Question:

Assuming human pupil to have a radius of 0.25 cm and a comfortable viewing distance of 25cm, the minimum separation between two objects that human eye can resolve at 500 nm wavelength is :

Options:

1)

2)

3)

4)

Correct Answer:

2)

Solution:

Diameter , the wavelength of light is .  
We have the formula or  
  
Also   
Let be the minimum separation between two objects that the human eye can resolve.   
Thus   
or