
Nata

LumCAT: 1436-N	
Luminaire: 92.70.044.00+92.70.147.00	
Report No: NT2018011805	Voltage(V): 34.0000
Test No: nata-0100	Current(A): 0.3500
LampCAT: NICHIA NFCWL036B-V2	Power (W): 11.9000
Lamp flux(lm): 1460.0	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): 1156.48
Efficiency(%): 79.21%
Lumens(lm)/Power(W): 97.18
Central intensity(cd): 4803.396
Maximum intensity(cd): 4803.396
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=22.3
[C90/270]Total=22.3
Field angle(10%Imax): [C0/180]Total=46.0
[C90/270]Total=46.0
Maximum s/h(1/2): C0_180=0.38 C90_270=0.38
Maximum s/h(1/4): C0_180=0.38 C90_270=0.38
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 81.10%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 94.552%

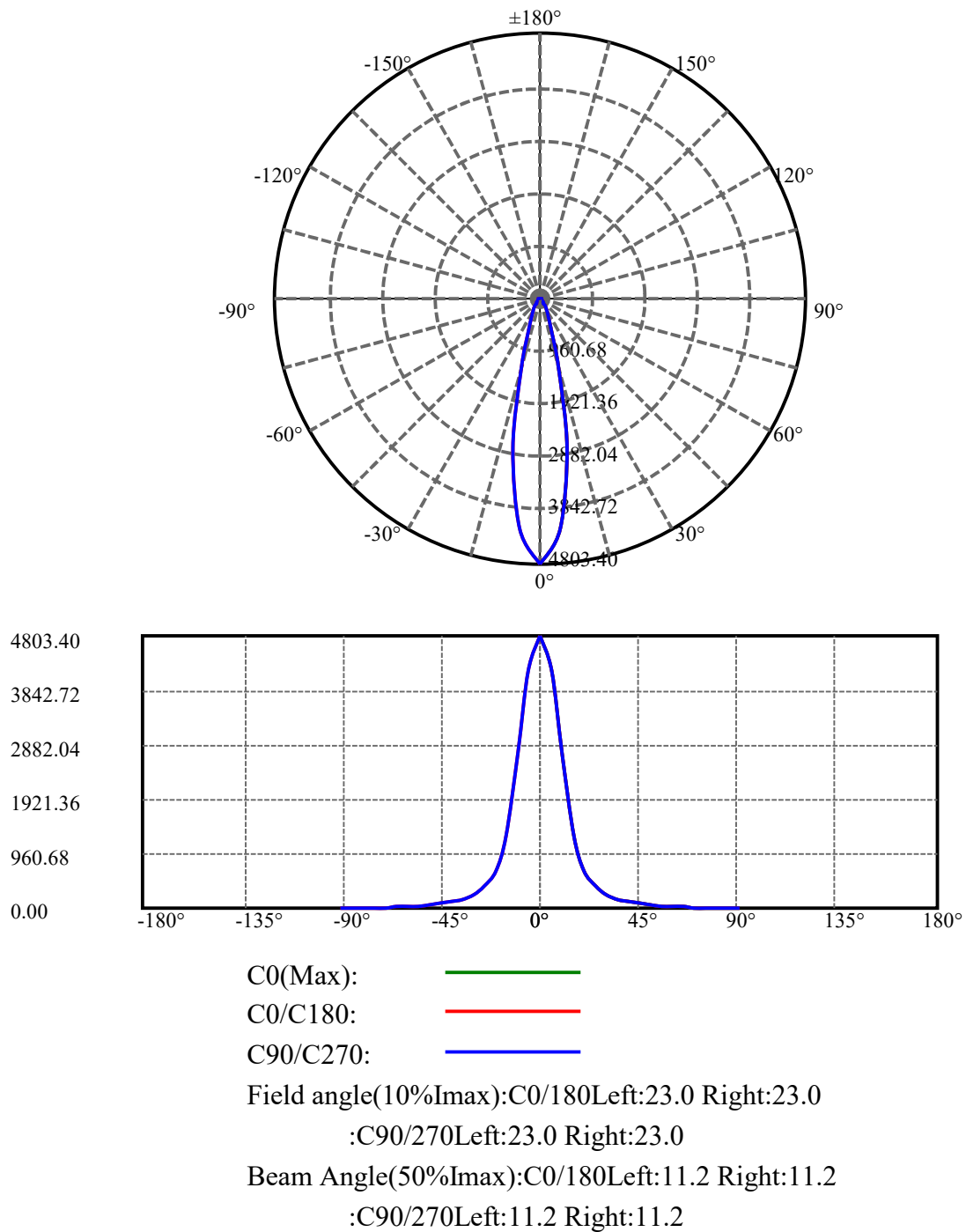
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4803.396	28.725	28.725	1.967%	2.484%
5.0	4174.032	199.407	228.133	13.658%	19.726%
10.0	2734.032	260.234	488.366	17.824%	42.229%
15.0	1289.132	182.887	671.253	12.527%	58.043%
20.0	641.696	120.301	791.555	8.240%	68.445%
25.0	374.294	86.706	878.261	5.939%	75.943%
30.0	244.230	66.936	945.197	4.585%	81.731%
35.0	158.514	49.837	995.033	3.413%	86.040%
40.0	113.478	39.982	1035.016	2.739%	89.497%
45.0	80.451	31.182	1066.198	2.136%	92.193%
50.0	58.484	24.557	1090.755	1.682%	94.317%
55.0	38.870	17.453	1108.208	1.195%	95.826%
60.0	23.977	11.382	1119.59	.780%	96.810%
65.0	16.070	7.983	1127.573	.547%	97.500%
70.0	14.067	7.246	1134.819	.496%	98.127%
75.0	13.035	6.901	1141.72	.473%	98.724%
80.0	13.234	7.144	1148.864	.489%	99.341%
85.0	11.259	6.148	1155.012	.421%	99.873%
90.0	5.354	1.467	1156.479	.101%	100.000%

