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Nata

LumCAT: 1408-N	
Luminaire:92.70.064.00	
Report No: NATA0100	Voltage(V): 33.7500
Test No: GC20190901	Current(A): 0.2970
LampCAT: XICATO XOB LES 9.8MM	Power (W): 10.0000
Lamp flux(lm): 1025.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 39	Width(mm): 39
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 852.53
Efficiency(%): 83.17%
Lumens(lm)/Power(W): 85.25
Central intensity(cd): 803.166
Maximum intensity(cd): 803.166
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=57.0
[C90/270]Total=57.0
Field angle(10%Imax): [C0/180]Total=100.6
[C90/270]Total=100.6
Maximum s/h(1/2): C0_180=0.84 C90_270=0.84
Maximum s/h(1/4): C0_180=0.90 C90_270=0.90
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 83.17%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 94.244%

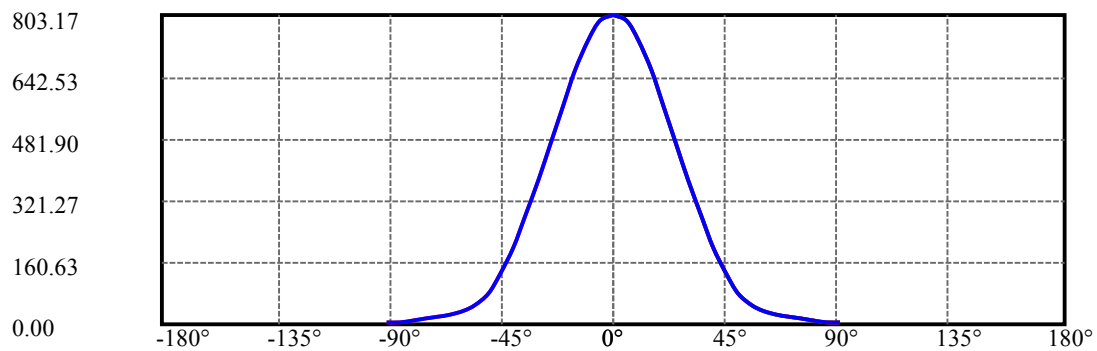
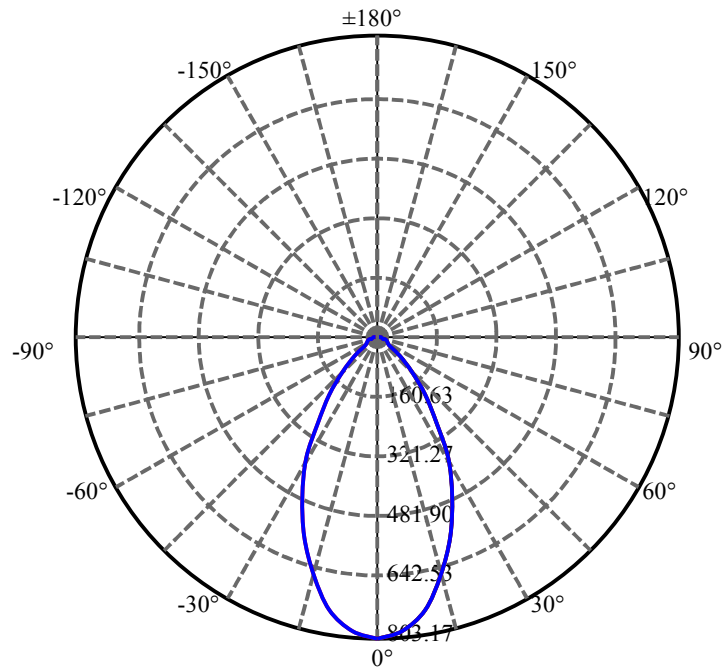
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	803.166	0.000	0	.000%	.000%
5.0	786.551	19.005	19.005	1.854%	2.229%
10.0	739.470	54.591	73.595	5.326%	8.633%
15.0	659.173	82.967	156.562	8.094%	18.364%
20.0	567.380	101.085	257.647	9.862%	30.222%
25.0	466.116	108.395	366.041	10.575%	42.936%
30.0	373.739	106.284	472.326	10.369%	55.403%
35.0	280.638	96.362	568.687	9.401%	66.706%
40.0	201.516	80.444	649.131	7.848%	76.142%
45.0	130.317	61.442	710.573	5.994%	83.349%
50.0	82.259	42.954	753.527	4.191%	88.387%
55.0	52.348	29.268	782.795	2.855%	91.820%
60.0	37.020	20.657	803.452	2.015%	94.244%
65.0	26.599	15.466	818.917	1.509%	96.058%
70.0	19.673	11.717	830.634	1.143%	97.432%
75.0	14.063	8.818	839.452	.860%	98.466%
80.0	9.647	6.344	845.796	.619%	99.210%
85.0	5.716	4.175	849.97	.407%	99.700%
90.0	3.621	2.557	852.527	.249%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	472.33	46.08%	55.40%
0-40	649.13	63.33%	76.14%
0-60	803.45	78.39%	94.24%
0-90	849.97	82.92%	99.70%
0-120	849.97	82.92%	99.70%
0-180	852.53	83.17%	100.00%
60-90	67.18	6.55%	7.88%
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%
0-42.68	682.02	66.54%	80.00%

