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Nata

LumCAT: 1687-M	
Luminaire: 92.70.124.00	
Report No: NATA0100	Voltage(V): 35.4000
Test No: GC2017081502	Current(A): 0.3000
LampCAT: CITIZEN CLU026	Power (W): 10.6200
Lamp flux(lm): 1398.0	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): 1284.05
Efficiency(%): 91.85%
Lumens(lm)/Power(W): 122.85
Central intensity(cd): 3652.554
Maximum intensity(cd): 3652.554
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=24.7
 [C90/270]Total=24.7
Field angle(10%Imax): [C0/180]Total=76.2
 [C90/270]Total=76.2
Maximum s/h(1/2): C0_180=0.42 C90_270=0.42
Maximum s/h(1/4): C0_180=0.43 C90_270=0.43
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 93.32%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.309%

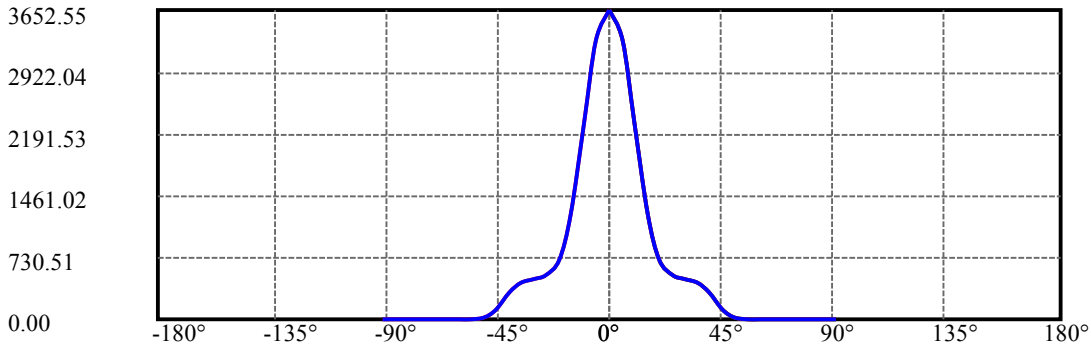
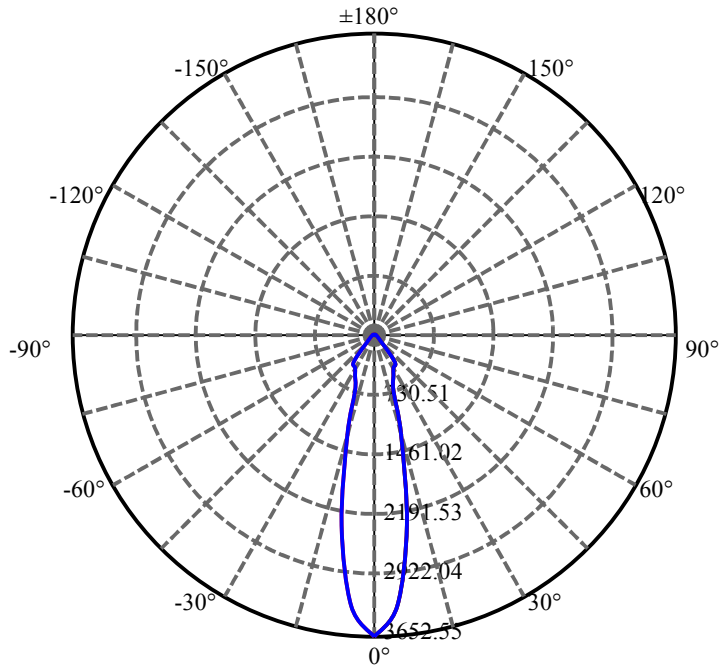
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3652.554	21.843	21.843	1.562%	1.701%
5.0	3281.497	156.768	178.611	11.214%	13.910%
10.0	2329.576	221.736	400.347	15.861%	31.178%
15.0	1258.477	178.538	578.885	12.771%	45.083%
20.0	707.019	132.548	711.433	9.481%	55.405%
25.0	529.101	122.568	834.001	8.767%	64.951%
30.0	465.713	127.637	961.638	9.130%	74.891%
35.0	425.978	133.927	1095.565	9.580%	85.321%
40.0	327.301	115.320	1210.885	8.249%	94.302%
45.0	120.138	46.564	1257.449	3.331%	97.928%
50.0	16.188	6.797	1264.247	.486%	98.457%
55.0	6.268	2.814	1267.061	.201%	98.677%
60.0	5.280	2.506	1269.567	.179%	98.872%
65.0	5.127	2.547	1272.114	.182%	99.070%
70.0	5.030	2.591	1274.705	.185%	99.272%
75.0	4.988	2.641	1277.346	.189%	99.478%
80.0	4.960	2.677	1280.023	.192%	99.686%
85.0	4.932	2.693	1282.716	.193%	99.896%
90.0	4.883	1.338	1284.055	.096%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	961.64	68.79%	74.89%
0-40	1210.89	86.62%	94.30%
0-60	1269.57	90.81%	98.87%
0-90	1282.72	91.75%	99.90%
0-120	1282.72	91.75%	99.90%
0-180	1284.05	91.85%	100.00%
60-90	15.66	1.12%	1.22%
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%
0-32.45	1027.24	73.48%	80.00%

