

Creating  
Today's  
Innovative  
Solutions



## TracePro

The ability to take an idea and create an outstanding design that is manufacturable. The programs simple, intuitive interface and short learning curve creates a user-friendly design environment for designers and engineers of all disciplines

Compatible with CAD software – SolidWorks, AutoCAD®, ProENGINEER®

Libraries of commercially available LEDs, lamps, optical components

Catalogs of commercially available materials – plastics, glasses, metals, epoxies, paints

The built-in interactive optimizer reduces design time dramatically compared to standard trial and error prototyping methods.



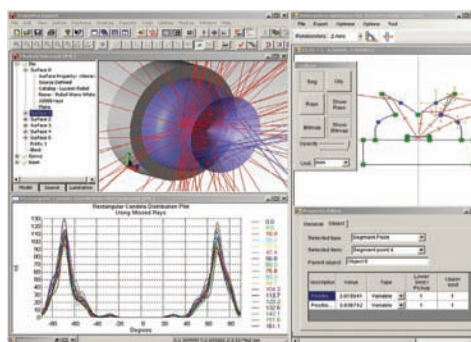
# Software for Lighting Design

## Luminaire and LED based Lighting Design

Design of application-specific lighting systems involves adherence to various system performance criteria including spatial and angular light output distribution, uniformity, intensity, and spectral characteristics – as well as aesthetic factors such as lit and unlit appearance. Achieving these criteria quickly with a manufacturable and cost effective design requires modeling software that is powerful, easy to use, and accurate. TracePro, renowned in the scientific community for the accuracy of its simulations, offers lighting designers the confidence that the performance and aesthetics of finished products will concur with the simulated design without costly prototype iterations.

## TracePro

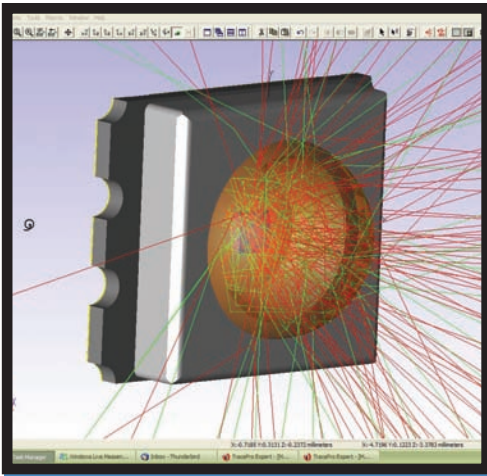
TracePro is a comprehensive, versatile software tool for modeling the propagation of light in imaging and non-imaging opto-mechanical systems. Models are created by importing from a lens design program or a CAD program or by directly creating the solid geometry in TracePro. Source rays propagate through the model with portions of the flux of each ray allocated for absorption, specular reflection and transmission, fluorescence and scattering.



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[www.lambdares.com/trials](http://www.lambdares.com/trials)

From the model, analyze:

- Light distributions in illumination and imaging systems
- Lumens exiting, absorbing, and incident at the component and system levels
- Candela distributions
- Optical efficiency, luminance and radiance metrics
- Photorealistic rendering
- LEDs
- Lamps
- Luminaires and Louvers
- Light Pipes
- Transportation Signs and Emergency Lighting
- Daylighting
- Architectural Lighting
- Displays and Backlighting
- Consumer Products and Point of Purchase Illumination



# TracePro

## Software for Lighting Design

### NEW Reflector and Lens Design Optimization Utility

Design and optimize singular or multiple lenses, reflectors, and sources based on lighting product performance criteria and industry standards. Analyze output efficiency at the component and system levels for illuminance and candela distributions. The optimizer features a sketch utility to input 2D profiles, or trace an existing design by pasting an image into the digitizer and sketching splines or lines on top of the image. An interactive ray tracer validates the design by tracing individual rays in real time. Objects are easily modified by pulling on any spline or line segments while updating previously sketched rays. Menus define system variables, set geometry limits, create single or multiple merit functions, and finally optimize the design. Using this optimization utility significantly accelerates the iterative design process by starting with better initial designs and using multiple target functions through minimization and maximization of flux, intensity and irradiance profile targets and spectral requirements. Optical design progress is monitored through the use of an optimization log and the iterative error function.

## Maintenance & Support

Sustain the competitive advantage that TracePro delivers with an Annual Maintenance and Support Subscription. TracePro's ongoing innovations are provided throughout the year in software downloads that include a variety of updates and enhancements.

## Training Classes

Training classes assist current and prospective users with their optical design and analysis challenges. Explore the power and versatility of TracePro, maximize the investment, and draw on the technical expertise and industry-specific knowledge of TracePro instructors.

## Webinars & Videos

Lambda Research engineers are now posting webinars and videos on key topics to help you better use TracePro. Visit our webinar and videos section from our home page to view the latest presentations.

### IESNA and Eulumdat Standard File Formats

Save luminaire specifications and spatial light distribution output to standard photometric electronic data file formats.

### Daylighting

Optimize daylighting - sunlight redirection and light pipes combining sun light and artificial light illumination.

### Sources and Property Libraries

Import models and material properties of commercially available lamps, LEDs, optical components, plastics, metals, and epoxies from an extensive library.

### Model Fluorescence of Phosphors

Model fluorescence of white light LED phosphors by importing absorption and emission curves, extinction coefficients, quantum efficiency and concentration. TracePro calculates excitation efficiency, path length, absorbance & absorption and propagates emission rays through the model. Analyze light distribution and fluorescence effects at any point in the opto-mechanical system.

### TracePro Bridge

TracePro Bridge is an add-in to SolidWorks that allows you to apply and save optical properties directly to the SolidWorks model via the TracePro System Tree. To insure data integrity, a single model is used by both TracePro for ray tracing and optical analysis and by SolidWorks for mechanical design. With the Bridge, users significantly accelerate the iterative design process - all without sacrificing performance or functionality.

