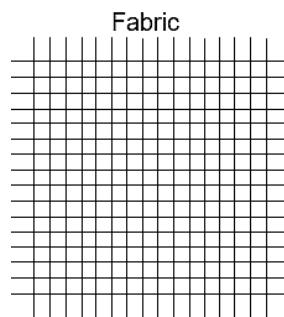
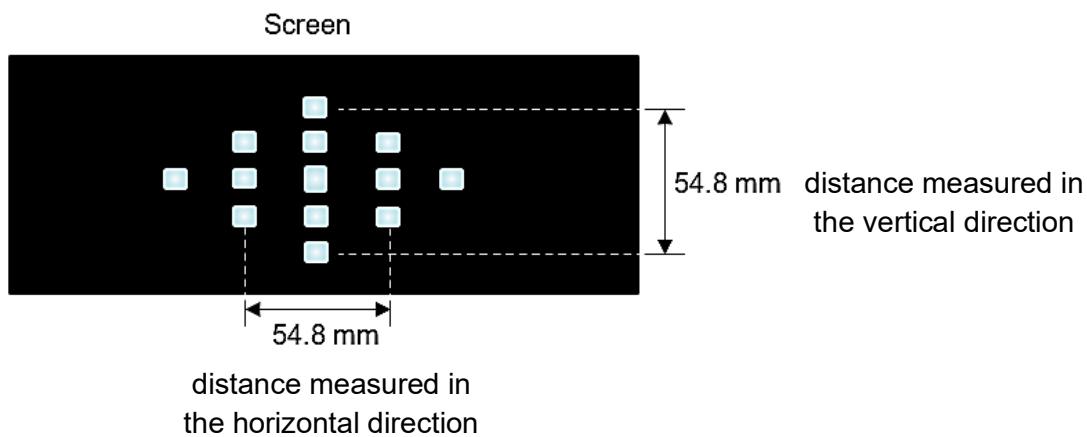


- 18** A fabric consists of closely-spaced horizontal and vertical threads as shown.



When a monochromatic light of wavelength 685 nm is incident normally on the fabric, a diffraction pattern is observed on a screen placed at a distance of 2.00 m away, as shown below.



The separation between the horizontal threads is determined by the vertical fringe separation.

What is the separation between the horizontal threads of the fabric?

- A** $2.50 \times 10^{-5} \text{ m}$ **B** $5.00 \times 10^{-5} \text{ m}$ **C** $1.00 \times 10^{-4} \text{ m}$ **D** $9.48 \times 10^{-4} \text{ m}$