LUMINOUS
SPEC

FALL 2018

> ❝ If we find the right balance between light, surfaces and materials, **we can create beauty in any space** ❞

Maple Hall Game Center, University of Washington
Location: Seattle, WA, USA
Architect: Mithun / Photo by: Jill Cody

FEATURED PROFILE

Jill Cody

The Right Balance

Balance is an enduring theme in Jill Cody's career, although she also credits active listening to the considerations of the entire project team, and even a bit of good fortune, as key factors in the success of her lighting design firm, Dark Light Design, in Seattle, WA.

Jill Cody, President
Dark Light Design

Meydenbauer Center
Location: Bellevue, WA, USA
Architect: LMN Architects
Photo by: Jill Cody

Why did you get into lighting design, and what sparked your decision to create Dark Light Design?

My path started in political science, because even though I always had an interest in design, it didn't occur to me that one could build a career from it. Later, I went to school for interior design, where I took a lighting class. I loved the idea of being a design specialist instead of a generalist, and lighting design has an appealing balance between creative and technical. In the professional workforce, I was fortunate to gain a broad diversity of experience and understand what goes into a project from a variety of viewpoints. Listening to and learning from architects, engineers, users, owners and contractors are truly invaluable experiences. About ten years ago, Dark Light Design was formed when I was asked to consult on a project, and ramped up the business as it organically grew through client loyalty and word of mouth.

What sets Dark Light Design apart from other lighting design firms?

I'm fortunate to work in a profession with incredible practitioners across the realm, so, it's not about competition, but instead, being the best designers that we can for each client and project. The success of Dark Light Design revolves around a fantastic team working together. We go into each project with an open mind and understand the client's goals and acknowledge the project intent. Sometimes it's not easy for someone to express what they're looking for from lighting, so we listen carefully, because even the smallest nuggets of information can be revealing. By listening, understanding and engaging with the entire project team, we can reinforce the goals through light, and really elevate a space.

How do you achieve balance between opposing forces?

Tension between competing needs and interests always exists, and there are often multiple considerations, so balance is the only option. Every project has a different challenge or design constraint, and that brings about different opportunities. Sometimes, it pushes us, too. For example, we do a lot of work in the public realm, including ferry terminals, streetscapes, and parks. Every public agency has a different light level standard; sometimes they even dictate the fixtures to use. If we understand constraints and challenges up front, we then have guidance for the design, and can weave together solutions to address tensions while crafting a beautiful, interesting end result.

You mentioned your work in the public realm. How do these projects differ from your other project work?

