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NATA

LumCAT: 3-1945-M	
Luminaire: BJB 47.319.2030	
Report No: NATA0100	Voltage(V): 50.6000
Test No: GC2019021910	Current(A): 0.9000
LampCAT: BRIDGELUX V22B	Power (W): 45.5400
Lamp flux(lm): 6678.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 86	Width(mm): 86
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 5663.08
Efficiency(%): 84.80%
Lumens(lm)/Power(W): 125.12
Central intensity(cd): 6750.984
Maximum intensity(cd): 6750.984
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=59.3
 [C90/270]Total=59.3
Field angle(10%Imax): [C0/180]Total=76.7
 [C90/270]Total=76.7
Maximum s/h(1/2): C0_180=0.95 C90_270=0.95
Maximum s/h(1/4): C0_180=0.87 C90_270=0.87
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 85.33%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.809%

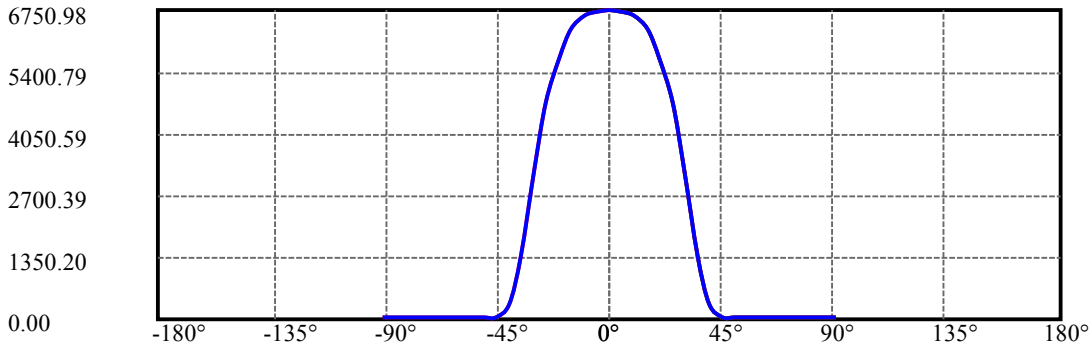
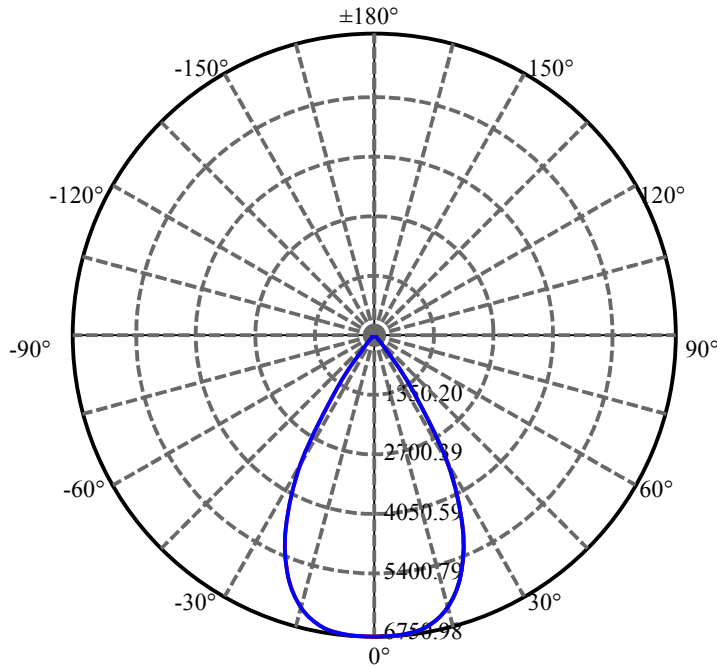
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6750.984	40.372	40.372	.605%	.713%
5.0	6717.234	320.905	361.277	4.805%	6.380%
10.0	6633.000	631.349	992.626	9.454%	17.528%
15.0	6337.477	899.088	1891.714	13.463%	33.404%
20.0	5719.148	1072.192	2963.905	16.056%	52.337%
25.0	4725.281	1094.625	4058.53	16.392%	71.666%
30.0	3270.938	896.462	4954.992	13.424%	87.496%
35.0	1397.524	439.380	5394.372	6.580%	95.255%
40.0	319.830	112.688	5507.06	1.687%	97.245%
45.0	57.818	22.410	5529.469	.336%	97.641%
50.0	36.113	15.164	5544.633	.227%	97.908%
55.0	32.041	14.387	5559.02	.215%	98.162%
60.0	29.925	14.205	5573.225	.213%	98.413%
65.0	33.195	16.490	5589.716	.247%	98.704%
70.0	34.031	17.529	5607.244	.262%	99.014%
75.0	33.989	17.996	5625.24	.269%	99.332%
80.0	30.895	16.678	5641.918	.250%	99.626%
85.0	26.712	14.586	5656.504	.218%	99.884%
90.0	24.012	6.581	5663.085	.099%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	4954.99	74.20%	87.50%
0-40	5507.06	82.47%	97.24%
0-60	5573.23	83.46%	98.41%
0-90	5656.50	84.70%	99.88%
0-120	5656.50	84.70%	99.88%
0-180	5663.08	84.80%	100.00%
60-90	97.48	1.46%	1.72%
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%
0-27.63	4530.47	67.84%	80.00%

