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## Nata

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Client:

LumCAT: 1681-S

Luminaire: 92.70.127.00

Report No: nt0100

Test No: NATA07

LampCAT: LUMINUS CLM-9-AA40

Lamp flux(lm): 1234.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 220.5000

Current(A): 0.1000

Power (W): 12.1600

PF: 0.5460

Ballast type: AC

Width(mm): 0

Height(mm): 0

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## Photometric Results

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Lumens(lm): 1073.17, Efficiency(%): 86.97% , Luminous Efficacy(lm/W): 88.25

Central intensity(cd): 1223.934, Maximum intensity(cd): 1223.934

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=59.2

[C90/270]Total=59.2

Field angle(10%Imax): [C0/180]Total=81.8

[C90/270]Total=81.8

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(%): 86.97%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 99.075%

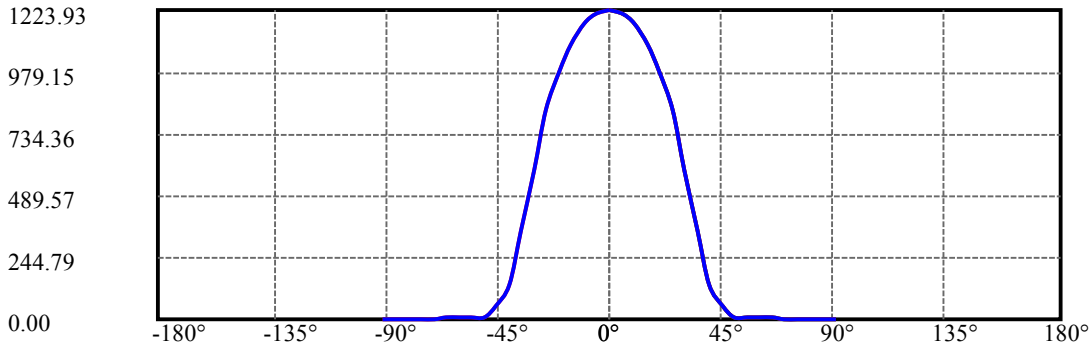
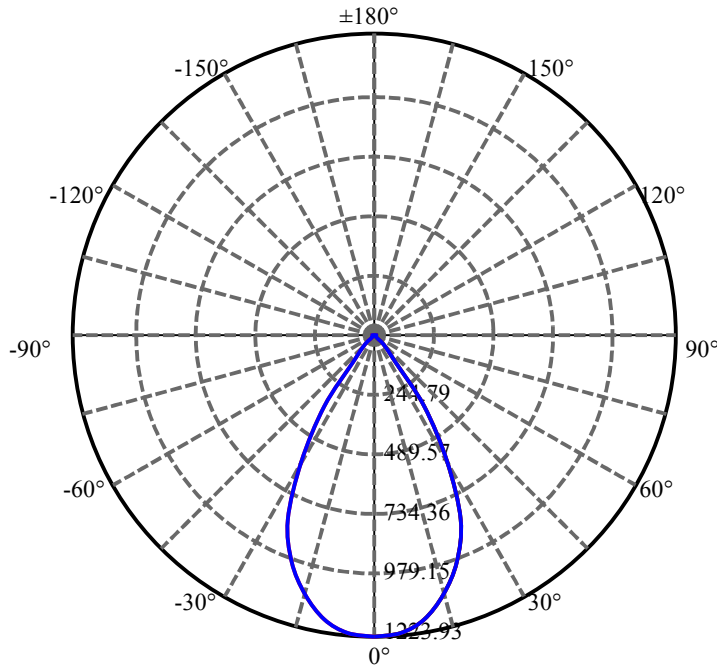
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1223.935	0.000	0	.000%	.000%
5.0	1210.188	29.099	29.099	2.358%	2.712%
10.0	1171.325	85.194	114.293	6.904%	10.650%
15.0	1089.823	134.130	248.423	10.870%	23.148%
20.0	978.908	170.492	418.916	13.816%	39.035%
25.0	825.730	189.273	608.189	15.338%	56.672%
30.0	595.100	179.807	787.996	14.571%	73.427%
35.0	350.183	139.199	927.195	11.280%	86.397%
40.0	137.743	81.407	1008.602	6.597%	93.983%
45.0	54.918	35.673	1044.275	2.891%	97.307%
50.0	10.563	13.231	1057.506	1.072%	98.540%
55.0	5.505	3.494	1061	.283%	98.866%
60.0	4.205	2.244	1063.244	.182%	99.075%
65.0	4.008	1.997	1065.241	.162%	99.261%
70.0	3.683	1.948	1067.188	.158%	99.442%
75.0	3.283	1.821	1069.009	.148%	99.612%
80.0	2.726	1.608	1070.617	.130%	99.762%
85.0	2.401	1.393	1072.01	.113%	99.892%
90.0	1.850	1.164	1073.175	.094%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	788.00	63.86%	73.43%
0-40	1008.60	81.73%	93.98%
0-60	1063.24	86.16%	99.07%
0-90	1072.01	86.87%	99.89%
0-120	1072.01	86.87%	99.89%
0-180	1073.17	86.97%	100.00%
60-90	11.01	0.89%	1.03%
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%
0-32.53	858.54	69.57%	80.00%

