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Nata

Client:

LumCAT: 1408-N

Luminaire: 92.70.046.00

Report No: NT2018040607

Test No: nata-0100

LampCAT: CREE CXA1512

Lamp flux(lm): 1248.0

Number of Lamps: 1

Length(mm): 39

Phm Type: C

Voltage(V): 35.5000

Current(A): 0.3500

Power (W): 12.4250

PF: 0.0000

Ballast type: DC

Width(mm): 39

Height(mm): 0

Photometric Results

Lumens(lm): 1020.41, Efficiency(%): 81.76% , Luminous Efficacy(lm/W): 82.13

Central intensity(cd): 953.013, Maximum intensity(cd): 953.013

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=57.2

[C90/270]Total=57.2

Field angle(10%Imax): [C0/180]Total=99.4

[C90/270]Total=99.4

Maximum s/h(1/2): C0_180=0.84 C90_270=0.84

Maximum s/h(1/4): C0_180=0.90 C90_270=0.90

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 82.14%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 92.761%

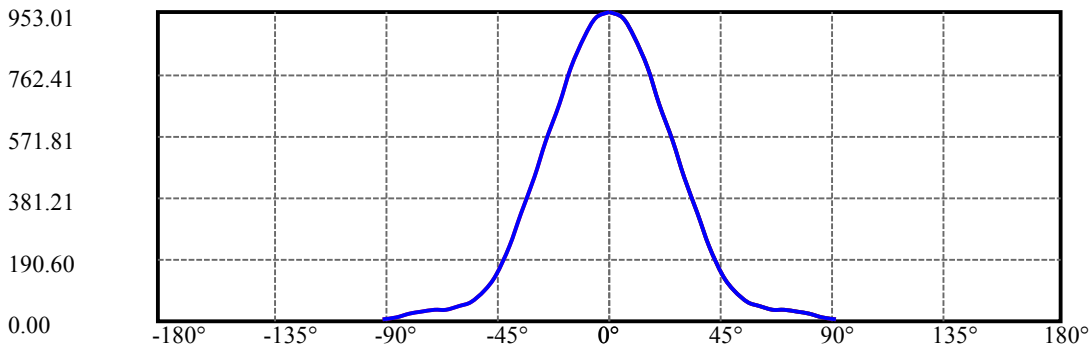
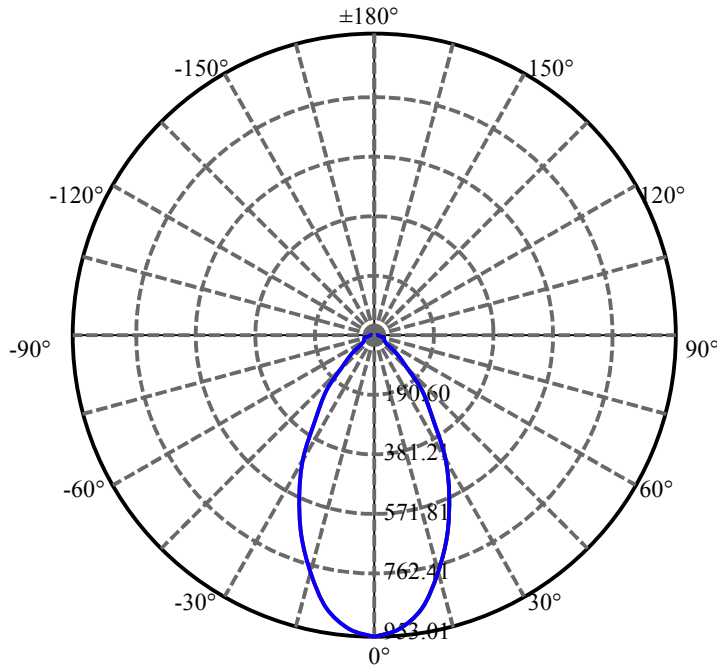
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	953.013	5.699	5.699	.457%	.559%
5.0	933.529	44.598	50.297	3.574%	4.929%
10.0	874.963	83.282	133.579	6.673%	13.091%
15.0	779.241	110.550	244.128	8.858%	23.925%
20.0	671.750	125.936	370.064	10.091%	36.266%
25.0	555.319	128.641	498.705	10.308%	48.873%
30.0	446.769	122.445	621.151	9.811%	60.873%
35.0	333.112	104.730	725.881	8.392%	71.136%
40.0	231.526	81.575	807.456	6.536%	79.131%
45.0	144.695	56.083	863.538	4.494%	84.627%
50.0	91.896	38.587	902.125	3.092%	88.408%
55.0	60.996	27.388	929.513	2.195%	91.092%
60.0	45.098	21.408	950.921	1.715%	93.190%
65.0	35.498	17.635	968.555	1.413%	94.919%
70.0	32.587	16.785	985.34	1.345%	96.563%
75.0	30.047	15.909	1001.249	1.275%	98.122%
80.0	22.387	12.085	1013.334	.968%	99.307%
85.0	10.688	5.836	1019.17	.468%	99.879%
90.0	4.515	1.237	1020.407	.099%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	621.15	49.77%	60.87%
0-40	807.46	64.70%	79.13%
0-60	950.92	76.20%	93.19%
0-90	1019.17	81.66%	99.88%
0-120	1019.17	81.66%	99.88%
0-180	1020.41	81.76%	100.00%
60-90	89.66	7.18%	8.79%
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%
0-40.79	816.33	65.41%	80.00%

