

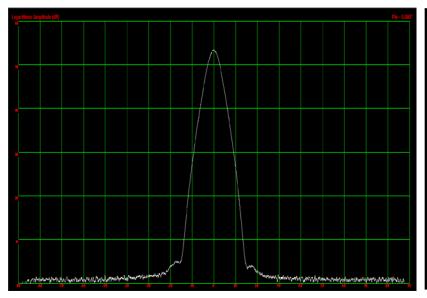
# AFL Fiber Lens Products Samples

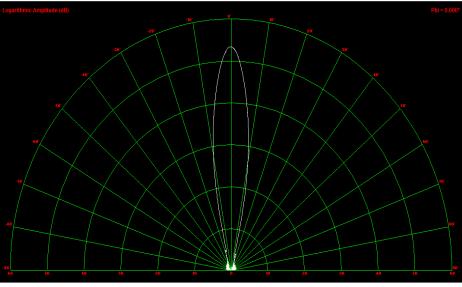
5/19/2015

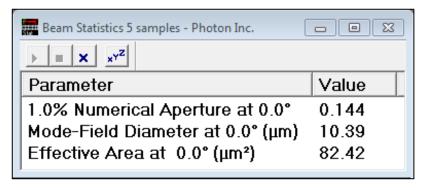
We connect.

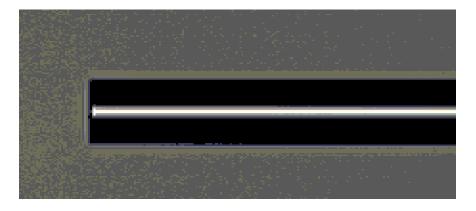
#### Flat cleaved SMF28 at 1550 nm









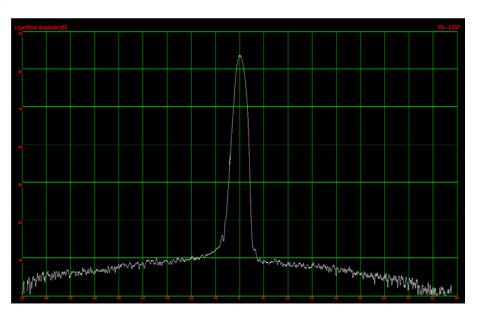


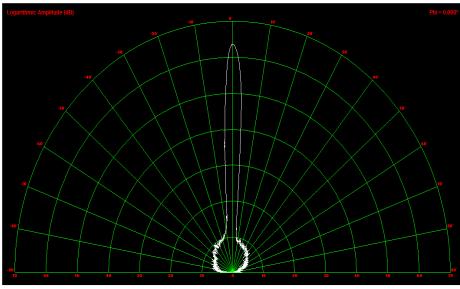
• Flat cleave of SMF28 measured at 1550 nm as baseline. Fiber end curvature radius =  $\infty$ 

AFL COMPANY CONFIDENTIAL

## 400 um ball lens no taper with SMF28









SMF28 measured at 1550 nm. Fiber end curvature radius = 200 um. Incident angle ≈ 3.4°

