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Nata

LumCAT: 1-1063-N
Luminaire: 92.70.361.000
Report No: 220517-B004
Test No: 220517-C004
LampCAT: CREE CMA1516
Lamp flux(lm): 1756.1
Number of Lamps: 1
Length(mm): 43
Phm Type: C

Voltage(V): 35.3500
Current(A): 0.3600
Power (W): 12.7260
PF: 0.0000
Ballast type: DC
Width(mm): 43
Height(mm): 0

Photometric Results

Lumens(lm): 1428.51
Efficiency(%): 81.35%
Lumens(lm)/Power(W): 112.25
Central intensity(cd): 2705.761
Maximum intensity(cd): 2705.761
Angle of maximum intensity: $C=0.0$ $\gamma=0.0$
Beam Angle(50%Imax): [C0/180]Total=44.0
[C90/270]Total=44.0
Field angle(10%Imax): [C0/180]Total=64.2
[C90/270]Total=64.2
Maximum s/h(1/2): C0_180=0.71 C90_270=0.71
Maximum s/h(1/4): C0_180=0.68 C90_270=0.68
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 81.35%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.760%

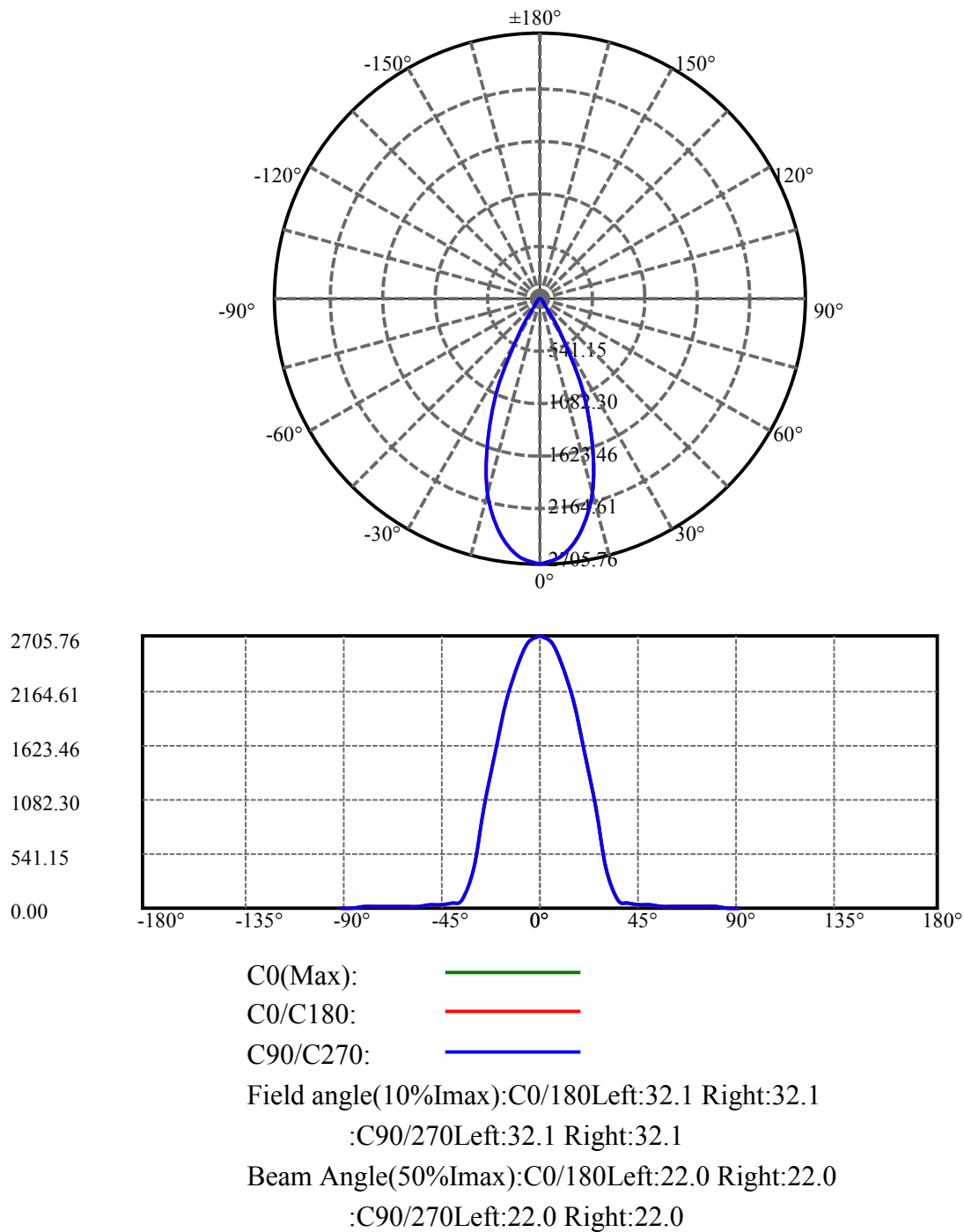
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2705.761	0.000	0	.000%	.000%
5.0	2637.866	63.882	63.882	3.638%	4.472%
10.0	2423.204	181.050	244.932	10.310%	17.146%
15.0	2046.462	265.138	510.07	15.098%	35.706%
20.0	1582.854	299.107	809.176	17.033%	56.645%
25.0	1003.468	271.257	1080.434	15.447%	75.634%
30.0	407.425	178.550	1258.983	10.168%	88.133%
35.0	82.302	72.116	1331.099	4.107%	93.181%
40.0	44.665	21.184	1352.283	1.206%	94.664%
45.0	32.184	14.229	1366.512	.810%	95.660%
50.0	25.500	11.656	1378.168	.664%	96.476%
55.0	20.152	9.926	1388.094	.565%	97.171%
60.0	16.275	8.420	1396.514	.479%	97.760%
65.0	13.310	7.192	1403.706	.410%	98.264%
70.0	11.547	6.294	1410	.358%	98.705%
75.0	10.240	5.695	1415.695	.324%	99.103%
80.0	8.724	5.074	1420.769	.289%	99.458%
85.0	6.872	4.238	1425.007	.241%	99.755%
90.0	5.908	3.499	1428.506	.199%	100.000%

