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Nata

LumCAT: 3-2095-M	
Luminaire: 92.70.136.00	
Report No: GC2017071303	Voltage(V): 51.2500
Test No: NT-0010	Current(A): 0.8000
LampCAT: CITIZEN CLU044	Power (W): 41.0000
Lamp flux(lm): 5855.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 79	Width(mm): 79
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 5272.66
Efficiency(%): 90.05%
Lumens(lm)/Power(W): 128.60
Central intensity(cd): 15255.500
Maximum intensity(cd): 15255.500
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=28.3
[C90/270]Total=28.3
Field angle(10%Imax): [C0/180]Total=63.6
[C90/270]Total=63.6
Maximum s/h(1/2): C0_180=0.47 C90_270=0.47
Maximum s/h(1/4): C0_180=0.50 C90_270=0.50
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.05%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.717%

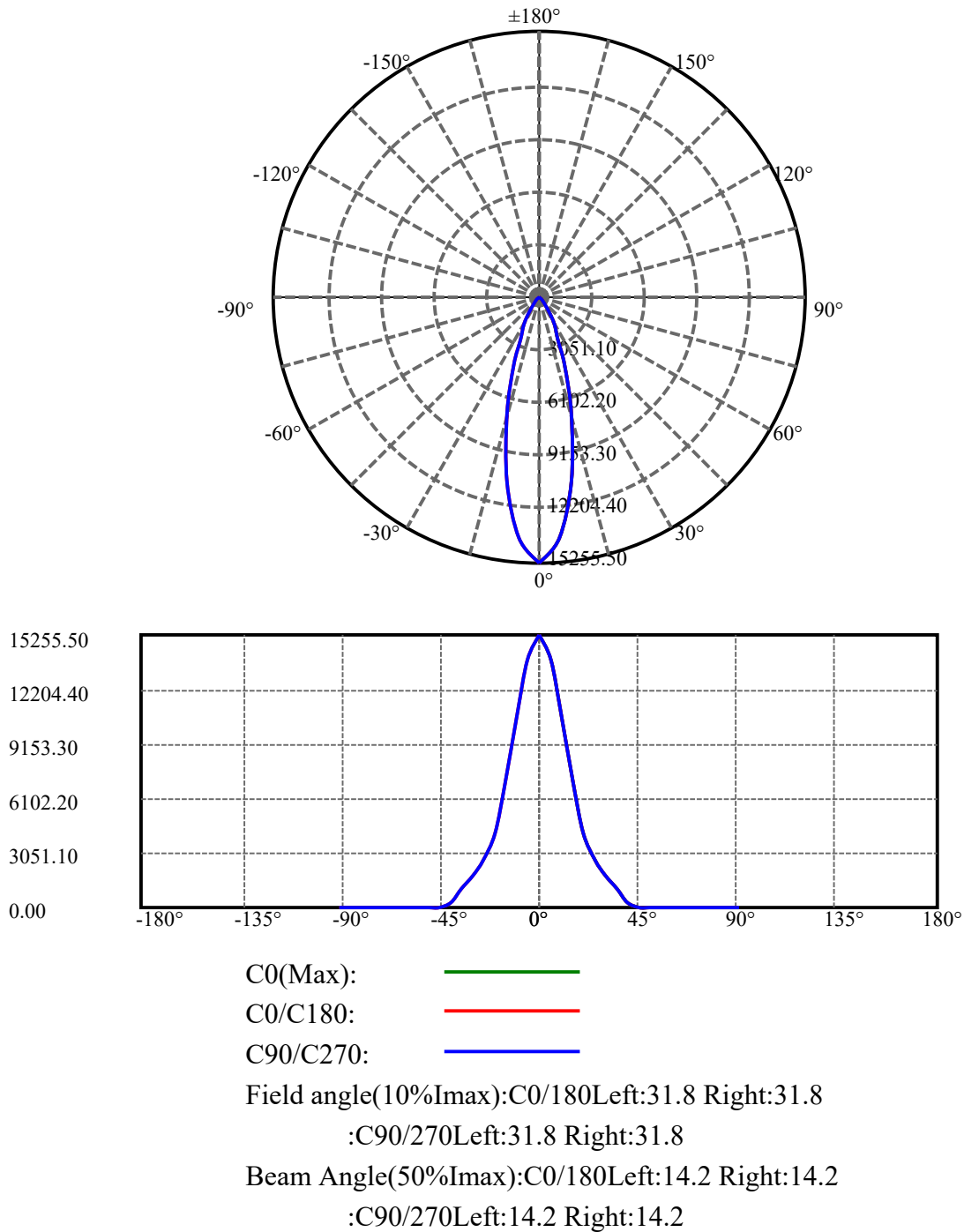
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	15255.495	0.000	0	.000%	.000%
5.0	13868.379	348.168	348.168	5.947%	6.603%
10.0	10794.463	882.267	1230.435	15.069%	23.336%
15.0	6986.084	1054.730	2285.165	18.014%	43.340%
20.0	4145.627	917.409	3202.575	15.669%	60.739%
25.0	2637.538	711.429	3914.003	12.151%	74.232%
30.0	1814.520	563.412	4477.415	9.623%	84.918%
35.0	1012.101	416.240	4893.655	7.109%	92.812%
40.0	296.032	218.252	5111.907	3.728%	96.951%
45.0	33.036	60.930	5172.837	1.041%	98.107%
50.0	24.125	11.550	5184.387	.197%	98.326%
55.0	22.845	10.213	5194.6	.174%	98.520%
60.0	22.163	10.404	5205.003	.178%	98.717%
65.0	21.802	10.688	5215.691	.183%	98.920%
70.0	21.579	10.984	5226.675	.188%	99.128%
75.0	21.454	11.248	5237.923	.192%	99.341%
80.0	21.398	11.466	5249.389	.196%	99.559%
85.0	21.363	11.619	5261.009	.198%	99.779%
90.0	21.182	11.649	5272.658	.199%	100.000%

