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## Nata

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LumCAT: 1633-M	
Luminaire: BJB47.319.6105	
Report No: NT2017072803	Voltage(V): 38.0000
Test No: GC2017072803	Current(A): 0.3500
LampCAT: CREE CXA1512	Power (W): 13.3000
Lamp flux(lm): 1430.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 46	Width(mm): 46
Phm Type: C	Height(mm): 0

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## Photometric Results

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Lumens(lm): 1298.03  
Efficiency(%): 90.77%  
Lumens(lm)/Power(W): 97.60  
Central intensity(cd): 3632.519  
Maximum intensity(cd): 3632.519  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=25.2  
                                  [C90/270]Total=25.2  
Field angle(10%Imax): [C0/180]Total=77.3  
                                  [C90/270]Total=77.3  
Maximum s/h(1/2): C0\_180=0.43 C90\_270=0.43  
Maximum s/h(1/4): C0\_180=0.44 C90\_270=0.44  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 92.20%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 97.334%

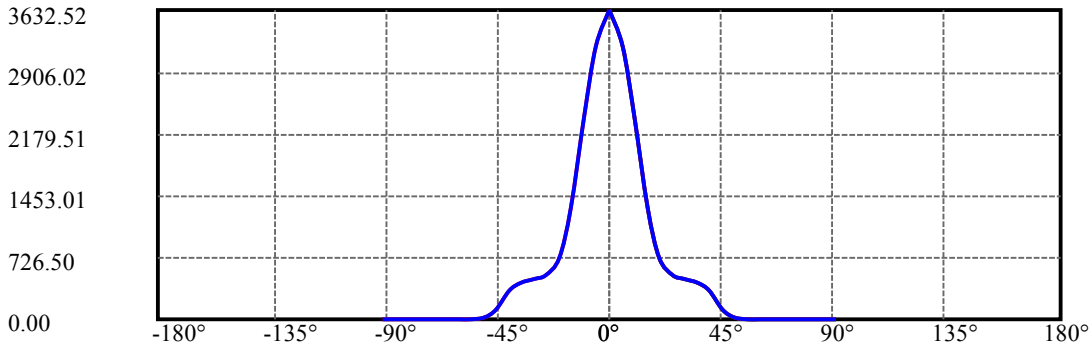
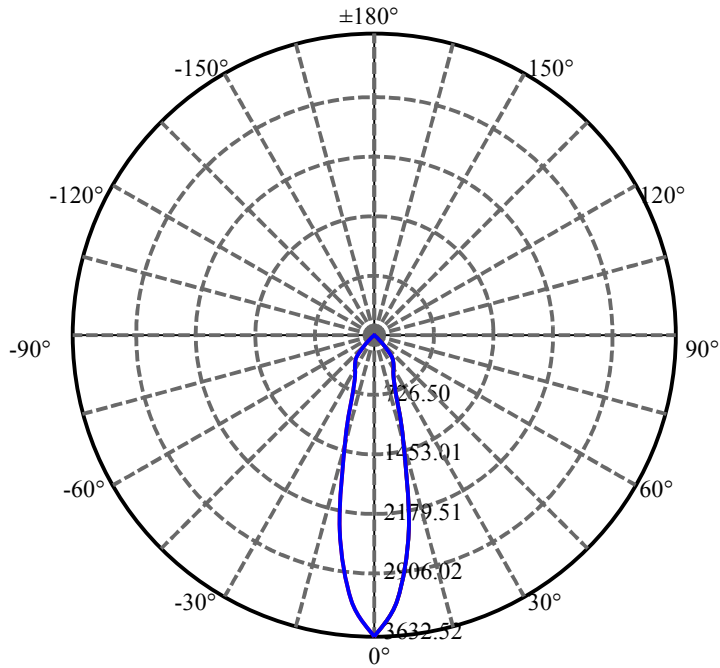
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3632.519	21.723	21.723	1.519%	1.674%
5.0	3206.367	153.179	174.902	10.712%	13.474%
10.0	2383.558	226.874	401.776	15.865%	30.953%
15.0	1301.211	184.601	586.377	12.909%	45.175%
20.0	720.800	135.131	721.508	9.450%	55.585%
25.0	524.523	121.507	843.016	8.497%	64.946%
30.0	468.072	128.284	971.299	8.971%	74.829%
35.0	422.778	132.921	1104.22	9.295%	85.069%
40.0	341.137	120.195	1224.415	8.405%	94.329%
45.0	121.230	46.988	1271.403	3.286%	97.949%
50.0	13.760	5.778	1277.181	.404%	98.394%
55.0	7.715	3.464	1280.645	.242%	98.661%
60.0	5.711	2.711	1283.356	.190%	98.870%
65.0	5.252	2.609	1285.965	.182%	99.071%
70.0	5.120	2.637	1288.602	.184%	99.274%
75.0	5.113	2.707	1291.309	.189%	99.483%
80.0	4.995	2.696	1294.005	.189%	99.690%
85.0	4.960	2.708	1296.714	.189%	99.899%
90.0	4.786	1.312	1298.026	.092%	100.000%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	971.30	67.92%	74.83%
0-40	1224.42	85.62%	94.33%
0-60	1283.36	89.75%	98.87%
0-90	1296.71	90.68%	99.90%
0-120	1296.71	90.68%	99.90%
0-180	1298.03	90.77%	100.00%
60-90	16.07	1.12%	1.24%
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%
0-32.52	1038.42	72.62%	80.00%

