



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

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## NATA

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LumCAT: CR01D01730AA-N

Luminaire:

Report No: NATA0100

Voltage(V): 3.6000

Test No: GC2018122911

Current(A): 0.3000

LampCAT: CREE XPG2

Power (W): 1.0800

Lamp flux(lm): 133.0

PF: 0.0000

Number of Lamps: 1

Ballast type:

Length(mm): 15

Width(mm): 15

Phm Type: C

Height(mm): 0

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## Photometric Results

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Lumens(lm): 123.05

Efficiency(%): 92.52%

Lumens(lm)/Power(W): 115.29

Central intensity(cd): 265.219

Maximum intensity(cd): 265.219

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=30.5

[C90/270]Total=30.5

Field angle(10%Imax): [C0/180]Total=66.1

[C90/270]Total=66.1

Maximum s/h(1/2): C0\_180=0.51 C90\_270=0.51

Maximum s/h(1/4): C0\_180=0.53 C90\_270=0.53

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 93.62%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 92.215%

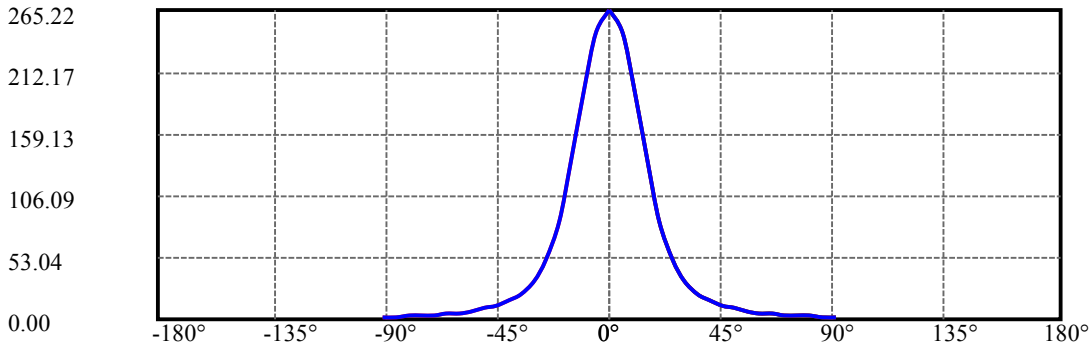
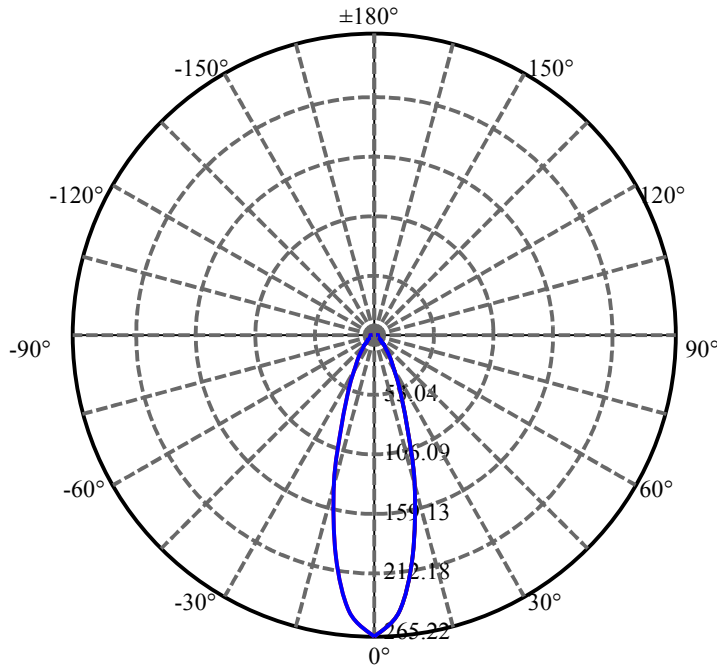
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	265.219	1.586	1.586	1.193%	1.289%
5.0	244.659	11.688	13.274	8.788%	10.788%
10.0	197.529	18.801	32.076	14.136%	26.067%
15.0	135.113	19.168	51.244	14.412%	41.645%
20.0	83.981	15.744	66.988	11.838%	54.440%
25.0	50.604	11.723	78.711	8.814%	63.967%
30.0	33.202	9.100	87.81	6.842%	71.362%
35.0	22.205	6.981	94.791	5.249%	77.036%
40.0	16.045	5.653	100.445	4.251%	81.630%
45.0	12.030	4.663	105.108	3.506%	85.420%
50.0	9.288	3.900	109.008	2.932%	88.589%
55.0	7.080	3.179	112.187	2.390%	91.173%
60.0	5.555	2.637	114.824	1.983%	93.316%
65.0	4.324	2.148	116.972	1.615%	95.062%
70.0	3.473	1.789	118.761	1.345%	96.516%
75.0	2.869	1.519	120.28	1.142%	97.750%
80.0	2.531	1.366	121.646	1.027%	98.860%
85.0	2.109	1.152	122.798	.866%	99.796%
90.0	0.914	0.251	123.049	.188%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	87.81	66.02%	71.36%
0-40	100.44	75.52%	81.63%
0-60	114.82	86.33%	93.32%
0-90	122.80	92.33%	99.80%
0-120	122.80	92.33%	99.80%
0-180	123.05	92.52%	100.00%
60-90	10.61	7.98%	8.62%
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%
0-38.23	98.44	74.01%	80.00%

