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Nata

LumCAT: 1-0788-M	
Luminaire: 92.70.127.00	
Report No: NATA0100	Voltage(V): 35.9000
Test No: GC2018072403	Current(A): 0.3000
LampCAT: CREE CXA1512	Power (W): 10.7700
Lamp flux(lm): 1352.5	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 46	Width(mm): 46
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1242.49
Efficiency(%): 91.87%
Lumens(lm)/Power(W): 115.37
Central intensity(cd): 2165.368
Maximum intensity(cd): 2165.368
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=35.4
[C90/270]Total=35.4
Field angle(10%Imax): [C0/180]Total=85.4
[C90/270]Total=85.4
Maximum s/h(1/2): C0_180=0.56 C90_270=0.56
Maximum s/h(1/4): C0_180=0.64 C90_270=0.64
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 92.74%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.895%

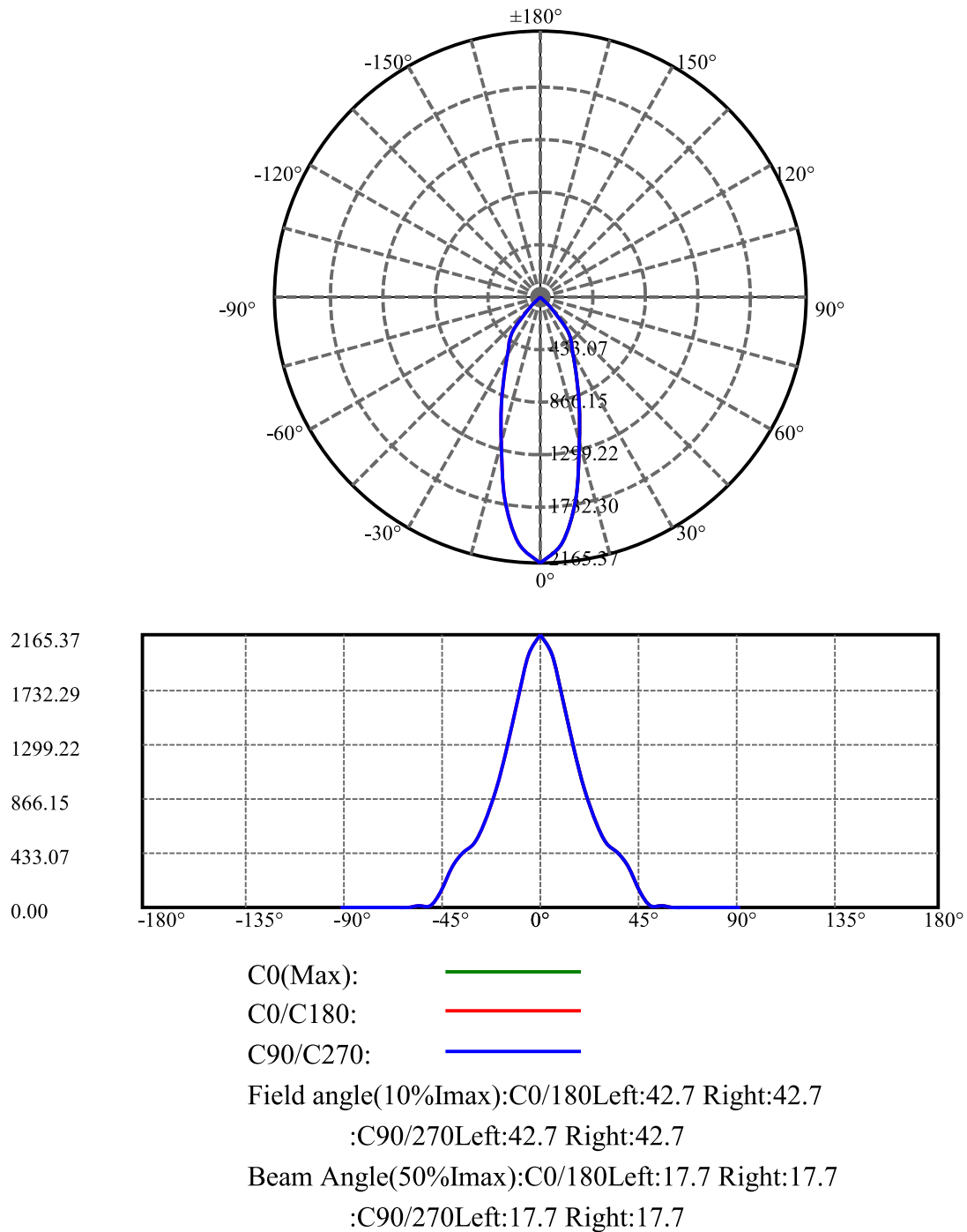
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2165.368	12.949	12.949	.957%	1.042%
5.0	2009.627	96.007	108.956	7.099%	8.769%
10.0	1670.411	158.995	267.951	11.756%	21.566%
15.0	1247.612	176.997	444.948	13.087%	35.811%
20.0	939.833	176.194	621.142	13.027%	49.992%
25.0	674.234	156.188	777.33	11.548%	62.562%
30.0	512.520	140.466	917.796	10.386%	73.868%
35.0	426.329	134.037	1051.833	9.910%	84.655%
40.0	326.842	115.158	1166.992	8.515%	93.924%
45.0	124.310	48.182	1215.173	3.562%	97.802%
50.0	16.207	6.805	1221.979	.503%	98.349%
55.0	6.834	3.068	1225.047	.227%	98.596%
60.0	5.912	2.806	1227.853	.207%	98.822%
65.0	5.444	2.704	1230.558	.200%	99.040%
70.0	5.182	2.669	1233.227	.197%	99.255%
75.0	4.989	2.642	1235.869	.195%	99.467%
80.0	4.900	2.645	1238.514	.196%	99.680%
85.0	4.852	2.649	1241.163	.196%	99.893%
90.0	4.831	1.324	1242.487	.098%	100.000%

