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NATA

Client:

LumCAT: 1655-S

Luminaire: 92.70.064.00

Report No: nt0100

Voltage(V): 36.0900

Test No: GC2019122417

Current(A): 0.2970

LampCAT: LUMINUS CXM-9-AC40

Power (W): 9.9700

Lamp flux(lm): 1077.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 916.62, Efficiency(%): 85.11% , Luminous Efficacy(lm/W): 91.94

Central intensity(cd): 1696.500, Maximum intensity(cd): 1696.500

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=41.2

[C90/270]Total=41.2

Field angle(10%Imax): [C0/180]Total=70.8

[C90/270]Total=70.8

Maximum s/h(1/2): C0_180=0.66 C90_270=0.66

Maximum s/h(1/4): C0_180=0.66 C90_270=0.66

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 85.11%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.931%

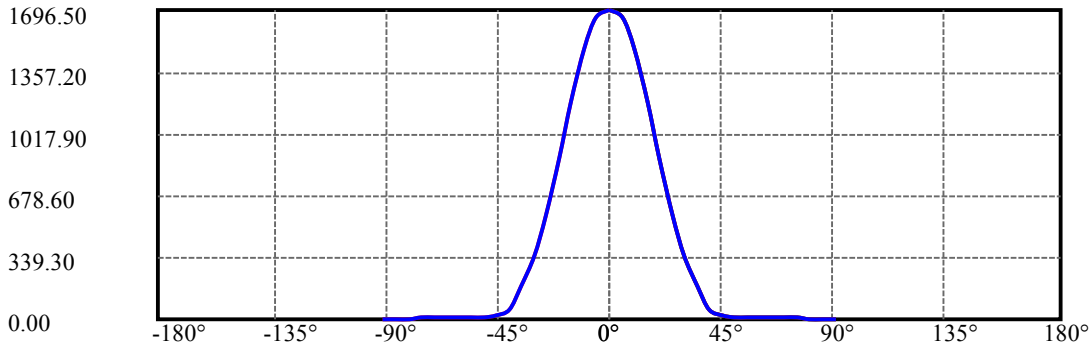
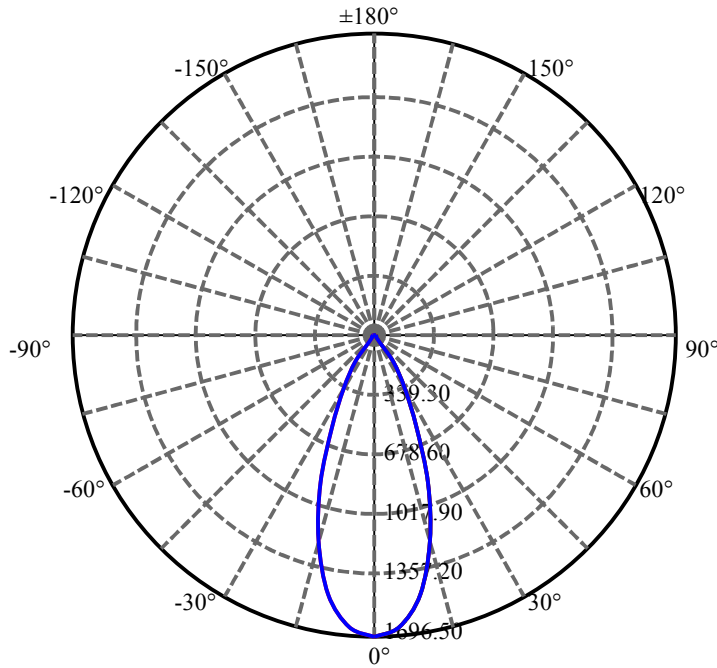
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1696.500	0.000	0	.000%	.000%
5.0	1651.992	40.030	40.03	3.717%	4.367%
10.0	1486.688	112.280	152.311	10.425%	16.617%
15.0	1192.605	158.934	311.245	14.757%	33.956%
20.0	883.069	171.065	482.309	15.883%	52.618%
25.0	567.373	152.125	634.434	14.125%	69.214%
30.0	343.934	115.327	749.76	10.708%	81.796%
35.0	179.923	77.142	826.902	7.163%	90.212%
40.0	53.747	38.986	865.888	3.620%	94.465%
45.0	21.122	13.863	879.75	1.287%	95.978%
50.0	15.159	7.331	887.082	.681%	96.777%
55.0	11.461	5.788	892.87	.537%	97.409%
60.0	9.260	4.790	897.659	.445%	97.931%
65.0	7.629	4.106	901.765	.381%	98.379%
70.0	6.553	3.591	905.356	.333%	98.771%
75.0	5.738	3.213	908.569	.298%	99.122%
80.0	5.133	2.909	911.477	.270%	99.439%
85.0	4.732	2.681	914.158	.249%	99.731%
90.0	4.261	2.462	916.62	.229%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	749.76	69.62%	81.80%
0-40	865.89	80.40%	94.47%
0-60	897.66	83.35%	97.93%
0-90	914.16	84.88%	99.73%
0-120	914.16	84.88%	99.73%
0-180	916.62	85.11%	100.00%
60-90	21.29	1.98%	2.32%
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%
0-29.29	733.30	68.09%	80.00%

