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Nata

LumCAT: 1701-A	
Luminaire: 92.70.150.00+92.70.152.00	
Report No: NT2017072108	Voltage(V): 23.5000
Test No: GC2017072108	Current(A): 0.7000
LampCAT: CITIZEN LCN-C02B	Power (W): 16.4500
Lamp flux(lm): 1991.8	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 46	Width(mm): 46
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1737.88
Efficiency(%): 87.25%
Lumens(lm)/Power(W): 105.65
Central intensity(cd): 3921.907
Maximum intensity(cd): 3921.907
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=27.8
[C90/270]Total=27.8
Field angle(10%Imax): [C0/180]Total=77.5
[C90/270]Total=77.5
Maximum s/h(1/2): C0_180=0.46 C90_270=0.46
Maximum s/h(1/4): C0_180=0.51 C90_270=0.51
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 88.35%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.184%

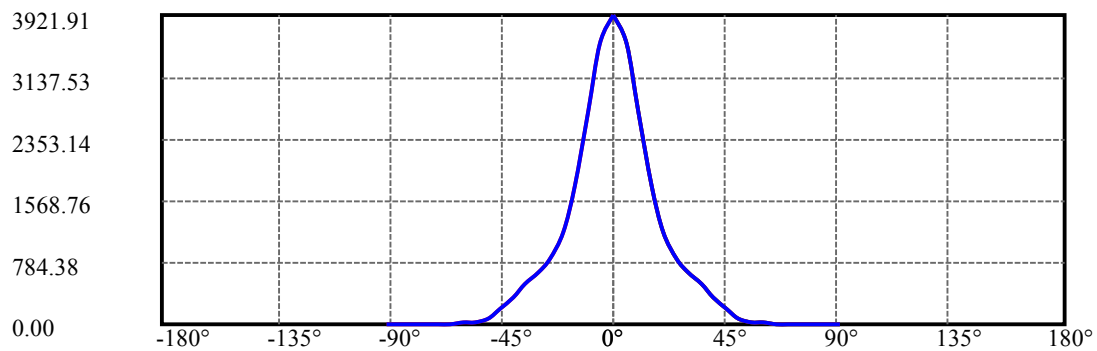
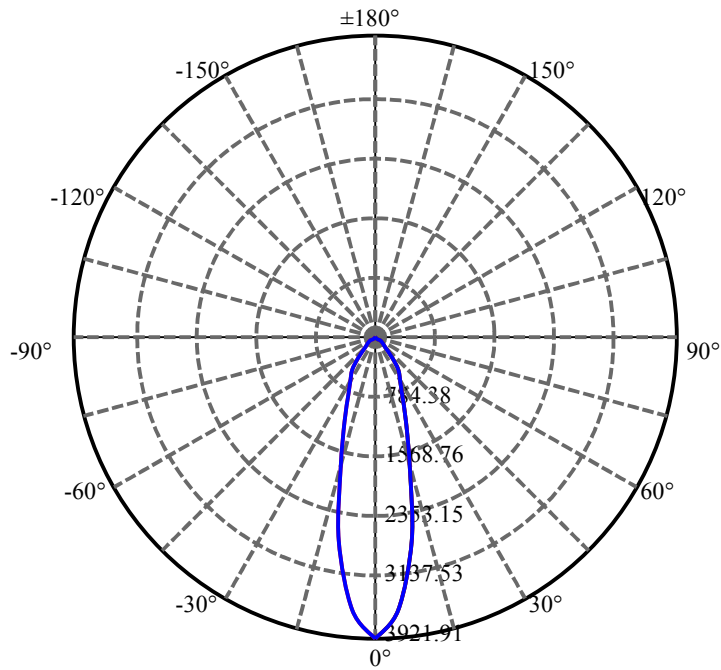
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3921.907	23.454	23.454	1.178%	1.350%
5.0	3565.111	170.317	193.771	8.551%	11.150%
10.0	2699.047	256.904	450.675	12.898%	25.932%
15.0	1747.933	247.976	698.651	12.450%	40.201%
20.0	1178.812	220.997	919.648	11.095%	52.918%
25.0	840.256	194.648	1114.295	9.772%	64.118%
30.0	665.398	182.365	1296.66	9.156%	74.612%
35.0	512.899	161.255	1457.915	8.096%	83.891%
40.0	351.621	123.889	1581.804	6.220%	91.019%
45.0	188.088	72.902	1654.705	3.660%	95.214%
50.0	81.641	34.281	1688.986	1.721%	97.187%
55.0	32.514	14.599	1703.585	.733%	98.027%
60.0	13.760	6.532	1710.117	.328%	98.403%
65.0	9.322	4.631	1714.748	.232%	98.669%
70.0	9.683	4.988	1719.736	.250%	98.956%
75.0	10.560	5.591	1725.327	.281%	99.278%
80.0	9.266	5.002	1730.328	.251%	99.566%
85.0	10.560	5.766	1736.095	.289%	99.898%
90.0	6.497	1.781	1737.875	.089%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1296.66	65.10%	74.61%
0-40	1581.80	79.42%	91.02%
0-60	1710.12	85.86%	98.40%
0-90	1736.09	87.16%	99.90%
0-120	1736.09	87.16%	99.90%
0-180	1737.88	87.25%	100.00%
60-90	32.51	1.63%	1.87%
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%
0-32.90	1390.30	69.80%	80.00%

