

Ch.2 Prob 34

Find The magnification of The heater element in problem 33.

From problem 33

$$d_i = 3.00 \text{ m}$$

$$R = 0.50 \text{ m}$$

$$f = 0.25 \text{ m}$$

and by calculation

$$d_o = 0.273 \text{ m}$$

Magnification is

$$m = -\frac{d_i}{d_o} = -\frac{3.00}{0.273} = -10.99 = -11$$

The negative sign indicates the image is upside down.

Also by magnifying the coils, you are spreading out the heat over a larger area, resulting in less intensity.