
Nata

Client:

LumCAT: 1407-N

Luminaire: 92.70.064.00

Report No: NT2018040402

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): 1039.06, Efficiency(%): 79.04% , Luminous Efficacy(lm/W): 70.59

Central intensity(cd): 1215.921, Maximum intensity(cd): 1215.921

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=47.8

[C90/270]Total=47.8

Field angle(10%Imax): [C0/180]Total=93.6

[C90/270]Total=93.6

IES Classification : TypeI

Longitudinal Classification : VeryShort

Cut Off Classification : FullCutoff

Max Cd(At 90°Vert) : 4.294399

Max Cd(80 to 90°Vert) : 9.304532

Street Side UpWard Lumens: - -of Lamp 0.00%of Luminaire

Street Side DownWard Lumens: 39.76%of Lamp 50.00%of Luminaire

House Side UpWard Lumens: - -of lamp 0.00%of Luminaire

House Side DownWard Lumens: 39.76%of Lamp 50.00%of Luminaire

SLI: 6.844 (C Flash Area: 0.000)

Throw: 94.0 (long), Spread: 7.9 (narrow), Control: 6.844 (tight)

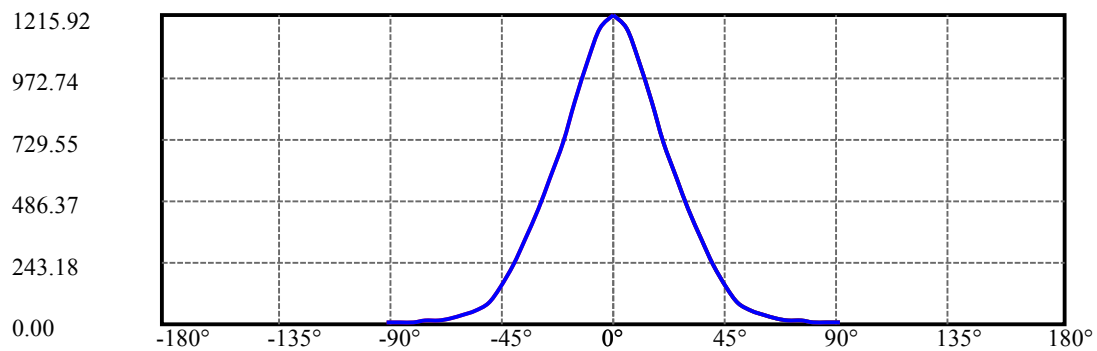
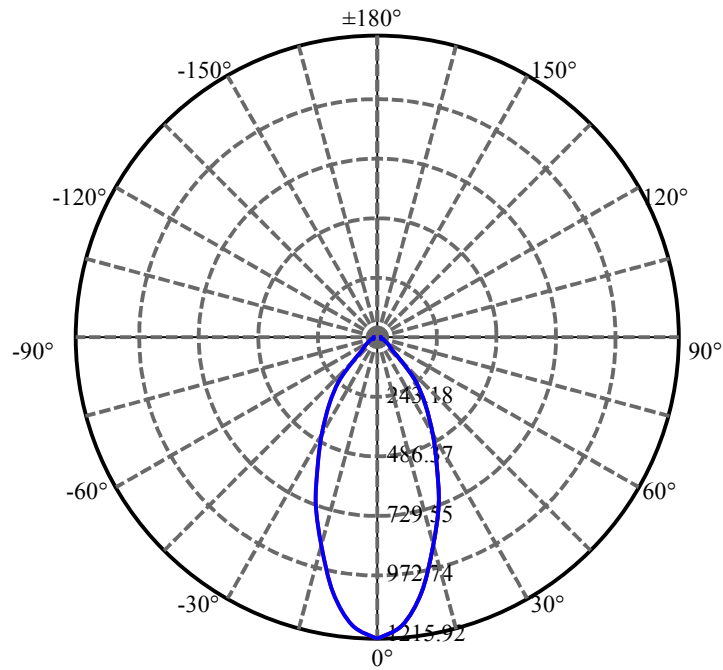
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1215.921	7.271	7.271	.553%	.700%
5.0	1166.645	55.735	63.006	4.240%	6.064%
10.0	1043.938	99.365	162.371	7.559%	15.627%
15.0	877.819	124.535	286.906	9.473%	27.612%
20.0	720.151	135.010	421.916	10.270%	40.606%
25.0	574.885	133.174	555.089	10.131%	53.422%
30.0	455.895	124.946	680.036	9.505%	65.447%
35.0	333.518	104.858	784.893	7.977%	75.539%
40.0	235.614	83.015	867.909	6.315%	83.528%
45.0	142.087	55.072	922.98	4.189%	88.828%
50.0	85.723	35.995	958.975	2.738%	92.293%
55.0	53.363	23.961	982.936	1.823%	94.599%
60.0	35.979	17.079	1000.015	1.299%	96.242%
65.0	25.532	12.684	1012.699	.965%	97.463%
70.0	18.760	9.663	1022.362	.735%	98.393%
75.0	13.255	7.018	1029.38	.534%	99.068%
80.0	9.305	5.023	1034.403	.382%	99.552%
85.0	6.373	3.480	1037.883	.265%	99.887%
90.0	4.294	1.177	1039.06	.090%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	680.04	51.73%	65.45%
0-40	867.91	66.02%	83.53%
0-60	1000.02	76.07%	96.24%
0-90	1037.88	78.95%	99.89%
0-120	1037.88	78.95%	99.89%
0-180	1039.06	79.04%	100.00%
60-90	54.95	4.18%	5.29%
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%
0-37.79	831.25	63.23%	80.00%

