



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: 2-1793-N
Luminaire: 92.70.135.00
Report No: NATA0100
Test No: GC2018070204
LampCAT: NICHIA NFCWD096B-V3
Lamp flux(lm): 2221.0
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): 1913.70
Efficiency(%): 86.16%
Lumens(lm)/Power(W): 112.24
Central intensity(cd): 11289.180
Maximum intensity(cd): 11289.180
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=17.6
[C90/270]Total=17.6
Field angle(10%Imax): [C0/180]Total=41.1
[C90/270]Total=41.1
Maximum s/h(1/2): C0_180=0.30 C90_270=0.30
Maximum s/h(1/4): C0_180=0.34 C90_270=0.34
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.12%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.109%

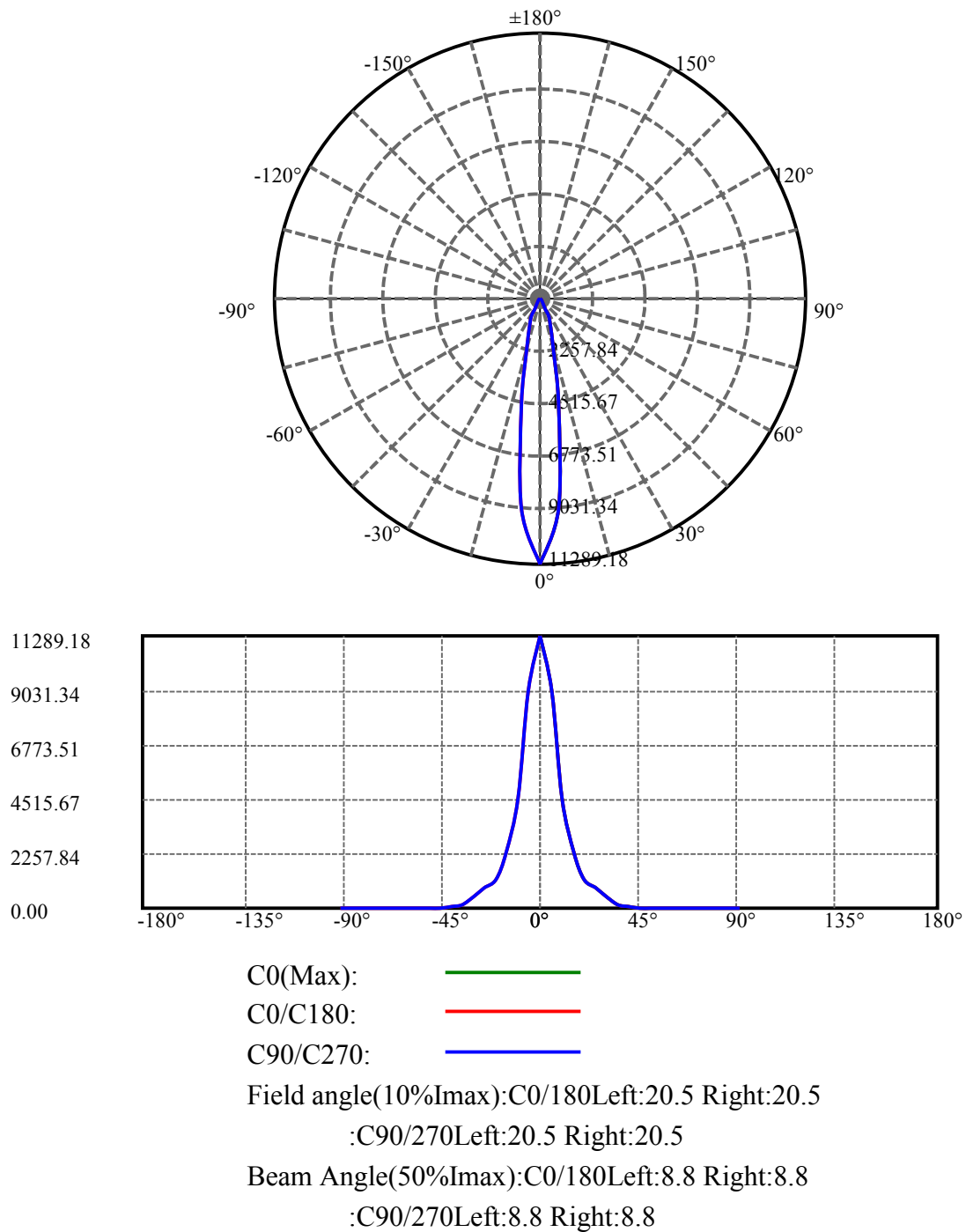
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	11289.177	67.512	67.512	3.040%	3.528%
5.0	8949.762	427.560	495.071	19.251%	25.870%
10.0	4580.348	435.972	931.043	19.630%	48.652%
15.0	2342.030	332.260	1263.303	14.960%	66.014%
20.0	1168.256	219.018	1482.321	9.861%	77.458%
25.0	808.042	187.185	1669.506	8.428%	87.240%
30.0	484.613	132.817	1802.323	5.980%	94.180%
35.0	123.251	38.750	1841.073	1.745%	96.205%
40.0	35.821	12.621	1853.694	.568%	96.865%
45.0	22.236	8.618	1862.313	.388%	97.315%
50.0	16.703	7.013	1869.326	.316%	97.681%
55.0	14.755	6.625	1875.951	.298%	98.028%
60.0	13.943	6.619	1882.57	.298%	98.373%
65.0	13.275	6.595	1889.165	.297%	98.718%
70.0	11.823	6.090	1895.255	.274%	99.036%
75.0	10.653	5.641	1900.895	.254%	99.331%
80.0	9.965	5.379	1906.275	.242%	99.612%
85.0	9.380	5.122	1911.397	.231%	99.880%
90.0	8.396	2.301	1913.698	.104%	100.000%

