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architectural lighting

2000 MARKET ISSUE

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The 360HD™ Mounting System with "aim-and-lock" technology ensures the fixture stays aimed where you want it!
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MARKET WATCH ...

Welcome to the 2000 Market Issue, featuring stories about the supply side of our industry plus web reviews, an opinion editorial and more than 180 products in 12 categories.

Below, you’ll notice a legend, designed to serve as a helpful and quick reference guide to the prominent acronyms that are common in our industry, from HO to VA. As usual, we are continuing our long-standing editorial policy of publishing products that are safety-certified, identified in the descriptions (usually the UL listing).

In addition to the many products featured, we’ve included some interesting, informative and useful topics in this year’s Market Issue—tips on how both lighting specifiers and manufacturers can be environmentally conscious; definitions of commonly used terminology in fixture specifications; and the hot-off-the-press “Guidelines for Specification Integrity” document developed by the IALD in conjunction with the LIRC. And, of course, what would the Market Issue be without Dave Burtner’s website reviews? Once again, he surfs the net to find hot and helpful sites for our readers.

To learn more about manufacturers and products, see our December Lighting Source Directory and visit www.lightsearch.com. 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
- fl = footcandle/footcandles
- ft = foot/feet
- HPF = high pressure factor
- HPN = high pressure sodium
- Hz = Hertz (frequency)
- IES = Illuminating Engineering Society of North America
- in. = inches
- IR = infrared
- K = Kelvin
- LED = light-emitting diode
- LPS = low pressure sodium
- mcd = milli-candela/milli-candelas
- 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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May 24 Boston Society of Architects Lecture Series: “Real Cities: Density, Complexity and Serendipity,” Rabb Lecture Hall, Boston; (617) 951-1433, fax (617) 951-0845.

May 25-June 1 Designers Lighting Forum of New York Trip to Paris; (212) 613-1599.


June 12-14 NeoCon, The Merchandise Mart, Chicago; (800) 677-6278, (312) 527-7714.


June 22-25 44th Annual Construction Specifications Institute Convention and Exhibit, Georgia World Congress Center—East, Atlanta; (800) 689-2900, www.csinet.org.


September 7-9 Restoration & Renovation, Henry B. Gonzalez Convention Center, San Antonio, TX; (800) 982-6247, (978) 664-6455, ext. 14, fax (978) 664-5822, email: show@egiexhib.com, www.egiexhib.com.

September 8-12 Lumiere Paris, Paris-Nord Villepinte, France; (33) 1 44 29 02 47, fax (33) 1 44 29 02 43, email: info@lumiere-paris.com, www.lumiere-paris.com.


November 1-3 Luminaire Asia 2000, Singapore International Convention & Exhibition Centre, Singapore; (65) 220-76-33, fax (65) 220-97-33, www.luminaire.com


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It's as true today as when we first published this message last century (April '98, to be precise).

Whether as specifier, contractor, owner - or manufacturer seeking joint ventureship - the credo applies. Your individuality brings unique skills, talent and assets to the table. It makes sense, then to respect your judgement with goods and services that reflect your feel for the market. What we preach, we also practice with our own subsidiaries. Marketplace management works so well, you will only find our brands under the names of Alkco, Guth, d'ac and colleagues.

Three new companies and thousands of new customers have joined the Group these last two years. All we've done is add the strength of numbers. To some very extraordinary individuals. Let's talk at Lightfair, Exhibit 727.
For most lighting specifiers, it’s not the trendy dot.com market valuations that get them excited about the web. Nor is it the sudden appearance of lighting e-commerce sites—as yet more attuned to the casual needs of a consumer than the detailed requirements of an architectural lighting specification. Instead, what designers, architects, engineers and others who make their living finding solutions to the built environment are very likely to seek out when they click on their browser is an increasing array of lighting manufacturer websites that work.

For the most part, gone are the days of slow-loading prono pages, exploding splash screens and digitized sound bites from the CEO. Instead, real content has finally arrived. More manufacturers are giving specifiers most of what they need without them picking up the phone and waiting for FedEx or for the rep to drop by. It doesn’t sound sexy, but it’s the ballast wiring diagrams, the fixture CAD drawings, the downloadable photometric files, the installation instructions and the troubleshooting guides that are turning these sites into impressive electronic tools.

Most of the improved access to content is because manufacturers have finally discovered the value of the Adobe PDF file format for delivering vast amounts of information in exactly the same format as in the printed version—and doing it a lot less expensively than recreating it as an HTML-based web page. These days, if you don’t have the Adobe Reader on your hard drive (it’s free from the Adobe website—www.adobe.com), you’re missing out on one of the most valuable tools of the web. The integration of PDF files as a key feature of website information delivery is not the only trend for manufacturers thinking outside the HTML box. Web access to CD-ROMs, fax-back services and even old-fashioned 800 phone numbers with real people on the other end show that companies have learned that a primary factor for the specifier is not how the package is wrapped, it’s how quickly and usefully it’s delivered. Customer service counts—probably even more importantly on the web. While product information is king, even the most disciplined specifier can’t help but love the occasional cool, if not particularly useful, flashy web feature—as long as it doesn’t cause browser meltdown. With increasingly improved bandwidth and a plethora of free plug-ins, what today seems novel, tomorrow will be commonplace—a complete set of multimedia web-based information tools. Imagine one-click access to a step-by-step installation video for fiber-optic landscape lighting or a demonstration of how to connect a cable-mounting system.

What we’re seeing at the beginning of the 21st century is the maturing of the web into what we always thought it could be and what the hype told us it was when it wasn’t—an indispensable tool on the quest for efficient, high-quality lighting design and installation. To illustrate these points, the following web reviews focus on specific site features that should appeal to specifiers. These are not comprehensive reviews of entire sites. (Also omitted from this review is a discussion of the impressive progress manufacturers have made in web-based tools for channel partners.) With nearly 2,000 lighting manufacturer websites now available to the specifier, the few that are mentioned here are not meant to be a list of the best—some may even need improvement overall—but they each have at least one feature that merits attention as a step forward in the evolution of lighting on the web.

**LITHONIA LIGHTING**
www.lithoniamounting.com
Lithonia’s much-improved site (including an elegant, expandable/collapsible site index tree) gives users an online version of Lightware 3.0, its catalog on CD-ROM. With easy searches for all Lithonia products, PDF downloads of spec sheets, photometric IES file format downloads for each individual fixture and online viewing of the photometric report, Lithonia gives specifiers everything they need to quickly and accurately specify a product.

**LUCIFER LIGHTING**
www.luciferlighting.com
Lucifer doesn’t stop at photometric files and specification sheets. Lucifer also gives the user some great technical guides. With products that include fiber-optic luminaires, downlights, tracklighting and light strips, it’s nice to know installation and material details before you spec the product or get it out of the box. Users can access technical guides (both as web pages and PDF files) on installation, lamps, transformers, even fuses.

(Continued on page 16)
Booth 101

VIA, one of seven systems from Bruck, is a low profile track system that can easily change directions and elevations. Available in straight or curved segments, in chrome, matte chrome, or gold finish.
Kim Lighting
www.kimlighting.com
Kim Lighting also makes extensive use of PDF files to deliver detailed product specification information on its line of outdoor luminaires. In addition, Kim has provided something specifiers have long wanted—instant access to .dwg and .dxf drawing files. The self-extracting .exe files include both the drawings and a PDF document to guide the user to the desired drawing.

Hunt Dimming
www.huntdimming.com
Another example of a manufacturer using the web to help the specifier with detailed product application information. Hunt Dimming uses its site effectively as a tool for helping wade through the intricacies of choosing the right fluorescent dimming product. Hunt makes choosing the right dimmer easy—often a source of confusion—with a matrix of ballast type, lamp type, number of lamps and voltage options. This feature not only helps the specifier get it right the first time—it also saves customer service time at the sales end. You can also download the entire Hunt specification catalog as a PDF file.

High End Systems
www.highend.com
Product support on the High End Systems site effectively combines online resources, downloads and links to customer service reps. For each product, users can select from High End's QuickLink Guide—a simple menu of product support options—everything from photometrics to DMX protocol charts to training opportunities.

Magnetek
www.magnetek.com/ballast
MagneTek uses the web to leverage another information delivery system—its BallastFax-baek system. Go to the Magnetek website, find the BallastFax menu, pick up the phone, enter the spec sheet code and almost immediately Magnetek information is coming out on your fax machine. Of course, Magnetek could have provided the same information—technical data and wiring diagrams—as a web page or as a PDF file, but for the user, there is effectively no difference in getting it as a fax. Given the format limitations and expense of HTML web page development, it's also a logical approach for Magnetek.

Cooper Lighting
www.cooperlighting.com
Cooper Lighting's fine site includes a great feature for specifiers—a spec sheet update tool. Users can download PDF spec sheets and IES format photometric files either by brand or by the date the files were uploaded to the site by Cooper.

GripLock Systems
www.griplocksystems.com
This manufacturer of cable suspension systems uses detailed visuals to effectively demonstrate how their product works. This site is worth visiting for its elegant design and easy navigation system.

Visa Lighting & Wide-Lite
www.visalighting.com
www.wide-lite.com
Many manufacturer sites now make it easy to find reps. Both Visa Lighting and Wide-Lite have good examples of how not to waste a specifier's time with a slow loading locator map—instead just enter your zip code and in a second or two you've got it.

Artemide
www.artemide.com
Artemide, who always delights in the unexpected (watch out for low flying bats), gives us just that by taking a single product line, wrapping it inside a web address all its own and leading users through an eye-popping, up-close look at a single product.

E.Light
www.elight-usa.com
Check out this site. Not only is the site fun—you can click and see your e.light desk lamp color options match your iMac (just like trying on clothes)—you also get to know the designer and you can order an e.light online using a very simple shopping cart.

Lutron
www.lutron.com
Most of what makes Lutron's improved site valuable are the features mentioned above—product instruction sheets, wiring diagrams, easy product searches, online technical support—but how could a dimming company resist the temptation to give us a virtual dimming feature? You need Shockwave to enjoy it and you might wonder whether you really need to see what happens when you use your mouse to operate a slide dimmer, but clicking the buttons to view Lutron's preset scene control actually is both cool and informative.

Color Kinetics
www.colorkinetics.com
Like their product, full spectrum digital lighting, the Color Kinetics website comes at you with high-tech effects at every click. Even if you don't have a high speed DSL connection, it's worth the wait to try their interactive virtual reality tour of Harrods' Millennium White Perfumery room.

Dave Burtner, president of interaeLight, Inc., can be reached at www.lightsearch.com.
When lighting is the only thing on your mind, you constantly think of energy efficient products that will help improve your surroundings. That ability to focus has helped us develop breakthrough products like the OCTRON T8, CAPSYLITE PAR, ICETRON, TRU-AIM IR, METALARC PRO-TECH, and PENTRON T5.

For the next millennium, we will continue our focus on R&D. Right now our designers are creating lamp and ballast systems that will be more energy efficient and ecologically sound. Your link to those innovations will be SYLVANIA's commercial engineers. Their expertise will help you specify and install the right SYLVANIA product for the job.

To see how our obsessive nature can enhance your work, call your SYLVANIA Commercial Engineer or sales rep. For more information, dial 1-800-LIGHT-BULB (1-800-544-4828), or visit www.sylvania.com.

Our latest obsession, SYLVANIA OCTRON 800XP/ECO T8 lamps. Designed to pass TCLP, they have 20% longer life and 94% better lumen maintenance. You'll be able to use fewer fixtures, extend relamp cycles, and save a dollar per lamp in energy costs.

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Gullwing luminaires seamlessly and elegantly disappear into architecture and landscape. By night, illumination is precisely controlled, with no high angle brightness or glare into neighboring property. Gullwing blurs the lines between architecture, engineering and performance, and in so doing, advances the proposition that lighting at its best, is all but invisible.

Learn more about Gullwing sconce and area luminaires at www.sitelighting.com/gwar

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While you wait for the Osram Sylvania web page about environmental issues to load, a message scrolls, "Efficient, energy-saving, environmentally safe products are smart choices for your business." Makes sense. Lighting professionals have long been on the forefront of energy efficiency issues. There is no debate that quality lighting is also effective and efficient in its energy use. However, the "environmentally safe" part of the message may not yet be a routine factor in "smart choices" for most of the profession.

The "built environment" has environmental consequences. Architects and their clients are increasingly concerned with the environmental health and safety performance of buildings. The design press now routinely covers green design issues. Major companies have environmental health and safety departments that require their facilities to demonstrate environmental responsibility. As sustainable design and construction practices become more prevalent, lighting professionals will have to take more than just energy use into account to serve clients' expectations. To do so, they will need more knowledge of sustainable design issues and ways that lighting choices can make a building "greener".

Sustainable design issues pertain directly to the "smart choices" lighting professionals can make to help manage that impact:

Quantity. Using fewer, more effective lighting fixtures to achieve design goals.

Durability. Using long-lasting, durable materials to prevent failure and require less frequent replacement.

Recyclability. Using recycled-content materials and packaging that can be safely recycled at end-of-life.

Safety. Using non-toxic materials, coatings and processes that ensure a healthy working environment and prevent pollution.

Embedded Energy. Obtaining materials and components from local sources and using energy-efficient manufacturing processes to reduce the amount of energy used to make and transport products.

Energy Effectiveness. Designing lighting systems that most effectively use the least amount of energy.

PACKAGING SYSTEMS

According to National Electrical Manufacturers Association (NEMA) statistics, lighting equipment sales in the U.S. have increased more than 40 percent over the last decade—from $5.8 billion in 1991 to $9.6 billion in 1999—and are still growing. That represents an almost unimaginable volume of lighting equipment with direct and indirect effects on the environment.

Many manufacturers have positioned themselves to serve the need for "greener" lighting. "We feel that it makes strong business sense to make improvements that help the environment and the bottom line," said Randy Solliday, national sales manager for Ontario-based Hubbell Lighting, Inc., 800-270-3737. Visit our web site at www.hubbell-ltg.com.

Design with light.

Hard. Yet soft. Tough. Yet expressive. A family of downlights with the look and feel of stainless that's flexible enough to let you light walls (in quartz or fluorescent), work areas, counter tops, displays, offices and homes. Talk with us.


Metallumen, for example, has invested in a packaging system that uses a minimal amount of recycled-content cardboard and plastic wrap to support more fixtures on a shipping pallet. It protects the bottom fixtures from being crushed and reduces the amount of cardboard destined for disposal.

Said Solliday, "The system evolved out of what we saw the furniture industry doing. It has virtually eliminated damage claims. We save 40 to 45 percent in our direct packaging costs. And at the job site, electricians aren't spending time breaking down boxes."

This kind of business-driven approach, increasingly common in other industries and among European manufacturers, is affecting U.S. lighting manufacturers' thinking.

ENERGY EFFICIENCY

Lighting designers and manufacturers are accustomed to meeting energy efficiency and conservation goals. The Federal Ballast Energy Law of 1988 and the National Energy Policy Act of 1992 established phase-outs of inefficient ballasts and low-efficacy lamps. The IES/ASHRAE Standard 90.1 sets lighting energy use limits by space type and is under continual review and improvement. Along with utility demand-side management rebate programs and the Environmental Protection Agency's (EPA) Green Lights program, these measures have helped transform the industry. Smaller, more-efficient technologies such as T8, T5 and compact fluorescent lamps, high-intensity discharge sources, electronic ballasts and programmable control systems became standard tools in the 1990s and today.

This emergence of energy-efficient lighting technology has had great environmental benefit. According to EPA Green Lights (now part of EPA Energy Star), since
Sharp cutoff of lamp output eliminates trespass

Five highly efficient, uniform distributions

HID lamps to 1000 watts

18" & 13" discreetly silhouetted forms

Gullwing by Gardco Lighting
Towards "Greener" Lighting

its inception in 1991 through 1998, its partners saved energy through lighting upgrades that would have other­wise resulted in more than 5.1 billion tons of CO_2 emissions from power plants. Dozens of lighting manufactur­ers and service companies have joined Green Lights as Allies, an indication of the industry's support of green design and technology.

