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Nata

LumCAT: 3-2117-N	
Luminaire: 92.70.135.00	
Report No: NATA0100	Voltage(V): 34.2000
Test No: GC2018062715	Current(A): 0.5100
LampCAT: NICHIA NFCWD096B-V3	Power (W): 17.4420
Lamp flux(lm): 2274.7	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 74	Width(mm): 74
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1871.03
Efficiency(%): 82.25%
Lumens(lm)/Power(W): 107.27
Central intensity(cd): 4857.764
Maximum intensity(cd): 4857.764
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=35.7
[C90/270]Total=35.7
Field angle(10%Imax): [C0/180]Total=58.7
[C90/270]Total=58.7
Maximum s/h(1/2): C0_180=0.60 C90_270=0.60
Maximum s/h(1/4): C0_180=0.56 C90_270=0.56
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 83.45%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.945%

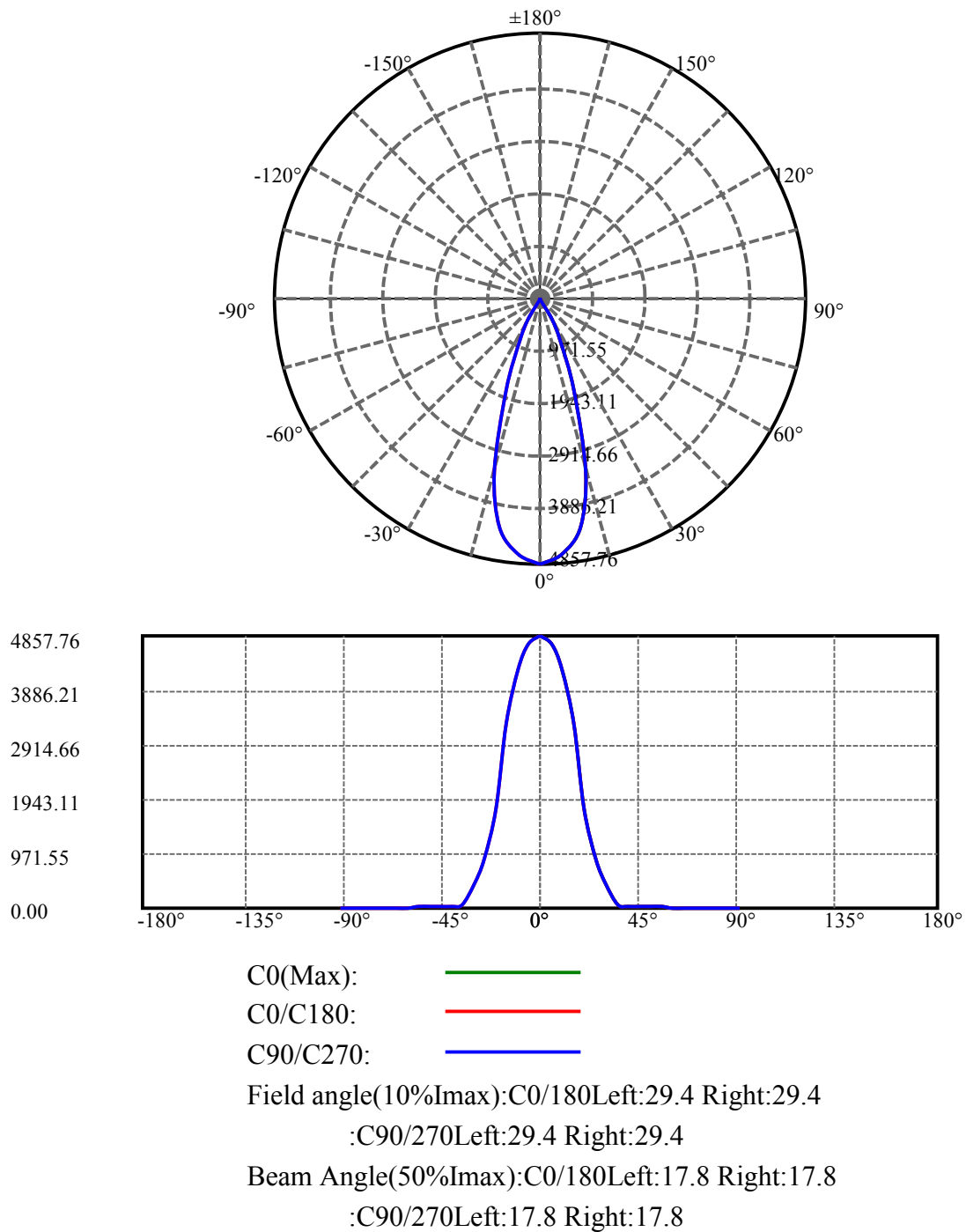
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4857.764	29.050	29.05	1.277%	1.553%
5.0	4696.930	224.388	253.438	9.864%	13.545%
10.0	4246.156	404.162	657.6	17.767%	35.147%
15.0	3276.613	464.848	1122.448	20.435%	59.991%
20.0	1788.865	335.366	1457.814	14.743%	77.915%
25.0	861.447	199.557	1657.371	8.773%	88.581%
30.0	431.780	118.337	1775.708	5.202%	94.906%
35.0	64.760	20.360	1796.068	.895%	95.994%
40.0	36.447	12.842	1808.91	.565%	96.680%
45.0	24.583	9.528	1818.438	.419%	97.189%
50.0	19.036	7.993	1826.431	.351%	97.617%
55.0	15.939	7.157	1833.588	.315%	97.999%
60.0	14.149	6.717	1840.305	.295%	98.358%
65.0	12.780	6.349	1846.654	.279%	98.697%
70.0	11.741	6.047	1852.701	.266%	99.021%
75.0	10.777	5.706	1858.407	.251%	99.326%
80.0	9.876	5.331	1863.738	.234%	99.610%
85.0	9.064	4.949	1868.687	.218%	99.875%
90.0	8.534	2.339	1871.026	.103%	100.000%

