
Nata

LumCAT: 3-2115-N	
Luminaire: 92.70.131.00	
Report No: NT2018041008	Voltage(V): 34.0000
Test No: nata-0100	Current(A): 0.3000
LampCAT: BRIDGELUX V13B	Power (W): 10.2000
Lamp flux(lm): 1608.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 81	Width(mm): 81
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1380.56
Efficiency(%): 85.86%
Lumens(lm)/Power(W): 141.05
Central intensity(cd): 9937.129
Maximum intensity(cd): 9937.129
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=15.6
[C90/270]Total=15.6
Field angle(10%Imax): [C0/180]Total=39.0
[C90/270]Total=39.0
Maximum s/h(1/2): C0_180=0.27 C90_270=0.27
Maximum s/h(1/4): C0_180=0.30 C90_270=0.30
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.47%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 94.694%

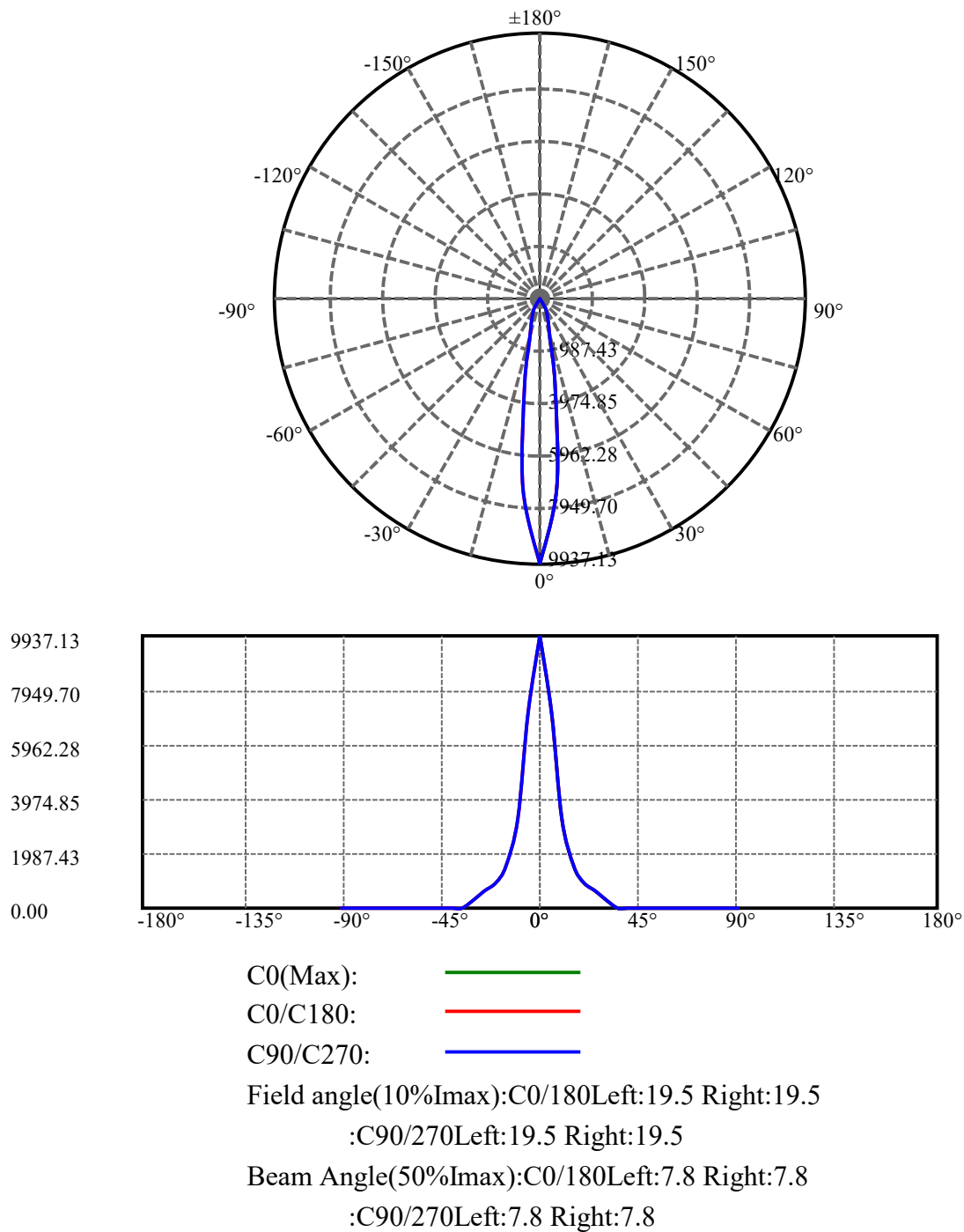
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	9937.130	59.426	59.426	3.696%	4.304%
5.0	7120.169	340.154	399.58	21.154%	28.943%
10.0	3275.443	311.767	711.347	19.388%	51.526%
15.0	1573.567	223.239	934.586	13.883%	67.696%
20.0	932.545	174.828	1109.414	10.872%	80.360%
25.0	590.094	136.697	1246.111	8.501%	90.261%
30.0	332.279	91.067	1337.179	5.663%	96.858%
35.0	30.405	9.559	1346.738	.594%	97.550%
40.0	9.504	3.349	1350.087	.208%	97.793%
45.0	7.735	2.998	1353.085	.186%	98.010%
50.0	7.137	2.997	1356.081	.186%	98.227%
55.0	6.820	3.062	1359.144	.190%	98.449%
60.0	6.731	3.195	1362.339	.199%	98.680%
65.0	6.758	3.357	1365.696	.209%	98.923%
70.0	6.421	3.307	1369.003	.206%	99.163%
75.0	6.263	3.316	1372.319	.206%	99.403%
80.0	6.159	3.325	1375.644	.207%	99.644%
85.0	6.036	3.296	1378.94	.205%	99.883%
90.0	5.912	1.620	1380.56	.101%	100.000%

