$T_0 = 273$ K

$S = 111$ K

$$\mu = 1.716 \cdot 10^{-5} \cdot \left(\frac{298.15}{273}\right)^{\frac{3}{2}} \cdot \left(\frac{273+111}{298.15+111}\right)$$

$\mu = 1.838 \cdot 10^{-5}$ kg/(m·s)

$M_{mix} = 28.7805$ g/mol

$\dot{n}_{ref} = 57.625$ mol/s

$d_t = 152.4$ mm $= 0.1524$ m

$T_{in} = 298.15$ K

$$Re^{\#} = \frac{4 \cdot 28.7805 \cdot 57.625}{3.14159 \cdot 0.1524 \cdot 1.838 \cdot 10^{-5}}$$

$Re^{\#} = 7.538 \cdot 10^{8}$

(2) Create an equation for C_d as a function of $Re^{\#}$, using paired values of the two quantities. The equation may involve any mathematical expression, including a polynomial or a power series. The following equation is an example of a commonly used mathematical expression for relating C_d and $Re^{\#}$:

$$C_d = a_0 - a_1 \cdot \sqrt{\frac{10^6}{Re^{\#}}}$$

Eq. 1065.640-12