



The Optical Engineering Experts®

***IQ LAB™* TESTING SERVICES**

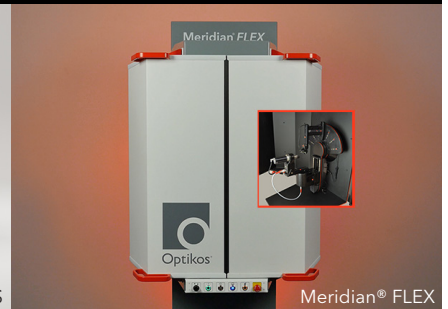
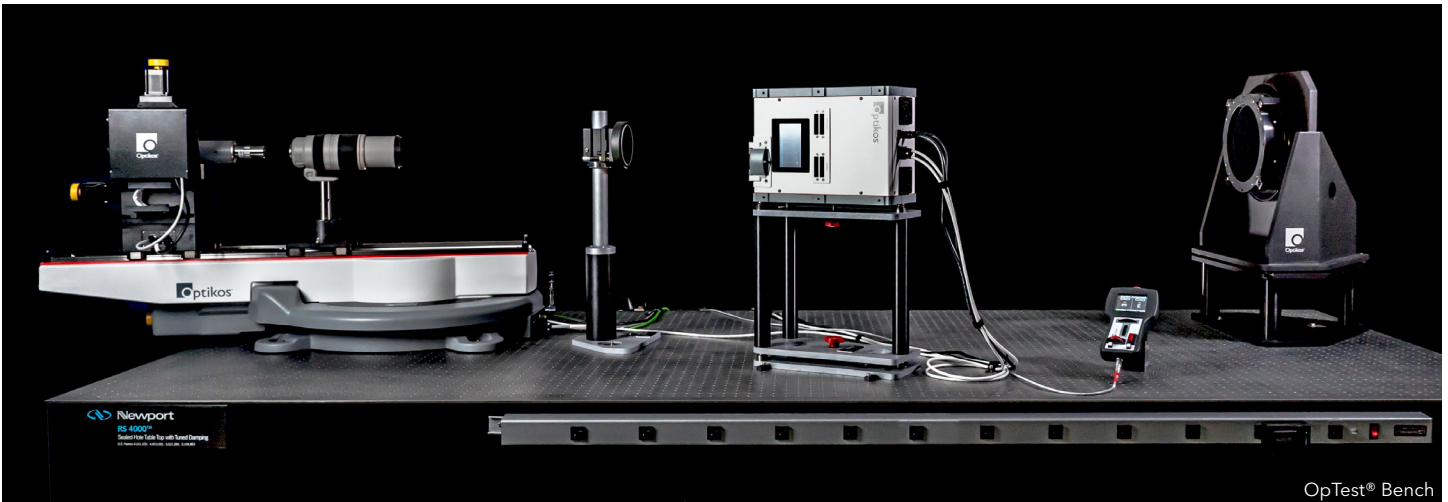
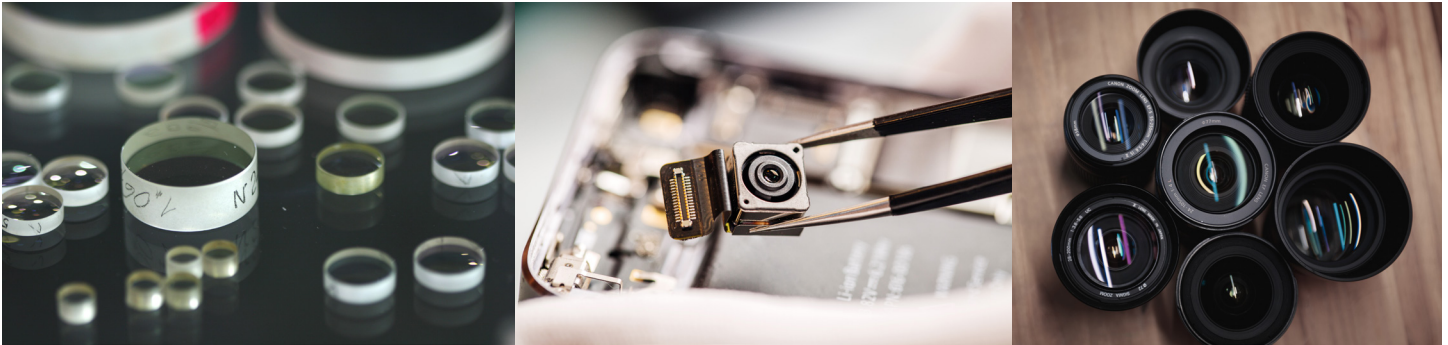
Optikos® IQ Lab™ Testing Services

Optical Metrology Support for All Your Testing Needs

Our extensive optical metrology lab offers contract testing services for image quality assurance and optical performance validation, including the most comprehensive modulation transfer function (MTF) lens and camera assembly testing available in one location.

