

OCTOBER  
2000

# architectural lighting

2000  
APPLICATIONS ISSUE

*Projects & Products*

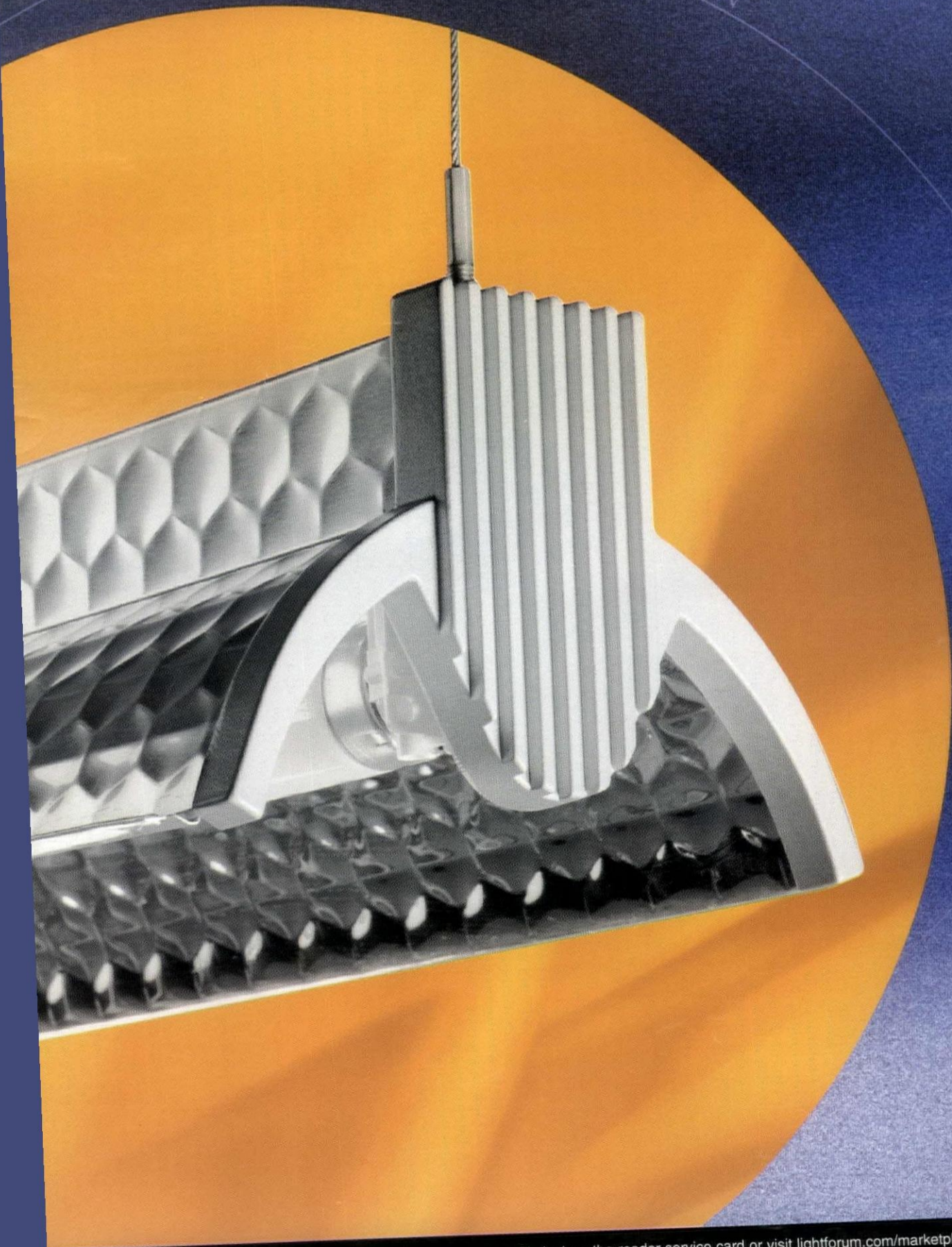
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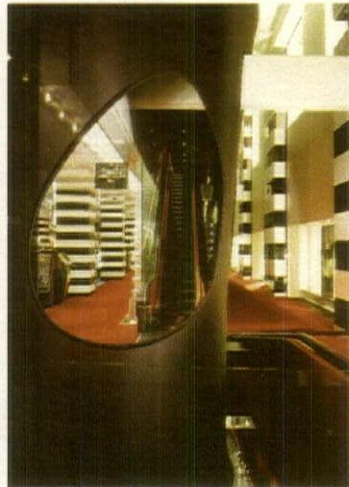
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18



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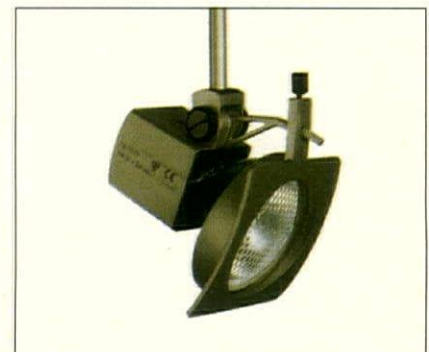
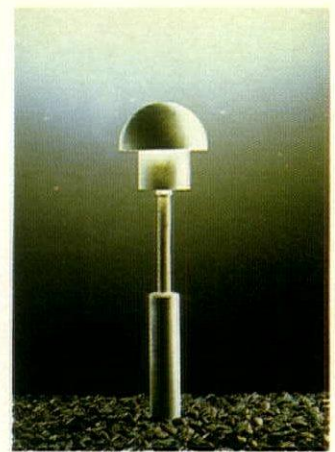
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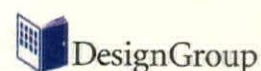
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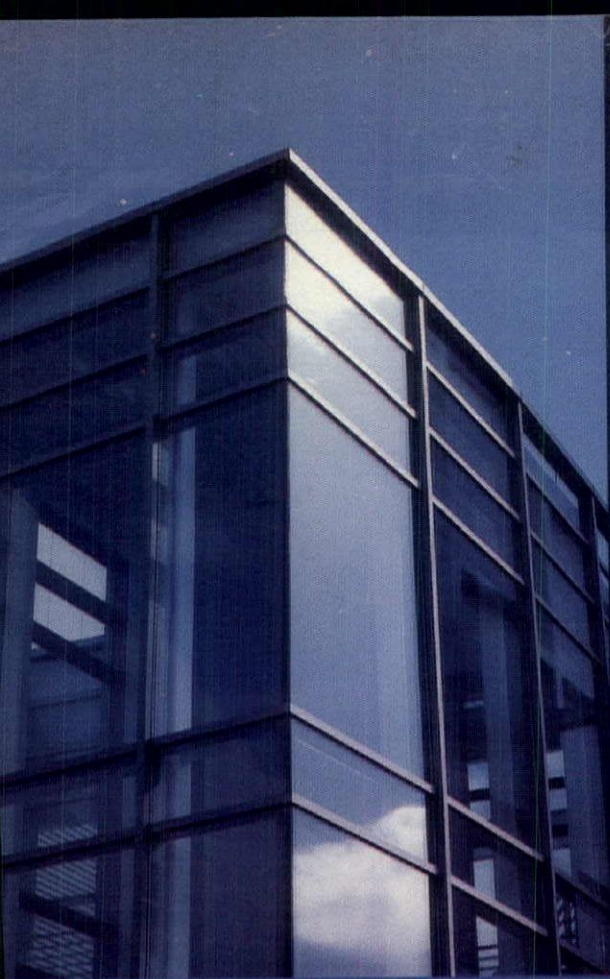
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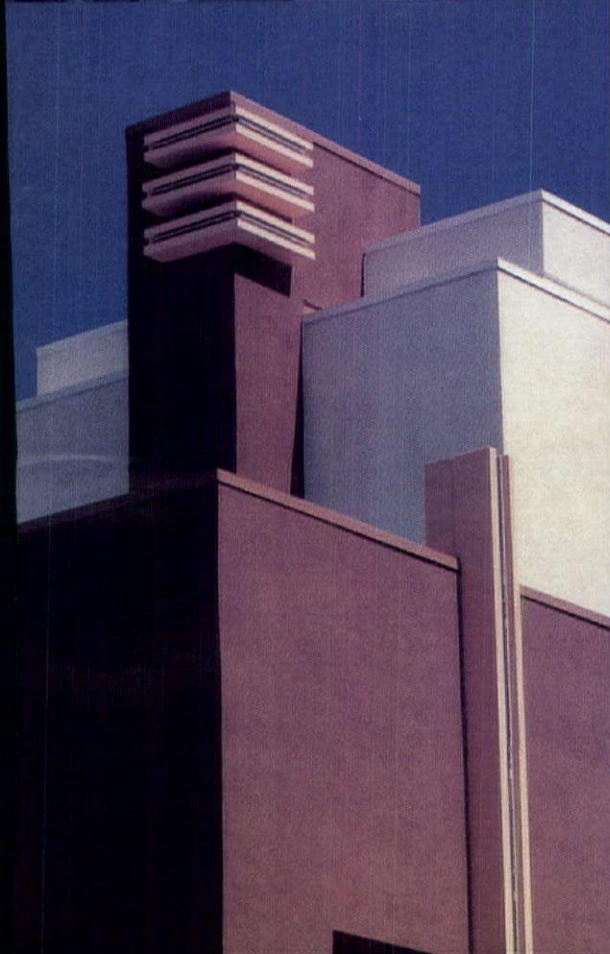
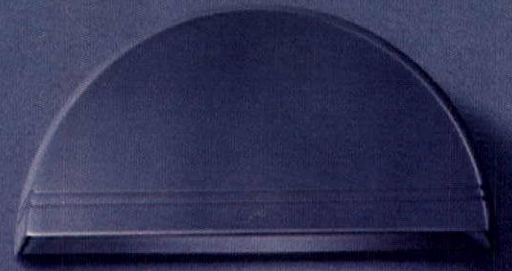
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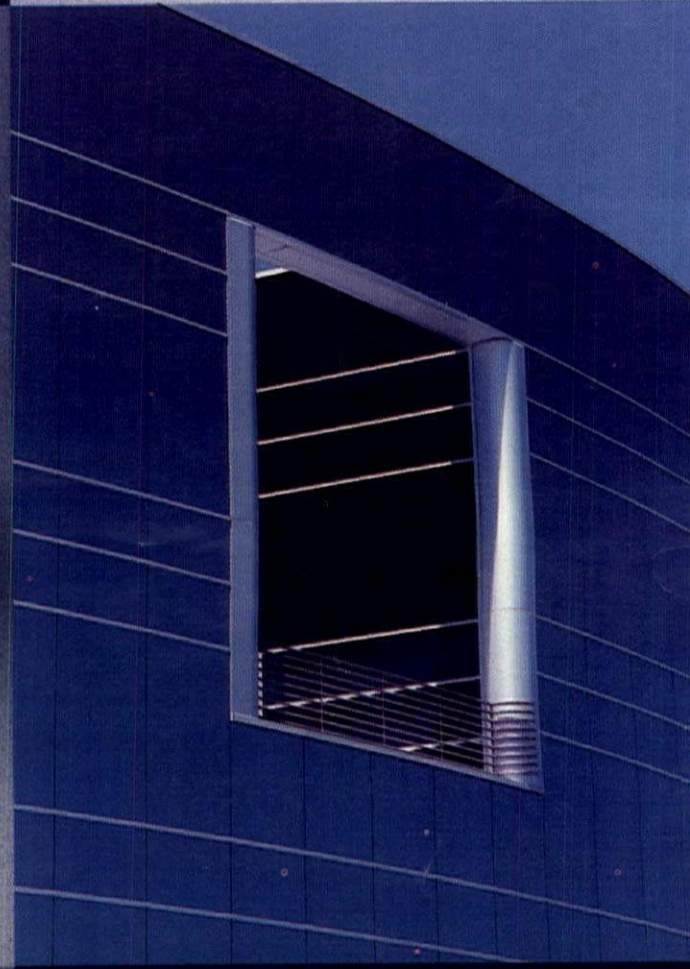
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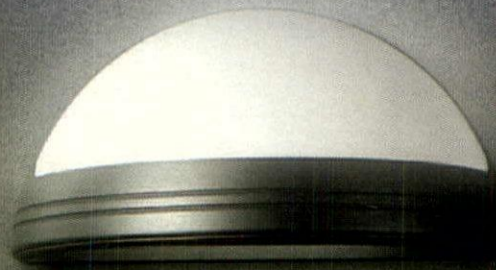
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## IT'S A BIG DEAL...

Is bigger always better? Not necessarily. But at *Architectural Lighting*, we believe that it is, at least, impressive.

This month, we're excited to once again deliver to you our over-sized—and, we think, much anticipated—"2000 Applications Issue." Making its second annual appearance, this specific edition showcases selected projects in a particularly dramatic and visual manner—enabling readers to



PHOTO BY CHRIS LAMB

CHRISTINA TRAUTHWEIN  
EDITOR-IN-CHIEF

immerse themselves in the photographic beauty of the designs and focus on the more specific details of each project.

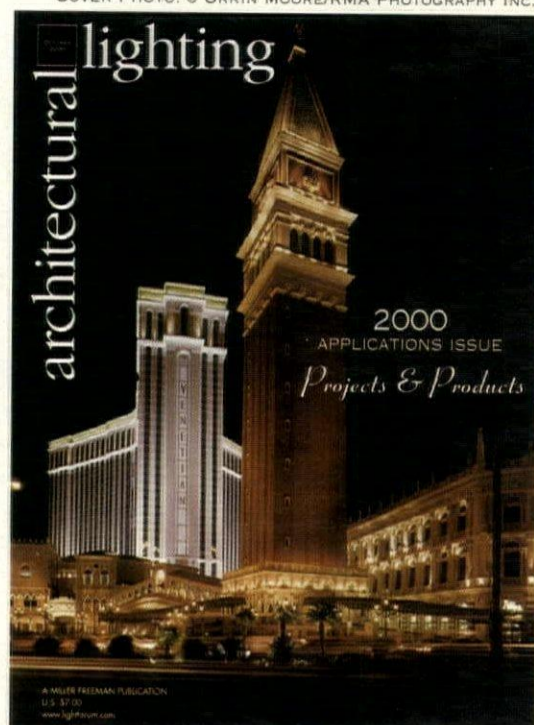
At *Architectural Lighting*, we continue to hear requests from readers for "projects and products." You just can't seem to get enough of either. So why not provide both, we thought, and in a comprehensive and

integrated fashion?

On the following pages we present a variety of projects and the products used within them. We've included a wide range of applications, both indoor and outdoor, in major vertical markets—from office to residential. After describing the details and concepts that went into each of the lighting solutions, we attempt to answer the questions "how'd they do that?" and "what was used?" by including information, through photos and descriptions, about the primary products specified for each project, as suggested by the lighting designer.

And remember, the editors at *Architectural Lighting* want to review *your* best lighting project for consideration in our magazine. We're interested in creative, innovative and practical lighting solutions. Send us your project—include a written description explaining the objective, scope, philosophy and planning in as much detail as possible; sharp, high-quality color transparencies focused on the lighting achievements (either 4x5s or 35 mm slides); and, if possible, sections or technical details that illustrate the solutions, any special fixtures, installations or other notable features of the project.

COVER PHOTO: © ORRIN MOORE/RMA PHOTOGRAPHY INC.



By sending us your work for possible publication, not only will your work be showcased in the best light possible, you will be able to share your successes with your peers, enabling them to learn from your solutions and to incorporate your ideas and suggestions into their next challenging project. ■

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Each member of Lumière's Coronado line of metal halide fixtures is a unique specification grade fixture designed to use the newest in high technology natural color rendering metal halide lamps.

Unique, timeless, and patented design, and patented fixture aiming mechanism set these fixtures at the summit, above all others in their class. The ADEX Award winner for landscape lighting, the Coronado series adds to the long roster of Lumière fixtures honored for design excellence.

Available in versions to accept the PAR 20, 35 watt (Cat. #720), PAR 30, 35 or 70 watt (Cat. #730, pictured), and PAR 38, 70 or 100 watt (Cat. #740) metal halide lamps. Coronado fixtures can be mounted in the ground, on trees or walls, and can be remoted from their waterproof composite ballast compartment.

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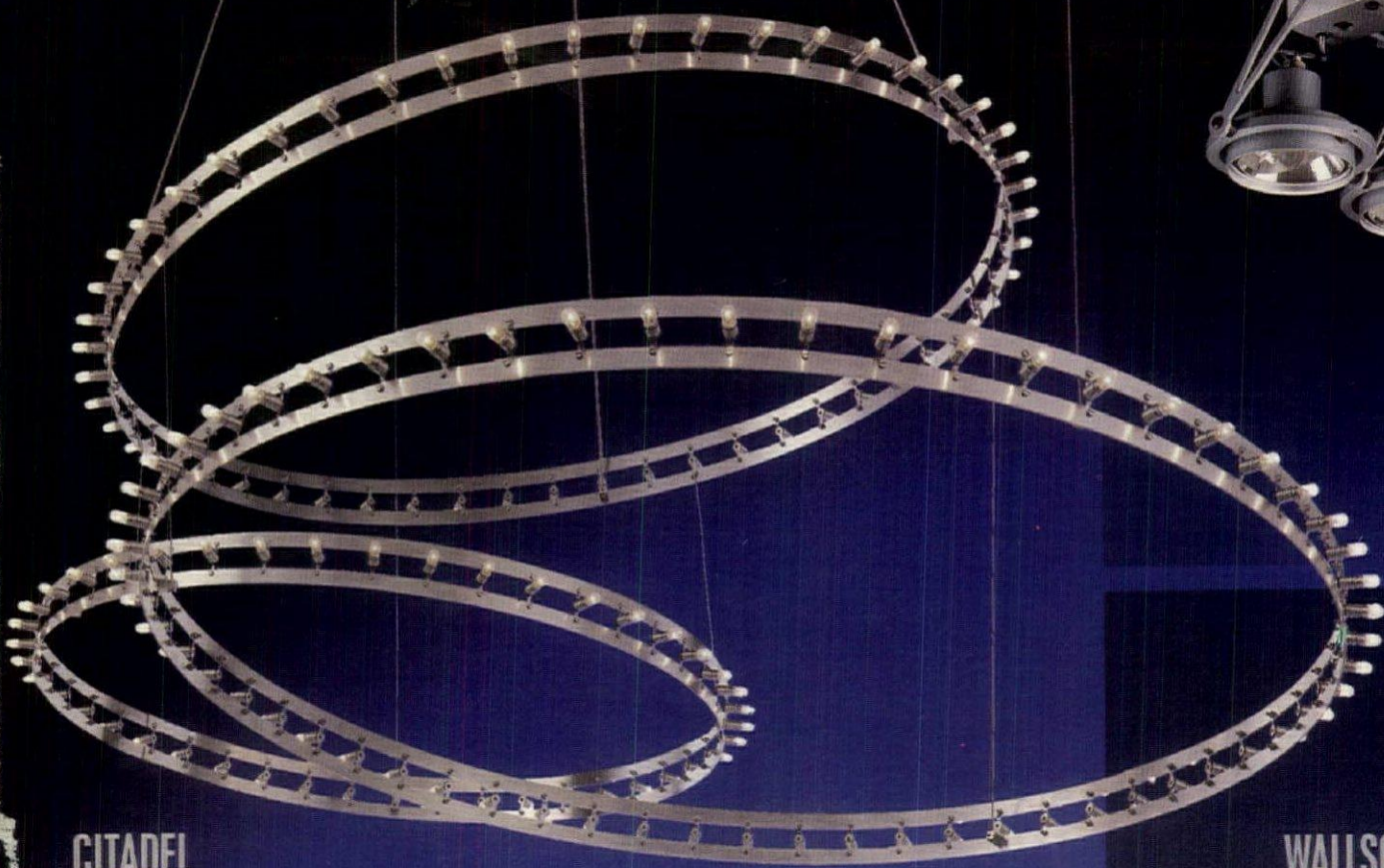
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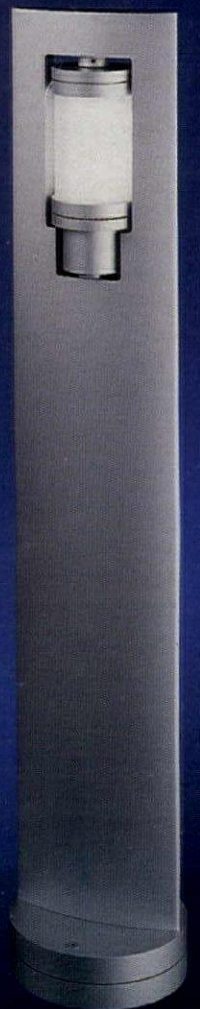
FLAMBO  
(outdoor)



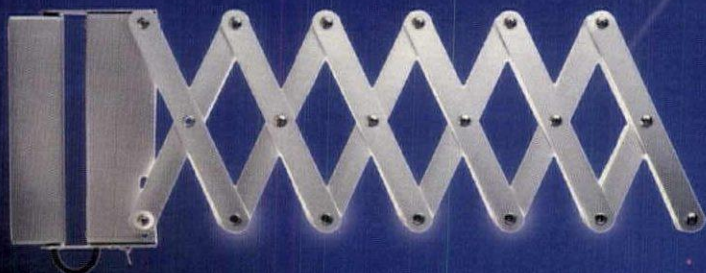
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## FIRMS OPEN NEW OFFICES

**High End Systems** has opened an office in New York City. Headed up by director of special projects, Paul J. Sonnleitner, the new office is equipped with a demo facility, a training and seminar area and a customer meeting room. The New York office is located at 311 West 43rd Street, Suite 400, New York, NY 10036; phone (212) 957-6840, fax (212) 957-4466.

Atlanta-based architectural firm, **Lord, Aeck & Sargent** has announced the opening of a satellite office in Ann Arbor, MI this fall. Terry Sargent, AIA, Lord Aeck & Sargent's design principal, will direct operations at the Ann Arbor office, while continuing to lead the firm's overall design efforts nationally. For more information, phone (404) 253-1400.

## ON THE MOVE...

**Color Kinetics** has relocated to 10 Milk Street, Suite 1100, Boston, MA 02108. To contact the company, phone (617) 423-9999, (888) FULLRGB or fax (61) 423-9998.

**D.S. Batcheller Designs, Inc.** has moved to 1710 Allied Street, Suite 23, Charlottesville, VA 22903. To contact the company, phone (804) 244-0927, fax (804) 244-0936, email: dsbpcc@aol.com, website: www.dsb-lightingdesign.com.

**The Hillier Group, Architects** has announced a new office location in the Chase Tower at 2200 Ross Avenue, Suite 4700W, Dallas. For information, phone (214) 521-1112 or visit the website at www.hillier.com.

## ON THE WEB...

**Bega/US** has announced the launch of its newly revised website at www.bega-us.com. The new site provides access to product information via either a graphic index or product number. Specifiers can view information on new products, local Bega representatives. Photometric files and product data sheets can also be downloaded.

Lighting designer **Gerd Pfarré**, IALD has launched a website at www.lichtplanung.com.

## COMPANIES RECEIVE ISO CERTIFICATION

Fluorescent fixture manufacturer **Metalux Lighting** recently received ISO-9001 certification for its Americus, GA facility. The Eufaula, AL and Ellaville, GA facilities were certified in 1996 and 1998. Metalux is a brand of Cooper Lighting.

**MagneTek Lighting Products** has successfully completed ISO 9000 certification at all of its manufacturing locations. Throughout a two-year period, all of the company's manufacturing facilities worked to meet all ISO 9000 standards, achieving ISO 9001 and ISO 9002.

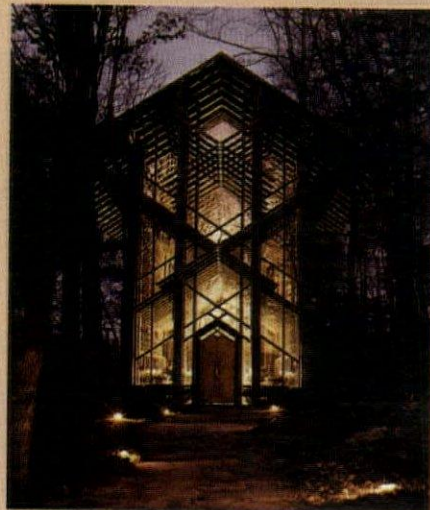
**W.A.C. Lighting** has achieved ISO 9001 certification at its 120,000-sq.-ft. overseas manufacturing facility. The company's corporate offices and eastern distribution center are located in Garden City, NY.

