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Nata

LumCAT: 1-0920-M
Luminaire: 92.70.132.00
Report No: NATA0100
Test No: GC2019091814
LampCAT: LUMILEDS LUXEON 1203
Lamp flux(lm): 1342.0
Number of Lamps: 1
Length(mm): 39
Phm Type: C

Voltage(V): 35.5900
Current(A): 0.3000
Power (W): 10.7000
PF: 0.0000
Ballast type: DC
Width(mm): 39
Height(mm): 0

Photometric Results

Lumens(lm): 1058.55
Efficiency(%): 78.88%
Lumens(lm)/Power(W): 98.93
Central intensity(cd): 3396.938
Maximum intensity(cd): 3396.938
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=33.5
[C90/270]Total=33.5
Field angle(10%Imax): [C0/180]Total=49.5
[C90/270]Total=49.5
Maximum s/h(1/2): C0_180=0.56 C90_270=0.56
Maximum s/h(1/4): C0_180=0.53 C90_270=0.53
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 78.88%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.533%

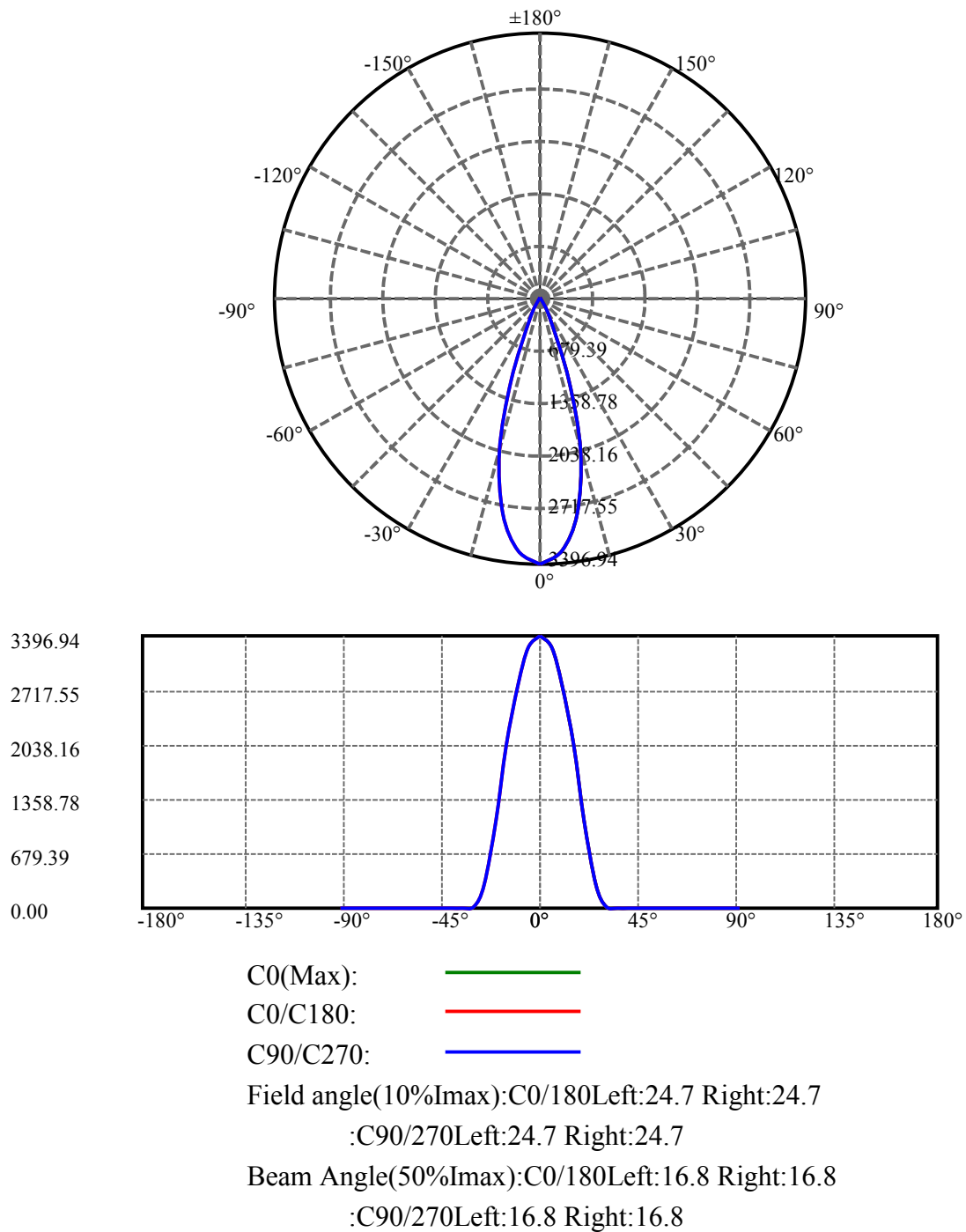
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3396.938	0.000	0	.000%	.000%
5.0	3240.141	79.344	79.344	5.912%	7.496%
10.0	2791.617	215.775	295.119	16.079%	27.880%
15.0	2026.898	285.831	580.95	21.299%	54.882%
20.0	1094.477	257.245	838.196	19.169%	79.183%
25.0	296.740	145.913	984.109	10.873%	92.968%
30.0	27.710	41.059	1025.168	3.060%	96.847%
35.0	9.548	5.487	1030.655	.409%	97.365%
40.0	7.144	2.785	1033.44	.208%	97.628%
45.0	6.089	2.450	1035.89	.183%	97.859%
50.0	5.590	2.360	1038.25	.176%	98.082%
55.0	5.295	2.367	1040.616	.176%	98.306%
60.0	5.126	2.409	1043.025	.179%	98.533%
65.0	5.013	2.465	1045.49	.184%	98.766%
70.0	4.950	2.523	1048.013	.188%	99.005%
75.0	4.922	2.580	1050.593	.192%	99.248%
80.0	4.894	2.626	1053.219	.196%	99.497%
85.0	4.894	2.659	1055.879	.198%	99.748%
90.0	4.859	2.670	1058.549	.199%	100.000%

