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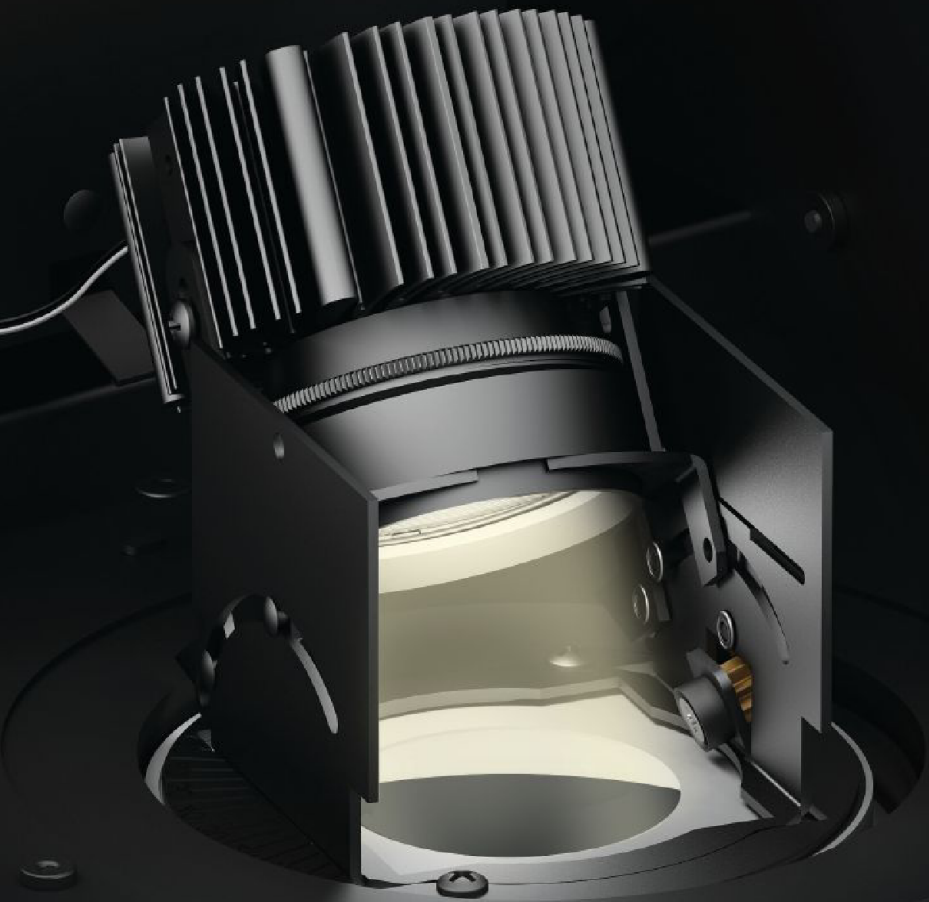
ARCHITECTURAL LIGHTING

YEARS

INSIDE: GLOBAL DESIGN •
SEAN COLLIER MEMORIAL •
YEAR IN REVIEW/PREVIEW •
OUTDOOR LIGHTING •
PRODUCT COMPATIBILITY •
ONE-ON-ONE: GERD PFARRÉ



VF100

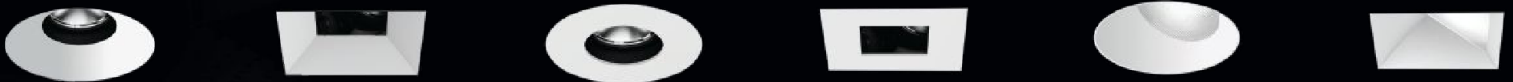


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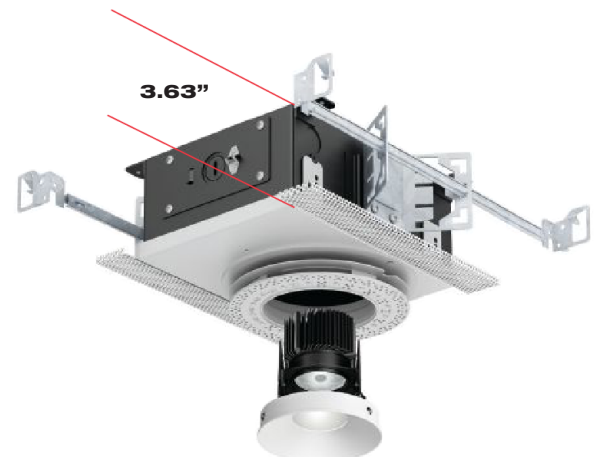
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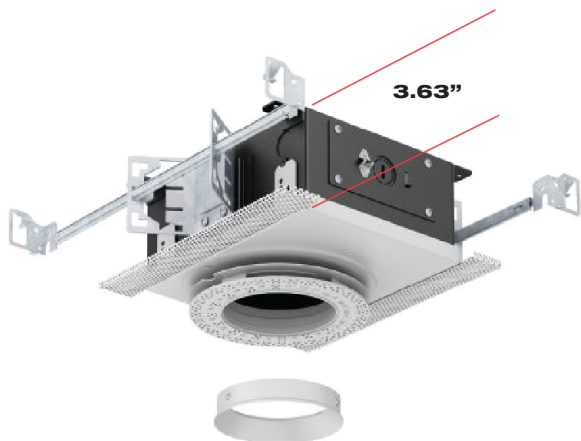
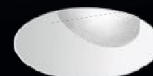


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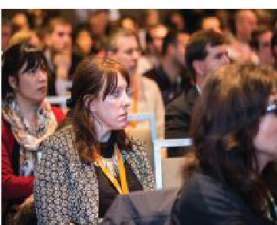
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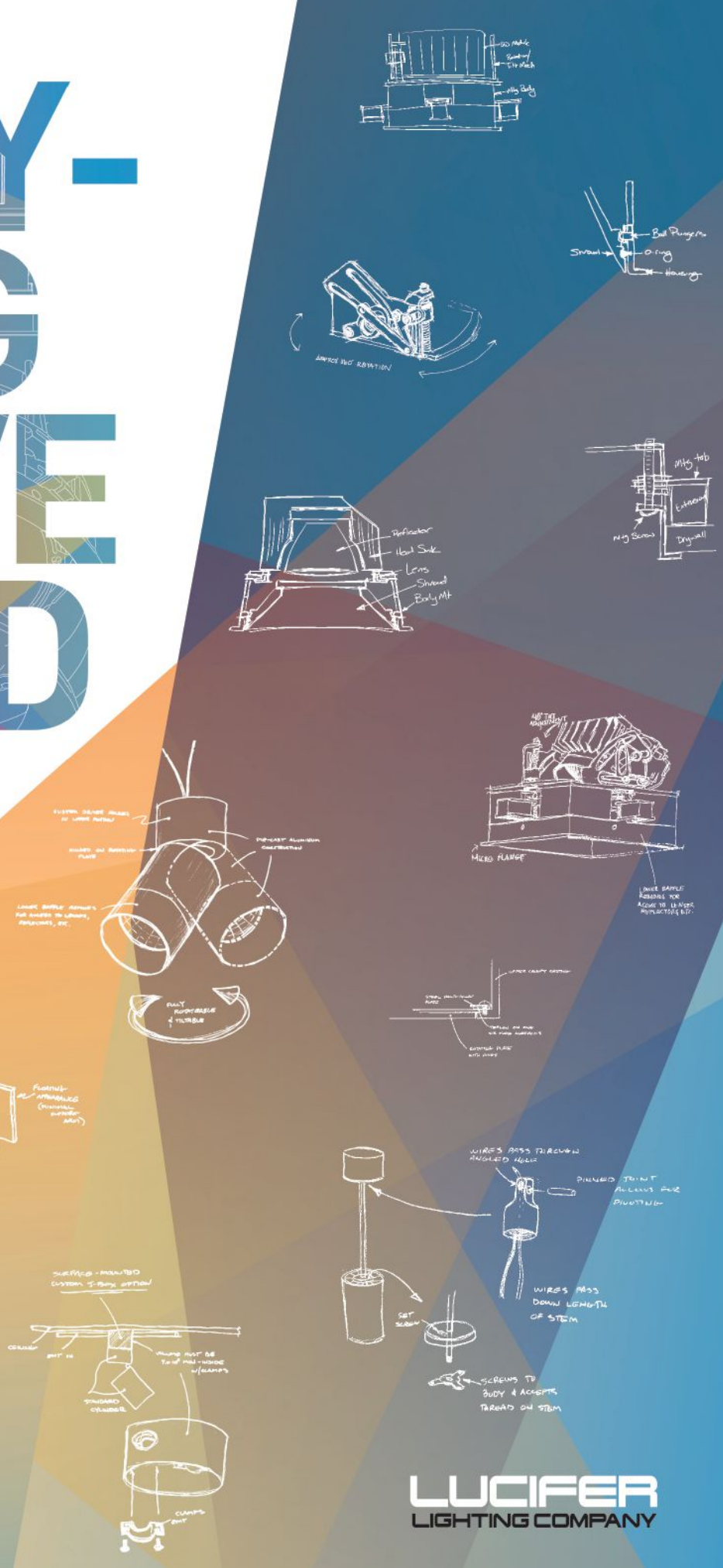
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INTERNATIONAL YEAR OF WHAT?



Thanks to the United Nations, 2015 was the International Year of Light (IYL) and Light-Based Technologies. The U.N. General Assembly proclaimed the initiative at its 68th session, which met in December 2013. And in making the proclamation, the U.N. recognized the importance of “raising global awareness of how light-based technologies promote sustainable development and provide solutions to global challenges in energy, education, agriculture, and health.” U.N. resolution A/RES/68/221 designated UNESCO (the United Nations Educational, Scientific and Cultural Organization) as the lead agency to oversee the program.

Many in the lighting design community were excited for what the year would bring. Professional lighting organizations such as the International Association of Lighting Designers (IALD) and the Illuminating Engineering Society got on board as patrons and partners, as did lighting trade shows such as Lightfair, and manufacturers such as Philips, Axis Lighting, and iGuzzini. A calendar of events on the IYL website (light2015.org) listed all sorts of activities and meetings taking place worldwide. It should have been a great year, right?

But the IYL fell short of expectations. In many instances, it seemed no more involved than a cursory use of the IYL logo. And while all the photo competitions and art installations on the IYL agenda were a fun way to talk about light, they missed a larger opportunity to have a substantive conversation about the contribution of architectural lighting designers and the role that light plays in our built environment.

The IYL was organized by scientific groups working in the areas of photonics and optical technologies as a way to celebrate the science of light and the important milestones that took place last year, including the 1,000th anniversary of scientist Ibn al-Haytham’s *Kitab al-Manazir* (*Book of Optics*); the 200th anniversary of French physicist Augustin-Jean Fresnel’s first work introducing the theory of light as a wave; and the

100th anniversary of Albert Einstein’s general theory of relativity.

The architectural lighting design community entered the picture after the main IYL agenda was established—a lack of discussion about design shows that. Associations such as the IALD served as patrons of the IYL, the IALD even stating on its website that it has “been instrumental in the establishment of ‘light and the built environment’ as a key pillar of IYL.” The 2015 IALD president, Barbara Horton, spoke alongside lighting designer Gustavo Avilés at the opening ceremonies on Jan. 19–20, 2015, at UNESCO’s Paris headquarters. The 2016 IALD president, Victor Palacio, spoke at the closing ceremonies on Feb. 4–6 in Mérida, Mexico. But these sessions were invitation-only and, despite live streaming, the majority of the lighting design community was not aware that they could view the ceremonies. At the IALD’s Annual Enlighten Americas Conference in Baltimore in October, only brief mention was made of Horton’s January speech, and it wasn’t replayed to the membership.

The IYL could have been a tremendous opportunity for the lighting community, but it doesn’t seem to have had any impact on the day-to-day work of designers. Throughout 2015, I didn’t hear a single lighting designer mention it.

