

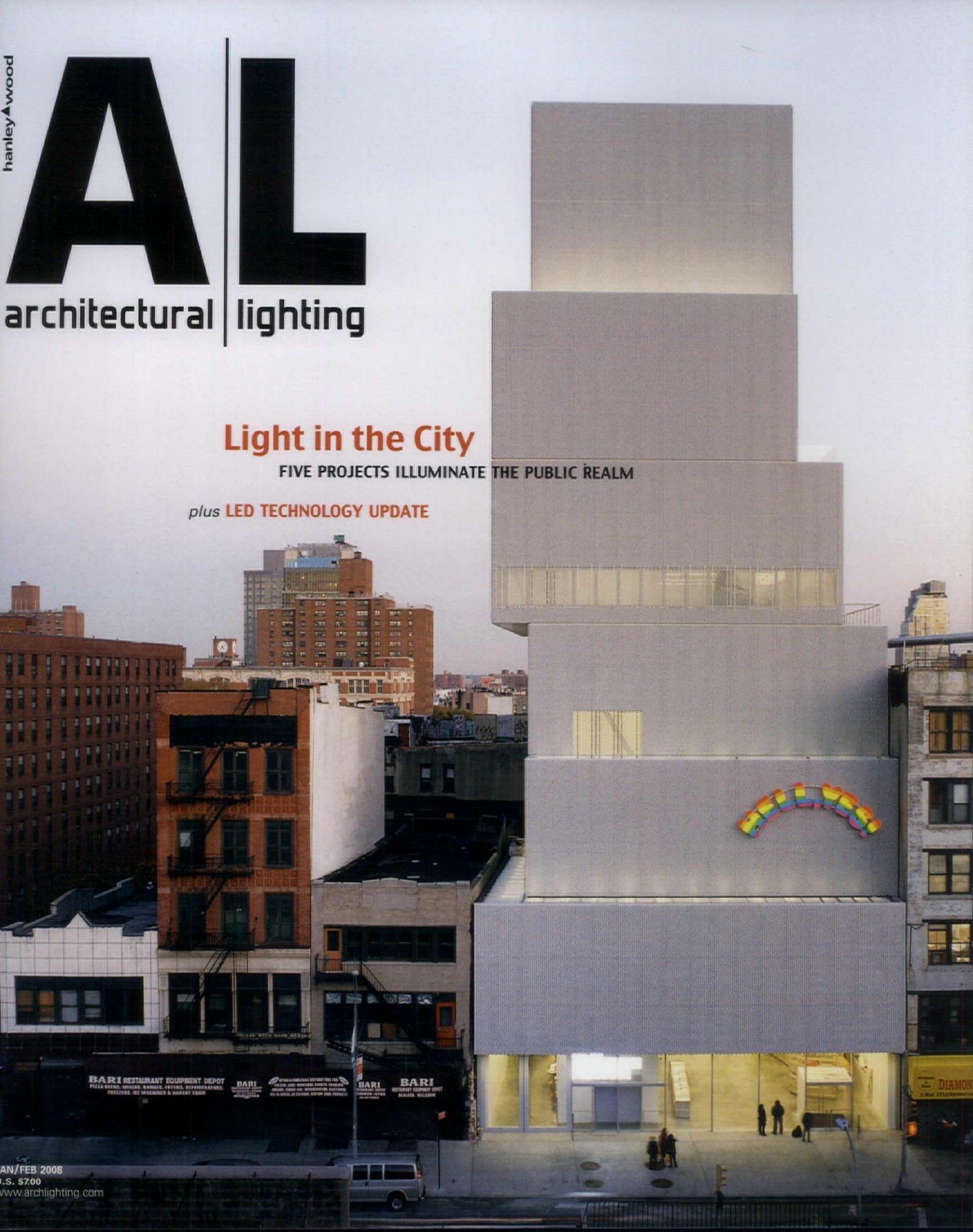
# AL

architectural | lighting

## Light in the City

FIVE PROJECTS ILLUMINATE THE PUBLIC REALM

plus **LED TECHNOLOGY UPDATE**



**BARI RESTAURANT EQUIPMENT DEPOT**  
PIZZA OVENS, MESSING, SANDERS, FRYERS, REFRIGERATORS,  
FREEZERS, ICE MACHINES & BARBECUE EQUIP.

**BARI**

REPAIR & MAINTENANCE SERVICE FOR  
ICE CREAM MACHINES, SANDERS, FRYERS,  
MESSING, SANDERS, FRYERS, REFRIGERATORS,  
FREEZERS, ICE MACHINES & BARBECUE EQUIP.

**BARI**

RESTAURANT EQUIPMENT DEPOT  
REPAIRS, ILLINOIS

**DIAMON**  
L-Map 2312/4444444

If a design like this doesn't make you think "**Hubbell**," think again...

and again...

and again.

*Hampton Roads Convention Center  
Hampton, VA*

HAMPTON ROADS C



# LED

## UNEQUALED

Prescolite has been at the forefront of LED evolution in the lighting industry since it began. This is only the beginning.

Contact your local Prescolite representative or visit [www.prescolite.com/LED](http://www.prescolite.com/LED) to learn how Prescolite's approach to LED lighting remains UNEQUALED in the industry.



DESIGNERS  
AND MANUFACTURERS OF  
ARCHITECTURAL LIGHTING  
SINCE 1974



**BRASS LIGHT GALLERY**  
COMMERCIAL • RESIDENTIAL • VINTAGE

[www.brasslight.com](http://www.brasslight.com)  
Contact: [commercial@brasslight.com](mailto:commercial@brasslight.com)

Milwaukee • 131 South 1st Street • 800.243.9595

**AL**  
architectural lighting

JAN/FEB | 08  
VOL.22 | NO 1

**EDITORIAL**

**EDITOR-IN-CHIEF**  
NED CRAMER  
[ncramer@hanleywood.com](mailto:ncramer@hanleywood.com)  
(202) 729-3612

**EDITOR**  
ELIZABETH DONOFF  
[edonoff@hanleywood.com](mailto:edonoff@hanleywood.com)  
(202) 729-3647

**ASSOCIATE EDITOR**  
JENNIFER LASH  
[jlash@hanleywood.com](mailto:jlash@hanleywood.com)  
(202) 380-3828

**EDITORS AT LARGE**  
JAMES R. BENYA, FIALD, FIESNA  
HOWARD BRANDSTON, FIALD, FIESNA

**EDITORIAL ADVISORS**  
GREGG ANDER, FAIA, IESNA  
FRANCESCA BETTRIDGE, IALD, IESNA  
MARK LOEFFLER, IALD, IESNA  
FRED OBERKIRCHER, FIESNA, EDUCATOR IALD

**CONTRIBUTING EDITORS**  
JEN BICKFORD, SALLIE MOFFAT, MARGARET  
MAILE PETTY, ALEXA WINTON, MIMI ZEIGER

**DESIGN**

**ART DIRECTOR**  
AUBREY ALTMANN  
[aaltmann@hanleywood.com](mailto:aaltmann@hanleywood.com)  
(202) 736-3423

**GRAPHIC DESIGNER**  
MARCY RYAN  
[mryan@hanleywood.com](mailto:mryan@hanleywood.com)  
(202) 729-3542

**ONLINE**

**EDITORIAL DIRECTOR**  
JOHN BUTTERFIELD  
[jbutterfield@hanleywood.com](mailto:jbutterfield@hanleywood.com)  
(202) 736-3413

**SENIOR WEB EDITOR**  
RACHEL ARCULIN  
[rarculin@hanleywood.com](mailto:rarculin@hanleywood.com)  
(202) 729-3504

**ASSOCIATE WEB EDITOR**  
STEPHANI L. MILLER  
[smiller@hanleywood.com](mailto:smiller@hanleywood.com)  
(202) 736-3403

**PRODUCTION**

**DIRECTOR OF PRODUCTION AND  
PRODUCTION TECHNOLOGIES**  
CATHY UNDERWOOD  
[cunderwood@hanleywood.com](mailto:cunderwood@hanleywood.com)  
(202) 736-3317

**PRODUCTION AND  
AD TRAFFIC MANAGER**  
CHAPPELLA LEFTWICH  
[cleftwich@hanleywood.com](mailto:cleftwich@hanleywood.com)  
(202) 736-3432

**ASSISTANT PRODUCTION MANAGER**  
TREY GOSSAGE  
[tgossage@hanleywood.com](mailto:tgossage@hanleywood.com)  
(202) 736-3335

**PREPRESS MANAGER**  
FRED WEISSKOPF  
[fweisskopf@hanleywood.com](mailto:fweisskopf@hanleywood.com)  
(202) 736-3472

**DIGITAL IMAGING MANAGER**  
GEORGE BROWN  
[gbrown@hanleywood.com](mailto:gbrown@hanleywood.com)  
(202) 736-3405

**PREPRESS COORDINATORS**  
KEVIN BRIGHT  
BETTY KERWIN

**SERVICES**

**MEDIA KITS / CEU CLIENT SERVICES**  
CRISTI WIGGINS  
[cwiggins@hanleywood.com](mailto:cwiggins@hanleywood.com)  
(202) 736-3476

**SUBSCRIPTION INQUIRIES, CHANGE OF  
ADDRESS, CUSTOMER SERVICE, AND BACK  
ISSUE ORDERS**  
ARCHITECTURAL LIGHTING  
P.O. Box 3580  
Northbrook, IL 60065  
[alit@omeda.com](mailto:alit@omeda.com)  
Local: (847) 291-5221  
Toll-free: (888) 269-8410

**REPRINTS**  
FOSTER REPRINTS  
(866) 879-9144

[WWW.ARCHLIGHTING.COM](http://WWW.ARCHLIGHTING.COM)  
**hanleywood**

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

FROM HANLEY WOOD, LLC, PUBLISHER OF ARCHITECT, AQUATICS INTERNATIONAL, BIG BUILDER, BUILDER, BUILDING PRODUCTS, CONCRETE & MASONRY CONSTRUCTION PRODUCTS, CONCRETE CONSTRUCTION, THE CONCRETE PRODUCER, CUSTOM HOME, EL NUEVO CONSTRUCTOR, 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, LLC, 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. HOWEVER, IF YOU DO NOT WISH TO BE INCLUDED, PLEASE CALL US AT 888.269.8410.



## LIGHTING TO SUPPLEMENT NATURE

Daylight Harvesting Interior Architectural Lighting



Circle no. 85 or  
<http://archlighting.com/productinfo>

Aesthetics. Performance. Selection. Value.

# DIALux

light+building

> Hall 3.0, Stand A80

„Let there be light.“



- > **DIALux is a lighting design software** for calculation and visualisation of indoor and outdoor lighting.
- > **DIALux is an all-inclusive free software** for import from and export to all CAD programs and for photorealistic visualisation with the integrated ray tracer.

DIALux Seminars:

London  
Lüdenscheid  
Madrid  
Milan  
Paris



> Get your free copy at  
[www.dialux.com](http://www.dialux.com)

**DIAL**  
light. building. software.

# AL

architectural lighting

JAN/FEB | 08  
VOL.22 | NO 1

## HANLEY WOOD BUSINESS MEDIA

**PRESIDENT**  
PETER M. GOLDSTONE  
(202) 736-3304

**CHIEF FINANCIAL OFFICER/  
CHIEF OPERATING OFFICER**  
FREDERICK MOSES

**DIRECTOR OF FINANCE**  
RON KRAFT

**VICE PRESIDENT/CIRCULATION  
AND DATABASE DEVELOPMENT**  
NICK CAVNAR

**VICE PRESIDENT/MARKETING**  
ANN SELTZ

**VICE PRESIDENT/PRODUCTION**  
NICK ELSENER

**EXECUTIVE DIRECTOR/E-MEDIA**  
ANDREAS SCHMIDT

**GENERAL MANAGER/INFORMATION PRODUCTS**  
ALEC DANN

## HANLEY WOOD, LLC

**CHIEF EXECUTIVE OFFICER**  
FRANK ANTON

**CHIEF FINANCIAL OFFICER**  
MATTHEW FLYNN

**CHIEF ADMINISTRATIVE OFFICER**  
FREDERICK MOSES

**CHIEF INFORMATION OFFICER**  
JEFFREY CRAIG

**EXECUTIVE VICE PRESIDENT/CORPORATE SALES**  
KEN BEACH

**VICE PRESIDENT/FINANCE**  
BRAD LOUGH

**VICE PRESIDENT/LEGAL**  
MIKE BENDER

**INTERIM VICE PRESIDENT/HUMAN RESOURCES**  
BILL MCGRATH

**CONTROLLER**  
VIRGINIA JACKSON

## E-MEDIA

**VICE PRESIDENT, SALES AND  
EDITORIAL E-MEDIA**  
PAUL TOURBAF  
[ptourbaf@hanleywood.com](mailto:ptourbaf@hanleywood.com)  
(202) 729-3629

[WWW.ARCHLIGHTING.COM](http://WWW.ARCHLIGHTING.COM)

hanleywood

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

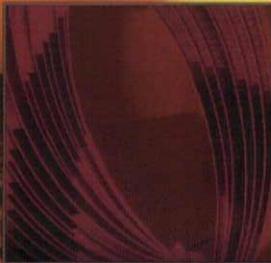
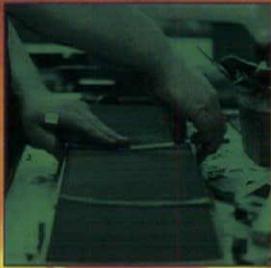
All architectural lighting (Vol. 22, No. 1 USPS 000-846, ISSN 0894-0436) is published seven times per year (bi-monthly, except monthly in March and June) by Hanley Wood, LLC, One Thomas Circle, N.W., Suite 600, Washington, DC 20005. Periodicals postage paid at Washington, DC and additional mailing offices. Printed in the USA. POSTMASTER: Send changes of address to Architectural Lighting, PO Box 3580, Northbrook, IL 60065.

Canada Post Publications Mail Agreement No. 40021729. Return undeliverable Canadian addresses to: Deutsche Post Global Mail, 4980-2 Walker Road, Windsor ON N9A 6J3.

Distributed free of charge to individuals or firms engaged in the specification of lighting products in the US. Per year, all other US subscriptions \$48; Canada, \$60; foreign, \$66. Payable in US dollars. For subscription inquiries, address changes, and single copy sales (\$7 in the US, \$7 + postage outside the US, payable in advance) write to Architectural Lighting, PO Box 3580, Northbrook, IL 60065 or call 847-291-6221 or toll-free 888-269-8410.



All architectural lighting is a trademark owned exclusively by Hanley Wood, LLC. Copyright 2008 Hanley Wood, LLC.



purpose  
products  
performance

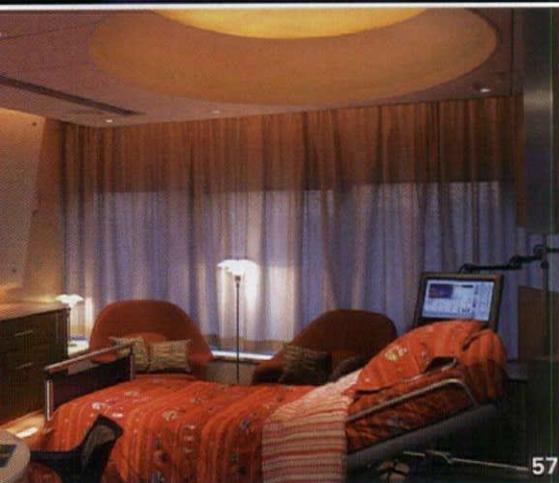
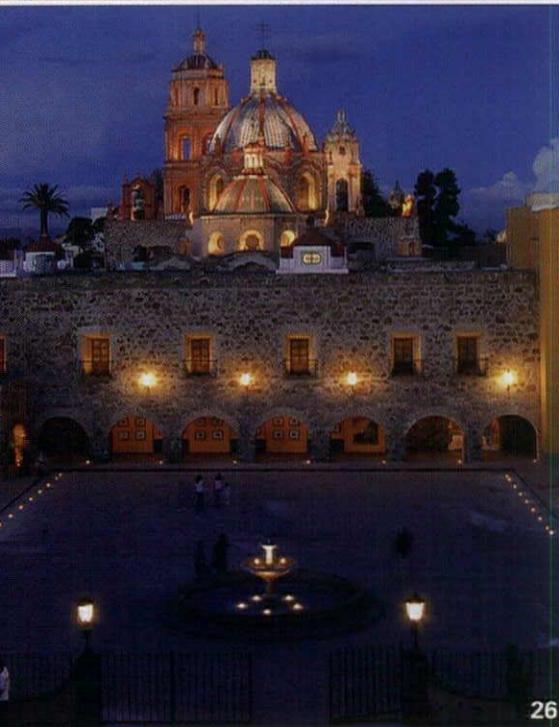


**Litecontrol is pleased to announce  
the industry's first Cradle to Cradle Certified<sup>CM</sup>  
architectural lighting fixtures.**

**For more information, visit [litecontrol.com/c2c](http://litecontrol.com/c2c)**

**LITECONTROL**

... an employee-owned company



## industry

- 11 **comments**
- 15 **briefs and letters** / Energy Bill; LEDs at the D.C. Metro; and more
- 72 **exchange** / The Design-Energy Code Debate ... Continued

## projects

- 25 **highlight** / New Museum of Contemporary Art, New York City **COVER STORY**
- 26 **master plan** / San Luis Potosi, Mexico
- 32 **master plan** / Paris
- 38 **master plan** / Philadelphia
- 44 **master plan** / Eindhoven, the Netherlands

### FOCUS: TEMPORARY INSTALLATIONS

- 51 **project** / Times Square New Year's Eve Ball, New York City
- 52 **project** / "Golden Age of Couture" Exhibit, V&A Museum, London
- 54 **products** / Limited Engagement

## details

- 57 **method** / Coloring a Room With Light
- 63 **technology** / Manufacturer Claims Abound in the Development of LED Technology
- 71 **ad index**

**Cover:** An expanded metal mesh façade wraps the dynamic form of stacked gallery boxes at the New Museum of Contemporary Art on New York City's the Bowery.

PHOTOGRAPHER DEAN KAUFMAN, NEW YORK CITY, COURTESY OF THE NEW MUSEUM OF CONTEMPORARY ART

**This page:** Philadelphia's Avenue of the Arts; San Luis Potosi's Plaza de Aranzazu; the Adopt A Room pediatric facility at the University of Minnesota Children's Hospital, Fairview, Minneapolis; a close-up of the Times Square New Year's Eve Ball in New York City.



architect: Office dA photography: John Homer Photography

EXPERIENCE **BARTCO LIGHTING.**

retail / commercial / institutional / hospitality / residential



manufacturers of quality lighting products tel 714.230.3200 / fax 714.230.3222 / bartcoLIGHTING.com

Circle no. 21 or  
<http://archlighting.com/productinfo>



T4 & T6 CMH  
OPTICA TRACK  
FIXTURE

# ADJUSTABLE BEAM, MEET SUSTAINABLE ENERGY.

 **ECO TECHNOLOGY**  
Sustainable Energy Solutions

INTRODUCING THE ALL-IN-ONE, SPOT TO FLOOD,  
ECO-TECHNOLOGY CERAMIC METAL HALIDE FIXTURE.  
ONLY FROM CON-TECH.

INSTANTLY CHANGE THE BEAM DISTRIBUTION FROM SPOT TO NARROW FLOOD  
TO FLOOD WITH ITS COOL-TO-THE-TOUCH ADJUSTMENT KNOB. HIGH PERFORMANCE OPTICS  
PROVIDE MAXIMUM PERFORMANCE AT EACH BEAM DISTRIBUTION AND LOCKABLE  
PRECISION AIMING WITH 360° HORIZONTAL AND 180° VERTICAL ROTATION OFFERS  
VERSATILITY IN THE FIELD. IT'S WHY CON-TECH MAKES IT BETTER.

- RECESSED
- TRACK
- RAIL
- DECORATIVE GLASS
- SCONCES
- EMERGENCY

800-728-0312  
CON-TECHLIGHTING.COM



LIGHTFAIR  
BOOTH 627

Circle no. 24 or <http://archlighting.com/productinfo>



## Visual Infrastructure

**LIGHTING IN THE URBAN REALM IS** no longer just the jurisdiction of engineers.

Cities are becoming increasingly aware that their streets, buildings, and skylines take on entirely new dimensions at night. While few cities in today's volatile economy have the luxury of dedicated budgets directed toward illumination schemes, numerous municipalities are finding the available means to develop lighting strategies that best suit the needs of their particular urban environments while utilizing the expertise of lighting designers.

With this issue, at the start of our 22nd year, *Architectural Lighting* visits five cities—New York; San Luis Potosi, Mexico; Paris; Philadelphia; and Eindhoven, the Netherlands—each of which explores a different urban lighting approach. The discussion is two-fold, offering examples of how light interacts with a variety of city typologies and examining how lighting can be used as a planning element working in unison with social, economic, and political strategies to define a city's persona. Whether it is a single building, a lighting spectacle, or a master plan requiring multiyear phased implementation, urban design is a matter of scale, knowing how to marry broad strokes with detailed gestures.

Similarly, the publication you hold in your hands can be likened to a master plan, each issue relying on a set of standardized elements to address a range of unique and diverse topics. Five years after the magazine's last substantial reworking of its organization and design, with this issue we take stock of our mechanics. To continue to provide the clearest and most engaging presentation of projects, products, and industry issues that you have grown accustomed to seeing on the pages of *Architectural Lighting*, the editorial and art staff have streamlined several of the magazine's graphic components. Going forward, you'll find a more concise presentation of section headings, a simplified color palette, and a more decisive formatting of the

report, method, and technology articles. The Design Focus section, now simply referred to as Focus, remains unchanged in its editorial delivery—challenges and solutions for specific project typologies—but does allow for a more compelling presentation of new lighting and lighting-related products. Overall you'll find a cleaner display of the magazine's visual infrastructure, as text and images happily cohabitate and continue to celebrate the magazine's increase in overall trim size implemented with the March 2007 issue.

Cities by their very nature are agents of change, responding to the effects of time, people, place, and nature. So, too, is *Architectural Lighting* magazine, as it continues to stimulate and inspire, and celebrate lighting design in all its forms.

**ELIZABETH DONOFF**  
EDITOR

### MARCH 2008 EXCHANGE QUESTION

*Architectural Lighting's* March issue will devote its pages to the topic of daylighting. The Industry Exchange question is: Are we ready to require buildings in the United States to be daylit? And if so, what are the implications?

To be considered for print, responses are requested by February 1, 2008.

SEND RESPONSES TO [EDONOFF@HANLEYWOOD.COM](mailto:EDONOFF@HANLEYWOOD.COM)

PHOTO BY SPENCER LUM



# A | L LIGHT & ARCHITECTURE design awards

Architectural Lighting Magazine announces the FIFTH ANNUAL A|L LIGHT & ARCHITECTURE DESIGN AWARDS honoring outstanding and innovative projects in the field of architectural lighting design. The A|L DESIGN AWARDS recognize and reward excellent lighting design within the specific criteria relevant to each category (Residential, Interior, and Exterior). To acknowledge issues of notable importance in today's practice of lighting design, and design techniques particular to lighting, Architectural Lighting also presents a series of awards that recognize Best Use of Color, Best Incorporation of Daylight, and Best Lighting Design on a Budget. Winning projects are published in the July/August 2008 issue of Architectural Lighting and featured on [www.archlighting.com](http://www.archlighting.com).

**ENTRY DEADLINE: MAY 22, 2008**

*Late Entry:* June 6, 2008

Forms will be available **January 2008** at [www.archlighting.com](http://www.archlighting.com)

*Questions?* **Elizabeth Donoff, Editor**, [edonoff@hanleywood.com](mailto:edonoff@hanleywood.com)

# sedap

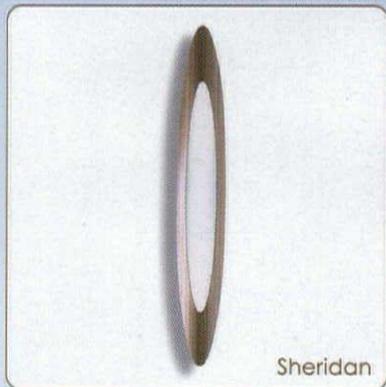
north america

[www.sedap-na.com](http://www.sedap-na.com)

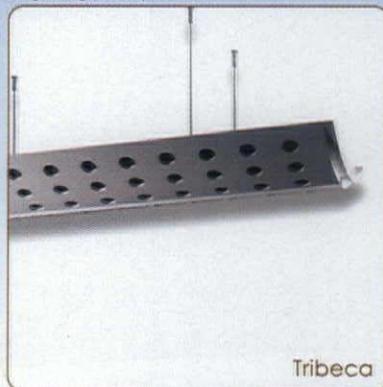
Circle no. 380 or <http://archlighting.com/productinfo>



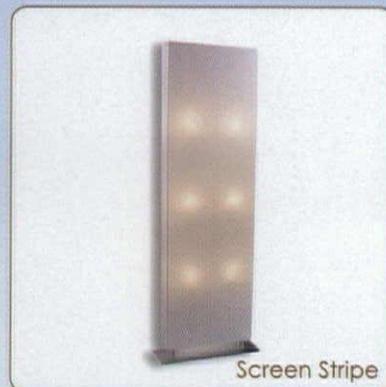
5th Avenue



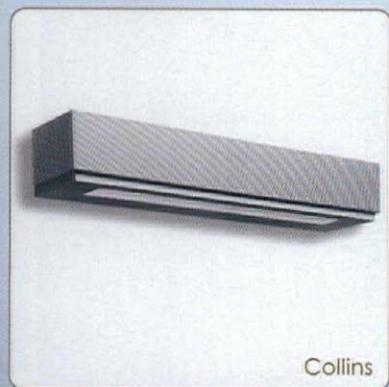
Sheridan



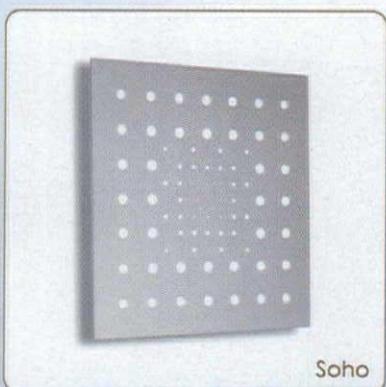
Tribeca



Screen Stripe



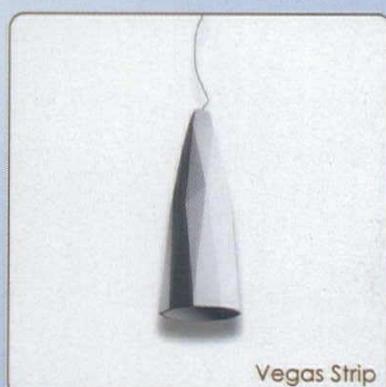
Collins



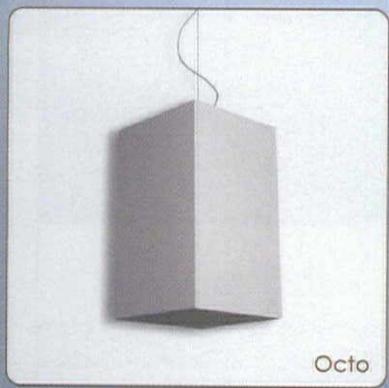
Soho



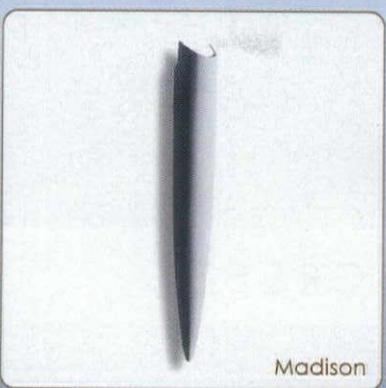
Seneca



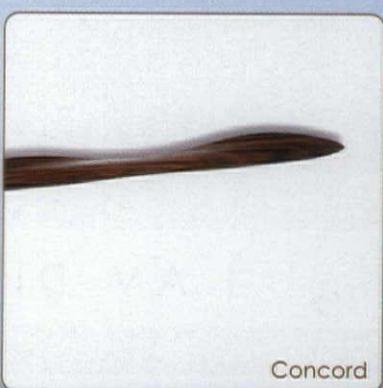
Vegas Strip



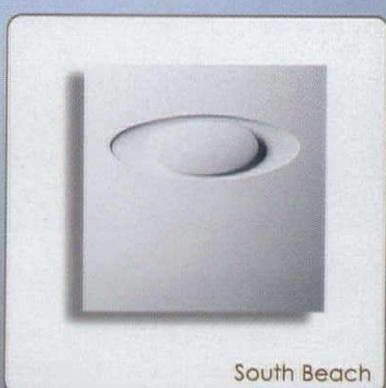
Octo



Madison



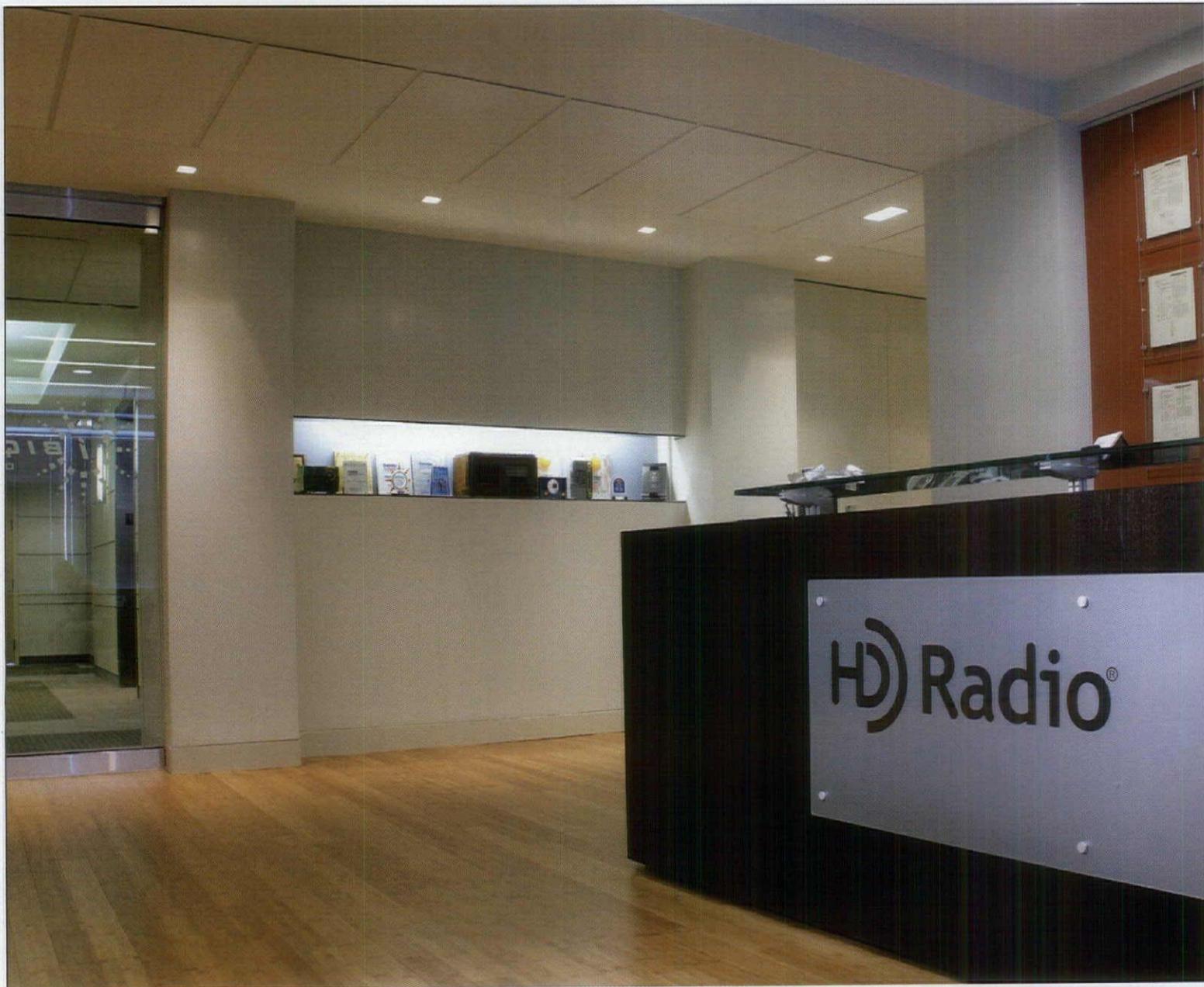
Concord



South Beach

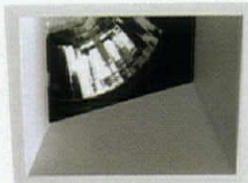
INNOVATIVE DESIGN FOR TODAY'S LIGHTING CHALLENGES





I AM DISCREET.

