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Nata

LumCAT: 3-1940-M
Luminaire: BJB 47.319.2030
Report No: NATA0100
Test No: GC2018092715
LampCAT: BRIDGELUX V22B
Lamp flux(lm): 3395.3
Number of Lamps: 1
Length(mm): 80
Phm Type: C

Voltage(V): 48.9000
Current(A): 0.4500
Power (W): 22.0000
PF: 0.0000
Ballast type: DC
Width(mm): 80
Height(mm): 0

Photometric Results

Lumens(lm): 2952.09
Efficiency(%): 86.95%
Lumens(lm)/Power(W): 135.36
Central intensity(cd): 4778.297
Maximum intensity(cd): 4822.734
Angle of maximum intensity: C=0.0 γ =5.0
Beam Angle(50%Imax): [C0/180]Total=46.1
 [C90/270]Total=46.1
Field angle(10%Imax): [C0/180]Total=70.2
 [C90/270]Total=70.2
Maximum s/h(1/2): C0_180=0.77 C90_270=0.77
Maximum s/h(1/4): C0_180=0.71 C90_270=0.71
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 87.71%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.764%

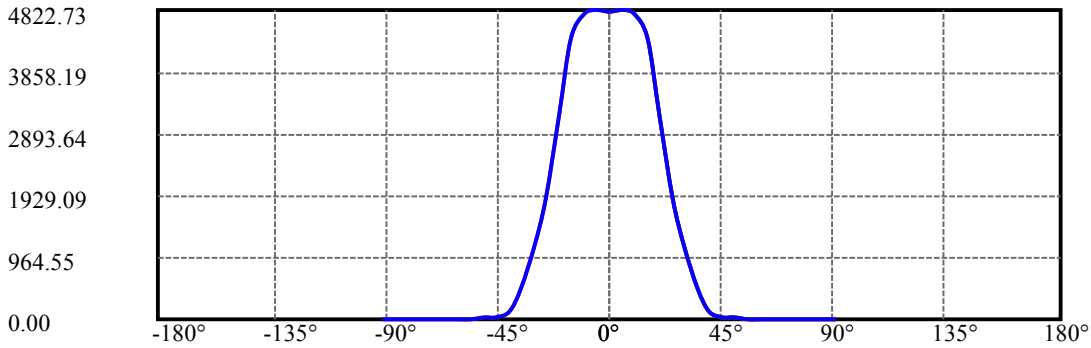
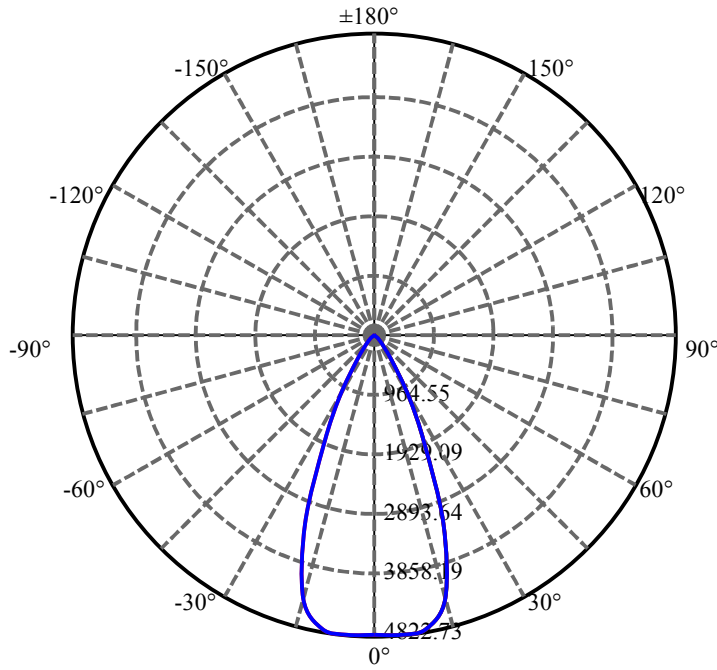
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4778.297	28.575	28.575	.842%	.968%
5.0	4822.734	230.398	258.973	6.786%	8.773%
10.0	4771.547	454.170	713.144	13.376%	24.157%
15.0	4363.875	619.096	1332.24	18.234%	45.129%
20.0	3213.844	602.512	1934.752	17.745%	65.538%
25.0	1892.039	438.296	2373.048	12.909%	80.385%
30.0	1133.529	310.665	2683.713	9.150%	90.909%
35.0	491.203	154.434	2838.146	4.548%	96.140%
40.0	130.753	46.069	2884.216	1.357%	97.701%
45.0	19.097	7.402	2891.617	.218%	97.951%
50.0	15.110	6.345	2897.962	.187%	98.166%
55.0	14.569	6.541	2904.504	.193%	98.388%
60.0	14.238	6.759	2911.262	.199%	98.617%
65.0	14.013	6.962	2918.224	.205%	98.853%
70.0	13.964	7.193	2925.417	.212%	99.096%
75.0	14.027	7.427	2932.844	.219%	99.348%
80.0	14.738	7.955	2940.799	.234%	99.617%
85.0	14.084	7.690	2948.489	.226%	99.878%
90.0	13.155	3.606	2952.095	.106%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2683.71	79.04%	90.91%
0-40	2884.22	84.95%	97.70%
0-60	2911.26	85.74%	98.62%
0-90	2948.49	86.84%	99.88%
0-120	2948.49	86.84%	99.88%
0-180	2952.09	86.95%	100.00%
60-90	43.99	1.30%	1.49%
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%
0-24.87	2361.68	69.56%	80.00%

