



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: 3-1703-N  
Luminaire: 92.70.045.00+92.70.061.00  
Report No: NATA0100 Voltage(V): 43.7000  
Test No: GC2019022707 Current(A): 0.4000  
LampCAT: NICHIA NVEWJ048Z-V1 LES15 Power (W): 17.4800  
Lamp flux(lm): 2382.4 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): 1860.00  
Efficiency(%): 78.07%  
Lumens(lm)/Power(W): 107.68  
Central intensity(cd): 4025.672  
Maximum intensity(cd): 4025.672  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=34.8  
                                  [C90/270]Total=34.8  
Field angle(10%Imax): [C0/180]Total=66.2  
                                  [C90/270]Total=66.2  
Maximum s/h(1/2): C0\_180=0.57 C90\_270=0.57  
Maximum s/h(1/4): C0\_180=0.59 C90\_270=0.59  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 79.01%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 96.551%

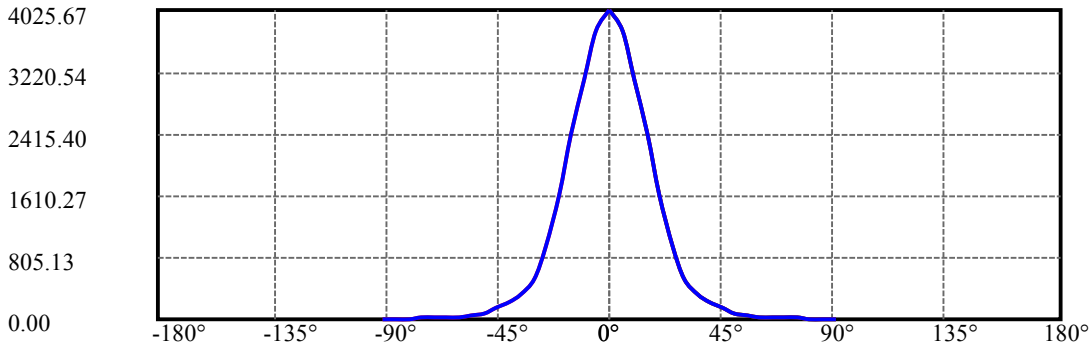
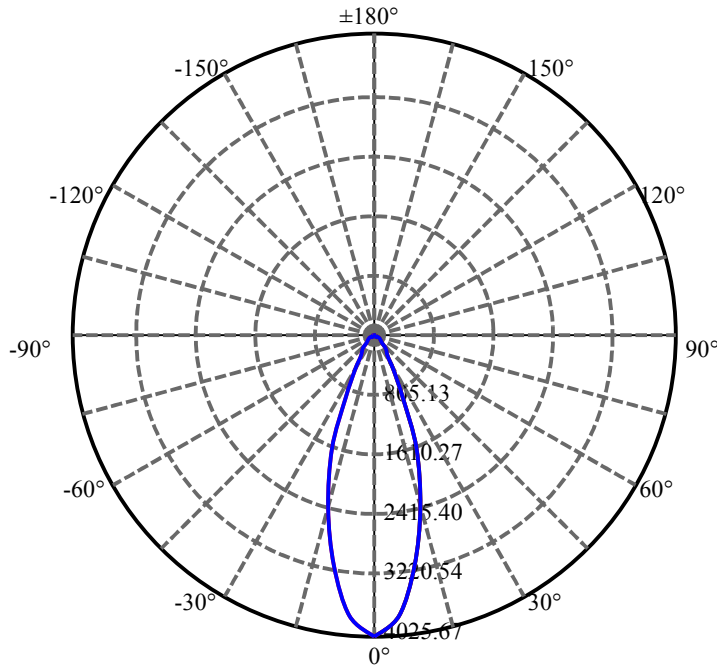
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4025.672	24.074	24.074	1.011%	1.294%
5.0	3759.328	179.596	203.67	7.538%	10.950%
10.0	3130.383	297.959	501.629	12.507%	26.969%
15.0	2388.305	338.825	840.454	14.222%	45.186%
20.0	1613.503	302.490	1142.944	12.697%	61.449%
25.0	937.913	217.270	1360.214	9.120%	73.130%
30.0	523.575	143.496	1503.71	6.023%	80.845%
35.0	329.119	103.475	1607.184	4.343%	86.408%
40.0	229.233	80.767	1687.951	3.390%	90.750%
45.0	143.121	55.473	1743.424	2.328%	93.732%
50.0	86.702	36.406	1779.83	1.528%	95.690%
55.0	50.245	22.561	1802.39	.947%	96.903%
60.0	31.605	15.003	1817.394	.630%	97.709%
65.0	22.985	11.419	1828.812	.479%	98.323%
70.0	18.977	9.775	1838.587	.410%	98.849%
75.0	15.314	8.108	1846.695	.340%	99.285%
80.0	12.030	6.494	1853.189	.273%	99.634%
85.0	8.923	4.872	1858.062	.205%	99.896%
90.0	7.080	1.941	1860.002	.081%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1503.71	63.12%	80.84%
0-40	1687.95	70.85%	90.75%
0-60	1817.39	76.28%	97.71%
0-90	1858.06	77.99%	99.90%
0-120	1858.06	77.99%	99.90%
0-180	1860.00	78.07%	100.00%
60-90	55.67	2.34%	2.99%
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%
0-29.45	1488.00	62.46%	80.00%

