
Nata

LumCAT: 2-1794-N	
Luminaire: 92.70.131.00	
Report No: NT2018041106	Voltage(V): 34.6000
Test No: nata-0100	Current(A): 0.4000
LampCAT: CITIZEN CLU720	Power (W): 13.8400
Lamp flux(lm): 1758.2	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 69	Width(mm): 69
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1496.41
Efficiency(%): 85.11%
Lumens(lm)/Power(W): 110.56
Central intensity(cd): 5873.141
Maximum intensity(cd): 5873.141
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=25.4
[C90/270]Total=25.4
Field angle(10%Imax): [C0/180]Total=53.2
[C90/270]Total=53.2
Maximum s/h(1/2): C0_180=0.43 C90_270=0.43
Maximum s/h(1/4): C0_180=0.44 C90_270=0.44
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 87.02%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.506%

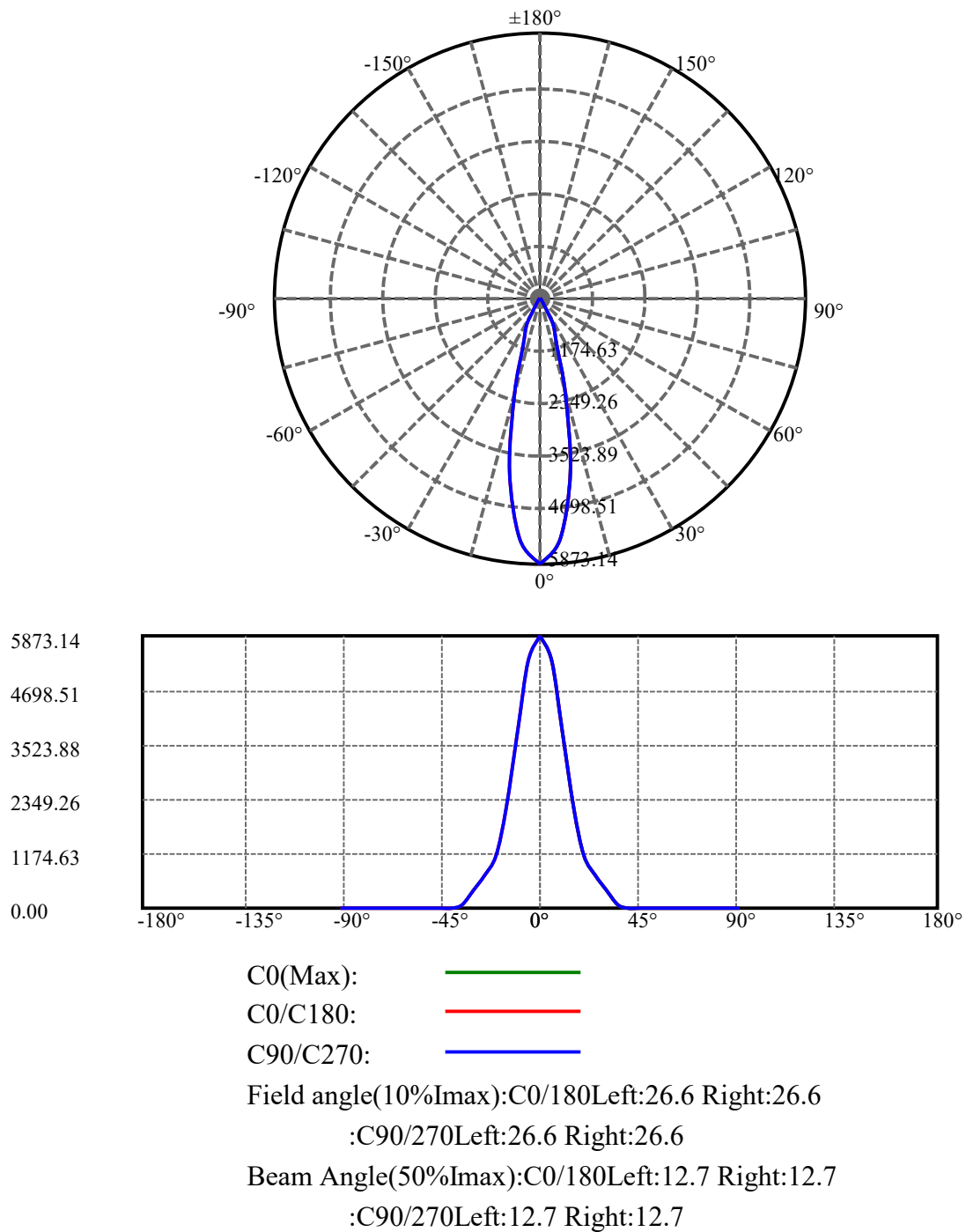
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5873.141	35.123	35.123	1.998%	2.347%
5.0	5321.408	254.221	289.344	14.459%	19.336%
10.0	3859.867	367.394	656.738	20.896%	43.888%
15.0	2160.757	306.543	963.281	17.435%	64.373%
20.0	1116.434	209.302	1172.583	11.904%	78.360%
25.0	676.712	156.762	1329.346	8.916%	88.836%
30.0	398.794	109.297	1438.643	6.216%	96.140%
35.0	63.852	20.075	1458.717	1.142%	97.481%
40.0	11.816	4.163	1462.881	.237%	97.760%
45.0	9.077	3.518	1466.399	.200%	97.995%
50.0	8.080	3.393	1469.792	.193%	98.222%
55.0	7.570	3.399	1473.191	.193%	98.449%
60.0	7.281	3.456	1476.647	.197%	98.680%
65.0	7.095	3.525	1480.172	.200%	98.915%
70.0	6.978	3.594	1483.766	.204%	99.155%
75.0	6.875	3.640	1487.407	.207%	99.399%
80.0	6.744	3.641	1491.047	.207%	99.642%
85.0	6.662	3.638	1494.685	.207%	99.885%
90.0	6.276	1.720	1496.405	.098%	100.000%

