
Nata

LumCAT: 2-1680-M	
Luminaire: 92.70.124.00	
Report No: NT2017081505	Voltage(V): 35.4000
Test No: GC2017081505	Current(A): 0.3000
LampCAT: CITIZEN CLU026	Power (W): 10.6200
Lamp flux(lm): 1398.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 70	Width(mm): 70
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1285.24
Efficiency(%): 91.93%
Lumens(lm)/Power(W): 121.02
Central intensity(cd): 4775.881
Maximum intensity(cd): 4775.881
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=23.1
 [C90/270]Total=23.1
Field angle(10%Imax): [C0/180]Total=59.2
 [C90/270]Total=59.2
Maximum s/h(1/2): C0_180=0.39 C90_270=0.39
Maximum s/h(1/4): C0_180=0.38 C90_270=0.38
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 91.93%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.651%

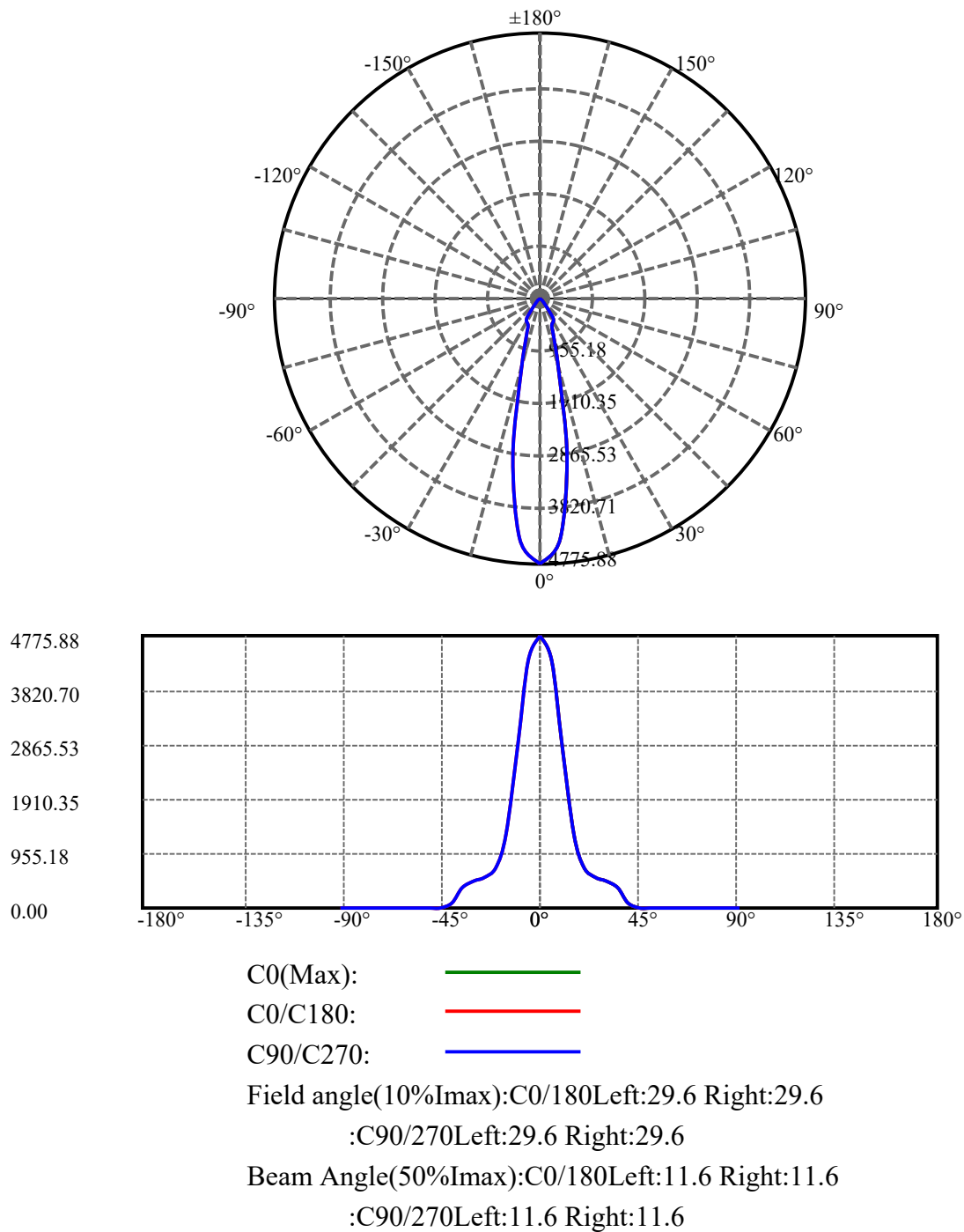
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4775.881	0.000	0	.000%	.000%
5.0	4341.938	109.001	109.001	7.797%	8.481%
10.0	2881.292	258.398	367.399	18.483%	28.586%
15.0	1309.155	248.575	615.973	17.781%	47.927%
20.0	698.734	165.478	781.451	11.837%	60.802%
25.0	534.471	129.340	910.792	9.252%	70.866%
30.0	472.545	127.439	1038.23	9.116%	80.781%
35.0	370.174	124.096	1162.327	8.877%	90.437%
40.0	92.535	77.199	1239.526	5.522%	96.443%
45.0	9.412	18.876	1258.402	1.350%	97.912%
50.0	7.423	3.402	1261.804	.243%	98.177%
55.0	6.783	3.089	1264.893	.221%	98.417%
60.0	6.247	3.012	1267.904	.215%	98.651%
65.0	5.871	2.946	1270.85	.211%	98.880%
70.0	5.600	2.905	1273.755	.208%	99.106%
75.0	5.433	2.884	1276.639	.206%	99.331%
80.0	5.322	2.878	1279.516	.206%	99.555%
85.0	5.259	2.875	1282.391	.206%	99.778%
90.0	5.141	2.848	1285.239	.204%	100.000%