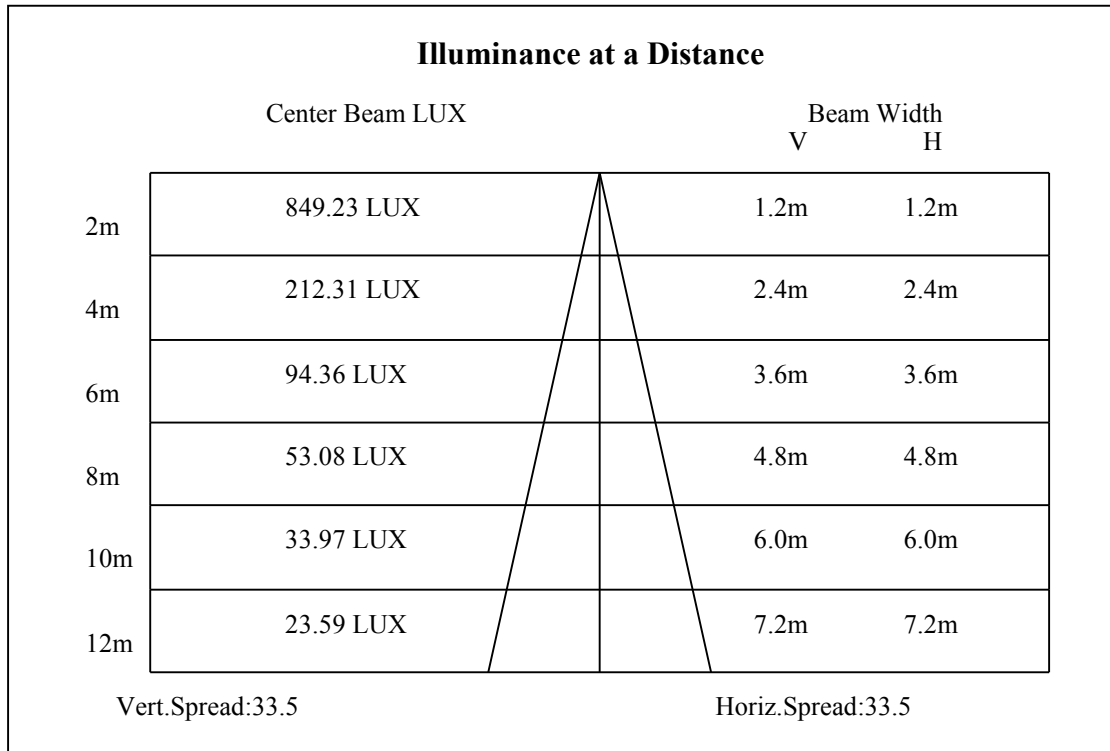
ZONAL LUMEN SUMMARY

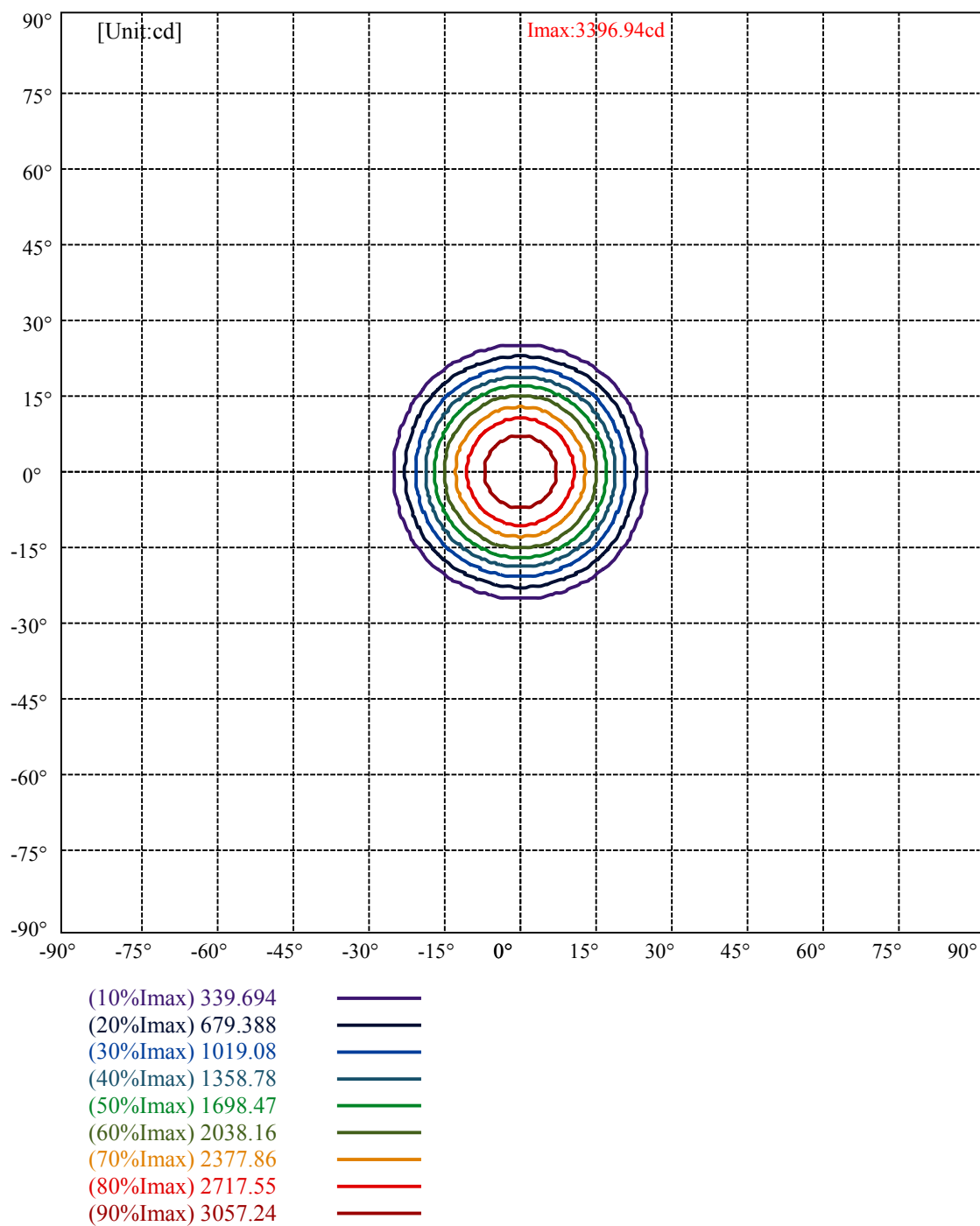
Zone	Lumens	%Lamp	%Fixt
0-30	1025.17	76.39%	96.85%
0-40	1033.44	77.01%	97.63%
0-60	1043.02	77.72%	98.53%
0-90	1055.88	78.68%	99.75%
0-120	1055.88	78.68%	99.75%
0-180	1058.55	78.88%	100.00%
60-90	15.26	1.14%	1.44%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-20.30	846.84	63.10%	80.00%