ZONAL LUMEN SUMMARY

0-10	713.14
10-20	1221.61
20-30	748.96
30-40	200.50
40-50	13.75
50-60	13.30
60-70	14.15
70-80	15.38
80-90	7.69
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: —————

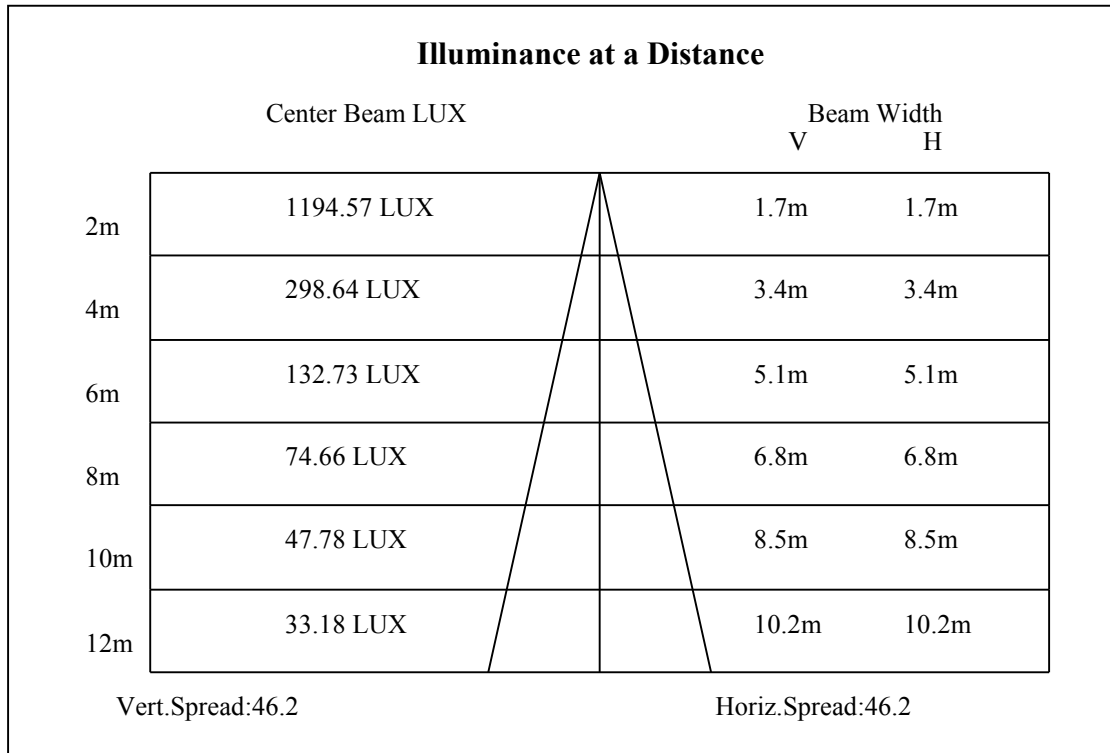