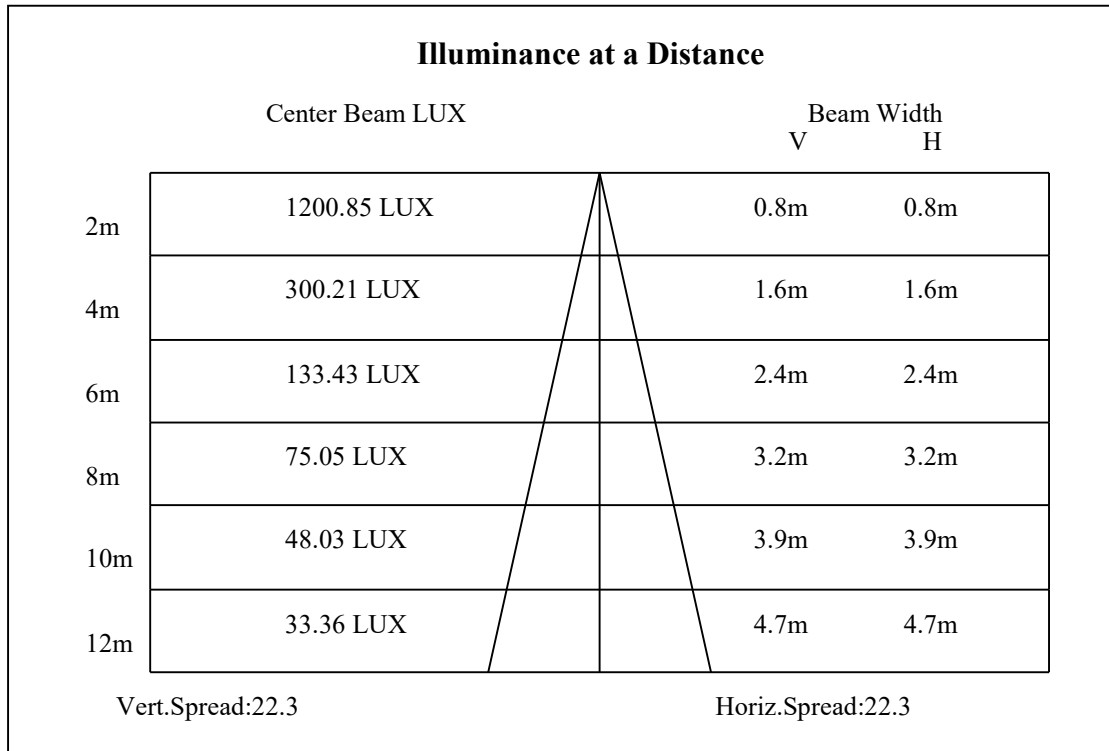
ZONAL LUMEN SUMMARY

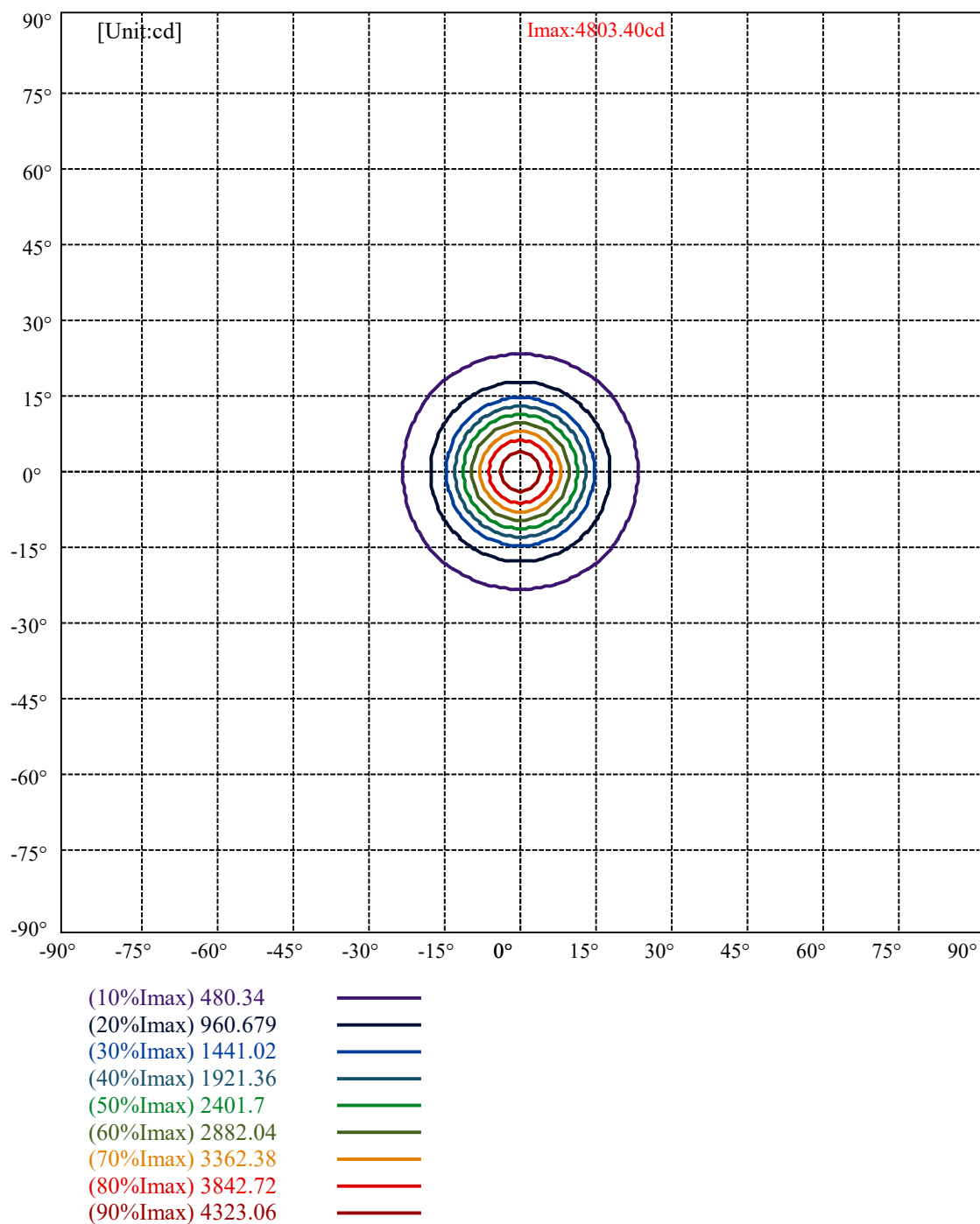
Zone	Lumens	%Lamp	%Fixt
0-30	945.20	64.74%	81.73%
0-40	1035.02	70.89%	89.50%
0-60	1119.59	76.68%	96.81%
0-90	1155.01	79.11%	99.87%
0-120	1155.01	79.11%	99.87%
0-180	1156.48	79.21%	100.00%
60-90	46.80	3.21%	4.05%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.51	925.18	63.37%	80.00%