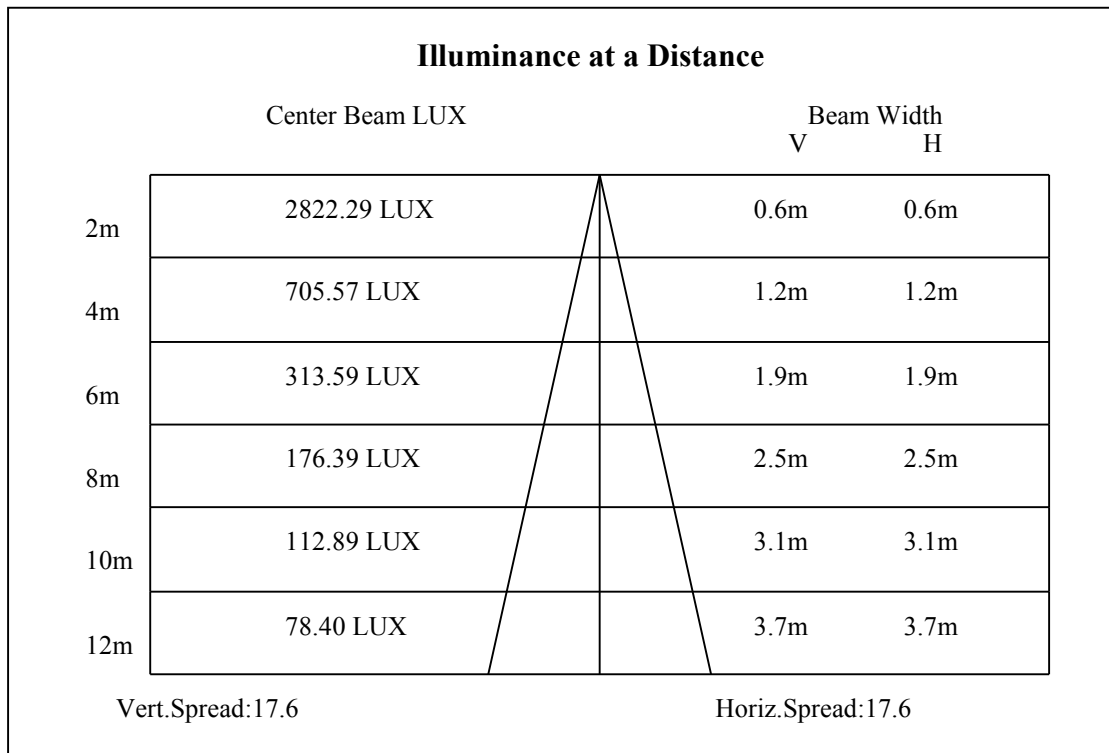
ZONAL LUMEN SUMMARY

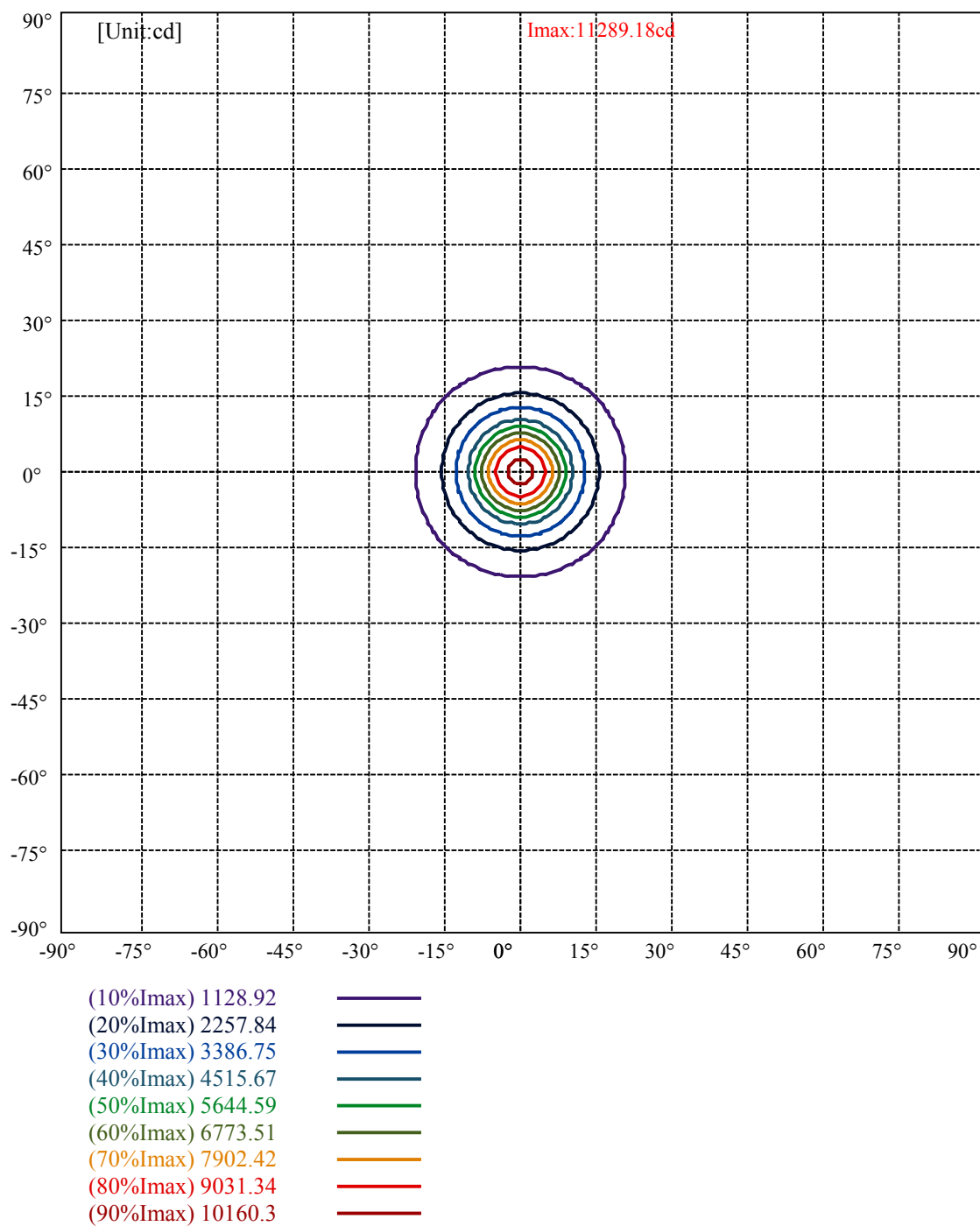
Zone	Lumens	%Lamp	%Fixt
0-30	1802.32	81.15%	94.18%
0-40	1853.69	83.46%	96.86%
0-60	1882.57	84.76%	98.37%
0-90	1911.40	86.06%	99.88%
0-120	1911.40	86.06%	99.88%
0-180	1913.70	86.16%	100.00%
60-90	35.45	1.60%	1.85%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-21.30	1530.96	68.93%	80.00%

