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## Nata

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Client:

LumCAT: PH24L28090AW

Luminaire:

Report No:

Voltage(V): 23.6600

Test No: GC2019091202

Current(A): 0.3970

LampCAT: PHILIPS Fortimo LED Strip 1ft 1100lm 865 FC HV4 Power (W): 9.3900

Lamp flux(lm): 1259.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 22

Width(mm): 280

Phm Type: C

Height(mm): 0

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## Photometric Results

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Lumens(lm): 1070.17, Efficiency(%): 85.00% , Luminous Efficacy(lm/W): 113.97

Central intensity(cd): 417.164, Maximum intensity(cd): 417.164

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

Beam Angle(50%Imax): [C0/180]Total=98.2

[C90/270]Total=98.2

Field angle(10%Imax): [C0/180]Total=164.0

[C90/270]Total=164.0

Maximum s/h(1/2): C0\_180=1.18 C90\_270=1.18

Maximum s/h(1/4): C0\_180=1.28 C90\_270=1.28

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 85.00%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 78.365%

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Equipment: GMS1980  
Temperature(°C): 25.0

Date: 2019/9/12  
Humidity(%): 65.0%

Operator: NT07  
Distance(m): 7.50

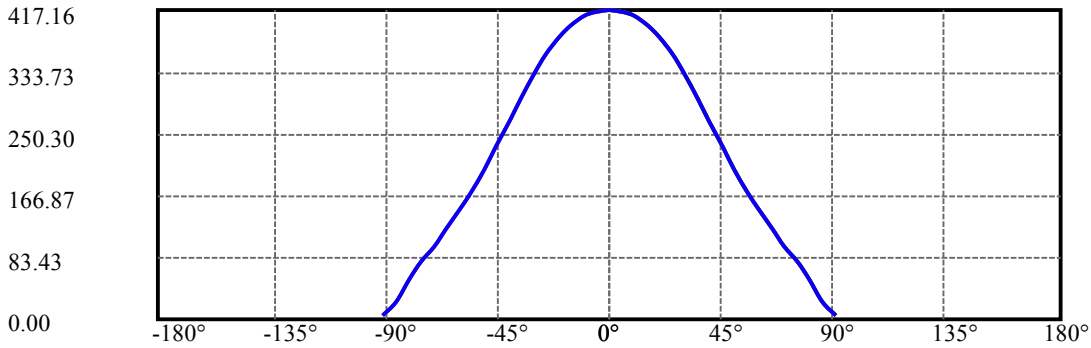
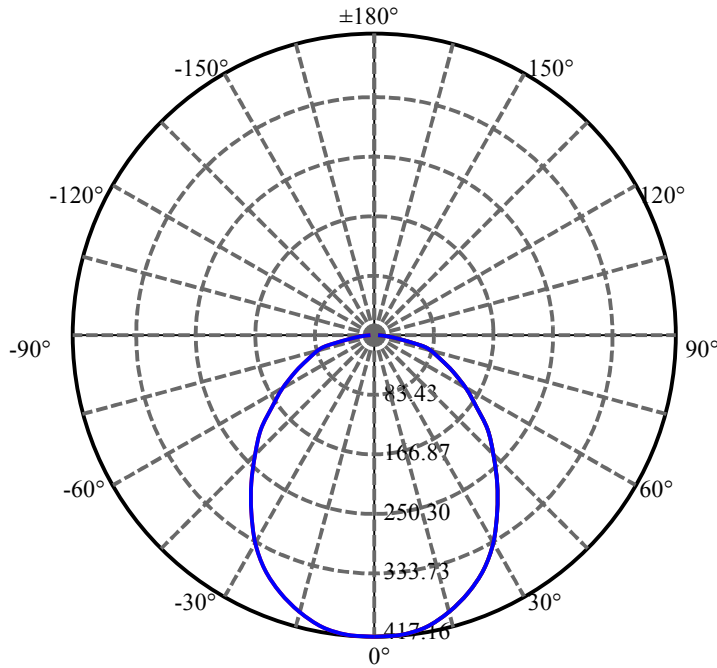
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	417.164	0.000	0	.000%	.000%
5.0	415.245	9.951	9.951	.790%	.930%
10.0	409.233	29.494	39.445	2.343%	3.686%
15.0	396.956	47.823	87.268	3.798%	8.155%
20.0	379.976	64.030	151.298	5.086%	14.138%
25.0	357.138	77.310	228.608	6.141%	21.362%
30.0	330.701	87.047	315.654	6.914%	29.496%
35.0	298.336	92.630	408.284	7.357%	38.151%
40.0	266.548	94.247	502.531	7.486%	46.958%
45.0	233.663	92.618	595.149	7.356%	55.613%
50.0	202.957	88.225	683.374	7.008%	63.857%
55.0	172.048	81.539	764.913	6.476%	71.476%
60.0	146.911	73.726	838.639	5.856%	78.365%
65.0	121.620	65.280	903.919	5.185%	84.465%
70.0	99.394	55.962	959.881	4.445%	89.694%
75.0	76.887	46.077	1005.958	3.660%	94.000%
80.0	53.747	34.954	1040.912	2.776%	97.266%
85.0	24.131	21.161	1062.074	1.681%	99.243%
90.0	5.442	8.097	1070.171	.643%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	315.65	25.07%	29.50%
0-40	502.53	39.92%	46.96%
0-60	838.64	66.61%	78.36%
0-90	1062.07	84.36%	99.24%
0-120	1062.07	84.36%	99.24%
0-180	1070.17	85.00%	100.00%
60-90	297.16	23.60%	27.77%
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%
0-61.34	856.14	68.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	39.45
10-20	111.85
20-30	164.36
30-40	186.88
40-50	180.84
50-60	155.26
60-70	121.24
70-80	81.03
80-90	21.16
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