HAZARDOUS MATERIALS REDUCTION

The lighting industry has had to pay a great deal of attention to toxic materials used in ballasts and lamps. The Toxic Substances Control Act (TSCA) of 1976 outlawed the use of polychlorinated biphenyls (PCBs), which are carcinogenic. Ballasts manufactured before 1979 contained PCBs in the potting compound. TSCA requires that PCB ballasts be handled and disposed of as hazardous waste. This has been a particularly serious issue for utilities, energy service companies, specifiers and their customers working on lighting upgrade and retrofit projects during the past two decades.

Similar handling and disposal issues have arisen regarding fluorescent lamps which need a quantity of mercury for proper operation and longevity. Mercury is regulated by EPA under the Resource Conservation and Recovery Act (RCRA). Bulk disposal of used lamps is subject to the Toxicity Characteristic Leaching Procedure (TCLP) that determines how those particular lamps are handled. This has been a particularly serious issue for utilities, energy service companies, specifiers and their customers working on lighting upgrade and retrofit projects during the past two decades.

The lamp industry responded by developing reduced-mercury fluorescent lamps, indicated by green end-caps, to meet TCLP requirements. Philips came first with its Ecologic series and General Electric's Ecolux XL series. Mercury reduction is the best way to dispose of lamps.


OTHER IMPROVEMENTS

Other technological improvements, driven by energy and environmental regulations, have had other, less pub­licized environmental benefits:

- Smaller, more precise lamps mean smaller fixture housings and less overall material use.
- Improved color rendering and optical control mean fewer fixtures to achieve better results.
- Cooler, quieter ballasts mean less air-conditioning load and ambient noise.
- More-reliable control devices save energy and enable better daylighting integration.
- New process and packaging techniques can substan­tially reduce material waste.

But these benefits can be difficult to quantify and are not yet key drivers of lighting design or specifi­cation decisions. "Part of our approach to quality manufacturing is to make it environmentally-friendly, too," said Amir Bagherlee, VP of U.S. Operations in Ft. Lauderdale for Copenhagen-based Louis Poulsen Lighting. "It started by meeting European requirements in our Denmark facility, but it goes beyond just complying with the codes." The facility has practically no pollution emissions. It uses a 100-percent recyclable powder painting process. It attempts to reclaim and recycle all of its manufacturing process metals and materials as well as filtering and reusing most of its process water.

Even though Louis Poulsen publicizes its environmental manufacturing approach, Bagherlee points out, "It is admired by specifiers, but it is not yet a criterion for specification."

MANUFACTURING GETS GREEN

Many manufacturers have found that good environ­mental management just makes good business sense in a variety of ways. "Our plant is in a nice Westchester County (Mamaroneck, NY) neighborhood, so we have always tried to be environmentally-minded for the good of our community," said Ira Minkoff, national sales manager for Nessen Lighting. "For example, although we still use wet paint to achieve the look we want for our fixtures, we contain all of our waste paint and have it picked up for recycling by a specialty contractor."

A key to minimizing waste is to use durable materials to prevent unnecessary replacement. "We try to make sure that our fixtures never make it to the landfill," said Teka Illumination president Jim Druffel, based in Templeton, CA. His philosophy is that sustainability and durability are synonymous, so his exterior luminaires are constructed of materials such as copper, brass and bronze for their longevity, value retention and ultimate recyclability.

Powder coating, a non-hazardous material that uses no solvents, has been enthusiastically implemented by many manufacturers. Metaluma changed over to an automated powder coating line, and Metalumen changed over to an automated powder coating line. As a manufacturer and regulatory activity, disposal of mercury-containing lamps is an insignificant contributor of mercury to the environment." NEMA statistics indicate that of the 158 tons of mercury released in the United States in 1999 (only 3 percent of total global releases), only 1.1 tons came from lamps. This is a 70-percent improvement since 1990, projected to be a 90-­percent improvement by 2004.

PCBs and mercury are hot-button, public-health issues that the industry has seriously addressed. But Oram Sylvania's Ratliff echoes an observation that EPA and NEMA have also made, that "We believe that reduced-wattage, improved-output lamps that save ener­gy have much greater environmental benefit than just reducing the mercury."
powder paint coating system about four years ago. The company found it to be more durable with less waste, because they can reclaim and recycle all the unused powder.

Solliday noted, "The color change-overs take a little longer, but we are saving about 20 percent of our costs in otherwise wasted paint. We no longer have the cost of handling wasted wet paint as hazardous waste and the air quality in the factory has greatly improved."

At Zumtobel Staff, based in Highland, NY, Allison Craig, marketing communications manager, reported, "We recently invested in a $1.5-million state-of-the-art powder-coating system. It has made us a practically zero emission facility." According to Craig, the company has found that the system improves quality assurance and eliminates the need for outside vendors to handle and dispose of waste paint. Ron Dixon of Zumtobel Staff’s chief production office added, "When it comes to payback for powder coating, you have to look at it a little differently." He explained that powder coating provides a more durable, even finish, thereby drastically reducing damage and ensuring customer satisfaction.

For some companies, environmental performance is integrated into its entire process. "Osram Sylvania makes reduced-mercury and mercury-free lamps," said Ratliff. "We use lead-free soldering and welded base connection techniques to reduce or eliminate lead in the process. In the factory, we have comprehensive recycling programs to reclaim waste glass and metal. We use recycled content cardboard and soy-based inks for packaging." At Bega, environmental measures have been similarly integrated, from the powder paint system to the use of biodegradable, potato-starch "popcorn" used to cushion its luminaires in transit.

Our fixtures are so highly coveted, that when customers buy them...

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Lighting designers can influence change by:

- Designing systems that integrate daylighting and use durable, energy-efficient fixtures, lamps, components and controls.
- Specifying lighting equipment from manufacturers that have stated environmental management goals and use environmentally responsible methods and materials.
- Specifying locally manufactured equipment, if possible, to reduce transport energy use and packaging requirements.
- Designing well-controlled exterior lighting to prevent light pollution and light trespass.

Manufacturers can have an impact and position themselves as environmentally responsible by:

- Publicizing their environmental goals and accomplishments.
- Using durable, non-toxic, environmentally friendly materials.
- Using energy-efficient, pollution-preventing manufacturing processes.
- Minimizing packaging and using recycled/recyclable materials to reduce shipping weight and waste.
- Making catalogs available on electronic media to reduce printing, paper and shipping waste.
- Providing proactive environmental performance information to lighting designers, engineers, architects, interior designers and other specifiers.
At Zumtobel Staff, Craig said, "Our concern for the environment is part of our corporate mission statement." Published on their website, it reads, "With light we want to create worlds of experience, to make work easier, to improve communication and safety in full awareness of our responsibility to the environment." Said Craig, "In addition to continually optimizing our manufacturing processes, we also design our products for long-life, energy efficiency, low maintenance and easy installation, thereby minimizing the use of energy and materials."

This kind of thinking extends beyond the manufacturing process. On a different front, Zumtobel Staff gained favorable local and national press coverage for its installation of a natural water treatment facility. Facility expansion was being constrained by an undersized private septic system. The company was at the point of considering relocating away from Highland, NY. But an environmentally-sound alternative was brought to their attention.

"The local sewer system is headed by a progressive director, John L. Jankiewicz, who researched a system in Ecuador," said Craig. "We ended up installing a natural attenuation marsh near the parking lot that more than handles all of our expected waste water treatment needs." The system is a constructed wetlands that naturally filters wastewater through vegetation, providing an ecologically-sound solution at a fraction of typical wastewater treatment costs.

Whether it is out of a feeling of community responsibility, a desire to gain recognition or to get bottom-line results, lighting manufacturers are investing in environmentally-responsible systems and technologies. It will be up to designers and consumers to reward this new attitude with their specifications and purchases. Maybe, after all, it is easy being green.

Mark Loefler, LC, based in New Haven, CT, is the lighting and sustainable design practice leader for ThermoRite Consulting Corporation, an environmental management consulting firm headquartered in Concord, MA.

Websites to check out ...

Illuminating Engineering Society
www.iesna.org/

National Electrical Manufacturers Association
www.nema.org/

EPA Energy Star Program
www.energystar.gov/

Energy Star/Green Lights Building Program
www.epa.gov/buildings/eshome/

Legislation overview
www.lightsearch.com/resources/lightguides/legislation.html

Lamp and ballast disposal overview
www.lightsearch.com/resources/lightguides/wastedisposal.html

US Green Buildings Council
www.usgbc.org/

Environmental Building News
www.ebuild.com/

International Association for Energy-Efficient Lighting
www.iaeel.org/

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Circle No. 45
Defining the Language

BY STEPHEN BLACKMAN

Every industry has its own special terminology that outsiders don’t understand. But in the lighting field, the technical jargon is sometimes confusing if not incomprehensible even to lighting industry insiders.

In a never ending battle to promote the advantages and technical superiority of their products, manufacturers are increasingly turning their efforts to enhancing ad copy and pouring on the technical jargon in specification sheets. The idea is to impress specifiers with the image of quality and high technology. Some of this jargon is true and impressive, and some is just over-hyped copy.

There are also many time-honored catch phrases that are put in every lighting catalog and are never questioned but are nonetheless rarely understood by the very people who are specifying these fixtures.

This article offers a brief glossary of many of these terms with an explanation in plain English as to what they mean and specifically how these attributes should affect fixture specification. Check out the two “sample specifications” on the opposite page—the highlighted words correspond to the definitions below.

DESCRIPTION TERMINOLOGY

CRT Cathode Ray Tube, what is now called a computer monitor (see VDT).

Low Brightness This usually refers to a reflective surface that doesn’t produce an intense glare (or brightness) when looking directly at it.

Photometric Optimization When fixture manufacturers engineer lamp positions, reflectors and/or louvers profiles ensure that the maximum amount of light leaving the lamp(s) will end up in the task area, as opposed to being trapped inside the fixture or bouncing uselessly around the room.

Rainbowing An effect that happens with certain types of fluorescent lamps (especially high-color-rendering triphosphor lamps) are used with certain types of lower-end anodized aluminum reflectors and louvers. It causes a noticeable and unacceptable rainbow reflection on the anodized surfaces of the fixtures.

Trollier As the name implies, trolliers are trough-shaped recessed ceiling fixtures (the term is derived from the terms “trough” and “coffer.” They usually contain fluorescent lamps and have an open surface flush with the ceiling. A parabolic trollier refers to a recessed fixture that has a Louver with a parabolic cross section. The parabolic shape redirects light rays from the light source into parallel rays that shine in a controlled fashion into the room.

VCP Visual Comfort Probability. This is a fixture rating system that determines how many people would, when viewing this fixture, find it to have low glare and be comfortable to work near. The higher the number or percentage, the better.

VDT Video Display Terminal, what is now called a computer monitor (see CRT).

MATERIALS TERMINOLOGY

20Ga CRS 20-Gauge Cold Rolled Steel. This is the most common type of steel used in the lighting industry. Cold rolling indicates that the steel is not heat-treated or hardened, which allows for easy forming, piercing, stamping or shearing when manufacturing a lighting fixture. Twenty-gauge CRS is in the general range of 0.036 in. in thickness.

16Ga. Galvanized Steel A steel commonly used in internal or unseen functional parts of a fixture. This metal is used because it doesn’t require finishing or painting. Steel is galvanized by applying a layer of zinc to the raw metal sheets. This process helps preserve the material and prevent it from rusting. Sixteen-gauge equals about 0.060 in. thickness.

Clear Specular Reflector Alzak is a registered trademark, originally of Alcoa. This is a proprietary anodizing process that allows maximum light reflection from the reflective surface with low brightness and glare.

Code Gauge This is a catch-all term used by many people to refer to the gauge of metal used in a fixture—acceptable to the cabinet prevailing national electrical or local code requirements for fixture construction.

Pre-Anodized Aluminum Anodizing is one of the most common finishing processes done to aluminum in the lighting industry. Anodizing is a controlled oxidation process that occurs when aluminum is exposed to an electrically charged chemical bath. The end result is a hardening of the surface to resist abrasion and corrosion with an added protective transparent layer to preserve the decorative natural aluminum finish. Anodizing can also produce colored or dyed finishes that are locked into the aluminum surface. Pre-anodizing is usually performed on the raw coil of aluminum before it is fabricated into a louver or reflector.

Semi-Specular This refers to the image one would see in a reflective surface. A true specular reflector would act similar to a mirror where one could clearly see the reflective image. A semi-specular image would produce a more diffuse, less clear and a less glaring image, which is a desirable type of reflector used in a lighting fixture.

FABRICATION PROCESSING TERMINOLOGY

Die-Formed Manufacturers use die-forming to ensure highly accurate mass-produced parts at low cost. Die-forming uses large, high-tonnage presses with precision-formed and hardened dies to produce pieces of hardened metal. These large automated presses rapidly and economically produce replicated sheet metal parts with a high quality of fit.

Hydro-Formed This forming process allows the precision production of non-routed seamless difficult-to-form reflector shapes. It allows designers to optimize reflector performance for non-centered lamps or fixtures that produce specific directional photometric properties.

Die-Cast A process that usually involves the injection of zinc or aluminum into a hardened mold to produce a highly accurate part with high strength and detail.

FIXTURE PARTS TERMINOLOGY

Louver A series of baffles arranged in a geometric pattern used both to shield a light source from an unwanted viewing angle and to redirect the remaining light to a more usable location.

Luminare A complete lighting fixture.

Protective Dust Guard After fixture installation, the dust guard is a plastic film placed on the decorative faces of the reflectors and louvers. This protective dust guard is usually 0.7 to 1.1 mm when dry.

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of Fixture Specifications

**ABC LIGHTING INCORPORATED**

Parabolic Troffer Series  
P2448 2x4  
4-in. Deep Louver/ 2.3.4 lamps

**Description**  
A new family of high performance 2x4 recessed deep-cell parabolic troffers designed to maximize the output of T12/T8 lamp and ballast combinations. This low-brightness troffer provides especially good lamp cut-off and is particularly applicable to areas with high VDT (CRT) usage. Computer photometric optimization has led to a more efficient parabolic luminaire with a high VCP, good glare control and optical performance. These fixtures come with optional heat removal dampers and air pattern control blades that allow enhanced airflow control. Things are die formed for maximum strength. Latches are spring loaded, concealed in reveal.

**Construction**  
Each fixture housing is die-formed from heavy code gauge or optional 20-gauge CRS. Ends and housing parts are securely riveted into place. Reflecting surfaces of body and reflector/wireway covers match precise parabolic contours of louvers. Louvers are constructed of semi-specular low-iridescence pre-anodized aluminum. All parabolic louvers are accurately held into place with interlocking construction and louvers feature mitered corners. Fixtures come packaged with a protective film dust guard.

**Finish**  
Five-stage iron-phosphate pretreatment allows excellent paint adhesion and rust resistance. Finish paint coat is a high reflectance baked white enamel. Provides a reflectivity of 86% or higher.

**Wiring And Electrical**  
Fixture conforms to UL 1570 and is suitable for damp locations. AWM or THHN wire is used throughout and is rated for required temperatures. All electrical components are UL-approved. Standard wiring, tandem wiring and master-slave wiring are available. Factory-installed fixture power whips and modular wiring systems are available as specified.

**Ballasts**  
All supplied ballasts are Class P rated HPF (high power factor) non-PCB CBM-certified ballasts. They comply with the Federal Ballast Law (Public law 100-357, 1998). Each is a thermally protected and resetting type. Energy-saving and electronic ballasts are sound rated A and have a THD of less than 20%. Ballasts are also CSA-certified and pass UL 935. Magnetic ballasts are also available. (Specify voltage 120V 60Hz AC or 277V 60Hz AC.)

