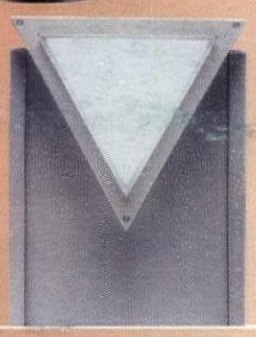
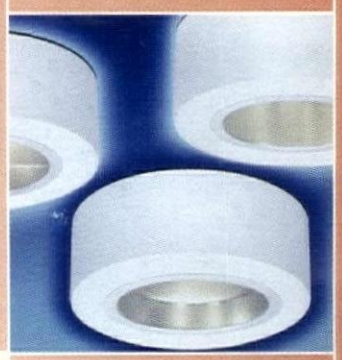
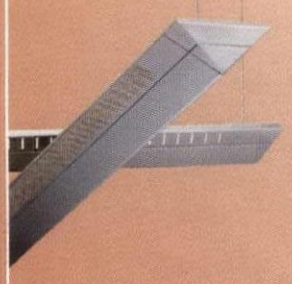
1999 Market Issue

architectural lighting







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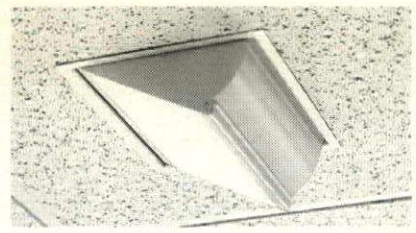

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contents

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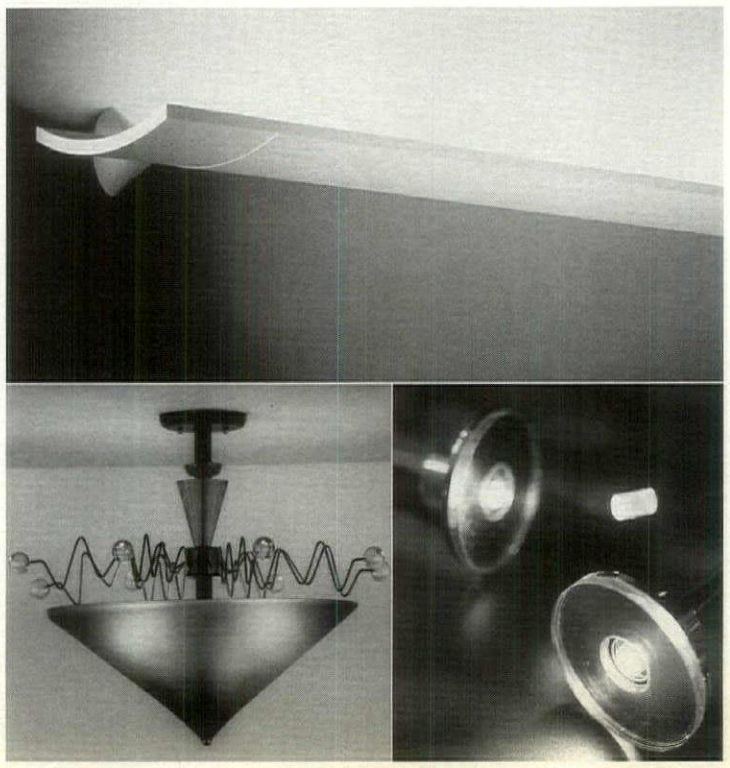
1999 MARKET ISSUE

VOL. 13, NUMBER 3



PRODUCTS

24 **Decorative Fixtures**

26 **Indirect Fixtures**

28 **Track Lighting**

29 **Task Lighting**

30 **Downlights**

32 **Wall/Sconces**

34 **Fiber Optics**

36 **Outdoor & Landscape Lighting**

39 **Emergency Lighting**

40 **Lamps, Ballasts & Controls**

44 **Other**

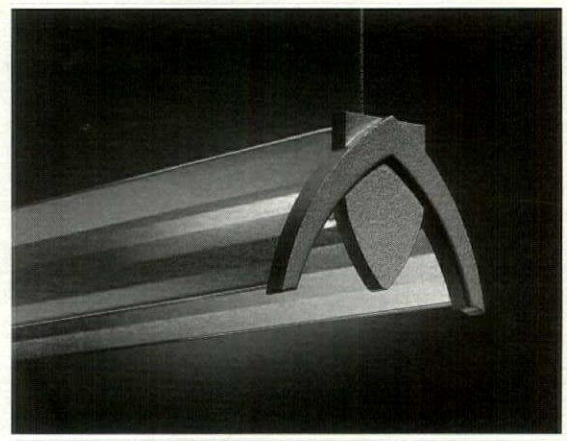
46 **Special Product Advertising Section**

FEATURES

12 **Web Reviews**

20 **Product Development: From Idea to Market**

22 **Down the Road: The Future of Lighting**



PRODUCT DEVELOPMENT 20

DEPARTMENTS

8 **Editorial**

10 **Updates**

18 **Calendar of Events**

48 **Perspectives**

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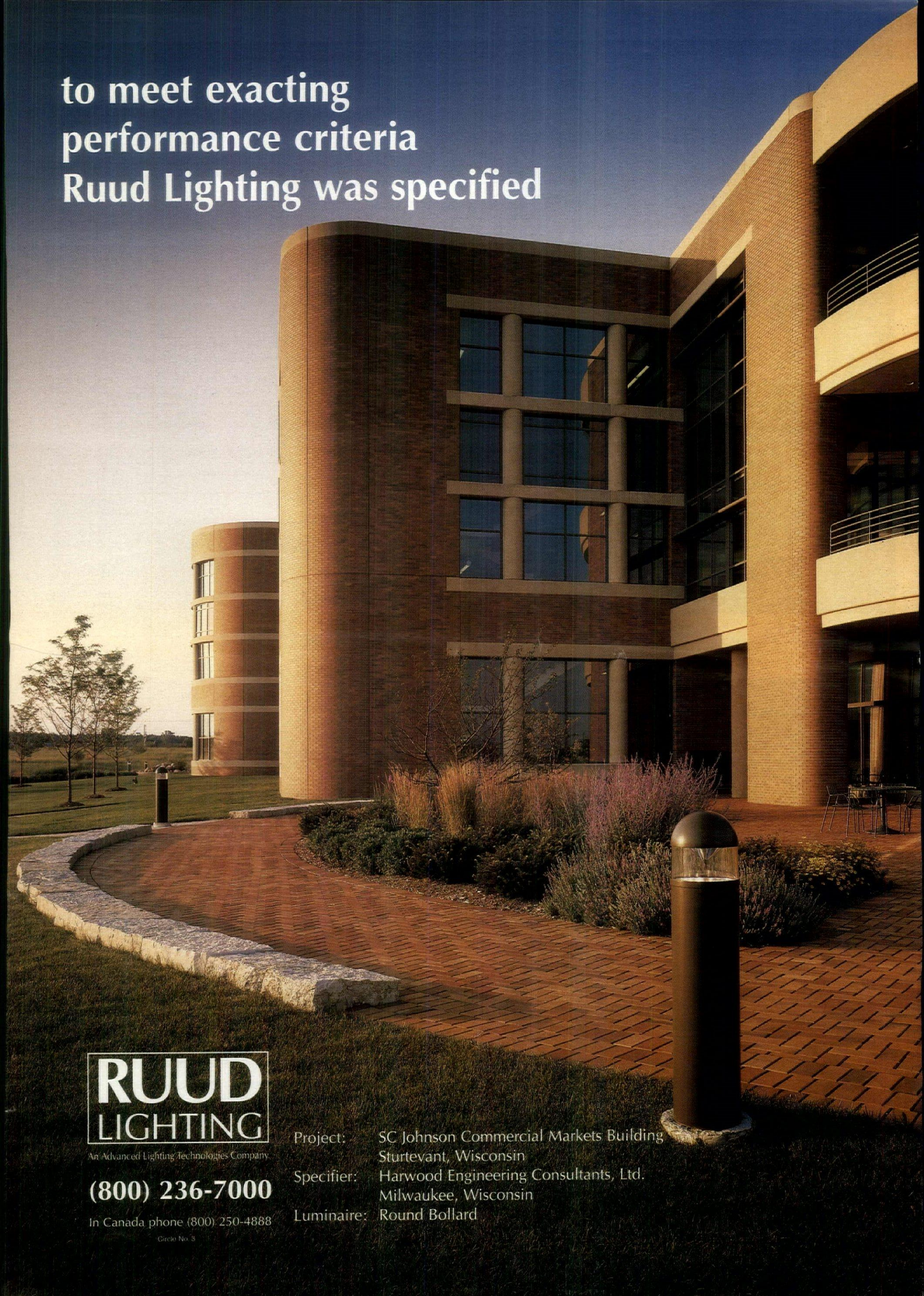

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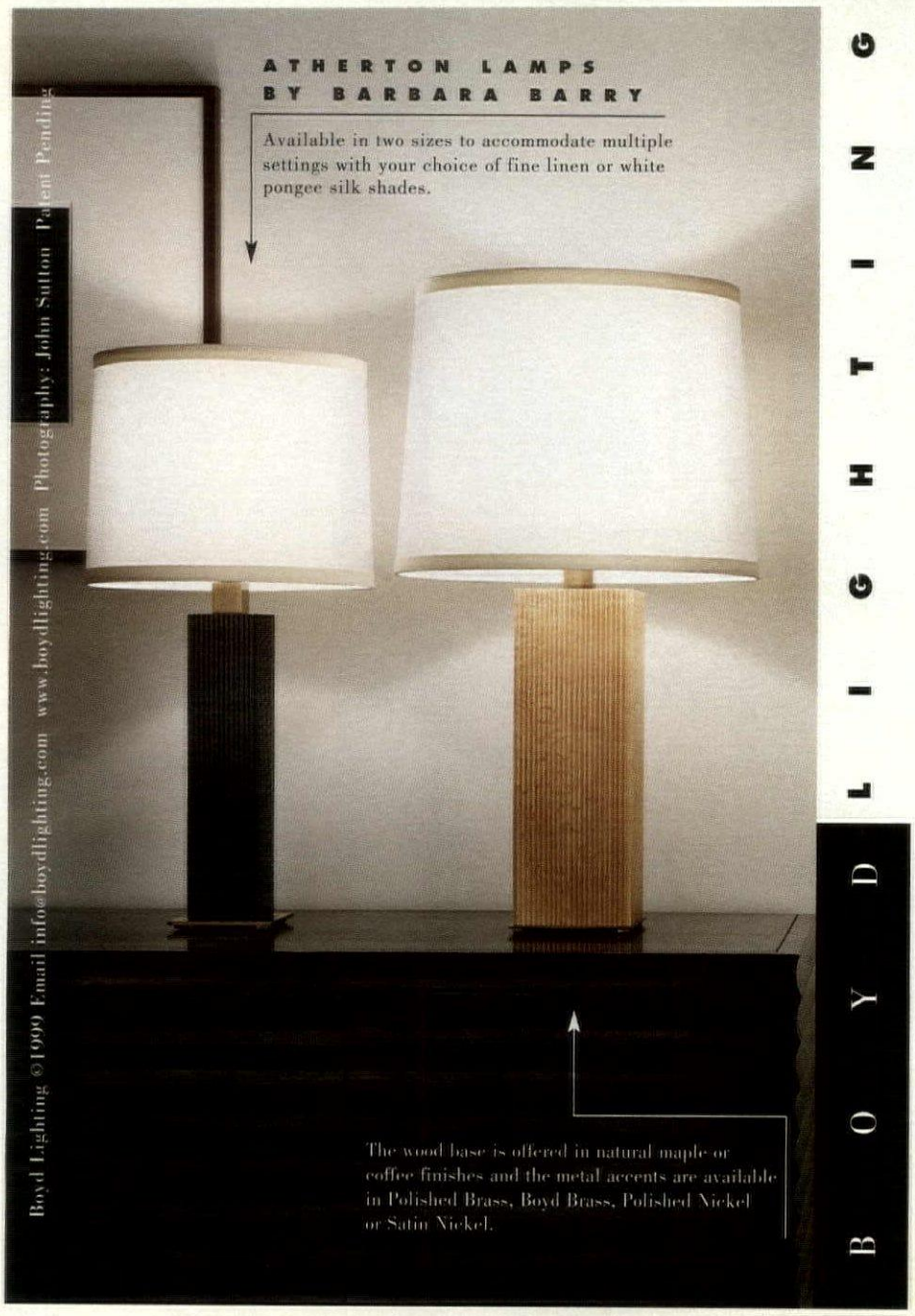

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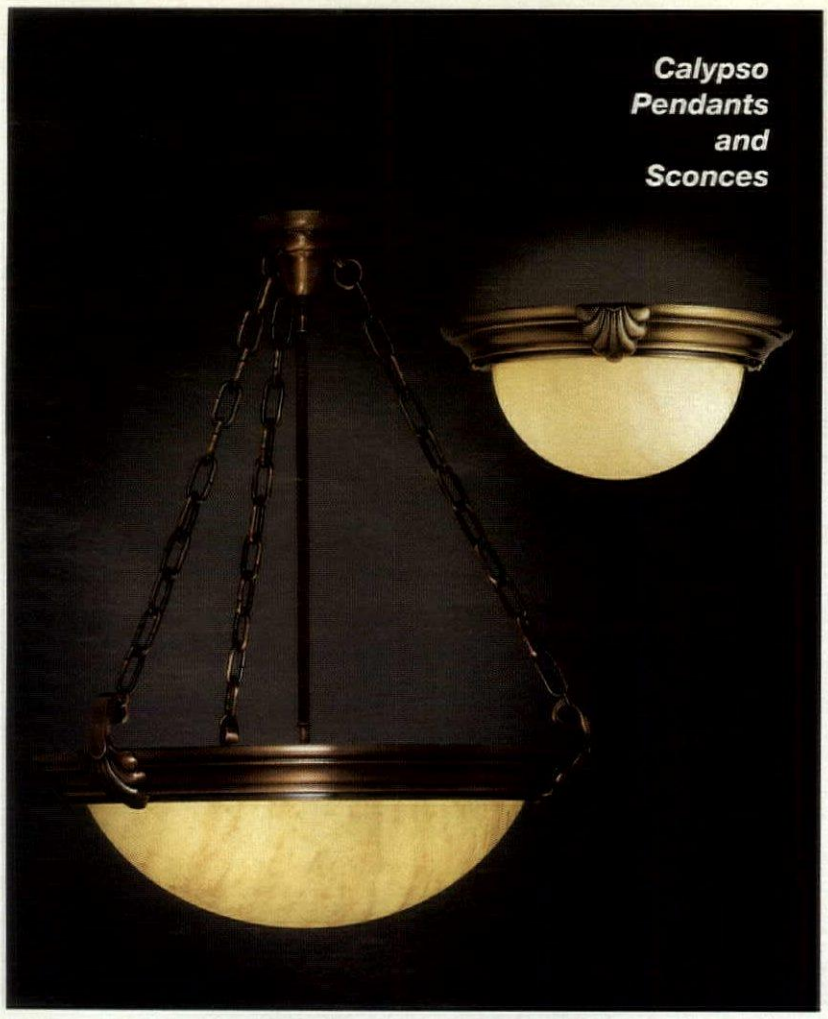

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Editor-in-Chief	CHRISTINA TRAUTHWEIN	(212) 615-2631 *ctrauthwein@mfi.com*
Publisher	CRAIG DILOUIE	(212) 615-2304 *cdilouie@mfi.com*
Art Director	JEANNE LAWLOR	(212) 615-2273
Assistant Editor	ALICE LIAO	(212) 615-3067

CONTRIBUTING EDITORS

WANDA JANKOWSKI, JEAN GORMAN, DAVID HOUGHTON, PE

EDITORIAL ADVISERS

RENEE COOLEY, RENEE COOLEY LIGHTING DESIGN
HOWARD BRANDSTON, LC, FIALD, FIES, H.M. BRANDSTON & PARTNERS
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ADVERTISING SALES

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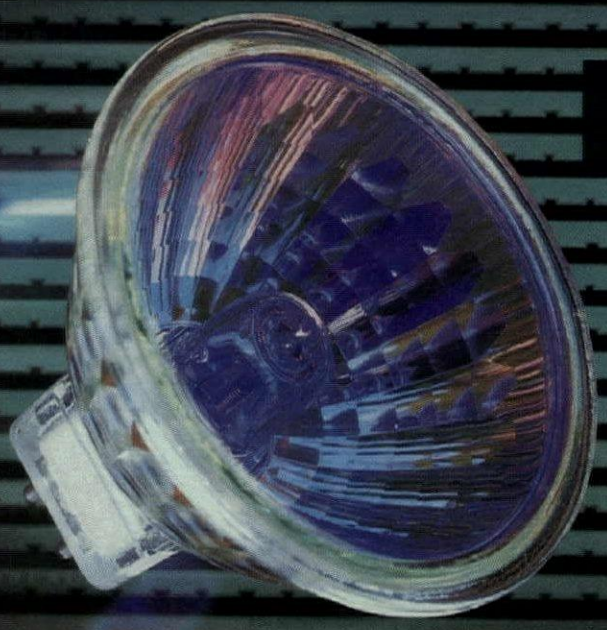
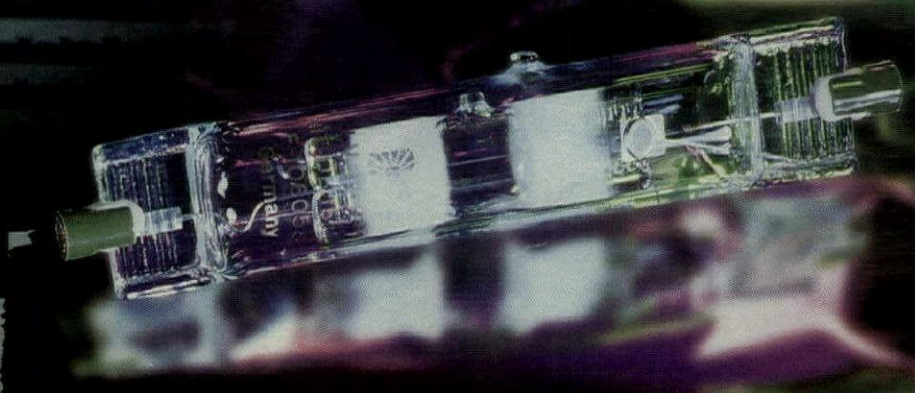
What's New from USHIO...



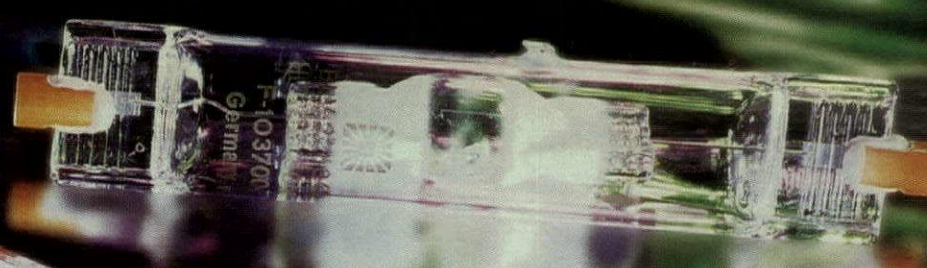
Whitestar – 50W 36° Wide

The Whitestar 4200K lamp was designed to provide a full spectrum MR-16 for display lighting. This high color temperature lamp projects a high luminous intensity with low ultraviolet and infrared emissions



Colorlite – 150W

Colorlite compact metal halide lamps produce saturated colors in green, blue, magenta and orange... color accent in four hues without the use of colored lenses or gels



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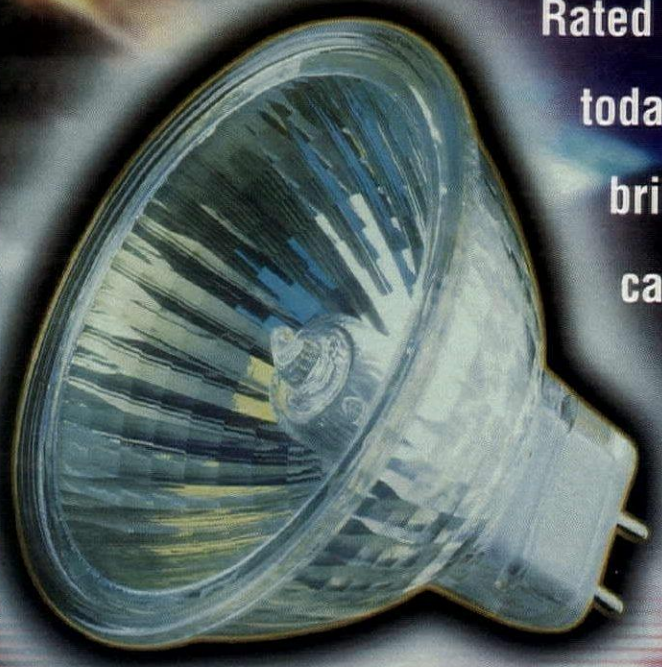

Rated at twice the life of other MR-16 lamps on the market today, a titanium coated reflector ensures constant brilliant color throughout its long life... the halogen capsule is made of UV-protected quartz to eliminate up to 90% of harmful ultraviolet emissions

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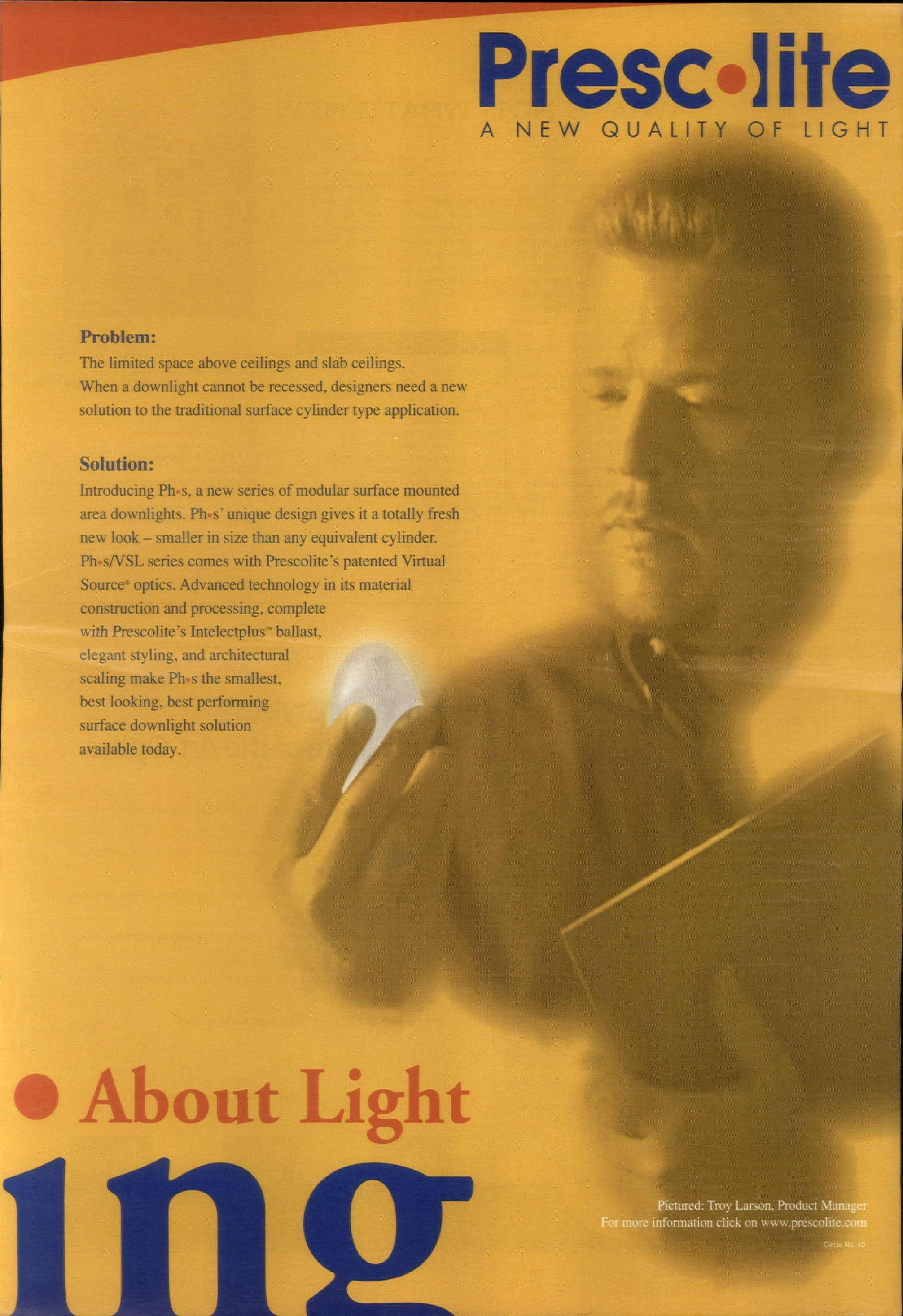


• About Light ing

Pictured: Troy Larson, Product Manager
For more information click on www.prescolite.com

Circle No. 40

editorial

WHAT'S HOT, WHAT'S NEW

Welcome to the 1999 Market Issue, featuring stories about the supply side of our industry plus web reviews, an opinion editorial and more than 160 products in 11 categories.

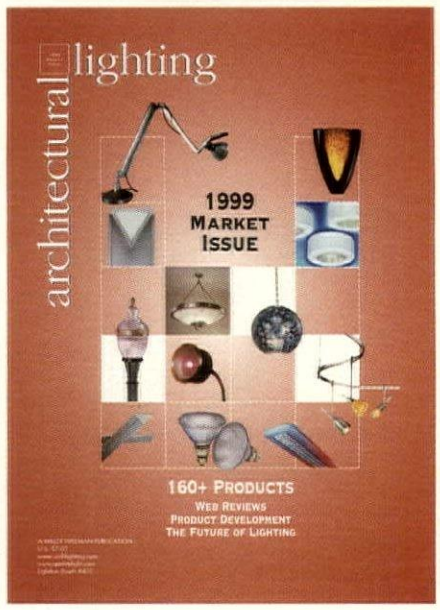
This year, we provide a helpful legend as a quick reference for the prominent acronyms that are common in our industry, from ADA to HPF (see inset). You should also know that we are continuing our long-standing editorial policy of publishing only products that are safety-certified. Every product we publish in this issue identifies its safety certification, which is usually the UL listing. Some lamps—unless they have integrated transformers—and other items, such as some fixtures for fiber-optic lighting that are non-electrical, do not require UL.

CHRISTINA TRAUTHWEIN
EDITOR-IN-CHIEF

In addition to an abundance of products, we're covering some exciting topics in this year's Market Issue, including a glimpse into the future of lighting and product development from concept to market.

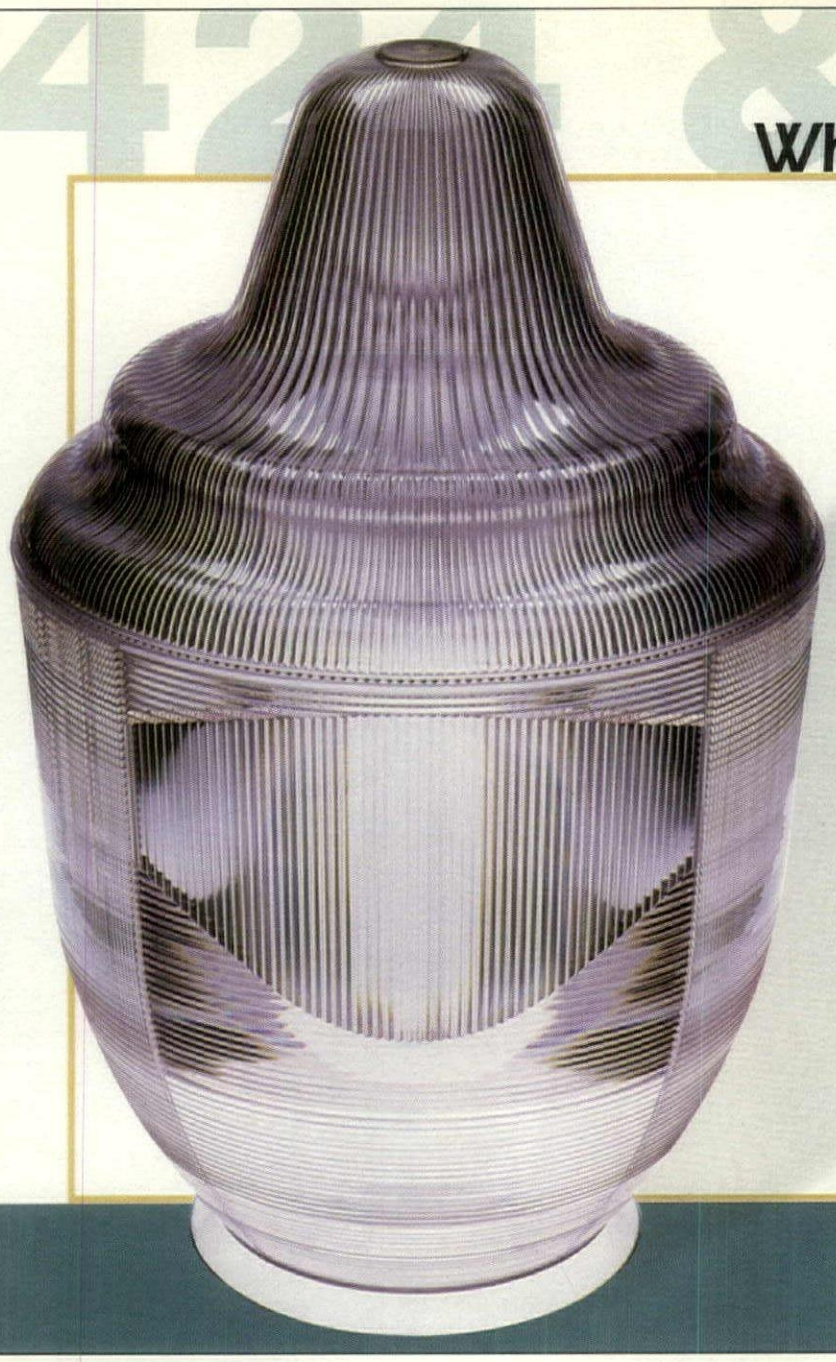
To learn more about manufacturers and products, see our December Lighting Source Directory, visit www.lightsearch.com, and make sure to receive our October issue of *Architectural Lighting*, which will feature stunning projects in a tabloid-sized format with expanded editorial about the products used in those projects.

Now, turn the page to view just some of the innovative designs and technologies the industry has to offer...



Key to using the product guide:

A = amp (current)
ADA = Americans with Disabilities Act
ANSI = American National Standards Institute
C = Celsius
cd = candela/candelas
CRI = Color Rendering Index
CSA = Canadian Standards Association
CUL = Underwriters Laboratories/Canada
CYM = cyan, yellow, magenta
CWA = constant wattage autotransformer
ETL = Electrical Testing Laboratories
F = Fahrenheit
fc = footcandle/footcandles
ft. = foot/feet
HID = high intensity discharge
HO = high output
HPF = high power factor
HPS = high pressure sodium
Hz = Hertz (frequency)
IES = Illuminating Engineering Society (of North America)
in. = inch/inches
IR = infrared
K = Kelvin
LED = light-emitting diode
LPS = low pressure sodium
mcd = millicandela/millicandelas
MH = metal halide
NEMA = National Electrical Manufacturers Association
PC = personal computer
THD = total harmonic distortion
UL = Underwriters Laboratories Inc.
UV = ultraviolet
VDT = video display terminal
V = volt
VA = volt-ampere
W = watt



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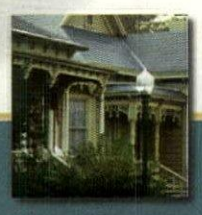
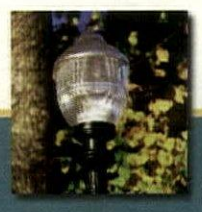

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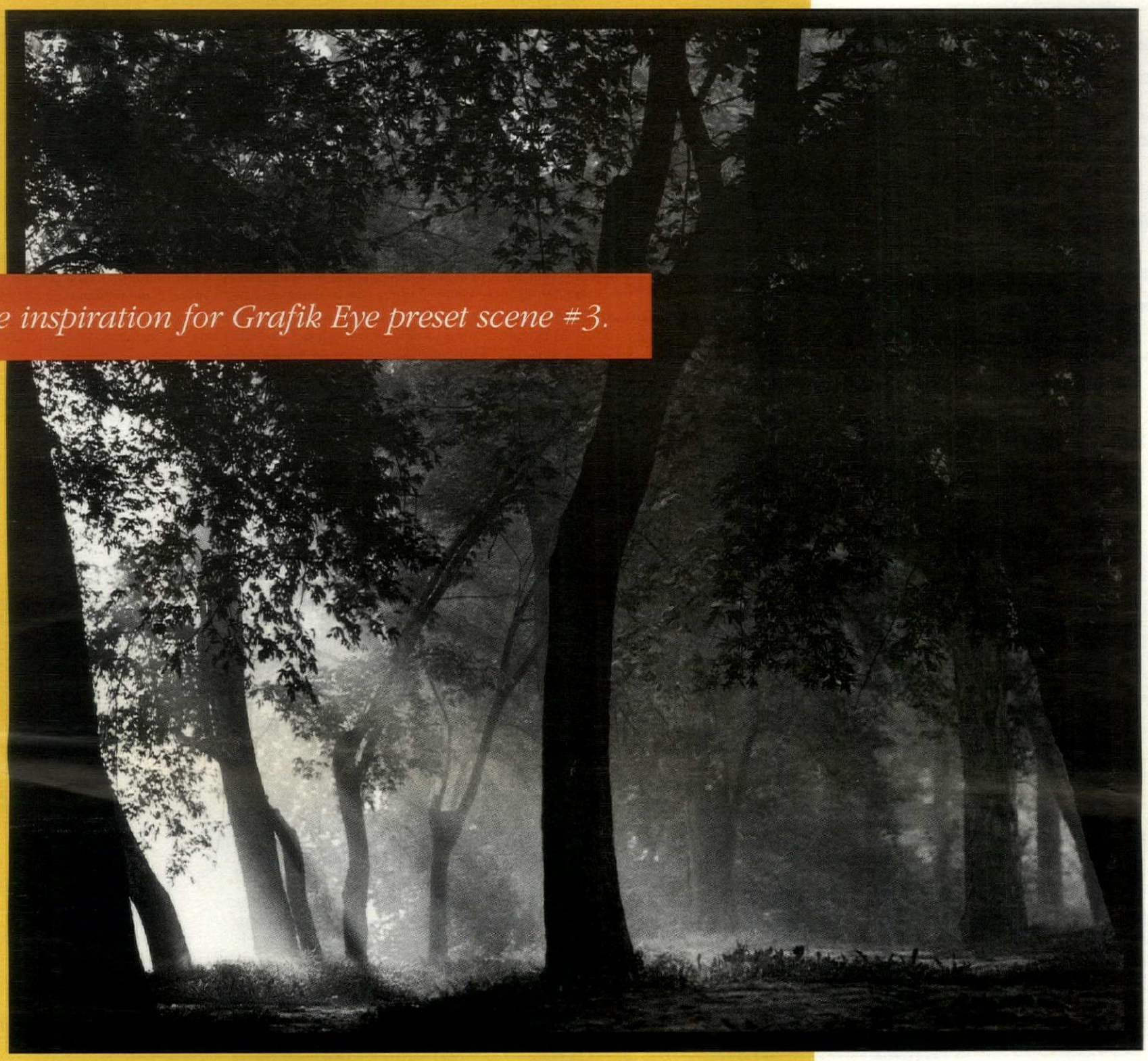

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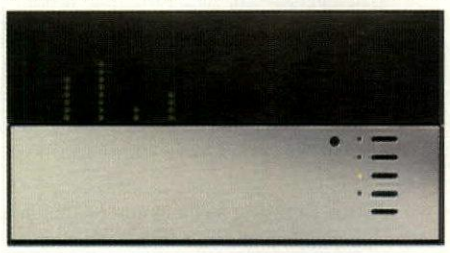

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NATIONAL DIMMING INITIATIVE LAUNCHED

The National Dimming Initiative (NDI), set to officially launch at Lightfair '99, is a program designed to drive greater awareness and market acceptance of lighting controls and fluorescent dimming products. Conceived of and sponsored by lamp ballast manufacturer Advance Transformer Company and supported by numerous lighting controls manufacturers nationwide, the NDI is designed to educate and assist building designers, lighting specifiers, engineers, end-users and the larger lighting-related community in the specification of lighting controls.

