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Nata

LumCAT: CR01D06336BG

Luminaire: 92.70.184.00

Report No: NATA0100

Test No: GC20190411

LampCAT: XICATO XOB LES 9.8MM

Lamp flux(lm): 1022.4

Number of Lamps: 1

Length(mm): 63

Phm Type: C

Voltage(V): 32.4800

Current(A): 0.2970

Power (W): 9.6500

PF: 0.0000

Ballast type: DC

Width(mm): 63

Height(mm): 0

Photometric Results

Lumens(lm): 831.06

Efficiency(%): 81.28%

Lumens(lm)/Power(W): 86.12

Central intensity(cd): 1662.609

Maximum intensity(cd): 1662.609

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=37.6

[C90/270]Total=37.6

Field angle(10%Imax): [C0/180]Total=62.1

[C90/270]Total=62.1

Maximum s/h(1/2): C0_180=0.62 C90_270=0.62

Maximum s/h(1/4): C0_180=0.60 C90_270=0.60

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 81.28%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 92.735%

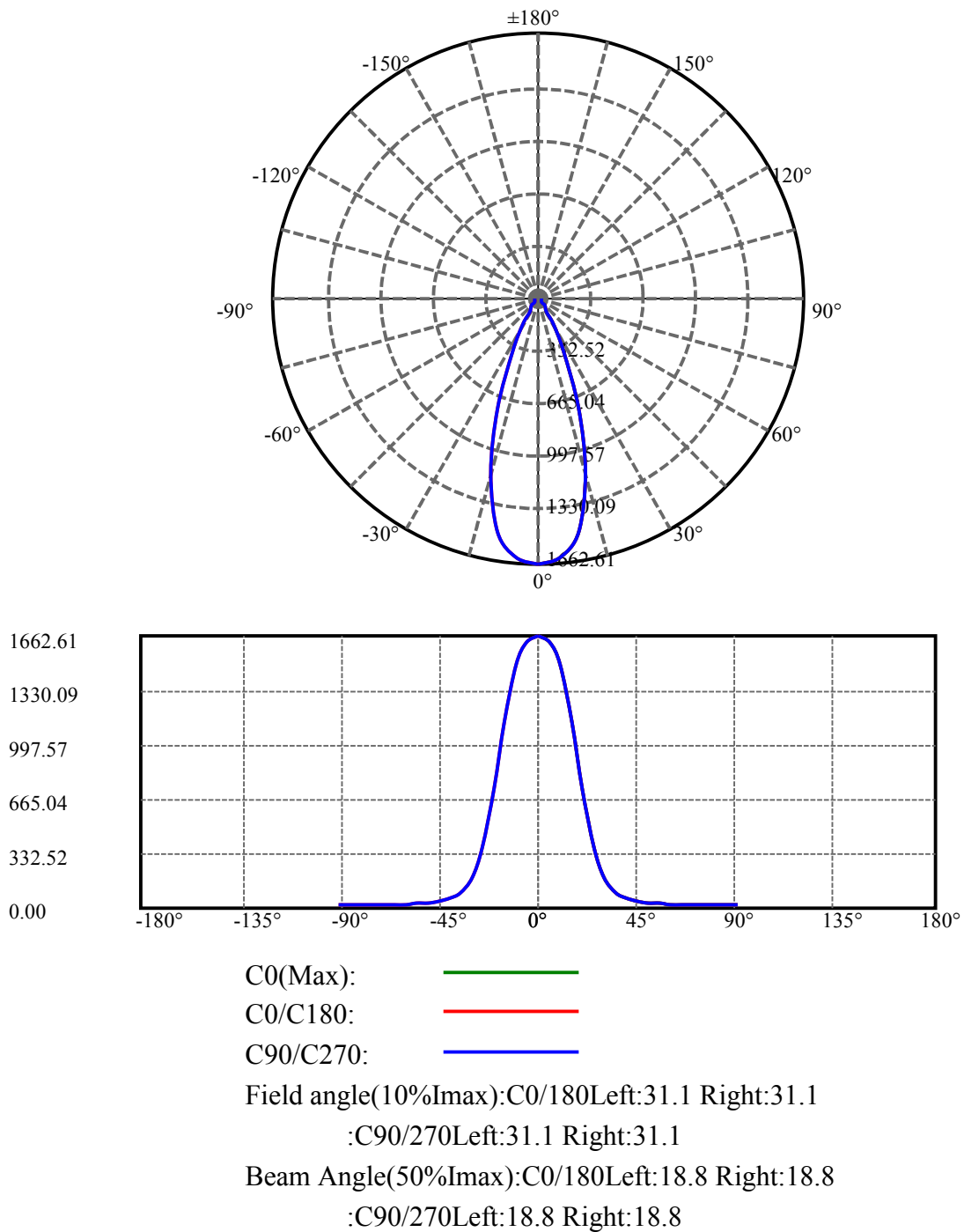
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1662.609	0.000	0	.000%	.000%
5.0	1626.117	39.316	39.316	3.845%	4.731%
10.0	1486.547	111.350	150.666	10.891%	18.129%
15.0	1132.066	155.334	306	15.193%	36.820%
20.0	734.316	153.816	459.816	15.044%	55.329%
25.0	367.636	115.574	575.39	11.304%	69.235%
30.0	184.852	69.918	645.308	6.838%	77.648%
35.0	97.010	41.506	686.814	4.060%	82.643%
40.0	59.548	26.120	712.935	2.555%	85.786%
45.0	39.691	18.375	731.31	1.797%	87.997%
50.0	32.020	14.490	745.8	1.417%	89.740%
55.0	27.436	12.928	758.728	1.264%	91.296%
60.0	24.300	11.959	770.687	1.170%	92.735%
65.0	21.495	11.133	781.819	1.089%	94.074%
70.0	18.802	10.203	792.022	.998%	95.302%
75.0	17.128	9.391	801.414	.919%	96.432%
80.0	17.873	9.365	810.779	.916%	97.559%
85.0	18.513	9.887	820.667	.967%	98.749%
90.0	19.463	10.398	831.065	1.017%	100.000%