I wish the architectural lighting design community would realize that it doesn’t have to rely on other institutions to initiate important conversations about the role of light and the lighting practitioner, or to engage with architects, government officials, and policy makers. This year, ARCHITECTURAL LIGHTING celebrates its 30th anniversary and three decades as the lighting community’s advocate. I say let’s make 2016 the International Year of Architectural Lighting Design. •

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WINTER PLAYGROUND

Impulse is an installation of 30 giant illuminated seesaws and nine accompanying light projections constructed on the Place des Festivals in Montreal as part of the city's annual winter celebration called Luminothérapie. The installation, a competition-winning design by Toronto-based Lateral Office and Montreal-based CS Design, in collaboration with EPG Group in Montreal, was on view through January 31. Visitors activate the seesaws through motion. Once moving, they emit light and sound, and the patterns are displayed via light projections on neighboring building façades. bit.ly/AL_Impulse •



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On the occasion of its 25th anniversary, the Lumiere table lamp, designed by Italian architect Rodolfo Dordoni for lighting company Foscarini, is getting a colorful update. The iconic fixture, which pairs a mouth-blown glass diffuser and a slender tripod base, now features a mirrored metallic finish on its shade that causes it to appear opaque when the fixture is turned off and transparent when it is illuminated. bit.ly/AL_Lumiere •

Courtesy Foscarini

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LUMINOUS SPACE

Through No. 3 is the latest work from British artist Liz West. Located on Crowne Square in Manchester, England, the public art installation is a 6-meter-long (19.6-foot-long) triangular prism made of steel, polycarbonate, and optically clear vinyl. Designed to be walked through, the piece showcases West's exploration of light and color and how they can be used to create luminous environments. Having just completed a series of successful installations in the United Kingdom, her next work will be on view in Frankfurt, Germany, at the Messe complex during Light+Building in March. bit.ly/AL_West •

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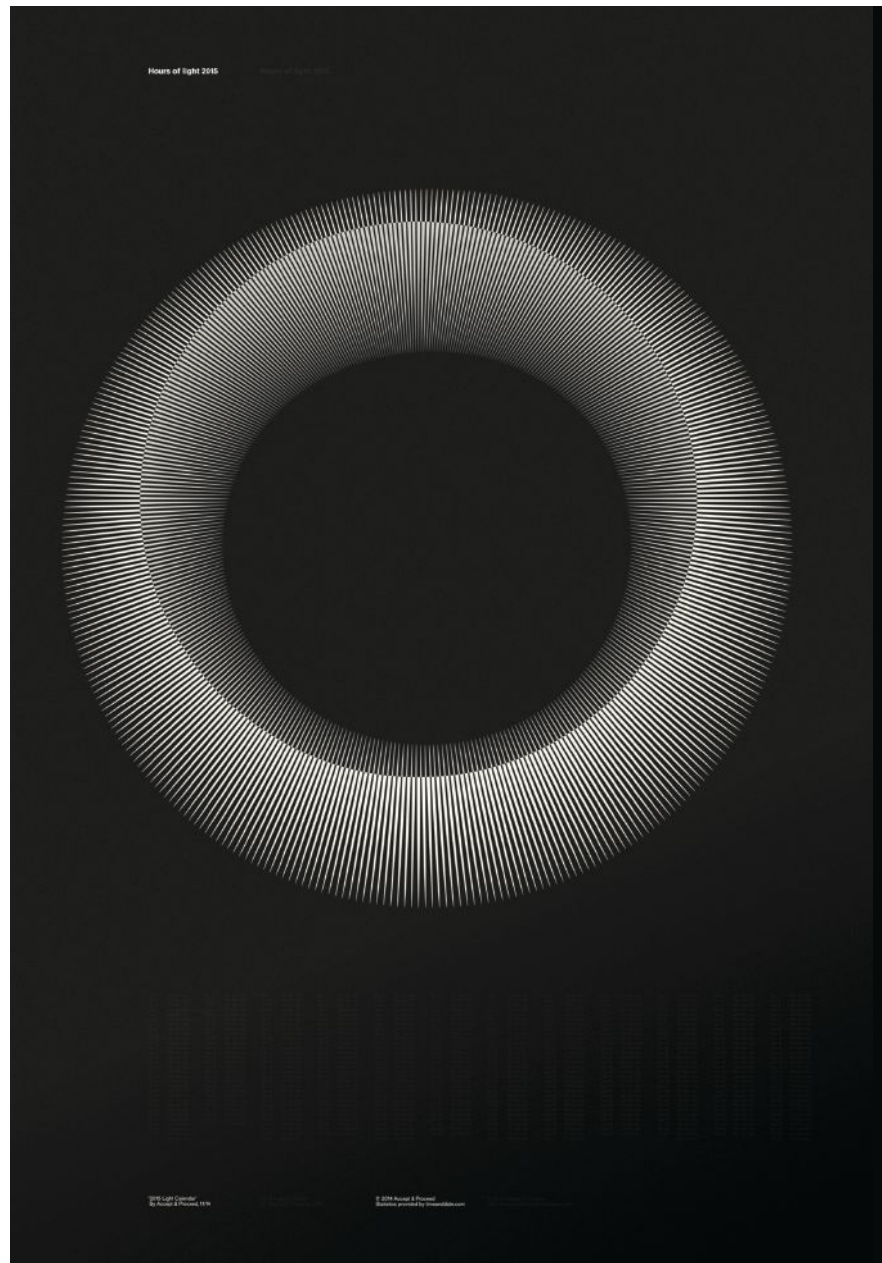
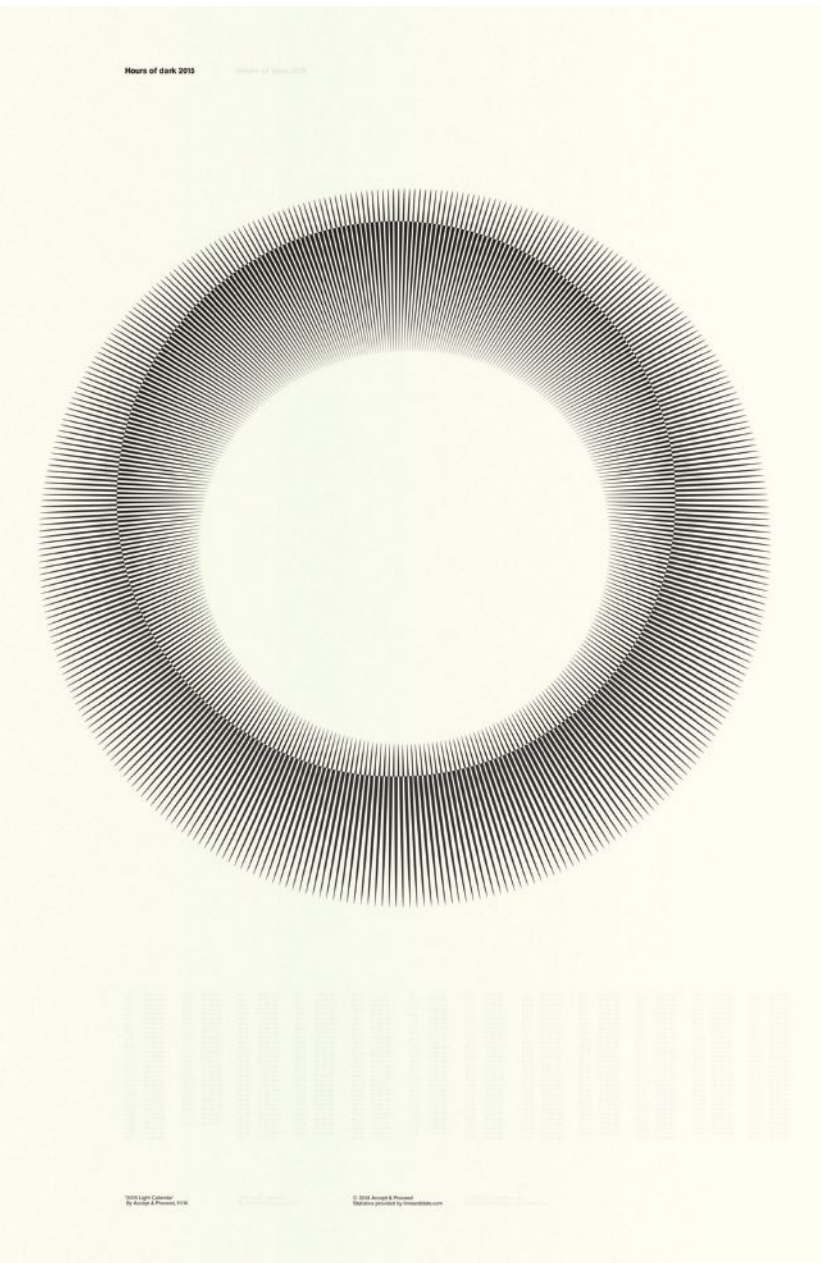
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LIGHT CALCULATIONS

Developed a decade ago as an in-house exercise by London-based design studio Accept & Proceed, the annual set of Light Calendars has become a graphic design tour de force. Using astronomical data specific to London (and gathered from *timeanddate.com*), the A1-sized black-and-white prints are created in pairs—one represents the hours of light in a given year and the other represents the hours of darkness. The studio applies a different “filter” for disseminating the information each year that also allows for different printing techniques and papers. For the 2015 calendars (above) lines of varying thicknesses represent each day and hours of light. bit.ly/AL_Calendars •

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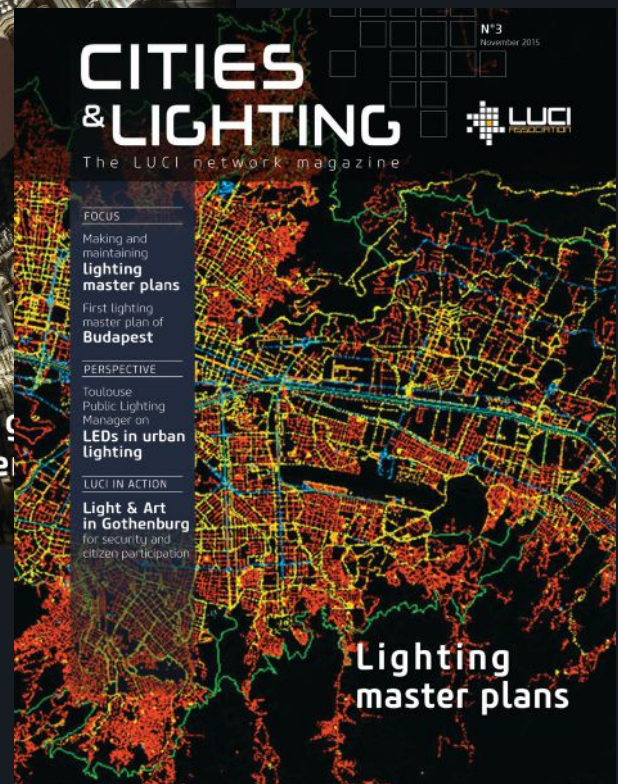
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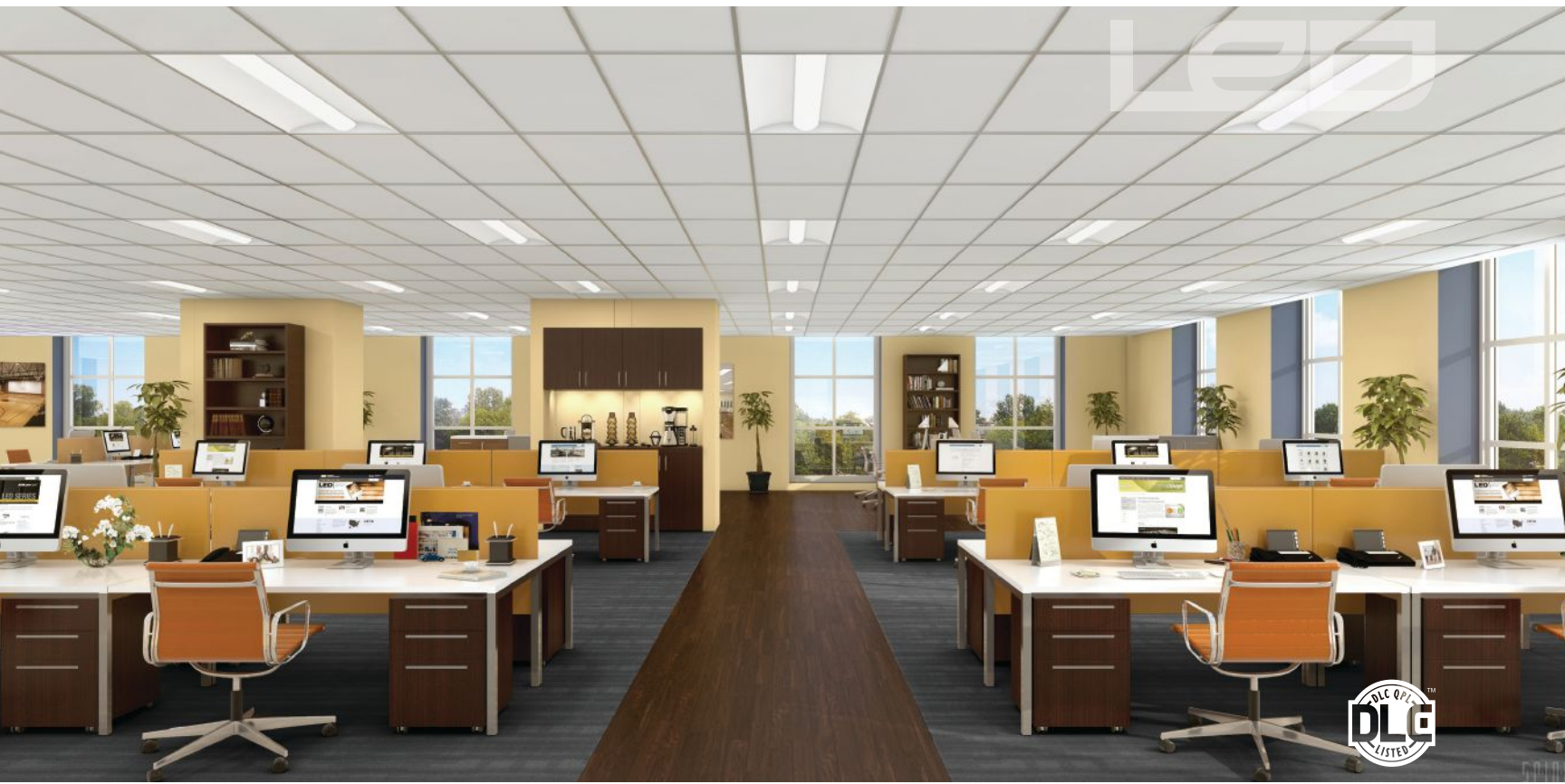


