
Nata

LumCAT: 2-1680-M	
Luminaire: 92.70.132.00	
Report No: NT2017122506	Voltage(V): 35.0000
Test No: GC2017122506	Current(A): 0.3500
LampCAT: NICHIA NFCWL036B-V2	Power (W): 12.2500
Lamp flux(lm): 1719.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 70	Width(mm): 70
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1526.31
Efficiency(%): 88.79%
Lumens(lm)/Power(W): 124.60
Central intensity(cd): 5759.174
Maximum intensity(cd): 5759.174
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=23.3
[C90/270]Total=23.3
Field angle(10%Imax): [C0/180]Total=56.4
[C90/270]Total=56.4
Maximum s/h(1/2): C0_180=0.40 C90_270=0.40
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(%): 88.79%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.500%

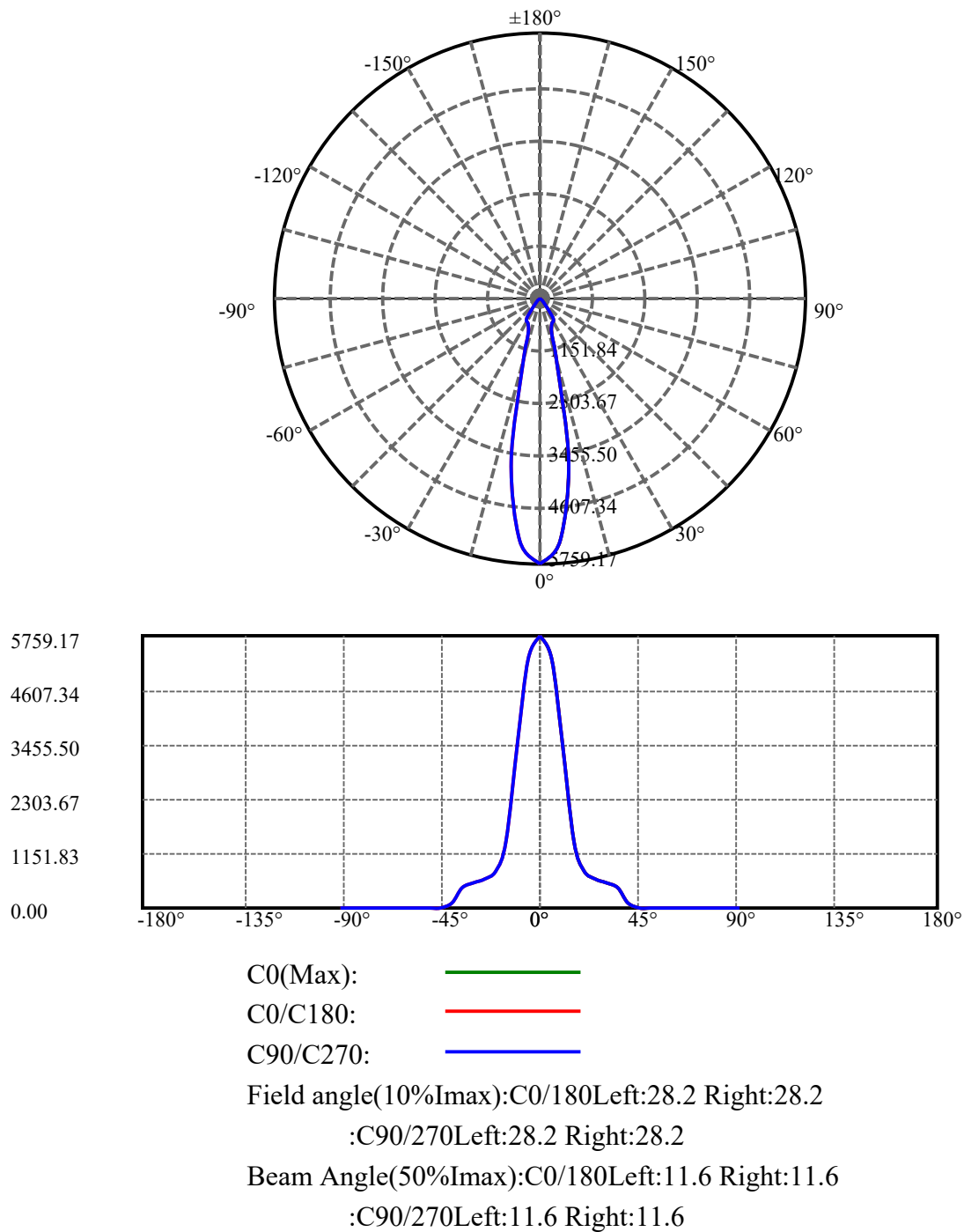
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5759.175	0.000	0	.000%	.000%
5.0	5252.862	131.646	131.646	7.658%	8.625%
10.0	3587.062	316.232	447.878	18.396%	29.344%
15.0	1441.349	298.282	746.16	17.352%	48.887%
20.0	802.977	184.964	931.124	10.760%	61.005%
25.0	617.843	149.018	1080.141	8.669%	70.768%
30.0	552.174	148.067	1228.208	8.614%	80.469%
35.0	446.514	147.064	1375.272	8.555%	90.104%
40.0	109.604	92.784	1468.056	5.398%	96.183%
45.0	12.346	22.580	1490.636	1.314%	97.663%
50.0	10.137	4.543	1495.179	.264%	97.960%
55.0	9.126	4.188	1499.368	.244%	98.235%
60.0	8.375	4.045	1503.413	.235%	98.500%
65.0	7.797	3.932	1507.345	.229%	98.757%
70.0	7.419	3.853	1511.197	.224%	99.010%
75.0	7.150	3.808	1515.006	.222%	99.259%
80.0	6.985	3.782	1518.788	.220%	99.507%
85.0	6.896	3.772	1522.56	.219%	99.754%
90.0	6.799	3.750	1526.31	.218%	100.000%

