



NATA LIGHTING CO.,LTD.  
www.nata.cn  
Email:info@nata.com  
Tel:+86-750-3770000 Fax:+86-750-3771111  
Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

---

## Nata

---

LumCAT: 4-2222-A	
Luminaire: BJB47.319.2030	
Report No: NT2017092008	Voltage(V): 34.1000
Test No: GC2017092008	Current(A): 0.8000
LampCAT: LUMILEDS 1216	Power (W): 27.2800
Lamp flux(lm): 4061.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 100	Width(mm): 100
Phm Type: C	Height(mm):0

---

## Photometric Results

---

Lumens(lm): 3627.82  
Efficiency(%): 89.33%  
Lumens(lm)/Power(W): 132.98  
Central intensity(cd): 3727.800  
Maximum intensity(cd): 3786.297  
Angle of maximum intensity: C=0.0  $\gamma$ =10.0  
Beam Angle(50%Imax): [C0/180]Total=63.4  
                                  [C90/270]Total=63.4  
Field angle(10%Imax): [C0/180]Total=79.1  
                                  [C90/270]Total=79.1  
Maximum s/h(1/2): C0\_180=1.04 C90\_270=1.04  
Maximum s/h(1/4): C0\_180=0.93 C90\_270=0.93  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 89.80%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.242%

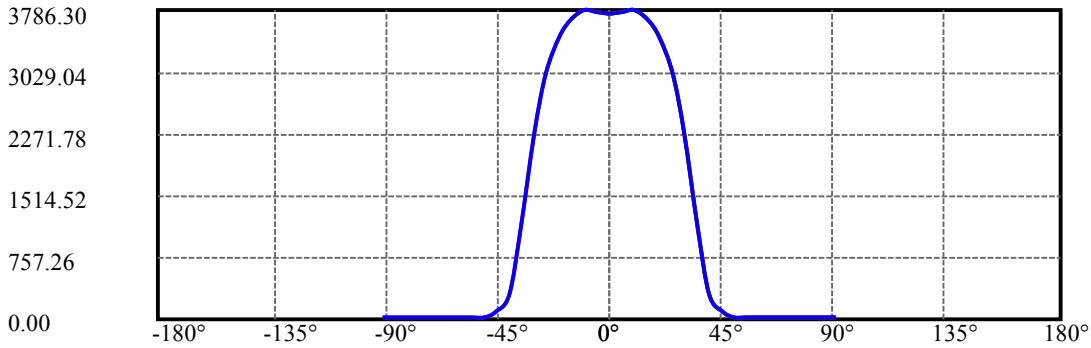
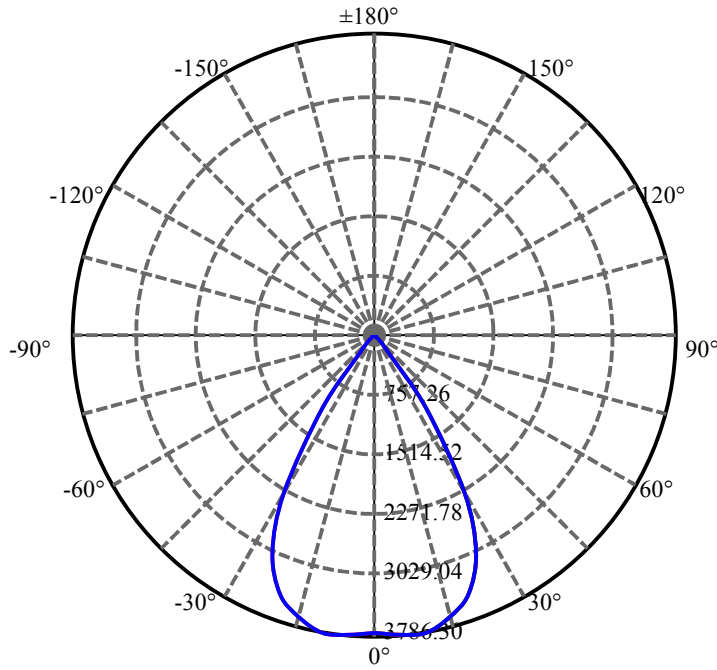
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3727.800	22.293	22.293	.549%	.615%
5.0	3771.226	180.164	202.457	4.436%	5.581%
10.0	3786.297	360.391	562.848	8.874%	15.515%
15.0	3680.245	522.110	1084.959	12.857%	29.907%
20.0	3462.359	649.102	1734.061	15.984%	47.799%
25.0	3003.877	695.857	2429.918	17.135%	66.980%
30.0	2285.460	626.373	3056.291	15.424%	84.246%
35.0	1128.388	354.764	3411.055	8.736%	94.025%
40.0	304.799	107.392	3518.446	2.644%	96.985%
45.0	87.808	34.034	3552.48	.838%	97.923%
50.0	31.719	13.319	3565.799	.328%	98.290%
55.0	19.400	8.711	3574.51	.215%	98.531%
60.0	16.902	8.024	3582.533	.198%	98.752%
65.0	16.021	7.959	3590.493	.196%	98.971%
70.0	15.650	8.061	3598.554	.198%	99.193%
75.0	15.485	8.198	3606.752	.202%	99.419%
80.0	15.719	8.485	3615.237	.209%	99.653%
85.0	15.430	8.425	3623.662	.207%	99.885%
90.0	15.168	4.157	3627.819	.102%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	3056.29	75.26%	84.25%
0-40	3518.45	86.64%	96.99%
0-60	3582.53	88.22%	98.75%
0-90	3623.66	89.23%	99.89%
0-120	3623.66	89.23%	99.89%
0-180	3627.82	89.33%	100.00%
60-90	49.15	1.21%	1.35%
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%
0-28.77	2902.26	71.47%	80.00%

