

ELEVENTH ANNUAL LIGHT & ARCHITECTURE DESIGN AWARDS



It's lighting that knows no boundaries,
no limits, no obstacles.



Hornet® HP LED Pendant. Open up possibility.

Discover the freedom it can give you at amerlux.com/hornet.



fresco™



express
yourself
through
light

Create. Transform. Connect. Define.

Fresco unlocks the power of your design and gives you precise control to create the visual environment you imagined. Use the touchscreen or your mobile device to define scenes, adjust zones and seamlessly blend intensity, color and color temperature from anywhere in the room. Fresco is architectural lighting control for today's spaces.

DMX512 / RDM | Phase Control | 0-10V | nLight® | DALI

www.acuitycontrols.com

A RENEWED SENSE OF PURPOSE IN SUSTAINABLE BUILDING

GREENBUILD FEATURES three groundbreaking days of inspiring speakers, invaluable networking opportunities, industry showcases, LEED workshops and tours of the host city's green buildings.

- **Shorten your search:** If it's new and innovative, you'll find it at Greenbuild.
- **Design your own Greenbuild experience.** Assemble a custom curriculum from three days of sessions, tours, summits and more - all specifically designed for architects.
- **Network with your peers** - all in one place, and all ready to share ideas and solutions.

Join us for the largest sustainable building event in the U.S. as the green movement marches into New Orleans this October!

Registration opens soon! Visit www.greenbuildexpo.com for the latest news and updates.

 **GREENBUILD**[®] *Leadership Jazz*
INTERNATIONAL CONFERENCE AND EXPO
EXPO: OCT. 22-23 | CONFERENCE: OCT. 22-24
MORIAL CONVENTION CENTER | NEW ORLEANS, LA

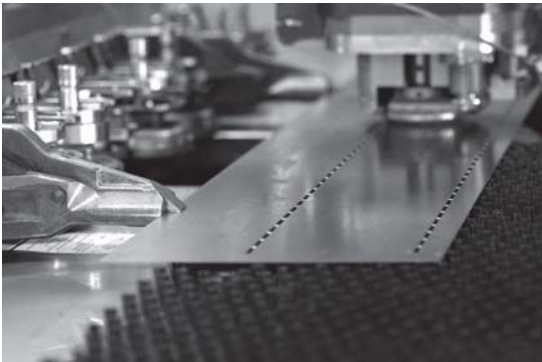


3G

LIGHTING

MANUFACTURING + DESIGN

DESIGNED AND MANUFACTURED... IN OUR FACTORY



WWW.3GLIGHTING.COM

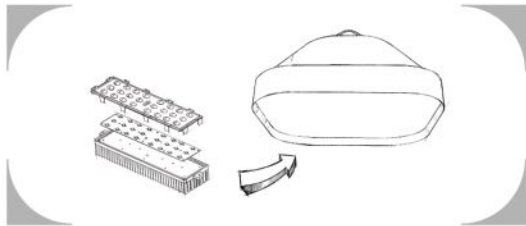
LED MODULE



Retrofit Kit >>>



Custom Design >>>



**OEM
Manufacturing**

Chengdu Tunghsu Lighting Technology Co., Ltd.
Tel : +86-28-87986622
E-mail : globalsales@dxcd-lighting.com
Website: <http://en.dxcd-lighting.com>

A·L
ARCHITECTURAL LIGHTING

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

MANAGING EDITOR
Greig O'Brien
gobrien@hanleywood.com

EDITORIAL
SENIOR EDITOR,
PRODUCTS AND TECHNOLOGY
Wanda Lau

ASSOCIATE EDITOR,
PRODUCTS AND TECHNOLOGY
Hallie Busta

ASSOCIATE EDITOR, DESIGN
Deane Madsen

CONTRIBUTING EDITORS
Elizabeth Evitts Dickinson,
Aaron Seward

EDITORIAL INTERN
Chelsea Blahut

ART DIRECTOR
Robb Ogle
rogle@hanleywood.com

ART
SENIOR GRAPHIC DESIGNER
Alice Ashe

GRAPHIC DESIGNER
Jessica Rubenstein

ONLINE AND RESEARCH
ASSISTANT EDITORS, ONLINE
Sara Johnson
Caroline Massie

MULTIMEDIA
VIDEO PRODUCTION MANAGER
Kaitlyn Rossi

VIDEO PRODUCER
Lauren Honesty

EDITORIAL ADVISORY BOARD

Gregg Ander, FAIA, IESNA • Francesca Bettridge, IALD, IESNA •
Barbara Cienci 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 Cocco
mcocco@hanleywood.com
AD PRODUCTION COORDINATOR
Barb Streu
bstreu@hanleywood.com

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

REPRINTS

Wright's Media
Nick Iademarco
niademarco@wrightsmedia.com
877.652.5295 ext. 102

LIST RENTALS

Statistics
Jennifer Felling
jfelling@statistics.com
203.456.3339

archlighting.com

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

A·L ARCHITECTURAL LIGHTING (Vol. 28, No. 4 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/G.S.T. Number: R-120931738. Canadian return address: Pitney Bowes Inc., 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) write to ARCHITECTURAL LIGHTING, P.O. Box 3494, Northbrook, IL 60065 or call 847.291.5221 or toll-free 888.269.8410.

A·L ARCHITECTURAL LIGHTING is a trademark owned exclusively by Hanley Wood. Copyright 2014 Hanley Wood. Reproduction in whole or in part prohibited without written authorization.

X X X X X X X X X X X X
X X X X X X X X X X X X
X X X X X X X X X X X X
X X X X X X X X X X X X
X X X X X X X X X X X X
X X X X X X X X X X X X
X X X X X X X X X X X X

type  distribution

X X X X X X X X X X X X
X X X X X X X X X X X X
X X X X X X X X X X X X
X X X X X X X X X X X X
X X X X X X X X X X X X
X X X X X X X X X X X X
X X X X X X X X X X X X

Infinite adjustability...



<http://www.kimlighting.com/typex>



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.



discover.dialux.com

A.L

ARCHITECTURAL LIGHTING

DESIGN GROUP

EXECUTIVE VICE PRESIDENT
Ron Spink
rspink@hanleywood.com, 202.736.3431

EDITORIAL DIRECTOR
Ned Cramer
ncramer@hanleywood.com

ADVERTISING SALES

SENIOR DIRECTOR, STRATEGIC AND INTERNATIONAL ACCOUNTS, GREAT LAKES, GEORGIA, FLORIDA
Dan Colunio
dcolunio@hanleywood.com
202.736.3310

SENIOR DIRECTOR, DIGITAL SALES
Christie Bardo
cbardo@hanleywood.com
703.307.3014

NATIONAL ACCOUNT MANAGER, LIGHTING
Cliff Smith
csmith@hanleywood.com
864.642.9598

STRATEGIC ACCOUNT MANAGER, WEST
Mark Weinstein
mweinstein@hanleywood.com
562.598.5650

STRATEGIC ACCOUNT MANAGER, MIDWEST
Michael Gilbert
mgilbert@hanleywood.com
773.824.2435

DIRECTOR OF SALES, EMERGING ACCOUNTS GROUP
Philip Hernandez

STRATEGIC ACCOUNT MANAGER, UNITED KINGDOM AND EUROPE
Stuart Smith
stuart.smith@globalmediasales.co.uk
44.020.8464.5577

STRATEGIC ACCOUNT MANAGER, CHINA, HONG KONG, TAIWAN
Judy Wang
judywang2000@vip.126.com
86.13810325171

INSIDE SALES, BUSINESS DEVELOPMENT MANAGER
Jaeda Mohr
jmohr@hanleywood.com

AUDIENCE MARKETING DIRECTOR
Mary Leiphart

EXECUTIVE DIRECTOR, DIGITAL MARKETING AND SALES ENABLEMENT
Matthew Carollo

HANLEY WOOD MEDIA

PRESIDENT, MEDIA
Dave Colford

EXECUTIVE VICE PRESIDENT, EXECUTIVE PROGRAMS
Joe Maglitta

SENIOR VICE PRESIDENT, AUDIENCE OPERATIONS
Sarah Welcome

EXECUTIVE VICE PRESIDENT, STRATEGIC MARKETING SERVICES
Tom Rousseau

SENIOR DIRECTOR, PRINT PRODUCTION
Cathy Underwood

SENIOR DIRECTOR, MEDIA SERVICES AND ACCOUNT COORDINATION
Mari Skelnik

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

DIRECTOR, USER EXPERIENCE AND INTERFACE DESIGN
Aubrey Altmann

GENERAL MANAGER, ONLINE
Kim Heneghan

GENERAL MANAGER, DIRECTORY SOLUTIONS
Rizwan Ali

EVENT PLANNER
Kristina Reardon

HANLEY WOOD

CHIEF EXECUTIVE OFFICER
Peter Goldstone

VICE CHAIRMAN
Frank Anton

CHIEF FINANCIAL OFFICER
Matthew Flynn

PRESIDENT, MEDIA
David Colford

PRESIDENT, DIGITAL
Andrew Reid

PRESIDENT, EXHIBITIONS
Rick McConnell

PRESIDENT, MARKETING
Jeanne Milbrath

PRESIDENT, METROSTUDY
Christopher Veator

SENIOR VICE PRESIDENT, CORPORATE SALES
Paul Mattioli

SENIOR VICE PRESIDENT, MARKETING
Sheila Harris

DIRECTOR OF SALES, EMERGING ACCOUNTS GROUP
Philip Hernandez

VICE PRESIDENT, FINANCIAL PLANNING AND ANALYSIS
Ron Kraft

VICE PRESIDENT, GENERAL COUNSEL
Michael Bender

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, ECOBUILDING REVIEW, THE JOURNAL OF LIGHT CONSTRUCTION, MASONRY CONSTRUCTION, MULTIFAMILY EXECUTIVE, POOL & SPA NEWS, PROSALES, PUBLIC WORKS, REMODELING, REPLACEMENT CONTRACTOR, RESIDENTIAL ARCHITECT, 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.



WINONA[®]
solutions | forms | light

Winona FORMS architectural LED solutions

Form Analogous Optical System™

Our Form Analogous (FA) Optical System™ (patent pending) is design-specific by form and source, efficiently distributing candela where it is most beneficial. The resulting visual uniformity is not only a step forward in its superiority to existing LED luminaires, it's also an improvement over fluorescent and incandescent designs by enhancing visual comfort and dramatically reducing energy consumption.

eldoLED[®]

driver solutions for LED lighting

Smooth, flicker-free dim to dark (0.1%) driver by eldoLED[®] sets a new standard in architectural dimming.



intelligent controls

The nLight[®] module option provides for easy "plug-and-play" networking with nLight[®] control systems. The constant lumen management (N80) option extends LED longevity and saves an additional 10% in energy use over luminaire lifetime.

Just the beginning

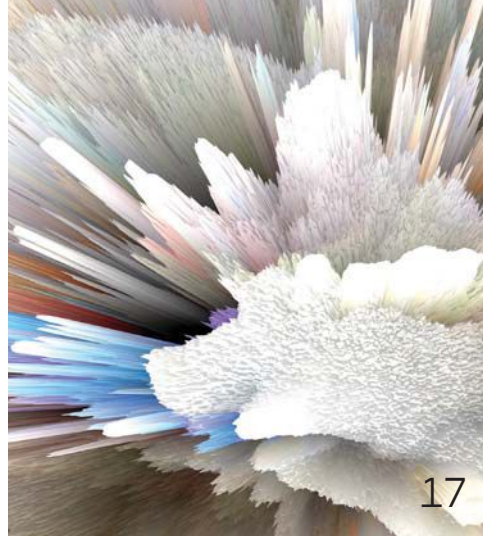
committed to bringing you the latest in
modern design and technology

Winona continues to create new architectural LED solutions that beautifully solve customer needs. Coming soon will be an expanded portfolio of exciting new families and updates to the current products you already love from Winona. Visit www.winonalighting.com/products/new_products to view the complete Winona LED Forms portfolio.

AcuityBrands.



39



17



34

• CONTENTS

• FEATURES

ELEVENTH ANNUAL LIGHT & ARCHITECTURE DESIGN AWARDS

- Introduction**, p. 39
- Outstanding Achievement** Gammel Hellerup Gymnasium, p. 40
- Outstanding Achievement** SandRidge Commons, SandRidge Energy Headquarters, Landscape and Tower Lighting, p. 42
- Outstanding Achievement** St. Moritz Church, p. 44
- Commendable Achievement** Danish Maritime Museum, p. 46
- Commendable Achievement** LAX Central Terminal Area Curbside Enhancement, p. 48
- Commendable Achievement** Yonkers Casino, p. 49
- Commendable Achievement** Schindler Elevator Corporation, U.S. Headquarters, p. 50
- Commendable Achievement** Rotunda for the Charters of Freedom, p. 52
- Commendable Achievement** WGV Casino and Old Guardhouse, p. 53
- Best Use of Color** Memorial to the Victims of Violence, p. 54
- Postscript**, p. 56
- Jury**, p. 57

• FRONT

- Comment** Think Like a Jury Member, p. 10
- Briefs** Lightfair coverage; the ASID, IES, and IALD sign friendship agreements; and a tribute to B-K Lighting's Ron Naus, p. 12

• DEPARTMENTS

- Technology** Solid-state lighting is forcing the industry to examine color metrics, p. 17
- Products** The 15 winners of the Lightfair Innovation Awards, p. 26
- Products** Our editors' selections from Lightfair, p. 34

• BACK

- One-on-One** Interview with lighting designer Jean Sundin, founder and principal of Office for Visual Interaction, p. 64

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

On the Cover: BIG's Gammel Hellerup Gymnasium, in Hellerup, Denmark. Photo by Jens Lindhe.

Top Left: James D'Addio

What if we remove the power supply?

Introducing Lumencove Nano, a dimmable cove lighting system powered by lumendrive that, for the first time, dispenses with onboard power supplies – leading to greater efficiency, smaller size and a lifetime no longer restricted by third-party components.



THINK LIKE A JURY MEMBER

“Design work has many facets. At its core is the clarity of presentation through all of its components — both visual and written.”



In today's 24/7 world of sound bites and information overload, clarity of communication has never been more important. And while the nature of design is often viewed as a primarily visual one, the written word is equally as important. Whether it is a business proposal, a news release, an email, or a design award entry, the ability to communicate an idea in writing is paramount in our day-to-day interactions, no matter how informal or formal they may be.

Designers often claim that they are not good writers. I don't buy that excuse. Writing is a fundamental form of design communication, as necessary as one's drawing and problem solving skills. And while it certainly hasn't become any easier to carve out time to think and write given our fast-paced, deadline-driven schedules, the urgency to do so probably has never been more palpable.

One of the most helpful books on the subject is the late architect and editor at *Architectural Record* Stephen A. Kliment's *Writing for Design Professionals* (W. W. Norton & Company). First published in 1998 with a second edition in 2006, it provides an overview of the many scenarios in which designers might find themselves having to prepare a written text. As Kliment notes in the introduction, "the fundamentals of good writing have changed little over the years." But what has increased is "the verbal obfuscation meted out by designers, critics, academics, and writers as they seek to share their thoughts with colleagues, students, and the general public."

It's easy to fall into the habit of "architect-speak" — that circumventing form of language used to describe one's work. We've all been its victims, hoping it will make us sound smarter when it actually confuses people and makes us seem pretentious. So that is why, now that the AL Light & Architecture Design Awards has completed its 11th year, I thought it would be helpful to offer some general observations about the preparations of design award entries.

The first piece of advice would be: Do not leave the preparation of a design award entry to the last minute. Yes, it's an inherent part of a designer's DNA to work right up

until a deadline, but a lot is at stake with an award entry, not the very least of which is the entry fee involved. You're doing this for the recognition from your design peers, so why rush the process?

The second piece of advice, no less important, is: Think like you are a jury member. After you have gathered all the required materials, step back and look at what you have assembled. Ask yourself the following questions. Have I provided all the information necessary to really explain the who, what, where, and why behind this project? Have I described the project brief, design challenges, and lighting solution? Do the selection and order of the images make sense, based on the underlying design concept—the progression of how you'd move through the space, for instance, or the progression from day to night? You might even ask someone in your office who is not familiar with the project to read the text and review the images. Better yet, have someone who is not a designer review your entry form.

And don't be afraid to contact the awards program administrators if something doesn't appear to make sense on an entry form. I, for one, benefit from feedback. There is always room for further clarification and improvement. In the case of the AL Light & Architecture Design Awards program, we have always actively sought to learn from entrants and the respective juries. This year is no different.

Finally, the third piece of advice is: Invest in professional photography. Yes, it is expensive. Yes, it is often difficult to produce. But, yes, it is also necessary, especially when it comes to lighting. Clarity of imagery can be the difference between winning an award and not.

Design work has many facets. At its core is the clarity of presentation through all of its components—both visual and written.

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

LARGENT™

MICROCORE™

Advanced LED Technology
for Outdoor Lighting



More Info: www.aal.net/products/largent



RON NAUS, 1967–2014

text by Elizabeth Donoff

The lighting industry was recently shocked at the loss of Ron Naus, president of B-K Lighting and Teka Illumination. An active member of the lighting community, who was serving as the president of the IALD Education Trust, Naus died suddenly on May 31.

After graduating from Illinois State University, Naus entered the lighting industry and first worked for Big Beam Emergency Systems in Crystal Lake, Ill. That, in turn, led him to Silver State Lighting in Las Vegas where he represented several lines as a sales agent.

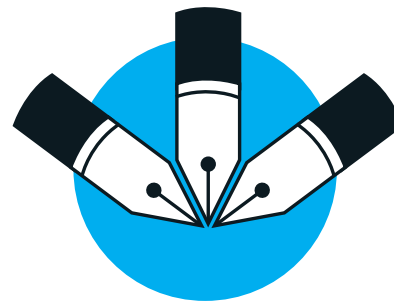
In 2001, Naus moved to Madera, Calif., to join B-K Lighting as its sales manager. There, his business acumen helped him to rise through the executive levels. He was named executive vice president in 2006 and president in 2012.