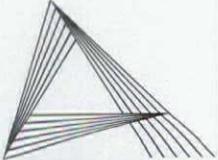
I AM AMERLUX.



**Introducing Evoke Flush Trim—The World's Most Inconspicuous Miniature 20W Metal Halide Downlight.** With an aperture of just 2.9" and a minimal flange that sits flush with the ceiling, the newest member of the Evoke family delivers all the performance and energy efficiency of the rest of the line in an even more seamless and inconspicuous package.

Available round or square in a variety of types for general lighting, accent, task and wall washing, Evoke Flush Trim luminaires accept the widest array of today's 20W metal halide lamp sources for ultimate flexibility and energy efficiency.

Evoke 2.9" Flush Trim Downlights. Noticeably different... in an unnoticeable kind of way.  
Circle no. 99 or <http://archlighting.com/productinfo>



**AMERLUX**  
LIGHTING SOLUTIONS  
ADAPT. ABILITY.™  
[www.amerlux.com](http://www.amerlux.com)



## URBAN AGENDAS

THE CITY, AS A COMPLEX SOCIAL, ECONOMIC, AND POLITICAL ENTITY, CONTINUES TO BE A DECISIVE urban form-giver, and municipalities, organizations, and institutions worldwide are tackling a variety of issues facing cities today. Here are two recent news-making items on the urban front. **AJL**

### **New York City's West Side Rail Yards Proposals**

Manhattan's west side is no stranger to planning initiatives. The area from Seventh Avenue to the Hudson River between 30th and 42nd streets has seen its share of planning proposals for one of the city's densest transportation and social gathering hubs that includes Madison Square Garden, Penn Station and the Port Authority, the Jacob Javitz Convention Center, and the West Side Rail Yards. In July 2007, the New York Metropolitan Transit Authority (MTA), which owns the rail yards—the largest undeveloped tract of land (26 acres) in Manhattan—initiated a request for proposal process. Five developers—Brookfield Properties, Extell Development Company, Vornado Realty Trust and the Durst Organization in joint venture, The Related Companies, and Tishman Speyer and Morgan Stanley, also in joint venture—submitted proposals in October 2007, and repre-

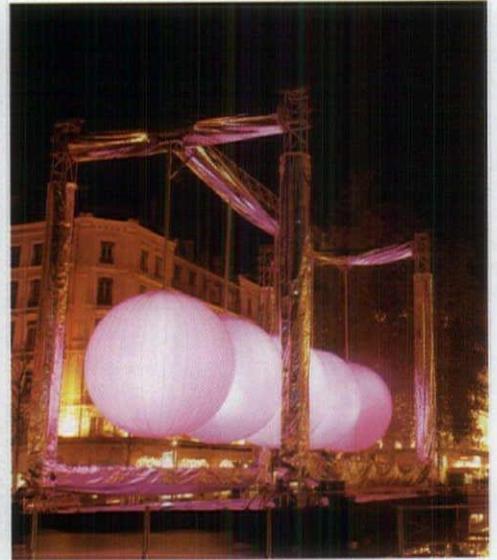
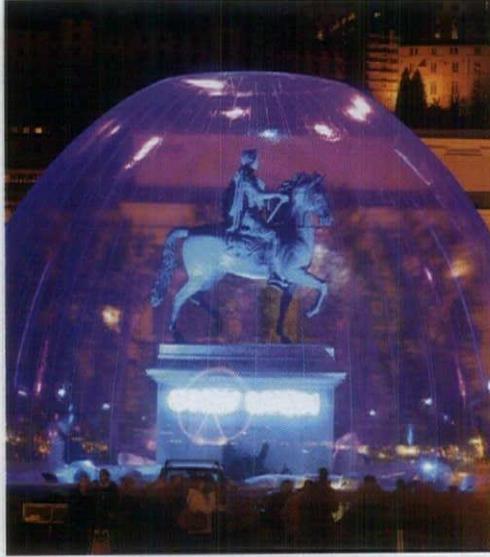
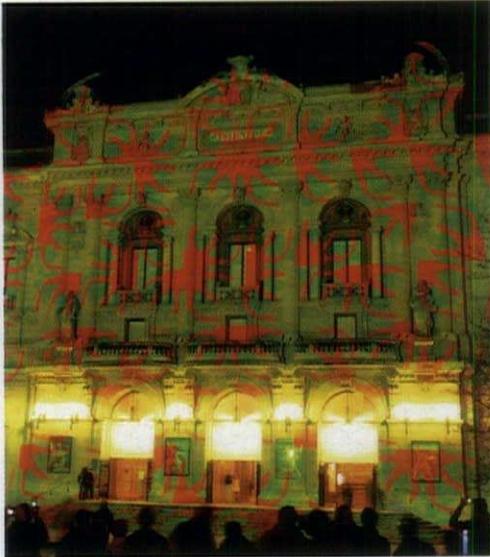
sentatives from the five design teams presented their schemes to an audience of more than 1,000 people during a December public meeting at Cooper Union's Great Hall. Zoning for the site permits 12 million square feet of combined residential and commercial development, and also makes provisions for a new public school and community and cultural facilities. The MTA expects to select a developer in early 2008.

### **New Urban Research and Policy Center in China**

Rapid growth in Asia and the unprecedented creation of entire cities overnight has led to the formation of the Center for Urban Development and Land Policy in Beijing, which will be a venture between the Cambridge, Massachusetts-based Lincoln Institute of Land Policy and Peking University. Joyce Yanyun, presently director of the Lincoln Institute's China program, will serve as the center's executive director. In a prepared statement, Gregory K. Imgram, president of the Lincoln Institute of Land Policy, stated, "With this center we seek to develop institutional capacity in China to address the many challenges that the country's rapid growth has for land. We want to continue to strengthen China's expertise in land policy and planning for urban development, through research, fellowships and training." The center will open early 2008.

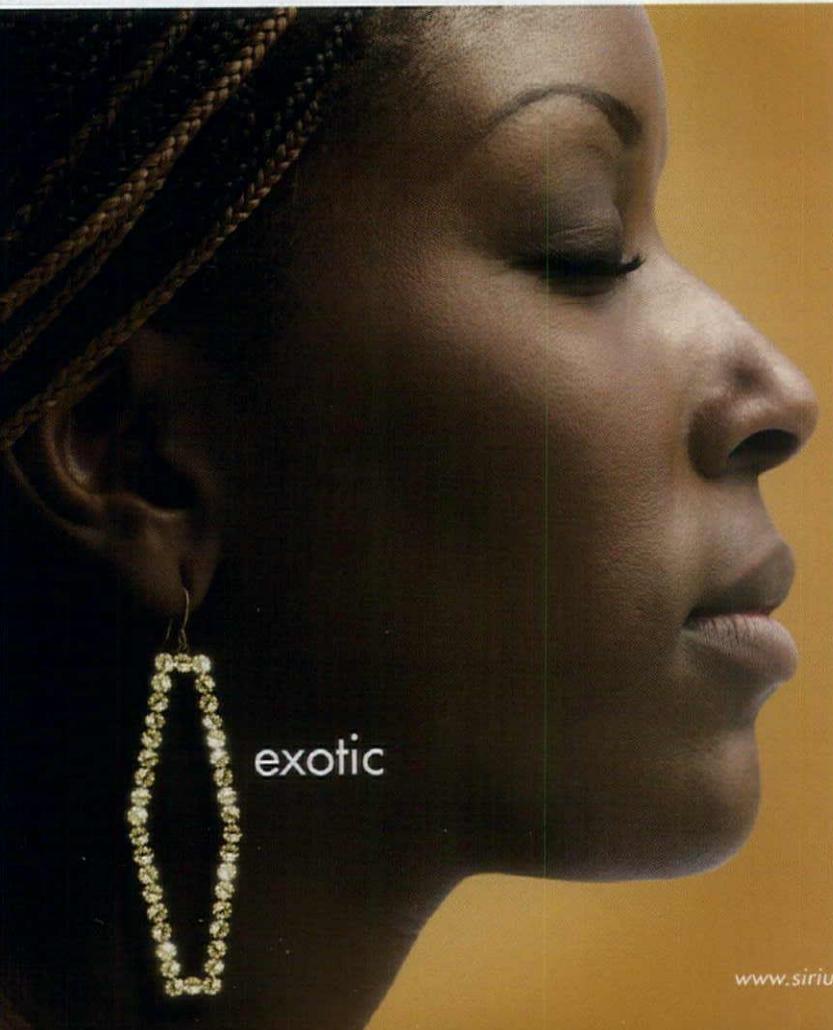
**The New York Metropolitan Transit Authority has solicited proposals from five architectural/developer teams to address the West Side Rail Yards, the largest undeveloped tract of land (26 acres) in Manhattan. The MTA expects to select a developer in early 2008.**

# LYON'S FESTIVAL OF LIGHTS



PHOTOS: MURIEL CHAULET, COURTESY OF THE FETE DES LUMIERES

Since 1999 Lyon, France, has celebrated light as an art form and cultural event. In early December for four days (Dec. 6-9) the city is transformed into an illuminated urban spectacle. With more than 20 principal lighting installations created by lighting designers, artists, and architects, along with public activities and symposiums discussing urban lighting initiatives, the Fête des Lumières attracts more than 4 million visitors. Highlights of the 2007 festival included a light projection of geometric shapes on the façade of the Theatre des Célestins (left); the statue of Louis XIV on horseback on the Place Bellecour transformed into a giant snow globe (center); and a giant illuminated and color-changing recreation of Sir Isaac Newton's pendulum on the Place de la République (right). For more information about the festival visit [www.lumieres.lyon.fr](http://www.lumieres.lyon.fr). AJL



exotic

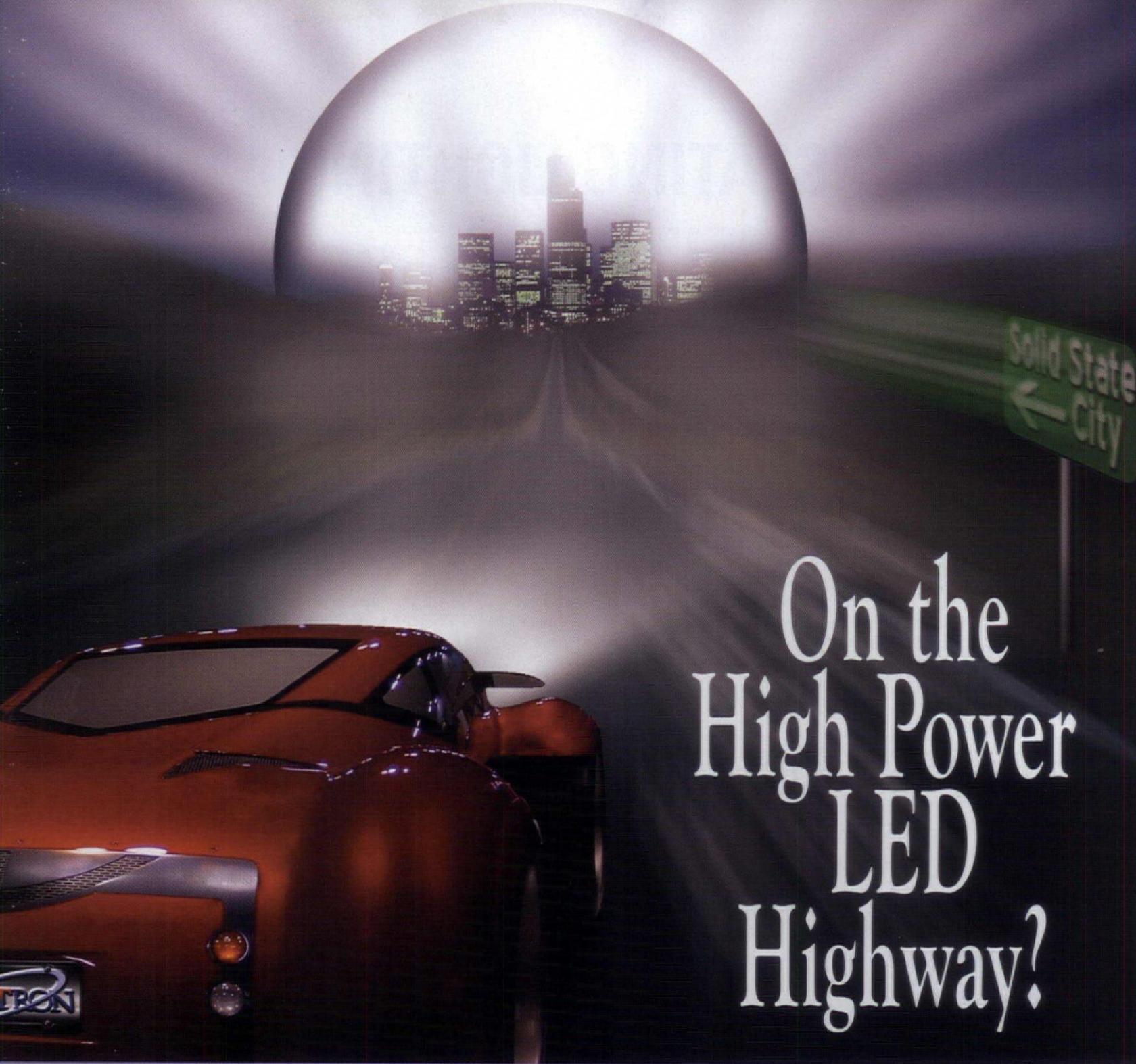


by design

Carat Crystal Pendant fixture.  
European crafted for  
elegance, style and  
performance.

Circle no. 55 or  
<http://archlighting.com/productinfo>

**sirius**  
the true measure of light



# On the High Power LED Highway?

[www.HEATRON.com/AL](http://www.HEATRON.com/AL)

+1-913-946-1377

## YES...

Heatron is the quickest, most efficient and cost-effective vehicle on the road to new High Power LED product development.

- Wide range of design and development services
- Technology competencies including optics, thermal management, power sources and drivers
- Cost effective production and assembly capabilities
- In-depth industry and technology expertise

Don't make a wrong turn along the way... Let Heatron put you in the driver's seat to "Solid State Lighting City".



**Strategies in Light™**  
*The Leading Event for the Global LED Industry*

**Booth #200**  
Feb. 11-13, 2008  
Santa Clara, CA

Circle no. 89 or  
<http://archlighting.com/productinfo>



# LEGISLATING LIGHTING

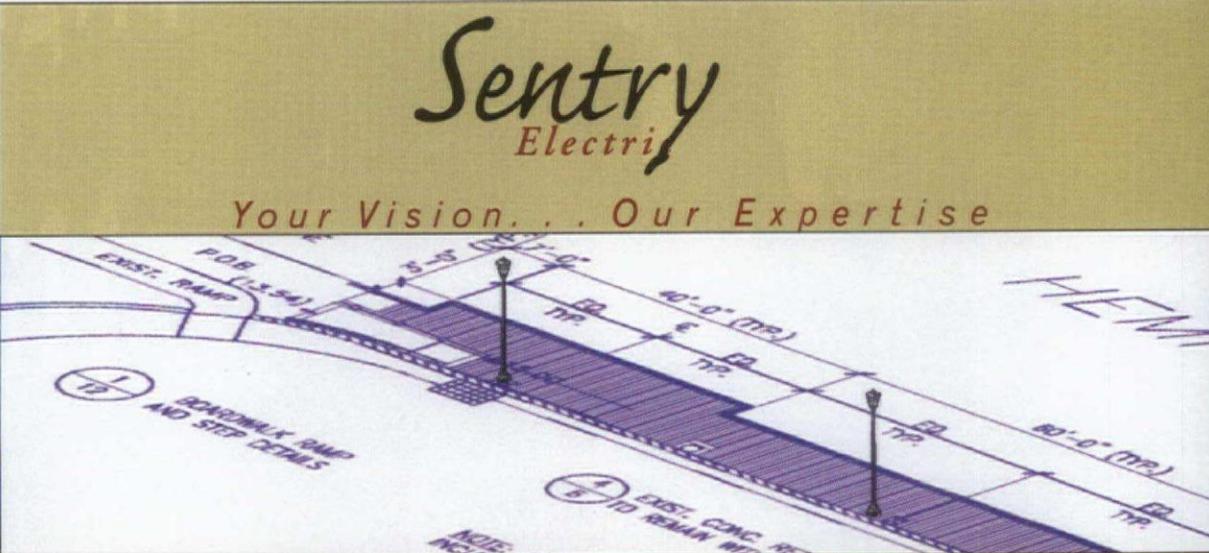
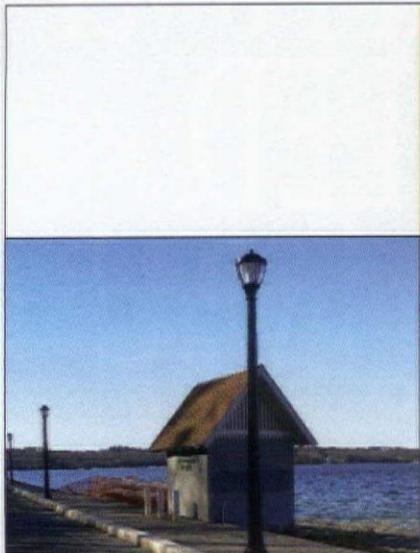
ON DEC. 19, 2007, PRESIDENT BUSH SIGNED INTO LAW THE ENERGY INDEPENDENCE AND Security Act of 2007 (HR6). The bill, which passed by a bipartisan vote of 314 to 100, according to the New York Times, implements some of the most sweeping energy initiatives since the oil embargoes of the 1970s, including the setting of higher fuel economy standards for cars and light trucks, and new efficiency requirements for household and government buildings. Some supporters of the bill were disappointed that the legislation did not go further by requiring utility companies to pursue renewable and alternative energy sources such as wind, solar, and geothermal.

Although the law's principal focus is not directed at lighting, two of its provisions lighting-wise are extremely significant. First, the law moves to implement energy-efficient lighting by 30 percent, leading to a phase out of traditional general service incandescent and halogen light sources from 2012 to 2014. This change is expected to represent \$13 billion in energy costs savings by 2020, but leaves many questions regarding the implications it will have for lamp sales and existing light fixtures, which require screw-based lamps. Yet, like all rules, there are exceptions. A long list of specialty lamps such as traffic signals, infrared, and shatter-resistant are excluded from the energy-efficient mandate. The second provision beginning in 2009, stops the production of 150W to 500W probe-start metal halide magnetic

ballasted fixtures.

Significant items omitted from the act to facilitate its passage are the inclusion of more efficient residential energy codes as well as tax provisions that would have enabled the extension of the Commercial Buildings Deduction to Dec. 31, 2013. It currently is set to expire Dec. 31, 2008, but is likely to be revisited when Congress returns for its next session.

The act makes some attempt to promote research and innovation, establishing the Bright Tomorrow Lighting Prizes for two light-emitting diode replacement lamps, one for 60W incandescents and one for PAR38s. A second initiative, the Twenty-First Century Lamp Prize, is geared toward a solid-state lighting product capable of meeting such criteria as 1200 lumens of light output, a color rendering index of 90, and a 25,000-hour service life. Each prize carries with it a significant \$5 million purse. A summary report of the energy bill's provisions, as it pertains to lighting, is available through the Lighting Controls Association at [www.aboutlightingcontrols.org](http://www.aboutlightingcontrols.org). ELIZABETH DONOFF



Luminaires

Poles

Bollards

Accessories

For more information, call Sentry Electric, LLC at 516.379.4660, or visit us at [www.sentrylighting.com](http://www.sentrylighting.com)

**SENTRY ELECTRIC, LLC**

185 Buffalo Avenue Freeport, New York, 11520

[WWW.SENTRYLIGHTING.COM](http://WWW.SENTRYLIGHTING.COM)

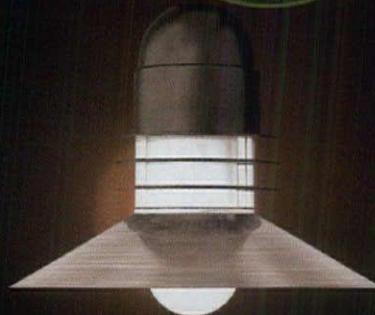
Circle no. 46 or <http://archlighting.com/productinfo>



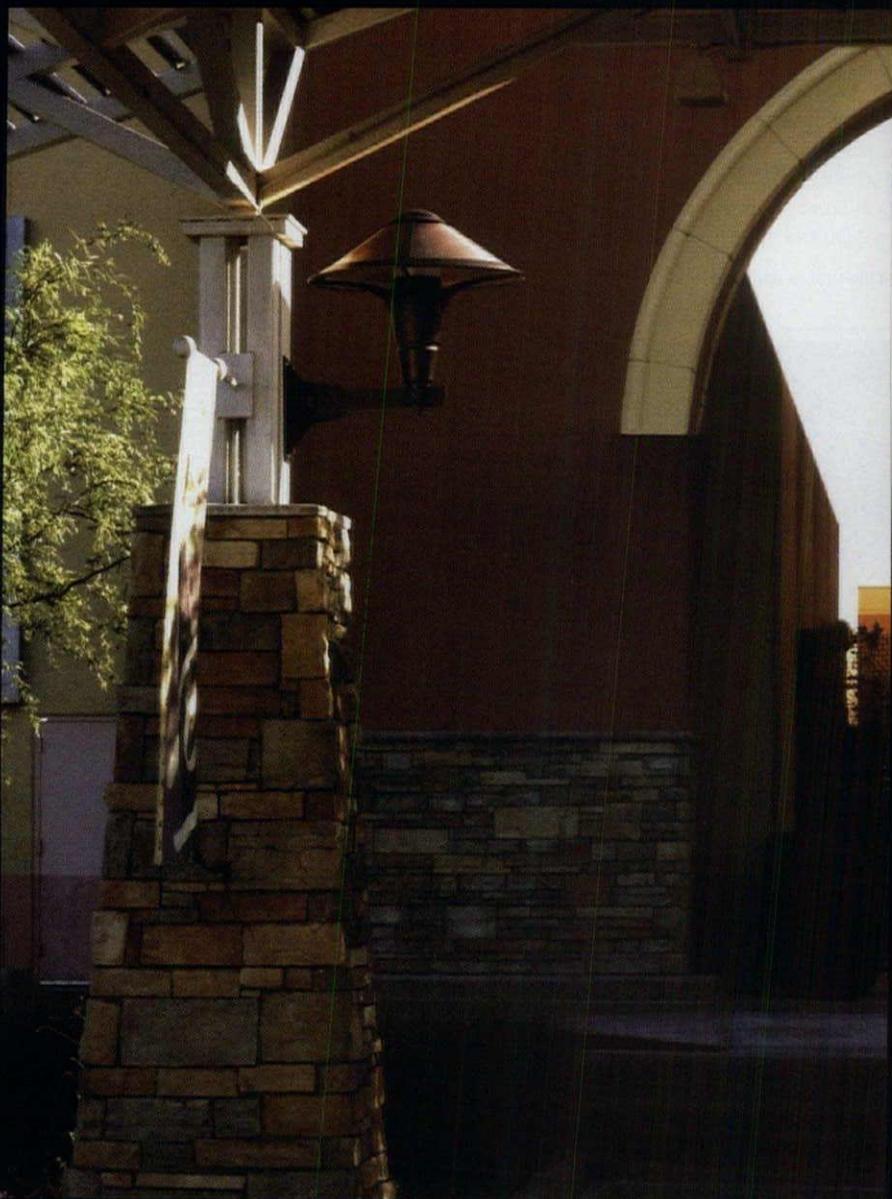
# architectural area lighting

For more information on our traditional or contemporary outdoor luminaires or any of our other broad range of products, visit us at

[www.aal.net/ad/archlight.html](http://www.aal.net/ad/archlight.html)



Quality ■ Innovation ■ Efficiency



Circle no. 381 or  
<http://archlighting.com/productinfo>

14249 ARTESIA BOULEVARD | LA MIRADA | CA 90638

P. 714.994.2700 | F. 714.994.0522 | W. aal.net





LIGHT-EMITTING DIODE (LED) TECHNOLOGY HAS CAUGHT THE EYE OF WASHINGTON METROPOLITAN Area Transit Authority (WMATA) officials, who have been searching for ways to improve lighting at Washington, D.C., area Metrorail stations. Incandescent, fluorescent, and mercury vapor lamps originally illuminated the rail system, which opened in March 1976. Today, the main light sources are fluorescent, metal halide, and high-pressure sodium lamps, and in May 2007, WMATA initiated a pilot project using LED fixtures for platform lighting at the Foggy Bottom/George Washington University station.

Ed Riley, manager of architecture for WMATA, explains that lighting the stations always has been a challenge. While the transit authority wants to update the system's lighting scheme, Riley says, "The cost will be quite a bit, you're talking about introducing a new infrastructure into the stations." Although funds currently are not available, WMATA energy management engineer Do Yee says they

always are looking at new lighting technology. One example is the Foggy Bottom pilot project that was part of the Infrastructure Renewal Program (IRP), which exists to replace or upgrade the physical assets of the Metro according to industry standards. For the pilot project, WMATA selected LED Folio's TiLux, which features a slim, square profile and a die-cast aluminum housing. To illuminate the platform, 48 fixtures were installed with a color temperature of 5600K, but in future installations, Yee says a warmer color temperature would be used. Some customers say the LEDs at Foggy Bottom are too bright, but Riley mainly attributes that to the fact that only the platform lighting in the station was switched to LEDs.

WMATA has updated its design criteria, which will apply to future projects and result in higher light levels (currently, platform light levels are 3 to 5 footcandles). But the greater challenge is upgrading existing stations without disrupting train service. A design feature unique to D.C.'s Metro system, according to Riley, is the placement of light fixtures on the track bed. However, the design criteria no longer permits fixtures that require track access for maintenance. "A solution to mitigate the issue of track bed lights in the existing underground stations is desired," Riley says, "but a solution for this has yet to be funded and designed." Funding to make the lighting "compatible and sensitive with the architecture yet...economical, energy efficient, and easily maintainable" likely will be budgeted as part of the IRP, Riley says. "Our plan...is to have an architectural and lighting design firm come up with a concept to improve maintenance access to lighting. We've started that, but it goes in spurts depending on availability of funding." JENNIFER LASH

The Foggy Bottom/George Washington University stop on the Orange and Blue lines in Washington, D.C., features LED platform lighting as part of a pilot project (above).