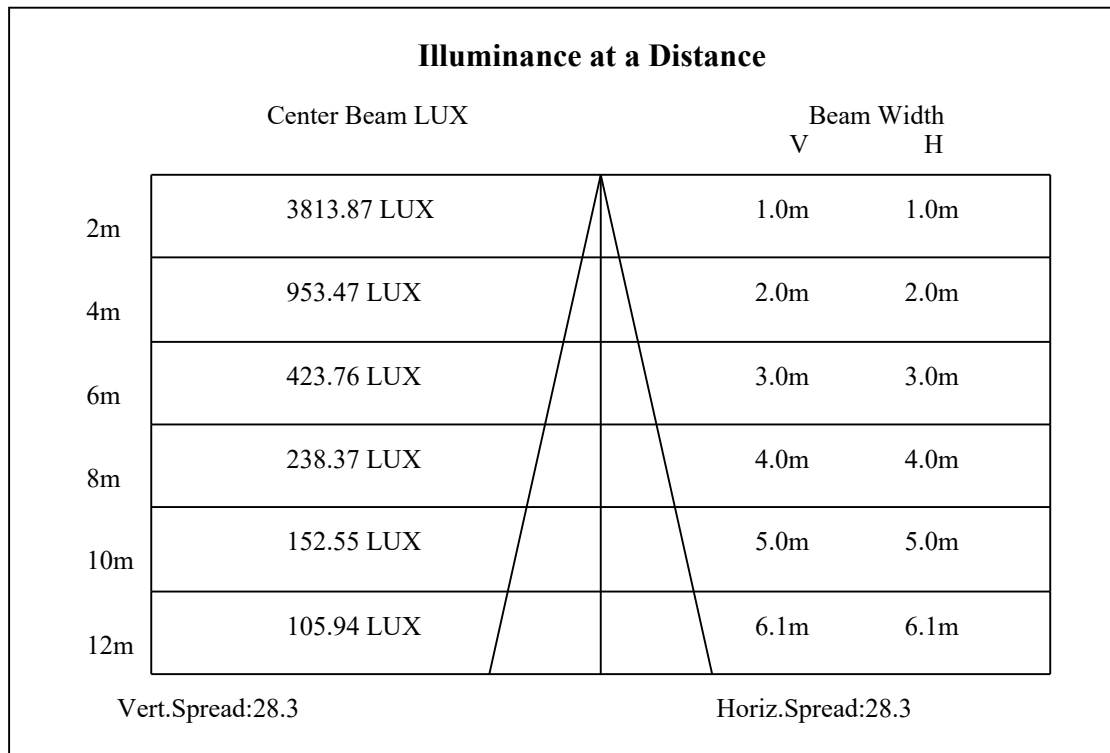
ZONAL LUMEN SUMMARY

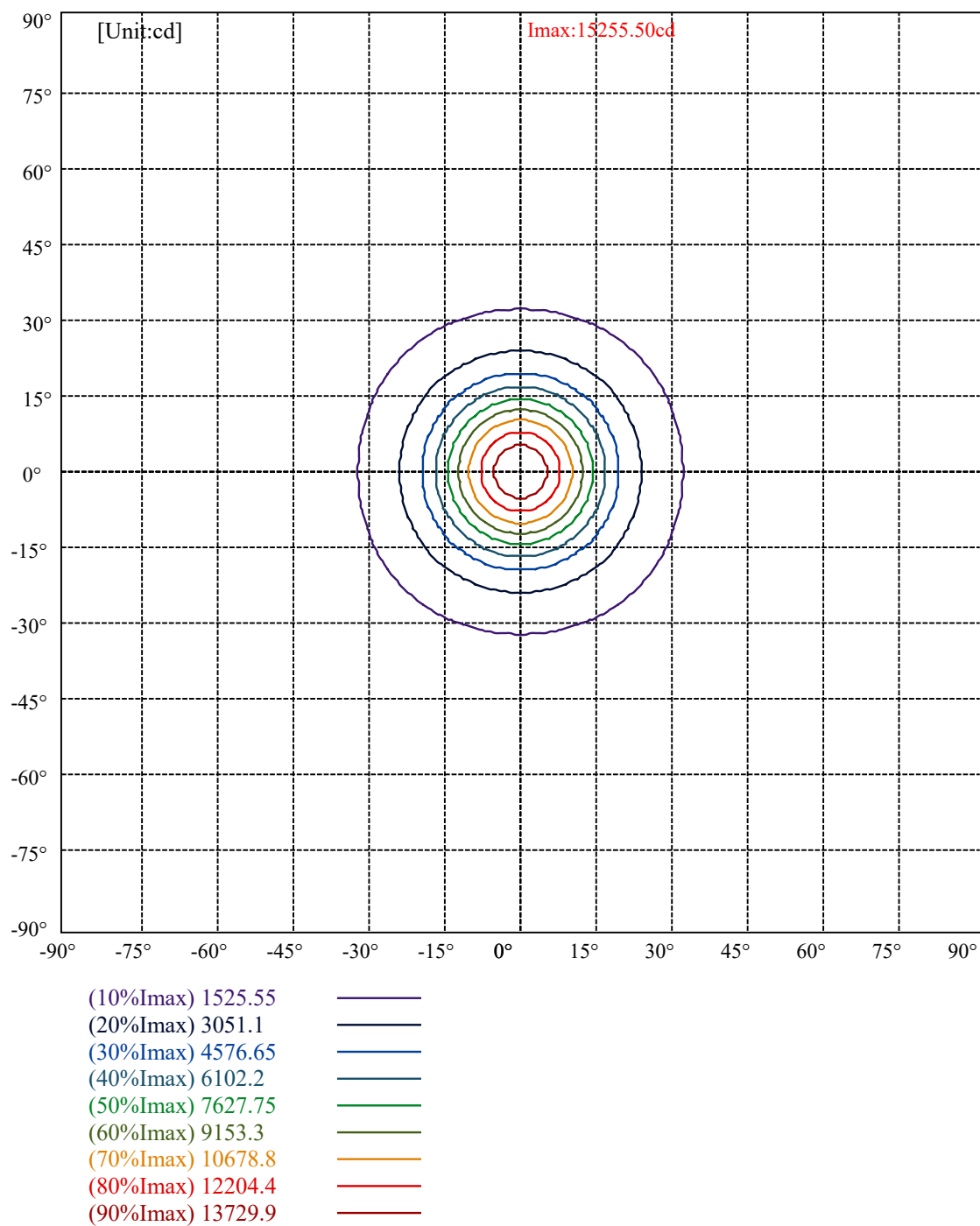
Zone	Lumens	%Lamp	%Fixt
0-30	4477.42	76.47%	84.92%
0-40	5111.91	87.31%	96.95%
0-60	5205.00	88.90%	98.72%
0-90	5261.01	89.85%	99.78%
0-120	5261.01	89.85%	99.78%
0-180	5272.66	90.05%	100.00%
60-90	66.41	1.13%	1.26%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.70	4218.13	72.04%	80.00%

