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Nata

LumCAT: 3-2044-M
Luminaire: 92.70.135.00
Report No: NATA0100
Test No: GC2018062611
LampCAT: NICHIA NFCWJ120B-V3
Lamp flux(lm): 2252.0
Number of Lamps: 1
Length(mm): 84
Phm Type: C

Voltage(V): 33.5000
Current(A): 0.5000
Power (W): 16.7500
PF: 0.0000
Ballast type: DC
Width(mm): 84
Height(mm): 0

Photometric Results

Lumens(lm): 2011.97
Efficiency(%): 89.34%
Lumens(lm)/Power(W): 120.12
Central intensity(cd): 4846.477
Maximum intensity(cd): 4846.477
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=34.1
[C90/270]Total=34.1
Field angle(10%Imax): [C0/180]Total=68.1
[C90/270]Total=68.1
Maximum s/h(1/2): C0_180=0.55 C90_270=0.55
Maximum s/h(1/4): C0_180=0.58 C90_270=0.58
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.54%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.382%

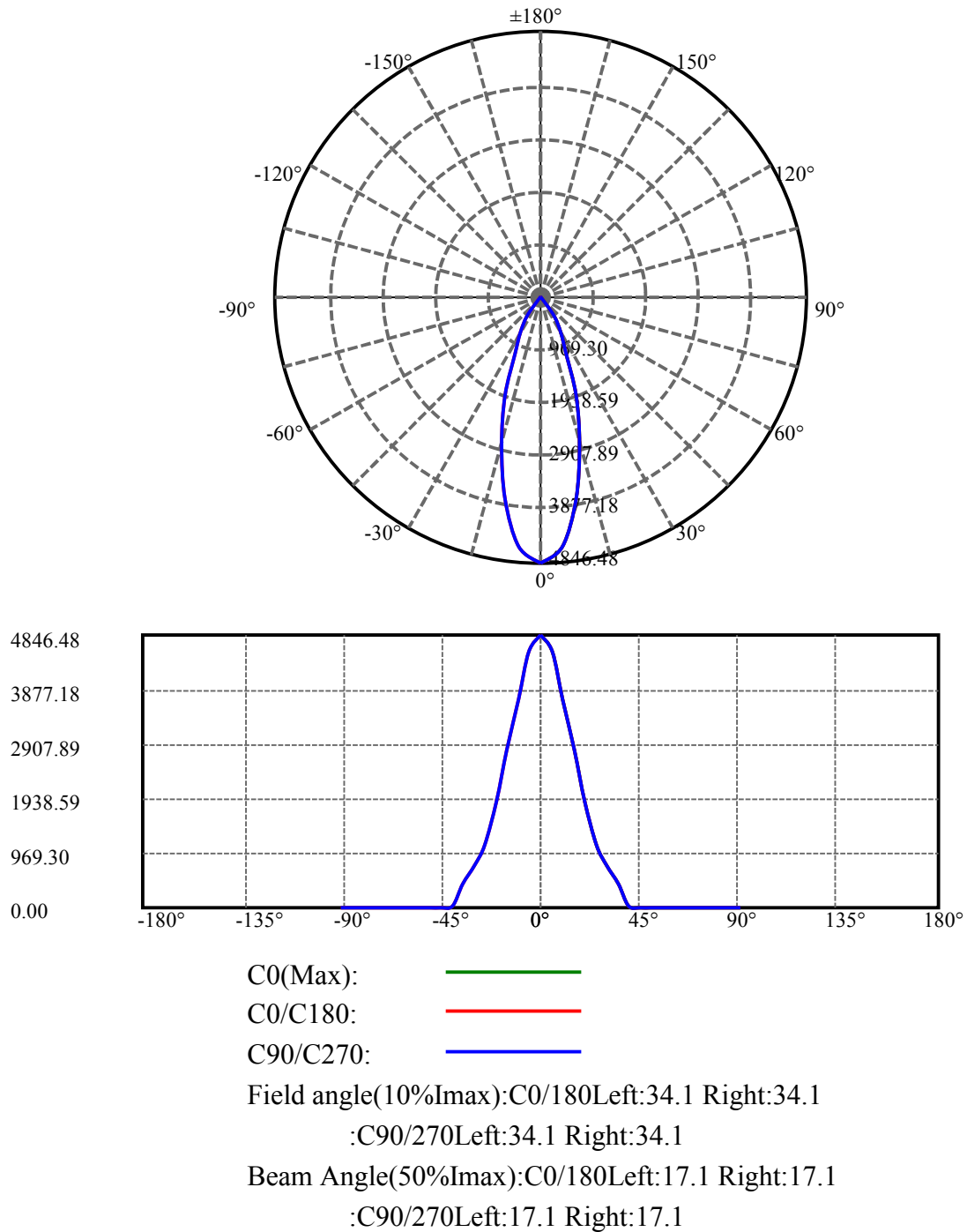
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4846.477	28.983	28.983	1.287%	1.441%
5.0	4552.338	217.480	246.463	9.657%	12.250%
10.0	3716.169	353.716	600.18	15.707%	29.830%
15.0	2791.291	395.996	996.176	17.584%	49.512%
20.0	1895.592	355.374	1351.55	15.780%	67.176%
25.0	1126.853	261.039	1612.589	11.591%	80.150%
30.0	762.283	208.918	1821.507	9.277%	90.534%
35.0	420.094	132.077	1953.584	5.865%	97.098%
40.0	39.978	14.086	1967.669	.625%	97.798%
45.0	11.624	4.505	1972.174	.200%	98.022%
50.0	10.557	4.433	1976.607	.197%	98.242%
55.0	9.979	4.481	1981.088	.199%	98.465%
60.0	9.635	4.574	1985.662	.203%	98.693%
65.0	9.360	4.650	1990.311	.206%	98.924%
70.0	9.188	4.732	1995.044	.210%	99.159%
75.0	9.043	4.788	1999.832	.213%	99.397%
80.0	8.967	4.841	2004.672	.215%	99.637%
85.0	8.912	4.867	2009.539	.216%	99.879%
90.0	8.864	2.429	2011.968	.108%	100.000%

