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NATA

LumCAT: 3-1944-M
Luminaire: BJB 47.319.2135
Report No: NATA0100
Test No: GC2019012113
LampCAT: PHILIPS Certaflux slm 1205
Lamp flux(lm): 2360.0
Number of Lamps: 1
Length(mm): 86
Phm Type: C

Voltage(V): 37.0000
Current(A): 0.5000
Power (W): 18.5000
PF: 0.0000
Ballast type: DC
Width(mm): 86
Height(mm): 0

Photometric Results

Lumens(lm): 2127.55
Efficiency(%): 90.15%
Lumens(lm)/Power(W): 116.45
Central intensity(cd): 4823.438
Maximum intensity(cd): 4823.438
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=36.7
 [C90/270]Total=36.7
Field angle(10%Imax): [C0/180]Total=67.3
 [C90/270]Total=67.3
Maximum s/h(1/2): C0_180=0.62 C90_270=0.62
Maximum s/h(1/4): C0_180=0.58 C90_270=0.58
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 91.29%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.509%

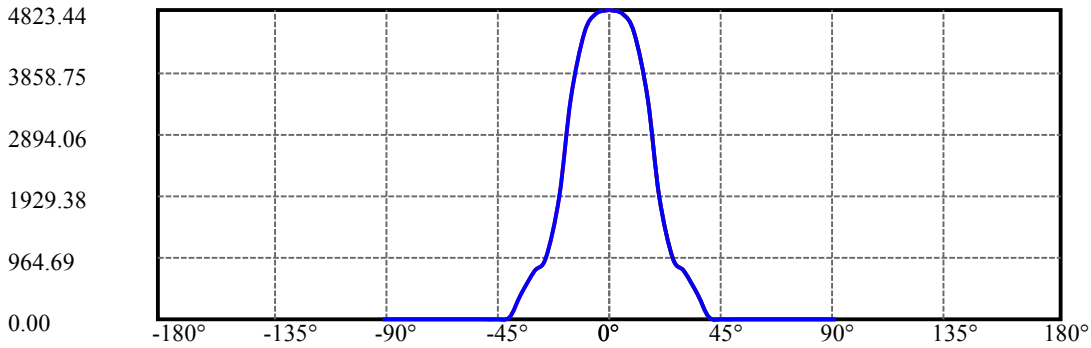
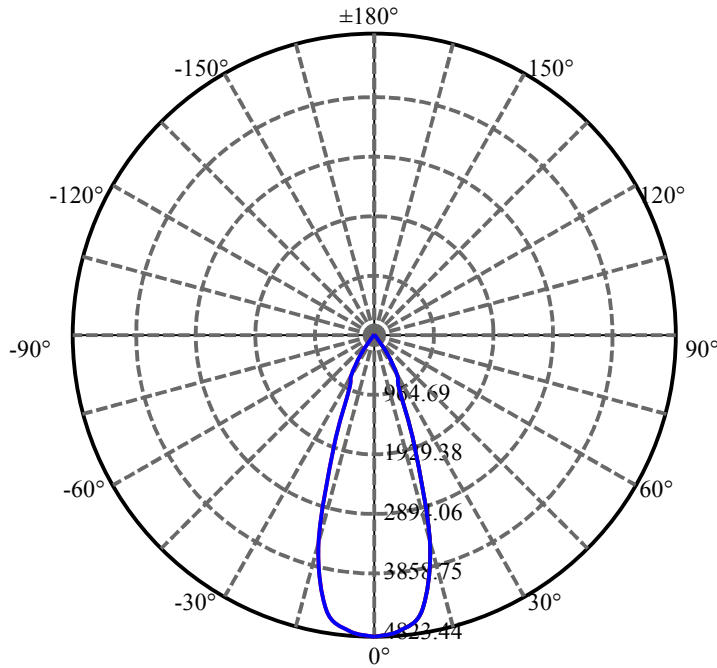
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4823.438	28.845	28.845	1.222%	1.356%
5.0	4753.195	227.076	255.921	9.622%	12.029%
10.0	4451.695	423.726	679.647	17.954%	31.945%
15.0	3442.922	488.442	1168.089	20.697%	54.903%
20.0	1903.992	356.949	1525.038	15.125%	71.681%
25.0	961.221	222.670	1747.708	9.435%	82.147%
30.0	745.917	204.433	1952.14	8.662%	91.755%
35.0	382.859	120.370	2072.51	5.100%	97.413%
40.0	25.460	8.971	2081.481	.380%	97.835%
45.0	12.769	4.949	2086.43	.210%	98.067%
50.0	11.355	4.768	2091.198	.202%	98.291%
55.0	10.561	4.742	2095.94	.201%	98.514%
60.0	10.041	4.766	2100.706	.202%	98.738%
65.0	9.668	4.803	2105.509	.204%	98.964%
70.0	9.429	4.857	2110.366	.206%	99.192%
75.0	9.246	4.895	2115.261	.207%	99.422%
80.0	9.098	4.911	2120.173	.208%	99.653%
85.0	9.014	4.922	2125.095	.209%	99.885%
90.0	8.951	2.453	2127.548	.104%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1952.14	82.72%	91.76%
0-40	2081.48	88.20%	97.83%
0-60	2100.71	89.01%	98.74%
0-90	2125.09	90.05%	99.88%
0-120	2125.09	90.05%	99.88%
0-180	2127.55	90.15%	100.00%
60-90	29.15	1.24%	1.37%
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%
0-23.97	1702.04	72.12%	80.00%