ZONAL LUMEN SUMMARY

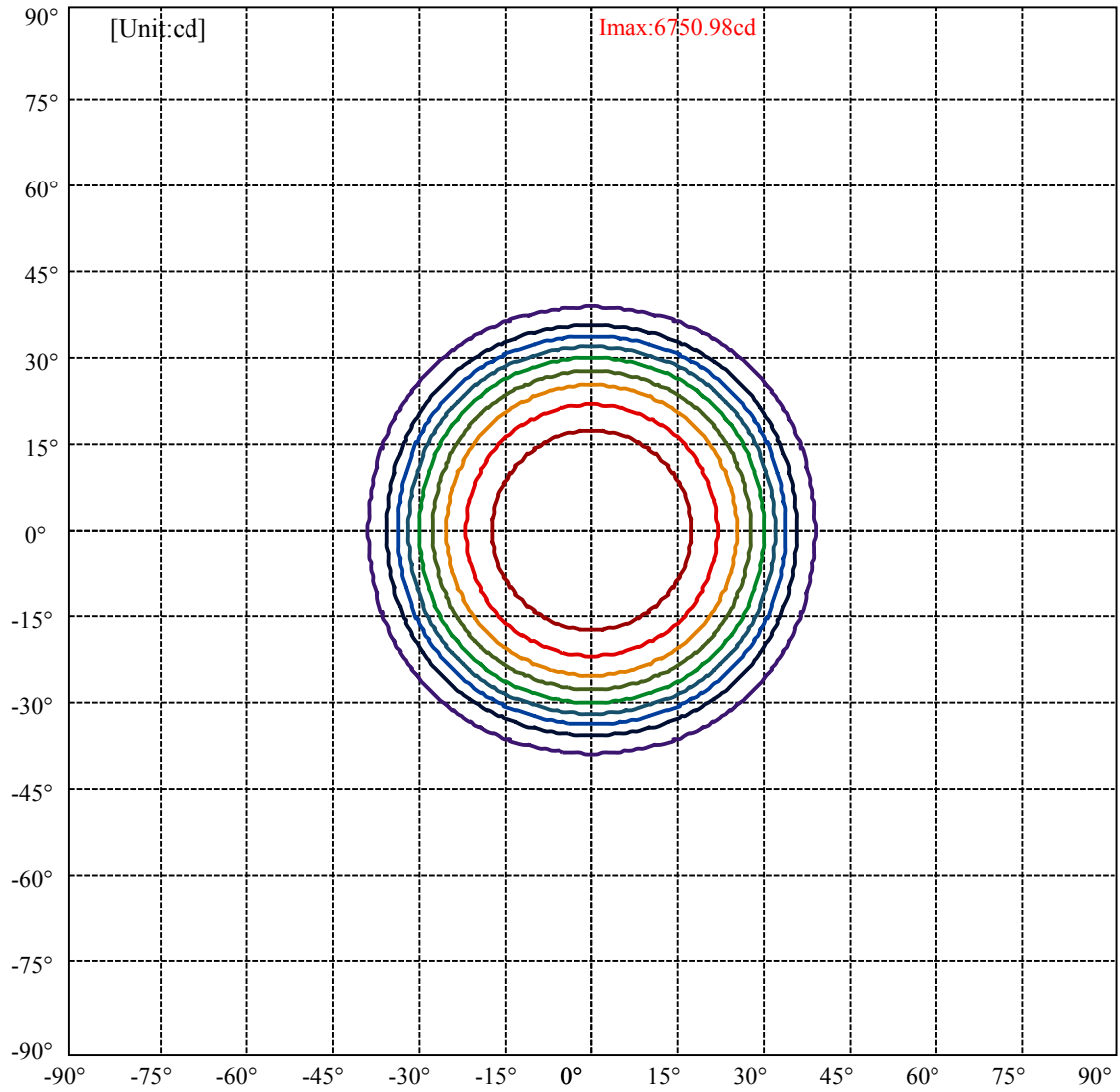
0-10	992.63
10-20	1971.28
20-30	1991.09
30-40	552.07
40-50	37.57
50-60	28.59
60-70	34.02
70-80	34.67
80-90	14.59
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