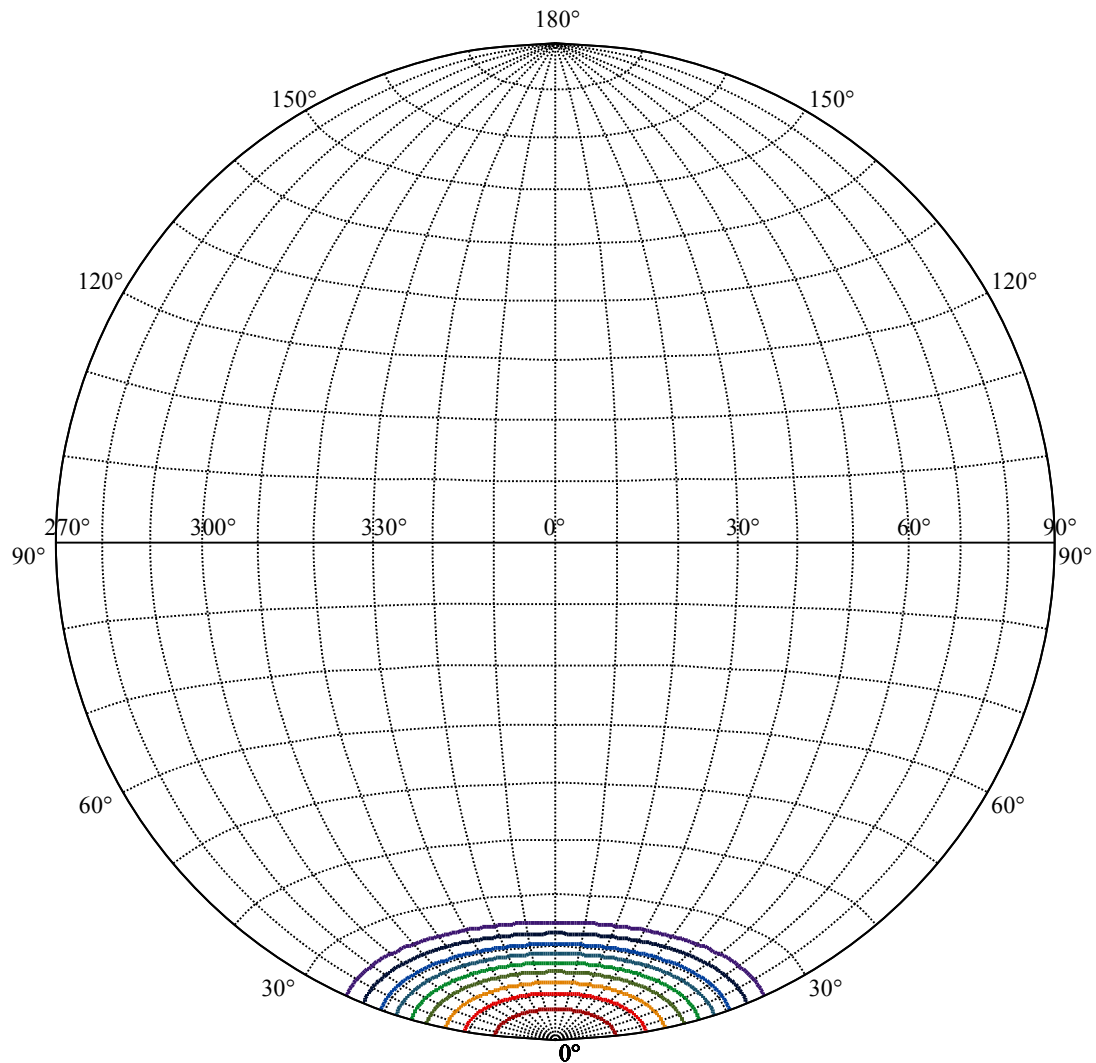
ZONAL LUMEN SUMMARY

0-10	295.12
10-20	543.08
20-30	186.97
30-40	8.27
40-50	4.81
50-60	4.78
60-70	4.99
70-80	5.21
80-90	2.66
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