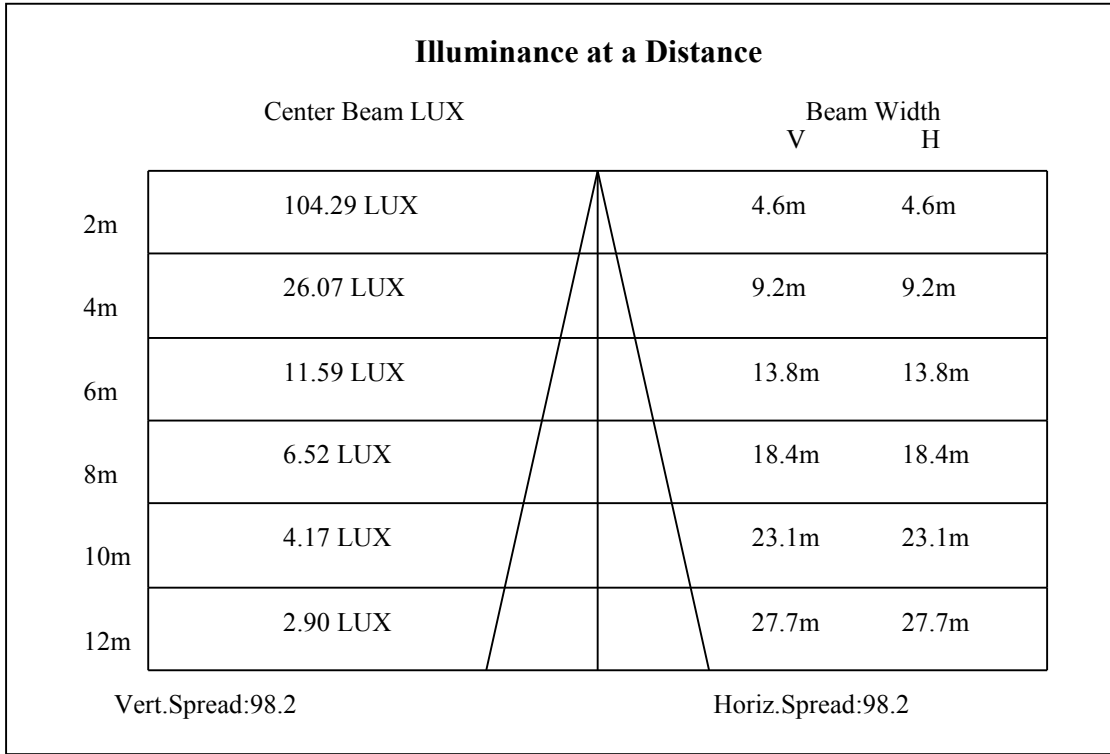
C0(Max): —————

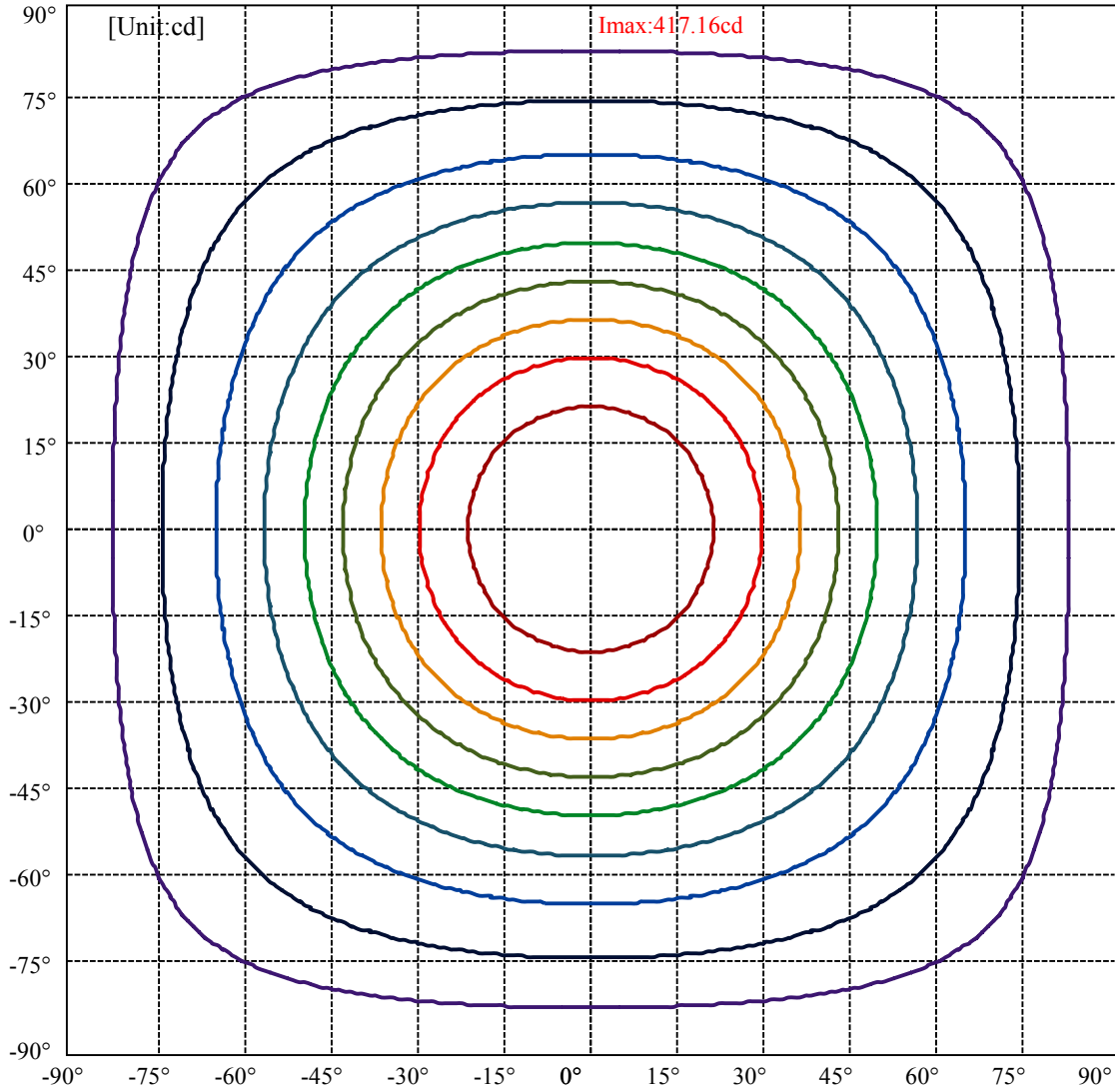
C0/C180: —————

C90/C270: —————