ZONAL LUMEN SUMMARY

0-10	152.31
10-20	330.00
20-30	267.45
30-40	116.13
40-50	21.19
50-60	10.58
60-70	7.70
70-80	6.12
80-90	2.68
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: —————

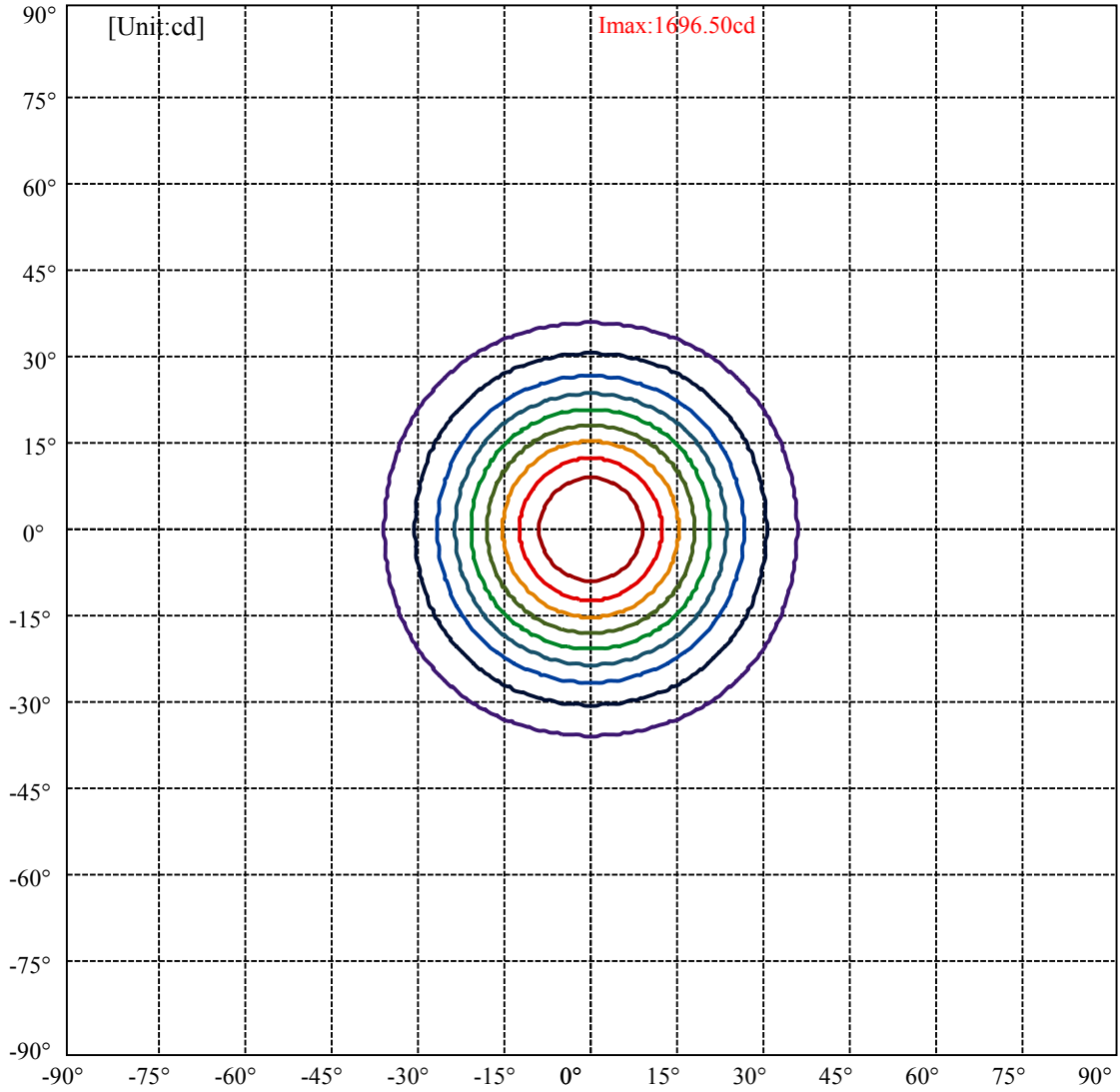
C90/C270: —————

Field angle(10%Imax):C0/180Left:35.4 Right:35.4

