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Nata

LumCAT: 2-1284-N
Luminaire: 92.70.044.00
Report No: NATA0100
Test No: GC2018070621
LampCAT: NICHIA NTCWT012B-V3
Lamp flux(lm): 756.0
Number of Lamps: 1
Length(mm): 57
Phm Type: C

Voltage(V): 38.5000
Current(A): 0.2000
Power (W): 7.7000
PF: 0.0000
Ballast type: DC
Width(mm): 57
Height(mm): 0

Photometric Results

Lumens(lm): 625.80
Efficiency(%): 82.78%
Lumens(lm)/Power(W): 83.23
Central intensity(cd): 2615.454
Maximum intensity(cd): 2615.454
Angle of maximum intensity: $C=0.0$ $\gamma=0.0$
Beam Angle(50%Imax): [C0/180]Total=20.1
[C90/270]Total=20.1
Field angle(10%Imax): [C0/180]Total=54.8
[C90/270]Total=54.8
Maximum s/h(1/2): C0_180=0.34 C90_270=0.34
Maximum s/h(1/4): C0_180=0.39 C90_270=0.39
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 84.77%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.588%

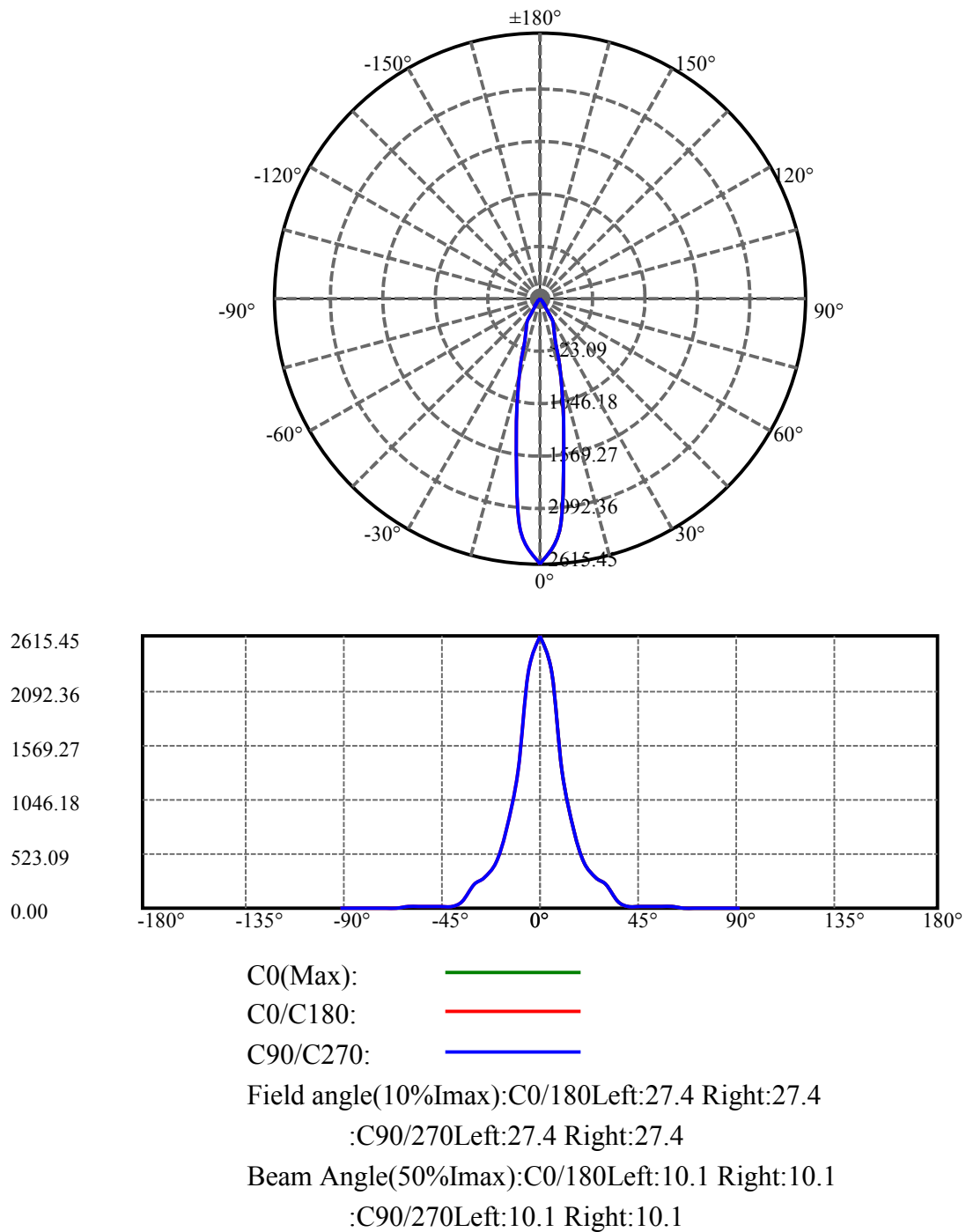
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2615.454	15.641	15.641	2.069%	2.499%
5.0	2251.119	107.543	123.184	14.225%	19.684%
10.0	1315.641	125.227	248.411	16.564%	39.695%
15.0	749.166	106.283	354.694	14.059%	56.678%
20.0	445.991	83.612	438.306	11.060%	70.039%
25.0	298.433	69.133	507.439	9.145%	81.086%
30.0	222.263	60.915	568.354	8.058%	90.820%
35.0	63.542	19.978	588.332	2.643%	94.012%
40.0	18.520	6.525	594.857	.863%	95.055%
45.0	12.684	4.916	599.773	.650%	95.840%
50.0	10.853	4.557	604.33	.603%	96.569%
55.0	9.773	4.388	608.718	.580%	97.270%
60.0	8.128	3.858	612.576	.510%	97.886%
65.0	6.607	3.282	615.858	.434%	98.411%
70.0	5.437	2.800	618.659	.370%	98.858%
75.0	4.425	2.343	621.002	.310%	99.233%
80.0	3.909	2.110	623.112	.279%	99.570%
85.0	3.462	1.890	625.002	.250%	99.872%
90.0	2.925	0.802	625.804	.106%	100.000%