ZONAL LUMEN SUMMARY

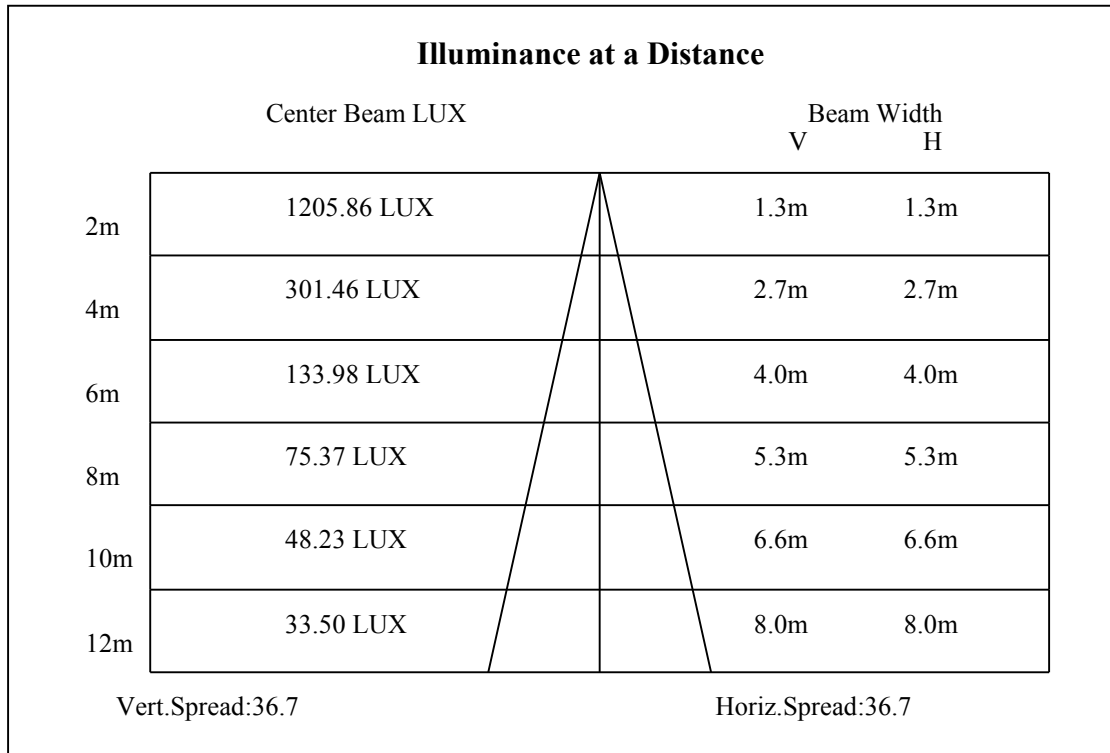
0-10	679.65
10-20	845.39
20-30	427.10
30-40	129.34
40-50	9.72
50-60	9.51
60-70	9.66
70-80	9.81
80-90	4.92
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

