



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: 1678-A
Luminaire: 92.70.188.00+92.70.147.00
Report No: NATA0100
Test No: GC2019011619
LampCAT: NICHIA NFCWL036B-V3
Lamp flux(lm): 1299.0
Number of Lamps: 1
Length(mm): 46
Phm Type: C

Voltage(V): 34.8400
Current(A): 0.3400
Power (W): 10.4520
PF: 0.0000
Ballast type: DC
Width(mm): 46
Height(mm): 0

Photometric Results

Lumens(lm): 1067.46
Efficiency(%): 82.18%
Lumens(lm)/Power(W): 103.13
Central intensity(cd): 1914.750
Maximum intensity(cd): 1914.750
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=41.3
 [C90/270]Total=41.3
Field angle(10%Imax): [C0/180]Total=71.1
 [C90/270]Total=71.1
Maximum s/h(1/2): C0_180=0.68 C90_270=0.68
Maximum s/h(1/4): C0_180=0.63 C90_270=0.63
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 82.98%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.584%

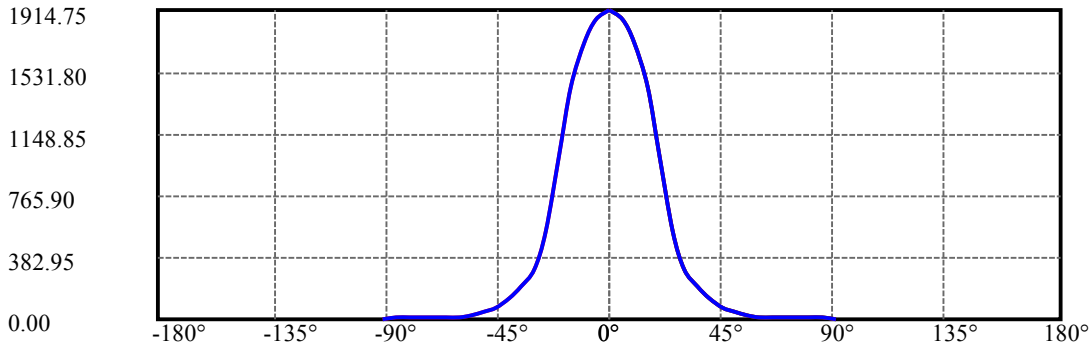
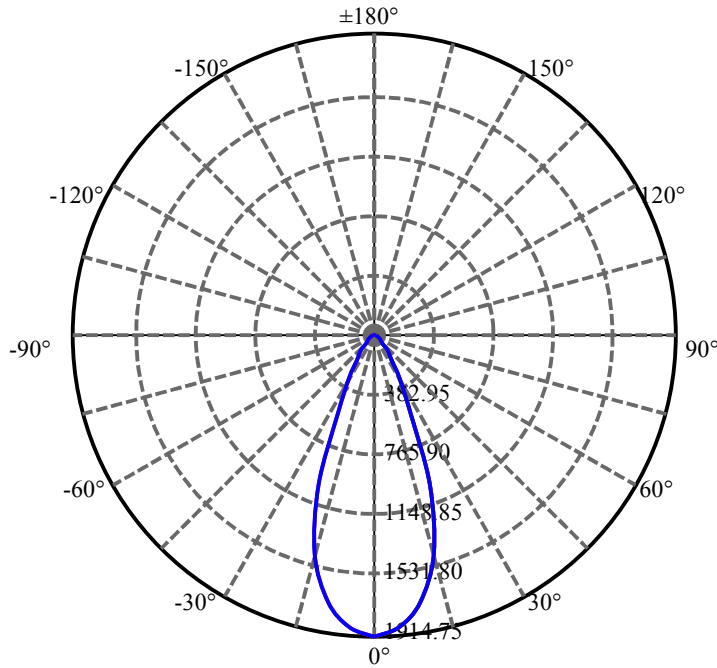
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1914.750	11.451	11.451	.881%	1.073%
5.0	1855.898	88.662	100.113	6.825%	9.379%
10.0	1716.117	163.345	263.458	12.575%	24.681%
15.0	1444.078	204.869	468.327	15.771%	43.873%
20.0	1017.204	190.699	659.027	14.680%	61.738%
25.0	546.455	126.588	785.614	9.745%	73.597%
30.0	311.695	85.426	871.04	6.576%	81.600%
35.0	199.434	62.702	933.742	4.827%	87.474%
40.0	127.786	45.024	978.766	3.466%	91.691%
45.0	74.145	28.738	1007.504	2.212%	94.384%
50.0	42.188	17.714	1025.218	1.364%	96.043%
55.0	23.154	10.396	1035.614	.800%	97.017%
60.0	11.482	5.451	1041.065	.420%	97.528%
65.0	9.035	4.488	1045.553	.346%	97.948%
70.0	8.993	4.632	1050.186	.357%	98.382%
75.0	9.274	4.910	1055.096	.378%	98.842%
80.0	10.723	5.788	1060.884	.446%	99.384%
85.0	9.844	5.375	1066.259	.414%	99.888%
90.0	4.366	1.197	1067.456	.092%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	871.04	67.05%	81.60%
0-40	978.77	75.35%	91.69%
0-60	1041.06	80.14%	97.53%
0-90	1066.26	82.08%	99.89%
0-120	1066.26	82.08%	99.89%
0-180	1067.46	82.18%	100.00%
60-90	30.64	2.36%	2.87%
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%
0-29.00	853.96	65.74%	80.00%

