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Nata

LumCAT: 2-1794-N
Luminaire: 92.70.135.00
Report No: NATA0100
Test No: GC2018070203
LampCAT: NICHIA NFCWD096B-V3
Lamp flux(lm): 2220.8
Number of Lamps: 1
Length(mm): 69
Phm Type: C

Voltage(V): 34.1000
Current(A): 0.5000
Power (W): 17.0500
PF: 0.0000
Ballast type: DC
Width(mm): 69
Height(mm): 0

Photometric Results

Lumens(lm): 1869.96
Efficiency(%): 84.20%
Lumens(lm)/Power(W): 109.68
Central intensity(cd): 6340.296
Maximum intensity(cd): 6340.296
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=27.1
[C90/270]Total=27.1
Field angle(10%Imax): [C0/180]Total=57.2
[C90/270]Total=57.2
Maximum s/h(1/2): C0_180=0.46 C90_270=0.46
Maximum s/h(1/4): C0_180=0.47 C90_270=0.47
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 85.83%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.437%

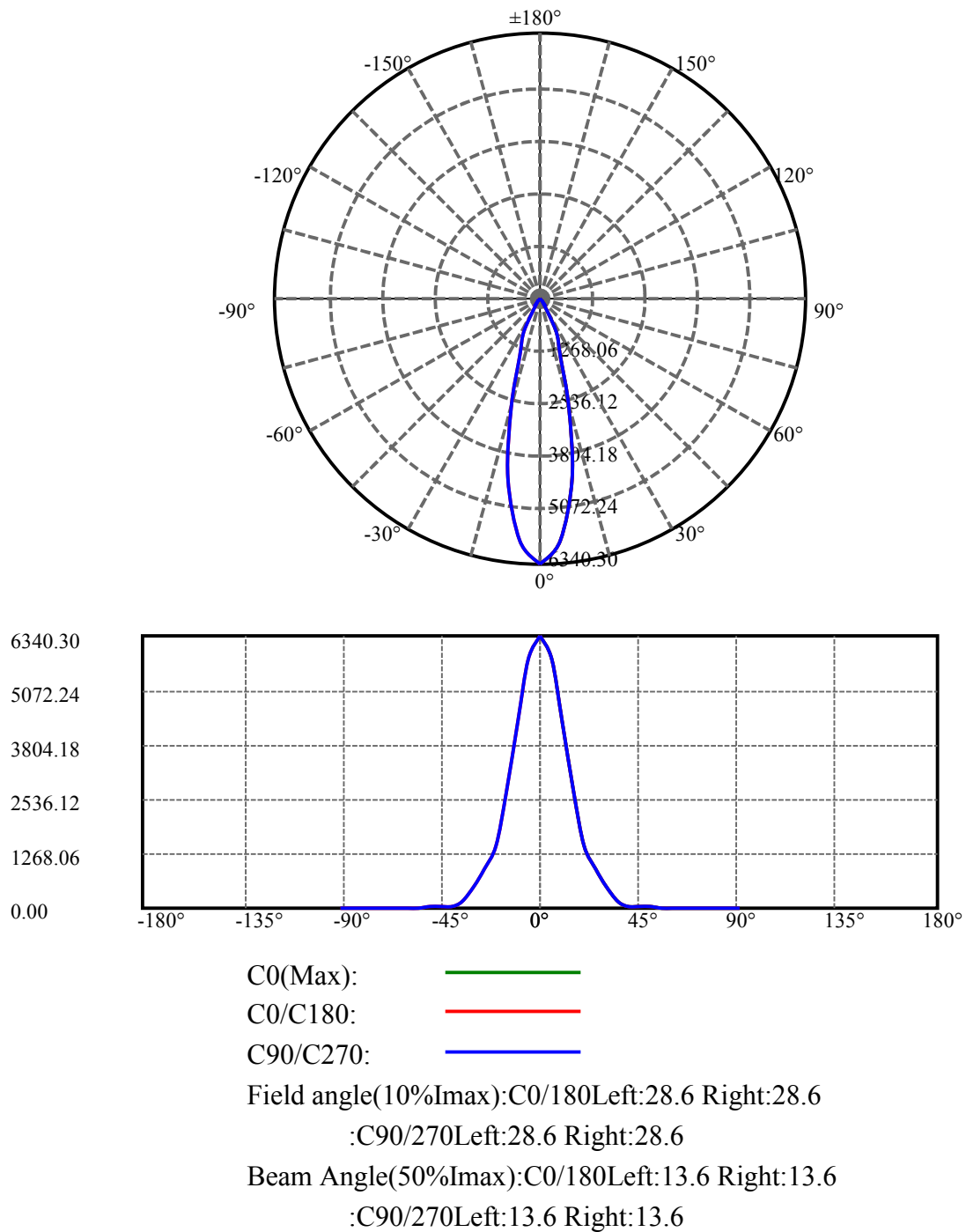
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6340.295	37.916	37.916	1.707%	2.028%
5.0	5779.435	276.103	314.019	12.432%	16.793%
10.0	4363.825	415.362	729.381	18.703%	39.005%
15.0	2684.880	380.900	1110.281	17.151%	59.375%
20.0	1441.156	270.179	1380.46	12.166%	73.823%
25.0	916.744	212.366	1592.827	9.562%	85.180%
30.0	522.761	143.272	1736.099	6.451%	92.841%
35.0	160.544	50.475	1786.574	2.273%	95.541%
40.0	43.384	15.286	1801.86	.688%	96.358%
45.0	29.510	11.438	1813.298	.515%	96.970%
50.0	22.298	9.363	1822.661	.422%	97.471%
55.0	18.224	8.183	1830.843	.368%	97.908%
60.0	15.471	7.344	1838.187	.331%	98.301%
65.0	13.269	6.592	1844.779	.297%	98.653%
70.0	12.057	6.211	1850.989	.280%	98.985%
75.0	11.066	5.859	1856.849	.264%	99.299%
80.0	10.296	5.558	1862.406	.250%	99.596%
85.0	9.635	5.261	1867.667	.237%	99.877%
90.0	8.369	2.294	1869.961	.103%	100.000%