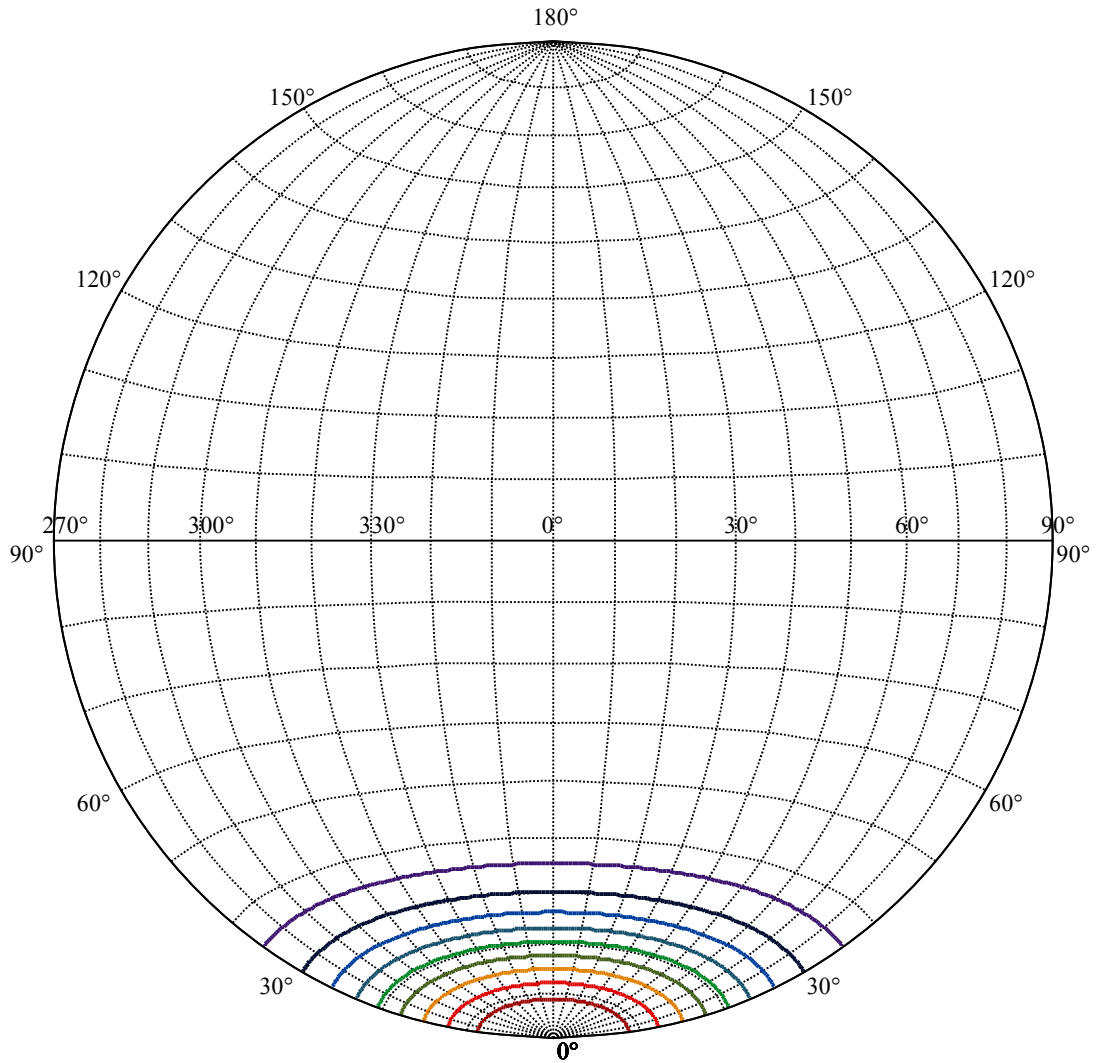
:C90/270Left:35.4 Right:35.4

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

:C90/270Left:20.6 Right:20.6



(10%Imax) 169.65	—
(20%Imax) 339.3	—
(30%Imax) 508.95	—
(40%Imax) 678.6	—
(50%Imax) 848.25	—
(60%Imax) 1017.9	—
(70%Imax) 1187.55	—
(80%Imax) 1357.2	—
(90%Imax) 1526.85	—



