A Fabry-Perot etalon is used to resolve two spectral lines of equal intensity, and wavelengths λ of 670.776nm and 670.791nm. The etalon plates have a reflectivity R = 0.85. Determine the minimum separation of the plates, d, for which the two lines are just resolved.

[At angle θ between the incident light ray and the normal to a Fabry-Perot etalon of plate separation d, the trasmitted intensity is

$$I \cong \frac{1}{1+\frac{4R}{(1-R)^2}\sin^2(\delta/2)} \qquad \text{where} \qquad \delta=\frac{(4\pi d)}{\lambda}\cos(\theta)$$