

# LucidShape Application: Retroreflector Design

## Overview

A lighting development team was having difficulty creating a retroreflector part that followed the body design curvature. The team created exact textures in a CAD system, but this was time consuming and the results were unsatisfactory. The creation of a curved retroreflector caused all cells to have a different orientation.

## The Challenge

The lighting development team needed to:

- Create a retroreflector on a curved 3D freeform surface. Explicit geometry creation was very time consuming
- Change cell types within the development process to find the best solution
- Verify the optical response required (testing)

## The Solution

With LucidShape®, the team's retroreflector design process became much easier:

- LucidShape's FunGeo Retroreflector tool offers the right functionality for fast development, not only on planar faces, but also on 3D freeform design surfaces
- LucidShape provides automatic creation of the explicit geometry for several cell types
- LucidShape includes a ready-to-use regulation test application, with test tables for ECE and SAE regulations

As a result, the team's design process was reduced to a few steps:

1. Import the design surfaces
2. Use the Retroreflector tool
3. Verify compliance of geometry with regulations

For more information, please contact Synopsys' Optical Solutions Group at (626) 795-9101, visit [synopsys.com/optical-solutions/lucidshape](https://www.synopsys.com/optical-solutions/lucidshape), or send an e-mail to [lucidshapeinfo@synopsys.com](mailto:lucidshapeinfo@synopsys.com).

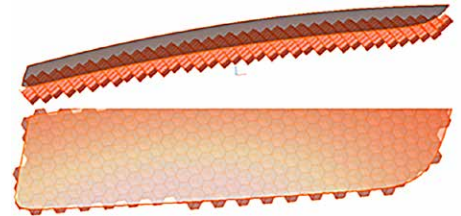


Figure 1: Explicit retroreflector primary surfaces created on a curved 3D free form design surface