ZONAL LUMEN SUMMARY

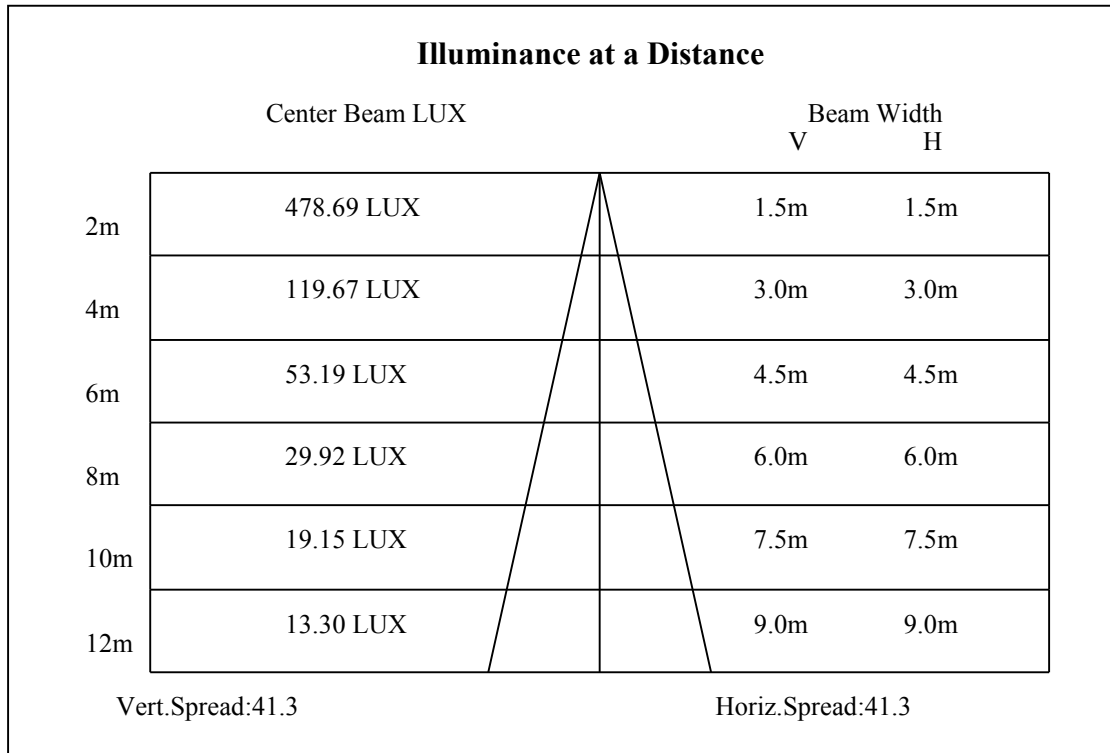
0-10	263.46
10-20	395.57
20-30	212.01
30-40	107.73
40-50	46.45
50-60	15.85
60-70	9.12
70-80	10.70
80-90	5.38
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