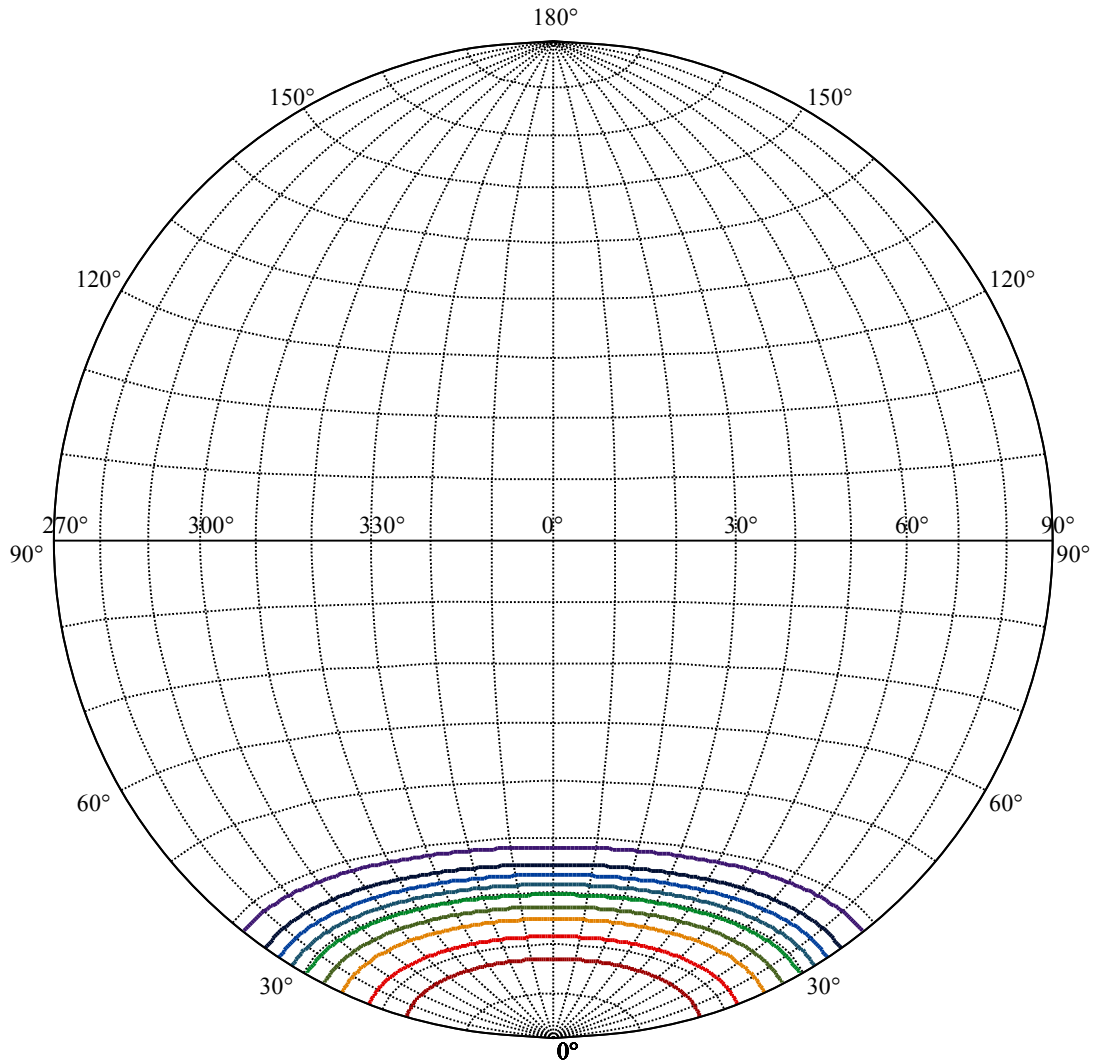
C0(Max): —
C0/C180: —
C90/C270: —

Field angle(10%Imax):C0/180Left:38.4 Right:38.4
:C90/270Left:38.4 Right:38.4

Beam Angle(50%Imax):C0/180Left:29.6 Right:29.6
:C90/270Left:29.6 Right:29.6



(10%Imax) 675.098	—
(20%Imax) 1350.2	—
(30%Imax) 2025.3	—
(40%Imax) 2700.39	—
(50%Imax) 3375.49	—
(60%Imax) 4050.59	—
(70%Imax) 4725.69	—
(80%Imax) 5400.79	—
(90%Imax) 6075.89	—