## ENGINEERING DIVISION LAUNCHED

Blackman Design Associates has launched the Integrated Product Engineering division, which will provide complete development and engineering services specifically for lighting manufacturers. Services offered include concept evaluation, product development, design engineering, project documentation, U/L review and consultation, industrial design, rapid prototyping and model-making.

For more information, contact Blackman Design Associates at (973) 377-8006. The company is located at 248 Columbia Turnpike, Florham Park, NJ 07932.

## Did You Know....?



The American Institute of Architecture (AIA) recently voted to place Thorn-crown Chapel in Eureka Springs, AK, fourth on its list of the top 10 buildings of the 20th Century.

Designed by Fayetteville, AK architect, E. Fay Jones, and completed in 1980, the 24-ft.-wide x 48-ft.-tall building was awarded the AIA's Design of the Year and named Design of the Decade for the '80s. The chapel is set in the Ozark mountain woodlands and

contains over 6,000 sq. ft. of glass and 425 windows held in a geometric "lace" of crisscrossed wood.

Because of its vertical design and wooden beams that give one the impression of sitting outdoors among the trees, Jones was challenged to design a unique lighting fixture that would extend the upward soar of the structure into the night. "Since the natural daylight was asymmetrical and moving," explained Jones, "at night, we decided to light the structure very symmetrically with an emphasis on the vertical lines, keeping the lighting as simple as possible." Jones designed a series of elongated wooden "lanterns," each of which was hand-built and perforated with sawed fretwork, to give a delicate pattern to the lightbox while forcing the majority of the light upward from the top, and completely hiding the incandescent 100W lamp within from view. The fixtures were placed low along the wooden support members, which are equally spaced on the sides of the chapel. Light is softly bounced from the ceiling without any direct light actually being reflected in the expanse of glass contained in the chapel.

Other top ten buildings of the 20th Century include Frank Lloyd Wright's Falling Water in Bear Run, PA; the Guggenheim Museum in New York; and the Robie House in Chicago.

## PEOPLE IN THE NEWS...

**John Burk** and **Robert Matakovich** have been named project manager at KA, Inc. Architecture.

Merriman Associates Architects has appointed **Jihane A. Boury** principal and director of interior design.

Lighting Services Inc has named **Daniel Gelman** president.

Gresham, Smith & Partners has promoted **Daniel Buehler, AIA, Tony Denami, Greg Gore, AIA, Kevin Kim, AIA, Elmo Lunn** and **Adrienne Ritzen** to senior associate.

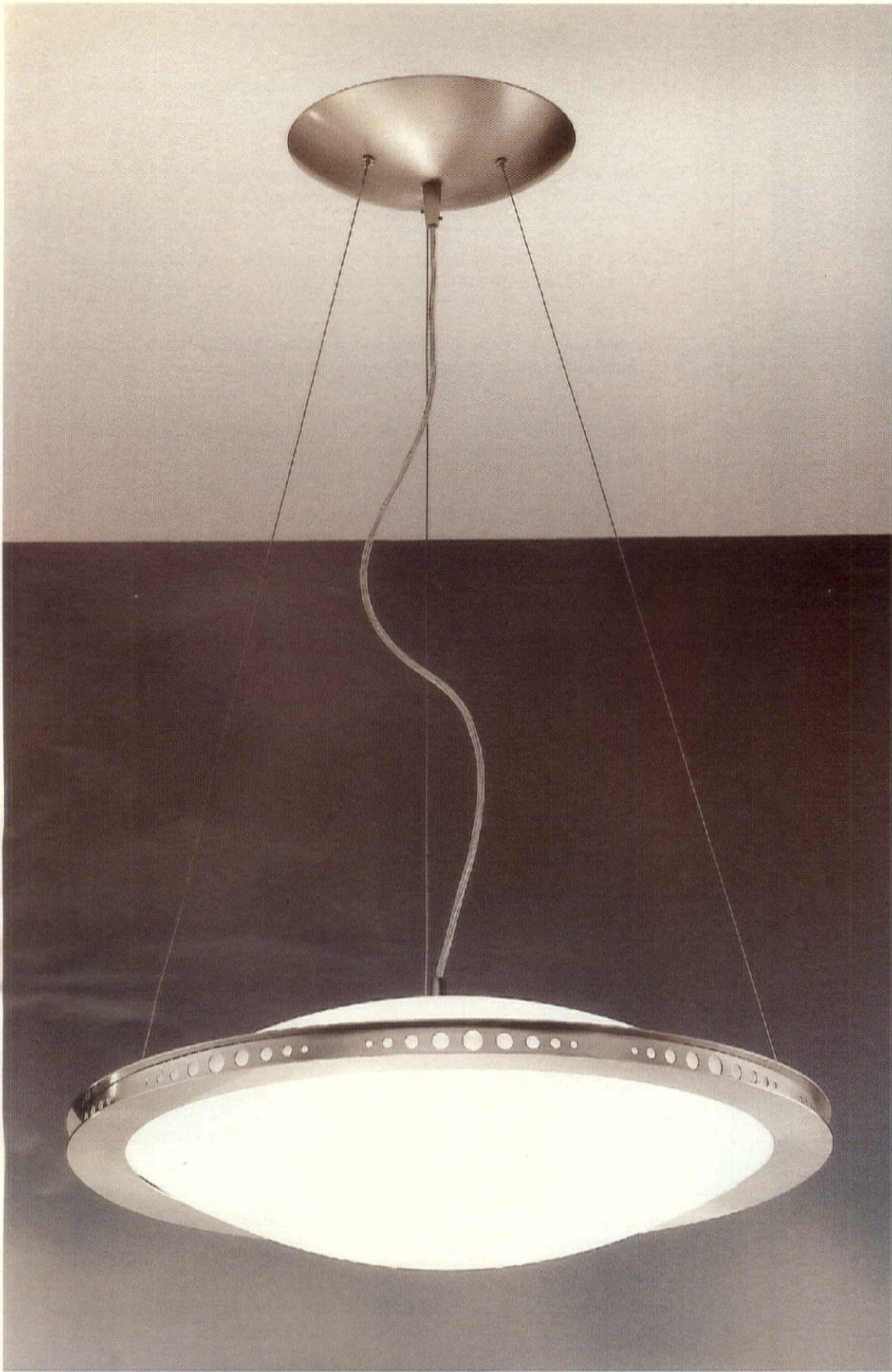
**Craig S. Spangler, AIA** has been named a principal and member of the Board of Directors at Ballinger.

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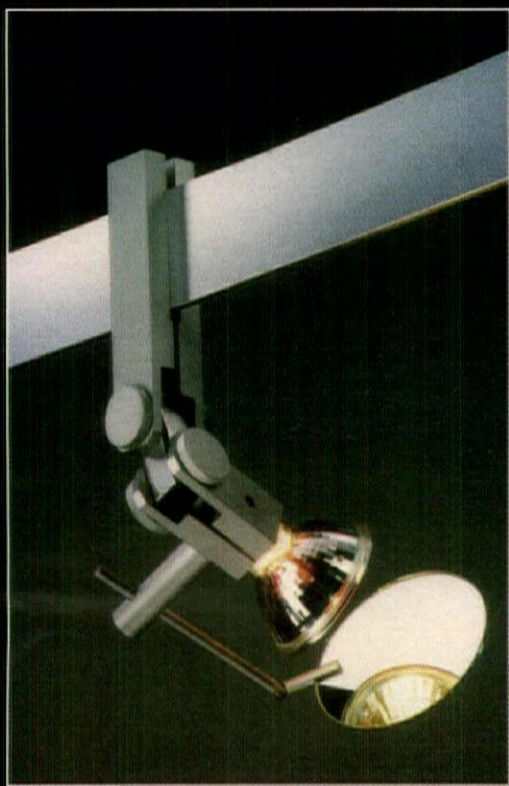
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## 2000 SCHEDULED EVENTS

**November 14-16** 16th Annual Build Boston, World Trade Center Boston, Boston; (800) 544-1898, [www.buildboston.com](http://www.buildboston.com).

**November 29-30** AEE seminar: "Fundamentals of Energy Management," Phoenix Civic Center, Phoenix, AZ; (770) 447-5083, [www.aeecenter.org](http://www.aeecenter.org).

**December 4** "I Can't See What I'm Eating!—Restaurant Lighting," Designers Lighting Forum, Los Angeles; (310) 535-0105, [www.DLFLA.org](http://www.DLFLA.org).

**December 6** Lighting Design Lab Annual Open House, Lighting Design Lab, Seattle, WA; email: [jan@northwestlighting.com](mailto:jan@northwestlighting.com), [www.northwestlighting.com](http://www.northwestlighting.com).

**December 7-8** AEE seminar: "Fundamentals of Energy Management," Grosvenor Hotel, Orlando, FL; (770) 447-5083, [www.aeecenter.org](http://www.aeecenter.org).

**December 6-10** 8th Annual Broadway Lighting Master Class, New York; (212) 229-2965, ext. 829, fax (212) 229-2084, email: [blmc@intertec.com](mailto:blmc@intertec.com), [www.etcnyc.net](http://www.etcnyc.net).

## 2001 SCHEDULED EVENTS

**January 8** "Lighting Jeopardy—How the Lighting Game is Played," Designers Lighting Forum, Los Angeles; (310) 535-0105, [www.DLFLA.org](http://www.DLFLA.org).

**January 15-17** Restoration & Renovation, Washington Hilton & Towers, Washington D.C.; (800) 982-6247, fax (978) 664-5822.

**February 5** "The Venetian: What it Takes to Win an 'Edison,'" Designers Lighting Forum, Los Angeles; (310) 535-0105, [www.DLFLA.org](http://www.DLFLA.org).

**February 8-9** 2nd Annual Strategies In Light Conference, Hyatt Regency Hotel, Burlingame, CA; (650) 941-3438, (fax) 650 941-5120, e-mail: [info@strategies-u.com](mailto:info@strategies-u.com).

**February 22- 23** Prairie Lights, Hyatt Regency Hotel, Chicago; [www.ieschicago.org](http://www.ieschicago.org).

**March 5** "Better Than CRI—Lighting and Color," Designers Lighting Forum, Los Angeles; (310) 535-0105, [www.DLFLA.org](http://www.DLFLA.org).

**April 2** "Quick Fixes—Lighting Solutions," Designers Lighting Forum, Los Angeles; (310) 535-0105, [www.DLFLA.org](http://www.DLFLA.org).

**April 4-5** NeoCon South, Georgia World Congress Center, Atlanta; (800) 528-8700, [www.merchandisemart.com](http://www.merchandisemart.com).

**April 22-25** Lightstyle: International Trade Fair for Domestic Lighting, Messe Frankfurt, Frankfurt, Germany; (49) 69 75 75 56 87, (49) 69 75 75 60 58.

**May 7** "Annual Student Lighting Design Awards," Designers Lighting Forum, Los Angeles; (310) 535-0105, [www.DLFLA.org](http://www.DLFLA.org).

**May 30-June 1** Lightfair International, Las Vegas Convention Center, Las Vegas, NV; (404) 220-2221.

**June 11** "Lighting a Spectacular Event," Designers Lighting Forum, Los Angeles; (310) 535-0105, [www.DLFLA.org](http://www.DLFLA.org).

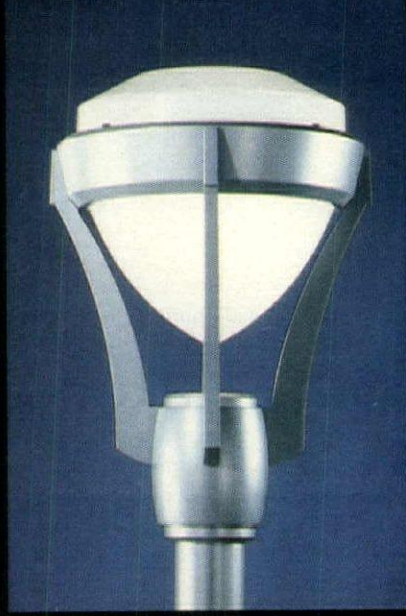
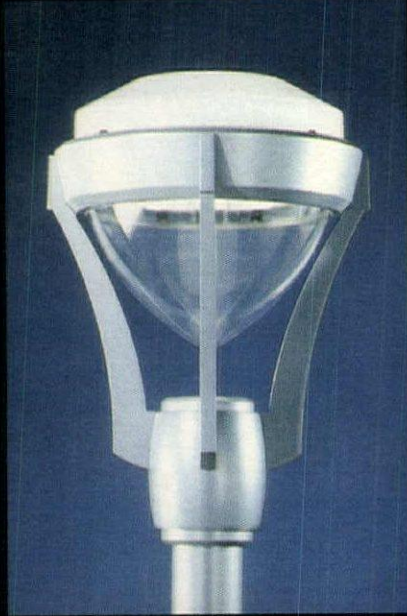
**June 18-20** NeoCon World's Trade Fair, The Merchandise Mart, Chicago; (800) 677-6278, [www.merchandisemart.com](http://www.merchandisemart.com).

**September 13-14** IIDEX/NeoCon Canada, The National Trade Centre at Exhibition Place, Toronto, Ontario, Canada; (800) 528-8700, [www.merchandisemart.com](http://www.merchandisemart.com).

**October 31-November 1** NeoCon New York, Jacob K. Javits Convention Center, New York; (800) 528-8700, [www.merchandisemart.com](http://www.merchandisemart.com).

**November 29-30** NeoCon West, Los Angeles Convention Center, Los Angeles; (800) 528-8700, [www.merchandisemart.com](http://www.merchandisemart.com).

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# All in the Family

FORGET SIBLING RIVALRY—THESE BROTHERS TEAMED UP TO BUILD A HOUSE WHERE THE PREMISE IS “OPPOSITES ATTRACT”

BY ALICE LIAO, ASSOCIATE EDITOR

“Our job as the lighting designer is to understand and reinforce the architectural concepts and themes,” said lighting designer Patrick B. Quigley, principal of Patrick B. Quigley & Associates (PBQA). “The Alden residence is a good example of allowing the architecture to spawn the lighting themes.” Designed by architect and older brother, Rob Wellington Quigley, FAIA, this Beverly Hills residence mixes what Patrick terms “raw, masculine forms,” with lively, whimsical details and marries disparate elements and themes with a certain exuberance. The structure demanded a streamlined lighting design that complements the architecture without competing with it.

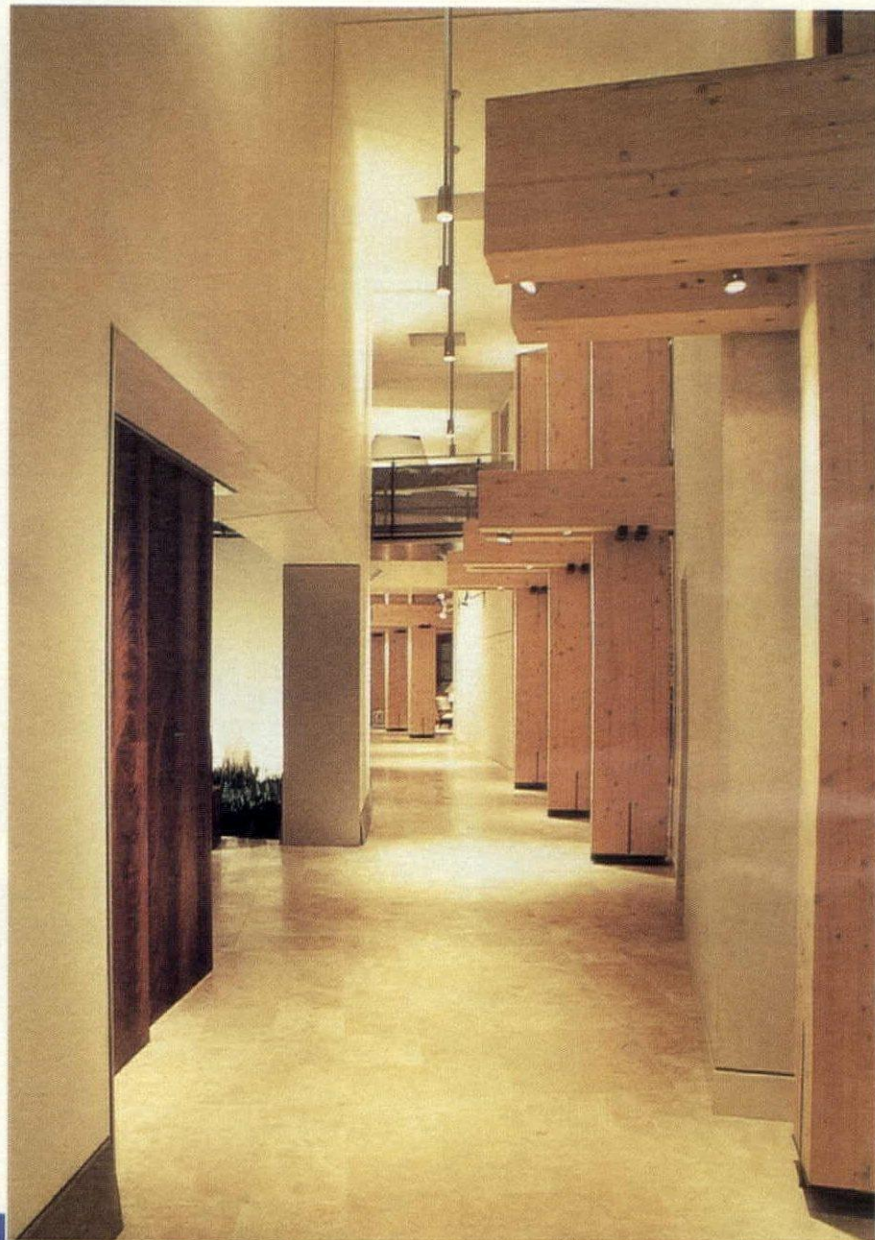
In plan view, the house resembles a crossbow. The “shaft” houses the bedrooms and private spaces. These spaces are more traditional in nature than the public spaces that make up the “bow.” The “bow” is formed by an arc-shaped gallery that serves as a point of organization for the house. The public spaces, the living room, dining room, kitchen and family room, which feed from the gallery, were designed to connect interior living spaces with the exterior. To enhance the exterior, these areas are topped with a roof that lives together to a pergola. The roof is a layer of randomly dispersed “pick-up-stix” purlins. “The term ‘pick-up stix’ is quite literal,” said Rob when asked about the genesis of the unusual ceiling. “When we were building a model of the house, someone accidentally dropped all the little balsam wood sticks that we were using and they fell over the roof beams, forming a secondary layer of joists. The pick-up stix added a bit of joy and looseness to the idea of living under a pergola.”

## IMPOSING STRUCTURE

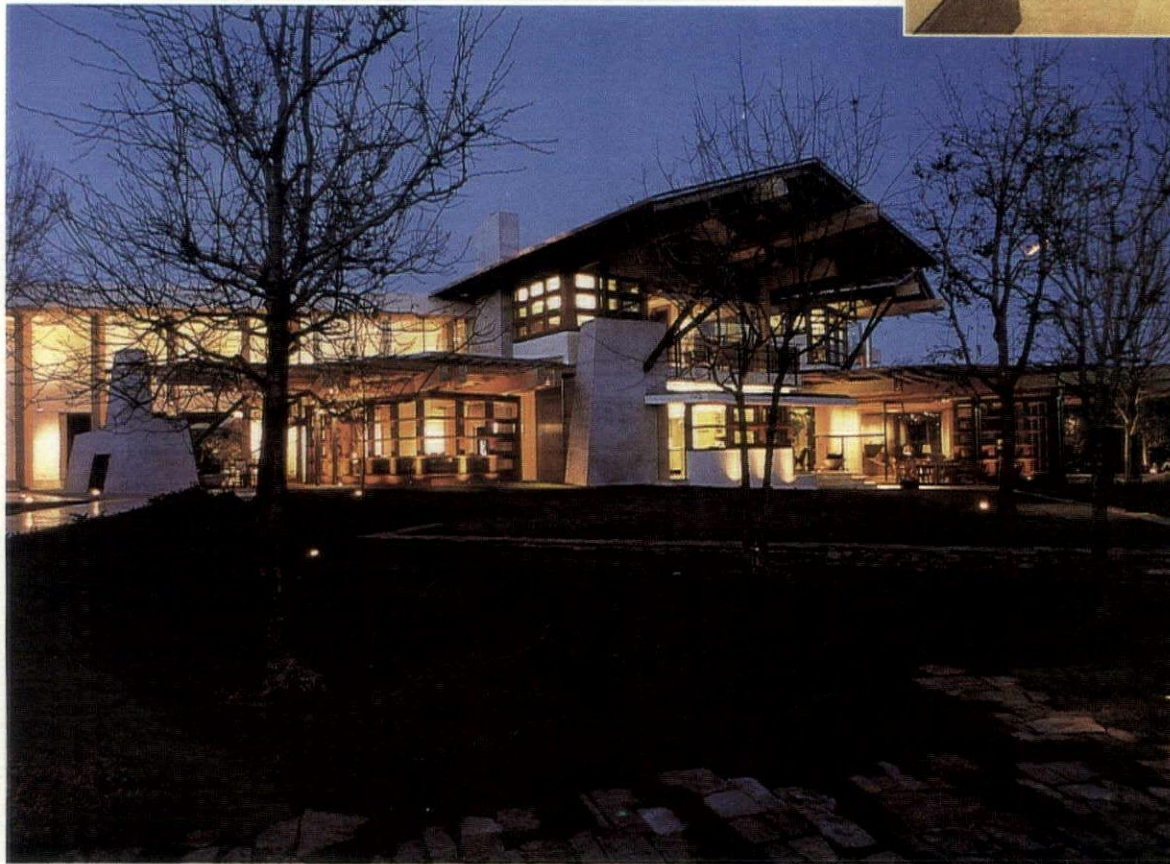
Although the carefree ceiling, non-rectilinear forms and unorthodox geometry permitted “a general randomness and a reduced need for construction accuracy,” Rob pointed out, the lighting scheme required a more regimented approach. The lighting design consists of three systems: task lighting, ambient fluorescent cove uplighting and accent lighting integrated into the architecture. “We could have chosen to be random like the pick-up stix,” explained Patrick, “but we felt that would have introduced too much chaos into the architecture.”

To introduce more structure, the task and accent lighting systems revolve around a single low-voltage fixture style selected for its sleek, compact size. This fixture body was assembled in different configurations to accommodate varying tasks and mounting conditions. In some instances, the fixtures are ganged together on a common backplate, others are individually pendant-mounted on rigid stems, while others are integrated in custom fixtures that have serpentine arms which simultaneously uplight and downlight the columns while producing the ambient light for the gallery.

The fixtures are tightly tied to the architectural elements. For example, where possible, low-voltage fixtures are mounted between pairs of glue-lam beams as accent and task



PHOTOGRAPHY: KEN NAVERSON PHOTOGRAPHY



THE HOUSE IS GIVEN FORM BY AN ARCED GALLERY—THE GREAT HALL. IN THE GREAT HALL (ABOVE), CUSTOM HYBRID FIXTURES ARE MOUNTED BETWEEN THE GLUE-LAM BEAMS TO LIGHT THE OPPOSING WALL AND PROVIDE UPLIGHTING AND DOWNLIGHTING ON THE COLUMNS. THE HYBRID, “MEDUSA,” CONSISTS OF A PAIR OF LOW-VOLTAGE ACCENT LIGHTS, WHICH HIGHLIGHT THE COLUMNS AND A PAIR OF PAR38 LINE-VOLTAGE FIXTURES ON SERPENTINE ARMS. A SERIES OF WAND FIXTURES IS SUSPENDED FROM THE CEILING TO SUPPLY AMBIENT ILLUMINATION. “MEDUSA” FIXTURES MOUNTED ON COLUMNS ALSO LIGHT THE EXTERIOR PORTION OF THE ARCED GALLERY.