ZONAL LUMEN SUMMARY

0-10	400.35
10-20	311.09
20-30	250.21
30-40	249.25
40-50	53.36
50-60	5.32
60-70	5.14
70-80	5.32
80-90	2.69
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: —————

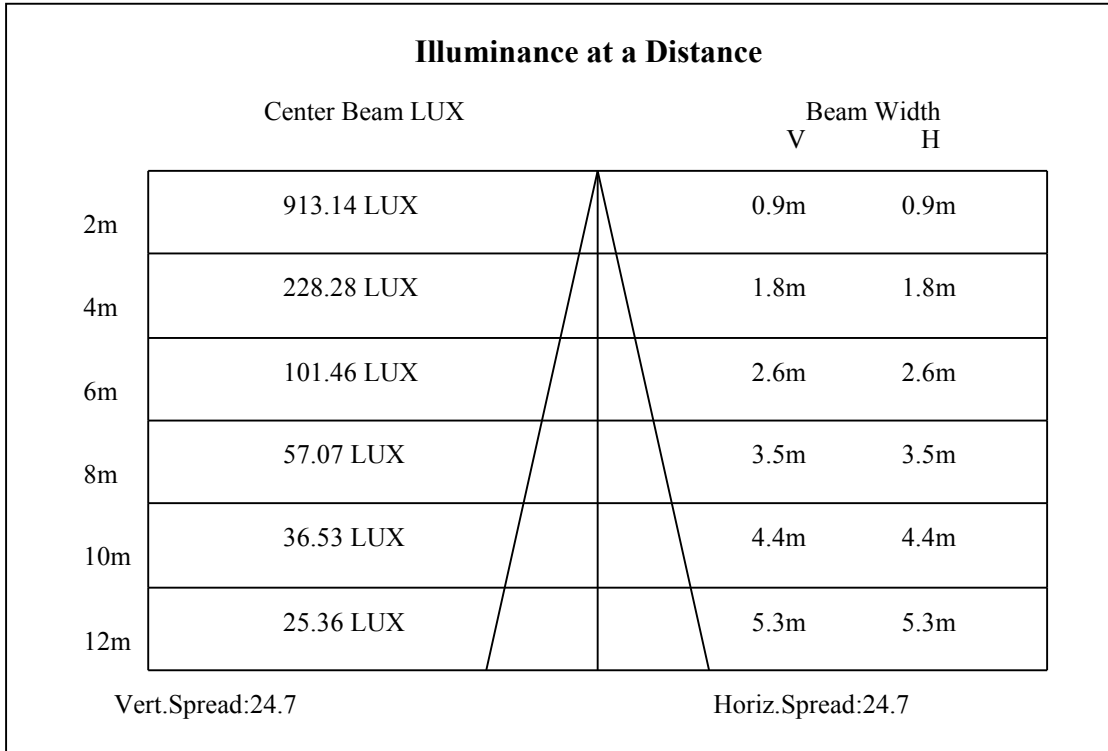