## ZONAL LUMEN SUMMARY

0-10	401.78
10-20	319.73
20-30	249.79
30-40	253.12
40-50	52.77
50-60	6.18
60-70	5.25
70-80	5.40
80-90	2.71
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: —————

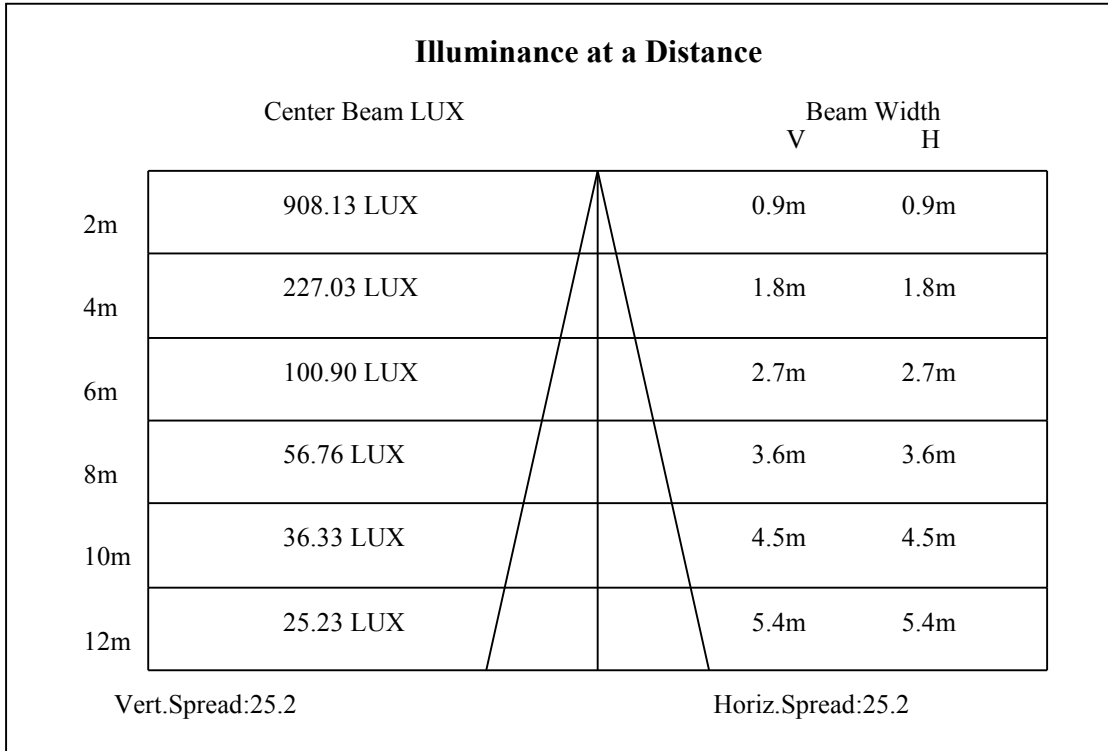
