
Nata

LumCAT: 2-1795-N	
Luminaire: 92.70.131.00	
Report No: NT0100	Voltage(V): 34.6000
Test No:GC2018041107	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): 1466.35
Efficiency(%): 83.40%
Lumens(lm)/Power(W): 107.51
Central intensity(cd): 3845.965
Maximum intensity(cd): 3845.965
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=34.2
[C90/270]Total=34.2
Field angle(10%Imax): [C0/180]Total=59.8
[C90/270]Total=59.8
Maximum s/h(1/2): C0_180=0.56 C90_270=0.56
Maximum s/h(1/4): C0_180=0.58 C90_270=0.58
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 84.63%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.072%

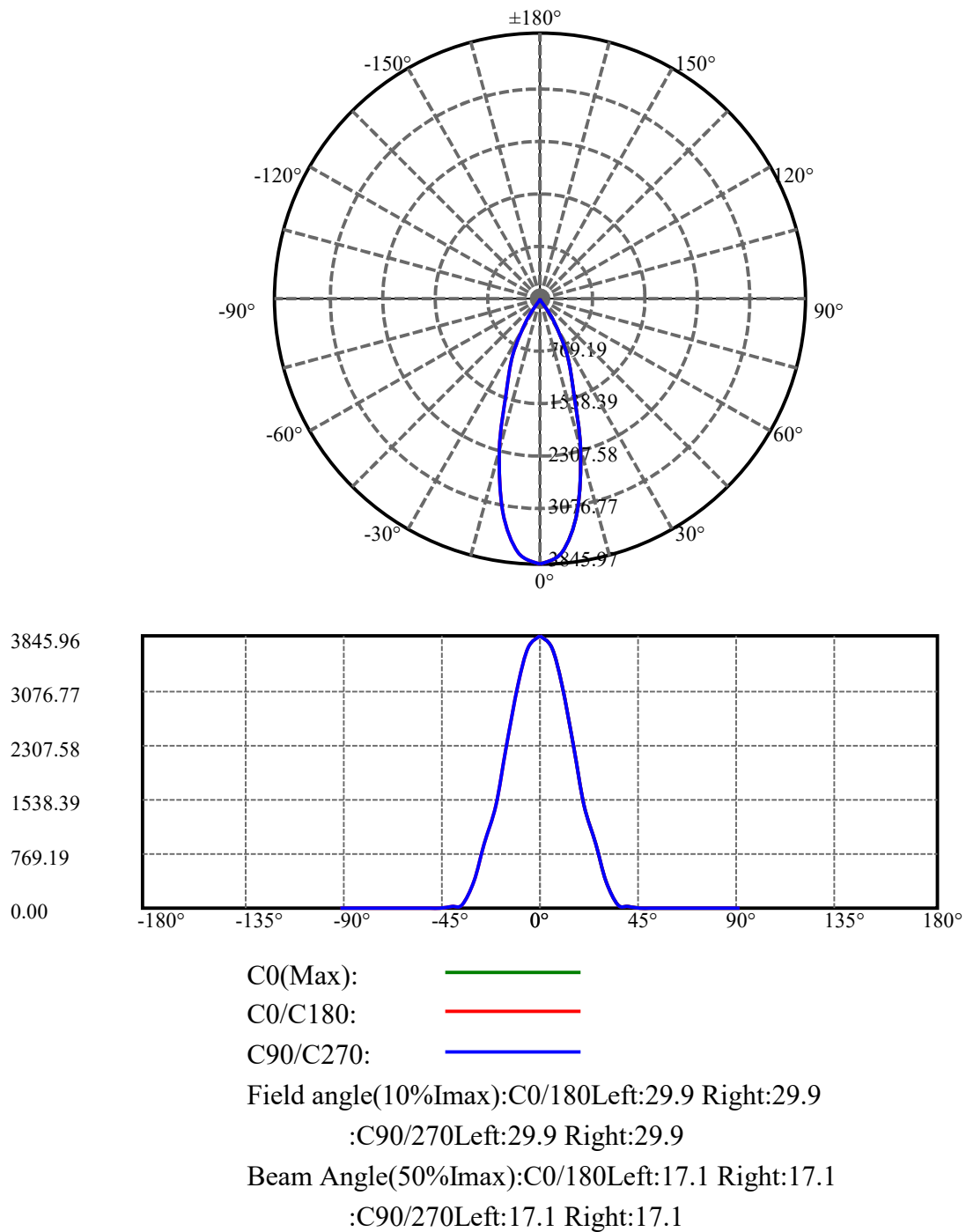
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3845.965	23.000	23	1.308%	1.568%
5.0	3679.832	175.798	198.797	9.999%	13.557%
10.0	3145.992	299.445	498.243	17.031%	33.978%
15.0	2265.846	321.452	819.694	18.283%	55.900%
20.0	1458.313	273.396	1093.09	15.549%	74.545%
25.0	903.868	209.384	1302.474	11.909%	88.824%
30.0	373.530	102.373	1404.847	5.822%	95.806%
35.0	54.114	17.013	1421.86	.968%	96.966%
40.0	17.198	6.060	1427.92	.345%	97.379%
45.0	11.225	4.351	1432.27	.247%	97.676%
50.0	9.717	4.080	1436.351	.232%	97.954%
55.0	8.933	4.011	1440.361	.228%	98.228%
60.0	8.479	4.025	1444.386	.229%	98.502%
65.0	8.148	4.048	1448.434	.230%	98.778%
70.0	7.963	4.101	1452.536	.233%	99.058%
75.0	7.784	4.121	1456.657	.234%	99.339%
80.0	7.522	4.060	1460.717	.231%	99.616%
85.0	7.130	3.893	1464.61	.221%	99.881%
90.0	6.352	1.741	1466.351	.099%	100.000%