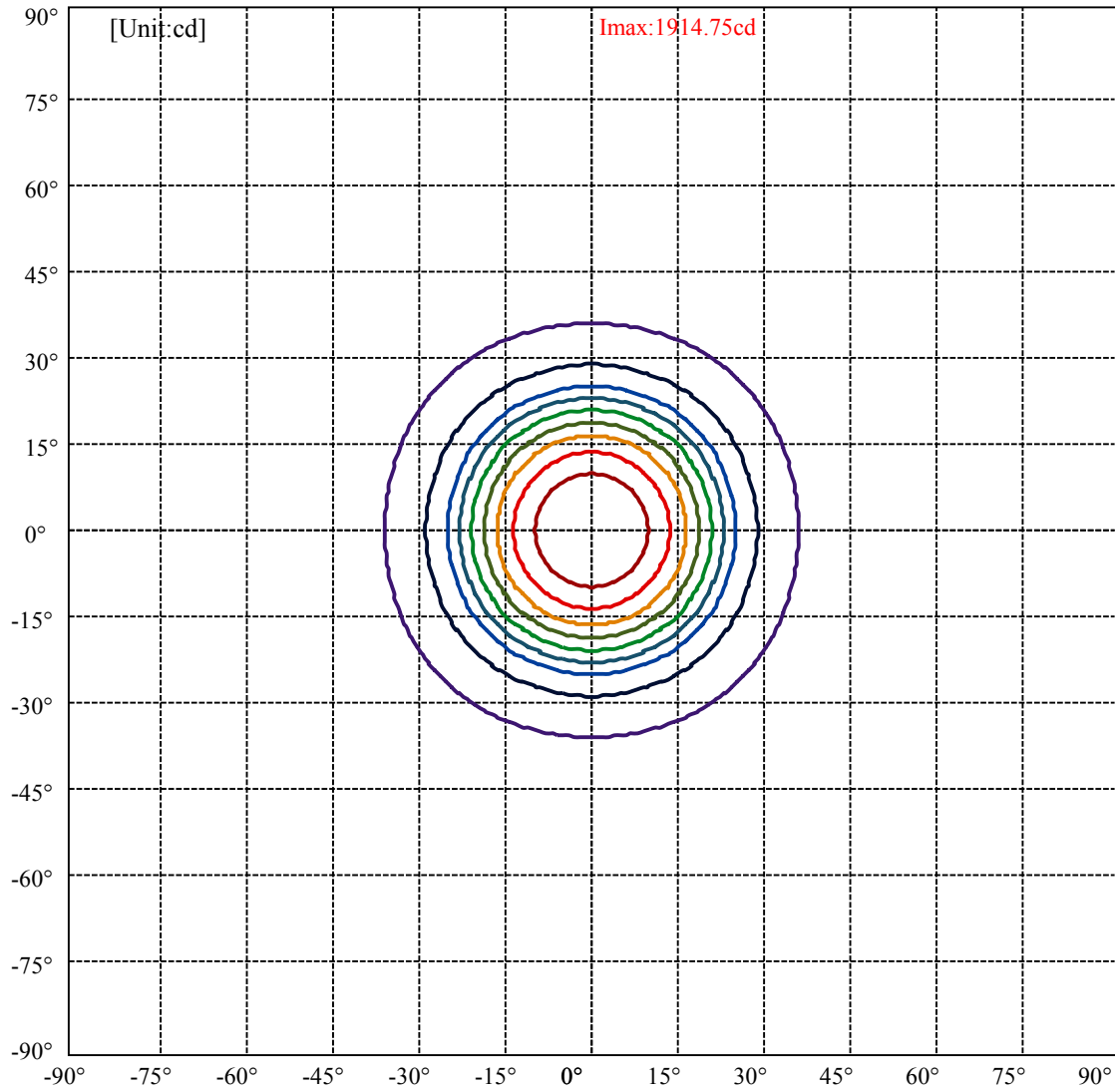


C0(Max): —————
C0/C180: —————
C90/C270: —————

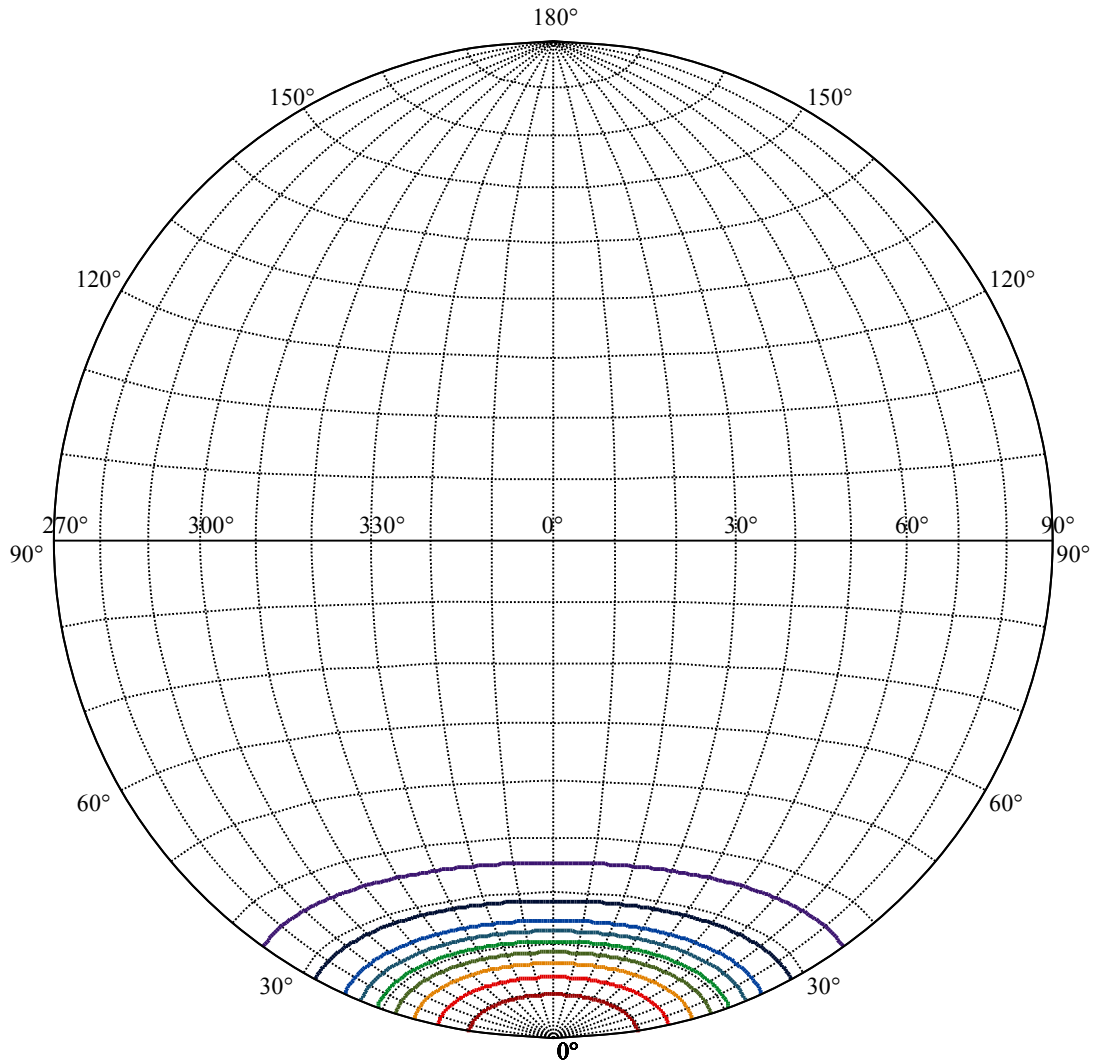
Field angle(10%Imax):C0/180Left:35.6 Right:35.6
:C90/270Left:35.6 Right:35.6

