



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: 1406-N
Luminaire: 92.70.044.00
Report No: NATA0100 Voltage(V): 34.8000
Test No: GC2019022807 Current(A): 0.1500
LampCAT: NICHIA NTCWS024B-V3 LES6.7 Power (W): 5.2200
Lamp flux(lm): 620.0 PF: 0.0000
Number of Lamps: 1 Ballast type: DC
Length(mm): 39 Width(mm): 39
Phm Type: C Height(mm): 0

Photometric Results

Lumens(lm): 532.99
Efficiency(%): 85.97%
Lumens(lm)/Power(W): 102.95
Central intensity(cd): 824.231
Maximum intensity(cd): 824.231
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=36.3
[C90/270]Total=36.3
Field angle(10%Imax): [C0/180]Total=87.2
[C90/270]Total=87.2
Maximum s/h(1/2): C0_180=0.59 C90_270=0.59
Maximum s/h(1/4): C0_180=0.64 C90_270=0.64
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 86.68%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.465%

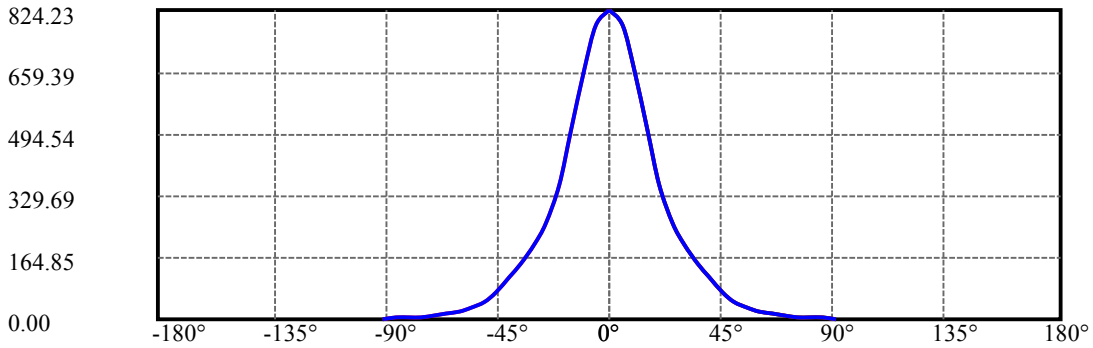
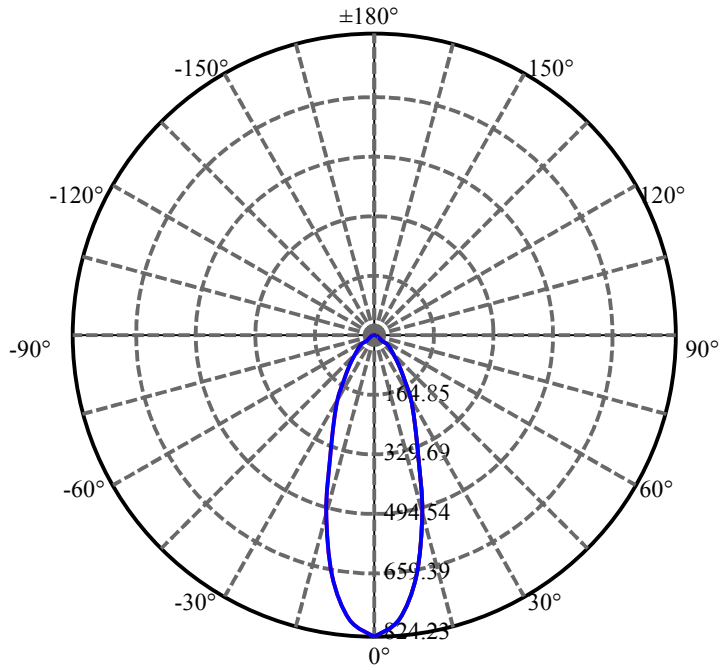
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	824.231	4.929	4.929	.795%	.925%
5.0	782.227	37.370	42.299	6.027%	7.936%
10.0	665.100	63.306	105.605	10.211%	19.814%
15.0	502.242	71.252	176.857	11.492%	33.182%
20.0	359.002	67.303	244.161	10.855%	45.810%
25.0	258.019	59.771	303.931	9.640%	57.024%
30.0	198.274	54.341	358.272	8.765%	67.220%
35.0	150.996	47.473	405.745	7.657%	76.127%
40.0	110.088	38.788	444.533	6.256%	83.404%
45.0	71.529	27.724	472.257	4.472%	88.606%
50.0	44.641	18.745	491.002	3.023%	92.123%
55.0	28.280	12.698	503.7	2.048%	94.505%
60.0	19.666	9.336	513.036	1.506%	96.257%
65.0	13.739	6.825	519.861	1.101%	97.537%
70.0	9.809	5.052	524.913	.815%	98.485%
75.0	6.743	3.570	528.483	.576%	99.155%
80.0	4.500	2.429	530.912	.392%	99.611%
85.0	2.770	1.513	532.425	.244%	99.895%
90.0	2.046	0.561	532.986	.090%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	358.27	57.79%	67.22%
0-40	444.53	71.70%	83.40%
0-60	513.04	82.75%	96.26%
0-90	532.43	85.88%	99.89%
0-120	532.43	85.88%	99.89%
0-180	532.99	85.97%	100.00%
60-90	28.73	4.63%	5.39%
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%
0-37.66	426.39	68.77%	80.00%