ZONAL LUMEN SUMMARY

0-10	73.60
10-20	184.05
20-30	214.68
30-40	176.81
40-50	104.40
50-60	49.92
60-70	27.18
70-80	15.16
80-90	4.17
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:

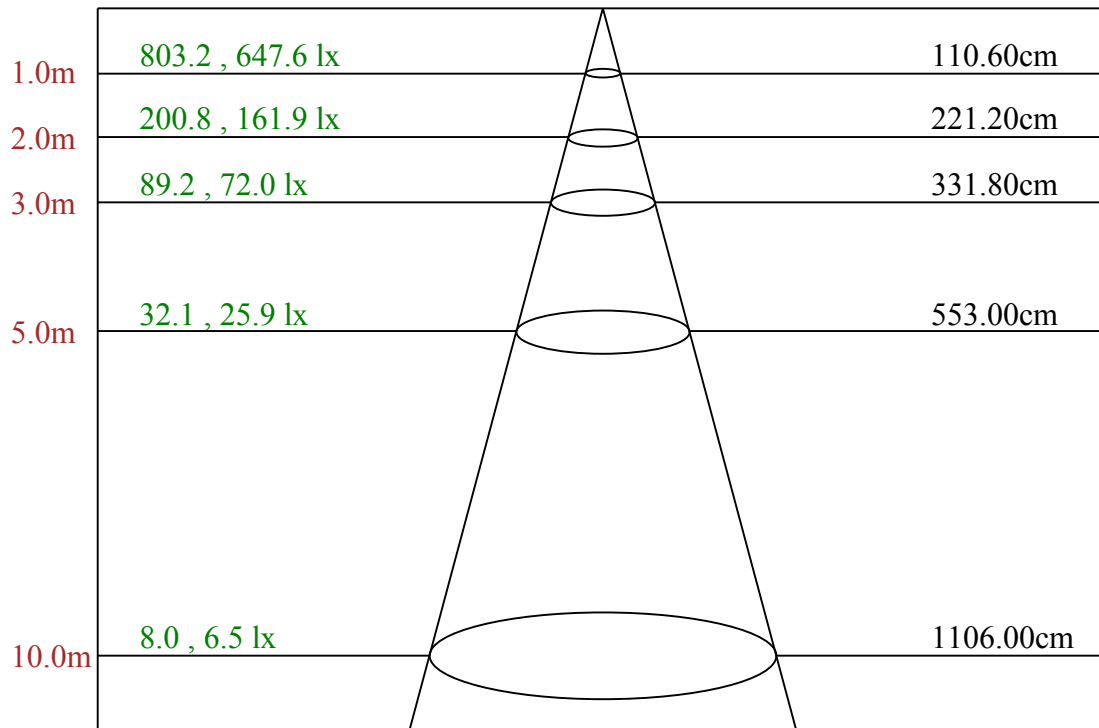
C90/C270:

Field angle(10%Imax):C0/180Left:50.3 Right:50.3

:C90/270Left:50.3 Right:50.3

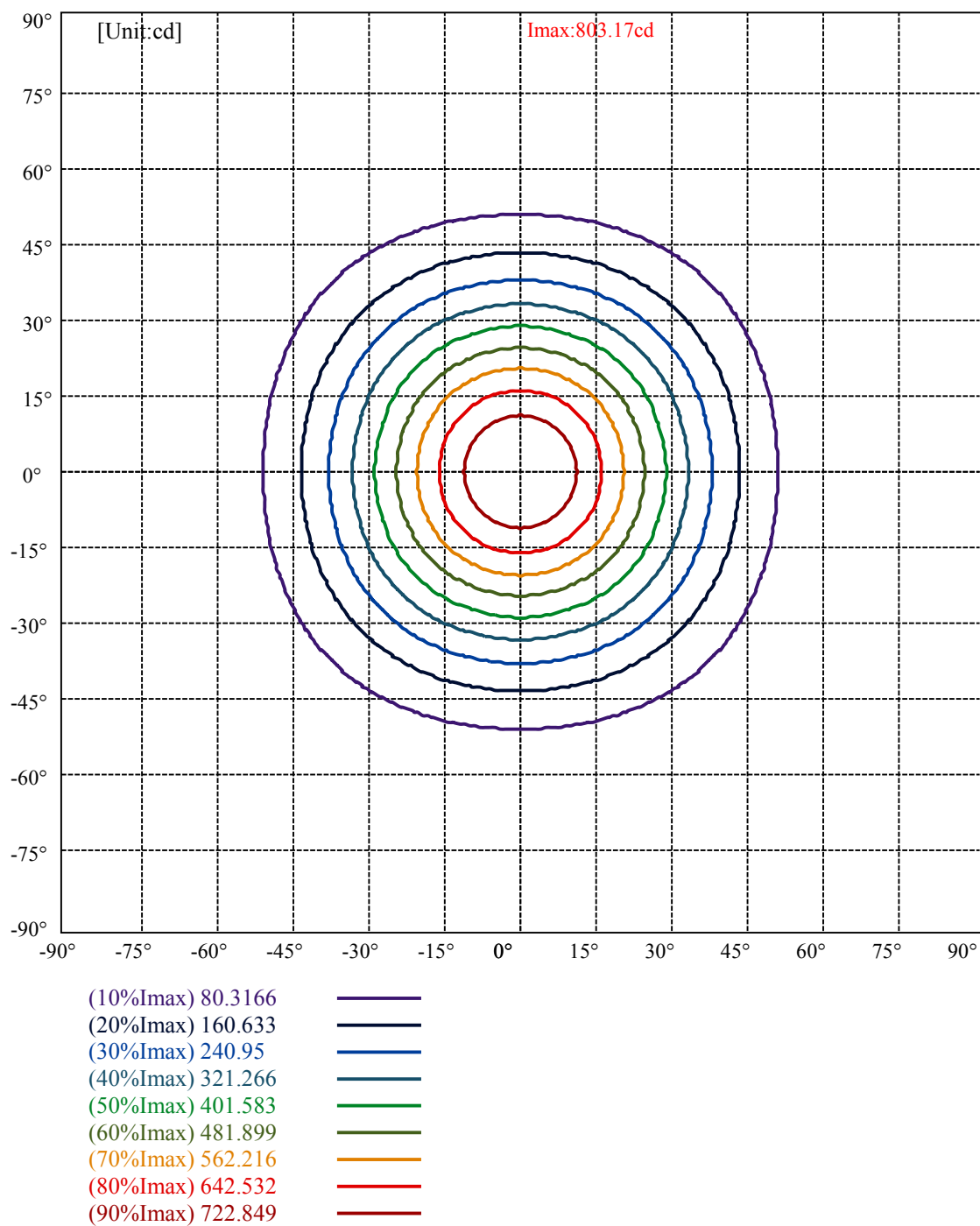
Beam Angle(50%Imax):C0/180Left:28.5 Right:28.5

