



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: LM01D03050AE

Luminaire:

Report No: NATA0100

Voltage(V): 35.7500

Test No: GC2019092615

Current(A): 0.1550

LampCAT: CITIZEN CLU7A2

Power (W): 5.5400

Lamp flux(lm): 543.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 30

Width(mm): 30

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 448.57

Efficiency(%): 82.61%

Lumens(lm)/Power(W): 80.97

Central intensity(cd): 470.841

Maximum intensity(cd): 470.841

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=49.1

[C90/270]Total=49.1

Field angle(10%Imax): [C0/180]Total=98.0

[C90/270]Total=98.0

Maximum s/h(1/2): C0_180=0.77 C90_270=0.77

Maximum s/h(1/4): C0_180=0.79 C90_270=0.79

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 82.61%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 90.188%

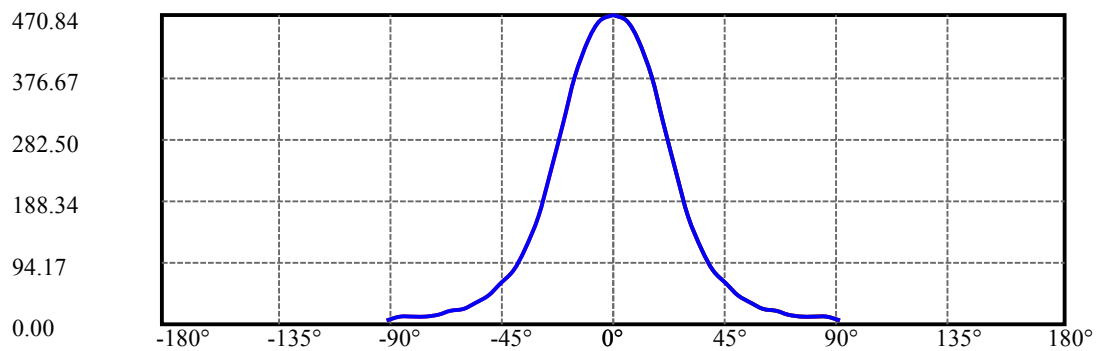
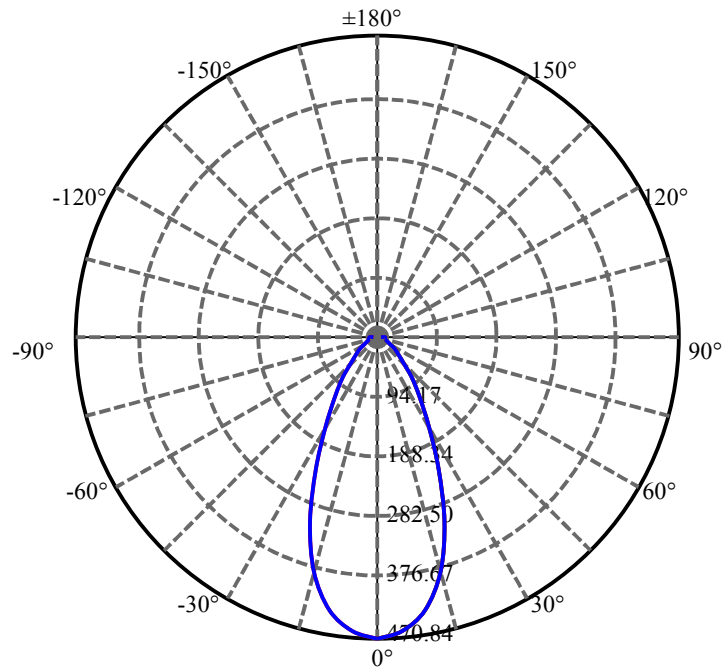
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	470.841	0.000	0	.000%	.000%
5.0	461.524	11.146	11.146	2.053%	2.485%
10.0	432.098	31.968	43.114	5.887%	9.611%
15.0	378.710	48.097	91.21	8.858%	20.334%
20.0	306.752	56.492	147.702	10.404%	32.927%
25.0	228.136	56.100	203.802	10.331%	45.434%
30.0	164.384	49.674	253.476	9.148%	56.507%
35.0	114.799	41.112	294.587	7.571%	65.672%
40.0	83.138	33.024	327.612	6.082%	73.034%
45.0	60.068	26.516	354.127	4.883%	78.945%
50.0	43.882	21.005	375.132	3.868%	83.628%
55.0	31.711	16.436	391.568	3.027%	87.292%
60.0	24.490	12.991	404.559	2.392%	90.188%
65.0	19.139	10.606	415.165	1.953%	92.553%
70.0	15.427	8.752	423.918	1.612%	94.504%
75.0	12.509	7.302	431.219	1.345%	96.132%
80.0	11.855	6.519	437.738	1.201%	97.585%
85.0	10.884	6.179	443.917	1.138%	98.962%
90.0	6.117	4.655	448.572	.857%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	253.48	46.68%	56.51%
0-40	327.61	60.33%	73.03%
0-60	404.56	74.50%	90.19%
0-90	443.92	81.75%	98.96%
0-120	443.92	81.75%	98.96%
0-180	448.57	82.61%	100.00%
60-90	52.35	9.64%	11.67%
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%
0-46.13	358.86	66.09%	80.00%