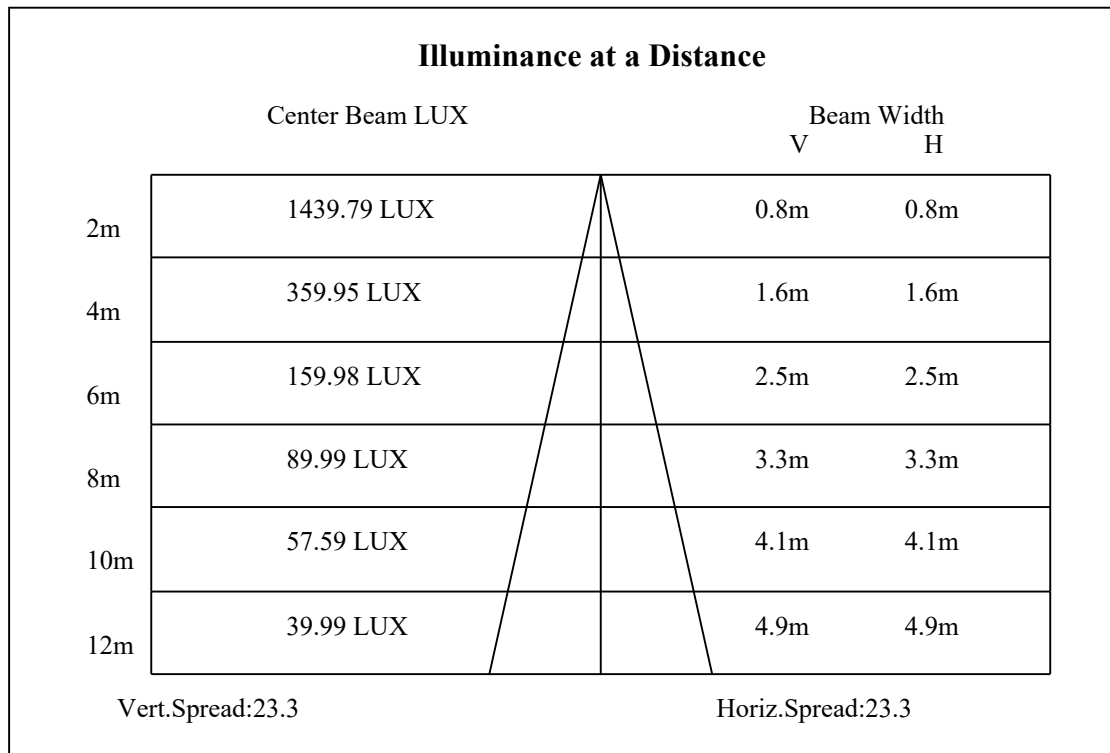
ZONAL LUMEN SUMMARY

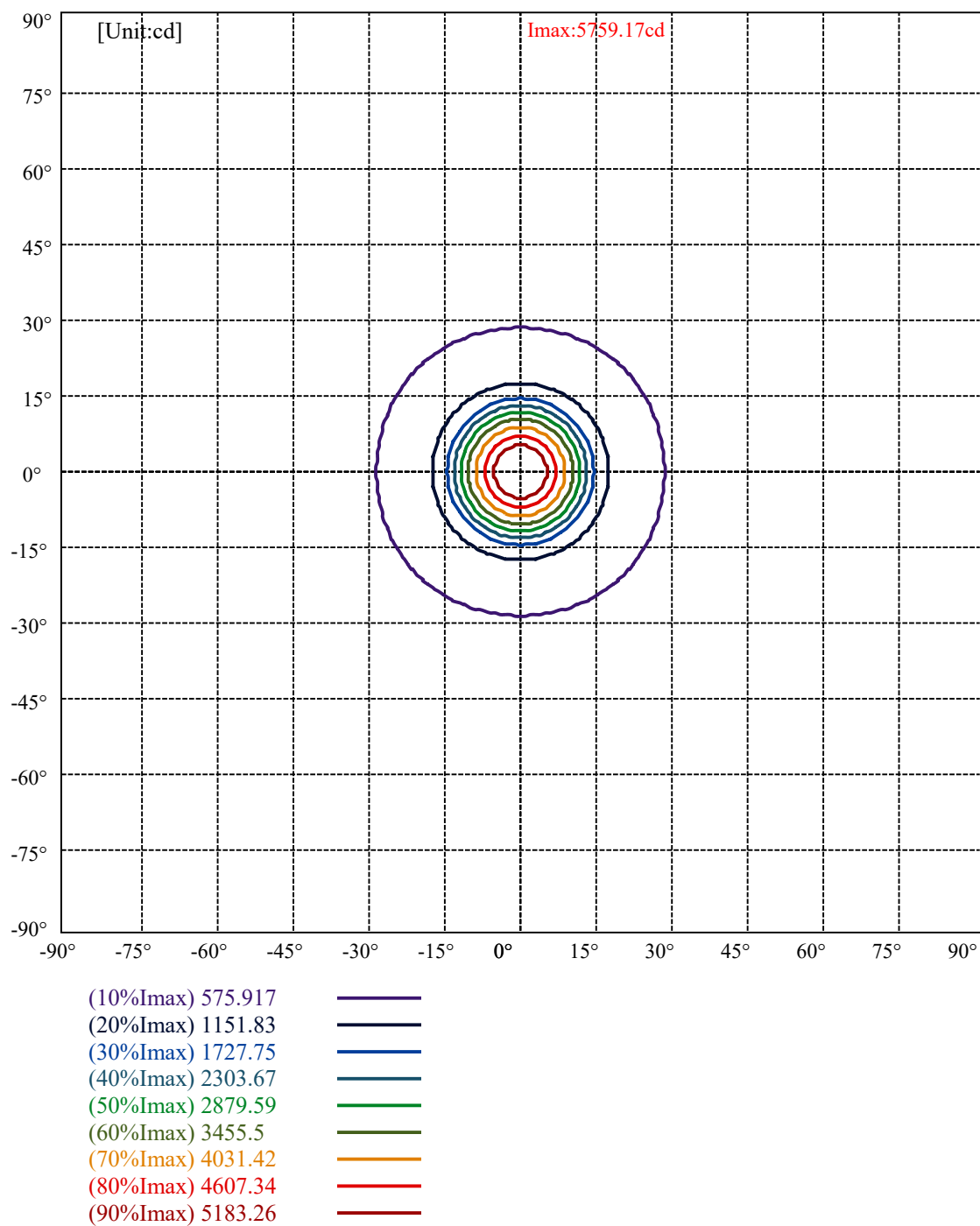
Zone	Lumens	%Lamp	%Fixt
0-30	1228.21	71.45%	80.47%
0-40	1468.06	85.40%	96.18%
0-60	1503.41	87.46%	98.50%
0-90	1522.56	88.57%	99.75%
0-120	1522.56	88.57%	99.75%
0-180	1526.31	88.79%	100.00%
60-90	23.19	1.35%	1.52%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-29.76	1221.05	71.03%	80.00%

