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Nata

LumCAT: 3-2040-M
Luminaire: 92.70.135.00
Report No: NATA0100
Test No: GC2018062701
LampCAT: NICHIA NFCWJ120B-V3
Lamp flux(lm): 2279.0
Number of Lamps: 1
Length(mm): 79
Phm Type: C

Voltage(V): 33.7000
Current(A): 0.5000
Power (W): 16.8500
PF: 0.0000
Ballast type: DC
Width(mm): 79
Height(mm): 0

Photometric Results

Lumens(lm): 2047.99
Efficiency(%): 89.86%
Lumens(lm)/Power(W): 121.54
Central intensity(cd): 9304.669
Maximum intensity(cd): 9304.669
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=21.1
[C90/270]Total=21.1
Field angle(10%Imax): [C0/180]Total=47.3
[C90/270]Total=47.3
Maximum s/h(1/2): C0_180=0.36 C90_270=0.36
Maximum s/h(1/4): C0_180=0.37 C90_270=0.37
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 92.22%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.208%

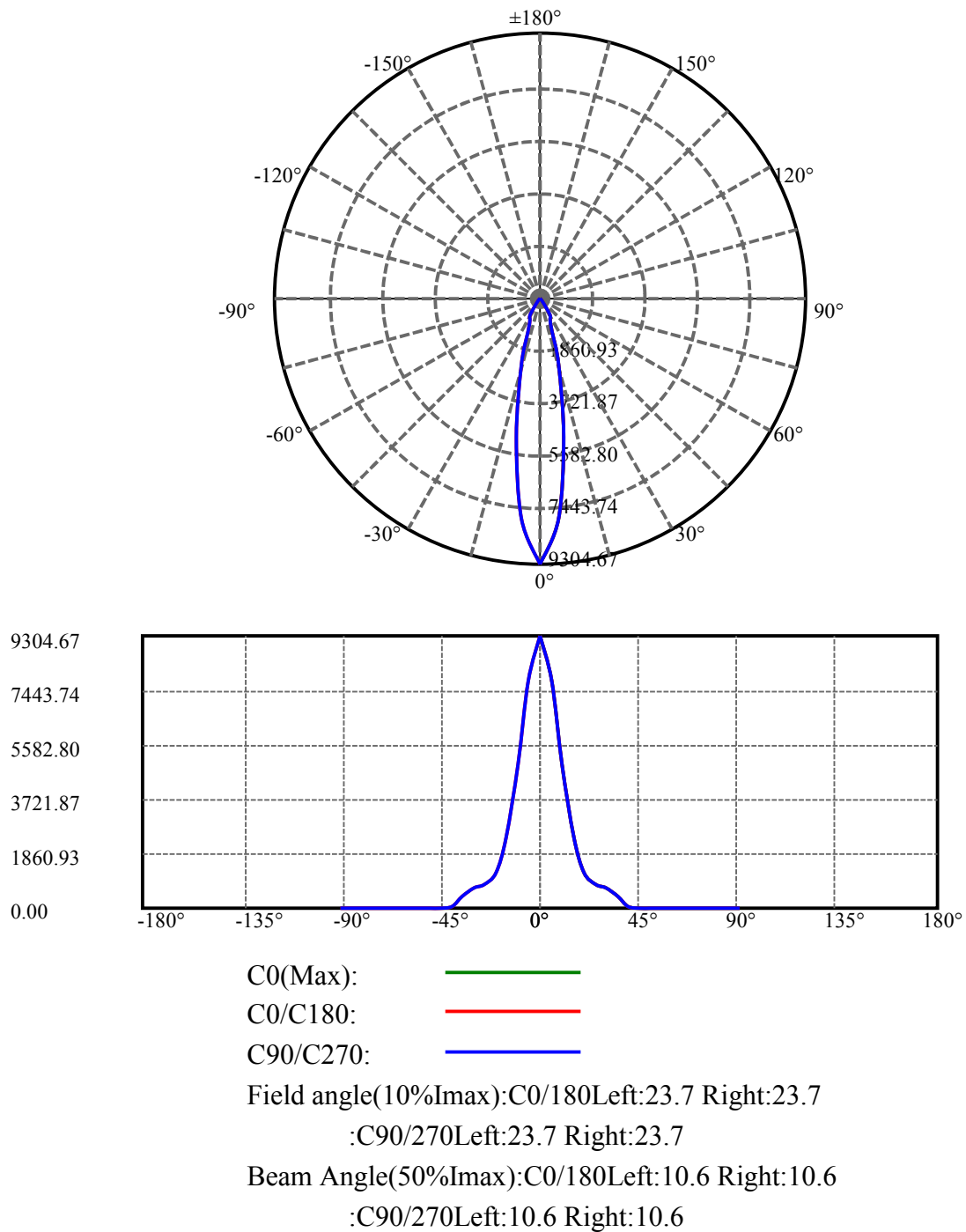
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	9304.669	55.644	55.644	2.442%	2.717%
5.0	7751.666	370.323	425.967	16.249%	20.799%
10.0	4931.952	469.438	895.405	20.598%	43.721%
15.0	2417.045	342.902	1238.307	15.046%	60.464%
20.0	1199.500	224.875	1463.182	9.867%	71.445%
25.0	831.840	192.698	1655.88	8.455%	80.854%
30.0	709.780	194.529	1850.409	8.536%	90.352%
35.0	424.994	133.618	1984.027	5.863%	96.877%
40.0	57.561	20.281	2004.308	.890%	97.867%
45.0	11.748	4.553	2008.861	.200%	98.089%
50.0	10.282	4.317	2013.178	.189%	98.300%
55.0	9.717	4.363	2017.541	.191%	98.513%
60.0	9.380	4.453	2021.994	.195%	98.731%
65.0	9.174	4.557	2026.552	.200%	98.953%
70.0	9.043	4.658	2031.209	.204%	99.180%
75.0	8.947	4.737	2035.946	.208%	99.412%
80.0	8.892	4.800	2040.746	.211%	99.646%
85.0	8.850	4.833	2045.579	.212%	99.882%
90.0	8.809	2.414	2047.993	.106%	100.000%

