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Nata

LumCAT: 1-0924-M
Luminaire: 92.70.125.00
Report No: NATA0100
Test No: GC2020021915
LampCAT: NICHIA NTCWS024B-V3
Lamp flux(lm): 988.0
Number of Lamps: 1
Length(mm): 30
Phm Type: C

Voltage(V): 36.0500
Current(A): 0.3000
Power (W): 10.8240
PF: 0.0000
Ballast type: DC
Width(mm): 30
Height(mm): 28

Photometric Results

Lumens(lm): 749.94
Efficiency(%): 75.90%
Lumens(lm)/Power(W): 69.28
Central intensity(cd): 2194.594
Maximum intensity(cd): 2194.594
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=34.6
[C90/270]Total=34.6
Field angle(10%Imax): [C0/180]Total=54.0
[C90/270]Total=54.0
Maximum s/h(1/2): C0_180=0.57 C90_270=0.57
Maximum s/h(1/4): C0_180=0.56 C90_270=0.56
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 75.90%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.660%

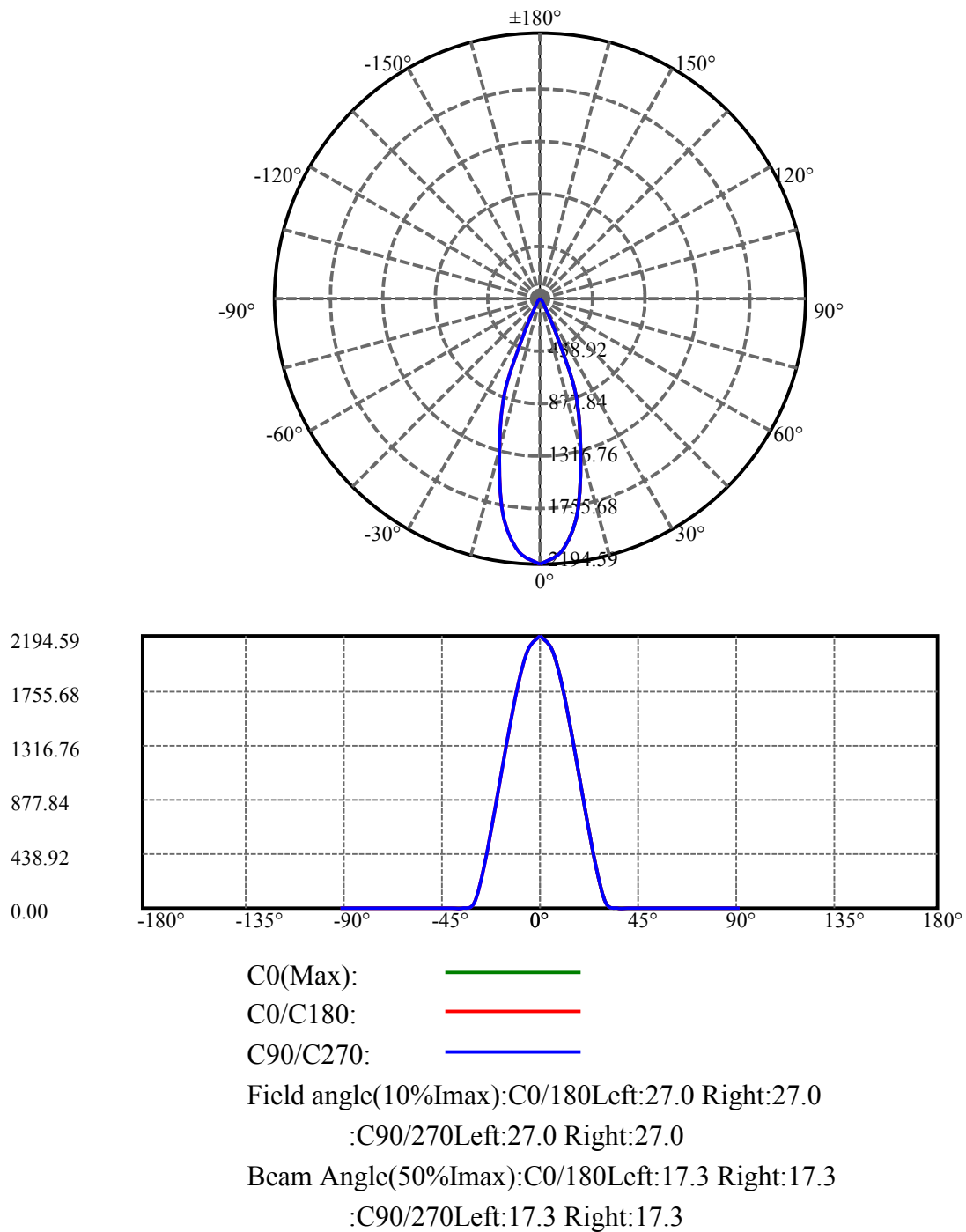
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2194.594	0.000	0	.000%	.000%
5.0	2088.914	51.208	51.208	5.183%	6.828%
10.0	1805.625	139.320	190.528	14.101%	25.406%
15.0	1314.373	185.076	375.604	18.732%	50.085%
20.0	839.447	177.505	553.109	17.966%	73.754%
25.0	335.299	123.209	676.318	12.471%	90.184%
30.0	45.176	48.149	724.468	4.873%	96.604%
35.0	6.117	7.553	732.021	.764%	97.611%
40.0	4.486	1.769	733.79	.179%	97.847%
45.0	3.846	1.543	735.333	.156%	98.053%
50.0	3.565	1.497	736.83	.152%	98.252%
55.0	3.389	1.512	738.342	.153%	98.454%
60.0	3.284	1.542	739.885	.156%	98.660%
65.0	3.227	1.583	741.468	.160%	98.871%
70.0	3.192	1.625	743.093	.165%	99.088%
75.0	3.192	1.669	744.762	.169%	99.310%
80.0	3.185	1.706	746.468	.173%	99.538%
85.0	3.227	1.742	748.211	.176%	99.770%
90.0	3.073	1.725	749.936	.175%	100.000%