ZONAL LUMEN SUMMARY

0-10	105.60
10-20	138.56
20-30	114.11
30-40	86.26
40-50	46.47
50-60	22.03
60-70	11.88
70-80	6.00
80-90	1.51
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: —————

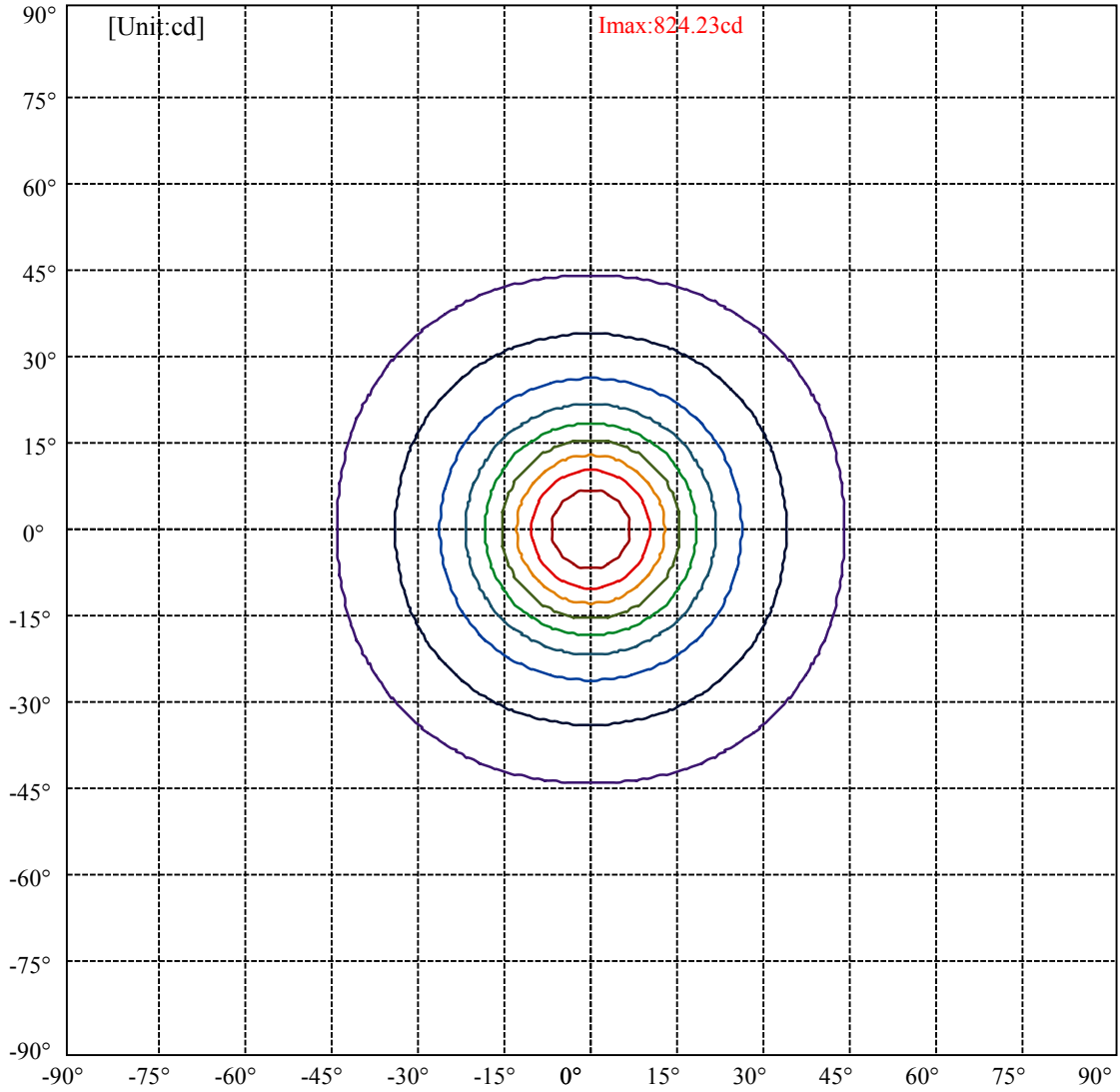
C90/C270: —————

Field angle(10%Imax):C0/180Left:43.6 Right:43.6

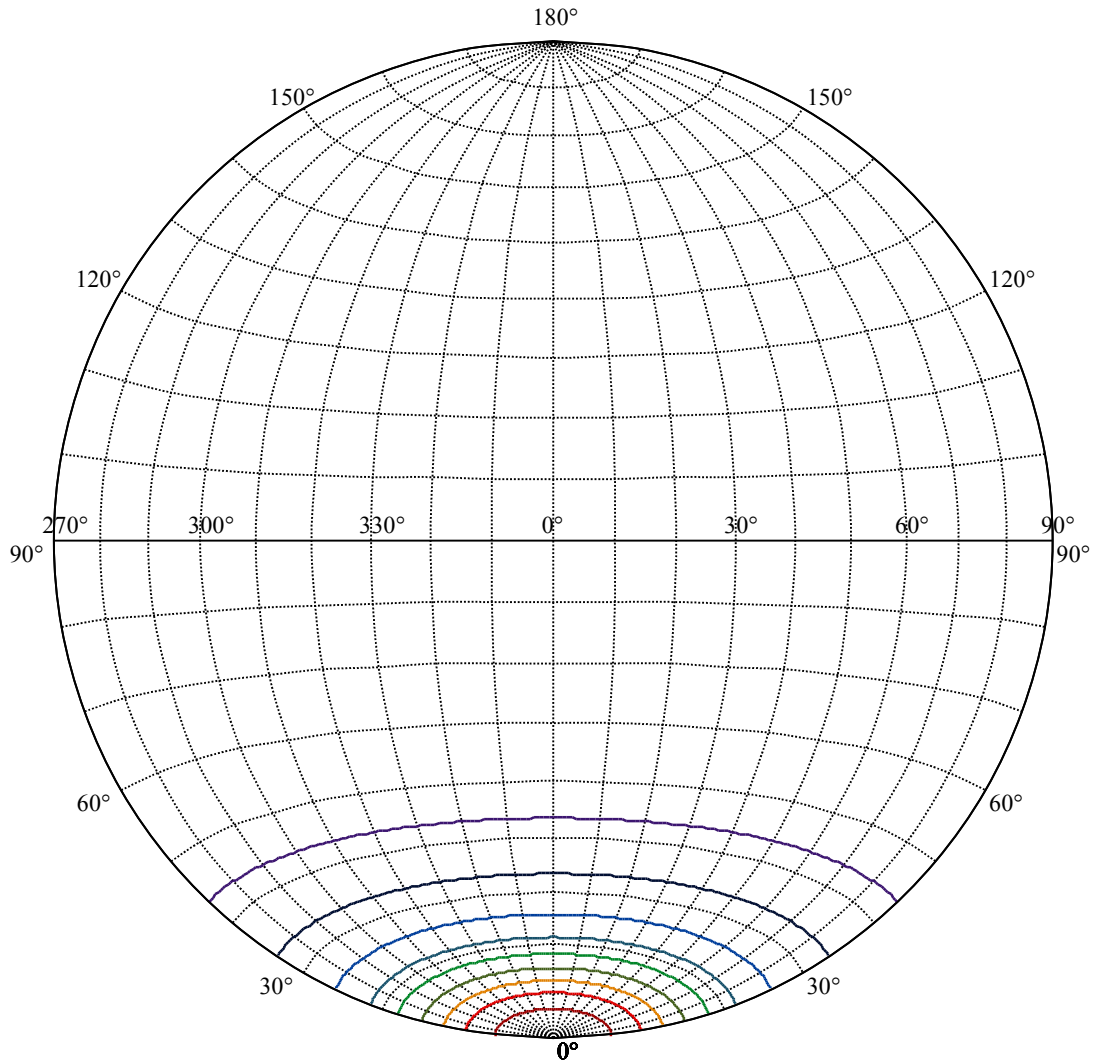
:C90/270Left:43.6 Right:43.6

Beam Angle(50%Imax):C0/180Left:18.1 Right:18.1

:C90/270Left:18.1 Right:18.1



(10%Imax) 82.4231	—
(20%Imax) 164.846	—
(30%Imax) 247.269	—
(40%Imax) 329.693	—
(50%Imax) 412.116	—
(60%Imax) 494.539	—
(70%Imax) 576.962	—
(80%Imax) 659.385	—
(90%Imax) 741.808	—



House

[Unit:cd]