ZONAL LUMEN SUMMARY

0-10	43.11
10-20	104.59
20-30	105.77
30-40	74.14
40-50	47.52
50-60	29.43
60-70	19.36
70-80	13.82
80-90	6.18
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:

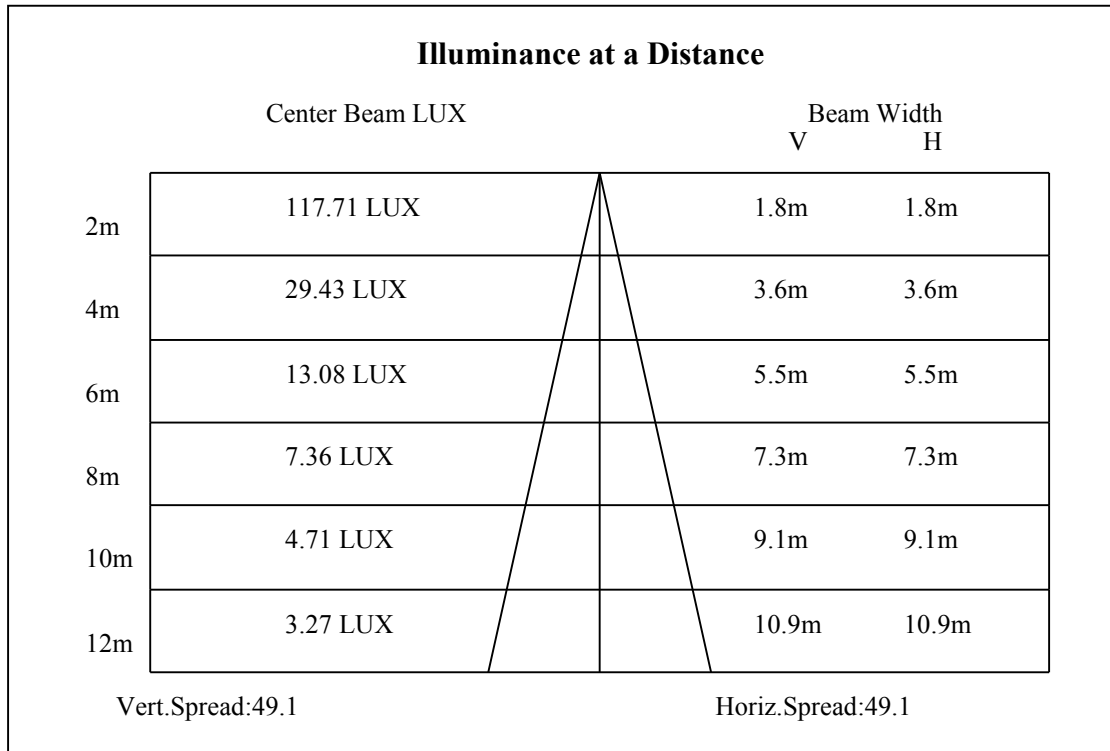
C90/C270:

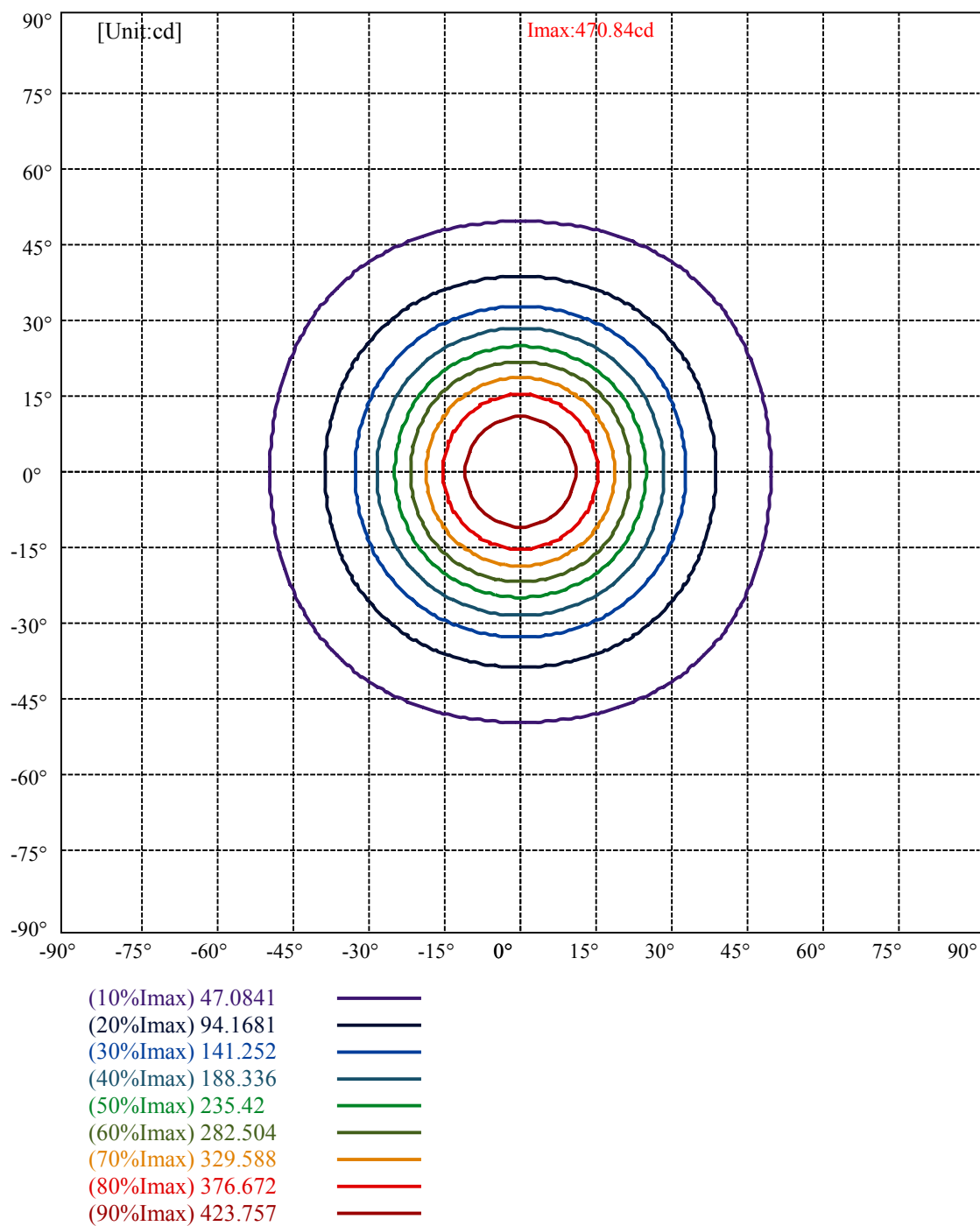
Field angle(10%Imax):C0/180Left:49.0 Right:49.0