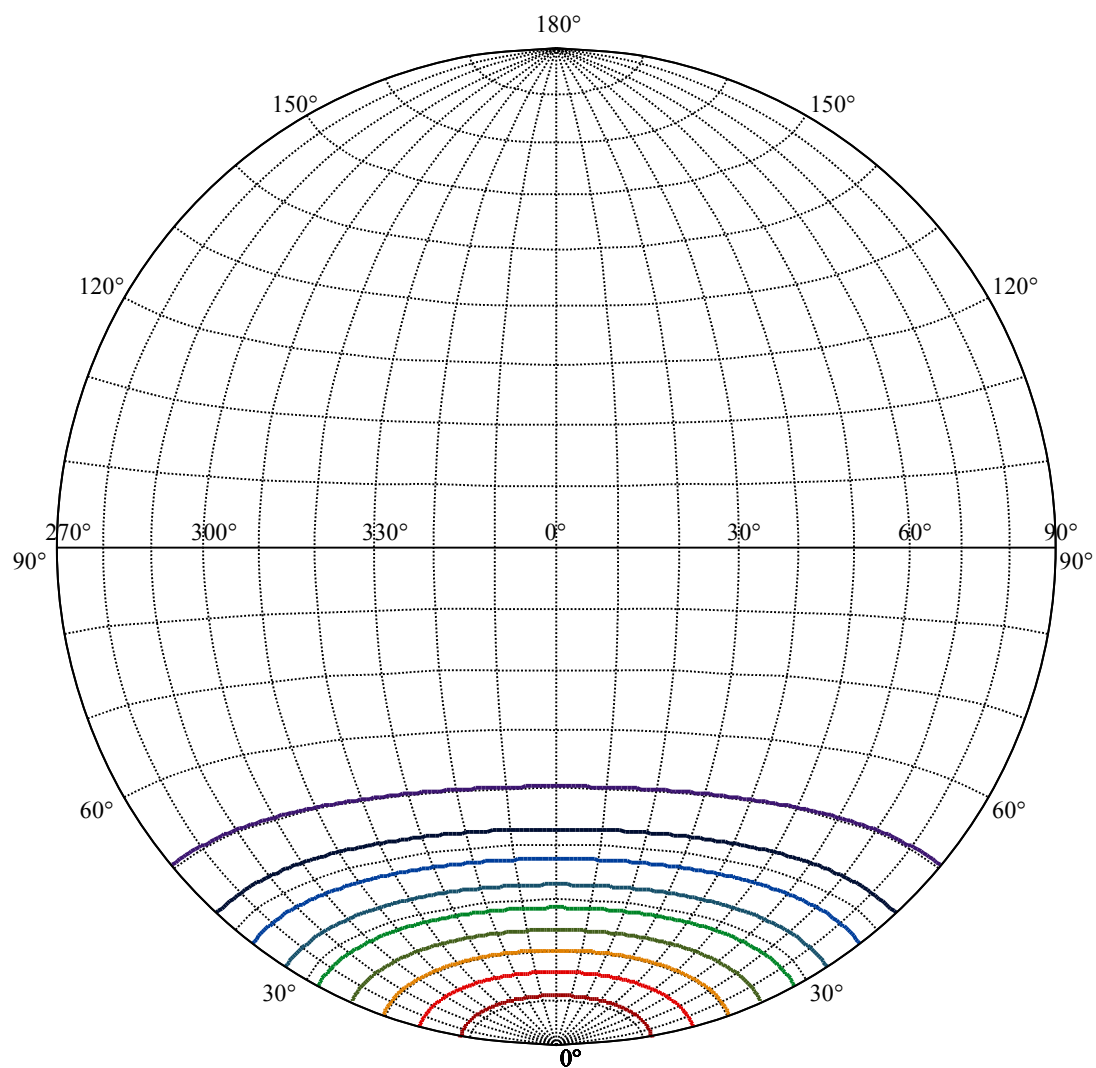
:C90/270Left:28.5 Right:28.5



Max , Ave

Beam angle of C0 plane 57.89





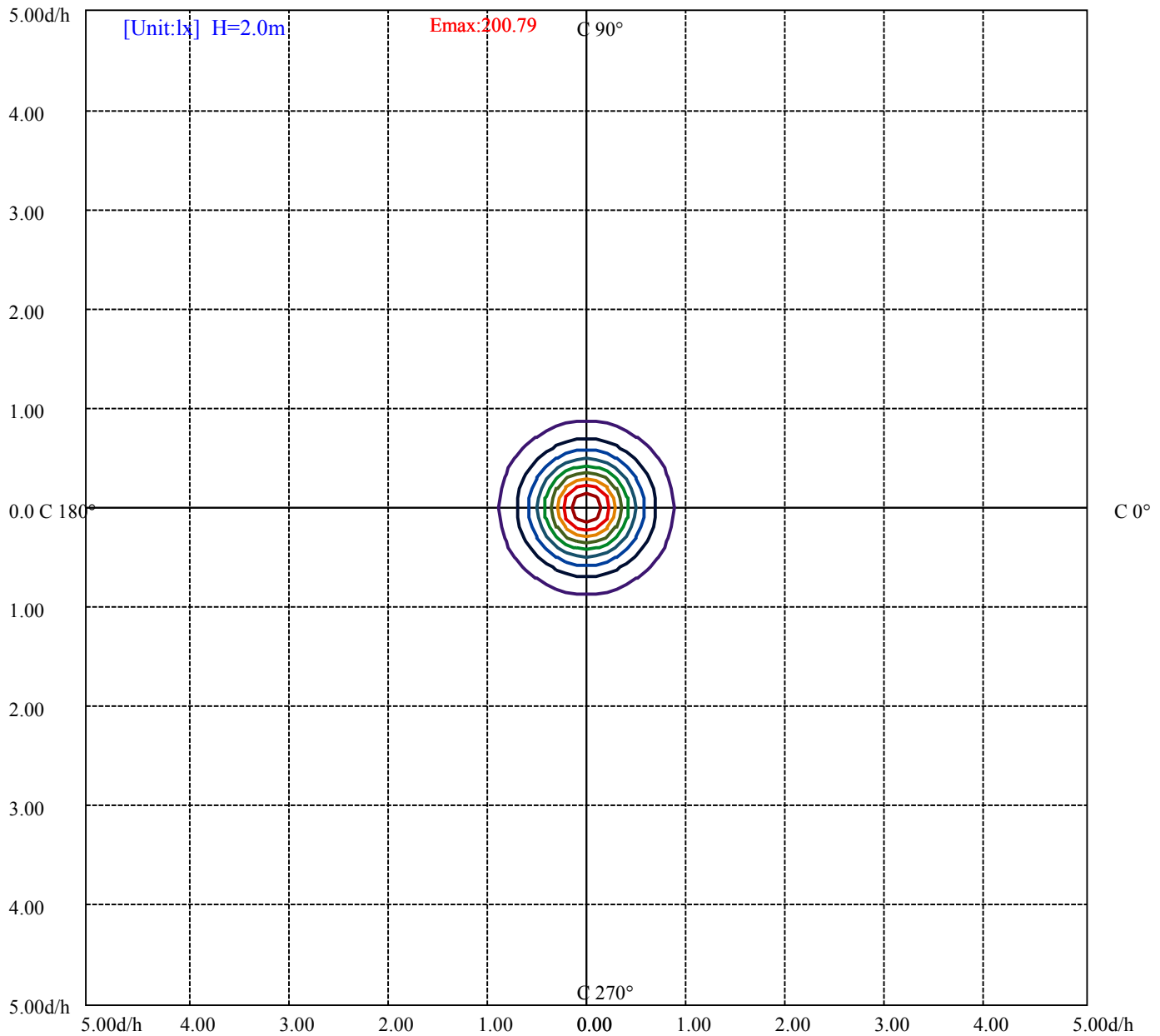
House

[Unit:cd]

