

# A·L·E

ARCHITECTURAL LIGHTING

YEARS

INSIDE: VISIBLE LIGHT  
COMMUNICATION  
TECHNOLOGY • OLEDs •  
RETAIL AND HOSPITALITY  
LIGHTING PROJECTS •  
ONE-ON-ONE WITH LIGHTING  
DESIGNER ANN KALE



**One system.  
Countless possibilities.**





# The EF System

## Recessed Modular Linear Lighting

The EF System enables designers and specifiers to drastically clean up the ceiling plane by incorporating multiple types of architectural LED lighting into one recessed system. The system can be used for linear slots, cove lighting, accent lighting, perimeter lighting and more.



### Extruded Aluminum Channel

The EF System Channel can accommodate both linear LED strips as well as our high-performance adjustable LED Light Units



### Fully Adjustable LED Light Units

Our LED Light Units boast 4 points of articulation with locking joints. Anything from hidden accent lighting to exposed down-lighting is possible.



### Cove and Perimeter Lighting

The EF Channel can be utilized to build out a cove or follow the perimeter of a room. Both linear indirect and direct LED lighting may be used together.



### Accent Slots with Uplighting

Channel may be mounted in opposing positions to form linear ceiling slots. Linear LED may be used to illuminate a rounded slot interior while LED Light Units handle downlighting and accents.

**LF** ILLUMINATION™

[lfillumination.com](http://lfillumination.com)

©2016 LF ILLUMINATION LLC



SAVE THE DATE!

Thursday, Dec. 8, 2016

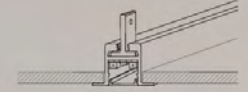
ARCHITECTURAL LIGHTING'S  
30th Anniversary Celebration  
Canoe Studios, New York City

# whitegoods

## 20 series family



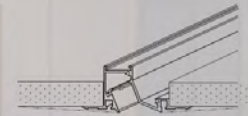
plaster-in



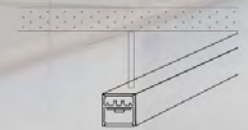
bezel for grid ceiling



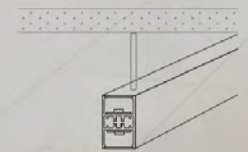
surface mounted



wallwash



suspended



suspended direct / indirect

Whitegoods 20 Linear Family features a 0.7" (17mm) lens, evenly illuminated to any length, seamlessly integrating into walls, ceilings and furniture. High efficiency, sustainable LED engines in high CRI and a range of color temperatures to illuminate any space.

# DIALux evo



## Design lighting for entire buildings? Now you can.

With DIALux evo you can design lighting intuitively for complex spaces.

Learn more about its smart features and unique business model: DIALux is free for commercial and private use.



dialux.com

SEPT/OCT 2016  
VOL 30, NO 5

# A·L

## ARCHITECTURAL LIGHTING

**EDITOR-IN-CHIEF**  
Elizabeth Donoff  
edonoff@hanleywood.com  
202.729.3647

**MANAGING EDITOR**  
Greig O'Brien  
gobrien@hanleywood.com

**ART DIRECTOR**  
Robb Ogle  
rogle@hanleywood.com

**EDITORIAL**  
**SENIOR EDITOR,  
BUSINESS, PRODUCTS, AND TECHNOLOGY**  
Wanda Lau

**ART**  
**SENIOR GRAPHIC DESIGNER**  
Megan Mullsteff

**ASSOCIATE EDITOR,  
BUSINESS, PRODUCTS, AND TECHNOLOGY**  
Hallie Busta

**PHOTO EDITOR**  
Alexander Cortez

**ASSOCIATE EDITOR, DESIGN**  
Deane Madsen

**MULTIMEDIA**  
**VIDEO PRODUCTION MANAGER**  
Lauren Honesty

**ASSOCIATE EDITOR, DESIGN**  
Sara Johnson

**VIDEOGRAPHER/VIDEO EDITOR**  
Jim Van Meer

**ASSISTANT EDITOR,  
BUSINESS, PRODUCTS, AND TECHNOLOGY**  
Selin Ashaboglu

**CONTRIBUTING EDITORS**  
Elizabeth Evitts Dickinson,  
Bill Millard, Aaron Seward,  
Mimi Zeiger

**CONTENT PRODUCER**  
Chelsee Blahut

### EDITORIAL ADVISORY BOARD

Gregg Ander, FAIA, IESNA • Francesca Bettridge, IALD, IESNA •  
Barbara Cianci Horton, IALD • Kevin Houser, IESNA, EDUCATOR IALD •  
Mark Loeffler, IALD, IESNA • Paul Zaferiou, IALD

### SUBSCRIPTION INQUIRIES, CHANGE OF ADDRESS, CUSTOMER SERVICE, AND BACK-ISSUE ORDERS

ARCHITECTURAL LIGHTING  
P.O. Box 3494  
Northbrook, IL 60065  
alit@omeda.com  
Local: 847.291.5221  
Toll-Free: 888.269.8410

### PRODUCTION

**PRODUCTION MANAGER**  
Marni Coccaro  
mccoccaro@hanleywood.com

**AD TRAFFIC MANAGER**  
Pamela Fischer  
pfischer@hanleywood.com

**INSIDE SALES  
AD TRAFFIC MANAGER**  
Annie Clark  
aclark@hanleywood.com

### REPRINTS

Wright's Media  
hanleywood@wrights  
media.com  
877.652.5295

### LIST RENTALS

The Information Refinery  
Brian Clotworthy  
brian@info refinery.com  
800.529.9020

## archlighting.com

One Thomas Circle, N.W. Suite 600 Washington, DC 20005

A·L ARCHITECTURAL LIGHTING (Vol. 30, No. 5 USPS 000-846, ISSN 0894-0436) is published six times per year (Jan/Feb, March/April, May/June, July/August, Sept/Oct, Nov/Dec) by Hanley Wood, One Thomas Circle, N.W., Suite 600, Washington, DC 20005. Periodicals postage paid at Washington, DC, and additional mailing offices. Printed in the USA. Postmaster: Send changes of address to ARCHITECTURAL LIGHTING, P.O. Box 3494, Northbrook, IL 60065. Canada Post Registration #40612608/GST Number: R-120931738. Canadian return address: IMEX, P.O. Box 25542, London, ON N6C 6B2.

Distributed free of charge to individuals or firms engaged in the specification of lighting products in the U.S. Publisher reserves the right to determine recipient qualification. Per year, all other U.S. subscriptions \$48; Canada, \$60; Foreign, \$96. Payable in U.S. dollars. For subscription inquiries, address changes, and single-copy sales (\$10 in the U.S., \$15 in Canada, \$20 for other countries, payable in advance in U.S. dollars) write to ARCHITECTURAL LIGHTING, P.O. Box 3494, Northbrook, IL 60065 or call 847.291.5221 or toll-free 888.269.8410. For reprints, call or email Wright's Media: 877.652.5295 or hanleywood@wrightsmedia.com.

A·L ARCHITECTURAL LIGHTING is a trademark owned exclusively by Hanley Wood. Copyright 2016 Hanley Wood. Reproduction in whole or in part prohibited without written authorization.

# Insider knowledge that thinks outside the box.



The Lighting reSOURCE is the leading online destination for lighting industry information, education and inspiration. From LED toolkits and photo galleries to original content, the Lighting reSOURCE gives you 24/7 access to the information you need to energize your career. In-depth articles cover a range of emerging design trends and industry news, including a breakdown of the most recent changes to the International Energy Conservation Code (IECC) requirements to help ensure your projects are code compliant. To view this feature and similar articles, visit [TheLightingResource.Eaton.com](http://TheLightingResource.Eaton.com).

**EATON**

*Powering Business Worldwide*

Follow us on social media to get the latest product and support information.



# TIMES SQUARE® LIGHTING



See our full range  
of LED fixtures:

[tslight.com](http://tslight.com)

 /tslight

 @TimesSq

# A.L

ARCHITECTURAL LIGHTING

## DESIGN GROUP

GROUP PRESIDENT  
Ron Spink  
[rspink@hanleywood.com](mailto:rspink@hanleywood.com)  
202.736.3431

GROUP EDITORIAL DIRECTOR,  
DESIGN AND COMMERCIAL CONSTRUCTION  
Ned Cramer

## ADVERTISING SALES

SENIOR DIRECTOR,  
INTERNATIONAL ACCOUNTS  
Dan Colunio  
[dcolunio@hanleywood.com](mailto:dcolunio@hanleywood.com)  
202.736.3310

VICE PRESIDENT,  
GENERAL MANAGER OF DIGITAL  
Christie Bardo  
[cbardo@hanleywood.com](mailto:cbardo@hanleywood.com)  
202.736.3363

NATIONAL ACCOUNT MANAGER,  
LIGHTING  
Cliff Smith  
[csmith@hanleywood.com](mailto:csmith@hanleywood.com)  
864.642.9598

SENIOR ACCOUNT DIRECTOR,  
MID ATLANTIC, SOUTHEAST  
Susan Shepherd  
[sshepherd@hanleywood.com](mailto:sshepherd@hanleywood.com)  
404.386.1709

STRATEGIC ACCOUNT MANAGER,  
MIDWEST  
Michael Gilbert  
[mgilbert@hanleywood.com](mailto:mgilbert@hanleywood.com)  
773.824.2435

STRATEGIC ACCOUNT MANAGER,  
WEST  
Suren Sagadevan  
[ssagadevan@hanleywood.com](mailto:ssagadevan@hanleywood.com)  
310.863.1153

SENIOR ACCOUNT MANAGER,  
CANADA  
D. John Magner  
[jmagner@yorkmedia.net](mailto:jmagner@yorkmedia.net)  
416.598.0101, ext. 220

NEW ACCOUNT SETUP  
Jaeda Mohr  
[jmohr@hanleywood.com](mailto:jmohr@hanleywood.com)  
202.736.3453

VICE PRESIDENT, MARKETING  
Matthew Carollo

STRATEGIC ACCOUNT MANAGER,  
CHINA, HONG KONG, TAIWAN  
Judy Wang  
[judywang2000@vip.126.com](mailto:judywang2000@vip.126.com)  
86.13810325171

NEW ACCOUNT SETUP  
Erika Taylor  
[etaylor@hanleywood.com](mailto:etaylor@hanleywood.com)  
202.380.3942

AUDIENCE MARKETING DIRECTOR  
Mary Leiphart

## HANLEY WOOD MEDIA

PRESIDENT, MEDIA  
Dave Colford

VICE PRESIDENT,  
PRODUCT DEVELOPMENT  
Rizwan Ali

SENIOR VICE PRESIDENT,  
AUDIENCE OPERATIONS  
Sarah Welcome

EXECUTIVE VICE PRESIDENT,  
STRATEGIC MARKETING SERVICES  
Tom Rousseau

SENIOR DIRECTOR,  
PRINT PRODUCTION  
Cathy Underwood

VICE PRESIDENT,  
CLIENT OPERATIONS  
Mari Skelnik

SENIOR VICE PRESIDENT,  
STRATEGIC MARKETING SERVICES  
AND CONSUMER MEDIA  
Jennifer Pearce

CHIEF DESIGN DIRECTOR  
Aubrey Altmann

DIRECTOR OF ANALYTICS  
Jennifer Malkasian

## HANLEY WOOD

CHIEF EXECUTIVE OFFICER  
Peter Goldstone

VICE CHAIRMAN  
Frank Anton

CHIEF FINANCIAL OFFICER  
Matthew Flynn

PRESIDENT, MEDIA  
Dave Colford

PRESIDENT, DIGITAL  
Andrew Reid

PRESIDENT, METROSTUDY  
Christopher Veator

PRESIDENT, MARKETING  
Jeanne Milbrath

SENIOR VICE PRESIDENT,  
MARKETING  
Sheila Harris

SENIOR VICE PRESIDENT,  
CORPORATE ACCOUNTS  
Ryan Flom

VICE PRESIDENT,  
FINANCIAL PLANNING AND ANALYSIS  
Ron Kraft

SENIOR VICE PRESIDENT,  
CORPORATE DEVELOPMENT AND  
GENERAL COUNSEL  
Michael Bender

DIRECTOR OF SALES,  
EMERGING ACCOUNTS GROUP  
Philip Hernandez

VICE PRESIDENT,  
CORPORATE CONTROLLER  
Keith Rosenbloom

From Hanley Wood, publisher of ARCHITECT, AQUATICS INTERNATIONAL, BUILDER, CONCRETE & MASONRY CONSTRUCTION PRODUCTS, CONCRETE CONSTRUCTION, THE CONCRETE PRODUCER, CUSTOM HOME, THE JOURNAL OF LIGHT CONSTRUCTION, MASONRY CONSTRUCTION, MULTIFAMILY EXECUTIVE, POOL & SPA NEWS, PROSALES, PUBLIC WORKS, REMODELING, REPLACEMENT CONTRACTOR, and TOOLS OF THE TRADE magazines.

**Disclosure:** ARCHITECTURAL LIGHTING will occasionally write about companies in which its parent organization, Hanley Wood, has an investment interest. When it does, the magazine will fully disclose that relationship.

**Privacy of mailing list:** Sometimes we share our subscriber mailing with reputable companies we think you'll find interesting. If you do not wish to be included, please call us at 888.269.8410.



*The Light.*



**PANOS** | Downlight

PANOS delivers unparalleled LED lighting quality, efficiency and precision with compound material construction inspired by space technology. Installation time is twice as fast as traditional downlights – no housing required.

[zumtobel.us/panos](http://zumtobel.us/panos)

 **ZUMTOBEL**



The lobby of Generator Amsterdam

## FEATURES

### 47 CONSUMER APPEAL

Retail and hospitality projects need to make an impression to create their brand identities and retain customers, and these four projects show that lighting is a significant part of the design equation.

### 48 SWIFT & SONS

### 50 BARNEYS NEW YORK DOWNTOWN FLAGSHIP

### 54 GENERATOR AMSTERDAM

### 56 HYATT HERALD SQUARE LOBBY

## DEPARTMENTS

### 10 COMMENT

Who “owns” lighting design?  
plus Letters to the Editor

### 14 BRIEFS

The Brandston Partnership turns 50; an award-winning light tunnel; and the National Museum of African American History and Culture on the National Mall opens

### 21 REPORT

Retailers are adopting VLC technology to customize the shopping experience for retailers and customers alike

### 28 IN FOCUS

Page at Reagan National Airport

### 32 TECHNOLOGY

Though advancements in OLEDs have lagged behind those of LEDs, the diffuse light source is becoming more viable for widespread use

### 42 PRODUCTS

Luminaires that steal the spotlight—lighting for retail and hospitality applications

### 64 ONE-ON-ONE

Interview with lighting designer Ann Kåle, of Ann Kåle Associates in Santa Barbara, Calif.