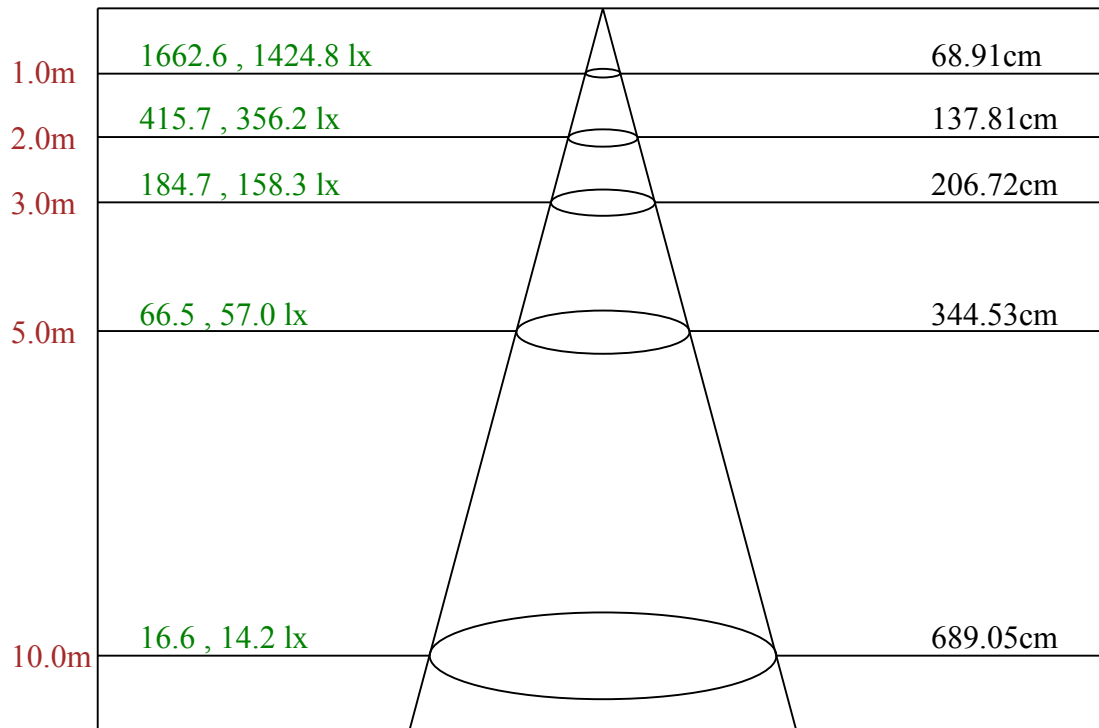
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	645.31	63.12%	77.65%
0-40	712.93	69.73%	85.79%
0-60	770.69	75.38%	92.73%
0-90	820.67	80.27%	98.75%
0-120	820.67	80.27%	98.75%
0-180	831.06	81.28%	100.00%
60-90	61.94	6.06%	7.45%
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%
0-32.35	664.85	65.03%	80.00%

