

DOE SSL Resources: Efficiency through Information

Calling all lighting specifiers, energy efficiency professionals and program administrators, lighting professionals and users of highly efficient lighting products and technologies - the [U.S. Department of Energy's Solid-State Lighting website](#) has a vast wealth of information including recent updates available for your viewing. Highlights of recent updates are described below.

[Market Based Programs](#)

Stemming from the current [Five Year SSL Commercialization Support Plan](#), DOE is working on seven commercialization support activities to facilitate successful market introduction of high efficiency solid-state lighting general illumination products. DOE is targeting potential issues with proper product application and user dissatisfaction with overall product quality to ensure successful market introduction and uptake of this still emerging technology. Specific activities on this front include:

1. [SSL Quality Advocates](#) is a voluntary pledge program where partners agree to assure that SSL products reach the market with accurate labeling and product literature. Any entity or person selling, manufacturing or specifying SSL lighting products can take the pledge and become an advocate. The pledge includes use of the Lighting Facts label which is akin to the Nutrition Facts label found on food products. The Lighting Facts label includes product performance metrics such as lumen output, power (W), efficacy, Correlated color temperature (CCT), and color rendering index (CRI). The Federal Trade Commission (FTC) is currently considering a label similar to the Quality Advocates Lighting Facts label for use on all lighting products across technologies.
2. [ENERGY STAR for Solid-State Lighting](#) was rolled out September 30, 2008, and the first qualifying products were available in stores in February 2009. The list currently has about [185 qualifying products](#) between residential and commercial product applications. Additional product categories are being added as SSL technology matures and market needs present themselves.
3. The [CALiPER Program](#) (Commercially Available LED Product Evaluation and Reporting) provides reliable and unbiased SSL product testing results to promote accountability from manufacturers and to inform the public and lighting professionals of the state of the market. CALiPER results also inform other R&D and market introduction efforts such as ENERGY STAR for SSL and helps guide the refinement of standardized testing measures and protocols for SSL products. As of December 2009, approximately 200 products have been tested through 9 Rounds with more coming soon. CALiPER provides a summary report of the findings and compiles detailed test reports for the public who agree to [DOE's No Commercial Use Policy](#). Product applications that have been tested to date include downlights, track lights, linear replacement lamps, small replacement lamps, desk lamps, and more. Under the detailed test reports, DOE provides a search function to narrow results by round, application, CCT range, test date, and more.
4. [Standards Development](#). In another effort to bring quality SSL products to market, DOE works closely with standards setting organizations on driver performance, dimming best practices, LED safety, methods for estimating LED life, and more. The collaborating organizations include ANSI, UL, CIE, CSA International, IEC, NEMA, IES, and NIST.
5. [TINSSL](#). DOE's Technical Information Network for Solid-State Lighting includes members and partner organizations working on behalf of DOE's SSL commercialization efforts to disseminate information to their respective audiences. Members receive updates on the DOE SSL activities

they choose, including R&D, product demonstrations, caliper results, events, webinars, standards, and design competitions.

6. [GATEWAY Demonstrations](#) are projects that showcase high performance general illumination SSL products in real world applications. Project teams are assisted by the DOE and PNNL and results are documented and posted on the DOE website for public consumption. Reports include information on product performance, cost effectiveness, and end user satisfaction. GATEWAY Demonstration highlights have been compiled in a NEEP TINSSL Newsletter article, [here \(INSERT LINK\)](#).
7. [Design Competitions](#). L Prize, Lighting for Tomorrow, and Next Generation Luminaires are each product competitions aimed at accelerating and showcasing the capability of SSL technology in various applications. For more information on the design competitions, a NEEP TINSSL Newsletter article providing background on each is [here, \(INSERT LINK\)](#).

[Using LEDs \(Fact Sheets\)](#). The “Using LEDs” section of the website offers quick educational pieces on LED (light emitting diode) based lighting by focusing on energy efficiency and lighting quality. To facilitate dissemination of the information, DOE has created 18 glossy printable PDF fact sheets with additional fact sheets arriving regularly. The fact sheets are ideal for teaching props and for meeting take home materials. The sheets are organized by category: “LED Basics”, “LED Application”, and “LED Measurement”.

LED Basics includes six fact sheets covering the highlights and intricacies of LED based lighting energy efficiency, color quality, LED life, thermal management, and comparing white light LEDs to conventional light sources.

LED Applications series include seven fact sheets covering SSL specification considerations for recessed downlights, kitchen undercabinet lighting, portable desk/task lighting, outdoor area lighting, “using LEDs to their best advantage”, dimming LEDs, and LED replacements for incandescent omnidirectional lamps.

LED Measurement series includes five fact sheets covering solid-state lighting standards, color rendering index and LEDs, luminaire efficacy, luminaire reliability, and understanding photometric reports for SSL products.

A list of all Fact Sheets is available here: <http://www1.eere.energy.gov/buildings/ssl/factsheets.html>

[Information Resources](#). A single location to find all of the publications, charts, fact sheets, white papers, GATEWAY Demonstration reports, etc, exists. The Information Resources section of the DOE SSL webpage includes each item organized by type: conferences and meetings, publications, presentations, and webcasts. The bulk of the information found in the “Using LEDs” and “Market Based Programs” section of the website is housed under “[publications](#)”.

For further information on NEEP’s work with TINSSL, please visit <http://neep.org/regional-initiatives/5/56/Solid-State-Lighting>