CITIES & LIGHTING

LUCI, the Lighting Urban Community International, a forum for urban lighting issues, has launched a new international publication titled *Cities & Lighting*. Three issues have been published thus far, and each includes discussions on current outdoor lighting topics as well as recent lighting projects from around the world. Mark Burton-Page, general director of LUCI, notes, “*Cities & Lighting* magazine, made for cities and based on their input, aims to create opportunities for municipal decision makers to exchange their experiences, share knowledge and know-how, and find common answers to key questions on urban lighting.” bit.ly/AL_LUCI

Courtesy LUCI Association

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LIGHT GUIDE

The latest work from Dutch artist Herman Kuijer is a duo of permanent light art pieces for two highway underpasses (Marstunnel shown here) in Zutphen, Netherlands, a city situated along the IJssel River. Commissioned by ProRail, the country's railway network, in collaboration with the city, the installations took five years to realize and showcase Kuijer's experiments with light, color, and space. Bands of colored light create an inviting gateway to the city center, providing an artistic expression that is also functional. For each artwork Kuijer worked with a team of architects and engineers to produce a visually engaging experience while ensuring that the installations met all the functional requirements for roadway lighting. bit.ly/AL_Kuijer •



Herman Kuijer, Photo: Jannes Linders



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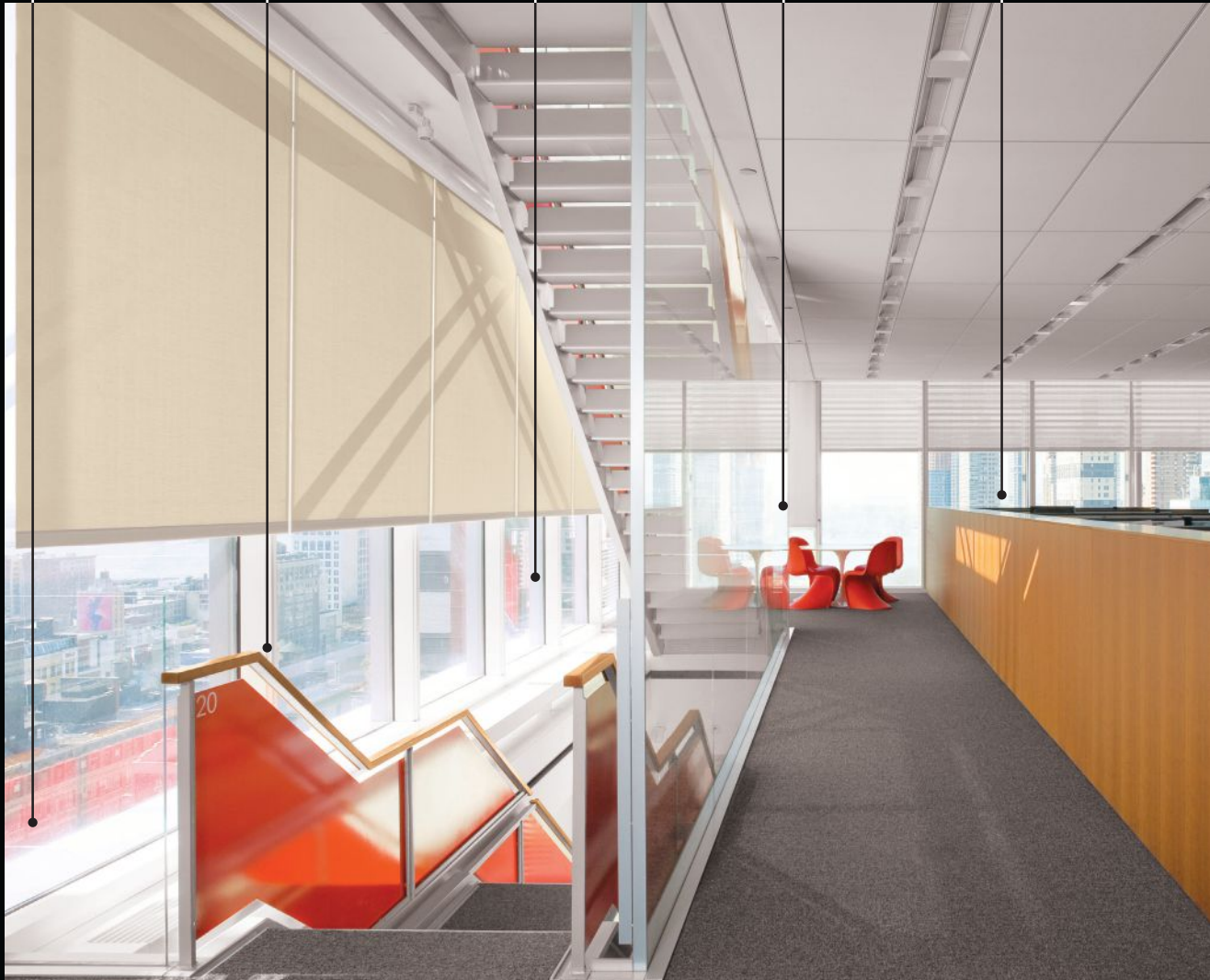
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LOOKING BACK, LOOKING FORWARD

Changes in lighting technology over the past decade have served as catalysts for transforming every aspect of the industry, from business to design, and if the recent past is any indication, the coming year promises more of the same.

text by Elizabeth Donoff

Most industries experience change on a fairly regular basis. Although there have been many significant technical achievements in the 100 years since Thomas Edison invented the incandescent lamp, the single most transformative development of the past decade has been the adoption of LEDs. This one technological transformation has served as the catalyst for a revolution in lighting.

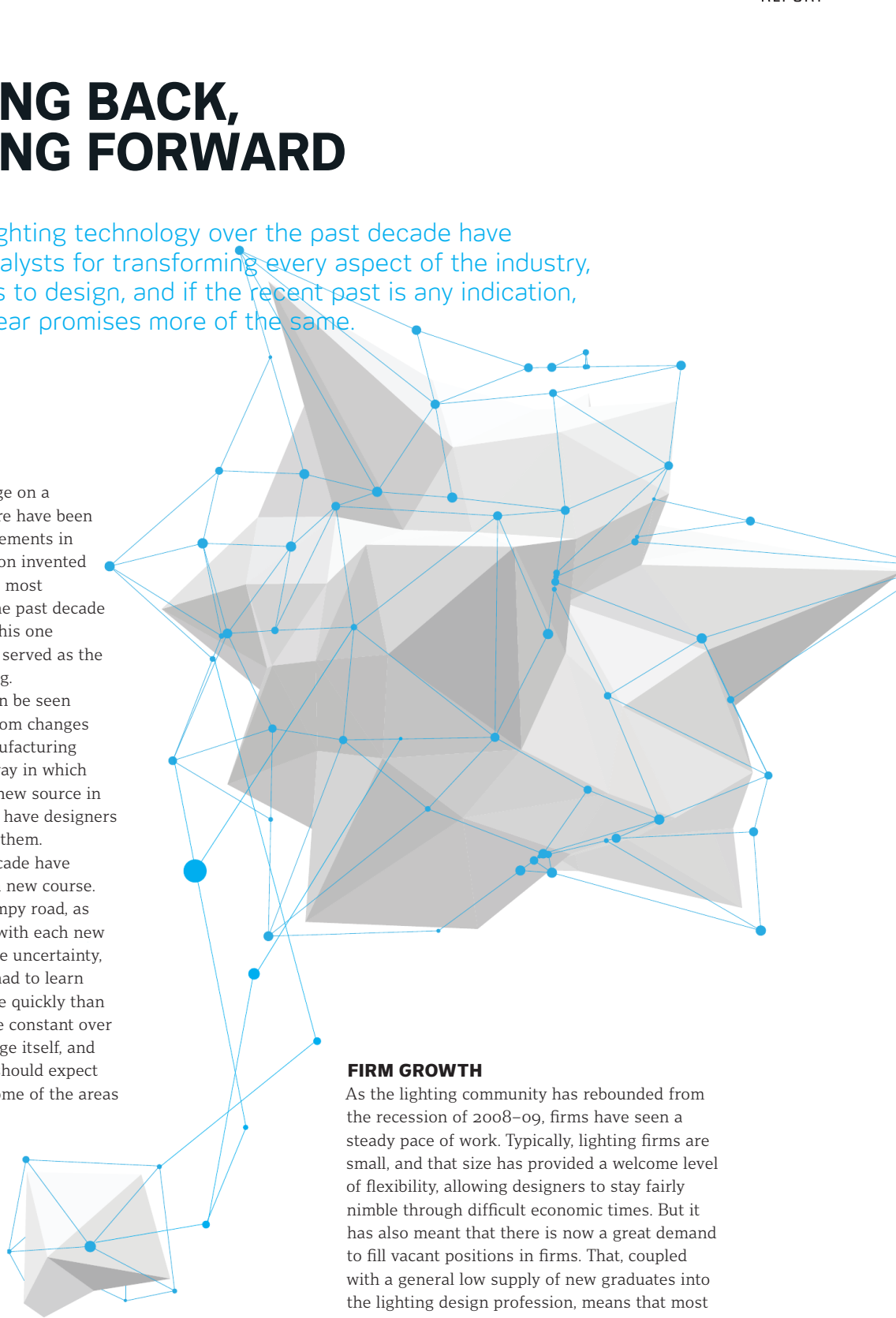
Solid-state lighting's impact can be seen in every aspect of the industry, from changes in product development and manufacturing to distribution processes to the way in which lighting designers call upon this new source in design applications. Never before have designers had so many options available to them.

The innovations of the past decade have charted the lighting industry on a new course. At times it has felt like a very bumpy road, as the industry works to keep pace with each new development. This has led to some uncertainty, and the industry as a whole has had to learn how to adapt and right itself more quickly than it previously was used to. The one constant over the past few years has been change itself, and in 2016 the lighting community should expect more of the same. Let's look at some of the areas under transformation.

FIRM GROWTH

As the lighting community has rebounded from the recession of 2008–09, firms have seen a steady pace of work. Typically, lighting firms are small, and that size has provided a welcome level of flexibility, allowing designers to stay fairly nimble through difficult economic times. But it has also meant that there is now a great demand to fill vacant positions in firms. That, coupled with a general low supply of new graduates into the lighting design profession, means that most firms are operating understaffed.


A high level of demand across the United States and around the world has also meant that many firms are looking to expand into new



cities. For example, established offices such as New York-based Fisher Marantz Stone opened a new location in Seattle. Los Angeles-based Kaplan Gehring McCarroll, which celebrated its 30th anniversary in 2015, made a move east and opened a New York City office. (The firm had previously expanded to Shanghai.) HLB Lighting Design, which already has four U.S. offices—in New York, Los Angeles, San Francisco, and Boston—opened a new branch in Miami.

Even younger firms, such as Brian Orter Lighting Design (BOLD), which was founded in 2008 in New York, have grown to the point where a second location has proven opportune. In 2015, BOLD opened a Los Angeles studio and established lighting designer Dawn Hollingsworth serves as its design director.

In the past few years, a number of midcareer professionals, those who have been in the industry 10 to 15 years, have decided to branch out and open their own offices. One such example is newly formed Loop Lighting. The New York City firm was launched in 2015 by Alina Ainza, John Newman, and Ryoko Nakamura.



In all of these industry moves, there are long-term implications for product availability and quality control, as everyone learns which lighting companies will remain on the scene.

U.S. firms aren't the only ones experiencing growth. Electrolight, a lighting firm which was first established in Australia in 2004 by Paul Beale, opened a London office last year. And at the end of 2015, the firm announced that it had opened a San Francisco satellite, to be led by local lighting designer Claudio Ramos, previously of BanksRamos.

With legacy firms expanding and a new wave of younger firms branching out, the diversification of lighting firms and practitioners appears strong, and these successes lay the groundwork for other firms contemplating such moves.

CREDENTIALING

Last year saw the debut of the Certified Lighting Designer (CLD) program, and the program began accepting applications on April 29. According to Theresa Nissen, director of training and professional development for the International Association of Lighting Designers (IALD), 11 candidates have completed the CLD program and earned the credential since that launch. The breakdown by nationality is as follows: six from the United States, two from Australia, and one each from Singapore, Canada, and Italy. Better still, 81 applications are presently at various stages of completion.