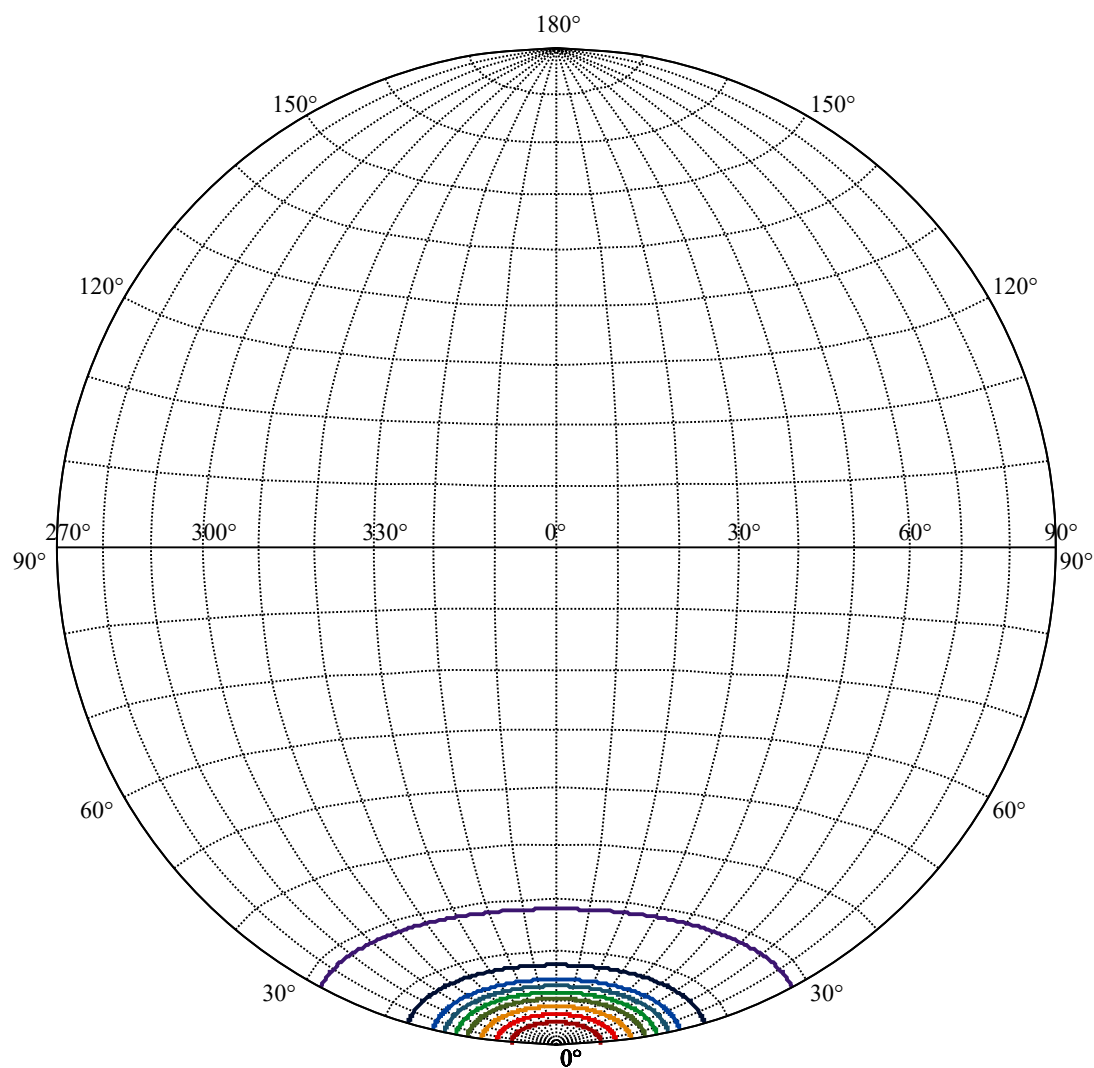
ZONAL LUMEN SUMMARY

0-10	447.88
10-20	483.25
20-30	297.08
30-40	239.85
40-50	27.12
50-60	8.23
60-70	7.78
70-80	7.59
80-90	3.77
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