One of his many accomplishments included the development of B-K University, an in-house lighting education resource center held at the company's headquarters that offers a full complement of classes about the design, manufacturing, and testing of luminaires.

But his commitment to lighting education did not stop with current practitioners. Naus was committed to the next generation, and he was in the process of establishing a self-sustaining endowment for the IALD Education Trust, a first for the organization. Going forward, it will be known as the Ron Naus Memorial Endowment.

Deeply passionate about lighting and the interaction between the various constituents in the industry, Naus recognized the important relationship between manufacturer and designer. In our March/April 2013 One-on-One interview, Naus recounted one of his first specification calls, to legendary lighting designer Lesley Wheel's office. "It wasn't about just showing her a product," he said. "She wanted a manufacturer who would respond to her design and luminaire needs for the project."

Naus cared deeply about his family and his extended family at B-K Lighting and the rest of the lighting community. He is survived by his wife and two sons, as well as his mother, sister, and brother. The company has established a benefit fund for his sons. For more, contact Dionna Smith at dionna.smith@bklighting.com.



ASID OFFICIALLY BECOMES FRIENDS WITH IES AND IALD

The American Society of Interior Designers formalizes its collaboration with the Illuminating Engineering Society and the International Association of Lighting Designers.

text by Wanda Lau

Though collaboration between the interior design and lighting design communities has occurred, the three professional organizations representing these fields formalized their working partnerships at the National Press Club in Washington, D.C., on June 17. The American Society of Interior Designers (ASID) signed two friendship agreements: one with the Illuminating Engineering Society (IES) and one with the International Association of Lighting Designers (IALD).

At the press conference, Randy Fiser, ASID executive vice president and CEO, read the two identical agreements. They state that the "areas of friendship, cooperation, and collaboration that [the organizations] may undertake" include: the exchange of ideas relating to technical, legislative, or policy issues; the sharing of key concerns and activities through mediums such as newsletters; greater cross-membership participation at organization-sponsored conferences, exhibitions, and seminars; increased discussion between members on committee and cooperative activities; cross-referencing of membership names to identify common affiliations; and joint-planning and sponsorship of activities at each society's conferences and events.

Interior design and architectural lighting have many parallels and complements, Fiser

says, and the ASID aims to highlight the impact of design and lighting on humans. "A lot of what we are doing can be redundant," he says, but "we [can] bring value to members...and do the best possible work."

Two areas in particular that the organizations' leaders hope will benefit are those of policy and member education. IES president Daniel Salinas says that the organizations will also "target issues that require the research and practice from members to assist those in positions of legislative authority."

IALD CEO Marsha Turner says that the friendship agreement with the ASID, which has 28,000 members, will help bolster the voice of the IALD, whose membership recently surpassed 1,000. "It is an amplifier to the IALD voice." She adds that the IALD and IES, which has more than 8,000 members, will continue working together—though the relationship remains informal for now.

During the question-and-answer portion of the press conference, an audience member asked whether the organization's members will have reciprocity in accessing or purchasing the publications and guidelines of others. "We're looking into areas for opportunities for where it makes sense," Fiser says.

Questions on the agreements may be sent to Robert Horner at rhorner@ies.org.

ERCO

I'm an architect.
I don't design buildings.
I design places where people feel good.
I don't start a project by sitting down in a quiet office.
I sit in the busiest café in the busiest place in the city.
I watch the people.
Hear the stories.
Smell the scents.
Feel the light.
I sit there and wait until an idea strikes.
Until it nudges me and says, "This is how we'll do it. Exactly like this."
I'm an architect.
I don't design buildings.
I design places where people feel good.

Inspiration is found wherever you look for it.
Find your lighting solution at www.erco.com/inspirations

ERCO, the Light Factory.



LIGHTFAIR 2014

A record-setting show, there was something for everyone in the lighting community at this year's annual industry gathering.

text by Elizabeth Donoff

Lightfair celebrated its 25th anniversary this year. Going from June 1 to June 5 in Las Vegas, the show set multiple records, according to the event's producers, AmericasMart (AMC). The show floor covered 239,800 net square feet, its largest area to date, and included 576 exhibitors, 107 of whom were exhibiting for the first time and 103 of whom have headquarters outside of the United States. Attendance also broke new ground with a reported 26,059 registered attendees from 74 countries.

The tempo and atmosphere of this year's show is captured in a series of videos that our

team at ARCHITECTURAL LIGHTING recorded and produced while we were attending the show. These films include an overview of the trade show as a whole (bit.ly/1qCrhIU) as well as the debut of a new series, "AL Talks with Industry Executives." The first episodes in this series feature these individuals and companies:

- Steve Lydecker, senior vice president, applied integrated solutions, Acuity Brands Lighting (bit.ly/WK2Xre)
- Gary Trott, vice president, product strategy, Cree (bit.ly/1pf5djO)
- Mark Eubanks, president, Eaton's Cooper Lighting Business (bit.ly/WK2dlN)
- Jaime Irick, general manager of North America Professional Solutions, GE Lighting (bit.ly/1lzz6qT)
- Bruno Biasiotta, president and CEO, Philips Lighting, Americas (bit.ly/Uqn2Bv)

For product overviews, turn to our coverage of the winners of the 2014 Lightfair Innovation Awards on page 26 and the ARCHITECTURAL LIGHTING editorial team's product picks on page 34. Even more Lightfair coverage is available online at archlighting.com.

● **Industry Briefs and Co. Buzz:** Visit ARCHITECTURAL LIGHTING online for the latest industry news and updates: archlighting.com/news-and-opinion/industry.



IN TRIBUTE TO

RON NAUS

President of B-K Lighting + TEKA Illumination
1967-2014

A trusted partner of ARCHITECTURAL LIGHTING, Ron's long-time commitment to the lighting industry and creation of educational opportunities for the next generation of lighting designers, through his work as the IALD Education Trust President, will be missed.



GRAVITY™

HIGH LUMEN DOWNLIGHTING



TYPE
Downlight &
Adjustable

APERTURE
Round 6" & 8"

OUTPUT
2300 to 7500 lm

CCT
2700K, 3000K,
3500K, 4000K

CRI
82 & 92

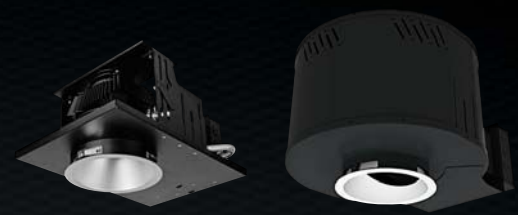
EFFICIENCY
80 lm/W

OPTICS
20°/30°/40°/50°

WARRANTY
10-Year Limited
Warranty

SETTING HIGH STANDARDS

Introducing GRAVITY™, a new family of high-power LED downlights and adjustables designed for high ceiling applications. Delivering up to 7500 lumens, GRAVITY™ is ideal for ceiling heights up-to 100 feet plus. GRAVITY™ features field changeable optics, adjustable or downlight configurations, multiple dimming and control options, and a 10-Year Warranty.



DOWNLIGHT

ADJUSTABLE

DESIGNED TO go wireless

Create multiple themes at the touch of a Wi-Fi device, with Luxor technology.



STONE BREWING CO.
ESCONDIDO, CALIFORNIA

Introducing Luxor Linking with multiple Luxor ZDs. Multiple Luxor ZDs can be linked to act as one. When linked, up to 250 groups are available among them. Programs remain independent within each controller. Users can easily adjust lumination levels of any group to create individual themes for specific areas and times.



Now, Luxor offers a **Wi-Fi controlled system**, featuring zoning and dimming capabilities from iOS or Android devices for on-the-fly adjustments using the Luxor App.



With the new **Light Assignment Module device (LAM)**, every fixture attached to a Luxor ZD system can be wirelessly assigned to a group using ActivAssign™ technology.

Luxor ZD™ Controller ▾



• TECHNOLOGY



TECHNOLOGY

DECODING COLOR PERFORMANCE

Solid-state lighting is forcing the industry to examine longstanding metrics.

This is the third article in AL's multi-part series examining the critical issues in solid-state lighting. Visit archlighting.com for the previous articles in the series, which discussed dimming and flicker.

text by Alice Liao

Advances in LED color quality are presenting serious challenges to the Color Rendering Index (CRI) and Correlated Color Temperature (CCT). These two metrics, developed in an era of incandescent and fluorescent lamps, are still widely used by the lighting industry to communicate the color performance of all sources. Although their limitations have long been known, the rapid proliferation of LEDs has prompted the development of better metrics to predict their specific color rendering ability.

UNDERSTANDING CRI AND CCT

CRI is particularly unreliable and, say some lighting experts, even irrelevant when applied to LEDs. Although LEDs generally have lower CRIs than conventional sources, such as incandescents, some LEDs have been shown to reproduce color more vividly and attractively—a trait that is particularly desirable to retailers. Moreover, notes Rohit Patil, a color scientist at Xicato in San Jose, Calif., LEDs offer the unique opportunity to “create a custom spectrum of

lights” for specific installations, which may prove more useful than an exalted CRI.

Established by the Commission Internationale de l’Eclairage (CIE) in the 1960s, CRI measures a light source’s ability to reveal the intrinsic colors of the objects it illuminates. Testing is done with eight color chips, numbered R1 to R8, and the results are compared to those of a reference source of the same CCT. Sources with a CCT below 5000K are compared against a blackbody radiator—a non-reflective object that, when heated, emits a spectrum of light solely determined by temperature. Sources with a CCT above 5000K are checked against daylight.

Differences in color rendition are evaluated on a scale of zero to 100, with 100 indicating a match (negative CRI numbers are rounded up to zero). A CRI of 80 or above is typically desired for indoor applications—not a difficult feat for incandescents, halogens, and metal halides, which typically have CRIs at or above 90. Many of today’s LEDs are competitive, a notable achievement for a source whose CRIs topped

out at 60 or 70 a mere decade ago, says Paul Scheidt, product marketing manager at LED manufacturer Cree.

CCT, the other primary metric, focuses on the tint of white light exhibited by the source. Measured in degrees Kelvin, it relates the color of a white light source’s illumination to the surface temperature of a blackbody radiator. Warm sources have a yellow tint and lower CCT values. Cool sources have a bluish cast and higher CCT values. Candlelight, for example, is rated around 1850K, while daylight exceeds 5000K.

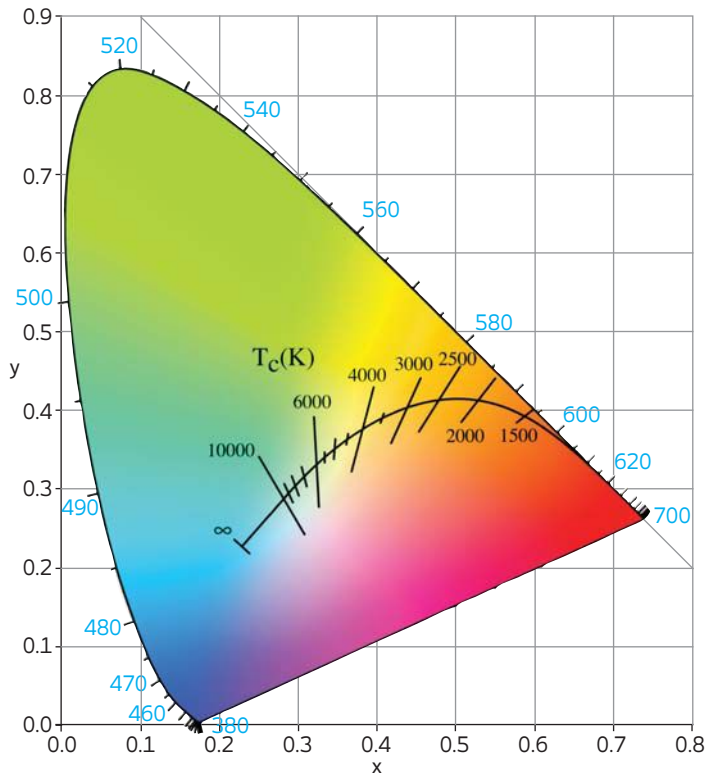
Although CRI and CCT conveniently reduce the complexity of color performance to a single value, “anytime we do that, we lose a lot of information,” Scheidt says. Sources with the same CRI or CCT value can vary widely in appearance and behavior. This is particularly problematic with solid-state lighting, where CRI has not been “very predictive” in the specification of “quality lighting,” says Mark Rea, director of the Lighting Research Center (LRC) in Troy, N.Y.

THE MATHEMATICS OF COLOR

Both CRI and CCT are derived through rote mathematic simulation rather than through empirical measurement. CRI testing is calculated on a computing device using a source’s spectral power distribution (SPD), a diagram that depicts the radiant energy a source emits at different wavelengths of visible light—wavelengths of 380 to 780 nanometers—and the spectral reflectance of each color chip. CCT is also computed from the source’s SPD.

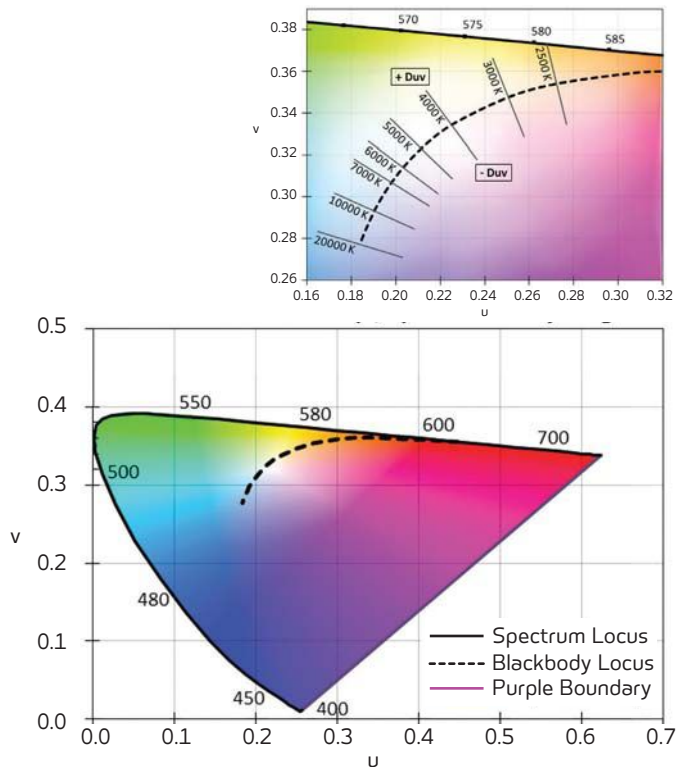
The math behind CRI and CCT stems from the CIE colorimetry system. Though not exclusive to lighting, it provides the foundation for all color calculations in the lighting industry today, regardless of source. The system is precise in that it measures color based on spectral characteristics rather than on appearance, which can be more subjective, contextual, and difficult to evaluate. One of the system’s earliest and most commonly used mathematical models is the CIE 1931 color space, which maps all visible color to an x, y graph based on chromaticity. Chromaticity

CIE 1931 (x,y) Chromaticity Diagram

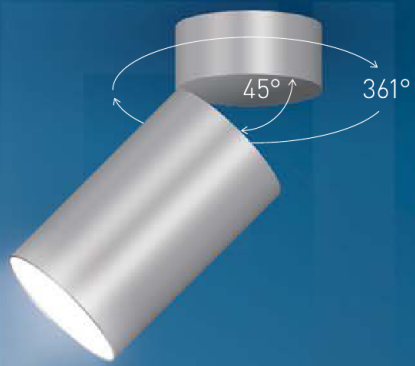


The CIE chromaticity diagrams map perceived color. Lightness, the third dimension of the color space, is not shown in these two-dimensional graphs. The CIE created the 1960 Uniform Chromaticity Scale (UCS) to reduce the limitations of the 1931 system; it has since been updated by the 1976 (u',v') UCS.

CIE 1960 (u,v) Chromaticity Diagram



The Planckian, or blackbody, locus—shown by the curved lines within the filled areas—indicates the color that a blackbody radiator emits within each chromaticity diagram as it is heated up.



3.13\"/>

THE NEW SHAPE OF LIGHT.

Light cascades from sleek, no-recess-required cylinders. Super easy install, either surface mount or suspended, in wet or dry locations. 2 sizes. Fully integrated, 0-10 dimmable driver simplifies things even further. 361° swivel rotation and 45° tilt lets you put illumination right where you need it. It's a whole new look for light.

luciferlighting.com

PATENT PENDING

LUCIFER
LIGHTING COMPANY

World's
Brightest

SQUARE Downlights

Translucent Frame
with Star-like Glow

Colors Optional

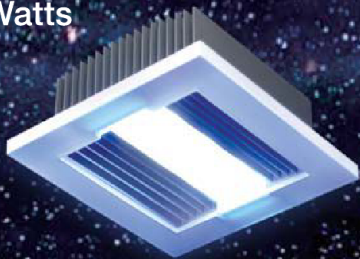
Orion

Uniqube™ series

6" Downlights

5600 lm

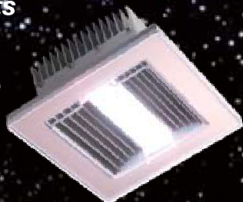
46 Watts



4" Downlights

3000 lm

25 Watts



2" Downlights

1600 lm

15 Watts



Direction Adjustable



Aeon Lighting Technology Inc.

Requests : altpr@aeonlighting.com

<http://www.aeonlighting.com>

refers to a color's hue—its dominant wavelength—and saturation, and is expressed in the color space by a pair of coordinates derived from a source's SPD.