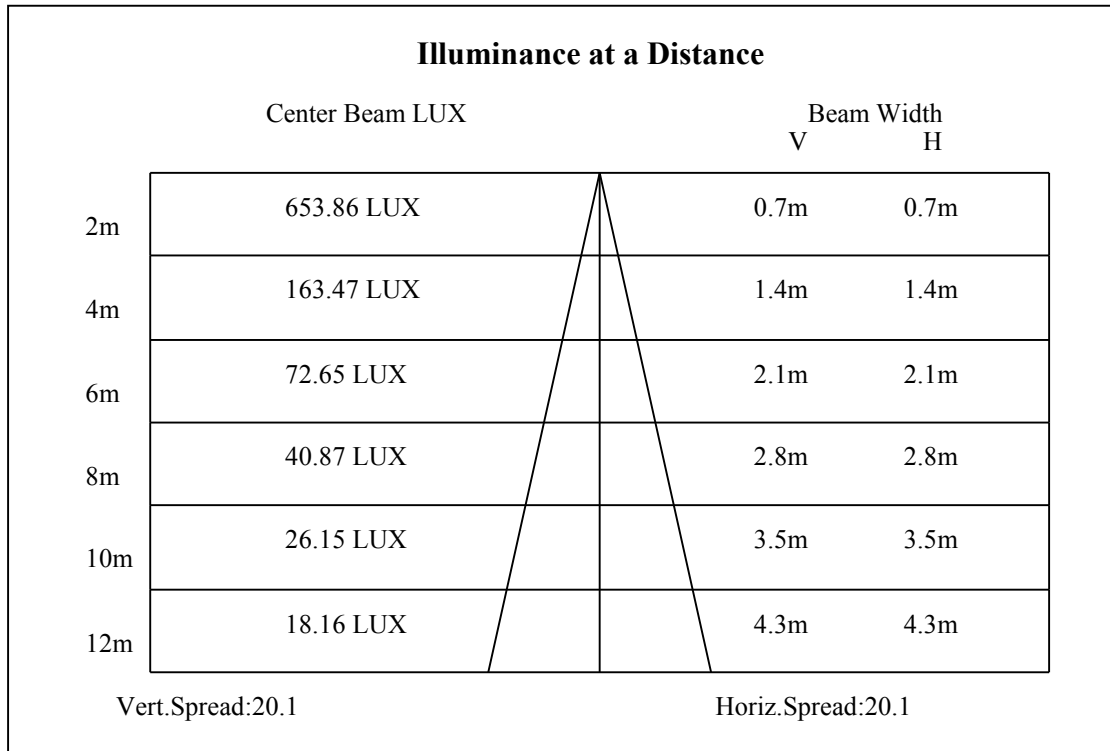
ZONAL LUMEN SUMMARY

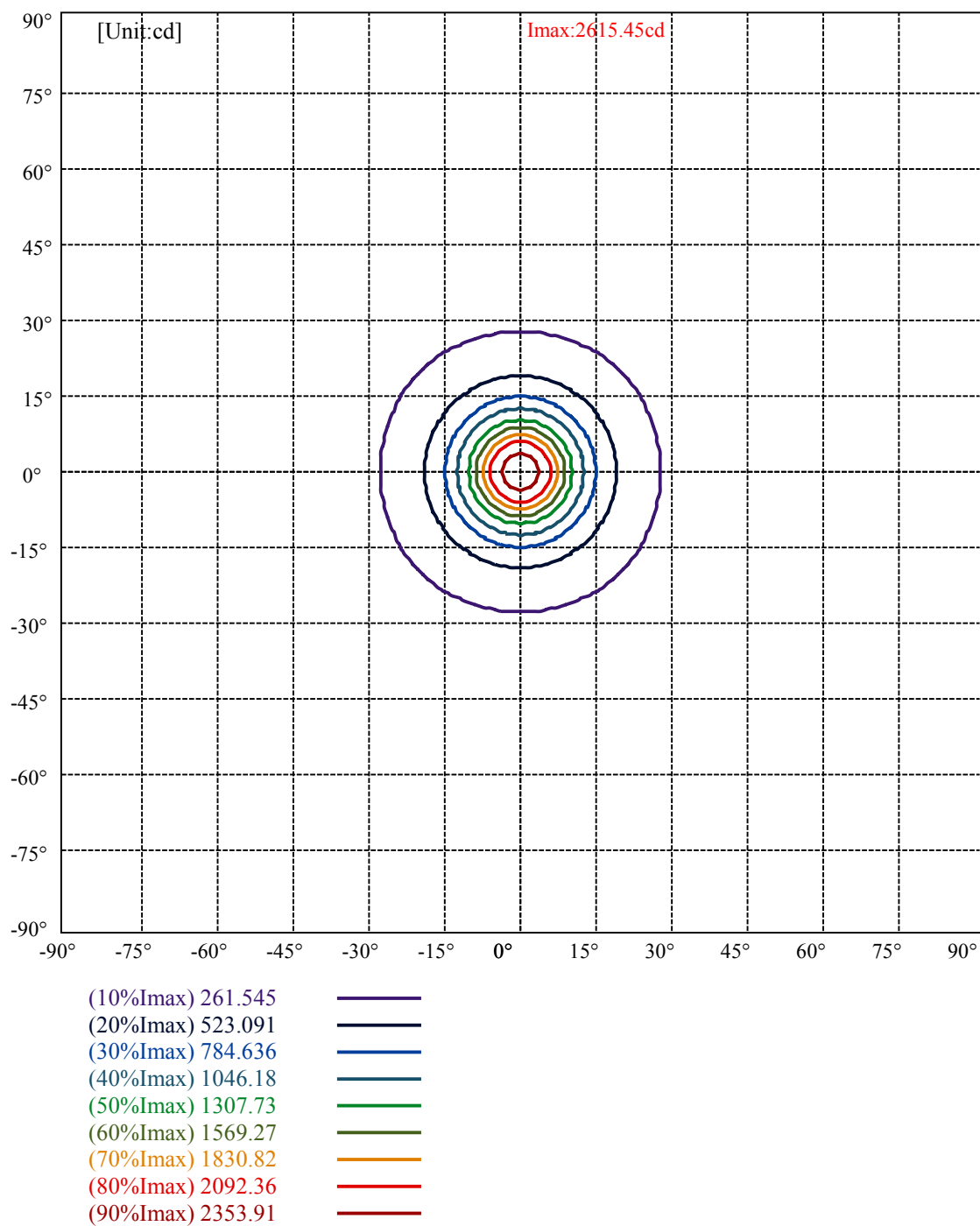
Zone	Lumens	%Lamp	%Fixt
0-30	568.35	75.18%	90.82%
0-40	594.86	78.68%	95.05%
0-60	612.58	81.03%	97.89%
0-90	625.00	82.67%	99.87%
0-120	625.00	82.67%	99.87%
0-180	625.80	82.78%	100.00%
60-90	16.28	2.15%	2.60%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-24.51	500.64	66.22%	80.00%

