

EnergyWatch



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Something to Think About... Leadership Is a Skill, Not a Genetic Disposition, So They Say: Leaders don't create more followers, they create more leaders. Tom Peters

Progress occurs when courageous, skillful leaders seize the opportunity to change things for the better. President Harry S. Truman

Leaders aren't born, they are made. And they are made just like anything else, through hard work. And that's the price we'll have to pay to achieve that goal, or any goal. Vince Lombardi

The most dangerous leadership myth is that leaders are born – that there is a genetic factor to leadership. This myth asserts that people simply either have certain charismatic qualities or not. That's nonsense; in fact, the opposite is true. Leaders are made rather than born. Warren G. Bennis

Before you are a leader, success is all about growing yourself. When you become a leader, success is all about growing others. Jack Welch

The best executive is the one who has sense enough to pick good men to do what he wants done, and self-restraint to keep from meddling with them while they do it. Theodore Roosevelt

The task of the leader is to get his people from where they are to where they have not been." Henry Kissinger

Great leaders have the ability to attract followers who have no obligation to follow...

Do not follow where the path may lead. Go instead where there is no path and leave a trail. Harold R. McAlindon

Leadership: the art of getting someone else to do something you want done because he wants to do it. Dwight D. Eisenhower

Management is doing things right; leadership is doing the right things. Peter F. Drucker

The final test of a leader is that he leaves behind him in other men, the conviction and the will to carry on. Walter Lippman

Don't tell people how to do things, tell them what to do and let them surprise you with their results. George S. Patton

Inspired Leaders know the "why" they do things. They lead people who believe what you believe. Start with Why... Simon Sinek

A leader is best when people barely know he exists, when his work is done, his aim fulfilled, they will say: we did it ourselves. Lao Tzu

Leadership is not the same as management. Management is about doing the best you can within the status quo. Leadership is about changing the status quo when it needs changing. Carly Fiorina.

Only one man in a thousand is a leader of men -- the other 999 follow women. Groucho Marx

LED EnergyWatch...

1. ***Lighting Industry Exhibits Make Leaps into Smart Era at Lightfair*** - The event opened on May 7, with an array of educational courses, presentations, and keynotes on the docket throughout the week; exhibits open on May 9 and run through May 11. Featuring more than 590 companies representing the lighting and design industry, the LFI tradeshow floor promises to deliver technologies and products that reflect the market's developments in connectivity, smart lighting, enhanced human wellbeing and experience through light, and the Internet of Things (IoT). Learn more at lightfair.com. Below is a selection of links to announcements from companies that you will find on the exhibit floor at LightFair 2017. <http://www.ledsmagazine.com/>
2. ***Tunable LED Lighting Technology Takes Lightfair Center Stage*** - Smart lighting and the Internet of Things (IoT) may have been the most prevalent theme at LightFair International (LFI), but tunable-white LED technology was close behind and of course inherently requires some form of lighting controls to set color and intensity. Some of the most compelling examples of tunable solid-state lighting (SSL) came from Visa Lighting, Acuity Brands, and Philips Lighting. The tunable lighting, a form of human centric lighting (HCL), promises to deliver enhanced wellbeing for humans. SSL applications ranging from healthcare to educational to office settings can leverage tunable LED technology for impacts including increased worker productivity and enhanced wellbeing. <http://www.ledsmagazine.com/>
3. ***Soraa Sky LED Bulb Wins LIGHTFAIR International 2017 Innovation Award*** - The Sky LED Bulb, formerly named Helia™, dynamically adjusts spectral content and color. The goal of the dynamic adjustment is to promote positive effects on the body's natural circadian rhythm. The Sky system uses a full-spectrum LED source, and the bulb precisely tunes in and out the blue-light content throughout the day like the sun. The entire time, the Sky LED bulb delivers Soraa's white light. <http://www.soraahome.com/>