ZONAL LUMEN SUMMARY

0-10	32.08
10-20	34.91
20-30	20.82
30-40	12.63
40-50	8.56
50-60	5.82
60-70	3.94
70-80	2.89
80-90	1.15
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): —————

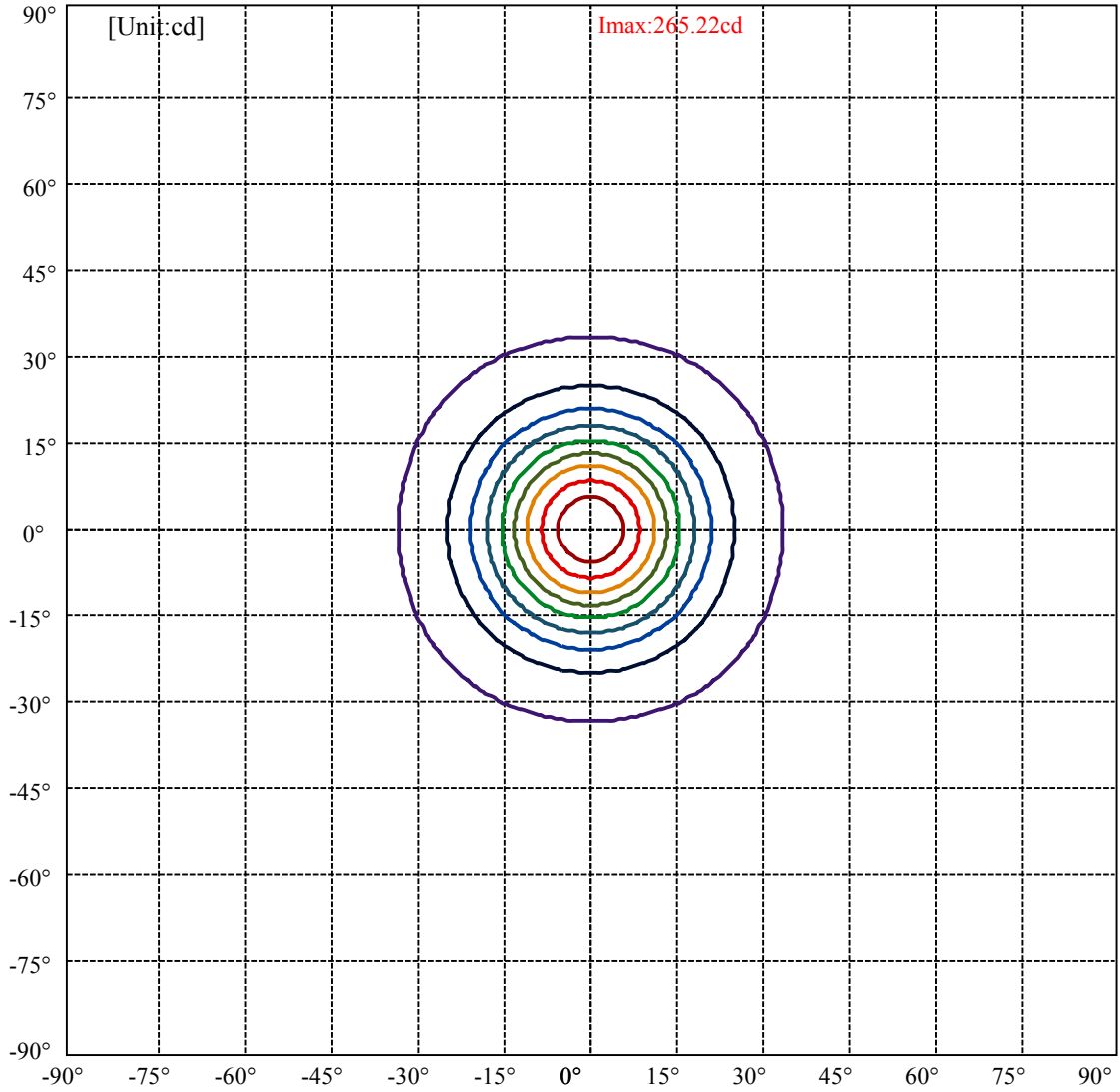
C0/C180: —————

C90/C270: —————

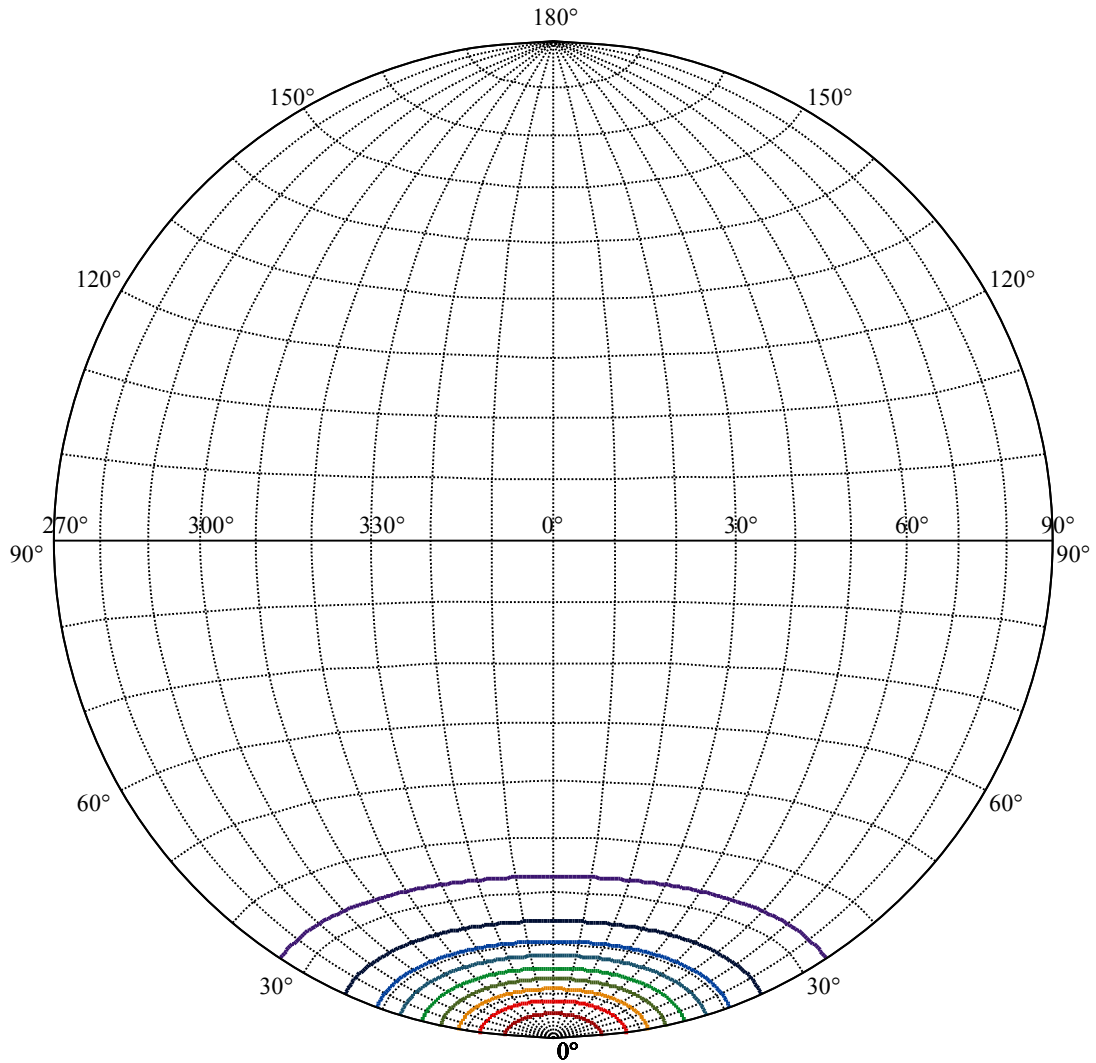
Field angle(10%Imax):C0/180Left:33.0 Right:33.0  
:C90/270Left:33.0 Right:33.0

Beam Angle(50%Imax):C0/180Left:15.2 Right:15.2  
:C90/270Left:15.2 Right:15.2





(10%Imax) 26.5219	—
(20%Imax) 53.0437	—
(30%Imax) 79.5656	—
(40%Imax) 106.087	—
(50%Imax) 132.609	—
(60%Imax) 159.131	—
(70%Imax) 185.653	—
(80%Imax) 212.175	—
(90%Imax) 238.697	—