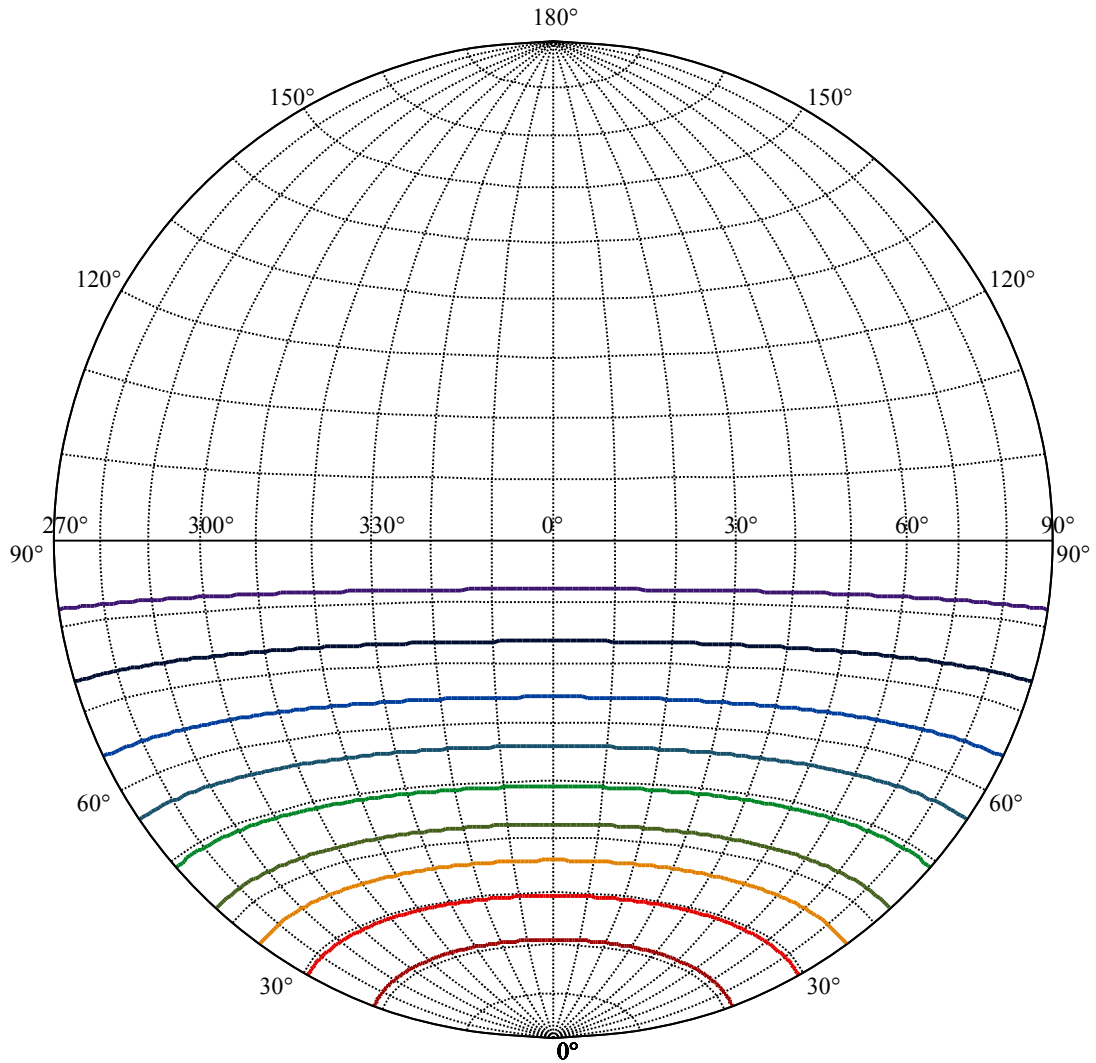
Field angle(10%Imax):C0/180Left:82.0 Right:82.0  
:C90/270Left:82.0 Right:82.0

