



## How to read the distortion chart

### effective distortion

When you take a picture of a lattice pattern, it will appear as the blue dotted line shows. The red line illustrates how the lattice pattern will appear in the actual picture when any lens distortion is taken into account.



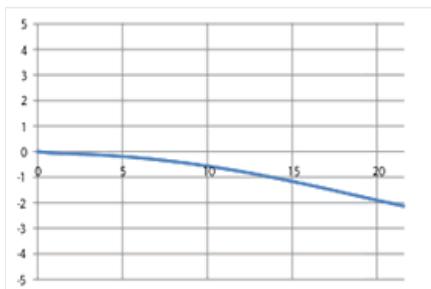
Barrel distortion



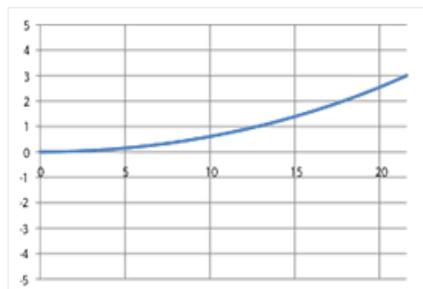
Pincushion distortion

### relative distortion

In this chart, the horizontal axis shows the ideal image height (the distance from the center to the edge of the image [mm]). The vertical axis shows the extent of distortion. The extent of distortion is represented by how much Y, which is the actual image height, grows (or shrinks) against Y0 which is the ideal image height.



Barrel distortion



Pincushion distortion

$$\text{Extent of distortion : } D[\%] = \frac{Y - Y_0}{Y_0} \times 100$$

When you take the picture of a square object, if the distortion amount shows a minus value, the image will be seen as expanded (Barrel distortion). If the distortion amount is a plus value, it will be seen as a recessed (Pincushion distortion). When the distortion value is close to 0, the appearance of distortion is very minimal.