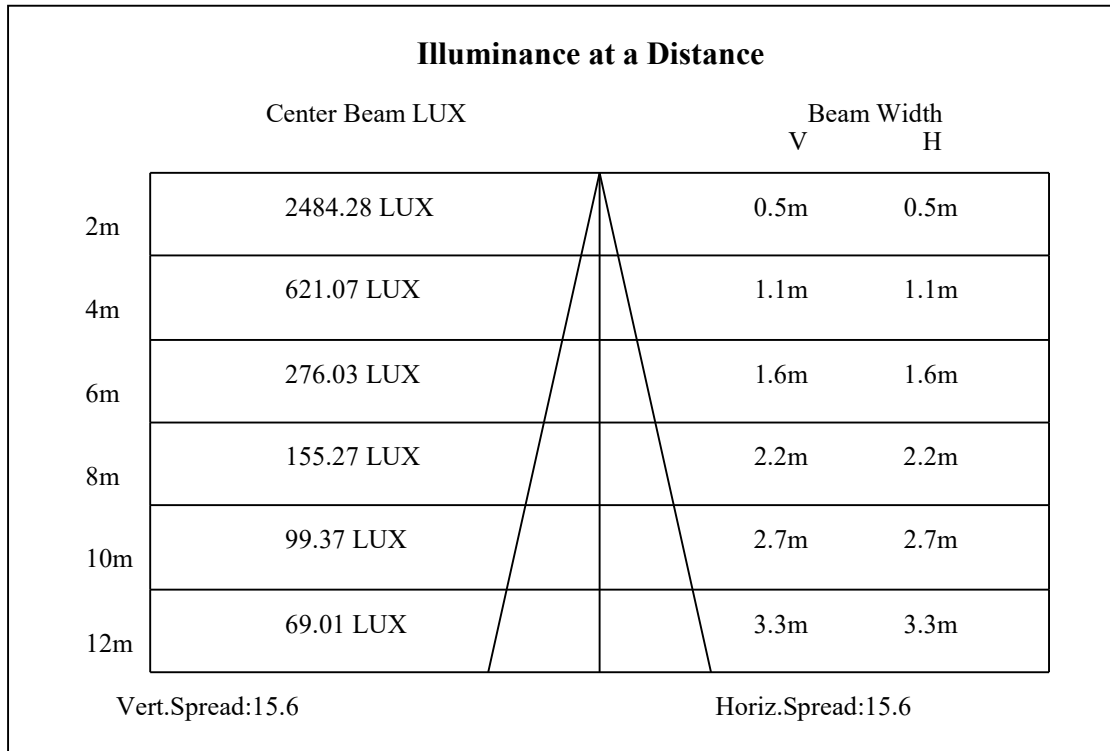
ZONAL LUMEN SUMMARY

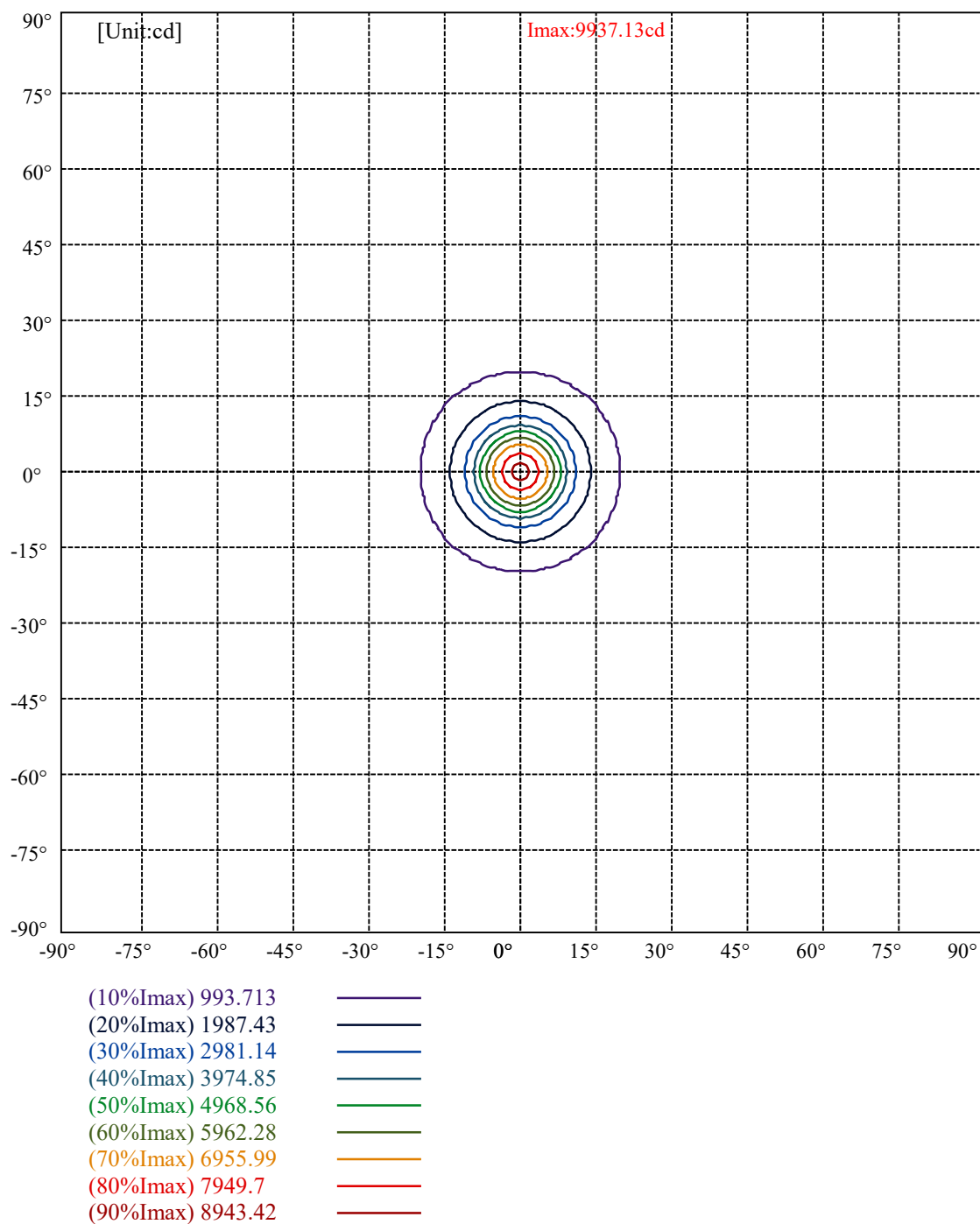
Zone	Lumens	%Lamp	%Fixt
0-30	1337.18	83.16%	96.86%
0-40	1350.09	83.96%	97.79%
0-60	1362.34	84.72%	98.68%
0-90	1378.94	85.75%	99.88%
0-120	1378.94	85.75%	99.88%
0-180	1380.56	85.86%	100.00%
60-90	19.80	1.23%	1.43%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-19.86	1104.45	68.68%	80.00%