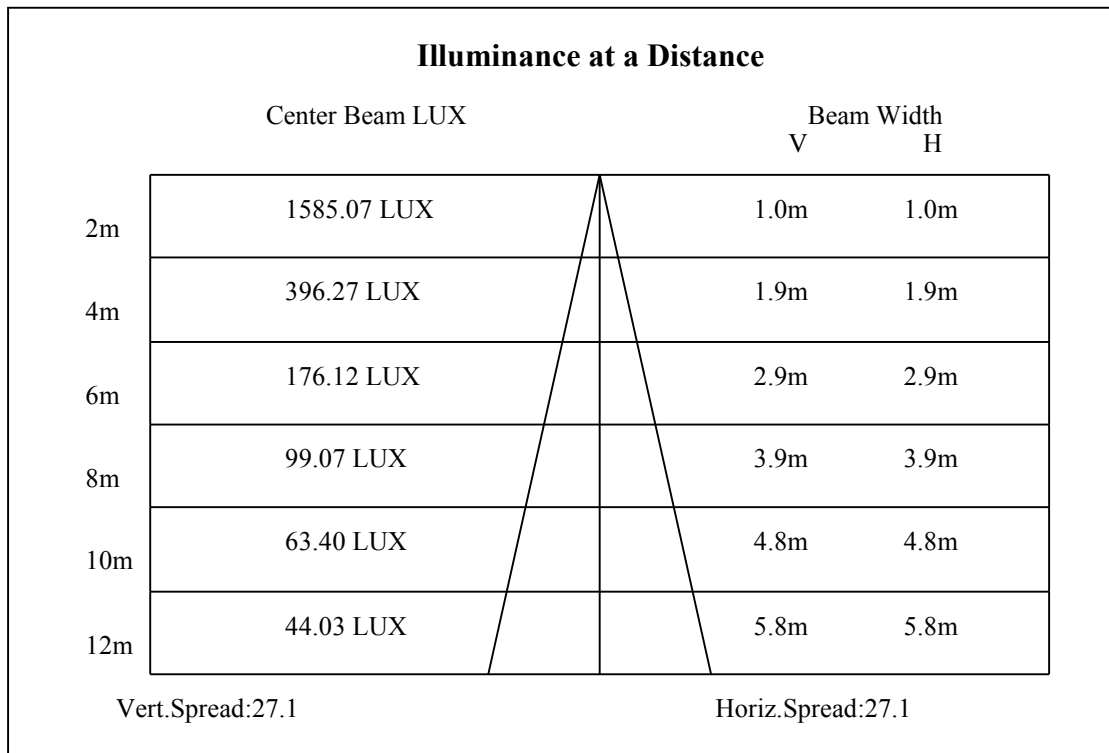
ZONAL LUMEN SUMMARY

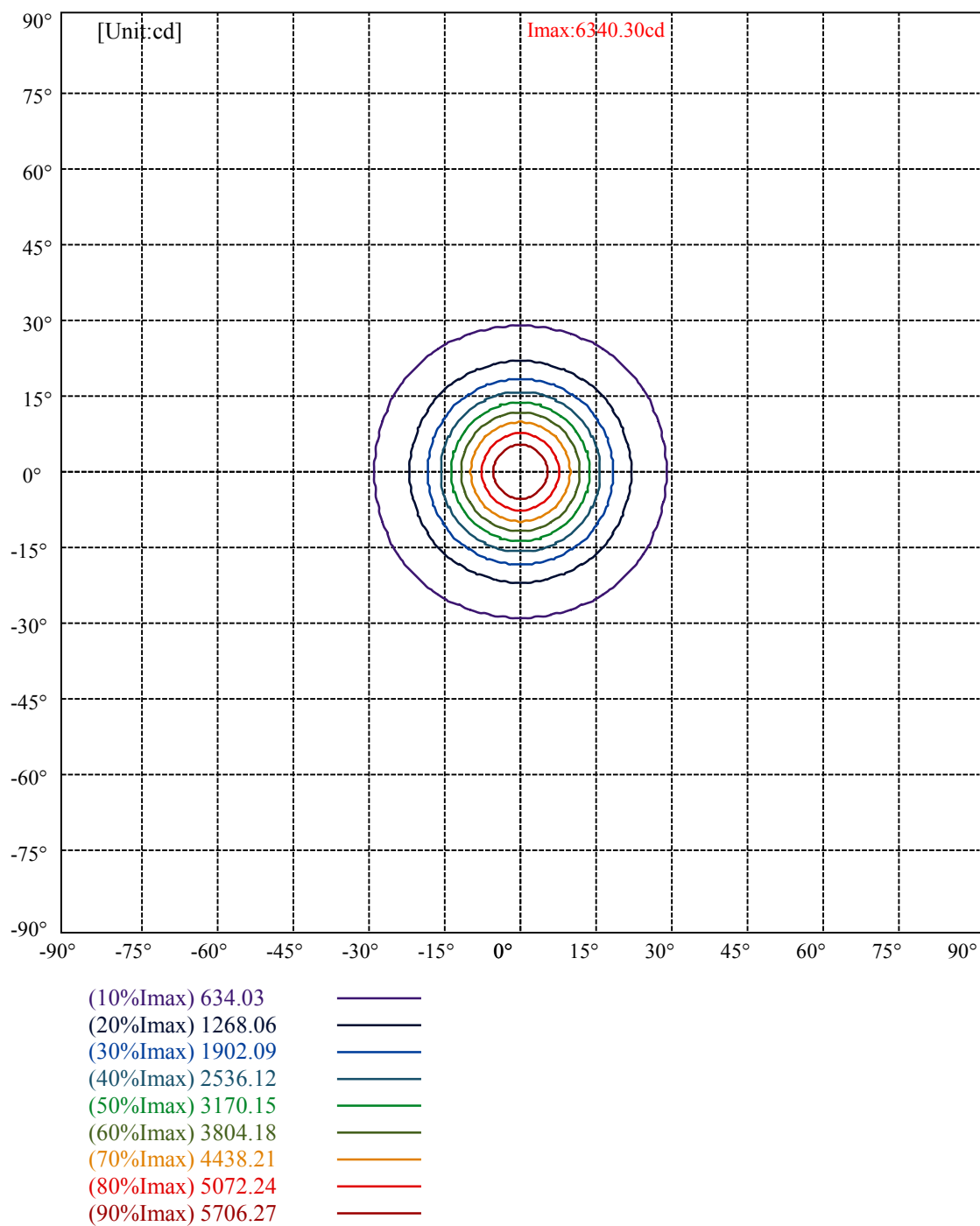
Zone	Lumens	%Lamp	%Fixt
0-30	1736.10	78.17%	92.84%
0-40	1801.86	81.13%	96.36%
0-60	1838.19	82.77%	98.30%
0-90	1867.67	84.10%	99.88%
0-120	1867.67	84.10%	99.88%
0-180	1869.96	84.20%	100.00%
60-90	36.82	1.66%	1.97%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-22.72	1495.97	67.36%	80.00%