ZONAL LUMEN SUMMARY

0-10	114.29
10-20	304.62
20-30	369.08
30-40	220.61
40-50	48.90
50-60	5.74
60-70	3.94
70-80	3.43
80-90	1.39
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

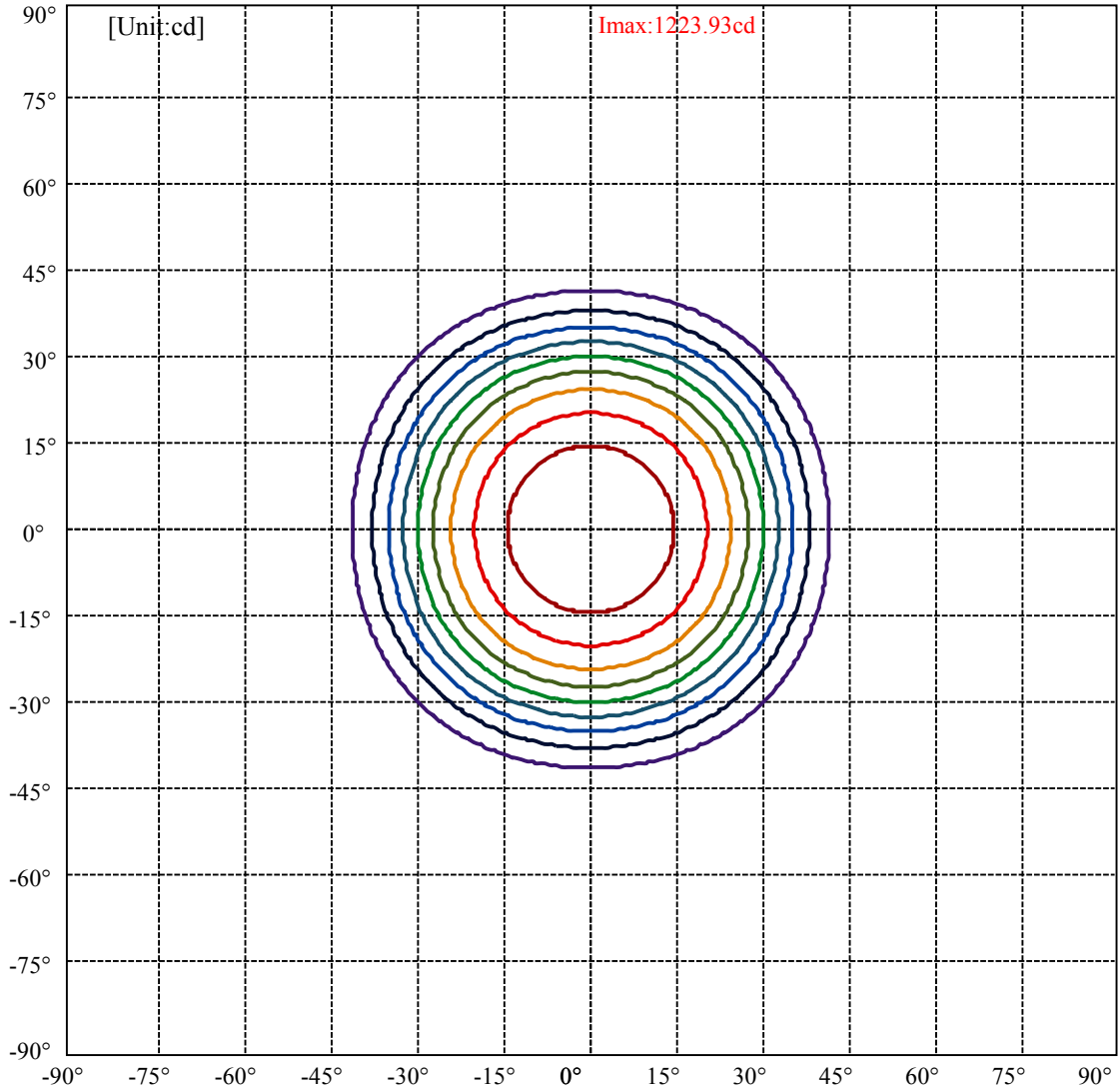











C0(Max): ———  
C0/C180: ———  
C90/C270: ———

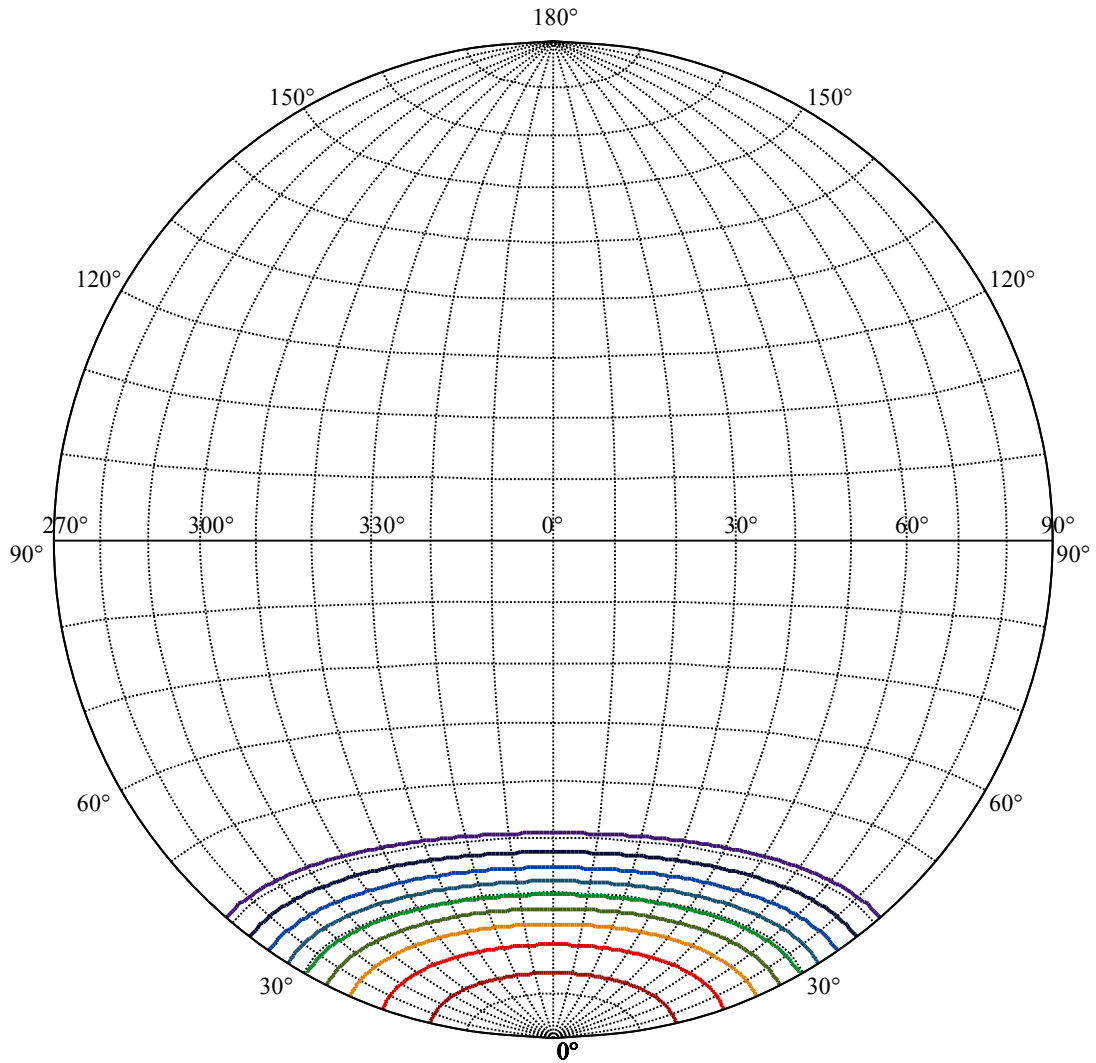
Field angle(10%Imax):C0/180Left:40.9 Right:40.9  
:C90/270Left:40.9 Right:40.9

Beam Angle(50%Imax):C0/180Left:29.6 Right:29.6  
:C90/270Left:29.6 Right:29.6





(10%Imax) 122.393	
(20%Imax) 244.787	
(30%Imax) 367.18	
(40%Imax) 489.574	
(50%Imax) 611.967	
(60%Imax) 734.361	
(70%Imax) 856.754	
(80%Imax) 979.147	
(90%Imax) 1101.54	