ZONAL LUMEN SUMMARY

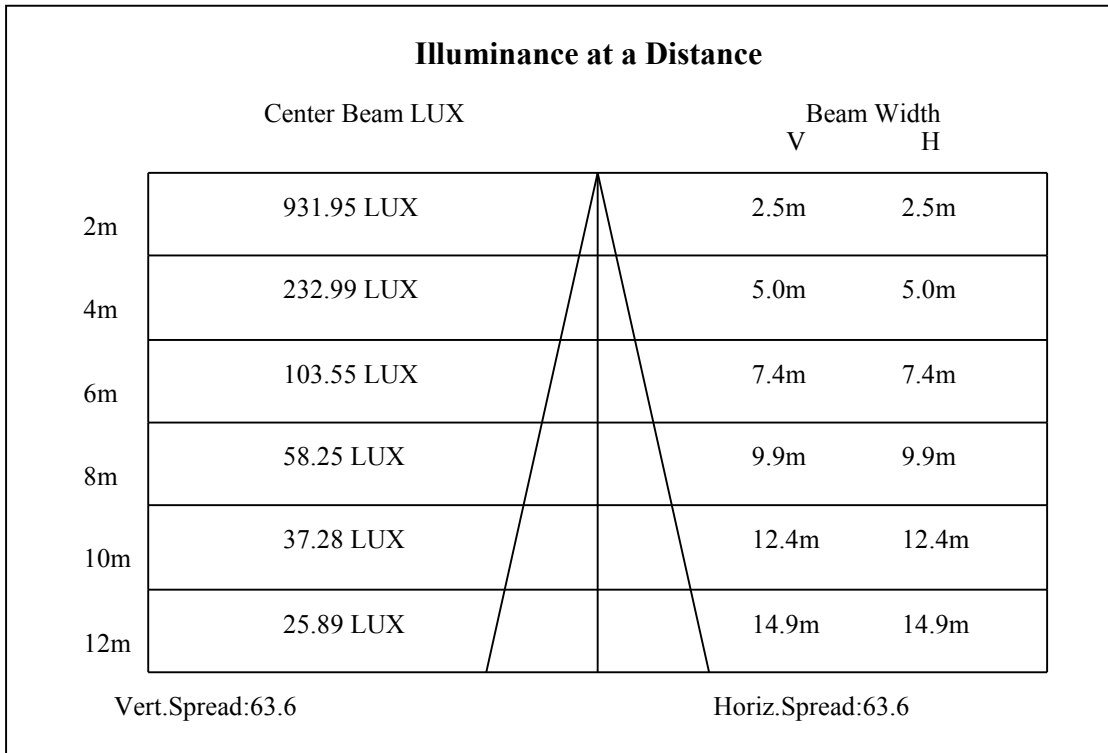
0-10	562.85
10-20	1171.21
20-30	1322.23
30-40	462.16
40-50	47.35
50-60	16.73
60-70	16.02
70-80	16.68
80-90	8.43
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

