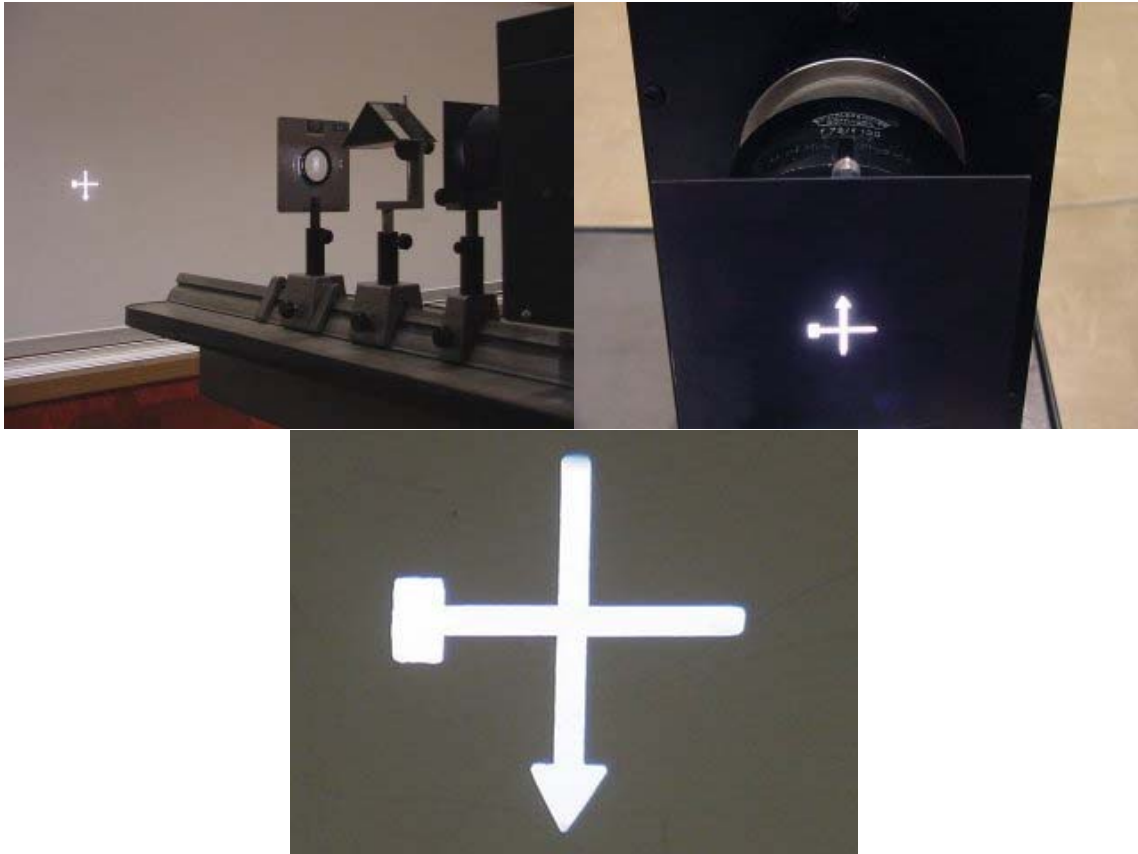
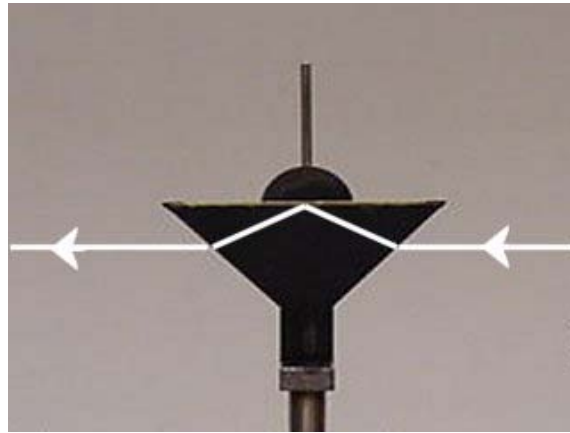
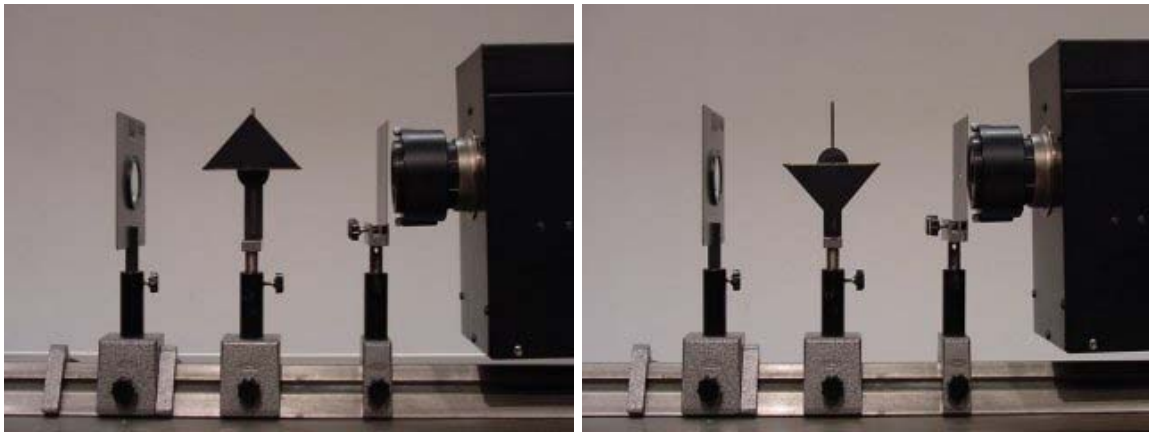