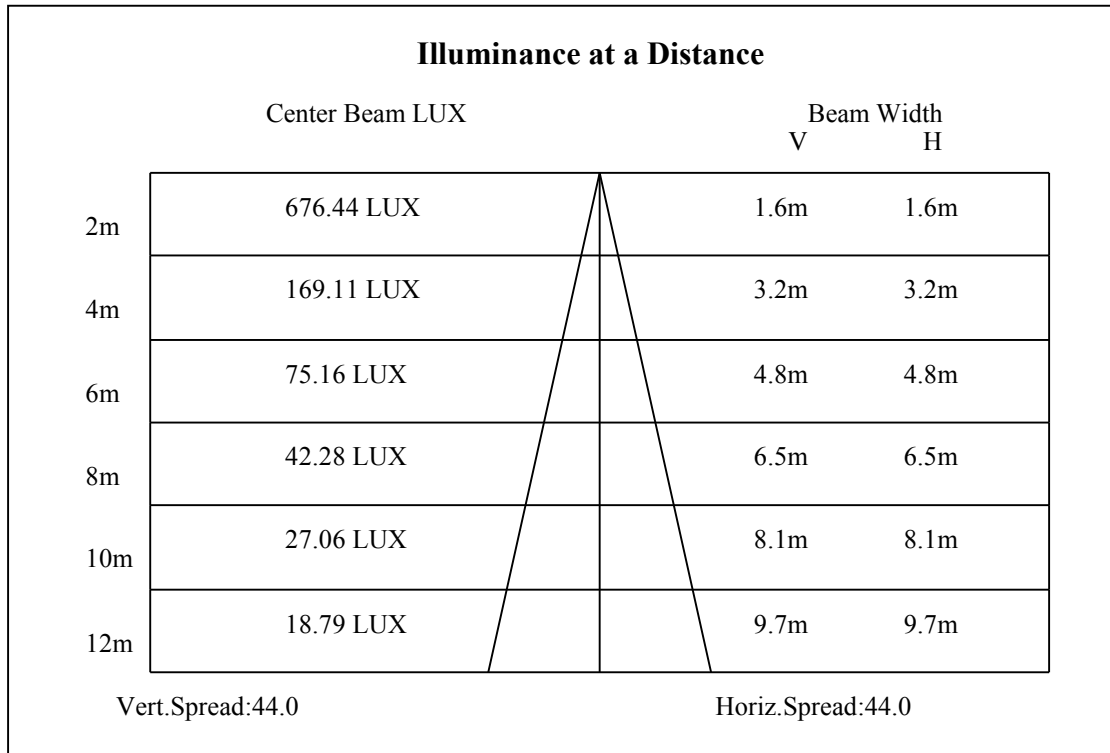
ZONAL LUMEN SUMMARY

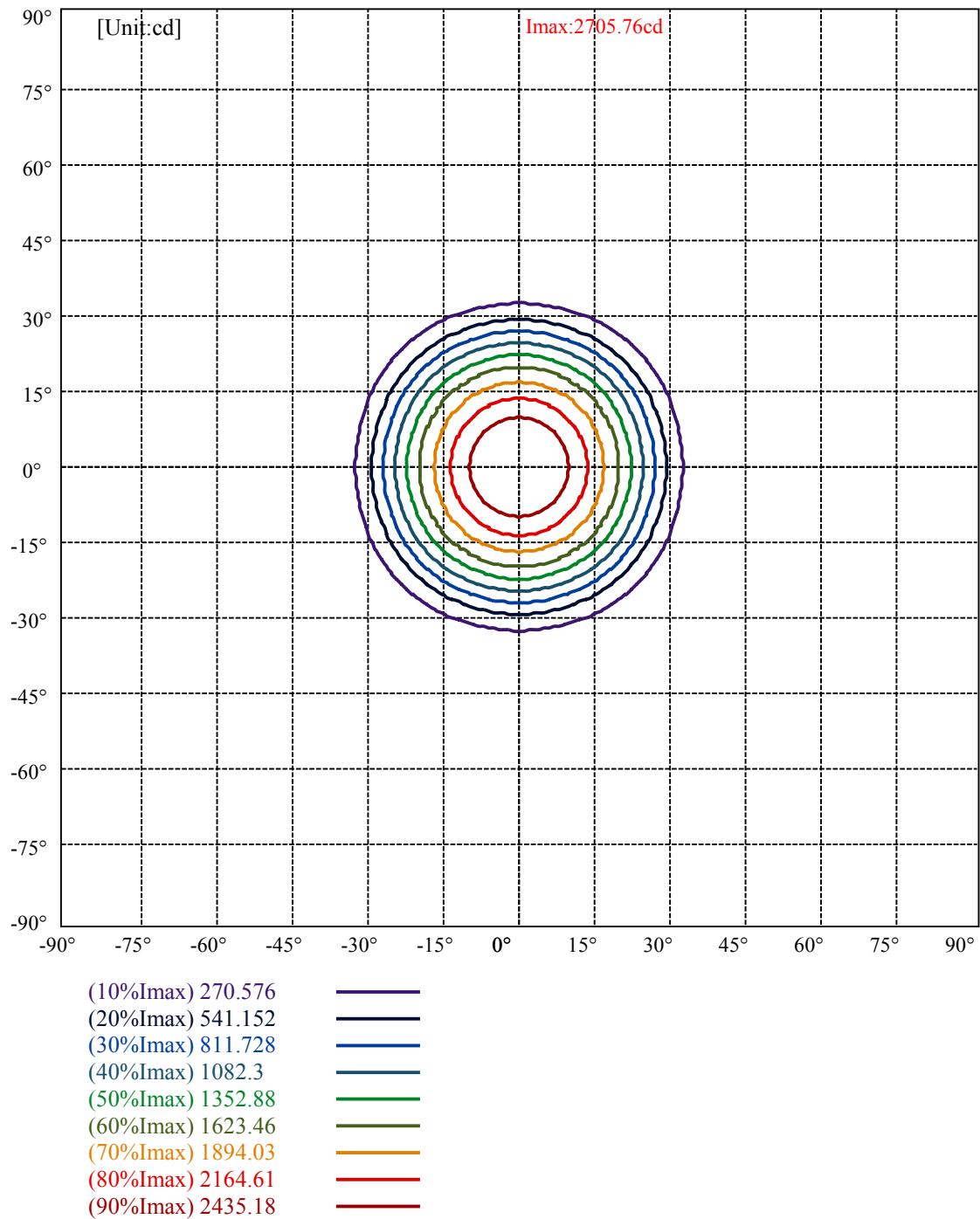
Zone	Lumens	%Lamp	%Fixt
0-30	1258.98	71.69%	88.13%
0-40	1352.28	77.01%	94.66%
0-60	1396.51	79.52%	97.76%
0-90	1425.01	81.15%	99.76%
0-120	1425.01	81.15%	99.76%
0-180	1428.51	81.35%	100.00%
60-90	36.91	2.10%	2.58%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-26.75	1142.81	65.08%	80.00%