Imax:5759.17

(10%Imax) 575.917

(20%Imax) 1151.83

(30%Imax) 1727.75

(40%Imax) 2303.67

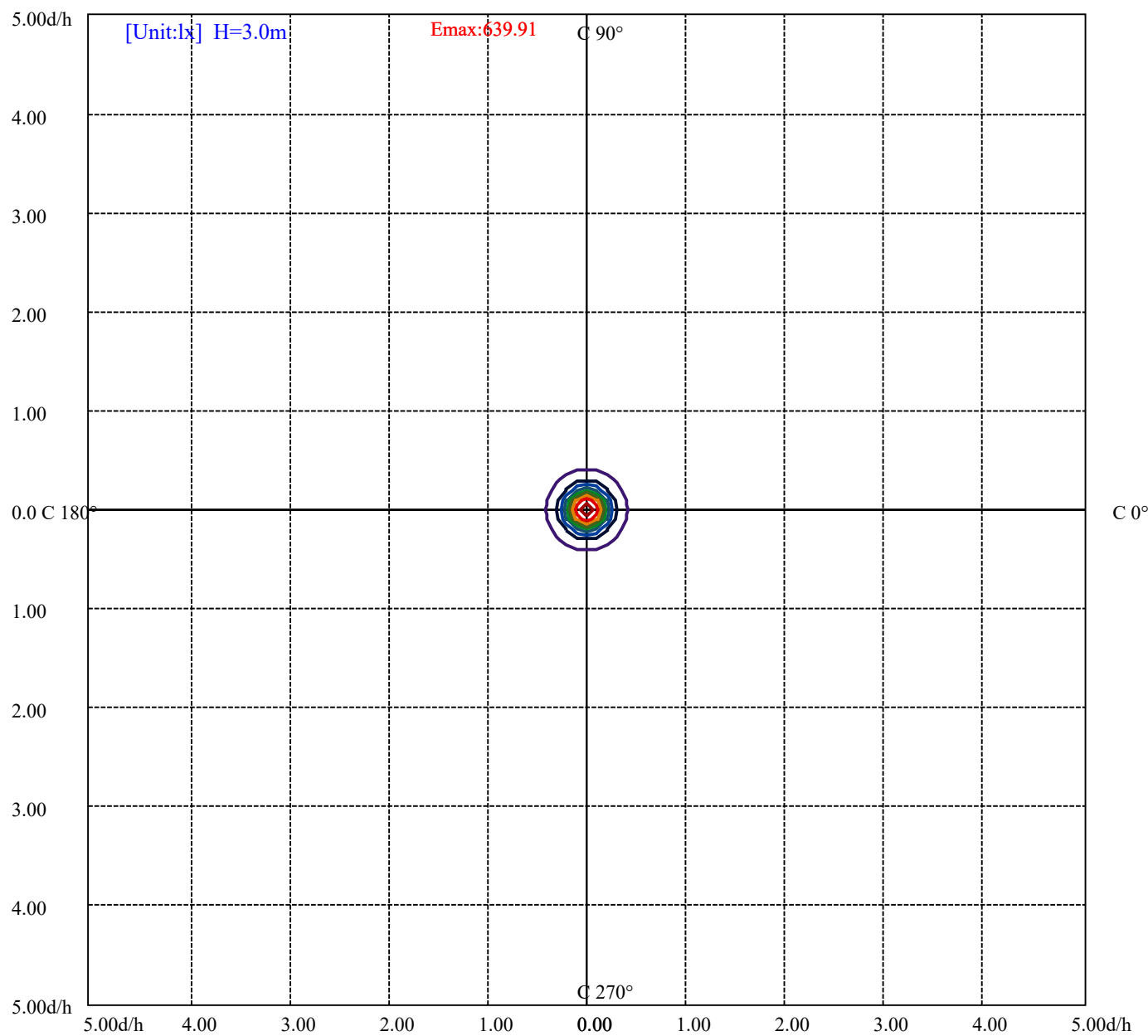
(50%Imax) 2879.59

(60%Imax) 3455.5

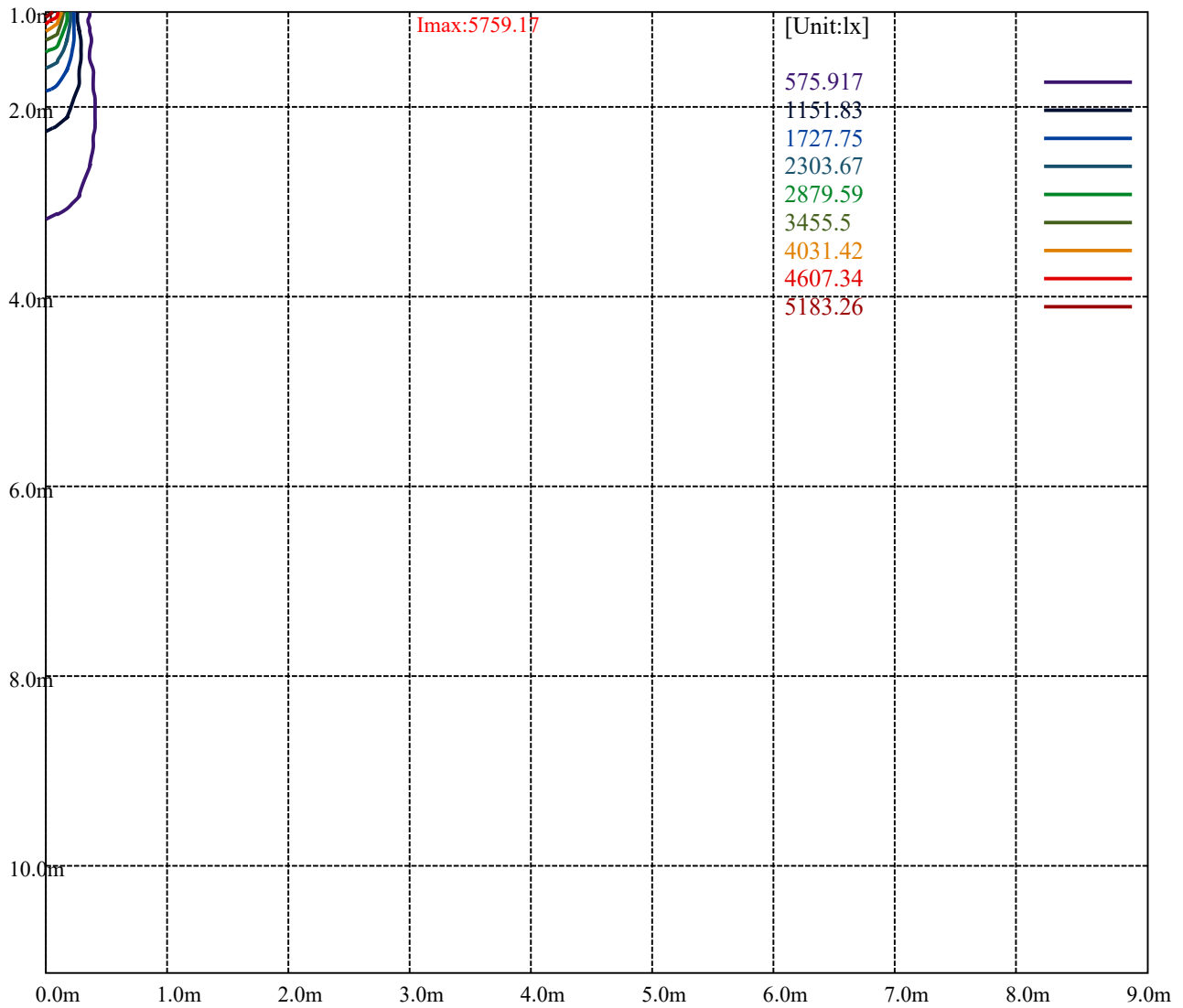
(70%Imax) 4031.42

(80%Imax) 4607.34

(90%Imax) 5183.26



(10%Emax) 63.99067	—
(20%Emax) 127.9811	—
(30%Emax) 191.9722	—
(40%Emax) 255.9622	—