ZONAL LUMEN SUMMARY

0-10	162.37
10-20	259.54
20-30	258.12
30-40	187.87
40-50	91.07
50-60	41.04
60-70	22.35
70-80	12.04
80-90	3.48
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:

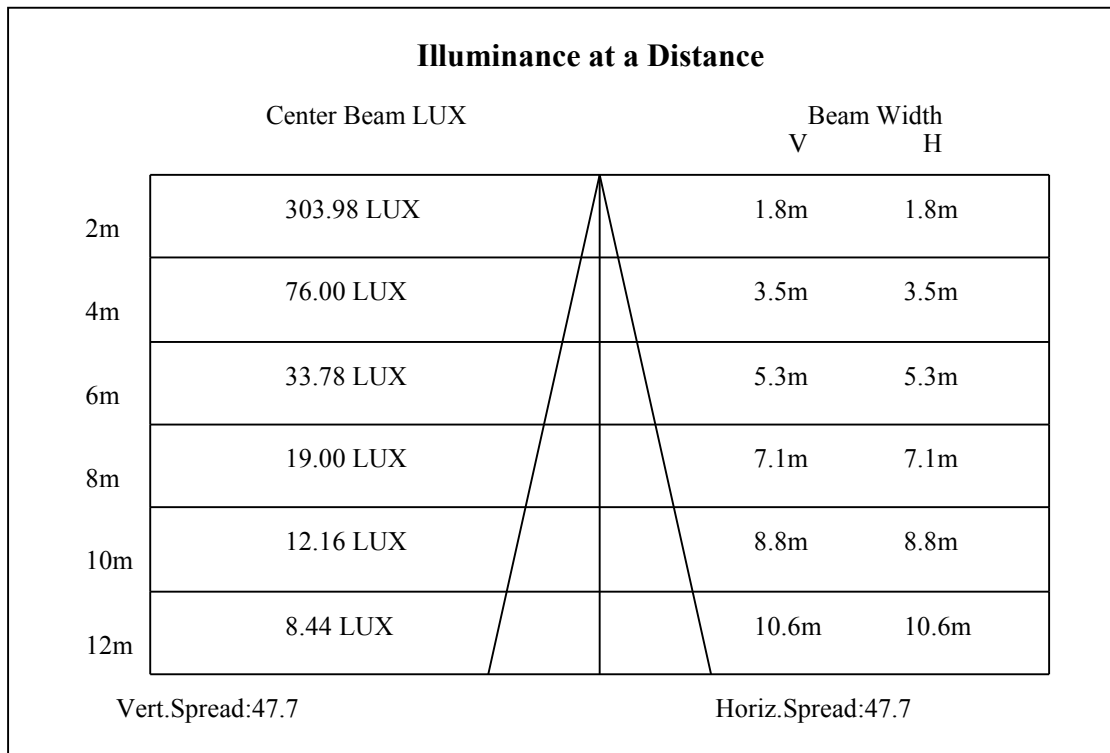
C90/C270:

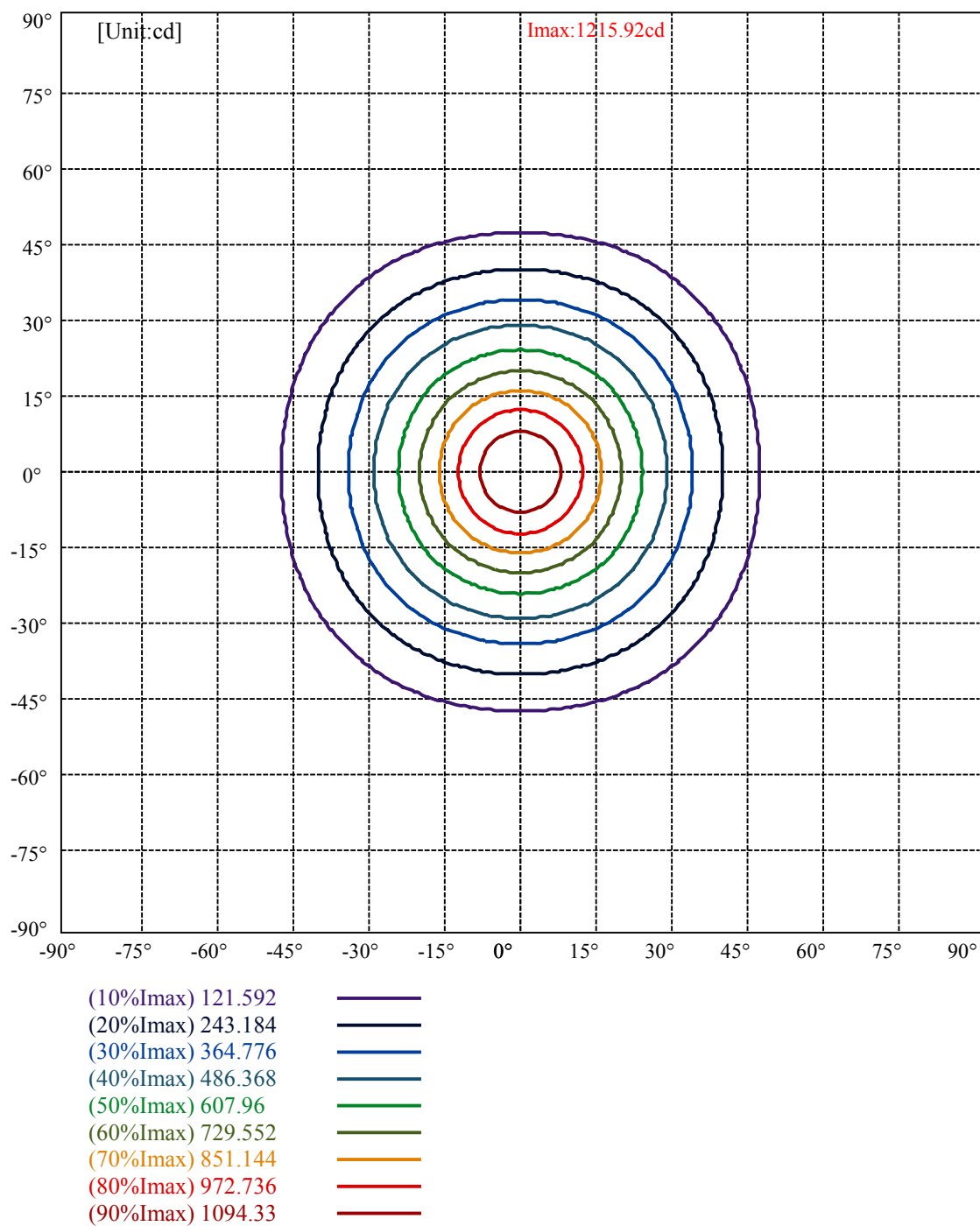
Field angle(10%Imax):C0/180Left:46.8 Right:46.8