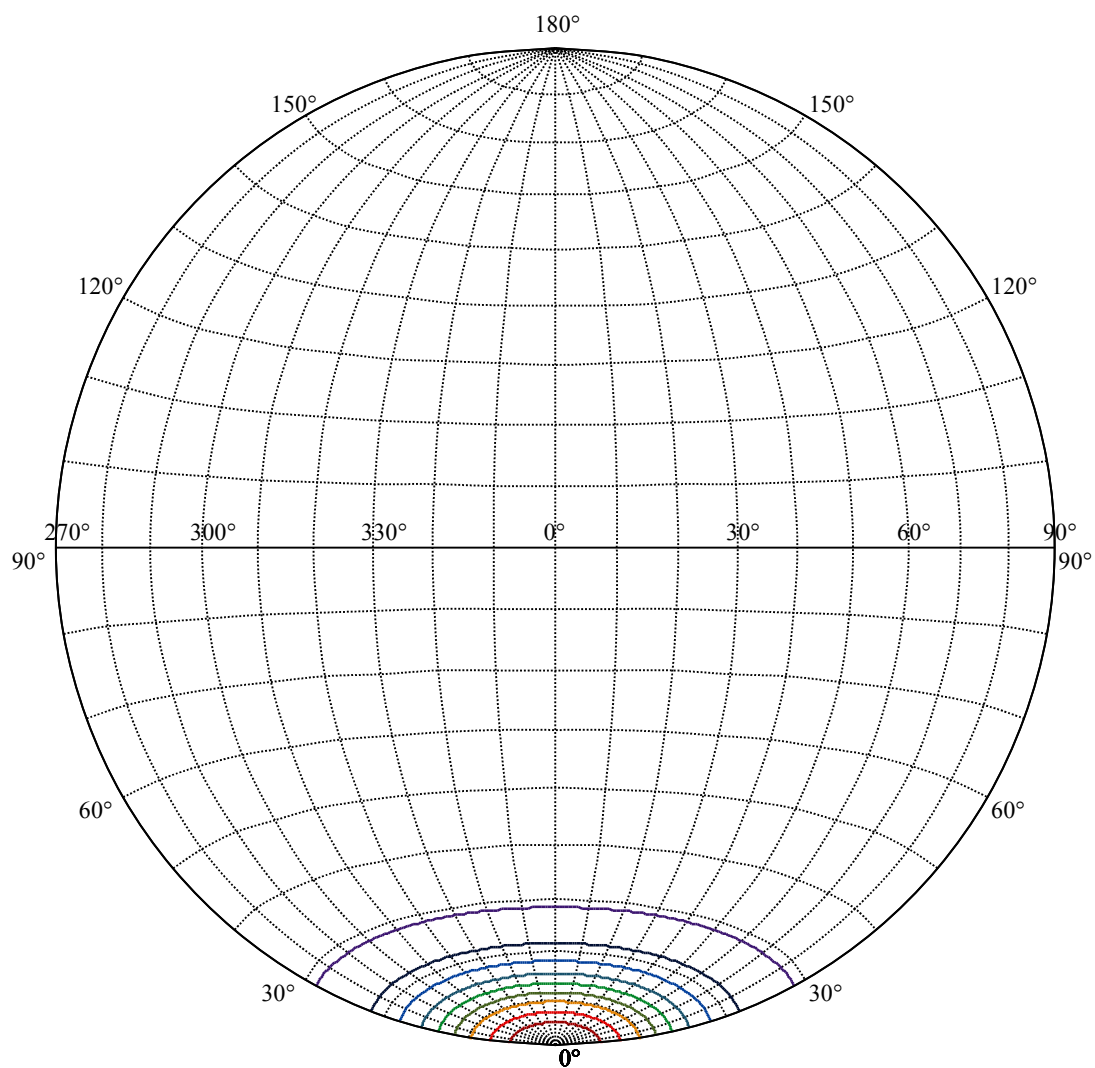
ZONAL LUMEN SUMMARY

0-10	729.38
10-20	651.08
20-30	355.64
30-40	65.76
40-50	20.80
50-60	15.53
60-70	12.80
70-80	11.42
80-90	5.26
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