All of our work has a similar focus on creating quality spaces for people to inhabit – whether it's a workplace, classroom, conference center, or worship space. Public and infrastructure projects have a daily impact on a remarkable number of people from the whole spectrum of society, yet they don't always get the design attention they deserve. Often, they're not categorized as gathering places as much as they are transiting spaces. Many public agencies are very process- and standards-driven which is challenging, so we do a lot of upfront work to listen and educate. For example, we worked on a public works project where the head of security mandated an incredibly high exterior light level. We walked the site with the security staff after dark, listened to their concerns, and demonstrated how lower light levels were acceptable
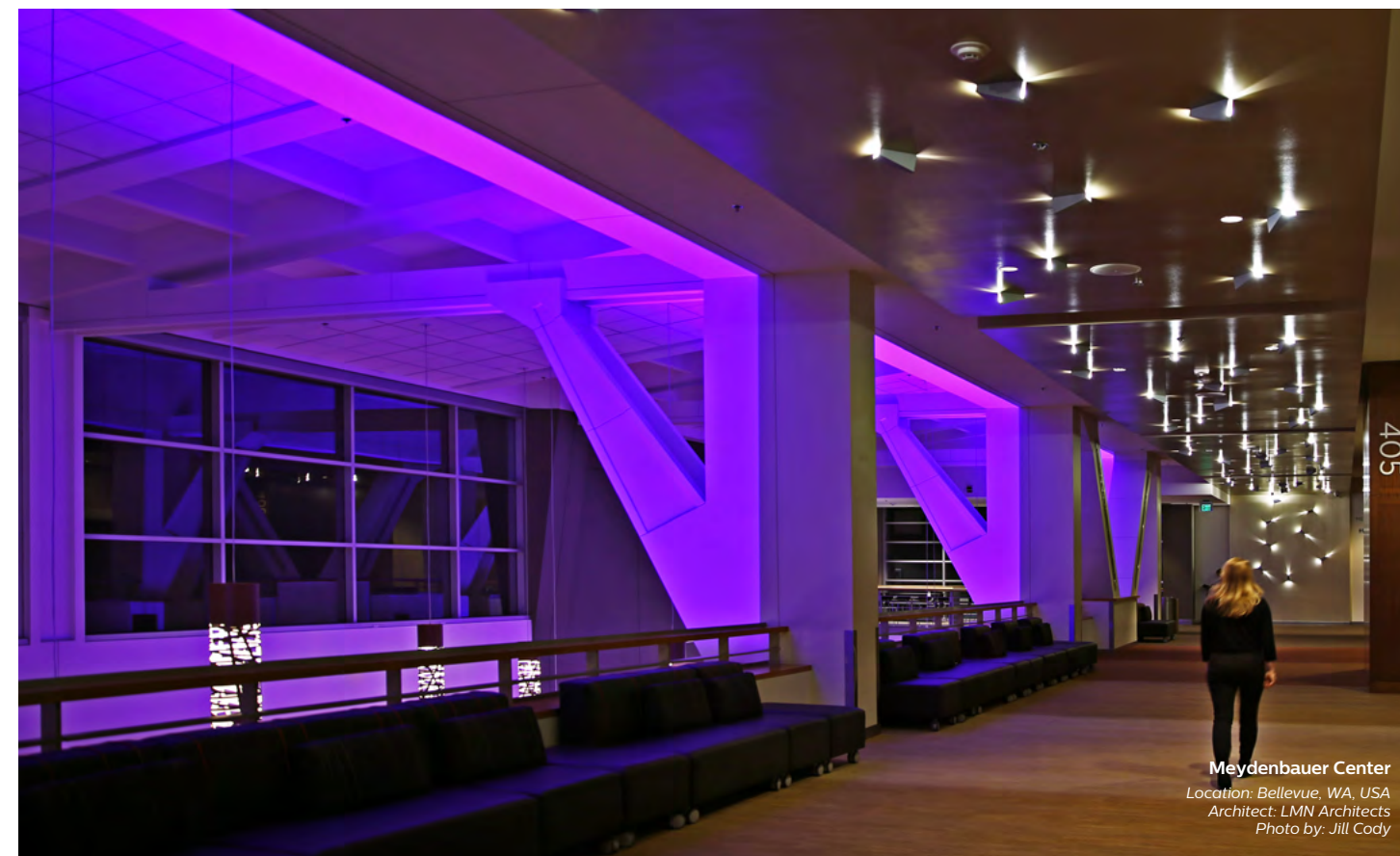
for their application. It's also gratifying in that we can elevate design typologies beyond purely functional agency standards on maintenance and energy use criteria. Sometimes it's as simple as applying utilitarian fixtures in a more interesting way, but every project offers opportunities to create a space that is meaningful and inspiring. Right now, we're working on a ferry terminal that has four million people pass through it every year. This is a great opportunity to create a space that is just as interesting and captivating as it is durable and maintainable. This doesn't always mean depending on intricate architecture or decorative fixtures. If we find the right balance between light, surfaces and materials, we can create beauty in any space.

What role does sustainability play in your work?

For us, sustainability goes beyond power density. Since the most sustainable fixture is the one that isn't installed in the first place, we start by thinking about what should and should not be lit. We can further drive sustainability by tuning light levels to the function of the space and understanding the aesthetic; especially the balance between uniformity and contrast. Higher contrast spaces can sometimes use fewer fixtures because we don't need to even out every low spot. Human factors also play into our approach to sustainability, because the most energy-efficient space

might result in a dismal user experience, so we have to balance sustainability in the context of an enriching user experience. Also, in the Seattle market, where many of our projects originate, the energy code is very prescriptive and stringent. Basically, if we meet code, we already achieve a certain number of LEED points. This makes for a straightforward controls conversation with the entire project team, but on the other hand, it can create challenges in smaller projects because the power density allowance is so low, and there's no wiggle room. The market is developing great products like addressable controls to help with additional energy efficiency measures, but the downside is that those writing the codes anticipate these efficiencies and keep pushing for stricter limits. And on the other hand, cost estimators are still catching up to the extent that controls are now a built-in cost of projects in our area. Again, it's about achieving balance.

