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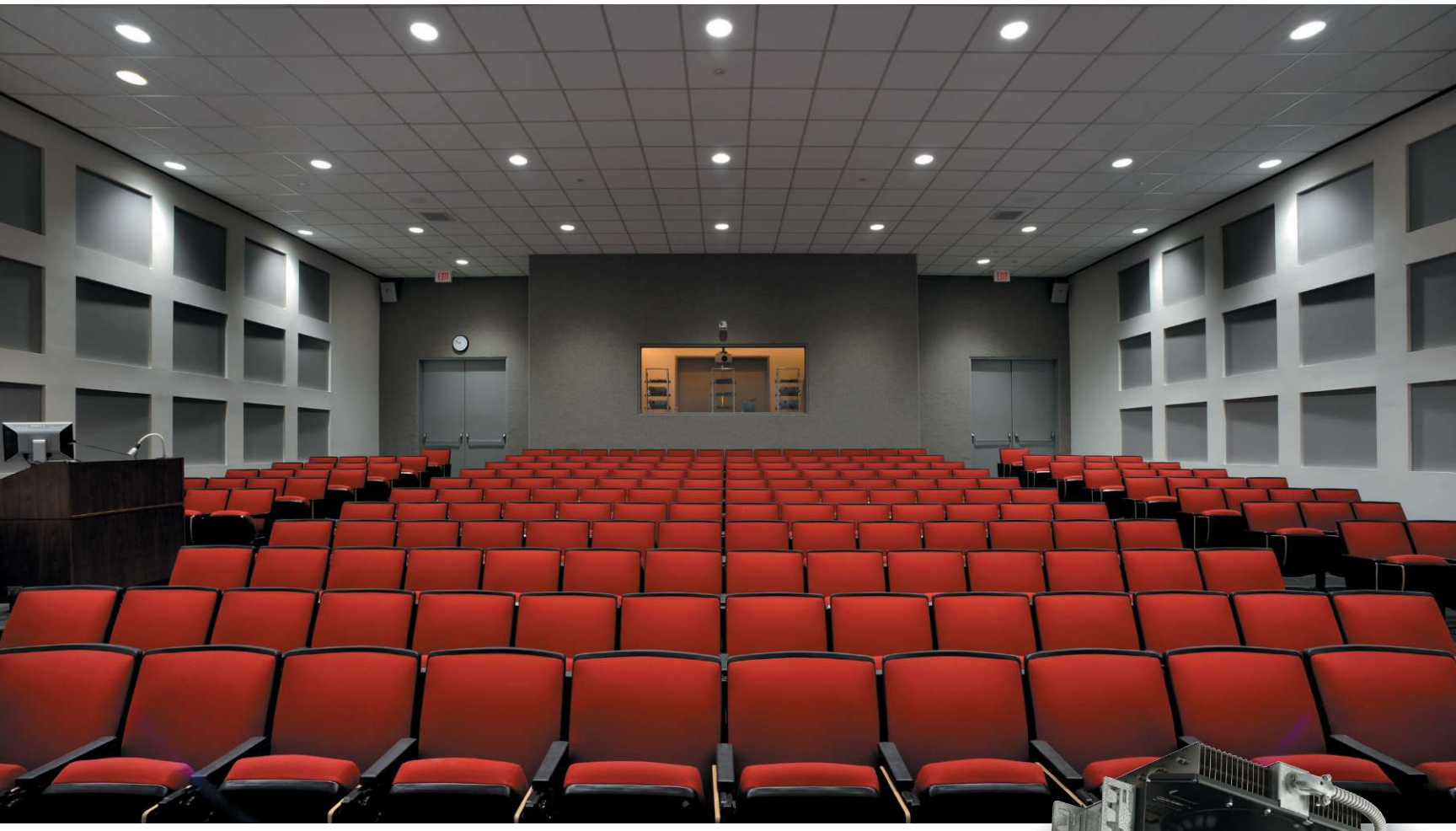

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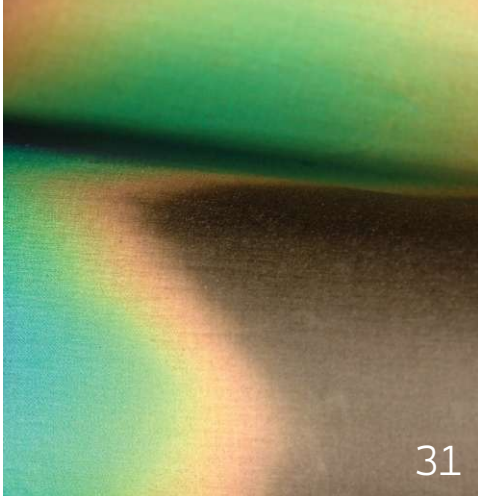

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ARCHLIGHTING.COM For expanded article content, the latest news, and calendar listings and blogs. Also, read e-notes and ARCHITECTURAL LIGHTING's new digital edition.

Online this month:
In Focus "Mammel Hall, College of Business Administration": Innovative and efficient lighting design defines the interior space at the University of Nebraska at Omaha.

Products Slideshow of Euroluce Products.

Lichtraeume and Bernd Wannenmacher (left); courtesy Princeton Architectural Press; Noah Kalina (bottom right)

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"Innovation knows no scale, no boundary, no cost."

THINKING OUTSIDE THE BOX

Creativity. Imagination. Problem-solving. These are, I believe, the tenets of innovation, and they are all in evidence in this issue, our eighth annual to explore the subject. To be sure, innovation is a term that is often over-used. So in selecting the people, projects, and products—and even the authors to pen the articles—we were mindful of how each met the three criteria listed above. I think you'll find discussions in these pages that are a reflection of our times and that represent the issues and topics that are of concern for the lighting community.

We start with a review of Lightfair, which by all accounts was a huge success. The trade show is a perfect example of how an organization can continue to explore new avenues to make an event continually relevant and engaging for its attendees and exhibitors. A review of the numerous winning projects from the award programs presented at the show—the GE Edison, Cooper Source, and IALD Awards—innovation is in clear evidence via their designs.

Some discussions prove more challenging; they are innovative not so much for their resolution (or lack thereof), but for the process and dialogue that they generate. The credentialing discussion is one such example, and Jim Benya takes a look at these issues in our From the Archive column.

Some figures are so influential that they continue to impact the design profession long after they are gone. Our review of the recent monograph about Richard Kelly is a reminder that there is so much more that we can learn about this pioneer of lighting design. Following that article is our report from the Milan Furniture Fair and Euroluce, the premier breeding ground for international design talent. From furnishings to light fixtures, creative exploration of form and material is what design is all about.

Material investigations are one of those areas that designers always wish they had more time to explore. The tactile quality of materials, familiar and unfamiliar, unleashes a kind of raw curiosity that provides designers with creative freedom. Blaine Brownell, who has made materials the focus of his professional work, looks at how Japanese designers have mastered material explorations, many of which encompass light as an essential element.

In our cover story, we look at how the role of prototypes is redefining retail design and the integral role that architectural lighting plays in the development of these concepts. It's not about a specific lighting solution, per se, but one that can be adapted to multiple contexts.

Our other feature story showcases a Berlin pediatric clinic, where the designers look at the way in which light is more than just illumination. Instead, it becomes the foundation for creating a complete environment and atmosphere that benefits both its patients and its medical personnel. The design is a direct outcome of the interdisciplinary makeup of its designers.

Finally, in the One-on-One interview, ARCHITECTURAL LIGHTING speaks with Jonathan Speirs, one of the lighting community's brightest stars, and who has the ability to transform the worlds of architecture and lighting into one.

Innovation knows no scale, no boundary, no cost. I offer these words as a preview of sorts, a way of connecting the editorial dots, as I challenge myself and you, our readers, to think beyond the obvious, to think outside the box.

Elizabeth Donoff
Editor

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PHILADELPHIA MAGIC

Lightfair 2011 shined in the City of Brotherly Love.

text by Elizabeth Donoff

Something was in the air in Philadelphia. Thanks, in part, to a new venue, and hope for a better economic outlook, Lightfair was buzzing. And on the trade-show floor—which opened on Tuesday, May 17—momentum had built over the two preceding days with two keynote presentations during the Daylighting Institute and Lightfair Institute courses.

Chicago architect Jeanne Gang of Studio Gang Architects presented her firm's work on Sunday, May 15. Known for material investigations, the firm's recently completed 82-story Aqua Tower in Chicago has met with critical acclaim.

The second keynote (held on Monday, May 16, in conjunction with the Cooper Source Awards, see page 15) was given by Mark Major and Keith Bradshaw of Speirs + Major Associates, along with Jonathan Speirs. The trio discussed the lighting design process involved in two projects from the firm's extensive portfolio—St. Paul's Cathedral in London and the Sheikh Zayed bin Sultan al Nahyan Mosque in Abu Dhabi, United Arab Emirates.

By Tuesday, Lightfair was ready to start. First was the presentation of the Lightfair Innovation Awards (see page 17), followed by the official opening of the trade-show floor. Although the products on display predominantly concentrated on LEDs, there were new fixtures to be seen, which is a sign that manufacturers' research and development budgets remain intact, even if heavily weighted toward solid-state lighting.

It was also apparent that lighting companies had spent some time—and money—thinking about their displays. They had sophisticated presentations, and this helped to create a more cohesive look to the show floor.

Lightfair brought a greater cross-section of the design community to the show floor with the inauguration of the Spotlight Lounge. It played host to a keynote talk with designer Ingo Maurer, as well as a media panel. Maurer's talk was a highlight of the show, bringing the worlds of architecture, design, and light together. The media panel offered manufacturers and designers insight into the editorial processes of five publications: ARCHITECTURAL LIGHTING, *LD+A*, *Metropolis*, *Architectural Record*, and *Electrical Contractor*.

Lightfair has continued to grow and improve the experience for attendees. However, though the show has grown, its duration has not. Many commented that there is no longer enough time to see everything on the show floor and to attend seminars, especially with the addition of new keynotes and panel discussions. Lightfair should seriously consider extending the trade show to three full days. If the show's success in Philadelphia is any indication—a record 23,709 registered attendees from 75 countries, and 474 exhibitors inhabiting more than 200,000 net square feet on the show floor—I believe the industry would support the move. It is certainly something to consider. •

A view of the trade-show floor at Lightfair 2011.

Courtesy Lightfair

• **Web link** For general Lightfair information, press releases and to see all the LFI Innovation Award product submissions, go to lightfair.com.

• **Video link** Didn't have a chance to attend Lightfair 2011, or you didn't see everything you wanted at this year's trade show and seminars? Then take a look at the trio of videos on Lightfair's YouTube channel: youtube.com/user/lightfair2011.

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GE EDISON AWARDS

Spotlight shines on 11 projects, and Licht Kunst Licht takes home the Edison Award for the second year in a row.

text by Elizabeth Donoff

A nighttime exterior view of ThyssenKrupp Quarter, a corporate office building in Essen, Germany, was the winner of the 28th Annual GE Edison Award.