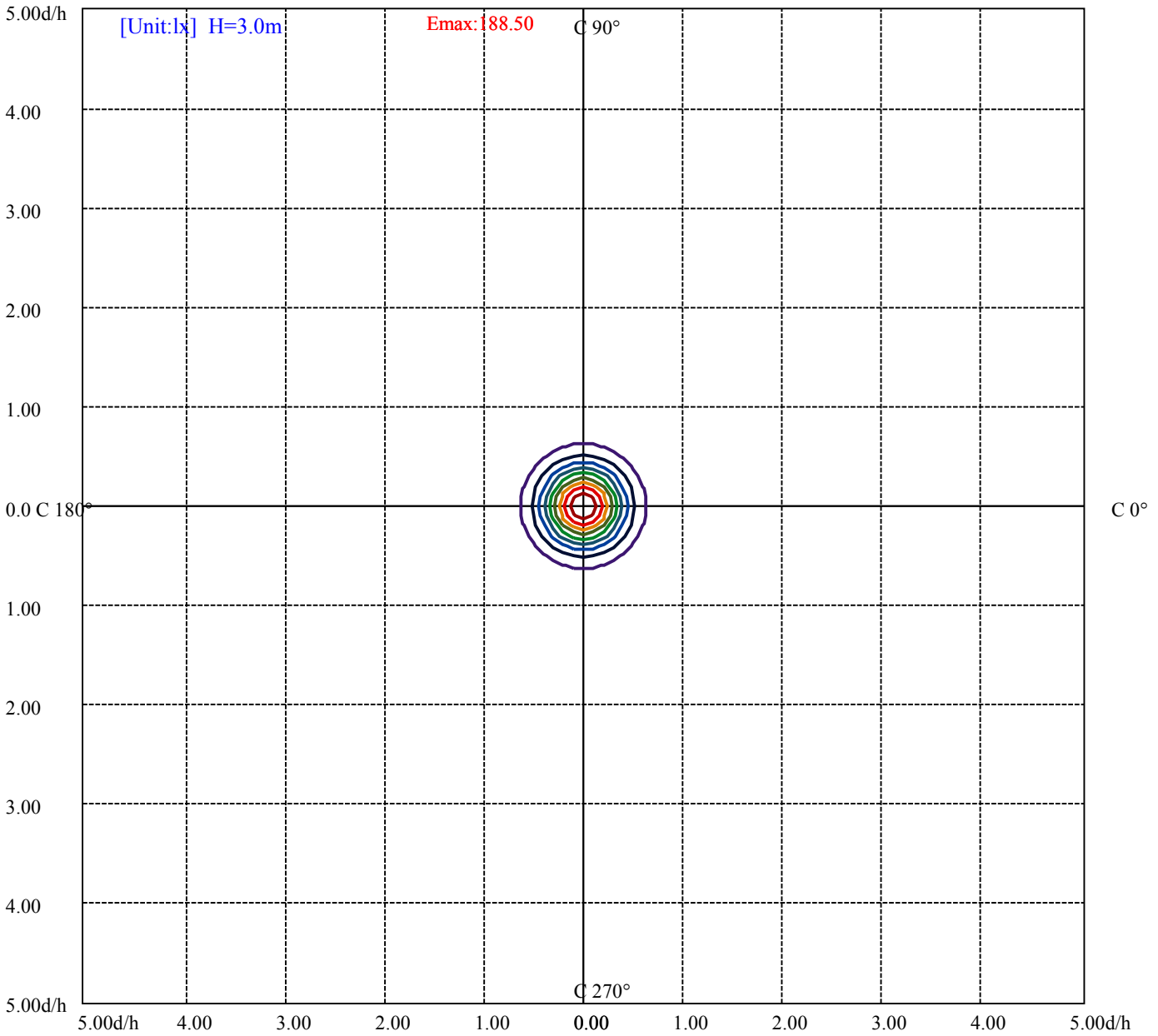
House

[Unit:cd]