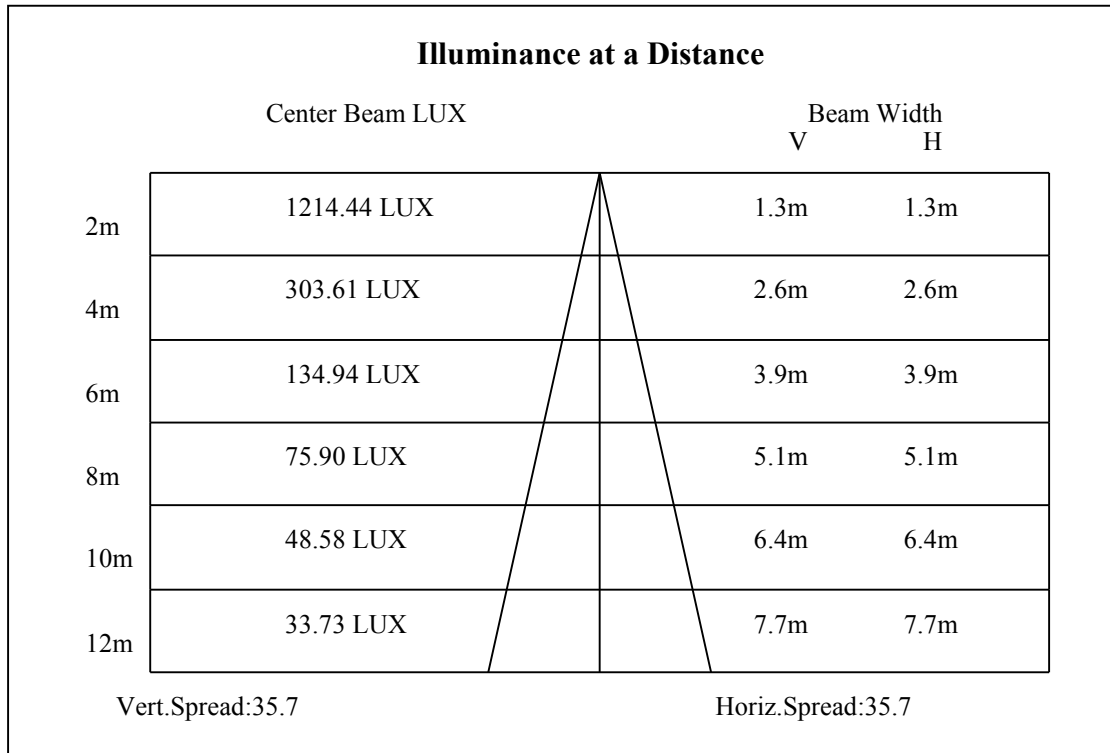
ZONAL LUMEN SUMMARY

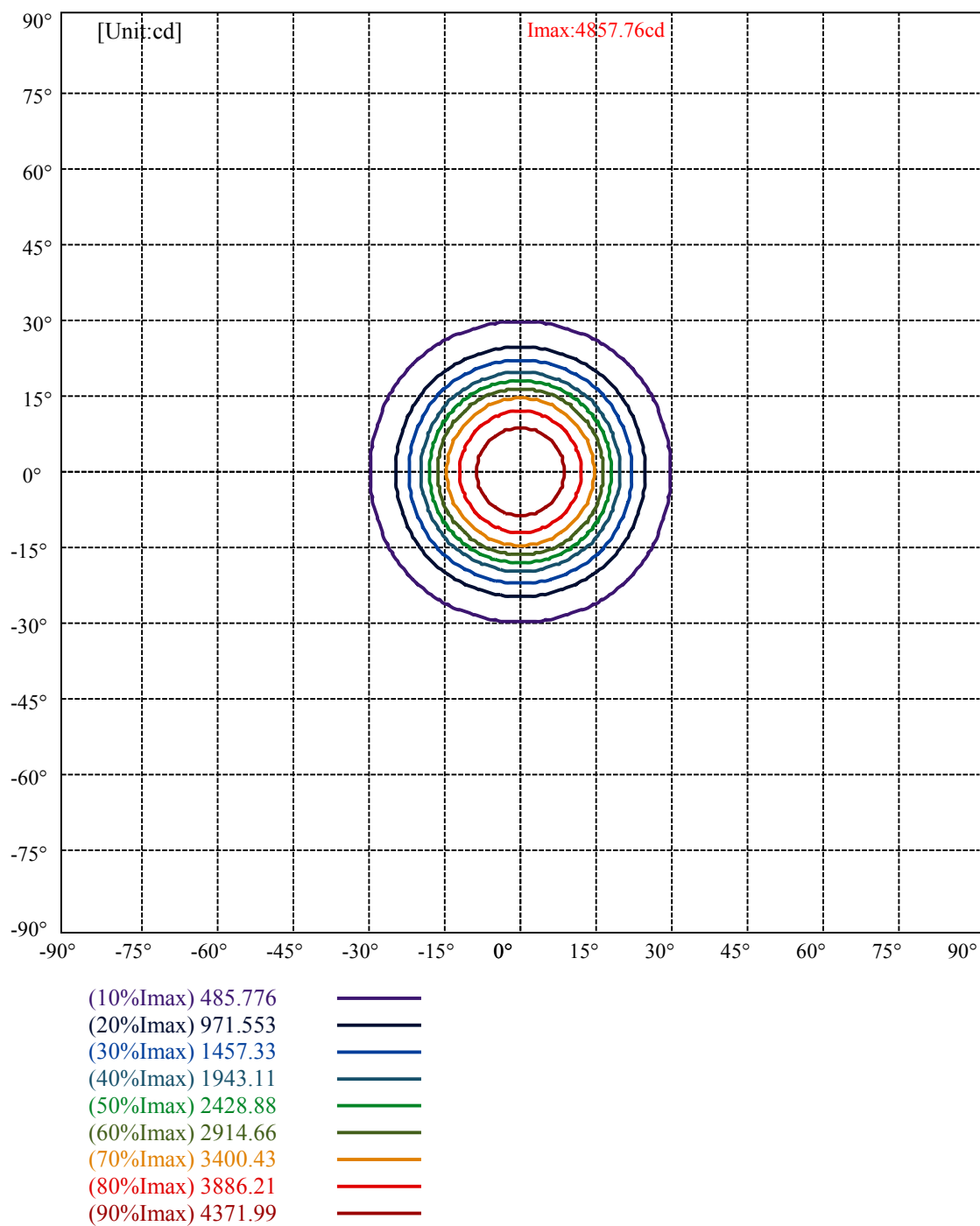
Zone	Lumens	%Lamp	%Fixt
0-30	1775.71	78.06%	94.91%
0-40	1808.91	79.52%	96.68%
0-60	1840.30	80.90%	98.36%
0-90	1868.69	82.15%	99.87%
0-120	1868.69	82.15%	99.87%
0-180	1871.03	82.25%	100.00%
60-90	35.10	1.54%	1.88%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-20.98	1496.82	65.80%	80.00%