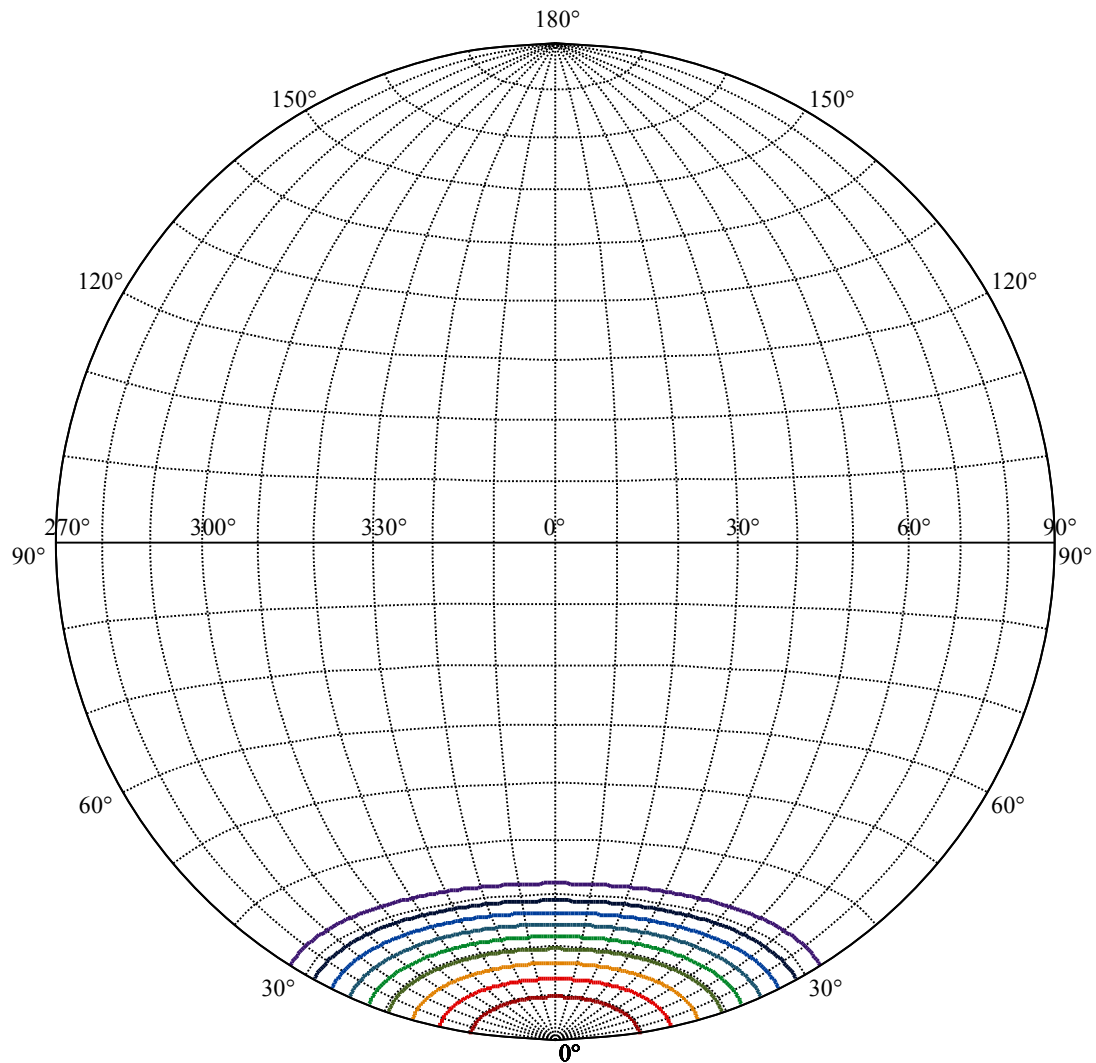
ZONAL LUMEN SUMMARY

0-10	244.93
10-20	564.24
20-30	449.81
30-40	93.30
40-50	25.89
50-60	18.35
60-70	13.49
70-80	10.77
80-90	4.24
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