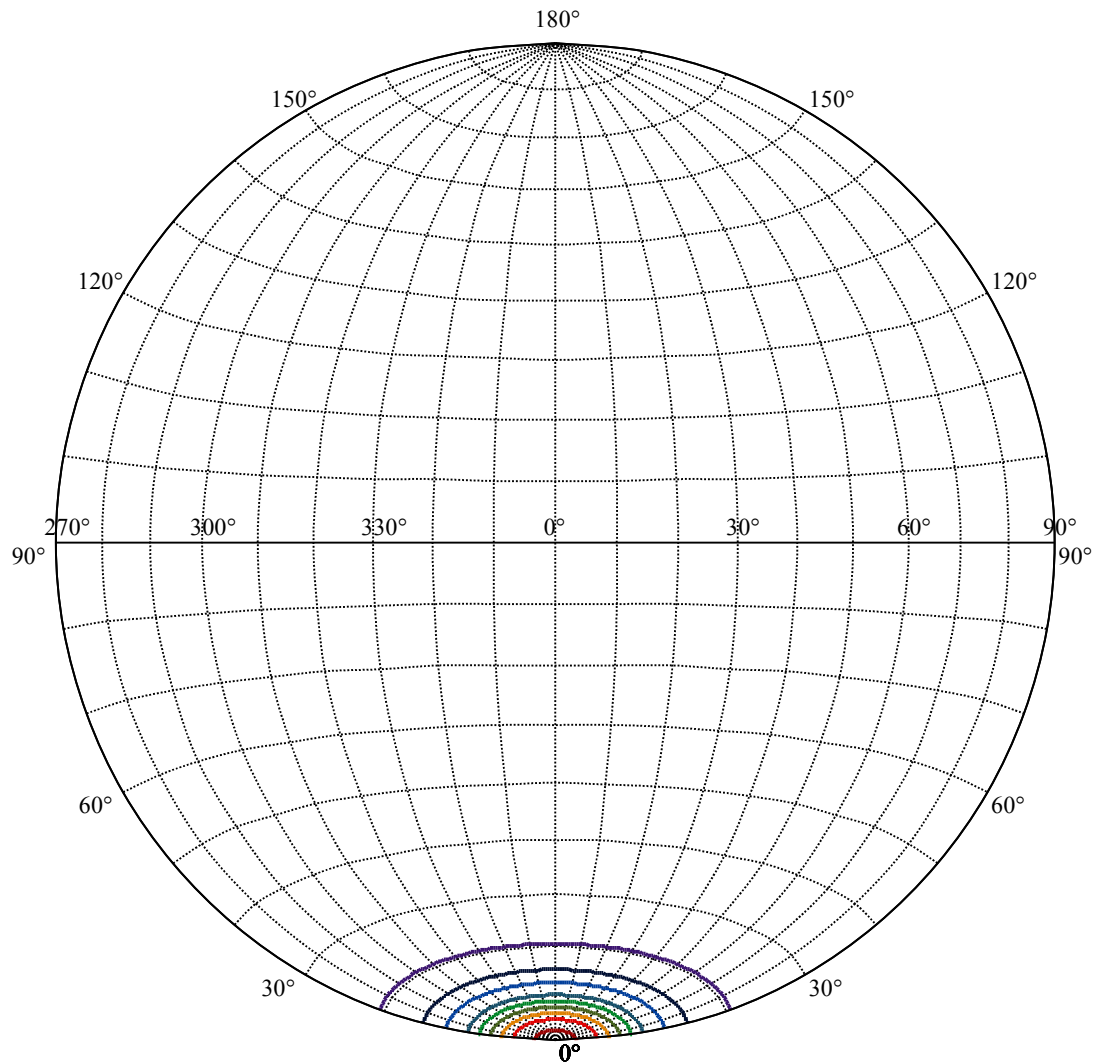
ZONAL LUMEN SUMMARY

0-10	931.04
10-20	551.28
20-30	320.00
30-40	51.37
40-50	15.63
50-60	13.24
60-70	12.68
70-80	11.02
80-90	5.12
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









