
Nata

Client:

LumCAT: 3-1742-N

Luminaire: 92.70.065.00+92.70.061.00

Report No: nata0100

Voltage(V): 35.0000

Test No: GC2018052101

Current(A): 0.4000

LampCAT: LUMINUS CHM-9 XH20

Power (W): 14.0000

Lamp flux(lm): 1576.5

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 86

Width(mm): 86

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1224.25, Efficiency(%): 77.66% , Luminous Efficacy(lm/W): 87.45

Central intensity(cd): 5586.986, Maximum intensity(cd): 5586.986

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=23.0

[C90/270]Total=23.0

Field angle(10%Imax): [C0/180]Total=43.4

[C90/270]Total=43.4

Maximum s/h(1/2): C0_180=0.39 C90_270=0.39

Maximum s/h(1/4): C0_180=0.37 C90_270=0.37

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 79.70%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 95.637%

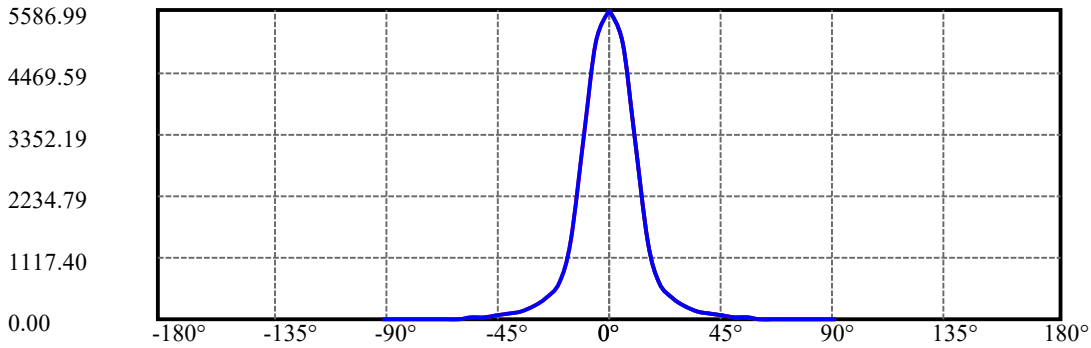
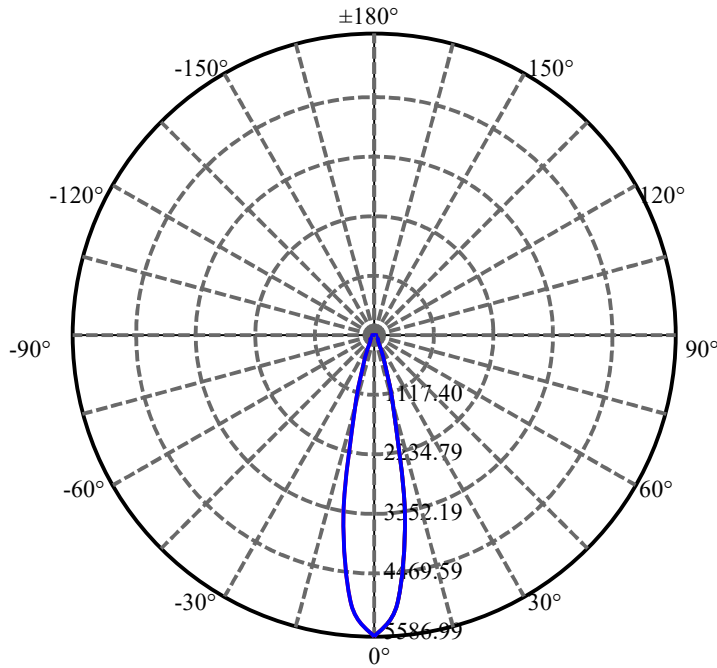
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5586.986	33.411	33.411	2.119%	2.729%
5.0	5004.558	239.084	272.496	15.166%	22.258%
10.0	3372.273	320.983	593.479	20.361%	48.477%
15.0	1406.278	199.506	792.985	12.655%	64.773%
20.0	658.619	123.474	916.459	7.832%	74.859%
25.0	372.078	86.193	1002.652	5.467%	81.900%
30.0	240.190	65.829	1068.481	4.176%	87.277%
35.0	141.598	44.518	1112.999	2.824%	90.913%
40.0	92.481	32.584	1145.584	2.067%	93.575%
45.0	59.495	23.060	1168.643	1.463%	95.458%
50.0	38.175	16.029	1184.673	1.017%	96.768%
55.0	22.704	10.194	1194.867	.647%	97.600%
60.0	14.342	6.808	1201.675	.432%	98.156%
65.0	10.681	5.306	1206.982	.337%	98.590%
70.0	9.305	4.793	1211.774	.304%	98.981%
75.0	8.073	4.274	1216.048	.271%	99.330%
80.0	6.916	3.734	1219.782	.237%	99.635%
85.0	5.698	3.112	1222.893	.197%	99.890%
90.0	4.934	1.352	1224.246	.086%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1068.48	67.78%	87.28%
0-40	1145.58	72.67%	93.57%
0-60	1201.68	76.22%	98.16%
0-90	1222.89	77.57%	99.89%
0-120	1222.89	77.57%	99.89%
0-180	1224.25	77.66%	100.00%
60-90	28.03	1.78%	2.29%
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%
0-23.65	979.40	62.12%	80.00%