ZONAL LUMEN SUMMARY

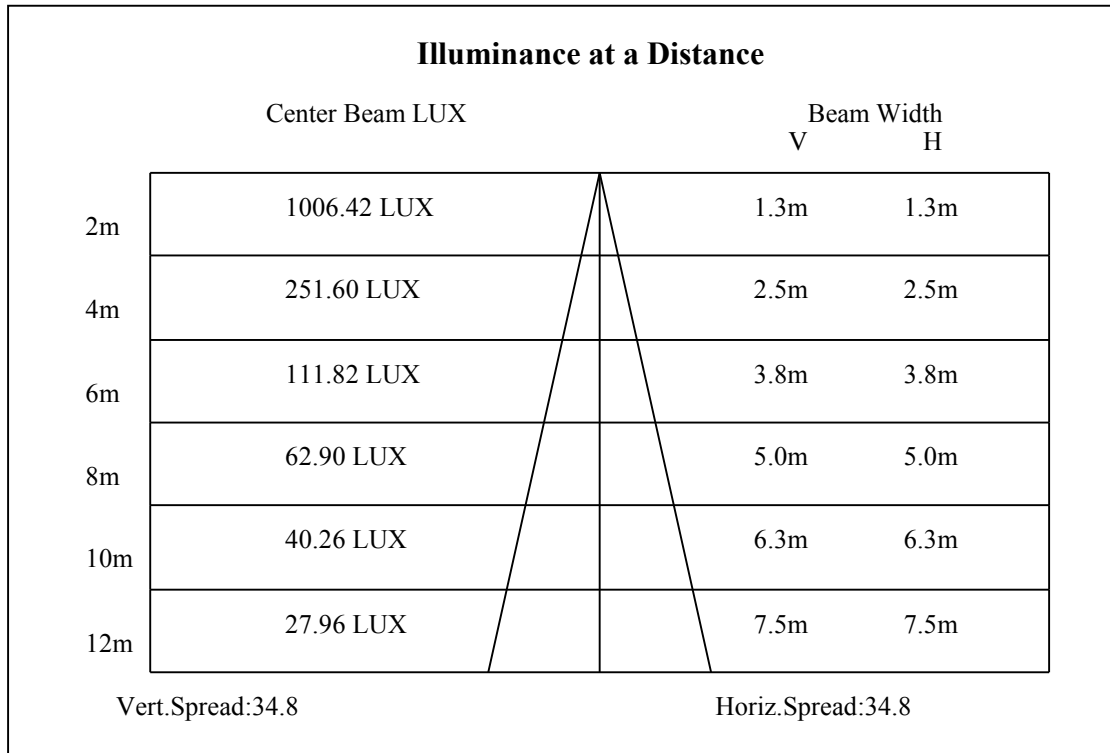
0-10	501.63
10-20	641.31
20-30	360.77
30-40	184.24
40-50	91.88
50-60	37.56
60-70	21.19
70-80	14.60
80-90	4.87
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