## ARCHLIGHTING.COM

As always, check out our website for expanded article coverage, videos, and news. Also, subscribe to our email newsletter, AL Notes, and find a link to ARCHITECTURAL LIGHTING’s digital edition.

On the Cover: Barneys new flagship store in the Chelsea neighborhood of New York City; Photo: Scott Frances/OTTO



# LIGHT DEFINES THE EXPERIENCE

NoMad Hotel, New York City, US  
Lighting Design: Tillotson Design Associates

Lumenpulse's Lumenfacade Horizontal luminaires illuminate the NoMad Hotel, giving this heritage building a charming, elegant nighttime presence.

Find out more on [Lumenpulse.com](https://www.lumenpulse.com)

**lumenpulse**<sup>™</sup>

## WHO “OWNS” LIGHTING DESIGN?



This past December, Apple obtained a patent for a ceiling lighting system that the company has already started to unveil worldwide as part of an update to the design vocabulary for its “next-generation” retail locations. The Brussels store, which opened in September 2015, was the first to debut the new ceiling. Closer to home, it can be seen in the Chestnut Hill, Mass., location (right). U.S. Patent No 9,217,247 details a wall-to-wall illuminated ceiling panel system with intermittent linear light tracks for small-aperture fixture heads. In a Dec. 20, 2015, “60 Minutes” segment with Charlie Rose, Apple’s senior vice president, retail and online stores, Angela Ahrendts, noted that the company feels this uniform illumination strategy creates a better retail atmosphere and, in turn, a better customer experience. It’s all part of the new store concept envisioned by Jonathan Ive, who in May 2015 became chief design officer of Apple’s design department in addition to leading the company’s hardware and software divisions.

Rather than treat the ceilings of its new stores as a conventional opaque surface dotted with points of light, Apple is adopting another lighting solution: the luminous ceiling. The concept is not new. One of the most famous is the ceiling that lighting designer Richard Kelly and architects Ludwig Mies van der Rohe and Philip Johnson developed in partnership with lighting manufacturer Lightolier in 1957 for the Seagram Building in New York.

The extent to which obtaining the patent is an indication of whether Apple is, or is not, dipping its toe into architectural lighting remains to be seen. Nonetheless, the patent should be on the lighting design community’s radar, for it does raise significant questions about whether a lighting detail (or for that matter an architectural or building-construction detail) is something that should be patented. It’s not the first time Apple has obtained an architectural patent. In October 2013 it obtained one for the curved glass stairs in its retail locations, and earlier that year the company trademarked its store designs. Basic construction methodologies live in the public domain, and a luminous ceiling is an often-used

lighting strategy. Now that Apple has a patent for its luminous ceiling, do lighting designers and architects expose themselves to some type of risk if they implement a luminous ceiling strategy? And, by extension, what risk might there be for lighting manufacturers or a lighting components company whose products are part of an overall ceiling lighting system?

Of course, there have been numerous patent infringement cases among manufacturers, as they jockey to protect their products’ technology platforms. As the industry has transitioned to LEDs, these product-specific lawsuits are occurring with significant frequency. One way



the industry has addressed this is through licensing programs, the most notable being Philips’ EnabLED Licensing Program for LED Luminaires and Retrofit Bulbs launched in 2008.

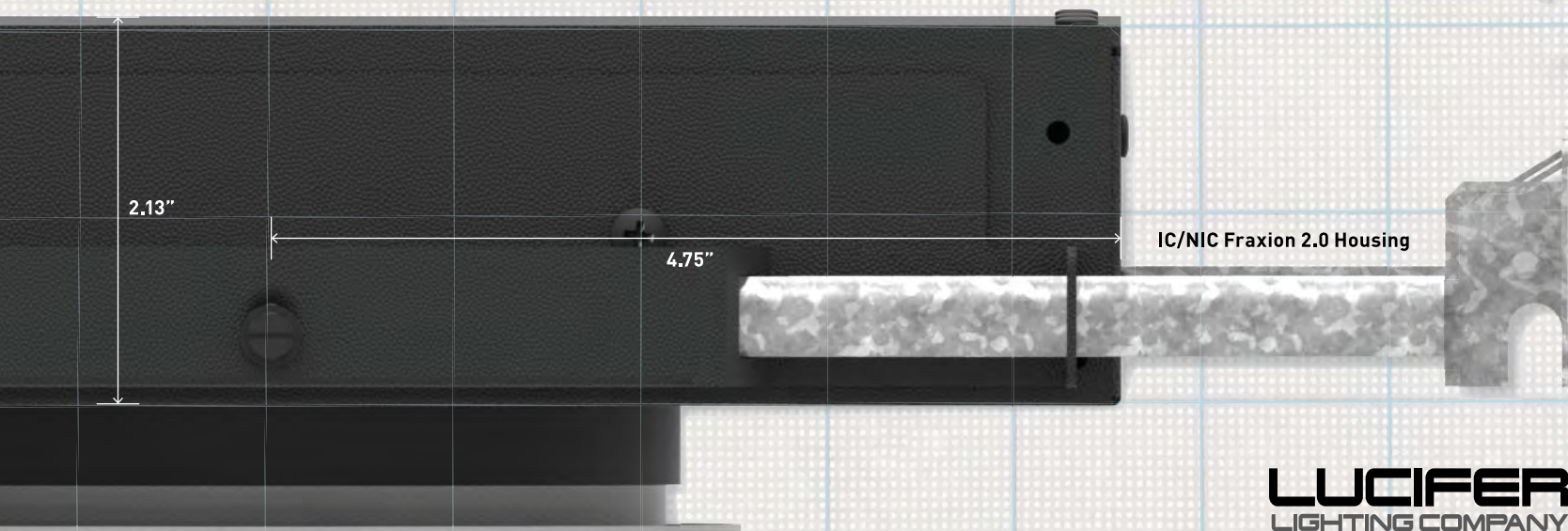
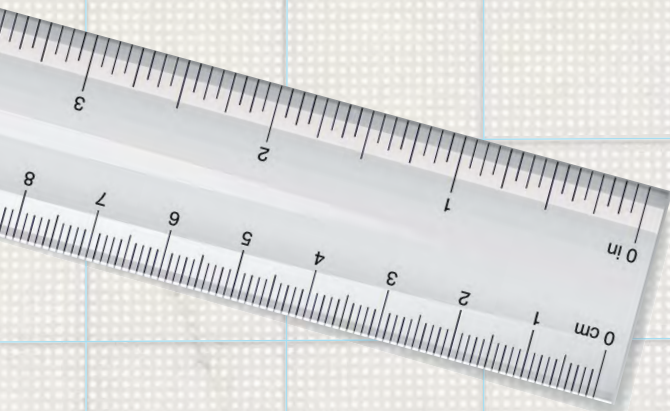
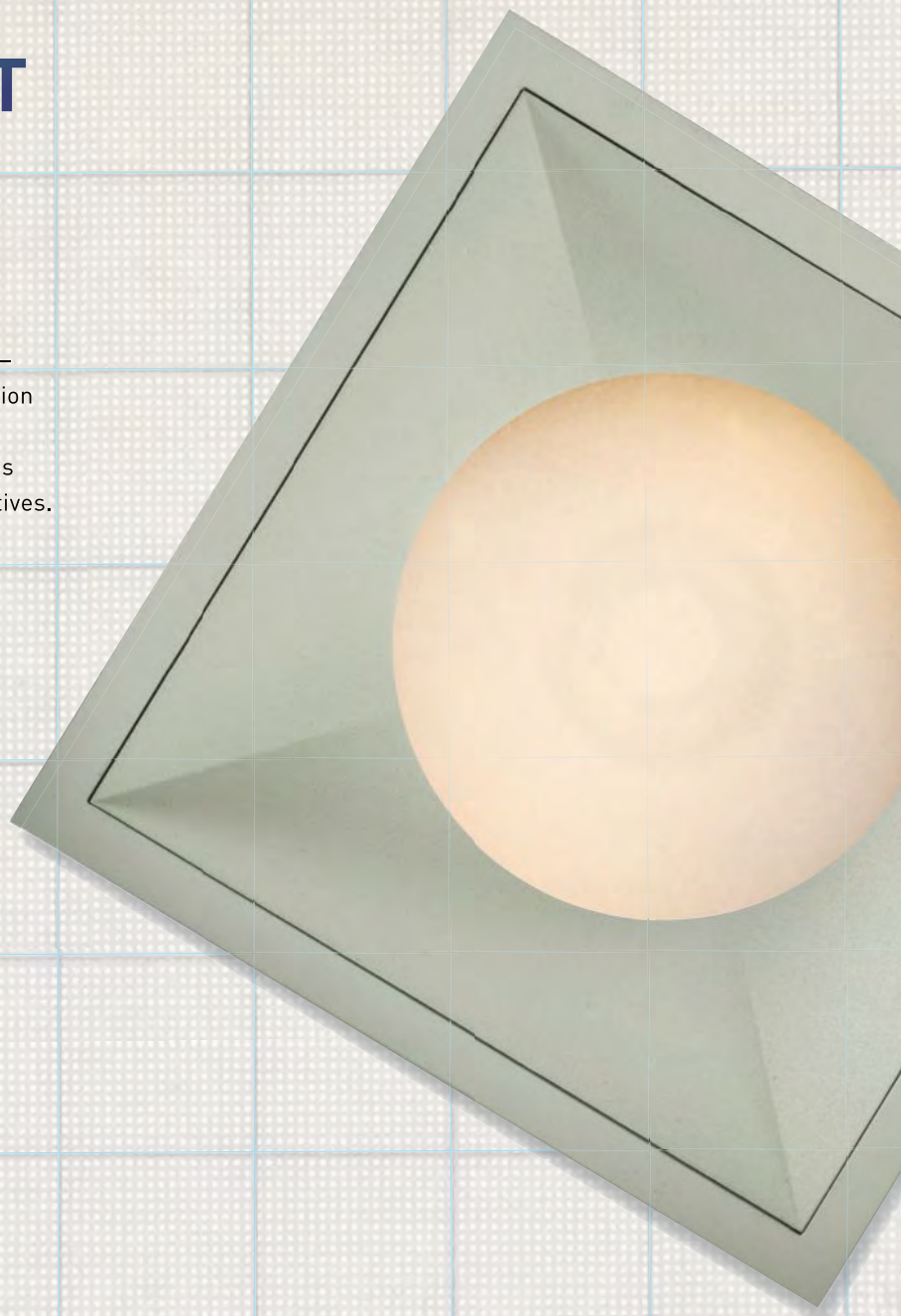
For designers, it’s an interesting issue of precedent and how we go about protecting authorship. In thinking about who owns a design, the question is: Where do you draw the line? Is it about a technical solution, a design concept, an aesthetic look? It’s certainly something to think about as lighting becomes the delivery platform for connected technologies and nonlighting companies enter the lighting market. •

Elizabeth Donoff  
Editor-in-Chief  
edonoff@hanleywood.com

# FRAXION 2.0 THE MOST BRILLIANT THINGS COME IN SMALL PACKAGES.

Introducing Fraxion 2.0™, the shallowest family of LED fixed downlights, adjustable accents and wallwashers on the market—with all the options you expect from Lucifer Lighting. This precision engineered fixture offers highly flexible, field-changeable proprietary optics—from 15° to 60°—delivers up to 3000lm and is compatible with all driver types for a variety of dimming alternatives. Sleek, industrial design provides trimless and flange-overlay options for both IC and NIC ceilings to integrate seamlessly in architecture. Fraxion 2.0: A class of its own. PATENTS PENDING.

[luciferlighting.com](http://luciferlighting.com)



**LUCIFER**  
LIGHTING COMPANY

## LED WALL PACK

Power:24W/48W/80W/100W/120W/150W  
High Luminous Efficacy up to 80LM/W  
With SAMSUNG LED chipset  
With built-in MEANWELL driver  
15°/30°/60°/60°\*135°/85°\*135° Optic Lens  
ETL Listed



- Professional OEM & ODM manufacturer.
- High Efficiency for customization solution.

## LED WALL PACK

Power:60W/80W/120W/150W  
High Luminous Efficacy up to 80LM/W  
With SAMSUNG LED chipset  
With built-in MEANWELL driver  
ETL Listed



# IN RESPONSE TO "CAN LIGHTING'S PAST BE SAVED?"

I truly appreciated your editorial "Can Lighting's Past Be Saved?" (July/August 2016, [bit.ly/2bfvIJ4](http://bit.ly/2bfvIJ4)). While we lighting designers practice the most ephemeral and abstract aspect of the architectural design profession, we all hope that our lighting projects endure. Although we know the likelihood that most of our work will be churned out of existence at some point, there are some iconic designs that we will go out of our way to view. One of those was Richard Kelly's design for the Four Seasons in the Seagram Building (shown) as well as Edison Price's remarkable lighting system. I expect that all of us have a list of lighting installations that we consider precious and feel are worth preserving or at least adapting to new, more durable technologies.



Perhaps the Four Seasons will serve as our Pennsylvania Station—the spark that ignites our vocal advocacy for the preservation of lighting design masterworks in recognition of our contribution to the quality of the built environment.

Mark Loeffler, IALD, LEED FELLOW  
Director, Atelier Ten  
Environmental Design  
Consultants + Lighting  
Designers, New Haven, Conn.

Hurrah! Your publication has noted an urgent need. Since 1983, Building Conservation International has been proposing to Lightfair and other national lighting conventions to present lectures on extending—with lighting—the life, value, and usefulness of existing historic properties erected prior to World War II. They have been rejected without explanation. Such training is also lacking in most institutions, except for Notre Dame University.

Retaining architectural "roots" to learn from and to enjoy is relevant today. It can eliminate each generation having to reinvent the wheel for empirical procedures developed over centuries of trial and error, once known, but now forgotten or no longer taught. This knowledge means profit, progress, and energy savings. Attractive "pre-war" real estate always commands a premium. With the shortage of empty space in cities, wise owner-developers are profitably revitalizing well-located, well-designed, and well-constructed pre-1940 structures. To needlessly level these buildings to erect taller, but inferior, ones that won't last the mortgage is a waste of time, effort, energy, and money.

