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Nata

LumCAT: 3-1469-E	
Luminaire: 92.76.263.00	
Report No: NATA0100	Voltage(V): 33.0000
Test No: 2017011001	Current(A): 0.5500
LampCAT: brideglux Vero13	Power (W): 18.1500
Lamp flux(lm): 1556.0	PF: 0.0000
Number of Lamps: 1	Ballast type:
Length(mm): 76	Width(mm): 76
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1416.69
Efficiency(%): 91.05%
Lumens(lm)/Power(W): 80.38
Central intensity(cd): 7295.937
Maximum intensity(cd): 7295.937
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=20.0
[C90/270]Total=20.0
Field angle(10%Imax): [C0/180]Total=39.9
[C90/270]Total=39.9
Maximum s/h(1/2): C0_180=0.34 C90_270=0.34
Maximum s/h(1/4): C0_180=0.35 C90_270=0.35
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 93.76%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.823%

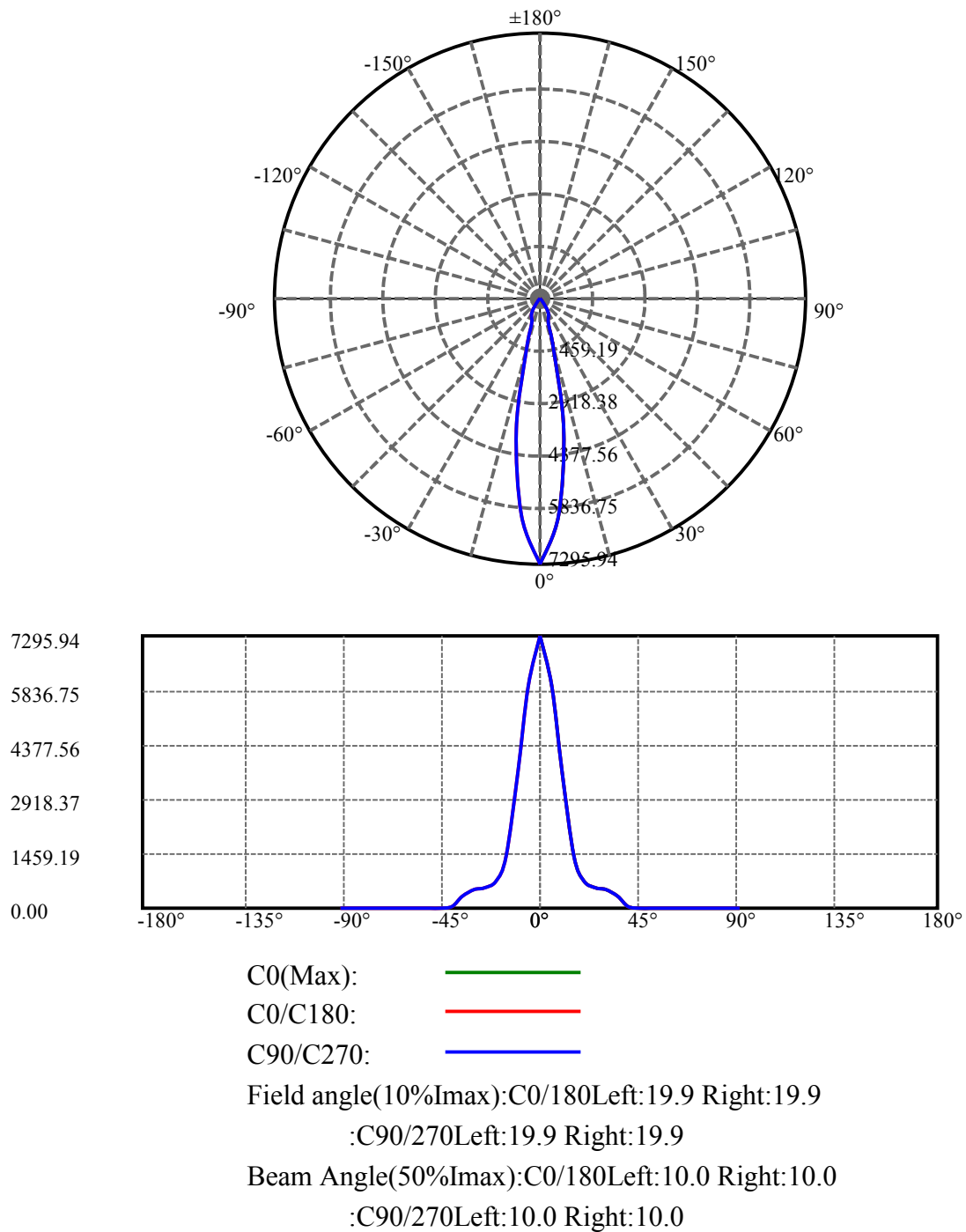
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7295.936	43.631	43.631	2.804%	3.080%
5.0	5954.776	284.479	328.111	18.283%	23.160%
10.0	3651.285	347.541	675.651	22.336%	47.692%
15.0	1424.048	202.027	877.678	12.984%	61.953%
20.0	719.904	134.963	1012.642	8.674%	71.479%
25.0	544.618	126.162	1138.804	8.108%	80.385%
30.0	485.432	133.042	1271.846	8.550%	89.776%
35.0	321.970	101.227	1373.073	6.506%	96.921%
40.0	37.370	13.167	1386.239	.846%	97.850%
45.0	7.625	2.956	1389.195	.190%	98.059%
50.0	6.882	2.890	1392.085	.186%	98.263%
55.0	6.552	2.942	1395.026	.189%	98.471%
60.0	6.345	3.012	1398.038	.194%	98.683%
65.0	6.221	3.091	1401.129	.199%	98.901%
70.0	6.194	3.190	1404.319	.205%	99.127%
75.0	6.208	3.287	1407.606	.211%	99.359%
80.0	6.882	3.715	1411.321	.239%	99.621%
85.0	6.799	3.713	1415.034	.239%	99.883%
90.0	6.056	1.660	1416.694	.107%	100.000%