House

[Unit:cd]

Road

**Imax:265.22**

(10%Imax) 26.5219

(20%Imax) 53.0437

(30%Imax) 79.5656

(40%Imax) 106.087

(50%Imax) 132.609

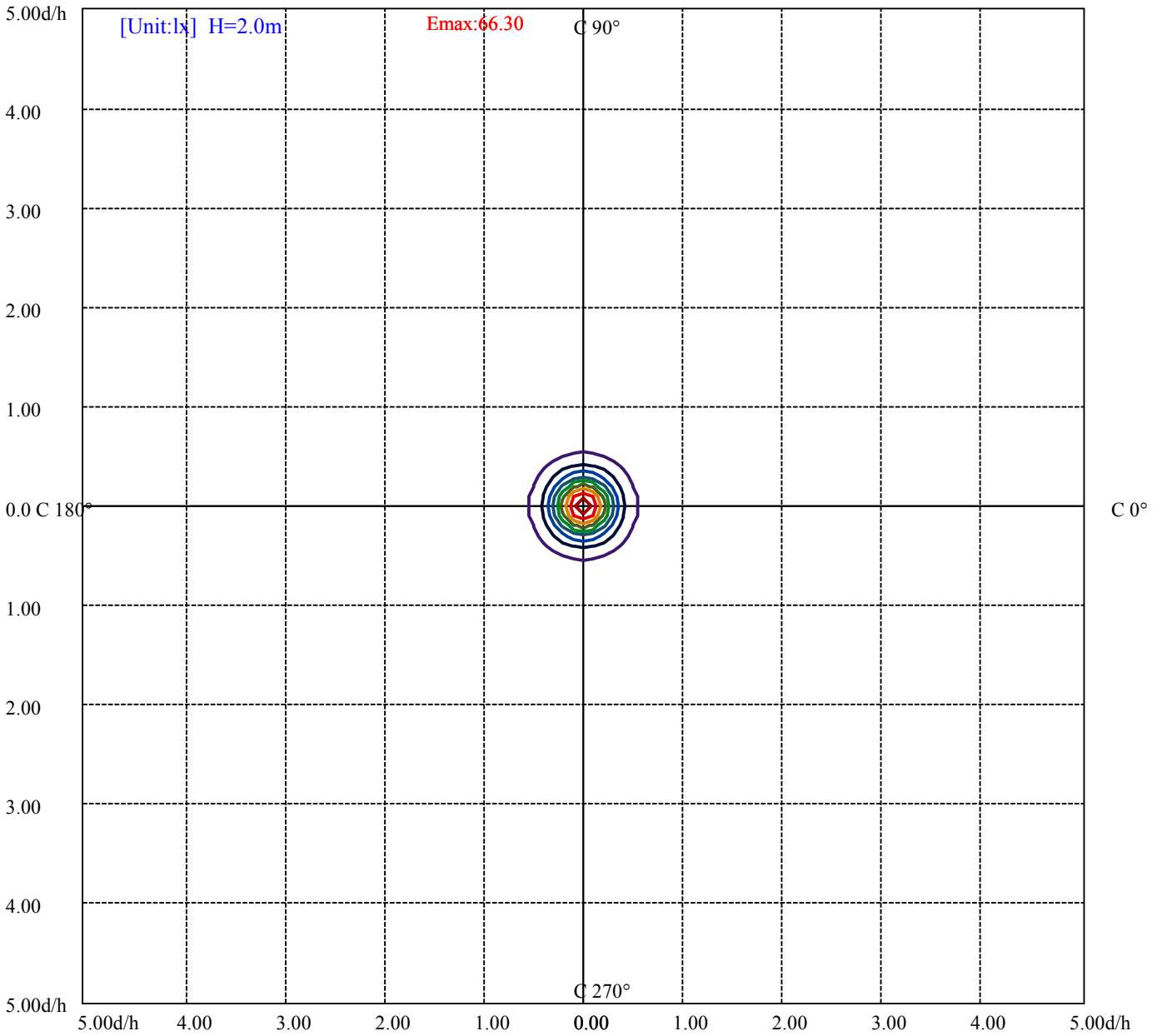
(60%Imax) 159.131

(70%Imax) 185.653

(80%Imax) 212.175