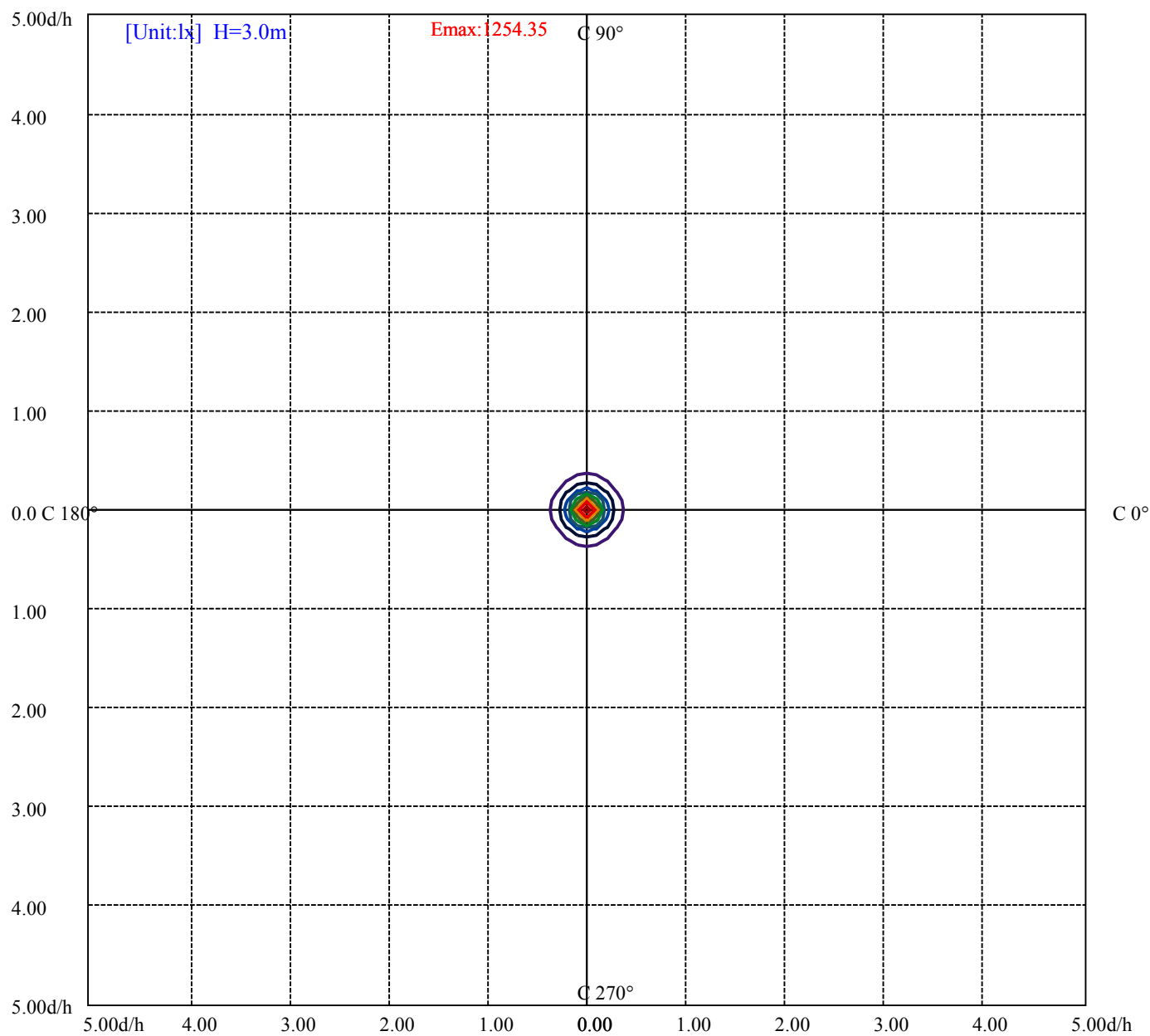
House

[Unit:cd]

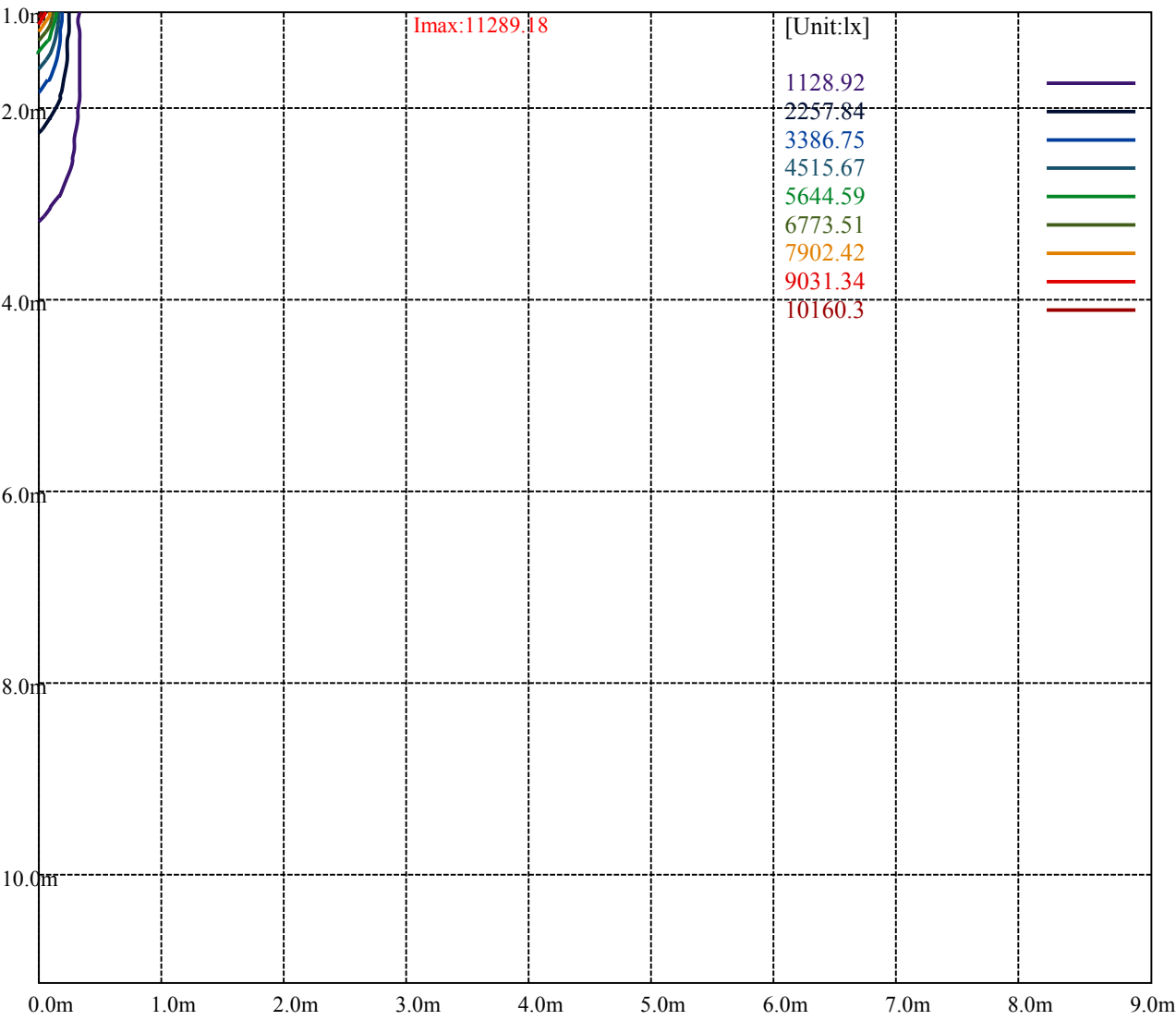
Road

Imax:11289.18

(10%Imax)	1128.92	—
(20%Imax)	2257.84	—
(30%Imax)	3386.75	—
(40%Imax)	4515.67	—
(50%Imax)	5644.59	—
(60%Imax)	6773.51	—
(70%Imax)	7902.42	—
(80%Imax)	9031.34	—
(90%Imax)	10160.3	—