Though the use of lighting controls and fluorescent dimming products offers a wide range of benefits—improved building aesthetics, increased employee productivity and significant energy and cost reductions—"lighting controls are one of the most complicated, technical and intimidating product lines in our industry today," said Nancy Clanton, president of Colorado-based lighting design firm Clanton & Associates.

In response to this reality, the NDI has driven the development of a CD-ROM application that is designed to help educate end-users and the lighting community about lighting control and fluorescent dimming technology, as well as facilitate the specification of these products. According to Steve Purdy, Advance Transformer's director of specification sales and NDI coordinator, "It is hoped that the NDI and CD-ROM tool will help transform the lighting market and promote greater acceptance of lighting controls and fluorescent dimming products based on the unique and documented array of benefits that they offer."

The CD-ROM application consists of a number of key elements, including a lighting controls tutorial complete with a number of case studies, as well as a lighting controls estimator. The lighting controls estimator enables users to see the actual effects that a lighting controls system conversion would have on energy savings and total project cost, and supports a "one-stop" selection of compatible system components based on the user's specific application requirements. Users can automatically update and enhance the catalog pages by connecting to the Internet and downloading new information. In addition, the CD-ROM contains a built-in multi-level lighting controls game that requires successive levels of skill and agility.

The NDI's CD-ROM was designed by Learning Design Company founder Ann McCormick, an award-winning specialist in the field of educational software. According to McCormick, "The CD's playful and simply conveyed yet powerful underlying messages are the keys to its usability and success." Said Clanton, "The lighting community has been waiting for this program and will truly benefit from it."

The National Dimming Initiative was introduced to lighting controls manufacturers in December 1998 and was previewed throughout early 1999. Initially supported by lighting controls manufacturers, participation in the campaign is ultimately being extended to building design/engineering/specification firms and other related parties who can contribute information to and be beneficiaries of the success of the campaign and growth of the lighting controls market. Some 5,000 to 10,000 copies of the NDI brochure and CD-ROM are expected to be distributed to the industry throughout 1999 and 2000, supported by targeted public relations and advertisements.

Charter supporters of the NDI include: ALM Systems, Inc.; AMX Corporation; Avab America, Inc.; Clanton & Associates; Clark Engineers S.W., Inc.; Douglas Lighting Controls; GE Total Lighting Control; Horton Controls Inc.; Hunt Dimming; Johnson Controls Inc.; Lawrence Berkeley National Laboratory; Lehigh Electric Products Co.; Leviton Manufacturing Company; Lightolier Controls; Lithonia Lighting; Marlin Controls, Inc.; Novitas Inc.; PCI Lighting Controls Systems; Sensor Switch; Sterner Controls; Vara-Light Inc.; and The Watt Stopper Inc.

For more information on the NDI, the CD-ROM tool or about participating in the initiative, contact Steve Purdy at (847) 390-5136.

LITHONIA ACQUIRES PEERLESS

Lithonia Lighting has announced the acquisition of substantially all the assets of the privately held Peerless Lighting Corporation. Peerless, a California-based manufacturer of commercial direct/indirect suspended lighting fixtures, reported revenues of $30 million for the 1998 calendar year.

The acquisition will provide Lithonia Lighting with entry into a growing segment of the architectural indoor lighting market. President and CEO of Lithonia Lighting Jim McClung and Peerless president and CEO Douglas Herst both agreed that the transaction is a positive opportunity. McClung said, "We are pleased to have the highly regarded Peerless join our team and support Lithonia's entry into this dynamic market."

As part of the transaction, Herst will join the management team at Lithonia Lighting as VP of Peerless Products. Herst said, "I support the purchase of Peerless by Lithonia because of Lithonia's outstanding reputation in the industry and my belief in the effectiveness of the company's management team."

LUTRON PARTNERS WITH TEXAS CHRISTIAN

Lutron Electronics Co., Inc. and the new Center for Lighting Education at Texas Christian University (TCU) have joined forces to offer lighting control training programs to architects, interior designers, builders and electrical contractors in that region. The programs are part of a national initiative by Lutron to provide lighting control training to a wider audience and will begin with a one-week seminar, May 17-21 at TCU's 550-sq.-ft. facility, which was dedicated last August. Courses available through the initiative feature some of the same instructors and subject matter as those offered at Lutron's Lighting Control Institute in Coopersburg, PA.

For more information on the training courses, contact Lutron's Lighting Control Institute at (610) 282-6280. For more information on the TCU Center for Lighting Education, contact Fred Oberkircher at (817) 257-6323.

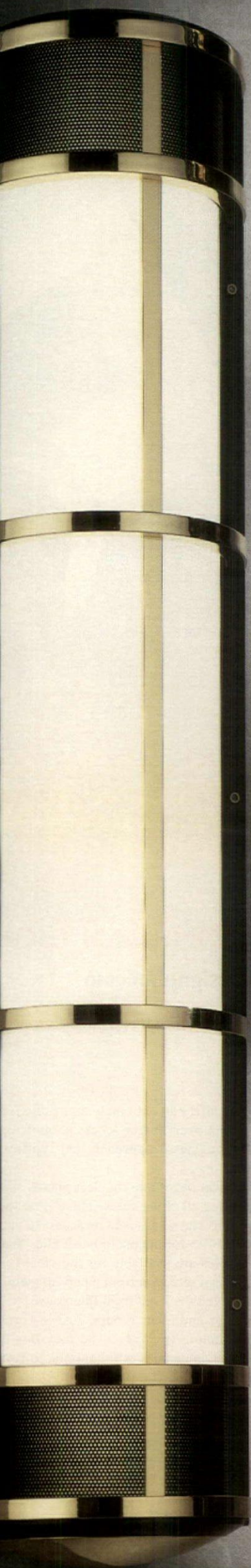
ON THE WEB...

Schonbek Worldwide Lighting's website now features an interactive online catalog, which allows browsers to enter specific requirements for a desired chandelier. The catalog will then eliminate products outside the requirements and provide a selection closer to the customer's needs. The website catalog can also access and print out trim diagrams of Schonbek products, facilitating reassemblage of products that are taken apart for cleaning or repairs. The website address is **www.schonbek.com**.

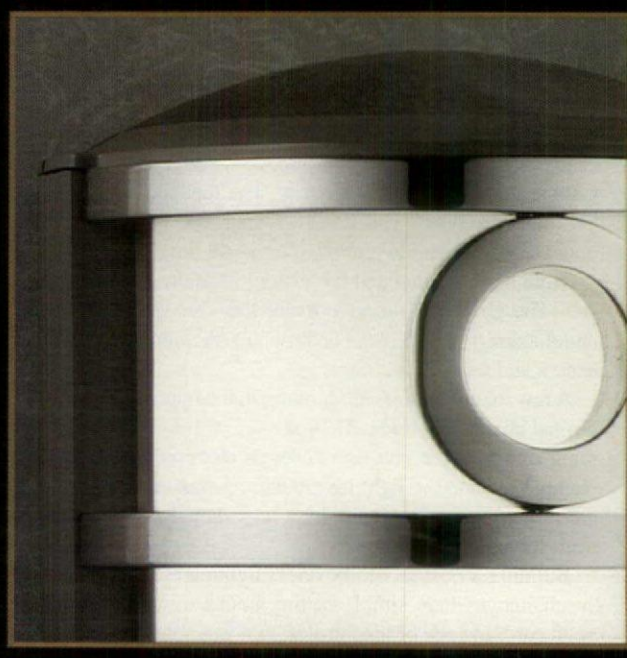
Architectural Landscape Lighting has launched a new website at **www.alllighting.com**. The website provides background information on product concepts as well as news on ALL's newest products. Products are organized into specific categories: accent/flood, bollard, surface-mount and step lighting. The site also allows users to e-mail the company for further information, access the JJI Lighting Group master webpage and order at no charge ALL's Portfolio catalog.

Guth Lighting has announced the launch of a new website at **www.guth.com**. Visitors to the website can learn about lighting for demanding environments and Guth Lighting's history of manufacturing products for such applications. Information on function and application is supplemented by product shots and graphics.

Ardee Lighting has established a new product site at **www.ardeelighting.com**. The website features background information on Ardee Lighting and news releases on new products. Through hyperlinks, users can access product details and Ardee interior and exterior lighting solutions. Users can also e-mail the company and go directly to the JJI Lighting Group web page.



METRO FACTS..



Solid stainless steel and PVD thin-film technology are applied to architectural details.

Rugged diecast and extruded components artfully configured for enduring outdoor presence.

VISA LIGHTING
An Oldenburg Group Company

8600 West Bradley Road • Milwaukee, Wisconsin 53224
414-354-6600 • Fax: 414 354-7436
www.visalighting.com

1-800-788-VISA

Circle No. 10

web reviews

By Dave Burtner

In year five (more or less) of web time, we have reached a critical milestone. With millions of users, both consumer and professional, and almost every business on the planet online, the web has become an established fact of life at the end of the 20th century.

For many people, with thousands of hours already logged, the web experience has moved beyond the early days of "anything on the web is cool" to a more sobering critical assessment of what makes a website really useful.

We are much less forgiving in 1999 than we were in 1997 when we land on a site that moves like an Arctic ice flow or throws so much java script at us before we've even loaded the homepage that our browser freaks and does a meltdown.

In the lighting industry, we have seen some companies already go through two or three iterations of their website. The feedback loops can be incredibly fast in this medium. When you discover your site is turning off users, all it takes is money and you can do a make-over in no time.

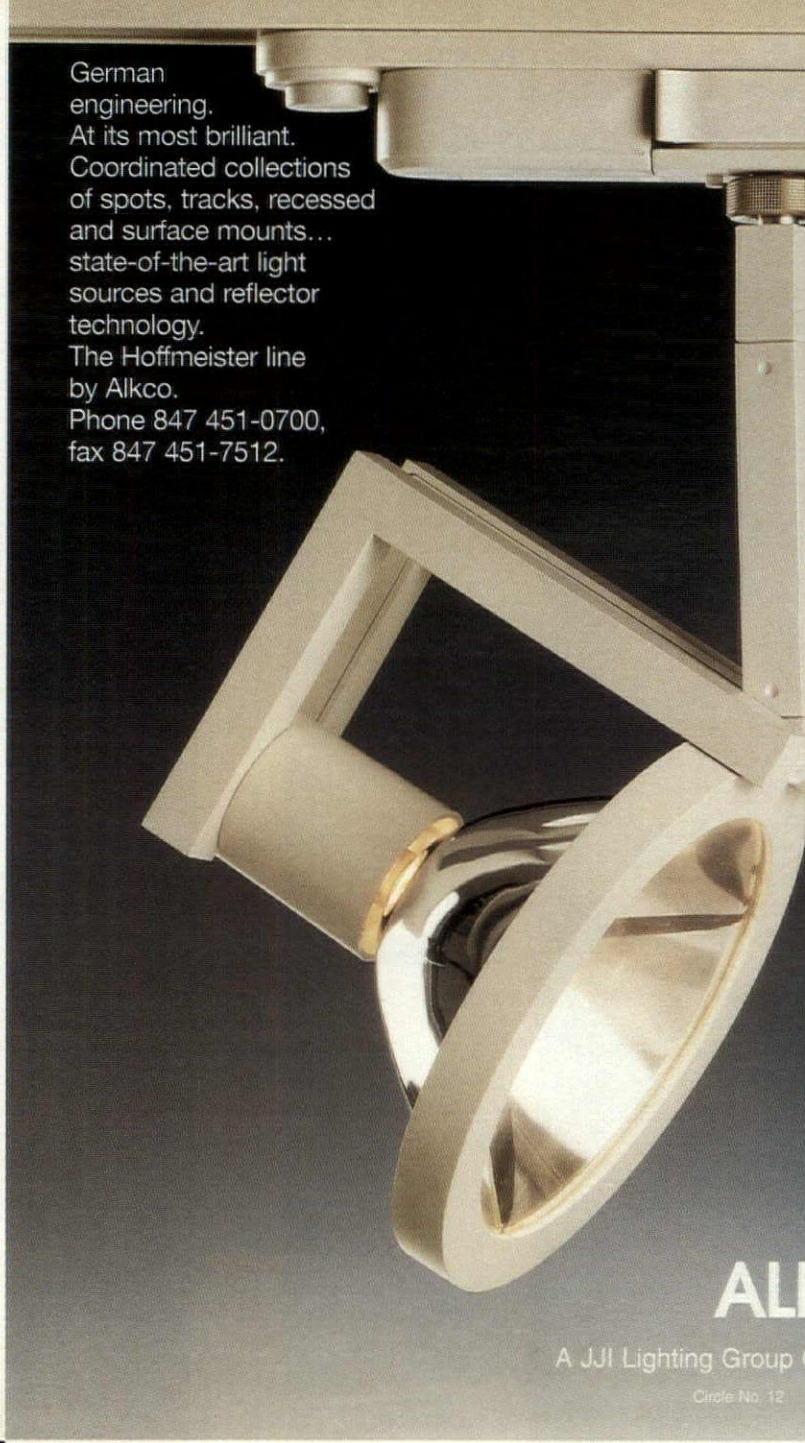
Time has also changed the vision for many companies of how best to use the web. The emphasis on advertising has changed, particularly for some product manufacturers, into a focus on how to serve and support their existing network of dealers and reps.

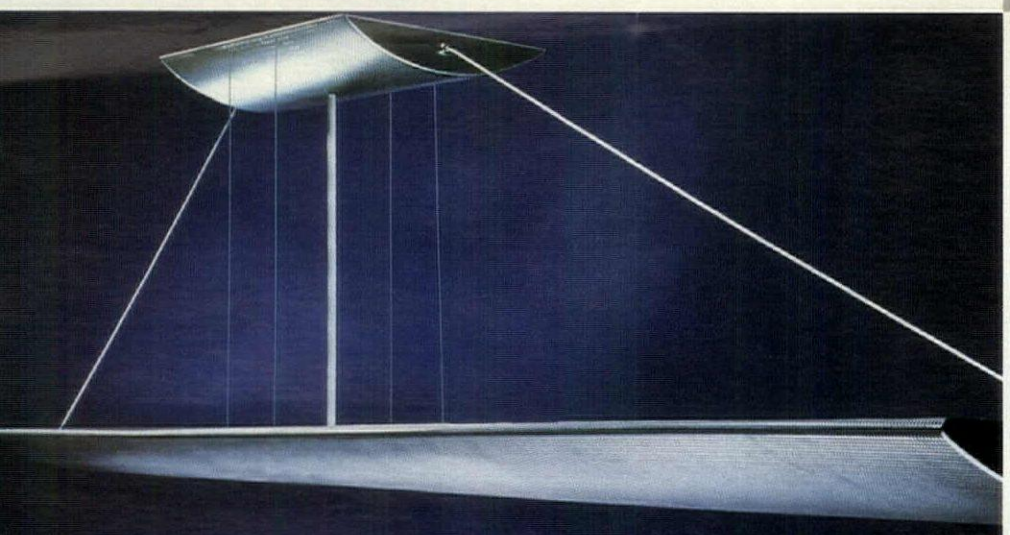
A few manufacturers are moving in the opposite direction—away from the traditional channel of trade. They see the web as a way to improve profitability by going direct to the end-user through electronic commerce. In the most visible example outside the lighting industry, Amazon.com has forced traditional brick-and-mortar booksellers to rethink how they do business. Does the same scenario await the lighting industry?

Building a business-to-business lighting e-commerce website presents different challenges than simply selling books to any consumer in the world with a credit card. In spite of the hurdles, many people believe that e-commerce will ultimately prove to be the real revolution. The companies that figure it out will be the winners in the next century.

On the following pages, you'll find a few short reviews of lighting company websites. This is not a ranking or list of the best sites. It's simply a review of sites that are worth visiting because they offer different visions of what it means—at this stage in the evolution of the web—to dot com lighting.

Dave Burtner, president of inter.Light, Inc. can be reached at www.lightsearch.com; dkb@lightsearch.com.





DESIGNPLAN LIGHTING

www.designplan.com

architectural vandal resistant fixtures

DesignPlan offers an extremely zippy site for the professional who wants quick product overview or access photometric information. Nothing fanc "we mean business" approach that typifies their stylish, vandal-resist of fixtures.

The product pages present clear photos and specifications, although it is if we're seeing all of the specs. There is no specification sheet download ca

Where this site shines is in its access to photometrics. DesignPlan allow download of IES format photometric files that can be imported into lightin software. Files are available for individual fixtures so the file size is ver When I made a selection from a pop-up menu, the file was in my hard driv before I moved my hand from the mouse.

In surveys and focus groups, lighting professionals consistently say th access to photometric files—and they don't want to wait for a passwor them. Some companies will continue to resist, but I expect we will incr see more following the example of DesignPlan, Cooper Lighting and o making "click here for photometrics" a common feature of lighting websi

ELECTRONIC LIGHTING INC.

www.elinet.com

dimming ballasts and related control equipment

What this site lacks in visual appeal (let's face it, ballasts are boring to look at) it more than makes up for in solid content aimed at the end-user. ELI sells "daylight harvesting" systems—a product line that often requires considerable explanation for potential users to understand its benefits and how it can be implemented in existing buildings. The sense you get from this site is that it is targeting the building operator, a user who may not have a thorough background in lighting or lighting controls. Articles, news releases and case studies are featured almost more than the products.

However, once you get to the products, ELI has made it very easy to select one, view a data sheet for an overview, then click to the detailed specifications. Both the data sheets and the specification pages are clean, easy to read, and they came out of my printer looking good.

ELI also offers complete step-by-step installation instructions, including a guide on how to identify an existing system prior to retrofit. These instructions could be viewed online or printed.

LEDALITE

www.ledalite.com

architectural linear lighting

Ledalite gives the professional lighting specifier who likes technical details a dream website. It's all here—speed, easy navigation, good looks, detailed specifications, downloadable photometrics and CAD drawings, plus a library full of technical information on optics and even an online zonal cavity calculator.

I like Ledalite's technique of using brief text and small graphical icons to represent products. This allows fast loading of menu pages before the user selects a product.

Once a product is selected, the product page includes a close-up photo of the fixture, an application photo with suggested applications, product description with catalog order codes, detailed specifications, IES format photometric files and CAD drawings. All of these resources are either on the product page or one click away.

In addition, the user can click "calculate" at the bottom of each product page and get access to a zonal cavity calculator. The calculator allows entry of various room characteristics for a project and will calculate the number of fixtures needed to achieve a specified illuminance.

The Ledalite library offers excellent resources on photometry, radiosity and optical design.

(Continued on page 16)

The Dusseldorf Stadttor: monument, archway, city ingress, office tower... and lightplay masterpiece. Conceived as the project itself went forward, Stadttor's lighting systems were integral with its architecture. Hoffmeister, JJI's major European subsidiary, was named to lead their development. Several notable concepts evolved.

Architect: Petzinka, Pink & Partner
Lighting Design: Kolbe & Sekles
General Contractor: Engel Projectentwicklung GMBH

Critics acclaim Stadttor's lighting as they would an art form.

Here, light is a virtual building material... with volume, color and presence. Here, bands of luminescence delineate floor perimeters... and downlight stanchions masquerade as supporting columns.

Projects like this extend JJI's cutting edge lighting research directly into the marketplace.
To the benefit of all...

Some forty design innovations were exchanged between our US and ECU partners in the last *15 months.*

Today, 14 JJI operating autonomies are backed by a culture and resources that make progress their first priority.

From 200-foot highmast roadway luminaires to twinklers on a lo-V track, no one fuses aesthetics and technology more artfully.

Upfront about lighting? Consider the rewards with JJI... as a client or even our next corporate colleague. And be famous by Friday.

MAKE LIGHT... ADD WALLS... GET FAMOUS

1 Fantasia: mesmerizing juxtaposition of globe on triangle gives a different look from every aspect. Shelton, Mindel & Associates design, solid brass craftmanship by Nessen.

2 Geotronic: one of the new Hoffmeister track stars from Alkco. They run any way you command... but their exquisite, high tech countenance you cannot hide.

3, 4 Stadttor: indirect/direct ceiling luminaire with sculptural flair. Segmenting fins eliminate glare. Architectural appeal for today's open office environs. Coming from d'ac.

5 Bridge to Y2K™: Friendly, ambient lighting from 8-foot spans needing barely 12-inch ceiling clearances! Direct light also sparkles down through reflector perfs to prevent shade zones. LAM Lighting Systems.

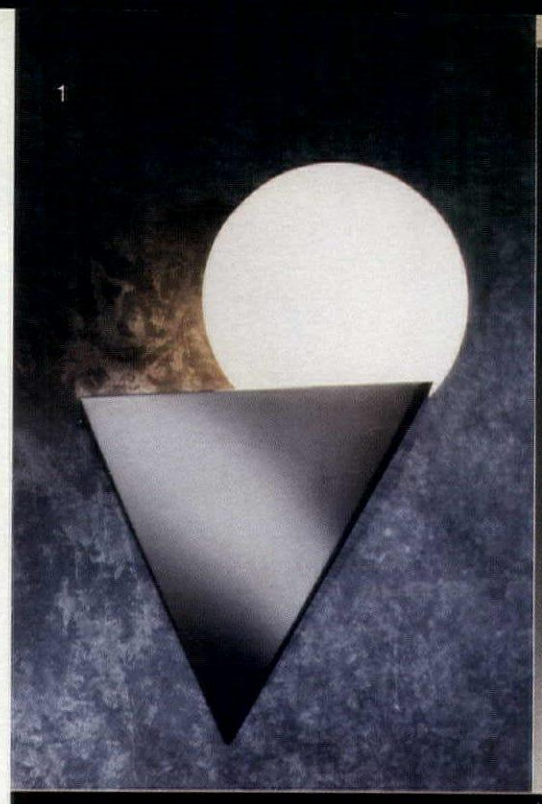
6,7 Snapper: snap, it's open... snap, the lamp is replaced... snap, it's closed and working flawlessly again. A most attractive value proposition with appearance to match. See LAM.

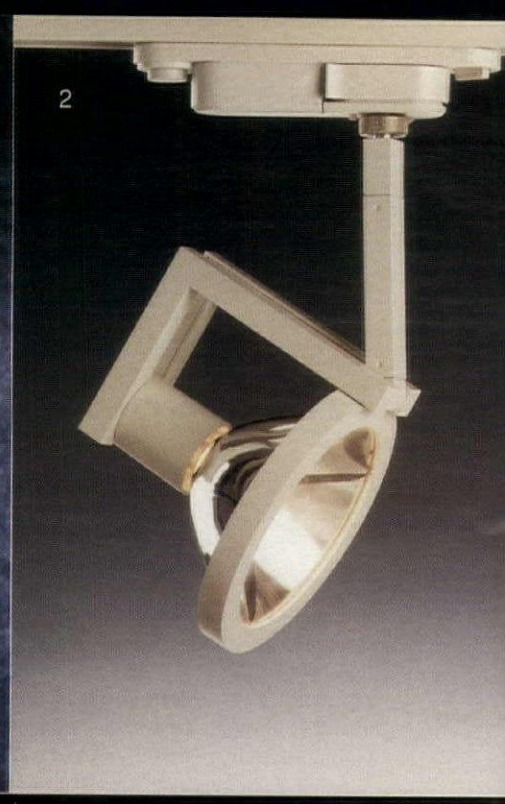
8, 9, 10 Metric bollard and surface mount luminaires with single and double unit housing options. Post-modern triangle, square and circle geometry that Euclid himself would die (again) for. At Architectural Landscape Lighting.

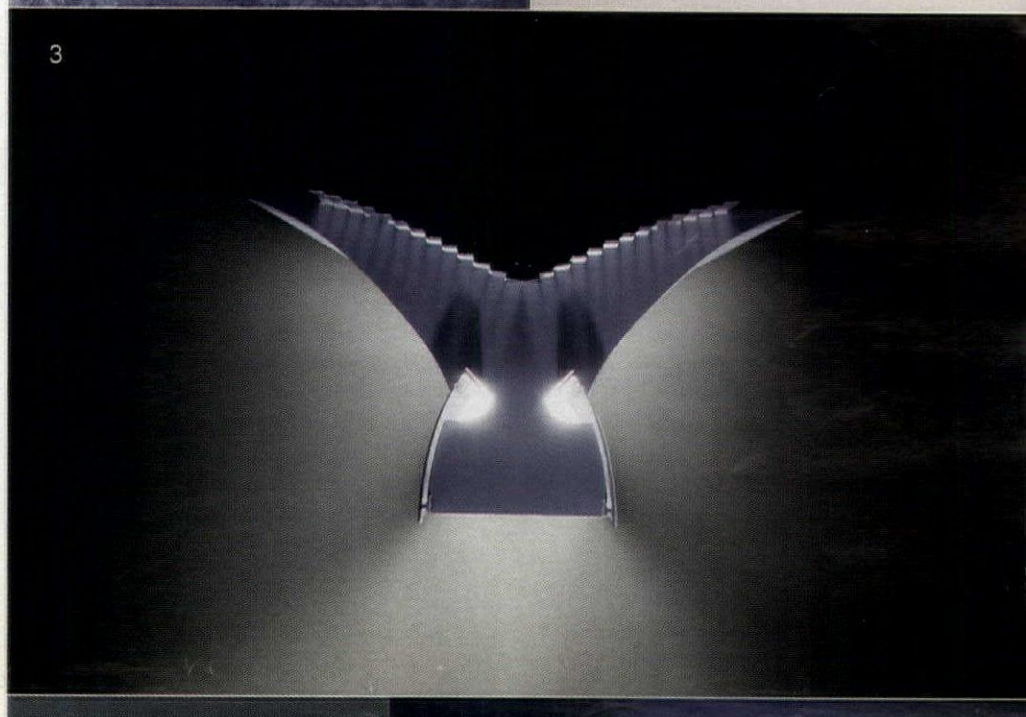
ALKCO
ARCHITECTURAL LANDSCAPE LIGHTING
ARDEE
D'AC
GUTH
.HESSAMERICA
HIGH-LITES
HOFFMEISTER
LAM
MORLITE
NESSEN
QUALITY SPECIALTY
VISTA

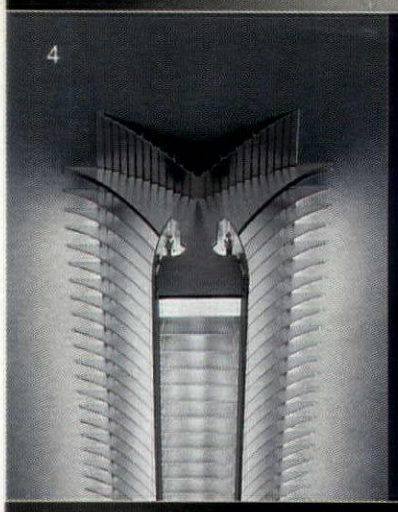
JJI LIGHTING GROUP

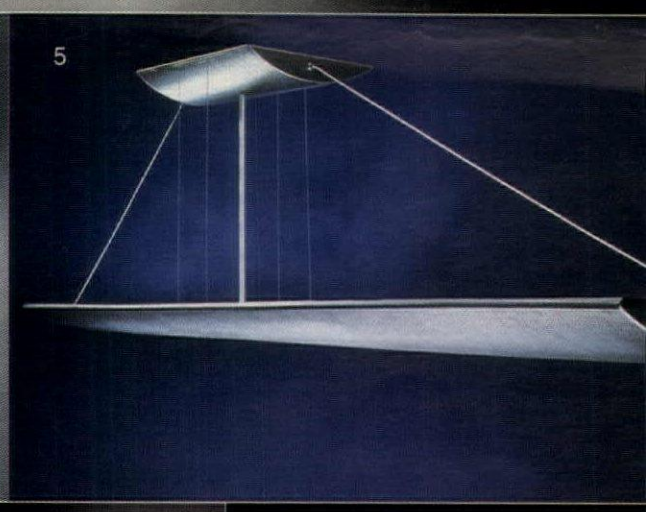
Exhibit 725, Lightfair '99

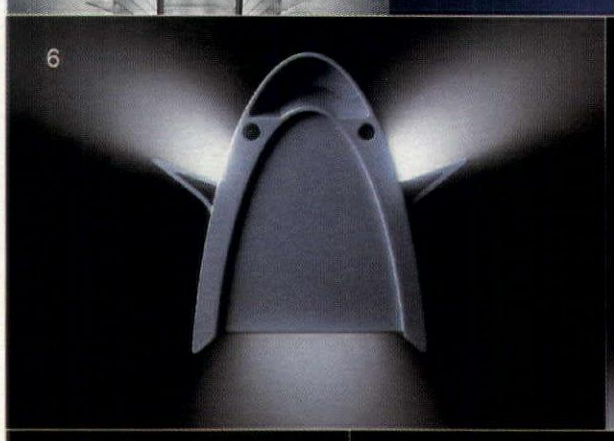


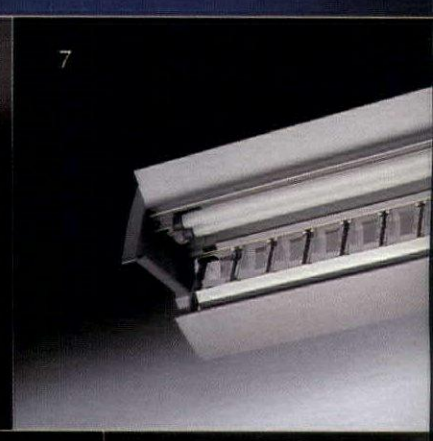


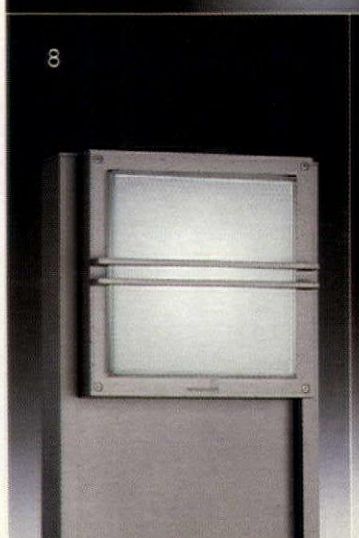


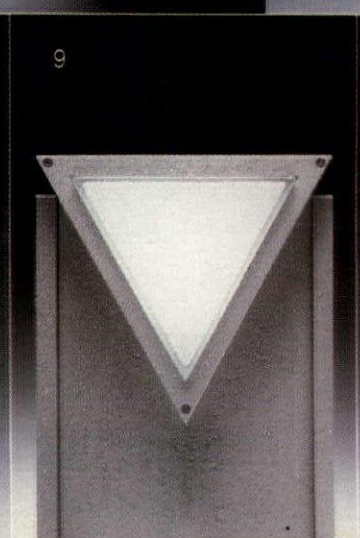


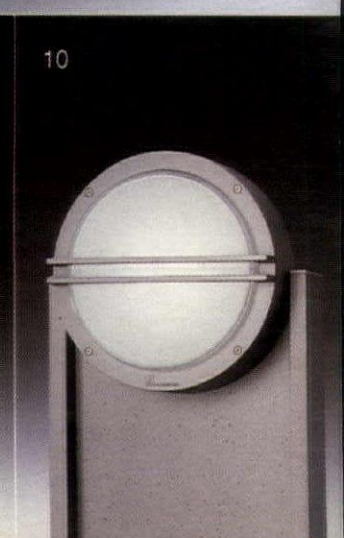












Circle No. 15

(Continued from page 13)

LIGHTOLIER

www.lightolier.com

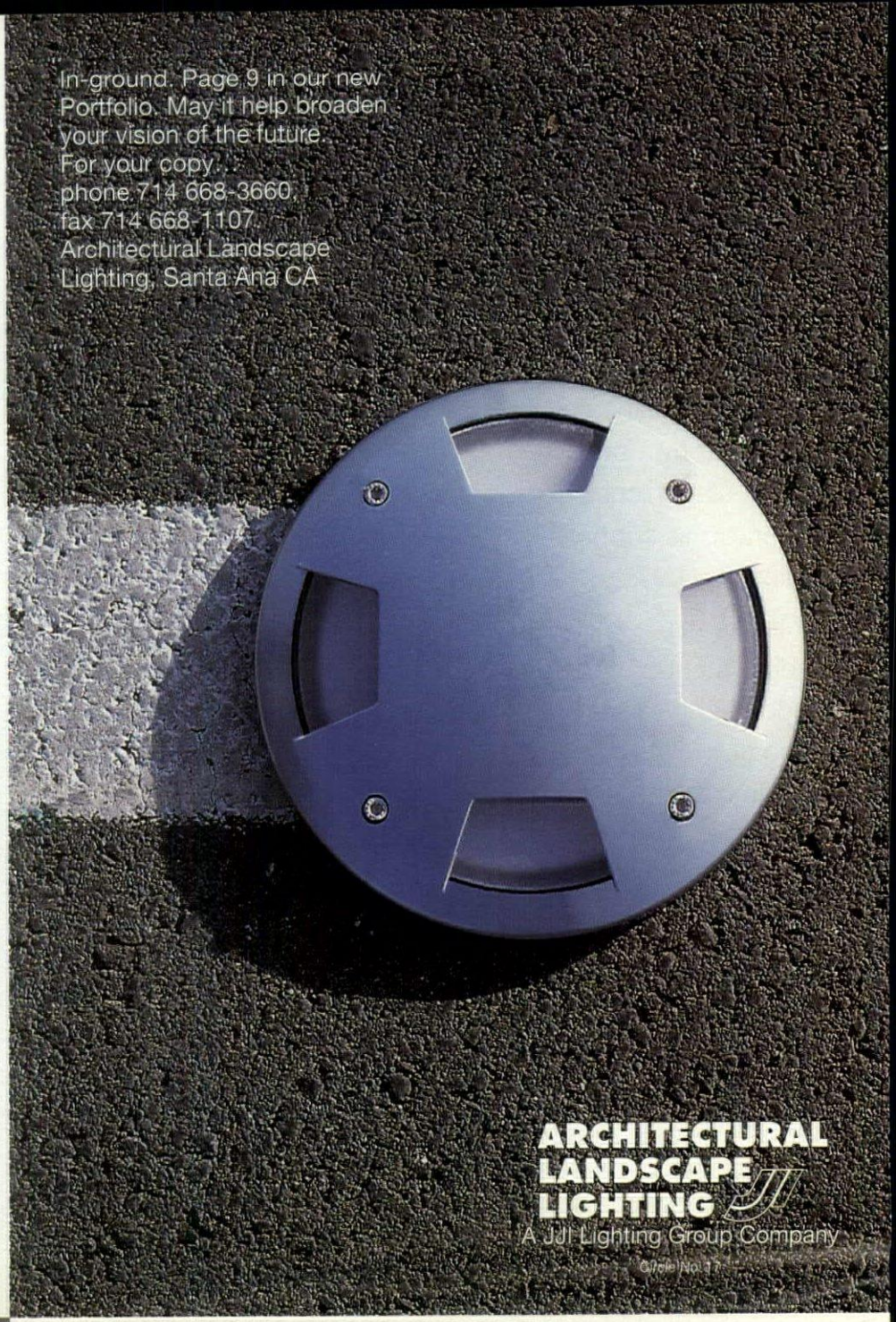
architectural and residential fixtures and controls

In the latest of Lightolier's website revisions, the company has clearly decided to de-emphasize the Bob Villa approach and focus on leveraging electronic marketing through their existing trade channels. Almost all product information, including catalogs, specification sheets, photometric files and other technical support, is available through a password-protected section of the website. Called Lightolier Online, users can sign-up on the website. However, use of the Lightolier Online features is not available for 10 days pending approval—which rests in the hands of the local Lightolier sales representative.