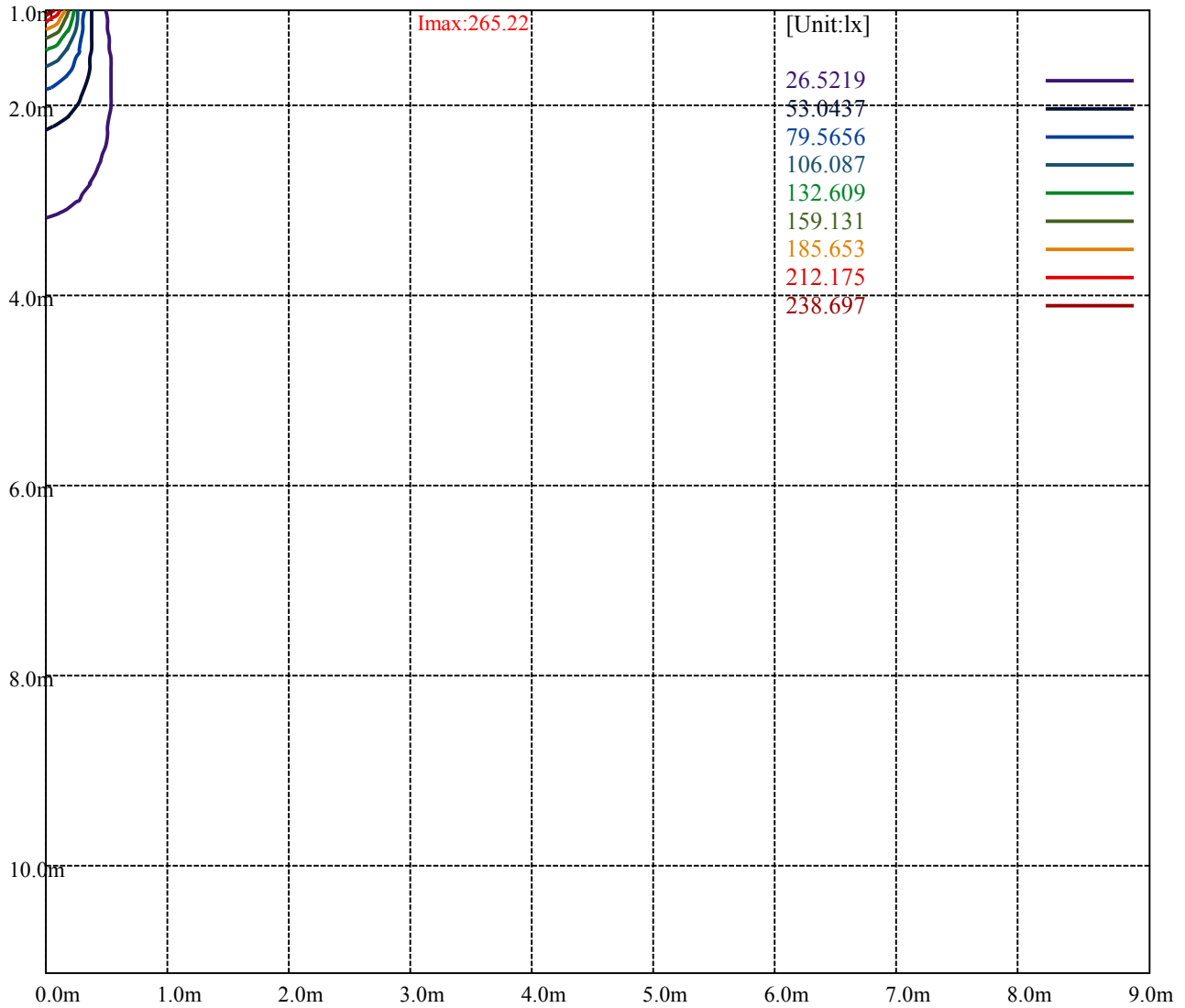
(90%Imax) 238.697





- (10%Emax) 6.63045
- (20%Emax) 13.2609
- (30%Emax) 19.89135
- (40%Emax) 26.52175
- (50%Emax) 33.15225
- (60%Emax) 39.78275
- (70%Emax) 46.41325
- (80%Emax) 53.0435
- (90%Emax) 59.674