ZONAL LUMEN SUMMARY

0-10	133.58
10-20	236.49
20-30	251.09
30-40	186.30
40-50	94.67
50-60	48.80
60-70	34.42
70-80	27.99
80-90	5.84
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: —————

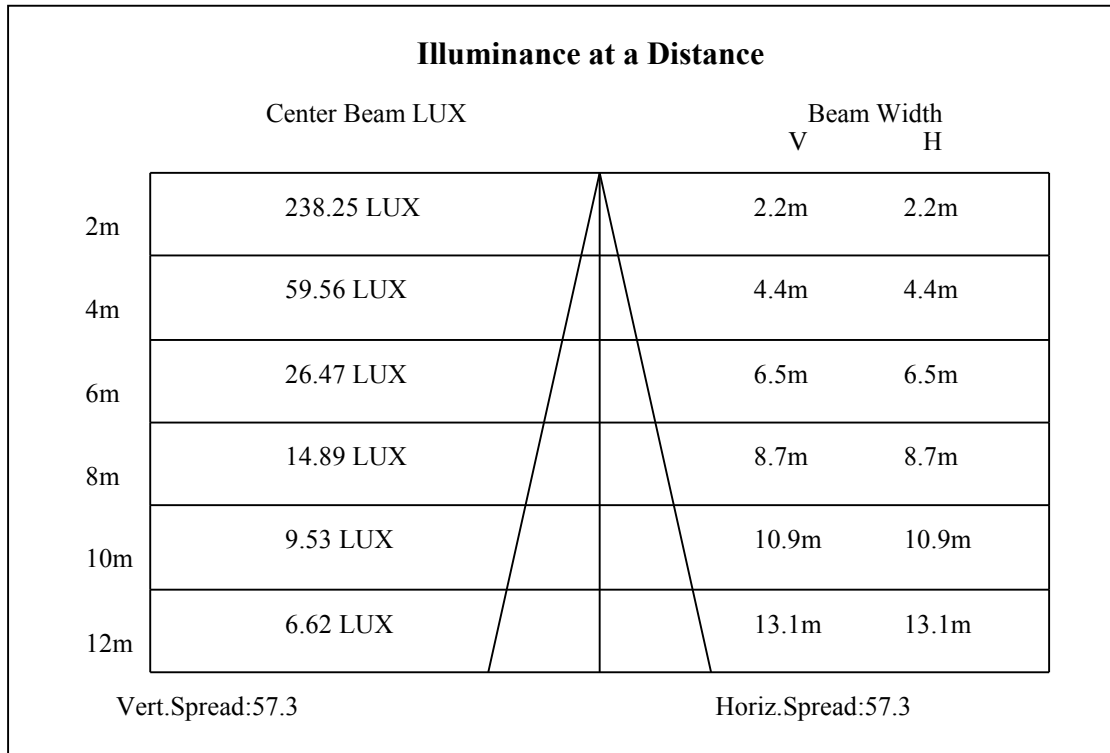
C90/C270: —————

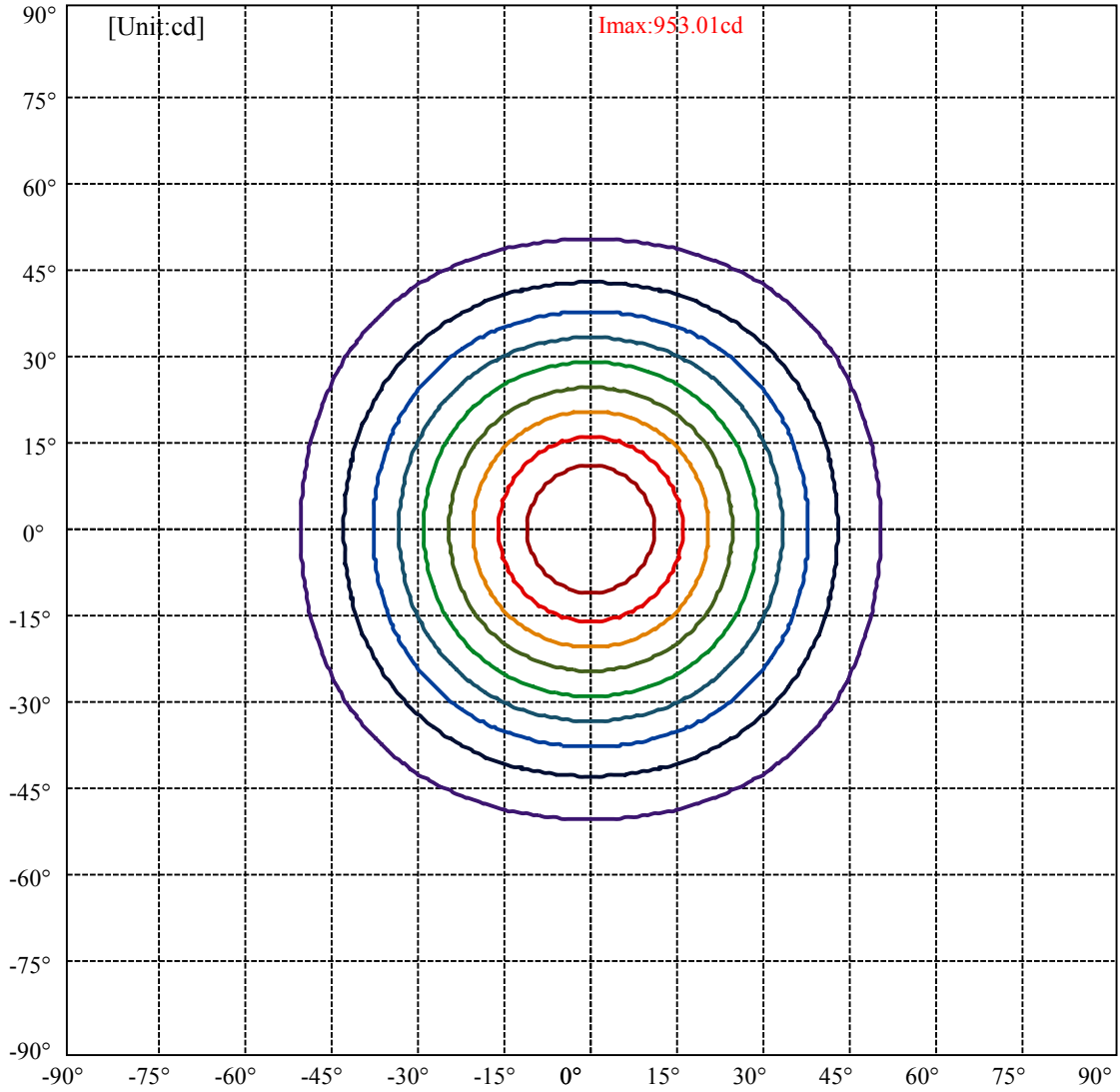
Field angle(10%Imax):C0/180Left:49.7 Right:49.7