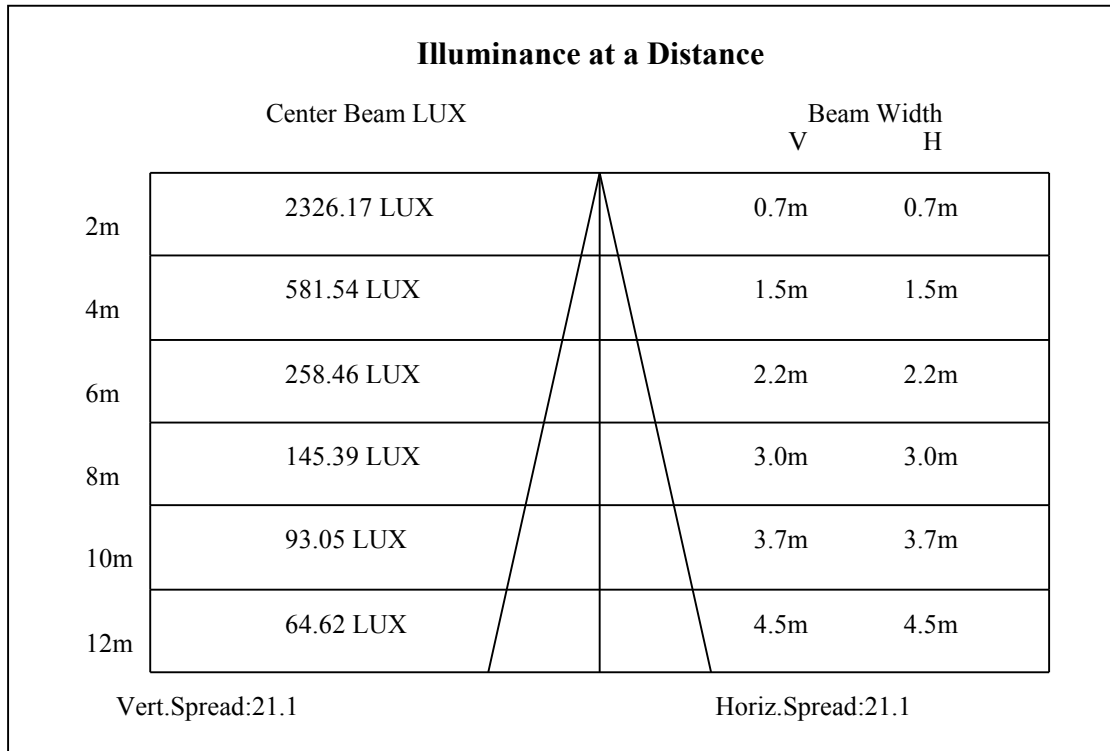
ZONAL LUMEN SUMMARY

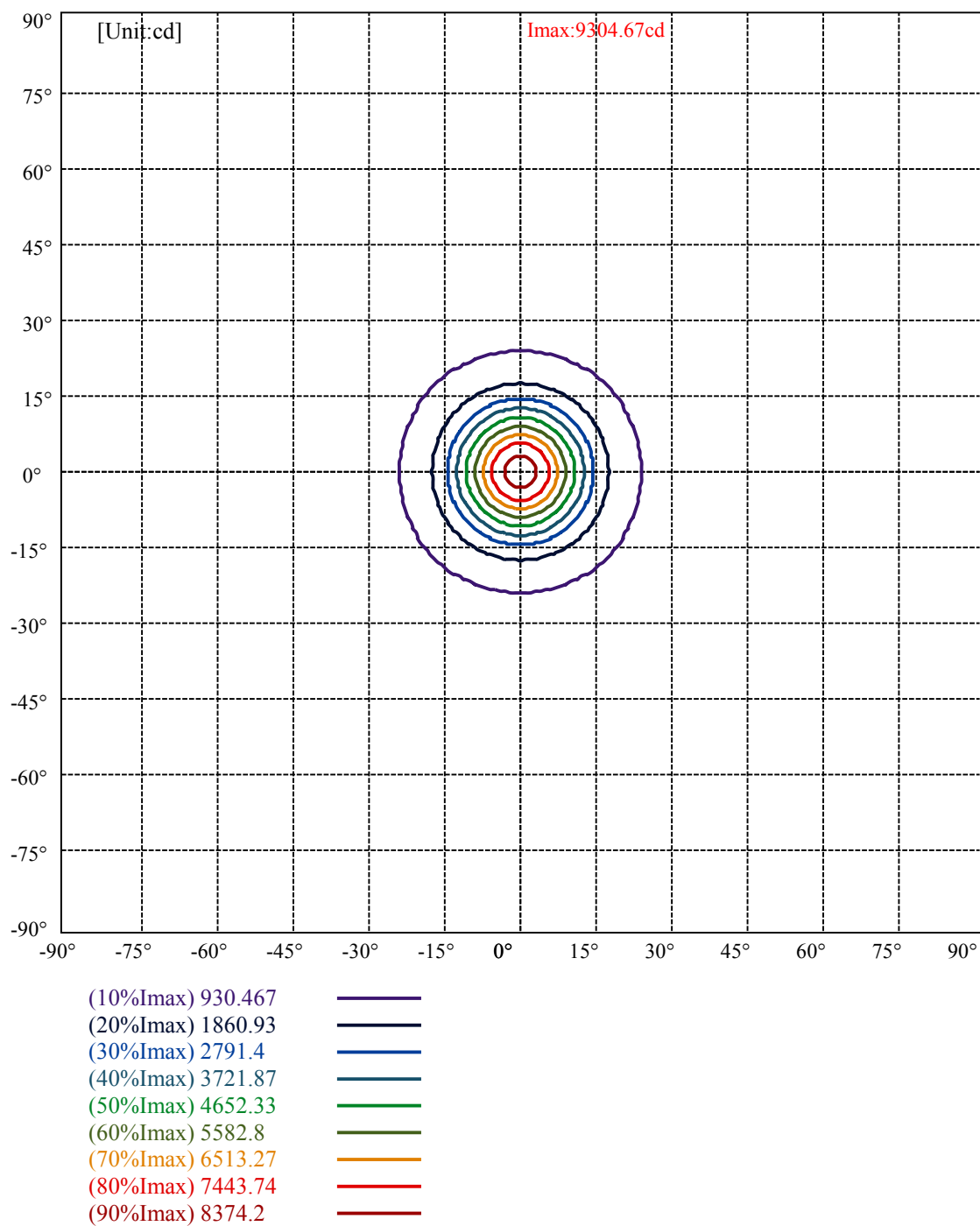
Zone	Lumens	%Lamp	%Fixt
0-30	1850.41	81.19%	90.35%
0-40	2004.31	87.95%	97.87%
0-60	2021.99	88.72%	98.73%
0-90	2045.58	89.76%	99.88%
0-120	2045.58	89.76%	99.88%
0-180	2047.99	89.86%	100.00%
60-90	28.04	1.23%	1.37%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-24.55	1638.40	71.89%	80.00%