**Labels**  
Luminaires bear appropriate UL and CUL recessed fixture labels. Optional CSA certification and NOM-labeled fixtures are available. IBEW-made and labeled.

**Listings**  
NYC Code—For products that meet NYC Code requirements. Chicago Plenum—For products that meet Chicago Plenum requirements.

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**XYZ LIGHTING CO. INC.**

8-in. Horizontal Quad Open Reflector Downlight  
6QC 18/26W single- or double-quad lamp

**Description**  
A series of low-brightness downlights for use with 18W and 26W quad CFL. Provides wide beam distribution and highly efficient delivery of uniform illumination with excellent color rendition. The precisely formed non-imaging optical reflector ensures equal cutoff to lamp and lamp image, and offers unparalleled glare-free performance. This series offers visual comfort suitable for most general lighting.

**Reflector**  
Precision hydro-formed 0.050 aluminum, with clear specular Alzak low iridescent finish for eliminating "rainbowing" while maintaining full light output. Vented to cool lamp. Interchangeable with screw attachment.

**Trim**  
Self-flanged with matte white powder-coated finish. Covers ceiling opening without light leaks.

**Mounting Frame**  
Precision die-stamped plaster frame of 16-Gauge galvanized steel. Has universal mounting brackets with 3½ in. of vertical adjustments. Ballasts and galvanized metal junction box are accessible from below. Friction springs and snap-on precision die cast socket cup ensure correct optical alignment without adjustments.

**Sockets**  
Two G24q2 horizontally mounted 4 pin plug-in type sockets ensure correct optical placement. Lamps are tilted for maximum heat dissipation and efficiency.

**Electrical**  
Junction box comes with ½-in.- and ¾-in.-diameter pryouts, listed for 8 #12 AWG 90°C conductors.

**Ballasts**  
Full light output electronic 120V or 277V HPF thermally protected Class P internally fused; quiet flicker free operation. Soft non-pulsating starting down to 5°F. Power Factor >99%; THD <10%.

**Labels**  
UL-listed and CSA-Certified. Non-Type IC fixture. Feed through junction box. Approved for use in dry or damp locations and approved for branch circuit wiring. IBEW-made.

**Listings**  
NYC Code—For products that meet NYC Code requirements. Chicago Plenum—For products that meet Chicago Plenum requirements.
UL 1570 Indicates Underwriters Laboratories Inc. requirements for fluorescent fixtures.

UL 954 Indicates Underwriters Laboratories Inc. requirements for fluorescent ballasts.

LAMP & SOCKET TERMINOLOGY

G24q2 This is a designation for a socket for a compact fluorescent lamp. Since there are very many compact fluorescent lamp types and an equal number of socket types, a numbering system was developed to identify the different variations. "G" is the European designation for sockets that accept two or more lamp pins. "24" is the spacing in millimeters between the lamp pins in the base of the lamp. The "q" indicates that this socket accepts 4 (or quad) pins and the "2" indicates that this variation on this socket only accepts a 18W lamp (to prevent users from mislamping the socket, the lamp manufacturers put tabs on the bottom of the lamp base ensure that only the correct wattage lamps are used in that fixture).

Ts or T5 This is the American lamp designation for a tubular (T) lamp. Linear fluorescent lamps commonly use this lamp designation. The "5" refers to the tube diameter as a number of 1/8 inches (8 "eighths") or one inch in diameter. The TS European description is T26 (26 mm in diameter). Similarly, a T12 is tubular and ½ in. or 1.5 in. diameter. The European description is T38 (38 mm in diameter).

CFL Compact Fluorescent Lamp. These lamps still go by many names and specifications: PL (Philips), Biax (GE), Dulux (Osram Sylvania) and other trade names. A T (tubular compact) followed by letter(s) is the European system of CFL lamp classification.

BALLAST TERMINOLOGY

120V 60Hz AC 120-Volt Alternating Current is the standard voltage used in many of the residential and light commercial buildings in the United States; most lighting fixtures and ballasts are designed to run on at this voltage level. Hertz (Hz), or cycles per second, is a unit of frequency of electric current. Sixty Hertz is the common U.S. rating.

277V 60Hz AC 277-Volt Alternating Current is a common voltage standard used in many commercial fixture applications in the United States. The higher voltage makes it easier to wire many fixtures together on fewer circuits, making installations easier and simpler. Specially designed ballasts are required for operation at this voltage.

Ballast Used in gasous discharge systems (fluorescent and high-intensity discharge), the ballast starts the lamps and then regulates the flow of current during normal operation.

CBM Certified Certified Ballast Manufacturers Association certification identifies ballasts that are produced to conform to American National Standard Institute (ANSI) standards.

Class P-Rated Class P is a standard created by UL that indicates it has an internal thermal protection device to protect against overheating, excessive voltage supply, internal ballast short circuiting, inadequate lamp maintenance and improper fixture application. In the event the ballast overheats, the thermal protection device will shut off the ballast until it cools; once it cools sufficiently, the ballast is reconnected to the power supply and it regains the lamps. If this process continually repeats itself due to a temperature problem, it is called “cycling.”

Electronic Ballast These ballasts differ from magnetic ballasts in that they generally consist of a printed circuit board with semi-conductor technology that electronically regulates the voltage to start and run the fluorescent lamps instead of physically changing the voltage as the magnetic ballast does. Due to the increased level of control, this ballast can operate at a higher current frequency range and send a more precise and efficient flow of voltage through the lamp. This creates a brighter, more efficient lamp operation. Some electronic ballasts include all electronic components, while some include a mix of electronic and magnetic components.

Federal Ballast Energy Law The Federal Ballast Energy Law (Public Law 100-357) was enacted in 1988 as part of the National Appliance Energy Conservation Amendments (NAECA ’88). The law sets minimum ballast efficiency standards for four major fluorescent lamp types. As of 1991, ballasts submitted for testing by the U.S. Department of Energy and complying with NAECA ’88 provisions carry an E symbol on their labels. Ballasts exempt from NAECA included dimming ballasts and ballasts used in areas where ambient temperatures reached 9°F or lower.

Magnetic Ballast Also called an electromagnetic ballast. These are the most basic and oldest type of fluorescent ballasts. The basic construction consists of a core of stacked steel plates wrapped with a coil of copper or aluminum wire (a basic electron magnet). This is then potted in an insulating material such as asphalt to conduct the heat of the ballast outward. The entire assembly is then put into a metal housing to prevent breakdown and shock hazard. Usually a separate starter of various different designs is incorporated into this housing to provide the additional voltage needed when initially starting a fluorescent lamp. Some HID ballasts require an external ignitor.

Non-PCB Ballasts manufactured and distributed in the United States prior to 1979 contain polychlorinated biphenyls (PCBs), which is a hazardous material whose disposal is governed by environmental regulations. Since many magnetic ballasts can enjoy a service life of 25 years or longer, these ballasts are still in existence. If a ballast label is marked “NO PCB’s,” then it is not a PCB ballast; if there is no such marking, then the ballast is assumed to contain PCB fluid and must be treated according to all applicable regulations.

Power Factor Power factor is a measure of how well the ballast uses the input voltage and current that is provided to generate the power that is actually delivered to the lamps. It is not an indication of how efficiently it runs the lamps, but a measure of ballast operating efficiency. Low power factor ballasts require a “higher” operating current and tend to put more “load” on the circuits in a building; in larger buildings, even the feeder lines from the electrical utility can be “loaded down.” Therefore, electric utilities encourage the use of high power factor ballasts and penalize building owners for heavily loaded circuits. Another reason why specifiers need to know about power factor is that the more inefficient the ballast is in using the current supplied to it, the “heavier” the wire that is necessary to supply this “current thirsty” ballast. A specifier can place more fixtures with high power factor ballasts on individual circuits then with normal (low) power factor ballasts. High power factor ballasts are those with a rating of greater than 90 percent (0.90).

Resetting Type Refers to the thermal protection circuitry inside the ballast. Most ballasts that are Class P-rated will have an automatically resetting type of thermal protection that will restore the ballast to normal operation once the event that caused the shut down has passed (see Class P Rated above).

Sound Rating This rating is more commonly associated with magnetic ballasts where vibration caused by the inherent magnetic action in the core and coil produces a hum. Sound rating "A" is the best and quietest and is used for most indoor installations.

THD Total Harmonic Distortion. This term describes distortion that sometimes occurs when the need for current is not in equilibrium with the supply of this current. On one side, a fluorescent lamp can draw short pulses of current instead of asking for a constant supply of current. On the other side, when turning on a ballast, a large in-rush of electric current can occur. The ballast between the lamp and the supply current is trying to balance the needs of the lamp with the amount of current it is receiving at that moment. Low THD ballasts can also be compared to surge protectors because they act to protect themselves and other electronic components by preventing power surges. This is not a major problem for most ballasts and in most applications. In larger buildings with many fluorescent fixtures, however, THD can present a significant problem and if not precalculated and controlled can possibly overload the normal flow of current in the system. The lower the THD rating of the ballast, therefore, the better (below 20 percent is preferred).

LABEL TERMINOLOGY

CSA Canadian Standards Association is the testing authority for ballasts and electrical products used in Canada, similar to UL.

CUL UL certification of testing to Canadian UL standards.

IBEW Union Made International Brotherhood of Electrical Workers. This label represents that the fixture is attached to union-made. It is useful on larger construction jobs where the use of union-made products is encouraged. Job sites in certain larger cities strongly encourage the use of fixtures made by specific local unions.

IC Fixture Insulated Ceiling Fixtures are allowed to be placed against and surrounded by building insulation material commonly found in areas such as residential attics.

NOM The Mexican standards testing agency similar to UL.

UL Underwriters Laboratories, an independent non-profit organization that tests products for public safety. Through use of study experimentation and testing, their mission is to prevent the loss of life and property from the hazards of fire, casualty and crime.

LISTINGS TERMINOLOGY

NYC Code A set of fixture requirements regulated by the government of New York City. It assigns a Calendar Number to every manufacturer’s fixture submitted; this number is required before installation. The highlight of this code is that it requires fixture manufacturers to build their fixtures of 20-gauge steel material or better and attach these parts with approved mechanical fasteners to ensure better fixture strength and integrity.

Chicago Plenum A requirement for all lighting fixtures that will be installed in the City of Chicago. The main feature is that any fixture installed in a ceiling air plenum (the space between the finished or suspended ceiling and the main structure above) needs to have special gasketing to completely enclose the junction box, splice compartment or fixture wiring to avoid electrical sparking, fire or other hazardous situations that might encroach into the ceiling plenum or room below.

Stephen Blackman is principal of Blackman Design Associates Inc. in Florham Park, NJ.
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Inside and out, Lucifer Lighting Company's newest lighting solutions are as beautiful as ever. At right: **Calyx**, a petite glowing sconce, lit by fiber optics. Low-voltage **Basso**, a deeply recessed downlight, using Par or R lamp and multiple effects devices. At left: **Stria**, a compact low-voltage linear fixture that surface mounts or recesses flush to walls, ceilings and coves.

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Guidelines for Specification Integrity

The International Association of Lighting Designers (IALD), in conjunction with the Lighting Industry Resource Council (LIRC), has developed the following Guidelines for Specification Integrity, which suggest actions specifiers can take to build and preserve a specification of high integrity. These guidelines provide specific information for specifiers on how to write specifications with clarity and precision. The guidelines also provide information about how to communicate with clients, manufacturers and manufacturer's agents concerning their standards of quality for lighting equipment to ensure that recommendations apply to every phase of a project's development—from the preliminary design phase through completion of construction.

I. Foundation Elements for Building a Quality Specification

A. Work to develop a lighting equipment specification database.
1. Establish categories for the key luminaires (lighting fixtures) you specify, classifying them according to location, source and function or application (e.g., recessed incandescent downlights, pendant fluorescent uplights, exterior metal halide floodlights, etc.).
2. Develop a standard luminaire typing system to organize your lighting equipment.
3. Develop a master luminaire schedule or database that identifies acceptable products by manufacturer and specification number.
4. Track project pricing information in this database, allowing you to develop a history of unit price information that will be beneficial in evaluating lighting budgets for future projects.
5. Update your databases on a regular basis.

B. Establish clear and defensible standards of quality for the lighting equipment you specify:
1. Determine your interpretation of differing specification project grades.
2. Foster dialogue with fellow design professionals to assist your development of quality standards for lighting equipment.
3. Develop and use a checklist of product performance evaluation criteria including:
   - Photometric performance
   - Aesthetics
   - Construction materials and integrity
   - Finishes
   - Energy consumption
   - Manufacturer's support
   - Delivery
   - Long-term availability and service
4. Brief your local manufacturers' agents on your preferences concerning products and lighting equipment standards.
5. Adopt and maintain a company policy regarding specification integrity. Write a policy statement on lighting specifications to be distributed to your design clients, key project decision-makers and other project team members.
6. Meet with key representatives of your local manufacturers' agencies to discuss your policy and how to work together to maintain the integrity of your lighting specifications.

C. Get to know the lighting products you specify:
1. Encourage manufacturers and their agents to visit your office with working sample products, not just catalogs. Use these visits to evaluate product performance.
2. When possible, visit manufacturers' facilities to see how the products are researched, developed, designed, manufactured, tested and shipped.
3. Cultivate professional relationships at regional or national levels with key factory-based contacts for manufacturers you specify. Rely on these contacts for assistance when special requirements arise on projects.
4. Attend seminars and trade shows that allow you to evaluate lighting equipment performance characteristics, compare products and remain current on technology.
5. Obtain product samples of similar luminaires from multiple manufacturers for comparative evaluation. Record your assessments of the products' qualities and add this information to your lighting product database.
6. Develop a reference of standard notes relating to lighting products that are to be used for quality assurance during the project design process.

D. Promote and protect the creation of unique designs:
1. Educate yourself, your professional colleagues and your clients' decision-makers as to the value of unique products and the necessity for protecting intellectual property.
2. Include language in your specification that addresses intellectual property and original designs. State your policy in upholding design copyrights and discouraging the consideration of "knock-offs."

II. Actions in the Project's Design Phase(s)

A. Assess the project's lighting budget and establish product quality level.
1. Identify the level of lighting system quality and cost desired by the owner and supported by the budget.
   a. Make the owner aware of tangible differences between various product quality levels.
   b. If necessary, provide the owner examples of different levels of product quality (samples, installation, etc.) to assist him in understanding both the benefits and limitations of various equipment designs.
2. Communicate directly with the owner and principal decision-maker whenever possible to minimize the chance for confusion or miscommunication.
3. Clarify the rationale for the project's budget and identify various influences. Understand your role and formal responsibilities in ensuring that the budget for lighting is met.
4. Learn to recognize potential lighting-related budget problems early in the design phase. Provide constructive suggestions to the decision-maker for addressing problems.
5. Continually update costs for the lighting products you are planning on specifying to minimize later budget problems.
6. Identify construction bidding format (Guaranteed Maximum Price, Competitive Bid, etc.) and its possible impact on your design process.

B. Identify protocol for securing approval(s) of selected products.
1. Identify which project members will influence the selection of lighting equipment.
   a. Enlist the architect or engineer in assisting you in holding your specification.
   b. Determine the owner's position on specification integrity and assess likelihood of his support of your efforts.
2. Determine if "value engineering" or similar project scope and cost reviews may be a factor on the project.
   a. Establish when value engineering activities are likely to occur in the project schedule.
   b. Ally yourself with the decision-makers to clarify in advance which products should not be substituted or compromised.
   c. Position yourself with the decision-makers to be the only legal adviser on these matters, should they arise.
   d. Clearly communicate, in writing, anticipated compromises in performance, operation or maintenance that may result from value engineering.
3. Become familiar with regional conditions on your projects outside of the local area.
   a. Find out who the local agencies are that represent the key products you specify and, if appropriate, make it known to them that you, as lighting specifier, are available to answer questions on the specifications.
   b. Make the local agents aware of your policy regarding specification integrity.

