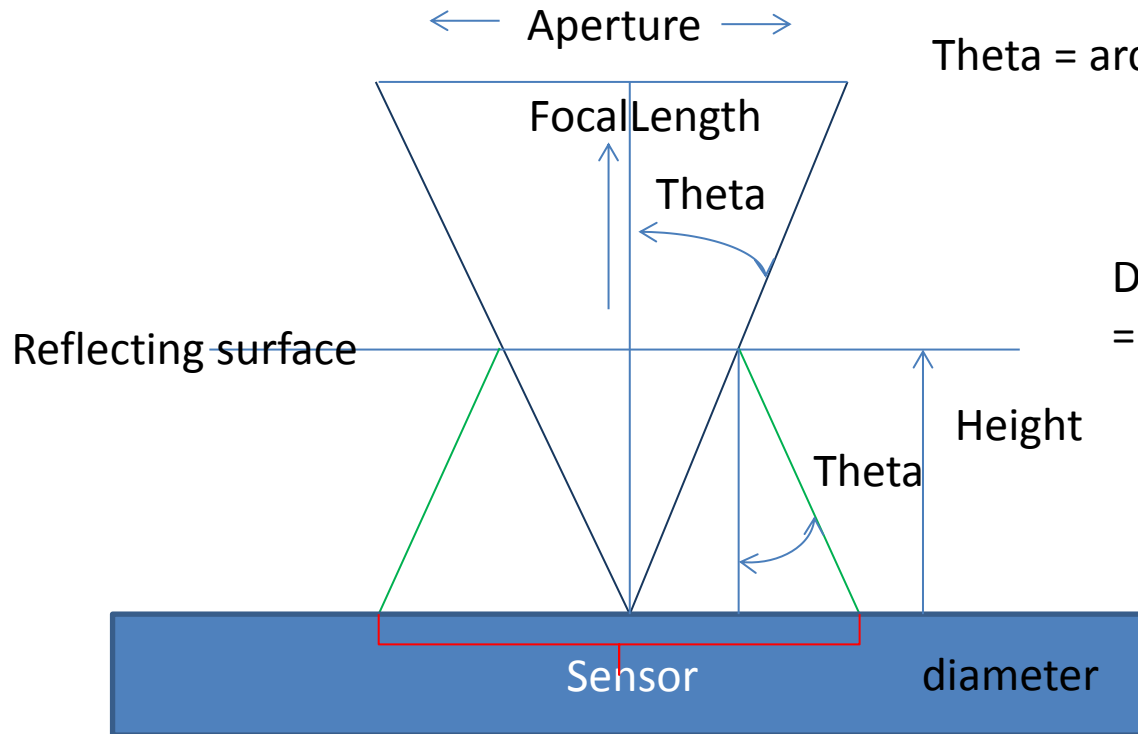


Reflecting surface location calculation for haloes and conventional optics

$$0.5 * \text{aperture} / \text{focal length} = \tan \theta = 0.5/f\#$$

$$\theta = \arctan (0.5/f\#)$$

$$\begin{aligned} \text{Diameter} &= 4 * \text{Height} * \tan (\theta) \\ &= 4 * \text{Height} * (0.5/f\#) = 2 * \text{height}/f\# \end{aligned}$$



Use units of pixels; assume a 40 pixel diameter halo

For a 40 pixel diameter and 9 micron pixels: $40/2 * 3.9 = \text{height (pixels)} = 78 \text{ pixels}$
 $= 9 * 78 = 702 \text{ microns or } 0.702\text{mm}$