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Nata

LumCAT: 3-2116-N
Luminaire: 92.70.135.00
Report No: NATA0100
Test No: GC2018062504
LampCAT: NICHIA NFCWJ120B-V3
Lamp flux(lm): 2272.0
Number of Lamps: 1
Length(mm): 80
Phm Type: C

Voltage(V): 33.8000
Current(A): 0.5000
Power (W): 16.9000
PF: 0.0000
Ballast type: DC
Width(mm): 80
Height(mm): 0

Photometric Results

Lumens(lm): 1934.76
Efficiency(%): 85.16%
Lumens(lm)/Power(W): 116.88
Central intensity(cd): 7077.363
Maximum intensity(cd): 7077.363
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=26.2
[C90/270]Total=26.2
Field angle(10%Imax): [C0/180]Total=54.6
[C90/270]Total=54.6
Maximum s/h(1/2): C0_180=0.44 C90_270=0.44
Maximum s/h(1/4): C0_180=0.45 C90_270=0.45
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 86.94%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.194%

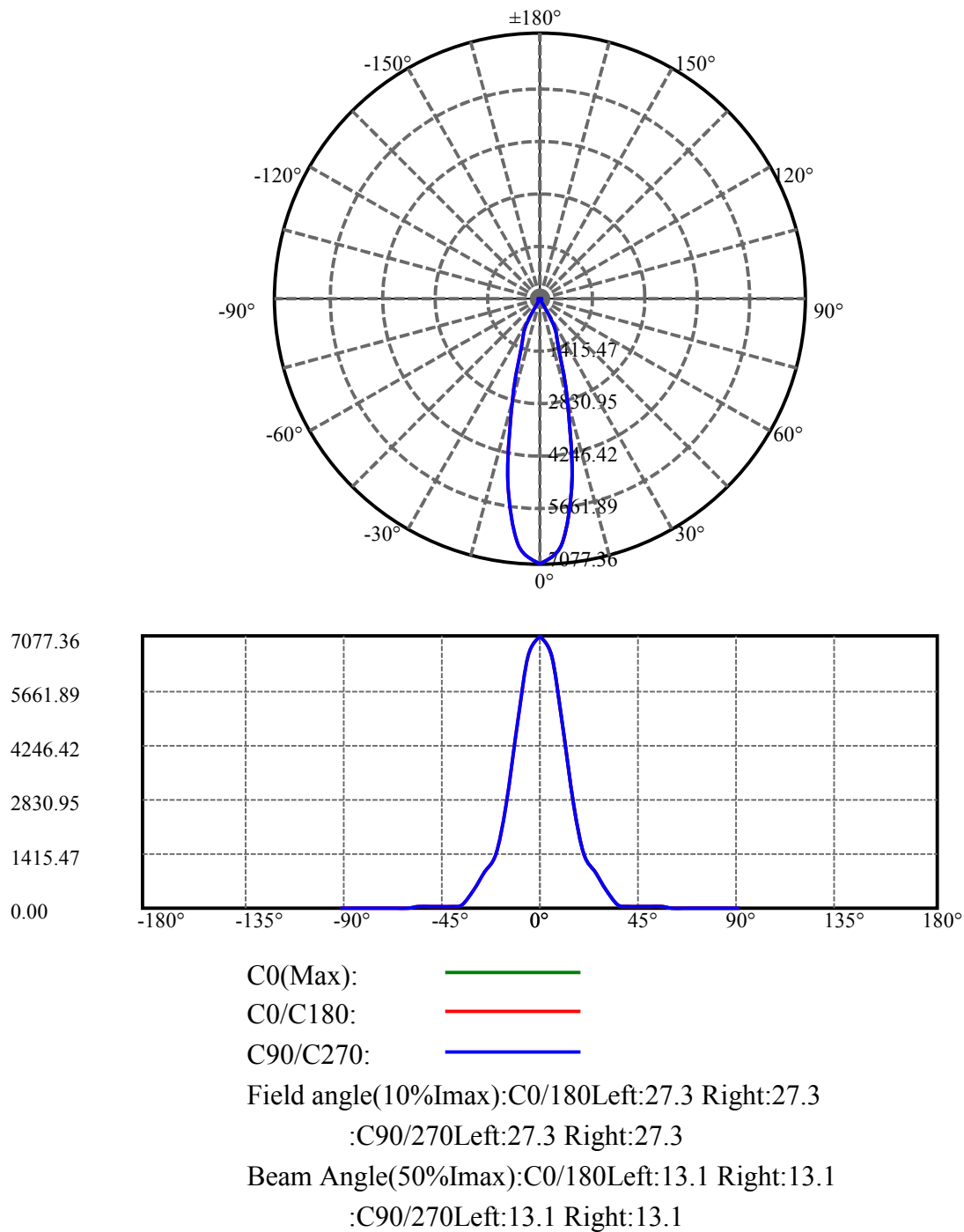
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7077.363	42.324	42.324	1.863%	2.188%
5.0	6552.882	313.053	355.377	13.779%	18.368%
10.0	4900.708	466.464	821.841	20.531%	42.478%
15.0	2702.099	383.342	1205.184	16.872%	62.291%
20.0	1390.030	260.594	1465.778	11.470%	75.760%
25.0	908.974	210.567	1676.345	9.268%	86.644%
30.0	472.914	129.611	1805.956	5.705%	93.343%
35.0	93.561	29.416	1835.371	1.295%	94.863%
40.0	48.945	17.245	1852.616	.759%	95.754%
45.0	38.347	14.863	1867.479	.654%	96.523%
50.0	30.295	12.721	1880.2	.560%	97.180%
55.0	23.557	10.577	1890.777	.466%	97.727%
60.0	19.559	9.285	1900.062	.409%	98.207%
65.0	16.421	8.157	1908.219	.359%	98.628%
70.0	12.746	6.565	1914.784	.289%	98.968%
75.0	11.782	6.238	1921.022	.275%	99.290%
80.0	10.929	5.899	1926.922	.260%	99.595%
85.0	9.993	5.457	1932.378	.240%	99.877%
90.0	8.678	2.378	1934.757	.105%	100.000%