C. Develop and employ a methodology for selecting lighting products.
1. Obtain relevant project information to ensure the most accurate and complete luminaire specification.
   a. Room dimensions, finishes, ceiling conditions and similar physical characteristics.
   b. Determine specific locations for remote equipment to determine maximum allowable distances.
   c. Identify estimated operating temperatures where products are to be located (i.e., where will it be too hot or too cold).
2. When necessary, conduct mock-ups to assess or demonstrate lighting performance.
3. Understand and monitor the project design and construction schedule.

III. Actions in the Project's Construction Document Phase

A. Specification of the desired products(s).

(Continued on page 34)
Visionary thinking brought to light

For nearly twenty years, The Watt Stopper has been providing innovative solutions so companies like yours can achieve the benefits of lighting control. We can help you realize your vision, whether it be saving energy, increasing productivity, or enhancing security and convenience.

Select from our range of control products that includes occupancy sensors, lighting control panels, daylighting systems, bi-level HID control, and individual dimming systems. Call on our technical support resources at every stage of your project, from inspiration to implementation.

The Watt Stopper can help you find the pieces that fit—and finish—your lighting control vision.
1. Secure accurate manufacturers’ pricing of the products you are specifying. Ideally, “distributor net” costs are most informative, but “approximate contractor net” is often easier to determine. Share these costs, on a confidential basis, with your client and the project’s decision-maker.

2. Use a luminaire schedule (lighting fixture schedule) when the project bidding process is clearly understood and you have some control over the product approval process. Note: Refer to Section VII of this article (“Specification Approaches”) for detailed information on formulating a specification strategy.

3. Use a written luminaire specification to give explicit luminaire descriptions when you are not sure you can depend upon the project team to assist in maintaining your specification.

4. Separate and identify special types from “commodity” items, especially when multiple-name specifications are required.

5. Distribute luminaire schedules to local manufacturer representatives to foster open communication on the project.

6. Notify both local agent and factory contact of project.

B. Include product notes on lighting drawings and luminaire schedule to fully articulate project requirements.

1. Note any accessories, special finishes, atypical mounting devices and other unusual requirements required for each luminaire type.

2. Make sure notes or specifications relating to a specific luminaire are shown in one location only to minimize errors if and when changes are made to the documents.

C. Provide product details when necessary to fully clarify unique project conditions or requirements.

1. Include complete details of architectural integration when mounting is not considered standard installation.

2. Properly note and cross-reference details to aid contractor in identification.

D. Lighting section of the project’s electrical specification.

1. Make sure the specifications apply to all lighting products you specify on the job.

2. Delete or modify specification language that does not apply or may lead to misunderstanding.

3. Require that for all products where identical appearance across functions, lamps, etc. in a specific “family” of products such as downlights, exit signs, etc. is essential to the appearance of the job, that the whole family be supplied by the same manufacturer.

4. Require prequalification of contractor offered substitution 10 days prior to bid date.

5. Advise in the specifications that if any submissions from the low bidder are for products other than those specified, then—in the event that they are approved—the other bidders will be notified and offered the opportunity to resubmit their bids based on their supplying the same non-specified bill of materials as the low bidder.

VI. Specification Approaches

IV. Actions in the Project’s Bidding Phase

A. Whenever possible, participate in the project’s pre-bid meeting to answer questions and reinforce to the bidders your expectation for their bid submittals.

B. Provide counsel to the decision-maker regarding lighting-related bid issues.

C. Should the resulting construction bids be such that the decision-maker requires a reduction in project scope, costs, be in a position to lead and advise on the lighting portion of this effort. Do not allow the contractor to influence design decisions through only a cost reduction focus.

V. Actions in the Project’s Construction Phase

A. Review and assessment of contractor submittals

1. Establish procedures, in advance, for the review and critical assessment of shop drawings, samples and other submittal materials required from the contractor by the specifications. Note: It is important to inform the client of your procedures, so that you receive the necessary information in a timely manner.

2. Assist in the appraisal of prototypes or full-scale mock-ups that are required by the specifications.

3. Inform the client and decision-maker of any contractor responses that are inconsistent with the specifications or may jeopardize the possible delivery time of the product.

B. Monitor construction progress.

1. Ensure that installation-related requirements of the lighting specification are being executed.

2. Respond to questions (Requests for Information or RFI) from the field in a timely manner so as not to jeopardize the project’s schedule.

C. Intervene on the client’s behalf, when requested, to resolve inconsistencies or problems.

1. Contact factories to verify shipment schedules and, if possible, obtain better delivery dates. Note: It is important that the contractor know that it is with the client’s permission that you are providing this service.

2. Ask the construction manager/project manager to copy you on periodic construction reports to assist in foreseeing possible problems.

VI. Specification Approaches

Single-Name Specification

Purpose: When only one product is suitable for the application and/or no known equals exist.

• List the one and only product by manufacturer name and specific catalog number.

• Indicate in the specification that submission of other than the listed product(s) will not be considered.

• Make it clear in the specification that accurate pricing for all single name products has been secured prior to bidding and that the information has been shared with the owner/client.

• Require unit pricing for product that clearly indicates what the contractor is charging the owner for the equipment.

• 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.

• Prepare for the owner in advance a detailed list of all the technical, performance and design features that warrant this product’s special consideration.

Multiple-Name Specification

Purpose: When several products are available that will meet the design, performance and budgetary requirements of the project/application.

• List two or more products by manufacturer name and specific catalog number.

• Avoid using “or equal” in the specification. Such language is too vague and what constitutes an equal is clearly difficult to identify.

Single-Name Specification with Deduct Alternates

Purpose: When a particular product is decidedly preferred for an application, but one or more less costly products could be utilized, with the understanding that certain compromises in quality or performance would occur.

• List the preferred product by manufacturer name and specific catalog number. Clearly identify this product as the Base Bid.

• Identify as Deduct Alternates one or more products by manufacturer name and specific catalog number. Avoid listing manufacturer name only without first clearly identifying the performance criteria.

• Require unit pricing for both Base Bid and Deduct Alternates.

• Require that the Base Bid product be priced by the contractor, otherwise Deduct Alternate pricing is invalidated and his bid submittal will be considered incomplete.

• Make sure that the Deduct Alternates are properly listed or referenced on the Project’s Contract Document bid form.

• Prohibit the submittal of voluntary Deduct Alternates by the Contractor unless expressly requested to permit such by the owner.

Performance Criteria Specification

Purpose: Special requirements for many government and some private sector projects dictate the use of a performance criteria specification without the listing of manufacturers or specific catalog numbers. The performance specification attempts to identify, as completely as possible, both the quantifiable and qualitative aspects of a luminaire’s performance. Any product submitted for consideration must meet or exceed the performance characteristics set forth in this specification.

(Continued on page 36)
Silhouette 4 + 5

Good lighting design needs adequately designed luminaires and excellent lighting distribution.

With the wall mounted Silhouette 4 and the suspended Silhouette 5, we are able to offer linear extrusions that keep in proportion with the architecture.

The mix of soft diffused indirect light and well controlled direct light gives an impression of simple elegance that enhances the space without detracting away from the interior design or the product.

If visitors to Marks & Spencer feel comfortable with the surroundings, then this may be due in part to our Silhouette family of luminaires.

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Australia • Austria • Benelux • France • Germany • Great Britain • Italy • Singapore • Sweden • U.S.A.
Circle No. 35
A. Establishing specifier control in the bidding phase.

1. "Distributor Net Pricing has been secured for all products specified and is used in the preparation of preliminary opinions of probable cost. A record of specific unit costs has been shared confidentially with the Owner to assist him in analysis of bid submittals."

2. "Contractor shall supply 'contractor net' unit pricing 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 valid for additions and deletions of product throughout the duration of the project."

3. "In addition to the Base Bid product(s) listed, the Contractor is requested to supply pricing for the following Deduct 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 products specified. Failure to do so will invalidate the lighting bid submittal and, at the discretion of the Owner, may eliminate the Contractor's bid from further consideration."

B. Maintaining timeliness and efficiency in the submittal process.

1. "Within (twenty-one) 21 days of contract award, successful Contractor shall submit a complete list of lighting products he intends on furnishing with manufacturer and catalog designations, along with current 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 Owner at this time."

2. "Within twenty-one (21) days of bid award, Contractor shall provide a complete list of all lamps that will be furnished on the project. This list shall be organized alphabetically by the luminaire type indicated on the luminaire schedule, and include the manufacturer and exact model number of each lamp. Up to three (3) samples of any listed lamp shall be supplied at no additional cost to the project, if so requested by the specifier."

3. "A submittal for this luminaire type shall include an operable 120-volt non-returnable sample, complete with lamp(s), 72-inch grounded cord and plug and specified finish."

4. "Alternate products other than those listed by name in the specification will not be considered without prior written consent from the Lighting Designer."

C. Managing substitutions.

1. "Substitutions for the specified lighting products are not acceptable and will not be considered. Failure to include one of the specified products as a part of the Base Bid may, at the discretion of the Owner, invalidate the entire lighting bid and exclude the Contractor from further consideration."

2. "Should the Contractor wish to have considered products other that those specified they must submit those items fourteen (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."

3. "Voluntary product substitutions from the Contractor will not be considered without prior approval to submit from the Lighting Designer."

D. Product design integrity/intellectual property.

1. "This luminaire is a unique design, available only from the specified manufacturer. No attempt should be made to solicit bids from other manufacturers to copy or ‘knock-off’ the luminaire design. Attempts to do so may, at the discretion of the Owner, invalidate the entire lighting bid and exclude the contractor from further consideration."

E. Focusing, aiming and adjustment.

1. "Contractor shall focus and adjust designated luminaires, after dark, at a time mutually agreeable to Contractor, Lighting Designer and Owner. Adjustments shall be made in accordance with the Lighting Designer's stated intent, under his/her observation."

2. "The aiming and adjustment of this luminaire must take place after the Project's amenities have been completely installed. These amenities shall include, but not necessarily limited to plantings, furniture, artwork, graphics and signage. Contractor shall include in his base bid, provisions for lifts, scaffolding, extension ladders and all other materials required to complete said adjustments."

3. "This luminaire shall not be installed to track until aiming and adjustment takes place, just prior to the Project's completion."

4. "Exact distribution of the lamp for this luminaire will not be known until final aiming and adjustment takes place. Contractor shall provide 150 percent of total lamp quantity required, with distributions broken down as follows: 75 percent flood, 75 percent spot; 150 percent total. A portion of the lamps remaining after final aiming and adjustment will be turned over to the Owner for stock, while the others shall be returned unopened to the Contractor's distributor for full credit."

F. Anticipating frequently encountered on-site problems.

1. "This luminaire shall not be operated for work light at any time during construction, nor shall it be illumina ted for any other reason. Failure to comply with this requirement will make necessary the relamping of this luminaire by the Contractor at no additional cost to the Owner."

2. "Whenever this luminaire is used for work light during construction, it shall be relamped with the Project specified lamp just prior to turnover of area to Owner."

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Faceplate available in architectural metal finishes and a variety of colors. Shown in Satin Brass.

New Performance Innovation Solutions

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Controls lights from a GRAFIK Eye or theatrical console through the same Lutron power panel.
Ideal for hotel ballrooms, auditoriums, houses of worship and schools.

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Arcless switching for 20 times better reliability than relays.
Ideal for entire floors and buildings.
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Problem:
Some spaces require architectural dimming 90 percent of the time, but occasionally there is a need for theatrical lighting for a presentation or special event which requires two systems—one for day-to-day architectural lighting, another for theatrical effects.

2Link Solution:
Lutron's 2Link technology allows dimming panels to accept two data protocols simultaneously so that an architectural space can be operated by an architectural control system like GRAFIK Eye controls and a theatrical console. One system does both.

Features of GRAFIK Eye Preset Lighting Controls:
- Control any light source
- Save and recall multiple scenes
- Integrate with AV, shades, security, HVAC and other building and residential systems
- Specified and installed in over 90 countries
- Tested in real world conditions
- Applications engineers available 24 hours a day, 7 days a week

Circle No. 26
LUTRON
LIGHTING CONTROL SOLUTIONS
See us at Lightfair, booth #939.

Free video, detailed product information: lutron.com/grafikeye-ad or 1-877-2LUTRON, ext. 211.
From Norwell Mfg., the Tuileries series of chandeliers features hand-bent tubing and Italian glass to create the look of budding flowers as seen in France. Tuileries is offered in 3-, 6-, 9- and 15-lights. Available finishes are polished, pewter and Flemish. UL-listed. Circle No. 60

From Rock Cottage Glassworks, this "O" pendant commissioned for an ASID showhouse features hand-blown and cast glass. The fixture measures 10 in. in diameter. Rock Cottage Glassworks creates fixtures from molten glass that are often one-of-a-kind. Circle No. 61

Starfire Select Xenflex custom star-shaped pendants are available in a variety of sizes, finishes and light-source options. Suspended just 2 ft., the pendants fit close to the ceiling and provide illumination without intruding into the space. Core ingredients of the pendants are linear low-voltage strip lights with Xenon gas-filled lamps. Housings are satin stainless steel and faux alabaster, hand-finished by Starfire in-house artisans. UL-listed. Circle No. 62

The Moderne pendant series from Neihardt Inc. is offered in clear, amber and bronzed frosted slumped glass with complementing satin nickel or sanded aluminum metal finishes. Seeding—trapped air bubbles between the layers of glass—creates visual interest. The Moderne I and II are offered in 24-in.- and 29-in.-diameter bowl shades with 5-in.-depth and customized suspension length. The pendants are suspended by three rigid stems or cable wires attached to a focal point on a single rigid stem. Lamping options include three 100W A-lamps or three 13W compact fluorescent lamps. UL-listed. Circle No. 63

Created by the Claritis Studio in California, Lightolier's Calculite offers the Claritis line of below-the-ceiling glass downlight fixtures, available in standard aperture sizes of 6 in., 7 in. and 8 in. The fused glass discs are offered in round, elliptical and square shapes as well as a variety of bright colors. Designed for use with energy-efficient compact fluorescent lamps, Calculite Claritis can be used with standard reflectors and frame-in kits or load bearing frames when necessary. Metal halide and incandescent sources are also available. UL-listed. Circle No. 64

Conceived by Renato Toso and Noti Massari, the design for Leucos' Modulo S/35 is based on the purity of materials and light. The shades are formed of lucid, handblown Murano glass wrapped around an opaque sheet of white glass with an undulating "ripple" effect. Modulo is offered with a number options including a cylindrical or conical shape. UL-listed. Circle No. 66

From Ultralights Architectural Lighting, the Compass Collection is comprised of six handcrafted ceiling pendant designs offered in a variety of finishes. All models feature incandescent lamping with fluorescent options and are available with 24-, 30-, 36- or 48-in.-diameter bowls constructed from decorative acrylic diffusers. Handmade art glass bowls are offered in 24-in. diameters. UL-listed. Circle No. 65

"ARCHITECTURAL LIGHTING"
From Mark Lee Lighting. Lady is a lighted object of art measuring 9 in. long x 9 in. wide x 60 in. tall. A stainless steel frame draped with white fabric, Lady uses a 40W fluorescent and is equipped with a transparent cord. UL-listed. Circle No. 71

Designed by Emmanuel Babied as an interpretation of a shooting star, Venini's Cometa is made from hand-blown swirled and luminous Murano glass and features four globe-like projections that emit light from all angles. Hand-blown into a three-dimensional oval sphere, the "tail" of the shooting star is the main body of the pendant. Cometa is fabricated in the Rigadin style, which influences the varying color of the piece. Cometa 886.10 measures 39'/ in. high and is suspended from a brushed chrome rosette. Cometa 886.11 measures 65 in. long. The series will include wall sconces and various ceiling mounts. UL-listed. Circle No. 67