Once you have the approval, Lightolier provides an abundance of well-conceived electronic products including: downloadable catalog files, downloadable IES format photometric files, access to Lightolier's CD Specifier, Fax on Demand and other resources. Everything a specifer needs can be retrieved through Lightolier Online.

If you don't have a password, Lightolier's website provides downloadable sections of their product catalogs with photos and application guides.

Finally, Lightolier has perhaps the coolest dealer and rep locator of any lighting website I've visited. After selecting your location, you get a list of dealers or sales reps in the area. You can see the distance to each company from the location you selected, you get the phone number, a link to the company website and you can click on the address to get detailed maps with directions on how to get there.



VENTURE LIGHTING

www.adlt.com/venture

metal halide lamps

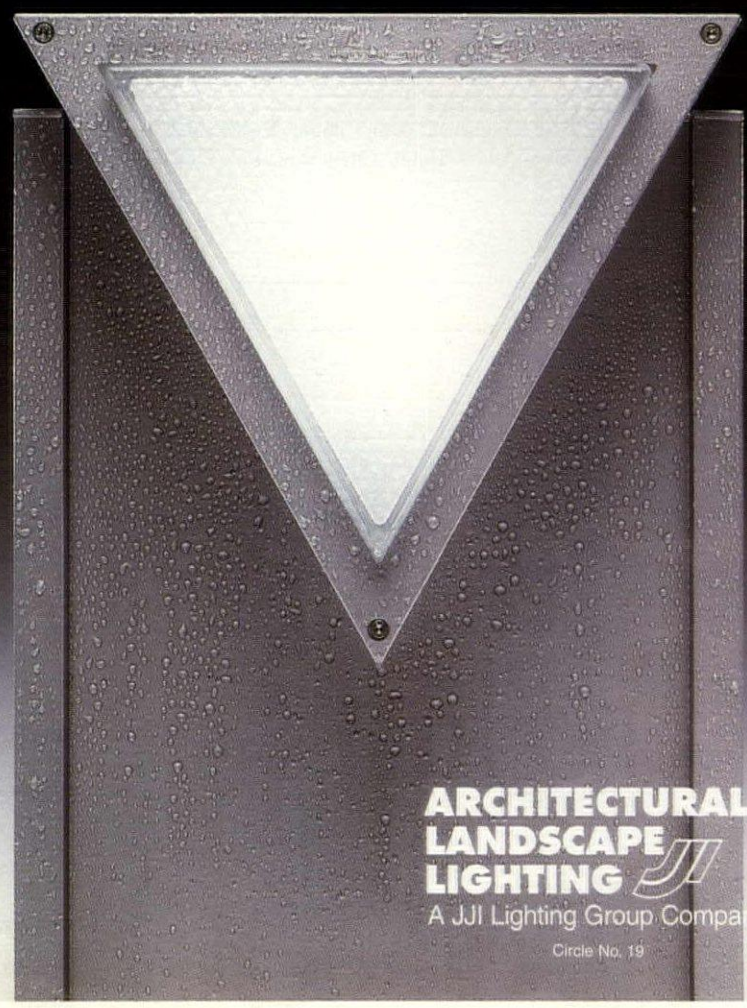
Recognizing that most professional specifiers are more interested in detailed specs than they are in product photos (particularly when it comes to light sources), Venture Lighting has built a useful database search system that allows the user to precisely specify lamp criteria. Venture Lighting then presents you with the products they manufacture to match your criteria.

You can search by application, product or by product family. For example, if you select "accent lighting" under search by application, you then progressively select wattage, base type, color temp and bulb type. Or if you know the Venture Lighting product number, you can simply enter it and see the data sheets. Alternately, you can choose a product family (for example: "high performance regulated lag") and see a detailed table of all Venture products in the family, then click to see individual data sheets.

Venture's detailed product data sheets are viewable online (you don't have to download them). You can even click and view lumen maintenance and lamp mortality charts. If you want a price quote, Venture provides an online form (although you don't get the price immediately).

There is more to Venture's site than their QuickSpec system, but it's a good example of how database capabilities on web sites give the user a powerful interactive tool for quick access to product information.

Metric. Page 21 in our
new Portfolio. May it
help broaden your
vision of the future.
For your copy...
phone 714 668-3660,
fax 714 668-1107.
Architectural Landscape
Lighting, Santa Ana CA



Circle No. 19

LITETRONICS INTERNATIONAL, INC.

www.litetronics.com

incandescent, halogen, HID, fluorescent lamps

The most interesting feature of the Litetronics website is inaccessible for most users—an online ordering system. To use it you must be an existing customer and have a password.

The Litetronics site offers more than e-commerce. They provide a fast, clean way to search their line of lamps and to view lamp specifications. But it is the online order feature that attracted my attention because it may give us a glimpse of the future in business-to-business electronic commerce for the lighting industry.

Selling a light bulb seems almost as simple as selling a book. This may be true if you're selling retail to homeowners; most manufacturers, however, accustomed to working through an established dealer and rep network aren't ready for that leap.

Litetronics' distributor-only online order system simply gives their existing customers another way, besides phone and fax, to place an order. Distributors can use the web catalog as an up-to-date reference, then place the order using an online order form. Litetronics then e-mails back a confirmation, fills the order and invoices their account.

Requiring pre-qualification before using the order system is not unique to Litetronics. Even Grainger, a huge business-to-business distributor of maintenance, repair and operating supplies (including lighting products), requires buyers to register before they can make a purchase.

Given its modest goals, Litetronics' foray into web sales may not match the hype of mass market e-commerce sites, but it could foreshadow bigger things to come from many lighting manufacturers. Stay tuned.

Matrex™ untracks
display lighting: 1 to
4 gimbaled elements,
neatly recessed,
accent and light-
bathe to order.
Dimming, lamping
lo-voltage, lens and
louver options,
Ardee acumen.
Phone 704 482-2811,
fax 800 275-1544
ardee@shelby.com

ARDEE JJI
A JJI Lighting Group Company
Circle No. 18

REGGIANI

www.info.co.uk/reggiani

architectural fixtures

If you have some time on your hands and want a unique experience, visit the Reggiani (England) website. The site seems in need of updating (the new product feature is from 1997), but what's there gives you a fascinating glimpse of a truly international vision of the web.

On the homepage you first select your language—from 27 options! Besides English, French, German, Italian and Spanish, you can also choose Japanese, Russian and even Hindi. If you select English, you're presented with another decision—do you want measurements shown in imperial or metric? If you choose imperial, Reggiani assumes you're specifying for the U.S. and you will be shown products that meet UL specifications.

Then Reggiani allows you to select your preferred method for accessing their product line. Your choices include: a visual guide (you see a checkerboard of small product photos, if you see something interesting you click on it); an application approach; a light source approach; or you can select by cut-out size for recessed fixtures or by ingress protection for special application fixtures.

Finally, if your coffee is still hot (this is not a fast-moving website), you can watch web movies showing animated light distribution or fixture installation techniques. I'm not sure if this site is a step forward or not, but it's fun—and it may be the only lighting website that seems to take seriously the "world-wide" part of www.com. ■

calendar of events

May 27-30 Lighting China '99, Shanghai Exhibition Center, Shanghai China; 0086-21-62556311 or e-mail wes-expo@stn.sh.cn.

June 7-9 NeoCon '99, The Merchandise Mart, Chicago; (800) 677-6728.

June 13-15 IESNA Southeast/South Central Bi-Regional Conference, Embassy Suites Hotel, Charleston, SC; (704) 382-5417.

June 17-18 Energy Management Congress, Disneyland Hotel, Anaheim, CA; (770) 925-9648.

June 20-22 BOMA Annual Convention & The Office Building Show, Georgia World Congress Center, Atlanta; (703) 312-9172.

June 23 Lumen Awards Banquet, New York City; (718) 951-6773, (800) 217-5445.

June 23-25 Fiber-Optic Lighting Institute, Lighting Research Center (LRC), Watervliet, NY; (518) 276-8716.

June 24-25 AEE seminar: "Fundamentals of Lighting Efficiency," Chicago; (770) 925-9633.

June 24-30 24th Session of the CIE, Warsaw University of Technology, Warsaw, Poland; (phone) 43 1 714 31 870, (fax) 43 1 713 08 3818, e-mail: ciecb@ping.at.

July 12-16 Vision '99, The Waldorf-Astoria Hotel, New York City; (410) 923-2925.

August 9-11 IESNA Annual Conference, New Orleans, LA; (212) 248-5000, ext. 117.

September 13-14 AEE seminar: "Fundamentals of Lighting Efficiency," Cincinnati, OH; (770) 925-9633.

September 14-17 ILE '99—The 6th International Lighting Exhibition, Shanghai Exhibition Center, Shanghai, China; (301) 654-2811.

September 17-18 Prairie Lights, Hyatt Regency, Chicago; (312) 640-8900.

September 23-24 IIDEX/NeoCon Canada, National Trade Centre, Toronto, Ontario; (800) 677-6278.

October 6-8 Balkan Light '99—1st Balkan Conference and Exhibition in Lighting, Varna, Bulgaria; (+359 2) 65-09-40/65-09-55; e-mail: DENIMA@OMEGA.BG

October 18-19 IES Australia and New Zealand Annual Convention and Lighting Exhibition, Adelaide, South Australia; 61-8-8235-9609.

October 20-23 Luminaire Asia '99, Singapore International Convention & Exhibition Centre, Singapore; (609) 987-1202.

October 26 Branding 2000: Second Annual Executive Forum, Four Seasons Hotel, New York City; (800) 950-1314, ext. 2331.

October 27-29 Design.y.c. (Interplan, The Design Show, City Lights), Jacob Javits Convention Center, New York City; (800) 950-1314, ext. 2331.

October 28 4th Annual North American Construction Forecast, National Press Club, Washington, D.C.; (800) 598-6434.

November 7-9 Restoration and Renovation Exhibition and Conference, Charleston, SC; (978) 664-6455.

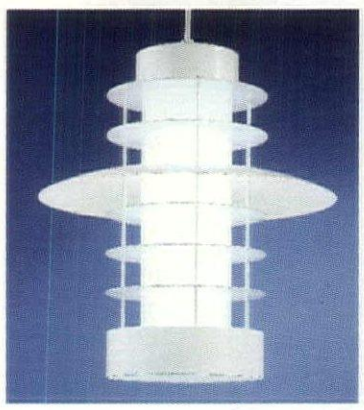
November 8-9 AEE seminar: "Fundamentals of Lighting Efficiency," San Juan, Puerto Rico; (770) 925-9633. ■

Luxo Introduces

DESIGNER SERIES LIGHTING

INTERNATIONAL DESIGN & QUALITY. ACCESSIBLY PRICED.

From the best known name in task lighting comes the most exciting collection of ambient lighting, the new Luxo Designer Series: A family of UL-listed, high-performance energy-efficient wall sconces (many ADA compliant), ceiling pendants and close-to-ceiling fixtures, that provides glare-free indirect/direct illumination for any commercial lighting application, in timeless, original designs of lasting quality.



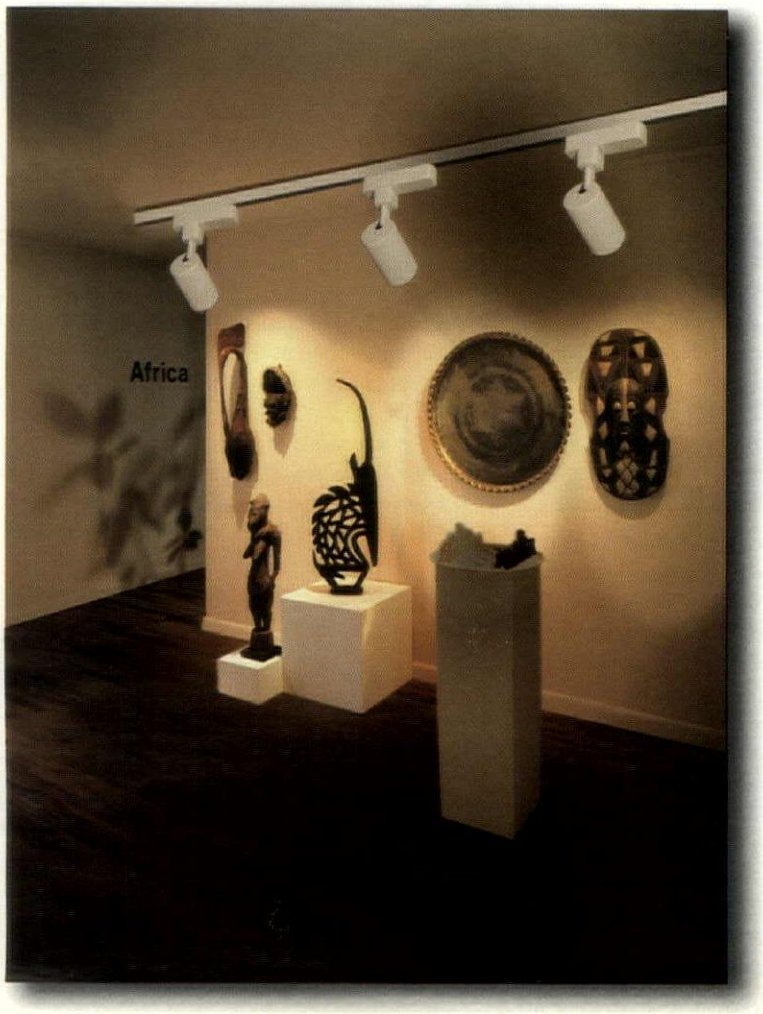
LUXO

For literature, specifications and pricing, contact your authorized Luxo independent lighting sales representative, lighting showroom or

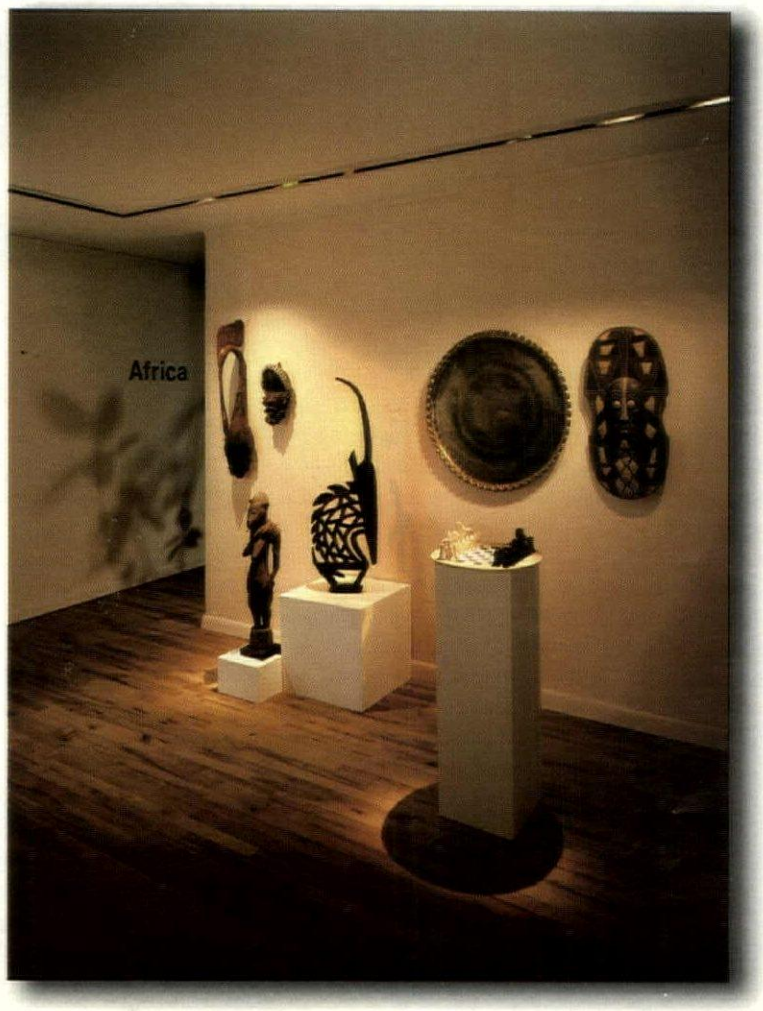
Luxo Corporation.
36 Midland Avenue • PO Box 951
Port Chester, NY 10573
(914) 937-4433
FAX: (800) 648-2978

Circle No. 41

NOW YOU SEE 'EM.



NOW YOU DON'T.



RECESSED•TRAK™ IS BACK.

If you're looking for truly low-profile lighting, but need far more adjustability than eyeballs or cans, it's time to consider Alkco's Recessed•Trak™.

Recessed•Trak™ includes a unique light module which allows maximum aiming and 335° rotation. The miniature quartz halogen lamp's point source filament provides precision optical control for pinspotting, accenting, highlighting and wallwashing.

And its innovative system design integrates easily into modular lay-in, and suspended ceiling constructions.

So the next time you need all the flexibility and fixture placement of track, but want a system that's hidden from view, choose Recessed•Trak from Alkco. **Because Nothing Looks Better.**

ALKCO

where quality comes to light™

A JJI Lighting Group Company

11500 Melrose Avenue • Franklin Park, Illinois 60131-8389 • Phone: (847) 451-0700 • Fax: (847) 451-7512 • www.alkco.com

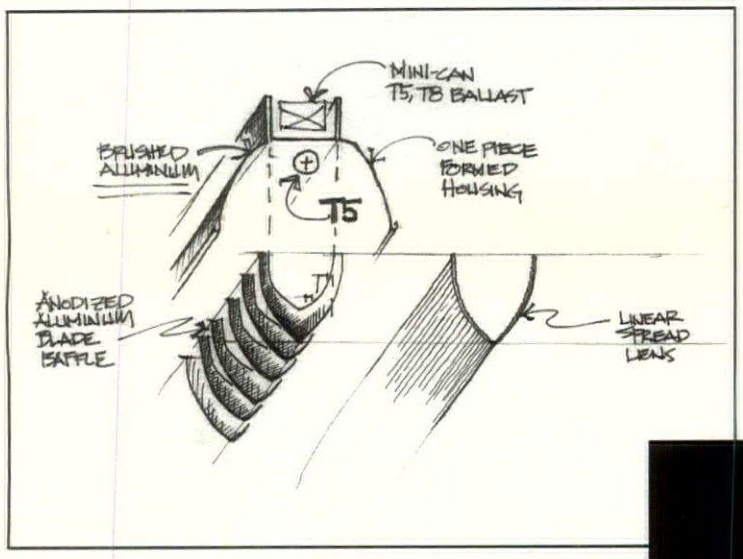
Circle No. 20

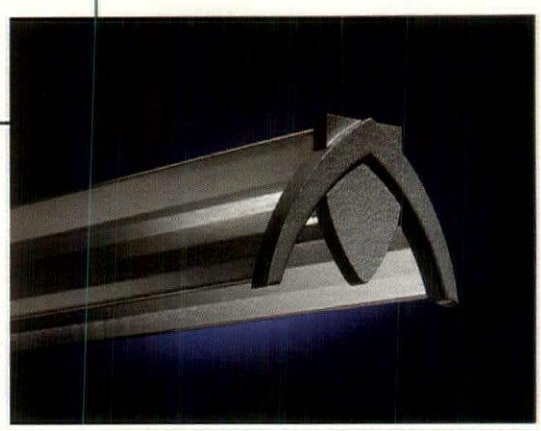
Product Development: From Idea to Market

BY DAVID HOUGHTON, PE, CONTRIBUTING EDITOR

Let's face it: the lighting industry has a sweet tooth, and new products are the candy. Every year, new and improved sources, fixtures, controls and other goodies are turned out for our consumption. Where do all the new ideas come from, and how does a product concept make the cut to tooling and production?

"For us, new products come from four directions," said Ann Reo, VP of product development and marketing for Focal Point. The first possibility is the emergence of a new application. "We're working on a fixture for video/teleconferencing rooms—that application didn't exist a few years ago." Secondly, new source technologies such as the T5 lamp and mini-can ballasts allow fixtures that are smaller, have better optical control, or other advantages, said Reo. The third area that can inspire new products is new fixture materials, such as plastics, brushed metals, etc. And finally, "we may go after a new product just to improve the performance of existing products," said Reo. "For example,





ACCORDING TO ANN REO, VP OF PRODUCT DEVELOPMENT AND MARKETING FOR FOCAL POINT, THE GENERATION OF NEW FIXTURES IS BASED ON: 1) NEW APPLICATION OPPORTUNITIES; 2) NEW SOURCES & TECHNOLOGIES; 3) NEW FIXTURE MATERIALS; AND 4) PERFORMANCE IMPROVEMENTS. A NEW FOCAL POINT PRODUCT, REVOLUTION, IS SHOWN IN ITS CONCEPT STAGE (ABOVE) AND AS A FINISHED PRODUCT (RIGHT).

> "FOR TOO LONG, THERE'S BEEN A DISCONNECT BETWEEN THE PEOPLE WHO MAKE THINGS AND THE PEOPLE WHO USE THEM."
>
> —JOHN NADON

I may challenge our optical specialist to develop a wider batwing distribution for linear pendants, or more uniform downlighting from a CFL can."

The development of Focal Point's Revolution linear pendant (see figure) provides a good example of these principles. The genesis of the product was when Reo spotted an attractive brushed-aluminum material at a European trade

> "I THINK YOU'LL SEE MORE ALL-OUT EFFORTS TO BUILD VOLUME QUICKLY FOR NEW LIGHTING PRODUCTS."
>
> —BILL GREGORY

show. "We really wanted to use it in a new fixture," she said. "Since the material was expensive, we had to develop a low-cost forming process to keep it affordable. The narrow T5 lamp allowed us to shape the fixture the way we wanted it."

Sometimes a new product is developed almost entirely for a single determined end-user. "When we were doing lighting retrofits at Columbia University, there were several times that the product we needed simply didn't exist," said former Columbia Energy Manager Lindsay Audin. "If you can tell manufacturers that you'll buy the first thousand of a new product run, they're pretty open to working with you to develop that product."

One of the first products Audin developed was a reflector to improve the photometrics of an early compact fluorescent quad-lamp. Said Audin, "At that time, all the reflectors were still designed around incandescent lamps. So we took some tin snips, made a mockup of what we wanted and went to a metal fabricator. He said he'd have to make a new process mold to stamp these things out. We told him we'd pay for the mold and buy at least a thousand of the new reflectors—the energy savings of the project supported this cost. We did the deal, and he ended up selling thousands of these products to us and other end-users."

More recently, Audin realized that what was really needed to control classroom lighting at the University was a high-quality electronic countdown timer. "We wrote detailed specifications—electronic ballast compatibility, timer range, switching capacity and so on—and talked to seven manufacturers," said Audin. "In the end we worked with The Watt Stopper, and the product became the TS-100 that you now see in their catalog. They basically designed the thing from scratch at our request."

Jerry Mix of The Watt Stopper agrees that end-users are the key to the product development process. Said Mix, "Lindsay came to us saying that he wanted an electronic version of the old mechanical twist-timers. We had to look at our return on investment—if it costs us this much to develop the product, how many do we have to sell to start making a return?" Product development—engineering, injection molds and the like—is costly, so not every idea makes the cut. "We're more inclined to go ahead if we have a unique idea or feature—we don't want to make that investment just for 'me-too' products," said Mix. "Another good indicator for us is if a product concept can lead to a platform from which we can launch a handful of similar products with different features and price points."

New products need to earn a return quicker than ever before. "We used to be able to develop the market for a new product over a period of years," said Bill Gregory, specification area manager for GE Lighting. "Look at the F40 Biax. It took four or five years for OEMs to design fixtures and for specifiers to get comfortable with the new lamp. But in today's market, it's hard to wait that long to earn a return on the initial investment. I think you'll see more all-out efforts to build volume quickly for new lighting products."

> "WE'RE MORE INCLINED TO GO AHEAD IF WE HAVE A UNIQUE IDEA OR FEATURE."
>
> —JERRY MIX

John Nadon, VP of marketing for Prescolite, has institutionalized end-user feedback and "feed-forward" at his company. "For too long, there's been a disconnect between the people who make things and the people who use them," said Nadon. Beginning in 1995, Prescolite has hosted several meetings a year with facility managers, utility program designers, interior designers and, of course, lighting designers. "One of the first questions I wanted answered was whether specifiers cared much about the optical performance of recessed downlights," said Nadon. "Back in 1995, there was a perception among manufacturers that it didn't matter, since nobody would pay more for better performance and nobody would hold a spec on downlights anyway." Based on a series of meetings with users across the country, however, Nadon was able to convince his company to invest over $2 million in a new line of downlights that addressed users' desires. "We clearly heard the message that they did care," he said. "Those meetings are the best investment we ever made."

> "IF YOU CAN TELL MANUFACTURERS THAT YOU'LL BUY THE FIRST THOUSAND OF A NEW PRODUCT RUN, THEY'LL WORK WITH YOU TO DEVELOP THAT PRODUCT."
>
> —LINDSAY AUDIN

Part of the problem is that there's been suspicion surrounding manufacturer-sponsored events, according to Nadon. "Designers seem to expect that a meeting invitation from a manufacturer is going to be a dog-and-pony show where they get told about new products," said Nadon. "That's counter-productive. I purposely go into these meetings to listen—I really don't care about my company or push any agenda during that time. We'll kick off a discussion—for example, by asking about electromechanical issues—and see where it leads. I don't want to trot out our products unless the talk happens to lead directly to something we are working on." ■

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Circle No. 21

Down the Road: The Future of Lighting

BY DAVID HOUGHTON, PE, CONTRIBUTING EDITOR

Today's lighting technologies are yesterday's dreams. What are lighting visionaries dreaming of today that will be commonplace in two, 10 or 20 years? *Architectural Lighting* surveyed several prominent industry observers to see what's coming down the road.

MOVING TOWARD USER CONTROL

"My vision is one of total user control," said Michael Siminovitch of Lawrence Berkeley National Laboratory (LBNL). "We need to give lighting users—particularly office workers—the ability to dynamically control the intensity, spectrum and distribution of their lighting."

As an example, Siminovitch described a day at the future office: An employee is working at the computer, so there's low ambient lighting that doesn't create screen glare, preferably blue-shifted light (high color temperature) that shrinks the pupils and sharpens perception of the screen image. A colleague comes in and wants to discuss a report—now, there's warm, horizontal light that accurately renders their facial tones without shadowing. As the paper report lands on the desk, the lighting system provides a full 75 fc of sidelighting for high-contrast, glare-free reading. "We're not sure exactly how to create this type of dynamic lighting," said Siminovitch, "but it's something that we'll be working toward in the next 10 years."

TECHNOLOGY PROLIFERATION

LEDs. Mark Rea, director of the Lighting Research Center in Troy, NY, is excited about light-emitting diodes (LEDs). "Look how quickly they took over the traffic signals in this country. With white LEDs coming along, they'll be moving into general lighting applications." Rea noted that the big three U.S. lamp manufacturers are all developing LED alliances (one example is LumiLeds, the Philips/Hewlett Packard joint venture) and estimates that in three to five years we'll be seeing lots of the tiny lamps. "They probably won't replace fluorescents for area lighting, but they'll be making inroads into task lighting, signage, signalling and anywhere that access for maintenance is difficult."

> "WE NEED TO GIVE LIGHTING USERS—PARTICULARLY OFFICE WORKERS—THE ABILITY TO DYNAMICALLY CONTROL THE INTENSITY, SPECTRUM AND DISTRIBUTION OF THEIR LIGHTING."
>
> —MICHAEL SIMINOVITCH

Over the last 20 years, LED efficacy has slowly climbed from about five lumens per watt (LPW) to over 25 LPW. Rea said that in the next three years, the industry may see white LED efficacies in the 50-60 LPW range. The real key to LED efficiency, however, is the directional nature of the source—each LED chip beams photons from one side: that light can be controlled by the design of the lens that encases the chip. This can simplify fixture design and eliminate the need for reflectors. Said Rea, "Anywhere that you need a directional source, LEDs could be a contender. Advanced controls will also be able to vary the intensity and beam angles of LEDs to achieve even more effects." LBNL's Siminovitch also envisions a bright future for LEDs. "Perhaps we'll see some merging of electroluminescent and LED technologies, giving us sheets of luminous material that we can use like wallpaper."

Metal halide. Rea is also bullish on the future of metal halide (MH) sources. "We still need to improve color consistency and lumen depreciation, but we're seeing some significant investments in metal halide technology." Recent steps forward include large-wattage pulse-start systems, solid-state ballasts, ceramic arc tubes and formed-body quartz glass arc tubes. The LRC, thanks to a grant from ADLT, is currently conducting metal halide lamp research.

Remote-source lighting. Remote lighting—fiber-optic and light pipe systems—is often cited as a technological area poised for future expansion. Rea is not convinced, however. "Remote lighting is still a tough sell," he stated. "Total system efficacy is low, and it just can't deliver many lumens. We don't believe that remote lighting is going to take any big leaps soon." Siminovitch, however, thinks that fiber-optic lighting's advantages will outweigh these issues in the future. "I think it will become more and more compelling to run plastic through our buildings rather than wires," he said. "Plug-and-play fiber systems are going to help make that happen."

> "INCANDESCENTS ARE A BUCK EACH. WE REALLY NEED A GOOD ALTERNATIVE IN THE $3-4 PRICE RANGE IF WE'RE GOING TO GET DECENT MARKET SHARE. A HIGH-EFFICIENCY SOURCE THAT COSTS $2 WOULD CHANGE OUR WORLD."
>
> —FRANCIS RUBINSTEIN

Fluorescent lighting. For fluorescent systems, Rea has several modest pleas for the future. "We need to make photocell-controlled fluorescent dimming so easy that somebody with an eighth-grade education can make it work the first time. Even though there's been progress, the systems out there now need to become more foolproof." A significant change that is happening, according to Bill Gregory, specification area manager for GE Lighting, is a move toward integrated lighting systems. "There's a lot of partnering going on, with the idea that by packaging a complete engineered system there will be benefits for the end user," said Gregory.

Rea believes that lighting innovation needs to start with the lamp manufacturers, since the fixture industry waits for new sources to innovate. "Unfortunately, the lamp manufacturers are in the socket-filling business rather than the source-development business," he said.

Rea concluded his vision of the future of lighting by bringing up the issue of environmental impact. "It's pretty scary to look at the rate of new home construction worldwide—most of which is using very low-efficacy sources."

Energy efficiency. Back at LBNL, Staff Scientist Francis Rubinstein is indeed worried about lighting inefficiency. "In the U.S., we use about 550 terawatt-hours of electricity for lighting each year—that's equivalent to the full-time output of 60 big power plants," he said. "Our director, Charles Shank, has challenged us to envision a path to the future where we cut that number in half."

LBNL's biggest single target is the three billion U.S. residential lighting sockets, 90 percent of which are filled with low-efficiency incandescent lamps. "We're working toward a future where many of these sockets use higher-efficiency compact fluorescents, but even taking the smaller step from standard A-lamps to halogen or halogen-IR technology would have a significant impact," said Rubinstein, referring to the advanced incandescent now available mostly in the form of PAR lamps. "The problem is cost. Incandescents are a buck each. We really need a good alternative in the $3-4 price range if we're going to get decent market share. A high-efficiency source that costs $2 would change our world."