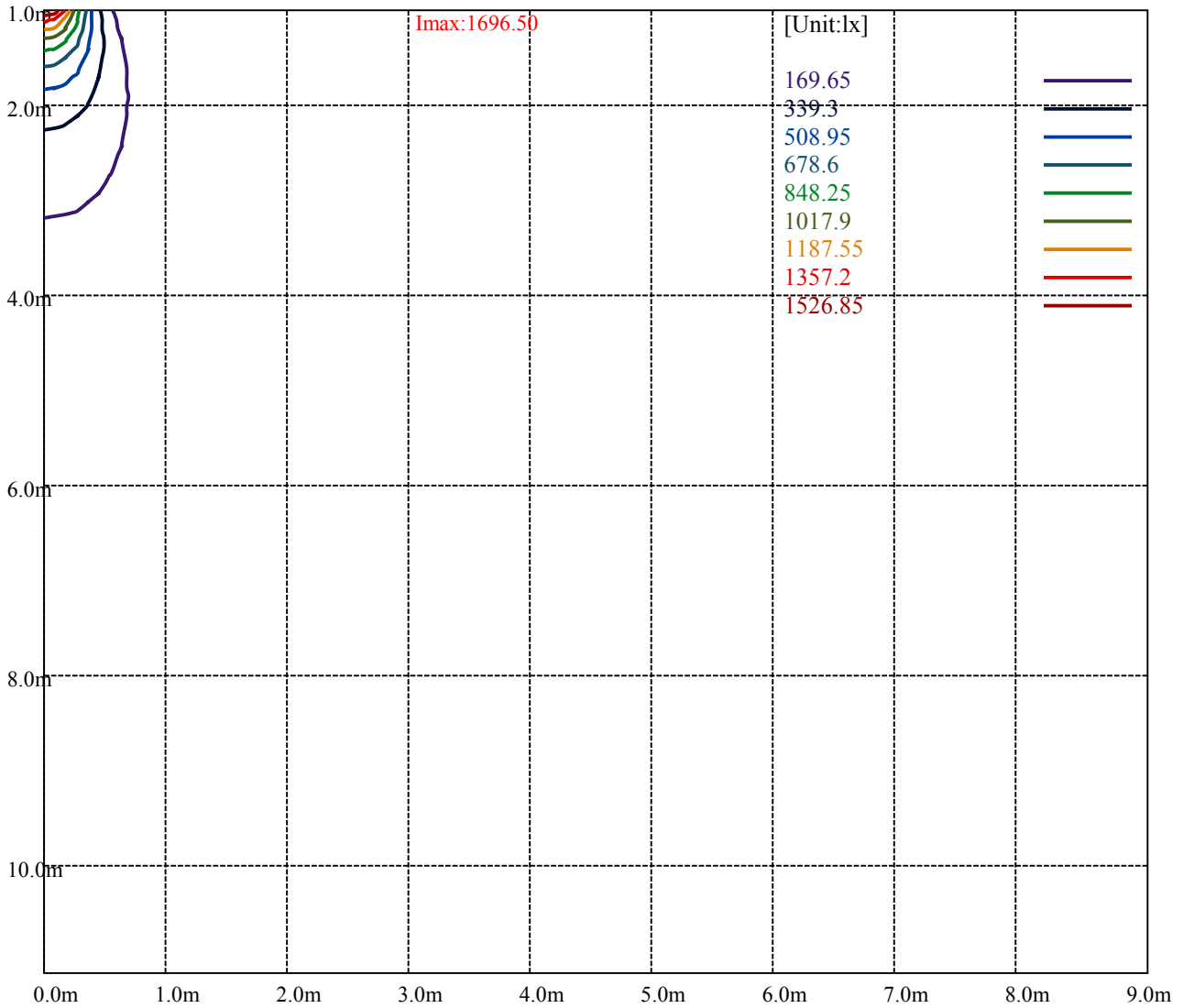
Road

I_{max}:1696.50

(10%I _{max}) 169.65	—
(20%I _{max}) 339.3	—
(30%I _{max}) 508.95	—
(40%I _{max}) 678.6	—
(50%I _{max}) 848.25	—
(60%I _{max}) 1017.9	—
(70%I _{max}) 1187.55	—
(80%I _{max}) 1357.2	—
(90%I _{max}) 1526.85	—



(10%Emax) 18.85	—
(20%Emax) 37.7	—
(30%Emax) 56.55	—
(40%Emax) 75.39989	—
(50%Emax) 94.24989	—
(60%Emax) 113.1	—
(70%Emax) 131.95	—
(80%Emax) 150.8	—
(90%Emax) 169.65	—



Luminance Table

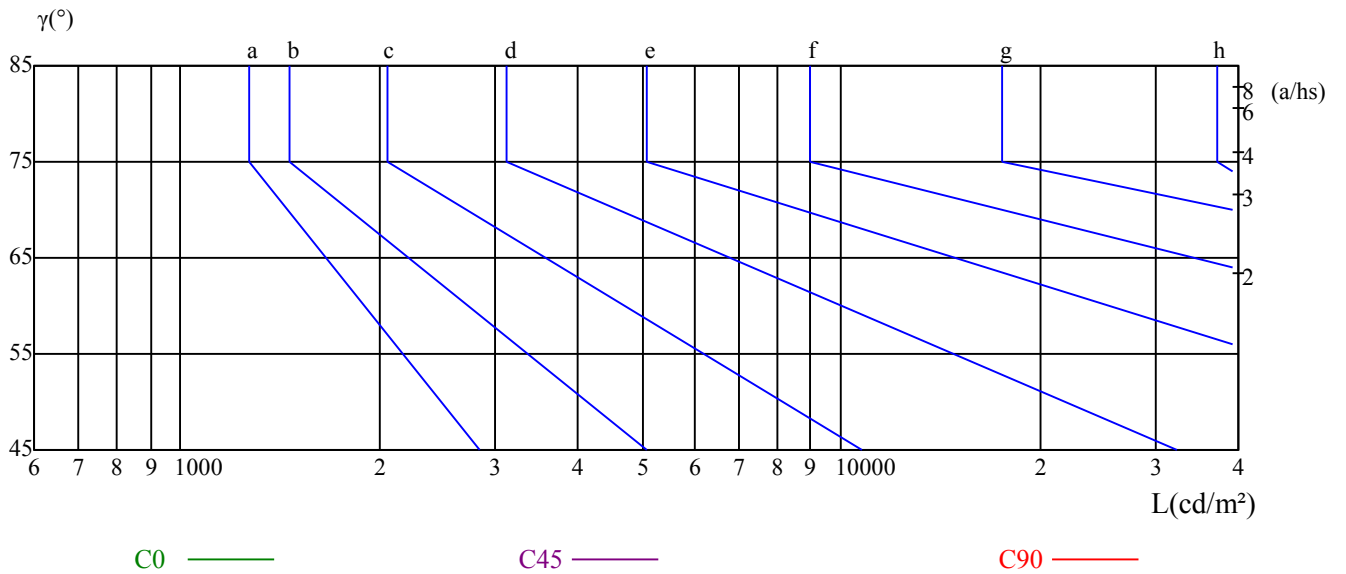
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

