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Nata

LumCAT: LM01D03060AE

Luminaire:

Report No: NATA0100

Voltage(V): 35.7500

Test No: GC2019092616

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): 471.80

Efficiency(%): 86.89%

Lumens(lm)/Power(W): 85.16

Central intensity(cd): 426.923

Maximum intensity(cd): 426.923

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=60.0

[C90/270]Total=60.0

Field angle(10%Imax): [C0/180]Total=96.2

[C90/270]Total=96.2

Maximum s/h(1/2): C0_180=0.95 C90_270=0.95

Maximum s/h(1/4): C0_180=0.89 C90_270=0.89

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 86.89%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 91.608%

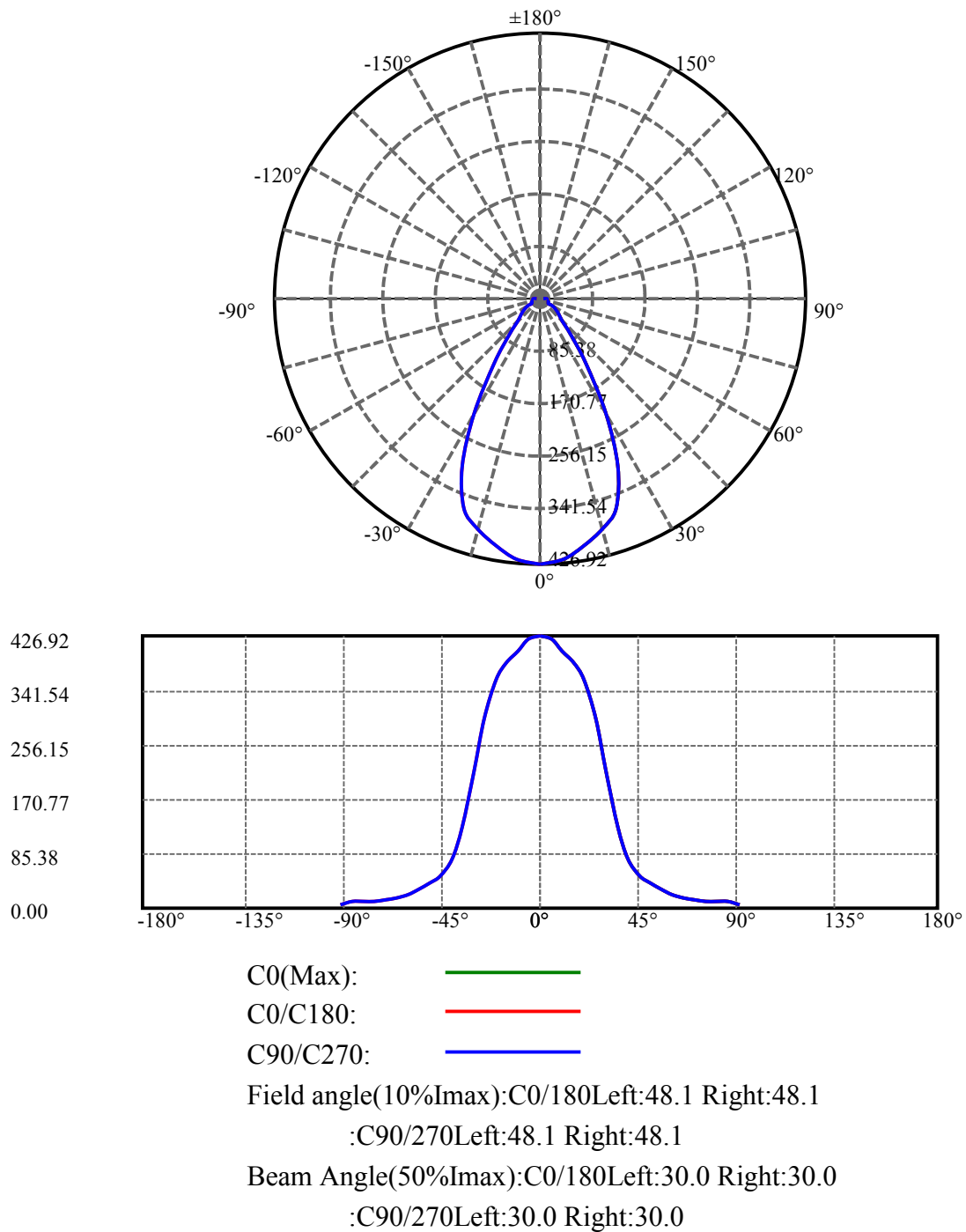
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	426.923	0.000	0	.000%	.000%
5.0	421.404	10.142	10.142	1.868%	2.150%
10.0	402.652	29.479	39.621	5.429%	8.398%
15.0	383.597	46.640	86.26	8.589%	18.283%
20.0	357.673	61.091	147.351	11.251%	31.232%
25.0	297.352	68.700	216.051	12.652%	45.793%
30.0	213.546	64.655	280.706	11.907%	59.497%
35.0	126.584	50.086	330.792	9.224%	70.113%
40.0	75.818	33.769	364.561	6.219%	77.271%
45.0	49.430	23.191	387.752	4.271%	82.186%
50.0	38.517	17.771	405.523	3.273%	85.953%
55.0	29.531	14.796	420.319	2.725%	89.089%
60.0	21.888	11.885	432.205	2.189%	91.608%
65.0	16.123	9.241	441.445	1.702%	93.567%
70.0	13.303	7.451	448.896	1.372%	95.146%
75.0	11.566	6.500	455.396	1.197%	96.524%
80.0	11.559	6.188	461.584	1.140%	97.835%
85.0	10.195	5.911	467.495	1.089%	99.088%
90.0	5.513	4.301	471.796	.792%	100.000%

