

## LucidShape CAA V5 Based Modules

### Complete Automotive Lighting Design and Visualization in CATIA

#### Base Module

In the LucidShape CAA Base Module, you can use geometry generated in the LucidShape CAA Design Module, geometry directly created through CATIA functionality, or imported geometry. You can then insert light sources and sensors, assign, create, and edit materials and media using a materials/media library, and define simulation settings and analysis preferences.

Productivity-enhancing features include the Specification Tree structure to keep all lighting component organized and accessible from a single location, support for the GPUTrace feature to accelerate ray tracing, an extensive suite of analysis tools, and an example model library to jumpstart model creation and analysis tasks.

All LucidShape CAA modules are fully integrated in the CATIA V5 environment.

#### Design Module

Provides versatile design features from LucidShape integrated into the CATIA environment. Design-by-function capabilities allow users to create functional geometry based on lighting criteria such as spread angles or target light distributions.

Optical models are fully parametric and feature based. All design features can be combined with CATIA features so that trimmed optics are available for simulation at all stages of the design process.

#### Visualize Module

Provides physics-based photorealistic simulation capabilities integrated into CATIA. Includes Environment Light Source and Human Eye Vision Image tool to augment realism in a scene and enables virtual evaluation of how the human eye will perceive the lighting product.

#### Light Guide Design Module

Automates the construction, analysis and optimization of light guides and their extraction features to improve light output. Models light guides, pyramidal prism extractors, sensors, sources, and other elements needed for automotive light guide systems.

#### SmartStart Material Library Module

Save time and reduce costs with access to a library of materials and media commonly used in the design of automotive lighting systems. The SmartStart Material Library includes refractive index and absorption data for various media, as well as pre-defined Volume scatter and BSDF materials.

For more information, visit [synopsys.com/optical-solutions/lucidshape/caa-v5-based.html](https://synopsys.com/optical-solutions/lucidshape/caa-v5-based.html)