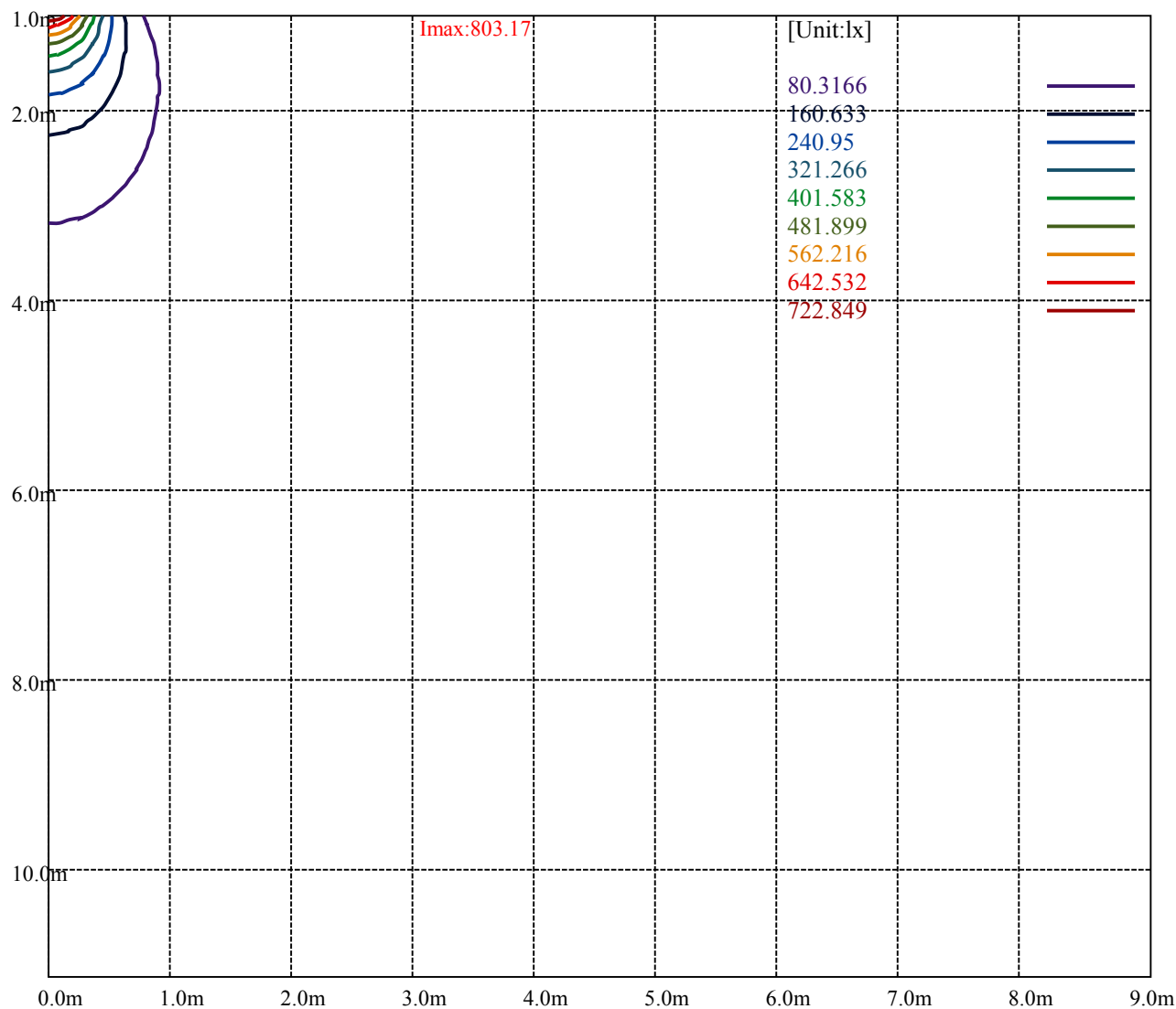
Road

Imax:803.17

(10%Imax)	80.3166	
(20%Imax)	160.633	
(30%Imax)	240.95	
(40%Imax)	321.266	
(50%Imax)	401.583	
(60%Imax)	481.899	
(70%Imax)	562.216	
(80%Imax)	642.532	
(90%Imax)	722.849	