> "IT'S THE LAMPS AND BALLASTS THAT REALLY DRIVE INNOVATION IN THE INDUSTRY. UNFORTUNATELY, LUMINAIRES ARE TYPICALLY ONE TO TWO YEARS BEHIND SOURCE DEVELOPMENT."
>
> —MICHAEL LANE

Although much of Rubinstein's work involves expanding the market for existing high-efficiency technologies, he would welcome new silver bullets: "Just this year, for example, Dutch researchers at Philips figured out how to get two visible photons from one UV photon. This is one of the 'holy grails' of fluorescent research that could potentially give us 200 LPW lamp efficacy. They've done it with xenon rather than mercury discharge, and the photons are red, but they're on the right track."

Michael Lane, commercial lighting specialist with the Seattle Lighting Design Lab, agrees with Mark Rea that the future of lighting begins with new and improved sources. "It's the lamps and ballasts that really drive innovation in the industry," said Lane. "Unfortunately, luminaires are typically one to two years behind source development."

As an example, Lane cited the QL induction lamp, an electrodeless fluorescent with a rated lifetime of 100,000 hours. "I'm sad to see only a couple of indoor fixtures for the QL lamp—even though it's been out for years." Steve Goldmacher, director of public affairs for Philips, acknowledges that the QL was introduced before its time, but predicts its maintenance advantages will help it win in the long run. Lane believes that electrodeless fluorescent sources have a bright future. "I like the new Icetron lamp [Osram Sylvania's rectangular-shaped lamp]. I think it will find applications in places like tunnels and gas station canopies."

The debate on photopic vs. scotopic reaction patterns could play a role in the future of lighting. "At the IES National Conference in San Antonio last year, everybody nodded their heads and agreed that blue-content (scotopic-frequency) light is getting short-changed by the current lumen rating method," said Lane. "But it seems the only decision was to do more studies." If indeed the lumen—the basic unit of light measurement—is redefined to more heavily favor scotopic-rich sources, it will immediately boost the efficiencies of metal halide and fluorescent sources and demote those of sodium and mercury vapor.

Michael Lane is concerned about light pollution and hopes the future will bring greater awareness of the problem. "Low pressure sodium is not the answer to light pollution," he said. "We need to stop spraying light into the sky, and our industry has to step forward to address the issue." ■

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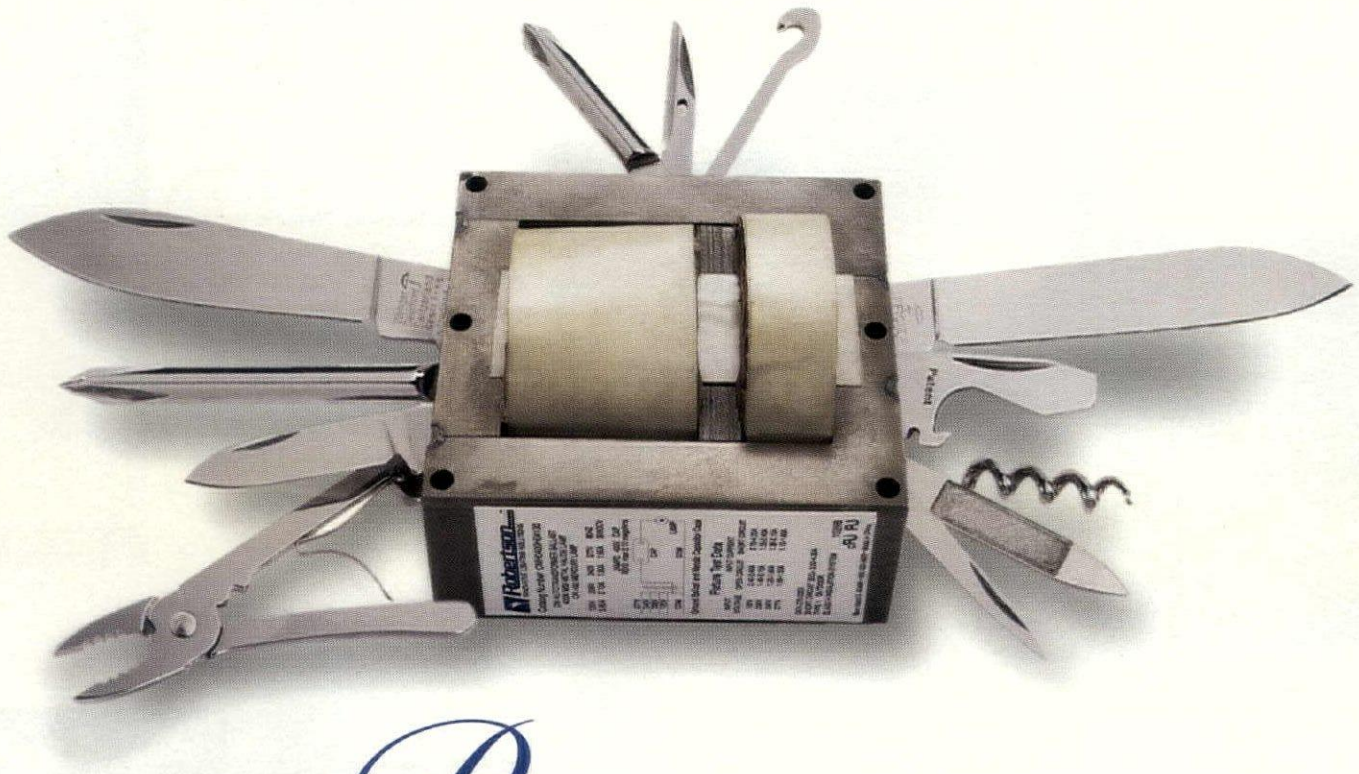

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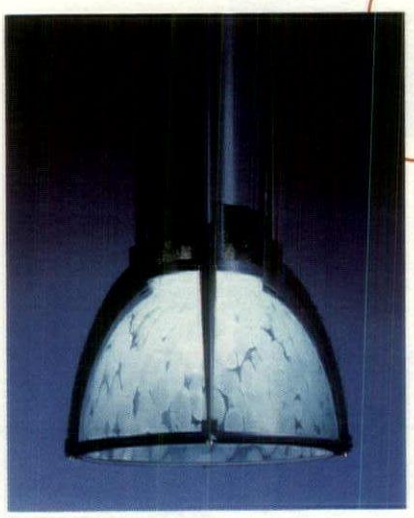
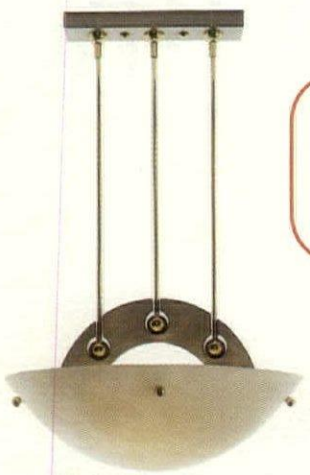
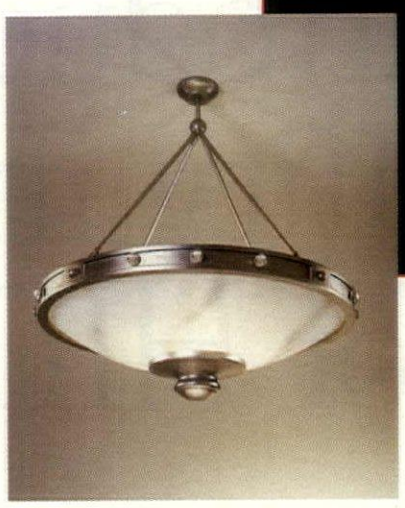
decorative



Hubbell Lighting's Ocean architectural pendant series is available in 150W and 250W tungsten halogen; 32W and 42W compact fluorescent and 150W metal halide. Pendant mount is standard with stem pendant kits available separately with a 45-degree swivel. Ice White or Storm Black fixture housings are available in 9- or 13-in. diameters. The standard reflector is Arabian opal glass; special order choices also available. UL-listed. **Circle No. 60**



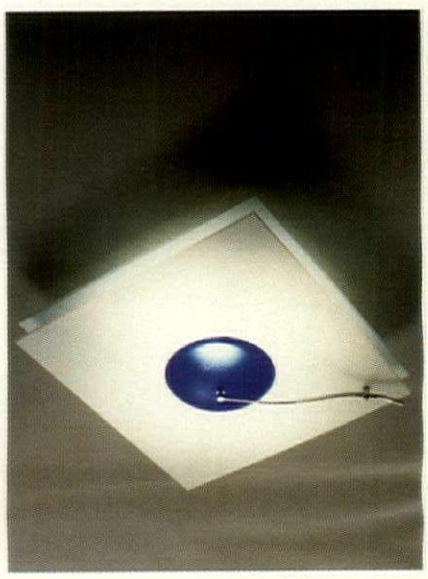
The Nestle Chandelier designed by **Michael O** features a faux alabaster bowl with satin finish. The bowl measures 30 in. in diameter. Other components are stainless steel and polished solid brass. UL-listed. **Circle No. 62**

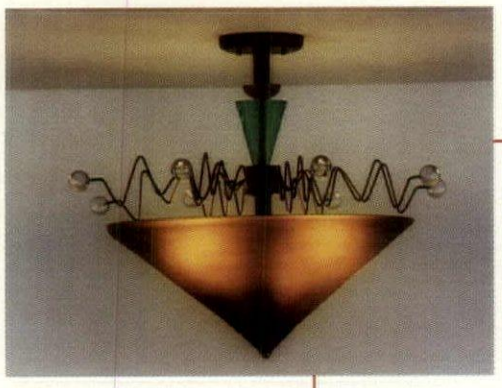


The Artemis pendant designed by Bohn Associates for **Sirmos** achieves a Neoclassical look through the use of a variety of new and traditional materials. The chair-hung fixture features a circular body of hand-cast resin punctuated by a series of white frosted CyTron elements. Cytron is a glass-like material exclusively developed by Sirmos. The dome, as well as the hardware elements, are offered in a variety of finishes. UL-listed. **Circle No. 61**

Model 5075 in the Montreaux series by **Norwell Manufacturing** is a combination of European cast parts and spinnings produced by New England artisans. The glass shades are hand-blown Vianne glass from France. The model is the middle size in a family of five, in addition to matching sconces. The design features five candelabra sockets of 60W each. Model 5705 measures 29 in. wide x 19 in. high; with chain, the overall height is 57 in. Flemish finish is also offered. UL-listed. **Circle No. 64**

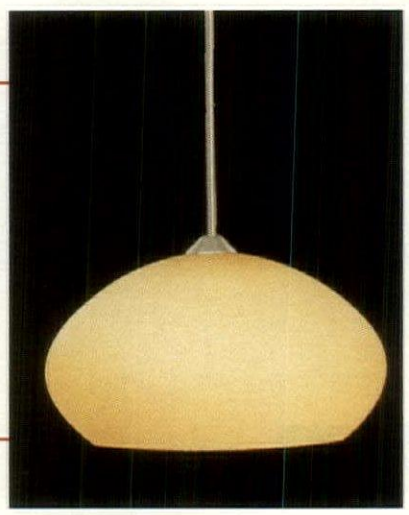
Designed by Carlo Forcolini, **Nemo's** Auriga soffitto 2 is a ceiling fixture providing widespread downlight filtered through glass. Forcolini features an aluminum reflector with lens in St. Just glass and a glass diffuser. The diffuser is sandblasted and painted white. The lens is offered in opal white or blue. Forcolini uses a 150W-R7, QT-DE 12, linear halogen, measuring 75 mm. UL-listed. **Circle No. 63**





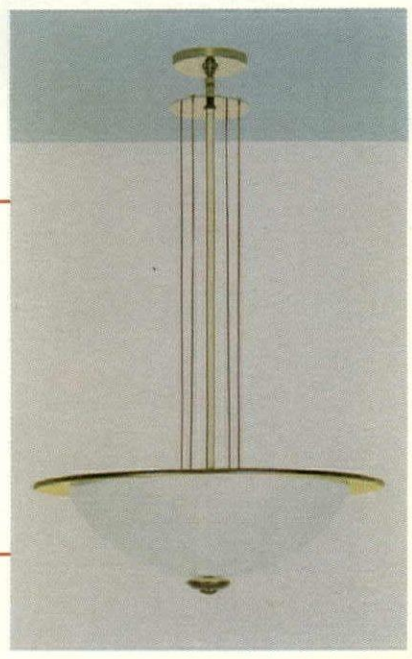
From **Van Teal's** Amnesia collection, Electricity (Style #612754) is a pendant fixture measuring 19 in. high x 25 in. wide. The shade is made of amber glass and has a 19-in. diameter. The lamp finish is caramel with decorative elements in polished evergreen, peach and clear acrylic. Electricity uses six 60W incandescent lamps. UL-listed. **Circle No. 65**

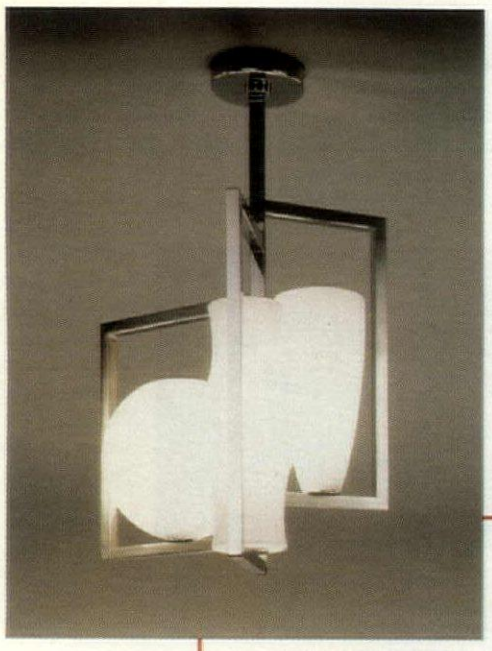
Illuminating Experiences introduces Teo, a spiral wall sconce made of cast aluminum iron with Venetian scavo glass. Metal finishes available in 14 finishes. Teo uses a 150W halogen lamp source. Companion wall, ceiling table, floor models are also offered. UL-listed. **Circle No. 66**



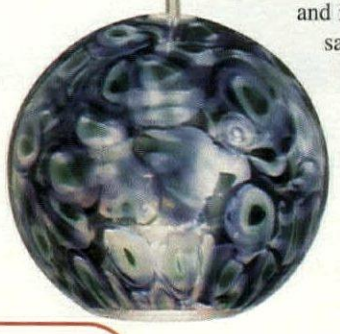
The Meteor Pendant from **Tech Lighting** is made of case glass from Murano and measures 3 in. high x 5 in. wide. The pendant is offered in five colors: red, cobalt, green, frost and amber. The fixture includes a 50W bi-pin. Available finishes are chrome, gold or satin nickel. Meteor is available as a track fixture or monopoint pendant. UL-listed. **Circle No. 68**

Designed by Peter Wooding for **Nessen Lighting,** Golden Gate features a single, polished metal primary pendant that supports a half-spherical globe diffuser. The diffuser conceals electrical wiring. Golden Gate uses three medium-base 100W incandescent lamps or three four-pin 26W compact fluorescent lamps. The half-spherical globe is made of acrylic. The junction box canopy, pendant, trim and finials are solid brass. CUL- and UL-listed. **Circle No. 67**





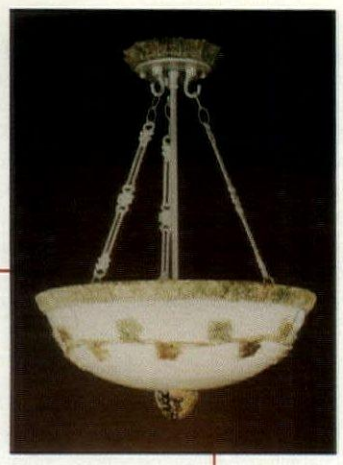
Designed by Andrea Anastasio for **Artemide,** Galatea Suspension 3 consists of a polished chromium plated metal structure and satinized opaline blown glass diffuser. The pendant uses three 100W incandescent opaline (E27) lamps to provide diffused lighting. Galatea Suspension 3 measures 29 in. high x 18 in. wide. Table, wall and floor models are also available. UL-listed. **Circle No. 71**



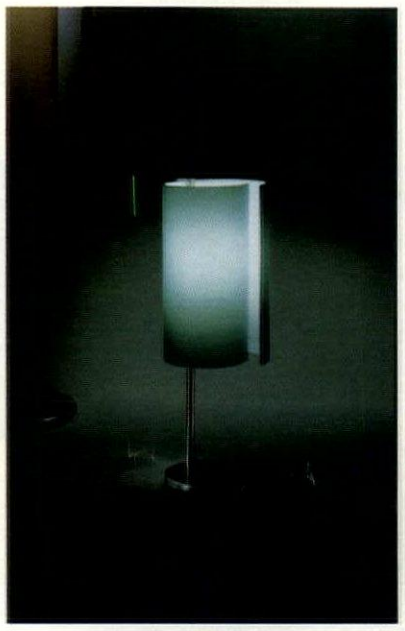
The Blue Moon Pendant by **Tech Lighting** features a Murano glass shade with a millefiore-type pattern in green, white and cobalt blue. The pendant measures 3 in. in diameter x 2¾ in. in height. The Blue Moon Pendant can be used individually or in groups. The pendant uses a 35W MR11 halogen lamp and is offered with chrome, gold or satin nickel fittings. Blue Moon is available for various low-voltage track systems and as a monopoint pendant. UL-listed. **Circle No. 74**

Davis/Muller Lighting's 2150 Series of specification-grade pendants features a diffuser of pure virgin acrylic and solid brass hardware. The internals are white powder-coated cold rolled steel. The diffuser is available in five different sizes, with diameters ranging from 18 in. to 48 in. Lamping options include twin- and quad-tube compact fluorescent, biaxial fluorescent, incandescent and metal halide sources. UL-listed. **Circle No. 72**

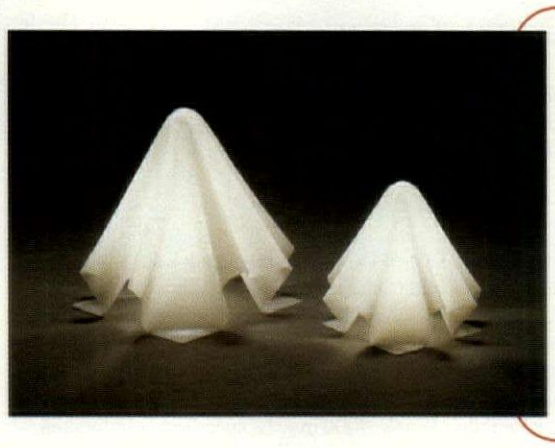
Starfire Lighting's Starfire Select program allows designers the opportunity to see their own custom decorative fixtures develop from initial concept to final fabrication. The program uses production products as a point of departure. "Clean Sheet" designs are also created. A wide range of choices in materials and fabrication techniques is available. The Starfire Select team will respond to design requests with detailed technical documents and product illustrations within days. Chateau Briand Wall Sconce (shown). **Circle No. 69**



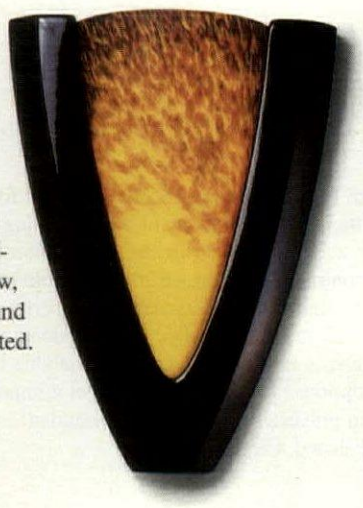
From **New Metal Crafts,** Model #7051 is a terra cotta fixture with a white crackled finish. A leaf motif in antique green with a brown overglaze surrounds the inverted bowl and the ceiling crown. A single leaf design running around the center of the bowl and a purple grape cluster finial completes the bowl's decoration. The fixture uses a 36W standard base lamp and measures 18 in. high x 15 in. wide. UL-listed. **Circle No. 70**



Leucos USA's Diana collection was designed by Venetian architect Roberto Pamio and features the fusion of two sheets of thin, fluid Murano glass-one opaque, one colored. Available shade colors are amber, white and Nile green. The series includes the Diane T1, with a centralized stem, the more compact Diane T3 with a 5½-in. round nickel base and side aligned stem and Diane T2, a table with a nickel-finish, four-legged base. The Diane TR floor lamp measures 68⅞ in. and the Diane P wall sconce is offered in three shade colors. UL-listed. **Circle No. 73**

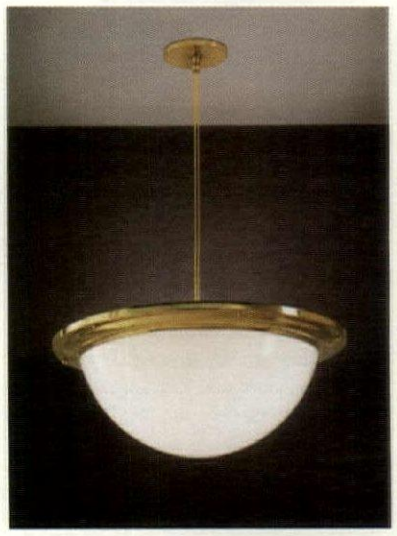


Designed by Shiro Kuramata for **Yamagiwa Corporation,** the K-Series floor and table lamp are characterized by a folded acrylic shade of soft opal, which appears to float. Each shade is individually formed and differs slightly in shape. The floor model measures 23 in. high x 27½ in. wide and deep. The table model is 14½ in. high x 17¾ in. wide and deep. The K-Series was awarded the Mainichi Industrial Design Award. UL-listed. **Circle No. 75**

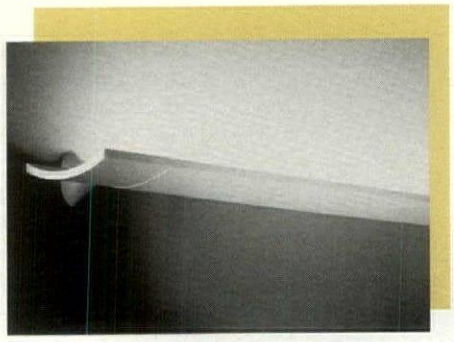


The Beveled Frame is part of **Justice Design Group's** LumenEssence line. It is ADA compliant and is shown here in a gloss black glaze with Vianne mouth-blown glass (pate de verre). Fixtures are available with colored glass-Sunrise Yellow, Wedgewood Blue, Grass Green and Cobalt Blue, as well as white. UL-listed. **Circle No. 76**

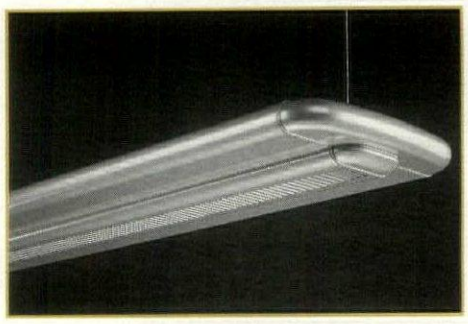
Manning Lighting's Expelite series offers eight different polished-brass pendants and ADA-compliant wall sconces. Fixture Model No. XP-29-30 features a deep, white acrylic bowl with polished brass trim ring. UL-listed. **Circle No. 77**



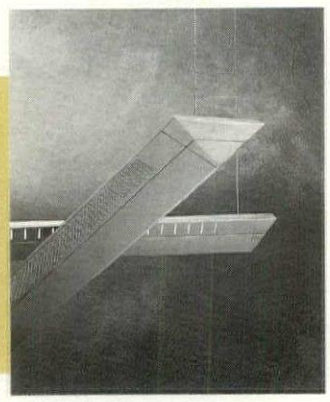
indirect*



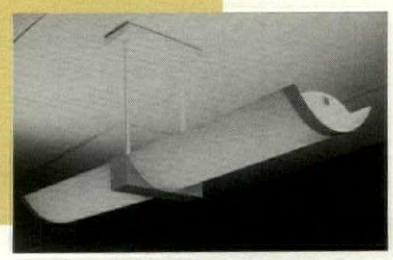
Designed by Neil Poulton, **Artemide's** Surf modular system utilizes electronically ballasted T5 fluorescent lamps. Available in either suspension or wall versions, Surf consists of standard modules of 48-in. (two 28W) or 60-in. (two 35W) lengths in extruded aluminum with embossed polyester powder finish in white or metallic gray. Modules can be joined without special connectors or hardware. Surf's 90-degree corner modules allow for various configurations. UL-listed. **Circle No. 140**



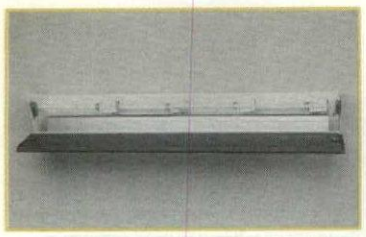
Lam Lighting's RX9 Series of ultra-thin linear fluorescent lighting systems may be specified in indirect and semi-indirect configurations and is available in 4-ft. and 8-ft. lengths with perforated or slotted housing options. A clear acrylic dust cover is also offered. Stems, aircraft-grade aluminum cables or a combination of both allow varying suspension heights. RX9 uses quick-start electronic ballasts and twin T8 linear fluorescent lamps. Various colors offered. CUL- and UL-listed. **Circle No. 141**



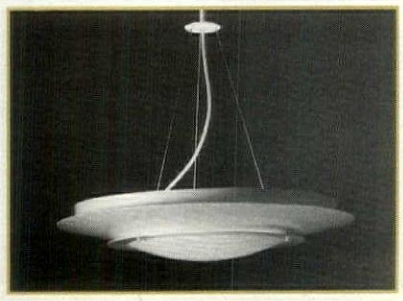
Aviva from **Litecontrol** is a small-scale linear fluorescent lighting fixture designed for T5 lamp technology. The fixture offers efficiencies up to 93.5 percent. A batwing distribution makes row mountings of 15 ft. on center possible. The fixture is available in three versions. UL-listed. **Circle No. 142**



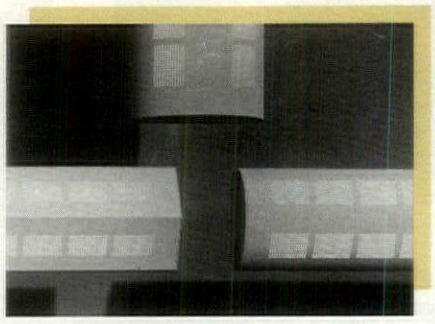
Excelite, Inc. introduces Perfos, a perforated metal fixture that features an ultra-thin curvilinear shape with perforated metal shields and luminescent acrylic liners. Perfos uses electronic ballasts for two or four twin-tube T5 fluorescent lamps. Perfos may be specified as an individual unit or for continuous row mounting. ADA-compliant wall sconce models are also available for horizontal or vertical mounting. Black or white metal finishes. UL-listed. **Circle No. 143**



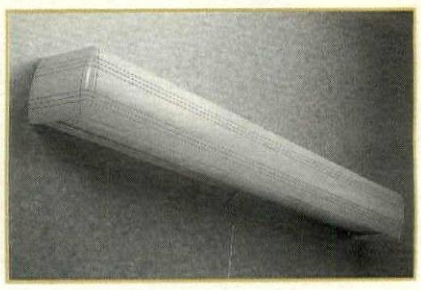
Readi Cove from **Tivoli Industries** uses compact fluorescent and incandescent lamps in straight or end-to-end and side-by-side lamp configurations. Extruded aluminum pre-wired channels snap into modular formed steel housings in modules that connect to fit various application requirements. Fascias may be specified in different styles and finishes. Integral ballasts are available in magnetic, electronic or dimming options. Finishes are uncoated steel gray standard or a white enamel powder coat. Custom colors available. CUL- and UL-listed. **Circle No. 144**



Litecontrol offers Scion, an alternative to linear fluorescent lighting systems. Featuring a precision-tooled steel housing and a low-profile design, Scion produces efficiencies over 80 percent and a batwing distribution. Scion is available in two fully indirect and two direct/indirect versions with four trim options. A choice of lighting options is also offered. UL-listed. **Circle No. 145**

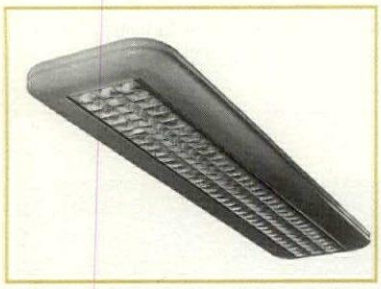


Peerless' Peerlite line of steel indirect fixtures includes the pendant-mounted Aero and Enzo. With a choice of one or two HO T5 lamps, the angular Aero and elliptical Enzo can be placed in low-ceiling areas because of their diminutive size and widespread optical systems. The 9-in. x 3-in. Prima is offered in various configurations of T8 lamping and can be specified as a totally indirect fixture in one-, two- or three-lamp variations for use in normal to high-ceiling spaces. Diminutive HO T5 Cove lighting can be installed in smaller architectural cavities and uses fewer, smaller, high-efficiency lamps. UL-listed. **Circle No. 146**

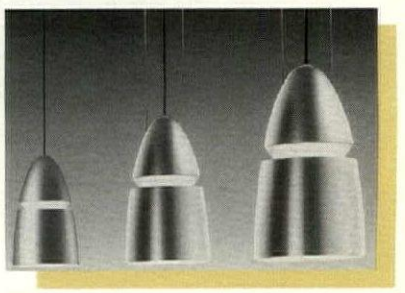


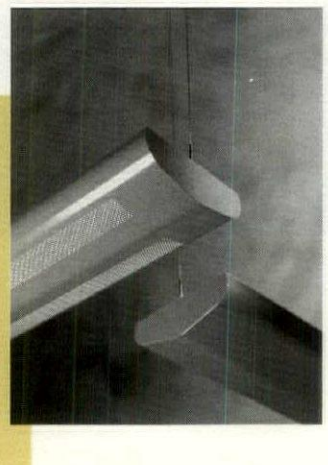
Vista Lighting's Lumiform 7200 Series of hinged-access patient overbed lighting is available in 2-, 3- and 4-ft. lengths and uses linear T8 or T5 fluorescent lamps or biax compact fluorescent lamps. Separated by a removable, high-reflectance divider panel to prevent light leakage, uplight and downlight functions operate independently. The hinged door panel locks fully upright in the open position. An integral ballast assembly is removable with the aid of keyhole slots and a prewired quick-disconnect plug. Various colors and finishes offered. CUL- and UL-listed. **Circle No. 147**

From **Thomas Lighting**, the Adagio 9000 suspended fixture features a 2-in. silhouette and asymmetric distribution, which throws additional light from the side of the fixture. Adagio 9000 is offered with a totally direct, indirect or combination indirect/direct distribution and uses one, two or three T8 lamps. Indirect fixtures are offered with various lens or louver combinations. Available in 4-ft. or 8-ft. lengths, Adagio 9000 may be specified as individual units or for multiple row mounting, with rigid stems or steel cables. UL-listed. **Circle No. 148**



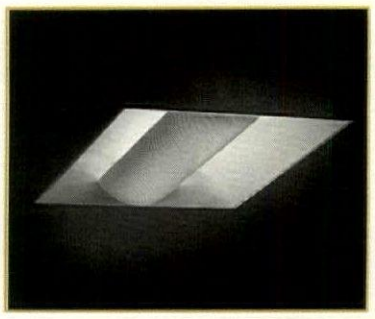
D'ac Lighting's Corcovado indirect/direct pendant fixture is characterized by a one-piece bullet-shaped housing of spun aluminum. A slim reveal, one-quarter from the top of the housing, emits indirect illumination. A round bottom opening features a clear glass lens with an internal reflector system that emits direct-downward light. The fixture is offered with bottom openings of 5, 7 or 10 in. in diameter. Illumination is provided by 150W incandescent, 42W triple-tube compact fluorescent or 70W metal halide medium-base lamps. UL-listed. **Circle No. 150**





Columbia Lighting's Indecon ceiling-pendant fluorescent fixtures provide ambient indirect lighting to minimize glare on VDT screens. Proprietary, built-in "finger aligner" connections allow fixtures to snap together for continuous alignment in even rows. A welded linear structural plate maintains housing shapes and tolerances. One-, two- and three-lamp models are available. Indecon is constructed from 20-gauge steel with a perforated or solid housing. Reflector optics are made of specular anodized aluminum. CUL- and UL-listed. **Circle No. 151**

Luna from **Focal Point** is a recessed indirect fixture producing a broad, diffuse quality of light. Housing measures 2 ft. x 2 ft. x 5 in. and is constructed of one-piece computer numeric controlled roll-formed 20-gauge cold rolled steel. Lamps are shielded by detachable and perforated lamp shields of 22-gauge cold rolled steel. Optional perforated radial louver is also offered. Luna is available in a range of lamp options. The housing and steel components are finished in polyester powder coat in standard matte satin white. UL-listed. **Circle No. 152**



** includes indirect, direct/indirect and semi-indirect*

Effex Wall Luminaires

Wide-Lite proudly introduces the Effex Wall Luminaire (EWL) Series. Though all fixtures are designed for lighting, the EWL proves that truly remarkable luminaires are created for people.

The EWL offers the architect, engineer, and lighting designer a wall mounted luminaire with aesthetics, performance and application flexibility unrivalled in the lighting industry. The EWL's ease of installation, virtually maintenance-free design, and years of dependable service satisfies contractors, facility managers and owners alike. Most of all, patrons and the public are treated to the EWL's unique ability to create a comfortable, often interesting environment.

With the introduction of the Effex Wall Luminaire, the Effex Family of HID Architectural Lighting is now complete. The Effex Precision Floodlights (EFX and EFI) and the Effex Area Luminaires (EAL and EAL-PT) are now complemented by a fixture that provides a high-performance alternative to the traditional "wall pack", in a design that will enhance any architectural setting.

For direct or indirect applications, the EWL is designed for the specifier who will not accept compromises.