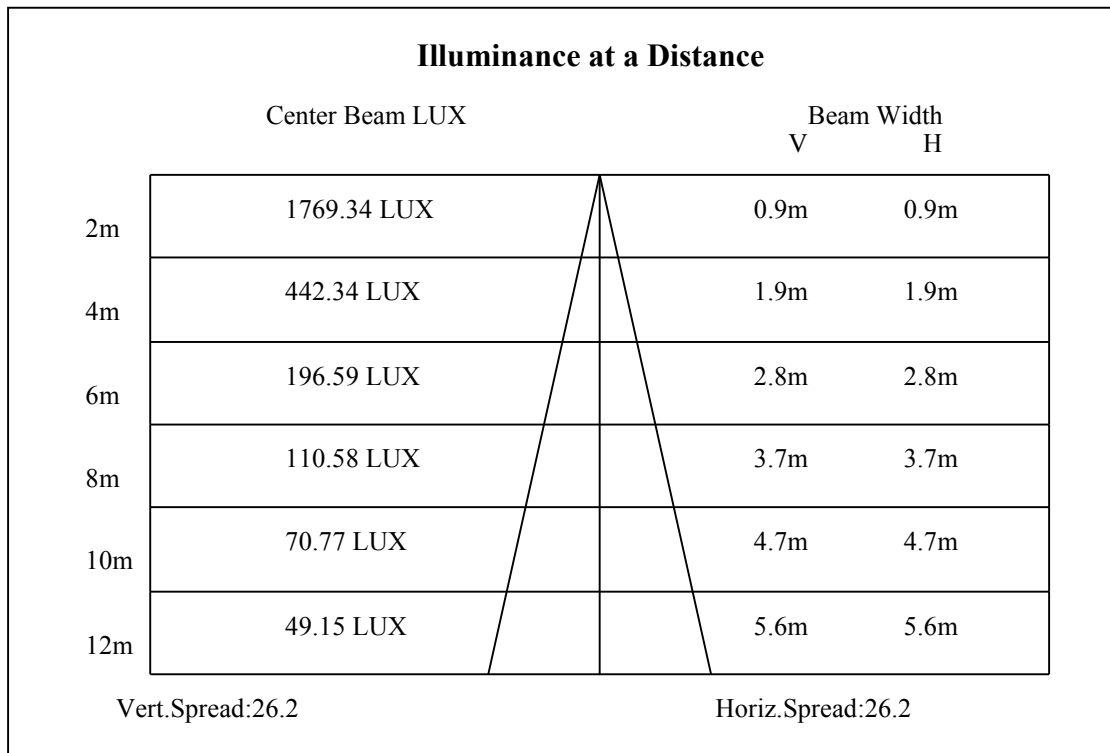
ZONAL LUMEN SUMMARY

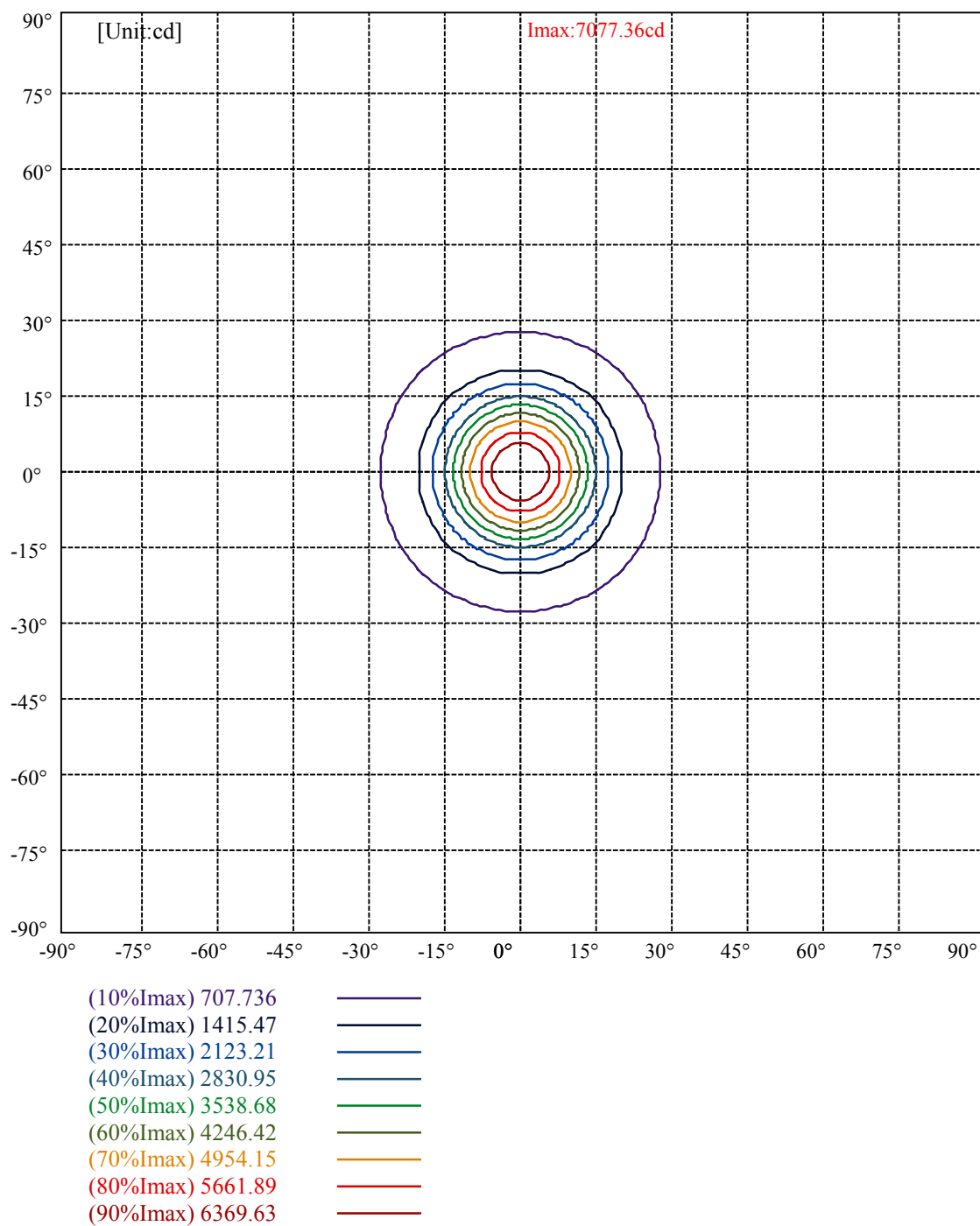
Zone	Lumens	%Lamp	%Fixt
0-30	1805.96	79.49%	93.34%
0-40	1852.62	81.54%	95.75%
0-60	1900.06	83.63%	98.21%
0-90	1932.38	85.05%	99.88%
0-120	1932.38	85.05%	99.88%
0-180	1934.76	85.16%	100.00%
60-90	41.60	1.83%	2.15%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-21.95	1547.81	68.13%	80.00%