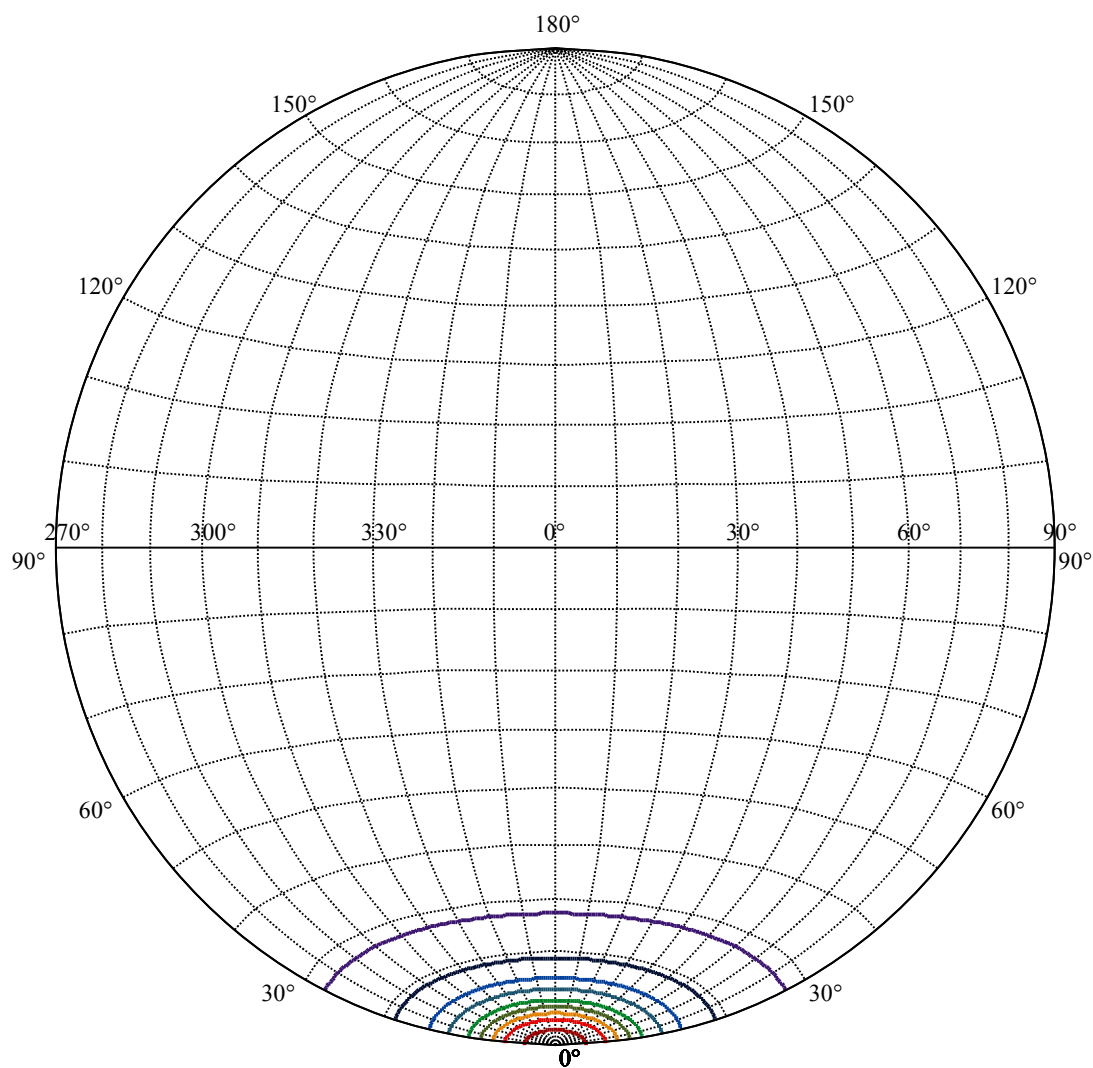
ZONAL LUMEN SUMMARY

0-10	248.41
10-20	189.89
20-30	130.05
30-40	26.50
40-50	9.47
50-60	8.25
60-70	6.08
70-80	4.45
80-90	1.89
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