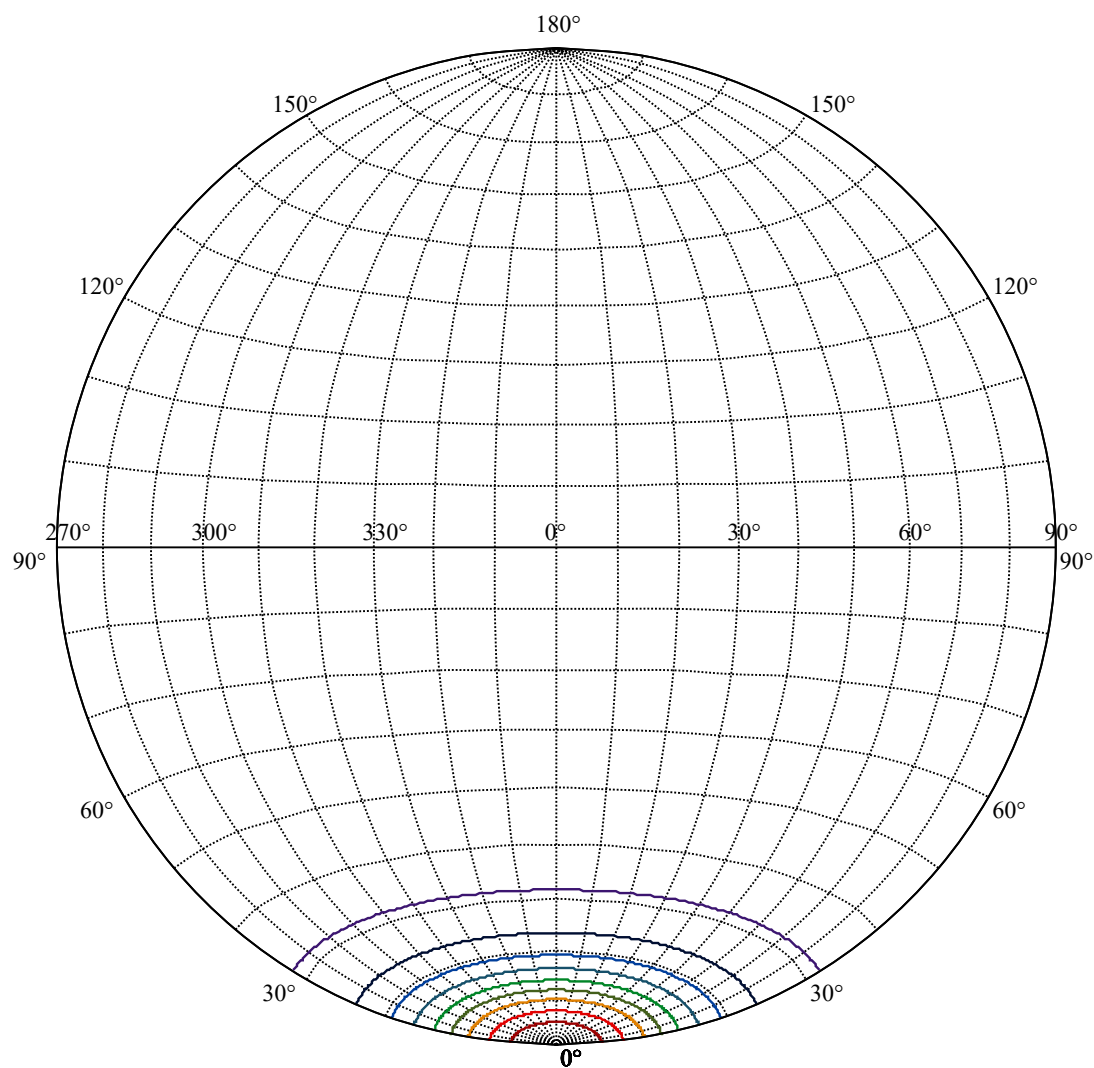
ZONAL LUMEN SUMMARY

0-10	1230.44
10-20	1972.14
20-30	1274.84
30-40	634.49
40-50	72.48
50-60	20.62
60-70	21.67
70-80	22.71
80-90	11.62
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