IN THE DINING ROOM (OPPOSITE), THE GLUE-LAM BEAMS ARE EQUIPPED WITH SINGLE LOW-VOLTAGE FIXTURES TO PROVIDE GENERAL AND ACCENT LIGHTING. ADDITIONAL LOW-VOLTAGE FIXTURES SUSPENDED OVER THE DINING TABLE AND AIMED AT ITS CENTER, WORK WITH A PAIR OF CHANDELIERS TO ADD SPARKLE TO ITS HORIZONTAL SURFACE. ALL FIXTURES ARE ON DIMMERS



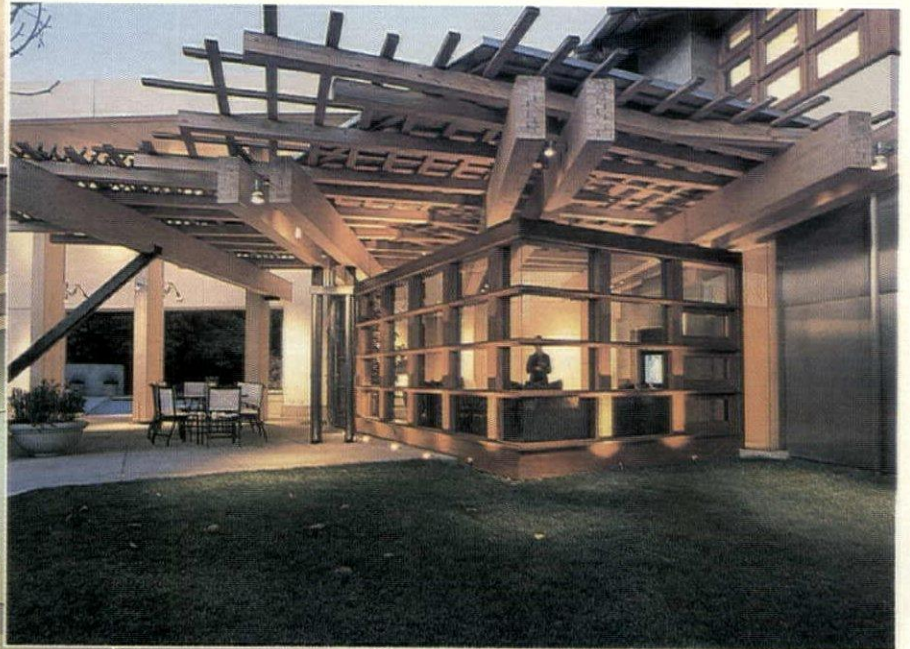
lighting. The double 10-in. x 18-in. glue lams form the structural support of the "bow" and support the "pick-up-stix" ceiling. The beams not only conceal, but baffle the fixtures. Additional low-voltage fixtures are mounted in the open-ceiling areas between the pick-up stix. Fixtures are arranged in organized groups, responding to the architecture, seating areas and vertical surfaces that require accent lighting. Fixture repetition and geometry help associate the fixtures with the walls and architecture. "We believe that unless a fixture is decorative, it should be anonymous," explained Patrick. "A subtle approach to making utilitarian fixtures seem to disappear is to give them such a strong logic, a strong rationale for existence that your eye just forgets them."

The task lighting takes on a slightly different form in the more traditional private spaces, where drywall ceiling exists. The same sleek, low-voltage fixture is used, but is surface-mounted inside of a recessed drywall box. "Rob did not want to see the standard recessed downlight trim," said Patrick.

#### HIGH EXPECTATIONS

The most critical owner requirement was the request for elevated light levels, a condition that, according to Patrick, can be restrictive. "Since the tools of the trade are not only light but darkness, when a client has these profound needs for high illumination levels, in a way, they are tying one hand behind your back," he said. "You are limited to only one half of your bag of tools." The resulting light levels are well above the IES standards, reaching nearly 75fc on the kitchen work surfaces, while the ambient illumination approaches 20fc.

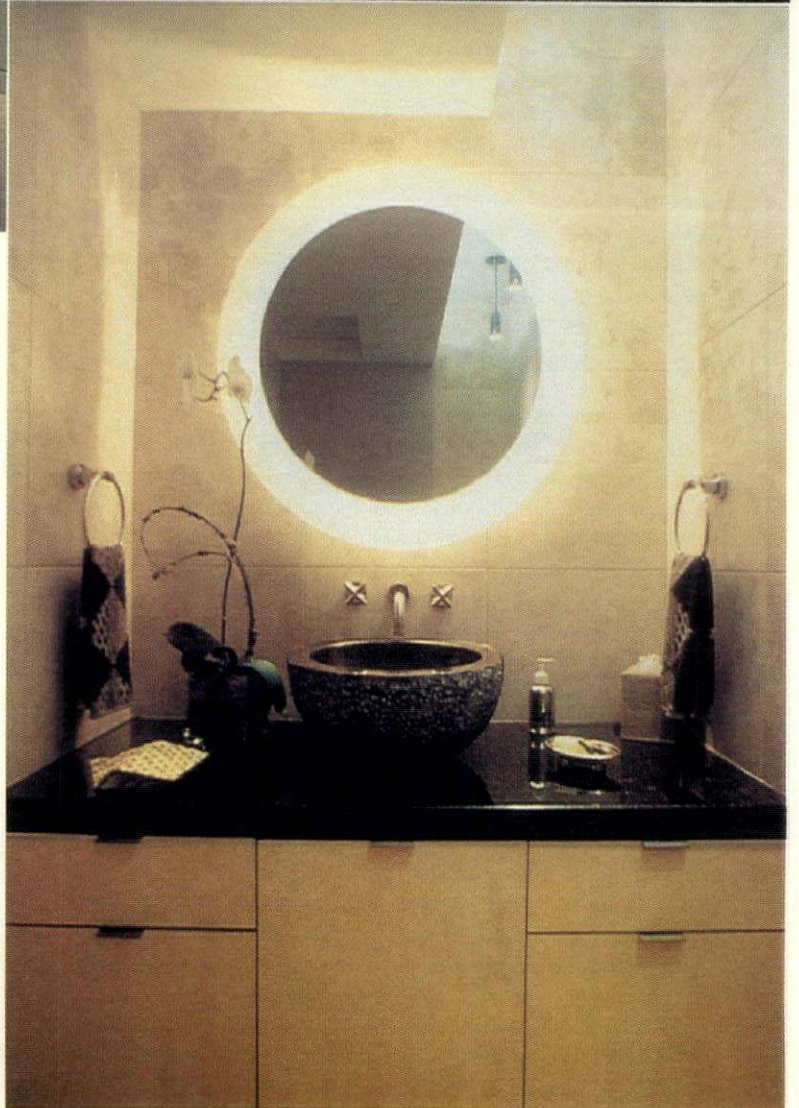
"In this house, where you have this order to make everything quite bright, low-voltage lighting becomes pretty important to you because it allows you to put shock-value light levels on essential targets for highlight," said Patrick. In certain spaces, fluorescent strips with dimming ballasts are concealed in coves to supplement the low-voltage lighting and to soften its harshness. In other areas, table and floor lamps serve a similar purpose, lending a balance to the high drama of low-voltage lighting. "In a house that uses



FOR FLEXIBILITY. "BY USING THOSE TWO SEPARATE SYSTEMS, YOU CAN DO A LOT OF DIFFERENT THINGS TO THE TABLE AND MAKE IT COME ALIVE," SAID QUIGLEY. AN ART WALL IS ALSO ILLUMINATED BY LOW-VOLTAGE FIXTURES HIDDEN BETWEEN GLUE-LAM BEAMS.

THROUGHOUT THE HOUSE, FLUORESCENT COVELIGHTING SUPPLEMENTS THE LOW-VOLTAGE SYSTEMS BY CONTRIBUTING AMBIENT LIGHT. IN A STAIRCASE AND FOYER (ABOVE), SPOTS OF BRIGHTNESS FROM SUSPENDED WAND FIXTURES COMBINE WITH FLUORESCENT STRIPLIGHTS TUCKED ABOVE A CEILING PANEL TO FILL THE SPACE WITH LIGHT. UPLIGHTS HIDDEN IN A PLANTER BED WASH THE WALL, WHILE STAKE-MOUNTED INCANDESCENT UPLIGHTS ILLUMINATE A WALL IMMEDIATELY OUTSIDE. IN A POWDER ROOM (BOTTOM RIGHT), A CONCEALED INCANDESCENT STRIPLIGHT INFUSES DRAMA BY ENCIRCLING THE MIRROR WITH A RING OF LIGHT WHILE FLUORESCENT SLOT FIXTURES ABOVE ENSURE SUFFICIENT GENERAL LIGHTING.

BECAUSE THE GLUE-LAM BEAMS EXTEND OUTSIDE, THE SAME LOW-VOLTAGE SYSTEM ALSO LIGHTS THE EXTERIOR OF THE HOUSE TO HIGHLIGHT ARCHITECTURAL ELEMENTS, ENHANCE SECURITY AND REDUCE REFLECTIONS ON GLASS WALLS. FOR MAJOR LIVING SPACES (ABOVE RIGHT), WHICH ARE ENCLOSED BY WOOD LATTICES AND RESEMBLE GLOWING LANTERNS AT NIGHT, THE SYSTEM PROVIDES SPOTS OF BRIGHTNESS OUTSIDE THE WINDOWS, WHICH ALLOW OCCUPANTS OF THE SPACE TO ENJOY THE VIEW OF THE LANDSCAPE. LOW-VOLTAGE DIRECT BURIAL UPLIGHTS ARTICULATE THE WOOD MULLIONS FOR ADDED BRIGHTNESS.



# sidelights

The following general residential lighting techniques are excerpted from Glenn M. Johnson's *The Art of Illumination, Residential Lighting Design*, published by McGraw-Hill.

## Entry illumination requirements:

- ✓ Medium area lighting levels throughout entry and porte-cochere
- ✓ Dramatic architectural illumination
- ✓ Dramatic accent lighting on art, furnishings or other features
- ✓ Incorporation of exterior lighting effects of porte-cochere
- ✓ Scene preset lighting control
- ✓ Sufficient illumination to safely reveal hazards, such as steps and ice

## Living, family and great room illumination requirements:

- ✓ Medium overall light level
- ✓ Specific accent lighting on art, furniture and other accessories
- ✓ Dramatic architectural illumination
- ✓ Strategically placed sconces, chandeliers, table and floor lamps
- ✓ Scene preset lighting control
- ✓ Maximized view areas through exterior lighting
- ✓ Avoidance of ambient sound from fixtures, transformers and dimmed lamps
- ✓ Minimal high-ceiling lamp maintenance
- ✓ Control of UV output to preserve artwork

## Dining room illumination requirements:

- ✓ Direct table illumination from accent lighting
- ✓ Combination of decorative wall sconces and chandelier
- ✓ Art accent lighting
- ✓ Interior cabinet lighting

## Kitchen illumination requirements:

- ✓ High overall lighting level
- ✓ Non-glaring task lighting on counters, sink and preparation areas
- ✓ Interior cabinet illumination
- ✓ Interior hood lighting over cooktop
- ✓ Multi-level lighting control capabilities

## Bedroom illumination requirements:

- ✓ Excellent reading ability from the bed
- ✓ Dramatic accent lighting on art and furnishings
- ✓ Soft and intimate romance lighting
- ✓ Placement of wall sconces, chandeliers, floor and bedside lamps
- ✓ Scene preset, pathway and master lighting control ability
- ✓ Avoidance of ambient sound from fixtures, transformers and dimmed lamps

## Bathroom illumination requirements:

- ✓ High overall lighting levels
- ✓ Excellent task lighting for the vanity area
- ✓ Excellent color-rendering properties
- ✓ Sufficient lighting for the tub and shower areas
- ✓ Night light feature through lighting control
- ✓ Soft and intimate romance lighting ability
- ✓ Cove and other indirect lighting

## Cabinetry and bookcase illumination requirements:

- ✓ Moderate lighting levels for display
- ✓ Adequate design of units to conceal the lighting source
- ✓ Specification of low-heat-producing lighting products
- ✓ Incorporation into the lighting control system
- ✓ Control of UV output to preserve artwork

## Artwork illumination requirements:

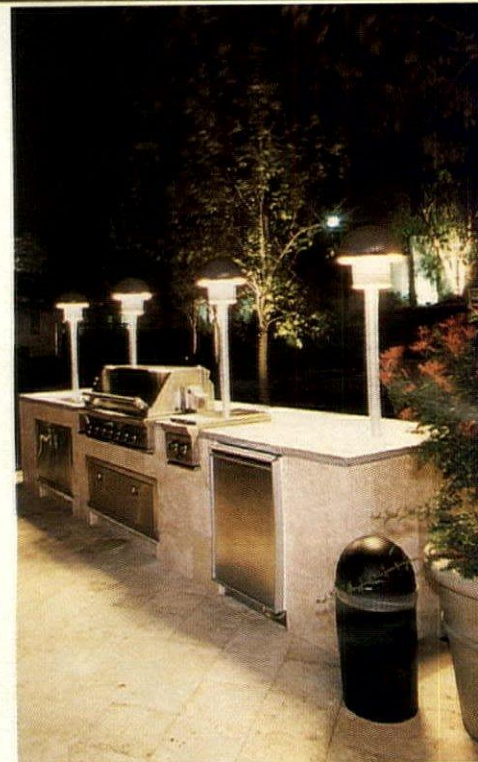
- ✓ Learn the limits of the specified lighting products adjustability
- ✓ Be precise in placing the lighting products for the optimum viewing of the piece
- ✓ Review the distance charts for low-voltage accent lights and optical framing projectors
- ✓ Control of UV and heat output to preserve artwork, select filters if necessary
- ✓ Never try to illuminate a space solely by illuminating the artwork
- ✓ Be sensitive to glare off glass or high-sheen surfaces
- ✓ Never over-illuminate the artwork; intensity tends to lose dimension
- ✓ Try to conceal the lighting products so they do not distract from the artwork
- ✓ Add art scene buttons on the lighting control system for drama
- ✓ Lighting should be planned with flexibility for artwork rearrangements
- ✓ Provide enough wattage capacity in the lighting system and fixtures to relamp for increased intensities on certain darker media
- ✓ The art lighting products should be on separate switch legs or control circuits

## Exterior illumination requirements:

Exterior illumination often gives the first impression of the home and it should be approached in the same manner as the interior illumination. The philosophy of "hidden is better" also holds true for exterior lighting. The same dramatic effects can be achieved with a lot more flexibility in exterior areas. Exterior areas to be illuminated include: exterior facade, eaves, security, gardens, pathways, driveways, exterior architectural elements, columns, arbors, gazebos, stairs, swimming pools and spa, fountains, reflecting ponds, sculptural elements and hazards to walking and driving.



IN THE OUTDOOR KITCHEN/BARBEQUE AREA (RIGHT), THE LOW-VOLTAGE SYSTEM IS SUPPLEMENTED BY A SERIES OF POST-TOP FIXTURES FOR AMPLE TASK AND GENERAL LIGHTING. THE LANDSCAPE BOASTS MULTIPLE WATER FOUNTAINS, ONE OF WHICH IS ILLUMINATED TO CREATE THE ILLUSION OF AN ENCLOSED ROOM (ABOVE). ACCENTED BY GROUND-RECESSED UPLIGHTS, THE TREES, WHEN PLUSH WITH LEAVES, FORM WALLS THAT SURROUND THE WATER FOUNTAIN, WHICH IS CIRCUMSCRIBED IN FIBER OPTICS. A TRIO OF UNDERWATER UPLIGHTS LAMPED WITH 50W MR16 SOURCES IS CENTERED TO ILLUMINATE THE JET SPRAYS OF WATER.



a lot of low-voltage lighting, it is absolutely imperative to be able to moderate it and to allow the owner to adjust the amount of drama," said Patrick. To enable the residents to adjust the lighting system, a house-wide control system was installed. This system allows them to have preset scenes while also enabling them to modify the lighting needs in each room circuit by circuit.

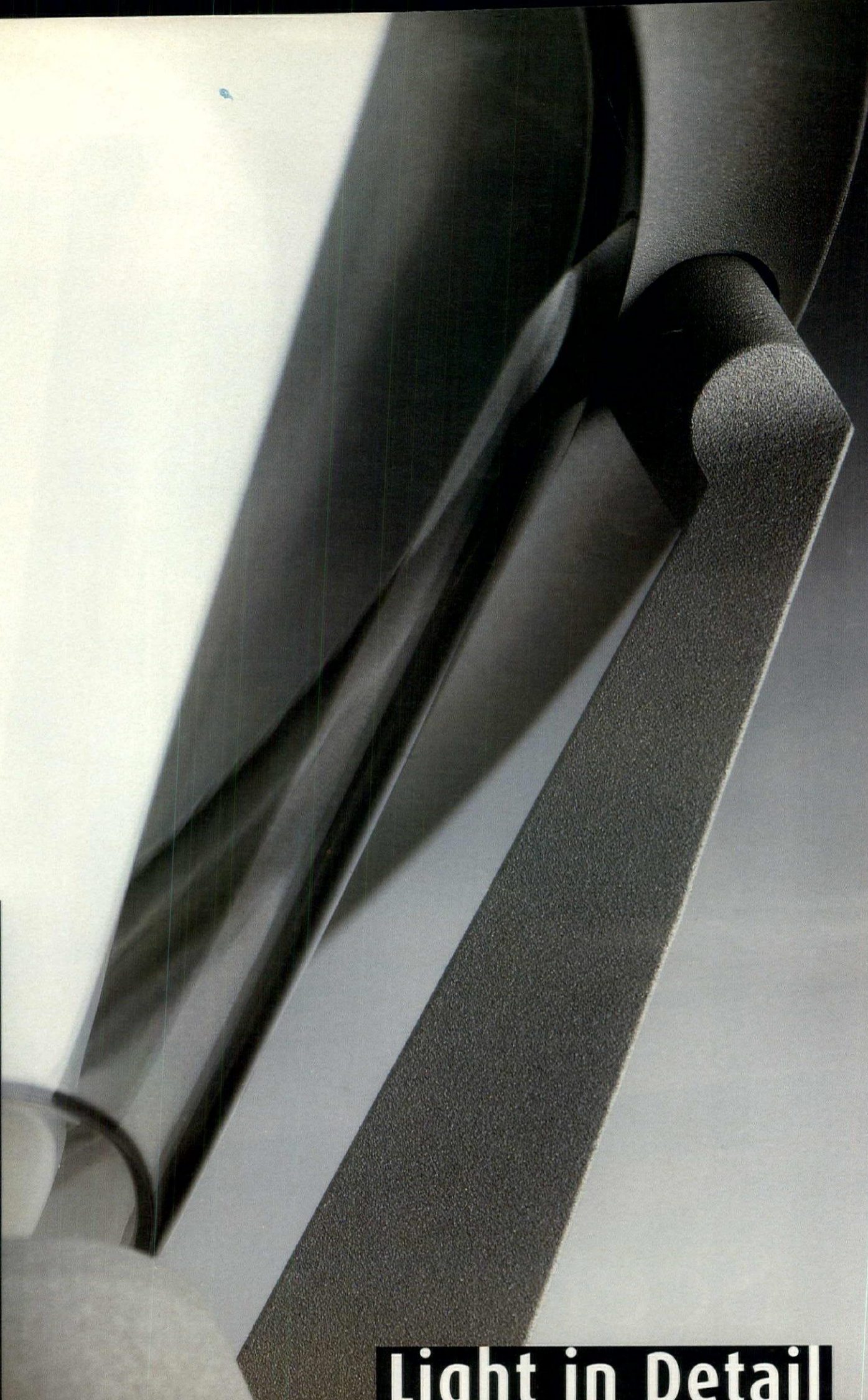
By capitalizing on the ability of low-voltage lighting to concentrate high levels of illumination on small targets and strategically highlight key elements in a space, the lighting solution is able to manipulate one's perception of the room and the perceived levels of brightness. "For example, in the dining room, to add depth and interest, two pendant fixtures are centered over the table for the horizontal illumination. Adjustable low-voltage fixtures are used to accent the edge of the table that faces an incoming visitor," explained Patrick. "All of a sudden, the table projects out toward the visitor walking in and appears much more dimensional and dynamic. The accented area acts as a subliminal visual cue, drawing in the viewer."

Turn to page 36 for information on fixtures and sources specified in this project.

## DETAILS

- PROJECT Alden Residence
- LOCATION Beverly Hills, CA
- ARCHITECT Rob Wellington Quigley, FAIA
- LIGHTING DESIGNER Patrick B. Quigley & Associates—Patrick B. Quigley, IALD, Erin Erdman, Carol Degenhart
- PHOTOGRAPHER Ken Naverson Photography
- LIGHTING MANUFACTURERS Lumiere; Prudential Lighting; Hampstead Lighting; Edison Price; Bega; Poulsen Lighting; GE; Philips; Lutron





Kipp Post Top



Kipp Wall



Kipp Bollard (High/Low)



## Kipp

Design: Alfred Homann

# Light in Detail

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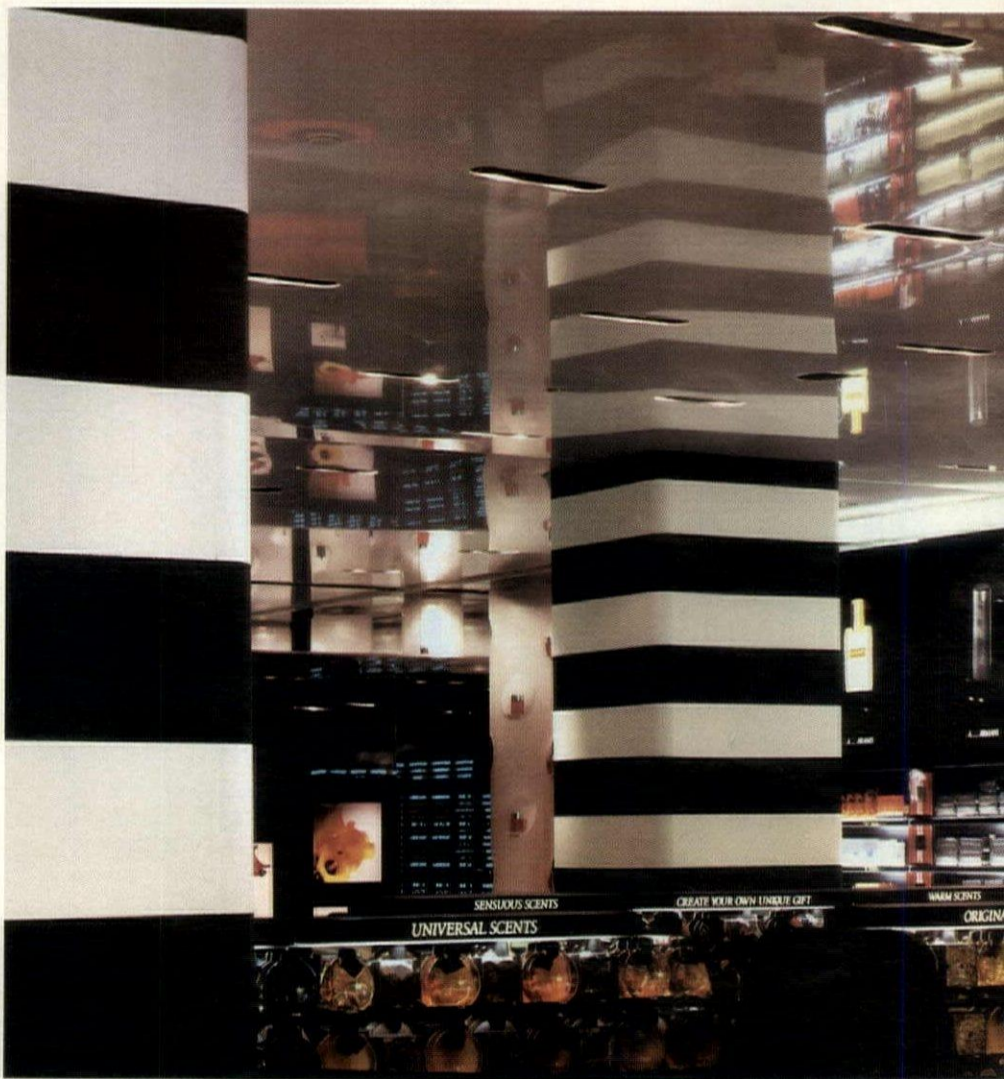
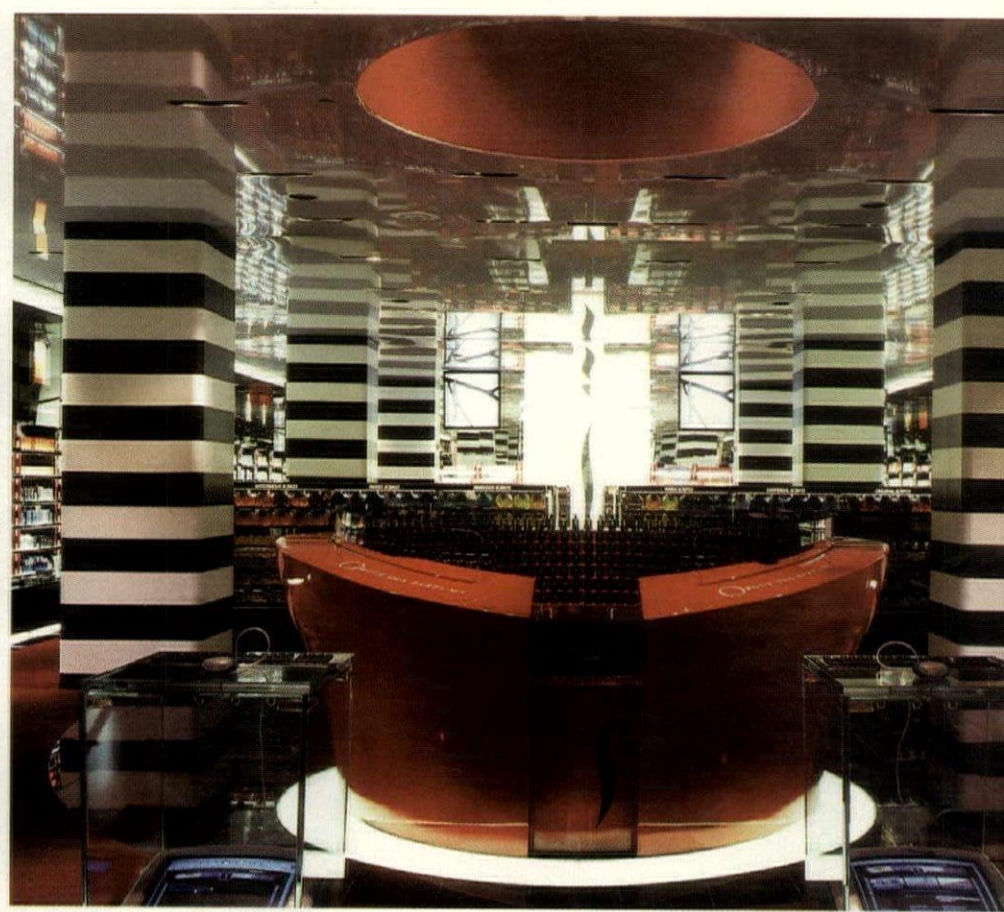
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# Scents & Sensibility

FOR THOSE SEEKING A SENSUOUS SHOPPING EXPERIENCE, SEPHORA'S MANHATTAN STORE OFFERS PUNCH, PANACHE—AND PERFUME TOO

BY WANDA JANKOWSKI, CONTRIBUTING EDITOR



**S**ephora stands for “beautiful.” Its meaning, rather than its Biblical roots as the name of Moses’ wife, motivated its choice in 1993 as the name for a chain of shops offering beauty products. In 1997, this French-based chain was acquired by LVMH (Louis Vuitton Mœt Hennessy) and expanded with stores opening in several countries in Europe as well as in the U.S. More than 50 stores are projected to be in operation in the U.S. by end of 2000.