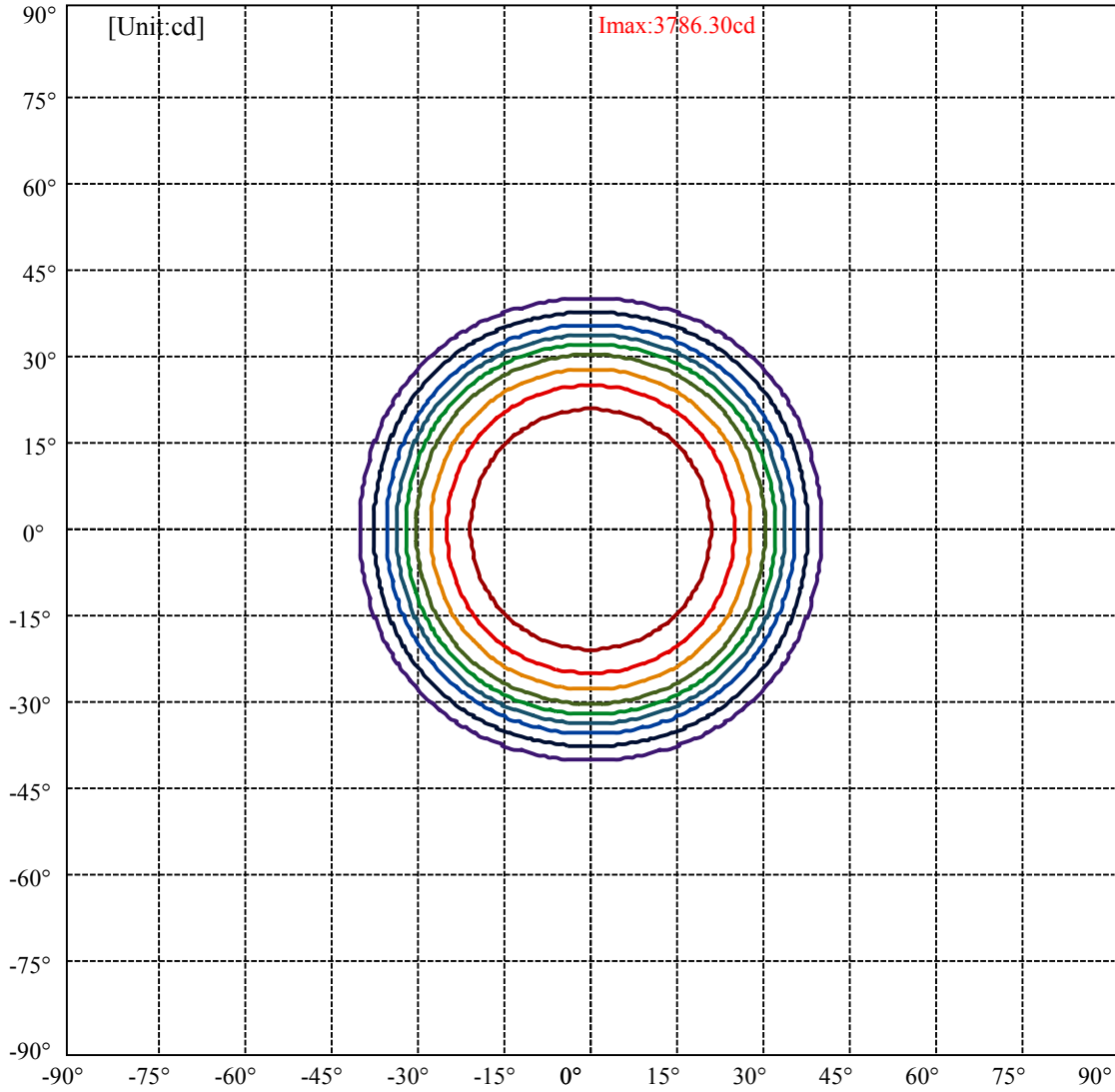


C0(Max): ———  
C0/C180: ———  
C90/C270: ———

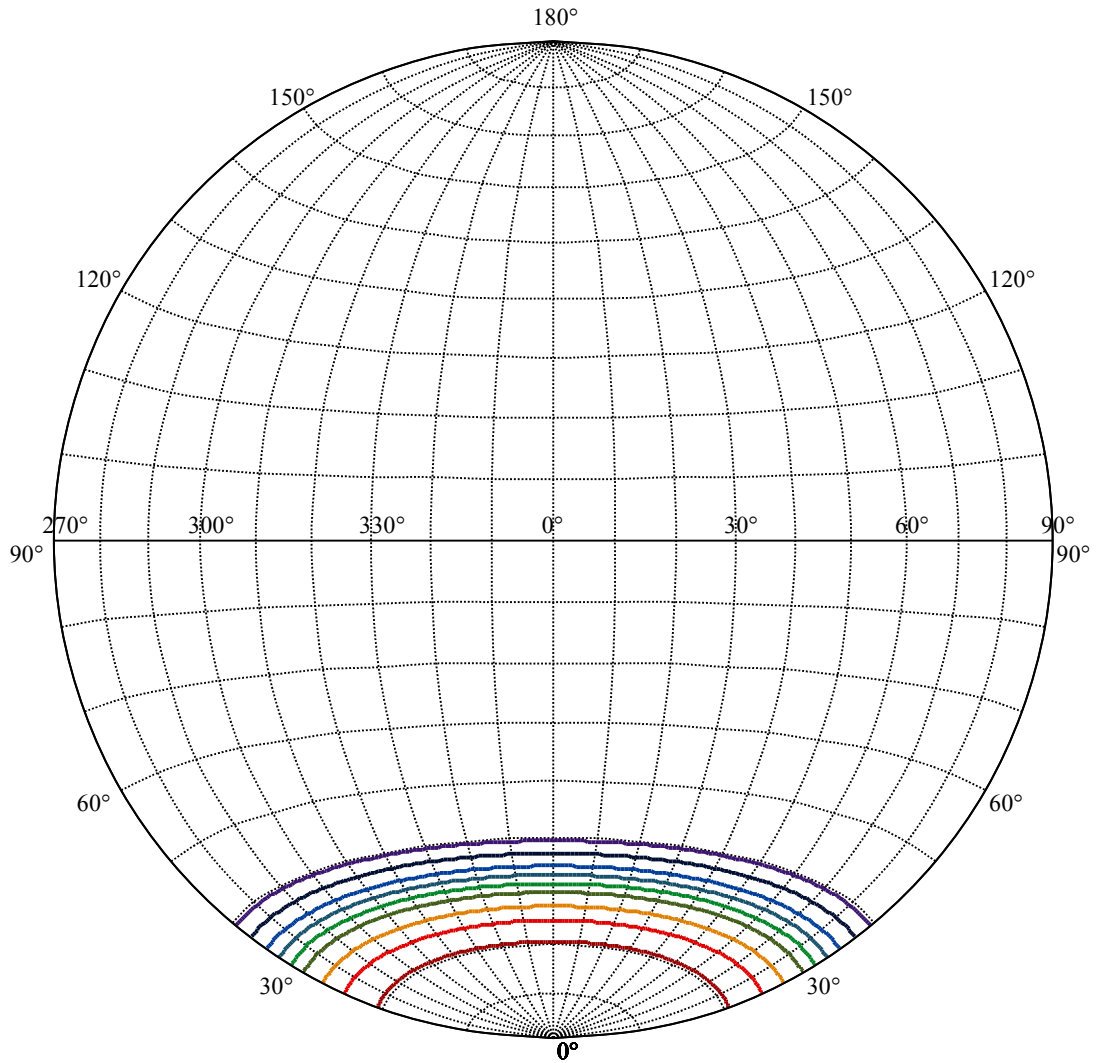
Field angle(10%Imax):C0/180Left:49.6 Right:29.6  
:C90/270Left:49.6 Right:29.6