C90/C270: —————

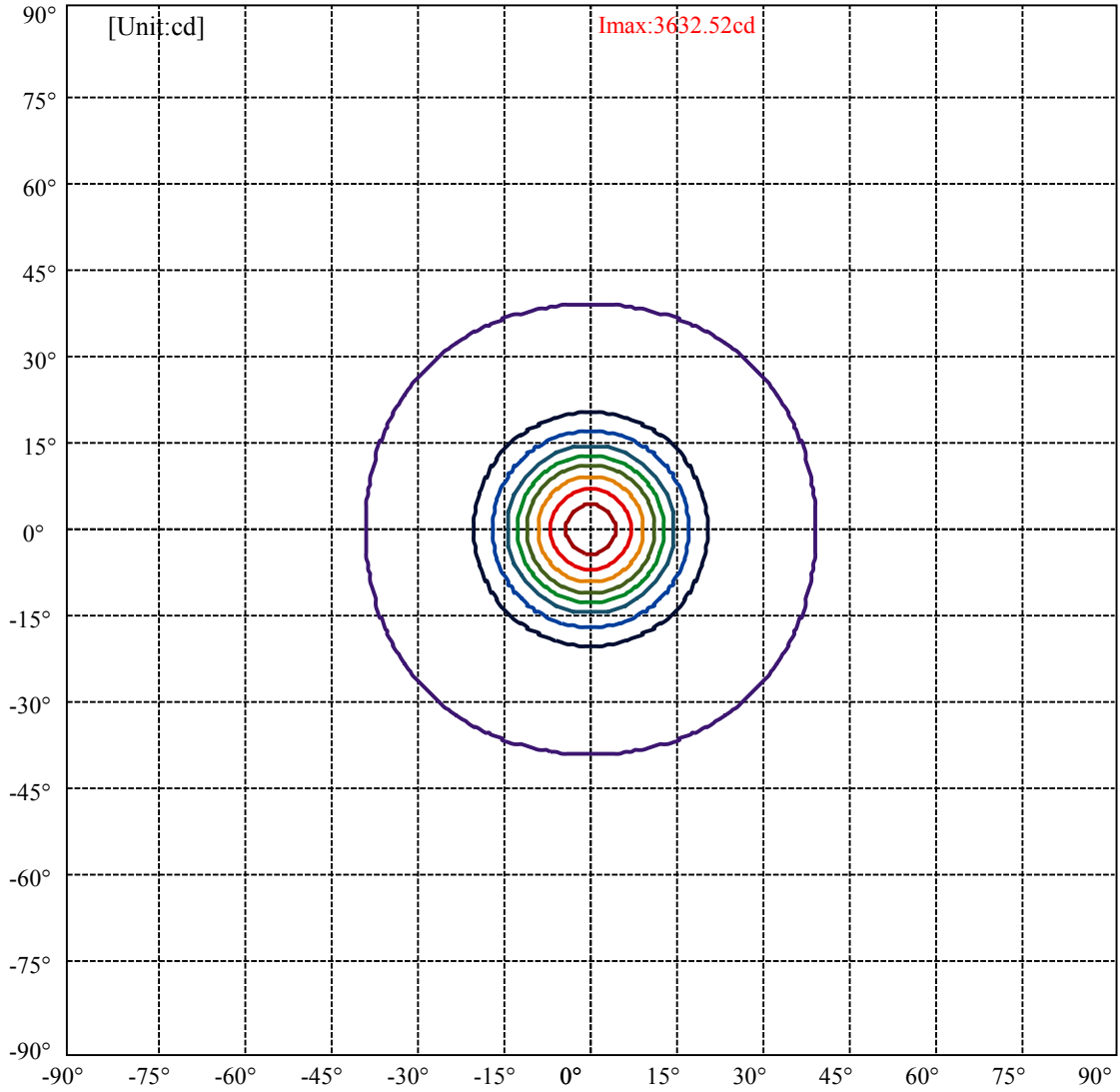
Field angle(10%Imax):C0/180Left:38.6 Right:38.6

:C90/270Left:38.6 Right:38.6

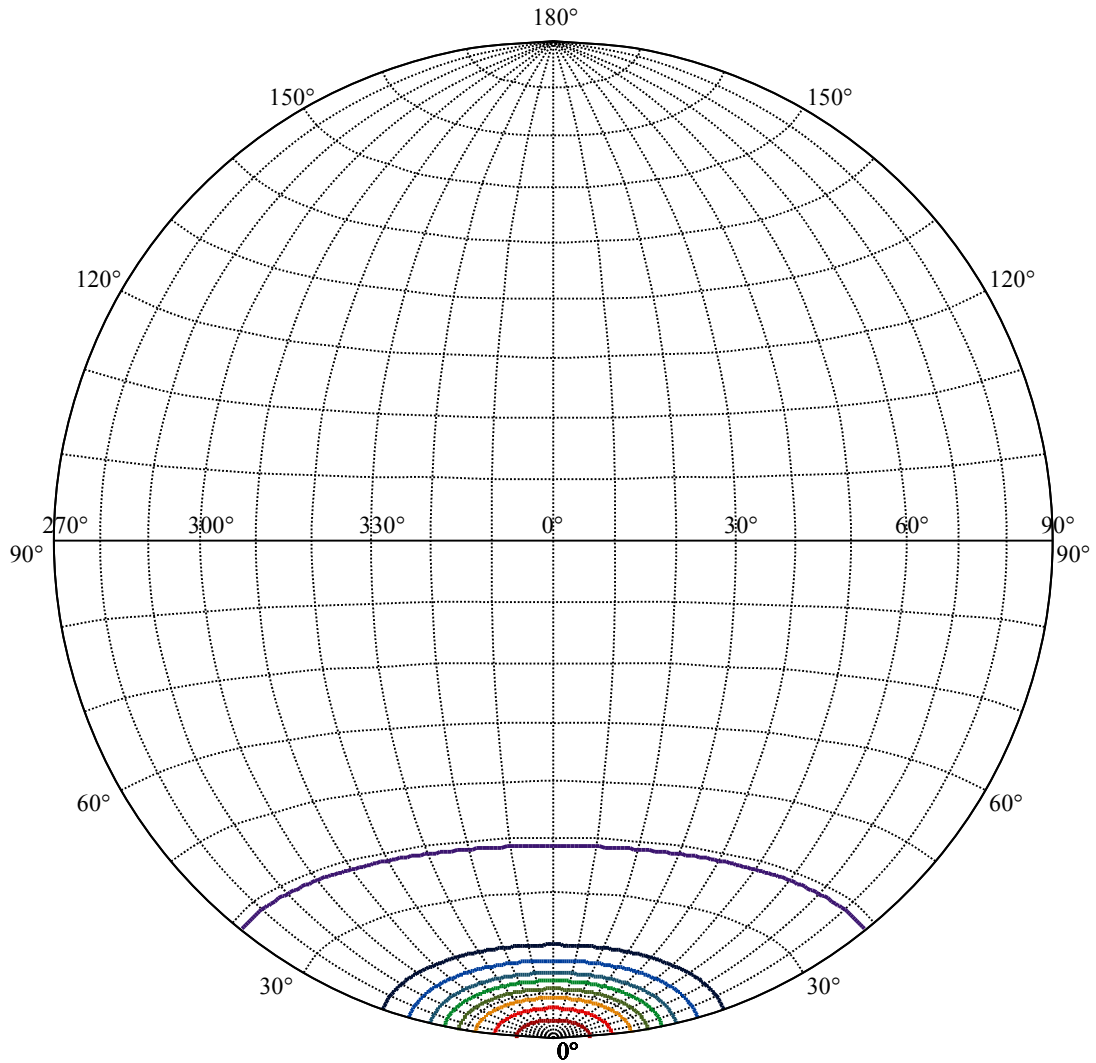
Beam Angle(50%Imax):C0/180Left:12.6 Right:12.6

