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## Nata

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LumCAT: 4-1887-E	
Luminaire: 92.76.263.00	
Report No: NATA0100	Voltage(V): 30.0000
Test No: 2017011910	Current(A): 0.9500
LampCAT: brideglux VERO 18	Power (W): 28.5000
Lamp flux(lm): 3743.0	PF: 0.0000
Number of Lamps: 1	Ballast type:
Length(mm): 100	Width(mm): 100
Phm Type: C	Height(mm): 0

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## Photometric Results

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Lumens(lm): 3338.51  
Efficiency(%): 89.19%  
Lumens(lm)/Power(W): 117.96  
Central intensity(cd): 4412.495  
Maximum intensity(cd): 4412.495  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=54.0  
                                  [C90/270]Total=54.0  
Field angle(10%Imax): [C0/180]Total=77.3  
                                  [C90/270]Total=77.3  
Maximum s/h(1/2): C0\_180=0.86 C90\_270=0.86  
Maximum s/h(1/4): C0\_180=0.82 C90\_270=0.82  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 89.81%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 97.776%

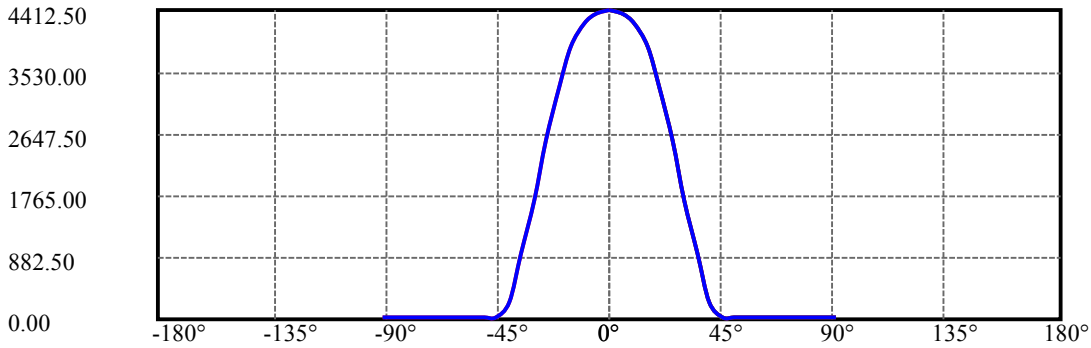
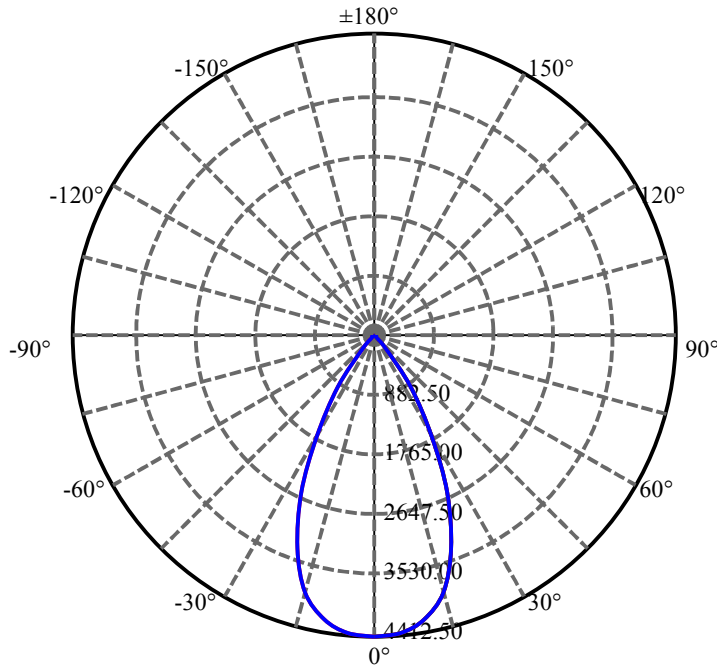
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4412.495	26.388	26.388	.705%	.790%
5.0	4370.446	208.791	235.178	5.578%	7.044%
10.0	4227.781	402.413	637.591	10.751%	19.098%
15.0	3886.431	551.362	1188.953	14.730%	35.613%
20.0	3318.112	622.060	1811.013	16.619%	54.246%
25.0	2541.610	588.771	2399.784	15.730%	71.882%
30.0	1707.712	468.030	2867.815	12.504%	85.901%
35.0	942.180	296.220	3164.035	7.914%	94.774%
40.0	255.868	90.151	3254.186	2.409%	97.474%
45.0	23.014	8.920	3263.106	.238%	97.741%
50.0	18.595	7.808	3270.914	.209%	97.975%
55.0	17.522	7.867	3278.782	.210%	98.211%
60.0	17.260	8.193	3286.975	.219%	98.456%
65.0	17.584	8.735	3295.71	.233%	98.718%
70.0	18.079	9.312	3305.022	.249%	98.997%
75.0	18.547	9.820	3314.842	.262%	99.291%
80.0	18.740	10.116	3324.958	.270%	99.594%
85.0	17.288	9.440	3334.398	.252%	99.877%
90.0	15.017	4.116	3338.514	.110%	100.000%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2867.81	76.62%	85.90%
0-40	3254.19	86.94%	97.47%
0-60	3286.97	87.82%	98.46%
0-90	3334.40	89.08%	99.88%
0-120	3334.40	89.08%	99.88%
0-180	3338.51	89.19%	100.00%
60-90	55.62	1.49%	1.67%
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%
0-27.90	2670.81	71.35%	80.00%