Beam Angle(50%Imax):C0/180Left:49.1 Right:49.1  
:C90/270Left:49.1 Right:49.1





(10%Imax)	41.7164	—
(20%Imax)	83.4328	—
(30%Imax)	125.149	—
(40%Imax)	166.866	—
(50%Imax)	208.582	—
(60%Imax)	250.298	—
(70%Imax)	292.015	—
(80%Imax)	333.731	—
(90%Imax)	375.448	—



House

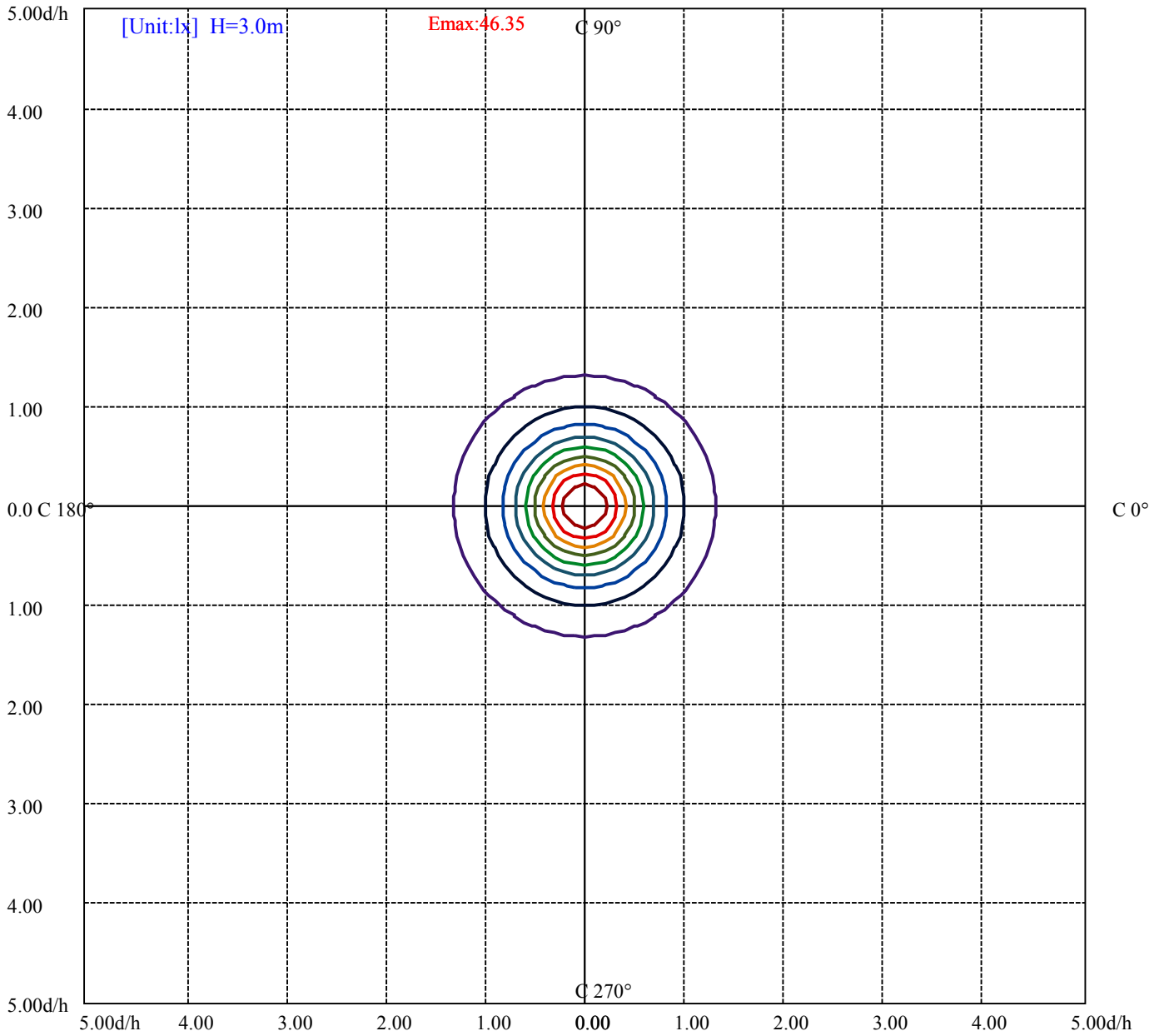
[Unit:cd]