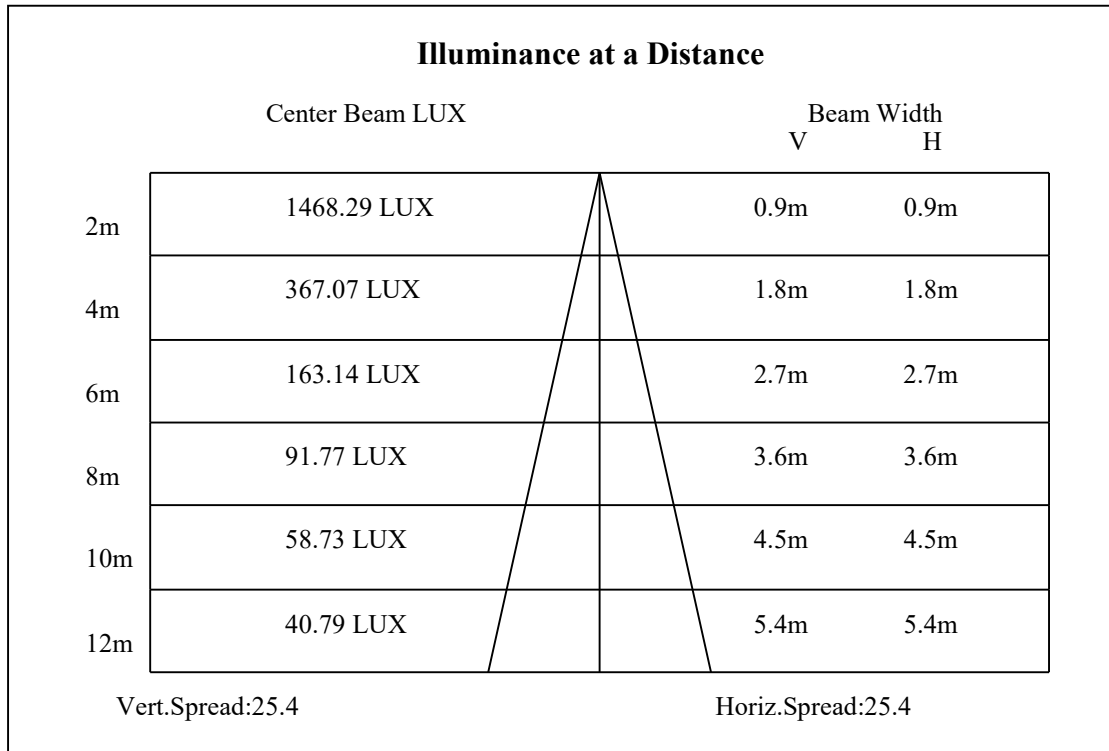
ZONAL LUMEN SUMMARY

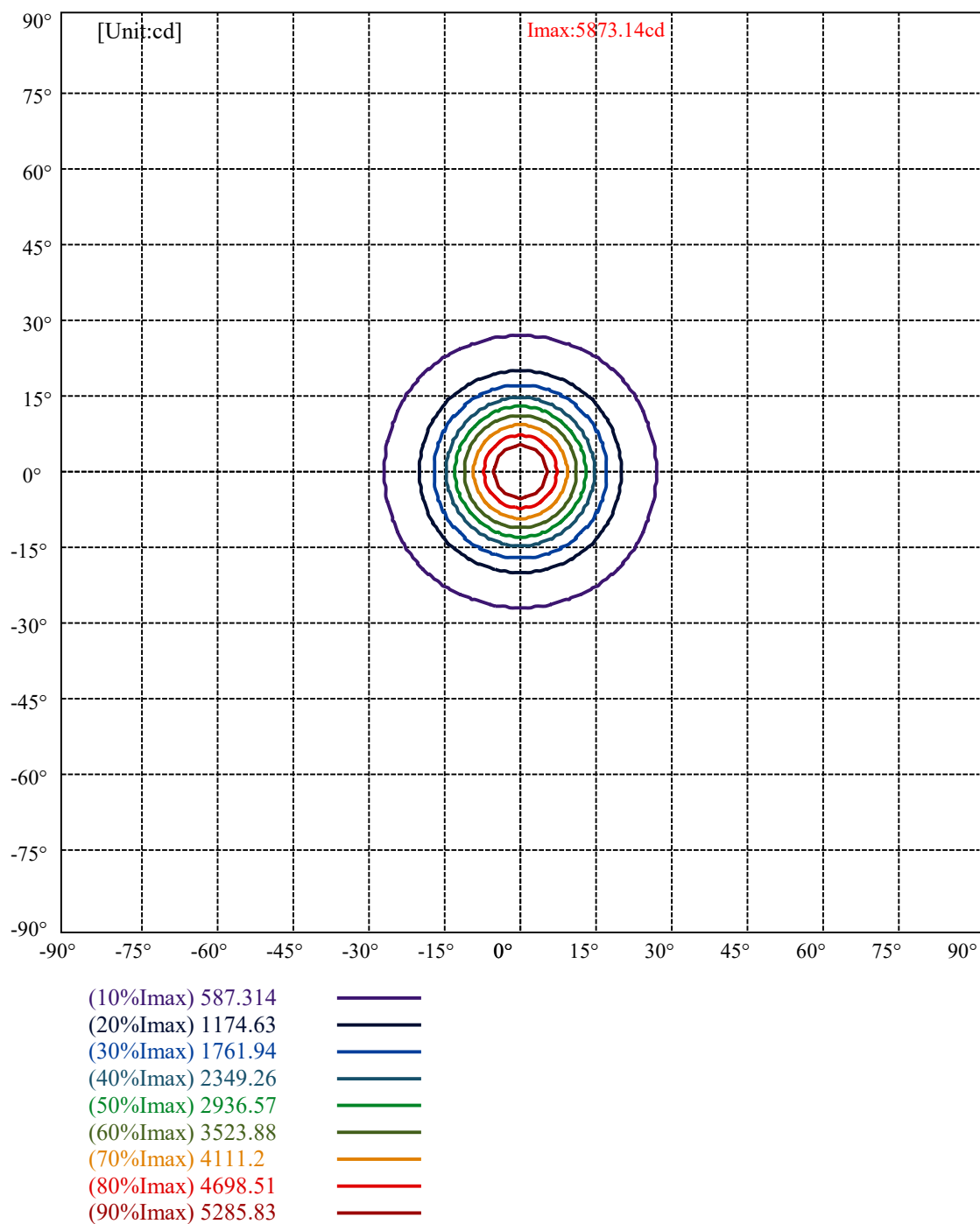
Zone	Lumens	%Lamp	%Fixt
0-30	1438.64	81.82%	96.14%
0-40	1462.88	83.20%	97.76%
0-60	1476.65	83.98%	98.68%
0-90	1494.68	85.01%	99.89%
0-120	1494.68	85.01%	99.89%
0-180	1496.41	85.11%	100.00%
60-90	21.49	1.22%	1.44%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-20.78	1197.12	68.09%	80.00%