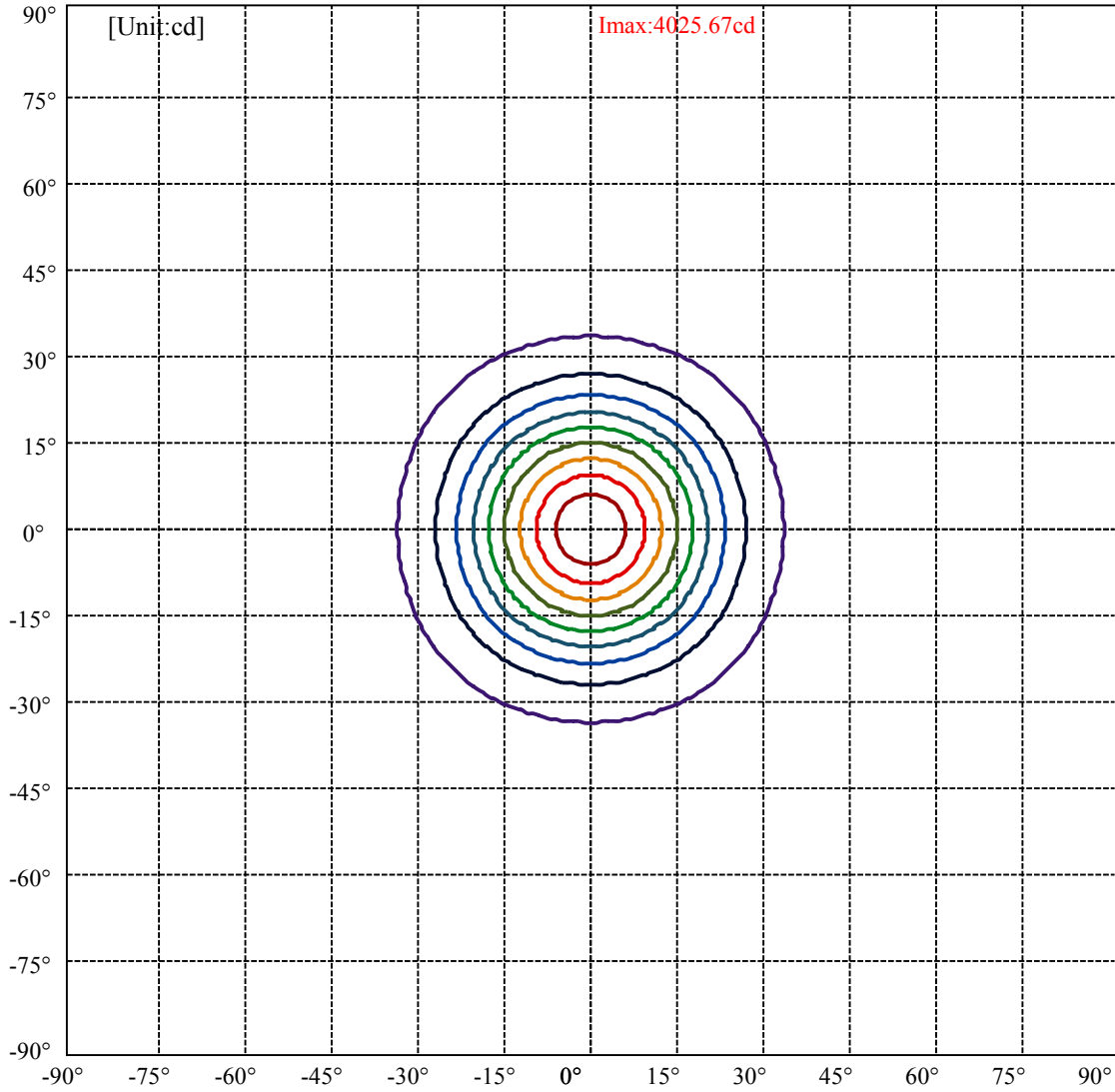


C0(Max): ———  
 C0/C180: ———  
 C90/C270: ———

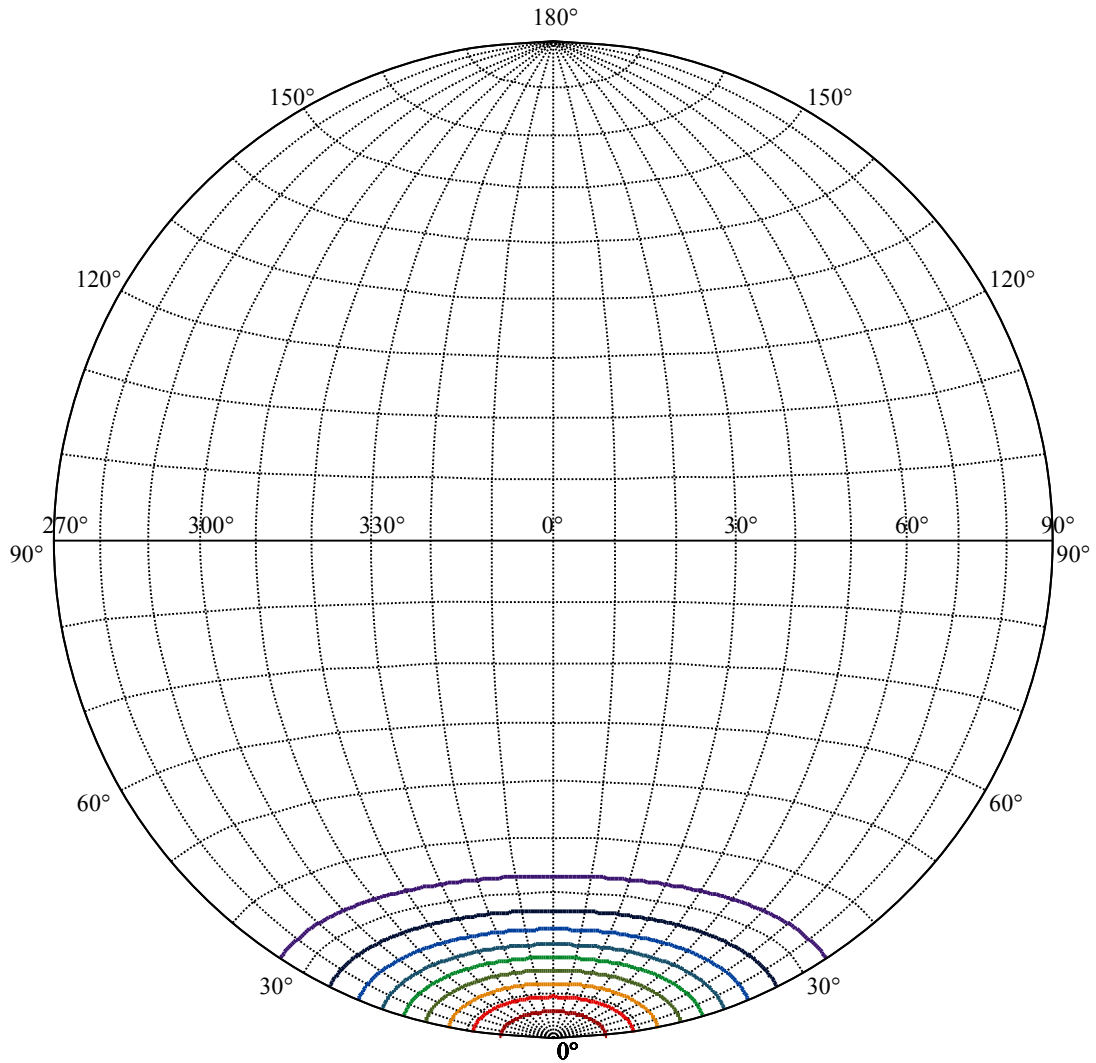
Field angle(10%Imax):C0/180Left:33.1 Right:33.1  
 :C90/270Left:33.1 Right:33.1

