

EnergyWatch

 Attardi Marketing

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Something to Think About...Illumigeddon or Fortuity

Folks, we are all in agreement: we will connect everything and the integration of intelligent lighting as a core connector has enormous potential.....but as Chris Brown keeps screaming from the roof tops, for whom? Somebody answer him! Traditional Electrical Distributors and Lighting Distributors will need new levels of high technical competences and new services / solutions to elbow their way to the table. And don't be surprised if we are not transitioning into another new dynamic era of lighting. I'd love to be around when they replace LEDs. We will usher in an era of prosperity and innovation the world has never seen. Which direction are you headed.....?

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LED Energy Watch...

1. ***The Li-Fi Revolution: Coming Soon to an Office Near You*** - Tech start-up company Velmenni has used Li-Fi-enabled lamps to transmit data at speeds of 1Gbps (Gigabits per second). Laboratory tests have shown theoretical speeds of up to 224Gbps. The company tested the method of delivering data, which uses the visible spectrum rather than radio waves, in a working office. The visible light spectrum is 10,000 times greater than the RF spectrum used in Wi-Fi, and Li-Fi can achieve about 1000 times the data density of Wi-Fi because visible light can be well contained in a tight illumination area, whereas RF tends to spread out and cause interference.
<http://luxreview.com/article/2015/12/li-fi-race-speeds-up> The term Li-Fi was coined by Professor Harald Haas. He demonstrated the technology at a TED (Technology, Entertainment and Design) conference in 2011. His talk, which has now been watched over two million times, showed an LED lamp streaming video. Professor Haas described a future when billions of light bulbs could become wireless hotspots. http://www.ted.com/talks/harald_haas_wireless_data_from_every_light_bulb
2. ***2015 Connected Lighting Systems Meeting Presentations Posted*** - More than 260 attended DOE's inaugural Connected Lighting Systems Meeting, held November 16 in Portland, OR. Lighting, semiconductor, and IT industries gathered to share perspectives and lay the groundwork for government/industry collaboration on the convergence of intelligent controllable light sources, communication networks, sensors, and data exchange in future lighting systems. Discussions were on how best to take advantage of the imminent collision between advanced lighting systems and the fast emerging Internet of Things. The 2015 meeting presentations are posted at:
<http://energy.gov/eere/ssl/2015-doe-connected-lighting-systems-presentations-and-materials>
3. ***2015 SSL Technology Development Workshop Presentations Posted*** - More than 230 attended the tenth annual DOE Solid-State Lighting Technology Development Workshop, held November 17–18 in Portland, OR. The workshop offered a rich mix of perspectives and insights from a diverse group of participants ranging from utilities and energy efficiency organizations to manufacturers and specifiers. Attendees valued the “open dialogue among various players in the industry” and “very informative and thought provoking” sessions. The workshop presentations have been posted at:
<http://energy.gov/eere/ssl/2015-ssl-technology-development-workshop-presentations-and-materials>
4. ***NEEP's 7 Crucial Steps to Transform the Residential Lighting Market*** – The Northeast Energy Efficiency Partnerships Regional Goal is that the residential lighting market reach a socket saturation of 80-90% efficient quality lighting when transformed by 2022. NEEP's theory of change to transform the residential lighting market along a timeline looks a little something like this:
 - 1) Program administrators (PAs) drive down the cost of general service ENERGY STAR LEDs to be competitive with inefficient alternatives
 - 2) PAs only promote specialty products that are LED
 - 3) PAs start to leverage the growing popularity of smart bulbs through incentives, education and product quality requirements
 - 4) PAs shift program strategy to ramp up resources towards specialty LEDs
 - 5) PAs starts to tackle the linear fluorescent product category
 - 6) ENERGY STAR is expected to revise the Lamps and Luminaires specifications
 - 7) In 2020, EISA Phase 2 is expected to go into effect <http://www.neep.org/blog>