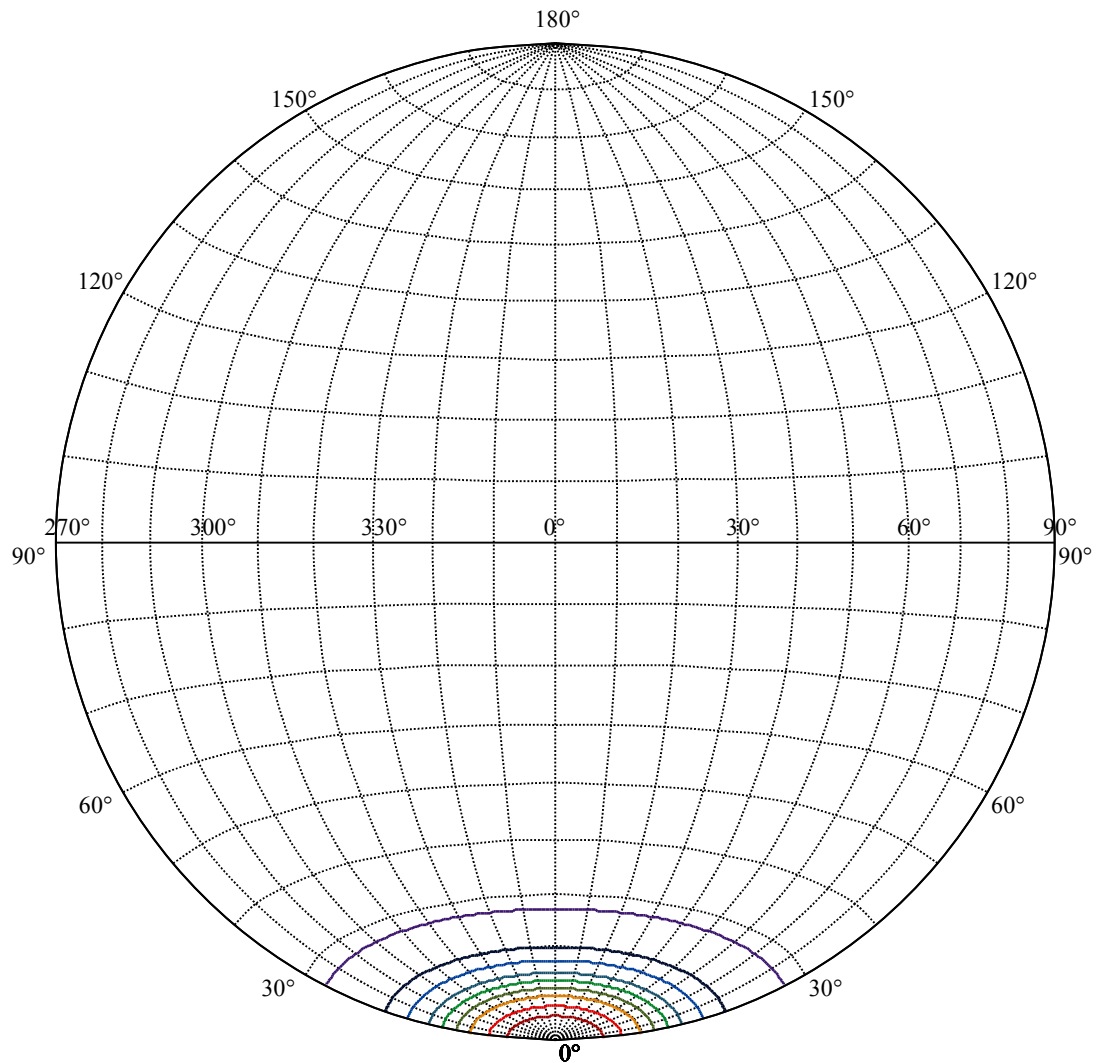
ZONAL LUMEN SUMMARY

0-10	821.84
10-20	643.94
20-30	340.18
30-40	46.66
40-50	27.58
50-60	19.86
60-70	14.72
70-80	12.14
80-90	5.46
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









