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Nata

LumCAT: 2-1682-M
Luminaire: 92.70.125.00
Report No: NATA0100
Test No: GC2018070517
LampCAT: NICHIA NTCWT012B-V3
Lamp flux(lm): 745.0
Number of Lamps: 1
Length(mm): 70
Phm Type: C

Voltage(V): 38.8000
Current(A): 0.2000
Power (W): 7.7600
PF: 0.0000
Ballast type: DC
Width(mm): 70
Height(mm): 0

Photometric Results

Lumens(lm): 662.05
Efficiency(%): 88.87%
Lumens(lm)/Power(W): 85.32
Central intensity(cd): 1709.708
Maximum intensity(cd): 1709.708
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=32.1
[C90/270]Total=32.1
Field angle(10%Imax): [C0/180]Total=66.7
[C90/270]Total=66.7
Maximum s/h(1/2): C0_180=0.53 C90_270=0.53
Maximum s/h(1/4): C0_180=0.55 C90_270=0.55
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.15%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.289%

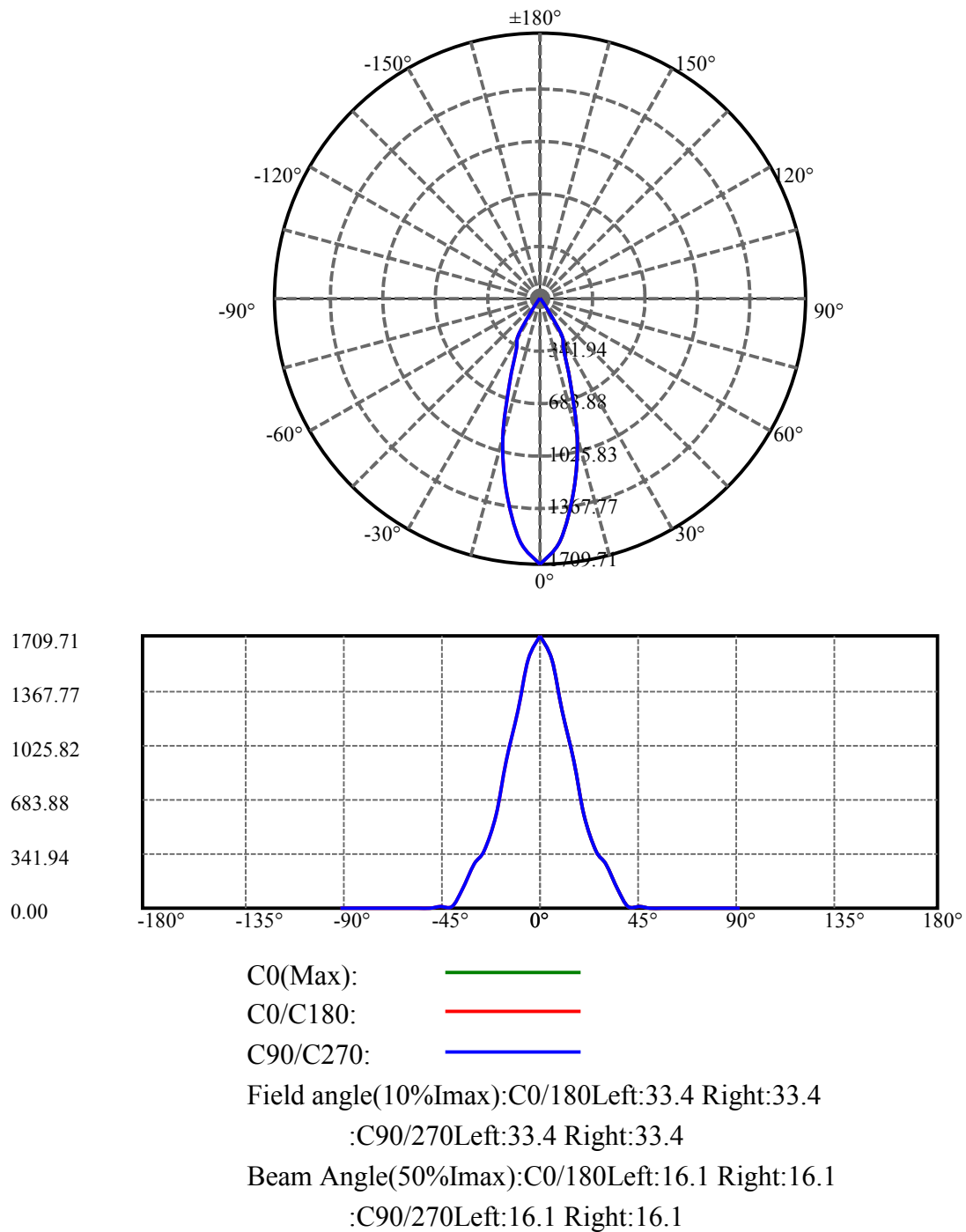
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1709.708	10.224	10.224	1.372%	1.544%
5.0	1558.509	74.455	84.68	9.994%	12.790%
10.0	1245.968	118.595	203.275	15.919%	30.704%
15.0	928.492	131.724	334.998	17.681%	50.600%
20.0	579.964	108.728	443.726	14.594%	67.023%
25.0	364.721	84.489	528.215	11.341%	79.785%
30.0	272.853	74.780	602.995	10.038%	91.080%
35.0	121.179	38.099	641.094	5.114%	96.834%
40.0	12.642	4.454	645.548	.598%	97.507%
45.0	6.049	2.345	647.893	.315%	97.861%
50.0	4.886	2.052	649.945	.275%	98.171%
55.0	4.054	1.820	651.765	.244%	98.446%
60.0	3.517	1.669	653.434	.224%	98.698%
65.0	3.152	1.566	655	.210%	98.935%
70.0	2.987	1.538	656.539	.207%	99.167%
75.0	2.932	1.552	658.091	.208%	99.402%
80.0	2.925	1.579	659.67	.212%	99.640%
85.0	2.918	1.593	661.263	.214%	99.881%
90.0	2.877	0.788	662.051	.106%	100.000%