PHOTO COURTESY OF LARRY M. LEVINE, WMATA



**WHEATON**

Glass Warehouse

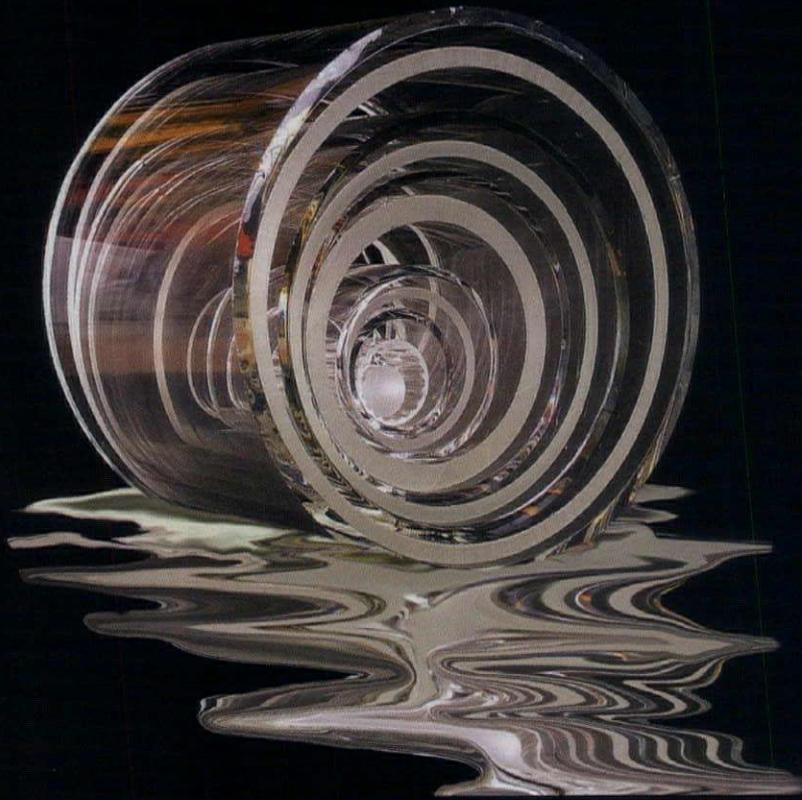
**Providing custom  
glass work for your  
lighting and  
architectural  
needs.**

Call us at:

**1-800-833-0410**

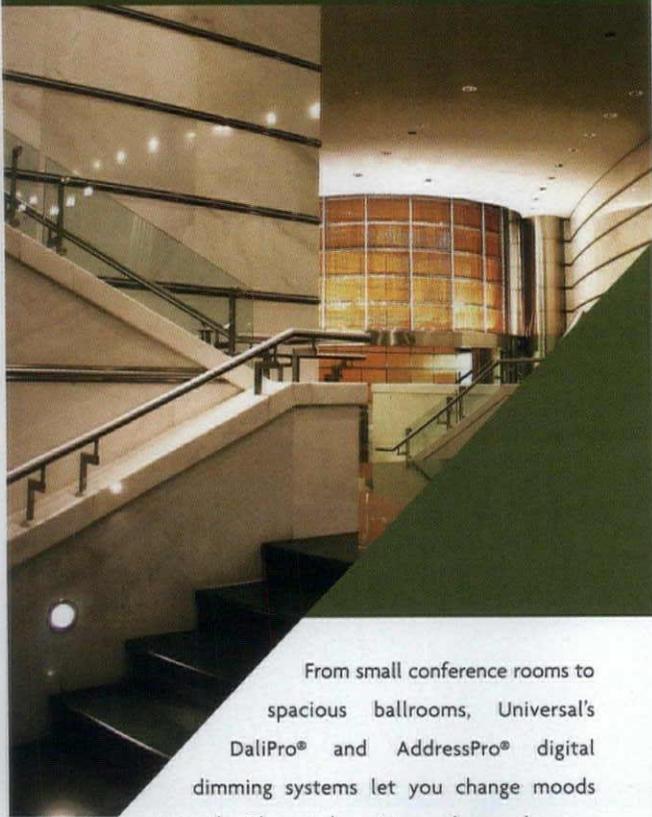
**Wheaton  
Celebrating 120  
years of service.**

Circle no. 395 or <http://archlighting.com/productinfo>



[www.glass-warehouse.com](http://www.glass-warehouse.com)

## Change A Room's Identity...Instantly!



From small conference rooms to spacious ballrooms, Universal's DaliPro® and AddressPro® digital dimming systems let you change moods instantly. They make wiring a breeze because all fixtures are connected to the same control circuit. And they're simple to program: no computer needed for installation or operation. Sophisticated architectural dimming from Universal. If you can dream it, we can achieve it. To learn more, visit [unvlt.com](http://unvlt.com).

AddressPro® DaliPro®



Universal Lighting Technologies, Inc.  
26 Century Blvd., Suite 500 • Nashville, TN 37214-3683  
(615) 316-5100

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



© 2008 Universal Lighting Technologies

Circle no. 47 or <http://archlighting.com/productinfo>

## INDUSTRY LETTERS

### RESPONSE TO THE NOV/DEC 2007 EDUCATION ISSUE



**YOU ARE TO BE CONGRATULATED!** YOUR LIGHTING education issue (Nov/Dec 2007) was so comprehensive for an initial issue on such a very broad subject. It is to your credit that you were able to bring so much valuable information together in a single place. I certainly plan to keep it for our files. It should be of great value not only to educators and students but to everyone involved in the lighting industry. Lighting Education is the future of the Lighting Industry.

**JEFFREY A. MILHAM, FIALD, FIES, NUCKOLLS FUND  
PRESIDENT, PUTNAM VALLEY, NEW YORK**

**THE NOVEMBER-DECEMBER OF ARCHITECTURAL LIGHTING IS SPECTACULAR!**  
Congratulations!

**SONNY SONNENFELD, HENDERSON, NEVADA**

**WHAT A THRILL IT IS TO SEE THE LATEST ISSUE OF A|L MAGAZINE. IT IS WONDERFUL** that you have initiated an annual education issue of A|L. Your editorial call for more participation on the part of the profession and the industry in preparing the next generation of lighting designers echoes a sentiment that we feel very strongly here at Parsons. Congratulations—it is a great and vital crusade that you have launched.

**KENT KLEINMAN, PROFESSOR AND CHAIR, DEPARTMENT OF ARCHITECTURE, INTERIOR DESIGN, AND LIGHTING, PARSONS THE NEW SCHOOL FOR DESIGN, NEW YORK**

**I JUST FINISHED READING THE EXCHANGE ARTICLE ABOUT EDUCATING FUTURE** lighting designers and wanted to thank you for running it. Having the perspectives and approaches from so many respected lighting professors and educators all in one spot is very helpful.

**LORNA LUEBBERS, MARKETING COORDINATOR, SCHULER SHOOK,  
CHICAGO, IL**

**I HAD A CHANCE TO READ THE A|L NOV/DEC 07 ISSUE (COMMUNICATION & Collaboration: Lighting Education Today) during the holidays in depth. It is a great topic and your survey is a great tool for students and professionals.**

**ENRIQUE PEINIGER, IESNA, PLDA, OFFICE FOR VISUAL INTERACTION  
(ovi), NEW YORK CITY**

**THE NOV/DEC ISSUE CONTENT IS FANTASTIC REFERENCE MATERIAL FOR** instructors and students of lighting!! Thanks again for this great issue of A|L.

**STEFAN GRAF, IALD, IES, ILLUMINART, YPSILANTI, MI**

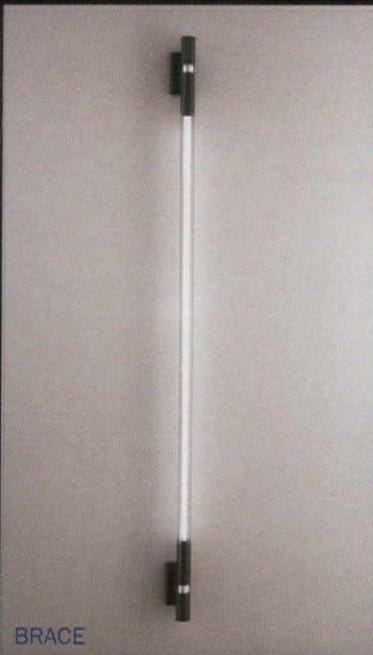
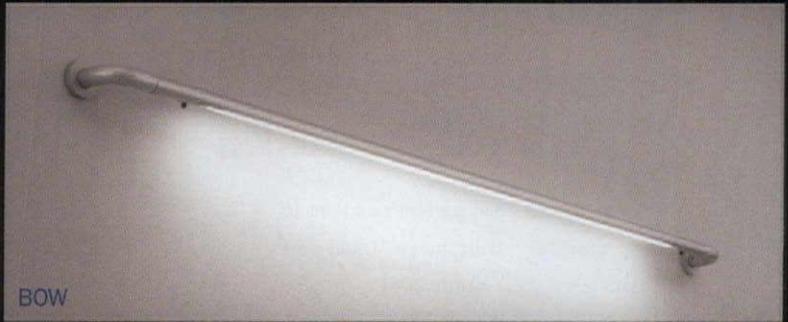
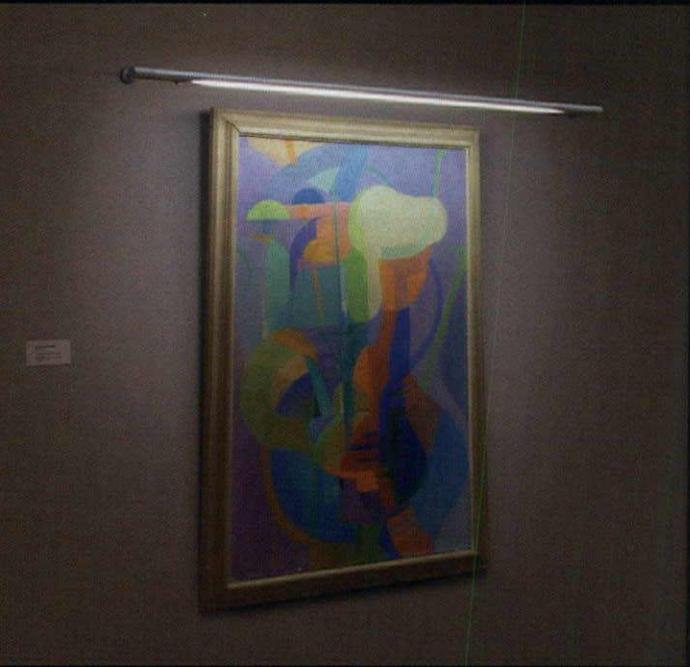
**JUST GOT THE EDUCATION ISSUE, AND IT LOOKS GREAT!** THE LEVEL OF INFORMATION is really detailed and its amazing to see student work.

**BRIAN STACY, IALD, LIGHTING LEADER, AMERICAS REGION, ARUP  
LIGHTING, NEW YORK CITY**

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

# STILE

The Stile Series from SPI Lighting provides a unique blend of aesthetics and engineering, combining minimalist modern design with energy efficient light sources. For additional information, go to [www.spilighting.com](http://www.spilighting.com) or contact your local SPI Lighting representative.



**SPI**LIGHTING

(262) 242-1420 · [WWW.SPILIGHTING.COM](http://WWW.SPILIGHTING.COM)  
Circle no. 394 or <http://archlighting.com/productinfo>



# candéo<sup>®</sup> LED

THE WORLD'S FIRST HIGH-PERFORMANCE DOWNLIGHT  
INCORPORATING UNLIMITED, DYNAMIC COLOR.

Combine the visual impact of a multicolor LED system with the subtle glow of Gotham's patented Candéo aperture and the effect is extraordinary – a pool of saturated color, vibrant and pleasing to the eye. Introducing Candéo LED, offering a boundless palette of custom static colors and continuous color change modes, with controls as simple or as sophisticated as your application requires.

gotham<sup>®</sup>

Circle no. 33 or <http://archlighting.com/productinfo>

[WWW.GOTHAMLIGHTING.COM](http://WWW.GOTHAMLIGHTING.COM)



BRUNO<sup>®</sup>

{ now available }



sleek



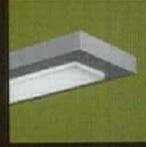
simple



playful



understated



pure

Circle no. 393 or <http://archlighting.com/productinfo>

P E E R L E S S<sup>®</sup>

# FEATURES

San Luis Potosi 26 | Paris 32 | Philadelphia 38 | Eindhoven 44



**LOCATION** | New York City **DESIGN ARCHITECT** | SANAA, Tokyo **EXECUTIVE ARCHITECT** | Gensler, New York City **LIGHTING DESIGNER** | Tillotson Design, New York City  
**PROJECT SIZE** | 60,000 square feet **LIGHTING COST** | \$7.50/sf **WATTS** | 1.42 watts per square foot **MANUFACTURERS** | Bartco, Legion, LSI, Lucifer Lighting  
**PHOTOGRAPHER** | Dean Kaufman, courtesy of the New Museum for Contemporary Art

## New Museum of Contemporary Art

CONCEIVED AS A SERIES OF SHIFTING STACKED VOLUMES WRAPPED IN ALUMINUM MESH, the New Museum of Contemporary Art is a vertical study in place-making. Its three distinct windowless galleries—18-, 21-, and 24-feet-high, respectively—are at once both part of and separate from the surrounding, rapidly gentrifying Bowery neighborhood. “The volumetric shift is where the interaction with the city takes place—and with light,” explains SANAA project architect Florian Idenburg. Critical to the architects’ design was that each gallery should have a different quality of light.

A series of perimeter skylights at each of the building’s volumetric shifts allows daylight to enter the galleries, enhancing the lighting system designed by Suzan Tillotson of Tillotson Design Associates. Rather than “step down the daylight infiltration with severe diffusion,” as Tillotson puts it, the lighting team opted “to maintain the character and color of the light and filter it through multiple refractive layers.” The skylights are composed of five layers: an exterior metal grate, an insulated glass unit with UV filtration, a custom-designed fritted glass, automated blackout shades, and a polycarbonate light refraction material. With the blackout shades in the open position at night, interior light washes upward through the skylights,

creating an ambient glow on the building’s mesh façade.

The electric lighting design also follows the architecture’s lead. Tillotson devised a scheme that balances daylight and electric sources, while meeting the bright light levels the architects desired—50 footcandles. “SANAA wanted crisp white boxes of light,” Tillotson explains. The solution is a custom-designed track, which Tillotson describes as “a high-power electrical busway spine.” The track combines two illumination sources, linear fluorescent and quartz halogen PAR lamps. The design’s fluorescent component—54W T5HOs with UV sleeves—acts as exhibit and architectural lighting. The track is aligned with the building’s structural grid and provides what Tillotson calls a “unified datum” for the lighting throughout the museum. The quartz halogen lamps provide additional accent lighting for individual pieces of art.

As provocative as the institution it houses, the New Museum casts a striking silhouette against the backdrop of downtown New York. Materials such as metal, concrete, and glass, which in the hands of other designers might not fare so well, take on an elegant simplicity, providing the perfect foil for the constant ebb and flow of city life—and light. **ELIZABETH DONOFF**

The New Museum of Contemporary Art sits comfortably in its new home on New York City’s the Bowery (bottom right). Daylight is coupled with fluorescent track fixtures in the galleries (top right). Terraces along the east and south sides of the museum’s seventh floor multi-purpose event space allow full engagement with the city (above left).

# SAN LUIS POTOSI



## LIGHTING LINKS THE CITY'S HISTORIC PAST TO THE PRESENT AND RESTORES A SENSE OF CIVIC PRIDE.

A FOUR-HOUR DRIVE FROM MEXICO CITY'S RAUCOUS SPRAWL, THE CITY OF SAN LUIS POTOSI, CAPITAL OF a Mexican state of the same name, today is the kind of place destined to take up a spare paragraph in a tourist guide. Founded in the mid-1500s as a Franciscan mission, it boomed as a mining town in the following centuries, making it a key stop on the El Camino Real—the royal highway cutting across Mexico. The historic downtown illustrates San Luis Potosi's colonial richness: domed churches crowned with bell towers, stately governmental edifices, and grand plazas. But the intervening decades and the city's growth as a modern industrial city shifted its focus, leaving the Baroque architecture to the occasional tourist.

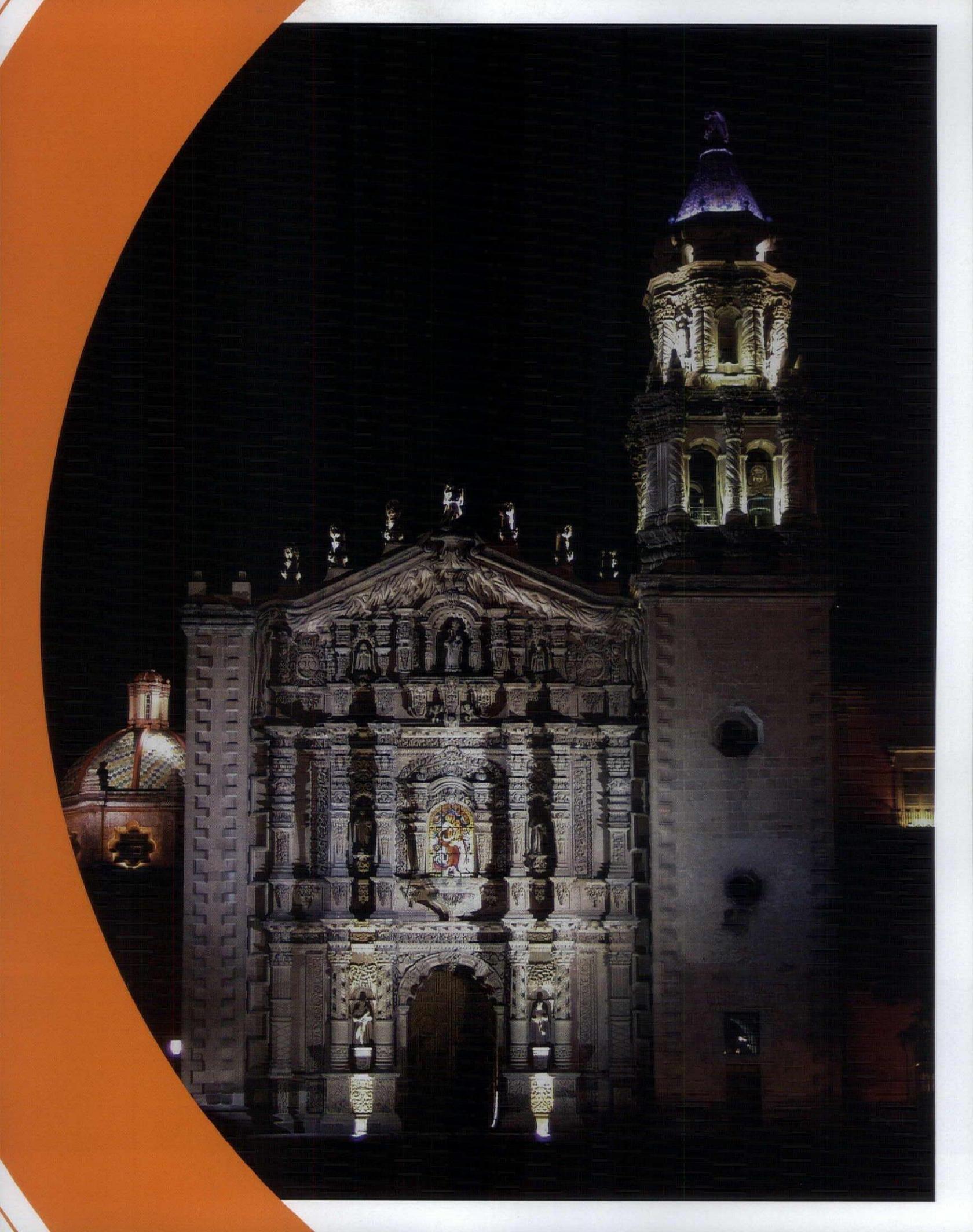
When architect and lighting designer Gustavo Avilés, founder of Mexico City-based Lightteam, visited San Luis Potosi in 2004, charged by the secretary of tourism to develop a master plan (the firm received the commission because of their experience lighting historic buildings), Avilés was shocked at how the city's architectural heritage had been diminished by

utilitarian lighting, specifically low-pressure sodium lamps. "The city was invaded by informal markets—people gathering in the plazas without permits to sell their goods—and everything was bathed in a yellowish dark light," Avilés recalls. "Because of the glare, all you could see was the lamps shining against your own eyes. You couldn't see the city at all. As we started to change the lighting to compact fluorescent and color-corrected luminaires, the city started to change. You could see the green in the trees, the color of the wood."

Illuminating the historical city was critical, but Avilés wanted to make the treasures of San Luis Potosi visible to the whole of Mexico and the outside world. "The city was protected by time and distance," Avilés continues. "It was protected by its own geography. This project is not just lighting, but identity. It is about recovering history and memory."

Today, Lightteam is halfway through its six-year plan to transform San

The lighting designs for each of San Luis Potosi's churches and civic buildings creates an illumination master plan and a nighttime presence (above). Luminaires are placed strategically on the façade of the Templo del Carmen in the Plaza del Carmen (facing page), highlighting the church's ornate decorative features.







Luis Potosi, a task that comprises more than two dozen historic structures and nearly a half-million square feet to date. This past December, it inaugurated the third, and largest, phase: relighting Plaza de Armas, Plaza Fundadores, Plaza San Juan de Dios Templo, and 12 adjacent historic gardens and buildings. Plaza de Armas is the city's main square, home to both the Government Palace and a cathedral dating from 1718. Here, and across the historic center, Avilés' strategy reverses typical urban lighting approaches—lamps on poles. Rather, all wiring is underground, and the architecture is luminous. The cathedral glows theatrically: 2.5W light-emitting diode (LED) fixtures and 50W in-ground halogen floodlights bathe the intricate façade. A mix of metal halide flood lamps and fluorescent fixtures are installed within the Baroque bell towers. By using fixtures aimed at or on the buildings, his design not only accents the monumental architecture, but also uses the same fixtures to dramatic effect, creating ambient light in the surrounding public spaces.

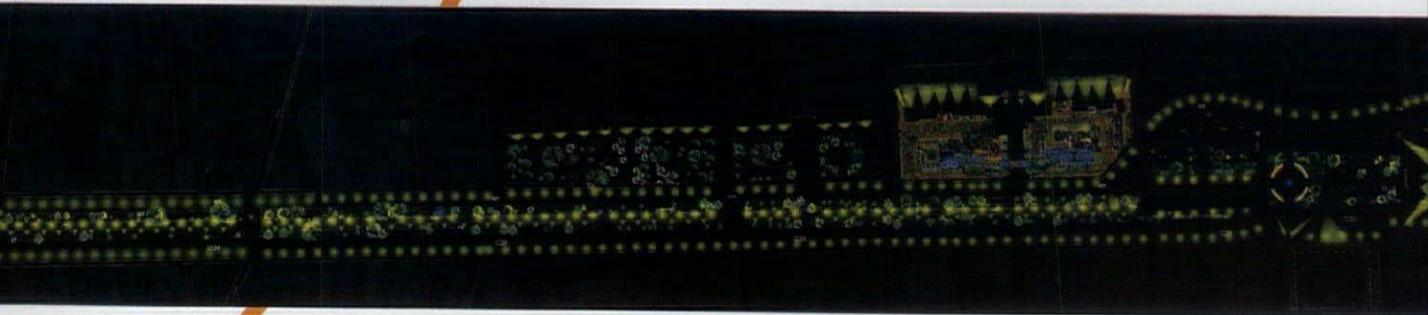
In creating this master plan scheme, Avilés chose architecture with cultural, governmental, and religious significance not solely to increase tourism—although the redesign has bolstered that aspect of the city's activity—but also to evoke civic and spiritual meaning. For example, he placed 70W metal halide luminaires behind the cathedral's stained glass windows so that light would radiate from inside the church—a symbol, according to Avilés, of the knowledge within.

Secular buildings are treated with equally poetic sensitivity. The delicate architecture of the House of Culture—rose-colored walls, intricate tiles, and filigreed decoration—inspired what Avilés calls a "feminine" design. To highlight the handcrafted façade, he placed a combination of luminaire types—LED fixtures in a variety of wattages, 13W and 54W fluorescents, and 54W metal halides—away from the building structure, with a similar combination concealed in the balustrade and balcony.

With the Plaza de Aranzazú, Lightteam responded to the space's use to craft a lighting scheme. Flanked by the 17th-century Aranzazú Chapel and by a historic arcade—the remains of a Franciscan convent—the plaza is an active gathering space for young people who amble by the fountain and gather under the archways. Recessed into the paved surface and edging the plaza's perimeter under the arcade, 5W fluorescents uplight the arches, giving a rich dimensionality to the space that if underlit would feel gloomy or even dangerous. Recessed 50W and 90W metal halide lamps also are used to illuminate the ochre-walled chapel. Fixtures with 54W fluorescent lamps are integrated into the chapel's dome. "The new lighting makes the use of the public space a daily event," Avilés says, noting an indicator of the project's success. "People have been meeting in the plaza with their girlfriends and boyfriends."

Early in the process, Lightteam's master plan met with some opposition, mainly from the municipality's stable of engineers. Used to taking a conservative, technical approach to street lighting, they were dubious of an ambient scheme. When the luminaries initially were installed, the public

**A combination of metal halide and fluorescent sources concealed in window balustrades uplight the Museo de la Mascara (mask museum), creating a rhythmic lighting composition on the façade (facing page, left). The bell tower of the Templo San Agustin (left) glows from within. The 2-kilometer stretch of the Calzada (avenue) de Guadalupe from the Plaza de Armas (right) to the Basilica de Guadalupe (right) forms the spine of the lighting master plan (below, spread).**



The lighting from the Templo San Francisco bell tower (inset), a mix of metal halide flood and fluorescent lamps, provides ambient lighting for the adjacent plaza and street. The 17th-century Aranzazú Chapel and historic arcade—the remains of a Franciscan convent—ring the Plaza de Aranzazú. 5W fluorescent lamps uplight the arches and are recessed into the plaza surface to define the square's perimeter. Once an undesirable place to be after dark, today the plaza is an active meeting place for San Luis Potosí's young people (facing page).

also was skeptical. "When we opened the first plazas, people thought they were very dark," Avilés explains, "because when you are used to brightness, you think that glare is light." But an extensive set of illumination measurements, conducted by Lightteam, proved that the light levels were either the same as before or, if lower, still within an acceptable 1.5 footcandle range. What surprised both the designer and San Luis Potosí officials is that the data showed a huge drop in energy consumption—by an astonishing 50 percent. "Technology needs to be met, but there is also a social commitment," Avilés reflects. "A good project has to use the best technology, create energy savings, and respond to issues of sustainability. That is a must, but it also has to work in reality. My approach is to look to the people and give them back something that was lost." **MIMI ZEIGER**

#### DETAILS

**PROJECT** | Lighting master plan of San Luis Potosí, Mexico

**CLIENT** | Secretary of Tourism and the Government of the State of San Luis Potosí, Mexico

**LIGHTING DESIGNER** | Lightteam, Mexico City

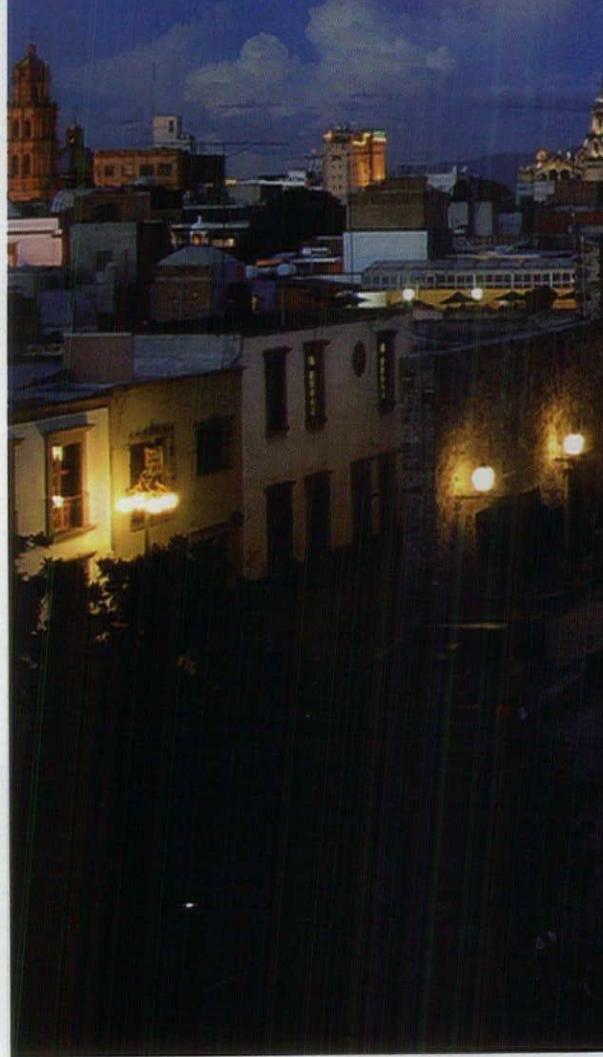
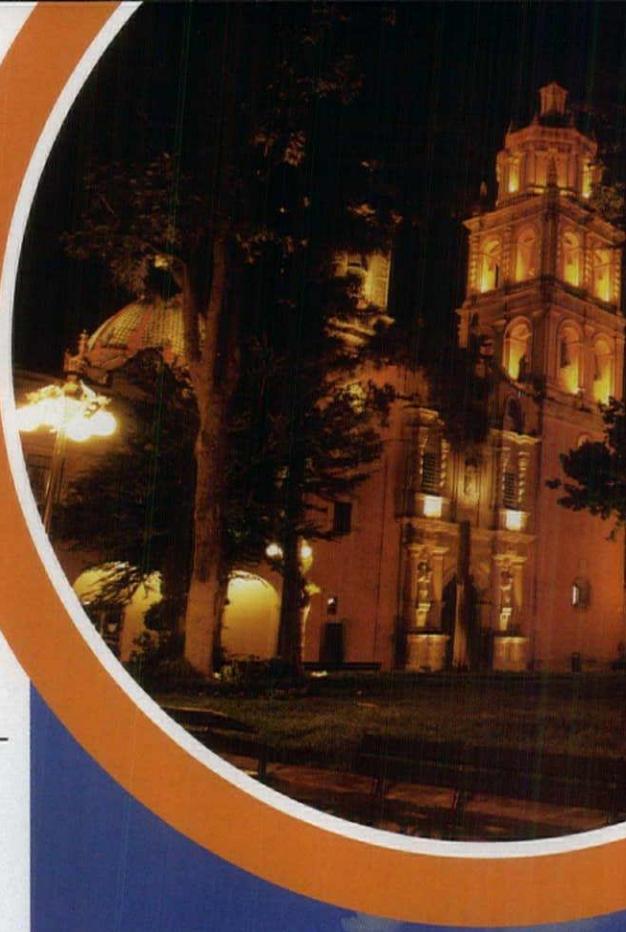
**PROJECT SIZE** | 45,000 square meters