:C90/270Left:12.6 Right:12.6





(10%Imax) 363.252	—
(20%Imax) 726.504	—
(30%Imax) 1089.76	—
(40%Imax) 1453.01	—
(50%Imax) 1816.26	—
(60%Imax) 2179.51	—
(70%Imax) 2542.76	—
(80%Imax) 2906.02	—
(90%Imax) 3269.27	—



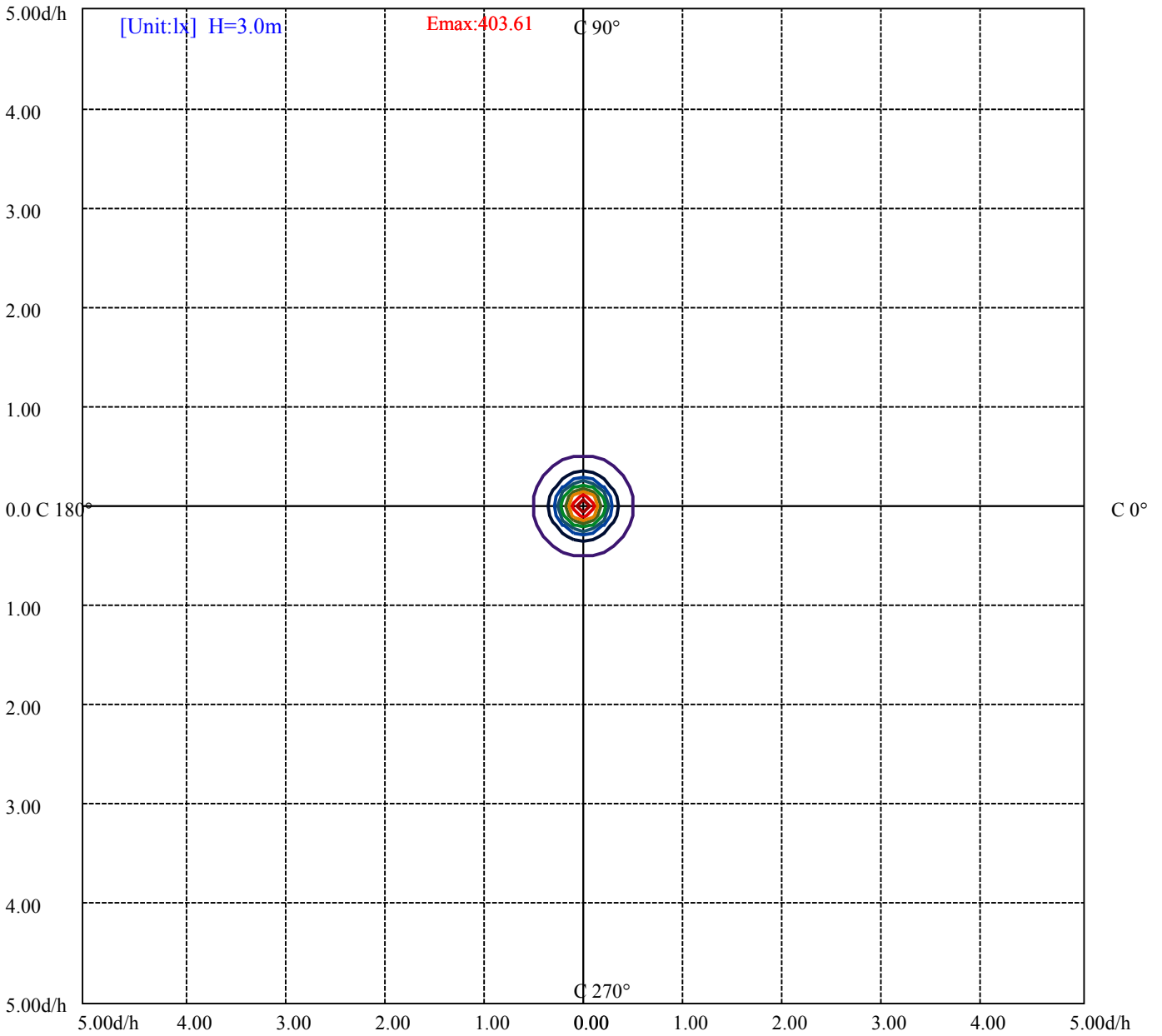