C90/C270: —————

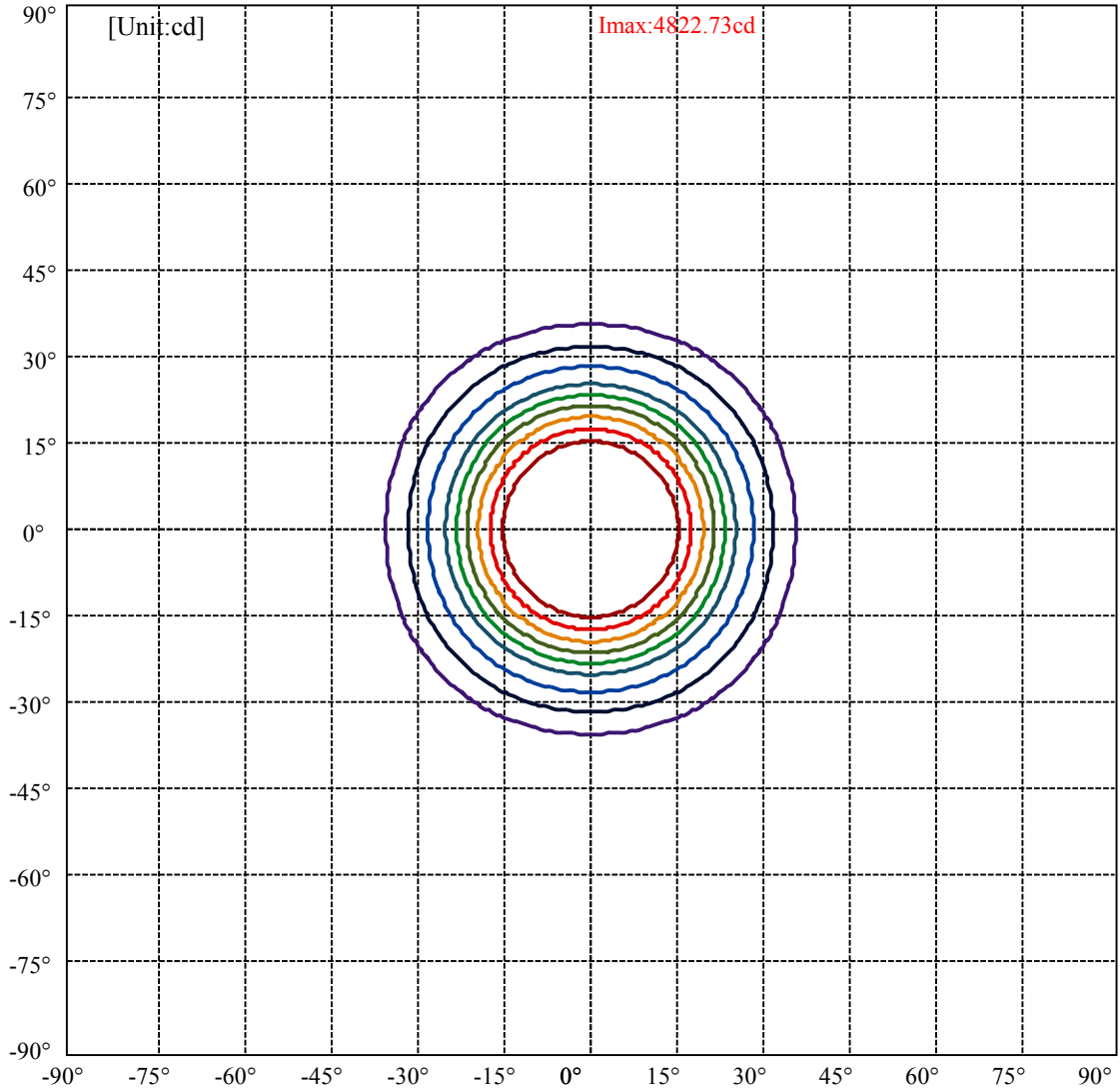
Field angle(10%Imax):C0/180Left:40.1 Right:30.1

:C90/270Left:40.1 Right:30.1

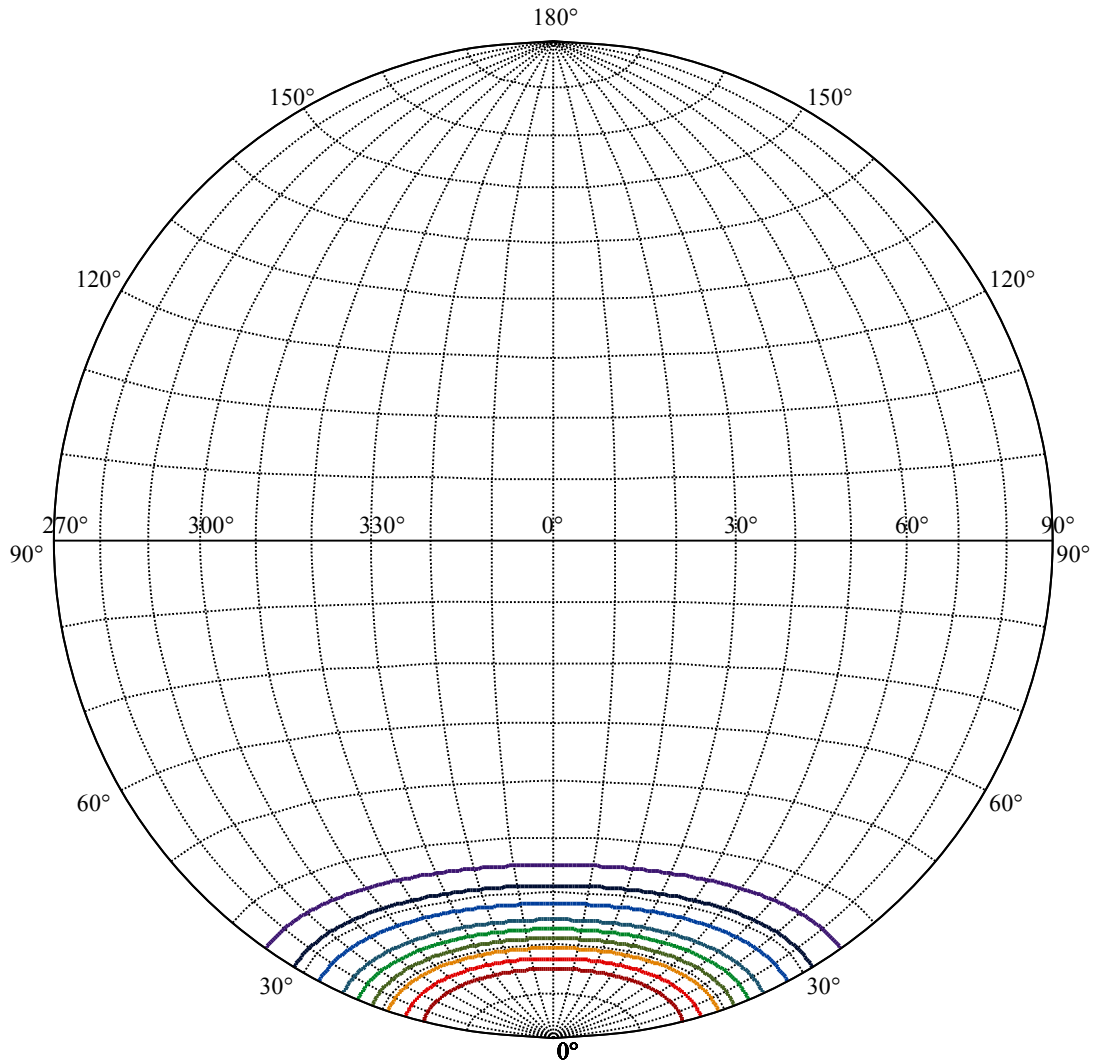
Beam Angle(50%Imax):C0/180Left:28.0 Right:18.0