Beam Angle(50%Imax):C0/180Left:20.6 Right:20.6
:C90/270Left:20.6 Right:20.6





(10%Imax) 191.475	—
(20%Imax) 382.95	—
(30%Imax) 574.425	—
(40%Imax) 765.9	—
(50%Imax) 957.375	—
(60%Imax) 1148.85	—
(70%Imax) 1340.32	—
(80%Imax) 1531.8	—
(90%Imax) 1723.28	—



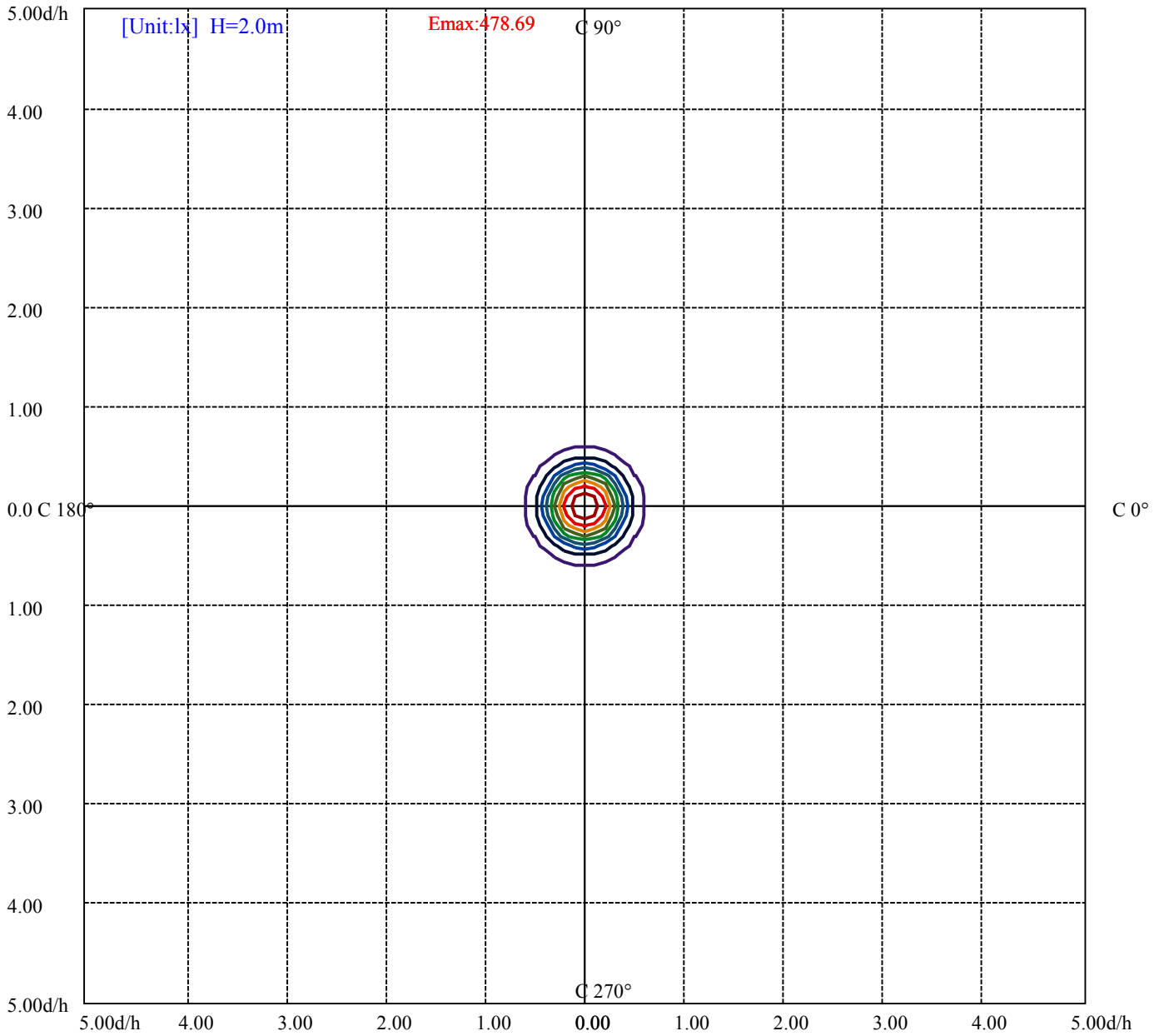
House

[Unit:cd]