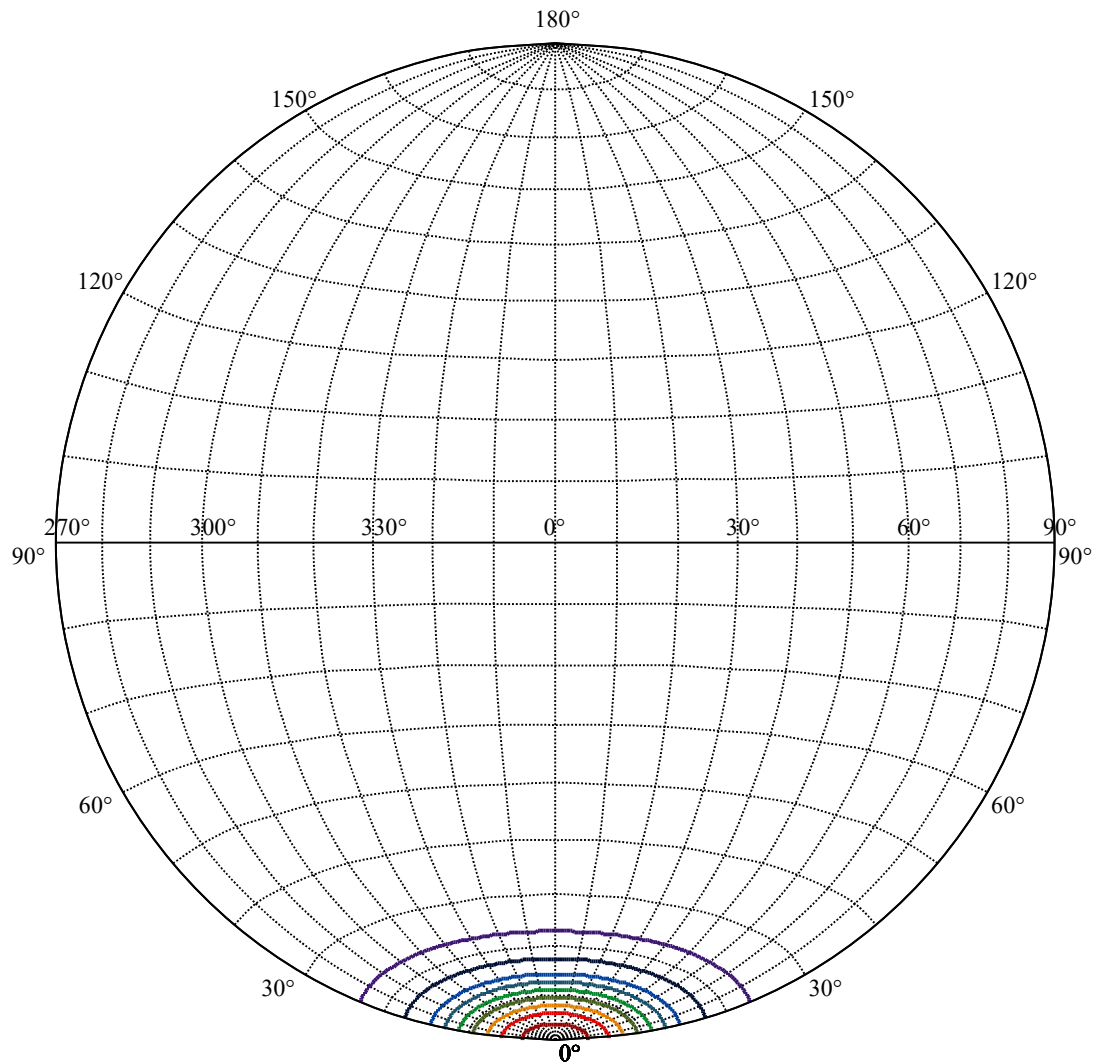
ZONAL LUMEN SUMMARY

0-10	488.37
10-20	303.19
20-30	153.64
30-40	89.82
40-50	55.74
50-60	28.83
60-70	15.23
70-80	14.05
80-90	6.15
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









