
Nata

LumCAT: 3-1703-N

Luminaire: 92.70.045.00+92.70.061.00

Report No: NT2017090102

Test No: nata-0100

LampCAT: CREE CXA2520

Lamp flux(lm): 2928.0

Number of Lamps: 1

Length(mm): 86

Phm Type: C

Voltage(V): 36.4000

Current(A): 0.7000

Power (W): 25.4800

PF: 0.0000

Ballast type: DC

Width(mm): 86

Height(mm): 0

Photometric Results

Lumens(lm): 2366.60

Efficiency(%): 80.83%

Lumens(lm)/Power(W): 93.89

Central intensity(cd): 4660.387

Maximum intensity(cd): 4660.387

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=38.1

[C90/270]Total=38.1

Field angle(10%Imax): [C0/180]Total=69.3

[C90/270]Total=69.3

Maximum s/h(1/2): C0_180=0.62 C90_270=0.62

Maximum s/h(1/4): C0_180=0.62 C90_270=0.62

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 81.70%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.352%

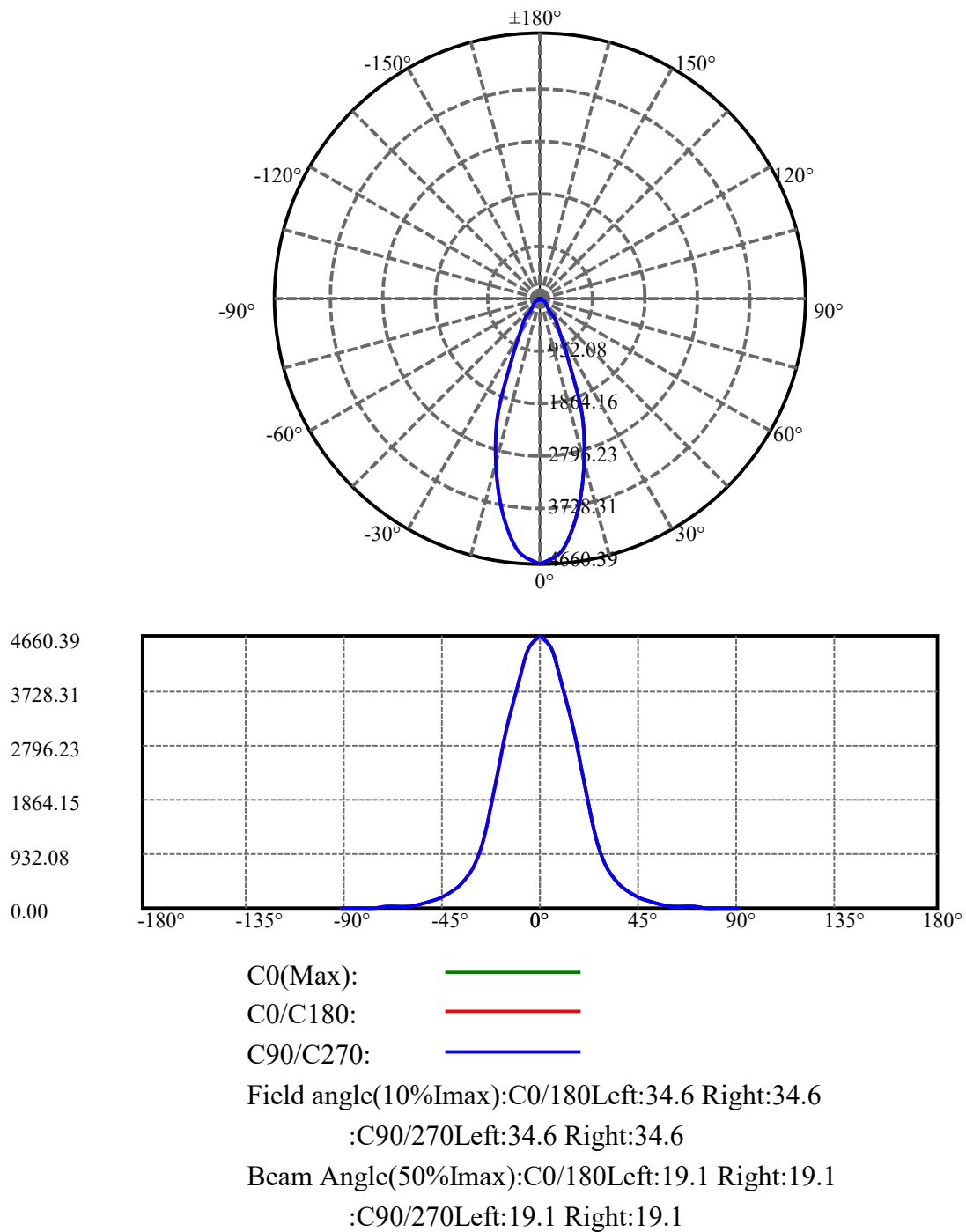
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4660.387	27.870	27.87	.952%	1.178%
5.0	4433.485	211.802	239.672	7.234%	10.127%
10.0	3824.011	363.981	603.653	12.431%	25.507%
15.0	3038.632	431.086	1034.739	14.723%	43.723%
20.0	2167.570	406.363	1441.102	13.879%	60.893%
25.0	1225.755	283.950	1725.052	9.698%	72.892%
30.0	729.188	199.847	1924.9	6.825%	81.336%
35.0	445.090	139.936	2064.835	4.779%	87.249%
40.0	292.666	103.117	2167.952	3.522%	91.606%
45.0	186.393	72.245	2240.196	2.467%	94.659%
50.0	113.760	47.768	2287.964	1.631%	96.677%
55.0	59.213	26.587	2314.551	.908%	97.801%
60.0	30.150	14.312	2328.864	.489%	98.406%
65.0	17.467	8.677	2337.541	.296%	98.772%
70.0	14.803	7.625	2345.166	.260%	99.094%
75.0	12.973	6.869	2352.034	.235%	99.385%
80.0	11.569	6.245	2358.279	.213%	99.649%
85.0	10.440	5.701	2363.98	.195%	99.889%
90.0	9.545	2.616	2366.596	.089%	100.000%

