

Home task 4

A diffraction-limited lens system, of focal length 100 mm, is used to image a sinusoidal grating onto a white screen. The system has a focal length of 100 mm and an aperture radius of 15 mm, the grating has 50 lines per mm, and the distance between lens and image (specifically: between second principal plane and image) is 5 m. What will the contrast of the image be? Assume the object contrast is 1.