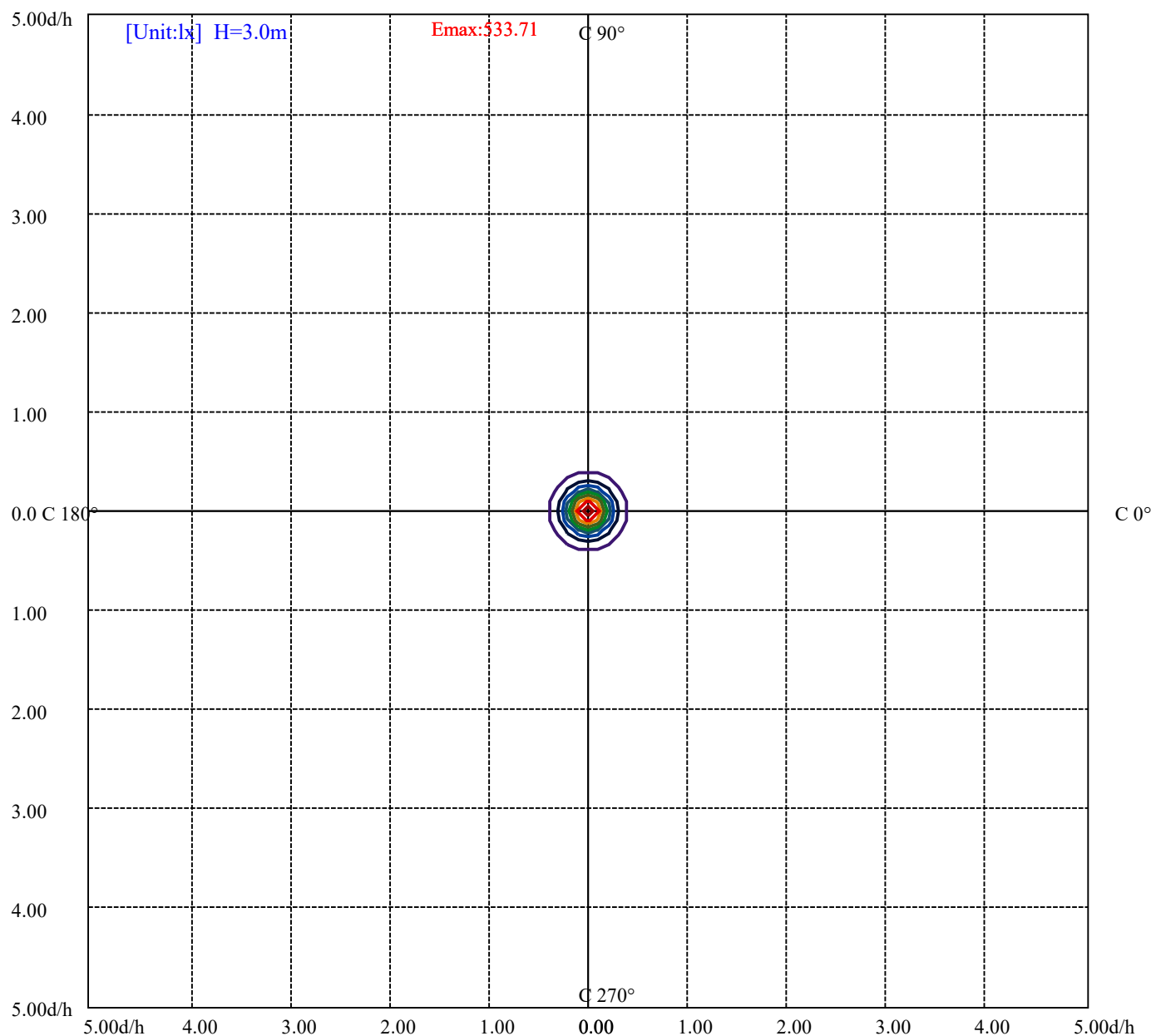
House

