
Nata

Client:

LumCAT: 3-1699-N

Luminaire: 92.70.045.00+92.70.089.00

Report No: nata-0100

Test No: GC2018060105

LampCAT: NICHIA NFCWD084B-V3

Lamp flux(lm): 2152.5

Number of Lamps: 1

Length(mm): 79

Phm Type: C

Voltage(V): 34.0000

Current(A): 0.5000

Power (W): 17.0000

PF: 0.0000

Ballast type: DC

Width(mm): 79

Height(mm): 0

Photometric Results

Lumens(lm): 1706.43, Efficiency(%): 79.28% , Luminous Efficacy(lm/W): 100.38

Central intensity(cd): 7347.964, Maximum intensity(cd): 7347.964

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=22.8

[C90/270]Total=22.8

Field angle(10%Imax): [C0/180]Total=45.4

[C90/270]Total=45.4

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

Maximum s/h(1/4): C0_180=0.39 C90_270=0.39

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 81.24%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 95.776%

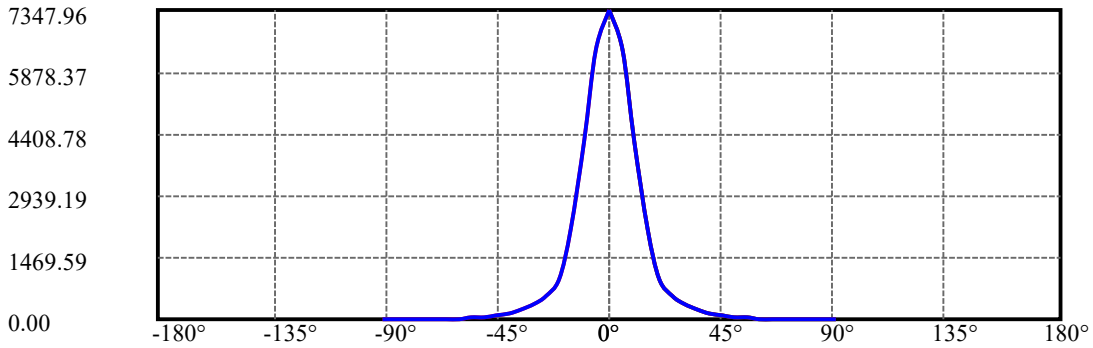
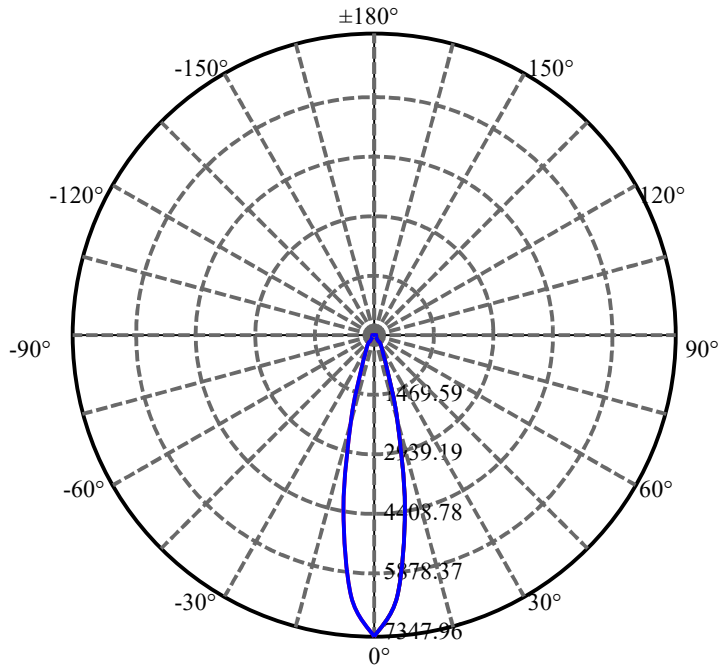
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7347.965	43.942	43.942	2.041%	2.575%
5.0	6401.476	305.820	349.762	14.208%	20.497%
10.0	4258.750	405.361	755.123	18.832%	44.252%
15.0	2122.700	301.144	1056.267	13.990%	61.899%
20.0	963.253	180.585	1236.852	8.389%	72.482%
25.0	543.572	125.920	1362.772	5.850%	79.861%
30.0	363.180	99.536	1462.308	4.624%	85.694%
35.0	241.353	75.881	1538.189	3.525%	90.141%
40.0	153.236	53.990	1592.18	2.508%	93.305%
45.0	93.252	36.144	1628.323	1.679%	95.423%
50.0	56.268	23.627	1651.95	1.098%	96.808%
55.0	31.706	14.236	1666.186	.661%	97.642%
60.0	18.299	8.687	1674.873	.404%	98.151%
65.0	14.280	7.094	1681.967	.330%	98.567%
70.0	12.739	6.561	1688.528	.305%	98.951%
75.0	11.397	6.034	1694.562	.280%	99.305%
80.0	9.931	5.361	1699.923	.249%	99.619%
85.0	8.369	4.570	1704.493	.212%	99.887%
90.0	7.054	1.933	1706.426	.090%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1462.31	67.93%	85.69%
0-40	1592.18	73.97%	93.30%
0-60	1674.87	77.81%	98.15%
0-90	1704.49	79.19%	99.89%
0-120	1704.49	79.19%	99.89%
0-180	1706.43	79.28%	100.00%
60-90	38.31	1.78%	2.24%
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%
0-25.12	1365.14	63.42%	80.00%

