



# CREE LIGHTING

Strategies in Light 2020

Speaker Abstracts



## Safety and Visual Comfort Can Co-Exist with Warmer CCTs

Speaker: Erik Milz, VP Outdoor Lighting

### Abstract:

Designing for street and roadway applications takes into consideration a variety of factors such as visibility, aesthetics, safety, and environmental impacts to name a few. What was first viewed as an energy-cutting savior, LED lighting for outdoor and street lighting purposes has been increasingly criticized because of the harsh cool light disrupting neighbors and nocturnal animals.

Cree Lighting will examine the shifting public opinion of LED street lighting and consider the possibility of LED returning to the warmer color temperature, and associated visual comfort, of the all but outcast high-pressure sodium light. With this, we will review the challenges of providing the proper amount of light and accurate color rendering at such a warm CCT. Is it possible to provide a more comfortable experience for the public without sacrificing driver and pedestrian safety or negatively impacting neighborhoods? With the latest advancements in LED technology and luminaire design, we think so.

### Learning Objectives:

1. Compare the limitations of current methods available for measuring luminaire performance and glare with the possibilities of quantifying visual comfort.
2. Learn how warmer CCT lighting is helping provide a better environment for neighborhoods and wildlife.
3. Discuss the trade-offs of high visual acuity associated with cooler CCTs vs. higher visual comfort associated with warmer CCTs.
4. Discuss challenges and lessons learned from actual installations of warmer CCTs in street lighting applications.



## Bringing the Outdoors In: Using Light to Enhance Wellness

Speaker: *Kathryn Caspar, VP Indoor Lighting*

### Abstract:

Everyone from leading employers to public health officials to educators now realize the built environment has an enormous impact on health and wellbeing. We spend 90% of our time indoors. If indoor spaces do not provide the environmental conditions our bodies require, our physical, emotional and mental health pays the price. In fact, the spaces we inhabit at work, home and elsewhere may have a bigger influence on our overall health than our lifestyle habits, genetics or medical care.

Cree Lighting will examine the WELL Building Standard guidelines for lighting and discuss the role lighting plays in maintaining proper circadian rhythms, improving mood/energy levels, boosting cognitive function and maintaining a general sense of wellbeing. We will review our own research on market perceptions of lighting for wellness and examine the various ways the lighting industry is bringing the outdoors in to spaces where natural light is impossible or impractical.

### Learning Objectives:

1. Examine the history and science of natural and artificial light sources and the evolution of their effect on human wellness and behavior over time.
2. Investigate the non-visual impact light plays in our lives, including on circadian rhythms, by examining various research presented by groups such as the Lighting Research Center and other behavioral health organizations.
3. Discuss the WELL Building Standard guidelines including the role of lighting and related metrics.
4. Identify trends around dynamic lighting experiences and the latest technologies intended to enhance wellness and satisfy these relatively new standards.



## Opening up Smart Lighting Adoption with an Open Yet Secure API

Speaker: Derek Loyer, Director IoT

### Abstract:

Connected lighting systems are only as good as the application programming interface (API) they're connected through. The ideal solution uses an open standards-based API to provide interoperability with third-party networks and technologies for virtually limitless IoT applications. Increasingly, it seems everyone in the lighting industry has a connected solution (or two, or more!) But as the connected revolution explodes, are we doing more harm than good?

At Strategies in Light, Cree Lighting will discuss the current state of connected lighting on two critical fronts: security and interoperability. Both areas continue to be a top concern among end users deciding to implement a smart building or connected lighting strategy. We will examine how the industry overall is combating and/or contributing to these perceptions. We will also review our own findings and best practices derived from over a half-decade of implementing connected solutions and building out a robust software development partner network.

### Learning Objectives:

1. Briefly examine the evolution of connected lighting over time, including key developments which have led to our current state and the wide range of solutions being deployed today.
2. Examine in detail the roles that cybersecurity and interoperability have historically played in this evolution and how they are being discussed and addressed within the lighting industry today.
3. Examine the pros and cons of open vs. proprietary controls systems relative to the overall customer experience as well as cybersecurity.
4. Review and discuss best practices for implementing connected solutions including how to effectively leverage software development partners in creating application specific solutions.

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