(10%E _{max}) 125.4344	
(20%E _{max}) 250.8689	
(30%E _{max}) 376.3033	
(40%E _{max}) 501.7378	
(50%E _{max}) 627.1722	
(60%E _{max}) 752.6067	
(70%E _{max}) 878.0411	
(80%E _{max}) 1003.476	
(90%E _{max}) 1128.911	



Luminance Table

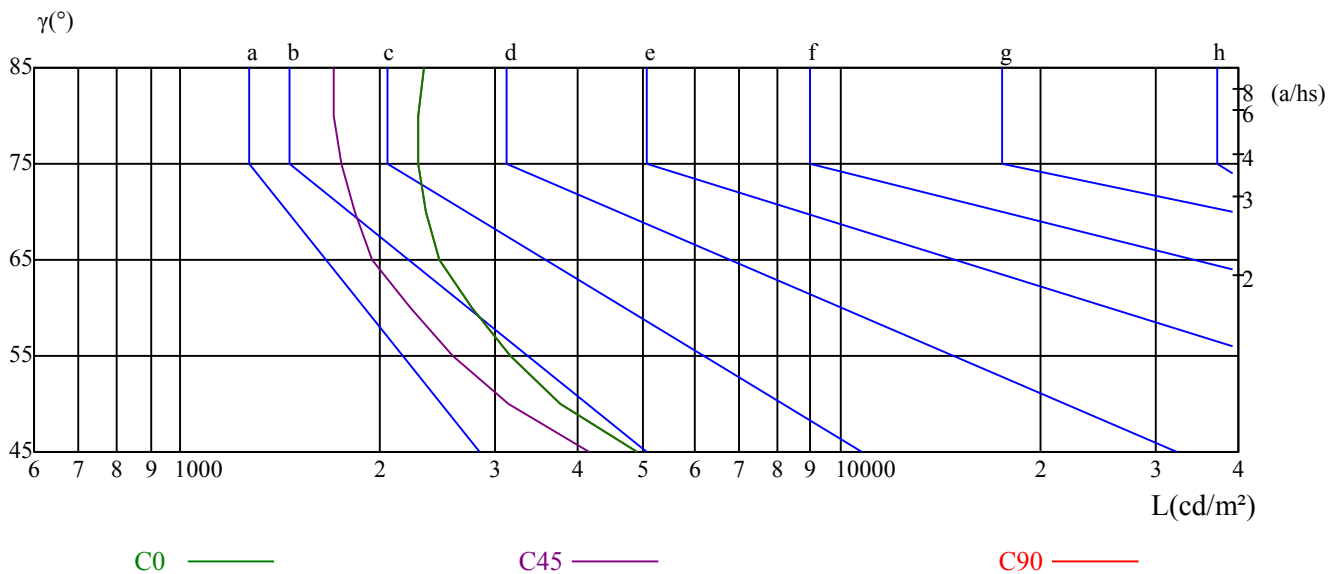
γ	45	50	55	60	65	70	75	80	85
C0	4917	3770	3151	2759	2462	2351	2291	2290	2335
C45	4161	3142	2586	2228	1955	1832	1750	1711	1701
C90	4917	3770	3151	2759	2462	2351	2291	2290	2335