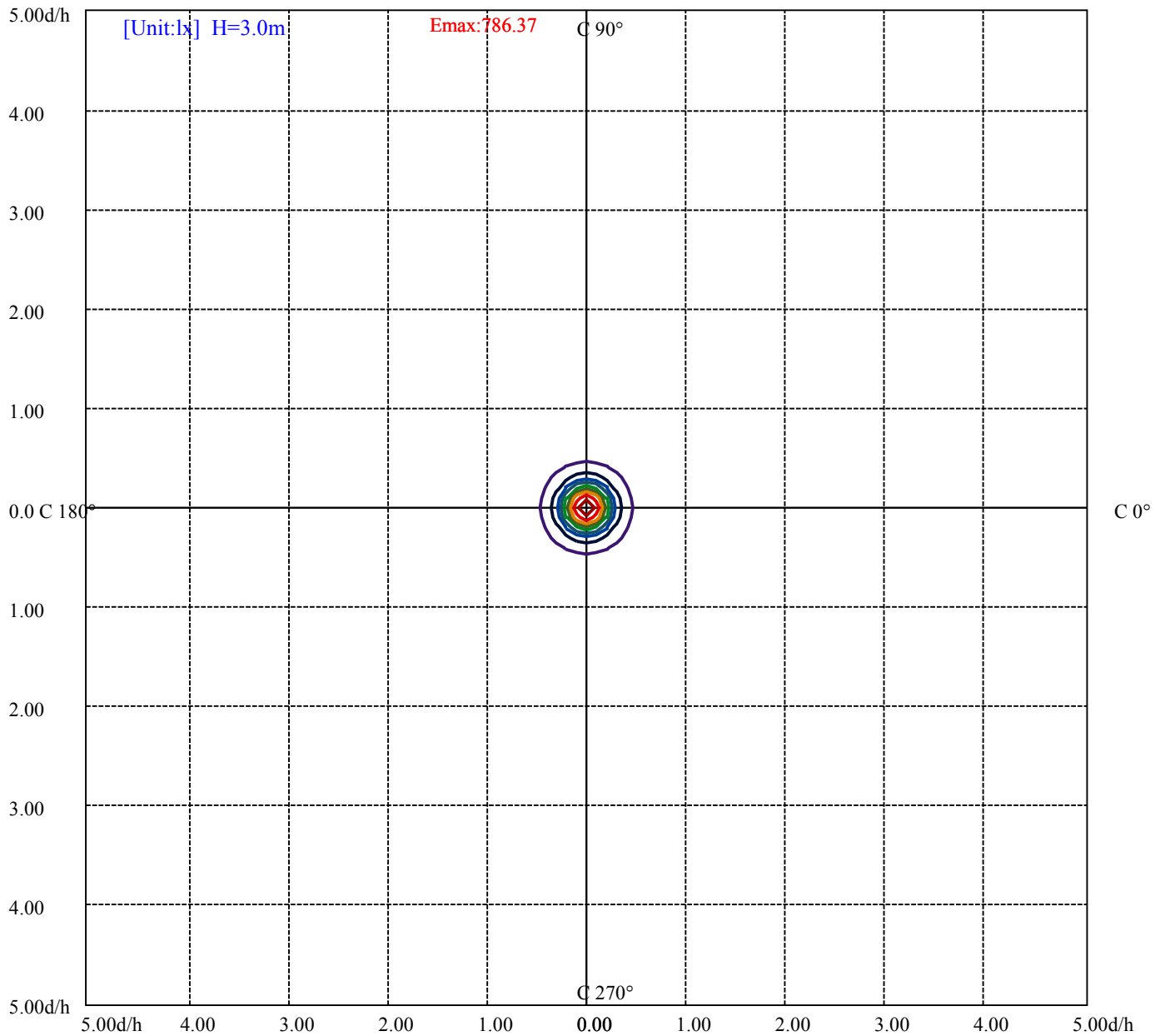
House

[Unit:cd]