The philosophy behind Sephora has been translated into the physical reality of its layout and lighting. Sephora is intended to be a haven of beauty and knowledge, allowing the customer to experiment with the products before a buying decision is made. Consequently, the products are presented without traditional counters in a self-service environment.

The customer discovers the products’ properties and effects by touching, feeling, smelling and sampling, with the “members of the cast,” as the sales staff is known, unobtrusively available for offering advice and information.

The 21,000-sq.-ft. facility in New York’s Rockefeller Center is not only the largest U.S. store, but this country’s flagship venue as well. It is divided into three floors, each keyed with a different color: Red accents fragrance on the first level, black signals cosmetics on the second level and white indicates treatment or well-being on the third level.

Customers’ awareness of the products is enhanced by clever display features such as the Fragrance Organ, a circular scent bar, where perfumes and colognes are compared; the Culture Gallery, which complements beauty products with related displays from photos to tribal masks; the Top Ten Fragrance Wall, an easy reference display for learning bestsellers; and the Treatment Library, which showcases products according to skin-type needs.

The development of a lighting scheme as equally innovative as the display setup was paramount to the store’s success. Accordingly, the store’s motto, “Beauty is how you see it” can be extended to read, “because after all, how you see it depends on how it’s lighted.”

#### CREATING ALLURE

“The idea was to entice shoppers off the street into the space with something that looked different,” said the project’s lighting designer, Keith Kosiba of Francis Krahe & Associates,

OPPOSITE: TRACK LIGHTS DIRECT THE ATTENTION OF PASSERSBY TO THE DRAMATIC RED, WHITE AND BLACK INTERIOR OF SEPHORA’S NEW YORK FLAGSHIP STORE.

CLOCKWISE FROM TOP LEFT: THE ATRIUM IS LIGHTED WITH QUARTZ FLOODLIGHTS TUCKED INTO WINDOW SILLS. THE SIDES OF THE ESCALATORS GLOW RED FROM FILTERED FLUORESCENTS. THE BLAZING RED FRAGRANCE ORGAN VISUALLY FLOATS ABOVE BACKLITTED ETCHED GLASS FLOORING. THE UNUSUAL REFLECTIVE CEILING IS MADE OF PVC PLASTIC WITH OVAL APERTURES CUT INTO IT TO ALLOW LIGHT FROM CEILING-RECESSED FIXTURES TO SHINE THROUGH.

San Francisco, “but there were structural limitations. The display windows couldn’t be enlarged because the landmark status of the building prohibited change. However, we wanted the limited frontage to be as dramatic as possible and to enact a choreography of discovery for people who entered the store.”

Working within the given architectural restraints, a combination of track lighting and fiber optics is used to lure shoppers inside. On the street level, track lights illuminate product displays. "Typically, product display units are opaque, but all the perimeter units on the ground level are acrylic, like candy dispensers, so shoppers can readily see the kinds of products offered before they come in," said Kosiba. Fiber optics illuminate the second-story windows.

Just inside, the shopper is disconnected from Fifth Avenue by a transitional "moat" space before being immersed into the store environment. The moat is enhanced by vertical black fabric installed around the floor. "It's like black



DISPLAYS ALONG THE WALLS ARE ILLUMINATED TO HIGH LEVELS BY ROWS OF FLUORESCENTS CONCEALED IN METAL CYLINDRICAL REFLECTORS.

ceiling-recessed fixtures to be cast through.

"The products are reflective and jewel-like," said Kosiba. "Since they are all small, it was a challenge to highlight the elements so that they remain focal points." The workhorses of the display lighting are recessed fixtures that are standard units specially modified to suit this retail application. Each has the same aperture, which creates a uniform and unobtrusive appearance in the ceiling, but is configured to hold two, three or four 37W MR16 projector lamps with special shielding snoots, depending on the application.

The placement and positioning of each fixture were determined by the carefully chosen locations of the display gondolas. The inclusion of two concentric rings, which lock in two directions to fix the lamp at a set position and angle, eliminates the need

for refocusing after relamping.

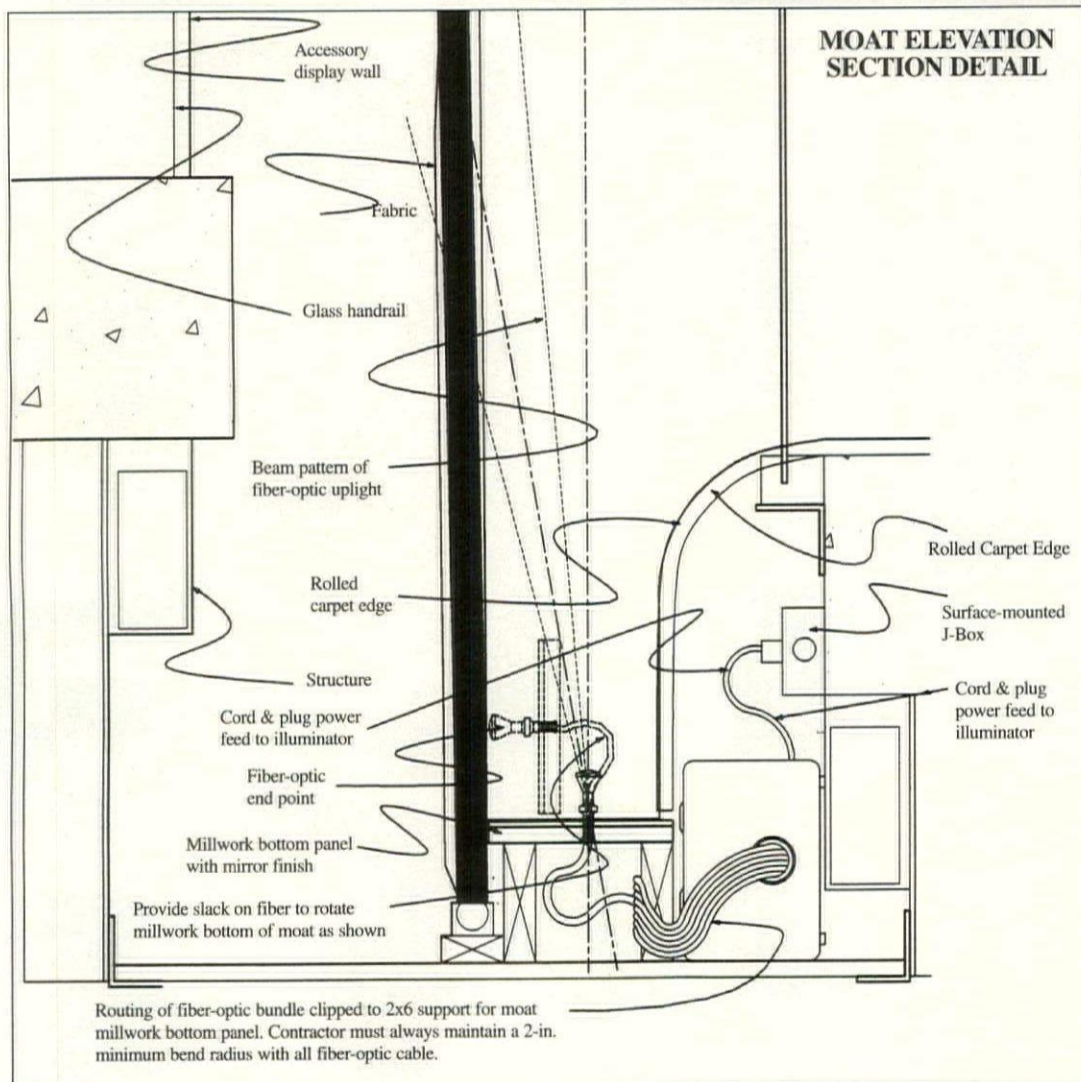
The perimeter horizontal display shelves, set 8 to 10 in. above each other, are lit with T5 fluorescents attached to the lips of the shelves and concealed in cylindrical reflectors. Additional downlights are included where needed to cast highlights on special feature elements.

Most of the light fixtures are focused on the products. Light levels reach about 100 fc in gondola display areas and 200 fc at the perimeter display shelves, with circulation areas benefiting from reflected light that reaches the 30 fc level.

Special lighting touches abound in the store to highlight and enhance other architectural details and store features. In addition to downlights that illuminate from above, linked fluorescent tubes fitted with red filters and located below the railings light the escalator and add dramatic punch. In the Culture Gallery, track lighting supplements recessed multiple-lamp display fixtures to give the changing art exhibits a museum-like quality. Backlighting etched glass serves as a ring of flooring below the Fragrance Organ, allowing it visually to float, and throughout the store, fluorescent strips concealed in millwork light glass logo panels.

The lighting team was in on the collaboration since the conceptual stage, approximately 18 months before the store opened in Fall 1999. The Sephora U.S. headquarters is located in San Francisco, which made local interaction easy for Francis Krahe & Associates. One of the design team members eventually moved to New York, so there was an additional contact for the project close to the site. ■

Turn to page 38 for information on fixtures and sources specified in this project.



Lycra—lightweight and sheer," Kosiba explained. "We tried to create a surface that could appear both open and transparent and then opaque in different places. This fabric achieved that."

Mirrors surrounding the bottom of the fabric create the illusion that it descends endlessly. Light from fiber optics grazes the fabric up along the floor slab. The fiber optics are sequenced to change color left to right in sync with shoppers moving into the store. Integrated with this lighting system, quartz projectors in the atrium are tucked into millwork and sequence with the rainbow pattern. The architectural lighting controls are bridged to theatrical controls and related music elements.

Transition spaces like the moat are subdued visually to heighten the excitement when reaching the product environment. From the subdued black moat near the entrance, for example, the shopper walks down a gradually sloping red carpeted ramp into the center of the red, highly reflective fragrance floor.

#### TIME FOR REFLECTION

Sephora Creative Design Director Chafik Gasmi had a vision to include several reflective surfaces in this flagship store that are not typical in other Sephora shops. Floating slightly below the ceiling on each selling floor is a lining of stretched, reflective white PVC plastic. Oval slots cut into the plastic allow beams from the

#### DETAILS

- PROJECT Sephora
- LOCATION New York, NY
- OWNER LVMH (Louis Vuitton Mōet Hennessy)
- ARCHITECT OF RECORD JPV Design Group Inc.
- MANAGING ARCHITECT The Phillips Group
- INTERIOR DESIGNER Chafik Gasmi, creative design director, Sephora, France
- LIGHTING DESIGNER Francis Krahe & Associates—Keith Kosiba, VP/director of San Francisco office and Jesse Blonstein, project designer; ITEC Productions
- PHOTOGRAPHER Arcaid
- LIGHTING MANUFACTURERS Zumtobel Staff; Elliptipar; Lightolier; Osram Sylvania; Lutron; Strand; Lucifer Lighting

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# Center of Activity

THE VERSATILE LIGHTING DESIGN OF THIS CORPORATE CHILDCARE CENTER IS NOT ONLY FUN BUT FUNCTIONAL, MAKING IT KID-TESTED AND MOTHER-APPROVED

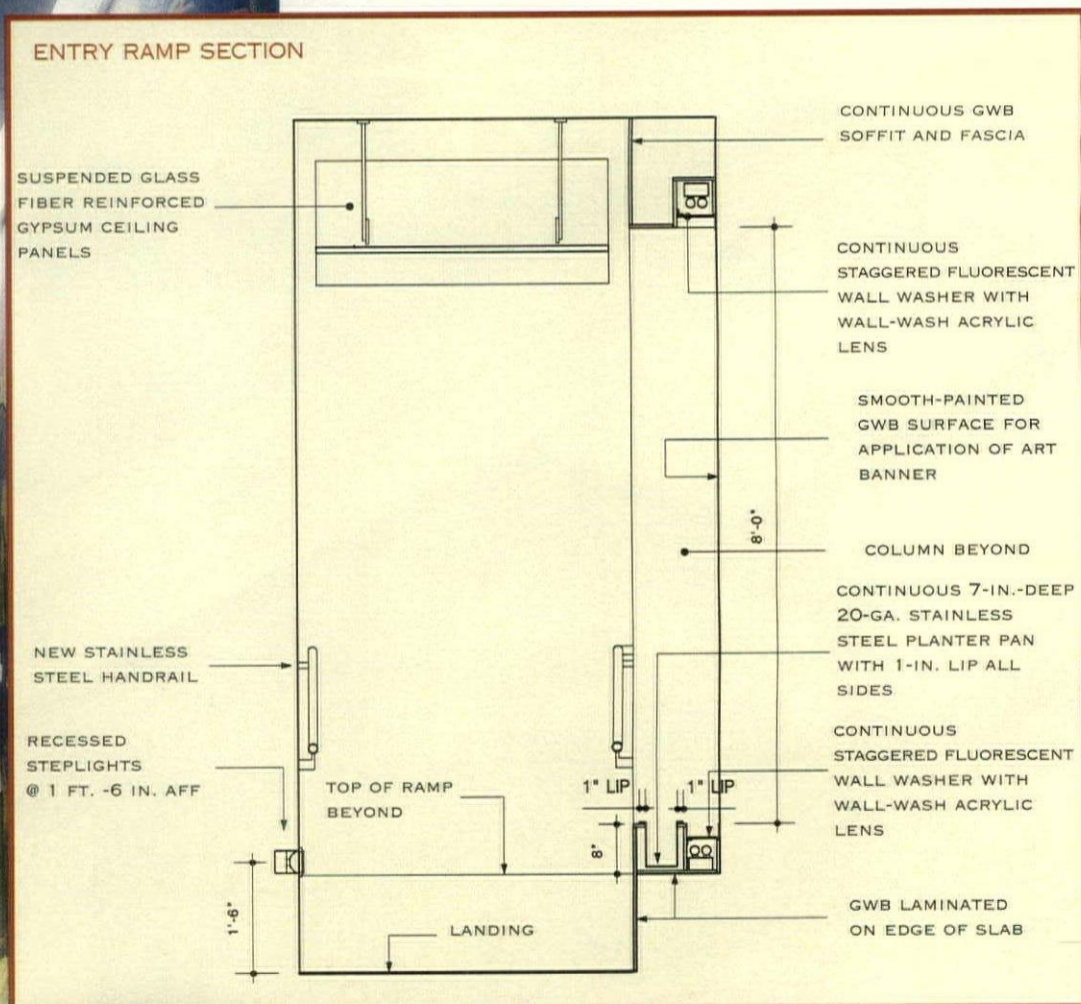
BY JEAN GORMAN, CONTRIBUTING EDITOR

Children can be both demanding and easy to please, and the lighting of the childcare center in Pfizer's corporate headquarters conscientiously addresses this particular paradox. "The children who use the center are of all ages and the needs of each age group are unique," said Cathy McGahan, director of employee resources for the pharmaceutical company. "One of the great things about the lighting is our ability to control it. We can dim the lights in one area where the younger children are napping, yet provide all the light necessary for school-age children who want to play or do homework on a computer in other areas."

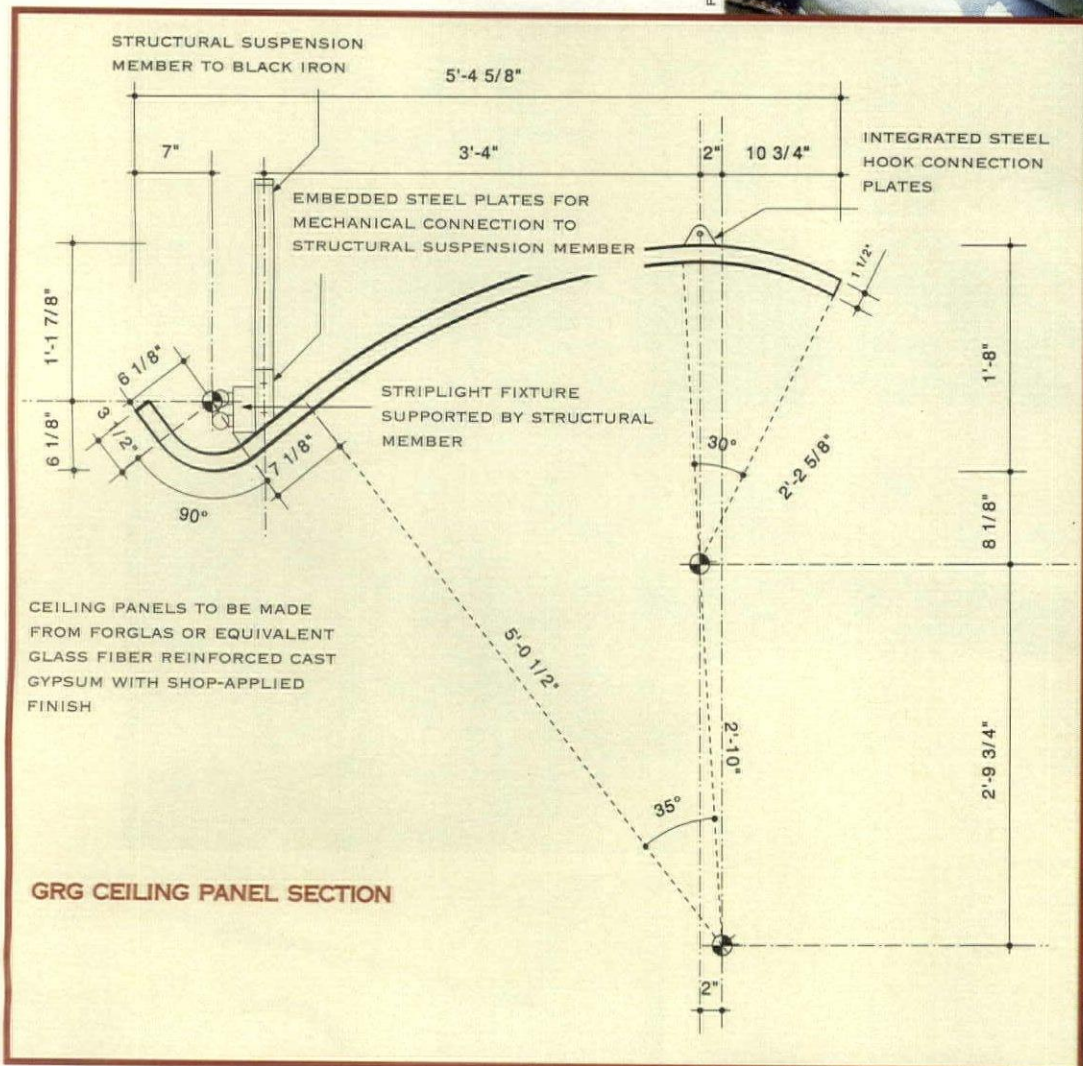
Addressing the many different needs of children was both the challenge and the

pleasure of designing the childcare center, according to architect Martin Rich of Martin E. Rich Architect, PC, who designed new corporate offices for Pfizer corporate headquarters as well. Located in a former bank building in midtown Manhattan, the 5,000-sq.-ft. childcare center occupies a partially underground space adjacent to yet separate from the office complex.

Designed to help employees who need childcare support, the center includes classrooms for infants, toddlers and pre-schoolers, play areas, book and toy storage areas, a napping area, a classroom area for school-age children, a computer and reading zone and a small food preparation area. The lighting, which Rich developed in collaboration with an



LEFT & OPPOSITE: IN THE 40-FT.-LONG CORRIDOR LEADING TO THE CHILDCARE CENTER, A SERIES OF UNDULATING CEILING PANELS MADE OF REINFORCED PLASTER ARE ILLUMINATED WITH INDIRECT FLUORESCENT LIGHT AND DRAW VISITORS TOWARD THE ENTRANCE. COVES FITTED WITH CONTINUOUS FLUORESCENT T8S ILLUMINATE A FLOOR-TO-CEILING MURAL OF CHILDREN'S ARTWORK FROM ABOVE AND BELOW.



outside lighting consultant, uniquely responds to the function of each area. Yet even though so many functional zones were necessary to respond to the children's various needs, the design team found that developing lighting solutions for a childcare center was in some ways easier than lighting an office. "Unlike office jobs where there can be subtle variations in color palettes and the need for precise light-level calculations, the architecture here is fun, so we also tried to make the lighting fun by mixing incandescent sources in one area with fluorescent sources in another to vary the quality of the light," Rich said.

