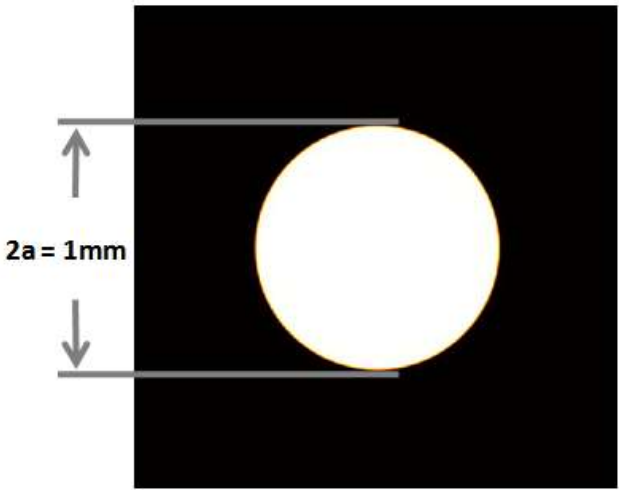
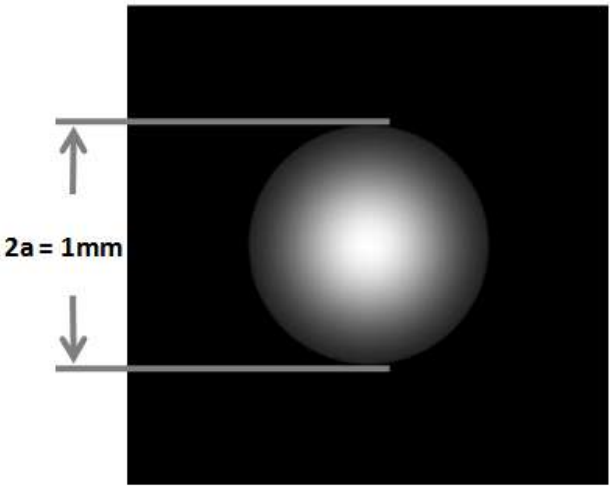
Fresnel Atlas
Aperture Geometries

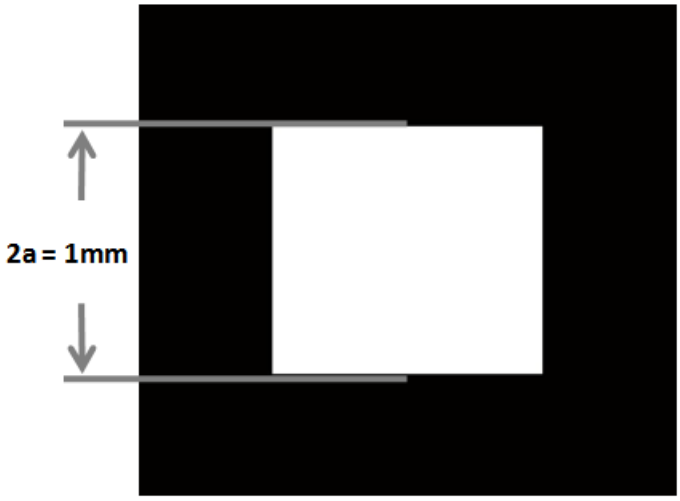
Uniform Illumination on a Circular Aperuture



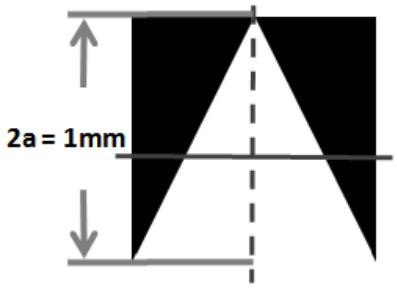
Gaussian Illumination on a Cirular Aperture



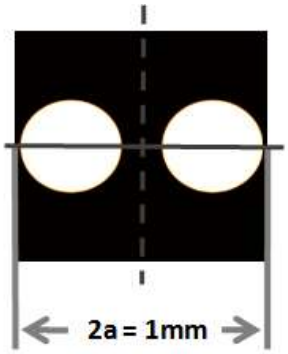
Uniform Illumination on a Square Aperture



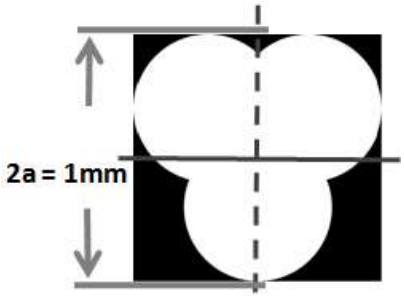
Uniform Illumination on a Triangle



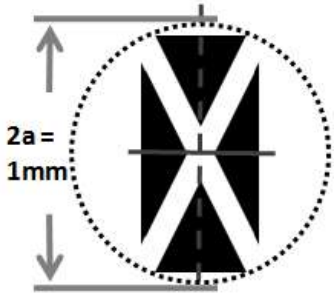
Uniform Illumination on 2 Circles



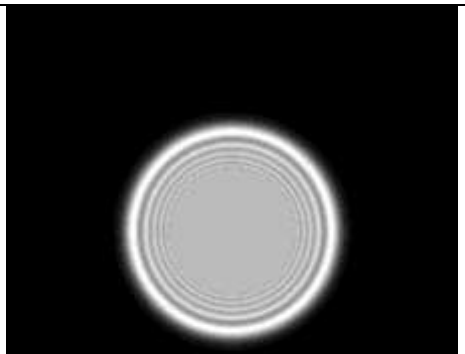
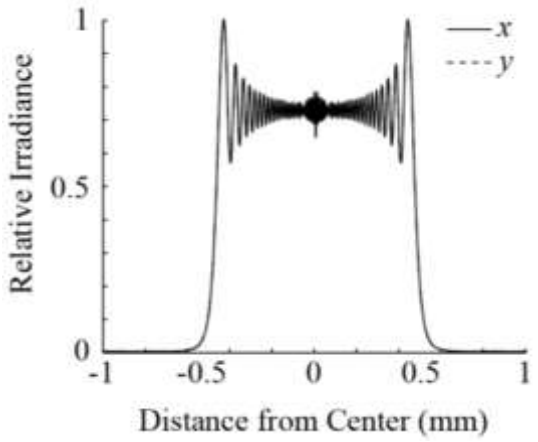
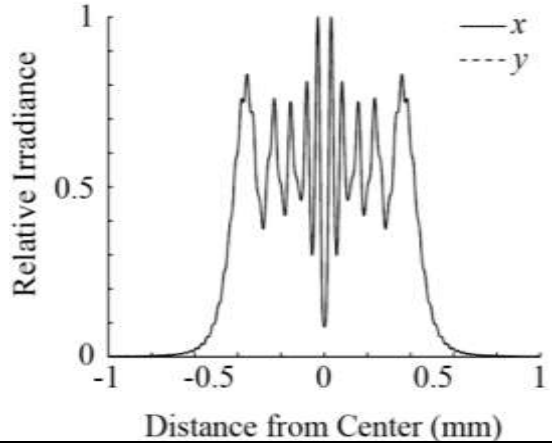
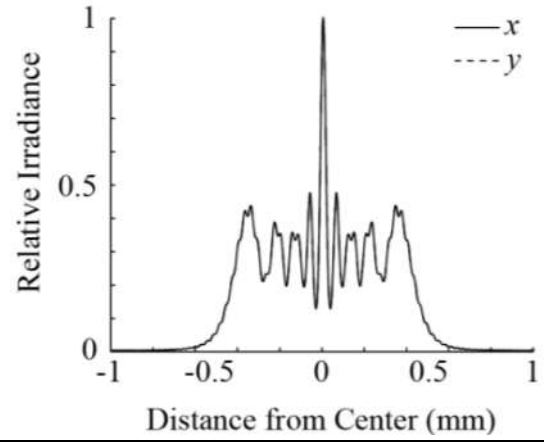
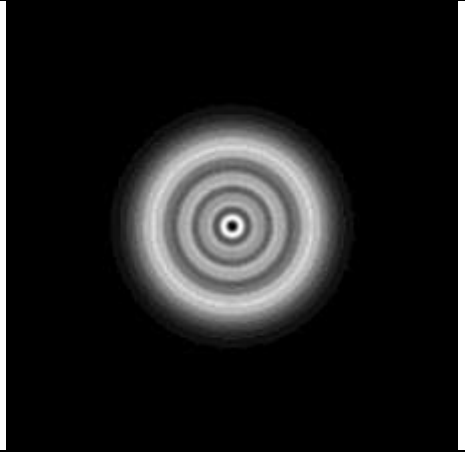
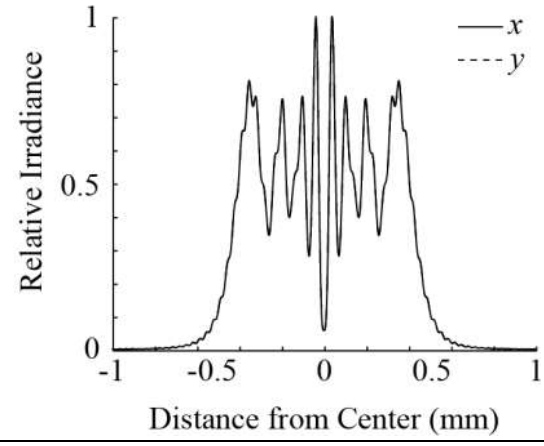
Uniform Illumination on 3 Overlapping Circles



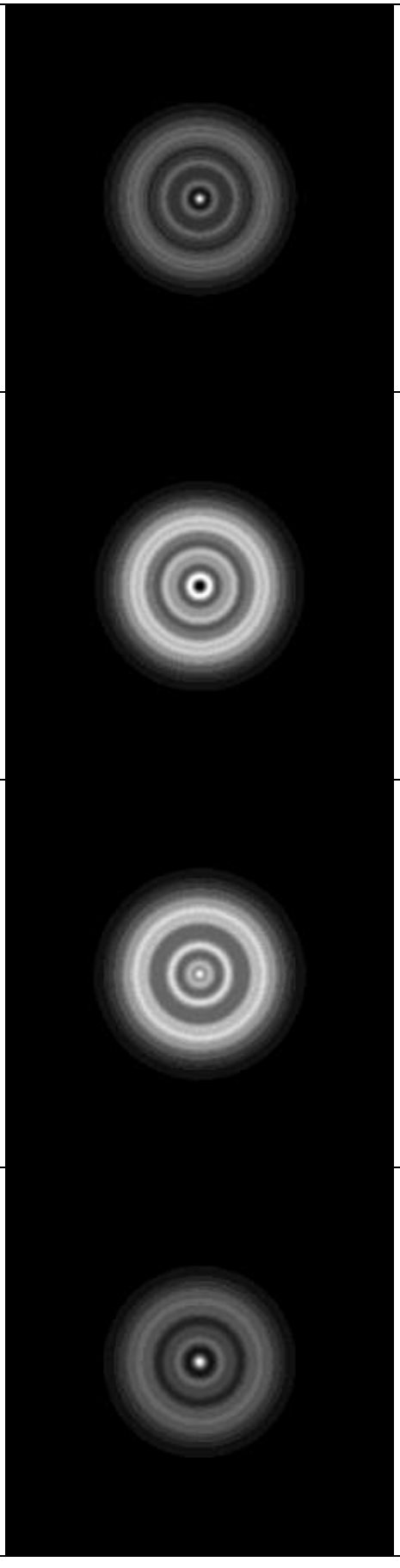
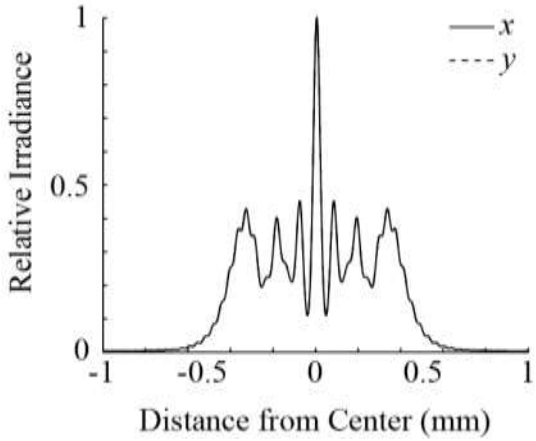
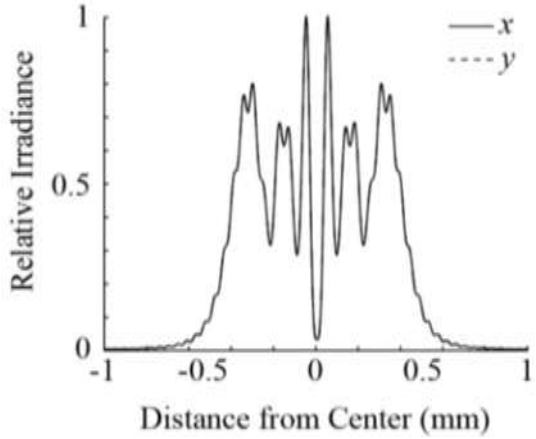
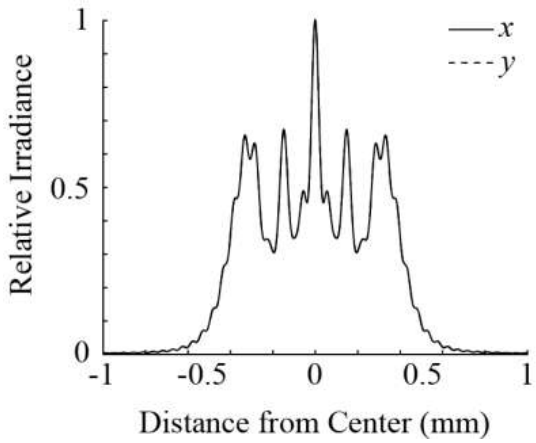
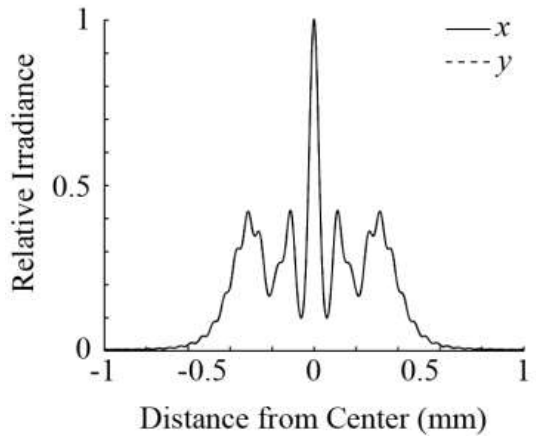
Uniform Illumination on an “X”



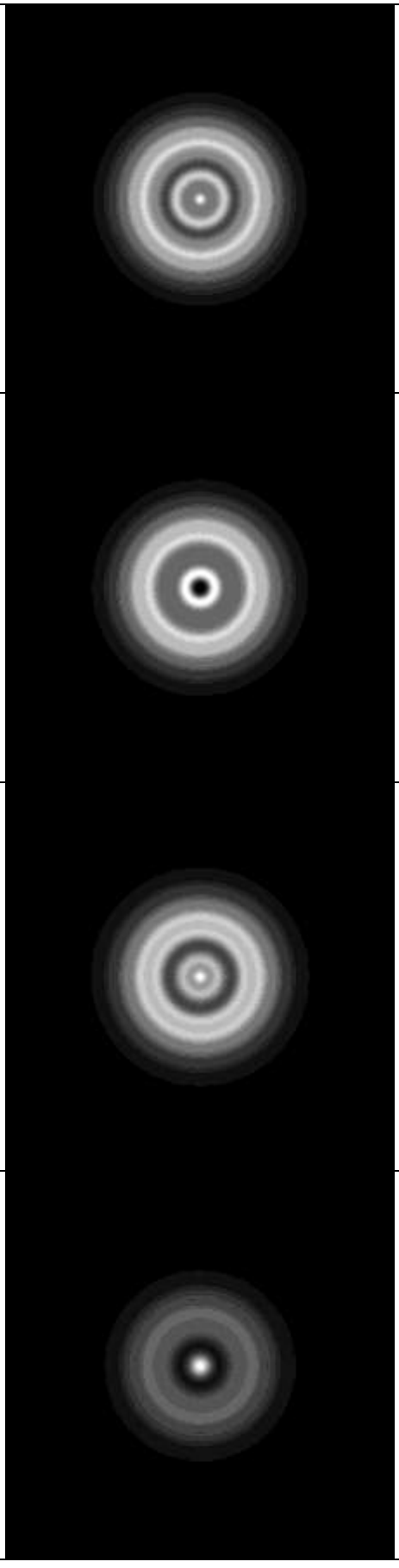
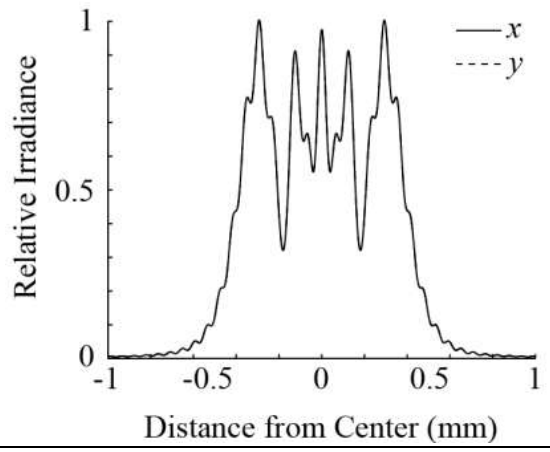
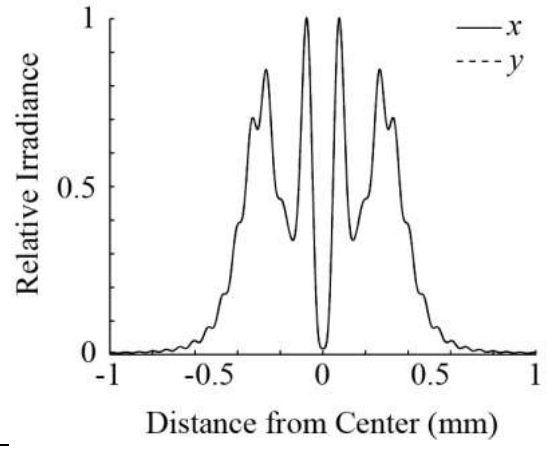
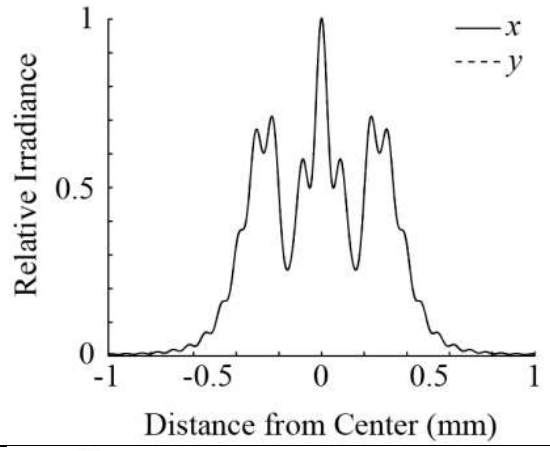
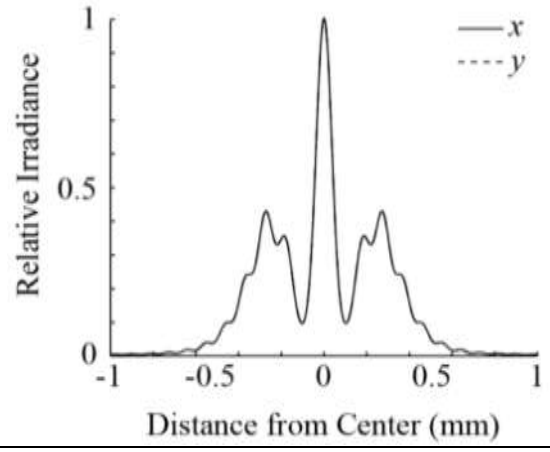
Uniform Illumination on a Circular Aperture

$N_f = 50$ a = 0.5 mm L = 10 mm λ = 500 nm		
$N_f = 10$ a = 0.5 mm L = 50 mm λ = 500 nm		
$N_f = 9$ a = 0.5 mm L = 55.6 mm λ = 500 nm		
$N_f = 8$ a = 0.5 mm L = 62.5 mm λ = 500 nm		