Road

Imax:824.23

(10%Imax) 82.4231

(20%Imax) 164.846

(30%Imax) 247.269

(40%Imax) 329.693

(50%Imax) 412.116

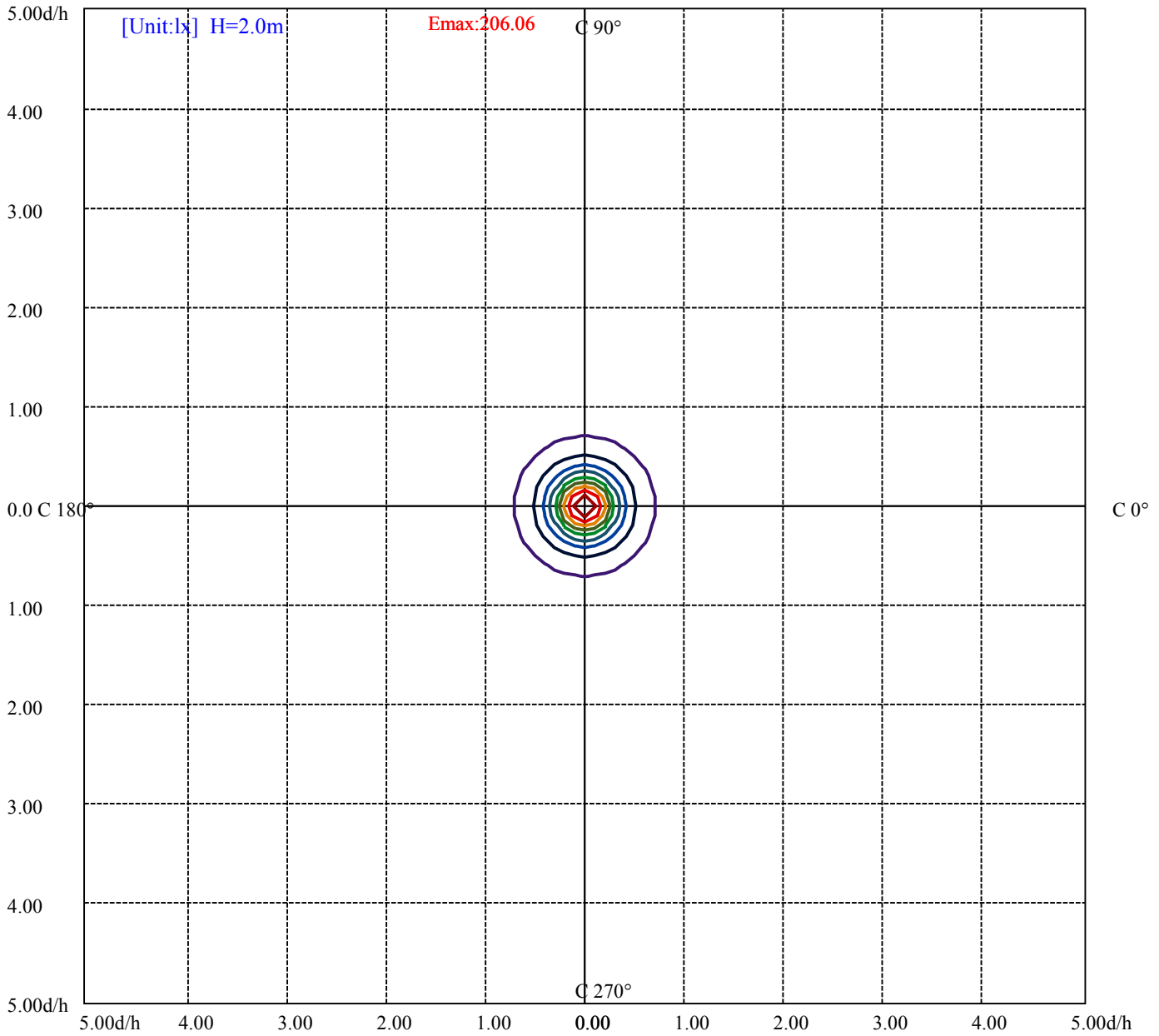
(60%Imax) 494.539

(70%Imax) 576.962

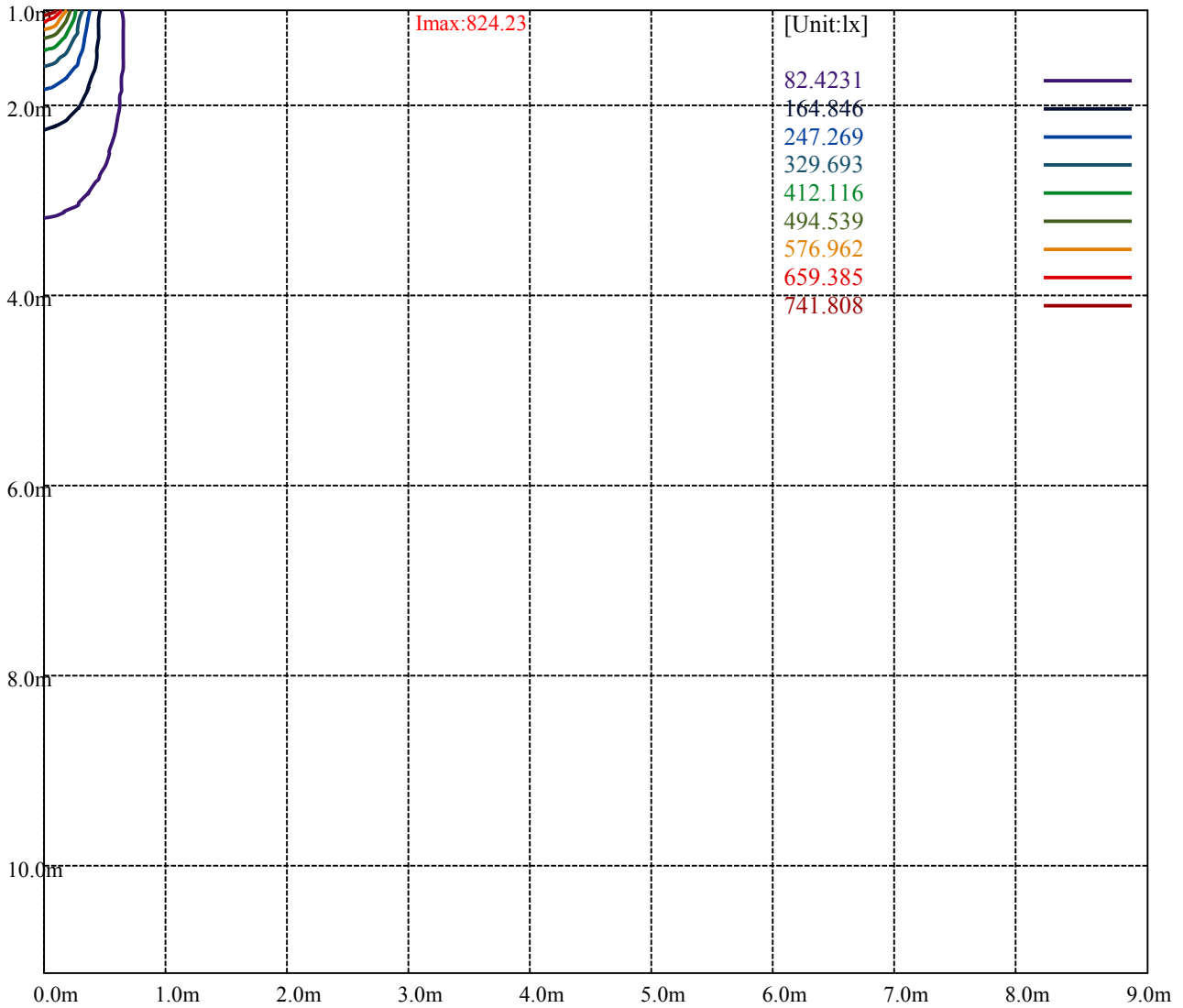
(80%Imax) 659.385

(90%Imax) 741.808





(10%Emax) 20.60575	—
(20%Emax) 41.2115	—
(30%Emax) 61.81725	—
(40%Emax) 82.423	—