How is the internet of things (IoT) impacting your designs?

I think we're still waiting to see where and when IoT fits into lighting. I see some indirect parallels with RGB capabilities when they first emerged. At first, color changing was applied in areas where it just wasn't warranted, but over time, the excitement settled down and the technology was applied appropriately and where it made most sense. IoT is on a similar path in

that the answers to where and when to integrate it aren't clearly defined yet. It's not limited to lighting either; other industries, including audio, HVAC and even security are trying to integrate it. There are a lot of distributed devices in every built environment, including light fixtures, but does the application need that many data points, or is another system suitable? It also comes back to understanding what we're trying to get from the data. In specific applications, like asset management or retail customer tracking, it makes sense for lighting to integrate the IoT solution, as we can track objects within a space or customers moving around the store. But just because we can track when Joe Worker is sitting at his desk, should we do that? At the same time, we're trying to figure out where lighting designers fit into the IoT conversations because many times, they're taking place between manufacturer and end-user. Then, there's the matter of the data. How is it transmitted? I would like to see an open protocol so that instead of becoming a manufacturer-specific solution, it can be implemented throughout a project, because most projects use equipment from a variety of manufacturers. Once you have the data, who processes it? Who owns it? How does General Data Protection

Regulation (GDPR) apply to data gathered in a public place? This regulation will eventually expand beyond Europe, and we need to be prepared to answer questions about it. If the information is generic, this may not apply, but at the same time, consider the monetization potential. Private information is far more valuable than generic information. These questions have vast implications.

How is personalized lighting entering project conversations?

There's a lot of marketing around circadian lighting, but the truth is, there's conflicting research on the right way to apply it. The technology is ahead of our understanding of how to correctly use it. And again, just because we can, should we? Seattle winter days are exceptionally short and gloomy, so I understand the appeal of being able to help people work through the seasonality, but there are also ethical implications to consider. Does an employer or institution have the right to manipulate a light spectrum beyond the norm to their advantage? What are the rights of those using the space, and should they have a say in this manipulation? We didn't have these ethical questions

with fluorescent lighting but with control comes responsibility. What is our responsibility when we're manipulating an environment in a way that affects physiology? I've never heard anybody ask if we should do this to people without asking them, but as an industry, we need to have these discussions.

What do you want to see from tomorrow's LED technologies and controls?

One of the things I think everyone is struggling with is color. LED light sources are inherently different, yet we use the same metrics and make comparisons to legacy light sources that had their own limitations. For example, we settled on 80 CRI a long time ago, in part, because of limitations in fluorescent sources, but should we continue to use that threshold today? Codes are starting to address this. I'm excited about the work being done around color metrics because it will give us the new language we really need to talk about color quality and spectrum. And yet, as technologies continue to advance, we need to be mindful not to push things to an unreal level. We can play with spectrum to make white look whiter than white, but what is that?

What do you wish you knew at the start of your career that you would now impart to emerging professionals?

It's probably not going to work out according to a pre-set plan, but that's just fine. I didn't enter my career aiming to work on streetscapes, ferry terminals and parks. It's been hard at times, but also rewarding in ways that I couldn't have anticipated, and I'm really happy to have landed here. What balanced out for me is the opportunity to impact so many people through public works. In the same way that we all evolved into becoming lighting designers, I believe that what we work on, and how we work, finds its way to us. I encourage young designers to be open to the unexpected and explore new avenues, because the opportunities are available. I would also encourage them to develop soft skills, because a successful career isn't solely based on technical proficiency.