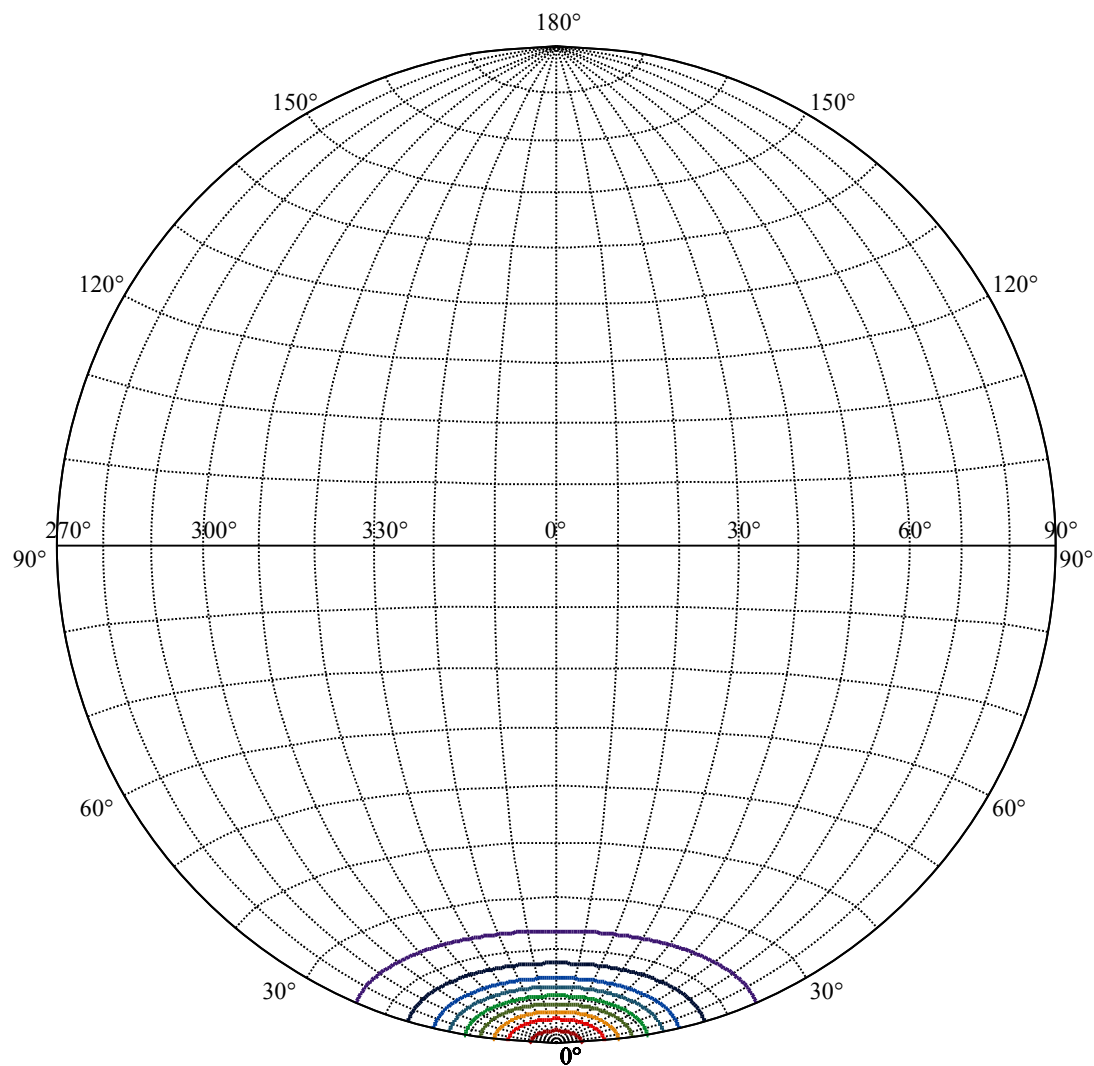
ZONAL LUMEN SUMMARY

0-10	895.40
10-20	567.78
20-30	387.23
30-40	153.90
40-50	8.87
50-60	8.82
60-70	9.22
70-80	9.54
80-90	4.83
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