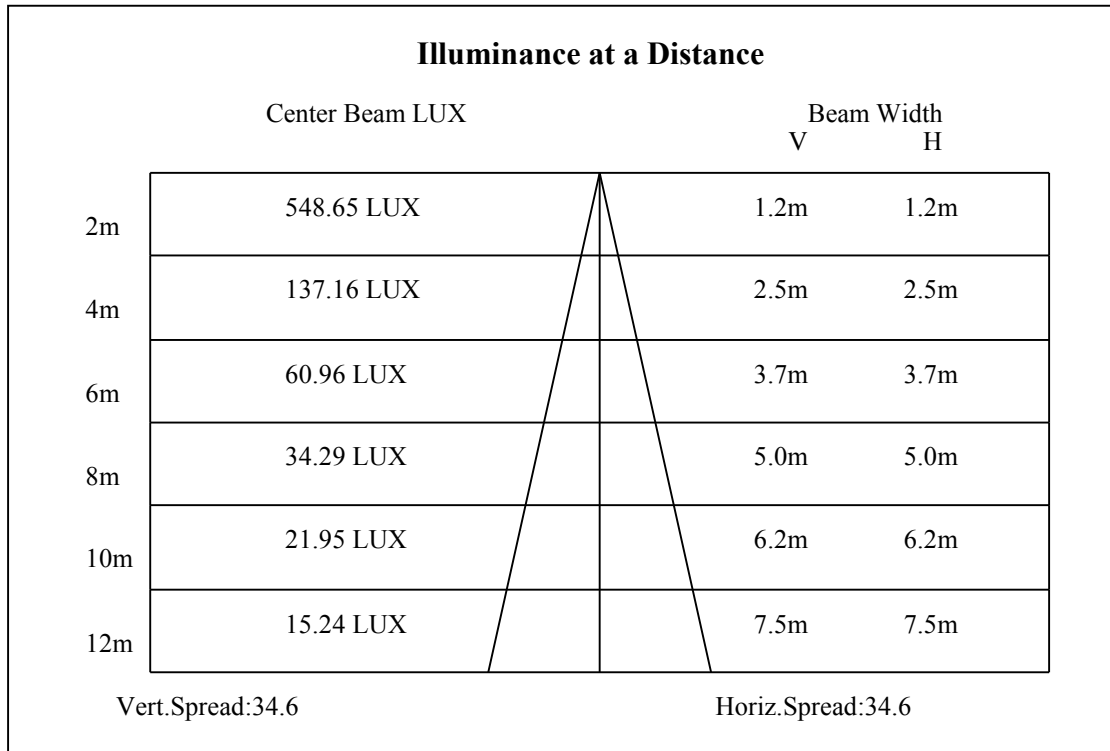
ZONAL LUMEN SUMMARY

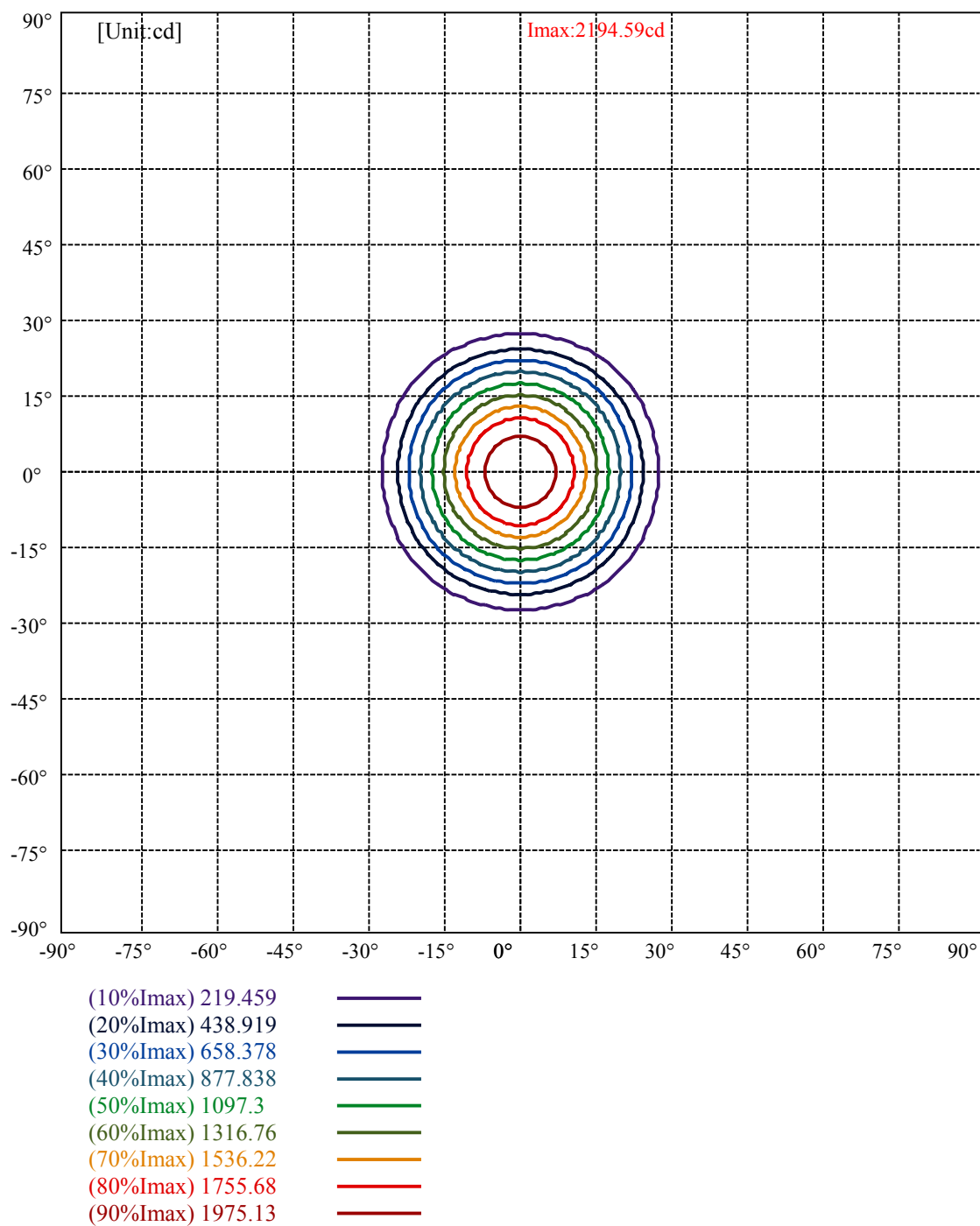
Zone	Lumens	%Lamp	%Fixt
0-30	724.47	73.33%	96.60%
0-40	733.79	74.27%	97.85%
0-60	739.88	74.89%	98.66%
0-90	748.21	75.73%	99.77%
0-120	748.21	75.73%	99.77%
0-180	749.94	75.90%	100.00%
60-90	9.87	1.00%	1.32%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-21.90	599.95	60.72%	80.00%