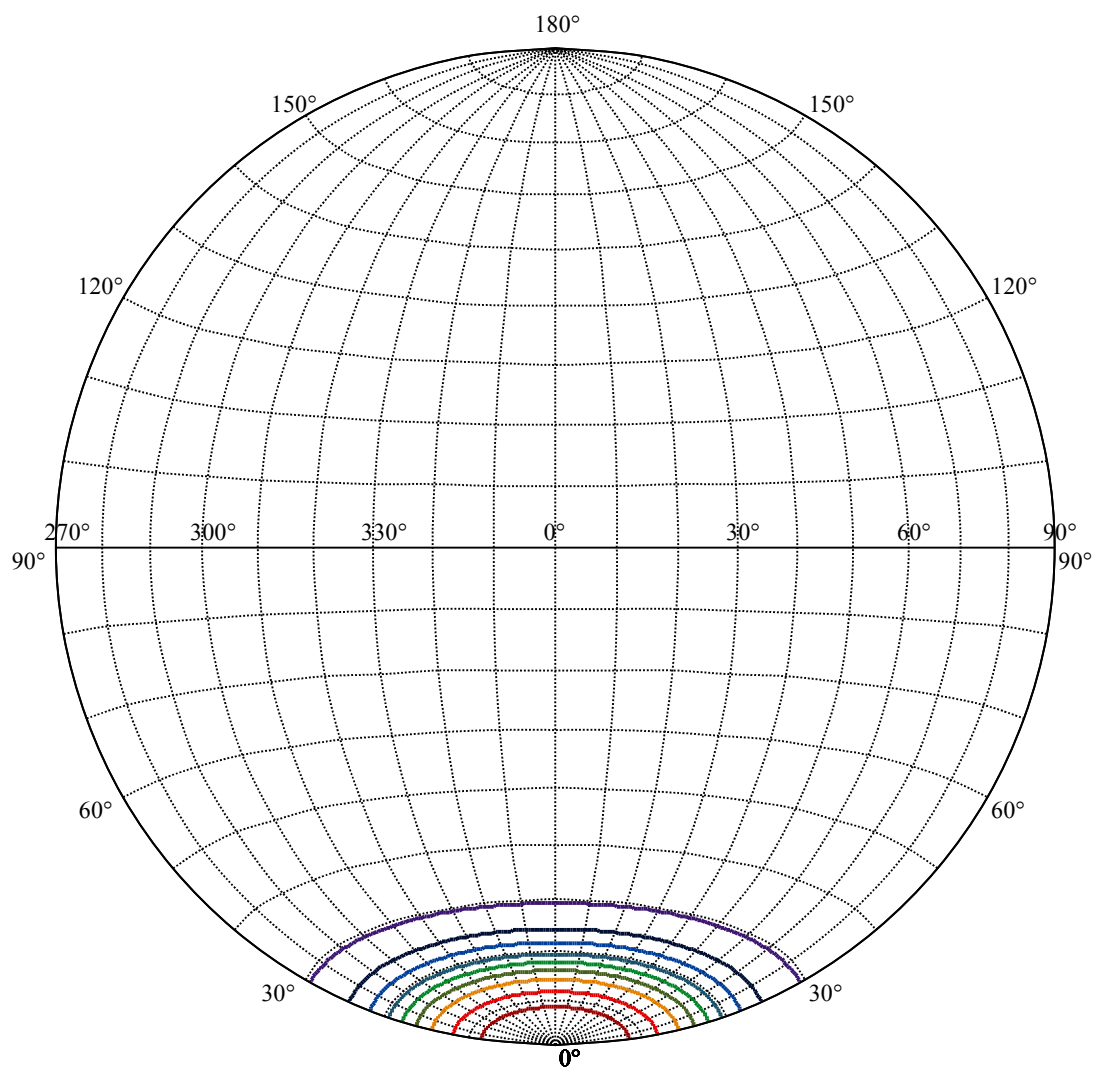
ZONAL LUMEN SUMMARY

0-10	657.60
10-20	800.21
20-30	317.89
30-40	33.20
40-50	17.52
50-60	13.87
60-70	12.40
70-80	11.04
80-90	4.95
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