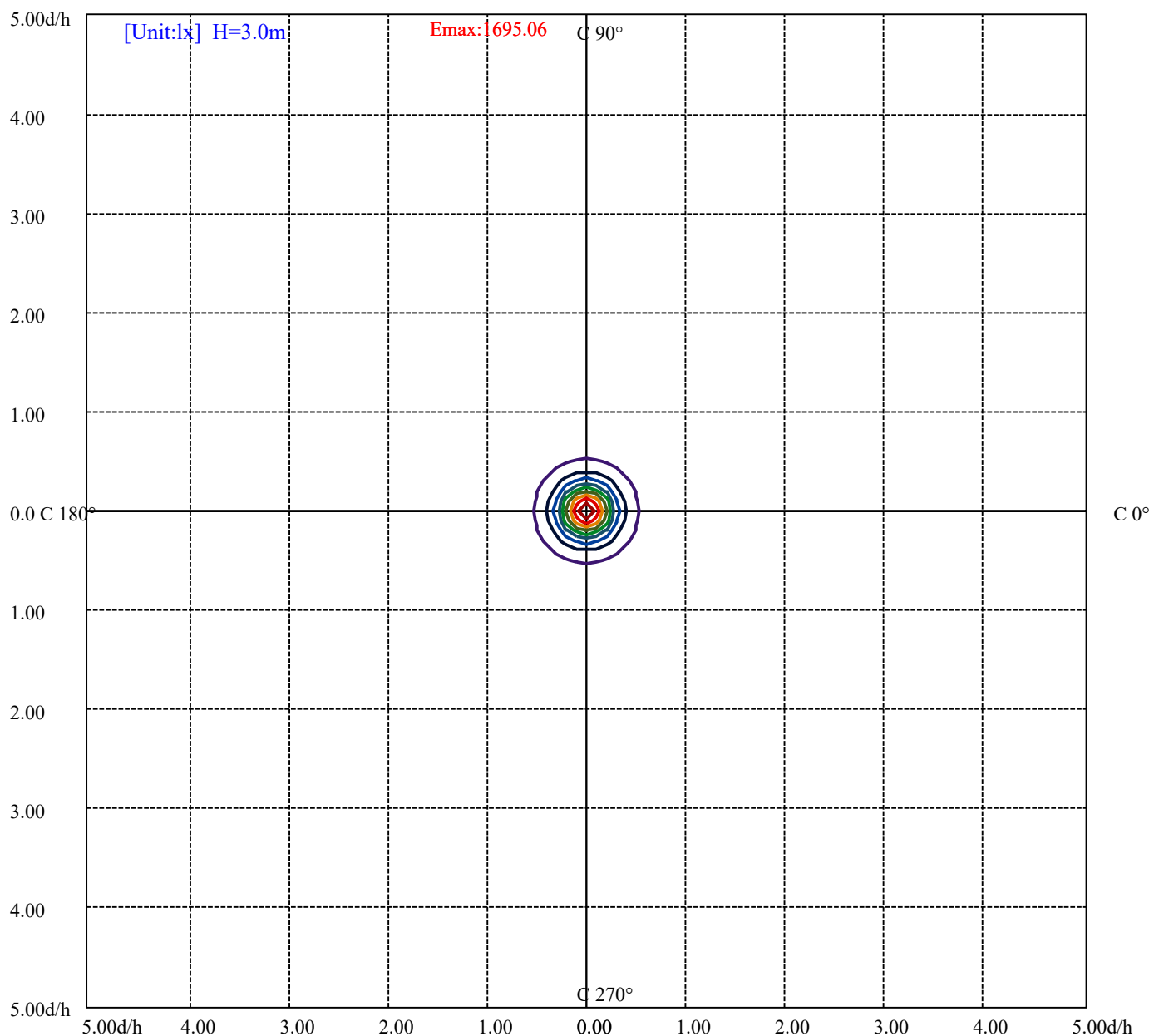
House

[Unit:cd]

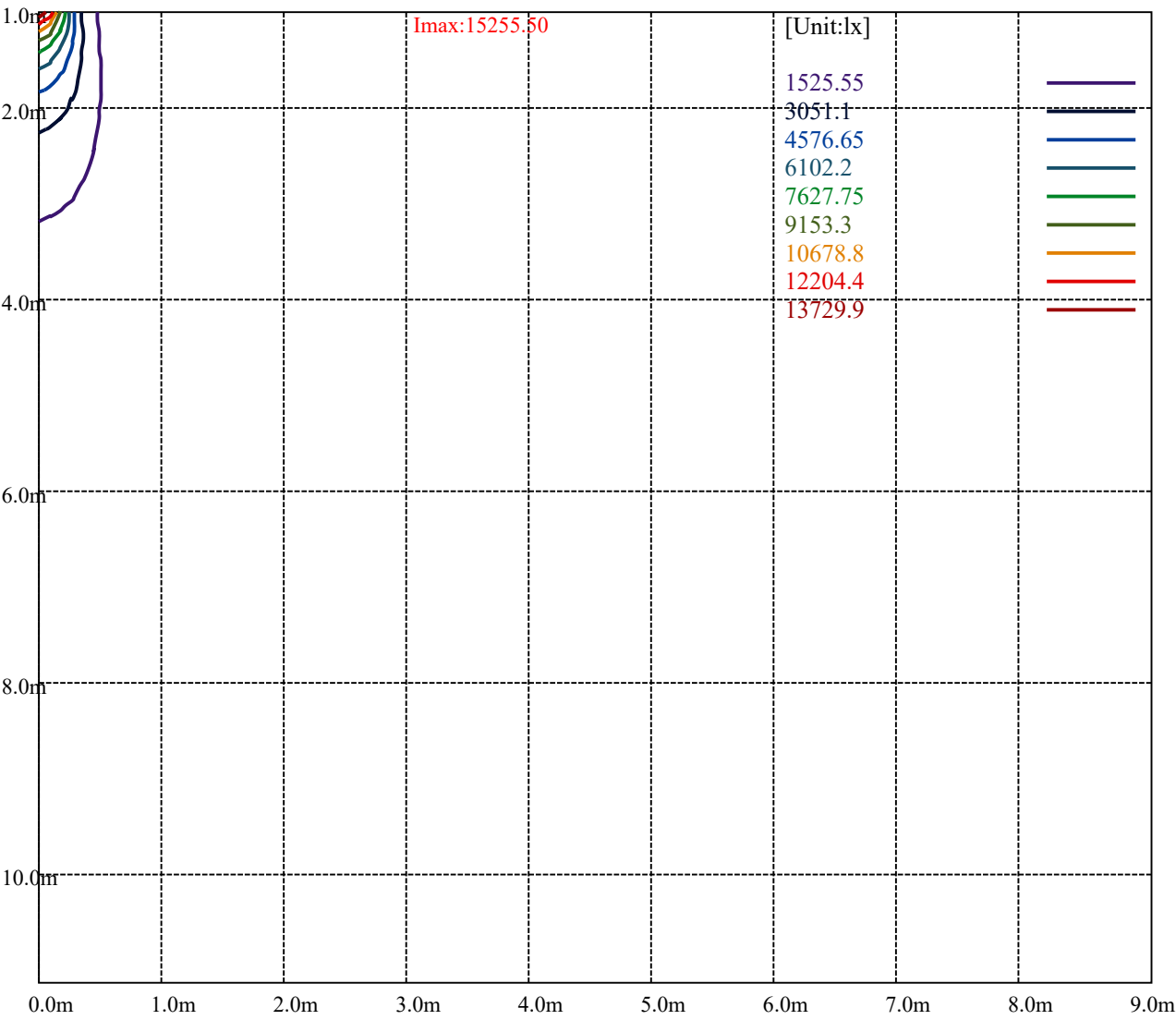
Road

Imax:15255.50

(10%Imax)	1525.55	—
(20%Imax)	3051.1	—
(30%Imax)	4576.65	—
(40%Imax)	6102.2	—
(50%Imax)	7627.75	—
(60%Imax)	9153.3	—
(70%Imax)	10678.8	—
(80%Imax)	12204.4	—
(90%Imax)	13729.9	—