:C90/270Left:28.0 Right:18.0





(10%Imax) 482.273	—
(20%Imax) 964.547	—
(30%Imax) 1446.82	—
(40%Imax) 1929.09	—
(50%Imax) 2411.37	—
(60%Imax) 2893.64	—
(70%Imax) 3375.91	—
(80%Imax) 3858.19	—
(90%Imax) 4340.46	—



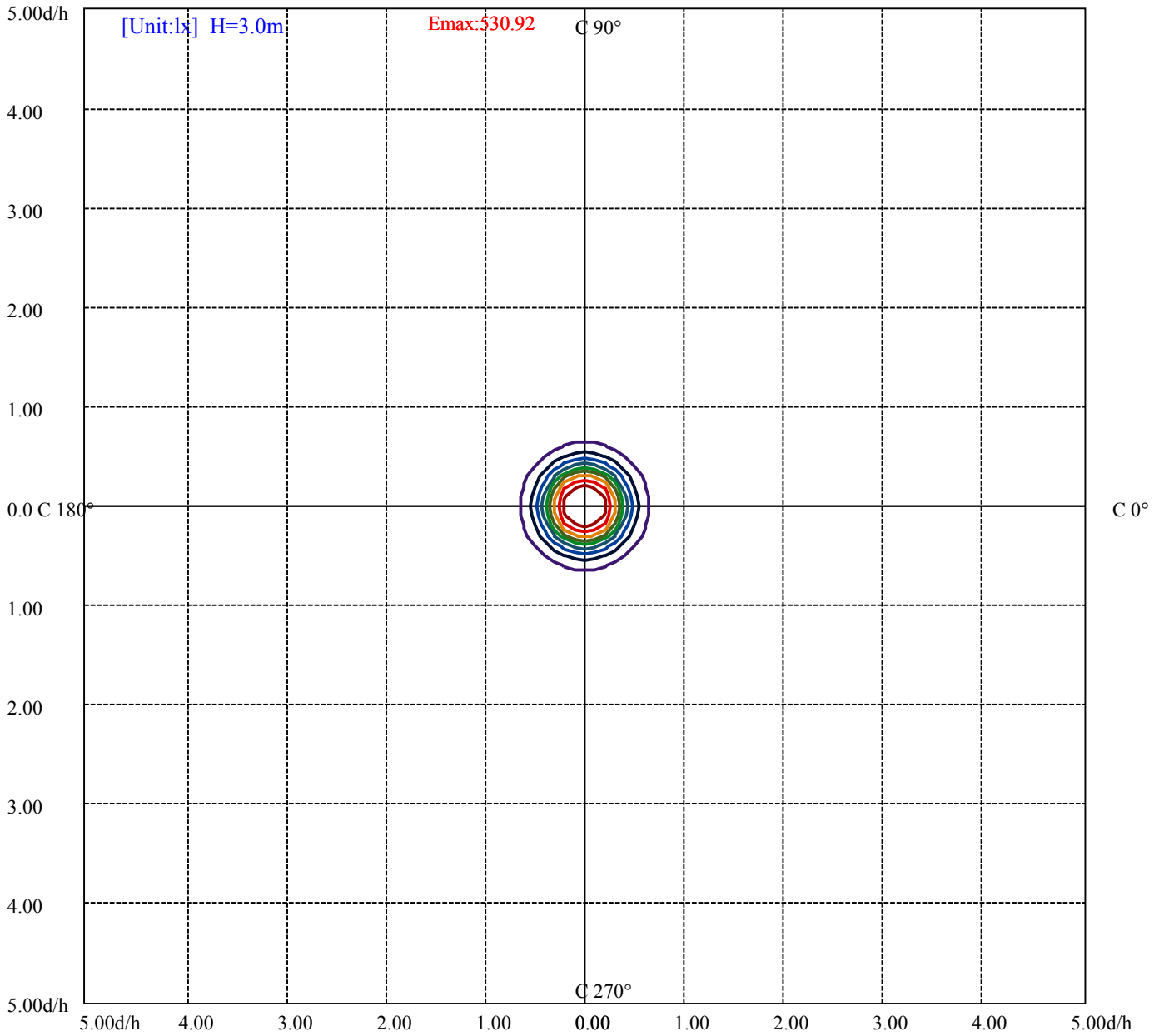
House

[Unit:cd]

