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Nata

Client:

LumCAT: 1681-S

Luminaire: 92.70.124.00

Report No:

Voltage(V): 33.2100

Test No: GC2019082902

Current(A): 0.2970

LampCAT: XICATO XOB LES 9.8MM

Power (W): 9.8600

Lamp flux(lm): 902.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 46

Width(mm): 46

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 776.79, Efficiency(%): 86.12% , Luminous Efficacy(lm/W): 78.78

Central intensity(cd): 899.114, Maximum intensity(cd): 899.114

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=60.4

[C90/270]Total=60.4

Field angle(10%Imax): [C0/180]Total=78.8

[C90/270]Total=78.8

Maximum s/h(1/2): C0_180=0.94 C90_270=0.94

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(%): 86.12%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.074%

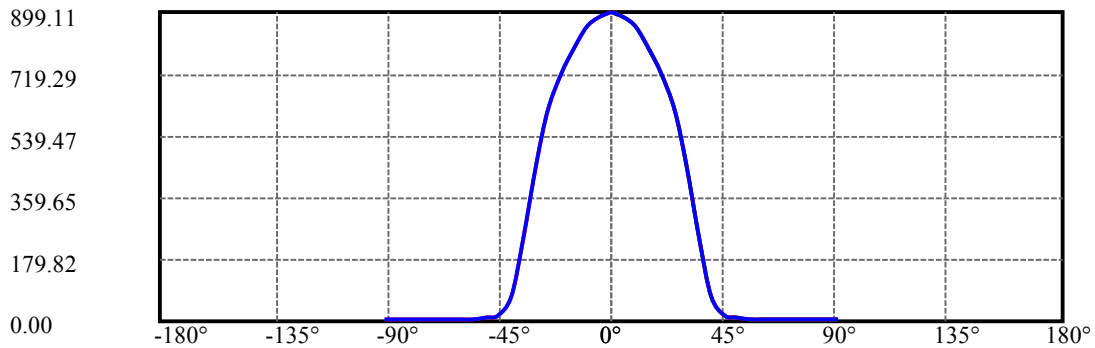
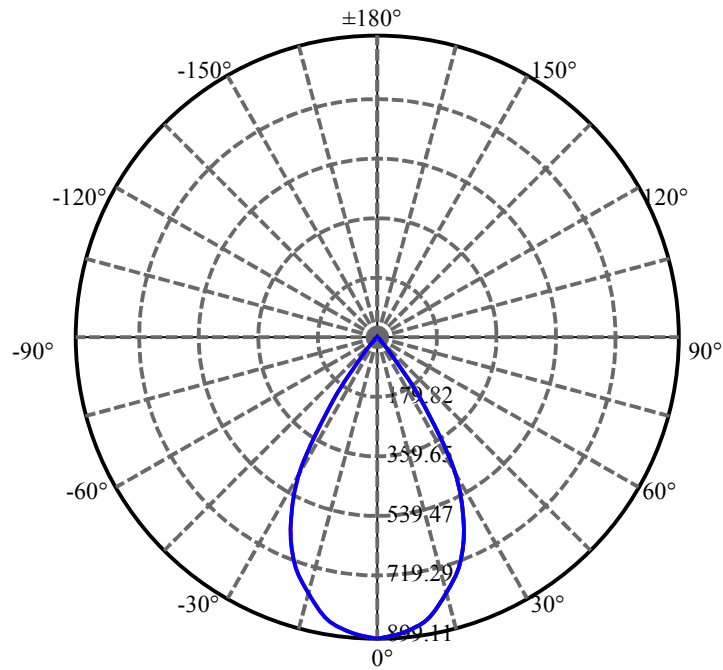
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	899.114	0.000	0	.000%	.000%
5.0	884.897	21.327	21.327	2.364%	2.746%
10.0	852.398	62.149	83.476	6.890%	10.746%
15.0	787.268	97.264	180.74	10.783%	23.268%
20.0	719.241	124.157	304.897	13.765%	39.251%
25.0	615.080	139.946	444.843	15.515%	57.267%
30.0	456.237	135.576	580.419	15.031%	74.720%
35.0	233.993	101.641	682.06	11.268%	87.805%
40.0	71.508	50.970	733.03	5.651%	94.367%
45.0	19.083	16.774	749.804	1.860%	96.526%
50.0	9.225	5.720	755.524	.634%	97.263%
55.0	6.553	3.431	758.955	.380%	97.704%
60.0	5.864	2.870	761.825	.318%	98.074%
65.0	5.681	2.807	764.632	.311%	98.435%
70.0	5.182	2.751	767.382	.305%	98.789%
75.0	4.753	2.597	769.979	.288%	99.123%
80.0	4.472	2.468	772.447	.274%	99.441%
85.0	3.959	2.291	774.738	.254%	99.736%
90.0	3.530	2.050	776.789	.227%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	580.42	64.35%	74.72%
0-40	733.03	81.27%	94.37%
0-60	761.82	84.46%	98.07%
0-90	774.74	85.89%	99.74%
0-120	774.74	85.89%	99.74%
0-180	776.79	86.12%	100.00%
60-90	15.78	1.75%	2.03%
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%
0-32.02	621.43	68.89%	80.00%