## ZONAL LUMEN SUMMARY

0-10	637.59
10-20	1173.42
20-30	1056.80
30-40	386.37
40-50	16.73
50-60	16.06
60-70	18.05
70-80	19.94
80-90	9.44
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): ———

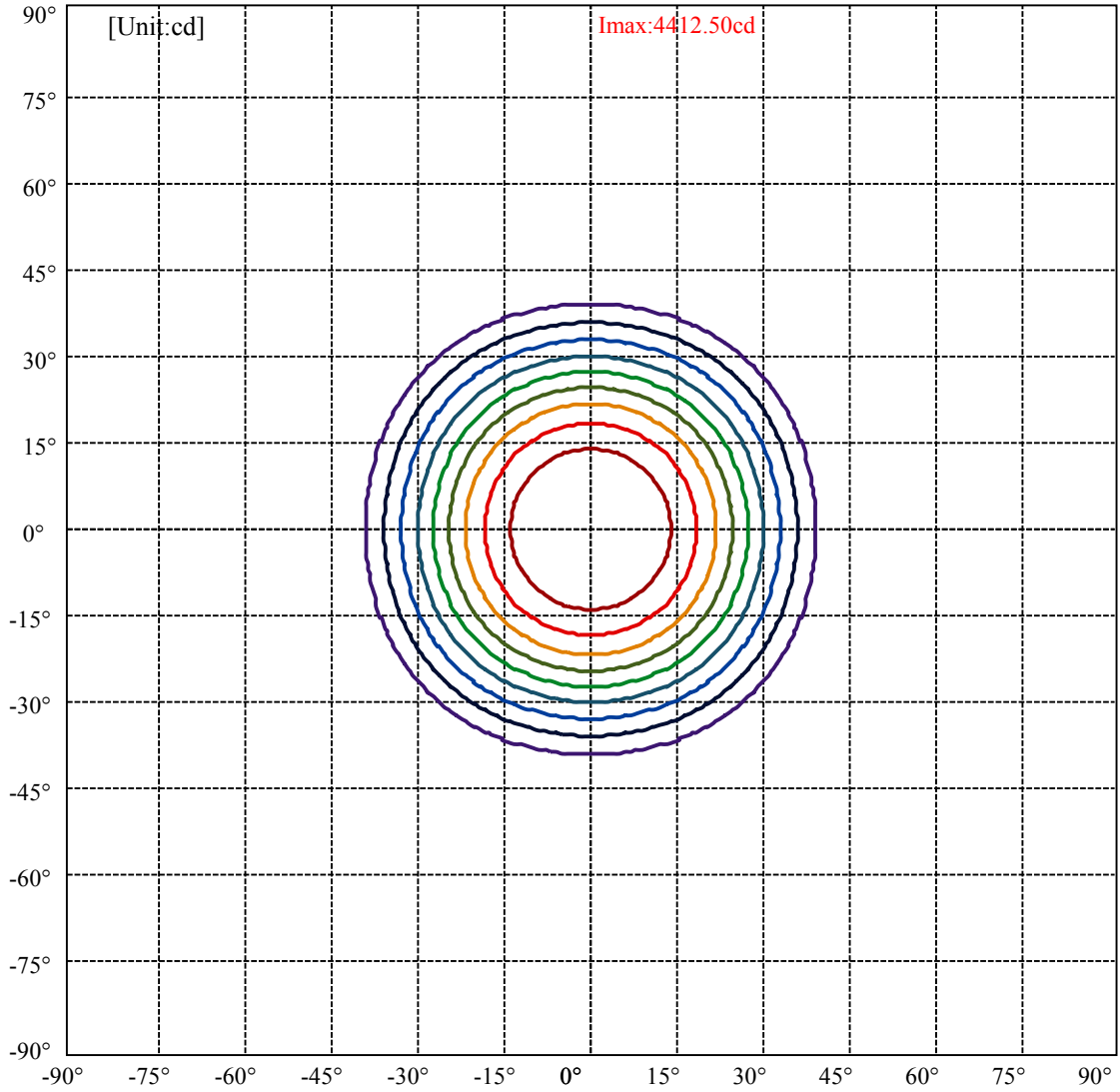
C0/C180: ———

C90/C270: ———

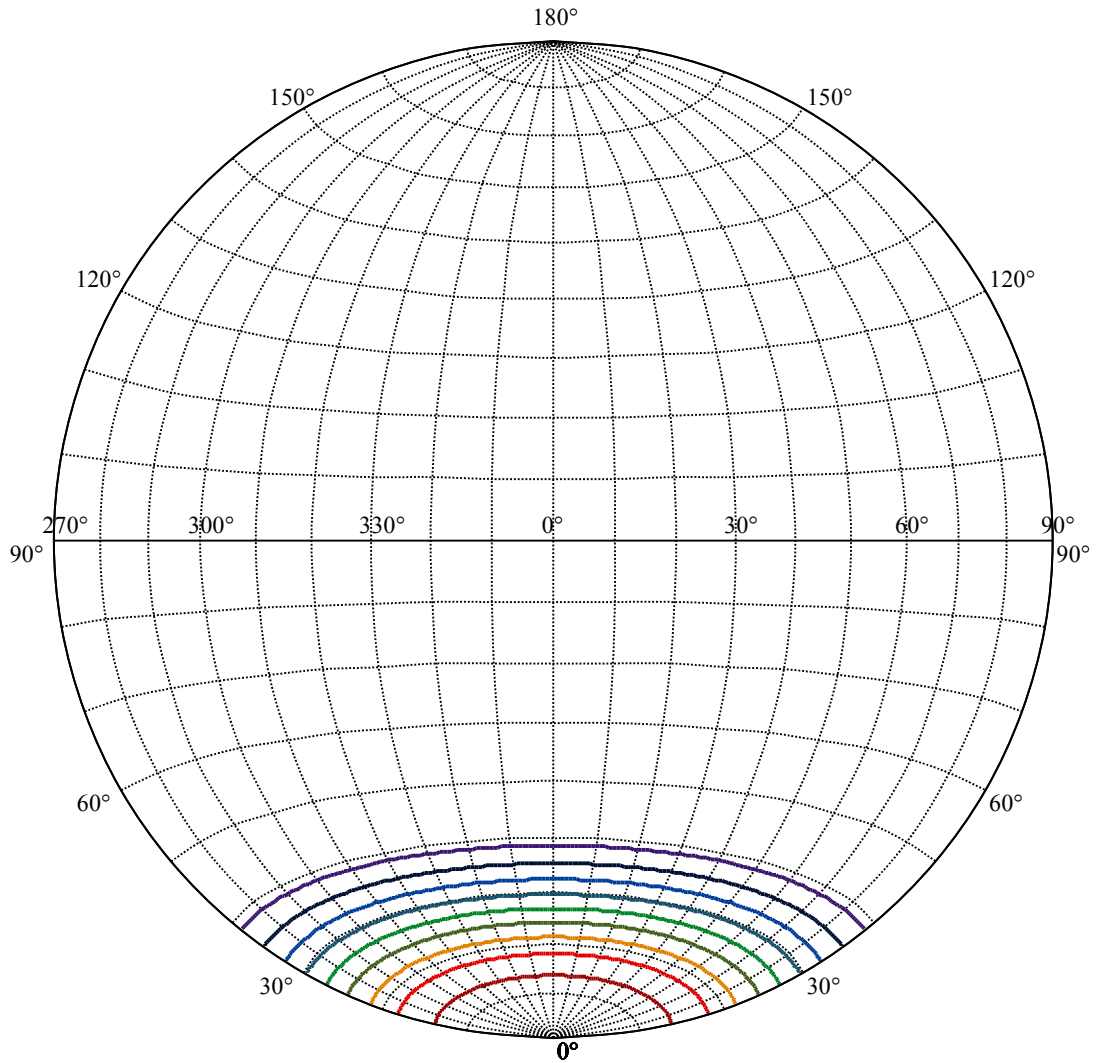
Field angle(10%Imax):C0/180Left:38.6 Right:38.6  
:C90/270Left:38.6 Right:38.6

Beam Angle(50%Imax):C0/180Left:27.0 Right:27.0  
:C90/270Left:27.0 Right:27.0





(10%Imax) 441.25	—
(20%Imax) 882.499	—
(30%Imax) 1323.75	—
(40%Imax) 1765	—
(50%Imax) 2206.25	—
(60%Imax) 2647.5	—
(70%Imax) 3088.75	—
(80%Imax) 3530	—
(90%Imax) 3971.25	—