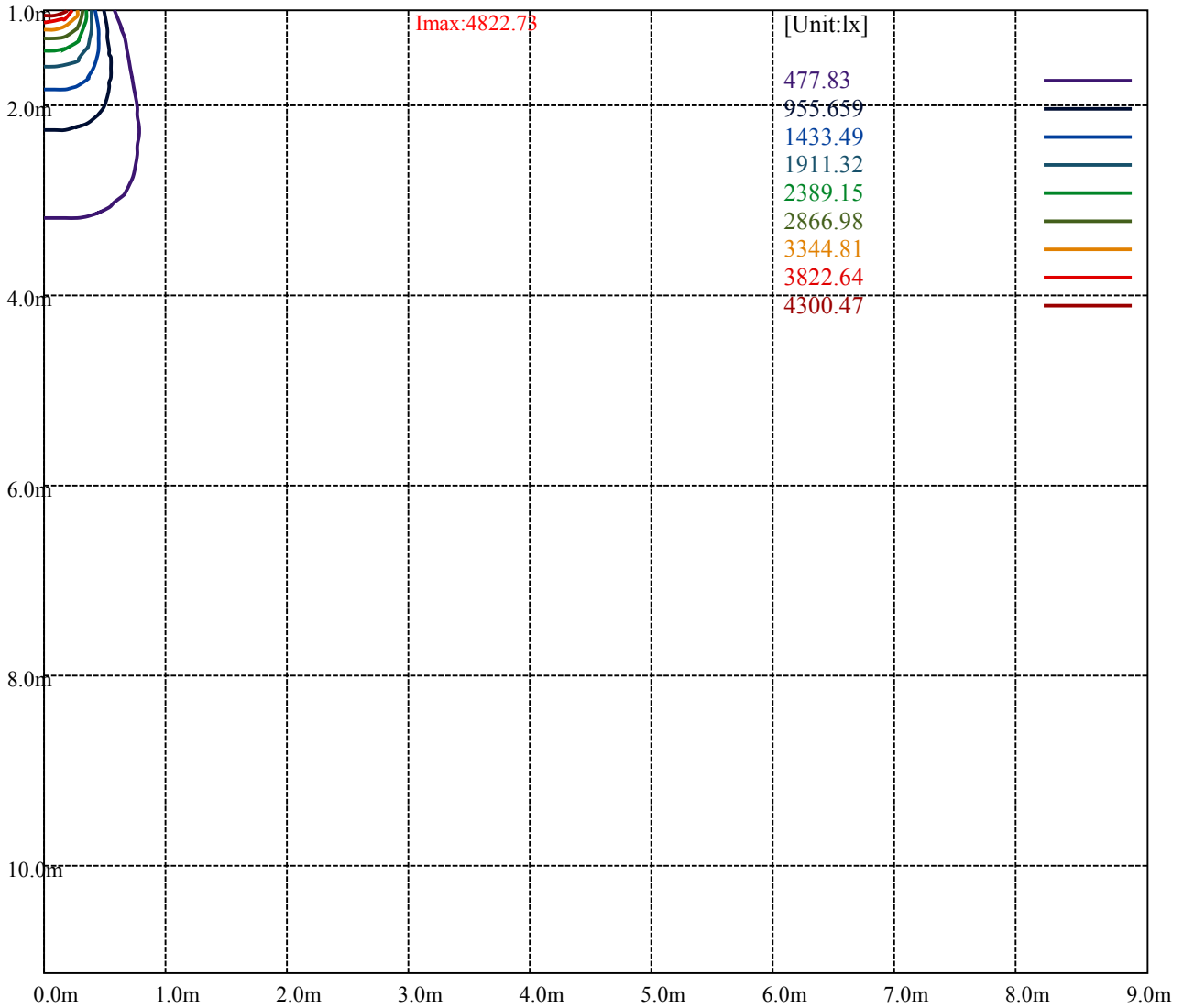
Road

I_{max}:4822.73

(10%I _{max}) 482.273	—
(20%I _{max}) 964.547	—
(30%I _{max}) 1446.82	—
(40%I _{max}) 1929.09	—
(50%I _{max}) 2411.37	—
(60%I _{max}) 2893.64	—
(70%I _{max}) 3375.91	—
(80%I _{max}) 3858.19	—
(90%I _{max}) 4340.46	—



- (10%Emax) 53.09222
- (20%Emax) 106.1844
- (30%Emax) 159.2767
- (40%Emax) 212.3689
- (50%Emax) 265.4611
- (60%Emax) 318.5533
- (70%Emax) 371.6456
- (80%Emax) 424.7378
- (90%Emax) 477.83



