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Nata

LumCAT: 1681-N
Luminaire: 92.70.125.00
Report No: NATA0100
Test No: GC2018070509
LampCAT: NICHIA NTCWT012B-V3
Lamp flux(lm): 747.0
Number of Lamps: 1
Length(mm): 47
Phm Type: C

Voltage(V): 38.5000
Current(A): 0.2000
Power (W): 7.7000
PF: 0.0000
Ballast type: DC
Width(mm): 47
Height(mm): 0

Photometric Results

Lumens(lm): 661.11
Efficiency(%): 88.50%
Lumens(lm)/Power(W): 85.86
Central intensity(cd): 1003.114
Maximum intensity(cd): 1003.114
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=52.5
[C90/270]Total=52.5
Field angle(10%Imax): [C0/180]Total=74.2
[C90/270]Total=74.2
Maximum s/h(1/2): C0_180=0.76 C90_270=0.76
Maximum s/h(1/4): C0_180=0.82 C90_270=0.82
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.22%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.874%

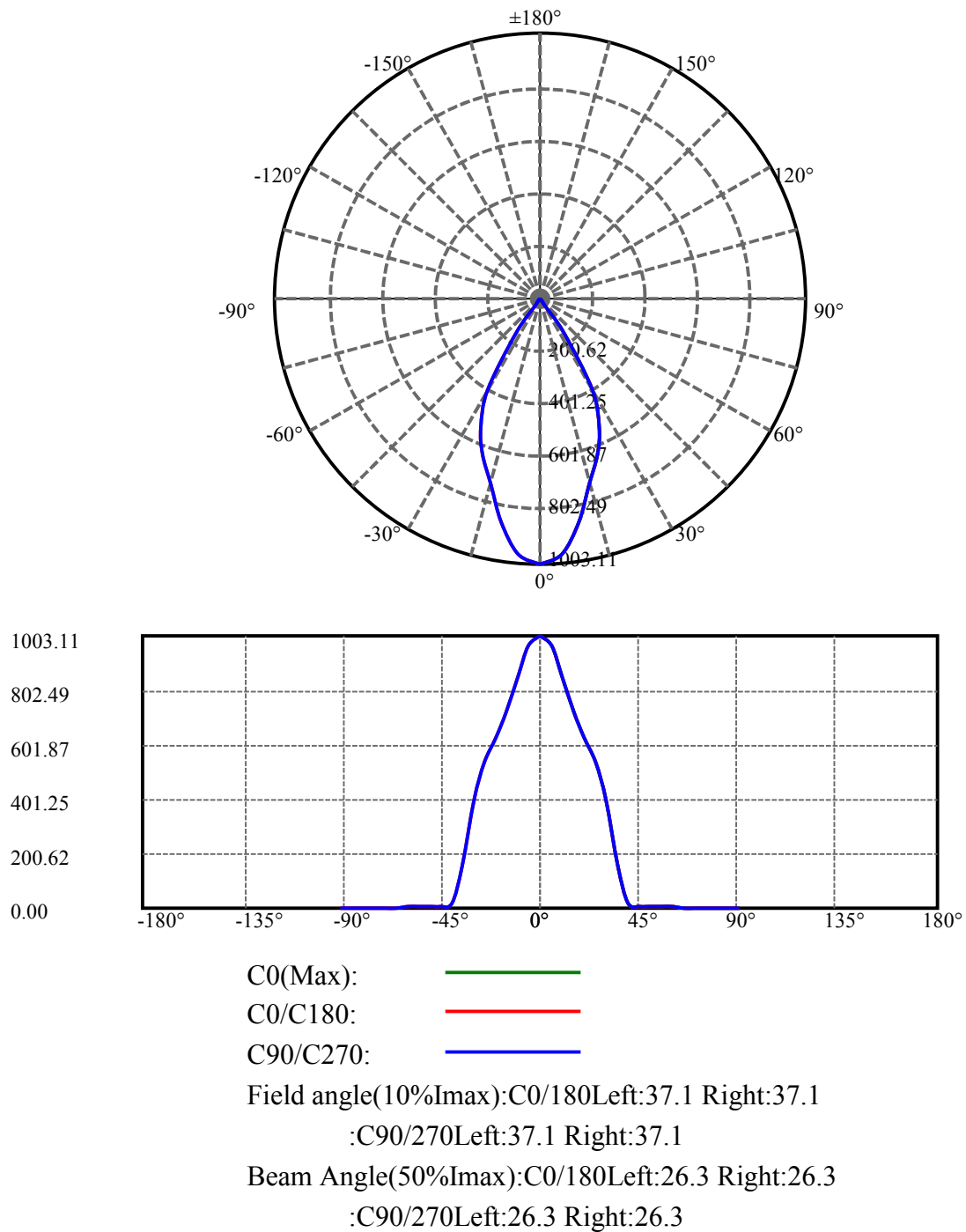
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1003.114	5.999	5.999	.803%	.907%
5.0	966.123	46.155	52.154	6.179%	7.889%
10.0	854.069	81.293	133.447	10.883%	20.185%
15.0	725.478	102.922	236.369	13.778%	35.754%
20.0	628.820	117.887	354.256	15.781%	53.585%
25.0	535.947	124.154	478.41	16.620%	72.365%
30.0	398.457	109.205	587.615	14.619%	88.884%
35.0	157.929	49.653	637.267	6.647%	96.394%
40.0	21.527	7.585	644.852	1.015%	97.541%
45.0	7.309	2.833	647.685	.379%	97.970%
50.0	3.909	1.641	649.326	.220%	98.218%
55.0	3.303	1.483	650.81	.199%	98.443%
60.0	3.152	1.496	652.306	.200%	98.669%
65.0	3.069	1.525	653.831	.204%	98.900%
70.0	3.042	1.567	655.397	.210%	99.137%
75.0	3.028	1.603	657.001	.215%	99.379%
80.0	3.028	1.635	658.635	.219%	99.626%
85.0	3.063	1.672	660.308	.224%	99.879%
90.0	2.911	0.798	661.105	.107%	100.000%

