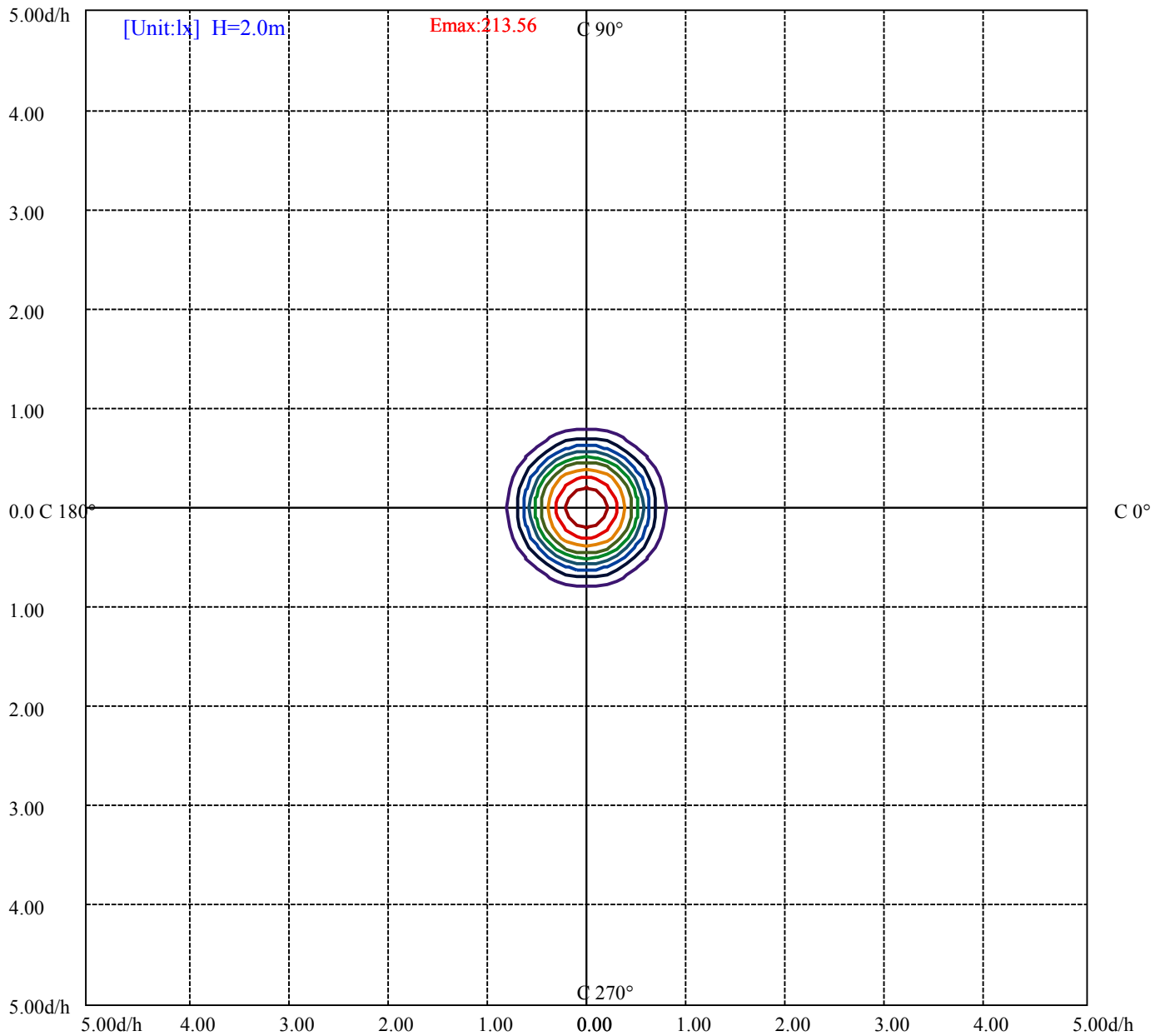
House

[Unit:cd]