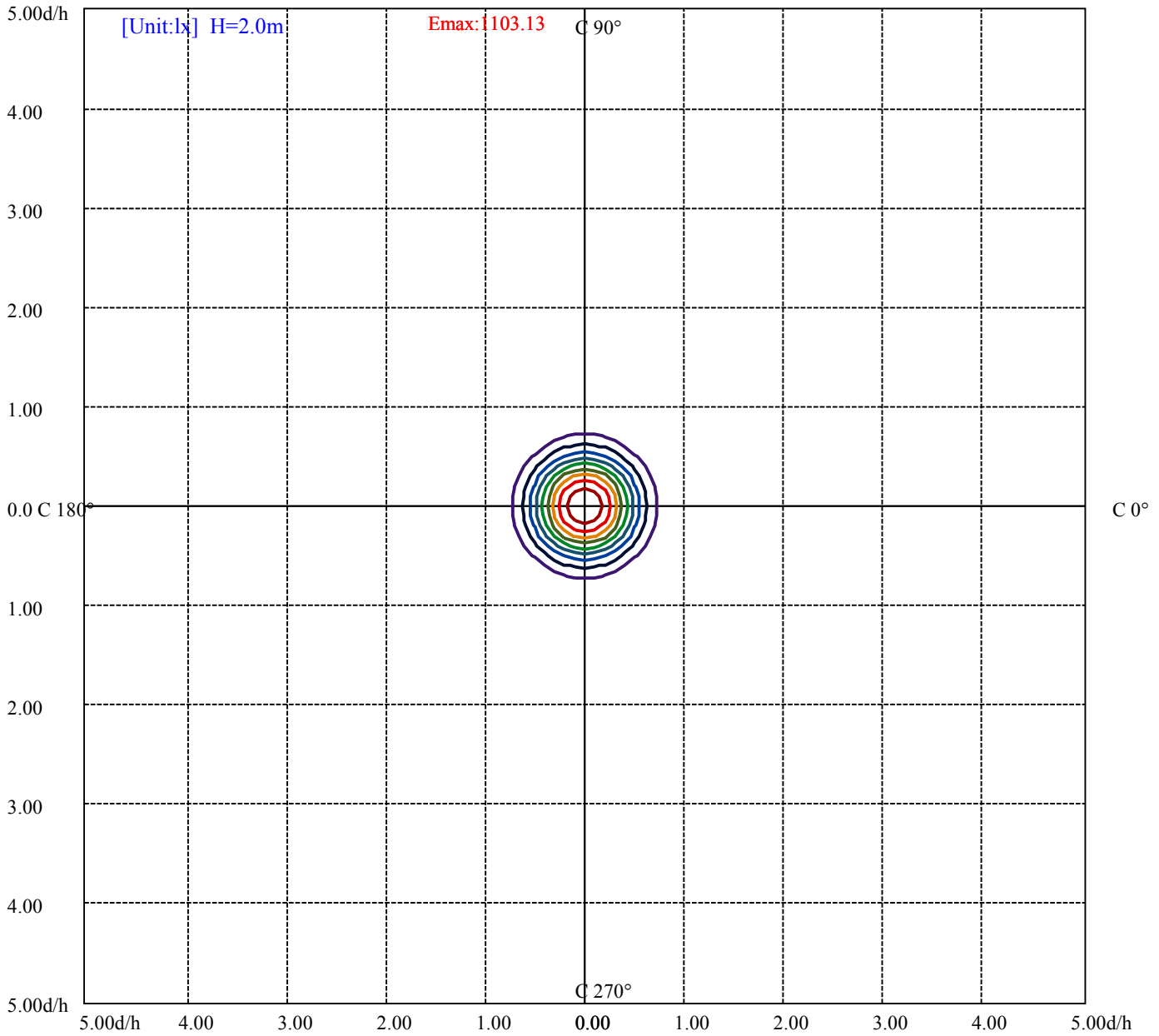
House

[Unit:cd]

