

The Optics industry faces the challenge of inspecting and documenting the quality of an optical component. The digital inspection of an optical component is important since it provides details of surface imperfections that may be caused in the manufacturing or handling process. The latest development by RedLux is the revolutionary, operator-independent scratch-dig evaluation system OptiLux SD, which is proudly introduced to the market and exhibited at Photonex 2016.

RedLux develops the OptiLux SD for the Optics Industry

Automated Scratch-Dig Evaluation System

The OptiLux SD developed by the team at RedLux is the next generation instrument for providing scratch-dig evaluation and verification in optical component manufacturing and distribution.

We listened to the needs of professional optics manufacturers and this is what they told us:

....“We need a non-subjective method of accurately scoring optical surfaces, repeatedly in confidence that ensures minimum re-work to meet standards, that the scoring is consistent, traceable and meets regulatory requirements in an easy and quick to use production inspection tool”

The Challenge we faced:

In the optics industry, the quality of an optical component is of highest importance since it provides details of surface imperfections that may be caused in the manufacturing or handling process. These imperfections are classed as scratches or digs.

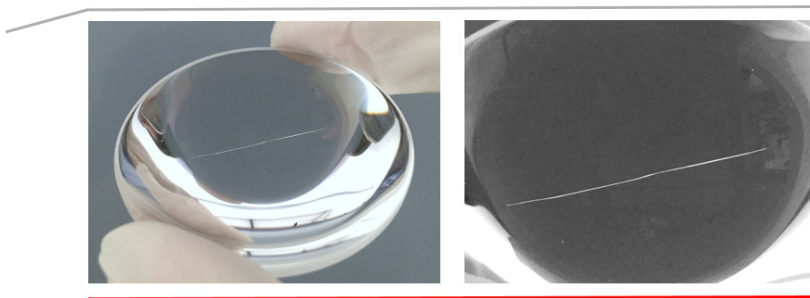


Image 1: Scratch on an Optical Component

The most widely used criteria for the inspection and verification of the scratch-dig specification is MIL-PRF-13830B. The test method described in this standard is based on an operator interpretation of the ‘visual’ inspection, where traceability is provided by an operator subjective inspection and comparing an optical surface against traceable visual comparative standards. This human method is inconsistent and errors are common due to differences in training, interpretation and setup of illumination conditions. With increasing demands on optical component producers for efficiency, cost and quality, the lack of a consistent approach is damaging and costing the industry millions of Euros a year.

Features & Functions

The innovative and state-of-the-art technology of the OptiLux SD allows for reliable and traceable scratch-dig evaluation and documentation, process improvement and reduced component cost. It simultaneously provides highest flexibility and ease of use.

▪ Reliable and traceable scratch-dig evaluation and documentation

- Automated measurement and evaluation of the entire clear aperture according to MIL-PRF-13830B.
- Calibrated with MIL-PRF-13830B compliant visibility comparison standards.
- Comprehensive pdf reporting with clear aperture overview and pass/fail status.
- Removes all aspects of subjective evaluation.
- Unmatched repeatability performance.

▪ Process improvement and reduced component cost

- Allows the operator to determine which side of the optic an imperfection is on.
- Sub-classification scoring allows the operator to decide whether an imperfection can be removed with re-work.

▪ Flexibility

- Measure flat parts up to 300mm x 300mm.
- Detection level cut off allows for traceable measurement and evaluation of soft materials, for example KRS5 and ZnSe.
- Comprehensive part loading system is compatible with circular and rectangular parts including wedges up to 10 degrees.
- Measure both transmissive and reflective surfaces.
- Comprehensive surface analysis toolbox.
- Control of accumulation rules.
- Futureproof hardware.

▪ Ease of use

- Automated measurement and evaluation of clear aperture.
- Autofocus
- Measurement setup loading/saving.
- Full clear aperture data loading/saving.
- Quick check single feature measurement and analysis tool.

Please visit our website www.redlux.net or contact us on +44 (0)23 8026 3095 for further details.



Ultraprecision Metrology & Automation

Visit us at Photonex to see the brand-new, revolutionary
OptiLux SD in action - We are looking forward to meeting you!

RedLux Ltd.
3/7 Avenger Close, Chandlers Ford
Southampton, SO53 4DQ, UK

+44 (0)23 8026 3095
info@redlux.net
www.redlux.net