ZONAL LUMEN SUMMARY

0-10	450.67
10-20	468.97
20-30	377.01
30-40	285.14
40-50	107.18
50-60	21.13
60-70	9.62
70-80	10.59
80-90	5.77
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: —————

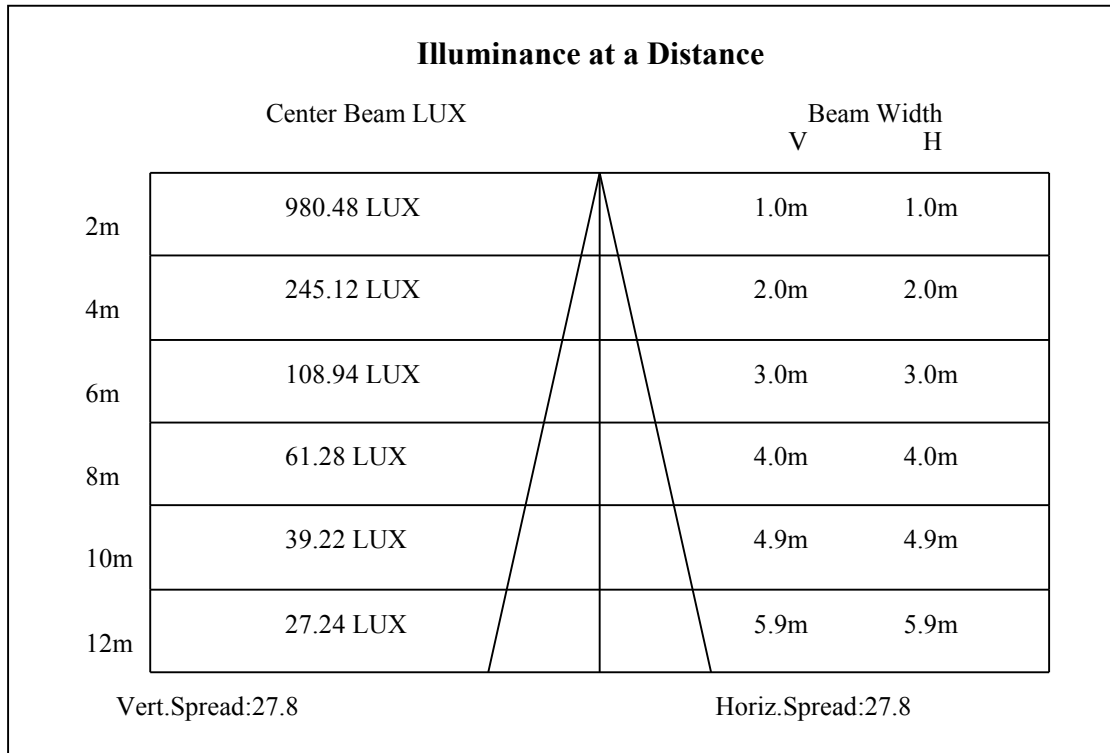
C90/C270: —————

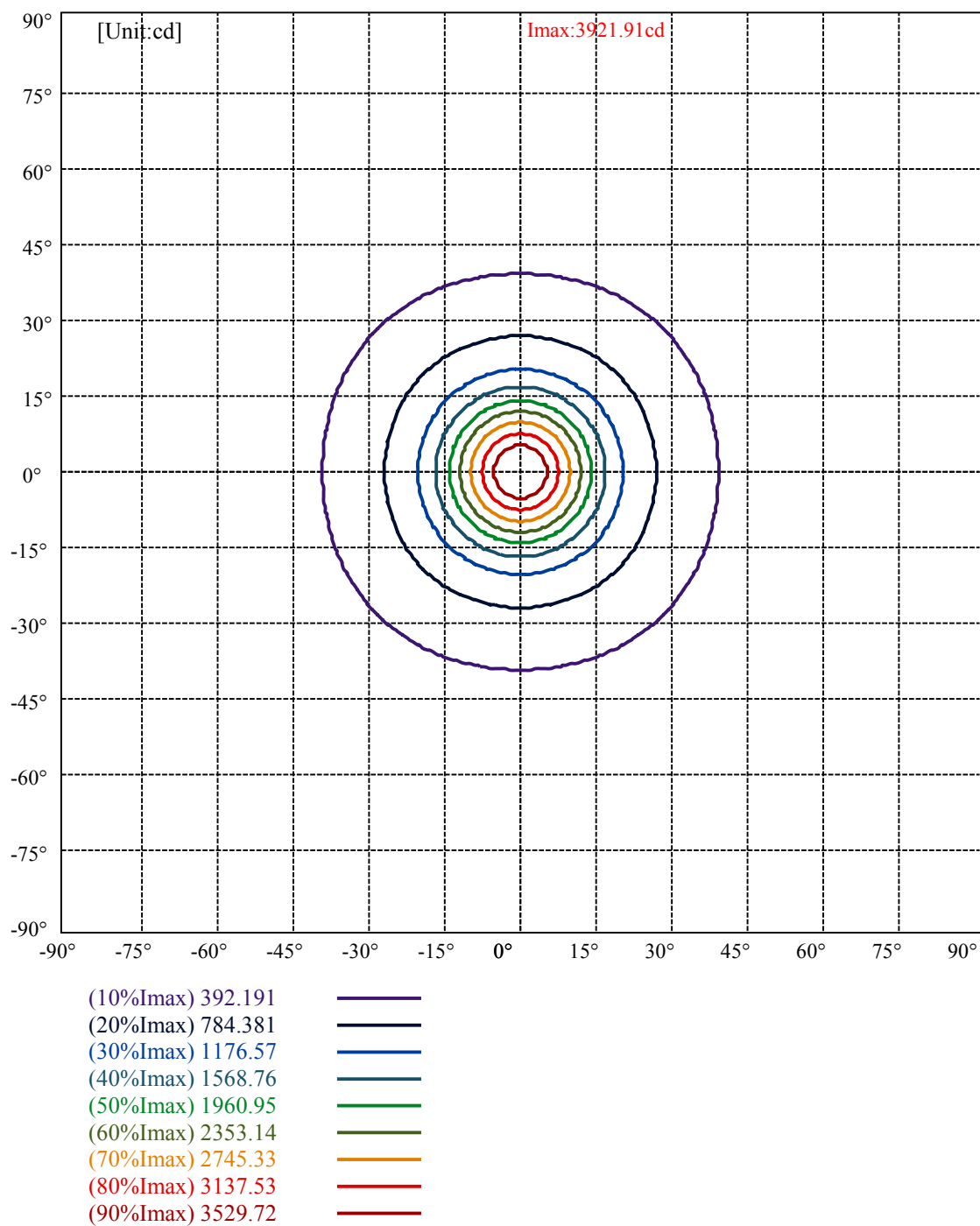
Field angle(10%Imax):C0/180Left:38.7 Right:38.7