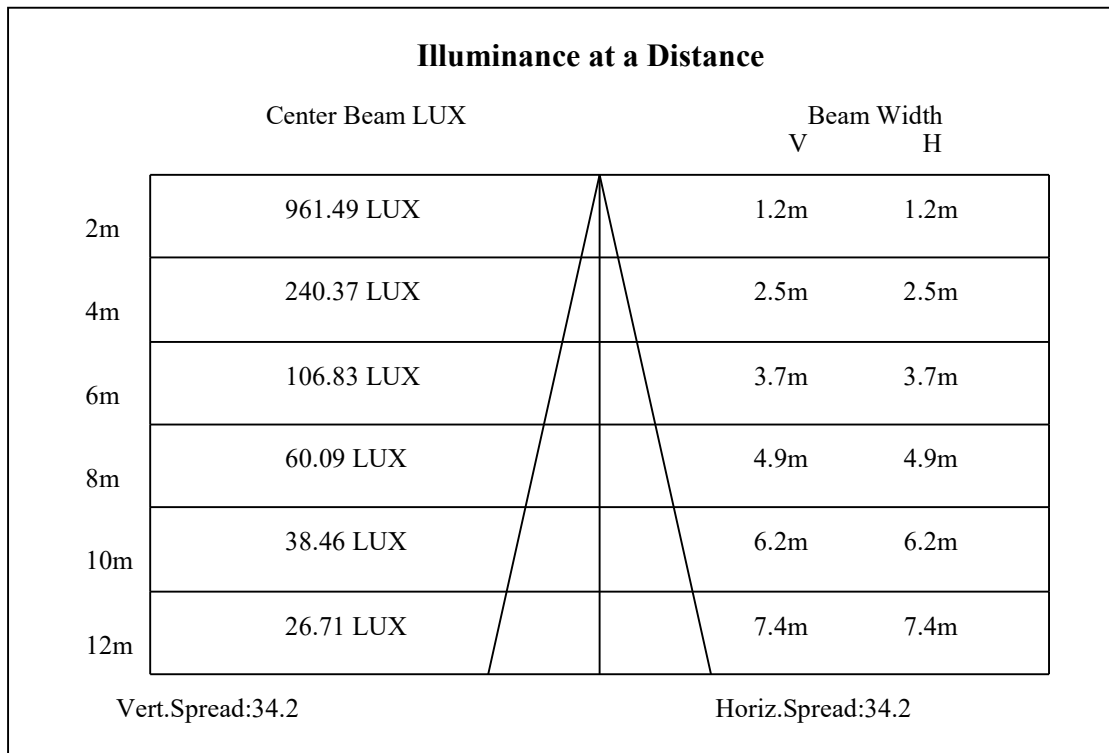
ZONAL LUMEN SUMMARY

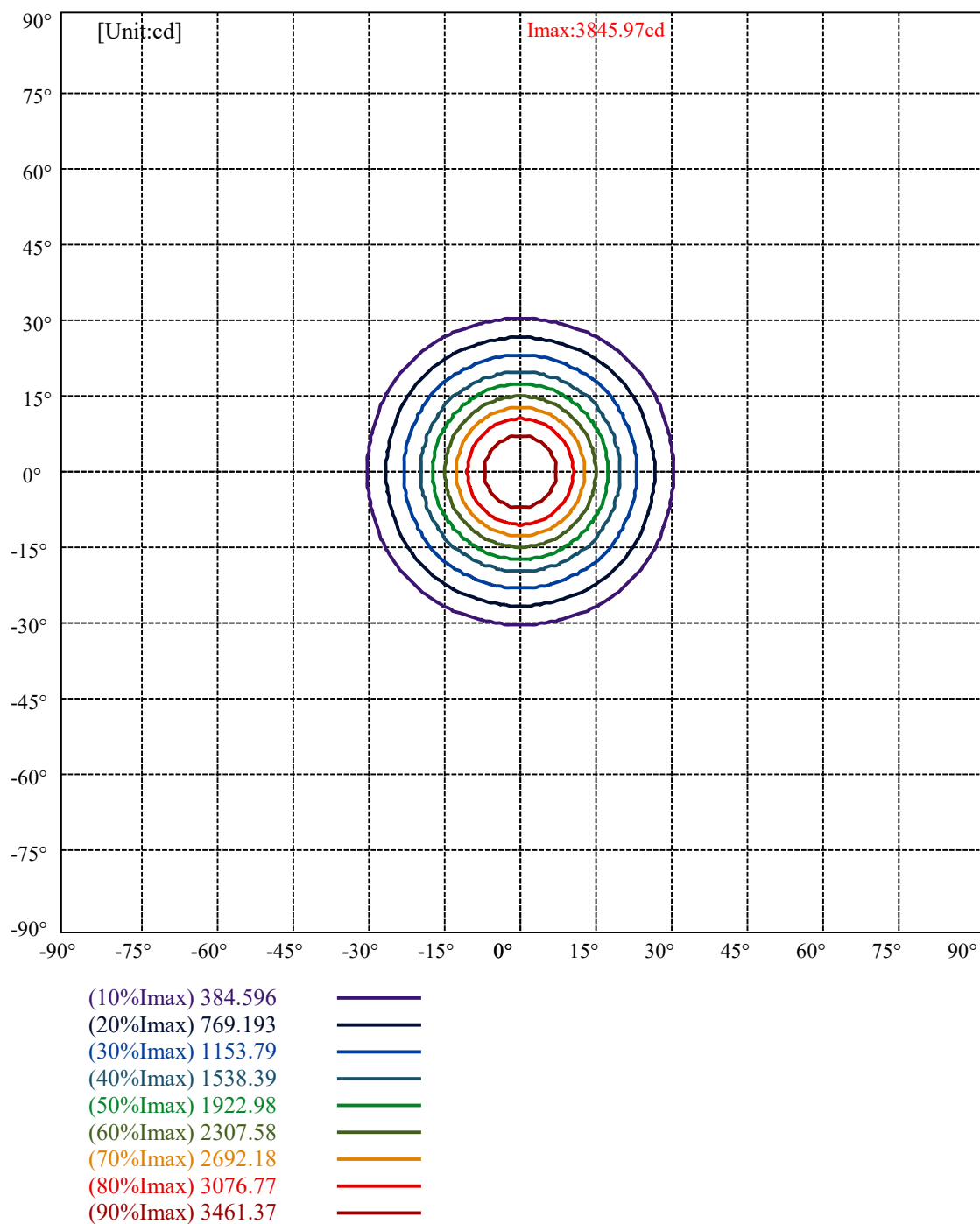
Zone	Lumens	%Lamp	%Fixt
0-30	1404.85	79.90%	95.81%
0-40	1427.92	81.21%	97.38%
0-60	1444.39	82.15%	98.50%
0-90	1464.61	83.30%	99.88%
0-120	1464.61	83.30%	99.88%
0-180	1466.35	83.40%	100.00%
60-90	24.25	1.38%	1.65%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-21.91	1173.08	66.72%	80.00%