Beam Angle(50%Imax):C0/180Left:17.4 Right:17.4  
 :C90/270Left:17.4 Right:17.4





(10%Imax) 402.567	—
(20%Imax) 805.134	—
(30%Imax) 1207.7	—
(40%Imax) 1610.27	—
(50%Imax) 2012.84	—
(60%Imax) 2415.4	—
(70%Imax) 2817.97	—
(80%Imax) 3220.54	—
(90%Imax) 3623.1	—



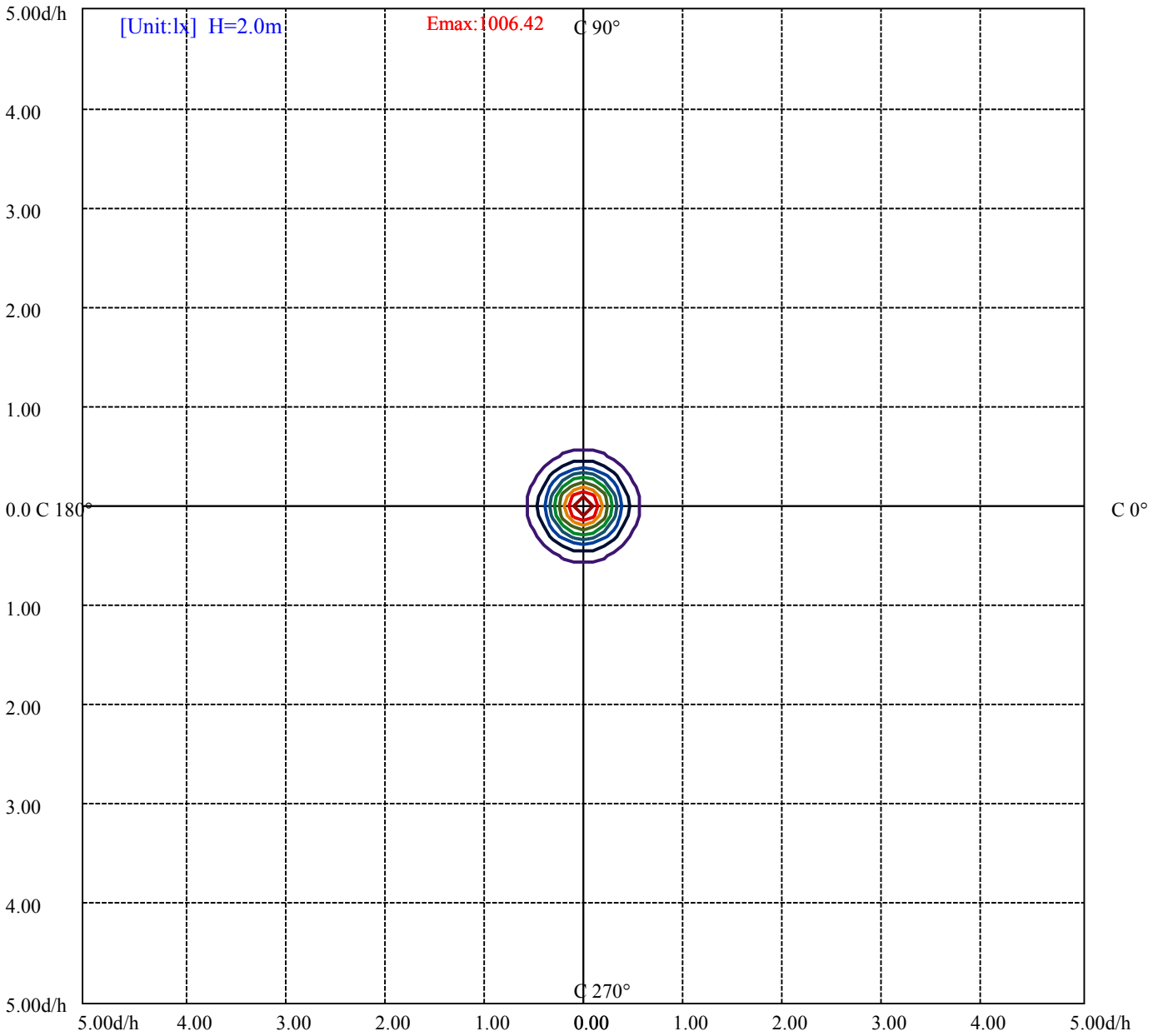
House

[Unit:cd]