ZONAL LUMEN SUMMARY

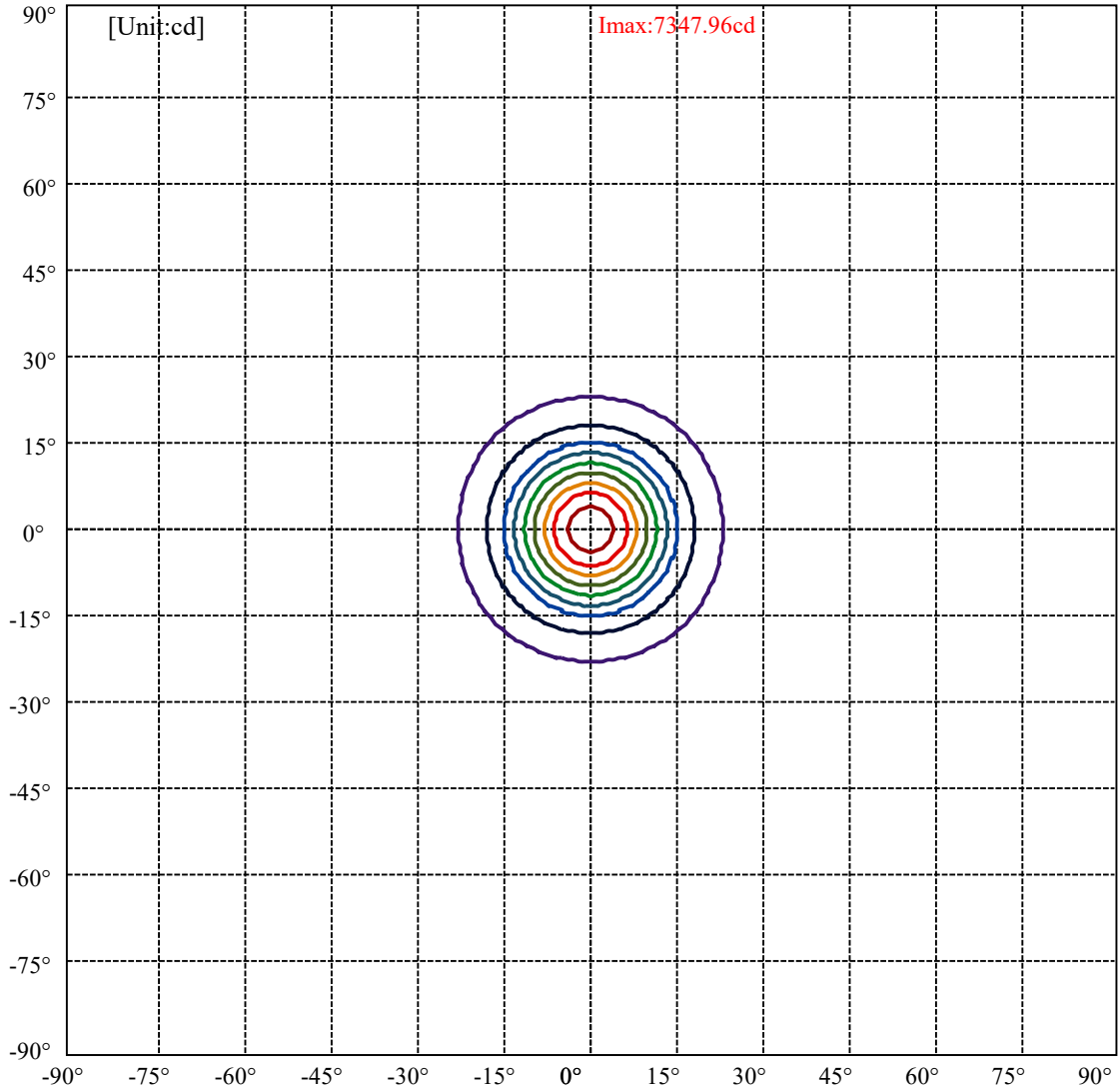
0-10	755.12
10-20	481.73
20-30	225.46
30-40	129.87
40-50	59.77
50-60	22.92
60-70	13.66
70-80	11.39
80-90	4.57
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