The 28th Annual GE Edison Awards ceremony and dinner took advantage of Lightfair's 2011 Philadelphia locale, held in grand fashion at the National Constitution Center on May 16. To start the evening, guests were treated to "Freedom Rising," a theatrical and multimedia performance that introduced visitors to the center's mission of increasing public understanding of, and appreciation for, the Constitution.

This performance was followed by the presentation of 11 projects, representing work in the U.S. and Europe. This year, three awards of excellence, five awards of merit, two awards for excellence in environmental design, and one award for residential design were presented. The grand prize—the Edison Award—was selected from the three projects that received awards of excellence. It went to Bonn, Germany–based lighting design firm Licht Kunst Licht for their work on ThyssenKrupp Quarter, a corporate office building in Essen, Germany. This was the second year in a row that Licht Kunst Licht received the prestigious award.

Projects submitted to the GE Edison Awards are evaluated by a jury of five design professionals. This year those individuals were Brazilian architect Monica Luz Lobo; lighting designers Jonathan Plumpton, Miles J.H. Pinniger, and Sandra Stashik; and GE Lighting representative Shelli Sedlak.

2011 GE Edison Award Winners:

GE Edison Award and Award of Excellence: ThyssenKrupp Quarter, Essen, Germany, Licht Kunst Licht, Bonn, Germany

Awards of Excellence: Science Storms, Museum of Science and Industry, Chicago, Focus Lighting, New York; and David Yurman Townhouse, New York, Cooley Monato Studio, New York.

Awards of Merit: Kunstsammlung NRW K20, Dusseldorf, Germany, Licht Kunst Licht, Bonn, Germany; "Terra Mineralia" the Mineral Collections, Frudenstein Castle, Freiberg, Saxony, Germany, L-Plan Lighting Design, Berlin; Hackley School, Goodhue Memorial Hall, Tarrytown, N.Y., Goldstick Lighting Design, White Plains, N.Y.; the Collaborative Research Center at the Rockefeller University, New York, Cline Bettridge Bernstein Lighting Design, New York; and the Peddie School, Ian Graham Athletic Center, Hightstown, N.J., Illuminations Arts, Bloomfield, N.J.

Awards for Excellence in Environmental Design: Miami University Farmer School of Business, Oxford, Ohio, Tec Engineering & Design, Columbus, Ohio; and University of Oregon John E. Jaqua Academic Center for Student Athletes, Eugene, Ore., Interface Engineering Lighting Studio, Portland, Ore.

Award for Residential Design: River House II, Aspen, Colo., Robert Singer & Associates, Basalt, Colo. •

Left: Lukas Roth, Courtesy GE Lighting
Right: Juan Pablo Lira, Focus Lighting

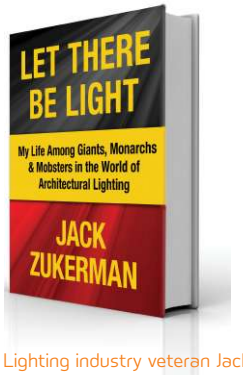
COOPER SOURCE AWARDS

Ten projects representing professional and student work receive recognition.

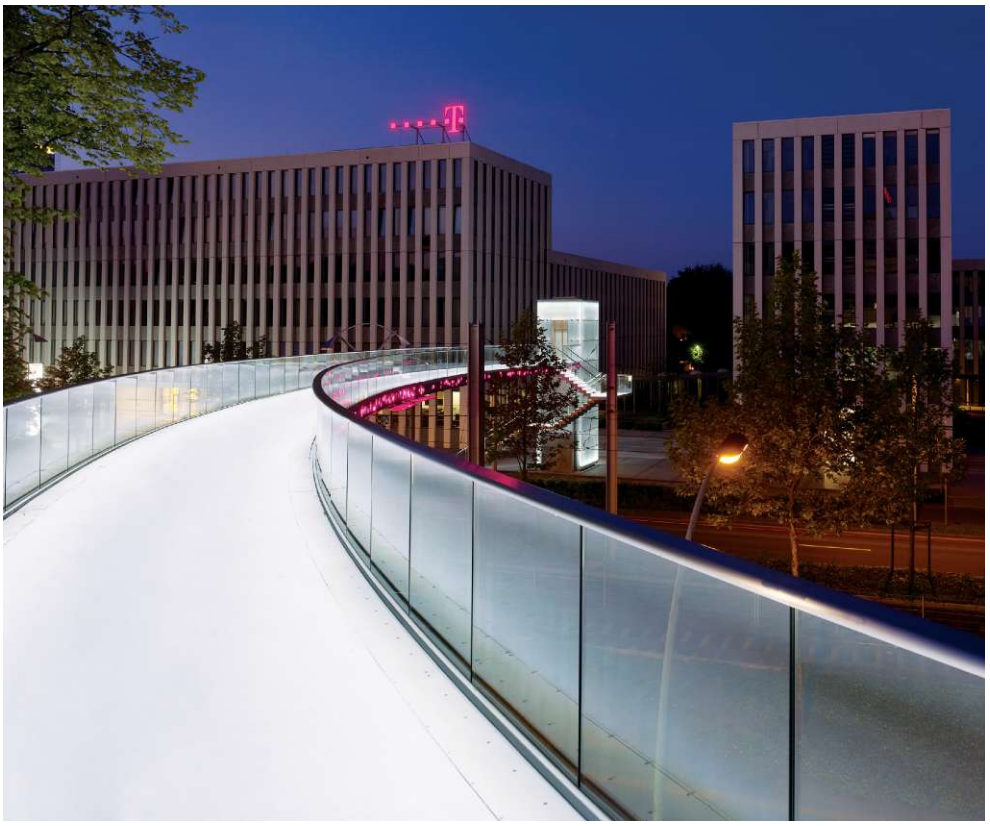
The 34th Annual Cooper Source Awards: Professional Commercial: Mikimoto, Crystals at City Center, Las Vegas, Focus Lighting, New York; **Professional Residential:** Private Residence, Beverly Hills, Calif., Kaplan Gehring McCarroll Architectural Lighting, El Segundo, Calif.; **Professional Honorable Mention, Sustainable Design:** Herman Miller Showroom, Los Angeles, Lighting Design Alliance, Long Beach, Calif.; **Professional Honorable Mention:** Top of Mill Residence, Aspen, Colo., Robert Singer & Associates, Basalt, Colo.; **Professional Award of Recognition:** Ink48 Hotel, New York, Focus Lighting, New York; **Professional Award of Recognition:** Mother Lode Residence, Aspen, Colo., 186 Lighting Design Group, Denver; **Student Winner:** Fuel Convenience Store/Gas Station, Hiroki Usui, Washington State University; **Student Honorable Mention:** The Spot Community Store, Weng Hei Au, Washington State University; **Student Awards of Recognition:** Common Grounds Coffee House, Austin Gauley, Mississippi College; and Morningside Park Redux, June Lori Park. •

New York City lighting design firm Focus Lighting was the winner of the 2011 Cooper Source Awards in the Professional Commercial category for their project Mikimoto at Crystals, City Center, Las Vegas (left).

LET THERE BE LIGHT



Lighting industry veteran Jack Zuckerman, former CEO of CSL Lighting and RSA Lighting, has penned *Let There Be Light* ($23.95; WorldLit Publishing, February 2011), in which he reminisces about his 40-plus-year career in lighting. A nice counterpoint to the autobiographical story are the sections by leading lighting designers, such as Chip Israel and Barbara Horton, recounting their experiences working with Jack. All proceeds from the book will benefit the IALD Education Trust.



Licht Kunst Licht received the IALD's Radiance Award for Excellence in Lighting Design for the Telekombridge in Bonn, Germany.

IALD AWARDS

Awards showcase the international flavor of lighting design.

text by Elizabeth Donoff

The 28th Annual IALD Awards ceremony and dinner took place on the evening of May 18 at the Crystal Tea Room in Philadelphia.

The evening began with a special presentation to lighting designer Jonathan Speirs, who was made an honorary member of the International Association of Lighting Designers. Then the awards were presented to 17 projects. The program's highest award—**The Radiance Award for Excellence in Lighting Design**, which is selected from the projects receiving awards of excellence—was presented to Bonn, Germany–based lighting design firm **Licht Kunst Licht** for the **Telekombridge** in Bonn, Germany. Project submissions are reviewed by a jury of seven lighting-design and architecture professionals.

The other 2011 IALD Award winners:

Awards of Excellence: ThyssenKrupp Quarter, Essen, Germany, Licht Kunst Licht, Bonn, Germany

Awards of Excellence: Cha Cha The, Taipei, Taiwan, The Flaming Beacon, Melbourne, Australia; Helsingborg Waterfront, Helsinborg, Sweden, AF–Hansen & Henneberg, Herlev, Denmark; Sperone Westwater Gallery, New York, Buro Hapold, New York; Aman New Delhi, New Delhi, India, Lighting Planners Associates, Tokyo; Eleanor and Wilson Greatbatch Pavilion, Buffalo, N.Y., Arup Lighting, New York

Awards of Merit: The East Harlem School, New York, Peter Glux and Partners and Lux Populi, New York; Expo Axis at the World Expo Shanghai, Shanghai, Shanghai Grandar Light Art & Technology Co., Shanghai; Nikkei Head Office, Tokyo, Sirius Lighting Office, Tokyo; Hotel Encanto, Acapulco, Mexico, Lighteam, Mexico City; Dee and Charles Wyly Theater, Dallas, Tillotson Design Associates, New York; Municipal Theater of Zafra, Zafra, Badajoz, Spain, Enrique Krahe Architect, Madrid; Art Collector's Loft, New York, Renfro Design Group, New York; Science Storms at the Musuem of Science and Industry, Chicago, Focus Lighting, New York

Special Citation for Innovative Use of Light as a Sculptral Element: JR Amagasaki Station North NK Building, Hyogo, Japan, Akari+Design Associates, Tokyo

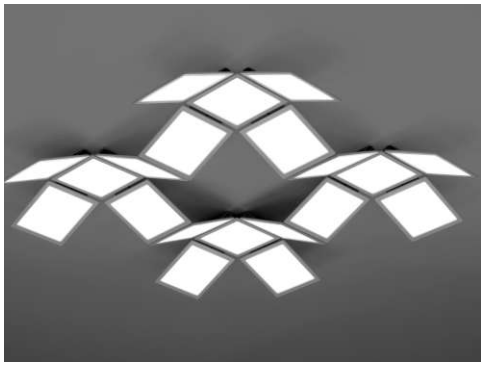
Special Citation for the Delicate Treatment of Light and Architecture: Glass/Wood House, New Canaan, Conn.; Architectural LX, New York •

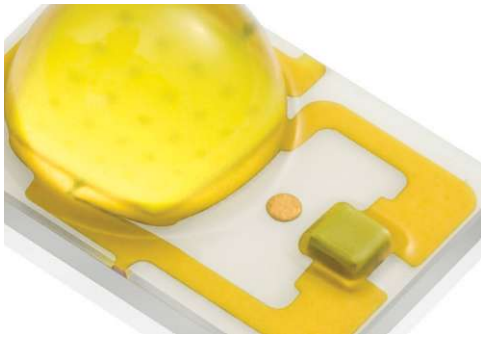
Lukas Roth, courtesy IALD

LIGHTFAIR INNOVATION AWARDS

Many fixtures but few sources other than LEDs illustrate the state of lighting-related product offerings.

text by Elizabeth Donoff





From top to bottom: Most Innovative Product of the Year was awarded to Acuity Brands for Revel, an OLED ceiling-mounted luminaire; the Design Excellence Award was presented to Tech Lighting–Generation Brands for its low-voltage LED wallwash/flood; and Philips Lumileds received the Technical Innovation Award for its Luxeon A LED chip.

