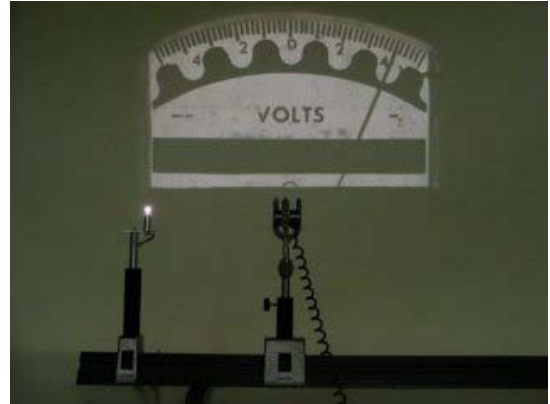
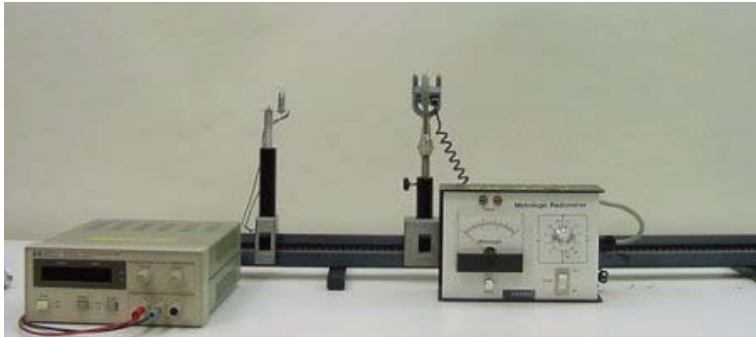


Question 316.

A small flashlight bulb, which approximates a point source, is placed in a stand on an optical rail, as seen on the left side of the photograph at left, below. The light bulb is energized by a DC power supply. 20 centimeters from the bulb is a photometer sensor, shown on the right side of the same photo. With the room lights turned off, and the light bulb illuminated, the output of the photometer reads 4 units, as seen in the photo at right, below.



Suppose we now move the sensor another 20 cm further away, thereby doubling its distance from the light bulb. At this point, what will the photometer read?

- (a) The same, roughly 4 units.
- (b) One-half as much, roughly 2 units.
- (c) One-fourth as much, roughly 1 unit.
- (d) No reading at all, 0 units.

Click here for [Answer #316](#) after May 5, 2008.

[Question of the Week](#)

[Outreach Index Page](#)

[Lecture-Demonstration Home Page](#)