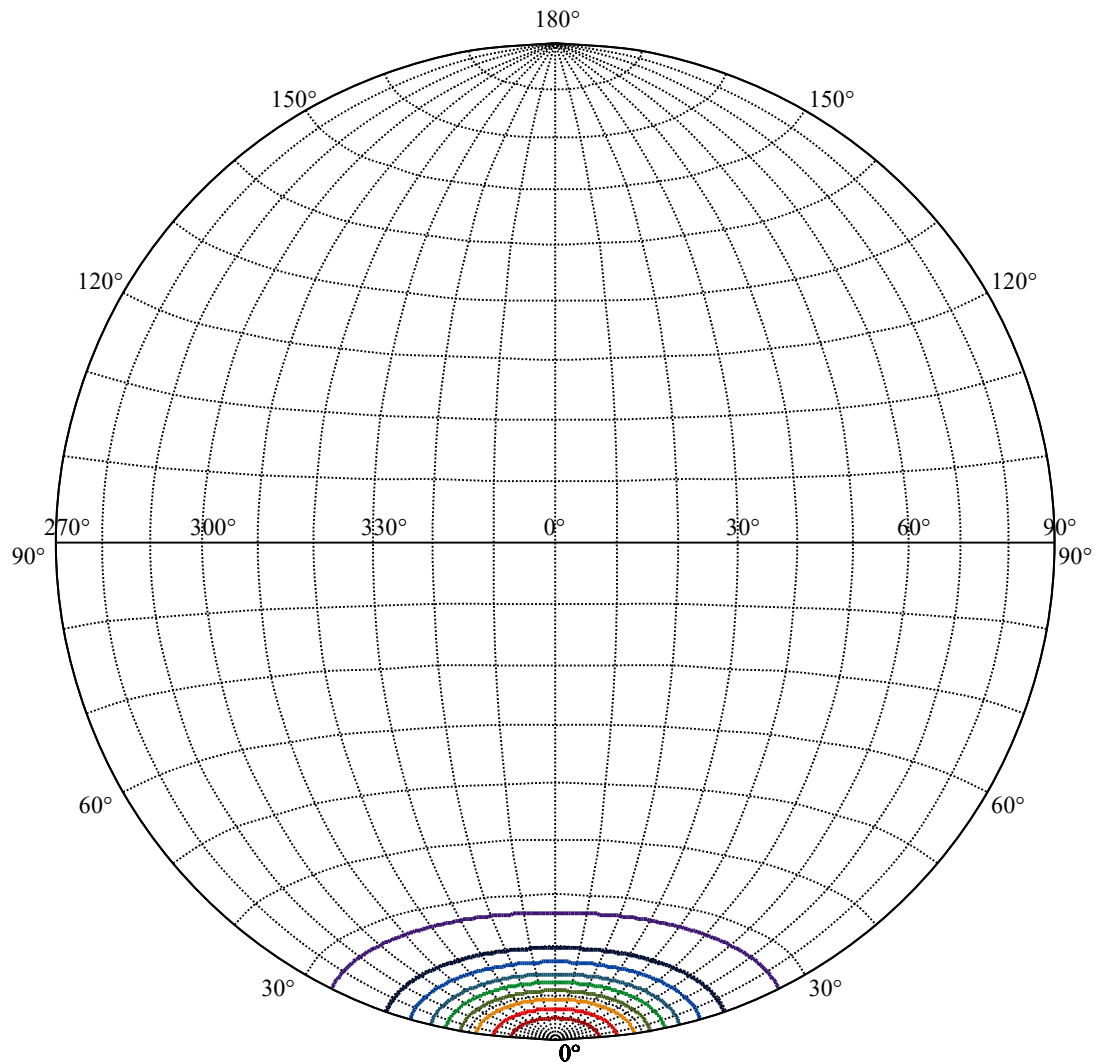
ZONAL LUMEN SUMMARY

0-10	656.74
10-20	515.85
20-30	266.06
30-40	24.24
40-50	6.91
50-60	6.86
60-70	7.12
70-80	7.28
80-90	3.64
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