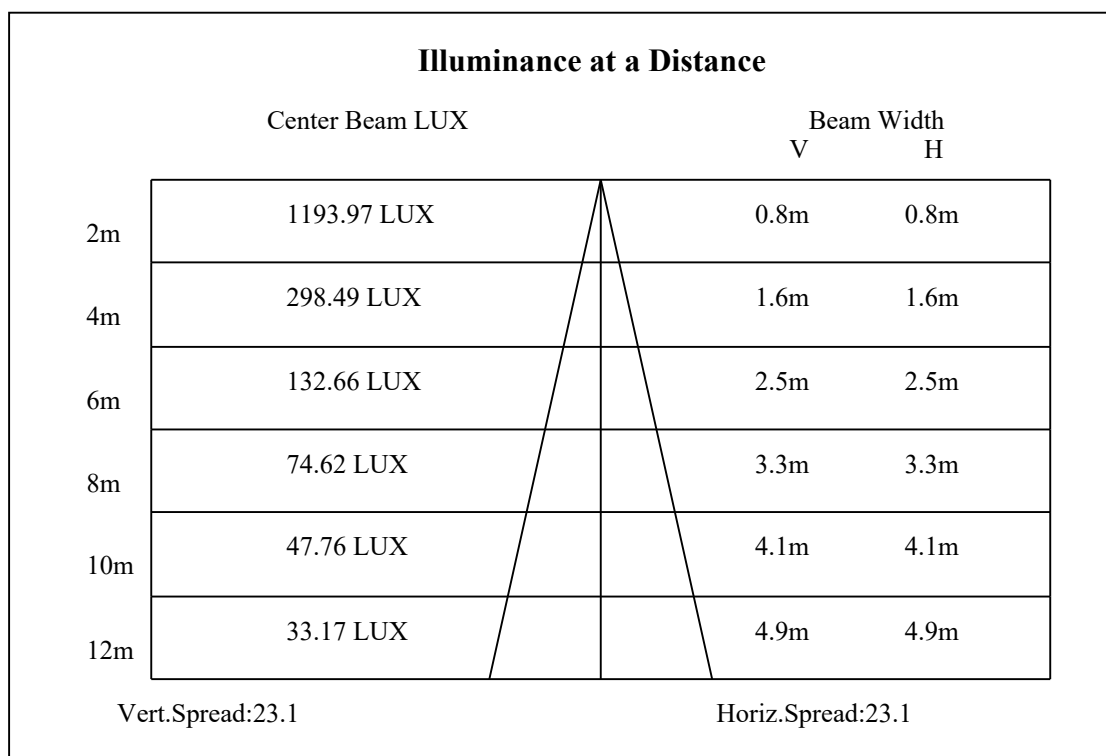
ZONAL LUMEN SUMMARY

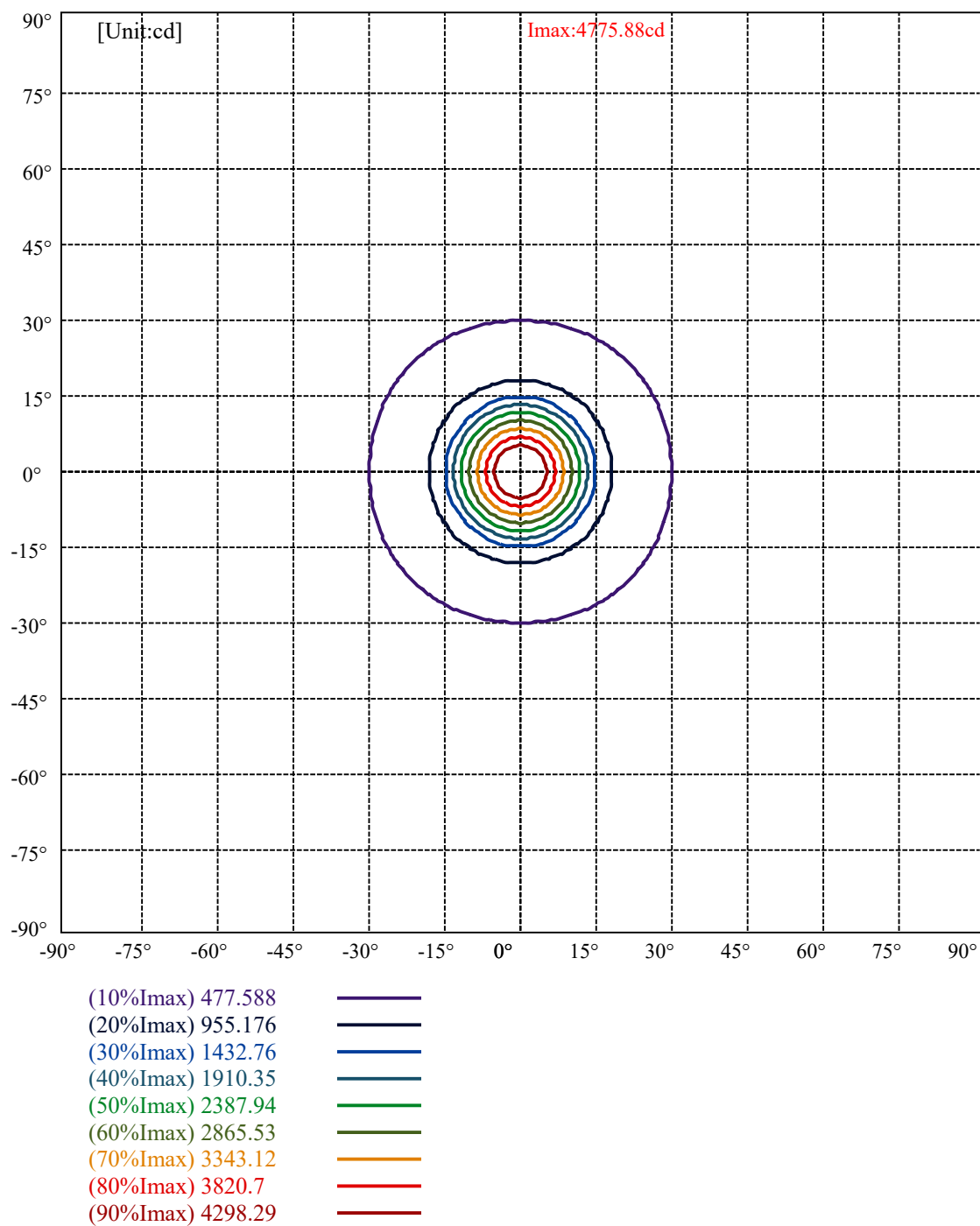
Zone	Lumens	%Lamp	%Fixt
0-30	1038.23	74.27%	80.78%
0-40	1239.53	88.66%	96.44%
0-60	1267.90	90.69%	98.65%
0-90	1282.39	91.73%	99.78%
0-120	1282.39	91.73%	99.78%
0-180	1285.24	91.93%	100.00%
60-90	17.50	1.25%	1.36%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-29.61	1028.19	73.55%	80.00%