ZONAL LUMEN SUMMARY

0-10	83.48
10-20	221.42
20-30	275.52
30-40	152.61
40-50	22.49
50-60	6.30
60-70	5.56
70-80	5.07
80-90	2.29
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: —————

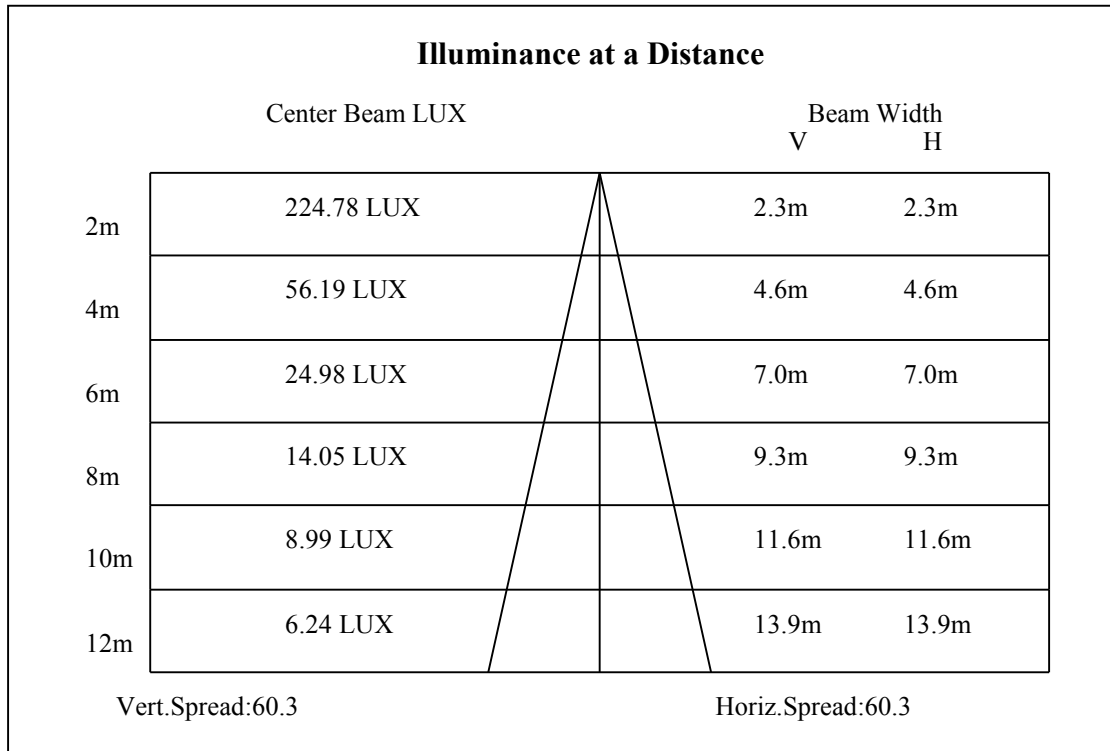
C90/C270: —————

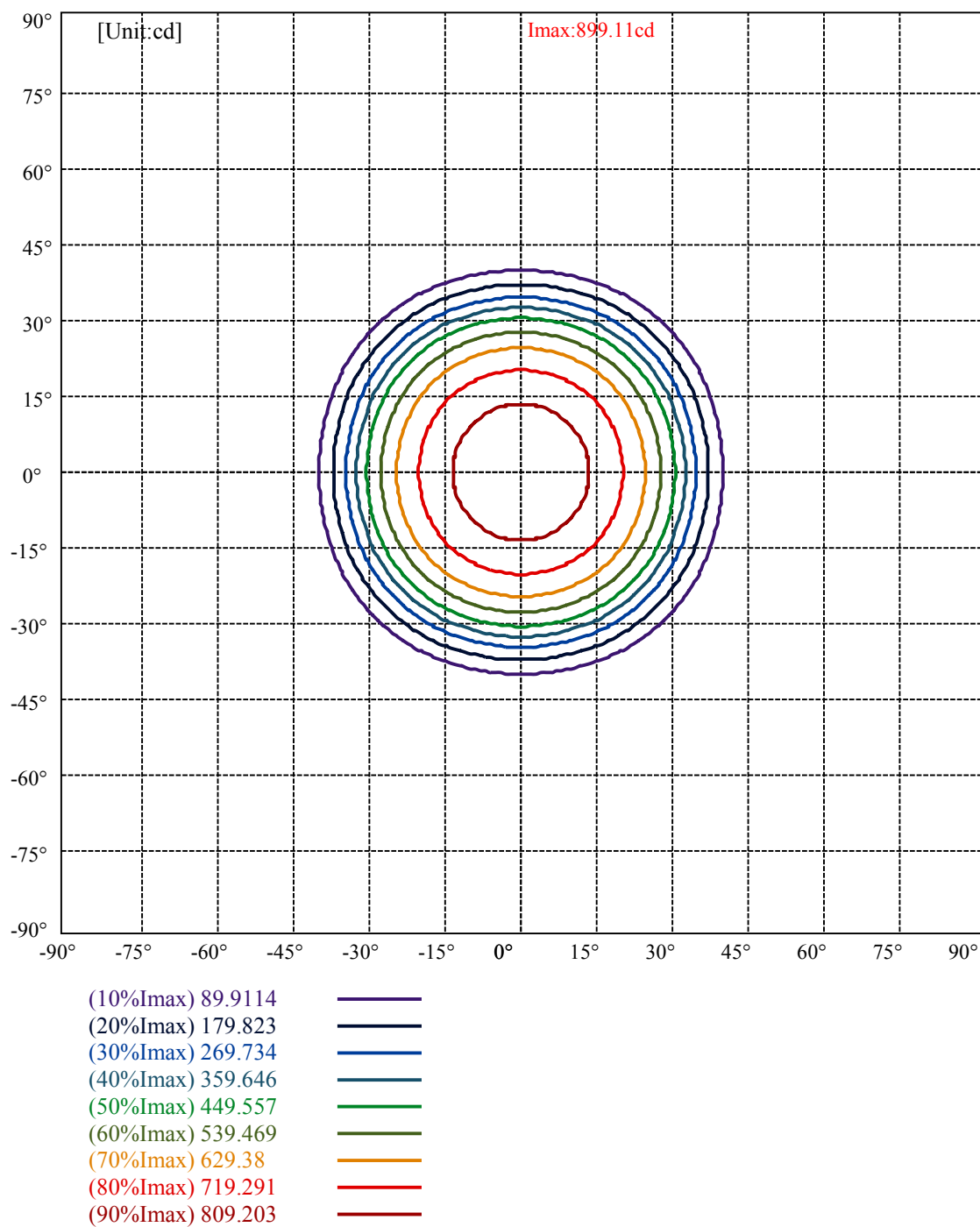
Field angle(10%Imax):C0/180Left:39.4 Right:39.4