:C90/270Left:49.7 Right:49.7

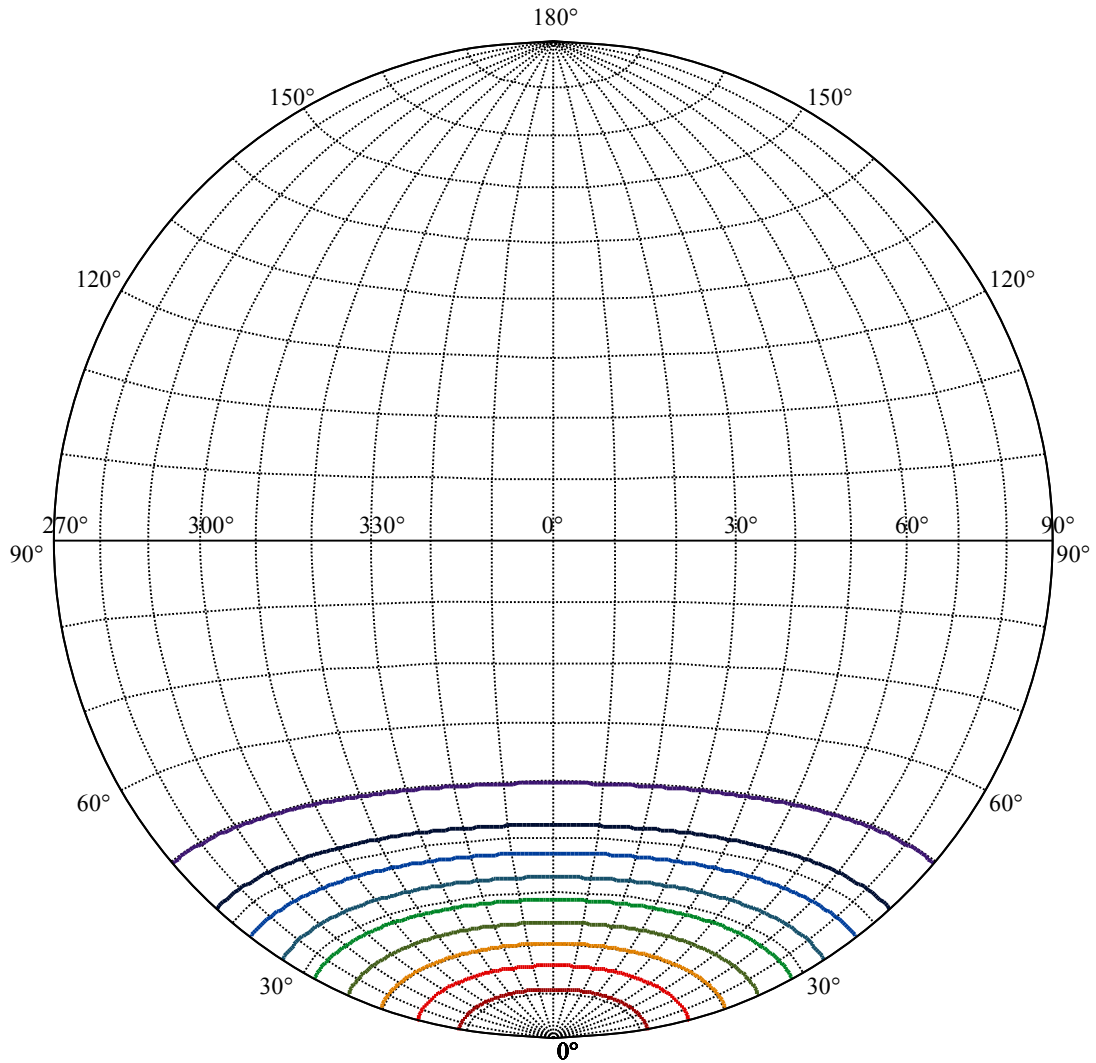
Beam Angle(50%Imax):C0/180Left:28.6 Right:28.6