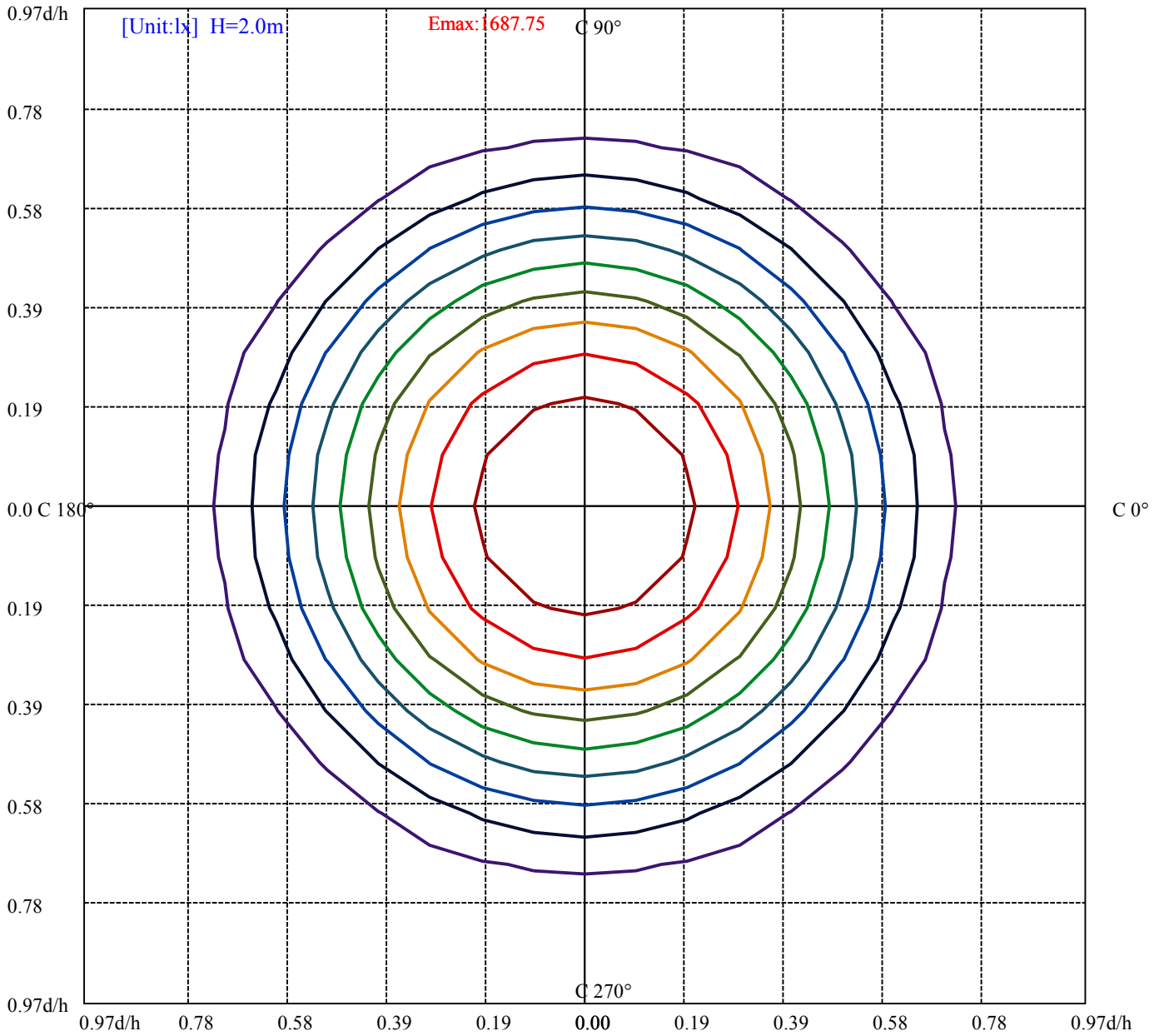
House

[Unit:cd]