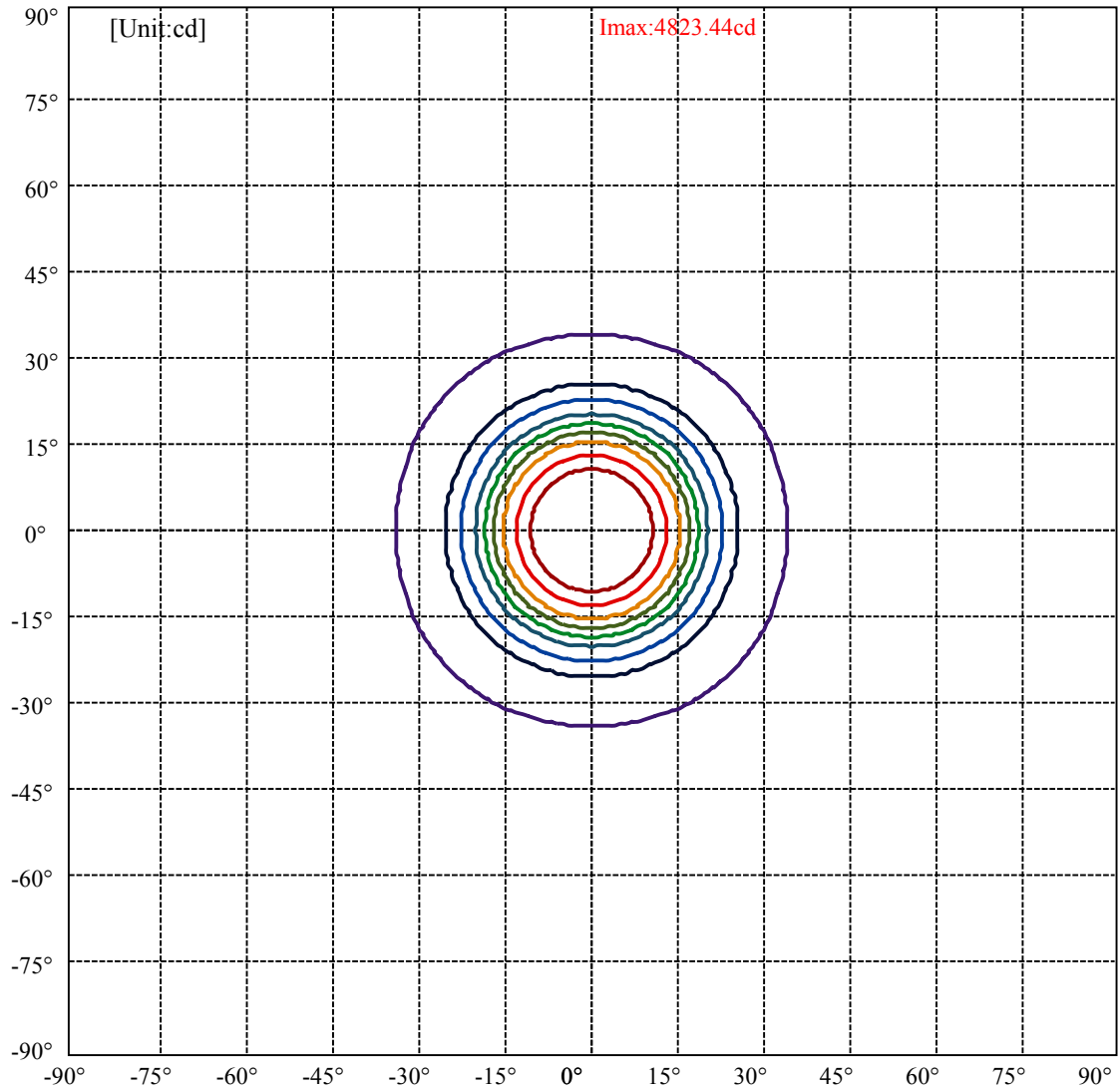


C0(Max): —————
 C0/C180: —————
 C90/C270: —————

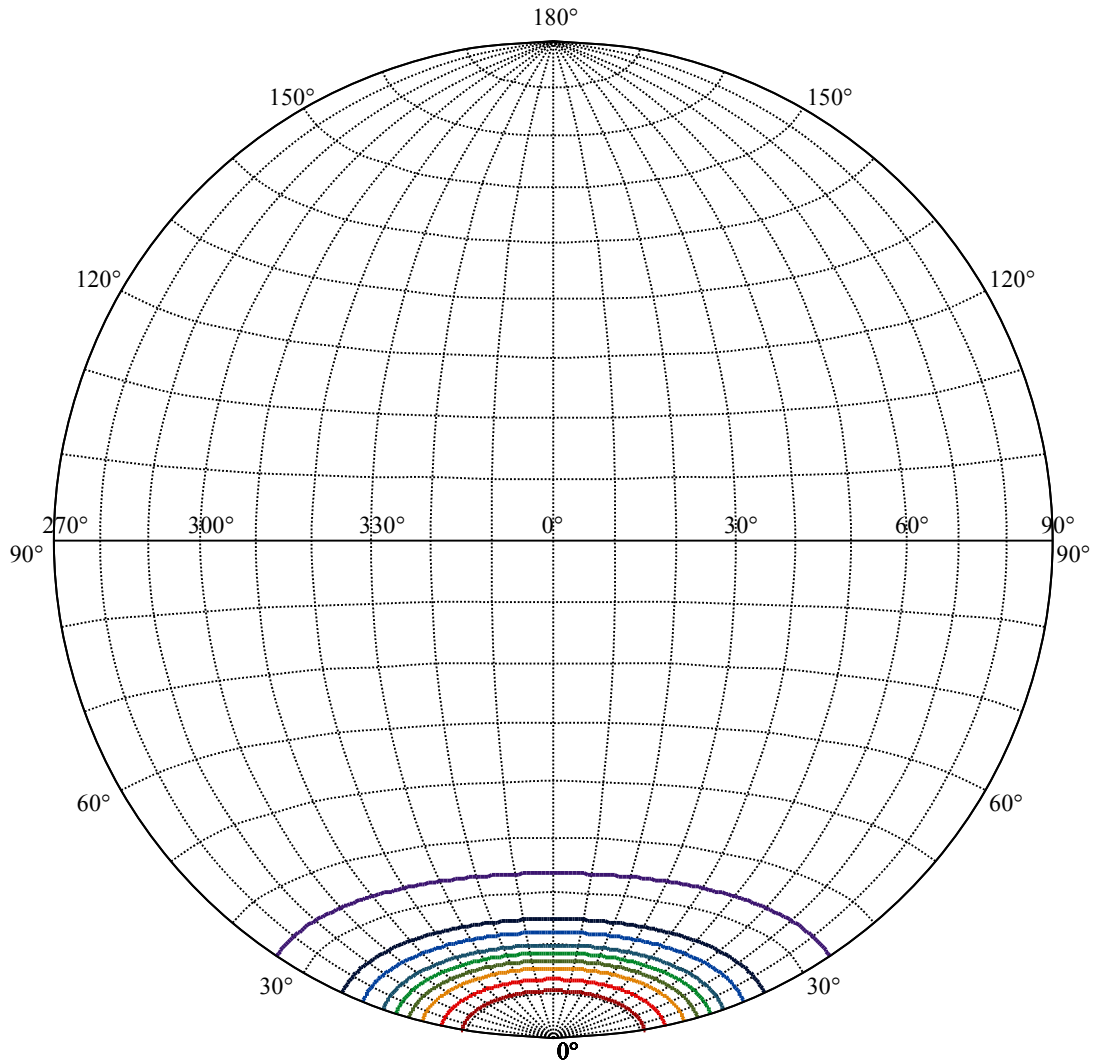
Field angle(10%Imax):C0/180Left:33.6 Right:33.6
 :C90/270Left:33.6 Right:33.6