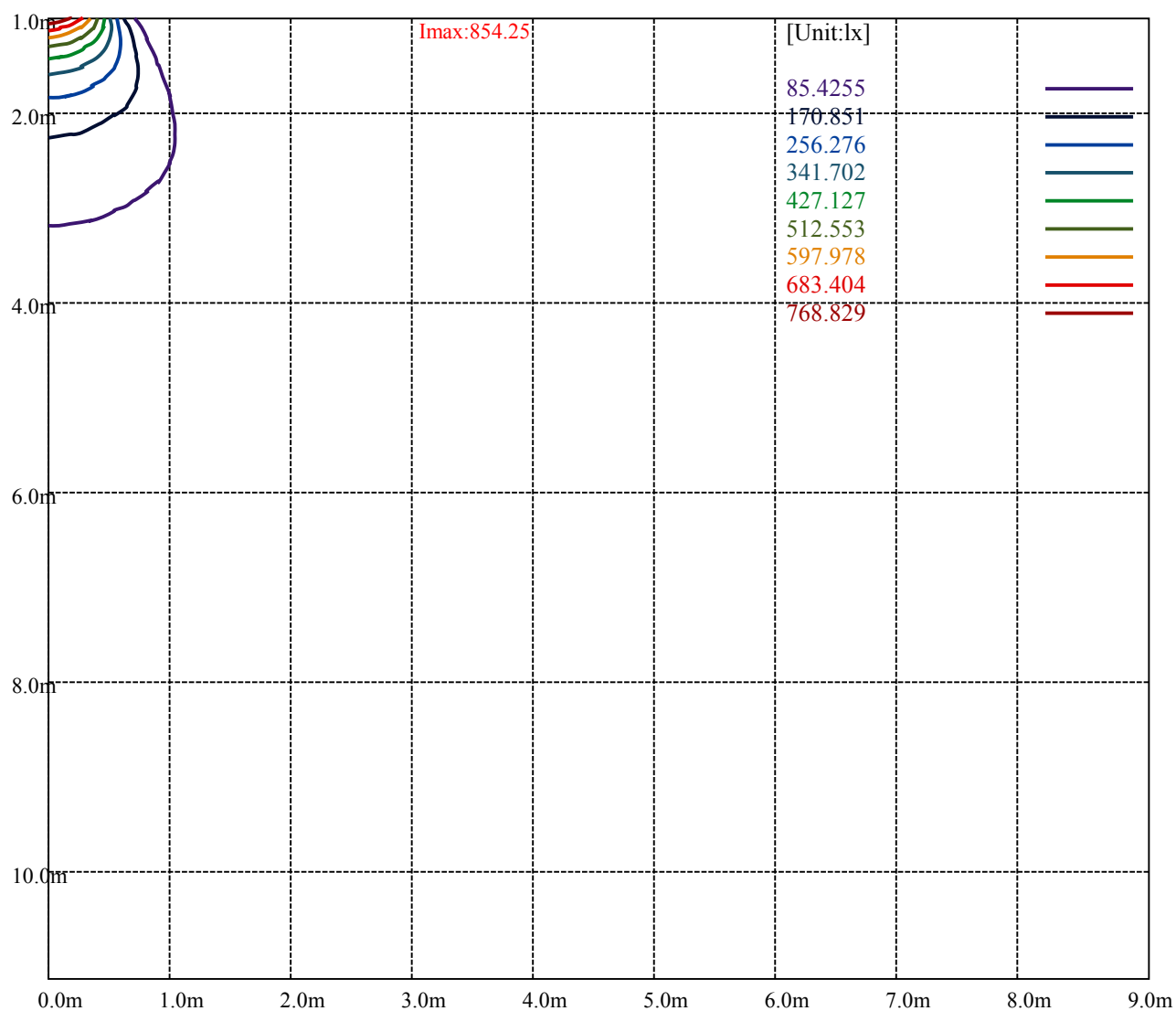
Road

Imax:854.25	
(10%Imax) 85.4255	
(20%Imax) 170.851	
(30%Imax) 256.276	
(40%Imax) 341.702	
(50%Imax) 427.127	
(60%Imax) 512.553	
(70%Imax) 597.978	
(80%Imax) 683.404	
(90%Imax) 768.829	





