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ENERGY SYSTEMS
INTEGRATION FACILITY

U.S. DEPARTMENT OF ENERGY

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Optical Characterization Laboratory

The Optical Characterization Laboratory at NREL's Energy Systems Integration Facility (ESIF) conducts optical characterization of large solar concentration devices. Concentration solar power (CSP) mirror panels and concentrating solar systems are tested with an emphasis is on measurement of parabolic trough mirror panels.

Laboratory Specifications

The Optical Characterization Laboratory provides state-of-the-art characterization and testing capabilities for assessing the optical surface quality and optical performance for various CSP technologies including parabolic troughs, linear Fresnel, dishes, and heliostats.

Application Scenarios

- Optical testing of panels and systems
- Weathering of panels

In the near-future, capabilities beyond troughs will be implemented and will address linear Fresnel, dish, and heliostat options. In addition, structural analysis and testing will be added to support detailed design of CSP concentrator systems.

Partner with Us

Work with NREL experts and take advantage of the state-of-the-art capabilities at the ESIF to make progress on your projects, which may range from fundamental research to applications engineering. Partners at the ESIF's Optical Characterization Laboratory may include:

- CSP manufacturers
- Utilities
- Certification laboratories
- Government agencies
- Universities
- Other National laboratories

Contact Us

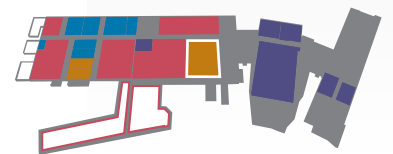
If you are interested in working with NREL's Optical Characterization Laboratory, please contact:

ESIF Manager

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Major Laboratory Equipment

- VSHOT (Video Scanning Hartman Optical Tester)
- SOFAST (Sandia Optical Fringe Analysis Slope Tool)
- Weather Chamber
- Large Thermal Cycling Chamber (future)



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NREL is a national laboratory of the U.S. Department of Energy
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