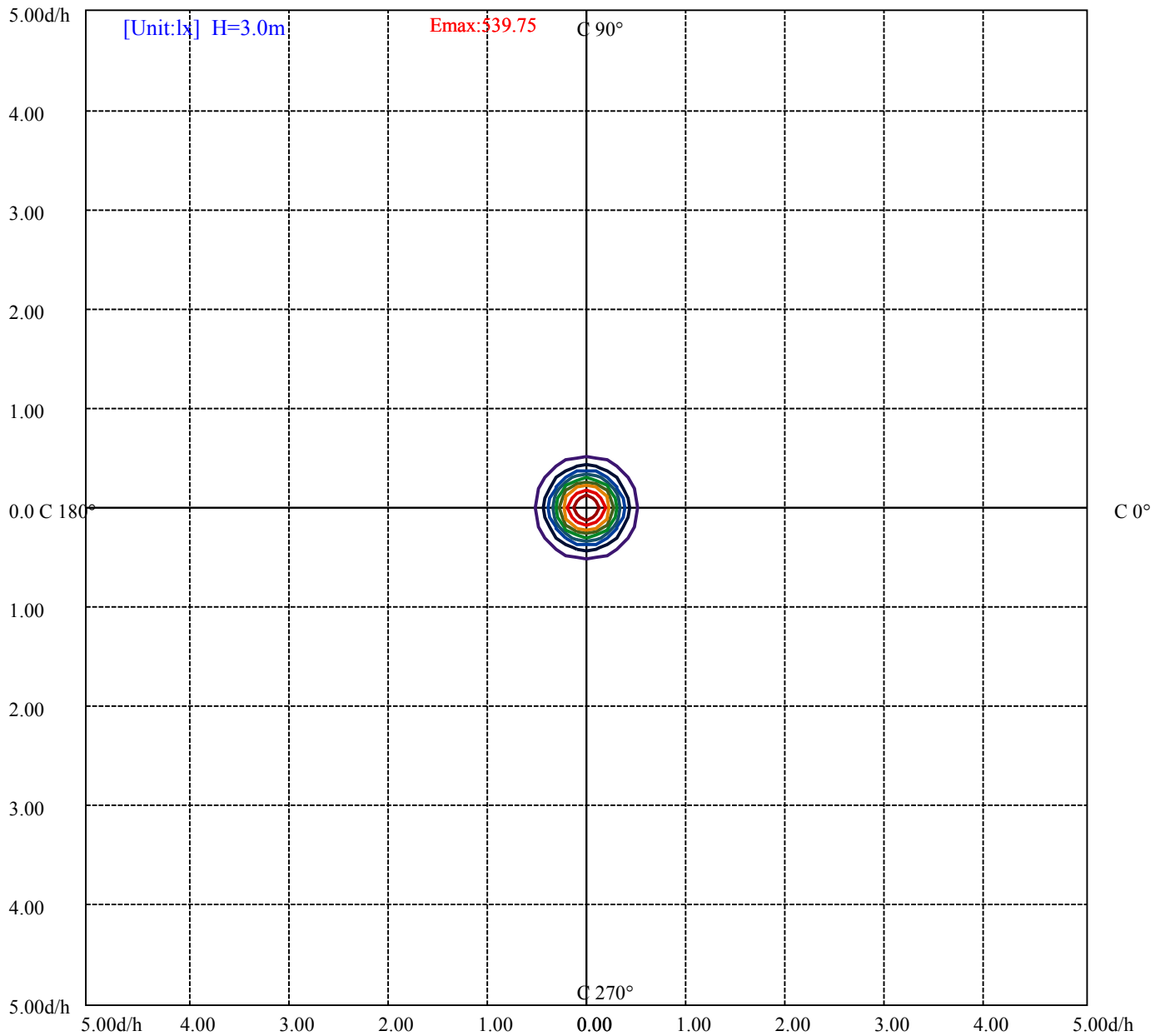
House

[Unit:cd]

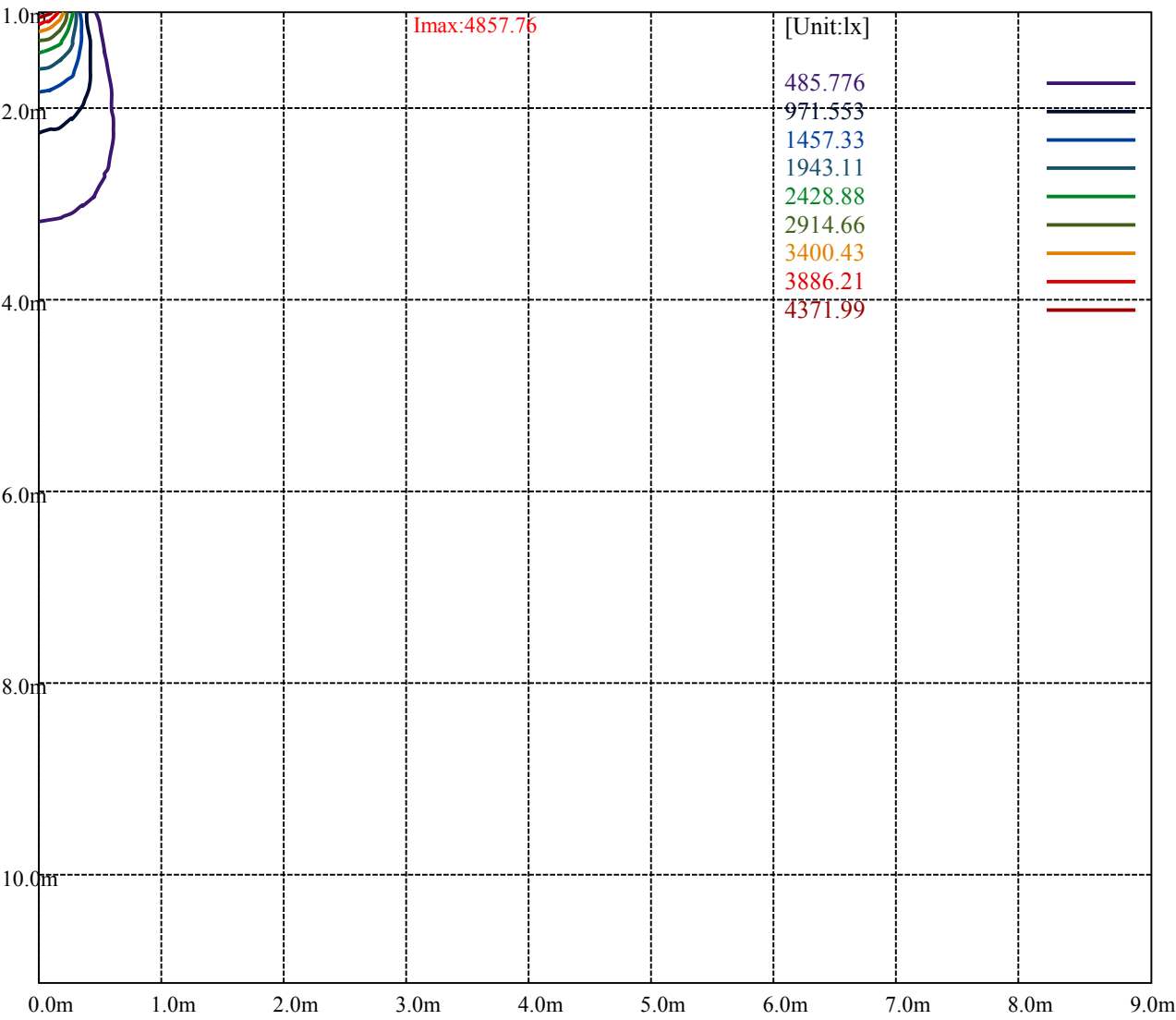
Road

Imax:4857.76

(10%Imax)	485.776	—
(20%Imax)	971.553	—
(30%Imax)	1457.33	—
(40%Imax)	1943.11	—
(50%Imax)	2428.88	—
(60%Imax)	2914.66	—
(70%Imax)	3400.43	—
(80%Imax)	3886.21	—
(90%Imax)	4371.99	—