C90/C270: —————

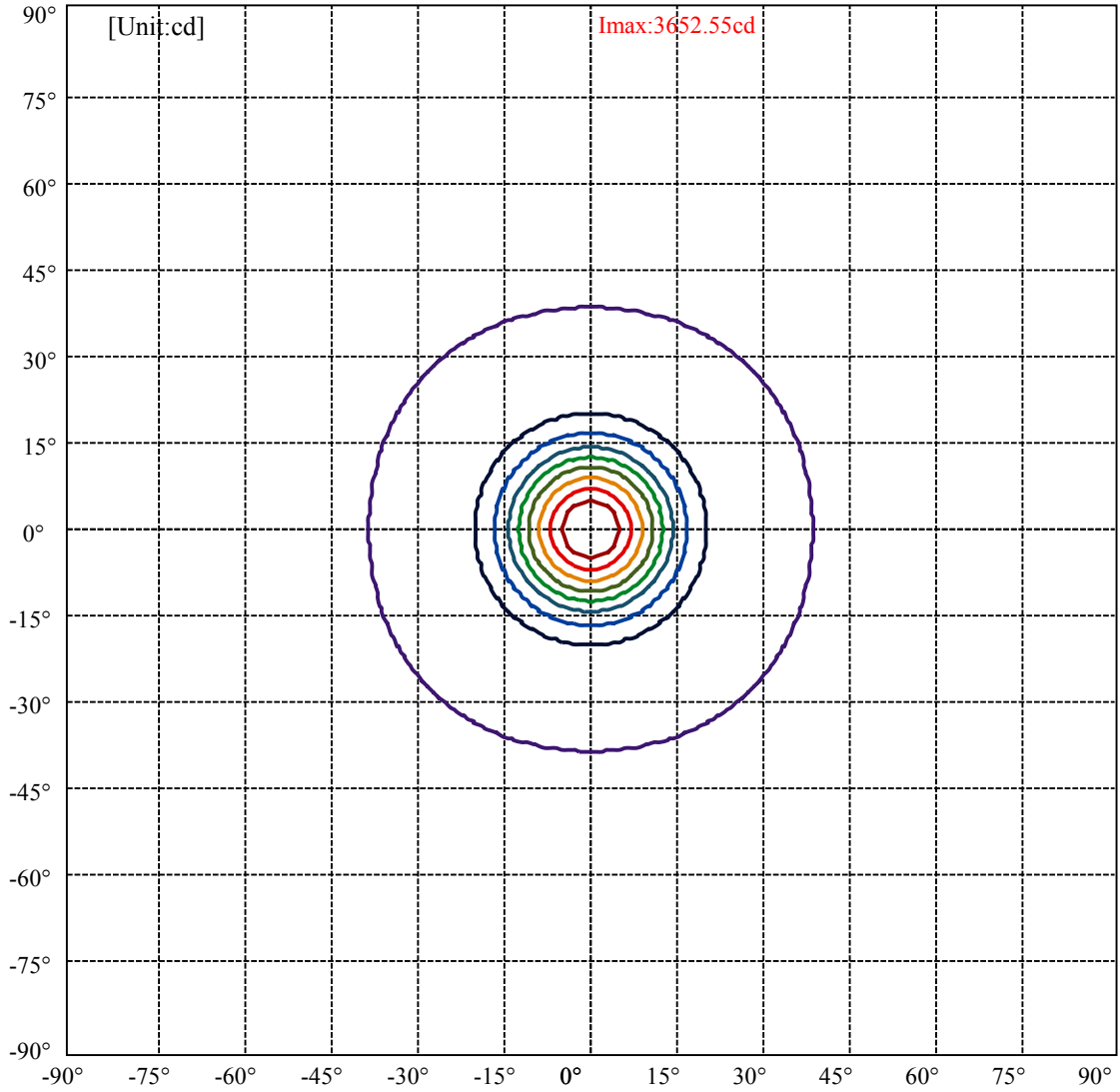
Field angle(10%Imax):C0/180Left:38.1 Right:38.1

:C90/270Left:38.1 Right:38.1

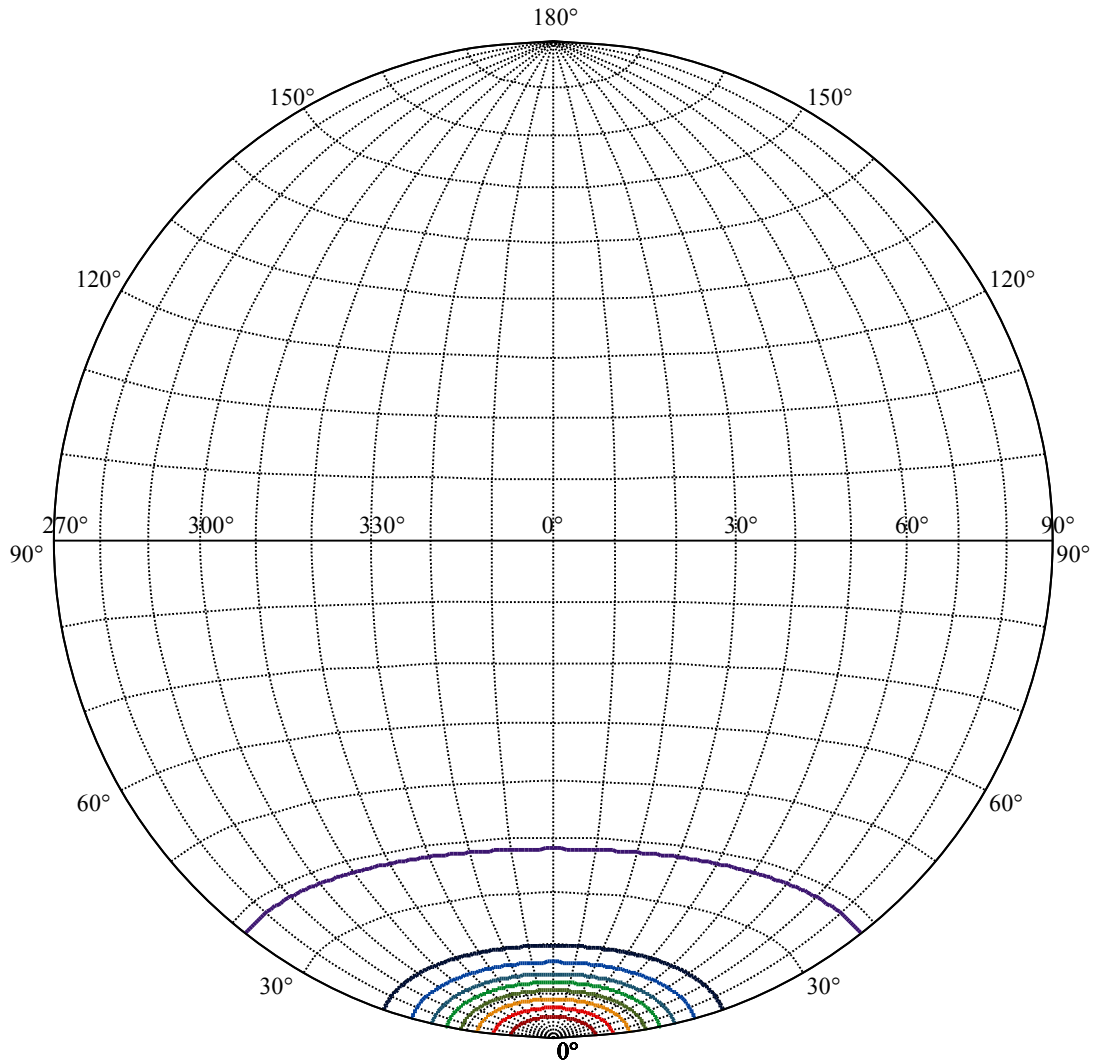
Beam Angle(50%Imax):C0/180Left:12.3 Right:12.3