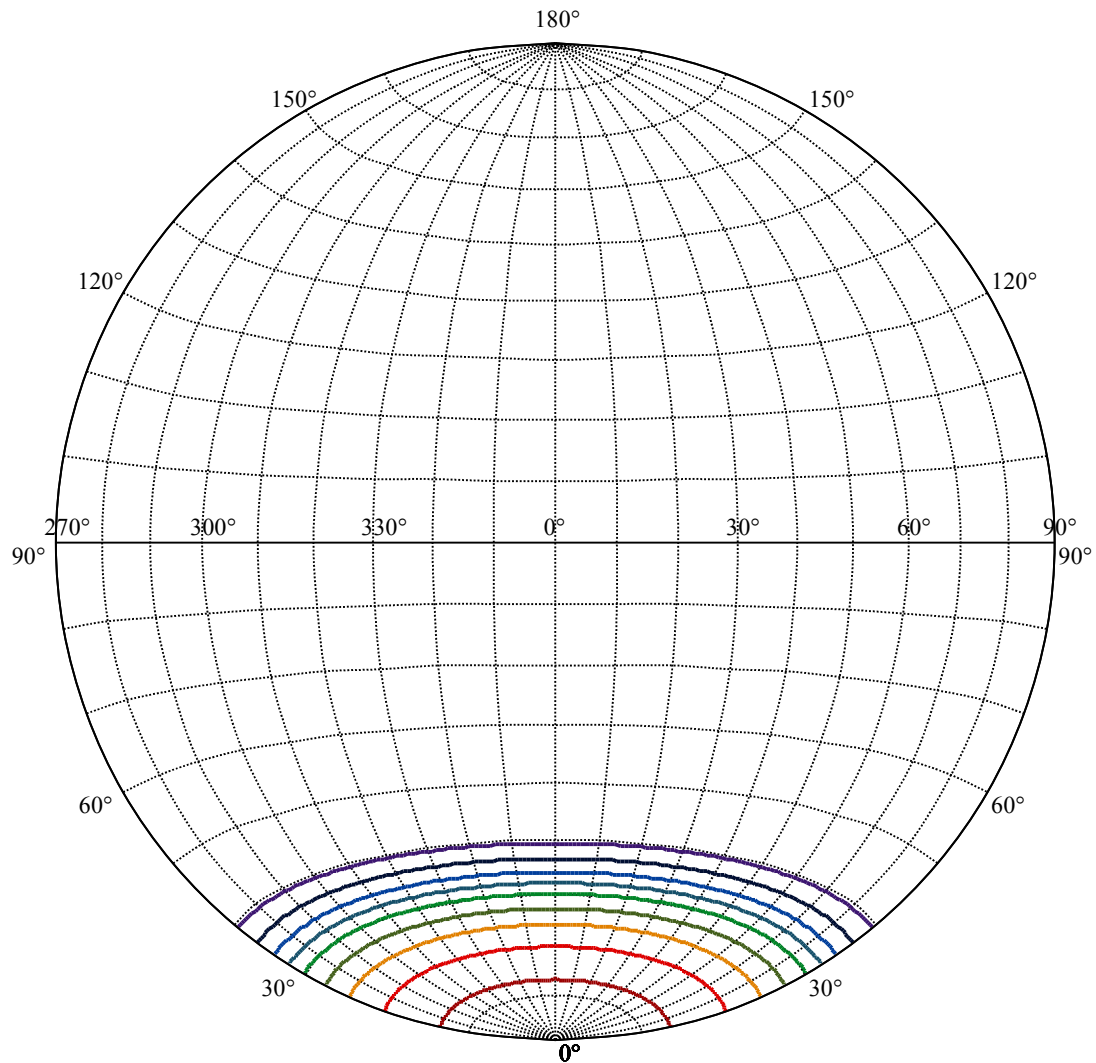
:C90/270Left:39.4 Right:39.4

Beam Angle(50%Imax):C0/180Left:30.2 Right:30.2

:C90/270Left:30.2 Right:30.2







House

[Unit:cd]