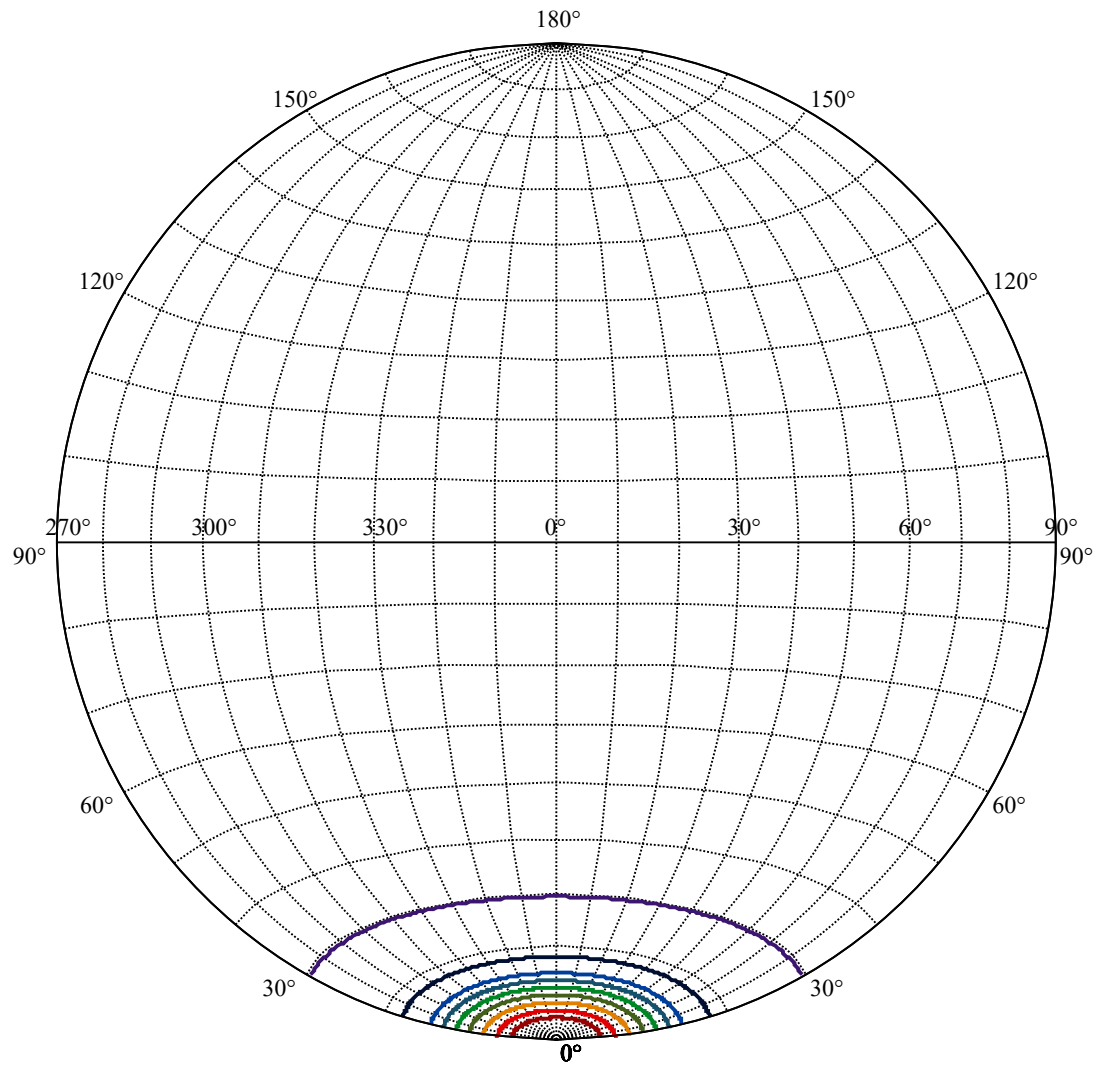
ZONAL LUMEN SUMMARY

0-10	367.40
10-20	414.05
20-30	256.78
30-40	201.30
40-50	22.28
50-60	6.10
60-70	5.85
70-80	5.76
80-90	2.88
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