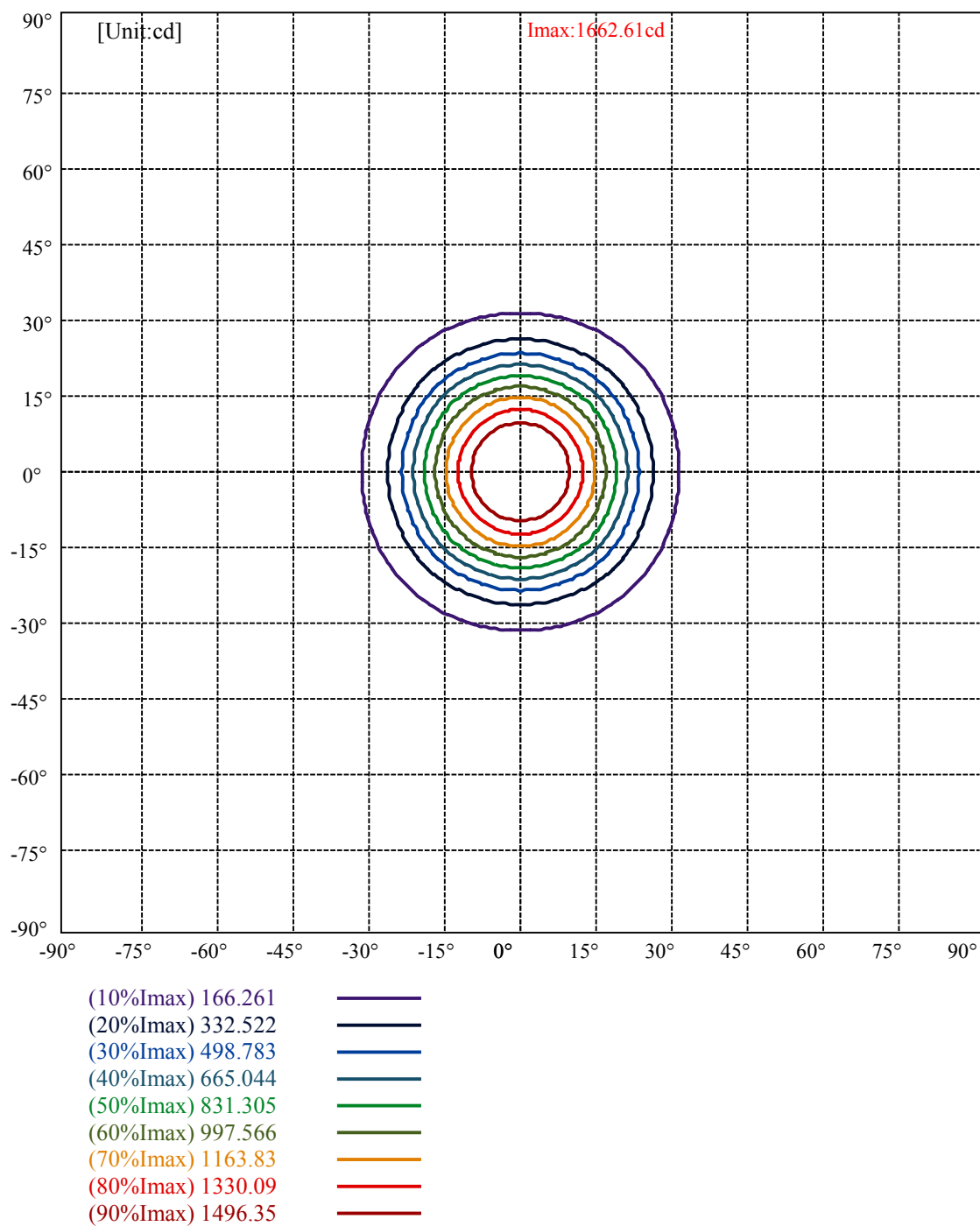
ZONAL LUMEN SUMMARY

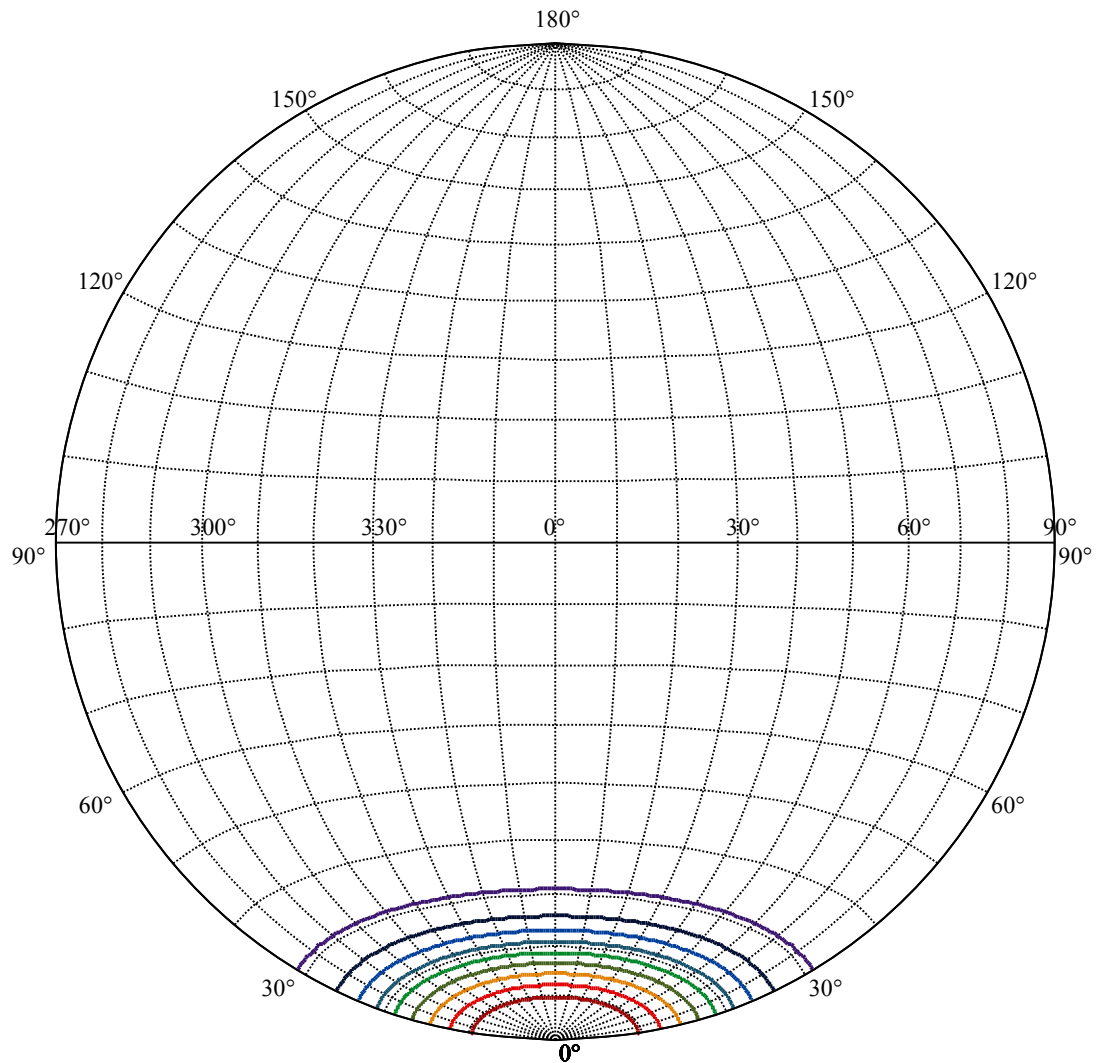
0-10	150.67
10-20	309.15
20-30	185.49
30-40	67.63
40-50	32.87
50-60	24.89
60-70	21.34
70-80	18.76
80-90	9.89
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00





