



Update Guide Release 2021.4

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INTRODUCTION

This document serves as a guide for new features and changes in TracePro 2021.4. This release features a new Stray Light Analyzer utility, as well as updates to the Lighting Toolkit and Interactive Optimizer, and new Scheme commands. This release also fixes several problems reported by TracePro users. See the [TracePro Revision History](http://www.lambdare.com) at www.lambdare.com for more details on problem resolutions.

WHAT'S NEW IN TRACEPRO 2021.4?

Changes in TracePro 2021.4 are summarized as follows:

- New Stray Light Analyzer utility
- Added capability for different hole shapes for the Reflector option in the Interactive Optimizer
- New and updated regulations have been added to the Lighting Toolkit
- New Scheme macro commands

STRAY LIGHT ANALYZER

A new Stray Light Analyzer utility is available in TracePro 2021.4 for analyzing stray light in imaging systems. Normally stray light analysis requires writing Scheme macro code to run raytraces and save irradiance results for multiple incident angles. The Stray Light Analyzer provides a graphical user interface set up the iterative raytrace and create accurate sources, making the process smooth and easy. Figure 1 shows the lens system imported into the Stray Light Analyzer from TracePro. The lens surface sequence ID's have been defined. Figure 2 shows a stray light comparison of the same lens, but with 2 different surface coatings applied.

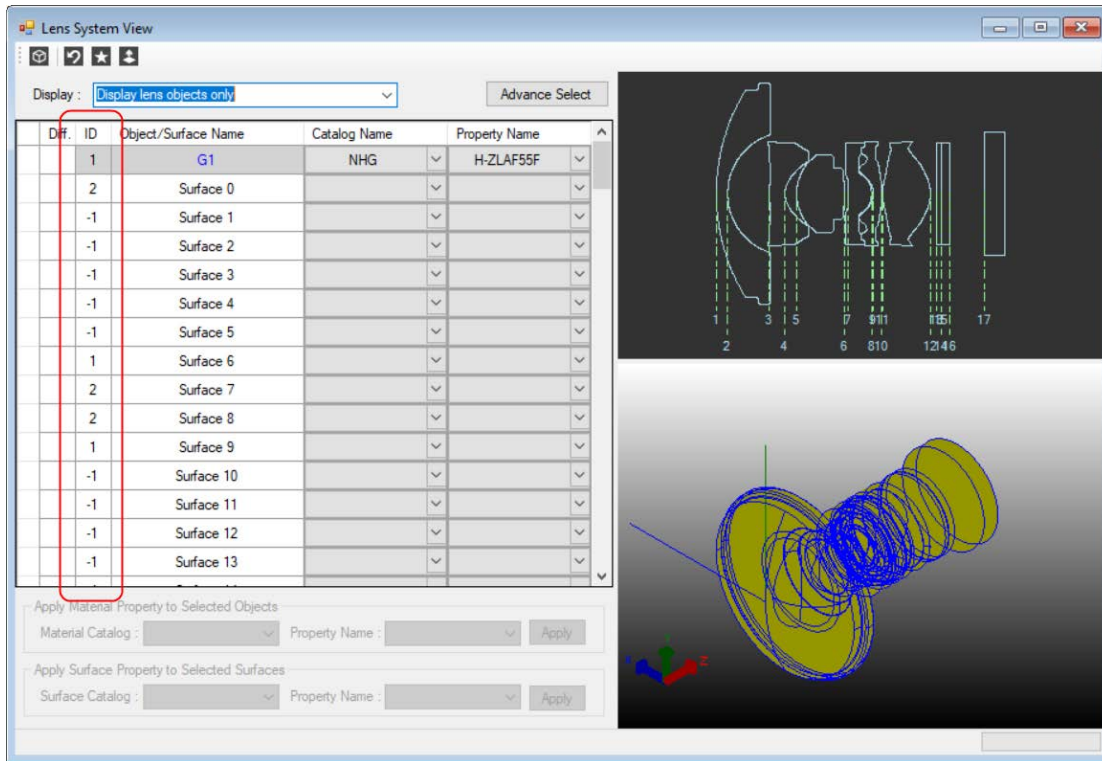


Figure 1. Imported lens model from TracePro.

