



$$\theta = \tan^{-1} \left(\frac{.00312}{6} \right) = .0298^\circ$$

$$\theta = \tan^{-1} \left(\frac{.00312}{6} \right) = .000520 \text{ radians} \quad \textcircled{a}$$

$$d \sin \theta = 1.22 \lambda$$

$$\theta = \sin^{-1} \left(\frac{1.22 \times 400 \times 10^{-9}}{3.6 \times 10^{-3}} \right)$$

$$\theta = .000136 \text{ radians} \quad \textcircled{b}$$

$$.00777 \text{ degrees}$$

$$d \sin \theta = 1.22 \lambda$$

$$d \frac{y}{L} = 1.22 \lambda$$

$$y = \frac{1.22 \lambda L}{d} = \frac{1.22 (400 \times 10^{-9}) (6)}{3.6 \times 10^{-3}} = .000813 \text{ m}$$

.813 mm