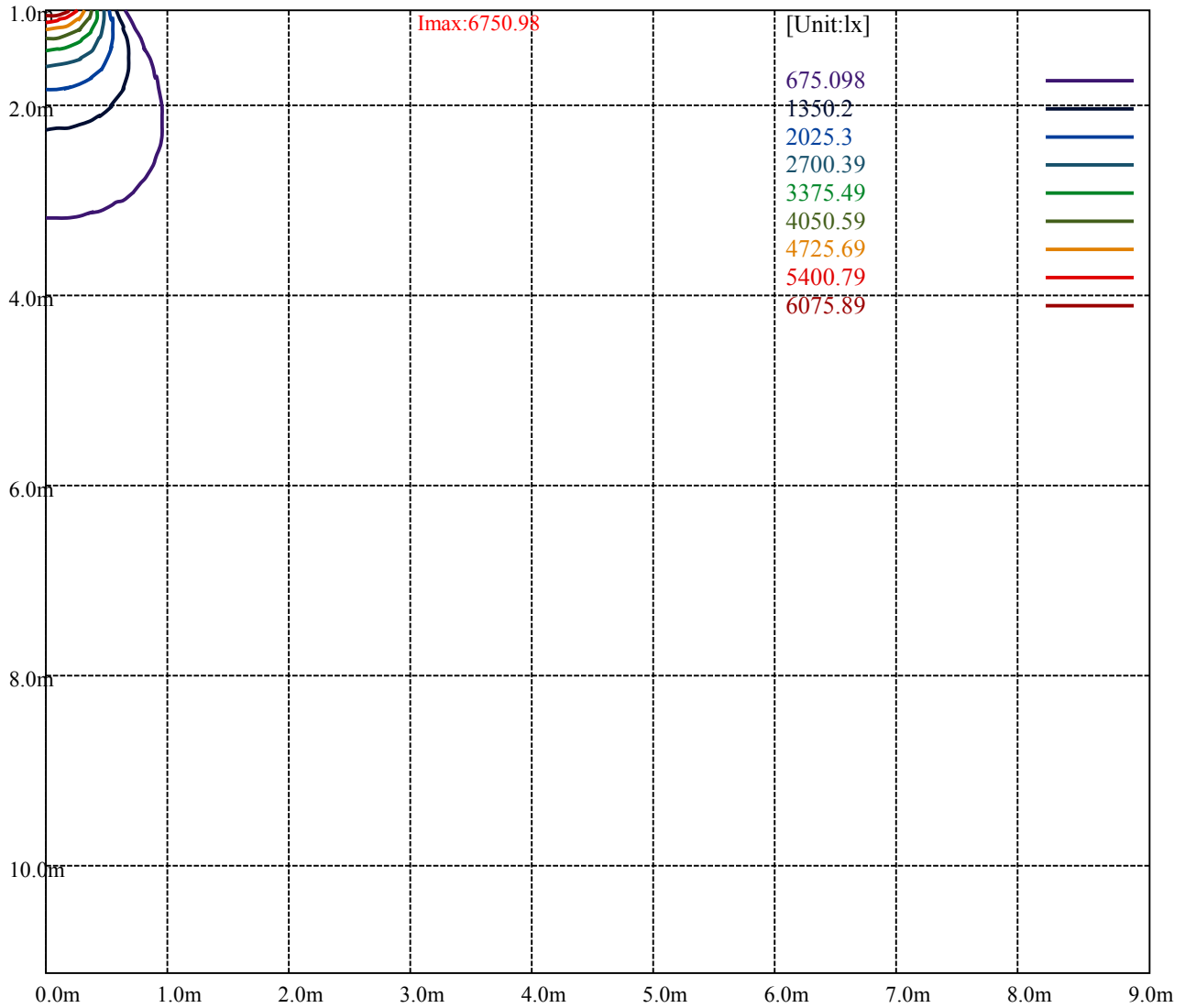
Road

Imax:6750.98

(10%Imax) 675.098	—
(20%Imax) 1350.2	—
(30%Imax) 2025.3	—
(40%Imax) 2700.39	—
(50%Imax) 3375.49	—
(60%Imax) 4050.59	—
(70%Imax) 4725.69	—
(80%Imax) 5400.79	—
(90%Imax) 6075.89	—



- (10%Emax) 168.7745
- (20%Emax) 337.55
- (30%Emax) 506.325
- (40%Emax) 675.0975
- (50%Emax) 843.8725
- (60%Emax) 1012.648
- (70%Emax) 1181.422
- (80%Emax) 1350.198
- (90%Emax) 1518.973



Luminance Table

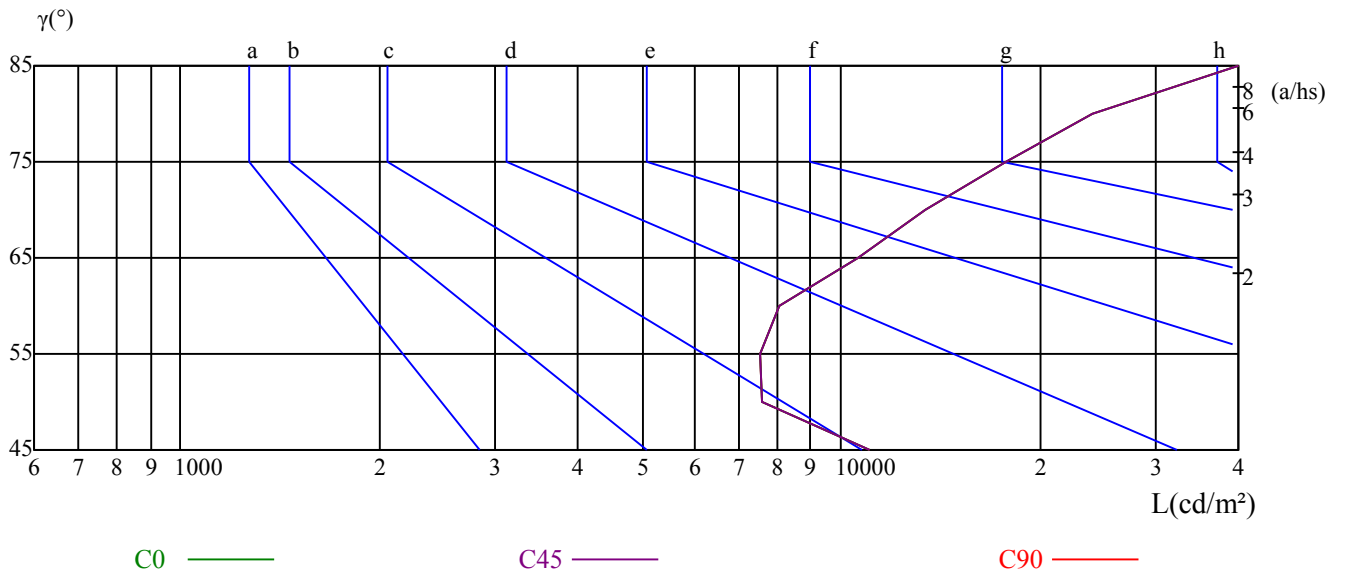
γ	45	50	55	60	65	70	75	80	85
C0	11056	7596	7553	8092	10620	13453	17756	24056	41439
C45	11056	7596	7553	8092	10620	13453	17756	24056	41439
C90	11056	7596	7553	8092	10620	13453	17756	24056	41439