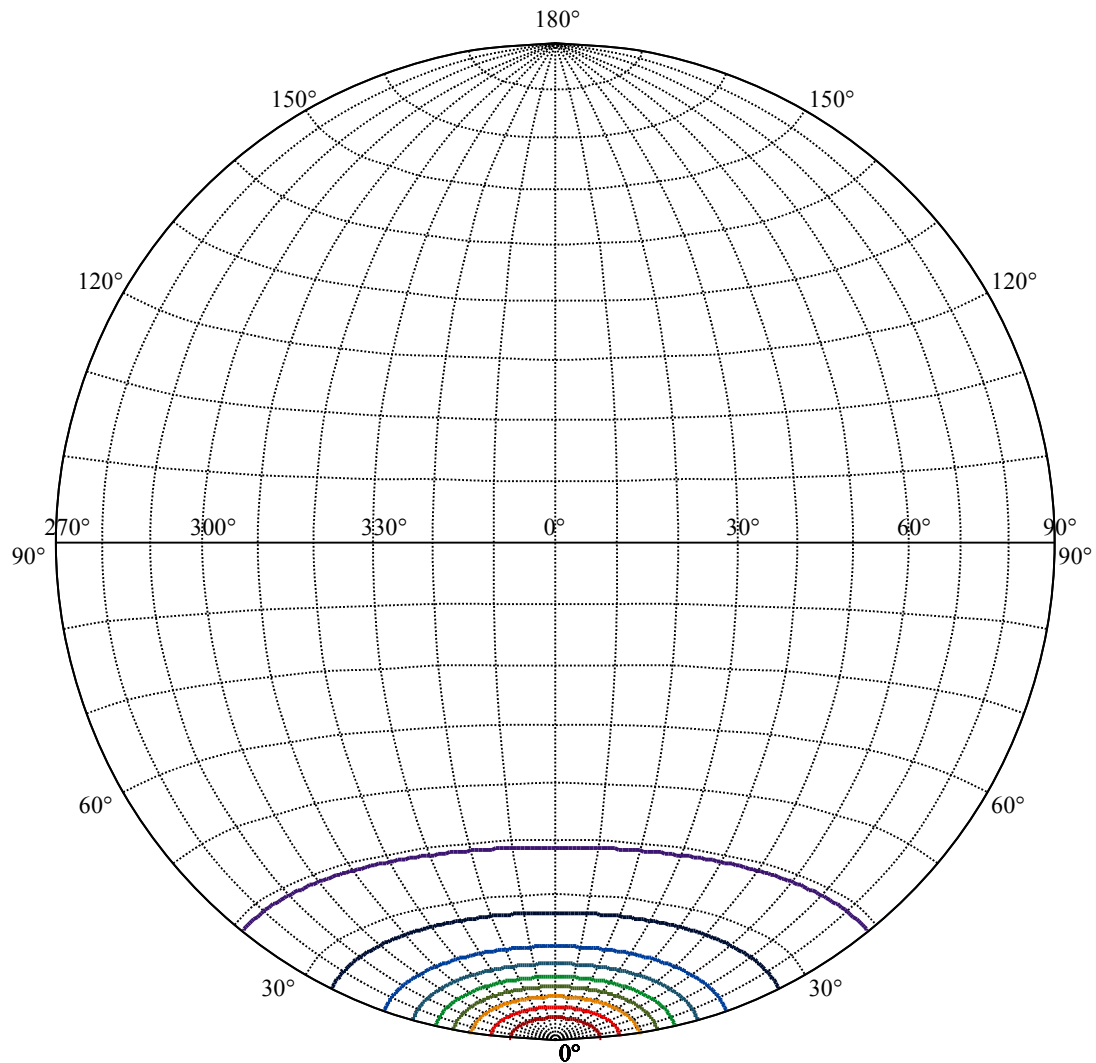
:C90/270Left:38.7 Right:38.7

Beam Angle(50%Imax):C0/180Left:13.9 Right:13.9

:C90/270Left:13.9 Right:13.9







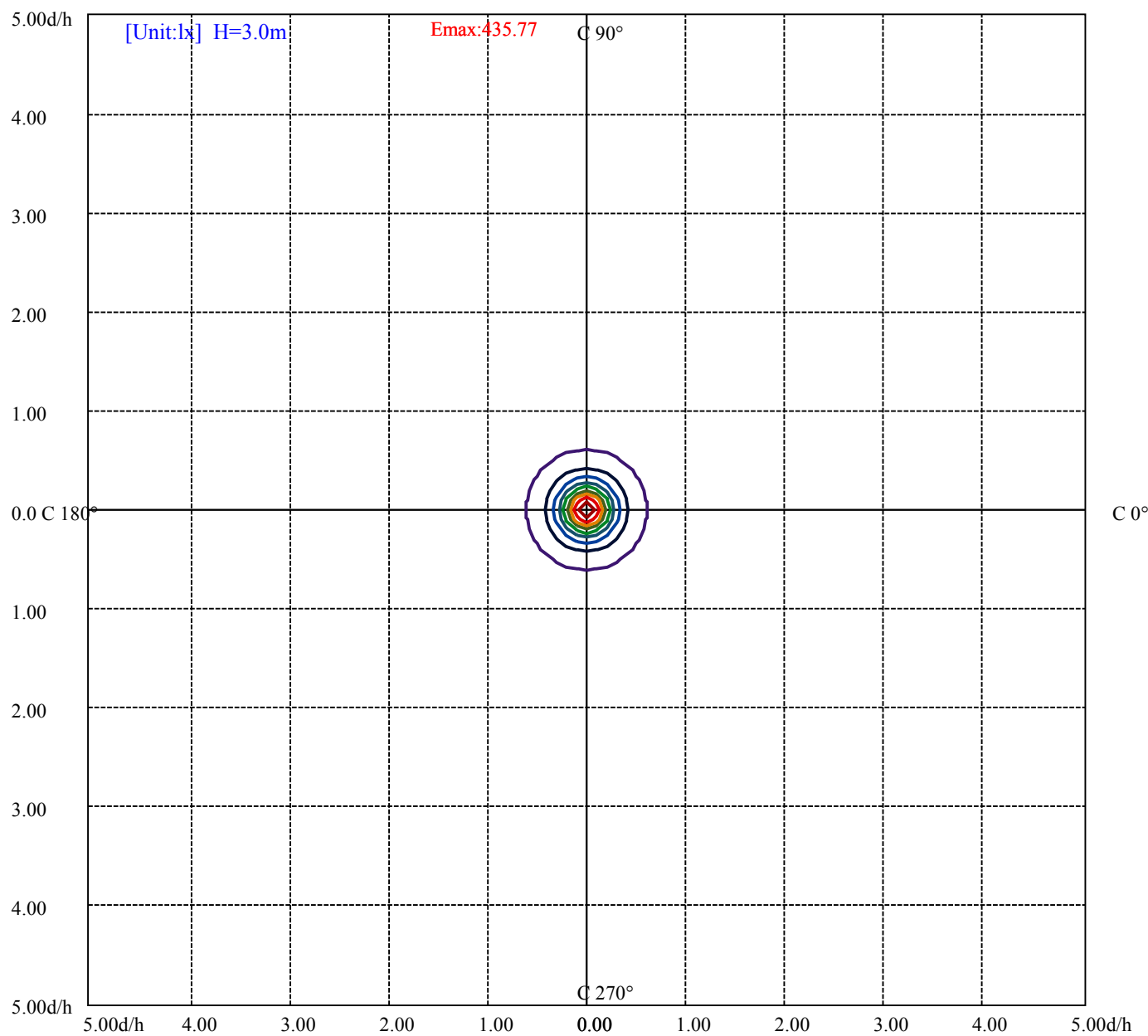
House

[Unit:cd]