Pike Place Market Front
Location: Seattle, WA, USA
Architect: The Miller Hull Partnership
Landscape Architect: Berger Partnership
Photo by: swimmerphoto.com

PROJECT SPOTLIGHT

A SLICE OF AMERICANA IN MILAN, ITALY

The temporary Ventura Centrale projects celebrate the latest contemporary design developments in vast spaces under Milan's bustling Central Station. One such project was a pop-up restaurant and bar called The Diner, conceived by architect David Rockwell of the Rockwell Group along with Surface Media. This uniquely American cultural icon was interpreted through four distinct environments: the classic Roadside Diner, the monochromatic East Coast Luncheonette, the cotton candy–inspired Midwest Diner and the tropical West Coast Diner. Lighting was integral to creating and harmonizing the different areas, highlighting products and materials, and enhancing an engaging and welcoming atmosphere. Philips Color Kinetics luminaires were used throughout the space. Grazed light on the perimeter wall brought out textures and washed the space in color, while track lighting accents on the ceiling drew attention to the bar's marble counter and liquor display as a central focal point. Pendants were placed overhead to provide concentrated table-top white light. The lights were controlled by the Philips Color Kinetics Color iPlayer 3 controller and programmed to change throughout the day; automatically transitioning from polished white tints during lunch time to saturated color schemes at night including an energetic multicolor crossfade near the stage at the far end. The Diner achieved the overall vision of an optimistic and democratic gathering space for people of all backgrounds.

Technology: Philips Color Kinetics PureStyle Intelligent Color Powercore, RGBA, Philips FlexCove G3, Ilti Luce LUX 42 gen2

AROUND THE WORLD

CREATING ALLURE THROUGH AN ENCHANTING, DYNAMIC FAÇADE

Pantai Indah Kapuk is a bustling, upscale neighborhood in North Jakarta, Indonesia, and a fitting home to the iconic PIK Avenue. This mixed-use location combines a lifestyle mall with two hotel towers and stands apart from the surrounding buildings through its majestically curved façade. At night, the complex architecture is vibrantly accented with horizontal lines of dynamic LED light thanks to the Philips Color Kinetics iColor Flex LMX Gen2 luminaires. These flexible strands of high-intensity, full color and individually addressable LED nodes add dramatic flair to any project without constraints of fixture size, shape or space. The luminaires were discretely tucked into the façade so as not to create distraction during the day, and centrally controlled via the Philips Color Kinetics Light System Manager. Multiple dynamic lighting scenarios were personalized for PIK Avenue's specifications, distinct features and environment. The lighting design brilliantly creates a layer of light that envelops the building with energy and vibrancy, while delivering a mood-enhancing artistic impact.
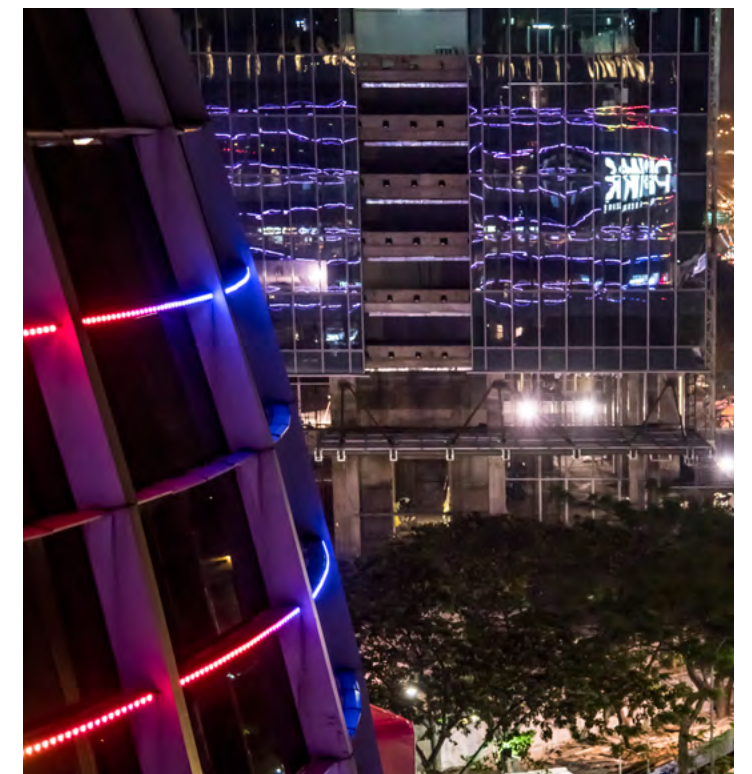
TECHNICALLY SPEAKING