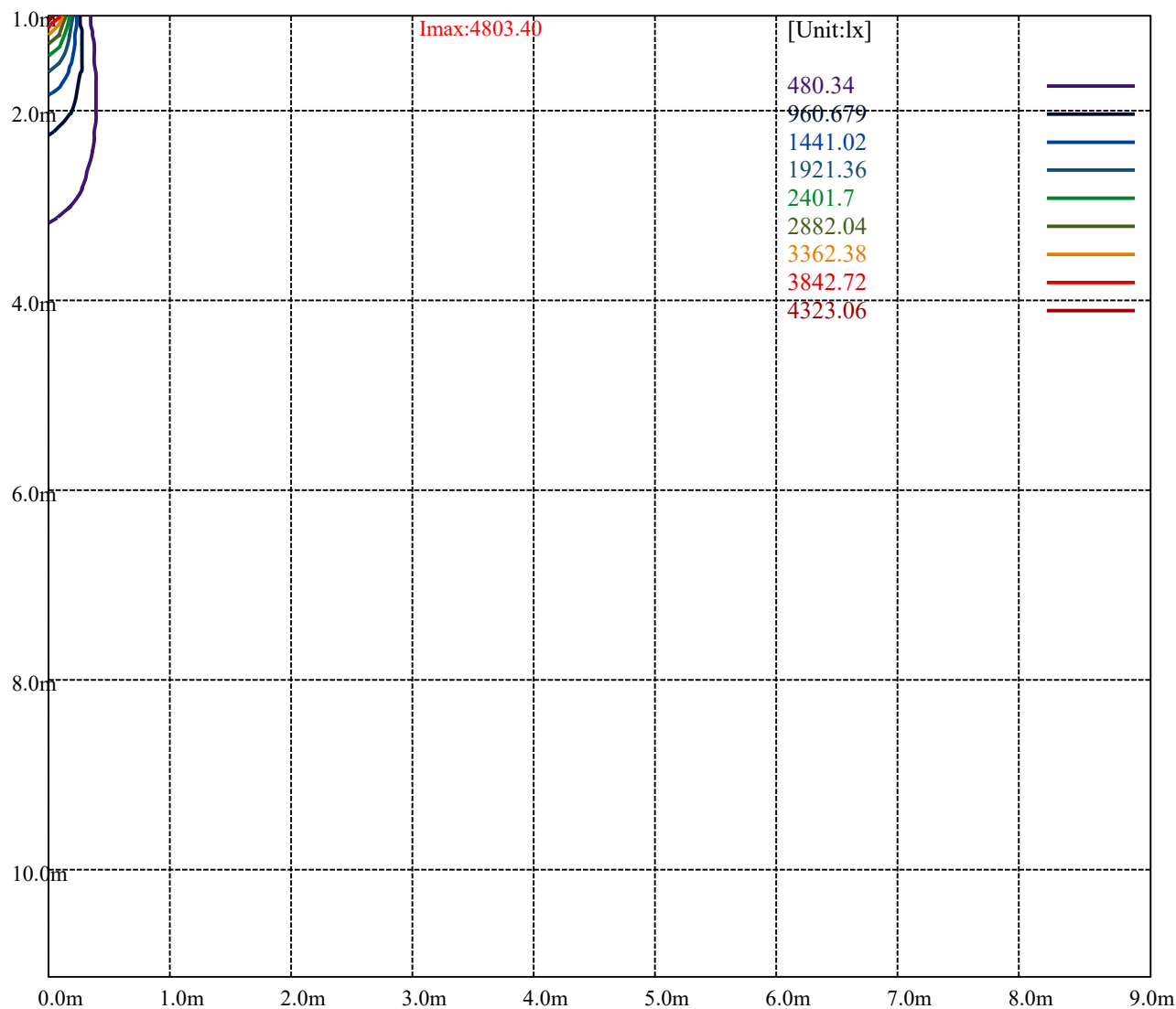
[Unit:cd]