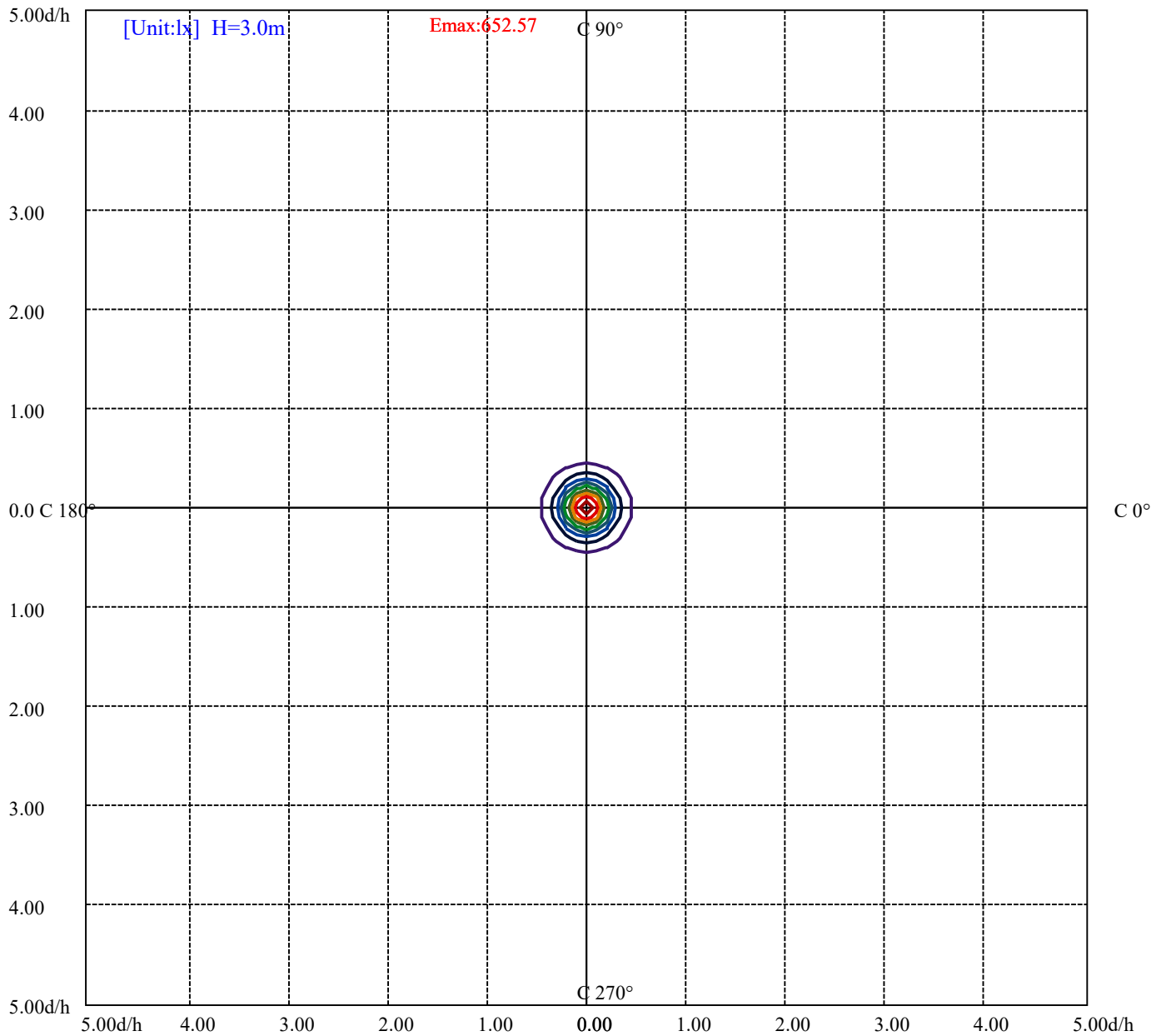
House

[Unit:cd]