Road

Imax:899.11

(10%Imax) 89.9114

(20%Imax) 179.823

(30%Imax) 269.734

(40%Imax) 359.646

(50%Imax) 449.557

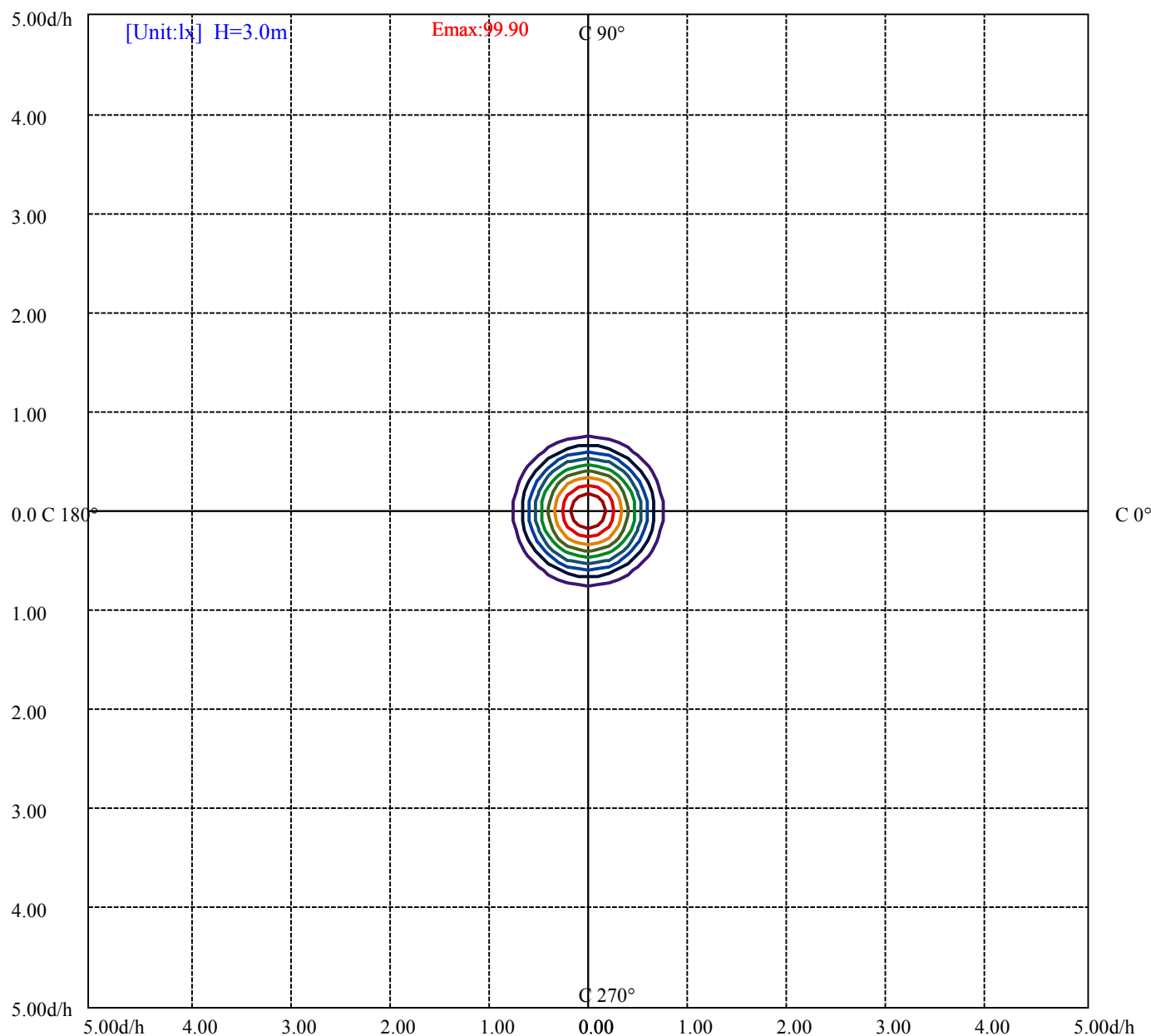
(60%Imax) 539.469

(70%Imax) 629.38

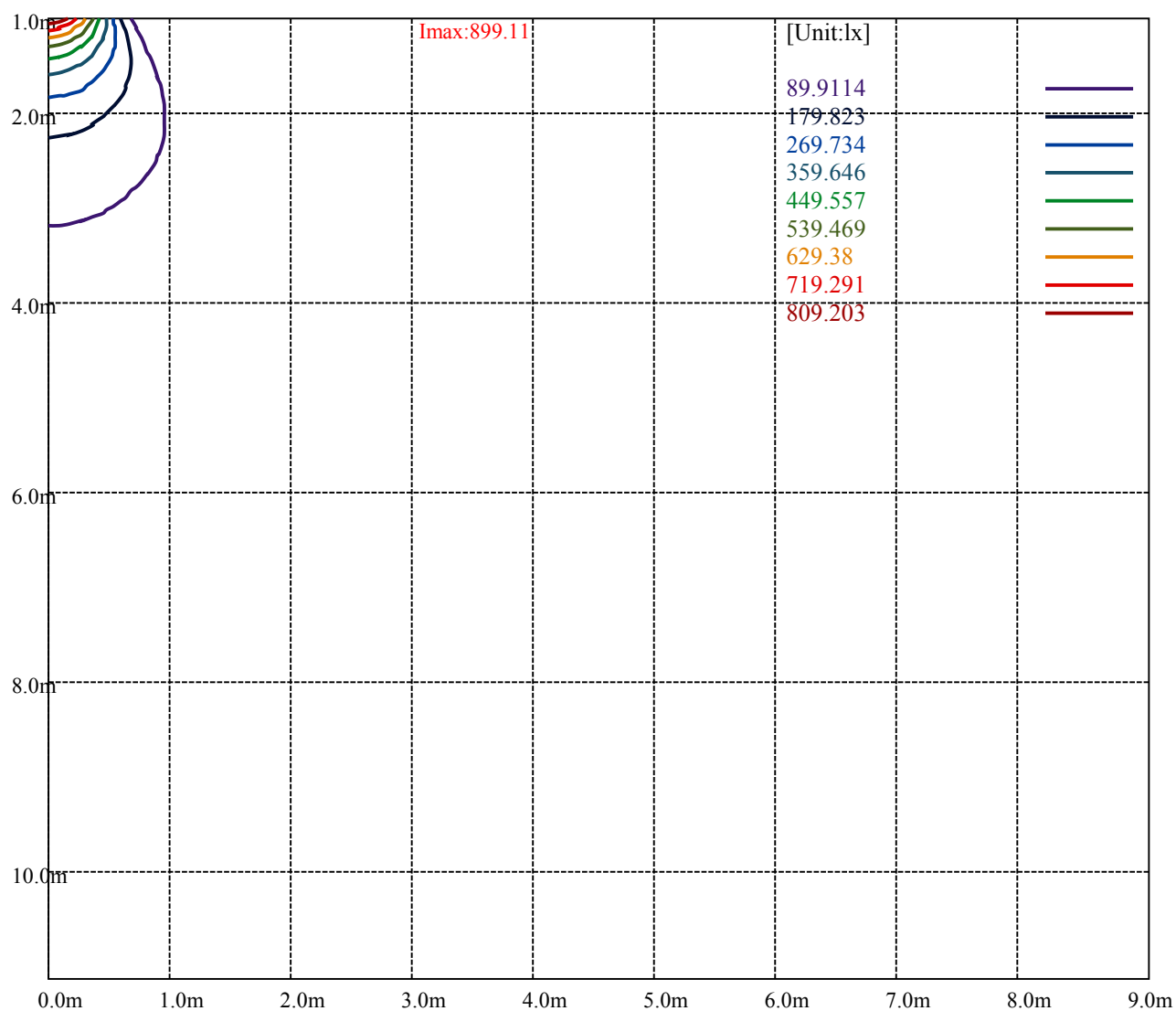
(80%Imax) 719.291

(90%Imax) 809.203





(10%Emax) 9.990155	—
(20%Emax) 19.98033	—
(30%Emax) 29.97045	—
(40%Emax) 39.96056	—