Max , Ave Beam angle of C0 plane 38.02





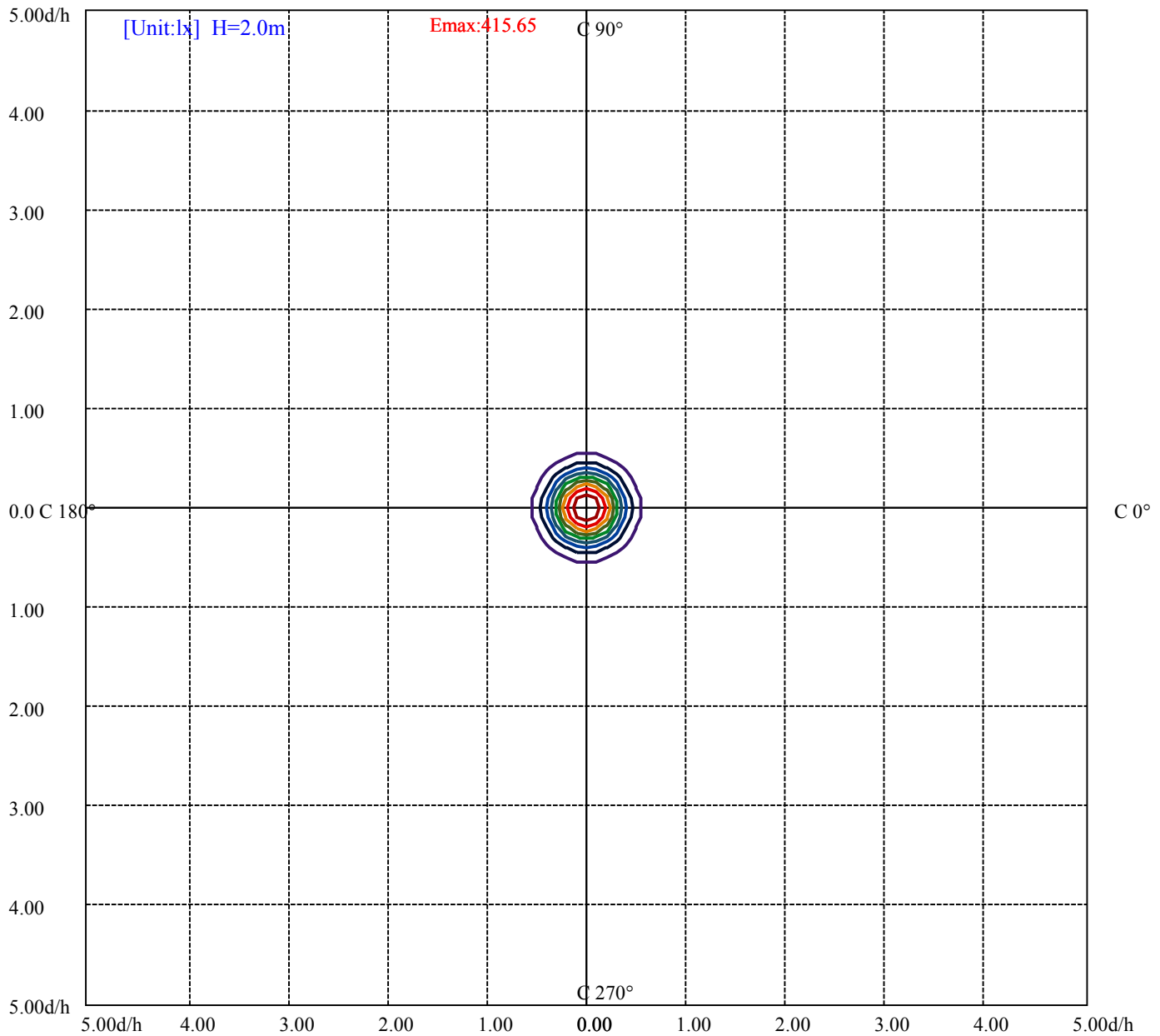
House

[Unit:cd]

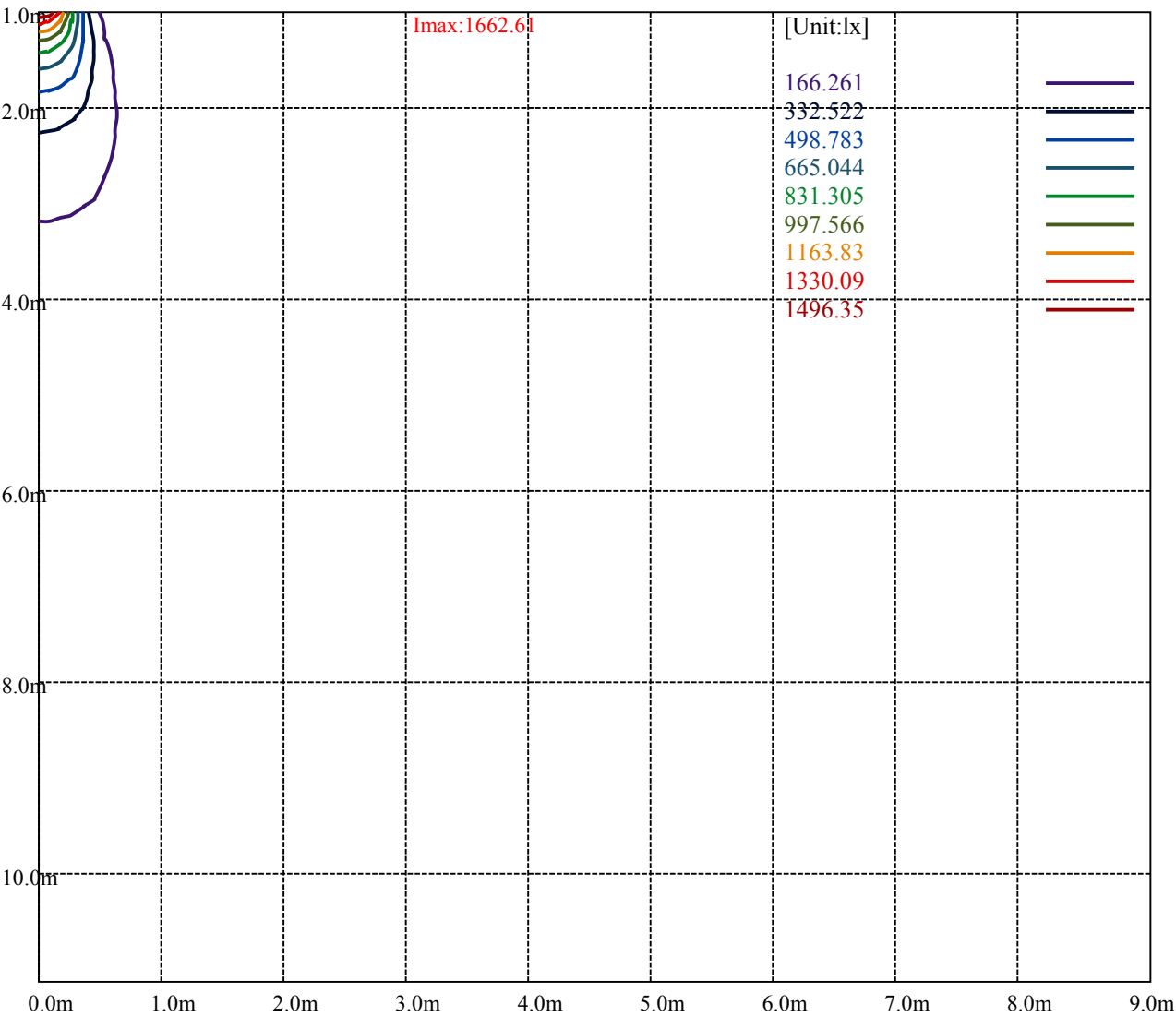
Road

Imax:1662.61

(10%Imax)	166.261	—
(20%Imax)	332.522	—
(30%Imax)	498.783	—
(40%Imax)	665.044	—
(50%Imax)	831.305	—
(60%Imax)	997.566	—
(70%Imax)	1163.83	—
(80%Imax)	1330.09	—
(90%Imax)	1496.35	—



