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Nata

Client:

LumCAT: 1408-N

Luminaire: 92.70.064.00

Report No: NT2018040406

Test No: nata-0100

LampCAT: CITIZEN CLU028

Lamp flux(lm): 1314.6

Number of Lamps: 1

Length(mm): 39

Phm Type: C

Voltage(V): 36.8000

Current(A): 0.4000

Power (W): 14.7200

PF: 0.0000

Ballast type: DC

Width(mm): 39

Height(mm): 0

Photometric Results

Lumens(lm): 1044.61, Efficiency(%): 79.46% , Luminous Efficacy(lm/W): 70.97

Central intensity(cd): 991.291, Maximum intensity(cd): 991.291

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=57.8

[C90/270]Total=57.8

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

[C90/270]Total=99.6

Maximum s/h(1/2): C0_180=0.85 C90_270=0.85

Maximum s/h(1/4): C0_180=0.91 C90_270=0.91

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 79.84%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 95.132%

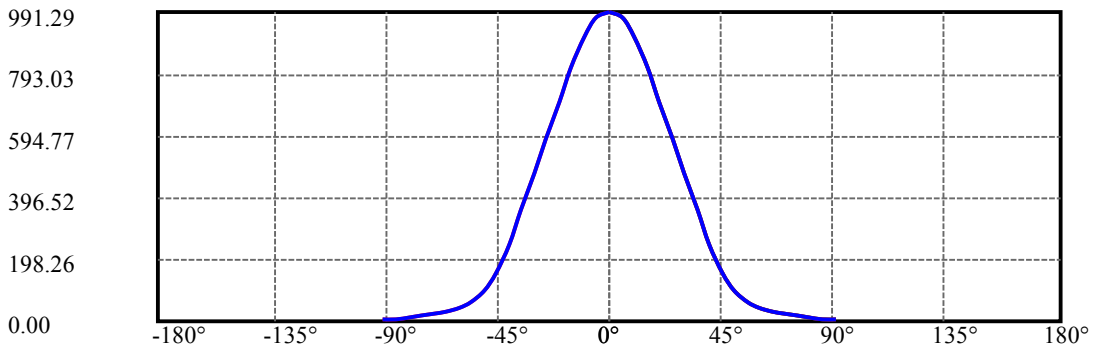
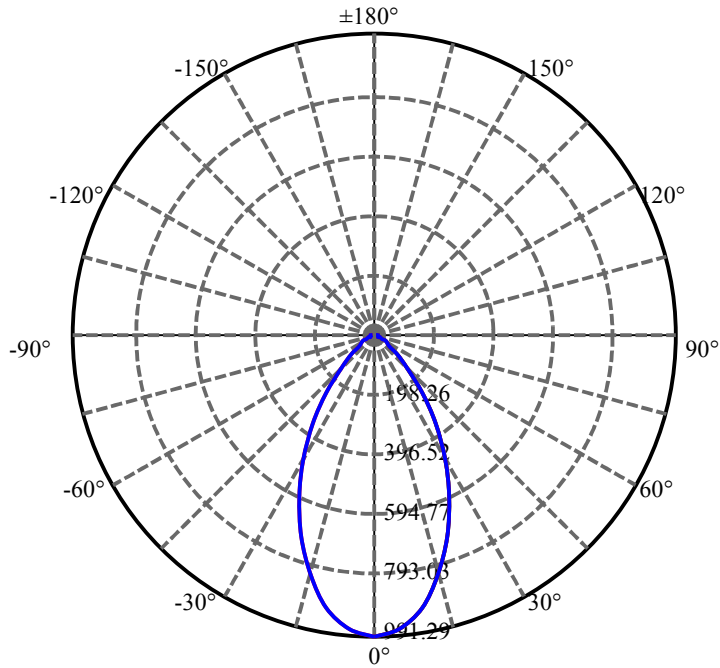
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	991.290	5.928	5.928	.451%	.567%
5.0	971.663	46.420	52.348	3.531%	5.011%
10.0	912.684	86.872	139.22	6.608%	13.327%
15.0	815.413	115.681	254.901	8.800%	24.402%
20.0	704.983	132.166	387.067	10.054%	37.054%
25.0	584.768	135.463	522.53	10.305%	50.022%
30.0	471.723	129.285	651.815	9.835%	62.398%
35.0	354.605	111.487	763.302	8.481%	73.071%
40.0	244.175	86.032	849.334	6.544%	81.306%
45.0	154.516	59.889	909.223	4.556%	87.040%
50.0	96.638	40.578	949.801	3.087%	90.924%
55.0	61.952	27.817	977.618	2.116%	93.587%
60.0	43.880	20.830	998.448	1.585%	95.581%
65.0	31.258	15.529	1013.976	1.181%	97.067%
70.0	22.917	11.804	1025.78	.898%	98.198%
75.0	15.898	8.417	1034.197	.640%	99.003%
80.0	10.543	5.691	1039.889	.433%	99.548%
85.0	6.593	3.600	1043.489	.274%	99.893%
90.0	4.088	1.120	1044.609	.085%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	651.81	49.58%	62.40%
0-40	849.33	64.61%	81.31%
0-60	998.45	75.95%	95.58%
0-90	1043.49	79.38%	99.89%
0-120	1043.49	79.38%	99.89%
0-180	1044.61	79.46%	100.00%
60-90	65.87	5.01%	6.31%
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%
0-39.21	835.69	63.57%	80.00%