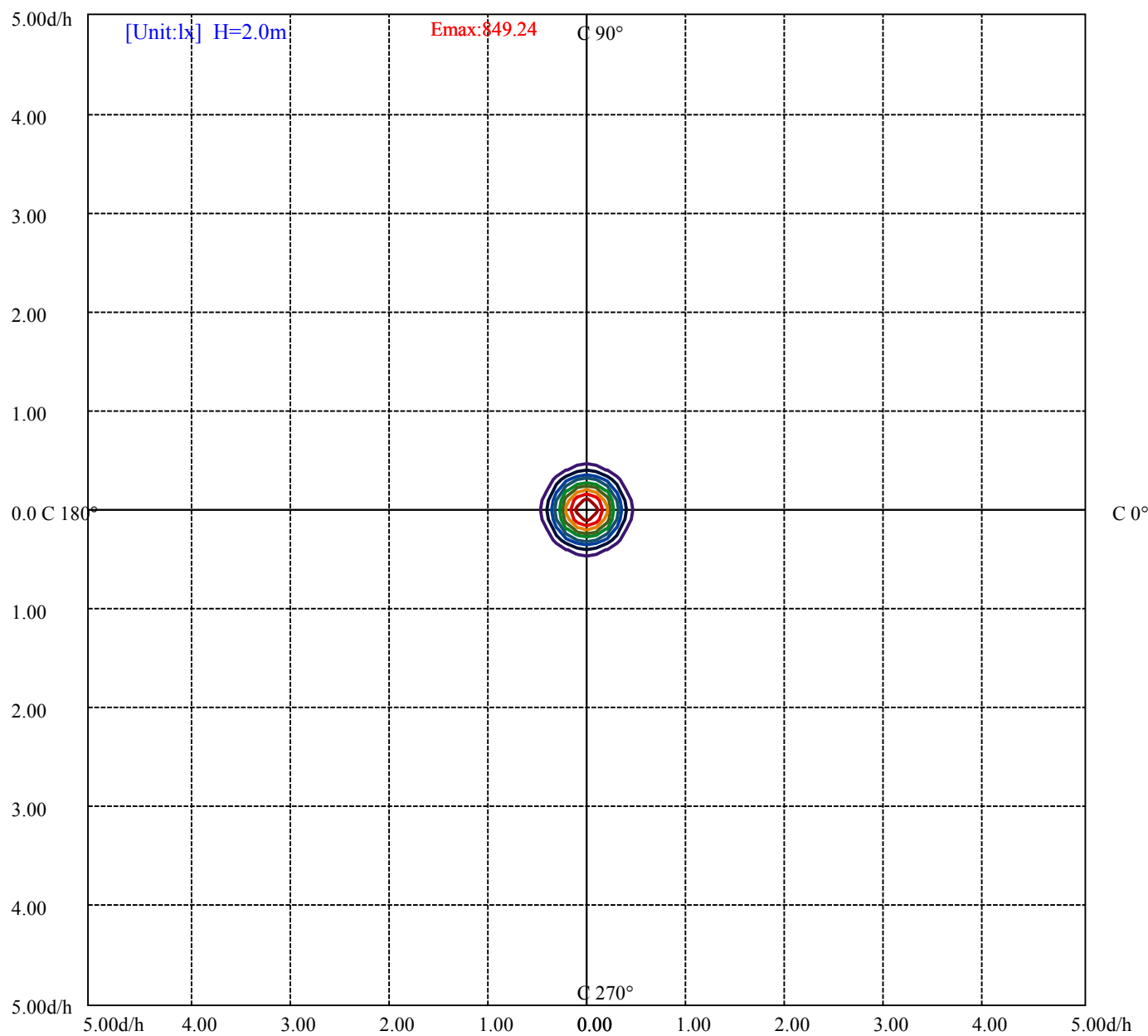
House

[Unit:cd]

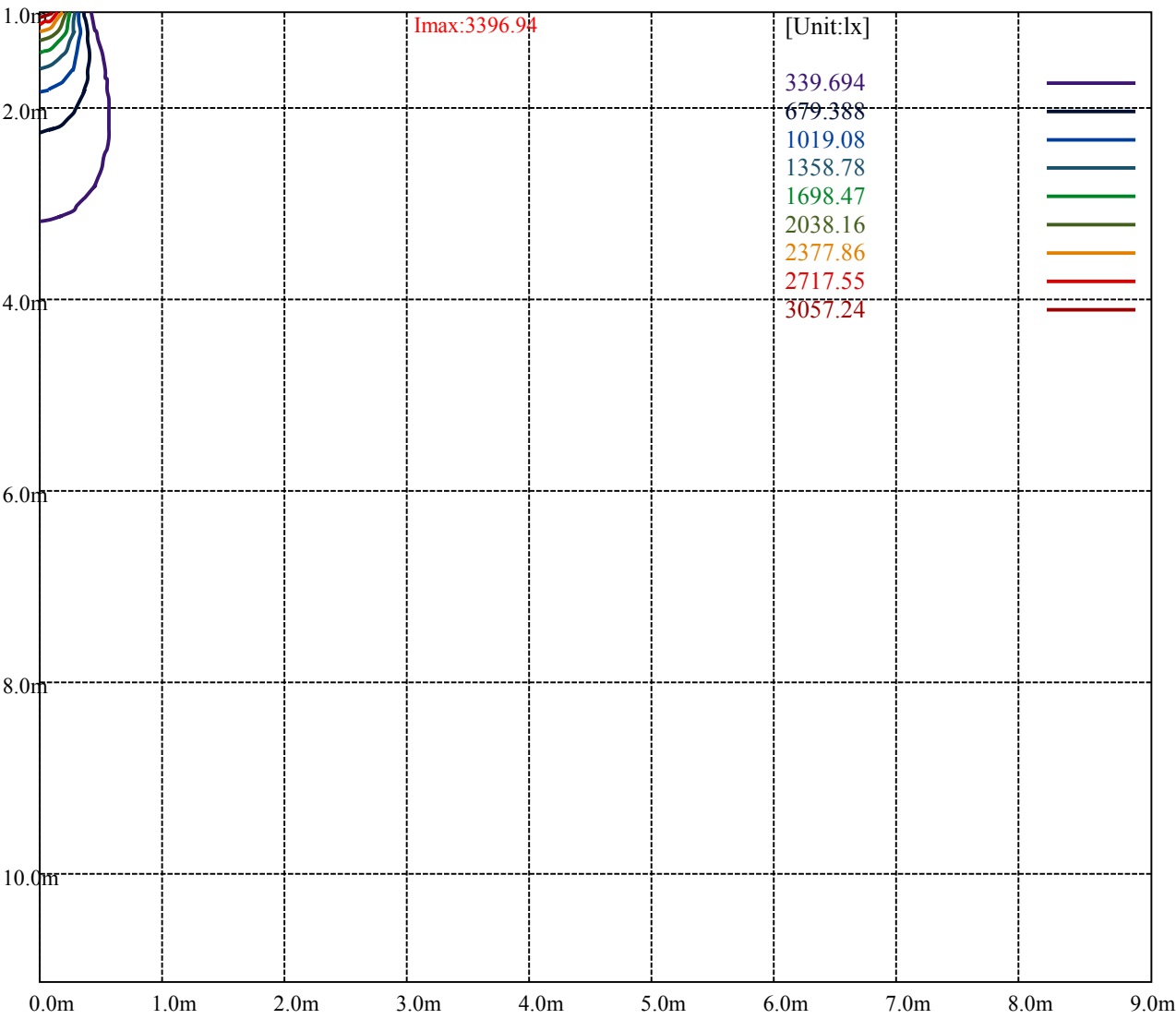
Road

Imax:3396.94

(10%Imax)	339.694	—
(20%Imax)	679.388	—
(30%Imax)	1019.08	—
(40%Imax)	1358.78	—
(50%Imax)	1698.47	—
(60%Imax)	2038.16	—
(70%Imax)	2377.86	—
(80%Imax)	2717.55	—
(90%Imax)	3057.24	—