**CHILD'S PLAY**

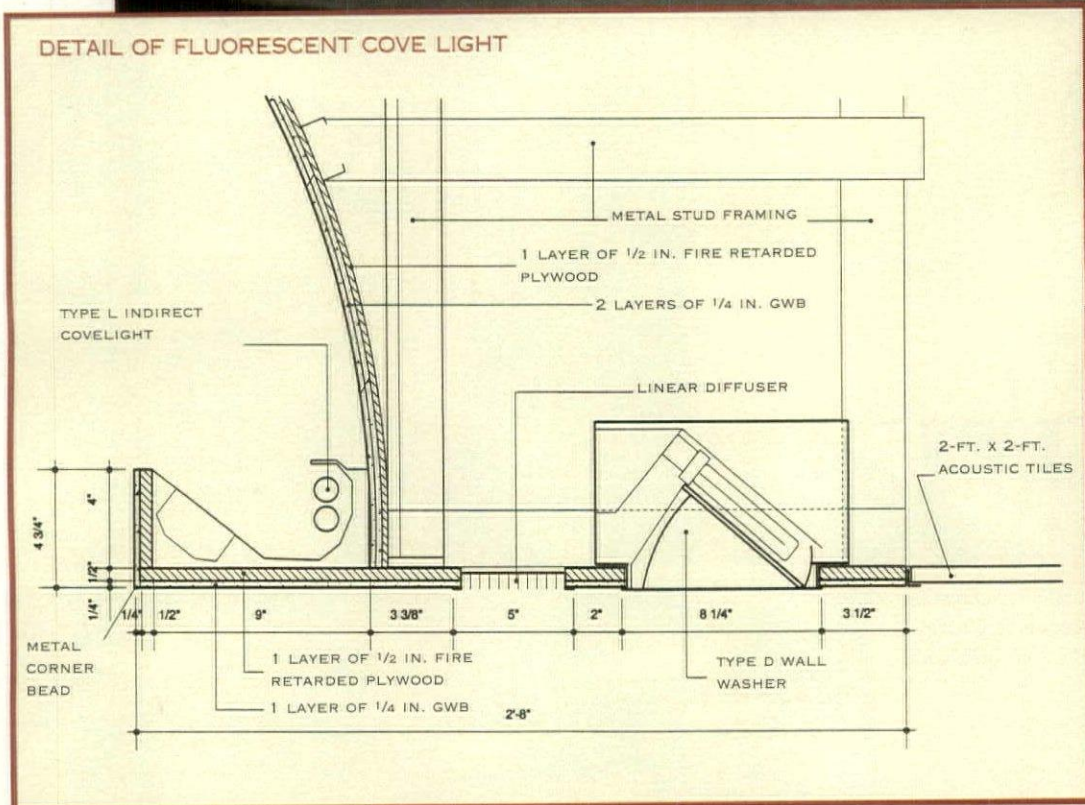
Just as the design team used various sources to enhance the youthful spirit in the center, they also employed myriad design solutions to accentuate various design features or to support different functions. The entrance corridor to the center, for example, which shares a vestibule that leads to the offices, is distinguished by a play of light that calls attention to the center as a special place for children. "The lighting creates a spectacular entrance," said McGahan. "It's like a bridge that links the corporate environment to the childcare center while visually setting the center apart as something related to kids." The 40-ft.-long corridor leading to the center is lined on one side with a playful floor-to-ceiling mural of artwork created by the children of Pfizer employees. Coves fitted with fluorescent tubes illuminate the mural from above and below. Overhead, the ebb and flow of a wavelike ceiling enhanced with indirect fluorescent light further brightens the corridor and draws the eye toward the secure entrance door. Inside the center, even though it is partially underground, a sense of brightness and openness prevails. Low walls divide different areas yet allow children to see what's going on in other parts of the space. Over the classrooms, 2-ft. x 2-ft. fluorescent fixtures in the ceiling provide most of the ambient light. The client requested that all the light be as glare-free as possible, so the architect and lighting consultant chose fixtures that shield the sources with perforated baffles to diffuse the light to keep it from shining directly into children's eyes during nap time. Incandescent recessed downlight fixtures in ceiling soffits provide additional ambient light that can be dimmed when necessary.

The client also wanted to preserve a sense of connection to the outdoors yet requested that the space be virtually enclosed for security reasons. In response to these conflicting requests, the architect created clerestories along one side to allow views to the sky and trees outdoors and to let in natural light. He also focused on abstractly creating a nature theme within the space.

A mix of fluorescent and incandescent sources was used to accent interesting design or architectural features as well. The face of a loft structure, or what is better known as the



A MIX OF FLUORESCENT 2-FT X 2-FT. CEILING FIXTURES AND DIMMABLE RECESSED INCANDESCENT DOWNLIGHTS PROVIDE AMBIENT ILLUMINATION IN THE CENTER. THE DOWNLIGHTS MAY BE DIMMED DURING NAP-TIME QUIET ZONES AND THE FLUORESCENTS PROVIDE GLARE-FREE ILLUMINATION.



TOP: COMPACT FLUORESCENTS IN A COVE ILLUMINATE THE CURVED WALL OF THE COMPUTER AREA, WHICH IS RAISED TO CREATE A STAGE-LIKE PRESENCE. INCANDESCENT DOWNLIGHTS ACCENT THE COMPUTER SCREENS AND DECORATIVE SCNCES PROVIDE VISUAL INTEREST. DAYLIGHT PENETRATES THE SPACE THROUGH CLERESTORIES ABOVE A PLAY LOFT (RIGHT). A VAULTED CEILING OVER THE LOFT IS HIGHLIGHTED WITH INDIRECT FLUORESCENTS MOUNTED IN A COVE.



treehouse, for example, is accented with fluorescent wall washers. On one side of the loft are the clerestories, which bathe the upper level in daylight. This light is reinforced on the other side of the loft with a fluorescent uplight cove that illuminates a vault overhead. Light also penetrates into the lower level of the treehouse through an acrylic-covered light well surrounded by compact fluorescents. The same compact fluorescents, mounted in a cove, highlight the curved wall of the computer room, while incandescent downlights in the ceiling soffit highlight the three computer stations and sconces fitted with fluorescent sources add visual interest to this area. Hidden fluorescent sources also highlight two-sided fish tanks that reinforce the nature theme. According to McGahan, the combination of sources and techniques used in the space serves the needs of the center's users well. "When I visited recently, I noticed that the light offers distinct feelings in different areas," she said. "It provided excitement at the entrance, soothing appeal where children were napping, and a stage-like atmosphere in the computer area, where a group of children were happily gathered unto themselves." ■

Turn to page 40 for information on fixtures and sources specified in this project.

#### DETAILS

- PROJECT Pfizer Childcare Center
- LOCATION New York, NY
- OWNER Pfizer, Inc.
- ARCHITECT/INTERIOR DESIGNER Martin E. Rich Architect, PC
- MECHANICAL/ELECTRICAL ENGINEER Syska and Hennessy
- STRUCTURAL ENGINEER Olko Engineering
- CHILDCARE CONSULTANT ChildrenFirst
- ACOUSTIC CONSULTANT Acoustic Dimensions
- GENERAL CONTRACTOR HRH Construction
- PHOTOGRAPHER Norman McGrath
- LIGHTING MANUFACTURERS Edison Price; Neo-Ray; C.J. Lighting; Artemide; Belfer; Bega; GE Lighting; Osram Sylvania



# Poetry in Motion

AT THIS LOS ANGELES METRO RAIL STATION, ART, ARCHITECTURE AND LIGHTING LURE LOCAL RESIDENTS TO RIDE THE RED LINE

BY ALICE LIAO, ASSOCIATE EDITOR

At night, the five fire-engine red poles seem to stand sentinel over the tilted elliptical canopy that marks the entrance into Los Angeles' Vermont/Santa Monica MetroRail station. Presiding over a 20,000-sq.-ft. plaza paved with red concrete, and rising above neighboring stripmalls and institutional buildings, the poles and 30-ft.-high steel canopy serve as signals to their fragmented surroundings for the Metro Red Line that has moved in below. In illuminating the station and transforming it into a nighttime symbol of progress, lighting designer Teal Brogden of Horton Lees Brogden (HLB) Lighting Design devised a solution that tackles issues of public safety and invites a population wedded to their cars to descend and take a ride.

Designed nearly eight years ago, but only completed in 1999, the station is part of a network that will connect downtown Los Angeles and North Hollywood and results from the collaborative efforts of Brogden, architect Mehrdad Yazdani—at the time, with Ellerbe Becket—and artist Robert Millar. "Because the MTA wanted to show the diversity of design talent that Los Angeles could offer, each station is designed by an architect and artist," said Brogden. "Mehrdad's desire was to do something really cutting-edge in a neighborhood that didn't necessarily have much high design within it. The station would be a respectful and playful nod to the possibilities of what Los Angeles had to offer." Millar's influence is visible in the poetry and verbiage that line the walls of the entry. Millar also recommended that everything in the plaza be red.

Although the MTA stipulated a requirement of 10 fc average for the plaza, which according to Brogden, "is a very high light level in an exterior environment," safety remained a key driver in the lighting design. Through extensive discussion, the design team attempted to pinpoint factors that help make an environment appear safe. "We felt that safety is not just an issue of footcandles on the pavement, but is conveyed by creating a sense of light in the space," said Brogden. "You can achieve that by illuminating surfaces. Of course, you need to fulfill basic lighting requirements so that people passing through the

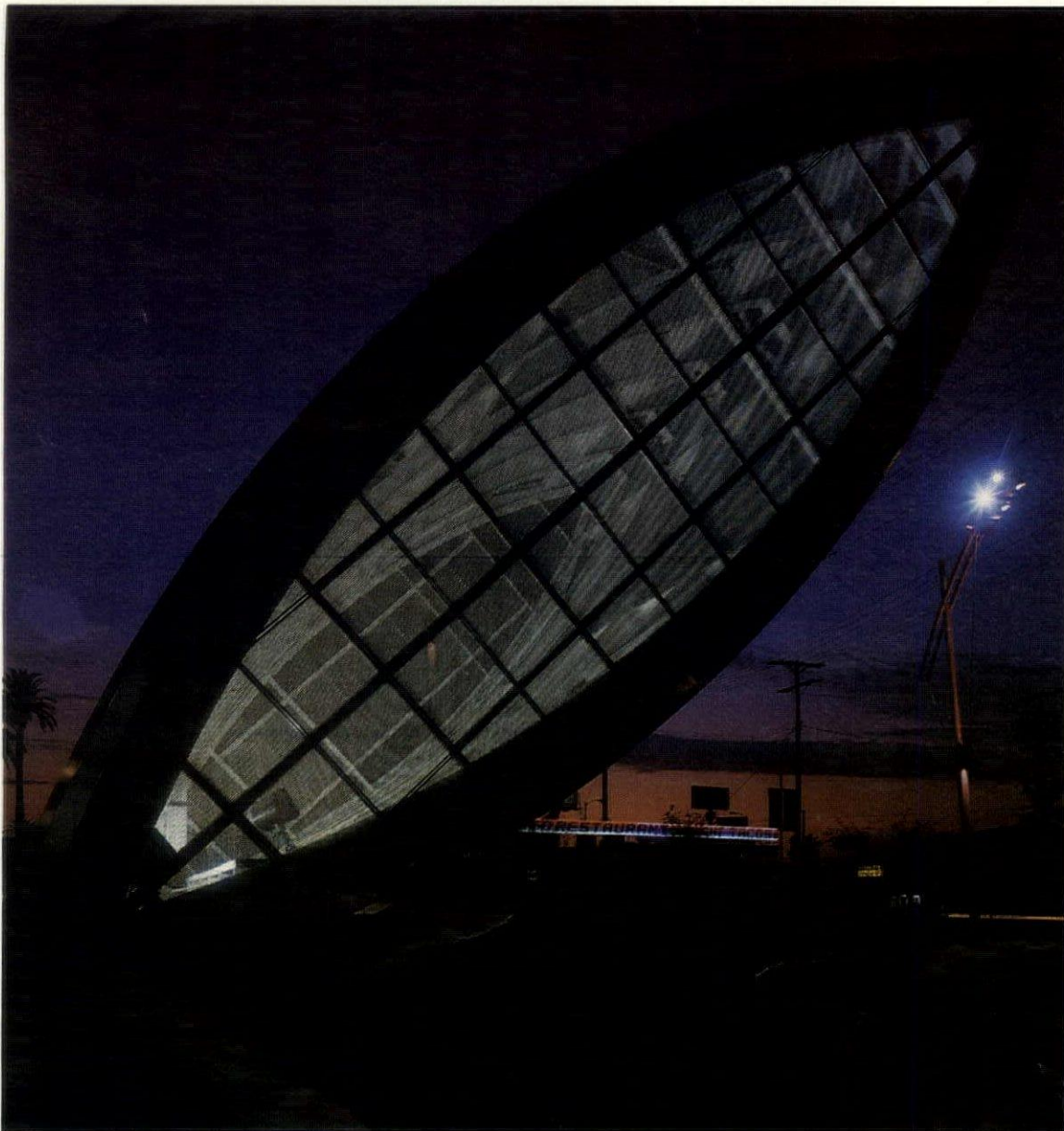
area are plainly visible. But you also need to take another step and provide luminous and welcoming elements in the environment."

By locating light on the poles and illuminating the canopy, the lighting solution reinforces the structures as iconic elements of the station. Brogden commented, "They become more celebratory than simply technical and functional." A steel frame sealed on two sides with perforated metal screens, the elliptical canopy is lit from within by three 400W metal halide floodlights mounted in a row at the bottom of the structure. Although the lamps currently in use may differ, the solution calls for metal halide sources having a color temperature of 4200K and a CRI of 65. The interior of the canopy is painted white to reflect light and maximize brightness. At the hinge where a concrete apron receives the cantilevered canopy, a glowing slot concealing PAR38 metal halide lamps placed 12 in. on center uplight the underside.

## SECURITY BLANKET

The idea of achieving a greater sense of safety via a greater sense of light is translated into a quintet of poles that are spaced to provide a uniform blanket of light. "We wanted light that was traveling in all directions so that people don't pass through a very brightly lit zone and then a dark zone and then a bright zone and so on," said Brogden. "With an average light level of 10 fc, you could have 100 fc in one area and practically zero in another. We were looking for the maximum uniformity." To avoid creating a parking lot-like appearance or erecting structures that resemble pre-existing power/telephone poles, the design team at HLB conceived of two solutions. The first consisted of a single pole standing roughly 150 ft. tall that would illuminate the entire plaza. In the second option, the exterior area is lit by five poles ranging from 45 ft. to 65 ft. in height. "They were intrigued by the five poles," said Brogden.

PHOTOGRAPHY: ORRIN MOORE/RMA PHOTOGRAPHY INC.



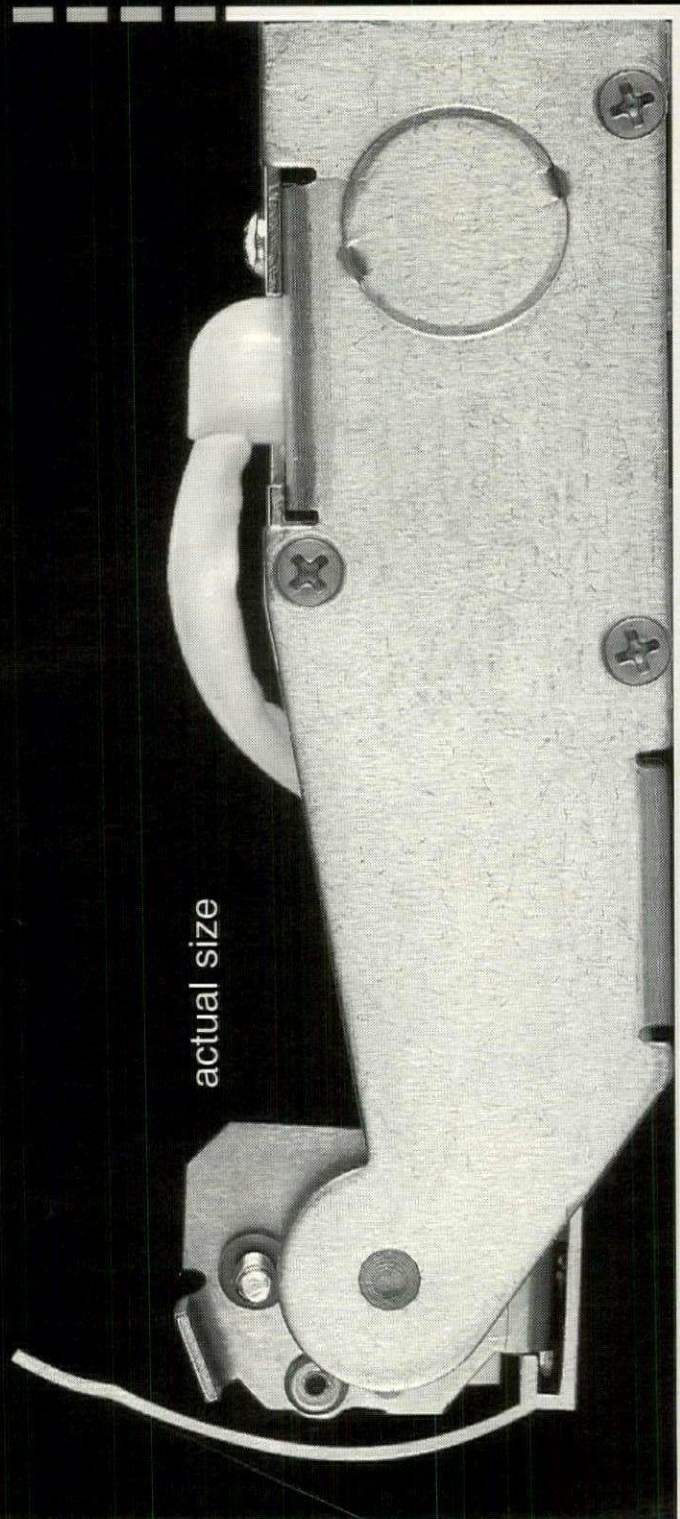
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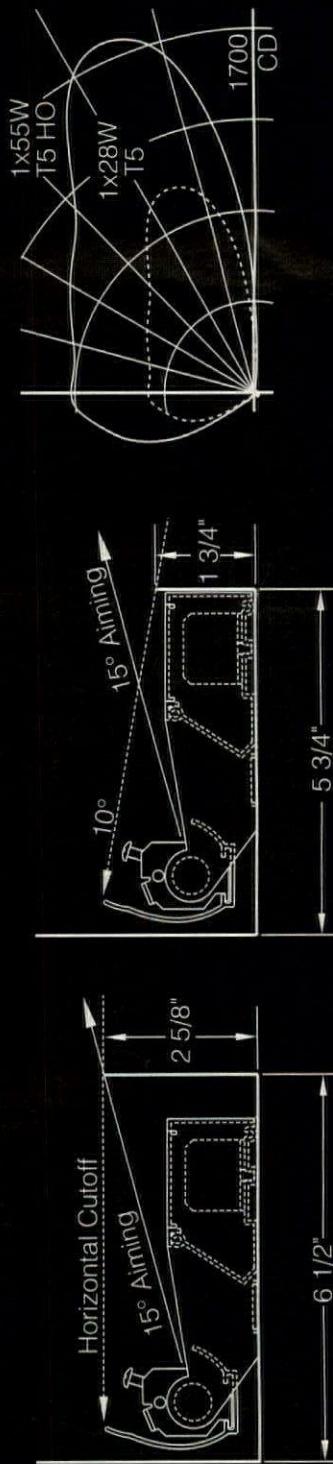
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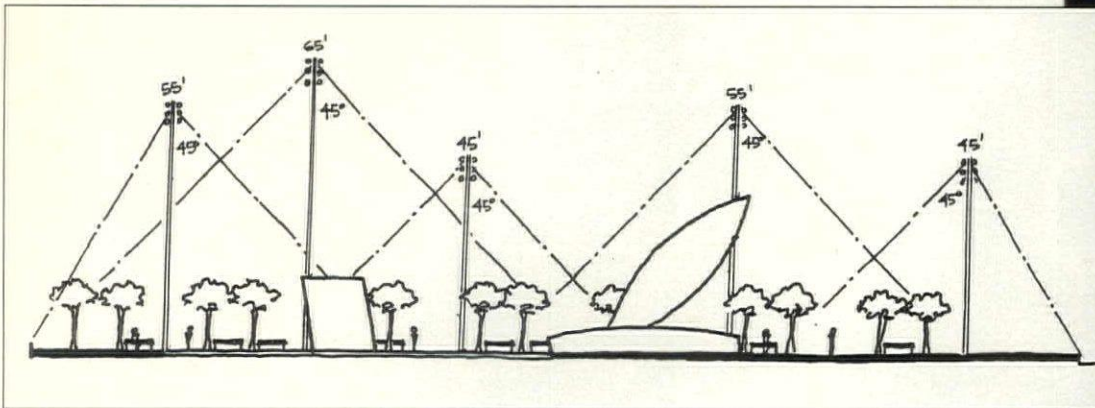


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OPPOSITE LEFT TO RIGHT: "WORKING CLOSELY WITH HORTON•LEES AS WELL AS ROBERT MILLAR, WE LOOKED AT HOW THE CANOPY COULD ESTABLISH ITS PRESENCE AFTER DARK," SAID ARCHITECT MEHRDAD YAZDANI. LIGHTED FROM WITHIN BY THREE 400W METAL HALIDE FLOODLIGHTS MOUNTED IN A ROW, THE GLOWING STRUCTURE SERVES AS AN ICON OF PROGRESS IN A NEIGHBORHOOD DISRUPTED BY THE LOS ANGELES RIOTS. IN THE MEZZANINE AREA, FLUORESCENT STRIPLIGHTS MOUNTED ATOP A GRID STRUCTURE OF LOUVERS COMBINE WITH DOWNLIGHTS TO FILL THE SPACE WITH LIGHT AND CREATE A SENSE OF SAFETY. ABOVE: AN EARLY DRAWING DEMONSTRATES THE USE OF FIVE POLES OF VARYING HEIGHT IN CREATING A UNIFORM BLANKET OF LIGHT. IN THE FINAL SOLUTION, THE POLES SPORT LEVER ARMS THAT ARE TILTED AT DIFFERENT ANGLES AND BATHE THE PLAZA AREA IN 10 FC OF LIGHT. RIGHT: A STANDARD LINEAR STRUCTURE ILLUMINATES THE EDGE OF THE PLATFORMS AND THE OPPOSITE WALL. THE SAME CEILING SYSTEM OF LOUVERS AND LIGHTS IS SUSPENDED ABOVE.



Explaining the design of the poles, Brogden said, "We did a number of conceptual drawings, including one of a simple vertical pole with a series of rings at the top and another with a configuration resembling a twisted DNA helix." With input from the architect, the sketches led to the final solution, in which the poles are equipped with lever arm pieces angled at two to five degrees. Supplying illumination, six floodlights lamped with 100W ED17 metal halide sources are mounted at the top of each pole. Brogden added, "Following careful calculations, each fixture on each pole is aimed at a different location to produce an effect resembling stadium lighting." Two additional

floodlights are located at the joint to accent the poles and lend them a more sculptural presence. Yazdani said, "The five poles not only create appropriate and safe lighting for the plaza, but also act as architectural elements that animate the space both during the day and at night."

The desire to fashion an inviting and visually safe environment also extends to the lighting of the interior of the station. Achieving an ambient light level of 20 fc in the mezzanine level, fluorescent striplights are integrated into a luminous ceiling structure composed of rows of perforated metal louvers shaped to echo the exterior canopy. The striplights sit atop the ceiling system to provide reflected light and are supplemented by a series of downlights suspended between the louvers. "The intent is that when you go underground, you don't feel like you've entered a dark, foreboding tunnel," said Brogden. "There's a lot of light in the ceiling that doesn't necessarily give you extra footcandles on the floor, but it makes the space feel lighted."

An idea developed by Yazdani, the same louver structure also extends across the ceiling in the platform area below and is lighted similarly. "In conceptualizing this space, we decided to enhance its characteristics as a room below ground by defining it in a concrete tube," said Yazdani. "The concrete walls and ceiling and part of the concrete floor are left exposed. The ribbon structure of louvers not only reinforces the characteristics of the space itself, but by working in between the mechanical and structural elements, it also allows these elements to be seen more as artifacts as opposed to utilitarian entities." A standard used in all of the MetroRail stations, a linear fixture spanning the length of the space lights the platform edges to 30 fc. The fixture also gently washes a facing wall and integrates signage as well. Pale finishes also contribute to the overall sense of light, lending a comfortable feeling to the environment. "If they wanted to be more dark and dramatic, they could have chosen darker finishes," said Brogden. "But again, with the idea that the station should feel well-lit in the daytime and at night, the design team suggested that the finishes should be relatively light, so the light would bounce around in the space."

As a requirement of the project and of working with the MTA, the design team was encouraged to take advantage of the MTA's standard palette of equipment and consequently, had little control over the lighting fixtures and lamps that ultimately appear in the station. However, as a result of their involvement with the project, HLB was invited to help revise the MTA standards, which were outdated and included, for example, mercury vapor lamps. "In designing this station and trying to use the standard equipment, we found all the holes and were able to help them to revise their standards more effectively," said Brogden. "We incorporated the latest metal halide technology and T8 lamps, which, at the time, were new developments." According to Brogden, their efforts should pay off for other lighting designers who collaborate with the MTA in the future.

Turn to page 43 for information on fixtures and sources specified in this project.

#### DETAILS

- **PROJECT** Vermont/Santa Monica MetroRail Station
- **LOCATION** Los Angeles, CA
- **CLIENT** Los Angeles Metropolitan Transit Authority
- **ARCHITECT** Ellerbe Becket, Santa Monica—Mehrdad Yazdani, Louis Naidorf, Ignatious Chau and Tom Goffigon
- **LIGHTING DESIGNER** Horton Lees Brogden Lighting Design—E. Teal Brogden, IALD
- **PHOTOGRAPHER** Orrin Moore/RMA Photography Inc.
- **LIGHTING MANUFACTURERS** Bega; Philips; Arc Lighting; Hydrel; Ledalite Architectural Products; Osram Sylvania



# Open-Minded

IN W.W. GRAINGER'S NEW HEADQUARTERS OFFICE, AN OPEN-OFFICE SCHEME DOMINATES—YET IS THEMATICALLY UNITED WITH ALL OTHER AREAS THROUGH THE USE OF GEOMETRIC FORMS



BY CHRISTINA TRAUTHWEIN, EDITOR-IN-CHIEF

The lighting design for this 750,000-sq.-ft. headquarters project required solutions that reinforced the architectural concepts and created visually stimulating and comfortable work environments, in addition to meeting the criteria required by various spaces intended for a variety of functions. "As with every corporate headquarters project, there are unique and specialty spaces—lobbies, conference centers, breakout rooms—that each have their own specific requirements," said lighting designer Stephen Margulies. "In this project, we developed lighting solutions that complemented the rich use of materials and distinctive details. The lighting design was conceived to integrate, reinforce and complement the architecture."