(10%Emax)	41.56525	—
(20%Emax)	83.1305	—
(30%Emax)	124.6957	—
(40%Emax)	166.2608	—
(50%Emax)	207.826	—
(60%Emax)	249.3913	—
(70%Emax)	290.9575	—
(80%Emax)	332.5225	—
(90%Emax)	374.0875	—



Luminance Table

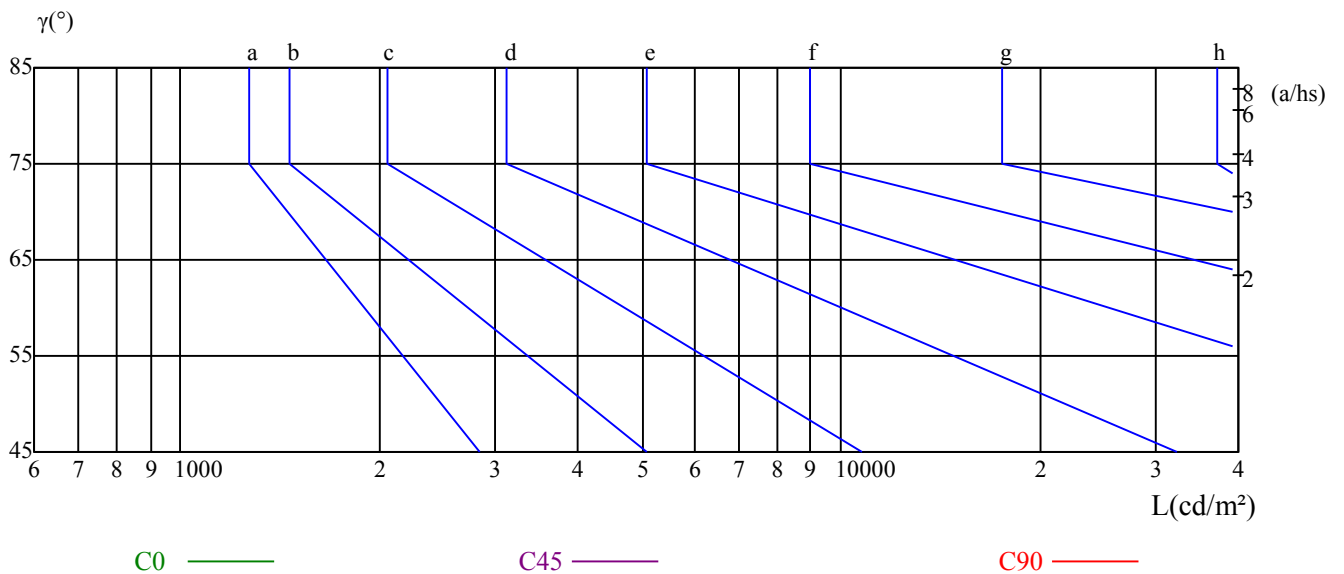
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