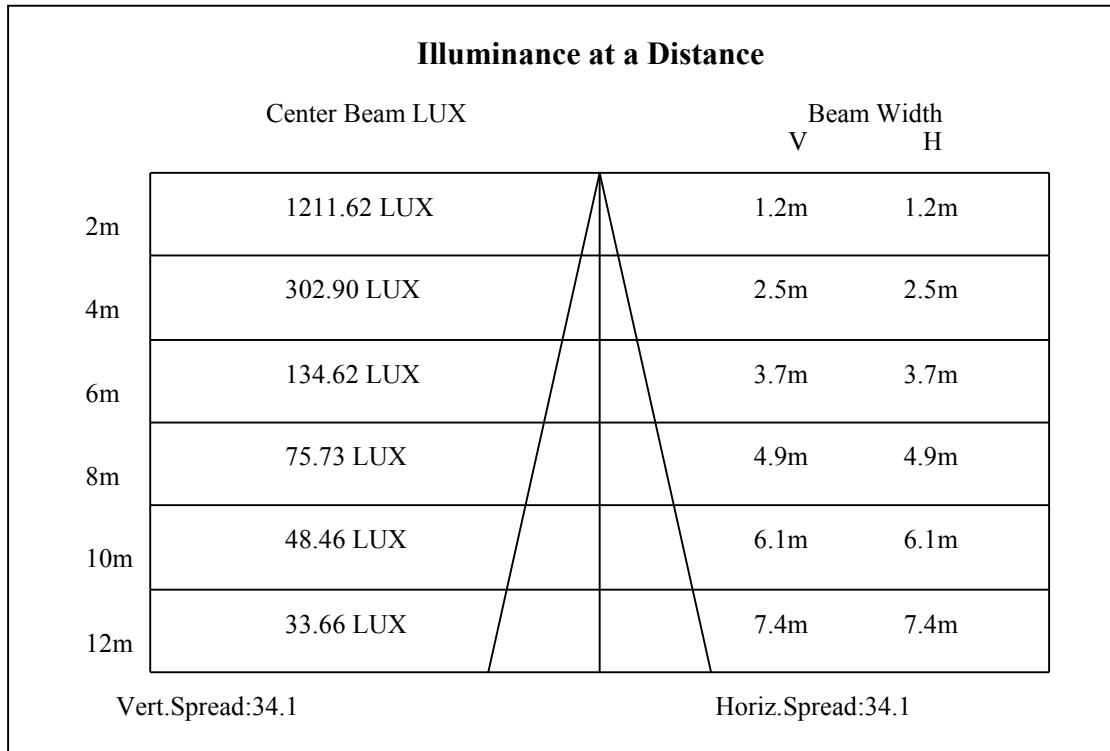
ZONAL LUMEN SUMMARY

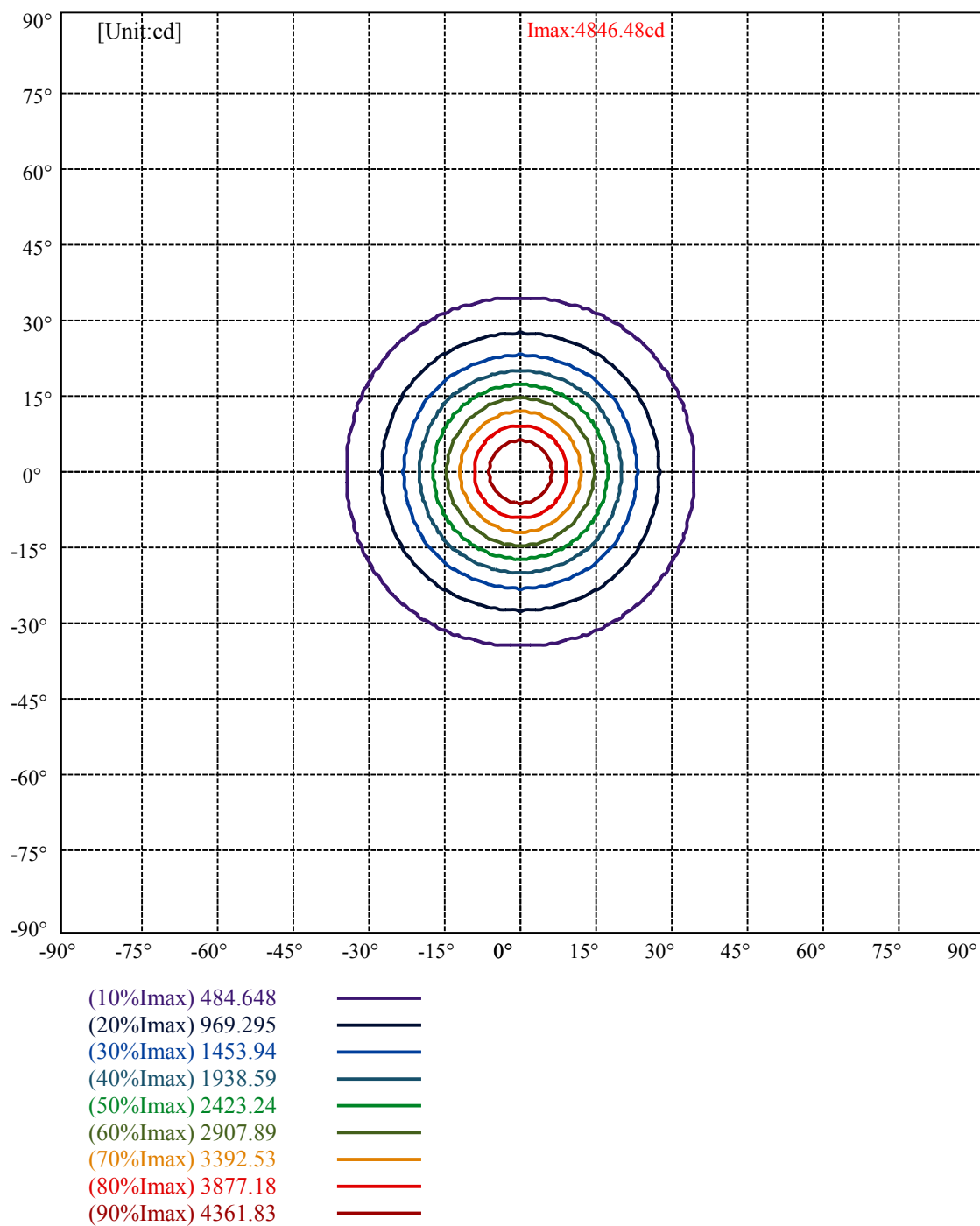
Zone	Lumens	%Lamp	%Fixt
0-30	1821.51	80.88%	90.53%
0-40	1967.67	87.37%	97.80%
0-60	1985.66	88.17%	98.69%
0-90	2009.54	89.23%	99.88%
0-120	2009.54	89.23%	99.88%
0-180	2011.97	89.34%	100.00%
60-90	28.45	1.26%	1.41%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-24.94	1609.57	71.47%	80.00%