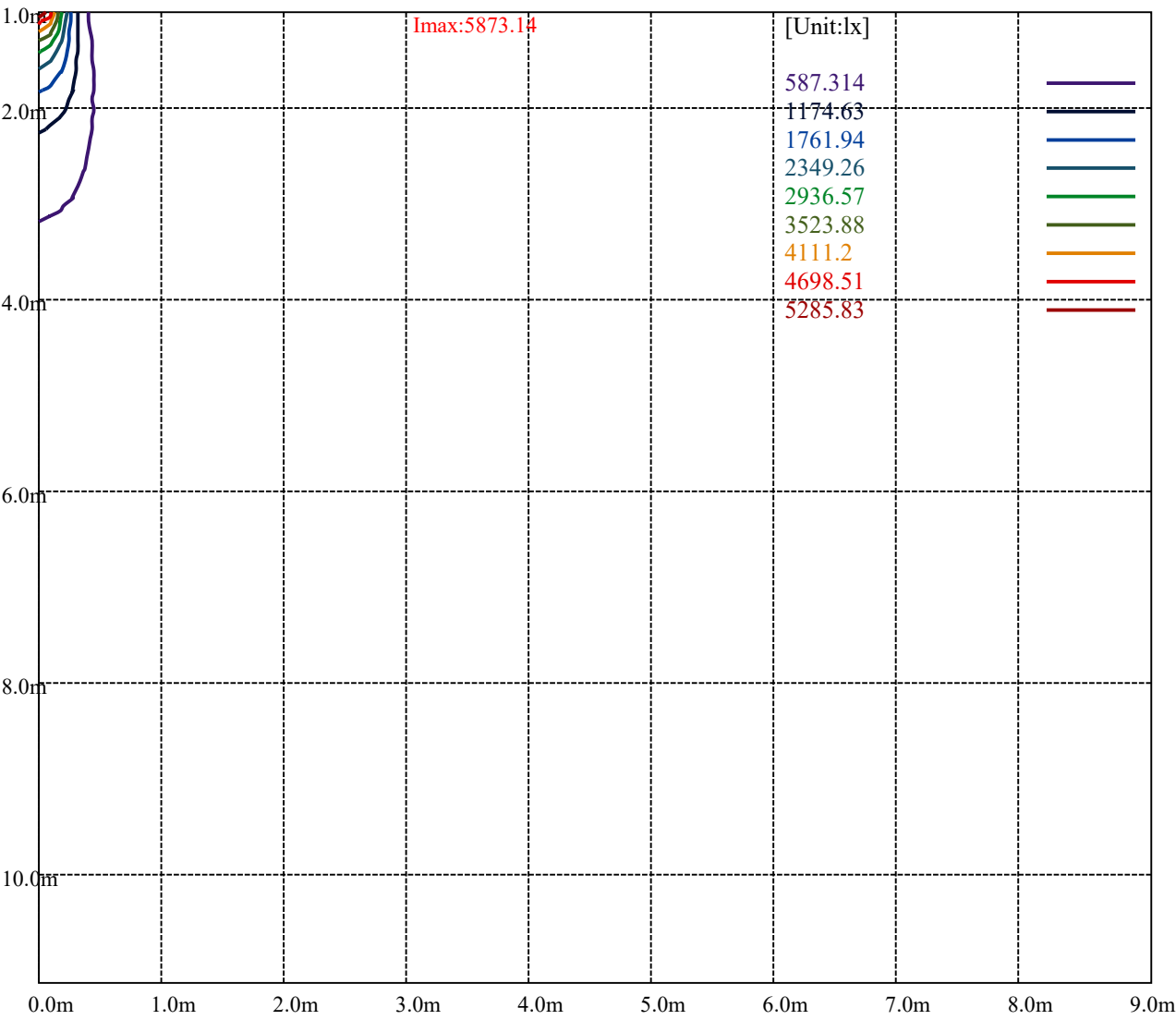
Road

I_{max}:5873.14

(10%I _{max})	587.314	—
(20%I _{max})	1174.63	—
(30%I _{max})	1761.94	—
(40%I _{max})	2349.26	—
(50%I _{max})	2936.57	—
(60%I _{max})	3523.88	—
(70%I _{max})	4111.2	—
(80%I _{max})	4698.51	—
(90%I _{max})	5285.83	—



(10%Emax)	65.25689	—
(20%Emax)	130.5133	—
(30%Emax)	195.7711	—
(40%Emax)	261.0278	—
(50%Emax)	326.2845	—
(60%Emax)	391.5411	—
(70%Emax)	456.7989	—
(80%Emax)	522.0555	—
(90%Emax)	587.3123	—



Luminance Table

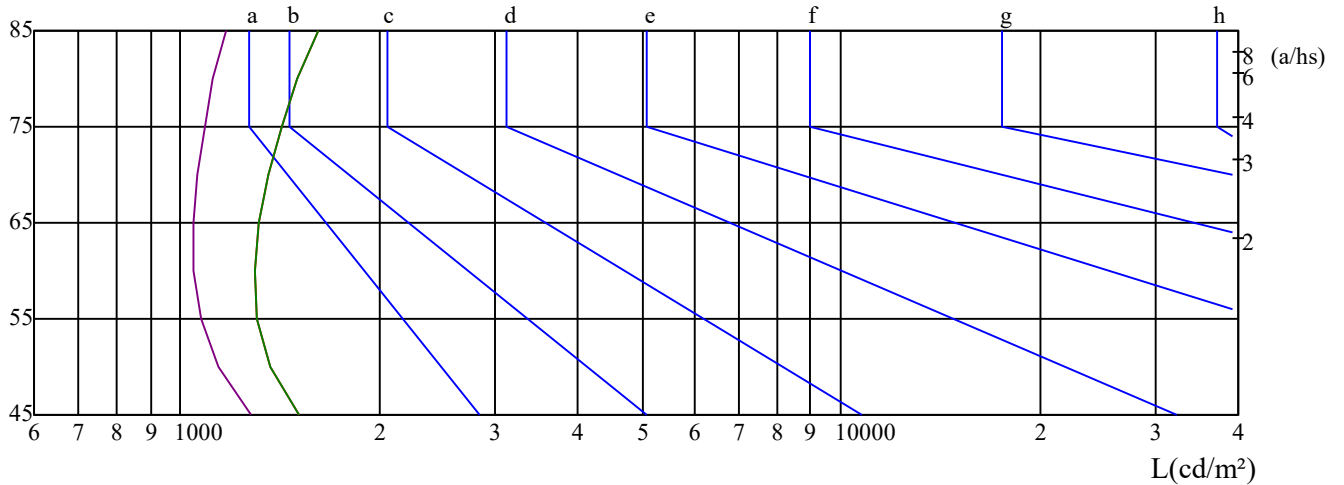
γ	45	50	55	60	65	70	75	80	85
C0	1513	1366	1309	1299	1317	1360	1423	1500	1614
C45	1280	1138	1074	1049	1045	1061	1087	1121	1176
C90	1513	1366	1309	1299	1317	1360	1423	1500	1614

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3526	3526	3526	5579	5579	5579	16055	16055	16055