ZONAL LUMEN SUMMARY

0-10	139.22
10-20	247.85
20-30	264.75
30-40	197.52
40-50	100.47
50-60	48.65
60-70	27.33
70-80	14.11
80-90	3.60
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



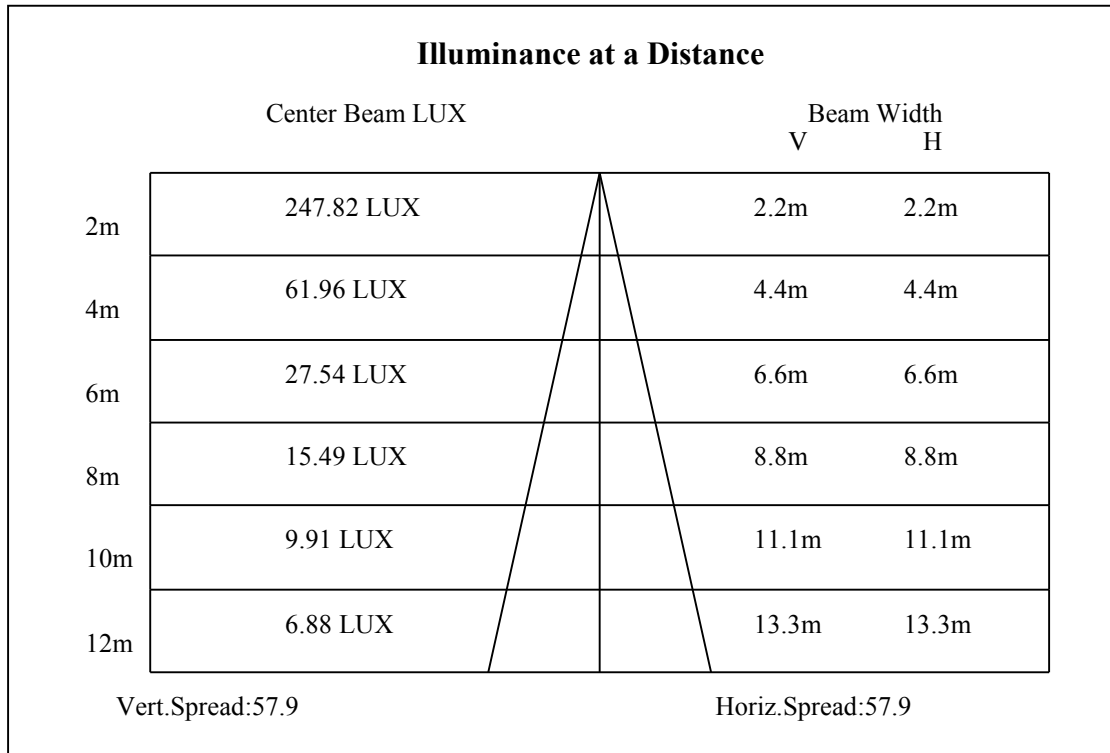