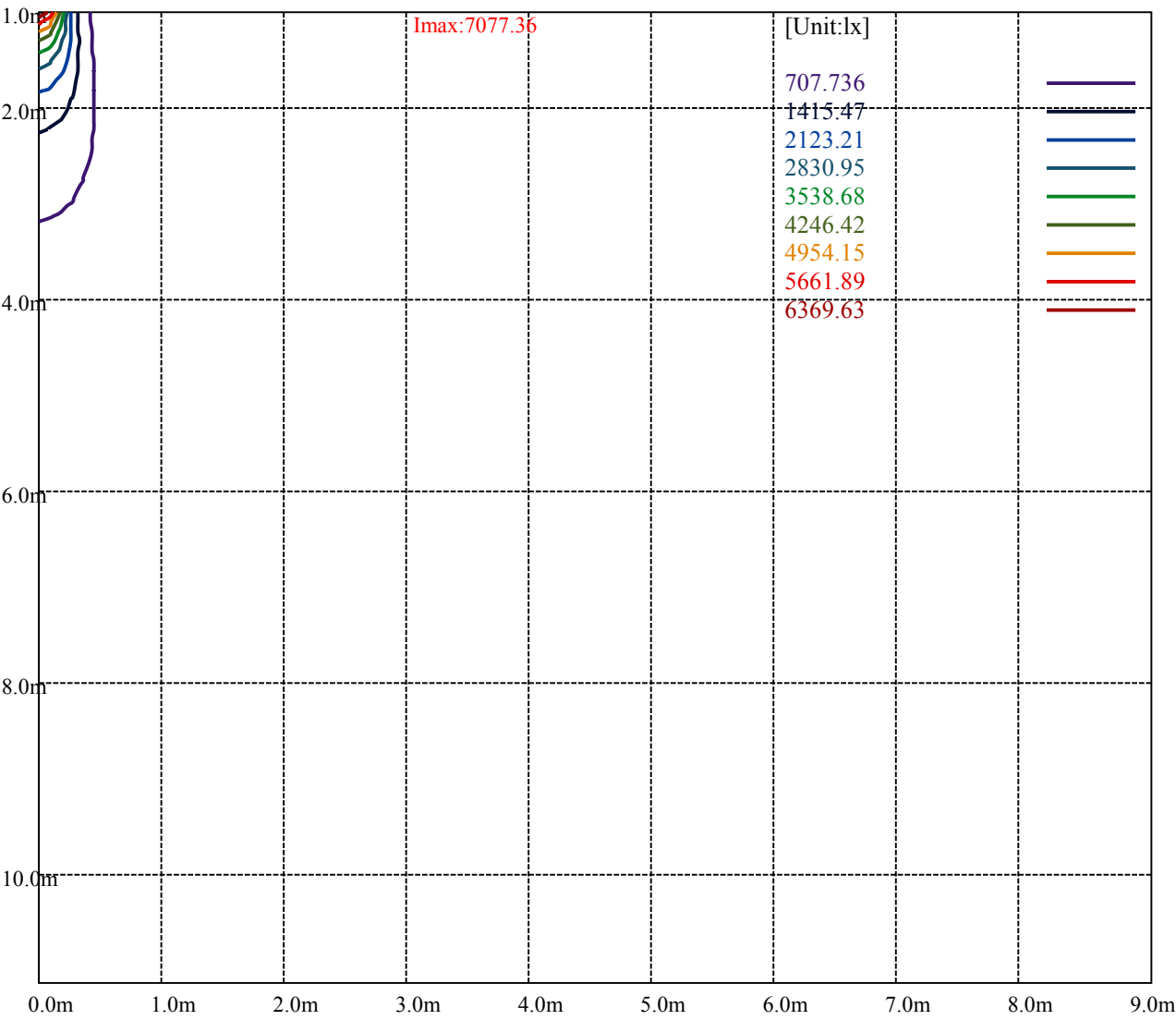
Road

Imax:7077.36

(10%Imax)	707.736	—
(20%Imax)	1415.47	—
(30%Imax)	2123.21	—
(40%Imax)	2830.95	—
(50%Imax)	3538.68	—
(60%Imax)	4246.42	—
(70%Imax)	4954.15	—
(80%Imax)	5661.89	—
(90%Imax)	6369.63	—



(10%Emax) 78.63722	—
(20%Emax) 157.2744	—
(30%Emax) 235.9111	—
(40%Emax) 314.5489	—
(50%Emax) 393.1855	—
(60%Emax) 471.8234	—
(70%Emax) 550.46	—
(80%Emax) 629.0978	—
(90%Emax) 707.7344	—



Luminance Table

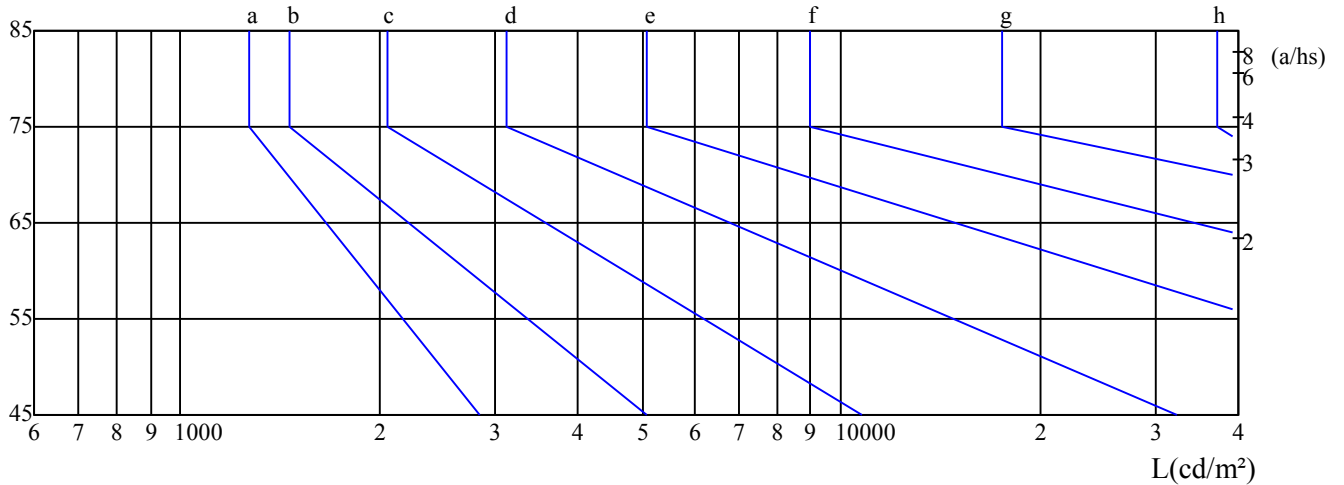
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