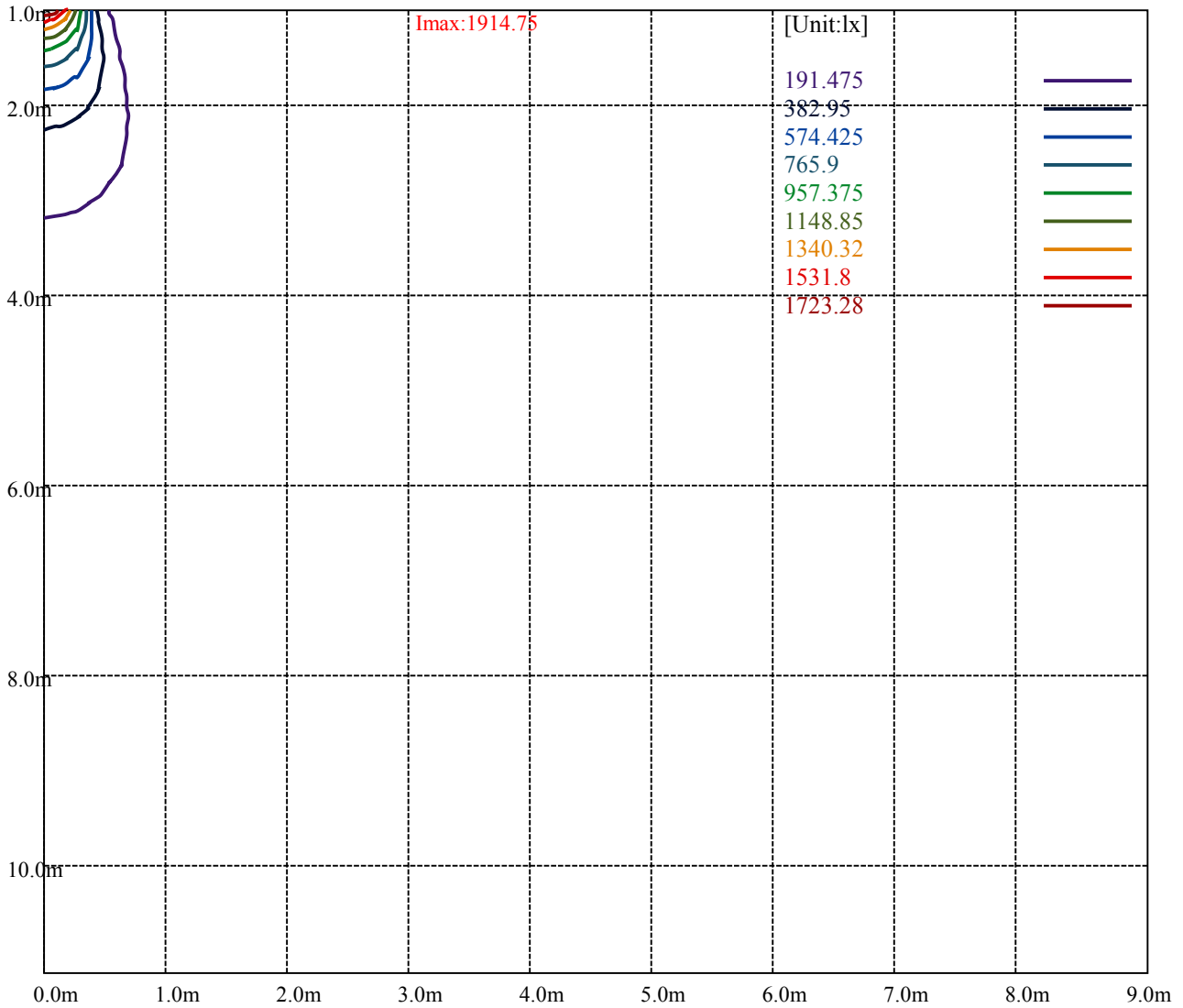
Road

Imax:1914.75

(10%Imax) 191.475	—
(20%Imax) 382.95	—
(30%Imax) 574.425	—
(40%Imax) 765.9	—
(50%Imax) 957.375	—
(60%Imax) 1148.85	—
(70%Imax) 1340.32	—
(80%Imax) 1531.8	—
(90%Imax) 1723.28	—



- (10%Emax) 47.86875
- (20%Emax) 95.7375
- (30%Emax) 143.606
- (40%Emax) 191.4747
- (50%Emax) 239.3435
- (60%Emax) 287.2125
- (70%Emax) 335.08
- (80%Emax) 382.95
- (90%Emax) 430.8175