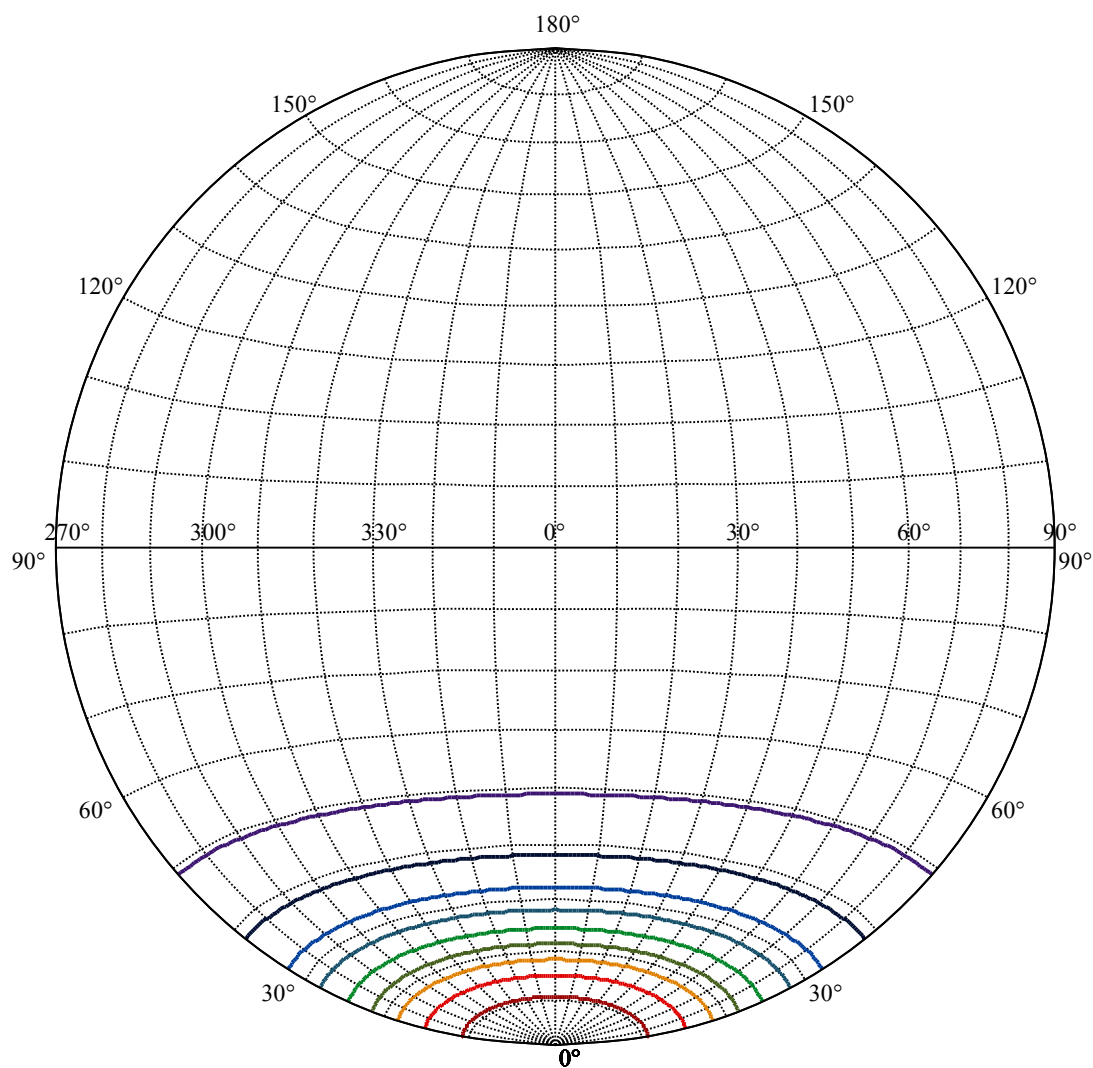
:C90/270Left:49.0 Right:49.0

Beam Angle(50%Imax):C0/180Left:24.5 Right:24.5

:C90/270Left:24.5 Right:24.5







House

[Unit:cd]