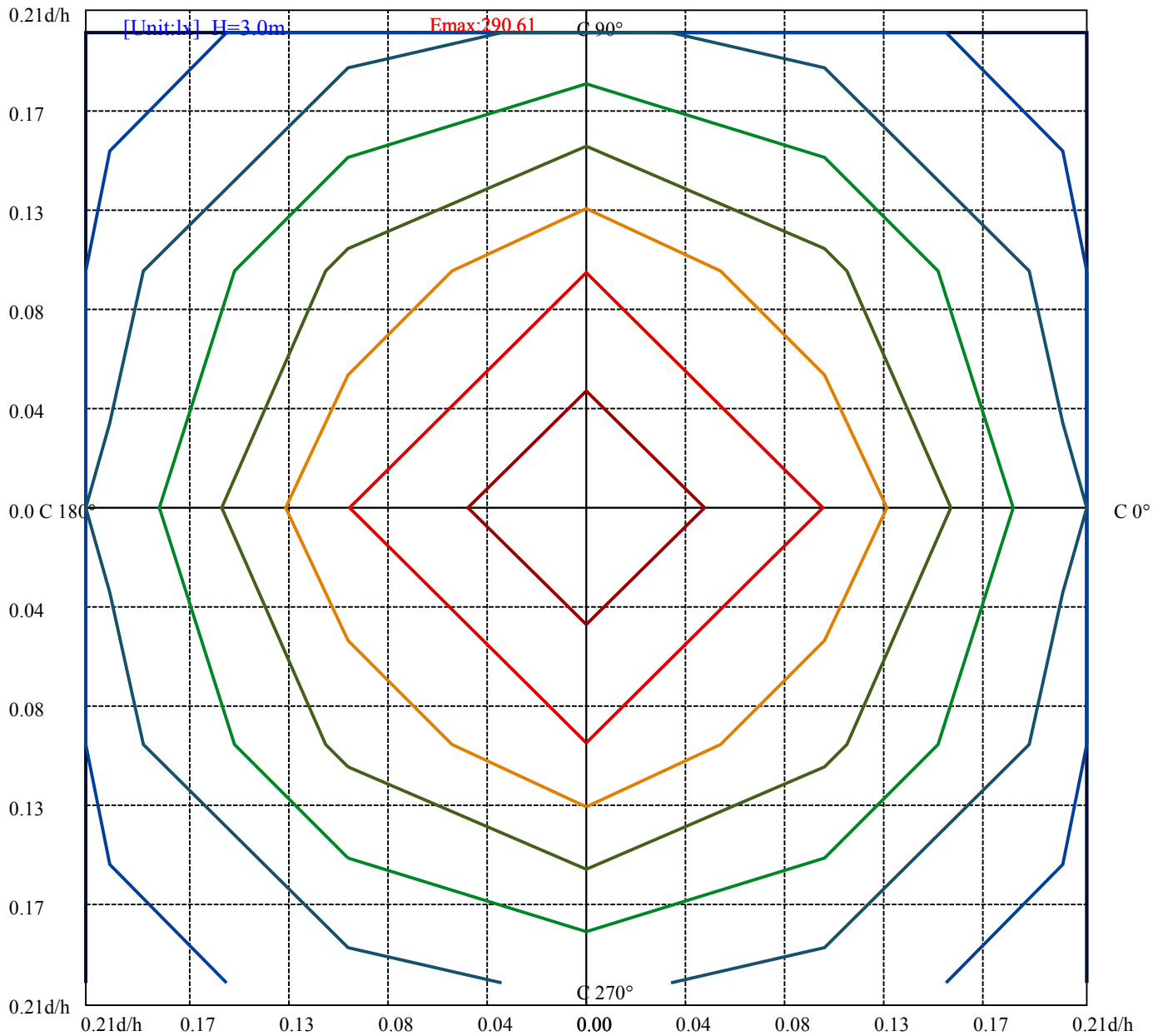
House

[Unit:cd]