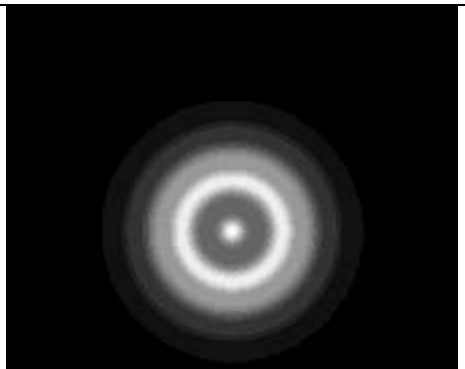
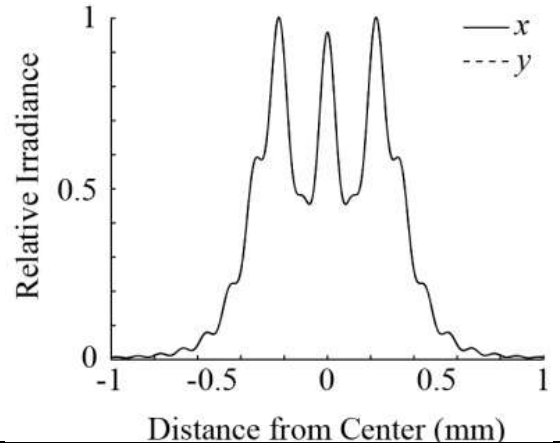
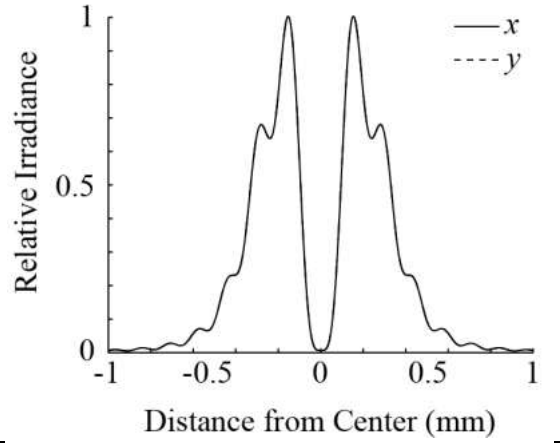
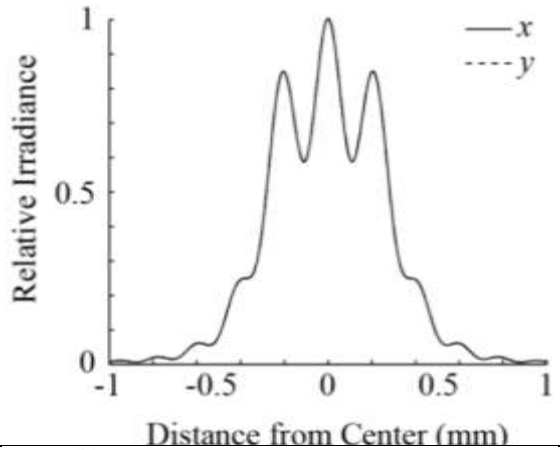
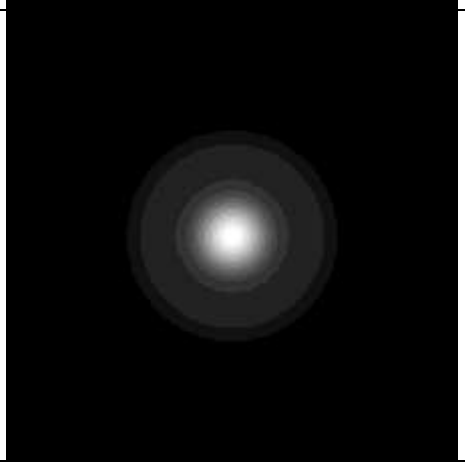
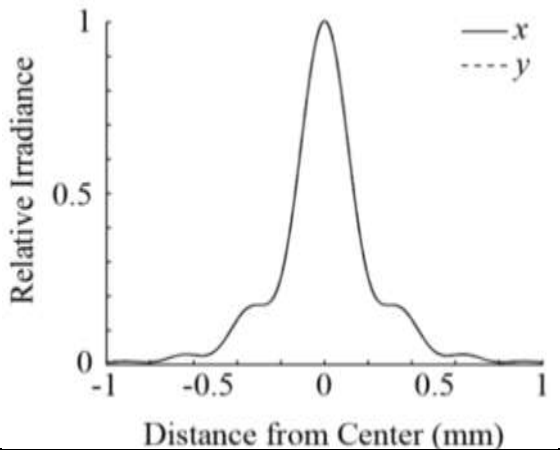
Uniform Illumination on a Circular Aperture

$N_f = 7$ a = 0.5 mm L = 71.4 mm λ = 500 nm		
$N_f = 6$ a = 0.5 mm L = 83.3 mm λ = 500 nm		
$N_f = 5.5$ a = 0.5 mm L = 90.9 mm λ = 500 nm		
$N_f = 5$ a = 0.5 mm L = 100 mm λ = 500 nm		

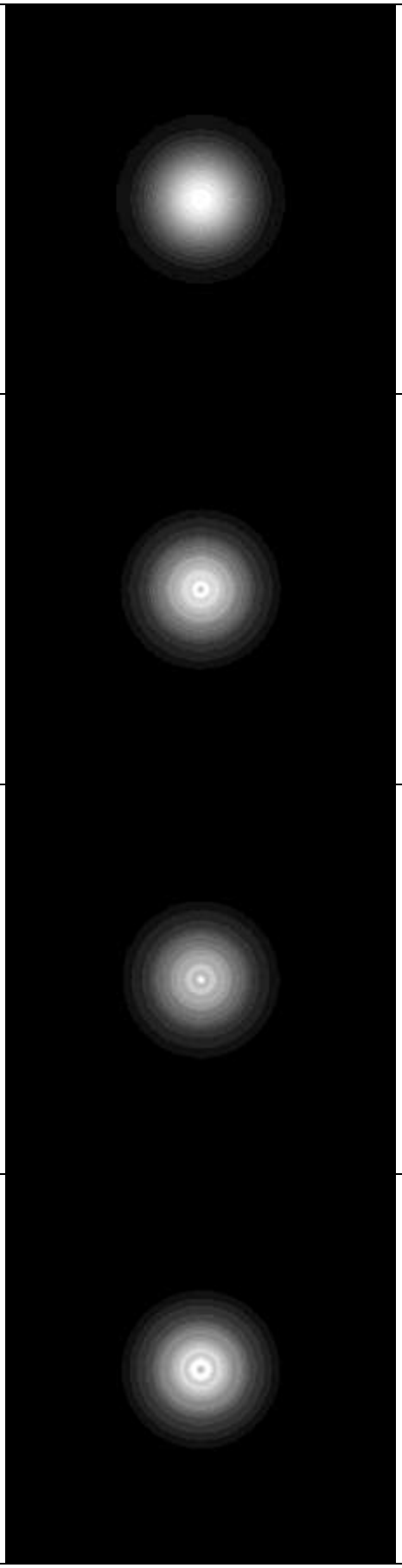
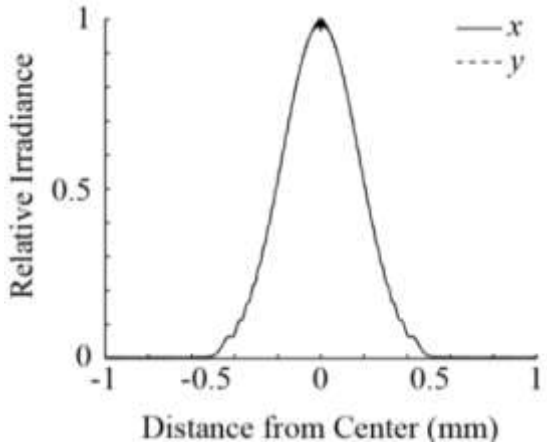
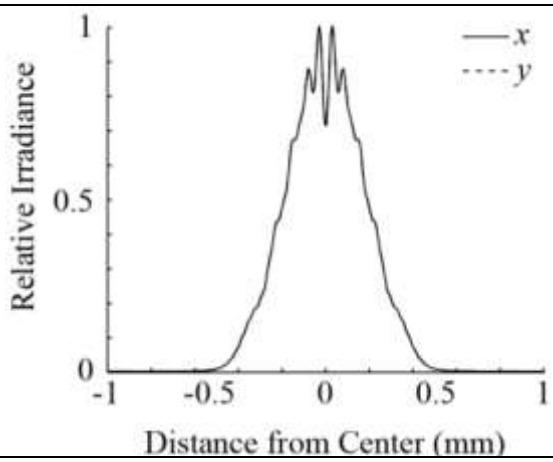
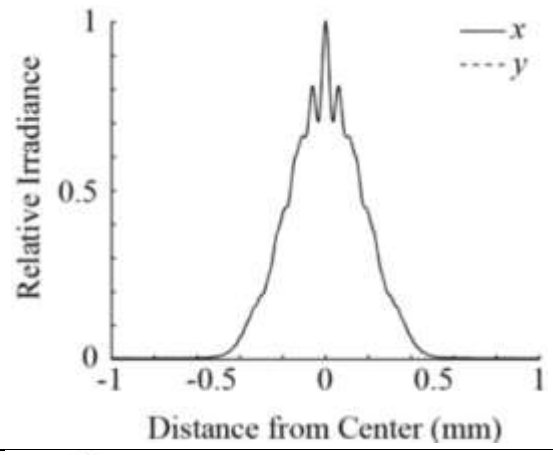
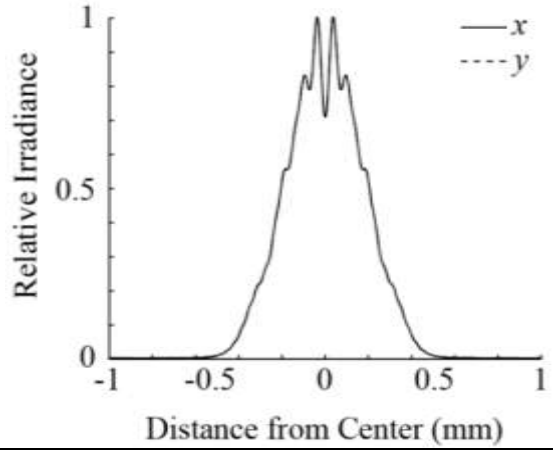
Uniform Illumination on a Circular Aperture

N_f = 4.5 a = 0.5 mm L = 111 mm λ = 500 nm		
N_f = 4 a = 0.5 mm L = 125 mm λ = 500 nm		
N_f = 3.5 a = 0.5 mm L = 142.9 mm λ = 500 nm		
N_f = 3 a = 0.5 mm L = 166.7 mm λ = 500 nm		

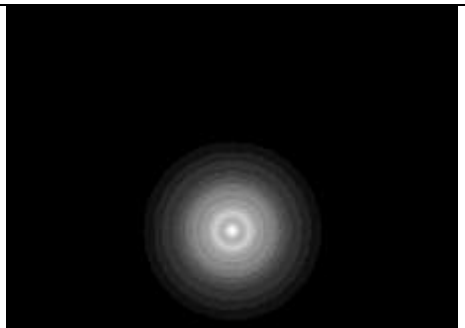
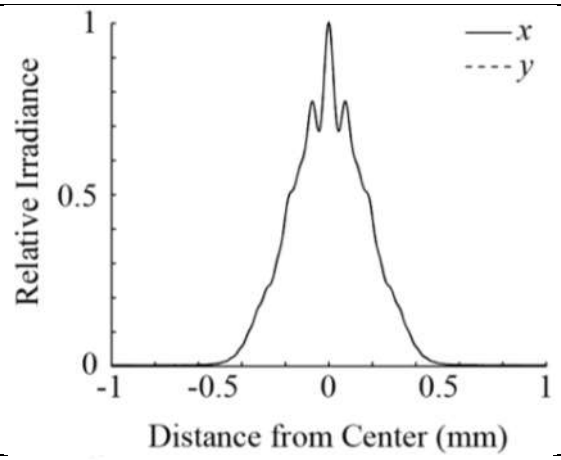
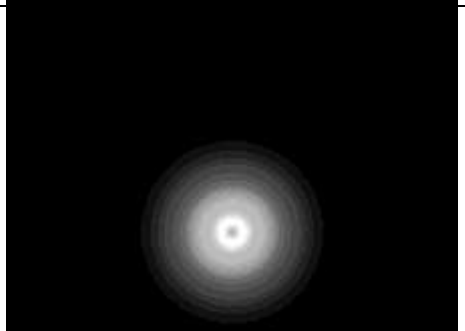
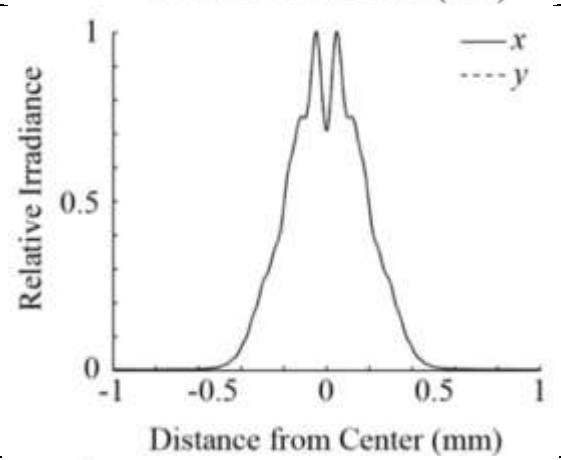
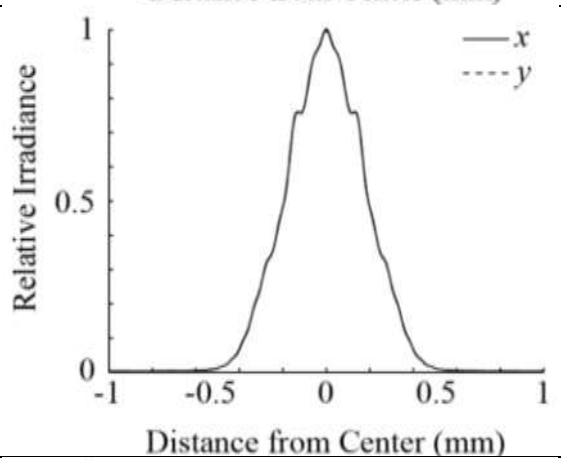
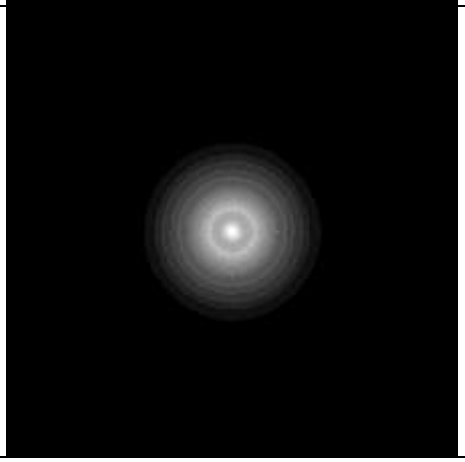
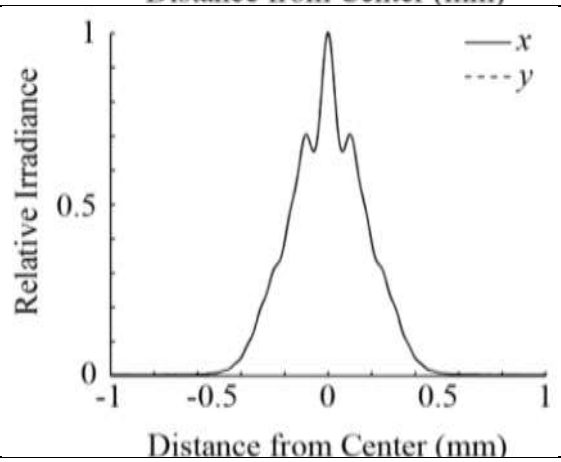
Uniform Illumination on a Circular Aperture

N_f = 2.5 a = 0.5 mm L = 200 mm λ = 500 nm		
N_f = 2 a = 0.5 mm L = 250 mm λ = 500 nm		
N_f = 1.5 a = 0.5 mm L = 333 mm λ = 500 nm		
N_f = 1 a = 0.5 mm L = 500 mm λ = 500 nm		

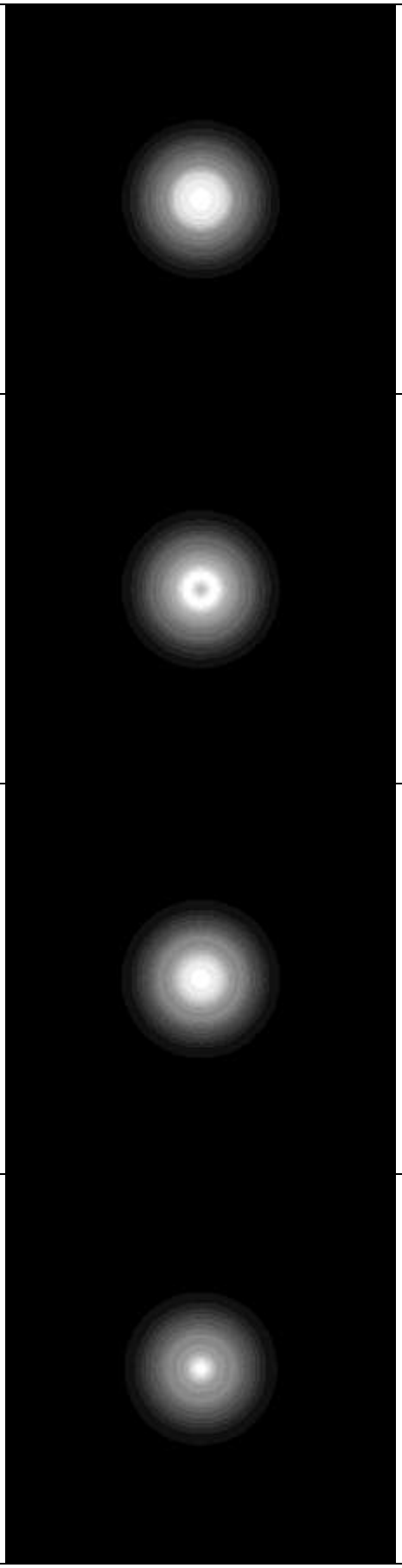
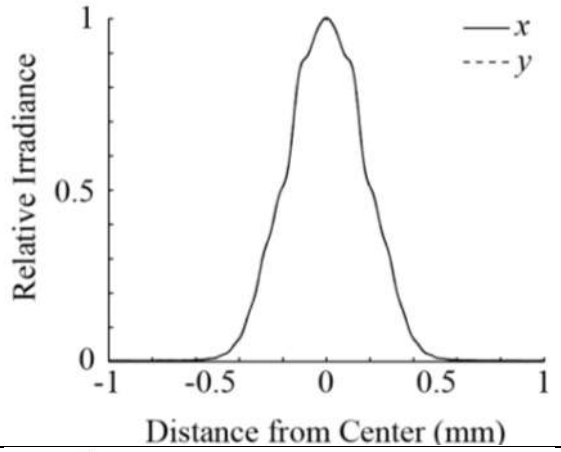
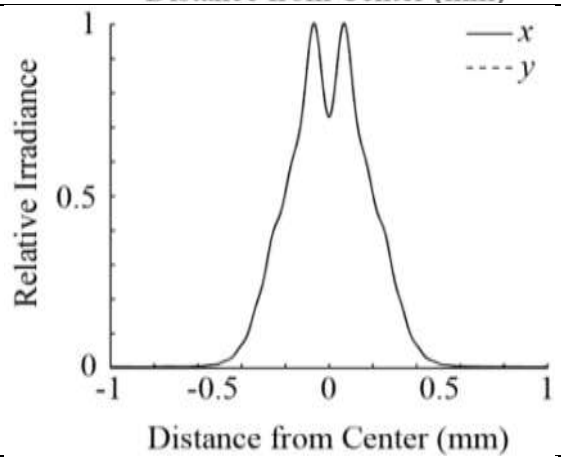
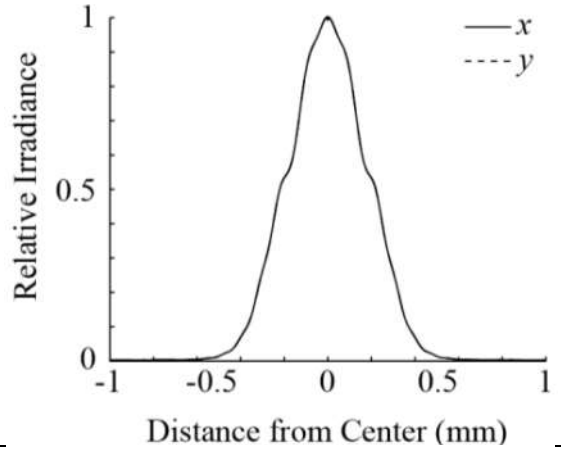
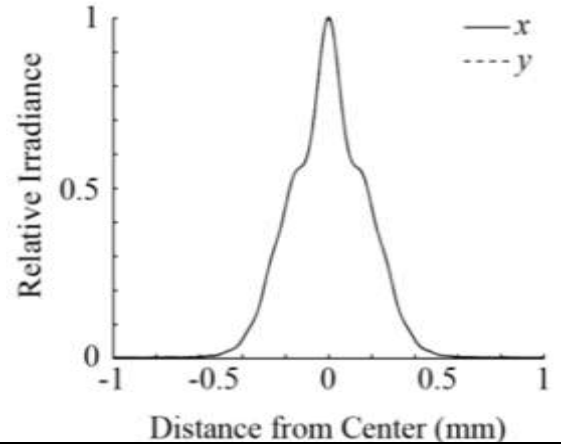
Gaussian Illumination on a Circular Aperture

$N_f = 50$ a = 0.5 mm L = 10 mm 1. λ = 500 nm		
$N_f = 10$ a = 0.5 mm L = 50 mm λ = 500 nm		
$N_f = 9$ a = 0.5 mm L = 55.6 mm λ = 500 nm		
$N_f = 8$ a = 0.5 mm L = 62.5 mm λ = 500 nm		