Road

**Imax:417.16**

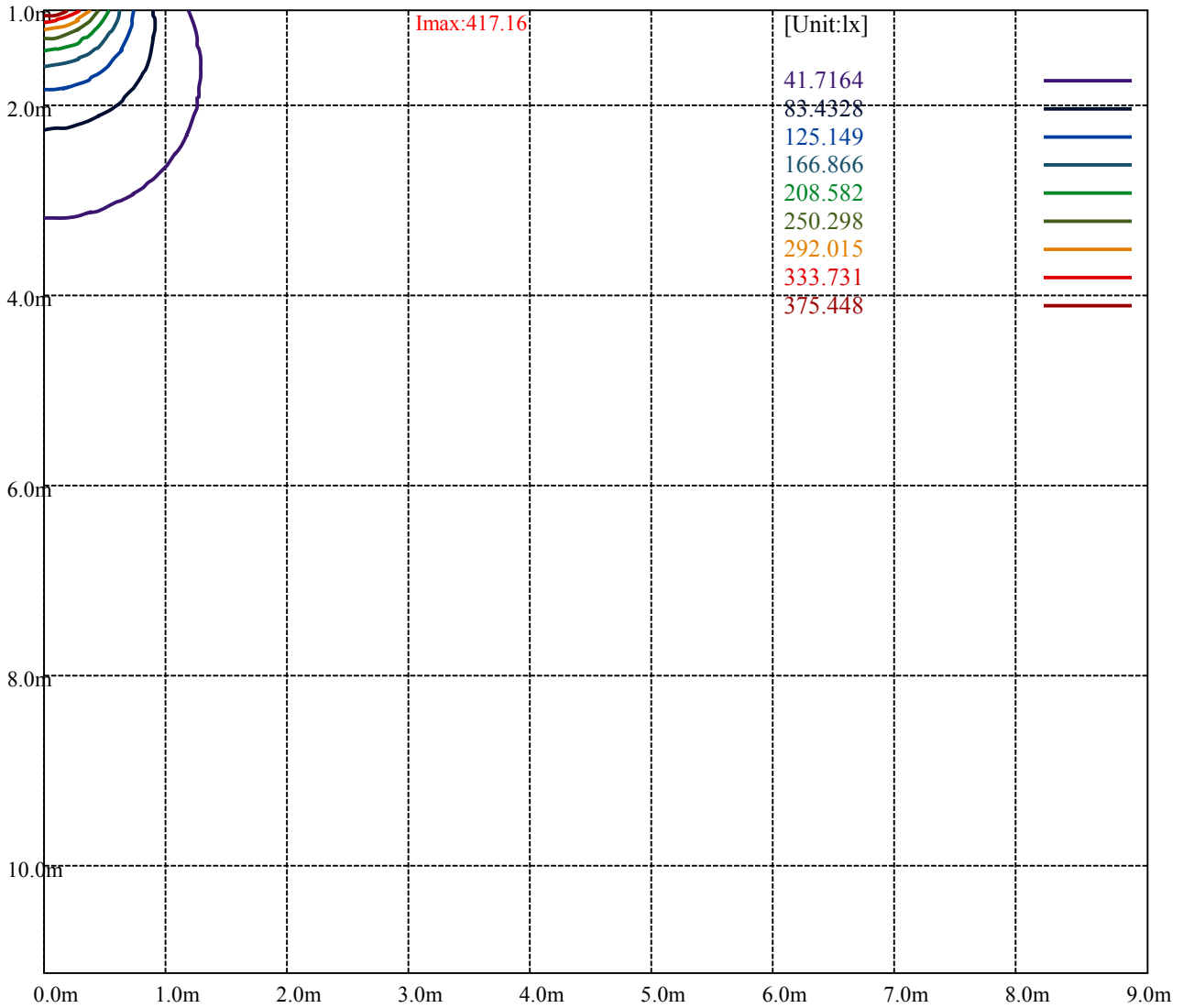
- (10%Imax) 41.7164
- (20%Imax) 83.4328
- (30%Imax) 125.149
- (40%Imax) 166.866
- (50%Imax) 208.582
- (60%Imax) 250.298
- (70%Imax) 292.015
- (80%Imax) 333.731
- (90%Imax) 375.448





- (10%Emax) 4.635156
- (20%Emax) 9.270311
- (30%Emax) 13.90545
- (40%Emax) 18.54067
- (50%Emax) 23.17578
- (60%Emax) 27.81089
- (70%Emax) 32.44611
- (80%Emax) 37.08122
- (90%Emax) 41.71645





Luminance Table

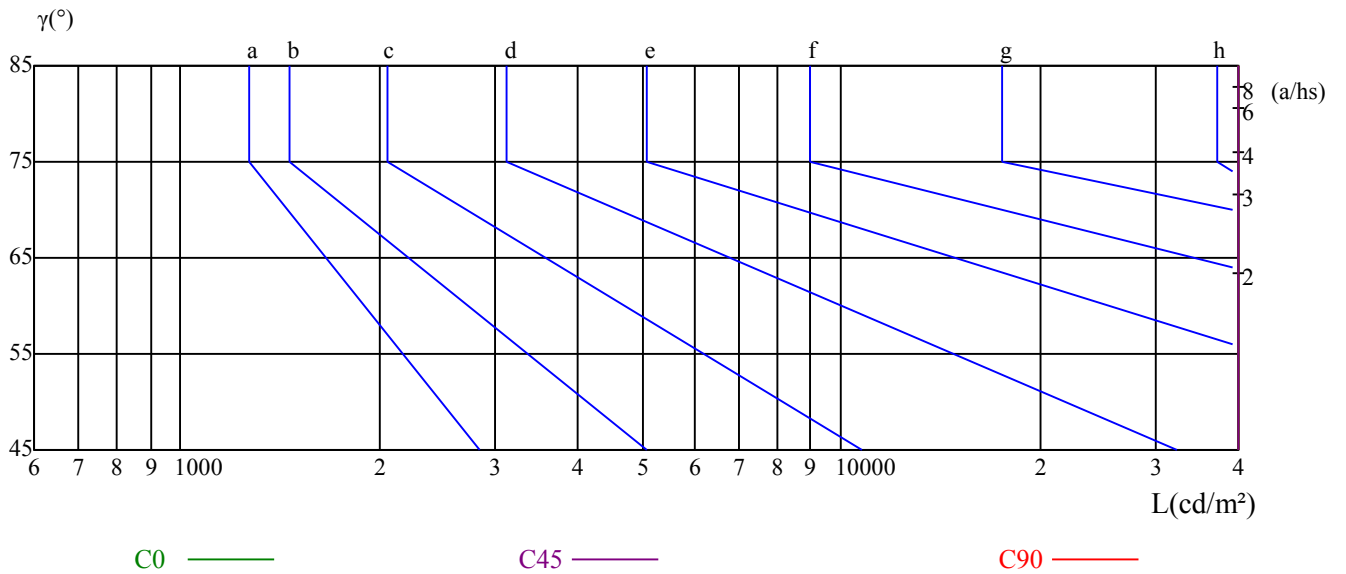
$\gamma$	45	50	55	60	65	70	75	80	85
C0	53644	51257	48694	47698	46717	47177	48225	50246	44947
C45	53644	51257	48694	47698	46717	47177	48225	50246	44947
C90	53644	51257	48694	47698	46717	47177	48225	50246	44947