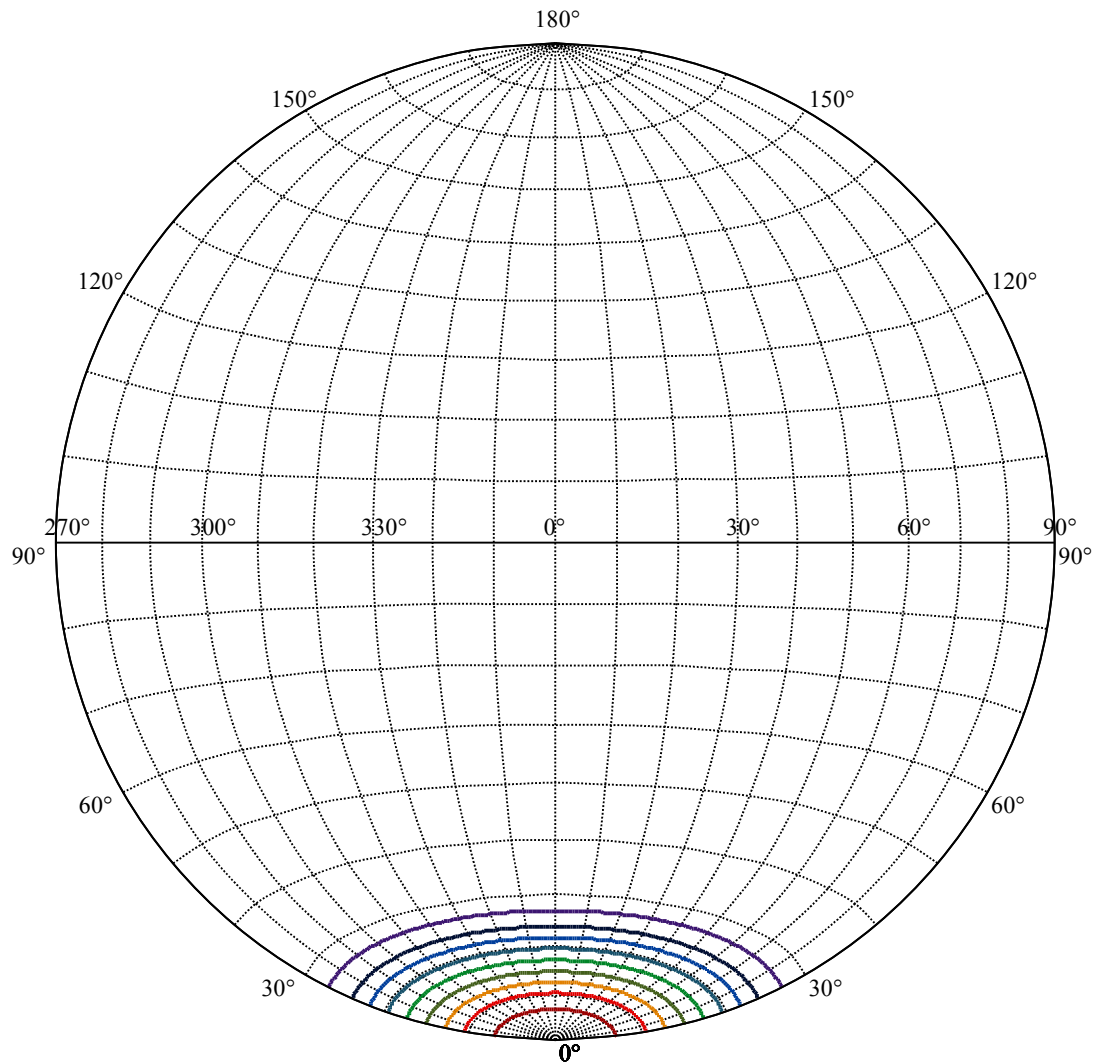
ZONAL LUMEN SUMMARY

0-10	190.53
10-20	362.58
20-30	171.36
30-40	9.32
40-50	3.04
50-60	3.05
60-70	3.21
70-80	3.38
80-90	1.74
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