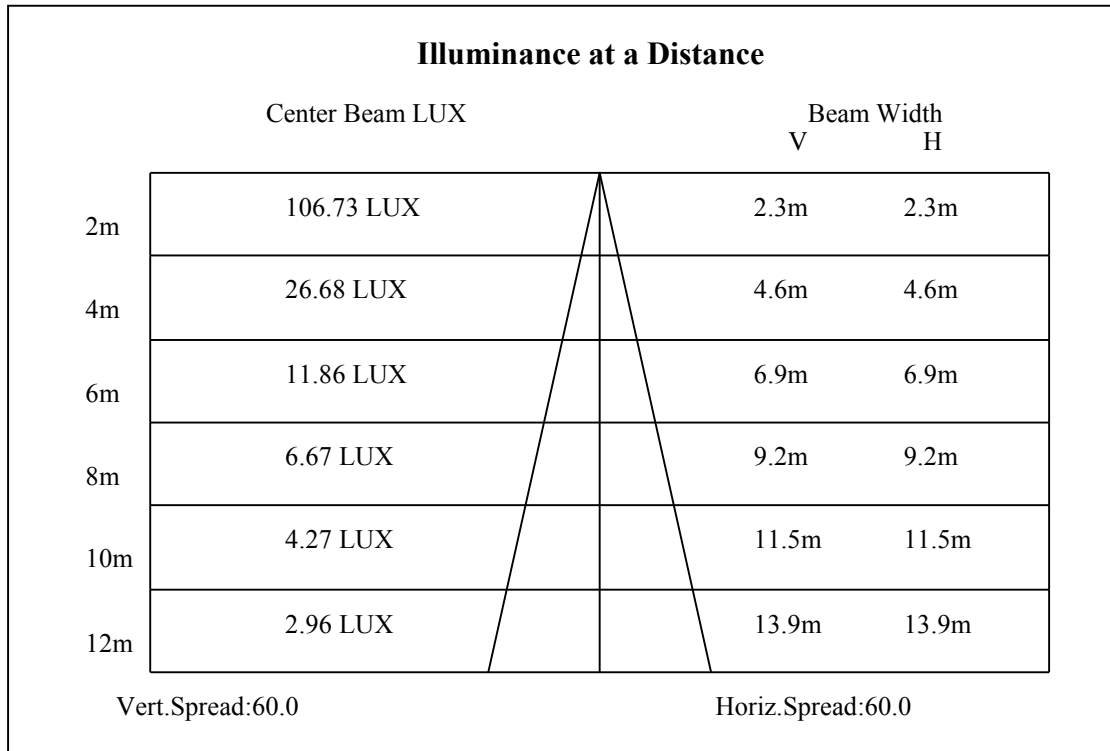
ZONAL LUMEN SUMMARY

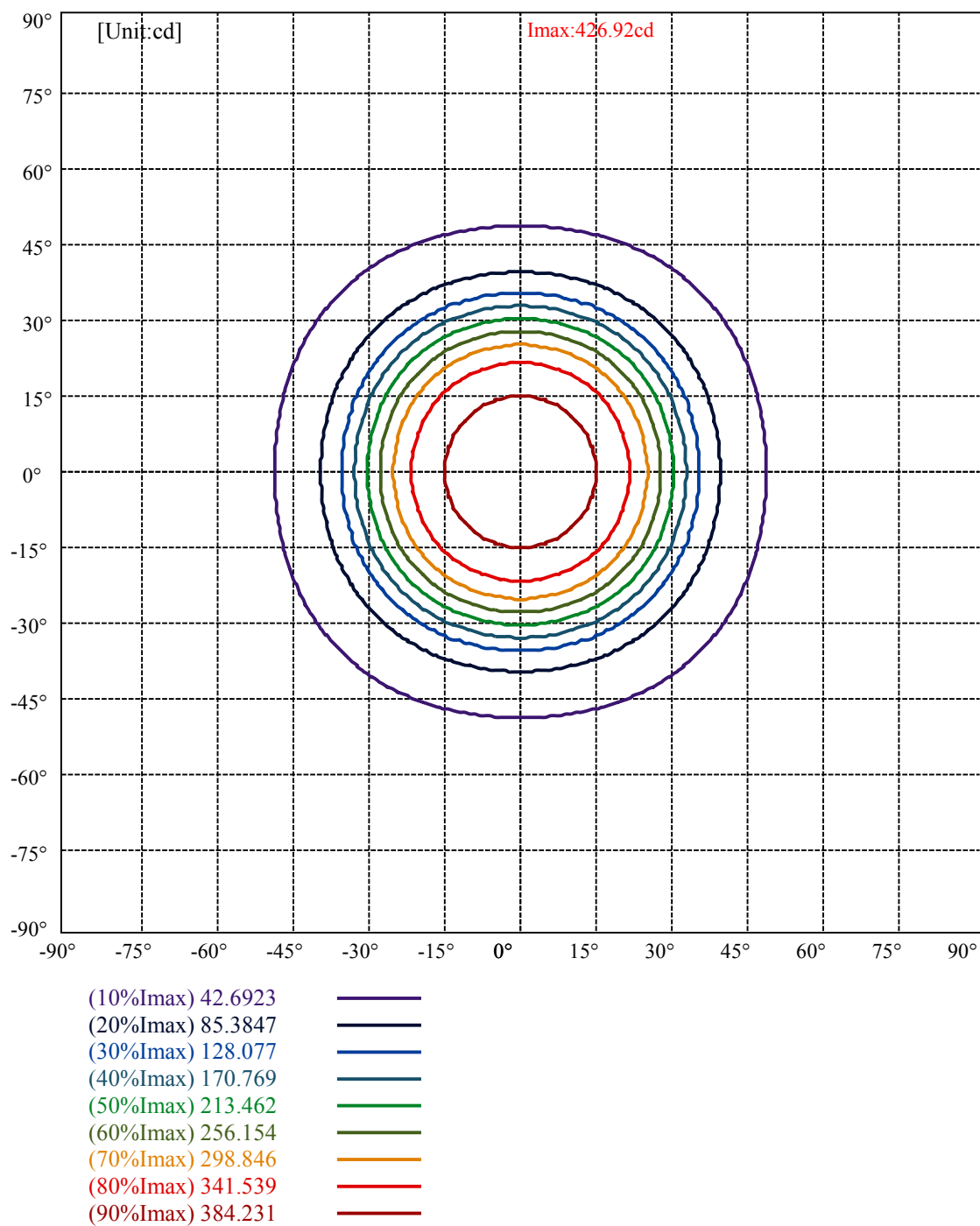
Zone	Lumens	%Lamp	%Fixt
0-30	280.71	51.70%	59.50%
0-40	364.56	67.14%	77.27%
0-60	432.20	79.60%	91.61%
0-90	467.50	86.09%	99.09%
0-120	467.50	86.09%	99.09%
0-180	471.80	86.89%	100.00%
60-90	47.18	8.69%	10.00%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-42.78	377.44	69.51%	80.00%