Although the 1931 standard remains in use today, updates have improved its uniformity so that calculated differences between colors are more perceptually accurate. Both CRI and CCT use the CIE 1960 (u, v) color space, but it, too, is considered outdated and the mathematics lacking in rigor, says Michael Royer, a lighting engineer with the Pacific Northwest National Laboratory's advanced lighting team.

LIMITATIONS OF CRI

Beyond numbers, one longstanding criticism of CRI has been the pastel appearance of the eight test colors, which "are not representative of the world," says Julian Carey, senior director of marketing at LED phosphors manufacturer Intematix Corp. Seven additional color patches, named R9 to R15, have been introduced and include a saturated red, yellow, green, and blue, as well as two skin tones and a green representative for vegetation. However, these patches are not applied to the calculation of CRI and are only recommended for supplemental information.

Equally problematic, CRI is an average of the color shifts on the eight test colors. Consequently, an LED product with standout performance on some test colors and poor rendering on others still achieves a high rating. To better inform specifications, some LED manufacturers are publishing the individual values of R1 through R15.

CRI is often mistaken as an indicator of how pleasantly colors will be rendered. In fact, it functions more as a fidelity index. Performance is rated with respect to a reference source—either a blackbody radiator or daylight—which is considered the gold standard. But this could be misleading too. "What if I can create a light source that does much better in rendering than the reference source?" Patil asks. It would likely be penalized, he says, even if "colors appear more colorful than under the reference source."

Given the strides made in phosphor-converted white LEDs, which account for the majority of LEDs used in architectural lighting applications, it may be time for a new reference source. Whereas early LEDs relied on a yellow phosphor to absorb energy from a blue diode and produce white light (often with a bluish tinge), advancements in phosphor compositions now allow the manipulation of spectral content and therefore color rendition. Some companies have replaced the blue LED with one in the near-violet region to produce a fuller, more continuous spectrum and thus

colors that are more vivid and whites that are more nuanced. A fuller spectrum, however, might come at the expense of energy efficiency, as more phosphor requires more energy to convert the blue LED into white light.

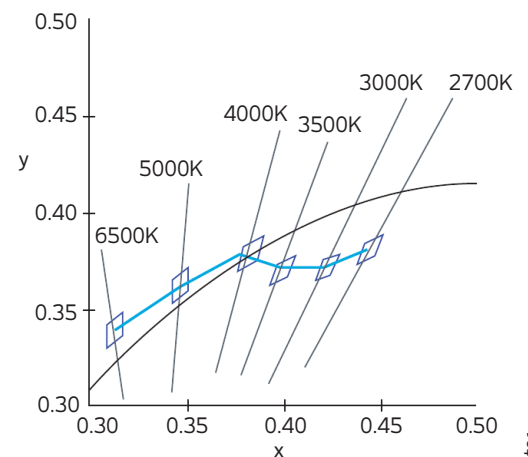
CCT SHORTCOMINGS

Solid-state lighting is also challenging the adequacy of CCT, but it's not the first to do so. Like other sources, such as high-intensity discharge lamps, LEDs with the same CCT can differ vastly in chromaticity and, therefore, appearance. One may have a greenish cast, while another may seem slightly pink.

While conventional wisdom suggests that light sources that cleave close to the blackbody locus appear whiter, the LRC has found otherwise. In residential applications, most people prefer whiter light than the warm output of incandescents, says Rea, who co-wrote the 2013 paper "Class A Color Designation for Light Sources Used in General Illumination" in the *Journal of Light and Visual Environment*. When mapped in the color space, the chromaticity of perceived whiteness follows an irregular path that goes both above and below the blackbody locus.

CCT can be particularly effective in assessing phosphor-converted LEDs. Manufacturers sort LEDs into bins based on the CIE 1931 color space, Scheidt says. Bin size, which refers to the area of tolerance for chromaticity differences, is measured in units of SDCM (standard

Class A Color Chromaticity Diagram



Sources certified as Class A Color have a white illumination (red line) that falls within a prescribed chromaticity tolerance (blue squares).

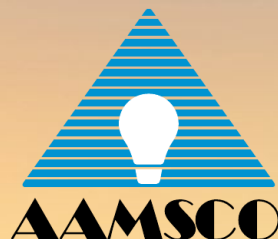
Alinea® LED

U.S. Patent # D 672,083 S • E.U. Patent # 001973132-0001



Due to the new EISA legislation here in the U.S. and the Energy Directives abroad, the manufacture and importation of inefficient, incandescent lamps has been restricted. This applies to the Osram Linestra® or any other brand of linear incandescent architectural tubes using 2xS14s sockets.

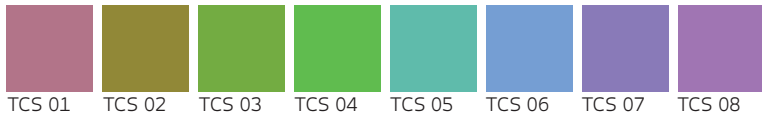
The **ALINEA® LED** is a better option than the incandescent version in many ways. With an average life of **50,000 hours** and a 3 year limited warranty, it will ensure many years of use without the frequent re-lamping that is typical of incandescent lamps. The **ALINEA® LED** is available in two color temperatures; **2350K and 3500K with 85CRI**. The **ALINEA® LED** fits into all existing ALINEA luminaires, as well as in any fixture using a standard Linestra® S14s socket, with **no modifications needed**.



AAMSCO LIGHTING, INC. 100 Lamp Light Circle • Summerville, SC 29483
1-800-221-9092 • Fax 843-278-0001 • www.aamsco.com

Linestra® is a registered trademark of OSRAM GmbH and is in no way affiliated with AAMSCO Lighting Inc.
We wish to bring to your notice that the Alinea® LED S14S Linear tube was invented and designed by AAMSCO Lighting Inc. (Delaware) and is patented in both the European Union and in the United States of America.
We attach singular importance to our aforesaid intellectual property rights and action will be taken against any party who violates these rights.

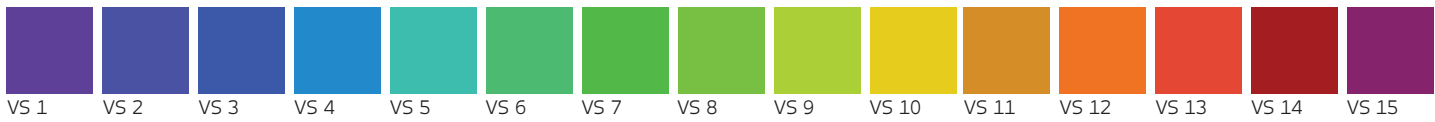
CRI Test Color Patches R_1-R_8



Supplemental Test Color Patches R_9-R_{14}

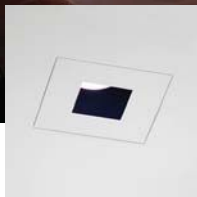


CQS Color Samples



Note that R15, intended to simulate Asian skin tone, is not shown because it was a late addition to the system. Due to printing variations, these colors may not render accurately.

Beautiful Color.
Beautiful Design.
Beautiful Flexibility.
Beautiful Engineering.



www.8lighting.com

Simply Beautiful LED Downlights.

No. 8 Lighting offers a beautiful selection of elegant LED downlight solutions – available in a variety of quality finishes for any ceiling environment.

- 85 and 95 CRI
- 15°, 20°, 30°, 40°, 60° Beam Spreads
- 2400, 2700, 3000 and 3500k Color Options
- Single-Lamp and Multiple-Lamp IC Housings
- Fully Adjustable to 45°

PHOTO: MATTHEW MILLMAN

deviation of color matching), or MacAdam ellipse steps. The latter takes its name from color scientist David MacAdam, who discovered that chromaticity shifts undetectable by the human eye fell within an ellipse on the 1931 color space.

The ANSI C78.377-2008 LED binning standard defines one bin size as a seven-step MacAdam ellipse. This, Patil says, is “huge” and may account for the criticism of early LEDs as having poor uniformity. “Manufacturers were making LED sources that fell into [one] bin, but looked really different.” When installed side by side, they can produce a rainbow effect. Improvements and innovations in manufacturing have enabled some companies to put LEDs in bins as small as one or two SDCMs. A difference of three SDCMs is noticeable by the majority of the population, Patil says.

Although bin specification is typically the purview of luminaire manufacturers, designers should know the manufacturer’s tolerance for initial color consistency. A difference of three SDCMs, for example, may become even more pronounced as the number of luminaires increases. Responsible manufacturers publish this information, says Steve Landau, Xicato’s director of marketing communications; if they don’t, he says, “that’s a big red flag.”

NEW METRICS

Given CRI’s uneven history, several new metrics and classifications have been proposed that address the indexes’ limitations, particularly as solid-state lighting gains a larger market share.

The National Institute of Standards and Technology’s Color Quality Scale (CQS) offers improvements on multiple fronts. It is a fidelity metric that results in a single-number rating, but tests with a broader range of colors (15 instead of eight) that are higher in chroma and saturation than R1 to R15. Color preference is also considered, Patil says. “If a light source makes colors appear more colorful than does the reference source,” he says, “it will have a higher number.” To penalize color distortion, the CQS imposes an upper limit on saturation that, if exceeded, will lower a source’s rating.



LED Panel Light

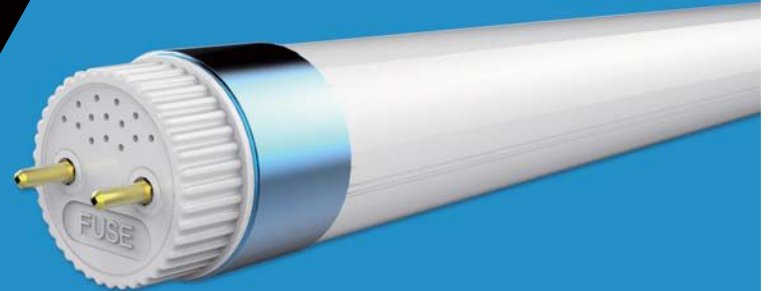
110 lm/w

High Efficiency

LED TUBE

120 lm/w

High Efficiency



Add: Building 5, Yasen Innovation Park, No.8, Chengxin Rd, Baolong Industrial Area, Longgang, Shenzhen, China
Tel: +86-755-89331888 FAX: +86-755-89398533
E-Mail: info@ervan.cn Web: www.ervan.cn

TORSHARE 拓享 | *To green the earth, to share the glory*
LED Commercial Lighting Expert | LED 商业照明产品专家

A Leading Manufacturer of LED Lights In China

**Where there is
LIGHT
There is
TORSHARE**



Torshare Ltd

Add : Bao'an District, Shenzhen, Guangdong, P.R.China
Tel: +86-755-29833929
Fax: +86-755-29833930
E-mail: sales@torshare.com
www.torshare.com



CQS uses a color space that is more uniform and its calculations are more rigorous than those for CRI, Scheidt says. CQS also factors in extreme color temperature, which impairs a source's ability to render color, and takes a root-mean-square of the color shifts of all 15 test colors rather than an average. This ensures that poor performance on a few samples is given proper weight. CQS also rates sources on a scale of zero to 100, but negative scores are not possible, unlike in CRI.

Though CQS has not been adopted as a standard yet, it is receiving much interest. The system is being used by many in the industry, says Yoshi Ohno, NIST Fellow, Sensor Science Division, who helped develop the scale. It is also under consideration by CIE technical committee TC 1-91, which is tasked with recommending color quality metrics.

The LRC recently proposed a certification of white light called Class A color. Intended as a communication tool for non-lighting professionals, the Class A designation is given to a source only after it has fulfilled four requirements: it has a CRI that is 80 or higher; the chromaticity must fall along a line of preferred tint, established through research; the chromaticity must fall within areas of roughly four-step MacAdam ellipses;

and its gamut area index (GAI) should be between 80 and 100.

GAI, which measures color saturation or vividness, is derived from a light source's SPD and the same eight test colors that determine CRI. Calculations are done on a uniform CIE color space to produce chromaticity coordinates that form a polygon. The enclosed area is the gamut area. A larger area generally means a higher index and more saturated colors. Unlike CRI, GAI is not a fidelity metric, and an index greater than 100 is possible.

For the specification community, the LRC's Rea recommends GAI as a secondary metric to CRI. Research has shown it can influence light source preference. In tests, neodymium lamps, which have a lower CRI than incandescents but a higher GAI, tend to fare better in color rendering. For retail applications, LED products with a GAI of 130 or more can enhance merchandise's appeal by making colors "really pop," Intemax's Carey says.

ONGOING EFFORTS

The IES Color Metrics Task Group plans to finalize work on new color metrics this fall, after which they will undergo several rounds of approval by the Color Committee, Technical Review Council, and the Board of Directors, the

PNNL's Royer says. The effort, which Royer is chairing, will incorporate aspects of CQS and have both a fidelity metric and a gamut area metric. Fifteen new test colors—different from R1 to R15—will cover a full range of hues and saturations, and the calculation methods and color spaces will be updated.

In addition to TC 1-91, the CIE has created a technical committee, TC 1-90, to develop a fidelity index to replace CRI. The CIE is also contemplating an update to its color-matching functions. Direct measurement of spectral cone sensitivities has revealed inaccuracies in the color matching functions (CMFs)—which determine a source's chromaticity coordinates—especially in the blue region. This "has significant ramifications for the LED industry," Xicato's Patil says. With blue diodes as the starting point for phosphor-converted LEDs, rectifying CMF shortcomings may lead to more accurate assessments of LED color performance.

The accuracy of an index, no matter how great, should never replace an actual mock-up of a light source. The degree of color rendering and white light needed is specific to the particular application. However, metrics that keep pace with LED technology can help lighting designers to better bridge the gap between measured color and perceived color. •



Frame material: AL6063 aluminium material, be oxidated to enhance the beauty of its appearance.
 Adopt efficient light guide plate to heighten the luminous intensity.
 Illuminant :SMD 2835 LED.
 Heat dissipation: from opposite sides and back plate.
 Dimmable,Non-dimmable,CCT and Brightness Adjustable optionals available.
 Installation: recessed, mounted, suspended.
 Certification: UL,DLC,CE,RoHS.
 Life time: >50,000 hours.

DESIGNLIGHTS CONSORTIUM **lighting facts** Information US 001

UL LISTED E467858 CE RoHS **5 Years Warranty**

Mode No.	Input Voltage(V)	Operating Voltage(V)	Power(W)	CRI	Color Temp(K)	Luminous Flux(LM)	Dimension(mm)
PB-A6xx-N45	AC100-277V,50/60Hz	36V	45W	>80	3000K/3500K/4000K/4500K/5000K	4100lm±10%	598-598*11.5mm
PB-A6xx-N45	AC100-277V,50/60Hz	36V	45W	>80	3000K/3500K/4000K/4500K/5000K	4100lm±10%	603-603*11.5mm
PB-A6xx-N76	AC100-277V,50/60Hz	36V	76W	>80	3000K/3500K/4000K/4500K/5000K	7400lm±10%	598-1213*11.5mm
PB-A6xx-N76	AC100-277V,50/60Hz	36V	76W	>80	3000K/3500K/4000K/4500K/5000K	7400lm±10%	603-1213*11.5mm
PB-A3xx-N45	AC100-277V,50/60Hz	36V	45W	>80	3000K/3500K/4000K/4500K/5000K	4000lm±10%	303-1213*11.5mm
PB-A3xx-N45	AC100-277V,50/60Hz	36V	45W	>80	3000K/3500K/4000K/4500K/5000K	4000lm±10%	298-1213*11.5mm




We are looking for Professional Distributors!
 We are serving OEM and ODM customers!

LIGHTGREEN INTERNATIONAL | Email:Michelle@light-green.cn
 | Web:www.lgiled.com



RESOURCES

A list of introductory articles that discuss color perception and rendering as they relate to the lighting industry.

Value Metrics for Better Lighting, by Mark S. Rea, published by SPIE Press, 2013.

"LED Color Mixing: Basics and Background," by Cree, 2014. Available at: cree.com/xlamp_app_notes/color_mixing.

"Defining the Color Characteristics of White LEDs," by Steven Keeping, April 23, 2013. Available at Digi-Key Corp.: bit.ly/1qArLLo.

"LED Color Characteristics," by the U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, Building Technologies Program, January 2012. Available at: 1.usa.gov/1I07AWI.

MechoSystems makes the key automated window-shading ingredients for LEED® points in a number of categories. Our automated SolarTrac® WindowManagement® system, as an important example, is part of the recipe for the LEED Platinum-rated USGBC Headquarters.



SolarTrac®
Ultimate in WindowManagement®

MechoSystems
Design with light.®

T: +1 (800) 437-6360
F: +1 (718) 729-2941
E: marketing@mechosystems.com
W: mechosystems.com/solartrac
@mechosystems

SolarTrac calculates sun angles according to building and zone criteria.

Natural light is optimized, and outside views are maximized.

Radiometers monitor real-time sky conditions to control shade positions.

Shades adjust automatically to eliminate glare and solar-heat gain.



2014 LIGHTFAIR INNOVATION AWARDS

An independent panel of lighting professionals recognized 15 products, with four receiving top distinctions, for their innovative design and technical efficiency.

text by Hallie Busta

On June 3, the Lightfair Innovation Awards kicked off the 25th iteration of the annual trade show, held this year in Las Vegas. The program received 261 lighting-related product submissions in 14 categories, representing 135 manufacturers. The program is conducted by Lightfair, which is sponsored by the International Association of Lighting Designers and the Illuminating Engineering Society and is produced by AMC.

The entries and subsequent winners in this year's program showcase the broad range of light sources used by designers, while recognizing the growth in and innovation of solid-state lighting required as the technology continues to gain market acceptance. Additionally, this year's products illustrate the evolution of LED luminaires' form factors and light output toward increased sophistication of design and efficacy. •

2014 Lightfair Innovation Awards Jury

Deborah Frankhouser Four Point Lighting Design, Austin, Texas

Eric Graettinger Peter Basso Associates, Troy, Mich.