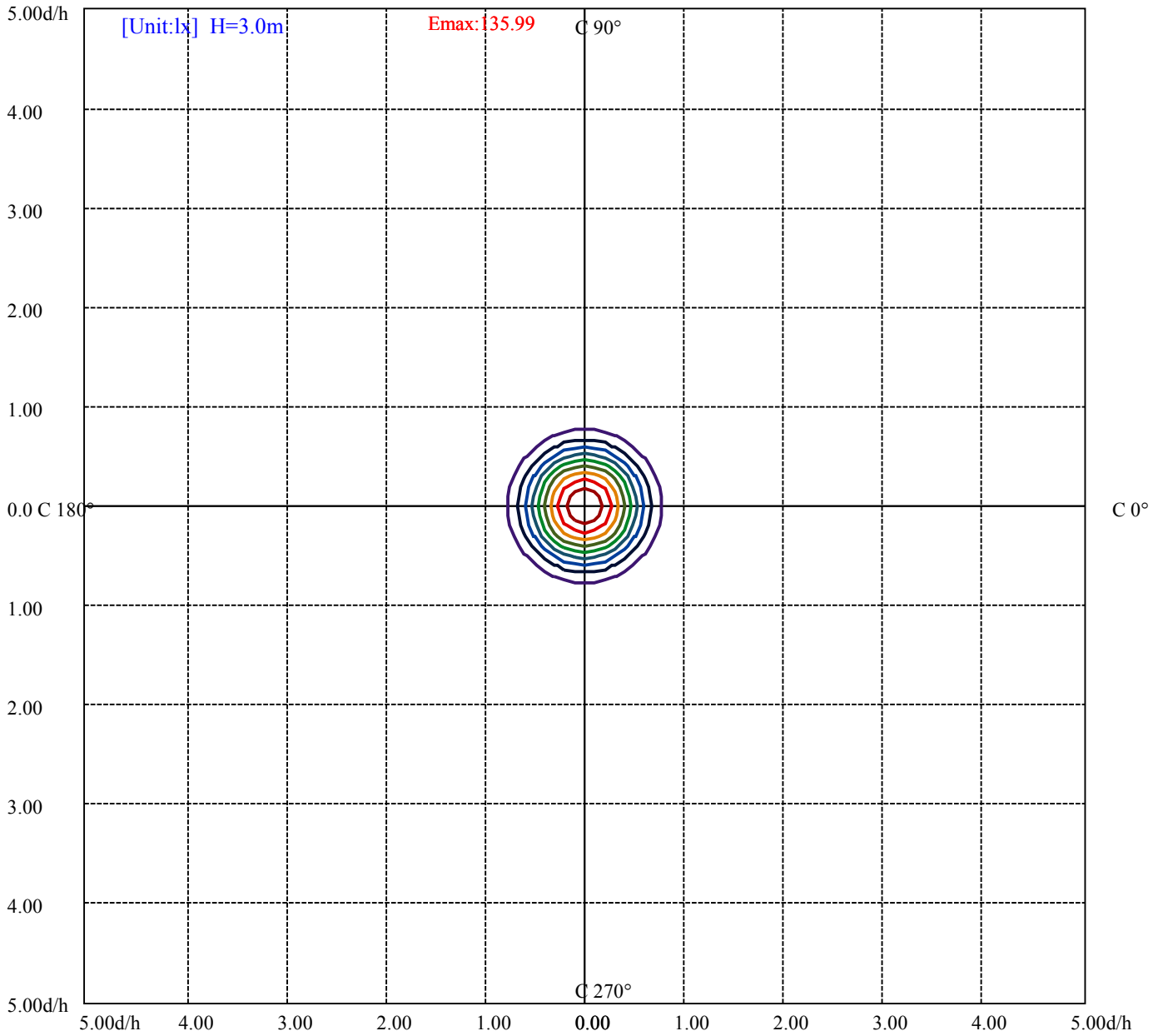
House

[Unit:cd]