The Lightfair Innovation Awards took place this year in its annual spot as the prelude to the official opening of the trade show. This year the program received 239 lighting-related product submissions in 14 categories.

The lighting industry's swing to solid-state lighting and LEDs was clearly in evidence. The conventional lamp category has all but disappeared, receiving only six entries. By contrast, the specialty lamps category, which includes LEDs, OLEDs, induction, and LED replacement lamps has grown substantially. This year there were 31 entries. Other categories that have also seen increases in submissions are "Downlights, Wallwashers, Accent Lights" and "Roadway, Sports, Outdoor, Architectural, Site Lighting." These fixture types have been the testing ground for the early adoption of LEDs, and as a result are further along.

It was also interesting to see the way in which OLED product offerings entered the mix. In fact, the **Most Innovative Product of the Year Award** went to Acuity Brands for *Revel*, its OLED ceiling-mounted luminaire. The rest of the 2011 LFI Innovation award winners are:

Design Excellence Award: Tech Lighting–Generation Brands' low-voltage LED wallwash/flood

Technical Innovation Award: Philips Lumileds' Luxeon A

Judges Citation Award: *The IES Lighting Handbook, 10th Edition*

Conventional Lamps: Philips' ED 28 145W Advantage CDM with Allstart

Ballasts, Transformers, Drivers: Osram Sylvania's Quicktronic QTO

Downlights, Wallwashers, Accent Lights: Tech Lighting–Generation Brands' Element

Fluorescent-based Troffers, Suspended, Surface Luminaires: Visa Lighting's Unity Over-Bed

Specialty, Hardware, Lampholder, Components: LG Innotek's ModulA 1D

Industrial, Vandal, Exit & Emergency: A.L.P.'s EFP 600LP

Roadway, Sports, Outdoor, Architectural, Site Lighting: Cooper Lighting's McGraw-Edison Marquis LED Sign Light

Landscape, Pool & Fountain: Philips Wide-Lite's DecoFlood HID floodlight series

Theatrical, Floodlights, Specialty Luminaires: Lumenpulse's Lumenbeam LBX

Controls, Daylight Integration & Systems: Lutron's remote-mount dimming module •

SHOULD LIGHTING DESIGNERS BE LICENSED?

From the Archive presents articles from the past 25 years, with new commentary from members of the lighting community.

original text and new commentary by
James R. Benya, PE, FIES, FIALD

original text has been edited and excerpted from the 1988 original

Rapidly growing acceptance of professional lighting designers throughout the world has, for the first time, raised the question of licensing. Many lighting experts believe their work and knowledge is worthy of special recognition. They look at their years of training, experience, and expertise and wonder why they aren't licensed as other professionals are.

The design of electric lighting and daylighting for buildings in the United States, admittedly, is undertaken by persons with a wide range of job descriptions. Lighting design for buildings is also undertaken by quite a few nonlicensed professionals and artisans.

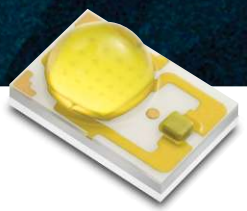
A great deal of building lighting is designed by sales representatives for lighting manufacturers, distributors, wholesalers, and retailers. More lighting is designed by salespeople for utilities, stores, showrooms, and suppliers of every description. Finally, there's the "in-house lighting consultant/designer/expert" found at many manufacturers and distributors of lighting and related products.

IS LIGHTING A COMMODITY?

The apparently minimal qualifications needed to design lighting ... suggest that lighting should be considered a commodity. If it were, there would be virtually no need for concern about the title or certification of a "lighting designer." Lighting design would remain an art, something to be done by anyone with a knack for it.

But commodities are scrutinized when changes in society, often propagated by technological advances, make common things complex. Automobile mechanics are an interesting example. Because of the increased technical complexity of automobiles, certification and

James White



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JIM BENYA'S COMMENTARY:

In May 2009, the Texas state legislature nearly passed a law (Texas House Bill 2649) banning the practice of lighting design by anyone other than a licensed architect or engineer. Apparently, a state senator had had a dispute with a lighting designer and sought revenge through legislation. A last-minute response by the International Association of Lighting Designers (IALD) and others in the lighting community placed the legislation on hold, but the matter is not dead at all.

Meanwhile, the Oregon state legislature is pondering the licensing of interior designers. Those supporting the law include the American Society of Interior Designers (ASID), a professional organization like the IALD. Those opposing include the Interior Design Protection Council (IDPC), a political action group of interior designers and product vendors. The law would offer both title and practice protection to those who meet certain qualifications, one of which would be to pass a technical examination, most likely the one given by the National Council for Interior Design Qualification (NCIDQ). Practicing interior design without a license would be against the law, and many now providing these services would have to take a test for which they are unprepared.

When I wrote this article in 1988, I noted the similarity between lighting design and interior design in our parallel quests for recognition. The similarity remains, as the Texas and Oregon issues vividly demonstrate. Now, lighting designers have also felt the threat of legislation, and we don't seem to like it much—for good reason. We are not really ready for it.

My article asserted that we "certify first." Within four years, the National Council for Qualifications for the Lighting Professions (NCQLP) was formed by the IALD; the Illuminating Engineering Society (IES) created the Technical Knowledge Exam (TKE); and the Association of Energy Engineers (AEE) created the Certified Lighting Efficiency Professional (CLEP) program. NCQLP introduced the Lighting Certified (LC) examination in 1997 and acquired the TKE question bank in 1998, effectively ending the TKE. Today, the NCQLP remains an independent certification body. More than 2,500 persons are LC, and CLEP is still an active program within AEE. As a profession, we've taken the first step.

But later in my article, I warned of the pitfalls of licensing, which is the issue that interior designers in Oregon and lighting designers in Texas are now facing. Like interior designers, lighting designers seem to want official recognition and some of the privileges that licensing affords. But we remain torn on whether to shoot for the examination-based licensing faced by architects and engineers, or whether to fight to prevent regulation at all.

Several times the IALD has commissioned credentialing committees, with yet another effort now under way. To me this is déjà vu. The principal objection to using the NCQLP test as a criterion for IALD membership is that LC can be held by anyone from a lighting salesperson to a designer, and LC alone does not certify the "design" competence of the person. This is true. The problem is, IALD members seem to want a credential that places IALD members on a pedestal. The current proposal is a design committee review of the candidate's portfolio, much like the process for professional-level membership. But this alone won't work: It could be a violation of antitrust laws for a professional society to be its own certifying body, since there is no assurance that the process will be objective. Also, a state cannot require a limited-access certification or membership in a particular professional society. Anyone who wants to be called a "lighting designer" should be able to work in any manner with any employer.

There is an immediate need to identify practitioners who can produce competent, energy-efficient lighting designs. If the lighting industry can do this, the reward could be some type of title protection and limited practice protection for those who make the grade. This is probably as close to ideal as a credential for lighting design is likely to get. So I think it is time to seize the opportunity; lighting design should be a partially regulated profession. The industry should step forward to renew and reinvent the NCQLP, including certifications of specialty beyond the basic LC. Such specialty certifications could include architectural or theatrical lighting design as well as key technical areas such as sustainability and lighting controls.

With these certifications, we would stand a chance of getting title protection in states that wish to regulate lighting design. We would be ready for Texas. In addition, I would push for limited practice protection. For instance, permit lighting energy code forms to be signed by certified lighting designers as well as by architects and engineers. Residential lighting design would be exempt, and architects and engineers would be permitted to design lighting as always.

It's funny how after 25 years, so little has really changed. As I wrote in 1988, "For their part, lighting designers and consultants must be willing to submit to the certification process rather than avoiding it and putting it down. It is the only way to make the system really professional."

James R. Benya is a registered professional electrical engineer and a professional lighting designer with more than 35 years of experience. He has lectured and taught extensively.

licensing are now required for mechanics. The assumption is that the consumer can no longer judge the competence of the service rendered.

Lighting is going through this type of rapid technological advance. The field has completely changed in the past 10 years. In commercial lighting, superior color, better glare control, and a 100 percent increase in the efficiency of sources and luminaires have become available since 1975. A lighting education five years or more old, unless bolstered by continuing education, is obsolete.

CERTIFICATION VERSUS LICENSING

It is important to distinguish four major concepts involved in the identification and regulation of a profession. First, the certification process does not involve government. An independent peer organization ... certifies that an individual meets established and impartial criteria.

Second, in licensing, state government regulates certain services and practices by requiring practitioners to possess a license granted by the state. Licensure is based on requirements similar to those for certification.

Third, a state may grant title protection to licensed practitioners as a means of informing consumers that an individual practitioner is indeed licensed in a specific field. Under such protection, civil engineers may not call themselves electrical engineers, ... but may practice electrical engineering.

Fourth, under practice protection, however, a state may restrict actual practice to certain specifically licensed individuals. In some states with earthquake concerns, for example, only structural engineers are permitted to practice structural engineering; in others, it is legal for architects, engineers, and contractors to provide structural engineering.

AN ACT TO FOLLOW

Interior designers have set an important precedent—particularly the designers represented by the American Society of Interior Designers (ASID) and the Institute of Business Designers (IBD). Over the past decade, ASID and IBD have certified Professional Members through an independent examination conducted by the National Council for Interior Design Qualification (NCIDQ). Recent versions of the examination have been very tough, intensely testing knowledge of codes, building materials and systems, and related technical topics.

Now, ... ASID and IBD are seeking licensing and title protection. Some states have already passed this legislation, but it is still an uphill battle. Opponents contend that consumers can easily detect bad interior design, and they ask how it would benefit the public to license a class of practitioners that isn't causing any trouble.

Interior designers, however, argue that their service is both an art and a science.

The road to licensing interior designers has been blocked by an array of practitioners in related areas who, through title protection, would lose the freedom to expand their own businesses. Architects are notable in this group: [the American Institute of Architects] (AIA) has been one of the greatest opponents of ASID and IBD licensing programs.

The experience of the interior design profession is frightfully close to that which lighting designers might expect. Both lighting design and interior design have the same fundamental shortcoming: a historical lack of accredited, generally accepted curricula of higher education.

LIGHTING DESIGN EDUCATION

The relative infancy of lighting design has made its education difficult. Several noteworthy programs exist, but only one—Parsons—grants a degree in lighting design. The rest include it in some more encompassing degree, such as architecture, engineering, or theater.