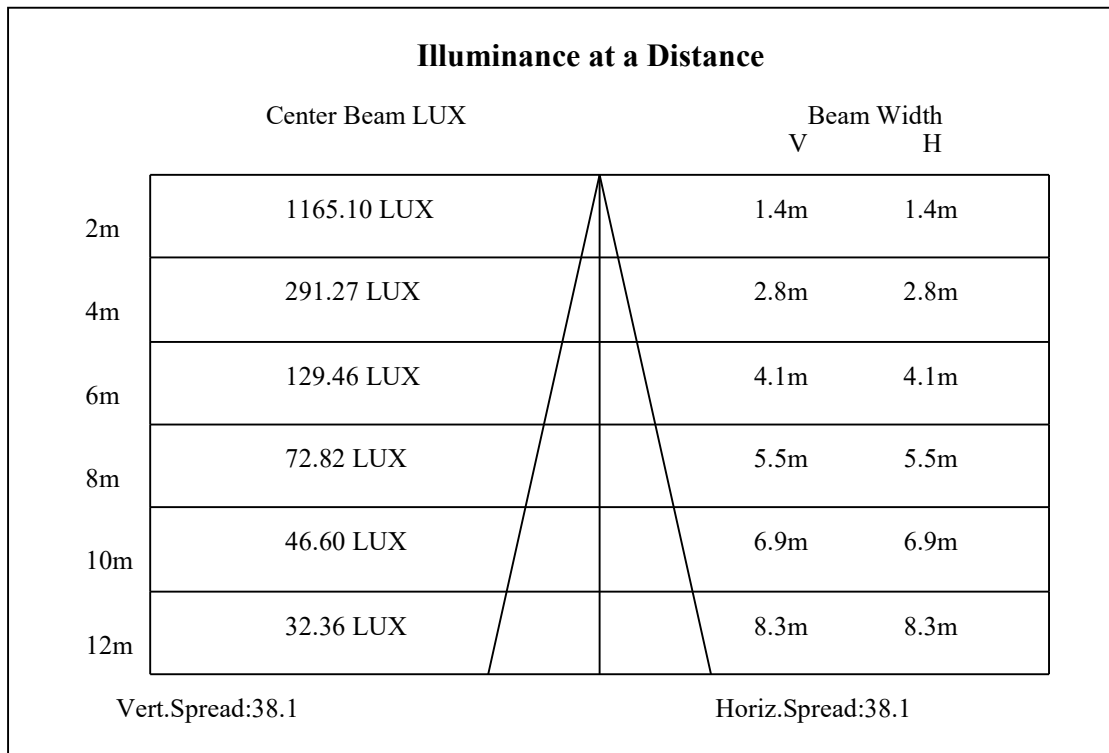
ZONAL LUMEN SUMMARY

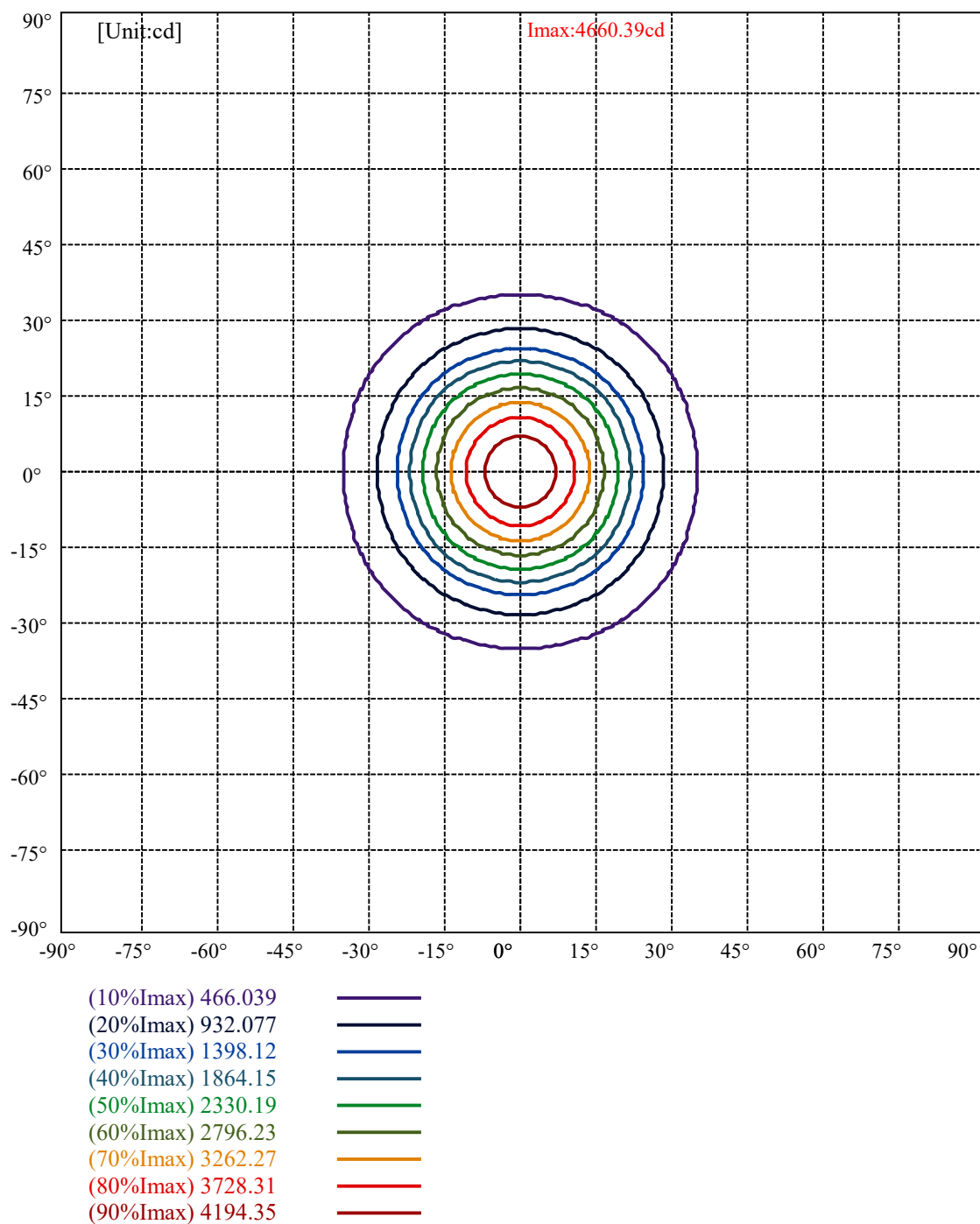
Zone	Lumens	%Lamp	%Fixt
0-30	1924.90	65.74%	81.34%
0-40	2167.95	74.04%	91.61%
0-60	2328.86	79.54%	98.41%
0-90	2363.98	80.74%	99.89%
0-120	2363.98	80.74%	99.89%
0-180	2366.60	80.83%	100.00%
60-90	49.43	1.69%	2.09%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-29.21	1893.28	64.66%	80.00%

