



NATA LIGHTING CO.,LTD.
www.nata.cn
Email:info@nata.com
Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: 2-1676-M
Luminaire: 92.70.135.00
Report No: NATA0100
Test No: GC2018070403
LampCAT: NICHIA NFCWD096B-V3
Lamp flux(lm): 2202.0
Number of Lamps: 1
Length(mm): 70
Phm Type: C
Voltage(V): 33.9000
Current(A): 0.5000
Power (W): 16.9500
PF: 0.0000
Ballast type: DC
Width(mm): 70
Height(mm): 0

Photometric Results

Lumens(lm): 2001.84
Efficiency(%): 90.91%
Lumens(lm)/Power(W): 118.10
Central intensity(cd): 4473.498
Maximum intensity(cd): 4473.498
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=35.6
[C90/270]Total=35.6
Field angle(10%Imax): [C0/180]Total=71.1
[C90/270]Total=71.1
Maximum s/h(1/2): C0_180=0.59 C90_270=0.59
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(%): 92.04%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.516%

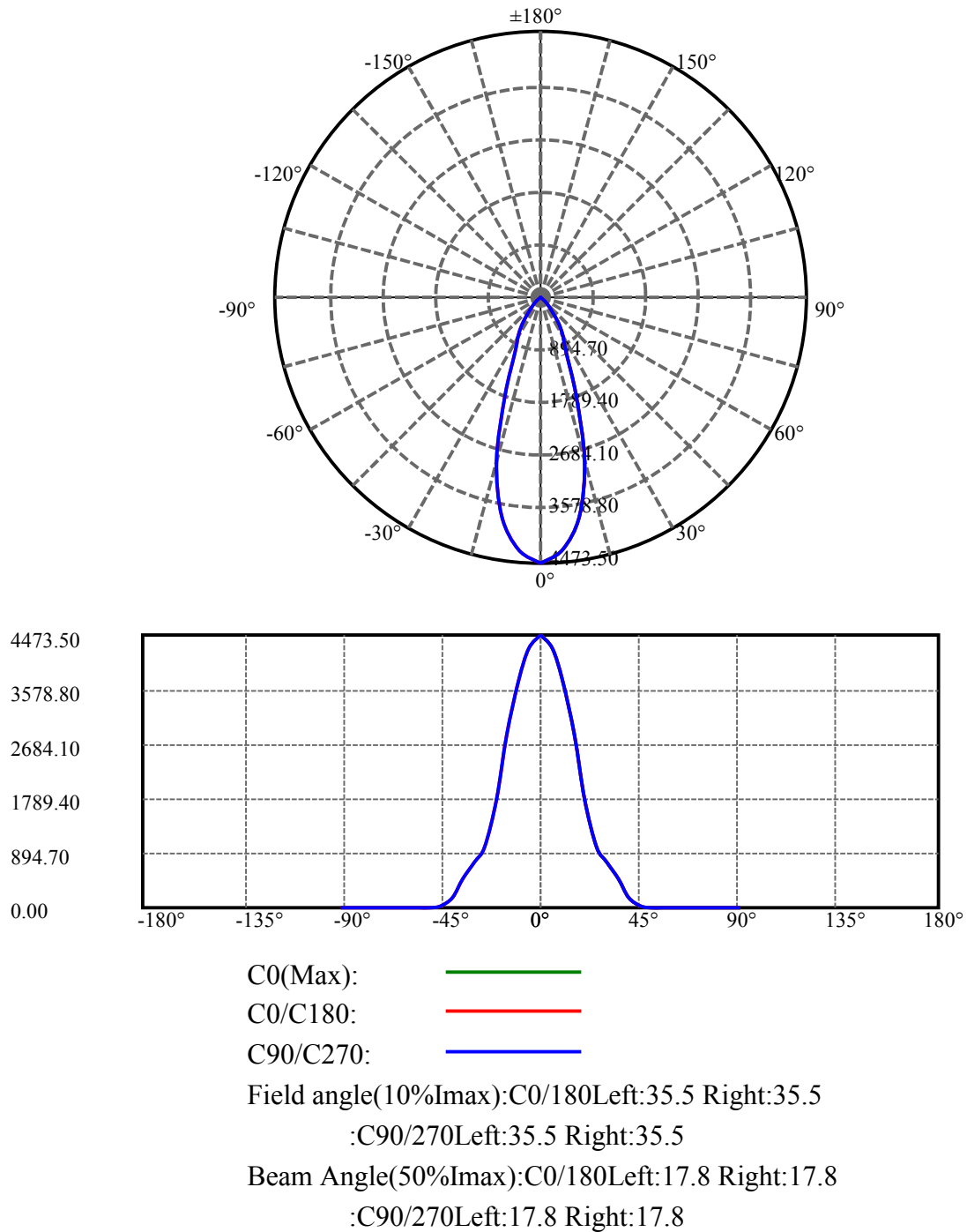
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4473.498	26.752	26.752	1.215%	1.336%
5.0	4247.932	202.938	229.69	9.216%	11.474%
10.0	3719.610	354.044	583.734	16.078%	29.160%
15.0	2841.130	403.067	986.801	18.305%	49.295%
20.0	1765.604	331.005	1317.806	15.032%	65.830%
25.0	992.942	230.018	1547.823	10.446%	77.320%
30.0	736.324	201.803	1749.627	9.165%	87.401%
35.0	482.845	151.806	1901.433	6.894%	94.984%
40.0	158.012	55.673	1957.106	2.528%	97.765%
45.0	15.361	5.954	1963.06	.270%	98.063%
50.0	10.516	4.416	1967.475	.201%	98.283%
55.0	9.800	4.400	1971.875	.200%	98.503%
60.0	9.415	4.469	1976.345	.203%	98.726%
65.0	9.139	4.540	1980.885	.206%	98.953%
70.0	8.919	4.594	1985.479	.209%	99.183%
75.0	8.754	4.635	1990.114	.210%	99.414%
80.0	8.699	4.696	1994.81	.213%	99.649%
85.0	8.589	4.690	1999.499	.213%	99.883%
90.0	8.534	2.339	2001.838	.106%	100.000%