Luminance Table

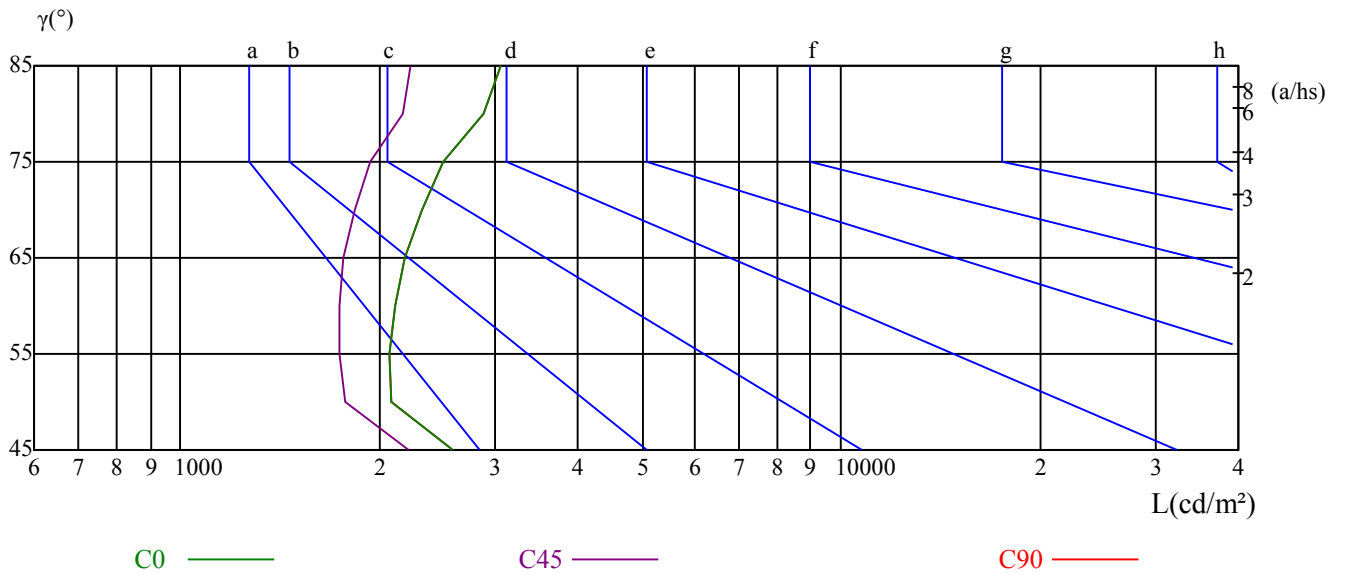
γ	45	50	55	60	65	70	75	80	85
C0	2577	2087	2077	2115	2189	2319	2506	2873	3047
C45	2219	1771	1735	1737	1766	1835	1940	2169	2233
C90	2577	2087	2077	2115	2189	2319	2506	2873	3047

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5181	5181	5181	8468	8468	8468	25249	25249	25249