ZONAL LUMEN SUMMARY

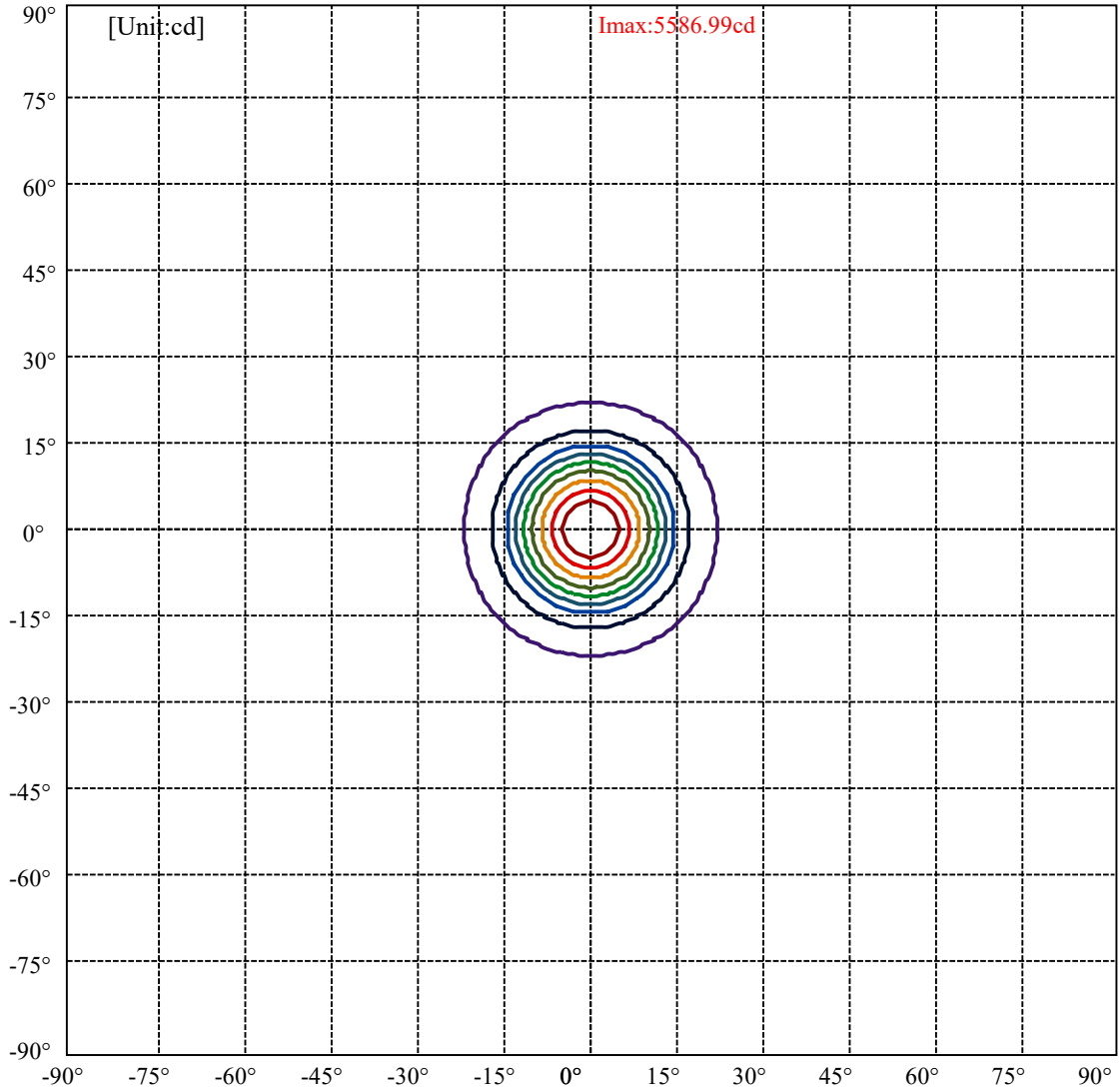
0-10	593.48
10-20	322.98
20-30	152.02
30-40	77.10
40-50	39.09
50-60	17.00
60-70	10.10
70-80	8.01
80-90	3.11
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