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
10620	10620	10620	17756	17756	17756	41439	41439	41439

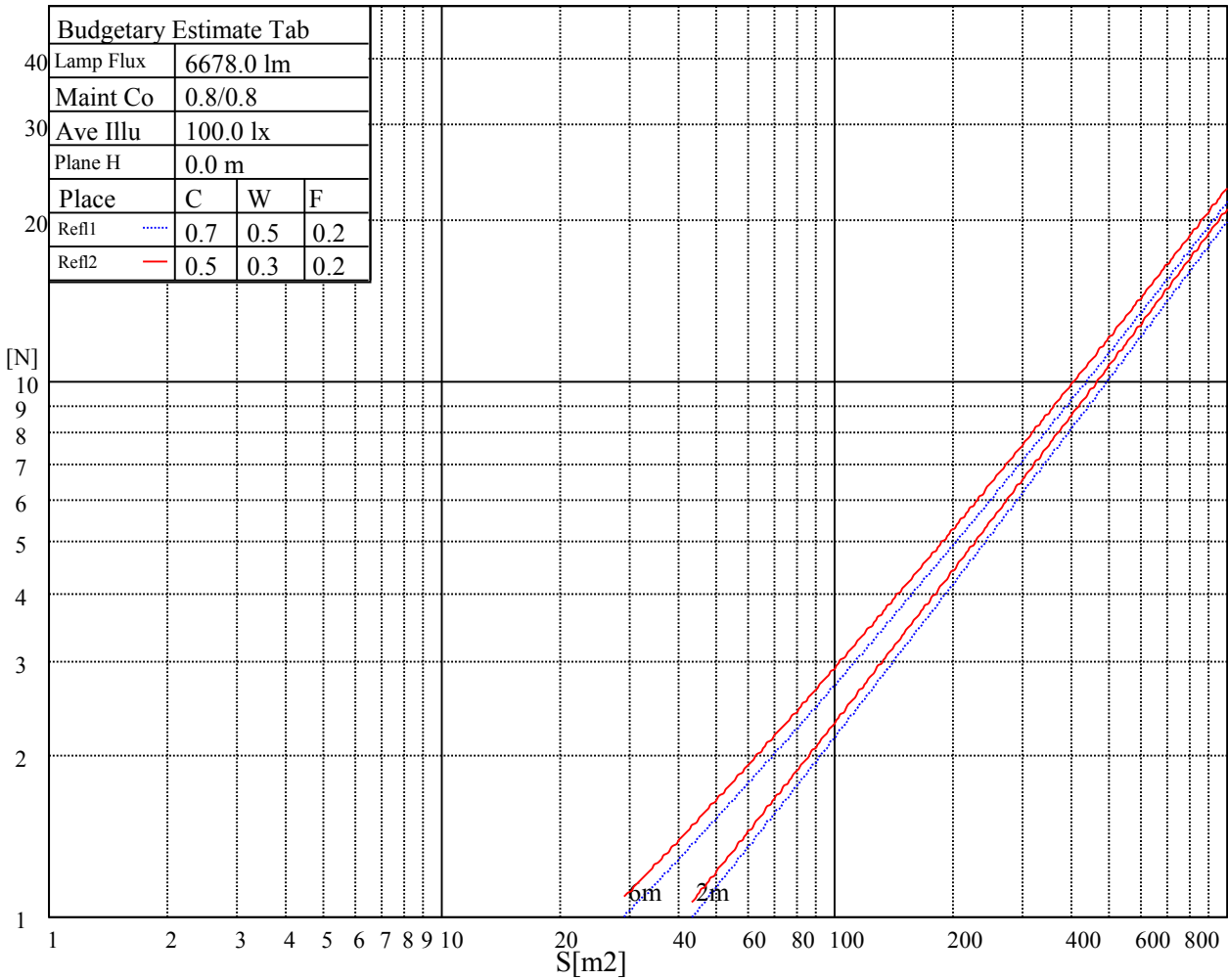
Glare Table

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

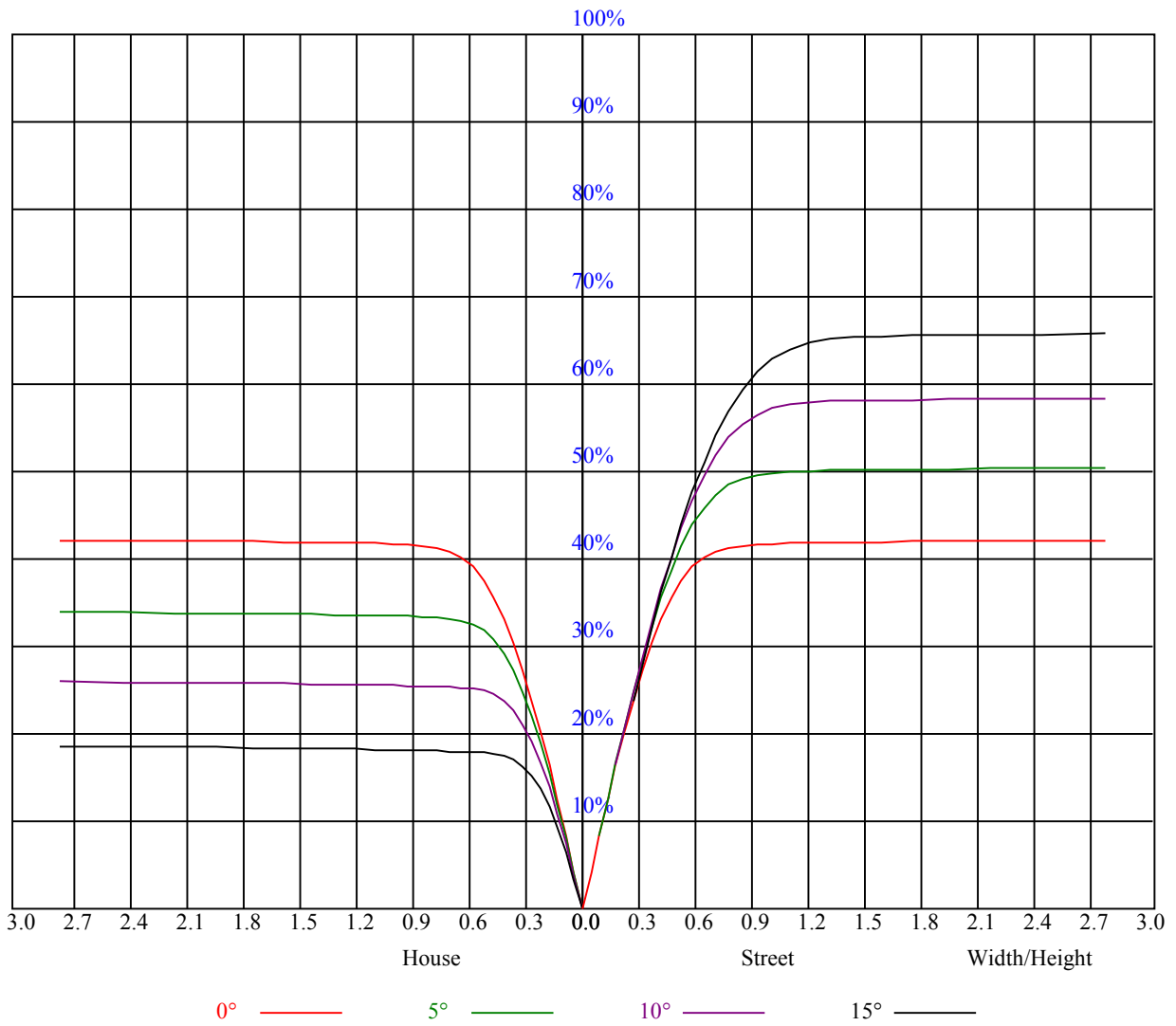
Luminance Limiting Curve



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	2.34	3.27	2.71	3.58	3.89	2.39	3.32	2.76	3.63	3.95
	3H	5.93	6.75	6.31	7.08	7.45	5.98	6.79	6.36	7.13	7.50
	4H	7.74	8.49	8.15	8.85	9.24	7.78	8.54	8.19	8.90	9.29
	6H	9.55	10.25	9.97	10.62	11.02	9.60	10.29	10.02	10.67	11.07
	8H	10.52	11.17	10.96	11.56	11.97	10.56	11.21	11.00	11.60	12.01
	12H	12.13	12.75	12.57	13.13	13.57	12.14	12.76	12.58	13.14	13.58
4H	2H	3.79	4.54	4.20	4.90	5.29	3.82	4.58	4.23	4.93	5.32
	3H	7.55	8.17	7.97	8.58	8.99	7.58	8.21	8.00	8.62	9.02
	4H	9.47	10.03	9.91	10.45	10.90	9.51	10.07	9.95	10.49	10.94
	6H	11.25	11.72	11.72	12.17	12.65	11.29	11.77	11.76	12.22	12.69
	8H	12.28	12.72	12.75	13.17	13.65	12.31	12.75	12.79	13.20	13.68
8H	12H	13.73	14.11	14.22	14.60	15.08	13.74	14.12	14.23	14.61	15.09
	4H	10.45	10.90	10.93	11.35	11.82	10.48	10.92	10.96	11.38	11.85
	6H	12.51	12.86	13.02	13.36	13.85	12.54	12.89	13.05	13.39	13.88
	8H	13.67	13.98	14.20	14.50	15.00	13.69	14.00	14.22	14.52	15.02
12H	12H	15.20	15.47	15.72	15.97	16.55	15.20	15.47	15.72	15.96	16.55
	4H	10.66	11.04	11.15	11.53	12.01	10.68	11.06	11.17	11.55	12.03