(50%Emax) 103.0287	—
(60%Emax) 123.6345	—
(70%Emax) 144.2402	—
(80%Emax) 164.846	—
(90%Emax) 185.4518	—



Luminance Table

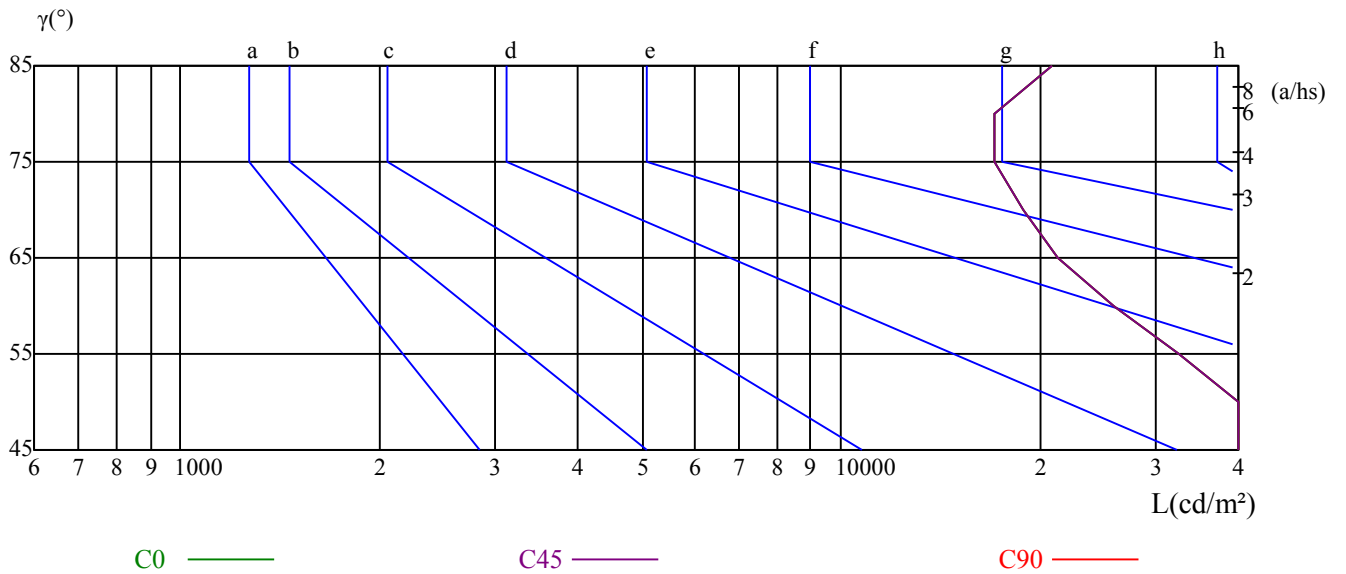
γ	45	50	55	60	65	70	75	80	85
C0	66507	45661	32416	25860	21374	18855	17129	17038	20898
C45	66507	45661	32416	25860	21374	18855	17129	17038	20898
C90	66507	45661	32416	25860	21374	18855	17129	17038	20898