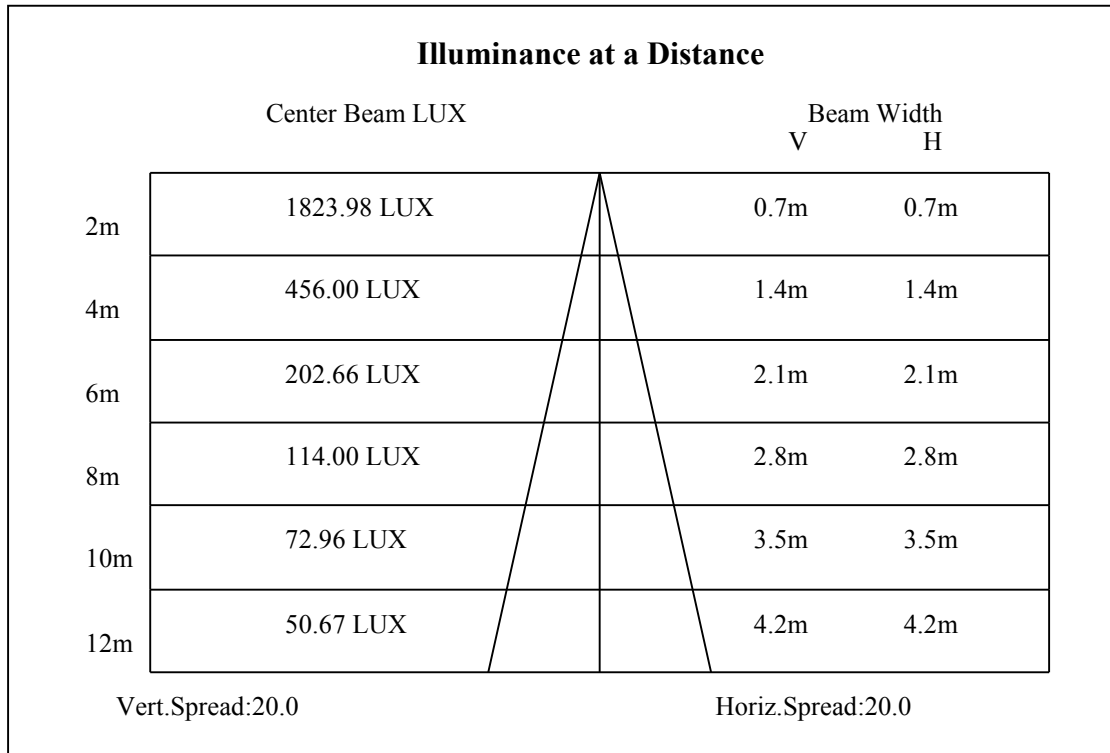
ZONAL LUMEN SUMMARY

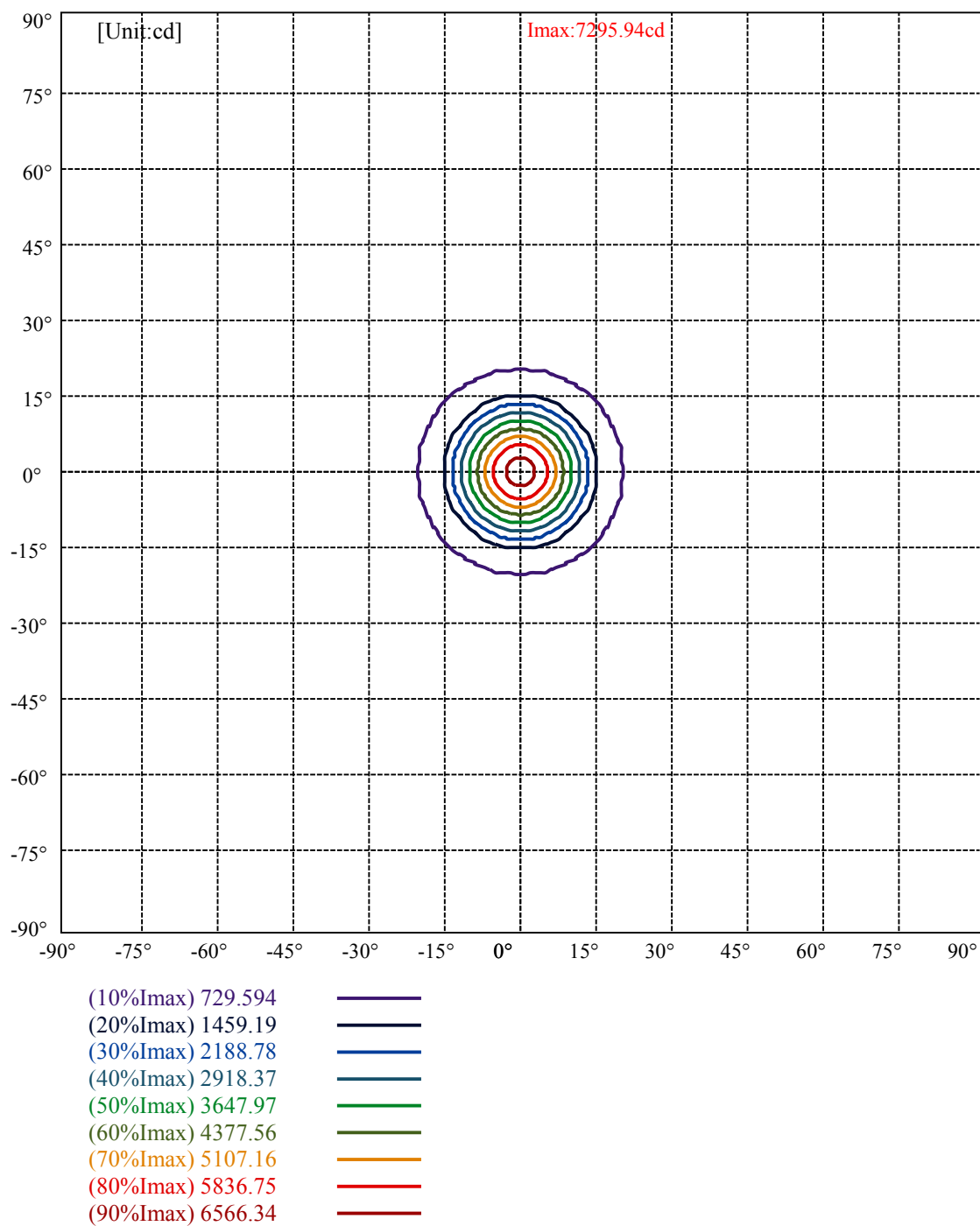
Zone	Lumens	%Lamp	%Fixt
0-30	1271.85	81.74%	89.78%
0-40	1386.24	89.09%	97.85%
0-60	1398.04	89.85%	98.68%
0-90	1415.03	90.94%	99.88%
0-120	1415.03	90.94%	99.88%
0-180	1416.69	91.05%	100.00%
60-90	20.01	1.29%	1.41%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-24.78	1133.36	72.84%	80.00%