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

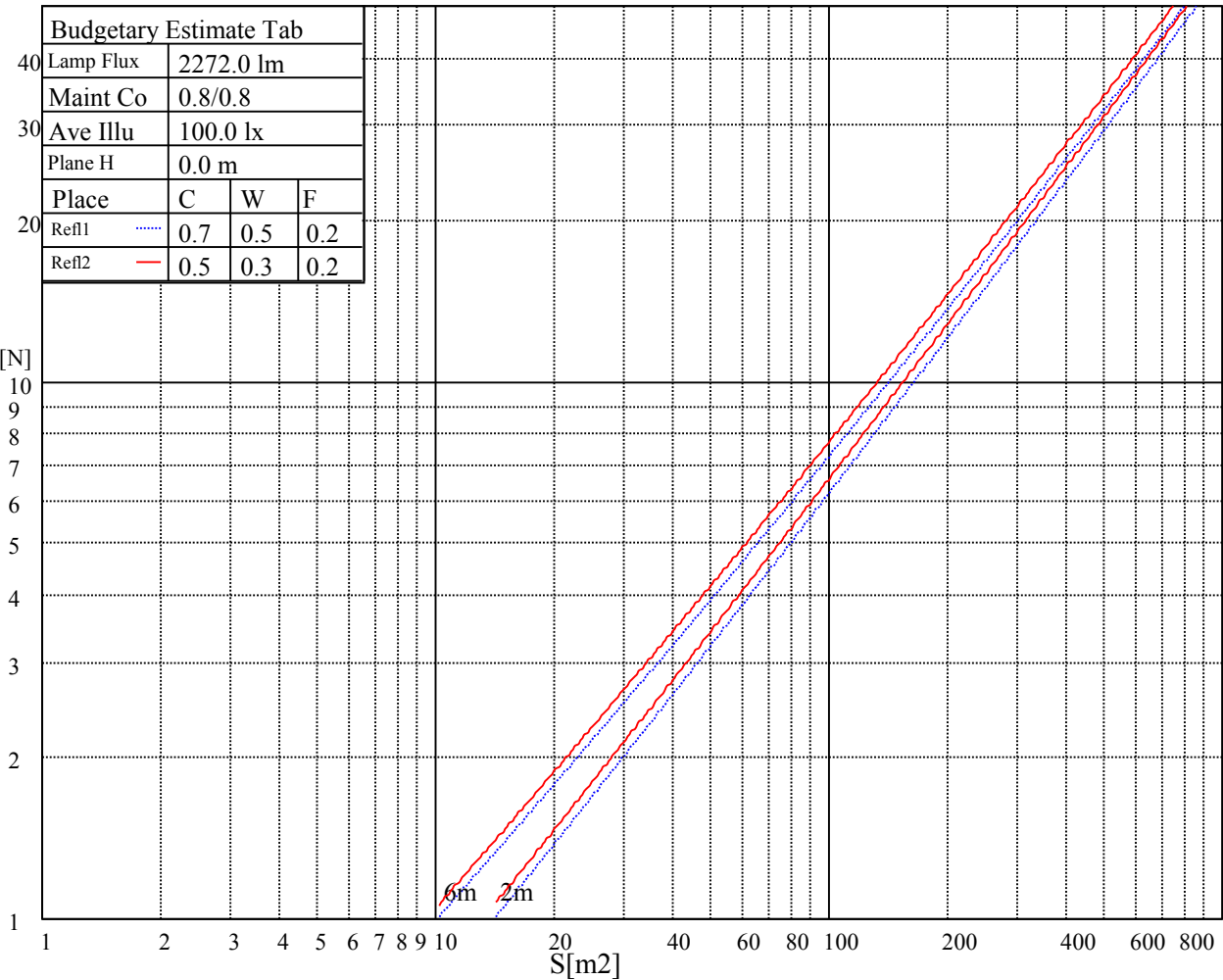
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