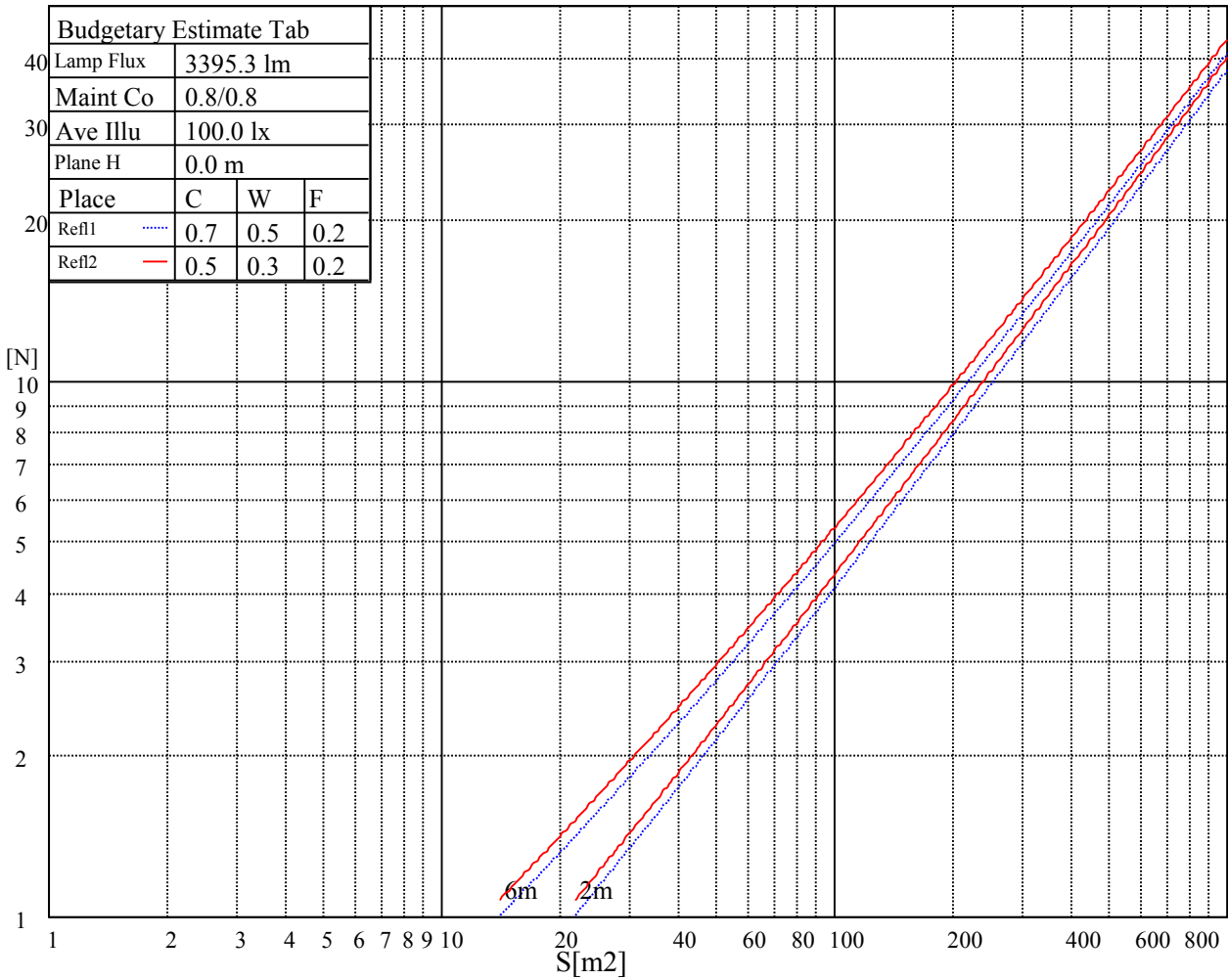
Glare Table

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

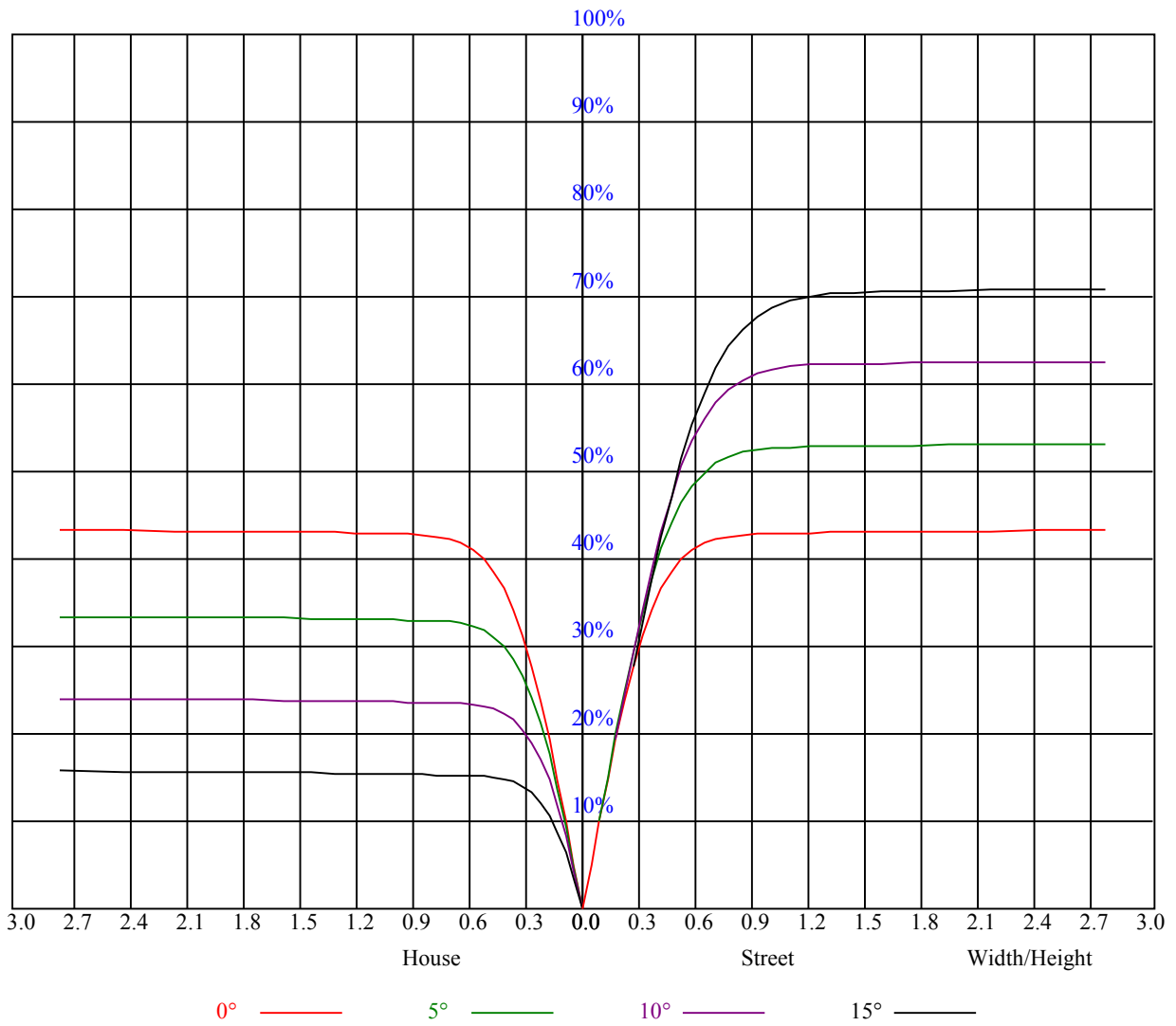
Luminance Limiting Curve



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	0.01	0.93	0.38	1.24	1.56	0.09	1.01	0.45	1.32	1.63
	3H	2.38	3.19	2.77	3.52	3.89	2.50	3.31	2.89	3.65	4.02
	4H	3.67	4.42	4.08	4.78	5.17	3.84	4.59	4.25	4.94	5.33
	6H	5.07	5.75	5.49	6.13	6.53	5.39	6.07	5.81	6.45	6.84
	8H	5.77	6.42	6.21	6.81	7.22	6.12	6.76	6.56	7.15	7.56
	12H	6.86	7.47	7.30	7.86	8.29	7.15	7.76	7.58	8.14	8.58
4H	2H	0.55	1.30	0.96	1.65	2.04	0.61	1.36	1.02	1.71	2.10
	3H	3.22	3.83	3.63	4.24	4.65	3.32	3.94	3.74	4.35	4.75
	4H	4.69	5.24	5.13	5.66	6.11	4.83	5.38	5.27	5.81	6.26
	6H	6.15	6.62	6.63	7.08	7.55	6.42	6.89	6.89	7.34	7.81
	8H	6.98	7.42	7.46	7.87	8.34	7.27	7.71	7.75	8.16	8.64
8H	12H	8.05	8.43	8.55	8.92	9.40	8.30	8.67	8.79	9.16	9.64
	4H	5.19	5.63	5.67	6.08	6.56	5.31	5.75	5.79	6.20	6.68
	6H	6.92	7.27	7.43	7.77	8.26	7.15	7.49	7.66	8.00	8.49
	8H	7.89	8.20	8.43	8.72	9.22	8.15	8.45	8.68	8.98	9.48
12H	12H	9.07	9.34	9.60	9.84	10.42	9.28	9.54	9.80	10.04	10.62
	4H	5.31	5.69	5.80	6.18	6.66	5.41	5.79	5.91	6.28	6.76
	6H	7.33	7.43	7.66	7.91	8.46	7.54	7.64	7.87	8.11	8.66
	8H	8.19	8.45	8.72	8.95	9.54	8.42	8.68	8.95	9.18	9.77
Variation with the observer position at spacings:											
S = 1.0H	5.7/-7.1					5.7/-7.1					
S = 1.5H	7.9/-5.4					7.9/-5.4					
S = 2.0H	9.4/-4.1					9.4/-4.1					
Standard tables:	BK2					BK2					
Uncorrected UGR	-2.6					-2.6					