(50%Emax) 319.9533	—
(60%Emax) 383.9445	—
(70%Emax) 447.9344	—
(80%Emax) 511.9256	—
(90%Emax) 575.9156	—



Luminance Table

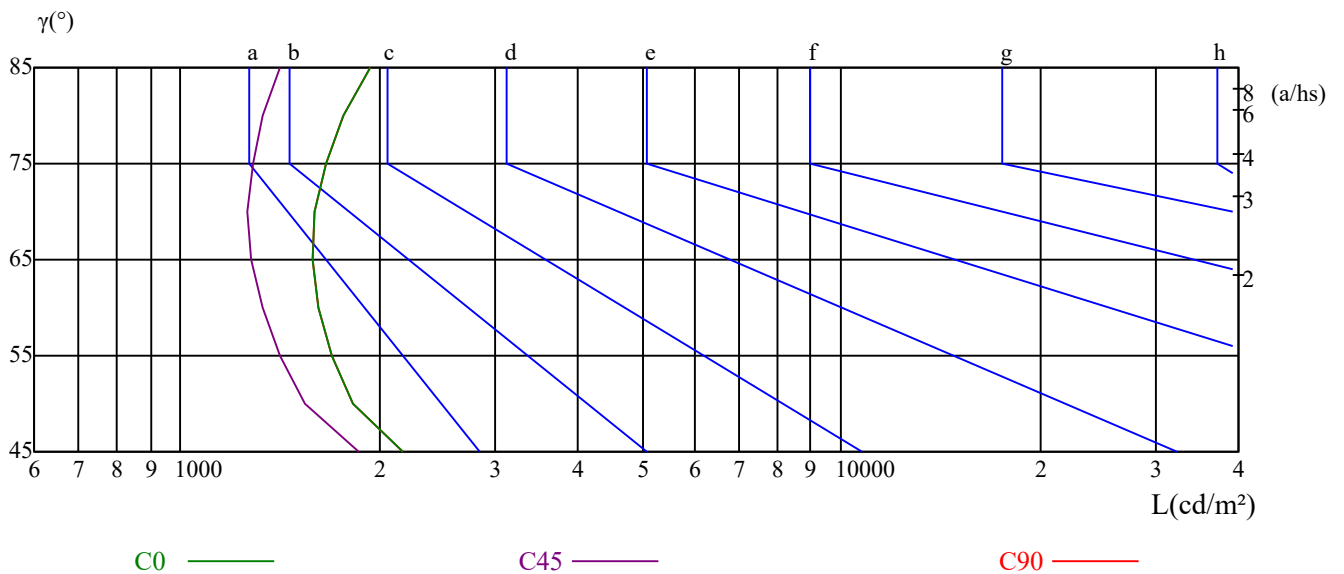
γ	45	50	55	60	65	70	75	80	85
C0	2169	1822	1693	1618	1583	1600	1659	1767	1934
C45	1866	1545	1413	1328	1277	1266	1283	1334	1417
C90	2169	1822	1693	1618	1583	1600	1659	1767	1934