:C90/270Left:12.3 Right:12.3





(10%Imax) 365.255	—
(20%Imax) 730.511	—
(30%Imax) 1095.77	—
(40%Imax) 1461.02	—
(50%Imax) 1826.28	—
(60%Imax) 2191.53	—
(70%Imax) 2556.79	—
(80%Imax) 2922.04	—
(90%Imax) 3287.3	—



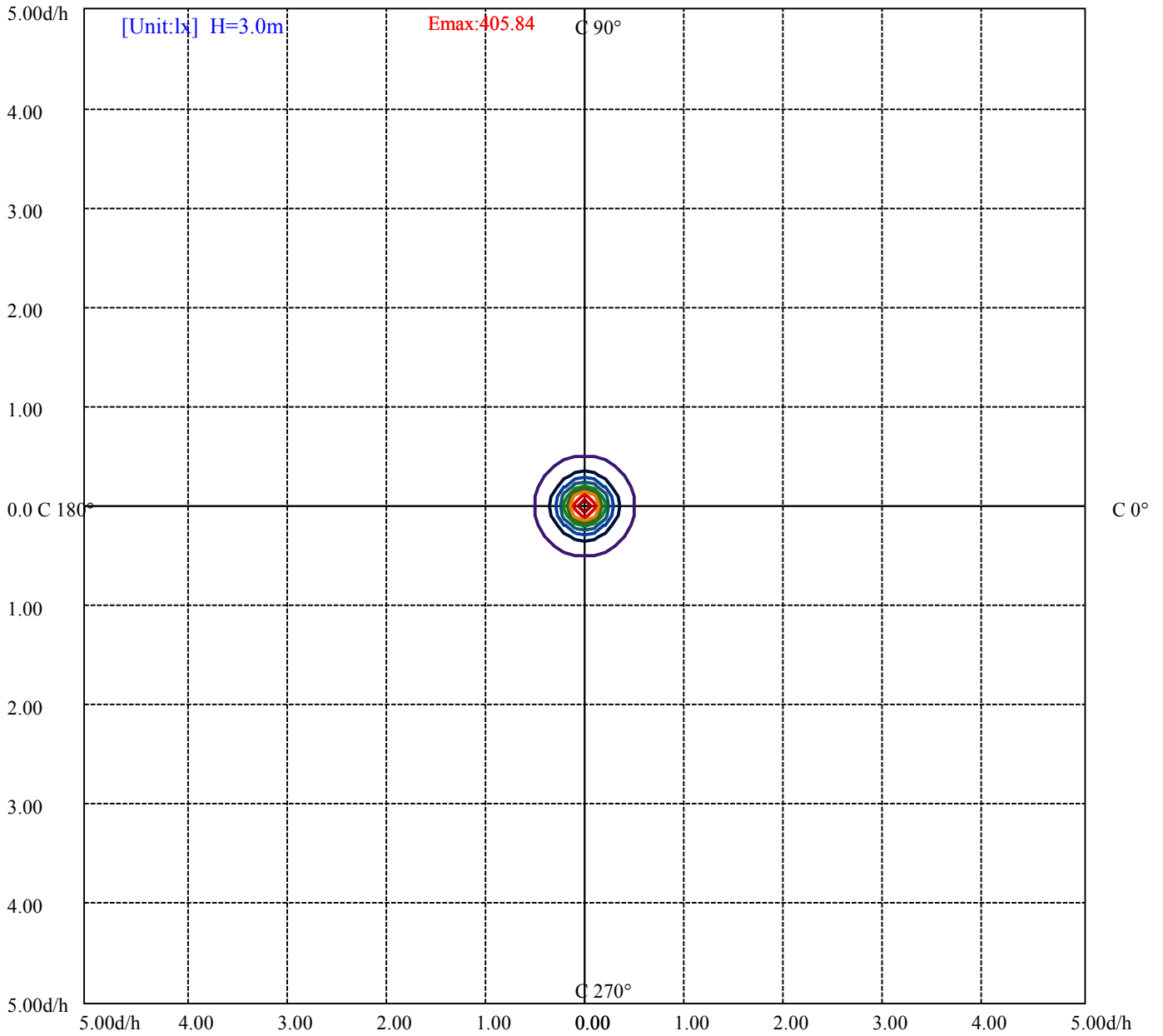