(50%Emax) 49.95078	—
(60%Emax) 59.94089	—
(70%Emax) 69.93111	—
(80%Emax) 79.92123	—
(90%Emax) 89.91134	—



Luminance Table

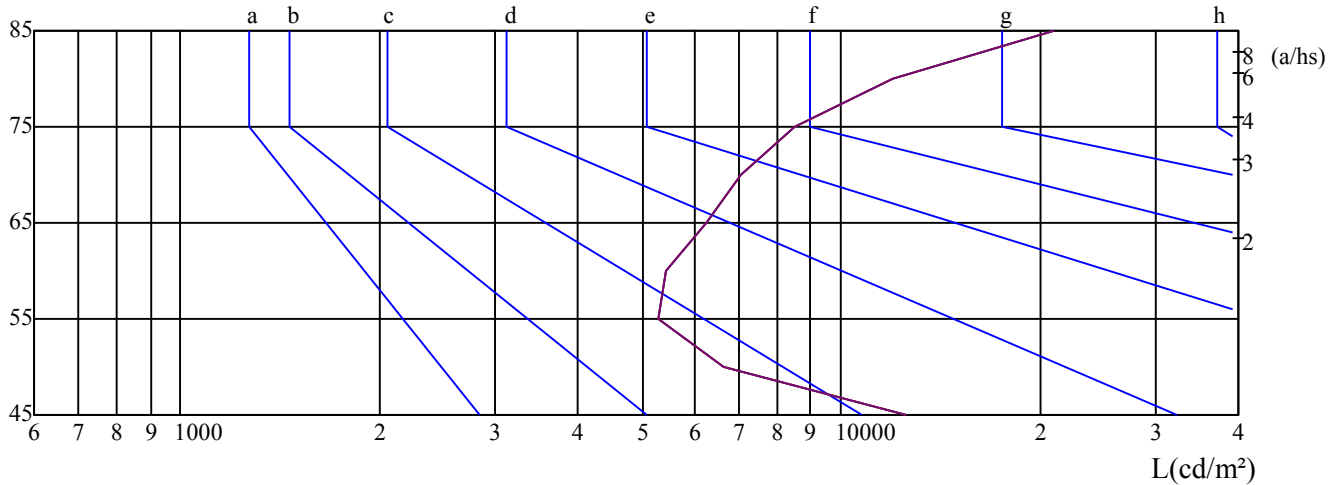
γ	45	50	55	60	65	70	75	80	85
C0	12535	6666	5307	5447	6244	7037	8530	11961	21096
C45	12535	6666	5307	5447	6244	7037	8530	11961	21096
C90	12535	6666	5307	5447	6244	7037	8530	11961	21096