Beam Angle(50%Imax):C0/180Left:18.4 Right:18.4
 :C90/270Left:18.4 Right:18.4





(10%Imax) 482.344	—
(20%Imax) 964.688	—
(30%Imax) 1447.03	—
(40%Imax) 1929.38	—
(50%Imax) 2411.72	—
(60%Imax) 2894.06	—
(70%Imax) 3376.41	—
(80%Imax) 3858.75	—
(90%Imax) 4341.09	—



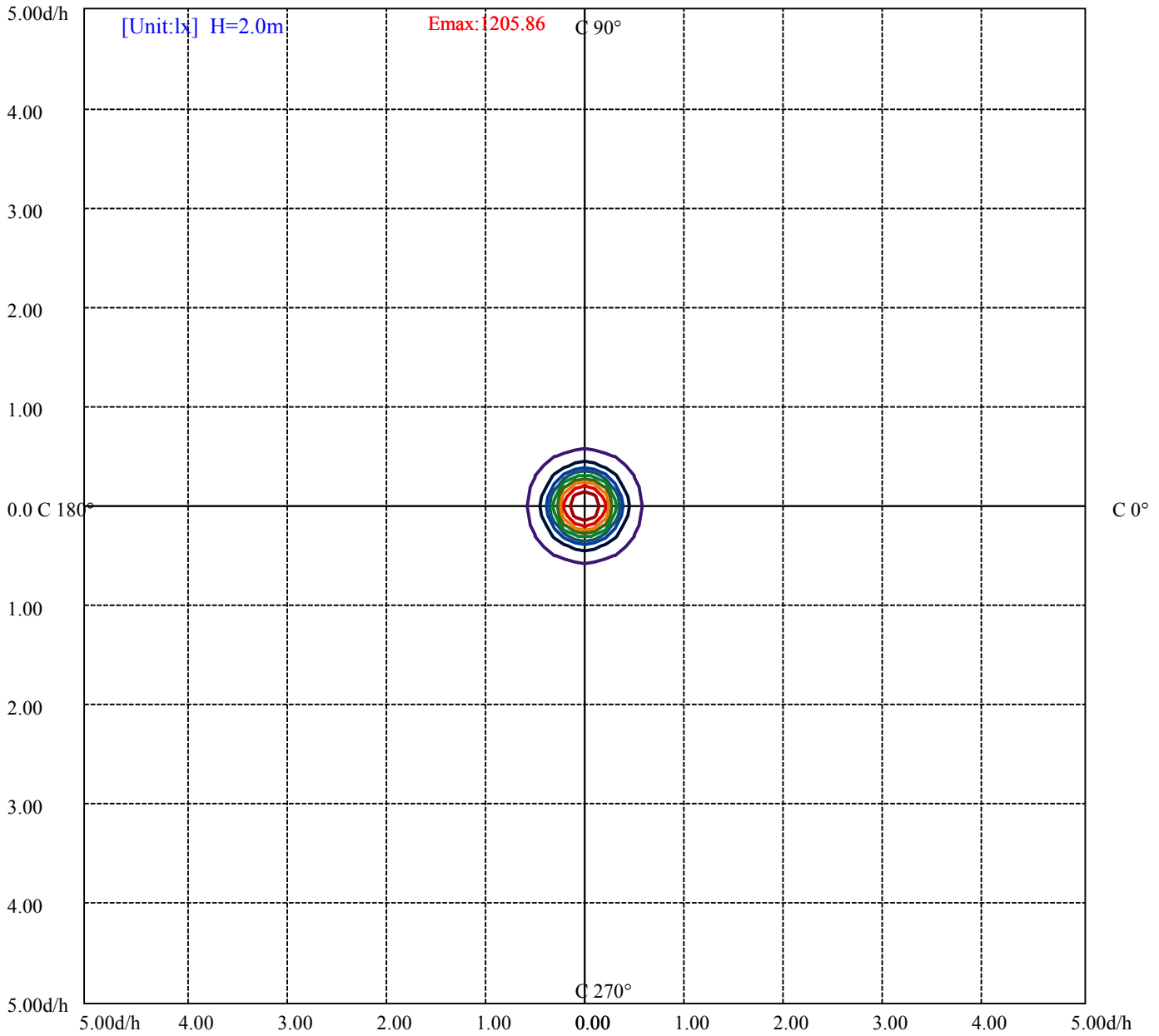
House

[Unit:cd]