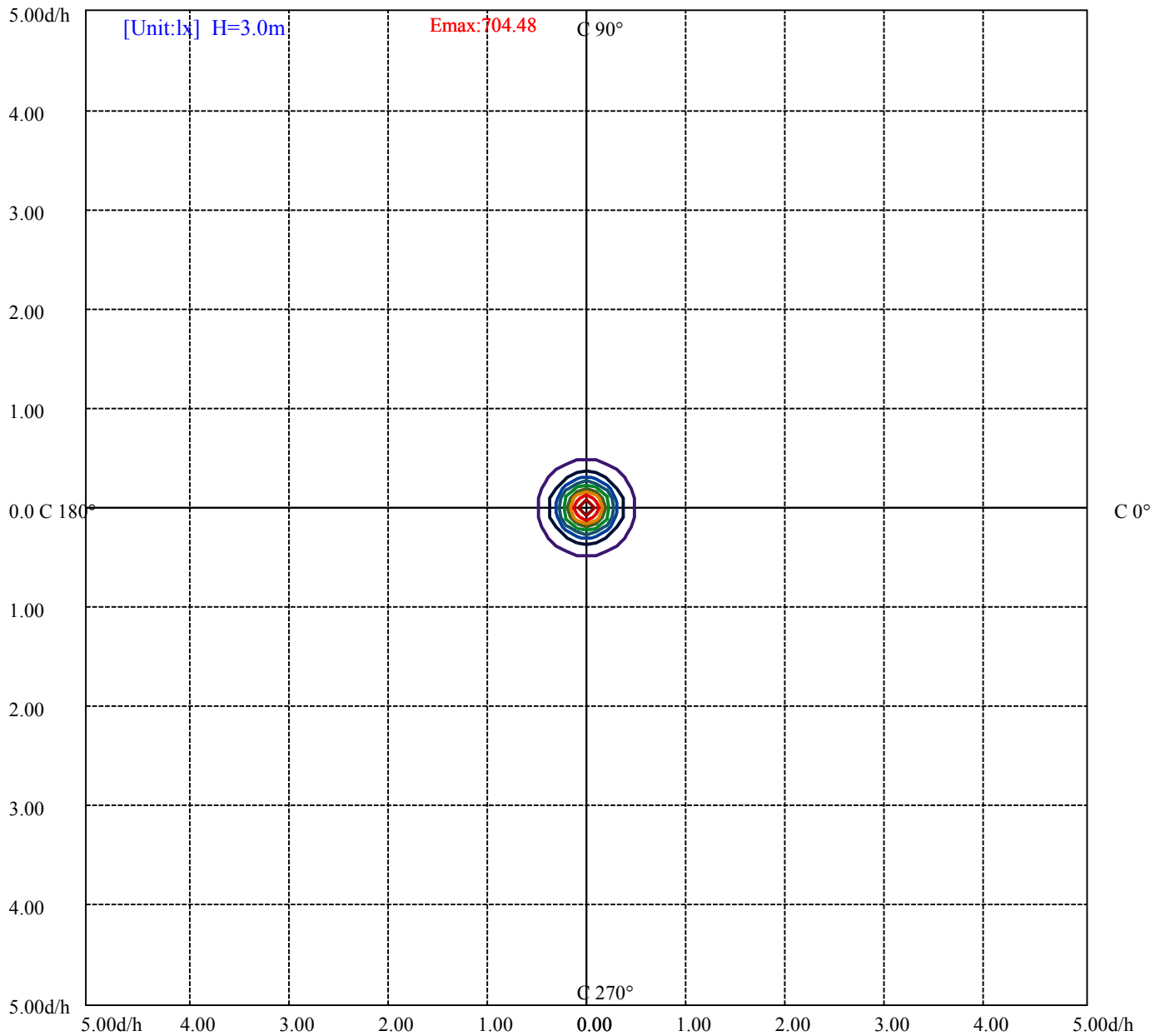
House

[Unit:cd]

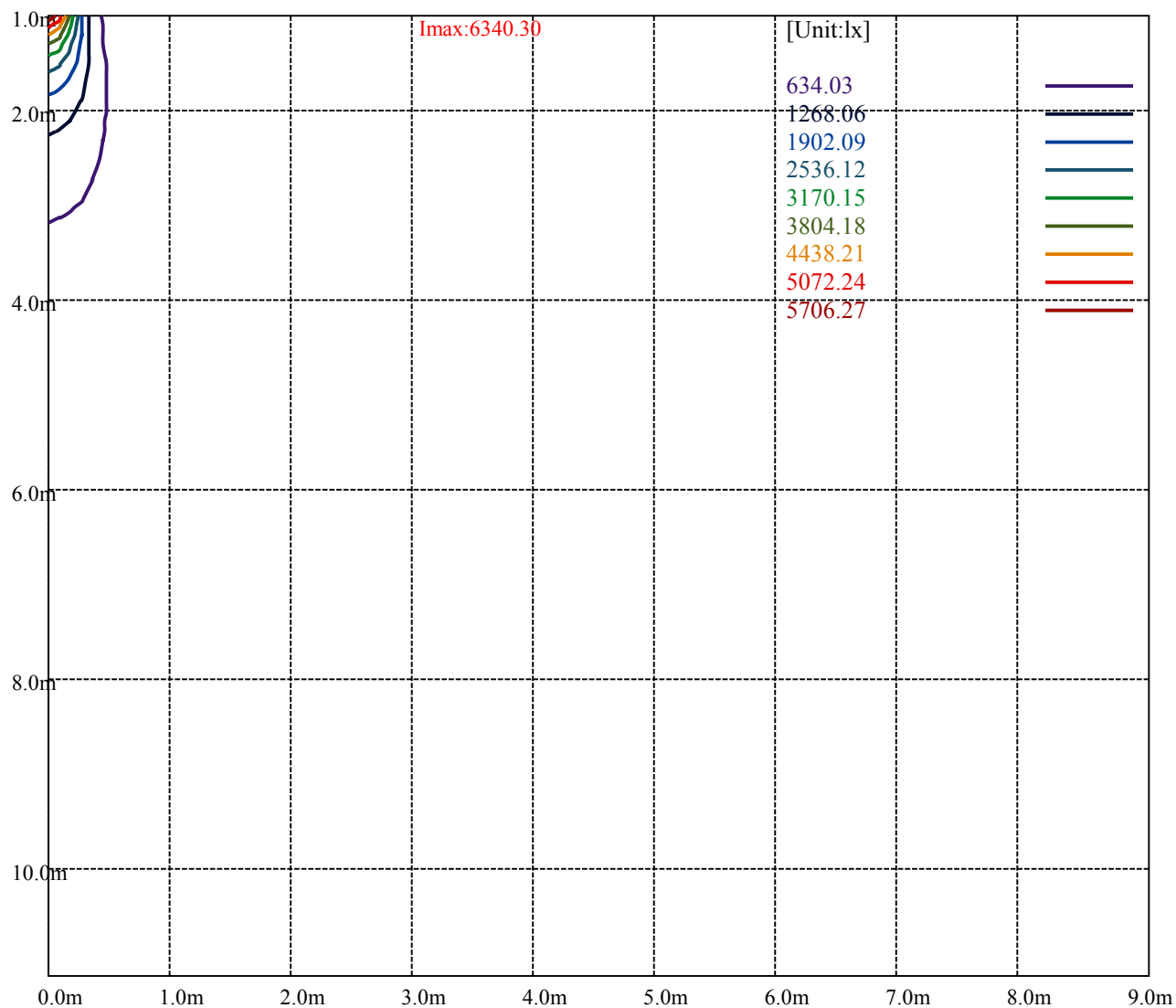
Road

Imax:6340.30

(10%Imax)	634.03	—
(20%Imax)	1268.06	—
(30%Imax)	1902.09	—
(40%Imax)	2536.12	—
(50%Imax)	3170.15	—
(60%Imax)	3804.18	—
(70%Imax)	4438.21	—
(80%Imax)	5072.24	—
(90%Imax)	5706.27	—