Road

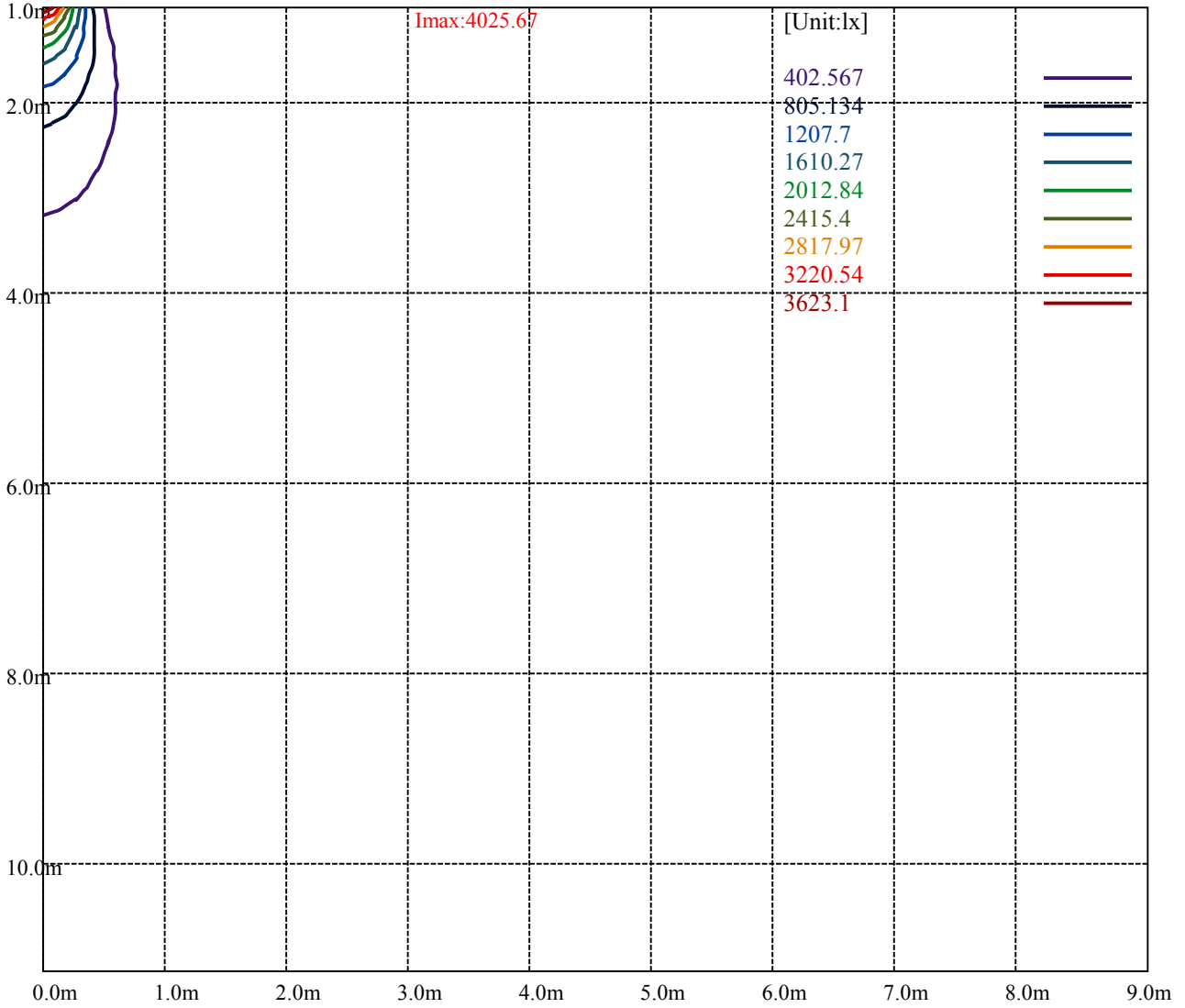
**Imax:4025.67**

(10%Imax) 402.567	—
(20%Imax) 805.134	—
(30%Imax) 1207.7	—
(40%Imax) 1610.27	—
(50%Imax) 2012.84	—
(60%Imax) 2415.4	—
(70%Imax) 2817.97	—
(80%Imax) 3220.54	—
(90%Imax) 3623.1	—



- (10%Emax) 100.6415
- (20%Emax) 201.2832
- (30%Emax) 301.925
- (40%Emax) 402.5675
- (50%Emax) 503.2075
- (60%Emax) 603.85
- (70%Emax) 704.49
- (80%Emax) 805.1325
- (90%Emax) 905.775