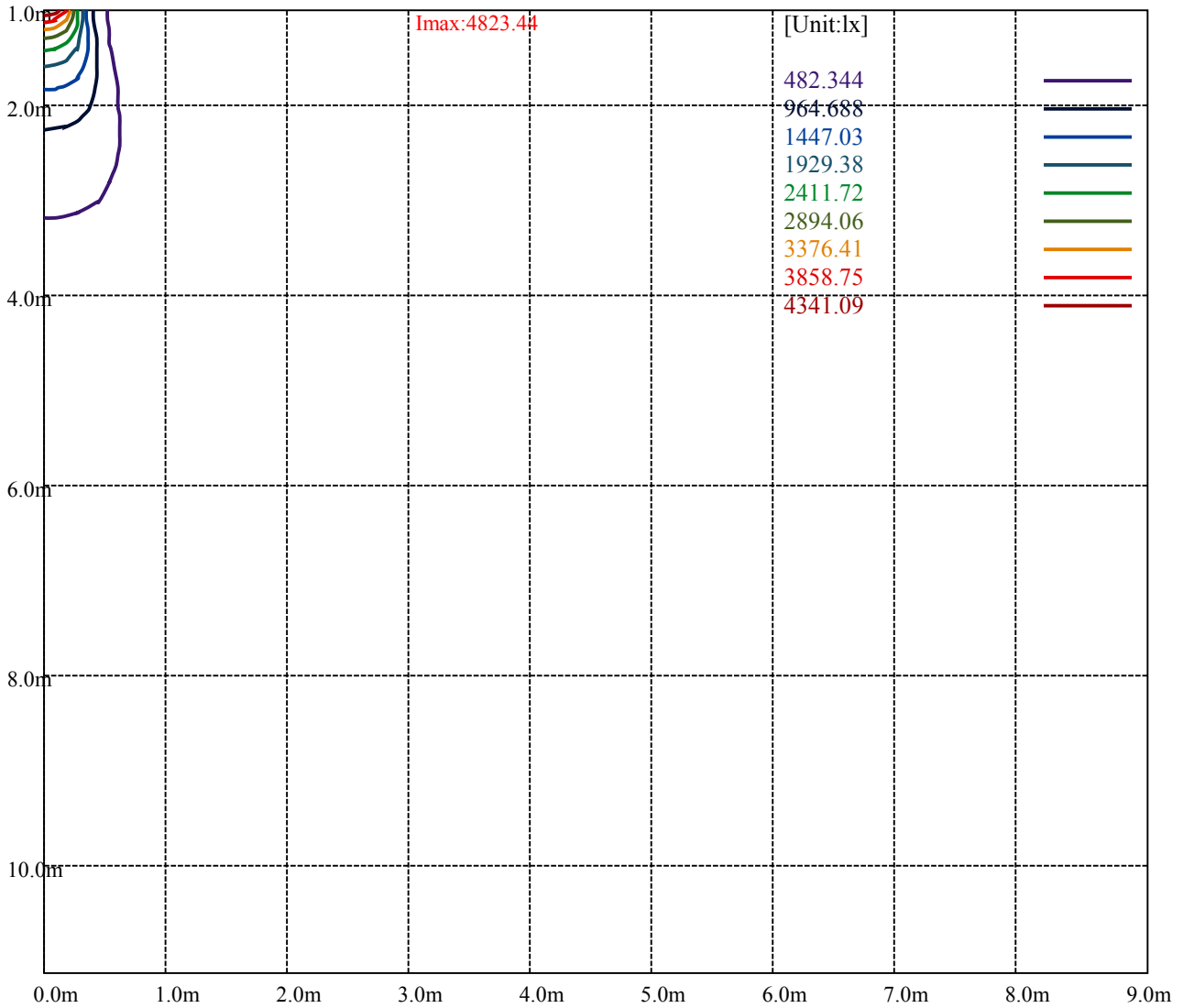
Road

Imax:4823.44

(10%Imax) 482.344	—
(20%Imax) 964.688	—
(30%Imax) 1447.03	—
(40%Imax) 1929.38	—
(50%Imax) 2411.72	—
(60%Imax) 2894.06	—
(70%Imax) 3376.41	—
(80%Imax) 3858.75	—
(90%Imax) 4341.09	—



(10%Emax) 120.586	—
(20%Emax) 241.1718	—
(30%Emax) 361.7575	—
(40%Emax) 482.3425	—
(50%Emax) 602.93	—
(60%Emax) 723.515	—
(70%Emax) 844.1	—
(80%Emax) 964.6875	—
(90%Emax) 1085.272	—



