5.65 How much power is transferred to the moving vane of
Problem 5.65?

$Power = F_A V$, where from Problem 5.66 $F_A = 146\ lb$

Thus,

$$Power = \frac{(146\ lb)(10\ \frac{ft}{s})}{(550\ \frac{ft\cdot lb}{s\cdot hp})} = \underline{\underline{2.65}}\ hp$$