Gersil N. Kay, IESNA, AIA/HRC  
Conservation Lighting International  
Philadelphia

Huizhou CDN Industrial Development Co., Ltd.  
ADD: No.A17,Xianghe West Road,Dongjiang Industrial District,Shuikou Town,  
Huizhou City,Guangdong Province, PRC,516005  
Sales Director: Mr. Lami Xu      Mob: +86-135 0017 4656  
Email: lamixu2016@gmail.com      Skype: dicav-lami  
<http://www.cdnlighting.cc>



# Introducing the All New Mirada Lighting Series

Architectural Area Lights, Wall Packs & Bollards with Precision Silicone Optics



Area Light  
Side View



- High-performance, precisely-molded silicone optics with scratch resistance and no discoloration over time
- Industry-leading LSI photometry through a patent-pending optical system
- Contemporary, sleek, low-profile stylings well-suited for architectural applications
- 36,000+ delivered lumens
- Available with award-winning LSI integral wireless lighting controls
- LSI poles with precisely matching finishes also available



LSI Industries Inc.  
10000 Alliance Road  
Cincinnati, Ohio 45242  
513.793.3200



[www.lsi-industries.com](http://www.lsi-industries.com)



## THE BRANDSTON PARTNERSHIP CELEBRATES 50 YEARS

Established in 1966 by lighting pioneer Howard Brandston in New York, the Brandston Partnership has worked on more than 5,000 projects around the world during its half-century. Although Brandston has since retired from day-to-day practice, the firm, under the leadership of Robert Prouse, Chiming Lin, Jungsoo Kim, Wai Mun Chui, Chou Lien, and Scott Matthews has never wavered from Brandston's design philosophy: We live in a visual culture and only by understanding the intricacies of light can one make spaces for people. With a portfolio that includes some of the most iconic projects of the past five decades, such as Expo '67 in Montreal, the relighting of the Statue of Liberty, and the Petronas Towers in Kuala Lumpur, Malaysia (shown), the firm has focused on its recent expansion in Asia, where it first started working in the 1980s. It opened a Shanghai office in 2003 and an office in Singapore this year. The result is a thriving global practice that numbers well over 80 designers. •







# Where technology and creativity come together

Whether you're looking for a source of inspiration or a reliable partner, Philips Lighting has the cost-effective, creative solutions you need to bring your lighting demands to life. Get the quality Philips portfolio of brands you've always trusted, with an approach that's unique and inspired by you.

innovation  you

Photo credit: Darius Kuzmickas

See more ways that we take light beyond illumination at [philips.com/BeInspired](https://philips.com/BeInspired)

# PHILIPS

### IN THE BEST LIGHT

In July, Böblingen, Germany-based engineering company Eisenmann received a 2016 Red Dot Award for Product Design in the subcategory of Industry, Machinery, and Robotics for its VarioInspect light tunnel. Designed to create a uniform illumination environment in which to inspect the quality of automotive paintwork, the free-standing aluminum arches that form the structure serve double duty as the light fixtures themselves. Each arch is fitted with 15 adjustable linear LED light strips that can change color temperature from 2700K warm-white to 6500K cool-white, according to what best suits the color and gloss level of the vehicle being inspected, so that paint application inconsistencies can easily be detected. The tunnel also provides compressed air supply lines, water, and power integrated into the floor for further stages of inspection. •





## Halo...

**Architectural meets decorative lighting.**

Design by Martín Azúa.



Visit [www.vibia.com](http://www.vibia.com) to discover, create and inspire.

 [facebook.com/vibia.light](https://www.facebook.com/vibia.light)  [twitter.com/#VibiaLight](https://twitter.com/#VibiaLight)

VIBIA, INC. 272 Fernwood Ave. Edison, NJ 08837. P. 732 417 1700. F. 732 417 1701. [sales@vibialight.com](mailto:sales@vibialight.com)

**VIBIA**  
LIGHT IS CREATION



### USHERING IN A NEW DAY

The National Museum of African American History and Culture (NMAAHC) in Washington, D.C., opened on Sept. 24. Thirteen years in the making, the NMAAHC, which is part of the Smithsonian, is located on a 5-acre parcel adjacent to the Washington Monument on the National Mall. The 400,000-square-foot, LEED Gold building is the collaborative effort of the Freelon Group, Adjaye Associates, Davis Brody Bond, and SmithGroupJJR. The distinctive façade design—the Corona—is composed of 3,600 bronze-colored cast-aluminum panels. Lighting design firm Fisher Marantz Stone oversaw its illumination, locating fixtures behind the panels so that the building glows from within at night while meeting the strict light-level guidelines for the Mall. The project is unique in that 60 percent of the structure is below grade. This is where the history galleries are located, and it's where you'll find the Contemplative Court, a water- and light-filled area for quiet reflection. Read more at [bit.ly/AL\\_NMAAHC](http://bit.ly/AL_NMAAHC). •



LUMISTIK  
SCALED TO FIT

COMPLETE FAMILY OF  
INTERIOR AND EXTERIOR  
BOLLARDS, COLUMNS,  
PENDANTS AND WALL  
TO ENHANCE YOUR  
ENVIRONMENT

**LUMINIS**®

[www.luminis.com](http://www.luminis.com)

# ADVANCED HIGH CEILING

# METEOR



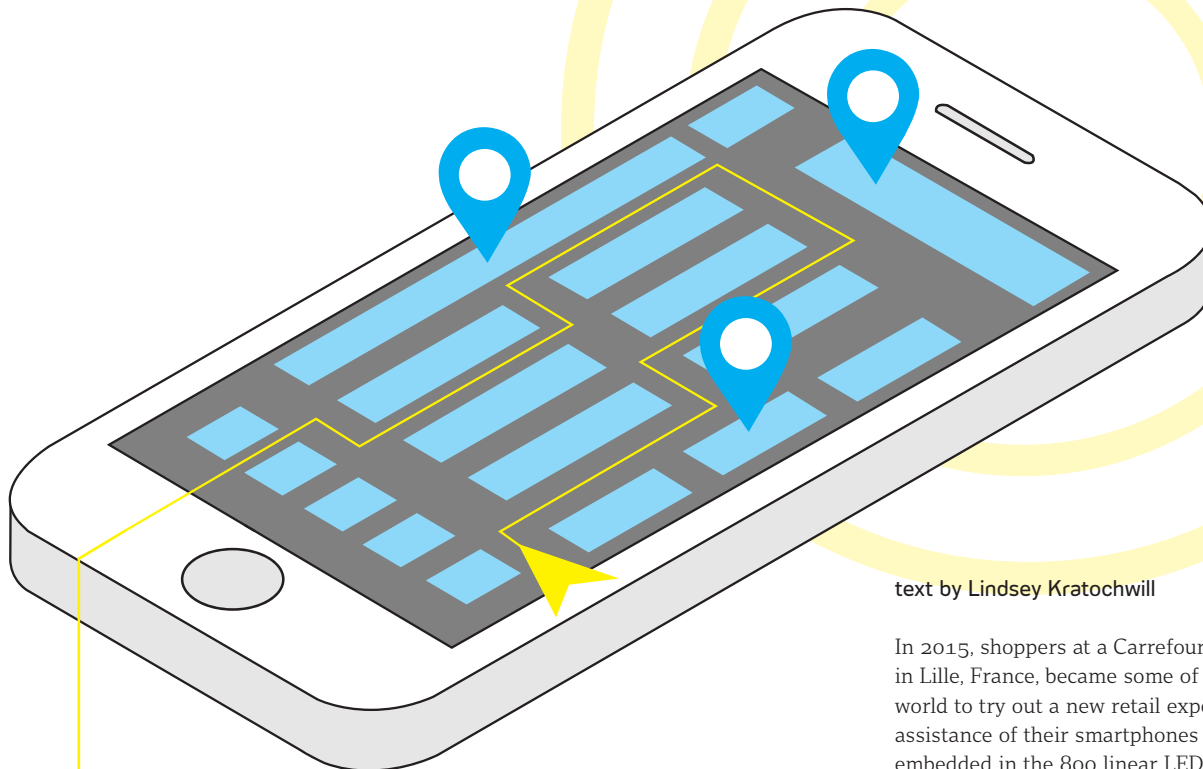
6" Recessed Downlight / Cylinder  
2000-10500lm | DMX dims to 0.1%



[www.meteor-lighting.com](http://www.meteor-lighting.com)

# SMART SHOPPING

Retailers are adopting visible light communication technology to customize the shopping experience with data gathering and information delivery via LED fixtures.



text by Lindsey Kratochwill

In 2015, shoppers at a Carrefour supermarket in Lille, France, became some of the first in the world to try out a new retail experience: With the assistance of their smartphones and technology embedded in the 800 linear LED fixtures overhead, they were directed to the exact location of the products on their list. The technology that enables this experience to work—visible light

communication (VLC)—is one of the latest evolutions in smart lighting, in this case offering retailers improved customer data collection, and shoppers a highly customized in-store retail experience.

So far, only a few lighting manufacturers are exploring VLC. Philips, which piloted the technology with Carrefour, has been working on VLC-enabled LED luminaires for the past decade, and it holds one of the foundational patents for the technology. The company is joined by other lighting manufacturers including Current, Powered by GE and Acuity Brands in their collective efforts to design luminaires that incorporate VLC technology. With the near ubiquity of smartphones and the rise of online retailers as a threat to brick-and-mortar stores, technologies that can help retailers to better reach the consumer at the traditional point of sale are beginning to enter the marketplace.

## THE POTENTIAL FOR VLC

VLC technology relies on LEDs' programmability. While fluorescent, incandescent, and halogen lamps deliver a steady stream of light, LEDs can be modulated to flicker at specific intervals. Although imperceptible to the human eye, the light creates a unique pattern when turning on and off. That sequence is captured by customers' smartphone image sensors, and with help from a companion app the data is turned into precise location information—essentially, an indoor GPS.

Because GPS pinpoints users' locations with satellites, the technology that powers smartphone maps does not typically work indoors. For years, technologists have tried to come up with a solution,

testing Wi-Fi, ultrasound, and Bluetooth low energy (LE). Prior to the emergence of VLC, Bluetooth LE was the prevailing choice, thanks to its relative ease of installation. While Bluetooth LE works regardless of where the smartphone is on the user's person, VLC requires the device to be uncovered and oriented with its screen-side camera facing the ceiling. However, Bluetooth LE is less precise than VLC, with an accuracy of a couple of meters, compared to VLC's 10 centimeters (3.93 inches).

It's that level of accuracy that brick-and-mortar retailers are after. For example, if a customer comes into the store to buy a loaf of bread, they could take their smartphone, orient its screen-side camera toward the ceiling, and

This Carrefour supermarket in northeast France is pioneering the use of VLC in its overhead LED fixtures as an indoor version of GPS to guide customers to the products they want.



open up the retailer's shopping app that they had previously downloaded. The apps typically incorporate a shopping list function, so the user can create a list of items that they intend to purchase based on the store's inventory. The app then turns that list into a personalized map, drawing a route from the exact location of one product to another, and pushing coupons or other notifications along the way. So, the customer tells the app that they are looking for a loaf of bread and it takes them there.

With VLC, location information is transmitted via the strobing of the LEDs, which is imperceptible to the human eye, while further alerts, promotions, and product information is delivered over Wi-Fi or the phone's cellular network service. The level of data that can be collected varies. For example, Acuity Brands, which sources its VLC technology from Qualcomm's Lumicast for its ByteLight indoor positioning technology, offers such services as heat maps and data analysis to identify merchandising hotspots. The technology is equally usefully for back-of-house operations, providing product tracking in stockrooms, and allowing workers to locate a customer in the store who has used the app to indicate that they need assistance.

#### UNDERSTANDING THE CHALLENGES

While retail is ahead of other industries in adopting many LED systems, they're holding back on VLC. One contributing factor is that the use cases for retailers gathering consumer data and pushing out coupons and other notifications are few—a consequence of their hesitancy to install the systems in the first place. Another, perhaps bigger, challenge stems from LEDs' inherent benefit: a long life cycle. "We tell retailers that the LEDs they put in the ceiling are going to last for 10 to 15 years," says Maulin Patel, general manager of intelligent enterprises at Current, Powered by GE. "You can put in an LED with no bells and whistles, and wait for another 15 years until you can upgrade it and make it smarter. Or, you can go with smart LEDs [from the start]." With a new technology such as VLC, Patel says, many retailers would rather watch their competitors work out the kinks than be the pioneers with this new platform.

Although lighting rep agencies are often the ones to work with facility or utility managers when selling new systems, a key stakeholder in the integration of indoor positioning technology is the marketing and merchandising team. "It's a multi-touch sales process in which we have to discuss value in many different contexts," says



# NO. 8 LIGHTING INTRODUCING THE **400-SERIES**

The Newest Addition  
To a Fine Family of  
Superior **LED** Lighting  
Products

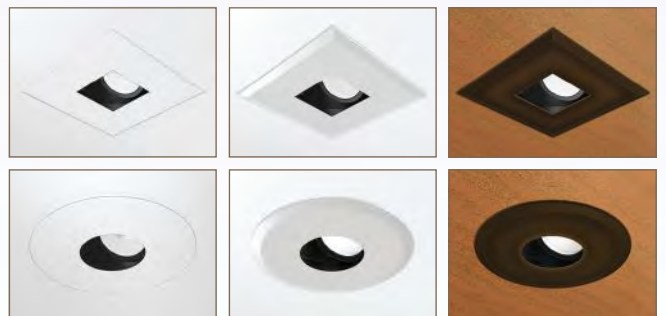


From **No. 8 Lighting** comes the new, powerful **400-Series**: Compact in design (5-1/2" overall height), offering easy installation, and easy tool-free aim & adjust—for accent, wall wash, and general lighting applications.

- Patent Pending IC, airtight, and adjustable—for existing or new construction
- Installs from below finished ceilings of virtually any thickness
- 90+ CRI 3000K/800-900 lumens at 15 watts with multiple dimming options
- 0-35° vertical/360° horizontal adjustment
- 15°, 25° & 40° beam spread options, and 2700K, 2400K and 3500K color options
- CA Title 24 Compliant
- Flangeless and Flanged, Square and Round, White and Oil-Rubbed Bronze trim options available



[8lighting.com](http://8lighting.com)



Dan Ryan, vice president of product, IoT solutions at Acuity Brands. “Our core is energy-efficient LEDs and controls, but we have to tell that story side-by-side with the story about indoor positioning.” Many use cases for VLC in the retail environment are still to be discovered, further delaying the conversation.

The richness of the data and the effectiveness of the service relies on shoppers not only choosing to opt in, but opting in even though it means giving up a degree of anonymity, particularly in the case of the location identification feature. Lighting manufacturers and retailers have responded to consumer privacy concerns by keeping VLC voluntary. For one, shoppers must not only have on their person a smartphone with the retailer app downloaded in order for VLC to track their movements, but the user also needs to hold the phone with the camera facing the overhead luminaires. That’s all much more intentional than a Bluetooth beacon, which tracks customers by pinging the phone (held in hand or stowed in a pocket or purse) using a radio signal.

