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## Nata

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LumCAT: 4-1731-E	
Luminaire: 92.76.263.00	
Report No: NATA0100	Voltage(V): 35.0000
Test No: 2017011908	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): 3359.41  
Efficiency(%): 89.75%  
Lumens(lm)/Power(W): 120.05  
Central intensity(cd): 10904.200  
Maximum intensity(cd): 10904.200  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=26.5  
                                  [C90/270]Total=26.5  
Field angle(10%Imax): [C0/180]Total=62.4  
                                  [C90/270]Total=62.4  
Maximum s/h(1/2): C0\_180=0.45 C90\_270=0.45  
Maximum s/h(1/4): C0\_180=0.46 C90\_270=0.46  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 91.41%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 96.697%

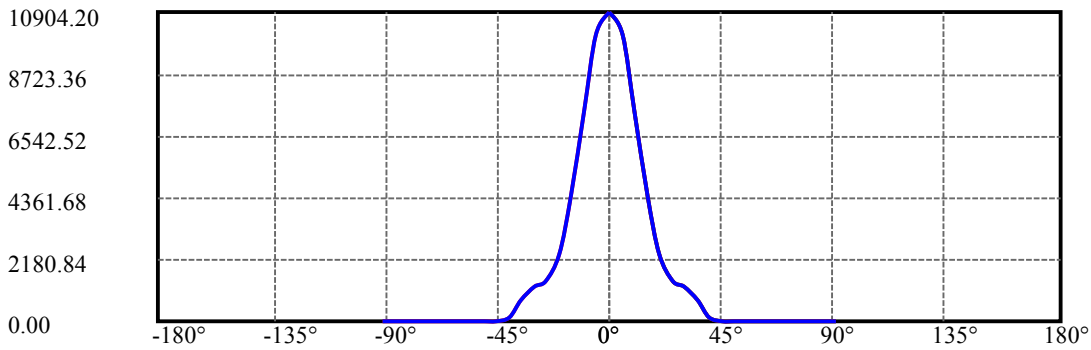
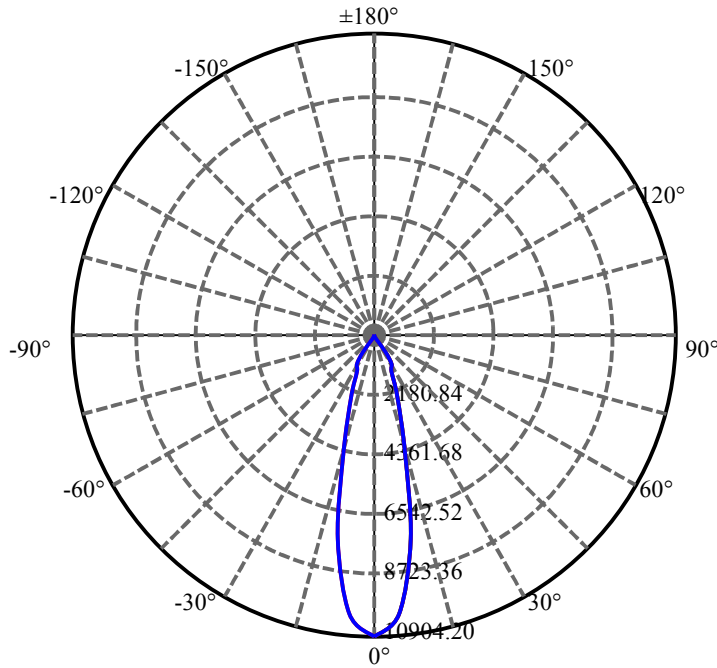
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	10904.195	65.209	65.209	1.742%	1.941%
5.0	10100.028	482.512	547.721	12.891%	16.304%
10.0	7475.420	711.533	1259.255	19.010%	37.484%
15.0	4378.360	621.151	1880.405	16.595%	55.974%
20.0	2389.241	447.921	2328.326	11.967%	69.308%
25.0	1434.082	332.209	2660.535	8.875%	79.196%
30.0	1200.697	329.074	2989.609	8.792%	88.992%
35.0	739.125	232.380	3221.989	6.208%	95.909%
40.0	161.047	56.743	3278.731	1.516%	97.598%
45.0	19.531	7.570	3286.302	.202%	97.824%
50.0	17.425	7.317	3293.618	.195%	98.041%
55.0	16.297	7.317	3300.936	.195%	98.259%
60.0	15.774	7.488	3308.424	.200%	98.482%
65.0	16.159	8.028	3316.451	.214%	98.721%
70.0	17.646	9.089	3325.54	.243%	98.992%
75.0	18.547	9.820	3335.36	.262%	99.284%
80.0	19.339	10.439	3345.799	.279%	99.595%
85.0	17.487	9.549	3355.348	.255%	99.879%
90.0	14.831	4.065	3359.413	.109%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2989.61	79.87%	88.99%
0-40	3278.73	87.60%	97.60%
0-60	3308.42	88.39%	98.48%
0-90	3355.35	89.64%	99.88%
0-120	3355.35	89.64%	99.88%
0-180	3359.41	89.75%	100.00%
60-90	54.41	1.45%	1.62%
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%
0-25.41	2687.53	71.80%	80.00%