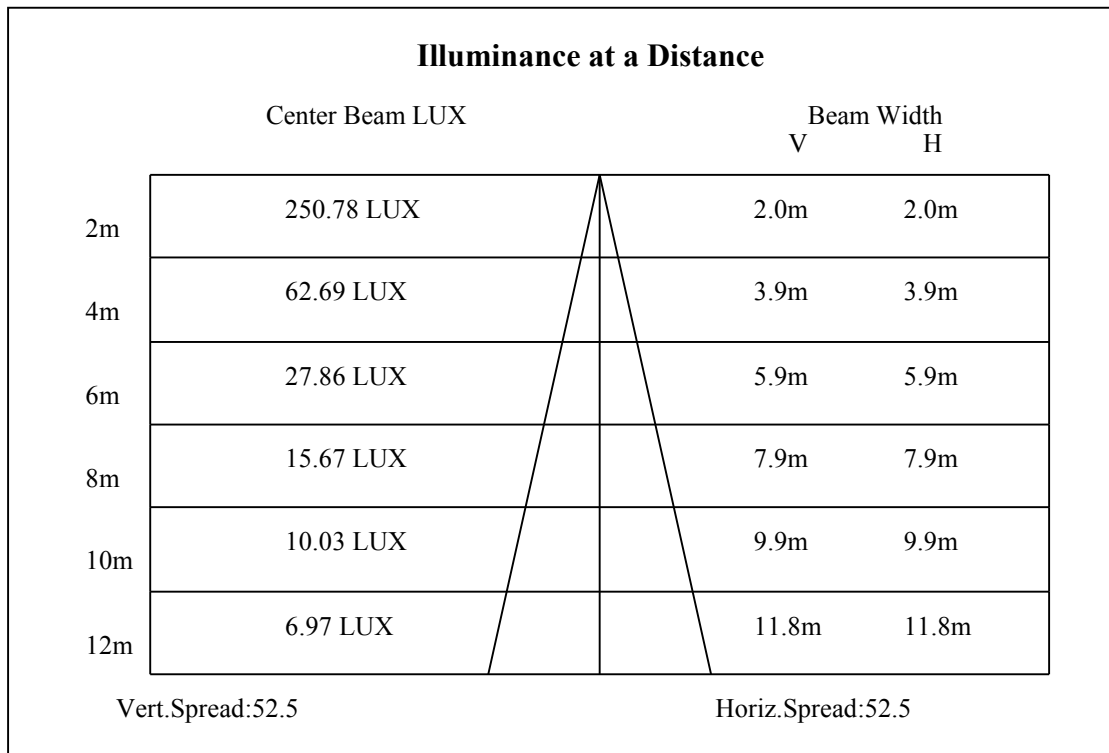
ZONAL LUMEN SUMMARY

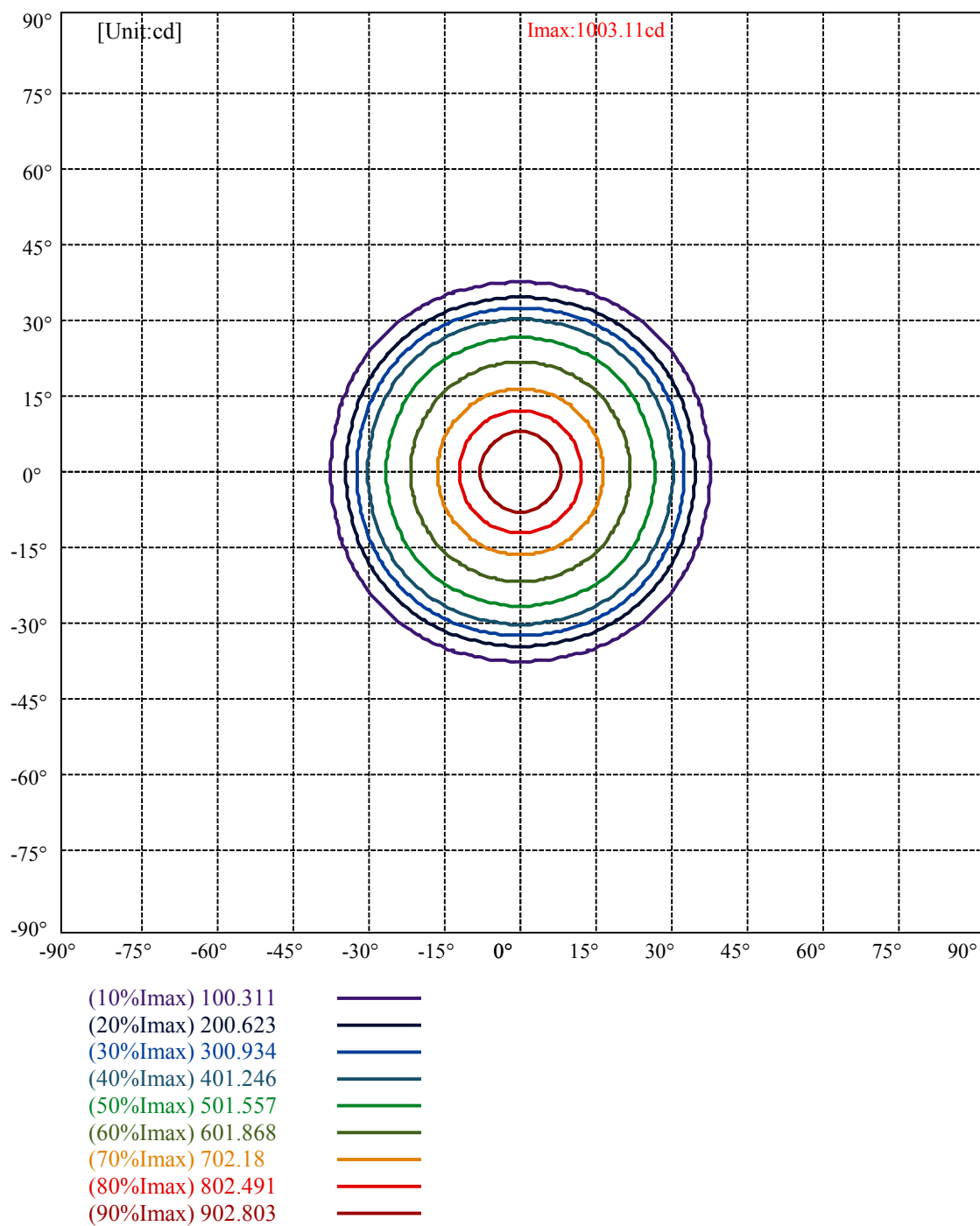
Zone	Lumens	%Lamp	%Fixt
0-30	587.61	78.66%	88.88%
0-40	644.85	86.33%	97.54%
0-60	652.31	87.32%	98.67%
0-90	660.31	88.39%	99.88%
0-120	660.31	88.39%	99.88%
0-180	661.11	88.50%	100.00%
60-90	9.50	1.27%	1.44%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.31	528.88	70.80%	80.00%