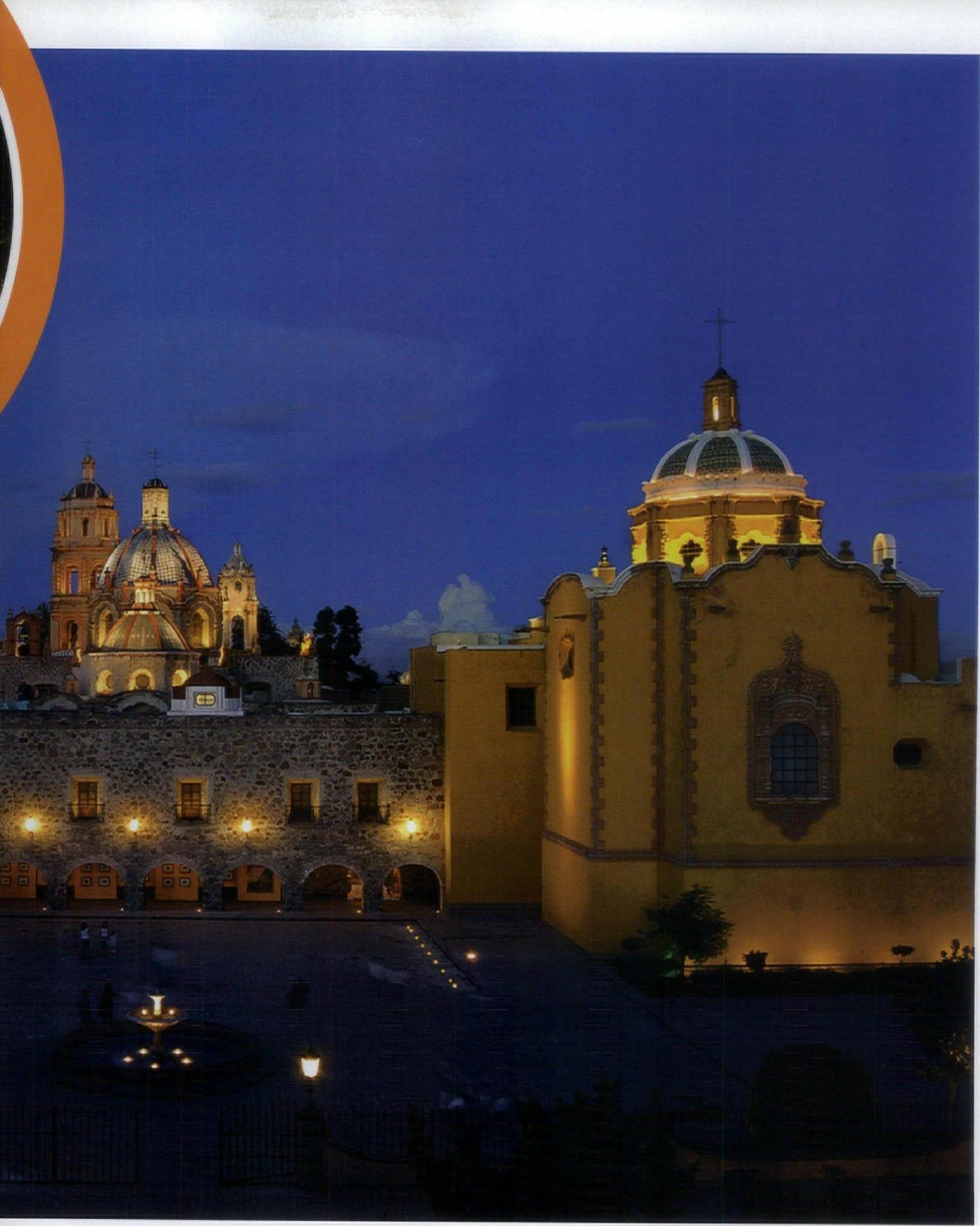
**LIGHTING COSTS** | \$2 million (U.S.; approximate)

**WATTS** | 1.5 watts per square meter

**PHOTOGRAPHER** | Silvia Marquez, London

**MANUFACTURERS** | Brilliant, Contrulifita, iGuzzini, Meyer, Osram, Philips, Prommsa, Selux, Sill, Tecno Lite, Terrane, Ushio, Ventor





# PARIS

**AN INTEGRAL PART OF PARIS' URBAN REDEVELOPMENT, A NEW LIGHTING MASTER PLAN IS ONE FOR THE PEOPLE.**

ONE OF FOUR LIGHTING MASTER PLANS ENTERED INTO A 2005 COMPETITION organized by the Paris City Council for an area of the city known as the Paris Crown—the ring of land extending from an inner railway loop out to the city limit—the winning scheme conceived by Paris-based lighting design firm Concepto Agency brings light to the everyday. Approved by the city council after more than a year of studies, the design aims to define street lighting, nightscapes, nocturnal ambiances, and the shape of the Paris Crown. With a depth of approximately half a mile, the area is just one of Paris' six concentric circles of land, a recognizable feature of the city's development over time that highlights its historic periods of expansion.

Containing 11 council housing estates (currently undergoing renovation); a variety of diverse districts; a disjointed greenbelt of parks, squares, and gardens; a railway line; and the Périphérique that encircles the city, the once neglected Paris Crown surrounds the brightly illuminated area that is Paris proper. "The main idea was to counterbalance the historical center and to take care of the everyday life of the people living in these quarters," says Roger Narboni, lighting designer and director of Concepto Agency. "To focus on the social quarters and prove that light can be as interesting for these areas as it is for the historical center of the city."

Because Narboni has both lived in and worked on social quarters for many years (since 1988 his firm has worked on close to 100 lighting master plans around Europe in countries including France, Belgium, Germany, Greece, and Italy), he was the ideal person for the job. "I know very well these kinds of buildings, this kind of life, and this kind of people because it is a part of my life," he says. Indeed, rather than feeling overwhelmed by the size and disparity of the area, Narboni explains, "Sometimes it is easier to work on these quarters because what you propose is very appreciated by the people."

Avoiding lighting design for tourists, for heritage, or for the beautification of the city, Narboni focused on the residents as the driving force behind the design concept. In the Paris Crown, where existing lighting is practically nonexistent (with only high-pressure sodium street lighting), Concepto Agency began by dividing the area

**The lighting master plan for the Paris Crown brings light to the everyday, providing sufficient street and pedestrian lighting while defining the area's nightscapes. Colored linear fixtures emphasize the edges of nondescript buildings, transforming them into landmarks (right).**



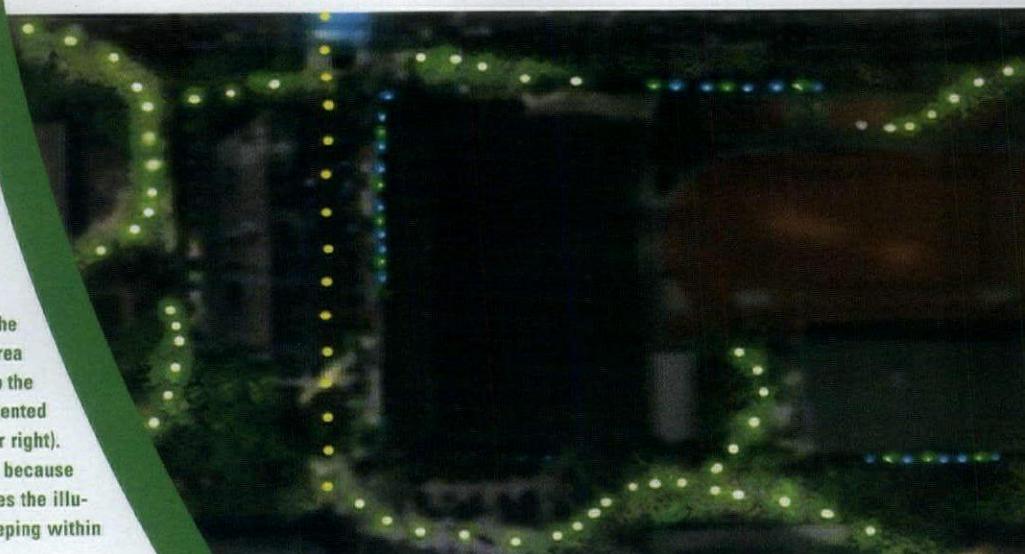
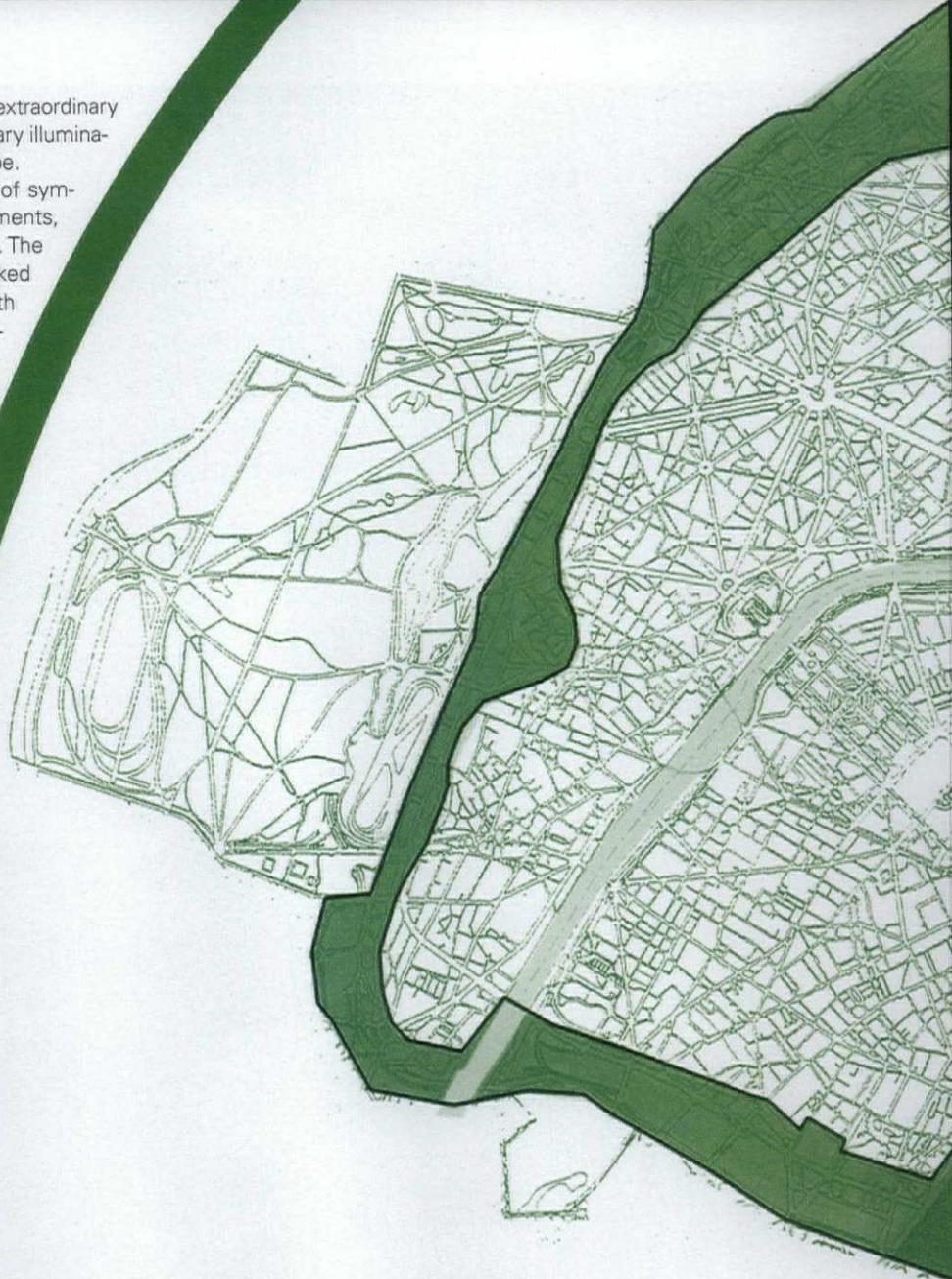


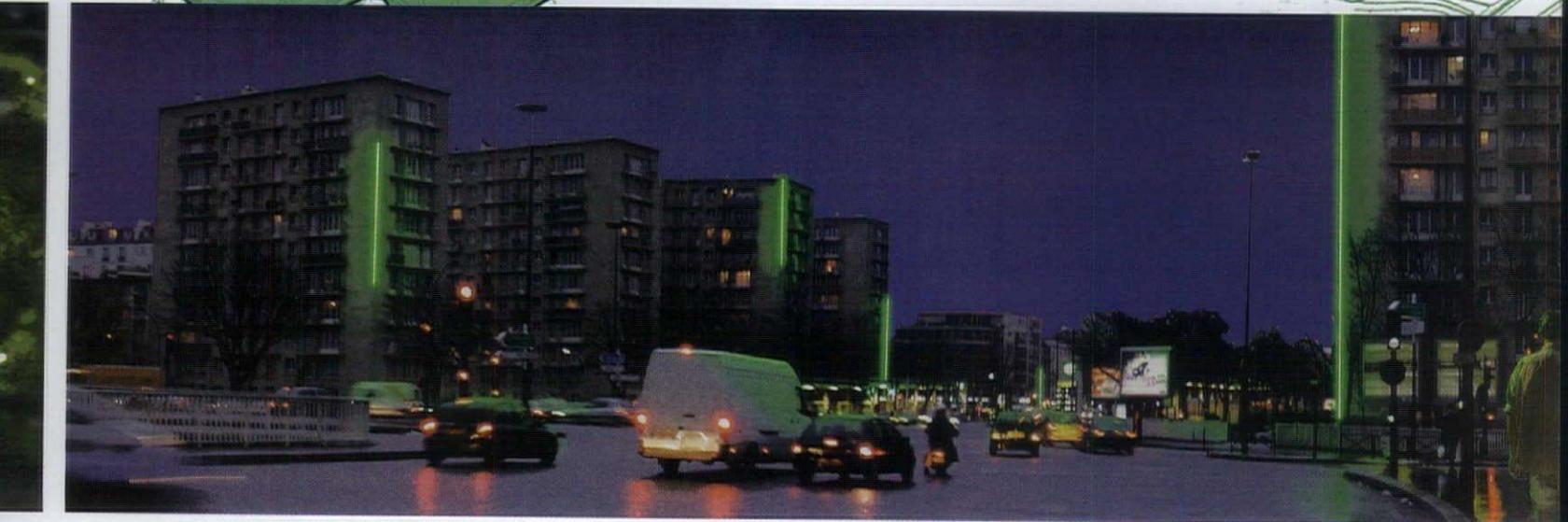
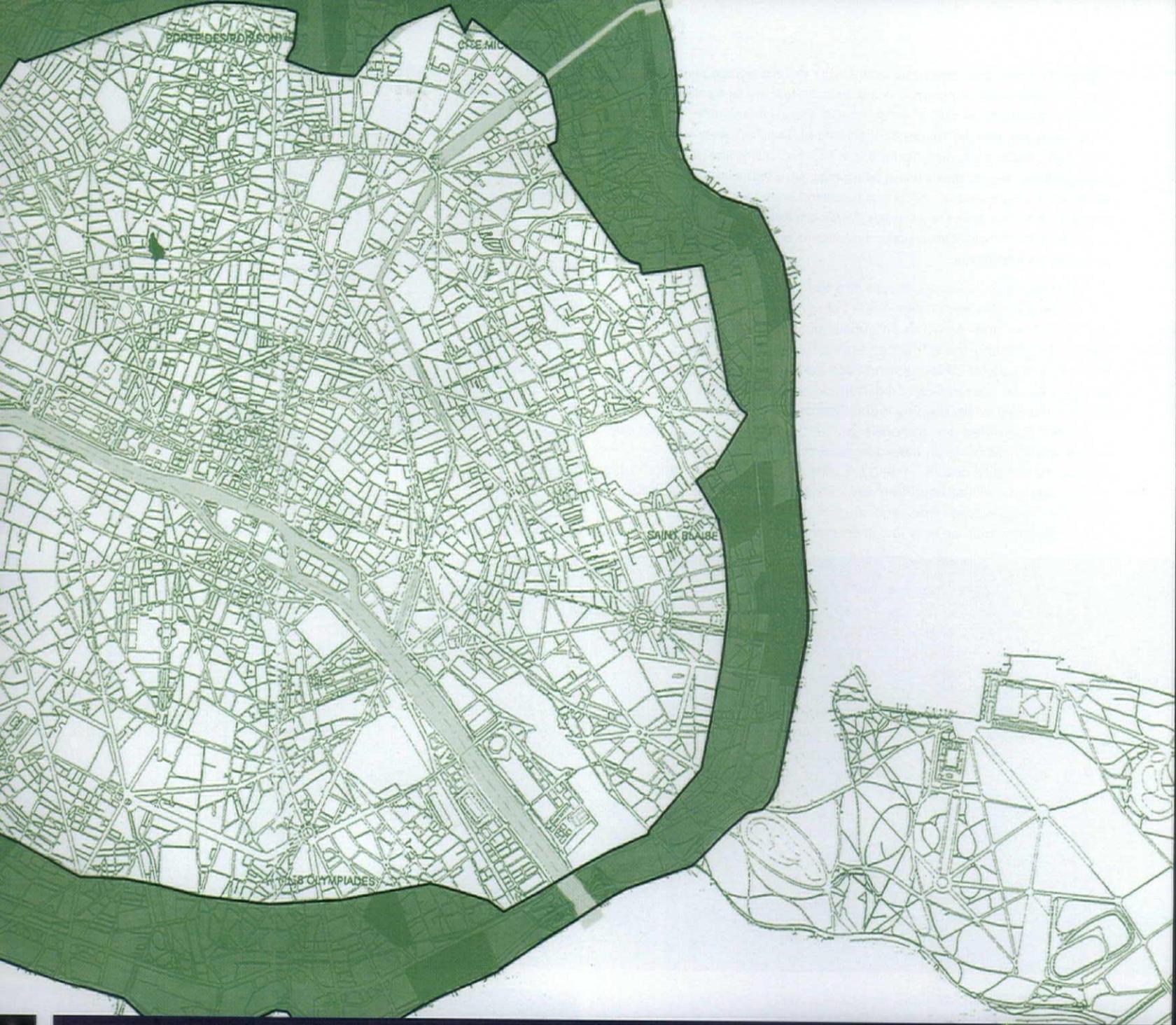
using two theoretical strategies that they refer to as the “extraordinary town” and the “ordinary town”—two distinct yet complementary illumination approaches that work to form a single nighttime landscape.

The “extraordinary town,” which focuses on the lighting of symbolic, monumental dimensions, includes four design elements, which speak to a scale of lighting that can be seen from afar. The first element consists of the city entrances, which will be marked by vertically oriented linear fixtures of varying lengths with colored light sources. The second focus is on everyday elements. Narboni explains, “Because there are no monuments or places that are very exceptional, we thought it would be interesting to take advantage of what we call the ordinary monuments.” Thus, everyday entities such as tall apartment blocks and public buildings will become landmarks emphasized by colored lights on the upper corners, set at a 90-degree angle to give each structure a more pronounced dimensional feel. For the third design component, Concepto created a nocturnal landscape that defines the disjointed and difficult to interpret scale of the greenbelt, interlacing pedestrian lighting with the street grid to emphasize each park, square, and play area. The fourth and final part of the “extraordinary town” is the illumination of the inner railway loop, which has not been used for approximately 30 years and currently awaits its own transformation into a series of promenades and gardens. Unlit, it creates a ring of darkness in the Paris Crown, an unusual urban feature for a dense city that Concepto Agency chose to maintain. Narboni says, “We thought it would be fantastic to keep this part of the area dark, addressing issues of light pollution. When we can save some space where there is contrast and darkness, we really push for it.” However, the firm did include solar fixtures with blue sources that will line the route of the railway, a feature that could be removed at any time, as the national railway company, not the city council, owns the land.

The “ordinary town” represents everyday movement through the city at a pedestrian scale. “It’s what happens when you go out of your building, when you go to school with children, when you go to buy something at the shopping center,” Narboni explains. This includes the illumination of an assortment of districts throughout the Paris Crown, from 19th-century Haussmannian-style apartments and council housing estates from the 1950s, ‘60s, and ‘70s to detached houses that once formed the suburbs and a jumbled collection of buildings, including tower blocks, industrial wasteland, and old warehouses. Instead of a standardized lighting plan, Concepto chose to maintain the diversity of each district, in turn preserving its charm and character and

**A ring of land that extends from an inner railway loop out to the city limit, the Paris Crown encircles the brightly illuminated area that is Paris proper (top). Because the area acts as a gateway to the city, the design includes entrances marked by vertically oriented linear fixtures of varying lengths and colored light sources (far right). Pedestrian lighting is a significant aspect of the plan, and because parks and gardens are closed at nightfall, this element includes the illumination of footpaths to emphasize their boundaries while keeping within appropriate light levels (right).**



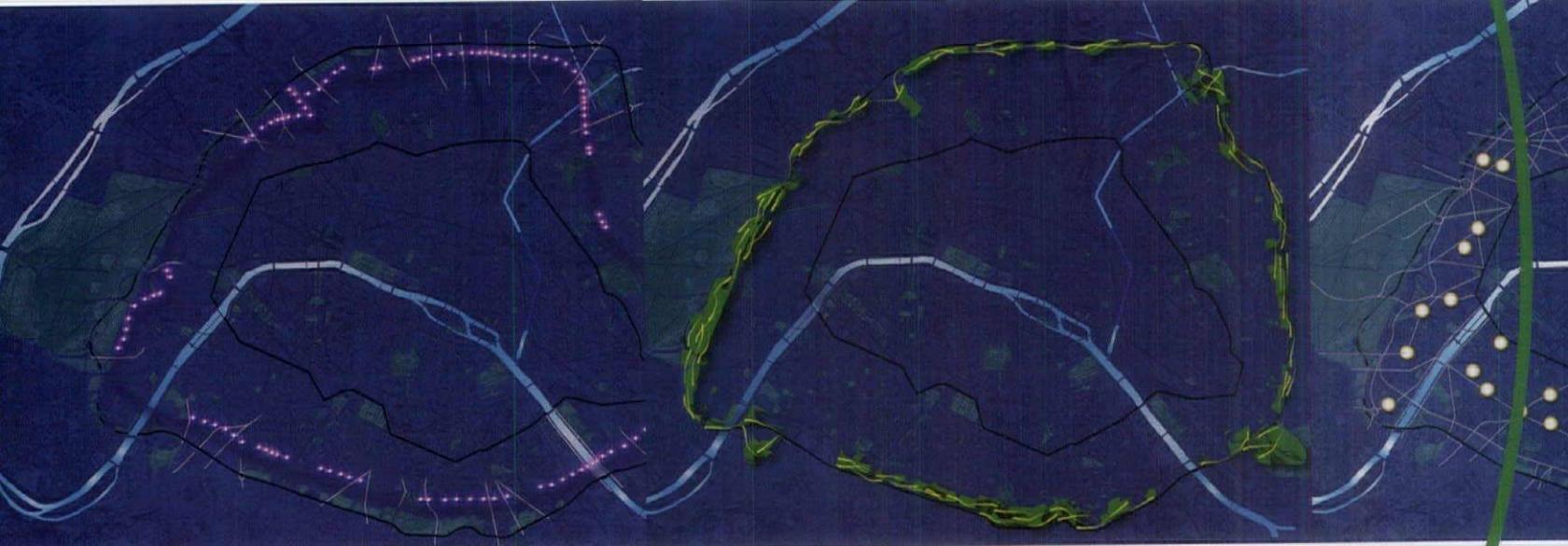


The lighting master plan covers an enormous area and incorporates illumination for 11 council housing estates; a variety of diverse districts (near and far top right and near left bottom); a disjointed greenbelt of parks, squares, and gardens; a railway line; and the Périphérique that encircles the city (far right bottom). The plan's many design elements range from (middle, left to right) the lighting of an inner railway loop, the invention of a nocturnal landscape, the delineation of commercial poles, the inclusion of linear fixtures to denote the city's entrances, and the incorporation of fixtures set at 90-degree angles on structures to create a more dimensional feel. Although the plan is split into two illumination approaches on two different scales, the outcome is a cohesive design that forms a single nighttime landscape.

ensuring that this variety translates into the nocturnal landscape.

Pedestrian lighting is a significant aspect of the "ordinary town," creating visual links and removing potentially dangerous areas of darkness as well as illuminating the entrances and surroundings of schools, day-care centers, and cultural buildings. And because parks and gardens are closed at nightfall, the plan includes the illumination of footpaths to emphasize their boundaries while keeping within appropriate light levels.

Although fixtures and materials will be the charge of future architects and designers working on individual projects within the Paris Crown, the lighting master plan does include guidelines for energy conservation. Light-emitting diodes will be used for many design features in the Paris Crown, such as the luminous lines and angles of the "extraordinary town"—"elements that could be very low in energy consumption with a very beau-



tiful and nice impact," Narboni says.