Luminance Table

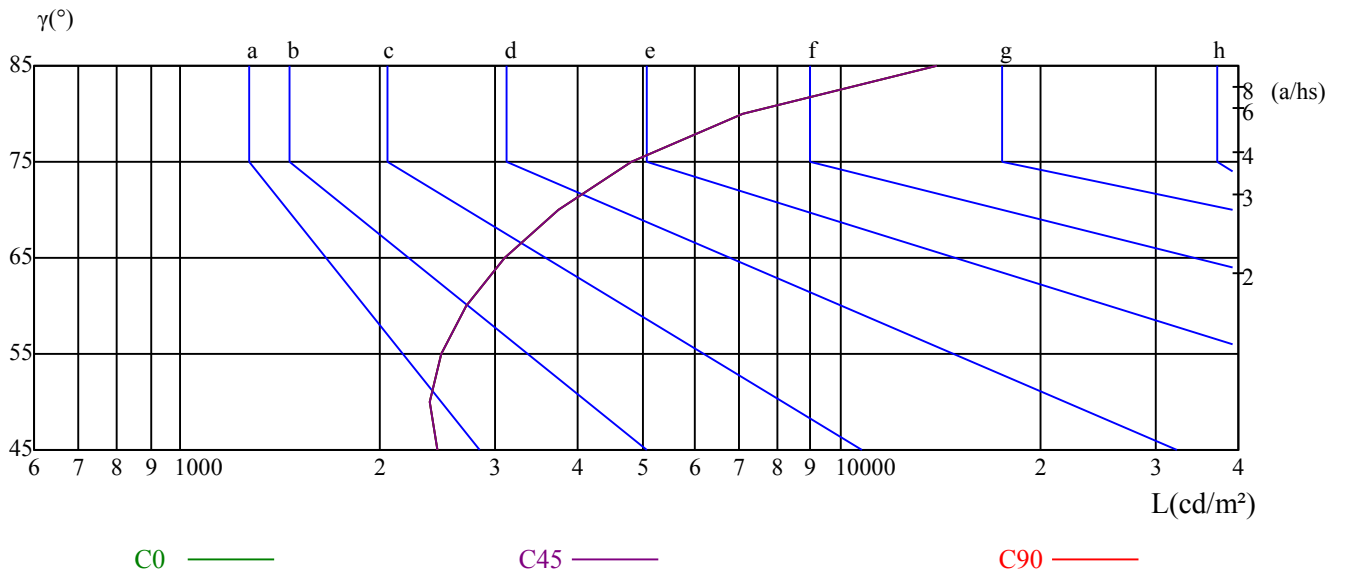
γ	45	50	55	60	65	70	75	80	85
C0	2442	2389	2490	2715	3093	3727	4830	7084	13984
C45	2442	2389	2490	2715	3093	3727	4830	7084	13984
C90	2442	2389	2490	2715	3093	3727	4830	7084	13984

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3093	3093	3093	4830	4830	4830	13984	13984	13984

