Scene point coordinates: (X,Y,Z)=(800,1200,2400)

Image coordinates: (u,v)=(48,72)

'f' using 'u' coordinate

$48 = (f \times 800) / 2400$
$f = (48 \times 2400) / 800$

$f = 144$ mm

'f' using 'v' coordinate

$72 = (f \times 1200) / 2400$

$f = (72 \times 2400) / 1200$

$f = 144$ mm

the focal length of the camera is $f = 144$ mm