Road

Imax:470.84

(10%Imax) 47.0841

(20%Imax) 94.1681

(30%Imax) 141.252

(40%Imax) 188.336

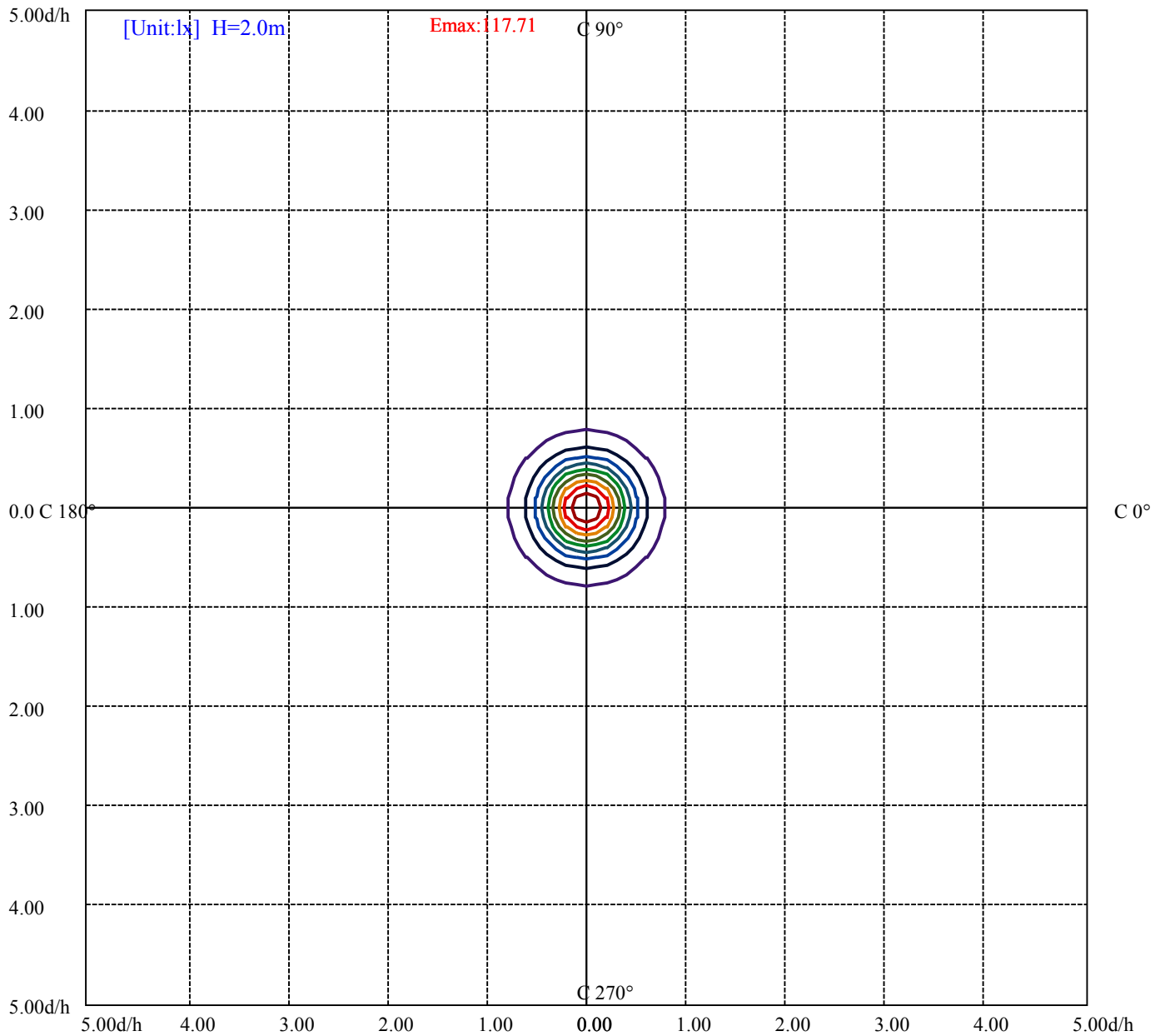
(50%Imax) 235.42

(60%Imax) 282.504

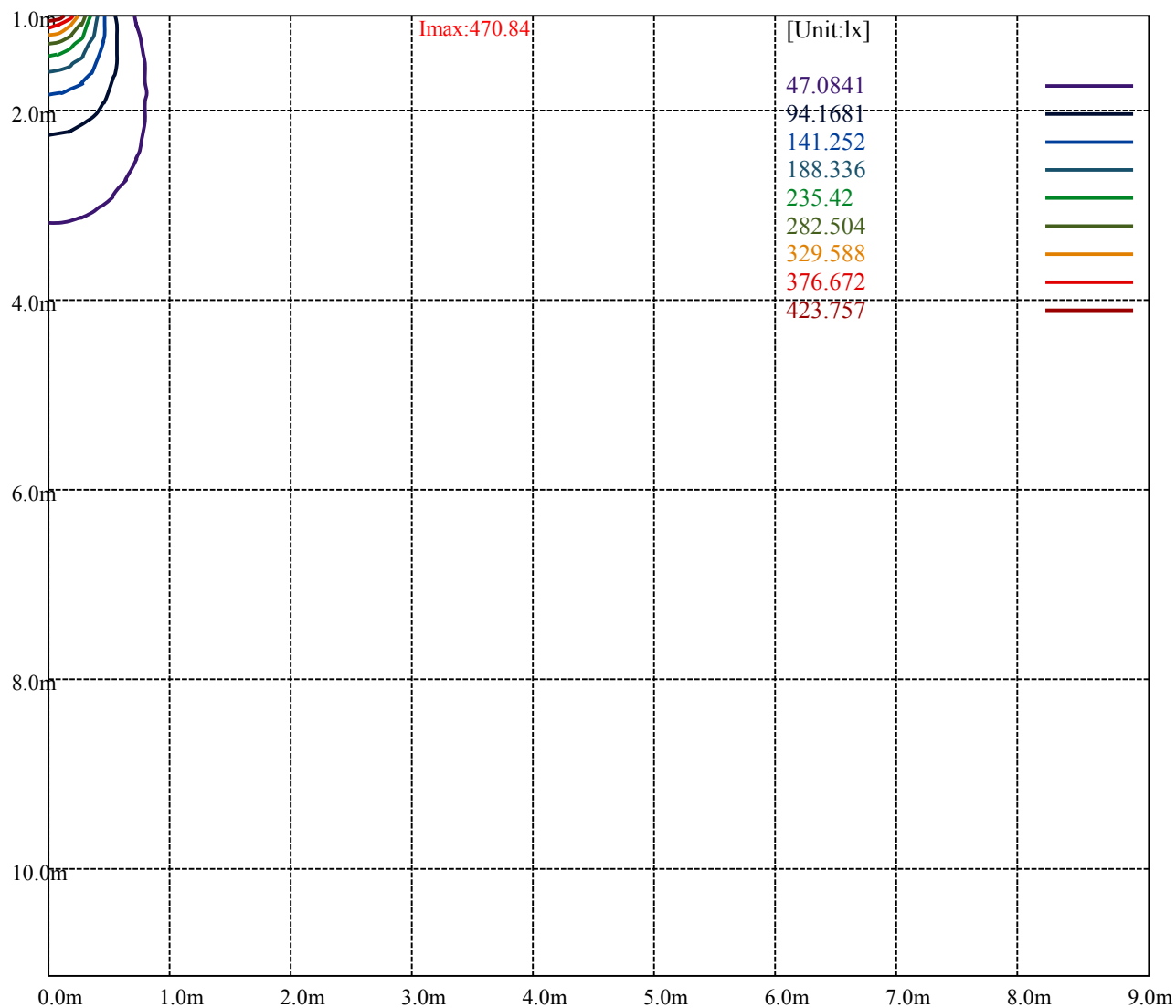
(70%Imax) 329.588

(80%Imax) 376.672

(90%Imax) 423.757



(10%Emax) 11.771	—
(20%Emax) 23.54202	—
(30%Emax) 35.313	—
(40%Emax) 47.084	—
(50%Emax) 58.855	—
(60%Emax) 70.626	—
(70%Emax) 82.397	—
(80%Emax) 94.168	—
(90%Emax) 105.939	—