(10%Emax) 21.35637	—
(20%Emax) 42.71275	—
(30%Emax) 64.069	—
(40%Emax) 85.4255	—
(50%Emax) 106.7818	—
(60%Emax) 128.1382	—
(70%Emax) 149.4945	—
(80%Emax) 170.851	—
(90%Emax) 192.2072	—



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

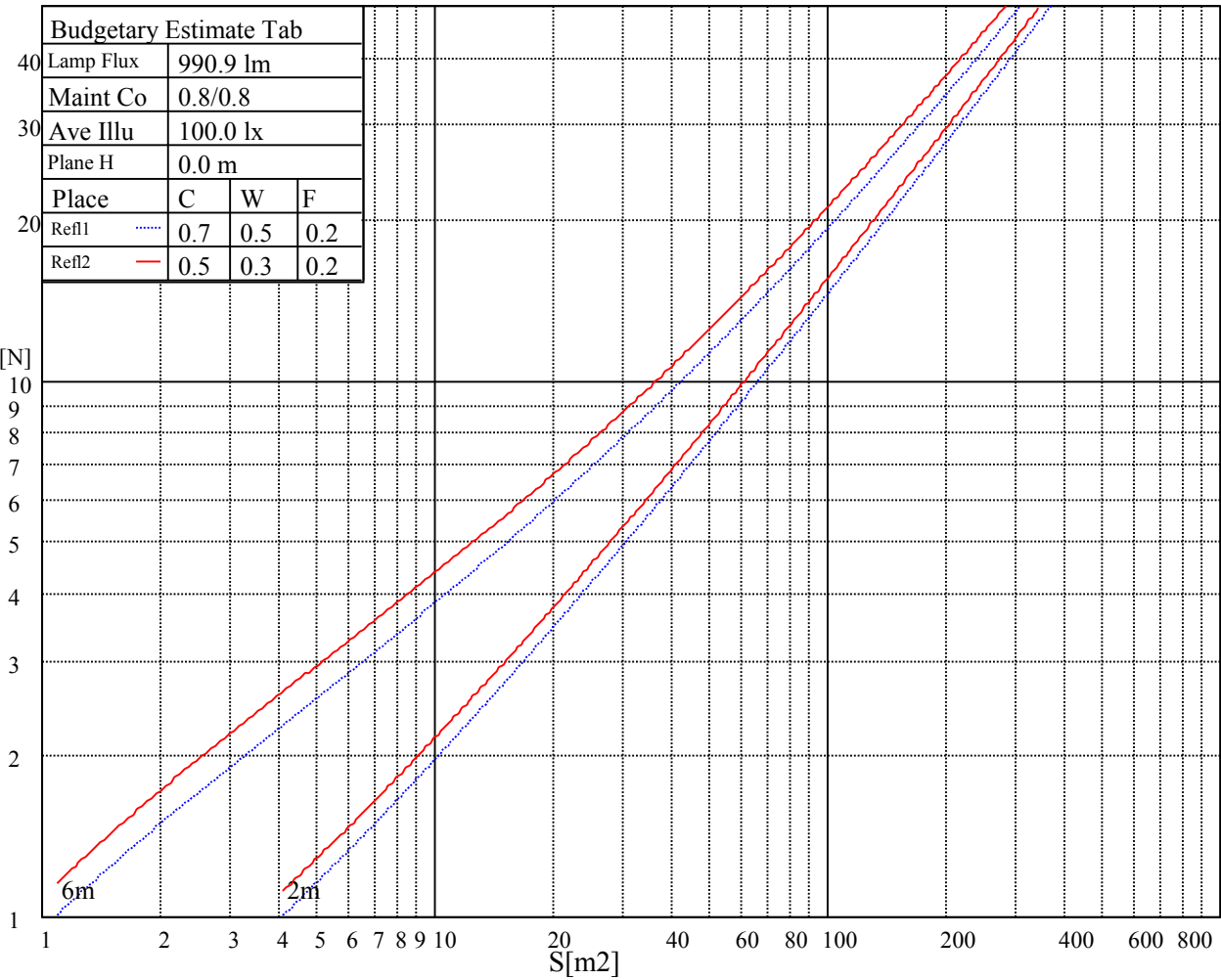
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

