

# SSL Postings

U.S. DEPARTMENT OF ENERGY

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## Observations from LIGHTFAIR

The DOE SSL team was out in full force at LIGHTFAIR, where we offered a wide range of [educational sessions](#) in our booth, which was jam-packed with people seeking more information about what's going on at DOE's [connected lighting test bed](#) (CLTB), how to apply [TM-30](#), how to interpret news stories about [LED street lighting's effects on sky glow and health](#), what we've learned from studies of [tunable lighting](#), and other hot topics. But when we weren't busy educating there in Philly, we took the opportunity to walk the show floor, and I thought I'd share some observations with you.



One clear trend at this year's LIGHTFAIR was connectivity, which seemed to be everywhere you looked, with the major manufacturers continuing to round out their [connected lighting](#) portfolios. More of these manufacturers are offering cloud or enterprise-level energy management platforms and software, although some are still at local-network level. But almost without exception, the connected lighting products we saw in Philly are using proprietary communication protocols, and are not making serious commitments to [interoperability](#).

Similarly, it seemed that nearly every manufacturer was offering some kind of white-tunable lighting, and claims of circadian benefits were flying every which way — although, unfortunately, the claims didn't always reflect a solid understanding of how to achieve those benefits. Still, it's clear that LEDs can now be engineered to emit pretty much any spectrum desired, and to work with any control technology, even though the application understanding for this functionality hasn't fully materialized just yet.

It was evident that horticultural lighting is on the increase. It's clearly a new revenue-growth stream for package manufacturers, who are increasing their portfolios around it

accordingly. It will be fun to watch how horticultural products evolve to reflect ongoing research in terms of what lighting suits them best for productivity and quality.

Another thing that caught our eye at this year's LIGHTFAIR was a trend toward curved luminaires — including rings, ovals, complex non-orthogonal links of rings, and curved recessed luminaires — that take advantage of the flexible LED form factor. And more companies were showing recessed downlights with LED modules that need no housing “can” above the ceiling to meet UL requirements. These products have aluminum heat sinks exposed to the plenum, anodized in nifty colors to help improve the heat dissipation.

There was a noticeable emphasis on building integration. Chip-scale packages were still heavily advertised, but the growth in their use remains slow. We saw sensors of all kinds — including CO<sub>2</sub> and cameras — being promoted, and those sensors seem to be getting markedly smaller. There were more power over Ethernet-ready fixtures compared to last year, and many outdoor lighting products had 3000K options. However, TM-30 metrics were infrequent on the show floor; almost everyone is still using CRI.

Compared to what we've seen in previous years, flicker was much reduced, with far fewer products exhibiting any flicker — especially in the ubiquitous vintage LED “filament” lamps, but also in decorative fixtures. However, some decorative residential products we saw did flicker to some extent. Glare control, too, seems to be on the rise, with more manufacturers touting low-glare luminaires that utilized a range of different techniques, such as diffusers and better shielding from direct view.

It seems as if SSL has entered a “digestion” period, in which multiple advancements in the technology and in manufacturing are showing up in a wide variety of products. Overall, the products we saw at LIGHTFAIR displayed improved efficacy, color, and connectivity, and touched on exciting new “human-factor” value propositions.

But it's also clear that, even with all of this progress, we've barely scratched the surface. SSL's potential —not only to save energy, but to transform what lighting can be and do — is enormous, and there's a long way to go, and much to be accomplished, before it's fulfilled.

Best regards,  
Jim Brodrick

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