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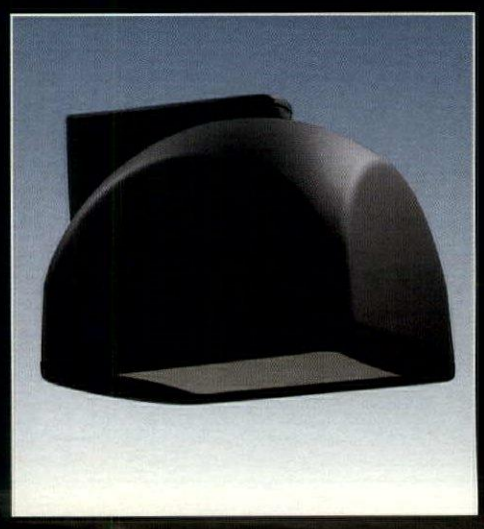
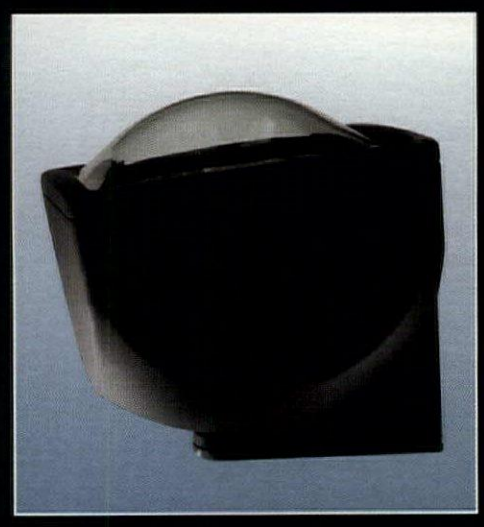
Effex Family





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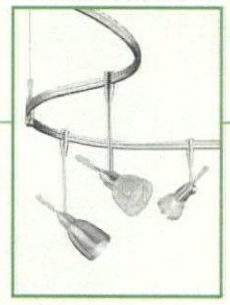
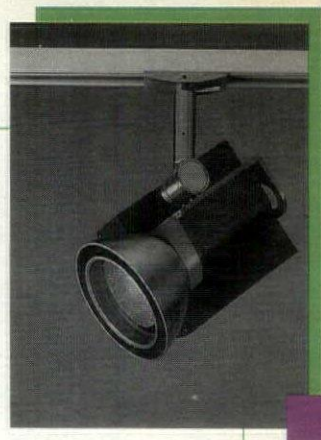
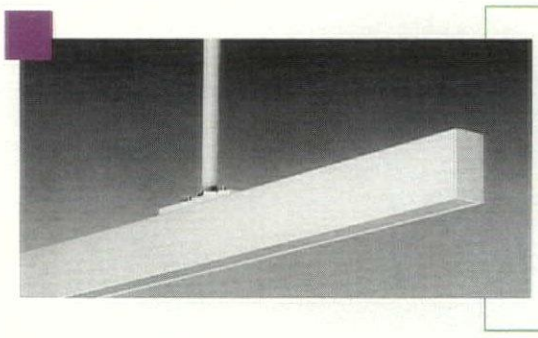
track lighting

Tech Lighting's hand-bendable MonoRail system makes "an elegant design statement by enhancing architectural detail and capturing architectural interest." MonoRail is hand-bendable into simple, linear shapes or smooth curves to enhance or create architectural details. Chrome, gold or satin nickel finishes are available. UL-, ETL- and CSA-listed. **Circle No. 70**

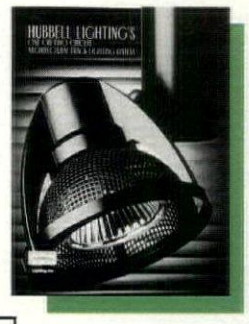




Lightolier's track family Metallics combines new finishes with advanced metal halide lamp technology and OmniSpot, which features a computer-designed symmetrical reflector, a low-voltage, halogen T4 axial filament and a suspended glare cap design. Incandescent versions of Metallics can take PAR lamps ranging from PAR16 to PAR38. Advanced ceramic arc tube metal halide versions, powered by an electronic ballast, take PAR20, PAR30 and PAR38 lamps. UL-listed. **Circle No. 71**

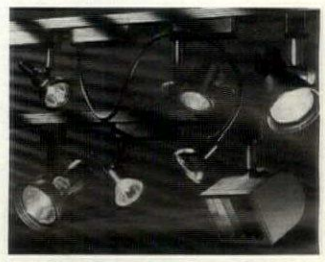


From **Edison Price Lighting,** SightLine-P pendant-mounted track lighting system is an extension of the SightLine surface and recessed track system. SightLine-P can be cut to length in the field and is offered in matte black, white or custom color extruded aluminum. SightLine-P has 6-ft. spans between attachment points. Tracks are hung by 18-in. or 36-in. pendants, with both lengths available in ½-in. or 0.675-in. outside diameter. UL-listed. **Circle No. 73**



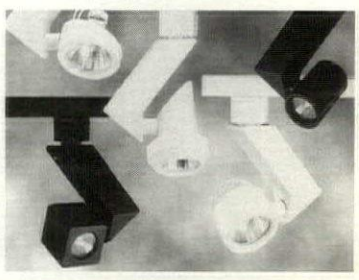
Hubbell Lighting's One or Two Circuit Track brochure includes a design tool kit for creating lighting layouts. The track brochure introduces its four new track families: Designer Series, Architectural Series, Classic Series and Wallwash Series. Information on the benefits of track lighting, light control and Hubbell's two circuit design is presented in an easy-to-read format. UL-listed. **Circle No. 74**

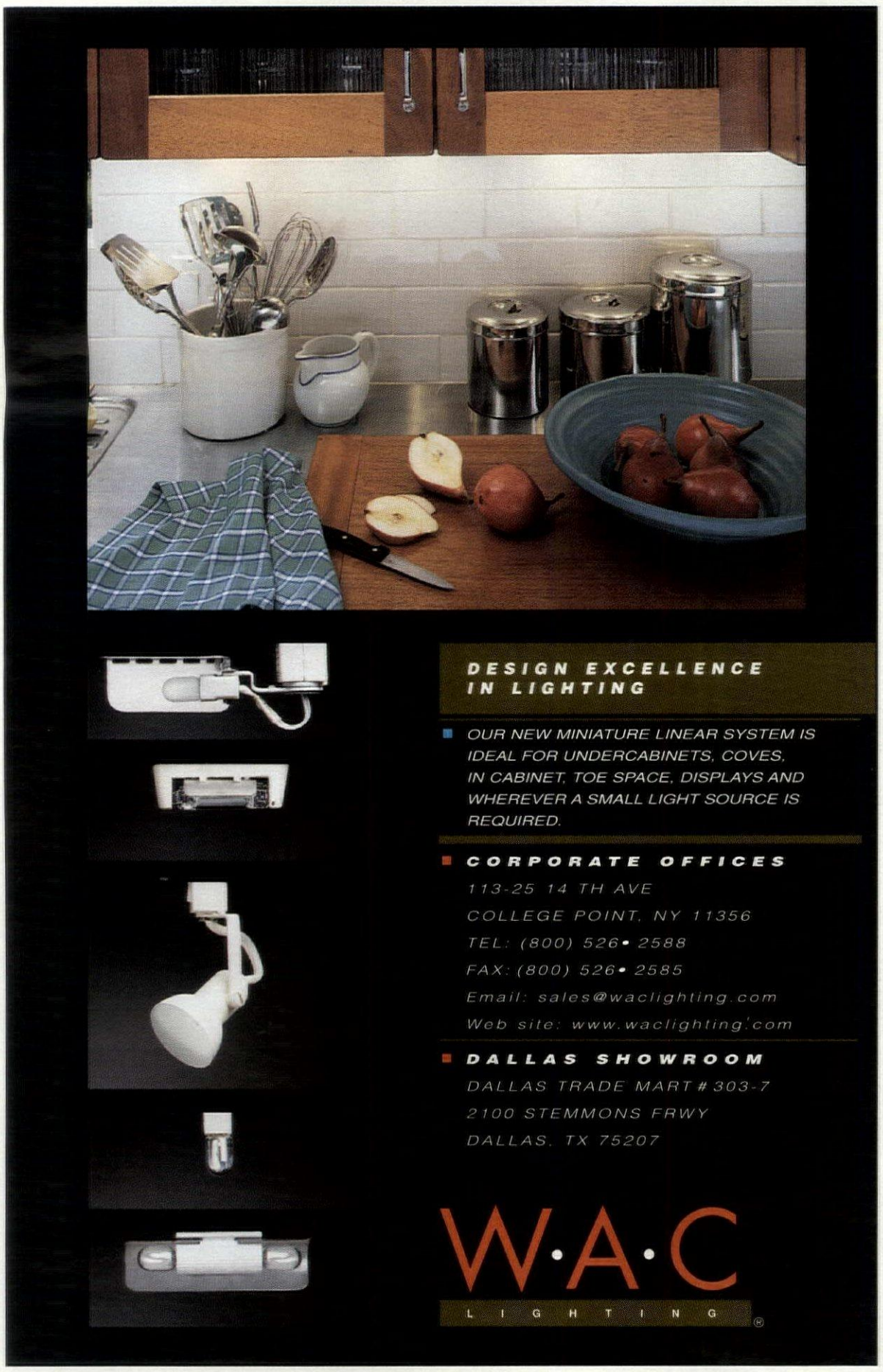
W.A.C. Lighting introduces three new track lighting systems: 2-wire, 3-wire and wide 2-wire systems. Track heads utilize lamps ranging from MR11 to PAR38. Fixtures are offered in a variety of classic designs, and many are available in a choice of finishes: black, white, gold/black and gold/white. ETL-listed. **Circle No. 76**



The Light Notes family of fixtures from **Lighting Services Inc** is composed of line- and low-voltage units and can accommodate lamp types ranging from 20W MR16 to 250W PAR38. Each specification-grade unit is available with a complete range of optional accessories and fixture fittings. IBEW manufactured by LSI in the USA; ETL-listed. **Circle No. 72**

Slant track fixtures from **Juno Lighting** provide tight beam control for accent lighting and disguise an integral electronic transformer within its angular design. The MR16 version is offered in gimbal ring, round back mesh and step cylinder styles. The MR11 version is available in cylinder and cube styles. Finish is black or white. UL-listed. **Circle No. 75**





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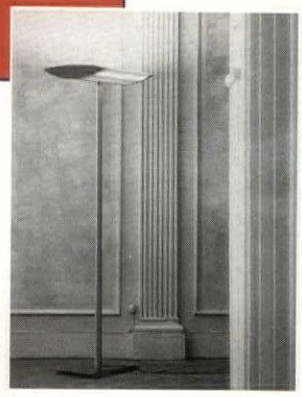
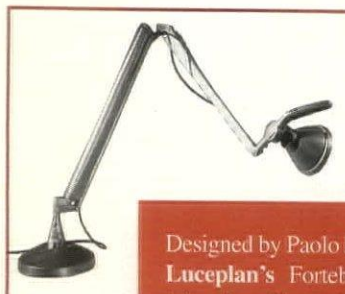
Circle No. 24

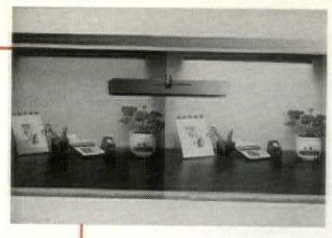
task lighting

Waldmann Lighting introduces the Chorus Uplighter. Freestanding and cabinet top models feature a pedestal base; desk-mounted models come with a clamp for mounting to worksurfaces. Chorus uses four 40WPL-L compact fluorescent lamps with an average rated life of 20,000 hours and rated light output of 3,150 lumens. A three-way control switch, built into the head, lights up two or all four lamps, powered by electronic ballasts. Offered in light gray or black finish with end caps in various colors. UL-listed. **Circle No. 50**





Designed by Paolo Rizzatto and Alberto Meda, **Luceplan's** Fortebraccio features a special joint that allows the outer articulated arm to rotate on two planes, both horizontally and vertically. The fixture's head, which can use incandescent, fluorescent, halogen and fiber-optic sources, terminates in a grip that contains a switch or dimmer. The arms are cast metal. UL-pending. **Circle No. 54**

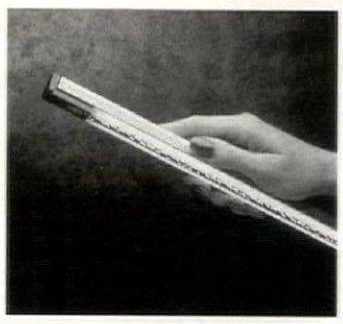


Electri-Cable Assemblies' Dimmer Light uses an energy-efficient T8 lamp source and a rapid-start thermally protected ballast that automatically shuts off in the event of overheating. The task light's housing is fabricated from 20 gauge, cold rolled, electro-galvanized sheet metal with baked enamel finishes in putty and gray; custom-matched tones are also available. Clear acrylic, prismatic lens and full reflector complement the light control and reduce veiling reflections. UL-listed. **Circle No. 51**

The Pro-Lite family of fluorescent worklights from **Alert Stamping** features an adjustable hanging hook that swivels 360 degrees, a built-in on/off switch in the handle and an impact-resistant polycarbonate lens. Changing the fluorescent bulb requires no tools. Included in the Pro-Lite family, Pro-Lite Professional features an adjustable magnetic mounting clip and electrical tap built into the handle. UL-listed. **Circle No. 52**

Roxter Lighting's Cobra II halogen flexible arm lamp uses a long-life-3,000-hour-miniature halogen source. Cobra II features a 22-in. heavy-duty vinyl covered flexible arm and a non-tip weighted base. UL-listed. **Circle No. 53**

Lightfair 1997
New Product Showcase Award Winner



Alkco Lighting offers Slite, a subminiature compact linear fluorescent undershelf lighting fixture with a sleek profile of ¾ in. x 1⅛ in. Slite uses a T2 subminiature linear fluorescent with a computer-enhanced reflector system providing 120-degree, virtually shadow-free light distribution. Offered in fixture lengths of 20½, 24¼, 37¼ and 45¼ in., Slite is available for direct-wired or plug-in installation. Housing is extruded aluminum finished in white powder-coat enamel; other finishes may be specified. CUL- and UL-listed. **Circle No. 55**

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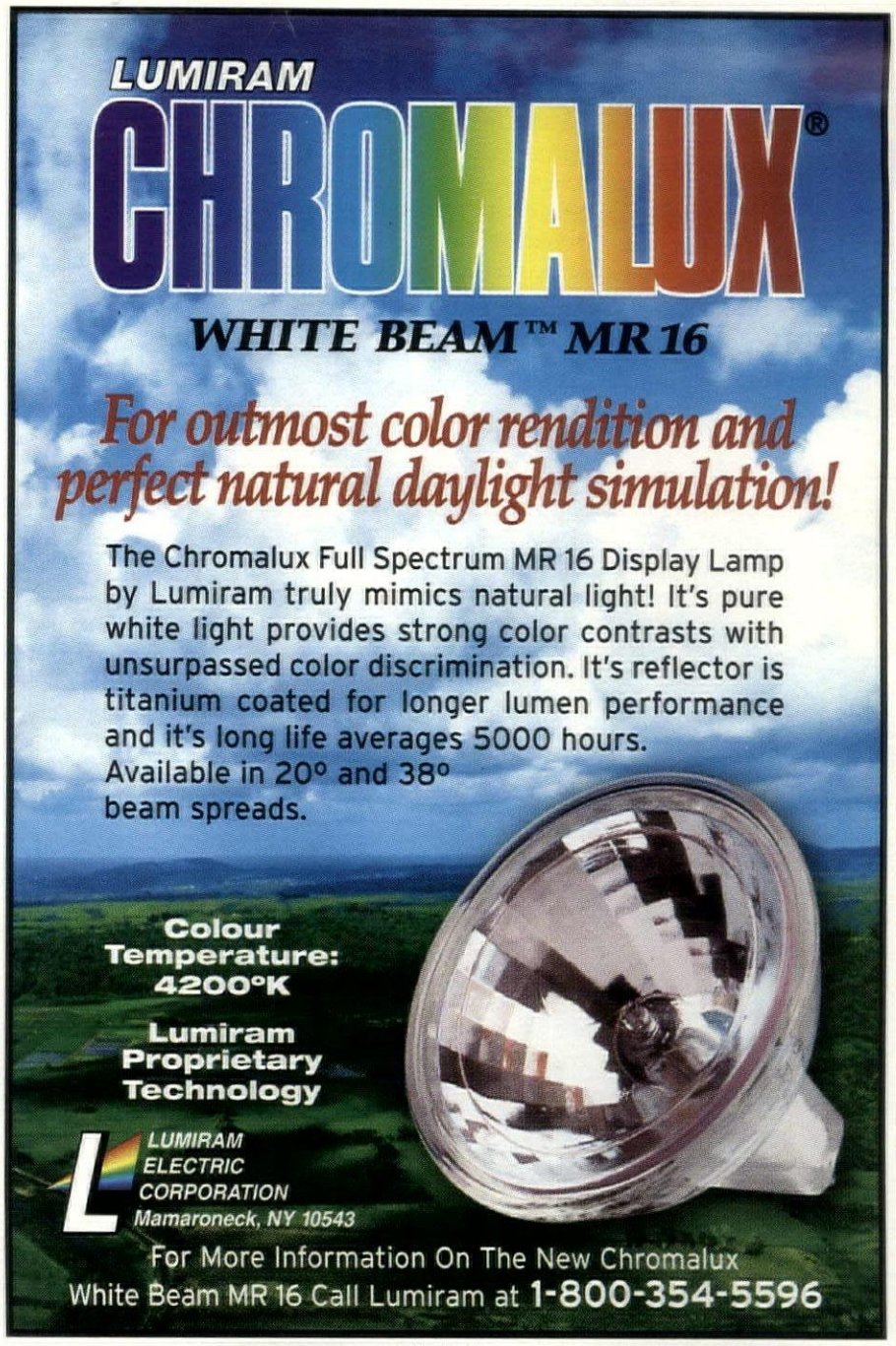
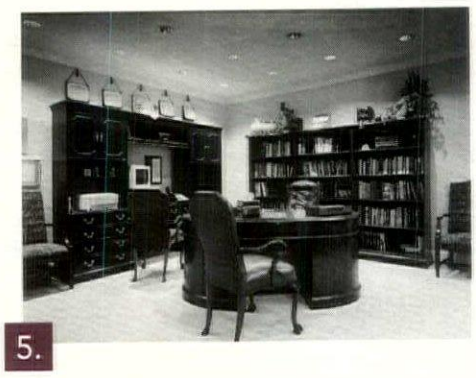
Circle No. 25



Circle No. 26

downlights

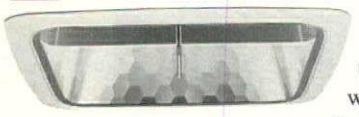


5.

9.

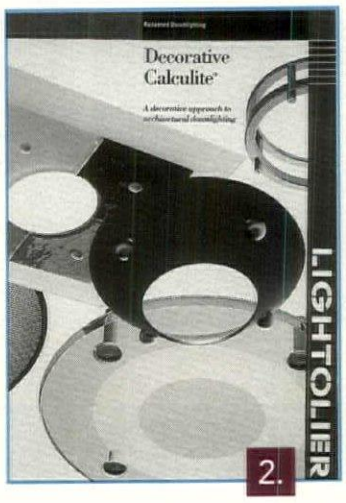
9. With a diameter of 4¼-in., Series-3 from **Con-Tech Lighting** offers mini-recessed die-cast fixtures with 14 varieties of trim. Series-3 also features Star-3, a mini-version of Con-Tech Lighting's Star One series of recessed aimable fixtures. The downlights are created for use with low-voltage MR16 halogen lamps up to 50W. Housing is thermally protected and all metal. UL-listed. **Circle No. 133**

1.



1. Zumtobel Staff Lighting's Quartos downlights and wall washers feature a faceted reflector in specular, matte or white finish. Quartos provides controlled high-lumen output in a compact square aperture. The Quartos line also includes a family of optional decorative accessories. UL-listed.**Circle No. 125**

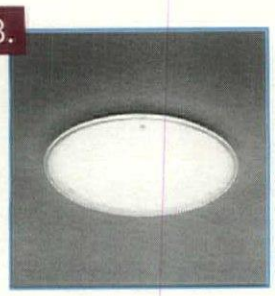
2. Lightolier has released a color brochure detailing its Decorative Calculite product. Decorative Calculite downlights provide "a well-shielded beam with an elegant glow" at the ceiling line. Light reflects from the fixture directly back to the ceiling, smoothing the transition between the luminous fixture and the ceiling itself. The brochure's service section explains how to order standard and custom product options (with lead times). **Circle No. 126**



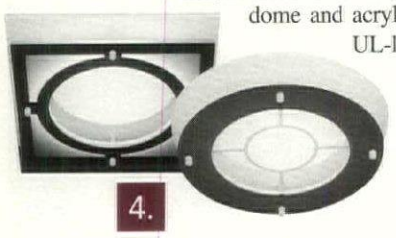
2.

3. From **Advent Lighting,** the AC2000 ceiling mount has an overall diameter of 19 in. and a projection of 1½ in. A common attachment consists of ¾-in. flat buttons. Additional button options include round and rosette. A green acrylic lens with polished edge and frosted inner surface is available. The lens can be changed to accommodate materials that range in thickness from ⅛ in. to ½ in. AC2000 uses a 38W 2D fluorescent lamp with an integral electronic ballast. UL-listed. **Circle No. 127**

3.



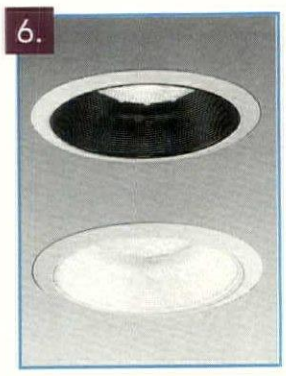
4. From **Prescolite•Moldcast,** the Signos series of 37 decorative downlight trims is offered in round and square models. Signos SQ Series downlights feature a square foundation and may be specified with a choice of metal, glass or acrylic solid square or lattice decorative trims. The SR Series features a round foundation flange and a choice of metal, glass, stepped glass or acrylic decorative trim rings. A glass cone, acrylic dome and acrylic disk are also available. UL-listed. **Circle No. 128**



4.

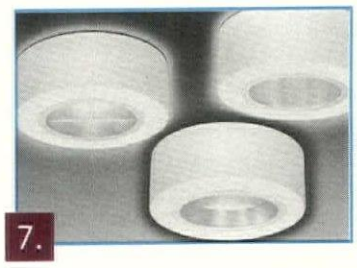
5. Ruud Lighting's R7L series of recessed 6-in. low-voltage downlights is offered with a choice of trims, such as adjustable slot apertures, eyeballs and spots for 358-degree lamp rotation and 35-degree aiming. The 12V 50VA solid state electronic power supply is accessible from below the ceiling. Rigid bar hangars for use in 16 in. to 24 in. OC wood joists or T-bar construction are included and allow the housing to slide along their length for custom positioning. UL-listed for damp locations. **Circle No. 129**

6.



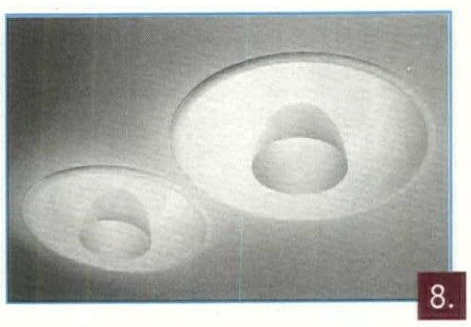
6. Cooper Lighting introduces two coilex baffles for the Halo family of recessed IC fixtures. The baffles, offered in black or white for use with R or PAR lamps, feature a white metal trim ring and are available in a 7¼-in. outside diameter. A third white trim, also for Halo ICT, UICT and ICAT housings, is a socket-supporting Splay Trim that "saves on installation time and the cost of removing socket plate components." **Circle No. 130**

7. Edison Price Lighting's full line of surface-mounted fluorescent downlights and wall washers includes the Baflux and Super Baflux, featuring optical control with low aperture brightness, a patented parabolic reflector and cross-baffle assembly. Lenslux and Super Lenslux are surface-mounted compact fluorescent downlights with 100 percent acrylic regressed prismatic lenses. Diffuse white and Corolux double wall-washing lenses are also available. Duplux features compact fluorescent downlights in four models. UL-listed. **Circle No. 131**



7.

8. Indigo Circle by **Ardee Lighting** is a dual reflector troffer-styled downlight. Indigo Circle's rough-in is constructed from natural-finish galvanized steel. The dish-shaped secondary reflector is powder-coated spun steel to produce a soft diffused light reflection. The decorative trim incorporates an acrylic opal diffuser with a sand-blasted plate glass disk. The functional reflector is offered with aluminum finish or specular anodized finish inside. UL-pending. **Circle No. 132**



8.

10.

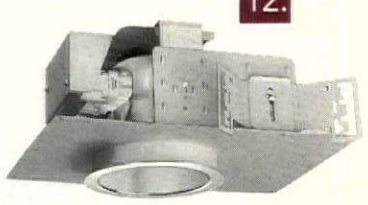
10. Targetti USA's CCT recessed ceiling compact fluorescent decorative downlight and wall-washer line is offered with decorative satin-finish polycarbonate colored trim rings and a choice of flush or "floating" glass lenses. Available in clear or gold finish, the reflector is vacuum-metalized with 99.9 percent pure aluminum for efficiency and durability and features a scratch-resistant hard coating. The 8-in. downlight uses two 13W compact fluorescent lamps; the 10-in. model uses two or three 18 or 26W CFLs. UL-listed for damp locations. **Circle No. 134**

11.

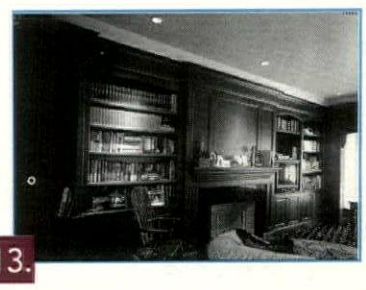
11. Omega Lighting's Omega 4-, 5- and 6-in. downlight and adjustable Ceramic Metal Halide family offers 45-degree vertical adjustment and a full 362-degree horizontal rotation. The family utilizes new technology ceramic discharge metal halide lamps in 35W, 70W and 100W PAR20, PAR30 and PAR38 configurations; single-tap 120V or 277V electronic ballasts are standard. All three apertures offer a di-cast heat sink/socket assembly in the downlight versions. UL-listed. **Circle No. 135**

12. Edison Price Lighting introduces Triplux 126/5, a horizontally lamped 5-in. aperture downlight for use with one 26W triple-tube compact fluorescent lamp. Triplux 126/5 provides optical control with low aperture brightness and offers shielding angles of 35 degrees parallel and 44 degrees perpendicular to the lamps. The recess depth is 6 in. Reflectors are clear natural aluminum or champagne gold, both with anti-iridescent anodizing. Semi-specular clear and other finishes offered. UL-listed. **Circle No. 136**

12.



13. Measuring 5½ in. high and featuring a 3.78-in. aperture, **Prescolite•Moldcast's** LVH41C is a low-voltage downlight that fits into shallow plenum and accommodates standard dichroic or aluminized non-dichroic MR16 tungsten halogen light sources. Various lamp wattages, precision-designed reflector styles and finishes, a range of beam shapes and assorted accessories and trims are offered. UL-listed. **Circle No. 137**



13.

LITHONIA LIGHTING

FLOODS OF OPPORTUNITY

A High performance Architectural Flood Lighting Family

The new 7000 Series

The newest member of the Hydrel 7000 Family of floodlights, **the 7000 Series**, is a compact unit complementing the very successful 7100 and 7200 Series Hydrel floodlights. **The new 70 Watt HID 7000 Series floodlight provides a wide dynamic range of lighting options with new HID, quartz, incandescent, or fluorescent lamps.**

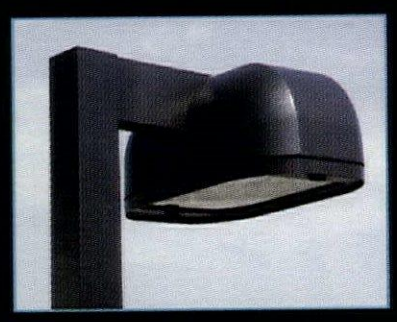
The 7100 and 7200 Series provide power capabilities to 175 Watts and 1000 Watts respectively, with eight standard distributions for each unit. Key features of these three series include: positive sealing, internal glare control, multiple mounting options, and contemporary styling– all **supplementing superb ITL documented performance.**

7000, 7100, and 7200 Series

7801 and 7800 Series

The Hydrel **7800 and 7801 Series,** additional flood family members, are precision luminaires in a **compact, high performance Euro design. To 400 Watts in popular distributions.**

Yoke mounted 1000 Watt 7200 Series with surface mounted ballast



7200 Series pole mount

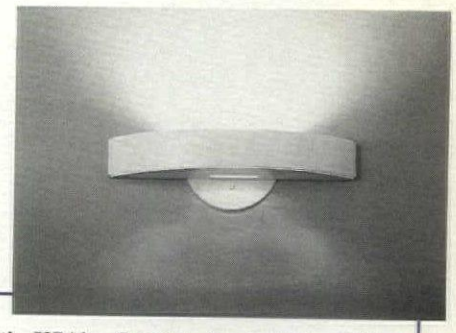
HYDREL
Flood Lighting

Lithonia Lighting
Architectural Outdoor Products
12881 Bradley Avenue, Sylmar, California 91342
Phone 818-362-9465 Fax 818-362-6548
Website www.lithonia.com

Circle No. 27

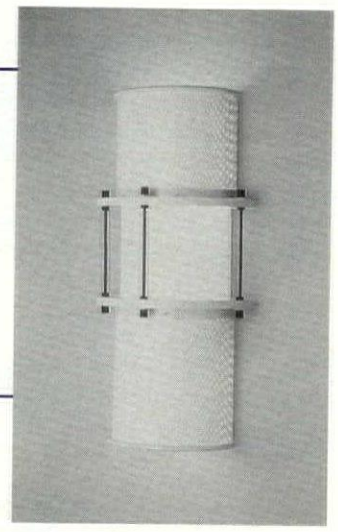
wall/sconces

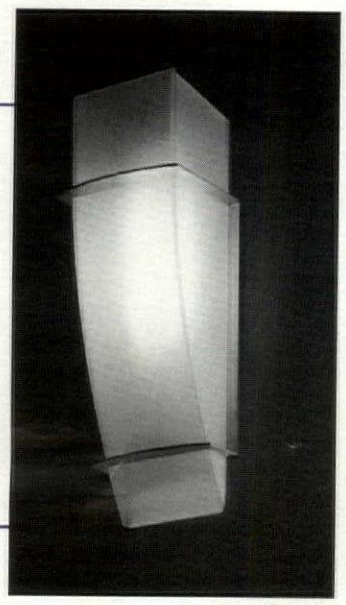
From **Flos USA's** Sud Collection, the Est wall sconce by Rodolfo Dordoni provides both indirect and direct light. The sconce features opal white or amber glass diffusers and an accent filter in clear/blue or clear/amber. Est in opal white is offered with a blue filter that transmits a hint of color through the glass and a blue accent in the base. Lighting options include two 100W incandescent, one 200W RSC line-voltage halogen or two 26W compact fluorescent lamps with a high power factor ballast. UL-listed. **Circle No. 115**



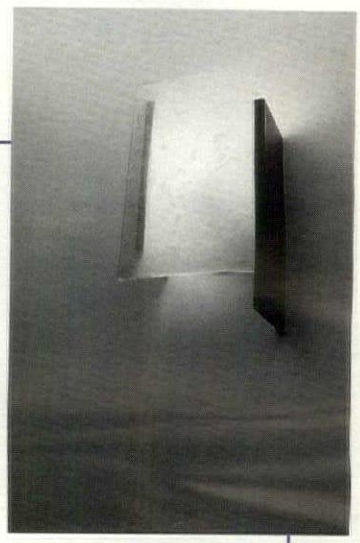
Targetti USA's Spectra is a low-profile direct/indirect halogen wall sconce. The lamp housing is die-cast lacquered aluminum. A computer-enhanced spectral aluminum reflector provides a wall washing effect above the unit. A glass diffuser on the underside of the unit incorporates a multi-layer dichroic lens in green or magenta to cast a downward splash of color. The light source is a dimmable 150W linear halogen. ADA-compliant for maximum projection from walls. CUL- and UL-listed. **Circle No. 117**

Designed by Peter Wooding for **D'ac Lighting,** the LightHouse ADA wall sconce features a vertical cylindrical housing with a curved, close-fitting shade/diffuser. Machined aluminum rings and connecting metal rods join the upper and lower segments of the diffuser; the central segment of translucent opal glass emits light. Upper and lower parts available in perforated and solid aluminum. Fixtures measure 16¾ in. x 8 in. and protrude 4 in. from the wall. CUL- and UL-listed. **Circle No. 116**



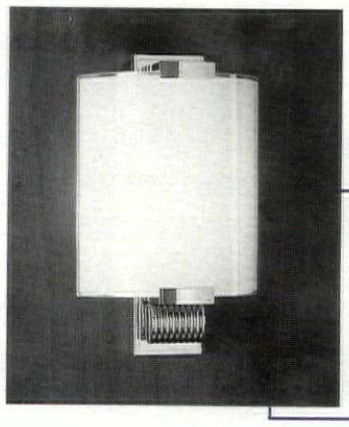


From **Estiluz,** Models A-8070, A-8072 and A-8073 are wall sconces providing direct and indirect light. The sconces feature satin glass diffusers and metal components finished in satin gold or nickel. Wall sconce model A-8070 measures 3⅞ in. x 12¼ in. and models A-8072 and A-8073 measure 8⅝ in. x 12¼ in. All three models protrude 3⅛ in. from the wall. ETL-listed. **Circle No. 118**

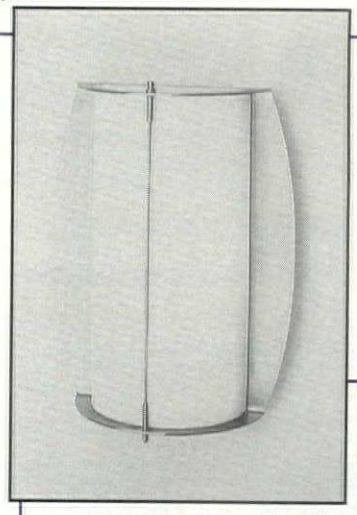


Fire & Water introduces the Frankie Goes Fluorescent series, which was awarded second place in the 1998 International Design Resource Award. The series features an exterior composed entirely of sustainable and recycle materials. Translucent portions are made of 100 percent recycle post-consumer glass, while the solid material is a biocomposite of soy flour and recycled paper. Fixtures use dimmable CFLs with integral ballasts. Table and pendant models available. **Circle No. 119**

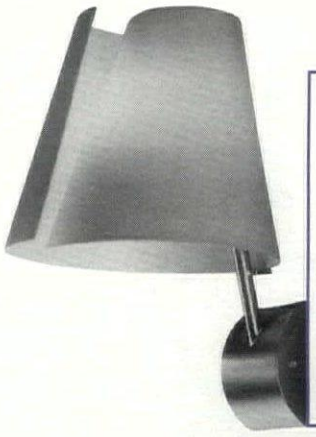
◆ *Not UL-listed. Not recommended for incandescent lamps. UL treats screwbased compact fluorescent lamps as replacement lamps; therefore, fixtures designed for screwbased CFLs must also be able to operate standard incandescent lamps, with which they share bases, to gain UL approval. This fixture has been designed exclusively for screwbased CFLs; therefore, UL listing has not yet been applied for.*



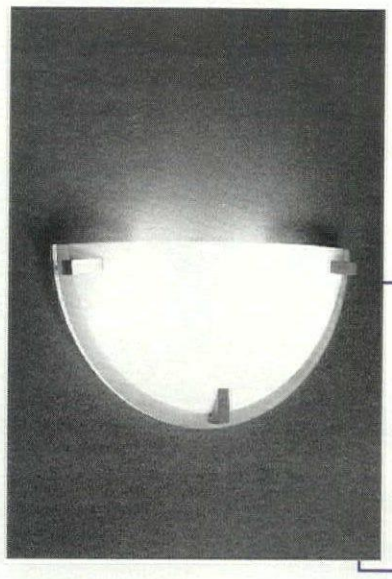
From **Baldinger's** Classic Collection, the LesBois Wall Sconce (Style # CC-2969) measures 8 in. wide x 4 in. deep x 12⅝ in. high. The diffuser is clear acrylic with a white tint and clear border. The fixture is finished in polished nickel and is ADA-compliant. UL-listed. **Circle No. 120**



Nessen Lighting's Cobra is an ADA-approved wall sconce characterized by a curved and flared lamp body with a cylindrical opaque acrylic lens positioned in the center of the fixture. Cobra measures 13 in. long x 9½ in. wide and protrudes 4 in. from the wall. The light source is a compact 32W triple-tube fluorescent, powered by a miniaturized electronic ballast concealed inside the lamp body. The lens is opal or sandblasted white. Various lamp body finishes. UL-listed. **Circle No. 122**



Designed by Roberto Pamio, **Leucos USA's** Linda P sconce contains a brushed aluminum back plate with architectural support tabs to hold the conical Murano glass shade in place. The diffuser is available in satin white, satin amber and satin pale blue. Floor and table lamps are also available. UL-listed. **Circle No. 121**



Advent Lighting's AS3046 wall sconce features luminous opal acrylic lens and a ½-in. thick Duramorphos acrylic half ring. The wall sconce mounts to a standard 4-in. junction box and measures 20 in. x 10 in. Lamping options include two 40W T10 incandescent or two 13W twin-tube bi-pin compact fluorescent lamps. AS3046 protrudes 4 in. and is ADA-compliant. All ballasts are electromagnetic. Various finishes are available. UL-listed. **Circle No. 123**

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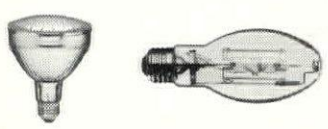
Redder reds. Bluer blues. Chartreusier chartreuses?