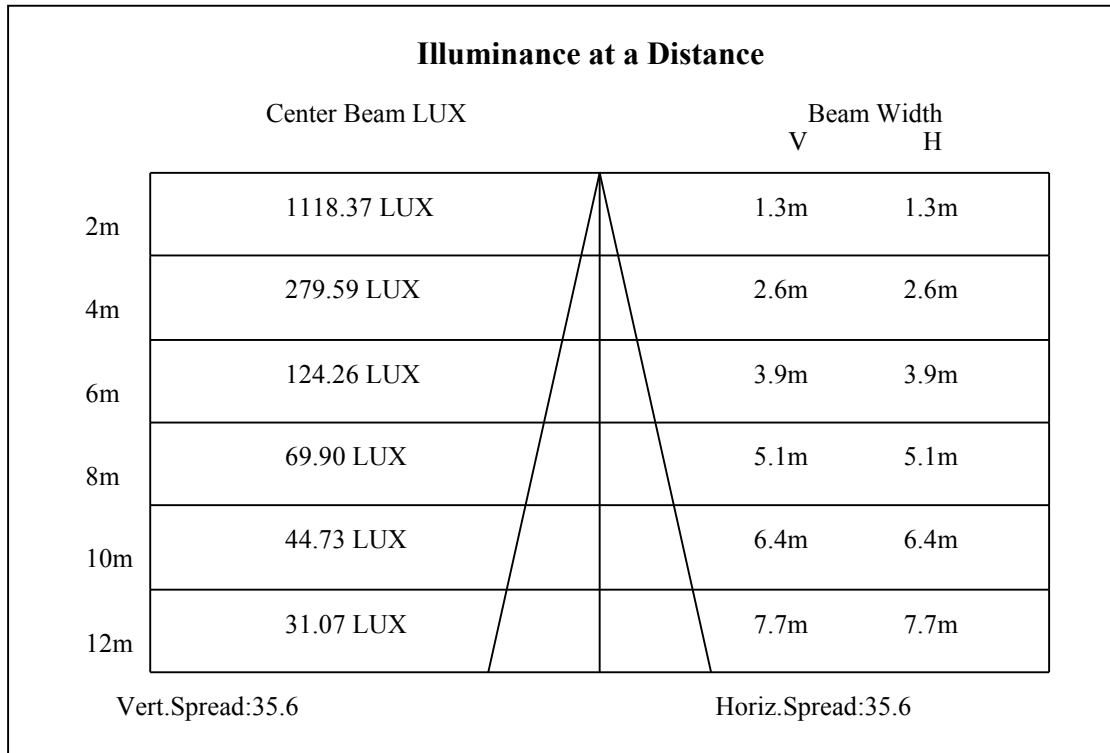
ZONAL LUMEN SUMMARY

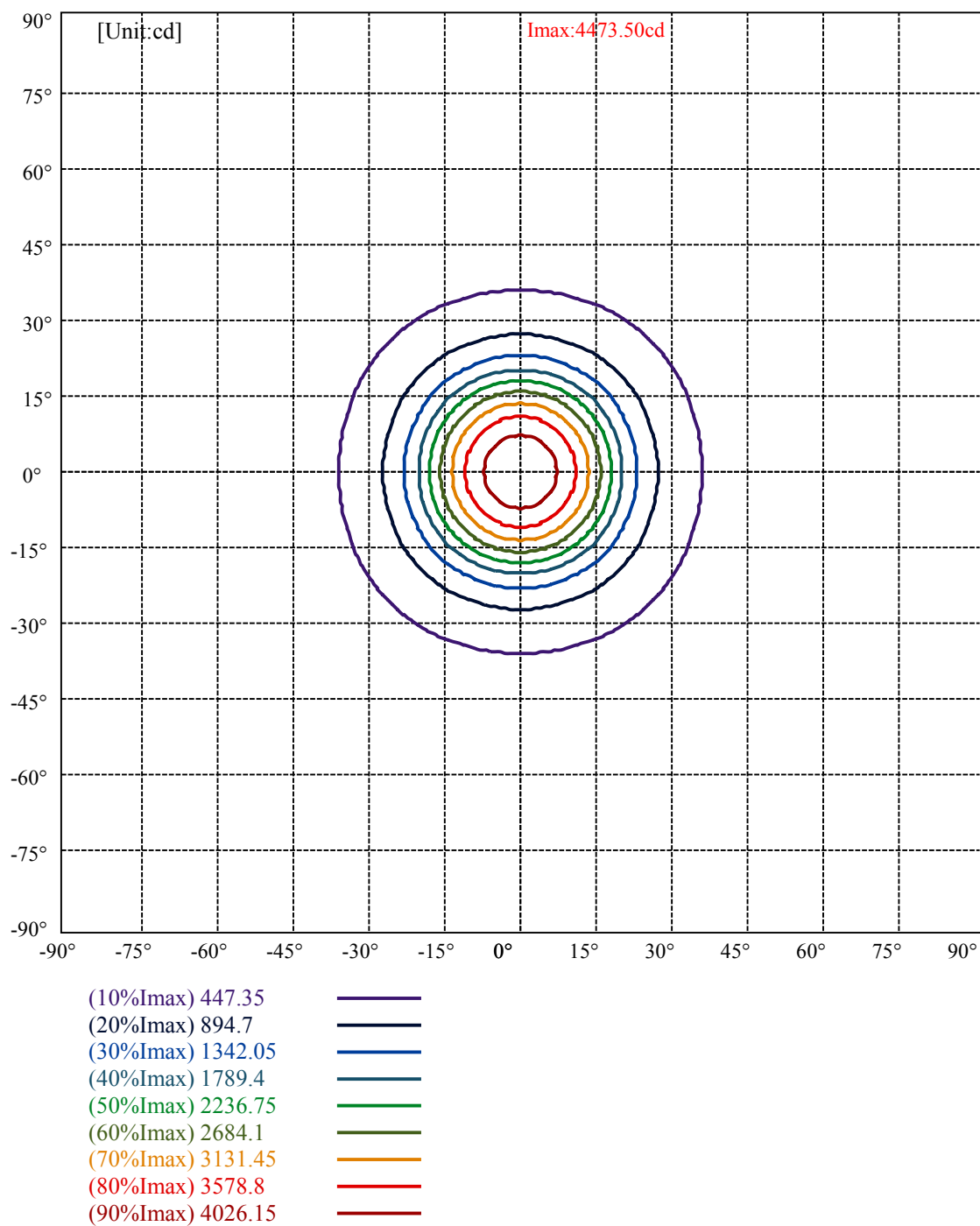
Zone	Lumens	%Lamp	%Fixt
0-30	1749.63	79.46%	87.40%
0-40	1957.11	88.88%	97.77%
0-60	1976.34	89.75%	98.73%
0-90	1999.50	90.80%	99.88%
0-120	1999.50	90.80%	99.88%
0-180	2001.84	90.91%	100.00%
60-90	27.62	1.25%	1.38%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-26.33	1601.47	72.73%	80.00%