This means that we cannot define what exactly constitutes lighting design knowledge or skill. The extreme diversity of opinion and curriculum suggests that agreement upon a common core will be hard to achieve.

For years, the Illuminating Engineering Society (IES) has struggled with this issue. The IES has done an excellent job of being a center for technical knowledge collection and dissemination. But the IES has consistently been unable to involve designers, artisans, and related professionals who design lighting on an aesthetic or intuitive level. A constant tension of "designer versus engineer" has prevailed.

By charter, the IES cannot pursue professional issues such as licensing. If it did, it would no longer be a technical society accredited to write ANSI standards. To fill the gap, the International Association of Lighting Designers (IALD), a relatively new organization, serves the lighting design community. The IALD appears to be to lighting designers what the ASID has been to interior designers. The IALD uniquely understands the professional practice issues of lighting design. It currently certifies lighting designers by portfolio review.

The polarity of the IES and the IALD has terrific side benefits. They form other joint committees and provide common support for certain of each other's causes.

CERTIFY FIRST

Certification is the natural first step in the process of gaining professional recognition for lighting design as more than a commodity. If knowledgeable clients can at least demand professional membership in a certifying group similar to ASID, then a standard exists against which to measure progress and to judge qualification criteria.

The work being done by the IES and the IALD committees in this area is very timely. Of course, agreeing upon testing topics, skills, and the like will be a problem. The secret of success, as NCIDQ has demonstrated, is to establish an independent third-party testing and certification authority whose test results will be accepted by both organizations. The testing standards defined by the third party will establish the required knowledge and skills, in turn helping to define academic curricula and, ultimately, accreditation of schools and colleges.

The IALD has established professional ethics that prevent members from holding any vested interest in the products they specify. The public deserves to know that an IALD member is honestly independent, earning fees by the hour. The IES could easily accommodate its members who work for manufacturers, distributors, agencies, and so forth by establishing a premier membership grade for independent certified professionals.

PITFALLS OF LICENSING

The need to avoid licensing—at least for now—is as obvious as the need for a good certification program. Too many engineers, architects, interior designers, and other licensable professionals could rightfully argue that lighting design is part of their current practice, and that their personal skill and knowledge level is competent.

The battle over title and practice protection can be brutally emotional. Architects and the AIA have fought progress toward licensing interior designers all along the way. Some states accepted the interior designers' contention that they are professionals and deserve title protection through licensing; others, such as Iowa, have gone the other direction, and now make the practice of interior design dangerously close to practicing architecture without a license.

Opposing positions parallel to those in the interior design debate could emerge if lighting designers campaign for licensing. From an architect's perspective, one must note that, traditionally, lighting has been designed by salespeople and "designers" as paraconsultants to architects. The architect accepted full responsibility for the aesthetic and functional outcome, compliance with codes, structural integrity, and other factors beyond just the lighting effects. Considering these issues, the public could rightfully expect lighting to be designed by such a professional.

But, to parallel the interior designers' position, lighting designers could reasonably maintain that they provide a uniquely specialized service that often does not require overall building expertise beyond that of the skilled trade workers performing the installation. Professional designers—willing to be tested by an independent party—ought to be accepted as knowing both their trade and their limits. In other words, the professional lighting designer ought to know when to call in an engineer, architect, or other skilled major professional.

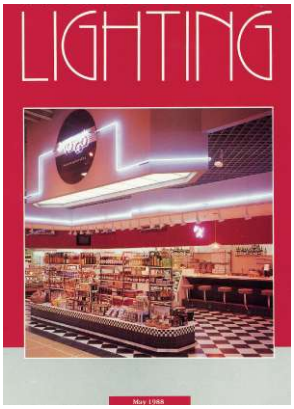
Frankly, though, practice protection is the real issue. Everyone wants to protect a piece of the pie, financially and emotionally. If a strong push is made to license lighting designers, there will probably be an equally strong push back from those whose livelihoods and egos are threatened.

Of greatest concern is the jurisdiction and manner in which lighting could be licensed too hastily. It scares me to think that lighting would be considered "engineering." Many of the most talented lighting designers could not qualify for the Professional Engineer's examination. For lighting to be more than a commodity, however, the qualification criteria must be partially technical. Look at the acceptance interior design has gained with its ever-more-technical NCIDQ examination. We must learn how to test for knowledge in the art and science of lighting.

In the meantime, architects and interior designers are the primary individuals to involve a lighting designer or consultant. It will be necessary for these design professionals to accept and employ lighting designers instead of using other means to design lighting. If architects and interior designers demand and respect certification, the future of the profession is in good hands.

For their part, lighting designers and consultants must be willing to submit to the certification process rather than avoiding it and putting it down. It is the only way to make the system really professional. •

This article originally appeared as the Lighting Design Professional column in the May 1988 issue.



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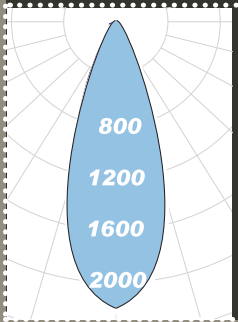

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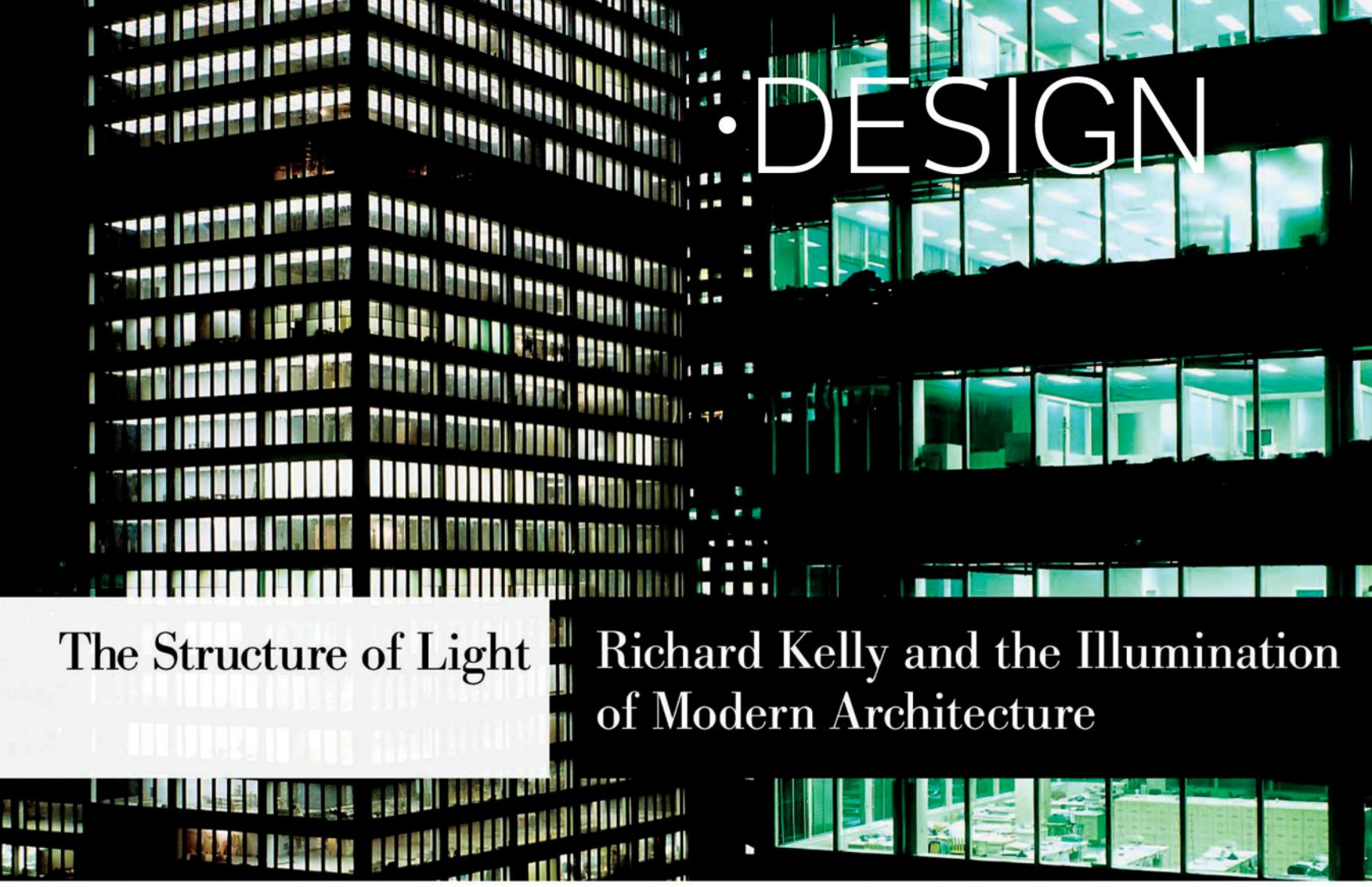


The Structure of Light

Richard Kelly and the Illumination of Modern Architecture

CRITIQUE

FOCAL GLOW

The Structure of Light: Richard Kelly and the Illumination of Modern Architecture *charts Kelly's legacy in both light and architecture.*

text by Eve Kahn

The archive of lighting designer Richard Kelly (1910–1977), like so many midcentury Modernists' paperwork, barely survived as raw material for any monograph. Although his Manhattan office contents were initially auctioned off near the end of his career, his family bought the materials back, and the documents ended up in storage units that were damaged by fire and flood, before spending years in a researcher's basement. Finally, in 2007, Kelly's family donated the surviving papers to Yale University's Sterling Memorial Library and its Manuscripts and Archives Collection. Kelly's connection to Yale is straightforward: He attended the Department of Architecture of Yale's School of Fine Arts and graduated in 1944.

While the Kelly archives had been used previously by members of the lighting community—for thesis research, article preparation, and the creation of a traveling exhibit—it was by no means exhaustive. Enter Dietrich Neumann, the Royce Family Professor for the History of Modern Architecture and Urban Studies at Brown University, who, for the occasion of Kelly's 100th birthday (Sept. 22, 2010) dove deeper into the archive materials to organize a symposium, an exhibit, and a companion text—all titled *The Structure of Light: Richard Kelly and the Illumination of Modern Architecture* ($60; Yale University Press, Jan. 2011). (The Yale University School of Architecture played host to the exhibit from August to October and the two-day symposium in October.) Not only does the book document the 2010 exhibit, it chronicles a rare example of a career that straddled architecture and light, and explains what it was like to experience Kelly's concept of "nocturnal modernity."

Those experiences are largely no longer possible in real life, according to Neumann, one of the monograph's seven authors. (The forward is written by Robert A.M. Stern, dean of the Yale School of Architecture; subsequent chapters are written by University of Delaware historian Sandy Isenstadt, sustainability expert D. Michelle Addington, architectural historian Margaret Maile Petty, architect and founding director of the Canadian Centre for Architecture Phyllis Lambert, and lighting designer Matthew Tanteri.) "Many if not most of Kelly's lighting

All of the authors' descriptions echo Kelly's vivid and voluminous writings about his own work and his ambitions for the industry. In lectures and essays, he used metaphors comparing lighting effects to the "full cyclorama of the open theatre" and "a snowy morning in the open country."

installations have been lost," Neumann writes in the introduction. "They might suddenly vanish at the whim of a homeowner or building superintendent."