Current, Powered by GE’s VLC-based apps allow shoppers to use the indoor navigation tools regardless of whether they give the app permission to collect their data. And Acuity Brands’ ByteLight indoor positioning technology combines Bluetooth LE and VLC, allowing customers to benefit from in-store tracking, for which they must opt-in, even when the phone’s screen and camera are not facing the luminaires. Such integration could make it easier for customers to use the technology, encouraging adoption. The company intends to provide retailers with mobile VLC software that can be integrated into their own apps. “With that, [retailers are] free to do whatever they want,” Acuity’s Ryan says. “They can build a couponing experience; they can build navigation experience.”

**EARLY ADOPTERS AND APPLICATIONS**

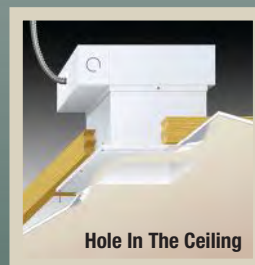
VLC is still an emerging technology, but early adopters are exploring its potential. One example is food retailer Aswaaq, based in the United Arab Emirates, who installed Philips’ VLC lighting last year. The retailer is working with digital



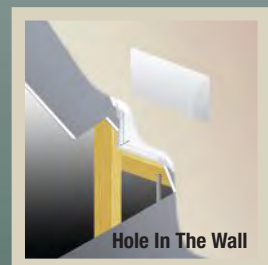
Duket Architects Planners

# Amazing Designs **DESERVE** Exceptional Luminaires

Our “HITC” and “HITW” fixtures are GRG (Glass-fiber Reinforced Gypsum) castings. When installed, they blend into the surface and appear to be custom-built drywall “light niches.” LED in all models!



Hole In The Ceiling



Hole In The Wall



**ELP** ENGINEERED LIGHTING PRODUCTS

Visit [elplighting.com](http://elplighting.com)  
 or call us at (626) 579-0943

Philips



Aswaaq, a supermarket chain in the United Arab Emirates, began experimenting with Philips' VLC technology last year, and is releasing its companion app this fall.

selux



I N U L A

High Performance. Rugged. Efficient.

Selux Inula Bollard and Column are sophisticated and energy efficient pathway luminaires designed to minimize light pollution and enhance comfort and security to courtyards or entrances.

April 26-28, 2016

Booth #5823

selux.us

selux.us

**With a new technology such as VLC, many retailers would rather watch their competitors work out the kinks than be the pioneers with this new platform.**



indoor mapping company Aisle411 to build its companion app—which will include a shopping list feature similar to Carrefour’s—and plans to release it to the public at one of its locations this fall. The retailer then will assess customers’ responses to VLC before deciding whether to roll it out to the rest of its locations.

Meanwhile, Current, Powered by GE, is putting together an “ecosystem” of software vendors, Patel says, who will contribute apps to the platform that their fixtures will use. One app, for example, will target clothing retailers to track

inventory to determine if a dress shirt has been put on the wrong display rack.

In Carrefour’s VLC pilot, the company’s app was downloaded approximately 4,000 times. Shoppers received coupons—a decision based on survey data indicating that customers wanted promotions but had trouble finding them in-store. While Carrefour is still analyzing the data to determine whether or not to implement VLC in more locations, the company is also looking into other ways to use the technology. For starters, they’ve created a Web-enabled shopping cart that relies on VLC for location services and features a touch-screen interface to assist shoppers in finding products.

The potential for VLC extends beyond retail to include object-tracking in factories and warehouses, optimizing workflow in a healthcare environment, visual zoning or geo-fencing, and more applications in which there is LED overhead lighting and a workflow or process to optimize. “There are so many things that we are doing in different spaces,” Patel says. “It’s a very exciting technology and an exciting time.” •

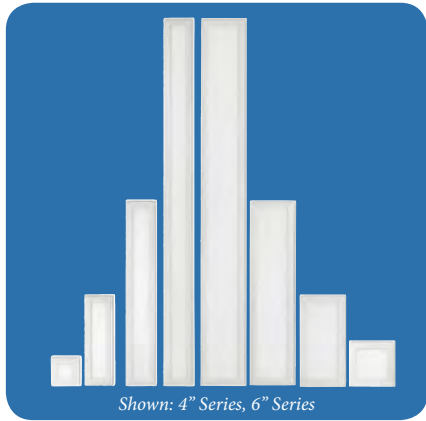


**track systems  
point source lighting  
recessed  
surface  
downlight  
accent light  
wallwasher  
wallgrazers  
modifications**

your ONE source



[www.epl.com](http://www.epl.com)



*Shown: 4" Series, 6" Series*



*Shown: Low Voltage Distribution System*



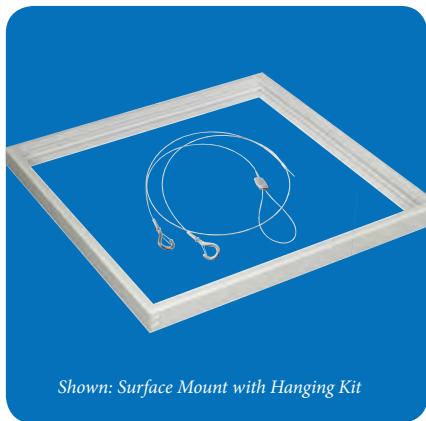
*Shown: 4" to 12" Square Downlights*



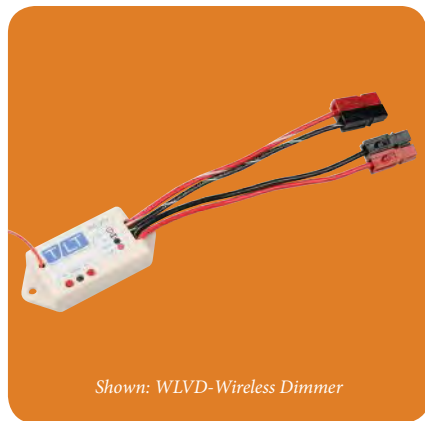
*Shown: 4" to 24" Round Downlights*



*Shown: 1'x1' to 2'x4' Panels*



*Shown: Surface Mount with Hanging Kit*



*Shown: WLVD-Wireless Dimmer*



*Shown: Wireless Ceiling Occupancy Sensor  
Wireless Wall Occupancy Sensor*

TILT™

THIN LIGHT TECHNOLOGY  
by Lauren Illumination

# System Solutions that Work.

**Architectural Excellence Brought to Life with Beautiful, Natural Light.**

TILT's low voltage Class 2 System is available in standard and custom sizes in panels, round and square downlights, and linear products. Remote drivers and a complete line of accessories and controls give you everything you need for a new way of light.

# PAGE, REAGAN NATIONAL AIRPORT



text by Elizabeth Donoff  
photos by Giulio Calisse

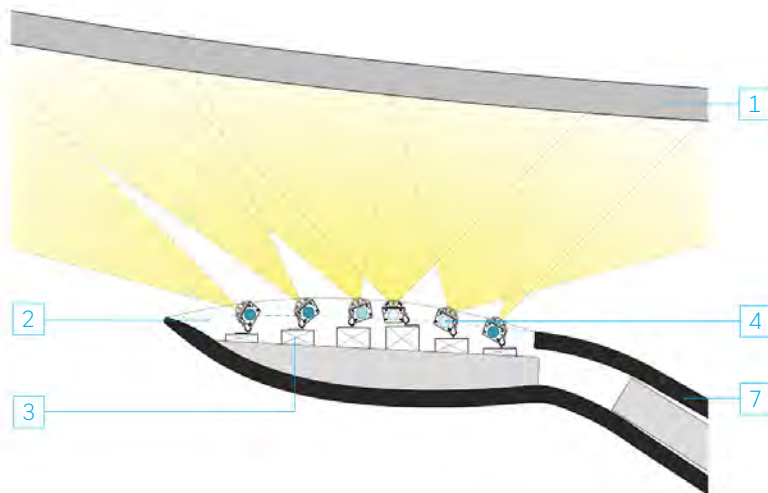
Today's air travel is filled with myriad complexities. From security checkpoints to flight delays, any number of issues can arise as people attempt to get from one place to another. How then to create amenities and accompanying spaces within an airport where travelers can sit and relax, or even grab something good to eat?

One recent example is Page in Terminal A at Reagan National Airport in Washington, D.C. Lighting designers Renée Joosten and Patricia Vallejo of New York-based ICrave were tasked with creating a welcoming spot inside this 1950s building, which was an addition to the original airport terminal (today's Terminal B)

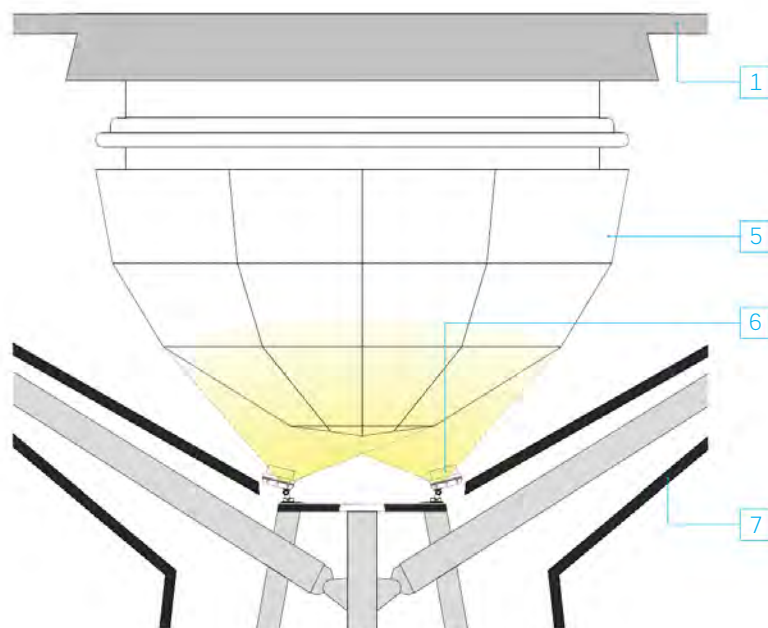
next door, which first opened in 1941. (The larger Terminal C opened in 1997.) Terminal A features a circular, open-space configuration with gates along the perimeter window wall and a ceiling whose structure recalls the look of an airplane propeller. It was this aspect of the space that inspired the designers to develop the concept for Page: one central dining spot for the entire terminal, radiating seating areas, and a feature lighting element emanating from a central column.

The focal point of the space and the lighting design are the 10 white cantilevered "petals." Inside each one are six custom four-channel

## PETAL UPLIGHTS DETAIL



## CORE UPLIGHTS DETAIL



### Legend

- |                                                      |                                           |
|------------------------------------------------------|-------------------------------------------|
| 1 Existing ceiling                                   | 4 Custom four-channel linear LED uplights |
| 2 Baffle to keep fixtures from view                  | 5 Existing speaker dome                   |
| 3 Blocking for luminaires to avoid fixture shadowing | 6 2700K LED uplights                      |
|                                                      | 7 Petal armature                          |

linear LED uplights with dynamic-white and amber LEDs. The combination of color temperatures allowed the lighting designers to create a balanced illumination given the abundance of natural light that the round terminal receives throughout the day.

Each LED array is outfitted with different optics so that a fixture's beam spread maps to the curvature of the ceiling above, producing an even wash of light and eliminating hotspots. Emanating from the central column, warm 2700K LED light illuminates the existing speaker dome. These fixtures are equipped with custom frosted lenses, baffles, and three-sided barn doors to prevent unwanted spill light or shadowing.

The project location—an active airport—proved a particular challenge. Joosten notes that they were only allowed to be on site for mock-ups, installation, and fixture focusing, between the overnight hours of 10:00 p.m. and 4:00 a.m. This made the process of developing and fine-tuning the programming for the petals' color-changing sequence, which is set to an astronomical clock, complex to say the least. The program starts one hour before astronomical sunrise, set to 2200K with saturated amber tones. As morning unfolds, the color temperature transitions to 4000K to balance the abundance of noontime light during the lunchtime rush. During sunset and nighttime hours, the crisp white light fades back to warmer color temperatures for a more calming feel. The result is a technically complex lighting solution that creates a sophisticated and inviting design feature while elevating the overall travel experience. •

### DETAILS

**Project:** Page, Terminal A, Reagan National Airport, Washington, D.C. • **Client:** OTG, New York • **Architect:** Alliance, Minneapolis • **Lighting Designer:** ICrave, New York • **Fabricator:** Eventscape, Toronto • **Project Size:** 1,536 square feet • **Project and Lighting Costs:** Not Available • **Code Compliance:** ASHRAE 90.1-2007 • **Watts per Square Foot:** 1.6W

### MANUFACTURER

**Philips Color Kinetics:** Custom four-channel linear LED uplights in the petals and custom 2700K eW Blast Powercore fixtures at core

# ABX 2016

NOV. 15-17  
BCEC, BOSTON

## ONE INDUSTRY. MANY PARTNERS.



**Mike Davis FAIA (Left)**  
President, Bergmeyer Associates, Inc.  
*26-time show attendee*

**Rickie Golden (Middle)**  
Project Director, Corcoran Jennison  
*5-time show attendee*

**Audrey O'Hagan AIA (Right)**  
Director of Interior Design, Safdie Architects  
*17-time show attendee*

Register before **October 21** to  
get free entry to the show floor!

ABX connects architects, developers, project managers, contractors,  
landscape designers, builders, and other A/E/C professionals.

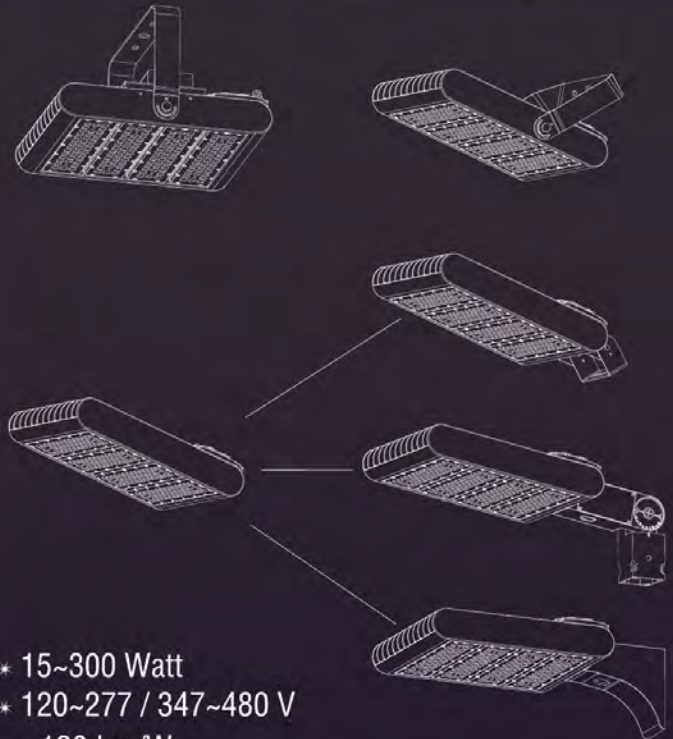
ABX is the Northeast's largest building industry conference and tradeshow.