5. ***Apple Opens Secret Laboratory in Taiwan to Develop New Screens*** - Apple Inc. opened a production laboratory in northern Taiwan where engineers are developing new LCD, OLED display technologies. The Apple building in Longtan has at least 50 engineers and other workers creating new screens for devices including iPhones, iPads and Mac personal computers. Apple aims to make products thinner, lighter, brighter and more energy-efficient using organic light-emitting diodes, which are even thinner and don't require a backlight. <http://www.bloomberg.com/news/articles/2015-12-15/apple-said-to-open-secret-lab-in-taiwan-to-develop-displays>
6. ***LG Display to Focus on OLED Lighting as Next Growth Engine*** - LG Chem handed over the OLED panel business to LG Display three years after the company took up the challenge of catching display material for TVs in 2012. The group also commented it was more efficient for LG Display, which heads the group's OLED business, to run the OLED lighting business, rather than LG Chem, which focuses on petrochemicals and secondary batteries. LG Display will expand its previous business area, to supply its OLED panel components to TVs and mobile products, into the lighting sector, to create synergy effects and strengthen OLED total solutions. <http://www.ledinside.com>
7. ***Another Strong Quarter for LED A-Line Lamp Shipments*** - LED A-line lamps surged 237.2 percent during the quarter on a year-over-year basis. Halogen A-line lamps posted a year-over-year increase of 33.0 percent. In contrast, incandescent A-line lamps decreased by 31.5 percent while CFLs dropped 28.0 percent. Compared to 2015Q2, LED shipments rose 17.2 percent, while halogen A-lines increased 4.6 percent. CFL shipments saw a quarter-to-quarter decrease of 16.3 percent and incandescent A-line lamp shipments decreased 16.5 percent. As of 2015Q3, halogen A-line lamps accounted for almost half of all consumer lamp shipments at 48.6 percent, followed by CFLs with a share of 27.3 percent and incandescent A-lines at 9.0 percent. LED A-line lamps increased their sales share by two percentage points to 15.1 percent of the consumer lamp market. www.NEMA.org
8. ***Philips, Cisco on Brink of Connected Lighting Partnership*** - Details of the hook-up between the world's largest lighting company, Philips, and \$49.2 billion Internet stalwart Cisco, are still sketchy. But it will almost certainly include using Ethernet cables to provide low-voltage electricity to LED lighting and to use those same wires to route data to and from net-connected LEDs. So-called "Power over Ethernet" (PoE) allows users to control lighting from computers, mobile devices, and apps, either onsite or off, including from around the world. It also turns lights into valuable data nodes, which, when combined with sensors, take note of all sorts of useful information such as building occupancy, temperature, lighting requirements, and security breaches. Neither Philips nor Cisco would explicitly confirm the pending joint announcement. <http://www.ledsmagazine.com>
9. ***Philips in Lighting Partnerships with Cisco, SAP and Bosch*** - Philips will become their preferred supplier for networked lighting. Though the companies did not provide financial details of the partnerships and the deals are not exclusive, the tie-ups could enhance the prospects for Philips' lighting division as the Dutch group proceeds with plans to spin off the world's biggest lighting company next year to focus on its healthcare systems business. The systems also aggregate information about lighting, temperature, energy use, space usage and other data from a building and present it in an interface for facility managers. Philips estimates the office lighting market at \$1.09 billion a year. 12/9 Reuters



- 10. *Emergency Lighting: Is LED First Choice?*** - An increasing number of people would say yes, such has been the growth of LEDs in the market, and the almost universal acclaim for their benefits. LED products tick the box for practically every photometric parameter. Lamp life is clearly an overwhelming advantage, with the additional benefit of energy savings. LEDs have also enabled the development of a new generation of sleeker, more compact emergency luminaires, while retaining or improving the quality and distribution of light – a big plus for architects and designers. But T5 solutions could still be regarded as feasible if not desirable for some installations.
<http://luxreview.com/article/2015/12/emergency-lighting-is-led-first-choice->
- 11. *What's Trendy in Lighting by Jeff Gavin*** - Intelligent Lighting Commits to Efficiency, Connectivity and Health. Multifunctional sensors, networked wireless controls accessible from mobile devices, and, yes, LEDs are trends that picked up steam this year. These interconnected technologies will be transformational for the electrical contractor (EC). Most significantly, they bolster the need for high- and low-voltage expertise to meet the challenging demands of today's customers who want to continuously improve energy efficiency while providing quality lighting. Approaches in lighting that include wireless and mobile control are poised to meet many of the 21st-century client's needs.
<http://www.ecmag.com/section/lighting/whats-trendy-lighting>
- 12. *Single-Chip Microprocessor That Communicates Directly Using Light*** - Data transport across short electrical wires is limited by both bandwidth and power density, which creates a performance bottleneck for semiconductor microchips in modern computer systems—from mobile phones to large-scale data centers. These limitations can be overcome by using optical communications based on chip-scale electronic–photonic systems enabled by silicon-based nanophotonic devices. Here we report an electronic–photonic system on a single chip integrating over 70 million transistors and 850 photonic components that work together to provide logic, memory, and interconnect functions. This system is a realization of a microprocessor that uses on-chip photonic devices to directly communicate with other chips using light. This demonstration could represent the beginning of an era of chip-scale electronic–photonic systems with the potential to transform computing system architectures, enabling more powerful computers, from network infrastructure to data centers and supercomputers. <http://www.nature.com/nature/journal/v528/n7583/full/nature16454.html>
- 13. *Dow Chemical and DuPont's Merge's Mark on the LED Industry*** - Top two U.S. chemical companies Dow Chemical and DuPont signed an agreement in an all-stock merger of equals to merge into an enterprise worth US \$13 billion. The combined new company will be renamed as DowDuPont, and will be separated into three businesses Agriculture, Material Science, and special materials through tax-free spin-offs. The LED raw material and UV LED curing industries will be most affected by the chemical giants merge. DuPont will focus on raising energy efficiency and developing LEDs for advanced Liquid Crystal Display (LCD), Plasma Display Panel (PDP), and OLED technology. The company invested in innovation and providing solutions to improve LED lighting and display features. Dow Chemical's LED raw material business will be managed by Dow Electronic Materials business arm. The company's innovative optics and organic silicon solutions have penetrated the entire lighting value chain.
http://www.ledinside.com/news/2015/12/dow_chemical_and_duponts_merge_mark_on_the_led_industry