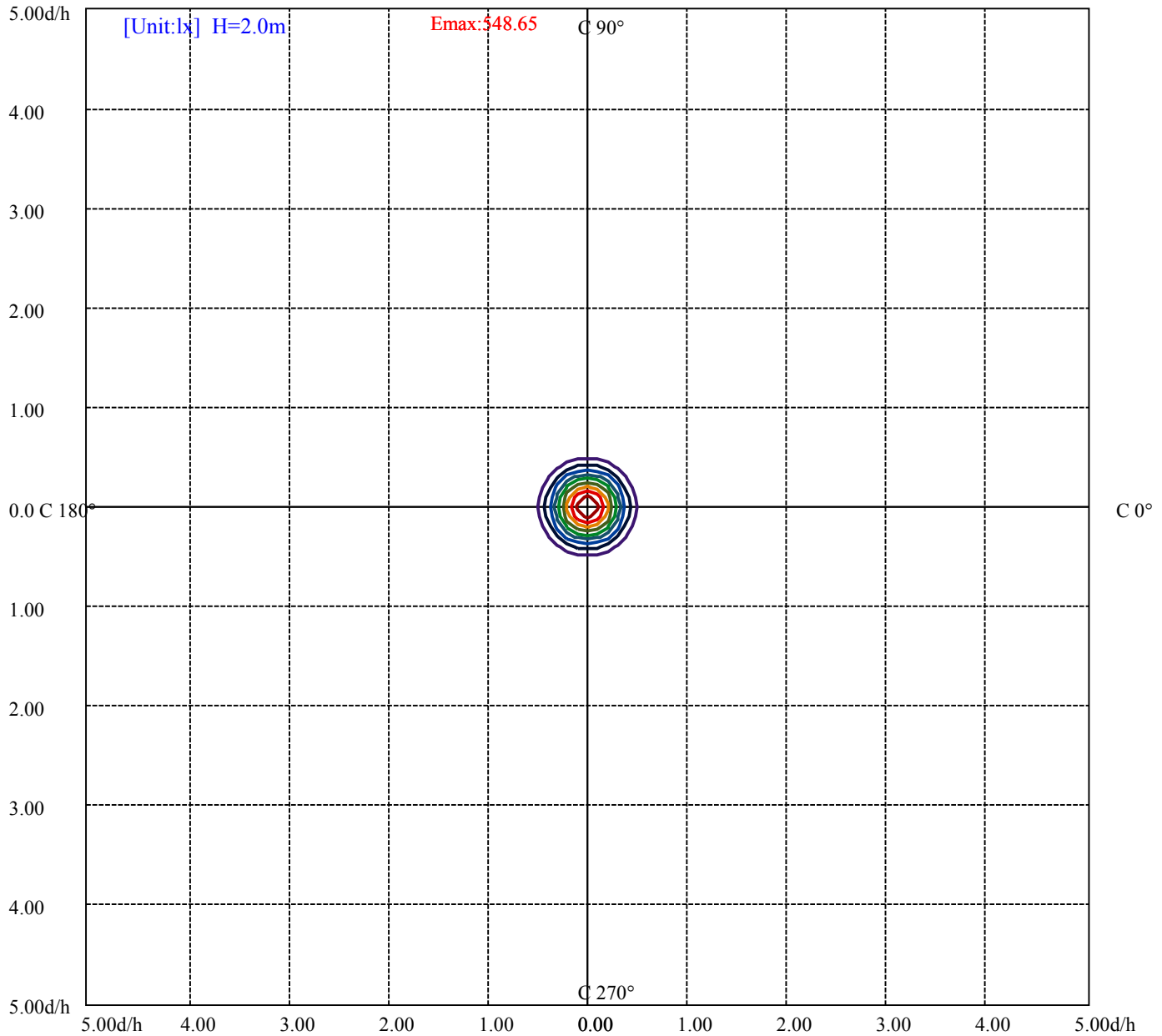
House

[Unit:cd]

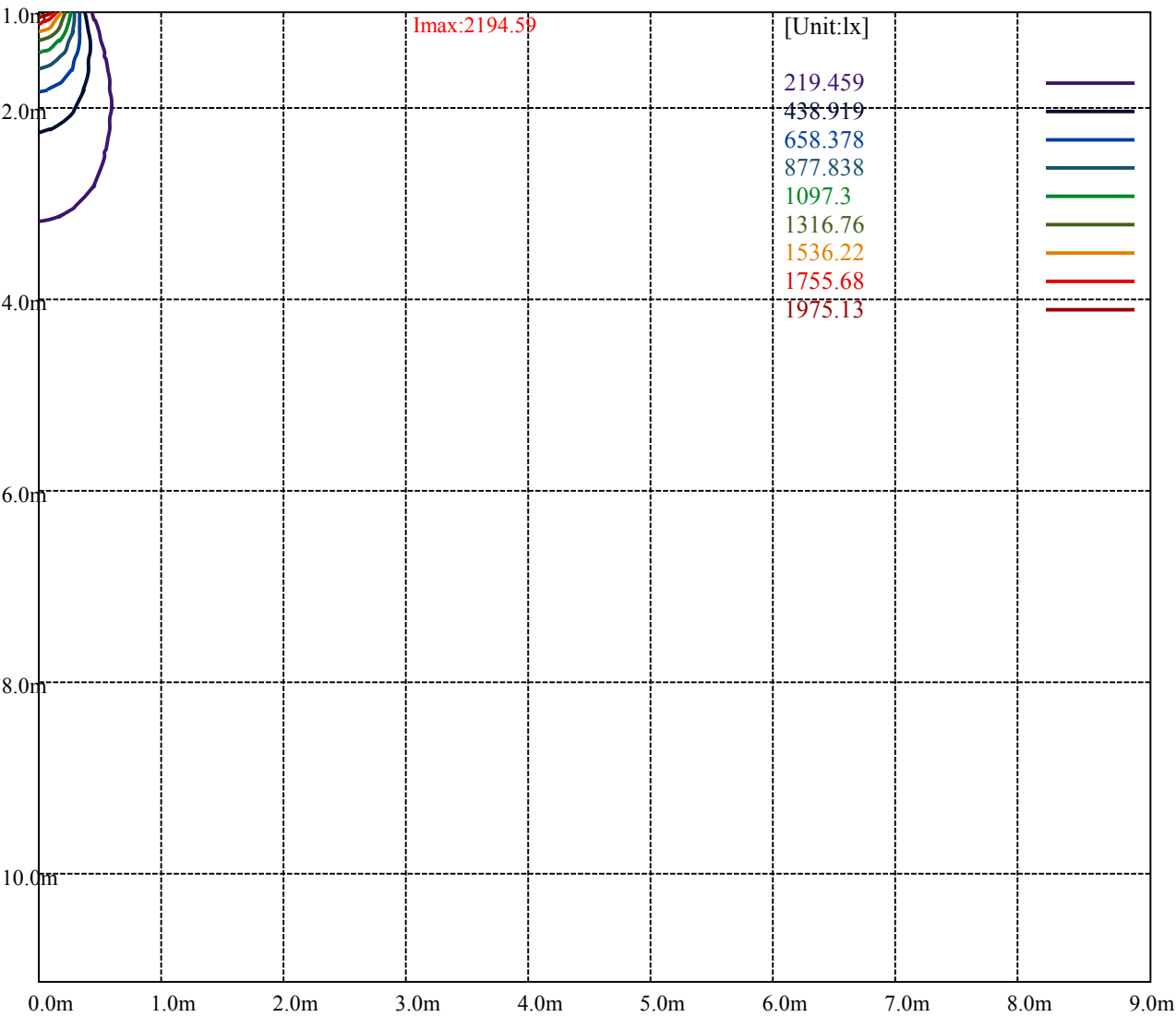
Road

Imax:2194.59

(10%Imax)	219.459	—
(20%Imax)	438.919	—
(30%Imax)	658.378	—
(40%Imax)	877.838	—
(50%Imax)	1097.3	—
(60%Imax)	1316.76	—
(70%Imax)	1536.22	—
(80%Imax)	1755.68	—
(90%Imax)	1975.13	—