Luminance Table

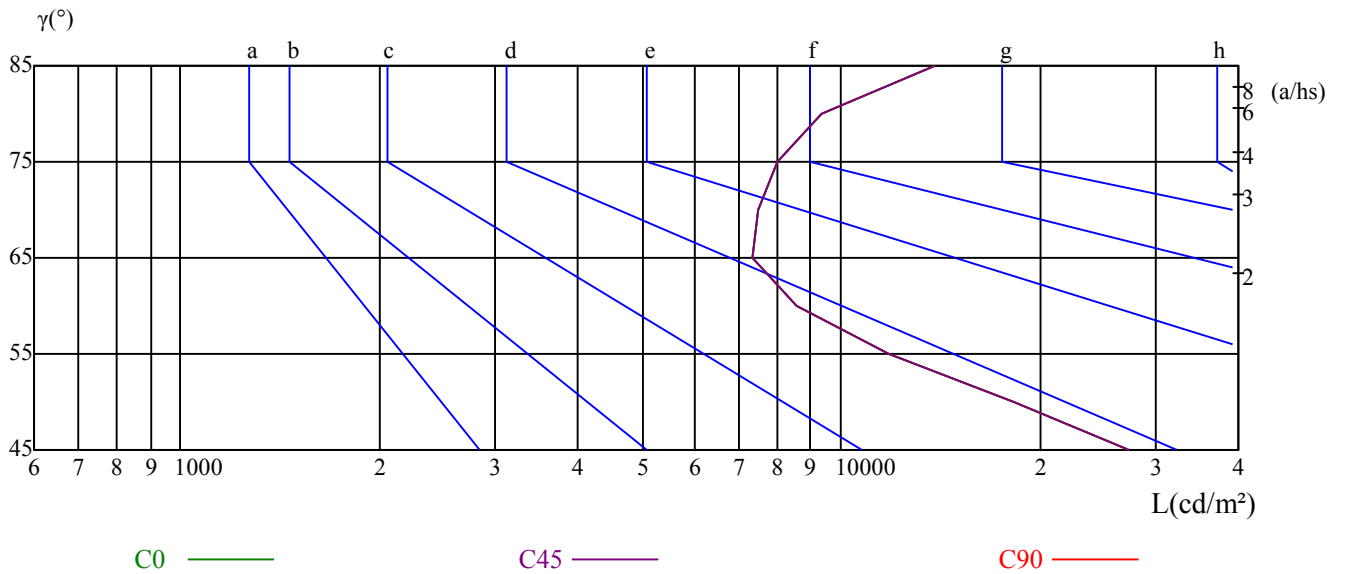
$\gamma$	45	50	55	60	65	70	75	80	85
C0	27367	18238	11844	8547	7354	7502	8000	9367	13842
C45	27367	18238	11844	8547	7354	7502	8000	9367	13842
C90	27367	18238	11844	8547	7354	7502	8000	9367	13842

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7354	7354	7354	8000	8000	8000	13842	13842	13842