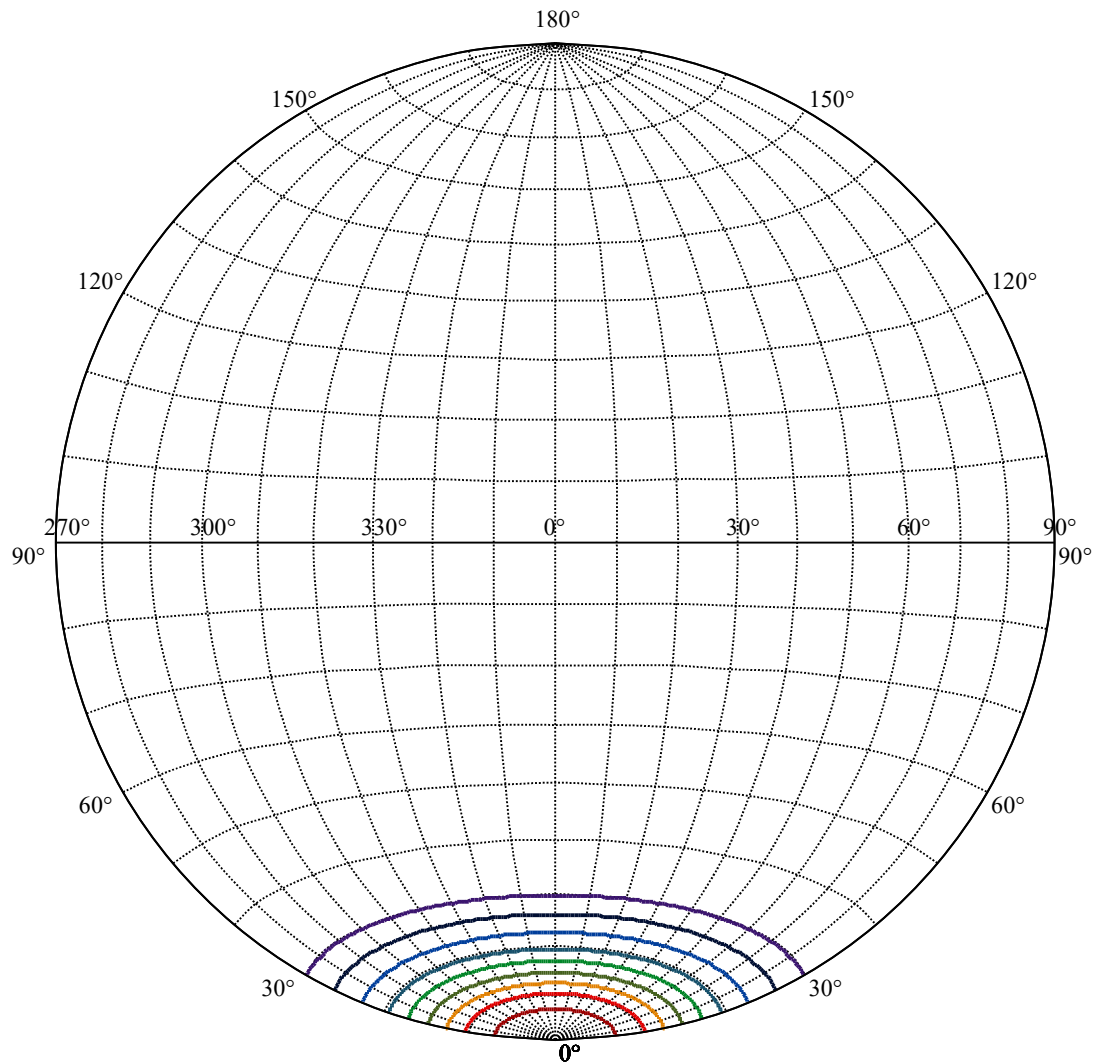
ZONAL LUMEN SUMMARY

0-10	498.24
10-20	594.85
20-30	311.76
30-40	23.07
40-50	8.43
50-60	8.04
60-70	8.15
70-80	8.18
80-90	3.89
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