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

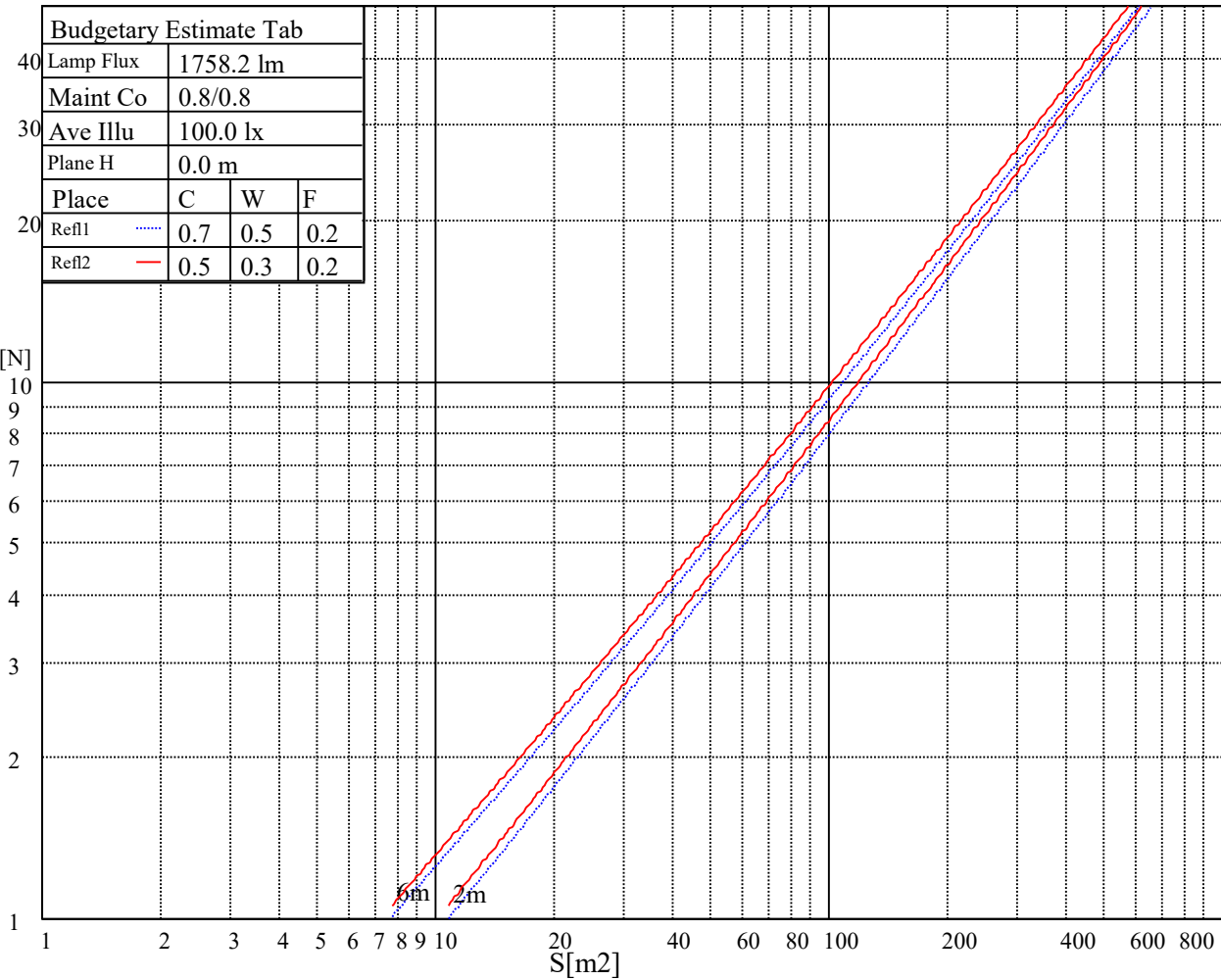
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