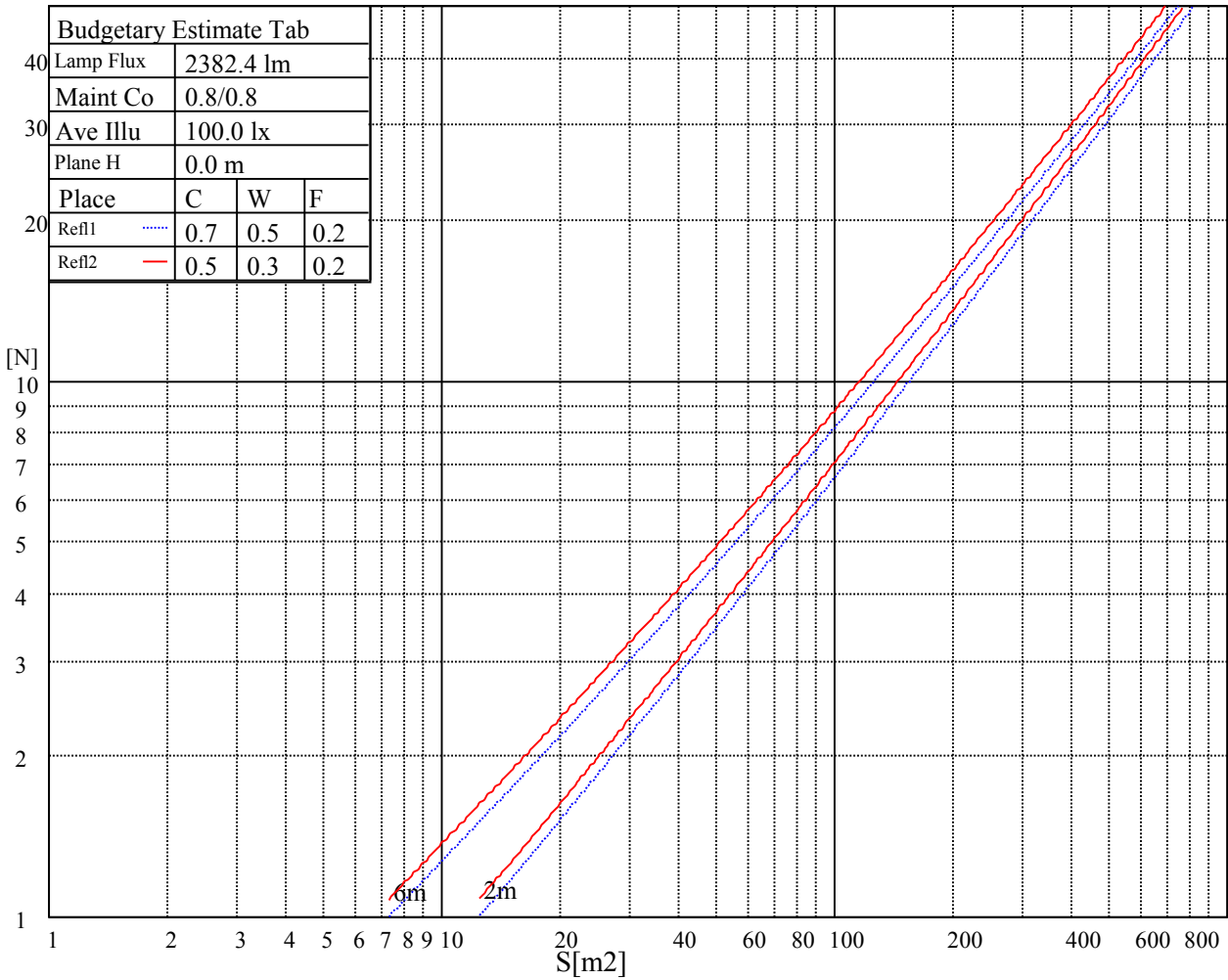
Glare Table

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

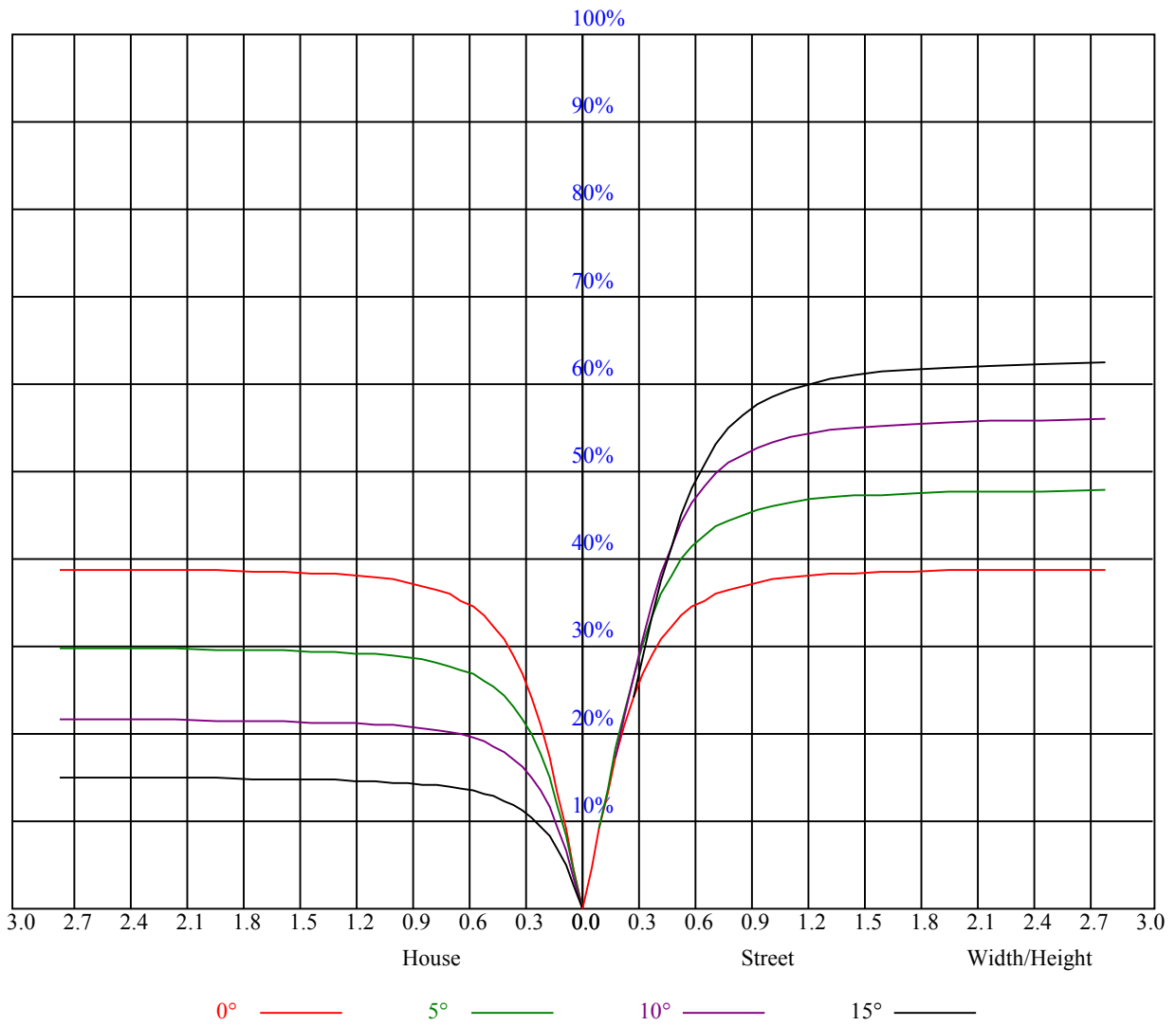
Luminance Limiting Curve



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	11.83	12.87	12.19	13.18	13.49	11.77	12.81	12.13	13.12	13.43
	3H	12.99	13.91	13.38	14.24	14.61	12.95	13.86	13.33	14.20	14.56
	4H	13.63	14.48	14.04	14.83	15.22	13.59	14.44	13.99	14.79	15.18
	6H	14.33	15.10	14.74	15.48	15.87	14.27	15.05	14.69	15.43	15.82
	8H	14.69	15.42	15.12	15.81	16.22	14.63	15.36	15.07	15.76	16.16
	12H	15.32	16.02	15.75	16.40	16.83	15.26	15.95	15.69	16.34	16.77
4H	2H	12.04	12.89	12.45	13.24	13.63	11.99	12.84	12.40	13.19	13.58
	3H	13.51	14.21	13.93	14.62	15.02	13.48	14.17	13.89	14.58	14.99
	4H	14.34	14.96	14.78	15.38	15.83	14.30	14.92	14.74	15.35	15.79
	6H	15.13	15.67	15.60	16.12	16.59	15.09	15.62	15.56	16.07	16.55
	8H	15.62	16.12	16.10	16.57	17.04	15.57	16.07	16.05	16.52	16.99
	12H	16.32	16.75	16.81	17.23	17.71	16.26	16.69	16.75	17.18	17.65
8H	4H	14.63	15.13	15.11	15.58	16.05	14.60	15.10	15.08	15.55	16.02
	6H	15.67	16.07	16.18	16.57	17.05	15.63	16.03	16.14	16.53	17.02
	8H	16.32	16.67	16.85	17.19	17.69	16.27	16.63	16.81	17.15	17.65
	12H	17.37	17.68	17.89	18.17	18.75	17.32	17.63	17.84	18.12	18.70
12H	4H	14.67	15.10	15.17	15.59	16.07	14.64	15.07	15.14	15.56	16.04
	6H	16.11	16.15	16.33	16.62	17.17	16.08	16.12	16.30	16.59	17.14
	8H	16.54	16.85	17.06	17.35	17.93	16.50	16.81	17.03	17.31	17.89
Variation with the observer position at spacings:											
S = 1.0H	1.9/-2.4					1.9/-2.4					
S = 1.5H	3.3/-2.7					3.3/-2.7					
S = 2.0H	4.8/-2.4					4.8/-2.4					
Standard tables:	BK3					BK3					
Uncorrected UGR	2.0					2.0					



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	0.94	0.94	0.94	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84	0.81	0.81	0.81	0.79
1	0.87	0.84	0.83	0.85	0.83	0.81	0.82	0.80	0.79	0.79	0.78	0.76	0.76	0.75	0.74	0.73
2	0.81	0.78	0.75	0.80	0.77	0.75	0.77	0.75	0.73	0.75	0.73	0.71	0.73	0.71	0.70	0.69
3	0.77	0.73	0.70	0.76	0.72	0.69	0.74	0.71	0.68	0.72	0.69	0.67	0.70	0.68	0.66	0.65