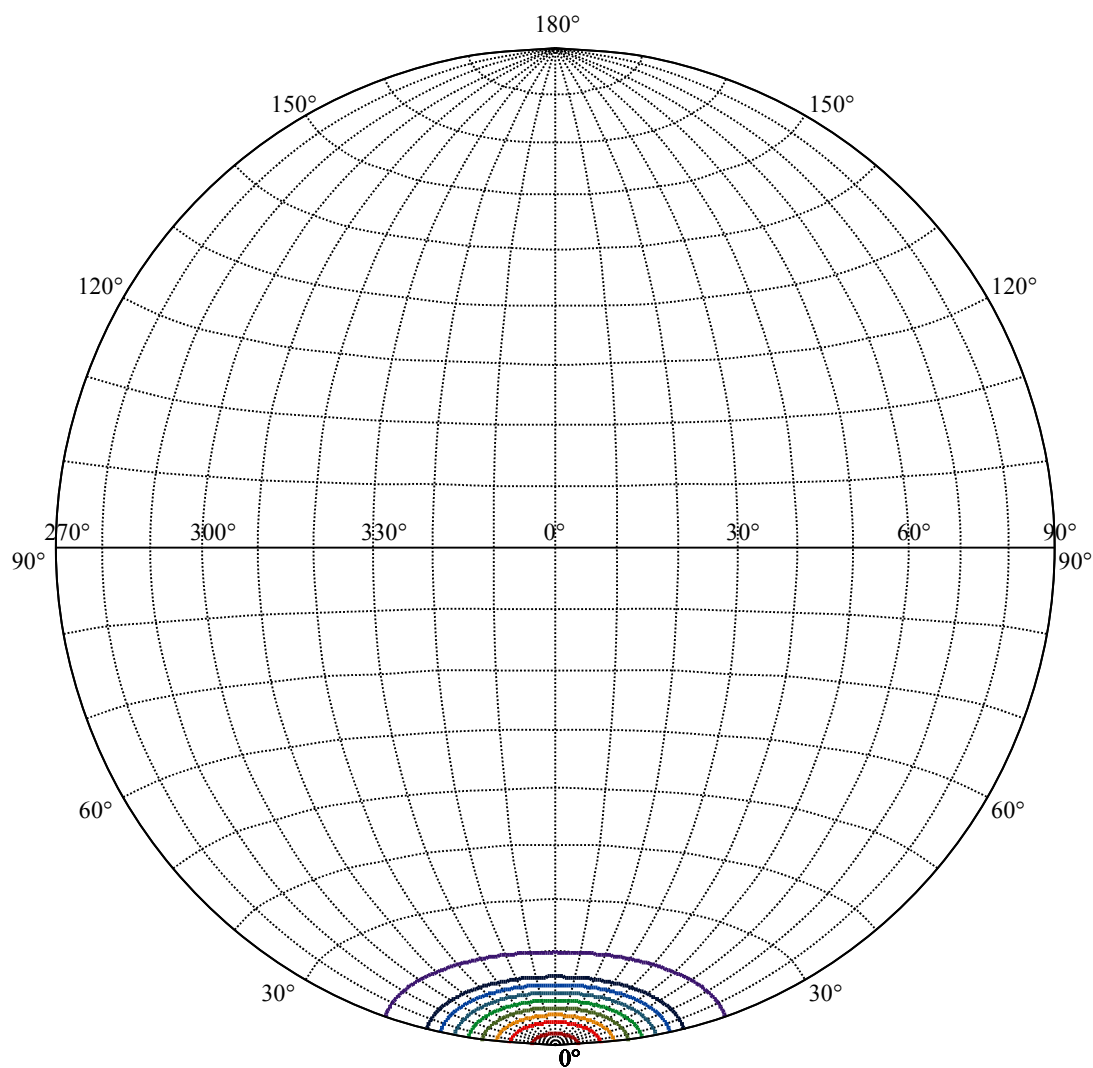
ZONAL LUMEN SUMMARY

0-10	675.65
10-20	336.99
20-30	259.20
30-40	114.39
40-50	5.85
50-60	5.95
60-70	6.28
70-80	7.00
80-90	3.71
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