:C90/270Left:28.6 Right:28.6















(10%Imax) 95.3013	—
(20%Imax) 190.603	—
(30%Imax) 285.904	—
(40%Imax) 381.205	—
(50%Imax) 476.506	—
(60%Imax) 571.807	—
(70%Imax) 667.109	—
(80%Imax) 762.41	—
(90%Imax) 857.711	—

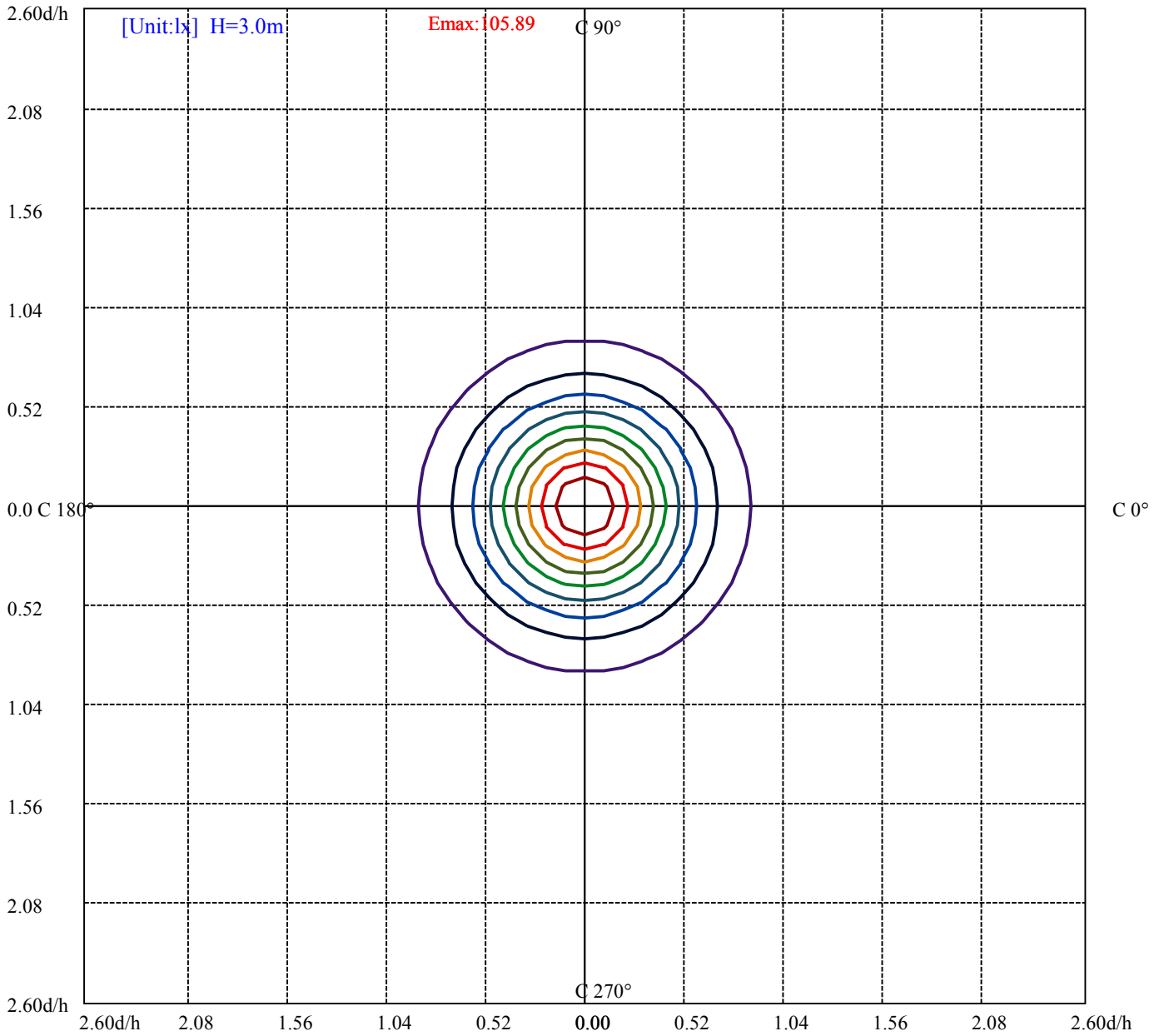


House

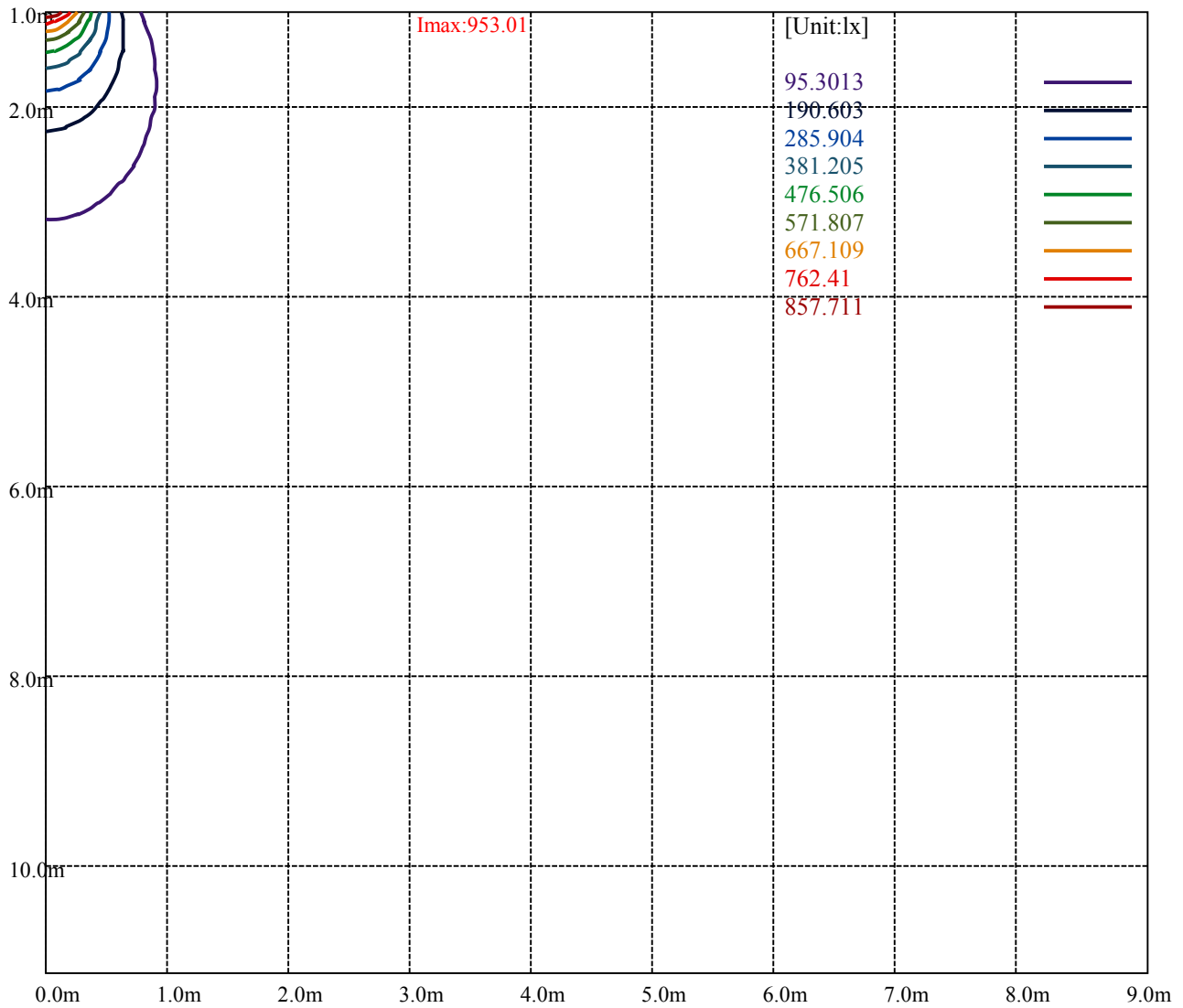
[Unit:cd]

Road

Imax:953.01	
(10%Imax) 95.3013	
(20%Imax) 190.603	
(30%Imax) 285.904	
(40%Imax) 381.205	
(50%Imax) 476.506	
(60%Imax) 571.807	
(70%Imax) 667.109	