(10%Emax)	54.86475	—
(20%Emax)	109.7295	—
(30%Emax)	164.5943	—
(40%Emax)	219.459	—
(50%Emax)	274.325	—
(60%Emax)	329.1875	—
(70%Emax)	384.0525	—
(80%Emax)	438.9175	—
(90%Emax)	493.7825	—



Luminance Table

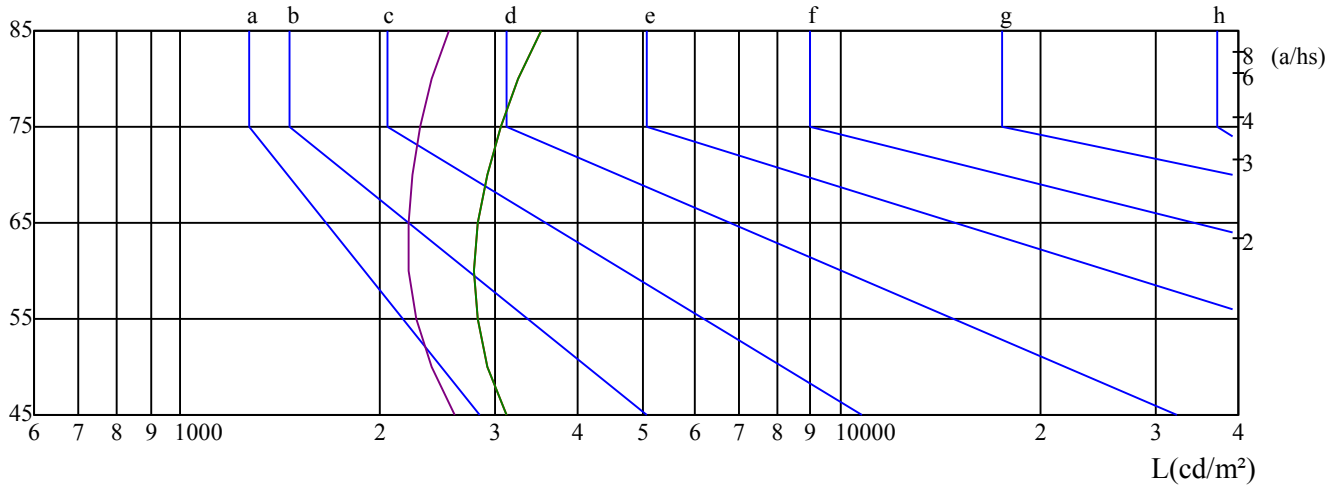
γ	45	50	55	60	65	70	75	80	85
C0	3126	2917	2814	2789	2827	2910	3057	3239	3526
C45	2605	2395	2276	2220	2215	2242	2313	2402	2558
C90	3126	2917	2814	2789	2827	2910	3057	3239	3526

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
8485	8485	8485	13704	13704	13704	41144	41144	41144