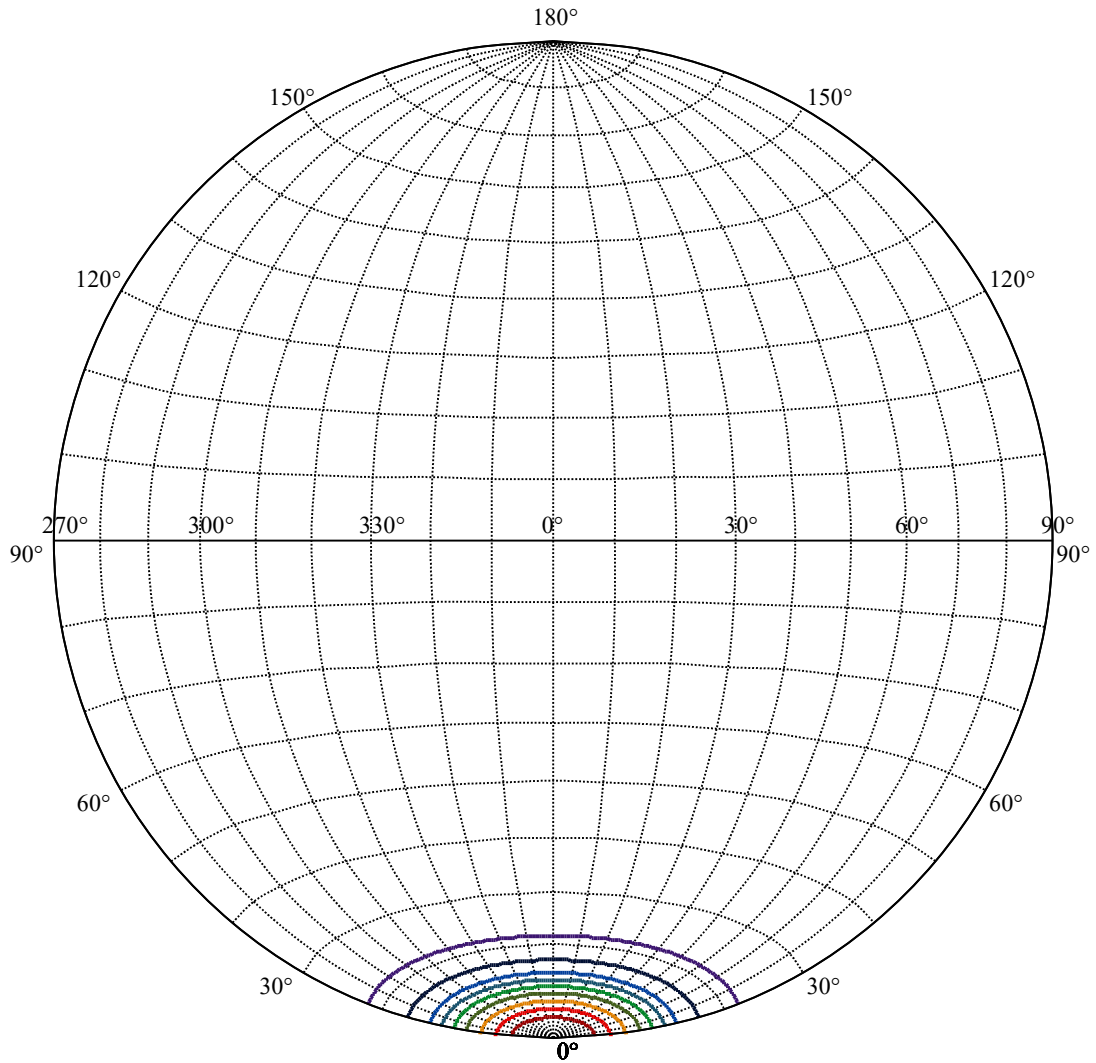
C0(Max): —————
C0/C180: —————
C90/C270: —————

Field angle(10%Imax):C0/180Left:21.7 Right:21.7
:C90/270Left:21.7 Right:21.7

Beam Angle(50%Imax):C0/180Left:11.5 Right:11.5
:C90/270Left:11.5 Right:11.5



(10%Imax) 558.699	—
(20%Imax) 1117.4	—
(30%Imax) 1676.1	—
(40%Imax) 2234.79	—
(50%Imax) 2793.49	—
(60%Imax) 3352.19	—
(70%Imax) 3910.89	—
(80%Imax) 4469.59	—
(90%Imax) 5028.29	—



