January 8, 2015

A Look Back at 2014

As you know, DOE offers a rich assortment of solid-state lighting resources that are tailored to the evolving needs of various stakeholders, and that are widely used by industry and government here and abroad. Last year, our resource library grew even deeper in scope, as well as more multifaceted – as we published 37 reports and specifications that were downloaded more than 14,000 times. Here's a brief recap of a few of the highlights, just in case you missed the announcements of any of these when they emerged in 2014:

DOE forecasts energy savings from LED lighting. The latest DOE forecast provides a comprehensive overview of the expected path of LED lighting adoption within the U.S., and estimates the resulting energy savings out to 2030. In that year, if the aggressive targets set forth in DOE's SSL R&D Multi-Year Program Plan are achieved, SSL is expected to reduce lighting energy consumption by 60%. The forecast is accompanied by an online interactive model that allows users to adjust four key input variables – LED price decline, LED efficacy improvement, increased use of automated controls enabled by LEDs, and renovation rate – to better understand how they affect the forecasted LED penetration and energy savings.

DOE recounts early lessons learned bringing SSL to market. This key report documents early challenges in the development of the SSL market, as well as early actions taken to avoid anticipated problems based on lessons learned from the market introduction of CFLs. The report provides government, industry, standards groups, and utilities with a handy blueprint for future actions needed to accelerate market growth.

Next Generation Luminaires™ announces indoor and outdoor winners. The Next Generation Luminaires Competition has been growing by leaps and bounds. Last year, 26 commercial LED outdoor lighting products, spanning 12 different categories, were recognized for excellence, and six of these were also designated Best in Class – a competition record. The average efficacy of the recognized products was 94 lm/W, a 20% increase compared to the previous year. The number of entries and winners in the indoor competition was the largest in the NGL's six-year history, with 57

products out of 153 entries recognized for excellence – increases of over 50% compared to 2013. A video offers a behind-the-scenes look at the indoor judging process.

DOE separates myth from fact about the optical safety of LEDs. This brief, the latest in DOE's wide-ranging collection, was downloaded more than 550 times in the last quarter of 2014. It sets the record straight about the potential for LEDs to cause retinal damage, changes to artwork and other media, and stimulation of human circadian functions, and is a valuable complement to an earlier DOE fact sheet on optical safety of LEDs.

CALiPER dives deeper into SSL issues. DOE's CALiPER program implemented a new approach in 2014. Instead of testing a wide range of LED lighting products in multiple categories, it began looking more in-depth at selected product categories – such as LED linear lamps and troffer lighting, PAR38s, and MR16s – to highlight trends, potential issues, and key areas for improvement. CALiPER not only guides DOE planning and helps discourage low-quality products and inflated claims, but also serves as a useful tool for manufacturers seeking to improve their products, and for municipalities, utilities, and energy-efficiency programs seeking to make informed program decisions.

Street Lighting Consortium updates specifications. DOE's Municipal Solid-State Street Lighting Consortium (MSSLC) has been gaining momentum as it helps cities nationwide switch their street lighting to LED. Two key resources were updated in 2014: the Model Specification for LED Roadway Luminaires, which played a major role in the City of Detroit's conversion to SSL; and the Model Specification for Networked Outdoor Lighting Control Systems, which was invaluable to the City of San Diego as it implemented forward-looking LED streetlights. These specifications together were downloaded more than 3,000 times in 2014.

GATEWAY provides new insights from real-world settings. GATEWAY reports are used by a wide range of SSL stakeholders, from manufacturers to utilities to facilities managers. One major GATEWAY offering in 2014 involved revising the popular report *Dimming LEDs with Phase-Cut Dimmers: The Specifier's Process for Maximizing Success* to include updated information on the challenges and solutions involved in the installation of LED lighting and controls at the Burden Museum in Troy, NY. But there were many others, such as the report on an LED area lighting retrofit along the U.S.-Mexican border in Yuma, AZ, and the first detailed account of longer-term performance of LED lighting in the field, which described Phase 2 of a 2008 LED lighting installation on the I-35W Bridge in Minneapolis.

These are just some of DOE's SSL highlights for 2014 – and they don't even take into account the SSL advances that were driven by [DOE-funded R&D](#). In 2014, DOE added five new LED projects, seven new OLED projects, and three general SSL projects to its [R&D funding portfolio](#); hosted a special [OLED stakeholder meeting](#) in Rochester, NY, to drive improved collaboration within the OLED industry; and implemented a new [OLED testing opportunity](#) to accelerate developments in OLED technology.

So on balance, you could say that 2014 was as good a year for DOE as it was for SSL – which is to say, it was a very good year. But please stay tuned, because the best is yet to come.

As always, if you have questions or comments, you can reach us at postings@akoyaonline.com.