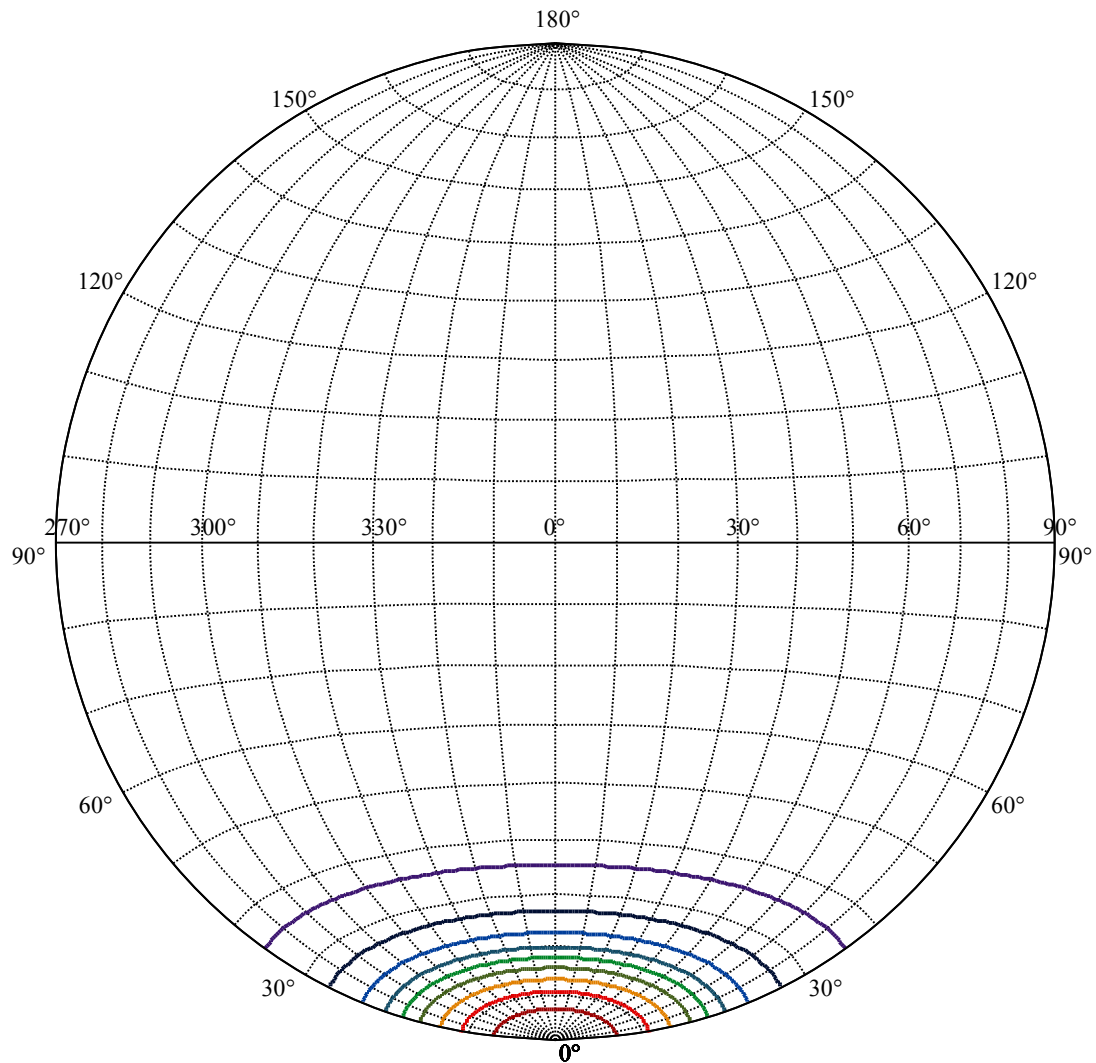
ZONAL LUMEN SUMMARY

0-10	583.73
10-20	734.07
20-30	431.82
30-40	207.48
40-50	10.37
50-60	8.87
60-70	9.13
70-80	9.33
80-90	4.69
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