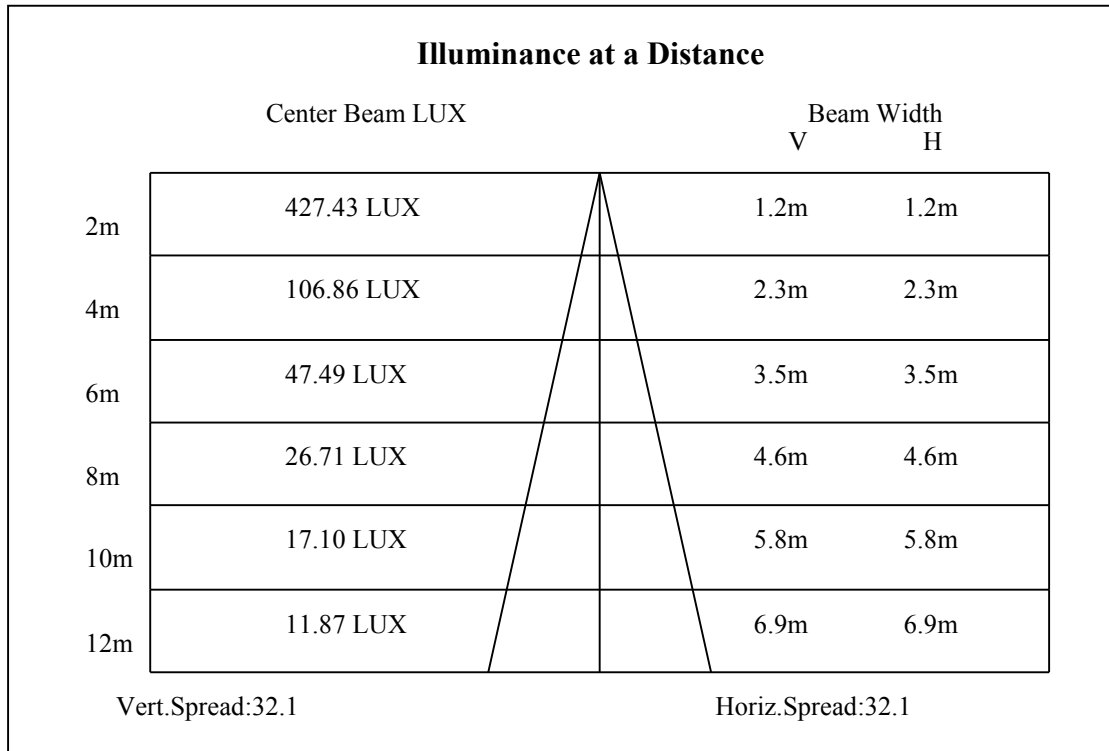
ZONAL LUMEN SUMMARY

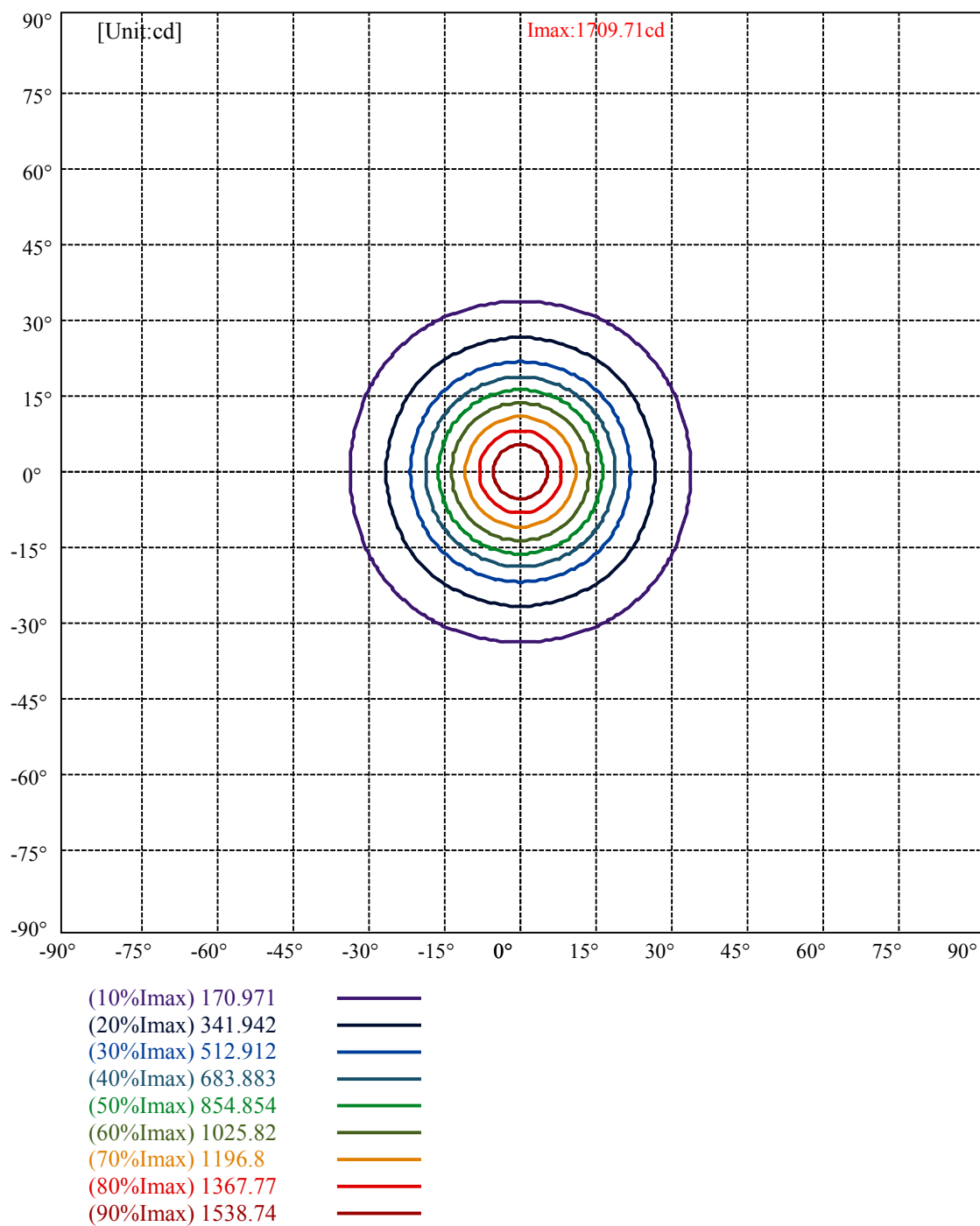
Zone	Lumens	%Lamp	%Fixt
0-30	603.00	80.94%	91.08%
0-40	645.55	86.65%	97.51%
0-60	653.43	87.71%	98.70%
0-90	661.26	88.76%	99.88%
0-120	661.26	88.76%	99.88%
0-180	662.05	88.87%	100.00%
60-90	9.50	1.27%	1.43%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-25.10	529.64	71.09%	80.00%

