

EnergyWatch



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<http://www.attardimarketing.com/energywatch/>
www.energywatchnews.com

The best time to plant a tree was 20 years ago; the next best time is now. Chinese Proverb

To know and not to do is not to know at all! Sam Walton

Something to Think About... CONNECT THE DOTS SERIES

Chris Brown wants to start something. He calls it: Connect the Dots.....

an interactive industry debate / conversation. His recent Illumigeddon blog talked about the changes in the lighting industry that are threatening to the incumbents. That it will be good for Lighting and Electrical Distribution if distribution knows about it, learns about it, learns how to talk about it intelligently, sell it smartly and service it effectively.

We are still talking about change, ok? Change is always threatening to the incumbents. We see it happening around us more dynamically than ever before. That's a good thing, even for the incumbentsif you are able to adapt, that is. Even in a changing environment, some things never change. I teach a graduate class at Monmouth University and we talk about how products and services go to market. There's the manufacturer, who in most cases goes to market thru a supply chain, then there is the ultimate consumer. Manufacturer to supply chain to consumer. Not changing folks.

We all agree that lighting is transitioning from the traditional to the electronic. So is the phone..... I have friends that still use the phone as a phone. The most progress they have made is to a flip phone that has a voice message, "this phone is for emergency use only, I do not answer this phone, if you want to talk to me, please call me at (land line)....." Say what.....now that's adapting to change, right? The transition to a smart phone is lost to them. They do not know what they do not know. The Smart Phone is now a complete communication / entertainment device: apps, emails, text messages, videos, camera, information search, news, IoT, controls, Bluetooth connections, etc. and it's still evolving. And by the way, you can still use it as a phone. What's next you ask..... Stay tuned, ∞.0 is not far away.

I have distributor friends that sell lighting as lighting. Their message is, "what do you want, and I'll get it for you." Sure, leave it up to the customer. They will tell you what they want and you just fill the order. Easy, that's the distribution business, right? Not going to work anymore my friends. In the electronic information age, they don't know what they want.



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Our business is changing your future...

Lighting is now Smart Lighting: in addition to the stalwarts of quality of light, energy efficiency, and long-life, lighting products are being introduced that will not only allow for consumers to manipulate the timing, intensity, and quality of light but will internally track and react and adapt to the users' living and working patterns. Smart Lighting now has: its own apps, IoT applications, embedded devices, sophisticated control capabilities, interactive communications, mobile wireless communications, energy monitoring, Wi-Fi, automatic dimming, network technologies, plug-and-play interaction, facial recognition, integrated security, connected lamps, programmed to research the space, the ability to transmit sensitive information, wireless protocol implementations, mobile applications, web services, and backend infrastructure. Did I leave anything out...I'm sure I did. Stay tuned.....

So what am I saying? Simply, we are not in the lighting business any longer. Ted Levitt wrote a book years ago, *Marketing Myopia*. We still teach it today. He castigated the Railroad Industry as being myopic. His premise was that those in charge believed they were in the Railroad Business. If they thought it out and believed they were really in the Transportation Business, they would have been the drivers in the pipeline, shipping, maritime, trucking and airline industries, those really in the Transportation Industries. They failed in this regard and are struggling to this day. Today we see it happening in the Newspaper Industry. I believe they are catching up because they recognize they are not in the newspaper business but rather the Communication Business. But where were they when Google, Bing, Facebook, Twitter, Instagram, LinkedIn were taking over the communications industries?

Here is where Chris and I need your help: if we are not in the lighting business, what business are we in? Once he stops ranting about the need for Distribution to evolve and to stay relevant in the era of Illumigeddon (The end of the Lighting industry as we have known it). Check out Chris's lighting industry tweets at @illumigeddon. We promise to continue the debate. Stay tuned.....

LED Issues to Watch...