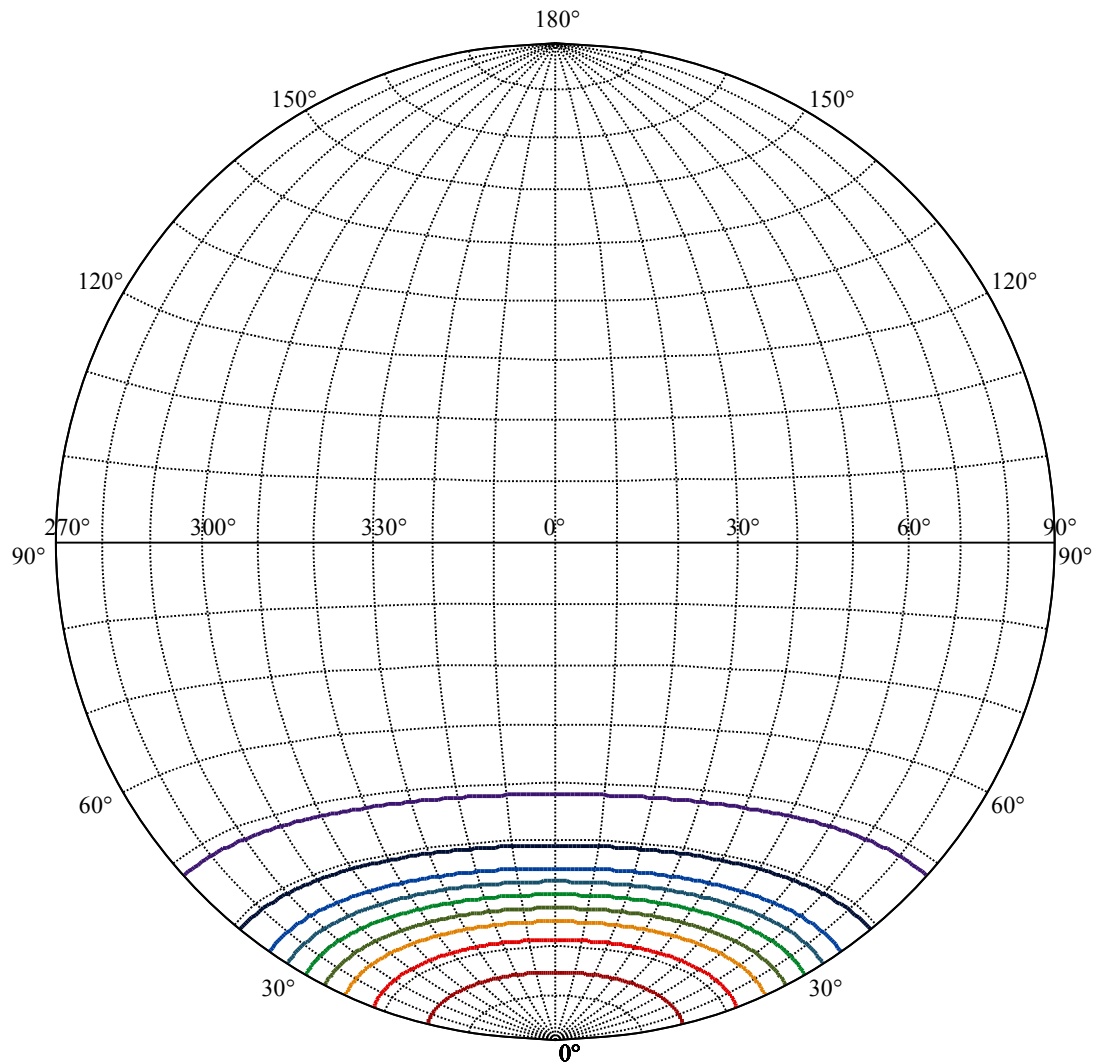
ZONAL LUMEN SUMMARY

0-10	39.62
10-20	107.73
20-30	133.35
30-40	83.86
40-50	40.96
50-60	26.68
60-70	16.69
70-80	12.69
80-90	5.91
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