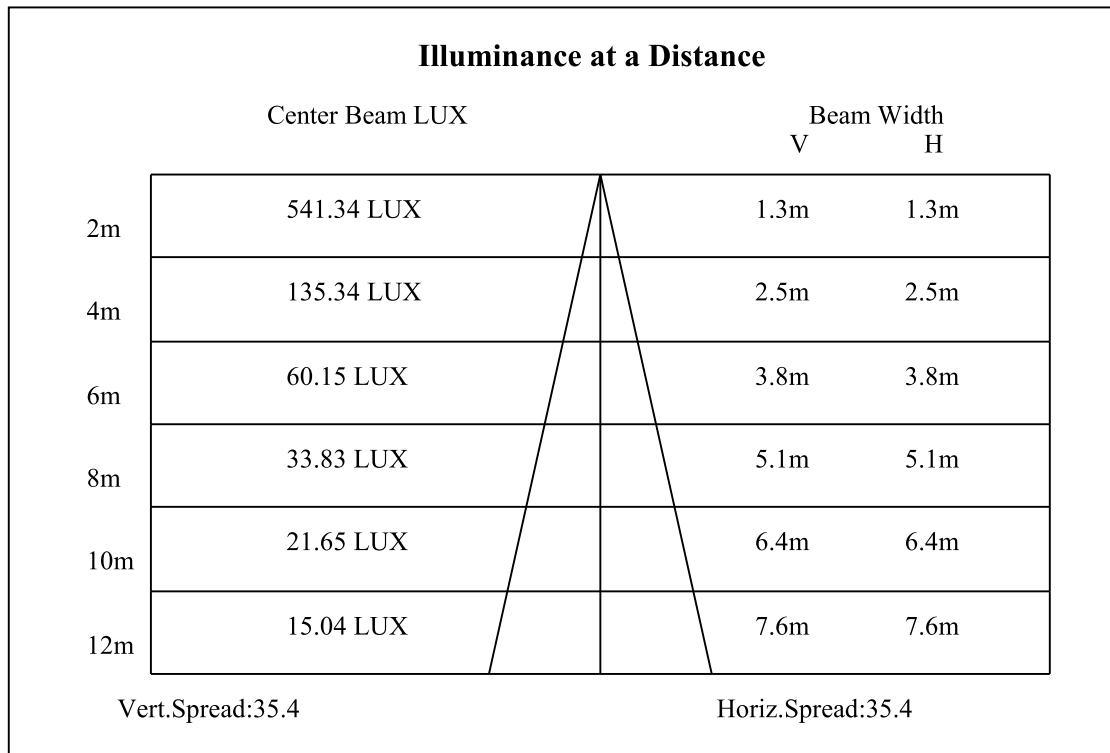
ZONAL LUMEN SUMMARY

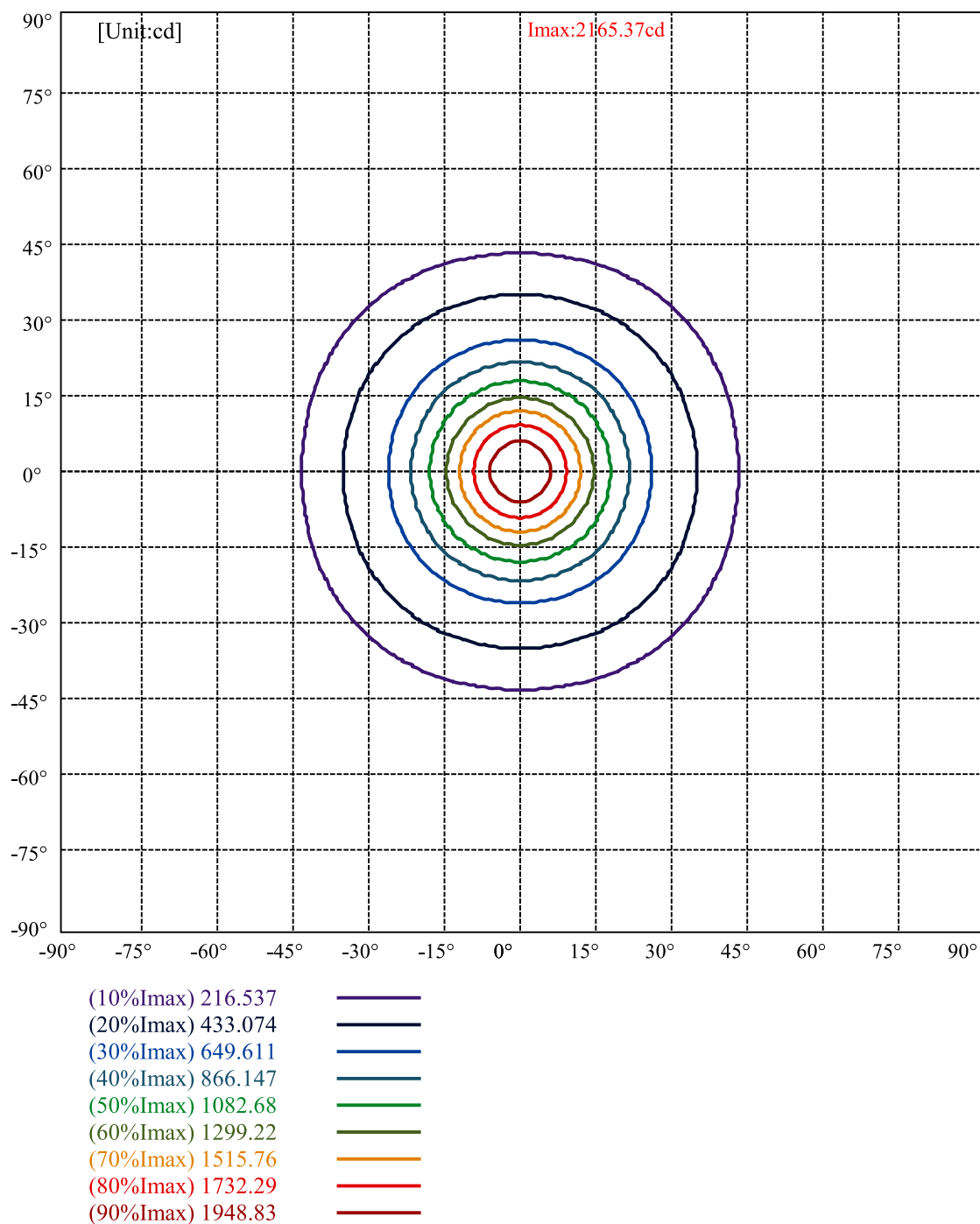
Zone	Lumens	%Lamp	%Fixt
0-30	917.80	67.86%	73.87%
0-40	1166.99	86.28%	93.92%
0-60	1227.85	90.78%	98.82%
0-90	1241.16	91.77%	99.89%
0-120	1241.16	91.77%	99.89%
0-180	1242.49	91.87%	100.00%
60-90	16.12	1.19%	1.30%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-32.84	993.99	73.49%	80.00%