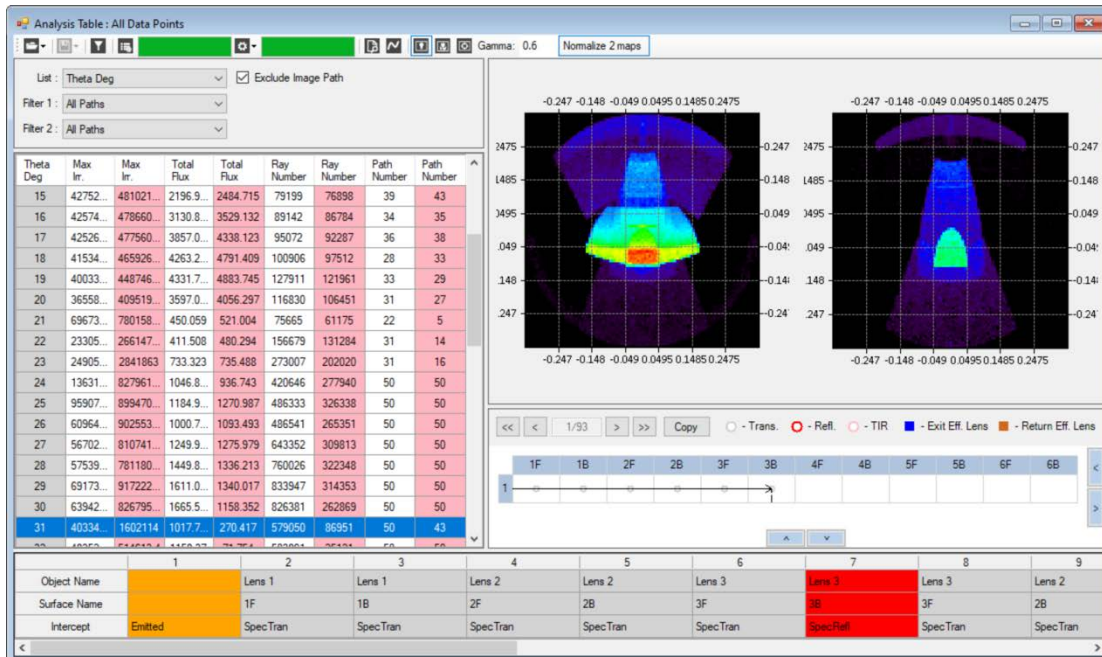


Figure 2. Stray light results for the same lens, but with 2 different surface coatings

INTERACTIVE OPTIMIZER – NEW HOLE SHAPES

The Reflector object type in the Interactive Optimizer has been updated so that a rectangular hole can be added to the reflector in addition to the previous circular option.

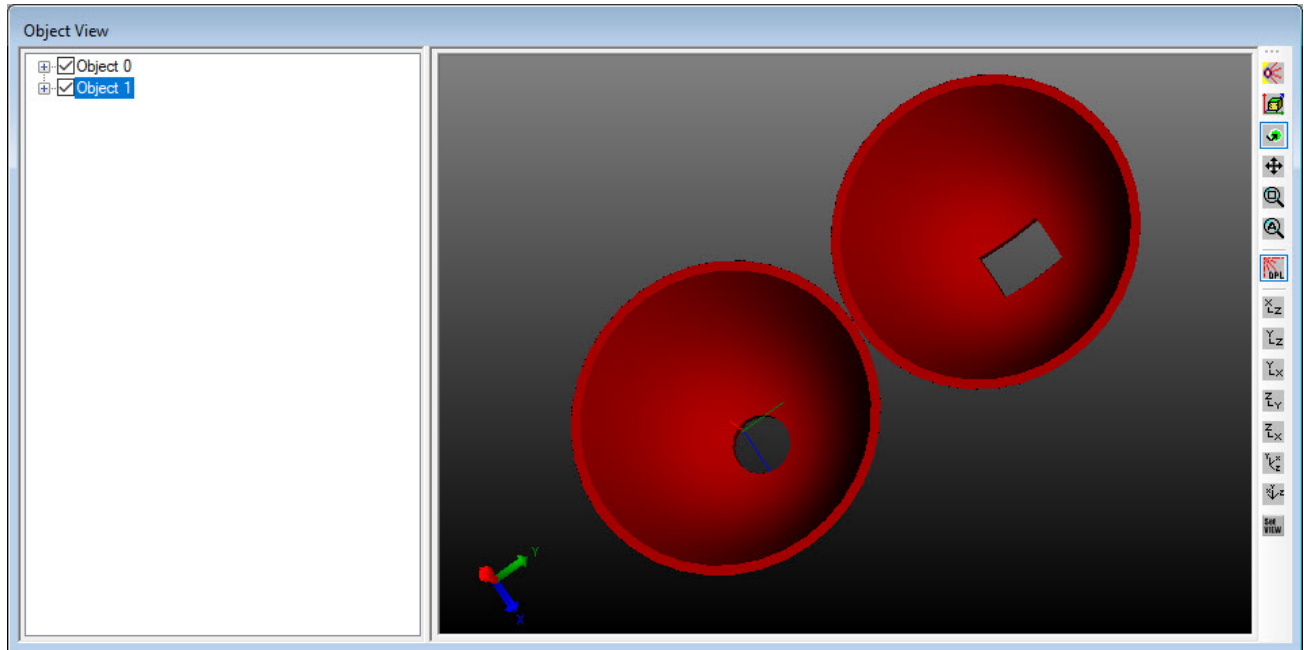


Figure 3. Circular and rectangular hole openings for reflectors

LIGHTING TOOLKIT – NEW AND UPDATED REGULATIONS

Eight new regulation tables have been added to the Lighting Toolkit

- ECE R7 2019
- ECE R119 (2014)
- ECE R6 2008
- SAE J588
- SAE J222
- SAE J592
- SAE J594
- SAE J845

Six regulation tables have been updated

- ECE R6
- ECE R3
- ECE R91
- ECE R98

- ECE R112 (2010, 2012)
- FMVSS 108 Figures 17, 27, 28

NEW SCHEME MACRO COMMANDS

Two new Scheme macro commands have been added to TracePro

- `geometry:get-block-parameters`
- `modify:primitive-block`