(10%E _{max}) 84.92325	—
(20%E _{max}) 169.8468	—
(30%E _{max}) 254.77	—
(40%E _{max}) 339.6925	—
(50%E _{max}) 424.6175	—
(60%E _{max}) 509.54	—
(70%E _{max}) 594.4625	—
(80%E _{max}) 679.3875	—
(90%E _{max}) 764.31	—



Luminance Table

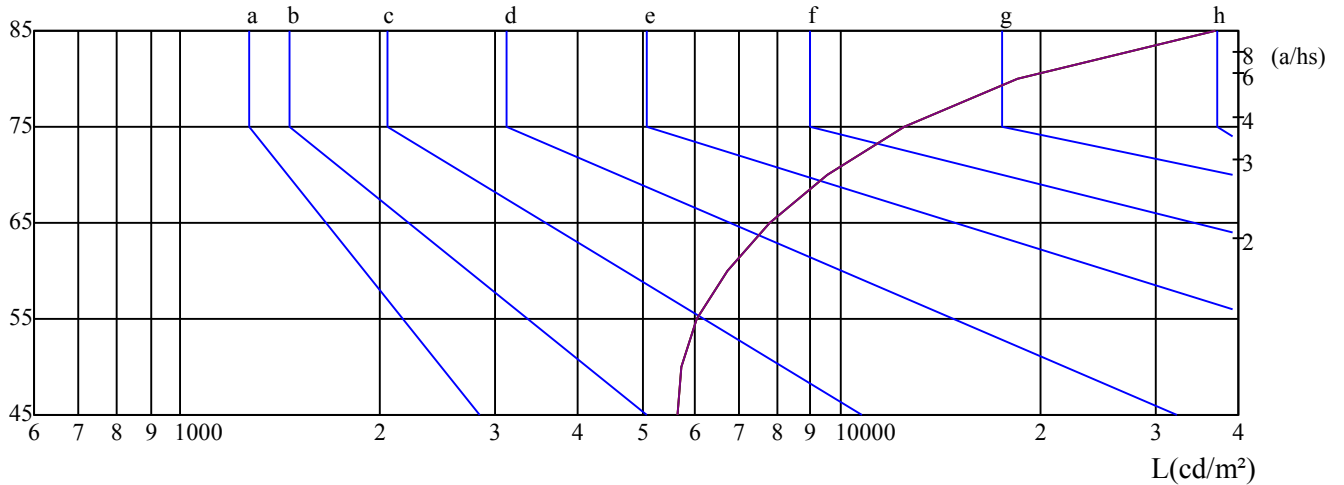
γ	45	50	55	60	65	70	75	80	85
C0	5662	5717	6069	6740	7799	9515	12503	18529	36916
C45	5662	5717	6069	6740	7799	9515	12503	18529	36916
C90	5662	5717	6069	6740	7799	9515	12503	18529	36916

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7799	7799	7799	12503	12503	12503	36916	36916	36916