Beam Angle(50%Imax):C0/180Left:41.7 Right:21.7  
:C90/270Left:41.7 Right:21.7





(10%Imax) 378.63	—
(20%Imax) 757.259	—
(30%Imax) 1135.89	—
(40%Imax) 1514.52	—
(50%Imax) 1893.15	—
(60%Imax) 2271.78	—
(70%Imax) 2650.41	—
(80%Imax) 3029.04	—
(90%Imax) 3407.67	—



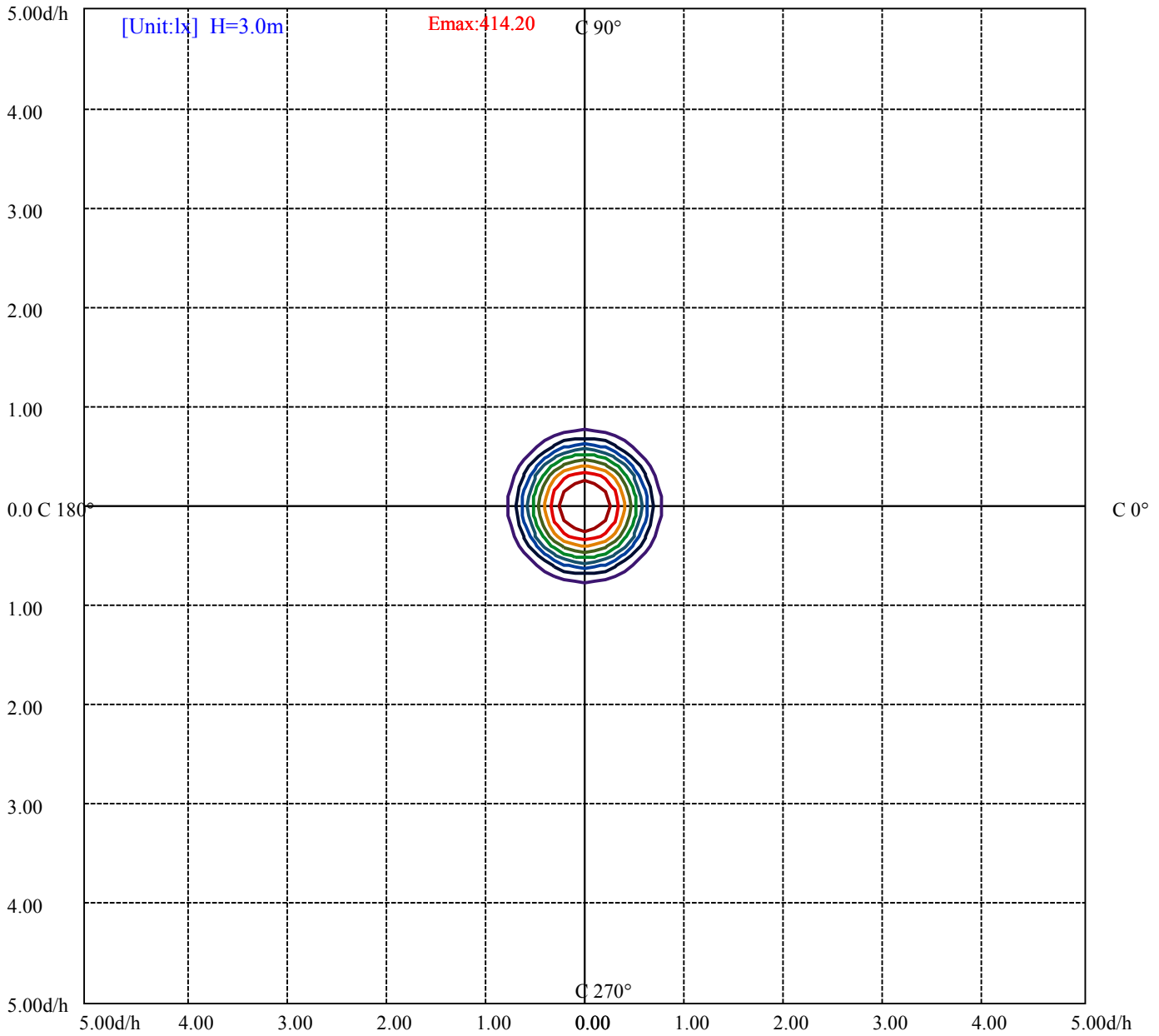
House

[Unit:cd]