Global LED EnergyWatch...

14. Implications from Philips and Cisco Partnership - On Dec. 9, Philips, the global leader in lighting and Cisco, the worldwide leader in IT, announced a global strategic alliance that will create new energy savings, building efficiency and employee productivity, made possible by the Internet of Things (IoT) in modern offices. This alliance brings together Philips' LED based connected lighting system with Cisco's IT network to address a global office market estimated to be worth EUR 1 billion. The trend of lighting industry may change in the following aspects.

- 1) **Lighting is a crucial entrance of Internet of Things (IoT), which means Internet of Lighting will become one of the important component of IoT.**
- 2) **Office lighting application market has great potential and is worth continuous investment**
- 3) **Lighting applications transformed by LED's potential network system and electricity distribution features**
- 4) **Individual- centered lighting to become realized through the implementation of IoT technology**

http://www.ledinside.com/news/2015/12/implications_from_philips_and_cisco_partnership

15. Siemens Considers Selling Stake in Osram - Osram's largest shareholder Siemens might be considering selling its 17% stake in the company. Citing a report from leading German newspaper Handelsblatt, a source in the industry revealed Siemens might sell its stake in Osram to an Asian manufacturer. No further details were offered about the potential Asian candidate. Osram's largest shareholder Siemens has been rather vocal about its dissatisfaction with the German lighting company's decision to invest US \$2.20 billion to build a new white LED lighting fab in Malaysia last Tuesday. Investors have previously questioned Osram's R&D strategy, with many preferring for the company to focus on more profitable niche lighting products. 12/28 Reuters

16. MLS Aims to Do More than Expand Distribution Channels by Acquiring Osram's Lighting Business - MLS or also known as Forest Lighting announced its interest in acquiring Osram's LED lighting business in early November this year. If MLS successfully acquires Osram it will be able to acquire the German company's distribution channels in North America and European markets, and diversify its marketing strategy. The Chinese manufacturer, which also specializes in LED packaging hoped the merge deal would also create opportunities to collaborate with the German company's LED component business, Osram Opto. If the deal goes smoothly, MLS should be able to complete acquisition talks with Osram by second quarter of 2016, <http://www.ledinside.com>

17. Havells India to Sell Sylvania to the Chinese - Looking to sell an 80% stake in Sylvania to Shanghai Feilo Acoustics Co Limited. The deal puts the equity value of Havells Sylvania at US\$204.6 million. Havells will receive US\$163.7 million on the completion of the deal by February 2016. Havells will sell its remaining 20% stake in the next 3-5 years. Havells acquired Sylvania in 2007 and invested US\$114.4 million over the last seven years. Under the deal, the entire debt of about US\$33 million in addition to the pension liability of Sylvania will be transferred to Feilo. Havells India shares jumped nearly 8% after the announcement. <http://luxreview.com/article/2015/12/sylvania-to-be-sold-to-the-chinese>