Opportunity creates obligation: *Color measurement in the LED era*

LED lighting technologies ushered in a spectacular industry-wide paradigm shift, with exciting and ever-expanding potentials in energy use, form factors, electronic control/integration, and more. At the same time as functional and aesthetic opportunities arose, LED also created an obligation to revisit and potentially rethink specifications such as color rendering. The International Commission on Illumination (CIE) maintains the current standard for characterizing color rendering, known as the general color rendering index (CRI-Ra). LEDs allow much greater variation of the light spectrum compared to conventional light sources, so whereas a single number, CRI, was sufficient to compare conventional light sources, LEDs require a more extensive description of color to compare and select light sources. IES TM-30, a technical memorandum from the Illuminating Engineering Society (IES), first published in 2015, is an approach to provide such a description. TM-30 has a fidelity index, Rf, which is similar to CRI in that it indicates how closely a light source renders colors in comparison to a reference source. It adds a gamut index, Rg, which indicates, on average, whether the source tends to saturate or desaturate colors. It also adds a 'color vector graphic' which visually illustrates the directions of the average color changes for clusters of colors compared to the reference light source.

TM-30 is especially beneficial in specialized applications where color accuracy and color emphasis are critically valued, such as retail, museums, creative design studios and medical applications. TM-30 is being promoted mainly in the US and is one possible alternative for a more extensive description of color; however, adoption without global consensus risks confusion and inappropriate product selections for specifiers working on global projects or with alternative methods. In order to achieve global adoption, eliminate risks and ensure that color rendering specifications provide the best possible information to support specifier decisions, the CIE and IES are working to harmonize their measures where it makes most sense. In fact, a soon-to-be released version of TM-30 is anticipated to include adjustments that align with CIE documents regarding fidelity measure, Rf. Alignment between CIE and IES for the gamut index and the color vector graphic is still needed.

If you seek additional performance requirements to aid in product evaluation and selection, please contact your local Signify sales representative.

Examples of TM-30 data for BR lamps with CRI 90 (left) and CRI 80 (right).
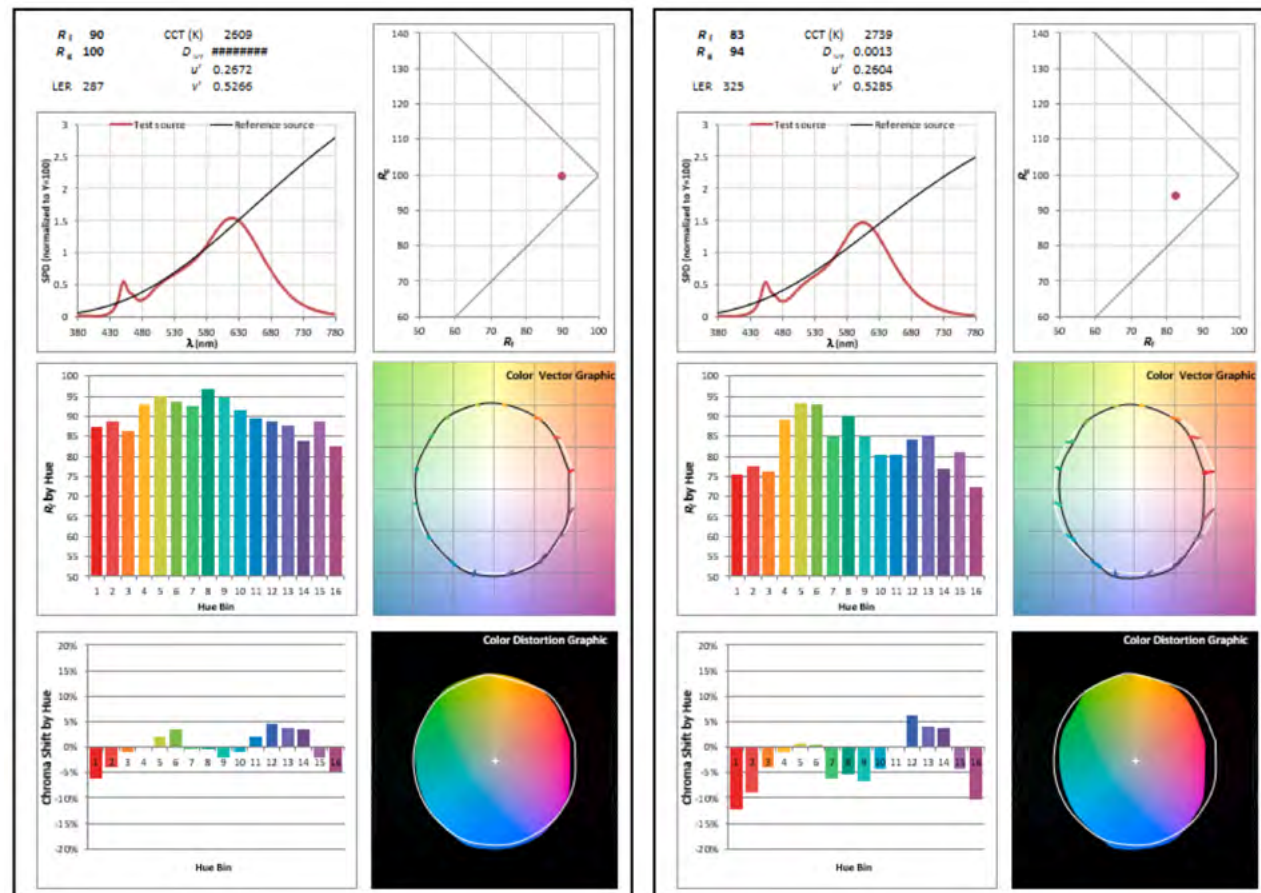
INDUSTRY NEWS