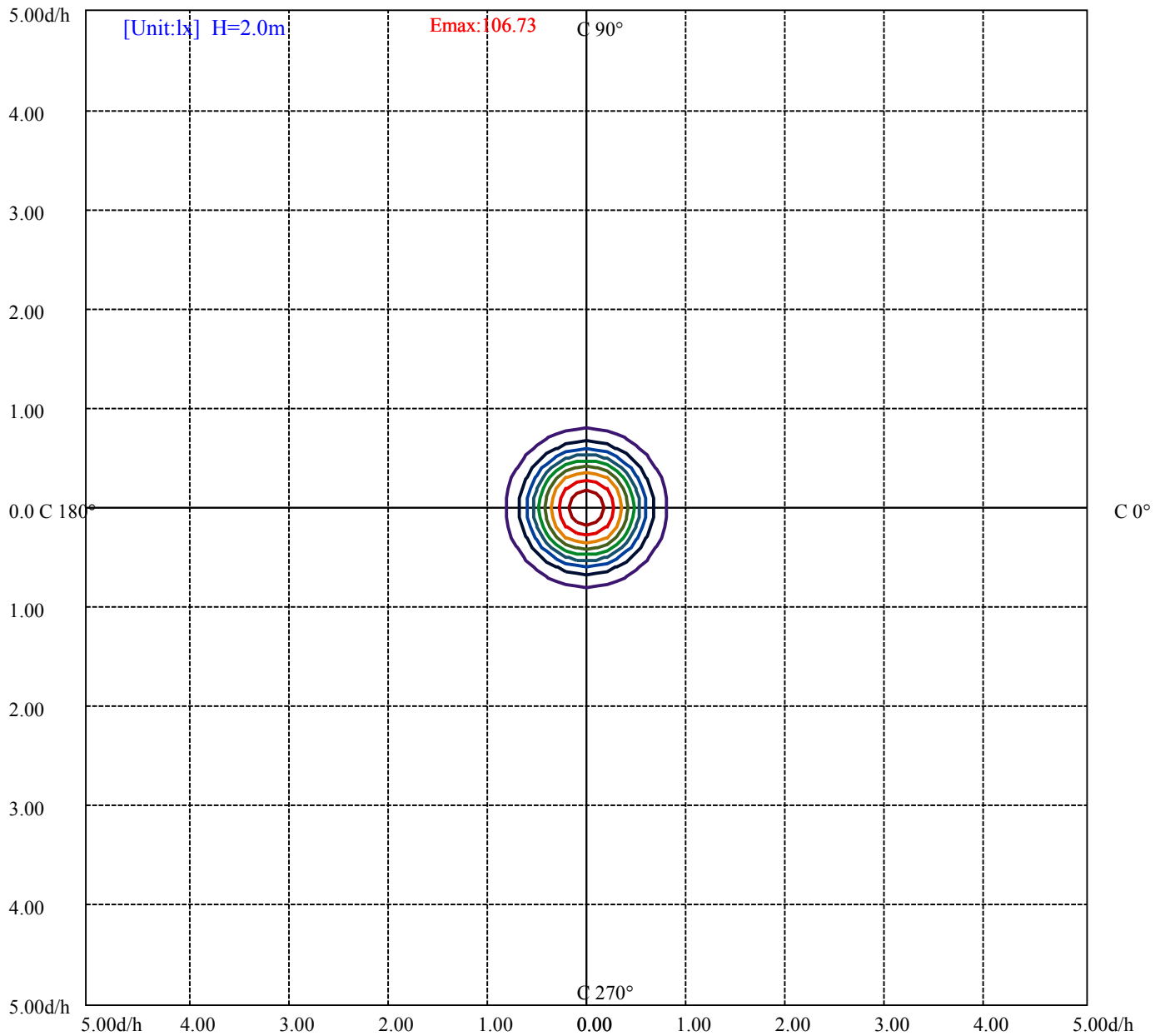