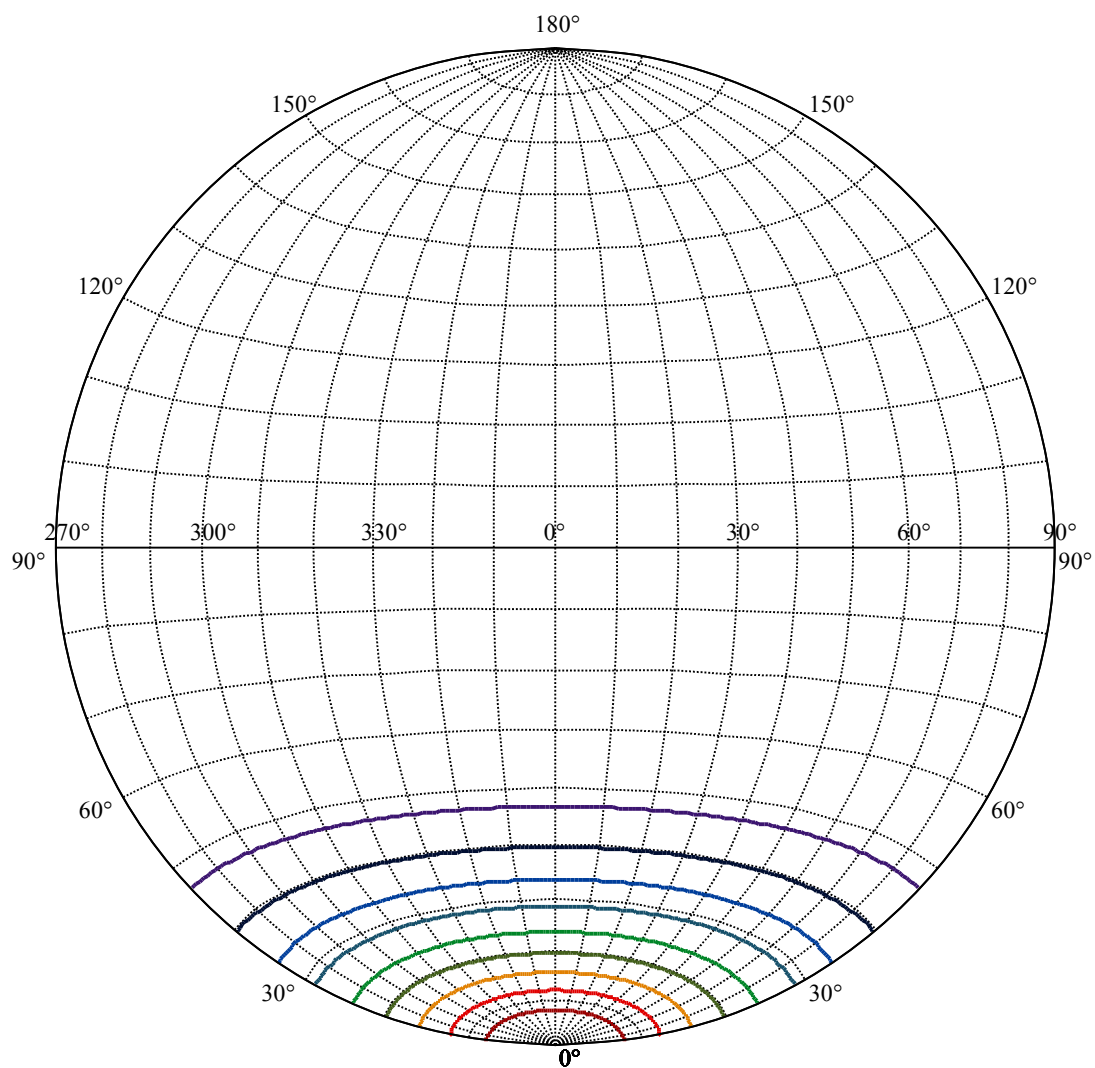
:C90/270Left:46.8 Right:46.8

Beam Angle(50%Imax):C0/180Left:23.9 Right:23.9

:C90/270Left:23.9 Right:23.9







House

[Unit:cd]