(10%Emax)	169.5056	—
(20%Emax)	339.01	—
(30%Emax)	508.5156	—
(40%Emax)	678.02	—
(50%Emax)	847.5256	—
(60%Emax)	1017.03	—
(70%Emax)	1186.533	—
(80%Emax)	1356.044	—
(90%Emax)	1525.544	—



Luminance Table

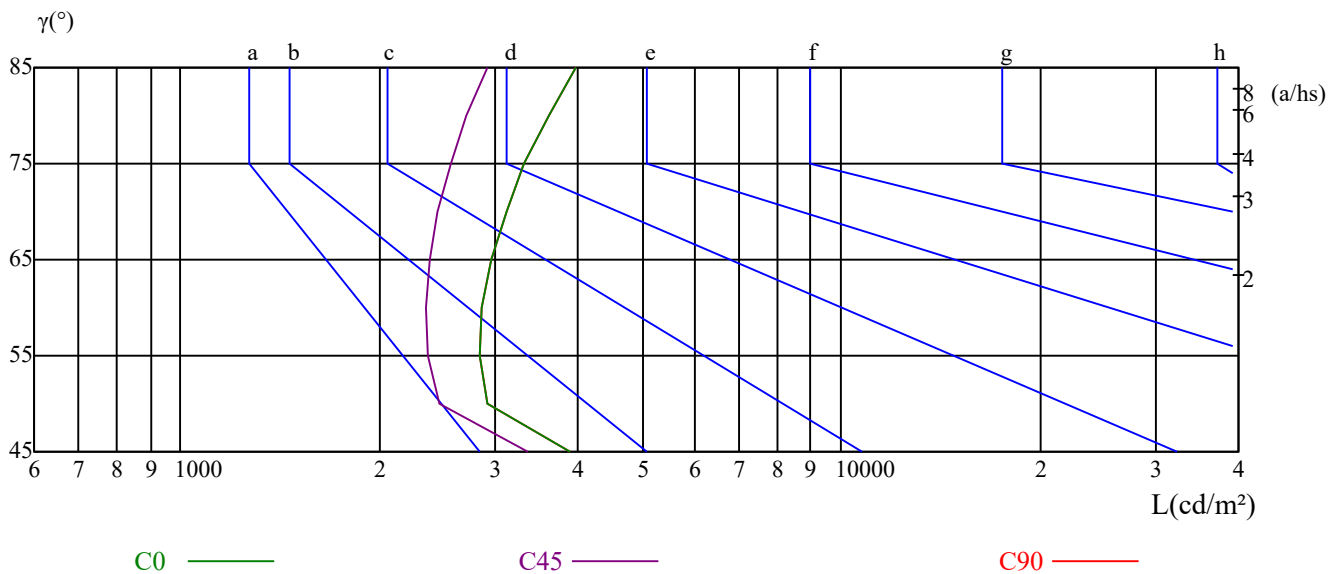
γ	45	50	55	60	65	70	75	80	85
C0	3898	2910	2840	2865	2959	3108	3317	3601	3977
C45	3348	2462	2365	2347	2382	2453	2562	2714	2912
C90	3898	2910	2840	2865	2959	3108	3317	3601	3977