As for lighting master plans, Narboni feels they are an urban tool as useful as any other. "It doesn't solve everything," he says, "but at least it gives you a lighting strategy and guidelines so you can construct and build a nightscape." Considering energy savings, ecological aspects, and new technologies, he adds, "it is a very useful tool, which is why the need for lighting master plans is becoming so obvious." It is no surprise that a city known for design regulations throughout its historic development (building heights were determined by the width of the street they stand on) should use a comprehensive lighting plan to bring it one step closer to being a 21st-century metropolis, maintaining its role as a leading example of urbanism and further solidifying its designation as the city of lights. **SALLIE MOFFAT**

#### DETAILS

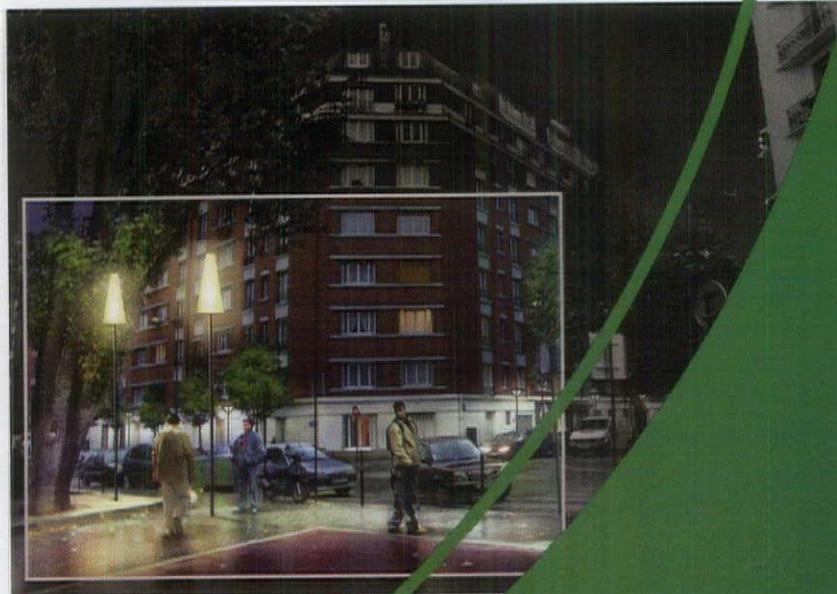
**PROJECT** | Paris Crown Lighting Master Plan, Paris

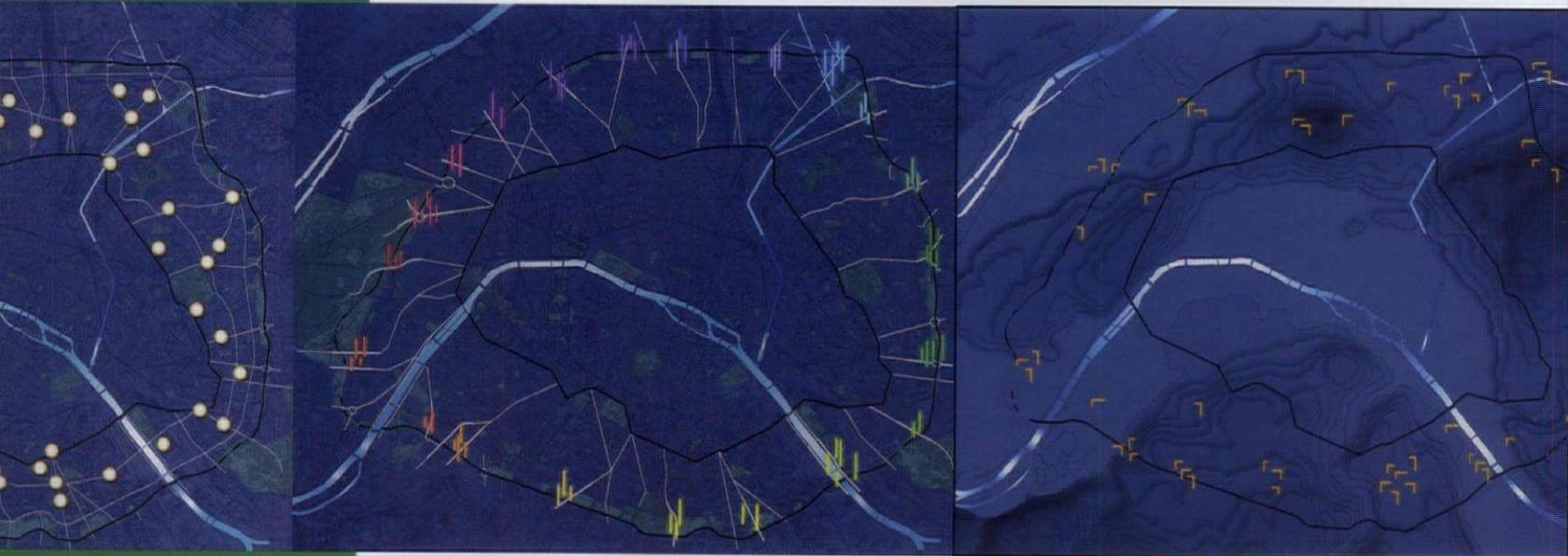
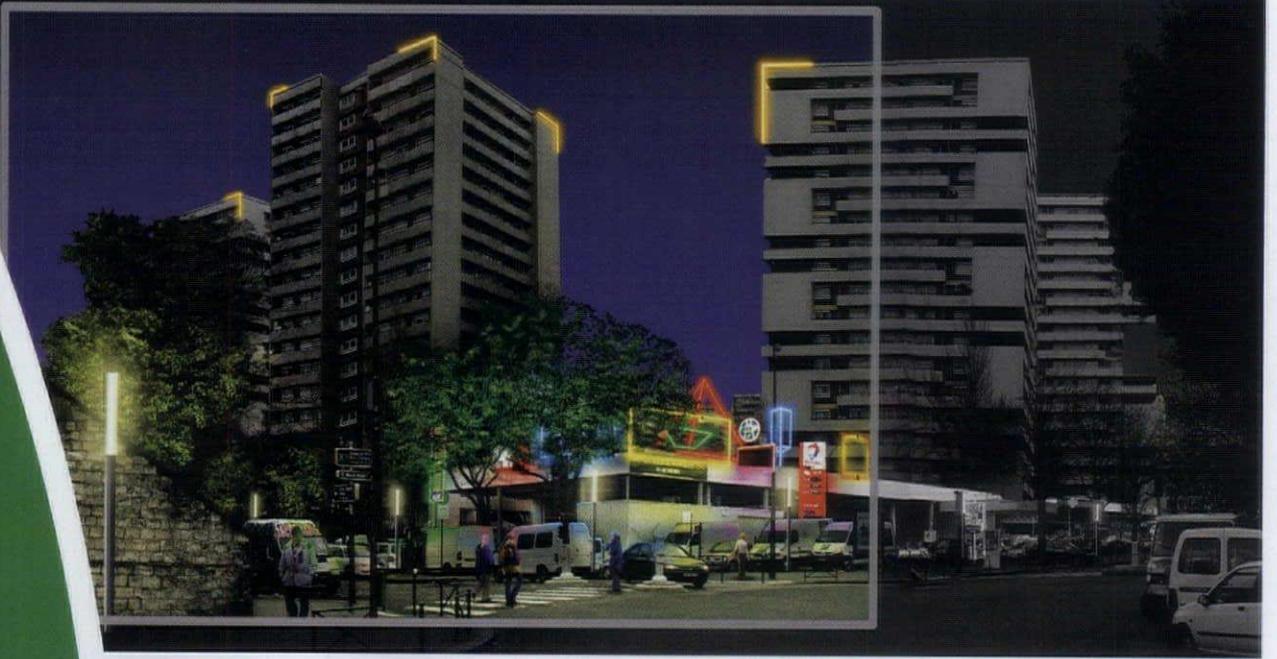
**CLIENT** | Paris City Council, Paris

**LIGHTING DESIGNER** | Concepto Agency, Paris

**PROJECT SIZE** | 1600 hectares (circle of 32 kilometers by 500 meters in depth—approximately 172 million square feet)

**PHOTOGRAPHER** | Images/renderings provided courtesy of Concepto Agency, Paris

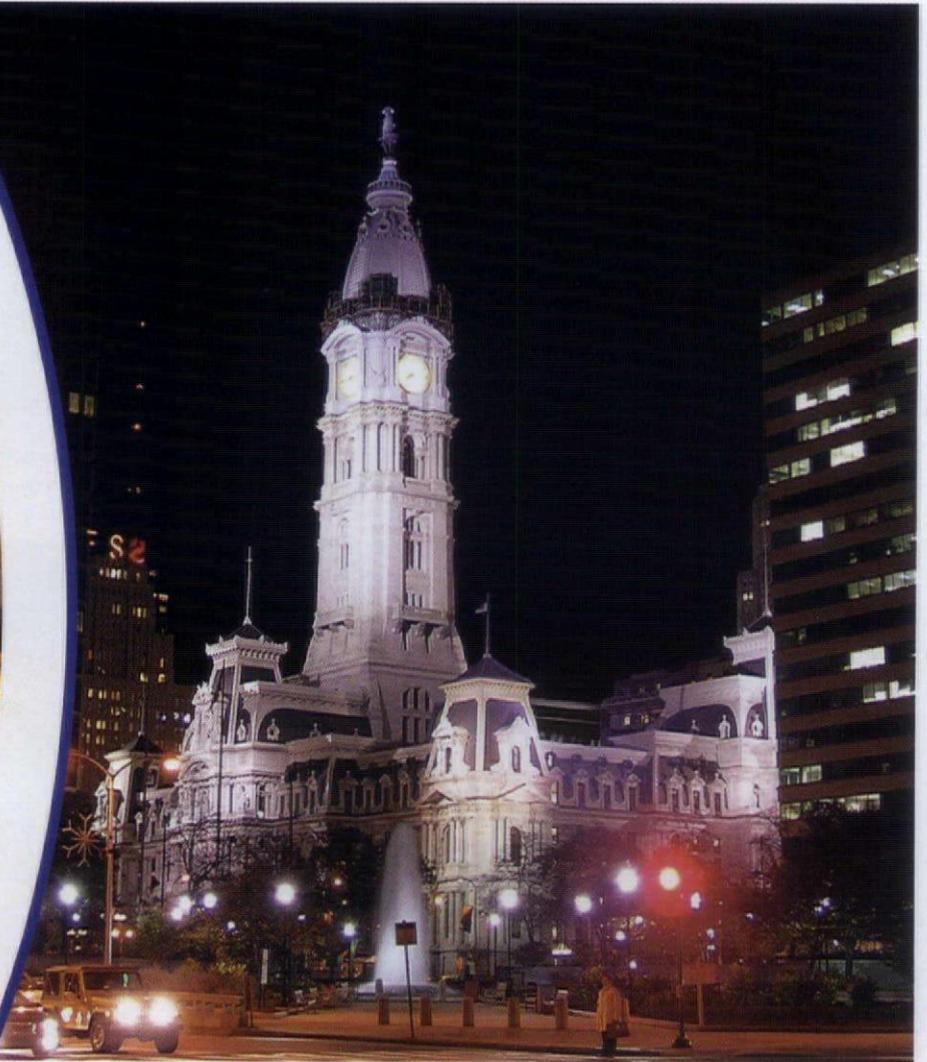






# PHILADELPHIA

INNOVATIVE URBAN LIGHTING PLANS ARE REVITALIZING THE FORM AND CHARACTER OF THE CENTER CITY DISTRICT.



WITH LITTLE PUBLIC FUNDING OR INTEREST, FEW AMERICAN CITIES INCORPORATE LIGHTING DESIGN INTO THEIR URBAN planning schemes. Not so for Philadelphia, where public and private support combined with the vision and leadership of the Center City District (CCD)—a business improvement district—have facilitated innovative lighting programs that are garnering attention worldwide.

Today, Philadelphia is one of the few American cities engaging light's potential to transform the urban environment, drawing together the city's varied, occasionally disparate facets that, as a whole, create a vibrant environment. Through its lighting plan, the CCD has used light as both a medium through which to illuminate the cultural assets of Philadelphia, and as a signifier of the vital, diverse metropolitan character of the city itself.

When the CCD was formed in the early 1990s, harnessing the possibilities of lighting as a social and cultural force was not part of its mandate. In fact, in its first years, the organization—which is chartered by the city and funded through mandatory property assessments, private donations, and some state funds—

**Bringing together public and private entities and helping to redefine these types of partnerships, Philadelphia's Center City District has revitalized the city through innovative lighting programs. Private funding enabled City Hall (above and left) to become a permanently illuminated feature of Philadelphia's nighttime landscape.**

simply sought to increase foot traffic by creating a cleaner and safer environment, transforming it from a nine-to-five district to a vibrant 24-hour one. It was not until the CCD, under the direction of Paul Levy, secured a \$26 million bond issue to tackle capital improvements that the possibilities of light to revitalize the urban environment emerged.

Focusing on creating an environment hospitable to pedestrians, the CCD sought to revitalize the district through streetlighting. Levy explains, "We really did not have a perception of uniformly well-lit sidewalks. Strategically, the most important investment that came out of that capital budget was a process of convincing the city to take down all the fixtures that only lit the roadway and replacing them with 16-foot-high, pedestrian-scale light fixtures that are much more closely spaced together." This new, pedestrian-friendly lighting helped draw shoppers, theater-goers, and new residents into Philadelphia's city center.

Today, the CCD boasts more than 2,100 new pedestrian-friendly lampposts across 152 city blocks. Not only have these lights increased the sense of safety on the sidewalks, but they also help create a visual continuity—evoking the past without mimicking it—within the aesthetically diverse fabric of downtown Philadelphia. As Levy says, "At nighttime, you know when you enter our district."

With the success of the initial streetlighting project, the CCD decided to engage with urban lighting on a larger scale. In 2001, with grant money from the Pew Charitable Trust and other sources, the CCD drew up a master plan for Benjamin Franklin Parkway, one of Philadelphia's grand boulevards to link the city's cultural and civic landmarks conceived in the City Beautiful-style (an approach to architecture and urban planning in North America in the 1890s and 1900s that relied on beautification and monu-

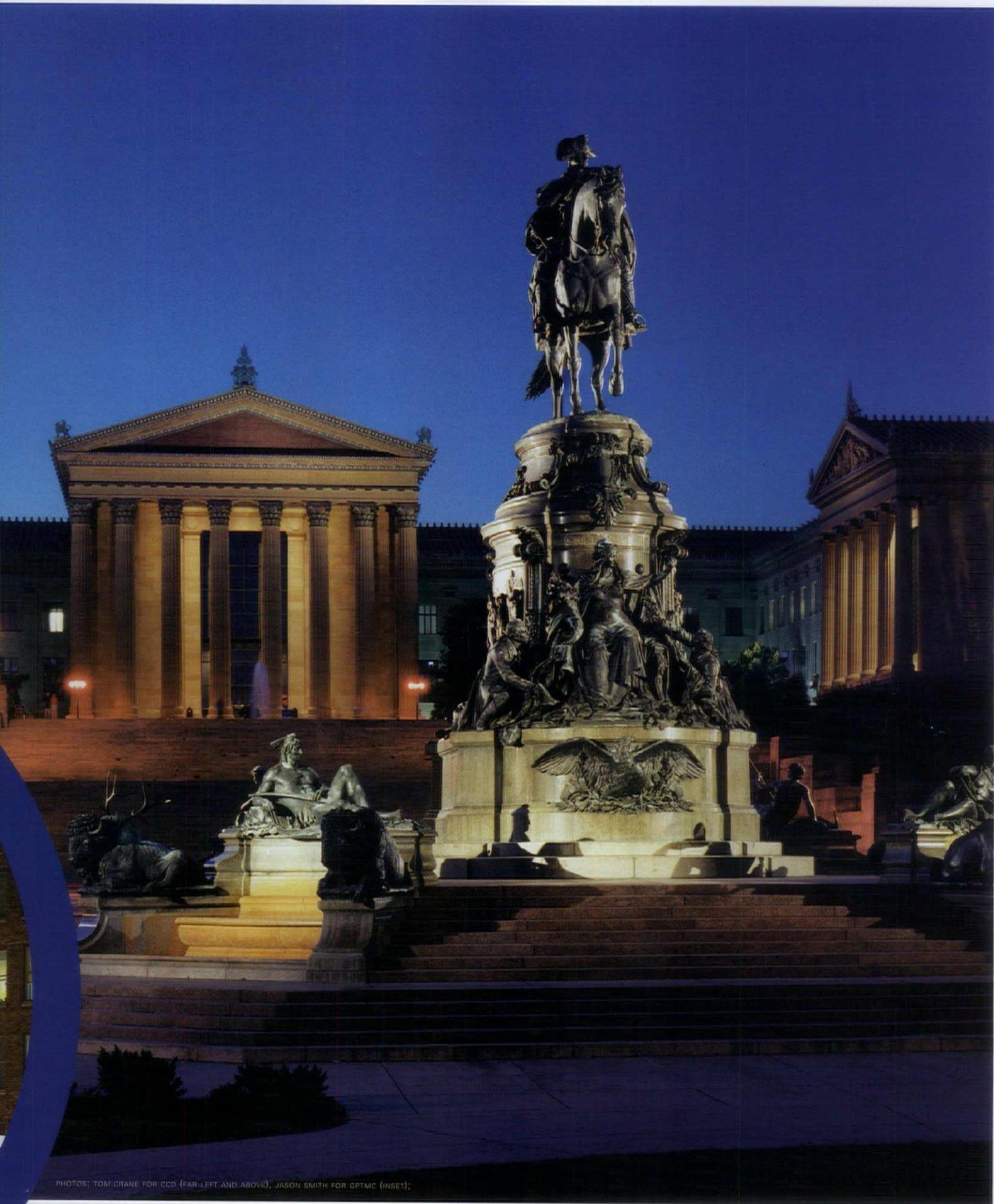
mental grandeur to transform destitute urban places), but never fully executed. This marked a new era in the CCD's perception of the possibilities of light as a transforming agent. As Levy says, "We had a really interesting experience, starting to use light for more than purely functional purposes, but using it to light architecture and sculpture."

Continuing its efforts to return the downtown to pedestrians, the boulevard was completely relamped with new, historically appropriate pedestrian and vehicular lights. In 2003, for the first time, the CCD retained a lighting design firm, Philadelphia-based The Lighting Practice (TLP), which is now the CCD's principal lighting firm. Lighting designers Al Borden and Julie Panassow of TLP devised a plan to light the parkway, creating a visual, illuminated link between City Hall and the Philadelphia Art Museum. Additionally, the façades of 12 buildings, including the art museum, the Free Library, and the Rodin Museum, along with more than one dozen sculptures along the parkway were illuminated by fixtures outfitted with 70W to 150W metal halide sources. In attempting to connect these buildings and works of public art, Borden says, "We looked at the area as a district and how we could make the travel route and objects along the pedestrian pathways more interesting, more attractive. We looked at all aspects of the parkway."

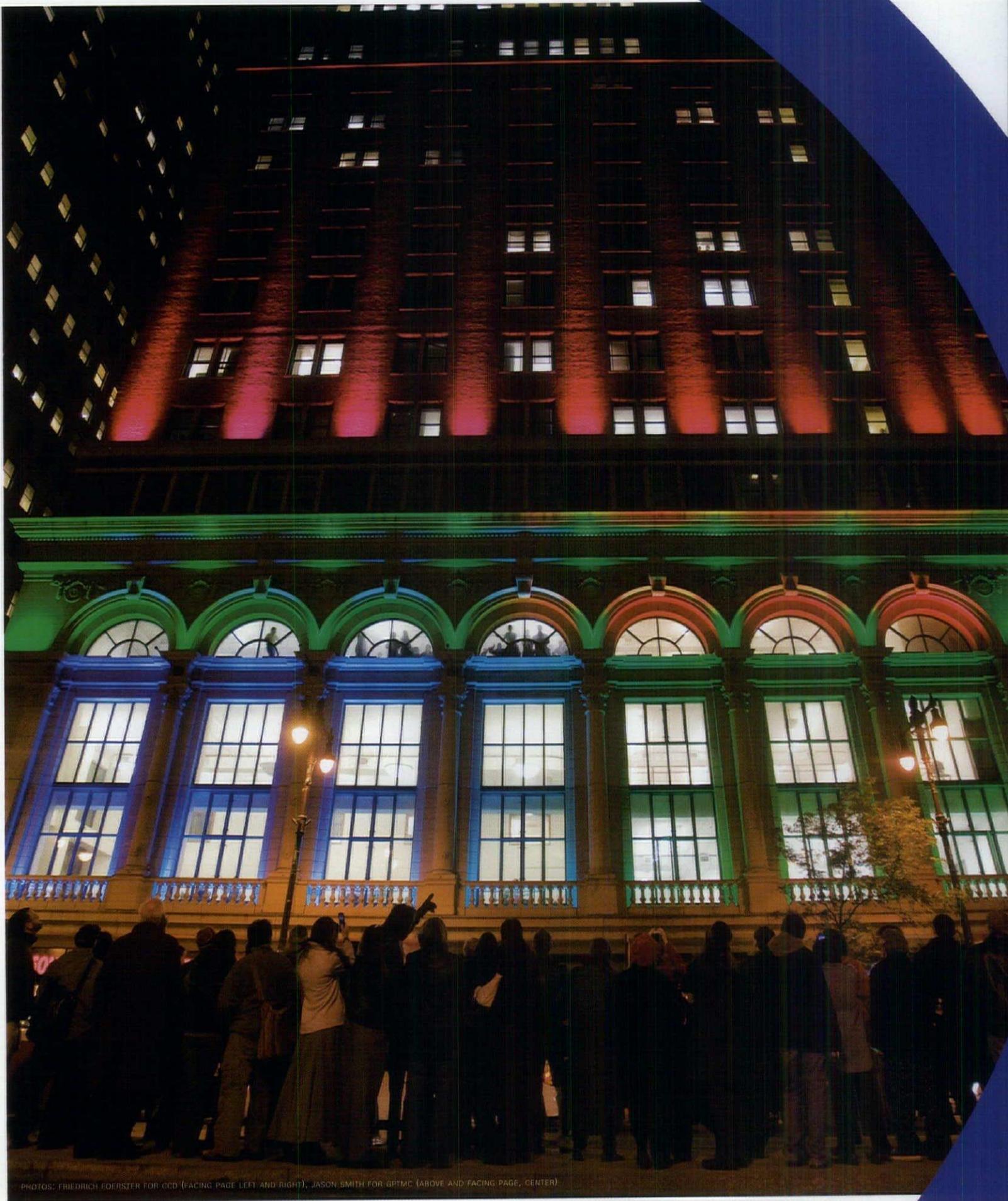
Inspired by some of the large-scale lighting initiatives in cities across Europe, Levy was committed to take the concept of lighting Philadelphia's urban cityscape even further. After participating in the Lighting Urban Community International (LUCI) conference in Lyon, France, in 2004, the CCD subsequently called on TLP to illuminate the University of the Arts' Terra Hall, in the heart of Philadelphia's art and culture district. Using an LED-based fixture—LEDLine, TLP created a dynamic two-minute light

**Philadelphia's Museum of Art (facing page) is one of many civic and cultural landmarks along the Benjamin Franklin Parkway relit in 2003 with new, historically appropriate pedestrian and vehicular luminaires. Philadelphia-based lighting firm The Lighting Practice designed the lighting scheme to create a visual link through the city and celebrate its rich architectural heritage (below). In December 2007, building façades along the Avenue of the Arts were illuminated with a series of colored light projections (inset).**

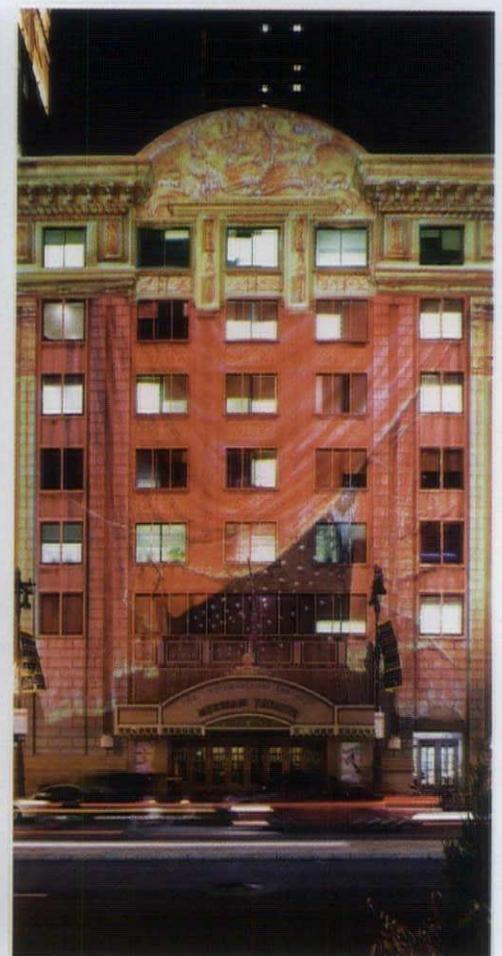
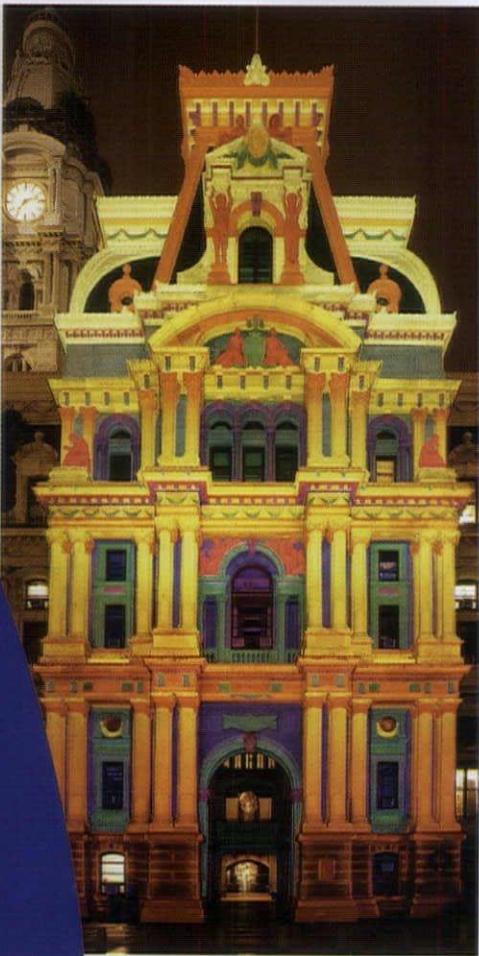




PHOTOS: TOM CRANE FOR CCD (FAR LEFT AND ABOVE), JASON SMITH FOR GPTMC (INSET);



PHOTOS: FRIEDRICH FOERSTER FOR CCD (FACING PAGE LEFT AND RIGHT), JASON SMITH FOR GPTMC (ABOVE AND FACING PAGE, CENTER)



A 14 block stretch along South Broad Street, known as Avenue of the Arts, is home to several of Philadelphia's performing arts and cultural-related buildings. Colored light projections, designed by New York City-based lighting event firm Artlumière, celebrate the individual buildings (above left, center, and right) while creating an overall sense of spectacle. For the University of the Arts College of Performing Arts' Terra Hall (facing page), The Lighting Practice designed a two-minute light show highlighting the building's architectural features.

show, occurring every 30 minutes on the hour and half hour, on the Terra's façade. With plans to light another 12 structures on South Broad Street by early next summer, TLP are designing a program to highlight the individual character of each building, while, as Panassow explains, "making the lighting vocabulary consistent throughout the district." This program will include both color-changing LEDs and static metal halide illuminations.

In December 2007, New York-city based producer Lucette de Rugy of Artlumière, a firm specializing in theatrical and artistic lighting productions, crafted temporary illuminated projections for a series of Avenue of the Arts buildings: the Philadelphia Ritz-Carlton, and the University of the Arts' Merriam Theater and Dorrance Hamilton Hall, with the Hamilton Hall projections done in collaboration with the university's lighting design students. De Rugy was no stranger to illuminating Philadelphia's cityscape; she was responsible for the CCD's initiative of light projections onto City Hall in 2005.

De Rugy, whose firm has created artistic light projections throughout Europe and Asia, and here in the United States in cities such as New York, Washington D.C., and Philadelphia, is a strong advocate of the power of light, explaining, "Large cities in the world need to use light to stimulate events in the city, to attract the public, and especially to revitalize older districts. In the end, light is life. Color is life."

In discussing CCD's unique emphasis on light as a key catalyst for a vibrant downtown Philadelphia, Levy acknowledges the many challenges his organization is facing. "I guess this is where we are, in a new territory, because as we see in Europe, it is almost entirely a public initiative. It is

turning out to be a wonderful challenge to negotiate the many private and public interests involved in supporting lighting initiatives." Going forward, the CCD will continue to incorporate innovative lighting programs. And, as the success of the lighting initiatives to date have proved, lighting has the remarkable capacity to rebuild connections and reweave the city's urban fabric. **ALEXANDRA GRIFFITH WINTON**

*Alexandra Griffith Winton is a freelance writer and design historian living in Brooklyn, New York.*

#### DETAILS

**PROJECTS** | Center City Lighting Initiatives, Philadelphia—Benjamin Franklin Parkway, City Hall Illumination, Avenue of the Arts

**CLIENT** | Center City District (CCD), Philadelphia

**LIGHTING DESIGNERS** | The Lighting Practice, Philadelphia; Artlumière, New York

**PHOTOGRAPHERS** | J.B. Abbott, Tom Crane, Friedrich Foerster, Jason Smith (as noted)

**MANUFACTURERS** | Arc Lighting Systems, BK Lighting, Color Kinetics, Delray, Elliptipar, Indy Lighting, Panasonic, Pani, Philips, We-ef, Winona



# Eindhoven

AN INTEGRATED APPROACH TO URBAN LIGHTING MELTS EINDHOVEN'S PAST, PRESENT, AND FUTURE.



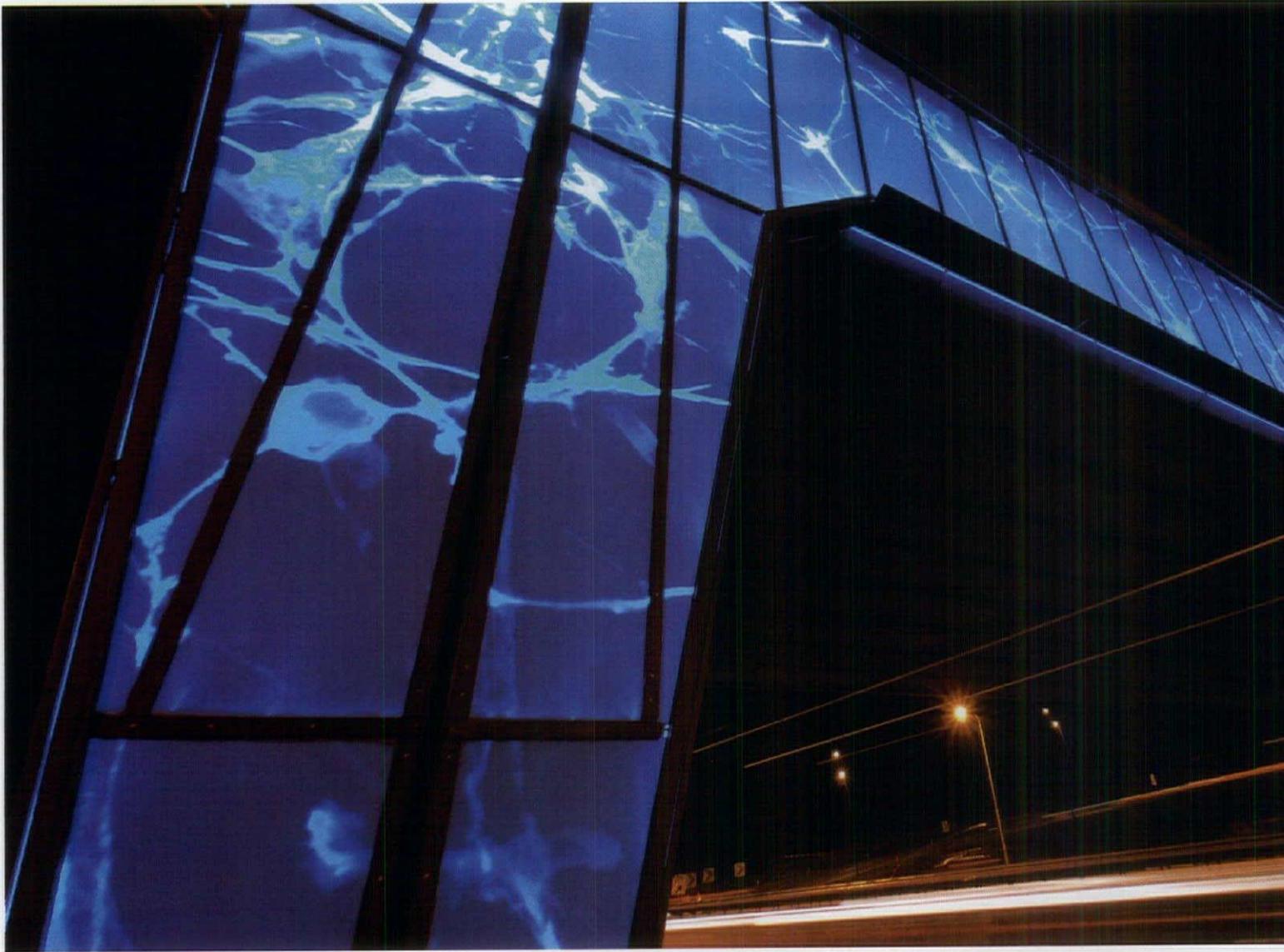
EINDHOVEN, A DUTCH CITY OF A LITTLE MORE THAN 200,000 PEOPLE located in the southern province of Noord-Brabant, has been the home of global electronics and lighting conglomerate Royal Philips Electronics since the company's founding in 1891. Eindhoven's development during the 20th century as a leading industrial center for the region is inextricably linked to Philips' presence. The historical relationship between Eindhoven and Philips is not without tension, however. According to Rik van Stiphout, lighting program manager for Eindhoven, "We know that something particular brings us together, but we also want to stand on our own feet. It has to do with our larger history." Eindhoven has managed to both retain its individual identity while also avoiding the all-too-common fate of many industrial-age cities—shuttered factories and declining urban centers. Eindhoven has harnessed the symbolic richness of its shared heritage with Philips and is using light to place the city at the forefront of contemporary design and urban planning as

well as to bring greater functionality and pleasure to the region's inhabitants and visitors.