(10%Emax) 53.97511	—
(20%Emax) 107.9502	—
(30%Emax) 161.9256	—
(40%Emax) 215.9	—
(50%Emax) 269.8755	—
(60%Emax) 323.8511	—
(70%Emax) 377.8256	—
(80%Emax) 431.8011	—
(90%Emax) 485.7755	—



Luminance Table

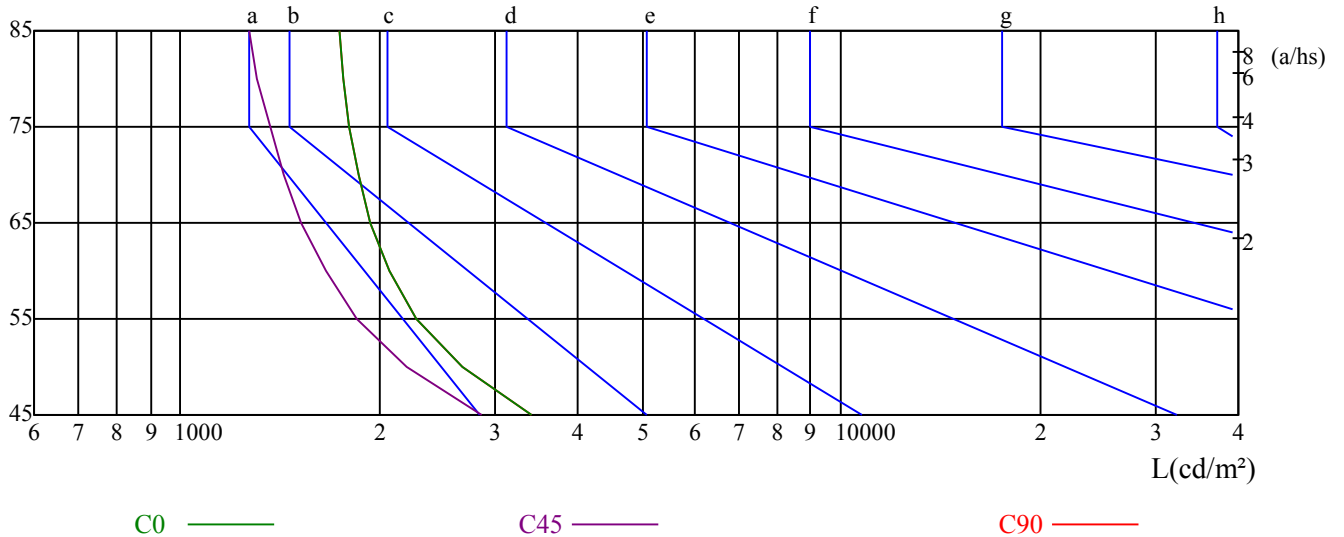
γ	45	50	55	60	65	70	75	80	85
C0	3404	2663	2270	2069	1934	1857	1799	1759	1745
C45	2856	2200	1847	1657	1524	1438	1366	1309	1268
C90	3404	2663	2270	2069	1934	1857	1799	1759	1745