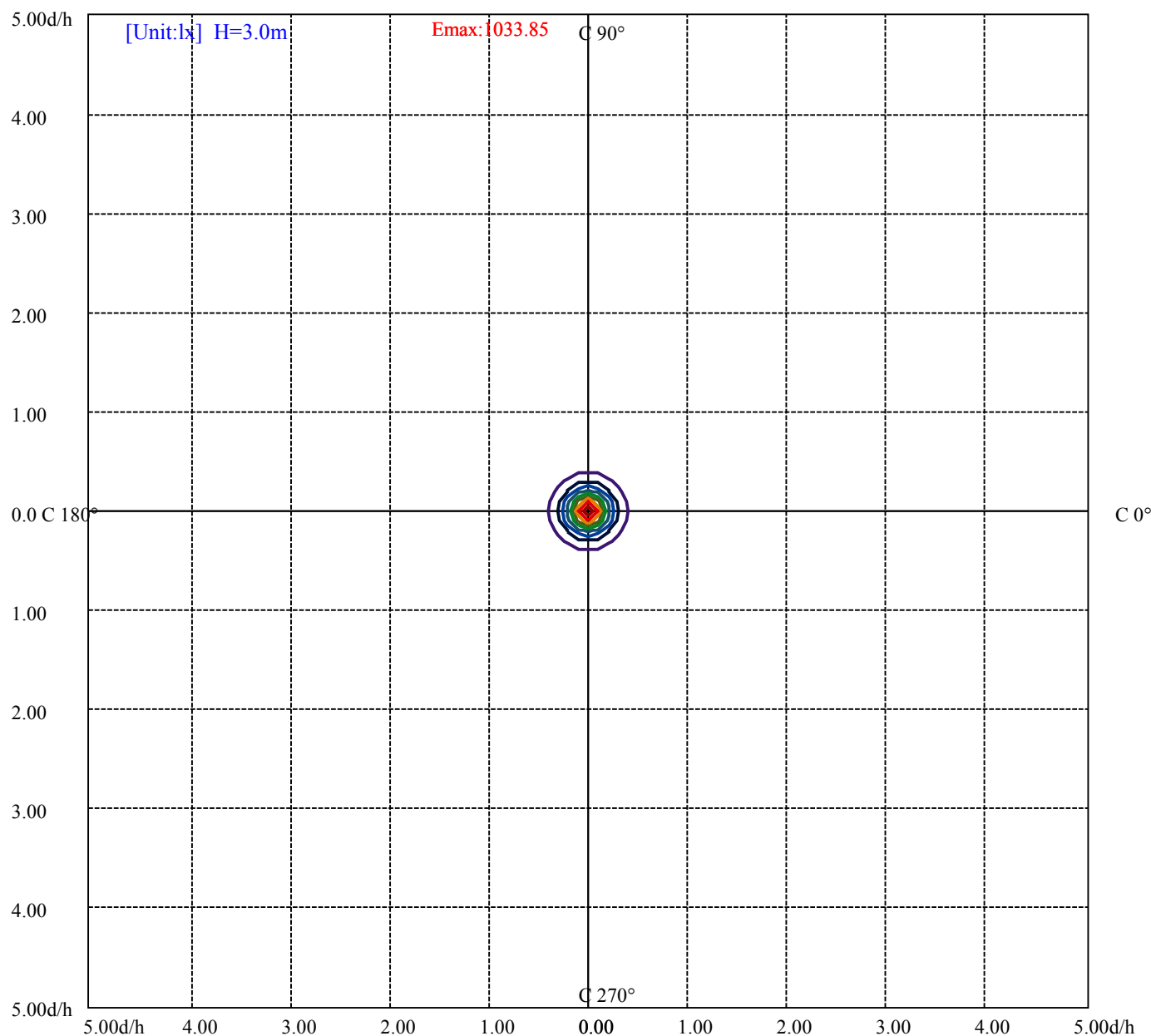


House

