Latest Release of LightTools From Synopsys Offers New Modeling and Analysis Features for Illumination Design

Version 9.0, Now Available, Brings Improved Polarization Modeling, Expanded Stray Light Analysis, and Optimization of Curved Display Systems

MOUNTAIN VIEW, Calif., March 24, 2020 /PRNewswire/ -- Synopsys, Inc. (Nasdaq: SNPS) today announced the release of version 9.0 of its LightTools® illumination design software, which delivers powerful new modeling and analysis features that augment LightTools' industry-leading design capabilities, reliability, and accuracy.

LightTools 9.0 provides new tools to model and analyze polarizing elements with birefringent materials, which are increasingly used in advanced applications such as AR/VR headsets and biomedical instruments. New charts allow designers to easily assess the polarization state and orientation and identify how to maximize flux. The new polarization modeling tools are included in the LightTools Advanced Physics Module, which provides flexible programming extensions to develop custom optical parts and cutting-edge illumination subsystems.

LightTools has comprehensive capabilities to help optical engineers pinpoint and correct stray light issues during product design. Enhancements to the LightTools stray light analysis toolkit include:

- **Intensified ray tracing** – LightTools now traces up to one trillion rays in an illumination system, lifting the sampling limits for virtually all Monte Carlo simulations. This expanded ray trace limit allows designers to achieve extremely accurate results for stray light analysis and luminance calculations.
- **Aim area capabilities for measured bidirectional scattering distribution function (BSDF) surfaces**– BSDF data is often used to provide high-accuracy simulations of scattering surface characteristics. The aim area feature allows designers to examine selected portions of a surface's scatter distribution, and this can significantly improve stray light analysis efficiency, particularly for illumination optics used in AR/VR/MR devices, heads-up displays, and autonomous vehicles.

"LightTools provides realistic simulations of as-built illumination systems and includes an expanded toolkit in version 9.0 to identify stray light and minimize its effect on optical performance," said Stuart David, group director of applications engineering in Synopsys' Optical Solutions Group. "This can be done early in the product development process, saving engineers time and money."

LightTools offers optimization tools created especially to solve the unique requirements of illumination system design. In version 9.0, the LightTools Backlight Pattern Optimization utility allows designers to optimize performance of display systems with curved panel shapes. Designs created with the utility can conform to a dashboard, rotate about a user's field of view, and have custom shapes – all with high spatial uniformity.

About Synopsys

Synopsys, Inc. (Nasdaq: SNPS) is the Silicon to Software™ partner for innovative companies developing the electronic products and software applications we rely on every day. As the world's 15th largest software company, Synopsys has a long history of being a global leader in electronic design automation (EDA) and semiconductor IP and is also growing its leadership in software security and quality solutions. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing applications that require the highest security and quality, Synopsys has the solutions needed to deliver innovative, high-quality, secure products. Learn more at www.synopsys.com.

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