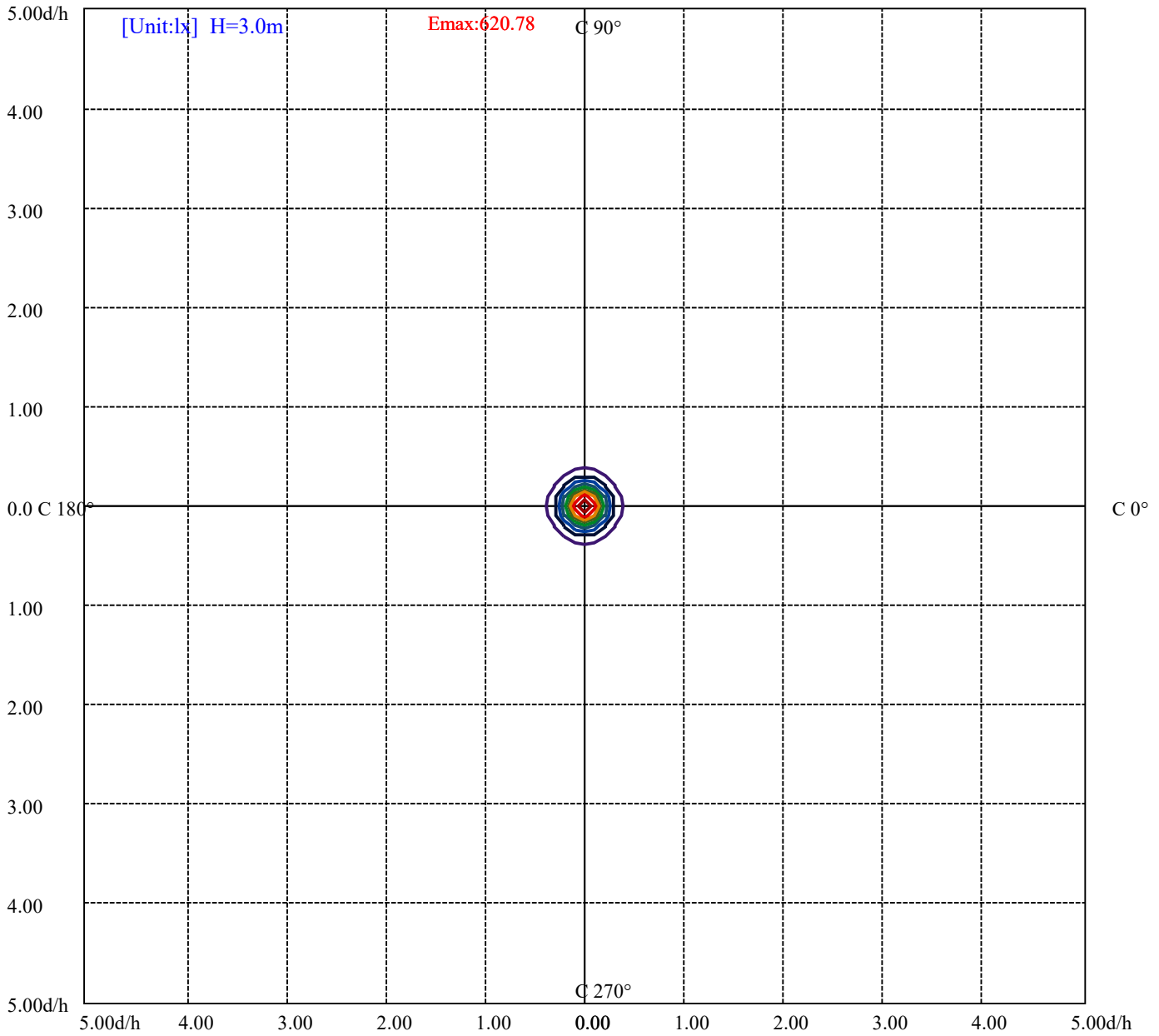
House

[Unit:cd]