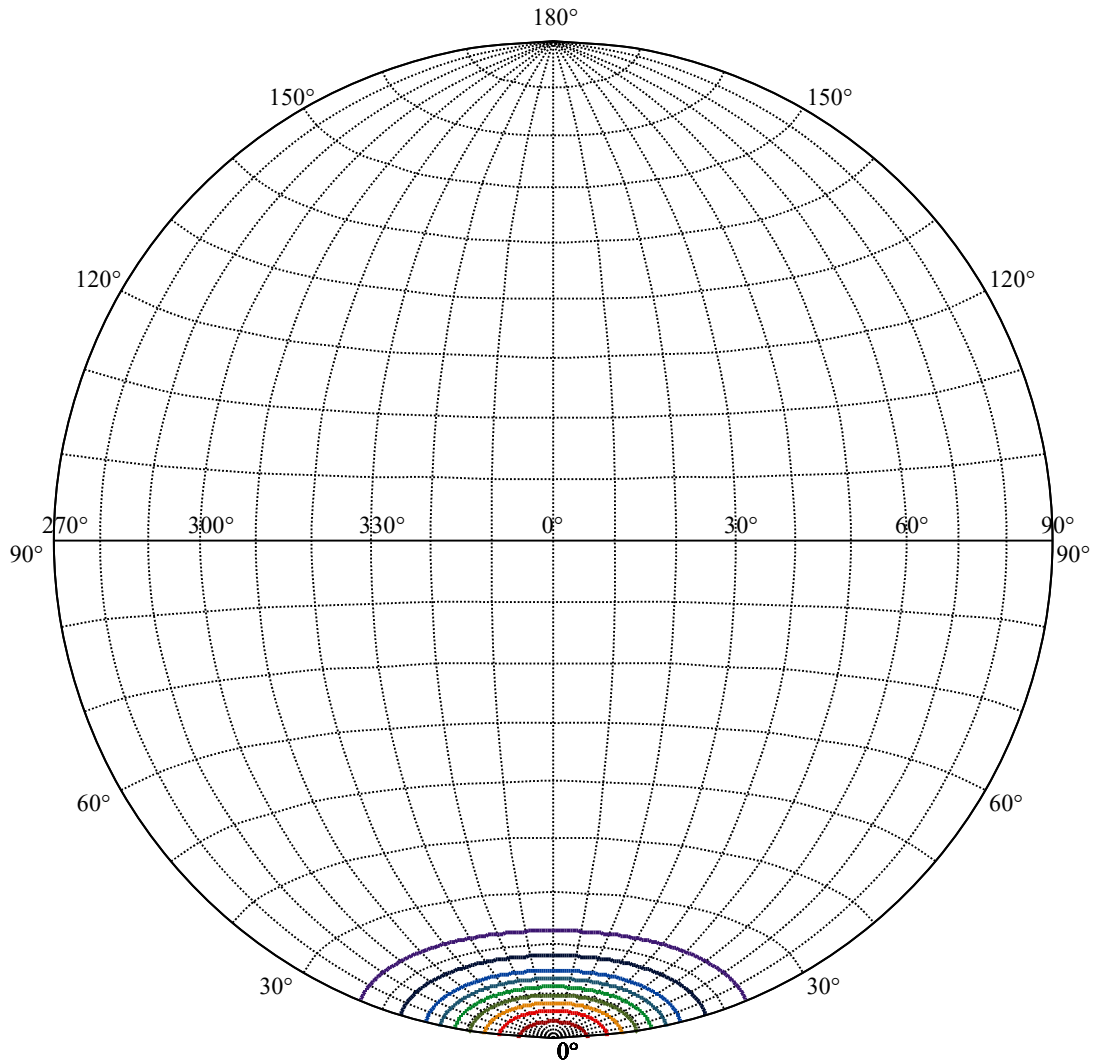
C0(Max): —————
C0/C180: —————
C90/C270: —————

Field angle(10%Imax):C0/180Left:22.7 Right:22.7
:C90/270Left:22.7 Right:22.7

Beam Angle(50%Imax):C0/180Left:11.4 Right:11.4
:C90/270Left:11.4 Right:11.4



(10%Imax) 734.796	—
(20%Imax) 1469.59	—
(30%Imax) 2204.39	—
(40%Imax) 2939.19	—
(50%Imax) 3673.98	—
(60%Imax) 4408.78	—
(70%Imax) 5143.58	—
(80%Imax) 5878.37	—
(90%Imax) 6613.17	—