(80%Imax) 762.41	
(90%Imax) 857.711	



- (10%Emax) 10.58902
- (20%Emax) 21.178
- (30%Emax) 31.76711
- (40%Emax) 42.35611
- (50%Emax) 52.94511
- (60%Emax) 63.53411
- (70%Emax) 74.12311
- (80%Emax) 84.71222
- (90%Emax) 95.30122



Luminance Table

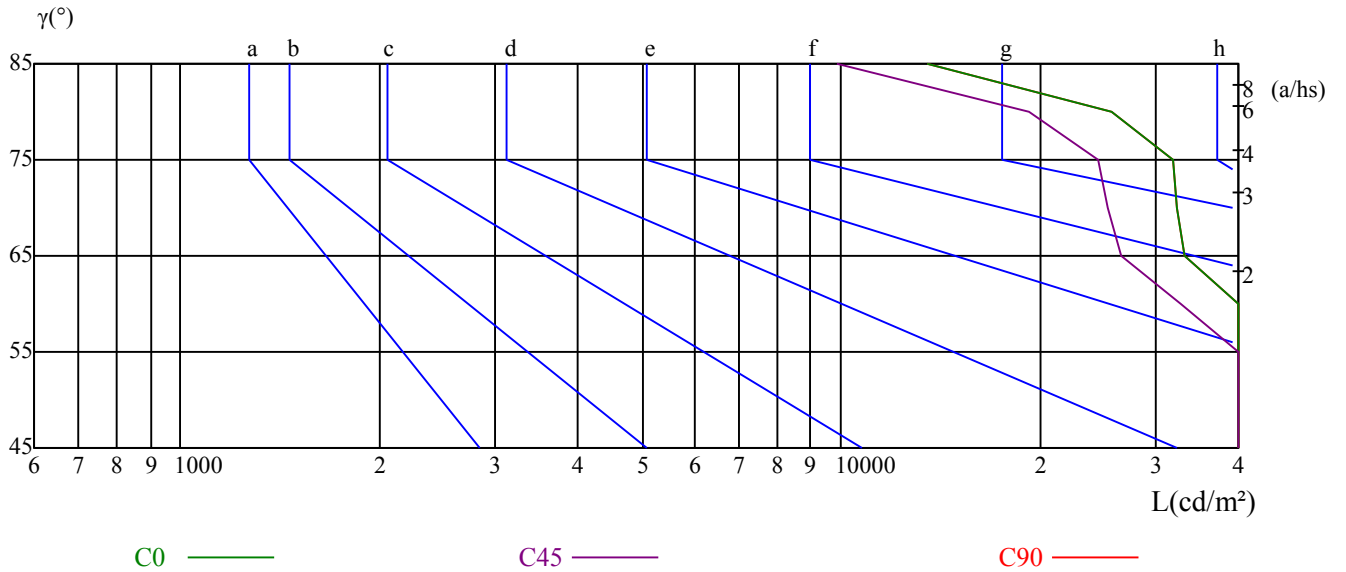
γ	45	50	55	60	65	70	75	80	85
C0	118420	76739	52401	40206	33151	32207	31794	25699	13519
C45	101322	64675	43478	32817	26588	25344	24494	19328	9886
C90	118420	76739	52401	40206	33151	32207	31794	25699	13519