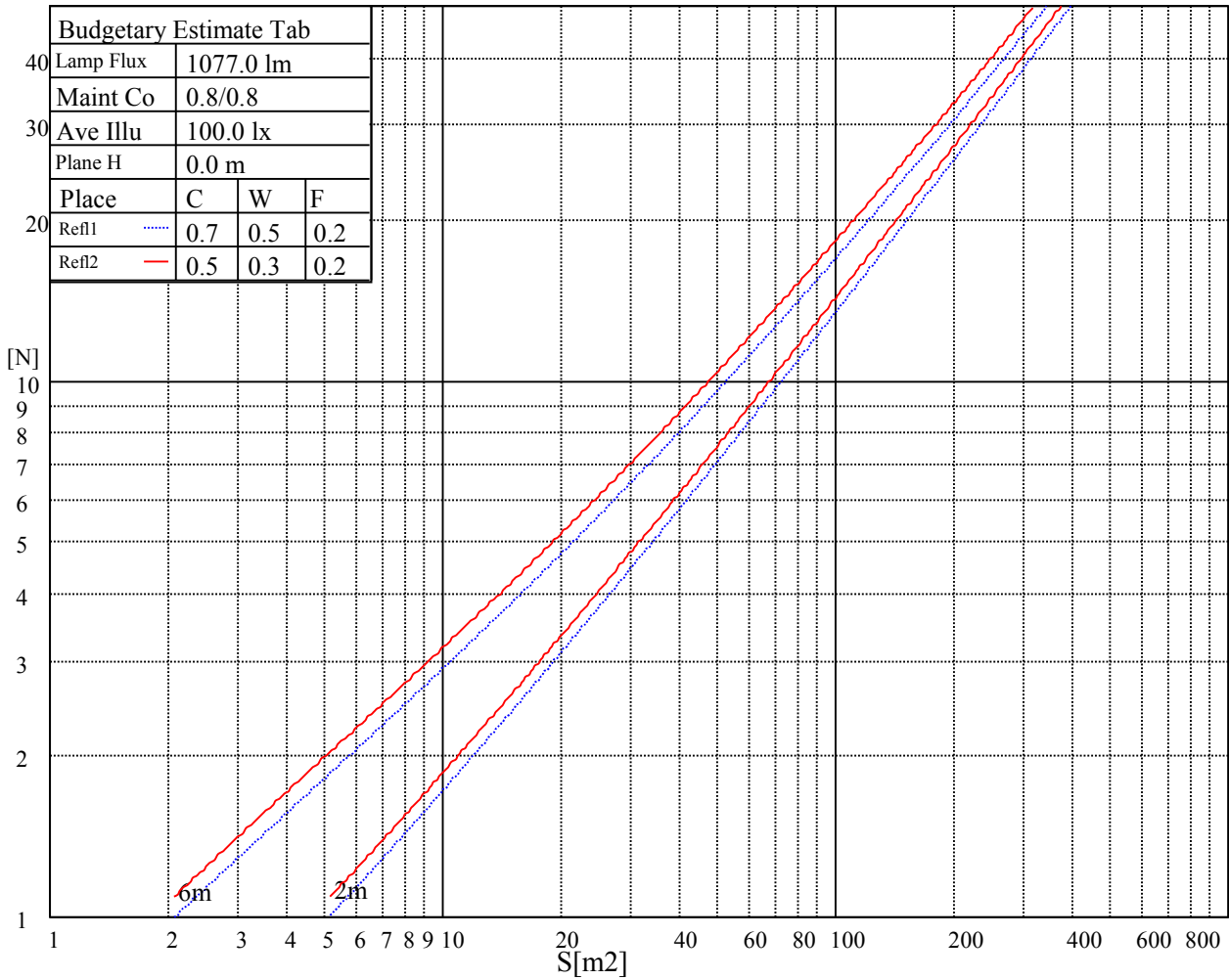
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