Road

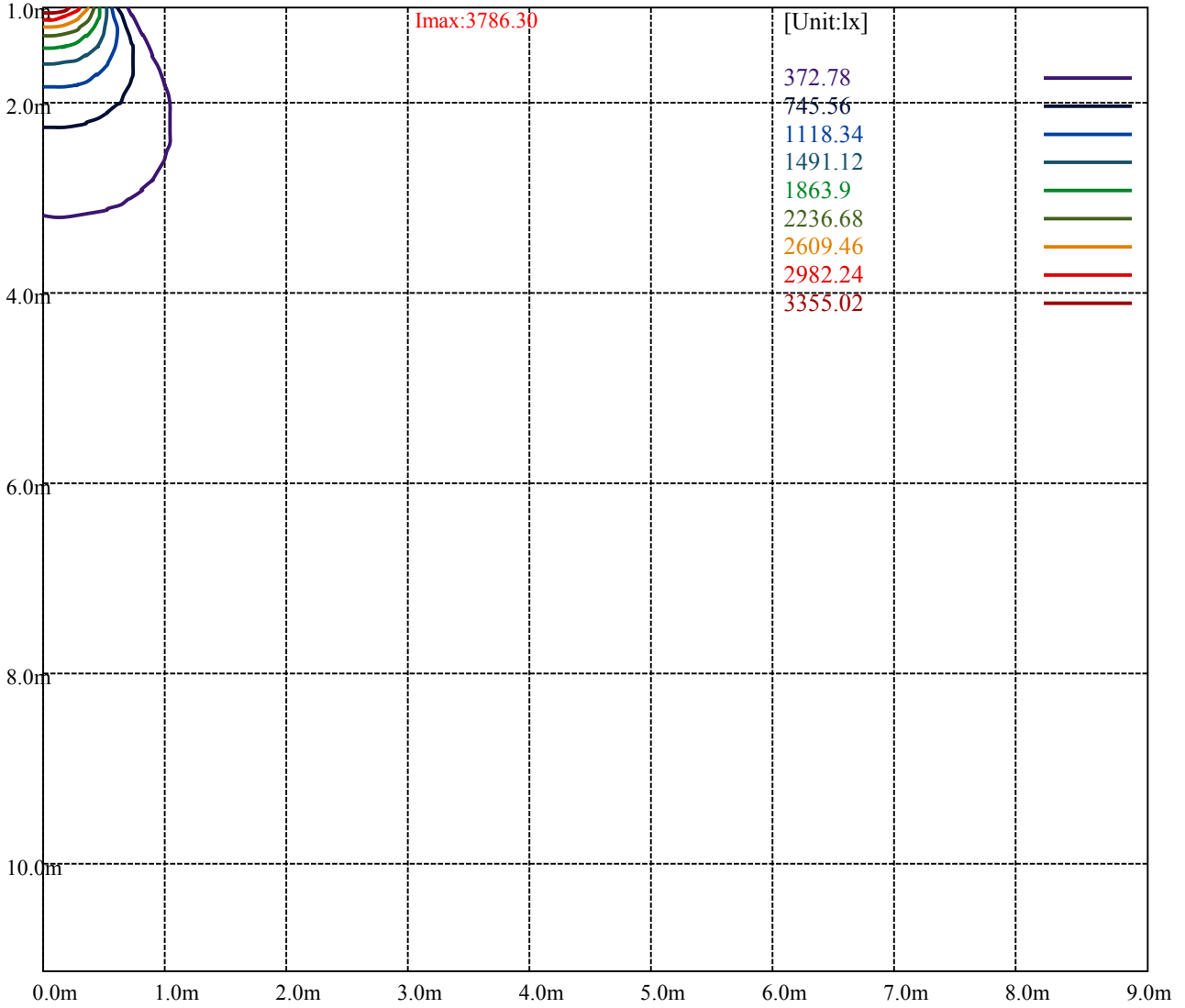
**Imax:3786.30**

(10%Imax) 378.63	—
(20%Imax) 757.259	—
(30%Imax) 1135.89	—
(40%Imax) 1514.52	—
(50%Imax) 1893.15	—
(60%Imax) 2271.78	—
(70%Imax) 2650.41	—
(80%Imax) 3029.04	—
(90%Imax) 3407.67	—



(10%Emax) 41.42	—
(20%Emax) 82.84	—
(30%Emax) 124.26	—
(40%Emax) 165.68	—
(50%Emax) 207.1	—
(60%Emax) 248.52	—
(70%Emax) 289.94	—
(80%Emax) 331.36	—
(90%Emax) 372.78	—