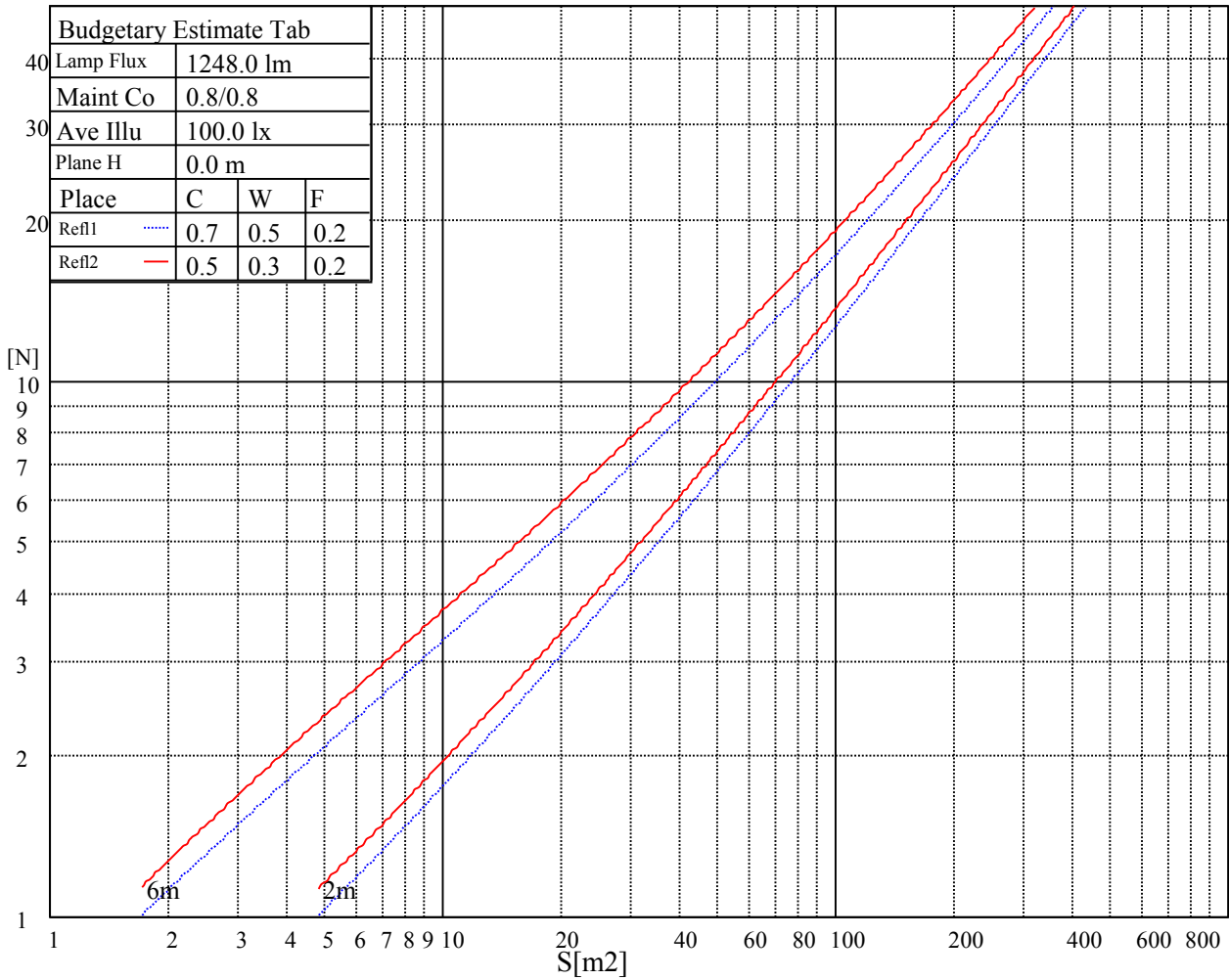
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
82026	82026	82026	113372	113372	113372	119755	119755	119755