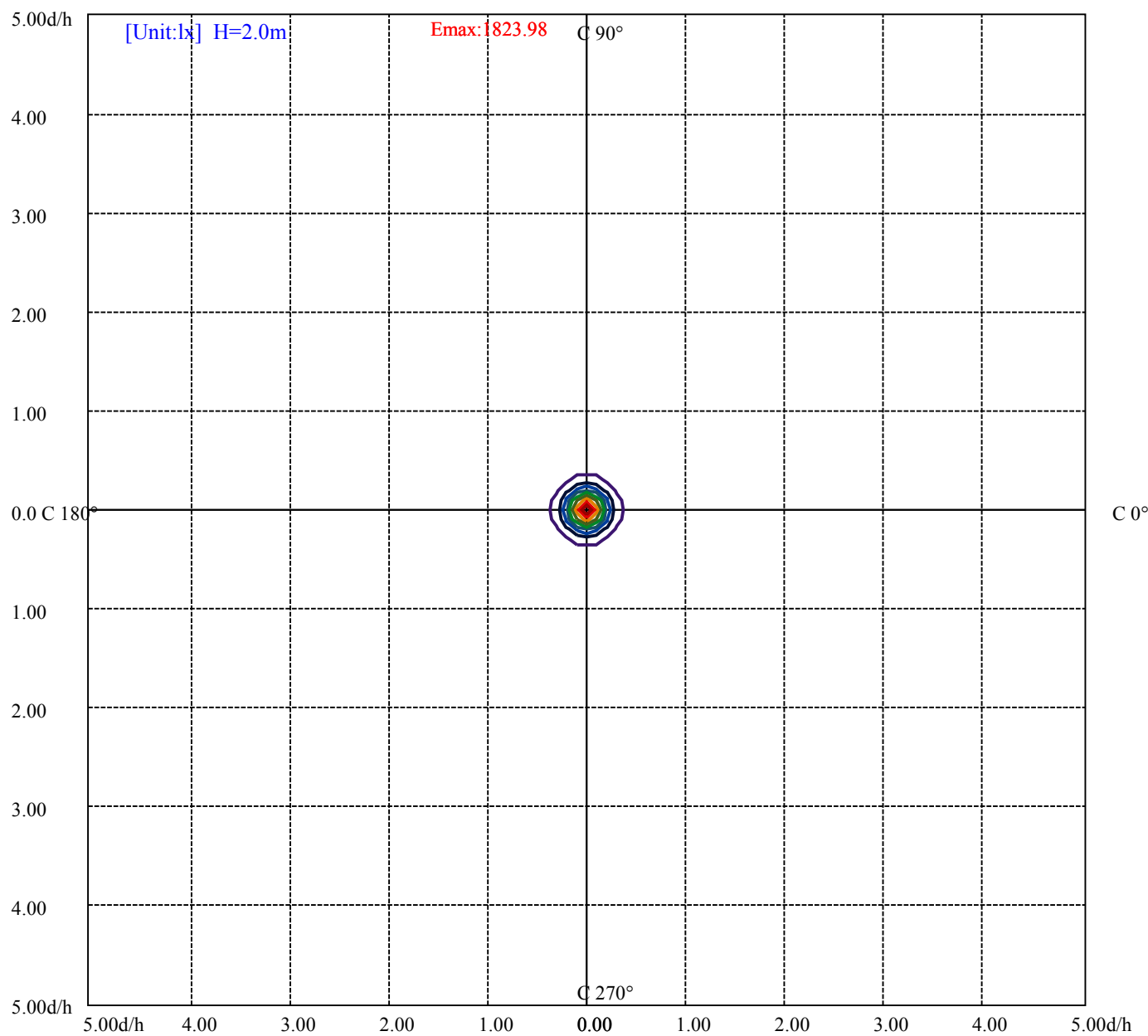
House

[Unit:cd]

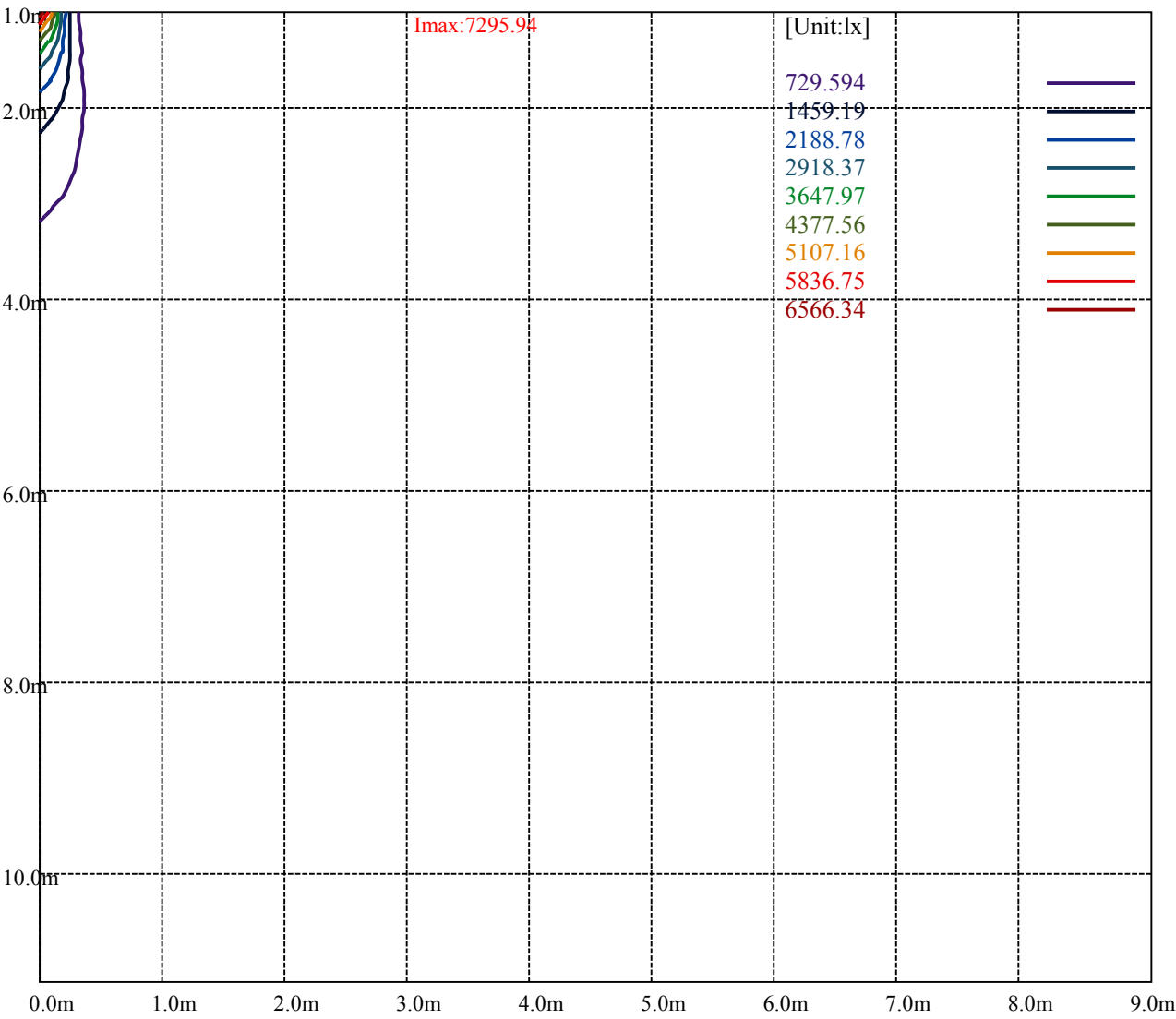
Road

Imax:7295.94

(10%Imax)	729.594	—
(20%Imax)	1459.19	—
(30%Imax)	2188.78	—
(40%Imax)	2918.37	—
(50%Imax)	3647.97	—
(60%Imax)	4377.56	—
(70%Imax)	5107.16	—
(80%Imax)	5836.75	—
(90%Imax)	6566.34	—