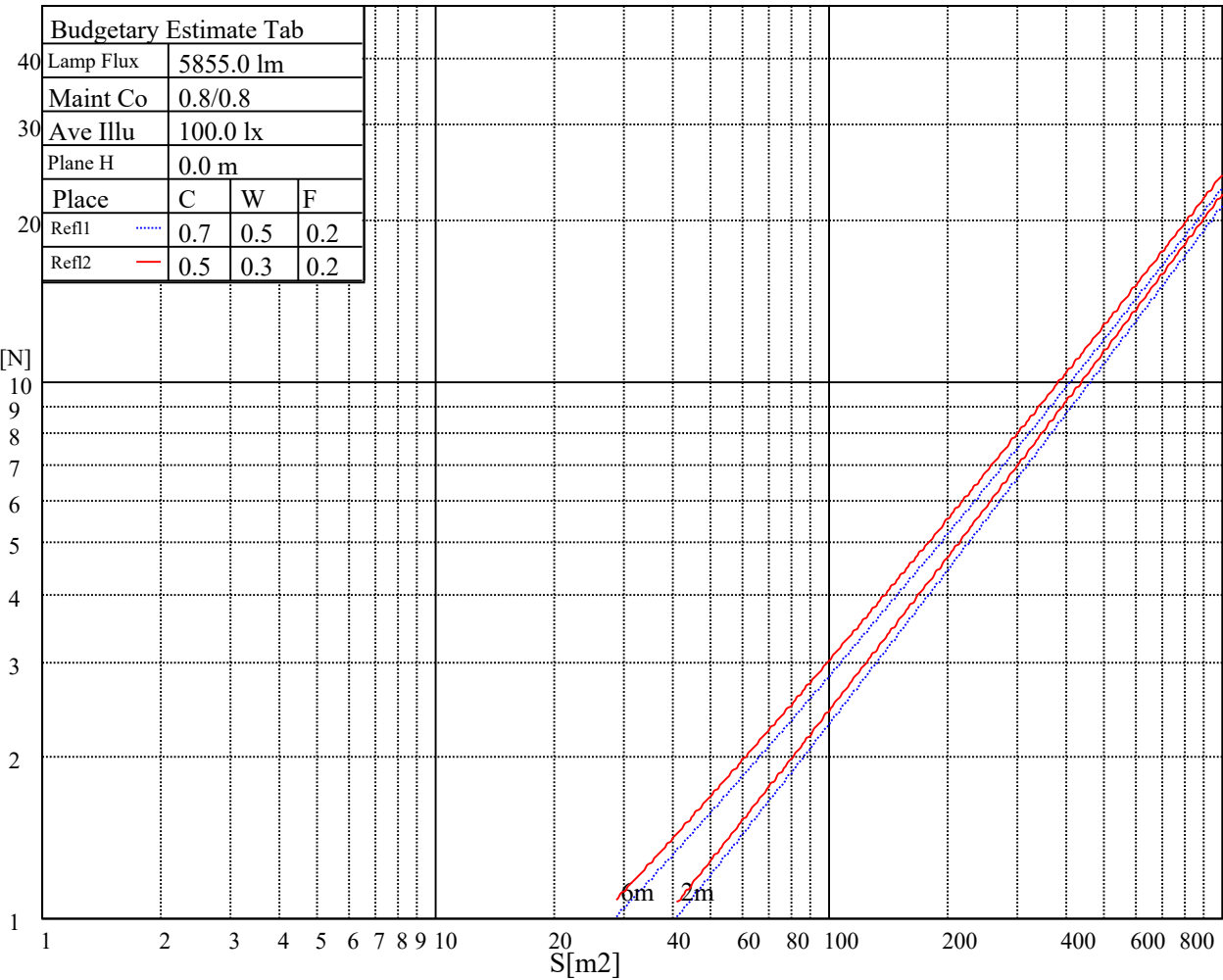
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7140	7140	7140	11473	11473	11473	33926	33926	33926

Glare Table

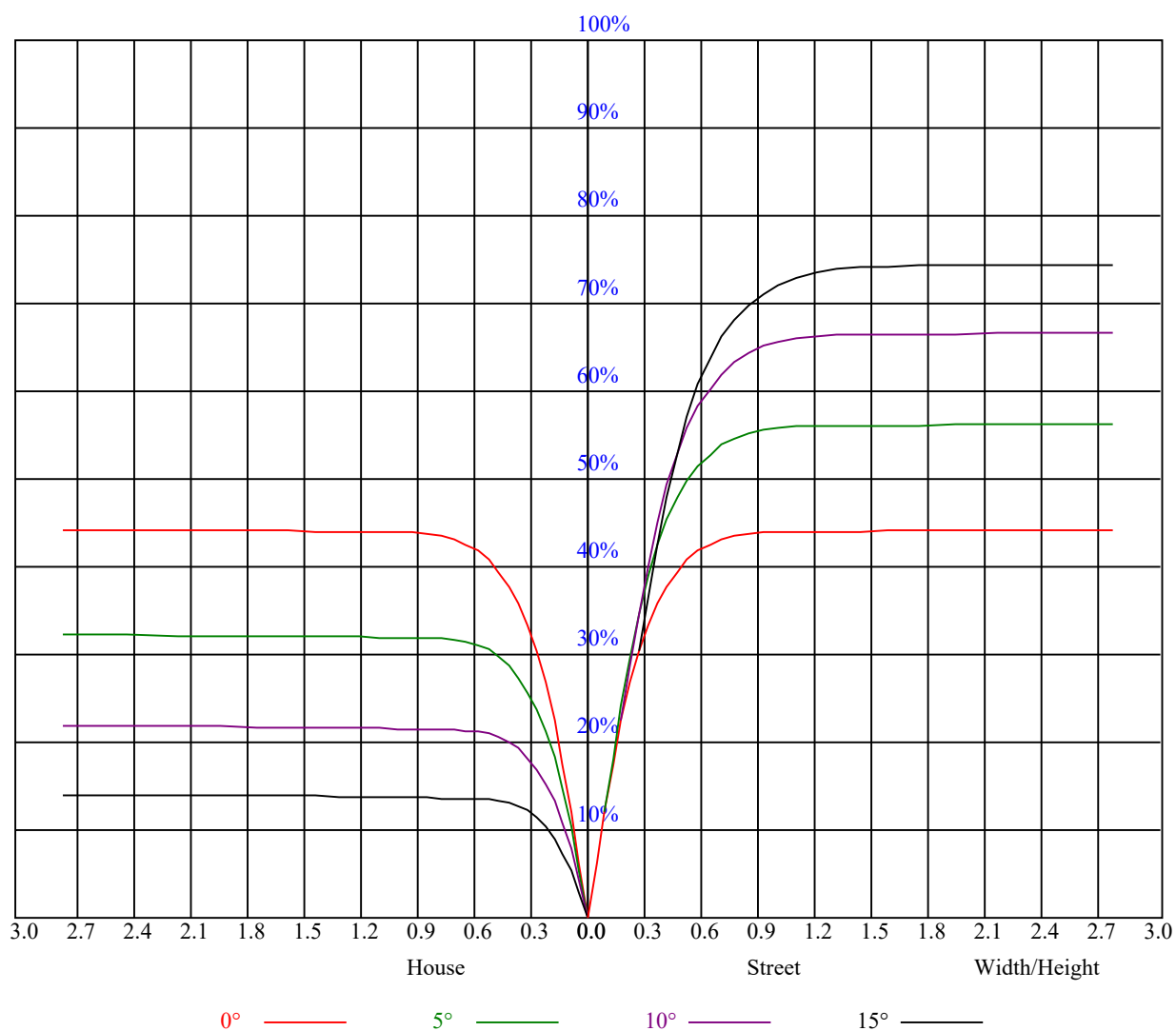
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