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- 18. Smart Lighting: Global Strategic Business Report 2015** - The global market for Smart Lighting is projected to exceed US\$47 billion by 2020, driven by the rapid penetration of LED lighting that represents the perfect enabler for realization of the Smart Lighting revolution, and increasing focus on energy efficient building technologies. A real paradigm shift is expected in the lighting industry through digitization, making smart lighting one of the fastest growing segments of the gigantic 'Internet of Things (IoT)' phenomenon. Digitization is expected to impact all application segments including housing, retail, office spaces, and government infrastructure, among others. The connected lighting network accommodates a growing number of light points, application program interface (API), and developer interface that enable creation and addition of multiple value applications. http://www.researchandmarkets.com/publication/mit11pd/smart_lighting_global_strategic
- 19. World Organic LED Market Opportunities and Forecasts, 2014 – 2020** - To reach \$ 37.2 billion by 2020. OLED technology is garnering more acceptance among end users as it is thinner, brighter, lightweight, power efficient and offers higher contrast compared to LEDs and LCDs. OLEDs offer wide viewing angles, faster response times, higher contrast ratios and more saturated colors to enhance viewing experience and to create flexible display and lighting panels. OLEDs are more expensive than LCD products. Moreover, government and industry funding for R&D is expected to boost the process of addressing the technological challenges of the world OLED lighting solution. The report segments the OLED market based on application, display type, applications of OLED display panel, OLED lighting end users and geography. Based on application, the OLED market is segmented into display and lighting, residential and industrial, and provides information regarding key drivers, restraints and opportunities with their impact analysis for the forecast period. <https://www.alliedmarketresearch.com/organic-oled-market>
- 20. Plan for 10 Billion Ultra-Efficient LEDs Lights Up Paris Climate Summit** - Governments including China, India, the US and companies such as Ikea are backing a plan to have 10bn super-efficient light bulbs fitted worldwide to tackle the 5% of global emissions caused by lighting. The US energy secretary, Ernest Moniz, will also be endorsing the project which is backed by 13 major economies – including Australia, the UK and Mexico – and the European commission. Lighting accounts for around 15% of the world's electricity consumption, more than the combined output of all the planet's nuclear plants. <http://www.theguardian.com/environment/2015/dec/07/plan-for-10-billion-ultra-efficient-leds-lights-up-paris-climate-summit>
- 21. Zhaga Consortium Publishes LED Driver Book 13** - The new Book 13 specification will offer LED-based luminaire developers flexibility in terms of driver sourcing and interchangeability. SSL products based on the Book will feature the potential for a failed driver to be replaced in the field with a product from a different driver manufacturer if necessary. Primarily, the new Book defines the maximum dimensions of different driver options along with a definition of standard mounting points for mechanical connection to a fixture. The industry group surveyed the market and in the new Book defines 78 different driver categories used across all SSL applications. Going forward, however, the consortium is recommending that luminaire manufacturers choose from newly defined A and B Type drivers with 13 and 14 size options respectively in each type. <http://www.zhagastandard.org/books/book13>



LED Technology Watch...

22. Electrical Wholesaling's Top 10 New Product Picks are in for December - Check out what's now out in the market from WAC Lighting, GE Lighting, Philips Lighting, Nordeon USA, Holophane/Acuity Brands, Lighting Science Group, JESCO Lighting, Nora Lighting, Osram Sylvania and SEPCO.



23. TRP New 96W Line Voltage Dimming Driver Has Universal Input - The Thomas Research Products (TRP) LED96W-LT series accepts universal 120-277V AC input. The new constant current design provides flicker-free output. It is compatible with both high-quality standard incandescent (leading edge) and electronic low voltage (ELV, or trailing edge) phase cut dimmers. This new driver is also Type HL Recognized by UL for use in Hazardous Locations. The new IP66 rated Black Magic™ thermal advantage plastic housing is intended for damp location use. It comes with the company's standard 5 year warranty. Availability of LED96W-LT series driver begins 1Q2016. http://trpssl.com/led_driver_selector.html



24. LEDtronics LED T5 High Output Tube Light Kits - The T5 Tube Light Kits are *MUCH* more competitively priced, and even have less labor cost from the customer's side! They fit into almost *ANY* fixture, and feature great ease of installation, requiring only a single driver for up to 4 tubes and only two drivers for 6 tubes! <http://www.ledtronics.com/Products/>