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

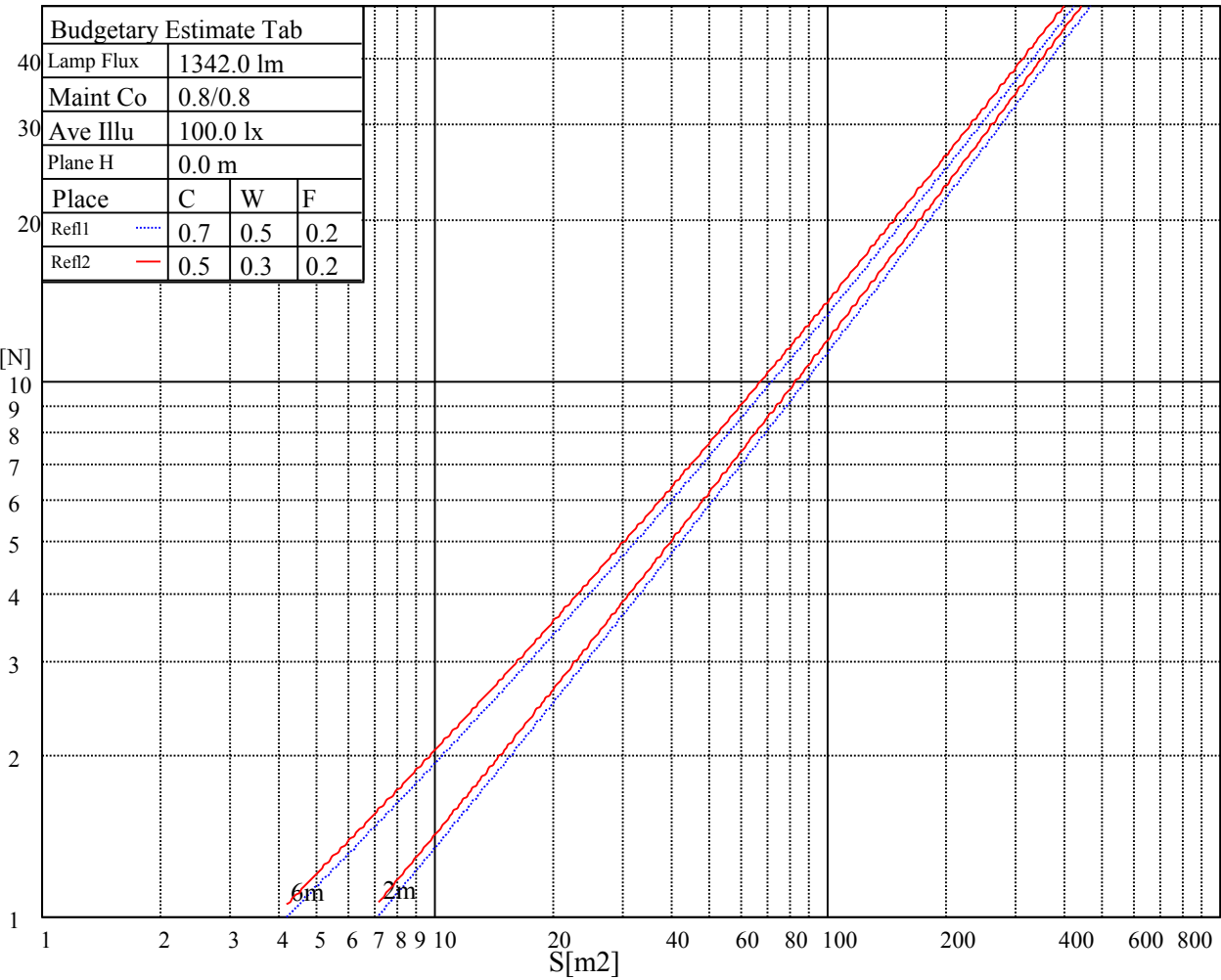
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