Parameter

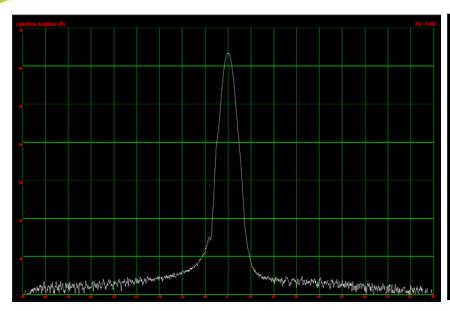
1.0% Numerical Aperture at 0.0° 0.060

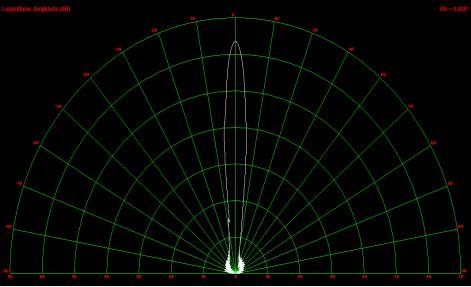
Mode-Field Diameter at 0.0° (µm) 20.86

Effective Area at 0.0° (µm²) 463.87

# 300 um ball lens no taper with SMF28





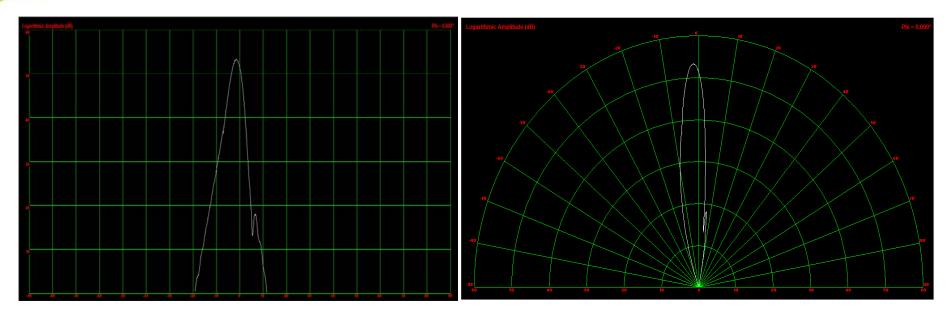




SMF28 measured at 1550 nm. Fiber end curvature radius = 150 um. Incident angle ≈ 4.2°

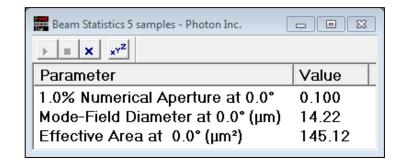
## 200 um ball lens no taper with SMF28







SMF28 measured at 1550 nm. Fiber end curvature radius = 100 um. Incident angle ≈ 5.7°



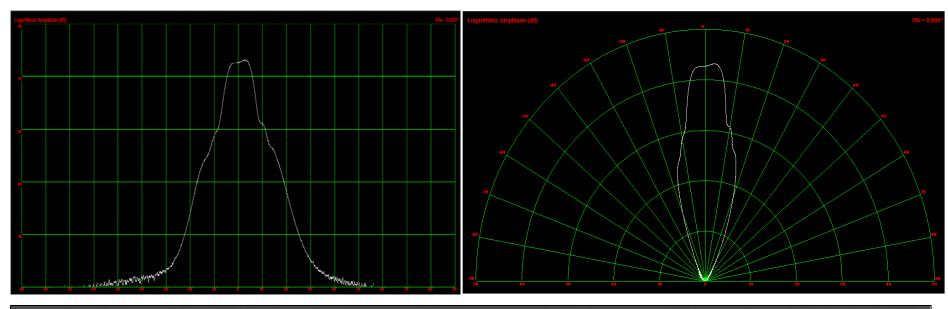
## 100 um ball lens with 3mm tapered SMF28



0.275

5.93

22.73





Tapered SMF28 measured at 1550 nm. Fiber end curvature radius = 50 um. Incident angle ≈ 16°

AFL COMPANY CONFIDENTIAL

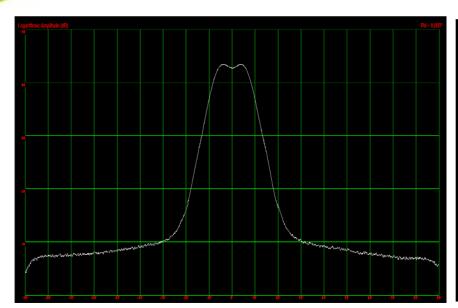
1.0% Numerical Aperture at 0.0°

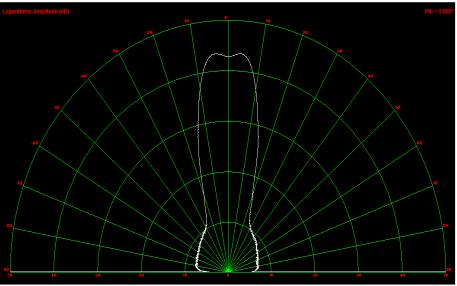
Mode-Field Diameter at 0.0° (μm)

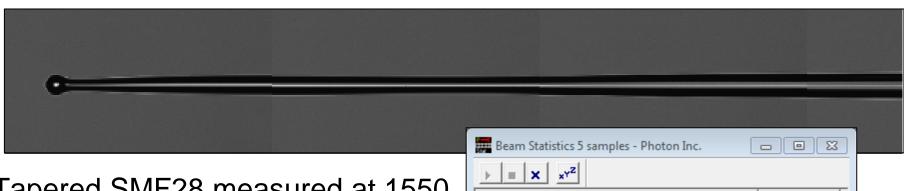
Effective Area at 0.0° (μm²)

## 50 um ball lens with 3mm tapered SMF28









Parameter

Tapered SMF28 measured at 1550 nm. Fiber end curvature radius = 25 um. Incident angle ≈ 16°