Luminance Table

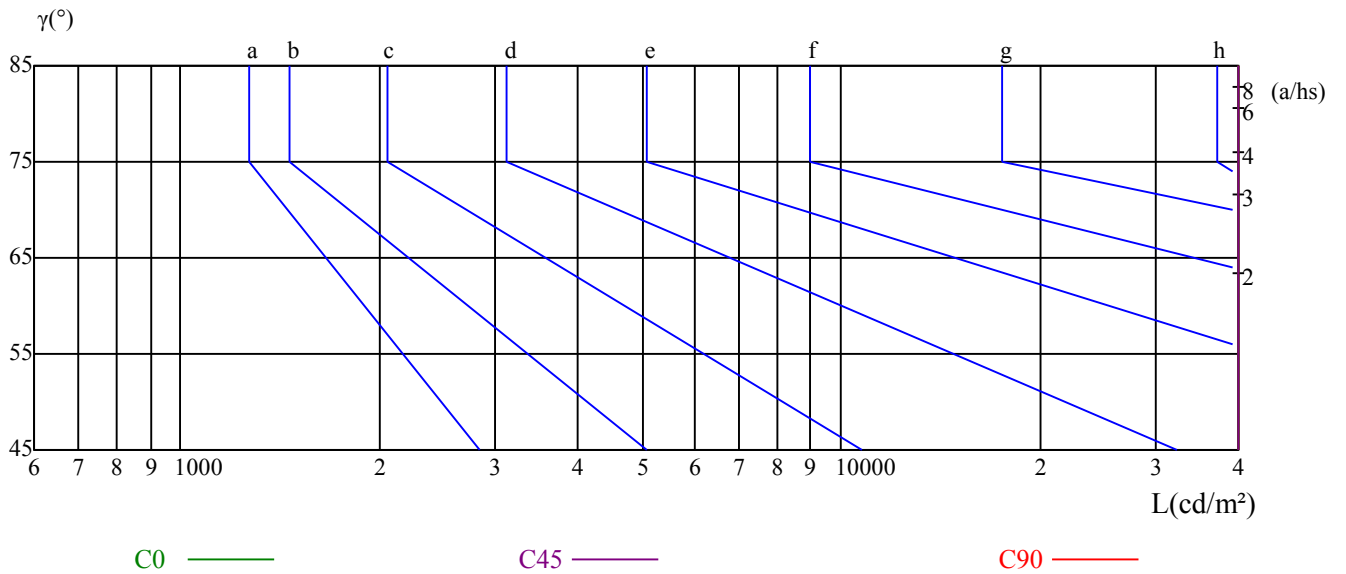
$\gamma$	45	50	55	60	65	70	75	80	85
C0	75616	64222	54864	49375	45475	45136	49262	64786	107566
C45	75616	64222	54864	49375	45475	45136	49262	64786	107566
C90	75616	64222	54864	49375	45475	45136	49262	64786	107566

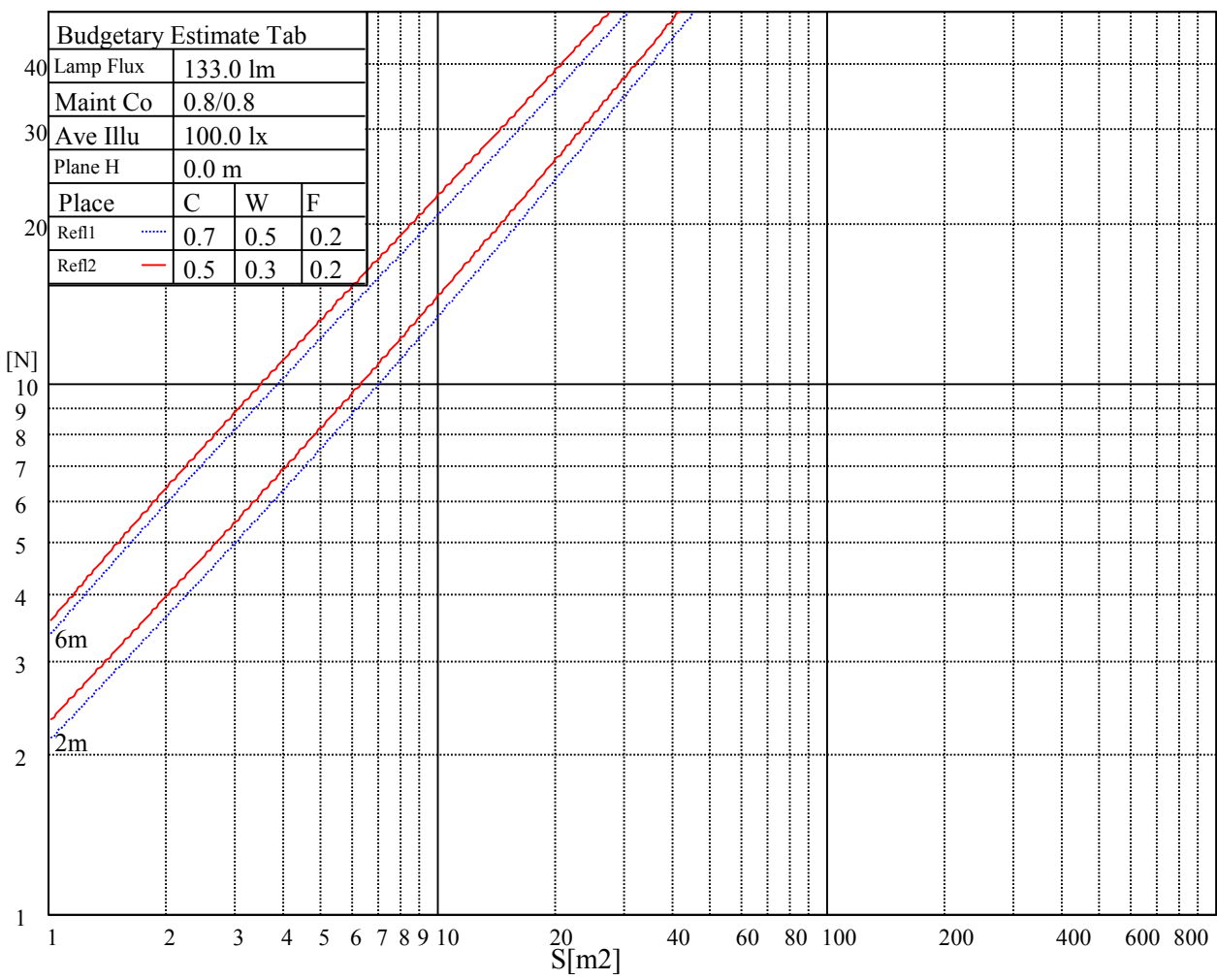
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
45475	45475	45475	49262	49262	49262	107566	107566	107566