[abexpo.com](http://abexpo.com)



PROFESSIONAL

# THAILIGHT OUTDOOR LIGHTING FIXTURES



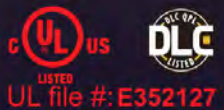
FREE CREDIT HIGHLY

**COST-EFFECTIVE**

**PAYMENT TERM** (UNDER CONDITION)

**OEM TOOLING** (UNDER CONDITION)

- \* 15~300 Watt
- \* 120~277 / 347~480 V
- \* >120 Lm/W
- \* TYPE II / TYPE III / TYPE IV



THAILIGHT SEMICONDUCTOR LIGHTING CO., LTD  
DongGuan | China T: +86 769 87061601 · F: +86 769 83713167

W: [www.thailight-led.com](http://www.thailight-led.com) · E: [info@thailight-led.com](mailto:info@thailight-led.com)

# OLEDs' OBSTACLES

Though advancements in the diffuse light source have lagged behind those of LEDs, the technology is becoming more viable for widespread use.

## TYPICAL OLED ARCHITECTURE



### Legend

- |                                  |                     |
|----------------------------------|---------------------|
| 1 Emitted RGB light              | 5 Organic compounds |
| 2 External light-extraction film | 6 Cathode           |
| 3 Glass substrate                | 7 Desiccant         |
| 4 Anode                          | 8 Glass cover       |

text by Tam Harbert

Though organic light-emitting diodes, or OLEDs, hold significant potential as a light source with unique application potential, designers will have to continue to wait before the technology is ready for mainstream architectural lighting use. Because of OLEDs' low luminance and diffused output, their applications to date have been limited to signage backlighting, sculptural installations, and conceptual prototypes. The dearth in demand has kept OLED prices high and research and development budgets low as manufacturers focused instead their attention on LEDs and improving the quality and efficacy of those point sources.

But OLEDs are attracting growing interest from lighting designers because of their simplicity, says Giana Phelan, director of business development at Rochester, N.Y.-based OLEDWorks, which acquired Philips' OLEDs business division and Lumiblade platform in 2015. "People are [experiencing] LED overload," she says. "They've had to learn a lot about waveguides and diffusers for LEDs. In comparison, OLEDs are pretty easy. They don't need anything but a driver and [a designer's] creativity."

### LEDs VERSUS OLEDs

LED and OLED technologies had measurable penetration in the architectural market around 2006 and 2011, respectively, estimates Naomi Miller, a designer and senior scientist at the U.S. Department of Energy's (DOE's) Pacific Northwest National Laboratory (PNNL), in Richland, Wash. Though they are both solid-state lighting, based on semiconductor technology, their similarities for the most part end there.

An LED is comprised of two electrodes—a cathode and an anode—that produce light when current is applied. Color temperature is determined by the type of semiconductor materials used.

By contrast, an OLED consists of layers of an organic (or carbon-based) compound, such as organometallic fluorescent chelates or electroluminescent polymers, sandwiched between the cathode and anode, and deposited on



SIMPLE SOLUTIONS  
FOR BUSY SPACES

System solution by PAL's Microlinea LED system:  
[www.pal-lighting.com/systemsolutions2](http://www.pal-lighting.com/systemsolutions2)

a substrate—typically rigid glass although some flexible materials and roll-to-roll plastics are in development. The organic materials determine the color temperature. The lack of manufacturing lines dedicated to making large OLED panels has limited their availability to small sizes, such as 2 inches square, 4 inches square, or 2 inches by 8 inches.

As in all semiconductor manufacturing, costs are high when the fabrication process is new and volumes are low. Achieving economies of scale requires strong demand, which has yet to materialize for OLEDs. Although the past five years have seen some developments in the technology, few architectural fixtures are commercially available, according to PNNL’s May 2016 report, “OLED Lighting Products: Capabilities, Challenges, Potential.”

According to the DOE’s “Solid-State Lighting R&D Plan,” published in June 2016, a best-in-class LED downlight in 2015 produced 64 lumens per watt (lm/W) and cost \$29 per kilolumen. Meanwhile, a best-in-class OLED luminaire produced 43 lm/W and cost \$870 per kilolumen, 30 times the cost of the LED.

However, the simplistic comparison is unfair for several reasons, says Miller, along with PNNL electrical engineer Felipe Leon. Miller notes that an OLED luminaire would likely serve as a sculptural piece, while an LED downlight, which

is mass produced and an established technology, would serve utilitarian purposes. “Think of comparing a basic ceiling light fixture with a chandelier,” Leon adds.

A more telling indicator may be the unit price of an OLED panel itself. The DOE R&D plan notes that the 2016 manufacturing cost is \$1,850 per square meter. That needs to drop dramatically for OLED lighting to become commercially viable; the DOE is targeting a cost of \$100 per square meter by 2025, according to the report.

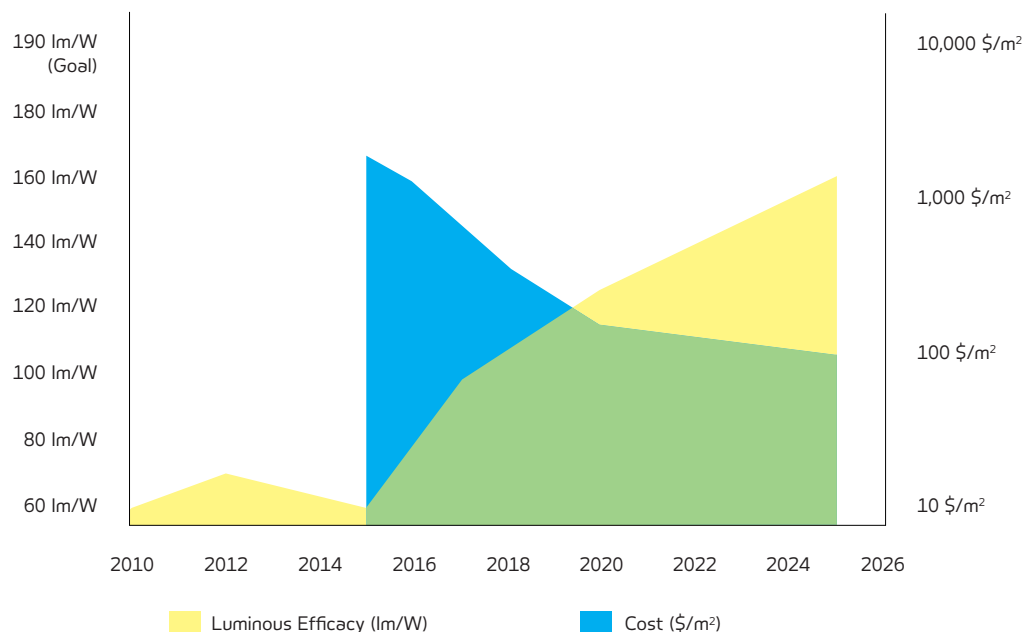
**OLED ADVANTAGES**

Still, OLEDs are appealing in architectural applications for several reasons. Whereas LEDs are points of directional light, OLED panels emit a uniform amount of soft illumination evenly diffused across their entire surface, with minimal glare. Unlike LEDs, they are cool enough to touch because the heat is distributed across a larger surface. They are also lightweight and extremely thin—less than 2 millimeters thick—and distribute light with a wide beam angle. As such, OLED panels are versatile and can be installed horizontally or vertically, and illuminate a relatively large space.

OLED fixtures also don’t need as many components as their LED counterparts, which require heat sinks and optical devices, such as

Efficacy and cost targets for OLEDs, assuming a CRI exceeding 80 and a CCT between 2580K and 3710K. The 2010 and 2012 efficacy values were achieved in the laboratory. Subsequent values are for commercial panels. Estimated cost values assume manufacturing by traditional methods.

**U.S. DEPARTMENT OF ENERGY’S OLED PANEL PROJECTIONS**



Source: U.S. DOE Solid-State Lighting R&D Plan

# FEELUX®

Change your light, change your life.



**LIGHTING UP COMMERCIAL,  
RETAIL & HOSPITALITY  
AROUND THE WORLD**



Chelsea Lofts | Photo Credit: Eric Petschek



Hillman Hall | Photo Credit: Gabe Guilliams

UNITED STATES CANADA

info@feeluxlighting.com | (678) 668-7005 | [www.feelux.com/us](http://www.feelux.com/us)

# Warm Is The New Cool



Gravity Dynamic Warm Dimming luminaires provide beautiful illumination as they dim from a bright white light to a warm glow - gradually and smoothly transitioning the light emitted from 3000K at full intensity to 1600K at 0.5% following the black body curve.

Transform any environment with 4-inch Gravity Dynamic Warm Dimming luminaires.

intense<sup>®</sup> | a LEVITON<sup>®</sup>  
LIGHTING company

Visit us at [www.intenselighting.com](http://www.intenselighting.com)

## TECHNOLOGY

diffusers, lenses, and shades. An OLED panel is innately a diffuse source that does not need a heat sink. "With OLEDs, the panel is the luminaire," Miller says.

Finally, OLEDs can be deposited on flexible substrates and thus can be configured into nearly any shape. They even can be made into a mirror or completely transparent so that they emit light from both faces.

### BARRIERS TO ENTRY

Besides cost, OLED technology faces competition in life expectancy and efficacy from LEDs. Although OLEDs have listed lifetimes of 40,000 hours at a luminance of 3,000 candela per square meter—acceptable for decorative lighting—panels pushed to higher luminance levels tend to expire earlier, according to the DOE's "OLED Lighting Products" report. A panel operated at 8,300 candela per square meter—a level appropriate for desktop tasklighting—may have an operating life of 10,000 hours, or 2.5 years.

Efficacy is another challenge. Miller estimates that today's OLED products emit 20 lm/W to 60 lm/W at the panel level, a spec that hasn't budged much in several years. OLEDs' current extraction efficiency is 30 to 35 percent, according to the DOE's R&D plan. The agency would like that number to hit 70 percent by 2020. The OLED industry is currently improving light extraction methods, including films applied to the OLED glass substrate. Internal or external extraction methods alone can increase the efficacy of an OLED panel by a factor of two or more, Miller says.

The selection of drivers not designed for OLEDs' electrical properties also contributes to their inefficiencies. After dissecting several OLED products on the market, Leon found some using two drivers, one for "converting to a voltage, and the other [an OLED driver to provide] the appropriate current level to ... allow for dimmability," he says. He believes luminaire manufacturers "may incorporate added value technology to their OLED products" to justify their cost premium. However, if drivers can be developed to complement the specific electrical characteristics of OLEDs, the panels' overall operation will improve.

Meanwhile, the rapid evolution of LEDs continues. In fact, OLEDs' chief competition today is edge-lit optics, in which LEDs placed along the edge of a panel—typically a plastic, such as polycarbonate or acrylic—use etching, diffusers, and waveguides to distribute light across the surface. Edge-lit panels are thicker than an OLED panel, at about 9 millimeters.

Manufacturers have also started to develop hybrid LED/OLED fixtures that “boost the light output and reduce cost per lumen while maintaining the aesthetic appeal of OLED luminaire designs,” write the DOE R&D plan’s authors. These first generation product offerings include Acuity Brands’ Duet SSL Technology and WAC Lighting’s Hybrid OLED/LED luminaire.

#### RECENT DEVELOPMENTS

OLEDs could achieve the DOE’s goals as manufacturers ramp up production of displays for mobile devices and televisions. Samsung phones, for example, have used such displays for years, OLEDWorks’ Phelan says. “A lot of people are carrying around OLED screens in their pockets, and they don’t even know it.”

Last year, LG transferred its OLED Light Division from LG Chemical to LG Display, which makes screens for electronics. In March, LG

**“A lot of people are carrying around OLED screens in their pockets, and they don’t even know it.”**

—Giana Phelan, director of business development, OLEDWorks

Display announced the construction of the “world’s first fifth-generation” OLED light panel factory in Gumi, South Korea, with an initial input capacity of 15,000 1,000-millimeter-by-1,200-millimeter glass substrates per month, starting in 2017.

“The input capacity will increase depending on the market situation,” says Joon Park, vice president of LG Display OLED Light Division; that increase could lead to significant price competitiveness. The company is also investing heavily in additional factories to produce larger television panels and flexible panels for smartwatches and other mobile devices. LG’s OLED Light Division can benefit from these investments, Park adds: “There will be advantages such as integrated purchasing, shared investment, increased productivity, improvement in production infrastructure, and expanded use of technology patents.”



## PATHWAY'S high lumen product family

**Covers ALL the Bases!**

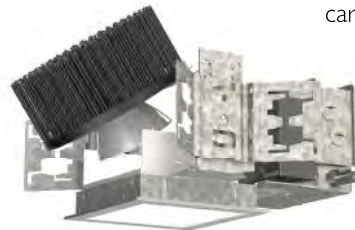


Pathway Lighting's high lumen product family covers all the bases with the most complete line of high lumen products in the industry.

- Up to 7,674 delivered lumens.
- Round apertures available in 4, 6 and 8 inch.
- Square apertures in 4 and 6 inch.
- Remodel style downlights for existing ceilings.
- Adjustable versions for sloped ceilings and accent lighting.
- Flangeless trim styles.
- Lensed solutions for health-care and shower applications.



- Decorative pendant and cylinder products.
- Dimmable to 0% or 1%.
- Available with our PathWave wireless and DMX control options.



**For more information on Pathway Lighting's complete product line, contact your sales representative.**

COMMERCIAL • INSTITUTIONAL • OFFICE • RETAIL • HOSPITALITY

**PATHWAY**  
the Lighting Source

Pathway Lighting Products, Inc.

Tel: 800.342.0592 • [www.pathwaylighting.com](http://www.pathwaylighting.com)

Meanwhile, OLEDWorks' acquisition of Philips' OLED lighting division included a factory in Aachen, Germany, capable of manufacturing higher volumes and possessing expertise in the "production of quality high-brightness panels," said OLEDWorks' CEO David DeJoy when he announced the acquisition in April 2015.

Both LG and OLEDWorks are currently exploring flexible OLEDs. LG Display demonstrated flexible panels in myriad fixture configurations at Light+Building in 2016. And OLEDWorks has demonstrated a bendable product that uses Corning's Willow Glass, a flexible glass 100 to 150 microns thick that can be rolled up like a sheet of paper.

While OLEDs face barriers, the technology is still in its infancy. LED lighting, in its early years, struggled with many of the same difficulties. The difference, according to the PNNL report, is that "OLED manufacturers have the advantage of having watched and learned from the LED industry working through these problems." As such, OLEDs will likely become a dynamic and versatile source for lighting designers in due time •

**SELECT RESOURCES**

An introductory list of references on OLED technology and products.

