SmartStart Library
For LightTools, LucidShape and LucidShape CAA V5 Based

Features at a Glance

The SmartStart Library is a curated set of routinely updated optical data for glasses, plastics, and surface finishes.

Glass and plastic data includes:

- Dispersion
- Wavelength-dependent absorption
- Volumetric scattering

Surface finish data includes:

- High-accuracy BSDF for commercially available reflectors and diffusers
- Refractive BSDF for mold textures that can be applied to any substrate
- Reflective BSDF for mold textures that are metalized using industry-standard methods

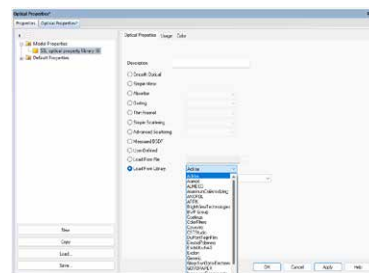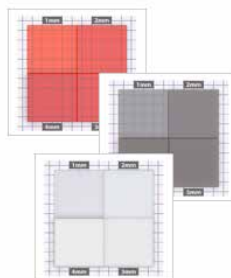## Data for Realistic Simulations of Lighting Designs

Lighting designers know that the best designs depend on the best input data. The Synopsys SmartStart Library provides designers with light scatter data for faster, more cost-effective product development. Hundreds of optical measurements are stored as data files for use in LightTools, LucidShape and LucidShape CAA V5 Based, provided with licensed modules in each software product. You can be confident that your product simulations will give you a complete picture of your final product's optical performance.
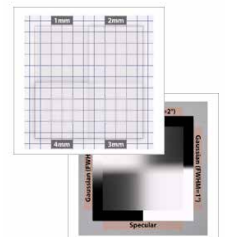

High-Accuracy Datasets

Data in the SmartStart Library is obtained either directly from the vendor or through measurements by the Synopsys Optical Measurements Services team. Synopsys performs validation tasks on all incoming data to ensure accuracy. Examples of optical measurements include:

- 2D BSDF measurements — the slice has a 0.1 degree resolution in the plane of incidence

- 3D BSDF measurements — individual slices have a 0.1 degree resolution and slices occur every 10 degrees of azimuth

SmartStart Library Contents as of March 2025				
Dataset Type	Number of Vendors	Vendor Examples	Number of Datasets	Minimum Required Version
Glasses	4	Kopp Glass	27	LucidShape 2020.12, LightTools 2022.03, LucidShape CAA 2020.09
Plastics	10	Covestro, Dow Chemical, Evonik, SABIC	154	LucidShape 2020.12, LightTools 2022.03, LucidShape CAA 2020.09
Diffuse Plastics	10	ALBIS, Covestro, Evonik, SABIC	158	LucidShape 2020.12, LightTools 2022.03, LucidShape CAA 2020.09
Reflectors	26	Acktar, Alanod, LabSphere	246	LucidShape 2020.12, LightTools 2022.03,
Diffusers	24	Bright View, Luminit, KIMOTO	230	LucidShape 2020.12, LightTools 2022.03, LucidShape CAA 2021.06
Refractive Mold Textures	7	Mold-Tech, Tenibac, VDI 3400	221	LucidShape 2020.12, LightTools 2022.03, LucidShape CAA 2020.09
Reflective Mold Textures	5	Mold-Tech, Tenibac, VDI 3400	122	LightTools 2022.03, LucidShape 2020.12, LucidShape CAA 2021.06

Design Brillance - Speedometer Example Using SSL Content

Extract light **smartly** using **microtextured** plastics

Enhance design efficiencies with aluminum **reflector**

Achieve luminance **homogeneity** thanks to **volume scattering** plastic

How to Request Library Updates and Custom Measurements

Customers with a SmartStart Library license can request additions of commercially available materials and media. Note that our team will need you to provide a vendor-supplied sample that is suitable for measurement; once we receive the material, we will measure it and add it to the library at no cost. For more information and to get started, please email smartstart_support@synopsys.com.

Customers who need a custom or expedited measurement can contact OSG Measurement Services at optics@synopsys.com to have their measurement made for a fee.

For More Information

Visit synopsys.com/optical-solutions/scattering-measurements.html to learn more about Synopsys' optical scattering measurement services and equipment.

Contact us at optics@synopsys.com to request software pricing and to start a trial.

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