18th annual IALD Enlighten Americas Conference

Over 400 specifiers attended the 18th annual IALD Enlighten Americas conference held on October 11-13 in downtown Seattle's Motif Hotel. At this premier industry venue, attendees learned about very relevant topics and trends from prominent professionals during seminars and workshops, and also had the opportunity to network with architectural lighting design peers and meet emerging lighting design professionals. The Signify sponsored reception took place at Pike Brewing Company in Seattle's in the renowned Pike Place Market neighborhood and made for a perfect closing evening to the event.

Signify mixer success in Culver City!

On October 9th, Signify and our local partner, Total Lighting Concepts, co-hosted a specifier mixer at the Blind Barber in Culver City, California. In this trendy speakeasy-style hot spot, over 70 attendees networked and participated in live, hands-on demonstrations of the latest Philips Lighting indoor and outdoor products, including the Philips Gardco PureForm post top LED luminaires with comfort optics, Philips Ledalite EyeLine suspended and wall mount luminaires, and Philips Lightolier Calculite LED downlights generation 3. Additionally, attendees were introduced to the new Interact Pro connected lighting app and dashboard that works with Interact Ready luminaires, retrofit kits and lamps to deliver the power of IoT with the ease of a wireless lighting system.

PRODUCT NEWS

Comfort you can see

Outdoor LED luminaires can create unwanted harsh glare that creates a bad impression for pedestrians, making it a challenge to maintain a welcoming outdoor environment. Now you can save energy and provide comfortable lighting solutions with **Philips Gardco** and **Philips Lumec LED** outdoor luminaires featuring comfort optics. With the perfect balance of performance and visual comfort, eight luminaire styles, multiple lumen packages, and several distribution options, we've got you covered.

Visit **philips.com/comfortlighting** to learn more.

One frame, one fixture, multiple advantages

Philips Lightolier OmniSpot LED recessed multiples are designed for easy specifying and quick installation. They were created with industry leading, tool-less light adjustments providing the utmost precision for lighting layouts that beautifully accent artwork or corporate logos, and highlight merchandise to look its best.

Visit **philips.com/omnispot** to learn more.

Sensor ready, designed for Smart cities

The **SR (Sensor ready)** architecture gives you a futureproof foundation that you can build on whenever your city is ready to opt into new advances in technology. It is designed to work with industry-recognized, futureproof drivers and sensors that have the potential to increase energy efficiency and collect different types of data.

Visit **usa.lighting.philips.com/products/product-highlights/sensorready** to learn more.