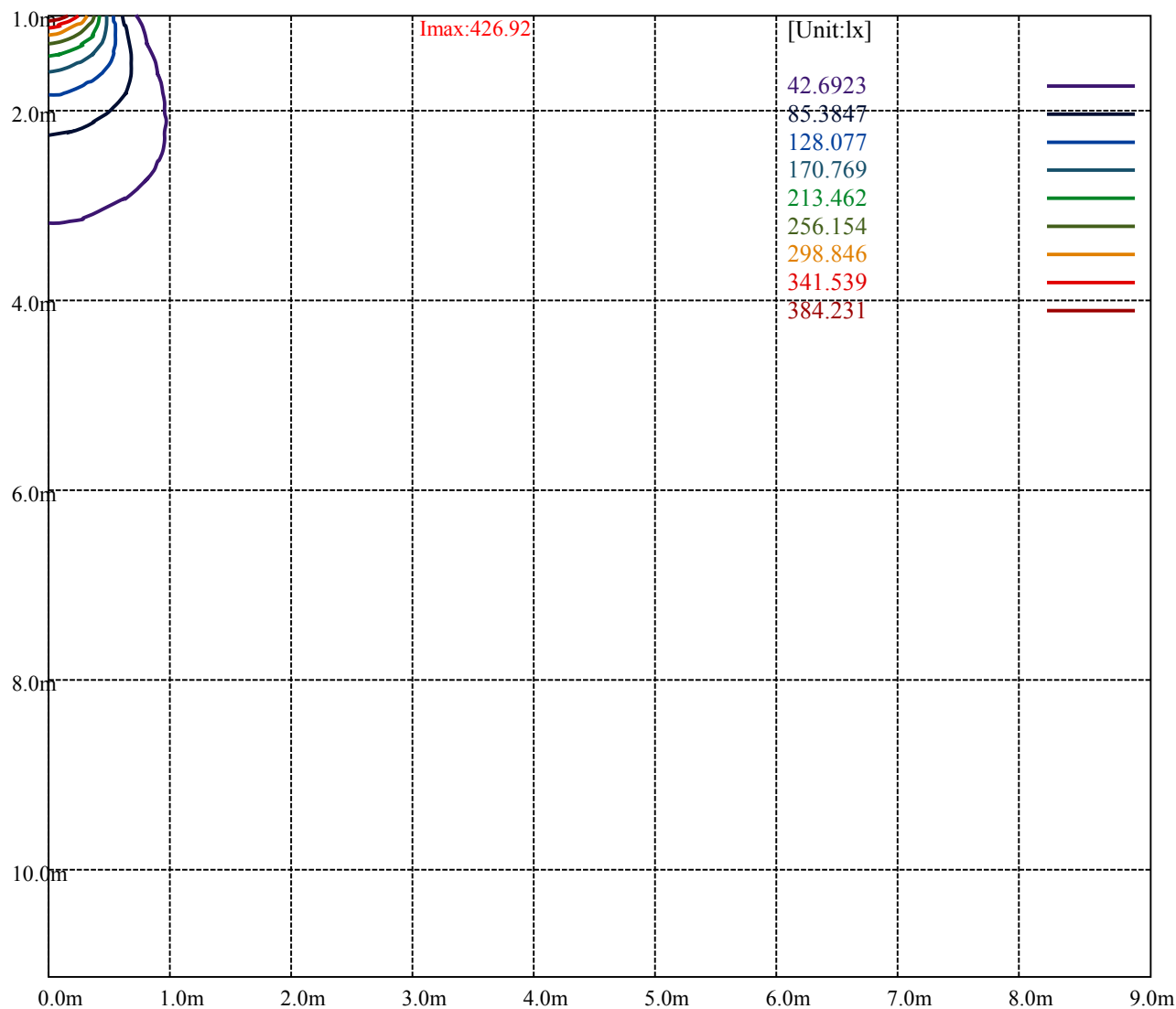
House

[Unit:cd]