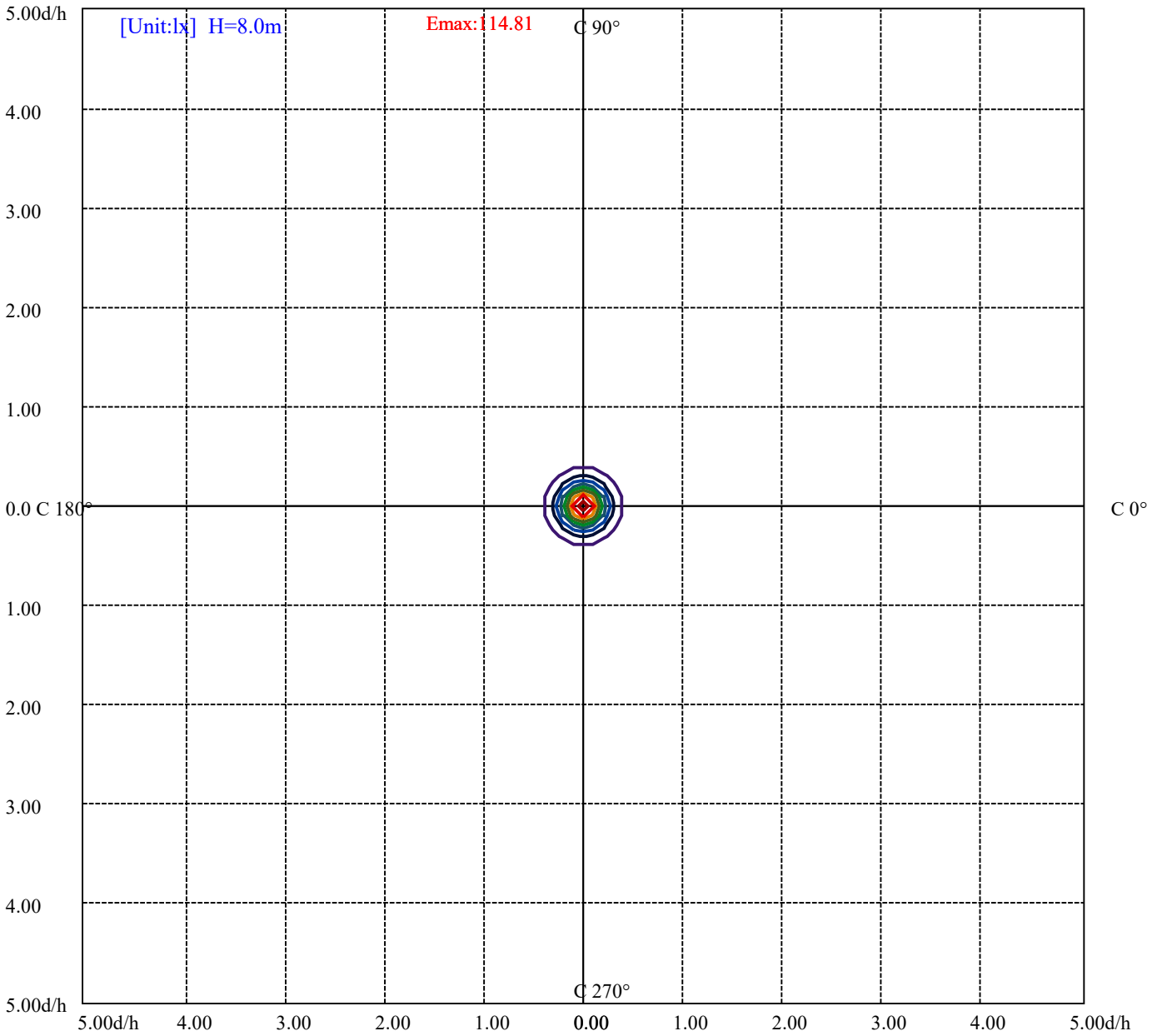
House

[Unit:cd]