Mode-Field Diameter at 0.0° (μm) 5.19 Effective Area at 0.0° (μm²) 14.80

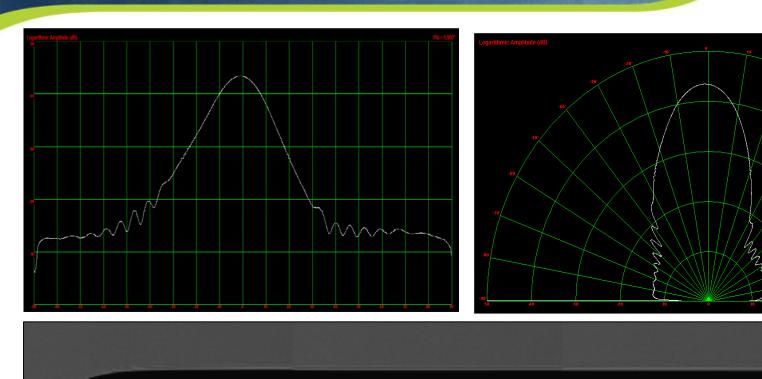
1.0% Numerical Aperture at 0.0°

Value

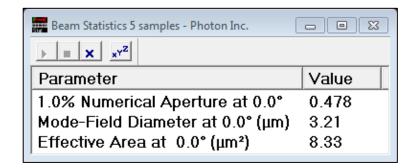
0.283

### **Axicon with SMF28**



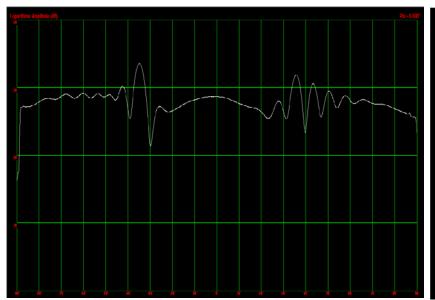


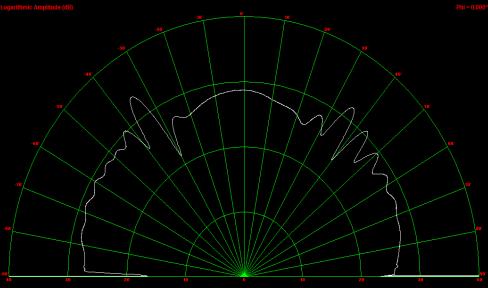
SMF28 measured at 1550 nm. Fiber end curvature radius = 10 um. Incident angle ≈ 28°



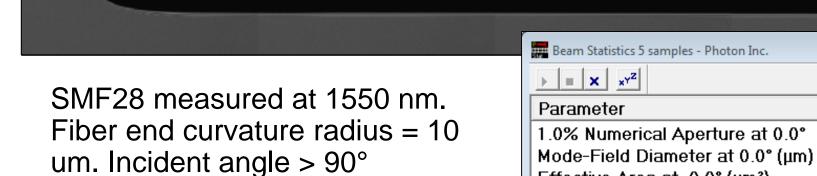
## **Axicon with Coreless tip**







Effective Area at 0.0° (µm²)



AFL COMPANY CONFIDENTIAL

- e X

Value

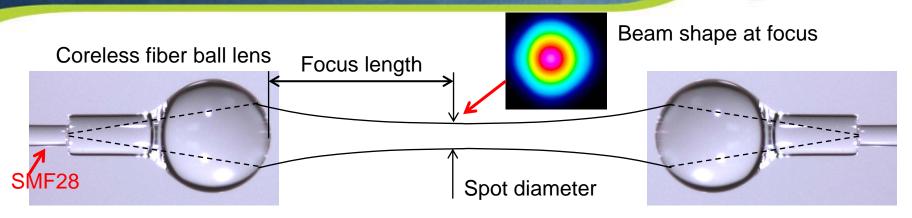
1.000

12.80

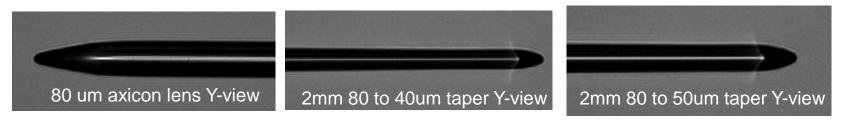
0.95

## **Application examples**





- Touchless connectors
- End-cap for fiber laser systems
- . . . . . .



- MRI-guided laser ablation system which enable minimally invasive, image-guided, ablative surgical procedures
- Waveguide or laser chip coupling
- AFL can do much more different lenses based on your requests

AFL COMPANY CONFIDENTIAL 1