- 2-Tube Kit, 4 ft, Only 42W (One Driver)
- 4-Tube Kit, 4 ft, Only 82W (One Driver)
- 3-Tube Kit, 4 ft, Only 62W (One Driver)
- 6-Tube Kit, 4 ft, Only 122W (Two Drivers)



25. Ushio America Introduces the New Utopia™ 2 LED A19 Lamps - USHIO's new Utopia™ 2 LED A19 lamps offer the same fluid shape and size of an incandescent A19. These dimmable LED A19s with a rated life of 25,000 hours and an energy savings of 85% compared to popular 60W A19 incandescent lamps, the Utopia 2 LED A19 is ideal for most applications. These ENERGY STAR® 9W LED A19 lamps operate on 120V with Warm White (2700K) and Daylight (5000K) color temperatures and are available in E26 medium base. www.USHIO.com



26. GE Bright Stik 100W Replacement LED (2-pack) - GE is releasing a bigger, brighter version of the Bright Stik that's designed to put out as much light as a 100W incandescent bulb. Soft white versions of the light will sell in two-packs at Sam's Club locations for a price of 2/\$15.99 -- by far the lowest price we've seen for a 100W replacement LED from a major manufacturer. At \$8 each, the Bright Stik LED will pay for itself in less than a year. <http://www.ge.com/>



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National Energy Watch...

27. DOE Regulatory Decision Affecting High-Intensity Discharge Lamp Industry - The U.S.

Department of Energy issued its December 2 decision that mandatory energy conservation standards for high-intensity discharge (HID) lamps are not technically feasible or economically justified. Furthermore, the DOE determined that higher energy conservation standards for HID lamps would not yield significant energy savings for the nation. Over the past five years, the DOE undertook a careful analysis of earlier technical work and concluded that regulating the efficiency of HID lamps was unwarranted. The DOE's new analysis notes that the market for HID products is changing as new technologies, particularly solid-state lighting, are displacing HID lamps.

<http://energy.gov/sites/prod/files/2015/12/f27/HID%20Final%20Determination%202015-12-02%20.pdf>

28. IES Lighting Handbook 10th Edition - The 10th edition brings together in one volume the current state of knowledge as it relates to lighting and lighting design. The 10th edition consists of new illuminance determination procedures and in-depth coverage of need-to-know topics like solid state lighting, daylighting, controls, sustainability, commissioning, energy management, qualitative design criteria, and much more. The breadth and depth of coverage makes the Handbook an essential knowledge reference for anyone involved in lighting. <https://www.ies.org/handbook/>

29. HID Lamp Indexes Decline During Third Quarter of 2015 - NEMA's shipments indexes for high intensity discharge (HID) lamps declined in the third quarter of 2015. Sodium vapor lamp shipments fell 12.3 percent compared to the same period last year, shipments of mercury vapor lamps decreased by 16.3 percent year-over-year, and shipments of metal halide lamps decreased by 14.5 percent year-over-year. Sodium vapor lamps accounted for 3.7 percent of high intensity discharge lamp sales in 2015Q3, while mercury vapor and metal halide lamps accounted for 33.2 percent and 63.1 percent, respectively. www.NEMA.org

30. NEMA Publishes NEMA LE 7-2015 - Recessed Luminaires Intended for Contact with Expanding Polyurethane Foam Insulation. NEMA developed this standard to define a subset of insulation contact (Type IC) luminaires that are appropriate for use with polyurethane spray foam. This standard also provides requirements and recommendations for Type IC recessed luminaires intended for installation in contact with low-density and medium-density polyurethane foam thermal insulation. This is a new standard developed by the NEMA Luminaire Section Technical Committee and approved by the NEMA Lighting Systems Division. <http://www.nema.org/Standards>

31. Linear Fluorescent Lamp Indexes Continue to Decline - NEMA's linear fluorescent lamp shipments indexes for 2015Q3 continued the downward trend that began in 2014. The index for T12 lamps declined for the seventh consecutive quarter, dropping by 40.4 percent on a year-over-year basis. T8 and T5 shipments also continued to decline, decreasing by 10.9 and 10.6 percent, respectively, on a year-over-year basis. T8 lamps accounted for a 72.8 percent share of fluorescent lamp shipments in 2015Q3, with T12 lamps claiming a 15.5 percent share and T5 lamps a 10.9 percent share. www.NEMA.org