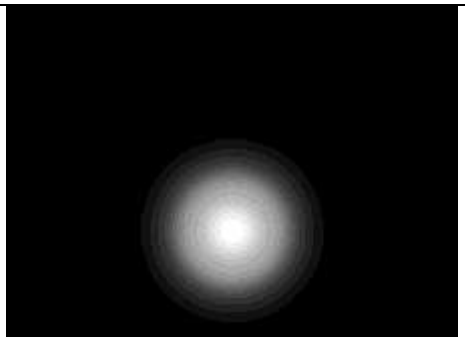
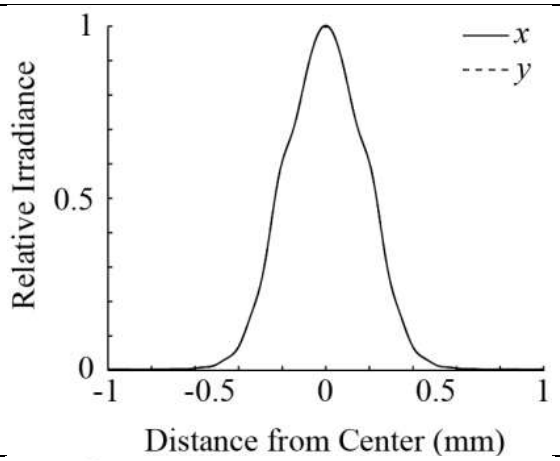
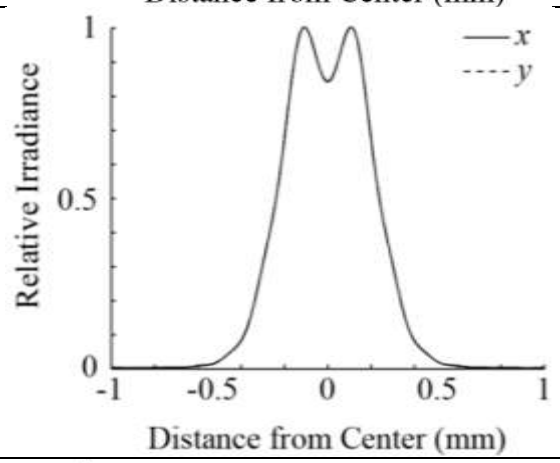
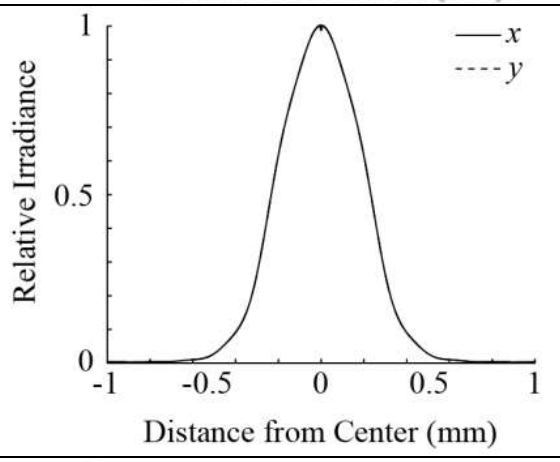
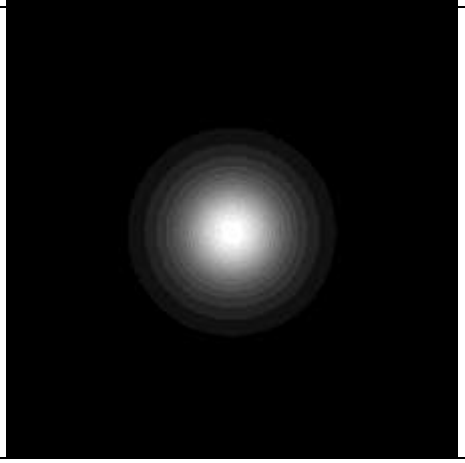
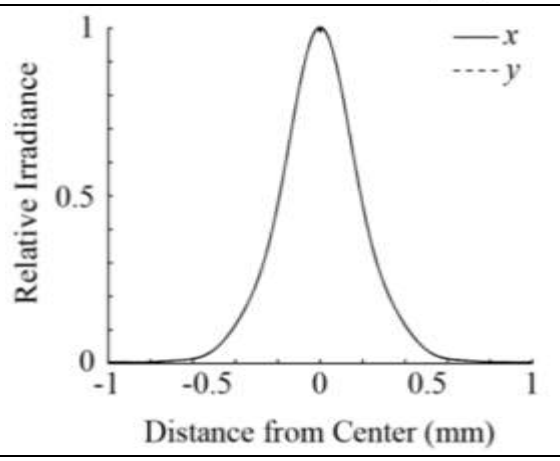
Gaussian Illumination on a Circular Aperture

$N_f = 7$ a = 0.5 mm L = 71.4 mm λ = 500 nm		
$N_f = 6$ a = 0.5 mm L = 83.3 mm λ = 500 nm		
$N_f = 5.5$ a = 0.5 mm L = 90.9 mm λ = 500 nm		
$N_f = 5$ a = 0.5 mm L = 100 mm λ = 500 nm		

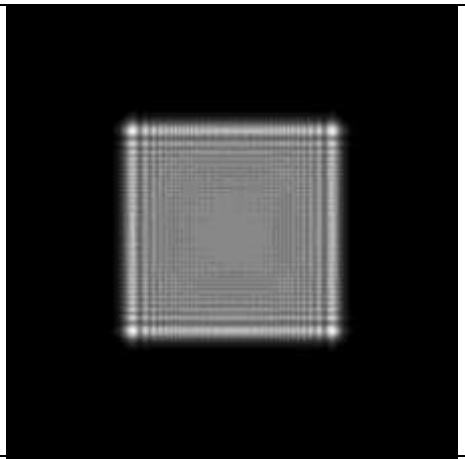
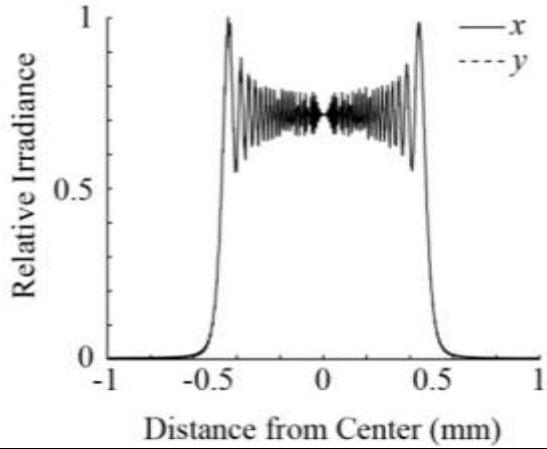
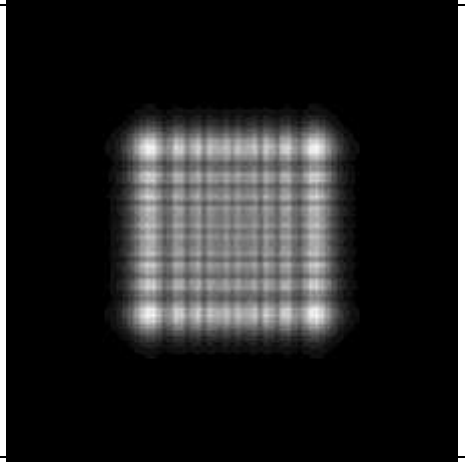
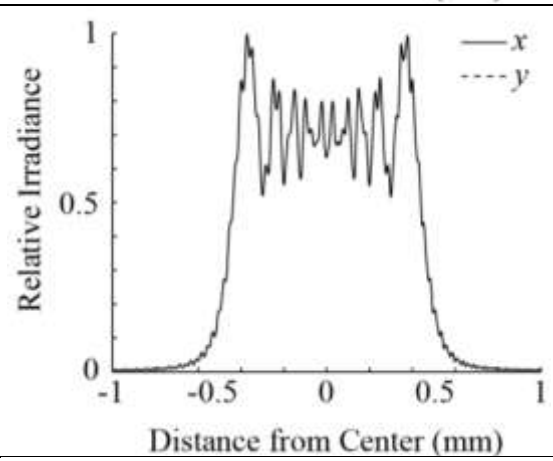
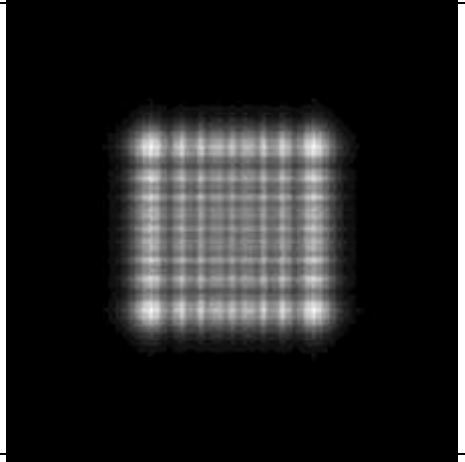
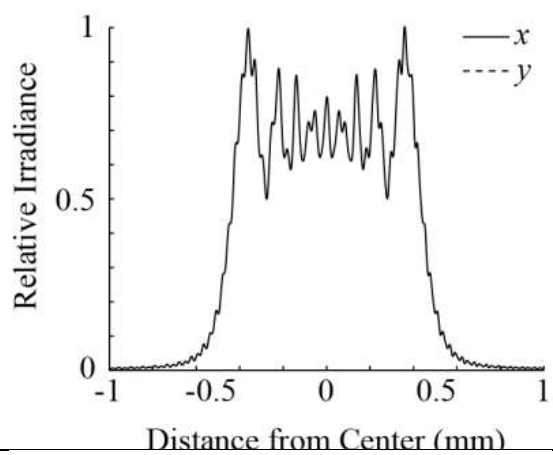
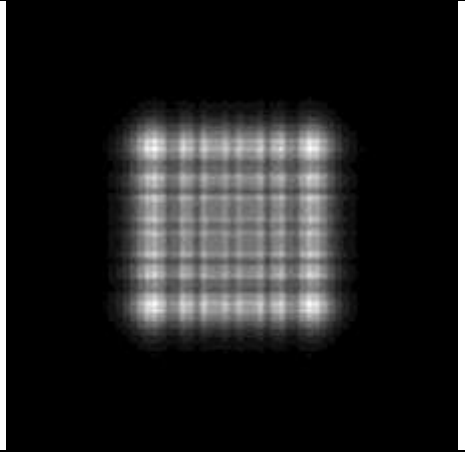
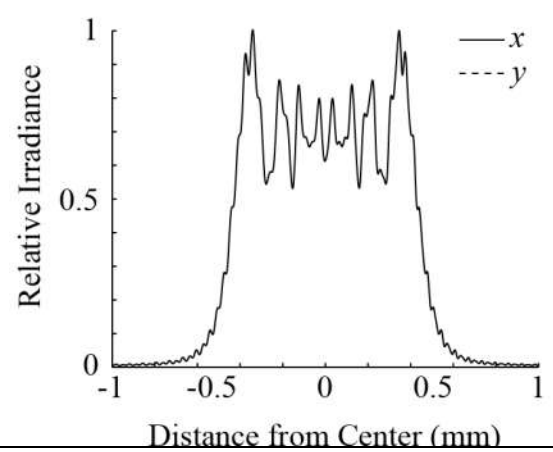
Gaussian Illumination on a Circular Aperture

N_f = 4.5 a = 0.5 mm L = 111 mm λ = 500 nm		
N_f = 4 a = 0.5 mm L = 125 mm λ = 500 nm		
N_f = 3.5 a = 0.5 mm L = 142.9 mm λ = 500 nm		
N_f = 3 a = 0.5 mm L = 166.7 mm λ = 500 nm		

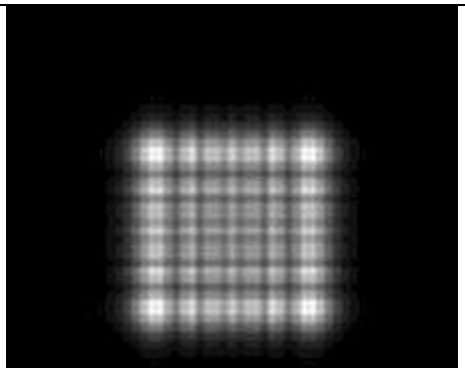
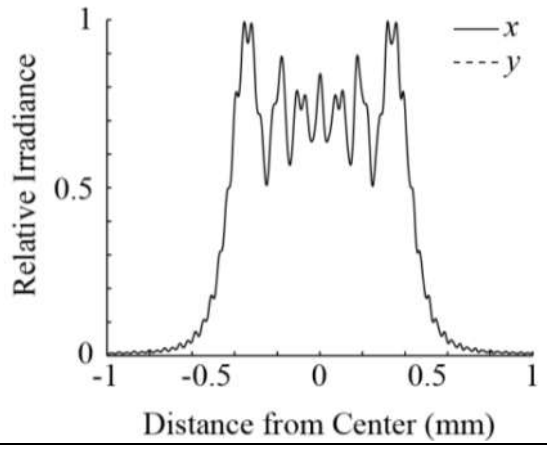
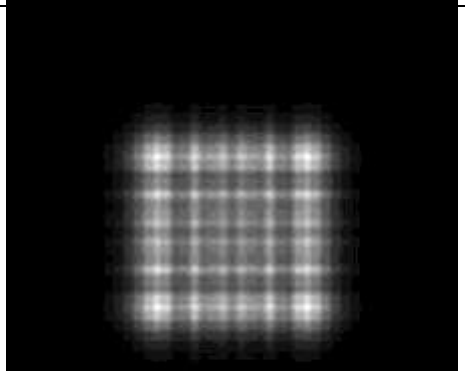
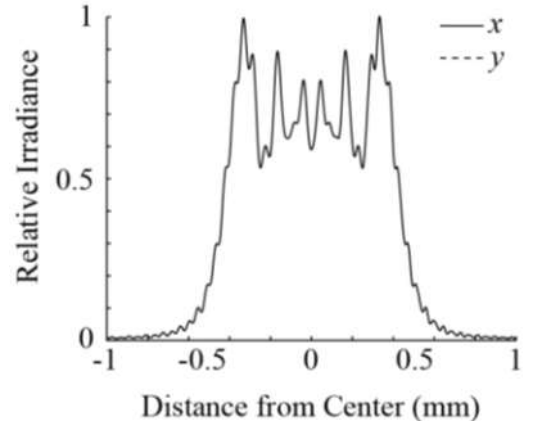
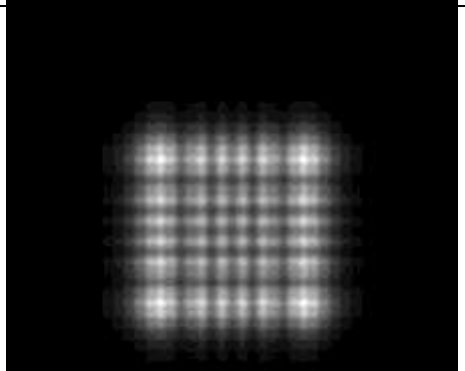
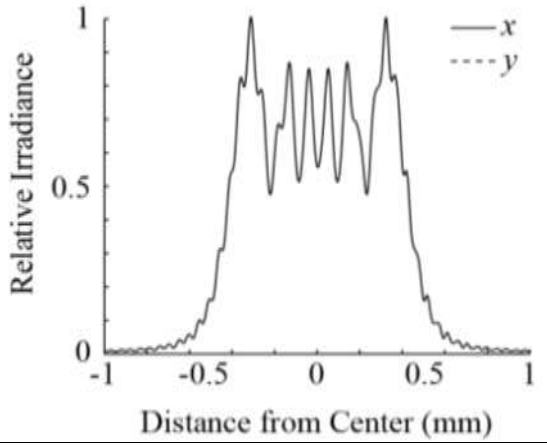
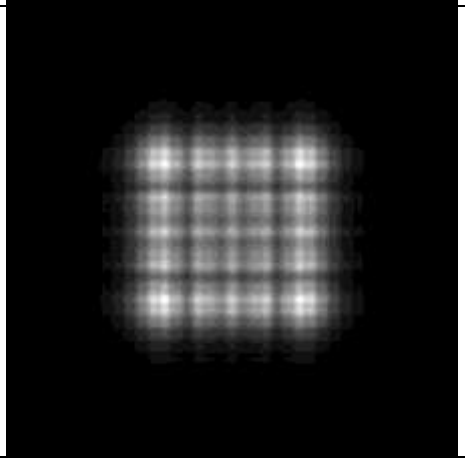
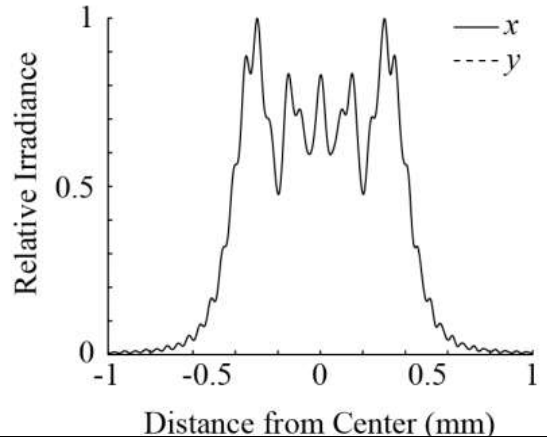
Gaussian Illumination on a Circular Aperture

N_f = 2.5 a = 0.5 mm L = 200 mm λ = 500 nm		
N_f = 2 a = 0.5 mm L = 250 mm λ = 500 nm		
N_f = 1.5 a = 0.5 mm L = 333 mm λ = 500 nm		
N_f = 1 a = 0.5 mm L = 500 mm λ = 500 nm		

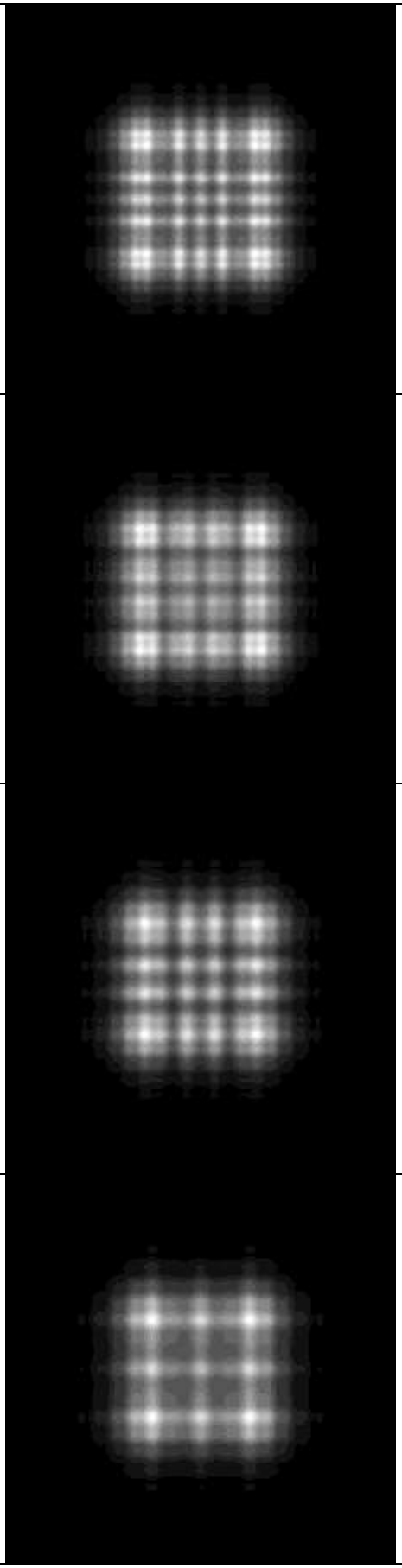
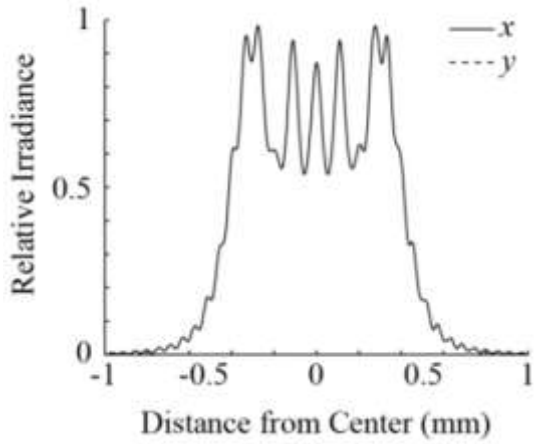
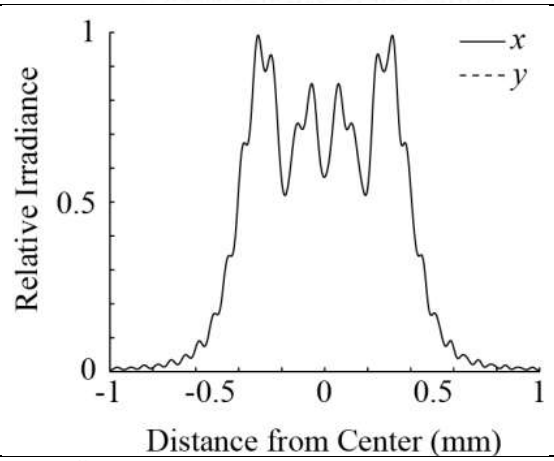
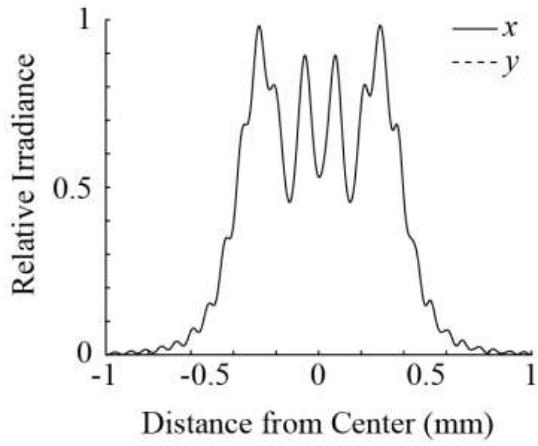
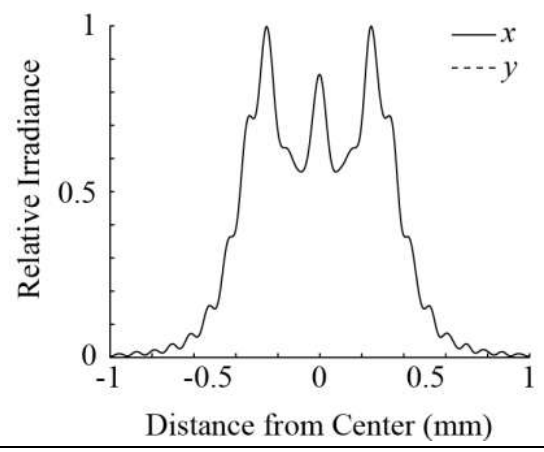
Uniform Illumination on a Square Aperture