The Faux Alabaster Dome from Starfire is a ceiling-mounted ambient lighting fixture that can be customized to suit specific requirements. With its imposing transitional design, the Faux Alabaster features a satin-finished brass trim and a frosted dome. The three-dimensional "circle-in-square" metal motif trims the upper perimeter of the dome, while brass strips descend from the top of the dome to the lower center and meet in a knot. Measuring 60 in. in diameter, the fixture can use incandescent or compact fluorescent lamps. UL-listed. Circle No. 69

Available in overall fixture heights of 25 in., 29 in. or 33 in., Nessen Lighting's Spider features eight brass fixture arms with light sources that radiate from the "body" of the design and curve down at the tips to join closed-end translucent cylindrical glass shades. Spider provides a wide distribution pattern of ambient lighting. Measuring 42 in. in diameter, Spider is illuminated by 60W T10 incandescent lamps and can be specified with open-bottom shades for direct downlighting. Lenses are white sandblasted glass. Available finishes are brushed or polished brass, chrome or nickel and fade- and chip-resistant baked enamel. UL-listed. Circle No. 68

Estiluz's T9016 is a surface fixture that combines both direct and indirect light. Ten metal spokes contain 20W bi-pin low-voltage lamps. Reflective shields permit direct or indirect options. T9016 uses a 50W MR 16 line-voltage center lamp and is offered in satin nickel and satin gold finishes. UL-listed. Circle No. 70

Designed by Rodolfo Dorini. Flos USA's Bloc represents an interpretation of a designer dress that incorporated small square pieces clipped together. The shade is constructed of polycarbonate squares held together by clips. Bloc is available in three applications, table lamp, suspension lamp and wall sconce. All are offered in white, blue, green and amber. All models take a 60W A19. UL-listed. Circle No. 73

Nessen Lighting's Starfish is available in 25-, 29- or 33-in. overall fixture heights and has a diameter of 42 in. Starfish features a sandblasted, light-diffusing glass domed lens at the end of a broad, solid-brass fixture arm and uses 60W candelabra-base incandescent lamps. Spider can be specified with brushed or polished brass, chrome or nickel finishes as well as fade- and chip-resistant baked enamel finishes. UL-listed. Circle No. 72
From Studio Q. Teardrop features a shade made of sculpted wood veneer mounted on a brushed stainless steel band. The flame-retardant shade is made of non-endangered wood. The fixture is available in a variety of woods, including birdseye maple. Teardrop measures 4 in. x 6 in. x 10 in. All fixtures are original and vary slightly. The lamp base is UL-listed. Circle No. 74

Meyda Tiffany's Model #D179-8 is a six-light decorative chandelier featuring purple and honey art glass with coordinating clear accents. The chandelier measures 22 in. high x 30 in. wide. UL-listed. Circle No. 75

Progress Lighting's Eclipse Collection of pendants and wall sconces features brushed steel or polished brass finish with satin-white or white opal glass diffusers. This chain-hung pendant measures 27¼ in. in diameter and 24 in. in height. Illumination is provided by three 100W incandescent or three 3W 2-pin compact fluorescent lamps. Lamping options vary with each model. UL-listed. Circle No. 77

Providing soft, diffused ambient lighting, Luxo's Lilla Aurora pendant features white polyester powder-coated metal construction with chrome details. The fixture is lamped with 13W or 26W compact fluorescent lamps; an A60 incandescent lamp model is also available. Fluorescent models are equipped with an etched glass lamp diffuser standard. Incandescent models feature a clear glass diffuser. Lilla Aurora suspends from the ceiling via a 7¼-in. cable. UL-listed. Circle No. 80

The Ambit pendant by Ron Rezek is a reinterpretation of a 50's sensibility. Stem hung, the pendant features double layers of blown glass and is offered in all white glass or a combination of white and cognac glass. Ambit is available in 6-in. and 8-in. diameters and 24-, 36- and 48-in. heights. Illumination is provided by one 100W A19 incandescent lamp. Fluorescent options are available with an electronic dimming ballast. UL-listed Circle No. 78

Circle No. 79

Vistosi's Felicia Suspension series from Hampstead Lighting is available in various sizes ranging from 20 to 40 in. in length and 14.4 to 32.8 in. in height. The pendant is designed by Chiaramonte-Marin and is offered in different colors. Felicia uses two 100W lamps. Circle No. 76

Circle No. 79

Murano Due's Gio wall and ceiling fixture features a white frosted blown glass diffuser against a square back plate. The back plate is offered in orange, white, satin crystal, lemon yellow, apple green, silk-screened cast glass “millaria.” The frame is made of matte white epoxy powder lacquered metal. Gio uses two 75W incandescent lamps or two 15W fluorescent lamps. Circle No. 79

Circle No. 80

* ARCHITECTURAL LIGHTING *
FINALLY
GALVANIZED FIXTURES

When your design is something special you lighting fixtures should be too. That's the driving force behind our newest offering of indirect and direct/indirect luminaires from Prudential Lighting.

Offering finishes like large pattern Galvanized steel and deep brushed stainless steel gives designers a new found freedom in lighting.

To find out more go to: WWW.PRULITE.COM
Waldmann Lighting has unveiled the Chorus Uplighter that mounts directly onto furniture or onto desktops using special clamps and brackets. Each unit houses four 40WPL-L compact fluorescent lamps controlled by a three-way switch built into the head that lights two or all four lamps. Available in black or light gray finish with end caps in a variety of colors. UL-listed. Circle No. 86

The Bridge from Lam Lighting provides semi-indirect lighting in a fixture that is 1.5 in. deep and utilizes single or dual T5 or T5/HO fluorescent lamps powered by an electronic ballast. Fixtures can be mounted within 12 in. of the ceiling and can be specified in up to 8-ft. lengths. Clear acrylic dust cover to shield the lamp(s) is optional. UL- and CUL-listed. Circle No. 87

Ledalite Architectural Products has introduced T5/HO versions of its Minuet and Crescendo fluorescent indirect, semi-indirect and direct/indirect fixtures. The semi-indirect fixture features a transflector under the lamp that allows users to adjust the amount of light that reaches the filter on the bottom of the fixture, creating three levels of brightness. UL-listed. Circle No. 89

Silhouette from Lightolier is a series of linear indirect, indirect/direct and direct fluorescent lighting fixtures that use T5 lamps. Silhouette is based on a modular construction that allows units to be mounted individually or joined together to create a variety of configurations and patterns. UL-listed. Circle No. 90

Lithonia has published a new 16-page brochure depicting the Avante series of recessed direct/indirect fluorescent lighting fixtures for small and large area applications. The brochure includes product details, common installations and other information necessary to select and order Avante products. Circle No. 88

Metalux Lighting, a brand of Cooper Lighting, has unveiled Ovation, a new family of recessed fluorescent direct/indirect fixtures. These fixtures are available in 2x2 and 2x4 sizes; in center- or side-mounted models for all light sources; in one-, two-, three- and four-lamp versions; and use T5, T5/HO, biaxial or T8 lamps. A matte white indirect reflector is mounted above the lamps to soften the light and balance brightness. UL-listed. Circle No. 91
Introducing an architectural lighting control system that will change the way you think about Leviton.

For added reliability, we build our systems with the heavy duty power handling capability of SCR's. To give you the exact system for your application, we offer the flexibility of multiple control choices. And to aid in ease of adjustment, our control systems include slider control. Our new lighting control systems are going to change the way people see a lot of things, including us.

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Zumtobel Staff Lighting Inc. has introduced Aria, a new indirect/direct fluorescent lighting fixture designed by Sottsass Associati. Housing 54W T5/HO lamps, Aria does not use conventional reflectors or louvers; instead, it uses a patented microprism structure that directs light downward in a batwing pattern to reduce glare. Measuring 2 in. deep, it can be configured with either a single panel or double panels, and with square or rounded edges. UL-listed. Circle No. 92

Focal Point’s Sky is a symmetric recessed indirect fixture. This 2 ft. x 2 ft., four-lamp fluorescent fixture houses either the linear 14W T5, 24W T5/HO or 55W TT5. The quadripartite vault form, often seen in Romanesque and Gothic architecture, inspired Sky’s contoured reflector design. UL-listed. Circle No. 93

H.E. Williams Inc.’s “Performance Lighting” catalog features, among many other products, the Series A12 fixture. Series A12 features high efficiency with a wide distribution curve; perforated downlight apertures with white acrylic overlay; quick-connect polarized single-circuit wiring standard; self-aligning joining method to ensure straight rows; diecast aluminum end caps; non-glare polyester powdercoated textured exterior finish; and high-gloss 92-percent reflectance white powdercoating on all non-exterior steel components. Available in 4- and 8-ft. nominal lengths with two, three, four or six T8 lamps. Circle No. 95

Ciros from Litecontrol balances direct and indirect lighting components, as well as function and aesthetics. The fixture is offered in two-, three- and four-lamp versions and a choice of seven diffusers—from a die-formed steel windows pattern to baffles and lenses. Available as an option, the Distribution Separator Reflector (DSR) allows three- and four-lamp tandem-wired fixtures to deliver separate direct and indirect components. A hub connector allows adjustable fixture corners from 85 to 275 degrees. UL-listed. Circle No. 94

iColor Cove from Color Kinetics Incorporated provides digital color-changing light and lighting effects to alcoves and accent areas (chasing rainbow effect shown). iColor Cove uses the company’s patent-pending Chromacore technology, which generates more than 16.7 million colors using a microprocessor and RGB color mixing of LEDs, to produce color cross fades, color washes, random color changes or constant colors. It can also be externally controlled by standard DMX512 controllers, PCs or other controllers. Segments come in 6- and 12-in. lengths; are housed in low-profile narrow-footprint design; and project a soft-edge strip of light at a 100-degree beam angle. UL-listed. Circle No. 96
Got Verve?

Verve I
- suspended
- wall mount

Verve II
- suspended
- wall mount

VERVE (VURV)N: AN ENERGETIC STYLE [SYN: VITALITY]

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Circle No. 29
Mirage from Peerless Lighting is a linear fluorescent indirect/direct fixture that is available with T5/HO or T8 lamping options and comes standard with a satin matte baffle. Available in 4-ft., 8-ft. and 12-ft. fixture modules with end plates, feed and suspension kits and power connections. UL-listed. Circle No. 97

Peerless Lighting’s line of indirect/direct lighting fixtures includes the Modular Envision I/D, a fixture with an extruded aluminum design similar to other fixtures in the company’s Envision family. Comes with T5/HO or T8 lamping options and a standard baffle finish. Available in 4-ft., 8-ft. and 12-ft. fixture modules with end plates, feed and suspension kits and power connections. UL-listed. Circle No. 98

Aviva from Litecontrol comes in three housing styles and offers a variety of appearances to complement various interiors. Series 75S has slotted steel sides affixed to the aluminum extrusion lower housing while series 75P features perforated panels. Series 75N has no pattern on the side panels. Aviva utilizes T5 lamp technology—a ½-in. diameter lamp and a low profile ballast. The high-output version of the T5 with 5,000 lumens, can match the output of two T8 lamps. UL-listed. Circle No. 99

Windtus lidiii Lam Lighting is a semi-indirect linear fluorescent lighting fixture with cubic perforations. Thin aluminum cables suspend the fixture 24-30 inches from the ceiling surface. Houses one or two T5 or T5/HO lamps; lamps can be shielded with an optional acrylic dust cover. UL- and CUL-listed. Circle No. 100

Zumtobel Staff Lighting has unveiled the Synto family of recessed fixtures that combine indirect lighting with a direct component that provides controlled brightness. Synto is offered in a 2x2 configuration with two 40W or 50W twin-tube compact fluorescent lamps. Available with matte, specular or white louvers and with white, stepped vane or perforated reflectors. UL-listed. Circle No. 101

Ruud Lighting offers wall-mounted indirect lighting in a number of aluminum housing styles, including soft-cornered 12-, 16- and 22-in. square; and 9.25-in. x 16-in. rectangular; and wedge-shaped models. Available with a variety of metal halide and high pressure sodium lamps and with white, silver, black, bronze and verde finishes. UL-listed. Circle No. 102
Find us at booth #3421 and ask about our Hanover Fair airfare giveaway.
Alkco Lighting, a division of JLL Lighting, has introduced Recessed Trak, a ceiling-recessed miniaturized track lighting system. Each unit holds one 50W MR16 halogen lamp; an internal mechanism allows 330-degree rotation for adjustable aiming. UL-listed. Circle No. 112

Boa from Bruck Lighting is a low-voltage, two-circuit track system with dual switching ability. The system can be suspended or flush-mounted, installed vertically or horizontally and is available in chrome or matte chrome. All Uni-lights fixtures can be utilized with Boa as well as all seven other Bruck systems. UL-listed. Circle No. 113

The Halo Lighting brand of Cooper Lighting has introduced a 24V track lighting system called Linea. The miniature lampholders are offered in either 35W MR11 or 50W MR16 lamps. Available in white, matte black or silver, Linea fixtures feature 338-degree rotation and 0- to 90-degree elevation for precise aiming. Lampholders can be combined with optical lenses and color filters. UL-listed. Circle No. 114

Lightolier has published a 15-page color brochure detailing its Metallics line of track lighting fixtures; the brochure presents a complete view of products, styles and performance options. Circle No. 115

Tech Lighting's low-voltage RadiusWire system features slim conductors that can be easily hand-bent on site into loops or curves for a sculptural effect. Shown: RadiusWire with Bye-Byes accessorized with Round Glass Shields in cobalt, amber and red. UL-listed. Circle No. 116

Bruck Lighting's Track-Line is a single-phase, 1-in.-wide, laterally rounded track with an aluminum profile. Tracks may be connected without the use of tools. Available in matte aluminum or black. All Uni-plug fixtures can be used with all Bruck systems. UL-listed. Circle No. 117

Lithonia Lighting has published a new 28-page brochure featuring its line of track lighting, including numerous track head styles with dimensional drawings and product photographs to assist with ordering. Featured styles include roundback, flatback, gimbal ring, wire form, step cylinder, geosphere, bellspot and others; accessories, louvers and filters, track layouts and lamp data are also presented. Circle No. 118

The Lightrail system from Neoz, delivers halogen light from a selection of fixtures in a full spectrum of intensities and effects ranging from gentle, ambient backlighting to crisp, focused spots. The Lightrail system consists of two parallel aluminum rods set 4 in. apart and live at 12V. It is easily formed to many geometric shapes and most interior contours—around corners, above counters, from wall to ceiling. Lightrail is supported at a maximum span of 3 ft. and can be surface- or suspension-mounted. Many lamphead styles are available, including Beetles, as either a disc-shaped downlight or up/downlight. CUL- and UL-listed. Circle No. 119
Hubbell Lighting has introduced a new two-circuit, four-wire track system. It provides two 20A-rated circuits and can be connected without modification for either one- or two-circuit wiring, allowing for individual switching and dimming of each circuit. Track is available in 2-, 4-, 6-, 8- and 12-ft. lengths in black and white satin baked enamel finish. Mounting accessories include stem kits, monopoint adapters, pendant fixture track adapters, fixture wands and canopy covers. A wide range of track heads is available. Circle No. 120

Amerlux Lighting Systems has extended its line of Stylist track fixtures for retail applications with the Stylist III, which uses a high-color-rendering 100W clear ED17 lamp. The fixture's reflector provides a tight beam of light that can light merchandise from up to 50 ft. away; from a distance of 20 ft. it provides a 7.5-ft. beam diameter with approximately 100 ft. Stylist III is made of aluminum with a clear flat glass lens and black painted metal baffle trim ring. Can be track- or canopy-mounted; can be rotated for aiming. UL-listed. Circle No. 121

PowerArc from Lightolier is a metal halide track lighting fixture for retail applications, available in two versions: as an asymmetric wall washer and a 30-degree vertical flood for horizontal distribution. Both versions employ an electronic-ballasted 70W CDM or CMH double-ended metal halide lamp and provide 0- to 90-degree vertical aiming capability. Available in matte white, black and metallic aluminum. Accessories available. UL-listed. Circle No. 127