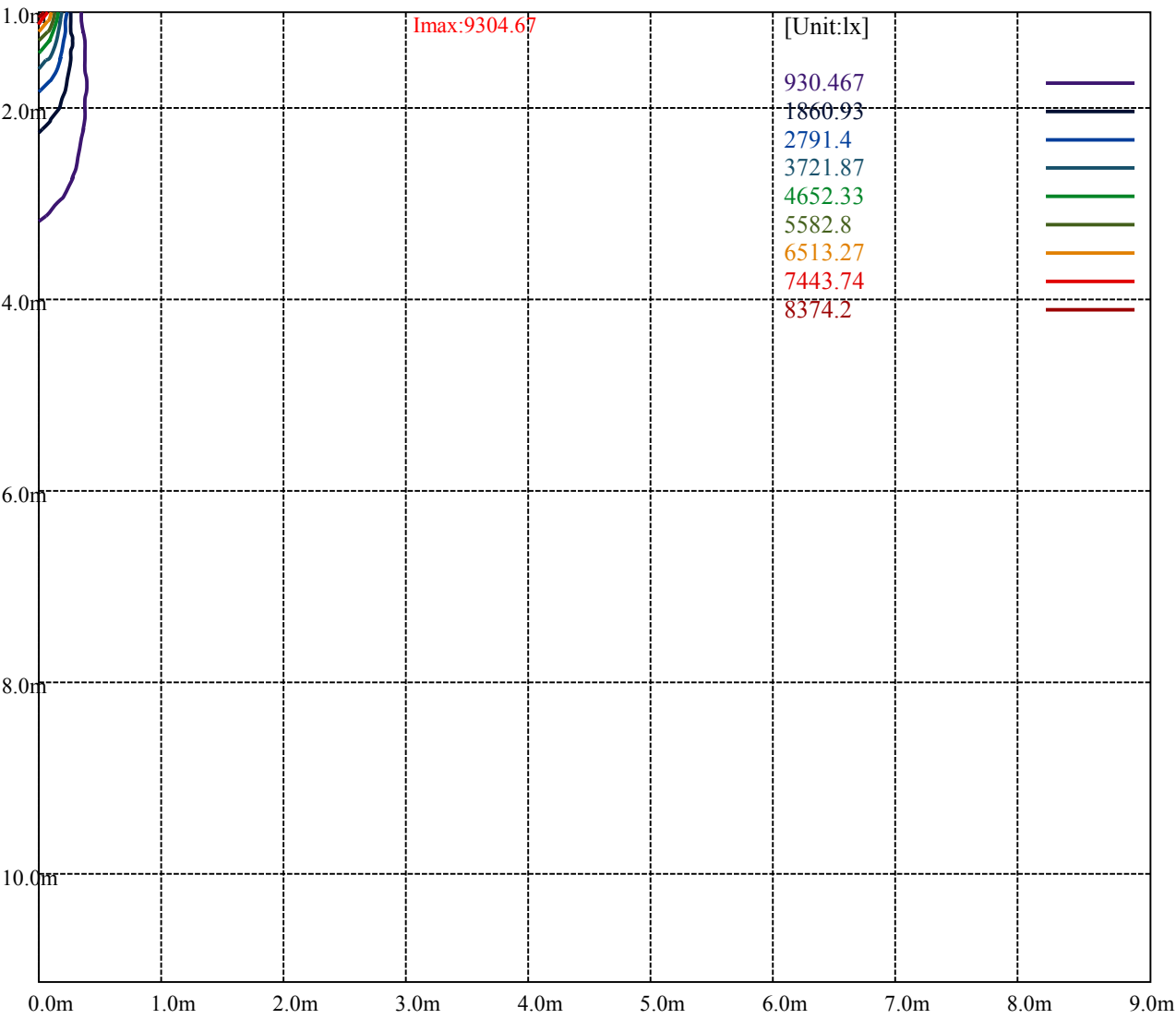
[Unit:cd]