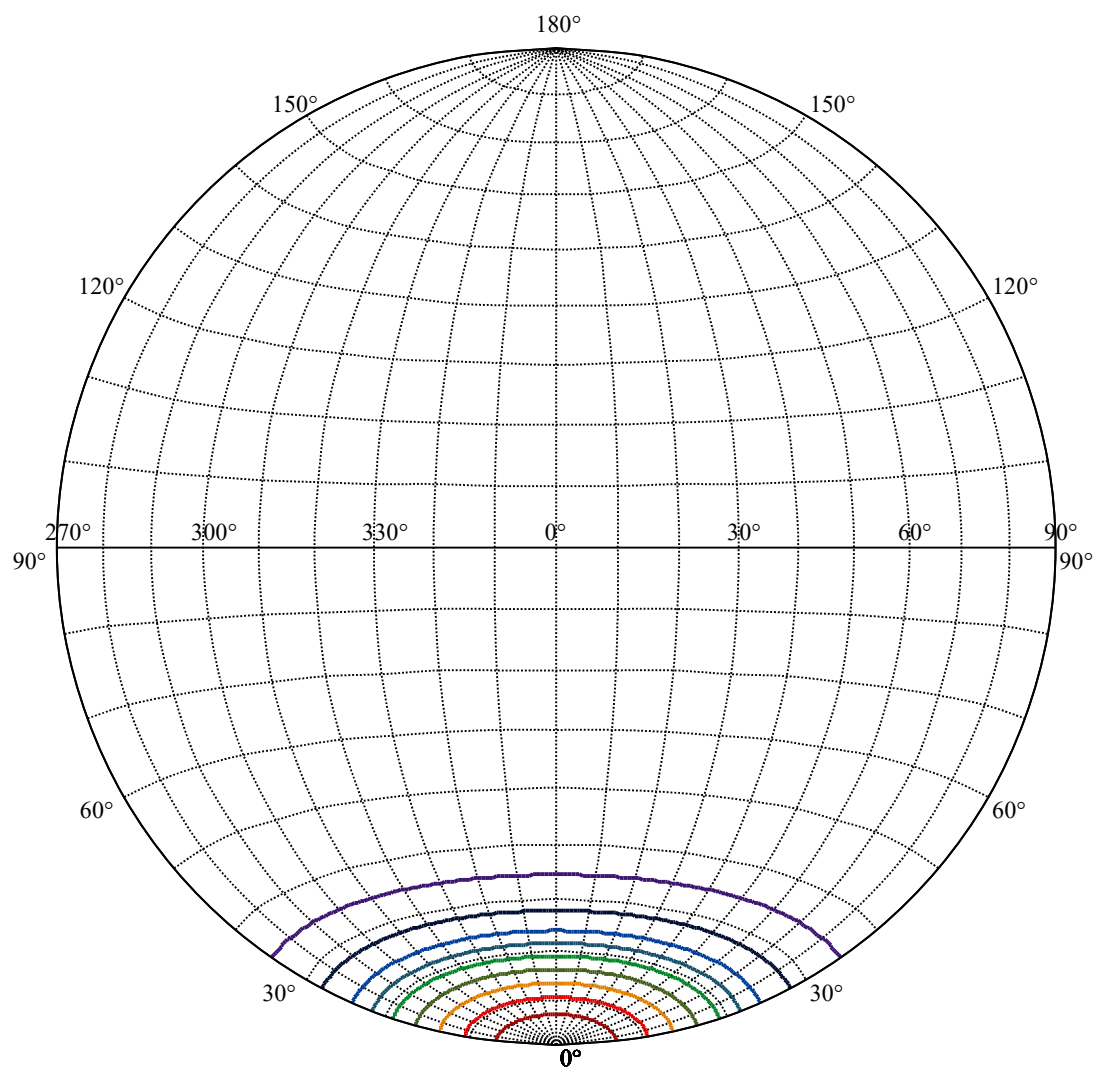
ZONAL LUMEN SUMMARY

0-10	603.65
10-20	837.45
20-30	483.80
30-40	243.05
40-50	120.01
50-60	40.90
60-70	16.30
70-80	13.11
80-90	5.70
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:4660.39