Question #331

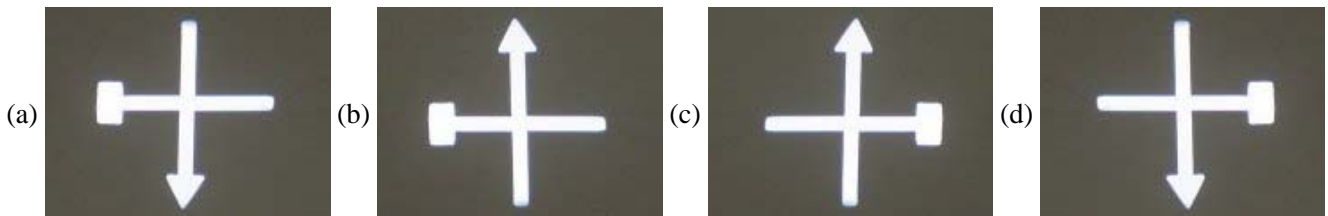
Shown in the photograph at the left below is (right to left) a bright point source of white light with a condenser lens (producing largely parallel rays), followed by a baffle with an arrow in the vertical direction and a square "marker" in the horizontal direction, a right-angle prism that has been rotated out of the light path for this picture, and a 20cm focal length convex (focusing) lens. The photograph at the center shows a view of the baffle looking back toward the light source, and the photograph at the right shows the image of the baffle produced by convex lens, looking at the screen in the direction which the light rays progress.



The original configuration is shown in the photograph at the left below. The 90° prism is then inserted into the beam as seen in the photograph at the center below. The central ray for the light going through the prism is seen in the drawing at the right below. Note that the prism is symmetric in the direction perpendicular to the plane of the paper (the same cross section throughout).



The question here is how the image of the cross will appear after the prism has been inserted. Below are four images from which you may choose.



Which of the four images above is the most accurate representation of the appearance of the image after the prism has been inserted?

- (a) Image (a).
- (b) Image (b).
- (c) Image (c).
- (d) Image (d).

Click here for [Answer #331](#) after December 15, 2008.

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For questions and comments regarding the *Question of the Week* contact [Dr. Richard E. Berg](#) by e-mail or using phone number or regular mail address given on the [Lecture-Demonstration Home Page](#).