The atrium, waiting areas and circulation zones are highlighted with a mix of geometric lighting forms that carry throughout the project. The office area is designed with a task/ambient approach, which creates an appropriate environment for today's electronic office. The executive area, auditorium and conference center lighting solutions respond to the architectural finishes and details used within those spaces.

The play of rectangular and curved lighting forms is a common theme used throughout the entire project. The use of these repetitive shapes creates rhythm, reinforces orientation and accentuates textures. Public areas are illuminated with a combination of rectangular and round fixtures combined with cove lights that accentuate floating-plane ceilings. "The lighting truly reinforces the geometry of the building," said Margulies. "The 5-ft. module that ran throughout the building was translated into the ceiling, wall, floor and lighting systems. Everything ties back to that."

The entire project, winner of the Edwin F. Guth Award of Excellence for Interior Lighting Design, utilizes efficient light sources and automated lighting controls to even further energy-saving strategies. The power density is 1.1W/sq. ft.

METAL HALIDE UPLIGHTS RECESSED INTO THE FLOOR OF THE EXTERIOR ENTRY ILLUMINATE THE TEXTURED GLASS CANOPY, CREATING THE ILLUSION OF WEIGHTLESSNESS (ABOVE). INSIDE, THE ATRIUM—WHICH IS DESIGNED TO REPRESENT A GLOWING LANTERN WHEN VIEWED EXTERNALLY—FEATURES SPECIALLY DESIGNED FIXTURES THAT ARE ATTACHED TO THE MAIN COLUMNS, CREATING LARGE ILLUMINATED FIN-LIKE STRUCTURES THAT ACCENTUATE THE SPACE (INSET). METAL HALIDE ASYMMETRIC SCOOPS ARE USED AT THE TOP TO ILLUMINATE THE CERAMIC FRIT-PATTERN GLASS CEILING. INTEGRATED SUPPLEMENTARY 1000W HORTICULTURAL LIGHTS ARE USED DURING UNOCCUPIED TIMES TO KEEP THE ATRIUM TREES HEALTHY WHILE ACCENT LIGHTING PROVIDES VISUAL INTEREST TO THE SEATING AREAS AND LANDSCAPE IN THE EVENING.

"WE SPENT A GREAT DEAL OF TIME AND EFFORT ON DEVELOPING AN APPROPRIATE SOLUTION FOR THE OFFICE ENVIRONMENT," SAID MARGULIES. "W.W. GRAINGER HAD TRANSFERRED EMPLOYEES FROM MANY DIFFERENT VINTAGE FACILITIES THROUGHOUT THE CHICAGO AREA AND PLACED THEM INTO THIS NEW FACILITY. MANY OF THESE WORKERS HAD PRIVATE OFFICES AND HAD BECOME ACCUSTOMED TO SUCH AN ENVIRONMENT. THIS PROJECT, HOWEVER, WAS A BIT MORE PROGRESSIVE IN ITS APPROACH, IMPLEMENTING A DESIGN STRATEGY NOW FREQUENTLY USED BY MANY COMPANIES: OPEN-LANDSCAPE WORKSTATIONS SURROUNDED BY FEW PERIMETER OFFICES, PRIMARILY RESERVED FOR UPPER MANAGEMENT." THE LIGHTING RESPONSE HAD TO BE EQUALLY PROGRESSIVE.

"W.W. GRAINGER WAS VERY MUCH CONCERNED ABOUT THE ERGONOMICS OF THE SPACE AND THE LIGHTING OF THE ENVIRONMENT, SO WE CONDUCTED AN EXTENSIVE STUDY TO DETERMINE WHETHER INDIRECT OR DIRECT ILLUMINATION WOULD BE THE MOST SUITABLE SOLUTION," EXPLAINED MARGULIES. "WE CONCLUDED THAT, IN FACT, AN INDIRECT SOLUTION WAS IN THEIR BEST INTEREST, BOTH FROM A FLEXIBILITY AND A VISUAL COMFORT STANDPOINT."

ESSENTIALLY, ONE 8X10 WORKSTATION IS REPEATED MULTIPLE TIMES THROUGHOUT THE OFFICE. SAID MARGULIES, "IT'S A RELATIVELY LONG BUILDING AND SOMEWHAT REPETITIOUS, AND WE NEEDED TO CREATE A LIGHTING ENVIRONMENT THAT WOULD BREAK THE SPACE DOWN A BIT." THE LIGHTING WAS DESIGNED TO RESPOND TO "NEIGHBORHOODS," WITH SEPARATE LIGHTING SYSTEMS FOR CIRCULATION ZONES AND CORE ELEMENTS SUCH AS CONFERENCE ROOMS AND ELEVATOR LOBBIES, IN ADDITION TO THE OPEN OFFICE AREAS. THE GENERAL OFFICE LIGHTING, WHICH IS VISIBLE THROUGH THE ATRIUM SPACE, IS ACHIEVED BY THE USE OF HIGH-EFFICIENCY T8 INDIRECT FIXTURES PROVIDING A GLARE-FREE COMFORTABLE WORKING ENVIRONMENT FOR EMPLOYEES (TOP).

SAID MARGULIES, "MOST INDIRECT SOLUTIONS INCORPORATE LIGHTING FIXTURES THAT ARE SPACED 10 FT. ON CENTER. WHILE THIS APPROACH WOULD HAVE WORKED WITH THIS PLANNING MODULE—THE BUILDING IS ON A 30-FT. COLUMN BAY—WE TRIED TO STRETCH THE LIMIT A BIT. WE DESIGNED TWO ROWS OF FIXTURES 15 FT. ON CENTER, WHICH IS A BIT UNORTHODOX."

MARGULIES CITED THE REASON: "ROWS OF PENDANT LIGHT FIXTURES PLACED 10 FT. APART TEND TO CREATE AN ARTIFICIAL CEILING—ONE'S PERCEPTION OF THE CEILING PLANE IS LOWERED TO THE BOTTOM OF THE FIXTURES. THE FURTHER APART THE FIXTURES CAN BE SPACED, THE MORE OPEN THE SPACE SEEMS. WE WERE ABLE TO ACCOMPLISH THIS AND MAINTAIN REASONABLE UNIFORMITY ON THE CEILING."

TASK LIGHTING AT THE WORKSTATIONS SUPPLEMENTS THE AMBIENT SYSTEM. "WE UNDERSCORED THE IMPORTANCE OF INCLUDING THIS IN OVERALL DESIGN," SAID MARGULIES. "NO



MATTER HOW SIMPLE, IT ENABLES USERS TO CONTROL THEIR OWN ENVIRONMENTS." AND IN LARGE, SHARED, OPEN-PLAN AREAS, ANY AMOUNT OF INDIVIDUAL CONTROL IS ESSENTIAL TO CREATING A POSITIVE AND PRODUCTIVE WORK ENVIRONMENT.

"THE CORRIDORS, WHICH ARE RELATIVELY LONG AND NARROW, NEEDED TO BE INTERESTING," SAID MARGULIES. "WHEN YOU'RE IN A BIG, OPEN SPACE, THE ONLY THING YOU REALLY SEE IS THE WORKSTATION WALL IN FRONT OF YOU. SO IT'S PARTICULARLY IMPORTANT THAT THE CORRIDOR AND CORRIDOR WALLS OFFER SOME TYPE OF VISUAL RELIEF." THE ARCHITECT INCORPORATED A VARIETY OF MATERIALS AND FINISHES INCLUDING BLACK SLATE AND WOOD INTO THE HALLWAYS, WHICH ARE CAPPED OFF BY A LIGHTING-INTEGRATED CEILING DESIGN. COMPACT FLUORESCENT RECTANGULAR DOWNLIGHTS AND WALL WASHERS ARE INTEGRATED INTO A SPECIALLY DESIGNED GFRG CEILING PANEL, WHICH PROVIDES A RATHER UNIQUE LIGHTING SYSTEM.



AFFECTIONATELY KNOWN TO THE DESIGN TEAM AS A "SWOOSH," THE CEILING FEATURES A TEXTURED SURFACE WITH STAGGERED PERFORATIONS. "IT'S BASICALLY A 'SLIT AND SLOT' CONCEPT," SAID MARGULIES. "THIS DESIGN ELEMENT CREATES NOT ONLY PATTERN AND RHYTHM BUT REINFORCES ORIENTATION WITHIN THE SPACE."

A SIMILAR LIGHTING APPROACH IS CARRIED THROUGHOUT THE OPEN SPACES WITH EXECUTIVE OFFICES IN OPEN-PLAN AREAS ILLUMINATED WITH INDIRECT FIXTURES AS WELL (ABOVE).



HOWEVER, IN THESE AREAS, THE FIXTURES, ENCASED IN WOOD ENCLOSURES, ARE DIRECTLY MOUNTED TO A GLASS DIVIDING WALL. THE FIXTURES APPEAR TO FLOAT IN THE SPACE, CREATING A SENSE OF TRANSPARENCY.

THE ENCLOSED, PRIVATE OFFICES (LEFT) CONTINUE THE RECTILINEAR THEME PERPETUATED THROUGHOUT THE ENTIRE PROJECT, UTILIZING RECESSED DIRECT 8-IN. X 2-FT. LIGHT FIXTURES WITH PERFORATED METAL LOUVERS AND ACRYLIC OVERLAYS. ADDITIONAL CONCEALED INDIRECT LIGHTING, INTEGRATED INTO THE MILLWORK, AND TABLE LAMPS ARE USED TO COMPLEMENT THE SPACE, CREATING A CONTRAST TO THE OPEN OFFICES.

THE AUDITORIUM (BOTTOM), WHICH IS USED FOR TRAINING AND CLIENT PRESENTATIONS, HAS DIRECT MONOPOINT TUNGSTEN DOWNLIGHTS SUPPLEMENTED BY COLD CATHODE COVE LIGHTING THAT ACCENTUATES THE CEILING DESIGN. DECORATIVE SCONCES ARE USED TO ADD VISUAL INTEREST TO THE SPACE. "DESIGNING MULTIPLE LAYERS OF LIGHT INTO THE SPACE, FROM VARIOUS SOURCES, ALLOWS THE COMPANY TO HOLD MANY TYPES OF FUNCTIONS IN THE AUDITORIUM," SAID MARGULIES.

THE CEILING DESIGN, WHICH ALLOWS FOR THE INTEGRATION AND CONCEALMENT OF EQUIPMENT, IS PERFECTLY SUITED FOR MONOPOINT LIGHT FIXTURES THAT PROVIDE ALL THE DOWNLIGHTING IN THE ROOM. "MANY OF THE FUNCTIONS ARE A/V INTENSIVE, WHICH WE'RE FINDING IN ALMOST ALL OF THE HEADQUARTERS PROJECTS WE'RE DOING," SAID MARGULIES. "A WHOLE THEATRICAL COMPONENT OF STAGE AND SPEAKER LIGHTING IS INTEGRATED INTO THE SLOTS IN THE CEILING TO ELIMINATE VISUAL NOISE." ■

*Turn to page 44 for information on fixtures and sources specified in this project.*



#### DETAILS

- PROJECT W.W. Grainger
- LOCATION Lake Forest, IL
- BUILDING ARCHITECT Perkins & Will
- INTERIORS ARCHITECT The Environments Group
- LIGHTING DESIGNER Cosentini Lighting Design—Stephen Margulies, Fernando Soler and Stephen Szyal
- PHOTOGRAPHER Hedrich Blessing
- LIGHTING MANUFACTURERS Linear Lighting; Kurt Versen; Lighting Services Inc; Louis Poulsen; Legion Lighting; Elliptipar; Zumtobel Staff

*The best lighting designs...*

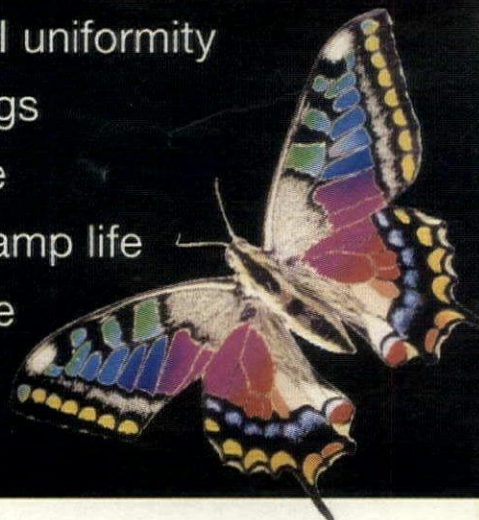


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# Virtual Reality

VEGAS' LATEST "STRIP" TEASE PROMISES LA DOLCE VITA TO VISITORS  
SEEKING A TOUCH OF ROMANCE AND A TASTE OF VENICE

BY JEAN GORMAN, CONTRIBUTING EDITOR

Any lover's fantasy is to be kissed under the Rialto Bridge in Venice, which, as legend has it, ensures a love everlasting. Now, romantics can embrace under the fabled bridge—or rather a reproduction of it—in Las Vegas. The bridge is but one of several architectural icons of Venice that have been reinterpreted as components of the first phase of the new \$1.8-billion Venetian Resort Hotel Casino, which is located at the core of the Las Vegas Strip on the site of the former Sands Hotel. Ornatly detailed recreations of Venetian landmarks—the Doge's Palace, Ca D'Oro, the Campanile Tower, the Grand Canal and of course, the Rialto Bridge—were reproduced as authentically as possible in this setting to capture the dreamy aura of Venice. Even the lighting scheme was developed to recall the quality of light from the street lamps, sconces and pendants that lend character and charm to Italy's most romantic city.

"Our goal was to represent Venice as realistically as we could within the context of Las Vegas," said Chris Belknap, senior designer with Wimberly, Allison, Tong & Goo (WATG). "Unlike other Vegas projects, which are designed with as much light and glitz as possible, we wanted a more subtle and romantic scheme." Because Las Vegas has become one of the largest convention cities in the world, hosting almost 4,000 conventions per year, the rooms at the Venetian were designed to appeal as much to the business traveler as to the tourist. The more subtle design approach addresses the hotel's interest in catering to the conventioneer. The Nevada office of WATG, Inc. collaborated with The Stubbins Associates of Nevada (TSA) on the project and together the architects worked with Lighting Design Alliance to develop an exterior lighting plan that would recreate the sensuous atmosphere of Venice yet allow the structures of the complex to stand out in the busy Vegas skyline. "There are no flashing lights on this job," said Lighting Design Alliance's principal Chip Israel, IALD. "We were aiming for the warmth and romantic feel of Venice, but in the context of Las Vegas, which is all about brighter, louder amounts of light, we also needed to compete with the other towers on the Strip and at the same time find a way to transition into this other world and another time."

## CREATING INTIMACY

The lighting designers' concept involved highlighting select features of the historic facades while providing romantic ambiance with decorative period fixtures. To do so, they opted to give the Campanile Tower and the hotel building, which houses 3,036 guest suites, a dominant presence by illuminating them with hidden sources to make them glow. They created the flavor of the more intimate lighting of Venice with street lamps and pendants that provide theatrical effect more than functional illumination. "There's a lot of ambient light from other projects along the Strip," said Belknap, "so the general light level is elevated more than in a typical urban context. We didn't want to overdo the lighting of the tower and we needed to conceal the fixtures so they wouldn't affect the theme."

A three-fold strategy was used to illuminate the Campanile Tower. At the base of the tower, below deck level at the canal, a series of 500W quartz flood lamps in fixtures with glare snoots provides a soft, vertical wash of light on the facade of the tower. At each setback, additional illumination from hidden MR16s and some 250W quartz PAR38 lamps accent columns or arches further up the tower. More concealed quartz PAR lamps illuminate the roof and statues at the top of the tower. Although all of the fixtures were supposed to be recessed, some monopoints, which were chosen for their precise beam control and small size, were used with remote transformers at certain locations and painted to match the facade. The sources were all independently dimmed to create a final color balance, which appears to age the facade and soften the illumination. An additional benefit of the dimming system is its effect on lamp life. The lighting designers selected sources with a minimum lamp life of 5,000 hours (versus 750 to 2,000 hours for standard incandescents) and the dimming system extends their lamp life to a minimum of 10,000 hours.

The street lanterns on poles at the plaza level are authentic replications of those in Venice—minus the glare of shielded HPS lamps. These poles were designed to provide three different lighting effects. Within the lanterns, three flame-style incandescent lamps were installed and dimmed independently on flicker modules to create the appearance of candles: "These do not provide any useable light, however," said Israel. Concealed in the hoods, PAR38 wide-beam floods provide soft downlight on the ground

PHOTOGRAPHY: © ORRIN MOORE/RMA PHOTOGRAPHY INC.



THE CAMPANILE TOWER IS ACCENTED WITH 500W QUARTZ FLOODLIGHTS FROM THE BASE. EACH SETBACK INCORPORATES ADDITIONAL CONCEALED QUARTZ ACCENTS. THE SILHOUETTE OF THE RIALTO BRIDGE IS EXPRESSED WITH INTERIOR ASYMMETRIC QUARTZ UPLIGHTS, EXTERIOR NEON COVES AND CONCEALED QUARTZ WELL LIGHTS.

and identify steps. And, in areas where additional lighting is required, such as along the entrance drive or around stairs, a third shielded floodlight was incorporated into the design of the poles.







THE QUATREFOILS OF THE DOGE'S PALACE, WHICH HOUSES THE CASINO, ARE ACCENTED FROM PENDANTS WITH CONCEALED UPLIGHTS AT THE TOP. MR16S AT THE TOPS OF THE COLUMN CAPITALS ACCENT THE ARCHES.

and PAR38 incandescent well lights at the base of the columns. Surface-mounted PAR38 bullets highlight the architectural detailing of the adjacent sign tower and a strip of concealed, warm-tone white neon behind a reveal provides a soft, even wash on the facade with additional emphasis on each of the individual architectural features.

Completed on a fast-track schedule of 29 months last year, the project has won three prestigious lighting awards, including the IIDA Waterbury Award, the IIDA Guth Award and the GE Edison Award of Excellence, as well as an AIA honorable mention for its exterior lighting. Israel acknowledges the team effort among all the players involved in this enormous project that made it a success. When the second phase is finished in a few years, the Venetian promises to be the largest hotel complex in the world. ■

*Turn to page 46 for information on fixtures and sources specified in this project.*

ALTHOUGH THE BUILDINGS ARE POSITIONED OUT OF SEQUENCE, THEIR SCALE, MATERIALS AND DETAILING REPLICATE THEIR VENETIAN COUNTERPARTS AS AUTHENTICALLY AS POSSIBLE. SINCE THE EXTERIOR IMAGE IS SO STRIKING, THE DESIGNERS RECREATED A STREETScape ON THE INSIDE. THE SKY CEILING ABOVE THE EXTERIOR PLAZAS IS ILLUMINATED WITH ASYMMETRIC METAL HALIDE FIXTURES WITH COLOR FILTERS AND DIFFUSION—ALL OF THESE FIXTURES ARE CONCEALED BEHIND FACADES. THOUSANDS OF MINIATURE ACCENTS ARE INTEGRATED INTO THE FACADES OF BUILDINGS TO ACCENT ARCHITECTURAL FEATURES.

#### GRAND SCALE

The sheer height and intensity of the glowing 400-ft.-tall hotel tower provide a long-distance focal point that stands out in the Las Vegas skyline. In illuminating this 35-story building, three different fixtures were used. A series of 1000W concealed metal halide sports lighters, grouped in banks to minimize construction costs, uplights the 25 stories of the facade. "These sources are relatively inexpensive and provide efficient optics—spots or floods—all done with a reflector," said Israel. Additional surface-mounted 3000K, 100W PAR38 metal halide uplights illuminate the columns near the top of the structure and 3000K T8 fluorescent signlighters illuminate the cornice at the crown.

Another prominent structure of the complex is the Doge's Palace, which houses the casino and a facsimile of the Grand Canal flanked by shops and restaurants on the second floor. Concealed 500W quartz lights beneath the edge of the adjacent "sea-wall" illuminate the facade with a soft, even glow. The arches and architectural detailing are accented with MR16 uplights mounted at the tops of the columns and recessed MR16

#### DETAILS

- **PROJECT** The Venetian Resort Hotel Casino
- **LOCATION** Las Vegas, NV
- **CLIENT/OWNER** The Venetian Resort Hotel Casino
- **DEVELOPMENT/DESIGN & CONSTRUCTION** Stuart Mason, VP of design/development & construction; Garrett Byrd, project director; Jim Elsee, project manager; Wade Brasuell, project manager (electrical); and Craig Brna, project manager (structural)
- **ARCHITECT OF RECORD** TSA Of Nevada, LLP
- **DESIGN ARCHITECT** WATG, Inc., Nevada
- **LIGHTING DESIGNER** Lighting Design Alliance—Chip Israel, IALD and Dan Kohlen
- **GENERAL CONTRACTOR** Lehrer McGovern Bovis
- **ELECTRICAL CONSULTANT** MSA Engineering
- **PHOTOGRAPHER** Orrin Moore/RMA Photography Inc.
- **LIGHTING MANUFACTURERS** Prescolite; Kim; Tokistar; Radiance; Altman; GE Lighting; Nulite; Greenlee; Insight Lighting

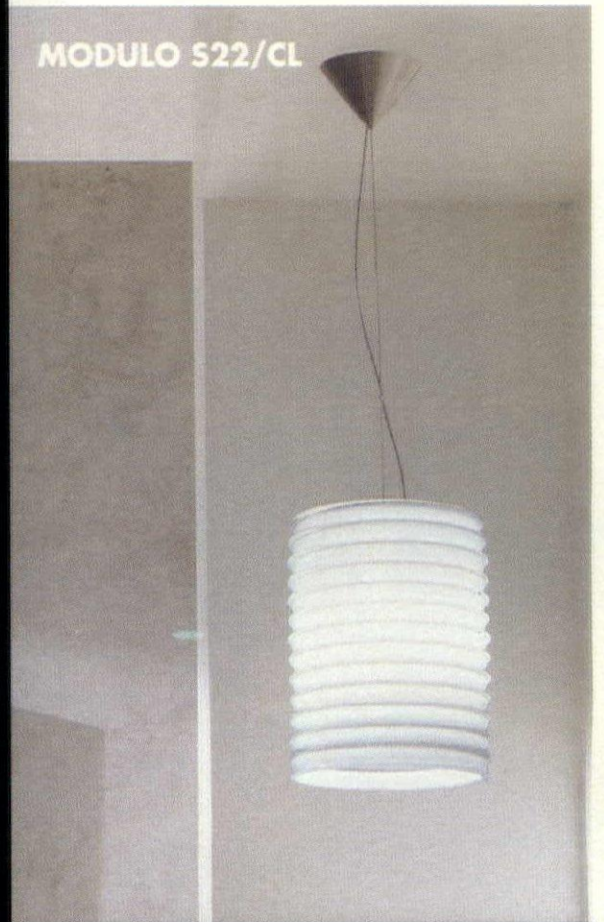
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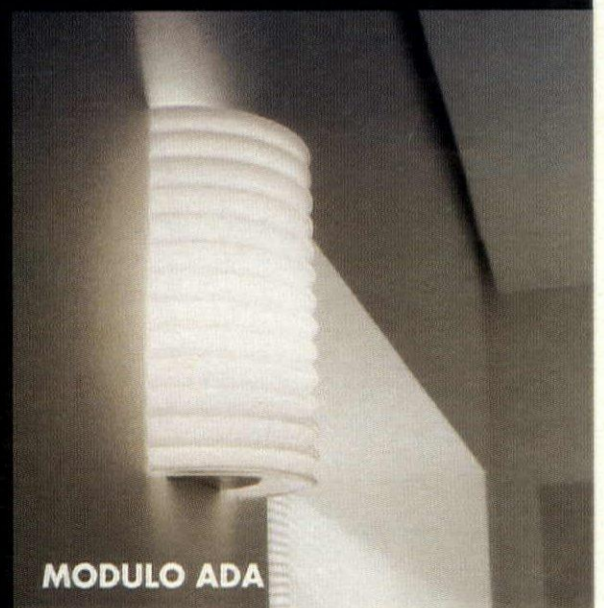