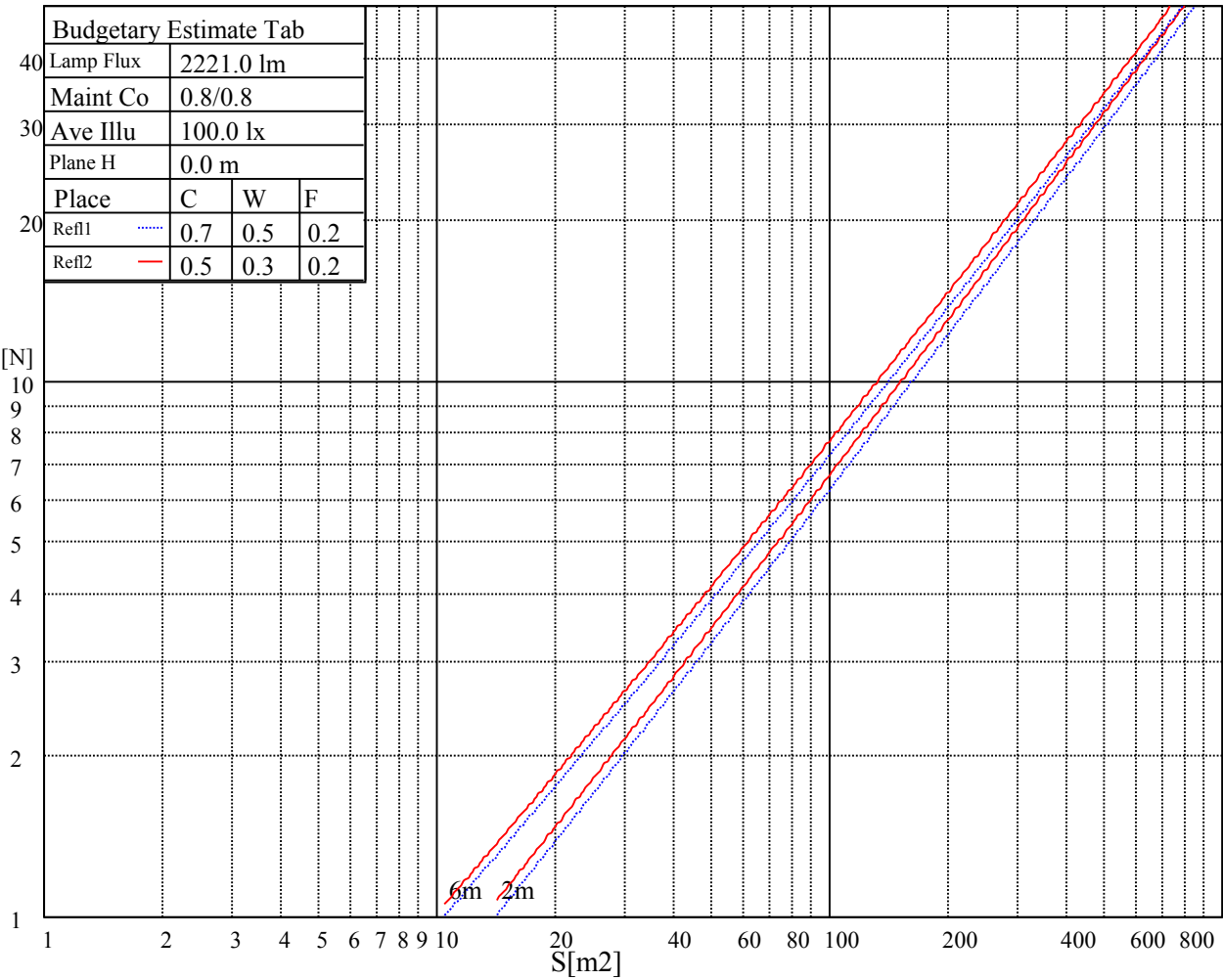
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6594	6594	6594	8981	8981	8981	23219	23219	23219