House

[Unit:cd]

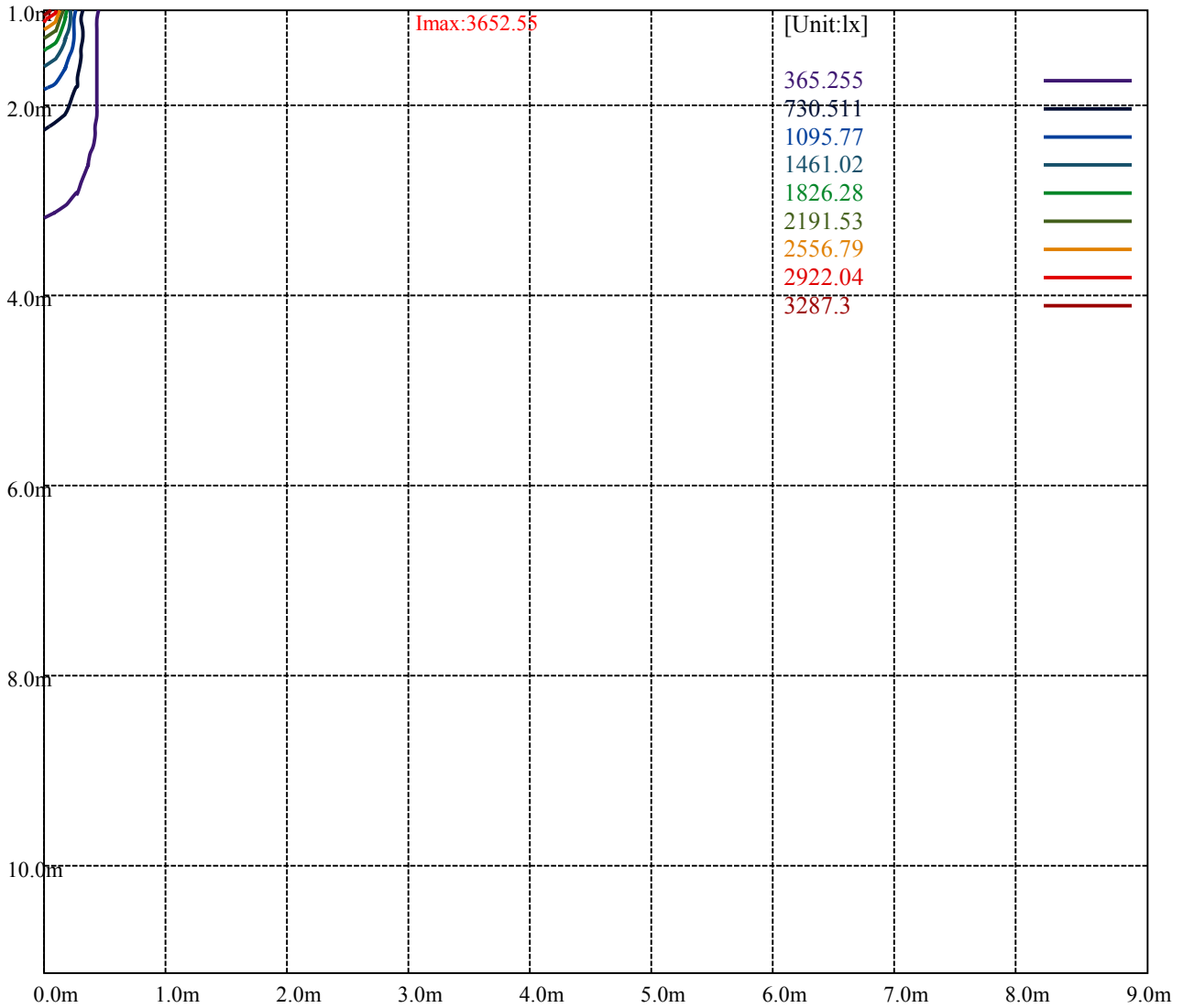
Road

Imax:3652.55

(10%Imax)	365.255	—
(20%Imax)	730.511	—
(30%Imax)	1095.77	—
(40%Imax)	1461.02	—
(50%Imax)	1826.28	—
(60%Imax)	2191.53	—
(70%Imax)	2556.79	—
(80%Imax)	2922.04	—
(90%Imax)	3287.3	—



