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## KO | BRINGING QUALITY INTO FOCUS

### Sapphire Cylindrical Lenses for Endoscopes

**Knight Optical** can offer you [Custom Sapphire Cylindrical Lenses](#), for use within [Endoscopes](#).

We supply a range of Sapphire options for a variety of applications – all individually QA checked and metrology tested for quality to ensure parts meet customers’ specifications. What’re more, our Sapphire Cylindrical Lenses are supplied in a range of sizes and shapes with custom coatings tailored to meet your individual applications.

Sapphire ( $Al_2O_3$ ) is one of the hardest minerals and optical materials available for use in the range from UV up to  $5\mu m$ , making it ideal as a protective window for camera systems.

Cylindrical lenses are designed to focus light into a straight line, rather than to a single point. As the name suggests, the lens surface has a cylindrical shape rather than the usual spherical formation, which allows for one-dimensional shaping of light along a line. Cylindrical lenses are often used to change the profile of laser beams; for example, to correct for astigmatism and ellipticity in diode lasers or to generate lines from single-mode lasers.

#### Typical specs:

<b>Material:</b>	Sapphire ( $Al_2O_3$ ) Random and C-Cut grades
<b>Dimensional tolerance:</b>	+/- 0.1mm
<b>Figure (sphericity):</b>	1λ
<b>Focal length tolerance:</b>	± 0.2% (<10mm) ± 2.0% (10-1000mm) ± 5.0% (>1000mm)
<b>Wavelength range:</b>	0.17 – 5.5μm
<b>Surface quality:</b>	<40-20 Scratch/Dig
<b>Coating:</b>	A range of Anti-Reflective (AR) coating options

**All our Sapphire Lenses are fully inspected on their quality in our ISO 9001-certified, state-of-the-art Metrology laboratory**, using our Trioptics Optispheric, and Starrett AV300. This allows us to work to the highest [QA standards](#) and meet the tolerance specifications on these **precision components**.

[Contact our technical sales team](#) to discover how Knight Optical’s high-quality Sapphire Cylindrical Lenses and superior service can improve your instrumentation and supply chain experience.

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