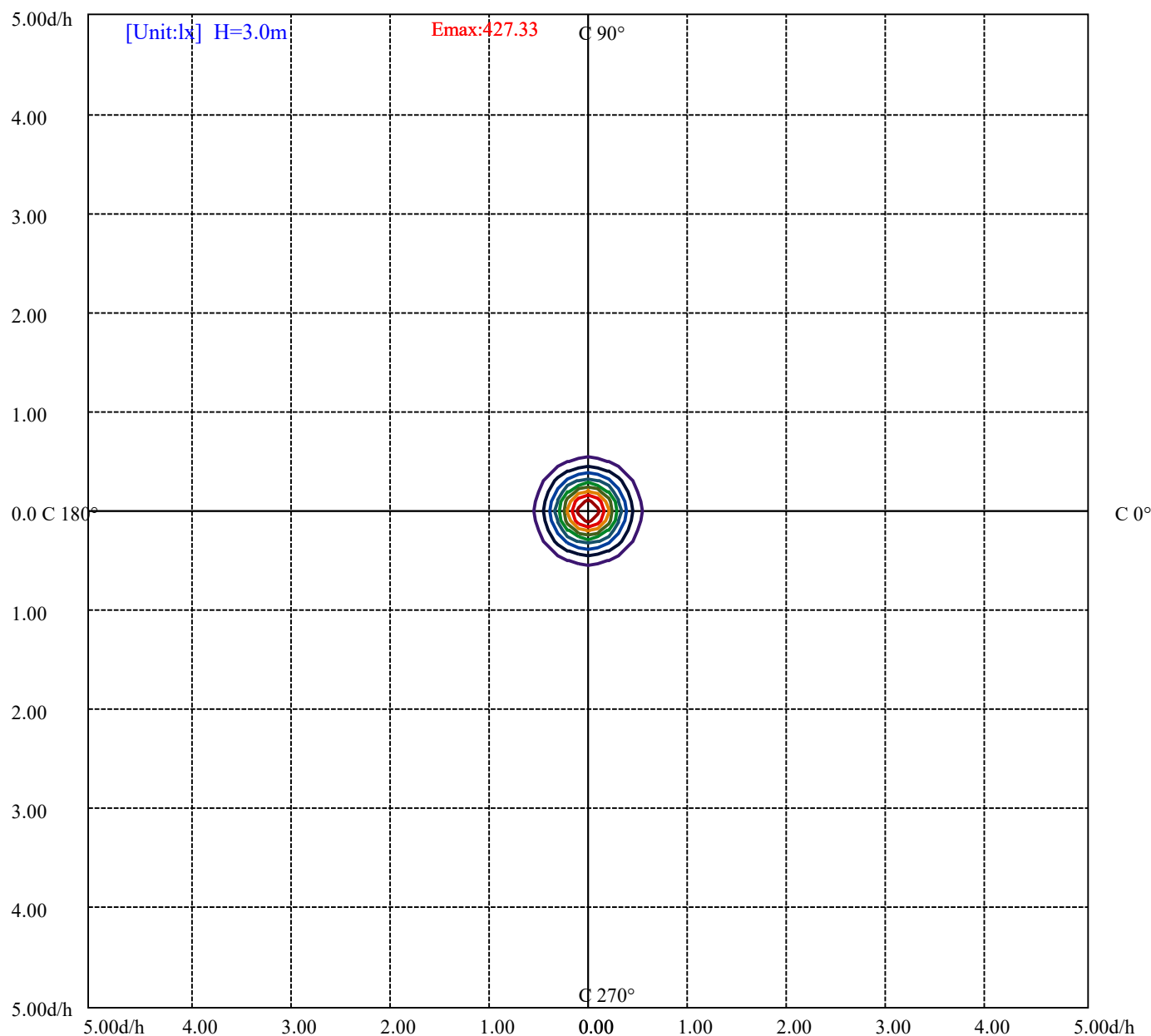
House

[Unit:cd]

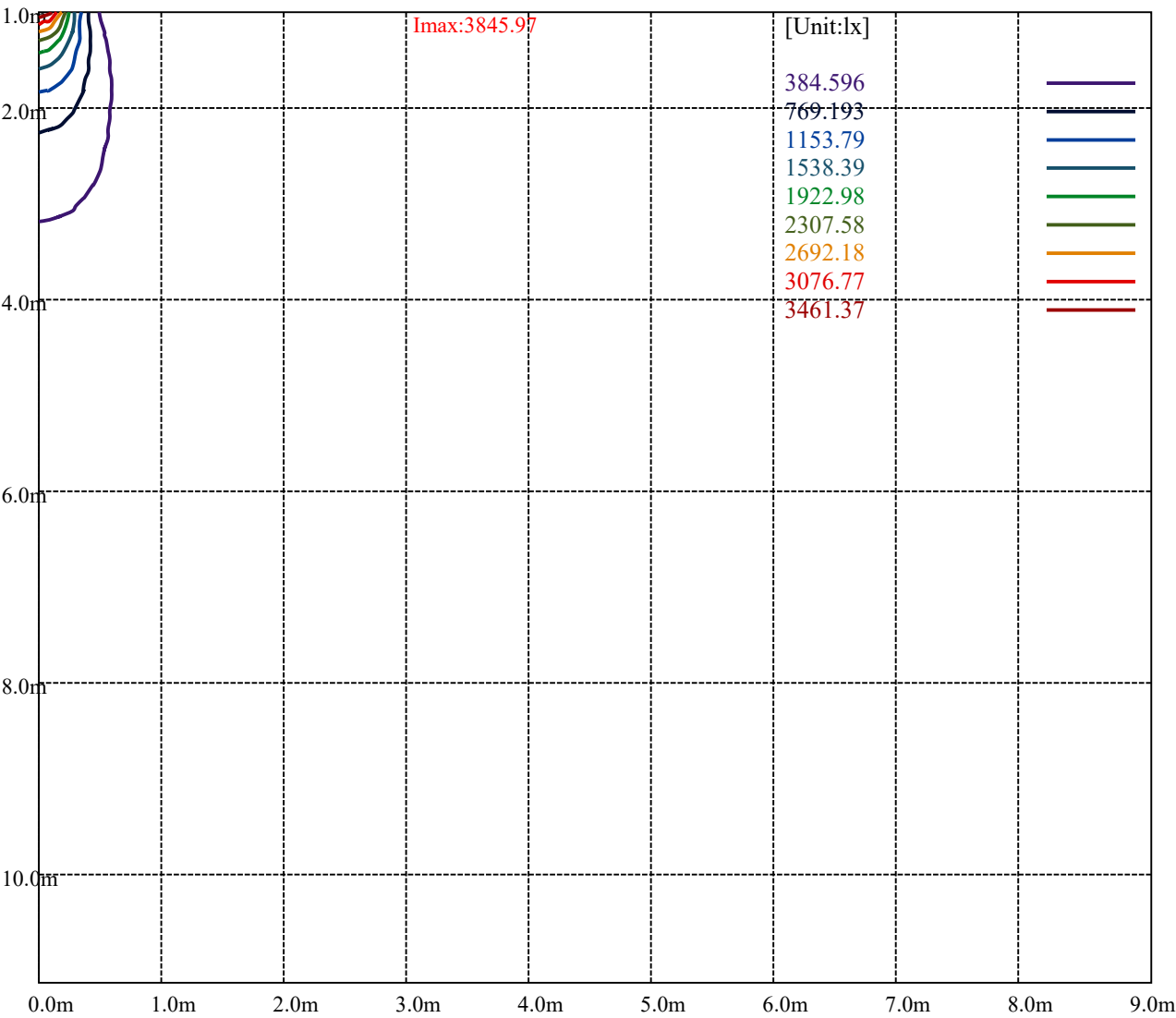
Road

Imax:3845.97

(10%Imax)	384.596	—
(20%Imax)	769.193	—
(30%Imax)	1153.79	—
(40%Imax)	1538.39	—
(50%Imax)	1922.98	—
(60%Imax)	2307.58	—
(70%Imax)	2692.18	—
(80%Imax)	3076.77	—
(90%Imax)	3461.37	—