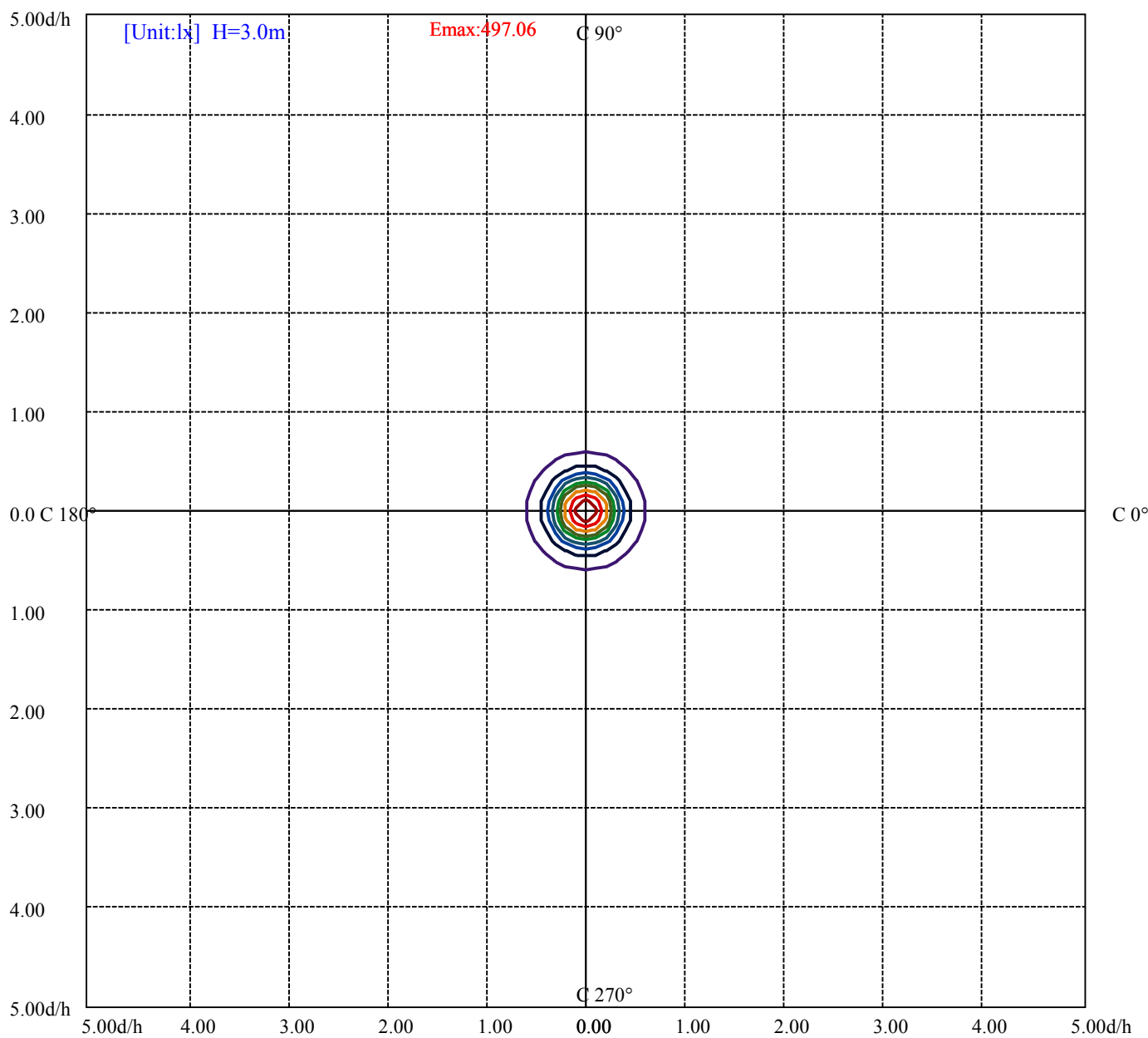
House

[Unit:cd]

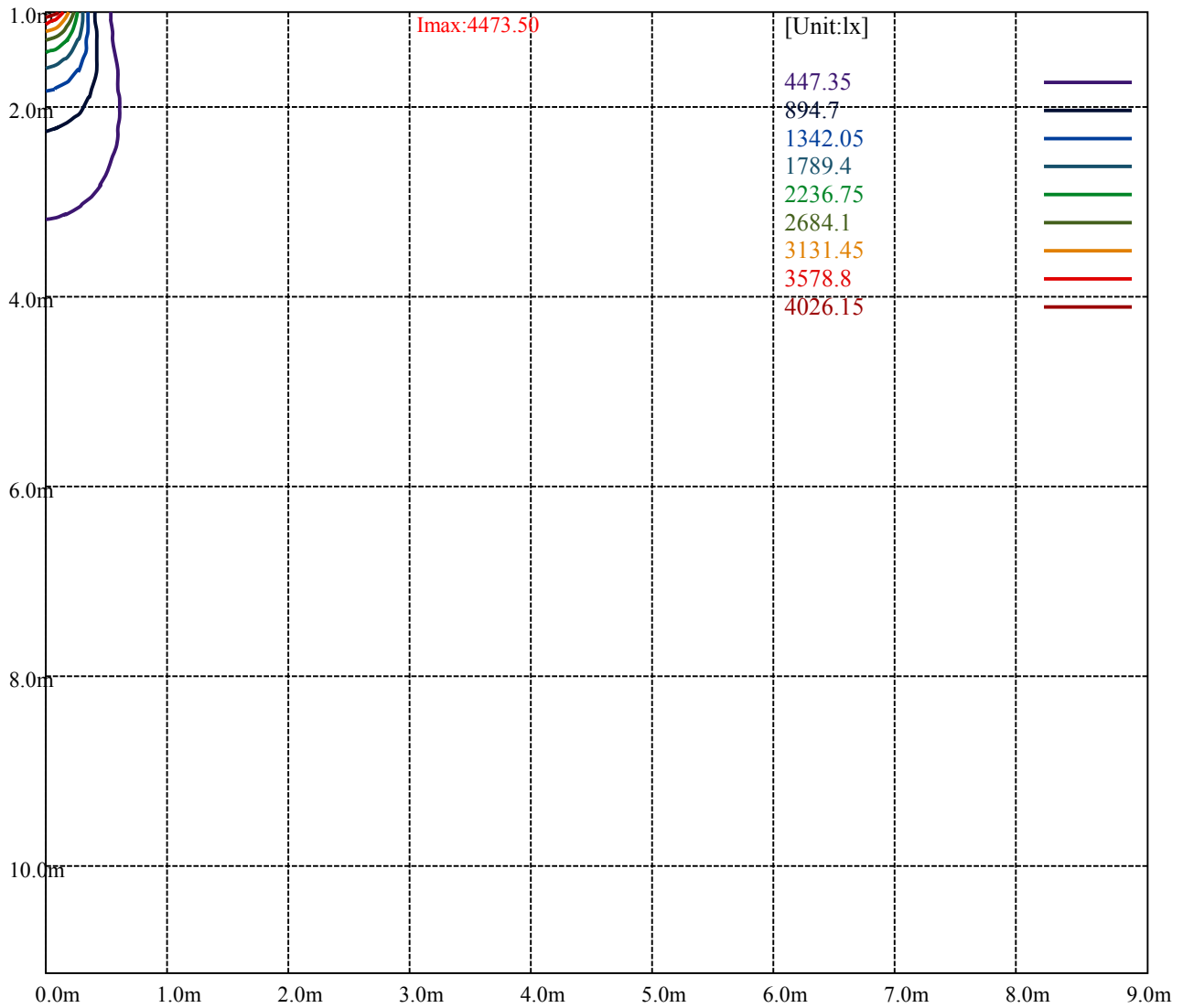
Road

Imax:4473.50

(10%Imax)	447.35	—
(20%Imax)	894.7	—
(30%Imax)	1342.05	—
(40%Imax)	1789.4	—
(50%Imax)	2236.75	—
(60%Imax)	2684.1	—
(70%Imax)	3131.45	—
(80%Imax)	3578.8	—
(90%Imax)	4026.15	—