Road

Imax:4803.40

(10%Imax)	480.34	—
(20%Imax)	960.679	—
(30%Imax)	1441.02	—
(40%Imax)	1921.36	—
(50%Imax)	2401.7	—
(60%Imax)	2882.04	—
(70%Imax)	3362.38	—
(80%Imax)	3842.72	—
(90%Imax)	4323.06	—





Luminance Table

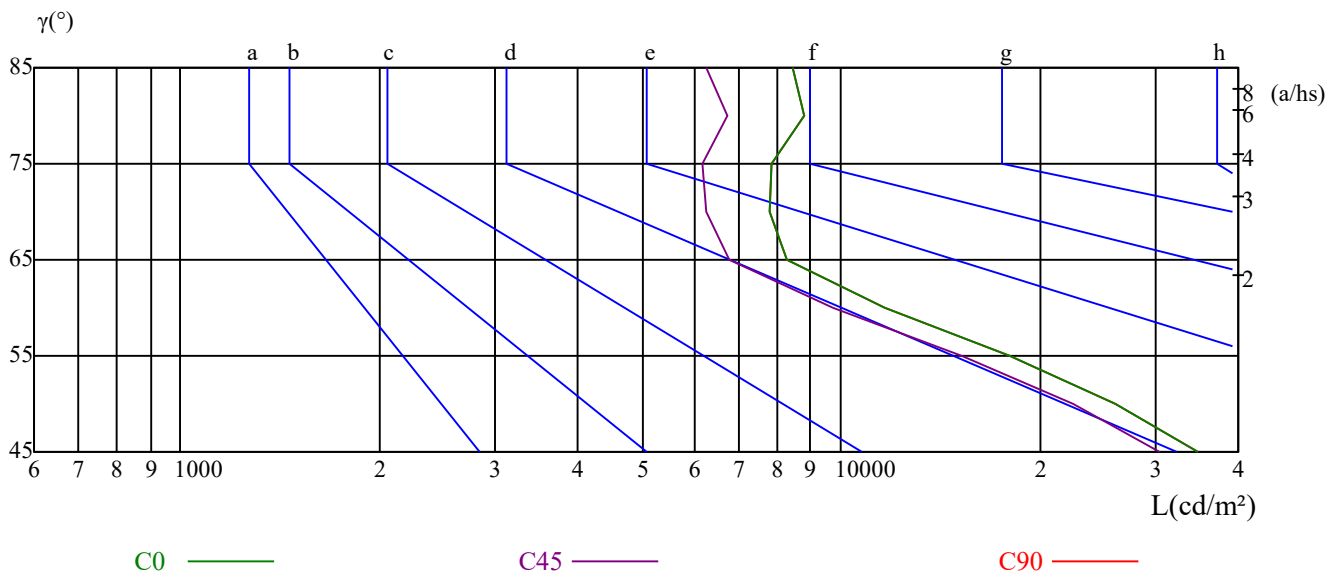
γ	45	50	55	60	65	70	75	80	85
C0	34836	26096	18031	11674	8298	7796	7859	8823	8465
C45	30402	22442	15268	9721	6785	6246	6152	6721	6239
C90	34836	26096	18031	11674	8298	7796	7859	8823	8465