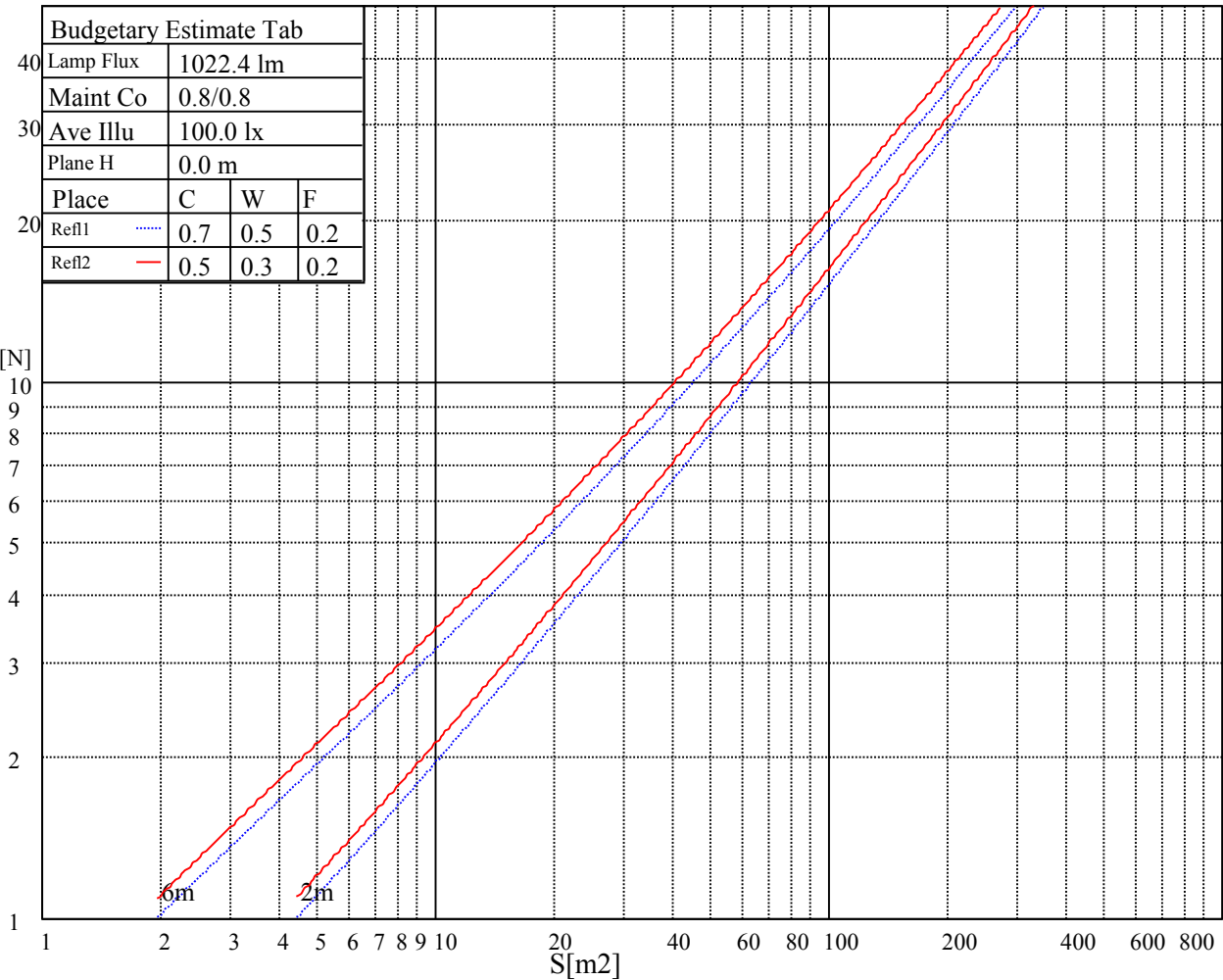
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