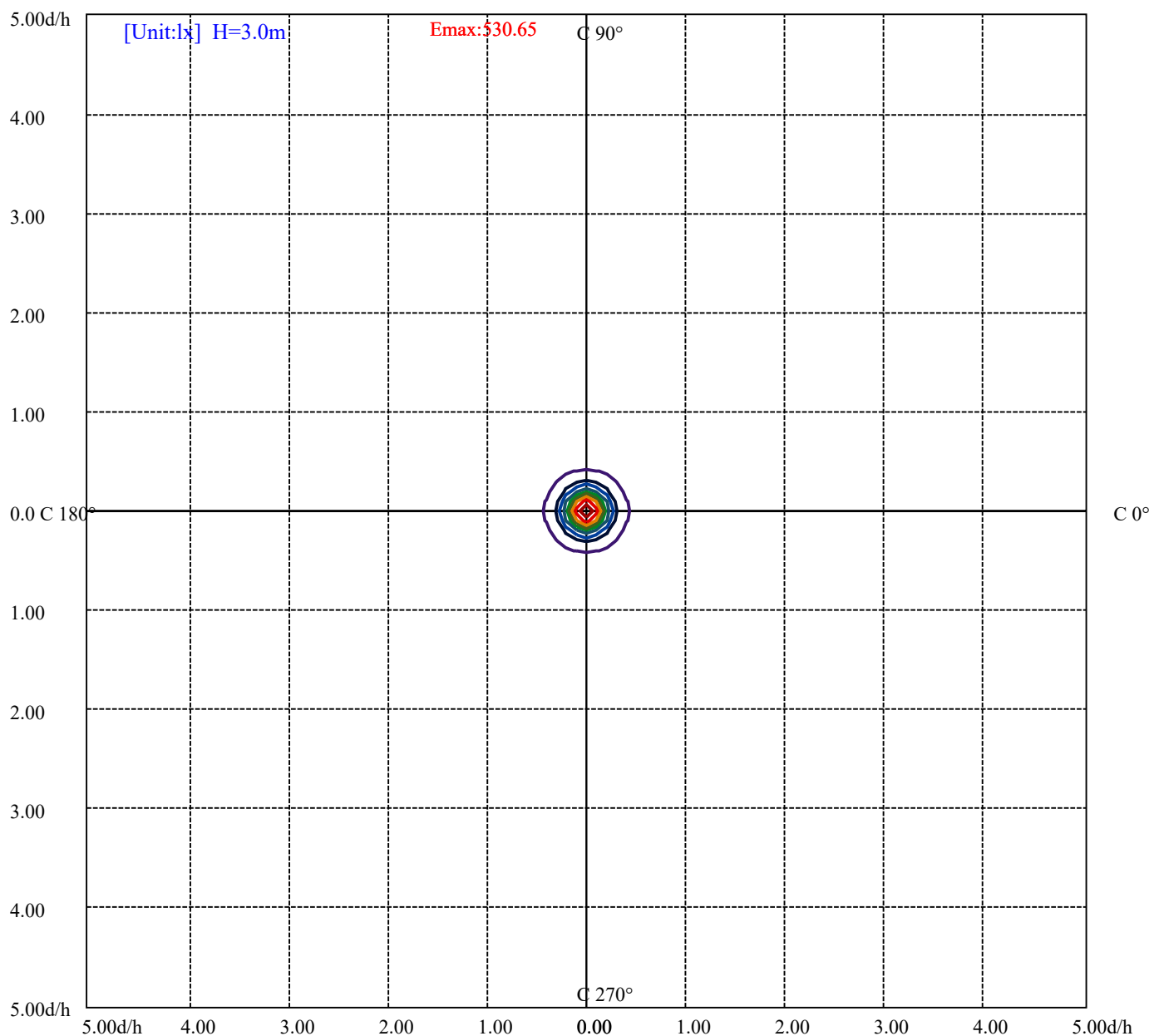




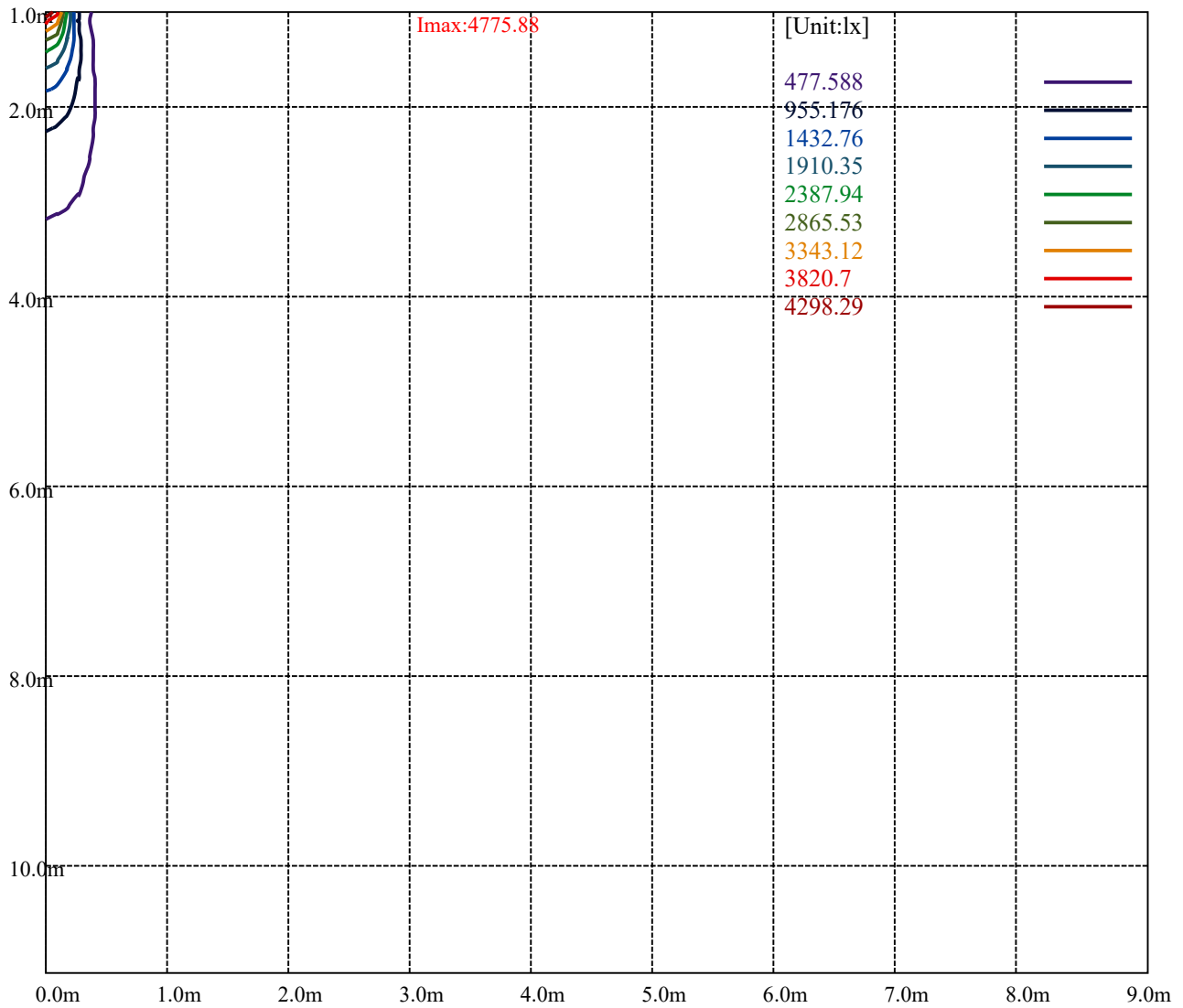




House	[Unit:cd]	Road
Imax:4775.88		
(10%Imax)	477.588	—
(20%Imax)	955.176	—
(30%Imax)	1432.76	—
(40%Imax)	1910.35	—
(50%Imax)	2387.94	—
(60%Imax)	2865.53	—
(70%Imax)	3343.12	—
(80%Imax)	3820.7	—
(90%Imax)	4298.29	—