Our new Designer Series METALARC™ PRO-TECH™ offers superb color rendering that, while sometimes difficult to explain, is easy to see. Warm, well-balanced, and featuring minimal color shift over its life, it's the more efficient form of white lighting with color characteristics that help make merchandise look its best. And since you'll no doubt want to take advantage of performance like this wherever possible, it's available for both open and enclosed fixtures. For more information on our latest innovation that helps make periwinkle, well, look better, reach us at 1-800-LIGHTBULB, or www.sylvania.com.

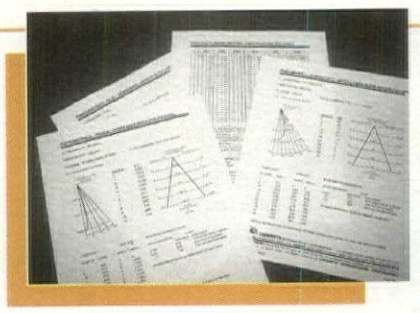
SYLVANIA

BRILLIANT LIGHT™

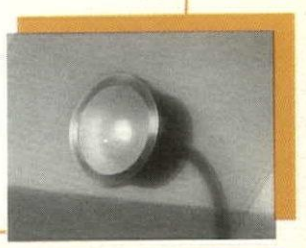
Circle No. 28

fiber-optic

Lumenyte International Corp.'s photometric spec sheets provide luminance and illuminance values, distribution, color shift and other key specification data for its linear-emitting fiber products. The company has also incorporated a new ICON MAP system with its product sheets. **Circle No. 90**

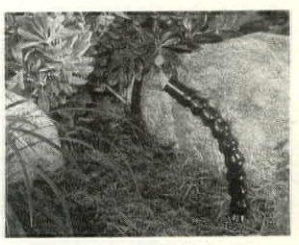


From **Lucifer Lighting Company**, recessed fiber-optic round lighting fixtures provide in-ground, in-wall and in-ceiling illuminance of indoor and outdoor walkways and pathways from a remote light source. The remote light source can be fitted with a color filter or wheel. The fixture operates without electricity and is sealed from the elements. Various finishes available. **Circle No. 91**

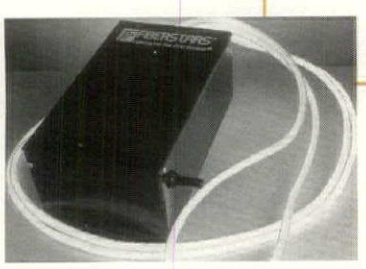


Ultratec Fibre Optic introduces the Medici line of fiber-optic end light fixtures. The fixtures are designed for large core fiber to be utilized in task lighting applications. The fixtures come in a variety of designer styles and finishes. Medici is available in solid brass, chrome and white. **Circle No. 92**

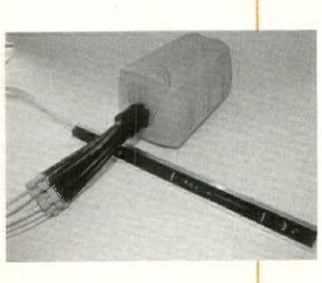
GE Lighting's Lighting Application Bulletin provides an introduction to optical fiber illumination systems, their history, how they work and some of the applications for which they are used. The guide covers light sources such as halogen MR16, metal halide and xenon metal halide. The guide also dissects optical fibers and describes their function. Application concerns are discussed as well as optical fiber lighting systems fabrication. References and resources are listed. **Circle No. 95**



Super Vision International introduces a fiber-optic landscape lighting fixture that provides directional lighting to landscaping. Flexible and weatherproof, the fixture emits no heat. UL-listed. **Circle No. 96**

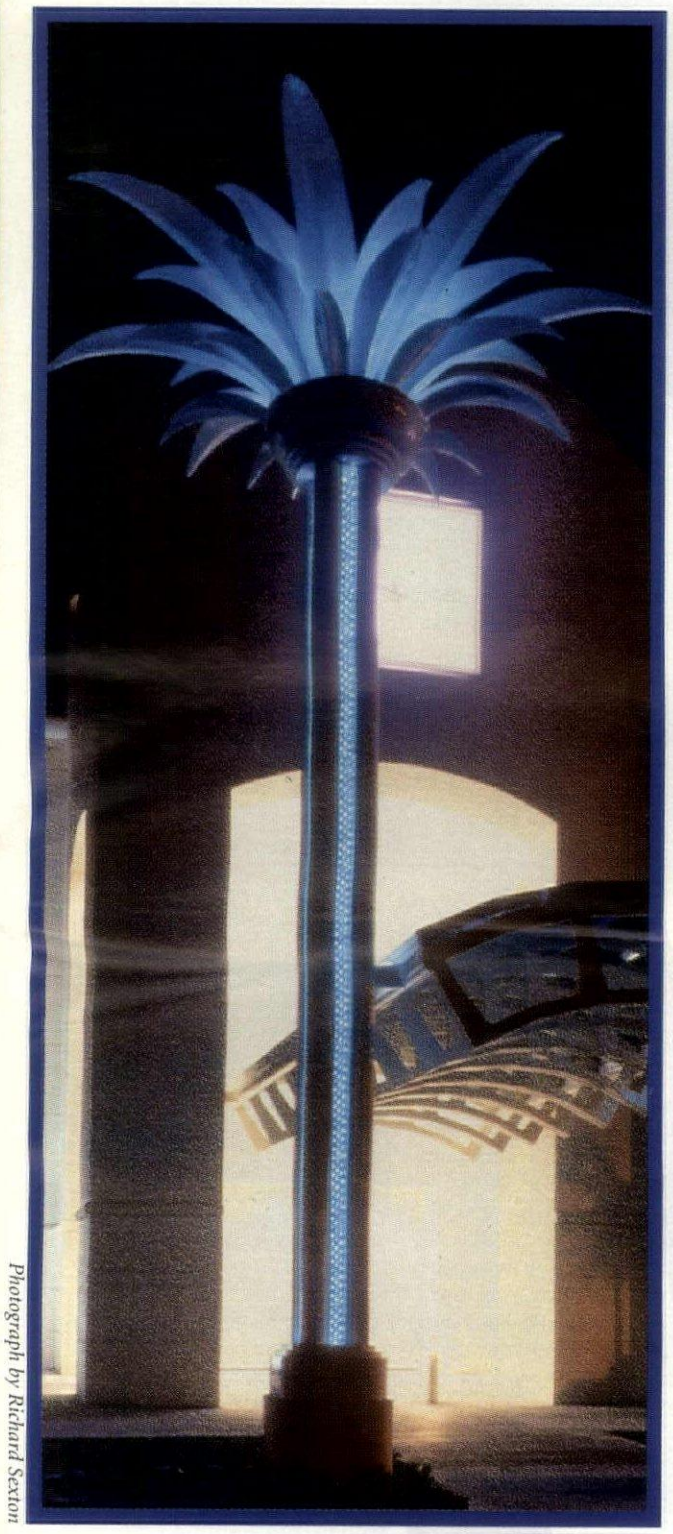


Fiberstars' 601 Illuminator features a 250W metal halide HID light source and a reflector design that ensures more light is directed through the fibers and emitted at the focal point. The 601 capitalizes on Fiberstars' Brite Pak II fiber-optic cable, where fiber-optic strands are bundled and co-extruded with a clear, UV-stabilized PVC outer jacket to create dense tubes. Model 601 features corrosion-resistant, heavy-gauge aluminum alloy housing with a powder-coated enamel. UL-listed. **Circle No. 93**



Unison Fiber Optic Lighting Systems has developed a complete metal halide fiber-optic lighting system that includes end- and side-emitting light pipes, couplers, fixtures and illuminators for interior and exterior retail and commercial applications. Using a system approach, Unison designed each component for compatibility, ease of use and installation and optimum performance. UL-pending. **Circle No. 94**

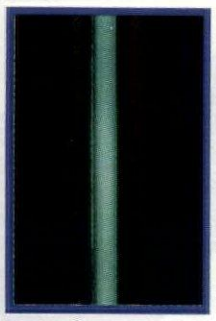
Why Fiberstars Is The Leader In Fiber Optic Lighting. And Why That's Important To You.



Photograph by Richard Sexton

Knowledge & Experience

We're Fiberstars, and we've been the leader in fiber optic lighting for more than a decade. We were one of the original fiber optic pioneers, and have maintained the industry's most aggressive R&D program since the very beginning. We put all our knowledge and experience into each product we make and every order we ship. And it shows.



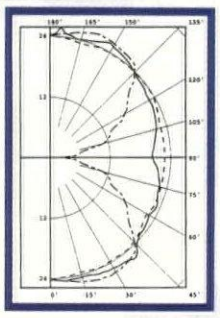
Product Quality

Our patented BritePak® III fiber, for example, is the brightest, most flexible and most durable illuminating fiber ever offered. Its design, based on years of field observation and scores of laboratory tests and evaluations, features a unique, multi-strand configuration. And, unlike lesser fibers, it's made from only the finest, optical-grade material.

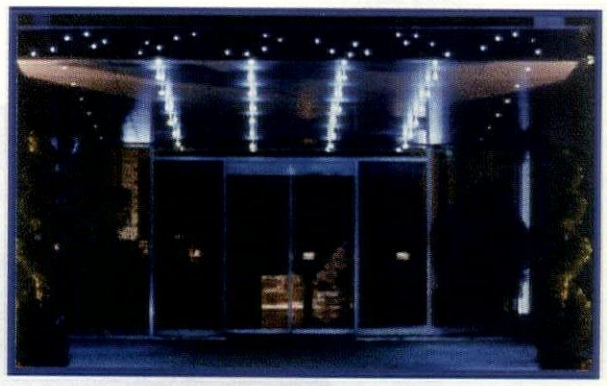
Technical Innovation

Our powerful and efficient illuminators are the products of extensive development. They produce more usable output per watt than competing systems, and also include a host of other unique features, such as the most advanced dichroic coatings available. So they not only produce more light than you'd expect, they produce more pleasing light, too.

Documented Performance



Because we know how important predictability is, we publish independent photometry on every system we offer. We were the first fiber optic lighting manufacturer to independently test our systems and publish the results, and we've consistently led the industry in promoting the advancement of testing standards and procedures. After all, even the best lighting system is of limited value if the designer can't accurately predict its performance.



Unparalleled Support

To Fiberstars, being the industry leader means more than having great products – it also means having great people. From our Customer Service Department to our new Custom Effects Division, we're ready and able to provide the best product and project support you can get. We have the experience and the know-how to help with everything from simple layout advice to directing the installation of the most complex system imaginable. Which shouldn't be too surprising, since we've supplied more fiber optic lighting systems than our three biggest competitors, combined.

The next time you consider fiber optic lighting, talk to the company with the knowledge and experience to make your project a complete success. We're at **1 800 327 7877**, or visit our web site at **www.fiberstars.com**.

Fiberstars®

The Art & Science of Fiber Optic Lighting™

FIBERSTARS

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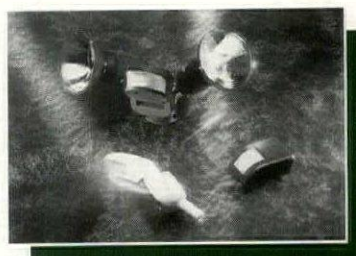
Leadership Is Earned.

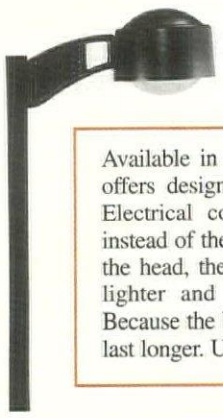
Circle No. 23

outdoor/landscape

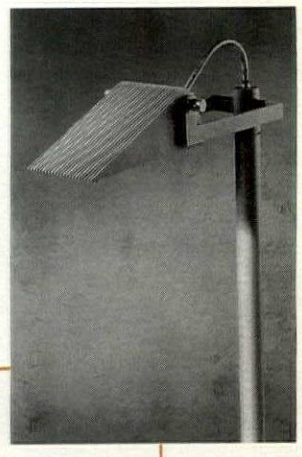
A rugged general application floodlight, the IC Series by **Phoenix Products Company** offers long fixture and ballast life, enduring optical performance and easy maintenance. Optical systems include narrow, wide, very narrow and batwing beam patterns. Available with HID lamps up to 1000W. High-vibration-location option available for demanding applications such as on or near heavy machinery or moving equipment. Meets UL standard 595 and IP65. Hazardous-location option meets UL standard 844. **Circle No. 160**

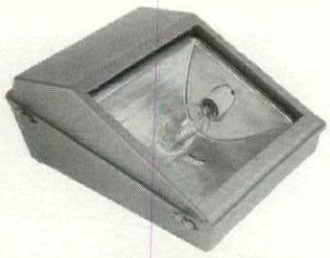


The **Watt Stopper's** new EWF outdoor motion sensors can provide energy savings, convenience and security. The EWF passive infrared (PIR) motion sensors are rain-tight and weatherproof with a UL rating of 773A. They are preassembled with wet location rated lamp holders (UL rating 1571) and are ready to install. **Circle No. 161**



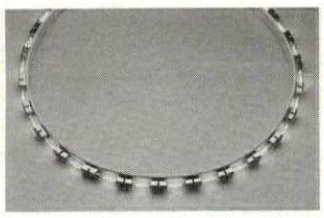
Available in two sizes, **Holophane's** PoleStar fixture offers design flexibility for parking lot applications. Electrical components are located inside the arm instead of the head. With the weight shifted back from the head, the unit is constructed of materials that are lighter and less costly, according to Holophane. Because the ballast can be kept cooler, the fixture may last longer. UL-listed. **Circle No. 162**



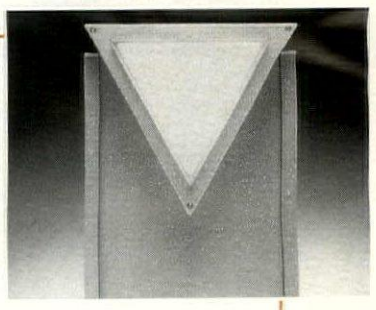


The **Signmaster S1-17** from **Quality Lighting** is a low-profile outdoor sign light incorporating a computer-designed adjustable Alzak reflector system for HID illumination without producing environmentally degrading light spillover or skyglow. The reflector optics are electro-brightened to a semi-specular finish and anodized. Clear, flat, tempered-glass lenses eliminate striations and glare and are thermal- and shock-resistant. Die-cast, low-copper aluminum alloy housings can be mounted at the top or bottom of a sign. CUL- and UL-listed. **Circle No. 163**

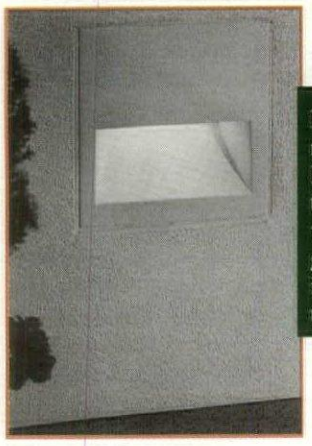
Hessamerica introduces Novara, a series of pole-mounted, bollard, wall-mounted and pendant lighting fixtures, featuring a wedge-shaped fixture head, stainless steel hardware and finned cast aluminum housing to prevent heat build-up. Pole-mounted, bollard and pendant models are available with one or two fixture heads. Pole-mounted and wall-mounted units use metal halide or compact fluorescent lamps; pendants and bollards use halogen or compact fluorescent lamps. Finish is matte silver/gray metallic paint standard; other colors may be specified. UL-listed for wet locations. **Circle No. 165**



Ardee Lighting's Clikstrip for Damp Locations—low-voltage linear striplighting—can accommodate four to 100 incandescent argon or xenon gas-filled festoon lamps. Clear lamp envelopes provide sharp, crisp light, and frosted envelopes provide a softer wash of light. The units feature a low-profile junction box and may be specified with a ½-in. knockout, which allows direct connection to a conduit or connector with an integral Romex connector. CUL- and UL-listed for Class 1 installations. **Circle No. 164**



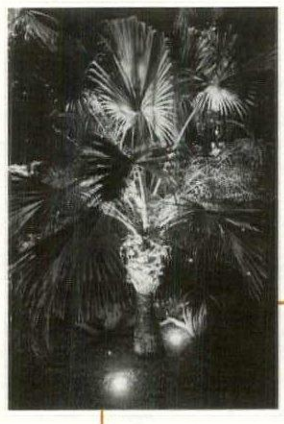
Architectural Landscape Lighting's LL-106, LL-109, LL-111 square-, circular- and triangular-shaped lighting bollards provide uni- or bi-directional landscape area lighting from 30-, 36- or 42-in. heights with single- or dual-sided lenses. Prismatic glass lenses are standard; opal polycarbonate lenses may be specified. 120/277V integrated ballasts provide even illumination from a single 26W or single or dual 13W compact fluorescent lamps per fixture. Fixtures are made of die-cast aluminum with stainless steel hardware. CUL- and UL-listed for wet locations.



Engineered Lighting Products' Hole in the Wall fixture is cast fiberglass reinforced composite for use in exterior stucco or concrete construction. Because the 4⅞-in. deep fixture features a sealed compartment secured into the casting, no metal fixture, lens or lamp image are visible in the normal viewing angle. The compartment is 22-gauge cold rolled steel with a 16-gauge frame with lens. Lamping is available for the 13W PL and a 20W incandescent as well as the 20W, 26W and 27W quad. UL-listed for wet locations. **Circle No. 168**

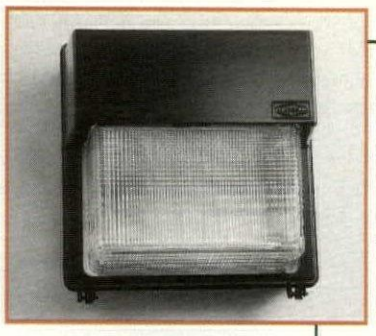
Stonco Lighting's Infrared Motion Activated Floodlights series features an adjustable infrared sensor mounted on the fixture to detect motion in a 110-degree area up to 80 ft. to the front and sides. A 180-degree/65 ft. deep detection area is also available. A dusk-to-dawn photocell automatically deactivates the detector during daylight. A manual override allows for remote setting. 150W twin PAR units are available in white and bronze for mounting on standard wall boxes. UL-Listed. **Circle No. 170**

The Infranor Polaris-12 floodlight from **Sterner Lighting Systems** features a patented arc stream aligner that allows for rotation of the lamp's arc tube while repositioning the arc stream in the optical design center. Other features include nine metal halide and seven HPS beam patterns. The floodlight is available in 250W and 400W versions and 1000W metal halide using a remote ballast box. UL-listed. **Circle No. 169**



The Sealed Wall Light (DU Series) from **Ruud Lighting** is a specification-grade fixture that is watertight, corrosion-resistant and designed for easy installation. Fixtures are available in halogen (MR or PAR) or HID (metal halide, HPS and PAR) models. The DU series is offered in 12V Luma Landscape and 120V line voltage models. Fixtures are covered by the exclusive DeltaGuard 7-year finish warranty. Accessories are available. UL-listed for wet locations. **Circle No. 171**

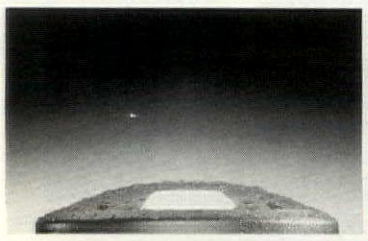
The design of **Ruud Lighting's** Round Bollard (HCD Series) positions the clear, UV-resistant lens on top of the fixture to provide a 70-degree main beam for uniform distribution. Fixture spacings of up to 40 ft. can be easily obtained. The series is available with metal halide or HPS lamps, from 35W to 100W. A 13W fluorescent model is also offered. Styles and shields vary. Fixtures are covered by the exclusive DeltaGuard 7-year finish warranty and available in standard bronze, black, white or verde green. UL-listed. **Circle No. 172**



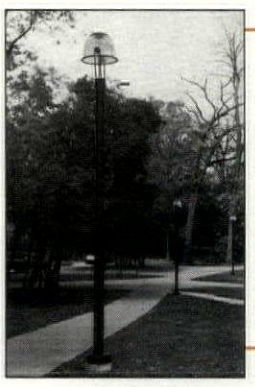
Hubbell Lighting's Perimaliter II Glass PGM and PGL Series exterior wall packs offer wide, uniform light distribution with mounting heights of 12-15 ft. for PGM and 20-25 ft. for PGL. Units can be single or back-to-back post-top mounted. Rated for wet locations, the refractor/door assembly is capable of passing UL 595 marine hose down. PGM is available in 70W, 100W, 150W and 250W HPS and 70W, 100W, 175W and 250W metal halide. PGL is available in 250W and 400W HPS and metal halide. Ballasts are Class H insulated; 60Hz HPF; 50Hz also offered. UL-listed. **Circle No. 173**

The Verticals Series specification area fixture from **Lithonia Lighting** offers a total of four vertically lamped optics, with two that meet IES cut-off criteria. A selection of horizontally lamped optics provides maximum application flexibility. The series consists of round and square housing shapes with design features such as domed tops, accent reveals and optional contrast striping. UL-listed. **Circle No. 174**

Whatley introduces the Dublin Base Cover available in four sizes and produced from one-piece fiberglass composite material. Post heights can range from six to 25 ft., and features include a fluted tapered shaft, polyurethane enamel coating and a 4-year materials and craftsmanship warranty. The Dublin Base Cover exceeds ANSI/NEMA C136.20 national specification and is capable of multiple fixture applications. Various colors available. **Circle No. 175**



The SL-33 by **Architectural Landscape Lighting** is a specification-grade in-ground lighting fixture in low-scale design. Resistant to corrosion and the effects of UV radiation, the fixture may be specified in low-voltage or line-voltage incandescent, compact fluorescent, HPS or metal halide. Flat, convex or ADA "walkover" lenses are available. Other options offered. The fixture housing is constructed of compression-molded RhinoLite composite material. CUL- and UL-listed for wet locations and IP65. **Circle No. 176**



From **Ruud Lighting**, the Prismatic Area Light (K Series) features a dome-shaped acrylic reflector and base-up positioned coated lamp. The fixture produces an IES Type V distribution pattern and is enclosed in a double-strength, clear glass lens assembly. The K Series is available in a wall-mount model and three pole-mount styles. Pole-mount fixtures are standard with 10-ft. steel pole; 8-ft and 12-ft. lengths also available. A HID lamp is included, with a choice of 70-250W metal halide or 70-150W HPS sources. UL-listed. **Circle No. 177**

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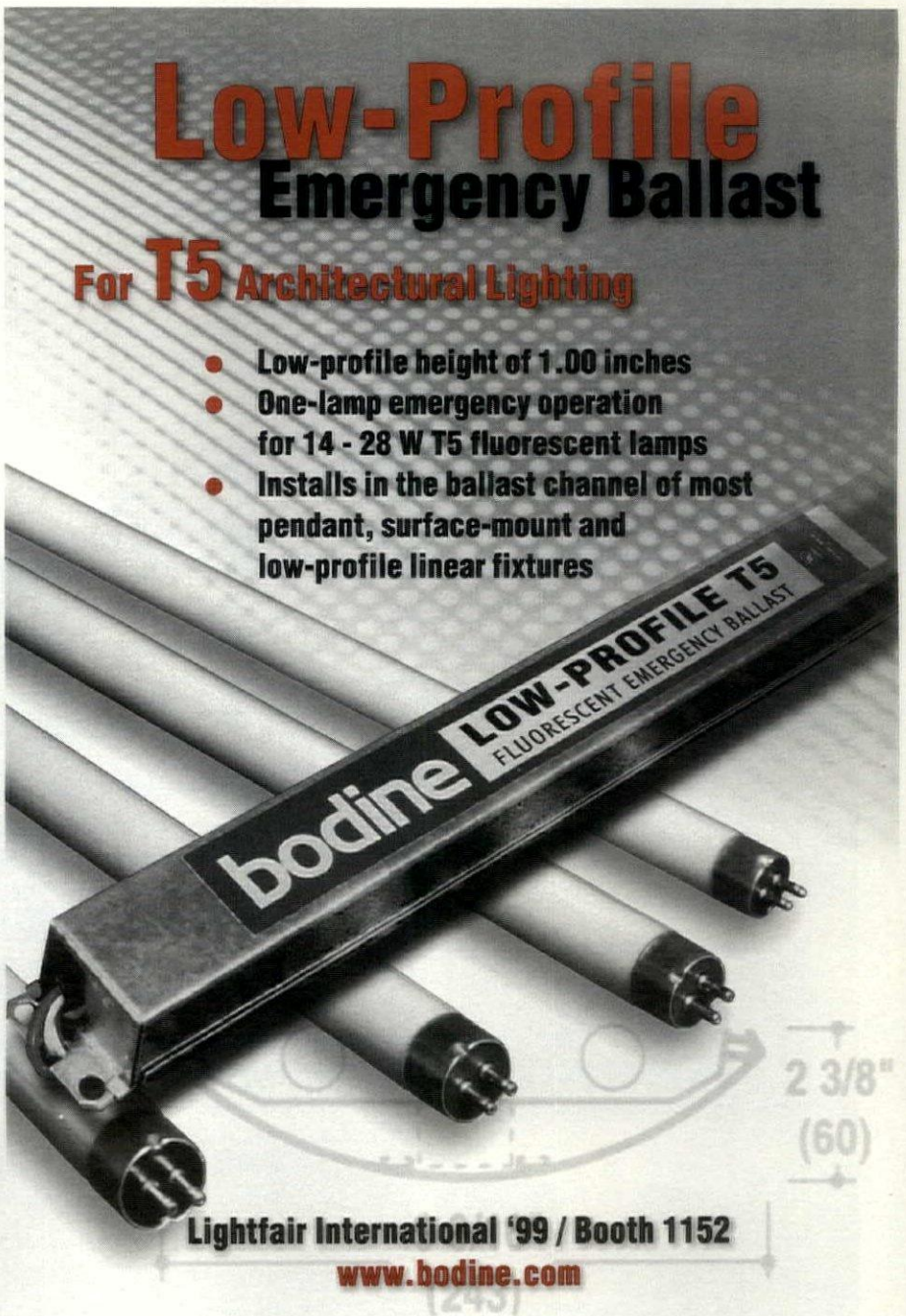
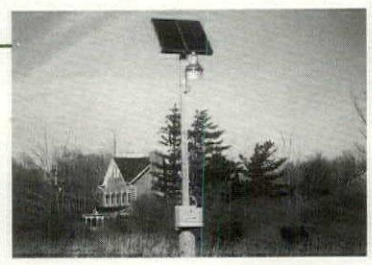
Circle No. 33



Circle No. 32

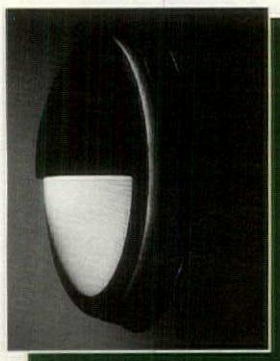
Ruud Lighting's CE2 Series of circular ceiling/soffit mount security lights features an internal reflector and 360-degree shroud to provide precise downward distribution and maximum cutoff. Measuring 8.9 in. in diameter x 8.6 in. deep, the CE2 unit has dual silicone seals, neoprene gasketing and sealing washers. Lamp choices include 50W or 70W metal halide, 35-70W HPS or 13W fluorescent. CE2 is covered by the DeltaGuard 7-year finish warranty and a 5-year product warranty. UL-listed for wet locations. **Circle No. 178**

Cooper Lighting introduces the Westminster series of post top HID fixtures for streetscape illumination. The fixture is offered in standard 120V, but can also be wired to accommodate 208V, 240V, 277V or 480V operation. Other features include tool-less and hinged access to the electrical components and NEMA-type twist-lock photocontrol. Available in Type III or Type V distribution, Westminster offers optional brass banding and finial for additional decorative enhancement. UL-listed. **Circle No. 179**



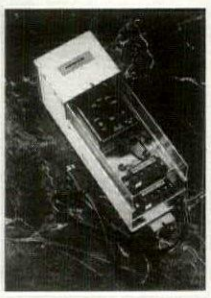
From **National Solar Technologies**, the EN-R-Light solar-powered area security light provides up to 12 hours of light with a three-day backup and requires no wiring. The EN-R-Light system consists of a 50W photovoltaic panel, a rugged lamp assembly with a compact fluorescent bulb or optional HPS lamp, a 12V sealed deep-cycle gel battery and an electronic charge controller. The photovoltaic panel is a polycrystalline silicon cell module with an exclusive encapsulation system. UL-pending. **Circle No. 180**

Architectural Landscape Lighting's SL-30 is an above-ground die-cast aluminum landscape lighting "bullet" fixture. Multi-directional, SL-30 provides aimable lighting and is offered with a standard PAR38 incandescent spot or flood beam and HID spot or flood optics. Fixtures are finished in architectural bronze or custom finishes. Composite ballast housings may also be specified. CUL- and UL-listed for wet locations. **Circle No. 182**



Kenall Lighting introduces Millennium architectural high abuse fixtures, available in a variety of shapes, colors and lamps. Offered in ceiling-mounted or wall-mounted models, Millennium features a closed cell "O" ring silicone gasket and interlocking channels to protect against environmental abuse. The lens base has a concealed stainless steel tamper-proof fastener to lock the starburst lens in place. Other features include vibration-absorbing HID lamp sockets and lamp and ballast positioning away from impact zones. UL-listed. **Circle No. 183**

Hadco's TSS363-13 and TSS663-13 transformers feature weatherproof compartments housed in 300 series stainless steel. The TSS663-13 has molded one-piece clear front for photocell operation. The transformers incorporate HADCO's triple tap output for runs of cable at 11V, 12V or 13V. Euro-board terminal blocks allow for easy low-voltage cable attachment and ½-in. knockouts on each side enable hardwiring or accessory mounting. Magnetic circuit breakers on a low-voltage circuit protect against overload. UL-listed. **Circle No. 181**

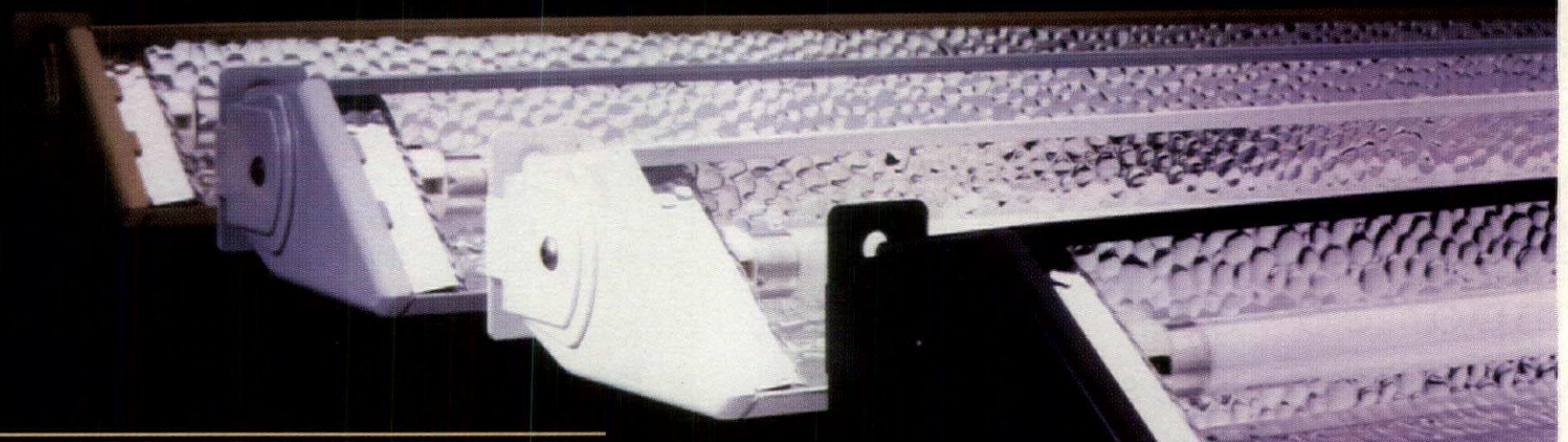


The Martin Exterior 600 from **Martin Professional** features solid weatherproof housing, a convection cooling system, internal ambient light sensor and a motorized zoom ranging from 18 to 45 degrees. The fixture can produce a variety of colors and uses a 575W lamp with fast shutter for instant blackout and multiple strobe effects. Multiple fixtures may be linked together and synchronized with Martin's PC-based ProScenium controller. UL-listed. **Circle No. 184**

From **Architectural Landscape Lighting**, the Baskette AA-101 pole- and wall-mounted pedestrian-level outdoor fixtures are characterized by a large acrylic half-dome lens of clear or opal acrylic with a solid top containing a 120/277V integrated ballast. Cast aluminum bands visually separate the top and bottom and the left and right halves of the globes. Construction is sturdy cast aluminum with stainless steel hardware. CUL- and UL-listed for wet locations. **Circle No. 185**

Compact-5™

Interior Architectural Luminaires - T5 & T5HO Fluorescent



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The Compact-5 is the newest addition to the Insight Lighting family of high performance, aesthetically designed, and integrally ballasted fluorescent luminaires. The Compact-5's distinct architecture, and compact size make it the best choice for any space where innovative looks and lighting performance are a priority. Undoubtedly, the Compact-5 offers today's specifier the new solution to indirect and wallwash challenges, designed with form and function in mind.