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4. ***SoraaLaser to Demo Laser Light Source Technology at LightFair*** - SoraaLaser boasts that its safe, solid-state laser light source technology offers advantages over LED, OLED, and legacy sources in specialty lighting. The company claims that its laser light source technology grants specifiers and luminaire manufacturers a new digital design freedom in architectural, outdoor, hospitality, retail, security, and entertainment lighting. The company asserts that several advantages of these laser light sources include a vastly superior optical control with miniature optics and reflectors, and high-efficiency fiber optic transport and waveguide delivery. <http://www.solidstatelighting.net/>
5. ***Thoughts from Lightfair 2017 by Jim Lucy*** - It doesn't seem all that long ago at Lightfair that LEDs were on the frontier and you would only see them in exit signs, theatrical lighting and traffic lighting. But in the late-1990s/early 2000s LEDs began a steady march through all niches of the lighting market and today are far and away the dominant light source. This year, Lightfair is all about not only the deep penetration of LEDs into every nook and cranny of the lighting market but also a bunch of IoT-enabled, app-based lighting controls; tuneable light; and a whole new level of productivity tools. Users utilize them to not only save energy but to track space usage in facilities; watch and analyze movement of shoppers in a store; and track assets in a building, like wheelchairs in a hospital or inventory in a store. A few observations on what we saw happening with these trends at Lightfair at: <http://ewweb.com/>
6. ***US Navy Told to 'Buy American' When It Comes to LED*** - President Donald Trump is laying down the law when it comes to ensuring that the federal government, which is one of the largest employers in the world, buys American. This means it is boom time for US manufacturers when it comes to securing major lighting contracts. The Navy is currently in the process of retrofitting its bases with LED light sources, in an attempt to reduce energy costs. This was a long term goal set at a time when military spending was being squeezed under the Obama administration. The scheme has since had to adapted to suit President Trump's demand that the US military should only 'buy American'. It was recently announced that US lighting manufacturer, Orion, has signed a multi-million-dollar deal to retrofit two naval bases. <http://luxreview.com/>
7. ***NEMA New Lighting Standard Outlines How to Designate LED Direct Replacement Lamps*** - After technical review, ANSI Accredited Standards Committee C78, Electric Lamps, published ANSI C78.52-2017 *American National Standard for Electric Lamps—LED (Light Emitting Diode) Direct Replacement Lamps—Method of Designation*. ANSI C78.52 is a new lighting standard on how to designate LED lamps that are direct replacements for existing, ANSI-standardized, non-LED lamps. Lamps covered in this standard contain LED-based light sources. NEMA's Lighting Systems Division is looking for industry experts in the User and General Interest categories to participate in standards development activities. Contact NEMA at nemalighting@nema.org if you are interested. <http://lists.nema.org/t/34393/294699/2972/1/>
8. ***NEMA Publishes New Standard for Portable Traffic Signals*** - The National Electrical Manufacturers Association (NEMA) published NEMA TS 5-2017 *Portable Traffic Signal Systems (PTSS) Standard*. This new standard covers traffic signaling equipment used to enable and expedite the safe movement of vehicle traffic in work zones during roadway construction, such as single-lane road closures during emergencies and planned events. http://www.techstreet.com/nema/standards/nema-ts-5-2017?gateway_code=nema&product_id=1974063