(10%Imax) 466.039

(20%Imax) 932.077

(30%Imax) 1398.12

(40%Imax) 1864.15

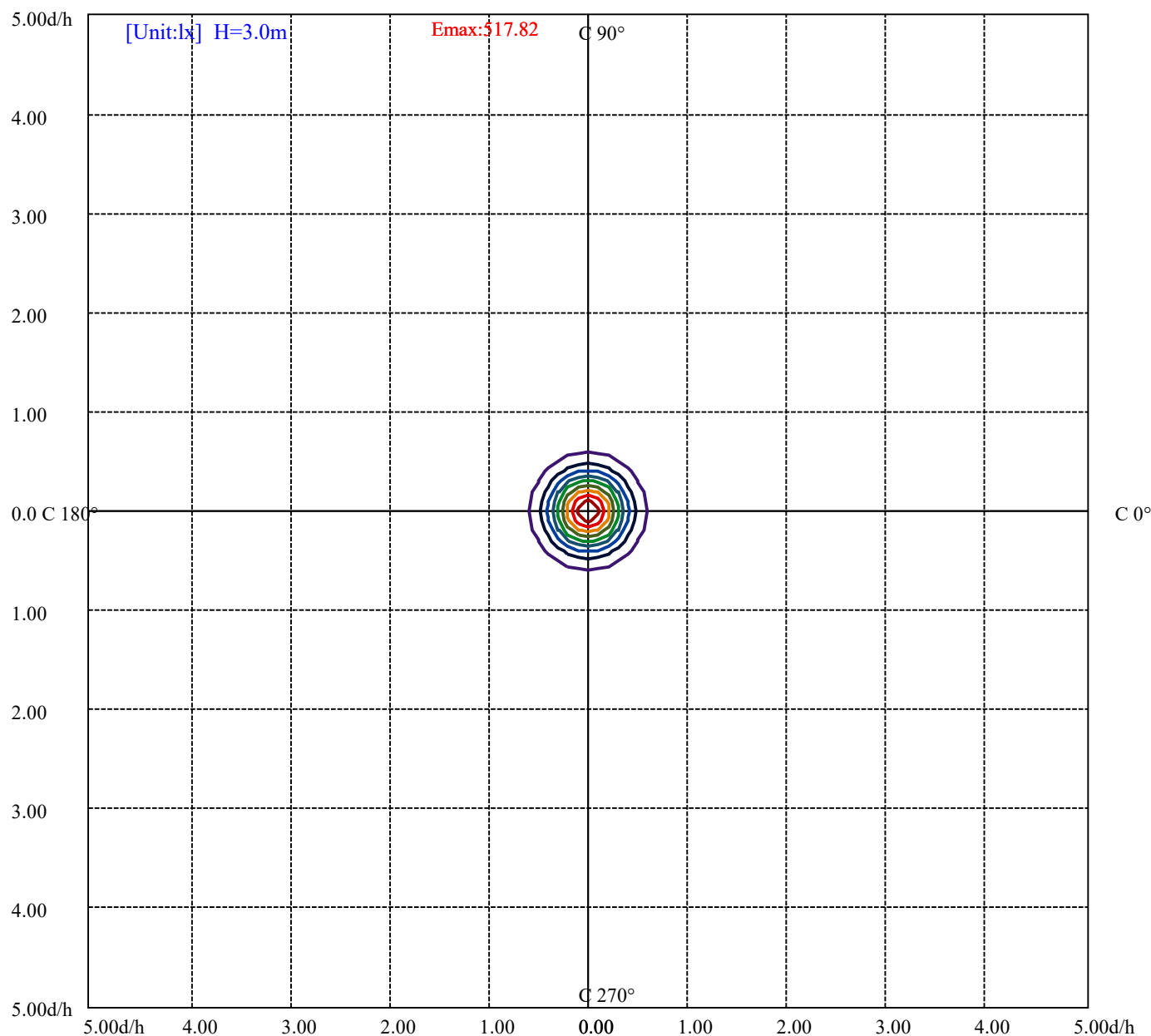
(50%Imax) 2330.19

(60%Imax) 2796.23

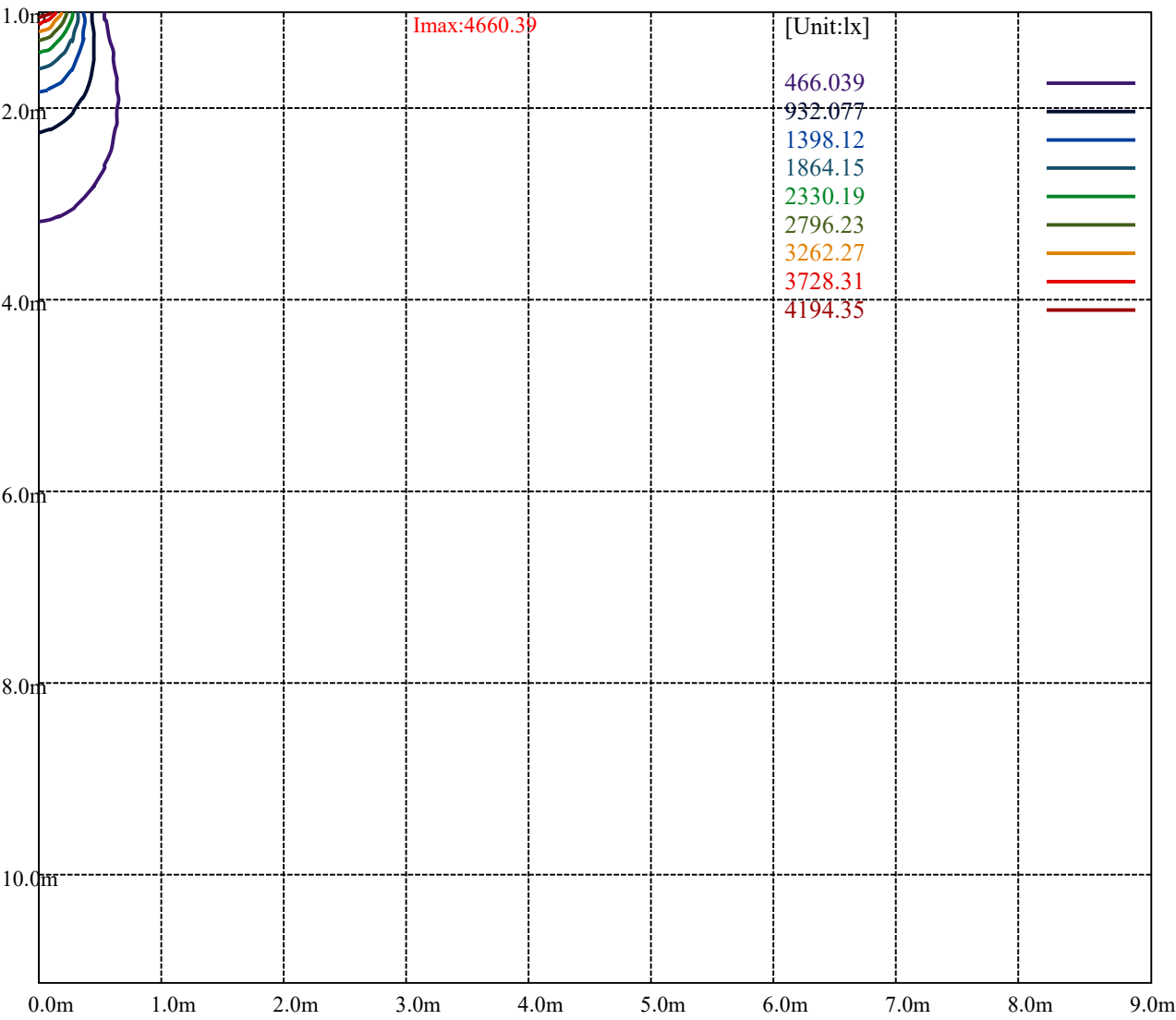
(70%Imax) 3262.27

(80%Imax) 3728.31

(90%Imax) 4194.35



(10%Emax)	51.782	
(20%Emax)	103.564	
(30%Emax)	155.3456	
(40%Emax)	207.1278	