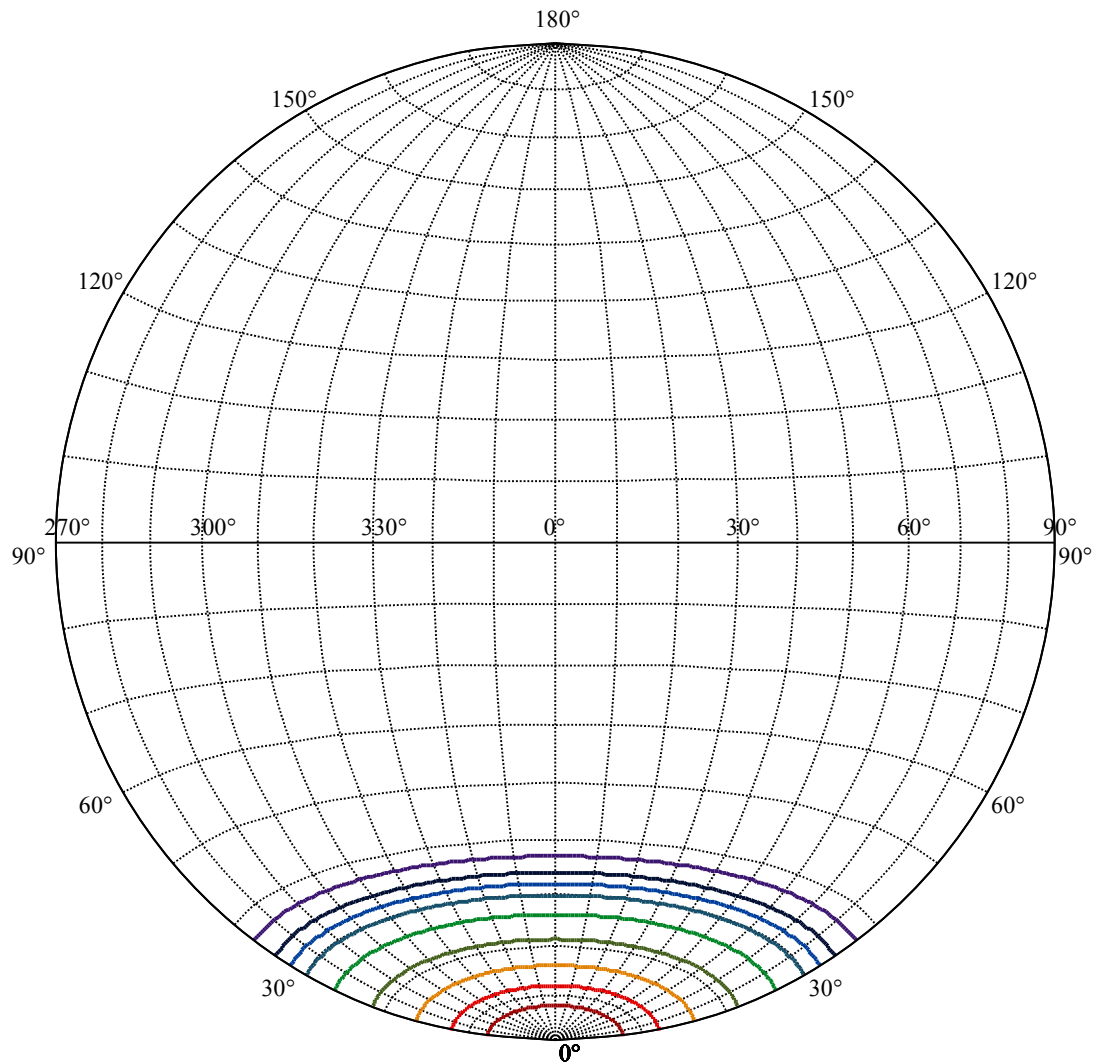
ZONAL LUMEN SUMMARY

0-10	133.45
10-20	220.81
20-30	233.36
30-40	57.24
40-50	4.47
50-60	2.98
60-70	3.09
70-80	3.24
80-90	1.67
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