Road

Imax:1215.92

(10%Imax) 121.592

(20%Imax) 243.184

(30%Imax) 364.776

(40%Imax) 486.368

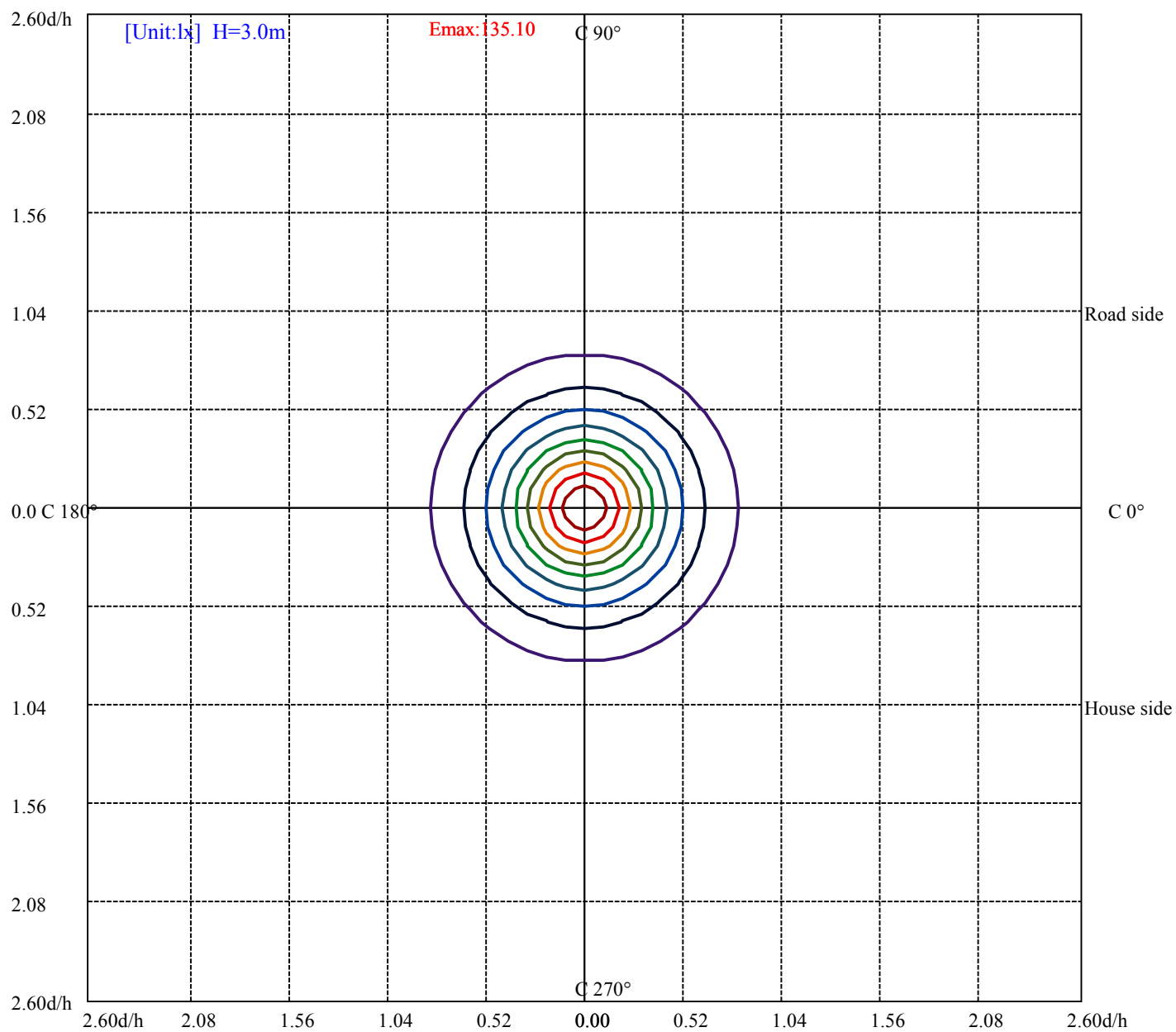
(50%Imax) 607.96

(60%Imax) 729.552

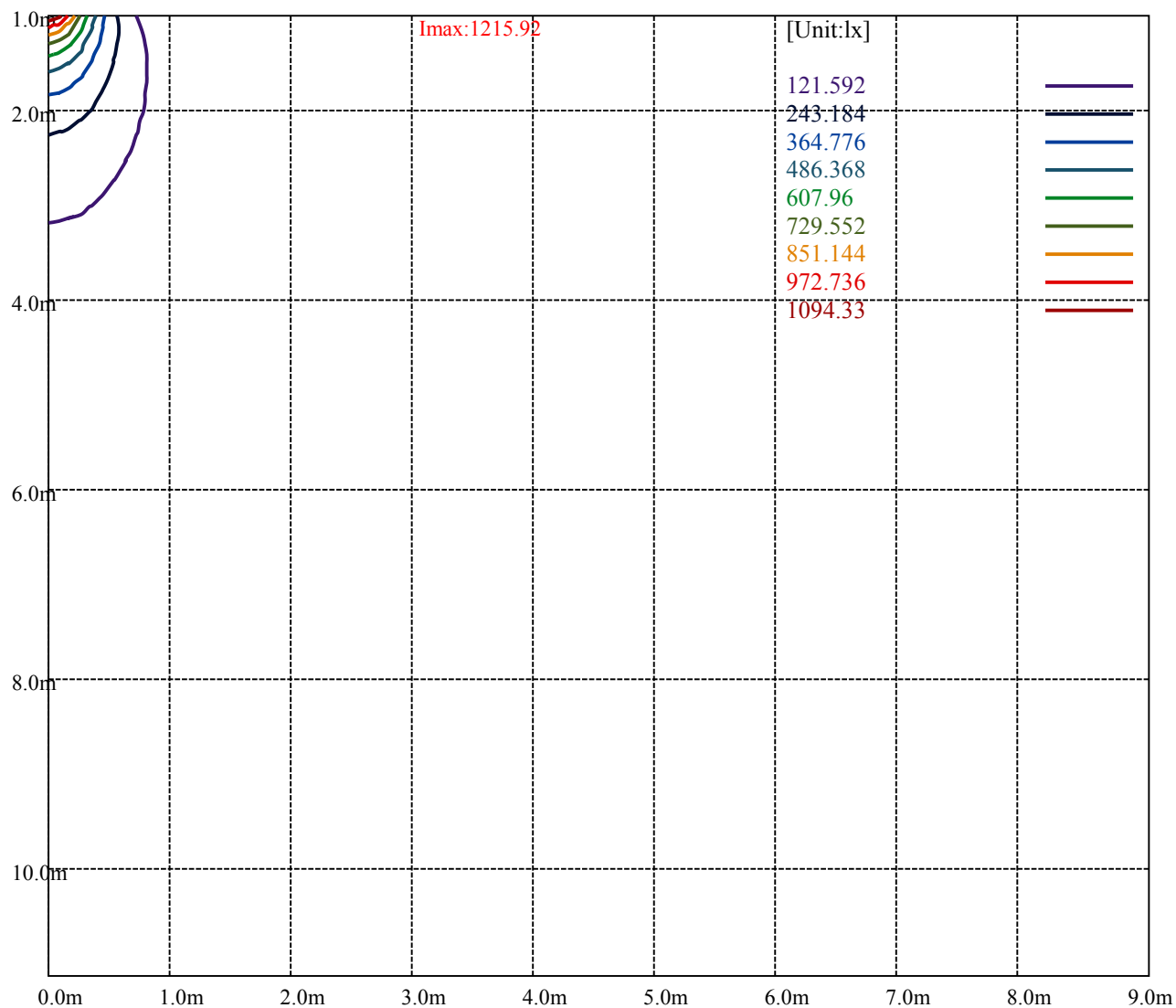
(70%Imax) 851.144

(80%Imax) 972.736

(90%Imax) 1094.33



(10%Emax) 13.51022	—
(20%Emax) 27.02044	—
(30%Emax) 40.53067	—
(40%Emax) 54.04089	—