C0(Max): —————

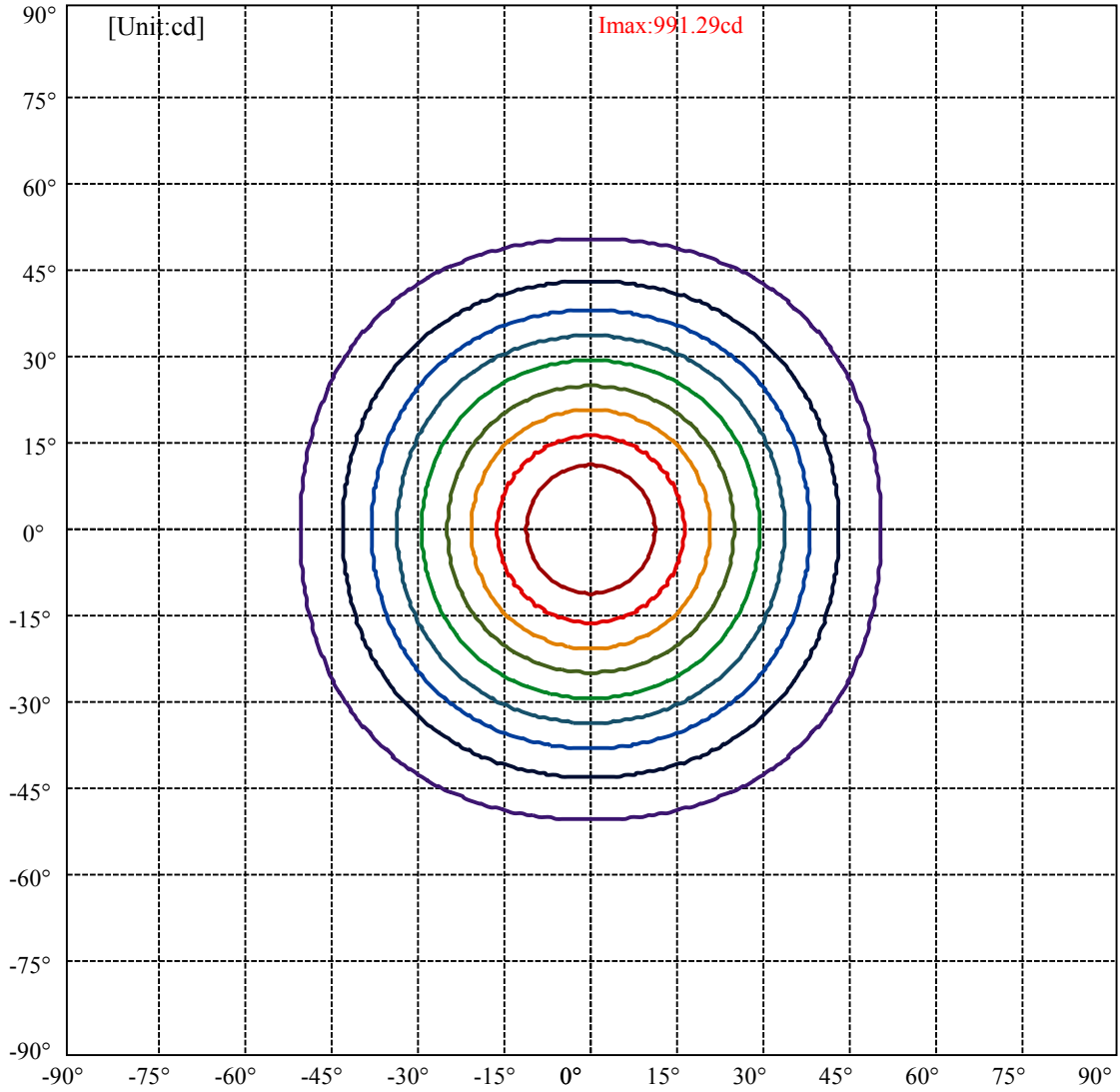
C0/C180: —————

C90/C270: —————

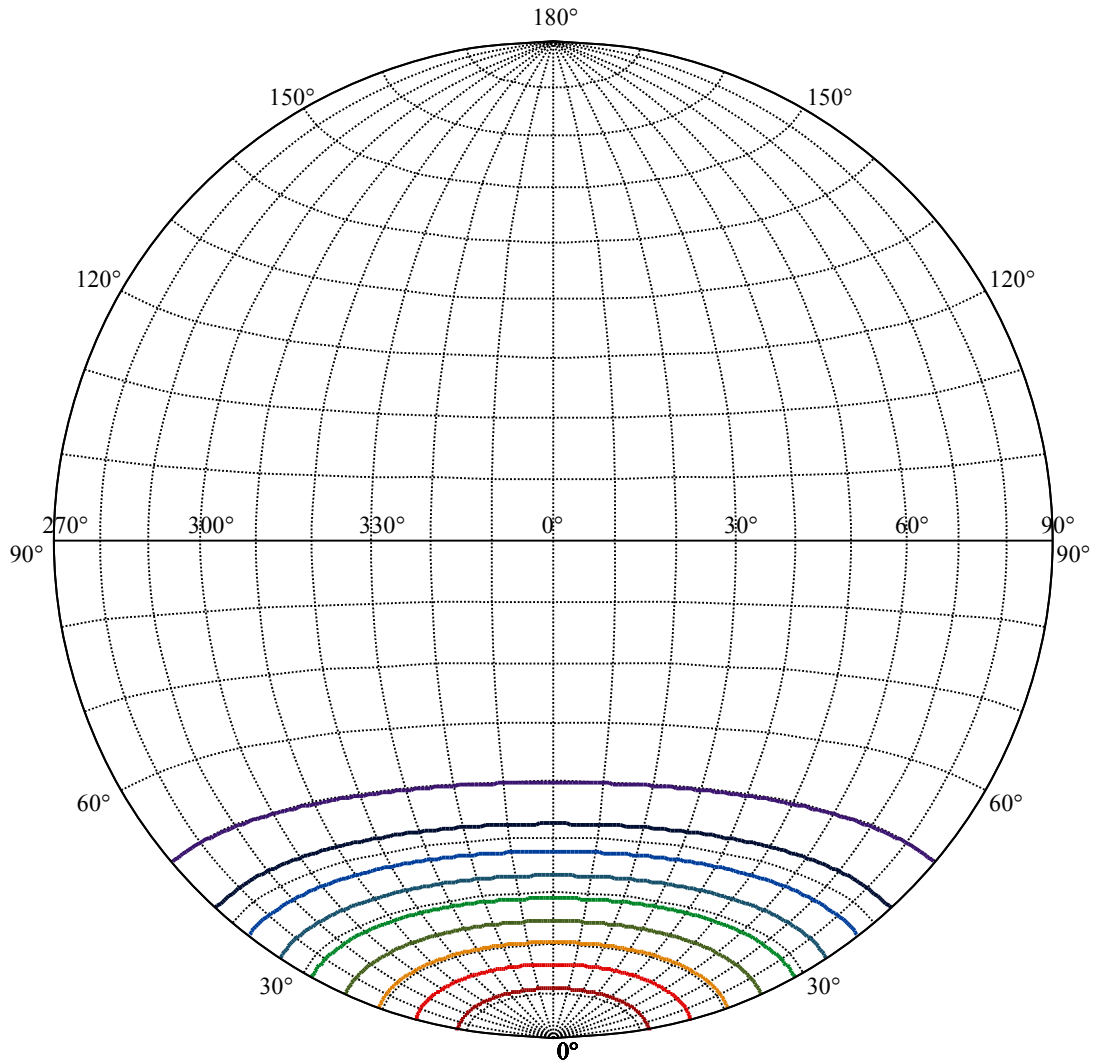
Field angle(10%Imax):C0/180Left:49.8 Right:49.8
:C90/270Left:49.8 Right:49.8