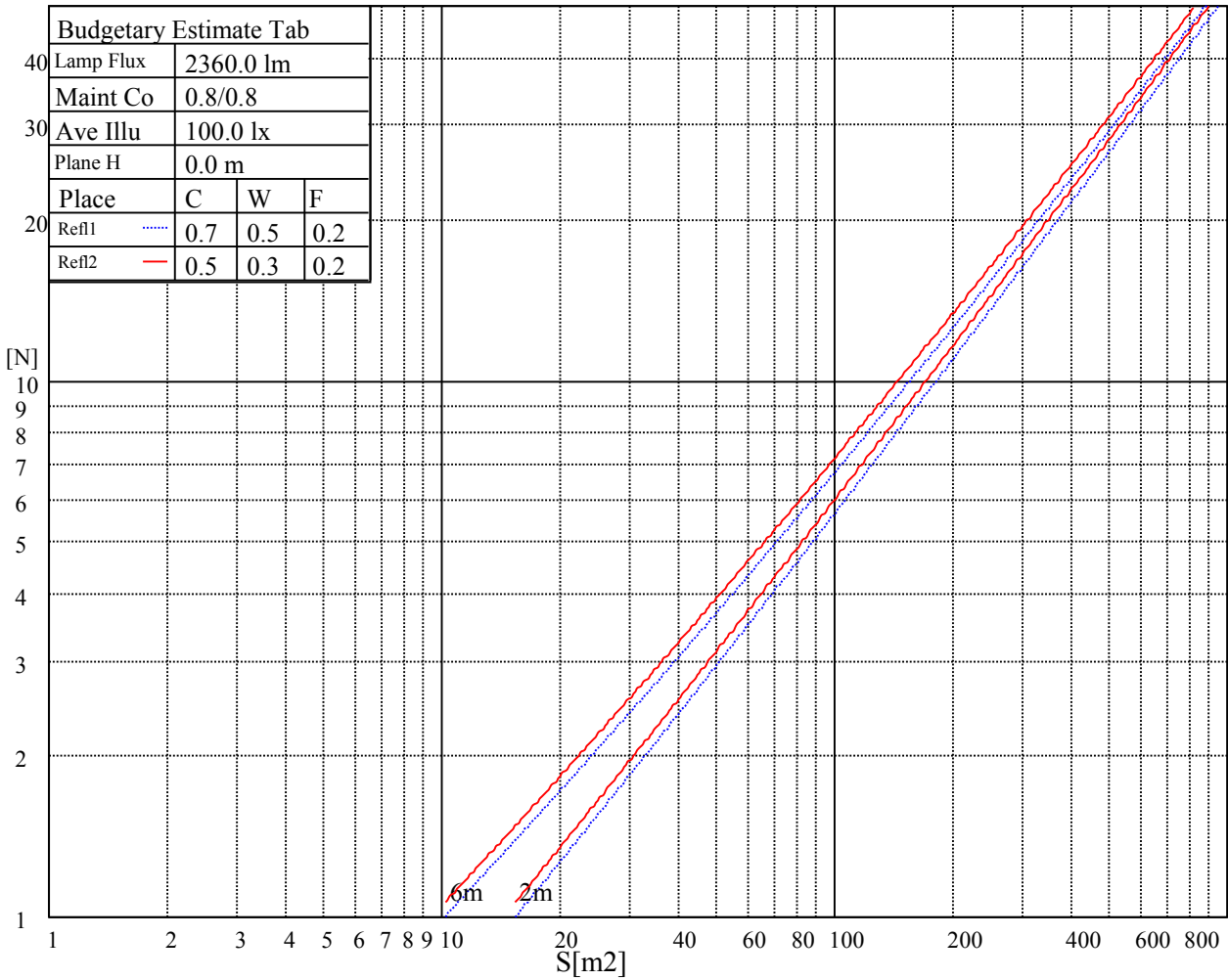
Glare Table

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

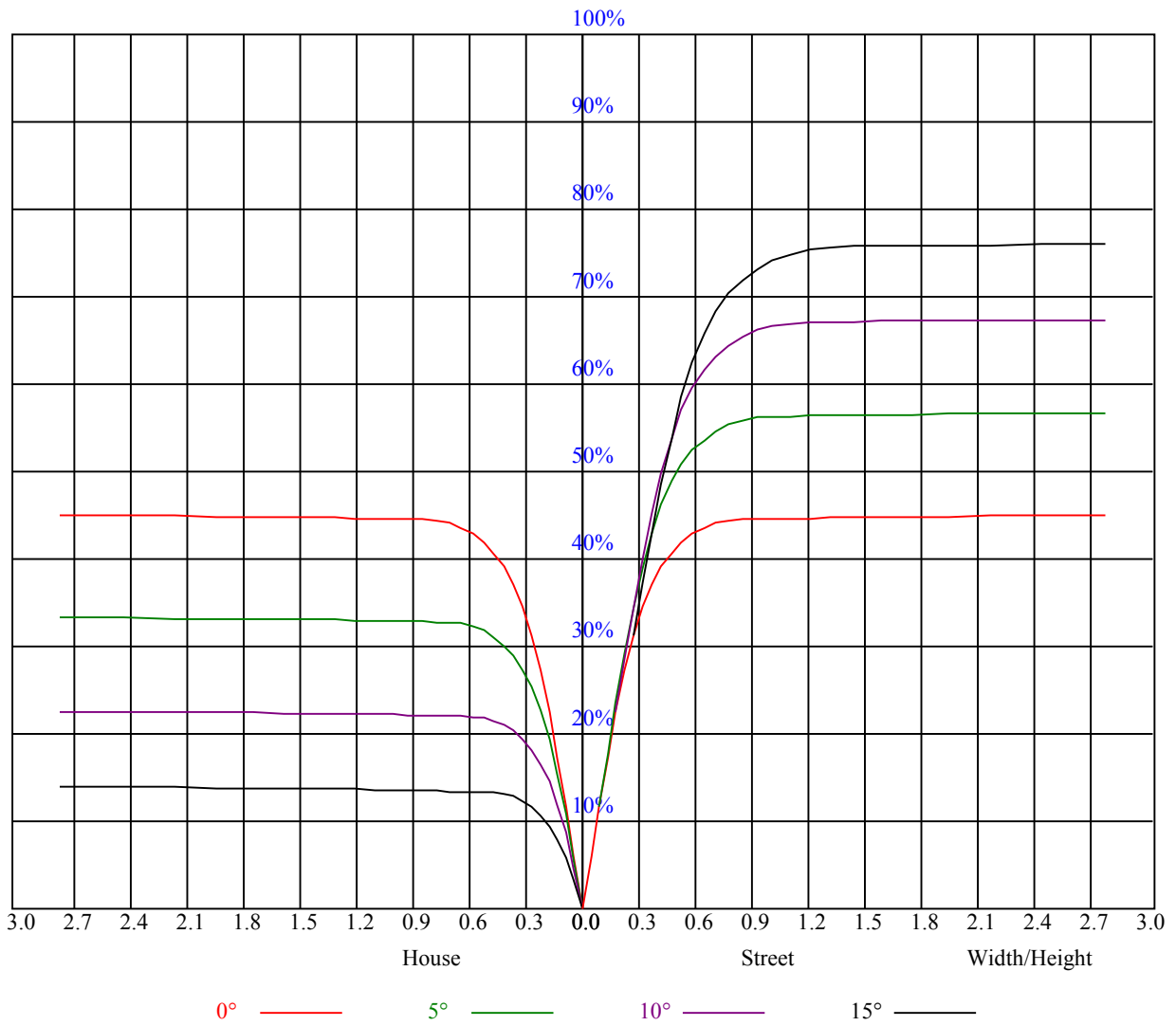
Luminance Limiting Curve



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	1.52	2.43	1.88	2.74	3.06	1.55	2.47	1.92	2.78	3.09
	3H	4.67	5.47	5.05	5.81	6.18	4.70	5.51	5.09	5.84	6.21
	4H	6.40	7.14	6.80	7.50	7.89	6.44	7.18	6.84	7.54	7.93
	6H	8.34	9.02	8.76	9.39	9.79	8.38	9.06	8.80	9.43	9.83
	8H	9.41	10.05	9.85	10.44	10.85	9.45	10.09	9.89	10.48	10.89
	12H	11.16	11.77	11.60	12.16	12.59	11.20	11.81	11.63	12.19	12.62
4H	2H	2.41	3.15	2.82	3.51	3.90	2.44	3.18	2.84	3.54	3.93
	3H	5.81	6.42	6.23	6.83	7.24	5.84	6.45	6.25	6.86	7.26
	4H	7.71	8.25	8.15	8.68	9.13	7.73	8.28	8.17	8.71	9.16
	6H	9.81	10.28	10.28	10.73	11.21	9.84	10.30	10.31	10.76	11.23
	8H	10.99	11.42	11.46	11.87	12.35	11.01	11.44	11.49	11.90	12.37
	12H	12.63	13.01	13.13	13.50	13.98	12.66	13.03	13.15	13.52	14.00
8H	4H	8.43	8.86	8.91	9.32	9.79	8.45	8.88	8.93	9.34	9.81
	6H	10.81	11.15	11.32	11.65	12.14	10.83	11.17	11.34	11.67	12.16
	8H	12.17	12.48	12.71	13.00	13.50	12.19	12.49	12.72	13.01	13.51
	12H	13.96	14.22	14.48	14.72	15.30	13.97	14.23	14.49	14.73	15.31
12H	4H	8.63	9.01	9.13	9.50	9.98	8.65	9.03	9.15	9.52	9.99
	6H	11.32	11.43	11.66	11.90	12.45	11.34	11.44	11.68	11.92	12.47
	8H	12.62	12.88	13.14	13.38	13.96	12.63	12.89	13.15	13.39	13.97
Variation with the observer position at spacings:											
S = 1.0H	5.6/-6.4					5.6/-6.4					
S = 1.5H	7.5/-4.6					7.5/-4.6					
S = 2.0H	8.6/-3.3					8.6/-3.3					
Standard tables:	BK3					BK3					
Uncorrected UGR	-0.9					-0.9					



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	1.09	1.09	1.09	1.06	1.06	1.06	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.01	0.99	0.96	0.99	0.97	0.95	0.95	0.94	0.92	0.92	0.90	0.89	0.89	0.88	0.87	0.85
2	0.96	0.92	0.89	0.94	0.91	0.88	0.91	0.89	0.87	0.88	0.86	0.85	0.86	0.84	0.83	0.82
3	0.91	0.87	0.84	0.90	0.86	0.83	0.87	0.85	0.82	0.85	0.83	0.81	0.83	0.81	0.80	0.78