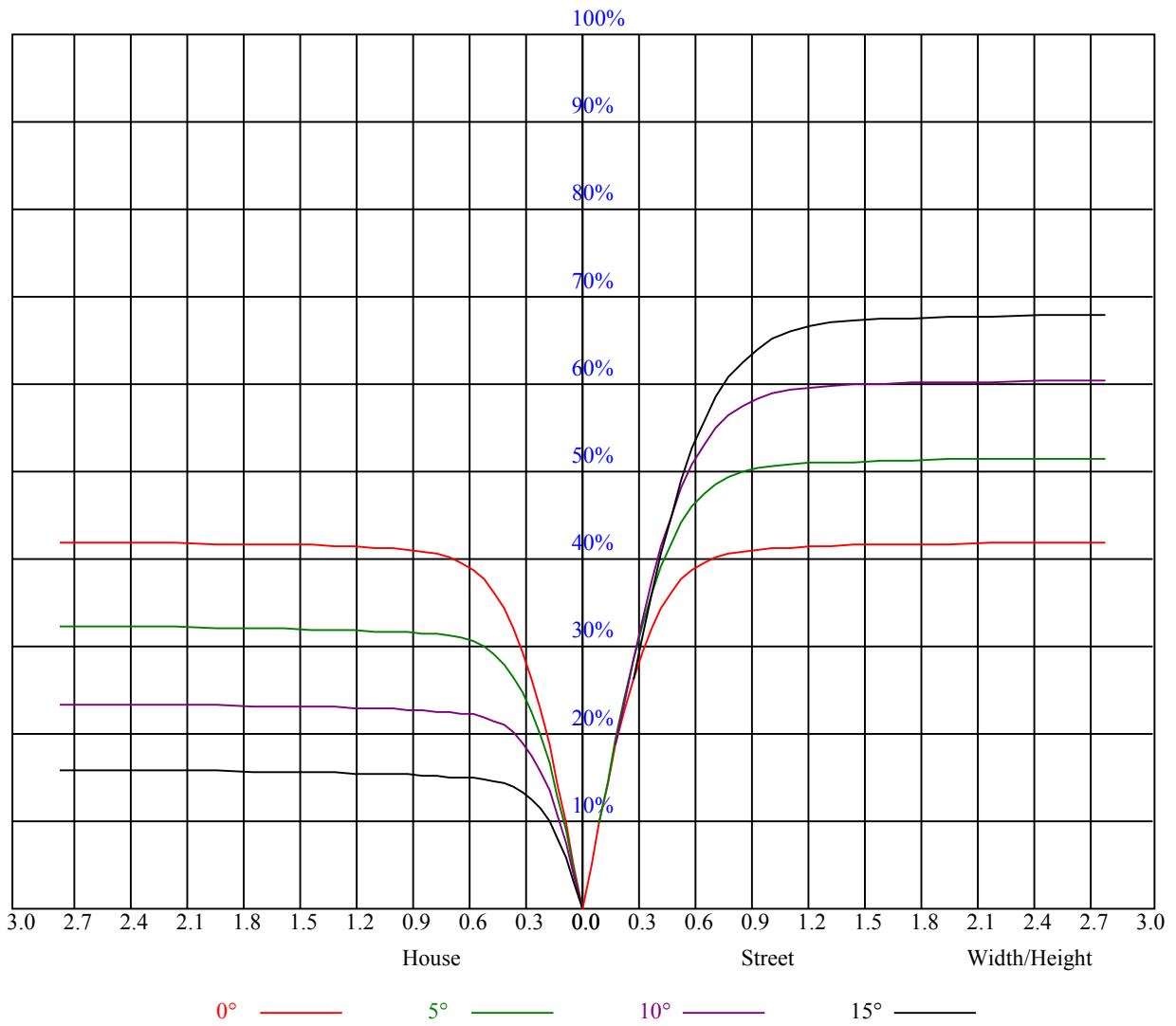
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