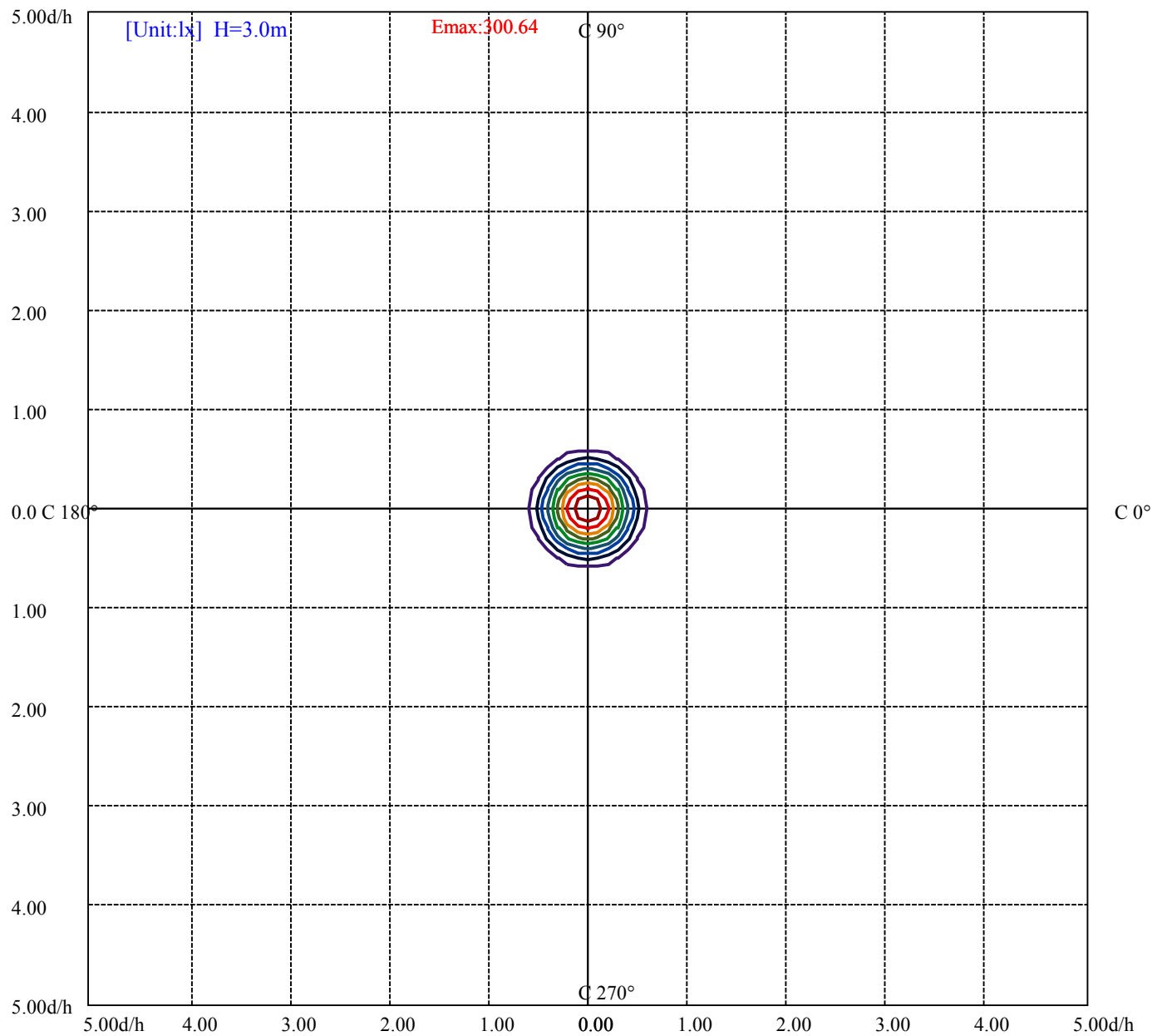
House

[Unit:cd]

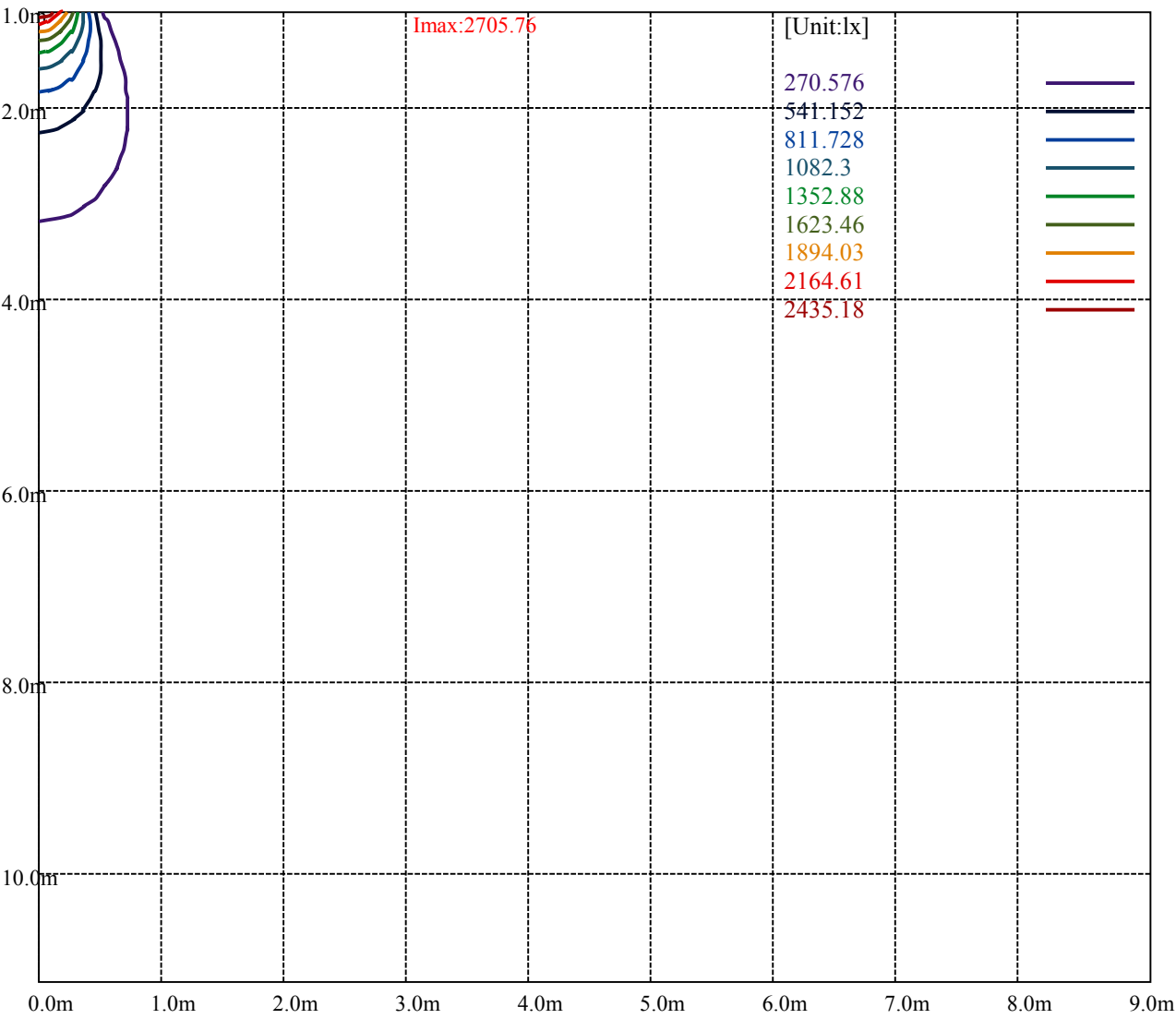
Road

Imax:2705.76

(10%Imax)	270.576	
(20%Imax)	541.152	
(30%Imax)	811.728	
(40%Imax)	1082.3	
(50%Imax)	1352.88	
(60%Imax)	1623.46	
(70%Imax)	1894.03	
(80%Imax)	2164.61	
(90%Imax)	2435.18	