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
21374	21374	21374	17129	17129	17129	20898	20898	20898

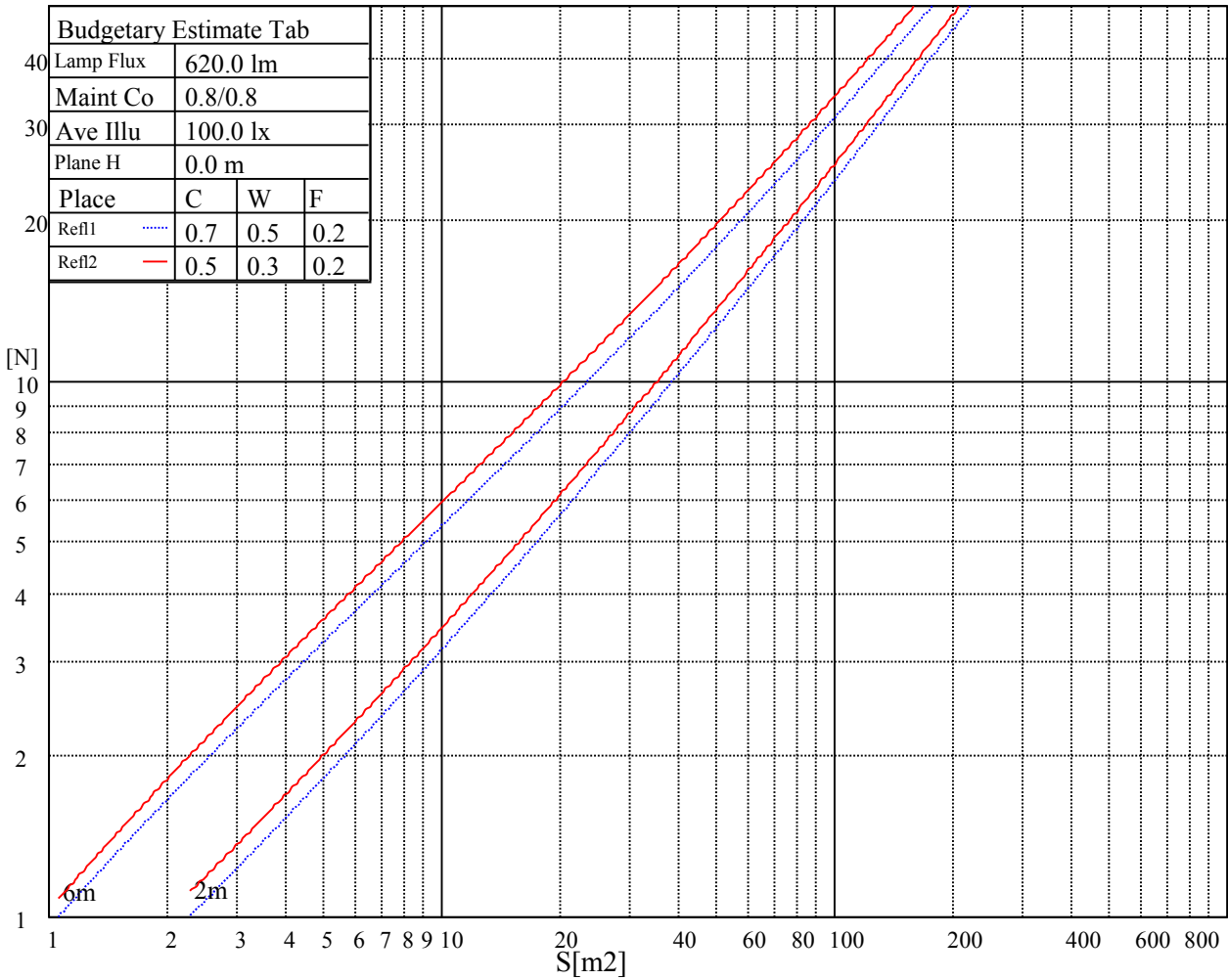
Glare Table

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

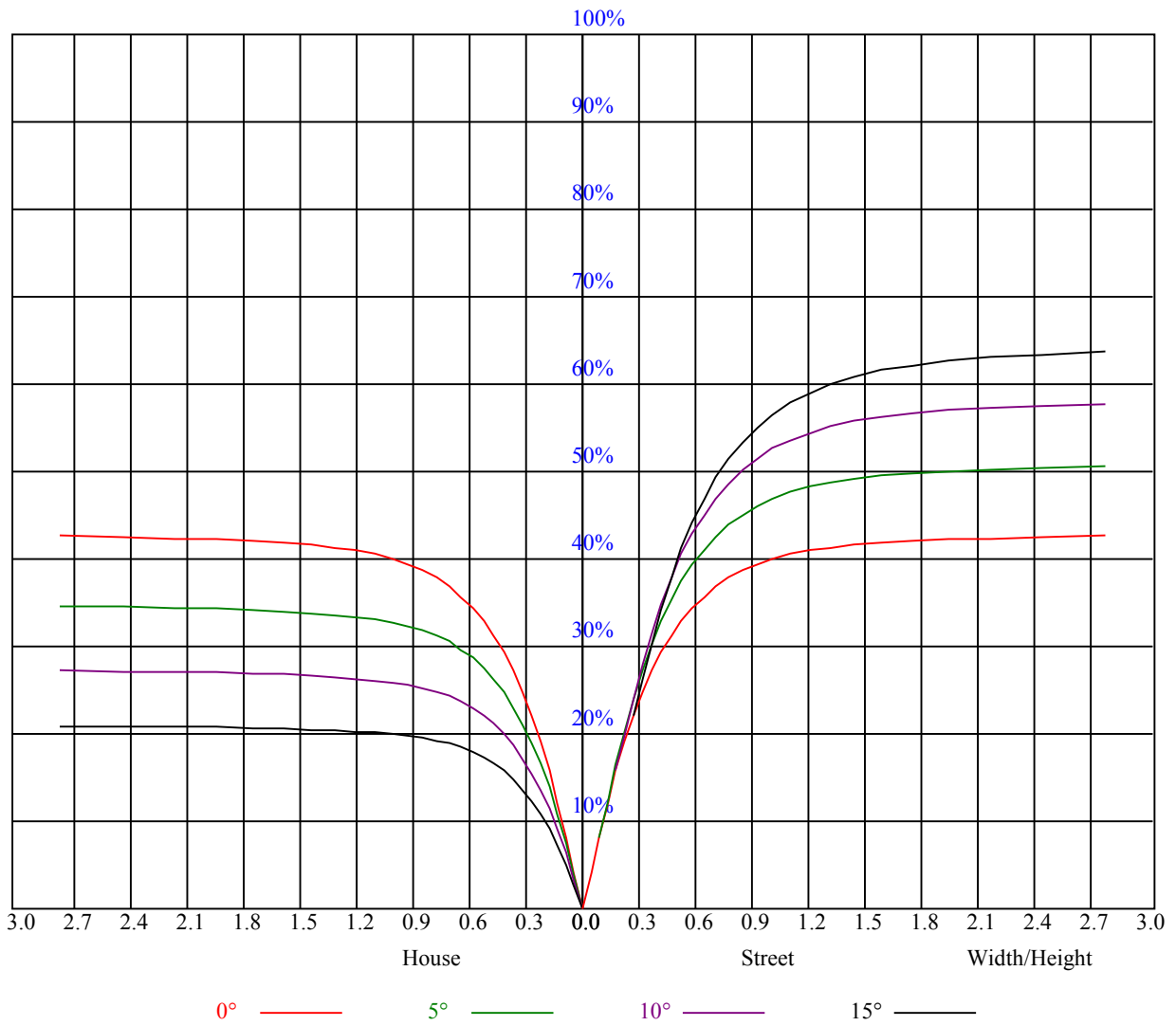
Luminance Limiting Curve



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	22.02	23.19	22.39	23.50	23.81	22.22	23.38	22.59	23.69	24.01
	3H	23.03	24.06	23.42	24.39	24.76	23.25	24.27	23.63	24.61	24.97
	4H	23.42	24.38	23.83	24.73	25.11	23.64	24.59	24.05	24.95	25.33
	6H	23.76	24.63	24.18	25.01	25.40	23.98	24.85	24.40	25.23	25.62
	8H	23.91	24.73	24.34	25.12	25.53	24.13	24.95	24.56	25.34	25.75
	12H	24.16	24.95	24.59	25.33	25.76	24.38	25.17	24.81	25.55	25.98
4H	2H	22.31	23.26	22.71	23.61	24.00	22.48	23.43	22.88	23.78	24.17
	3H	23.54	24.32	23.95	24.72	25.13	23.72	24.50	24.13	24.90	25.31
	4H	24.04	24.74	24.48	25.16	25.61	24.23	24.93	24.67	25.35	25.79
	6H	24.44	25.04	24.91	25.49	25.96	24.63	25.23	25.10	25.68	26.15
	8H	24.66	25.22	25.13	25.66	26.14	24.85	25.41	25.32	25.85	26.33
	12H	24.96	25.45	25.45	25.93	26.41	25.15	25.64	25.64	26.12	26.60
8H	4H	24.21	24.77	24.68	25.22	25.69	24.38	24.93	24.85	25.38	25.86
	6H	24.76	25.21	25.26	25.71	26.19	24.92	25.38	25.43	25.88	26.36
	8H	25.07	25.47	25.60	25.99	26.49	25.24	25.64	25.77	26.16	26.66
	12H	25.88	26.23	26.40	26.73	27.31	26.05	26.41	26.57	26.90	27.48