(10%Emax)	49.70544	—
(20%Emax)	99.41089	—
(30%Emax)	149.1167	—
(40%Emax)	198.8222	—
(50%Emax)	248.5278	—
(60%Emax)	298.2322	—
(70%Emax)	347.9378	—
(80%Emax)	397.6433	—
(90%Emax)	447.3489	—



Luminance Table

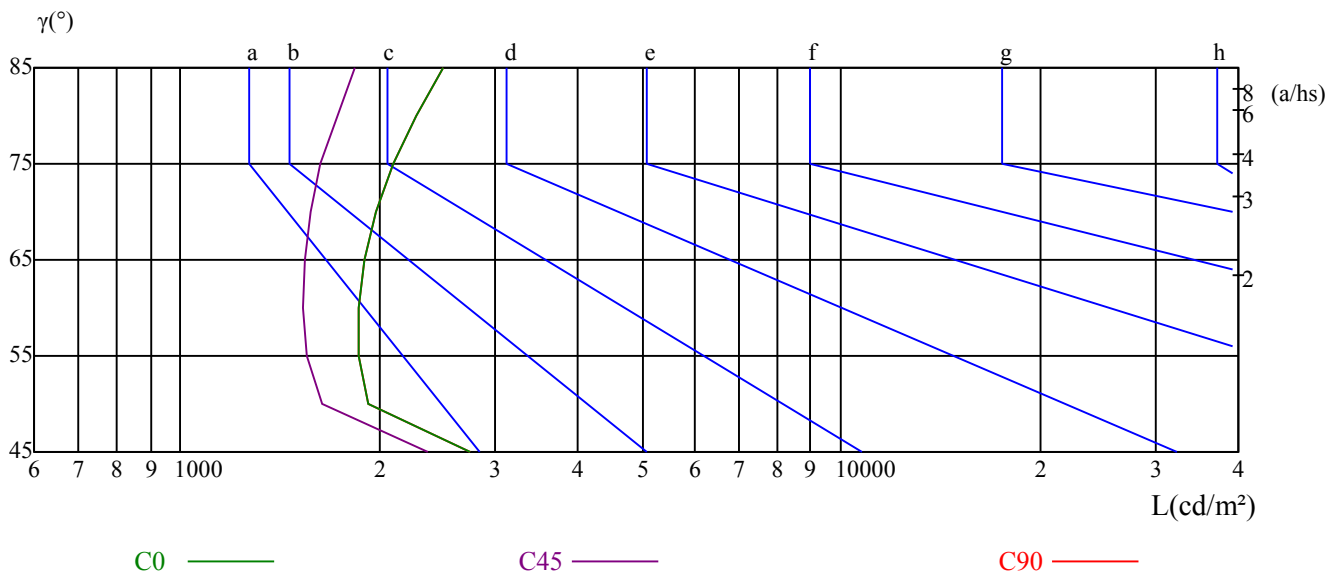
γ	45	50	55	60	65	70	75	80	85
C0	2746	1928	1857	1862	1905	1980	2096	2280	2507
C45	2372	1640	1556	1534	1542	1571	1627	1725	1840
C90	2746	1928	1857	1862	1905	1980	2096	2280	2507