Road

Imax:9304.67	
(10%Imax) 930.467	—
(20%Imax) 1860.93	—
(30%Imax) 2791.4	—
(40%Imax) 3721.87	—
(50%Imax) 4652.33	—
(60%Imax) 5582.8	—
(70%Imax) 6513.27	—
(80%Imax) 7443.74	—
(90%Imax) 8374.2	—



(10%Emax)	103.3847	—
(20%Emax)	206.7689	—
(30%Emax)	310.1544	—
(40%Emax)	413.5389	—
(50%Emax)	516.9233	—
(60%Emax)	620.3078	—
(70%Emax)	723.6934	—
(80%Emax)	827.0778	—
(90%Emax)	930.4622	—



Luminance Table

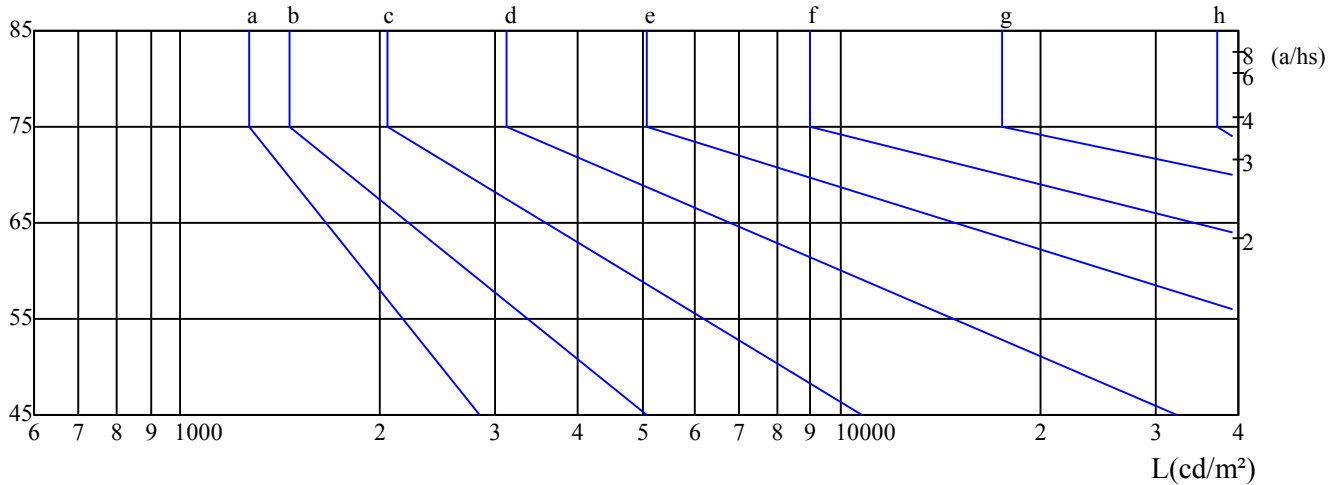
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