Road

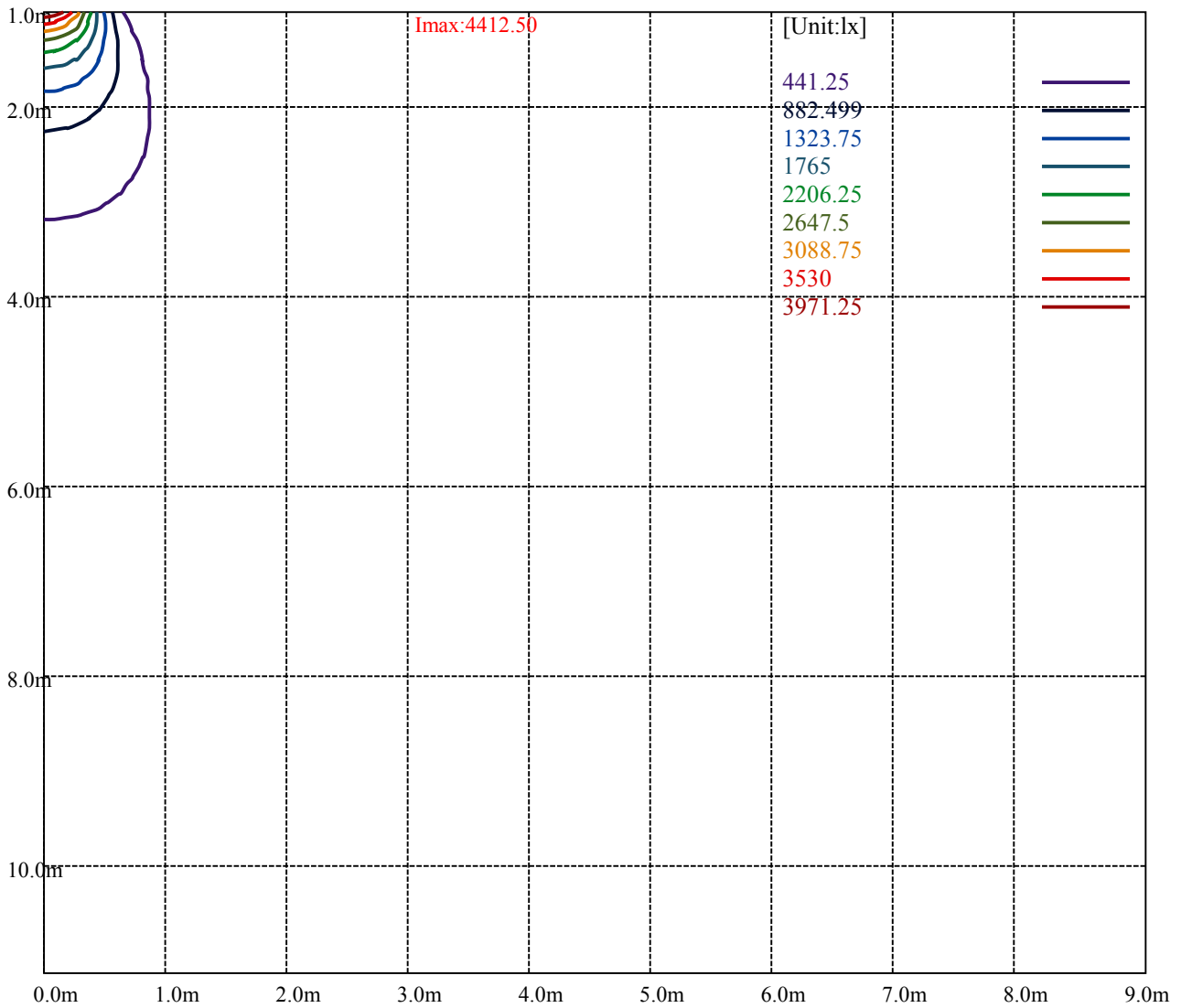
Imax:4412.50

(10%Imax) 441.25	—
(20%Imax) 882.499	—
(30%Imax) 1323.75	—
(40%Imax) 1765	—
(50%Imax) 2206.25	—
(60%Imax) 2647.5	—
(70%Imax) 3088.75	—
(80%Imax) 3530	—
(90%Imax) 3971.25	—



- (10%Emax) 110.3122
- (20%Emax) 220.6248
- (30%Emax) 330.9375
- (40%Emax) 441.25
- (50%Emax) 551.5625
- (60%Emax) 661.875
- (70%Emax) 772.1875
- (80%Emax) 882.4975
- (90%Emax) 992.81





Luminance Table

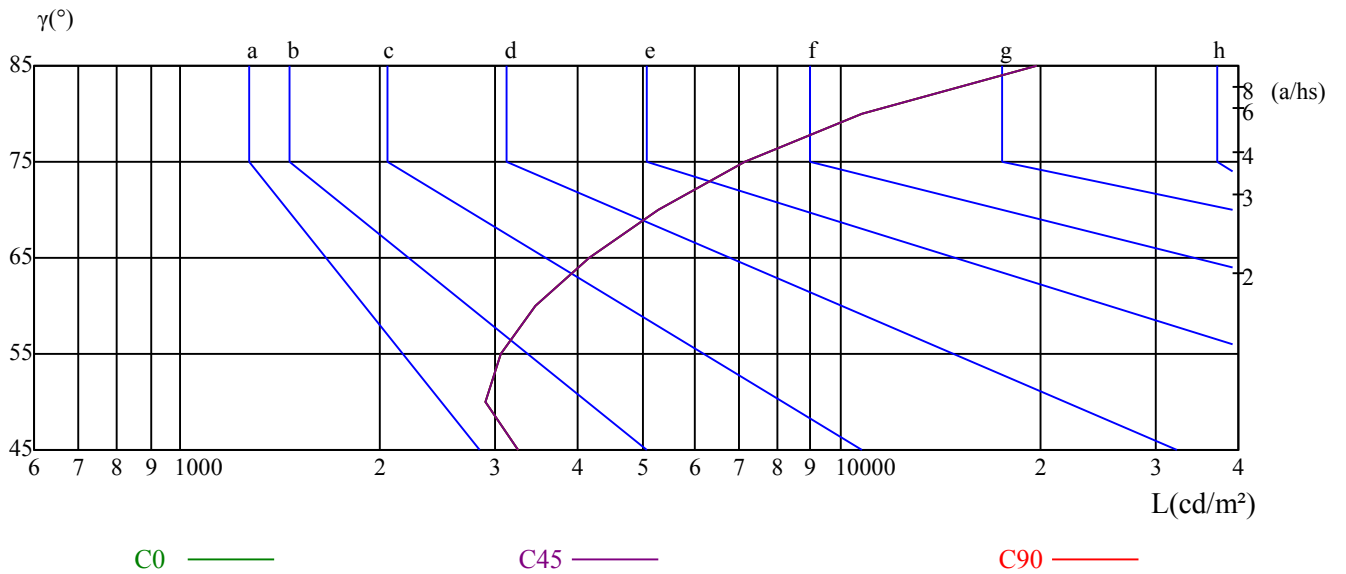
$\gamma$	45	50	55	60	65	70	75	80	85
C0	3255	2893	3055	3452	4161	5286	7166	10792	19835
C45	3255	2893	3055	3452	4161	5286	7166	10792	19835
C90	3255	2893	3055	3452	4161	5286	7166	10792	19835