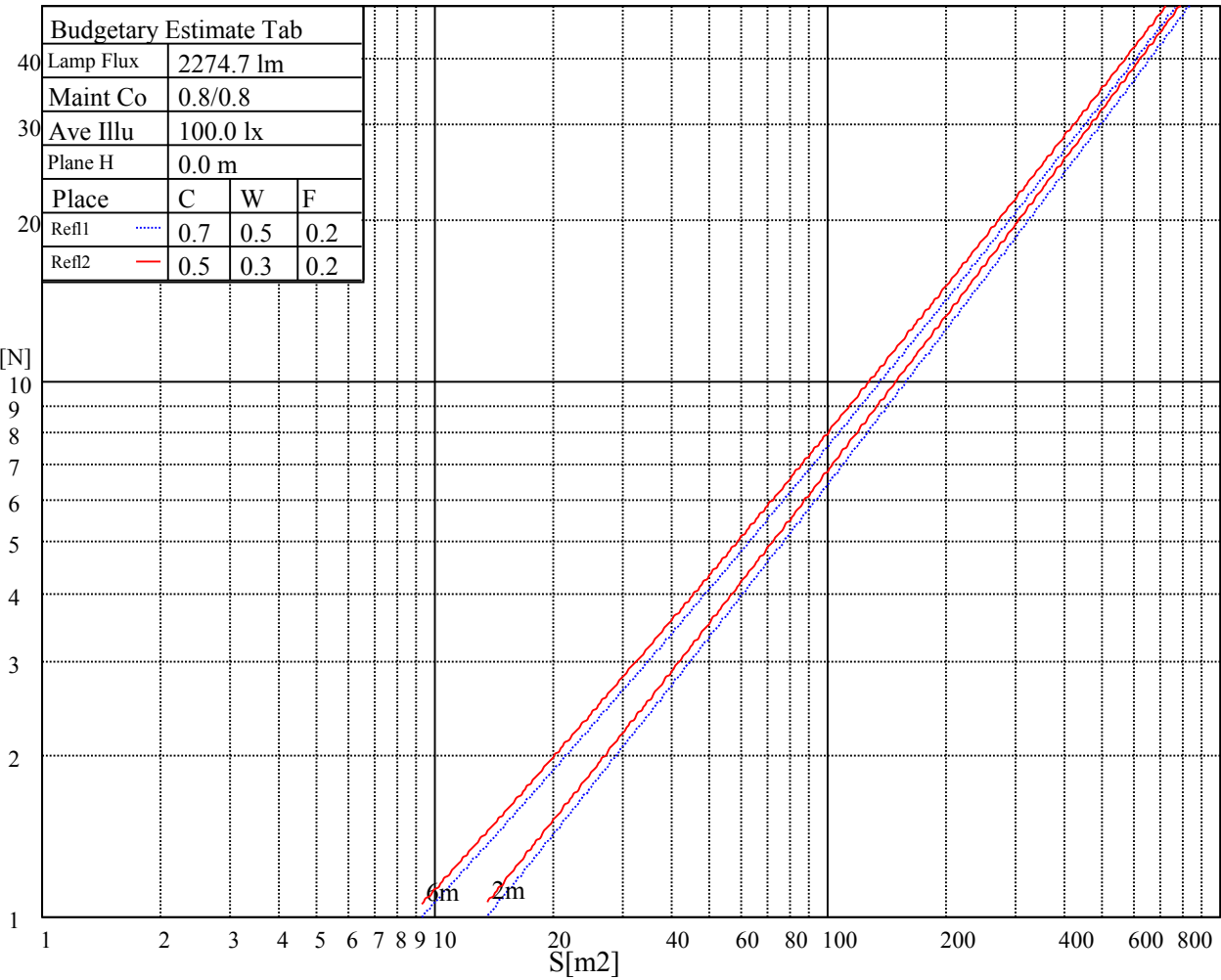
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5522	5522	5522	7604	7604	7604	18991	18991	18991