- (10%Emax) 40.58378
- (20%Emax) 81.16756
- (30%Emax) 121.7511
- (40%Emax) 162.3356
- (50%Emax) 202.9189
- (60%Emax) 243.5033
- (70%Emax) 284.0867
- (80%Emax) 324.67
- (90%Emax) 365.2545



Luminance Table

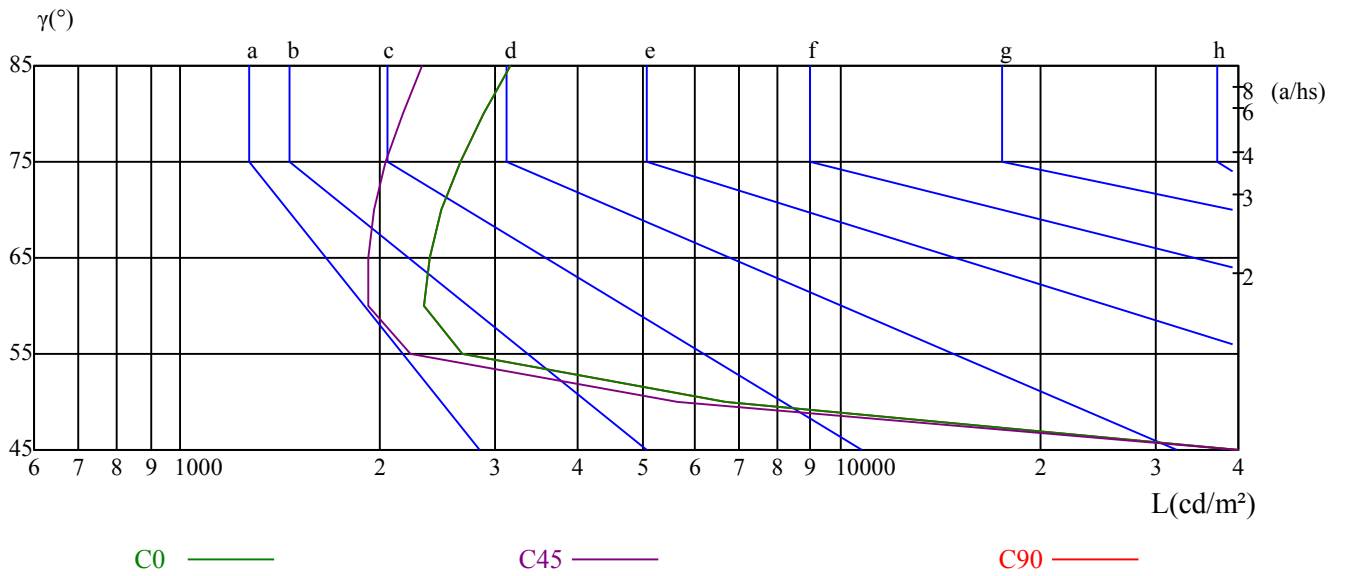
γ	45	50	55	60	65	70	75	80	85
C0	48599	6697	2674	2343	2390	2489	2652	2873	3163
C45	41769	5670	2229	1921	1925	1966	2050	2166	2317
C90	48599	6697	2674	2343	2390	2489	2652	2873	3163