- 9. IES Early Bird Registration Extended to June 1, 2017** - The 2017 Annual Conference fosters personal and career growth through educational and networking opportunities and allows lighting professionals to earn up to 14 CEU credits. The objective of this conference is to provide educational sessions relevant to this audience of lighting professionals, lighting educators, and peripheral design disciplines. This year's theme is "My Light", bringing focus to the impact of light on our personal health and well-being. <https://www.ies.org/events/annual-conference/>
- 10. DOE Publishes Report on LED Street Lighting's Impact on Sky Glow** - DOE has published the results of a study of the expected contributions to sky glow from converting high-pressure sodium (HPS) street lighting to broader-spectrum (i.e., white light) sources, with specific focus on LEDs, and presents the contributions in a manner relative to HPS baseline conditions. These conditions represent typical conversions in the U.S. and include changes in spectral power distribution (SPD), percent uplight, and lumen output. The findings can be downloaded at: <https://energy.gov/eere/ssl/downloads/investigation-led-street-lighting-s-impact-sky-glow>
- 11. LED on Washington Metro Enrages City Bigwigs** - The trains on the Washington Metro, which is the third largest and third busiest transport system in the United States, have recently been upgraded to feature white-blue LED light. Detractors of the upgrade, of which there are many, have labeled the new light as 'clinical' and have equated their commutes to 'walking into a giant Xerox machine'. The architecture of the Washington Metro and indeed the original lighting scheme is considered to be something of a design classic by architects and lighting designers alike. The lighting scheme was developed by the iconic lighting designer William Lam and it is widely viewed as being one of the finest examples of integrated lighting design in the world. Working in conjunction with the Metro's architect, Harry Weese, who developed the network in the Brutalist style, Lam created a lighting scheme that set out to be comprised of warm light, in direct juxtaposition to the hard concrete style of the stations. He also aimed to create a lighting design that prevented commuters from feeling claustrophobic. It remains to be seen if the majority of Washingtonians will be won over to their ever brightening Metro network, but with further LED train conversions in the pipeline, commuters may have no choice but to adapt. <http://luxreview.com/>
- 12. IoT-Ready Alliance to Establish Standard for IoT Sensors in LED Lighting Fixtures** -Leading lighting and LED driver manufacturers, Internet of Things (IoT) technology companies, and industry groups have established the IoT-Ready™ Alliance, dedicated to making installation of IoT technology in luminaires easy now and in the future. The Alliance is setting industry standards that will enable LED light fixtures to be "IoT-Ready™," facilitating a quick and easy installation of advanced IoT sensors – as simple as changing a light bulb. This will also enable building operators to easily upgrade the sensors, ultimately future-proofing their buildings as IoT technology continues to advance at a much more rapid pace than that of LED fixtures. <http://www.iot-ready.org/About/Partners>
- 13. Automotive LED Lighting Market to Grow at CAGR 9% Till 2022** - This is mainly because of the increasing focus of the market players in dwelling the demands of cost effective, low power consumption, efficient lighting system and less CO2 emission from vehicles is driving the market. Also the leading players are expected to develop advanced LED lamps and technologies in shaping the global market. The Automotive LED Lighting Market is growing rapidly at approx. 9% CAGR and is expected to reach approximately USD 20 Billion by the end of forecast period. <http://bizled.co.in/automotive-led-lighting-market-to-grow-at-cagr-9-till-2022/>



- 14. Two Companies Claim to Launch "World's Smallest Driver"** - Two companies claiming to have game-changing LED drivers might be enabling more elegant fixture designs.
- 1) Seoul Semiconductor has claimed the industry's smallest phase-cut DC LED driver series, with a power density 10X higher than conventional LED drivers. The NanoDriver Series is the world's smallest miniature converter at just 13.5mm wide, and is available in four versions rated for 16W and 24W output power for operating LED lighting with input power of 120V or 230V (50 – 60Hz), and can be driven by AC or DC power supplies. www.seoulsemicon.com
 - 2) ERP Power LLC (ERP) claimed the world's smallest power supply for LED lighting fixtures. The next generation ERP LED driver architecture delivers power density of 20 Watts per cubic inch in a package the size of two AA batteries. The new patent-pending power electronics design delivers more than double the density of the previous generation ERP platform, while delivering 5 times the power density of current industry competitors. Initial models will be available in 100W, 60W, and 40W capacity in constant current configurations. www.erp-power.com
- 15. AMOLED Market Likely to Witness Double Digit Growth by 2019** - With its application areas increasing due to the numerous advantageous features, active-matrix organic LED (AMOLED) market is expected to witness double digit growth across the global market, by the year 2019. The increasing focus of companies to enhance productivity and flexible display screens has been the key driving force of AMOLED market. Further, increasing demand for energy efficient devices, and more penetration of AMOLED technology is pushing the market. AMOLED market is usually segmented by applications like television, smartphone, video camera, digital camera, radar surveillance screen and displays for healthcare devices. <http://bizled.co.in/>
- 16. New Flexible OLED Technology Can Endure Repeated Bending** - The new OLED panel developed by Korean researchers can be rolled up like a newspaper. The highlight is that it can remain highly efficient in spite of repeated bending. This means that the new flexible OLED technology can be used in varied wearable monitors. The study team employed a stack structure comprising of manifold layers of conductive polymers, titanium oxides and graphenes to OLED with the aim to overcome boundaries of light transmission. The elastic titanium oxide can tolerate a four times higher strain as compared to the current transparent oxide electrodes. <http://bizled.co.in/new-flexible-oled-technology-can-endure-repeated-bending/>
- 17. Lutron Announces Alliance with Google Home to Power Home Lighting Systems Using Voice-Activated Google Assistant** - Lutron Electronics announced a new integration with Google Home that allows homeowners to easily control their Lutron Caséta Wireless, RadioRA 2 and HomeWorks QS lighting systems using the Google Assistant, offering greater flexibility and peace of mind. Now –with a few words– you can have hands-free assistance controlling lights in your connected home, whether you're in your living room relaxing on the couch, or out on vacation. <http://www.ecmag.com/>
- 18. Ikea's Cheap Smart Lighting Will Be Apple HomeKit, Google Home, and Amazon Alexa Compatible** - Ikea's low-cost TRÅDFRI smart lights first announced in Europe last year, will soon get voice control. Expect it to arrive this summer or autumn says Ikea's press release. Ikea says it sees "great potential" in smart home products, a category it first entered in 2015 with a series of furniture and accessories that had wireless charging for compatible smartphones baked right in. Ikea says it will expand its presence in the connected home with more launches in the coming years, “enabling people to build onto their smart home solution.” <http://www.cnbc.com>