Flexible direct-view LED lighting without limits

The newest addition to the **Philips Color Kinetics Flex family** brings bright, beautiful direct-view LED lighting to structures of all sizes and shapes. FlexElite's modular design, exceptional illuminance, long run lengths, maximum node spacing, and 4 channel advanced color control including IntelliHue technology distinguish it as the perfect choice for the most challenging and ambitious lighting designs.

Visit **colorkinetics.com/ls/IntelliHue/FlexElite-IntelliHue/** to learn more.

The logical solution for retrofitting

The **Philips MainsFit T8 LED retrofit lamp** facilitates the move from fluorescent to energy saving LEDs. It works with both shunted and unshunted sockets, and by eliminating the ballast, it removes the need for any future ballast replacement costs. It is verified for over 40% energy savings, as compared to a F32T8 electronic instant start system.

Review the installation video and additional information at: **philips.com/mainsfit**.

Enhance your roadways with the latest additions in RoadFocus LED cobra head luminaires

With the new **Philips Lumec RoadFocus LED cobra head luminaires**, you can now enjoy updated performance, a new color temperature (2700K), a new standard tool-less 7-pin receptacle and a new 12 board LEDgine platform that provides additional light levels and wattage packages. As an option, RoadFocus luminaires can be ordered with the universal receptacle and **SR** drivers, so you can migrate to a dynamic world of sensor-rich lighting – whenever you're ready!

Visit **philips.com/roadfocus** to learn more.

PRODUCT NEWS

Connected lighting made easy with Interact Ready

The broad portfolio of **Philips Interact Ready** LED luminaires, retrofit kits, lamps, sensors and wall switches work seamlessly with the intuitive, user-friendly **Interact Pro** app and portal to bring smart, personalized wireless lighting and performance data to small and medium-sized projects. All components are crafted for consistent, energy-saving performance and worry-free upkeep over the long-term, and the luminaires and lamps comply with stringent building codes for maximum rebate potential.

Visit **usa.lighting.philips.com/products/product-highlights/interact-ready** to learn more and for the complete list of Interact Ready products.

Create and trigger light shows with your mobile device

Interact Landmark is connected lighting software for the architectural lighting of buildings, monuments, bridges, etc. It provides intuitive apps and dashboards that make it easy to manage, monitor and program **Philips Color Kinetics** dynamic architectural lighting and ensures that you get the most out of your lighting investment. Now we have a new Content App that allows users to easily interact with their installation via the cloud.

Visit **interact-lighting.com/en/what-is-possible/interact-landmark** to view performance and features.

Create a city's identity

The **Philips Lumec SoleCity LED urban luminaires** will help create a city's identity and develop city pride with a wide range of products designed with a distinguished, modern, sleek and flawless signature style. With the improved SoleCity products, you can expect significant performance and efficacy improvements and comfortable nighttime thanks to the optional frosted lens for some luminaires in the collection, and much more.

Visit **applications.nam.lighting.philips.com/blog/index.php/2018/06/12/philips-lumec-solecity-led-urban-luminaires-create-a-citys-identity/** to learn more.

Register now for a free product sample

The **Philips Chloride Compac LED exit/unit combo CLC** combines high performance emergency lighting with an exit sign for guidance in everyday and emergency situations. The rugged, low profile housing may be ceiling, end or wall mounted, and two integrated, adjustable LED lamp heads provide forward or backward emergency illumination. For a limited time, qualifying engineers and specifiers can register to receive a complimentary sample.

Visit **stg.lighting.philips.com/main/campaigns/compac-specifiers** to learn more.