(50%Emax)	258.91	
(60%Emax)	310.6922	
(70%Emax)	362.4745	
(80%Emax)	414.2556	
(90%Emax)	466.0378	



Luminance Table

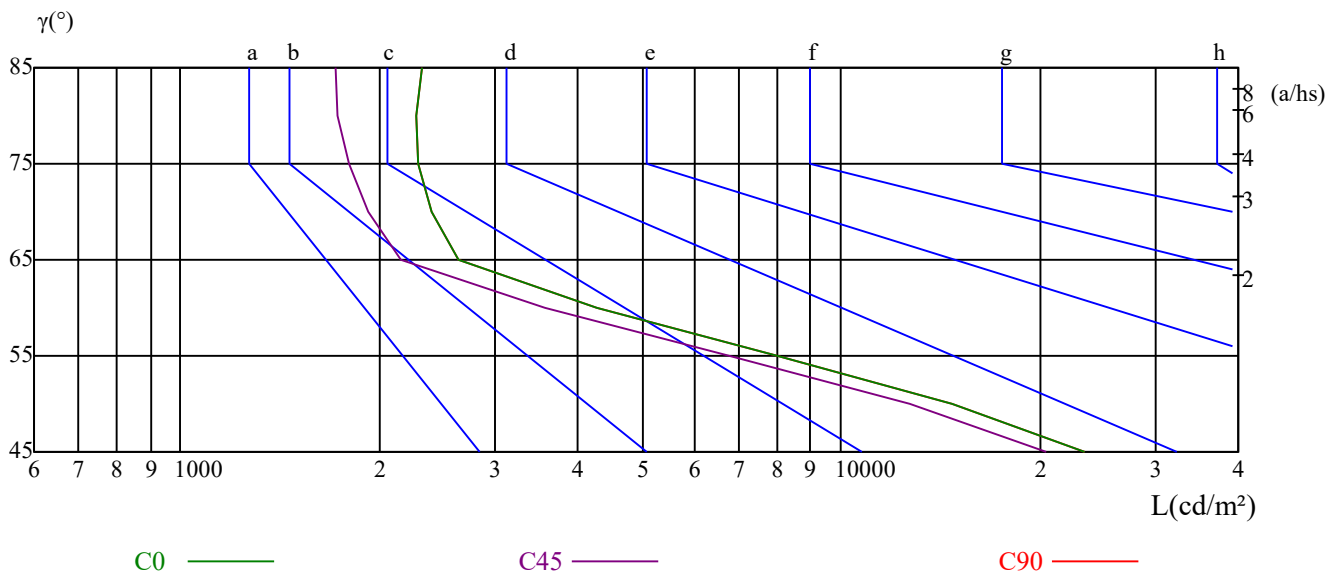
γ	45	50	55	60	65	70	75	80	85
C0	23398	14738	7989	4277	2633	2401	2295	2270	2320
C45	20483	12715	6786	3573	2160	1929	1802	1733	1712
C90	23398	14738	7989	4277	2633	2401	2295	2270	2320