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

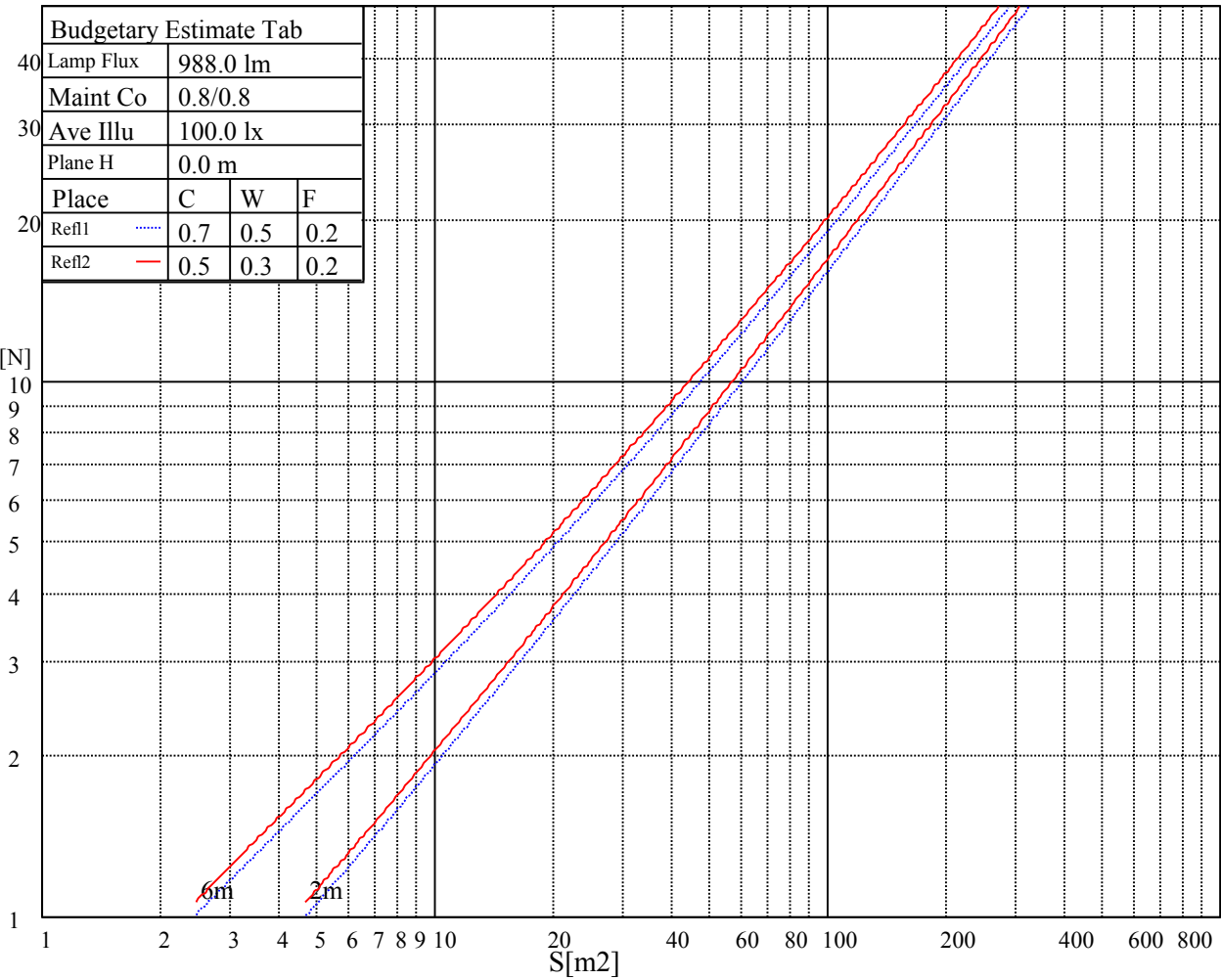
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