Beam Angle(50%Imax):C0/180Left:28.9 Right:28.9
:C90/270Left:28.9 Right:28.9





(10%Imax) 99.1291	—
(20%Imax) 198.258	—
(30%Imax) 297.387	—
(40%Imax) 396.516	—
(50%Imax) 495.645	—
(60%Imax) 594.774	—
(70%Imax) 693.903	—
(80%Imax) 793.032	—
(90%Imax) 892.161	—



House

[Unit:cd]

Road

I_{max}:991.29

(10%I_{max}) 99.1291

(20%I_{max}) 198.258

(30%I_{max}) 297.387

(40%I_{max}) 396.516

(50%I_{max}) 495.645

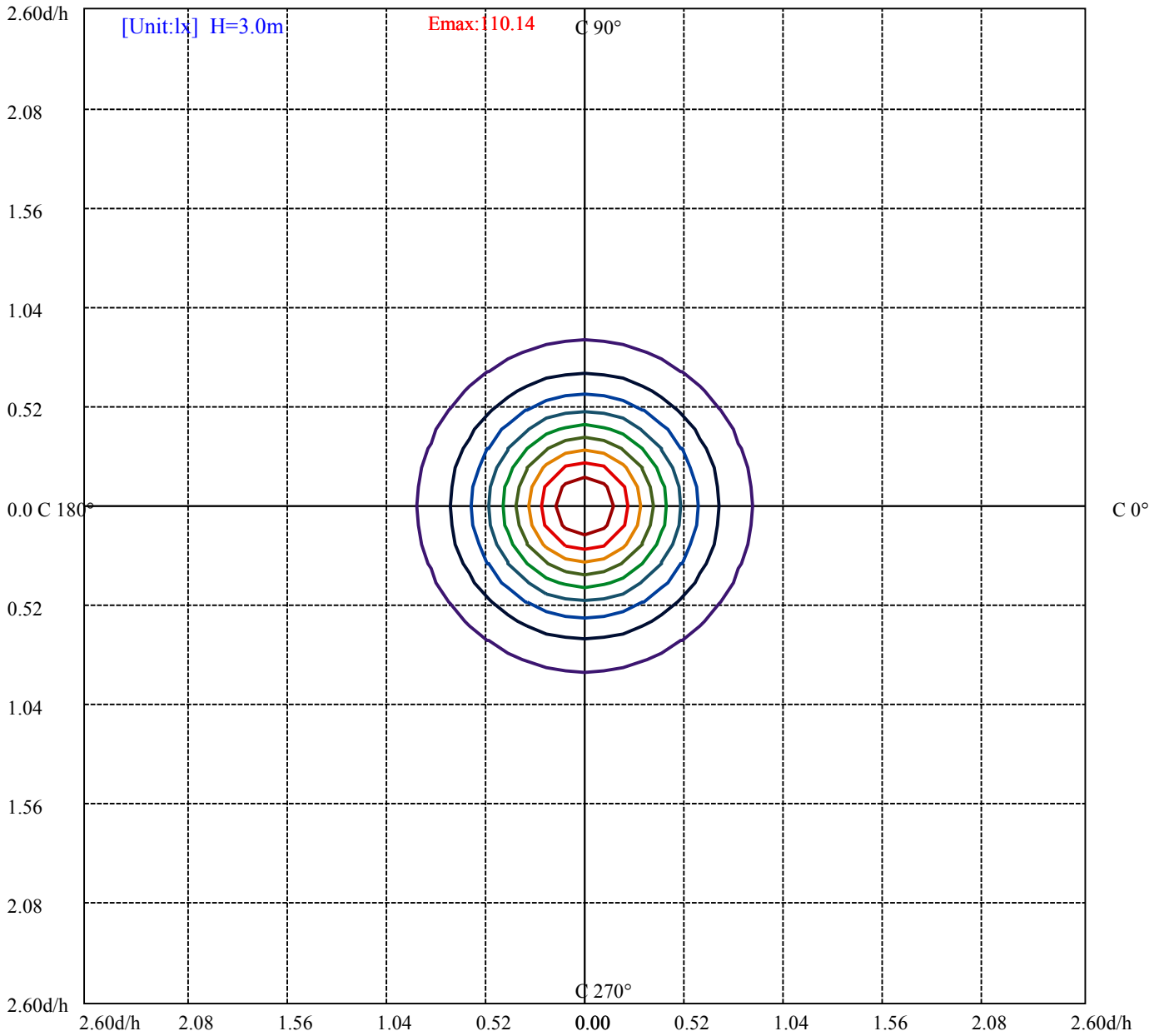
(60%I_{max}) 594.774

(70%I_{max}) 693.903