Van Stiphout is a driving force behind the city's remarkable urban lighting. To describe Eindhoven's approach as simply a "lighting master plan" seems insufficient. Van Stiphout's holistic "future vision" for Eindhoven includes not only street lighting and the illumination of key urban landmarks but also luminous events, advertising, art, and interiors and exteriors. His vision calls for the illumination of ideas and information and, importantly, a respect for darkness (the city will begin requiring dramatically reduced advertising light in the later evening hours by mid-2008), and application of the most sustainable practices possible. Eindhoven uses light to improve and unify public spaces and public life as well as to create a vital 21st-century image for the city.

While light has been a part of Eindhoven's history since the founding of Philips in the late 19th century, only recently has urban lighting gained such a prominent role in the visual identity and experience of the city. In 2004, the city council asked van Stiphout to

Eindhoven's century-long relationship with Philips is symbolically expressed in architect Har Hollands', "De Lichtlijn," a 100-meter-long line of glowing red light that stretches from the original Philips factory to the Lighting Application Center (facing page). An aerial view of Eindhoven reveals the subtlety of the city's approach to urban lighting and the integration of light into both architecture and life (above).



Completed in 2007, the new high-tech campus viaduct is sheathed in an innovative lighting application designed by Har Hollands that features glowing nerve “tissue,” symbolizing Eindhoven’s role as a leader in technology and research (above). Eindhoven’s popular cultural center, Parktheater, resulted from the combined efforts of architect Arie van Rangelrooij and light-artist Herman Kuijer, who designed a luminous backdrop for the center’s logo using LEDs, which activate a light-composition for a recessed section of the façade (facing page, far right). The former Philips lamp factory, known as the Witte Dame (White Lady,) today is home to Eindhoven’s Design Academy, wedding the city’s past, present, and future (facing page, right).

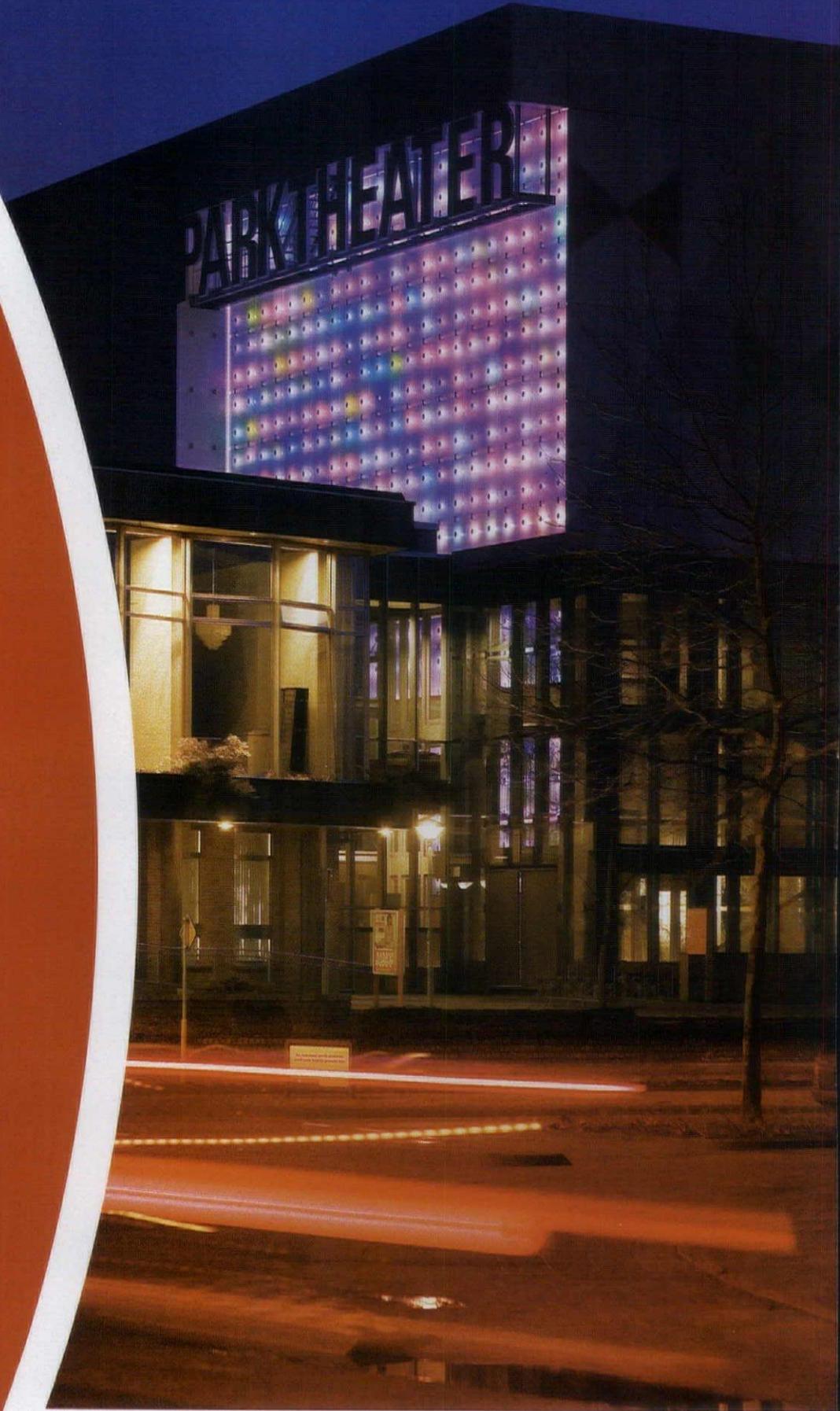
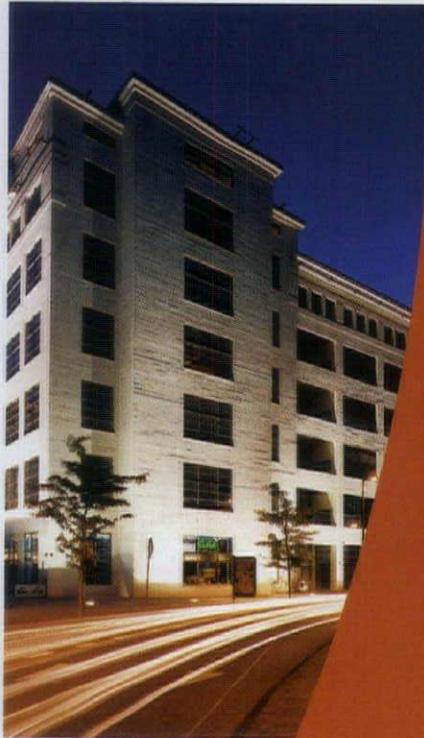
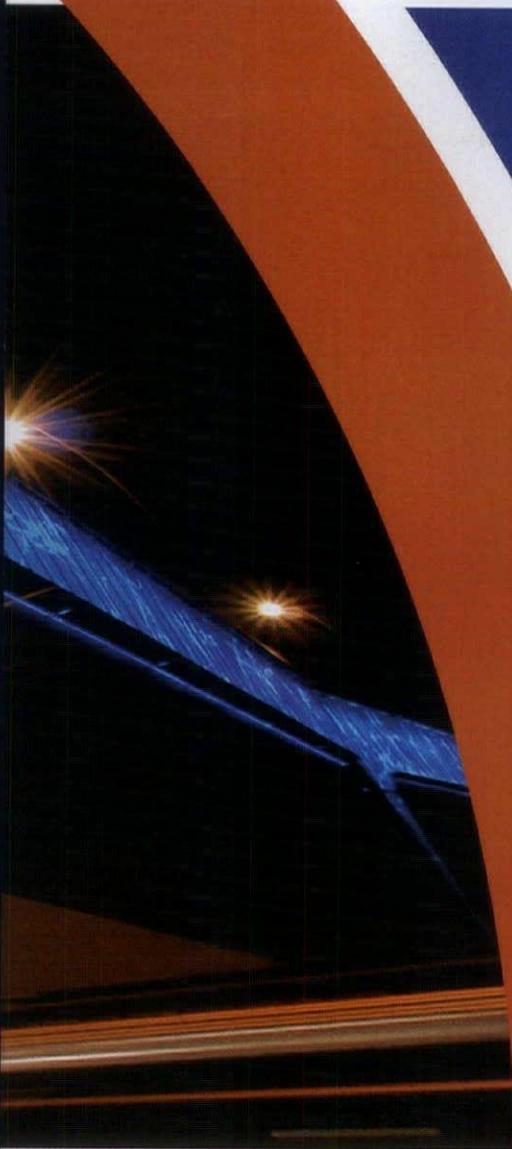
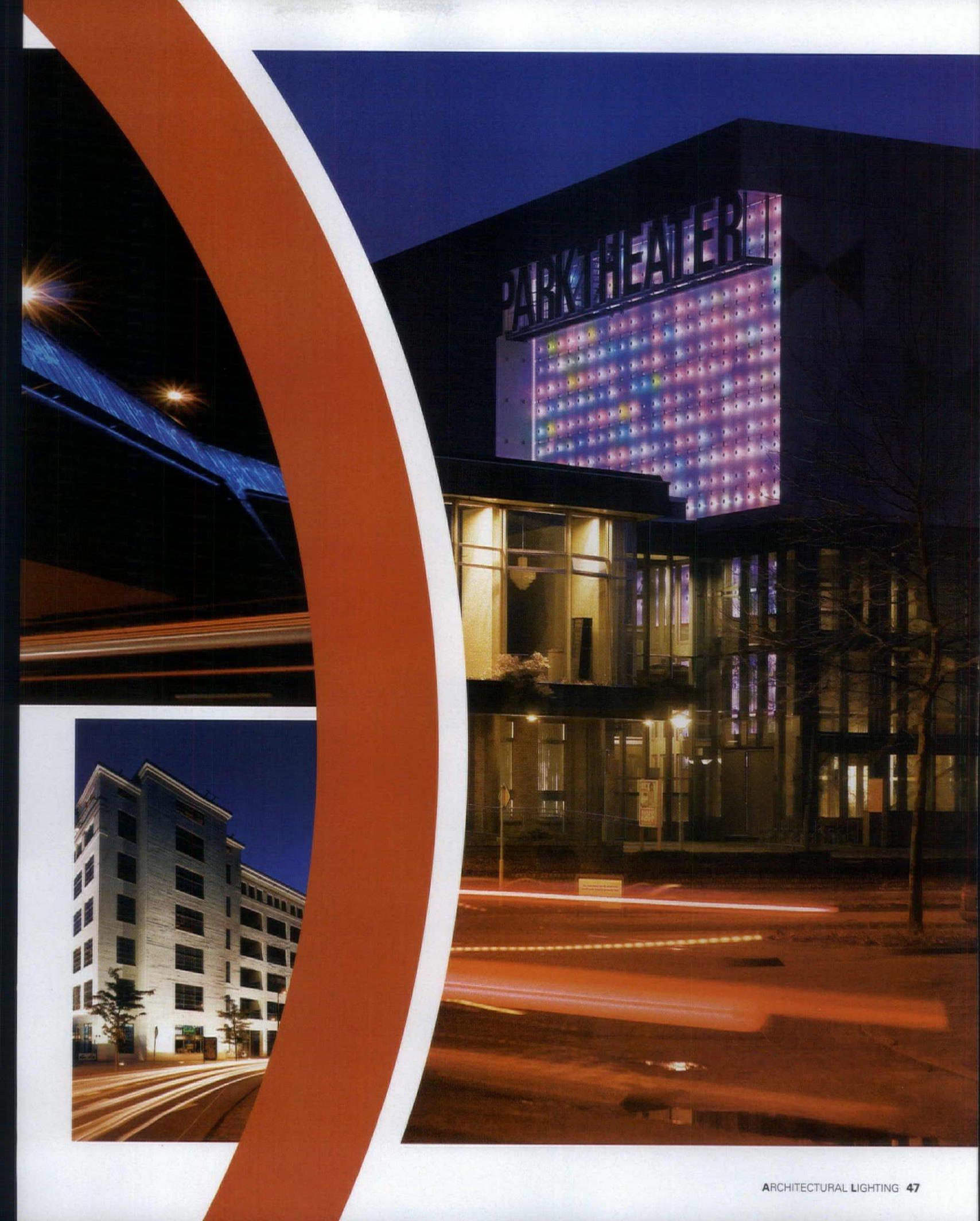
rewrite the existing lighting master plan, then 9 years old. The highly technical (and outdated) document, according to van Stiphout, “only focused on the public lighting of the city.” In discussions with then-mayor Alexander Sakkers (who served 2003–07), it was decided a new approach for Eindhoven was needed to address (and market) the unique identity of the city. In particular, Sakkers wanted to call attention to the importance of having a company like Philips in Eindhoven and to the role of the city as a “Brainport”—leading to a brand campaign to promote the region’s leadership in technology and research. Van Stiphout, realizing that it no longer was appropriate to just “rewrite” the existing master plan, composed “a future vision for Eindhoven, with respect to light, and how we can be different from other cities in the Netherlands, Europe, and even the world.”

The project began with analysis of all aspects of lighting in the city to define a set of goals for the next decade. With this research, van Stiphout identified six categories of light: urban lighting (streets, public areas), buildings and objects, art (indoor and outdoor), events and festivals, information, and advertising. However, van Stiphout cautions that while these classifications are helpful in thinking about managing city lighting, the best solutions arise when these separate entities are addressed in combination and the urban environment is approached holistically. “You need categories to keep a clear overview, but classifying different kinds of lighting doesn’t mean that

they are working together intimately and harmoniously,” he says. An example of this kind of thinking can be found in Eindhoven’s requirement that commercial projects incorporate signage and luminous advertising into the building form so that it enhances the architecture and presents an integrated composition to the streetscape or skyline. The program has been successful with several collaborations between architects and lighting designers. One of the most popular buildings to benefit from this initiative is the cultural center, Parktheater—a product of the combined efforts of light-artist Herman Kuijer and architect Arie van Rangelrooij. Kuijer created a luminous backdrop for the center’s logo by installing a wall featuring light-emitting diode (LED) technology into a recessed section of the upper façade. Van Stiphout credits the innovative nature of urban lighting in Eindhoven to the openness of municipal leaders. “Our city council is not afraid to do things wrong—they see the need of our city, as a Brainport, to develop quickly and to serve as a laboratory for many things,” he explains. “With that kind of council, you manage to be very ambitious.”

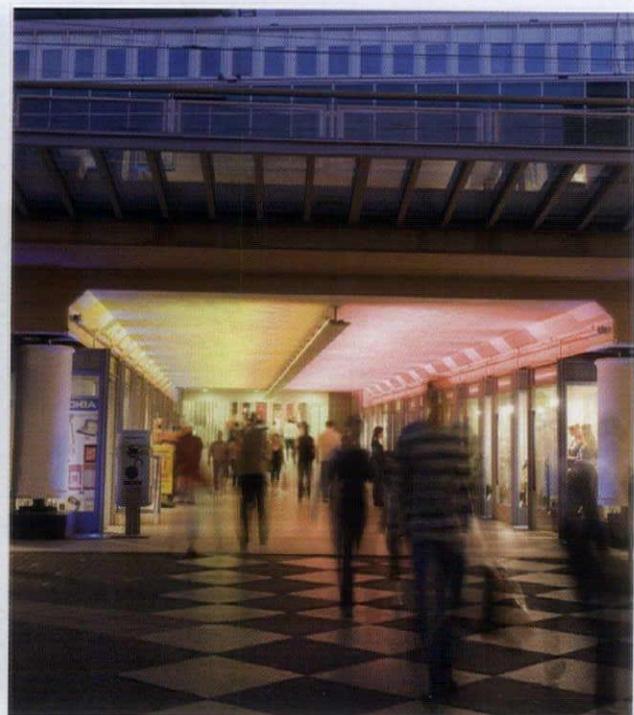
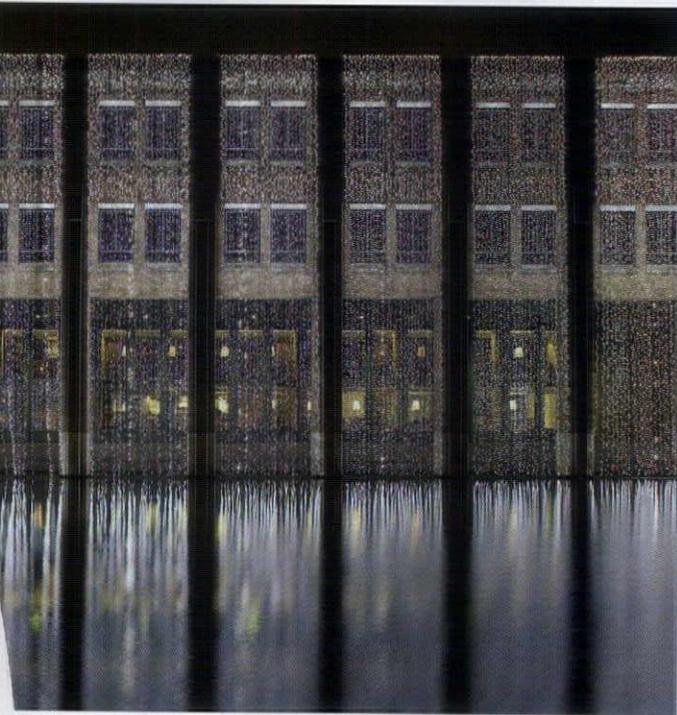
The belief in the power of light, to both improve public life and signify Eindhoven’s stature as a technology leader in the region, can be seen throughout the city—often in surprising locations. For example, in Eindhoven’s Demerpassage, a shopping area located beneath an elevated railway near the city center, lighting designer Tom Veeger worked with Philips to develop

PHOTOS: LEON VERLIEK (ABOVE); NORBERT VAN ONINA (RIGHT AND FAR RIGHT)





PHOTOS: CLAUD LANGER (ABOVE AND FACING PAGE, LEFT), DUBEL & CO. (FACING PAGE, RIGHT)



**GLOW 2007 featured an international cadre of artists, architects, and lighting designers and transformed Eindhoven into a forum for light with projects such as Anne Bureau's repurposed dumpster turned into illuminated outdoor seating (facing page). The festival also featured large-scale architectural explorations, such as Alain Benini and Christophe Cano's "Waterfalls of Light," which transformed the façade of a three-story building with 40,000 miniature lights, (above left). The Demerpassage (above right), is a shopping area located beneath an elevated railway near the city center. Customized LEDs create atmospheric color patterns that change in intensity throughout the day.**

customized LEDs to create atmospheric color patterns that change in intensity throughout the day—bringing liveliness to an otherwise undistinguished shopping arcade. After 11:30 p.m., motion sensors at either end of the passage allow the lighting to react to and follow passersby, playfully engaging users after hours. Another example is the new High-Tech Campus Viaduct, an important link between the nearby technology district and the highway that van Stiphout believes will become the definitive symbol of 21st-century Eindhoven. The viaduct, completed this year, is sheathed in two layers of illuminated glass panels displaying a network of brain cells in a subtle 3-D effect. With glowing nerve "tissue" wrapping the bridge, it embodies the concept of Eindhoven as a Brainport and symbolizes the many minds at work on the nearby campus.

Eindhoven's city council is keen to promote its many new lighting projects and to create a highly recognizable identity for the city. To that end, Eindhoven became a city member of the Lyon, France-based organization Lighting Urban Community International (LUCI) in 2005 and hosted the annual LUCI meeting in November 2007. Seeing an opportunity to have the attention of the international community, Eindhoven opened its second annual GLOW festival ([gloweindhoven.nl](http://gloweindhoven.nl)) on the closing night of the 2007 LUCI meeting. GLOW, in many ways, is an updating of the traditional light festival in Eindhoven, Lichtjesroute (Route of Lights), which began in 1945 to commemorate the liberation of the city at the close of World War II and continues to this day as a 22-kilometer trail of illuminated ornaments. While this festival is nostalgic and much loved, the city council wanted a more progressive event to express Eindhoven's seriousness as a leading "city of light." GLOW, begun in 2006, is a forum for light in art and architecture that opens the city to an international cadre of artists, architects, and lighting designers. This past year, the projects ranged from whimsical installations, such as Anne Bureau's repurposed dumpster turned

into illuminated outdoor seating, to large-scale architectural explorations, such as Alain Benini and Christophe Cano's "Waterfalls of Light," which transformed the façade of a three-story building facing Eindhoven's canal with 40,000 miniature lights. A popular and critical success, GLOW 2007 was attended by more than 50,000 people from across Europe and beyond, bringing international attention to Eindhoven.

Eindhoven's vision for the future is a major element in the city's most recent redevelopment project, Strijp-S, Philips' former industrial campus northwest of the city center. Some of the conceptual ideas represented in the project were also themes discussed during the City.People.Light symposium in Rotterdam, the Netherlands, in May 2007. Ideas that emerged from the meeting will continue to be translated into real projects. For the new mixed-use district, Philips Design is developing a public lighting system utilizing energy-efficient LEDs without traditional pole illumination. The to-be-determined technology will debut in Strijp-S by 2010 and will be (at this writing) the first of its kind in use in the Netherlands and perhaps the world. Strijp-S is a perfect example of the symbiotic relationship between Eindhoven and Philips, the company that brought the city into the 20th century. In this project and many others, Eindhoven has managed to maintain a healthy and stimulating relationship with Philips and has shown great ambition and ingenuity in developing a modern image that celebrates its history and looks to its future as a city of innovation. **MARGARET MAILE PETTY**

#### DETAILS

**PROJECT** | City of Eindhoven lighting master plan, [www.lightcity.eu](http://www.lightcity.eu)

**CLIENT** | Department of Urban Development and Management, City of Eindhoven

**ARCHITECTS, LIGHTING DESIGNERS, ARTISTS** | Herman Kuijjer; Arie van Rangelrooij; Tom Veeger; Gustavo Avilés; Miguel Chevalier; Jan van Munster; Alain Benini; Christophe Cano; Achim Mohné; Victorial Coein; Klaus Obermaier; Jakub Nepras; Nan Hoover; Anne Bureau; Zevs; Hans Peter Kuhn; Magdalena Jetelova; Casa Magica; Waltraut Cooper; Edith Schuster; Mona William; Sueheyla Yetiskin; Ziegler; Ulrike Brandt; De Waag; Tom Groll

**PHOTOGRAPHERS** | Dijkl & Co., Claus Langer, Norbert van Onna, Leon Verlaek, as noted

Beta LED delivers...

  
THE EDGE™



The 1<sup>st</sup> all-LED illuminated petroleum site  
Better Day BP, Racine, Wisconsin



beta  
LED™

## Go Green. Save Money. Attract More Customers.

THE EDGE™ by Beta LED eliminates mercury waste and reduces greenhouse gas. You'll reduce maintenance cost and use less energy. And, a brightly lit site with uniform lighting will attract more attention than your competitors who use old lighting technology.

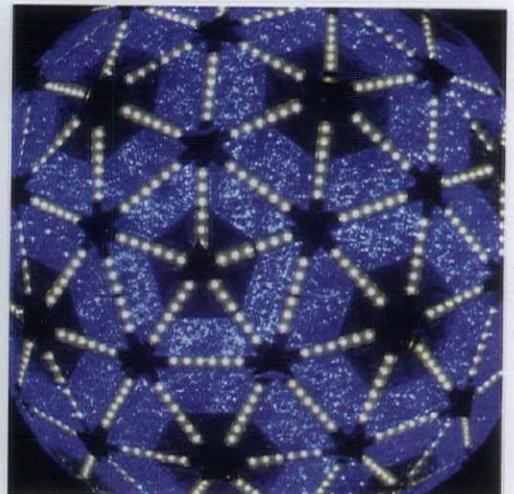
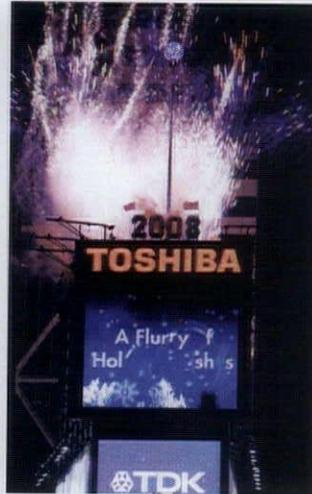
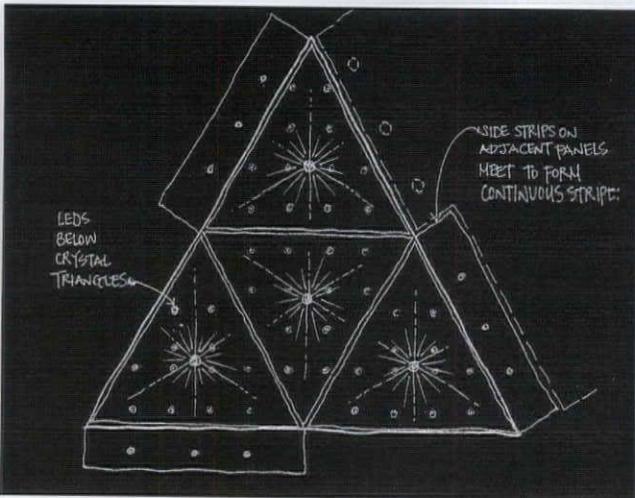
For more information, visit [www.betaLED.com](http://www.betaLED.com) or contact your Beta Lighting Rep.  
Circle no. 69 or <http://archlighting.com/productinfo>



# TIMES SQUARE NEW YEAR'S EVE BALL, New York City

**DESIGN TEAM** | Focus Lighting, New York City (lighting design and programming); Hudson Scenic Studio, Yonkers, New York (structural engineering design and development)  
**PROJECT DIMENSIONS** | 6 feet (diameter) **PHOTOGRAPHERS** | Ian Hardy, New York City (left and right images); Emile Wamsteker (center image), courtesy of the Times Square Alliance  
**MANUFACTURERS** | E:Cue Lighting Control, LED Effects, Lighting Science Group, Philips Lighting, Waterford Crystal

**CHALLENGE** The Times Square New Year's Eve ball might have looked somewhat different this past December. To honor the ball's 100th anniversary, lighting designer Paul Gregory and his team at New York City-based Focus Lighting were asked to update the ball's design utilizing light-emitting diode (LED) technology and triangular crystal tiles from Waterford Crystal. Highlighting the brilliance of the crystal was a challenge, as was ensuring that the redesign of this New Year's icon showed that it is more than "just a glass ball with some lights on it," as Gregory puts it. To that end, the lighting design team worked to make sure the ball looked equally spectacular to all viewers watching it, whether in person or via television.



Focus Lighting, known for its blackboard concept sketches, designed a plan for the crystal panels, showing a "main triangle" (made up of four small triangles) and how LED strips along the sides illuminate the ball's geodesic outline (left). The ball, shown atop the flagpole at One Times Square (center), had numerous programmed patterns and effects (right).

**SOLUTION** The original Times Square Ball, making its initial descent in 1907, was 5 feet in diameter, made of iron and wood, and illuminated by 100, 25W lamps. It has been upgraded over the years, most recently in 2000, when Waterford completely redesigned the ball for the millennium. It has been adorned with the company's crystal ever since.

Today, the 6-foot-diameter ball weighs approximately 1,100 pounds and features an exclusive pattern by Waterford called "Let There Be Light." Focus Lighting was one of five lighting design firms approached by Countdown Entertainment, which co-produces the New Year's event with the Times Square Alliance, in conjunction with Philips Lighting to craft what Gregory describes as a "creative but sensible" design. Once selected for the project, the main goal was to make the crystal appear as brilliant as possible, and to achieve this, the lighting designers had Waterford back cut each triangle to increase its ability to refract light. This is the first time the crystal has been cut on both sides—an idea that stemmed from the team at Focus. "We took the pyramid pattern, kind of a prismatic cut, and that's what really created all the sparkle," Gregory explains. "We analyzed what makes the crystal beautiful, and it's the number of cuts and the number of light points."

Philips has supplied the lamps for the ball for the past few years and wanted this year's design to include the latest in solid-state lighting (SSL) technology. That is how a total of 9,576 individually controlled LEDs came to replace the 600 incandescent and halogen lamps used to illuminate the previous model. With enhanced brightness, more color capabilities, and increased efficiency, the new lighting scheme can achieve more than 4 billion colors and incorporates 3,228 channels of individually controlled data. The usable lifespan of the LEDs is estimated at 50,000 hours, compared with the 1,000-hour lifespan of the lamps used on previous designs. According to Philips, it now takes only 24 watts to operate one red, one green, one blue, and one white LED on

the ball, compared with the 180 watts previously required to operate the equivalent amount of incandescent and halogen sources.

To ensure that viewers did not look past the crystal to the sources behind it, Christine Hope, project lighting designer, came up with the idea of isolating the crystal into its own chamber of light using a mirrored baffle. The 672 individual triangles, backlit by 12 LEDs, are divided into groups of four to create 168 "main triangles." The main triangles all have a white LED strip along each perimeter edge that interlocks with adjacent panels to illuminate the ball's geodesic outline.