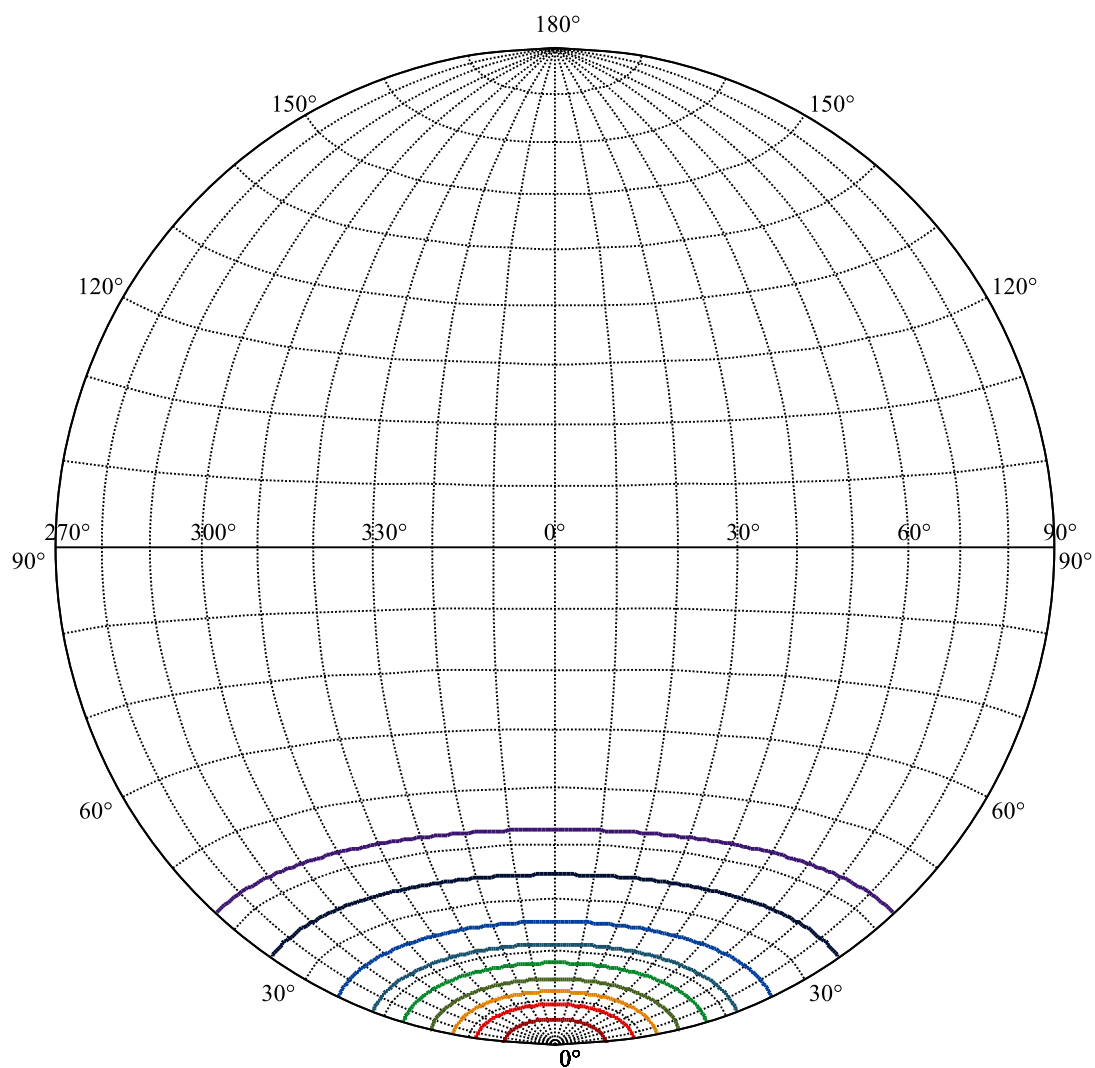
ZONAL LUMEN SUMMARY

0-10	267.95
10-20	353.19
20-30	296.65
30-40	249.20
40-50	54.99
50-60	5.87
60-70	5.37
70-80	5.29
80-90	2.65
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