(10%E _{max}) 182.3975	—
(20%E _{max}) 364.795	—
(30%E _{max}) 547.1925	—
(40%E _{max}) 729.59	—
(50%E _{max}) 911.9875	—
(60%E _{max}) 1094.385	—
(70%E _{max}) 1276.782	—
(80%E _{max}) 1459.18	—
(90%E _{max}) 1641.578	—



Luminance Table

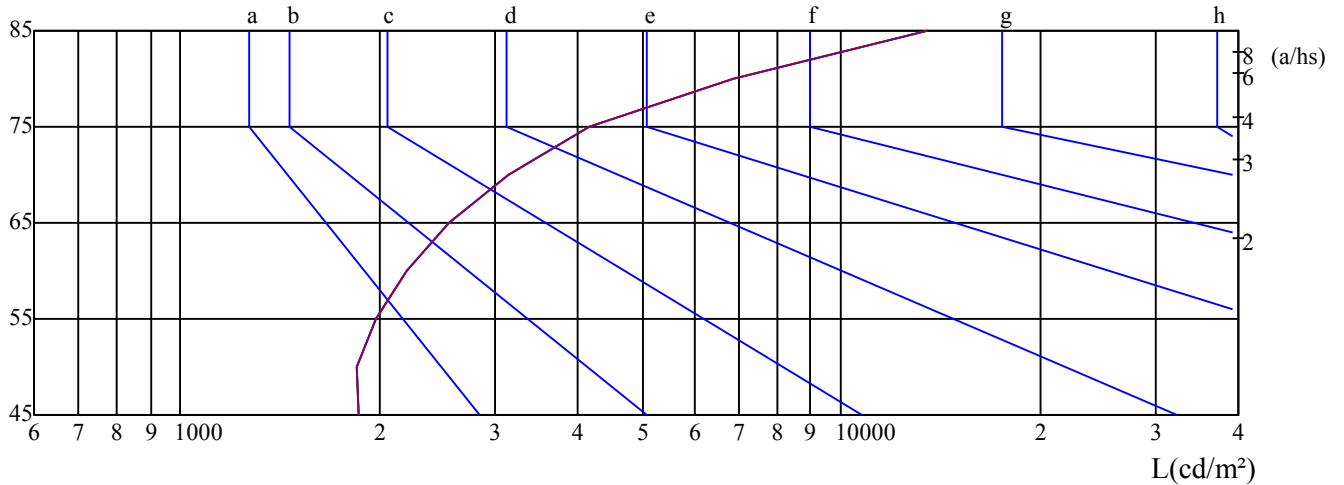
γ	45	50	55	60	65	70	75	80	85
C0	1867	1854	1978	2197	2549	3135	4152	6862	13507
C45	1867	1854	1978	2197	2549	3135	4152	6862	13507
C90	1867	1854	1978	2197	2549	3135	4152	6862	13507

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2549	2549	2549	4152	4152	4152	13507	13507	13507