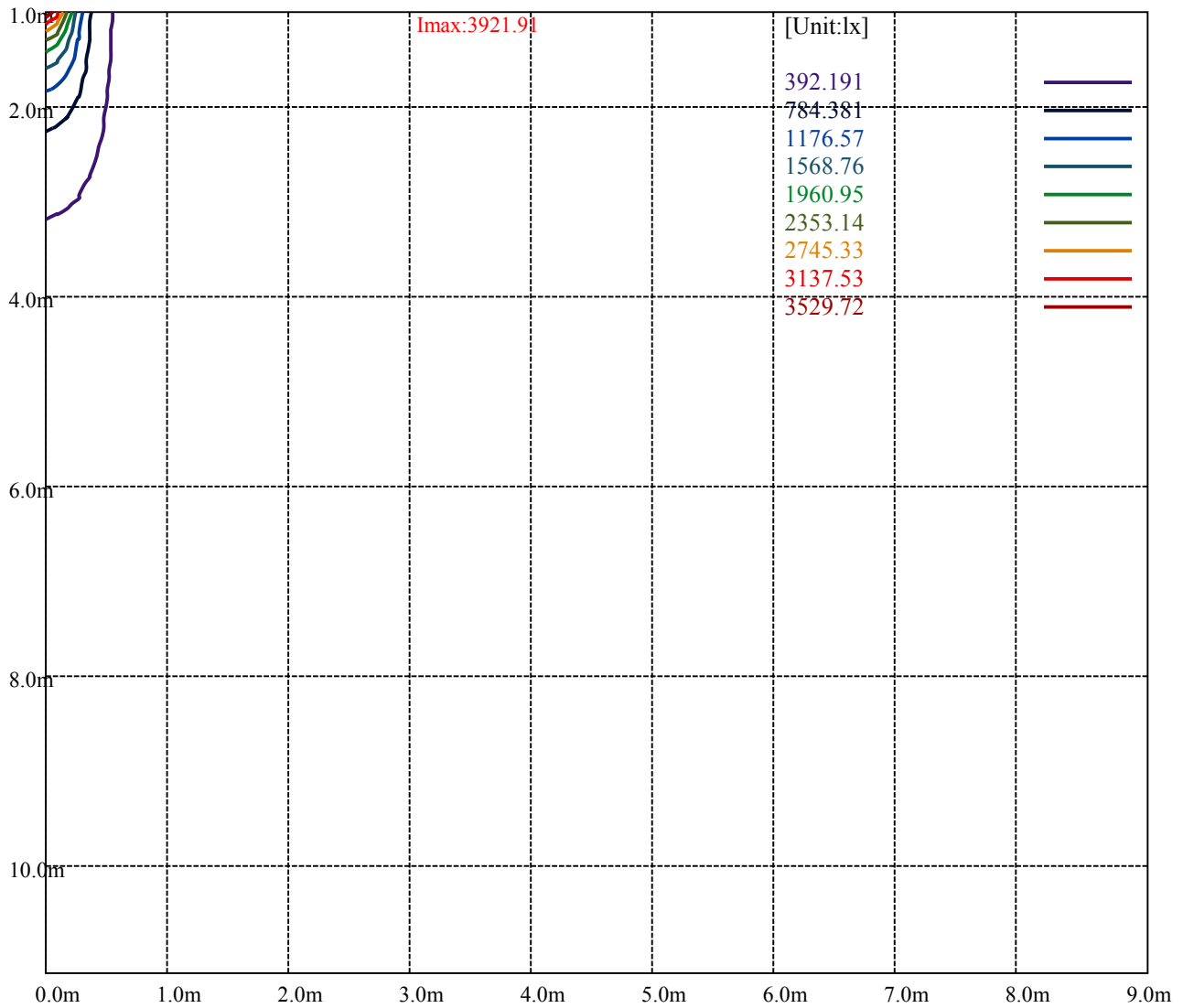
Road

Imax:3921.91

(10%Imax)	392.191	—
(20%Imax)	784.381	—
(30%Imax)	1176.57	—
(40%Imax)	1568.76	—
(50%Imax)	1960.95	—
(60%Imax)	2353.14	—
(70%Imax)	2745.33	—
(80%Imax)	3137.53	—
(90%Imax)	3529.72	—