Glare Table

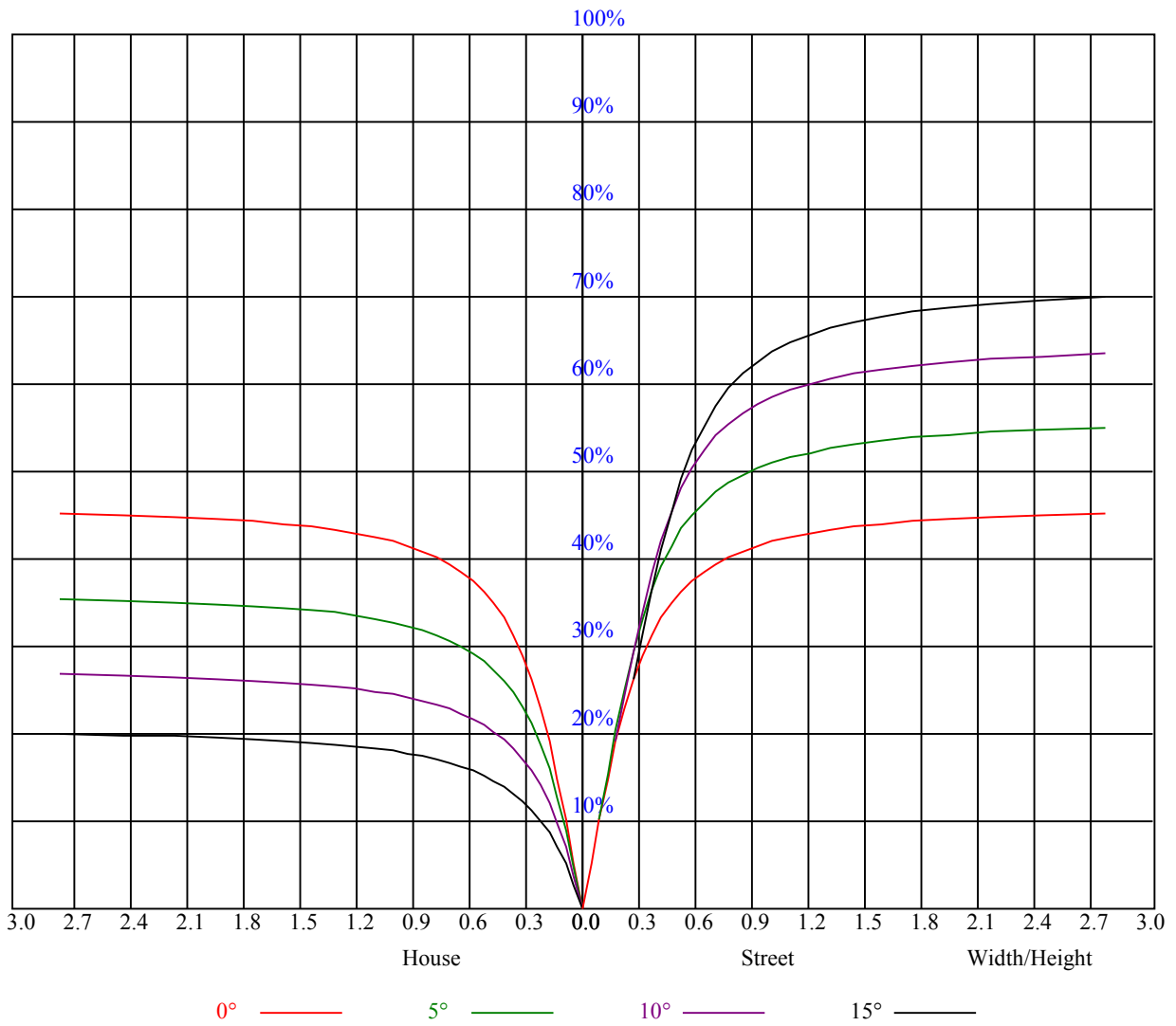
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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	1.11	1.11	1.11	1.09	1.09	1.09	1.04	1.04	1.04	1.00	1.00	1.00	0.96	0.96	0.96	0.94
1	1.01	0.98	0.96	0.99	0.96	0.94	0.95	0.93	0.91	0.92	0.90	0.88	0.88	0.87	0.86	0.84
2	0.94	0.89	0.86	0.92	0.88	0.85	0.89	0.86	0.83	0.86	0.84	0.81	0.84	0.81	0.79	0.78
3	0.88	0.82	0.78	0.86	0.82	0.78	0.84	0.80	0.76	0.81	0.78	0.75	0.79	0.76	0.74	0.73
4	0.82	0.77	0.73	0.81	0.76	0.72	0.79	0.75	0.71	0.77	0.73	0.70	0.75	0.72	0.70	0.68
5	0.78	0.72	0.68	0.77	0.71	0.68	0.75	0.70	0.67	0.73	0.69	0.66	0.72	0.69	0.66	0.64
6	0.74	0.68	0.64	0.73	0.68	0.64	0.71	0.67	0.63	0.70	0.66	0.63	0.69	0.65	0.62	0.61
7	0.70	0.65	0.61	0.69	0.64	0.60	0.68	0.64	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.58
8	0.67	0.62	0.58	0.66	0.61	0.58	0.65	0.61	0.57	0.64	0.60	0.57	0.64	0.60	0.57	0.56
9	0.64	0.59	0.55	0.64	0.59	0.55	0.63	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.53
10	0.62	0.56	0.53	0.61	0.56	0.53	0.60	0.56	0.53	0.60	0.56	0.53	0.59	0.55	0.53	0.51