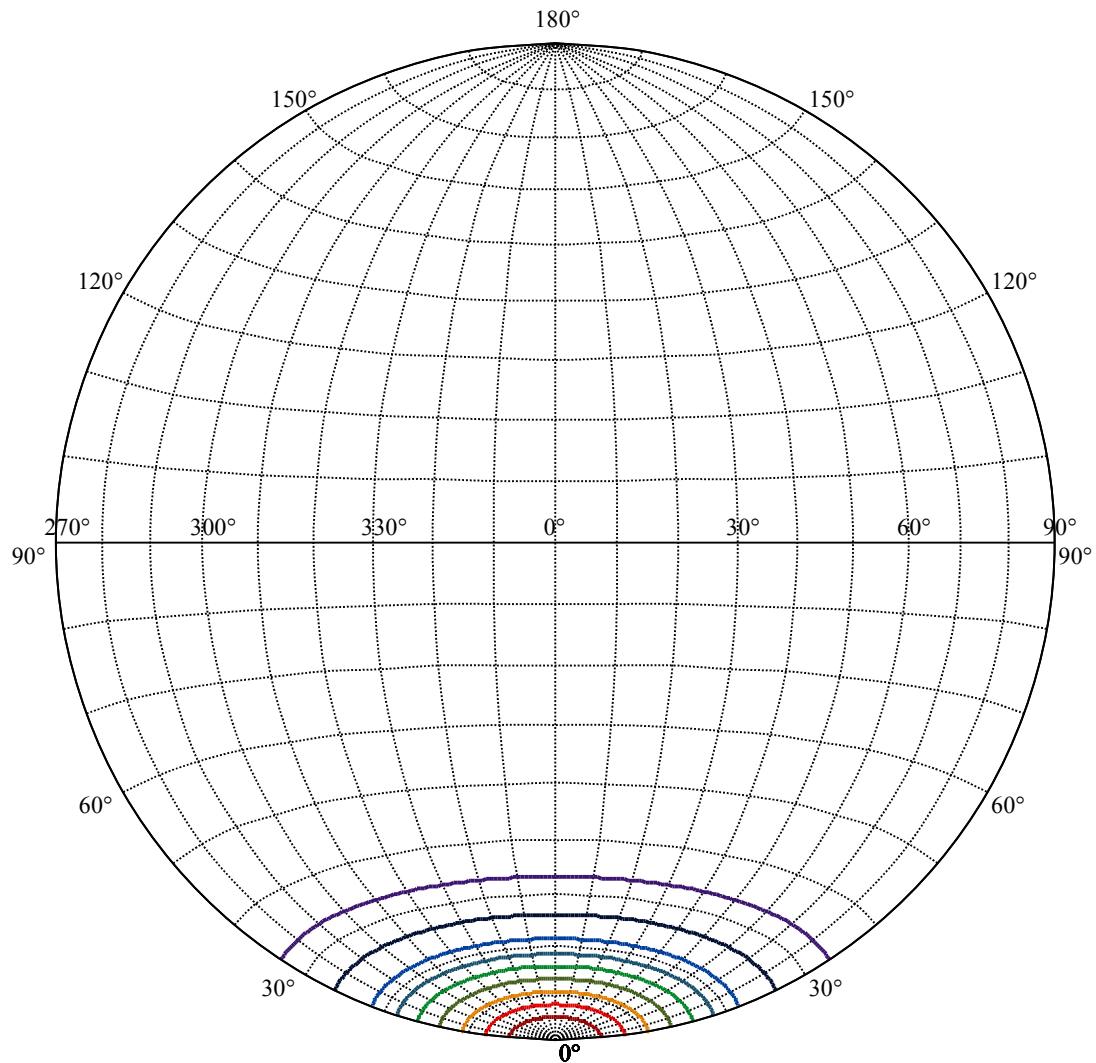
ZONAL LUMEN SUMMARY

0-10	203.27
10-20	240.45
20-30	159.27
30-40	42.55
40-50	4.40
50-60	3.49
60-70	3.10
70-80	3.13
80-90	1.59
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