Glare Table

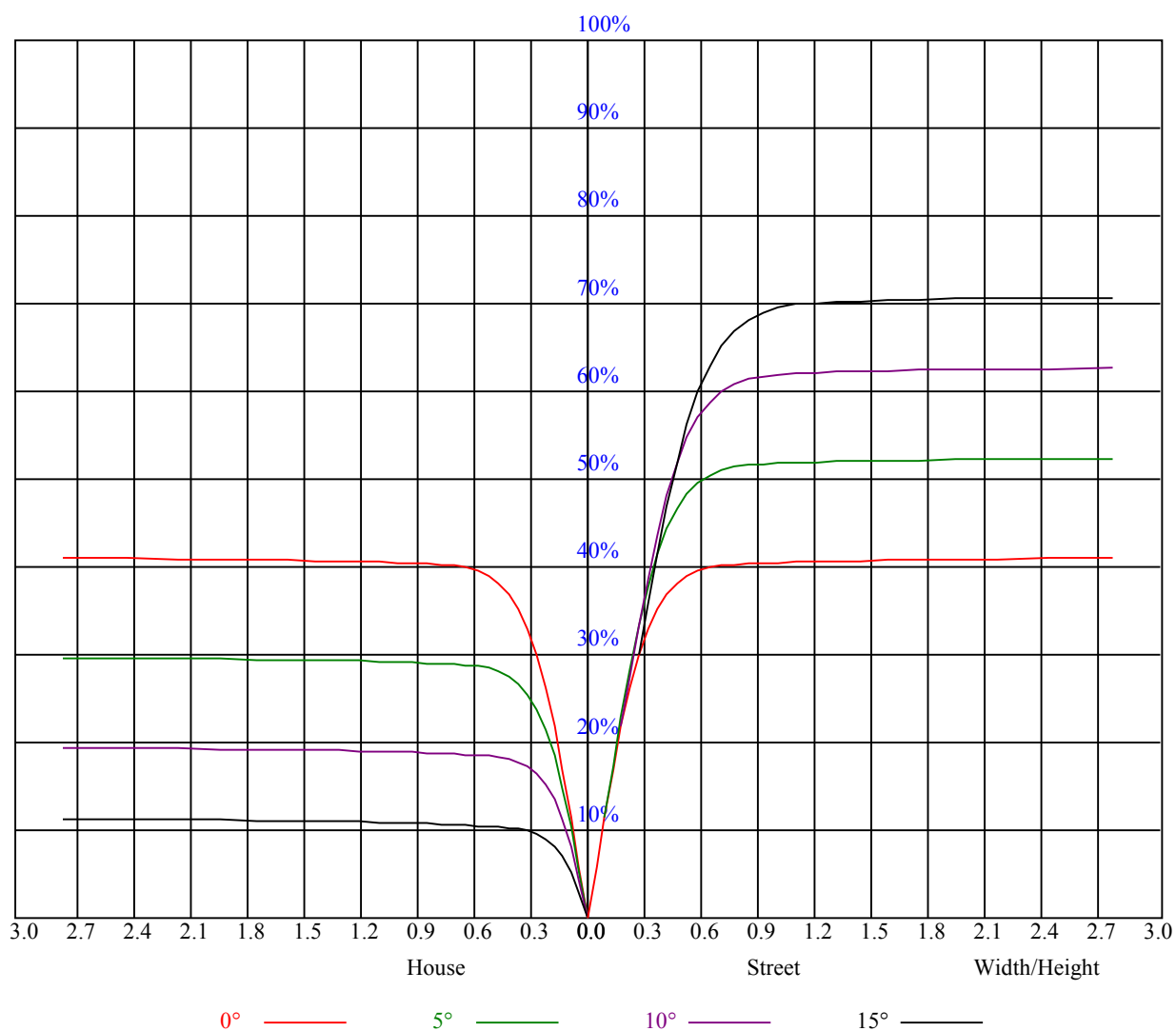
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	0.99	0.99	0.99	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.83
1	0.92	0.90	0.88	0.90	0.88	0.87	0.87	0.85	0.84	0.84	0.83	0.81	0.81	0.80	0.79	0.78
2	0.87	0.84	0.82	0.86	0.83	0.81	0.83	0.81	0.79	0.81	0.79	0.78	0.79	0.77	0.76	0.75
3	0.84	0.80	0.77	0.82	0.79	0.77	0.80	0.78	0.75	0.78	0.76	0.74	0.77	0.75	0.73	0.72
4	0.80	0.76	0.74	0.79	0.76	0.73	0.77	0.75	0.72	0.76	0.73	0.71	0.74	0.72	0.71	0.70
5	0.77	0.73	0.70	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.72	0.70	0.68	0.67
6	0.74	0.70	0.68	0.74	0.70	0.68	0.73	0.69	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.65
7	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.69	0.67	0.65	0.69	0.66	0.64	0.63
8	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.62
9	0.67	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.60
10	0.66	0.62	0.60	0.65	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.64	0.61	0.59	0.58



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	4866.44	4704.57	4282.84	3519.76	2040.39	922.19	494.96	70.53	37.05	
45.0	4840.01	4772.84	4351.66	3515.35	2132.33	939.26	545.06	84.57	39.26	
90.0	4871.39	4778.90	4276.78	3324.31	1832.83	819.13	428.78	60.84	36.06	
135.0	4853.22	4824.59	4455.71	3478.46	2105.91	889.16	498.26	73.72	39.70	
180.0	4866.44	4723.84	4236.04	3082.61	1674.27	800.85	361.00	57.15	35.40	
225.0	4840.01	4571.33	4092.89	2947.72	1077.56	800.46	327.48	52.85	33.36	
270.0	4871.39	4617.03	4171.62	3306.14	1795.39	891.36	449.81	61.55	36.56	
315.0	4853.22	4582.34	4101.70	3038.56	1652.24	829.15	348.89	56.87	34.19	
360.0	4866.44	4704.57	4282.84	3519.76	2040.39	922.19	494.96	70.53	37.05	
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	
0.0	24.78	19.21	16.02	14.20	12.94	11.89	10.90	10.08	9.19	
45.0	26.21	19.71	16.24	14.48	12.94	11.89	10.90	10.08	9.14	
90.0	24.78	18.99	15.86	14.09	12.77	11.67	10.74	9.80	9.03	
135.0	26.21	20.21	16.57	14.53	13.05	12.00	10.96	10.02	9.08	
180.0	24.06	18.77	15.91	14.09	12.66	11.67	10.68	9.74	8.97	
225.0	23.01	18.11	15.42	13.82	12.55	11.51	10.57	9.69	8.97	
270.0	24.39	18.72	15.86	14.04	12.66	11.67	10.79	9.86	9.03	
315.0	23.23	18.55	15.64	13.93	12.66	11.62	10.68	9.74	9.08	
360.0	24.78	19.21	16.02	14.20	12.94	11.89	10.90	10.08	9.19	
C/ γ (°)	90.0									
0.0	8.59									
45.0	8.53									
90.0	8.48									
135.0	8.53									
180.0	8.53									
225.0	8.59									
270.0	8.48									
315.0	8.53									
360.0	8.59									