ZONAL LUMEN SUMMARY

0-10	1259.25
10-20	1069.07
20-30	661.28
30-40	289.12
40-50	14.89
50-60	14.81
60-70	17.12
70-80	20.26
80-90	9.55
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: —————

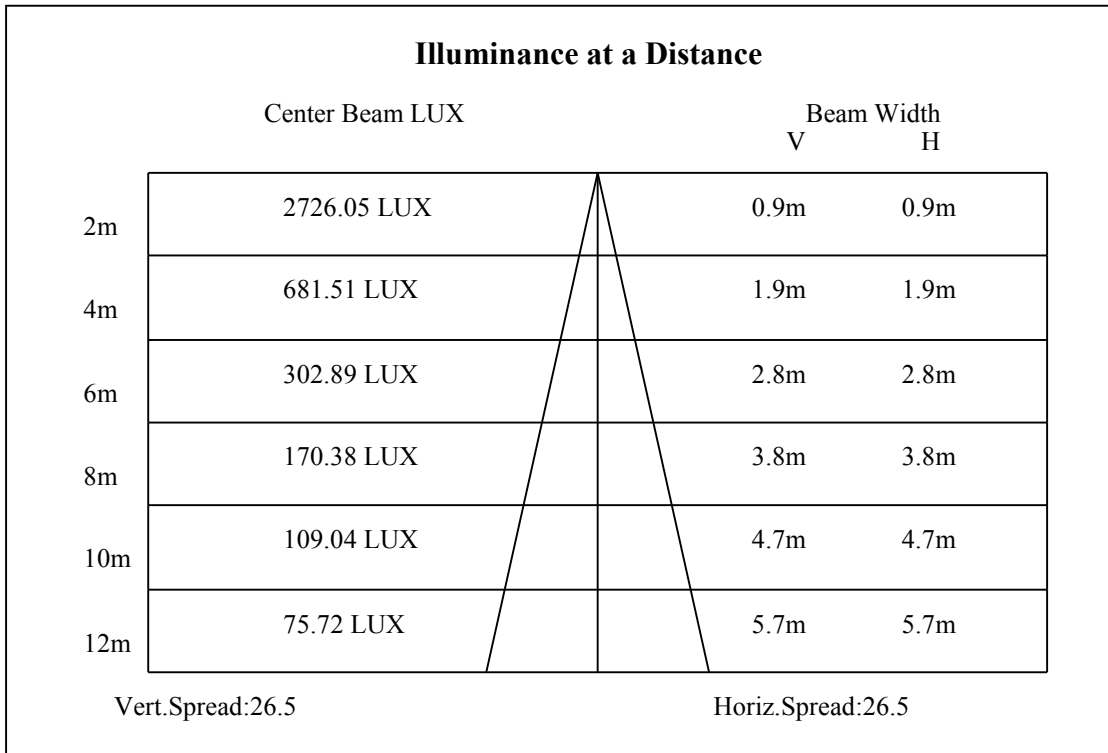
C90/C270: —————

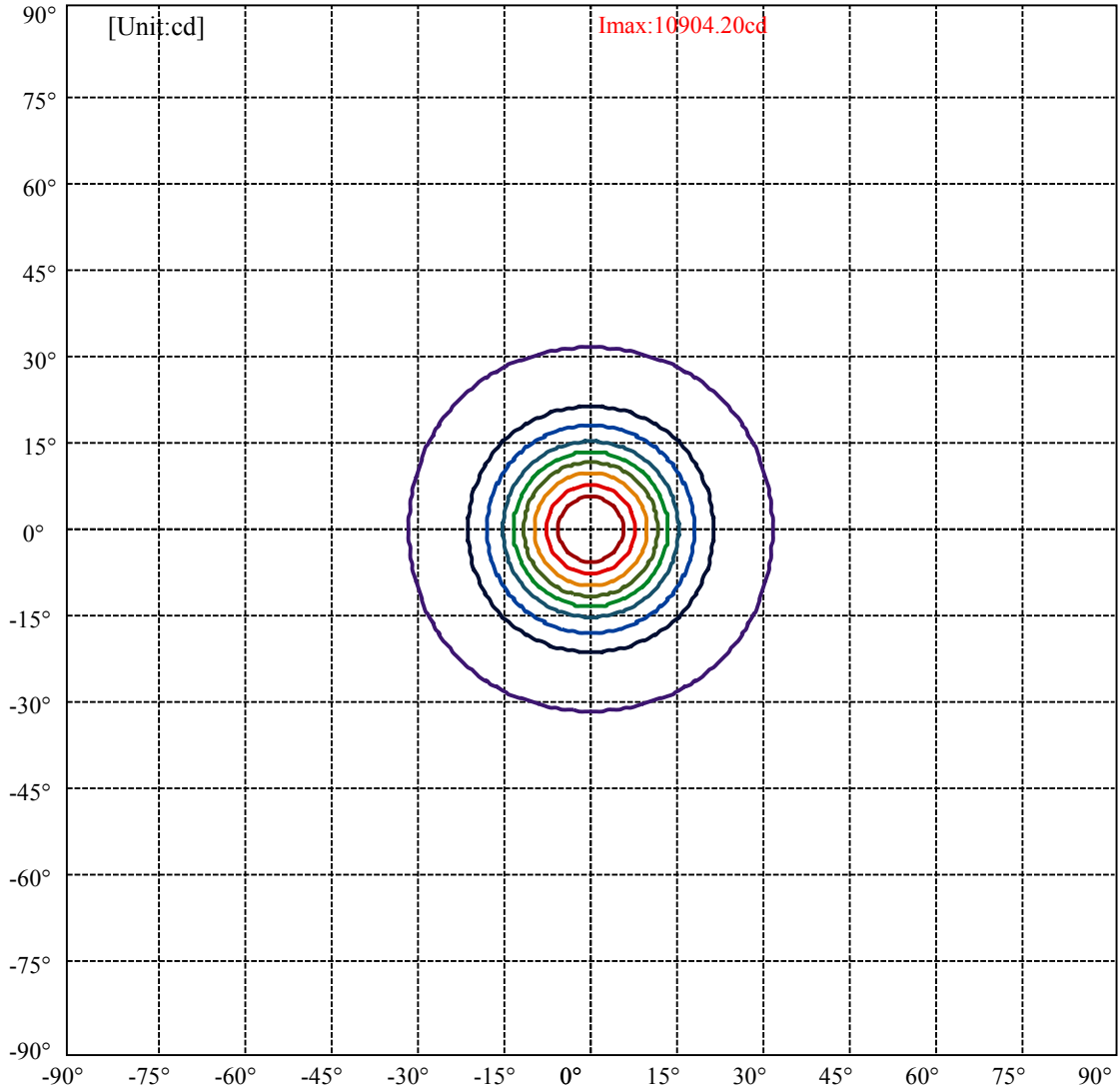
Field angle(10%Imax):C0/180Left:31.2 Right:31.2