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- 32. Lighting Systems Index Increases During Third Quarter with Mixed Results for Components -** NEMA's Lighting Systems Shipments Index, a measure of demand for lighting equipment, increased by 4.8 percent year-over-year and by 4.4% quarter-to-quarter during 2015Q3. The increase was driven by the fixtures component of the index, which gained ground on a year-over-year basis, while the emergency lighting, ballast and lamp – large and miniature – components recorded offsetting year-over-year declines. www.NEMA.org
- 18. Wall Street's Top 10 Stock Picks for 2016 Led by Energy -** According to MarketWatch columnist Philip Van Doorn, the 2016 list consists of stocks that have a “buy” rating by two-thirds of Wall Street analysts. <http://www.newsmax.com>
1. Range Resources Corp. (RRC)
 2. NRG Energy Inc. (NRG)
 3. Devon Energy Corp. (DVN)
 4. Anadarko Petroleum Corp. (APC)
 5. EQT Corp. (EQT)
 6. Ryder System Inc. (R)
 7. Western Digital Corp. (WDC)
 8. Baker Hughes Inc. (BHI)
 9. Navient Corp. (NAVI)
 10. WestRock Co. (WRK)
- 33. NGL Outdoor Competition Is Now Open -** The 2016 Next Generation Luminaires™ Outdoor Competition has officially launched! Online Intents to Submit are due on **January 18, 2016**, and the judging event will take place in March. Both Indoor and Outdoor winners will be announced at LIGHTFAIR 2016. There is no fee for participation or limit on the number of products entered. Find complete details on the competition requirements and entry forms at: <http://www.ngldc.org/>

City & State EnergyWatch...

- 34. Princeton Athletics Light It Up with Hubbell LED Lighting and Controls -** Princeton University's Facilities Organization decided to convert more than 100,000 outdated lighting fixtures to more efficient LEDs in facilities across the campus. One of the largest and most visible initiatives in the program was the conversion of 839 lighting fixtures that illuminated the main floor of the 250,000 square feet world-class Jadwin Gym. The University chose long-lasting and efficient Hubbell Industrial Lighting LED Lunabay Series Highbays <http://www.hubbellindustrial.com/products/lbx> specially designed for light retail, gym and light industrial spaces. The LED Highbays provide Princeton with long-lasting, highly efficient lighting and enable appropriate light levels, uniformity, and CRI required for televised broadcasts of games. <https://facilities.princeton.edu/news/lighting-improvement-project-will-enhance-campus-sustainability-0>



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- 35. *Efficient LED Lights Coming to All Berlin, CT Streets*** - A \$1.477 million contract to convert all 2,538 streetlights in town to efficient LED fixtures won town council approval Tuesday, paving the way for work to begin next month on a project expected to pay for itself in less than 4 years. The project is part of an \$8.77 million energy conservation plan the town approved this month with project contractor NORESKO. The plan calls for the town to own all the streetlights in town. The contract includes upkeep of the poles and fixtures. Tanko Streetlighting of San Francisco is the vendor for the job. 12/18 Hartford Courant.
- 36. *Cochranton, PA Applying to Penelec for LED Street Lights*** - The borough is hoping Pennsylvania Electric Co. may convert up to 24 street lights to more energy efficient light emitting diode bulbs. If Penelec approves the project, it would convert the lights at no cost to the borough but has set a limit of 24 lights for conversion in order to make them available to various municipalities who may want them as part of a pilot program. The borough has 121 conventional street lights it leases from Penelec. 12/16 - McClatchy-Tribune
- 37. *The Owensboro City, KY Commission Taking Up Energy Efficiency Measure*** - The proposed ordinance would provide a new way for owners of energy inefficient commercial and industrial buildings, and apartment buildings with as a few as five units, to pay for energy upgrades. If approved, it will create an "Energy Project Assessment District," or EPAD, covering the entire city. Upon passage, Owensboro would become the fifth Kentucky city to create an EPAD since the Kentucky General Assembly passed House Bill 100, known as the EPAD Act of 2015, earlier this year. Under the ordinance, private energy efficiency projects can be financed by assessments added to a building's property taxes, on a completely voluntary basis, administered by the city. 12/01 McClatchy-Tribune
- 38. *Xcel Changing Area Streetlights*** - Xcel Energy will change the 3,050 streetlights it owns in Eau Claire early next year, a move expected to reduce energy usage by half. Western Wisconsin customers are the first to see the new streetlights in a five-year plan to replace about 300,000 lights across Xcel's eight-state service territory. Cities pay flat monthly fees to Xcel for the utility company's streetlights 12/13 McClatchy-Tribune
- 39. *CEC Pursuing Regulatory Requirements to Mandate LED Bulbs That Are Less Efficient, More Expensive*** - NEMA called on the California Energy Commission (CEC) today to ensure that California consumers have access to the most efficient and cost-effective LED bulbs currently on the market. A proposal under consideration at the CEC would reverse that trend. The draft rule would compel California residents to buy more costly, less energy-efficient LED bulbs for their homes than consumers in other states, without countervailing benefit. NEMA has urged the CEC to revise the proposed energy-efficiency targets for decorative, reflector, and directional LED lights. The targets for each type of LED bulb must be achievable with current technology, striking an appropriate balance between efficiency, product availability, and consumer needs and cost.
<http://www.nema.org/Policy/Documents/NEMA-CEC-Fact-Sheet.pdf>