(50%Emax) 67.55112	—
(60%Emax) 81.06123	—
(70%Emax) 94.57144	—
(80%Emax) 108.0817	—
(90%Emax) 121.5922	—



Luminance Table

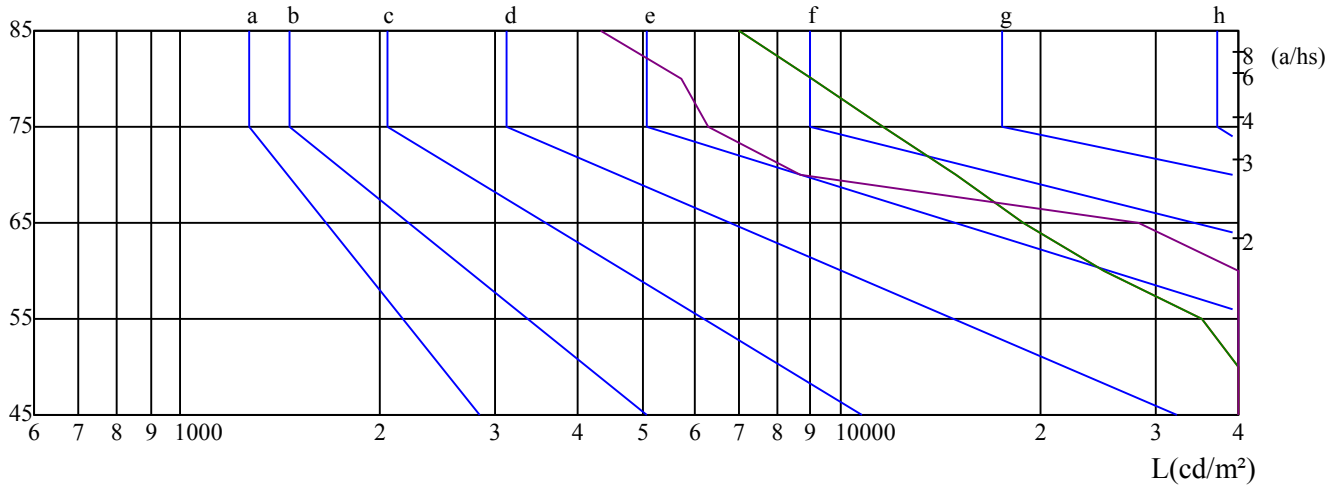
γ	45	50	55	60	65	70	75	80	85
C0	87328	54420	35308	25055	18917	14970	11555	9014	7006
C45	65337	56093	47864	41072	28223	8700	6301	5748	4337
C90	87328	54420	35308	25055	18917	14970	11555	9014	7006