NATA CR01D01730AA

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	263.25	247.61	198.68	130.56	79.54	49.11	32.91	23.01	17.04
45.0	266.51	246.94	191.59	127.97	78.19	47.93	33.13	22.84	16.59
90.0	265.78	234.51	181.63	118.58	72.11	45.34	29.87	20.14	14.63
135.0	265.33	243.51	197.10	134.55	84.83	50.57	32.96	21.54	15.30
180.0	263.25	238.16	190.58	135.51	86.23	51.81	33.24	21.66	15.47
225.0	266.51	242.94	201.94	142.71	91.58	55.86	34.65	22.50	16.09
270.0	265.78	256.16	216.84	156.21	97.99	56.14	36.00	23.51	16.88
315.0	265.33	247.44	201.88	134.83	81.39	48.09	32.85	22.44	16.37
360.0	263.25	247.61	198.68	130.56	79.54	49.11	32.91	23.01	17.04
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	12.66	9.84	7.59	5.96	4.67	3.71	3.04	2.64	2.14
45.0	12.49	9.62	7.26	5.57	4.28	3.43	2.81	2.48	2.08
90.0	11.31	8.78	6.64	5.18	3.88	3.15	2.59	2.25	1.86
135.0	11.42	8.78	6.75	5.40	4.28	3.49	2.93	2.53	2.19
180.0	11.64	9.23	7.20	5.63	4.50	3.60	2.98	2.76	2.19
225.0	11.81	9.11	6.98	5.57	4.39	3.54	2.98	2.64	2.25
270.0	12.66	9.56	7.14	5.63	4.39	3.49	2.81	2.48	2.03
315.0	12.26	9.39	7.09	5.51	4.22	3.38	2.81	2.48	2.14
360.0	12.66	9.84	7.59	5.96	4.67	3.71	3.04	2.64	2.14
C/ $\gamma$ (°)	90.0								
0.0	0.84								
45.0	0.96								
90.0	0.90								
135.0	1.24								
180.0	1.01								
225.0	0.84								
270.0	0.79								
315.0	0.73								
360.0	0.84								