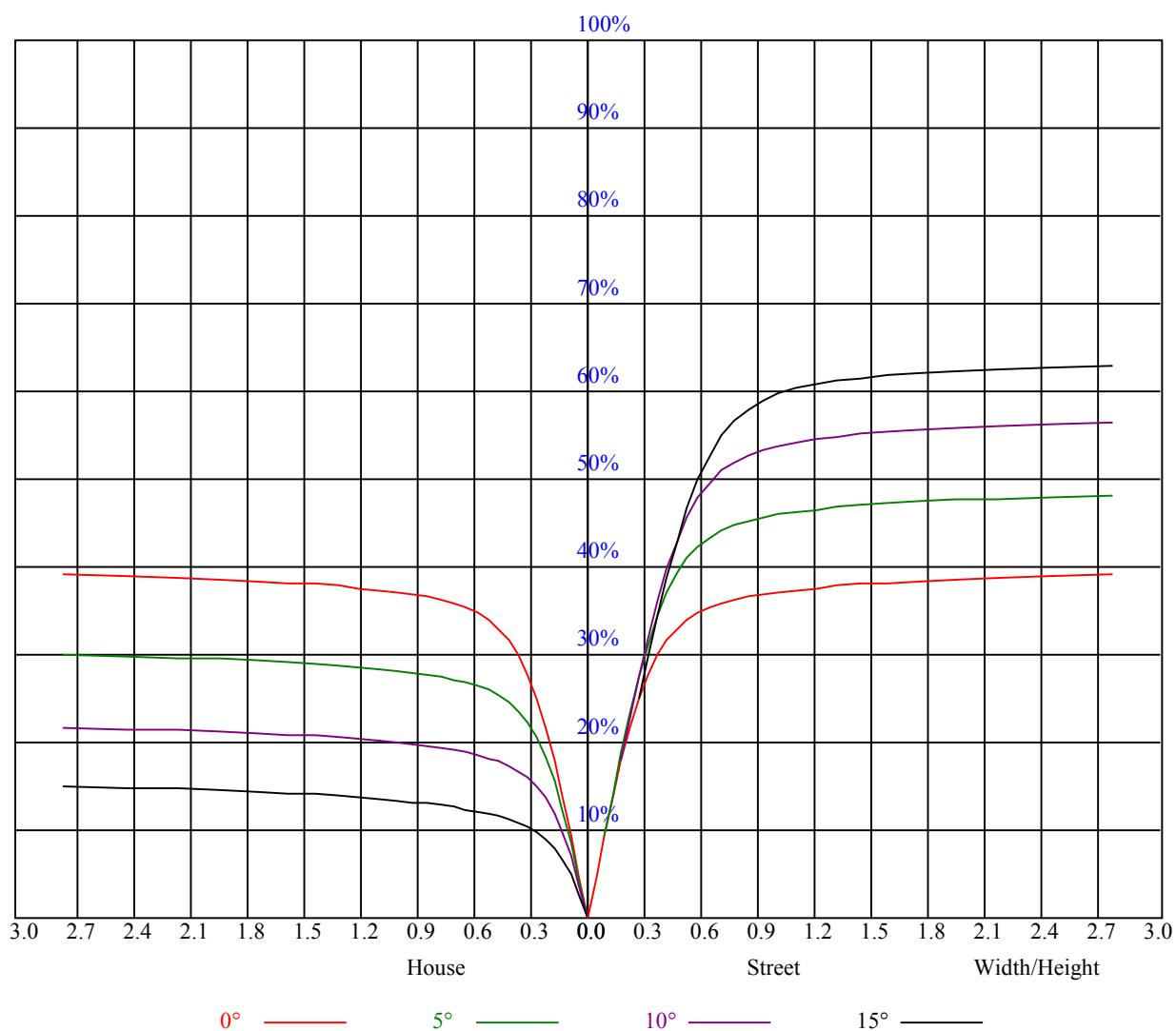
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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	0.97	0.97	0.97	0.95	0.95	0.95	0.90	0.90	0.90	0.86	0.86	0.86	0.83	0.83	0.83	0.81
1	0.89	0.86	0.84	0.87	0.85	0.83	0.84	0.82	0.80	0.81	0.79	0.78	0.78	0.77	0.76	0.74
2	0.83	0.79	0.76	0.81	0.78	0.75	0.78	0.76	0.73	0.76	0.74	0.72	0.74	0.72	0.70	0.69
3	0.77	0.73	0.70	0.76	0.72	0.69	0.74	0.71	0.68	0.72	0.69	0.67	0.70	0.68	0.66	0.65
4	0.73	0.68	0.65	0.72	0.68	0.64	0.70	0.66	0.64	0.68	0.65	0.63	0.67	0.64	0.62	0.61
5	0.69	0.64	0.61	0.68	0.64	0.60	0.67	0.63	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.58
6	0.65	0.61	0.57	0.65	0.60	0.57	0.63	0.60	0.57	0.62	0.59	0.56	0.61	0.58	0.56	0.55
7	0.62	0.58	0.54	0.62	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.54	0.59	0.56	0.53	0.52
8	0.59	0.55	0.52	0.59	0.55	0.52	0.58	0.54	0.51	0.57	0.54	0.51	0.56	0.53	0.51	0.50
9	0.57	0.52	0.49	0.56	0.52	0.49	0.56	0.52	0.49	0.55	0.51	0.49	0.54	0.51	0.49	0.48
10	0.54	0.50	0.47	0.54	0.50	0.47	0.53	0.50	0.47	0.53	0.49	0.47	0.52	0.49	0.47	0.46



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	1661.06	1634.06	1518.75	1197.00	812.25	396.56	186.81	100.86	60.58		
45.0	1665.00	1614.38	1465.88	1145.25	726.19	387.56	183.88	99.11	60.08		
90.0	1660.50	1594.13	1405.69	1033.93	641.76	331.14	166.39	90.73	59.23		
135.0	1663.88	1639.13	1539.00	1231.88	825.19	442.13	236.64	106.26	65.64		
180.0	1661.06	1641.38	1514.25	1093.56	742.05	360.73	173.64	95.23	58.33		
225.0	1665.00	1630.69	1486.13	1117.69	704.25	335.25	182.76	97.82	59.06		
270.0	1660.50	1628.44	1505.25	1124.44	718.88	362.25	182.93	98.16	59.23		
315.0	1663.88	1626.75	1457.44	1112.79	703.97	325.46	165.77	87.92	54.23		
360.0	1661.06	1634.06	1518.75	1197.00	812.25	396.56	186.81	100.86	60.58		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	39.49	32.40	27.79	24.75	22.05	19.58	17.38	17.21	17.72		
45.0	39.38	31.84	27.00	23.74	20.98	18.45	16.82	17.10	18.17		
90.0	40.78	32.40	27.00	23.40	20.53	17.83	16.26	17.78	18.06		
135.0	42.08	33.30	28.46	25.09	22.22	19.63	18.34	18.56	19.24		
180.0	39.09	32.57	28.46	25.71	23.63	21.60	18.90	18.90	20.03		
225.0	39.77	31.73	27.73	24.64	22.33	19.58	18.23	21.38	20.25		
270.0	39.88	31.56	26.66	23.51	19.18	15.36	13.95	14.63	16.54		
315.0	37.07	30.38	26.38	23.57	21.04	18.39	17.16	17.44	18.11		
360.0	39.49	32.40	27.79	24.75	22.05	19.58	17.38	17.21	17.72		
C/ γ (°)	90.0										
0.0	18.62										
45.0	19.13										
90.0	18.90										
135.0	19.46										
180.0	21.32										
225.0	20.42										
270.0	17.16										
315.0	20.70										
360.0	18.62										