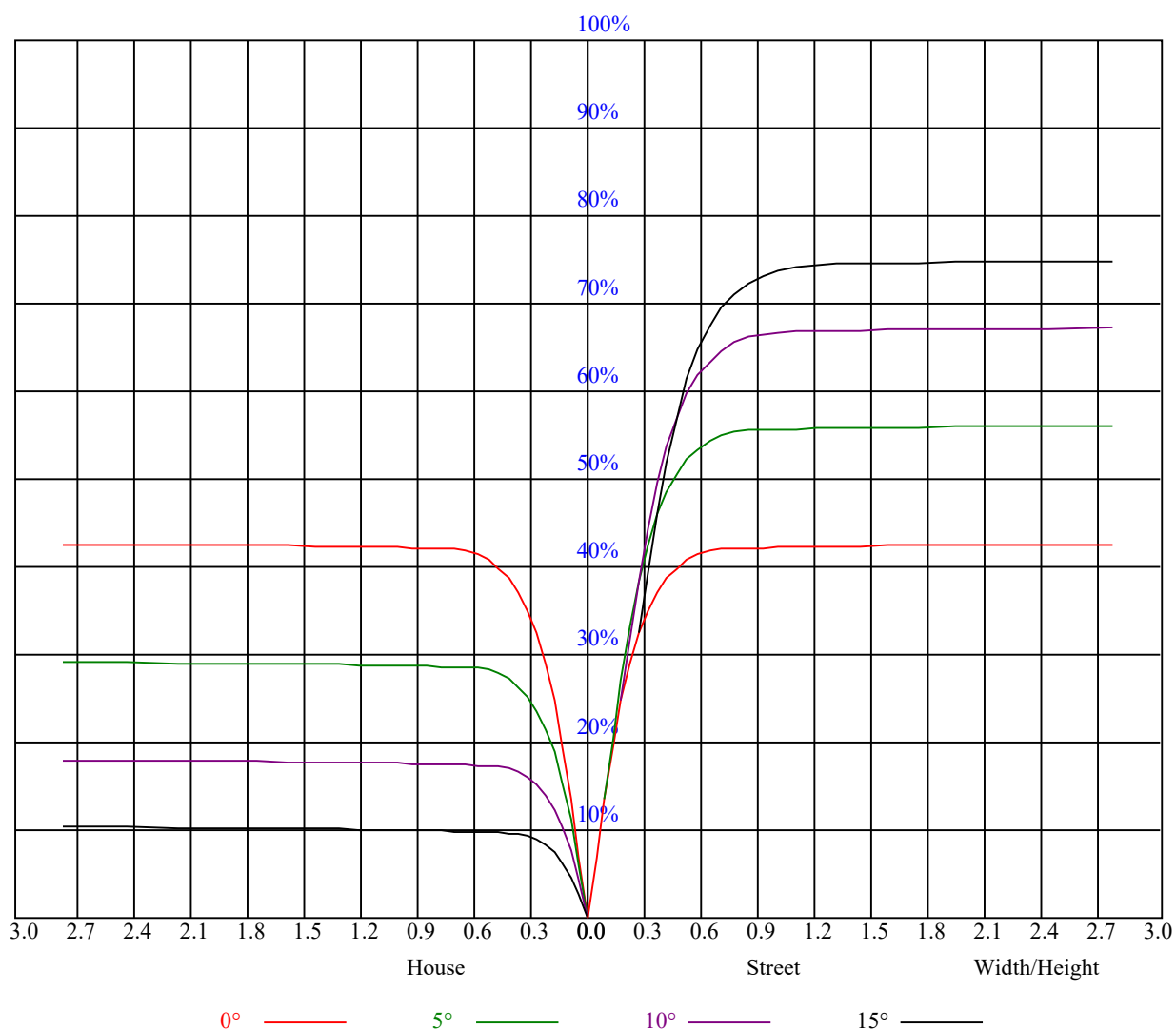
C0 ———

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	1.04	1.04	1.04	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.87
1	0.95	0.93	0.91	0.94	0.91	0.89	0.90	0.88	0.87	0.87	0.85	0.84	0.84	0.83	0.82	0.80
2	0.91	0.88	0.85	0.89	0.87	0.84	0.87	0.84	0.82	0.84	0.82	0.80	0.82	0.80	0.79	0.77
3	0.87	0.83	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.79	0.77	0.80	0.78	0.76	0.75
4	0.84	0.80	0.77	0.83	0.79	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.78	0.76	0.74	0.73
5	0.81	0.77	0.74	0.80	0.76	0.74	0.79	0.75	0.73	0.77	0.75	0.72	0.76	0.74	0.72	0.71
6	0.78	0.74	0.71	0.78	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.74	0.72	0.70	0.69
7	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.71	0.69	0.73	0.71	0.68	0.73	0.70	0.68	0.67
8	0.74	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.66
9	0.72	0.68	0.65	0.71	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.69	0.67	0.65	0.64
10	0.70	0.66	0.64	0.69	0.66	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.68	0.65	0.63	0.63



Nata 2-1794-N

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	5845.89	5635.02	4586.75	2684.00	1384.12	755.37	554.42	172.93	11.95		
45.0	5851.94	5717.61	4544.91	2741.81	1408.89	779.05	558.82	177.67	13.49		