(10%E _{max}) 43.57667	—
(20%E _{max}) 87.15323	—
(30%E _{max}) 130.73	—
(40%E _{max}) 174.3067	—
(50%E _{max}) 217.8833	—
(60%E _{max}) 261.46	—
(70%E _{max}) 305.0367	—
(80%E _{max}) 348.6133	—
(90%E _{max}) 392.19	—



Luminance Table

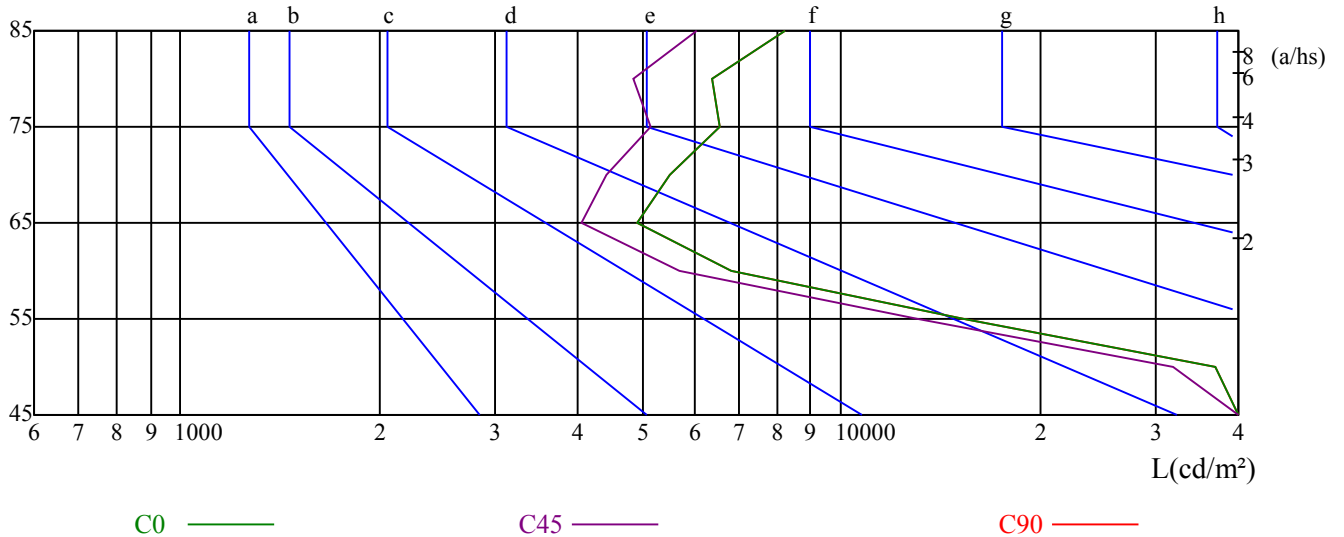
γ	45	50	55	60	65	70	75	80	85
C0	82608	37011	15351	6832	4920	5498	6543	6370	8223
C45	72335	31939	13044	5709	4037	4420	5137	4864	6070
C90	82608	37011	15351	6832	4920	5498	6543	6370	8223