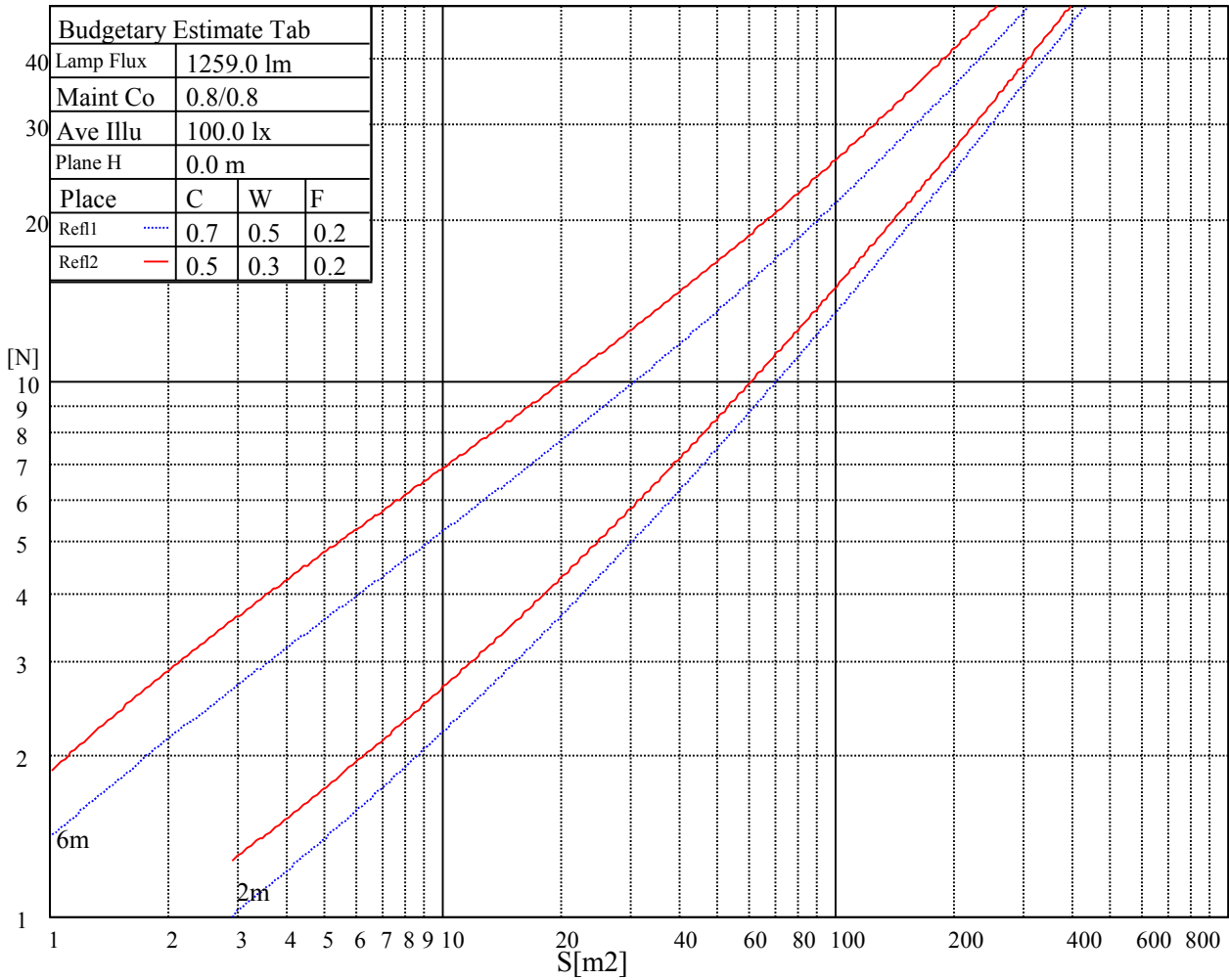
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
46717	46717	46717	48225	48225	48225	44947	44947	44947