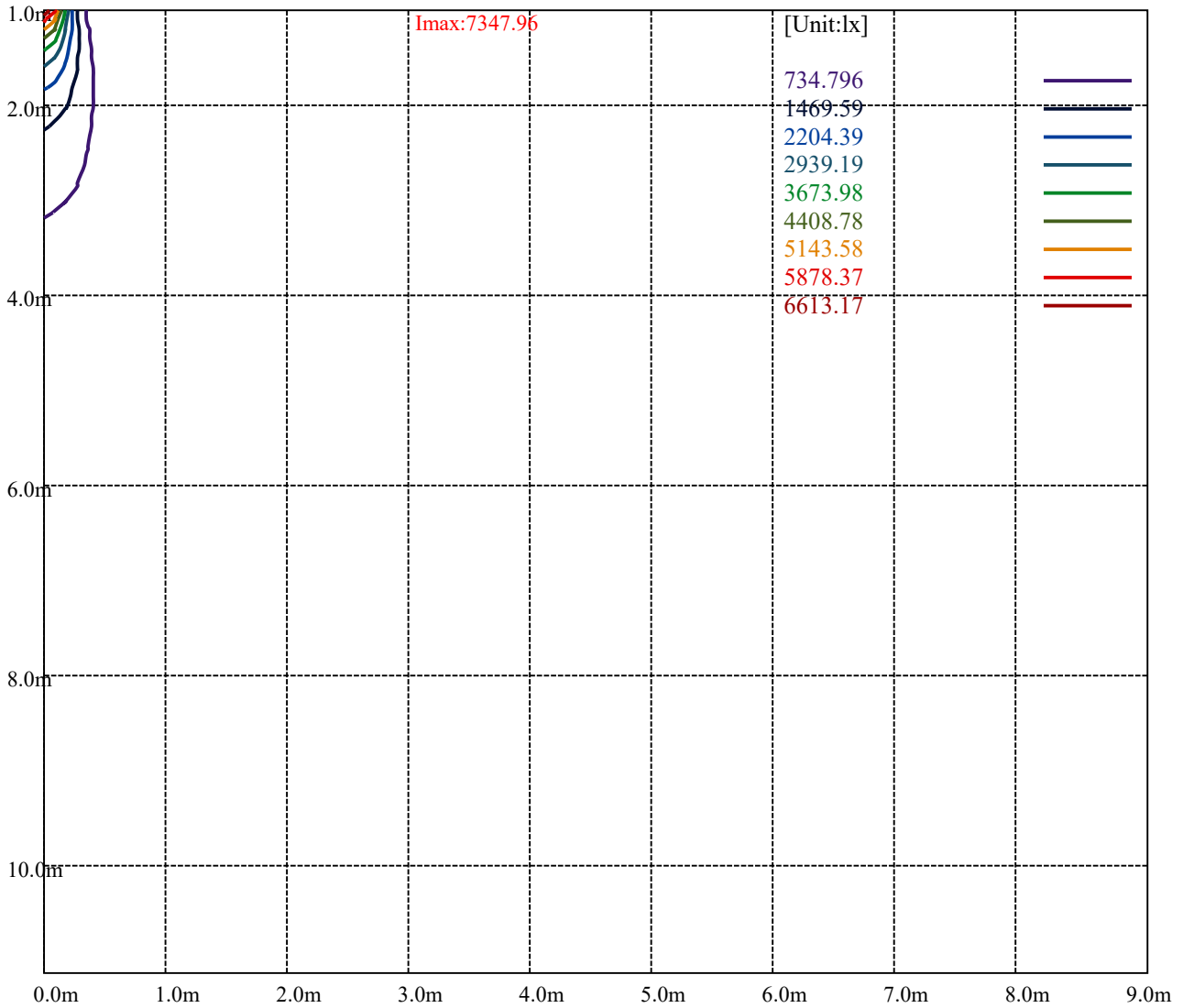
Road

Imax:7347.96

(10%Imax) 734.796	—
(20%Imax) 1469.59	—
(30%Imax) 2204.39	—
(40%Imax) 2939.19	—
(50%Imax) 3673.98	—
(60%Imax) 4408.78	—
(70%Imax) 5143.58	—
(80%Imax) 5878.37	—
(90%Imax) 6613.17	—



- (10%Emax) 11.48116
- (20%Emax) 22.96234
- (30%Emax) 34.44344
- (40%Emax) 45.92453
- (50%Emax) 57.40578
- (60%Emax) 68.88687
- (70%Emax) 80.36797
- (80%Emax) 91.84922
- (90%Emax) 103.3303



Luminance Table

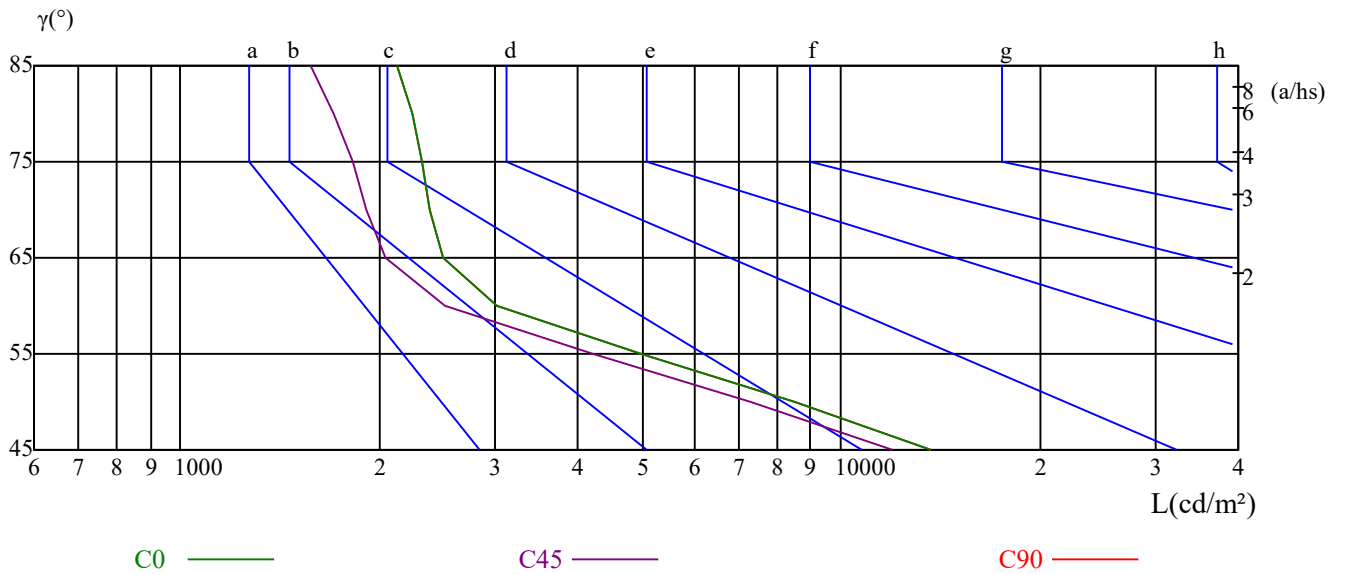
γ	45	50	55	60	65	70	75	80	85
C0	13683	8507	4983	3019	2498	2391	2327	2242	2130
C45	11940	7315	4219	2513	2043	1916	1822	1708	1570
C90	13683	8507	4983	3019	2498	2391	2327	2242	2130