(10%Emax) 30.064	
(20%Emax) 60.128	
(30%Emax) 90.192	
(40%Emax) 120.2556	
(50%Emax) 150.32	
(60%Emax) 180.3844	
(70%Emax) 210.4478	
(80%Emax) 240.5122	
(90%Emax) 270.5756	



Luminance Table

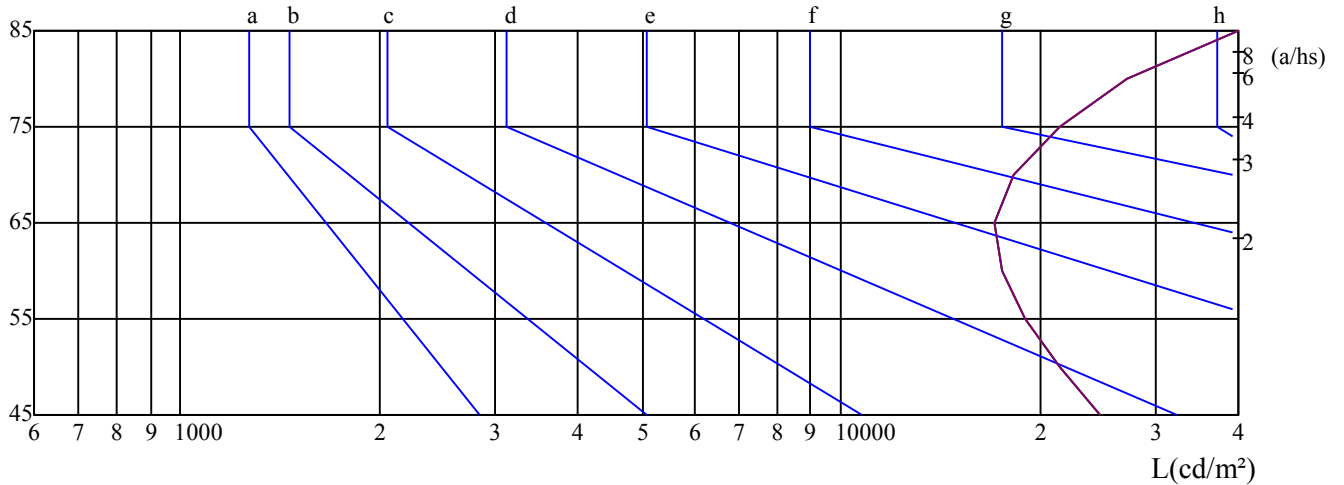
γ	45	50	55	60	65	70	75	80	85
C0	24616	21455	19001	17604	17033	18260	21398	27171	42641
C45	24616	21455	19001	17604	17033	18260	21398	27171	42641
C90	24616	21455	19001	17604	17033	18260	21398	27171	42641

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
17033	17033	17033	21398	21398	21398	42641	42641	42641