Kelly collaborated with his era's starchitects, including Mies van der Rohe, Eero Saarinen, Louis Kahn, Richard Neutra, and Philip Johnson. He set aglow landmarks such as the Dulles and JFK airports, Lincoln Center, the Seagram Building, Johnson's Glass House, the Yale Center for British Art, and the Kimbell Art Museum. He made good buildings look better at night, with uplights on their exterior swoops and bands of illuminated ceilings forming gossamer grids within.

Kelly was already smitten with lighting effects while still a teenager in Zanesville, Ohio. While studying at Columbia University in the late 1920s, he would sneak into Broadway shows during intermissions to study the sets, mingling with the reentering crowds. He dropped out of school for a few years to run a lighting design firm, working on New York nightclub rooms and exhibit spaces including galleries at the Metropolitan Museum of Art and the 1939 World's Fair. He eventually finished architecture studies at Yale in 1944, mentored by California Modernist William Wurster.

By the 1950s, Kelly was already famous for giving clients flexibility. His cylindrical and hemispherical ceiling lamps could be slid around and raised and lowered on tracks and pulleys. He experimented with new materials, such as Koolshade diffusing fabric and Dynel nylon reflective curtains, and installed "multiple banks of dimmer controls and panels of three, four, or more toggle switches," Isenstadt writes in an insightful chapter about how Kelly lit glass-walled houses and their grounds.

At Kelly's own Fifth Avenue apartment, he hid 47 spotlights behind wooden screens and pierced the curtains with hundreds of lamps. For a client's sprawling L-shaped house designed by Edward Durell Stone in northern Connecticut, Kelly's photoelectric outdoor sensors brought up the interior lighting at twilight, and 40W pink and blue lamps alternated around the living room. For a skylight-covered courtyard garden at a Philip Johnson house in Minnesota, Kelly's five types of ceiling fixtures let the owners "asymmetrically mix

In conjunction with the publication *The Structure of Light: Richard Kelly and the Illumination of Modern Architecture* was an exhibit and symposium of the same title. The exhibit (left) was on view at the Yale School of Architecture Gallery from Aug. 23 to Oct. 2 and drew from Kelly's archive of papers, photographs, and architectural drawings, which are housed in the Manuscripts and Archives Collection.

warm and cool tints, visually emphasize particular plants, and generally create a subtle, free-form pattern to gently veil the rigid grid above," Isenstadt writes.

All of the authors' descriptions echo Kelly's vivid and voluminous writings about his own work and his ambitions for the industry. In lectures and essays, he used metaphors comparing lighting effects to "the full cyclorama of the open theatre" and "a snowy morning in the open country." He thought about light in terms of focal glow (highlight), ambient luminescence (graded washes), and play of brilliants (sharp detail), and in turn created a modern vocabulary for architectural lighting design. But he was an erratic businessman, ignoring deadlines and budgets and sending out inscrutable bills. By the time he died of a heart attack on a train coming home from Fire Island in 1977, he was barely working. He kept meticulous diaries, with "touching notes of frequent calls to his answering service in hope of a message," Neumann writes.

The making of this book required Herculean efforts. Neumann's team along with Yale researchers sifted through about 765 individual project files, 117 boxes, and 145 rolls of drawings. (The material is now searchable at digitalcollections.library.yale.edu.) The book is a first step in documenting Kelly's work and a reminder that there is still much more to be written. Numerous topics are mentioned throughout the text that deserve further study, such as Kelly's collaborations with textile designer Marie Nichols on billowing ceiling and window coverings, Kelly's explorations of new lighting technologies, and his contributions to the art and technique of daylighting strategies long before there were advanced computer simulation programs.

It would also be fascinating to figure out how many traces of his work survive. There must be some milky ceilings and polychrome lamps out there, or at least owners who have upgraded the machinery but perpetuated his signature shimmering changeability. •

Eve Kahn is the Antiques columnist for The New York Times *and has contributed over the years to numerous magazines including* House Beautiful, Art & Auction, *and* Travel + Leisure.

Previous Page: Courtesy Yale University Press
This Page: William Sacco, Yale Photo + Design

REPORT

MILAN'S EUROLUCE: THE COOL LIGHTING SHOW

Although LEDs led the pack at this April's biennial showcase for illuminating design, there were also inventive options with other sources.

text by Arlene Hirst
photo by Noah Kalina

Dynamic, bold, and artful presentations characterize the luminaire displays of Euroluce during Milan's Salone del Mobile.

• **Online slide show** For a look at more product offerings from Euroluce 2011, go to archlighting.com.

Attending Euroluce, the most influential and trendsetting decorative lighting show, has always meant preparing for a heat wave. At the huge fair (this April, 479 exhibitors inhabited 445,508 square feet of space), the temperature has always increased throughout the day, thanks to the heat generated by all those lamps in an enclosed area, until visitors would feel as if they had been dropped into the middle of the Sahara. But this year, the air at this biennial show—which alternates years with a kitchen-and-bath exhibition during Milan's famed furniture fair, Salone Internazionale del Mobile, at the Rho fairgrounds—was positively springlike.

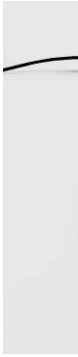
The reason for this temperature change doesn't require the skills of a climatologist to figure out. It is occurring because lighting manufacturers, including companies who specialize in decorative lighting, have switched over en masse to LEDs. They are forsaking incandescent lamps as lighting technology undergoes a paradigm shift and legislation around the world mandates the use of more energy-efficient products. Frosted incandescent

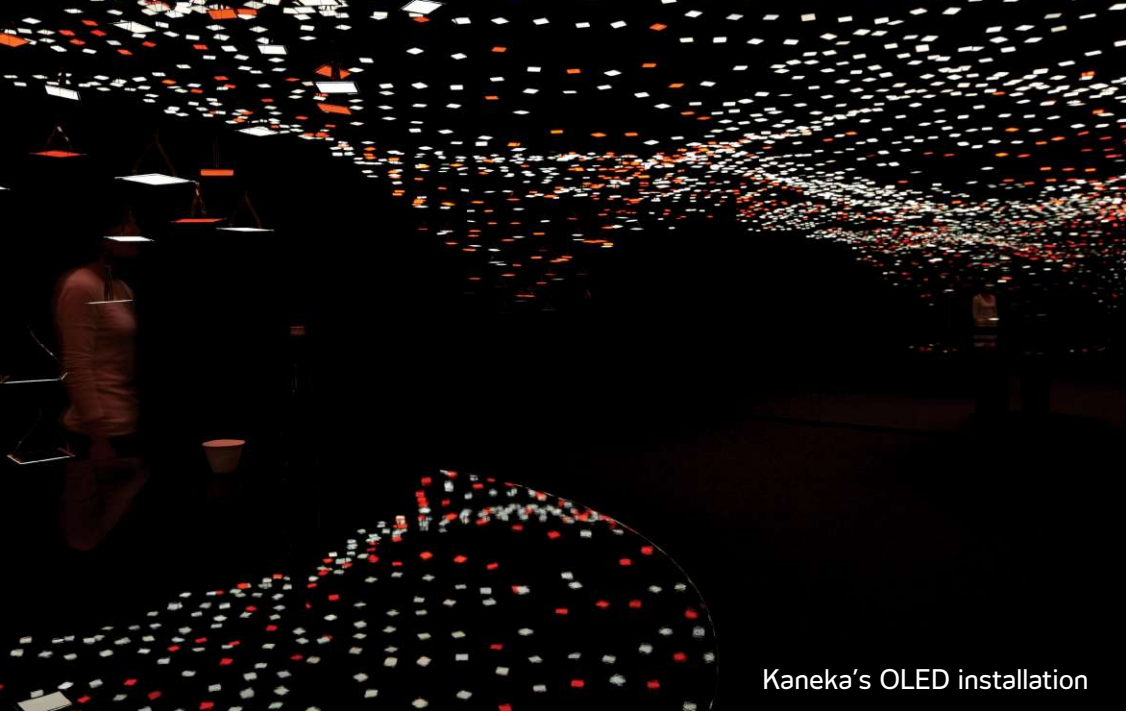
lamps have already been phased out of production and sale in the European Union. By the end of 2012, just about all types of general-purpose incandescent lamps also will be off the market there. These laws clearly have had an effect on manufacturers—European and worldwide. "Of the 55 SKUs that we introduced, 50 of them are LEDs," says Jan Vingerhoets, CEO of Flos USA. "LED is the future."

Murray Moss, co-owner of New York–based Moss, an influential American design store, agrees, but thinks that it isn't legislation that's behind the change. He believes that people are starting to get used to this new technology, which, he points out, designer Ingo Maurer was already working with more than 10 years ago. "Smart people will take it up, and it will evolve to other forms," he says. "This is just the beginning. But it's irreversible now."

The change to LEDs dictates a new design vocabulary. The predominant silhouette at the show was long, lean, and tubular, showcasing

Drift's Fragile Future





Kaneka's OLED installation

Balance by Nathalie Dewez for Established & Sons

Ingo Maurer's Johnny B. Butterfly

Alessi's U2Mi2 LED replacement lamp

the beamlike quality of the tiny lamps—although there was also the usual number of perennially popular globelike forms on hand. Ingo Maurer brought to market his LED wallpaper, a product he's been working on for several years. (Pricing is available on a special project basis.)

There were, of course, some holdouts. Artek's new White collection—a series of four linear lighting solutions designed by the company's design director Ville Kokkonen—does not use LEDs. Instead, Kokkonen opted for T5 fluorescents, which are still an extremely cost-effective and functional light source.

There were also pioneers who moved on to the next big thing: OLEDs—organic light-emitting diodes—which are still very much in the experimental stage. Blackbody, a French company dedicated to developing OLEDs for both residential and commercial use, had a large booth with a wide range of products, from tasklights to chandeliers. Kaneka, a Japanese firm that exhibited off the fairgrounds, created a visual wonderland of small, floating OLED forms in a dark mirrored room.

Outside of the fair, there was much, much more. From company showrooms on the chic shopping streets around San Babila to the design districts in Zona Tortona, Brera, and the latest hot neighborhood—Ventura Lambrate, the area of choice for the young avant-garde—an embarrassment of riches awaited. The legendary Venini, the Murano-based Venetian glass and lighting company, celebrated its 90th anniversary with an exhibition at the Museo Bagatti Valsecchi. (The pieces, including new designs by Studio Job and the Campana Brothers, were dramatically juxtaposed with the museum's rich collection of Italian Renaissance decorative arts.) Dutch studio Drift lit up the Lambrate neighborhood with its ghostly Fragile Future fixtures, made from dandelion seeds (yes, dandelion seeds), LEDs, and bronze. And, on the Via della Spiga, the Nilufar Gallery showcased the ethereal glass totem lamps of Bethan Laura Wood, a young Englishwoman and former student of designer Martino Gamper.