Archit Jain Oculus Light Studio, Santa Monica, Calif.

Gerard Plank Wilger Testing Co., Sarasota, Fla.

Patrick Quigley Patrick B. Quigley & Associates, Torrance, Calif.

Matthew Tanteri Tanteri + Associates, Austin, Texas

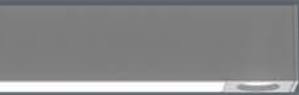
Marissa Tucci Tucci Lighting Design, San Francisco



MOST INNOVATIVE PRODUCT OF THE YEAR

Open, Acuity Brands/Peerless • *This suspended LED luminaire was also the winner in its category of Commercial Indoor—Linear Fluorescent, Troffers, Suspended, Surface, LED, and OLED.* • Open is a direct/indirect and wallwash LED luminaire that uses constructive occlusion to reflect and diffuse light up and down an inner arch, allowing for a lens-free linear form. The jury recognized this fixture for its comfortable illumination achieved through the use of an internal indirect optic. Output ranges from 1,020 lumens at 12W to 6,200 lumens at 68W, per 4' section, depending on the type of fixture and whether high, medium, or low output versions have been selected. Suspended, recessed, and surface-mounted options are available and come with transitional reveal, square reveal, or flat conceal end-caps. The luminaire can be specified with an integrated sensor and control for daylight dimming, occupancy detection, lumen management, and system networking. • peerlesslighting.com

The bridge between
aesthetics and performance.



With Mark Architectural Lighting Slot 2 and Slot 4 LED luminaires you can easily span the distance between design and function. This exciting new family of high performance linear lighting solutions, engineered with Mark's precision lumen DIRECTIR optics, is the complete package. A designer's instrument of change. It will change how you think about design. And it will change what you should expect from a lighting company. With unmatched flexibility, simple installation, seamless integrated controls, and superior color and quality, Slot LED is another example of the comprehensive Mark 360° Total System Integration. All components and technology are manufactured, warrantied, and supported by Acuity Brands. See how you can create your path to the future of lighting at marklighting.com.



DESIGN EXCELLENCE AWARD

Moon, HessAmerica • This slim-profile LED bollard was also the winner in its category of *Outdoor Luminaires—Sports, Step, Landscape, Pool, and Fountain*. • Moon is a contemporary architectural bollard designed for pathway and general illumination whose sculptural form impressed the jury. “This luminaire is art,” juror Archit Jain said on behalf of the jury. “It is sculptural and beautiful.” The luminaire’s housing and the fixture’s bollard shaft are made of extruded aluminum. Its centerpiece feature, a circular ring with a beveled profile, is crafted from low-copper die-cast aluminum and has a white powdercoat. Three LEDs available on one or both sides of the ring’s interior edge offer two different light distributions at 3000K and 4000K each. Textured, graphite, and matte gray finishes are offered. • hessamerica.com



TECHNICAL INNOVATION AWARD

Cielux T80 LED Tracklight, DiCon Lighting • This museum-grade tracklight was also the winner in its category of *Track, Display, Undercabinet, and Shelf*. • Cited by the jury as compact and versatile, the Cielux T80 LED Tracklight offers continuous color tunability from 2800K to 4500K at a minimum CRI of 90. Fitted with the company’s proprietary LEDs, the 80W system offers 4,000 lumens at a standard 67-degree angle with 34- and 15-degree angles available with an optional lens. The fixture’s housing offers 330 degrees of rotation and has a black finish. Each unit weighs 2.4 lbs. • cielux.com



JUDGES CITATION AWARD

Traxon Debut, Osram • Despite being neither a winner nor a finalist in its category of *Dynamic Color, Theatrical, Cove, Strips, and Tape*, this combination of smart LED lighting and media received the jury’s accolades for its use of innovative technology for clothing retail applications. “We liked this daring application of technology in selling clothes,” juror Deborah Fränkhouser said. The intelligent media system uses LED illumination to replicate lighting conditions measured from video taken of real-life settings, such as a bright office or a dimly lit restaurant. Integrated Traxon Cove Light AC HO RGBW fixtures offer dynamic color mixing. A touchscreen control panel allows users to alternate among scenarios, which are stored in the cloud and are subscription-based. • osram-america.com

Smooth.

ONDARIA LED

Circular LED luminaire with a concave opal diffuser, available in three sizes. ONDARIA can be specified for suspended, surface mount, and recessed or semi-recessed applications.

Zumtobel. The Light.

zumtobel.us/ondaria



CATEGORY WINNERS

Joining the previously mentioned winners that were also awarded top distinctions, these 11 products were also named best-in-category.



CONVENTIONAL, RETROFIT, AND REPLACEMENT LED LAMPS

SlimStyle LED, Philips • The company's third-generation A19 LED replacement lamp, SlimStyle emulates the look of an incandescent from the front but challenges traditional lamp form-factors with its slender side profile. The jury cited the lamp's illumination quality and consumer-friendly price as reasons for its award. "We expect this lamp to go a long way to foster the adoption of LED in every home," juror Eric Græettinger said. Available in 60W and 40W replacement versions (10.5W and 7W, respectively), the lamp comes in Daylight (5000K) and Soft White (2700K). Both are dimmable and have a lumen output of 800 and a CRI of 80. The lamp measures 4.2" tall by 2.6" wide and fits an E26 medium base. • philips.com



LED/OLED, CHIPS AND MODULES

Luxeon CoB with CrispWhite Technology, Philips Lumileds • This 90 CRI chip-on-board (CoB) LED offers warm saturated and crisp white light to showcase the rich but varied hues of retail merchandise. "[It] represents a new and impactful tool for retail," juror Marissa Tucci said. For use in downlights, high- and low-bay fixtures, lamps, and spotlights, the LEDs offer lumen packages from 1,000 to more than 5,000 with efficacies of more than 90 lumens per watt. To achieve the crisp-white effect, the LEDs feature a second blue peak in the color spectrum—from 410nm to 415nm—that activate fluorescent whitening agents in paints and fabrics. The LEDs are a part of the Luxeon CoB product family of thermally resistant, small light-emitting surfaces. • philipslumileds.com



BALLASTS, TRANSFORMERS, LED DRIVERS, SYSTEMS, AND KITS

Programmable Constant-Current Outdoor Dimmable LED Power Supplies, Osram

Osram is expanding its Optotronic line of programmable LED power supplies with a constant-current LED for outdoor applications. Offered with either 350mA to 800mA or 600mA to 1,250mA, the power supplies are IP66-rated with 6,000V surge protection and come in 50W, 100W, and 180W versions. One-click programming allows OEMs to match LED loads and optimize performance while reducing the number of power supplies stocked. Various loads and form factors available suit the product for uses in such applications as building-mounts, bollards, cobraheads, and decorative landscape lighting. • osram-america.com



NON-LUMINOUS COMPONENTS, SPECIALTY HARDWARE, SHADES, AND SOLAR

MS-2002 Moldable White Reflector Silicone, Dow Corning

An alternative to glass and other plastic, Dow Corning's MS-2002 Moldable White Reflector Silicone can be molded into complex shapes, micro-optical features, and multifunctional parts of various sizes. Additionally, it can be over-molded onto transparent silicones to improve the light output from LED mixing chambers. The material remains stable at temperatures exceeding 150 C, the point at which conventional materials tend to yellow and degrade, the company says. The material aims to let manufacturers deliver more intense light from smaller packages. "Its impact on future LED optical design is exciting," juror Marissa Tucci said. • dowcorning.com



RESEARCH, PUBLICATIONS, SOFTWARE, AND MEASURING DEVICES

Recommended Practice for Daylighting Buildings, Illuminating Engineering Society (IES)

The IES's recommended practice provides data and techniques to inform lighting designers, architects, and engineers on the opportunities and constraints for incorporating daylighting into a project. Among the topics addressed are daylight delivery methods, fenestration properties of glazing systems, shading techniques, control strategies, glare, control of electric lighting, and the coordination of factors that influence interior light levels from initial planning to occupancy. "It is a long-overdue update to a timely and critical document," juror Patrick Quigley said. • ies.org



www.VokslYTE.com

Made in the USA



Apache Canada Headquarters • Calgary, Alberta Lighting • Design: Archiluce • Architect: Gensler, Dallas

TANGENT-Down™
Custom Contoured Downlight Channel System



Providers of **CUSTOM DESIGNED** LED Lighting Solutions



Congratulations to Available Light on their Commendable Achievement citation for lighting the U.S. National Library Rotunda for the Charters of Freedom, Washington, DC. Steven Rosen's custom fixture designs using Prolume's manufacturing capabilities, provided a creatively unique lighting solution for the project.



RECESSED DOWNLIGHTS (WALLWASHERS, DIRECTIONALS, MODULARS, MULTIPLES)

Aculux 3¼" LED Precision Recessed Luminaires, Juno Lighting Group • Each 3¼" LED luminaire offers blackbody dimming and tunable white technology to improve precision in high-end recessed applications, inciting juror Patrick Quigley to comment that the fixture "represents the future of downlights." The "specification-grade" luminaire offers either 700 or 1,000 lumens with efficacies of up to 50 lumens per watt. Its blackbody dimming mode uses a zero-to-10V slide dimmer and provides dimming from 3000K down to 1800K to emulate halogen dimming. The tunable white mode also uses a zero-to-10V signal while letting users adjust from 4350K down to 2000K while remaining on the blackbody locus. • junolightinggroup.com



DYNAMIC COLOR, THEATRICAL, COVE, STRIPS, AND TAPE

Source Four Mini LED, Electronic Theatre Controls (ETC) • The jury called ETC's Source Four Mini "a miniature LED version of a time-tested classic," for its crisp optics and image projection in a housing one-third the size of the company's original Source Four theatrical luminaire. The 12W fixture offers interchangeable lens tubes that allow for field angles of 19, 26, 36, and 50 degrees. Its 9"-long aluminum housing features a rugged die-cast aluminum construction in black, white, silver, and custom colors. For use in museum, retail, restaurant, lobby, and theater applications. Forward and reverse-phase dimming is available. Lumen output varies based on beam and field angles. • etconnect.com



INDOOR DECORATIVE (CHANDELIERS, PENDANTS, SCONCES, AND TASKLIGHTS)

Interlace Suspension, LBL Lighting • A 29.5"-diameter aluminum ring is hand-machined to accommodate the thin stainless steel cables that give this decorative fixture its woven design. A 30W, 2,400-lumen LED module set in the ring's interior offers 2700K, a CRI of 80 at 120V or 277V, and is dimmable. It weighs 8 lbs. and can be suspended at any angle from a trio of 12'-long, field-cutable aircraft cables. The aluminum fixture has a satin nickel finish. • lblighting.com



PARKING, ROADWAY, AND AREA LUMINAIRES

McGraw-Edison TopTier LED Parking Garage and Canopy Luminaire, Eaton's Cooper Lighting Business • Incorporating the company's WaveStream optics to obscure its LED light sources, this luminaire maximizes output using a patented coupling process. The result is a "low-profile, low-glare solution in a benign, simple aesthetic," juror Archit Jain said. Concentrated, medium, and wide light distributions are offered in a standard 4000K correlated color temperature (CCT), with optional 3000K and 6000K CCT, all at a CRI of 70. Lumen packages deliver 3,000 to 9,000 lumens. The fixture's die-cast aluminum housing has a spun, sloped aluminum top. It mounts to standard one-gang, two-gang, and 4"-round wet-location junction boxes. IP66 rated and UL and cUL wet-location listed. • cooperindustries.com



CONTROLS, BUILDING INTEGRATION, SITE AUTOMATION, AND DISTRIBUTION SYSTEMS

Energy Insight, Schneider Electric • A Web-based, automated alternative to spot checks and one-time verification, Schneider Electric's Energy Insight energy management system can be used by branch circuit, space, and system controls to monitor lighting and plug loads. It combines circuit zoning, energy data analytics, and a customizable dashboard to evaluate the performance of lighting and plug-load energy conservation measures. Juror Deborah Frankhouser called the system "a likely solution for retrofitting existing tenant spaces at the time of turnover." The system auto-populates a dashboard with current, power, energy, and voltage data on a per-circuit or per-zone basis. • schneider-electric.us



INDUSTRIAL, VANDAL, EMERGENCY, AND EXIT

Metalux SkyBar High Bay LED Series, Eaton's Cooper Lighting Business • This high-bay luminaire offers uplight and adjustable optical blades for use in warehouses, convention centers, atriums, big-box retailers, and other applications requiring a greater focus on aesthetics than are offered by conventional high-bay solutions. Field-adjustable two- and four-blade configurations in wide and narrow distributions are available and incorporate the company's WaveStream LED light-distribution technology. Correlated color temperatures of 3500K, 4000K, and 5000K are available in five lumen packages of 10,000 to 29,000 lumens with an efficacy of up to 105 lumens per watt. Equipped with a zero-to-10V standard dimming driver. • cooperlighting.com/skybar

breez™ Series
RECESSED INDIRECT LED LUMINAIRES



INDIRECT
for LIGHTING
that is
EXPERIENCED

Energy-saving solutions
that leave you in 'control'.

www.Lithonia.com/Breez

TAKE THE VIRTUAL TOUR AT <http://youtu.be/KSOYnZRRabM>



PRODUCTS

EDITORS CHOICE: NEW AT LIGHTFAIR

The products and technology on display in Las Vegas this year showcased the full spectrum of innovation. From powerful lamps, to dynamic decorative elements, to new technology that expands fixtures' functionality, we share our top product picks from the show.

text by Hallie Busta



Yttrium, Lumium Lighting • Three machined, luminous spokes on an adjustable ring rotate around an open interior while offering multidirectional illumination. But it's not just about looks. Hidden in the Yttrium's three-tiered form is a little bit of chemistry: according to the company, the third spoke, also known as the ion, allows light to be distributed evenly in all directions. Removing the spoke gives the luminaire a so-called "negative ionic charge" and results in asymmetric light distribution. The zero-to-10V dimmable LED fixture offers 2700K, 3000K, 3500K, 4000K, and 5000K with 180 degrees of rotation. • lumiumlighting.com

Color Temperature Adjusted 2.0 LED MR16, Ledzworld • Ledzworld's Color Temperature Adjusted 2.0 LED MR16 lamp could represent the end of—or at least a major milestone in—the industry's quest for a long-term, satisfactory LED replacement lamp for the MR16. Ledzworld's product includes the company's patented color-temperature-adjusting dimming technology and its Chameleon driver that adjusts to its environment and allows for the luminaire's CRI of 98. Standard beam angles of 10, 25, 40, and 60 degrees are offered. The lamps are designed for use in applications including retail, museums, and art galleries as well as residential spaces. • ledzworld.com





ByteLight, ByteLight • Call it invasive or inevitable, indoor positioning software is changing the retail experience. ByteLight's eponymous technology smartly integrates the infrastructure of a longstanding building system—lighting—with a state-of-the-art informative and revenue-generating use. The indoor location-based software lets retailers directly engage with consumers at the point of purchase via wireless sensors in the light fixtures that push targeted information, such as coupons, to shoppers based on their identity, location in the store, and purchase history. GE Lighting has started to incorporate the software in some of its luminaires. • bytelight.com



Divide Suspended LED, Eaton's Cooper Lighting Business • This replacement luminaire offers a modern but familiar form for clients considering a transition to LEDs. Part of the company's Divide series, the fixture joins recessed, surface, and wall-mounted luminaires fitted with the company's proprietary WaveStream LED technology, which improves control over light levels and optics. The luminaire offers color correlated temperatures of 3000K, 3500K, and 4000K with five lumen packages and standard zero-to-10V continuous dimming. • cooperindustries.com

INDUSTRIAL LED



DELRAY LIGHTING INCORPORATED

50W LED PANEL
DIMMING STANDARD
100,00 HOUR LIFE
AVAILABLE UPLIGHT

Lens cut away to reveal LED panel.

delraylighting.com



Lumenfacade Inground, Lumenpulse •

Incorporating baffles as a shielding device for an integrated fixture, Lumenpulse designed its Lumenfacade Inground luminaire for wallwashing, grazing, and linear wayfinding. The luminaire offers 2700K, 3000K, 3500K, 4000K, and RGB light. Plug-and-play construction helps protect the system from damage due to water infiltration. Available in lengths of 1", 2", 3", 4", and 6". • lumenpulse.com



Exo Optic Technology, Spaulding Lighting •

Spaulding is among a growing group of manufacturers that are adjusting the spectrum of their luminaires' light output to respond to research findings that link light's impact to the ecological environment and human health. The company's Exo Optic Technology shifts the short—or blue—wavelengths of a luminaires' LEDs to longer, less-intense lengths. The patent-pending optic offers high efficacy and color quality. At Lightfair, the company showcased the new technology on its Cimarron LED CL1S luminaire (shown). The system is offered in dynamic and static versions, the latter functioning as a high-pressure sodium and low-pressure sodium replacement with spectral and photometric outputs. • www.spauldinglighting.com



Vessel, Todd Bracher for 3M •

Designer Todd Bracher worked with 3M to experiment with different materials and form factors that would distribute LED light effectively while maintaining a transparent aesthetic for its Vessel pendant and sconce. The result is a simple, elegant, and innovative package. The luminaire's quartz-crystal cylinders wrap and diffuse 3500K and 2700K LED light. Optics with lengths of 2.4", 6.6", and 11.9" can be mixed and matched in installations. Black, bronze, gold, white, wine, and clear anodized finishes are offered. • solutions.3m.com



BY2E Series LED High Bay

Kingsun new BY2E LED High Bay uses a new patented powercell™ technology resulting in less weight which enhancing the heat dissipation. The unique modular designed light source isolated from the driver ensures a long life of the LED's and the luminaries. Available in 90W and 130W, low UGR, uniform light distribution and IP65 next to the low weight and excellent heat dissipation system.