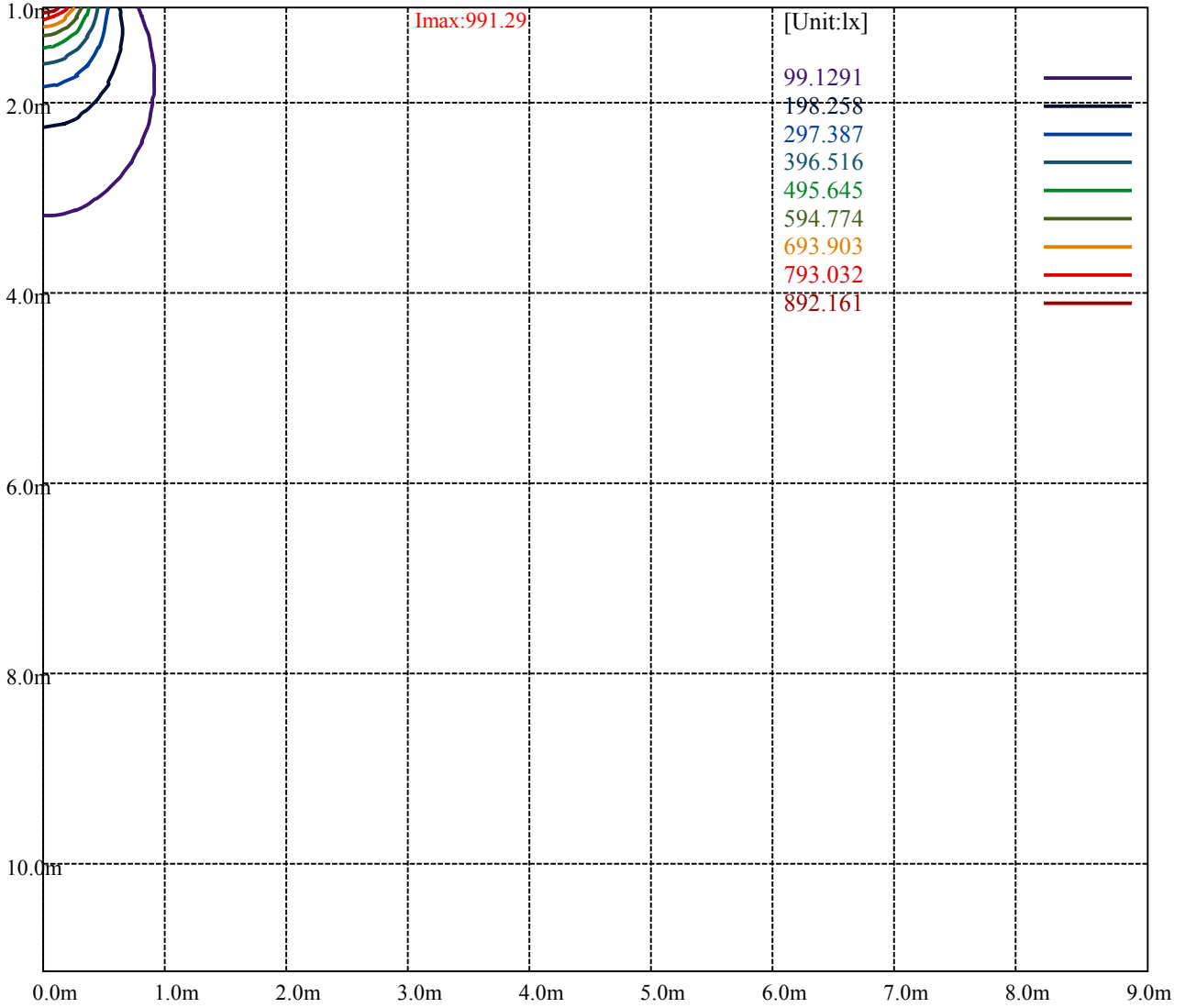
(80%I_{max}) 793.032

(90%I_{max}) 892.161





- (10%Emax) 11.01433
- (20%Emax) 22.02867
- (30%Emax) 33.043
- (40%Emax) 44.05733
- (50%Emax) 55.07167
- (60%Emax) 66.086
- (70%Emax) 77.10033
- (80%Emax) 88.11466
- (90%Emax) 99.129



Luminance Table

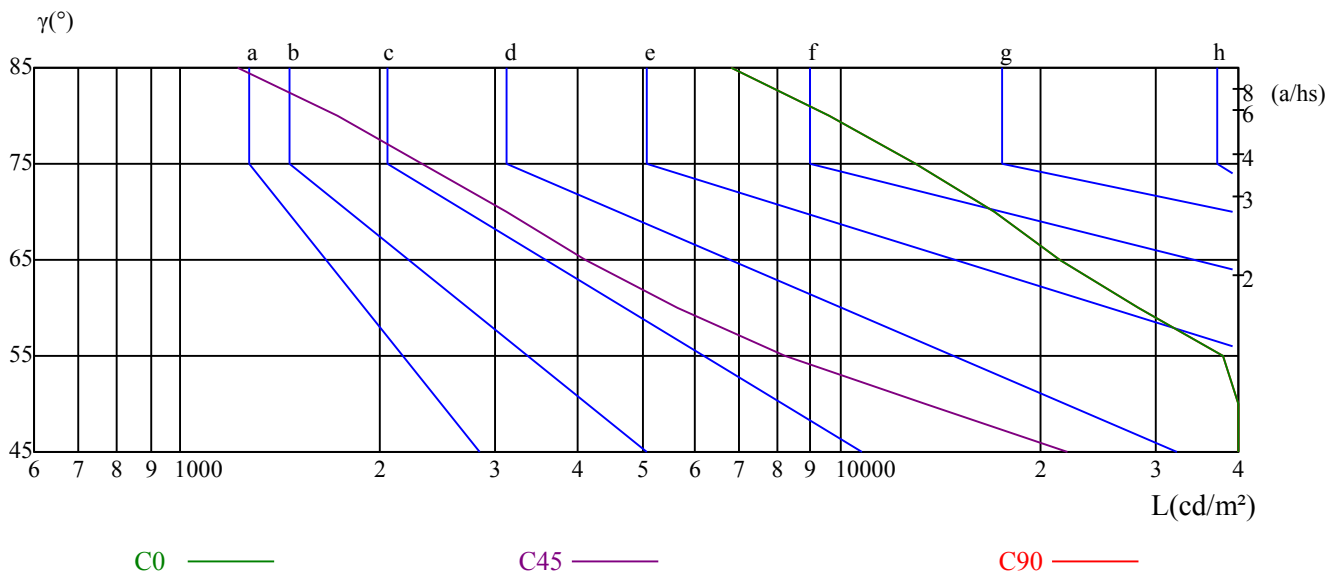
γ	45	50	55	60	65	70	75	80	85
C0	87372	56557	37871	28298	21504	17033	12955	9590	6844
C45	22010	13436	8219	5670	4102	3125	2328	1728	1221
C90	87372	56557	37871	28298	21504	17033	12955	9590	6844

