$$\begin{split} V_0 = 3, 3V \frac{R_p}{R_p + 10K\Omega} \\ V_0(R_p + 10K\Omega) = 3, 3R_p \\ R_p = V_0 \frac{10K\Omega}{3, 3V - V_0} \\ \log(R_p)\text{-}\log(100K\Omega) = -\gamma_{10}^{100}[\log(lux) - \log(1)] \\ Luce[lux] = 10^{\left[\left(\frac{-1}{\gamma}\right)\log\left(\frac{R_p}{100K}\right)\right]} \end{split}$$