Glare Table

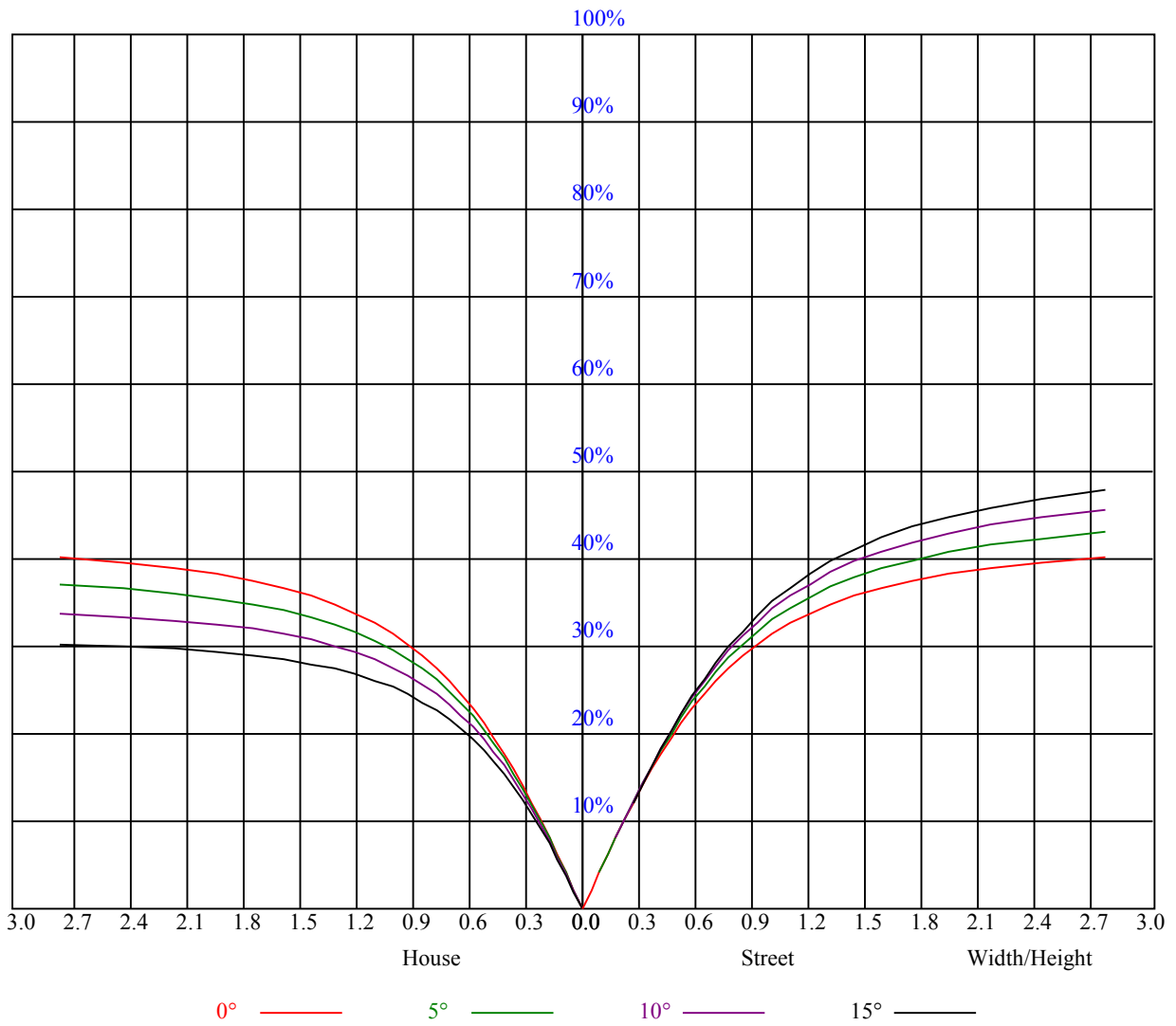
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