- 19. Cree CEO Chuck Swoboda Resigns** - Cree CEO Chuck Swoboda is resigning, saying he is re-evaluating his priorities following a recent medical issue. The company said Friday that Swoboda will also step down from the board of directors “following a transition period.” Swoboda joined Cree (Nasdaq: CREE) in 1993 and held numerous executive positions before taking on the CEO role in 2001. Swoboda had been trying to usher in what he repeatedly called “Cree 3.0,” a more focused lighting company. <http://www.bizjournals.com/>
- 20. Acuity Brands Bets the House on IoT** - The company is hoping to continue to provide and expand its comprehensive set of IoT offerings, by combining luminaires and building management controls together. IoT sensors implanted in LEDs have the ability to collect analytical information on the behaviour of the people that use a building, offering information on how long people stay in a room, for example, and during what hours of the day. Acuity has devised software, which will offer an array of capabilities, including indoor positioning, asset tracking, space utilization, spatial analytics and energy management. The company unveiled its new product, Atrius, at Lightfair in Philadelphia, which, the firm hopes will advance Acuity's IoT products, making them much more sensory. <http://news.acuitybrands.com>
- 21. Leviton Acquires Birchwood Lighting to Further Expand New Lighting Business Unit** Birchwood Lighting joins JCC, ConTech Lighting and Intense Lighting as the fourth acquisition in the new Leviton Lighting Business Unit. Under the leadership of John Ranshaw, vice president and general manager of the newly integrated business unit, Leviton will focus on continuing to expand its lighting product offering, sales footprint and continuous effort to deliver the broadest portfolio of innovative, high-performance and sustainable lighting solutions and fixtures in the industry. Following the acquisition, Leviton will continue to maintain their separate agent networks and distribution channels and both companies will immediately begin to build on each other’s strengths, resources and product offerings. <http://www.leviton.com/>
- 22. Minnesota Twins Install Eaton’s Advanced LED Lighting and Controls System at Target Field** - The Twins will become one of five Major League Baseball (MLB) teams playing its home games under the Ephesus LED sports lighting solution this season. With more than 25 professional sports teams adopting the industry-leading LED and controls technology in just the past few years, it has quickly become the preferred lighting solution for sports venues of all sizes. The innovative system is available with 100 percent dimming capabilities, tunable light temperature and advanced control capabilities within each fixture. <http://lightingcontrolsassociation.org/>
- 23. Smartphone OLED Shipments to Reach 450 Million Units in 2017** - Shipments of organic light-emitting diode (OLED) displays for smartphones are likely to double to 450 million units in 2017 as against 250 million units in 2015, according to an estimate by market research firm, IHS. <https://technology.ihs.com/581605> At present, nearly 97% of the market is dominated by Samsung Display, which is the display-manufacturing division of Samsung Electronics. The OLED shipment for 2016 is more than likely to increase by 42.7 % to 366.9 million panels as against 2015, IHS said. Meanwhile, IHS forecasted that LCD shipments for smartphones would continue to diminish from 2016’s 1.58 billion units to 1.36 billion units in 2020.



Global LED EnergyWatch...