(10%Emax)	70.44756	—
(20%Emax)	140.8956	—
(30%Emax)	211.3422	—
(40%Emax)	281.79	—
(50%Emax)	352.2378	—
(60%Emax)	422.6855	—
(70%Emax)	493.1334	—
(80%Emax)	563.58	—
(90%Emax)	634.0278	—



Luminance Table

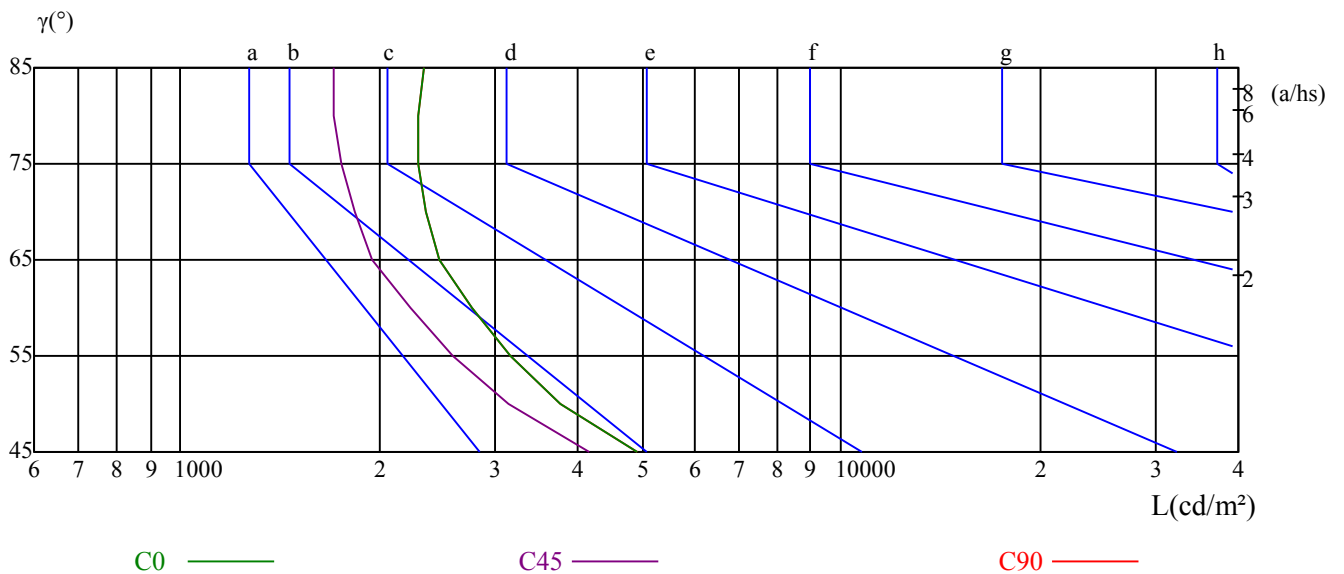
γ	45	50	55	60	65	70	75	80	85
C0	4917	3770	3151	2759	2462	2351	2291	2290	2335
C45	4161	3142	2586	2228	1955	1832	1750	1711	1701
C90	4917	3770	3151	2759	2462	2351	2291	2290	2335