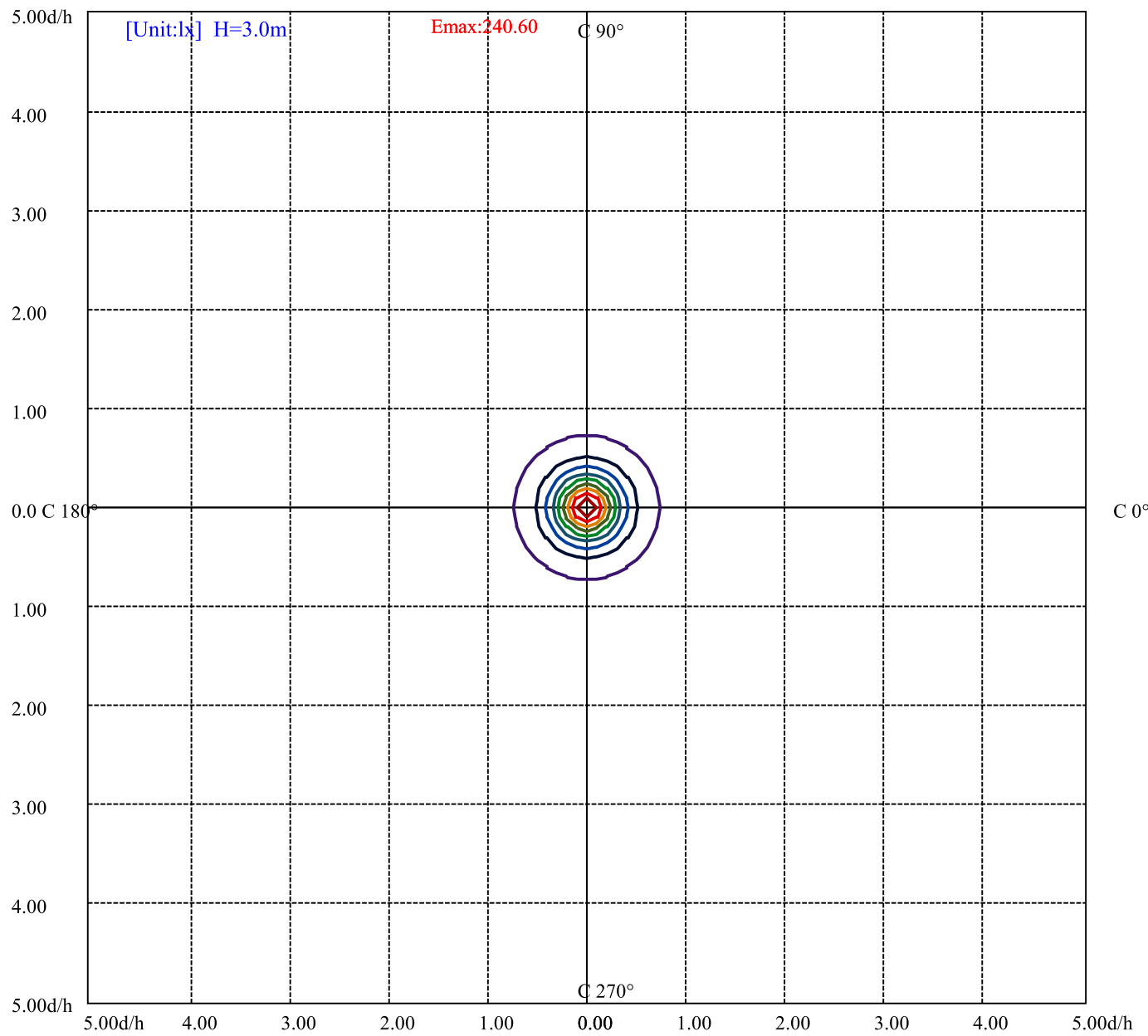
House

[Unit:cd]

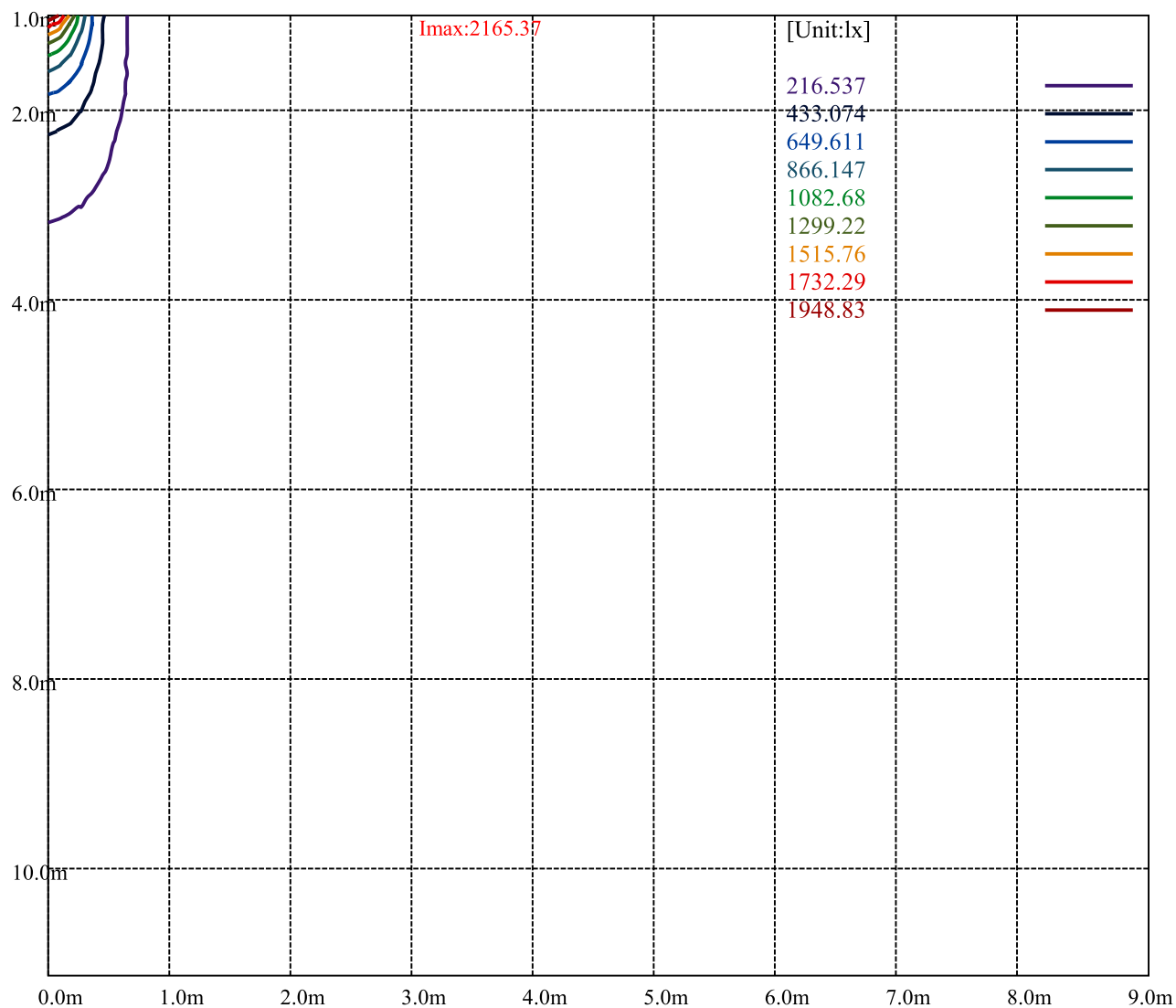
Road

Imax:2165.37

(10%Imax)	216.537	—
(20%Imax)	433.074	—
(30%Imax)	649.611	—
(40%Imax)	866.147	—
(50%Imax)	1082.68	—
(60%Imax)	1299.22	—
(70%Imax)	1515.76	—
(80%Imax)	1732.29	—
(90%Imax)	1948.83	—