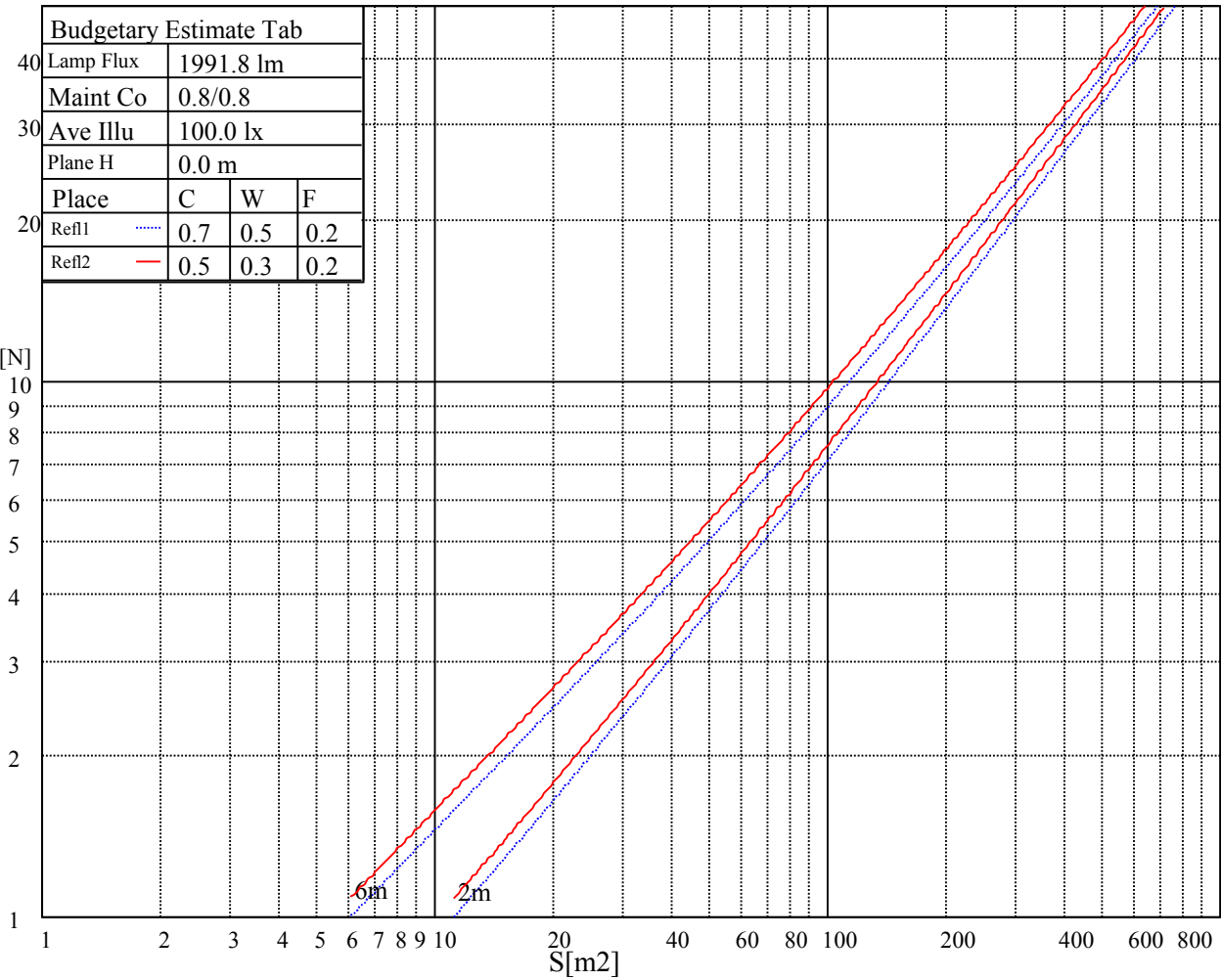
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
10424	10424	10424	19282	19282	19282	