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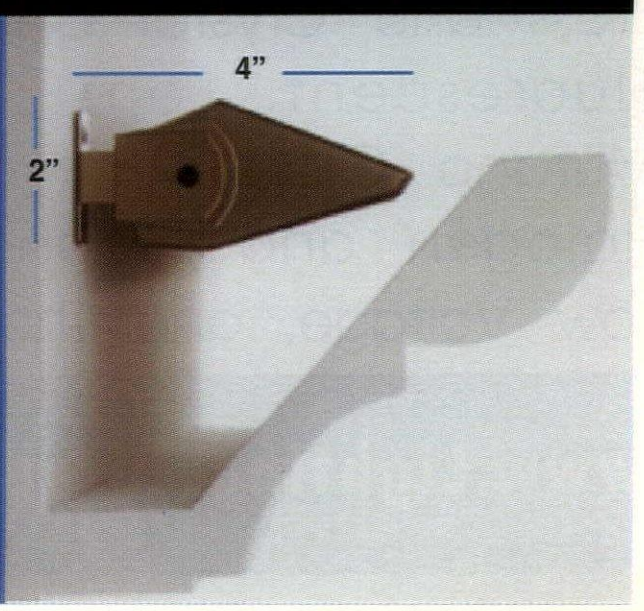
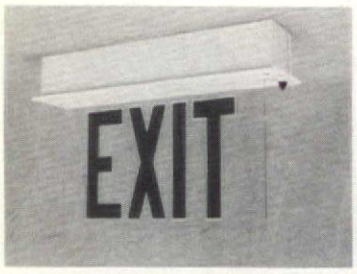


Circle No. 37

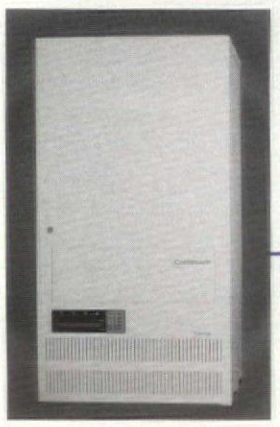
emergency



Big Beam Emergency Systems offers LED exit signs in its popular RXL (AC) and ERXL (Battery Back Up) Series. The etched, clear acrylic, edge-lit panel has silk-screened letters, steel housing and trim plate, and clean, contemporary, architectural-grade styling. They can be ceiling or wall mounted, have recessed or surface housing, and feature a rough-in opening size of 3 in. x 15 in. The Battery Back Up units contain a sealed nickel cadmium battery that offers 3+ hours of illumination in emergency mode. UL-listed. **Circle No. 80**

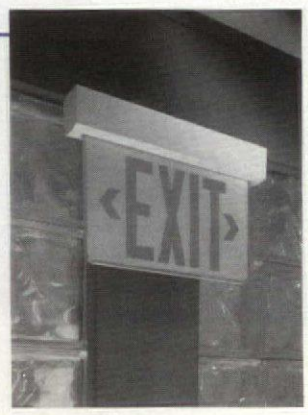
The High-Glow series from **High-Lites** features low-profile energy-efficient exit signage constructed of lightweight injection-molded thermoplastic with a polycarbonate panel for even illumination. Exit signs can be specified in wall-, side- or ceiling-mounted models and use energy-efficient LEDs or cold cathode light sources. AC-only and self-powered/emergency-operation models are available. Self-powered models use a long-life nickel cadmium battery. UL-listed. **Circle No. 81**

From **Bodine,** the B50RCT remote control testing emergency ballast and transmitter can test emergency ballast operation up to 32 feet away. Remote control test sequences offered are the 30-second monthly test or the 90-minute annual test. The emergency ballast is installed inside the ballast channel or on top of the fixture. Each emergency ballast is equipped with an infrared receiver. UL-listed. **Circle No. 82**

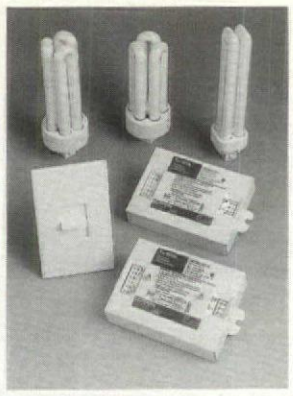


Prescolite•Moldcast's Continuum emergency inverter system provides uninterrupted AC power and can power any range of ballasted fluorescent, incandescent or HID lighting; fire, security and communications systems and other critical voltage- or frequency-sensitive electronic loads. A diagnostic display panel provides audible alarms and visual information displays. A sealed lead-calcium battery with a 10-year life is standard; other options may be specified. The system is contained in a code-gauge, NEMA 1 steel cabinet with a scratch-resistant enamel finish. CUL- and UL-listed. **Circle No. 83**

EEX Edgelit LED Series from **Cooper Lighting** features bright red and green LEDs, no visible hardware and modular in-line connectors between the canopy and housing. Snap-fit canopy allows universal mounting as a ceiling, wall or end unit. Available in clear, white or mirror finished panel backgrounds, the single- or double-face EEX exits may be installed as AC or self-powered units. Self-powered units employ nickel cadmium batteries and solid state switching circuitry. UL-listed, CSA-certified. **Circle No. 84**



lamps, ballasts & controls

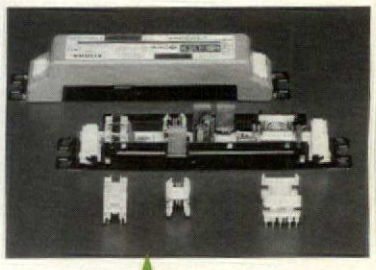


Originally introduced with a ballast for 32W, 4-pin compact fluorescent lamps, **Lutron Electronics'** Tu-Wire line now includes ballasts for both 26W, 4-pin triple and quad-tube compact fluorescent lamps. Tu-Wire electronic fluorescent dimming ballasts use only two wires for power and control and provide architectural dimming for compact fluorescent lamps down to five percent light. UL-listed. **Circle No. 191**

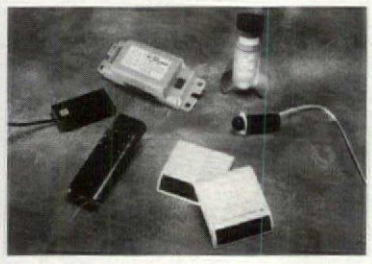
Philips Lighting introduces ExhibitPAR halogen lamps, designed to create a smooth round beam and to be used with standard line voltage fixtures. Rated for an average life of 5,000 hours, the lamps are fully dimmable when used with low-voltage dimmers. The lamps offer a CRI rating of 100, a 2900K color temperature in 20W PAR20 and 3500K in 35W PAR38. UL-pending. **Circle No. 190**

The CS-200 from **The Watt Stopper** is a personal desktop controller that combines dimming control for overhead lighting, plug load switching and occupancy sensing. Part of the IRC family of integrated control products, the CS-200 utilizes a control-without-wires design that provides "a new level of flexibility." Features include selectable presets; it is designed to be easily integrated with building automation systems and other lighting control systems. **Circle No. 192**

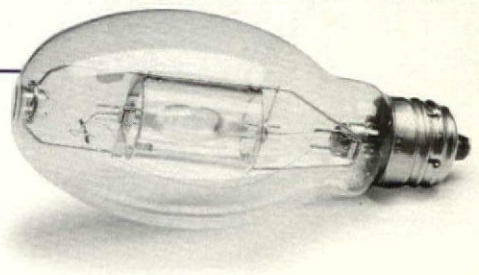
Motorola Lighting's electronic ballast uses transformer coil bobbins molded from DuPont Rynite brand PET thermoplastic polyester resin. The bobbins withstand operating temperatures of 212°F, are not significantly affected by changes in humidity and also resist potential damage during handling and automated winding. As a result, the ballasts offer higher efficiency and increased light output, according to Motorola. UL-listed. **Circle No. 193**



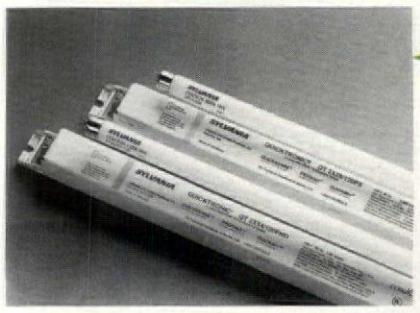
From **The Watt Stopper's** IRC family, TW-2 two button wall mount and TW-6 six button transmitters turn lights on and off. TW-6 also adjusts light levels and sets lights to a user-adjustable minimum or maximum level. TH-6 is a hand-held transmitter. The RM-1 ceiling mount receiver cell receives signals from an IRC transmitter and sends them to the IRC-1 control module. The RM-2 connects to an Isolé power strip and controls the strip's outlets based on commands from transmitters. **Circle No. 194**



Venture Lighting introduces UV Shield lamp, a metal halide lamp that shields UV light to prevent the yellowing of fixture lenses. The lamp features a treated quartz shroud that minimizes yellowing. According to Venture, a UV Shield extends the life of a polycarbonate fixture lens 6-10 times longer than a non-UV Shield lamp and "will not cause merchandise to fade." UV Shield lamps are available in 50/70/100/150/200/350/400W. **Circle No. 195**

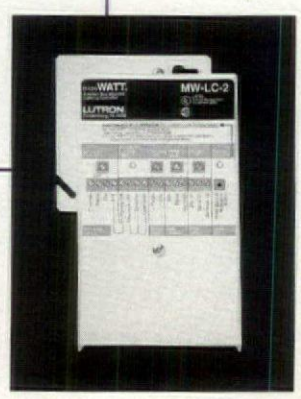


Osram Sylvania's Capsylite IR PAR38 lamp features parabolic aluminized reflectors and a spiral lens pattern designed to work together to provide smooth beam performance. A focused tungsten halogen capsule and improved optics enhance the efficiency of the reflector system by maintaining maximum lumens in the beam. The lamp is available in 60W flood (30 degrees), narrow flood (25 degrees) and spot (10 degrees). **Circle No. 196**

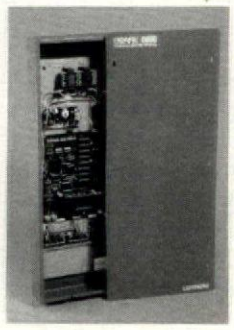


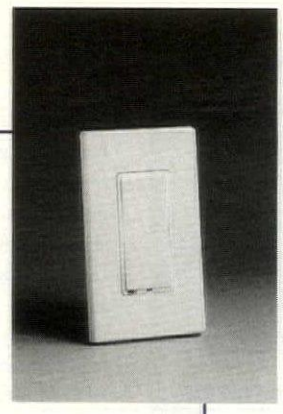
Osram Sylvania's Pentron and Pentron HO T5 (⅝-in. diameter) linear fluorescent lamps are available in 3000K, 3500K and 4100K color temperatures and feature a CRI rating of 82. Both lamp types provide 95 percent lumen maintenance over life and are rated for an average rated life of 20,000 hours. Providing peak output at 35°C, the lamps are matched with new high performance Quicktronic electronic ballasts. The Pentron and Pentron HO lamp family includes a full range of lengths and wattages. **Circle No. 197**

Lutron Electronics' microWATT lighting controller features microprocessor-based design and internal programmed logic, enabling microWATT to integrate intelligently multiple functions-manual dimming, daylight harvesting, occupant response and inputs from building automation and security systems. UL-listed. **Circle No. 198**



Designed for large commercial facilities and residences, **Lutron Electronics'** GRAFIK 6000 system consists of a central control panel and one for more field-configurable digital dimming panels typically located in an electrical closet. Touchbutton wallstations or hand-held wireless remote controls allow users to access the system. System design, setup and monitoring are accomplished via menu-driven personal computer Windows-based software provided with each system. UL-listed. **Circle No. 199**

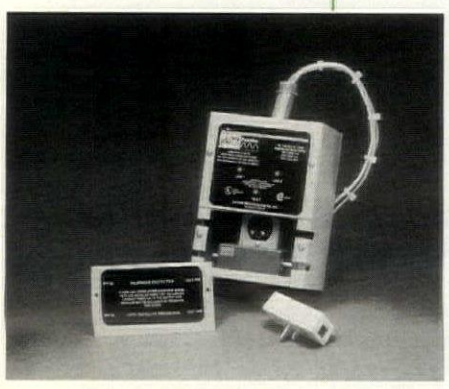


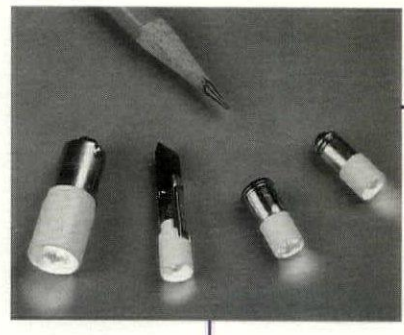


Leviton's DHC High-Wattage Dimmer Module (Cat. N0. 6343) controls high-wattage loads in DHC-equipped homes and offers local and remote dimming control for one or more lighting loads with a maximum capacity of 1000W. The module features Intellisense advanced circuitry for performance reliability and can be used with incandescent and magnetic low-voltage loads in both single-pole and three-way applications. UL-listed. **Circle No. 200**

The Light Bat from **Mytech Corporation** features an occupancy sensor and dimmer module for a dimming solution that is designed to easily attach to HID lamp reflectors or to the ballast box hanger enclosure. The occupancy sensor dims the light to half power when it senses that an area is unoccupied. A spreadsheet calculating potential lighting cost savings from using the Light Bat is offered at no cost. UL-listed. **Circle No. 201**

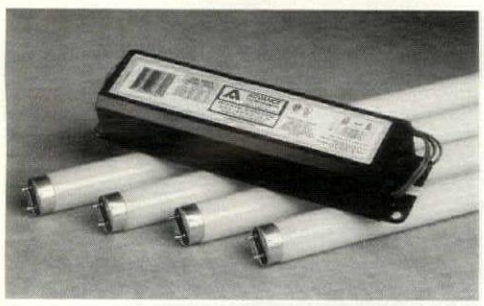
The Multimedia Residential Surge Suppression Panel Mount Device by **Leviton Manufacturing** provides surge protection for utility AC power lines, telephone and cable/satellite TV systems. Modules with internal fuse links protect telephone and cable/satellite lines. The unit uses RJ-11 connector terminations for phone systems and Type F connectors for cable/satellite TV systems. LED indicators show protection status for each protected AC line. CSA-certified. UL-listed. **Circle No. 202**



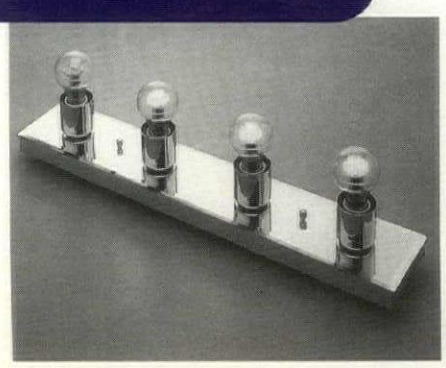


Lamp Technology's series of white single chip LEDs provide white light with an average of 400 mcd for more than 10 years. The LEDs are resistant to current in-rush and generate minimal heat. LEDs are offered in rugged-based assemblies to provide protection against shock and vibration. Standard bases include midget groove, midget flange BA9S, T5, 5K and T5.5. **Circle No. 203**

The Bi-Level Switching Electronic Ballast from **Advance Transformer** is designed for use in three- and four-lamp fixtures utilizing F32T8 and F25T8 lamps. The ballasts are available for operation on 120V and 277V systems. The standard light switch allows the user to save energy and adjust light levels by shutting off two lamps in a four-lamp fixture and one lamp in a three-lamp fixture. The ballasts will operate linear and U-bend 32W T8 lamps. UL-listed. **Circle No. 204**



LEDtronics introduces DecorLED, based on LED technology. Available for 15W and 20W incandescent replacement, the lamps are designed for 100,000 hours of life, and are resistant to shock, vibration and temperature extremes. DecorLED consists of a cluster of 18 LEDs, either in a multi-directional or uni-directional package and use high ambient-intensity color LEDs. Various colors offered. **Circle No. 205**



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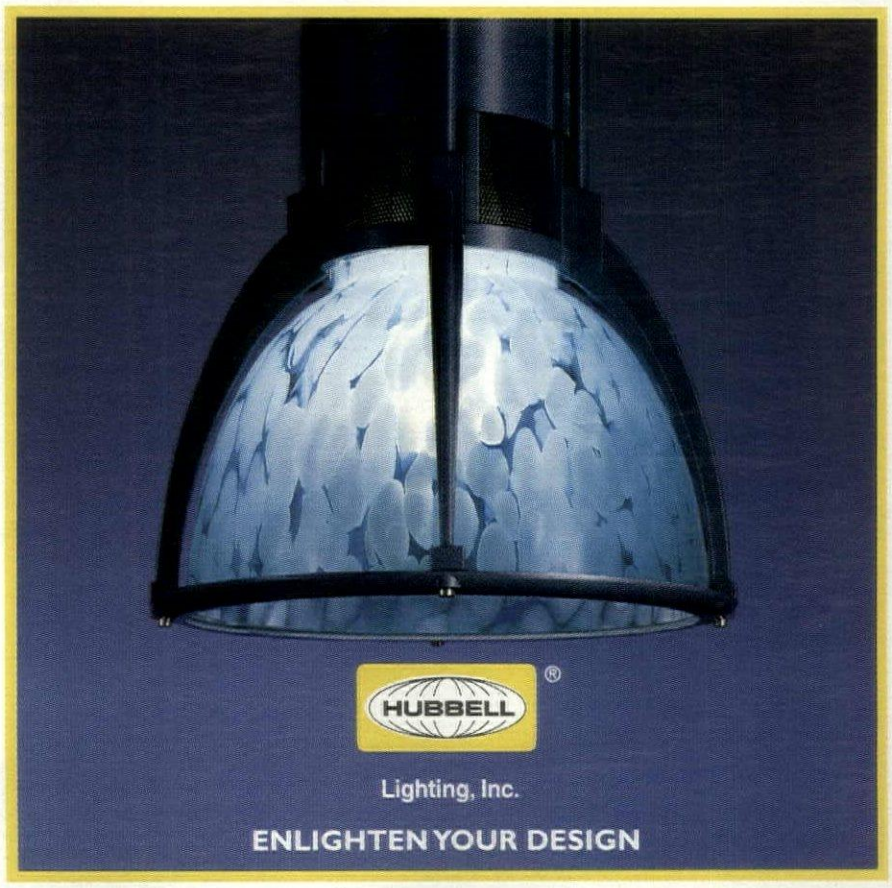
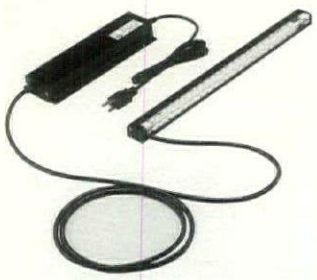


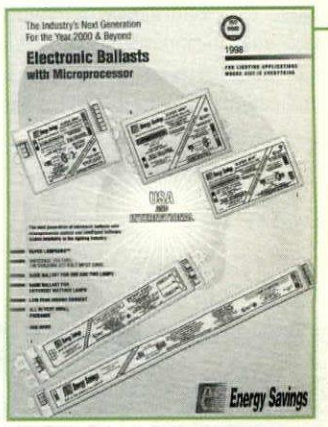
Circle No. 35



Häfele's sub-miniature fluorescent light features a flicker-free electronic ballast specially designed to operate sub-miniature fluorescent lamps. The ballast uses Quicksense technology, in which the patented circuitry in the ballast shuts down the system when the lamp reaches the end of its life. The lamps have pure tri-phosphor coating, which provides a CRI rating of 80. UL-listed. **Circle No. 206**

LiteTouch's 5000 LC lighting control system includes a rack mount design feature, which enables homeowners to upgrade their system by inserting additional programming cards. Built-in terminal blocks allow the installer to set up the control station and wiring without bringing microprocessor components into the work area. Other features include an integrated power supply, fail-safe backup and a party mode, which prevents unwanted lighting changes during special events. CUL- and UL-listed. **Circle No. 207**

Energy Savings Inc.'s catalog covers products for the U.S. and international market, excluding Europe and Japan (a separate catalog is available for Europe). Detailed information on the Generic Instant T8 model, a specification-grade product, is also enclosed. Most of the products are microprocessor controlled with Super LampGard and Universal Voltage (UNV) 120-277V. **Circle No. 208**



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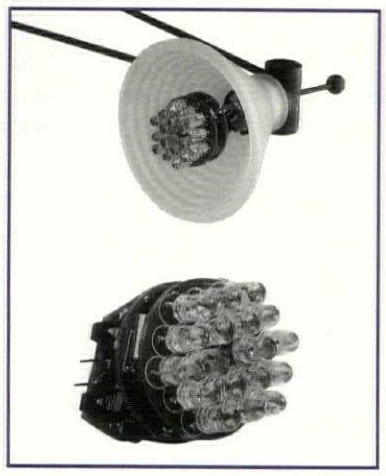
Architect: Richard Pollack & Associates
Photography: John Sutton 199, SF CA

Circle No. 9

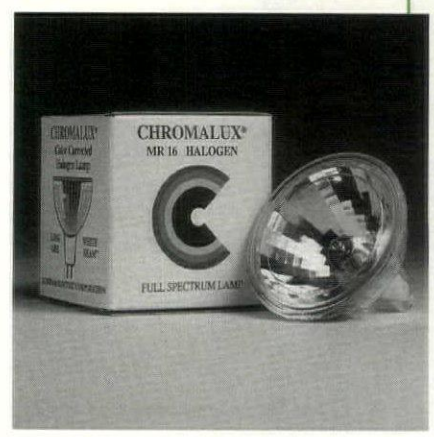
Advance Transformer has added "small can" designs to its Standard line of electronic fluorescent lamp ballasts. The new ballasts operate one- or two-lamp, 120V or 277V systems. The ballasts measure 1.7 in. x 1.18 in. x 9.5 in. and are designed for parallel lamp configuration. Performance features include a thermal potting compound, which results in a low maximum case temperature of 70°C, a power factor greater than 97 percent and THD below 20 percent. UL-listed. **Circle No. 209**

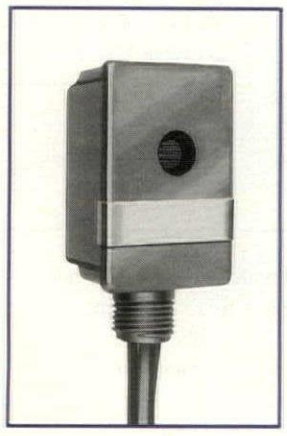
Pass & Seymour/Legrand offers multiple location touch dimming capability as part of its full-line of Lumaspec dimmers. Available from 600W specification-grade models to 1500W extra-heavy models, Lumaspec allows users to dim the full rated load of the master from up to six locations by using up to five remote units. A touch turns lights off or returns them to a preset level. Longer touches dim or raise lights. The Multiple Location Dimming System utilizes standard 3-way wiring. UL-listed. **Circle No. 210**

Color Kinetics' CMR18 plugs directly into low-voltage MR11 and MR16 fixtures to provide creative lighting options using standard installed fixtures. Measuring 1.25 in. in diameter x 3 in. in length, CMR18 rounds out the Chameleon Series, which can generate a range of 16.7 million colors using its on-board intelligence. The series can be DMX or PC controlled. UL-listed. **Circle No. 211**



The Chromalux White Beam MR16 halogen lamp from **Lumiram** has a color temperature of approximately 4200K and is designed to perform for an average of 5,000 hours. The lamp is made of pure Neodymium glass to cut down much of the yellow emission of the spectrum, resulting in brighter colors as well as increased black and white contrasts. UL-listed. **Circle No. 212**

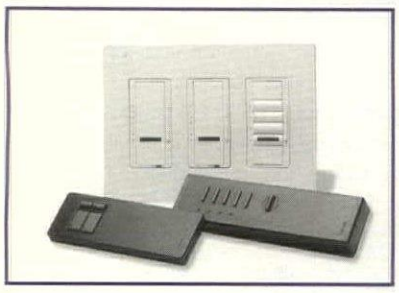


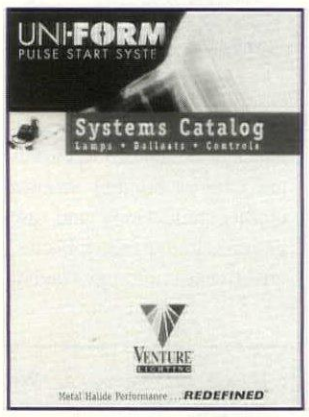


Precision Multiple Controls is offering its T Series photocontrols in a rugged die-cast aluminum housing. The T Series turns outdoor lighting on at dusk and off at dawn in applications where vandalism or abuse is a key concern. The controls are rated at either 120V, 208-277V, or 480V and feature a heavy-duty thermal switch providing a 15-second time delay. The series has a 2000 VA load rating that comes with 6 in. of color-coded lead wire. UL-listed. **Circle No. 213**

MagneTek has developed two electronic metal halide HID ballast models. The 70W and 35W metal halide ballasts are small, lightweight electronic lamp ballasts designed to provide enhanced color control, lower ballast losses and operate single- and double-ended lamps. UL-listed. **Circle No. 214**

From a hand-held remote control or a wall-mounted master control, **Lutron Electronics'** Spacer System can create and recall multiple lighting scenes or one favorite scene. Two different remote controls are offered, both with an off button and a master raise/lower control. The four-scene hand-held remote control is useful where more than one lighting configuration is desired, and the favorite-scene hand-held remote control recalls one preset scene for a specific time or activity. UL-listed. **Circle No. 215**





The new 36-page, four-color Uni-Form pulse start catalog from **Venture Lighting** offers a display of optimized metal halide systems for a variety of applications. The catalog is devoted to the broad line of customized Uni-Form pulse start products, including advanced metal halide lamps, ballasts and controls. The catalog discusses the pulse start technology, its features and benefits, and provides exact specifications on pulse start options. **Circle No. 216**

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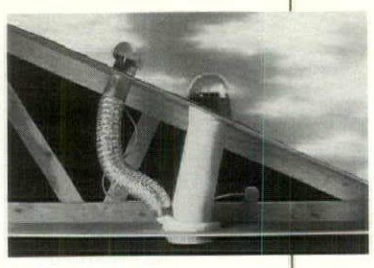
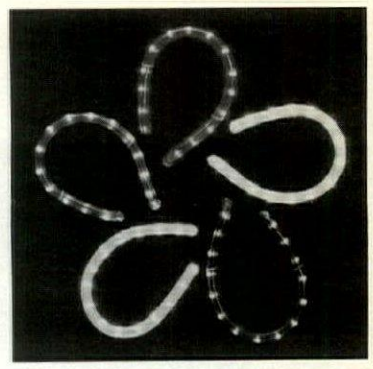
Circle No. 36

other

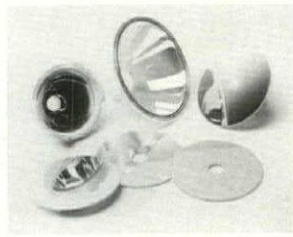


Solatube International Inc. introduces a new model for the 10-in. Solatube that incorporates a ventilation system and an electric light. The three-in-one unit integrates the benefits of natural daylight with high-performance ventilation. Featuring a fan motor set at roof level for quiet operation, the unit moves up to 150 cubic ft. of air per minute. UL-listed for use over bathtubs and showers when connected to a 100V 15A GFCI-protected branch circuit. **Circle No. 100**

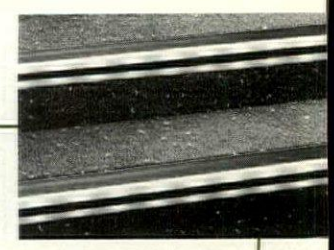


W.A.C. Lighting's rope lighting features a flexible PVC solid core tube. Unbreakable and shockproof, the line is repairable in the field and UV-stabilized. Rope lights come in diameters of 0.51 in. and 0.39 in. in blue, green, red and yellow. Rope lighting is available in lengths of 30, 150 and 300 ft., 120V with a lamp life designed to reach 30,000 hours. A 120V controller controls blinking of up to four runs. Other accessories available. UL-listed. **Circle No. 102**

The Studio Color 250 automated wash fixture from **High End Systems** is designed to complement the company's Studio Spot 250. Fitted with full CYM subtractive color mixing plus an independent fixed color wheel, Studio Color 250 offers a spectrum of dichroic color. Studio Color 250 also features full variable beam shaping. CETL-, CE- and ETL-listed. **Circle No. 101**

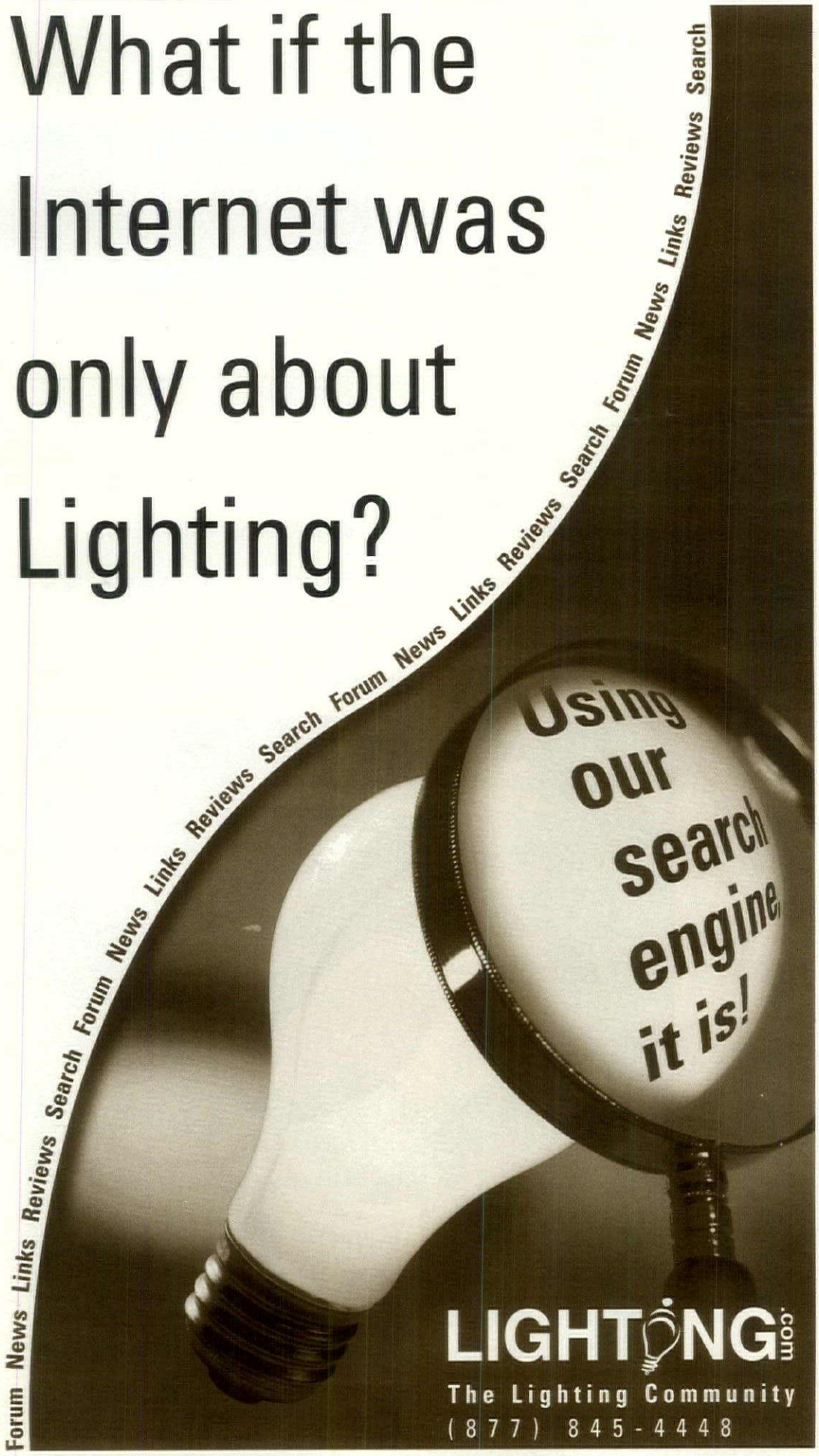


Deposition Sciences Inc.'s custom cold mirror and color filter coatings for high temperature applications are produced through a patented MicroDyn microwave-assisted sputtering process, which yields thin films with a heat handling capacity in excess of 1,300°C. Applied directly to part of the curved envelope of a HID lamp, the cold mirror coating acts as an integrated reflector; color filters can alter output spectrum. The coatings are useful for glass and ceramic reflectors used with high intensity sources. **Circle No. 106**



Tivoli Industries' Lumitred glare-free illuminated step lights feature scuff-resistant, translucent nonskid tread material, which is exclusive to Tivoli. Concealed integral wireways run power from one step to another. Lumitred is available in a field-cuttable option or in precut and wired individual steps. Lumitred uses low-wattage and low-voltage replacement lamps with a 25,000-hour average life span in a range of spacings. An LED option and electro-luminescent version are offered. UL-listed. **Circle No. 103**

What if the Internet was only about Lighting?