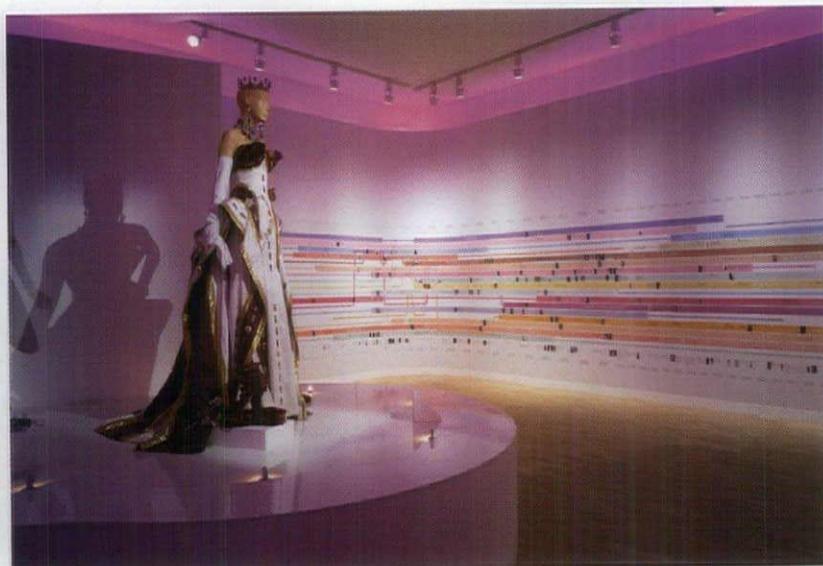
The designers wanted the ball to look striking regardless of a viewer's location. As Gregory explains, a quarter-size piece of crystal from 5 feet away resembled a beautiful diamond ring. "We asked ourselves, 'How can we have that effect from the 50-foot shot from the TV and the 500-foot shot from standing below?'" he says. The lighting control system, selected for its ability to layer video feeds with theatrical channel selection, helped achieve that dynamic effect for those watching. It took about three weeks to program the eight "shows" that played during the evening leading up to the ball drop, and the same signal controlling the TV cameras and sound also triggered the ball, which ensured everything was in sync. Watching from Times Square on New Year's Eve, Hope says, "It was great to see our ideas confirmed" and that the most successful looks from the street were the deep reds and blues contrasting with big triangles or stripes of bright white.

Focus Lighting developed a design idea that took the brilliance of the crystal to a new level while featuring SSL technology, reducing electricity consumption, and using a control system that offers endless lighting effects. When the clock struck 12 this year, the billions of people ringing in 2008 also were celebrating the dynamic new look of the ball as it descended the flagpole at One Times Square for the 100th time. **JENNIFER LASH**

## THE GOLDEN AGE OF COUTURE, LONDON

**DESIGN TEAM** | David Atkinson Lighting Design, London (lighting design); Land Design Studio, London (exhibit design) **PROJECT SIZE** | Approximately 2,985 sq ft  
**PHOTOGRAPHER** | Nick Woods, Land Design Studio, London **MANUFACTURERS** | EncapSulite, ERCO, Light Projects

**CHALLENGE** Looking for a theatrical effect, exhibition and interior design company Land Design Studio asked David Atkinson Lighting Design (DALD) to create the lighting scheme for “The Golden Age of Couture: Paris and London 1947-1957,” a recent exhibition at London’s Victoria and Albert Museum (V&A). In representing the post-war era of haute couture that the late fashion designer Christian Dior dubbed the “golden age,” DALD had to be extremely cautious when illuminating the exhibits—which included sensitive textiles and photographs—while adhering to the museum’s strict conservation guidelines.



Display cases featuring couture garments and memorabilia have lighting levels that do not exceed 50 lux to conform to museum conservation guidelines (above left). An illuminated yarn curtain (facing page) extends to the ceiling, setting apart the largest glass case ever built for the Victoria and Albert Museum. Pink filter sleeves fitted to fluorescent tubes were used in the third gallery (above right), the smallest of the exhibit’s three galleries, which features designs by John Galliano, artistic director for Christian Dior.

**SOLUTION** Tasked with illuminating this exhibit—which coincides with the 60th anniversary of Dior’s post-war era “New Look” that celebrated femininity and featured cinched waists, full skirts, and rounded shoulders—DALD worked closely with the V&A and had contractor CP Electrical install and focus the lighting. One of the V&A’s major exhibitions, the couture show took up almost 3,000 square feet of space, and DALD’s approach was to illuminate each area based on its displays.

Some of the greatest challenges were not design-related but logistical, explains David Atkinson, creative director of DALD, adding that the main question he asked himself regarding the lighting was “How?” In particular, he admits that meeting the conservation requirements presented a challenge, as he likely would have used more light in certain areas but had to keep within specific boundaries.

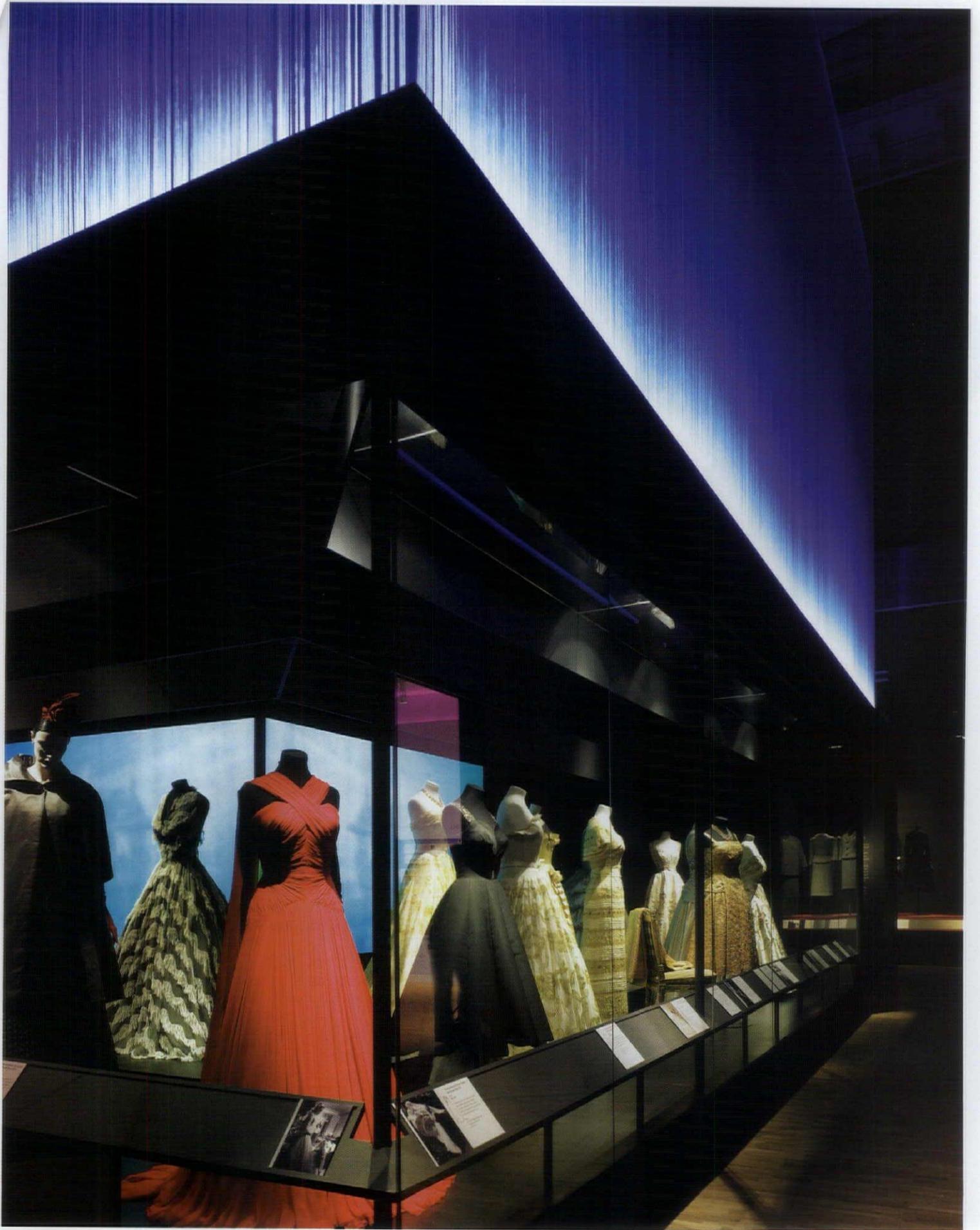
The first of two main galleries focuses on the processes, skills, and craftsmanship of haute couture, which is clothing made entirely by hand and to order. A practical approach was used, with the simple uplighting of recessed 35W T5 fluorescents, fitted with red filter sleeves, onto backdrops of solid red panels and stretched scrim gauze. Land Design Studio used large-scale video projections on the gauze and walls, adding depth to the space. Also, externally lighting the showcases from high-level tracks with AR111 lamps fitted with a combination of lenses to spread and diffuse the light “gives a real sense of airiness” and allows for acute lighting angles, Atkinson says.

The second gallery’s most striking element is an enclosed case featuring couture ball gowns. It is the largest glass case ever built for an exhibition at the V&A, measuring 30 feet by 30 feet. “That case

really plays on the lighting, it’s heavily top lit and then we’ve got this grazing of the blue above the case as well,” Atkinson says. “It gives a real sense of drama—pure theater, really.” A yarn curtain, illuminated by T5 fluorescents with lavender filters, runs from the top of the case to the ceiling and creates a sense of height and scale. The lighting levels of the case, which internally was lit with 35W MR16 lamps angled at 36 degrees, were kept to 50 lux to meet conservation guidelines.

While the majority of the displays focus on designs and memorabilia from this historic post-war fashion era, the final space, housed in a smaller gallery and titled “The Legacy,” features Dior dresses designed by John Galliano, artistic director for the House of Dior since 1997. To highlight the contrast between the two designers, DALD made bold lighting choices. The gallery’s white casement ceiling is lit in pink by 65W T5 fluorescent beam shaper fixtures with shutters. The color, achieved by pink filter sleeves fitted to the fluorescents, immediately sets this gallery apart. The dresses are illuminated from a flat angle, creating impressive shadows on the wall behind them. A large timeline graphic spans the wall and is illuminated by AR111 lamps angled at 24 degrees and by wallwash lenses, which help contrast the pink light reflecting off the ceiling.

“The lighting does create a real sense of drama within the spaces from the moment you walk in by the use of dramatic, strong colors,” Atkinson says. “The way the dresses are illuminated is in quite an acute angle, it really accentuates the form of the exhibit and the folds and styling within the garments. The way that the lighting works, it kind of leads you through the exhibition.” **JENNIFER LASH**



# LIMITED ENGAGEMENT



**1. ETC | ION | ETCCONNECT.COM**

This 19-inch-wide programming console is applicable for smaller venues and space-challenged environments. The console features a master playback fader pair and a blackout switch. Available in 1000, 1500, or 2000 channel/output configurations, Ion can be used alone or networked with up to four other Ion devices. CIRCLE 125

**2. ARDEE LIGHTING | CLIKSTRIP HPL | ARDEELIGHTING.COM**

Offering accent, task, and display lighting, this low-voltage linear light strip easily fits under cabinets, around baseboards, on shelves, staircases and railings, and in display cases, coves and kitchens. Klikstrip HPL (high-power LED) uses white LED lamps offered in both neutral and cold white with a color temperature of 3500K and 5500K, respectively. CIRCLE 126

**3. PHOENIX PRODUCTS | FRAMING PROJECTOR | PHOENIXPRODUCTS.COM**

An outdoor luminaire, the Phoenix 115 features a two-lens system that allows for 15- to 40-degree beam adjustment and focusing. Using T6 ceramic metal halide lamps up to 150W, the fixture either can be ground-, floor-, wall-, or ceiling-mounted and is available in a textured polyester powder coat finish in a variety of colors. The luminaire housing is made of marine-grade, low-copper aluminum. CIRCLE 127

**4. JESCO LIGHTING GROUP | GEOMETRIA TRACK SYSTEM | JESCOLIGHTING.COM**

Options abound with Geometria, a two-circuit track lighting system that can be mounted in a variety of ways. It offers low-watt LED, halogen, or AR111 lamps in single and double spotlights, and T5 fluorescents mounted as pendants. Available with a metallic silver powder-coat finish, it has a die-cast aluminum luminaire housing. CIRCLE 128

**5. MARTIN PROFESSIONAL | RGB LASER 1.6 | MARTIN.COM**

After various upgrades, including an improved IP52 rating, the RGB Laser 1.6, according to the manufacturer, features more than 10,000 hours of operable life and includes Martin software that allows for real-time effect programming, editing, and viewing. With an 80-by-80 degree projection angle, the unit can be set up for DMX controllability or simple plug-and-play operation. CIRCLE 129

**6. ELEMENT LABS | STEALTH | ELEMENTLABS.COM**

This video display is a lightweight LED system made up of modular panels, rigging hardware, video processing, and power and data distribution. Easily folded accordion-style in cases, the screens enable simple set up and breakdown. Stealth can be assembled in flat, curved, horizontal, or vertical arrangements. The panels, which each use 70 watts of power, are available in either black or white. CIRCLE 130

# SmartWall™

ILLUMINATED DIGITAL LED WALL SYSTEMS



## SmartWall™: Illuminated Digital LED Wall Systems

Insight is excited to introduce SmartWall™: a revolutionary innovation from our SmartEdge™ family of digital LED products! This family of products creates a dynamic approach to architectural lighting. Integrating static colors or RGB illumination, this luminous wall system can transform any interior from bland to grand.

This illuminated wall system may be free-standing, integrated into window systems, erected as luminous partitions, interior features, graphic displays or a myriad of other interior applications.

**SmartWall™: Unleash your imagination!**

Visit [www.insightlighting.com](http://www.insightlighting.com) or call 505.345.0888





# Coloring a Room With Light

EMPLOYING COLOR IN LIGHTING DESIGN



The Adopt A Room pediatric patient room program at the University of Minnesota Children's Hospital employs a colored lighting strategy that creates a comforting environment for severely ill children and their families while offering control of the surroundings and a connection to outside world.

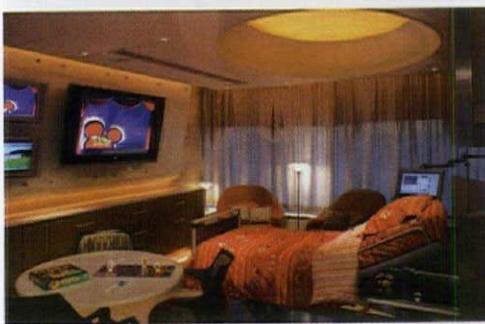
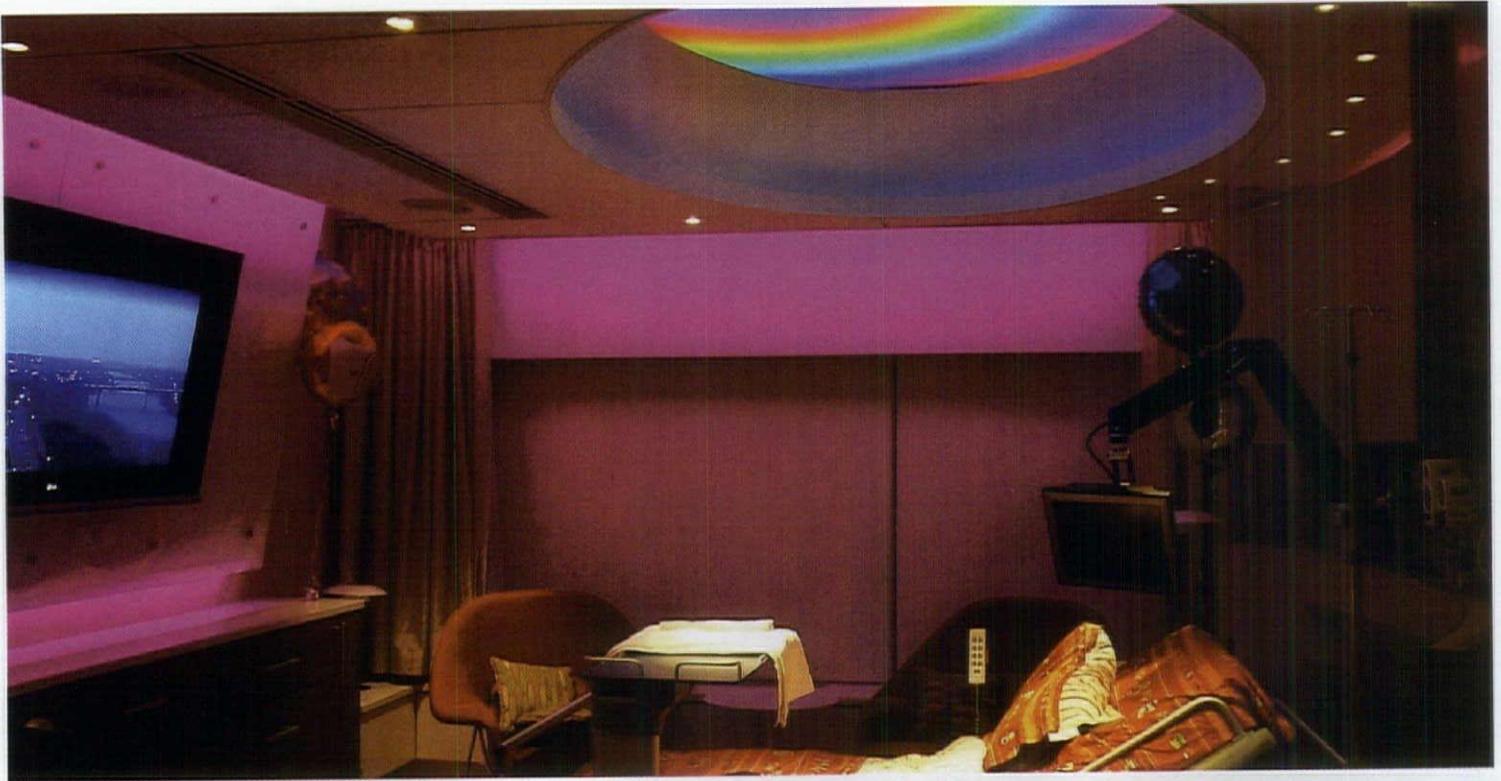
LIGHT AND COLOR ARE VERY CLOSELY RELATED: WE WOULDN'T SEE COLOR WITHOUT LIGHT, AND YET light is composed of color. Breaking down the visible spectrum reveals the colors of the rainbow: red, orange, yellow, green, blue, indigo, and violet. Colored light is found naturally when sunlight passes through the many layers of the atmosphere and becomes scattered. There is a beauty and attraction in colored light that cannot be found in pigment or dyes. Colored light has a celestial quality, as it seems pure, luminous and radiant. As lighting designers, we can harness this power of color. Using color in light, we can direct the viewer's attention and we can enhance an element of a building, room, or object. Mood can be suggested and changed through light, and can enhance or destroy the visual appeal of a space.

Not sure when to use color? Lighting designer Leni Schwendinger of New York City-based Light Projects has created a check list for evaluating potential design opportunities when it comes to employing colored light. The list includes reinforcing identity, enhancing an architectural element, or creating an artistic interpretation. For Schwendinger, a successful lighting design strengthens the existing color, texture, or shape of the object and/or surface. This approach,

she feels, renders the object as "more of what it already is." However designers choose to use color and light, and in making the decision to employ this element, architects and lighting designers need to ensure that their design and method support the project objectives. Implementing color into a lighting design requires a responsible hand, and, as most lighting designers would agree, should not be introduced just for the sake of color itself.

## A CASE IN POINT

Completed in November 2006, one project that explores the use and role of colored lighting as an integral part of the design approach is the Adopt A Room program at the University of Minnesota Children's Hospital, Fairview, in Minneapolis. It is a pilot program focused on creating comfortable surroundings for severely ill children and their families, whereby private and corporate donors can adopt and sponsor the renovation of hospital rooms. A typical pediatric hospital room environment was evaluated by children and their families, as well as by nurses and doctors, and these participants conceptualized design ideas for the ultimate dream room. Qualities



Tri-colored LEDs may project moving images such as "Rainbow Spiral" (top), or static colors such as amber (above left) or blue (center). Bedside touch screens allow the user to tailor room color and brightness to their preference (above right).

deemed most important were a sense of comfort, control of the room, and a connection to the outside world.

In a charrette held by the architectural and interior design teams of Perkins+Will's Minneapolis office, the designers behind the project, a group of children who had been patients were asked how they envisioned light in their dream room. Responses included lava lamps, a sky on the ceiling, and the ability to paint the room with color. Taking these ideas into consideration, lighting designer Greg Lecker of Minneapolis-based lighting firm LightSpaces, a division of Michaud Cooley Erickson Consulting Engineers, and his team set out to design a space that met the desires of the children while simultaneously addressing the needs of medical professionals.

### CONTROLLING COLOR

The resulting design is a space where pediatric patients can control the color of their room through cove lighting and something the design team refers to as the "magic ceiling." The lighting design is accomplished with 56 preset color options, 19 tints of white, and 70 effects that may be selected via a touch screen located next to the bed for easy access. Choosing colors for the room was not a simple

task. The designers had to select colors that were bright enough to illuminate the space yet still be noticeably different from one another. Some of the color selections also match the room's furnishing palette. The final color selection is arranged on the touch screen in a color wheel pattern, making it simple for a child to choose his or her desired hue. Lighting effects on the ceiling are mimicked with the cove, giving the impression that the architectural ceiling is floating and that the sky is just beyond. Most of the effects emulate nature, with titles such as "Snow," "Moving Clouds," and "Sunset."

The development of the magic ceiling was particularly challenging to design. A nod to the children's desire to feel more connected to the outside world, the magic ceiling has an oval shape to take the form of a porthole to the sky. Above the opening sits an array of 15 2-by-2-foot iColor tiles. Each RGB panel contains 144 tri-colored light-emitting diode (LED) on 2-inch centers that are individually addressable. The colors and effects are created by a control system, which allow up to 200 different effects, static or moving. Using a virtual map of LED pixels and nature photography, programmers compiled the still and animated "shows" projected on the oval above the bed. The diffusing material stretched across the opening is a translucent

PHOTO BY GREG LECKER (TOP)

# No Converter No Ballast



## Acriche is a Semiconductor EcoLight.

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

The innovative semiconductor light source  
that runs directly from  
AC power without the need of  
an AC-DC converter or a ballast.



## Super bright and stunning light!

**Z<sup>Power</sup>**  
**LED.COM**

Single die Z-power LED of 240 lumens at 1 A, **The P4**  
(100 lm/W @ 350 mA)



plastic and allows for visibility of the video-like effects. A ceiling mock-up helped the design team figure out the optimum distance between the diffuser and the LED panels; too close and the plastic was not evenly lit, too far and the pixilated effects became distorted. Based on the mock-up, a distance of 2 inches was agreed upon. Each color selected a specified quantity of red, green, and blue within the tri-colored LED. For example, pure red was coded as 255-0-0, while chocolate was 210-105-30, meaning 210 parts red, 105 parts green, and 30 parts blue. All of the 75 chosen colors (the 56 presets and the 19 hues of white) had to be individually programmed into the system so a child could recall a favorite color at any time. Many children find a specific color, such as blue, particularly soothing.

Cove lighting around the perimeter of the room utilized the iColor Cove MX Powercore fixture. This lighting element was pro-

grammed to match the color or effect chosen for the ceiling. For example, if a child chooses the "Moving Clouds" effect, the cove lighting transitions from blue to white to synchronize with the ceiling. By harmonizing the cove lighting with the magic ceiling, the child has the opportunity to craft his or her own individual environment to custom-tailor the space. It is like a full-scale, real-time coloring book children can create from their patient bed.

The Adopt A Room project was conceived as a way to create a space for pediatric patients, their families, and their caregivers that is dynamic yet creative and comforting. Light and color go well beyond utilitarian purposes as they provide children who are dealing with serious illnesses a way to control and change their surroundings, allowing them an escape, however brief, from the hospital world to one of their imagination. **JEN BICKFORD**

**Shielded halogen pinhole accents provide exam lighting and highlight entry displays (below).**



#### DETAILS

**PROJECT** | Adopt A Room, University of Minnesota Children's Hospital, Fairview, Minneapolis **CLIENT** | University of Minnesota Children's Hospital, Fairview, Minneapolis  
**DESIGN TEAM** | Perkins+Will, Minneapolis (architect and interior designer); LightSpaces, a division of Michaud Cooley Erickson Consulting Engineers, Minneapolis (lighting designer); Michaud Cooley Erickson Consulting Engineers (engineers); Graybow Communications, Minneapolis (audiovisual designer) **PHOTOGRAPHER** | Joel Koyama, Joel Koyama Photography, Minneapolis, except where noted **PROJECT SIZE** | 1,110 square feet **PROJECT COST** | \$1.8 million (two prototypical showcase suites) **INSTALLED LIGHTING COST** | Estimated at \$325,000, not including lighting control panels, lighting controls, or integration with AMX control touch screen **WATTS** | 2 watts per square foot (not including theatrical colored lighting, which adds approximately 5 watts per square foot when all white, although rarely set at this scene) **MANUFACTURERS** | AMX, Boyd Lighting, DeltaLight, Louis Poulsen, Lucifer Lighting, Newmat, Royal Mosa, Philips Solid-State Lighting Solutions/Color Kinetics

Corelite™



Class R 2x2 1-3/4" Height



Class R 2x2 2-7/8" Height

## Limited space, unlimited possibility.

Restricted plenums and low ceilings create challenges for lighting.

The ultra low profile "Class R" delivers low energy lighting with high design impact.

Learn more at [www.corelite.com](http://www.corelite.com)

Circle no. 25 or <http://archlighting.com/productinfo>

Name:

CV1702-1FSS3

# WHAT YOU SEE DEPENDS ON WHO YOU SPECIFY

Parameter

Visa Lighting is leading the integration of **BIM** Building Information Modeling requirements through downloadable files featuring 3D models and metadata across the product line. Light Loss Factor has been defaulted to 1.000000

Electrical - Lighting

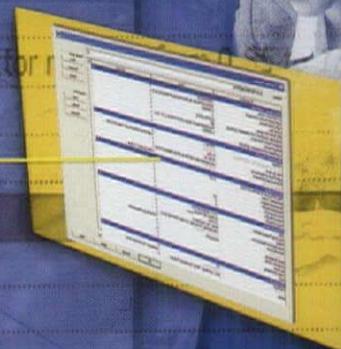
lumens per Lamp

ENGINEERS

Light Loss Factor Comment

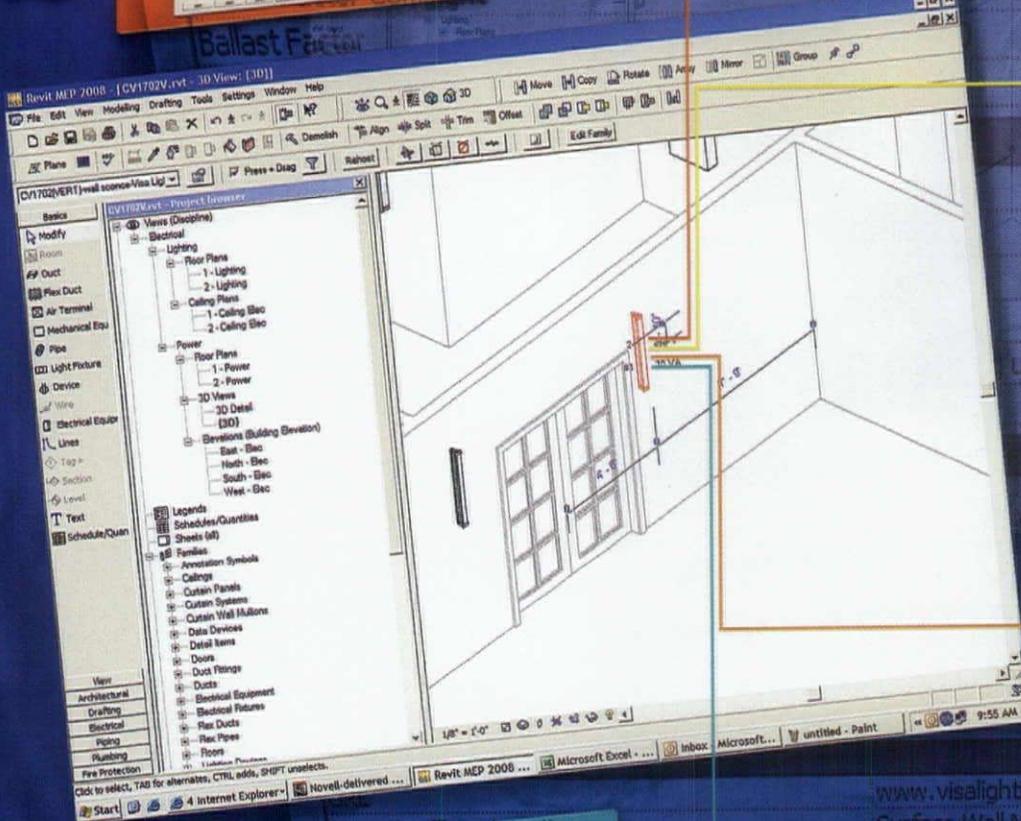


CV1702-1FSS3 ESTIMATING AND ACCOUNTING



uses High Power Factor Ballasts (>0.9) =

ARCHITECTS AND DESIGNERS



www.visalighting.com  
Surface Wall Mount-  
CV1702  
Ether Hot Vert Cell 3'  
Visa Lighting Milwaukee  
Ether Hot Vert  
8/30/2007

A NEW DIMENSION

# 2008

Information is the new dimension at [www.visalighting.com](http://www.visalighting.com).

It's a whole new way to look at Visa Lighting.

1-800-788-VISA  
[WWW.VISALIGHTING.COM](http://WWW.VISALIGHTING.COM)

**VISA LIGHTING**  
An Oldenburg Group Company

Circle no. 396 or <http://archlighting.com/productinfo>

CONSTRUCTION MANAGERS

Lamp



# Manufacturer Claims Abound in the Development of LED Technology

A NUMBER OF MANUFACTURERS CREATING PRODUCTS FEATURING LIGHT-EMITTING DIODE (LED) technology boast that they are offering the best in terms of brightness, efficacy, life expectancy, light output, thermal capability—the list goes on. But while LEDs currently are considered a viable alternative to incandescent or fluorescent lamps in a variety of installations, such as automobile interiors and electronic devices, issues still need to be resolved before LEDs are considered a preferred illumination source for architectural lighting applications. (See “The LED Evolution,” *Architectural Lighting*, Sept/Oct 2007, p. 85.)