The lighting community has struggled throughout its maturation with the issues surrounding qualifications and what form of recognition might be best suited for lighting designers: credentialing, certification, or licensure. The 2009 Texas House Bill 2649 incident that would have made it illegal for a lighting designer to practice their craft in the state if they were not licensed, was a wake-up call for the architectural lighting community and served as the rallying point to seriously address qualifications once and for all.

In response to the Texas episode, the IALD formed a task force and, from 2010 through 2014, went through a rigorous and methodical process to evaluate credentialing that included fact finding, member surveys, public discussion, the development of a list of core competencies, and two rounds of testing to determine if the application process and program website was clear and user-friendly.

In the year ahead, it will be interesting to see how the CLD program's numbers grow. And while it was created by the current generation of practitioners, it was developed with future generations in mind. It will be interesting to see how Millennials who are currently enrolled in lighting programs or recently graduated engage with credentialing.

At the Parsons Lighting Design MFA Program's 30th anniversary symposium in October, titled "Light Years: 1985-2015-2045," a panel made up of current students and recent graduates overwhelmingly expressed a lack of interest or desire to participate in any kind of formal professional structure. This was most likely an anomaly, but one that the lighting community and the CLD program should keep in view as this generation moves into the workplace.

IMPACT OF NEW TECHNOLOGIES

Among the most significant developments in the past few years have been the evolution

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REPORT

of lighting from analog to digital and the introduction of the Internet of Things. A luminaire is no longer just a stand-alone object but a key component of a larger building system. In the year ahead, we can expect to see more product announcements that speak to this "smart lighting" trend. Industry analysts expect the total market for smart lighting to reach \$8.14 billion by 2020.

More focus will also be given to OLEDs and their development. In September, the U.S. Department of Energy's (DOE) solid-state lighting (SSL) program hosted stakeholders at a meeting



The total market for smart lighting is expected to reach \$8.14 billion by 2020.

in Pittsburgh to discuss OLED technology, advances in research and development needs, opportunities for collaboration, and the requirements for increasing OLED market viability. The DOE's OLED testing program, which was launched in 2014, generates a report each year, unlike the two-year time frame for other DOE R&D projects. The greater frequency of feedback will allow manufacturers to more quickly adopt the latest technical information into their OLED product development.

THE BUSINESS LANDSCAPE

The past decade has seen a steady round of mergers and acquisitions, initiated by Philips' 2007 acquisition of Color Kinetics. Since then, LEDs have become the light source of choice, and a pattern has arisen wherein established lighting companies first acquire an LED business, and then a lighting controls manufacturer. For a time, there were even some acquisitions of companies in the daylighting sector. Industry analysts predict that the global luminaire market will grow at a compound annual growth rate of 2.07 percent from 2014 to 2019.

As solid-state lighting has become more prevalent, a number of global electronics companies such as Toshiba, Samsung, and Panasonic entered into the lighting market. But with the changing demand for LEDs worldwide and a saturation in the marketplace, these companies have all but retreated from the lighting arena, despite predictions that the global LED lighting market will grow at a rate of 25.89 percent from 2014 to 2019.

The industry seemed to be heading toward a state where it was made up of only a few large

CALL FOR SUBMISSIONS

ARCHITECTURAL LIGHTING invites you to forward new product releases for editorial consideration in our **Annual Product Issue** (Mar/Apr 2016), which is distributed at Lightfair. Luminaires, light sources, and lighting products that have been released after May 2015, qualify. This annual special issue showcases more than 150 lighting products in categories such as:

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SUBMISSION INSTRUCTIONS

Product submissions must include the following materials:

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2. Hardcopy printout of product information including product press releases and technical spec sheets that describe the product in detail. (Do not send full catalogs.)
3. If you are submitting in the 'Apps' category, please provide URL link to page in the iTunes® store.
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5. CD or USB drive with all of the entry materials—product literature (text materials in PDF or Word format) and images in correct file format (see Artwork Submission Requirements below). Please note, if the entry materials are being sent electronically, please coordinate with the editor for file transfer instructions via Dropbox. Hardcopy of all materials must be sent, regardless.

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All artwork must be 300 dpi, and at least 4" x 6" or the closest approximation. Appropriate file types are JPEG, TIFF, EPS, or PSD. There should be no text on the images. Please label the digital image files using the following format: Manufacturer_Product Name.

SUBMISSIONS CANNOT BE ACCEPTED VIA EMAIL.

publicly traded lighting conglomerates and a few small and mid-sized independently owned lighting companies. But then a big surprise caught many off guard: Legacy companies such as Osram and Philips began divesting their lighting businesses. GE Lighting has skirted the

issue, claiming it is “transforming” its lighting business. It’s almost unimaginable to think that these three companies, mainstays of the pre-LED industry, might no longer be part of the lighting equation.

The “sell-off” process began in 2013 when

Siemens sold Osram. In January, Osram announced that it had decided on a name for what it calls the “carve-out” of its general lighting lamps business, a move that was approved in June 2015 by the supervisory board of Osram Licht AG. The company’s new name is LEDVANCE.

According to the Osram press release, “the LEDVANCE product portfolio will include traditional lighting, modern LED lamps and standardized over-the-counter luminaires, as well as connected and intelligent lighting solutions for smart homes and smart buildings.” The company will be led by Jes Munk Hansen, who has been overseeing the lamps business for the past year, after his previous tenure as president and CEO of Osram Americas.

The future is unclear as to how things will play out for Philips, which was working on a deal to sell its lighting-components and automotive-lighting unit for \$2.8 billion to a Chinese investor, Go Scale Capital, an investment fund led by Chinese venture-capital firm GSR Ventures. In October, *The Wall Street Journal* reported that “regulatory concern in the U.S.” by the Committee on Foreign Investment in the U.S. (CFIUS) had the deal in limbo. CFIUS had also halted the completion of Philips’ sale, also to Go Scale Capital, of 80 percent of its interests in the Lumileds brand, valued at \$3.3 billion, until all of the committee’s concerns had been addressed.

In January, LEDinside, a market intelligence resource, reported that Philips had terminated the agreement with Go Scale Capital due to the “inability to resolve CFIUS’ unforeseen concerns.” Philips in turn was beginning talks with other interested parties, according to the report. This latest development does not impact Philips separation process of its remaining lighting business from Royal Philips.

This fall, GE announced it was launching “Current, powered by GE,” an “energy company that integrates GE’s LED, Solar, Energy Storage and Electric Vehicle businesses.” Maryrose Sylvester, president and CEO of GE Lighting, will lead the new company.

The change in makeup of the lighting industry should give us pause, if not cause for alarm. In all of these industry moves, there are long-term implications for product availability and quality control, as everyone learns which lighting companies will remain on the scene.

While 2016 promises continued innovation of lighting technology, the question of who will be responsible for its delivery will remain somewhat in flux, as the lighting industry continues to adopt to an LED world. •



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SEAN COLLIER MEMORIAL

text by Elizabeth Donoff



The Sean Collier Memorial is located at the heart of the MIT campus (above). The fixtures that illuminate the site are mounted on the surrounding buildings. A high level of coordination was required to reconcile the aiming angles based on the fixture location and building heights (right).

Located on the Massachusetts Institute of Technology (MIT) campus in Cambridge, Mass., the Sean Collier Memorial honors MIT police officer Sean Collier, who was killed in the line of duty on April 18, 2013, in the ensuing events three days after the Boston Marathon bombing.

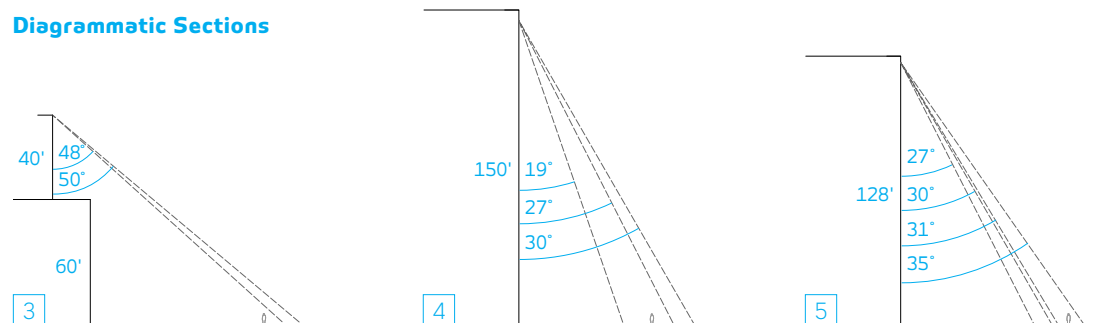
The MIT community felt the loss acutely and turned to J. Meejin Yoon, head of MIT's architecture department and principal of Höweler + Yoon Architecture, to design a memorial on the site of Collier's death. Yoon enlisted the help of Carrie Hawley, senior principal at HLB Lighting Design and her Boston-based team, to create a lighting design that would focus on the experience of the place, not the memorial itself as an object.

By day, natural light "illuminates" the memorial, which is constructed from 32 blocks of granite that form five radial walls supporting a shallow stone vault. At night, 28 in-ground LED marker lights represent both the patterns of the stars the night of Collier's death and one light for each year of Collier's life.

The site as a whole is lit by 13 LED floodlights located on the three surrounding buildings. Each fixture head is positioned to a specific aiming angle (different than the internal beam spread of the luminaire) to provide key and fill light on the memorial. Custom cross-baffle snoots reduce brightness and glare and custom hardware addresses the unique mounting conditions—poles affixed to a parapet and building façades.

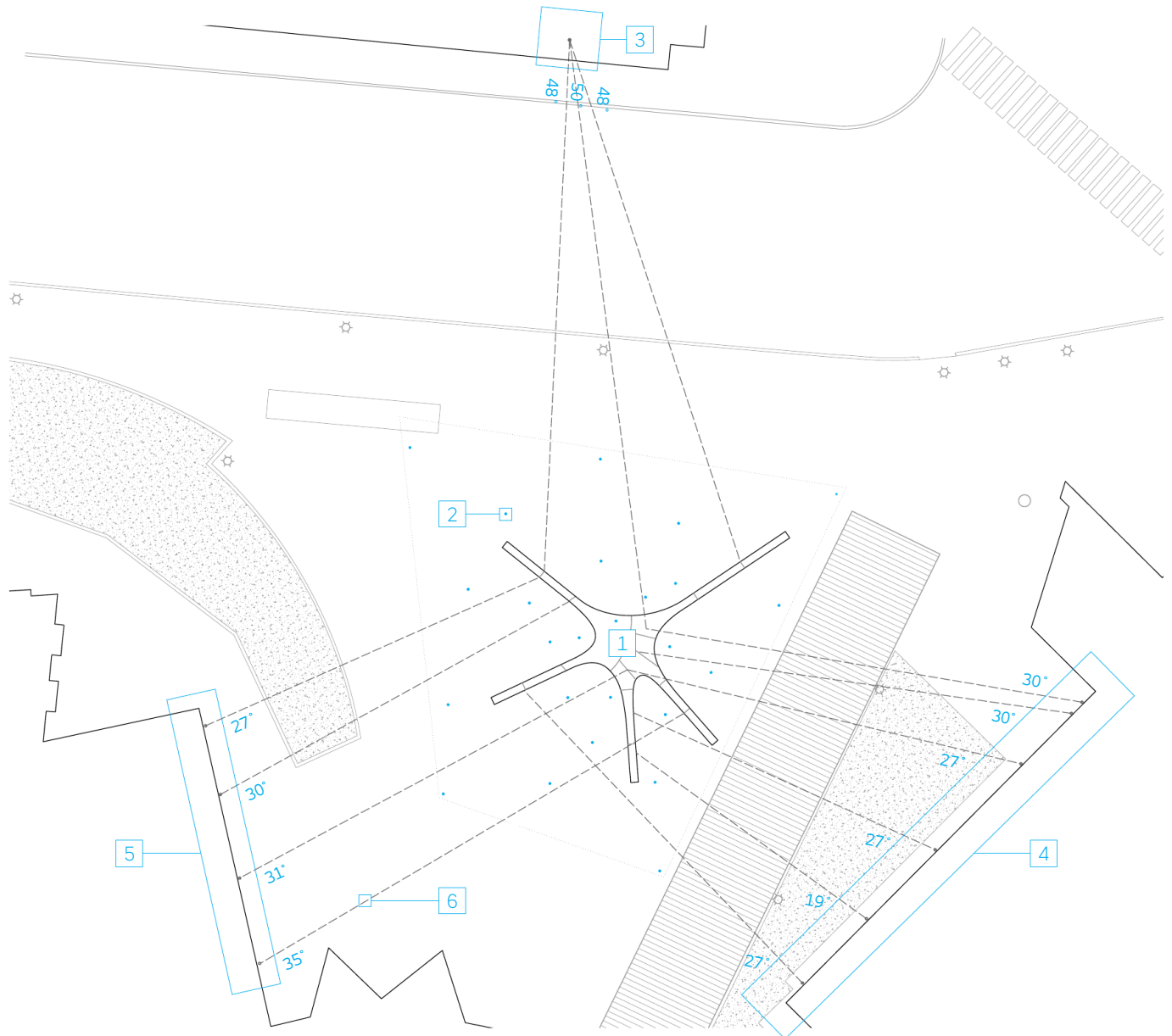
Unique and tragic events called for an unconventional lighting solution. The result is a sensitive design that provides the MIT campus, and the larger community, a spot for reflection. •