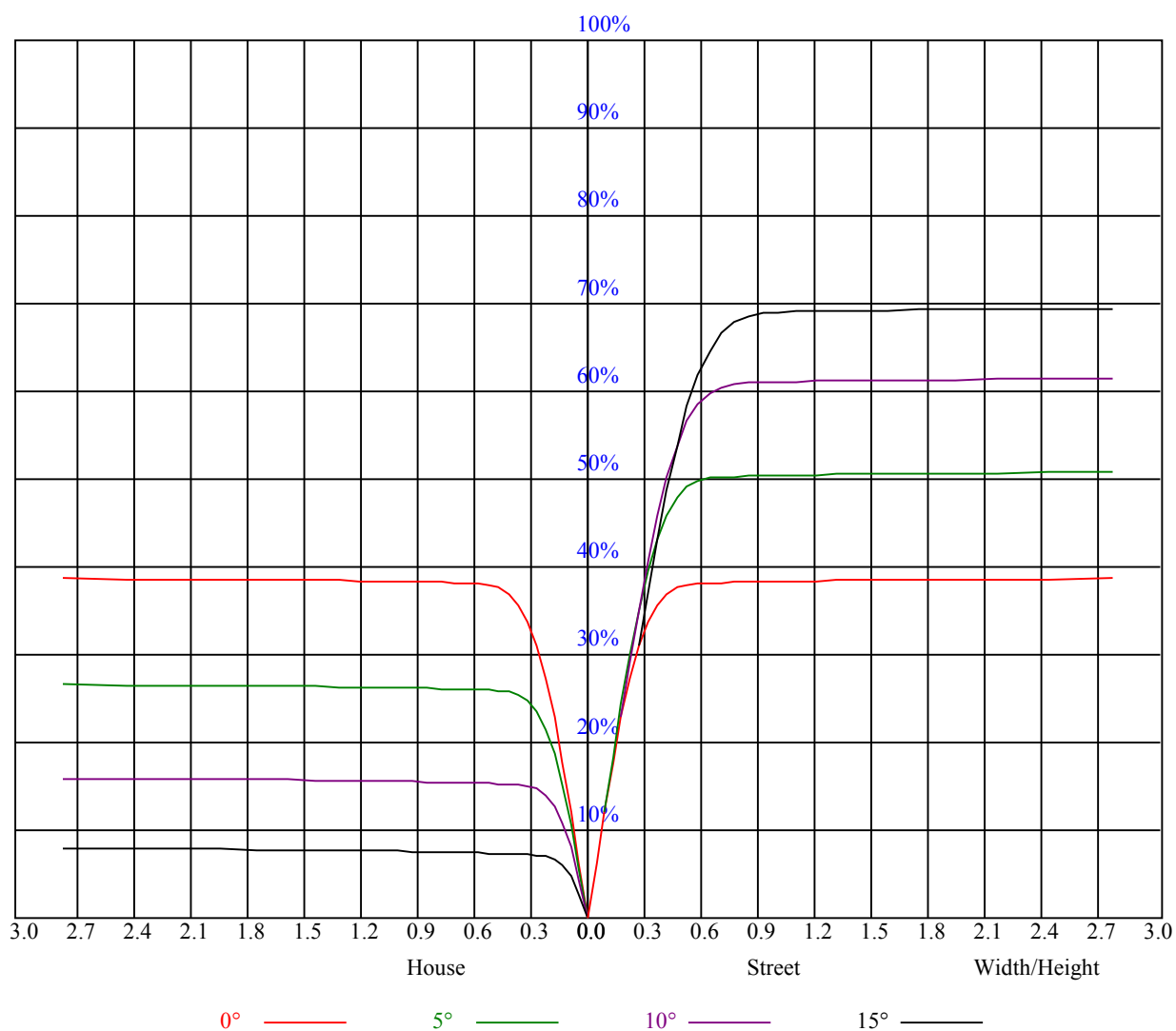
C0 ———

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	0.94	0.94	0.94	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84	0.80	0.80	0.80	0.79
1	0.89	0.87	0.85	0.87	0.85	0.84	0.84	0.83	0.82	0.81	0.80	0.79	0.78	0.77	0.77	0.76
2	0.84	0.82	0.80	0.83	0.81	0.79	0.80	0.79	0.77	0.78	0.77	0.75	0.76	0.75	0.74	0.73
3	0.80	0.77	0.75	0.79	0.77	0.74	0.77	0.75	0.73	0.76	0.74	0.72	0.74	0.72	0.71	0.70
4	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.73	0.71	0.69	0.72	0.70	0.69	0.68
5	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.71	0.69	0.67	0.70	0.68	0.66	0.65
6	0.71	0.68	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.69	0.66	0.64	0.68	0.66	0.64	0.63
7	0.69	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.66	0.64	0.62	0.61
8	0.67	0.63	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.62	0.60	0.64	0.62	0.60	0.59
9	0.65	0.61	0.59	0.64	0.61	0.59	0.64	0.61	0.59	0.63	0.60	0.59	0.62	0.60	0.58	0.58
10	0.63	0.59	0.57	0.62	0.59	0.57	0.62	0.59	0.57	0.61	0.59	0.57	0.61	0.58	0.57	0.56



Nata 1-0920-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	3387.94	3299.63	2958.75	2260.69	1355.06	421.88	45.39	11.59	7.82		
45.0	3402.00	3258.00	2853.00	2085.75	1166.06	314.44	27.06	9.45	7.20		
90.0	3394.69	3169.13	2610.00	1753.31	861.36	121.56	14.57	8.10	6.58		
135.0	3403.13	3200.63	2714.63	1935.56	1004.63	311.63	17.49	8.27	6.64		
180.0	3387.94	3159.00	2637.00	1802.81	864.68	149.01	14.91	8.10	6.69		
225.0	3402.00	3224.81	2727.00	1978.88	1062.51	217.24	21.04	9.00	6.86		
270.0	3394.69	3311.44	2951.44	2261.81	1422.00	474.75	45.17	11.48	7.71		
315.0	3403.13	3298.50	2881.13	2136.38	1019.53	363.43	36.06	10.41	7.65		
360.0	3387.94	3299.63	2958.75	2260.69	1355.06	421.88	45.39	11.59	7.82		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	6.47	5.79	5.46	5.23	5.12	5.01	5.01	4.95	4.95		
45.0	6.08	5.57	5.29	5.12	4.95	4.89	4.89	4.84	4.84		
90.0	5.79	5.46	5.18	5.06	5.01	4.95	4.89	4.89	4.89		
135.0	5.91	5.51	5.29	5.12	5.01	4.95	4.89	4.89	4.89		
180.0	5.91	5.51	5.29	5.18	5.06	5.01	5.01	4.95	4.95		
225.0	5.96	5.46	5.18	5.06	4.95	4.89	4.84	4.84	4.84		
270.0	6.30	5.74	5.34	5.12	5.01	4.95	4.89	4.89	4.89		
315.0	6.30	5.68	5.34	5.12	5.01	4.95	4.95	4.89	4.89		
360.0	6.47	5.79	5.46	5.23	5.12	5.01	5.01	4.95	4.95		
C/γ(°)	90.0										
0.0	4.95										
45.0	4.78										
90.0	4.84										
135.0	4.89										
180.0	4.95										
225.0	4.78										
270.0	4.78										
315.0	4.89										
360.0	4.95										