The BP75 Image Projector Series from Lighting Services Inc offers projection lighting. Designed for display and architectural environments, it offers the ability to simultaneously project, focus and align (up to 90 degrees) any combination of two gobos (patterns) that can be either glass or metal. A narrow angle zoom from 15-25 degrees and a wide angle zoom from 25-40 degrees are available; houses a 12V 71W MR16 lamp. Available in black, white, silver, graphite and platinum finishes with a range of fittings and accessories. UL- and CUL-listed. Circle No. 125

PowerArc from Lightolier is a metal halide track lighting fixture for retail applications, available in two versions: as an asymmetric wall washer and a 30-degree vertical flood for horizontal distribution. Both versions employ an electronic-ballasted 70W CDM or CMH double-ended metal halide lamp and provide 0- to 90-degree vertical aiming capability. Available in matte white, black and metallic aluminum. Accessories available. UL-listed. Circle No. 127

Juno Lighting has published a 12-page color brochure describing the company's Trac12 low-voltage lighting system, which includes 12V and 24V Linear Strip Lighting, 12V and 24V Trac Display Lighting and Decorative Pendants. Provides technical data, product photos and ordering information on the complete system. Circle No. 123

The RLM16 Series from Con-Tech Lighting is a series of low-voltage pendant fixtures, adaptable for track and monopoint applications. The adapter allows the 12V pendants to be mounted to the Con-Tech Lighting track system using the LA2050 Solid State converter or the LA1816 Monopoint, which includes a built-in transformer. UL-listed. Circle No. 128
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The Canopy Light from Steelcase, utilizing T5 lamps, mounts on most popular office furniture systems; mounts independent of overhead storage on panels of any height. A dimmer allows workers to control light levels. The optical system delivers light in a 988-sq.-in. pattern. UL-listed. Circle No. 129

The Geneva task light from Waldmann Lighting provides low-glare illumination for critical applications such as communications centers to help with contrasts in darkened rooms. The unit's fully articulated arms are available in a 16-in. single arm, 32-in. twin vertical arms and a 24-in. twin horizontal style for under overhead storage cabinets. Mounting options permit adaptability for most consoles and workstation configurations. The 2x9 model offers 9W or 18W of light from CFLs; the 2x13 offers 13W or 26W. A special built-in parabolic louver focuses the light; a soft light black louver is available to soften light contrasts in darkened rooms. UL-listed. Circle No. 131

Duro-Lite Lighting's Omni-Lite adjustable undercabinet halogen lighting system features swivel head tilts for focused illumination, a built-in high-low dimmer switch and 25W halogen lamps. Individual Omni-Lite under-cabinet units can be "linked" together by a bridge cord. UL-listed. Circle No. 132

Luxe Corporation has introduced the Luxo 20/20 Asymmetric Task Light Series of multidirectional, adjustable and asymmetric task light fixtures that mount under cabinets, under shelves or on office system panels or walls. A swivel mechanism allows 325-degree rotation of the unit, left or right, directing the light across work surfaces at right angles. The light source is an 18W U-shaped CFL with a choice of magnetic or electronic ballast. UL-listed. Circle No. 133

The Wink from Jolt Lighting is an adjustable task light housing a 13W compact fluorescent lamp. Mountable via a desk clamp, table base or panel bracket designed to fit the slotted standards of all major office furniture systems, Wink features a two-axis head joint, black finish and 24-in. gooseneck arm. UL-listed. Circle No. 135

Luceplan USA Inc. has unveiled Fortebraccio, a collection of adjustable desk, floor and wall-mounted fixtures. Fortebraccio offers a choice of two articulating lamp arms connected by a central joint that allows 175-degree rotation across both vertical and horizontal planes, resulting in the ability to guide the light into unusual positions. Available with 60W soft-white incandescent, 100W A-19 incandescent or miniature 100W T10 halogen lamps. Dimmable. Available in a variety of finishes. UL-listed. Circle No. 134

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Archimoon by Flos USA, designed by Philippe Stark, is a collection of task fixtures with a choice of four shades: Soft (Pliese cloth surrounding an egg-shaped internal glass diffuser); Tech (choice of three heat-reducing polycarbonate shades: in either translucent clear, yellow or opaque black; the lamp is sandwiched between an aluminum reflector below and a parabolic reflector above); Eco (symmetrical light distribution); and Classic (symmetrical distribution from an incandescent lamp; a dual reflector system acts as a heat-dissipating chimney, reducing surface heat on the outer shade). UL-listed. Circle No. 136
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Circle No. 33
Wila Lighting introduces CircLet, a multifunctional downlight utilizing the circular T5 lamp. CircLet's modular construction allows integration of speakers, videocameras, accent lights, smoke detectors and fire sprinklers in the center "free space" of the fixture. UL-listed. Circle No. 137

Basso is Lucifer Lighting's first line-voltage downlight in the identical profile of the company's low-voltage fixtures. With an aperture slightly over 3 in., Basso accepts PAR and R lamps and can be accessorized with up to two effects devices. UL-listed. Circle No. 138

Juno Lighting has published a 36-page catalog detailing its line of compact fluorescent downlight fixtures. Product photos, technical data and ordering information are provided in addition to a description of CFL technology and the company's options and accessories. Circle No. 140

Con-Tech has unveiled the CTR 306, a surface-adjustable downlight. The circular adjustable trim offers a 40-degree maximum vertical swing, 359-degree rotational. The regressed black baffle reduces surface brightness. Flat, stainless steel mounting springs hold the trim firmly to the ceiling. UL-listed. Circle No. 141

Portfolio, a brand of Cooper Lighting, has added a 4-in. aperture T6 metal halide fixture to its family of architectural downlighting. Available in 35W, 70W and 150W, these fixtures offer optical control with a 45-degree cut-off to lamp and lamp image. The downlight also accepts a lensed wall wash; both wall wash and downlight reflector assemblies are interchangeable. UL-listed. Circle No. 143

New options for the Mondial series of orbital recessed ceiling projector lights from Targetti-Tivoli, Inc. New choices include low-voltage and line-voltage, and halogen and metal halide lamps. UL- and CUL-listed. Circle No. 145
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Circle No. 34
MatreX from Ardee Lighting, a subsidiary of JJI Lighting, is a collection of single- and multiple-lamp low-voltage recessed fixture housings that provide display and accent lighting. MatreX offers a choice of linear, square or rectangular lamp configurations. One to four halogen lamps fit into elements that rotate 358 degrees and tilt 30 degrees. MatreX also offers a combination of indirect ambient halogen light with an adjustable downlight (shown). Models AMX06, AMX07 and AMX12 feature a housing that angles back into the ceiling to hide a 100W quartz lamp that provides indirect ambient lighting. UL-listed. Circle No. 148

Architectural Landscape Lighting, a subsidiary of JJI Lighting, offers Model 150 outdoor downlights that feature a cylindrical canister-style housing with subtle architectural ring details in each of four models. The downlights can be specified for surface, wall or pendant mounting. All housings measure 7.13 in. in diameter. Wall-mounted units are available in a combination uplight/downlight model. UL-listed. Circle No. 147

Holophane’s Twin Industrial Series of fixtures includes two prismatic glass reflectors and is available with or without an aluminum cover for uplight or minimal uplight. The Twin Industrial Series was designed as an alternative to 1000W fixtures for increased light levels. UL-listed. Circle No. 149

W.A.C. Lighting Company has unveiled new miniature low- and line-voltage recessed housings and trim styles for use in lighting undercabinet, overcabinet, in-cabinet and a variety of other task lighting functions. UL-listed. Circle No. 153

Lightolier has introduced the Calculite Evolution line of recessed incandescent downlighting fixtures. Both IC and non-IC frames are available with 4-in. and 6-in. apertures and feature a 50-degree cutoff to lamp and lamp image. A selection of downlighting, wall wash, adjustable accent and wet-location reflector trims that incorporate a wide variety of incandescent and low-voltage lamp choices. UL-listed. Circle No. 150

Darklites from Edison Price Lighting is a new line of downlights, accent lights and wall washers for use with quartz halogen PAR20 and PAR30 short-neck lamps. These shallow fixtures can be installed in installations with low to medium ceiling heights. Darklites are available in 4-in., 5-in. and 6-in. apertures and use 35W, 50W, 60W and 75W PAR lamps. Accessories for the accent lights include color filters, spread lenses, UV filters and light reduction screens. UL-listed. Circle No. 151

From Hubbell Lighting, the Riviera Series Recessed Downlighting Guide provides information on ordering, accessories, options and available trims for the company’s architectural, commercial and residential downlights. Circle No. 152

Alko, a subsidiary of JJI Lighting, has introduced Alko Downlighting, a collection of decorative recessed downlights that is comprised of three model lines: DL100, DL200 and DL400, each offering a different aperture diameter and other features, options and capabilities. All models also offer a variety of lens and louver options. UL- and CUL-listed for damp locations. Circle No. 146
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Justice Design Group has introduced the Limoges Leaves sconce, one of three new sconces made of translucent porcelain in Limoges, France. Offered in either a gloss white enamel glaze or in porcelain bisque (shown). UL-listed. Circle No. 155

Halo Lighting, a brand of Cooper Lighting, offers a new line of sconces called Etchings. Featuring etched grid glass and matte chrome brackets, Etchings includes six sizes and can be specified with incandescent, quartz halogen or compact fluorescent lamps. Meets ADA requirements with no more than 4 in. of extension from the wall. UL-listed. Circle No. 156

The Fantasia Wall Sconce from Nessen Lighting, a subsidiary of J.II Lighting, measures 10 1/4 in. long, 7 3/4 in. at its widest point and 5 1/4 in. from the wall. The translucent glass globe is 5 in. in diameter. The light source is a 60W minican incandescent lamp. UL- and CUL-listed. Circle No. 158

The Avante family of direct/indirect fixtures from Lithonia Lighting has been expanded to include ADA-compliant CFL sconces. Available in three types: AVSP, AVSC and AVSR. UL-listed. Circle No. 161

Lam Lighting’s Profile ADA is an ADA-compliant indirect/direct wall lighting system, producing ceiling and wall-wash lighting from a choice of T8 or T5 lamps. Fixtures protrude 4 in. from the wall and are available in 4-, 8-, 12- and 16-ft. housing lengths. End caps are available for creating continuous rows. Available in a variety of finishes and with custom and other options. UL-listed. Circle No. 159

Elliptipar’s Style F305 fixture features a low profile (2 1/4 in. high) and the T5 light source for uplighting from perimeter coves. It can be mounted individually or in a continuous row, and it’s adjustable, allowing orientation to light from a slot, valance or niche. UL- and CSA-certified. Circle No. 160

Targetti-Tivoli, Inc. has introduced the Spectra Wall Sconce made of die-cast lacquered aluminum. The reflector produces a wall washing effect above the unit, while a glass diffuser on the underside, incorporating a multilayer dichroic lens in green or magenta, casts a downward splash of color. The light source is a dimmable 150W linear halogen lamp. UL- and CUL-listed. ADA-compliant. Circle No. 157

Lam Lighting’s Profile ADA is an ADA-compliant indirect/direct wall lighting system, producing ceiling and wall-wash lighting from a choice of T8 or T5 lamps. Fixtures protrude 4 in. from the wall and are available in 4-, 8-, 12- and 16-ft. housing lengths. End caps are available for creating continuous rows. Available in a variety of finishes and with custom and other options. UL-listed. Circle No. 159

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From Baldinger's Rockwell Group Collection, the Ricky wall sconce measures 5 1/4 in. wide x 11 1/2 in. long with a 3 3/4-in. projection and features laminated ginkgo leaves mounted between glass. Ricky uses one 18W fluorescent and is ADA-compliant. UL-listed. Circle No. 162

From Murano Due, the Chimera 2 Piccola wall sconce features a diffuser of layered, frosted blown Murano glass. Diffusers are available in amber yellow, white or blue. Frames are offered in chromed metal, golden metal 24k or brushed nickel. Chimera uses one 150W tubular halogen. Circle No. 164

Derek Marshall's Kyoto wall sconce features a highly textured finish and measures 11 in. wide x 13 1/2 in. high with a 4-in. projection from the wall. Illumination is provided by a 100W incandescent. Various finishes available. UL-listed. Circle No. 165

Boyd Lighting's "Lineage" sconces feature gently curved frames available in soft finishes of gossamer steel, satin steel, antique bronze and antique black. Diffusers are offered in silver mica or white pearl. Various models and pendants are available. UL-listed. Circle No. 163

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Luceplan USA Inc. has introduced the Strip Collection, which can mount on ceilings or walls to provide ambient lighting. Fixtures protrude 3 in. from the surface and are available in 7-, 15- and 26-in. widths, all with 39-in. lengths. An optional suspension kit is available for the two largest models. Can be specified with two, four or five T8 fluorescent lamps. UL-listed. Circle No. 166

Starfire Lighting has introduced Tru-Lux, a series of T2 and T5 cove lighting and wall-mounted fixtures. Tru-Lux TB, the basic model, is 1.5 in. deep and 2.25 in. high. Tru-Lux LM, designed in a compact mini-square design, is 1.58 in. deep and less than 1 in. high. Tru-Lux TS is a wall sconce version that meets ADA requirements and Tru-Lux TC is an ADA-compliant version for cove lighting installations. UL-listed. Circle No. 167

D'ac Lighting, a subsidiary of JJI Lighting, has unveiled Aegis, a line of ADA-compliant geometric-system decorative wall sconces. Available in a variety of styles. All fixtures measure 10½ in. by 10½ in. and protrude from the wall 2½ in. Aegis mounts to standard wall junction boxes for remote on/off switching. Can be specified with a single 24W 4-pin CFL or two 60W T10 incandescent lamps. UL- and CUL-listed for dry, damp and wet locations. Circle No. 168

The Saffir Wall Sconce from the Luxo Corporation, is an original-design wall sconce featuring a cylindrical diffuser with beveled ends. Five-ring louvers cut across the center of the fixture, directing light outward. Saffir measures 15 in. long and 7½ in. in diameter. Can be specified with two 35W or 50W incandescent lamps, UL- and CUL-listed. Circle No. 169

The LPL Sconce Series from Morlite, a subsidiary of JJI Lighting, is a line of vandal-resistant, ADA-compliant pendant wall fixtures. LPL can be specified with a choice of two 26W quad tube CFLs or two 40W single-ended biax fluorescent lamps. When combined with an available battery pack, it can be turned into emergency lighting. UL- and CUL-listed. Circle No. 170
New Metal Crafts has introduced a decorative dolphin wall sconce wired for up to 60W candelabra (lamp not included). Height is 11 3/4 in.; width is 4 in. Available in polished brass, polished brass with gold lacquer, satin brass and polished chrome. UL-listed. Circle No. 171

Flos USA’s Quest, designed by Rodolpho Dordoni, is a wall sconce that provides diffused and indirect lighting. Quest is available in white or amber glass; accent filters in either blue or amber are available. A modular backplate accepts incandescent or fluorescent lamps. UL-listed. Circle No. 172

The Northwest Coast sconce from New West measures 14 in. high and is 4 1/2 in. in diameter. It is a wrought steel and mica fixture with a decorative vertical cross element that takes two 75W lamps. It is offered in a flat black finish with copper details on ceiling plane. UL-listed. Circle No. 173

Metalux Lighting, a brand of Cooper Lighting, has introduced the Horizon Recessed Wall Wash Series. Available in 2 ft. and 4 ft. housing lengths, the fixture line includes 1- and 2-lamp T5 and T5/HO lamp types. UL-listed. Circle No. 174