(10%E _{max}) 42.73289	—
(20%E _{max}) 85.46578	—
(30%E _{max}) 128.1989	—
(40%E _{max}) 170.9311	—
(50%E _{max}) 213.6644	—
(60%E _{max}) 256.3978	—
(70%E _{max}) 299.13	—
(80%E _{max}) 341.8633	—
(90%E _{max}) 384.5956	—



Luminance Table

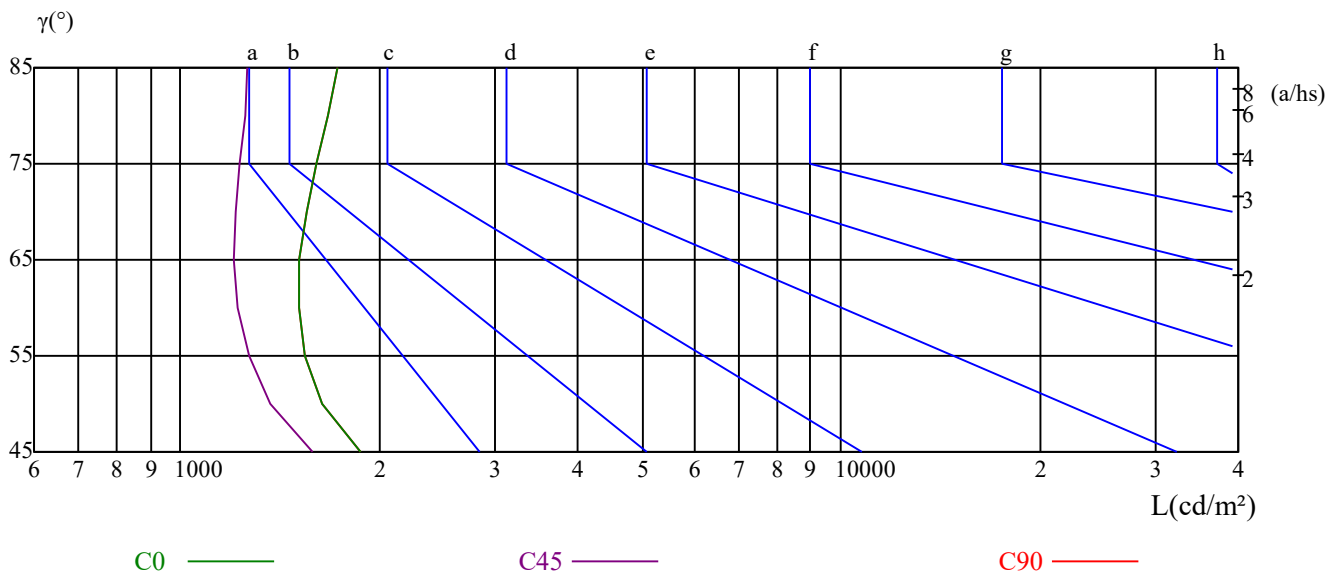
γ	45	50	55	60	65	70	75	80	85
C0	1870	1643	1545	1512	1512	1552	1611	1673	1728
C45	1583	1369	1268	1221	1200	1210	1231	1250	1259
C90	1870	1643	1545	1512	1512	1552	1611	1673	1728