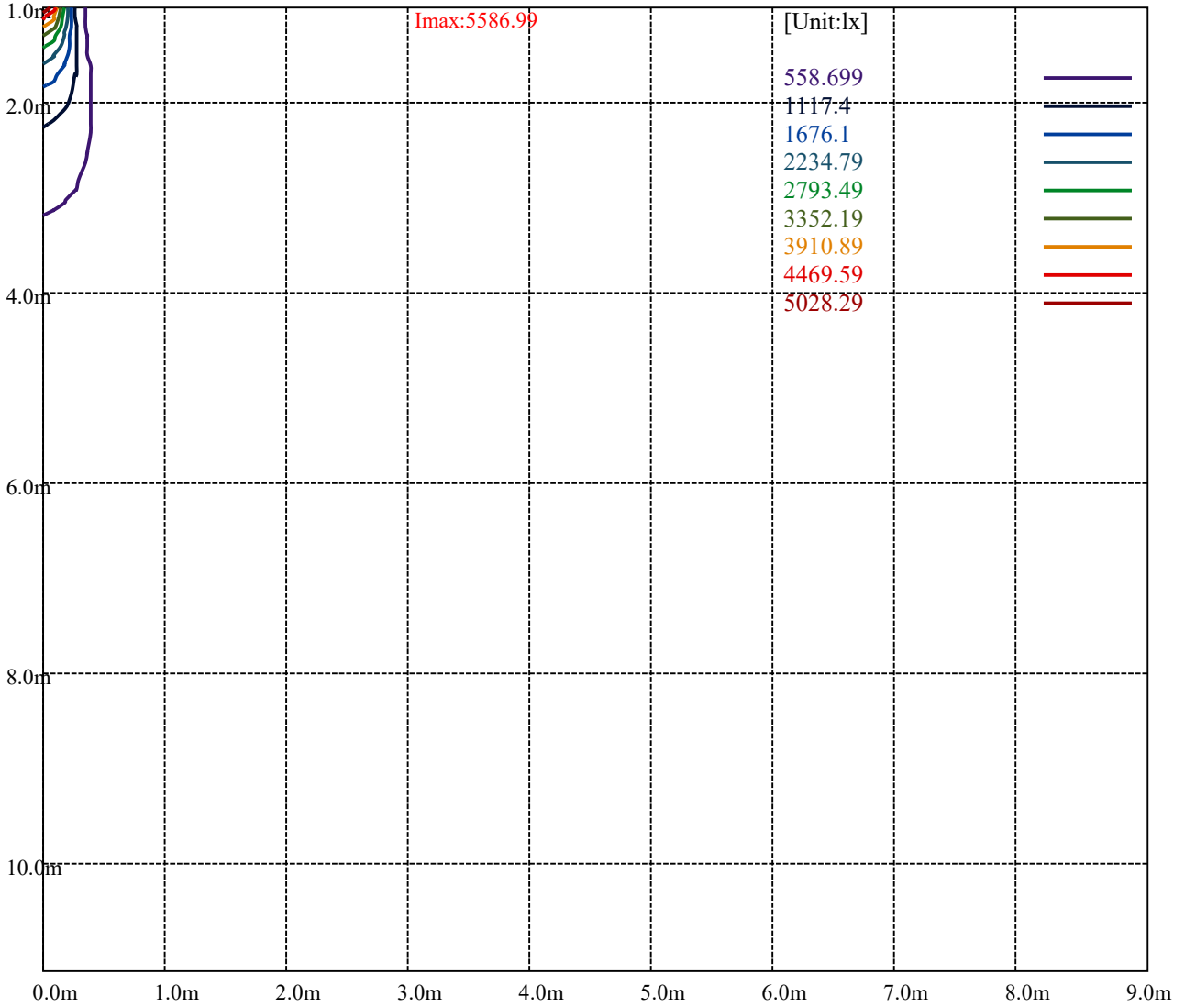
Road

Imax:5586.99

(10%Imax) 558.699	—
(20%Imax) 1117.4	—
(30%Imax) 1676.1	—
(40%Imax) 2234.79	—
(50%Imax) 2793.49	—
(60%Imax) 3352.19	—
(70%Imax) 3910.89	—
(80%Imax) 4469.59	—
(90%Imax) 5028.29	—



(10%Emax) 62.07745	—
(20%Emax) 124.1544	—
(30%Emax) 186.2322	—
(40%Emax) 248.31	—
(50%Emax) 310.3867	—
(60%Emax) 372.4644	—
(70%Emax) 434.5422	—
(80%Emax) 496.6189	—
(90%Emax) 558.6967	—



Luminance Table

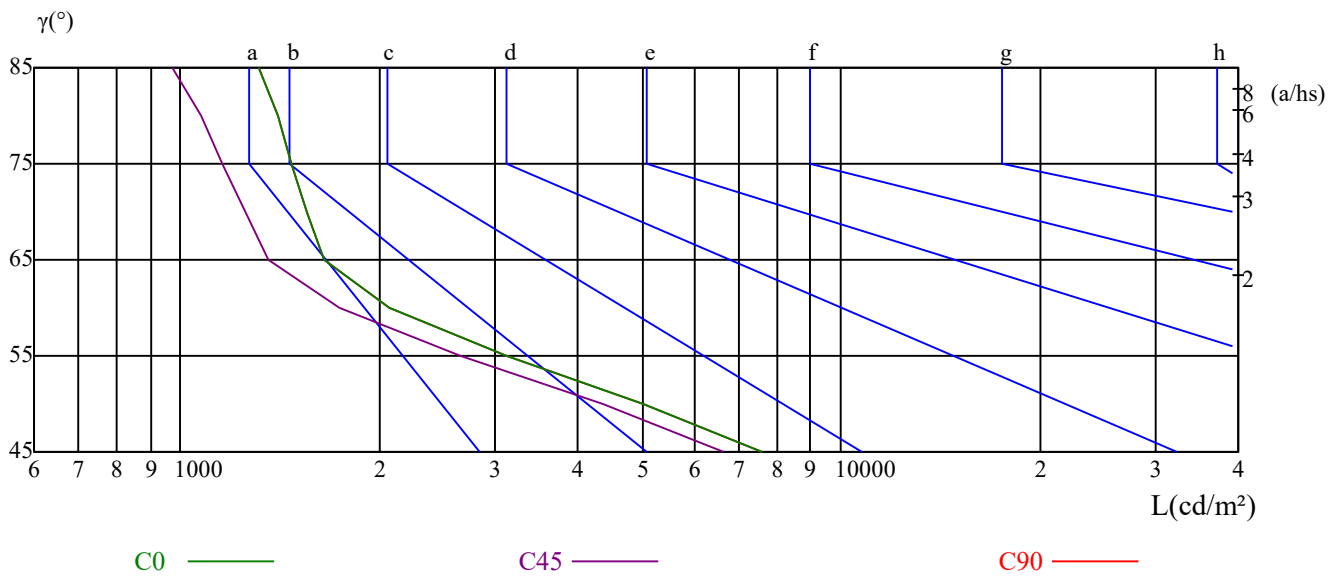
γ	45	50	55	60	65	70	75	80	85
C0	7584	5032	3122	2078	1649	1550	1471	1404	1316
C45	6664	4358	2663	1743	1358	1250	1159	1075	973
C90	7584	5032	3122	2078	1649	1550	1471	1404	1316