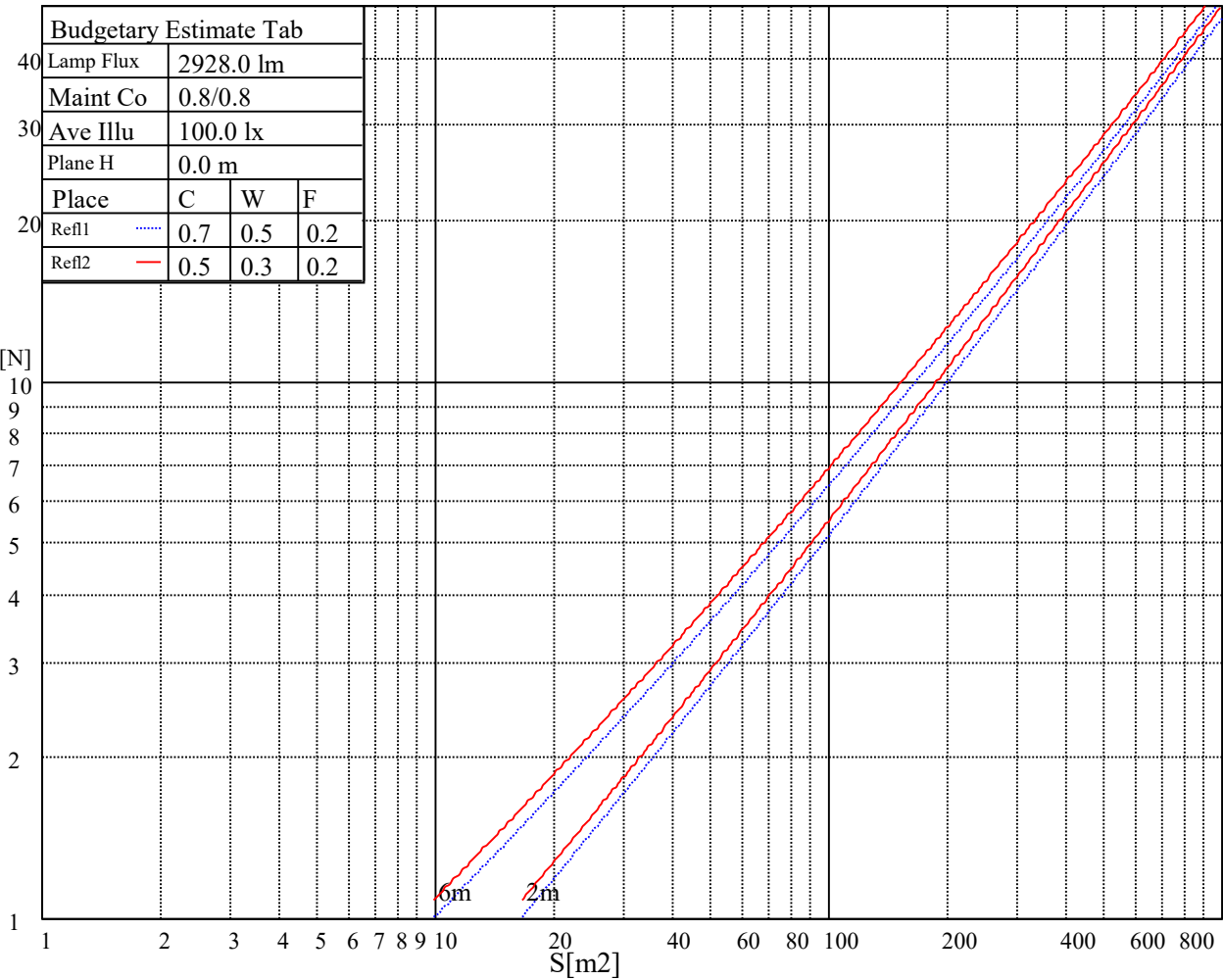
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5588	5588	5588	6777	6777	6777	16196	16196	16196