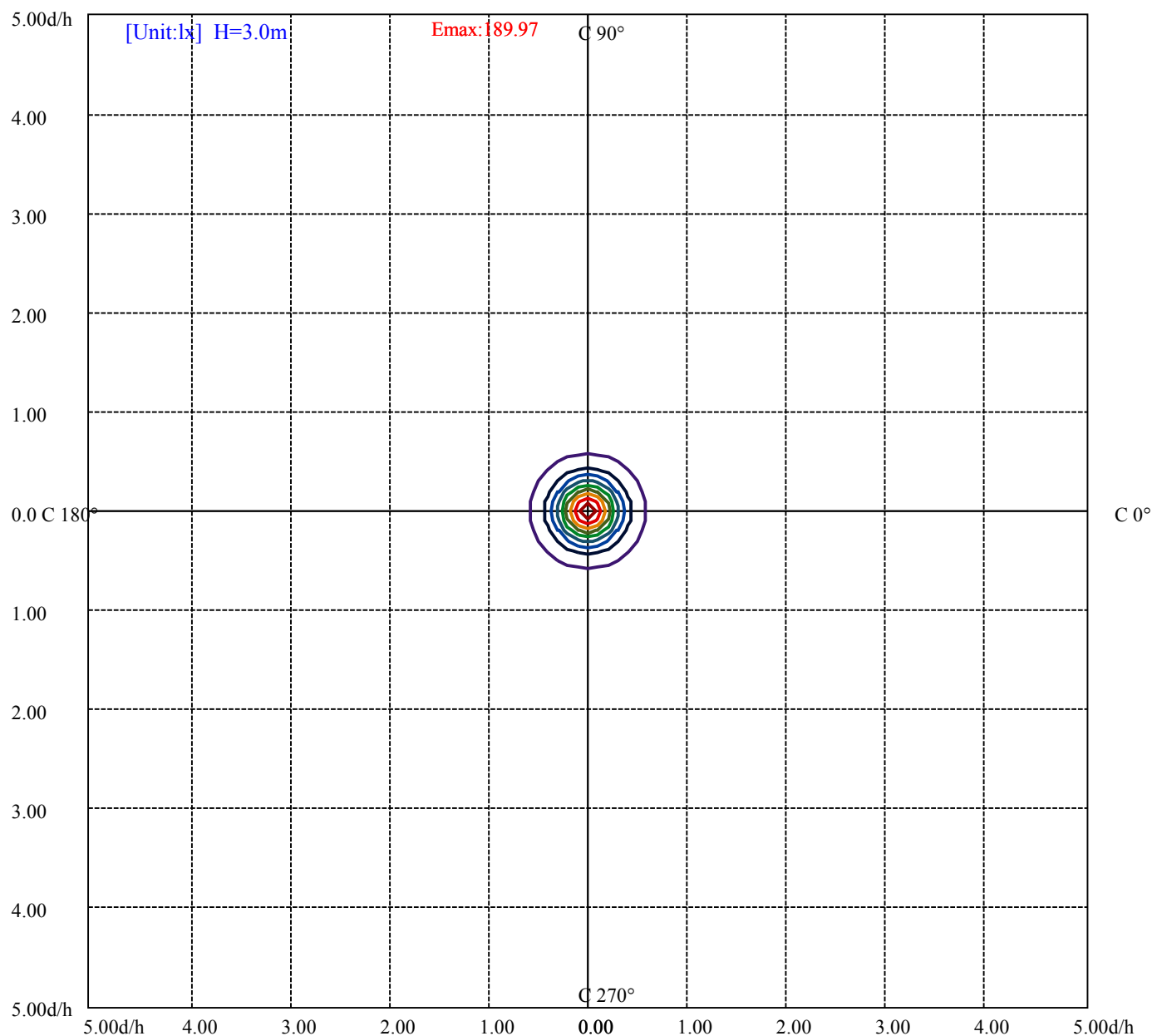
House

[Unit:cd]