Apollo LED Street Light

The Apollo LED luminaries are the star products of the Kingsun street light family. The Apollo family embraces innovative features and values that are akin to the European and American customer's requirements. These include a solid and slim design, a flexible current driver range, thermal and optical integrated in one module and many choices of light distribution to cater for any road layout. Next to that tool free installation and easy maintenance the Apollo LED street light is a total solution to a variety of applications, having a range of installation interfaces and various control methods.



Jupiter Series LED Street Light

Jupiter street light luminaries are compact and elegant with a range of 20W, 40W and 60W LED light engines, ideal for smaller roads like countryside, park and residential areas. The Jupiter LED family gives instant light and have a long lifespan, high efficiency and economic in cost.



Very

V is for vivid

the power of



The power of 'V' is modular.

The power of 'V' is scalable.

The power of 'V' is very high output!

Here we go again changing the industry with Power of 'V' technology! Complete control with modular optics, accessories and architectural dimming to boot. With a powerful 6,000 lumen output expect the 'wows'...this BKSSL® fixture is VERY vivid!



CELEBRATING 30 YEARS OF QUALITY

www.bklighting.com



What could you do with a true 5° pinspot?

How about light this "hound dog's" guitar

(including the maker's label inside)

from an 18-foot ceiling?

NoUVIR LIGHTING®

302-628-9933

www.nouvir.com

Call us for a list of other things
that no one else can do!

Adjustable beams (5° to 50°)

No spill No scatter No aberration

Perfect color (CRI 100)

*Pure-white, stone-cold fiber optic lighting
with No UV and No IR... only from NoUVIR!*

selux

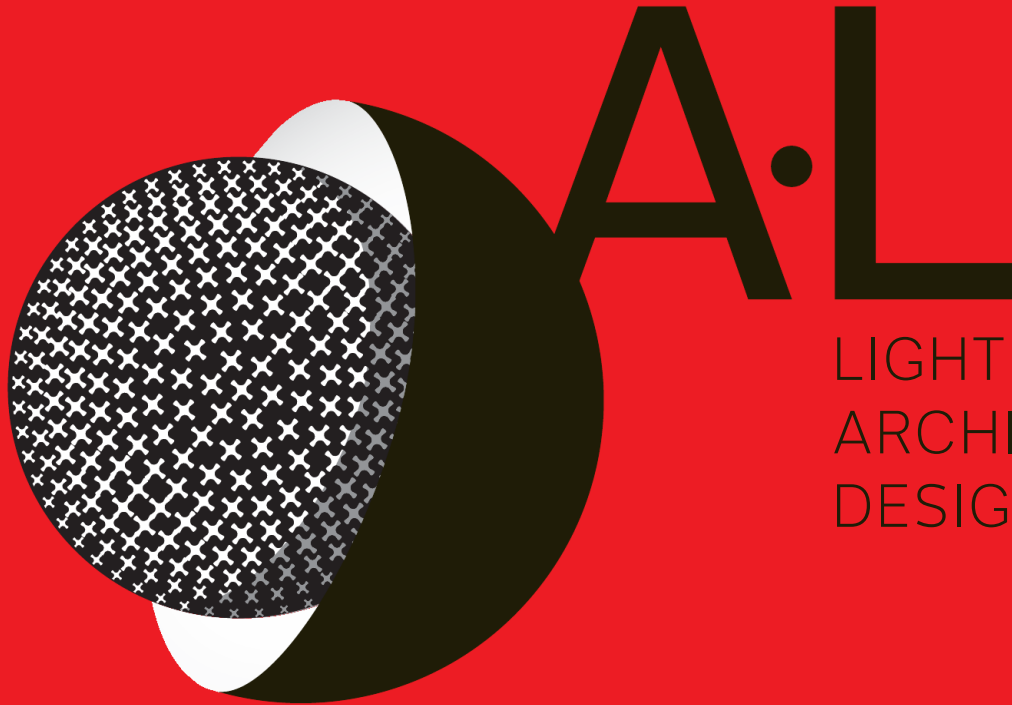


A V A N Z A

Sophisticated. Reliable. Brilliant. The new Avanza has efficient high-powered LEDs combined with innovative free form reflectors producing superior performance. The Selux Cross Beam Technology (CBT) creates harmonious brightness transitions for optimal visibility and a unique appearance. Avanza is available in two sizes and provides light which expands industry standards making it a convincing overall package.

selux.us

ELEVENTH
ANNUAL



LIGHT &
ARCHITECTURE
DESIGN AWARDS

text by Elizabeth Donoff

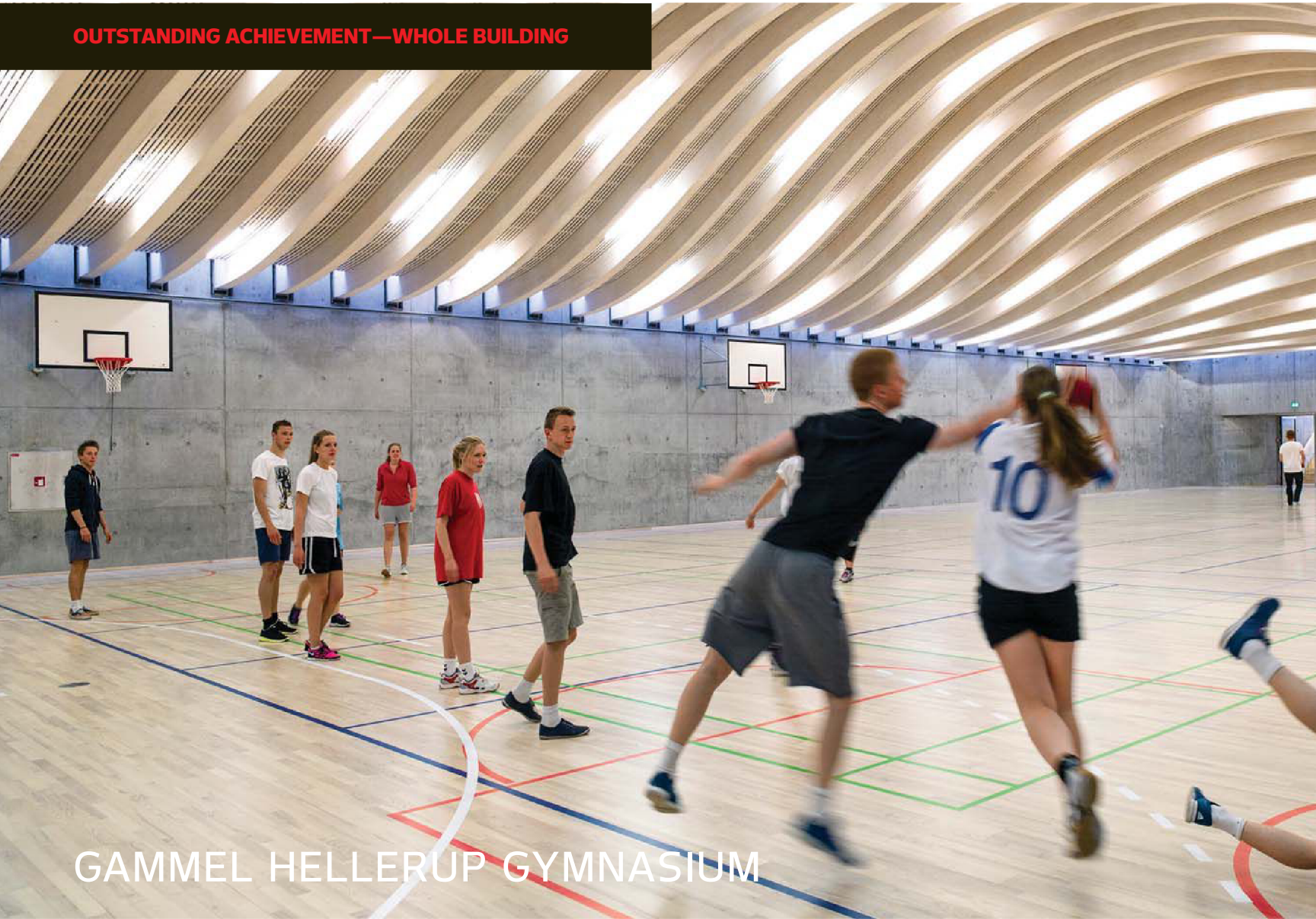
The winning work in the 2014 class of the AL Light & Architecture Design Awards is yet another incredible group of projects in the portfolio that has become this program's archive. This year's judging was equally as rigorous as past years, if not more so; out of more than 100 entries, only 10 projects were selected.

The work you see on the pages before you, and online at archlighting.com, reconfirms light's critical role as more than just a singular design element. Light is the continuous design thread that weaves its way through the spaces in which we live, work, study, and play. Never has light been more important in making the difference to the success of our natural and built environments and the way in which we interact with them.

This year's projects are not limited by aesthetics, technical investigation, or boundary of scale. They set a benchmark for excellence in architectural lighting design and serve as a guide for others working with light. •



OUTSTANDING ACHIEVEMENT—WHOLE BUILDING



GAMMEL HELLERUP GYMNASIUM

BIG (BJARKE INGELS GROUP)

text by Deane Madsen

Bjarke Ingels Group (BIG), was commissioned to design a new gymnasium for Ingels's alma mater, Gammel Hellerup High School, in Hellerup, Denmark. In order to preserve natural light for the buildings surrounding the school's central open courtyard, BIG chose to excavate it and place the new gym below grade. And with the gym's curved roof (Ingels used the formula for a ballistic arc as inspiration), the underground sports hall feels much more spacious while supporting programming above.

The gymnasium ceiling achieves its curvature with deep glulam timber beams that allow its roof to expand upward into the school's rectangular courtyard. The roof forms an

artificial mini-hill clad in untreated oak decking that serves as an outdoor gathering place. Beneath the roof, BIG deployed a staccato arrangement of linear fluorescent luminaires between the glulam beams as the primary light source for the space. The roof's edge becomes bench seating along the courtyard perimeter above. Strategically placed gaps in the decking at the courtyard level allow indirect daylight to filter through skylights that form a clerestory at the upper edge of the multipurpose hall below.

The hall's clerestory lighting reduces energy consumption by creating a halo of natural light around the electrically lit ceiling, and washes the concrete retaining walls of the



5,200-square-foot underground space with a soft glow. The lighting system features daylighting controls, and is partially powered by photovoltaic panels.

In the courtyard above, BIG integrated white LED fixtures into the undersides of white steel furniture to illuminate the sloping roof at night. A circular bench, with the same integrated fixtures, winds down the sloping roof, casting a circular glow under it.

The new gym and its rooftop, affectionately dubbed “the molehill,” have become successful, luminous social hubs. And BIG has earned extra credit in the form of second commission from the school. •

Details

Project: Gammel Hellerup High School Gymnasium, Hellerup, Denmark • **Entrant:** BIG (Bjarke Ingels Group) • **Owner/Client:** Gammel Hellerup High School, Hellerup, Denmark • **Architect/Lighting Designer:** BIG, Valby, Denmark • **Team Members:** Bjarke Ingels, Finn Nørkjær, Ole Schrøder, Ole Elkjær-Larsen, Frederik Lyng, Christian Alvarez Gomez, Jeppe Ecklon, Rune Hansen, Thomas Juul-Jensen, Narisara Ladawøl Schröder, Jakob Lange, Xu Li, Riccardo Mariano, Henrick Poulsen, Dennis Rasmussen, Ana Merino, Anders Hjortnæs, Gül Ertekin, Hjalti Gestsson, Jacob Pæarsgaard Thomsen, Jan Magasanik, Ji Young Yoon, Michael Schønemann Jensen, Snorre Emanuel Nash Jørgensen, Vincent He • **Photographer:** Jens Lindhe • **Project Size:** 11,840 square feet • **Project Cost:** \$8.9 million • **Lighting Cost:** \$84,000 • **Watts per Square Foot:** 0.6 • **Code Compliance:** BR 10 (Danish Energy Code) • **Manufacturers:** Delux, Sændlux

Jury Comments

- The perfect integration of light and architecture.
- A clear, legible, and consistent design.
- The space is terrific; you don't see the fixtures, only the light.
- The color temperature difference that indicates daylight is brilliant.



SANDRIDGE COMMONS, SANDRIDGE ENERGY HEADQUARTERS, LANDSCAPE AND TOWER LIGHTING
RENFRO DESIGN GROUP

text by Elizabeth Donoff

Credit - VoltABook_717

As part of Oklahoma City's revitalization efforts, SandRidge Energy—a growing, independent natural gas and oil company—relocated its suburban headquarters downtown. The company's corporate master plan encompasses several city blocks and a number of different buildings, one of which is a 30-story modernist office tower in the Brutalist architectural style, designed in 1971 by architect Pietro Belluschi. A new 4,600-square-foot canopy structure serves as the unifying element for the new campus, providing a sense of cohesiveness and a sense of place to the city's downtown urban fabric. Lighting consultant Renfro Design Group was asked to create a lighting scheme that would bring all of these elements together.

To light the façades of the Belluschi-designed office tower, Renfro's team positioned yoke-mounted 4000K LED exterior floodlights atop a nearby parking garage. With the aid of aiming studies and mock-ups, two fixture positions were established and three beam-spread distributions—8 degrees, 13 degrees, and 23 degrees—throw the light accordingly. This creates an even distribution for the full 393 feet of the building, and also highlights the three different window shapes of the building's upper, middle, and lower sections. The shadowing pattern, which is a result of the windows' deep and angular recesses, serves as the design cue for the canopy's triangular pattern.

Besides serving as a new focal point, the 34-foot-tall canopy also provides shade relief for the outdoor plaza during the extreme heat of Oklahoma City's summer months by using two layers of various density perforated metal. At night, the canopy structure is illuminated by 3000K integrated linear LED strips. Yoke-mounted halogen PAR38 downlights illuminate the plaza area below. Additional theatrical lighting is also in place when needed for events.

Along the sloping paths leading from sidewalk level to plaza level, 7-foot-long, 18-inch-tall custom linear 3000K LED fixtures line the planting borders and illuminate the 9-foot-wide paths. Within the planting beds, vertical lighting elements—a combination of MR16 and PAR30 narrow beam ceramic metal halide uplights—are set into pierced Cor-Ten steel pipes to light the trees and other large-scale foliage.

Existing buildings, new architecture, and lighting have joined forces to provide a civic identity for SandRidge Energy and Oklahoma City's revitalized downtown core. •



Details

Project: SandRidge Commons, SandRidge Energy Headquarters, Landscape and Tower Lighting, Oklahoma City, Okla. • **Entrant:** Renfro Design Group • **Owner/Client:** SandRidge Energy, Oklahoma City, Okla. • **Architect:** Rogers Partners (formerly Rogers Marvel Architects), New York • **Lighting Designer:** Renfro Design Group, New York • **Team Members:** Richard Renfro, Eileen Pierce, Lisa Wong, Fabio Tuchiya, Azusa Yabe • **Photographer:** Timothy Hursley • **Project Size:** 181,104 square feet • **Project Cost:** Withheld • **Lighting Costs:** Withheld • **Watts per Square Foot:** 0.19 • **Code Compliance:** ASHRAE 2007 • **Manufacturers:** Acuity Brands/Winona Lighting, B-K Lighting, Philips Color Kinetics, Selux

Jury Comments

- Masterful job of floodlighting; it highlights the Brutalist style of the building's architecture.
- The patterning of light on the façade is skillfully translated to the canopy.



OUTSTANDING ACHIEVEMENT—INTERIOR LIGHTING



ST. MORITZ CHURCH

MINDSEYE LIGHTING

text by Elizabeth Donoff

St. Moritz Church, one of the oldest parishes in Augsburg, Germany, dates back to 1019. Over time, it has experienced its share of demolition and rebuilding efforts shaped by fire, changes in religious practices, and war. Heavily bombed during World War II, only its outer walls were left standing. At the end of the war, German architect Dominikus Böhm oversaw its rebuilding.

In the church's latest transformation, the team of London-based designer John Pawson and London-based lighting design firm Mindseye Lighting sought to bring light and clarity to the structure's interiors while being mindful of the building's history and the work of the previous architects.

In keeping with the minimalist aesthetic of their teammate Pawson, Mindseye developed a scheme that uses illumination to help define the architectural volumes and bring out the subtle textures found in the material palette of wood, stone, and plaster. A visitor notices the quality of light, not the fixtures themselves. Furthermore, Mindseye employed a dynamic white-light scheme that enables most of the luminaires in the church to change from warm (2700K) to neutral (4000K) white light. It also serves as the design mechanism by which natural light and electric light are coordinated; warm-white color temperatures are prevalent during evening Mass and neutral-white is used during the day.



The main nave spans 29.5 feet wide by 108 feet long. Clerestory windows let in natural light, while a series of side arches and cove-lit domes lead the visitor's eye to the altar and the far wall beyond it, which features a Baroque figure of Christ. The sculpture is backlit, as well as highlighted from the front by two 150W metal halide spotlights. The altar is illuminated by 10 projector luminaires placed behind the dome lip.

The use of white light provides an elegant, subtle illumination throughout the church, one that creates an experiential understanding of light as it corresponds to the different services and ceremonies that take place both each day and seasonally. •

Details

Project: St. Moritz Church, Augsburg, Germany • **Entrant:** Mindseye Lighting Ltd. • **Owner/Client:** Church of St. Moritz, Augsburg, Germany • **Architect:** John Pawson Ltd., London • **Lighting Designer:** Mindseye Lighting Ltd., London • **Team Members:** Admir Jukanovic, Douglas James, Eszter Hanzseros, Raquel Meseguer • **Photographer:** Marcus Schrother • **Project Size:** 15,941 square feet • **Project Cost:** £225,000 (\$357,883) • **Lighting Costs:** £212,000 (\$337,206) • **Watts per Square Foot:** 0.66 • **Code Compliance:** Not Applicable (No energy code requirements in the project locale.) • **Manufacturers:** ETC, iGuzzini, LTS, Martini, Meyer, Norka, Philips Color Kinetics, Precision Lighting, RUCO, Weckmer, Vexica

Jury Comments

- Stunning.
- Shows absolute clarity of design intent.
- Perfect.