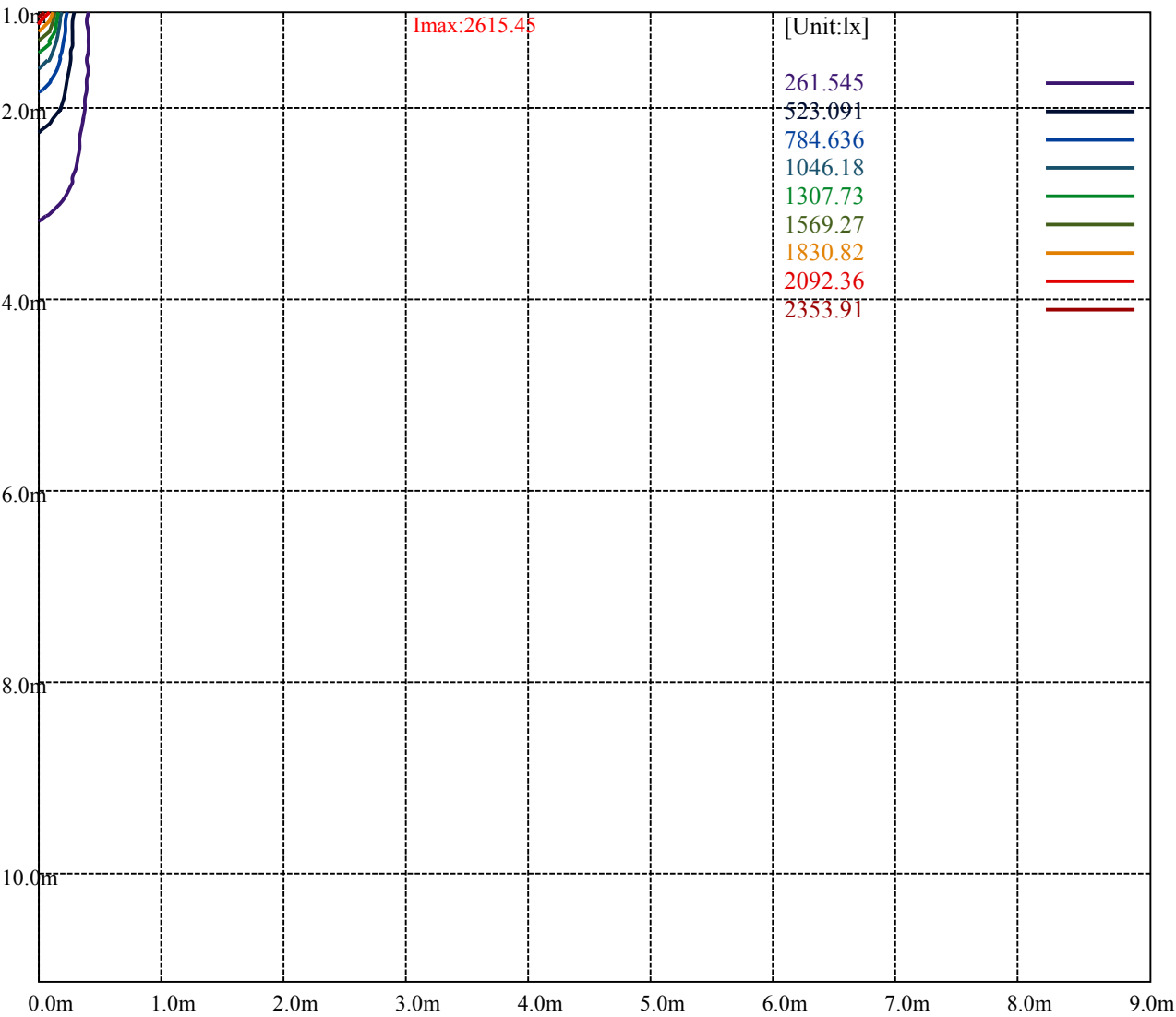
Road

Imax:2615.45

(10%Imax)	261.545	—
(20%Imax)	523.091	—
(30%Imax)	784.636	—
(40%Imax)	1046.18	—
(50%Imax)	1307.73	—
(60%Imax)	1569.27	—
(70%Imax)	1830.82	—
(80%Imax)	2092.36	—
(90%Imax)	2353.91	—



(10%Emax) 29.06045	