Glare Table

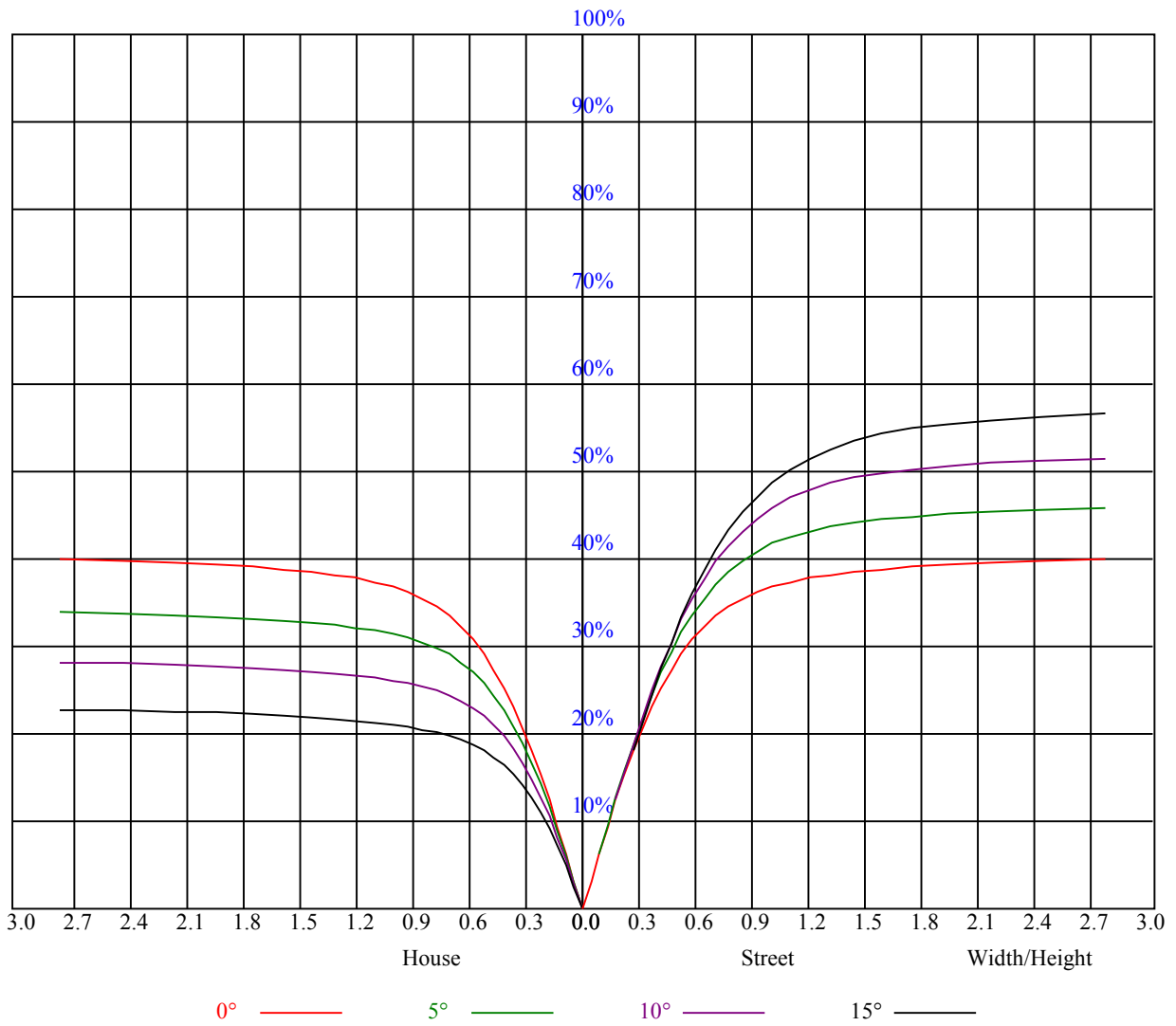
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