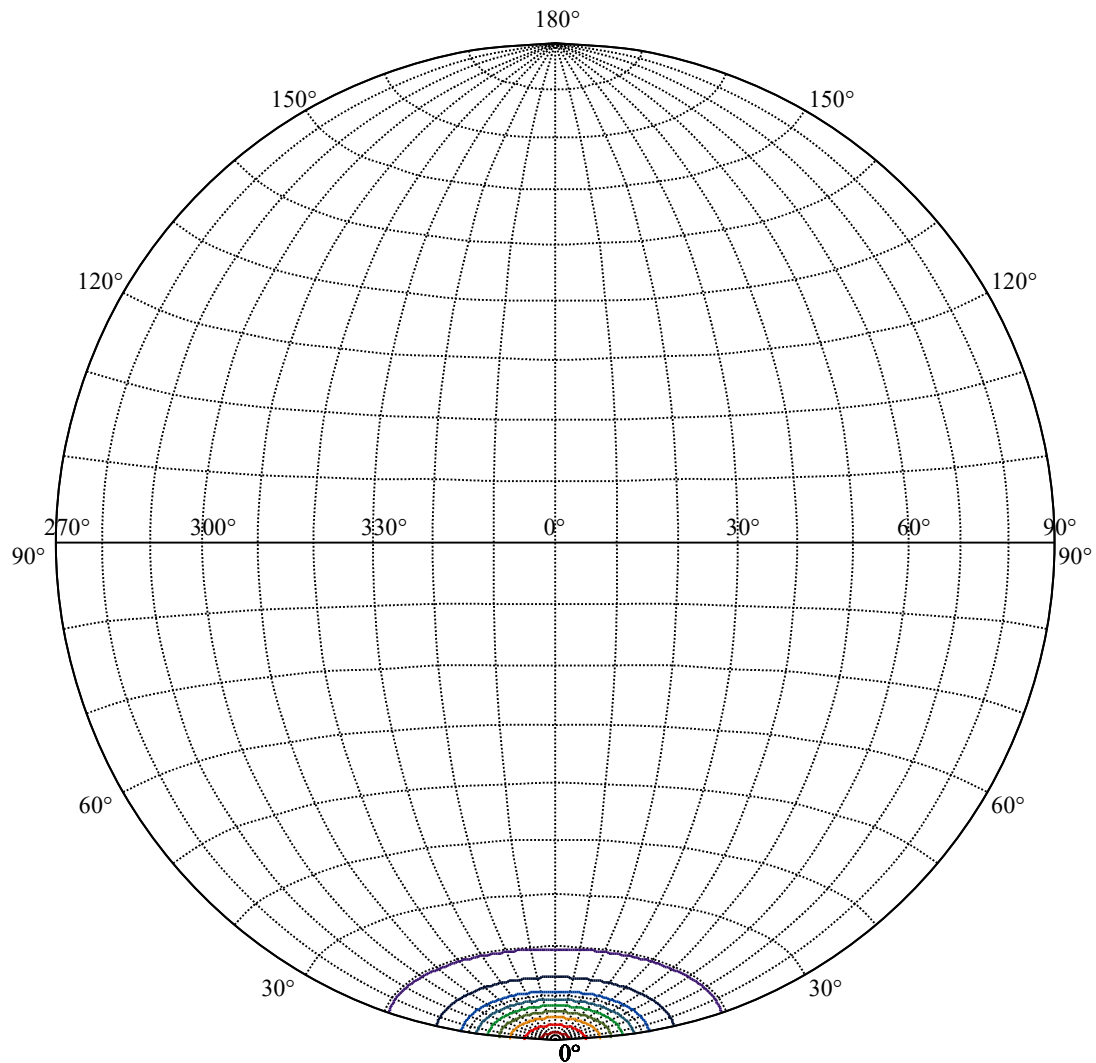
ZONAL LUMEN SUMMARY

0-10	711.35
10-20	398.07
20-30	227.76
30-40	12.91
40-50	5.99
50-60	6.26
60-70	6.66
70-80	6.64
80-90	3.30
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