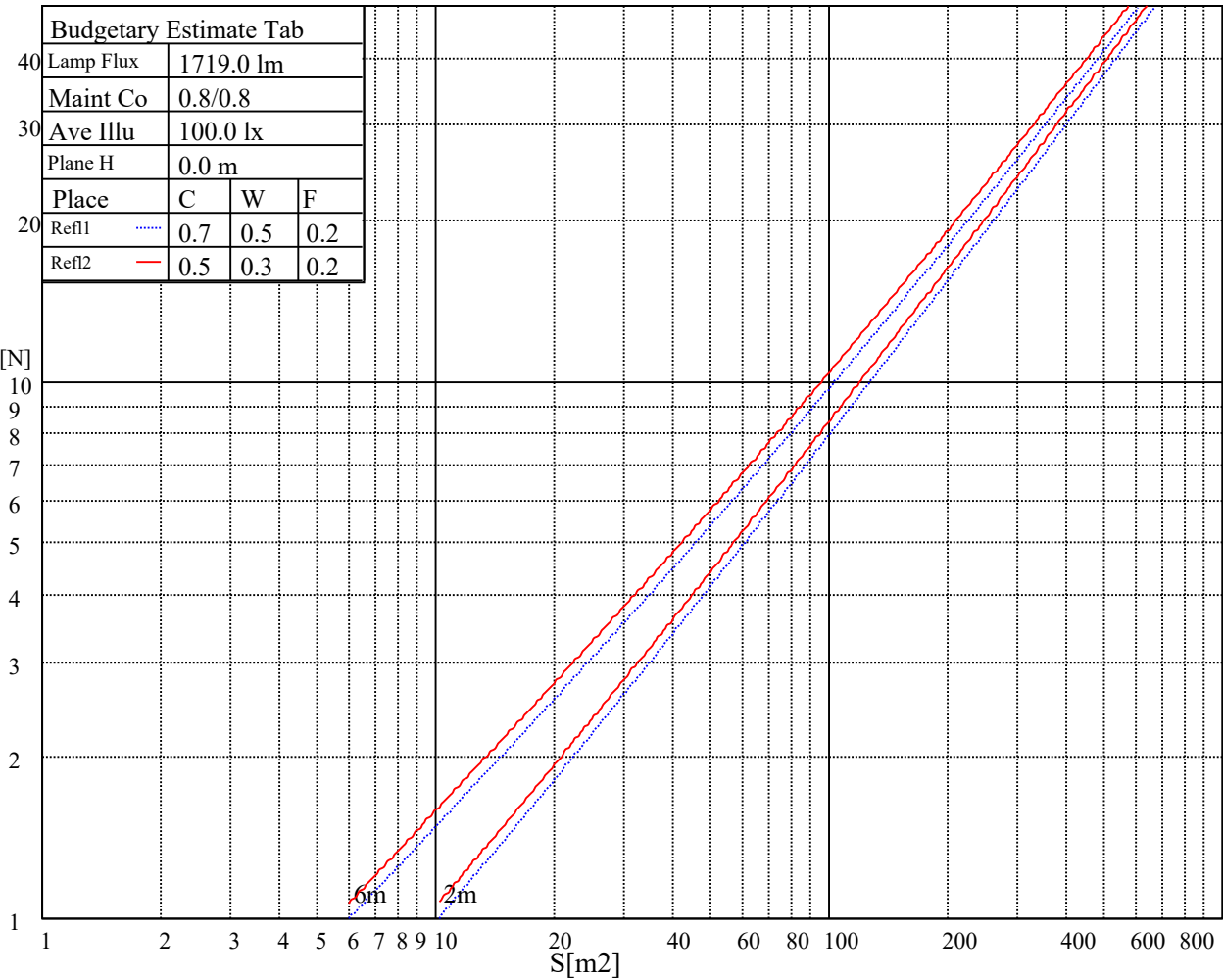
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3765	3765	3765	5638	5638	5638	16147	16147	16147

