

- 19** Light produced by a calcium discharge lamp strikes a diffraction grating at right angles to the surface. The grating has 800 lines per mm. The second order spectrum includes a line at an angle of 41.0° to the normal of the grating.

What is the wavelength of the light producing this line?

A $1.6 \times 10^{-6} \text{ m}$

B $4.1 \times 10^{-7} \text{ m}$

C $4.6 \times 10^{-7} \text{ m}$

D $8.2 \times 10^{-7} \text{ m}$