Diagrammatic Sections



Andy Caulfield

Site Plan



Legend

- 1 Granite memorial structure
- 2 28 in-ground LED marker lights
- 3 Three floodlights mounted on single pole on Parsons Laboratory parapet
- 4 Six pole-mounted floodlights on Koch Institute façade
- 5 Four pole-mounted floodlights on Stata Center façade
- 6 Fixture aiming angle site lines

DETAILS

Project: Sean Collier Memorial, Massachusetts Institute of Technology, Cambridge, Mass. • **Client:** Massachusetts Institute of Technology, Cambridge, Mass. • **Architect:** Höweler + Yoon Architecture, Boston • **Lighting Designer:** HLB Lighting Design, Boston • **Landscape Architect:** Richard Burck Associates, Somerville, Mass. • **Electrical Engineer:** AHA Consulting Engineers, Lexington, Mass. • **Project Size:** 7,000 square feet • **Project and Lighting Costs:** Pro-bono work and donated fixtures • **Code Compliance and Watts per Square Foot:** Not Applicable

MANUFACTURERS

Inter-lux Filix: In-ground warm-white LED marker luminaires • **Lumenpulse:** Lumenbeam warm-white LED fixtures for floodlighting and moonlighting effect mounted on surrounding buildings



text by Hallie Busta

1 Passage, Visa Lighting • For use over exterior entries or window mullions, on façades, and along egress paths, the Passage LED wallwasher can be oriented to direct light upward or downward. It is available in 3000K, 3500K, or 4000K with a polycarbonate diffuser and measures 36³/₄" long by 2¹/₂" wide by 2¹/₂" deep. The constant-current fixture is available with optional dual-circuit switching. Its oven-cured, no-VOC acrylic powdercoat finish comes in 16 neutral colors. • visalighting.com



2



3

2 Compact Dyna Drum SO, Acclaim Lighting • For façade and area illumination, this compact outdoor LED floodlight is available in 2700K, 3000K, 3500K, 4000K, RGB, RGBW, and RGBA, and delivers 7,303 lumens. The 100V to 277V AC unit consumes 145W to replace conventional 400W discharge fixtures for exterior use. An IP66-rated AC power cable with bare wire-ends allows for use in wet locations. It measures 12¹/₂" wide by roughly 10" tall by 11" in diameter. Beam angles of 6, 20, 40, and 60 degrees, and a 10-by-60-degree spread lens, are offered. • acclaimlighting.com

3 NR, FX Luminaire • In copper and brass, the NR uplight is intended for use in coastal and other harsh environments. Offered with one, three, six, and nine LEDs, the 10V to 15V fixture has a center beam candlepower of 313 candelas for the single-LED module to 2,577 candelas for the nine-LED version, and with CRIs of either 82 or 84. The fixture measures 8" tall with a 2¹/₂" diameter. Amber, green, blue, and frosted filters come standard. Finishes for the copper body include antique bronze, antique tumbled, copper, and nickel plate. • fxl.com



4

4 Pyros, Targetti USA • This trio of façade and landscape floodlights features die-cast aluminum bodies with vertically adjustable joints that lock at plus or minus 45 degrees horizontal. Pyros is offered in 11W, 25W, and 38W models at 3000K and 4000K with 140-degree vertical adjustment. The 21W Nano Pyros is available in 3000K, 4000K, and RGB with a 140-degree vertical adjustment. At 11W, the Pico Pyros comes in 2700K, 3000K, and 4000K and has a 180-degree vertical adjustment. All are zero-to-10V dimmable. • targetti.us



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5

5 Razar LED Generation Wall Mount, U.S. Architectural Lighting

• Three wall-mounted luminaires join the company's Razar LED family. Consuming 23W to 198W, they are designed to replace 35W to 400W high-intensity discharge luminaires and are available in 3000K, 4000K, and 5000K with five asymmetric distribution patterns that are field-rotatable in 90-degree increments. The luminaires, which extend 12" from the mounting surface, range from 9" to 23" in width. Finishes include black, white, gray, green, dark bronze, and custom. • usaltg.com

6 Arceos ARA3, Hubbell Lighting/Spaulding Lighting

• Replacing 1,000W high-intensity discharge fixtures, this low-profile, pole-mounted area and site luminaire is designed for mounting heights of up to 50' and comes in three configurations: a 293W, 32-LED option that delivers 26,000 lumens; a 435W, 48-LED option that delivers 40,000 lumens; and a 580W, 64-LED option that delivers 51,000 lumens (shown). Available in either 3000K with a CRI of 80 or 4000K and 5000K with a CRI of 70. Zero-to-10V dimmable, it has integrated WiScape wireless control technology and occupancy sensors for on-off and dimming. • spauldinglighting.com



6

7 Parco Bollard, HessAmerica

• The gentle curve that shapes this architectural LED bollard emulates that of the company's existing Parco pole-mounted luminaire. The new 11W fixture is available in 3000K and 4000K with a CRI of 80-plus. The luminaire's aluminum housing is integrated in the bollard's construction for a semi-flush appearance with a clear, flat, tempered-glass diffuser while the sealed enclosure houses the LED light engine and an integral electronic driver. The bollard measures 37½" tall with a rectangular cross-section of 6" by 2¼", and it can be spaced 15' to 21' apart. It is zero-to-10V dimmable. • hessamerica.com



7

8 Lumark Prevail LED, Eaton

• Optional integrated sensors allow this architectural area luminaire to manage light levels based on pedestrian and traffic volume through functions such as on-off, scheduled dimming, occupancy detection, and daylight harvesting. The arm-mounted fixture is offered with four optical distributions and three lumen packages ranging from 6,100 lumens to 15,100 lumens, replacing conventional high-intensity discharge products from 150W to up to 400W. Zero-to-10V dimmable, the fixture has a low-profile, die-cast aluminum housing. • cooperindustries.com



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PRODUCTS



9

9 LED Low-Profile Security Light, MaxLite •

This ADA-compliant, 13W security light has a slim profile measuring less than 4", making it suitable to replace conventional security lighting in walkways, entryways, and stairwells. Designed for mounting heights below 10', it is available in 5000K with a CRI of 86, delivers 1,050 lumens, and has an input voltage range of 120V to 277V. An integral dawn-to-dusk photocell facilitates energy savings over the luminaire's lifetime. A battery backup allows the fixture to provide full light output for 90 minutes after power is lost. • maxlite.com

10 Medley View II, Insight Lighting •

This LED linear façade, flood, and accent fixture is available in 2700K, 3500K, 4000K, and 6500K, as well as static red, green, blue, and amber, RGB, RGBW, RBGWVA, and RGB+W, and with a CRI of 82. With beam angles of 7, 15, 30, 45, and 100 degrees, the 120V or 277V AC fixture has an integral power supply and zero-to-10V and DMX controls. Its extruded aluminum housing has a tempered glass lens, cast aluminum end-caps, and a powdercoat finish. The light source is specifiable at 3.5W, 6W, 12W, or 17W per foot. The fixture has a 3⁷/₈" by 2³/₄" profile, and it comes in 12", 24", 36", and 48" lengths. • insightlighting.com

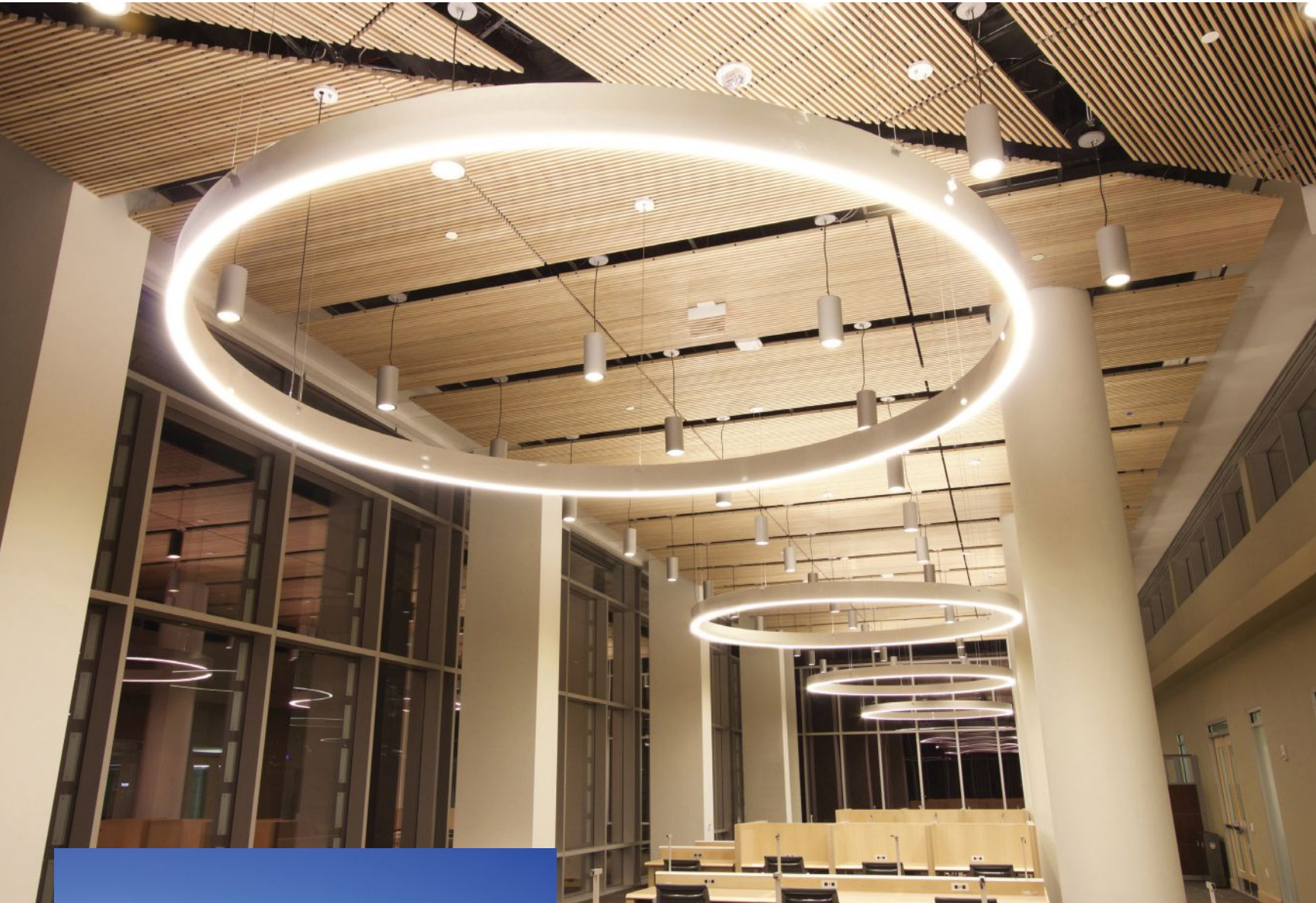


10



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SEEKING COMPATIBILITY IN THE LED ERA

text by Clay Risen

LEDs now illuminate everything from living rooms to roadways. But, as most lighting designers know, the technology comes with a distinct set of performance problems, stemming from its compatibility—or, more accurately, its lack thereof—with fixture components and controls from both legacy and solid-state lighting manufacturers.

In recent years, industry organizations such as the National Electrical Manufacturers Association (NEMA) and the Illuminating Engineering Society (IES), along with government institutions such as the U.S. Department of Energy (DOE) and the Pacific Northwest National Laboratory (PNNL), have been working to introduce a range of guidelines and best practices to market. Manufacturers, too, are playing their part, forming groups such as the Zhaga Consortium to participate in the development of industry protocols. But so far, the industry has been slow to adopt them, and no single set of comprehensive guidelines outlined by a professional lighting body, such as the IES (the principal entity to which the lighting community looks for technical standards), has yet to cover all the bases, in part because LED technology is continuously changing.