4	0.87	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.78	0.82	0.80	0.77	0.81	0.79	0.77	0.75
5	0.83	0.79	0.76	0.83	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.74	0.78	0.76	0.74	0.73
6	0.80	0.76	0.73	0.80	0.75	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.70
7	0.77	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.69	0.68
8	0.75	0.70	0.67	0.74	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.67	0.72	0.69	0.67	0.66
9	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.70	0.67	0.64	0.63
10	0.70	0.66	0.63	0.69	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.68	0.65	0.62	0.62



NATA 3-1944-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	4824.00	4824.56	4610.25	3753.00	2208.94	1035.00	768.94	504.00	29.48
45.0	4808.25	4827.94	4702.50	3830.63	2329.88	1051.31	764.44	516.38	39.38
90.0	4830.75	4749.75	4444.88	3497.06	1881.56	930.21	733.50	375.02	23.01
135.0	4830.75	4737.38	4458.94	3513.38	2025.56	981.56	749.81	438.75	25.09
180.0	4824.00	4707.56	4278.38	3137.63	1587.94	894.66	725.63	266.91	20.48
225.0	4808.25	4667.63	4221.56	3015.00	1524.94	890.04	732.71	230.23	19.74
270.0	4830.75	4752.00	4472.44	3481.31	1881.00	987.19	758.25	384.19	24.24
315.0	4830.75	4758.75	4424.63	3315.38	1792.13	919.80	734.06	347.40	22.28
360.0	4824.00	4824.56	4610.25	3753.00	2208.94	1035.00	768.94	504.00	29.48
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	13.67	11.48	10.63	10.07	9.73	9.45	9.28	9.17	9.06
45.0	13.89	11.70	10.80	10.24	9.79	9.51	9.34	9.11	9.00
90.0	12.49	11.36	10.58	10.01	9.68	9.39	9.23	9.06	9.00
135.0	12.66	11.42	10.58	10.07	9.68	9.45	9.23	9.11	9.00
180.0	12.43	11.31	10.58	10.01	9.68	9.45	9.28	9.11	9.06
225.0	12.32	11.25	10.46	10.01	9.62	9.39	9.23	9.11	9.00
270.0	12.54	11.25	10.46	10.01	9.62	9.45	9.23	9.06	9.00
315.0	12.15	11.08	10.41	9.90	9.56	9.34	9.17	9.06	9.00
360.0	13.67	11.48	10.63	10.07	9.73	9.45	9.28	9.17	9.06
C/γ(°)	90.0								
0.0	8.94								
45.0	8.94								
90.0	8.94								
135.0	8.94								
180.0	9.00								
225.0	8.94								
270.0	8.94								
315.0	8.94								
360.0	8.94								