$N_f = 50$ a = 0.5 mm L = 10 mm 1. λ = 500 nm		
$N_f = 10$ a = 0.5 mm L = 50 mm λ = 500 nm		
$N_f = 9$ a = 0.5 mm L = 55.6 mm λ = 500 nm		
$N_f = 8$ a = 0.5 mm L = 62.5 mm λ = 500 nm		

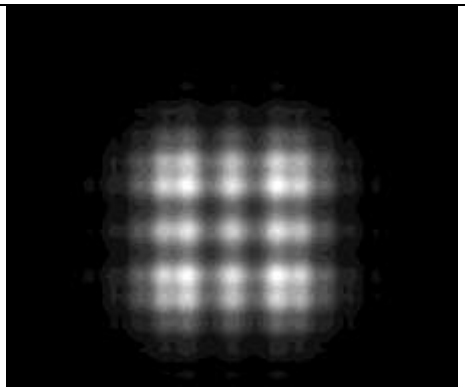
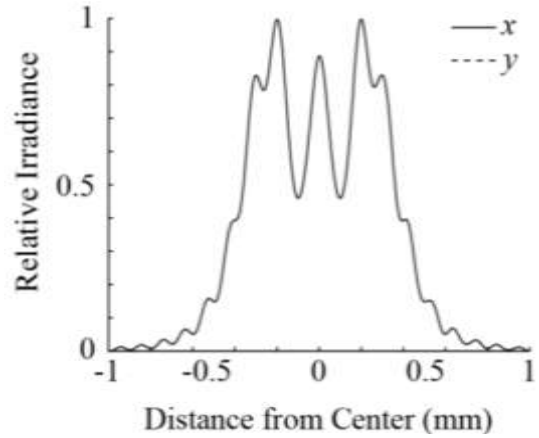
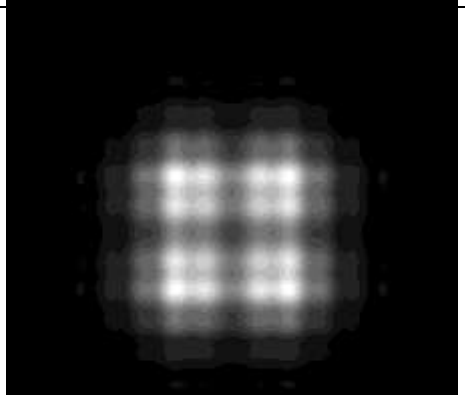
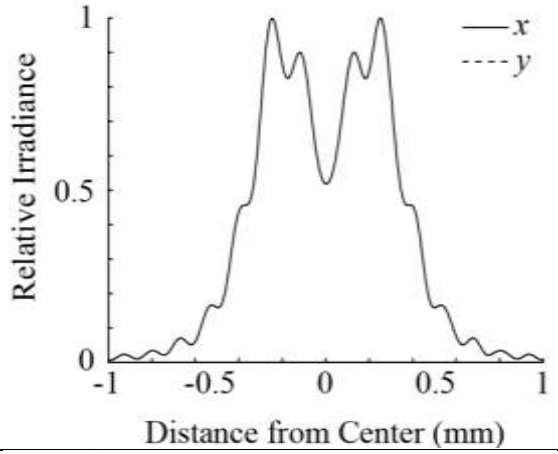
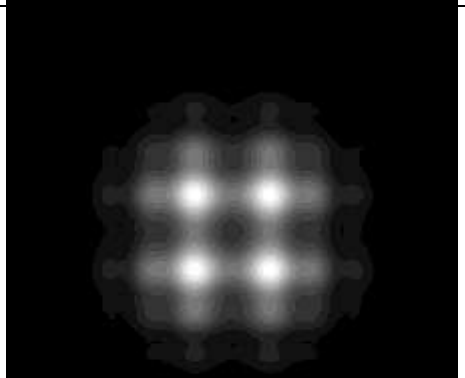
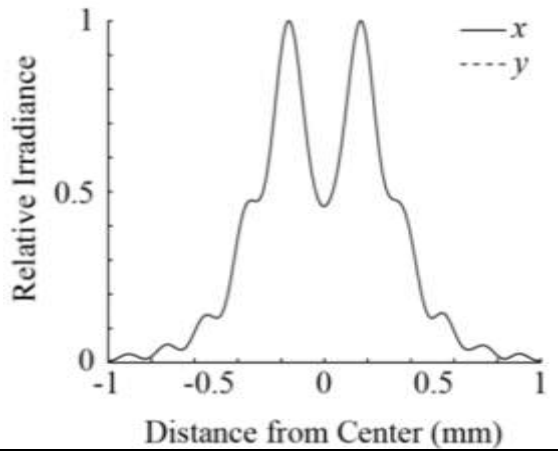
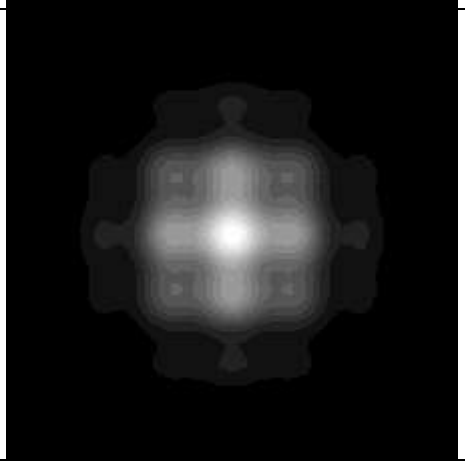
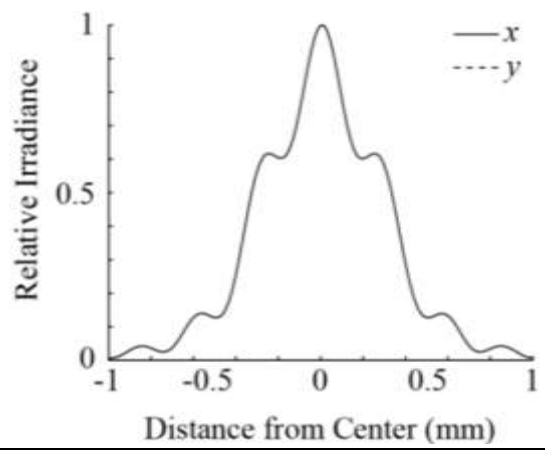
Uniform Illumination on a Square Aperture

$N_f = 7$ a = 0.5 mm L = 71.4 mm λ = 500 nm		
$N_f = 6$ a = 0.5 mm L = 83.3 mm λ = 500 nm		
$N_f = 5.5$ a = 0.5 mm L = 90.9 mm λ = 500 nm		
$N_f = 5$ a = 0.5 mm L = 100 mm λ = 500 nm		

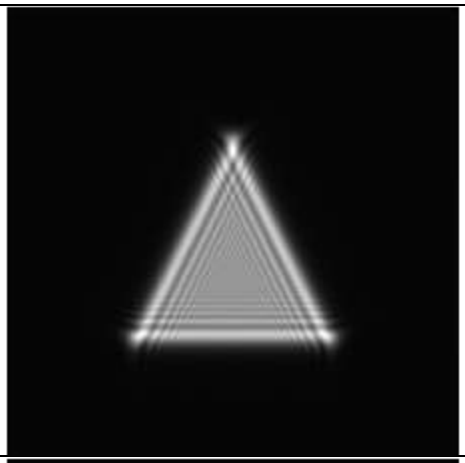
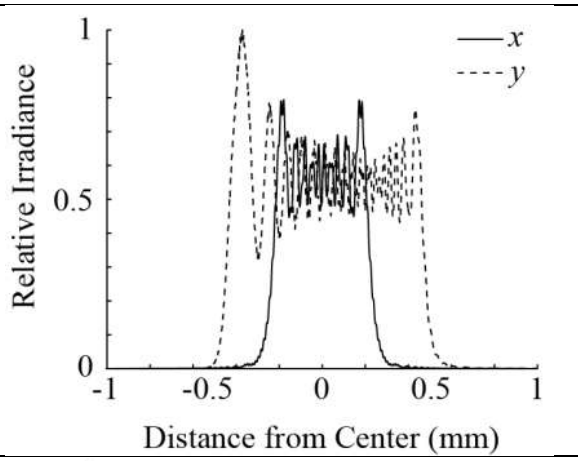
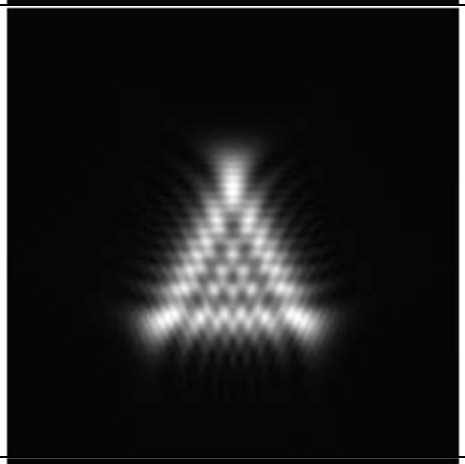
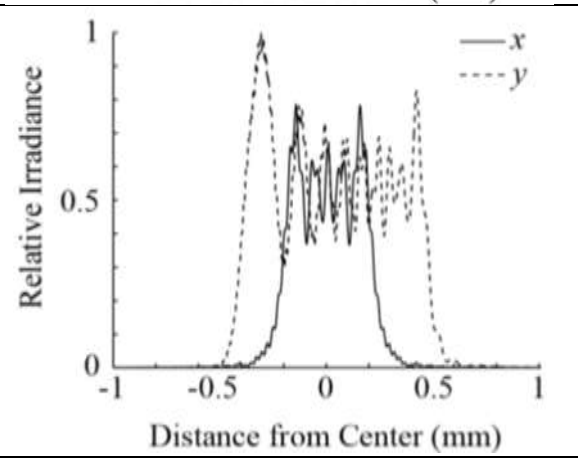
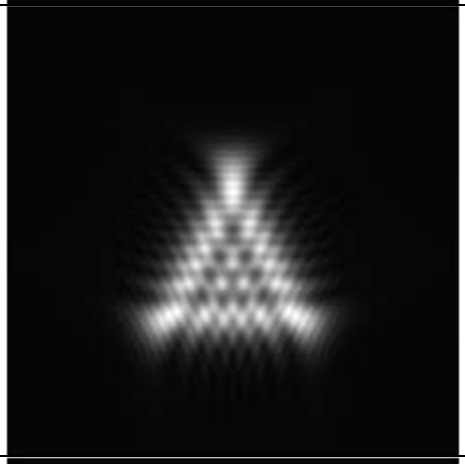
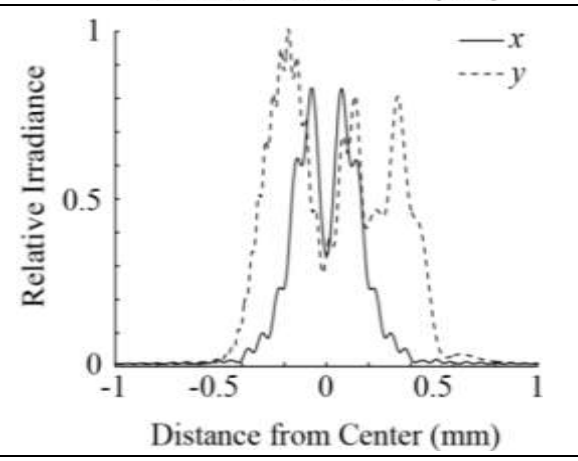
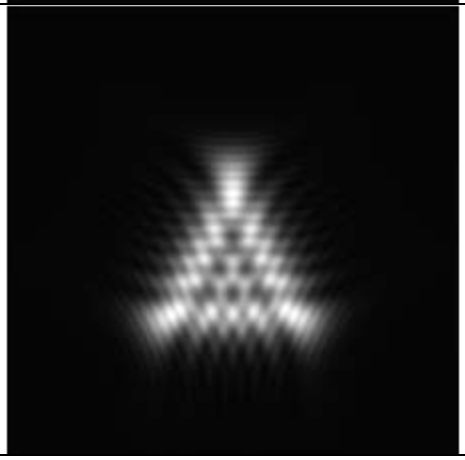
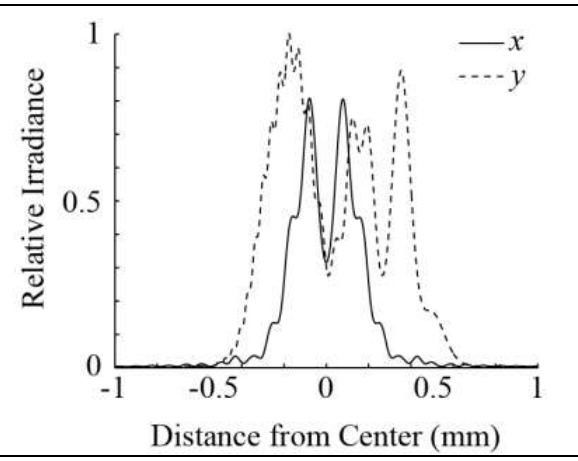
Uniform Illumination on a Square Aperture

N_f = 4.5 a = 0.5 mm L = 111 mm λ = 500 nm		
N_f = 4 a = 0.5 mm L = 125 mm λ = 500 nm		
N_f = 3.5 a = 0.5 mm L = 142.9 mm λ = 500 nm		
N_f = 3 a = 0.5 mm L = 166.7 mm λ = 500 nm		

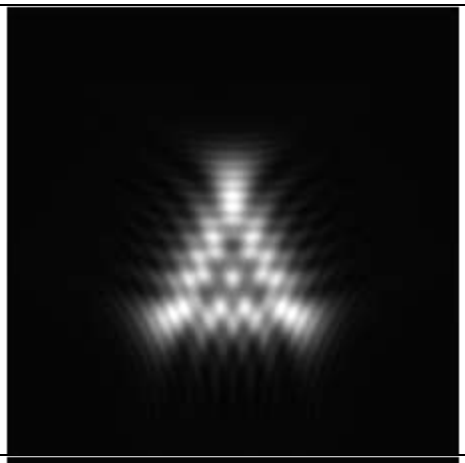
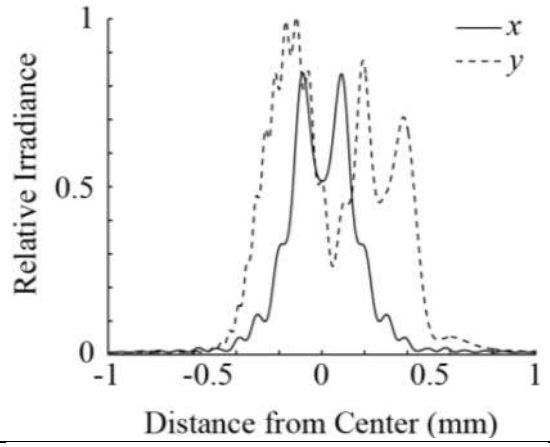
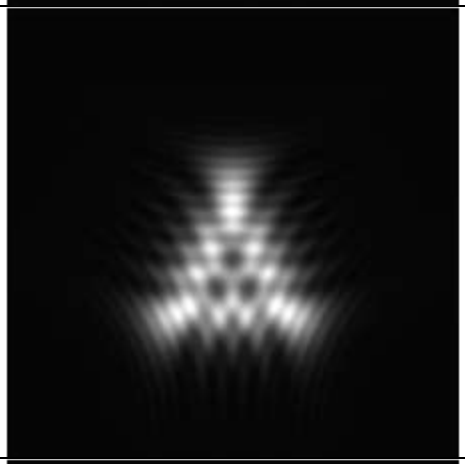
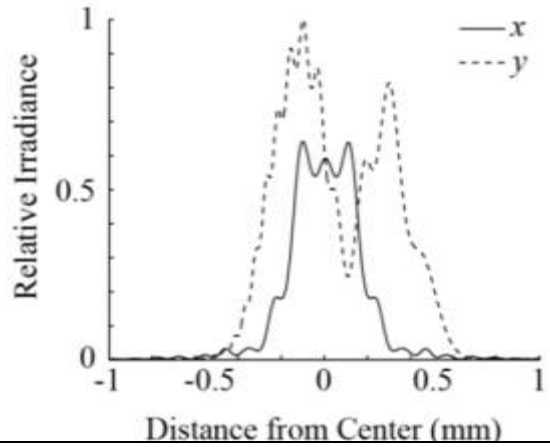
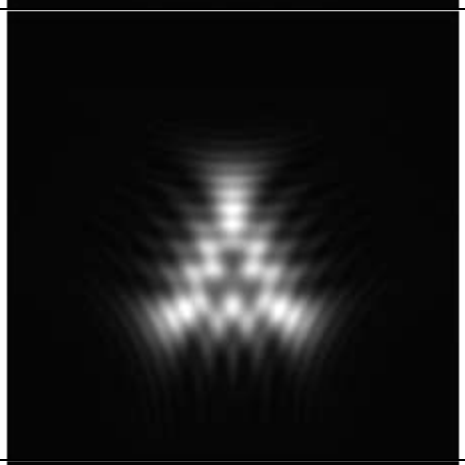
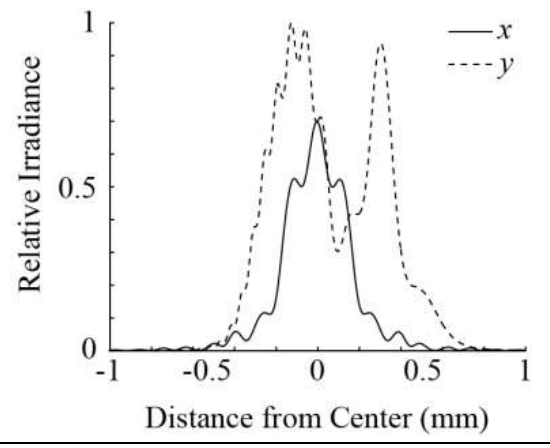
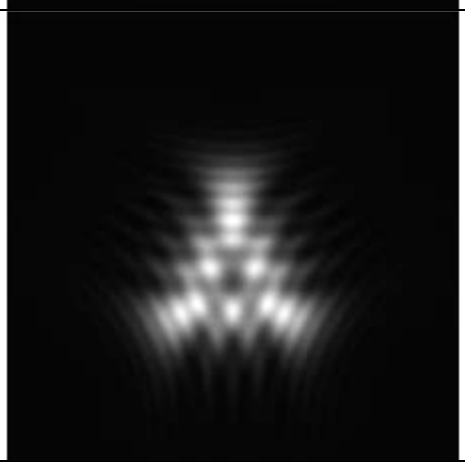
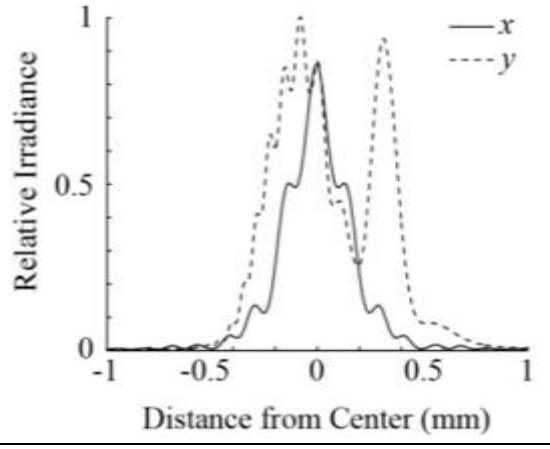
Uniform Illumination on a Square Aperture

N_f = 2.5 a = 0.5 mm L = 200 mm λ = 500 nm		
N_f = 2 a = 0.5 mm L = 250 mm λ = 500 nm		
N_f = 1.5 a = 0.5 mm L = 333 mm λ = 500 nm		
N_f = 1 a = 0.5 mm L = 500 mm λ = 500 nm		