(10%Emax)	24.05956	—
(20%Emax)	48.11922	—
(30%Emax)	72.17878	—
(40%Emax)	96.23844	—
(50%Emax)	120.2978	—
(60%Emax)	144.3578	—
(70%Emax)	168.4167	—
(80%Emax)	192.4767	—
(90%Emax)	216.5367	—



Luminance Table

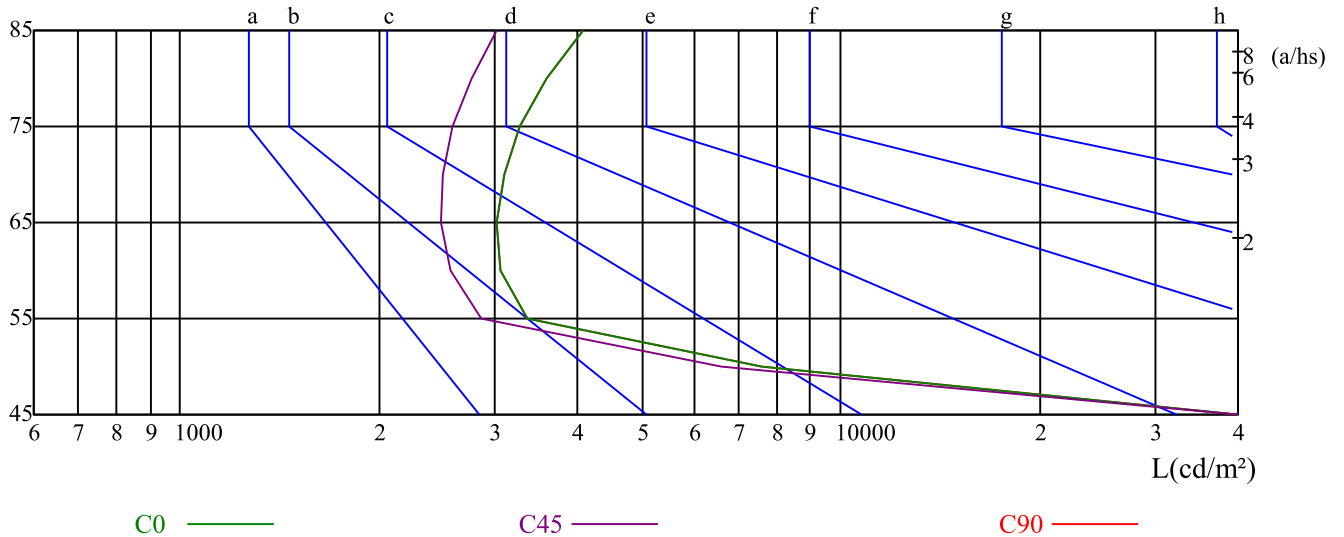
γ	45	50	55	60	65	70	75	80	85
C0	56203	7590	3346	3056	3005	3094	3271	3592	4068
C45	49561	6598	2864	2573	2484	2505	2585	2758	3013
C90	56203	7590	3346	3056	3005	3094	3271	3592	4068

