

21. Eq. 37-14 gives $\theta_R = 1.22\lambda/d$, where in our case $\theta_R \approx D/L$, with $D = 60 \mu\text{m}$ being the size of the object your eyes must resolve, and L being the maximum viewing distance in question. If $d = 3.00 \text{ mm} = 3000 \mu\text{m}$ is the diameter of your pupil, then

$$L = \frac{Dd}{1.22\lambda} = \frac{(60 \mu\text{m})(3000 \mu\text{m})}{1.22(0.55 \mu\text{m})} = 2.7 \times 10^5 \mu\text{m} = 27 \text{ cm} .$$