(10%Emax) 53.06522	—
(20%Emax) 106.1304	—
(30%Emax) 159.1956	—
(40%Emax) 212.2611	—
(50%Emax) 265.3256	—
(60%Emax) 318.3911	—
(70%Emax) 371.4567	—
(80%Emax) 424.5211	—
(90%Emax) 477.5866	—



Luminance Table

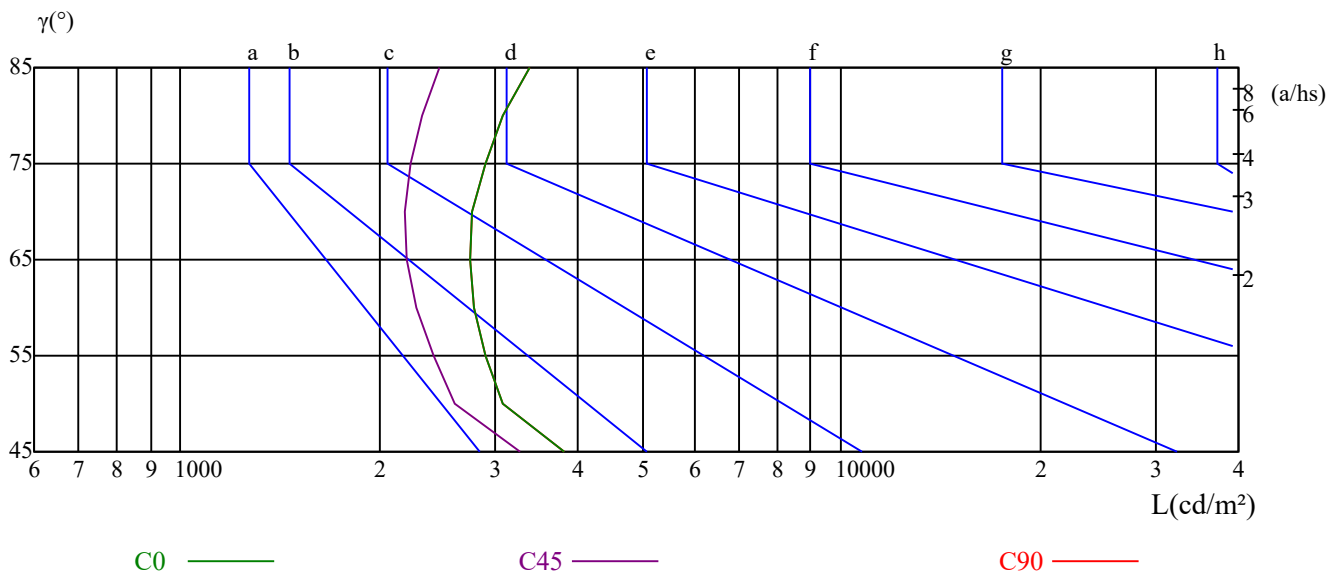
γ	45	50	55	60	65	70	75	80	85
C0	3807	3071	2893	2773	2737	2772	2889	3082	3373
C45	3272	2600	2412	2273	2205	2190	2233	2324	2471
C90	3807	3071	2893	2773	2737	2772	2889	3082	3373