House

[Unit:cd]

Road

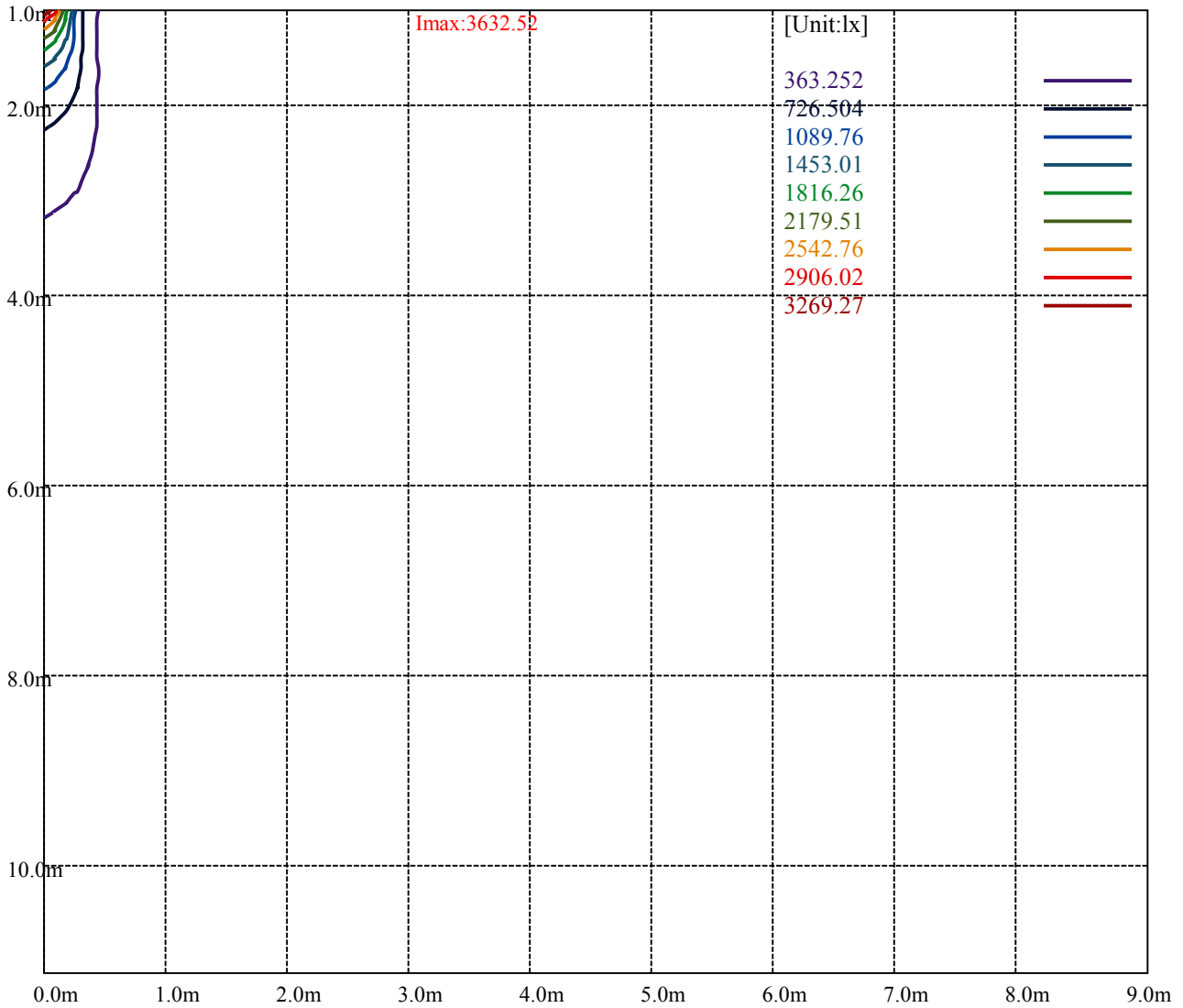
Imax:3632.52

(10%Imax)	363.252	—
(20%Imax)	726.504	—
(30%Imax)	1089.76	—
(40%Imax)	1453.01	—
(50%Imax)	1816.26	—
(60%Imax)	2179.51	—
(70%Imax)	2542.76	—
(80%Imax)	2906.02	—
(90%Imax)	3269.27	—