24. Top 5 Trends Impacting Global LED Ballast Market - The top five trends that have driven the global LED lighting ballast market in 2016, and is expected to impact the market till 2020 are:

- 1) Increase in urban population worldwide
- 2) Declining manufacturing cost of LEDs
- 3) Demand for intelligent lighting systems
- 4) Emergence of smart cities
- 5) New government policies and guidelines on smart lighting

<http://bizled.co.in/top-5-trends-impacting-global-led-ballast-market/>

25. Global Lighting Companies' Market Strategies in the Post LED Lighting Era by LEDinside -

From 2011 to 2015, the global LED general lighting market undoubtedly underwent the most dramatic changes. In 2015 to 2016, although the LED lighting market did not show the same exponential growth like previous years, it still expanded at a 10% to 20% rate. Judging from annual lighting shipments, LEDs still occupied over 50%. However, the share of LED lights in global lighting market has been hovering at 20% for quite a while. 2011 to 2015 marked the period when LED lights were widely adopted. But in the present “post LED lighting era”, it is still unclear what changes will occur and where the industry is heading towards. In this article, LEDinside will look at the industry from three different aspects: product, channel and brand. <http://www.ledinside.com/>

26. Zumtobel Lighting-as-a-Service Deal Guarantees Light Levels and Energy Savings - Zumtobel

Group's new services operation has announced its first LaaS installation, at an Austrian plastics factory that is spending nothing upfront on new LED lighting but is instead paying a monthly fee for guaranteed lighting levels and energy reduction. The deployment at the Faigle Kunststoff GmbH facilities is the responsibility of NOW, Zumtobel's two-year-old lighting-as-a-service (LaaS) unit that the company melded into the Zumtobel Group Services (ZGS) division it formed in March. Dornbirn, Austria-based Zumtobel created ZGS in an effort to ratchet up its push to connect lighting to the Internet, part of the Internet of Things (IoT) movement that is gripping the lighting industry. IoT lighting environments use chips, sensors, and network connections to support richer than normal lighting controls, facilitating features such as color temperature adjustments, and allowing lights to respond to a wide array of inputs. At the same time, the lighting infrastructure can collect data about building operations such as occupancy, helping facility managers better know when to turn heat on or off, how to reassign rooms and floors, and so forth. <http://www.ledsmagazine.com/>

27. Philips Launches Wireless Smart Office Lighting Rather Than PoE to Reach the Masses - Philips

Lighting today launched a wireless lighting-as-a-Service (LaaS) initiative for commercial offices, hoping to convince building managers to implement smart Internet-connected lighting schemes that Philips has addressed to date with more expensive wired offerings based on Power over Ethernet (PoE) that appeals to a narrower audience. The new cloud-linked Philips InterAct Office system embeds sensors and ZigBee communication chips inside LED ceiling lights and luminaires, and reduces energy consumption by controlling lights more intelligently. Sensors such as motion detectors turn lights on, off, up, and down as needed, and users can wirelessly pre-program — or “commission” — groups of lights to respond in certain ways at certain times. They can also directly control lights wirelessly using ZigBee from phones or tablets. The smart lighting system allows remote, central management of floors or groups of buildings. <http://www.ledsmagazine.com/>