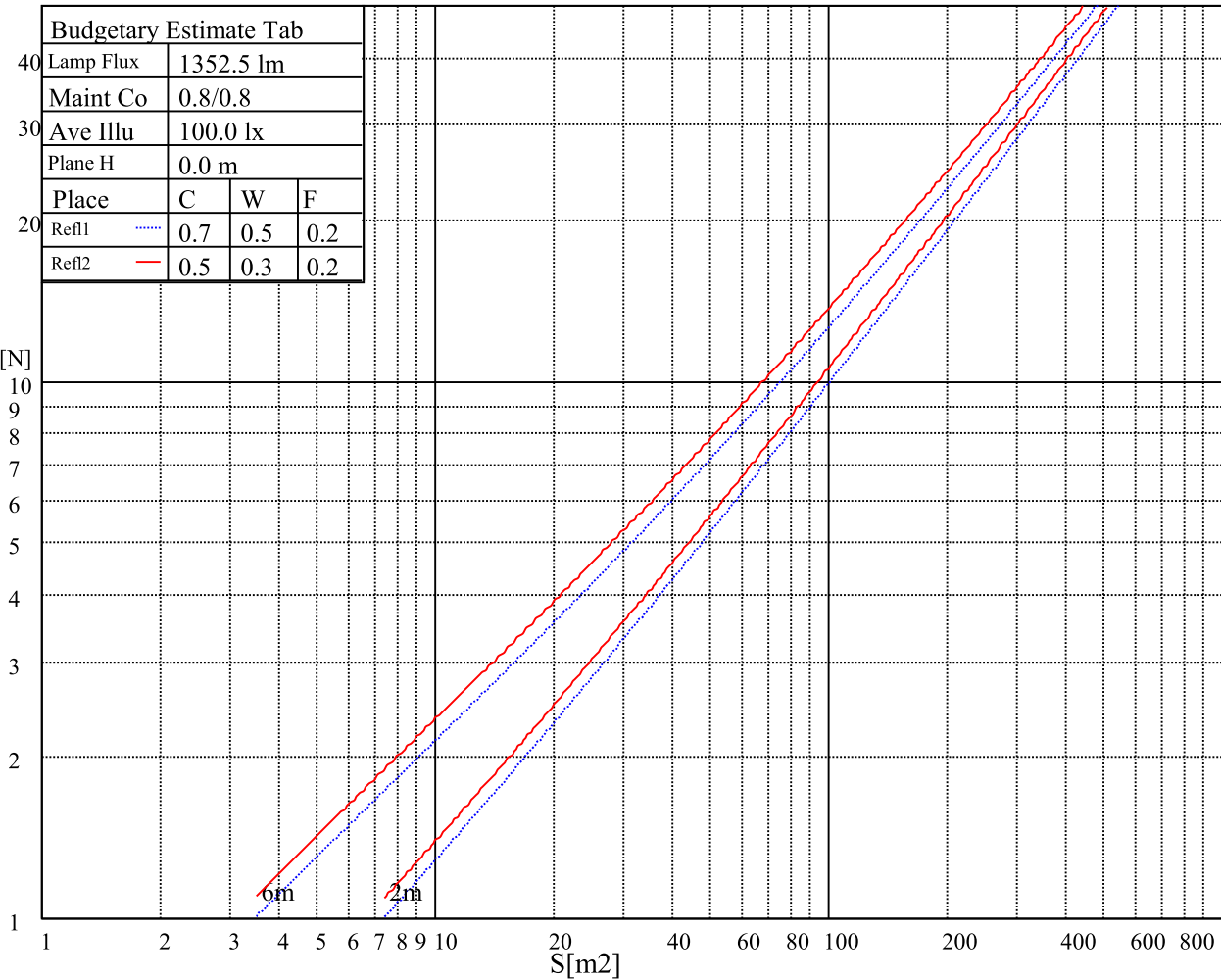
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6087	6087	6087	9111	9111	9111	26308	26308	26308

Glare Table

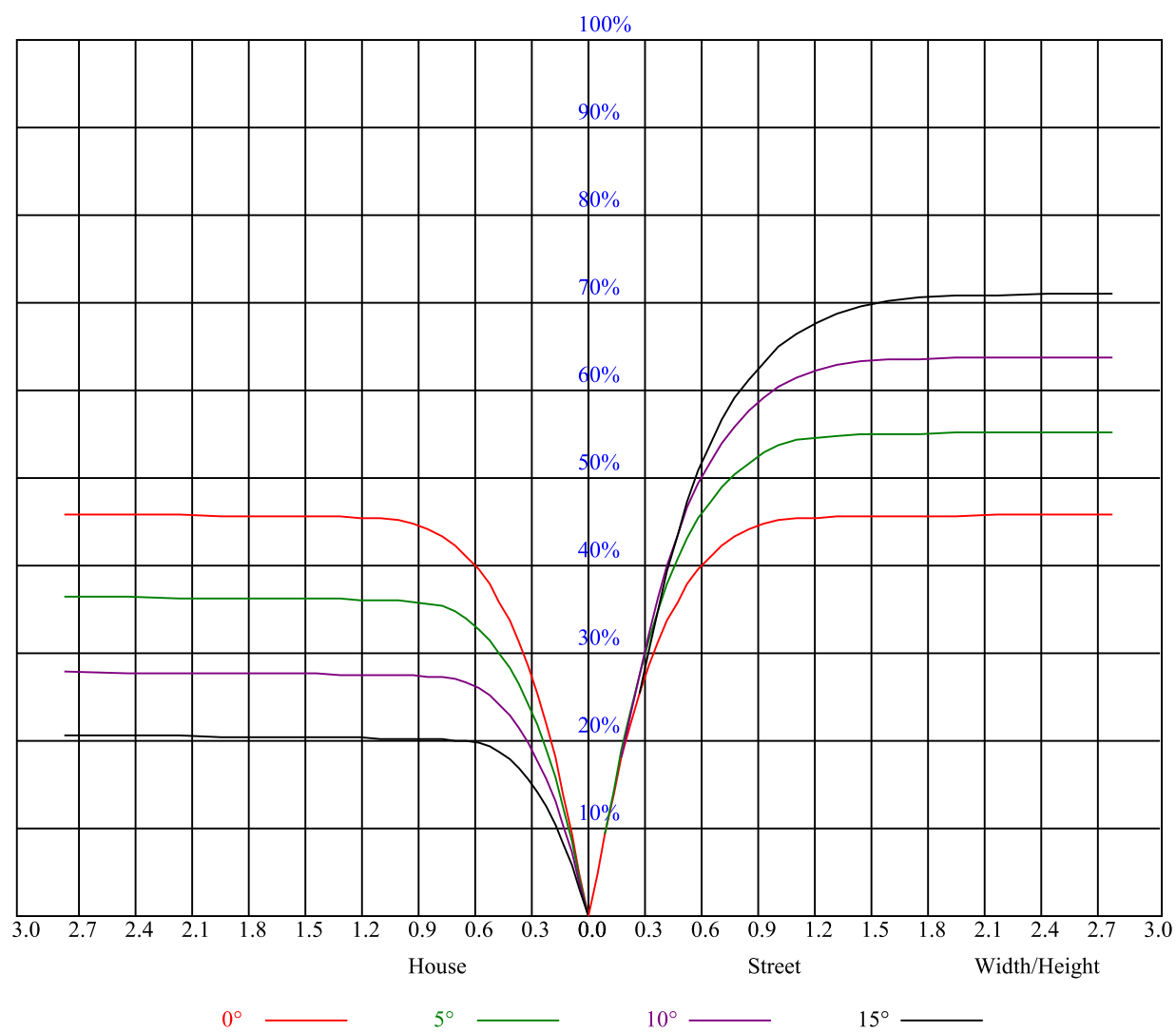
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