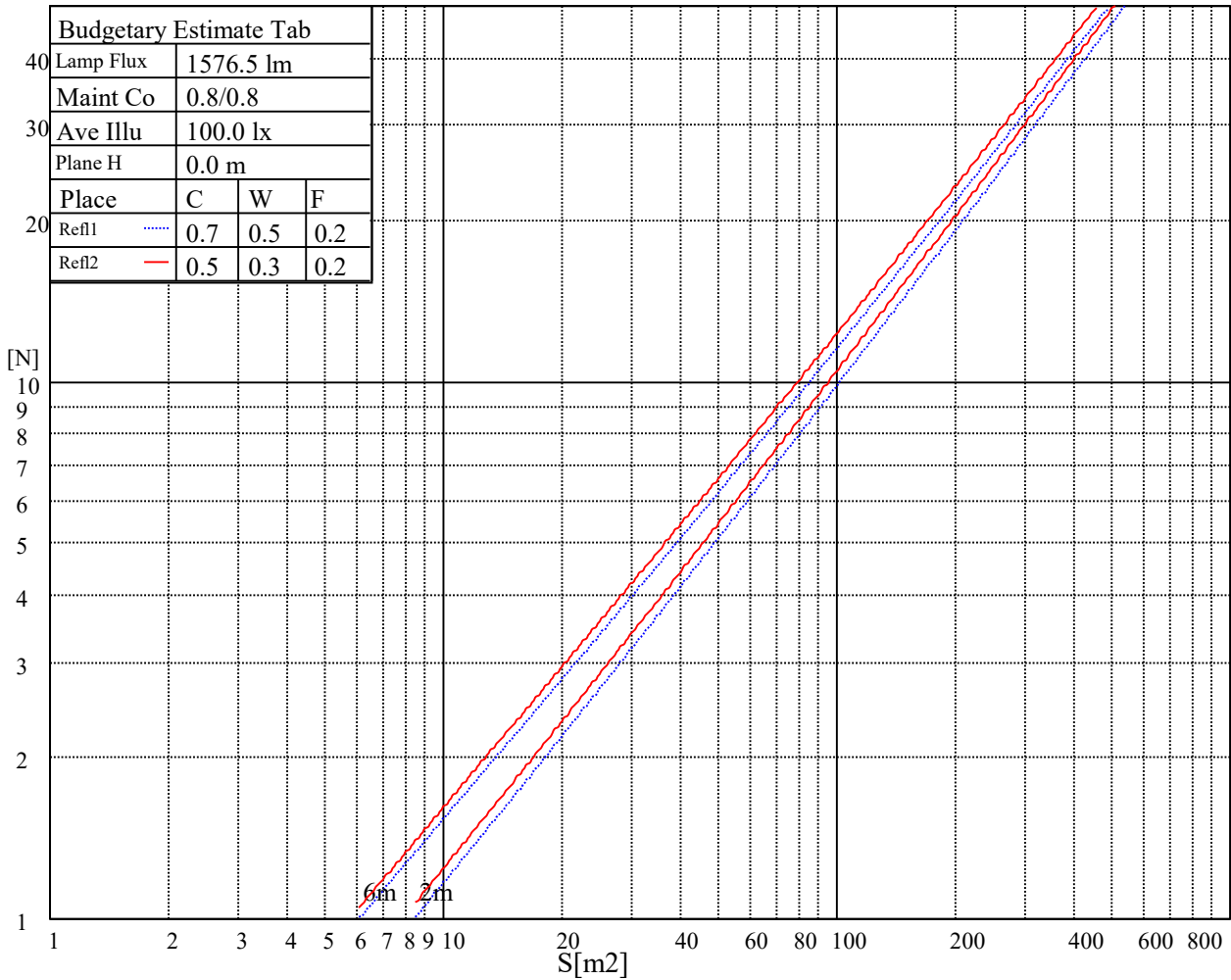
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3417	3417	3417	4217	4217	4217	8840	8840	8840