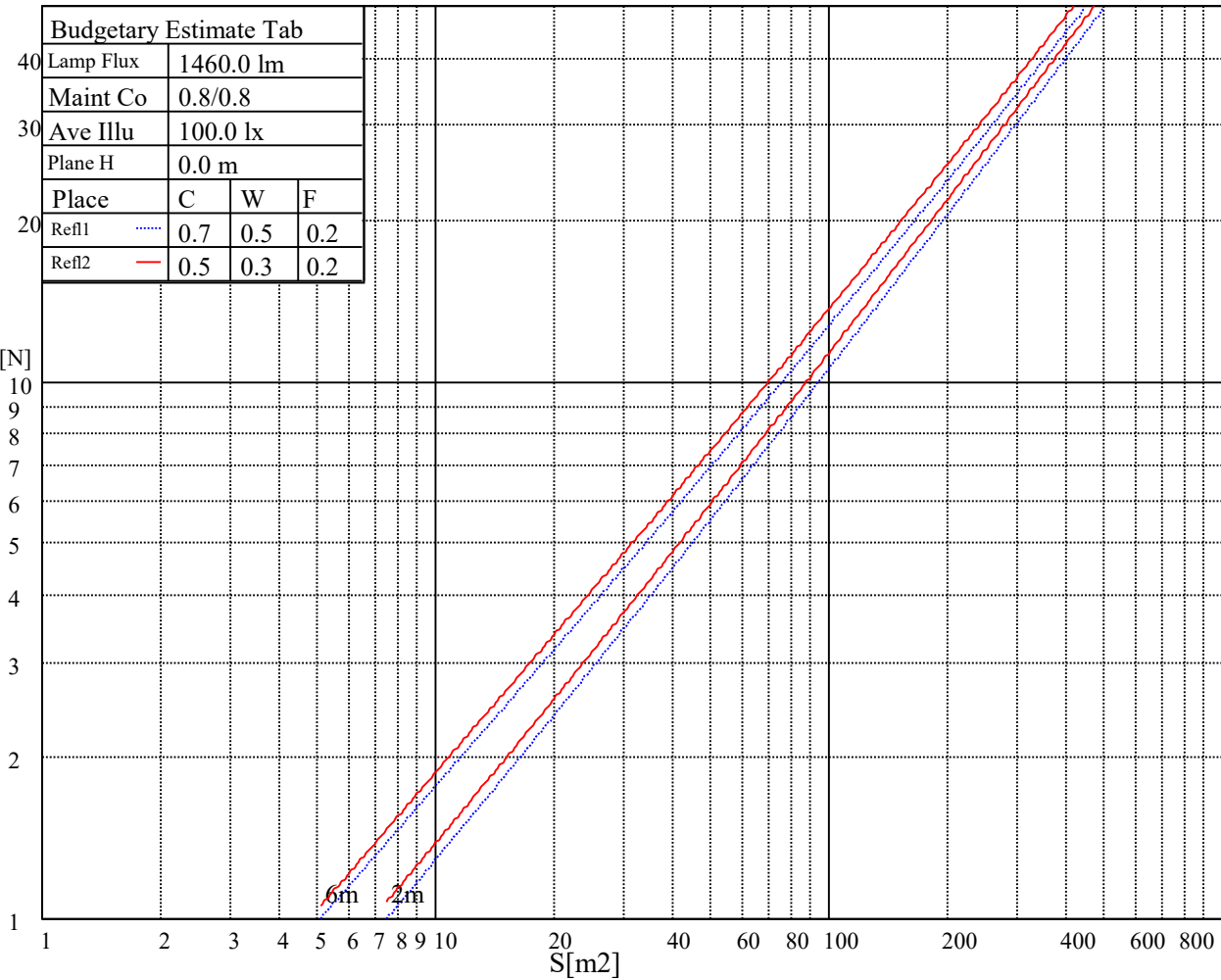
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
17970	17970	17970	23800	23800	23800	61051	61051	61051