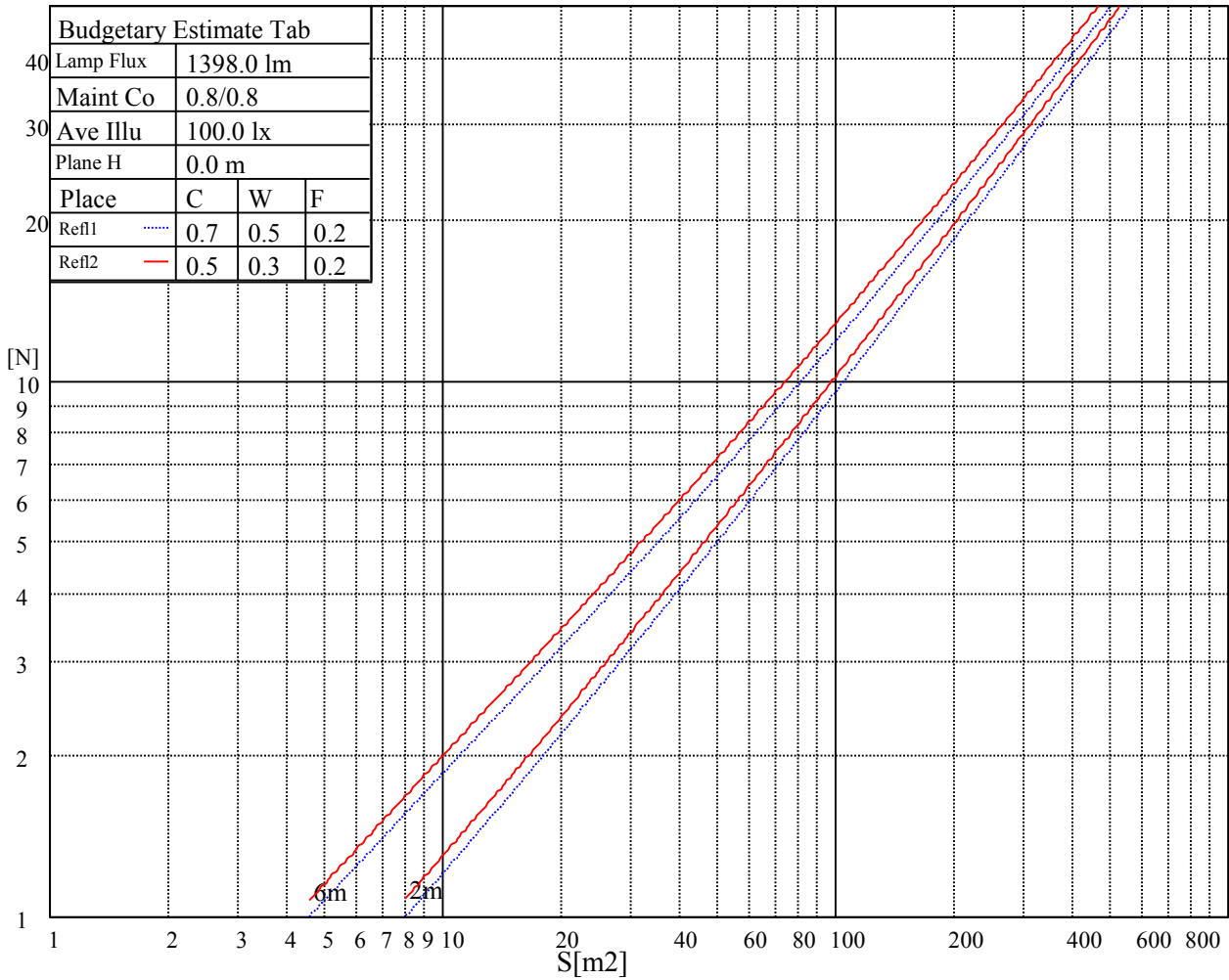
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5733	5733	5733	9107	9107	9107	26744	26744	26744

