Our sun radiates $4 \times 10^{26}$ J/s. Assume that most of this energy is yellow light. Estimate how far away a star like the sun could be from Earth and still be seen by the human eye. Assume the diameter of the pupil is 8 mm when dilated (looking at the night sky).

**Sense making:** Most stars we see in the sky are hundreds of light years away. What does this say about the intrinsic brightness of most stars that we see?

*Reminder: when night adjusted, the eye requires about 100 or 200 photons within a 100 ms time period to observe something.*