Glare Table

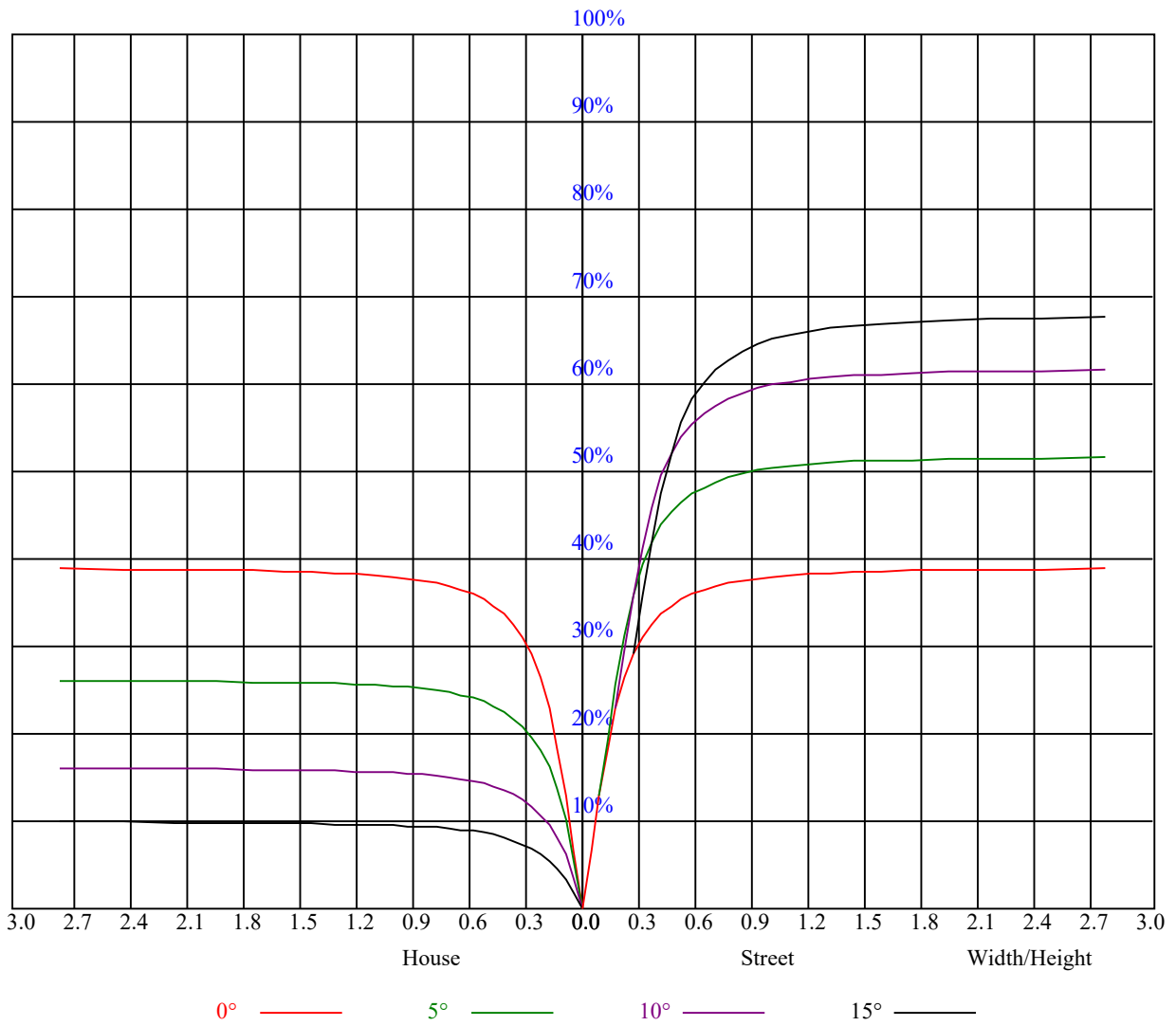
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