90.0	5908.10	5477.01	3940.39	2121.32	1056.92	652.14	392.11	43.44	12.33		
135.0	5886.63	5405.99	3956.35	2306.86	1187.57	703.07	465.78	36.28	11.51		
180.0	5845.89	4987.01	3355.69	1772.82	920.32	635.85	270.99	16.68	10.08		
225.0	5851.94	4892.86	3169.60	1715.01	902.98	619.94	248.19	17.29	10.96		
270.0	5908.10	5188.52	3639.23	1929.18	991.57	597.91	320.98	26.76	13.21		
315.0	5886.63	5267.25	3686.03	2015.06	1079.11	670.37	379.06	19.77	11.01		
360.0	5845.89	5635.02	4586.75	2684.00	1384.12	755.37	554.42	172.93	11.95		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	8.64	7.82	7.32	7.16	7.10	6.99	6.88	6.72	6.61		
45.0	9.14	8.04	7.54	7.27	6.99	6.88	6.83	6.72	6.61		
90.0	9.41	8.20	7.60	7.21	7.05	6.99	6.94	6.88	6.72		
135.0	9.14	8.15	7.65	7.32	7.10	7.05	6.99	6.83	6.83		
180.0	8.53	7.87	7.54	7.43	7.27	7.10	6.94	6.88	6.83		
225.0	9.19	8.20	7.76	7.43	7.27	7.05	6.88	6.66	6.61		
270.0	9.97	8.64	7.82	7.38	7.10	6.99	6.88	6.72	6.66		
315.0	8.59	7.71	7.32	7.05	6.88	6.77	6.66	6.55	6.44		
360.0	8.64	7.82	7.32	7.16	7.10	6.99	6.88	6.72	6.61		
C/γ(°)	90.0										
0.0	6.39										
45.0	6.33										
90.0	6.22										
135.0	6.22										
180.0	6.22										
225.0	6.33										
270.0	6.28										
315.0	6.22										
360.0	6.39										