(10%Emax) 40.36122	—
(20%Emax) 80.72233	—
(30%Emax) 121.0833	—
(40%Emax) 161.4444	—
(50%Emax) 201.8056	—
(60%Emax) 242.1667	—
(70%Emax) 282.5278	—
(80%Emax) 322.8889	—
(90%Emax) 363.2511	—





Luminance Table

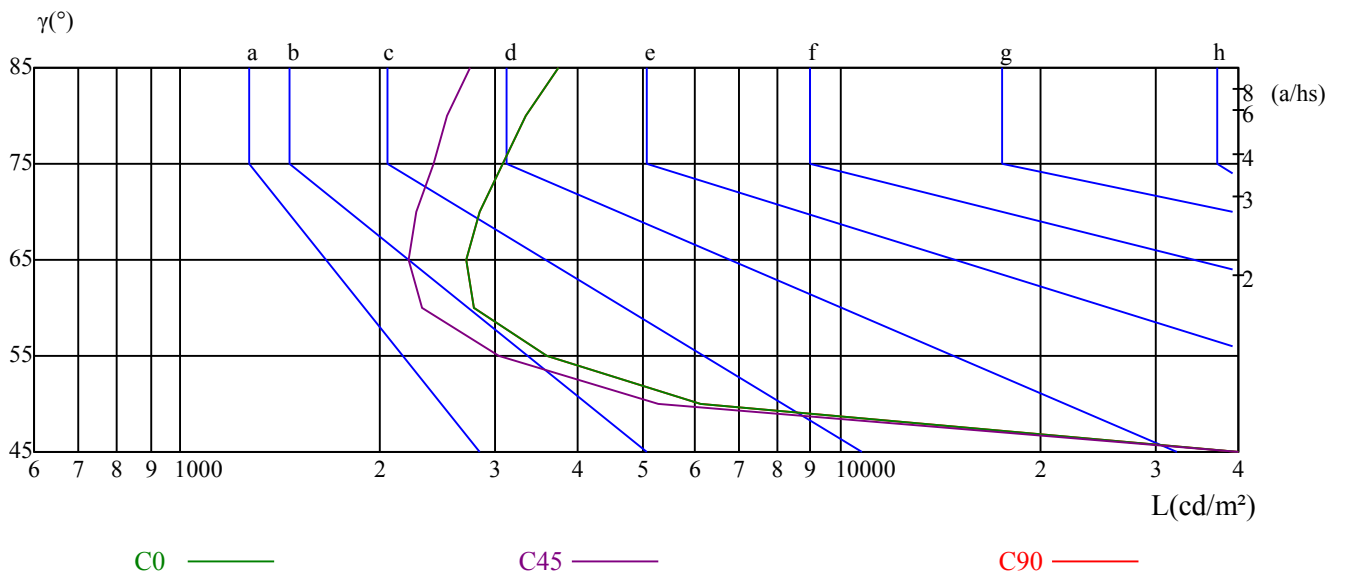
$\gamma$	45	50	55	60	65	70	75	80	85
C0	52494	6140	3579	2781	2712	2838	3083	3330	3729
C45	45812	5280	3030	2316	2218	2274	2413	2537	2749
C90	52494	6140	3579	2781	2712	2838	3083	3330	3729