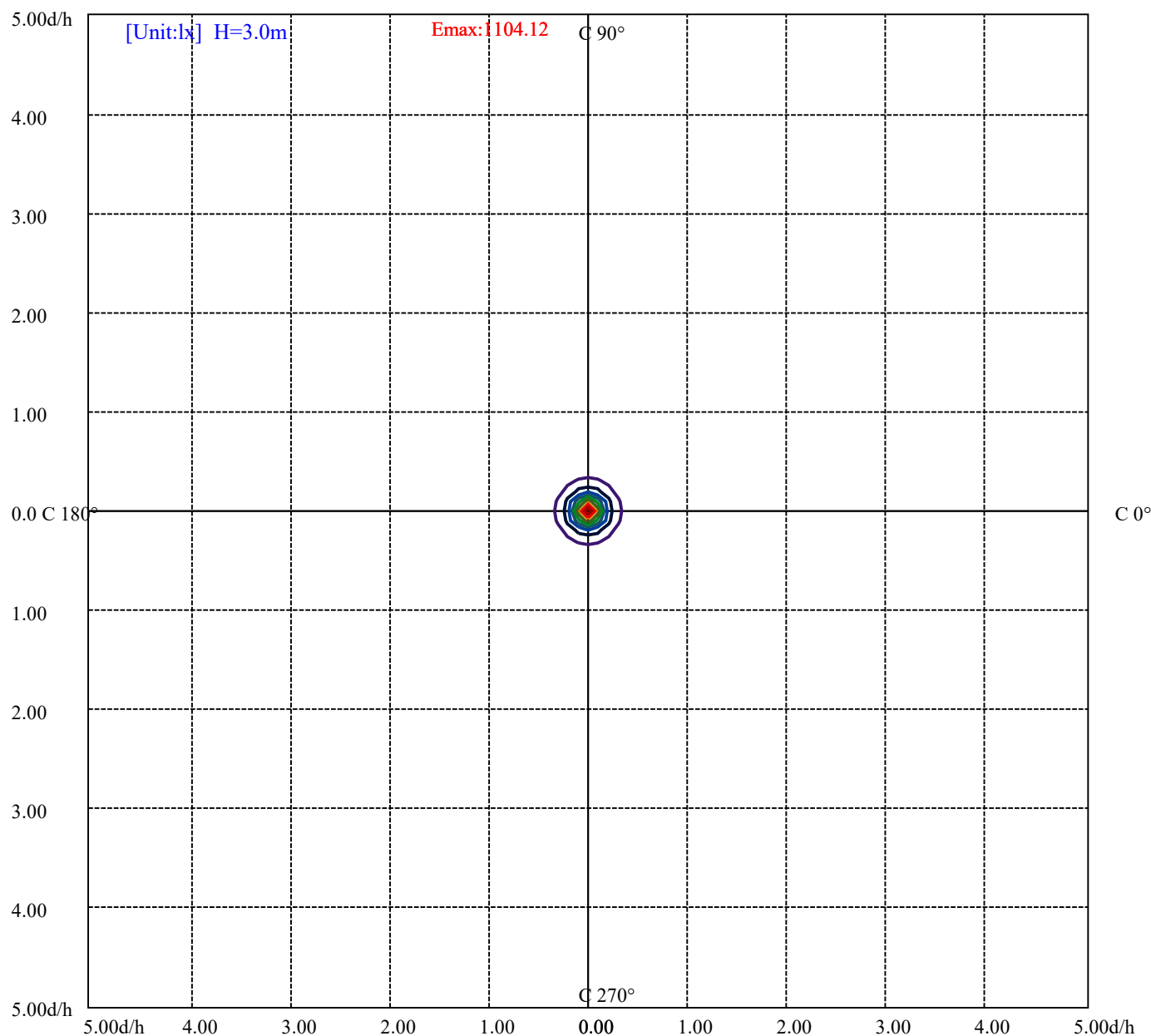
House

[Unit:cd]

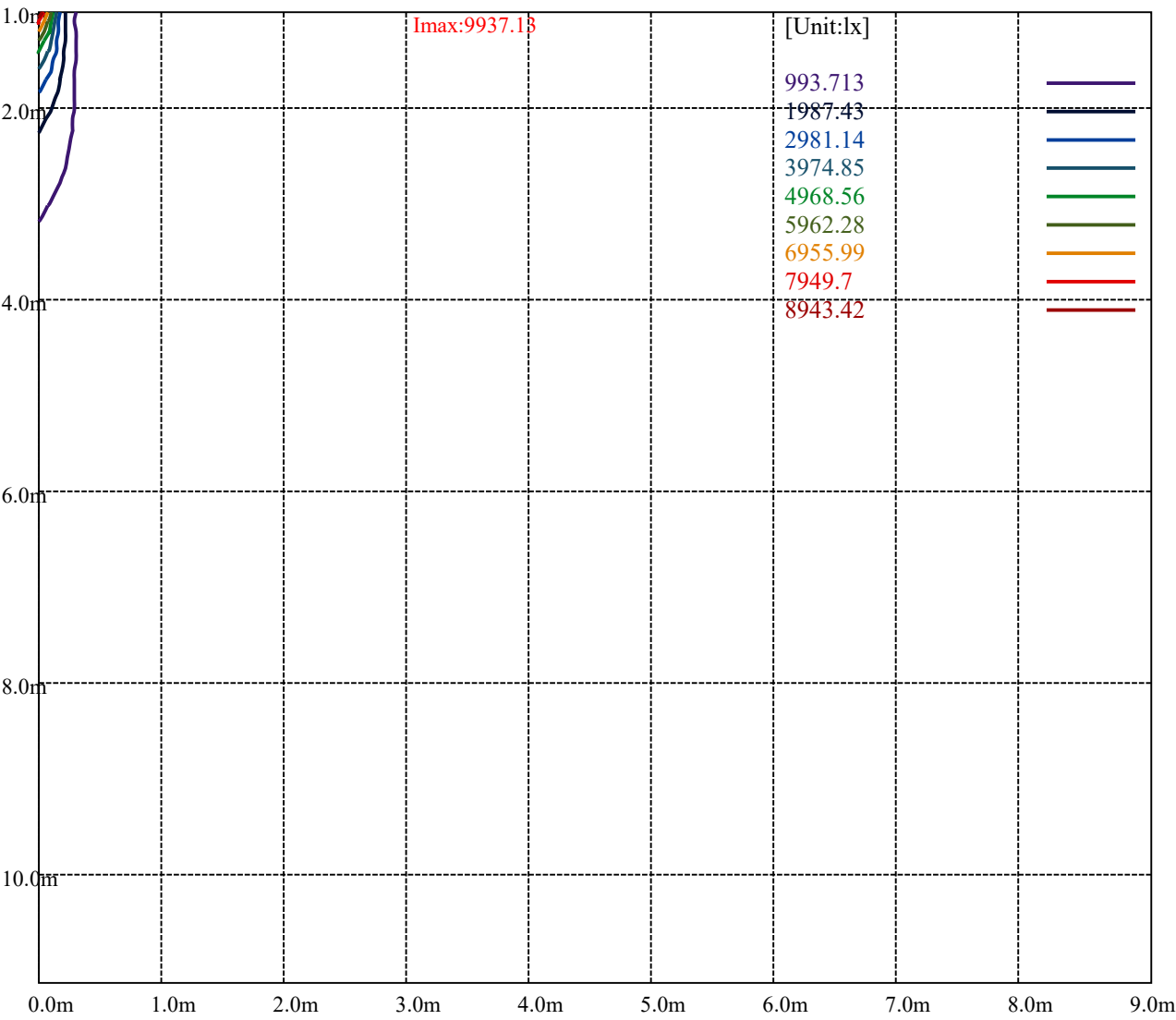
Road

Imax:9937.13

(10%Imax)	993.713	—
(20%Imax)	1987.43	—
(30%Imax)	2981.14	—
(40%Imax)	3974.85	—
(50%Imax)	4968.56	—
(60%Imax)	5962.28	—
(70%Imax)	6955.99	—
(80%Imax)	7949.7	—
(90%Imax)	8943.42	—