Road

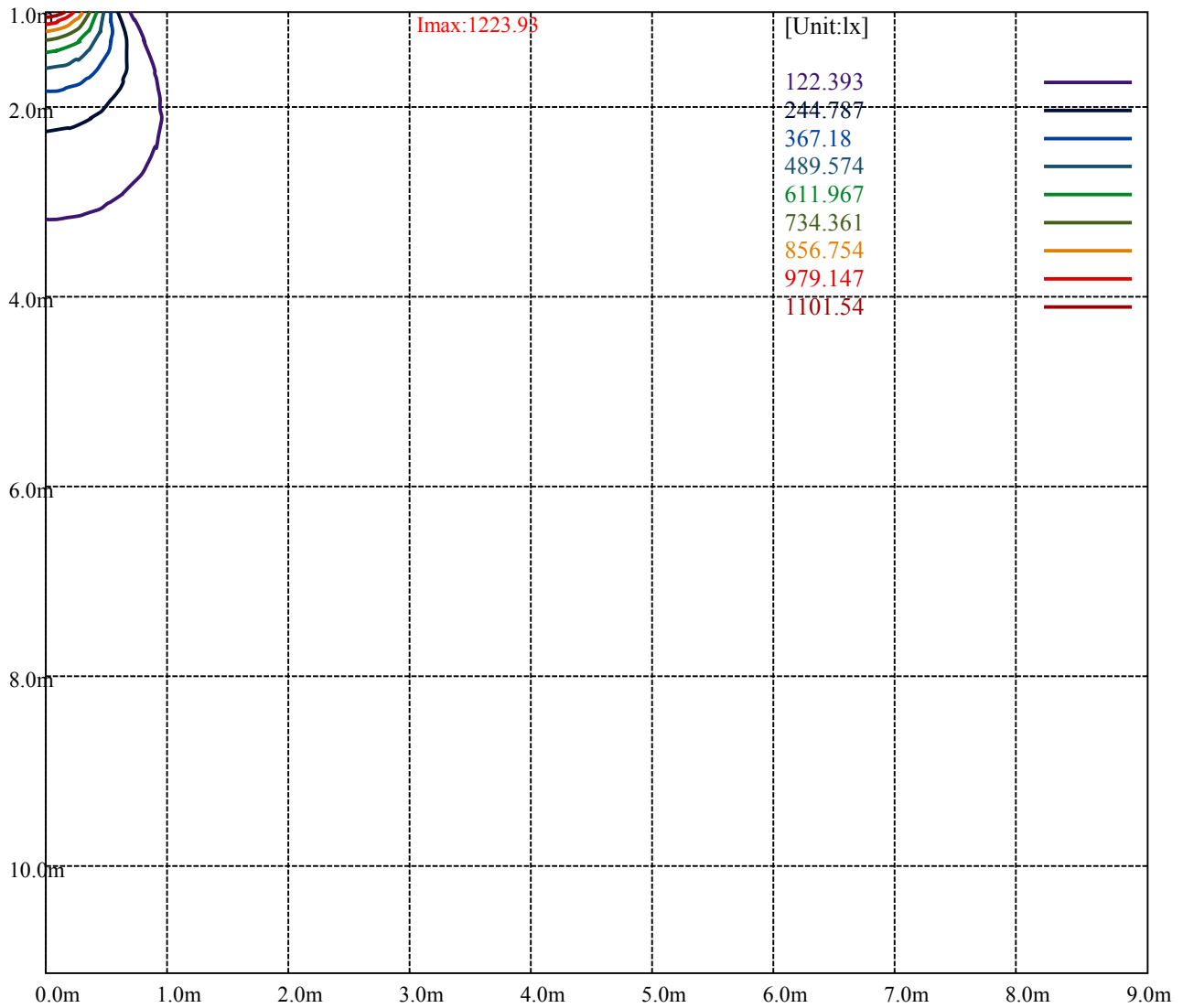
Imax:1223.93

(10%Imax) 122.393	—
(20%Imax) 244.787	—
(30%Imax) 367.18	—
(40%Imax) 489.574	—
(50%Imax) 611.967	—
(60%Imax) 734.361	—
(70%Imax) 856.754	—
(80%Imax) 979.147	—
(90%Imax) 1101.54	—



- (10%Emax) 13.59922
- (20%Emax) 27.19855
- (30%Emax) 40.79778
- (40%Emax) 54.39711
- (50%Emax) 67.99633
- (60%Emax) 81.59555
- (70%Emax) 95.19489
- (80%Emax) 108.7941
- (90%Emax) 122.3933





Luminance Table

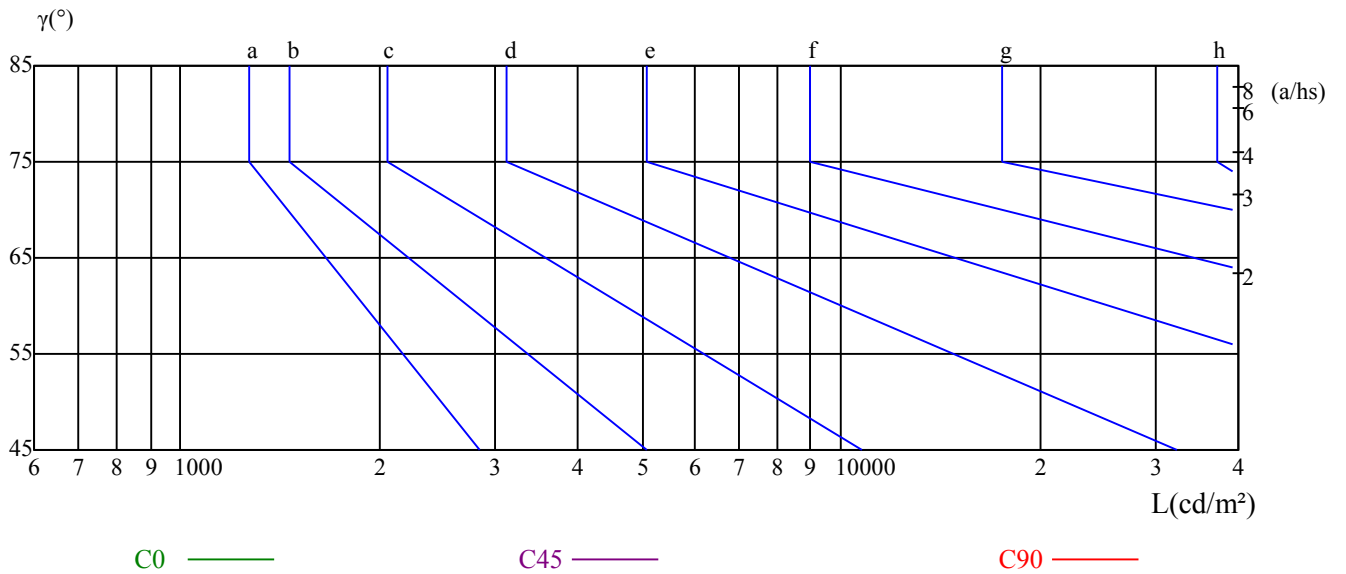
$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