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
39720	39720	88306	33670	33670	28426	48073	48073	67178

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

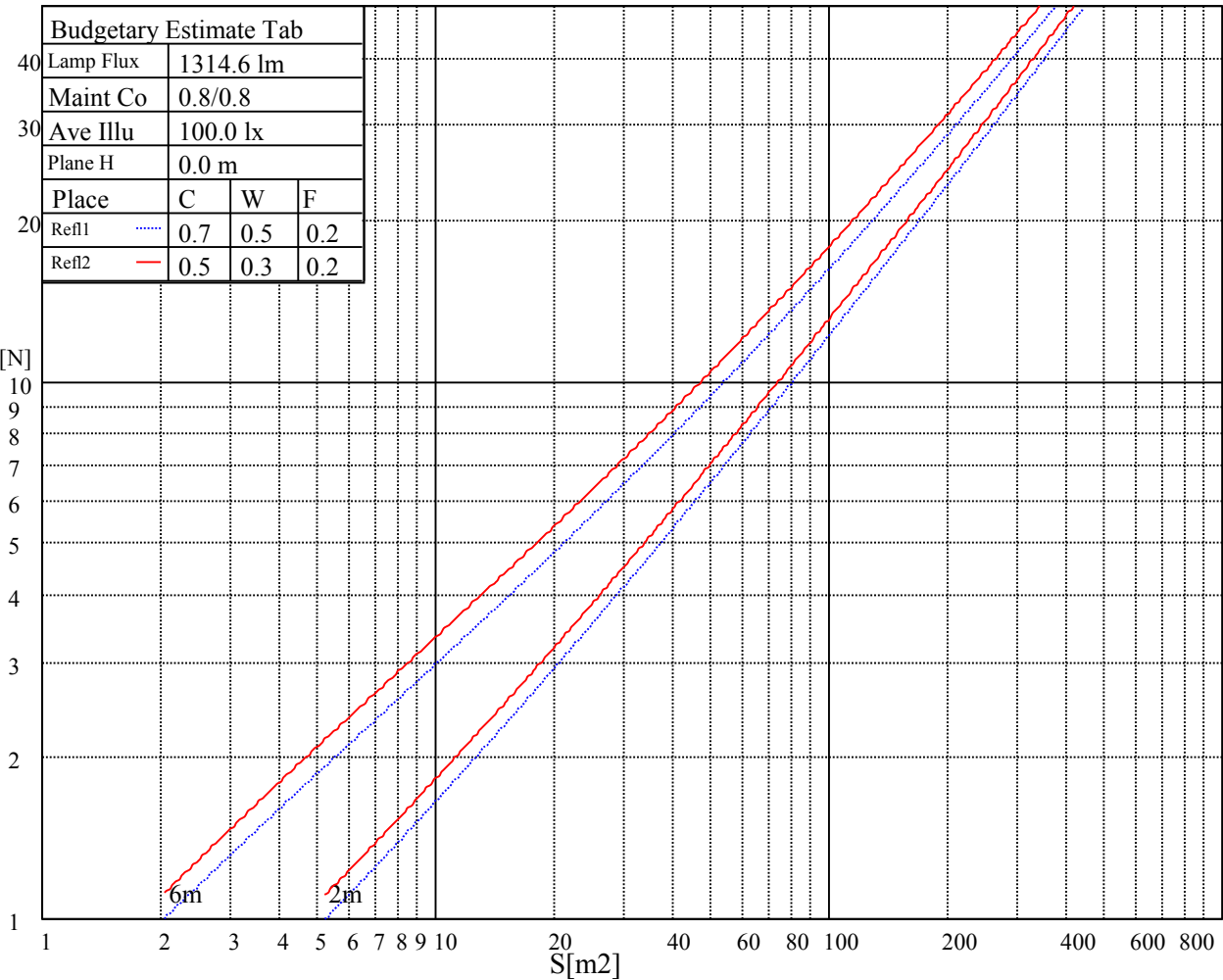
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