Vista, a subsidiary of JJI Lighting, has introduced Vistaform, a T5 fluorescent family of patient overbed/medical examination lights. Each Vistaform fixture functions as an ambient uplight, patient downlight, medical examination light and nightlight. Switching is accomplished via a pre-wired four-position pull chain or a low-voltage controller wired to a nurse call system. UL- and CUL-listed. Circle No. 175
Architectural Landscape Lighting, a subsidiary of JJI Lighting, has introduced Metric Outdoor, a collection of contemporary-design surface-mounted, recessed and bollard fixtures. The fixtures are available in round, square or triangular housings; each housing protrudes from the surface 4.73 in. (4.13 in. for the square housing). Illumination provided by a 13W CFL. UL- and CUL-listed for wet locations; IP65-rated. Circle No. 180

Crescent Lighting/Stonco has expanded its DockLytes Series to include loading dock fixtures with HID lamps and a motion-sensor quartz halogen series. These produce more than double the light output of incandescent DockLytes while reducing wattage by over 50 percent. UL-listed for wet locations. Circle No. 181

Holophane Corporation’s Utility Washington Postlite Luminaire is designed for ease of maintenance with a plug-in electrical module common to all of the fixtures in Holophane’s Utility Luminaire Series. The fixture is acorn-shaped, reminiscent of 1920’s styling, UL-listed. Circle No. 182

The Panel Master Series from Metrolux, a division of Quality Lighting (JJI Lighting), provides lighting for outdoor posters, bulletins and roadway signs, designed to meet or exceed IESNA recommended guidelines. The reflector includes a semi-specular Alzak finish. The reflector system functions in conjunction with a clear rather than prismatic glass lens. PanelMaster accommodates a broad range of standard HID light sources, including new pulse-start metal halide lamps. UL-listed. Circle No. 183

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Hessamerica has expanded its Novara family of original-design pole and wall-mounted outdoor landscape lighting fixtures with the NV450 ML, an intermediate-sized fixture that can be used for either direct or indirect lighting. Pole or wall mounted. Can be specified with a range of metal halide, CFL or halogen lamps. UL-listed for wet locations. Circle No. 184

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The Metro Series from Phoenix Products Company, Inc. is an expansion of the company’s Intrigue Series. It features an open light area with solid rings and a modern European design for enhanced glare control and higher ambient light. Available in two sizes for pole, wall and pendant mounting. Corresponding bollards are also available. Can include up to 175W HID, 150W incandescent, 42W CFL and the 55W and 85W induction lamp system. UL-listed. Circle No. 183

Quality Lighting has unveiled the Model 550 Adjust-A-Beam, an aiming floodlight that can produce various effects and a wide- ly adjustable (17- to 80-degree) beamspread (adjustments are made without opening the fixture). Can be specified with HPS, metal halide or HQI lamps with a wattage range of 35-175. Can be ground or wall mounted. UL-listed. Circle No. 186
The Prairie Wall Fixture from Sternberg Vintage Lighting features incandescent downlighting for entryways and lighting walls, with a stylized tree feeling on the three sides. Cast in heavy wall aluminum with 1/4-in.-thick white acrylic lens. The overall size is 16 1/16 in. high x 9 1/2 in. wide. Circle No. 187

The Perflex diffuser option from Eclipse Lighting is now available for the company’s Galilea Series of architectural outdoor fixtures. Features a perforated diffuser for brightness control. Available in silver, white, gray, black and custom color finishes; available in a wide range of styles and sizes for fluorescent, incandescent and HID lamps. UL-listed, suitable for damp locations. Circle No. 188

The Sealed Well Light from Rund Lighting is a water-tight fixture for commercial or residential nightscapes. All fixtures are covered by the company’s DeltaGuard seven-year finish warranty against excessive fading, peeling or corrosion. Can be specified with halogen (MR and PAR) or a range of HID lamps. Accessories include glare shields, linear grates, louvers and color filters. UL-listed. Circle No. 190

Kim Lighting has published a 24-page brochure describing its Matrix Series of symmetric, square-body outdoor fixtures, including application, specification and ordering information. Circle No. 191
McGraw-Edison, a brand of Cooper Lighting, has introduced the VXM site fixture, the first Vision Series fixture designed by the company. It is designed for parking lot, walkway and roadway applications. Available in a range of colors, the VXM's contours and sharp rear reveals allow it to change character from different viewing angles. Available in 100W to 400W metal halide and HPS. UL-listed. Circle No. 192

Hubbell Lighting's Euroluxe Series I can be specified both indoors and out. Series I is constructed with cast aluminum housings, rings, guards and shields and can be specified with incandescent, fluorescent and HPS lamps. Round and oval shapes are available in bronze and white (standard) and also gray, black, beige and green. Certified for wet locations. Circle No. 193

FC Lighting Manufacturers has added three round-shaped fixtures to its Architectural Outdoor Series. Designed for exterior or interior stairways, walkways and corridors of commercial buildings, the new round recessed step lights are offered with an eyelid, open-face-frosted/tempered glass or louvered faceplate. Options available. Can be specified with a range of lamps that include CFL, incandescent and T4 halogen. UL-listed for interior, exterior and wet locations. Circle No. 194

Ruud Lighting's Cutoff Floodlight (CF Series) feature die-cast aluminum housings in compact 12-, 16- and 22-in. square sizes with a bronze finish and is protected by Ruud's seven-year warranty. Can be specified with 35W to 1000W HID lamps. Factory-installed options available, including fusing, two-level operation, photocell and quartz standby. UL-listed for wet locations. Circle No. 196

The Solitaire Series Surface Mount Wall Pack from Phoenix Products Company, Inc., is a new fixture in the company's Intrigue Series. It offers six decorative face frame styles. Bronze, white, silver, gray and verde green available. Can be specified with incandescent, CFL or HID lamps. Wall or ceiling mount. UL-listed for wet locations in the U.S. and Canada. ADA-compliant for the Open Face style. Circle No. 197

Polestar fixtures from Holophane Corporation are offered in two sizes with wattages ranging from 250W to 1000W and three patterns: square, asymmetric and forward throw. Three fixture shapes are available as well as three mounting styles. UL-listed. Circle No. 195

Stonco Lighting has introduced the MCL Series cut-off fixture to minimize house-side throw and maximize street-side throw. The aluminum housing is finished in Duraplex II bronze polyester. A variety of mounting configurations is available as well as options. Can be specified with HPS and metal halide lamps up to 400W. UL-listed. Circle No. 198
Optiance from Supervision, a brand of Cooper Lighting, introduces a family of nine fiber-optic bollard style fixtures for decorative pathway lighting. Each fixture head is made of solid, non-yellowing acrylic, while bodies are constructed of durable PVC plastic. Fixture head choices include a cylinder, stepped cylinder, slanted, tiered and lantern shapes, as well as grooved or inverted cylinders. Circle No. 205

Starfire Lighting has published a new catalog detailing the SwordLite Crystal Architecture fiber-optic lighting system. The 36-page catalog describes the system, which integrates fiber optic technology with Strass crystals that diffuse or concentrate the light. It contains a broad range of application and component photographs, photometry, technical data and ordering information. Circle No. 206

Fiberstars, Inc. has announced the release of its 2000 Product Book, a comprehensive guide to fiber-optic lighting for swimming pools and spas. The Product Book dispels some common misconceptions about fiber-optic lighting installations and includes fiber-optic sizing and placement guides, frequently asked questions about fiber optics, specification sheets, detailed parts diagrams and Fiberstars products listing. Circle No. 208

LinearEssence is a linear side-emitting acrylic fiber-optic lighting system designed for use in display cases, cabinet and shelf systems. It consists of a rigid acrylic wand that emits aimable fiber-optic light from one side; a connector that holds the fiber-optic cable to the wand; and a yoke that holds the completely assembly in place against a flat cabinet or display-case surface. LinearEssence converts end-emitting fiber-optic light from the cable to side-emitting linear light from the rod, producing a wide 150-degree wash of area illumination into a cabinet or display case. Rods are available in 12-, 24- and 48-in. lengths. Circle No. 207

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Lucifer Lighting has unveiled Lightstones, a collection of recessed fiber-optic lighting fixtures for in-wall and in-ground illumination of walkways and pathways. The light source can be fitted with a color filter or wheel, thereby allowing multiple fixtures to be lighted with “Color on Command.” The fixtures are round with machined aluminum casing and a frosted acrylic lens that is 1.5 in. in diameter. Circle No. 210

Lucifer Lighting Company has unveiled Naiad, a low-voltage or fiber-optic recessed downlight fixture for use in wet locations such as showers and steam rooms. The fixture, slightly under 5 in. in diameter, is offered with a frosted lens affixed to the fixture body with gasketing to eliminate moisture entry into the housing. If provided with remote fiber-optic lighting cable, no housing is required. The fixture’s rear bracketry permits adjustment of lamp orientation to 45 degrees. Finish options are matte white and black, polished chrome and brass. Circle No. 211

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Circle No. 40
Robertson Worldwide's product catalog includes more than 200 pages of the company's lines of fluorescent, linear, HID and specialty ballasts, along with voltage transformers. Wiring diagrams, case sizes, electrical and mechanical specifications are provided in addition to a system for finding an appropriate ballast based on the lamp type and configuration. Circle No. 215

Mytech offers the LightHAWK-MT wall-mounted occupancy sensor, which utilizes both ultrasonic and infrared sensing technologies for occupancy detection in addition to microprocessor intelligence that enables it to adjust its performance to the given operating environment. A built-in photocell enables daylight harvesting. Meets UL, CSA and CE standards. Circle No. 216

Siemens Energy & Automation, Inc. has unveiled new plug-in lighting control capability for the company's Instabus product line. Instabus enables addressable lighting control at the fixture level, reassigning lighting "scenes," once created, in a matter of a mouse click. The plug-in feature means that now lighting fixtures and the Instabus apparatus arrive at the job site ready to install, delivering immediately distributed lighting control capability. Circle No. 217

Philips Lighting Company has unveiled a dimmable flood compact fluorescent lamp as part of its Earth Light line of compact fluorescent lamps. The new dimmable flood is available in 15W and 20W models and features a snap-on R30 or R40 reflector. Circle No. 219

RadioTouch from Lutron Electronics Co., Inc. designed to enhance lighting control in classrooms, training rooms and multi-purpose meeting rooms, offers wireless remote control of lighting, AV equipment and motorized window shades from anywhere in the room. RadioTouch consists of a wireless tabletop transmitter (mounted anywhere in the room, such as on a wall or podium), wallbox transmitter (which replaces a conventional wall switch) and a controller (one per lighting zone). Circle No. 221

NAIS Metal Halide Electronic Ballasts from Aromat are designed to replace the core/coil, capacitor and ignitor of magnetic ballast systems in a single package. Electronic ballasts enable exacting control over the output wattage, resulting in consistent lamp to lamp color and lumen output, according to the company. Available for 35W, 39W, 70W, 100W and 150W lamps. UL and CUL-listed. VDE listing pending. Circle No. 218

GE Lighting has introduced its new line of shatter-resistant fluorescent lamps, the Cov-R-Guard line, which arrive ready to install and do not change the overall length of the lamp. Lamps are wrapped in a full 15mm-thick shield of polycarbonate plastic. Circle No. 222
Deco-Lite fluorescent lamps from LCD Lighting, Inc. allow messages to be laser cut into the lamps for point-of-purchase displays, custom decorative designs, graphic art, corporate logos and signs. Available in T2, T5, T8 and T12 diameters in all standard lengths. Circle No. 223

Leviton Manufacturing Co. has expanded its line of Decora designer-styled electronic timer switches to include four styles of timers. Designed to provide timed control for indoor and outdoor lighting, heat lamps, spas, hot tubs and attic and exhaust fans, this line of controls automatically switches controlled loads off when they’re not needed. Products include the Variable Countdown Timer Switch, Programmable Light Switch, LCD Programmable Timer and Preset Timer Switches. Circle No. 224

The Watt Stopper, Inc. offers a line of passive infrared occupancy sensors that are rain-tight (UL rating of 773A) and weatherproof, making them ideal for outdoor use. The sensors, designed and built to resist corrosion, water and dust contamination, detect either a full 270 or 180 degrees; a customizable lens mask is included to mask coverage in unwanted areas. A built-in user-adjustable light level feature helps ensure lights stay off during daylight hours. Circle No. 226

MagneTek Lighting Products has released its new generation of low-profile Triad electronic linear fluorescent ballasts for T8 lamps in a smaller can size. Can size has been reduced by 45 percent, providing design flexibility. Reduced Harmonic (THD<20%) and High Performance (THD<10%) operations available. Ballasts operate one to four lamps in a parallel configuration; ballasts feature universal input voltages (108-305V). Circle No. 227

Advance Transformer Co. has unveiled new Mark III magnetic and Centium electronic fluorescent ballasts for operation of T8/HO fluorescent lamps. The ballasts are designed to start the lamps at temperatures as low as -20°F, permitting their use in a wide range of environments, including outdoor and refrigerated applications. Circle No. 225

The Watt Stopper, Inc. offers a line of passive infrared occupancy sensors that are rain-tight (UL rating of 773A) and weatherproof, making them ideal for outdoor use. The sensors, designed and built to resist corrosion, water and dust contamination, detect either a full 270 or 180 degrees; a customizable lens mask is included to mask coverage in unwanted areas. A built-in user-adjustable light level feature helps ensure lights stay off during daylight hours. Circle No. 226

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INnova has introduced a family of dimmable electronic ballasts for 35-150W metal halide lamps. Features 0.99 power factor, <10% THD, dimming capability and good light output regulation with only a +2% change in light output for a +10% change in line voltage. Circle No. 228

Litotronics International, Inc., subsidiary of Duro-Lite International, Inc., has unveiled the new Display-PAR line of 35W halogen lamps designed specially as a low-wattage option vs. 50W incandescent reflector lamps for lighting museums, gallery and retail displays. The Display-PAR line includes PAR20, PAR30 and PAR38 designs; lamps are rated at 3,000 hours. All lamps are available with a flood beam spread. Circle No. 229

Osmare Sylvania's Dulux EOL technology, first introduced in Dulux D/E lamps, has now been incorporated into Dulux T/E lamps. This technology for four-pin Dulux lamps offers integral end-of-life (EOL) shutdown protection in the lamp. In addition, most of the Dulux pin-base products are now Ecologic and can be disposed as non-hazardous waste in most states. Circle No. 230

The EDIT 200W Uni-Form pulse-start metal halide system from Venture Lighting provides higher initial and maintained lumens along with a 20-percent longer life compared to standard metal halide pinched-body 175W and 250W universal lamps, according to the company. The ED17 200W lamp, in an enclosed, clear, base-up (medium base) version, produces 21,000 lumens with a performance life of 12,000 hours, color temperature of 4000K and a CRI rating of 65. The lamp is available with a mogul base that is rated at 15,000 hours. Circle No. 231

Lutron Electronic Co. Inc. has unveiled its Real Time Illumination Stability System (RTISS), a patented design enhancement being incorporated into the company's Grafik Eye commercial grade dimming panels and Grafik Eye 5000 Series control units and accessories. It will soon be incorporated into Lutron's HomeWorks Interactive Remote Power Modules as well. RTISS filters out most line noise to the dimmer, ensuring consistent performance despite variable power quality conditions. Circle No. 232

The new portable, hand-held SP-1 system programmer from The Watt Stopper, Inc. is designed to streamline operation of its networked lighting control panels. Operating without need for a computer or software, it enables configuration, operation and maintenance of ACP-Net and ARP-Net Systems; for configuration and setup, the programmer is used to assign device addresses and link network components. It can be used for administration of small-to-medium-sized control systems or work with The Watt Stopper's software for use with larger, more complex systems. Circle No. 233

Advance Transformer Co. has expanded its Gentium line of electronic fluorescent ballasts with new "small can" designs for one, two, three and four-lamp operation of F17T8, F25T8 and F32T8 rapid start lamps on both 120V and 277V systems. The ballasts' new reduced size dimensions are 1.7 in. wide, 1.18 in. high and 9.5 in. long, resulting in a reduction of about 3/8 in. in width and 3/8 in. in height compared to standard-sized ballasts. Circle No. 234