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

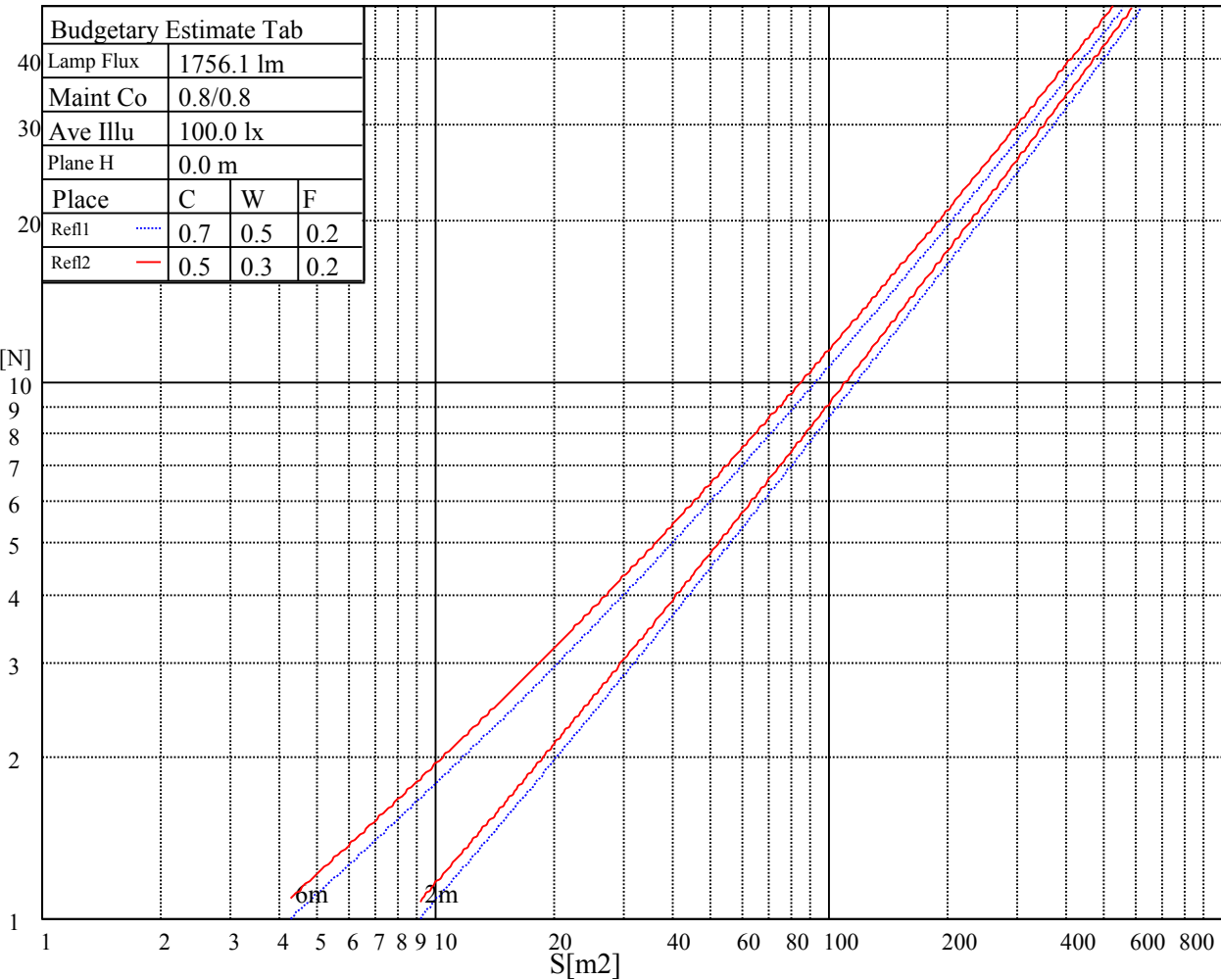
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