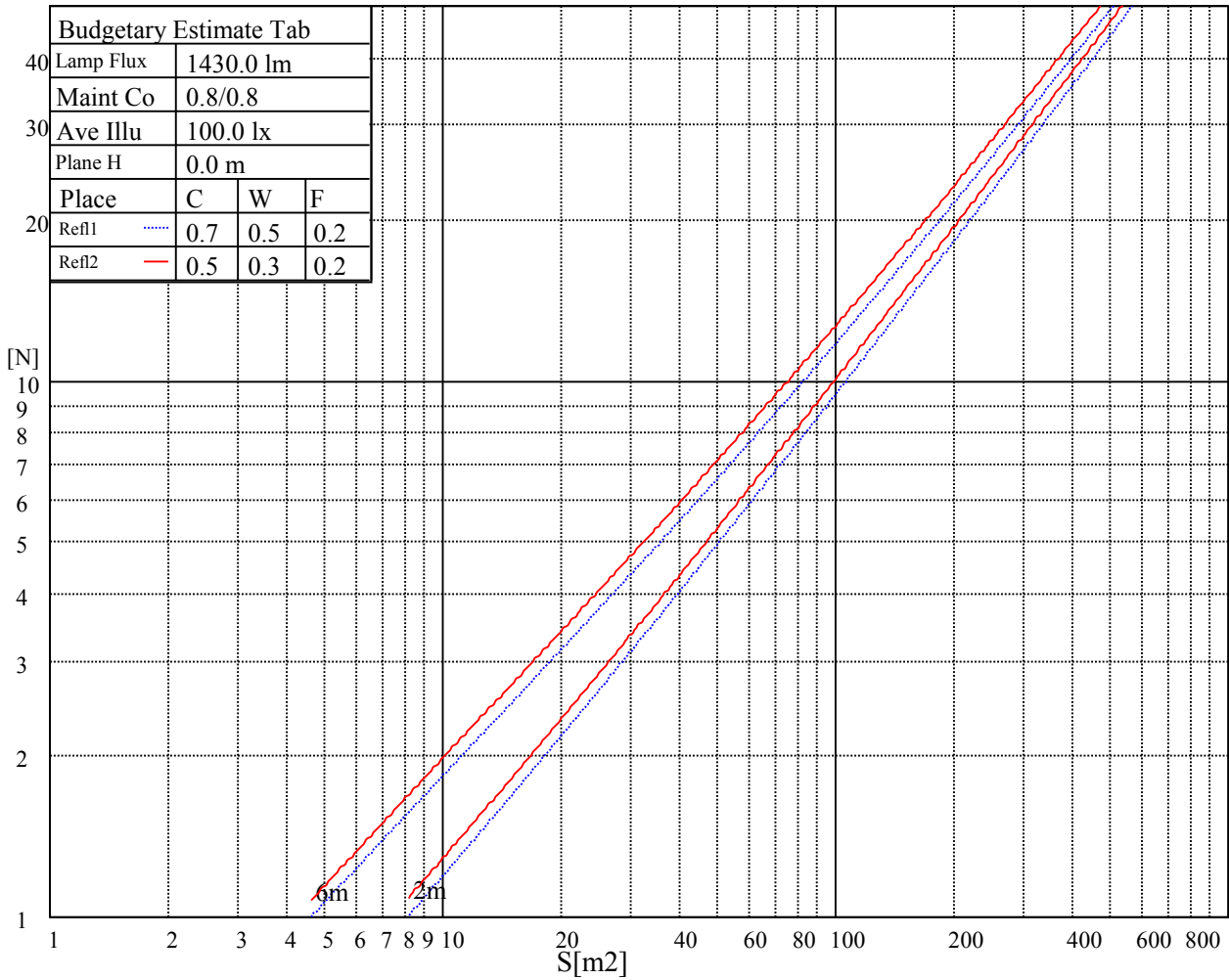
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5873	5873	5873	9336	9336	9336	26895	26895	26895