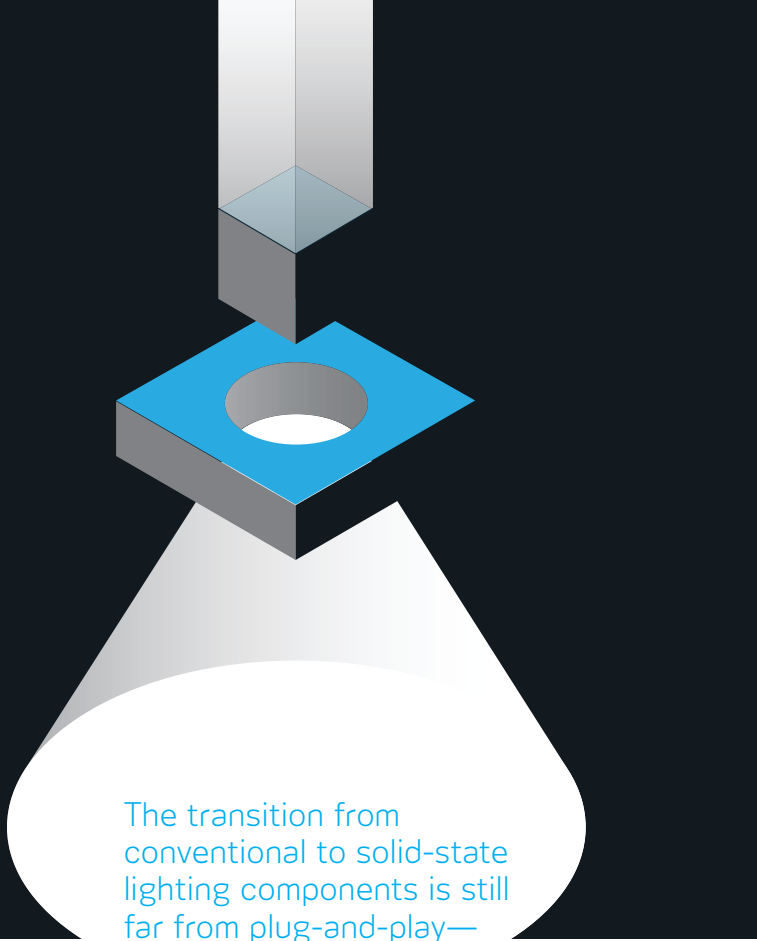
“There are lots of manufacturers, and no generic standards,” says Bill Simoni, vice president for product management and business development at the New York office of global lighting manufacturer Zumtobel. He likens it to the early days of video cassette recorders: “People didn’t know whether to use Betamax or VHS.” As a result, designers are left with a confusing array of choices as they develop a project’s lighting specifications.

PHYSICAL DIFFERENCES


The absence of an accepted standard in the rapidly changing LED market is only one aspect of problems surrounding the issue of

compatibility. The transition from conventional to solid-state lighting products is another. To most, particularly when it comes to consumers, an LED replacement lamp is simply a chunkier version of the classic Edison incandescent, with its round head and screw-in base. Look inside, though, and the two couldn’t be more different. An incandescent lamp creates light through electrical resistance and a glowing filament, while a diode emits light when electricity passes from one semiconducting element to another.

LEDs, which don’t rely on a filament, can last for tens of thousands of hours longer than their counterpart legacy sources. The wrinkle is that LEDs can’t run directly off the electrical main—they need a driver, typically housed in the fixture base, to convert alternating current into direct current. This has its advantages: The driver, in coordination with



The transition from conventional to solid-state lighting components is still far from plug-and-play—and the lack of universal standards is not helping.

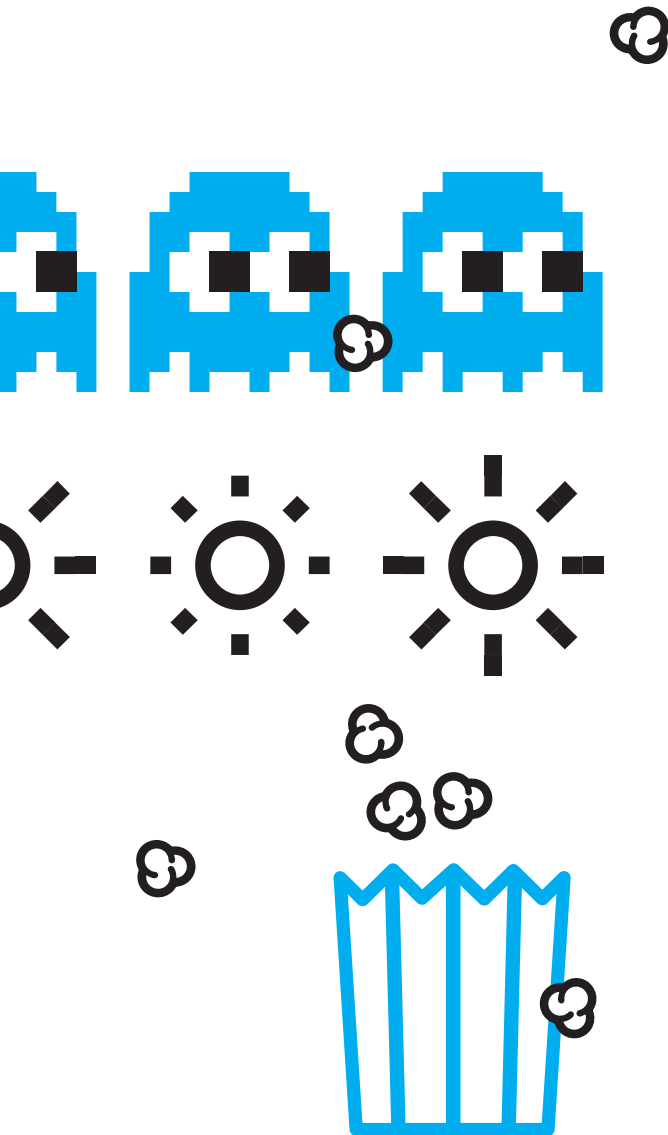
A modern conference room with a long wooden table, six chairs, and a suspended light fixture. The room has dark blue walls and a dark floor. The light fixture is a long, thin, rectangular bar suspended from the ceiling by two thin wires. The text is centered in the middle of the image.

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When paired with legacy dimmers such as TRIACS, LED replacement lamps may experience performance issues due to incompatibility such as: “ghosting,” in which the LEDs continue to emit light after the control is off; flicker; and “popcorning,” in which individual diodes in a lamp turn on and off erratically.

a controls package, allows the LEDs to have features such as precision dimming and choreographed color changes.

But it also can create new problems. Currently, most LED lamps and luminaires are being paired with legacy control systems, with dimmer switches, in particular, being a known troublemaker. “There is not an industry standard, and not even a generally accepted definition, on what the word ‘dimnable’ means,” says Ethan Biery, a design and development leader at Lutron. The vast majority of legacy dimmers are triode alternating current switches, or TRIACs, which work by interrupting the electrical current during its cycle. Because filament lamps continue to glow, albeit briefly, after the power is cut, the human eye doesn’t register a TRIAC’s effects, but only the overall reduction in light level, or dimming.

An LED, however, stops emitting light the second that the power is cut. The resulting rapid on–off in illumination, or flicker, can be disorienting, nauseating, and even seizure-inducing.

Incompatible legacy systems can also cause “dropoff,” in which a light is dimmed to a certain point and then shuts off prematurely—or the opposite, in which a lamp intended to gradually brighten will suddenly “pop on.” “Ghosting” occurs when an LED persists in producing light even when the control is turned off, while “popcorning” describes the phenomenon when individual diodes in a lamp turn on or off erratically.

New challenges in compatibility are of particular concern in larger commercial and institutional projects where an LED luminaire becomes an integral component bundled into a larger lighting system. For example, some legacy controls need a minimal amount of power to perform properly, and an LED might not supply enough wattage, causing the controls to try to compensate with electrical power surges, resulting in uneven performance and shorter operating life spans.

THE LACK OF A COMMON STANDARD

One may expect that the physical incompatibilities between legacy systems and LED-specific controls will resolve as the former fade from use and the latter prevail. But this only leads us back to the problem of the absence of a universal standard among LED and lighting control manufacturers. In some ways, this is a more troubling issue.

Lighting and control manufacturers, industry associations, government agencies, and private and public research institutions have recently begun to seriously tackle the problem. There is no shortage of standards issued by the leading organizations in the industry, including NEMA, the IES, and the Institute of Electrical and Electronics Engineers (IEEE), in an attempt to align LED manufacturers and the lighting industry toward a set of universal standards.

Some standards cover component issues, like NEMA’s *SSL 7a: Phase-Cut Dimming for Solid State Lighting—Basic Compatibility*, which governs the interaction between lamps and dimmers. Others are technology-centric, like the ZigBee Alliance’s “ZigBee Light Link” and the EnOcean Alliance’s *Wireless Standard ISO/IEC 14543-3-10*, both of which focus on wireless controls, and the Zhaga Consortium’s *Zhaga Interface Specifications*, which apply to LED light engines and components. Standards can also target the end user; later this year, NEMA expects to release a labeling protocol to make it easier for specifiers to match compatible lamps and controls, says NEMA spokesperson Tracy Cullen.

But confusion among manufacturers and lighting designers, as well as consumers, remains: Which standards are mandated and which are recommended? Some standards, such as NEMA’s, are enforced by state and federal agencies, like the DOE through its Energy Star program. Still others, like those issued by the Zhaga Consortium and the EnOcean



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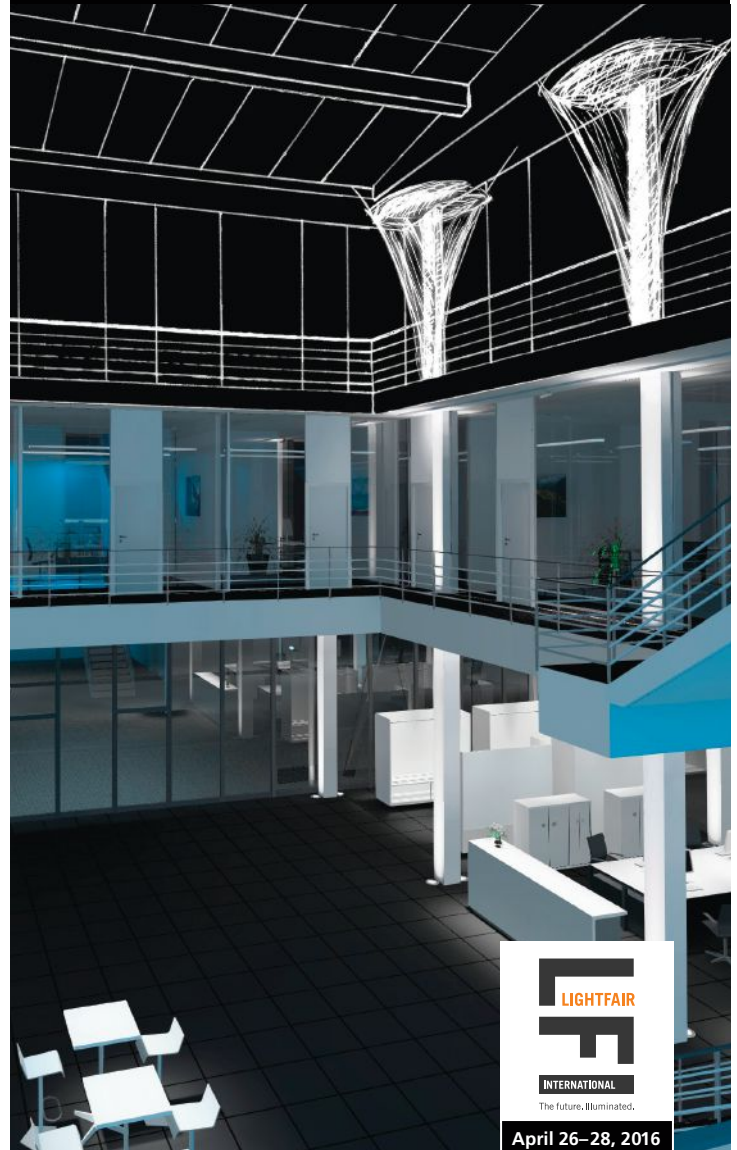
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“Manufacturers want to maintain their differentiation, and consumers want differentiated features.”

—Ethan Biery, design and development leader, Lutron

RESOURCES

“Controlling LEDs,” a technical white paper by Lutron, 2014. Available at: bit.ly/1kFPBIt.

ASSIST *recommends* publications by the Alliance for Solid-State Illumination Systems and Technologies and the Lighting Research Center, 2015. Available at: bit.ly/1Jz6xMI.

Zhaga Interface Specifications (Books), by the Zhaga Consortium, 2016. Available at: bit.ly/1Jz7apf.

SSL 7a-2015: Phase-Cut Dimming for Solid State Lighting—Basic Compatibility, by the National Electrical Manufacturers Association, 2015. Available at: bit.ly/1PPPWFj.

Alliance, are optional—though the organizations hope that so many manufacturers will use them that they will become a de facto requirement.

The primary hurdle with all of these standards, thus far, has been adoption. Most manufacturers worry that pruning their product offerings to meet a common standard will mean sacrificing a promising proprietary feature. And no one wants to see shelves stocked with identical products. “Manufacturers want to maintain their differentiation, and consumers want differentiated features,” Biery says.