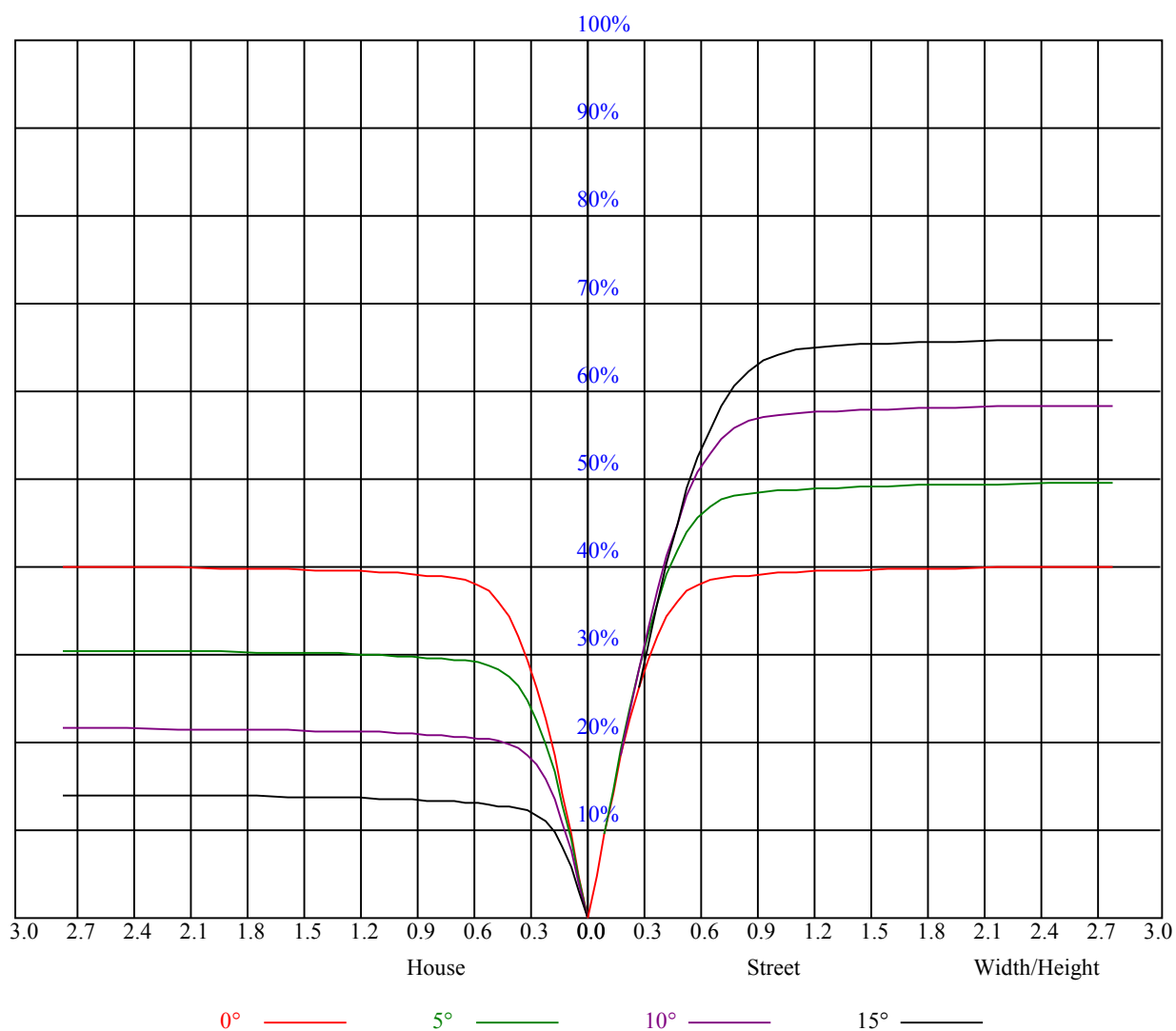
C0 ———

C45 ———

C90 ———



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 RHOFC=20 CU															
0	0.97	0.97	0.97	0.95	0.95	0.95	0.90	0.90	0.90	0.87	0.87	0.87	0.83	0.83	0.83	0.81
1	0.90	0.89	0.87	0.89	0.87	0.85	0.85	0.84	0.83	0.82	0.81	0.80	0.80	0.79	0.78	0.77
2	0.85	0.82	0.79	0.84	0.81	0.78	0.81	0.79	0.77	0.79	0.77	0.75	0.76	0.75	0.74	0.72
3	0.80	0.76	0.74	0.79	0.76	0.73	0.77	0.74	0.72	0.75	0.73	0.71	0.73	0.71	0.70	0.68
4	0.76	0.72	0.69	0.75	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.70	0.68	0.66	0.65
5	0.72	0.68	0.65	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.67	0.65	0.63	0.62
6	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.60	0.65	0.62	0.60	0.59
7	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.62	0.59	0.57	0.56
8	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.60	0.57	0.54	0.53
9	0.60	0.56	0.53	0.59	0.55	0.53	0.59	0.55	0.52	0.58	0.55	0.52	0.57	0.54	0.52	0.51
10	0.57	0.53	0.50	0.57	0.53	0.50	0.56	0.53	0.50	0.56	0.52	0.50	0.55	0.52	0.50	0.49



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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	2699.04	2660.20	2463.01	2127.20	1683.24	1109.61	497.74	98.41	47.92		
45.0	2712.18	2624.35	2410.43	2020.25	1532.06	968.59	369.87	71.52	42.54		
90.0	2707.40	2618.37	2361.43	1977.82	1462.75	864.98	307.97	64.35	39.08		
135.0	2704.42	2642.87	2441.50	2058.49	1598.99	1011.02	415.88	83.30	44.04		
180.0	2699.04	2605.82	2360.84	1958.10	1469.92	878.61	295.66	70.45	41.89		
225.0	2712.18	2653.63	2463.61	2091.95	1633.64	1075.55	462.55	89.21	46.19		
270.0	2707.40	2666.17	2482.14	2129.59	1717.30	1143.67	527.62	99.61	50.79		
315.0	2704.42	2631.52	2402.66	2008.29	1564.93	975.71	382.12	81.56	44.87		
360.0	2699.04	2660.20	2463.01	2127.20	1683.24	1109.61	497.74	98.41	47.92		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	33.76	26.71	21.09	16.91	13.68	11.83	10.40	9.02	6.93		
45.0	31.07	24.74	19.60	16.07	13.09	11.35	10.04	8.60	6.63		
90.0	29.28	23.72	18.82	15.24	12.67	11.11	9.92	8.48	6.57		
135.0	31.37	25.16	19.96	16.13	13.32	11.59	10.28	8.72	6.69		
180.0	30.59	24.56	19.36	15.66	12.97	11.41	10.16	8.25	6.63		
225.0	34.00	26.47	20.85	16.91	13.80	11.83	10.58	9.08	7.29		
270.0	35.07	27.01	21.33	17.03	13.74	11.83	10.46	9.08	7.23		
315.0	32.33	25.63	20.20	16.25	13.21	11.41	10.10	8.54	6.99		
360.0	33.76	26.71	21.09	16.91	13.68	11.83	10.40	9.02	6.93		
C/γ(°)	90.0										
0.0	5.86										
45.0	5.98										
90.0	5.92										
135.0	5.80										
180.0	5.80										
225.0	6.09										
270.0	5.98										
315.0	5.86										
360.0	5.86										