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

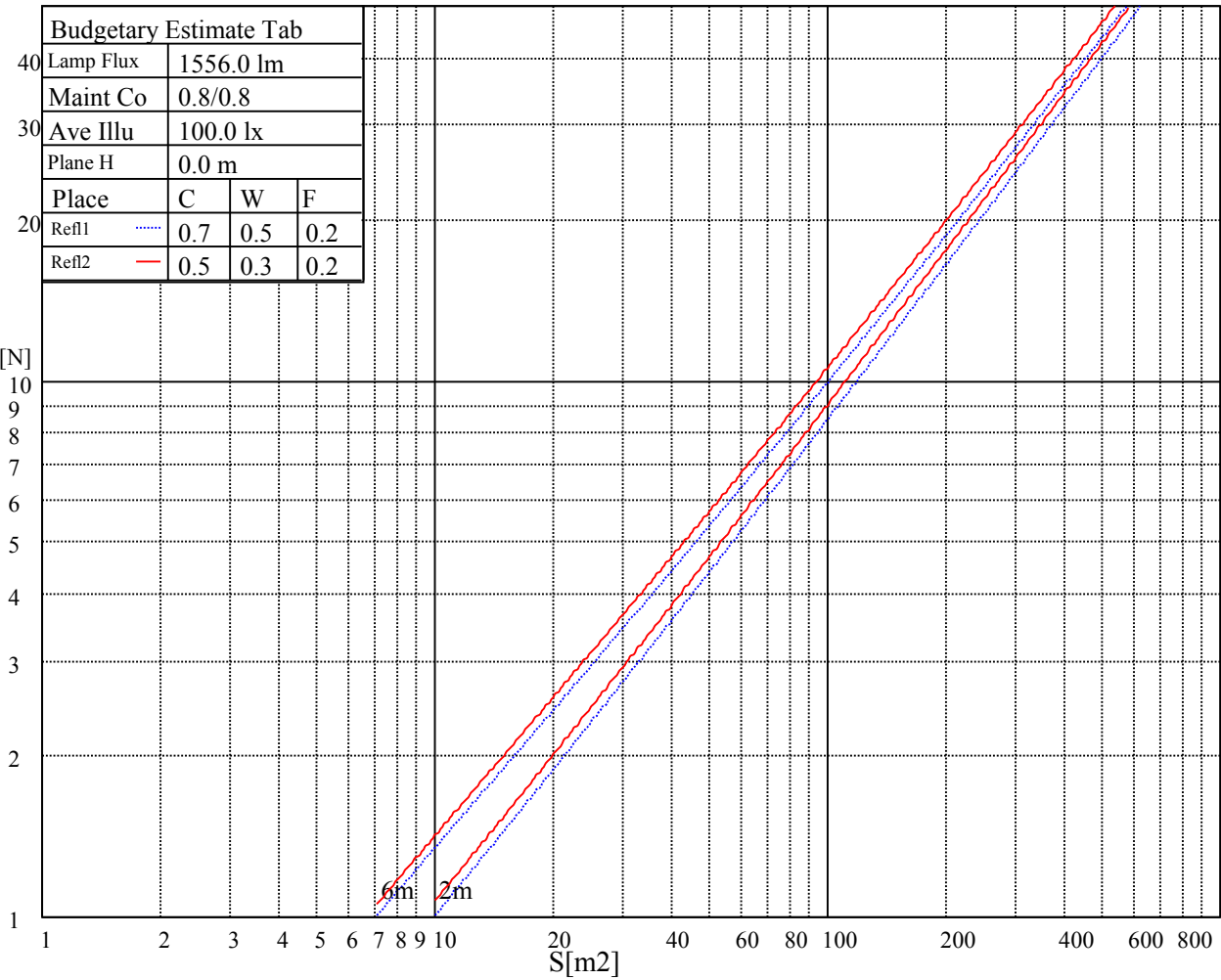
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

