

# SSL Postings

U.S. DEPARTMENT OF ENERGY

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## A Look at Outdoor Area Lighting

DOE has just released a new [Snapshot Report](#) on LED outdoor area lighting. Based on the [LED Lighting Facts](#)<sup>®</sup> database, which currently includes more than 64,000 listed products, [Snapshots](#) are designed to help lighting distributors, lighting designers, utilities, energy-efficiency program sponsors, and other industry stakeholders understand the current state and trajectory of the solid-state lighting market.

Outdoor area lighting is a major contributor to nationwide energy use, and the market segment has been an important player in the transition to SSL. When it comes to energy efficiency, LED outdoor area luminaires now easily outperform their conventional counterparts, such as fixtures using high-pressure sodium (HPS) lamps.



The new Snapshot focuses on outdoor area/roadway luminaires (including street lighting and wall packs), parking garage luminaires, and canopy luminaires (e.g., those used for gas station fuel pump areas). These three types of products are the core products used to light surfaces or large areas outdoors (and in parking garages), and are categories where LED technology has made significant inroads. According to the latest edition of DOE's report [Adoption of Light-Emitting Diodes in Common Lighting Applications](#), LED area/roadway lighting has achieved 28.3% market penetration, with parking garage fixtures achieving 32.5% market penetration. In general, LED outdoor area lighting has the second-highest penetration rate of all types of products, behind small directional fixtures. Adoption of outdoor area lighting has approximately tripled since 2014.

LED outdoor area lighting has been a major component of the LED Lighting Facts database since its inception, consistently being one of the categories with the most

products. Today, area/roadway products alone comprise 21% of the database, with parking garage and canopy luminaires collectively comprising approximately 5%. These percentages have been fairly consistent over the past seven years. In the new Snapshot, retrofit kits and dedicated luminaires are not considered separately, as only in the area/roadway category did retrofit kits make up a notable percentage (8%) of the total products listed in the category.

The range in efficacy and output of outdoor area products is vast, from less than 70 to more than 150 lm/W and from less than 500 to more than 125,000 lumens. This is indicative of the variety of applications in which the products are used, and is a reflection of the growing market share of LED products. As with LED lighting products as a whole, the efficacy of LED outdoor area products continues to improve. Mean efficacies for the three product categories are between 99 and 106 lm/W, with more than 30 products exceeding 150 lm/W. Mean efficacies have risen by 8–9 lm/W over the past year, while the average CCT has decreased, with a current mean of 4360 K. About 17% of area/roadway products, 8% of parking garage luminaires, and 16% of canopy luminaires listed by LED Lighting Facts have a nominal CCT of 3000 K or lower — all higher percentages than in the 2016 Snapshot Report.

In all three categories, the greatest percentage of products (53% to 63%) have a CRI in the 70s. Many outdoor area luminaires are available with a CRI in the 80s, especially parking garage and canopy luminaires. While the percentages with CRIs in the 80s are lower than for all products listed by LED Lighting Facts, many outdoor area lighting applications have lower requirements for color quality, making the performance profile appropriate.

Across the board, LED luminaires offer an energy-efficient alternative to luminaires using HPS lamps, and simultaneously offer improved color-rendering characteristics. Although it's not analyzed in the new Snapshot, LED products often require fewer lumens to produce equivalent illuminance levels on the surface they're lighting, thanks to more controlled luminous intensity distributions than lamp-based luminaires have. All these trends indicate a broader range of choices for specifiers, which allows improved balancing of competing needs.

For the complete findings, download the [Snapshot](#).

Best regards,  
Jim Brodrick

As always, if you have questions or comments, you can reach us at [postings@akoyaonline.com](mailto:postings@akoyaonline.com).