



$$\begin{aligned}
 L &= \sqrt{\Delta z^2 + l^2} \\
 &= \sqrt{\Delta z^2 + \Delta z^2 \tan^2 \theta + \Delta z^2 \tan^2 (-\varphi)} \\
 &= \Delta z \sqrt{1 + \tan^2 \theta + \tan^2 \varphi}
 \end{aligned}$$

$$S = \frac{L}{f} = \frac{\Delta z}{f} \sqrt{1 + \tan^2 \theta + \tan^2 \varphi}$$