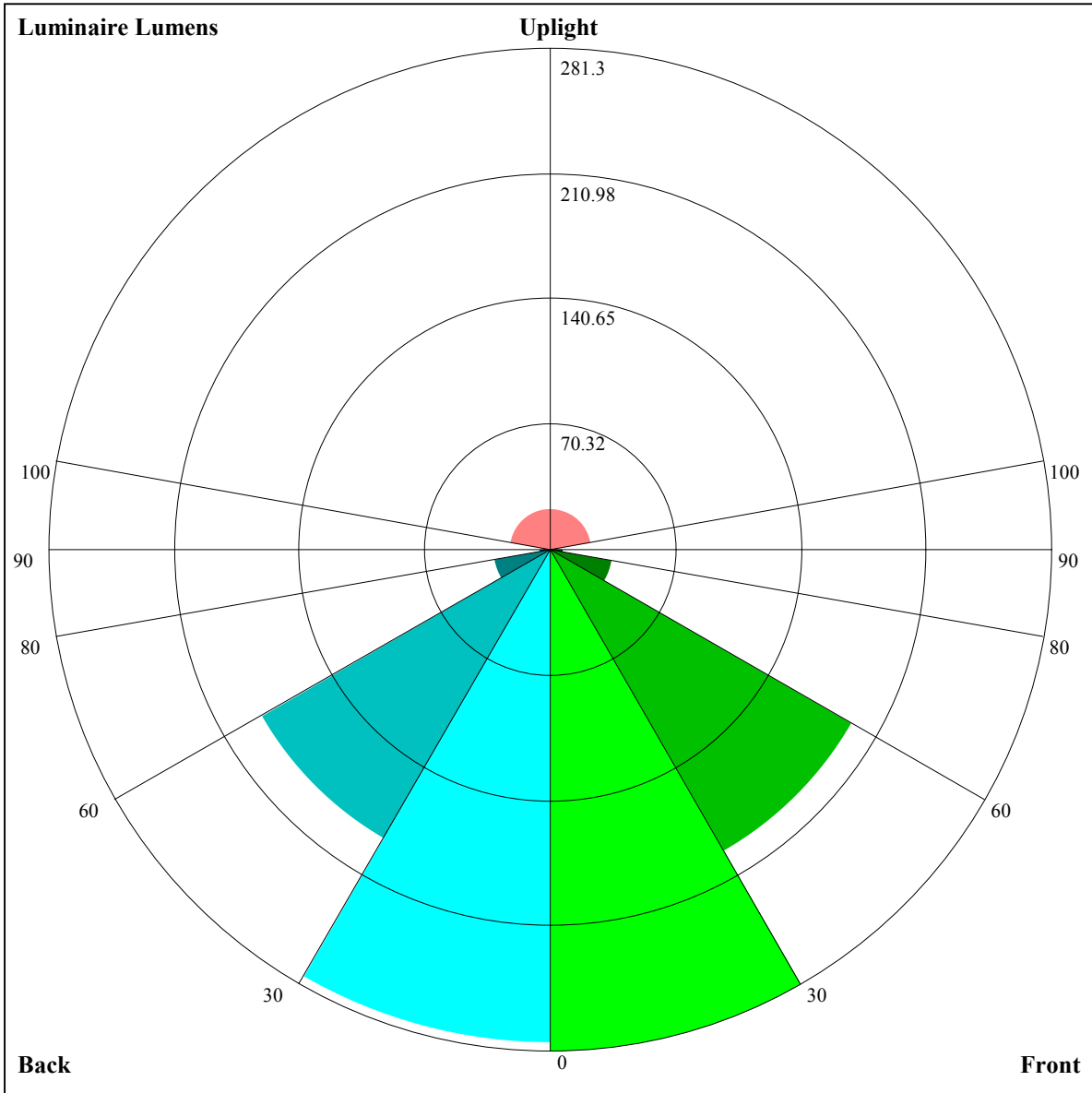
Luminance Limiting Curve





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	0.98	0.98	0.98	0.96	0.96	0.96	0.91	0.91	0.91	0.87	0.87	0.87	0.84	0.84	0.84	0.82
1	0.89	0.86	0.84	0.87	0.85	0.83	0.84	0.82	0.80	0.81	0.79	0.78	0.78	0.77	0.75	0.74
2	0.81	0.77	0.74	0.80	0.76	0.73	0.77	0.74	0.72	0.75	0.72	0.70	0.72	0.70	0.69	0.67
3	0.75	0.70	0.66	0.74	0.69	0.66	0.72	0.68	0.65	0.70	0.66	0.64	0.68	0.65	0.63	0.61
4	0.69	0.64	0.60	0.69	0.64	0.60	0.67	0.62	0.59	0.65	0.61	0.58	0.63	0.60	0.58	0.56
5	0.65	0.59	0.55	0.64	0.59	0.55	0.62	0.58	0.54	0.61	0.57	0.54	0.60	0.56	0.53	0.52
6	0.60	0.55	0.51	0.60	0.55	0.51	0.58	0.54	0.50	0.57	0.53	0.50	0.56	0.52	0.50	0.48
7	0.57	0.51	0.47	0.56	0.51	0.47	0.55	0.50	0.47	0.54	0.50	0.47	0.53	0.49	0.46	0.45
8	0.53	0.48	0.44	0.53	0.48	0.44	0.52	0.47	0.44	0.51	0.47	0.44	0.50	0.46	0.43	0.42
9	0.50	0.45	0.41	0.50	0.45	0.41	0.49	0.44	0.41	0.48	0.44	0.41	0.47	0.44	0.41	0.40
10	0.47	0.42	0.39	0.47	0.42	0.39	0.46	0.42	0.39	0.46	0.42	0.39	0.45	0.41	0.39	0.37





Luminaire Lumens:

FL=281.3,FM=195.62,FH=34.79,FVH=7.06

BL=277.1,BM=187.31,BH=32.16,BVH=5.97

UL=4.93,UH=23.44

BUG Rating:B1-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	954.13	940.31	891.42	800.02	689.47	568.57	464.18	354.34	250.62
45.0	948.46	936.29	885.53	792.59	689.97	568.90	460.38	353.52	248.36
90.0	952.70	932.60	868.73	771.06	666.62	547.87	438.63	318.17	224.02
135.0	956.77	937.11	878.98	787.09	676.04	557.06	454.71	337.61	233.66
180.0	954.13	928.03	863.34	762.86	652.69	542.42	431.31	314.76	212.96
225.0	948.46	923.85	858.22	759.17	657.76	540.82	430.60	318.72	217.09
270.0	952.70	934.53	878.04	783.18	681.27	565.32	456.47	348.40	243.95
315.0	956.77	935.52	875.45	777.95	660.18	551.61	437.86	319.38	221.55
360.0	954.13	940.31	891.42	800.02	689.47	568.57	464.18	354.34	250.62
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	162.69	100.64	65.74	49.72	38.37	34.52	31.33	25.11	13.98
45.0	157.46	102.68	67.28	49.50	40.08	37.77	35.24	28.57	13.16
90.0	138.36	89.03	60.89	45.04	37.38	34.41	31.44	22.46	10.30
135.0	149.04	95.25	62.49	45.42	35.73	33.91	33.64	27.14	10.19
180.0	134.50	85.72	57.37	43.00	32.54	30.72	29.95	20.76	10.52
225.0	129.27	81.81	55.44	41.07	31.71	28.41	21.64	10.79	6.83
270.0	149.37	93.10	60.51	43.77	33.80	29.12	26.98	20.43	9.91
315.0	136.87	86.93	58.25	43.27	34.36	31.82	30.17	23.84	10.63
360.0	162.69	100.64	65.74	49.72	38.37	34.52	31.33	25.11	13.98
C/γ(°)	90.0								
0.0	4.68								
45.0	4.73								
90.0	4.40								
135.0	4.40								
180.0	4.35								
225.0	4.40								
270.0	4.62								
315.0	4.51								
360.0	4.68								