 $\gamma(^{\circ})$ 



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	1.10	1.10	1.10	1.08	1.08	1.08	1.03	1.03	1.03	0.99	0.99	0.99	0.95	0.95	0.95	0.93
1	1.02	0.99	0.97	1.00	0.98	0.95	0.96	0.94	0.93	0.93	0.91	0.90	0.89	0.88	0.87	0.85
2	0.95	0.92	0.88	0.94	0.90	0.87	0.91	0.88	0.85	0.88	0.86	0.84	0.85	0.83	0.82	0.80
3	0.89	0.85	0.81	0.88	0.84	0.81	0.86	0.82	0.79	0.84	0.81	0.78	0.81	0.79	0.77	0.76
4	0.84	0.79	0.76	0.83	0.79	0.75	0.81	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.71
5	0.80	0.74	0.71	0.79	0.74	0.70	0.77	0.73	0.70	0.76	0.72	0.69	0.74	0.71	0.68	0.67
6	0.75	0.70	0.66	0.75	0.70	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.71	0.67	0.65	0.64
7	0.71	0.66	0.63	0.71	0.66	0.62	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.61	0.60
8	0.68	0.63	0.59	0.67	0.63	0.59	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.58	0.57
9	0.65	0.60	0.56	0.64	0.60	0.56	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.55
10	0.62	0.57	0.54	0.62	0.57	0.54	0.61	0.56	0.53	0.60	0.56	0.53	0.59	0.56	0.53	0.52



Nata 1-0781-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	2162.62	2098.20	1808.05	1409.99	1071.40	769.69	554.97	447.06	382.64		
45.0	2156.01	2073.42	1769.51	1346.68	1011.94	725.09	534.60	439.35	367.78		
90.0	2172.53	2015.06	1667.11	1192.52	912.34	660.79	499.80	415.13	321.25		
135.0	2170.32	2013.96	1685.83	1270.70	924.95	667.28	507.62	423.93	323.73		
180.0	2162.62	1920.37	1524.51	1085.49	828.76	590.04	476.57	406.70	260.80		
225.0	2156.01	1939.09	1574.61	1097.22	875.62	620.65	487.25	417.93	286.79		
270.0	2172.53	2016.72	1665.46	1305.39	952.48	679.95	527.99	435.50	340.80		
315.0	2170.32	2000.20	1668.21	1272.90	941.19	680.39	511.36	425.04	330.94		
360.0	2162.62	2098.20	1808.05	1409.99	1071.40	769.69	554.97	447.06	382.64		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	233.44	25.27	8.04	6.17	5.56	5.29	5.07	4.90	4.84		
45.0	162.14	21.64	6.94	6.06	5.56	5.29	5.07	4.96	4.90		
90.0	109.62	15.09	7.16	5.89	5.45	5.18	4.96	4.90	4.84		
135.0	112.43	14.59	6.55	5.89	5.45	5.18	4.96	4.90	4.84		
180.0	50.71	10.74	6.33	5.78	5.34	5.12	4.96	4.90	4.84		
225.0	69.37	12.06	6.39	5.73	5.34	5.12	4.96	4.90	4.84		
270.0	131.36	15.20	6.61	5.89	5.45	5.18	5.01	4.84	4.84		
315.0	125.42	15.09	6.66	5.89	5.40	5.12	4.96	4.90	4.84		
360.0	233.44	25.27	8.04	6.17	5.56	5.29	5.07	4.90	4.84		
C/γ(°)	90.0										
0.0	4.84										
45.0	4.84										
90.0	4.84										
135.0	4.79										
180.0	4.84										
225.0	4.84										
270.0	4.79										
315.0	4.84										
360.0	4.84										