"Solid-State Lighting R&D Plan," by the U.S. Department of Energy, June 2016. Available at [bit.ly/2cPTego](http://bit.ly/2cPTego).

"OLED Lighting Products: Capabilities, Challenges, Potential," by the U.S. Department of Energy, Pacific Northwest National Laboratory, May 2016. Available at [bit.ly/2cPTWdH](http://bit.ly/2cPTWdH).

"2014 Status Report on Organic Light Emitting Diodes," by the European Commission, Joint Research Centre, 2014. Available at: [bit.ly/2cC39mj](http://bit.ly/2cC39mj).

"Five Products and Trends Shaping the Market for OLED Lighting," by Hallie Busta, ARCHITECTURAL LIGHTING, March 31, 2015. Available at [bit.ly/2c8DW3E](http://bit.ly/2c8DW3E).



Simplicity is the Ultimate Sophistication

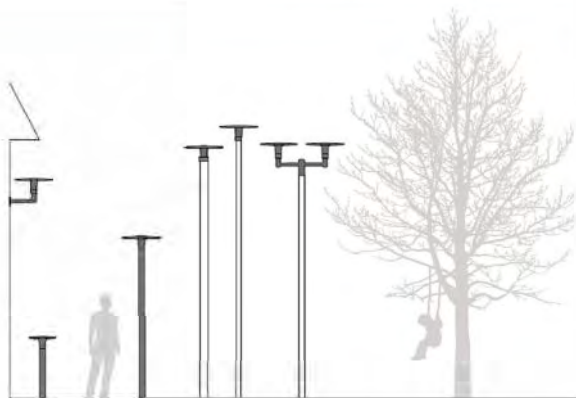
~Leonardo da Vinci

PRISMA Architectural by Performance iN Lighting presents the newest form factor in Urban Lighting

This is SPILLO

For more information on SPILLO and the other form factors leading today's environmentally aware lighting designs, visit us at our newly updated website.

[www.pil-usa.com](http://www.pil-usa.com)





# FORTE

CUSTOM LED ILLUMINATED MIRROR

The Forte is a LED illuminated mirror with side glass walls and perimeter backlighting, creating a 3-D aura of light.

Custom sizes and optional features are available.

Explore all of our luxury mirror options available on our website at

[www.aamsco.com](http://www.aamsco.com).



THE INTELLIGENT ALTERNATIVE SOURCE<sup>SM</sup>

**AAMSCO LIGHTING, INC.**

100 Lamp Light Circle  
Summerville, SC 29483

1-800-221-9092 • Fax 843-278-0001

# Build your team at the AIA Career Center.

Put us to work for you. Post your firm's open positions with confidence and connect with 30,000+ highly qualified architecture and design professionals.

Visit the AIA Career Center today. [careercenter.aia.org/employers](https://careercenter.aia.org/employers)



**AIA**

# NEW CIRCUIT DESIGN -----LED BR30 650LM



- 1) Which can be compatible with Bluetooth & Triac dimmer
- 2) Original circuit design with patent ;
- 3) Bluetooth & Triac dimmer can be widely used in LED light source & LED Luminaire.



Tel:86-755-21389841 Email: daisy.liu@scjz-led.com  
www.jiuzhou-intl.com www.scjz-led.com

## LED linear light

LED linear light is exclusively designed for designer and architect with imagination and personal style. LED linear light adopt premium aluminum profile, different dimension and size, easy to install. 3 types installation method: ceiling mounted type, suspended type and embedded type, and different customized dimensions are also acceptable, which can meet installation requirement of different fields and occasions.



Three colors of lamp body, white, black and silver.  
Simple and modern design, screwless at end cap.  
Extrusion aluminum lamp body and PC cover.  
Smooth and soft lighting effect, no dark dot and shadow at the lighting area.

Various installation:



Hong Kong International  
Lighting Fair (Autumn Edition)  
Hong Kong Convention and  
Exhibition Centre  
Date: 27-30 October 2016  
Booth No. 5E-C01



www.signcomplex.com  
marketing@signcomplex.com  
phone: +86 755 2760 8650  
fax: +86 755 2760 8651

1



## LUMINAIRES THAT STEAL THE SPOTLIGHT

These eight fixtures mix form and function to provide even illumination for retail and hospitality, while showcasing their own streamlined designs.

2



3



5



4





text by Selin Ashaboglu

**1 Spider, Studio Italia Design** • This arachnid-inspired, globular pendant can be mounted individually or in a group. The 8.7W LED fixture measures 4.72" in diameter and can be suspended at a maximum length of 157.48" from the ceiling. Offered in 3000K at a CRI of 80 and delivering 650 lumens, the IP20-rated Spider can be rotated 90 degrees for focusing purposes. It is offered in a chrome frame and four diffuser finishes including matte white, chrome (shown), gold, and rose gold. • [sid-usa.com](http://sid-usa.com)

**2 myRoom, Lutron** • Designed for hospitality settings, this family of guest room control systems can manage the temperature, illumination, and shading of a room. Available in two packages—myRoom Prime and myRoom Plus—the latter integrates with building management systems, property management systems, door locks, and third-party concierge systems for hotels. It employs occupancy sensors and energy-saving controls. The Plus package comes with custom Lutron system components such as shades, keypads, room controllers, thermostats, and load controls. • [lutron.com](http://lutron.com)



**3 Giraffa, Pablo** • Designed to illuminate desktops or for use as a bedside reading lamp, this high-output, chip-on-board LED luminaire allows for both direct and indirect lighting, thanks to a fully rotatable head. Measuring 13" tall by 2.25" wide, the 4.6W fixture is available in 3000K with a CRI of 90-plus and an efficacy of 56 lumens per watt. Giraffa comes in gloss white lacquer, brushed copper (shown), and black anodized aluminum finishes, with a full range of dimming control. • [pablodesigns.com](http://pablodesigns.com)

**4 Velato LED, Amerlux** • This family of recessed multiple fixtures comes in one-, two-, and three-lamp configurations to create semi-customizable illumination for retail spaces. Available with trims or without, in 16W or 18W, the frame is made of stamped steel with integral mounting bars. Velato is offered in 2200K, 2700K, 3000K, 3500K, and 4000K with a CRI of up to 97 and has a steel driver-housing. The luminaire requires a 120V or 277V system, is zero-to-10V dimmable, and comes with a variety of beam spreads including spot, narrow flood, and wide flood. • [amerlux.com](http://amerlux.com)



**5 Mute, Eureka** • The signature feature of Mute, a decorative-style pendant, is its shade, which is composed of 12 polyester acoustic fins made of CNC-cut recycled PET bottles and wrapped in felt. The fins provide a Noise Reduction Coefficient rating of 0.75. The 24W LED luminaire is offered in 3000K and 4000K and uses 120V or 277V. The shade is available in three felt colors: red, charcoal (shown), and beige. • [eurekalighting.com](http://eurekalighting.com)

**6 Asterix, Christopher Boots** • Inspired by the shape of the asterisk symbol, this luminaire is a modern take on the iconic shape of a traditional lantern. The 19.7"-tall by 19.7"-diameter pendant can be suspended from a 35.4"-long rod and has a matching ceiling canopy. The 106W fixture can be fitted with a warm-white LED (2500 to 2700K), neutral-white LED (2800 to 3300K), and cool-white LED (4000K to 4500K). Asterix is zero-to-10V dimmable and comes in finishes of anodized aluminum and charcoal, polished aluminum, as well as polished brass and lacquer (shown). • [christopherboots.com](http://christopherboots.com)

**7 Capture Flush Mount, LBL Lighting** • Held in place by a metal band, this 6.6"-diameter LED orb can be mounted vertically or horizontally on either a wall or a ceiling. The 27W Capture comes in 3000K with a CRI of 90, and delivers 1,000 lumens. The fixture requires 120V or 277V power and is dimmable by use of a low-voltage electronic dimmer. Available in satin nickel (shown) and matte white finishes. • [lblighting.com](http://lblighting.com)

**8 EF400 System, LF Illumination** • This aluminum recessed linear channel system can now be fitted with fully adjustable EF408 LED heads. The accent light fixture heads come in 9W, 14W, 21W, and 28W LEDs with an output of 800, 1,100, 1,500, and 1,700 lumens, respectively. These 3.15"-diameter luminaires are offered in 2700K, 3000K, 3500K, 4000K, and 5000K at a CRI of 80 or 95. The system can be mounted on an aluminum extension arm, side-channel magnetic mount, or EF400-EF4BNS channels (shown). Dimmable and suitable for damp locations. • [lfillumination.com](http://lfillumination.com)



-20°C to 50°C

Meanwell HBG Series



**EFFICACY**  
140lm/w

5 years  
Warranty

**UFO HIGHGAY**

100W/150W/200W/240W, 140lm/W  
IP65, THD<15%, Flicker Free  
AC120-277V, 0-10V Dimming



Philips 3030 L90>36,000 hours

**DLC 4.0 PREMIUM IN PROCESS**

**EFFICACY**  
130lm/w

5 years  
Warranty



**LED TROFFER**

2'x2(24W/30W/36W)  
2'x4'(36W/40W/45W), Flicker Free  
AC100-277V, 0-10V Dimming



Steel plate + PC cover



**HONGLIZHIHUI**  
鸿利智汇集团股份有限公司  
stock code: 300219



**LEDIA**  
萊帝亞照明

**Guangzhou LEDIA Lighting Technology Co., Ltd**

Factory Add: 1 Xianke 1st Road, Huadong Town, Huadu Dist., Guangzhou, China

E-mail: [steven.deng@ledialighting.com](mailto:steven.deng@ledialighting.com)

Tel: 0086-20-37706057

US Add: 8 Bond St Ste 301 Great Neck, NY11021

US SALES OFFICE: QUICK RESPONSE & INSTANT SERVICE

E-mail: [sales@ledialighting.com](mailto:sales@ledialighting.com)

US Tel: +1-516-504-8000

[www.ledialighting.com](http://www.ledialighting.com)



The Vode ZipTwo™ micro-profile LED is, at 9mm thick, barely a line in space. Thin as it is, it delivers 800 lm/ft and mounts in a snap. For contractors and designers, **consider it a peace offering.**





Let the Drywall be Your Canvas

**TruLine .5A**

Blends Seamlessly Into 5/8" Drywall

[www.purelighting.com](http://www.purelighting.com)



# VOKSLYTE™

Merging the art of metal and the science of light



TANGENT Down™ Trimless Mud Flange • Escola De Negocios - Sao Paulo, Brazil • Design: Ventana Lighting Solutions

## TANGENT™

Tangent™ LED luminaires can be manufactured as:

-  ellipses
-  curvilinear
-  circles
-  rectangles
-  freeform
-  arcs

Why choose from a limited family of standard curvatures or shapes, when VoksLyte™ will manufacture exactly what you want. Available in hanging or recessed shapes to wherever your imagination leads you.

**Unconstrain yourself...the possibilities are endless.**



TANGENT UpDown™ Pendant • Nemours duPont Pediatrics, Deptford, NJ • Design: Array Architects



# CONSUMER APPEAL

text by Elizabeth Donoff

Every project type has its own specific application criteria, and lighting for retail and hospitality projects is no different. Retailers, restaurateurs, and hoteliers need to make an impression, and they jockey to create unique brand identities that will draw customers, preferably repeat customers. It's about making a statement—however subtle or extreme—to create a signature experience that stands out from the competition.

The four projects on the following pages showcase the diversity of illumination solutions, as the lighting designers were asked to respond to different project scales, programs, budgets, and aesthetic viewpoints. In order to inspire, various degrees of spectacle are used to elevate shopping, dining, and travel beyond everyday experiences to become memorable occasions. Consumers are looking to be engaged. Lighting, in turn, not only has to aid in creating a distinct setting and atmosphere but also highlight the goods and services on display. The goal after all, is to encourage the purchase, whether it be for a garment, a bottle of wine with dinner, or a return stay. •

Bistro area of Swift & Sons  
steakhouse in Chicago



### Details

Project: Swift & Sons, Chicago • Client/Owner: Boka Restaurant Group, Chicago • Designers: AvroKO, New York • Lighting Designer: Lightswitch Architectural, Chicago • Project Size: 10,000 square feet • Project and Lighting Costs: Withheld • Code Compliance: ASHRAE 90.1-2010 • Watts per Square Foot: 0.8

### Manufacturers

Away Brands/EldoLED: Drivers for LED tape light • Crestron: Lighting control system with five presets • Luminii: 3W 2700K LED tape light for lighting details at ceiling coves, countertop edges, and stair treads • Ketro: PAR38 lamps for downlights • Paul Richard George Hospitality: Custom-designed luminaires throughout the project including ceiling-mounted brass plated pendants in concierge area, dining rooms, and bar area and wall sconces in bathrooms • USAI Lighting: 4W 3000K PAR38 LED downlights in dining rooms



## SWIFT & SONS, *Chicago*

text by Belinda Lanks

photos courtesy Bokā Restaurant Group

At Swift & Sons, a new steakhouse in Chicago, New York-based design firm AvroKO worked with Chicago-based lighting design firm Lightswitch Architectural to transform a 1920s cold-storage warehouse into a fine-dining location that creates the fictitious headquarters of the very real 19th-century meatpacking tycoon Gustavus Franklin Swift. To carve out distinct zones in the 10,000-square-foot restaurant, the designers created decorative custom pendants for the bistro and two formal dining rooms. Concealed light strips highlight the curves in arches and ceiling coves, which feature custom-designed brass-plated chandeliers. To keep the lighting consistent from day-to-day, there is a lighting control system with five settings, or “scenes.” Switching from early to mid-evening involves a push of a button to create a consistent mood without compromising the look of an old-time fine-dining experience. • [Read more at bit.ly/AL\\_Swift](http://bit.ly/AL_Swift)



# BARNEYS NEW YORK DOWNTOWN FLAGSHIP, *New York*

text by Mimi Zeiger

photos by Scott Frances/OTTO

Barneys New York returns to its Chelsea roots with a glamorous 55,000-square-foot flagship store. Designed by New York-based firm Steven Harris Architects with lighting design by Cooley Monato Studio (CoMoS), the five-story retail space evokes the luxury of the early 20th century through a rich material palette: marble, glass, and metallic surfaces. Emily Monato, CoMoS principal, worked closely with the architectural team to integrate low-wattage LED sources into the merchandise displays. The store's centerpiece is a dramatic spiral stair. Careful to maintain the design integrity of the powerful form, CoMoS installed shielded, in-grade LED uplights in the treads and LED light strips at the handrail. The elegant solution highlights the stair without overpowering it. Just as the shopping experience is made-to-measure for style and a luxurious identity, the seemingly simple pairing of light and materials creates a tailored homecoming for the brand. • [Read more at bit.ly/AL\\_Barneys](http://bit.ly/AL_Barneys)