RHOC	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 RHOF=20 CU															
0	1.07	1.07	1.07	1.05	1.05	1.05	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	1.01	0.99	0.97	0.99	0.97	0.95	0.95	0.94	0.92	0.92	0.91	0.89	0.89	0.88	0.87	0.85
2	0.95	0.92	0.89	0.93	0.90	0.88	0.90	0.88	0.86	0.88	0.86	0.84	0.85	0.84	0.82	0.81
3	0.90	0.86	0.83	0.88	0.85	0.82	0.86	0.83	0.81	0.84	0.82	0.80	0.82	0.80	0.78	0.77
4	0.85	0.81	0.78	0.84	0.80	0.77	0.82	0.79	0.76	0.81	0.78	0.75	0.79	0.77	0.75	0.73
5	0.81	0.77	0.73	0.80	0.76	0.73	0.79	0.75	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.70
6	0.77	0.73	0.70	0.77	0.73	0.69	0.75	0.72	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.67
7	0.74	0.70	0.66	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.64
8	0.71	0.66	0.63	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.61
9	0.68	0.64	0.61	0.68	0.63	0.61	0.67	0.63	0.60	0.66	0.63	0.60	0.66	0.62	0.60	0.59
10	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.57



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	15220.71	14491.68	11603.36	7846.88	4824.99	2838.23	2012.92	1287.22	466.92		
45.0	15298.62	13990.81	11252.75	7245.84	4251.78	2810.41	1851.53	1017.31	333.35		
90.0	15231.84	13701.42	10249.91	6490.09	3876.69	2429.19	1709.06	909.18	228.23		
135.0	15270.80	13779.34	11035.71	7051.06	4101.52	2877.19	1857.09	1015.64	303.86		
180.0	15220.71	13256.21	9731.80	6191.80	3590.08	2301.75	1568.82	795.71	150.70		
225.0	15298.62	13745.95	10582.71	6786.71	3995.23	2431.42	1777.51	935.84	202.46		
270.0	15231.84	14129.94	11152.58	7357.14	4479.95	2877.19	1914.42	1138.63	372.87		
315.0	15270.80	13851.68	10746.88	6919.16	4044.76	2534.93	1824.82	997.28	309.87		
360.0	15220.71	14491.68	11603.36	7846.88	4824.99	2838.23	2012.92	1287.22	466.92		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	45.24	24.71	23.04	22.20	21.87	21.65	21.54	21.48	21.43		
45.0	32.50	24.21	23.10	22.32	21.98	21.70	21.59	21.48	21.54		
90.0	27.88	24.10	22.82	22.26	21.82	21.65	21.48	21.43	21.48		
135.0	33.28	23.87	22.71	22.09	21.76	21.54	21.43	21.26	21.26		
180.0	25.15	23.43	22.54	21.98	21.76	21.48	21.43	21.37	21.31		
225.0	29.83	24.04	22.82	22.15	21.82	21.54	21.48	21.43	21.31		
270.0	37.90	24.65	23.15	22.32	21.82	21.65	21.43	21.43	21.31		
315.0	32.50	23.99	22.59	21.98	21.59	21.43	21.26	21.31	21.26		
360.0	45.24	24.71	23.04	22.20	21.87	21.65	21.54	21.48	21.43		
C/ γ (°)	90.0										
0.0	21.15										
45.0	21.26										
90.0	21.15										
135.0	21.15										
180.0	21.15										
225.0	21.26										
270.0	21.20										
315.0	21.15										
360.0	21.15										