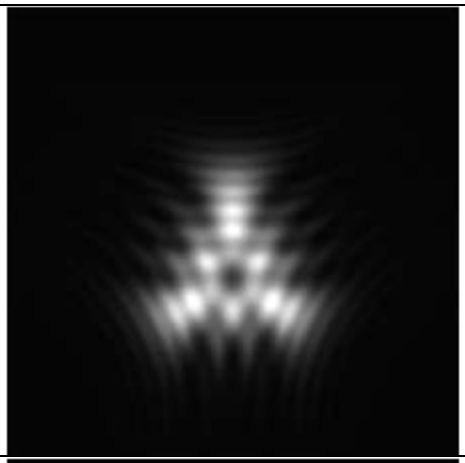
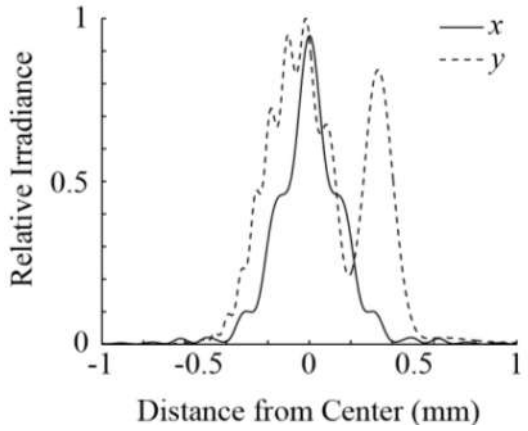
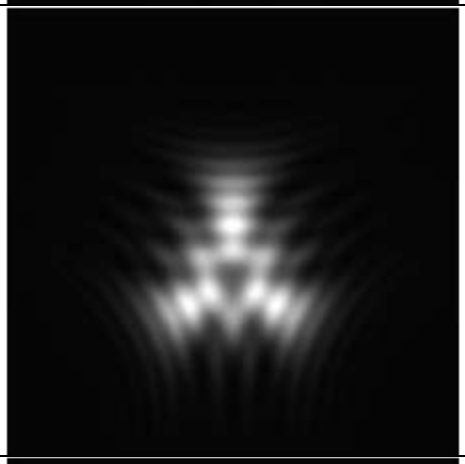
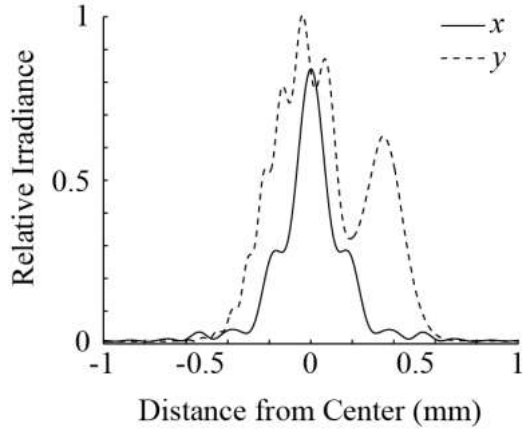
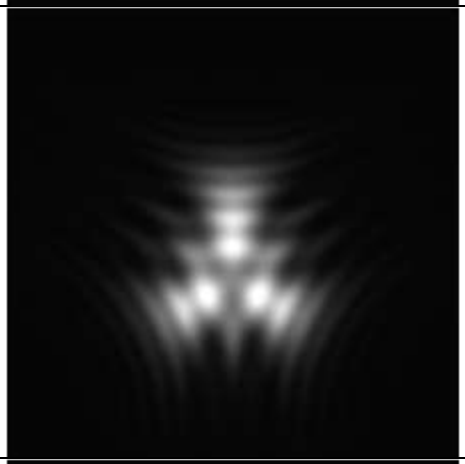
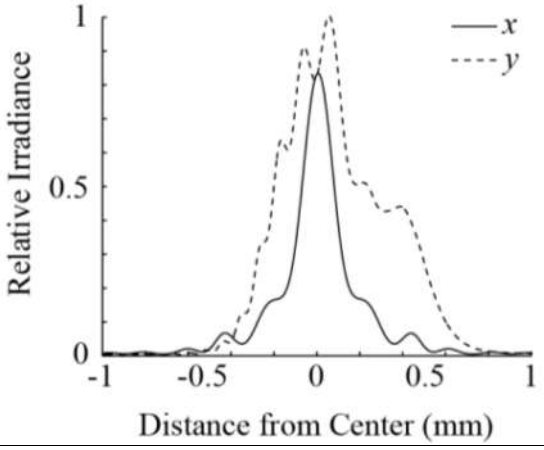
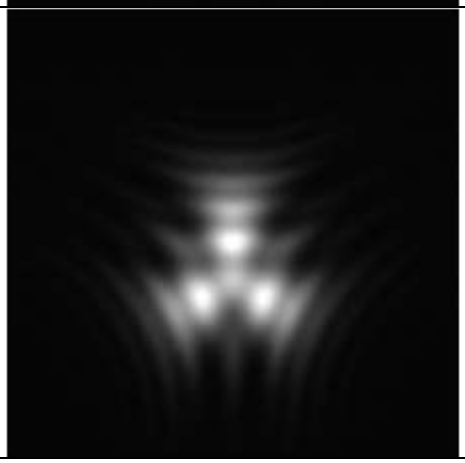
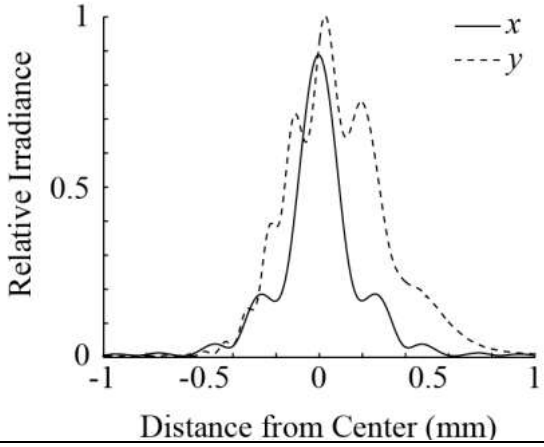
Uniform Illumination on a Triangular Aperture

N_f = 50 a = 0.5 mm L = 10 mm 1. λ = 500 nm		
N_f = 10 a = 0.5 mm L = 50 mm λ = 500 nm		
N_f = 9 a = 0.5 mm L = 55.6 mm λ = 500 nm		
N_f = 8 a = 0.5 mm L = 62.5 mm λ = 500 nm		

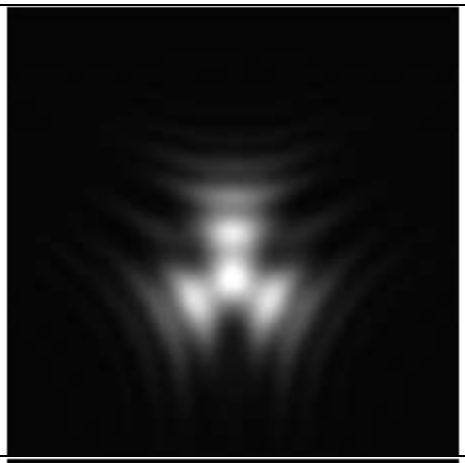
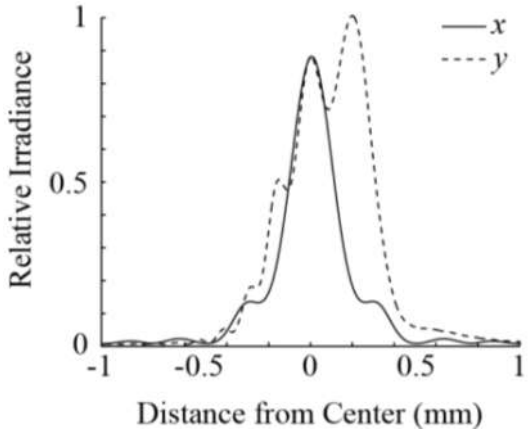
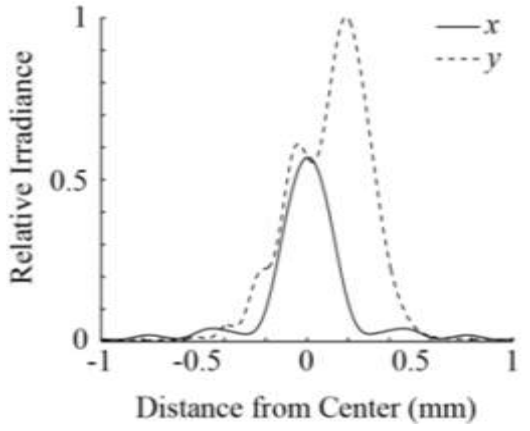
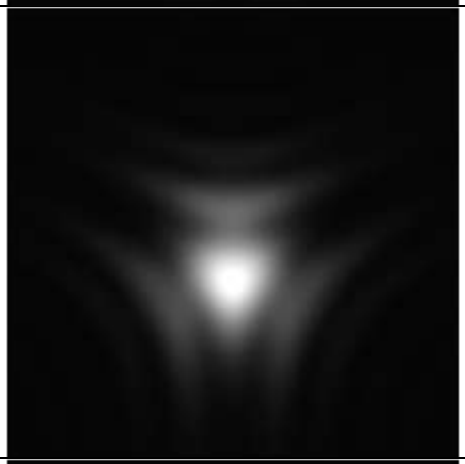
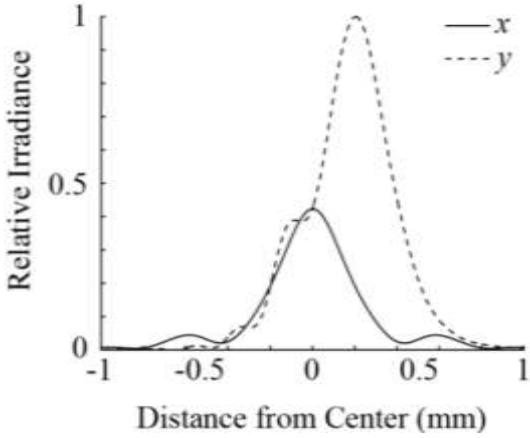
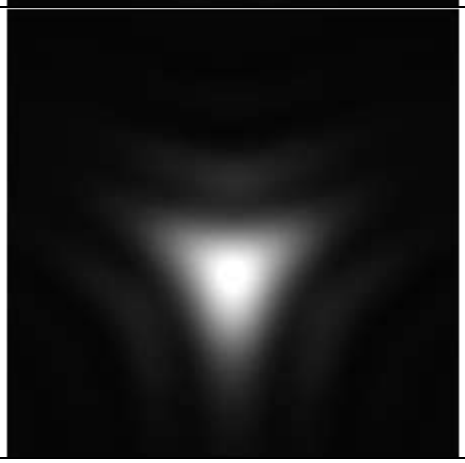
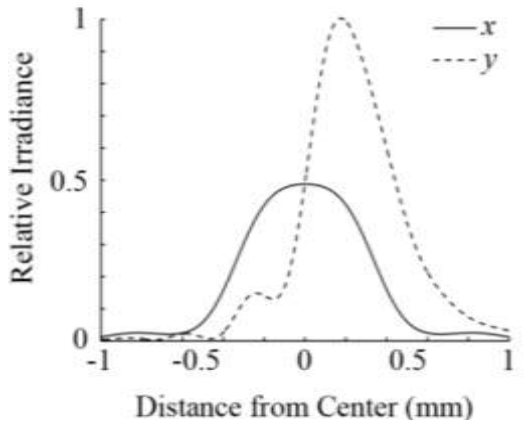
Uniform Illumination on a Triangular Aperture

$N_f = 7$ a = 0.5 mm L = 71.4 mm λ = 500 nm		
$N_f = 6$ a = 0.5 mm L = 83.3 mm λ = 500 nm		
$N_f = 5.5$ a = 0.5 mm L = 90.9 mm λ = 500 nm		
$N_f = 5$ a = 0.5 mm L = 100 mm λ = 500 nm		

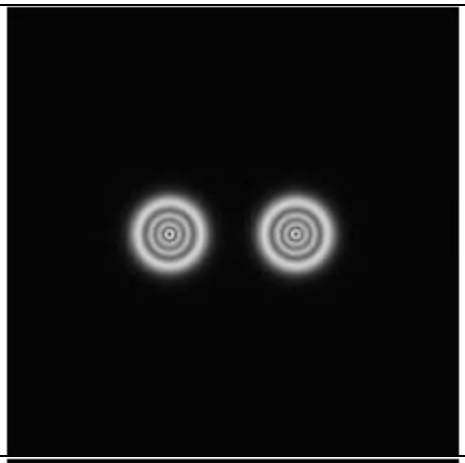
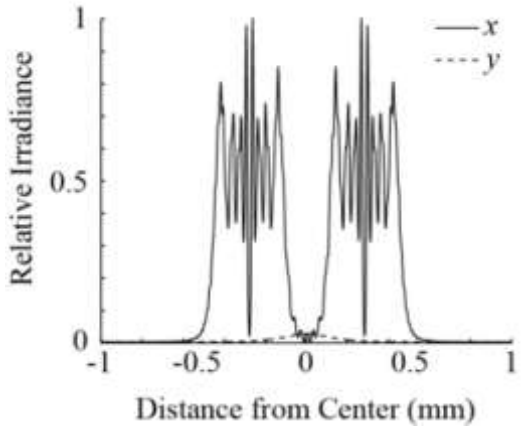
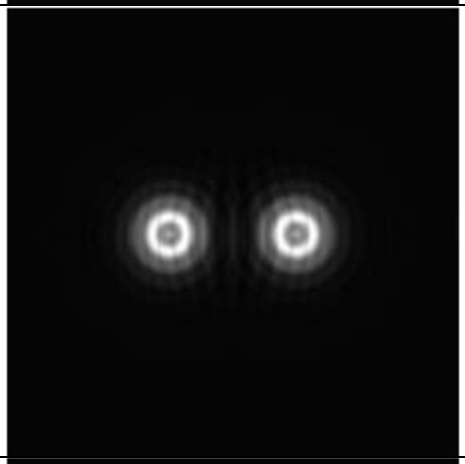
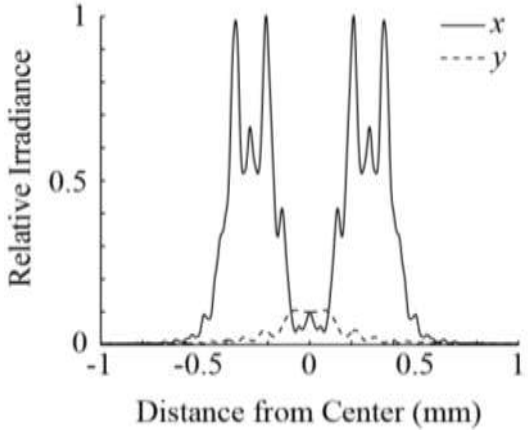
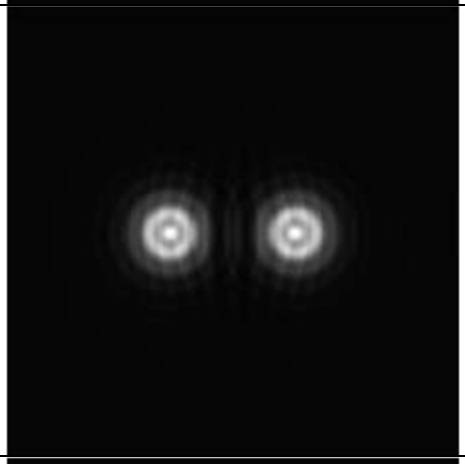
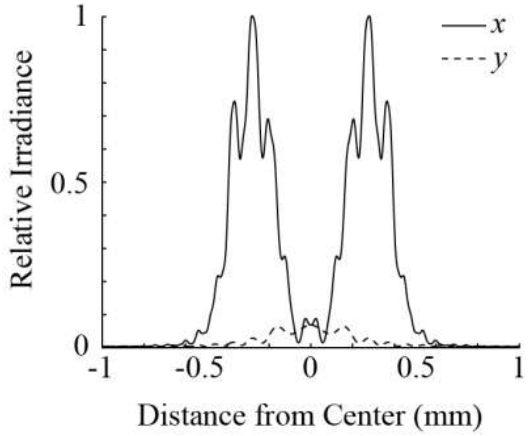
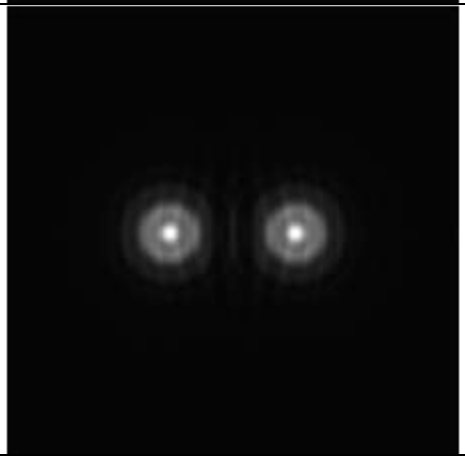
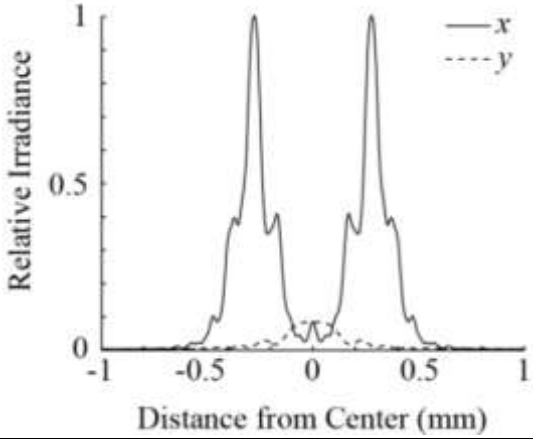
Uniform Illumination on a Triangular Aperture

N_f = 4.5 a = 0.5 mm L = 111 mm λ = 500 nm		
N_f = 4 a = 0.5 mm L = 125 mm λ = 500 nm		
N_f = 3.5 a = 0.5 mm L = 142.9 mm λ = 500 nm		
N_f = 3 a = 0.5 mm L = 166.7 mm λ = 500 nm		

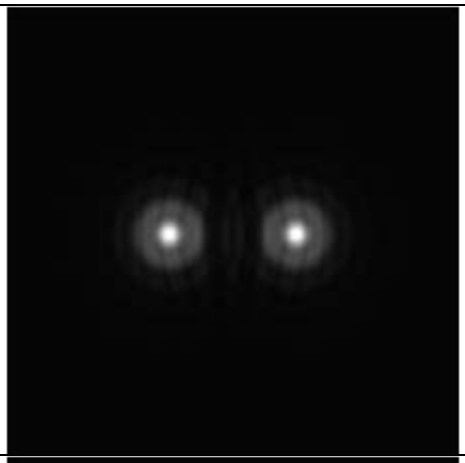
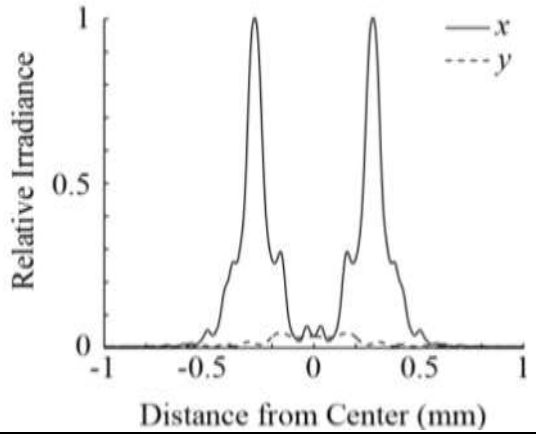
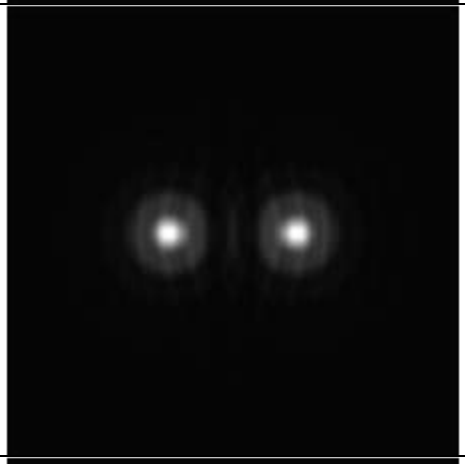
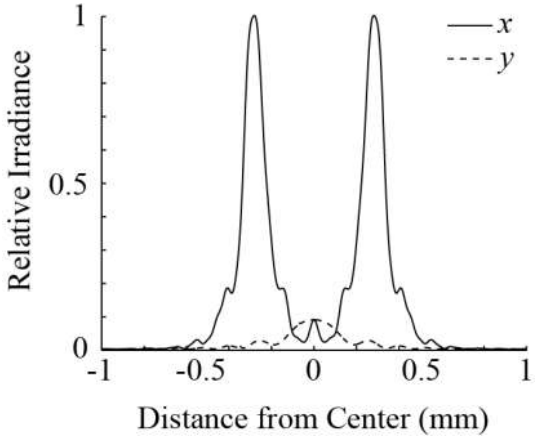
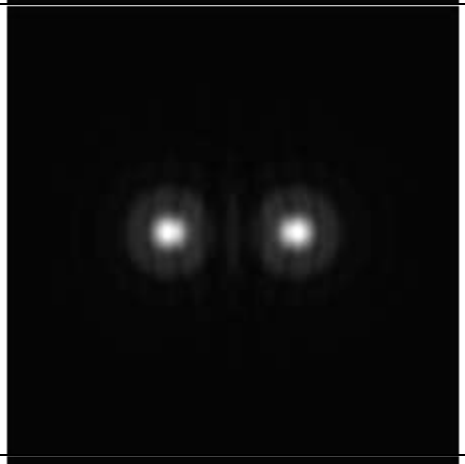
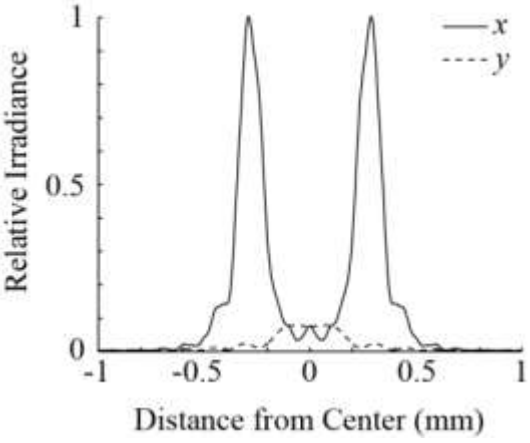
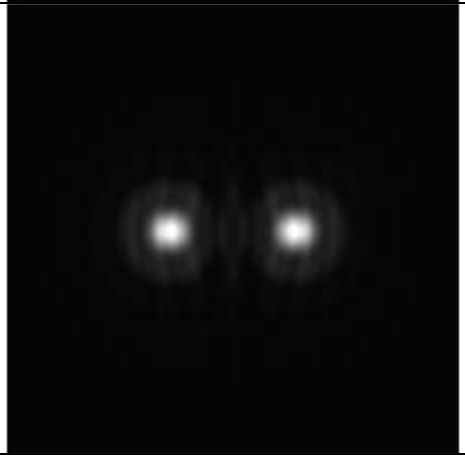
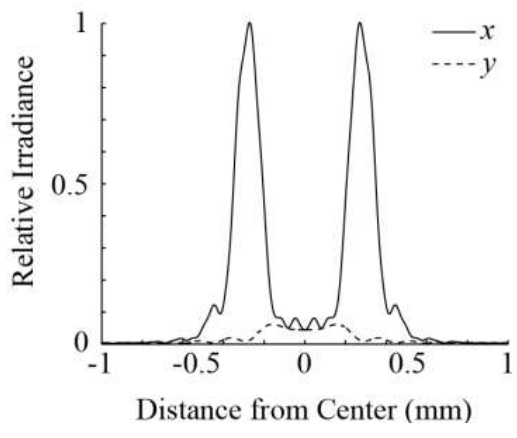
Uniform Illumination on a Triangular Aperture