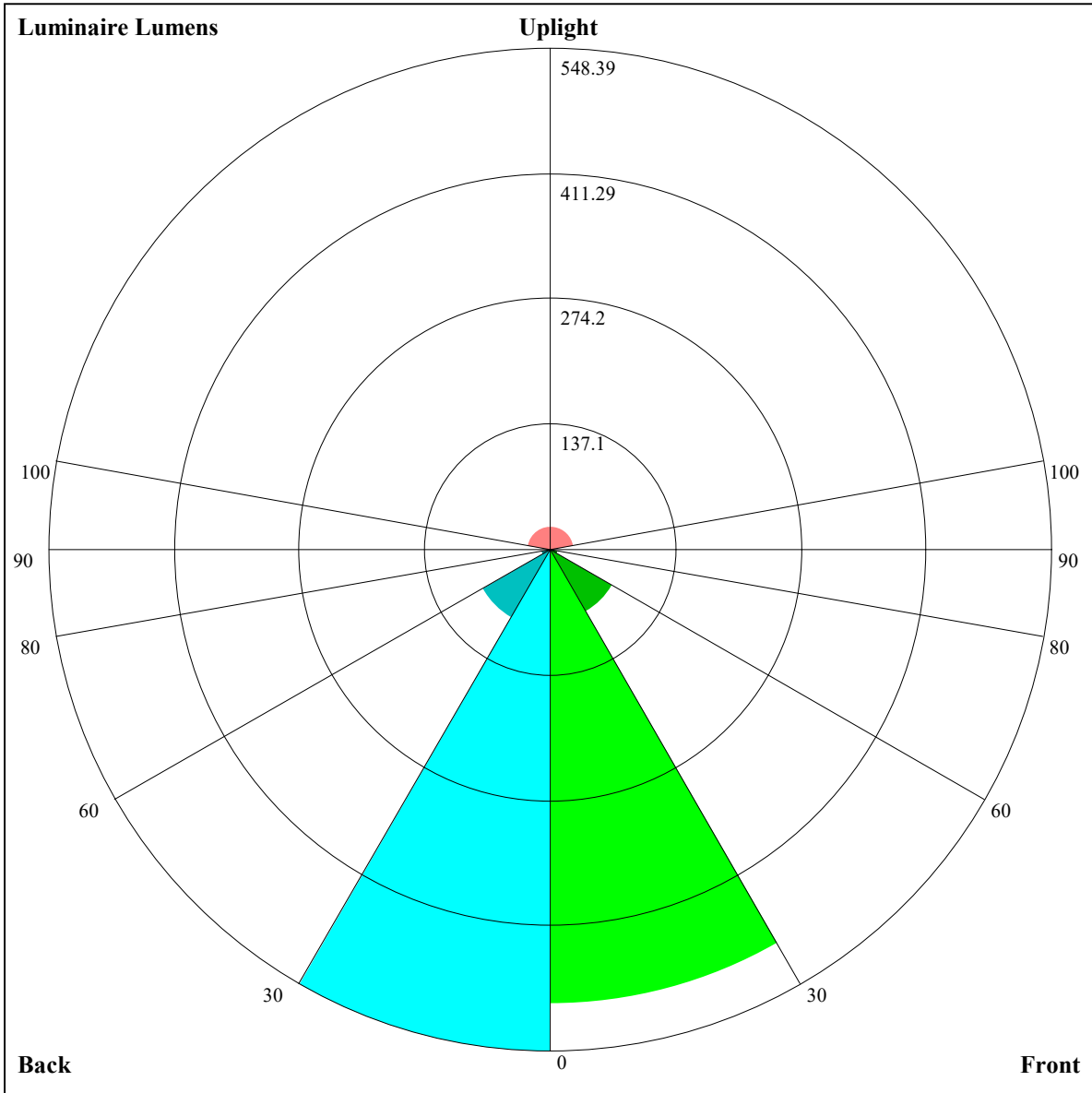
Luminance Limiting Curve





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	0.95	0.95	0.95	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.81	0.81	0.81	0.80
1	0.87	0.84	0.82	0.85	0.83	0.81	0.82	0.80	0.78	0.79	0.77	0.76	0.76	0.75	0.74	0.72
2	0.82	0.79	0.77	0.81	0.78	0.76	0.78	0.76	0.74	0.76	0.74	0.72	0.74	0.72	0.71	0.70
3	0.79	0.75	0.72	0.77	0.74	0.72	0.75	0.73	0.70	0.74	0.71	0.69	0.72	0.70	0.68	0.67
4	0.75	0.72	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.71	0.69	0.67	0.70	0.68	0.66	0.65
5	0.72	0.69	0.66	0.72	0.68	0.66	0.70	0.67	0.65	0.69	0.67	0.64	0.68	0.66	0.64	0.63
6	0.70	0.66	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.65	0.62	0.66	0.64	0.62	0.61
7	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.62	0.60	0.60
8	0.66	0.62	0.60	0.65	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.63	0.61	0.59	0.58
9	0.64	0.60	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.62	0.60	0.58	0.62	0.59	0.58	0.57
10	0.62	0.59	0.57	0.62	0.59	0.57	0.62	0.59	0.57	0.61	0.58	0.56	0.61	0.58	0.56	0.55





Luminaire Lumens:

FL=496.72,FM=78.63,FH=9.61,FVH=3.1

BL=548.39,BM=85.69,BH=10.07,BVH=3.24

UL=5.38,UH=25.62

BUG Rating:B2-U2-G0

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	5640.53	4659.97	3213.09	1348.88	628.74	359.52	244.01	136.87	87.21
45.0	5608.60	4610.42	2807.33	1163.89	589.10	338.05	206.08	128.12	86.22
90.0	5530.97	4491.50	2642.16	1042.88	542.69	318.23	198.64	125.36	82.42
135.0	5567.85	5211.64	3564.90	1684.73	671.69	383.74	279.69	145.29	96.29
180.0	5640.53	5298.63	3665.66	1094.58	669.32	387.32	241.26	150.47	99.10
225.0	5608.60	5461.59	3881.48	1856.50	752.24	406.21	254.75	154.65	100.42
270.0	5530.97	5463.80	4081.88	1983.13	795.56	430.54	281.89	163.30	101.69
315.0	5567.85	4838.91	3121.70	1075.64	619.60	353.02	215.22	128.72	86.49
360.0	5640.53	4659.97	3213.09	1348.88	628.74	359.52	244.01	136.87	87.21
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	57.04	35.73	21.03	13.54	10.41	9.03	7.87	6.66	5.40
45.0	53.62	33.25	19.82	12.61	10.24	9.08	7.76	6.61	5.40
90.0	52.30	33.36	19.60	12.44	10.30	8.97	7.76	6.55	5.45
135.0	62.21	40.96	24.61	15.25	11.12	9.58	8.31	7.21	5.89
180.0	63.65	40.58	23.12	15.25	10.96	9.47	8.31	7.10	5.95
225.0	65.41	42.78	25.44	15.64	11.07	9.58	8.37	7.32	6.00
270.0	65.96	43.44	26.21	16.30	11.01	9.63	8.37	7.27	5.95
315.0	55.77	35.29	21.80	13.71	10.35	9.08	7.82	6.61	5.56
360.0	57.04	35.73	21.03	13.54	10.41	9.03	7.87	6.66	5.40
C/ γ (°)	90.0								
0.0	4.90								
45.0	4.90								
90.0	4.90								
135.0	4.90								
180.0	4.90								
225.0	5.07								
270.0	5.01								
315.0	4.90								
360.0	4.90								