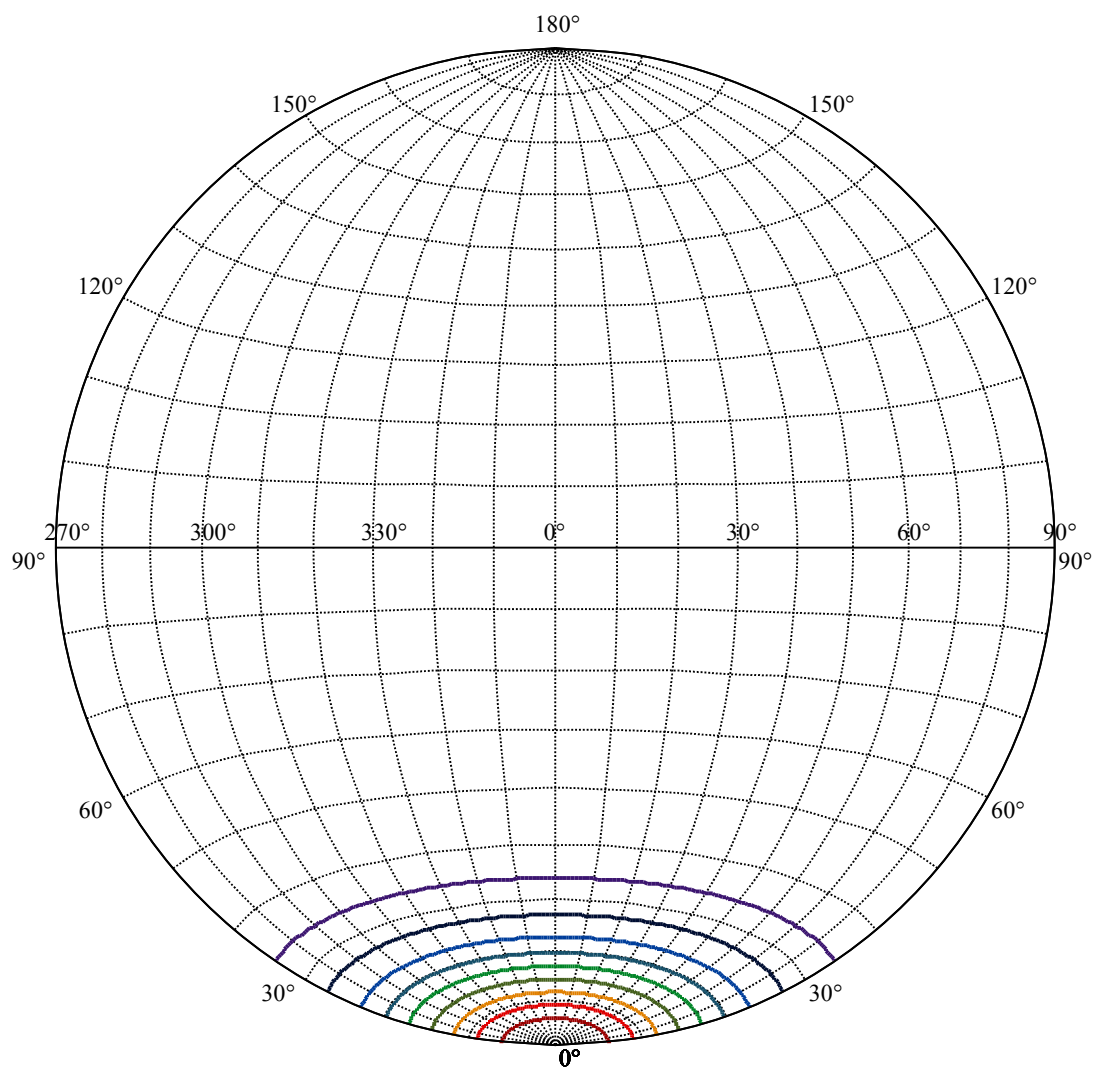
ZONAL LUMEN SUMMARY

0-10	600.18
10-20	751.37
20-30	469.96
30-40	146.16
40-50	8.94
50-60	9.05
60-70	9.38
70-80	9.63
80-90	4.87
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