12H	4H	24.21	24.70	24.70	25.18	25.66	24.37	24.86	24.86	25.35	25.82
	6H	25.24	25.21	25.34	25.68	26.23	25.41	25.37	25.50	25.84	26.39
	8H	25.19	25.54	25.70	26.04	26.61	25.35	25.70	25.87	26.20	26.77
Variation with the observer position at spacings:											
S = 1.0H	1.1/-1.9					1.1/-1.9					
S = 1.5H	2.4/-2.5					2.4/-2.5					
S = 2.0H	4.2/-2.6					4.2/-2.6					
Standard tables:	BK2					BK2					
Uncorrected UGR	6.3					6.3					



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	1.03	1.03	1.03	1.01	1.01	1.01	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.87
1	0.94	0.92	0.90	0.93	0.90	0.88	0.89	0.87	0.85	0.86	0.84	0.83	0.83	0.82	0.80	0.79
2	0.88	0.84	0.80	0.86	0.82	0.79	0.83	0.80	0.78	0.81	0.78	0.76	0.78	0.76	0.74	0.73
3	0.81	0.77	0.73	0.80	0.76	0.72	0.78	0.74	0.71	0.76	0.73	0.70	0.74	0.71	0.69	0.68
4	0.76	0.71	0.67	0.75	0.70	0.67	0.73	0.69	0.66	0.71	0.68	0.65	0.70	0.67	0.64	0.63
5	0.71	0.66	0.62	0.70	0.66	0.62	0.69	0.65	0.61	0.67	0.64	0.61	0.66	0.63	0.60	0.59
6	0.67	0.62	0.58	0.66	0.61	0.58	0.65	0.61	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.55
7	0.63	0.58	0.54	0.63	0.58	0.54	0.62	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.53	0.52
8	0.60	0.55	0.51	0.60	0.55	0.51	0.59	0.54	0.51	0.58	0.54	0.51	0.57	0.53	0.51	0.49
9	0.57	0.52	0.49	0.57	0.52	0.49	0.56	0.51	0.48	0.55	0.51	0.48	0.54	0.51	0.48	0.47
10	0.54	0.50	0.46	0.54	0.49	0.46	0.53	0.49	0.46	0.53	0.49	0.46	0.52	0.48	0.46	0.45