:C90/270Left:31.2 Right:31.2

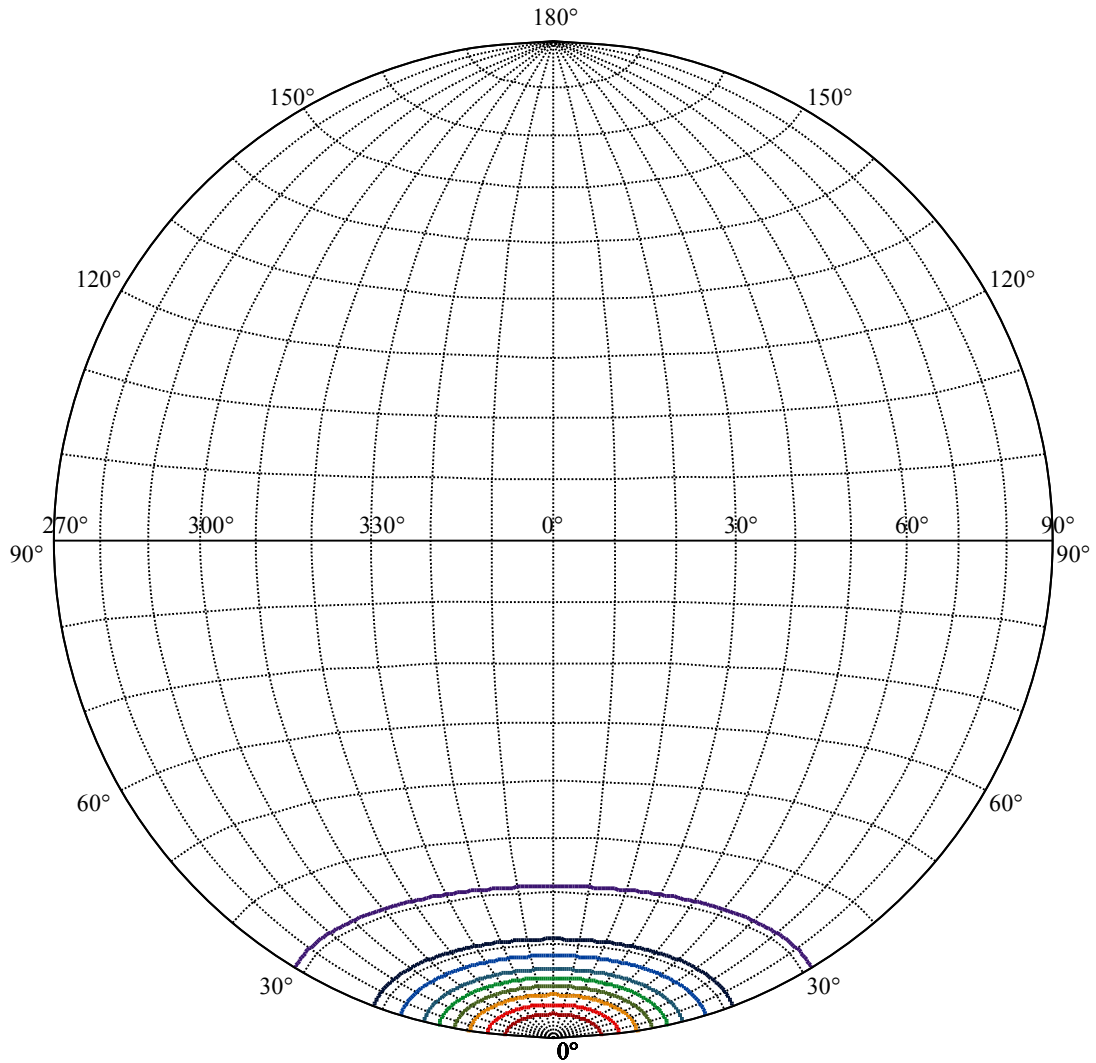
Beam Angle(50%Imax):C0/180Left:13.3 Right:13.3