(10%Emax)	110.4116	
(20%Emax)	220.8233	
(30%Emax)	331.2345	
(40%Emax)	441.6467	
(50%Emax)	552.0578	
(60%Emax)	662.47	
(70%Emax)	772.8811	
(80%Emax)	883.2933	
(90%Emax)	993.7044	



Luminance Table

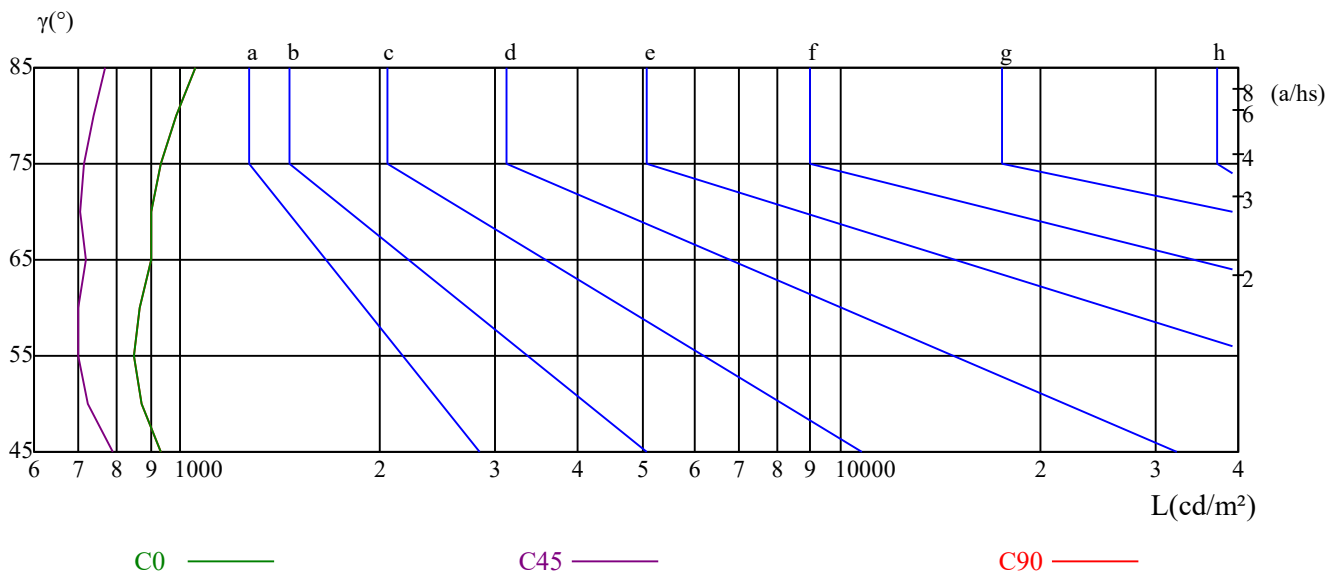
γ	45	50	55	60	65	70	75	80	85
C0	931	872	851	866	905	902	934	986	1052
C45	787	726	698	699	718	703	713	737	766
C90	931	872	851	866	905	902	934	986	1052