Every year the number of exhibitions and special events outside the fairgrounds expands exponentially—there is no longer any way to visit all of them. During this special week, Milan is a design lover's paradise. If you didn't make the journey this April, there's always 2013. Put it on your calendar. •

Design journalist Arlene Hirst worked at Metroplitan Home magazine *for more than two decades as senior editor and then as deputy design director. She currently contributes to* T, The New York Times Style *magazine, as well as to* Surface, Interior Design, *and* Elle Décor Italia.

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PEERING INTO THE FLOATING WORLD

Japanese architects and designers integrate materials and light.

text by Blaine Brownell

photos courtesy Princeton Architectural Press

In his piece "Lexus L-finesse," artist Tokujin Yoshioka uses optical fibers to create a spatial assemblage that expresses a sense of weightlessness and mystery.

Japanese approaches to light have long fascinated Western audiences. Novelist Junichiro Tanizaki's 1933 book *In Praise of Shadows* articulated the unique qualities of Japanese light found within the shadowy recesses of traditional Japanese dwellings. Tanizaki claimed that the Japanese approach to illumination prioritized subtlety, smoothness, and depth—in contrast with the West's stark treatment of light. In today's variegated design culture, contemporary Japanese designers explore light in myriad ways, but this subtle and meaningful treatment of light remains a principal characteristic of Japanese design and architecture. The following themes of atmosphere, integration, dematerialization, and emanation describe common approaches used by Japanese designers who are particularly adept at harnessing the complex interplay between light and material.

ATMOSPHERE

Atmosphere is critical to Japanese design. Originally evoked within the sacred enclosures constructed at early Shinto ritual sites, atmosphere is an important quality that imparts meaning and distinctiveness to spaces. Today, it is often embodied within contemplative refuges set apart from the frenetic Japanese city. Artist Eriko Horiki is particularly interested in meditative spaces that convey utsuroi—or the feeling of time passing. Her interior environments and installations feature washi paper as the primary material, which filters light

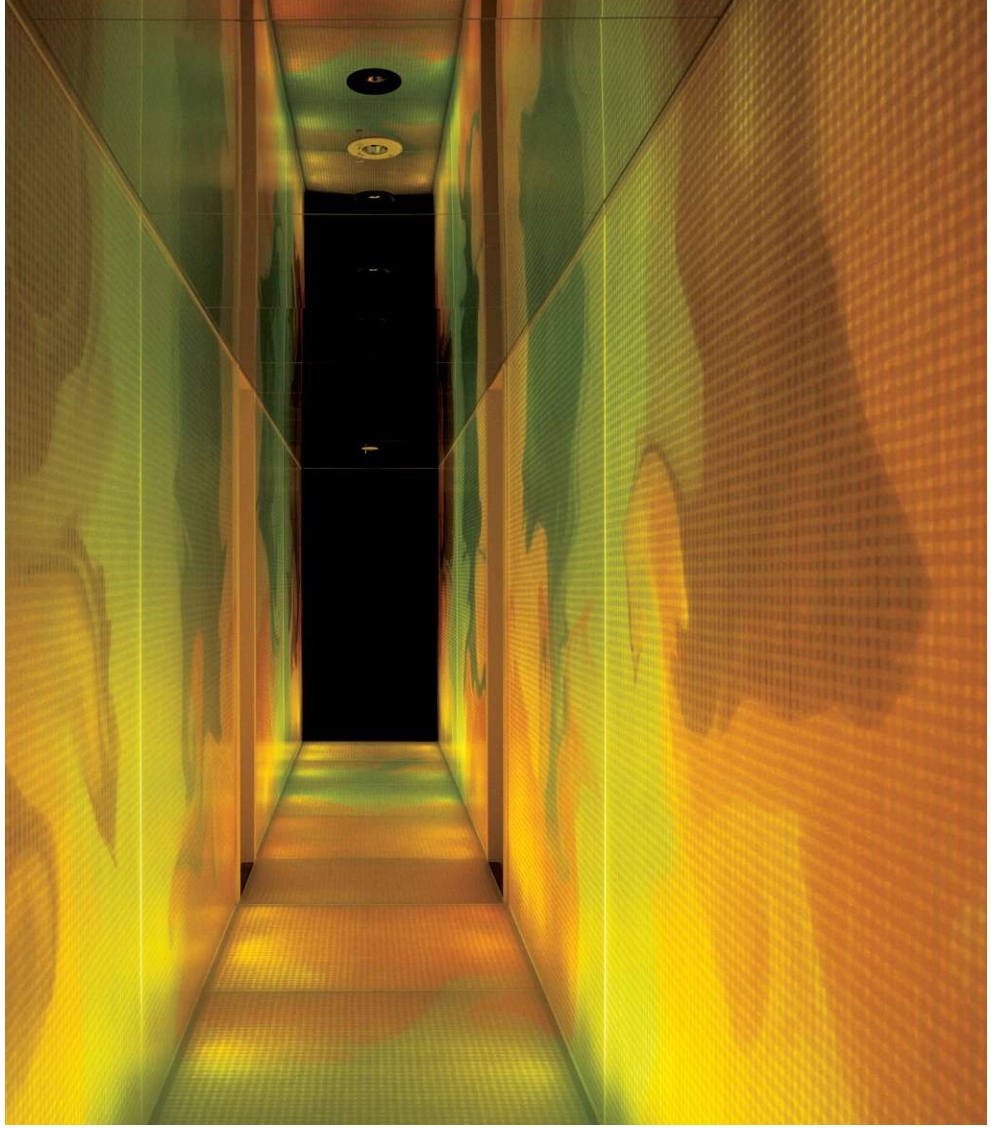
For his Rakuyo bench, Oki Sato and his design firm Nendo incorporate a subtle pattern of leaves thanks to integrated LEDs. The pattern appears when a person sits on the bench and slowly changes color the longer a person stays seated (above).

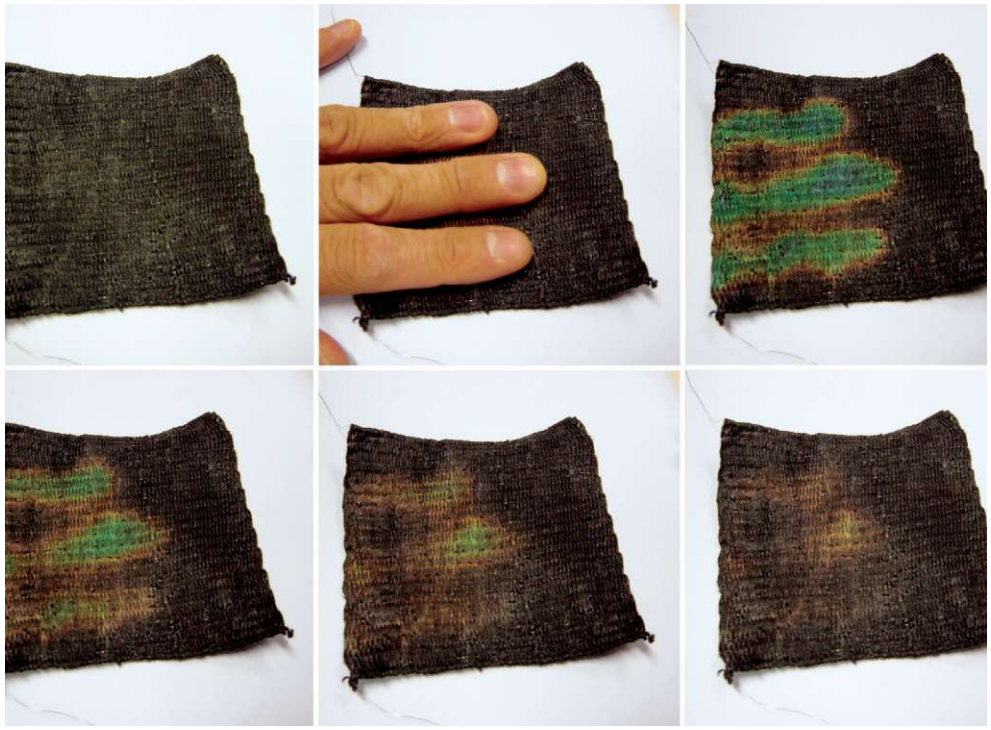
from a variety of sources to impart a contemplative ambience. Artist Tokujin Yoshioka seeks to summon natural phenomena such as clouds or waves in his work—a condition he calls "second nature." By aggregating vast numbers of materials such as optical fibers, crystals, or torn paper, Yoshioka creates spatial assemblages that express a sense of weightlessness and mystery.

INTEGRATION

Light is often treated as an integral component in Japanese design, and lighting systems are typically incorporated seamlessly with other materials in Japanese architecture and interiors. This subtle integration can generate surprising effects, and can enhance the functionality of surfaces and products. Designer Oki Sato leads Nendo, a multidisciplinary design firm that strives to generate small moments of surprise by shifting viewer expectations. Nendo's Rakuyo bench emits a subtle leaf pattern via LED lights on the floor when sat upon, and the color slowly changes the longer the user is present. The firm's Sorane is an audio speaker combined with a laser-driven light fixture, conceived as an audible slice of sky. Architect Yasuhiro Yamashita seeks to prioritize daylighting considerations in his building façades in order to conserve material and energy resources. His Lucky Drops house is clad in translucent fiber-reinforced plastic sheeting, for example, which illuminates all of the levels within.

TECHNOLOGY





Artist Eriko Horiki uses the tradition of washi papermaking to create a contemporary architectural canvas for light, seen here in her installation at Okuaga Furusato Hall in Nigata (left). The prevalence of light-emitting fibers has enabled Japanese designers to advance luminous material technologies. Akira Wakita used his background in computer science and fashion design to develop Fabcell, a conductive fiber that emits multicolored light with an electrical charge (bottom left).

DEMATERIALIZATION

A fascination with lightness has inspired many Japanese architects to push the limits of structures and materials in their work—resulting in buildings and surfaces that appear to dissolve into their surroundings. These designers effectively erode materials to give presence to light—an approach derived from traditional Japanese architecture's intimate relationship with nature. Architect Kengo Kuma pursues dematerialization in an effort to mesh buildings with their contexts. The thin material filigree he employs for façades allows sunlight to penetrate the building envelope—creating what he calls "particles" of filtered illumination. Architect Jun Aoki treats architectural surfaces as multilayered, experiential fields that render unusual optical effects. His Louis Vuitton storefronts are visual experiments with glass tubes, metal screens, and window frit patterns. The concrete façade of his Ginza Namiki store incorporates inset translucent stone that is opaque by day, but glows at night.