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4161	4161	4161	7166	7166	7166	19835	19835	19835

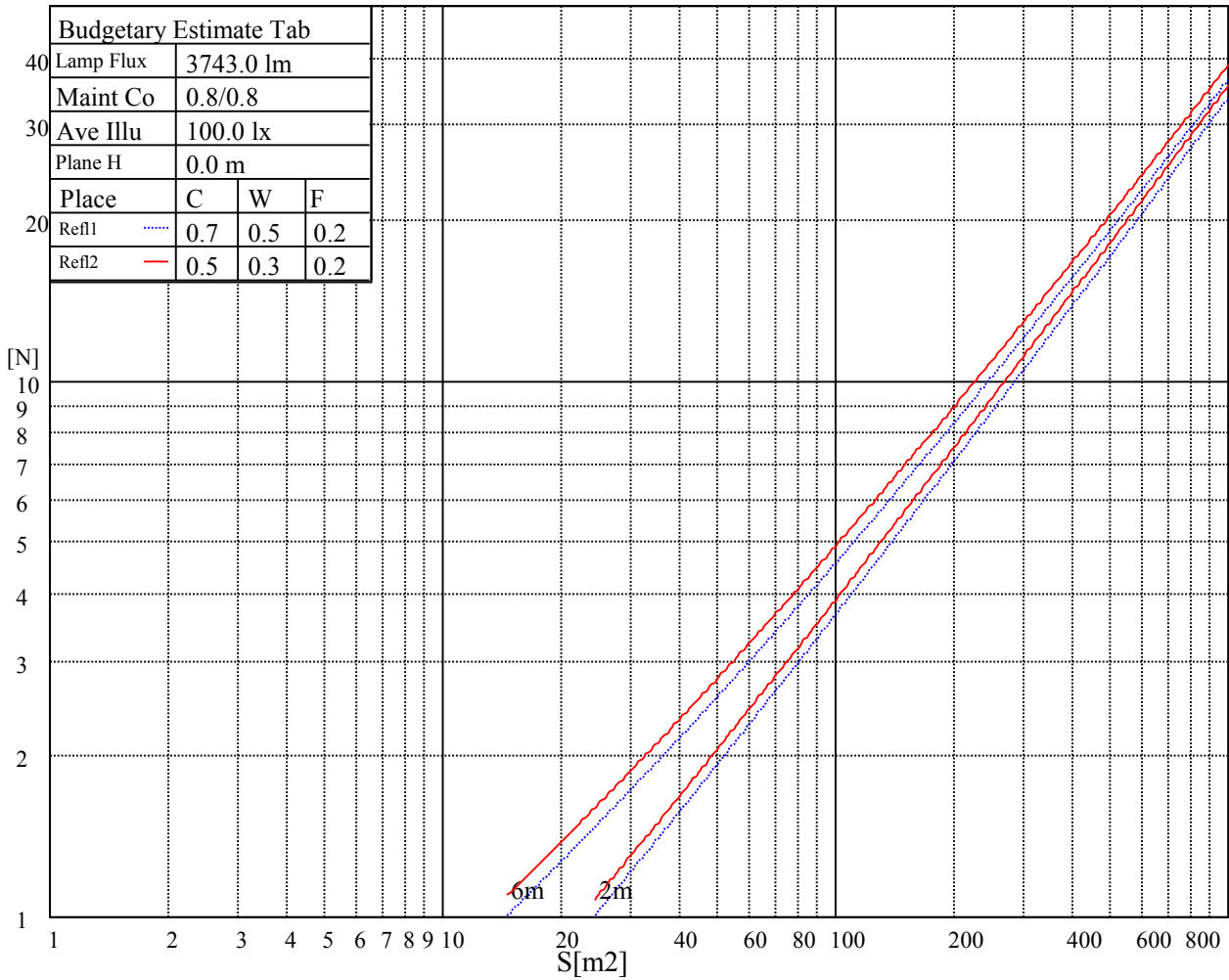
Glare Table

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

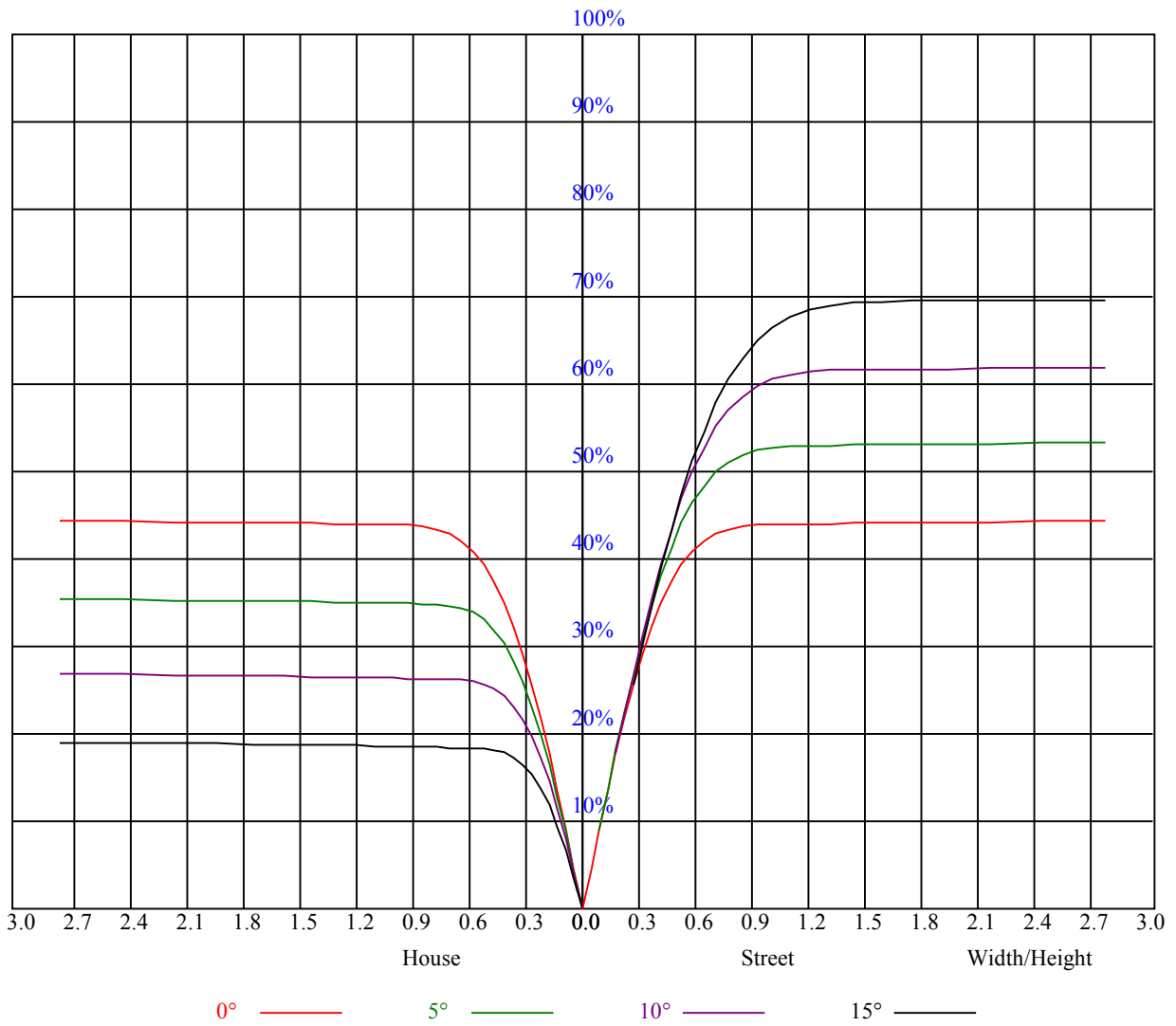
Luminance Limiting Curve



Illumination assessment according UGR											
Rf of Ceiling	70	70	50	50	30	70	70	50	50	30	
Rf of Wall	50	30	50	30	30	50	30	50	30	30	
Rf of Floor	20	20	20	20	20	20	20	20	20	20	
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	1.10	2.02	1.46	2.33	2.64	0.92	1.84	1.29	2.15	2.47
	3H	4.91	5.72	5.29	6.06	6.43	4.53	5.34	4.92	5.68	6.05
	4H	6.92	7.67	7.33	8.03	8.42	6.62	7.37	7.03	7.72	8.11
	6H	9.19	9.88	9.61	10.25	10.65	8.84	9.53	9.26	9.91	10.30
	8H	10.28	10.93	10.72	11.32	11.73	9.98	10.63	10.42	11.02	11.43
	12H	11.84	12.46	12.28	12.84	13.27	11.74	12.36	12.18	12.74	13.17
4H	2H	2.07	2.82	2.48	3.18	3.57	1.95	2.70	2.36	3.05	3.45
	3H	6.05	6.67	6.47	7.08	7.49	5.77	6.39	6.18	6.80	7.20
	4H	8.21	8.77	8.65	9.19	9.64	7.99	8.54	8.42	8.96	9.41
	6H	10.48	10.95	10.95	11.40	11.88	10.21	10.69	10.68	11.14	11.61
	8H	11.71	12.15	12.19	12.60	13.08	11.48	11.92	11.96	12.37	12.85
	12H	13.22	13.60	13.71	14.09	14.57	13.16	13.54	13.65	14.03	14.51
8H	4H	8.92	9.37	9.40	9.82	10.29	8.75	9.19	9.23	9.64	10.12
	6H	11.46	11.81	11.98	12.32	12.80	11.26	11.61	11.77	12.11	12.60
	8H	12.87	13.17	13.40	13.70	14.20	12.70	13.00	13.23	13.53	14.03
	12H	14.50	14.77	15.03	15.27	15.85	14.48	14.75	15.01	15.25	15.83