Glare Table

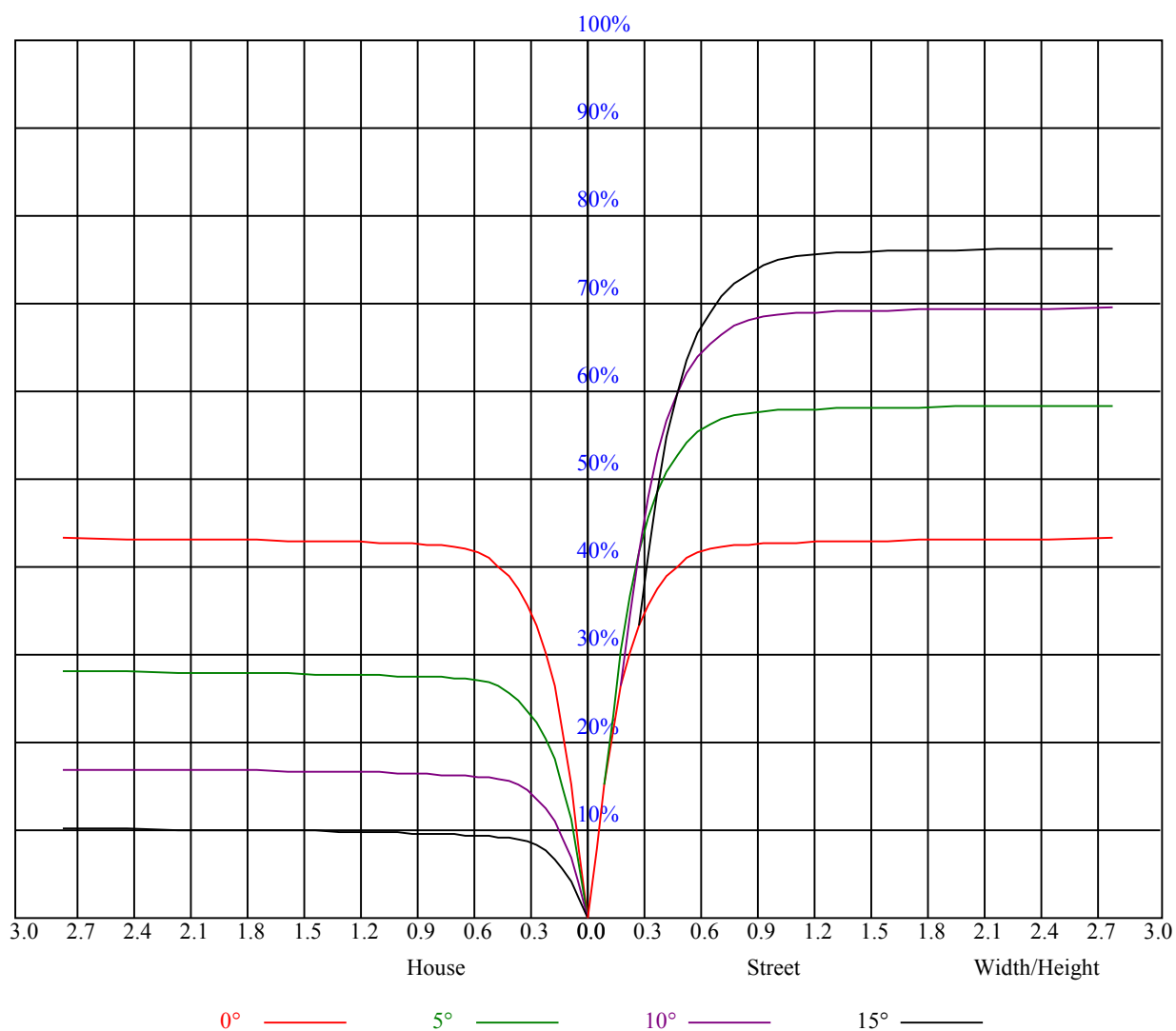
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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	1.06	1.06	1.06	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	0.96	0.94	0.91	0.94	0.92	0.90	0.91	0.89	0.87	0.87	0.86	0.84	0.84	0.83	0.82	0.80
2	0.92	0.88	0.85	0.90	0.87	0.84	0.87	0.85	0.82	0.85	0.82	0.81	0.82	0.80	0.79	0.77
3	0.88	0.84	0.81	0.87	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.77	0.80	0.78	0.76	0.75
4	0.84	0.80	0.77	0.83	0.80	0.77	0.82	0.78	0.76	0.80	0.77	0.75	0.78	0.76	0.74	0.73
5	0.81	0.77	0.74	0.81	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.76	0.74	0.72	0.71
6	0.79	0.75	0.72	0.78	0.74	0.71	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.69
7	0.76	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.67
8	0.74	0.70	0.68	0.74	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.69	0.67	0.66
9	0.72	0.68	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.64
10	0.71	0.67	0.64	0.70	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.69	0.66	0.64	0.63



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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	11616.90	8555.76	4365.97	2359.17	1220.60	825.30	512.58	92.55	36.67
45.0	11671.96	9343.07	4740.36	2862.93	1265.75	861.63	533.50	175.74	37.11
90.0	10901.17	8075.12	4203.01	1891.19	1058.07	731.75	402.79	73.78	36.01
135.0	10974.94	9656.89	5246.87	2780.35	1319.70	855.58	567.63	297.30	35.62
180.0	11616.90	9435.02	4785.50	2139.49	1077.67	815.88	485.60	85.28	33.75
225.0	11655.44	8660.92	4351.66	2049.20	1083.62	796.28	415.62	75.92	33.47
270.0	10901.17	9480.71	5054.18	2780.35	1223.90	782.90	520.28	119.53	40.36
315.0	10974.94	8390.60	3895.24	1873.57	1096.72	795.01	438.91	65.90	33.58
360.0	11616.90	8555.76	4365.97	2359.17	1220.60	825.30	512.58	92.55	36.67
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	22.96	17.07	14.70	13.82	13.10	11.84	10.63	10.08	9.63
45.0	23.12	17.67	15.20	13.98	13.21	11.73	10.63	9.97	9.41
90.0	22.79	17.84	16.13	14.59	13.10	11.62	10.63	9.91	9.19
135.0	22.08	15.91	14.09	14.04	13.98	12.17	10.74	10.02	9.41
180.0	20.70	15.42	13.98	13.54	13.27	12.17	10.90	10.19	9.63
225.0	20.54	15.75	14.09	13.65	13.38	11.84	10.63	9.91	9.30
270.0	24.61	17.56	15.31	14.37	13.43	11.89	10.79	9.91	9.14
315.0	21.09	16.41	14.53	13.54	12.72	11.34	10.30	9.74	9.30
360.0	22.96	17.07	14.70	13.82	13.10	11.84	10.63	10.08	9.63
C/ γ (°)	90.0								
0.0	8.59								
45.0	8.42								
90.0	8.26								
135.0	8.42								
180.0	8.42								
225.0	8.31								
270.0	8.31								
315.0	8.42								
360.0	8.59								