EMANATION

The increased availability of light-emitting fibers has inspired Japanese designers and manufacturers to work directly with luminous material technologies. This medium encourages integration with sensors and adjustable, low-voltage energy-delivery systems to create flexible and interactive displays. Akira Wakita has expertise in both computer science and fashion design, and develops textile-based technologies that bridge digital and analog worlds. His Fabcell material is composed of conductive fiber that emits multicolored light with an electrical charge, and may be used to create a textile video screen. Lumen designer Koichi Baba's Delight Cloth is a light-emitting textile made of thousands of fiber-optic strands. These 0.25-millimeter to 0.5-millimeter fibers are woven to form an expansive, luminous tapestry for vertical or horizontal applications. Both Fabcell and Delight Cloth demonstrate the extent to which the realms of lighting and materials are converging—a phenomenon that demonstrates a broader conceptual trend within Japanese design. •

LIGHT SALES

Putting together a lighting scheme for a retail prototype requires a mixture of efficiency and flexibility.

text by Aaron Seward

Lighting is an essential element of any retail space; it defines the way a merchant presents its identity and the value of its goods. Light can make a shopping experience dark and serious, bright and cheerful, warm and cozy, cool and clean, or colorful and ecstatic. In short, it can summon nearly any mood, which will then transfer directly to the customer and shape his or her shopping habits. "The role of lighting in retail is as important as the shelves to merchandise the products," says Paul Traynor, principal of London-based Light Bureau. "Without good lighting, the products might as well not exist." So how does a retailer, especially one expecting to open several locations, achieve a consistent level of quality lighting in its many shops without going over budget? Enter the role of prototyping, to deliver a client's wishes while at the same time being affordable, efficient, easily reproduced, and easily maintained by a sales staff that is not familiar with lighting. It often takes more than one prototype to find the right formula. Rapidly changing lighting technologies mean that solutions that were not possible in last year's prototype may in fact become practicable in the years ahead. In addition to achieving the right effect at the right price, flexibility is crucial.

•Chipotle Mexican Grill

One restaurant that has recently spiffed up its image is Chipotle Mexican Grill. The store's previous aesthetic was cozy, but also dark, cluttered, and dense. The company wanted to change its look to something airy, clean, open, and casual, and also to reduce its HVAC and lighting energy usage to meet the current energy-code allowances. It hired New York firms Architecture Outfit and Arc Light Design to develop a prototype in a storefront on 45th Street in Manhattan. Thaddeus Briner of Architecture Outfit put forth a concept of applying design to unglamorous, semi-industrial materials such as plywood, sheet rock, and perforated metal, to create a vibrant space that delivered the ambiance Chipotle desired. He also had a challenge for Arc Light Design: Fully integrate the lighting into the layout and design.

"One of the interesting things about the prototype is that it had an 18-foot-high ceiling," says David Singer, principal of Arc Light Design. "Thaddeus didn't want to put lighting up there because he didn't want to coordinate all the trades or lower the ceiling." So the designers went to work integrating the lighting scheme into the furniture, the floor, and the walls of the space. They relied heavily on T5 fluorescent lamps, which offered both energy efficiency and a slim 5/8-inch diameter that made them easy to conceal within the architecture.

The designers used the T5s for both up- and downlighting roles, providing direct illumination to the tables as well as ambient illumination. The fixtures were set in a cove at the top of an 8-foot-high folded plywood feature wall that runs along the queing line, as well as in a cove behind the banquet, where they wash the white walls and ceiling with uplight. They were also used in custom-designed perforated metal fixtures that affix to tables or rise from the floor. The fixtures have lamps that shine down onto the tables or up toward the ceiling and are outfitted with gel filters that add warmth to the fluorescent light.

While the T5s handle most of the house lighting, the production line required something more task oriented. Here, the designers used 20W MR16 metal halide lamps housed in a custom metal fixture that cantilevers from the wall. They also used 20W MR16 metal halide fixtures in an uplighting function, embedding them in the floor beneath a feature wall of sculpted Aztec motifs.

The prototype, which was completed three years ago, cost Chipotle $15,000 to light. In subsequent iterations, of which there have been six, the team members were able to get that budget down to between $5,000 and $7,000. They did this by making certain alterations such as lowering the ceiling in places to provide more conventional recessed ceiling fixtures, which didn't inhibit the drama of the space. They were also—thanks to advances in technology—able to swap the metal halide lamps for 10W and 15W LED PAR lamps, further decreasing Chipotle's energy usage.

Lighting is fully integrated into the architecture, fixtures, and furniture in the new prototypes for Chipotle Mexican Grill, while the palette of semi-industrial materials offers a chic and contemporary ambiance not expected in a fast-food setting.

Details

Project: Chipotle Mexican Grill Prototype Store
Client: Chipotle Mexican Grill
Architect: Architecture Outfit, New York
Lighting Designer: Arc Light Design, New York
Lighting Cost: $15,000
Project Size: 2,400 square feet
Watts Per Square Foot: 1.0
Energy Code Compliance: ASHRAE 90.1 Energy Code Allowance for Restaurant, which allows 0.9W per square foot for primary lighting plus 1W for decorative lighting for a total of 1.9W per square foot.
Photography Credit: David Sundberg/Esto, courtesy Architecture Outfit
Manufacturers: A&L Lighting, Cree, Eco-story LED Lighting Solutions, Hera, and custom architectural housings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Details
Project: Pret A Manger Concept Store, London
Client: Pret A Manger
Interior Designer: David Collins Studio, London
Lighting Designer: Light Bureau, London
Lighting Cost: $17,000
Project Size: 65 square meters (approximately 700 square feet)
Watts Per Square Foot: 22W per square meter
Energy Code Compliance: Part L 2006
Photography Credit: Paul Traynor
Manufacturer: iGuzzini

•Pret A Manger

When it came time for Pret A Manger—a breakfast and lunch restaurant serving quick quality meals for the nine-to-five set—to refresh its image, the company had very specific ideas about what it wanted to accomplish. The chain's store design featured frosty glass and mirrored metallic finishes along with dark red walls and checker-plate floors. This composition combined with the lighting resulted in the unfortunate effect of transforming the shop windows into reflective surfaces, obscuring the interior from the street. For its next iteration, the company wanted to make the interior cozier, while at the same time making it more visible from the street.

Pret A Manger hired London-based interior design firm David Collins Studio and lighting designers Light Bureau to develop a solution at a new store on New Oxford Street in London's Bloomsbury district. Working together throughout the conceptual phase, the team warmed up the restaurant's materials palette, replacing many of the metal surfaces with wood, integrating bamboo into the checker-plate flooring, and swapping the dark red walls with fairfaced brickwork. Collins even redesigned the dining room's furniture, providing padded seating for a more comfortable experience.

The job of creating transparency for the shop windows fell to the lighting. Light Bureau settled on a strategy of lighting the perimeter of the space and grazing the brick walls, creating a visual focal point that would extend to the street. This was accomplished by integrating a continuous light cove around the edge of the store outfitted with 4000K 25W T5 fluorescent lamps and bespoke inline 3000K 2W LED fixtures with spread lenses. This solution also gave the restaurant the flexibility to deliver two different settings or moods—cool fluorescents for morning, and warm LEDs for afternoon—without having to rely on an expensive dimming-control system. All that was needed were two switches. The team also placed 20W compact metal halide fixtures in the ceiling, which provide illumination for the seating areas, as well as to spotlight Pret A Manger's inspirational wall posters, which the company prosaically refers to as "passion facts."

While the scheme delivered the effect the client wished, the company decided to do without the LED fixtures for its next store, as they proved to be too expensive. Light Bureau replaced these with 3000K fluorescent fixtures. But that change may not be permanent. "They are looking to use LEDs in subsequent stores," says Paul Traynor, principal of Light Bureau. "They were used on a previous store we did with Pret and in the [project] debriefing the team agreed [LEDs] worked really well, [plus] the price is coming down and their availability is greater."

In the newly designed prototype for sandwich chain Pret A Manger, light rings the perimeter of the store and creates a visible focal point from the street to draw customers inside. A combination of fluorescent and LED sources offer color-temperature variability to respond to different lighting conditions throughout the day.


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Details

Project: AT&T Experience Retail Prototype, multiple locations
Client: AT&T
Architect/Interior Designer: Callison, Seattle
Lighting Designer: Sean O'Connor Lighting, Beverly Hills, Calif.
Project Size: 4,500 square feet
Watts Per Square Foot: 1.7
Energy Code Compliance: ASHRAE 90.1
Photography Credit: Callison, Chris Eden
Manufacturers: Bartco Lighting, Cooper Lighting Halo, Cooper Lighting NeoRay, Cooper Lighting Portfolio, Element Lighting, Hera, Louis Poulsen, Philips

AT&T Experience Retail Prototype

When AT&T bought out cell phone service provider Cingular it was faced with the task of developing "experience stores" to embody the merged brands. The telecommunications giant hired Seattle architecture firm Callison and Beverly Hills, Calif., lighting design studio Sean O'Connor Lighting—which had worked on Cingular's stores—to quickly design a prototype with multiple variations (there were nine in total) that could be easily rolled out in hundreds of locations across the country. "To capture the feeling of the AT&T brand we used the logo to guide the lighting and architecture," Sean O'Connor says. "We had done something similar for Cingular with their orange logo. For AT&T we referenced the blue globe but kept some orange as a nod to Cingular."

Architecturally, this translated into a series of curved and circular motifs on the interior: a center ceiling soffit accented with circular recesses, round display pedestals, and blue and orange painted accents. The team integrated the lighting scheme into these architectural features, producing a custom look without having to spend money on costly fixtures. While the prototype variations were each different, designed to meet a variety of needs for the rollout, the designers specified a core group of fixtures, which could be used flexibly with the architecture. These included CFL downlights, LED covelights, MR16 metal halides for perimeter display tables, and T5 fluorescent strips in coves and in valances in the counters.

The prototypes also had to be designed to meet the energy codes of multiple states, presenting the designers with the task of developing a set of standards that could easily be interpreted and used by architects that they would never meet. "We used the International Energy Conservation Code, which is a simplified version of ASHRAE 90.1," O'Connor says. The team was able to get the lighting power density down to 1.7 watts per square foot. "That's on the low side of what you typically find in retail stores, but it's a fair number," O'Connor continues. "Ultimately, our goal was to have the design meet every state's energy code but in such a way that we didn't have to compromise the design aesthetic, and 1.7W met that goal." •

Flexibility was key in the prototype strategy for AT&T's "experience stores." A core group of fixtures—compact and linear fluorescent, LED, and metal halide—provide a variety of light while still meeting the variable energy code requirements throughout the U.S.

LIGHT PLAY

A dynamic scheme of colored light plays a dominant role in a sensory experience developed for a new pediatric clinic in the heart of Berlin.

text by Jean Nayar
photography by Lichtraeume and Bernd Wannenmacher

The designers used specific colors of light to comfort the patients emotionally through the sense of sight. “Children respond positively to colors like pink, yellow, and green,” Susana Ferreras says.

A total sensory experience of color and light, the Pegasus Pediatric Clinic creates a welcoming environment for children and their parents, as well as the clinic’s medical and administrative staffs. LED sources are used exclusively throughout, from the color-changing columns in the waiting room (this image), to the white-light luminaires in the consultation areas (top right). The designers also created fun interactive moments such as a “virtual” fishpond table (right).