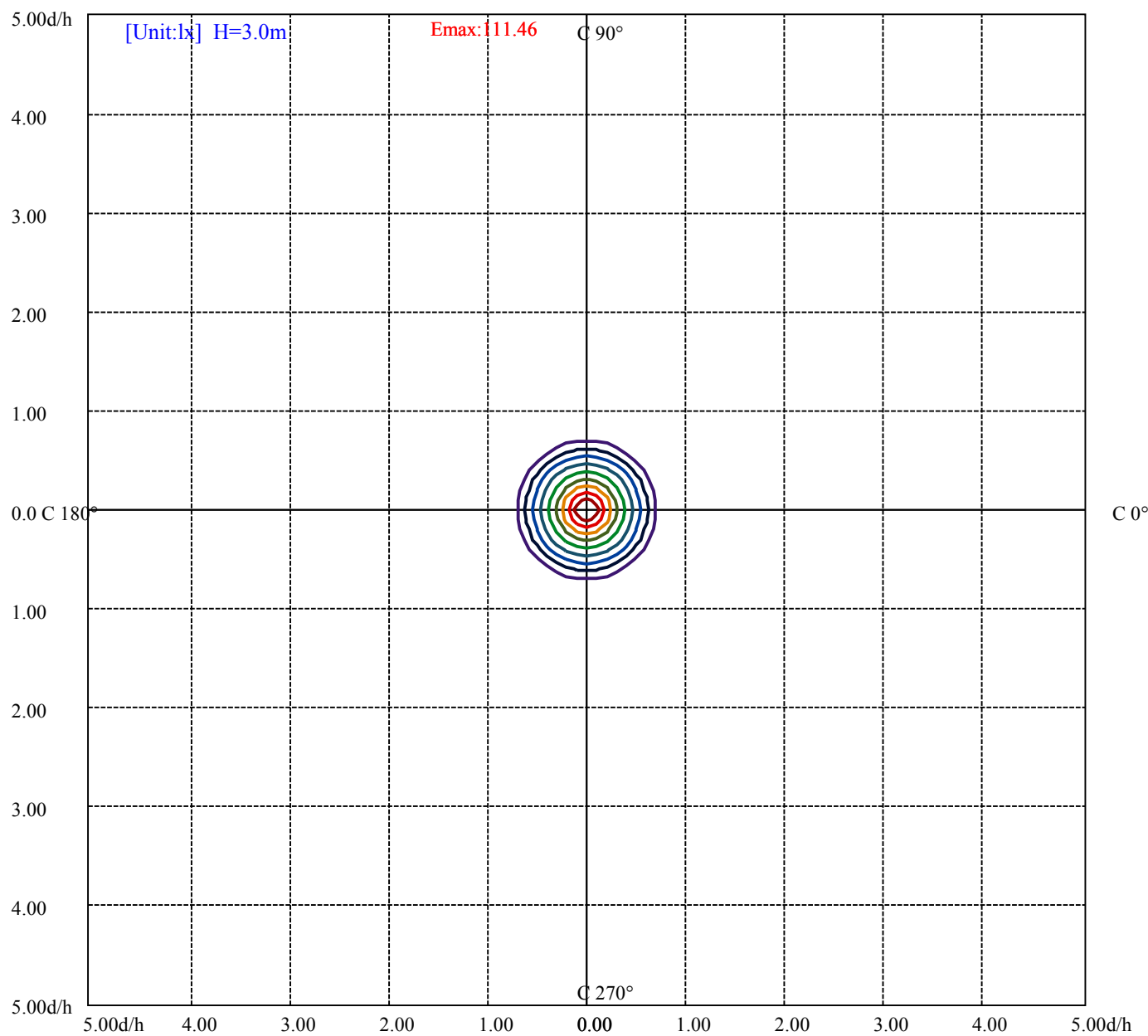
House

[Unit:cd]