	6H	13.06	13.16	13.38	13.63	14.18	13.09	13.19	13.41	13.66	14.21
	8H	14.13	14.40	14.65	14.89	15.48	14.15	14.42	14.67	14.92	15.50
Variation with the observer position at spacings:											
S = 1.0H	5.7/-7.0					5.7/-7.0					
S = 1.5H	7.9/-5.2					7.9/-5.2					
S = 2.0H	9.3/-3.9					9.3/-3.9					
Standard tables:	BK3					BK3					
Uncorrected UGR	5.0					5.0					



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	1.02	1.02	1.02	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.85
1	0.94	0.92	0.90	0.92	0.90	0.89	0.89	0.87	0.86	0.86	0.84	0.83	0.83	0.82	0.81	0.79
2	0.88	0.85	0.82	0.87	0.84	0.81	0.84	0.82	0.80	0.82	0.80	0.78	0.79	0.78	0.76	0.75
3	0.83	0.79	0.76	0.82	0.79	0.76	0.80	0.77	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.71
4	0.79	0.75	0.71	0.78	0.74	0.71	0.76	0.73	0.70	0.74	0.72	0.69	0.73	0.70	0.68	0.67
5	0.75	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.64
6	0.71	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.61
7	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.59	0.65	0.62	0.59	0.64	0.61	0.59	0.58
8	0.64	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.56	0.62	0.59	0.56	0.62	0.58	0.56	0.55
9	0.62	0.57	0.54	0.61	0.57	0.54	0.60	0.57	0.54	0.60	0.56	0.54	0.59	0.56	0.53	0.52
10	0.59	0.55	0.52	0.59	0.54	0.52	0.58	0.54	0.51	0.57	0.54	0.51	0.57	0.53	0.51	0.50