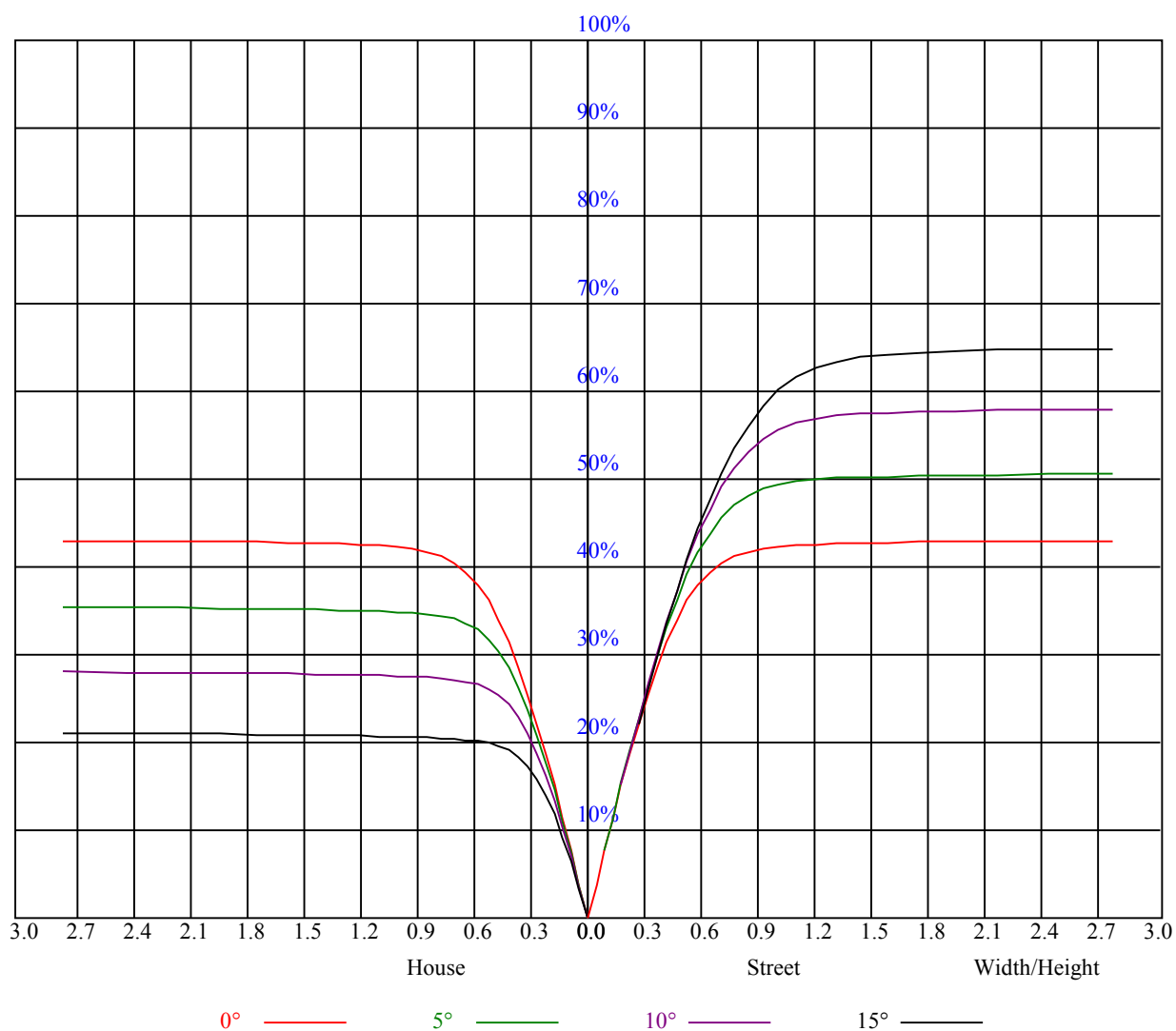
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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	1.04	1.04	1.04	1.01	1.01	1.01	0.97	0.97	0.97	0.92	0.92	0.92	0.89	0.89	0.89	0.87
1	0.96	0.94	0.92	0.94	0.92	0.90	0.90	0.89	0.87	0.87	0.86	0.85	0.84	0.83	0.82	0.81
2	0.89	0.85	0.82	0.87	0.84	0.81	0.85	0.82	0.80	0.82	0.80	0.78	0.80	0.78	0.76	0.75
3	0.83	0.78	0.75	0.82	0.77	0.74	0.79	0.76	0.73	0.77	0.74	0.72	0.75	0.73	0.71	0.69
4	0.77	0.72	0.69	0.76	0.72	0.68	0.74	0.70	0.67	0.73	0.69	0.67	0.71	0.68	0.66	0.64
5	0.72	0.67	0.63	0.71	0.67	0.63	0.70	0.66	0.62	0.68	0.65	0.62	0.67	0.64	0.61	0.60
6	0.68	0.62	0.59	0.67	0.62	0.58	0.66	0.61	0.58	0.64	0.61	0.58	0.63	0.60	0.57	0.56
7	0.64	0.58	0.54	0.63	0.58	0.54	0.62	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.53	0.52
8	0.60	0.54	0.51	0.59	0.54	0.51	0.58	0.54	0.50	0.57	0.53	0.50	0.57	0.53	0.50	0.49
9	0.56	0.51	0.48	0.56	0.51	0.47	0.55	0.50	0.47	0.54	0.50	0.47	0.54	0.50	0.47	0.46
10	0.53	0.48	0.45	0.53	0.48	0.45	0.52	0.48	0.44	0.51	0.47	0.44	0.51	0.47	0.44	0.43