Luminance Table

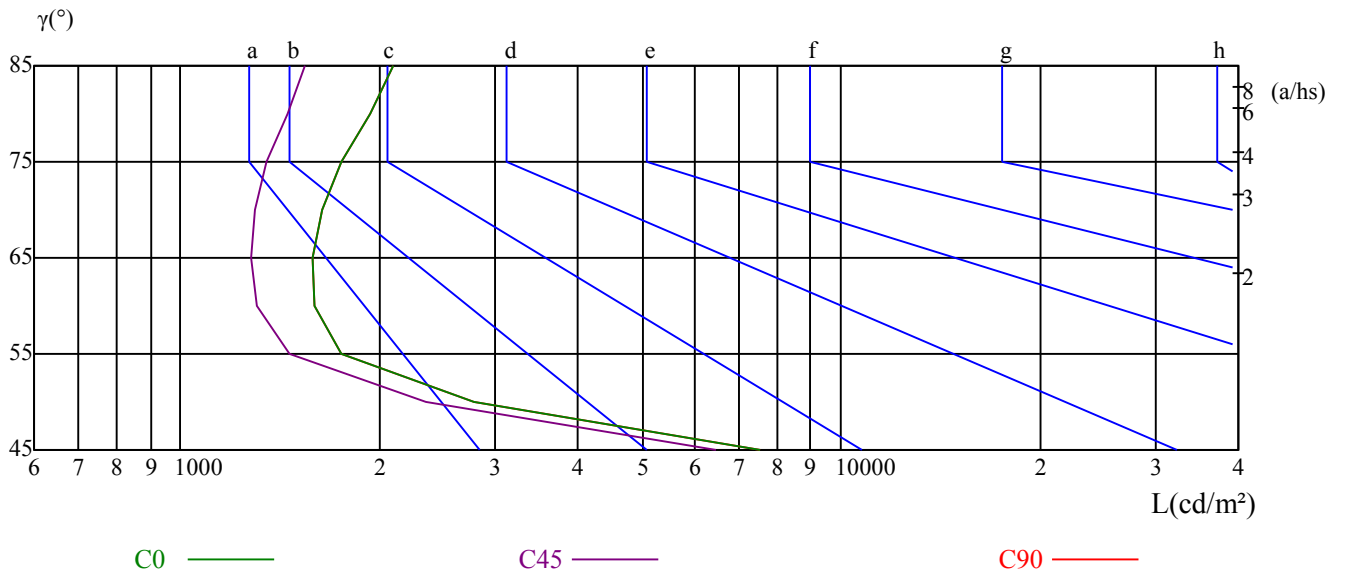
$\gamma$	45	50	55	60	65	70	75	80	85
C0	7526	2781	1754	1590	1584	1642	1746	1932	2100
C45	6470	2355	1462	1304	1276	1298	1350	1457	1538
C90	7526	2781	1754	1590	1584	1642	1746	1932	2100

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3791	3791	3791	5983	5983	5983	17703	17703	17703

