$$AR = \frac{b^2}{S} \Rightarrow S = \frac{b^2}{AR} = b \cdot \left(c_{root} - \frac{c_{root} - c_{tip}}{2}\right) = b \cdot c_{root} \cdot \left(1 - \frac{1 + TR}{2}\right) = \frac{b}{2} \cdot c_{root} \cdot (1 + TR)$$

$$\Rightarrow c_{root} = \frac{2b}{AR} \cdot \frac{1}{1 + TR}$$

$$c(\tilde{x}) = c_{root} - \left(c_{root} - c_{tip}\right) \cdot |\tilde{x}| = c_{root} \cdot (1 - (1 - TP) \cdot |\tilde{x}|) = \frac{2b}{AR} \cdot \frac{1}{1 + TR} \cdot (1 - (1 - TP) \cdot |\tilde{x}|)$$

$$\bar{c} = \frac{S}{b} = \frac{b}{AR}$$

$$\Rightarrow \frac{c(\tilde{x})}{\bar{c}} = \frac{\frac{2b}{AR} \cdot \frac{1}{1 + TR} \cdot (1 - (1 - TP) \cdot |\tilde{x}|)}{\frac{b}{AR}} = \frac{2}{1 + TR} \cdot (1 - (1 - TP) \cdot |\tilde{x}|)$$