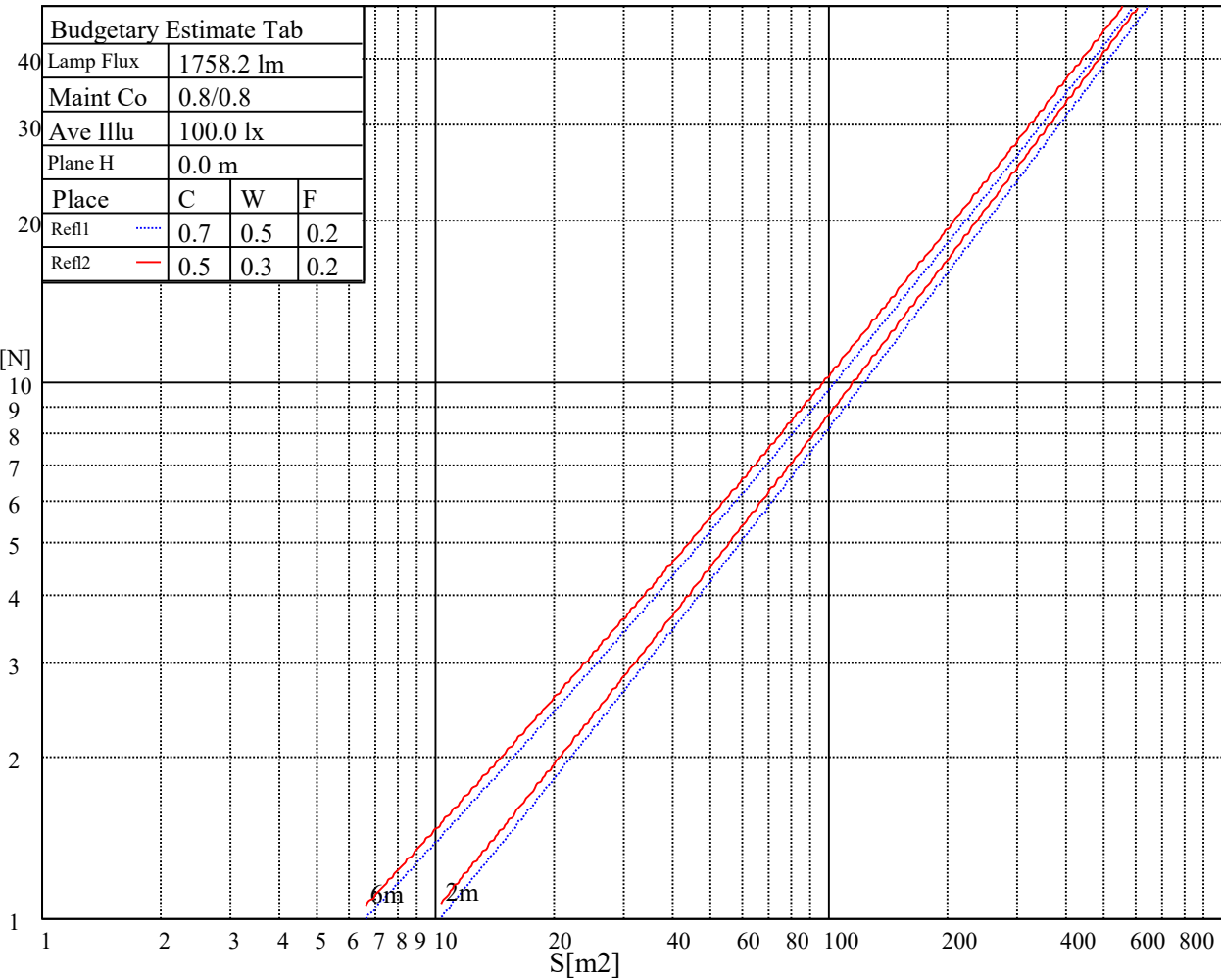
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4050	4050	4050	6317	6317	6317	17182	17182	17182