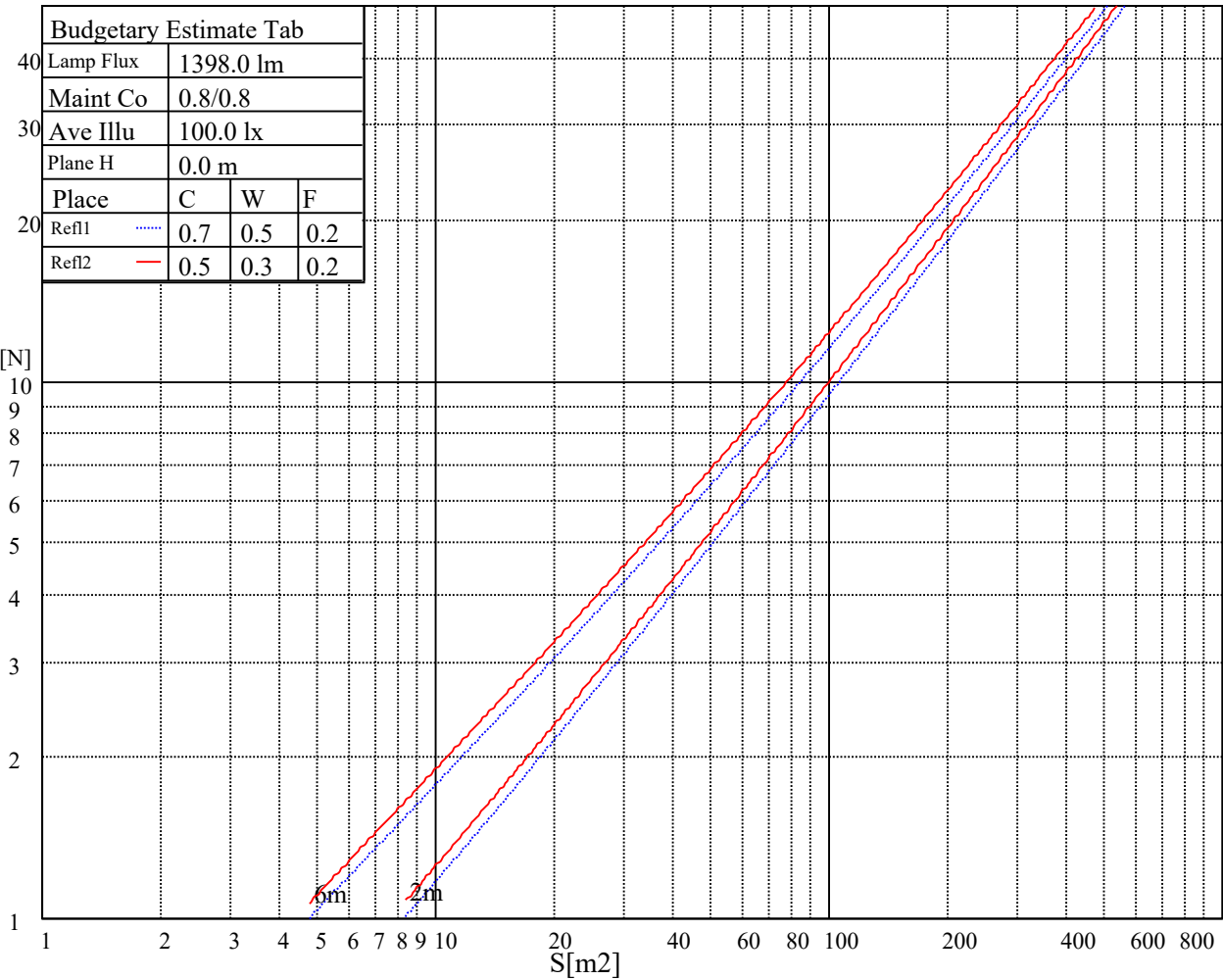
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6565	6565	6565	9920	9920	9920	28517	28517	28517