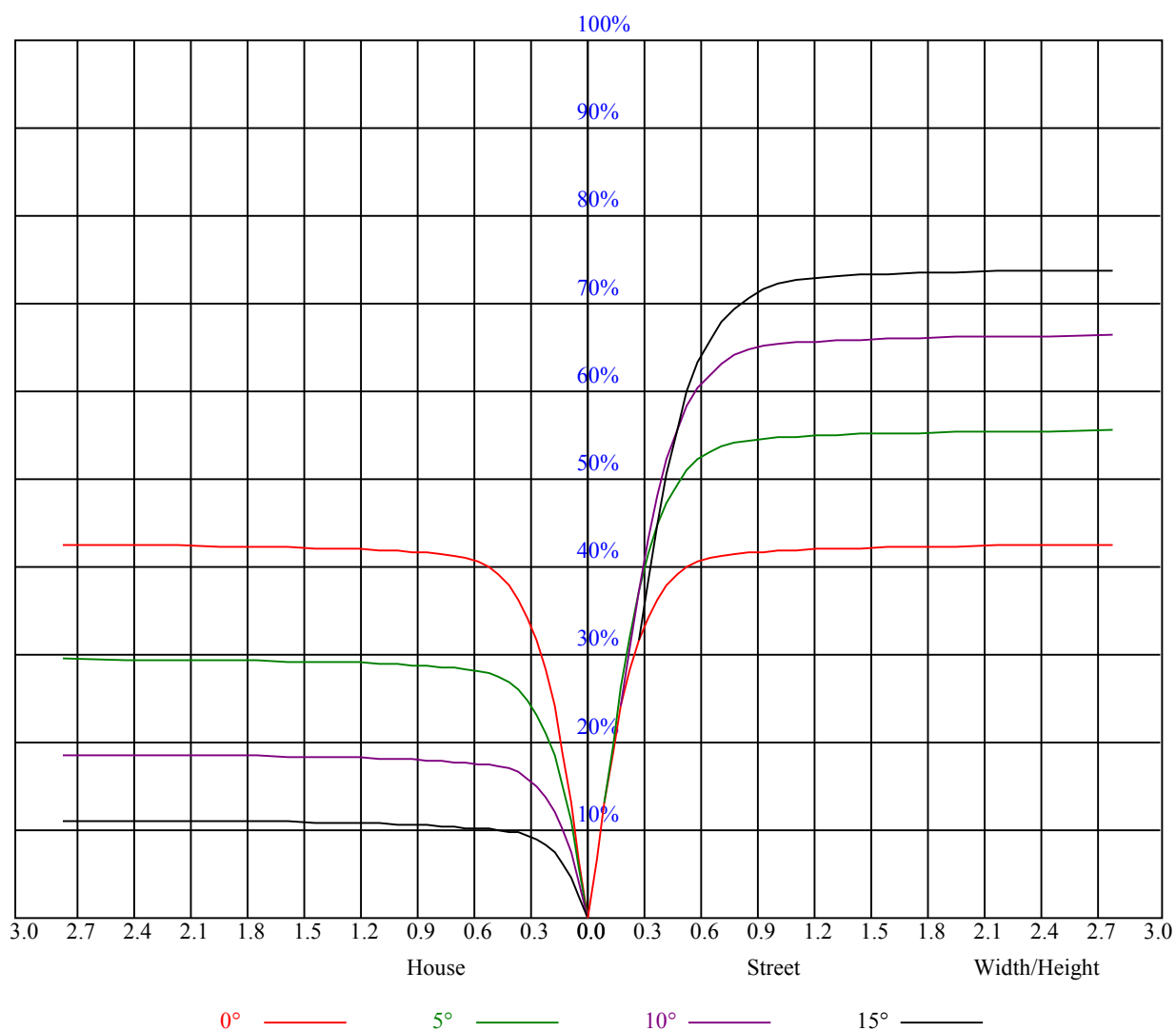
C0 ———

C45 ———

C90 ———



RHOCC	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	1.03	1.03	1.03	1.01	1.01	1.01	0.97	0.97	0.97	0.92	0.92	0.92	0.89	0.89	0.89	0.87
1	0.95	0.93	0.91	0.93	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	0.87	0.84	0.89	0.86	0.84	0.86	0.84	0.82	0.84	0.82	0.80	0.81	0.80	0.78	0.77
3	0.86	0.83	0.80	0.85	0.82	0.79	0.83	0.80	0.78	0.81	0.79	0.77	0.79	0.77	0.76	0.74
4	0.83	0.79	0.76	0.82	0.78	0.76	0.80	0.77	0.75	0.79	0.76	0.74	0.77	0.75	0.73	0.72
5	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.74	0.72	0.76	0.74	0.71	0.75	0.73	0.71	0.70
6	0.77	0.73	0.70	0.77	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.73	0.71	0.69	0.68
7	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.69	0.67	0.66
8	0.72	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.70	0.67	0.65	0.64
9	0.70	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.63
10	0.69	0.65	0.62	0.68	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.67	0.64	0.62	0.61



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	7074.75	6446.55	4825.69	2554.62	1379.71	915.59	455.32	68.88	46.85		
45.0	7100.62	6526.39	4816.88	2615.18	1370.90	873.19	441.55	78.84	48.01		
90.0	7064.29	6415.72	4434.79	2271.08	1082.90	848.09	370.97	66.51	45.86		
