May 5, 2016

Reflections on LIGHTFAIR

A big thanks to those of you who stopped by the DOE booth at LIGHTFAIR[®] International last week. My apologies if things got a little crowded in there at times, but our educational presentations were a big draw and resulted in standing-room-only crowds —a reflection of the widespread, avid interest there is in learning all the nuances of solid-state lighting technology. In addition to giving those interactive booth presentations and fielding questions from the many people who happened by at other times during the show, the members of DOE's SSL team were busy speaking in sessions on the LIGHTFAIR conference agenda. But we also found time to walk the show floor, and I thought I'd share a few observations with you.

One thing that struck us was the growing responsiveness of manufacturers to input from customers on what matters most to them. Sometimes that's cost — as reflected in the fact that there was more emphasis this year on designs to drive costs down, despite some resulting tradeoff dips in performance (e.g., we saw more use of chip-on-board packages in luminaires, which typically causes a reduction in efficacy as well as a need for more aggressive glare mitigation because of the high-intensity source). Sometimes customers want products that perform in specific ways to meet the demands of certain applications — such as the one with LED chromaticity intentionally five steps below the blackbody locus, and the many outdoor luminaires offering 2700K and 3000K options. And sometimes customers simply want increased visual comfort, as evidenced by the many diffusers and waveguides we saw being used in various products to mitigate glare. The net result of this responsiveness to customer input has been a fine-tuning of SSL products that's creating far more choices than ever before.

There are still plenty of manufacturers going after the replacement lamp market, from

the increasing number of LED "corncobs" being sold as replacements for high-intensity discharge (HID) lamps to the equally numerous LED vintage (exposed "filament") lamps and many varieties of TLED replacements for linear fluorescent lamps. In fact, it was clear that there are now LED bulbs of every flavor, from HID replacements and MR16s to A-lamps and tubes. This is a double-edged sword, though, because while it makes it easy to deploy SSL, it also imposes the constraints of the old form factors. Flicker continues to be a problem with all categories of products, especially upon dimming. But we also saw products in virtually all categories that exhibit no visible flicker.

What was more heartening to see were the examples of excellent LED-based solutions that improve lighting design and solve application challenges. We saw directional lamps and luminaires with much improved beam control and options; beautiful waveguide luminaires that minimize glare; great options for high color quality, with some leading manufacturers now reporting TM-30 color metrics; an increasing number of color options in outdoor lighting; and an innovative color-changing luminous-ceiling approach that promises flexibility and visual interest along with easily controllable illumination.

Speaking of controllability, connected lighting products were on display in full force, eclipsing even the rapidly emerging color-tunable product category in terms of sheer numbers. But rather than finding that the larger manufacturers were each pursuing different angles and aspects of connected lighting, we were surprised at the relative commonality of both the technical approaches and the market-sector focuses. For example, several major manufacturers are focusing on products to serve the retail sector, and more specifically on value offered by indoor location services using visible light communication and Bluetooth low energy (BLE) beacons — and are promising to publish application programming interfaces for accessing data from these systems. Indoor location service itself appears to be showing up in many places and now has more uses than just opt-in store apps; e.g., it's currently being employed at Atlanta's Hartsfield-Jackson International Airport to monitor traffic flow using BLE or Wifi signals. Controls seemed to be everywhere we looked at LIGHTFAIR, although few of them were interoperable with products made by rival manufacturers. And we saw lots of evidence of partnerships involving players outside of the traditional lighting industry, as connected lighting ushers in a whole new paradigm.

That paradigm promises a future with seemingly infinite options, many of them yet to be determined. We look forward to next year's LIGHTFAIR, where we'll see further indications of how it all unfolds.

Best regards,
Jim Brodrick

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