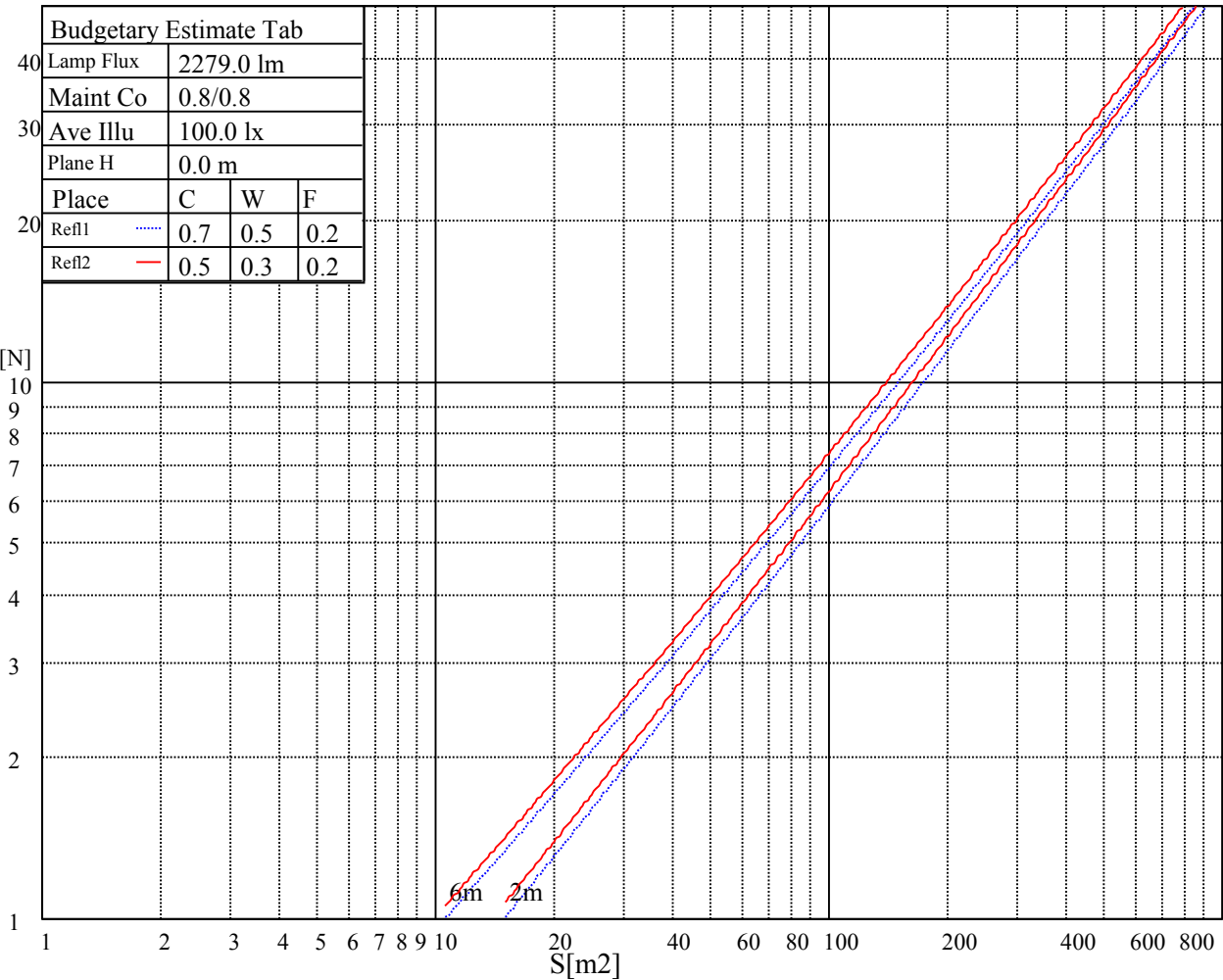
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