57260	57260	57260

Glare Table

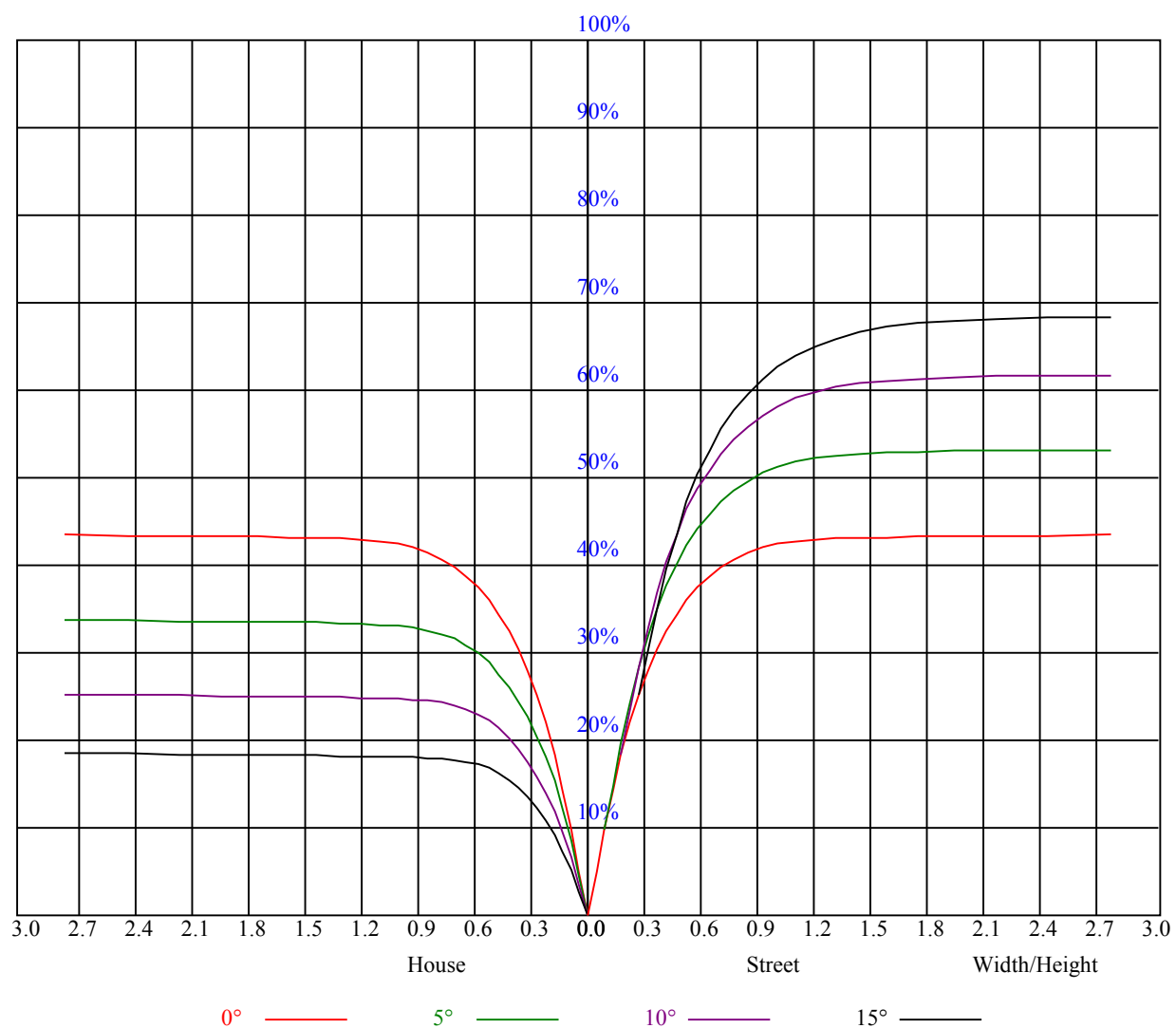
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