COMMENDABLE ACHIEVEMENT—WHOLE BUILDING



DANISH NATIONAL MARITIME MUSEUM

**BIG (BJARKE
INGELS GROUP)**

text by Deane Madsen

Denmark's maritime history is long enough that its Kronborg Castle in Helsingør—originally built in the 1420s as a fortified toll collection point between the Baltic and North Seas—earned a role in Shakespeare's *Hamlet* as the play's setting, Elsinore. And the history of the UNESCO World Heritage site itself could not be ignored when plans emerged that would place a new museum celebrating the country's nautical traditions in a dry dock that is located less than 1,000 feet from the castle.

In response to an invited competition, Danish architecture firm Bjarke Ingels Group (BIG) proposed building a subterranean museum that used the existing dry dock footprint for

its interior walls. Shaped like a rectangular doughnut in plan, the museum would preserve the dry dock as its open-space centerpiece with the added benefit of allowing natural light into the interiors. With this proposal, BIG won the competition. The museum was completed in October 2013.

The exterior electric lighting scheme calls out the architectural elements, by using white LEDs to signify land and blue LEDs to signify water. At night, white LEDs line the pedestrian bridges to the museum and serve as a visual indication of the castle beyond. These bridges serve a dual purpose, first as the rooftops of the double-height, glass-enclosed linkages that connect the



galleries across the dry dock—one of which houses a sloping auditorium—and second as bracing for the walls that were once supported by water within the dock.

Blue LEDs mark the dry dock's once-exiting waterline, and floodlights fill the ship-shaped cavity with cool tones of blue and white. Complying with local regulations, light from within does not spill more than 30 feet, in deference to Kronborg Castle.

The exhibit lighting uses 55W LED fixtures. Projected images animate blank walls, and a buoy with internal sources casts coordinates on the floor. From exterior to interior, visitors and displays alike are washed in a cool glow. •

Details

Project: Danish National Maritime Museum, Helsingør, Denmark • **Entrant:** BIG (Bjarke Ingels Group) • **Owner/Client:** Maritime Museums Byg ApS • **Architect/Lighting Designer:** BIG, Valby, Denmark • **Team Members:** Bjarke Ingels, David Záhle, Annette Jensen, Jeppe Ecklon, Karsten Hømmer Hansen, Rasmus Rodam, Rune Hansen, John Pries Jensen, Henrik Kania, Ariel Norback Wøllner, Rasmus Pedersen, Dennis Rasmussen, Jan Møgøsanik, Alina Tamosiunaite, Alysén Hiller, Ana Merino, Andy Yu, Christian Alvárez, Claudio Moretti, Felicia Guldberg, Gül Ertekin, Johan Cool, Jonas Pøttern, Kirstine Ragnhild, Mølte Chloe, Marc Jay, Maria Møvikku, Masatoshi Oka, Oana Simionescu, Pablo Labra, Peter Rieff, Qianyi Lim, Sara Sosio, Sebastian Latz, Tina Lund Højgaard, Tina Troster, Todd Bennet, Xi Chen, Xing Xiong, Xu Li • **Photographer:** Luca Santiago Mora • **Project Size:** 77,500 square feet • **Project Cost:** \$55 million • **Lighting Costs:** \$500,000 • **Watts per Square Foot:** 0.458 • **Code Compliance:** BR 10 (Danish Energy Code) • **Manufacturer:** Delux

Jury Comments

- The lighting respects the view of the castle.
- There's a wonderful contrast between the color temperatures of the daylighting and electric lighting.

COMMENDABLE ACHIEVEMENT—EXTERIOR LIGHTING



LAX CENTRAL TERMINAL AREA CURBSIDE ENHANCEMENT

HORTON LEES BROGDEN LIGHTING DESIGN

text by Deane Madsen

As part of a redevelopment plan for Los Angeles International Airport (LAX), the Culver City, Calif., office of Horton Lees Brogden Lighting Design (HLB) teamed with L.A.-based AECOM to enliven LAX's Central Terminal Area. The area of focus for the first phase of this curbside enhancement project was the roadway and sidewalk areas in front of the Tom Bradley International Terminal. Recognizing the need to illuminate an upper and lower roadway system as well as the entrance into the terminal—all under an aggressive timeline—HLB and AECOM strategized to produce maximum effect with minimal materials.

The most eye-catching improvement that the team implemented is a series of sculptural light poles at the edge of the upper level that evokes the spirit of flying, befitting the theme of the

building. The light poles—high-gloss, white-finished, Y-shaped elements with embedded LEDs, uplit with LED spotlights—also cut energy use by two-thirds and fulfill the roadway lighting requirements with uniform 3500K white light across both levels. Because of the tight timeline, the team chose an existing roadway-approved optic component for use in the arms of the light poles, which, rotated 180 degrees from its typical deployment, allows for an average of 2.5 footcandles on the roads, and 8 footcandles on the sidewalks.

Along the roadway and terminal canopy edges, HLB and AECOM deployed a polychromatic light ribbon that links to LAX's gateway pylon controls and cycles through synchronized color transitions. At the terminal entrance and passenger drop-off area, added reflective coatings within the LED canopy luminaires help bounce the light to create a soft luminous environment.

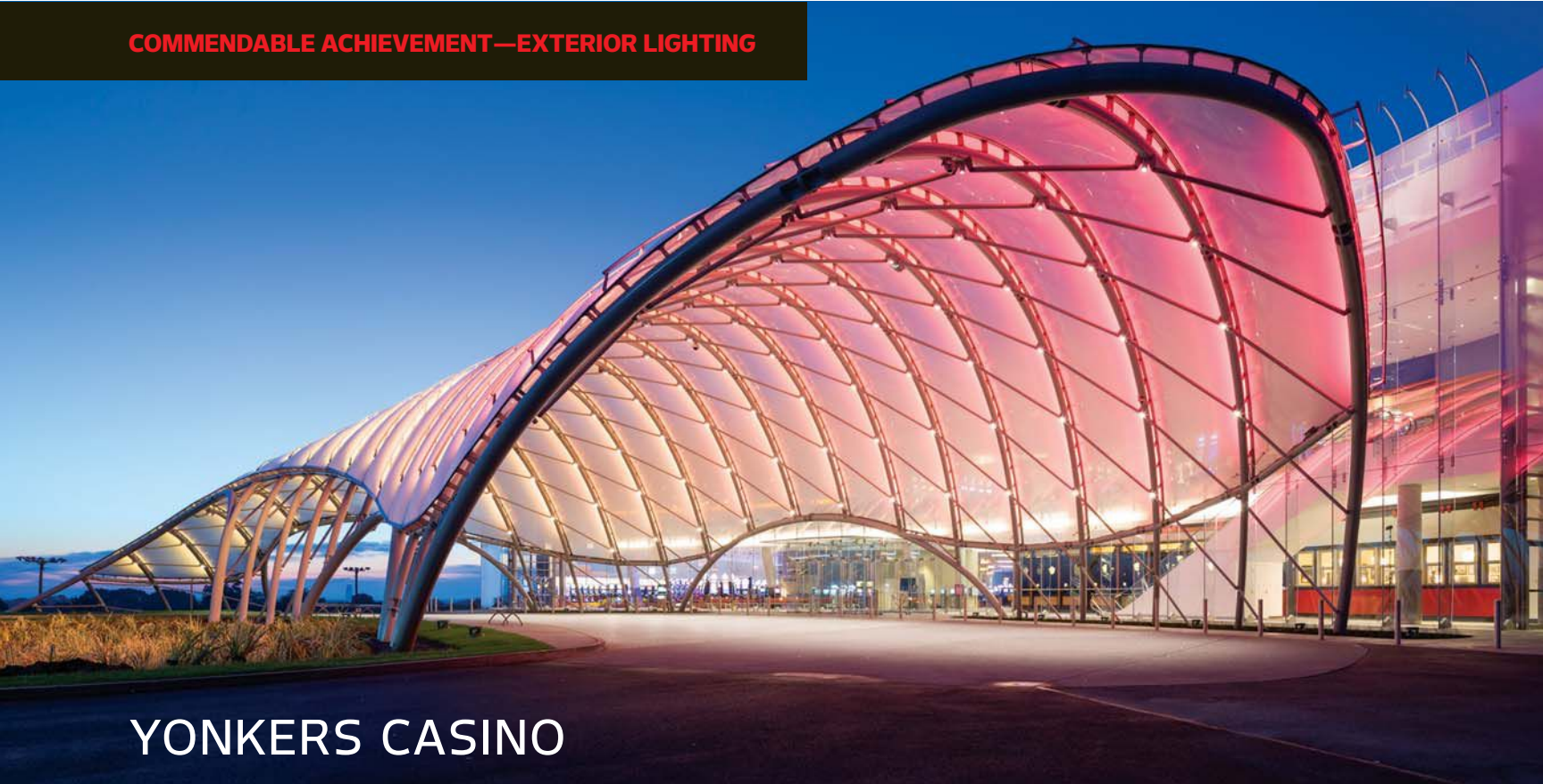
While only the first phase has been completed, the remaining planned stages will subsequently extend the light ribbon around the remaining terminals, further unifying the lighting and creating a cohesive experience. •

Details

Project: LAX Central Terminal Area (CTA) Curbside Enhancement, Los Angeles • **Entrant:** Horton Lees Brogden Lighting Design • **Owner/Client:** Los Angeles World Airports (LAWA) • **Architect:** AECOM, Los Angeles • **Lighting Designer:** Horton Lees Brogden Lighting Design, Culver City, Calif. • **Team Members:** Teal Brogden, Tina Aghassian, Clifton Manahan, Jae Yong Suk, Alexis Sclermer • **Photographer:** AECOM • **Project Size:** 15,350 square feet (roadway and light ribbon); 28,750 square feet (canopy) • **Project Cost:** Withheld • **Lighting Costs:** Withheld • **Watts per Square Foot:** 4.11 (light ribbon); 0.409 (other areas) • **Code Compliance:** California Title 24 • **Manufacturers:** Acuity Brands/Winona Lighting, Bega-US, Eaton's Cooper Lighting Business, ETC, Lutron, Penwal Industries (light poles), Philips Color Kinetics

Jury Comments

- A clever, custom application of a commercially available product.
- This answers the question of how light can give focus to a project.



YONKERS CASINO

TILLOTSON DESIGN ASSOCIATES

text by Deane Madsen

Flashing lights on gaming machines typically characterize the otherwise dimly lit interiors of casinos, but not so with this 66,000-square-foot addition at the Empire City Casino at Yonkers Raceway in Yonkers, N.Y. Instead, Studio V Architecture, working with Tillotson Design Associates (TDA), aimed to rethink and reinvent the casino typology—or at least the typology’s approach to lighting.

Daylight streams into the casino entry through a 45-foot-tall low-E glass façade that curves in a gentle 300-foot arc along its entrance road, providing a backdrop to the casino’s porte-cochere canopy. And it’s this 200-foot-long arched canopy, which takes its organic form from the hilltop surrounds—comprised of structural steel that supports ETFE pillows with embedded RGB LEDs on synchronized controls—that plays the part

of the “Learning from Las Vegas” roadside signifier.

The 24-hour nature of gaming also meant that the lighting designers needed to develop a lighting scheme that required little to no maintenance. It also meant finding a way to illuminate the dramatic canopy so that the LED sources wouldn’t interfere with driver’s sight lines at night. The complex curvature of the system translated to individually customized profiles for each row of ETFE-illuminating stem-mounted LEDs, which sit 1.2 inches above the frame. At intersections in the steel canopy structure, dimmable white LED downlights are positioned to illuminate the driveway. Pole-mounted metal halide floodlights extend from the roof over the top edge of the glass façade, washing it with even white light that contrasts with the coloring of the lit ETFE membranes of the canopy. An interior LED cove highlights the façade curvature from within the casino.

The result of these lighting strategies is a structure that beckons to potential gaming enthusiasts not with a busy array of lights, but with an undulating glow from which even Las Vegas could learn. •

Details

Project: Yonkers Casino, Yonkers, N.Y. • **Entrant:** Tillotson Design Associates • **Owner/Client:** Withheld • **Architect:** Studio V Architecture, New York • **Lighting Designer:** Tillotson Design Associates, New York • **Team Members:** Suzan Tillotson, Ellen Sears, Mitul Parekh, Kate Nelson • **Photographer:** Paul Warchol Photography • **Project Size:** 66,000 square feet • **Project Cost:** \$45 million • **Lighting Cost:** Withheld • **Watts per Square Foot:** Not available • **Code Compliance:** Not available • **Manufacturers:** 1212 Studio, HK Lighting Group, Philips Color Kinetics

Jury Comments

- There’s an incredible subtlety of transition.
- The canopy has the resplendence of a moth wing.



COMMENDABLE ACHIEVEMENT — INTERIOR LIGHTING

SCHINDLER ELEVATOR CORPORATION —
U.S. HEADQUARTERS

IKON.5 ARCHITECTS

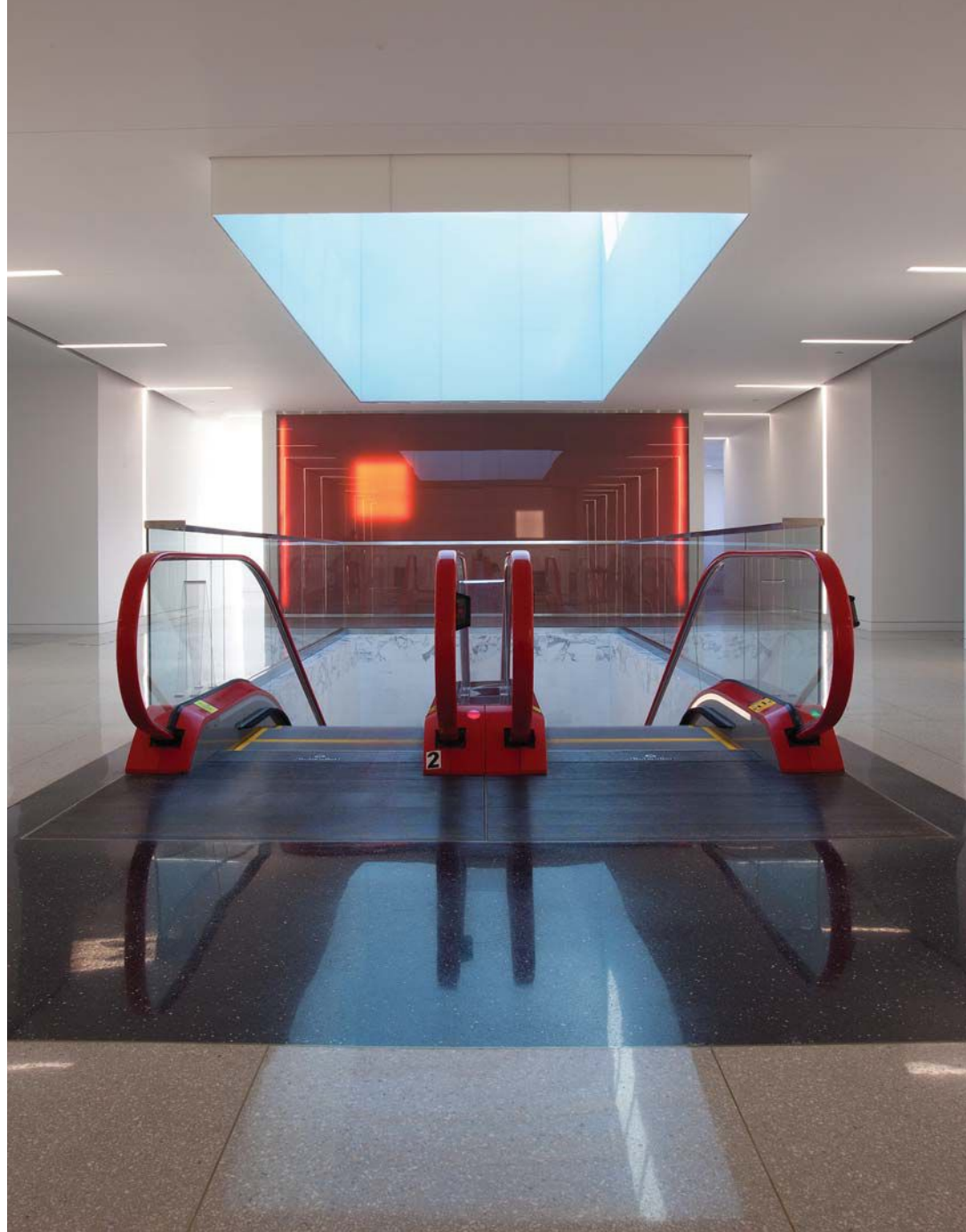
text by Deane Madsen

For the renovations to its Morristown, N.J., headquarters building, Schindler Elevator Corp. expressed to Ikon.5 Architects that it wanted to highlight its minimal aesthetic and precision engineering. Ikon.5 grabbed this mandate and took the Switzerland-based company's existing 1970s office structure and gave it a full stylistic makeover and efficiency update, from new, insulated glazing to interior surface treatments and a 21,000-square-foot solar-power array.