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- 28. Ranchi, India to Get 32,000 LED Streetlights** - Ranchi Municipal Corporation (RMC) is all set to install LED streetlights throughout the city with the help of Energy Efficiency Services Limited (EESL), a joint venture with the Union ministry of power, responsible for implementing various domestic efficient lighting programs. EESL has signed a MOU with the state government to put up 1,00,000 LED bulbs across the state. <http://bizled.co.in/ranchi-to-get-32000-led-streetlights/>
- 29. Acquisition Synergies Expected to Help MLS and LEDVANCE Shine Brighter** - Due to a major asset restructuring, from July 18, 2016, shares trade of MLS, China's leading LED packaging manufacturer, remained suspended until May 2, 2017. MLS announced it would spend up to RMB 4 billion (around US\$580 million) to acquire the whole ownership of Guangdong Mingxin Optoelectronic, which holds a 100% stake in LEDVANCE. By doing so, MLS would gain full control of LEDVANCE, originally Osram's lamps and lighting unit. This partnership is expected to create synergies in manufacturing, distribution, R&D, and branding, offering both sides important competitive advantages in the post LED lighting era. Over 80% of LEDVANCE's revenue is in North America and Europe <http://www.ledinside.com/>
- 30. Light from Osram Puts BMW Motorsport Team in Top Form for Racing** - BMW Motorsport will be using biologically effective light from Osram during the 24-hour race on the Nürburgring in Germany, taking place on May 27 and 28. The light comes in the form of LED light glasses and special luminaires. The blue LED light prepares them for the competition by stimulating the central nervous system. In addition, special luminaires are installed in common rooms and the pit wall control center for the benefit of both drivers and engineers. They emit light with a high blue component, helping to heighten and maintain concentration levels even during the night session. Installed in retirement or nursing homes, it can help stabilize dementia sufferers who have lost track of their day/night cycle. The technology is used in offices as well, optimizing the performance and concentration levels of office workers. <http://www.ledinside.com/>
- 31. Li-Fi Eyes Opportunity as France Bans Wi-Fi in Schools** - The French government has moved to outlaw Wi-Fi in nurseries, schools and childcare centers that cater for children under six. The move is offering inspiration to the creators of Li-Fi, a system that uses light to provide internet access. Wi-Fi has been banned by the French state in an attempt to protect young people from 'possibly carcinogenic' effects of the transmissions. Li-Fi, by contrast, uses visible light from LED luminaires to transmit information and escapes the ban. It is hoped, ultimately, that mini-Li-Fi receptors will be placed in smartphones allowing people to use their mobile phones via a wireless internet connection provided by the lighting. <http://luxreview.com/>
- 32. Global LED Market to Reach US\$33.1 Billion in 2017** - Global LED lighting market will hit US\$29.6 billion in 2016 and increase to US\$33.1 billion in 2017, with a penetration rate of 52%, according to a report by TrendForce <http://www.trendforce.com/research/led> Further, the report said that LED lighting will account for 23% (highest across the globe) of entire lighting in Europe by 2016, due to regional lighting development. Meanwhile, North America and China will become second and third highest regions. However, Asia-Pacific region will witness fastest growth rate in LED lighting, added the report. Industrial and LED commercial lighting demand is strong across the nation, among which demand for high bay lights, panel lights, and tunnel lights is the highest. Hence, they are now beginning to move towards new application areas such as optical and intelligence communications.



LED Technology Watch...

33. Ushio America Introduces Ubiquity™ LED T8 Direct Replace Tubes -

These lamps offer an instant energy-saving solution for F32T8 fluorescent lamps on most instant-start and programmed-start electronic ballasts. There's no need to rewire fixtures or disconnect ballasts. These 50,000 hour rated lamps utilize the existing electronic ballast, saving labor and maintenance costs. Tested to NSF standards, these lamps are ETL Sanitation Listed and suitable for use in areas where food is prepared. By not tampering with the fixture wiring or bypassing the ballast, the original UL Listing on every fixture is preserved. Available in 3500K, 4000K and 5000K color temperatures, 50,000 hour rated life LED lamps with a 5-year limited warranty. For more information on any of the other lighting-edge technologies from Ushio America, Inc., call 800.838.7446 or visit www.USHIO.com



34. Ushio America Introduces the New Ubiquity™ 2 LED T8 Direct Wire - An

ideal retrofit solution, the Ubiquity™ 2 LED T8 Direct Wire lamps can be wired to one end or to both ends. This significantly reduces your labor and related expenses, and eliminates the need for external ballasts and LED drivers. At 12.5 watts, these DLC listed lamps offer an energy-saving upgrade for F32T8 fluorescent lamps. Available in 4000K and 5000K and are made with a shatterproof glass tube that provides very good thermal conductivity and transparency. The tube is frosted to prevent glare and allows the 240 degree beam angle (325 degree visible light area) to create a quality lighted environment. Tested to NSF standards, these lamps are ETL Sanitation Listed and suitable for use in areas where food is prepared. 50,000 hour rated life LED lamps with a 5-year limited warranty. For more information: www.USHIO.com



