

Luminaire Level Lighting Controls: The Future of Intelligent Lighting



ASK THE EXPERTS

Q&A with Shaun Darragh, Senior Lighting Specialist at Lighting Design Lab

As the commercial lighting industry continues its steady move towards more advanced controls and lighting solutions, for many experts, all signs point to networked lighting controls. And when it comes to truly intelligent, flexible lighting with non-energy benefits, the future could be Luminaire Level Lighting Controls (LLLCs).

Can you give us a short summary of your experience in the lighting industry?

I've been a lighting designer for more than 30 years. I've done everything from running design studios to a brief stint in technical sales for lighting. Currently, I'm the Senior Lighting Specialist for Lighting Design Lab, which offers lighting technology services and resources to electric utilities, energy efficiency organizations and trade professionals.

Where do you see the lighting industry headed?

First, I think we will see a major shift towards interconnectivity: we'll see building systems all working together in a unified way. I've done projects with interconnected systems and there have been a lot of barriers, but I think communication methods will become more integrated with the use of wireless and Bluetooth devices.

I also think there is going to be a greater emphasis on the quality of light. The industry is realizing that it's time to improve the quality of our light sources and focus on color fidelity. In the past, we saw a big push to maximize light efficacy without respect to quality – now quality needs to catch up.



We know that office buildings, schools, hospitals and warehouses represent some of the best use cases for LLLCs because of additional non-energy benefits with many systems (like building system integration). What are your favorite use cases right now for LLLCs and why?

I agree with that list, and I would add in multifamily residential buildings as well. Generally speaking, any place with a need for large area lighting will benefit from LLLCs. The savings potential with these systems is enormous. LLLC systems also ease maintenance and improve longevity. In LLLC systems, each individual fixture has a sensor that can be programmed to speak with all the other



fixtures in any way you'd like – they become part of a unified whole that speaks a common language. It's super powerful.

When it comes to the biggest reasons LLLC systems are installed, we hear a lot about non-energy benefits and the growing cost savings potential with utility incentives. What do you see as the top reasons for specifying and installing these systems?

The first case in which I would typically use an LLLC system is new construction because LLLCs simplify maintenance, allow you to choose your control zones and make design and installation easier – you don't have to do any wiring. LLLC systems are also strong when it comes to retrofits. In a building retrofit situation, because you already have power in the ceiling, installing an LLLC system is just programming– all you need is a mobile app in many cases. It all comes down to simplification of design, maintenance and reconfiguration.

What advice would you give to designers who are still hesitant about considering an LLLC system in their next project?

The hesitation I see most frequently is cost. Upfront, a luminaire equipped with LLLCs is more expensive than one that's not. But LLLCs are simpler to install and require and less wiring than less expensive luminaires, which means lower labor costs. My advice would be to check if your utility offers incentives on these products. Many utilities are now

offering incentives on LLLCs, and sometimes they're big enough to cover the total added cost of the fixtures.

Is there anything else people should know about LLLCs?

I teach a lot of lighting classes for a wide spectrum of audiences, and the biggest thing I do is to try to make LLLCs seem less scary. They used to be very complicated, but today they're very simple. There's no need to be afraid anymore!

The second idea that I teach is that people are coming to expect inherent flexibility with their technology. The example I always give is cell phones: 20 years ago, whenever I made a call it sounded like I was in a fish bowl. I didn't question it; that was just the expectation at the time. Today, cell phones have evolved: we now expect and demand higher quality. Greater expectations for our technology, including lighting, are all part of the digital revolution – and anybody in the design or construction fields that doesn't understand the power of systems like LLLCs will be left behind.

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