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6244	6244	6244	8530	8530	8530	21096	21096	21096

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

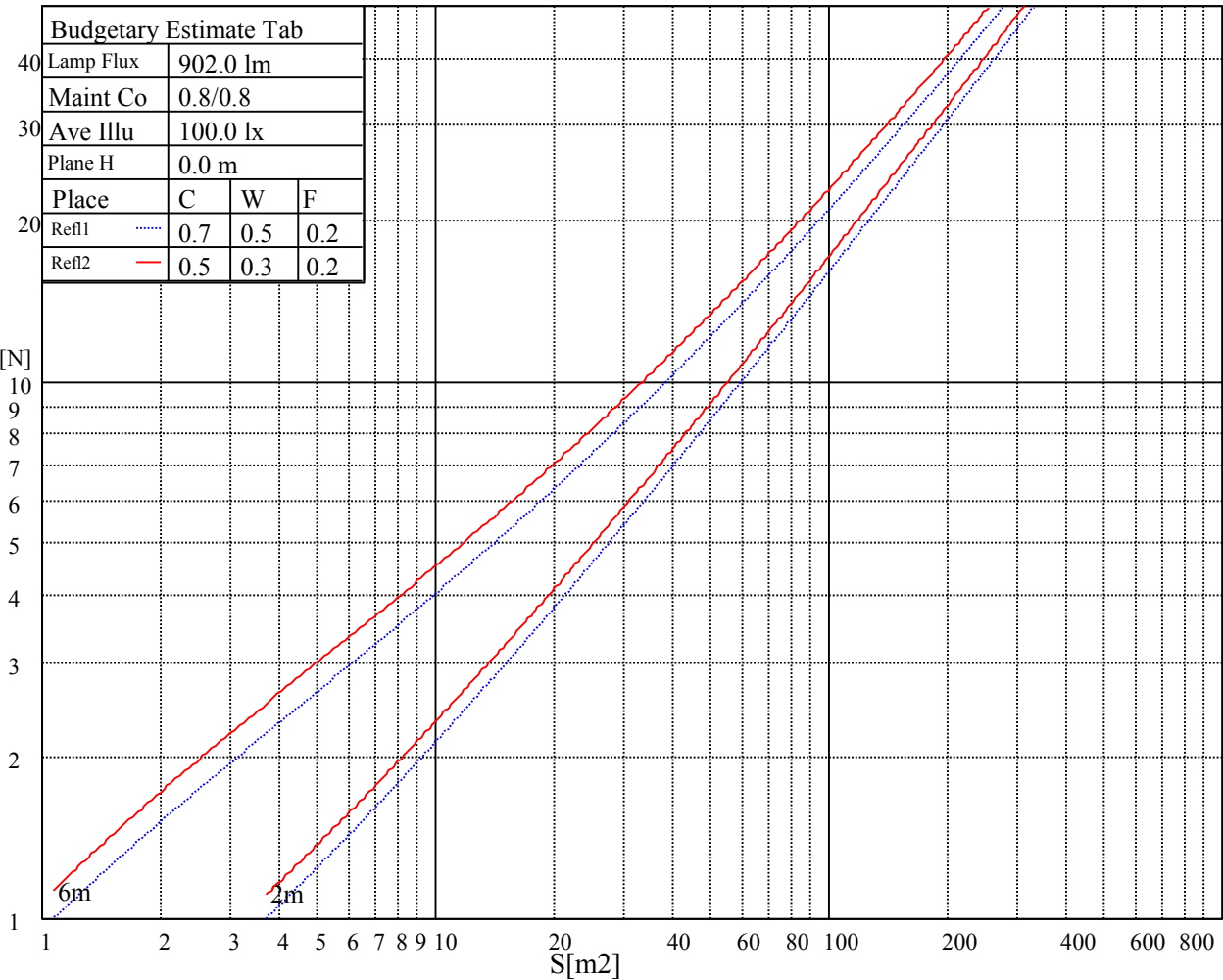
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

