



# **Development of a Prototype Reflectrometer for PDIL, of a System for Commercial Sale**

**Cooperative Research and Development  
Final Report**

**CRADA Number: CRD-08-272**

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NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.

**CRADA Report**  
NREL/TP-7A10-49259  
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## Cooperative Research and Development Final Report

In accordance with Requirements set forth in Article XI.A(3) of the CRADA document, this document is the final CRADA report, including a list of Subject Inventions, to be forwarded to the Office of Science and Technical Information as part of the commitment to the public to demonstrate results of federally funded research.

CRADA number: CRD-08-272

CRADA Title: Development of a Prototype Reflectometer for PDIL, of a System for Commercial Sale

Parties to the Agreement: GT Solar, Inc.

Joint Work Statement Funding Table showing DOE commitment:

Estimated Costs	NREL Shared Resources
Year 1	\$250,000
Year 2	\$20000
Year 3	\$0
TOTALS	\$270,000

Abstract of CRADA work:

NREL has licensed reflectometer technology to GT Solar. GT Solar wants to develop this technology into a commercial system. NREL also wants to acquire a reflectometer for use in PDIL. NREL has DOE funds to support this development by paying for the parts needed for the system. This CRADA will involve design of a commercial reflectometer (to be called GT FabScan).

Summary of Research Results:

The first commercial unit of GT-FabScan was fabricated by GT Solar and delivered to NREL. The system is located in the Process Development and Integration Laboratory (PDIL) and is fully functional.

Subject Inventions listing:

US Patent #7, 238,912, Wafer Characteristics Via Reflectometry and Wafer Processing Apparatus and Method, Sopori

US Patent# 6, 275,295, Optical System for Determining Physical Characteristics of a Solar Cell, Sopori

US Patent # 5, 757, 474, System for Characterizing Semiconductor Materials and Photovoltaic Devices Through Calibration, Sopori, Allen, Marshall, Murphy, Marshall

Report Date: 8/8/10

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