:C90/270Left:13.3 Right:13.3





(10%Imax) 1090.42	—
(20%Imax) 2180.84	—
(30%Imax) 3271.26	—
(40%Imax) 4361.68	—
(50%Imax) 5452.1	—
(60%Imax) 6542.52	—
(70%Imax) 7632.94	—
(80%Imax) 8723.36	—
(90%Imax) 9813.78	—



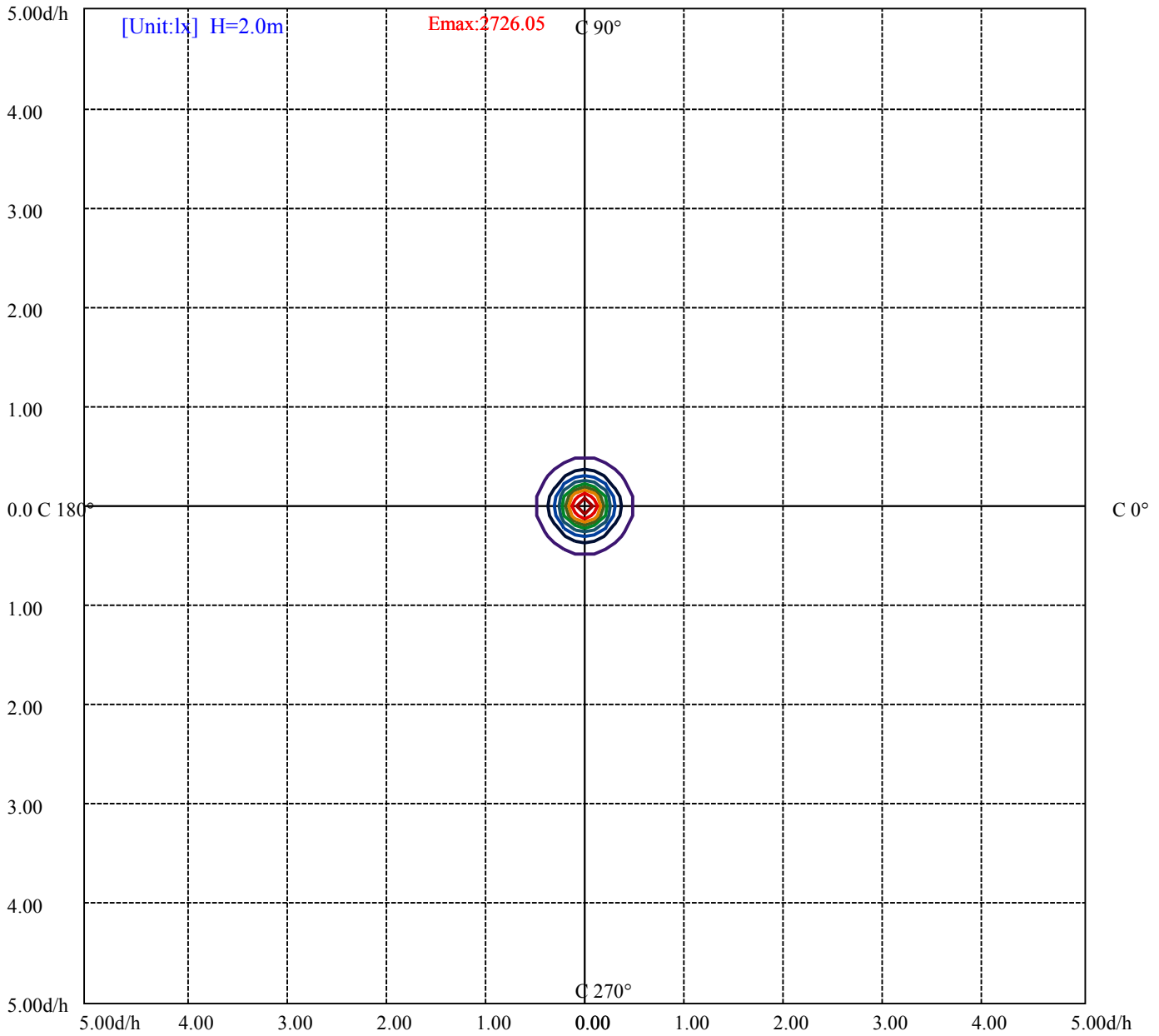
House

[Unit:cd]