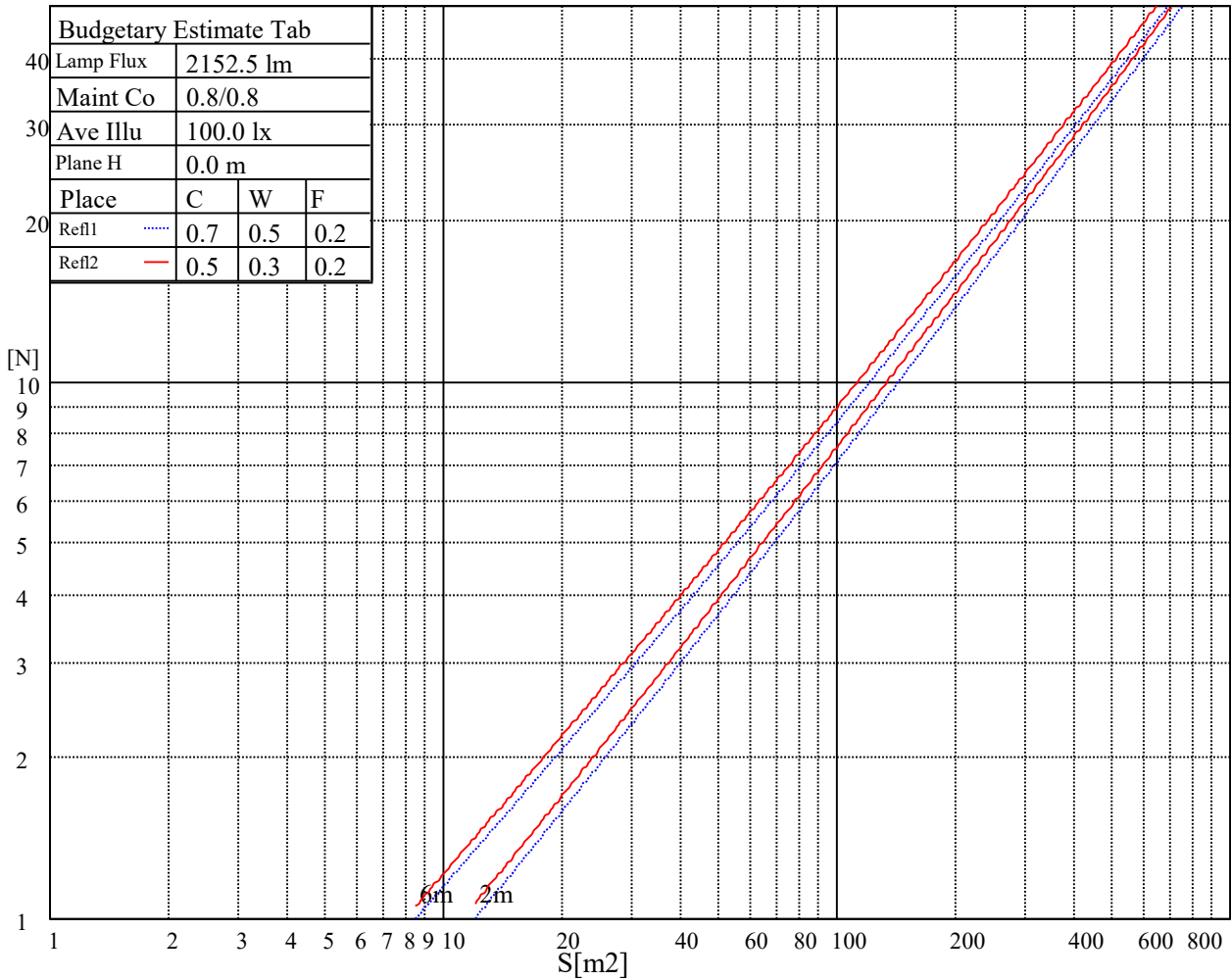
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5414	5414	5414	7055	7055	7055	15385	15385	15385