RAISING THE BAR

The lack of consistent component compatibility and universal standards does not bode well for lighting designers or end users. But treating a lighting system as a critical capital investment is the first step to initiating change. Luminaires and lamps must be recognized for the sophisticated electronic devices that they have become and, consequently, as long-term building-system investments, not simply as products. Understanding the difference opens the door to a wealth of opportunities in energy savings, comfort, and design.

But it also means that architects and lighting designers need to be knowledgeable about their lighting options, and be ready to specify standards and products that they know to be compatible. Naomi Miller, PNNL senior lighting engineer, says that the sort of compromises that, unfortunately, lighting designers have become used to making—say, settling for a lesser lighting control system if a contractor says the specified choice is too costly—can now have long-term consequences in this era of LEDs, in the form of dimming issues or even premature failure.

Compounding the issue is the time lag between product specification and actual installation, a period that can take several years on architectural projects. “LED drivers are advancing at the rate of consumer electronics,” Biery says. An entire generation of advancements can come and go within a few years, so a client may not get the benefit of a state-of-the-art lighting offering. Or, Miller points out, a product specified two years ago may simply no longer exist. This means that architects need to have a lighting designer on staff or as part of their project team. It’s the only way to keep pace with the technology changes.

The lighting industry is well aware of the complexities that result from compatibility issues. This year, we may see the introduction of near-comprehensive standards, if not their adoption by industry and government organizations, says Andrew Bierman, a senior research scientist at the Lighting Research Center, in Troy, N.Y.

In fact, California recently announced that, starting in 2017, it would require all LEDs sold in the state to comply with NEMA standards. The DOE’s Energy Star program already requires manufacturers to publish compatibility specifications for their LED components if they are to receive its seal of approval. And the influence of local governments and federal initiatives like these cannot be underestimated: The DOE’s Next Generation Luminaires Design Competition, launched in 2008, has played a significant role in advancing LED luminaire and lamp product offerings.

As the dust settles among the bevy of industry standards available, the long-term solution needs to with a change in mind-set among all constituents of the lighting industry. Just as one wouldn’t expect an Apple keyboard to work perfectly with a PC, people can’t expect LEDs to work with any old control systems, particularly when the industry is still a long way from mature LED technologies. •



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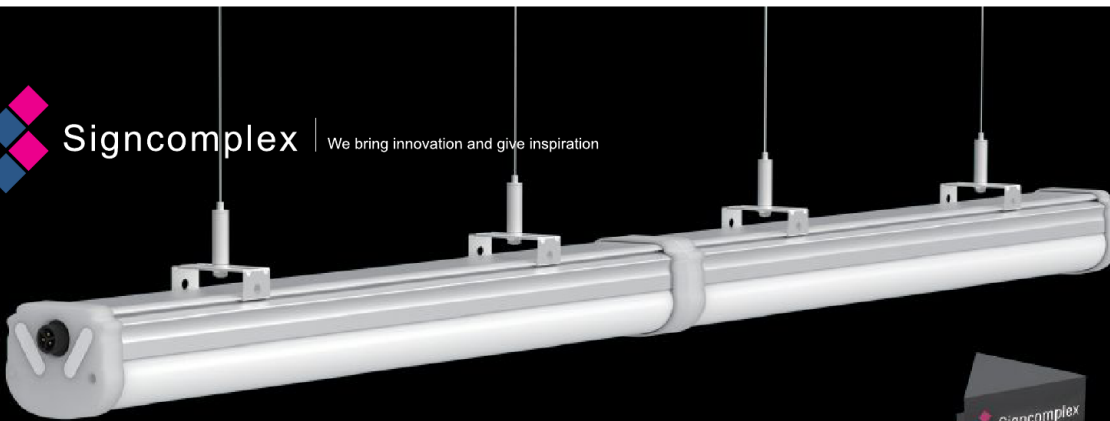


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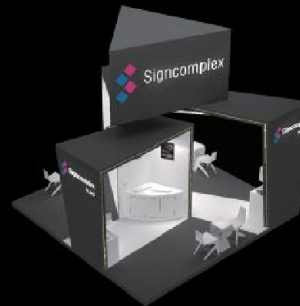


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GLOBAL PERSPECTIVES

The breath of work, high level of creativity, and technical prowess showcased in the following selection of international projects prove that the tenets of good design hold true no matter the project brief or location.

text by
Elizabeth Evitts Dickinson,
Elizabeth Donoff, Belinda Lanks,
and Aaron Seward

Read more about each project
at archlighting.com.

Toshiko Kaneko



Large, umbrella-shaped “globes” serve as key architectural features in the open-floor, open-shelf reading room of the Gifu Media Cosmos in Gifu City, Japan (see next page).



GIFU MEDIA COSMOS | Tokyo

Lighting Planners Associates | Tokyo

The dynamic architectural forms of Pritzker Prize-winning architect Toyo Ito meet dynamic lighting solutions in this facility, which houses a library, gallery, multipurpose hall, and community center. Lighting Planners Associates developed the electric lighting in response to daylighting studies by Arup and a brief to reduce energy consumption by 50 percent. In the skylit reading room, umbrella-shaped “globes,” each with their own textile pattern, hang from the timber ceiling to create spaces for reading, writing, and lounging. Sensors drive ambient lighting and tasklighting on cloudy days. —E.D.

Toshio Kaneko

BOLON EYEWEAR | Shanghai

Pfarré Lighting Design | Munich

At the first-ever retail store for Bolon Eyewear, China's largest eyeglasses manufacturer, lighting designer Gerd Pfarré partnered with Stuttgart, Germany-based Ippolito Fleitz Group to create a customized, sculptural display wall. Dozens of horizontal and vertical panels, which the designers dubbed "display fins," are lit from behind and above. Each horizontal fin holds a model in the retailer's line, each floating on its own mini stage. Key to achieving the dramatic visual effect was ensuring that no light from the ceiling hit the vertical surfaces. Instead, LED downlights in the ceiling aim straight down to the floor, creating an evenly distributed glow on the white marble, which is then reflected on the gold-toned ceiling above. —E.E.D.

SEAN'S KITCHEN | Adelaide, Australia

Point of View | Sydney



Murray Fredericks



At Sean's Kitchen Adelaide, Sydney-based interior design firm Alexander & Co. transformed part of a landmark railway station into a Roaring Twenties-style New York brasserie. To help create a Gatsby-esque ambiance for the double-height space, lighting designers Point of View created a series of custom decorative fixtures using brass fittings. Custom-designed floor lamps that resemble streetlights illuminate the main dining area called "The Marketplace." Decorative pendants and concealed lighting strips accent the table areas and a ring of light along the wood-paneled wall of the mezzanine level, referred to as "The Distillery," draws diners' eyes up to the original barrel-vaulted ceiling. —B.L.



BANK OF MONTREAL | Toronto Main Branch

Lightbrigade Architectural Lighting Design | Toronto

With the redesign of its corporate identity and its flagship branch in Toronto's busy Financial District, the Bank of Montreal aimed to elevate customer experience to one where transparency, service, and simplicity took priority. Lightbrigade helped transform the 26,000-square-foot space, which consists of a main floor with a mezzanine. Using the existing architectural 10-foot-by-10-foot grid and the 27-foot-high ceiling, Lightbrigade replaced the existing system of louvers suspended below fluorescent troffers with surface-mounted linear LEDs that have continuous illuminated intersections. The selection of 3500K as the color temperature throughout supported the bank's blue corporate color scheme. The branch now presents a vibrant face to the surrounding city. —E.E.D.

Steve Tsai

LWL—MUSEUM OF ART AND CULTURE | Münster, Germany

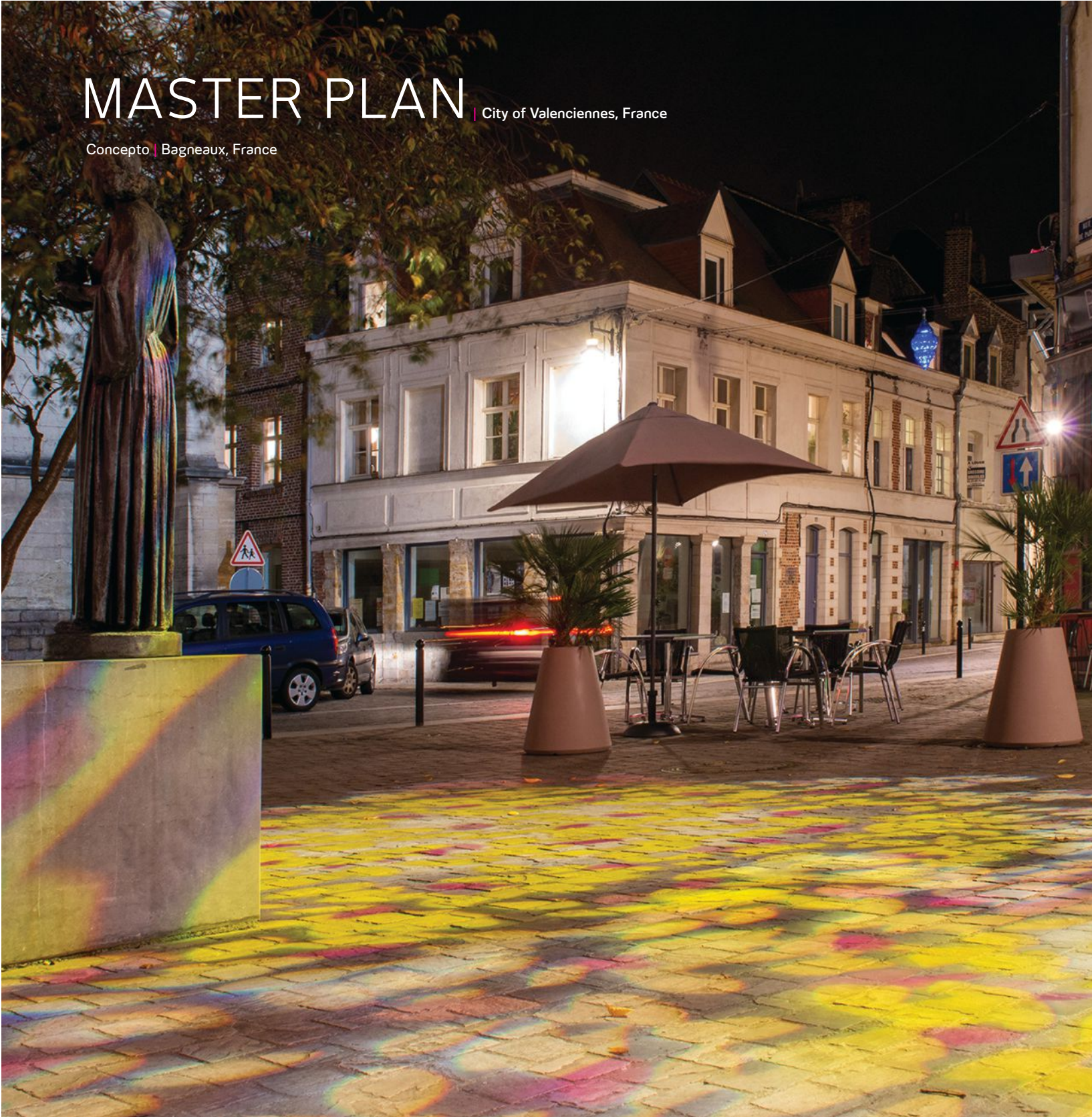
Licht Kunst Licht | Berlin and Bonn, Germany

For the LWL—Museum of Art and Culture’s renovation and addition, lighting design firm Licht Kunst Licht has created a scheme where light defines the architecture. Both the original structure, which dates to 1908, and the addition are organized around a series of courtyards. The three-story foyer in the new addition features a glazed skylight with a membrane ceiling below, so whether the sky is sunny or overcast, visitors have a connection to the outside as light and shadow render the interior. A custom lighting solution for the galleries employs a perimeter band of ceiling panels backlit with fluorescent fixtures. Throughout, the designers have integrated both natural and electric light to create a luminous environment for viewing art. —E.D.



MASTER PLAN | City of Valenciennes, France

Concepto | Bagneaux, France





The City of Valenciennes in northern France underwent its first lighting master plan in 1997, with an ambitious illumination agenda that included 89 individual locations. By 2010, the size of the original project had overwhelmed the city and many of the sites were no longer working or being maintained. In 2011, with an engaged new mayor and administration, Valenciennes entered into a public-private partnership with Bouygues Energie & Services, a company that provides installation of infrastructure and energy management and maintenance services for large-scale projects. They in turn enlisted lighting designer Roger Narboni and his team at Concepto for their guidance in creating a new lighting master plan for the city. First, Concepto had to determine which of the existing sites should be re-lit. Forty-one of those made the cut, along with nine new sites. The plan (above) creates two walks through the city: one along the north-south main commercial thoroughfare, highlighted by vertically oriented orange-colored luminaires (top), and another that runs east-west along the city's cultural corridor, highlighted by custom-designed blue glass lanterns. Weaving the sites together are a series of "nocturnal interludes" (left), outdoor spaces illuminated with decorative lighting elements and light projections that draw people outside to safely enjoy the evening. The result has been transformative, breathing new life into the city and giving residents newfound reason to connect with its cultural heritage and industrial past. —E.D.