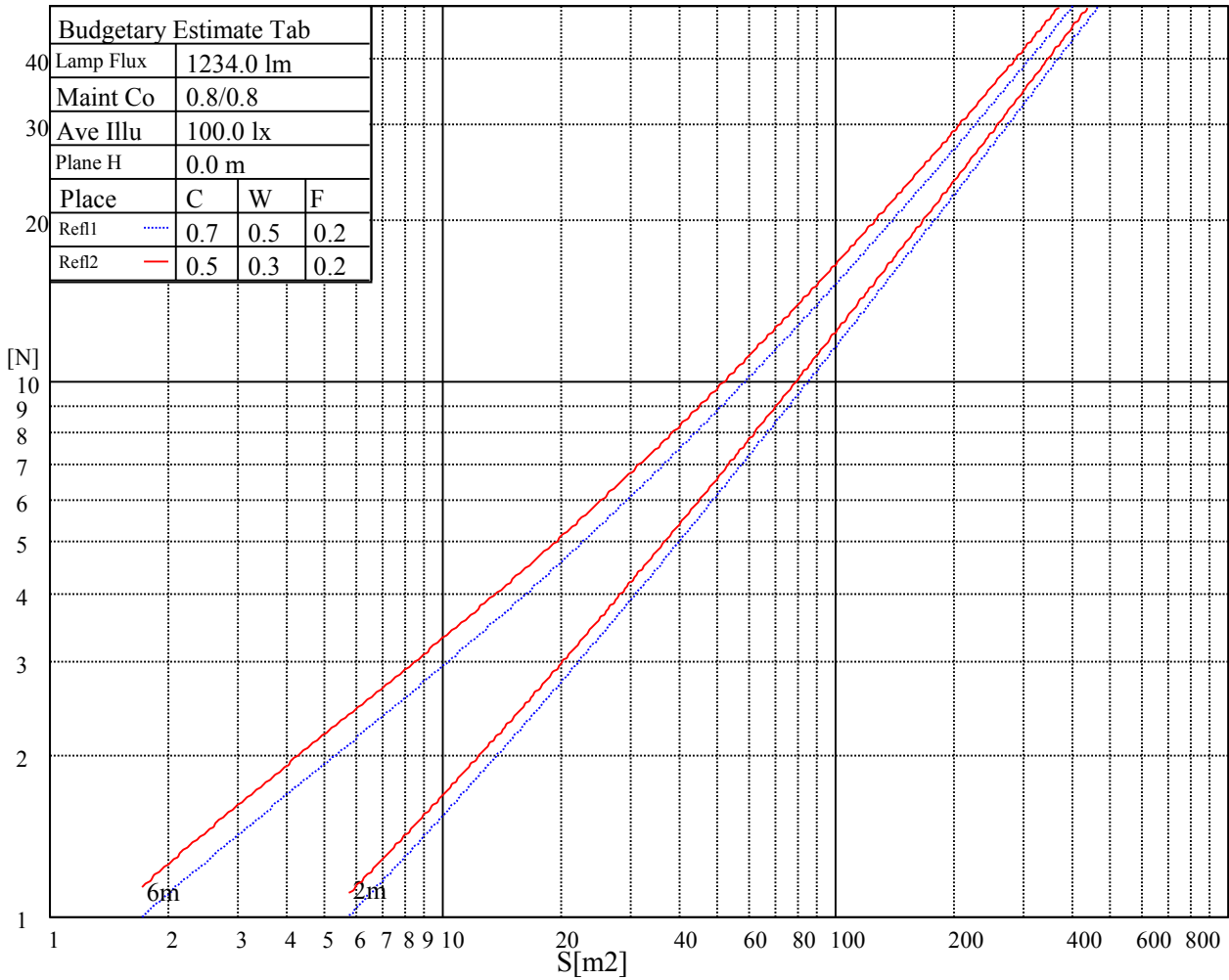
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