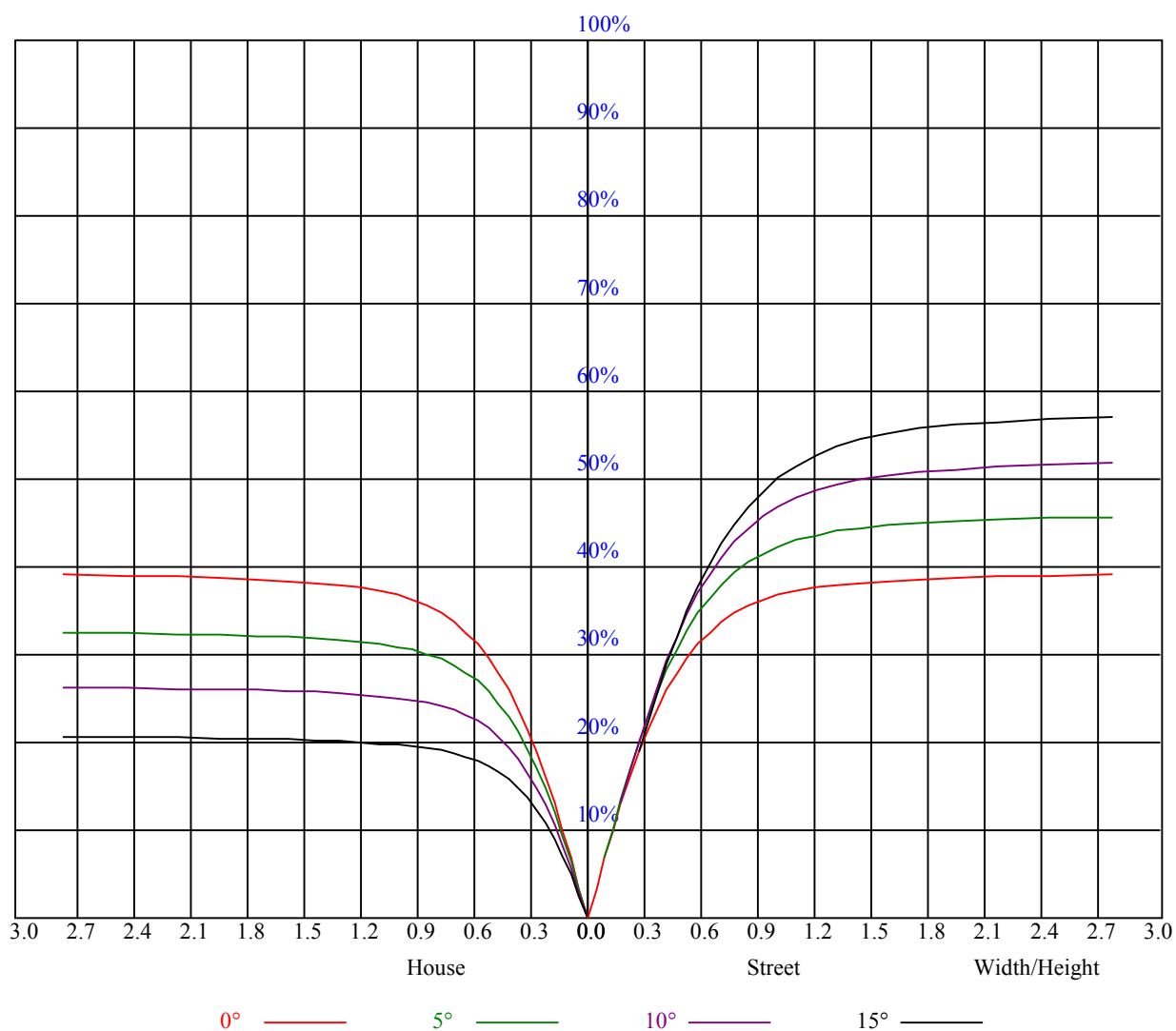
C0 ———

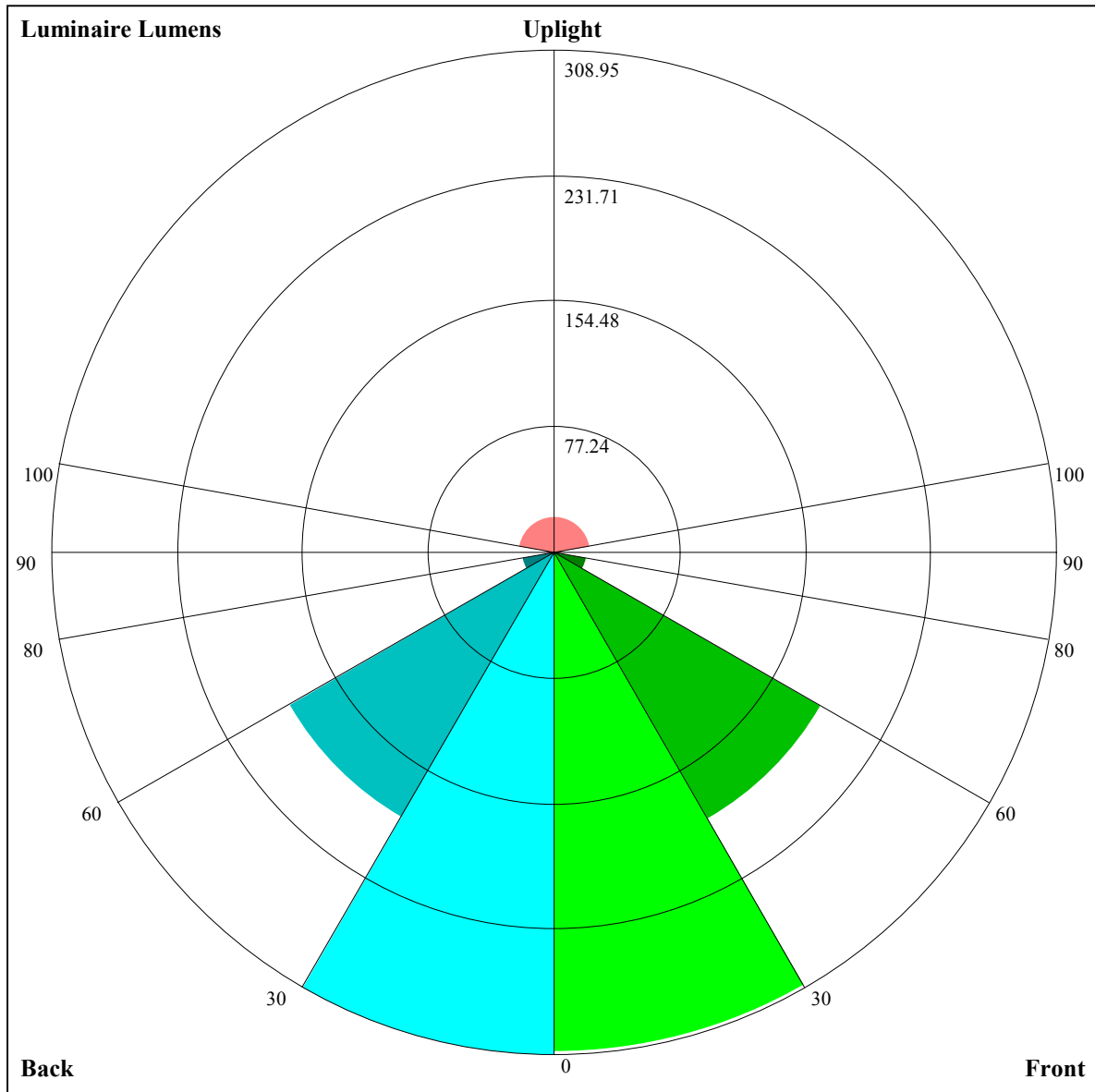
C45 ———

C90 ———



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	0.95	0.95	0.95	0.92	0.92	0.92	0.88	0.88	0.88	0.85	0.85	0.85	0.81	0.81	0.81	0.80
1	0.87	0.84	0.82	0.85	0.83	0.81	0.82	0.80	0.78	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	0.73	0.76	0.73	0.71	0.74	0.71	0.69	0.71	0.70	0.68	0.67
3	0.74	0.70	0.66	0.73	0.69	0.66	0.71	0.68	0.65	0.69	0.66	0.64	0.67	0.65	0.63	0.61
4	0.69	0.64	0.61	0.68	0.64	0.60	0.66	0.63	0.60	0.65	0.62	0.59	0.63	0.61	0.58	0.57
5	0.65	0.60	0.56	0.64	0.59	0.56	0.62	0.58	0.55	0.61	0.58	0.55	0.60	0.57	0.54	0.53
6	0.61	0.56	0.52	0.60	0.55	0.52	0.59	0.55	0.51	0.58	0.54	0.51	0.57	0.53	0.51	0.50
7	0.57	0.52	0.49	0.56	0.52	0.48	0.55	0.51	0.48	0.54	0.51	0.48	0.54	0.50	0.48	0.46
8	0.54	0.49	0.45	0.53	0.49	0.45	0.52	0.48	0.45	0.52	0.48	0.45	0.51	0.47	0.45	0.44
9	0.51	0.46	0.43	0.51	0.46	0.43	0.50	0.46	0.43	0.49	0.45	0.42	0.48	0.45	0.42	0.41
10	0.48	0.44	0.40	0.48	0.43	0.40	0.47	0.43	0.40	0.47	0.43	0.40	0.46	0.43	0.40	0.39