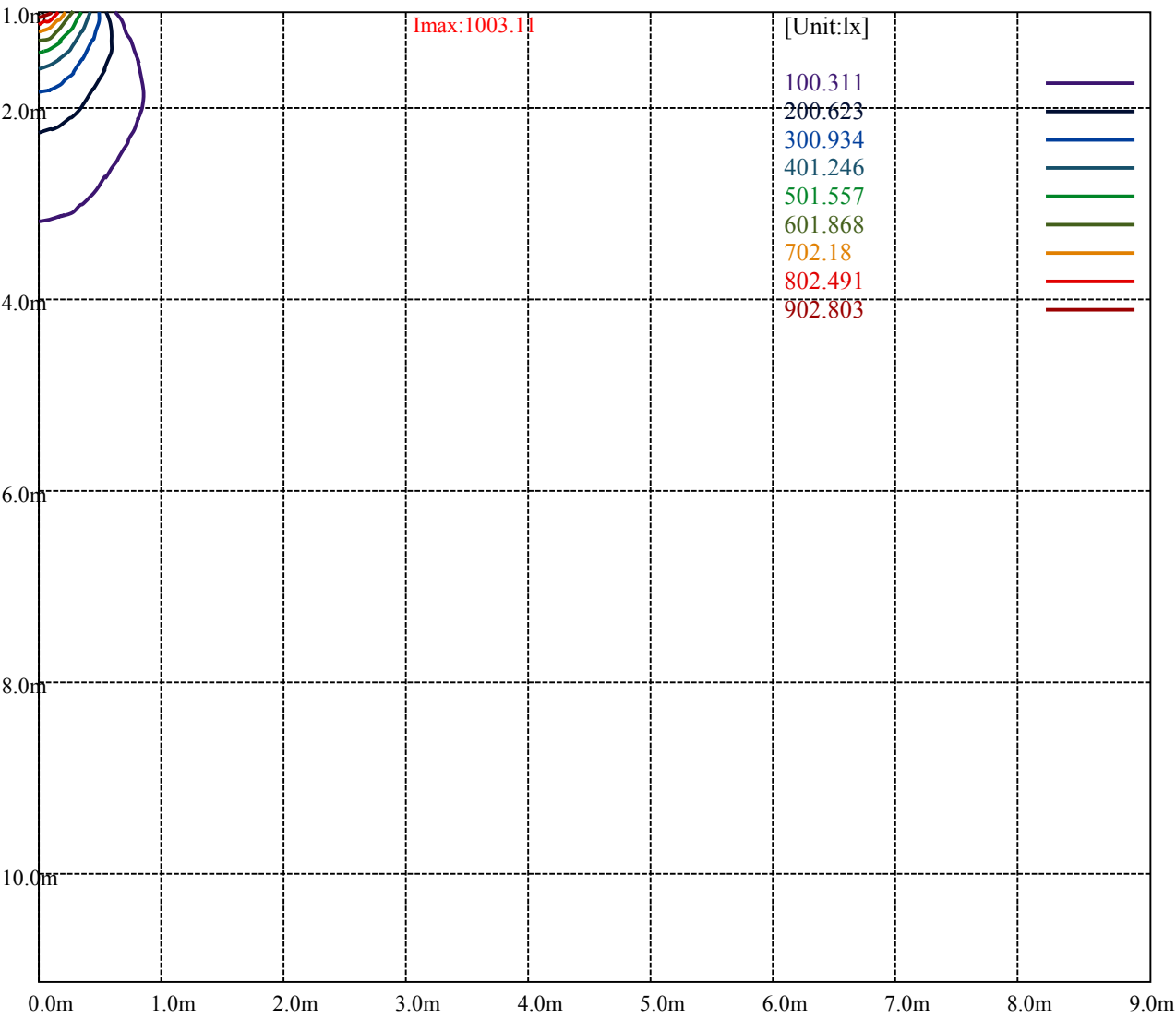
Road

Imax:1003.11

(10%Imax)	100.311	—
(20%Imax)	200.623	—
(30%Imax)	300.934	—
(40%Imax)	401.246	—
(50%Imax)	501.557	—
(60%Imax)	601.868	—
(70%Imax)	702.18	—
(80%Imax)	802.491	—
(90%Imax)	902.803	—



(10%E _{max}) 11.14567	—
(20%E _{max}) 22.29144	—