Glare Table

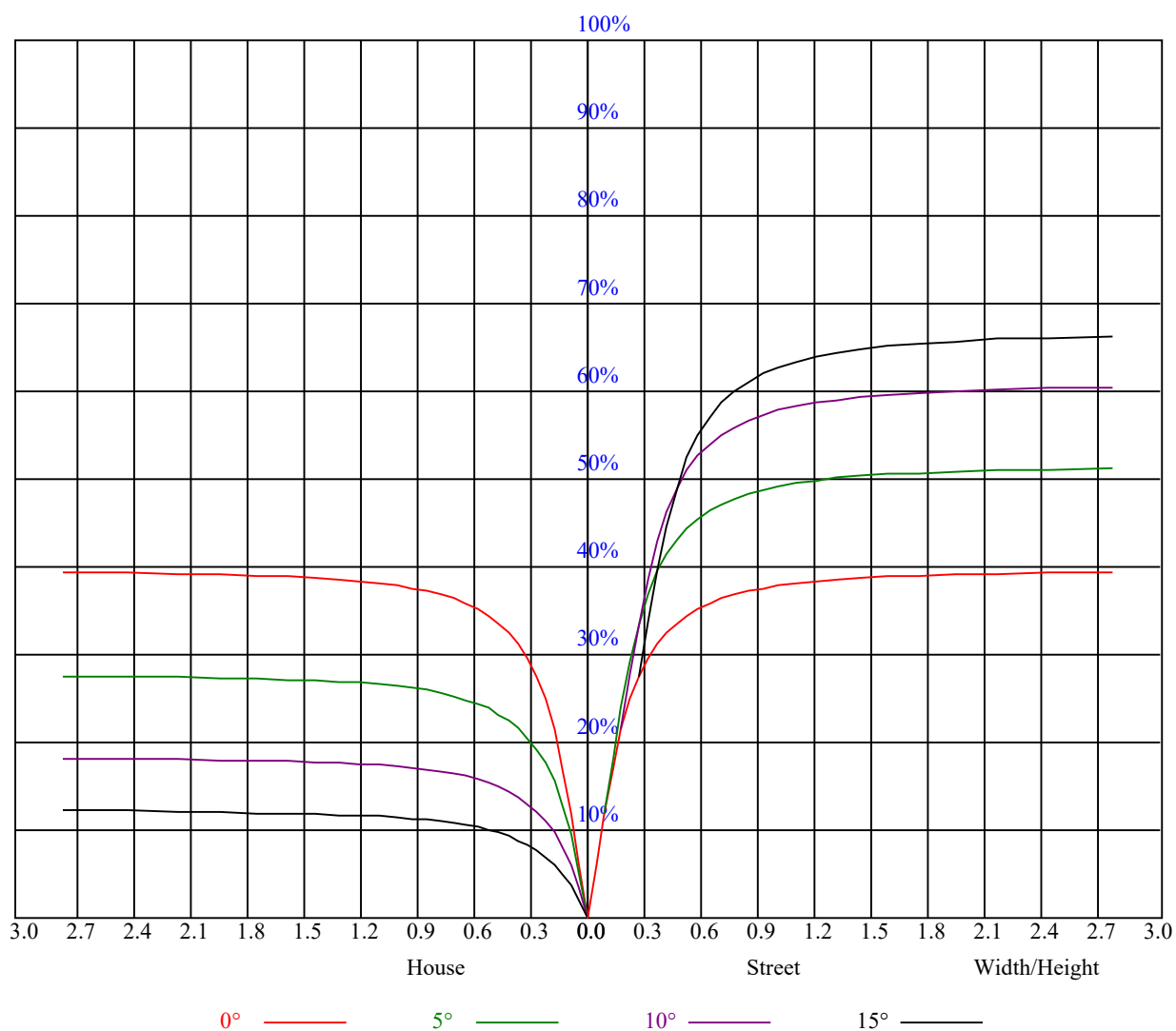
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	0.97	0.97	0.97	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.83	0.83	0.83	0.81
1	0.88	0.85	0.83	0.86	0.84	0.82	0.83	0.81	0.79	0.80	0.78	0.77	0.77	0.76	0.75	0.73
2	0.83	0.79	0.76	0.81	0.78	0.76	0.79	0.76	0.74	0.76	0.74	0.72	0.74	0.72	0.71	0.69
3	0.78	0.75	0.71	0.77	0.74	0.71	0.75	0.72	0.70	0.73	0.71	0.69	0.71	0.69	0.68	0.66
4	0.75	0.71	0.67	0.74	0.70	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.69	0.67	0.65	0.64
5	0.72	0.67	0.64	0.71	0.67	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.61
6	0.69	0.65	0.62	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.65	0.62	0.60	0.59
7	0.66	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.63	0.60	0.58	0.57
8	0.64	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.61	0.59	0.56	0.56
9	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.58	0.55	0.60	0.57	0.55	0.60	0.57	0.55	0.54
10	0.60	0.56	0.54	0.60	0.56	0.54	0.59	0.56	0.54	0.59	0.56	0.54	0.58	0.55	0.53	0.53



Nata 1436-N

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	4824.04	3998.75	2581.59	1200.78	564.88	331.99	213.73	143.75	106.15		
45.0	4824.04	3993.24	2588.75	1181.51	559.37	344.10	212.96	139.24	96.84		
90.0	4791.56	4101.70	2534.25	1078.83	588.94	353.19	225.24	152.29	108.90		
135.0	4773.94	4466.18	3162.99	1748.04	757.03	427.24	284.09	181.52	131.36		
180.0	4824.04	4346.15	2957.08	1315.85	706.10	420.80	265.65	172.33	126.91		
225.0	4824.04	4352.76	2899.82	1322.45	722.40	406.54	269.72	171.78	116.50		
270.0	4791.56	4254.21	2883.30	1438.62	705.27	400.81	283.54	167.98	119.14		
315.0	4773.94	3879.27	2264.47	1026.97	529.59	309.69	198.92	139.24	102.02		
360.0	4824.04	3998.75	2581.59	1200.78	564.88	331.99	213.73	143.75	106.15		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	77.68	57.59	37.99	23.23	15.86	14.15	13.38	13.76	11.62		
45.0	67.83	49.28	33.36	21.20	15.14	13.65	12.50	17.12	12.33		
90.0	76.53	55.99	36.56	22.35	15.86	14.31	13.82	13.65	12.06		
135.0	93.32	68.77	45.75	27.97	17.95	15.14	14.04	13.60	11.73		
180.0	90.68	66.51	42.83	26.98	16.79	14.04	12.77	12.11	10.57		
225.0	78.73	55.99	38.04	24.28	15.58	13.21	11.67	10.74	10.79		
270.0	84.57	60.73	41.35	24.67	15.86	13.76	12.61	12.44	10.57		
315.0	74.27	53.02	35.07	21.14	15.53	14.26	13.49	12.44	10.41		
360.0	77.68	57.59	37.99	23.23	15.86	14.15	13.38	13.76	11.62		
C/ γ (°)	90.0										
0.0	5.18										
45.0	5.34										
90.0	5.29										
135.0	5.51										
180.0	5.29										
225.0	5.67										
270.0	5.34										
315.0	5.23										
360.0	5.18										