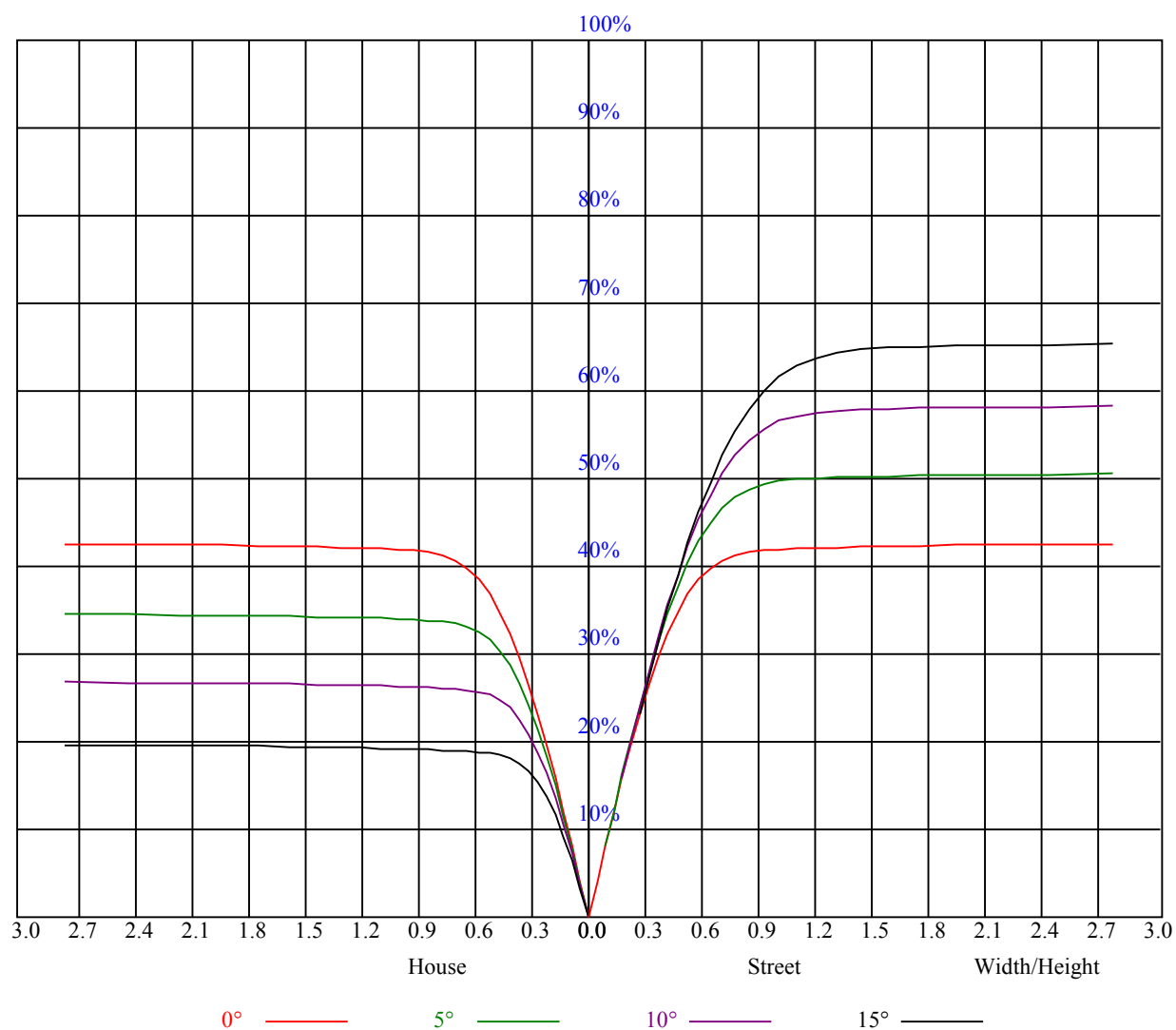
C0 ———

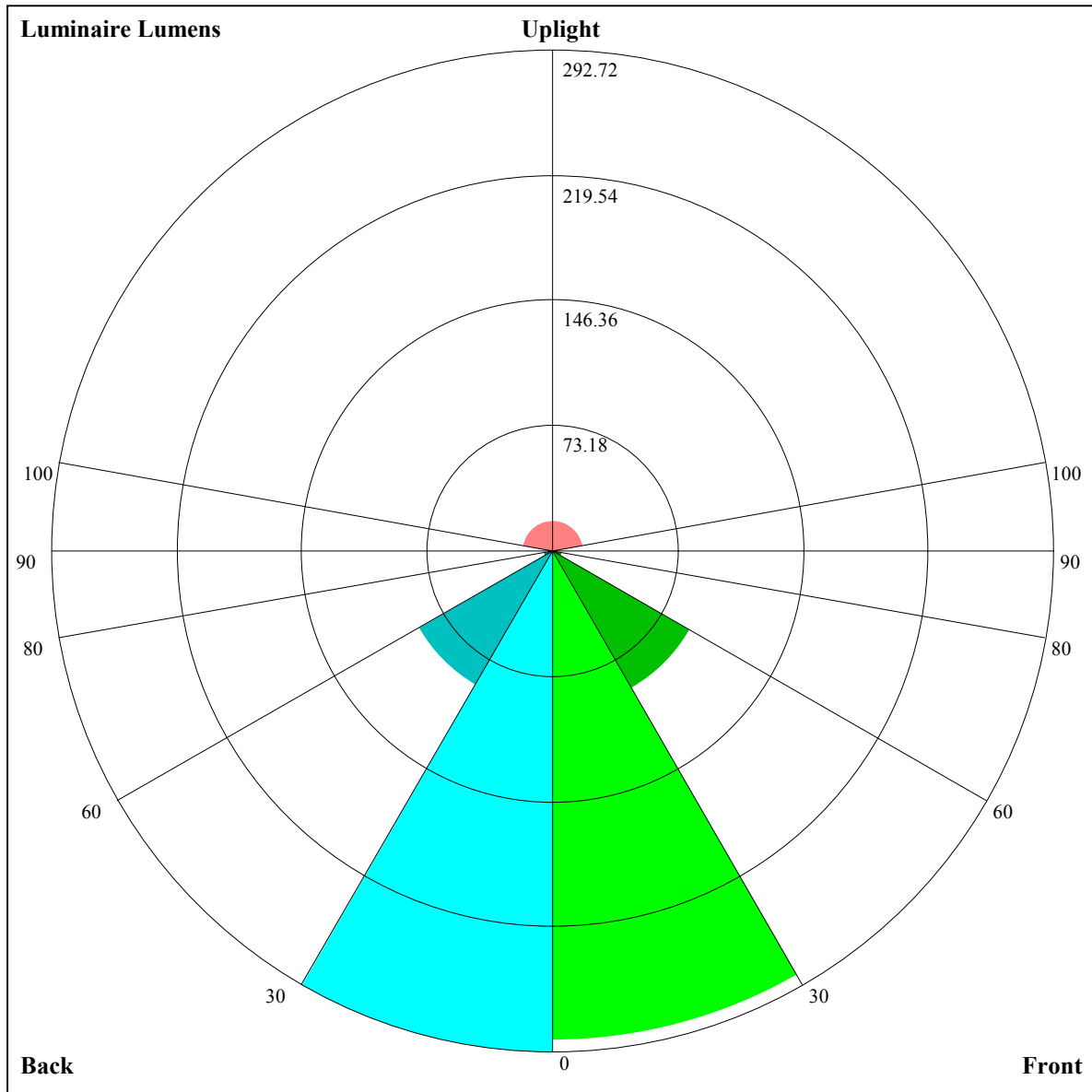
C45 ———

C90 ———



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	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.86
1	0.95	0.93	0.91	0.93	0.91	0.89	0.90	0.88	0.87	0.87	0.85	0.84	0.84	0.83	0.82	0.80
2	0.89	0.85	0.82	0.87	0.84	0.81	0.84	0.82	0.79	0.82	0.80	0.78	0.79	0.78	0.76	0.75
3	0.83	0.78	0.75	0.81	0.78	0.74	0.79	0.76	0.73	0.77	0.74	0.72	0.75	0.73	0.71	0.70
4	0.77	0.73	0.69	0.76	0.72	0.69	0.75	0.71	0.68	0.73	0.70	0.67	0.71	0.69	0.66	0.65
5	0.73	0.68	0.64	0.72	0.67	0.64	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.64	0.62	0.61
6	0.68	0.63	0.60	0.68	0.63	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.57
7	0.64	0.59	0.56	0.64	0.59	0.56	0.63	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.53
8	0.61	0.56	0.52	0.60	0.55	0.52	0.59	0.55	0.52	0.58	0.55	0.52	0.58	0.54	0.51	0.50
9	0.57	0.52	0.49	0.57	0.52	0.49	0.56	0.52	0.49	0.55	0.51	0.49	0.55	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





Luminaire Lumens:

FL=285.79,FM=93.02,FH=5.18,FVH=2.19

BL=292.72,BM=90.72,BH=5.38,BVH=2.15

UL=3.85,UH=18.33

BUG Rating:B1-U2-G0

Nata 1681-S

Intensity data(cd)										Appendix Page: 15 Total:15	
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	898.54	879.47	843.75	772.09	697.67	608.29	450.90	248.29	64.46		