Luminaire Lumens:

FL=307.17,FM=189.57,FH=20.51,FVH=3.58

BL=308.95,BM=187.89,BH=19.96,BVH=3.6

UL=4.69,UH=22.3

BUG Rating:B1-U2-G0

Nata 1407-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	1211.79	1155.08	1030.11	869.89	712.98	569.83	461.37	337.50	228.87
90.0	1220.05	1168.85	1060.94	886.41	726.19	585.25	460.27	338.60	253.64
180.0	1211.79	1172.15	1049.32	883.82	732.58	583.93	454.22	325.16	230.58
270.0	1220.05	1170.50	1035.39	871.16	708.85	560.53	447.72	332.82	229.36
360.0	1211.79	1155.08	1030.11	869.89	712.98	569.83	461.37	337.50	228.87
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	144.08	87.87	55.11	37.82	26.98	19.55	13.60	9.58	6.22
90.0	140.17	84.29	54.84	36.61	25.33	18.39	12.83	8.64	5.67
180.0	140.06	84.02	51.15	34.41	24.33	18.17	12.94	9.19	6.61
270.0	144.03	86.71	52.36	35.07	25.49	18.94	13.65	9.80	6.99
360.0	144.08	87.87	55.11	37.82	26.98	19.55	13.60	9.58	6.22
C/ γ (°)	90.0								
0.0	4.18								
90.0	4.07								
180.0	4.18								
270.0	4.73								
360.0	4.18								