### Details

**Project:** Barneys New York Downtown Flagship, New York • **Architects:** Steven Harris Architects, New York, and Lalire March Architects, New York • **Engineer:** Rosini Engineering, New York • **Lighting Designer:** Cooley Monato Studio, New York • **Interiors:** Rees Roberts + Partners, New York • **Project Size:** 52,425 square feet  
• **Project and Lighting Costs:** Withheld • **Code Compliance:** ASHRAE 90.1-2010 • **Watts per Square Foot:** 1.91

### Manufacturers

**Aculux:** Ceiling-recessed 14.8W 2700K, 3000K, and 3500K LED downlights throughout the store and 20.6W 3000K ceiling-recessed downlights near window area in fine jewelry department • **Eklipse:** 7.5W 3000K linear LED light tape to uplight "Amoeba" coves in sales areas • **Feelux:** 3.5W-per-linear-foot 3000K LED fixtures mounted under banquettes and lounge benches at Freds • **GE Lighting:** Lightech LED driver for fixtures at freestanding jewelry cases • **LED Linear:** 4.7W-per-linear-foot 3000K light tape for spiral stair handrail  
• **Loupi:** 1.5W 3000K LED accent light at freestanding jewelry cases • **MP Lighting:** 1W 3000K in-grade LED uplight installed every third tread on the spiral stair; 2.5W 3000K tread uplight • **OptoLum:** 8W-per-linear-foot 3000K LED linear fixture for undershelf lighting

# GENERATOR AMSTERDAM, *Amsterdam*

text by Clay Risen

photos by Nikolas Koenig

Generator Amsterdam is the latest in a new breed of hostel that trades barebones amenities and cramped quarters for high design and funky social spaces. To make it work, DesignAgency, the Toronto firm in charge of the interiors, worked closely with Blom & Blom, an Amsterdam company that specializes in rehabilitating antique, industrial lighting, often from the former East Germany. Blom & Blom installed pendant fixtures throughout the building, as well as the lighting feature in the Auditorium Bar (below), in the building's former lecture hall. Seventy custom-designed pendants were fashioned from laboratory glassware and fitted with 1.5W 2700K LED lamps. But it is the fixtures in the lobby—three massive fluorescent fixtures called Black Rhinos—that make the first and most lasting impression. Designed to illuminate large factory spaces, the fixtures' industrial heft provides a counterpoint to the light- and whimsy-filled lobby. • [Read more at bit.ly/AL\\_GA](http://bit.ly/AL_GA)







#### Details

**Project:** Generator Amsterdam, Amsterdam • **Client:** Generator Hostels, London • **Lead Designers (interiors):** DesignAgency, Toronto • **Lighting Designer:** Artec, Amsterdam • **Project Size:** 6,995 square meters (75,294 square feet) • **Project and Lighting Costs:** Withheld • **Code Compliance and Watts per Square Foot:** Not applicable

#### Manufacturers

**Alexander & Pearl:** Area Black & White Industrial Swivel Wall Light in stairwells • **Anglepoise:** Original 1227 Giant floor lamp in café; Original 1227 brass table lamp and wall sconce in rooms; and Original 1227 brass table lamp and bedside wall fixture in luxury suite • **Blom & Blom:** Large pendants and column lighting for lobby; pendants above bar in the café; feature lighting in the Auditorium Bar; luminaires for basement bar; Blackbird pendant in rooms; and pendants and bathroom wall sconces in the luxury suite • **Flos:** Arco floor lamp in Auditorium Bar • **Holloways of Ludlow:** Stirrup floor lamp in basement bar • **Karman:** Via Rizzo 7 pendants in breakfast area • **Merci:** Bathroom wall sconce for rooms • **Moooi:** Paper chandelier in steel-frame house in café • **Resident Studio:** Cross pendant in library lounge • **Zero Lighting:** Daikanyama ceiling pendant in breakfast area and entrance



## Details

**Project:** Hyatt Herald Square Lobby, New York • **Interiors:** VLDG, Edgewater, N.J. • **Architect of Record:** Nobutaka Ashihara Architect, New York • **Engineer:** Edwards & Zuck, New York • **Lighting Designer:** PHT Lighting Design, New York • **Project Size:** 3,417 square feet (first floor front of house) • **Project Costs:** Withheld • **Lighting Costs:** \$30 per square foot (lobby scope of work) • **Code Compliance:** ASHRAE 90.1-2007 (with additional decorative lighting and retail allowance) • **Watts per Square Foot:** 0.85

## Manufacturers

**Contract Lighting:** Ceiling-recessed small-aperture (narrow-beam) downlight with MR16 LED lamp • **Flos:** Piani decorative lamp at guest desk • **Future Perfect:** Decorative glass pendants at bar—special-edition Clamp Pendant by Lindsey Adelman • **Ligne Roset:** Decorative pendant at lounge • **Philips Color Kinetics:** iW Fuse Powercore dynamic-white LED wall grazer with a dynamic range 2700K to 6500K with iPlayer3 DMX interface (4-foot fixture, each 50W) behind clerestory and back bar glass blocks • **Soraa:** 9.8W 2700K MR16 LED lamps for ceiling-recessed downlights • **Stickbulb:** 3000K LED wooden decorative stick pendant at lounge and Torch table lamp at reception desk • **WAC Lighting:** InvisiLED Pro 2—4W-per-linear-foot 2700K tape light—for ceiling cove light, behind wood planks, and bar liquor shelf



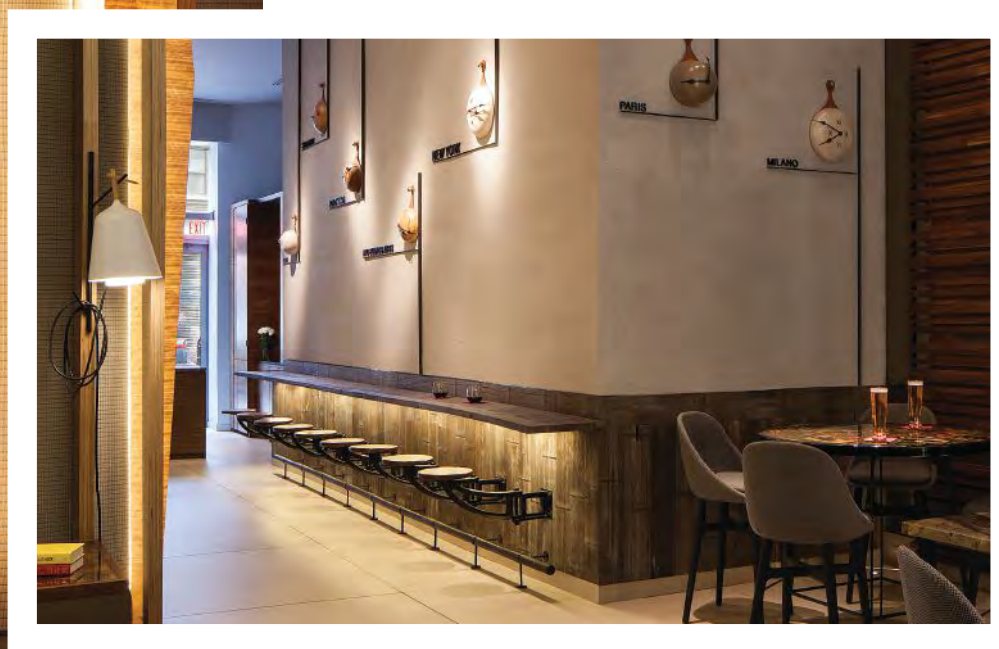
## HYATT HERALD SQUARE LOBBY,

*New York*

text by Timothy Schuler

photos by Peter Kubilus

For the renovation of the Hyatt Herald Square lobby, PHT Lighting Design has deftly created the illusion of daylight with little more than glass block and tunable white LEDs. The reception desk and lounge was severed from the daylight-filled entrance by an 18-foot-wide elevator core in the middle of the lobby's 32-foot-wide floor plate. To stitch the two spaces back together, PHT founder Peiheng Tsai designed a custom clerestory light box that wraps around the perimeter of the lounge and gives hotel guests the impression of natural light. Built out of 4-inch-thick industrial glass block and uplit with dynamic white LEDs, the system transitions from 5000K during the day to 3500K at dusk and then to 2700K at night. Thanks to an astronomical clock, the clerestory "windows" even respond to seasonal changes in the times of sunrise and sunset. • [Read more at bit.ly/AL\\_HHSL](http://bit.ly/AL_HHSL)





**RA2LRM**  
2" LED  
Recessed Downlight



**CTL806H**  
Horizontal Housing  
LED Track Luminaire



**CTL806V**  
Vertical Housing  
LED Track Luminaire



**R2ARM**  
2" LED Adjustable  
Recessed Downlight



## high performance LED luminaires

- A family of high performance, small scale luminaires available for Track, Recessed and Cylinder applications
- Available in up to three (3) wattage/lumen packages delivering up to 1800 lumens (10W/1100lm, 14W/1400lm and 20W/1800lm)
- Featuring our field interchangeable TIR optics; providing 3 standard beam distributions including a 12° Spot, 28° Medium and 39° Flood beam
- Available for dimming and non-dimming applications



**CY3**  
3-1/2" LED  
Cylinder



**CTL84C Series**  
LED Cylinder  
Track Luminaire



**R2SQRM Series**  
2" LED Square  
Recessed Downlight

### INTRODUCING:

- The **CY3** utilizes the features and benefits of the O2 Mini family using a small 3.5" diameter cylinder. Available in Ceiling Mount, Pendant Mount, Wall Mount and Up/Down Wall Mount configurations
- The **CTL84C** track luminaire is now available in a sleek cylinder providing an attractive design perfectly suited for gallery, museum or retail applications
- The **R2SQRM** 2" Square Recessed Downlight is the perfect square accent for remodel and new construction applications

**CONTECH**  
LIGHTING

**eco**TECHNOLOGY  
sustainable energy solutions

www.contechlighting.com

**FLX Stix NDPro Series**  
LED for display, cabinet and cove



**FEELUX**

Ultra slim profile, spot free, seamless engineered fixture with tight pitch LEDs for even surface illumination and perfected color consistency. 90+ CRI. Dimmable.

[www.feelux.com/us](http://www.feelux.com/us) | 678-668-7005

**CONTECH LIGHTING**  
LED SOLUTIONS  
EFFICIENT ENERGY SOLUTIONS



**R2A SERIES**

- 2" Recessed Adjustable Downlight
- Revolutionary MR16 size light engine
- More light and a more beautiful beam
- Less wattage than traditional halogen

[www.contechlighting.com](http://www.contechlighting.com)

**ImagiLux**  
ULTRA-THIN LED PANELS  
SEE [▶ imagiluxled.com/AL](http://imagiluxled.com/AL)

**LIGHT DIRECTORY** ARCHITECTURAL LIGHTING RESOURCE

**LIGHTDIRECTORY.COM:** Products, Catalogs, News, Jobs, Events, iPhone/Android apps

Aamsco has patented The ALINEA LED as the replacement for the incandescent lamp which has been discontinued. With an average life of 50,000 hours and a 3 year limited warranty, it will ensure many years of use without the frequent re-lamping that is typical of incandescent lamps. The ALINEA LED is available in two color temperatures; 2400K with 90CRI and 3500K with 85CRI. The ALINEA LED fits into all existing ALINEA luminaires, as well as in any fixture using a standard S14s socket, with no modifications needed.

Consider the ALINEA Luminaire when choosing a lighting solution in your next design.



[www.aamsco.com](http://www.aamsco.com)

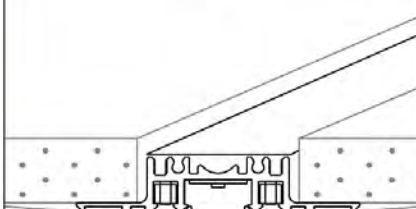


**DIALux evo – the next generation of lighting design**



DIALux evo offers a completely new approach to specifiers. Room-based light planning is no longer up to date. Now the building in its entirety including the effect from outside is taken into account. And as always: the complete software package is absolutely free of charge. Get your free copy at [www.dialux.com](http://www.dialux.com).

**whitegoods**



[inter-lux.com](http://inter-lux.com)



**VokLyte™ Tangent UpDown**

Available in any custom diameter, freeform, ellipse, curvilinear, rectilinear, rectangular, racetrack and straight...you get the message.

[www.VokLyte.com](http://www.VokLyte.com)


**EDISON PRICE LIGHTING**

LIGHTING MASTERPIECES




[www.epl.com](http://www.epl.com)

**You Imagine It, We Light It.**



Panels, Downlights, Linear, Controls, Accessories and More

[laurenillumination.com](http://laurenillumination.com)  
855.440.8458



**Re-think the ceiling**



Philips OneSpace prefab gives light which evokes the feeling of daylight, creating a serene and calm space. You can transform any interior with beautiful, homogenous light which feels as good as it looks. OneSpace prefab was designed to be discreet and blend into minimalist designs. Visit [philips.com/onespace](http://philips.com/onespace).

**PHILIPS**

**PAL Microlinea Series 5 Wet Location**



Introducing a rugged new series that enhances your exterior spaces while resisting the elements:

- Waterproof, dustproof and insect-proof (IP65-rated) for long life in demanding conditions
- One-piece extruded and gasketed snap-in lens delivers optimized output via maximum diffusion and high transmittance
- 0-10 volt dimming standard (available dimming to 1%)
- Delivered lumens of 806/foot at high output and a 4-ft. total light output of 3226 lumens at 41 watts
- Power consumption of approximately 10 watts/foot at high output and 5.5 watts/foot at medium output
- Temperature-rated from +40 to -40 C. (with cold-weather driver) for high reliability

**PAL Precision Architectural Lighting**  
[www.PAL-lighting.com](http://www.PAL-lighting.com)  
 +1.713.946.4343

**MayaLED MA30**

**Zero uplight**

The MayaLED MA30 is a new pedestrian scaled bollard designed to compliment the existing MayaLED family of wall and post top luminaires.

- Beautiful design
- Great performance
- Absolute control
- Full cut-off

[luminis.com](http://luminis.com)

**LUMINIS**

**Unparalleled light output, intelligent color**



The newest generation of the Philips Color Kinetics Color-Reach Compact Powercore LED floodlights provide more punch and light quality for exterior long throw applications, allowing you to maintain optimum light output and color integrity on tall, prominent iconic structures, signature facades, and bridges.