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MODULO ADA



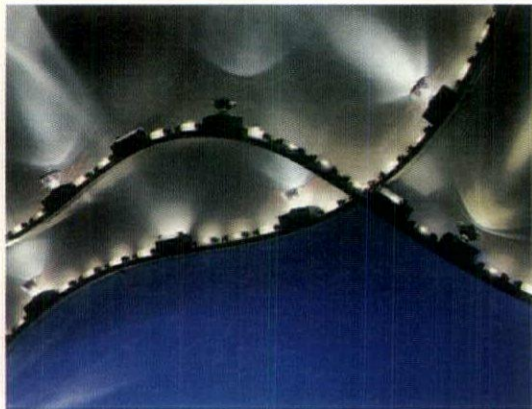
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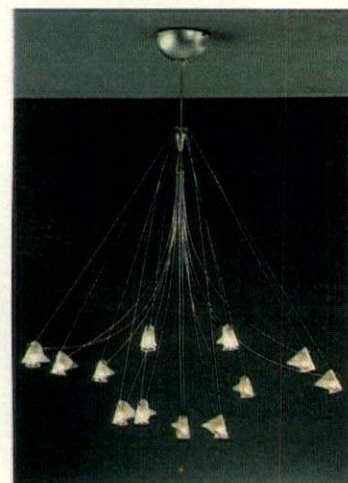
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Concealed behind a mirror in the powder room, the Series 2000 Light Strip from **Lucifer Lighting** produces a glow along the perimeter of the glass surface. Approximately 1 in. wide, the Series 2000 uses 12V or 24V incandescent, xenon or quartz halogen lamps. The fixture accommodates straight or radiused applications. The Light Strip is made of polyethersulfone thermoplastic with solid brass conductors and comes with double-sided foam tape. The model used in the powder room features a molded plug connector. **Circle No. 40**



A pair of Solzi Luce's Andromeda chandeliers from **Hampstead Lighting** is suspended over the dining room table to add sparkle. The low-voltage Andromeda is offered in nine configurations with either chrome or gold-plated finishes. Various sizes and mounting options are available. **Circle No. 41**



Many of the custom fixtures revolved around **Lumiere's** 203 low-voltage accent light. In the interior spaces, the fixture was mounted on wands to provide accent and ambient lighting. The fixture (shown) was also mounted to a custom backplate and the whole assembly was then countersunk into the concrete wall. Model 203 features precision-machined, corrosion-resistant aluminum alloy construction, Siphon Protection System to protect against water entry, tempered glass lenses, side swivel for adjustability and is offered in a variety of finishes. **Circle No. 42**



Used in conjunction with fluorescent striplights, **Lutron's** Hi-lume electronic ballasts provide continuous and flicker-free dimming from 100 percent to 1 percent for T8 and T12 lamps. Hi-lume electronic ballasts feature a power factor of greater than .95, a total harmonic distortion of less than 10 percent. The continuous ballast case operating temperature is 75 degrees Centigrade and the minimum ballast starting temperature is 10 degrees Centigrade. **Circle No. 43**



**Prudential Lighting** Microlite T8 Strips are tucked into coves throughout the house to supplement the low-voltage lighting. Microlite T8 Strips are available in two-lite and single-lite models. The one-lite model measures 2 in. x 2 1/5 in., including lamp. The two-lite measures 3 1/8 in. x 2 1/2 in., including lamp. **Circle No. 44**

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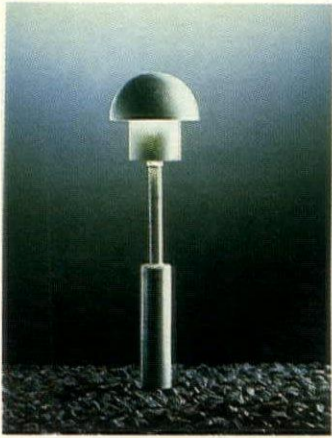
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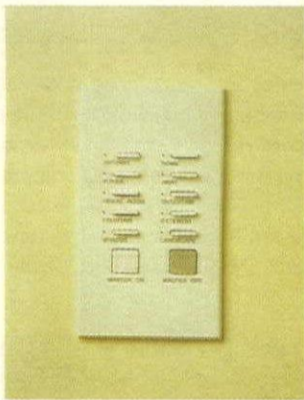


A series of post-top landscape fixtures designed by Bjarne Bech with Louis Poulsen in 1968 for **Poulsen Lighting** illuminates an outdoor kitchen/barbecue area. Available in a small and large version, the fixture is constructed of hot-dipped galvanized steel and high-reflectance white enamel. The small model measures roughly 13<sup>1</sup>/<sub>4</sub> in. x 14<sup>1</sup>/<sub>4</sub> in. and the large model measures 19<sup>7</sup>/<sub>10</sub> in. x 18<sup>1</sup>/<sub>2</sub> in. Both accept incandescent, metal halide and HPS lamps. **Circle No. 45**

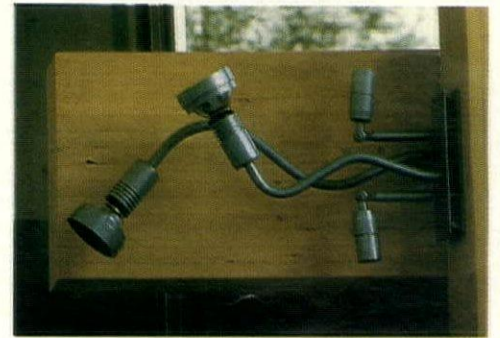
The 1409 MR16 underwater accent light from **Lumiere** is used to add punch to an exterior water fountain. This fixture, which uses a 12V MR16 tungsten halogen lamp (75W maximum), can be partially or fully submerged. Features include precision-machined solid brass construction with 15 ft. of low-voltage SJO cord, a tempered glass lens, stainless steel and brass hardware and a high-temperature O-ring seal. **Circle No. 47**



All lighting for the Alden Residence was placed on the HomeWorks Interactive Lighting Control System from **Lutron**, which features a design that makes the system easy to change or expand to additional areas in the home. The decentralized intelligence allows simultaneous remote and local operation of dimmers and switches throughout the home. The HomeWorks Interactive processor is capable of controlling 256 lighting zones. A maximum of 16 processors can be used in a system. Other features include an astronomic timeclock, security system integration capability and an optional telephone interface for access and control through any touch-tone phone. **Circle No. 48**



Used throughout the house to provide accent lighting, **GE Lighting's** ConstantColor Precise series of MR16 lamps features precise beam control and no color shift. The series is available in a range of spotlight and floodlight versions. Average rated lamp life is 3,000 to 6,000 hours, depending on the model. **Circle No. 49**



Custom fixtures manufactured by **Lumiere** and designed by Patrick B. Quigley & Associates were used throughout the house to light both interior and exterior spaces. Mounted between the glue-lam beams in the Great Hall, a custom fixture, dubbed "Medusa" and composed of two line-voltage and two Lumiere 203 low-voltage fixtures, uses two MR16 and two 100 PAR HIR lamps. Serpentine conduit arms are finished with pewter paint. **Circle No. 46**

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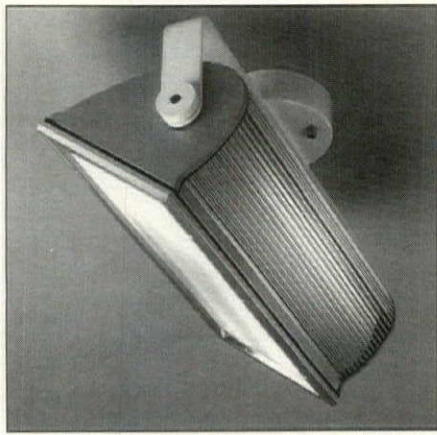
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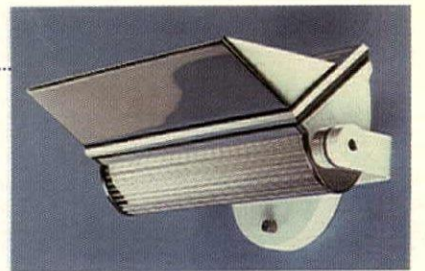
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Providing uplight at the window wall, **Elliptipar's** Style 103 features an anodized aluminum housing, a large fluted surface and remote ballast. Although lamped with tungsten halogen in the Sephora flagship, the fixture is also available in a metal halide version. Reflector and internal end plates are extruded high purity aluminum with clear anodized specular finish. Precured silicone gaskets keep dirt and moisture out. Style 103 is finished with a six-stage pretreatment and electrostatically applied baked enamel for resistance to corrosion. Various mounting options and accessories are available. **Circle No. 50**

A bracket-mounted **Elliptipar** Style 101 serves as a floor light in the entry circulation area. Featuring a small fluted surface, Style 101 is offered in tungsten halogen and metal halide models. Housing and doorframe are bright, clear anodized aluminum. Reflector is extruded high purity aluminum with clear anodized specular finish. Solid and perforated visors are available. Style 101 is finished with a six-stage pretreatment and electrostatically applied thermoset polyester powder coating for resistance to corrosion. Various mounting options and accessories are available. **Circle No. 51**



To lure shoppers to the store, **Lightolier's** Sof-Tech track lighting illuminates window displays on the first floor. The series is available in low-voltage, line-voltage and metal halide models. Sof-Tech features a minimal silhouette, die-cast aluminum components and silicone rubber elements. Fixtures are offered in open and fully enclosed versions. Painted finishes include matte white, matte black and metallic or new aluminum. A variety of accessories is available. **Circle No. 52**

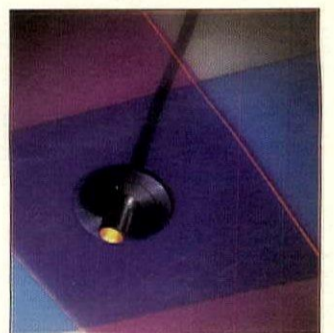


Architectural lighting controls are bridged to **Strand Lighting's** 510i rack-mounted show control system. The 510i system features 600 to 6,000 channels and provides integrated control of automated moving lights.

Forty-eight contact closure inputs may be individually configured as momentary or maintained closures. The system is available with outputs to control up to 8,192 DMX devices plus a variety of RS32/ASCII remote control options and supports both Midi show control and SMPTE time code. **Circle No. 53**

**Lucifer Lighting's**

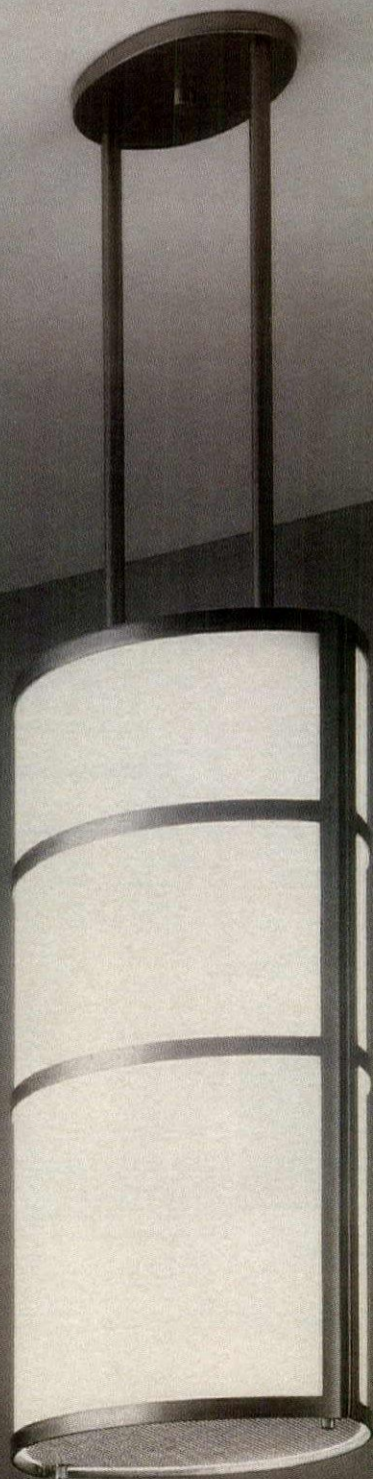
Lensed Eyeball fiber downlights illuminate the second-story windows and uplight the "moat" area. Under 3 in. in diameter, the downlight features an optically ground, clear or frosted glass lens, which is available in spot, medium-flood and flood beam options. The rotatable unit can be adjusted 20 degrees from vertical in all directions and then locked into position with a spanner wrench included with the fixture. The detachable snoot acts as an aiming device as well as a baffle. Various finishes are available. **Circle No. 54**



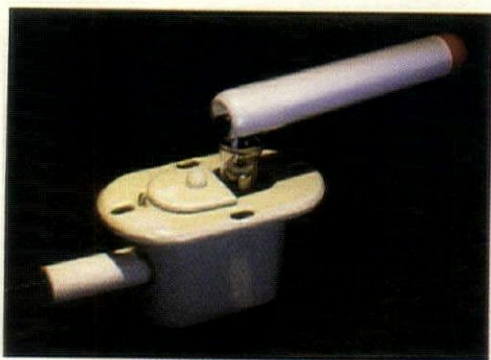
From **Zumtobel Staff Lighting**, a custom version of the Recessed Multi-Lamp (RML) fixture is used throughout the store to light displays and provide general lighting. RML combines the clean appearance of downlights with the flexibility of a track system. Transformers and ballasts are accessible from below the ceiling. The design allows relamping from underneath without disturbing the trim. RML is available in a variety of two- and three-lamp standard configurations utilizing halogen, low-voltage halogen and metal halide lamps. **Circle No. 55**

**THE LINEAGE COLLECTION BY CLODAGH**

Designed for contract spaces, these pendants and a series of matching sconces provide softly diffused light from the architecturally inspired frames. The ADA compliant sconces range in size from 6" x 13" to 24" x 24".



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Creating the impression of a floating Fragrance Organ, the floor panel underneath is backlit by a surface-mounted cold cathode lighting system provided by **National Cathode**. The SS-24 system produces a continuous line of light, utilizes 1-in.-diameter lamps for high light output and is also available with recessed lampholders. The system used in Sephora features a dual row of cold cathode to pro-

duce 1,536 lumens per linear foot and 100-percent to 10-percent dimming capability. SS24 transformers feature an internal disconnect switch and a normal power factor of 240 mA operating. **Circle No. 56**



Fixtures providing gondola lighting are lamped with **Osram Sylvania's** Tru-Aim IR MR16 lamps. The lamps' ellipsoidal tungsten halogen capsule and IR reflective coating ensure that radiated heat is reflected back to the lamp filament. The axial filament produces a smooth beam pattern, and the dichroic hard coating eliminates color shift over the life of the lamp. Other features include UV-stop capsule and a 4,000-hour average rated lamp life. **Circle No. 57**

Perimeter shelf displays are lighted with Pentron T5 fluorescents from **Osram Sylvania**. Available in 3000K, 3500K and 4100K, Pentron linear fluorescents have a CRI of 82 and an average rated lamp life of 20,000 hours. Other features include 95-percent lumen maintenance and a peak lumen output at 95 degrees Fahrenheit. Pentron T5 is offered in 14W, 21W and 28W versions. Pentron HO is offered in 24W, 39W, 54W and 80W versions. **Circle No. 58**



**Osram Sylvania's** Octron T8 lamps backlight signage, illuminate lightboxes and are concealed in architectural coves. Octron is available in a variety of light levels and lamp choices, including the Octron 700, 800 and 800XP in Linear and Curvalume types. Octron 950 lamps (shown) have a color temperature of 5000K and 90 CRI. Average lamp life for the 950 series is rated at 20,000 hours. **Circle No. 59**



Quicktronic electronic ballasts, also from **Osram Sylvania**, operate the Octron T8 lamps used throughout the store. Quicktronic System 32LP is available in two, three and four-lamp models in 120V, 277V and 247V.

Features include instant-start operation, low harmonic distortion and low in-rush current. System 32LP electronic circuitry is designed to be compatible with powerline carrier systems. **Circle No. 60**

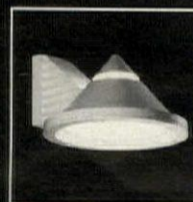
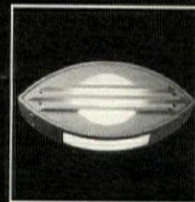
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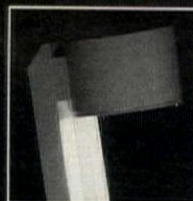
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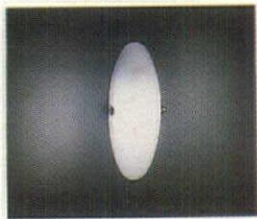
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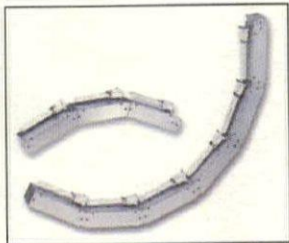


Measuring approximately 5½ in. x 4 in. x 13<sup>2</sup>/<sub>5</sub> in., **Artemide's** Cilla sconce provides soft diffuse light and visual interest to a display shelf in the computer area. Designed by Ernesto Gismondi, Cilla is offered in incandescent and fluorescent versions, both of which are equipped with a white, blown-glass diffuser. Incandescent models feature painted and chrome metal, while fluorescent fixtures feature thermoplastic resin. Lamping options include 60W incandescent, 75W halogen, 13W fluorescent. **Circle No. 61**



Illuminating the soffited areas, the Darklite A19/5 recessed A-lamp downlight/wallwasher from **Edison Price Lighting** features a 5-in. aperture and is designed for use with frosted A19 lamps. The fixture provides a shielding angle of 40 degrees. One basic housing allows interchangeable use of the downlight and wallwash reflectors. Reflectors can be installed and changed after installation of the housing. Reflectors are available in clear natural aluminum or champagne gold Alzak. Various wallwash reflectors are available. **Circle No. 62**

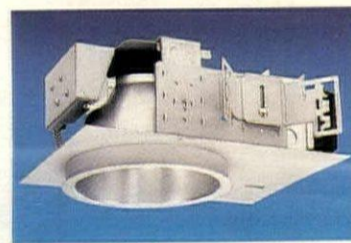
**Belfer Lighting's** 2801 FX2S compact fluorescent cove-lighting system illuminates a curved cove over the computer desks. The 2801 FX2S series features twin-tube, color-corrected 9W or 13W compact fluorescent lamps on a field-curveable, satin anodized aluminum body and can be specified as lamp in or lamp out. Linkable formed aluminum system allows integration of straight and field curveable lengths, and swivel sockets facilitate relamping in tight curves. Multiple lengths are available. **Circle No. 63**



Mounted in the infant rooms, the Shell 201 Wall Mount fixtures from **Neo-Ray** illuminate a wall above the cribs. The 201 IW is a companion to Neo-Ray's Shell and uses one or two T8 lamps. Housing is 20-gauge perforated steel and shielding is white acrylic diffuser. The reflector is specular anodized aluminum. Finish is low-gloss white, baked powder-coated epoxy. Various lengths are available. **Circle No. 64**

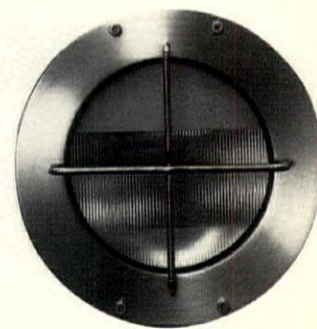


**Osram Sylvania's** Double Life incandescent lamps illuminate the main and computer work areas. Double Life is available in a variety of wattages and shapes, including A-line, three-way, decorative B10 and globe, ceiling fan and reflector. **Circle No. 65**



**Duplux 218/7** recessed compact fluorescent downlight/wallwashers from **Edison Price Lighting** light the general and circulation spaces. Duplux 118/7 and 218/7 use one or two 18W compact fluorescent sources. Duplux 218/7 (shown) provides shielding angles of 32 degrees parallel to and 37 degrees perpendicular to the lamps. Both models feature a 7-in. aperture and a recess depth of 6 in. One housing allows interchangeable use of downlight and wallwash reflectors after the installation of the housing. Reflectors are offered in clear natural aluminum or champagne gold Alzak with Color-Chek anodizing, virtually eliminating iridescence. A variety of wallwash reflectors is available. **Circle No. 66**

Embedded in the walls of the 40-ft.-long corridor, the **Bega 1120** Stainless Steel Recessed Wall Luminaire features die-cast aluminum housing with integral wiring and 3/16-in.-thick, clear tempered glass spreadlens with 14 linear prisms per inch and translucent ceramic mask. Reflector is semi-specular anodized aluminum. Faceplate is secured by four-socket head, stainless steel, captive screws. Continuous high temperature, silicone rubber O-ring gasket for weather-tight operation. Model 1120 uses a low-voltage 20W G4 lamp. Finish is natural brushed #4 stainless steel. **Circle No. 67**



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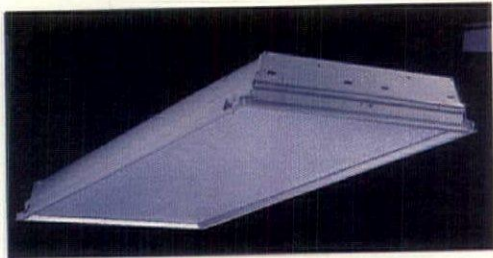
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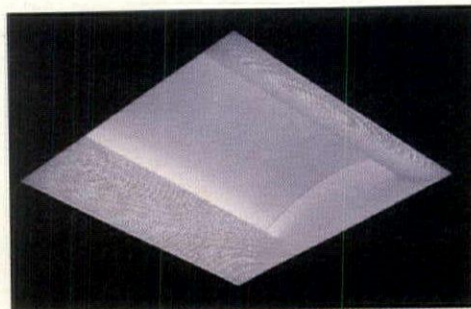
Illuminating secondary spaces, **Cooper Lighting's** Metalux 2GC-SS/240 is a 2-ft. x 4-ft. recessed fluorescent fixture that provides uniformity of light in the luminous area. A part of the Silverlining series, the fixture features a 4 1/2-in.-deep, para-contoured, silver steel housing. The silver is applied to reflecting surfaces, die-embossed housing and ballast cover. Efficiency levels for the series range from 69.6 percent to 86.3 percent. The Silverlining series is compatible with most popular ceiling systems. **Circle No. 69**



**Edison Price Lighting's** Washlux 218/6 compact fluorescent lensed wallwashers are recessed in the ceiling of the preschool room to provide accent lighting on the loft structure. Equipped with a two-part internal reflector, Washlux 218/6 and 118/6 provide uniform illumination on vertical surfaces up to the ceiling line.

Other features include a 55-degree glass spreadlens and an external Darklite reflector, which minimizes aperture brightness. Aperture diameter is 6 1/2 in. and recess depth is 6 3/4 in. Washlux 118/6 (shown) uses an 18W, 4-pin lamp and 218/6 uses two lamps for additional illumination. Reflectors are offered in natural aluminum, semi-specular etched clear or champagne gold with anti-iridescent anodizing. Specular black is also available. **Circle No. 71**

Mounted above soffits, **Neo-Ray's** 74-IC cove lighting system features an optically designed semi-specular aluminum reflector, which directs light outward to the ceiling at low angles. A wall deflector intercepts and re-directs light away from the wall to provide uniform light with no socket shadows. The 74-IC Cove uses two T8 lamps. Housing is constructed of 20-gauge steel. **Circle No. 68**



Providing ambient lighting in many of the spaces, **Neo-Ray's** Fenestra series features arched housing with perforated lamp diffusers. Available in 2-ft. x 2-ft. and 2-ft. x 4-ft. configurations, these fixtures have no visible fasteners, hardware or reflectors. Housing is 20-gauge perforated steel. Shielding is provided by perforated metal panels backed by a white acrylic diffuser. Finish is low-gloss white, baked powder-coated polyester epoxy. Lamping is two or four 40W biaxial. **Circle No. 70**



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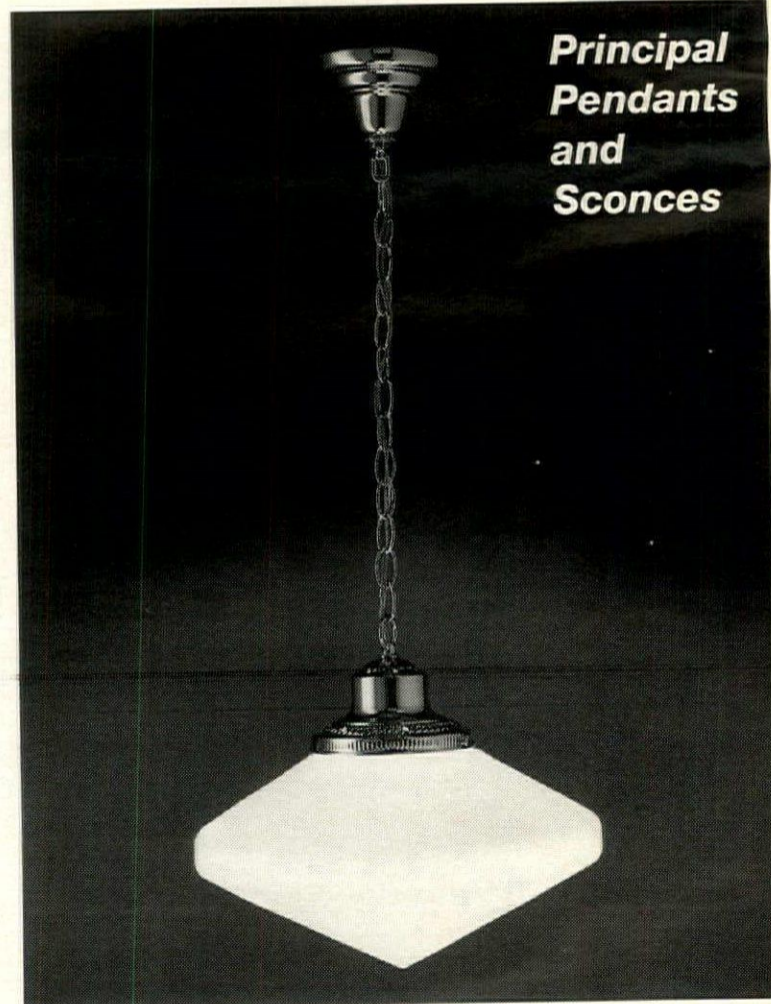
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**Editor's Note:** Because the practice of the Los Angeles Metropolitan Transit Authority is to use in-house standards, the products that ultimately appear in the finished station may differ from the following products, which were originally specified by Horton Lees Brogden Lighting Design.