August 2007), the number of manufacturers accurately reporting claims about their products has not significantly improved. The following are a handful of products either recently released or currently in development that, according to the manufacturers, are making strides with LED technology.

Philips Lumileds launched a new version of its Luxeon K2 LED featuring thin film flip chip (TFFC) technology. Overall, the manufacturer claims this cool-white LED is the first of a line of products that will lower light costs and deliver more light and higher efficacy. The TFFC



Cree's green XLamp XR-E (left) is said to be 70 percent brighter than the company's previous generation of green LEDs, while GO Lighting Technologies says its GO Flat LED Lighting (right) reduces electrical consumption by 20 percent or more when compared with fluorescent lighting and is fully recyclable with no hazardous disposal requirements. Osram Opto Semiconductors recently introduced the Diamond Dragon (inset), which the company claims is "the brightest single-chip surface-mount LED" on the market and can achieve a brightness of up to 250 lumens.

LEDs still are seen as an emerging technology. The U.S. Department of Energy (DOE) is investing in solid-state lighting (SSL) research and in September 2007 released standards for LED lighting through its Energy Star program that will take effect Sept. 30, 2008. Major players in the lighting industry, such as Philips Lumileds, Cree, and Osram Opto Semiconductors, in addition to others, realize they cannot afford to fall behind when it comes to advancements in LED technology. But debate surrounds manufacturer claims that their LED products are the brightest or the longest-lasting based on the testing of the LED source itself, not its performance when actually installed in a manufacturer's luminaire. With new LED products being released on a regular basis, many manufacturers are quick to pronounce that their product is "a first," "the best," or "blowing away the competition"—but architects and lighting designers should be aware of the possibility that some of these statements might be inaccurate. While the DOE is conducting solid-state luminaire testing (the most recent results were released in

technology assists in offering an improved light output, thermal capability, and optical performance. According to Philips, the Luxeon K2 with TFFC is the only LED designed, binned, and tested for standard operation at 1000 milliamps (mA), with capabilities of being driven at 1500mA. The product is best suited for security, roadway, or spot lighting applications and is designed to operate in harsh environments.

Osram Opto Semiconductors introduced the Diamond Dragon, a product that achieves a brightness of up to 250 lumens and is available in a white color temperature ranging from 2700K to 6500K, in addition to monochromatic colors. The manufacturer says it is the "brightest single-chip surface-mount LED" and that the technology is appropriate for applications such as indoor lighting and signal lighting. With an expected lifetime of 50,000 hours, the product is rated for 5W to 8W input power and is compatible with devices allowing upgrades for current Golden and Platinum Dragon users.

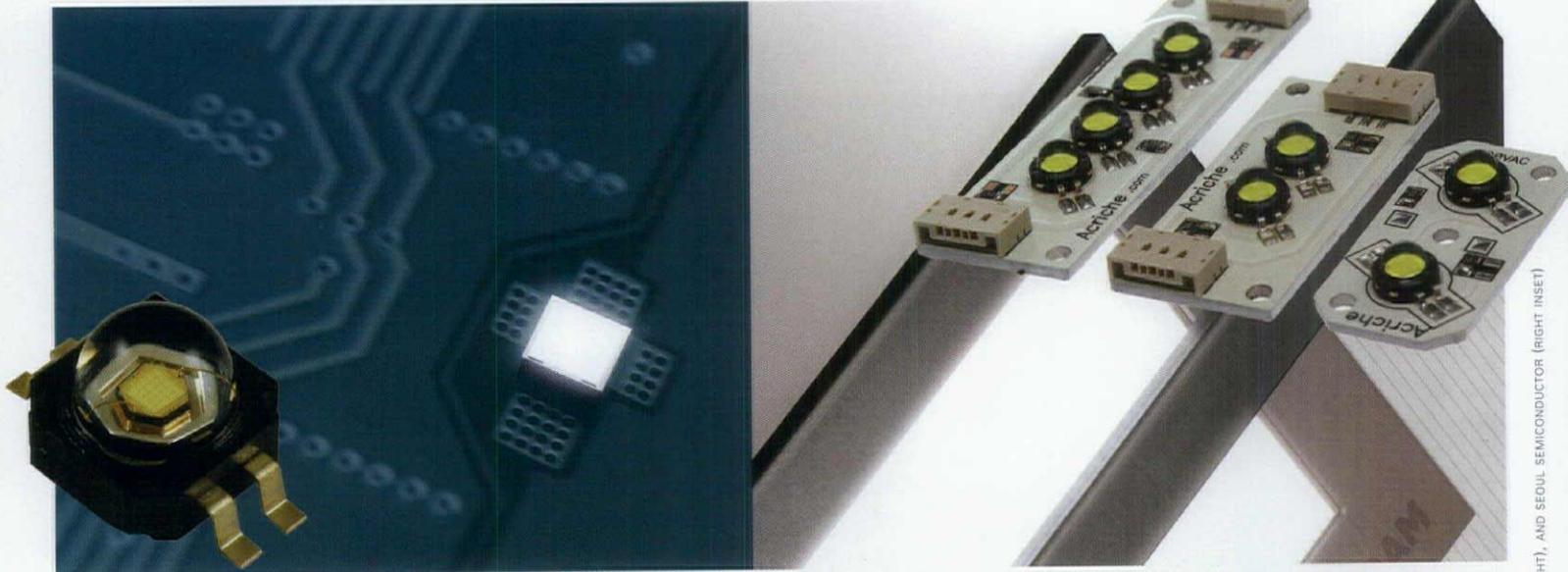
Another product touting enhanced brightness is Cree's green

XLamp XR-E LEDs, which, according to the manufacturer, are 70 percent brighter than its previous generation of green LEDs. Now available commercially, the XR-E produces a maximum luminous flux of 875 lumens at 350mA. Norbert Hiller, Cree vice president and general manager for lighting LEDs, states in a press release that the product complements "the previously released blue XR-E LEDs for industry-leading performance in RGB LED applications" and allows customers to build more efficient, cost-effective fixtures using fewer LEDs.

Toronto-based GO Lighting Technologies recently introduced GO Flat LED Lighting (GO FLL) in November 2007, at the Property Management and Exposition and Conference in Toronto. Claims made by GO about GO FLL include the reduction of electrical consumption by 20 percent or more when compared with fluorescent lighting; a

lumen for cool white at a rated current of 350mA, according to the manufacturer. With a color rendering index (CRI) of up to 90 in the warm white range, powerXED is applicable for retail, medical buildings, and façade lighting applications and is expected, Lexedis says, to meet the high-performance light source requirements of architects, lighting designers, and lighting engineers by exceeding the CRI of 70 to 80 that is prevalent in fluorescent lighting. Boasting a life expectancy of more than 50,000 hours, powerXED is available in four correlated color temperatures in the white light range: 3000K, 4200K, 5700K, and 6500K.

A number of prototypes in development aim to push LED technology even further. Osram Opto Semiconductors has crafted a transparent white organic light-emitting diode (OLED) prototype that is said to have a luminous efficiency of more than 20 lm/W at a brightness of



**Philips Lumileds recently introduced the Luxeon K2 LED (left inset), which the company says is the first of a line of products that will lower light costs while delivering more light and a higher efficacy. PowerXED (left) from Lexedis Lighting is said to have "excellent thermal management" in addition to a color rendering index of up to 90 in the warm white range. Osram's organic light-emitting diode (OLED) prototype (right) boasts a luminous efficiency of more than 20 lm/W at a brightness of 1,000 cd/m<sup>2</sup>, while Seoul Semiconductor claims its product Acriche (right inset), a semiconductor light source for AC power outlets, achieves near-daylight quality with 42 lm/W.**

lifespan of up to 50,000 hours; no ultraviolet radiation or electromagnetic interference; and being fully recyclable with no hazardous disposal requirements. Sealed to keep out dust, insects, and humidity, the polycarbonate surface is resistant to temperature swings, will not become discolored, and saves on maintenance and labor costs because the need to change ballasts or replace tubes is eliminated. GO FLL fixtures can be mounted either vertically or horizontally or recessed into the floor.

Acriche, the world's first semiconductor lighting source for AC power outlets according to its manufacturer, Seoul Semiconductor, features a near-daylight quality warm white with 42 lumens per watt (lm/W). The manufacturer states that Acriche offers power efficiency compared with incandescent and halogen lamps and is ahead of fluorescent lamps in terms of lifespan, power usage, and convenience. The warm white Acriche with 42 lm/W is, according to Seoul Semiconductor, 20 percent more efficient than a conventional warm white DC LED with a luminous efficacy of almost 35 lm/W. The product is said to have a 35,000-hour lifespan and does not contain environmentally harmful substances such as mercury, nitrogen, or lead.

Lexedis Lighting, an Austria-based startup company of the Zumtobel Group focusing on LED products, recently introduced powerXED, a digital light source with a power emitter capable of delivering up to 60

1,000 candelas per square meter (cd/m<sup>2</sup>). The OLED tile is transparent whether powered on or off. Currently its transparency is rated at 55 percent, however, as product development continues, Osram is pushing for it to reach 75 percent.

Another prototype, from Morrisville, North Carolina-based LED Lighting Fixtures (LLF), claims it "shatters [the] world record for energy efficiency" with its PAR38 self-ballasted lamp, producing 659 lumens at 5.8W of wall-plug power, resulting in 113.6 lm/W. This prototype, which LLF plans to release in the next two years, recently underwent steady-state testing by the National Institute of Standards and Technology and used Cree XLamp and Osram Golden Dragon LED products as the diode source. The testing found that the LLF prototype had a CRI of just over 90 and would use less than 9 percent and 30 percent of the energy consumed by incandescent and fluorescent sources, respectively.

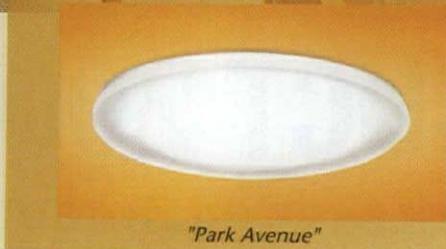
While many consider LEDs to be the lighting source of the future, the technology still has a long way to go. But with the current research and advances, in addition to what we can expect in the coming years, LEDs likely will become a cost-effective, energy-efficient light source suitable for a wide range of architectural lighting applications. With more accurate testing methods, the gap between claim and performance will be closed. **JENNIFER LASH**

PHOTOS COURTESY OF PHILIPS LUMILEDS (LEFT INSET), LEXEDIS LIGHTING (LEFT), OSRAM OPTO SEMICONDUCTORS (RIGHT), AND SEUL SEMICONDUCTOR (RIGHT INSET)



"Miriam"

# Focus on Function ... and Flair



"Park Avenue"



"Deco"



"Essex"

## Pathway delivers both function and flair!

Announcing a new offering of Decorative Glass Elements that deliver visual flair and efficient performance. These products accessorize our Coventry Architectural family of 6" aperture downlights which are offered in a wide range of lamp sources. A variety of applications can be served including restaurants, office environments, lobbies and retail stores.

Decorative Elements are standard in frosted white glass and are available in four styles; Miriam, Park Avenue, Deco and Essex.

For complete information including requests for custom colors, please consult your local Pathway sales representative.

*Coventry*  
Architectural Series

Brighten your bottom line with  
**PATHWAY**<sup>®</sup>  
*the Lighting Source*

Pathway Lighting Products, Inc., Old Saybrook, CT 06475-0591  
voice: 800.342.0592 • e-mail: sales@pathwaylighting.com • web: www.pathwaylighting.com  
Circle no. 389 or <http://archlighting.com/productinfo>

# The Art and Science of Building

Where  
**ARCHITECTS**  
**ENGINEERS**  
**SPECIFIERS**  
**CONTRACTORS**  
**FACILITY OWNERS**  
**CSI MEMBERS**  
**BUILDING PRODUCT**  
**MANUFACTURERS**  
and  
**YOU**

Choose from over 100 expert-led educational sessions.

Network with peers in the engineering, contracting and architectural fields.

Check out the latest products, information and services from hundreds of building product manufacturers.

Participate in the CSI Annual Convention and attend the numerous educational and social events.

Join thousands of commercial, industrial, and institutional construction professionals and hundreds of exhibiting companies as they come together to interact, discover and increase business.

## CONSTRUCT 2008

### THE ART AND SCIENCE OF BUILDING

hanley  wood

SPONSORED BY 

**EDUCATION:** June 3-6, 2008

**EXHIBITS:** June 4-6, 2008

Las Vegas Convention Center

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

Online Registration  
opens February `08

# OPTA

DESIGNED BY ROBERTO FIORATO

A family of suspended and ceiling mounted luminaires featuring precisely designed faceted glass with chrome plated die cast and extruded aluminium housings.

OPTA is made available in 3 sizes and 6 standard glass colors including an all new Red, with custom glass and housing colors upon request. Offering a wide range of light sources up to 4x42W compact fluorescent, 150W incandescent, and 150W ceramic metal halide. Glass cover lenses available.

Ideal for a wide variety of applications including retail, restaurant, commercial office and high end residential.



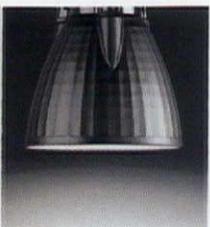
Red



Blue



Yellow



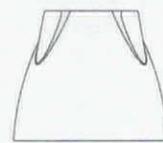
Silver Gray



Matte



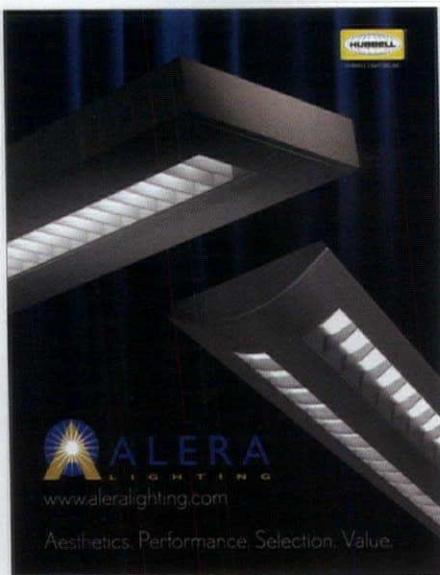
Transparent



PERFORMANCE IN LIGHTING

**PRISMA**<sup>®</sup>  
ARCHITECTURAL LIGHTING

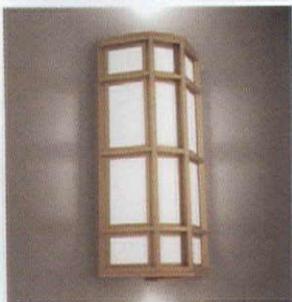
www.prismalighting.com - 866.373.2292  
Circle no. 52 or <http://archlighting.com/productinfo>



**ALERA**  
LIGHTING  
www.aleralighting.com

Aesthetics. Performance. Selection. Value.

Circle no. 300



**Winona Lighting's** Decorative Division is pleased to introduce its newest line of distinctive exterior fixtures. Offered in a variety of scales, metal and paint finishes, lens options and lamping configurations, Exteriors 3.0 is the perfect solution for your next exterior wall sconce application.

www.winonalighting.com

800-328-5291

Circle no. 301



**UNEQUALED**

www.prescolite.com/LED

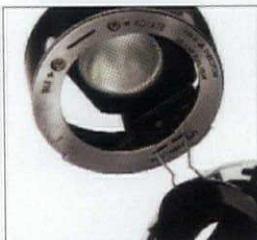
Circle no. 302



**Visa Lighting** integrates optically enhanced LED sources into Infinity Arts, curved modular lighting system. Slender design configured from selections of contours create a ribbon-like appearance. Light projected above accentuates the shape of the luminaire. Points of aimable downlights are available for sparkle and accent lighting. Contact us

www.visalighting.com  
800.788.VISA  
info@visalighting.com

Circle no. 303



**Focal Point** introduces a truly innovative luminaire that will change how you think about downlights. Adaptable and easy to use, ID solves aesthetic and construction issues common with current downlight products. ID allows you to create, construct, and maintain the design of light as never before.

Think different. Think smart. Think ID™, the Intelligent Downlight.  
www.focalpointlights.com



Circle no. 304

**Halo Art Glass Expansion**

Halo has added new styles, colors and sizes to its handmade Art Glass Family Collection. The individually crafted, hand blown art glass pendants feature beautiful hand rolled edges and offer a distinctive piece of functional art in any home, restaurant or office. New shapes include a Cylinder, Beret and Haloid (globe), and 14 new color choices include (l to r) Mossy Web, Candy Apple, Irish Coffee and Sandstone.

www.cooperlighting.com  
or  
TalkToUs@cooperindustries.com

Circle no. 305



New Post-top Mount for Beta LED's THE EDGE

The new post-top mount for Beta LED's THE EDGE area fixtures is now available. THE EDGE is a general illumination LED luminaire setting a new standard in lumens-per-watt performance with longer life, exceptional heat dissipation, and a sleek, cutting-edge profile.

www.BetaLED.com

Circle no. 306

**LUTRON**

**Hi-lume® 3D dimming ballasts**

Highest efficacy—Up to 94 lumens per watt  
Best performance—100% to 0.7% of full light  
Superior versatility—Universal voltage and small 1"-high profile

www.lutron.com/H3D



Circle no. 307



**Venus Recessed LED Fixture  
SR2002**

Sirius Lighting's Venus recessed high output LED fixture with extra long LED life: 50,000 hours (dependent on surrounding temperatures). Uses Lumileds Luxeon™ LED. Available in two beam spreads: 30° and 60°; and two color temperatures: 3000°K (warm) and 5500°K (cool). Fixture is milled from solid brass and finished in platinum.

Circle no. 308

**DEADLINE:**

**March 3, 2008**

# CALL FOR SUBMISSIONS

## 2008 Lightfair Market Issue Product Guide

Architectural Lighting Magazine invites you to forward new product information for editorial consideration in our June 2008 Lightfair Market Issue Product Guide. Submitted products should have been released since June 2007. This annual special issue showcases more than 200 products in 15 product categories.

### Product Categories

- Daylighting and Solar Controls
- Decorative
- Downlights
- Emergency
- Fiber Optics
- Indirect and Direct/Indirect
- Industrial
- Lamps, Ballasts, and Controls
- LEDs
- Outdoor and Landscape
- Software
- Specialty
- Task
- Theatrical
- Track

### Material Submission Requirements:

- All artwork must be 300 dpi and at least 4" x 6" or the closest approximation. Appropriate file types are Photoshop TIFF, EPS, or PSD and should be formatted for a Mac. There should be no text on the images; that information should be included in the printout. Please label the digital images using the following format: "Manufacturer\_Product Name".
- Color printout of digital image(s).
- Include the submitter's name, address, phone number, and e-mail address on the color printout. Also label the printout using the naming format above.
- Printout of product description.
- Include a press release with information about the product(s) as well as a technical spec sheet with the product details. Also include the submitter's name, address, phone number, and e-mail address on the product description page.

Product submissions must include the following:

- Submitter's contact information
- Product information sheet
- Disc with images in correct format
- Color printout of images

*Please send materials to:*

Elizabeth Donoff, Editor, Architectural Lighting Magazine, Hanley Wood Magazines, One Thomas Circle NW, Suite 600, Washington, DC 20005-5811

Please note: Submissions cannot be accepted electronically.



Hanley Wood is pleased to be an American Institute of Architects Continuing Education Service Provider (AIA CES).

For a complete list of available courses, course details and access to the FREE online exam, go to:

## ARCHITECT

CONTINUING EDUCATION

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

- Select "Resources"
- Select "Continuing Education Center"

## residential architect

CONTINUING EDUCATION

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

- Select "Continuing Education"



CONTINUING EDUCATION

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

- Select "Industry"
- Select "Continuing Education Center"

## ARCHITECTCES

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

# HANLEY WOOD UNIVERSITY OFFERS FREE CONTINUING EDUCATION COURSES

## Meet AIA Requirements Online, Anytime!

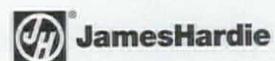
**Welcome to Hanley Wood University, our continuing education program.**

This free program—both in print and online—has been developed to help architects meet the AIA's annual 18-credit continuing education requirements. Throughout the year, participating magazines will provide full course materials either online or in print. These materials can be accessed by either visiting the individual magazine's web sites and following the links (see sidebar for information), or by visiting the centralized portal at [www.architectces.com](http://www.architectces.com).

**Hanley Wood University** is a turnkey program designed for architects to gain access to the information they need, at their convenience, whether at home or in the office.

Many companies who market products to architects have developed AIA-registered courses within a broad array of subject areas. Whether in print or online, architects can use these sponsored course materials and online postings to gain the background necessary to successfully complete the AIA exam, which can be taken online.

Look for more AIA-registered course materials throughout the year. Current course materials can be found online from the following companies:



## AD INDEX DETAILS

PAGE	ADVERTISER	CIRCLE NO.
5	Alera Lighting	85
69	A L Call for Submissions	
12	A L Design Awards	
14	Amerlux	99
19	Architectural Area Lighting	381
59	Ariche	392
9	Bartco Lighting	21
50	BetaLED	69
4	Brass Light Gallery	54
66	Construct 2008	
10	Con-Tech Lighting	24
61	Cooper Lighting	25
6	DIAL (Deutsches Institute fur Angewandte Lichttechnik)	383
2	Focal Point	49
71	G Lighting	74
23	Gotham Lighting	33
17	Heatron	89
70	Hanley Wood University	
C2-1	Hubbell Inc.	59
55	Insight Lighting	79
C3	Kim Lighting	34
7	Litecontrol	387
C4	Lutron	37
65	Pathway Lighting	389
24	Peerless	393
3	Prescolite	40
67	Prisma Architectural Lighting	52
13	SEDAP	380
18	Sentry Electronic Corp.	46
16	Sirius	55
21	SPI Lighting	394
22	Universal Lighting	47
62	Visa Lighting	396
20	Wheaton Glass	395
56	Winona Lighting	397

Publisher is not liable for errors or omissions.

Looking to create continuing education courses?

Do you have existing coursework?

**Hanley Wood University can help.**

**Hanley Wood offers full-service CEU management, whether advertisers have existing coursework or not.**

From creation to implementation to management to marketing, Hanley Wood is the only partner you need to introduce architects to your continuing education programs.

**ARCHITECT** RESIDENTIAL architect

**AL**  
architectural lighting



**Lighting**  
GROSS CHANDELIER

Fine Lighting Since 1908

**Sophia Outdoor**



Available with Metal Halide and Fluorescent Lamping

St. Louis, MO

800-331-2425  
Fax 314-631-7800

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

[sales@glighting.com](mailto:sales@glighting.com)

Catalog and custom lighting to meet your specifications.

**Celebrating 100 years!**

Circle no. 74 or <http://archlighting.com/productinfo>

## The Design / Energy Code Debate ... *continued*

In keeping with *Architectural Lighting's* editorial mission—to promote dialogue in all forms—it is gratifying when an article prompts spontaneous discussion among members of the lighting community. Such an instance occurred—an e-mail

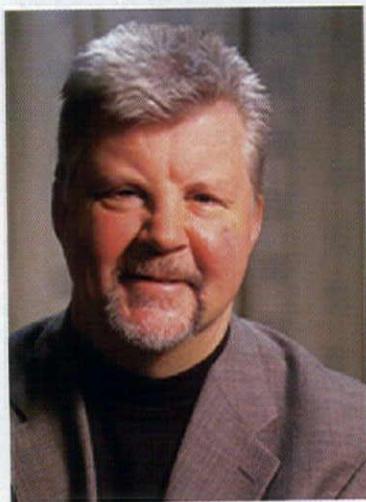
exchange between Dawn Hollingsworth, Jim Benya, Francesca Bettridge, and Gary Flamm—in response to Bettridge's Sept/Oct 2007 article, "Observations From Practice." The discussion also continues the Sept/Oct Exchange topic: How

do you balance the design process while adhering to energy code requirements? Exchange topic responses are always welcome from all readers. **Replies and proposed topics can be submitted directly to [edonoff@hanleywood.com](mailto:edonoff@hanleywood.com).**

### DAWN HOLLINGSWORTH | Principal | VISUAL TERRAIN

In case you missed "Observations from Practice,"—a good read.

### JIM BENYA | Principal | BENYA LIGHTING DESIGN



Thanks for making this article a relevant part of our discussion. I'm fond of the author [Bettridge] and consider her firm's work among the finest being practiced.

That said, I'd like to observe that among her criticisms, many are 90.1 specific. I believe that 90.1 and IECC are inferior to Title 24, and her comments support my belief. For instance, the RP-1 allowance and outdoor lighting restrictions that are not adaptation and environmentally based are examples of how badly 90.1 lags [behind] Title 24 in evolution.

However, a larger point in the article is that lighting codes are unfair. She uses examples such as toilet rooms (I agree with this one) and rooms with dark wood walls to illustrate how the code does not allow for common everyday lighting problems. Here's where maybe we have a departure in opinion. Lighting codes are not intended to restrict specific spaces, so when a particular space needs more [illumination], it needs to be taken from savings elsewhere. For example:

- Dark finishes make the process harder for lighting, but the cause is poor architecture relative to the environment. The code is intended to improve the performance of the entire building, not just the lighting.
- Exemptions are given when a case has been made (i.e., gaming areas) that, due to the process, it is not beneficial to regulate lighting power. These unique cases, which also include television lighting, etc., are the result of development committee consensus and a public process.

The point I most wish to make is the historically feeble involvement of lighting designers in the development process. I am sorry to say that until only this year, the IALD has left its participation up to a small group of volunteers—the principal players include Hy Kaplan, Nancy Clanton, Ron Kurtz, JoAnne Lindsey, Hayden McKay, Mark Loeffler, Naomi Miller, Kathy Abernathy, myself, and a few others. Whether it's Title 24, IECC, 90.1, or LEED, until only recently you'll more than likely find lighting design relying upon the personal skills, influence, time, and funding of this group.

But thanks to an enlightened board and officers, the IALD is now stepping up and putting money as well as people behind a purposeful effort to have more influence. It is overdue and badly needed. As a person who has often fought for more lighting power, time and time again, against powerful pressures to reduce lighting, it will be great to have other IALD representatives keeping the pressure on the regulatory process to properly and fairly address lighting.



### FRANCESCA BETTRIDGE | Principal | CLINE BETTRIDGE BERNSTEIN LIGHTING DESIGN

Jim makes some very good points, specifically how important it is for the design community to be involved, and he is correct that it has been shouldered by a minority of designers. About Jim's points, I'd like to add some comments.

- *Lighting codes are not intended to restrict specific spaces...* This depends on the method one is using—space-by-space or overall building. It is not always possible to "rob Peter to pay Paul." One of the points I make is that when higher light levels are called for (i.e., library stacks) and you borrow within the same space, it can lead to an imbalance in the lighting and compromise the design.

- *Dark finishes make the process harder for lighting...* Not all dark surfaces are poor architecture. Sometimes natural woods and stone are dark, and it is important to the composition and the style. It is our job to educate the clients and architects, when necessary, on the effects and the limitations of the available power to illuminate these surfaces.

- *Exemptions are given when a case has been made (i.e., gaming areas) that due to the process, it is not beneficial to regulate lighting power...* I agree that there are unique cases where it is better not to regulate lighting power, but I strongly disagree about gaming areas. These are 24-hour spaces that rely on lighting for atmosphere or to illuminate tables and could easily use HID sources and fluorescents instead of all the incandescents. On the other hand, it is very difficult to provide preferred lighting schemes for spaces that demand high light levels (such as labs).

I agree with Jim that there needs to be more development in committees and an open public process to keep refining the requirements that we are all using now. We all need to be looking at this rapidly changing situation and keep our communication with each other going strong.

### GARY FLAMM | Lighting Program Lead | CALIFORNIA ENERGY COMMISSION

I appreciate being privy to this dialogue. Regarding gaming types of spaces in Title 24: It is the responsibility of the Energy Commission to establish that an energy efficiency measure is cost effective, technically feasible, and saves energy. Each time we initiate a new rulemaking process, a host of proposals, studies, and analyses are presented to us for consideration. One reason that some spaces have not yet been regulated is because no one has done the baseline assessment to qualify and quantify the potential energy savings for that measure. If someone would bring to us the required completed field study and analysis for gaming types of spaces, we would be able to publicly vet the idea among all of the stakeholders for possible adoption in the next round of standards. Much of the completed analysis comes to us from the electric utility companies. Eventhough lighting for gaming spaces may have high-energy use per square foot, there might not be enough total square feet of space in the state for anyone to invest in the required analysis. Another consideration is that virtually all of the casinos in California are on sovereign Indian land, which is not regulated by Title 24. However, some casinos do voluntarily try to meet energy standards, so it might be useful to provide a standard for such use.

# WARP9™

VISUAL STEALTH ILLUMINATION

A concept long overdue yet one that is light years ahead of its time.

CONTACT YOUR LOCAL AGENT FOR A PRIVATE SCREENING  
PRESENTED BY **KIM LIGHTING** A DIVISION OF **HUBBELL LIGHTING, INC.**

**WP9**



**KIM LIGHTING**

Site/Roadway • [www.kimlighting.com](http://www.kimlighting.com) • 626.968.5666

Deliver the magic of the best dimming performance and the highest efficiency

## Introducing Hi-lume® 3D

Photo by Nic Lehroux



### Best Performance

100% to 0.7% of full light—create the “wow” for clients

### Highest Efficiency

Up to 94 lumens per watt—the best of any dimming ballast

Additional benefits:

- Universal voltage (120V or 277V)
- Slim 1"-high profile

In 1973, Lutron created Hi-lume, the first electronic dimming ballast able to dim fluorescent lights to 1%. Find out how the new Hi-lume 3D dimming ballast enhances your projects at [www.lutron.com/H3D](http://www.lutron.com/H3D) or call 1.866.898.3615 for immediate consultation.



Circle no. 37 or <http://archlighting.com/productinfo>