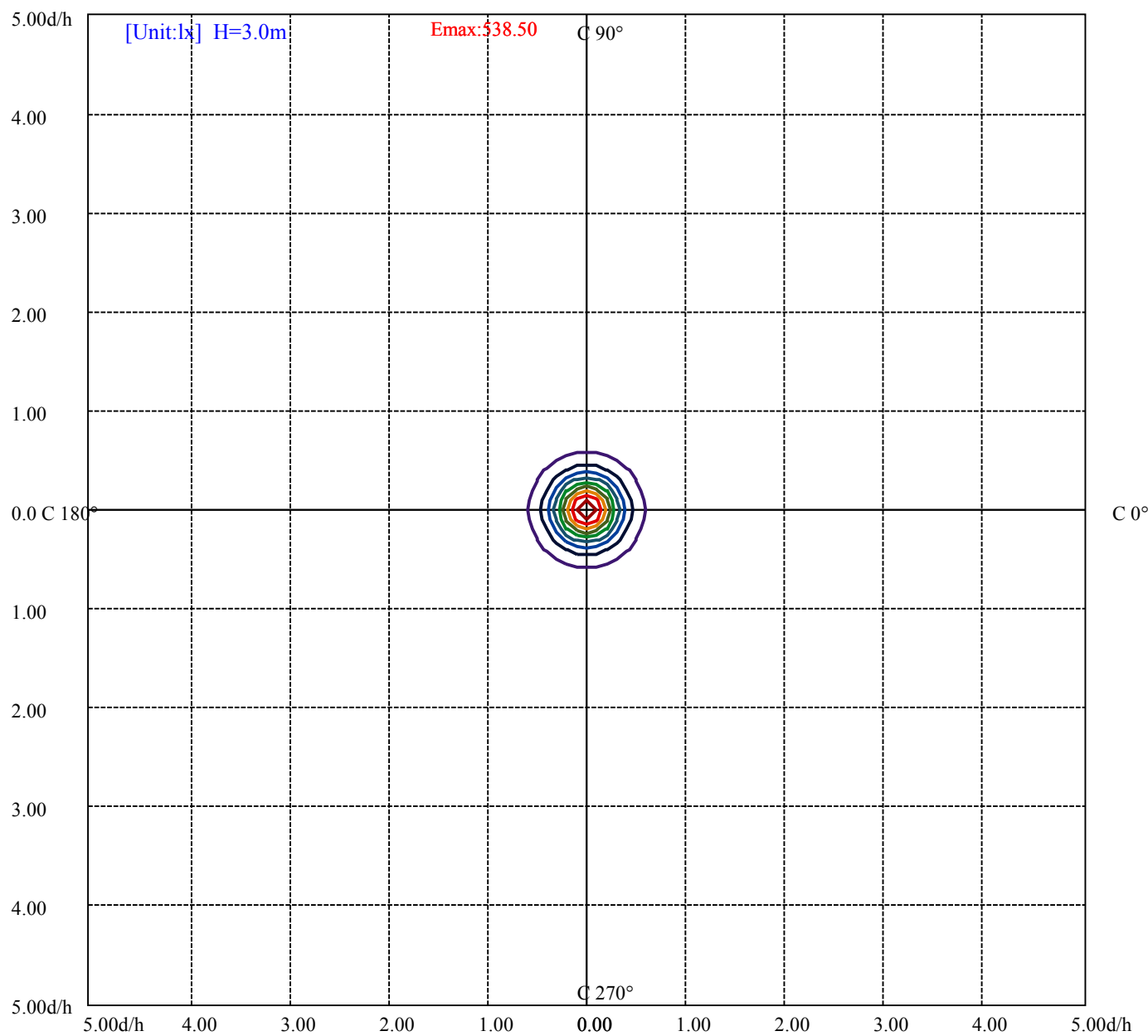
House

[Unit:cd]