4	0.73	0.69	0.65	0.72	0.68	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.67	0.65	0.63	0.62
5	0.69	0.65	0.62	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.60	0.64	0.62	0.60	0.59
6	0.66	0.62	0.59	0.65	0.61	0.58	0.64	0.61	0.58	0.63	0.60	0.58	0.62	0.59	0.57	0.56
7	0.63	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.54
8	0.60	0.56	0.53	0.60	0.56	0.53	0.59	0.55	0.53	0.58	0.55	0.53	0.58	0.55	0.53	0.52
9	0.58	0.54	0.51	0.58	0.54	0.51	0.57	0.53	0.51	0.56	0.53	0.51	0.56	0.53	0.51	0.50
10	0.56	0.52	0.49	0.55	0.52	0.49	0.55	0.51	0.49	0.54	0.51	0.49	0.54	0.51	0.49	0.48



Intensity data(cd)

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	4028.63	3737.25	3106.69	2370.94	1703.25	920.25	509.63	324.00	220.22
45.0	4030.31	3822.75	3272.63	2507.06	1740.94	983.25	549.00	339.19	227.19
90.0	4037.06	3823.31	3175.88	2430.00	1675.69	976.56	532.74	334.29	228.71
135.0	4006.69	3907.13	3382.88	2575.13	1839.38	1168.31	604.69	363.38	290.25
180.0	4028.63	3809.25	3146.63	2445.19	1685.25	952.43	533.98	331.82	221.51
225.0	4030.31	3716.44	3067.88	2339.44	1550.25	880.20	495.73	313.14	219.21
270.0	4037.06	3697.31	3016.69	2327.63	1597.50	891.56	515.25	332.44	224.27
315.0	4006.69	3561.19	2873.81	2111.06	1115.78	730.74	447.58	294.69	202.50
360.0	4028.63	3737.25	3106.69	2370.94	1703.25	920.25	509.63	324.00	220.22
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	138.43	82.41	48.94	30.43	22.56	18.73	14.91	11.70	8.49
45.0	147.99	89.83	51.92	32.79	23.29	19.24	15.64	12.21	9.06
90.0	146.36	89.21	52.82	32.34	23.06	19.01	15.47	12.15	9.11
135.0	158.91	98.16	57.15	35.72	24.13	19.86	16.31	12.88	9.56
180.0	137.19	88.59	51.58	32.12	23.23	19.29	15.53	12.15	9.11
225.0	139.16	83.36	46.86	30.77	22.73	18.79	15.24	11.93	9.06
270.0	150.53	87.36	49.67	30.71	23.12	19.07	15.24	12.09	8.78
315.0	126.39	74.70	43.03	27.96	21.77	17.83	14.18	11.14	8.21
360.0	138.43	82.41	48.94	30.43	22.56	18.73	14.91	11.70	8.49
C/ $\gamma$ (°)	90.0								
0.0	6.98								
45.0	7.09								
90.0	7.09								
135.0	7.14								
180.0	7.03								
225.0	7.20								
270.0	7.09								
315.0	7.03								
360.0	6.98								