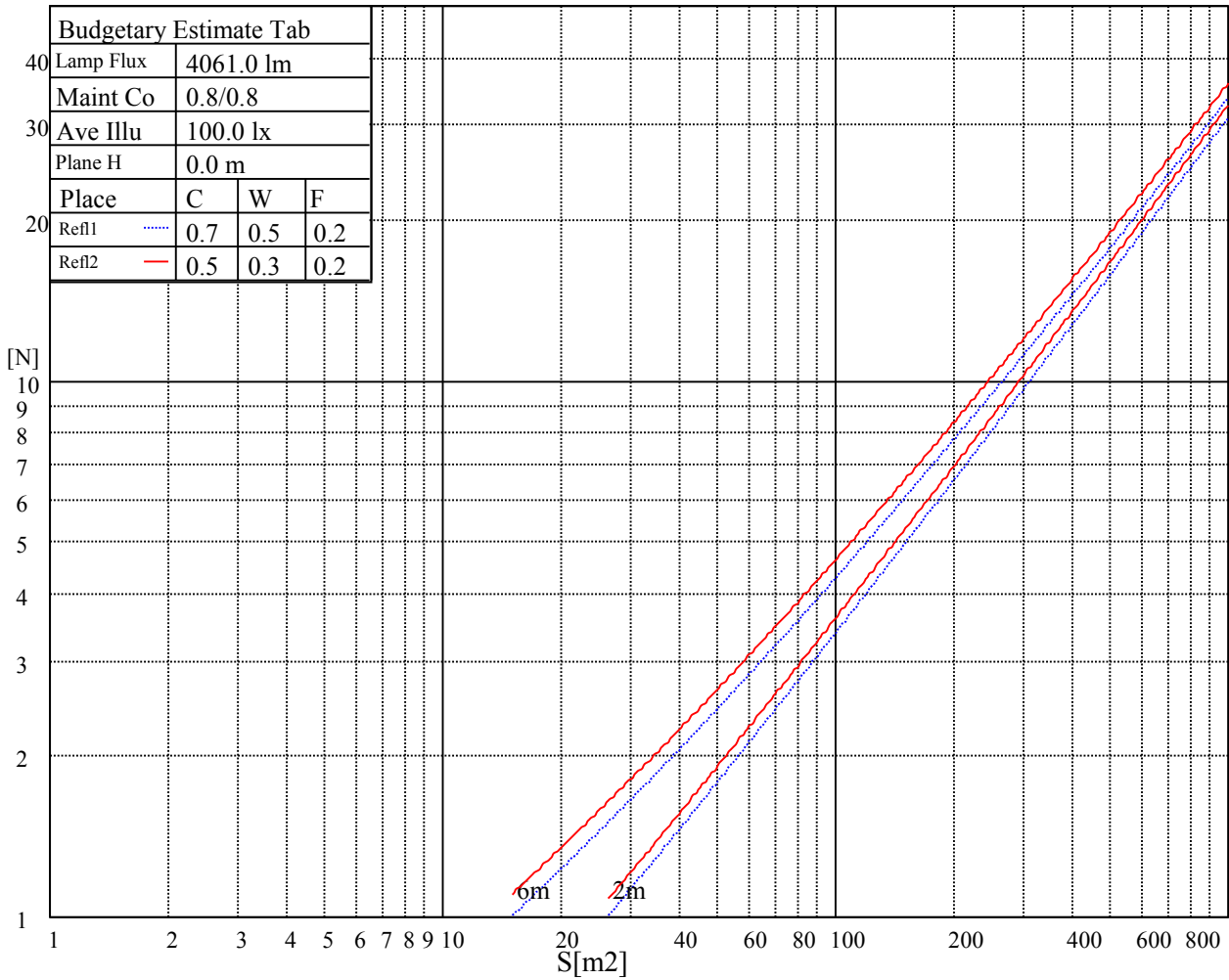
Glare Table

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

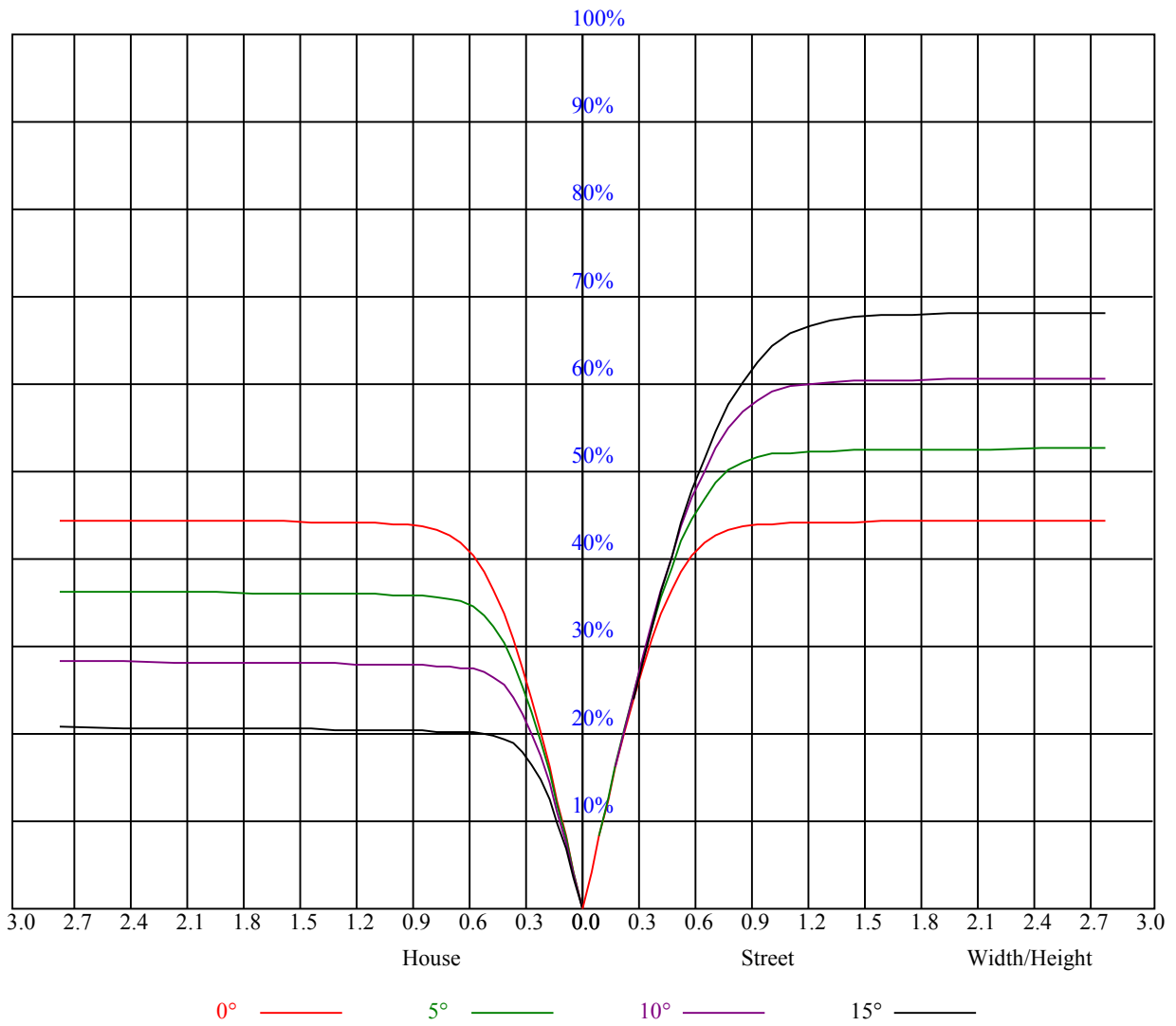
Luminance Limiting Curve



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	-1.32	-0.39	-0.95	-0.07	0.24	-1.51	-0.58	-1.14	-0.27	0.05
	3H	0.69	1.51	1.07	1.84	2.21	0.54	1.37	0.93	1.70	2.07
	4H	1.85	2.61	2.26	2.97	3.36	1.71	2.47	2.12	2.82	3.21
	6H	3.17	3.87	3.59	4.24	4.64	2.98	3.67	3.40	4.05	4.45
	8H	3.83	4.48	4.27	4.88	5.29	3.62	4.28	4.06	4.67	5.08
	12H	4.82	5.44	5.26	5.83	6.26	4.62	5.25	5.06	5.63	6.06
4H	2H	-0.94	-0.18	-0.53	0.18	0.57	-1.09	-0.33	-0.68	0.02	0.41
	3H	1.39	2.01	1.81	2.42	2.83	1.28	1.91	1.70	2.32	2.72
	4H	2.75	3.31	3.19	3.73	4.18	2.63	3.19	3.07	3.61	4.06
	6H	4.17	4.65	4.64	5.10	5.57	4.02	4.49	4.49	4.94	5.42
	8H	4.95	5.39	5.43	5.85	6.32	4.78	5.22	5.26	5.67	6.15
	12H	5.95	6.33	6.44	6.82	7.30	5.78	6.16	6.27	6.65	7.13
8H	4H	3.16	3.61	3.64	4.06	4.53	3.06	3.51	3.54	3.96	4.43
	6H	4.83	5.18	5.34	5.69	6.17	4.69	5.04	5.21	5.55	6.04
	8H	5.76	6.07	6.30	6.60	7.10	5.61	5.92	6.14	6.44	6.94
	12H	6.89	7.16	7.41	7.66	8.24	6.74	7.01	7.27	7.51	8.09
12H	4H	3.25	3.63	3.74	4.12	4.60	3.16	3.54	3.65	4.03	4.51
	6H	5.21	5.31	5.53	5.78	6.33	5.09	5.18	5.41	5.66	6.21
	8H	6.02	6.29	6.55	6.79	7.37	5.88	6.15	6.41	6.65	7.23
Variation with the observer position at spacings:											
S = 1.0H		5.8/-10.7					5.8/-10.7				
S = 1.5H		8.5/-8.9					8.5/-8.9				
S = 2.0H		10.3/-7.7					10.3/-7.7				
Standard tables:		BK0					BK0				
Uncorrected UGR		-0.7					-0.7				