Glare Table

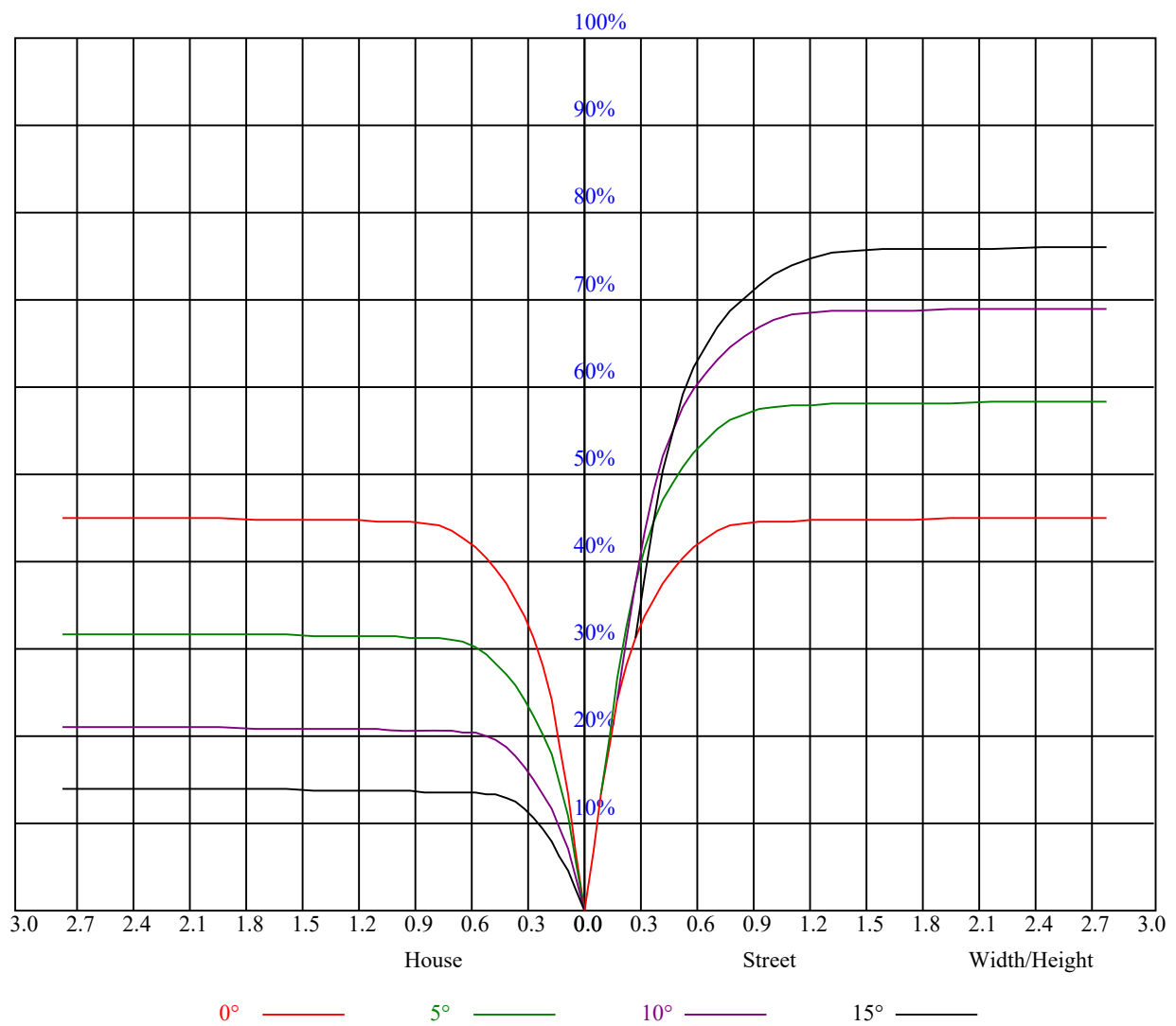
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	1.09	1.09	1.09	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	1.03	1.01	0.99	1.01	0.99	0.97	0.97	0.96	0.94	0.94	0.92	0.91	0.90	0.90	0.89	0.87
2	0.97	0.94	0.91	0.95	0.92	0.90	0.92	0.90	0.88	0.90	0.88	0.86	0.87	0.86	0.84	0.83
3	0.92	0.88	0.85	0.90	0.87	0.84	0.88	0.85	0.83	0.86	0.83	0.81	0.84	0.82	0.80	0.79
4	0.87	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.78	0.82	0.80	0.77	0.81	0.78	0.76	0.75
5	0.83	0.78	0.75	0.82	0.78	0.75	0.81	0.77	0.74	0.79	0.76	0.74	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	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.66
8	0.73	0.68	0.65	0.72	0.68	0.65	0.71	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.63
9	0.70	0.66	0.63	0.70	0.65	0.63	0.69	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.61
10	0.68	0.63	0.60	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.59



Nata 2-1680-M

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	4806.07	4295.75	2806.51	1268.30	684.51	528.69	468.03	386.78	55.04		
45.0	4774.35	4114.88	2426.41	1105.80	634.98	520.34	467.47	282.71	22.04		
90.0	4749.86	3981.87	2323.45	1048.81	606.05	499.75	451.95	272.14	20.09		
135.0	4773.24	4513.90	3083.66	1484.78	696.76	543.72	478.05	405.14	84.87		
180.0	4806.07	4486.08	2982.37	1078.08	700.76	529.36	465.19	381.66	69.95		
225.0	4774.35	4586.80	3435.37	1680.12	785.13	555.96	486.06	431.97	144.36		
270.0	4749.86	4574.56	3439.27	1712.96	814.18	574.88	492.52	440.76	298.29		
315.0	4773.24	4181.66	2553.30	1094.39	667.49	523.07	471.09	360.23	45.63		
360.0	4806.07	4295.75	2806.51	1268.30	684.51	528.69	468.03	386.78	55.04		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	9.63	7.62	6.85	6.29	5.90	5.68	5.40	5.29	5.23		
45.0	8.35	7.40	6.79	6.29	5.90	5.62	5.40	5.34	5.29		
90.0	8.07	7.35	6.79	6.29	5.95	5.57	5.40	5.29	5.23		
135.0	9.91	7.40	6.85	6.34	5.90	5.68	5.51	5.40	5.34		
180.0	8.40	7.29	6.73	6.12	5.84	5.57	5.40	5.29	5.23		
225.0	11.19	7.46	6.79	6.23	5.84	5.57	5.40	5.29	5.29		
270.0	11.35	7.46	6.73	6.23	5.84	5.51	5.45	5.29	5.23		
315.0	8.40	7.40	6.73	6.18	5.79	5.62	5.51	5.40	5.23		
360.0	9.63	7.62	6.85	6.29	5.90	5.68	5.40	5.29	5.23		
C/ γ (°)	90.0										
0.0	5.12										
45.0	5.12										
90.0	5.18										
135.0	5.18										
180.0	5.12										
225.0	5.12										
270.0	5.12										
315.0	5.18										
360.0	5.12										