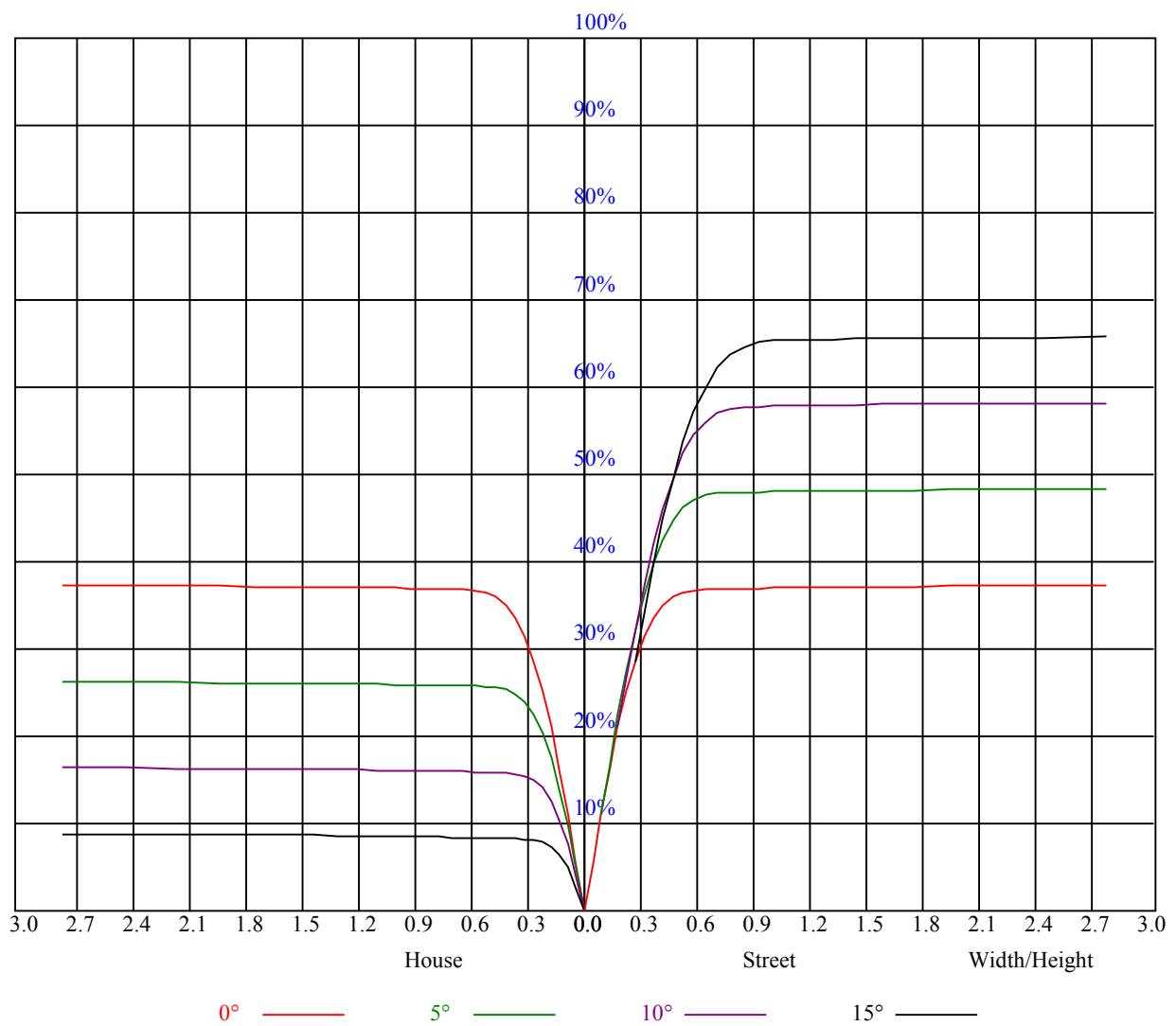
C0 ———

C45 ———

C90 ———



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 RHOFC=20 CU															
0	0.90	0.90	0.90	0.88	0.88	0.88	0.84	0.84	0.84	0.81	0.81	0.81	0.77	0.77	0.77	0.76
1	0.85	0.84	0.82	0.84	0.82	0.81	0.80	0.79	0.78	0.78	0.77	0.76	0.75	0.74	0.74	0.73
2	0.81	0.78	0.76	0.79	0.77	0.75	0.77	0.75	0.74	0.75	0.73	0.72	0.73	0.72	0.71	0.70
3	0.77	0.74	0.72	0.76	0.73	0.71	0.74	0.72	0.70	0.72	0.70	0.69	0.71	0.69	0.68	0.67
4	0.74	0.70	0.68	0.73	0.70	0.68	0.71	0.69	0.67	0.70	0.68	0.66	0.69	0.67	0.65	0.64
5	0.71	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.66	0.65	0.63	0.62
6	0.68	0.64	0.62	0.67	0.64	0.62	0.66	0.64	0.61	0.65	0.63	0.61	0.64	0.62	0.61	0.60
7	0.65	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.63	0.61	0.59	0.63	0.60	0.59	0.58
8	0.63	0.60	0.57	0.63	0.60	0.57	0.62	0.59	0.57	0.61	0.59	0.57	0.61	0.58	0.57	0.56
9	0.61	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.59	0.57	0.55	0.59	0.57	0.55	0.54
10	0.59	0.56	0.53	0.59	0.56	0.53	0.58	0.55	0.53	0.58	0.55	0.53	0.57	0.55	0.53	0.52



Nata 1-0924-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	2190.38	2160.56	1927.13	1552.50	1035.56	486.56	106.43	7.65	4.89	
45.0	2192.63	2130.75	1868.63	1463.06	925.88	395.44	63.11	6.19	4.50	
90.0	2193.75	2041.31	1723.50	1120.78	726.24	235.69	17.89	5.34	4.28	
135.0	2201.63	2082.38	1764.00	1286.44	771.19	292.50	20.36	5.74	4.44	
180.0	2190.38	2017.69	1678.50	1114.31	670.56	195.81	11.64	5.29	4.28	
225.0	2192.63	2034.56	1745.44	1093.39	738.79	262.07	20.31	5.51	4.28	
270.0	2193.75	2129.63	1885.50	1468.13	937.13	430.31	66.43	6.58	4.61	
315.0	2201.63	2114.44	1852.31	1416.38	910.24	384.02	55.24	6.64	4.61	
360.0	2190.38	2160.56	1927.13	1552.50	1035.56	486.56	106.43	7.65	4.89	
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	
0.0	4.05	3.71	3.49	3.38	3.26	3.21	3.21	3.21	3.21	
45.0	3.88	3.60	3.43	3.26	3.26	3.26	3.26	3.38	3.71	
90.0	3.71	3.43	3.26	3.26	3.15	3.15	3.09	3.09	3.09	
135.0	3.88	3.54	3.38	3.26	3.21	3.15	3.15	3.15	3.26	
180.0	3.83	3.60	3.43	3.32	3.26	3.21	3.21	3.21	3.21	
225.0	3.71	3.49	3.38	3.26	3.26	3.26	3.38	3.26	3.15	
270.0	3.88	3.54	3.38	3.26	3.21	3.15	3.09	3.09	3.09	
315.0	3.83	3.60	3.38	3.26	3.21	3.15	3.15	3.09	3.09	
360.0	4.05	3.71	3.49	3.38	3.26	3.21	3.21	3.21	3.21	
C/γ(°)	90.0									
0.0	3.15									
45.0	3.04									
90.0	3.04									
135.0	3.09									
180.0	3.04									
225.0	3.09									
270.0	3.04									
315.0	3.09									
360.0	3.15									