Schindler instructed Ikon.5 that it wanted to convey the importance of its engineering heritage and mission statement of safely moving people throughout the world (via their elevators and escalators), while also rethinking its approach to sustainability by having the architects make improvements to the building's energy consumption. Ikon.5 responded to this challenge with a new envelope for the building that reduces mechanical loads and new lighting solutions that minimize energy use without any loss of natural workplace illumination. An information kiosk in the lobby—lit with ceiling-mounted, custom LED light panels—displays real-time statistics about the building's energy use, such as an estimated 6.7 percent reduction in electricity consumption and 39.2 percent reduction in consumption of natural gas, all of this thanks to both the low-E windows and the rooftop photovoltaic grid.

Red and white, the colors of the Swiss flag, are repeated throughout the building as solid, unadorned planes interrupted at regular intervals by recessed 28W T5 fluorescent luminaires that create an accent element when walking through the building. And drawing inspiration from contemporary static art installations that give the illusion of motion, designers from Ikon.5 created "mise-en-scène" settings that focus on abstracted single-point perspectives, with long corridors laid out like horizontal versions of the elevator shafts that house Schindler's vertical transportation and mobility products.

Glass walls allow daylighting to penetrate deep into the building, while minimal detailing and trimless LED fixtures establish a language that speaks in frames of light. Following the same language and rhythm as the recessed fixtures, Ikon.5 deployed linear 28W T5 pendants in the open office areas to provide additional tasklighting, creating a workplace environment that emphasizes Schindler's chief export: movement through space. •



Details

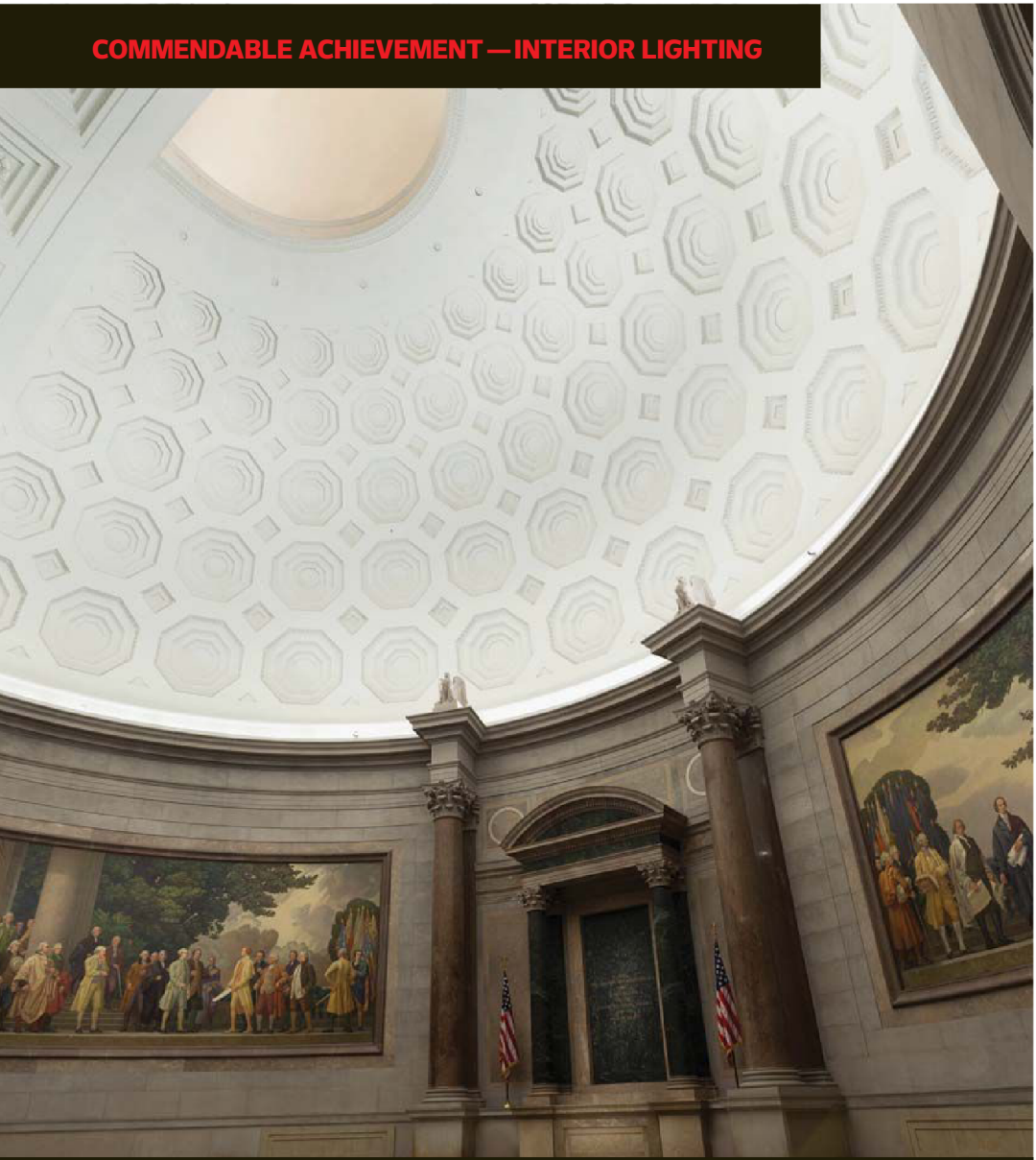
Project: Schindler Elevator Corp.—U.S. Headquarters, Morristown, N.J. • **Entrant:** Ikon.5 Architects • **Owner/Client:** Schindler Elevator Corp. • **Architect/Lighting Designer:** Ikon.5 Architects, Princeton, N.J. • **Team Members:** Joseph G. Tattoni, Ben Petrick, Michael Zereva, Renuska Papalexioiu • **Photographer:** James D'Addio • **Project Size:** 161,000 square feet • **Project Cost:** Withheld • **Lighting Cost:** \$1 million • **Watts per Square Foot:** 0.90 • **Code Compliance:** ASHRAE 90.1-2004 • **Manufacturers:** Gammalux, Philips Ledalite, Rosco, Traxon

Jury Comments

- Beautiful attention to detail.
- These lines of light re-create the appearance of looking down an elevator shaft.



COMMENDABLE ACHIEVEMENT — INTERIOR LIGHTING



ROTUNDA FOR THE CHARTERS OF FREEDOM

AVAILABLE LIGHT

text by Elizabeth Donoff

The Declaration of Independence,

Constitution, and Bill of Rights are three of the most important documents in U.S. history. Collectively known as the Charters of Freedom, they are housed in the Rotunda of the National Archives Museum in Washington, D.C. Lighting design firm Available Light was tasked with relighting the space to meet four specific requirements: to make sure there were no measurable UV emissions, to improve color rendering, to provide multi-zone dimming controls, and to develop a lighting system that would require little maintenance.

The space, in reality a half rotunda, was lit by a series of fiber optic spotlights powered by metal halide illuminators located along the upper cornice line ledge. Over time, though, the illuminators failed, and the fiber was discoloring and its intensity was diminishing.

How, then, do you light this architecturally complex space while maintaining public access during the renovation process? Rely on drawings and mock-ups. So the lighting team developed their design using scanned, unscaled drawings dating from the 1930s and the 1980s, along with trial and error through the mock-up process.

To provide a soft, even layer of indirect light across the ceiling dome, arches, and vaults, the lighting team developed a series of custom LED fixtures. Three-tiered, 2850K linear LED luminaires with a CRI of 93-plus light the main rotunda, and a single-tiered version, a linear LED strip, lights the archways and vaulted ceilings.

The lighting designers worked closely with their manufacturing partners to develop low-profile luminaires that would meet the desired spectral quality and beam control along with improved energy efficiency. (The new lighting system uses only 1,800W, rather than the previous system's 11,000W.) The result is a lighting design that artfully celebrates the architectural envelope and the treasures of national import within. •

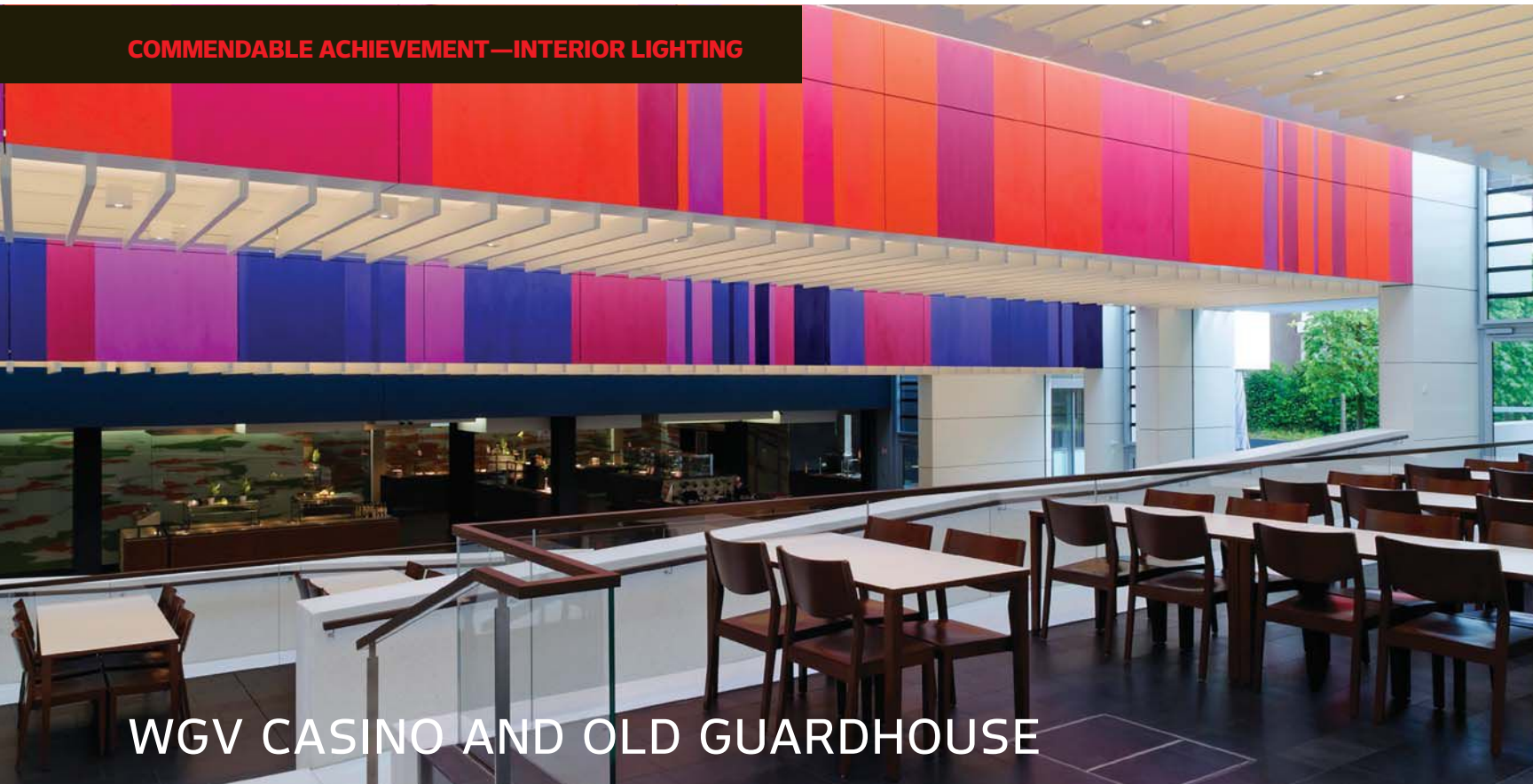
Details

Project: Rotunda for the Charters of Freedom, National Archives Museum, Washington, D.C. • **Entrant:** Available Light • **Owner:** National Archives & Records Administration, Washington, D.C. • **Client:** Luxam, Coral Gables, Fla. • **Lighting Designer:** Available Light, Salem, Mass. • **Team Members:** Steven Rosen, Cynthia Gernetzke, Rachel Miner • **Photographers:** Jay Rosenblatt Photography; Steven Rosen **Project Size:** 11,000 square feet • **Project Cost:** Withheld • **Lighting Costs:** \$135,000 (hardware) • **Watts per Square Foot:** 0.19 • **Code Compliance:** Exhibition lighting was exempt • **Manufacturers:** Lumenpulse, Lutron, Prolume

Jury Comments

- An impressive technical feat given the scale of the space.
- Lovely quality of light.

COMMENDABLE ACHIEVEMENT—INTERIOR LIGHTING



WGV CASINO AND OLD GUARDHOUSE

PFARRÉ LIGHTING DESIGN

text by Elizabeth Donoff

When Stuttgart, Germany-based insurance firm WGV decided to create a company gathering spot—with access to a self-service cafeteria and a space for special events—at its headquarters, the situation provided a couple of unique challenges for lighting consultants Pfarré Lighting Design. The first problem was the site itself, three terrace levels adjacent to a protected historic building known as the Old Guardhouse. Second was a three-tiered ceiling (heights ranging from 12 feet to 13.5 feet) with skylights running in between each step in the elevation and the length of the entire 3,767-square-foot open-seating area.

The lighting designers worked closely with the architects and acousticians to provide a sensitive lighting response, one in which light quality would be the discernible element instead of the fixtures. To accomplish this, they

developed a custom 10W 3000K LED-baffle ceiling system that provides a smooth, indirect, ambient lighting solution, despite the difference in ceiling heights across the room. In between the baffles, LED spotlights in square housings provide direct lighting on the tables.

Along the fascia of the center ceiling slab, panels of artwork in shades of red, magenta, and purple wash reflected color into the space. Another series of artwork in shades of blue, magenta, and purple line the lower ceiling slab fascia and add another set of hues to the mix.

Next to the cafeteria and open seating area is the Old Guardhouse. A series of garden terraces and ramped walkways connect old and new, and inground uplights illuminate the trees. The Old Guardhouse serves as a special events meeting space. Here, unlike the main seating area where luminaires are not to be seen, the octahedral form of the custom-designed dimmable fluorescent pendant luminaires in three different sizes is celebrated.

Seemingly simple, but certainly not, this skillful lighting design creates three distinctive, but connected, spaces and celebrates the very essence of light itself. •

Details

Project: WGV Casino & Old Guardhouse, Stuttgart
• **Entrant:** Pfarré Lighting Design • **Owner/Client:** Württembergische Gemeinde Versicherung (WGV), Stuttgart, Germany • **Architect:** Hascher Jehle Architektur, Berlin • **Lighting Designer:** Pfarré Lighting Design, Munich, Germany • **Team Members:** Gerd Pfarré, Dominik Buhl, Katharina Schramm, Jennifer Länger • **Photographer:** Andreas J. Focke
• **Project Size:** 31,190 square feet • **Project Cost:** Withheld • **Lighting Costs:** Withheld • **Watts per Square Foot:** 0.934 • **Code Compliance:** Not Applicable (No energy code requirements in the project locale.) • **Manufacturers:** ACDC, Erco, Flos, Selux, We-ef, XAL, custom-made fixtures by Lichtlauf

Jury Comments

- The lighting provides a clear diagram of the space.
- The uplighting on the ceiling creates a wonderful soft illumination.

BEST USE OF COLOR



Hoy recuerdo a los muertos de mi casa. Al que se fue por unas horas y nadie sabe en qué silencio entró.

En hoy que quedamos con la vida que nos queda. A los que se fueron, a los que se quedaron.

MEMORIAL TO THE VICTIMS OF VIOLENCE

LIGHTEAM

text by Elizabeth Donoff

The Memorial to the Victims of Violence in Mexico City plays the dual role of a memorial and a public space. Located in the Chapultepec Forest, the most important green space in the city, it was built to bring awareness to the violence that has occurred in Mexico as a result of political and social turmoil. The project is filled with nuanced meaning, from the space itself—15,000 square meters of reclaimed forest—to the use of a white-light color palette to distinguish between man-made and natural elements.

The memorial is a series of steel walls of different heights and widths, as well as different textures (rusted and reflective), all of which

combine to create a landscape that contrasts with the natural surrounds. The spatial voids in between the constructed elements and the trees are meant to recall those that have been lost. Light helps visitors navigate, and overlaying the project grid is a subtle gradation of color temperature—from warm to cool (2500K at ground level, 3000K at eye level, and 4500K and 5000K at the tree canopy)—that leads the visitor's eye from the ground plane to the sky.

Recessed linear LED fixtures are positioned along the hardscaped walkways in a staggered pattern and create a visual guide made of light. At the center of the memorial, the ground plane changes from grass and earth to a series of



reflecting pools. The edges of the steel walls throughout are illuminated by 30W, 3000K inground uplights. To emulate the warm-white color temperature of the light fixtures that highlight the ends of each wall, text on the horizontally oriented steel walls is applied with gold-colored paint. Light poles throughout the site backlight the tree canopies.

In this space, set aside to provide a place for contemplation and reflection for the victims' families and the community, the solemnity of the spot remains, day and night. Light—natural and electric—provides much more than practical illumination, it provides an unspoken language of healing.

Details

Project: Memorial to the Victims of Violence, Mexico City • **Entrant:** Lightteam • **Owner/Client:** Provéctima, Mexico City • **Architect:** Gaeta Springall Arquitectos, Mexico City • **Lighting Designer:** Lightteam, Mexico City • **Team Members:** Gustavo Aviles, Anna Sbokuo, Juan Carlos Martínez • **Photographer:** Sandra Perezniето • **Project Size:** 15,000 square meters (161,458 square feet) • **Project Cost:** \$2,371,766 • **Lighting Costs:** \$20,000 • **Watts per Square Foot:** 1.12 • **Code Compliance:** No energy code required in the project locale. • **Manufacturers:** Network, Ventor

Jury Comments

- A powerful use of light to convey the message of the memorial.
- A subtle play of white light and use of color temperature to delineate the different areas.