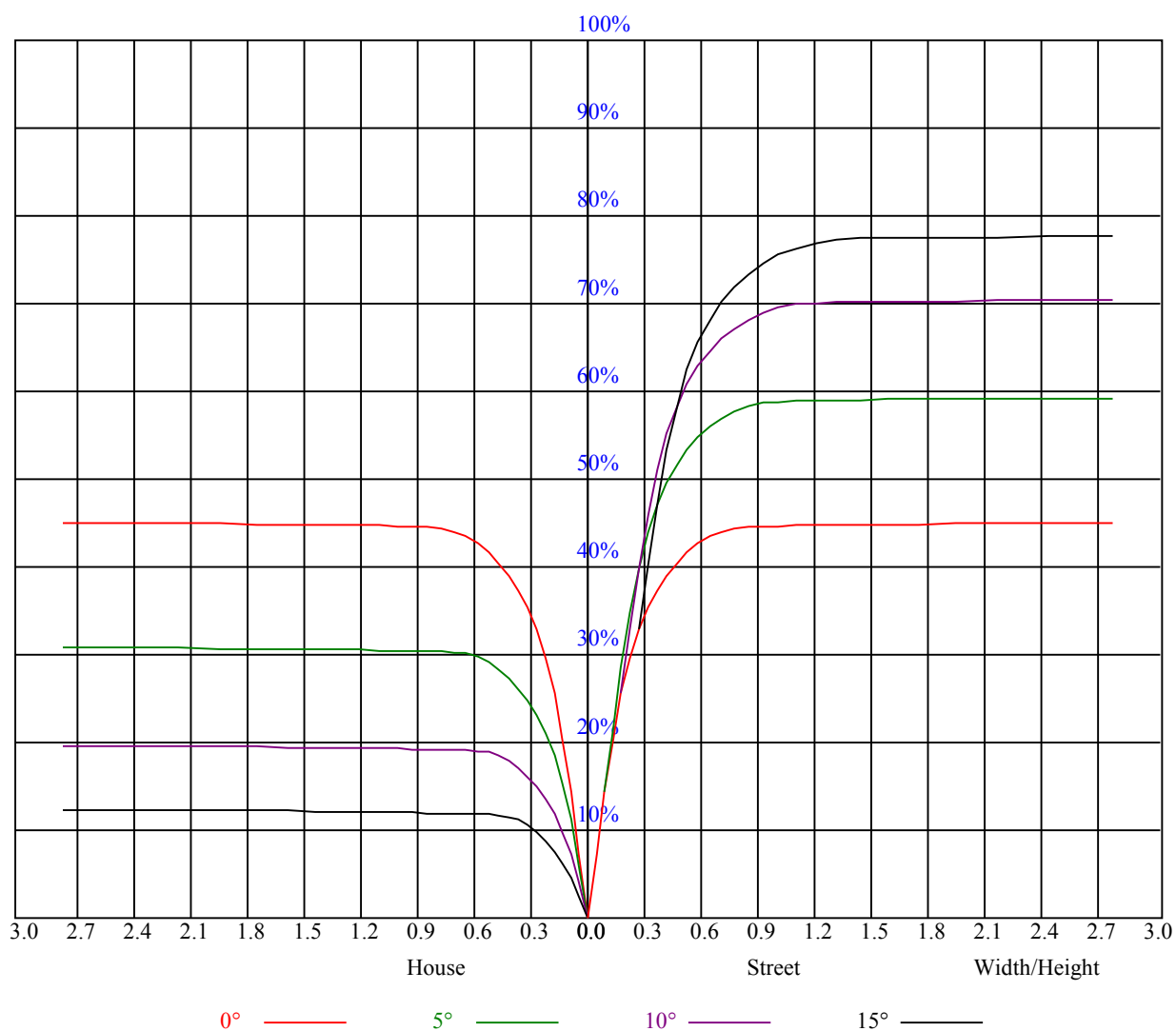
C0 ———

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	1.10	1.10	1.10	1.07	1.07	1.07	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.01	0.98	0.95	0.99	0.96	0.94	0.95	0.93	0.91	0.91	0.90	0.88	0.88	0.87	0.86	0.84
2	0.95	0.92	0.89	0.94	0.91	0.88	0.91	0.88	0.86	0.88	0.86	0.84	0.86	0.84	0.82	0.81
3	0.91	0.87	0.84	0.90	0.86	0.83	0.87	0.84	0.82	0.85	0.83	0.80	0.83	0.81	0.79	0.78
4	0.87	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.78	0.83	0.80	0.77	0.81	0.79	0.77	0.75
5	0.84	0.80	0.76	0.83	0.79	0.76	0.82	0.78	0.75	0.80	0.77	0.75	0.79	0.76	0.74	0.73
6	0.81	0.77	0.73	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.71
7	0.78	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.70	0.69
8	0.76	0.72	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.67
9	0.74	0.69	0.67	0.73	0.69	0.66	0.72	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.65
10	0.71	0.67	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.63



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	9322.70	7754.69	4865.88	2450.01	1299.33	834.10	714.63	417.88	49.39		
45.0	9372.80	7786.08	4847.72	2330.54	1250.88	828.05	709.13	428.89	49.22		
90.0	9243.42	7408.94	4410.02	2082.23	1091.60	790.61	694.21	348.45	31.27		
135.0	9279.76	8023.92	5289.82	2588.75	1288.32	863.28	712.43	456.42	99.82		
180.0	9322.70	7770.66	4932.50	2468.73	1089.35	823.31	702.63	422.45	53.18		
225.0	9372.80	7819.11	5011.23	2401.01	1086.81	834.77	709.35	432.63	55.22		
270.0	9243.42	8120.82	5416.45	2794.11	1392.93	874.30	728.40	506.52	94.15		
315.0	9279.76	7329.11	4682.00	2220.98	1096.78	806.30	707.47	386.72	28.24		
360.0	9322.70	7754.69	4865.88	2450.01	1299.33	834.10	714.63	417.88	49.39		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	11.23	10.19	9.63	9.30	9.14	9.03	8.92	8.86	8.86		
45.0	11.18	10.35	9.74	9.41	9.19	9.03	8.97	8.86	8.86		
90.0	11.01	10.24	9.74	9.41	9.19	9.08	8.97	8.92	8.81		
135.0	12.17	10.35	9.80	9.47	9.25	9.08	8.97	8.92	8.86		
180.0	11.07	10.24	9.74	9.36	9.19	9.03	8.92	8.86	8.81		
225.0	11.73	10.30	9.69	9.36	9.14	9.03	8.92	8.86	8.81		
270.0	13.98	10.41	9.80	9.41	9.19	9.08	8.97	8.97	8.92		
315.0	11.62	10.19	9.58	9.30	9.08	8.97	8.92	8.86	8.86		
360.0	11.23	10.19	9.63	9.30	9.14	9.03	8.92	8.86	8.86		
C/ γ (°)	90.0										
0.0	8.81										
45.0	8.81										
90.0	8.81										
135.0	8.86										
180.0	8.81										
225.0	8.75										
270.0	8.81										
315.0	8.81										
360.0	8.81										