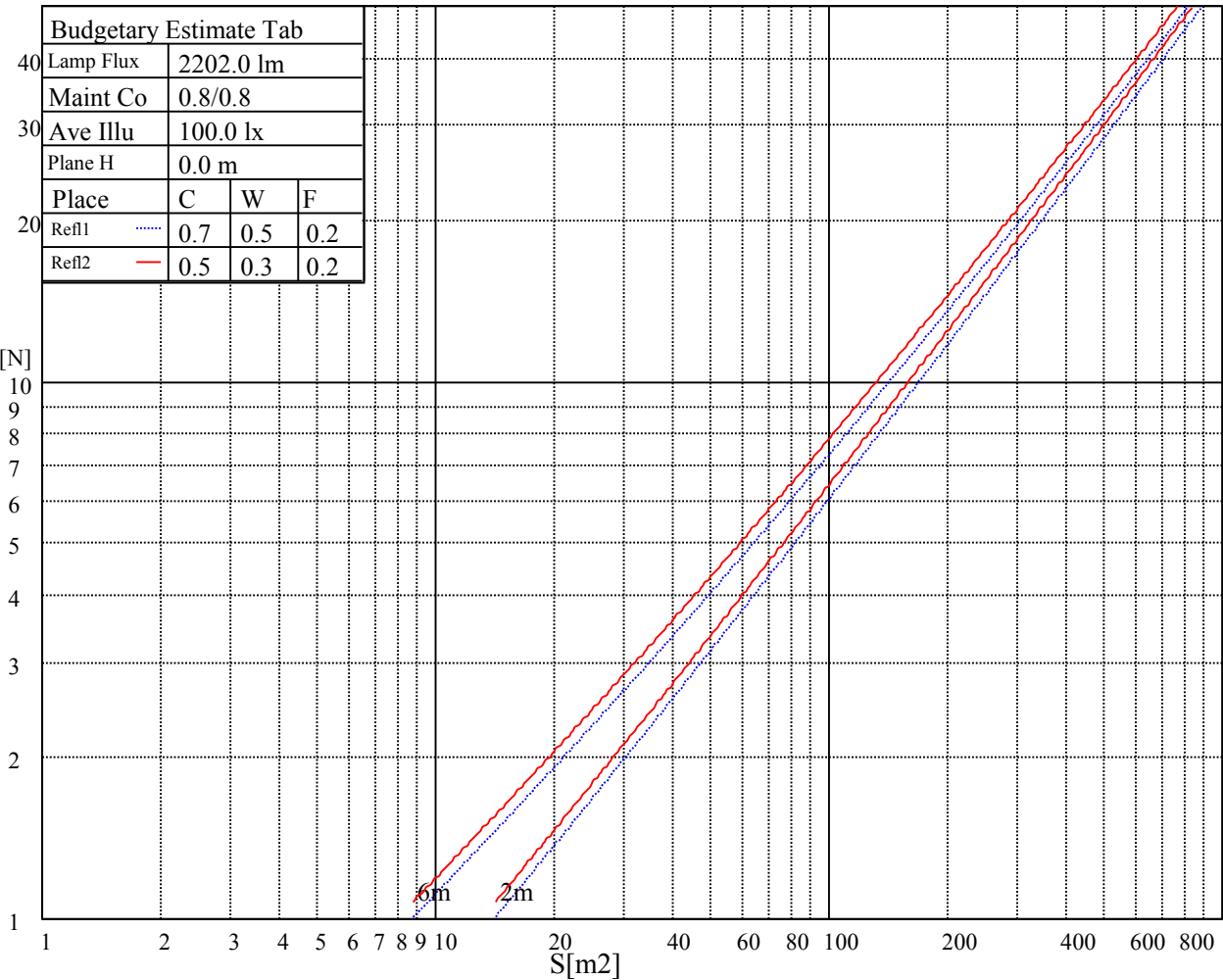
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4413	4413	4413	6903	6903	6903	20111	20111	20111

