

62. We adapt Eq. 36-21 to the non-reflective coating on a glass lens: $I = I_{\max} \cos^2(\phi/2)$, where $\phi = (2\pi/\lambda)(2n_2L) + \pi$. At $\lambda = 450 \text{ nm}$

$$\begin{aligned}\frac{I}{I_{\max}} &= \cos^2\left(\frac{\phi}{2}\right) = \cos^2\left(\frac{2\pi n_2 L}{\lambda} + \frac{\pi}{2}\right) \\ &= \cos^2\left[\frac{2\pi(1.38)(99.6 \text{ nm})}{450 \text{ nm}} + \frac{\pi}{2}\right] = 0.883 ,\end{aligned}$$

and at $\lambda = 650 \text{ nm}$

$$\frac{I}{I_{\max}} = \cos^2\left[\frac{2\pi(1.38)(99.6 \text{ nm})}{650 \text{ nm}} + \frac{\pi}{2}\right] = 0.942 .$$