N_f = 2.5 a = 0.5 mm L = 200 mm λ = 500 nm		
N_f = 2 a = 0.5 mm L = 250 mm λ = 500 nm		
N_f = 1.5 a = 0.5 mm L = 333 mm λ = 500 nm		
N_f = 1 a = 0.5 mm L = 500 mm λ = 500 nm		

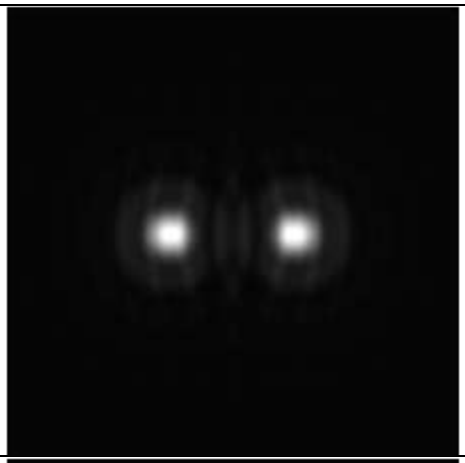
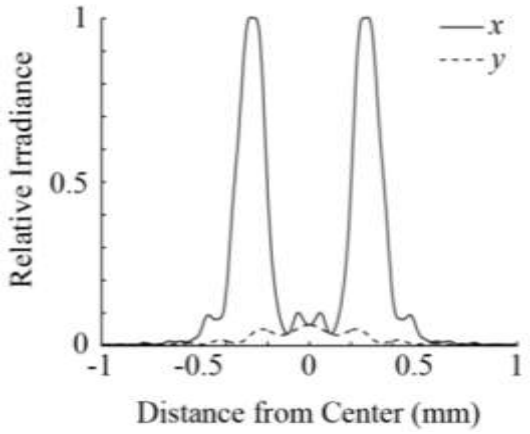
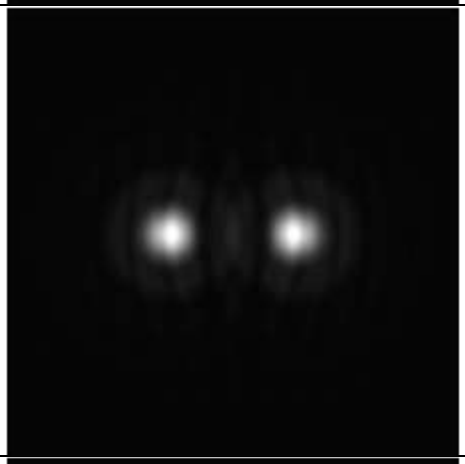
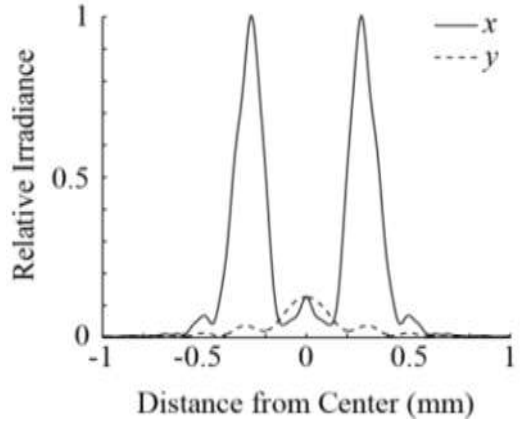
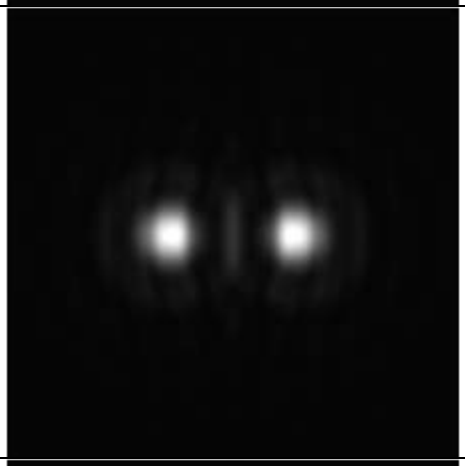
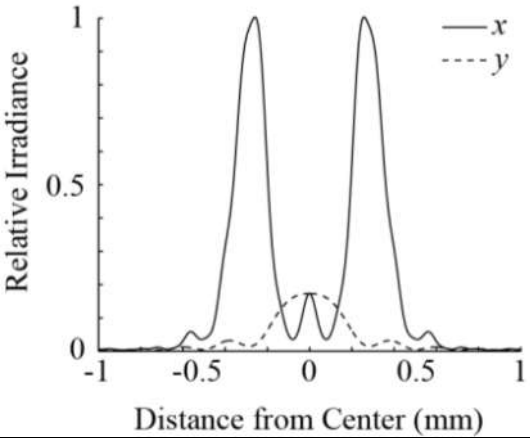
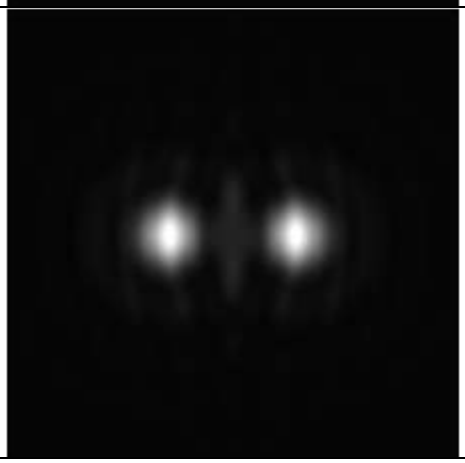
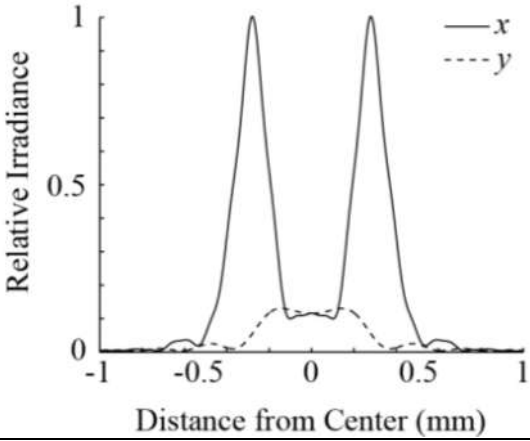
Uniform Illumination on 2 Circles

N_f = 50 a = 0.5 mm L = 10 mm 1. λ = 500 nm		
N_f = 10 a = 0.5 mm L = 50 mm λ = 500 nm		
N_f = 9 a = 0.5 mm L = 55.6 mm λ = 500 nm		
N_f = 8 a = 0.5 mm L = 62.5 mm λ = 500 nm		

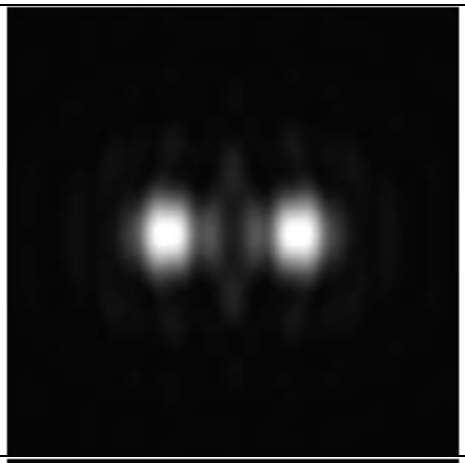
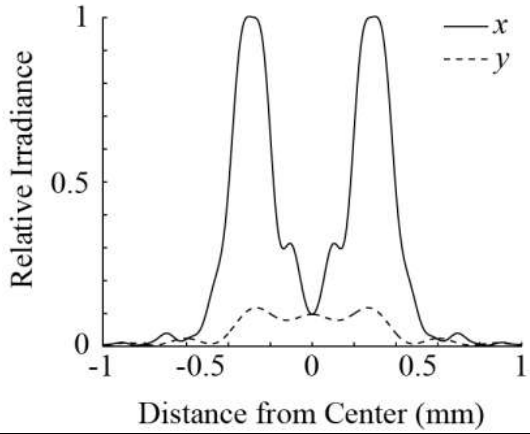
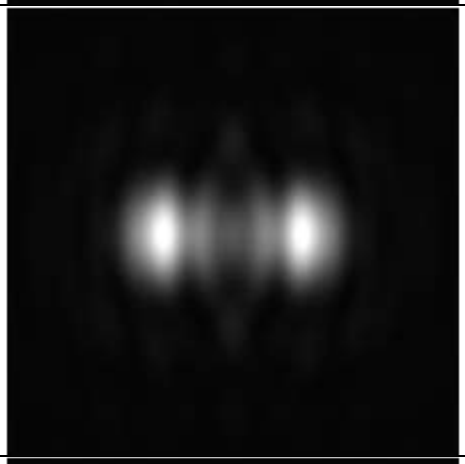
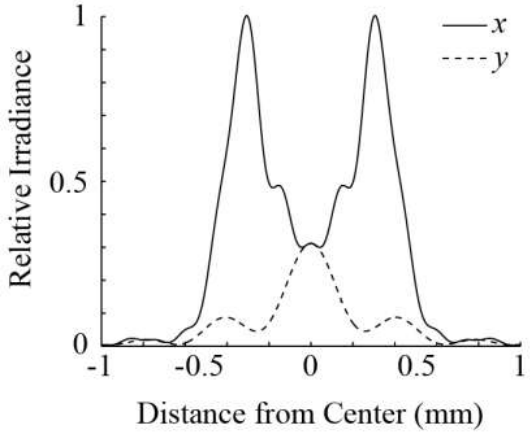
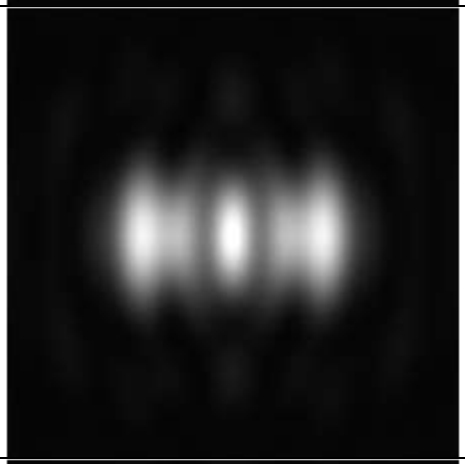
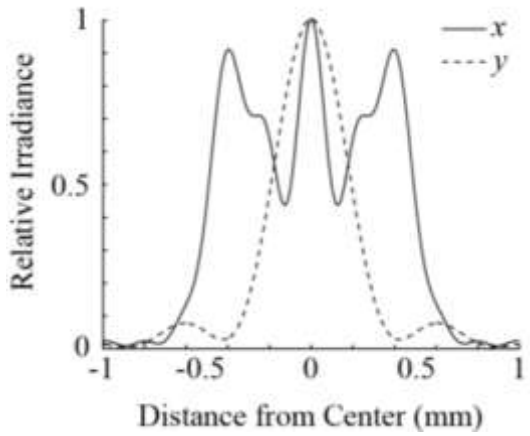
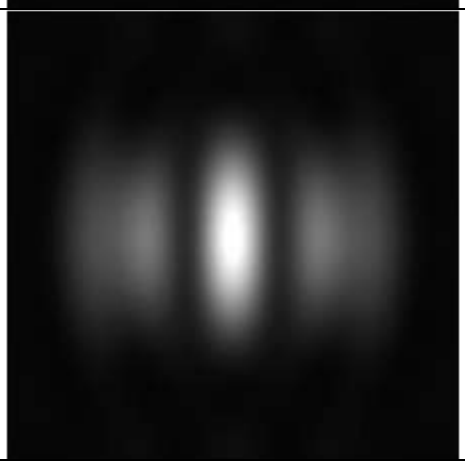
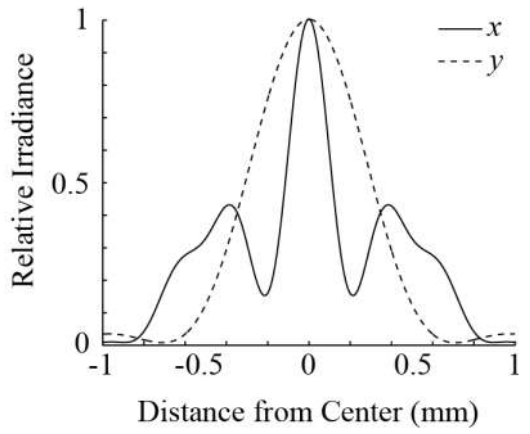
Uniform Illumination on 2 Circles

$N_f = 7$ a = 0.5 mm L = 71.4 mm λ = 500 nm		
$N_f = 6$ a = 0.5 mm L = 83.3 mm λ = 500 nm		
$N_f = 5.5$ a = 0.5 mm L = 90.9 mm λ = 500 nm		
$N_f = 5$ a = 0.5 mm L = 100 mm λ = 500 nm		

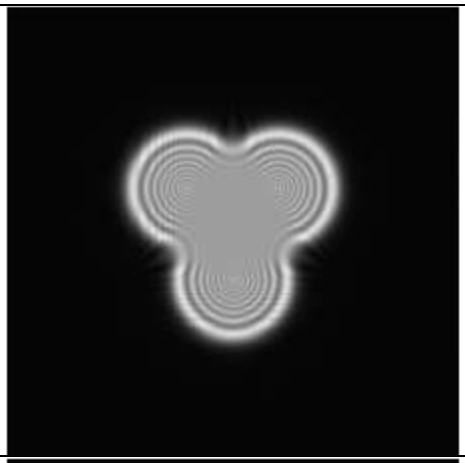
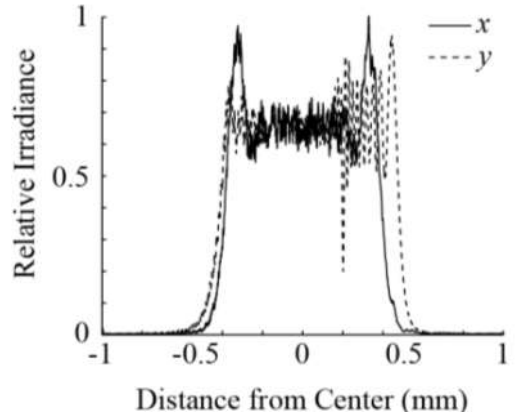
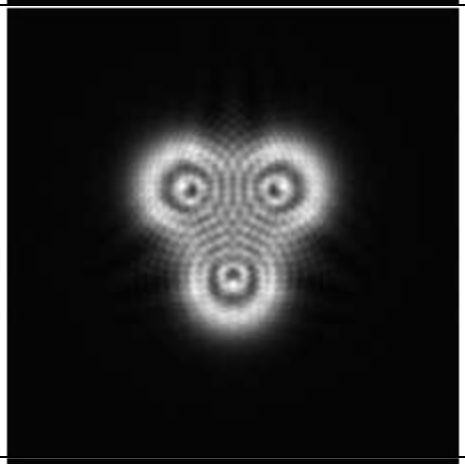
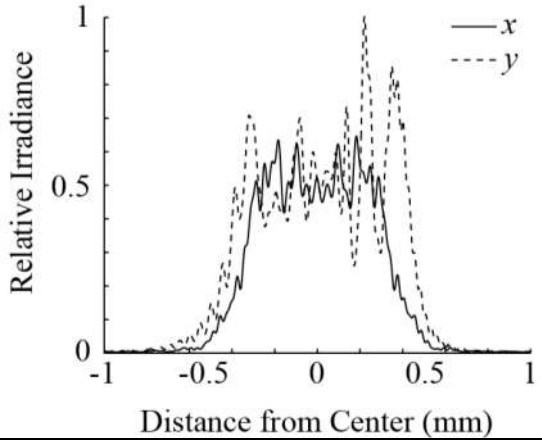
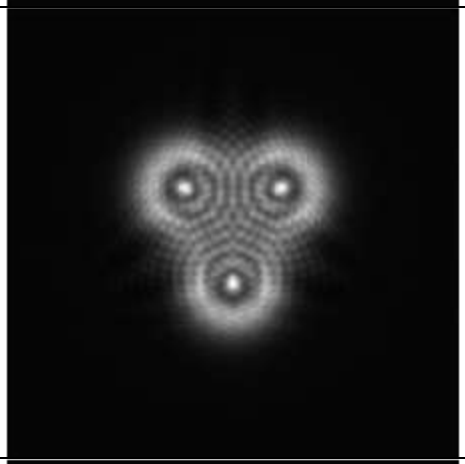
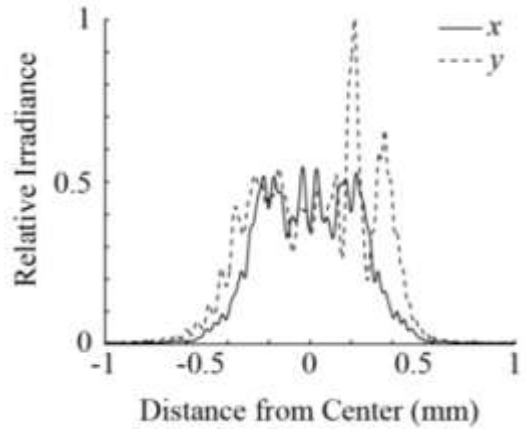
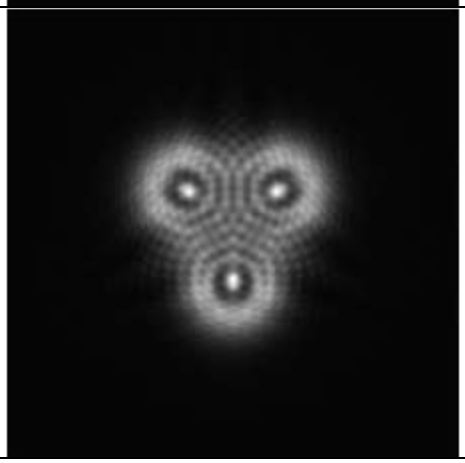
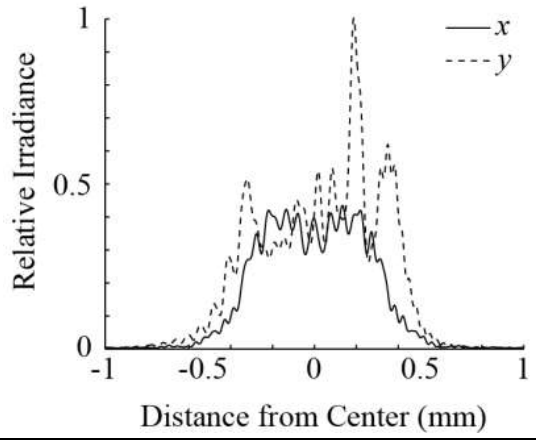
Uniform Illumination on 2 Circles