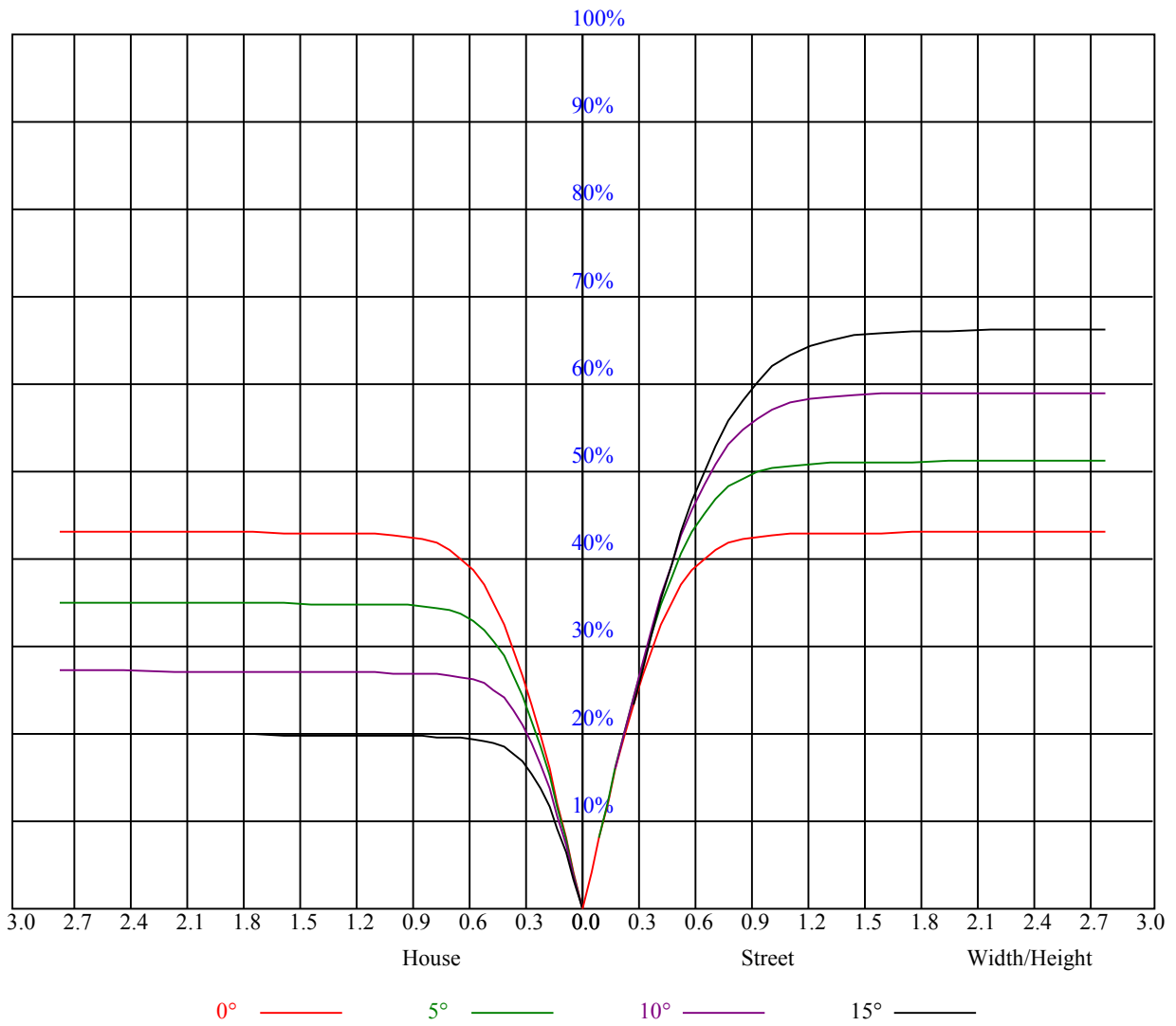
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