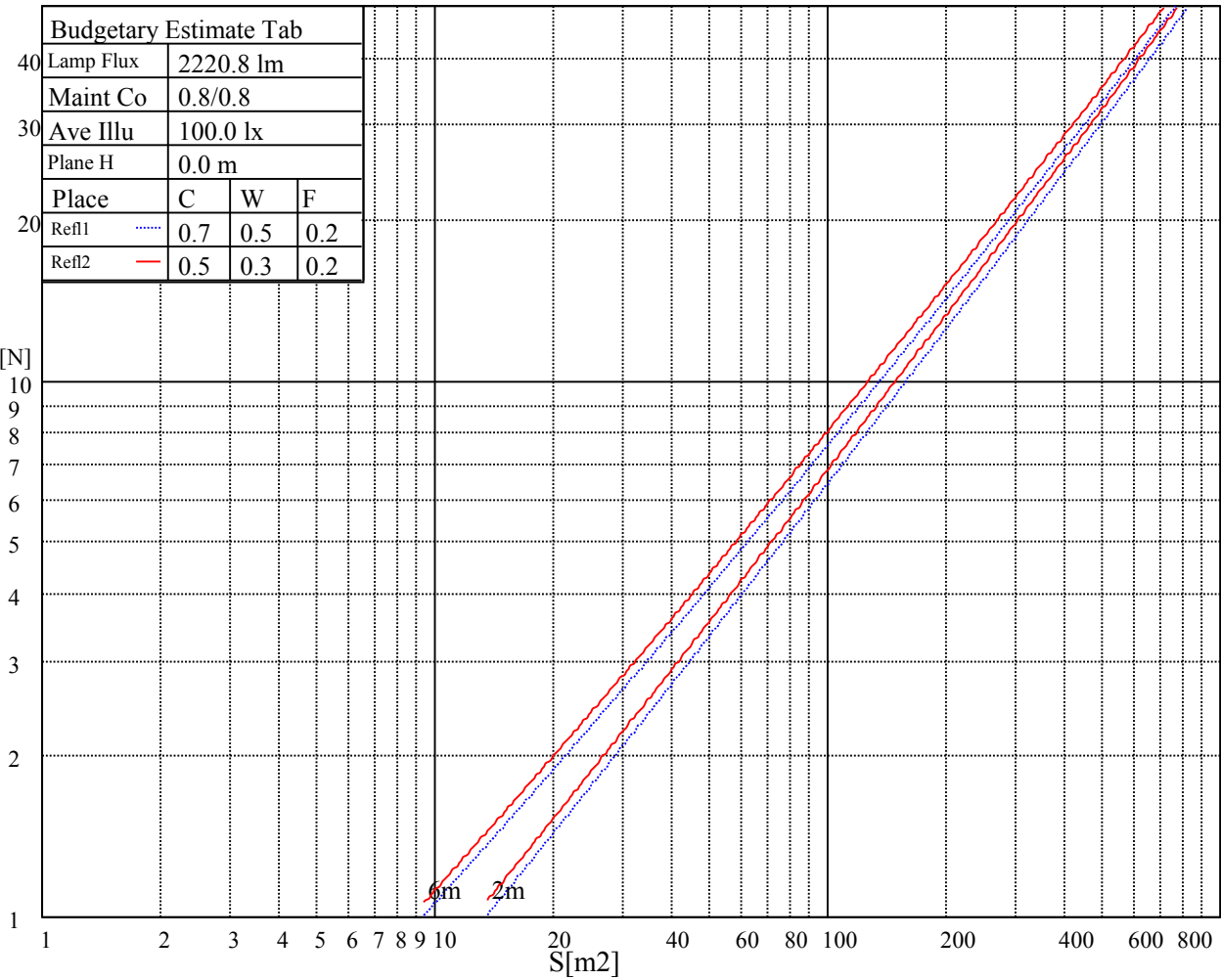
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6594	6594	6594	8981	8981	8981	23219	23219	23219