(30%E _{max}) 33.43711	—
(40%E _{max}) 44.58278	—
(50%E _{max}) 55.72844	—
(60%E _{max}) 66.87422	—
(70%E _{max}) 78.01989	—
(80%E _{max}) 89.16556	—
(90%E _{max}) 100.3113	—



Luminance Table

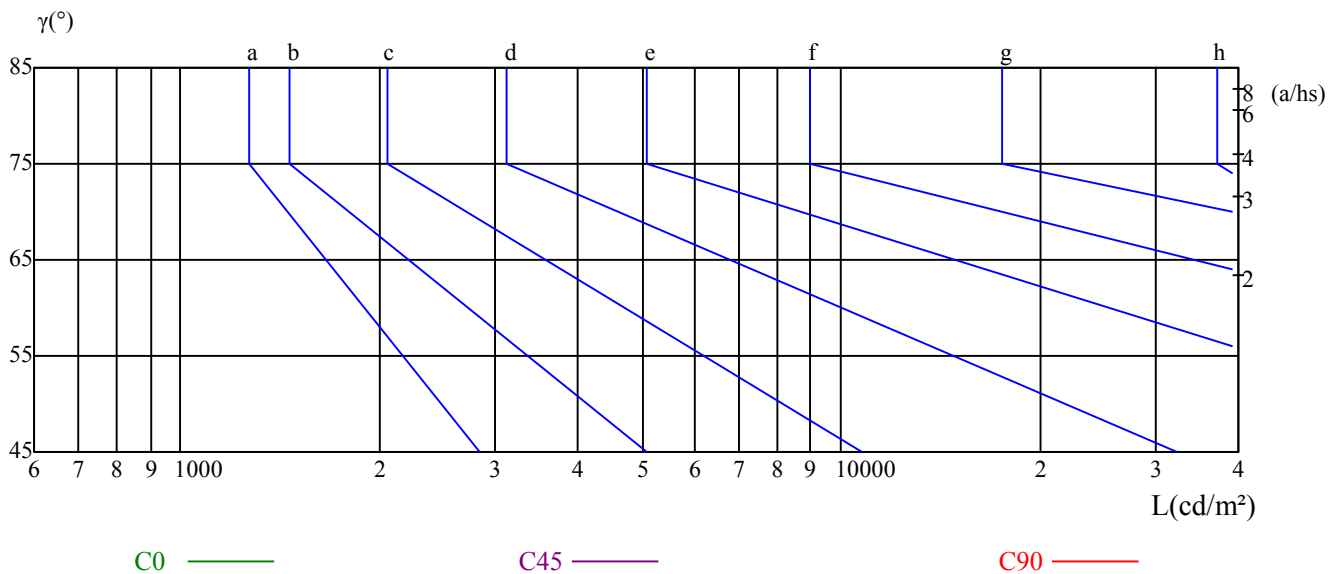
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