Glare Table

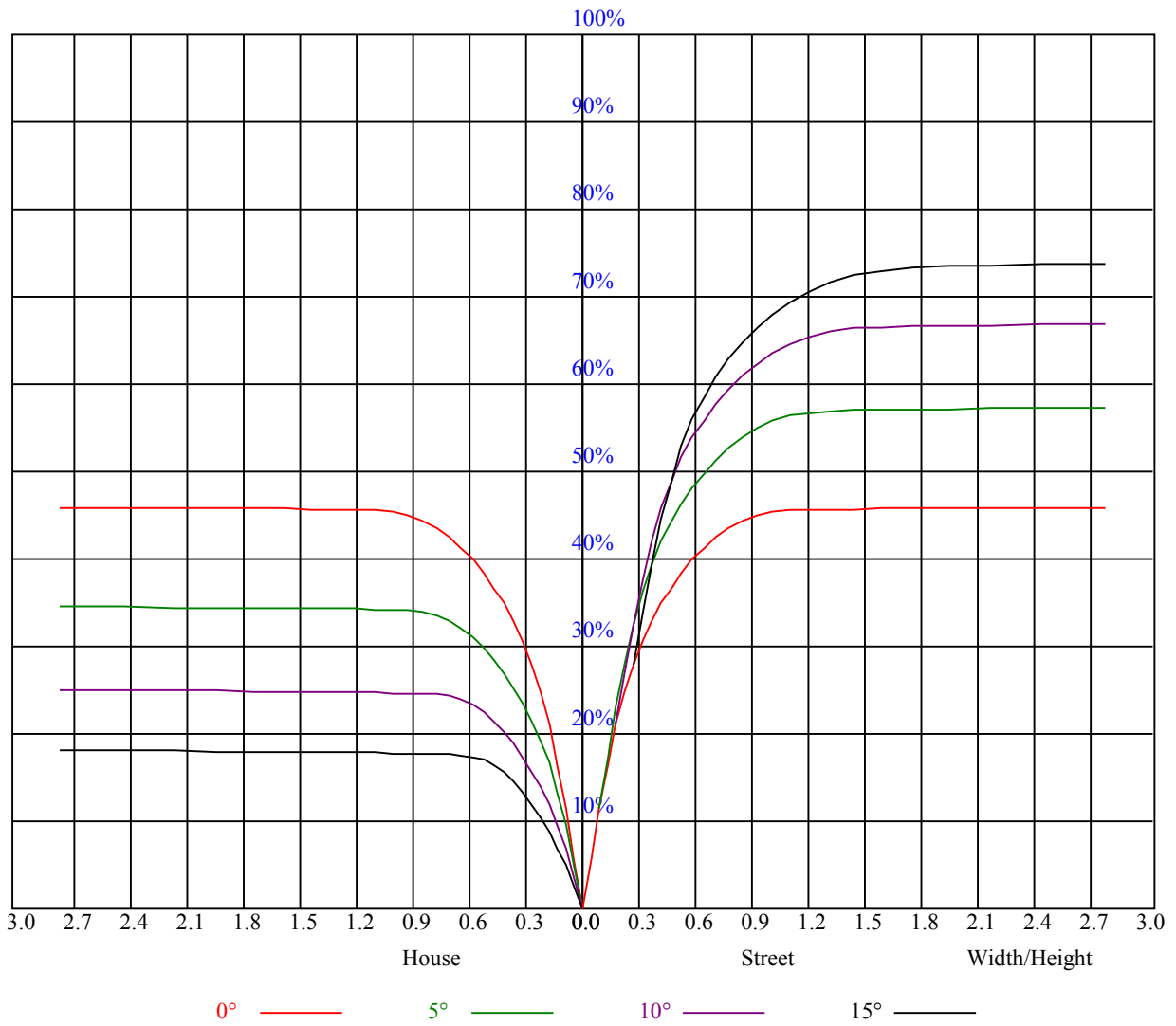
Glare	Quality	Service Values Illuminance(lx)							
		a	b	c	d	e	f	g	h
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.11	1.11	1.11	1.09	1.09	1.09	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.93
1	1.02	0.99	0.97	1.00	0.98	0.95	0.96	0.94	0.93	0.93	0.91	0.90	0.89	0.88	0.87	0.85
2	0.96	0.92	0.89	0.94	0.91	0.88	0.91	0.88	0.86	0.88	0.86	0.84	0.86	0.84	0.82	0.81
3	0.90	0.86	0.82	0.89	0.85	0.82	0.87	0.83	0.80	0.84	0.82	0.79	0.82	0.80	0.78	0.76
4	0.86	0.81	0.77	0.84	0.80	0.77	0.83	0.79	0.76	0.81	0.77	0.75	0.79	0.76	0.74	0.73
5	0.81	0.76	0.72	0.80	0.76	0.72	0.79	0.75	0.72	0.77	0.74	0.71	0.76	0.73	0.70	0.69
6	0.77	0.72	0.69	0.77	0.72	0.68	0.75	0.71	0.68	0.74	0.70	0.67	0.73	0.70	0.67	0.66
7	0.74	0.69	0.65	0.73	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.64	0.70	0.67	0.64	0.63
8	0.71	0.66	0.62	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.60
9	0.68	0.63	0.60	0.67	0.63	0.59	0.66	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.58
10	0.65	0.60	0.57	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.60	0.57	0.63	0.59	0.57	0.56



Nata 1687-M

Intensity data(cd)

C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	3656.31	3266.19	2308.98	1297.24	691.19	525.35	459.68	421.84	321.11
45.0	3655.75	3153.22	2159.28	1122.49	631.65	516.45	459.68	417.94	289.94
90.0	3642.95	3108.14	2027.94	1075.24	615.51	497.02	447.72	406.65	272.75
135.0	3655.20	3385.84	2435.87	1381.83	725.70	534.81	469.70	431.86	351.72
180.0	3656.31	3257.84	2354.62	1071.85	698.09	526.58	461.85	420.89	328.57
225.0	3655.75	3423.69	2561.09	1512.61	792.20	548.61	478.72	438.31	358.79
270.0	3642.95	3462.09	2597.26	1499.25	838.67	562.64	484.73	442.43	377.87
315.0	3655.20	3194.96	2191.56	1107.30	663.14	521.34	463.63	427.91	317.66
360.0	3656.31	3266.19	2308.98	1297.24	691.19	525.35	459.68	421.84	321.11

C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	119.82	15.58	6.57	5.23	5.12	4.95	4.95	4.90	4.90
45.0	76.35	11.91	5.45	5.29	5.06	5.01	4.95	4.95	4.90
90.0	70.51	12.47	5.51	5.23	5.12	5.01	5.01	4.95	4.95
135.0	134.57	17.47	6.85	5.34	5.18	5.18	5.06	5.06	5.06
180.0	120.15	15.42	5.45	5.18	5.06	4.95	4.95	4.90	4.84
225.0	165.56	20.20	7.29	5.29	5.12	5.01	4.90	4.95	4.84
270.0	169.63	22.32	7.46	5.40	5.18	5.01	5.01	4.95	4.90
315.0	104.51	14.14	5.57	5.29	5.18	5.12	5.06	5.01	5.06
360.0	119.82	15.58	6.57	5.23	5.12	4.95	4.95	4.90	4.90

C/ γ (°)	90.0
0.0	4.90
45.0	4.90
90.0	4.90
135.0	4.84
180.0	4.84
225.0	4.90
270.0	4.90
315.0	4.90
360.0	4.90