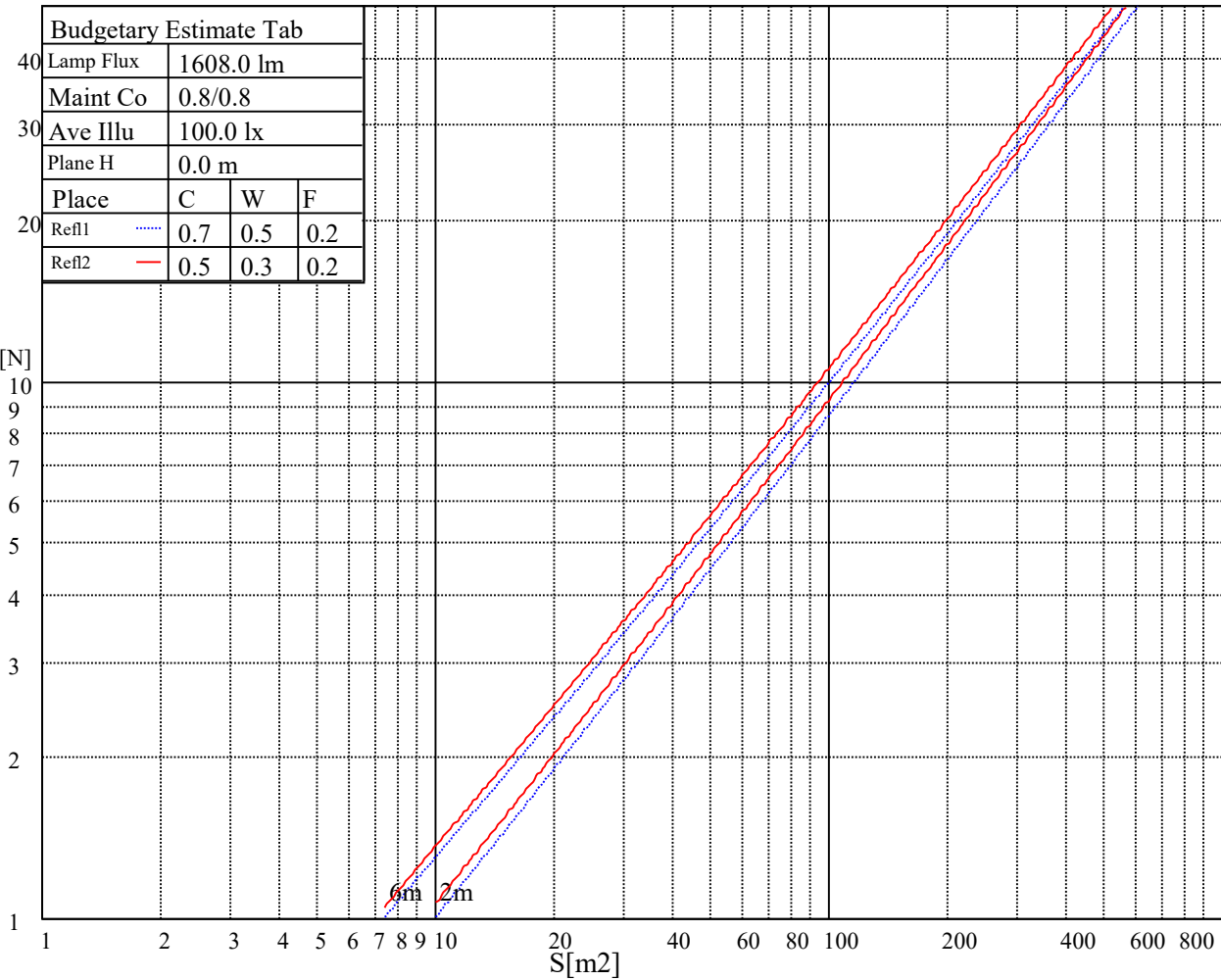
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2437	2437	2437	3688	3688	3688	10555	10555	10555