12H	4H	9.14	9.52	9.63	10.01	10.49	8.99	9.37	9.48	9.86	10.34
	6H	11.98	12.08	12.30	12.55	13.10	11.80	11.90	12.12	12.37	12.92
	8H	13.29	13.55	13.81	14.05	14.63	13.15	13.41	13.67	13.91	14.49
Variation with the observer position at spacings:											
S = 1.0H	5.5/-7.8					5.5/-7.8					
S = 1.5H	7.6/-5.7					7.6/-5.7					
S = 2.0H	8.9/-4.1					8.9/-4.1					
Standard tables:	BK3					BK3					
Uncorrected UGR	2.2					2.2					



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	1.07	1.07	1.07	1.04	1.04	1.04	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	0.99	0.97	0.95	0.97	0.95	0.93	0.94	0.92	0.90	0.90	0.89	0.88	0.87	0.86	0.85	0.84
2	0.93	0.90	0.87	0.92	0.88	0.86	0.89	0.86	0.84	0.86	0.84	0.82	0.84	0.82	0.80	0.79
3	0.88	0.84	0.80	0.87	0.83	0.80	0.84	0.81	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.75
4	0.83	0.79	0.75	0.82	0.78	0.75	0.80	0.77	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.71
5	0.79	0.74	0.71	0.78	0.74	0.70	0.76	0.73	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.67
6	0.75	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.64
7	0.71	0.67	0.63	0.71	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.62	0.68	0.65	0.62	0.61
8	0.68	0.63	0.60	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.58
9	0.65	0.61	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
10	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.61	0.57	0.54	0.60	0.57	0.54	0.53