Luminance Table

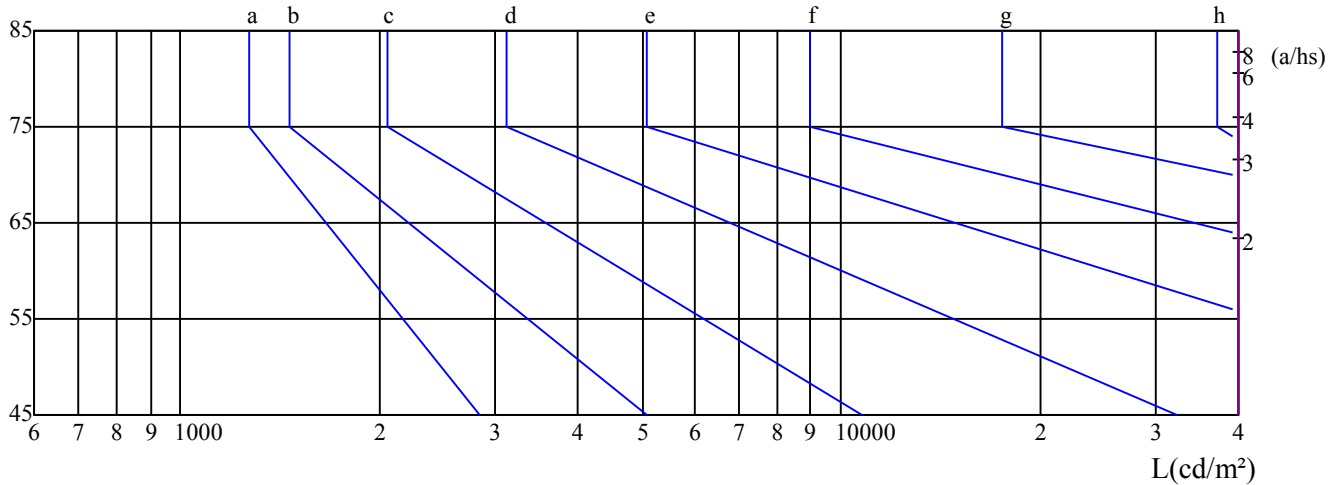
γ	45	50	55	60	65	70	75	80	85
C0	94388	75854	61429	54422	50319	50116	53699	75854	138760
C45	94388	75854	61429	54422	50319	50116	53699	75854	138760
C90	94388	75854	61429	54422	50319	50116	53699	75854	138760

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
50319	50319	50319	53699	53699	53699	138760	138760	138760

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

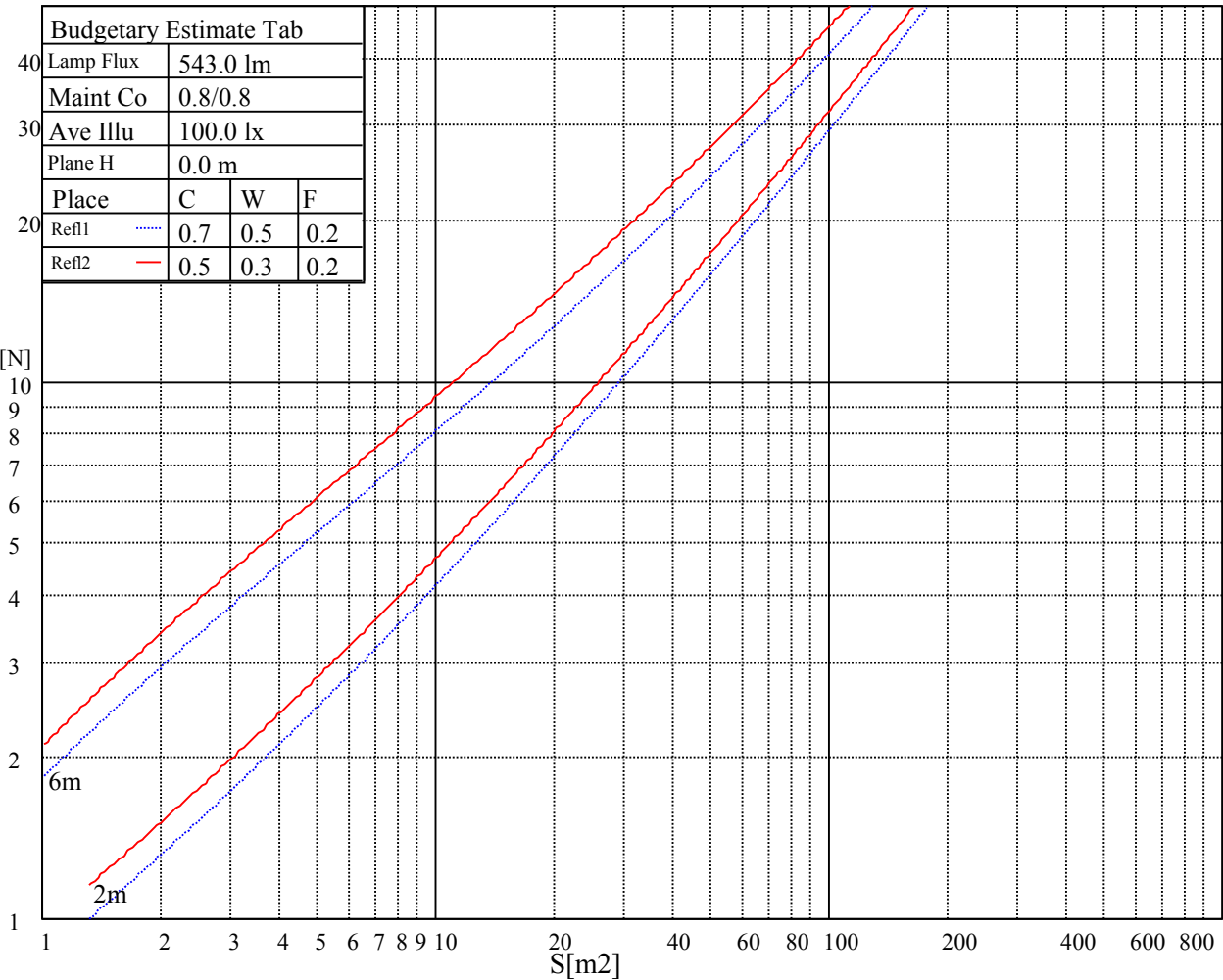
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

