

LightTools Photorealistic Rendering

Create Stunning, Accurate Graphics

Features at a Glance

- Models the appearance of native and imported geometry elements as defined by optical properties and surface finishes
- Accurately depicts interactions between system geometry and sources (i.e., self-lit rendering or lit appearance)
- Allows the creation of high-dynamic-range images
- Includes a library of surface finishes with hundreds of choices
- Supports a reusable library of user-defined finishes
- Provides the ability to add backgrounds, foregrounds, scenery, and studio lighting to a rendered image, without impacting the illumination simulation results
- Includes controls to adjust gamma, exposure, and color saturation of renderings
- Supports renderings of arbitrary size
- Supports many common image file types

The LightTools® Photorealistic Rendering feature allows you to generate life-like images of your optical and mechanical models. This fully integrated rendering tool combines the speed and ease of use found in many general rendering packages with the power and flexibility of LightTools' illumination simulation capability to create vivid images of a system when the sources are illuminated. This powerful feature enables you to evaluate the aesthetics of a design without costly prototypes.

LightTools Photorealistic Rendering eliminates the need to use costly software to create high-quality graphics of your system. The renderer can create both lit and unlit images. You can design the look and feel of any surface using existing optical surface properties, or you can choose from hundreds of finishes in a built-in library of finishes. You can also create a reusable library of your own custom finishes and share them with colleagues.

Illumination simulation and rendering are decoupled; you can make photorealistic renderings from multiple viewing angles and positions without the need to re-simulate the illumination characteristics. This is a significant time-saver when you are tracing many millions of rays to get a non-noisy image.

LightTools Photorealistic Rendering also allows you to choose your image resolution. Images suitable for presentations can be rendered on the screen, but when VGA resolutions are not adequate, you can render images with more than a hundred million pixels—perfect for any size or type of product presentation or display.



Figure 1: LightTools Photorealistic Rendering lit and unlit images



Figure 2: Examples of LightTools photorealistic renderings

In addition to LightTools sources, you can choose from four different studio lights to add lighting effects to the rendering without impacting the illumination simulation. These sources are a quick way to add extra light to your system without the cost of tracing rays from another source. This is especially useful for unlit renderings, when you want simple lighting effects.

LightTools Photorealistic Rendering provides you with the ability to create simple foregrounds, backgrounds, and scenery without the need to build physical geometry.

For more information or to start your free 30-day evaluation, please contact Synopsys' Optical Solutions Group at (626) 795-9101, visit [synopsys.com/optical-solutions/lighttools](https://www.synopsys.com/optical-solutions/lighttools) or send an email to optics@synopsys.com.