Glare Table

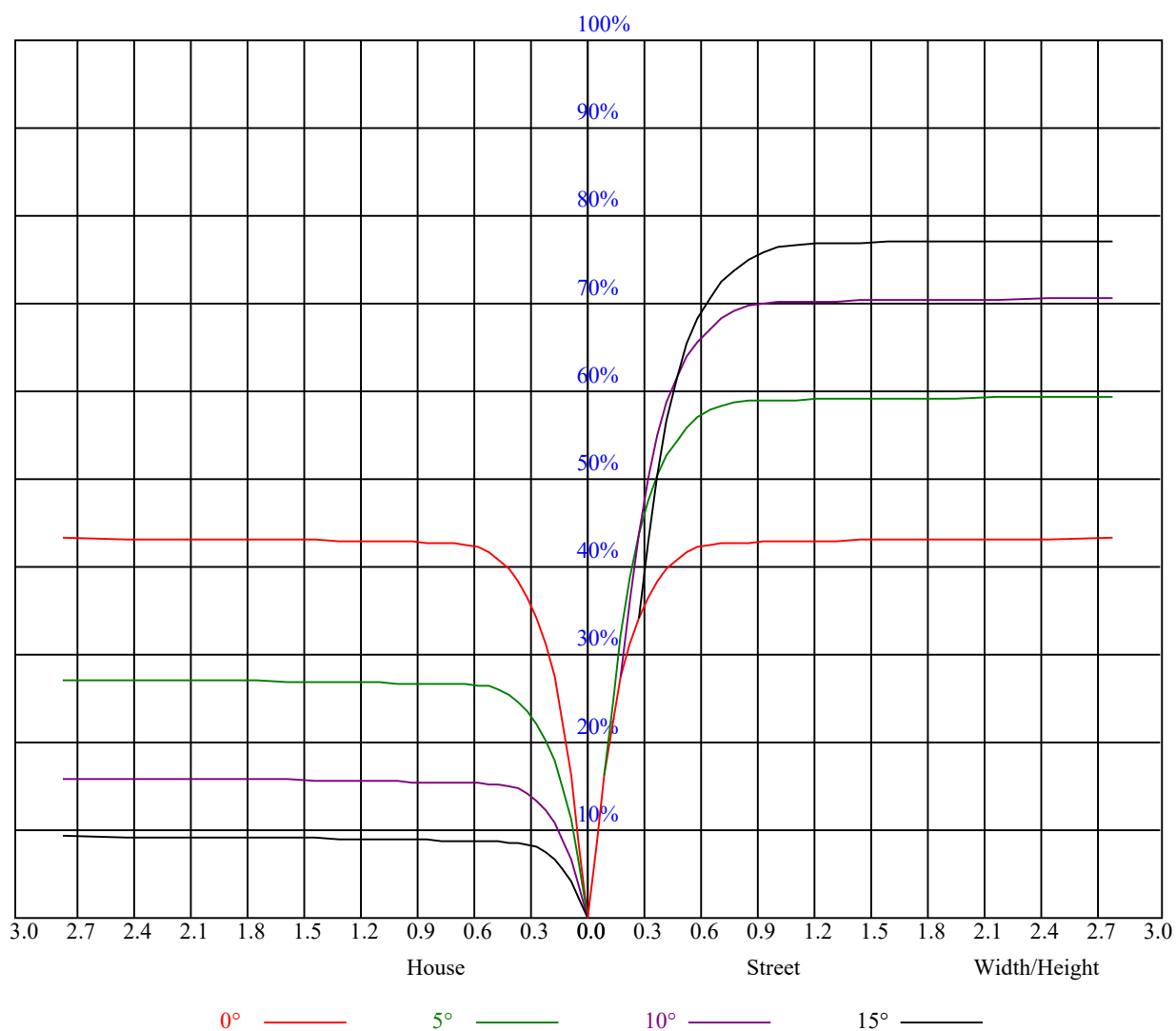
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	1.07	1.07	1.07	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	0.96	0.93	0.90	0.94	0.91	0.89	0.90	0.88	0.86	0.87	0.85	0.84	0.84	0.82	0.81	0.79
2	0.92	0.88	0.85	0.90	0.87	0.84	0.87	0.84	0.82	0.85	0.82	0.80	0.82	0.80	0.79	0.77
3	0.88	0.84	0.81	0.87	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.77	0.80	0.78	0.76	0.75
4	0.85	0.80	0.77	0.84	0.80	0.77	0.82	0.79	0.76	0.80	0.77	0.75	0.79	0.76	0.74	0.73
5	0.82	0.78	0.75	0.81	0.77	0.74	0.80	0.76	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.71
6	0.79	0.75	0.72	0.79	0.75	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.75	0.73	0.71	0.70
7	0.77	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.68
8	0.75	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.72	0.70	0.68	0.67
9	0.73	0.69	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.71	0.68	0.66	0.65
10	0.72	0.68	0.65	0.71	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.69	0.67	0.65	0.64



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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	9976.77	6777.44	3217.50	1579.57	933.76	605.62	331.99	20.54	9.58		
45.0	10001.55	6502.16	2925.15	1422.66	865.49	532.40	296.20	16.68	9.91		
90.0	9806.65	5678.52	2611.33	1088.91	833.00	539.22	216.76	11.73	7.60		
135.0	9963.56	7429.86	3400.28	1645.09	948.62	589.10	344.10	18.00	7.76		
180.0	9976.77	7216.79	3270.90	1598.84	921.81	592.57	323.07	17.62	7.54		
225.0	10001.55	7978.77	3544.53	1756.85	997.68	620.87	388.86	44.76	8.53		
270.0	9806.65	8793.06	4066.47	1915.41	1031.76	634.25	423.38	94.59	14.76		
315.0	9963.56	6584.75	3167.39	1581.22	928.25	606.72	333.86	19.32	10.35		
360.0	9976.77	6777.44	3217.50	1579.57	933.76	605.62	331.99	20.54	9.58		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	8.04	7.98	7.16	6.61	6.66	6.33	6.17	6.06	6.00		
45.0	7.49	6.83	6.66	6.66	6.61	6.28	6.11	6.06	6.00		
90.0	6.72	6.50	6.44	6.50	6.55	6.55	6.50	6.33	6.06		
135.0	6.88	6.55	6.44	6.39	6.39	6.39	6.28	6.17	6.06		
180.0	6.83	6.50	6.44	6.50	6.55	6.39	6.22	6.11	6.00		
225.0	7.21	6.88	6.83	6.94	7.54	6.61	6.33	6.28	6.06		
270.0	10.52	8.26	7.43	7.43	7.21	6.50	6.28	6.17	6.06		
315.0	8.20	7.60	7.16	6.83	6.55	6.33	6.22	6.11	6.06		
360.0	8.04	7.98	7.16	6.61	6.66	6.33	6.17	6.06	6.00		
C/ γ (°)	90.0										
0.0	5.89										
45.0	5.84										
90.0	5.89										
135.0	5.95										
180.0	5.95										
225.0	5.84										
270.0	5.95										
315.0	6.00										
360.0	5.89										