Turbulent Flows
Stephen B. Pope
Cambridge University Press (2000)

Solution to Exercise 13.40

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The stated assumptions let us estimate the required ratio as

$$r = \frac{\int_{\pi/\tilde{\Delta}}^{\pi/\bar{\Delta}} \kappa^{-5/3}\, d\kappa}{\int_{\pi/\bar{\Delta}}^{\infty} \kappa^{-5/3}\, d\kappa} = \left(\frac{\tilde{\Delta}}{\bar{\Delta}}\right)^{2/3} - 1. \tag{1}$$

Hence, $r = 0.59,\ 1.0$ for $\tilde{\Delta}/\bar{\Delta} = 2,\ 2.83$, respectively.