



KNIGHT OPTICAL QUALITY ASSURANCE & TESTING

At Knight Optical, quality control is of utmost importance and taken extremely seriously. We understand that if a drawing has a tolerance, surface specification and material type then the information is there for a reason. We will always ensure that all aspects of your drawing and specification are adhered to.

In order to meet your tolerances and specifications, Knight Optical has invested a substantial amount of time and resources into this aspect of our business. By going this extra mile, our customers get an excellent service and professional business relationship they can trust.

As part of our on-going investment in providing an excellent service, we have built an impressive testing and inspection department, run by staff trained to the highest level and who use the latest state of the art metrology instruments.

Knight Optical work to the highest quality. Our management systems, standards and guidelines all comply with ISO9001:2008. We also work to the following standards:

- **ISO10110 – Optical drawing standards**
- **BS4301 – 1991, Preparation of drawings for optical elements and systems**
- **MIL-C-14806A, Coating, reflection reducing for instrument cover glasses and lighting wedges**
- **MIL-G-174B, Optical Glass**



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OUR METROLOGY TESTING FACILITIES

Trioptics Optispheric with Wavesensor Reflex

With motorised V Block rotation accessory for testing of lens centration

We have installed a Trioptics Optispheric test station to ensure that our lens testing processes are fully automated. We are able to test all lens parameters such as focal length (F.L) back focal length (B.F.L) modulation transfer function (MTF), radius of curvature (R.O.C) and flange length (FFL). Our motorised V-Block accessory allows us to test centration errors in transmission and reflection to less than 1 micron. Wavesensor Reflex comes with a range of objective lenses for measuring form error on spherical surfaces.



Varian Cary 5000 spectrophotometer

with diffuse reflectance accessory (DRA)

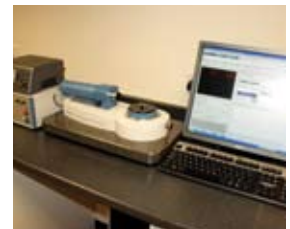
We have installed two Varian Cary 5000 UV-Vis-NIR spectrophotometers in order to ensure that components, from the simplest of bandpass filters to some of the most complex beamsplitters, have the correct transmission/reflection requirements for your specifications. The spectrophotometers have the ability to scan over 175-3300nm range. The data and transmission graphs from our scans and tests can be presented alongside your components to help produce a seamless integration of our optics into your instrumentation.



Trioptics Prism Master

for angular measurements

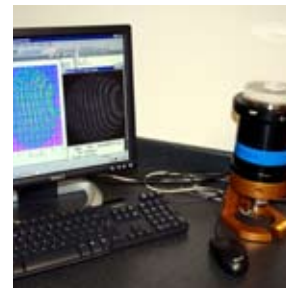
As part of our continued drive to improve quality, Knight Optical have the ability to test and inspect angles and tolerances requested using our Trioptics Prism master, a precision goniometer for angular measurements of prisms, beamsplitter cubes and rhomboids to an accuracy of +/- 3 arc seconds (+/- 0.00083°).



Fisba Interferometer

for measuring flatness and single and double sided wavefront form error

An invaluable tool in our ability to push forward our standards in quality is our Interferometer used to measure various parameters such as focal lengths, form error and homogeneity. The most common application of this device is the ability to measure wave front distortion and how a light wave is modified when transmitted through a lens or window assembly. This data allows us to characterise optical surfaces precisely and provide reports, data and certification on surface qualities and flatness.



Starrett AV300 video imaging device

for measuring physical dimensions

Our Starrett AV300 video imaging suite is a multifunctional scanner with automated processes for inspection of components without compromising precision or quality and allows us to handle and test large volumes of optics. With this device, we are able to test and measure the physical dimensions and angles on all of our stock or custom optical components and complex structures with an accuracy of +/- 0.1 µm. Full test and sample reports can be produced to verify our components meet your specifications and technical drawings.