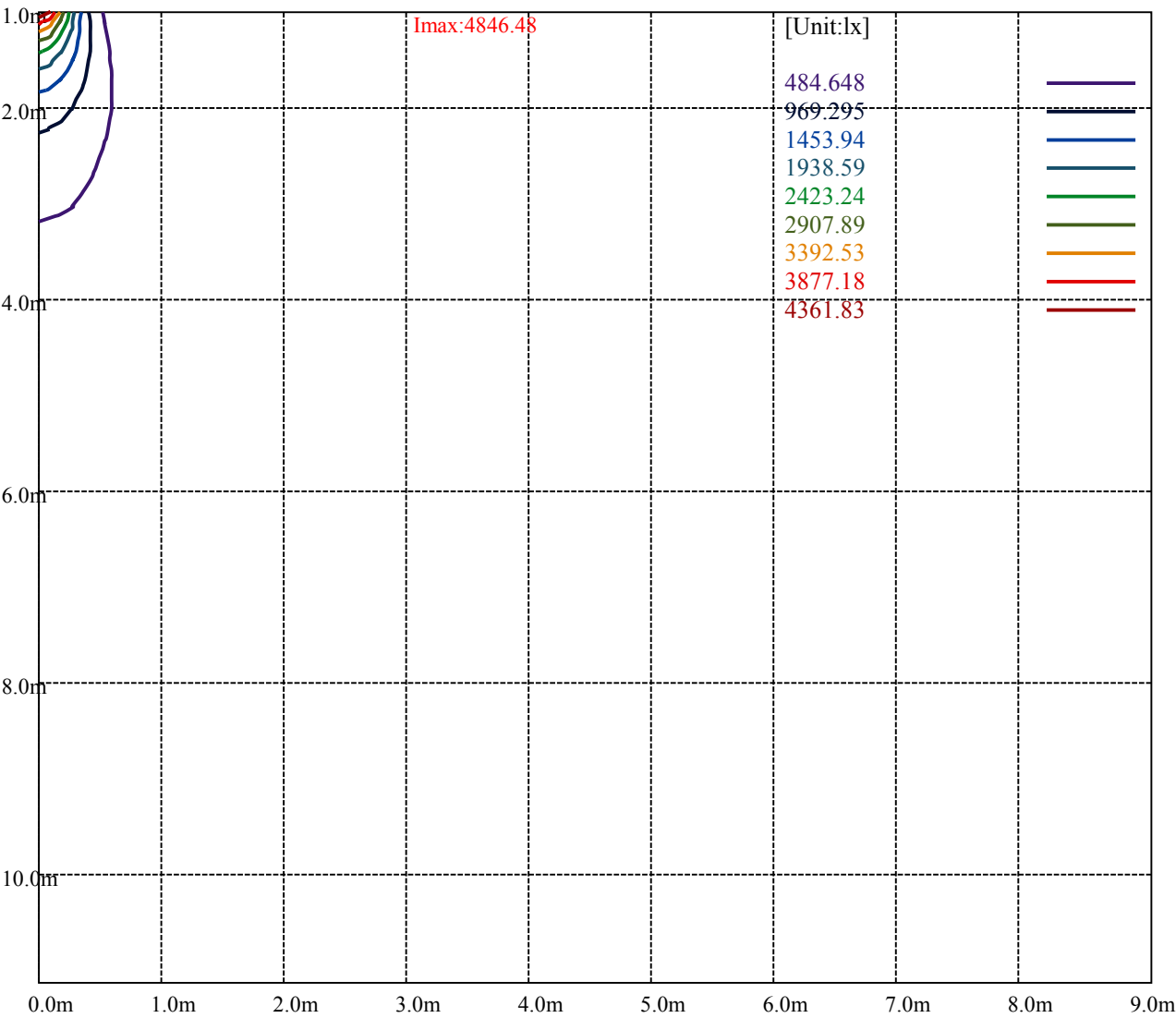
Road

Imax:4846.48

(10%Imax)	484.648	
(20%Imax)	969.295	
(30%Imax)	1453.94	
(40%Imax)	1938.59	
(50%Imax)	2423.24	
(60%Imax)	2907.89	
(70%Imax)	3392.53	
(80%Imax)	3877.18	
(90%Imax)	4361.83	



(10%E _{max}) 53.84967	—
(20%E _{max}) 107.6993	—
(30%E _{max}) 161.5489	—
(40%E _{max}) 215.3989	—
(50%E _{max}) 269.2478	—
(60%E _{max}) 323.0978	—
(70%E _{max}) 376.9478	—
(80%E _{max}) 430.7967	—
(90%E _{max}) 484.6466	—



Luminance Table

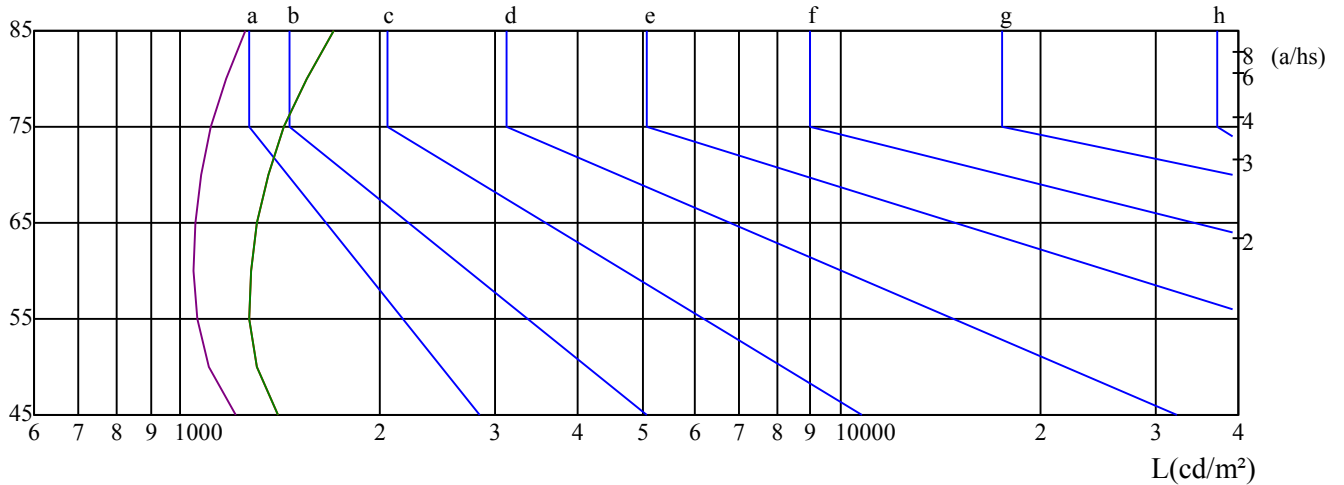
γ	45	50	55	60	65	70	75	80	85
C0	1408	1307	1274	1280	1306	1360	1438	1553	1708
C45	1210	1107	1062	1049	1051	1074	1111	1171	1251
C90	1408	1307	1274	1280	1306	1360	1438	1553	1708

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3139	3139	3139	4952	4952	4952	14492	14492	14492