(20%Emax) 58.121	
(30%Emax) 87.18144	
(40%Emax) 116.2422	
(50%Emax) 145.3022	
(60%Emax) 174.3633	
(70%Emax) 203.4233	
(80%Emax) 232.4833	
(90%Emax) 261.5444	



Luminance Table

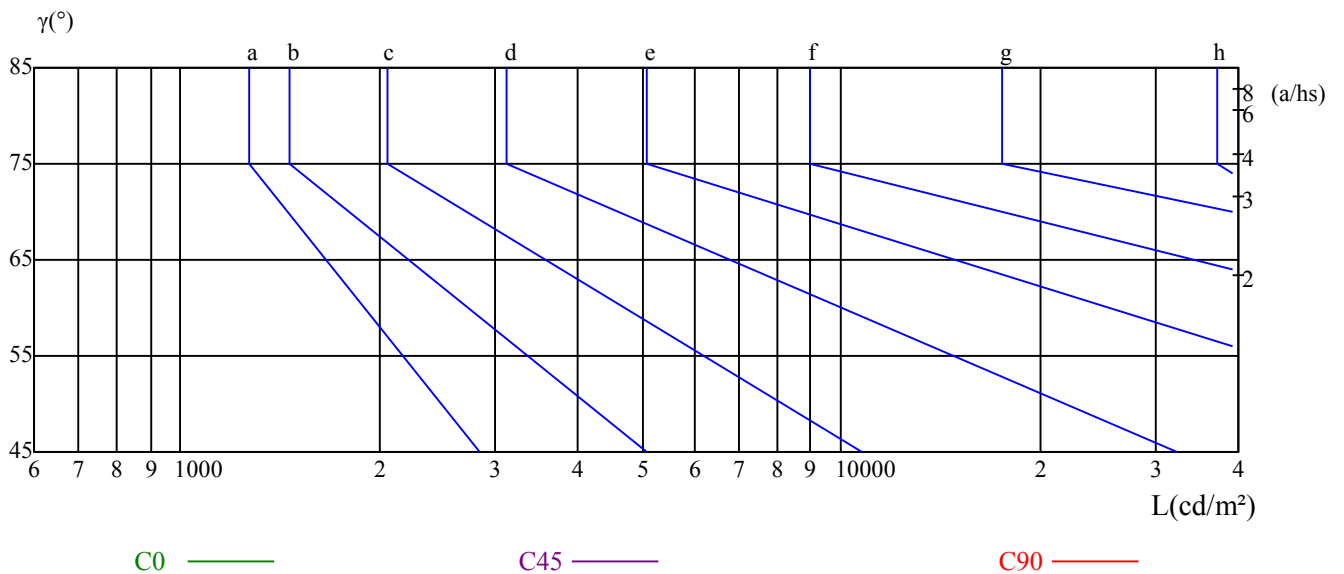
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