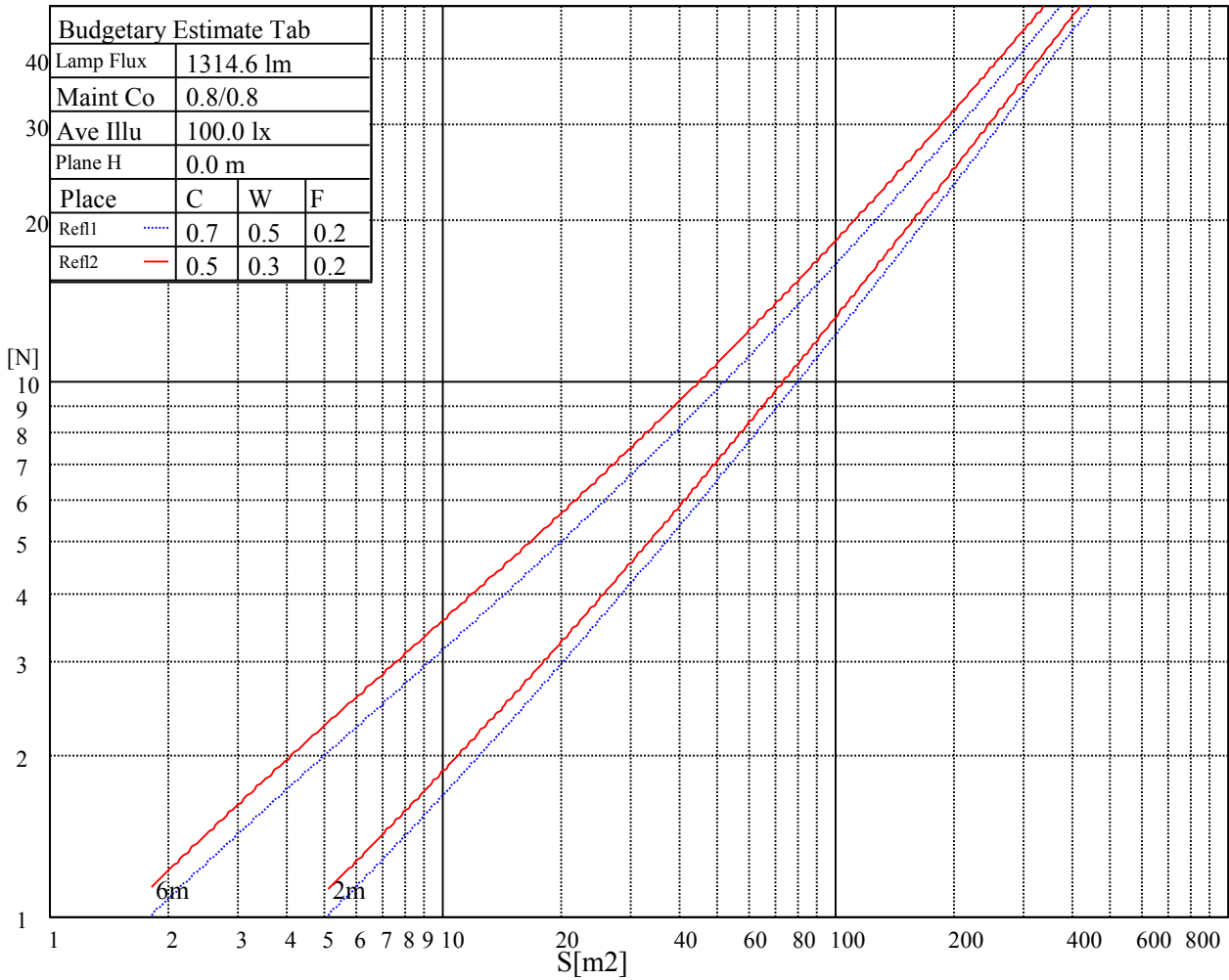
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
44000	44000	10172	36540	36540	8320	45001	45001	10851