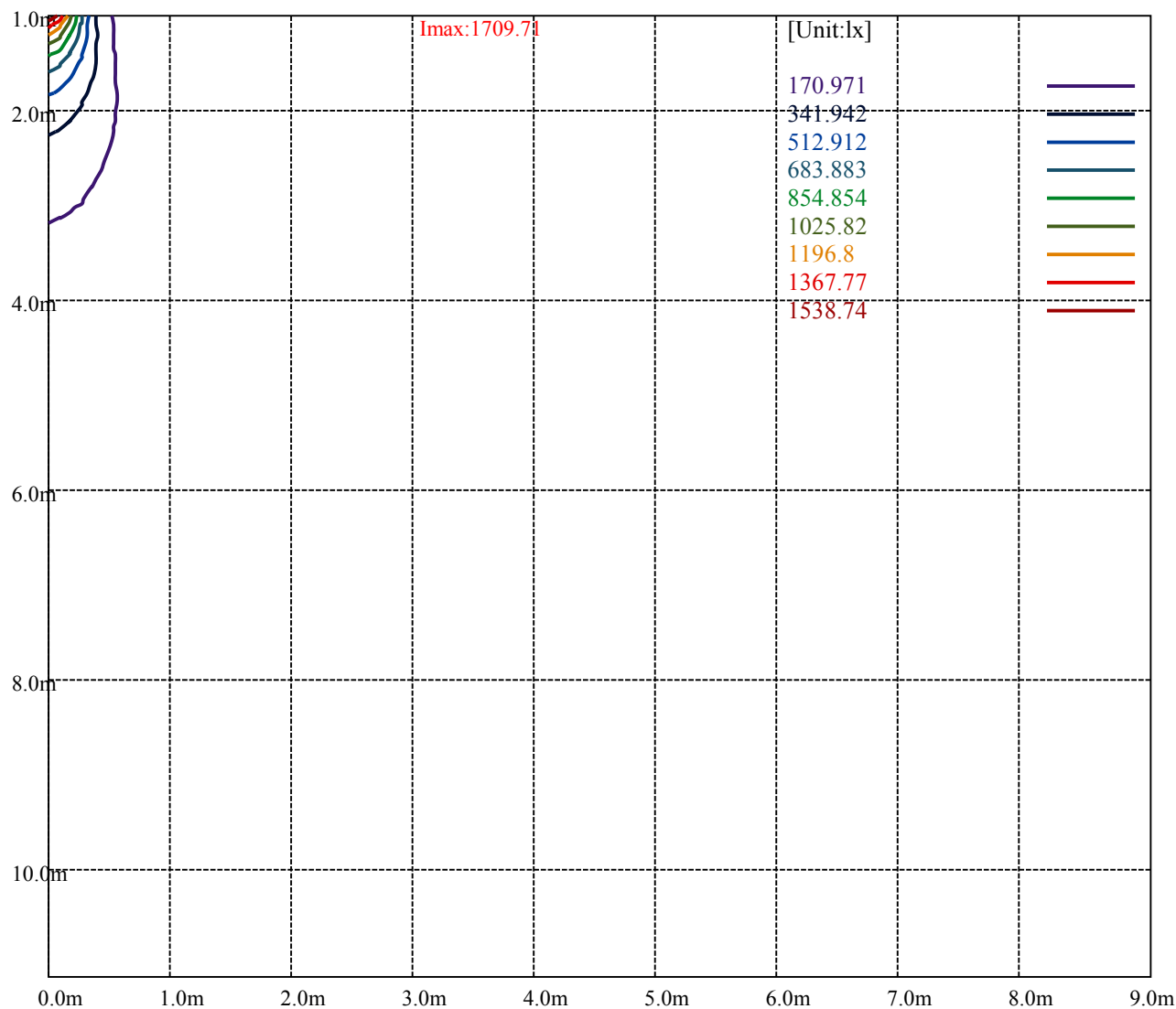
Road

I_{max}:1709.71

(10%I _{max}) 170.971	—
(20%I _{max}) 341.942	—
(30%I _{max}) 512.912	—
(40%I _{max}) 683.883	—
(50%I _{max}) 854.854	—
(60%I _{max}) 1025.82	—
(70%I _{max}) 1196.8	—
(80%I _{max}) 1367.77	—
(90%I _{max}) 1538.74	—



(10%Emax)	18.99667	—
(20%Emax)	37.99345	—
(30%Emax)	56.99011	—
(40%Emax)	75.98678	—
(50%Emax)	94.98355	—
(60%Emax)	113.98	—
(70%Emax)	132.9767	—
(80%Emax)	151.9733	—
(90%Emax)	170.97	—



Luminance Table

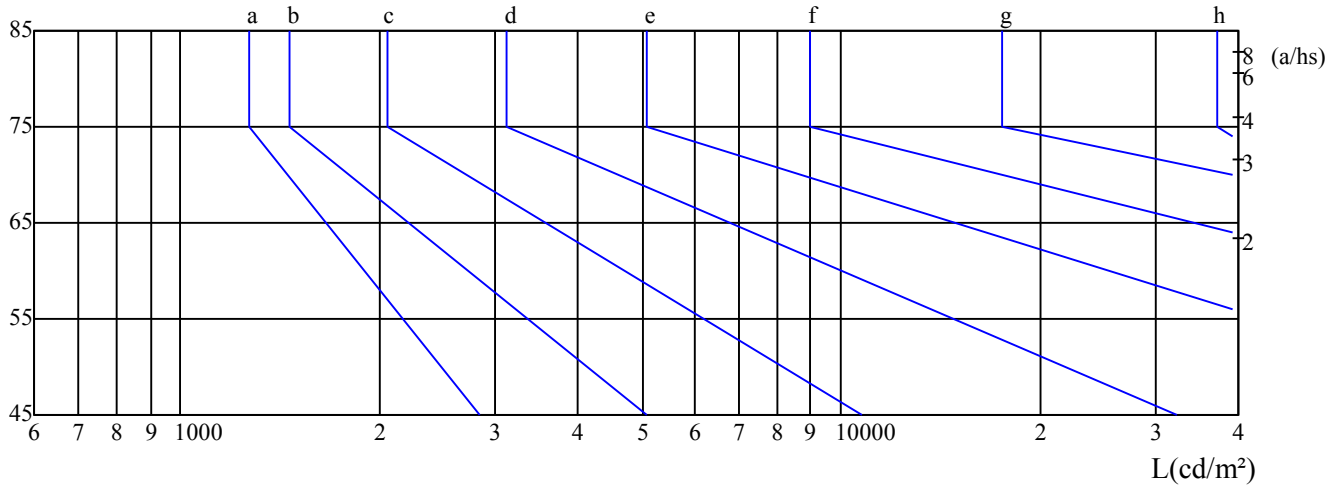
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