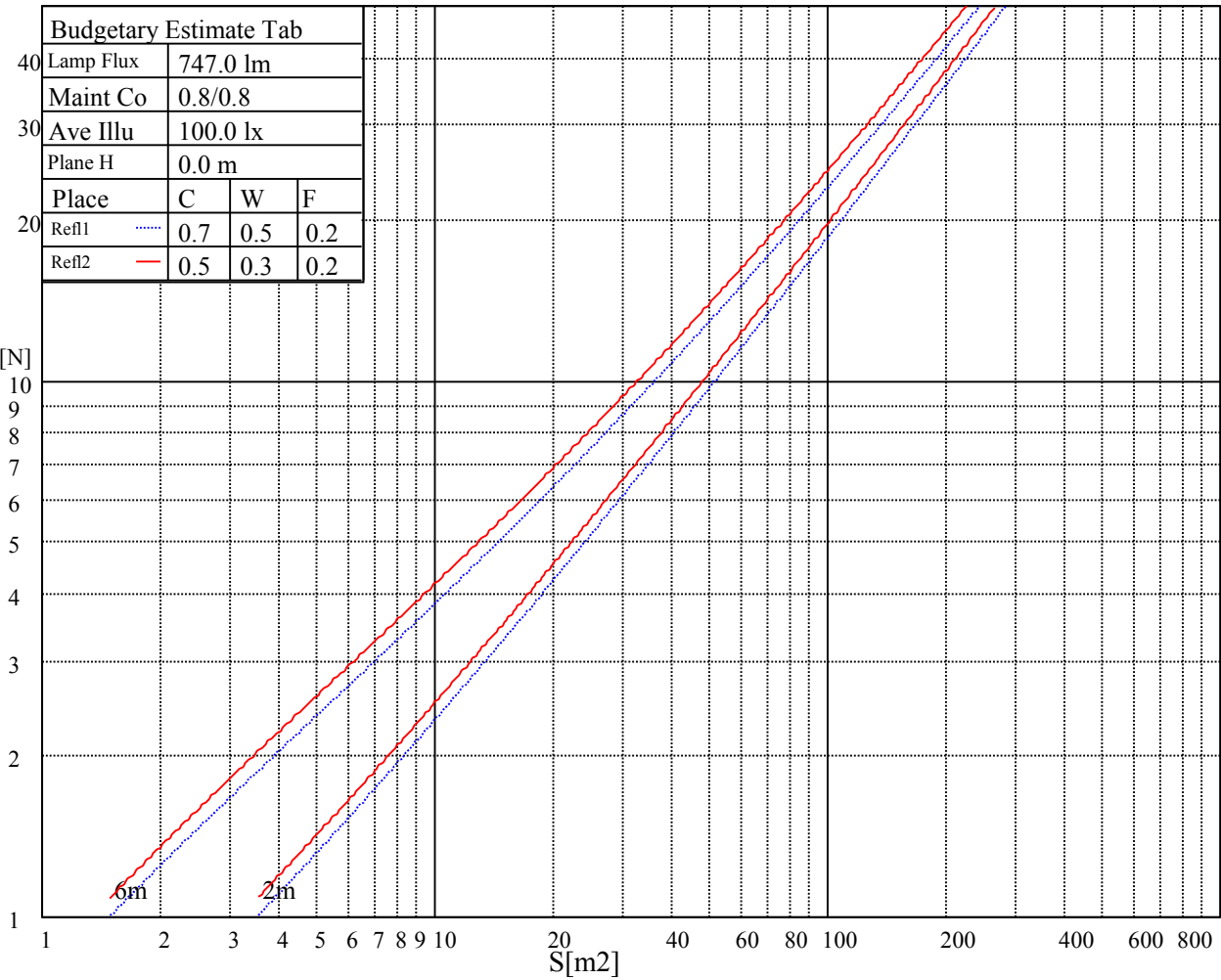
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