Road

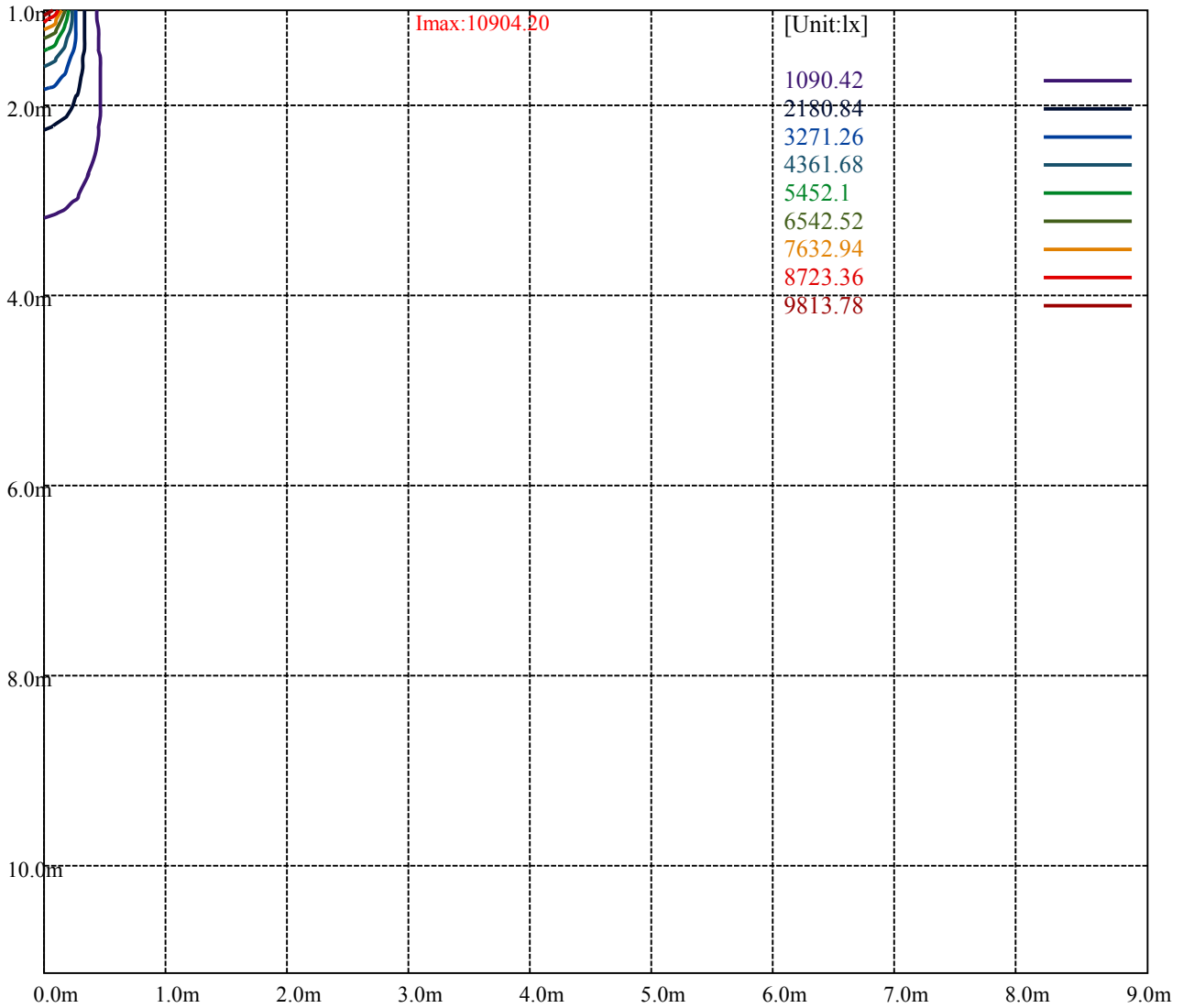
Imax:10904.20

(10%Imax) 1090.42	—
(20%Imax) 2180.84	—
(30%Imax) 3271.26	—
(40%Imax) 4361.68	—
(50%Imax) 5452.1	—
(60%Imax) 6542.52	—
(70%Imax) 7632.94	—
(80%Imax) 8723.36	—
(90%Imax) 9813.78	—



(10%Emax) 272.605	—
(20%Emax) 545.2075	—
(30%Emax) 817.8125	—
(40%Emax) 1090.417	—
(50%Emax) 1363.022	—
(60%Emax) 1635.625	—
(70%Emax) 1908.23	—
(80%Emax) 2180.835	—
(90%Emax) 2453.438	—