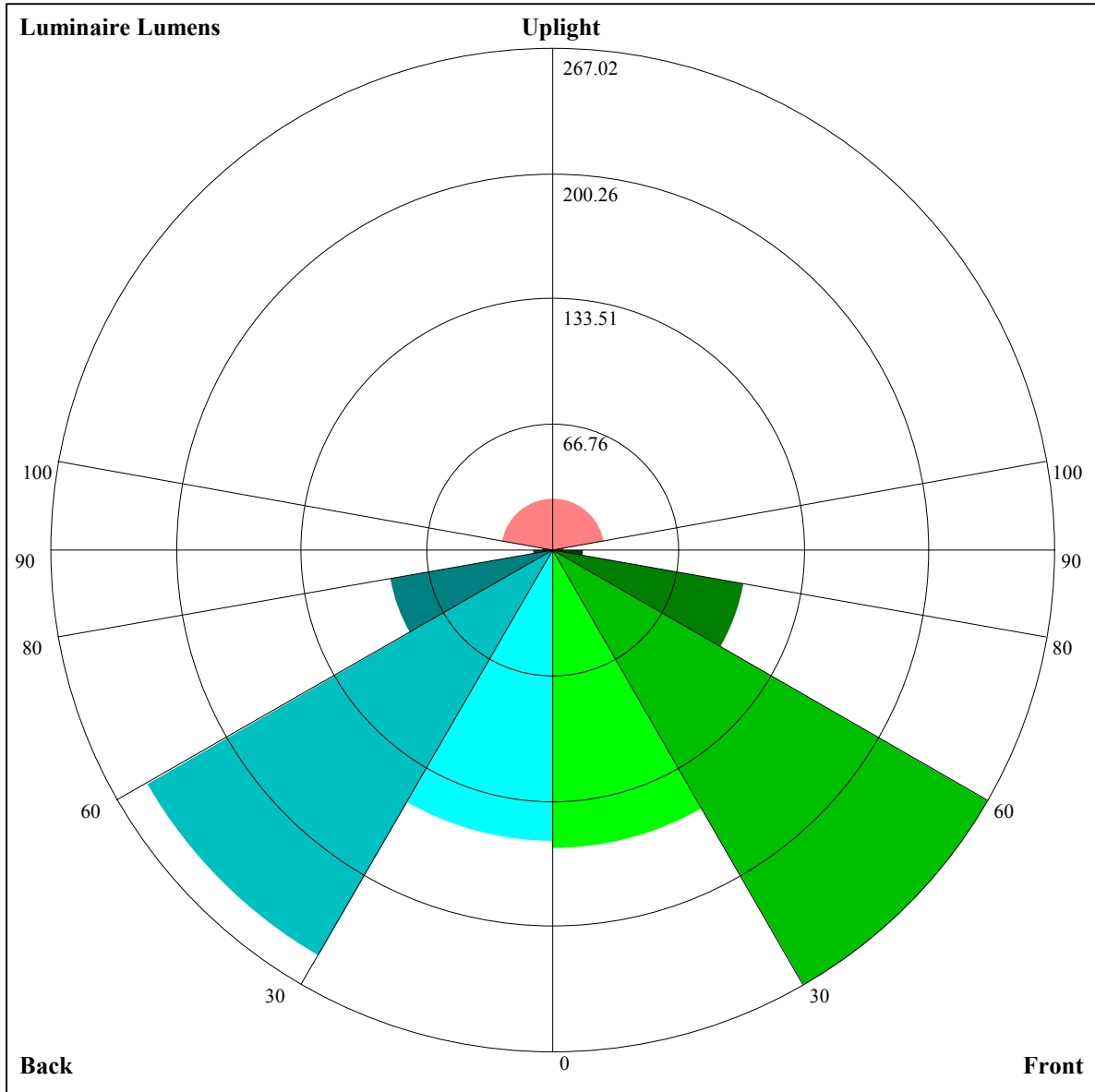
Luminance Limiting Curve





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	0.94	0.94	0.94	0.90	0.90	0.90	0.87	0.87	0.87	0.85
1	0.88	0.84	0.81	0.86	0.83	0.80	0.82	0.80	0.77	0.79	0.77	0.75	0.76	0.74	0.73	0.71
2	0.77	0.71	0.66	0.75	0.70	0.65	0.72	0.68	0.64	0.69	0.66	0.62	0.67	0.64	0.61	0.59
3	0.68	0.61	0.55	0.66	0.60	0.55	0.64	0.58	0.54	0.61	0.57	0.53	0.59	0.55	0.52	0.50
4	0.60	0.53	0.47	0.59	0.52	0.47	0.57	0.51	0.46	0.55	0.50	0.45	0.53	0.49	0.45	0.43
5	0.54	0.46	0.41	0.53	0.46	0.40	0.51	0.45	0.40	0.49	0.44	0.40	0.48	0.43	0.39	0.37
6	0.49	0.41	0.36	0.48	0.41	0.36	0.46	0.40	0.35	0.45	0.39	0.35	0.44	0.39	0.35	0.33
7	0.44	0.37	0.32	0.44	0.37	0.32	0.42	0.36	0.31	0.41	0.35	0.31	0.40	0.35	0.31	0.29
8	0.41	0.33	0.28	0.40	0.33	0.28	0.39	0.33	0.28	0.38	0.32	0.28	0.37	0.32	0.28	0.26
9	0.37	0.30	0.26	0.37	0.30	0.26	0.36	0.30	0.25	0.35	0.29	0.25	0.34	0.29	0.25	0.24
10	0.34	0.28	0.23	0.34	0.28	0.23	0.33	0.27	0.23	0.32	0.27	0.23	0.32	0.27	0.23	0.22





Luminaire Lumens:  
FL=158.88,FM=267.02,FH=103.73,FVH=16.07  
BL=155.44,BM=249.35,BH=87.9,BVH=11.05  
UL=5.94,UH=28.26

BUG Rating:B1-U2-G1

Nata PH24L28090AW

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	420.36	420.98	417.43	404.61	391.05	369.51	343.07	311.74	281.59
45.0	418.16	417.38	410.85	399.60	384.75	364.16	341.94	312.53	282.71
90.0	410.79	406.46	398.98	386.66	369.17	345.66	317.14	283.16	249.64
135.0	419.34	415.69	408.21	393.69	376.14	353.81	326.87	294.41	262.63
180.0	420.36	417.49	408.88	391.95	369.73	341.44	312.02	277.54	243.45
225.0	418.16	414.51	410.29	396.96	376.93	355.89	327.60	293.85	263.14
270.0	410.79	410.40	405.62	397.13	380.70	357.13	331.09	299.08	265.73
315.0	419.34	419.06	413.61	405.06	391.33	369.51	345.88	314.38	283.50
360.0	420.36	420.98	417.43	404.61	391.05	369.51	343.07	311.74	281.59

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	248.91	219.38	191.25	169.09	148.28	125.61	101.53	75.49	36.84
45.0	250.31	222.53	192.54	166.56	142.43	118.97	98.61	74.03	37.01
90.0	215.10	181.46	146.36	118.07	90.34	68.18	48.38	30.88	15.02
135.0	230.85	200.59	170.55	145.80	120.49	100.97	78.58	52.54	21.09
180.0	211.73	183.54	155.87	135.84	112.28	88.99	64.46	44.38	11.70
225.0	229.61	199.07	169.31	144.11	118.69	98.49	74.48	47.81	19.97
270.0	231.30	196.26	159.69	130.05	100.07	75.32	52.43	34.76	15.53
315.0	251.49	220.84	190.80	165.77	140.40	118.63	96.64	70.09	35.89
360.0	248.91	219.38	191.25	169.09	148.28	125.61	101.53	75.49	36.84

C/γ(°)	90.0
0.0	4.89
45.0	4.56
90.0	5.01
135.0	5.40
180.0	8.44
225.0	5.01
270.0	5.12
315.0	5.12
360.0	4.89