(10%Emax)	20.07912	—
(20%Emax)	40.15825	—
(30%Emax)	60.2375	—
(40%Emax)	80.3165	—
(50%Emax)	100.3958	—
(60%Emax)	120.4747	—
(70%Emax)	140.554	—
(80%Emax)	160.633	—
(90%Emax)	180.7122	—



Luminance Table

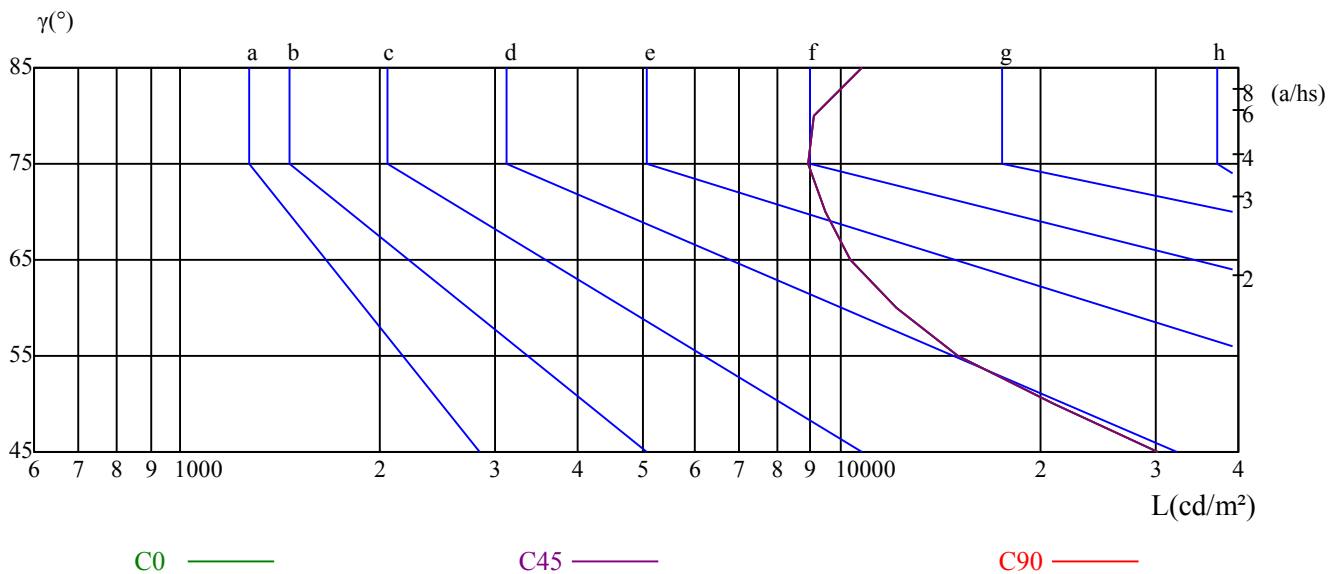
γ	45	50	55	60	65	70	75	80	85
C0	30292	21034	15001	12169	10345	9455	8931	9131	10780
C45	30292	21034	15001	12169	10345	9455	8931	9131	10780
C90	30292	21034	15001	12169	10345	9455	8931	9131	10780