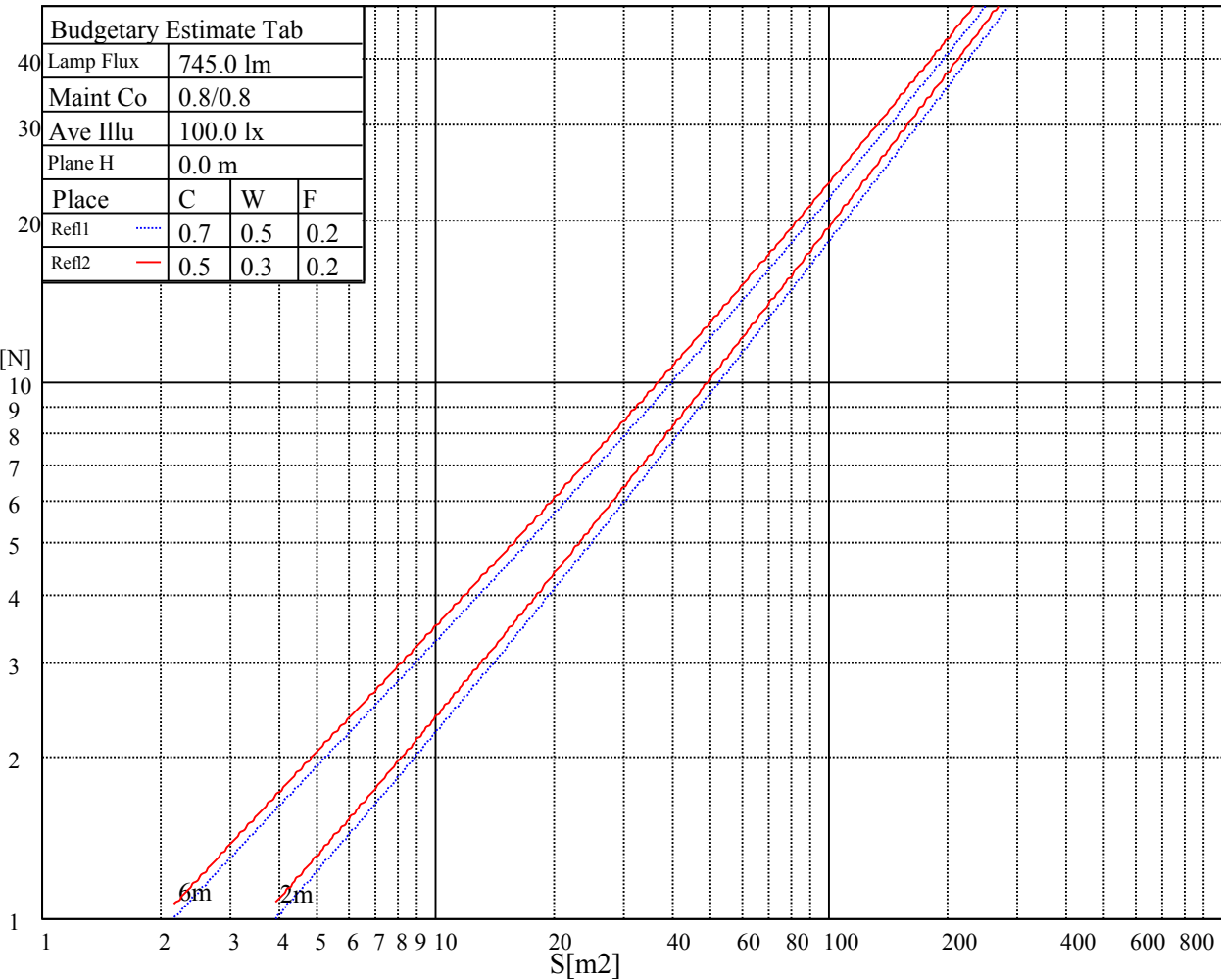
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