WALDORF ASTORIA | Amsterdam

dpa Lighting Consultants | Clifton, England

The Waldorf Astoria Amsterdam is housed in a collection of six 17th- and 18th-century palaces on the Herengracht Canal that were given a sensitive and understated renovation. The lighting follows suit with a scheme that embellishes the historic architecture with layers of discreetly concealed luminaires and fixtures sympathetic to the period. An intelligent control system activates the lighting with themes designed to respond to the drastically variable sunlight that reaches northern Europe throughout the year, as well as with a variety of evening presets. This combination of high-tech and historical sensitivity keeps the project firmly rooted in its elegant Amsterdam context while placing it on par with the most advanced of international hotels. —A.S.

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HSBC—QUAI DES BERGUES | Geneva

Seam Design | London

Global financial house HSBC's new private banking headquarters is located on the lakefront Quai des Bergues, in one of Geneva's most prestigious historic neighborhoods, where seven 18th-century buildings have been combined into a single modern workplace. London-based lighting firm Seam Design was tasked with creating a lighting scheme that would ensure the privacy of the client while creating a secure yet open and welcoming working environment for the bank's employees. The LED lighting works in concert with the contemporary architectural detailing and plays off the white walls and finish selections of wood and glass to create a fluid design, where architecture and light meld into one. —E.D.



John MacLean

PROJECT DETAILS

Project: Gifu Media Cosmos, Gifu City, Japan • **Client:** Gifu City • **Architect:** Toyo Ito & Associates, Architects, Tokyo • **Lighting Designer:** Lighting Planners Associates, Tokyo • **Mechanical and Electrical Engineer:** Otaki Setsubi • **Additional Consultants:** Fujie Kazuko Atelier (furniture); Mikiko Ishikawa, University of Tokyo, School of Engineering, Mikiko Ishikawa Laboratory (landscape); Arup (sustainability consultant) • **Project Size:** 15,444.24 square meters (166,240 square feet) (gross floor area) • **Project Cost:** ¥5.95 billion (\$50.20 million) • **Lighting Costs:** Not Applicable • **Code Compliance:** Not Applicable • **Watts per Square Meter:** 5.9W for entrance, public space, open space; 17.5W for studio and meeting room; 12.4W for offices and working areas; 9.7W for multipurpose hall; 10.4W for semi-closed stack room; 8.2W for library; 0.5W for landscape (wattages figured with motion and daylight sensor, dimming control, and individual local switch) • **Lighting Manufacturers:** Daiko; DN Lighting; Iwasaki; Modulex; Panasonic; Yamada Shomei Lighting; Yamagiwa • **Related Project Building Materials Manufacturers:** Sakase Adtech Co. (Triaxial woven fabric of polyester fiber for globes); Yoko Ando Design (Custom non-woven textile)

Project: Bolon Eyewear, Shanghai • **Client:** Xiamen Artgri Optical Co. • **Lighting Designer:** Pffarré Lighting Design, Munich • **Interior Designer:** Ippolito Fleitz Group, Stuttgart, Germany • **Photographer:** Shuhe Architectural Photography, Beijing • **Project Size:** 97 square meters (1,044 square feet) • **Project and Lighting Costs:** Withheld • **Code Compliance:** Not Applicable • **Watts per Square Meter:** 27W • **Lighting Manufacturers:** Custom-made luminaires provided by Fushida

Project: Sean's Kitchen, Adelaide, Australia • **Client:** SkyCity Adelaide • **Interior Designer:** Alexander & Co., Redfern, New South Wales, Australia • **Lighting Designer:** Point of View, Sydney • **Project Size:** 413 square meters (4,445 square feet) • **Project and Lighting Costs:** Withheld • **Code Compliance:** Building Code of Australia/AS1680 • **Watts per Square Meter:** 17W • **Manufacturers:** acdc Lighting; Boom; Davey Lighting; Filix; IBL Lighting; Light Force; Lucent Lighting; Masson for Light; Meyer; Schoolhouse Electric; Vuelite

Project: BMO Bank of Montreal—Toronto Main Branch, Toronto • **Client:** BMO Bank of Montreal • **Architect:** Kearns Mancini Architects, Toronto • **Lighting Designer:** Lightbrigade Architectural Lighting Design, Toronto • **Project Size:** 26,000 square feet • **Project and Lighting Costs:** Not Available • **Code Compliance:** ASHRAE 90.1-2010 • **Watts per Square Foot:** Not Available • **Lighting Manufacturers:** Ardrion-Mackie; Philips Lightolier; Selux

Project: LWL—Museum of Art and Culture, Münster, Germany • **Client:** Landschaftsverband Westfalen Lippe, Münster • **Architect:** Staab Architekten, Berlin • **Lighting Designer:** Licht Kunst Licht, Berlin and Bonn, Germany • **Exhibition Designer:** Space4, Stuttgart, Germany • **Szenographic Exhibition Lighting:** LDE Belzner Holmes, Stuttgart • **Project Size:** 19,375 square feet • **Project Cost:** \$35 million • **Lighting Cost:** \$1.5 million • **Code Compliance and Watts per Square Foot:** Not Applicable • **Lighting Manufacturers:** New Construction: Bega; Erco; Filumen; Flos; Graypants; Meyer; Rentex; ProLED; Selux; XAL • **Lighting Manufacturers: Historic Building Arcade:** Erco; Mawa; Zumtobel

Project: Valenciennes Lighting Master Plan, "Artistic Escapes at Twilight," Valenciennes, France • **Clients:** City of Valenciennes and Bouygues E&S • **Lighting Designer:** Concepto, Bagneux, France • **Additional Designers:** Emmanuel Prin and Marion Leverd, students at ESAD University of Valenciennes, winners of competition organized by Bouygues E&S and Concepto (art path and Blue Moon lantern); Olivier Juteau, glass artist for Blue Moon lantern • **Project Size:** 13.84 square kilometers (city area) • **Lighting Costs:** €2.4 million (\$2.6 million) for the 49 sites that underwent a lighting renovation; €1.8 million (\$1.95 million) for the 15 sites for new lighting installations • **Code Compliance/Watts per Square Foot:** All the new lighting installations and renovation of the existing installations were done with energy savings and sustainability in mind. All obsolete light sources have been replaced with LEDs. This allows for an energy savings from 15 to 80 percent by site, with an average of more than 50 percent for the entire lighting master plan. • **Lighting Manufacturers: Renovation of Lighting Installations and New Site Lighting:** Bega; Firalux; Lec; Meyer; Philips; Thorn; We-ef • **Trade Path:** Firalux; Meyer; Rosco; Sammode; Sill • **Art Path:** Firalux; Martin; Meyer; Rosco Sill; Technilum • **Nocturnal Interludes:** Comatelec Schreder; Inverlight; Rosco; Meyer; Sill

Project: Waldorf Astoria, Amsterdam • **Client:** DvM b.v. • **Architect:** Oeverzaaijer Architecture and Urbanism, Amsterdam • **Lighting Designer:** dpa Lighting Consultants, Clifton, England • **Interior Designer:** G.A. Design International, London • **Electrical Contractor:** Hirdes Energie Techniek, Amsterdam • **Lighting Controls/Programming:** EmenEm Building Automation, Weert, Netherlands • **Mechanical and Electrical Engineer:** HE Adviseurs, Rotterdam, Netherlands • **Cost Consultant:** Interplan Bouwsupport, Sassenheim, Netherlands • **Project Size:** 12,000 square meters (129,166 square feet) • **Project and Lighting Costs:** Withheld • **Code Compliance:** Met local historical committee approvals for refurbishment of the project's protected spaces • **Watts per Square Foot:** Not Available • **Lighting Manufacturers:** Aldabra; Atomis; Heathfield & Co.; Linea Light Group; Lucent Lighting; LightGraphix; Mike Stoane Lighting; Osram; Zumtobel

Project: HSBC—Quai des Bergues, Geneva • **Client:** HSBC Private Banking • **Architect:** Make Architects, London • **Executive Architect:** Itten+Brechtbühl, Bern, Switzerland • **Lighting Designer:** Seam Design, London • **Project Size:** 175,450 square feet • **Project and Lighting Costs:** Withheld • **Code Compliance:** Minergie, also achieved LEED Gold • **Watts per Square Foot:** 1.02 • **Lighting Manufacturers:** Flos; iGuzzini; Osram; Philips; Regent; Sill; Targetti



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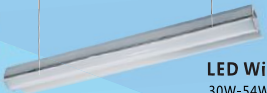
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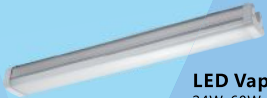
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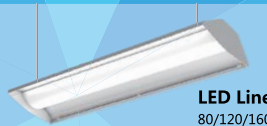
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4ft, Linear Linkable
0-10V Dimming Optional



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2ft&4ft, 0-10V Dimming Optional



LED Linear Highbay Light
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Pending, 4ft, 0-10V Dimming
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DLC, 2X2', 2X4', 1X4',
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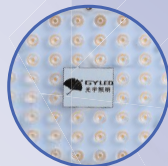
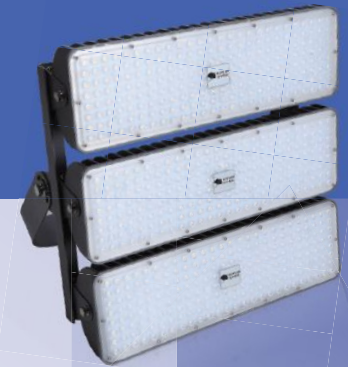
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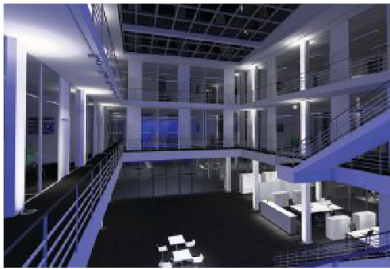
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“When I start working on a project, I’m thinking light, not product. That’s the honest, creative way to approach design work.”

GERD PFARRÉ



Not one to be confined by conventional education or practice, Gerd Pfarré credits a love of nature and travel as his foundation as a lighting designer. Training in carpentry and cabinet-making led him to the disciplines of architecture, interiors, and lighting. After initially working as a freelance designer, he joined Ingo Maurer’s workshop in Munich in 1983 as one of its first design employees. Pfarré worked for 13 years with the lighting maestro, whom he credits as his mentor, before setting up his own studio in Munich. Given Pfarré’s intense passion for the creative process, he is undoubtedly among the most unique minds in lighting design.

What intrigues you about light?

That magic moment when the lights are turned on for the first time.

Do you see architecture and architectural lighting as distinct disciplines?

They are one discipline. Light makes it all visible. I am waiting for the day when people will understand that we are designers of reflection.

Is there a text that has influenced your thinking about light?

There is a First Nation legend from Canada called “The Raven Steals the Light.” It’s about how the stars, the sky, and the sun were created.

Advice for a young lighting designer?

Burn your fingers while focusing a damned hot fixture. Learn to scribble an idea on paper while talking to someone.

What aspect of lighting would you like to see given more attention?

There needs to be more discussion about lighting quality, particularly visual comfort and how new lighting technologies do, and do not, respond. Lighting is not just about quantity.

How have new lighting technologies expanded design possibilities?

Significantly. We’re able to use light more intelligently. However, intelligence does not necessarily help one in being creative.

Where do you see lighting design heading?

I hope more clients will understand the benefits of paying realistic fees for professional design services and what I’d call “applied creativity.” As a profession, we are still considered as an “add-on” but there is an increasing awareness of what we can really do. •

interview by Elizabeth Donoff

Being shallow can be a good thing.




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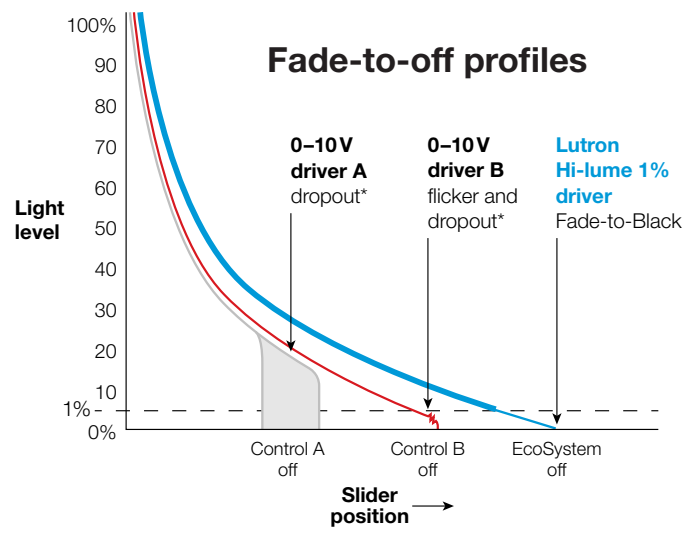
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