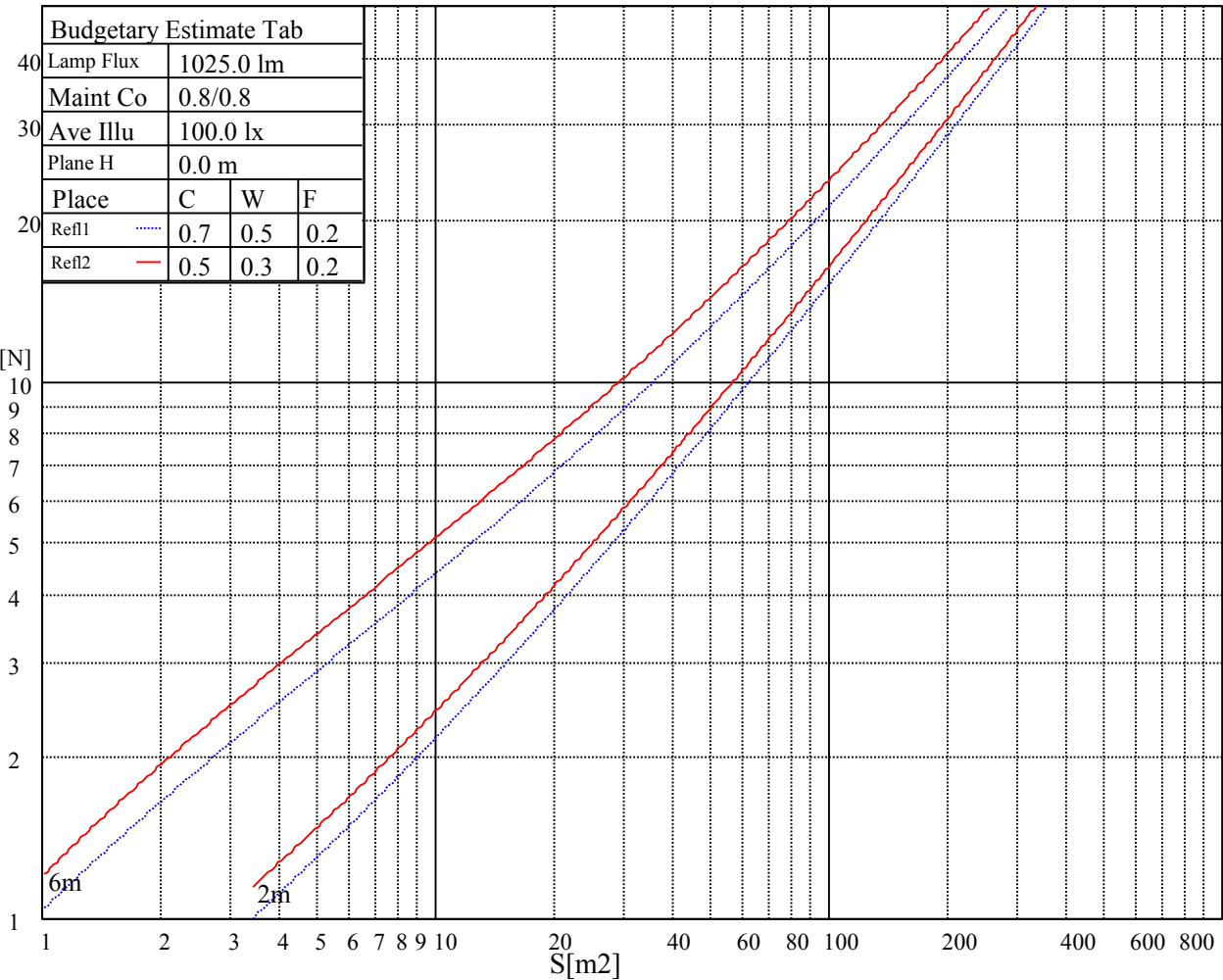
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
10345	10345	10345	8931	8931	8931	10780	10780	10780

Glare Table

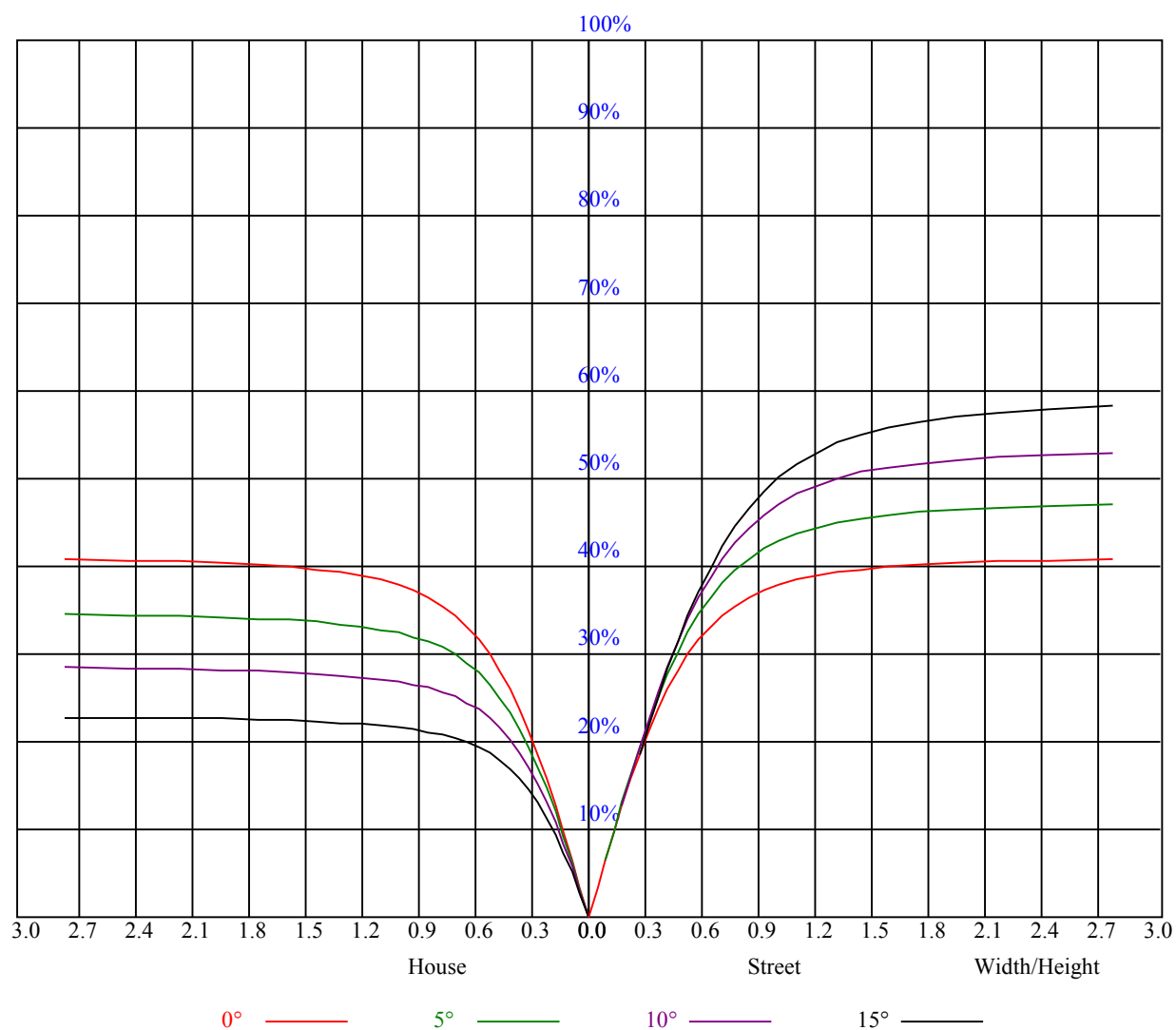
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	0.99	0.99	0.99	0.97	0.97	0.97	0.92	0.92	0.92	0.88	0.88	0.88	0.85	0.85	0.85	0.83
1	0.90	0.88	0.86	0.89	0.86	0.84	0.85	0.83	0.82	0.82	0.81	0.79	0.79	0.78	0.77	0.75
2	0.83	0.78	0.75	0.81	0.77	0.74	0.78	0.75	0.73	0.76	0.73	0.71	0.73	0.71	0.69	0.68
3	0.76	0.71	0.67	0.74	0.70	0.66	0.72	0.68	0.65	0.70	0.67	0.64	0.68	0.65	0.63	0.62
4	0.70	0.64	0.60	0.69	0.64	0.60	0.67	0.62	0.59	0.65	0.61	0.58	0.63	0.60	0.58	0.56
5	0.64	0.59	0.54	0.64	0.58	0.54	0.62	0.57	0.54	0.60	0.56	0.53	0.59	0.56	0.53	0.51
6	0.60	0.54	0.50	0.59	0.54	0.50	0.58	0.53	0.49	0.56	0.52	0.49	0.55	0.51	0.49	0.47
7	0.56	0.50	0.46	0.55	0.50	0.46	0.54	0.49	0.45	0.53	0.48	0.45	0.52	0.48	0.45	0.44
8	0.52	0.46	0.42	0.51	0.46	0.42	0.50	0.46	0.42	0.49	0.45	0.42	0.49	0.45	0.42	0.40
9	0.49	0.43	0.39	0.48	0.43	0.39	0.47	0.42	0.39	0.47	0.42	0.39	0.46	0.42	0.39	0.38
10	0.46	0.40	0.37	0.45	0.40	0.37	0.45	0.40	0.37	0.44	0.39	0.36	0.43	0.39	0.36	0.35