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	4412.22	4374.78	4225.03	3931.03	3360.64	2585.45	1771.16	993.77	290.70
45.0	4411.67	4376.43	4220.07	3862.76	3230.16	2447.26	1601.59	779.05	284.64
90.0	4414.97	4348.91	4165.02	3703.64	3050.12	2187.39	1303.74	582.61	46.14
135.0	4411.12	4384.69	4258.06	3935.98	3309.99	2473.13	1632.42	846.22	310.52
180.0	4412.22	4359.37	4226.68	3871.02	3286.87	2518.83	1675.92	876.28	150.41
225.0	4411.67	4368.17	4229.43	3906.80	3365.05	2616.28	1826.22	1065.78	241.59
270.0	4414.97	4389.65	4274.03	4004.25	3559.95	2875.60	2053.05	1336.77	468.53
315.0	4411.12	4361.57	4223.93	3875.97	3382.11	2628.94	1797.59	1056.97	254.42
360.0	4412.22	4374.78	4225.03	3931.03	3360.64	2585.45	1771.16	993.77	290.70
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	22.30	18.44	17.23	16.90	16.85	17.40	18.17	17.51	16.52
45.0	20.43	18.33	17.89	18.11	19.38	20.15	20.10	20.10	18.11
90.0	19.88	18.44	18.55	19.21	20.87	23.18	23.23	23.84	15.91
135.0	20.87	18.44	17.40	16.96	16.90	17.18	17.78	17.78	19.10
180.0	21.14	18.33	17.34	17.12	17.56	18.00	19.93	20.21	18.83
225.0	23.40	18.55	17.12	16.63	16.68	16.79	17.45	17.78	16.96
270.0	32.59	19.43	17.45	16.63	16.24	15.97	15.91	16.90	17.07
315.0	23.51	18.77	17.18	16.52	16.19	15.97	15.80	15.80	15.80
360.0	22.30	18.44	17.23	16.90	16.85	17.40	18.17	17.51	16.52
C/γ(°)	90.0								
0.0	15.09								
45.0	14.92								
90.0	14.98								
135.0	15.09								
180.0	15.09								
225.0	14.92								
270.0	15.03								
315.0	15.03								
360.0	15.09								