Monthly Special Feature... *Top 20 LEDs Magazine Stories of 2015 -* <http://www.ledsmagazine.com/index.html>

1. [Hands-on testing of popular LED T8 lamps and linear fixtures reveals promises and pitfalls](#)

Margery Conner tests affordable LED-based fluorescent alternatives, identifying the strong points in product design, vulnerabilities that may impact reliability, and suitability for applications.

2. [Understand the hidden costs of free 0-10V LED dimming drivers](#)

Roland Ledyard explains how 0-10V and digitally-connected LED drivers differ in functionality, and how those differences are manifested in commercial solid-state lighting installations.

3. [GO Scale Capital buys 80.1% interest in Philips' Lumileds and automotive lighting businesses](#)

New company will use the Lumileds name and continue under the leadership of CEO Pierre-Yves Lesaichere while Sonny Wu of China-based GSR Ventures will serve as interim chairman.

4. [LEDs Magazine recognizes the SSL industry's best at Las Vegas Sapphire Gala](#)

The stars, and LEDs, shone bright at the first LEDs Magazine Sapphire Awards Gala, reports Maury Wright, with recognition going to the top LED-centric enabling technologies and solid-state lighting products along with the inaugural pronouncement of the Illumineer of the Year.

5. [IES publishes TM-30 defining new color metrics for characterizing lighting](#)

Long-sought replacement for CRI color metric that more accurately characterizes SSL and legacy light sources is at hand in the IES, and has been proposed to the CIE.

6. [LED technology serves rapidly growing horticultural market](#)

Packaged LEDs and finished SSL products targeted at horticultural applications are finding an expanding market, reports Maury Wright, while scientists continue to try and match monochromatic spectrum to different plants and stages of growth.

7. [Philips Lighting delivers sub-five dollar 60W-equivalent LED lamp](#)

The cost-optimized LED-lamp design will allow the Initial supply from Home Depot to be distributed in a twin pack with customers receiving two 800-lm bulbs for \$4.97.

8. [Cree and Epistar sign major LED patent cross-licensing agreement](#)

All nitride-based LED patents are covered in a cross-licensing deal between Cree and Epistar although the companies will not directly transfer technology under the terms of the agreement.

9. [GE Lighting and Lighting Science Group unveil LED circadian lamps](#)

GE Align SSL retrofit lamp technology aims to nurture the natural human sleep and wake cycles, while the Lighting Science Group Sleepy Baby product is designed for infant sleep training.

10. [Cree launches new COB LED arrays with 33% efficacy gain](#)

Using elements of the Cree SC5 LED technology platform, the CXA2 series of COB LEDs will enable reductions in system cost and size.

11. [Philips Lighting charts independent course to SSL success](#)

12. [Cree restructures LED business in face of mid-power onslaught](#)

13. [Acuity Brands to acquire Juno Lighting from Schneider Electric](#)

14. [Cree begins to fill SC5 Extreme High Power LED portfolio](#)

15. [Osram and Google join forces in smart LED lamps](#)

16. [Osram gears up effort to sell lamps division](#)

17. [Philips Lighting deploys LED-based indoor positioning in Carrefour hypermarket](#)

18. [LED tubes approach mainstream adoption despite complexities](#)

19. [Philips Lighting questions proper light-level standards for office workers](#)

20. [GE Lighting manufactures PFS red phosphor for LED display backlight applications](#)

21. [the partnership between Philips Lighting and Cisco that we were first to break](#)



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