Glare Table

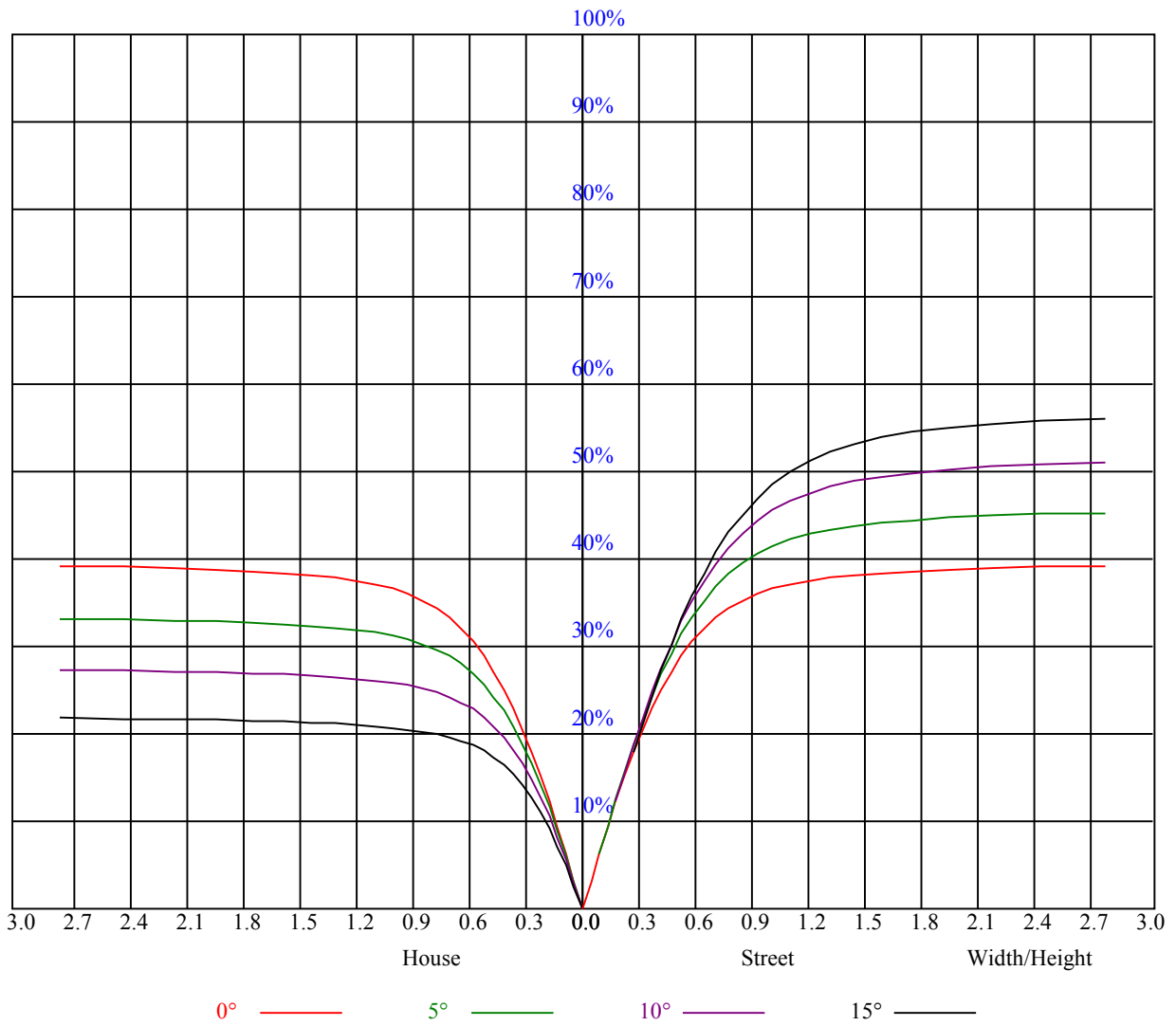
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