Luminance Table

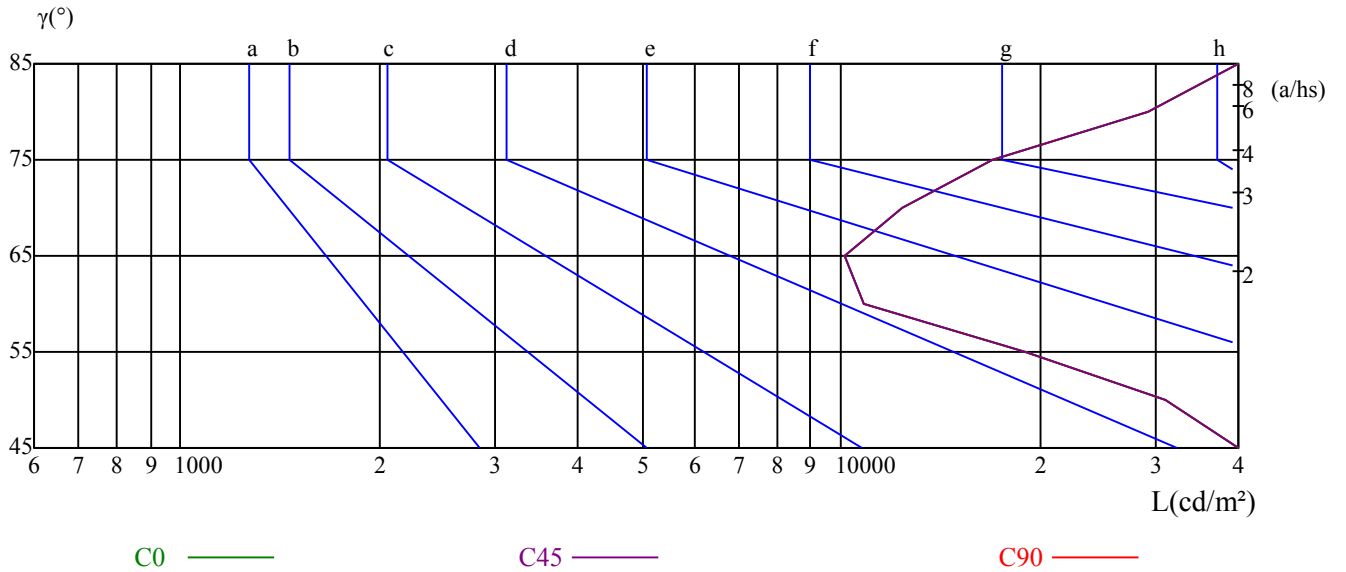
γ	45	50	55	60	65	70	75	80	85
C0	49554	31017	19077	10853	10104	12426	16934	29182	53376
C45	49554	31017	19077	10853	10104	12426	16934	29182	53376
C90	49554	31017	19077	10853	10104	12426	16934	29182	53376

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
10104	10104	10104	16934	16934	16934	53376	53376	53376