35. Foreverlamp to Launch new DesignLights Consortium Approved Classic High-Bay Series at Lightfair International -



Foreverlamp, creator of the award-winning Foreverlamp™ LED Retrofit Lamp Series, has expanded their cost-effective LED high bay offering with the traditional round look of an HID high bay and classic driver housing that delivers the modern efficiencies of today's LED technology. The new **HB Classic Series™** will be introduced at Lightfair International as an expansion to Foreverlamp's popular **HB™ Series** High-Bay LED product line. The new classic-styled LED high-bay fixture provides many lumen options for "true up-light" with interchangeable LED bulbs, as well as a powerful one-piece integrated design that exceeds the DLC premium requirement. With lumen packages

available from 20,000 through 66,000, the **HB Classic Series™** delivers replacement options for 1000W through 250W HID applications. Booth #5155 www.Foreverlamp.com



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36. *Viribright Lighting Launches New Line of LED Light Bulbs -*

Patented technology allows Viribright to deliver high-caliber light performance at an affordable price. Viribright carefully engineers every bulb to create uniform light dispersion and minimize glare, creating a more pleasant viewing experience. All Viribright LED light bulbs are designed to exceed the industry's lumen standards. Patented ViriTrue technology allows Viribright LED light bulbs to increase lumens per watt without sacrificing energy efficiency or savings. With high CRI in every light bulb, Viribright guarantees beautiful light. <http://www.viribright.com/>



37. *Amerlux Adds Upper Reflector with Solite Lens as a Standard Offering for Square Downlights -*

Resolving the challenge to project even illumination from square downlights when using a round LED light source, Amerlux has developed a patent-pending upper reflector that can be combined with the Solite optic for square downlight families. This cutting edge optical technology eliminates glare, dark corners and non-uniformity within square trims while delivering clean, visually comfortable and highly efficient lighting with Evoke 2.9", Evoke 4.75" and Hornet 3.5" downlight families. <http://www.amerlux.com/>



Trim with Typical Optic.



Trim with Amerlux Optic.

38. *Terralux Becomes Sielo -* Terralux is announcing a new corporate identity and vision for intelligent buildings and connected lighting. The company is now Sielo, a brand that represents cloud-based, connected building solutions at the nexus of power, light, and data. Sielo will continue to advance LED lighting offerings for Retrofit and OEM markets, in conjunction with accelerating the LESENSE® IoT intelligence platform. With its Summer 2017 software release, LESENSE® expands capabilities for both end users and Sielo's Certified LESENSE® Partner (CLP) network.



- The Radio Reveal Android application simplifies and speeds field commissioning.
- Smart thermostat capabilities expanded for both small and large commercial deployments.
- Expanded role-based user groups and access levels for end users and CLPs.
- UI improvements throughout, including new energy savings dashboard.
- Addition of multiple 3rd party EnOcean devices, including wireless sensors. <https://sielo.com/>

39. *The C by GE Sol, an Alexa-Powered Table Lamp, Is Now Available for Preorder -* The futuristic-looking light promises to enhance your sleep, function as a clock, and connect to other GE smart bulbs in your home. The C by GE Sol table lamp is an Alexa-powered halo of luminescence that first showed up at CES. Now it's more of a real product, with a retail price, release timeline, and a queue for potential buyers to join. Those early adopters will save 20 percent off the Sol's \$200 price tag when it ships in September. The C by GE Sol is a 60-Watt equivalent light that can be tuned to daylight or soft white color temperatures using a voice command or the C by GE app for iPhone or Android. Additionally, the smart light uses Bluetooth connectivity to work with GE's C by GE smart bulbs, Apple's Home Kit, and other Alexa devices. <https://www.cbyge.com/pages/sol> Watch the video: <https://www.youtube.com/watch?v=oW0MvKkXNJg>



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National Energy Watch...