N_f = 4.5 a = 0.5 mm L = 111 mm λ = 500 nm		
N_f = 4 a = 0.5 mm L = 125 mm λ = 500 nm		
N_f = 3.5 a = 0.5 mm L = 142.9 mm λ = 500 nm		
N_f = 3 a = 0.5 mm L = 166.7 mm λ = 500 nm		

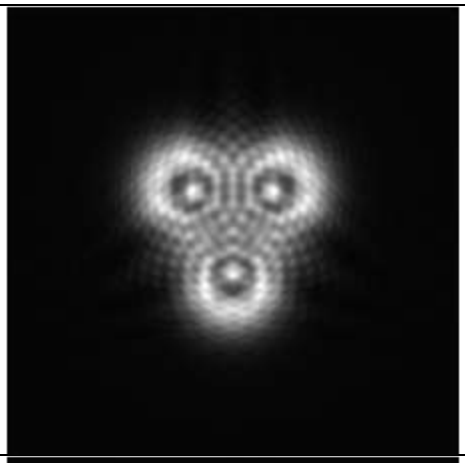
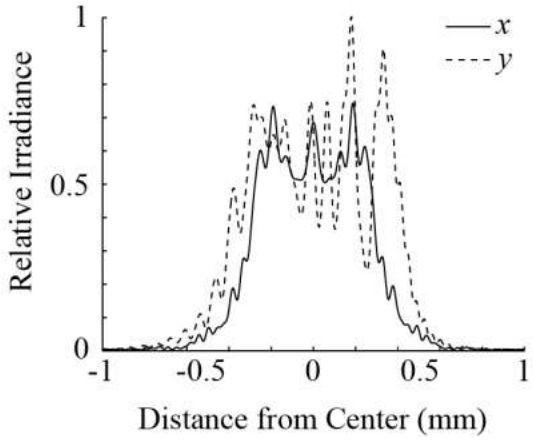
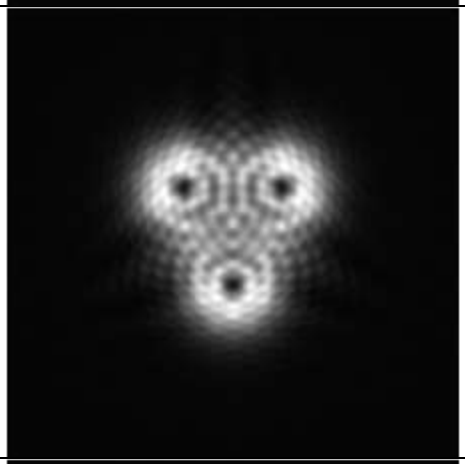
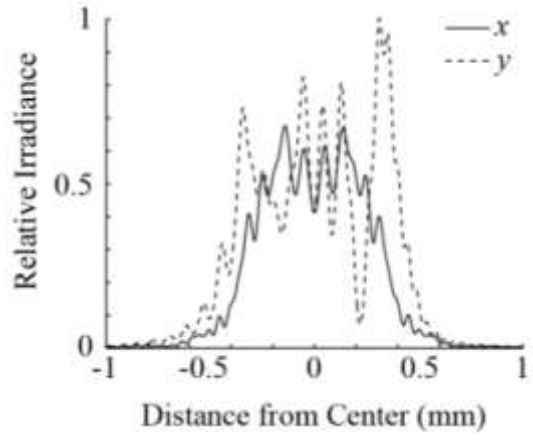
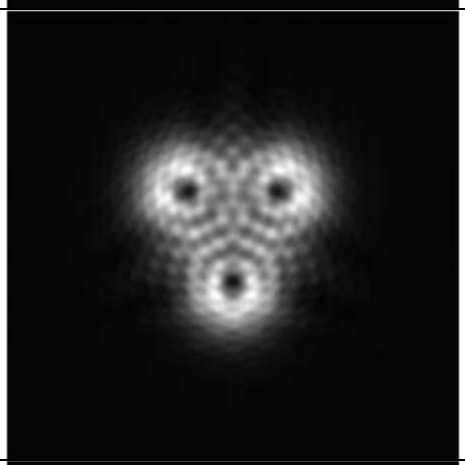
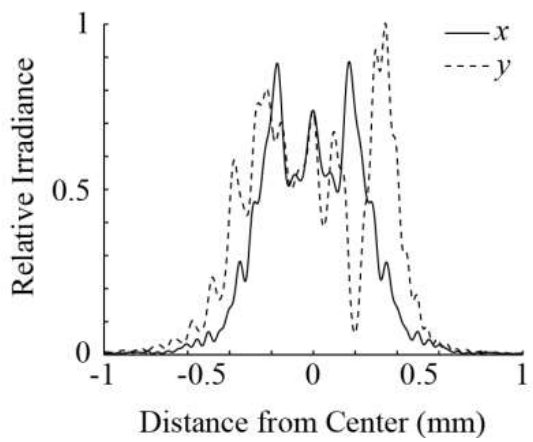
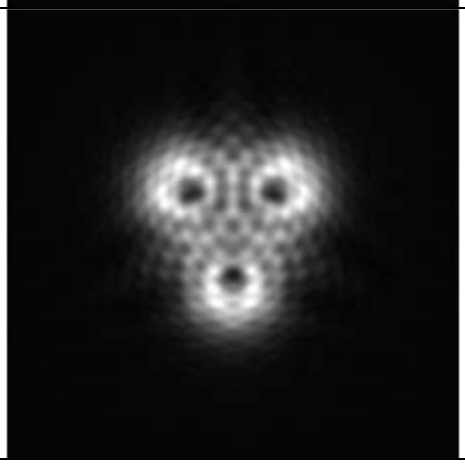
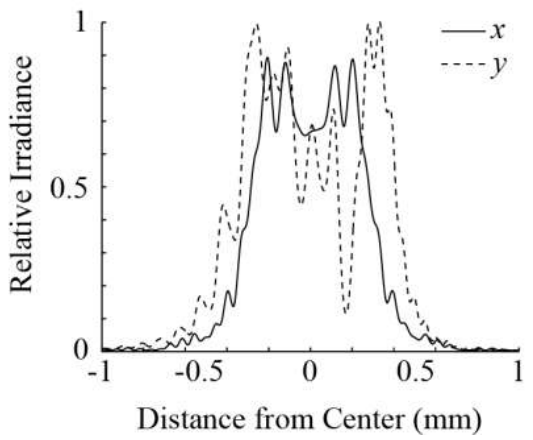
Uniform Illumination on 2 Circles

N_f = 2.5 a = 0.5 mm L = 200 mm λ = 500 nm		
N_f = 2 a = 0.5 mm L = 250 mm λ = 500 nm		
N_f = 1.5 a = 0.5 mm L = 333 mm λ = 500 nm		
N_f = 1 a = 0.5 mm L = 500 mm λ = 500 nm		

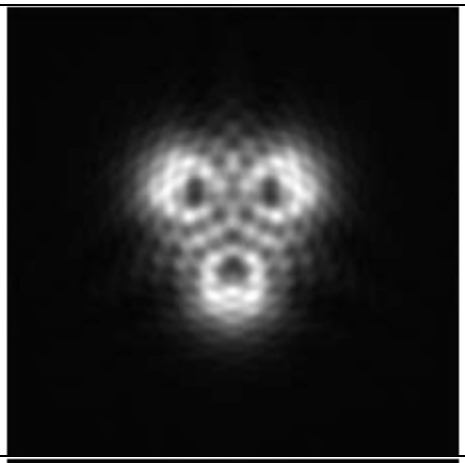
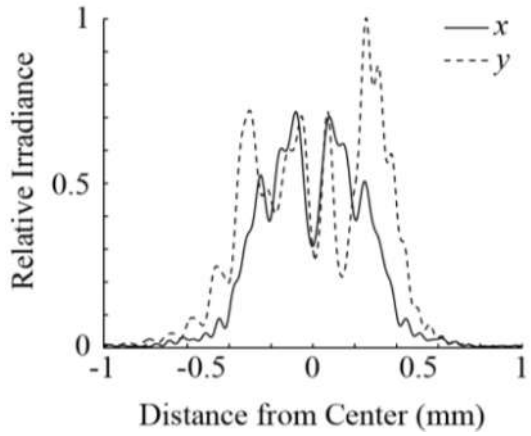
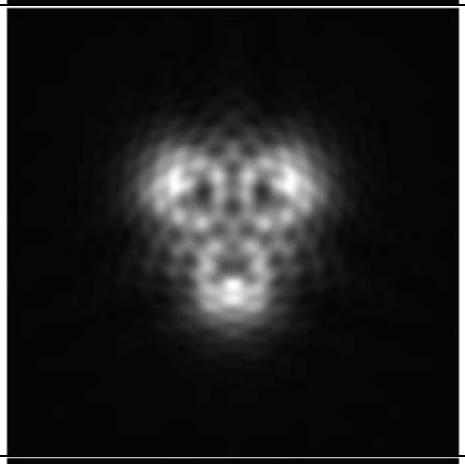
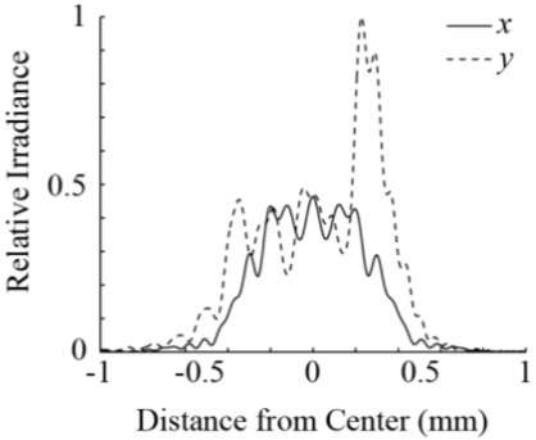
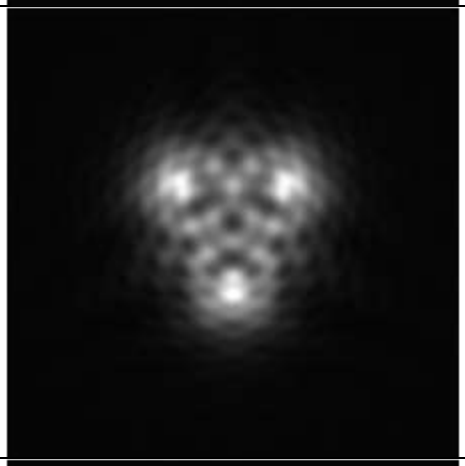
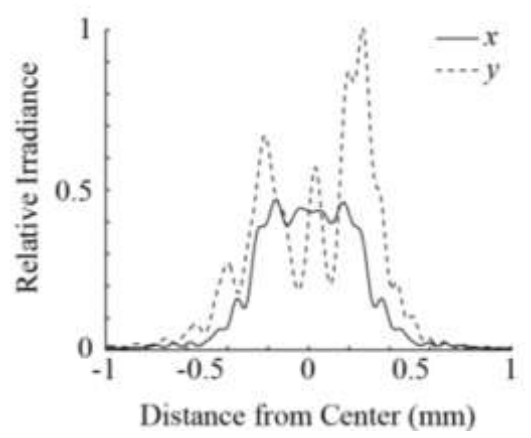
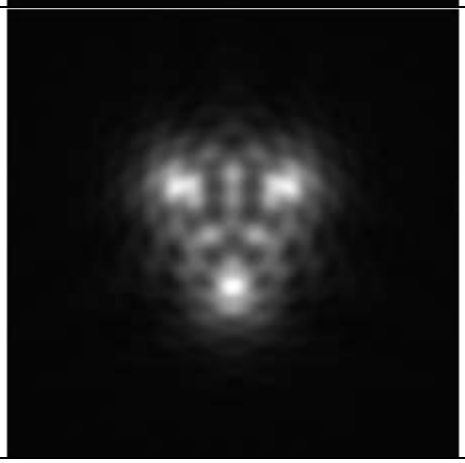
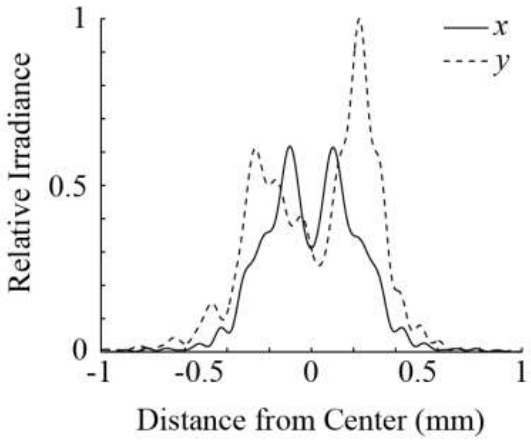
Uniform Illumination on 3 Circles

N_f = 50 a = 0.5 mm L = 10 mm 1. λ = 500 nm		
N_f = 10 a = 0.5 mm L = 50 mm λ = 500 nm		
N_f = 9 a = 0.5 mm L = 55.6 mm λ = 500 nm		
N_f = 8 a = 0.5 mm L = 62.5 mm λ = 500 nm		

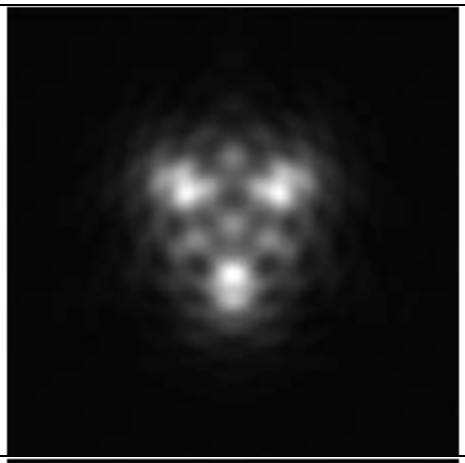
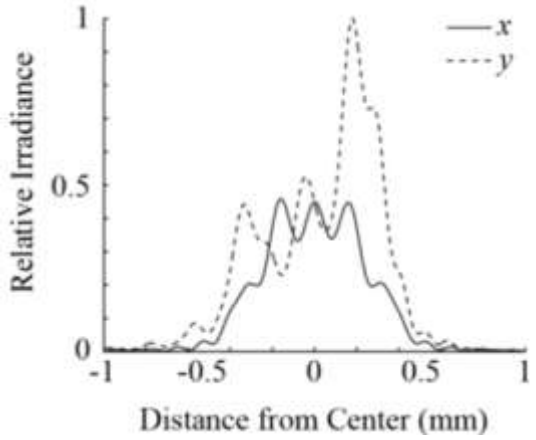
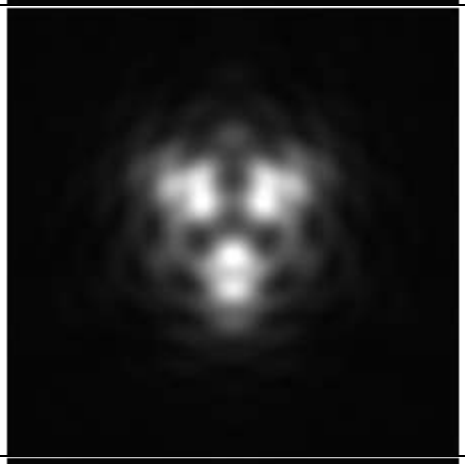
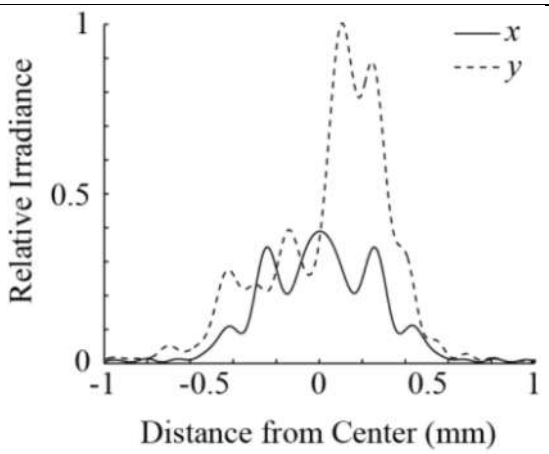
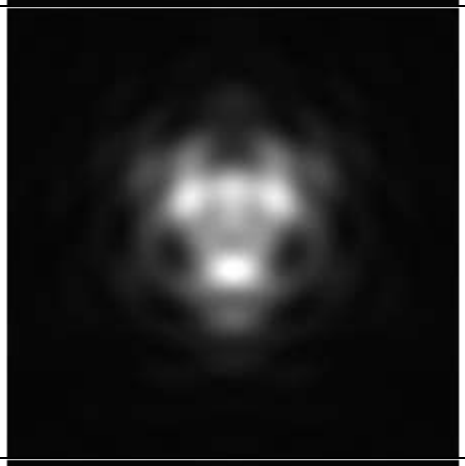
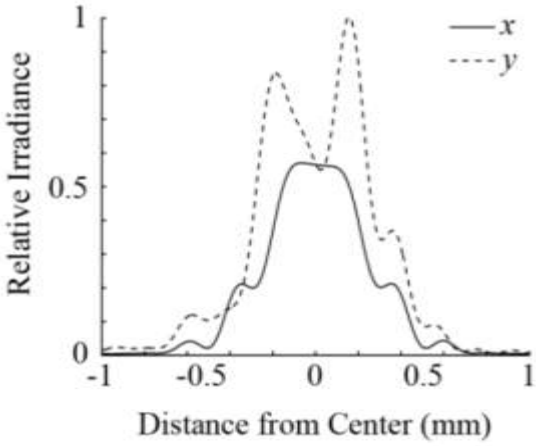
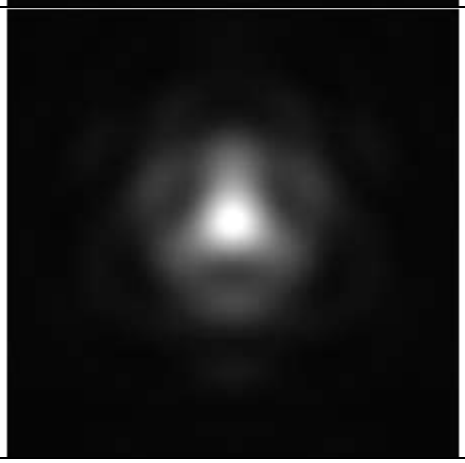
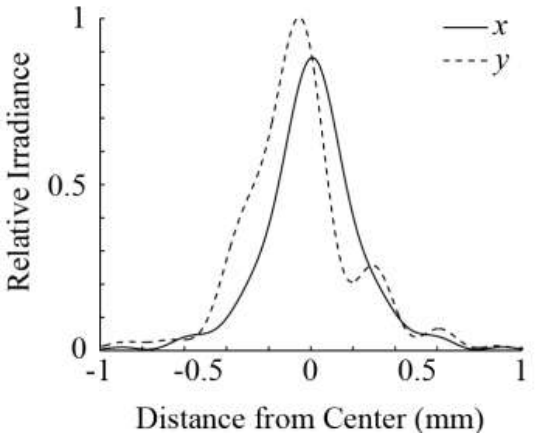
Uniform Illumination on 3 Circles

$N_f = 7$ a = 0.5 mm L = 71.4 mm λ = 500 nm		
$N_f = 6$ a = 0.5 mm L = 83.3 mm λ = 500 nm		
$N_f = 5.5$ a = 0.5 mm L = 90.9 mm λ = 500 nm		
$N_f = 5$ a = 0.5 mm L = 100 mm λ = 500 nm		