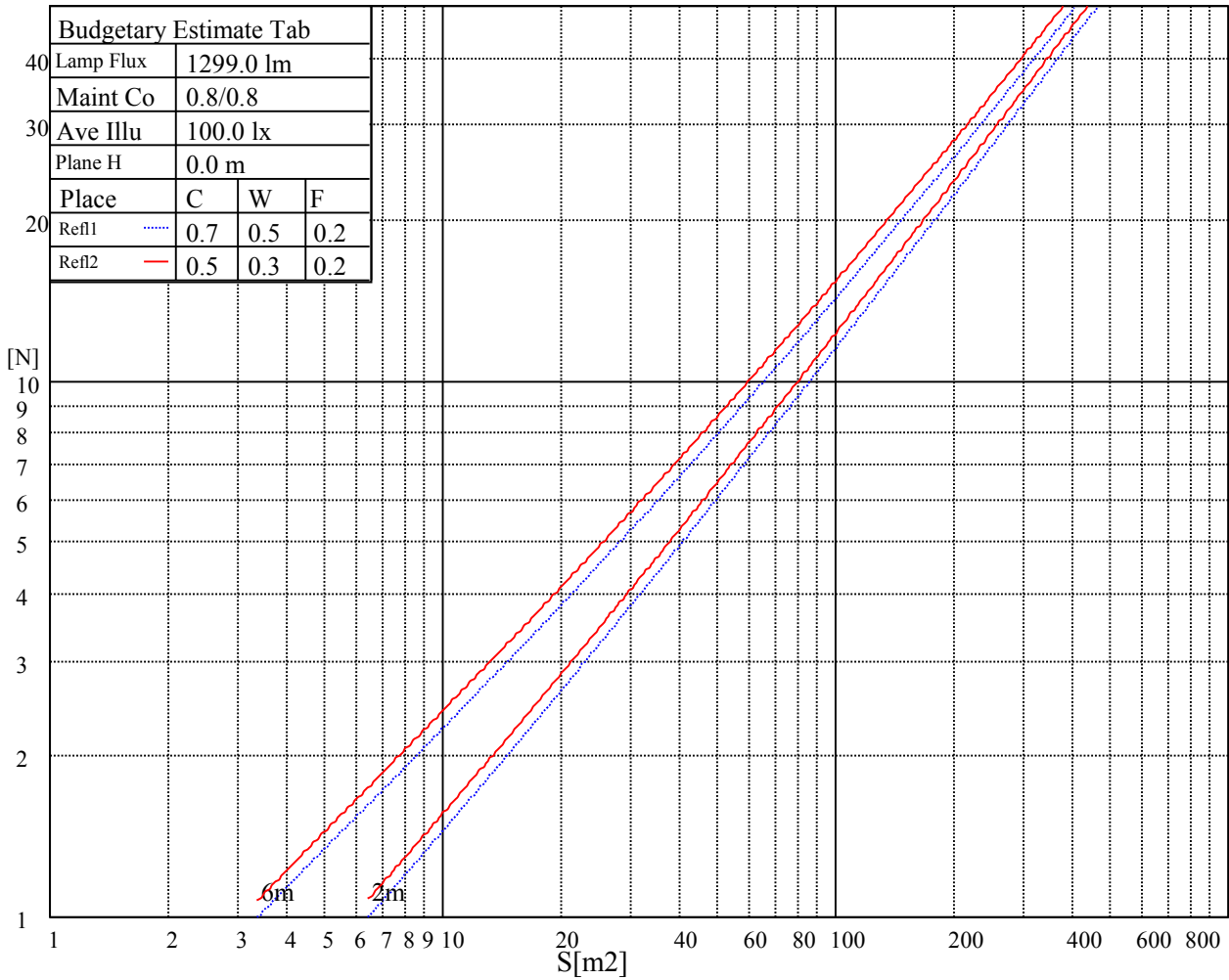
Glare Table

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

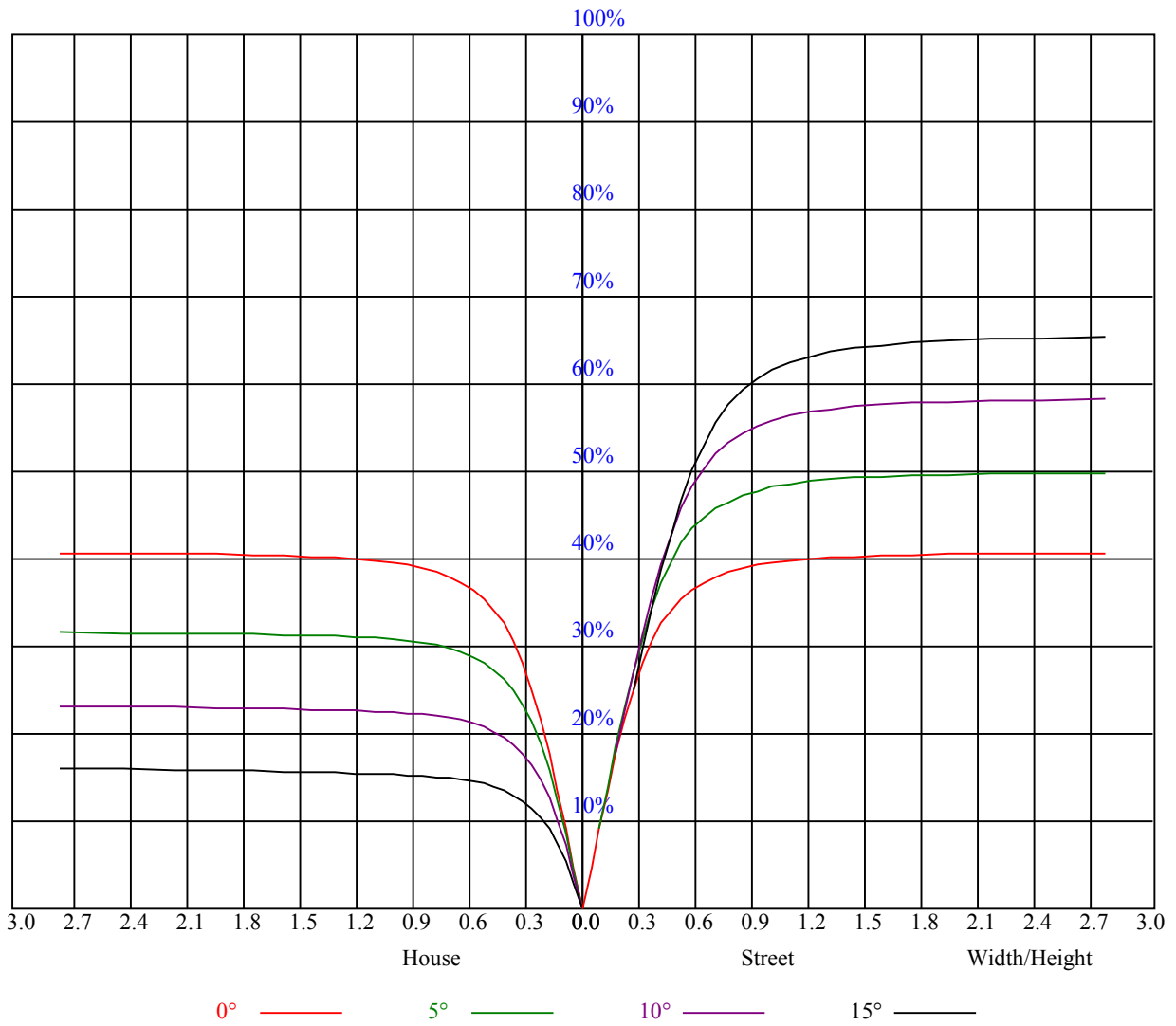
Luminance Limiting Curve



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	13.98	15.01	14.35	15.32	15.64	14.00	15.03	14.37	15.34	15.66
	3H	15.27	16.18	15.65	16.51	16.88	15.34	16.25	15.72	16.58	16.95
	4H	16.38	17.23	16.79	17.58	17.97	16.52	17.37	16.93	17.72	18.11
	6H	18.11	18.89	18.53	19.26	19.66	18.26	19.03	18.68	19.41	19.80
	8H	19.15	19.88	19.58	20.27	20.68	19.28	20.01	19.71	20.40	20.81
	12H	20.83	21.53	21.27	21.91	22.34	20.94	21.64	21.38	22.02	22.45
4H	2H	14.13	14.98	14.54	15.33	15.72	14.15	14.99	14.56	15.34	15.73
	3H	15.89	16.58	16.30	16.99	17.39	15.96	16.65	16.38	17.06	17.47
	4H	17.34	17.96	17.78	18.38	18.83	17.47	18.09	17.91	18.52	18.96
	6H	19.12	19.65	19.59	20.10	20.58	19.26	19.79	19.73	20.24	20.71
	8H	20.43	20.92	20.90	21.38	21.85	20.55	21.04	21.02	21.49	21.97
8H	12H	22.15	22.58	22.64	23.07	23.54	22.24	22.68	22.73	23.16	23.64
	4H	18.07	18.56	18.54	19.01	19.49	18.17	18.67	18.65	19.12	19.59
	6H	20.34	20.74	20.85	21.25	21.73	20.45	20.85	20.95	21.35	21.83
	8H	21.81	22.16	22.34	22.68	23.18	21.90	22.25	22.43	22.77	23.27
12H	12H	23.58	23.89	24.10	24.39	24.97	23.66	23.97	24.18	24.47	25.04
	4H	18.33	18.76	18.82	19.25	19.73	18.42	18.86	18.91	19.34	19.82
	6H	21.09	21.12	21.29	21.59	22.14	21.17	21.20	21.38	21.68	22.22
	8H	22.33	22.65	22.86	23.14	23.72	22.41	22.72	22.93	23.22	23.80
Variation with the observer position at spacings:											
S = 1.0H	2.4/-3.1					2.4/-3.1					
S = 1.5H	3.5/-2.5					3.5/-2.5					
S = 2.0H	4.2/-2.0					4.2/-2.0					
Standard tables:	BKBF					BKBF					
Uncorrected UGR	7.6					7.6					



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	0.99	0.99	0.99	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.85	0.85	0.85	0.83
1	0.91	0.89	0.87	0.89	0.87	0.85	0.86	0.84	0.83	0.83	0.82	0.80	0.80	0.79	0.78	0.76
2	0.86	0.82	0.79	0.84	0.81	0.79	0.81	0.79	0.77	0.79	0.77	0.75	0.77	0.75	0.74	0.72
3	0.81	0.77	0.74	0.80	0.76	0.73	0.77	0.74	0.72	0.75	0.73	0.71	0.74	0.71	0.70	0.68