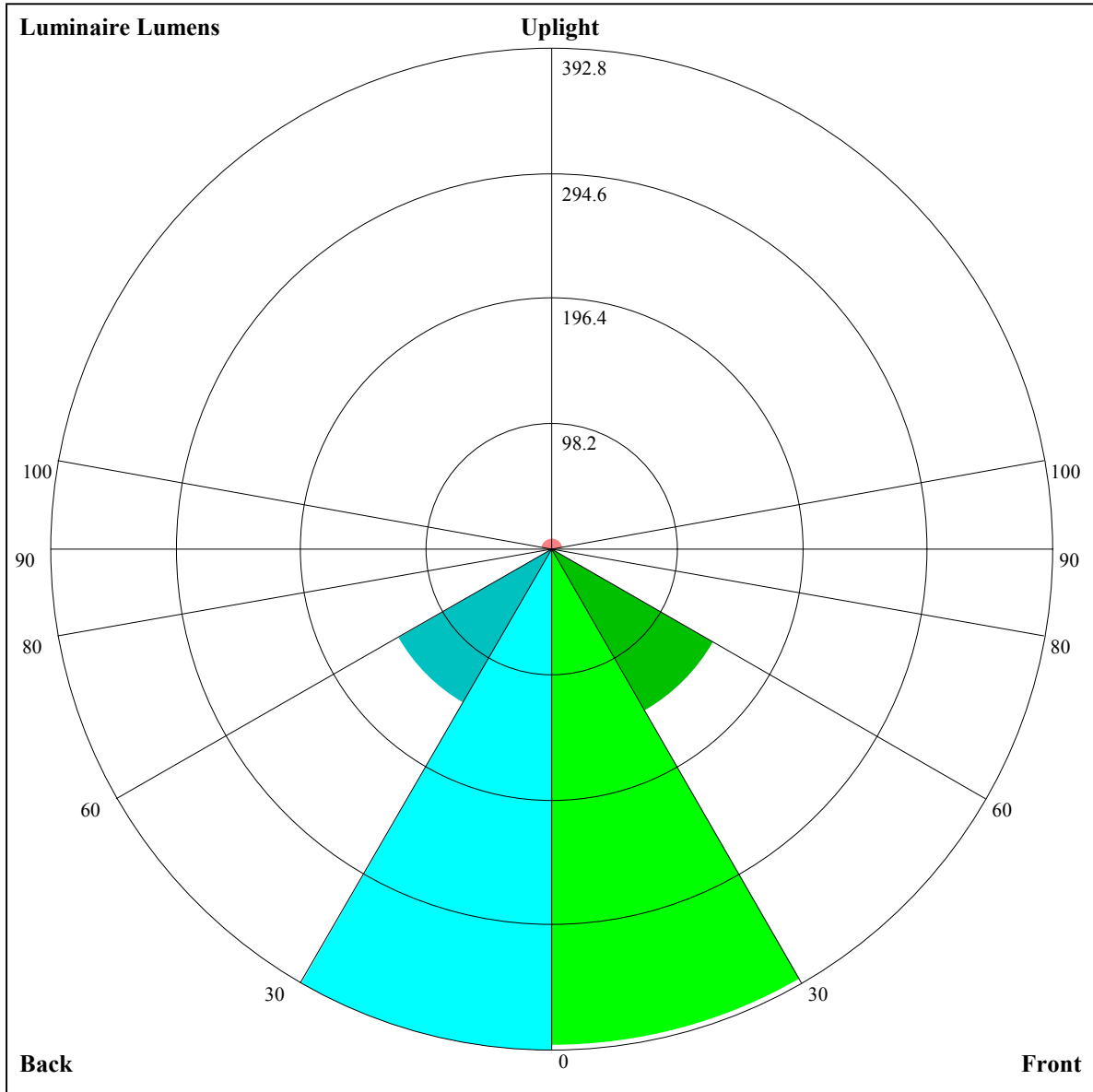
Luminance Limiting Curve





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	1.04	1.04	1.04	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.87
1	0.96	0.94	0.92	0.94	0.92	0.91	0.91	0.89	0.88	0.88	0.86	0.85	0.85	0.84	0.83	0.81
2	0.90	0.86	0.83	0.88	0.85	0.82	0.85	0.83	0.81	0.83	0.81	0.79	0.80	0.79	0.77	0.76
3	0.84	0.79	0.76	0.83	0.79	0.75	0.80	0.77	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.71
4	0.78	0.74	0.70	0.77	0.73	0.70	0.75	0.72	0.69	0.74	0.71	0.68	0.72	0.69	0.67	0.66
5	0.73	0.68	0.65	0.73	0.68	0.64	0.71	0.67	0.64	0.70	0.66	0.63	0.68	0.65	0.63	0.62
6	0.69	0.64	0.60	0.68	0.64	0.60	0.67	0.63	0.60	0.66	0.62	0.59	0.65	0.61	0.59	0.58
7	0.65	0.60	0.56	0.64	0.60	0.56	0.63	0.59	0.56	0.62	0.58	0.55	0.61	0.58	0.55	0.54
8	0.61	0.56	0.53	0.61	0.56	0.53	0.60	0.55	0.52	0.59	0.55	0.52	0.58	0.55	0.52	0.51
9	0.58	0.53	0.49	0.57	0.53	0.49	0.57	0.52	0.49	0.56	0.52	0.49	0.55	0.51	0.49	0.48
10	0.55	0.50	0.47	0.54	0.50	0.46	0.54	0.49	0.46	0.53	0.49	0.46	0.52	0.49	0.46	0.45





Luminaire Lumens:

FL=389.85,FM=146.64,FH=3.55,FVH=1.38

BL=392.8,BM=139.58,BH=3.71,BVH=1.07

UL=2.02,UH=9.61

BUG Rating:B1-U1-G0

Nata 1681-S

Intensity data(cd)

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	1220.45	1195.86	1147.14	1056.65	903.84	816.28	566.63	337.72	87.01
45.0	1230.66	1204.68	1160.13	1075.21	986.12	813.96	530.90	269.65	52.67
90.0	1219.06	1176.84	1112.80	922.96	837.16	608.81	303.11	52.90	14.94
135.0	1225.56	1211.64	1161.52	1073.36	939.25	725.79	446.91	292.39	32.71
180.0	1220.45	1224.63	1193.08	1124.86	1011.64	853.40	638.09	303.52	145.47
225.0	1230.66	1230.66	1207.00	1163.84	1044.59	896.61	686.91	417.58	125.29
270.0	1219.06	1227.88	1212.10	1182.87	1108.16	994.93	880.32	636.70	410.25
315.0	1225.56	1209.32	1176.84	1118.83	1000.50	896.05	707.93	490.99	233.59
360.0	1220.45	1195.86	1147.14	1056.65	903.84	816.28	566.63	337.72	87.01
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	21.58	7.75	4.59	3.67	3.34	3.20	2.51	2.18	1.90
45.0	13.04	6.73	4.69	3.81	4.13	2.60	2.27	2.18	2.46
90.0	6.96	4.64	3.81	3.71	2.51	2.00	1.90	2.23	2.00
135.0	9.33	5.80	4.22	3.62	4.04	4.69	5.01	2.74	2.18
180.0	16.61	7.38	4.92	4.13	4.32	4.13	3.11	3.11	2.37
225.0	24.96	9.56	6.08	4.69	5.01	3.81	1.90	1.76	1.62
270.0	298.88	29.05	9.42	5.61	4.64	4.69	4.18	1.95	1.76
315.0	47.98	13.60	6.31	4.41	4.08	4.36	5.38	5.66	4.92
360.0	21.58	7.75	4.59	3.67	3.34	3.20	2.51	2.18	1.90
C/ $\gamma$ (°)	90.0								
0.0	3.39								
45.0	1.58								
90.0	1.39								
135.0	1.39								
180.0	1.48								
225.0	1.67								
270.0	1.58								
315.0	2.32								
360.0	3.39								