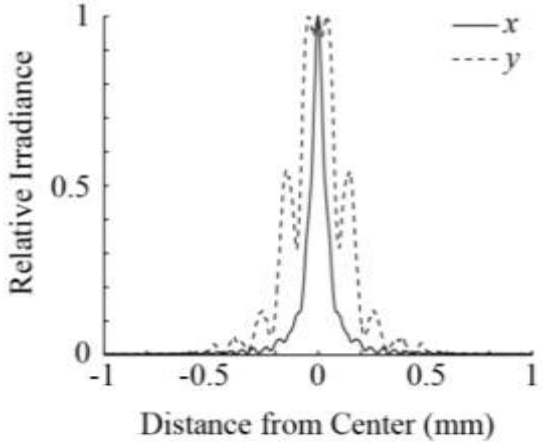
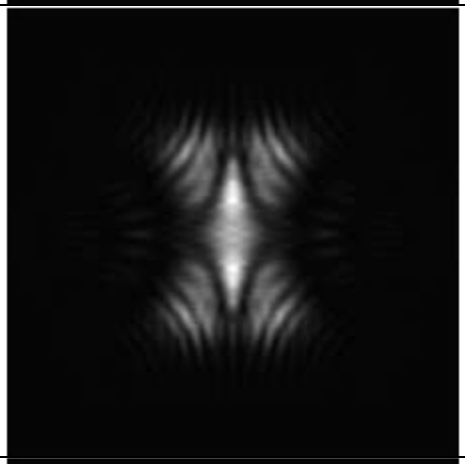
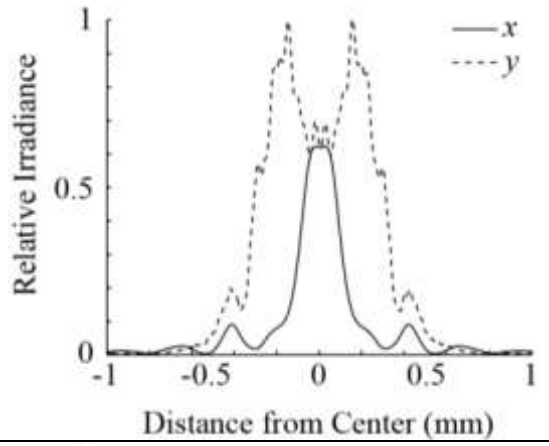
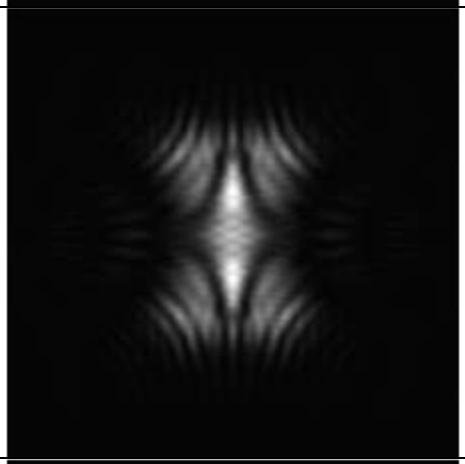
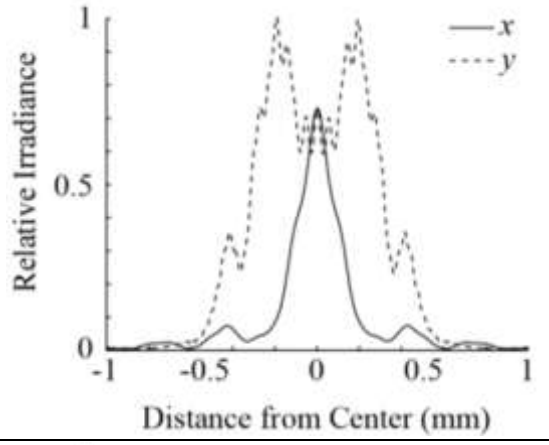
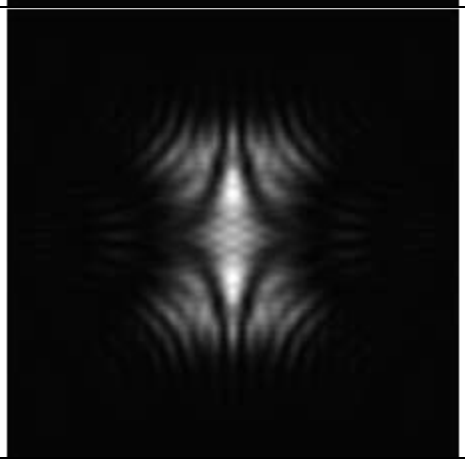
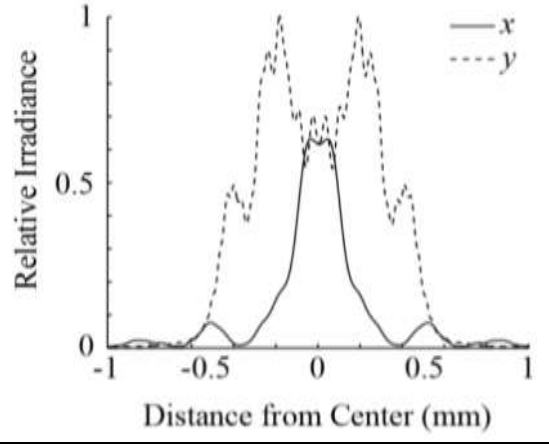
Uniform Illumination on 3 Circles

N_f = 4.5 a = 0.5 mm L = 111 mm λ = 500 nm		
N_f = 4 a = 0.5 mm L = 125 mm λ = 500 nm		
N_f = 3.5 a = 0.5 mm L = 142.9 mm λ = 500 nm		
N_f = 3 a = 0.5 mm L = 166.7 mm λ = 500 nm		

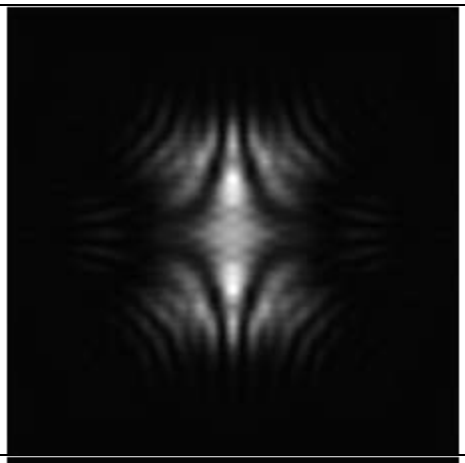
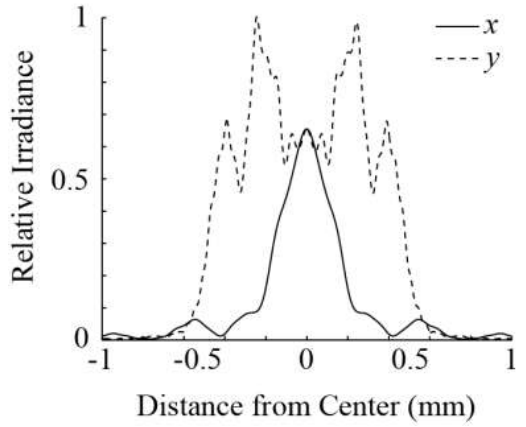
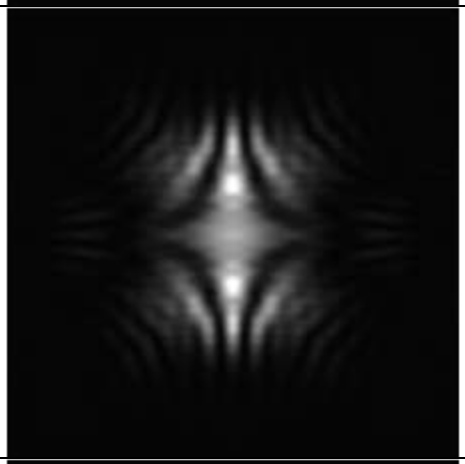
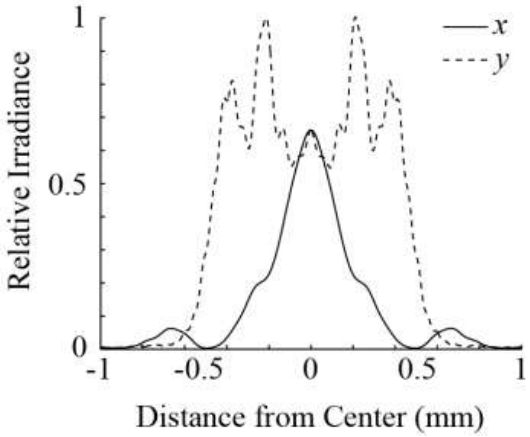
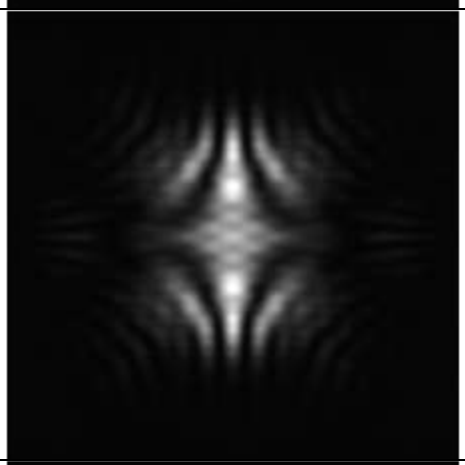
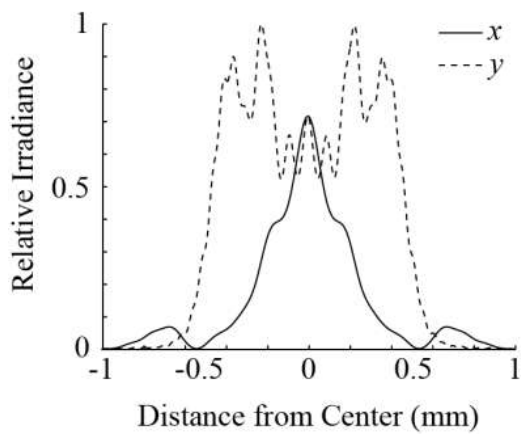
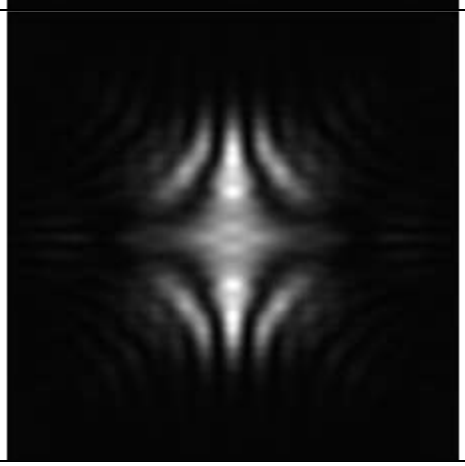
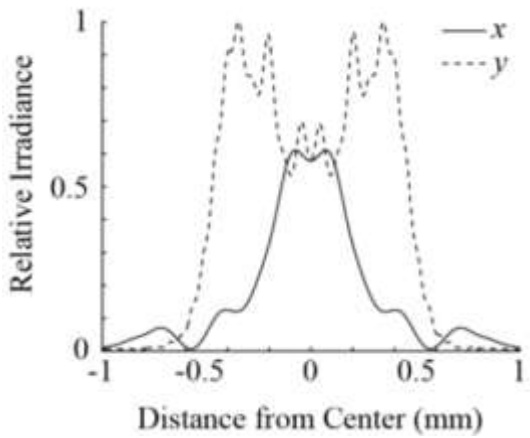
Uniform Illumination on 3 Circles

N_f = 2.5 a = 0.5 mm L = 200 mm λ = 500 nm		
N_f = 2 a = 0.5 mm L = 250 mm λ = 500 nm		
N_f = 1.5 a = 0.5 mm L = 333 mm λ = 500 nm		
N_f = 1 a = 0.5 mm L = 500 mm λ = 500 nm		

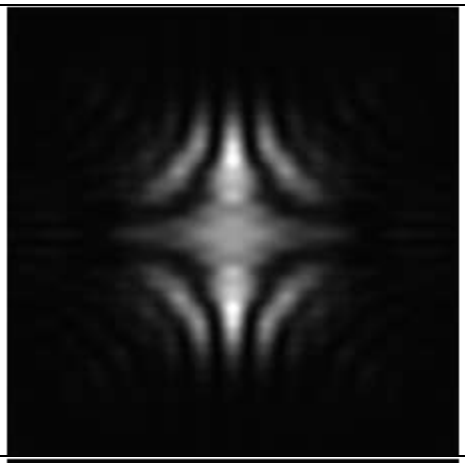
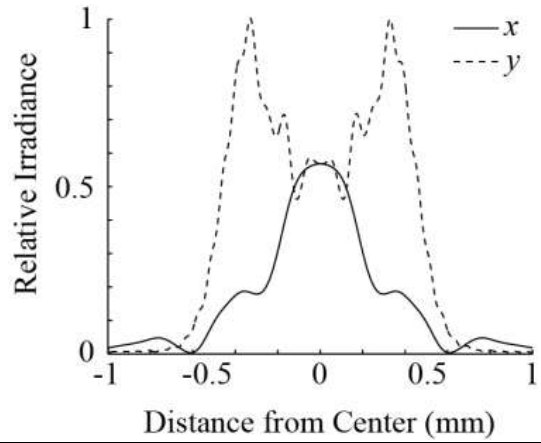
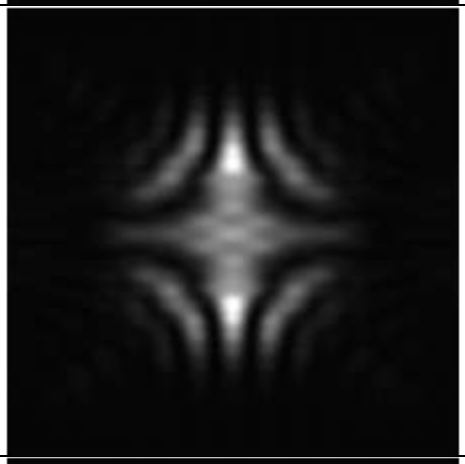
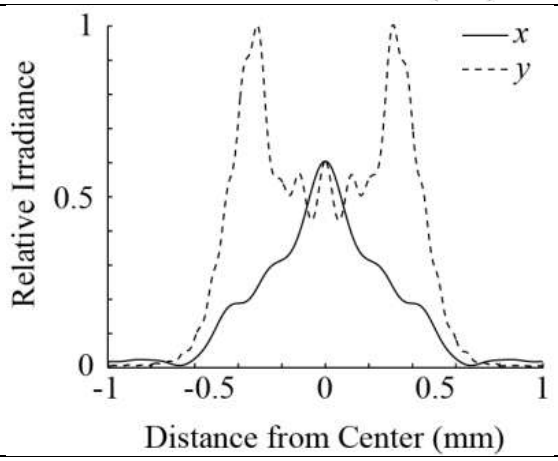
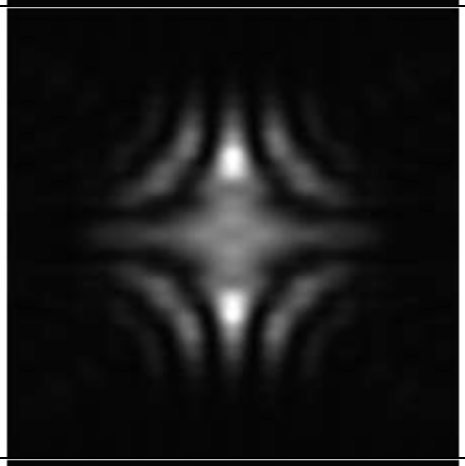
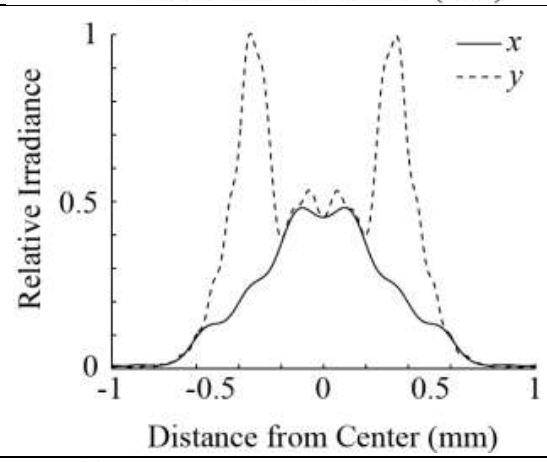
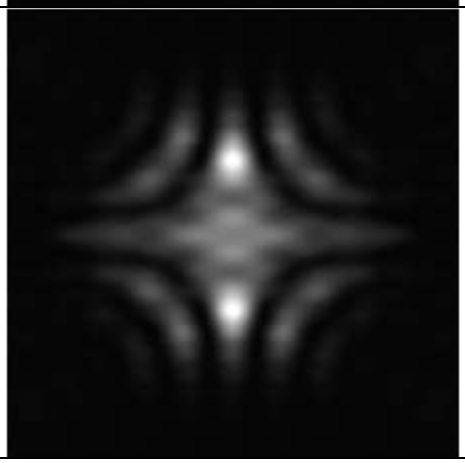
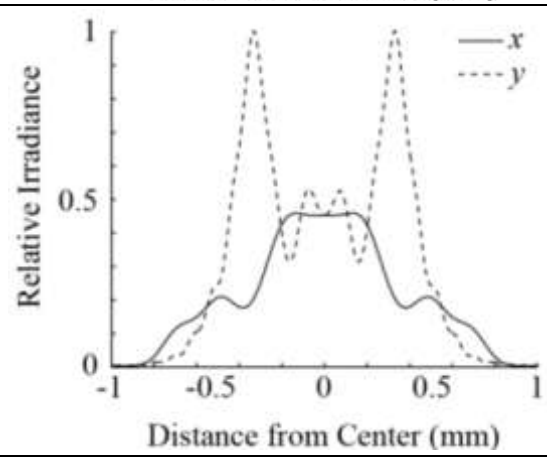
Uniform Illumination on “X”

$N_f = 50$ a = 0.5 mm L = 10 mm 1. λ = 500 nm		
$N_f = 10$ a = 0.5 mm L = 50 mm λ = 500 nm		
$N_f = 9$ a = 0.5 mm L = 55.6 mm λ = 500 nm		
$N_f = 8$ a = 0.5 mm L = 62.5 mm λ = 500 nm		

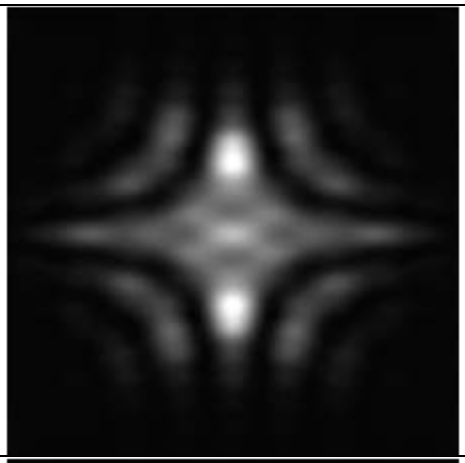
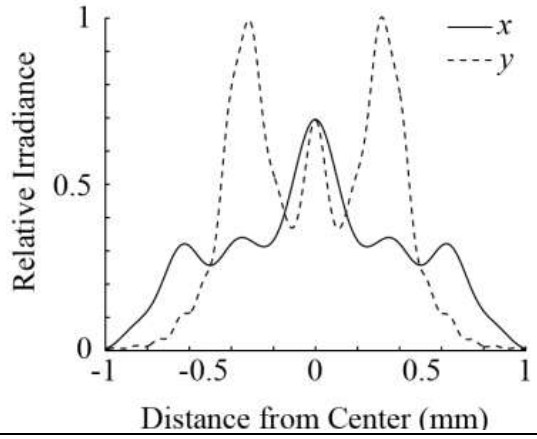
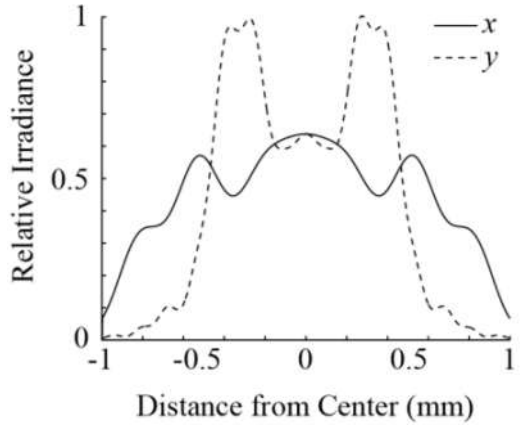
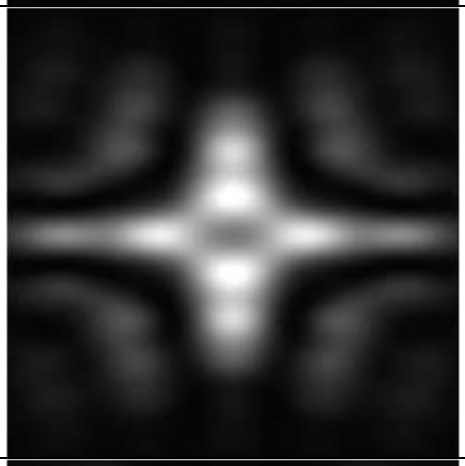
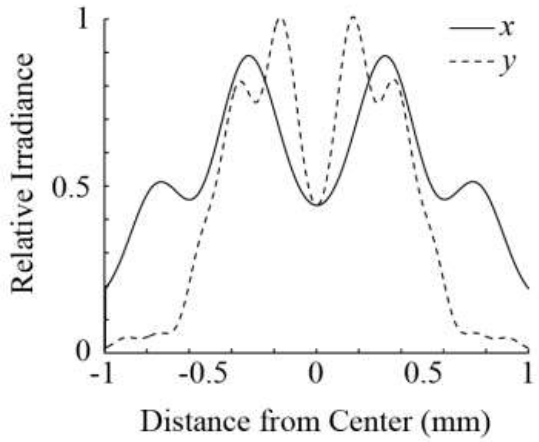
Uniform Illumination on “X”

N_f = 7 a = 0.5 mm L = 71.4 mm λ = 500 nm		
N_f = 6 a = 0.5 mm L = 83.3 mm λ = 500 nm		
N_f = 5.5 a = 0.5 mm L = 90.9 mm λ = 500 nm		
N_f = 5 a = 0.5 mm L = 100 mm λ = 500 nm		

Uniform Illumination on “X”

N_f = 4.5 a = 0.5 mm L = 111 mm λ = 500 nm		
N_f = 4 a = 0.5 mm L = 125 mm λ = 500 nm		
N_f = 3.5 a = 0.5 mm L = 142.9 mm λ = 500 nm		
N_f = 3 a = 0.5 mm L = 166.7 mm λ = 500 nm		

Uniform Illumination on “X”

N_f = 2.5 a = 0.5 mm L = 200 mm λ = 500 nm		
N_f = 2 a = 0.5 mm L = 250 mm λ = 500 nm		
N_f = 1.5 a = 0.5 mm L = 333 mm λ = 500 nm		
N_f = 1 a = 0.5 mm L = 500 mm λ = 500 nm