Details

Project: Pegasus Pediatric Clinic, Berlin **Client:** AOK Nordost, Berlin **Architect:** Dörschner Architekten, Berlin **Interior Designer and Lighting Designer:** Lichtraeume, Berlin **Project Cost:** €3,300,000 (approximately $4,771,802; complete renovation project of the building including interior and lighting design for pediatric clinic, gynecologist office, and ear, nose, and throat department.) **Lighting Cost:** €250,000 (approximately $361,500) **Project Size:** 400 square meters (approximately 4,305 square feet) **Watts Per Square Foot:** 1.16 **Manufacturers:** Custom-designed LED illumination in architectural surfaces and furnishings by Lichtraeume and Richter.

In its innovative design for the Pegasus Pediatric Clinic, the five-person interdisciplinary design firm Lichtraeume, based in Berlin, aimed to create a kid-friendly environment that would make young children feel happy and secure, despite the fact that it is a doctor's office. The firm focused its energies on developing child-centric spaces in which four of the five senses—sight, sound, touch, and smell—would be engaged. Central to the design for this sensory experience is the dynamic use of colored light.

Located in a postwar structure in the heart of Berlin and contracted by AOK, Germany's largest health insurance company, the clinic was designed to tell the story of Pegasus, the mythological winged horse. "In every room, there's an image of a horse, so the children are always accompanied by an image they trust," says Susana Ferreras, an expert in environmental and architectural psychology and a principal at Lichtraeume. To support the narrative are wavelike shapes in the floor made of green and brown linoleum, intended to mimic grass and sand. Organic-shaped columns, glowing with colored light, also contribute to the fantasy landscape, as do other curving forms and furnishings. One of these is a "virtual" pool of fish, which is projected onto a low table and is programmed to interact with a child's movements.

"The project uses color in the form of light to influence not only the moods of the people who work in the clinic, but also the moods of the children," Ferreras says. In developing a project, the members of Lichtraeume merge their expertise in architecture, industrial and lighting design, economics, environmental psychology, and electrical engineering. As a result, the firm's environments optimize technology and are finely tailored to the users' specific needs. In the Pegasus Pediatric Clinic, Ferreras's background in child psychology factored heavily in the outcome of the design, including the forms, materials, and colors of light that were used to shape the 4,305-square-foot facility.

Relying on current research that identified environmental characteristics that nurture children, the designers used specific colors of light to comfort the patients emotionally through the sense of sight. "Children respond positively to colors like pink, yellow, and green," Ferreras says. These three colors dominate the space, while colors that provoke negative effects were avoided. "Red has been shown to be irritating to children, and blue, being a cool color, can exacerbate certain illnesses such as the common cold," she explains.

Other aspects of the design influence the children emotionally using the other senses. The designers introduced smell with essential oils from fruit and flowers such as oranges, lemons, rosemary, and lavender, which have been shown to relieve anxiety in children. Introducing the sense of touch, they included pliable materials and curving forms to reinforce a feeling of closeness that makes children feel secure. And to introduce hearing, they incorporated more than 200 customized soundtracks that range from guitar and vocal music to the sounds of birds and falling water, all intended to produce a calming ambience. "Music keeps us in touch with the vibrational world both outside and inside ourselves," Ferreras says.

The "vibrational" quality of light also played into the design team's decision to use light rather than paint to introduce color. To create a homogenous quality of light, the designers used only diffused illumination, "so that you feel you're in the light, not under it," Ferreras says. This quality of light is created by incorporating only surface-mounted LED arrays placed behind a range of diffusing materials, such as Barrisol, and deployed in a multiplicity of ways.

The entire lighting scheme was developed using three types of surface-mounted LED linear array fixtures: cool and warm dynamic white strips with color temperatures that range from 2500K to 6700K and provide a museum-quality color-rendering index of 95; RGB full-color strips with optimized color binning; and approximately 12-inch-by-12-inch panels that house 16 LEDs. Near the windows, the designers connected the strips to dynamic daylight-dependent controls, which activate shading devices to compensate for light gain and loss, create a sense of daylight at any given time, and control heat. A collection of 300 approximately 12-inch, 3.5W to 4W RGB LED strips were surfaced-mounted to a central pole within the tensile columns and are programmed using a DMX system to gradually change color throughout the day. Approximately 12-inch-square light panels, each with an output of 21W, were used in the back-of-house spaces including the dressing and maintenance rooms and the kitchen.

"Our concept was dedicated to efficiency," says Lichtraeume's lighting expert Fatih Gercek. "The goal was to create maximum impact for the lowest energy price. And although we used light to fulfill our aesthetic parameters, the light had to fulfill the functional parameters first." Light levels, as specified by the Deutsche Institute Normung (DIN), dictate minimums of 500 to 750 lux on doctors' examination tables, 500 lux on counters and work surfaces, and 150 lux in circulation areas. "They couldn't believe that we could complete the project with 100 percent surface-mounted illumination and meet the needs of a demanding institution," Gercek says. "But we did it, and now the DIN is rethinking their lighting standards to incorporate not only lux and lumen as parameters, but also life span, energy-efficiency, maintenance issues, control, and even 'emotional' aspects."

According to Gercek, the entire lighting load for the facility is between 4,000W and 5,000W, including the bathrooms. Touch-panel controls at the reception area, plus temperature and shading controls throughout, all have a simple, easy-to-use interface. Motion sensors in the bathrooms also keep energy consumption low.

A post-occupancy evaluation will be conducted in September, but so far the response to the facility by both staff and community has been overwhelmingly positive since the clinic opened in March. "Doctors want to work there because of the environment—the clinic is receiving more employment applications—and families are happy with the environment, too," Ferreras says. In fact, so delighted are the children with the clinic's interiors that instead of going to the doctor's office with a sense of trepidation, they often want to remain in the playful, colorful space rather than go home. •

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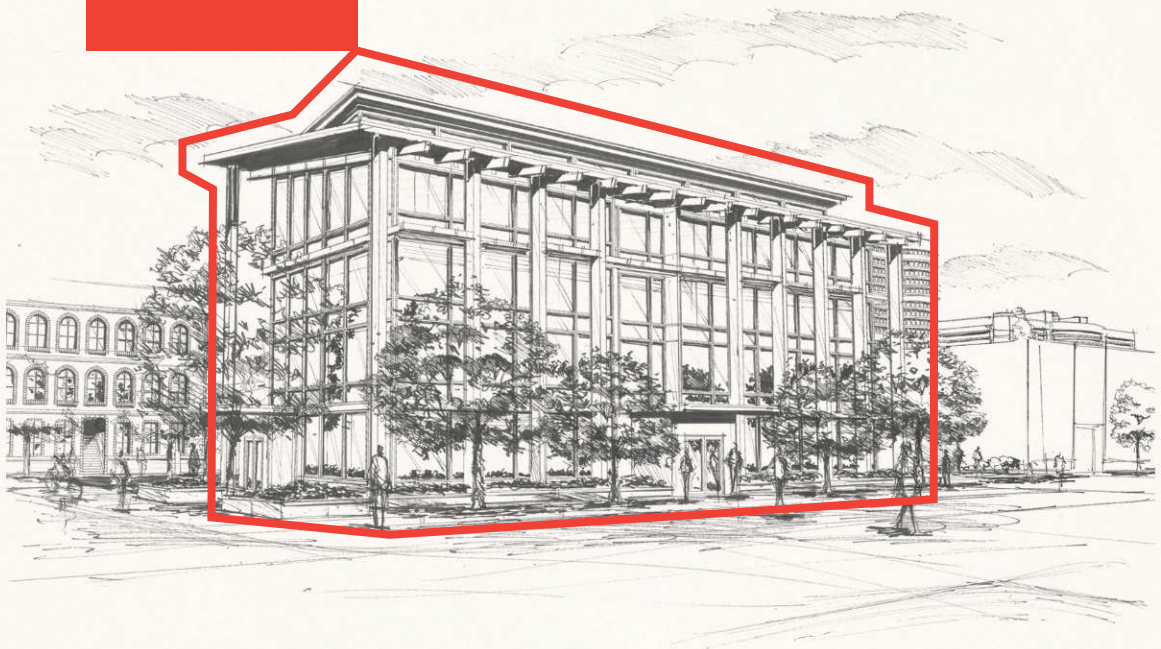

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AD INDEX

Jonathan Speirs

interview by Elizabeth Donoff
photo by Ian Phillips-McLaren

> **"Design and creative thinking are fundamental to what gets us out of bed in the morning, what drives us to work stupid hours and sit on planes going to far distant lands. It is about creativity and the idea."**

• **More Online** For an expanded version of this interview, go to archlighting.com.

It would take an entire book, and then some, to describe the achievements of architect and lighting designer Jonathan Speirs, which of late include the Lifetime Achievement Award from the Royal Incorporation of Architects in Scotland, the association's highest honor, and an honorary membership from the IALD. Speirs began practicing lighting design in the United Kingdom in the early 1980s, when there were only a few such consultancies. Fast-forward almost 30 years: Speirs and colleagues Mark Major and Keith Bradshaw have grown Speirs + Major into one of the most highly respected global lighting firms. Among the firm's many accolades: an unprecedented three consecutive IALD Radiance Awards. But no matter all the accolades, only one word is needed to describe this great and humble talent: gentleman.

What fascinates you about light?
Its physiological and psychological effects. It doesn't surprise me that it has such a massive impact on our well-being and our lives.

For a long time the firm used the term "lighting architect." What does that mean in terms of how architecture and lighting coordinate as disciplines?
Early on it was trying to find a way to describe who we were and what we did. Now we use the phrase "designers working with light," it's a much better representation of all of the types of work the firm is doing.

How do you start the design process?
We're always interested in how light can make a difference, but ultimately it's about having a solid idea and concept, so that when it's questioned by the client or another member of the design team, you have the answer.

Where do you see lighting heading?
We're going to see more specialization within the realm of lighting design—daylighting, theatrical projects, restaurants, etc.

What do you consider innovative in lighting?
It comes back to creative thought and constantly pushing the boundaries of how you can apply and integrate light into building, surfaces, and materials. I hope that we are known for our creativity and our innovation in terms of how we think about and how we apply light, and the ideas behind those things.

Any advice for young designers in this economy?
Hang in there. Get experience in as many different aspects of design as you can and you'll be a better designer. Travel the world. Use your eyes. It doesn't always have to be about light. Just be interested in design with a big "D".

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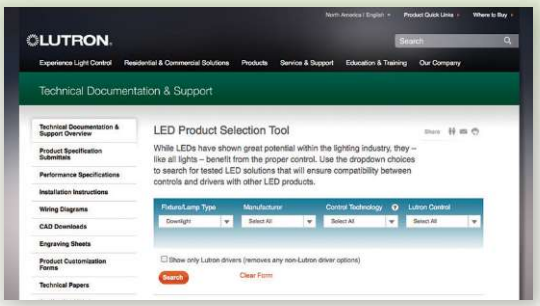

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