Glare Table

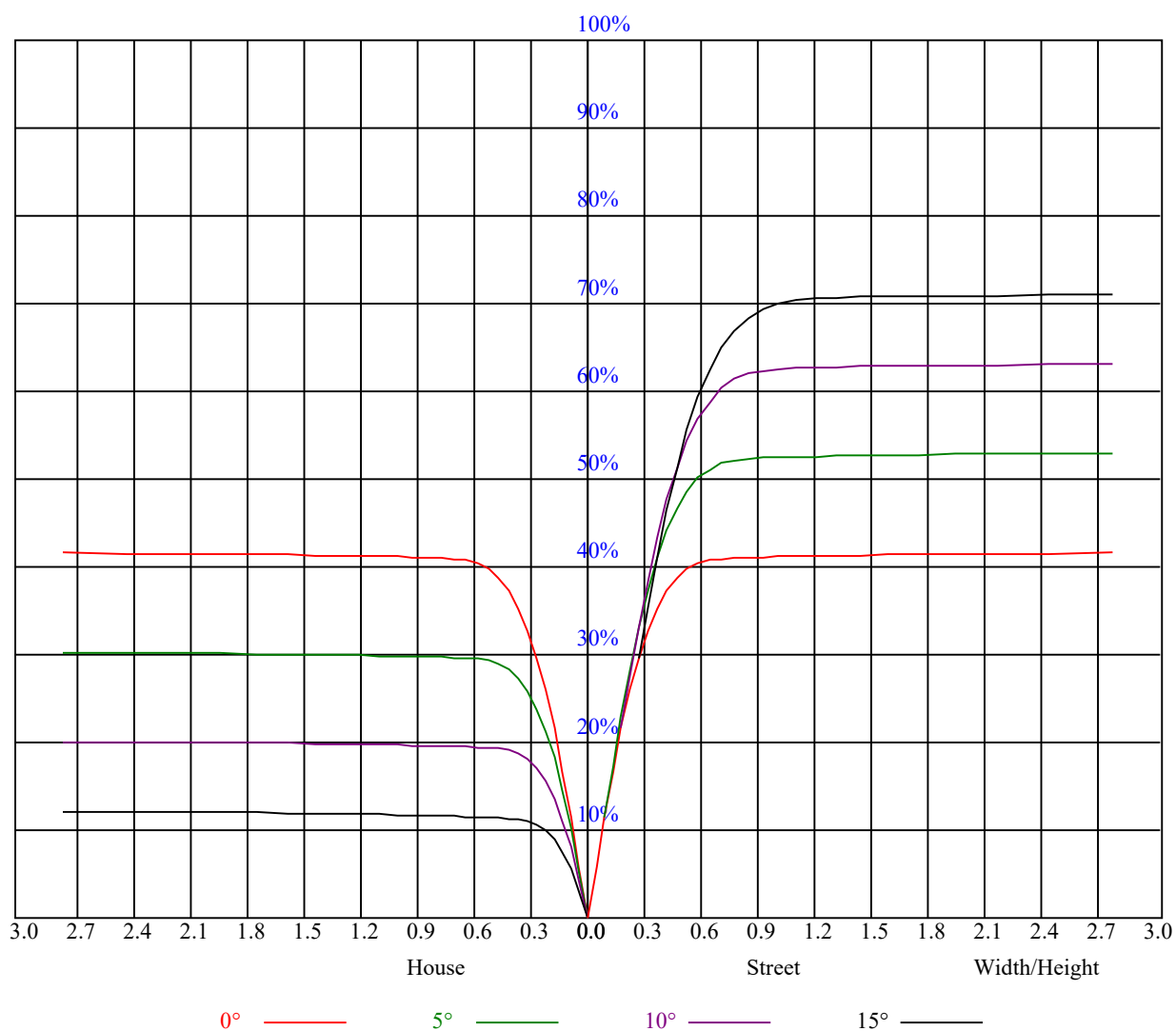
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	1.01	1.01	1.01	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.85
1	0.93	0.91	0.89	0.92	0.90	0.88	0.88	0.87	0.85	0.85	0.84	0.83	0.82	0.81	0.80	0.79
2	0.89	0.86	0.83	0.87	0.84	0.82	0.85	0.82	0.80	0.82	0.80	0.79	0.80	0.78	0.77	0.76
3	0.85	0.81	0.78	0.83	0.80	0.78	0.81	0.79	0.76	0.79	0.77	0.75	0.77	0.76	0.74	0.73
4	0.81	0.77	0.74	0.80	0.77	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.75	0.73	0.71	0.70
5	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.74	0.72	0.70	0.73	0.71	0.69	0.68
6	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.71	0.69	0.67	0.66
7	0.72	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.69	0.67	0.65	0.64
8	0.70	0.66	0.64	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.65	0.63	0.62
9	0.68	0.64	0.62	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.60
10	0.66	0.62	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.64	0.61	0.59	0.64	0.61	0.59	0.58



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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	3824.22	3683.27	3227.96	2366.32	1566.35	972.85	423.93	58.41	18.06		
45.0	3860.55	3612.80	3028.10	2176.38	1400.08	847.87	328.69	43.94	14.26		
90.0	3845.14	3525.26	2817.24	1925.87	1074.76	652.36	190.72	32.65	13.05		
135.0	3853.95	3630.42	3055.63	2114.72	1387.97	850.07	309.97	43.05	16.02		
180.0	3824.22	3646.39	3026.45	2098.75	1369.80	825.13	296.15	46.36	16.85		
225.0	3860.55	3764.21	3278.06	2366.32	1528.92	968.61	419.20	54.18	18.17		
270.0	3845.14	3829.17	3490.58	2661.43	1760.15	1142.42	569.28	97.45	24.45		
315.0	3853.95	3747.14	3243.92	2416.98	1578.47	971.64	450.31	56.87	16.74		
360.0	3824.22	3683.27	3227.96	2366.32	1566.35	972.85	423.93	58.41	18.06		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	11.62	9.86	8.86	8.26	7.82	7.43	7.21	7.10	7.05		
45.0	10.24	8.86	8.04	7.71	7.38	7.16	6.94	6.77	6.66		
90.0	10.46	9.74	9.97	9.74	9.63	9.41	8.81	7.82	6.94		
135.0	11.07	9.63	8.92	8.42	8.20	8.20	8.20	7.98	7.60		
180.0	12.11	10.52	9.36	8.75	8.42	8.37	8.37	8.20	7.87		
225.0	11.51	9.69	8.70	8.04	7.65	7.43	7.27	7.05	6.88		
270.0	12.11	10.13	9.25	9.08	8.70	8.59	8.53	8.37	7.21		
315.0	10.68	9.30	8.37	7.82	7.38	7.10	6.94	6.88	6.83		
360.0	11.62	9.86	8.86	8.26	7.82	7.43	7.21	7.10	7.05		
C/ γ (°)	90.0										
0.0	6.44										
45.0	6.22										
90.0	6.28										
135.0	6.39										
180.0	6.39										
225.0	6.33										
270.0	6.33										
315.0	6.44										
360.0	6.44										