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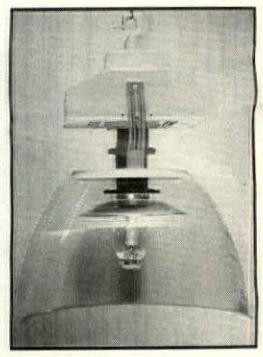

Stonco Lighting's line of dual reflector HID fixtures is available in metal halide models that range from 175W to 1,000W, with HPS units offered at 250W and 400W. The inner dual reflector system can be adjusted during installation to drive light downward or to concentrate the light. The fixtures are equipped with spun aluminum or acrylic prismatic outer reflectors and HID power packs. The CWA ballast assembly is contained in a die-cast aluminum housing, and capacitors are nested within integral outboard pods. UL-listed. **Circle No. 104**

From **Columbia Lighting** and **Prescolite-Moldcast**, LitePro software is formatted to run on Microsoft Windows 95 or Windows NT. Features include point-by-point indoor and outdoor lighting calculations, such as vertical and horizontal illuminance, wall and ceiling exitance, slope and peaked ceilings and exterior building shadowing. LitePro produces high-quality renderings and uses three-dimensional color graphics to illustrate job sites and provide feedback on the effectiveness of project layouts and design. **Circle No. 107**

Based on Microsoft Windows 95, **MicroLite's** Lighting Management Software 95 provides the computer technology for MicroLite's 1000 Series Lighting Controller to enable management of complex lighting control applications using "point-and-click" actions. The user-friendly system can be set up and reconfigured without specialized training in programming. Once operational, the system uses graphic indicators to supply information on the status of loads, grouped loads and alarm functions. Various options available. **Circle No. 105**

ad index

ADVERTISER	PAGE	CIRCLE NO.
kco Lighting	12, 13, 19, 46	12, 14, 20, 225
rchitectural Landscape Lighting	16, 17	17, 19
rdee Lighting	16, 17	16, 18
odine	37	32
oyd Lighting Co.	4	4
avis-Muller	COV 3, 46	38, 226
liptipar Inc.	1, 46	2, 227
berstars	35	23
uy Esberg & Co.	29	25
essamerica	13	13
ubbell Lighting	41, 43, 46	35, 36, 228
ydrel	31	27
sight Lighting	38	37
I Lighting Group, Inc.	14-15, 46	15, 229
am Lighting	12	11
exaLite International Corp.	8	7
ghtingStoreUSA Inc.	37, 46	33
ghting.com	44	
ghtolier Inc.	COV 2, 46	1, 230
thonia Lighting	COV 4, 46	39, 231
umenton	46	232
umiere Design & Mfg., Inc.	34	29
umiram	29, 46	26, 233
Lutron Electronics Co., Inc.	9, 46	8, 234
Luxo Lamp Corp.	18	41
MagneTek Inc.	46	235
Manning Lighting	39, 47	34, 236
The Original Cast Lighting	4, 47	5, 237
Osram Sylvania, Inc.	33, 47	28, 238
Peerless Lighting Corp.	21, 47	21, 239
Prescolite Lighting	6-7	40
Robertson Worldwide	23, 47	22, 240
Ruud Lighting, Inc.	3, 47	3, 241
SPI Lighting Inc.	42, 47	9, 242
Ushio America, Inc.	5, 47	6, 243
Visa Lighting Corp.	11	10
W.A.C. Lighting	28, 47	24, 244
Wide-Lite	27	30

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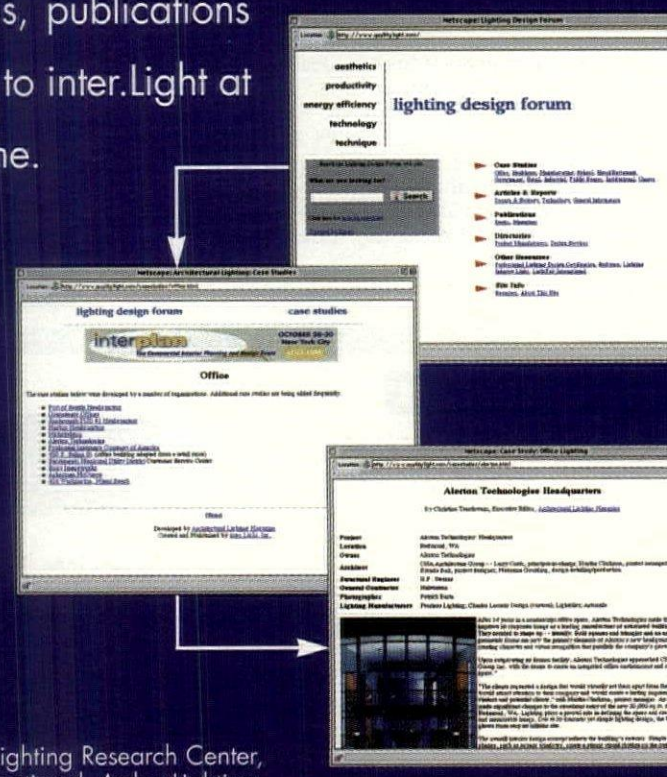

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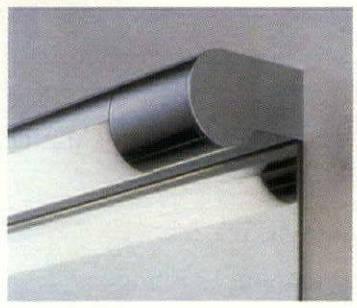
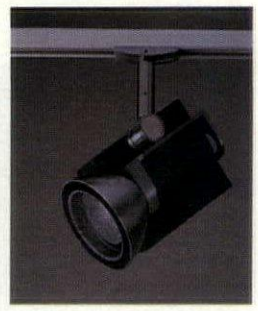


Tableau rotatable over-mirror fluorescent lighting features a pure 2⅛-in.-diameter cylindrical housing that extends 3⅝ in. from the wall. Illumination is provided by a single T8 linear fluorescent lamp that projects light equivalent to six 25W incandescent lamps. Tableau can be rotated 120 degrees for precise aiming. Constructed from aluminum extrusions with die-cast end caps, Tableau is available in polished chrome or white. **Circle No. 225**

Lightfair booth #725

Lightolier

Phone: (800) 215-1068



Lightolier's new track product family, Metallics, redefines track lighting with an exciting new blend of styles, materials and finishes coupled with major advances in flexibility and technology. Metallics combines sophisticated new finishes with advanced metal halide lamp technology and OmniSpot—the latest in low-voltage technology. Metallics is a modular system of adapters and shapes, in a variety of fixtures, including incandescent, advanced metal halide and low-voltage light sources to suit every need. **Circle No. 230**

Lightfair booth #925

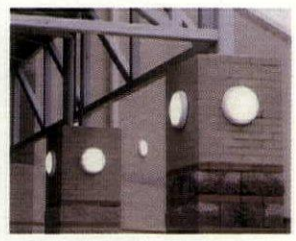
Davis/Muller

Phone: (888) DAV-MULL

Davis/Muller Lighting's 2150 Series is one of many newly introduced specification grade pendant fixtures. Available in numerous sizes, lamping options and finishes, all designs can be complemented with matching sconces and surface mounts. All fixtures are made of solid brass. Acrylic, natural alabaster and cast glass diffusers are available. Visit our website at www.davismuller.com. **Circle No. 226**

Lithonia Lighting

Phone: (770) 922-9000



Lithonia Lighting's Gateway Series for architectural Rough Service applications features round and oval fixtures constructed of die-cast aluminum and injection-molded polycarbonate for resistance to vandalism, environmental elements and severe temperatures. The latest lighting technology ensures long lamp life, low cost and enhanced performance output. UL-listed for wet locations and ADA-compliant, Gateway is listed and labeled to comply with Canadian Standards. The Gateway Series is suited for educational facilities, multi-housing, high-traffic areas, transit system stations and recreational centers. **Circle No. 231**

Lightfair booth #141

Elliptipar

Phone: (203) 931-4455

Combining Elliptipar's asymmetric reflector technology and the power of the Hex Tube compact fluorescent, Style 211 offers more light with 25 percent fewer fixtures to light walls 9 ft. or higher with exceptional efficiency and uniformity. The Hex Tube features low energy (32W or 42W), great color (3000K) and long life (10,000 hours). Style 211's semi-recessed design features adjustable aiming, a shallow recess depth and a snap-on hinged lens and rotary lampholder for easy relamping. **Circle No. 227**

Lumenton

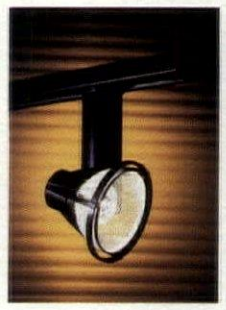
Phone: (213) 489-2600, (888) 458-6368

Choose from a variety of modern and non-traditional outdoor posts. All made from the highest grade of aluminum die cast in three distinctive colors of white, black and verde green. All posts are accentuated by their matching wall or gatemount. Complement your design with Lumenton wall sconces. All units available in incandescent, compact fluorescent or HID. Visit our website at www.lumenton.com. **Circle No. 232**

Lightfair booth #140

Hubbell Lighting

Phone: (800) 270-3737



Hubbell Lighting's two-circuit track lighting system gives designers all the tools they need to produce an effective and creative lighting layout. Hubbell's four-wire track system provides two 20A rated circuits and is field adaptable for one- or two-circuit wiring. Each circuit can be individually switched and dimmed and is available in 2-, 4-, 5-, 8- and 12-ft. lengths. **Circle No. 228**

Lightfair booth #000

Lumiram Corporation

Phone: (800) 354-5596

Developed by the Lumiram Corporation, the Chromalux White Beam MR16 is a recent addition to Lumiram's Chromalux Color Corrected lamp line. Made with pure Neodymium glass, it is designed to cut down the yellow emission of the spectrum, resulting in brighter and more vibrant colors as well as increased black and white contrasts. The color temperature of the new lamp is approximately 4200K and is designed to perform for an average of 5,000 hours. **Circle No. 233**

Lightfair booth #1207

JJI Lighting Group, Inc.

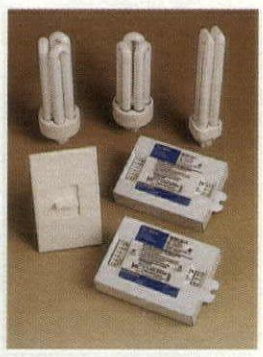
(203) 869-9330

Since its metamorphosis from Jac Jacobsen Industries, Inc. a decade ago, the JJI Lighting Group, Inc. has continued to grow. Since its acquisitions of Hoffmeister-Leuchten GmbH, Hess Form&Light GmbH and Ardee Lighting, JJI's 15 operating subsidiaries today provide a broad range of standard and "built-to-specification" lighting products. An overview is provided in a new 16-page color brochure that profiles each JJI subsidiary. **Circle No. 229**

Lightfair booth #725

Lutron Electronics

Phone: (610) 282-3800



Originally introduced with a ballast for 32W, 4-pin compact fluorescent lamps, the Tu-Wire line now includes ballasts for both 26W, 4-pin triple- and quad-tube compact fluorescent lamps. All Tu-Wire electronic fluorescent dimming ballasts use only two wires for power and control and provide architectural dimming for compact fluorescent lamps down to five percent light output. **Circle No. 234**

Lightfair booth #341

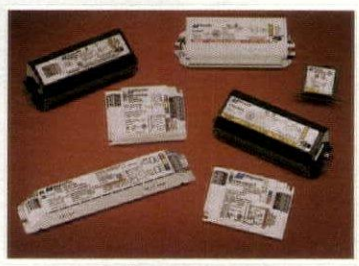
Lighting Store USA

www.LightingStoreUSA.com

A new on-line high-quality lighting distributor, Lighting Store USA offers table lamps, wall sconces, modern/traditional designs, Murano glass, torchieres, Venetian chandeliers, desk lamps, floor lamps, imported and domestic fixtures, fluorescent light fixtures, traditional brass designs, fluorescent parabolics, vanity lights, adjustable units, architectural designs, Murano glass wall sconces, torchieres and the unusual.

MagneTek

Phone: (615) 316-5100



MagneTek's newest ballasts have a smaller size and bottom exit connectors to easily fit on any junction wiring box. They are offered in two-lamp models for 13W, 18W or 26W 4-pin lamps and in one-lamp models for 26W and 32W 4-pin lamps. Side connector models are also available for surface-mount fixtures, wall sconces and outdoor fixtures. **Circle No. 235**

Lightfair booth #1441

Manning Lighting

Phone: (920) 458-2184

Manning Lighting's DS-41 wall sconce lends a modern, sophisticated appearance to any interior. This ADA-compliant fixture features a polished stainless steel base and etched glass panel. Manning's Designer Series and ADA catalogs offer hundreds of high-quality pendants, wall sconces and ceiling-mounted lighting fixtures to choose from. **Circle No. 236**

SPI Lighting

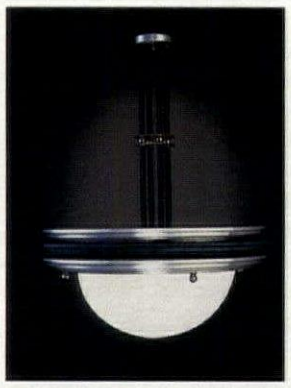
Phone: (414) 242-1420

Renaissance is an elegant indirect luminaire combining advanced lighting technology with artistic expression. Choose from traditional or contemporary brass-plated trims. A complete family of fixtures—pendants, cluster, sconces, pier and ceiling mounts—allows consistent design throughout a space. Lamping options include metal halide, fluorescent and incandescent. Additional plated or painted finishes available. **Circle No. 242**

Lightfair booth #1675

Original Cast Lighting

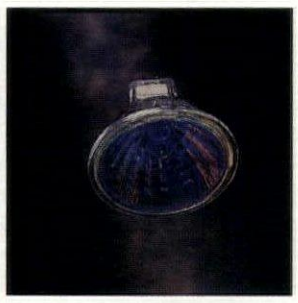
Phone: (314) 863-1895



In the updated Apollo series, a variety of finishes, diffuser materials and lamping gives this series versatility for a wide variety of applications. Shown here is the APY-27LGZ-4DP1: Verde green and brushed aluminum with an Etruscan dome. **Circle No. 237**

Ushio America, Inc.

Phone: (714) 236-8600

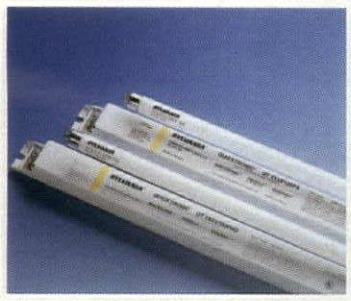


Ushio is proud to announce the Whitestar, our new 4200K high color temperature lamp. The spectral light distribution of the Whitestar is identical to daylight over the visible spectrum between 480nm and 630nm. Whitestar has a high CRI rating and reduces UV emissions and infrared transmission up to 70 percent. Whitestar is available in a 12V 50W version with a 36-degree beam angle and features a luminous intensity of 1200 cd with an average lifetime of 4,000 hours. **Circle No. 243**

Lightfair booth #625

Osram Sylvania

Phone: (978) 777-1900

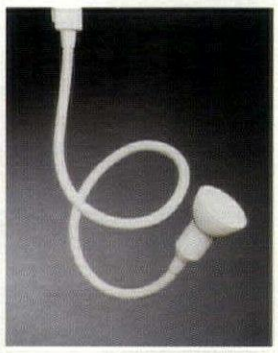


Osram Sylvania's new highly efficient, slim Pentron and Pentron HO T5 lamps are available in 3000K, 3500K and 4100K, boast a CRI of 82, are rated for 20,000 hours of life and provide 95 percent lumen maintenance. Additionally, new end-of-life sensing, HO and dimming ballasts provide versatility for designers and fixture manufacturers. **Circle No. 238**

Lightfair booth #740

W.A.C. Lighting

Phone: (800) 526-2588

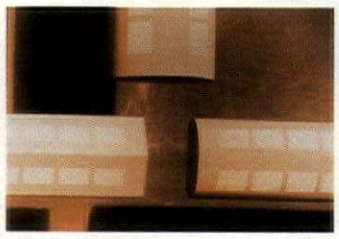


Extensive state-of-the-art line features innovative track heads and recessed housings/trims designed for task, accent, cove and general lighting, under- and in-cabinet, toe spaces and hard-to-light areas. Also available: miniature fixtures, surface mounts, pendants, rope lighting, linear systems, Button Lights, display lights, track extensions/suspensions, accessories. **Circle No. 244**

Lightfair booth #1485

Peerless Lighting

Phone: (510) 845-2760



Peerless Lighting Corporation has engineered its low-cost Peerlite Aero and Enzo fixtures to produce virtually glare-free light using high-efficiency HOT-5 technology. Prima offers T8 lamping where preferred. All Peerlite products are available as totally indirect fixtures or with a perforation pattern allowing a small percentage of downlight. **Circle No. 239**

Lightfair booth #405

Architectural Lighting Magazine

www.qualitylight.com

The Lighting Design Forum website at www.quality-light.com provides lighting specifiers with a library of information from organizations across the industry, including *Architectural Lighting*. Specifiers can also link to other organizations, the **inter.Light** product search engine at **www.light-search.com**, and find other resources.

Lightfair booth #402

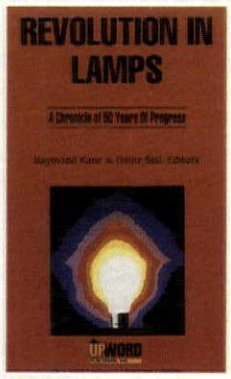
Robertson Worldwide

Phone: (708) 388-2315

The World Ballast Series includes a family of electronic ballasts for T5 lamp applications: the PAT128T5MV for one 28W lamp; the PAT228T5MV for two 28W lamps and the PAT1545T5MV for one 54W or one 55W biax lamp. Each unit operates from 120V to 277V at 50 or 60Hz utilizing a single set of inputs. Aluminum cases with push-in wire trap connectors allow for easy mounting into T5 luminaires. A patented end-of-lamp-life shutdown circuit automatically resets power upon installation of a new lamp. **Circle No. 240**

Lightfair booth #1309

Architectural Lighting Magazine

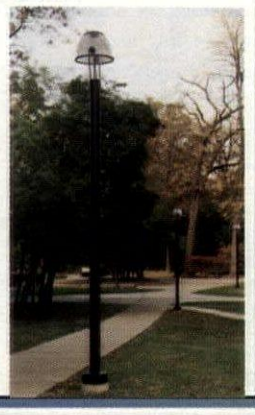


Revolution in Lamps: A Chronicle of 50 Years of Progress by Raymond Kane & Heinz Sell, editors. This book offers a historical overview of the development of the light source from World War II to the present. Written by some of the engineers who worked for leading lamp companies during this time, it provides a fascinating and informative look inside the lamp industry and offers insight into the future of lighting. ISBN: 1-57730-125-0, $75.00, 295 pages, illustrated. Call (800) 444-4881 to order.

Lightfair booth #402

Ruud Lighting

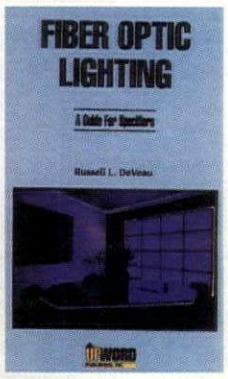
Phone: (800) 236-7000



The Prismatic Area Light (K Series) provides effective illumination for walkway, area, courtyard, pathway and boulevard lighting applications. The dome-shape acrylic reflector and base-up coated lamp combine to produce an IES Type V distribution. Available also in single-side pole, twin-side pole and wall mountings. **Circle No. 241**

Lightfair booth #548

Architectural Lighting Magazine



Fiber Optic Lighting by Russell L. DeVeau. This text provides technical and practical fundamentals regarding the technology and specification of fiber-optic lighting—covering components, systems, principles of operation and more. One of the first clear and comprehensive books on the subject, it is sure to be a valuable reference on this dynamic emerging technology. ISBN: 1-57730-525-6, $50.00, app. 175 pages, illustrated. Call (800) 444-4881 to order.

Lightfair booth #402

LIGHTING: CONTROLLING SPECIFICATIONS

By Sylvan R. Shemitz, FIES, LC

Lighting manufacturers who develop new and innovative products and the lighting design professionals who specify them have common goals. Both seek to improve and enhance the built environment. Both also want to profit from their efforts. Clients want to achieve the best possible results their budgets will allow. Poorly written specifications can defeat all of their goals.

In perhaps the most common specification scenario, a luminaire is carefully chosen for appearance, performance and reliability. It is then specified by manufacturer and catalog number. Often, to assure competition, two more manufacturers are named, but without catalog numbers. This is a license to steal! The added manufacturers can quote their lowest priced alternatives without matching quality and performance standards and the designer has no recourse but to accept a lesser product.

Therefore, if the designer wants to name three alternatives, this should be done strictly by catalog number and only after the construction details, performance and appearance of all products named have been carefully reviewed. This process can be costly and time-consuming for the designer.

There is a less time-consuming process that puts the burden of choice on the bidder. The designer can specify his or her luminaire choice by manufacturer and catalog number and add "or equal by X and Y." The specification must also state that any product submitted which has not been named by manufacturer and catalog number must be submitted as an add or deduct alternate to the specified product. The designer should also insist that a catalog cut and independent laboratory test data accompany the bid. The contractor should, on request, be required to provide a wired and lamped 120V sample within 10 working days for comparison to the named luminaire. This transfers the responsibility of finding a suitable alternative to the contractor.

When the designer knows that there is only one appropriate luminaire for the application, a single-name spec should be used; however, it is a good idea to gain the approval of the owner and a budget price from the manufacturer's representative first.

Packaging is a common practice in most of the United States. It is promoted by the conglomerates (holding companies that control several manufacturers or lines). Their goal is to gain advantage over bidders who do not have one of the named luminaires in their package. Packaging reduces competition.

When a spec is for a product not represented by the packager, he or she is compelled to find a substitution for it. This invites the theft of intellectual property and likely lower-quality knock-offs—inappropriate substitutions that deliver less value to the owner and discourage product innovation and tooling investment by manufacturers.

Unit pricing is therefore the most effective way to keep the owner and his representative in control. Unit pricing reduces the power of the packager. In some parts of the country, it is required.

There are other ways to retain control of your designs. Here are some sample specs that may help:

To disallow substitutions. "Substitutions for the specified lighting products are not acceptable and will not be considered." Just say no. Say it often enough and soon you will not have to say it at all.

To head off a substitution caused by delivery problems. "Within 21 days of contract award, contractor shall submit a complete list of lighting products he intends to furnish with manufacturer and catalog designations, along with currently quoted lead times for delivery of same. Should the contractor anticipate that the delivery schedule of any specified product may adversely impact the construction schedule, he shall bring it to the attention of the designer at this time." Then check with the manufacturer's representative—reported delays are frequently used as a reason to allow a substitution.

To obtain deduct alternate pricing. "In addition to the base bid product(s) listed, the contractor is requested to supply pricing for the following alternate products. This pricing is to be supplied in addition to the base bid, using the contractor bid form supplied for this project. The base bid must include the base bid product specified. Failure to do so will invalidate the lighting bid submittal and may eliminate the contractor's bid from further consideration."

To obtain unit pricing. "Contractor shall supply a unit price for each lighting product specified. Unit price shall be for equipment only and not include installation or miscellaneous electrical costs. The unit price supplied shall be guaranteed for the project and value for additions and deletions of product throughout the duration of the project."

To discourage non-solicited contractor substitutions submissions. "Should the contractor wish to have products considered other than those specified, he or she must submit those item 14 days in advance of the bid. Failure to submit within that deadline constitutes a guarantee that the specified products will be supplied. The lighting designer will invoice the contractor, at senior designer hourly rates, to review any product not listed in the specification. Submittal of a bid for this project shall include a written acknowledgment of these terms from the contractor (payment in advance)."

When a single-name spec is written. Designers should have complete freedom to write single-name specifications as long as the method of specifying single sources (or a limited selection of alternates) does not restrict fair competition for the remaining commodity products on the fixture schedule.

> TO MAINTAIN CONTROL OF QUALITY AND DESIGN, THE LIGHTING PROFESSIONAL MUST STOP PACKAGING AND SUBSTITUTIONS.

Methods of ensuring competition include allowances and required unit pricing in the bid form. Details of practical procedures for those options are described below.

The key to the single-name specification is to ensure that it does not result in excessive cost for the item involved.

- List the one and only manufacturer you want by name and number. Indicate "no substitute."
- Get the contractor cost in advance from the representative.
- Advise the owner and project team prior to the bid date that these particular products are set aside for this treatment because of their unique character. Explain to the owner how he or she has been protected from a non-competitive situation through the use of this approach.

When custom fixtures are involved. Manufacturers should be prohibited from copying a custom design prepared by another manufacturer. It should be presumed that if one prepares a custom design for your project, the effort should be rewarded and protected by a one-name spec.

To protect your client from exploitation, obtain the contractor price from your representative or use an "allowance price" to eliminate substitutions. The product brand and catalog number should *not* be specified in the lighting fixture schedule. The information provided, however, should be sufficient for the contractor to know handling and installation labor and to furnish the appropriate lamps and add an appropriate mark-up. A description of product type, such as "wall sconce" or "pendant," the approximate size and weight and lamping should suffice for bid purposes (see below).

A custom design originated by you, as the designer, should bear a copyright notice. List only the manufacturers you trust to do the job and require unit pricing.

Performance specifications—going the extra mile. Well-written performance specifications are extremely valuable in holding the line on single-name and/or custom items.

Include the manufacturer and catalog number of a luminaire that meets your criteria. Performance criteria should be spelled out in detail. For example:

"Reflector shall be extruded high purity aluminum with a clear specular anodized finish with minimum 85 percent reflectance. End plates, door and lens (if applicable) shall attach without light leaks. The external yoke (if applicable) shall have a set screw to lock the luminaire aiming position. Light output shall be asymmetric in the vertical plane with wide horizontal distribution."

Add performance data specific to the luminaire. For example:

"Large Metal Halide Uplight: In an uplighting orientation with maximum candlepower aimed at 65 percent below zenith (25 percent above horizontal), the candlepower intensity shall decrease smoothly to between 25 percent and 35 percent of peak candlepower at zenith. To prevent discomfort glare and minimize spill light, the candlepower intensity at 75 percent below zenith shall not exceed 45 percent of peak candlepower. The lamp arc tube shall be centered and locked in the reflector's focal point by an end-of-lamp aligner mounted opposite the lampholder."

The advantages of the above spec are myriad. This method keeps the pencils sharp on the specified items(s), eliminates substitutions of lower-quality items (unless the owner wishes to accept the submitted item) and will decrease the submissions of alternatives, thereby reducing your work load.

If a product is submitted that does not meet the qualifications that the consultant has set and the consultant tells the submitter that if the submitter does this or that, the consultant will accept the substitution, he has done a disservice to the specified manufacturer. That vendor has invested time and money to give you that product. Don't give his hard work away to another.

Closing recommendations:

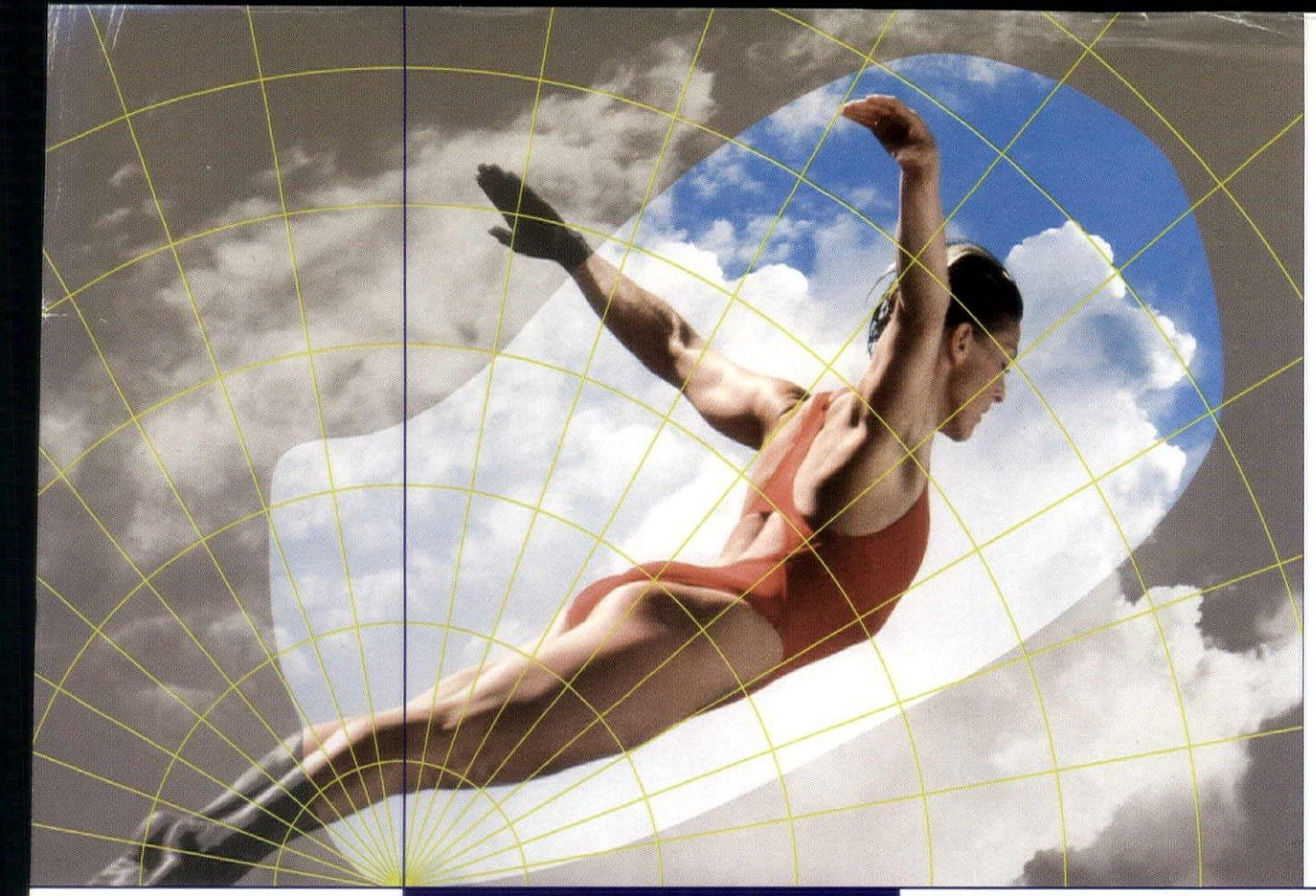
- Don't specify or accept copies of existing products. Doing so discourages innovation.
- Manufacturers should never be asked to copy another manufacturer's standard product to be listed or approved as equal.
- Manufacturers of original designs should be given first right of refusal to "value engineer" or modify their products.
- Educate your staff and your clients as to the value of unique products and the necessity for protecting intellectual property.
- Work with other design professions to curb the growing trend toward substitutions and knock-offs.
- Make the local agents aware of your policy regarding specification integrity.
- In any fixture specification, the first objective should be to determine if there are products similar in construction, performance and appearance that are equal. The only way to know is to look at samples and to see their performance. If so, manufacturer's name and catalog number of each should be listed. It is not appropriate simply to list companies that may have, usually have or should have an equal.
- With greater security from knock-offs, lighting manufacturers wishing to increase sales will do the research, development and tooling to bring you a greater choice of products.
- Promote and protect the creation of unique designs.

If manufacturers cannot achieve reasonable financial returns on innovative and original product design, there won't be any.

Innovative products ignite innovative design. ■

Note: Much of the content of the above was gathered from working with the LIRC's committee on specifications, from lighting designers Randy Burkett and Lee Waldron and from a booklet called SPEX *by Jim Fowler.* SPEX, *written by a lighting manufacturer's representative, is an encyclopedia of trade practice. Elliptipar has purchased a large quantity and will subsidize their distribution by offering copies at $10 each plus $1.50 for postage and handling.*

Sylvan R. Shemitz, FIES, LC is president of Elliptipar Inc.



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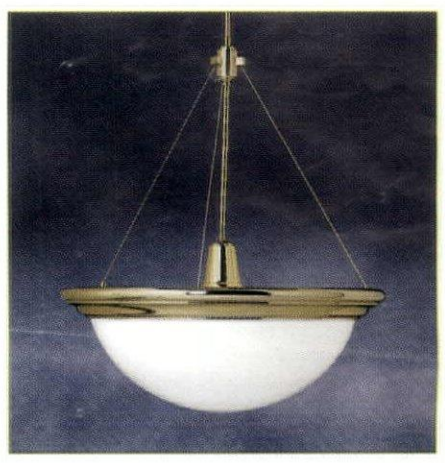

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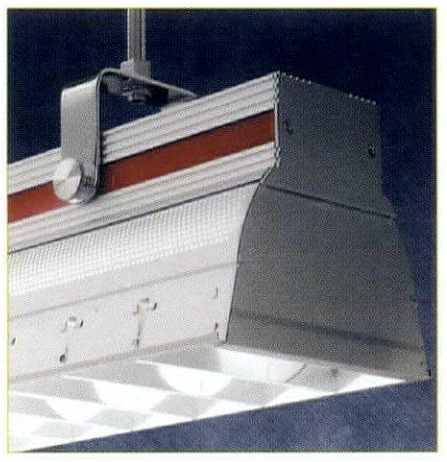

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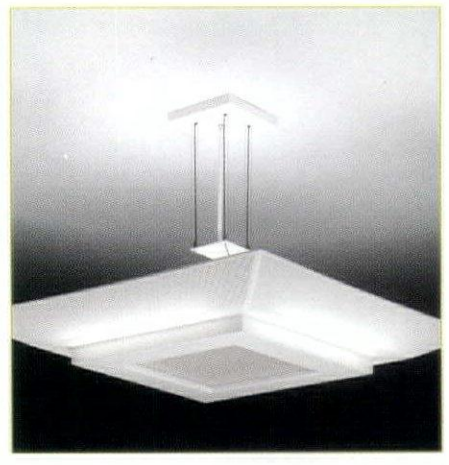

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