Glare Table

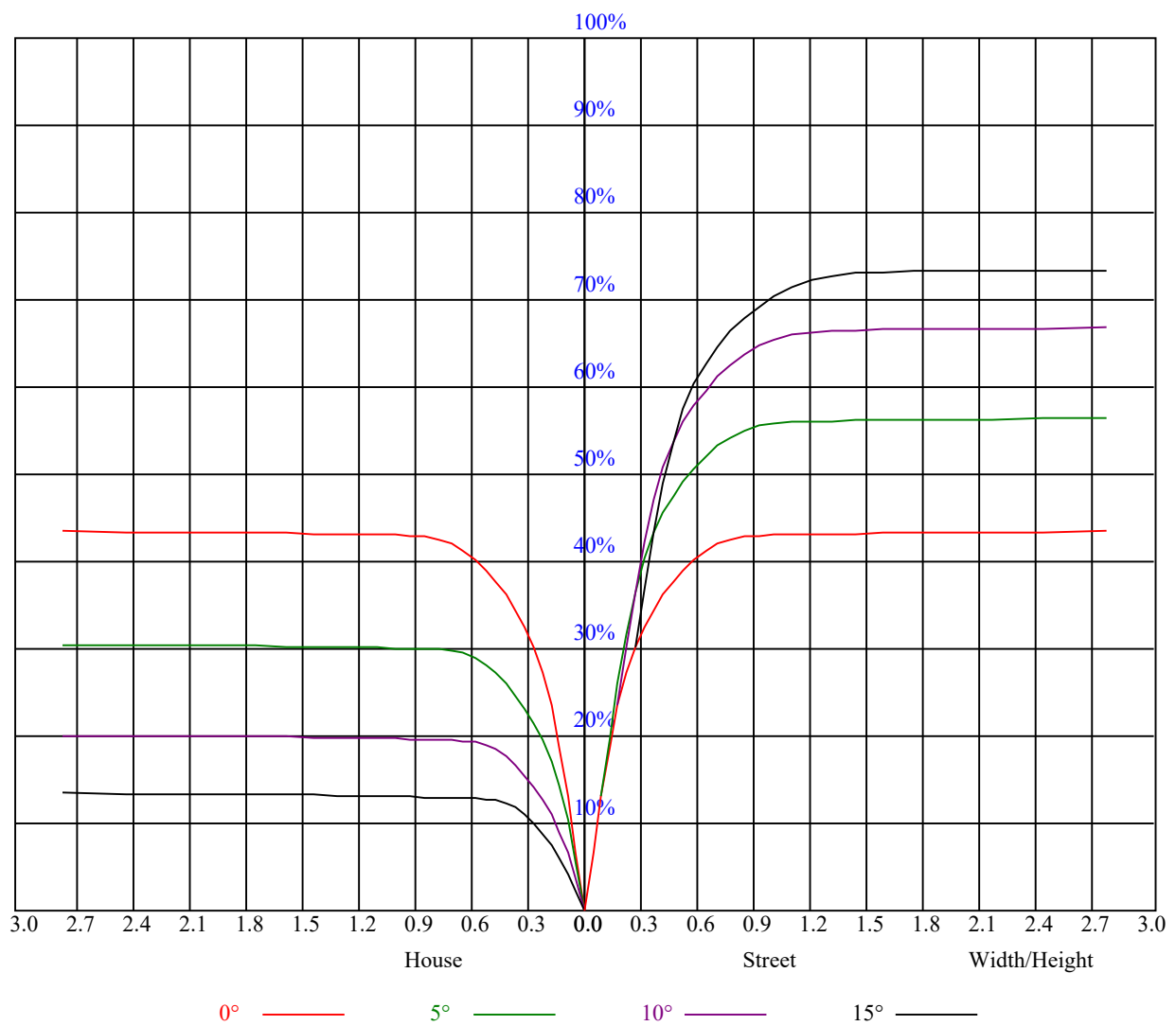
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