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

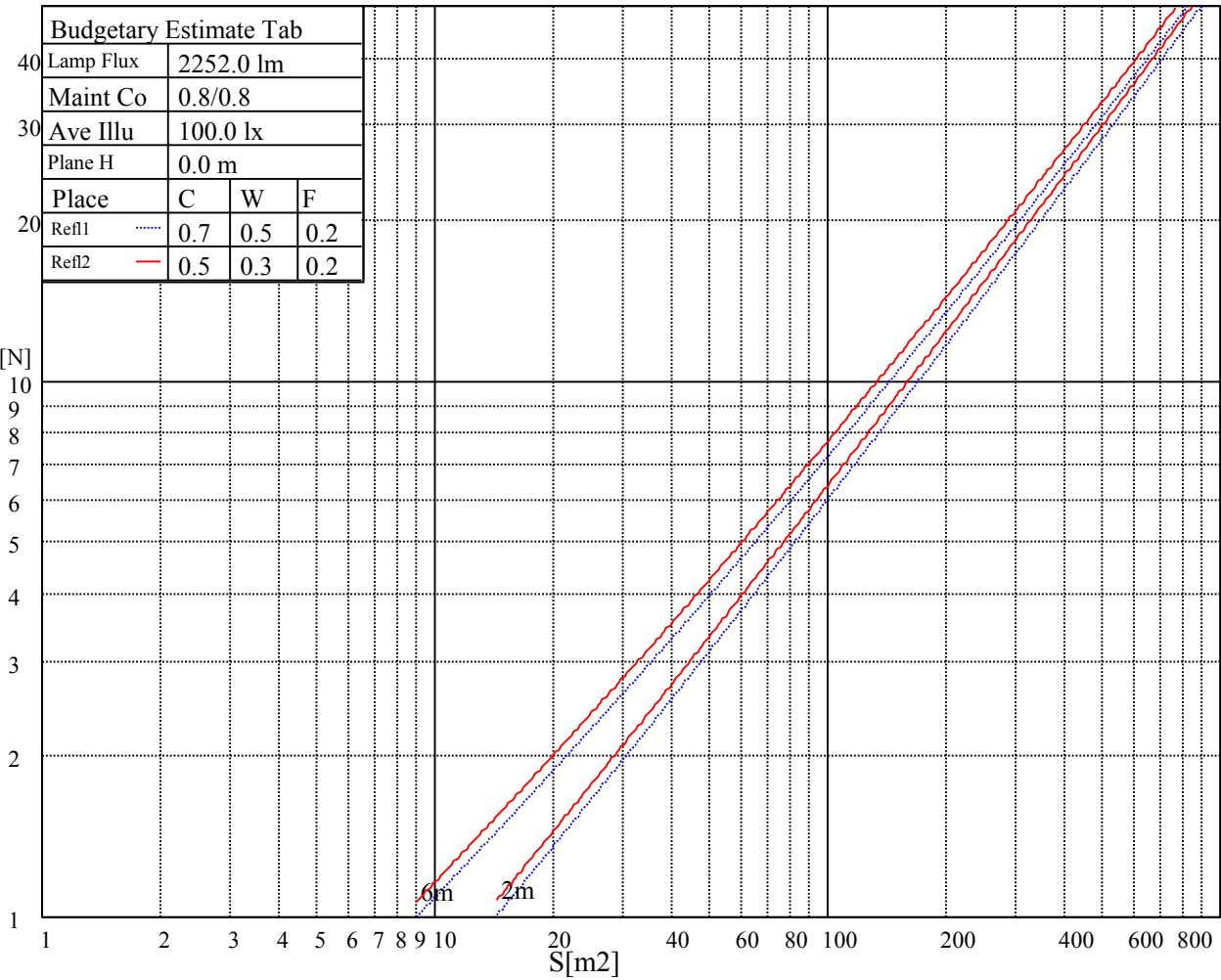
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