NATA 1406-N

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	821.36	780.24	672.30	507.43	364.95	267.86	204.24	154.74	111.26
45.0	830.70	787.44	668.76	507.09	358.99	255.15	197.10	148.50	107.16
90.0	823.22	775.13	643.05	473.74	332.55	240.69	182.93	138.49	100.80
135.0	821.64	783.39	669.43	511.20	363.60	259.31	202.05	155.70	114.92
180.0	821.36	774.06	654.41	490.78	349.88	251.55	195.64	150.36	109.63
225.0	830.70	791.04	669.49	502.71	366.41	262.35	201.04	153.73	114.58
270.0	823.22	792.90	687.99	534.60	383.96	269.49	204.69	155.42	114.02
315.0	821.64	773.61	655.37	490.39	351.68	257.74	198.51	151.03	108.34
360.0	821.36	780.24	672.30	507.43	364.95	267.86	204.24	154.74	111.26

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	73.41	45.45	28.74	20.08	14.01	10.01	6.86	4.61	2.76
45.0	68.85	44.83	28.35	19.35	13.67	9.79	6.75	4.44	2.76
90.0	63.45	40.05	25.65	18.11	12.60	8.94	6.19	4.11	2.64
135.0	75.15	46.52	29.48	20.81	14.46	10.29	7.03	4.73	2.76
180.0	70.76	44.16	28.46	20.25	14.06	10.01	6.81	4.56	2.87
225.0	74.36	46.18	29.64	20.19	14.06	10.13	6.98	4.61	2.93
270.0	76.28	47.31	29.25	19.97	14.18	10.13	6.92	4.73	2.81
315.0	69.98	42.64	26.66	18.56	12.88	9.17	6.41	4.22	2.64
360.0	73.41	45.45	28.74	20.08	14.01	10.01	6.86	4.61	2.76

C/γ(°)	90.0
0.0	2.03
45.0	2.08
90.0	2.14
135.0	2.03
180.0	2.08
225.0	2.03
270.0	2.03
315.0	1.97
360.0	2.03