Road

Imax:426.92	
(10%Imax) 42.6923	
(20%Imax) 85.3847	
(30%Imax) 128.077	
(40%Imax) 170.769	
(50%Imax) 213.462	
(60%Imax) 256.154	
(70%Imax) 298.846	
(80%Imax) 341.539	
(90%Imax) 384.231	





Luminance Table

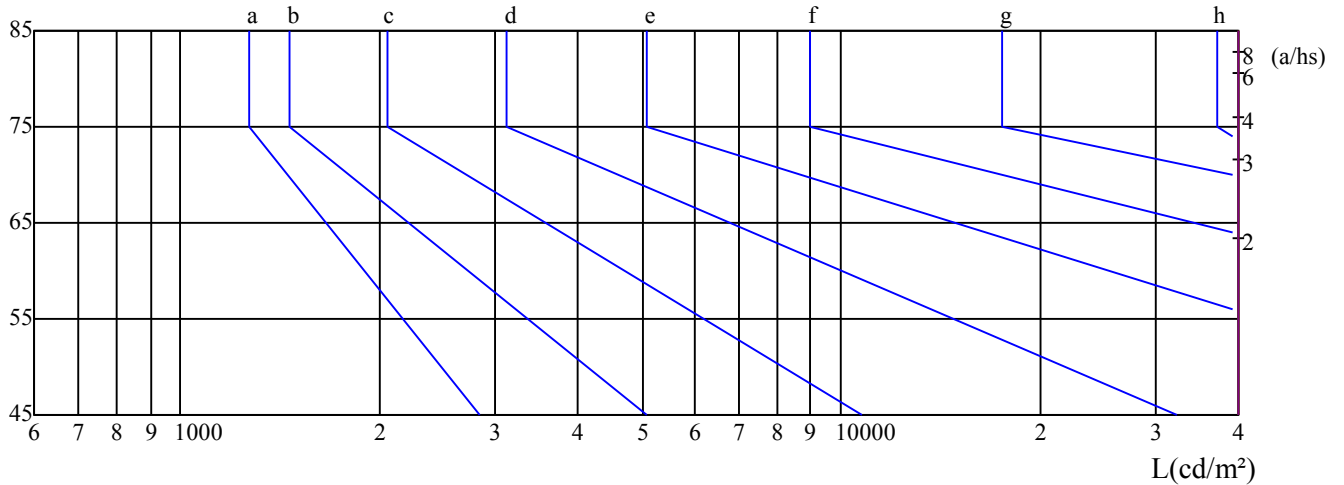
γ	45	50	55	60	65	70	75	80	85
C0	77671	66580	57207	48641	42388	43217	49655	73964	129976
C45	77671	66580	57207	48641	42388	43217	49655	73964	129976
C90	77671	66580	57207	48641	42388	43217	49655	73964	129976

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
42388	42388	42388	49655	49655	49655	129976	129976	129976