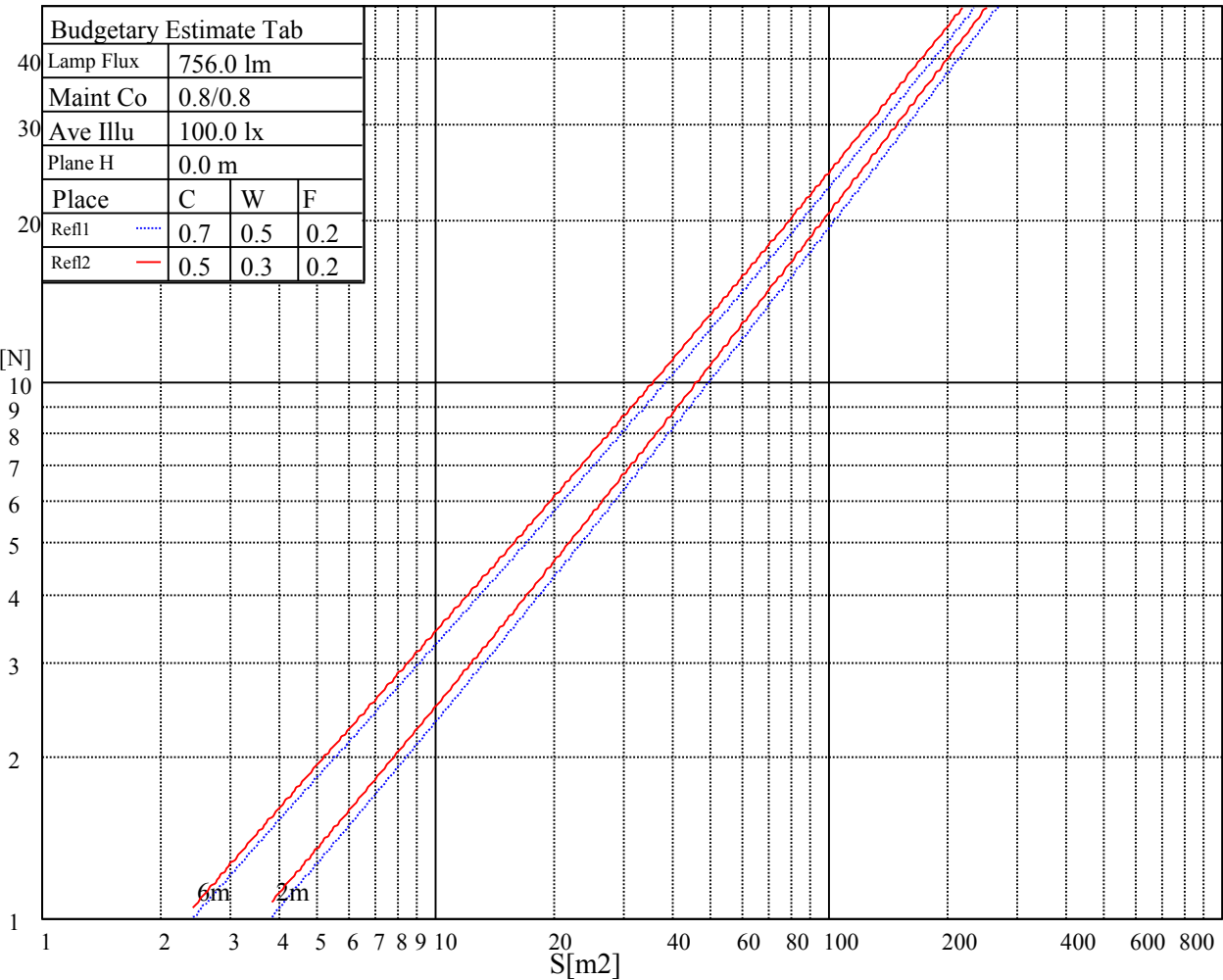
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