Luminance Table

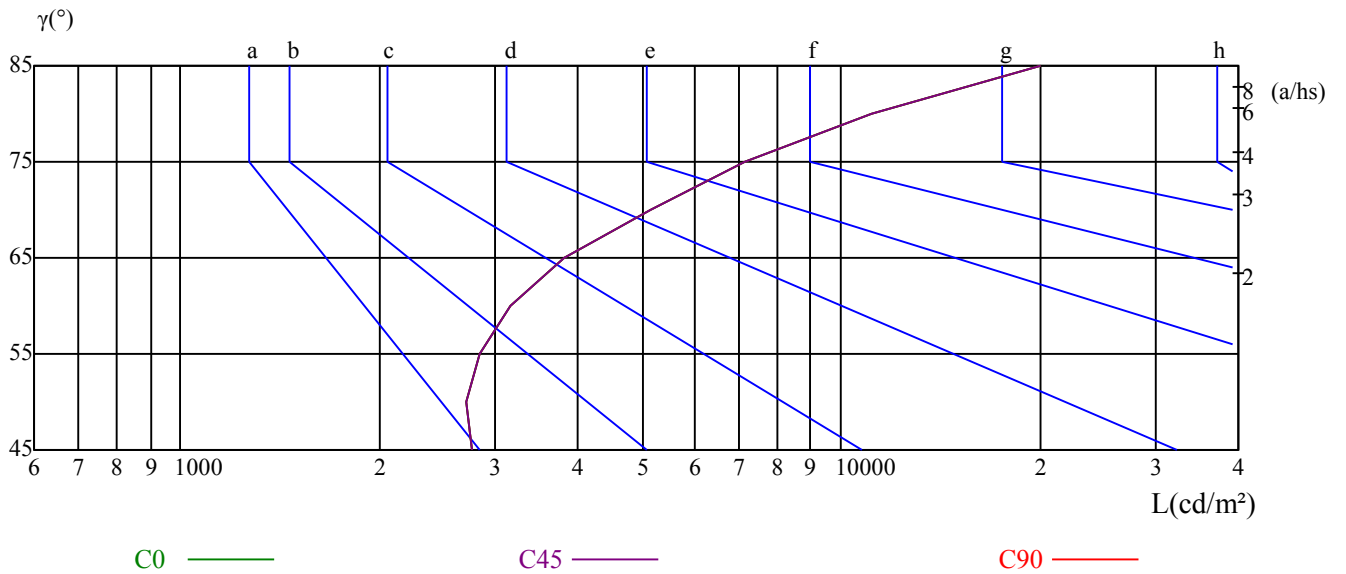
$\gamma$	45	50	55	60	65	70	75	80	85
C0	2762	2711	2841	3155	3824	5159	7166	11137	20064
C45	2762	2711	2841	3155	3824	5159	7166	11137	20064
C90	2762	2711	2841	3155	3824	5159	7166	11137	20064

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3824	3824	3824	7166	7166	7166	20064	20064	20064