POSTSCRIPT



THE LOWLINE AND THE NEW YORK CITY STREETLIGHT

ARUP AND OFFICE FOR VISUAL INTERACTION

text by Elizabeth Donoff

Each year, during the jury review, there are certain projects that garner a lot of discussion, but for a variety of reasons they do not go on to receive an award. This year, two projects played the roles of design-issue instigators: the Lowline (a daylighting scheme for a proposed park in a reclaimed space under the streets of Manhattan's Lower East Side) and the New York City Streetlight (a completely redesigned luminaire and light pole for all five boroughs). This work defied categorization, thus the jury's difficulty in selecting either for an award.

These two projects, one unbuilt (the Lowline) and one just beginning to see its implementation (the New York City Streetlight),

are very specific to their city. And yet, the two projects are also universal in terms of what they represent: the critical role that design research plays, whether that research is spurred by a competition (as in the case of the New York City Streetlight) or it comes from individual investigations that lead to new funding paradigms intended to realize a proof of concept (as in the case of the Lowline). Without exploration, design risks remaining stagnant. While not winners in this program, these two projects dare to imagine something different. For that reason, their contribution to larger design discussions that encompass urbanism, architecture, and lighting deserves mention. •

Left: Alex Goldmark; Right: Freider Blicke/LAIF

JURY MEMBERS



Jason Abbey, AIA, LEED AP, GRP
Senior Associate, FXFowle
Architects, Washington, D.C.

Abbey directs design and planning efforts for the firm's D.C. office. His recent work includes the renovation and expansion of the Jacob K. Javits Convention Center of New York, The New York Times Building, the commercial high-rise Eleven Times Square, the redevelopment of Lincoln Center's North Plaza Landscape, and a green roof installation at 250 Hudson Street, all of which are in New York City. Abbey previously served on the board of directors for the Blue Water Group, a sustainable development company in the Atlanta area.

Kimberly Mercier, PE, P.Eng., LEED AP, IES
Principal, Lighting Design
Innovations, Batavia, N.Y.

Mercier is a lighting designer and professional engineer in the United States and Canada. She has managed electrical departments for consulting engineering firms in Calgary, Alberta; Buffalo, N.Y.; and Rochester, N.Y. She has served as the president of the Illuminating Engineering Society (2007–2008) and as an adjunct instructor for lighting in the M.Arch. program at the University of Calgary. She currently serves as vice chair of the Interior Design Department Advisory Board at Buffalo State, State University of New York.

Claude R. Engle, III, PE, IALD, IES
Founder and Principal, Claude R.
Engle, Lighting Consultant,
Chevy Chase, Md.

Engle's five-decade career includes a portfolio of international landmark projects. A graduate of Princeton University's Engineering School, he worked in New York City in theatrical and television lighting, first at Century Lighting and then in the United States Army Signal Corps at the Army Pictorial Center. In 1968, Engle established his firm. He is a founding member of the International Association of Lighting Designers and past chairman of the Capital Section of the Illuminating Engineering Society.

Christopher Cheap, IES
Founder and Principal,
Dot Dash, New York

Formerly a principal with Tillotson Design Associates, Cheap founded Dot Dash this January. His design approach includes analysis of the project's architecture, materials, and programmatic requirements. His portfolio includes the Dee and Charles Wyly Theatre in Dallas; Milstein Hall at Cornell University in Ithaca, N.Y.; and the Red Bull Music Academy in New York City. His work has been recognized with an IALD Award of Excellence, an IES Lumen Citation, a GE Award of Excellence, and an AL Light & Architecture Outstanding Achievement Award.

Bernard Jester, Assoc. AIA
Member Since 2013

I AIA I AIA I AIA

**Create.
Connect.
Lead.**

Elevate your career path. Join us at the AIA.

Become a member today, and instantly expand your support network by over 83,000 colleagues—a valuable professional resource to draw upon, and a powerful, collective voice to advocate for a stronger economic climate for architects nationwide. Join today and get the tools you need to enhance and sustain your practice at every stage of your career.

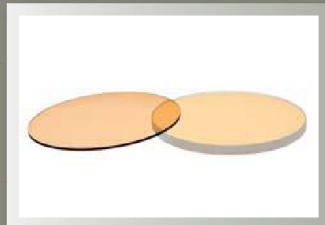


www.aia.org/join



LEE Filters Dichroic Polycarbonate

Presenting the new 0.03" thin Dichroic Polycarbonate Filter. An optimal solution for color correcting LED light sources.



Polycarbonate 0.03" thick vs. glass 0.13" thick



Photo Credit: Russell MacMasters



T: 800 576 5055 leefilters.com/architectural



530V290GK
135/165/180/200/220W



Shanxi Guangyu LED Lighting Co. Ltd. is a professional LED product manufacturer in powerful LED lighting products. The main item includes LED commercial lightings, LED outdoor lightings, LED industrial lightings and LED special lightings etc.



LED
INDUSTRIAL
LIGHTS



150TG 10/15W 256TG 33/45/55W 320TG 70/80/90/100W 460TG 110/120/140/160W



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



2519GK 160GK 214GK

Sales Center (Beijing)
Tel: 86 10 62153917
Fax: 86 10 62153948
Email: sales@gyledlighting.com
sales@gyledlight.com
www.gyledlighting.com
www.gyledlight.com

SHANXI GUANGYU LED LIGHTING CO.,LTD.

PAR LAMP

Replace traditional halogen lamps from 50W~100W
Dimmable from 10%~100% Soft friendly lights, no glare
Energy saving up to 83%



Welcome to JEZETEK

Sichuan Jiuzhou Electric Group Co., Ltd.

No.6,Jiuhua Road,Manyang,Sichuan,P.R.China

8/F,Jiuzhou Electric Bldg.No.128d,S.Hi-Tech Industrial Park,
Manshan District,Shenzhen,P.R.C

Tel:86-755-26947008 Fax: 86-755-26947088 Email: tango.li@scjz-led.com

www.jiuzhou-intl.com www.scjz-led.com

JEZETEK

luna series cob downlight



Signcomplex | We bring innovation and give inspiration



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

The Evolution of Electric Light

Carbon Filament Incandescent Halogen Compact Fluorescent LED

AAMSCO
800-221-9092
www.aamsco.com

HybridLED™
The Future of LED Bulb Technology

Circle no. 180
or <http://archlighting.com/productinfo>

LUXOR® LED Controller.
The only zoning, dimming, Wi-Fi capable controller in existence.

FXLuminaire.
Visit: fxl.com

Circle no. 183
or <http://archlighting.com/productinfo>

lumenline™

Now with lit corners

lumenpulse™

Circle no. 186
or <http://archlighting.com/productinfo>

Very
V is for vivid
the power of V

The power of 'V' is modular.
The power of 'V' is scalable.
The power of 'V' is very high output

Here we go again changing the industry with Power of 'V' technology! Complete control with modular optics, accessories and architectural dimming to boot. With a powerful 6,000 lumen output expect the 'wows'... this BKSS1® fixture is VERY vivid!

B-K30 LIGHTING
CELEBRATING 30 YEARS OF QUALITY
www.bklighting.com

Circle no. 181
or <http://archlighting.com/productinfo>

High Efficiency Flexible Cathode Light Strip

Cathode Lighting Systems, the leader in long-life modular cold cathode luminaires, introduces our award-winning HFCLS-Slim. At 1-5/8" wide x 2-5/8" tall, it is the smallest cold cathode luminaire in the world. It accepts a variety of our curved, bent or straight cold cathode lamps and offers outstanding brightness, low wattage and a lamp life of 100,000 field-proven hours.

www.CathodeLightingSystems.com

Circle no. 184
or <http://archlighting.com/productinfo>

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.

Circle no. 187
or <http://archlighting.com/productinfo>

LIGHT DIRECTORY ARCHITECTURAL LIGHTING RESOURCE

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

Circle no. 182
or <http://archlighting.com/productinfo>

3G LIGHTING

Circle no. 185
or <http://archlighting.com/productinfo>

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.

2014 WINNERS

JOURNAL OF LIGHT CONSTRUCTION Best Technical Content	REMODELING Best Subject-Related Package
REMODELING Best Profile	

2014 FINALISTS

ARCHITECT	MULTIFAMILY EXECUTIVE
AQUATICS	POOL & SPA NEWS
INTERNATIONAL BUILDER	

hanleywood



Efficient, Uniform and Affordable Illumination

An efficient alternative to linear fluorescent luminaires, the Neo-Ray Index pendant incorporates patented WaveStream™ LED technology with adjustable optical panels that can place light exactly where it's most effective, providing an affordable solution to meet lighting power density goals without compromising on light quality.

www.cooperlighting.com/wavestream

Cooper Lighting
by **E-T-N**

WaveStream™ LED
Taking Control of Light

Circle no. 251
or <http://archlighting.com/productinfo>

UL Listed Hi-lume® A-Series LED Driver from Lutron®



This UL Listed A-Series driver delivers specification grade, 1% LED dimming and is engineered to work with a full range of Lutron controls, including EcoSystem® controllers. Pair it with strip lights, cove lights, and under cabinet lights up to 40W. Learn more at www.lutron.com/hilumeled.

Circle no. 252
or <http://archlighting.com/productinfo>

WAC Lighting introduces Elliptic LED pendant



The new Elliptic LED pendant is a celestial spherical form designed with the visual orbiting movement of heavenly bodies. Mouth blown and etched triplex glass efficiently diffuses hot spots for beautiful ambient lighting. Ideal as a conversation piece overhead in luxury homes, offices, retail and hospitality settings. Visually enticing with embossed layers of circumnavigating bands, Elliptic is engineered with proprietary LED technology featuring a CCT of 2700K and a high CRI of 90.

1.800.526.2588 or visit www.waclighting.com

Circle no. 253
or <http://archlighting.com/productinfo>

Light that turns heads, draws attention.

That's the power of Amerlux.



Passion. Power. Performance.

www.amerlux.com

Circle no. 254
or <http://archlighting.com/productinfo>

This **NoUVIR** fiber optic projector spent seven years working in a Chicago art museum.


They traded it for one with a color wheel.

We decided to keep it.

After all, it still has three years left on its warranty.

No UV, No IR... No Problems!

The world's best lighting has the world's best warranty!



NoUVIR LIGHTING
www.nouvir.com

Circle no. 255
or <http://archlighting.com/productinfo>

LED FLOODLIGHT/SPOTLIGHT



A. Unique and patented design with perfect appearance,
B. Reasonable structure with good anti-hot, anti-humidity, and good air-proof.
C. High luminous efficiency of 90lm/w.
D. 3-year warranties offered.
E. Made of high quality aluminum.
F. Powerful LED encapsulation and fixture assembly in-house.
G. Easy install with adjustable 180 degree angle.

Shanxi Guangyu LED Lighting Co., Ltd.
sales@gyledlight.com
sales@gyledlighting.com
www.gyledlight.com
www.gyledlighting.com



New Lighting, New World

Circle no. 256
or <http://archlighting.com/productinfo>

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



LITHONIA LIGHTING

INDIRECT
for LIGHTING
that is
EXPERIENCED

Energy-saving solutions
that leave you in 'control'.
www.Lithonia.com/Breez




<http://youtu.be/KSOYnZRRabM>

AcuityBrands.

Circle no. 257
or <http://archlighting.com/productinfo>

MARK ARCHITECTURAL LIGHTING™
Make Your Mark



Bridge the gap between aesthetics and performance: marklighting.com.

Slot LED
Pendant Surface Wall

AcuityBrands.

Circle no. 258
or <http://archlighting.com/productinfo>

AD INDEX

PAGE	ADVERTISER
3	3G Lighting
21	AAMSCO Lighting Inc.
1	Acuity Brands
20	AEON Lighting Technology
63	AL Design Awards
C2	Amerlux
58	American Institute of Architects
11	Architectural Area Lighting
37	B-K Lighting, Inc.
31	Cathode Lighting Systems
4	Chengdu Tunghsu Lighting Technology
35	DelRay Lighting
6	Dial GmbH
36	Dongguan Kingsun Optoelectronic
13	ERCO Lighting
16	FX Luminaire
2	Greenbuild Expo 2014
15	Intense Lighting
5	Kim Lighting
59	Lee Filters
24	Light Green International Co., Ltd.
33	Lithonia Lighting - Indoor
19	Lucifer Lighting

PAGE	ADVERTISER
9	Lumenpulse
C4	Lutron
27	Mark Architectural Lighting
25	MechoShade
22	No. 8 Lighting
37	NoUVIR
31	ProlumeLED
38	SELUX
59	Shanxi Guangyu-GYLED
23	Shenzhen Ruizi Light Electricity Technology Co. Ltd. (ERVAN)
59	Sichuan Jiuzhou Electric Group Co. Ltd.
59	Signcomplex
23	Torshare Ltd.
C3	WAC Lighting
7	Winona Lighting
29	Zumtobel Lighting Inc.

Publisher is not liable for errors or omissions.



AL LIGHT & ARCHITECTURE DESIGN AWARDS

Mark your calendar now for a special evening as ARCHITECTURAL LIGHTING (AL) celebrates the winning projects of the 11th Annual AL Light & Architecture Design Awards.

Join the 2014 winning designers as we recognize and honor excellence in architectural lighting design.

Stay tuned for further details!

Wednesday, October 29, 2014

The Glass Houses at the Chelsea Art Center
545 W 25th Street, 21st Floor
New York, NY 10001

New feature for the evening: The inaugural launch of ARCHITECTURAL LIGHTING's "In Conversation with..." Series.

Editor-in-Chief Elizabeth Donoff talks with renowned lighting consultant Claude R. Engle, III about his work and collaboration with an international line-up of leading architects on many of the most significant architectural projects of the past four decades.



Jean Sundin

interview by Elizabeth Donoff

photo by Adam Tetzloff

“Perhaps the most misunderstood aspects of lighting design are all the layers behind it: design, technology, codes, manufacturing coordination, design research, testing and mock-ups, and the way the body responds to light. And that’s before you even get to the production of drawings and documents. Lighting design is a multifaceted parallel process to architecture.”

An honors graduate of the interior design program at Virginia Commonwealth University (VCU) in Richmond, Va., Jean Sundin started her professional career working for several of the most prestigious lighting design practices—the Mintz Lighting Group, Claude R. Engle Lighting Consultant, and George Sexton Associates. In the late 1990s, she and her husband/business partner/fellow lighting designer Enrique Peiniger moved to New York City and started their own firm—Office for Visual Interaction (OVI). Over time, they have established an international portfolio of work characterized by attention to detail and in-depth design research.

Do you view lighting and architecture as distinct disciplines?

They are distinct but parallel. Both disciplines are required as part of a whole to complete the work. Lighting is the magic of architecture. It’s visible and invisible at the same time.

Was there a person that made an impression on you when you started in lighting?

Two people come to mind. First is Han Schröder. She was a professor of mine at VCU. She grew up in Utrecht, the Netherlands, in the house that her mother had commissioned from architect Gerrit Rietveld in 1924—the Schröder House. She was a demanding professor and proof that design wasn’t just a fantasy. The second person is Danielle Engle, Claude R. Engle III’s late wife. She was also proof that there was a woman in the industry doing significant work.

What fascinates you about light?

Its potential. How light can transform a space.

Is there a text that has influenced your design thinking?

The writing of graphic designer Otl Aicher. He was a great communicator of information.

Does there need to be more critical dialogue in architectural lighting design?

Absolutely. I think lighting can support a distinct body of theory and criticism, building, for example, on the work of Richard Kelly.

How has the practice of lighting design changed since you first started working?

Aside from the technology, the immediacy of communication. The problem is, the nature of design is not an instant process.

Is there a design philosophy at OVI?

We think of it like film music; it has a really important supporting role to architecture, which can make a project fabulous. And you notice it when it’s not there or badly done. It’s about quality of work. •



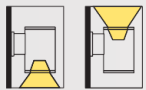
TUBE

Architectural LED Wall Mounts

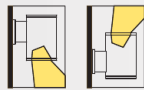
Proprietary LED technology with custom reflectors for selecting optical distribution. Specify for architectural facade illumination and building security.

— 5", 6", 8" —

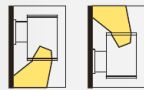
Symmetrical and Asymmetrical Distribution Options:



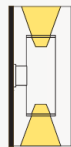
Up or Down



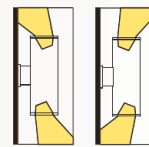
Away from Wall



Towards Wall



Up and Down



One Side Each

- Solid Aluminum Construction
- 4 Exterior Powder Coat Finishes
- Universal Driver (120V-277V)
- IP65 Rated, Wet Location Listed

- Available Pendant and Ceiling Mount Options
- Up to 4,000 Delivered Lumens
- 0-10V Dimming
- 80,000 Hour Rated Life



WAC LIGHTING

spec hotline: 1.866.788.2100

www.waclighting.com



NEW 5-Series LED driver with EcoSystem®



Flicker-free and continuous 5% dimming

- For energy-saving applications
- Models available from 35W to 75W
- Starting at \$50.00 suggested contractor price
- Type TL rated to accelerate delivery of fixtures with this driver



© 2014 Lutron Electronics Co., Inc.
P/N 306-0058 REV F

Specify LEDs with Confidence

Simplify your lighting control projects with Lutron EcoSystem

Guaranteed compatibility between Lutron controls, drivers, and sensors — backed by Lutron quality and 24/7 service.

Meet stringent energy codes and green building standards[†]

EcoSystem digital addressability allows you to easily implement automatic shut-off, daylighting, and dimming for multi-level control.

Design for change

Digital fixture control means you can easily adapt to change during design and commissioning, as well as during times of churn — without rewiring.

Leverage our High Performance Fixture List

Find a fixture that is already available with a Lutron driver: visit www.lutron.com/LED or call **1.877.DIM.LED8**.

Or ask your fixture manufacturer for EcoSystem.

[†]California Title 24, ASHRAE 90.1, ASHRAE189.1, IECC, IgCC