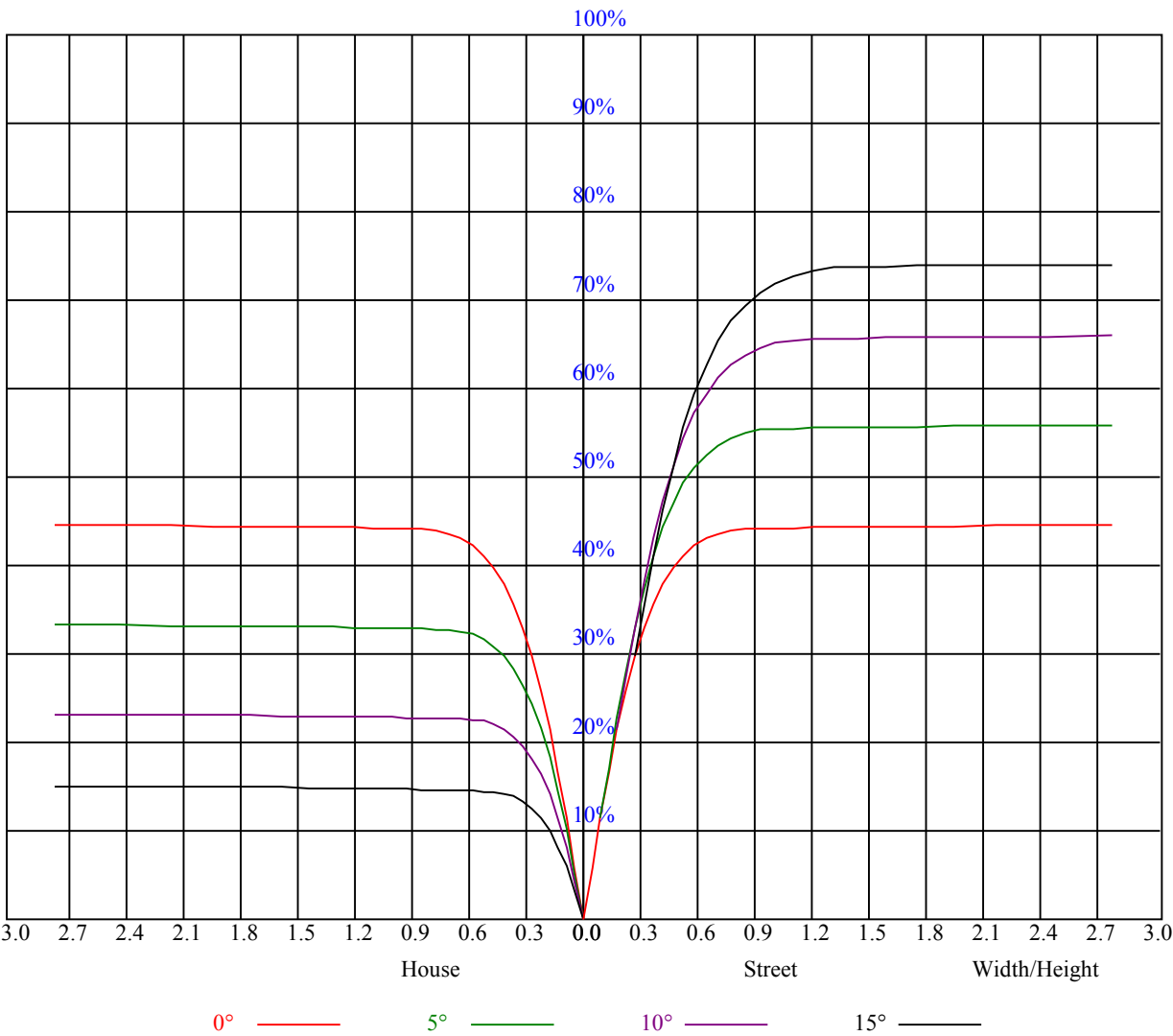
C0 ———

C45 ———

C90 ———



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	1.08	1.08	1.08	1.05	1.05	1.05	1.01	1.01	1.01	0.96	0.96	0.96	0.92	0.92	0.92	0.91
1	1.00	0.97	0.95	0.98	0.96	0.94	0.94	0.92	0.91	0.91	0.89	0.88	0.88	0.87	0.86	0.84
2	0.94	0.91	0.88	0.93	0.90	0.87	0.90	0.87	0.85	0.87	0.85	0.83	0.85	0.83	0.82	0.80
3	0.90	0.86	0.83	0.88	0.85	0.82	0.86	0.83	0.81	0.84	0.81	0.79	0.82	0.80	0.78	0.77
4	0.86	0.81	0.78	0.85	0.81	0.78	0.83	0.79	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.74
5	0.82	0.77	0.74	0.81	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.77	0.74	0.72	0.71
6	0.78	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.68
7	0.75	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.67	0.66
8	0.73	0.68	0.65	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.70	0.67	0.64	0.63
9	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.61
10	0.68	0.63	0.61	0.67	0.63	0.61	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.59



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	4841.66	4577.39	3766.41	2782.00	1900.55	1138.02	755.92	455.87	33.47
45.0	4851.57	4569.13	3729.52	2810.63	1889.54	1131.96	749.32	414.02	32.81