MagneTek Lighting Products has expanded its offering of ballasts for compact fluorescent lamps with a new universal voltage model designed to operate one 42W, 32W, 26W and/or two 26W compact fluorescent lamps, as well as 24W TTS and 28W 2D lamps. Two other models can operate one or two 13W lamps and one or two 18W lamps. Circle No. 235

GE Lighting now offers the XL Ultra-Life version of its HIR PAR lamp, which offers a life of 6,000 hours, three times longer than a standard halogen PAR lamp. The HIR XL Ultra Life PAR lamp is available in 42W, 55W and 90W as well as 12- and 40-degree beam-spreads. Circle No. 236
Bodine's B30RCT emergency ballast produces 3,000 lumens of initial emergency light output with one or two T8 lamps or 3,500 lumens with two 36W/39W 4-pin compact fluorescent lamps. The ballast is designed for remote control testing, which simplifies code-required testing of emergency ballast operation. UL-listed for factory or field installation. Circle No. 241


Ruud Lighting's new EMXP Series Thermoplastic LED Exit/Emergency Sign features LED exit illumination in green or red and includes two 5.4W tungsten halogen lamps for emergency illumination. A frosted diffuser controls glare. Available in black and white. Nickel cadmium batteries and higher-wattage halogen lamps are optional. Circle No. 244

Sure-Lites, a brand of Cooper Lighting, has introduced the CX series of LED exit signs, which can be end-, wall- or ceiling-mounted (also can be mounted directly to a junction box). Available with red or green LEDs. Die-cast aluminum housing with a brushed aluminum face and black trim is standard; optional finishes are black and white. Can be ordered as a self-powered (with short circuit protection and brown-out circuitry) or AC-only unit. UL-listed. Circle No. 244

The Symmetry Series from Chloride Systems is a family of emergency lighting and exit sign products including LED exit signs, combination emergency LED exits and 12-25W decorative emergency lighting units. Batteries are already connected. Available in black or white. Exit signs are illuminated with LEDs. UL-listed. Circle No. 242

High-Lites announces High-Glow, a series of low-profile exit signage that uses LEDs or cold cathode as the light source. Can be specified in wall- and ceiling-mounted models, AC-only and self-powered/emergency operation models are available. Audible and visual intermittent alarms and fire alarm control panel interface are optional. Custom sign wording can also be specified. UL-listed. Circle No. 246

Sure-Lites announces the CX series of LED exit signs, which can be end-, wall- or ceiling-mounted (also can be mounted directly to a junction box). Available with red or green LEDs. Die-cast aluminum housing with a brushed aluminum face and black trim is standard; optional finishes are black and white. Can be ordered as a self-powered (with short circuit protection and brown-out circuitry) or AC-only unit. UL-listed. Circle No. 245

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Times Square Lighting's SK75Z pattern projector features an electronic transformer that powers a 75W MR16 lamp. Mounting options include track, clamp and canopy mounts. Silver finish is standard. Custom colors are available. UL-listed. Circle No. 247

Phoenix's Snoot Kit Accessory mounts on the front of fixtures to hold a variety of special effect accessories. The snoot door opens with the release of two stainless steel latches, allowing for installation of accessories. Accessory rings are riveted in place to secure accessories in mounting position. The snoot measures 8 in. in diameter x 8 in. long from fixture doorframe. Housing and rings are copper-free formed aluminum. UL-listed. Circle No. 248

Lightweight and rugged, Caselite compact, self-contained location fluorescent kits from Lowell-Light feature an internal ballast, separate lamp switching, snap-on egg crate and dual-purpose barndoor/intensifiers. Caselite is available in two models: two or four 55W fluorescent tube fixtures. Universal tiltbracket allows for easy stand mounting and lamp positioning. UL-listed. Circle No. 249

From Morpheus, the WetFader is a CYM color mixing fader that is both weather-resistant and submersible. Housing is sealed cast bronze or aluminum and output lens is tempered glass available in very narrow to flood. The WetFader is powered by either the WPS-6 or the WPS-12 (6 or 12 units) power supply. The control input is USITT DMX 512 connected to the WPS via an optically isolated terminal strip with a maximum cable length of 330 ft. The output distribution allows the WPS-12 to control as many as 12 WetFaders with different addresses. ETL- and UL-listed. Circle No. 250

Vari*Lite's VL2201 spot luminaire is based on the VL6B. An upper enclosure houses the control electronics as well as a power factor corrected arc power supply for the Philips MSR400SA arc lamp. The lightweight VL2201 also features a zoom optics system and supports a variety of colors and gobos. Two wheels for interchangeable dichroic color and gobo selections make the luminaire user-configurable. Custom gobos are available. The VL2201 can be controlled from any Vari*Lite console as well as various DMX-512 consoles. Circle No. 251
Autodesk has unveiled Lightscape R3.2, a new release of the photorealistic lighting simulation software for design visualization and digital content creation. Lightscape R3.2 features numerous changes designed to improve ease of use and streamline the software's ability to interactively share data with AutoCAD 2000, 3D studio VIZ and 3D Studio MAX software. The new version includes more than 100 customer-requested user interface enhancements and expanded documentation and tutorials. Circle No. 260

Progress Lighting offers a new Interactive Dimensional Lighting CD-ROM, which allows users to try special lighting applications on-screen in a variety of areas of the home. Includes technical information on Progress Lighting’s decorative products as well as product photographs. Circle No. 261

Osram Sylvania has introduced the Retail Lighting CD-ROM, an educational product for retail professionals that offers advice on how lighting can help direct customers, decrease returns, increase sales, enhance image and even increase staff productivity. Includes a Lighting Techniques section and interactive examples of retailers creatively using lighting styles, techniques and merchandising systems to get the most out of their environment. Also available from Osram Sylvania is the Introduction to Lighting CD-ROM. Circle No. 262

Visual 2.0 lighting design software from Lithonia Lighting is available in a Basic Edition (free), which aids with simple interior lighting design and analysis for rectangular spaces using industry standard photometric data. It is also available in a Professional Edition (must be purchased), which expands on the Basic Edition to provide numerous modeling and documentation features. Experienced CAD users will find the Visual 2.0 Professional interface familiar, according to the company. Circle No. 263

Lighting Analysts, Inc. has introduced the AG132 lighting design and rendering software, a high-speed 3D lighting analysis program that produces full-color renderings and predictive lighting system calculations for designers, architects and engineers utilizing any type of electric lighting in interior and exterior design projects. Complex environments are created including domes, vaults and curved surfaces. Allows the import/export of CAD-compatible DXF files. Circle No. 264

Jissai Graphics offers Luminaire Global Illumination Tools, Version 1, a rendering engine that plugs into the 3D Studio Max and 3D Studio VIZ applications from Kinetix. It uses radiosity and ray-tracing calculations to replicate the actual behavior light in the real world and produce visualizations of lighting concepts. Circle No. 265

Eagle Point Software has released the LANDCADD Terrain Modeling Computer-Based CD-ROM. This program demonstrates the creation of actual terrain models for use in conceptual design. Includes these modules: Base Plan, Site Planning, Surface Modeling, Landscape Design, Plant Database, Irrigation Design, Site Design, Drafting, Survey Adjustment, COGO and Site Analysis. Circle No. 266

Lighting Technologies, Inc. has unveiled Simply Lighting, a new collection of lighting design and analysis programs: Simply Indoor, Simply Outdoor, Simply Roadway, Simply Economics and Simply Photometrics. Performs point-by-point light level calculations as well as estimations of the interreflected component from indirect lighting. Simply Outdoor can import and export DXF/DWG files and model virtually any exterior applications. Simply Roadway calculates roadway brightness and veiling brightness according to IES RP-8 and CIE standards for a wide variety of roadway types and designations. In addition to customizable reports, each of these three can produce iso-contour maps and gray-scale renderings. Simply Economics is an economic analysis utility, and Simply Photometrics is a photometric data manager and viewer that provides iso-templates and export functionality. Circle No. 267
Architectural Lighting Systems
Phone: (508) 823-8277
Architectural Lighting Systems, Inc. introduces a new line of extruded aluminum cove lighting. Available in two sizes, as well as the low-profile, ADA-compliant series pictured, they can be custom fit to any application. A complete line of matched fixtures is also available, including pendants, sconces, valances and patient bedlights. Circle No. 270

Lightfair Booth #539

Ardee Lighting
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Ardee Lighting introduces a new line of adjustable, rotatable MR series halogen lamps or a 100W quartz in linear, square or rectangular housings. Integral or remote transformers. Dimmable. UL-listed. Visit us at www.ardeelighting.com. Circle No. 271

Lightfair Booth #167

BJB
Phone: (706) 965-2526
BJB introduces the broadest line of T5 sockets in the lighting industry. BJB sockets are designed for all wattages of T5 lamps, including high output. The T5 series is available in a range of mounting styles, including push-through or snap-in tombstone, end-mount and others. All sockets feature BJB’s rotor-lock and Top-Test for optimum performance and value. Sockets for T5 circular lamps are also offered. Circle No. 272

Lightfair Booth #607

E-Lite Technologies
Phone: (612) 555-5555
E-Lite Technologies, a manufacturer of energy-efficient glass reflector fixtures, introduces the Optic, exclusively from Sirius and obtainable only from Con-Tech Lighting. The Optic, with its innovative design, provides a new, innovative concept in high-efficiency glass reflectors. Eighteen optical coatings on a crystal reflector give the Optic superior illumination capabilities. An 86% reflectance castings a crisply defined beam with sharp edges and no lamp striations. Circle No. 273

Lightfair Booth #1039

Bruck Lighting
Phone: (512) 428-4200
Bruck Lighting, a manufacturer of innovative low-voltage cable and track systems, introduces Boa, a low-voltage two-circuit track system with dual switching ability. This system may be suspended or flush mounted, installed vertically or horizontally and is available in chrome or matte chrome. All Uni-lights fixtures can be utilized with Boa as well as all seven other Bruck systems. Boa will be on display at Lightfair in booth #101. Visit us at www.brucklighting.com. Circle No. 274

Lightfair Booth #725

BOYD Lighting
Phone: (773) 481-9161
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Lightfair Booth #275
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The Package Era Will End with the Internet

BY WARREN MELTZER

Three years ago in this column I asked, "Is the 'Gourmet' Lighting Rep a Dinosaur?" I defined a gourmet rep as one who thoroughly knew the products of the 10 or so manufacturers he represented. A lighting professional who consistently demonstrated new products to specifiers and kept their catalogs up-to-date. One who was well trained and kept the specification community current with technological development.

I said that the conglomerate-driven "mega-rep" had replaced the electrical distributor as the one who put the entire lighting package quotation together. I bemoaned the fact that many lighting mega- reps now "represent" 60 or more companies, and it was impossible for them to adequately promote (or even remember) them all. Because of conglomerate pressure and the number of lines they have (many of which conflict), innovative products get lost in the rep's storage area, never finding their way to a specifier's office.

Mega-reps concentrate on quoting entire packages, substituting their list for specified products wherever necessary. In some cases, this substitution is done with prior approval of the specifier, who may have buckled under the weight of the package. In other cases, the rep adopts a "worry about it later" posture regarding approval. Because of the package system the rep takes control of pricing. The factory gives the rep (and only the rep) the price and loses control at that point. If the rep tells the factory he needs a better price, it has little or nothing to do with that product's pricing in relation to—its competition or its value to the job—again, it's the package that rules. In nearly all cases, the package system compromises design intent.

Once an order is written for the lighting package, the successful mega-rep negotiates with each factory involved and determines who gets how much for their product. The rep's primary concern at this stage is, understandably, to maximize commission. Some mega-reps have set up dummy distributorships. When factories bill these dummy companies (who in turn bill the electrical distributor) the factory has no idea what the customer actually paid for their product. Ironically, the same small companies that suffer price erosion from this practice are the ones that support it.

Conglomerates are leaning hard on their reps, reducing their independence. Three years ago, I said that many conglomerate rep principals were earning less personal income and following quarter. They lose their entrepreneurial culture, which further retards new product development. Profit from acquired companies are used to support the less successful conglomerate components instead of supporting new product development.

The package system does not allow them to make price/value judgments on lighting during project design. Instead, they are often faced with making "value engineering" (a misnomer if there ever was one) decisions after bid time. In most cases, the rep produces nothing positive for the owner or designer and merely lines the pockets of the reps and contractors who drive it.

It should be possible for the lighting designer and the owner to select the fixtures they want for the public spaces and determine their affordability during the design phase. This is true whether the fixture is a cataloged item or a custom design. A few custom fixtures in the public space do not have to run up a building's price tag. Lighting designers should be able to work with a custom manufacturer up front with confidence that a fair price can be determined early in the design phase and maintained throughout the project. With a competent manufacturer involved from the start, a signature custom fixture can be developed within the budget. A custom manufacturer who earns this confidence is entitled to a one-name specification.

As more lighting fixtures penetrate the architectural space (as opposed to recessed troffers), architects have become more interested in the selection process. They are also more aware of the advantage of using a competent lighting designer, and lighting design as a profession continues to mature. Many lighting designers intensely dislike the current package system.

There should be a better way—and it is here. The Internet offers a venue for the small innovative manufacturer to bypass the package system and all its pitfalls. They can attractively display unique products and provide necessary technical details and pricing. For example, LightForm+, a newly formed Forms-Surfaces company, includes all pertinent pricing on its website. Other companies are doing the same, and more will soon follow. With the actual price (not a fictitious "list price") on the Internet, affordability can be determined up front, and a one-name specification can be confidently written without fear of being blindsided at bid time.

Until such time when the package system dies, any or all of the packaging reps can access the Internet for these prices. The lighting rep can bid his package with these included or bid without them and the electrical contractor can fill in. The knowledge that anyone in the chain who is creditworthy can buy at the Internet price will keep unwarranted markups from occurring. Ruud Lighting is living proof that the electrical wholesaler is no longer needed on the project side of the business. Ruud's success proved that the industry can adapt to change, and the Internet is proving it true.

A panacea—not quite yet. An Internet presentation requires the backup of knowledgeable real live people, but not an army of them. Inexpensive communications allow factories to strongly support their website offerings from one location. But designers will still want to see product samples. Manufacturers will still need qualified people to work with specifiers on custom projects. Is today's lighting mega-rep the right person for this job? I think not.

Are there alternatives? Again as an example, LightForm+ goes to market through the Forms-Surfaces sales force whose expertise has been selling other architectural products. Bega, Louis Poulsen, Boy, Nessen, and many other design-driven lighting companies have non-lighting architectural reps among their sales force. There is a variety of independent non-lighting reps calling on the design community that can be utilized (combined with Internet pricing) by the remaining lighting companies. The companies can then retake control of their businesses. Start-up companies will now emerge—it is the American way.

Selling lighting through non-lighting reps has been tried before—with limited success. Specifications were generated, but the vehicle to get the price into the right hands at bid time was lacking. The Internet fills that void. With photographs, technical details, photometrics, and pricing immediately available, lighting design becomes less time consuming. Design professionals can form relationships with companies that are willing to do something about ending the package era. The architectural reps who will provide the personal contact with the design community can be brought up to speed on lighting through emails, PowerPoint presentations, video conferencing, and one-on-one training. How much training is needed to get them to the level of the average lighting mega-rep—"spec person"? Not very much.

One should always remember that the purpose of competitive bidding is for the owner to get what he wants at a fair price that he can afford. Eliminating unwarranted price markups (with no value added) is a far more effective way to achieve this than compromising the specification on public space elements.

The package era will end when independent companies rebel against the status quo and specifiers demonstrate a willingness to support them.

During Meltzer's 45 years in lighting he has been a "package rep," sales manager and CEO of three lighting manufacturers. Since retiring, his company, Lake Creek Associates, has done consulting for several major lighting companies.

Many of the independent companies that remain continue on to be custom manufactures. They provide the personal contact with the design community that cannot be duplicated by the Internet. The Internet is a tool that can be used to make things better, not replace them. It will be an improvement when it can reach the next level of interaction.