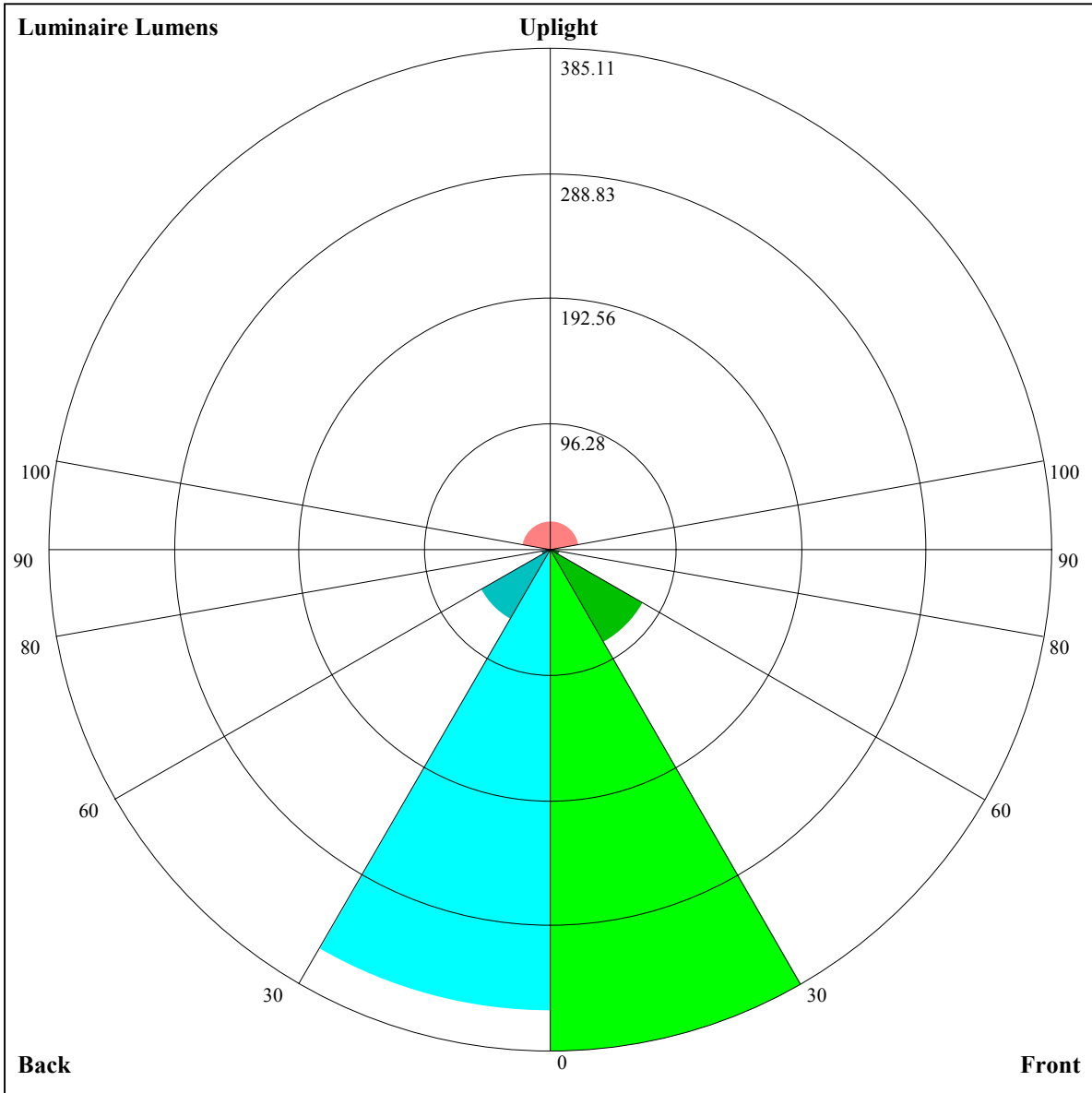
Luminance Limiting Curve





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	1.01	1.01	1.01	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.85
1	0.94	0.92	0.91	0.93	0.91	0.89	0.89	0.88	0.86	0.86	0.85	0.84	0.83	0.82	0.81	0.80
2	0.88	0.85	0.83	0.87	0.84	0.82	0.84	0.82	0.80	0.82	0.80	0.78	0.79	0.78	0.76	0.75
3	0.83	0.79	0.76	0.82	0.78	0.76	0.80	0.77	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.71
4	0.79	0.74	0.71	0.78	0.74	0.70	0.76	0.72	0.70	0.74	0.71	0.69	0.73	0.70	0.68	0.67
5	0.74	0.70	0.66	0.74	0.69	0.66	0.72	0.68	0.66	0.71	0.67	0.65	0.69	0.67	0.64	0.63
6	0.70	0.66	0.63	0.70	0.65	0.62	0.69	0.65	0.62	0.67	0.64	0.62	0.66	0.63	0.61	0.60
7	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.62	0.59	0.64	0.61	0.58	0.64	0.60	0.58	0.57
8	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.55	0.54
9	0.61	0.56	0.53	0.61	0.56	0.53	0.60	0.56	0.53	0.59	0.55	0.53	0.58	0.55	0.53	0.52
10	0.58	0.54	0.51	0.58	0.54	0.51	0.57	0.53	0.51	0.57	0.53	0.51	0.56	0.53	0.50	0.49





Luminaire Lumens:

FL=385.11,FM=82.57,FH=7.02,FVH=2.57

BL=354.6,BM=61.99,BH=6.88,BVH=2.58

UL=4.65,UH=22.12

BUG Rating:B1-U2-G0

NATA 1655-S

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	1698.75	1695.94	1571.06	1365.19	1041.75	677.81	423.56	284.63	84.66
45.0	1697.06	1688.06	1563.75	1323.00	1012.50	653.06	426.38	290.25	83.25
90.0	1694.81	1655.44	1461.94	1118.53	863.66	546.98	332.33	161.78	49.78
135.0	1695.38	1649.81	1494.56	1223.44	884.25	565.31	351.56	167.34	49.84
180.0	1698.75	1622.81	1428.19	1119.15	777.60	486.00	266.68	106.37	28.35
225.0	1697.06	1609.88	1405.69	1098.62	757.97	494.04	288.84	115.31	30.32
270.0	1694.81	1639.69	1469.81	1180.69	844.88	541.69	317.25	147.49	49.50
315.0	1695.38	1654.31	1498.50	1112.23	881.94	574.09	344.87	166.22	54.28
360.0	1698.75	1695.94	1571.06	1365.19	1041.75	677.81	423.56	284.63	84.66
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	24.53	16.54	12.21	9.56	7.82	6.58	5.68	5.12	4.61
45.0	26.66	17.55	12.88	10.01	7.99	6.69	5.79	5.06	4.67
90.0	23.85	16.82	12.43	9.84	8.04	6.81	5.85	5.23	4.67
135.0	19.46	14.68	11.31	9.34	7.65	6.64	5.85	5.18	4.84
180.0	15.81	12.38	9.90	8.27	7.03	6.24	5.57	5.06	4.73
225.0	16.88	12.94	10.01	8.55	7.26	6.41	5.68	5.12	4.84
270.0	21.94	15.69	11.76	9.51	7.82	6.69	5.79	5.23	4.84
315.0	19.86	14.68	11.19	9.00	7.43	6.36	5.68	5.06	4.67
360.0	24.53	16.54	12.21	9.56	7.82	6.58	5.68	5.12	4.61
C/ γ (°)	90.0								
0.0	4.44								
45.0	4.33								
90.0	4.22								
135.0	4.22								
180.0	4.16								
225.0	4.16								
270.0	4.22								
315.0	4.33								
360.0	4.44								