RHOC	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 RHOF=20 CU															
0	1.06	1.06	1.06	1.03	1.03	1.03	0.99	0.99	0.99	0.94	0.94	0.94	0.91	0.91	0.91	0.89
1	0.99	0.97	0.95	0.97	0.95	0.94	0.94	0.92	0.91	0.90	0.89	0.88	0.87	0.87	0.86	0.84
2	0.93	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	0.88	0.85	0.82	0.87	0.84	0.81	0.85	0.82	0.80	0.83	0.81	0.79	0.81	0.79	0.77	0.76
4	0.84	0.80	0.77	0.83	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.75	0.78	0.76	0.74	0.73
5	0.80	0.76	0.73	0.79	0.75	0.72	0.78	0.74	0.72	0.76	0.73	0.71	0.75	0.73	0.70	0.69
6	0.77	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.68	0.74	0.70	0.68	0.72	0.70	0.67	0.66
7	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.64
8	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.68	0.65	0.62	0.61
9	0.68	0.64	0.61	0.67	0.63	0.61	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.59
10	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.57



Nata 2-1680-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	5755.05	5551.34	4127.58	2010.11	891.91	636.45	561.58	499.91	284.09
45.0	5722.56	5572.26	4164.47	2027.18	875.40	629.29	563.78	499.36	279.14
90.0	5796.89	5305.23	3607.30	1092.48	760.60	603.75	539.66	446.84	56.87
135.0	5762.20	5322.85	3752.09	1626.92	814.83	619.94	554.42	472.93	80.88
180.0	5755.05	4942.96	3015.99	1064.96	738.14	598.57	537.63	380.99	29.18
225.0	5722.56	4977.65	3027.00	1071.78	752.51	611.07	549.90	357.54	29.23
270.0	5796.89	5159.89	3637.58	1600.49	821.99	637.00	562.68	474.59	72.95
315.0	5762.20	5190.72	3364.50	1036.88	768.42	606.67	547.76	439.96	44.49
360.0	5755.05	5551.34	4127.58	2010.11	891.91	636.45	561.58	499.91	284.09
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	14.59	10.79	9.58	8.70	8.09	7.65	7.27	7.10	6.88
45.0	14.15	10.79	9.63	8.86	8.15	7.71	7.32	7.10	6.99
90.0	13.27	10.19	9.19	8.48	7.87	7.43	7.16	6.94	6.88
135.0	12.06	10.13	9.08	8.37	7.76	7.43	7.16	6.94	6.88
180.0	10.79	9.74	8.81	8.15	7.65	7.27	7.10	6.94	6.88
225.0	10.79	9.52	8.64	7.98	7.49	7.21	7.05	6.94	6.88
270.0	11.45	9.86	8.86	8.15	7.60	7.27	7.05	6.94	6.88
315.0	11.67	10.08	9.19	8.31	7.76	7.38	7.10	6.99	6.88
360.0	14.59	10.79	9.58	8.70	8.09	7.65	7.27	7.10	6.88
C/γ(°)	90.0								
0.0	6.83								
45.0	6.83								
90.0	6.77								
135.0	6.77								
180.0	6.83								
225.0	6.83								
270.0	6.77								
315.0	6.77								
360.0	6.83								