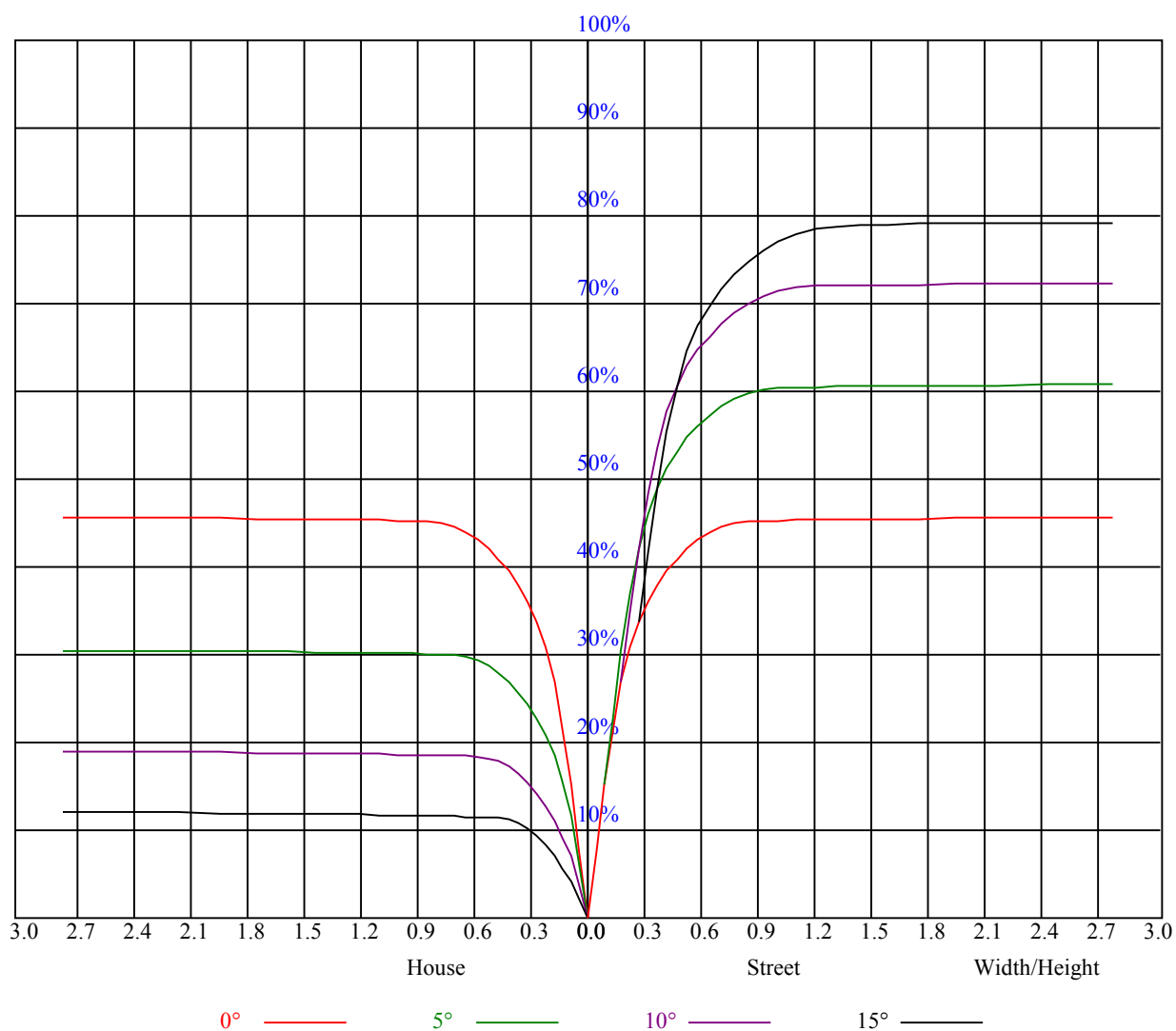
C0 ———

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	1.12	1.12	1.12	1.09	1.09	1.09	1.04	1.04	1.04	1.00	1.00	1.00	0.96	0.96	0.96	0.94
1	1.02	0.99	0.96	1.00	0.97	0.95	0.96	0.94	0.92	0.92	0.91	0.89	0.89	0.88	0.87	0.85
2	0.97	0.93	0.90	0.95	0.92	0.89	0.92	0.89	0.87	0.89	0.87	0.85	0.87	0.85	0.83	0.82
3	0.92	0.88	0.85	0.91	0.87	0.84	0.89	0.85	0.83	0.86	0.84	0.82	0.84	0.82	0.80	0.79
4	0.89	0.84	0.81	0.88	0.84	0.80	0.86	0.82	0.79	0.84	0.81	0.79	0.82	0.80	0.78	0.76
5	0.85	0.81	0.78	0.84	0.80	0.77	0.83	0.79	0.77	0.81	0.78	0.76	0.80	0.77	0.75	0.74
6	0.82	0.78	0.75	0.82	0.77	0.74	0.80	0.77	0.74	0.79	0.76	0.74	0.78	0.75	0.73	0.72
7	0.80	0.75	0.72	0.79	0.75	0.72	0.78	0.74	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.70
8	0.77	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.68
9	0.75	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.73	0.70	0.67	0.66
10	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.71	0.68	0.66	0.65



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	7324.15	5939.21	3707.77	1430.37	715.73	544.40	484.22	320.43	38.04		
45.0	7168.89	5973.78	3635.26	1474.41	721.68	544.40	486.42	318.56	40.96		
90.0	7269.65	5932.33	3626.84	1317.00	720.52	545.28	484.66	330.34	29.51		
135.0	7421.05	5973.78	3635.26	1474.41	721.68	544.40	486.42	318.56	40.96		
180.0	7324.15	5939.21	3707.77	1430.37	715.73	544.40	484.22	320.43	38.04		
225.0	7168.89	5973.78	3635.26	1474.41	721.68	544.40	486.42	318.56	40.96		
270.0	7269.65	5932.33	3626.84	1317.00	720.52	545.28	484.66	330.34	29.51		
315.0	7421.05	5973.78	3635.26	1474.41	721.68	544.40	486.42	318.56	40.96		
360.0	7324.15	5939.21	3707.77	1430.37	715.73	544.40	484.22	320.43	38.04		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	7.54	6.88	6.55	6.39	6.28	6.28	6.28	7.27	6.83		
45.0	7.76	6.88	6.55	6.33	6.22	6.17	6.17	6.61	6.72		
90.0	7.43	6.88	6.55	6.33	6.17	6.17	6.22	7.05	6.94		
135.0	7.76	6.88	6.55	6.33	6.22	6.17	6.17	6.61	6.72		
180.0	7.54	6.88	6.55	6.39	6.28	6.28	6.28	7.27	6.83		
225.0	7.76	6.88	6.55	6.33	6.22	6.17	6.17	6.61	6.72		
270.0	7.43	6.88	6.55	6.33	6.17	6.17	6.22	7.05	6.94		
315.0	7.76	6.88	6.55	6.33	6.22	6.17	6.17	6.61	6.72		
360.0	7.54	6.88	6.55	6.39	6.28	6.28	6.28	7.27	6.83		
C/ γ (°)	90.0										
0.0	6.11										
45.0	6.06										
90.0	6.00										
135.0	6.06										
180.0	6.11										
225.0	6.06										
270.0	6.00										
315.0	6.06										
360.0	6.11										