Glare Table

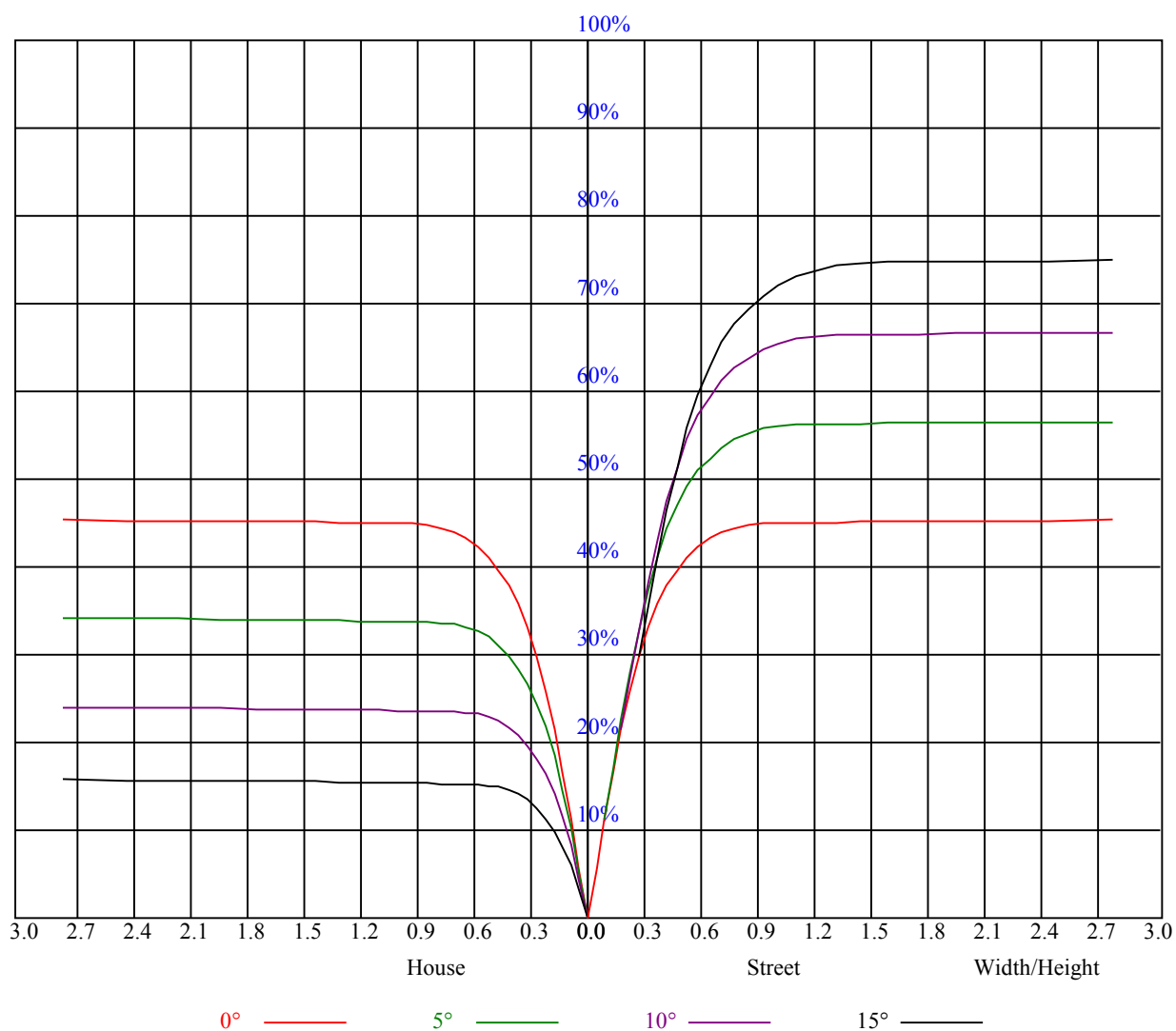
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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	1.10	1.10	1.10	1.07	1.07	1.07	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.01	0.99	0.97	0.99	0.97	0.95	0.96	0.94	0.92	0.92	0.91	0.90	0.89	0.88	0.87	0.85
2	0.96	0.92	0.89	0.94	0.91	0.88	0.91	0.89	0.87	0.89	0.87	0.85	0.86	0.84	0.83	0.81
3	0.91	0.87	0.84	0.90	0.86	0.83	0.87	0.84	0.82	0.85	0.83	0.80	0.83	0.81	0.79	0.78
4	0.87	0.82	0.79	0.86	0.82	0.78	0.84	0.80	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.75
5	0.83	0.78	0.75	0.82	0.78	0.75	0.80	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.72
6	0.79	0.75	0.71	0.79	0.74	0.71	0.77	0.74	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.69
7	0.76	0.72	0.68	0.76	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.73	0.69	0.67	0.66
8	0.73	0.69	0.66	0.73	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.64
9	0.71	0.66	0.63	0.70	0.66	0.63	0.69	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.61
10	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.60	0.66	0.63	0.60	0.59



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Intensity data(cd)									
C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	4473.50	4247.93	3719.61	2841.13	1765.60	992.94	736.32	482.84	158.01
45.0	4473.50	4247.93	3719.61	2841.13	1765.60	992.94	736.32	482.84	158.01
90.0	4473.50	4247.93	3719.61	2841.13	1765.60	992.94	736.32	482.84	158.01
135.0	4473.50	4247.93	3719.61	2841.13	1765.60	992.94	736.32	482.84	158.01
180.0	4473.50	4247.93	3719.61	2841.13	1765.60	992.94	736.32	482.84	158.01
225.0	4473.50	4247.93	3719.61	2841.13	1765.60	992.94	736.32	482.84	158.01
270.0	4473.50	4247.93	3719.61	2841.13	1765.60	992.94	736.32	482.84	158.01
315.0	4473.50	4247.93	3719.61	2841.13	1765.60	992.94	736.32	482.84	158.01
360.0	4473.50	4247.93	3719.61	2841.13	1765.60	992.94	736.32	482.84	158.01
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	15.36	10.52	9.80	9.41	9.14	8.92	8.75	8.70	8.59
45.0	15.36	10.52	9.80	9.41	9.14	8.92	8.75	8.70	8.59
90.0	15.36	10.52	9.80	9.41	9.14	8.92	8.75	8.70	8.59
135.0	15.36	10.52	9.80	9.41	9.14	8.92	8.75	8.70	8.59
180.0	15.36	10.52	9.80	9.41	9.14	8.92	8.75	8.70	8.59
225.0	15.36	10.52	9.80	9.41	9.14	8.92	8.75	8.70	8.59
270.0	15.36	10.52	9.80	9.41	9.14	8.92	8.75	8.70	8.59
315.0	15.36	10.52	9.80	9.41	9.14	8.92	8.75	8.70	8.59
360.0	15.36	10.52	9.80	9.41	9.14	8.92	8.75	8.70	8.59
C/ γ (°)	90.0								
0.0	8.53								
45.0	8.53								
90.0	8.53								
135.0	8.53								
180.0	8.53								
225.0	8.53								
270.0	8.53								
315.0	8.53								
360.0	8.53								