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



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	3724.57	3810.45	3842.94	3745.49	3550.04	3073.80	2344.85	1167.75	344.65
45.0	3726.77	3790.08	3828.07	3730.07	3529.67	3085.36	2386.14	1272.90	369.43
90.0	3725.67	3764.21	3775.77	3655.19	3410.19	3002.23	2249.05	1071.18	289.71
135.0	3735.03	3730.07	3753.19	3652.44	3453.69	3090.32	2460.47	1316.95	396.96
180.0	3724.57	3724.57	3731.72	3619.96	3399.73	2946.07	2241.35	1083.68	260.42
225.0	3725.12	3750.99	3755.40	3649.69	3419.55	2928.45	2125.18	1008.96	240.10
270.0	3725.67	3776.87	3791.18	3703.09	3503.79	3035.26	2368.53	1164.44	326.48
315.0	3735.03	3822.57	3812.11	3686.03	3432.22	2869.54	2108.11	941.24	210.65
360.0	3724.57	3810.45	3842.94	3745.49	3550.04	3073.80	2344.85	1167.75	344.65

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	97.06	31.27	18.99	16.68	15.86	15.47	15.25	15.25	15.25
45.0	93.05	32.98	19.05	16.90	16.08	15.64	15.42	15.36	15.36
90.0	76.36	28.35	18.94	16.90	16.24	15.97	15.80	17.01	15.69
135.0	96.51	35.40	20.04	17.29	16.35	15.97	15.75	16.68	15.69
180.0	70.91	28.63	18.83	16.63	15.97	15.58	15.42	15.36	15.36
225.0	74.44	29.12	19.38	16.63	15.80	15.42	15.25	15.25	15.25
270.0	110.11	38.98	20.87	17.51	16.02	15.64	15.53	15.42	15.42
315.0	84.02	29.01	19.10	16.68	15.86	15.53	15.47	15.42	15.42
360.0	97.06	31.27	18.99	16.68	15.86	15.47	15.25	15.25	15.25

C/γ(°)	90.0
0.0	15.20
45.0	15.20
90.0	15.14
135.0	15.14
180.0	15.14
225.0	15.20
270.0	15.20
315.0	15.14
360.0	15.20