 $\gamma(^{\circ})$ 



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	1.05	1.05	1.05	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.88
1	0.97	0.94	0.92	0.95	0.92	0.90	0.91	0.89	0.88	0.88	0.86	0.85	0.85	0.84	0.83	0.81
2	0.90	0.87	0.84	0.89	0.86	0.83	0.86	0.83	0.81	0.83	0.81	0.79	0.81	0.79	0.78	0.76
3	0.85	0.81	0.77	0.84	0.80	0.77	0.81	0.78	0.75	0.79	0.77	0.74	0.77	0.75	0.73	0.72
4	0.80	0.75	0.72	0.79	0.75	0.71	0.77	0.74	0.71	0.76	0.72	0.70	0.74	0.71	0.69	0.68
5	0.76	0.71	0.67	0.75	0.70	0.67	0.73	0.70	0.66	0.72	0.69	0.66	0.71	0.68	0.65	0.64
6	0.72	0.67	0.63	0.71	0.67	0.63	0.70	0.66	0.63	0.69	0.65	0.62	0.68	0.64	0.62	0.61
7	0.69	0.64	0.60	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.59	0.65	0.62	0.59	0.58
8	0.65	0.60	0.57	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.56	0.55
9	0.62	0.58	0.55	0.62	0.58	0.54	0.61	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.54	0.53
10	0.60	0.55	0.52	0.60	0.55	0.52	0.59	0.55	0.52	0.58	0.54	0.52	0.58	0.54	0.52	0.51



Nata 1701-A

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	3947.92	3566.43	2633.16	1732.71	1162.95	840.78	674.83	520.40	344.32		
45.0	3966.29	3598.99	2709.01	1730.93	1163.01	834.16	665.04	515.17	356.67		
90.0	3820.48	3496.03	2745.02	1797.16	1226.28	851.91	656.69	500.86	348.82		
135.0	3952.93	3598.99	2709.01	1730.93	1163.01	834.16	665.04	515.17	356.67		
180.0	3947.92	3566.43	2633.16	1732.71	1162.95	840.78	674.83	520.40	344.32		
225.0	3966.29	3598.99	2709.01	1730.93	1163.01	834.16	665.04	515.17	356.67		
270.0	3820.48	3496.03	2745.02	1797.16	1226.28	851.91	656.69	500.86	348.82		
315.0	3952.93	3598.99	2709.01	1730.93	1163.01	834.16	665.04	515.17	356.67		
360.0	3947.92	3566.43	2633.16	1732.71	1162.95	840.78	674.83	520.40	344.32		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	207.14	73.46	29.50	11.63	8.79	8.63	8.63	8.51	9.41		
45.0	174.13	78.13	30.39	12.74	9.18	9.18	9.91	9.18	10.74		
90.0	196.95	96.83	39.79	17.92	10.13	11.74	13.80	10.18	11.35		
135.0	174.13	78.13	30.39	12.74	9.18	9.18	9.91	9.18	10.74		
180.0	207.14	73.46	29.50	11.63	8.79	8.63	8.63	8.51	9.41		
225.0	174.13	78.13	30.39	12.74	9.18	9.18	9.91	9.18	10.74		
270.0	196.95	96.83	39.79	17.92	10.13	11.74	13.80	10.18	11.35		
315.0	174.13	78.13	30.39	12.74	9.18	9.18	9.91	9.18	10.74		
360.0	207.14	73.46	29.50	11.63	8.79	8.63	8.63	8.51	9.41		
C/γ(°)	90.0										
0.0	6.57										
45.0	6.46										
90.0	6.51										
135.0	6.46										
180.0	6.57										
225.0	6.46										
270.0	6.51										
315.0	6.46										
360.0	6.57										