90.0	4846.06	4427.09	3535.72	2589.30	1708.40	1053.83	721.46	320.87	22.08
135.0	4846.61	4553.16	3779.07	2858.53	1955.05	1213.44	790.61	442.65	57.75
180.0	4841.66	4528.39	3661.80	2725.84	1916.51	1086.92	747.50	415.79	37.55
225.0	4851.57	4555.37	3697.59	2807.88	1934.68	1069.91	768.97	431.04	40.25
270.0	4846.06	4656.12	3950.30	3030.30	2065.17	1247.03	819.79	508.72	71.57
315.0	4846.61	4552.06	3608.95	2725.84	1794.84	1073.71	744.69	371.80	24.33
360.0	4841.66	4577.39	3766.41	2782.00	1900.55	1138.02	755.92	455.87	33.47
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	11.62	10.63	9.97	9.63	9.36	9.19	9.03	8.97	8.92
45.0	11.56	10.68	10.08	9.74	9.41	9.19	9.03	8.97	8.86
90.0	11.23	10.41	9.91	9.58	9.30	9.19	9.08	8.97	8.92
135.0	11.51	10.57	10.02	9.63	9.41	9.19	9.08	8.97	8.92
180.0	11.40	10.57	9.97	9.63	9.36	9.19	9.03	8.97	8.92
225.0	11.67	10.63	10.02	9.63	9.36	9.19	9.03	8.92	8.86
270.0	12.72	10.63	10.02	9.63	9.36	9.19	9.03	9.03	8.97
315.0	11.29	10.35	9.86	9.58	9.30	9.14	9.03	8.92	8.92
360.0	11.62	10.63	9.97	9.63	9.36	9.19	9.03	8.97	8.92
C/ γ (°)	90.0								
0.0	8.86								
45.0	8.86								
90.0	8.86								
135.0	8.86								
180.0	8.86								
225.0	8.86								
270.0	8.86								
315.0	8.86								
360.0	8.86								