Nata 1408-N

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	805.05	793.69	756.00	683.61	604.80	496.52	401.29	309.94	230.91
45.0	800.61	800.66	771.36	693.39	602.89	498.71	408.09	312.41	231.08
90.0	802.29	796.44	753.64	671.74	580.39	473.12	390.88	299.70	218.03
135.0	804.71	790.20	749.70	668.93	571.73	472.22	379.01	285.36	209.81
180.0	805.05	775.80	721.52	638.89	539.72	437.51	344.76	255.15	174.43
225.0	800.61	774.39	711.45	623.64	529.37	432.90	337.67	241.99	166.44
270.0	802.29	781.14	726.81	644.68	552.09	462.15	360.90	266.57	189.11
315.0	804.71	780.08	725.29	648.51	558.06	455.79	367.31	273.99	192.32
360.0	805.05	793.69	756.00	683.61	604.80	496.52	401.29	309.94	230.91
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	153.56	97.31	62.21	42.53	30.21	22.67	16.43	11.59	6.98
45.0	156.43	99.79	60.98	43.26	30.09	22.22	15.98	11.36	6.64
90.0	143.83	90.11	55.74	39.15	27.68	20.36	14.29	9.84	5.96
135.0	134.49	84.77	53.33	37.86	26.89	19.69	14.06	9.34	5.34
180.0	107.66	69.41	45.17	32.23	23.51	17.16	11.81	7.48	4.61
225.0	102.38	64.24	42.64	31.22	22.67	16.71	12.09	7.82	4.73
270.0	119.70	74.03	47.64	34.37	24.86	18.56	13.39	9.51	5.29
315.0	124.48	78.41	51.08	35.55	26.89	20.03	14.46	10.24	6.19
360.0	153.56	97.31	62.21	42.53	30.21	22.67	16.43	11.59	6.98
C/γ(°)	90.0								
0.0	3.77								
45.0	3.83								
90.0	3.66								
135.0	3.60								
180.0	3.49								
225.0	3.54								
270.0	3.54								
315.0	3.54								
360.0	3.77								