The Mini-BMF from **Arc Lighting** was specified to light the interior of the canopy. Offered in various HID lamp configurations, the Mini-BMF narrow- to medium-beam spotlight is constructed of cast and formed aluminum or stainless steel. Features include a spun aluminum reflector finished in specular Alzak, a continuous rubber gasket that weather-seals the reflector to the outer body. A tempered, impact- and heat-resistant, clear or 12- or 25-degree spread lens seals it in the front. **Circle No. 72**

From the Transportation Group at **Ledalite Architectural Products**, the platform lighting and communication system's basic module consists of a 15-ft.-long element having a 12-in. x 12-in. cross-section and is assembled from a set of interleaving and hinging extruded aluminum profiles. Downlighting and rear-illuminated signage are provided by a three-lamp T8 cross-section using a staggered lamp layout for a total of nine lamps per module. A profiled asymmetric throw lens provides 30 fc at platform edge and 16 fc at platform center. The basic module cross-section also houses PA speakers, variable message signs, visual and audible alarms and all associated wiring. **Circle No. 73**

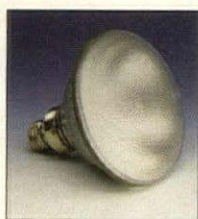


Used throughout the station, **Philips MasterColor** metal halide lamps feature lamp-to-lamp consistency over life; high color rendering (82 to 85 CRI for 3000K; 90 to 93 CRI for 4000K); high lamp efficacy (up to 95 LPW) and ALTO lamp technology, which passes the EPA's TCLP test for non-hazardous waste. **Circle No. 74**



**Bega's** 8404 small-scale floodlight represents the second generation of the discontinued 9550, which is mounted at the tops and midpoints of the five poles. Model 8404 uses one 70W PAR30 or PAR38 metal halide lamp and measures 8<sup>7</sup>/<sub>8</sub> in. x 15<sup>1</sup>/<sub>4</sub> in. x 9<sup>7</sup>/<sub>16</sub> in. Housing is one-piece, die-cast aluminum with integral cooling fins. The lamp enclosure/optical system consists of a die-cast clamping ring, clear tempered glass, molded high-temperature silicone rubber gasket and a specular aluminum reflector. The reflector is secured to the housing by three captive socket head, stainless steel screws threaded into stainless steel inserts in the housing. **Circle No. 75**

Metalarc Pro-Tech PAR38 lamps from **Osram Sylvania** are concealed in a slot to uplight the underside of the canopy. Suitable for both open and enclosed fixtures, the metal halide lamps have an average rated life of 8,500 hours and are available in 70W, 100W and 150W versions with 20-degree spot, 35-degree flood and 65-degree very wide flood beam spreads. Lamps use the same pulse-rated, medium-base sockets as standard low-wattage metal halide lamps. **Circle No. 76**



In the plaza area, **Hydrel's** 9350D round directional well lights uplight the trees and contribute to an overall sense of safety. The 9350 series of well lights features die-cast aluminum or bronze door and convex tempered glass lens. Fixtures are designed for installation in damp or dirt-laden areas and accept a variety of lamps. An optional Aim-Set system allows for relamping without changing the lamp adjustment. Grill is finished in aluminum polyester powder coat. **Circle No. 77**



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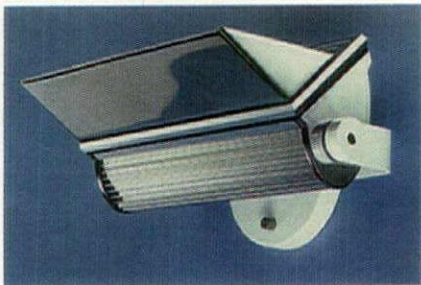
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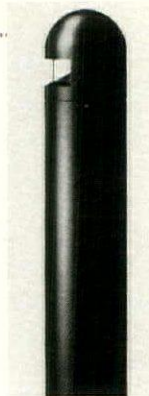


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**Elliptipar's** Style 101 is used in the auditorium. Featuring a small fluted surface, Style 101 is offered in tungsten halogen and metal halide models. Housing and doorframe are bright clear anodized aluminum. Reflector is extruded high purity aluminum with clear anodized specular finish. Solid and perforated visors are available. Style 101 is finished with a six-stage pretreatment and electrostatically applied thermoset polyester powder coating for resistance to corrosion. Various mounting options and accessories are available. **Circle No. 78**



**Bega's** 8713 is recessed in the floor to uplight the main entry canopy. Model 8713 is an asymmetrical buried fixture that accepts one 100W ED17 metal halide. Outer housing is constructed of high-tensile strength, copper-free, die-cast aluminum alloy. Inner housing is also copper-free, die-cast aluminum alloy. A heavy gauge, machined stainless steel trim/clamping ring is secured to the inner housing by four stainless steel threaded weld studs. Other features include specular reflector finish and 3/4-in.-thick clear, flush tempered glass. **Circle No. 80**

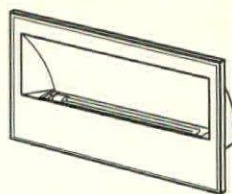


Outside the entrance are 8513 bollards from **Bega**. Bega's 8513 uses one 39W metal halide lamp and stands 31 1/2 in. high. Post construction is one-piece extruded aluminum, 3/16-in. wall thickness with one-piece die-cast aluminum top housing and base, internally welded into an assembly. The removable top housing is secured by four socket-head, stainless-steel screws threaded into stainless inserts. Other features include clear 3/16-in. thick borosilicate glass with semi-specular anodized aluminum optical system and internal "step" baffle. **Circle No. 79**

**Lighting Services Inc's** 290 series spotlights are featured in the auditorium. A long-throw unit, the 290 spotlight is specifically designed for all of the PAR38 energy-conserving type, medium screw-base lamps. Lamping options include standard, halogen, halogen IR and cool beam type lamp wattages. Other features include rugged steel self-locking full yoke, on/off switch on most mounting types and clips for a variety of accessories. **Circle No. 81**

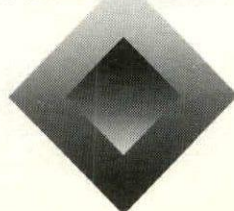


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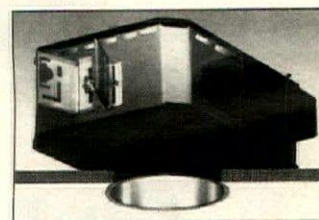
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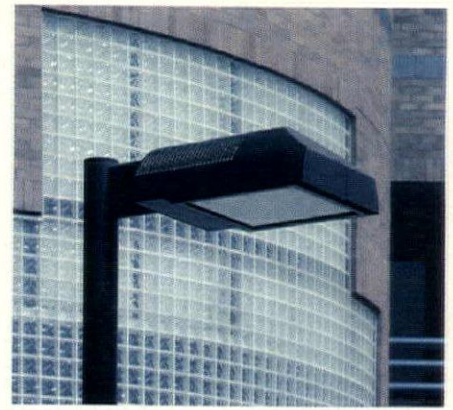
P922 medium-wide-beam downlights from **Kurt Versen** are used in the corridors. The fixtures feature an ellipsoidal primary reflector and a parabolic shielding cone, which together produce a symmetrical pattern. Recess depth is shallow for limited plenums. Conoid aperture measures 5 7/8 in. P922 uses one 42W triple-tube lamp. Specular clear Alzak cones are standard. Optional colors and Softglow finishes are available. **Circle No. 82**

Also from **Kurt Versen**, T4542 compact fluorescent parallel wallwashers illuminate the corridor walls. The wall washers have an aperture of 4 1/2 in. x 8 1/2 in. and measure 5 1/4 in. in depth. The long side mounts parallel to the wall for wide lateral distribution. Prism glass lenses have uniform refraction and provide source shielding. Trim texture is woven and finish is Softglow graphite. Lamping options include one 26W, 32W or 42W triple-tube sources. **Circle No. 83**

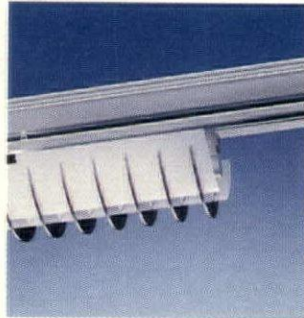


A cove in the auditorium glows from a run of RB-H-LST-C cold cathode lighting from **National Cathode**. Mounted to vertical or horizontal planes, this surface-mounted system produces a continuous line of light, utilizes 1-in. diameter lamps for high light output and can operate up to two 8-ft. lamps per ballast. The LST converter system reduces the potential fire/shock hazards and maintenance problems. **Circle No. 84**

Lighting the parking areas, Archetype from **Kim Lighting** utilizes a horizontal lamp orientation with a flat glass lens to produce sharp cutoff with zero light above 90 degrees horizontal. Four horizontal lamp reflectors are available. Other features include fully rotatable orientation and sealed optical chambers for maximum lamp output. Housing and doorframe are die-cast aluminum. Finish is Super TGIC thermoset polyester powder coat applied over a chromate pre-treatment. **Circle No. 85**



**Zumtobel Staff Lighting's** ZX-XDA with Prio PAR30 monopoint illuminates the main lobby atrium space. ZX is a flexible lighting system that features a pre-wired trunking, quick connect fixture assembly and a variety of optics. The ZX-XD optic features a frosted diffuser with amethyst acrylic cross blades. The XDA provides a high level of indirect light and some downlight. The Prio PAR30 is a halogen monopoint accent light. **Circle No. 86**

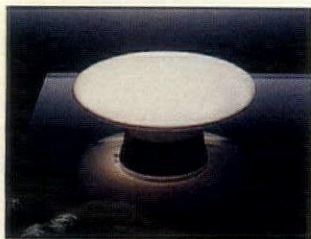


Used throughout the W.W. Grainger project, **Philips MasterColor** metal halide lamps feature lamp-to-lamp consistency over life; high color rendering (82 to 85 CRI for 3000K; 90 to 93 CRI for 4000K); high lamp efficacy (up to 95 LPW) and ALTO lamp technology, which passes the EPA's TCLP test for non-hazardous waste. **Circle No. 87**



The Crescent Series C312P2 bi-directional lighting fixtures from **Linear Lighting** are used extensively throughout the open office spaces. The fixtures are made from die-formed 20-gauge steel, with an epoxy polyester semi-gloss electrostatically applied thermosetting powder

finish, die-formed specular reflector, two T8 lamps and rectangular perforated housing. They are suspended by 24-in. cables. Individual fixtures are available in 3-, 4- and 8-ft. lengths and in tandem lengths of 6, 8, 9, 10, 11 and 12 ft. **Circle No. 88**



**Poulsen Lighting's** AJ Eklipta fixtures, which line the walls in the auditorium, were created by Danish architect and designer Arne Jacobsen in 1959 in

concert with Louis Poulsen Lighting. The fixture is made from opalized glass with a base in white enamel. The fixture spreads a diffuse light and is available in two sizes with a choice of incandescent or compact fluorescent lamps. A UL listing for wet location extends the versatility for outdoor as well as indoor applications. **Circle No. 89**



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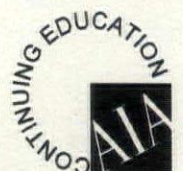
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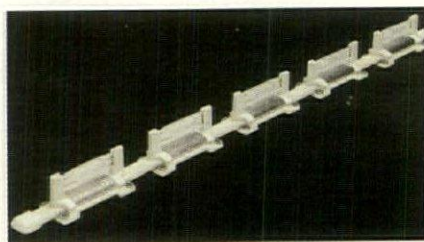
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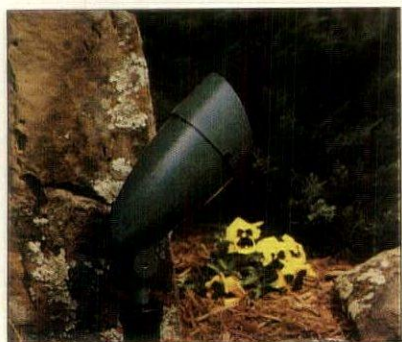
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GE Lighting's Quartzline lamps offer high light output for long throws. Features of this product line include crisp, white light, precise beam control, high lumen maintenance and energy savings. Quartzline lamps also offer a long life with an average rated lamp life of 4,200 hours. **Circle No. 94**



Advantage indirect xenon linear lighting fixtures from Tokistar Lighting articulate decorative elements on the facades and illuminate windows to create the illusion of occupied rooms. The series' flexible conductor can turn corners and follow complex shapes without special hardware or effort. Each lamp socket has independent mounting holes and can snap into a mounting channel for safe and secure mounting with screws. Advantage is available in three different lamp spacings with two different lamp styles. **Circle No. 90**



Lighting columns or landscaping was achieved with Greenlee Lighting's BAL/BAM/BAS series bullets in three different sizes. Features include die-cast aluminum housing, flat, tempered heat- and impact-resistant glass lens and shields that may be rotated 360 degrees to provide precise cut-off control. Die-cast aluminum shields are offered with or without lenses,

and pre-fabricated, pre-galvanized steel shields do not include lenses. Both spot and flood optics are available. An optional convex borosilicate glass lens is also available. Various finishes and accessories are offered. **Circle No. 92**

Mounted in concealed niches, Altman Stage Lighting's PAR64 spotlight/floodlights provide strong accents on themed facades. The PAR64 produces an oval-shaped beam and accepts a variety of lamps ranging from 300W to 1000W. Constructed of rugged sheet steel, the fixture features 360-degree rotation, 3-position yoke adjustment, plated steel color frame and a hinged rear cover for easy access. Three 36-in. Teflon lead wires are encased in black fiberglass sleeving. Hi-Temp rubber cable up to 25 ft. is optional. **Circle No. 95**

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Used in coves at the Venetian Hotel is the Radiance 1300 Series from **RSA Lighting**. The 1300 Series is a rigid 12V or 24V linear light strip featuring 5W or 10W xenon or 5W incandescent festoon lamps arranged in 2-, 3- or 4-in. on center spacing. Lamps and end-cap are included. **Circle No. 91**

Integrated into the tops and bottoms of columns, **GE Lighting's** ConstantColor Precise series of MR16 lamps provides precise beam control and no color shift. The series is available in a range of spotlight and floodlight versions. Average rated lamp life is 3,000 to 6,000 hours, depending on the model. **Circle No. 93**



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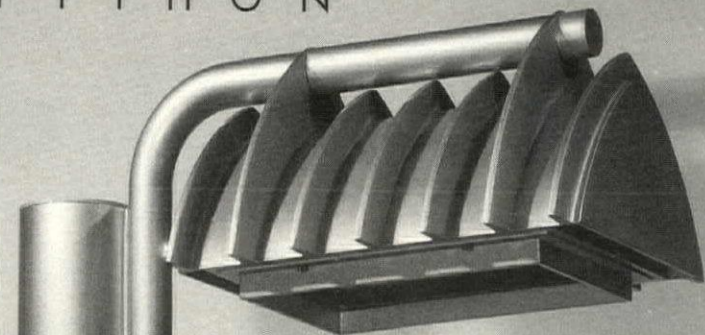


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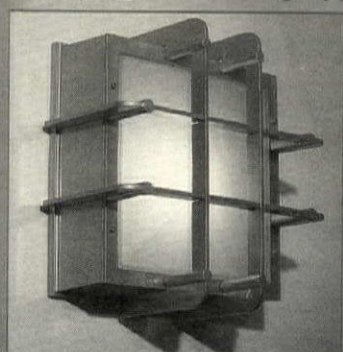
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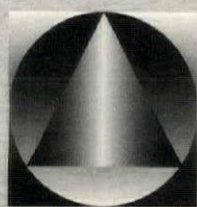
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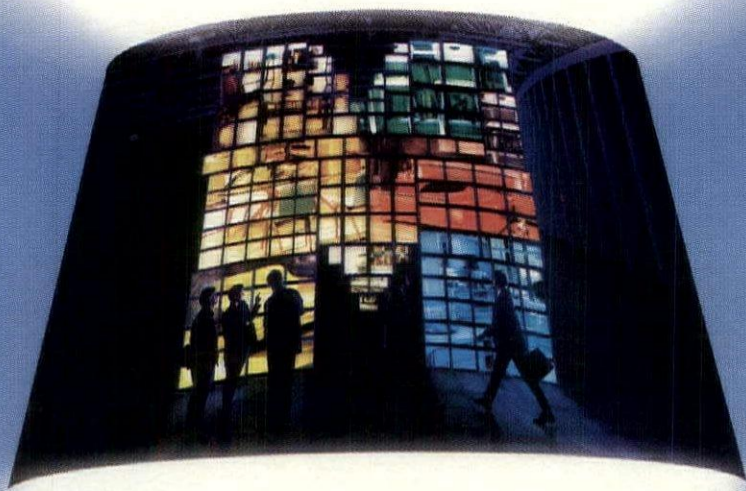
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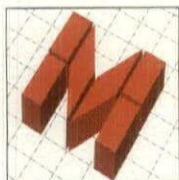


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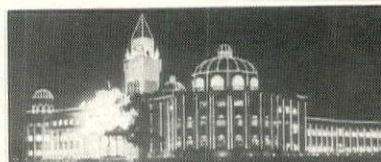
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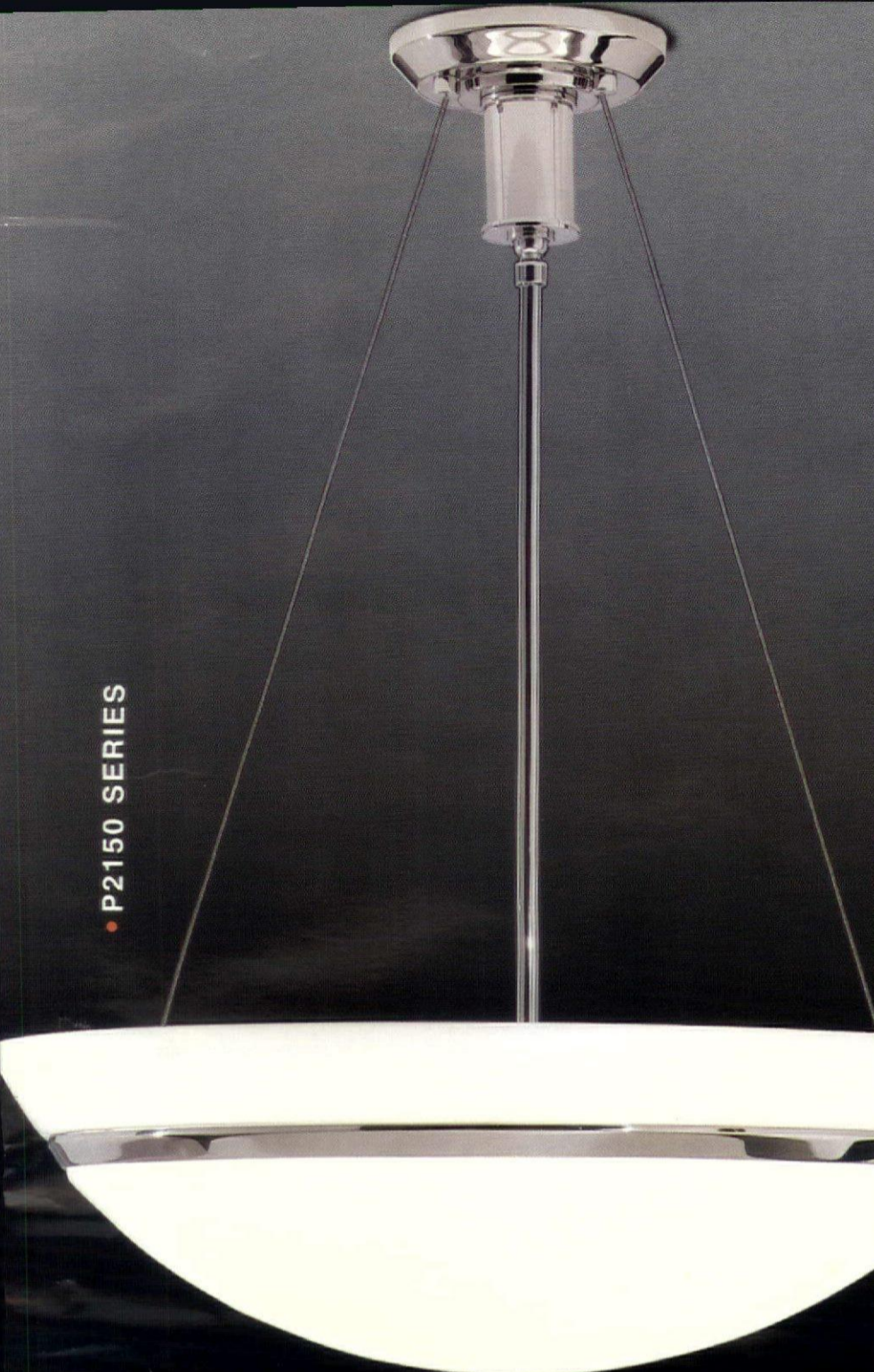
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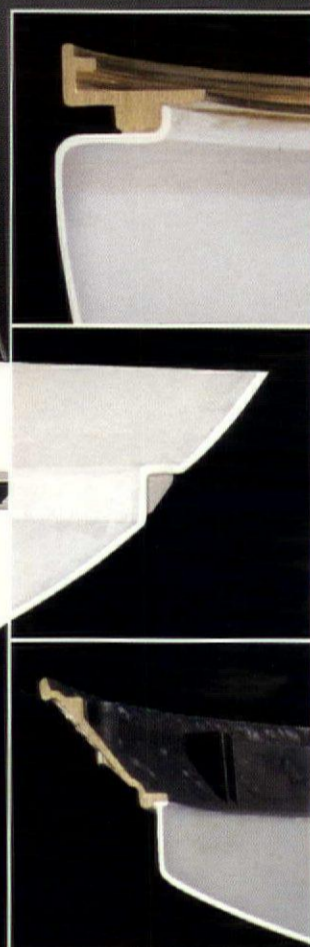
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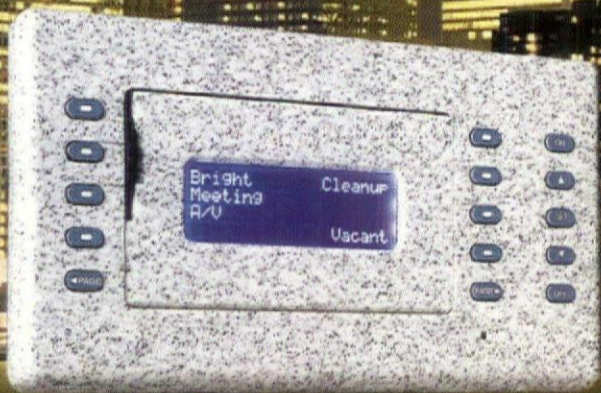
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