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

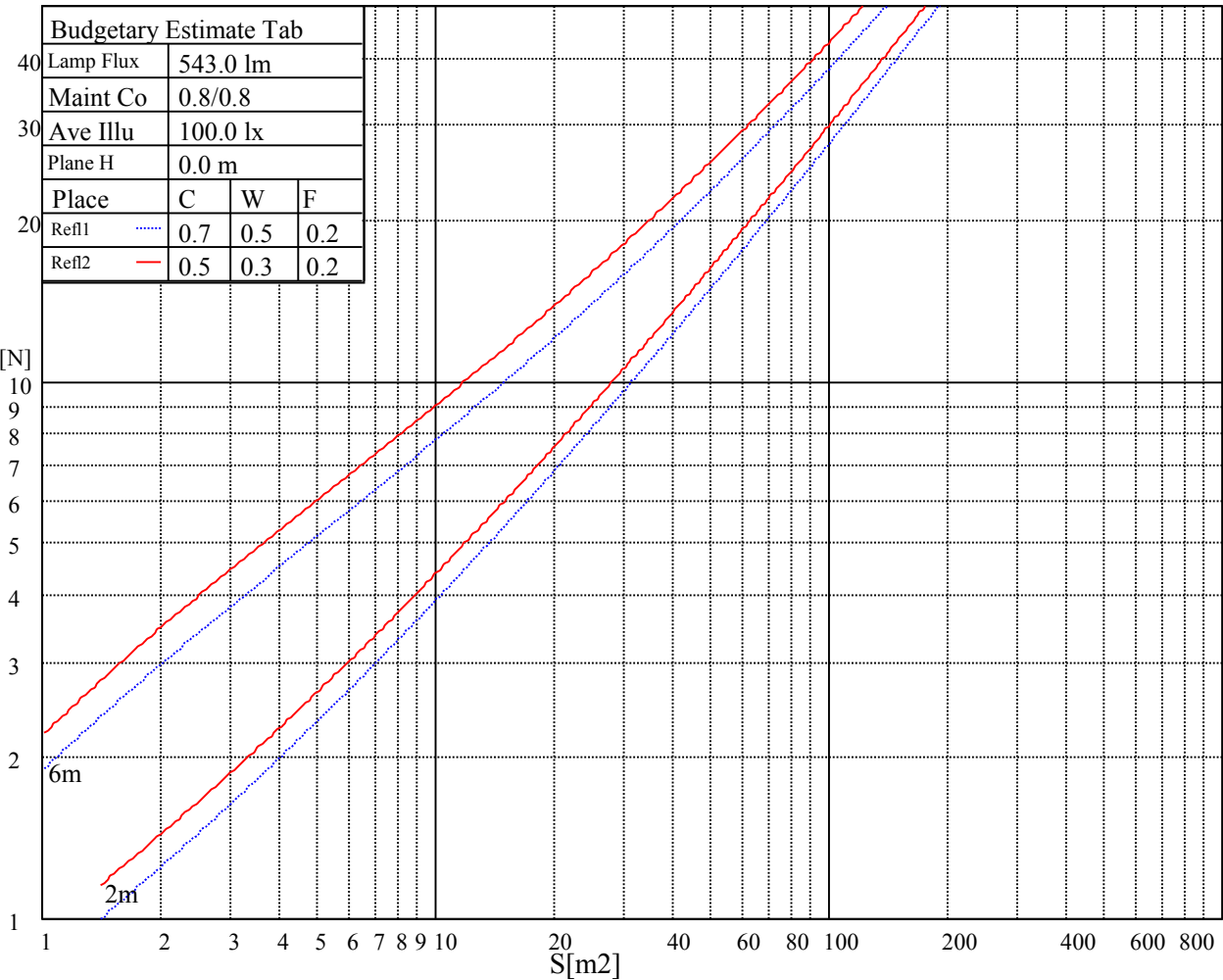
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