135.0	7069.79	6704.77	5200.63	2862.38	1495.33	935.41	541.20	92.49	50.60		
180.0	7074.75	6633.75	4947.92	2880.55	1447.43	926.93	499.09	87.65	49.88		
225.0	7100.62	6600.71	4995.27	2831.00	1487.62	920.54	492.92	91.61	50.21		
270.0	7064.29	6732.30	5305.79	3138.21	1621.41	977.80	567.63	189.06	51.37		
315.0	7069.79	6362.87	4678.69	2463.77	1234.92	874.24	414.63	73.45	48.78		
360.0	7074.75	6446.55	4825.69	2554.62	1379.71	915.59	455.32	68.88	46.85		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	37.55	29.51	23.73	19.55	16.57	12.55	11.73	10.90	9.74		
45.0	37.49	29.51	23.29	19.27	16.08	12.72	11.67	10.74	9.69		
90.0	36.28	28.35	22.68	18.77	14.76	12.61	11.62	10.85	9.74		
135.0	39.75	31.38	24.28	19.82	17.18	12.99	12.00	11.07	10.13		
180.0	39.26	31.11	23.67	19.71	16.90	12.72	11.73	10.96	10.19		
225.0	38.87	31.16	23.78	19.88	16.85	12.83	11.78	10.85	10.13		
270.0	39.81	31.77	24.22	20.04	17.12	12.83	11.89	11.07	10.35		
315.0	37.77	29.57	22.79	19.43	15.91	12.72	11.84	11.01	9.97		
360.0	37.55	29.51	23.73	19.55	16.57	12.55	11.73	10.90	9.74		
C/ γ (°)	90.0										
0.0	8.64										
45.0	8.64										
90.0	8.70										
135.0	8.75										
180.0	8.64										
225.0	8.59										
270.0	8.70										
315.0	8.75										
360.0	8.64										