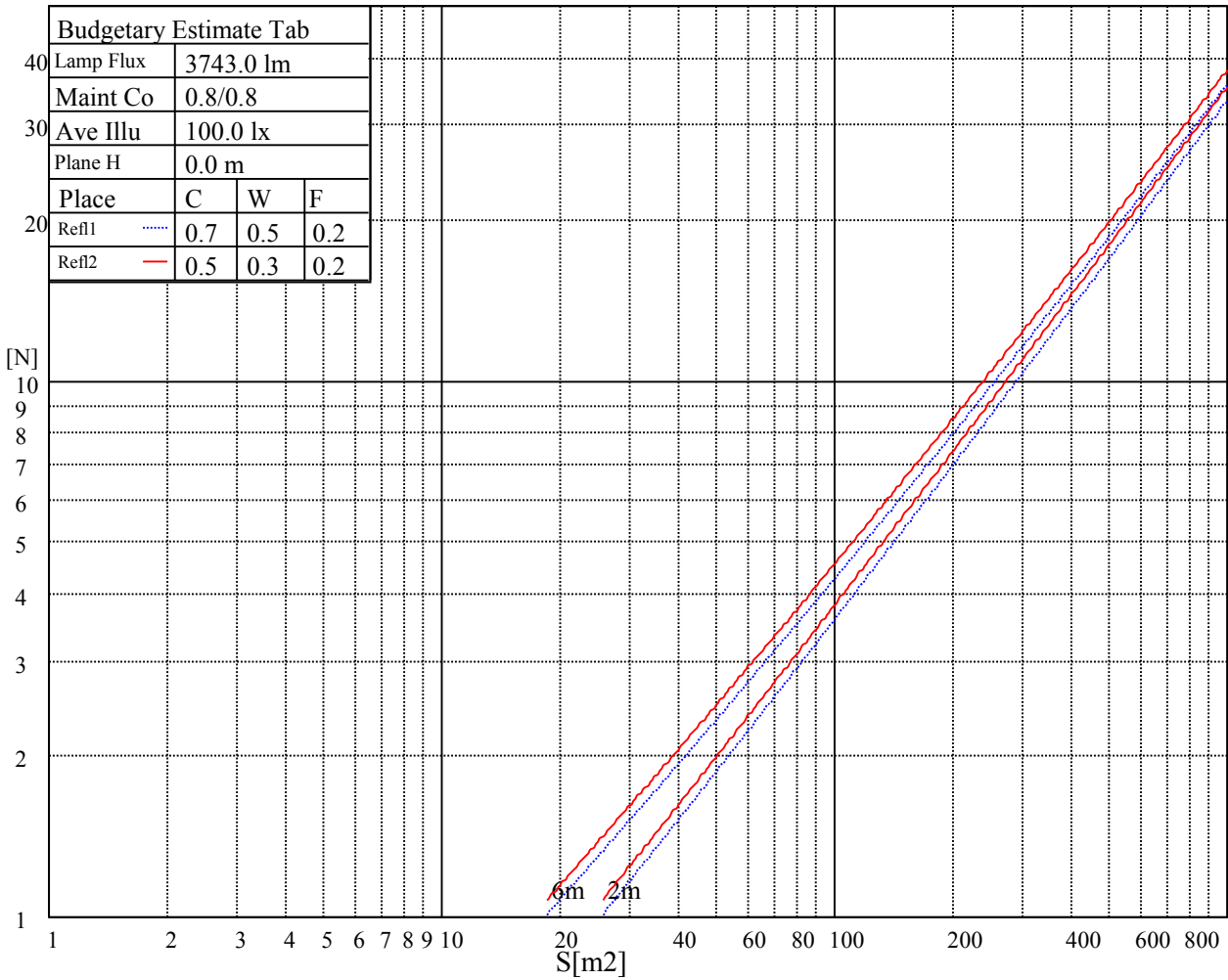
Glare Table

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

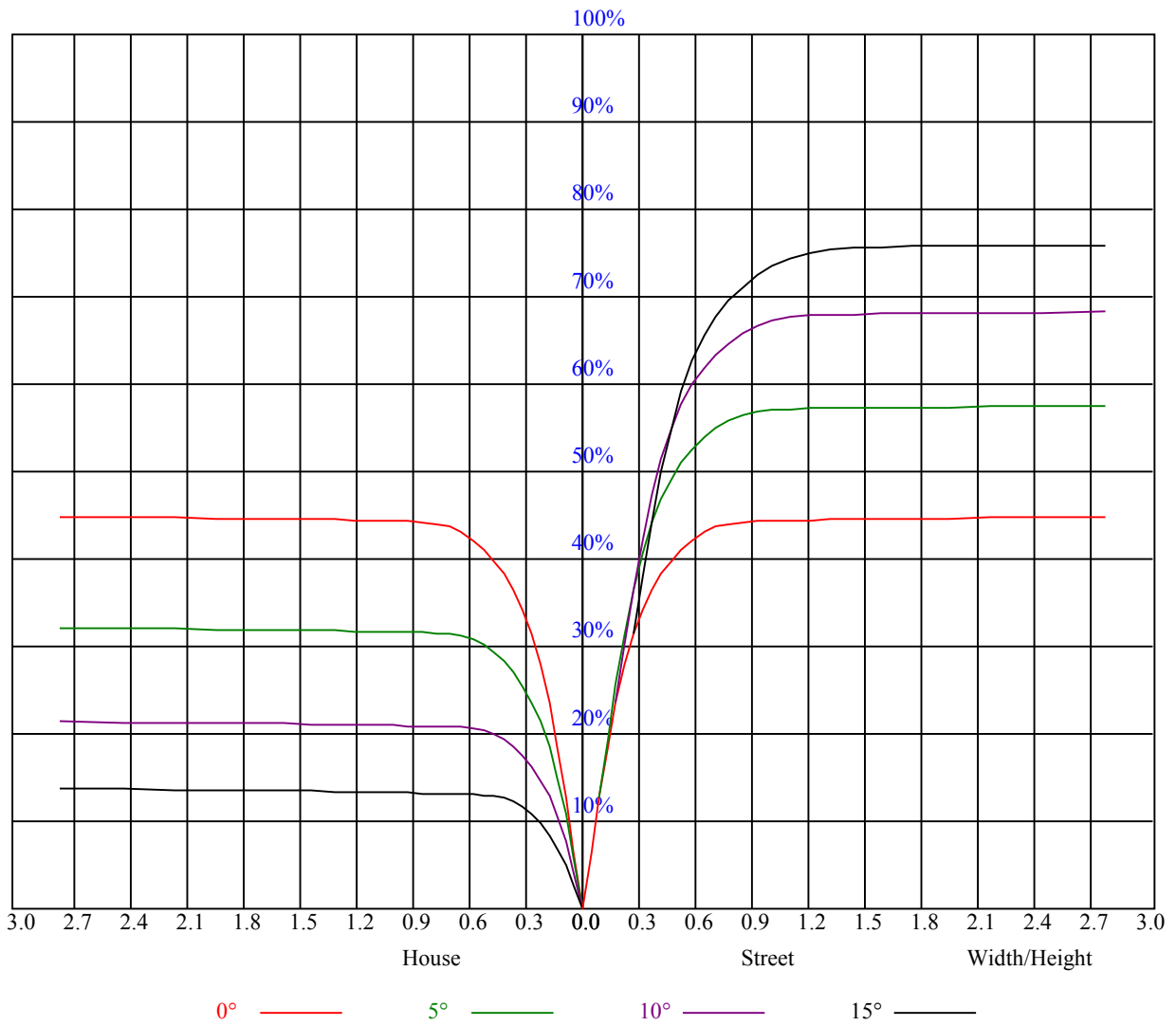
Luminance Limiting Curve



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	0.34	1.25	0.70	1.56	1.88	0.45	1.37	0.81	1.68	1.99
	3H	4.57	5.38	4.95	5.71	6.08	4.08	4.89	4.47	5.23	5.60
	4H	6.87	7.62	7.27	7.97	8.36	6.21	6.96	6.62	7.32	7.71
	6H	9.32	10.00	9.74	10.38	10.78	8.66	9.35	9.08	9.73	10.12
	8H	10.44	11.08	10.87	11.47	11.88	9.90	10.54	10.33	10.93	11.34
	12H	11.98	12.59	12.42	12.98	13.41	11.71	12.33	12.15	12.71	13.14
4H	2H	1.32	2.07	1.73	2.42	2.81	1.40	2.15	1.81	2.50	2.89
	3H	5.74	6.36	6.16	6.77	7.18	5.35	5.96	5.76	6.37	6.78
	4H	8.17	8.72	8.60	9.14	9.59	7.63	8.18	8.06	8.60	9.05
	6H	10.56	11.03	11.03	11.49	11.96	10.04	10.51	10.51	10.96	11.44
	8H	11.83	12.27	12.31	12.72	13.20	11.41	11.85	11.88	12.30	12.77
8H	12H	13.33	13.71	13.82	14.20	14.68	13.14	13.51	13.63	14.00	14.48
	4H	8.88	9.32	9.36	9.77	10.25	8.47	8.91	8.95	9.37	9.84
	6H	11.55	11.90	12.06	12.40	12.89	11.15	11.50	11.66	12.00	12.49
	8H	12.98	13.29	13.52	13.81	14.31	12.67	12.97	13.20	13.50	14.00
12H	12H	14.60	14.86	15.12	15.36	15.94	14.47	14.74	15.00	15.24	15.82
	4H	9.11	9.48	9.60	9.97	10.45	8.75	9.13	9.24	9.62	10.10
	6H	12.06	12.16	12.39	12.64	13.19	11.71	11.81	12.04	12.28	12.83
	8H	13.40	13.66	13.92	14.16	14.74	13.13	13.39	13.66	13.89	14.48
Variation with the observer position at spacings:											
S = 1.0H	5.1/-6.2					5.1/-6.2					
S = 1.5H	6.9/-4.4					6.9/-4.4					
S = 2.0H	7.9/-3.0					7.9/-3.0					
Standard tables:	BK4					BK4					
Uncorrected UGR	1.2					1.2					



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	1.09	1.09	1.09	1.06	1.06	1.06	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.00	0.98	0.96	0.98	0.96	0.94	0.95	0.93	0.91	0.91	0.90	0.88	0.88	0.87	0.86	0.84
2	0.95	0.92	0.89	0.93	0.90	0.88	0.91	0.88	0.86	0.88	0.86	0.84	0.85	0.84	0.82	0.81
3	0.90	0.86	0.83	0.89	0.86	0.83	0.87	0.84	0.81	0.85	0.82	0.80	0.83	0.81	0.79	0.77
4	0.86	0.82	0.79	0.85	0.82	0.78	0.84	0.80	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.75