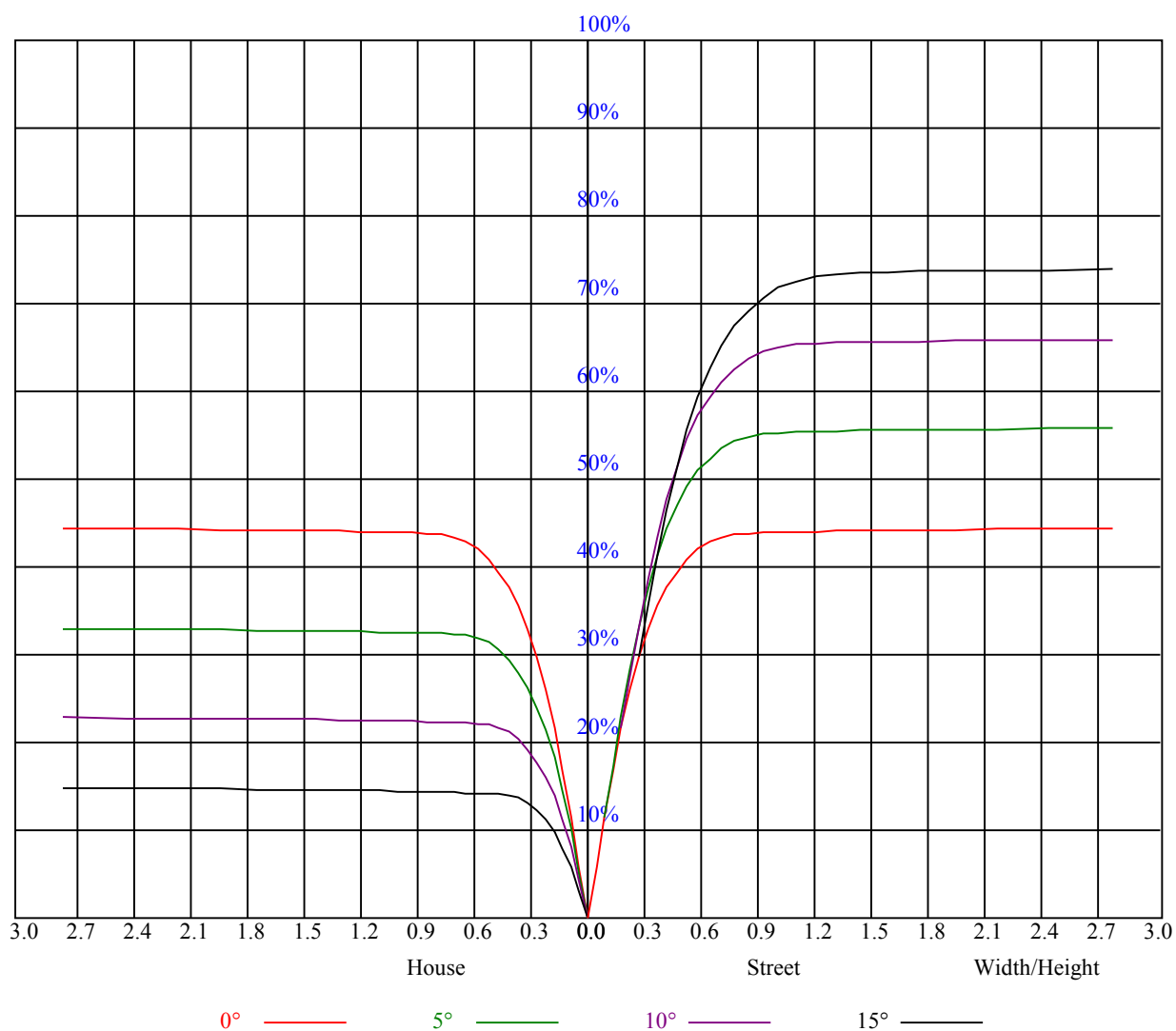
C0 ———

C45 ———

C90 ———



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	1.07	1.07	1.07	1.05	1.05	1.05	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	0.99	0.97	0.95	0.97	0.95	0.93	0.94	0.92	0.90	0.90	0.89	0.88	0.87	0.86	0.85	0.83
2	0.94	0.90	0.88	0.92	0.89	0.87	0.89	0.87	0.85	0.87	0.85	0.83	0.84	0.83	0.81	0.80
3	0.89	0.85	0.82	0.88	0.84	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.76
4	0.85	0.81	0.78	0.84	0.80	0.77	0.82	0.79	0.76	0.81	0.78	0.75	0.79	0.77	0.75	0.73
5	0.81	0.77	0.74	0.81	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.72	0.76	0.74	0.72	0.71
6	0.78	0.74	0.71	0.77	0.73	0.70	0.76	0.73	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.68
7	0.75	0.71	0.68	0.75	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.65
8	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.63
9	0.70	0.66	0.63	0.69	0.65	0.63	0.69	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.61
10	0.67	0.63	0.61	0.67	0.63	0.60	0.66	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.59



Nata 2-1682-M

Intensity data(cd)										Appendix Page: 14 Total:14	
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	1716.66	1568.56	1298.78	948.62	595.16	359.52	280.79	132.47	12.83		
