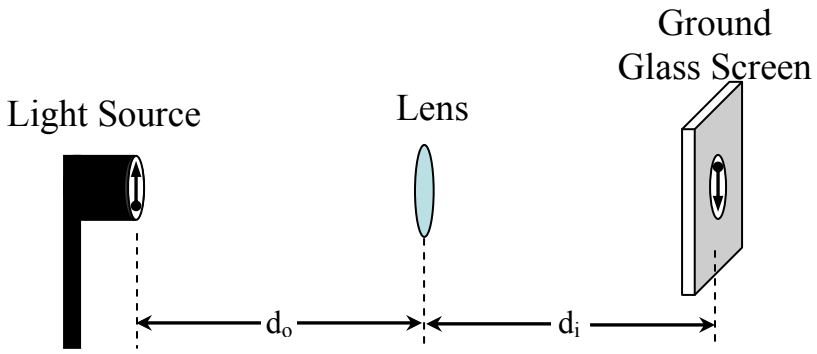
Physics 345 Pre-Lab 4 Single Converging Lens

Consider this lens set-up (**drawn to scale**) where an image is projected on a ground glass screen.



1) Is the image distance greater than, less than, or equal to the focal length? Explain how you can tell.

2) Is it possible to determine the ratio between the focal length and the image distance? If so, find it and explain your reasoning. If not, what additional information is needed to find this ratio?

3) How would the image change if we blocked just the LOWER half of the lens with opaque cardboard? Explain your reasoning.

4) Would there still be an image if we removed the ground glass screen? Explain your reasoning. What sort of experiment could one perform to check your prediction?