EDUCATION

Webinars
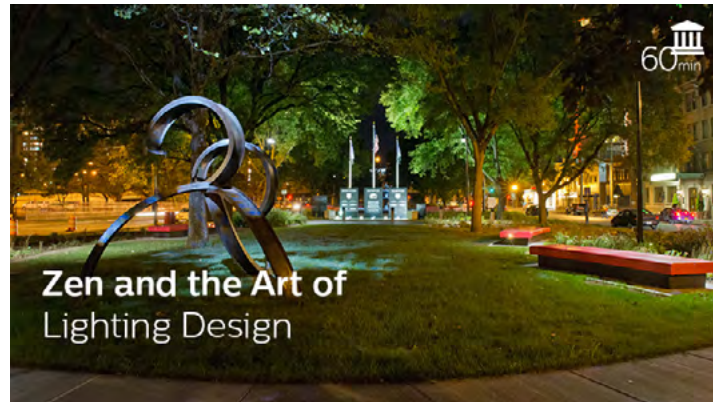
Zen and the art of lighting design

DATE: **LIVE** November 16, 2018 - 10 am EDT

Presented by Peter Hugh, Hugh Lighting Design

Let's step away from the techno-babble that surrounds us and often predicates design. This talk re-engages our inner emotional motivations and allows one to explore a deeper rationale for the design concepts and direction even before the first calculation or selection of any fixture.

REGISTER: **https://lightinguniversity. webex.com/lightinguniversity/onstage/g. php?MTID=e3a349cf1c60aaf721c409a3c0f7efc32**

Light in space

DATE: **LIVE** December 6, 2018 - 10 am EDT

Presented by Vesna Petresin, Maarten Jamin and Gernot Oberfell

In these times of rapid technology innovation, designing a space is something completely different than 5 years ago. What is the relationship between material and light and how does this relate to beautiful products around us?

REGISTER: **https://lightinguniversity. webex.com/lightinguniversity/onstage/g. php?MTID=e7735e255dedfcdbb256d921ef9eba016**

Burlington co-create session

Eight lighting professionals share their vision on what lighting architecture could do in the future and how technology has influenced their work.

VISIT: **http://www.lighting.philips.com/main/education/ lighting-university/lighting-university-browser/event/Co-Create-session**

EDUCATION

Lighting Application Center

Light shapes what we see, do, and feel. The best way to learn about light and lighting is to experience it in three-dimensions, in full scale, and with dynamic, hands-on engagement. That is what happens at the Lighting Application Center, located at the Signify (formerly Philips Lighting) headquarters in Somerset, New Jersey.

Here, visitors experience how lighting impacts people and spaces through over 20,000 square feet of indoor interactive and demonstrative areas, and outdoor demonstrations. Independent lighting professionals provide practical information on the latest in lighting technology — solid state, lighting systems and services, daylight control, and energy-efficient display sources, as well as application techniques. Skills and knowledge gained here will help to improve project outcomes and support successful enterprises.

Experience light your way
For added convenience, visit our applications center in Markham, Ontario, Canada, or visit one of our many lighting facilities and factories around the country. Additionally, you are invited to take advantage of distance learning via our online e-learning tools and webinars.

Continuing education credits
Upon completion of each workshop, participants receive a certificate with professional development hours that may be self-reported for possible Continuing Education credit. Some programs offer AIA Learning Units. See program agendas or announcements for specifics.

Visit **education.lighting.philips.com** for onsite class schedules and online courses/elearning/e-videos.

Specifier Seminars

Now's your chance! Architects, engineers, lighting designers, and other specifying lighting industry professionals looking to stay abreast of the latest LED technology trends and information will benefit from these educational programs hosted by Signify (formerly Philips Lighting). Participants are responsible for travel and lodging. Availability is limited, so contact your Signify representative today for enrollment in one of these programs, also detailed at **education.lighting.philips.com**.

Lighting Trends and Technology Update
SYNOPSIS: Visit the Lighting Applications Center (LAC) at Signify North America headquarters to learn about the latest LED lighting technologies, including Philips Lighting innovations, and discuss the latest industry information, insights and implications with independent and renowned industry experts and guest lecturers.

Lighting Excellence Workshop
SYNOPSIS: Take a hands-on, technical approach to LED luminaire design and manufacturing processes, using examples from Philips Lighting brands made on-site. Learn practical applications, talk to a cross-functional team of lighting experts, and take a tour of the factory for a behind-the-scenes understanding of these key products.

For the latest specifier seminar locations and dates, contact your local Signify representative or visit **philips.com/beinspired**.

Lighting University

A comprehensive range of educational resources for people to expand their lighting knowledge.

Visit **education.lighting.philips.com**

Web: **www.philips.com/BeInspired**
Email: **luminous.spec@signify.com**