NATA 3-1945-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	6747.75	6761.81	6714.56	6512.06	5981.63	5068.13	3723.75	1960.31	526.50
45.0	6747.19	6741.00	6678.00	6446.25	5886.56	4932.56	3588.75	1813.50	475.31
90.0	6751.13	6686.44	6580.13	6266.81	5619.94	4635.00	3123.00	1066.73	250.54
135.0	6756.75	6678.00	6583.50	6321.94	5718.38	4794.19	3324.94	1470.94	324.00
180.0	6750.00	6680.25	6566.63	6180.19	5522.06	4443.19	2820.94	1076.01	166.22
225.0	6747.19	6703.31	6593.63	6177.94	5514.19	4439.81	2849.63	1112.40	183.43
270.0	6751.13	6737.63	6670.69	6391.13	5748.75	4758.19	3425.06	1617.75	354.38
315.0	6756.75	6749.44	6676.88	6403.50	5761.69	4731.19	3311.44	1062.56	278.27
360.0	6747.75	6761.81	6714.56	6512.06	5981.63	5068.13	3723.75	1960.31	526.50

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	74.93	38.70	33.19	31.44	31.16	30.21	28.80	28.07	26.66
45.0	60.64	34.31	29.64	27.62	26.44	25.59	25.31	25.99	27.11
90.0	51.53	35.16	32.18	31.33	31.44	31.11	30.71	27.62	27.90
135.0	60.24	38.98	35.83	32.12	49.61	55.86	56.36	45.51	27.84
180.0	46.41	34.88	31.11	29.31	27.96	27.56	28.46	25.65	26.10
225.0	46.24	32.57	28.52	26.61	25.20	24.53	24.47	25.03	25.76
270.0	62.55	35.94	30.88	28.97	27.39	26.21	26.38	25.65	25.31
315.0	60.02	38.36	34.99	32.01	46.35	51.19	51.41	43.65	27.00
360.0	74.93	38.70	33.19	31.44	31.16	30.21	28.80	28.07	26.66

C/γ(°)	90.0
0.0	26.27
45.0	23.34
90.0	23.29
135.0	23.12
180.0	23.06
225.0	23.12
270.0	25.48
315.0	24.41
360.0	26.27