- 40. *Electroindustry Manufacturers Support Administration Action on NAFTA*** - The National Electrical Manufacturers Association (NEMA) welcomed the Administration's May 18 formal notification to Congress of intent to enter into negotiations with Canada and Mexico to revise and update the North American Free Trade Agreement (NAFTA). NEMA is consulting with Member companies to identify ways in which NAFTA, which took effect in 1994, can be enhanced and updated to better promote economic growth and global competitiveness of the U.S. electrical manufacturing and medical imaging industries. www.NEMA.org
- 41. *NEMA Calls on Secretary of Energy to Complete Rulemaking for General Service Lamps*** - The Department of Energy (DOE) began the rulemaking in December 2013 and published two rules on January 19, 2017, addressing only one of the issues that Congress required for the rulemaking. These rules did not address the key issue on which Congress required DOE to act: whether or not standards for general service incandescent lamps should be amended to be more stringent than the standards for those lamps that Congress enacted in EISA-2007. Nor did the rules address robust standards for light-emitting diode (LED) lamps that were originally proposed by DOE in 2016. NEMA has also called upon DOE to establish a robust, economically justified national efficiency standard for general service LED lamps and to consider standards for certain other LED lamps. www.nema.org
- 42. *NEMA Publishes Standard on Test Methods for Temporal Light Artifacts*** - NEMA 77-2017 *Temporal Light Artifacts: Test Methods and Guidance for Acceptance Criteria*. Temporal Light Artifacts (TLA) are undesired changes in visual perception induced by a light stimulus whose luminance or spectral distribution fluctuates with time, such as flicker and stroboscopic effect. This new lighting standard makes recommendations on methods of quantifying the visibility of TLA, and initial, broad application-dependent limits on TLA. http://www.techstreet.com/nema/standards/nema-77-2017?gateway_code=nema&product_id=1949775

Monthly Special Feature... *The Lux Two-Minute Explainer: Li-fi* -

What's Li-fi?

Li-fi is a way of transmitting data – including the internet – to devices such as smart phones using visible light from LEDs pulsed at high frequency. Li-fi is a term coined by Professor Harold Haas of Edinburgh-based start-up company pureLiFi. It's bi-directional, unlike so-called visual light communication, or VLC, in which information is broadcast in one direction to devices. Examples of the latter are indoor-location services.

Is it completely new?

Not really. The remote control you use to send instructions to your TV uses invisible infrared light, and, at the other end of the scale, lasers send vast amounts of data down fibre optic cables to provide telecoms and broadband services, so the principle has been around for decades. The advent of LED lighting, which can be switched on and off instantaneously, has enabled this approach to be expanded and piggy-backed onto LED lighting systems.

How fast is Li-fi?

In theory li-fi can perform around 100 times faster than Wi-fi, which would mean you could download the entire set of Star Wars movies in around one second.



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Would I notice a difference in my lighting system equipped with Li-fi?

No, because the lights are pulsed at extremely high frequencies which is undetectable to the human eye. It operates at many hundreds of times faster than high-frequency lighting power supplies or ballasts which are used today.

How do devices download information using Li-fi?

One option is to use the forward-facing camera on your smart phone or laptop. In truth, the components required to deploy this technology are much simpler than Wi-fi or Bluetooth. Think about how many devices already have some sort of light-sensing capability to enable functions such as automatic screen dimming. Alternatively, a plug-in dongle with built-in photoreceptor receives the information.

How do devices upload information?

Data in most cases is a two-way street, and although you tend to receive much more data than you upload, the receiving device still needs to transmit data back. Currently, devices requires a plug-in dongle which has an integral infra-red transmitter to send information back to the luminaire. The dongle also includes a photo-receptor to download information. However, if Li-fi gets traction in the market, smart phone and laptop manufacturers may start to incorporate the necessary sensors and software, obviating the need for a separate dongle.

How does data get in to the lighting system?

The luminaire transmitting the data still needs to connect to the internet or network. This could be with an Ethernet connection or using power-line communication, which is basically data sent over conventional mains wiring. Li-fi engineers say the best solution is to have the whole installation as a Power over Ethernet installation, where both power and data is sent along Cat 5 or Cat 6 cables.

What are the advantages over Wi-fi?

The amount of data which can be transmitted over Wifi is limited; the more users or devices which are trying to communicate, the slower it becomes. Ever tried to connect to wi-fi in a busy exhibition hall or airport departure lounge?

Is Li-fi safe?

In many situations Li-fi could be safer than Wi-fi. The radio frequencies used in Wi-fi can interfere with sensitive electronic equipment, for example in medical equipment or hazardous locations found in chemical plants.

What about security?

Light can be made very directional, and obviously can't travel through walls, so to eavesdrop or hack a system you need to be able to see the light.

Can lights still be dimmed when using Li-fi?

In theory, lights can be dimmed to levels undetectable by the human eye and still perform. However, range or network speed may be compromised. The minimum light level for Li-fi to work is around 60 lux. <http://luxreview.com/article/2016/02/the-lux-explainer-li-fi>

