$$c(DI)=\frac{1}{2\sqrt{2}}\sqrt{\frac{\kappa}{\tau_{\text{in}}}\left(1+e^{\frac{-DI}{\tau_{\text{open}}}}\left(-1+\frac{4\tau_{\text{in}}}{\tau_{\text{out}}}\right)\right)}\left(-1+3\sqrt{\frac{\left(-1+e^{\frac{-DI}{\tau_{\text{open}}}}\right)(-4\tau_{\text{in}}+\tau_{\text{out}})}{4\tau_{\text{in}}+\left(-1+e^{\frac{-DI}{\tau_{\text{open}}}}\right)\tau_{\text{out}}}}\right)$$

$$c(DI)=\frac{1}{2\sqrt{2}}\sqrt{\frac{\kappa}{\tau_{\text{in}}}\left(1+e^{\frac{-DI}{\tau_{\text{open}}}}(-1+h_{\text{min}})\right)}\left(-1+3\sqrt{1-h_{\text{min}}+\frac{(-1+h_{\text{min}})h_{\text{min}}}{-1+e^{\frac{DI}{\tau_{\text{open}}}}+h_{\text{min}}}}\right)$$

$$A^*=\tau_{\text{close}}\ln\left(\frac{1+e^{\frac{B}{\tau_{\text{close}}-\tau_{\text{open}}}}(-1+h_{\text{min}})}{h_{\text{min}}}\right)$$

$$\int_1^{\tilde{x}}\frac{dk_1}{C^*+c\left(\phi_{\text{rev}}(\tilde{x})-\frac{L-k_1}{C^*}-A^*\right)}-\int_1^{\phi_{\text{rev}}(\tilde{x})}\left(\frac{c\left(k_2-\frac{L-\tilde{x}}{C^*}-A^*\right)}{C^*+c\left(k_2-\frac{L-\tilde{x}}{C^*}-A^*\right)}-\int_1^{\tilde{x}}\frac{c'\left(k_2-\frac{L-k_1}{C^*}-A^*\right)}{\left(C^*+c\left(k_2-\frac{L-k_1}{C^*}-A^*\right)\right)^2}dk_1\right)dk_2=$$