Visit [colorkinetics.com/l/rgb/colorreach-rgbw](http://colorkinetics.com/l/rgb/colorreach-rgbw).

**PHILIPS**

**COLOR KINETICS**

**selux**

**ARCA**

**Sleek. Flexible. Reliable.**

This high-performance luminaire is a visually comfortable and energy efficient pedestrian pathway luminaire. The option of up to four heads and the flexible arrangement of luminaires make Arca the perfect choice.

[www.selux.us](http://www.selux.us)



**JESSE H. NEAL AWARDS**  
EST. 1955

**Congratulations**

TO HANLEY WOOD'S JESSE H. NEAL AWARD WINNERS

.....

Hanley Wood is committed to publishing quality content that serves the information needs of construction industry professionals. Our editors have once again been honored by the most prestigious editorial awards program. Join us in congratulating them.

**2016 WINNERS**

ARCHITECT  
 Best Media Brand  
 (Overall Editorial Excellence)

REMODELING  
 Best Subject-Related  
 Integrated Package

**2016 FINALISTS**

ARCHITECT


BUILDER

POOL & SPA NEWS

MULTIFAMILY EXECUTIVE

**hanleywood**

**Infinite ways to make an impression**



Philips Luminous Carpets give you the power to create truly memorable experiences in your building. Combining luxurious carpets with cutting-edge LEDs, the technology connects easily with your systems. You can display personal messages or subtle signage—whenever and wherever you want.

Visit [www.luminous-carpets.com/usa](http://www.luminous-carpets.com/usa).

**PHILIPS**

**Greeble** | **JIUZHOU GREEBLE**  
Let There Be NEW Lighting

Tel: 86-755-21389841 Email: [daisy.liu@scjz-led.com](mailto:daisy.liu@scjz-led.com)



Do you know the sunlight color temperature changes from sunrise to sunset? Sunlight is real natural light. Dimming can make incandescent lamp equals sunlight color temperature change, but the CFL and LED light cannot.

Normal LED light Dimming only dim the lumen, not dim the color temperature, DTW-LED light can dim both and have better visual experience.

DTW-LED light makes you enjoy the natural dimming effect like incandescent, with 50% more energy-saving and longer lifetime.

FOR INFORMATION  
on how to be a part of the next  
**ARCHITECTURAL LIGHTING  
MAGAZINE**  
special advertising section,  
contact Jaeda Mohr at  
202-736-3453.



**Match**

Design by Jordi Vilardell & Meritxell Vidal.

Ceiling light sculptures

Discover Match at [vibia.com](http://vibia.com)  
[facebook.com/vibia.light](https://facebook.com/vibia.light) [twitter.com/VibiaLight](https://twitter.com/VibiaLight)



**AXT Series**  
Compact Xicato™ LED  
at 720 & 1300 lumens.

**TIMES SQUARE LIGHTING**  
[www.tsflight.com](http://www.tsflight.com) • (845) 947-3034

**ARCHITECT**

The Journal of the American  
Institute of Architects

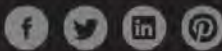
**You  
Deserve  
More.**



The premiere website for  
practicing architects—featuring  
news, project galleries,  
continuing education,  
blogs, videos and more is  
[architectmagazine.com](http://architectmagazine.com).

- > More projects
- > More tech
- > More products
- > More news
- > More critiques
- > More business

Get more today at  
[architectmagazine.com](http://architectmagazine.com)



hanleywood

**GRAFIK T™ controls  
by Lutron®**



Touch the future of  
lighting control with  
GRAFIK T. A clean,  
intuitive design and  
effortless operation set a  
new standard for lighting  
control. No knobs,  
sliders, or buttons, just  
touch. Dimmers, switches,  
and keypads work with  
all light sources; models  
available for residential and  
commercial applications.

Visit [lutron.com/grafikt](http://lutron.com/grafikt) for more information.

**WAC Lighting® unveils  
architecturally scaled 4.5"  
Volta LED Downlight**



WAC Lighting has unveiled an architecturally scaled family of luminaires engineered with precision that has resulted in sophisticated lighting designs. The new 4.5-inch Volta LED downlight series represents an innovation in design and technology. This high lumen family of fixtures enables lighting designers an advanced system for a clean, uncluttered ceilings with Invisible Trim™ options in high illuminance retail, hospitality and residential applications where comfortable ambiance is desired.

[www.waclighting.com](http://www.waclighting.com)

**PATHWAY®**  
*the Lighting Source*

Cover ALL your bases  
with Pathway Lighting!

We have the most complete  
line of high lumen products  
in the industry. Visit us at:  
[www.pathwaylighting.com](http://www.pathwaylighting.com)

Tel: 800.342.0592  
175-5 Elm St., P.O. Box 591,  
Old Saybrook, CT 06475-0591

**PANOS LED Downlight**



PANOS delivers  
unparalleled LED  
lighting quality,  
efficiency and  
precision with  
compound material  
construction  
inspired by space  
technology – no  
housing required. Installation is twice as  
fast as traditional downlights with housing.

[zumtobel.us](http://zumtobel.us)  
845-691-6262  
[info.us@zumtobelgroup.com](mailto:info.us@zumtobelgroup.com)



**ZUMTOBEL**

ADVERTISER	PAGE	WEBSITE	PHONE
Aamsco Lighting Inc.	39	www.aamsco.com	800.221.9092
ABX Architecture Boston Expo	30	abexpo.com	
Architectural Lighting	2	www.architecturallighting.com	
CDN Lighting	12	www.cdnlighting.cc	
Con-Tech Lighting	58	www.contechlighting.com	
Dial GmbH	4	dialux.com	
Eaton's Cooper Lighting Business	5	TheLightingResource.Eaton.com	
Edge Lighting	45	www.purelighting.com	
Edison Price Lighting	26	www.epl.com	
Engineered Lighting Products	24	elplighting.com	626.579.0943
Feelux Lighting	35	www.feelux.com/us	678.668.7005
Intense Lighting	36	www.intenselight.com	
Inter-Lux	3	inter-lux.com/whitegoods	
Lauren Illumination	27	www.laurenillumination.com	855.440.8458
Ledia Lighting Technology Co., Ltd.	44	www.ledialighting.com	516.504.8000
LF Illumination LLC	C2-1	lfillumination.com	
LSI Industries	13	www.lsi-industries.com	
Lucifer Lighting	11	luciferlighting.com	
Lumenpulse	9	Lumenpulse.com	
Luminis	19	luminis.com	
Lutron	C4	lutron.com/vive	
Meteor Lighting	20	www.meteor-lighting.com	
No. 8 Lighting	23	8lighting.com	
Pathway Lighting Products, Inc.	37	www.pathwaylighting.com	800.342.0592
Performance in Lighting	38	www.pil-usa.com	
Philips Lighting	15	philips.com/Belnspired	
Precision Architectural Lighting	33	www.pal-lighting.com/systemsolutions2	713.946.4343
Pure Lighting	45	www.purelighting.com	
SELUX	25	selux.us	
Shanxi Guangyu-GYLED	63	www.gyledlighting.com	
Sichuan Jiuzhou Electric Group Co. Ltd.	41	www.jiuzhou-intl.com	
Signcomplex	41	www.signcomplex.com	
Thailight Semiconductor Lighting Co, Ltd.	31	www.thailight-led.com	
The American Institute of Architects	40	careercenter.aia.org/employers	
Times Square Lighting	6	tslight.com	
Vibia, Inc.	17	www.vibia.com	732.417.1700
Vode Lighting	44		
VoksLyte	46	www.VoksLyte.com	
WAC Lighting	C3	wacighting.com	
Zumtobel Lighting Inc.	7	zumtobel.us/panos	



# CALL FOR SUBMISSIONS

ARCHITECTURAL LIGHTING invites you to forward new product releases for editorial consideration in our **Annual Product Issue** (May/June 2017), which is distributed at Lightfair. Luminaires, light sources, and lighting products that have been released after June 2016, qualify for editorial consideration. **This annual special issue showcases more than 150 lighting products in a variety of categories.**

For categories, submission instructions, and to submit products go to: [alproductcall.com](http://alproductcall.com)

**Please address all inquiries to:**

Elizabeth Donoff  
Editor-in-Chief, ARCHITECTURAL LIGHTING  
Hanley Wood  
One Thomas Circle NW, Suite 600  
Washington DC 20005-5811  
Email: [edonoff@hanleywood.com](mailto:edonoff@hanleywood.com)  
Tel: 202.729.3647

**SUBMISSIONS CANNOT BE ACCEPTED VIA EMAIL.**

**hanleywood**



**Compact Flood Light**

Model: GY380TG/FG, GY300TG/FG  
Power: 80/120/140/200W  
Luminous Efficiency: 110lm/W  
Beam Angle: 30°/60°/80°/110°  
Color Temperature: 3000K/4000K/5000K



**Highlights:**

1. High Luminous Efficiency: 110lm/w.
2. Multiple options of beam angle to meet different application requirement: 30°, 60°, 80°, 110°.
3. With large illuminating surface, glare can be reduced effectively.
4. External power supply (IP67), dimming function and light control system can be added.
5. Low weight for easy mounting and maintenance, 120w only 5.3kgs, 200w only 7.5kgs
6. Adjustable U type bracket is easily for positioning and mounting.

**Applications:**

Billboard, Building, Workshop, Warehouse, Train Station, Airport.



**SHANXI GUANGYU LED  
LIGHTING CO., LTD.**

Sales Center (Beijing)  
Tel: **86 10 62113630**  
Fax: **86 10 62153948**  
Celular: **86 18610264858**  
Email: [wanghui@gyled.com.cn](mailto:wanghui@gyled.com.cn)  
Skype ID: rayking188  
[www.gyledlighting.com](http://www.gyledlighting.com)



GYLED provides OEM services with the support of its professional R&D and technical departments.

## ANN KALE

**“What’s exciting about being a designer is meeting challenges in a creative way.”**



A native Californian, Ann Kale cut her lighting teeth in New York as one of the early participants in the IALD Internship Program with Wheel Gertzoff Associates. She later worked for Jerry Kugler Associates. In 1988, she opened her own office in New York City—Ann Kale Associates, which, in 2003, relocated to Santa Barbara, Calif. While she notes that the “competition and pace of New York was exhilarating and perhaps unequalled” California offers a different way of working—one that offers greater work-life balance and the time to explore new creative opportunities.

### **What specific skill set does a lighting designer bring to a project?**

The ability to understand what an architect or interior designer is trying to create and then add to their vision with illumination. Lighting is what breathes life into a space.

### **What excites you about LEDs?**

We now have this tremendously efficient source and it still allows us to create dynamic lighting designs and meet the energy code.

### **What doesn’t excite you about LEDs?**

LEDs are a very complicated light source. That translates into a greater amount of time to write a spec, time designers are not necessarily compensated for.

### **What is one change you’d like to see?**

Lighting manufacturers need to start producing price sheets for line-item pricing. Furniture

manufacturers do, as do almost all building material suppliers. It’s a more transparent way of doing business and it doesn’t put pressure on designers to defend a design after the fact because somewhere along the way the lighting equipment has been marked up too much.

### **Do you still feel like you have the flexibility to design, even in California, which has some of the strictest energy codes?**

Absolutely. Energy codes have made me a better designer ... forced me to use my eraser as much as my pencil. People oftentimes underestimate how powerful erasers are.

### **You wish the lighting community would take a stand on ...**

Architectural publications not listing lighting designers in the project credits. That is a great disservice to their membership and [misleads] people about who did the lighting. •

interview by Elizabeth Donoff  
photo by Scott London

# WAC LIGHTING

Set the right atmosphere, NATURALLY.



\*Spot light distribution  
High brightness  
Crisp white light



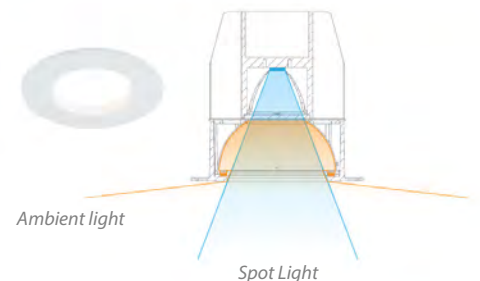
\*Ambient light distribution  
Lower brightness  
Warm white light



## Introducing our Duo LED Downlight

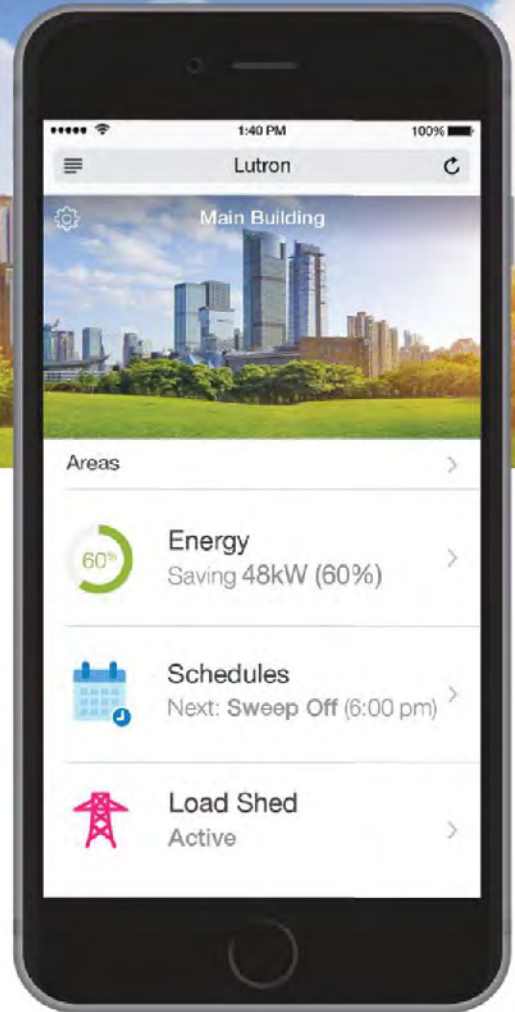
Change activity, change the lighting. Our Duo Downlight responds; changing from Bright to Dim, Crisp White to Warm White, and Direct Spot to Indirect Ambient, all in one natural motion when adjusting the wall dimmer.

*\*Control with a recommended Lutron Maestro MAELV-600 dimmer. For more information see [www.waclighting.com/duo](http://www.waclighting.com/duo)*



Simple and scalable  
**lighting control**

VIVE™



## Introducing a wireless lighting control system that saves energy and improves occupant comfort

- **Deliver central functionality** with time clock, demand response, energy monitoring, and building data via BACnet
- **Design for any space or load type** with a full suite of wireless controls
- **Install faster with wireless** — reduce labor time by up to 70%
- **Scale and grow over time** from a single room to a whole building
- **24/7 customer care** and world-class support allow you to specify with confidence