45.0	1698.49	1621.41	1348.33	1029.55	672.24	404.66	292.35	175.74	16.30		
90.0	1712.80	1577.92	1297.68	961.78	614.81	393.10	277.98	146.95	13.16		
135.0	1711.15	1637.38	1343.93	991.57	654.07	422.28	295.10	182.40	16.96		
180.0	1716.11	1552.04	1255.84	934.36	579.25	360.95	264.60	114.24	12.00		
225.0	1698.49	1481.57	1088.58	815.05	489.45	324.23	246.16	58.75	9.86		
270.0	1712.80	1521.21	1239.32	894.12	537.35	336.95	278.03	89.63	9.97		
315.0	1711.15	1507.99	1095.29	852.88	497.38	316.08	247.81	69.26	10.08		
360.0	1716.66	1568.56	1298.78	948.62	595.16	359.52	280.79	132.47	12.83		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	6.00	5.01	4.07	3.52	3.14	2.97	2.92	2.92	2.92		
45.0	6.94	5.23	4.35	3.74	3.30	3.08	2.97	2.97	3.03		
90.0	6.72	5.12	4.18	3.63	3.19	2.97	2.92	2.92	2.92		
135.0	6.44	5.12	4.24	3.63	3.25	3.03	2.92	2.92	2.92		
180.0	5.89	4.79	4.02	3.47	3.08	2.97	2.92	2.86	2.86		
225.0	5.51	4.62	3.91	3.41	3.14	2.97	2.97	2.97	2.92		
270.0	5.45	4.57	3.85	3.41	3.08	2.97	2.92	2.92	2.92		
315.0	5.45	4.62	3.80	3.30	3.03	2.92	2.92	2.92	2.86		
360.0	6.00	5.01	4.07	3.52	3.14	2.97	2.92	2.92	2.92		
C/γ(°)	90.0										
0.0	2.86										
45.0	2.92										
90.0	2.86										
135.0	2.86										
180.0	2.86										
225.0	2.92										
270.0	2.86										
315.0	2.86										
360.0	2.86										