5	0.83	0.79	0.75	0.82	0.78	0.75	0.81	0.77	0.74	0.79	0.76	0.74	0.78	0.75	0.73	0.72
6	0.80	0.75	0.72	0.79	0.75	0.72	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.71	0.69
7	0.77	0.73	0.69	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.67
8	0.74	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.65
9	0.72	0.68	0.65	0.71	0.67	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.63
10	0.70	0.66	0.63	0.69	0.65	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.61



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	10909.43	10282.33	8022.82	4704.02	2554.62	1485.42	1256.94	868.79	335.84
45.0	10885.75	9937.68	6976.20	4037.29	2250.16	1360.44	1207.94	604.52	50.82
90.0	10874.19	9243.42	5864.06	3272.00	1745.29	1280.61	1056.31	385.17	21.64
135.0	10947.41	9869.41	6749.91	3811.00	2046.45	1339.52	1212.34	576.99	31.82
180.0	10909.43	9884.83	7000.42	3922.77	2098.20	1355.49	1081.42	623.90	40.91
225.0	10885.75	10266.92	7827.37	4699.61	2543.61	1447.43	1231.61	858.38	162.64
270.0	10874.19	10778.94	9050.72	5696.14	3242.27	1695.74	1298.78	1139.12	406.87
315.0	10947.41	10536.69	8311.86	4884.05	2633.35	1507.99	1260.24	856.13	237.84
360.0	10909.43	10282.33	8022.82	4704.02	2554.62	1485.42	1256.94	868.79	335.84
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	20.65	18.11	16.74	16.13	15.75	17.29	18.33	18.50	16.63
45.0	18.39	16.79	15.97	15.47	16.30	19.21	20.26	21.14	18.99
90.0	17.84	16.68	16.02	15.69	19.77	24.11	26.37	26.65	16.74
135.0	18.72	17.18	16.35	16.02	15.80	18.22	18.66	19.38	19.21
180.0	19.32	17.51	16.46	15.97	15.69	16.52	17.89	20.48	18.94
225.0	19.10	17.18	15.86	15.31	15.03	15.20	15.69	16.30	17.07
270.0	21.86	18.17	16.46	15.75	15.42	15.25	15.25	16.30	16.68
315.0	20.37	17.78	16.52	15.86	15.53	15.36	15.91	15.97	15.64
360.0	20.65	18.11	16.74	16.13	15.75	17.29	18.33	18.50	16.63
C/γ(°)	90.0								
0.0	15.09								
45.0	14.53								
90.0	14.70								
135.0	15.03								
180.0	15.03								
225.0	14.48								
270.0	14.81								
315.0	14.98								
360.0	15.09								