45.0	902.03	869.40	814.39	727.54	661.22	541.63	391.61	164.64	37.57		
90.0	895.95	855.62	787.61	694.46	627.19	493.71	304.26	82.97	24.24		
135.0	899.94	870.02	833.46	747.84	667.58	561.04	369.06	136.13	32.79		
180.0	898.54	888.53	856.24	799.99	735.86	628.43	457.93	214.14	41.63		
225.0	902.03	907.09	899.61	866.64	811.18	708.64	548.94	310.67	96.75		
270.0	895.95	911.53	906.81	872.21	813.49	734.57	621.73	421.71	182.08		
315.0	899.94	897.53	877.33	817.37	739.74	644.34	505.46	293.40	92.53		
360.0	898.54	879.47	843.75	772.09	697.67	608.29	450.90	248.29	64.46		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	17.83	9.06	6.41	5.40	5.12	4.67	4.11	3.94	3.77		
45.0	13.50	7.88	5.96	5.23	4.84	4.44	4.11	4.11	3.99		
90.0	10.69	7.09	5.74	5.40	5.18	4.61	4.33	4.05	3.83		
135.0	13.39	8.10	6.53	6.13	6.36	6.13	6.47	5.57	3.77		
180.0	14.06	8.21	6.47	6.02	6.19	4.61	4.16	3.99	3.83		
225.0	20.98	9.28	6.53	6.30	6.13	4.61	4.16	4.05	3.83		
270.0	36.22	12.60	7.31	6.13	5.74	6.08	4.67	4.33	4.33		
315.0	25.99	11.59	7.48	6.30	5.91	6.30	6.02	5.74	4.33		
360.0	17.83	9.06	6.41	5.40	5.12	4.67	4.11	3.94	3.77		
C/γ(°)	90.0										
0.0	3.49										
45.0	3.49										
90.0	3.49										
135.0	3.43										
180.0	3.43										
225.0	3.66										
270.0	3.66										
315.0	3.60										
360.0	3.49										