Glare Table

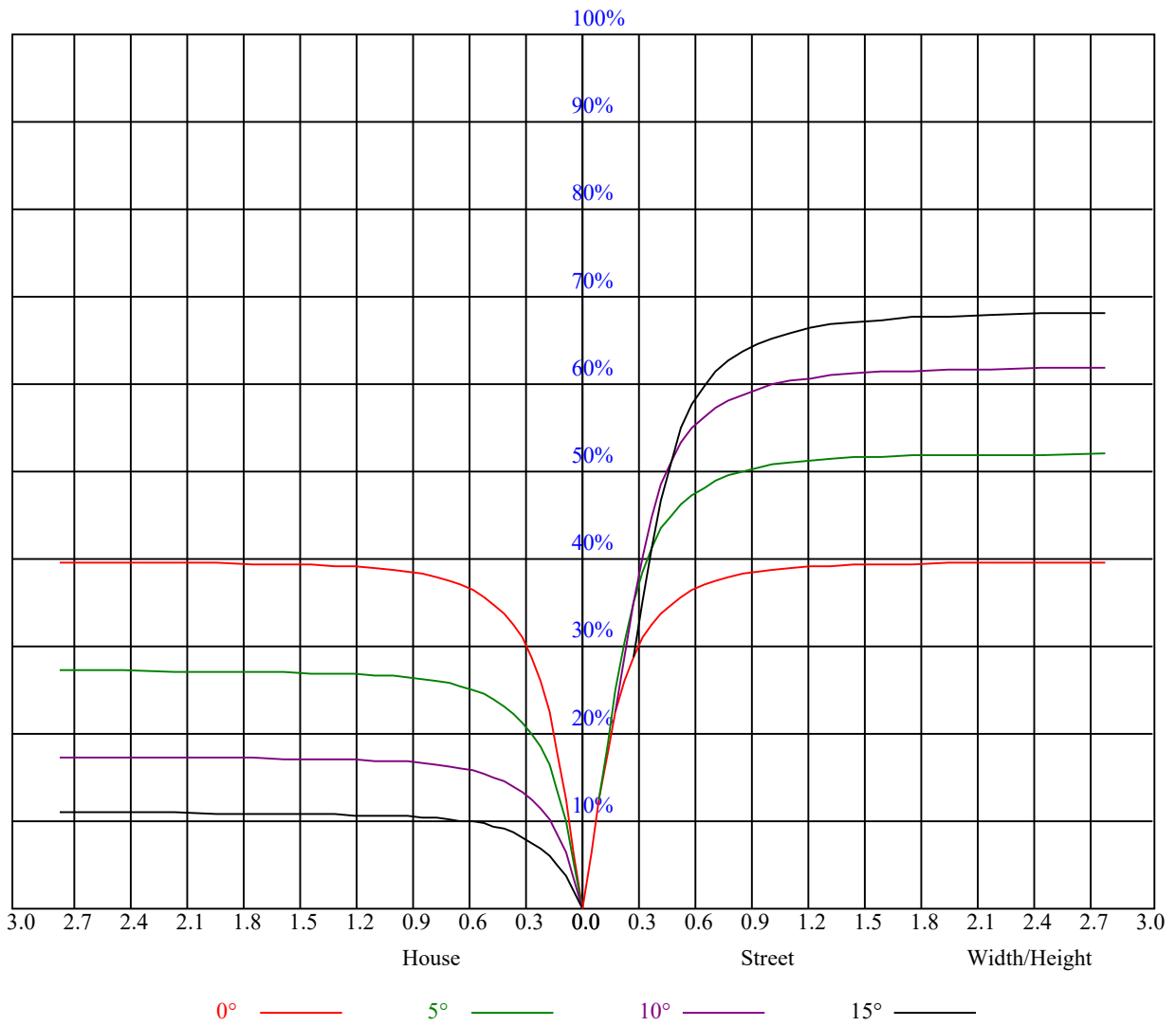
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

