iii $R_n = (0.83 \cdot K_{in}) - 54$

$\Rightarrow \frac{cal}{cm^2 d} = 0.83 \cdot \frac{cal}{cm^2 d} - 54 \cdot \frac{cal}{cm^2 d}$

$1\ cal = 4.2 J$
$= 4.2 Ws$

$\Rightarrow \frac{W}{m^2} = 0.83 \cdot \frac{(1 \cdot 4.2)\,W\cancel{s}}{((10^{-2})^2)\,m^2\,(24\times60\times60)\,\cancel{s}} - 54 \cdot \frac{(1 \cdot 4.2)\,W\cancel{s}}{(10^{-2})^2\,m^2\,(24\times60\times60)\,\cancel{s}}$

$\Rightarrow \frac{W}{m^2} = 0.83 \times (0.0281) - 54\,(0.028)$

$\Rightarrow R_n = 0.023\,K_{in} - 1.5$

iv $E = \frac{3.64}{T_a} \cdot \frac{u_a}{\left[\ln\left(\frac{z_m}{z_0}\right)\right]^2}\,(e_a^* - e_a)$

$\frac{cm}{d} = 3.64 \times (\ ) \frac{1}{K} \cdot \frac{km}{d} \cdot \frac{1}{\left(\frac{cm}{cm}\right)^2} \cdot (mb)$

$\frac{K}{mb}$

$T_K = T_c + 273$
$1\,KPa = 10\,mb$

$\frac{mm}{s} = 3.64 \frac{(T_K - 273)\,°C}{0.1\,kPa} \times \frac{1}{(T_K - 273)\,°C} \times \frac{10^6\ mm}{24\times60\times60\ s}$ $0.1\,kPa$

$E = 42.13\,\frac{u_a\,(e_a^* - e_a)}{T_a \left(\ln\left[\frac{z_m}{z_0}\right]\right)^2}$