Glare Table

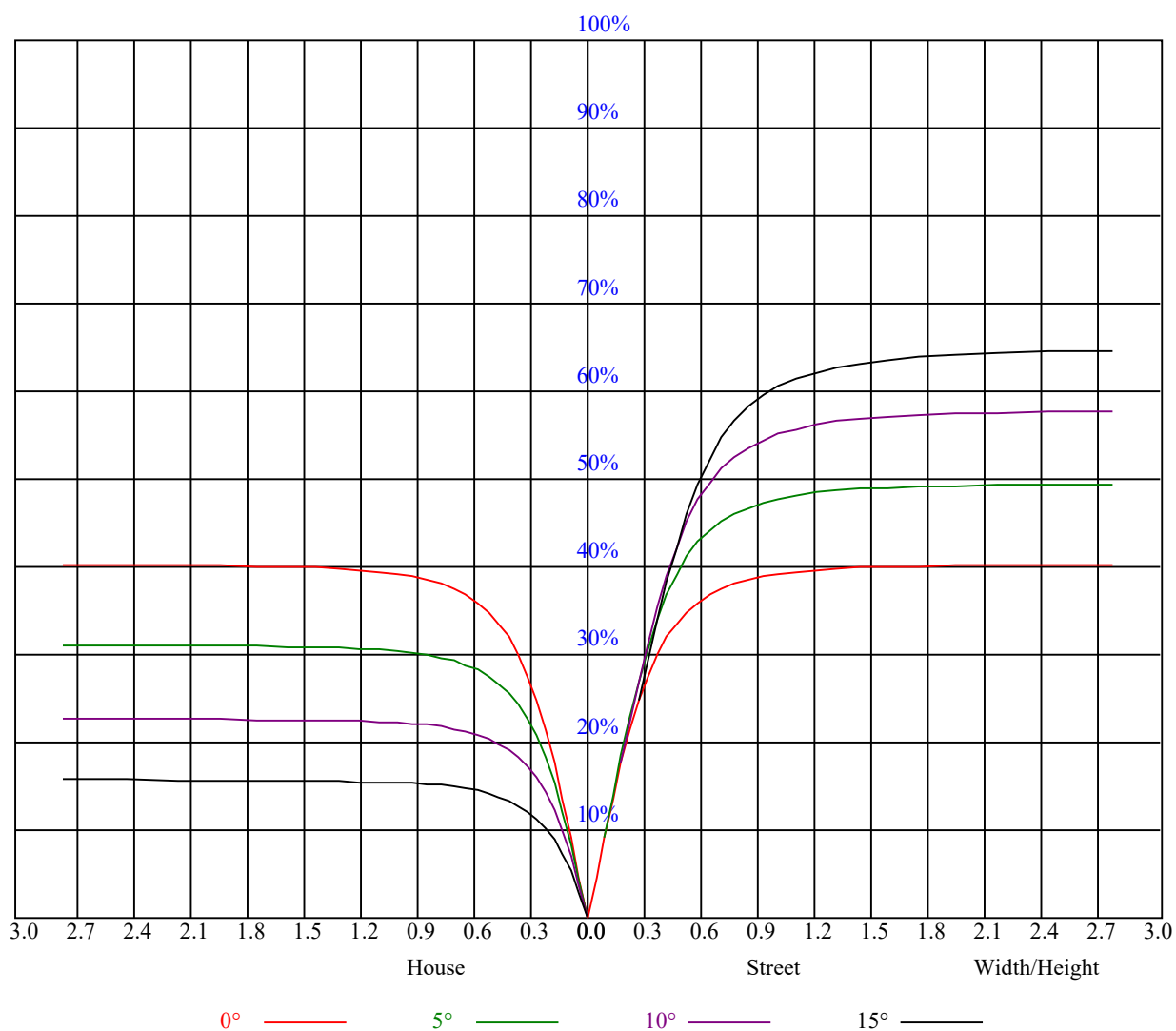
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	0.97	0.97	0.97	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.83	0.83	0.83	0.82
1	0.90	0.88	0.86	0.88	0.86	0.84	0.85	0.83	0.82	0.82	0.80	0.79	0.79	0.78	0.77	0.75
2	0.84	0.81	0.78	0.83	0.80	0.77	0.80	0.78	0.76	0.78	0.76	0.74	0.76	0.74	0.73	0.71
3	0.80	0.76	0.73	0.78	0.75	0.72	0.76	0.73	0.71	0.74	0.72	0.70	0.73	0.71	0.69	0.68
4	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.69	0.67	0.71	0.68	0.66	0.70	0.67	0.65	0.64
5	0.72	0.67	0.64	0.71	0.67	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.61
6	0.68	0.64	0.61	0.68	0.63	0.61	0.66	0.63	0.60	0.65	0.62	0.60	0.64	0.61	0.59	0.58
7	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.56
8	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.60	0.57	0.54	0.53
9	0.60	0.56	0.53	0.60	0.56	0.53	0.59	0.55	0.53	0.58	0.55	0.52	0.57	0.54	0.52	0.51
10	0.58	0.53	0.51	0.57	0.53	0.51	0.57	0.53	0.51	0.56	0.53	0.50	0.56	0.52	0.50	0.49



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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	4658.87	4533.89	3922.77	3173.45	2343.75	1449.64	793.36	472.93	320.43		
45.0	4664.93	4454.61	3830.27	3087.56	2148.85	1272.90	710.23	438.80	285.19		
90.0	4656.12	4278.43	3675.01	2810.08	1893.94	1087.47	620.27	378.24	254.69		