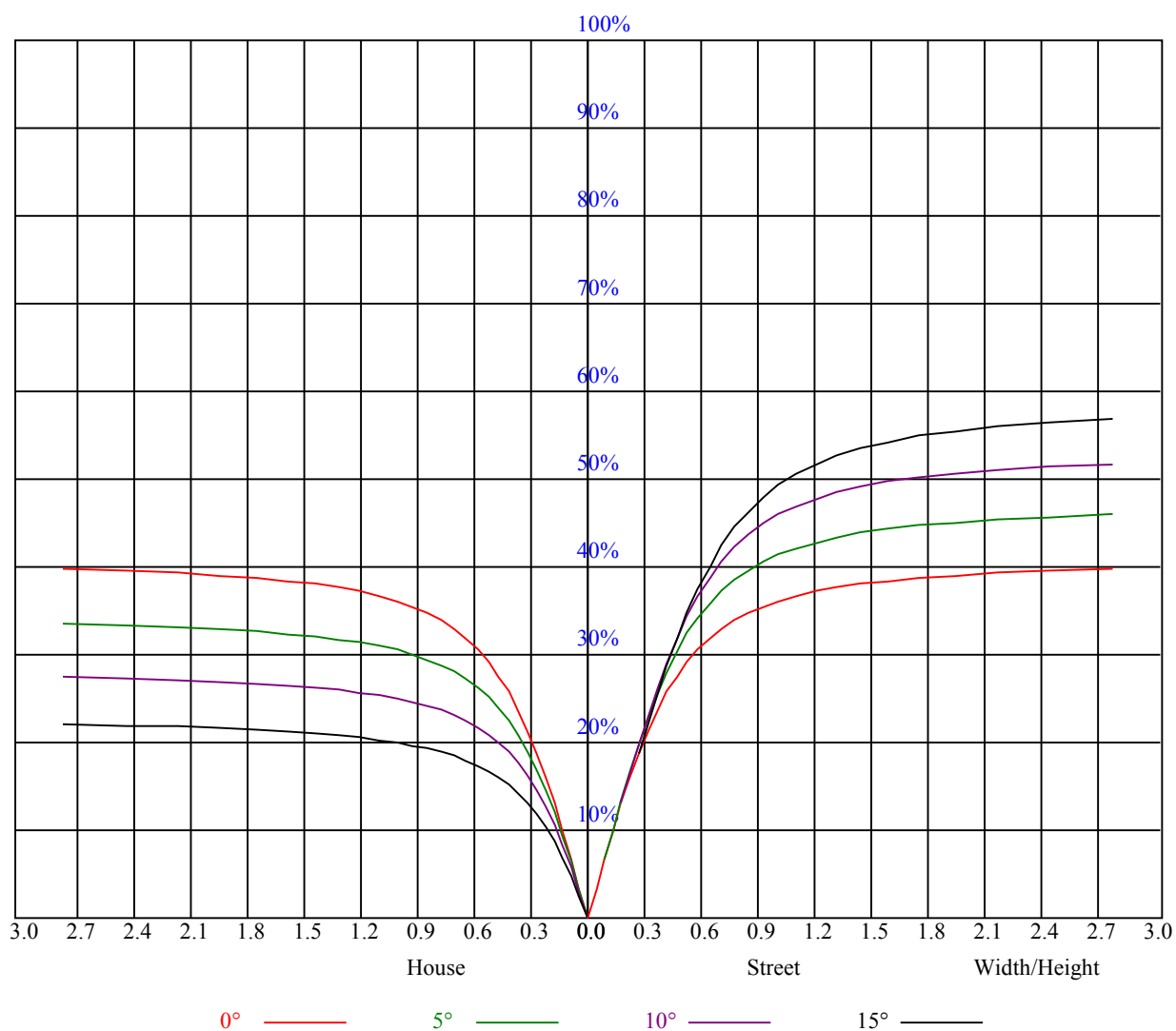
C0 ———

C45 ———

C90 ———



RHOC	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	0.98	0.98	0.98	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84	0.83
1	0.89	0.86	0.83	0.87	0.84	0.82	0.83	0.81	0.80	0.80	0.79	0.77	0.77	0.76	0.75	0.73
2	0.81	0.76	0.73	0.79	0.75	0.72	0.76	0.73	0.70	0.74	0.71	0.69	0.72	0.69	0.67	0.66
3	0.74	0.69	0.65	0.73	0.68	0.64	0.70	0.66	0.63	0.68	0.65	0.62	0.66	0.63	0.61	0.60
4	0.68	0.62	0.58	0.67	0.62	0.58	0.65	0.61	0.57	0.63	0.60	0.56	0.62	0.58	0.56	0.54
5	0.63	0.57	0.53	0.62	0.57	0.53	0.61	0.56	0.52	0.59	0.55	0.52	0.58	0.54	0.51	0.50
6	0.59	0.53	0.49	0.58	0.52	0.48	0.57	0.52	0.48	0.55	0.51	0.48	0.54	0.50	0.47	0.46
7	0.55	0.49	0.45	0.54	0.49	0.45	0.53	0.48	0.45	0.52	0.48	0.44	0.51	0.47	0.44	0.43
8	0.51	0.46	0.42	0.51	0.45	0.42	0.50	0.45	0.41	0.49	0.44	0.41	0.48	0.44	0.41	0.40
9	0.48	0.43	0.39	0.48	0.42	0.39	0.47	0.42	0.39	0.46	0.42	0.39	0.45	0.41	0.38	0.37
10	0.45	0.40	0.37	0.45	0.40	0.36	0.44	0.40	0.36	0.44	0.39	0.36	0.43	0.39	0.36	0.35



Intensity data(cd)										Appendix Page: 14 Total:14	
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	470.64	463.56	436.84	380.59	308.76	230.01	162.62	112.89	82.24		
45.0	470.53	464.85	441.06	394.37	327.49	244.63	180.11	124.20	89.61		
90.0	470.70	458.16	430.26	380.81	313.88	240.13	173.03	122.29	89.61		
135.0	471.49	460.63	433.35	383.12	319.50	242.61	180.34	126.56	91.46		
180.0	470.64	457.82	424.80	369.28	299.42	222.36	162.79	115.14	83.36		
225.0	470.53	459.62	427.22	368.55	287.94	214.82	152.44	107.55	79.09		
270.0	470.70	465.98	435.54	386.27	307.52	221.06	157.33	108.90	78.24		
315.0	471.49	461.59	427.73	366.69	289.52	209.48	146.42	100.86	71.49		
360.0	470.64	463.56	436.84	380.59	308.76	230.01	162.62	112.89	82.24		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	58.50	43.03	31.33	24.69	20.19	16.99	14.01	15.47	13.44		
45.0	63.51	47.03	33.47	24.81	19.29	15.41	12.21	10.29	9.00		
90.0	62.78	44.94	31.95	24.92	19.63	15.86	12.26	10.29	9.39		
135.0	66.26	48.15	33.81	25.65	19.01	14.79	11.36	10.74	13.50		
180.0	60.98	45.23	33.24	26.38	21.32	17.38	14.12	11.64	9.39		
225.0	56.81	41.57	30.99	23.68	18.17	14.34	11.81	9.90	8.33		
270.0	58.33	42.36	30.60	23.68	18.45	14.91	12.09	10.35	9.51		
315.0	53.38	38.76	28.29	22.11	17.04	13.73	12.21	16.14	14.51		
360.0	58.50	43.03	31.33	24.69	20.19	16.99	14.01	15.47	13.44		
C/γ(°)	90.0										
0.0	6.86										
45.0	7.43										
90.0	6.47										
135.0	5.40										
180.0	5.12										
225.0	5.63										
270.0	5.85										
315.0	6.19										
360.0	6.86										