Glare Table

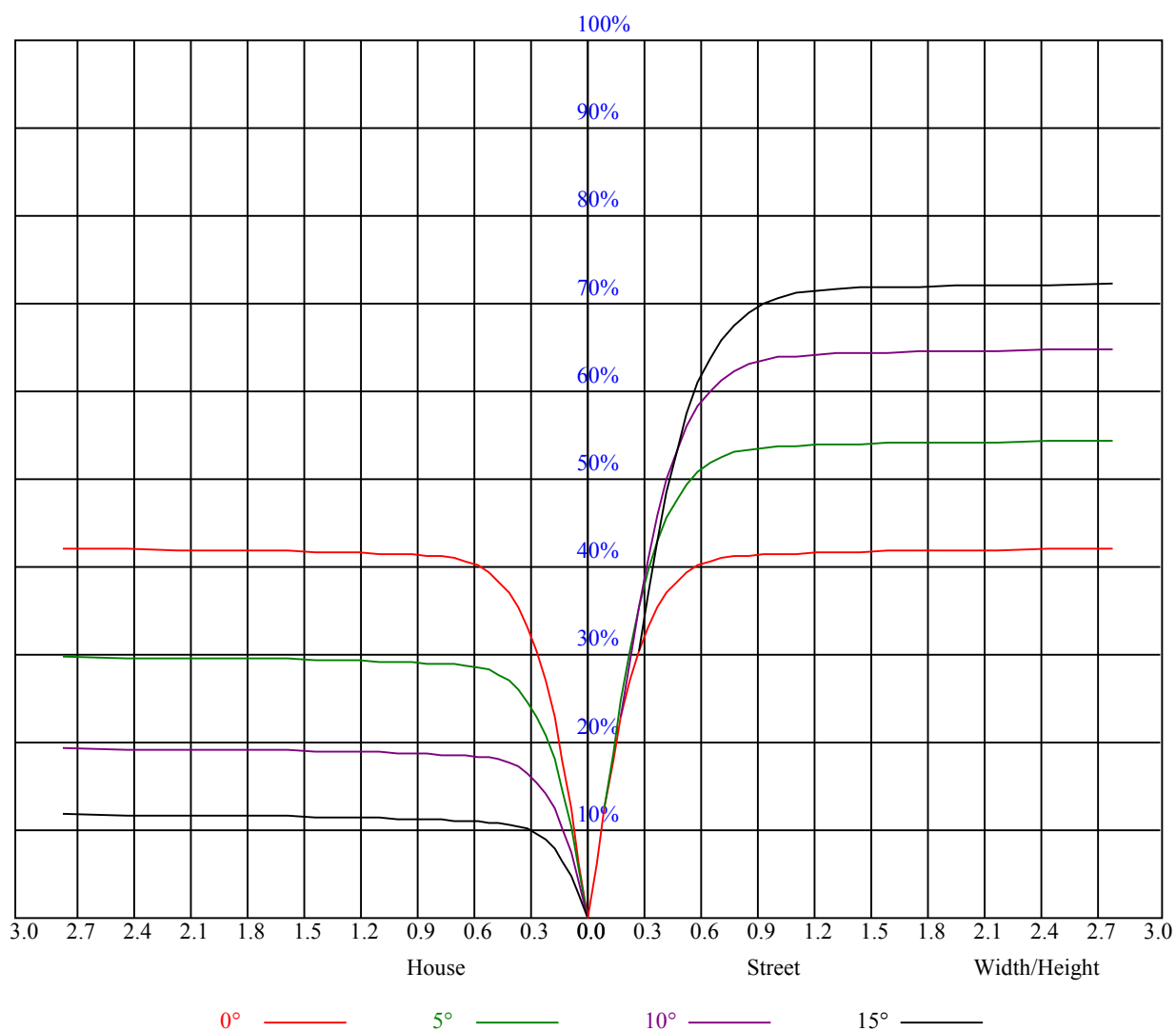
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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 RHOFC=20 CU															
0	1.02	1.02	1.02	1.00	1.00	1.00	0.95	0.95	0.95	0.91	0.91	0.91	0.88	0.88	0.88	0.86
1	0.94	0.92	0.90	0.92	0.90	0.88	0.89	0.87	0.86	0.86	0.84	0.83	0.83	0.82	0.81	0.79
2	0.89	0.86	0.83	0.88	0.85	0.82	0.85	0.83	0.81	0.83	0.81	0.79	0.80	0.79	0.77	0.76
3	0.85	0.82	0.79	0.84	0.81	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.78	0.76	0.74	0.73
4	0.82	0.78	0.75	0.81	0.77	0.74	0.79	0.76	0.73	0.77	0.75	0.73	0.76	0.74	0.72	0.71
5	0.79	0.74	0.72	0.78	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.74	0.71	0.69	0.68
6	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.66
7	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.64
8	0.71	0.67	0.64	0.70	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.62
9	0.69	0.65	0.62	0.68	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.66	0.64	0.62	0.61
10	0.67	0.63	0.61	0.66	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.65	0.62	0.60	0.59



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	6340.30	5779.44	4363.83	2684.88	1441.16	916.74	522.76	160.54	43.38		
45.0	6340.30	5779.44	4363.83	2684.88	1441.16	916.74	522.76	160.54	43.38		
90.0	6340.30	5779.44	4363.83	2684.88	1441.16	916.74	522.76	160.54	43.38		
135.0	6340.30	5779.44	4363.83	2684.88	1441.16	916.74	522.76	160.54	43.38		
180.0	6340.30	5779.44	4363.83	2684.88	1441.16	916.74	522.76	160.54	43.38		
225.0	6340.30	5779.44	4363.83	2684.88	1441.16	916.74	522.76	160.54	43.38		
270.0	6340.30	5779.44	4363.83	2684.88	1441.16	916.74	522.76	160.54	43.38		
315.0	6340.30	5779.44	4363.83	2684.88	1441.16	916.74	522.76	160.54	43.38		
360.0	6340.30	5779.44	4363.83	2684.88	1441.16	916.74	522.76	160.54	43.38		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	29.51	22.30	18.22	15.47	13.27	12.06	11.07	10.30	9.63		
45.0	29.51	22.30	18.22	15.47	13.27	12.06	11.07	10.30	9.63		
90.0	29.51	22.30	18.22	15.47	13.27	12.06	11.07	10.30	9.63		
135.0	29.51	22.30	18.22	15.47	13.27	12.06	11.07	10.30	9.63		
180.0	29.51	22.30	18.22	15.47	13.27	12.06	11.07	10.30	9.63		
225.0	29.51	22.30	18.22	15.47	13.27	12.06	11.07	10.30	9.63		
270.0	29.51	22.30	18.22	15.47	13.27	12.06	11.07	10.30	9.63		
315.0	29.51	22.30	18.22	15.47	13.27	12.06	11.07	10.30	9.63		
360.0	29.51	22.30	18.22	15.47	13.27	12.06	11.07	10.30	9.63		
C/γ(°)	90.0										
0.0	8.37										
45.0	8.37										
90.0	8.37										
135.0	8.37										
180.0	8.37										
225.0	8.37										
270.0	8.37										
315.0	8.37										
360.0	8.37										