135.0	4661.63	4387.44	3771.36	2941.66	2042.04	1213.99	685.45	417.33	280.24		
180.0	4658.87	4326.88	3612.25	2762.18	1928.08	1063.96	623.57	398.50	263.61		
225.0	4664.93	4444.70	3842.39	3042.42	2224.28	1086.48	737.48	458.95	295.32		
270.0	4656.12	4562.52	4090.69	3382.67	2481.39	1541.58	883.10	523.04	334.19		
315.0	4661.63	4479.39	3847.34	3109.03	2278.23	1090.01	780.04	472.93	307.66		
360.0	4658.87	4533.89	3922.77	3173.45	2343.75	1449.64	793.36	472.93	320.43		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	205.31	127.68	67.72	33.75	18.22	15.42	13.38	11.84	10.57		
45.0	177.89	110.39	55.94	27.91	17.40	14.65	12.72	11.34	10.13		
90.0	159.83	92.60	47.51	23.89	16.13	13.87	12.39	11.01	10.08		
135.0	173.04	102.35	52.80	26.70	17.01	14.53	12.88	11.40	10.19		
180.0	165.11	100.75	50.38	25.16	16.74	14.42	12.77	11.51	10.35		
225.0	187.91	117.16	61.33	30.39	17.18	14.98	13.05	11.67	10.85		
270.0	219.01	135.71	73.11	40.14	19.05	15.47	13.43	12.00	10.79		
315.0	203.05	123.44	64.91	33.25	18.00	15.09	13.16	11.78	10.57		
360.0	205.31	127.68	67.72	33.75	18.22	15.42	13.38	11.84	10.57		
C/γ(°)	90.0										
0.0	9.52										
45.0	9.52										
90.0	9.52										
135.0	9.52										
180.0	9.52										
225.0	9.47										
270.0	9.63										
315.0	9.63										
360.0	9.52										