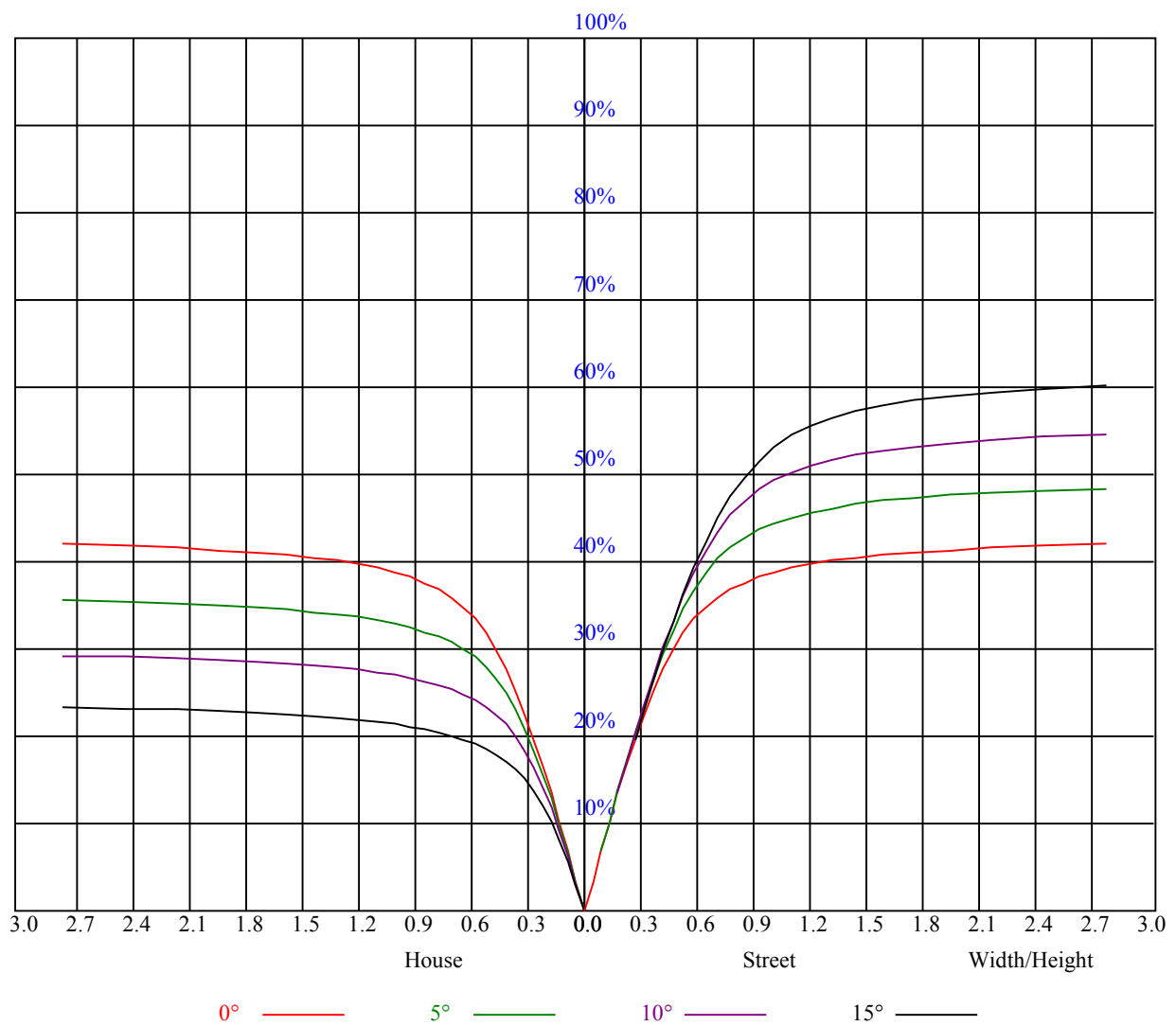
C0 ———

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	1.03	1.03	1.03	1.01	1.01	1.01	0.97	0.97	0.97	0.92	0.92	0.92	0.89	0.89	0.89	0.87
1	0.94	0.91	0.88	0.92	0.89	0.87	0.88	0.86	0.84	0.85	0.83	0.82	0.82	0.80	0.79	0.78
2	0.85	0.81	0.77	0.84	0.80	0.76	0.81	0.78	0.75	0.78	0.76	0.73	0.76	0.74	0.72	0.70
3	0.78	0.73	0.69	0.77	0.72	0.68	0.75	0.71	0.67	0.73	0.69	0.66	0.71	0.68	0.65	0.64
4	0.72	0.67	0.62	0.71	0.66	0.62	0.69	0.65	0.61	0.68	0.64	0.60	0.66	0.62	0.60	0.58
5	0.67	0.61	0.57	0.66	0.61	0.56	0.65	0.60	0.56	0.63	0.59	0.55	0.62	0.58	0.55	0.53
6	0.62	0.56	0.52	0.62	0.56	0.52	0.60	0.55	0.52	0.59	0.55	0.51	0.58	0.54	0.51	0.49
7	0.58	0.52	0.48	0.58	0.52	0.48	0.56	0.51	0.48	0.55	0.51	0.47	0.54	0.50	0.47	0.46
8	0.55	0.49	0.45	0.54	0.48	0.45	0.53	0.48	0.44	0.52	0.47	0.44	0.51	0.47	0.44	0.43
9	0.51	0.45	0.42	0.51	0.45	0.42	0.50	0.45	0.41	0.49	0.45	0.41	0.48	0.44	0.41	0.40
10	0.48	0.43	0.39	0.48	0.42	0.39	0.47	0.42	0.39	0.46	0.42	0.39	0.46	0.42	0.39	0.37



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	423.62	419.79	403.09	387.00	354.71	283.33	202.89	117.28	72.45	
45.0	428.29	423.06	404.38	376.26	332.04	251.94	168.86	103.95	66.15	
90.0	428.12	420.02	398.19	372.60	326.31	242.04	155.64	91.80	58.11	
135.0	427.67	417.60	400.78	385.48	355.84	280.91	197.66	112.44	66.77	
180.0	423.62	416.36	394.26	381.15	366.92	323.55	241.37	141.02	82.35	
225.0	428.29	422.10	398.14	382.61	379.74	349.71	265.39	159.53	91.63	
270.0	428.12	427.11	413.27	389.87	371.93	334.29	257.23	163.35	93.04	
315.0	427.67	425.19	409.11	393.81	373.89	313.03	219.32	123.30	76.05	
360.0	423.62	419.79	403.09	387.00	354.71	283.33	202.89	117.28	72.45	
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	
0.0	50.63	39.99	29.76	21.60	15.69	13.05	11.70	10.52	8.72	
45.0	47.76	37.97	28.46	21.04	15.08	12.60	10.74	9.28	8.27	
90.0	42.53	33.08	26.04	19.46	14.63	12.15	10.41	9.28	9.06	
135.0	43.71	34.54	26.55	19.35	14.79	11.93	10.24	10.52	9.96	
180.0	50.79	39.15	30.21	22.61	16.48	13.39	12.21	16.14	13.67	
225.0	54.56	42.41	34.37	26.78	20.53	17.66	15.53	14.01	13.28	
270.0	56.31	43.37	32.79	24.30	17.33	13.73	11.31	9.68	9.11	
315.0	49.16	37.63	28.07	19.97	14.46	11.93	10.41	13.05	9.51	
360.0	50.63	39.99	29.76	21.60	15.69	13.05	11.70	10.52	8.72	
C/ γ (°)	90.0									
0.0	4.28									
45.0	5.06									
90.0	4.95									
135.0	6.98									
180.0	6.64									
225.0	6.98									
270.0	4.78									
315.0	4.44									
360.0	4.28									