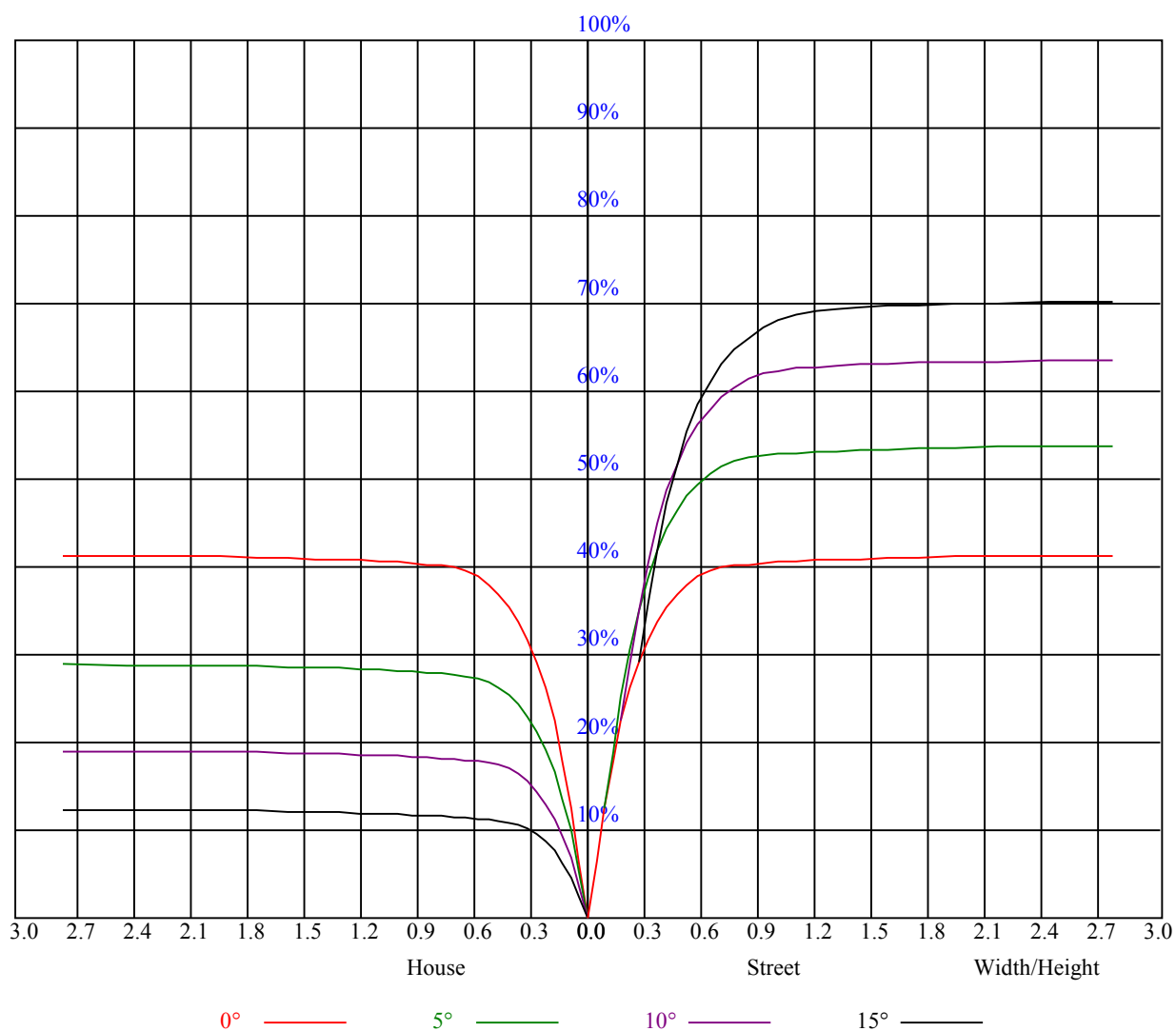
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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	1.01	1.01	1.01	0.99	0.99	0.99	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.85
1	0.92	0.90	0.88	0.90	0.88	0.86	0.87	0.85	0.83	0.84	0.82	0.81	0.81	0.80	0.79	0.77
2	0.87	0.84	0.81	0.86	0.83	0.80	0.83	0.81	0.78	0.81	0.79	0.77	0.78	0.77	0.75	0.74
3	0.83	0.79	0.76	0.82	0.78	0.76	0.80	0.77	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.71
4	0.80	0.75	0.72	0.79	0.75	0.72	0.77	0.74	0.71	0.75	0.72	0.70	0.74	0.71	0.69	0.68
5	0.76	0.72	0.69	0.76	0.72	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.66
6	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.69	0.67	0.65	0.64
7	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.68	0.65	0.63	0.62
8	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.60
9	0.66	0.62	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.58
10	0.64	0.61	0.58	0.64	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.62	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	2607.47	2059.66	1251.98	696.46	417.33	294.55	215.82	38.37	17.73		
45.0	2647.66	2103.15	1198.03	663.98	411.27	280.24	198.70	36.12	15.75		
90.0	2581.04	1954.50	964.09	557.89	349.94	246.27	156.25	24.06	15.42		
135.0	2625.64	2297.50	1271.80	736.10	438.25	301.71	233.77	57.97	16.90		
180.0	2607.47	2367.43	1475.51	814.39	486.75	322.58	245.88	77.35	18.22		
225.0	2647.66	2463.77	1538.83	879.64	513.95	326.04	252.21	92.11	21.31		
270.0	2581.04	2555.17	1743.64	921.09	515.88	309.42	232.06	131.14	25.00		
315.0	2625.64	2207.76	1081.25	723.77	434.56	306.66	243.40	51.20	17.84		
360.0	2607.47	2059.66	1251.98	696.46	417.33	294.55	215.82	38.37	17.73		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	11.78	10.08	9.14	7.93	6.44	5.12	4.35	3.80	3.41		
45.0	11.29	10.46	9.14	7.54	6.17	4.96	4.18	3.63	3.25		
90.0	11.89	10.63	9.08	7.21	5.95	4.73	4.13	3.58	3.14		
135.0	12.28	10.79	10.19	8.15	6.55	5.34	4.57	4.02	3.52		
180.0	12.44	10.02	9.19	8.15	6.83	5.95	4.62	4.24	3.85		
225.0	13.32	10.96	9.97	8.42	6.94	6.06	4.51	4.02	3.69		
270.0	15.58	12.44	10.85	9.08	7.32	6.06	4.62	4.13	3.47		
315.0	12.88	11.45	10.63	8.53	6.66	5.29	4.40	3.85	3.36		
360.0	11.78	10.08	9.14	7.93	6.44	5.12	4.35	3.80	3.41		
C/γ(°)	90.0										
0.0	2.81										
45.0	2.81										
90.0	2.81										
135.0	2.92										
180.0	3.08										
225.0	3.08										
270.0	2.97										
315.0	2.92										
360.0	2.81										