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



Nata 3-1940-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	4776.75	4741.88	4698.00	4501.69	3584.25	2187.56	1309.50	615.38	303.19
45.0	4803.19	4748.06	4707.00	4591.69	3805.31	2269.69	1345.50	668.25	297.00
90.0	4759.31	4760.44	4717.69	4413.94	3268.69	1917.56	1120.73	490.22	115.14
135.0	4773.94	4830.75	4808.25	4441.50	3327.19	1891.69	1186.88	510.19	102.83
180.0	4776.75	4912.31	4865.63	4224.38	2855.25	1657.69	989.55	366.30	41.06
225.0	4803.19	4929.19	4837.50	4032.00	2688.19	1594.69	903.43	345.77	32.01
270.0	4759.31	4853.25	4806.00	4425.75	3111.19	1796.06	1102.50	475.88	76.22
315.0	4773.94	4806.00	4732.31	4280.06	3070.69	1821.38	1110.15	457.65	78.58
360.0	4776.75	4741.88	4698.00	4501.69	3584.25	2187.56	1309.50	615.38	303.19

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	21.77	15.53	14.91	14.51	14.29	14.34	14.34	16.48	14.34
45.0	21.71	15.41	14.79	14.40	14.01	13.89	14.29	14.74	14.34
90.0	18.84	14.96	14.46	14.06	13.78	13.67	13.61	13.84	14.06
135.0	19.46	15.08	14.57	14.23	14.01	13.89	13.84	14.57	13.78
180.0	17.89	14.96	14.46	14.18	14.01	14.01	14.06	14.51	13.67
225.0	15.75	14.85	14.34	14.06	13.84	13.73	13.67	13.56	13.89
270.0	17.94	14.96	14.40	14.06	13.78	13.67	13.61	13.73	14.23
315.0	19.41	15.13	14.63	14.40	14.40	14.51	14.79	16.48	14.34
360.0	21.77	15.53	14.91	14.51	14.29	14.34	14.34	16.48	14.34

C/γ(°)	90.0
0.0	13.22
45.0	13.16
90.0	13.11
135.0	13.16
180.0	13.16
225.0	13.22
270.0	13.11
315.0	13.11
360.0	13.22