Glare Table

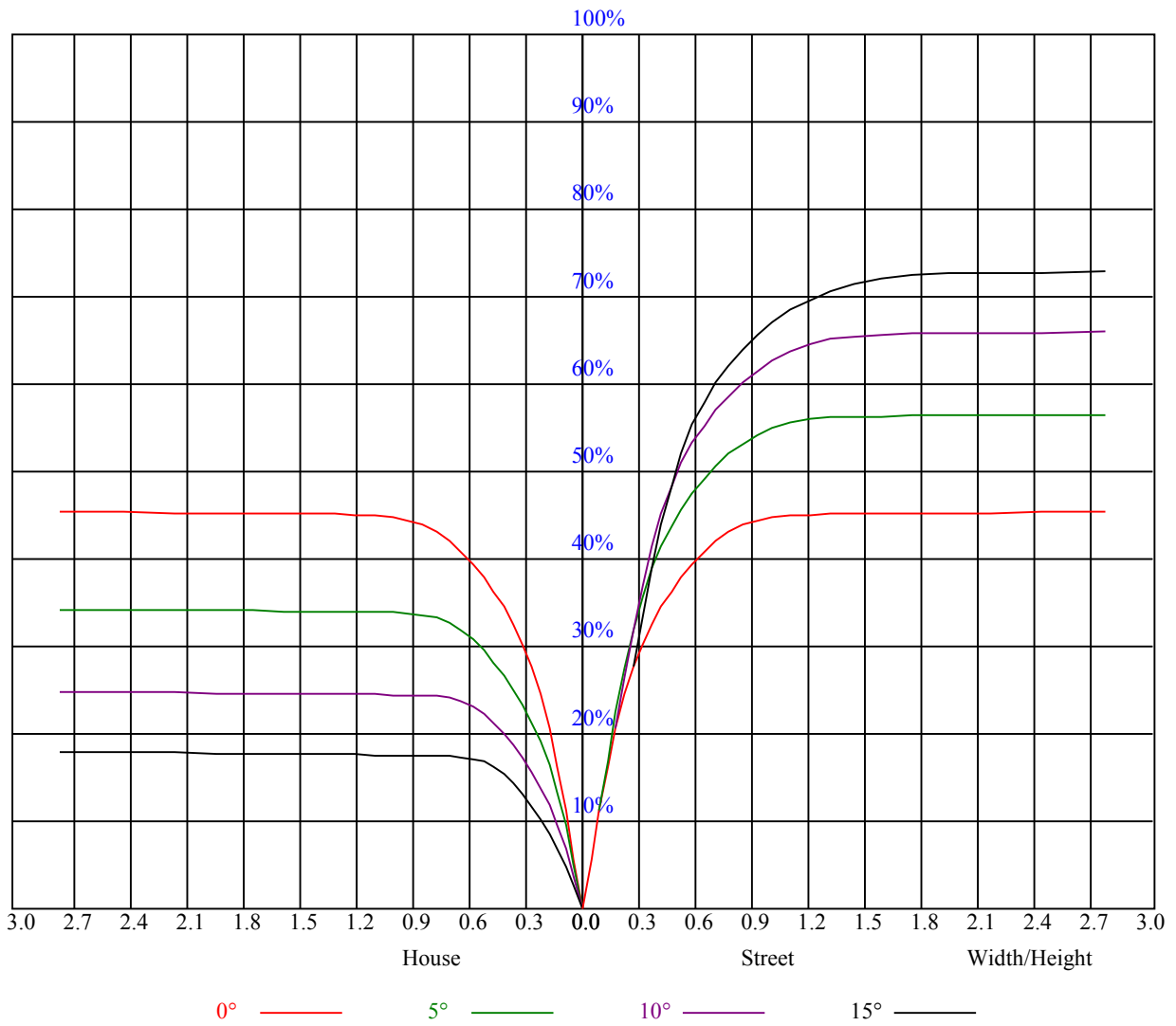
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.10	1.10	1.10	1.07	1.07	1.07	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.01	0.98	0.96	0.99	0.96	0.94	0.95	0.93	0.91	0.92	0.90	0.89	0.88	0.87	0.86	0.84
2	0.95	0.91	0.88	0.93	0.90	0.87	0.90	0.87	0.85	0.87	0.85	0.83	0.85	0.83	0.81	0.80
3	0.89	0.85	0.81	0.88	0.84	0.81	0.86	0.82	0.79	0.83	0.81	0.78	0.81	0.79	0.77	0.76
4	0.85	0.80	0.76	0.83	0.79	0.76	0.82	0.78	0.75	0.80	0.76	0.74	0.78	0.75	0.73	0.72
5	0.80	0.75	0.72	0.79	0.75	0.71	0.78	0.74	0.71	0.76	0.73	0.70	0.75	0.72	0.69	0.68
6	0.76	0.71	0.68	0.76	0.71	0.68	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.65
7	0.73	0.68	0.64	0.72	0.68	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.62
8	0.70	0.65	0.61	0.69	0.65	0.61	0.68	0.64	0.61	0.67	0.64	0.61	0.67	0.63	0.61	0.59
9	0.67	0.62	0.59	0.66	0.62	0.59	0.66	0.61	0.59	0.65	0.61	0.58	0.64	0.61	0.58	0.57
10	0.64	0.60	0.56	0.64	0.59	0.56	0.63	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.55



Nata 1633-M

Intensity data(cd)

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	3642.40	3243.93	2422.51	1469.76	747.40	515.33	460.80	424.62	360.62
45.0	3629.60	3265.08	2518.23	1542.66	785.24	536.48	473.60	427.96	362.29
90.0	3638.50	3195.51	2394.13	1101.51	716.46	530.86	473.48	422.34	332.96
135.0	3619.58	3341.32	2509.33	1578.28	777.45	547.61	492.52	436.31	370.64
180.0	3642.40	3168.25	2245.54	1078.08	669.88	513.33	461.35	415.11	331.57
225.0	3629.60	3117.05	2275.04	1102.18	676.95	523.68	462.63	418.11	313.21
270.0	3638.50	3233.36	2461.47	1440.82	725.14	524.24	467.47	426.29	345.04
315.0	3619.58	3086.44	2242.20	1096.39	667.87	504.65	452.73	411.49	312.76
360.0	3642.40	3243.93	2422.51	1469.76	747.40	515.33	460.80	424.62	360.62

C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	139.35	15.42	8.29	5.79	5.34	5.12	5.34	5.01	4.95
45.0	146.53	14.80	8.40	5.79	5.34	5.23	5.06	5.01	5.01
90.0	106.57	13.58	7.35	5.95	5.23	5.18	5.01	5.12	5.06
135.0	155.55	15.36	7.90	5.62	5.29	5.12	4.95	4.95	4.95
180.0	102.12	12.35	7.46	5.57	5.23	5.12	5.62	5.01	4.95
225.0	92.60	12.13	7.35	5.57	5.23	5.12	5.01	5.01	4.90
270.0	138.07	14.02	7.40	5.51	5.23	5.06	4.95	4.95	5.01
315.0	89.04	12.41	7.57	5.90	5.12	5.01	4.95	4.90	4.84
360.0	139.35	15.42	8.29	5.79	5.34	5.12	5.34	5.01	4.95

C/ $\gamma$ (°)	90.0
0.0	4.73
45.0	4.79
90.0	4.79
135.0	4.79
180.0	4.79
225.0	4.84
270.0	4.84
315.0	4.73
360.0	4.73