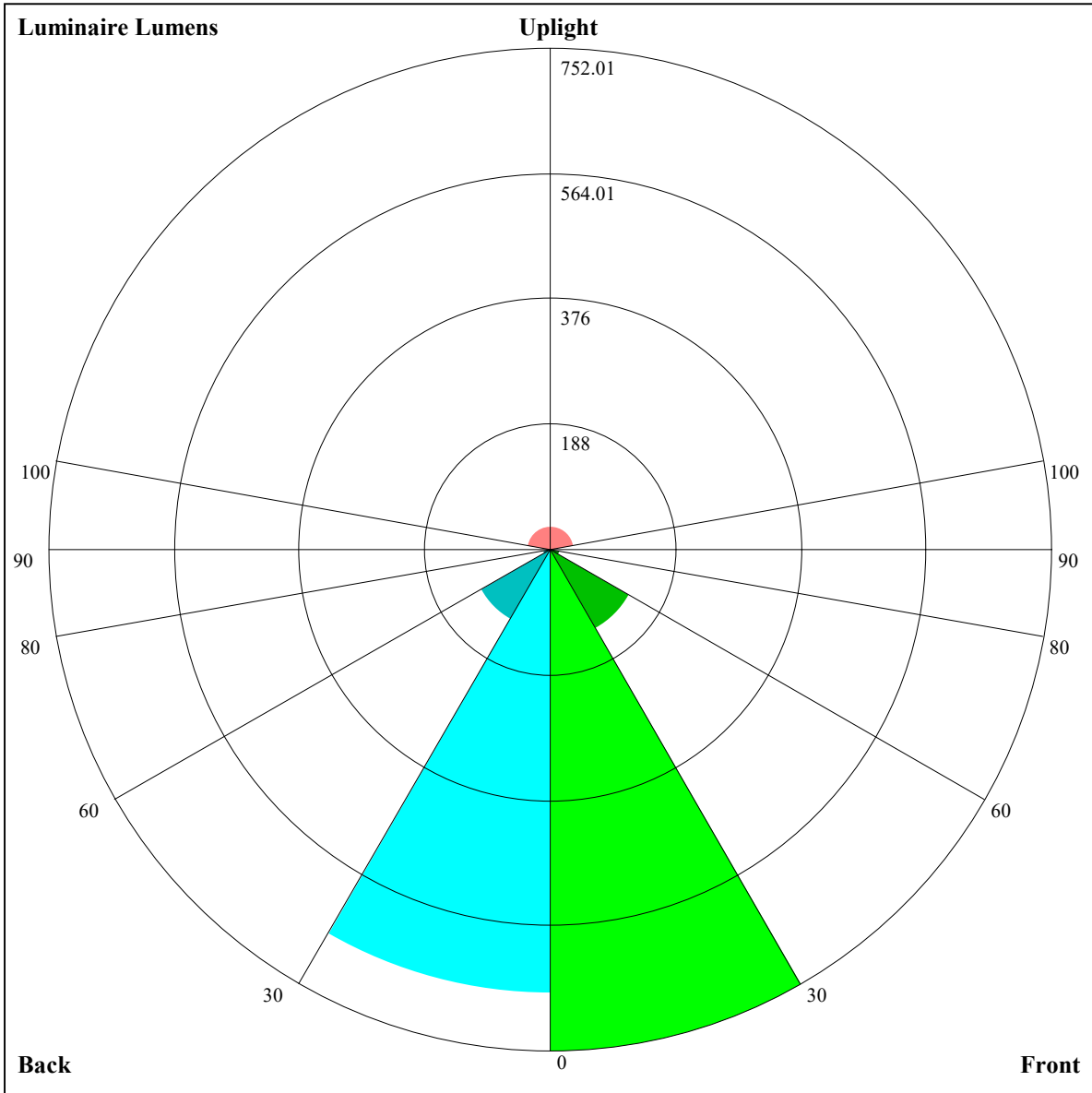
Luminance Limiting Curve





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	0.97	0.97	0.97	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.83	0.83	0.83	0.81
1	0.88	0.86	0.84	0.87	0.85	0.83	0.83	0.82	0.80	0.80	0.79	0.78	0.77	0.76	0.75	0.74
2	0.84	0.81	0.78	0.82	0.79	0.77	0.80	0.77	0.75	0.77	0.75	0.74	0.75	0.74	0.72	0.71
3	0.80	0.76	0.73	0.79	0.75	0.73	0.77	0.74	0.71	0.75	0.72	0.70	0.73	0.71	0.69	0.68
4	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.71	0.68	0.72	0.70	0.67	0.71	0.68	0.67	0.66
5	0.73	0.69	0.66	0.73	0.69	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.69	0.66	0.64	0.63
6	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.61
7	0.68	0.64	0.62	0.68	0.64	0.61	0.67	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	0.66	0.62	0.59	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	0.59	0.57	0.62	0.59	0.57	0.56
10	0.62	0.59	0.56	0.62	0.59	0.56	0.61	0.58	0.56	0.61	0.58	0.56	0.60	0.58	0.56	0.55





Luminaire Lumens:

FL=752.01,FM=137.22,FH=13.68,FVH=4.67

BL=666.56,BM=121.81,BH=13.12,BVH=4.53

UL=7.7,UH=36.63

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	7336.27	6826.44	4871.39	2644.36	1158.94	609.47	412.37	282.99	173.54
45.0	7285.06	6923.34	5128.50	2764.93	1221.15	640.86	427.79	280.79	183.34
90.0	7389.67	6494.45	4263.57	2195.10	961.56	533.22	362.49	231.46	153.44
135.0	7380.86	6466.92	4383.04	2178.58	1005.88	545.61	368.33	280.24	154.76
180.0	7336.27	5981.88	3623.81	1665.46	765.39	476.18	309.86	197.60	131.47
225.0	7285.06	5727.52	3501.04	1576.82	755.65	476.07	314.65	199.74	124.92
270.0	7389.67	6427.28	4187.59	2008.46	906.78	534.60	352.91	223.42	150.85
315.0	7380.86	6363.97	4111.06	1947.90	930.67	532.56	357.04	234.60	153.55
360.0	7336.27	6826.44	4871.39	2644.36	1158.94	609.47	412.37	282.99	173.54
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	110.44	65.85	37.05	21.20	14.98	13.16	11.84	10.35	8.75
45.0	110.50	66.67	37.33	21.25	14.98	13.16	11.84	10.30	8.70
90.0	92.83	57.42	32.43	18.33	14.42	12.83	11.45	9.97	8.31
135.0	92.27	57.04	32.15	18.17	14.20	12.61	11.29	9.80	8.20
180.0	79.12	47.62	27.20	16.46	13.71	12.33	11.01	9.47	8.04
225.0	77.13	45.53	25.27	16.13	13.60	12.22	10.96	9.52	7.98
270.0	91.78	54.62	31.77	17.78	14.42	12.99	11.51	10.13	8.48
315.0	91.94	55.39	30.45	17.07	13.93	12.61	11.29	9.91	8.48
360.0	110.44	65.85	37.05	21.20	14.98	13.16	11.84	10.35	8.75
C/γ(°)	90.0								
0.0	7.10								
45.0	7.16								
90.0	7.05								
135.0	7.05								
180.0	7.05								
225.0	7.05								
270.0	6.99								
315.0	6.99								
360.0	7.10								