Nata 1680-S

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	851.68	861.81	841.67	821.64	801.79	738.00	560.59	315.62	127.29		
45.0	853.76	860.79	843.58	808.03	776.25	718.88	568.24	338.18	142.82		
90.0	856.13	853.43	832.16	803.70	784.58	696.43	526.39	309.71	129.99		
135.0	855.45	853.76	850.11	820.52	790.26	735.36	569.03	341.72	143.72		
180.0	851.68	847.80	831.26	796.67	761.01	662.74	495.51	277.43	110.14		
225.0	853.76	828.39	803.93	763.26	721.52	627.64	453.21	242.49	103.84		
270.0	856.13	835.82	803.19	767.31	725.68	633.94	465.36	259.31	107.66		
315.0	855.45	846.51	816.02	784.86	747.28	643.50	464.91	236.25	85.56		
360.0	851.68	861.81	841.67	821.64	801.79	738.00	560.59	315.62	127.29		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	40.22	15.64	9.51	7.31	6.08	5.29	4.73	4.28	3.99		
45.0	48.15	16.59	9.45	7.20	6.08	5.29	4.73	4.28	4.05		
90.0	36.28	14.34	9.06	7.82	7.03	6.30	5.34	4.73	4.28		
135.0	47.03	16.59	9.39	7.43	6.19	5.29	4.78	4.44	4.05		
180.0	42.36	17.78	9.62	6.98	5.85	5.12	4.73	4.33	3.94		
225.0	44.04	20.42	10.80	7.93	6.24	5.57	4.95	4.67	3.99		
270.0	43.43	18.68	10.58	7.88	6.53	5.91	5.06	4.50	3.99		
315.0	32.01	14.29	8.83	6.92	5.74	5.06	4.50	4.16	3.94		
360.0	40.22	15.64	9.51	7.31	6.08	5.29	4.73	4.28	3.99		
C/γ(°)	90.0										
0.0	3.77										
45.0	3.71										
90.0	3.71										
135.0	3.83										
180.0	3.77										
225.0	3.71										
270.0	3.66										
315.0	3.71										
360.0	3.77										