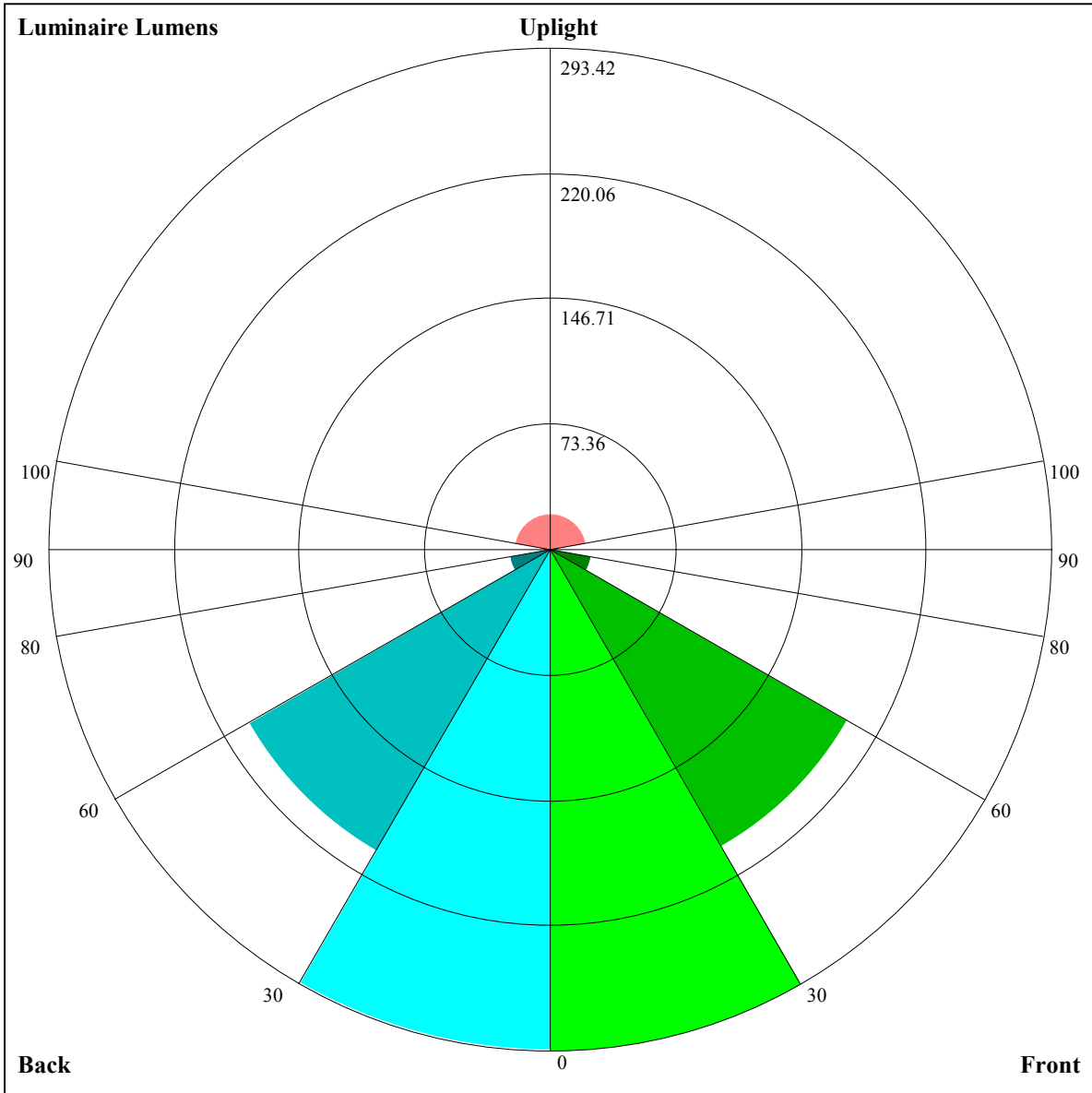
Luminance Limiting Curve





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	0.95	0.95	0.95	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.81	0.81	0.81	0.80
1	0.87	0.85	0.82	0.85	0.83	0.81	0.82	0.80	0.79	0.79	0.77	0.76	0.76	0.75	0.74	0.72
2	0.80	0.76	0.73	0.79	0.75	0.72	0.76	0.73	0.71	0.73	0.71	0.69	0.71	0.69	0.68	0.66
3	0.74	0.69	0.66	0.73	0.69	0.65	0.71	0.67	0.64	0.69	0.66	0.63	0.67	0.64	0.62	0.61
4	0.69	0.64	0.60	0.68	0.63	0.59	0.66	0.62	0.59	0.64	0.61	0.58	0.63	0.60	0.57	0.56
5	0.64	0.59	0.55	0.63	0.58	0.55	0.62	0.57	0.54	0.60	0.56	0.54	0.59	0.56	0.53	0.52
6	0.60	0.54	0.51	0.59	0.54	0.50	0.58	0.53	0.50	0.57	0.53	0.50	0.55	0.52	0.49	0.48
7	0.56	0.51	0.47	0.55	0.50	0.47	0.54	0.50	0.47	0.53	0.49	0.46	0.52	0.49	0.46	0.45
8	0.53	0.47	0.44	0.52	0.47	0.44	0.51	0.47	0.44	0.50	0.46	0.43	0.50	0.46	0.43	0.42
9	0.50	0.45	0.41	0.49	0.44	0.41	0.48	0.44	0.41	0.48	0.44	0.41	0.47	0.43	0.41	0.40
10	0.47	0.42	0.39	0.47	0.42	0.39	0.46	0.42	0.39	0.45	0.41	0.38	0.45	0.41	0.38	0.37





Luminaire Lumens:
FL=293.42,FM=200.84,FH=24.34,FVH=3.76
BL=293,BM=203.97,BH=24.73,BVH=3.79
UL=4.46,UH=21.23

BUG Rating:B1-U2-G0

Nata 1408-N

Intensity data(cd)										Appendix Page: 15 Total:15
C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	
0.0	987.93	971.97	910.74	817.37	705.05	582.06	463.63	347.30	235.92	
90.0	994.65	970.42	911.29	809.66	695.47	577.54	463.85	343.99	238.17	
180.0	987.93	964.97	903.20	805.70	701.47	582.94	468.31	354.95	249.41	
270.0	994.65	979.29	925.50	828.93	717.94	596.54	491.10	372.18	253.20	
360.0	987.93	971.97	910.74	817.37	705.05	582.06	463.63	347.30	235.92	
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	
0.0	146.45	91.28	60.18	42.50	30.39	22.68	15.80	10.63	6.61	
90.0	152.18	95.69	61.22	43.88	30.94	22.35	15.69	10.24	6.17	
180.0	157.13	101.41	64.47	45.15	32.21	23.73	16.24	10.63	6.83	
270.0	162.31	98.17	61.94	43.99	31.49	22.90	15.86	10.68	6.77	
360.0	146.45	91.28	60.18	42.50	30.39	22.68	15.80	10.63	6.61	
C/ γ (°)	90.0									
0.0	4.02									
90.0	4.13									
180.0	4.07									
270.0	4.13									
360.0	4.02									