COMPREHENSIVE RANGE OF TESTING

Image quality testing is offered for lenses, cameras, optical and electro-optical components and systems that operate within the visible through the long wave infrared (LWIR) spectral range. Our lab houses a complete collection of Optikos metrology equipment - including OpTest®, LensCheck™ and Meridian® test benches and accessories - that can handle a wide range of object distances, and test both focal and afocal assemblies.



To complement our image quality metrology capabilities, additional measurements offered by Optikos IQ Lab services include radiometric and photometric characterization, optical element inspection (visual inspection, wedge, spectral transmission, and verification of physical dimensions), and interferometric testing (surface irregularity, radius of curvature, and transmitted wavefront).

TYPICAL MEASUREMENTS

Our standard measurement offerings can be combined into a customized test plan that best suits your requirements. Below are examples of typical image quality measurements and characterization that we offer:

LENS	
<p>VIS, NIR, SWIR, MWIR, LWIR</p> <ul style="list-style-type: none"> • On- and Off-Axis Modulation Transfer Function (MTF) • On- and Off-Axis Through Focus MTF • Effective Focal Length (EFL) • Back/Flange Focal Length • Field of View • Distortion • Field Curvature and Field Tilt • Astigmatism • Relative Illumination • Encircled/Ensquared Energy 	<p>VIS Only</p> <ul style="list-style-type: none"> • Entrance/Exit Pupil Diameters • F-number • Spectral Transmission • Total Power Transmission • New! Stray Light Characterization <ul style="list-style-type: none"> ◦ Veiling Glare Index (VGI) ◦ Glare Spread Function (GSF) • New! Select measurements can be performed over temperature using the Optikos Thermal Module product line
VISIBLE CAMERA	
<ul style="list-style-type: none"> • On- and Off-Axis (MTF) • On- and Off-Axis Through Focus MTF • Distortion 	<ul style="list-style-type: none"> • Veiling Glare Index (VGI) • Glare Spread Function (GSF)
THERMAL CAMERA	
<ul style="list-style-type: none"> • Contact us to discuss your specific thermal camera testing needs 	

APPLICATIONS

Our engineers recognize that optical metrology is not “one-size-fits-all,” and different imaging applications have specific sets of testing requirements and challenges. For over 38 years Optikos has been a recognized leader in the field of optical metrology, and we have solved metrology problems for a broad range of industries and applications of imaging optics:

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| <ul style="list-style-type: none"> • Aerial Photography Systems • Automotive Lenses and Camera Systems • Autonomous Vehicle Awareness Systems • Binoculars • Catadioptric Systems • Cellphone Cameras • Custom, One-of-a-kind, Imaging Systems • Endoscope Lenses and Camera Systems • Fresnel Lenses • GRIN Lenses • Image Intensifiers | <ul style="list-style-type: none"> • Intraocular Lenses (IOLs) • Machine Vision Imaging Systems • Microscope Objective Lenses • NIR and Night Vision Optics • Optical Windows • Plastic Optics • Riflescopes • Telescopes • Thermal IR Lenses • Webcam Lenses and Camera Systems |
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Even within a particular industry, we know that the needs of each customer that we work with are unique. Our testing services can be scaled as needed to suit each customer, or paired with our engineering design or manufacturing services to help our customers accomplish their specific goal:

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| <ul style="list-style-type: none"> • Quality assurance support • Third party verification of optical performance • Prototype testing and qualification • Investigative testing and troubleshooting • Low rate production volume testing | <ul style="list-style-type: none"> • In-process testing at various assembly levels • Reverse engineering • Comparative study of different vendors, manufacturing lots, and designs • Regular certification of “golden unit” |
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SEAMLESS PROCESS

It's easy to get started, and expedited services are available if you need your test results right away:

- 1** Tell us about your optical testing requirements. Give us a call or send an email and an IQ Lab™ engineer will review your requirements and recommend next steps.
 - Call +1 617.354.7557
 - Email IQLab@optikos.com
 - Complete our online questionnaire: <http://www.optikos.com/lens-testing-questionnaire>
- 2** You'll receive a quotation for your project within one to two days.
- 3** After submitting your purchase order, send your material to:
Optikos Corporation
107 Audubon Road, Bldg. 3
Wakefield, MA 01880 USA

Attn: IQ Lab™ Services
- 4** Once the testing has been scheduled, you will be contacted by an IQ Lab engineer to discuss your specific test plan and review preliminary data. Our testing services are highly collaborative, and we engage our customers early in the process to ensure that their specific needs are being met.
- 5** Typically within two weeks or less, we'll email a comprehensive report of your test results and return your material.

YOUR OPTICAL SYSTEM IS IN GOOD HANDS

Customer Supplied Material: Express shippers help make it easy and typically assist in completing the correct documentation for straightforward shipment to Optikos from outside the US. Customer Supplied Materials (CSM) tracking of your product within our facility ensures that your product is identifiable, traceable and stored separately.



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Get Started with Optikos

Optikos offers metrology products and services for measuring lenses and camera systems, as well as engineering design and volume manufacturing for optically-based product development. Our standard products are suitable for any industry or application, and we will design a custom product for your specific needs. Learn more at optikos.com.

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