4	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.70	0.68	0.72	0.69	0.67	0.71	0.68	0.66	0.65
5	0.73	0.68	0.65	0.72	0.68	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.62
6	0.69	0.65	0.62	0.69	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.65	0.62	0.60	0.59
7	0.66	0.62	0.59	0.66	0.61	0.59	0.65	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.57
8	0.63	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.55	0.61	0.58	0.55	0.54
9	0.61	0.57	0.54	0.60	0.56	0.54	0.60	0.56	0.53	0.59	0.56	0.53	0.58	0.55	0.53	0.52
10	0.59	0.54	0.52	0.58	0.54	0.52	0.58	0.54	0.51	0.57	0.54	0.51	0.56	0.53	0.51	0.50



NATA 1678-A

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	1913.06	1869.75	1746.56	1518.75	1130.06	637.31	357.19	221.06	144.17
45.0	1915.88	1834.31	1705.50	1436.63	993.94	538.88	304.31	194.63	124.76
90.0	1910.81	1827.00	1648.69	1336.50	853.54	429.36	259.03	174.94	107.49
135.0	1919.25	1850.63	1688.63	1383.75	923.63	485.44	288.56	188.83	118.63
180.0	1913.06	1833.19	1667.25	1330.31	867.88	469.13	282.88	183.60	116.44
225.0	1915.88	1865.25	1746.56	1494.00	1052.94	532.46	319.95	205.37	128.48
270.0	1910.81	1892.81	1790.44	1579.50	1247.06	694.13	358.88	224.38	146.53
315.0	1919.25	1874.25	1735.31	1473.19	1068.58	584.94	322.76	202.67	135.79
360.0	1913.06	1869.75	1746.56	1518.75	1130.06	637.31	357.19	221.06	144.17

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	87.36	48.71	26.33	13.95	8.94	9.00	9.56	10.01	10.46
45.0	70.20	39.71	22.56	10.69	8.78	8.94	9.45	14.79	11.31
90.0	60.36	35.94	19.13	10.18	9.34	9.28	9.73	10.63	9.84
135.0	67.44	40.05	22.16	11.53	10.01	9.79	9.73	10.13	9.23
180.0	65.59	37.24	19.58	10.29	9.28	9.34	9.45	9.84	9.00
225.0	75.26	41.91	22.95	10.69	8.33	8.27	8.61	11.31	9.79
270.0	86.91	49.28	27.62	12.88	8.55	8.27	8.27	8.89	9.45
315.0	80.04	44.66	24.92	11.64	9.06	9.06	9.39	10.18	9.68
360.0	87.36	48.71	26.33	13.95	8.94	9.00	9.56	10.01	10.46

C/γ(°)	90.0
0.0	4.44
45.0	4.39
90.0	4.28
135.0	4.33
180.0	4.33
225.0	4.39
270.0	4.39
315.0	4.39
360.0	4.44