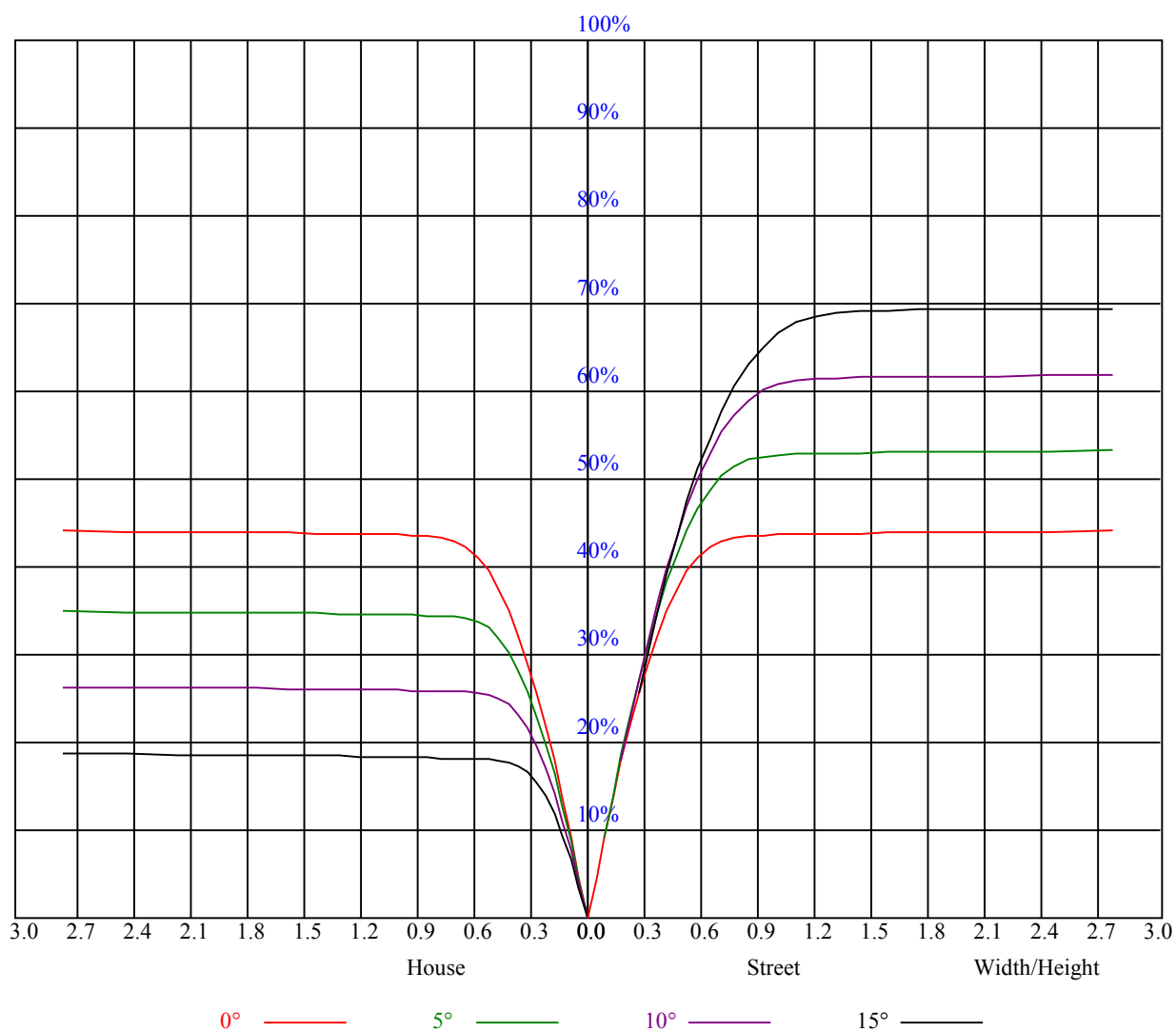
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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	1.06	1.06	1.06	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	0.98	0.96	0.94	0.97	0.94	0.93	0.93	0.91	0.90	0.90	0.88	0.87	0.87	0.85	0.85	0.83
2	0.93	0.89	0.86	0.91	0.88	0.85	0.88	0.86	0.83	0.86	0.83	0.82	0.83	0.81	0.80	0.79
3	0.87	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.74
4	0.83	0.78	0.75	0.82	0.78	0.74	0.80	0.76	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.71
5	0.79	0.74	0.71	0.78	0.73	0.70	0.76	0.73	0.70	0.75	0.72	0.69	0.74	0.71	0.68	0.67
6	0.75	0.70	0.67	0.74	0.70	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.64
7	0.71	0.67	0.63	0.71	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.61
8	0.68	0.63	0.60	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.58
9	0.65	0.61	0.57	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.60	0.57	0.63	0.59	0.57	0.56
10	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.61	0.57	0.55	0.60	0.57	0.54	0.53



Nata 1681-N

Intensity data(cd)

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C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	1000.60	951.26	833.50	713.75	631.83	539.50	383.85	151.29	18.39
45.0	1005.66	959.36	851.28	724.54	632.49	536.52	381.49	117.60	18.06
90.0	1002.03	943.61	824.97	704.01	616.19	509.33	340.36	89.03	15.09
135.0	1004.17	974.77	861.36	736.60	633.97	533.66	404.94	162.03	23.40
180.0	1000.60	975.76	859.43	717.77	623.13	533.28	416.17	190.72	24.94
225.0	1005.66	971.08	858.00	725.64	621.59	534.54	423.44	187.96	24.22
270.0	1002.03	993.38	898.91	758.62	645.92	564.99	449.48	221.49	28.79
315.0	1004.17	959.74	845.12	722.89	625.44	535.75	387.93	143.31	19.32
360.0	1000.60	951.26	833.50	713.75	631.83	539.50	383.85	151.29	18.39
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	6.72	3.80	3.25	3.14	3.03	3.03	3.03	3.03	3.08
45.0	6.50	3.80	3.25	3.08	3.08	3.03	2.97	2.97	3.08
90.0	5.51	3.58	3.19	3.14	3.08	3.08	3.08	3.08	3.19
135.0	7.76	4.02	3.36	3.19	3.14	3.08	3.08	3.08	3.08
180.0	7.98	4.07	3.36	3.14	3.03	3.03	3.03	2.97	2.97
225.0	8.20	3.96	3.30	3.19	3.08	3.03	2.97	2.97	2.97
270.0	9.14	4.18	3.41	3.19	3.08	3.03	3.03	3.03	3.03
315.0	6.66	3.85	3.30	3.14	3.03	3.03	3.03	3.08	3.08
360.0	6.72	3.80	3.25	3.14	3.03	3.03	3.03	3.03	3.08
C/γ(°)	90.0								
0.0	2.92								
45.0	2.86								
90.0	2.92								
135.0	2.92								
180.0	2.92								
225.0	2.92								
270.0	2.92								
315.0	2.92								
360.0	2.92								