1. ***Smart Street Lights to Reach 40 Million in Four Years*** - ABI research forecasts that the intelligent network-friendly LEDs will reach an installed base of 40 million by 2019. Smart street lights have gradually become extremely popular globally. For example, the city of Madrid, Spain, announced last month that it will replace 225,000 street lights. Buenos Aires, Argentina is in the midst of a 91,000 street light upgrade, which accounts for 70 percent of the city's lighting. Another reason for the popularity of smart street lights is that they are closely associated with smart cities. In a smart city context, smart street lights are often considered the basis or foundation that other smart cities applications. Watch the video: <http://www.wallstreetdaily.com/2014/12/03/smart-street-lights/>
2. ***How to Keep Google from Owning the Lighting Industry*** - If you're a legacy lighting company, what can you do to stave off the industry encroachment of internet and IT powerhouses like Google, and survive the transition to lighting's digital LED future? Easy! Simply become the Google of lighting before Google does. Software is the rip cord. It will help connect lights to information networks and make lighting part of the fledgling 'Internet of Things' in which anything that can be digitized will be. Consumers will turn lights on and off and alter their brightness and colour remotely via software apps. Cities will use streetlights to monitor traffic, crowds, air quality and many other things, feeding information into central systems. The industry often refers to the movement as 'solutions and services.' Companies like Google, Apple and Cisco have taken note, and are beginning to offer related products in a move that could build into a full-on intrusion into the lighting industry. <http://www.luxreview.com/news/559/how-to-keep-google-from-owning-the-lighting-industry>



3. ***DOE Publishes New CALiPER Report on Retail Lamps*** - While previous reports in the CALiPER retail lamps series have focused on basic performance parameters, such as lumen output, efficacy, and color quality, the new report – *CALiPER Retail Lamps Study 3.1* – focuses on the dimming, power quality, and flicker characteristics of a subset of 14 LED A lamps as controlled by four different retail-available dimmers. LED lamps interact with and impact the performance of phase-cut dimmers in ways that incandescent lamps do not. The results clearly demonstrated three key impacts of dimming an LED lighting system with a phase-control device. See the [full report](#)
4. ***DOE Releases Report on SSL Adoption in Museums*** - The U.S. DOE has released a new GATEWAY report that summarizes the results of a survey regarding conversions to solid-state lighting in museums. Although the energy savings from LED conversion are well known, lower damage potential to artwork and sensitive artifacts and increased possibility for controls are other incentives for museum adoption. In general, white LEDs pose no special issues in color rendering or increased damage potential for works of art, compared to an equivalent CCT halogen or fluorescent source. <http://energy.gov/eere/ssl/gateway-demonstration-special-reports>
5. ***Nest Adds 15 New Partners, Including Philips Hue Lighting and LG*** - The Google owned company Nest has been steadily expanding their services through their ‘Works with Nest’ program, teaming up with other hardware and software companies to bring extra functionality and smarts to your home, and convenience to your thermostat. Perhaps the most recognizable new partner to the smart home enthusiasts out there, is Philips. Philips has a line of color changing light bulbs, called Hue that can now be controlled by your Nest thermostat and Protect smoke alarm. A simple use is to flash the lights in the house when the smoke alarm goes off, but I suppose you could tie the color of the Hue lighting to the temperature of the home, just for fun. <http://www.androidauthority.com/tag/Nest/>
6. ***Connected Lighting Alliance Hosts a Multi-Vendor Zigbee LED Lighting Demo at CES*** - Major players in lighting and controls, including Philips Lighting, Osram Sylvania, GE Lighting, Lutron, LG Electronics, and Leedarsen, show interoperable SSL products at the mammoth Consumer Electronics Show. Formed to help proliferate networked solid-state lighting (SSL) and smart lighting applications, The Connected Lighting Alliance <http://www.theconnectedlightingalliance.org> selected ZigBee Light Link as the standard of choice for wireless connectivity and control in residential applications back in 2013. Zigbee Light Link was published back in 2012 by the ZigBee Alliance adding lighting-specific control and commissioning capabilities layered on top of the standards that define baseline ZigBee wireless networks. <http://www.ledsmagazine.com>
7. ***EPA 2015 Verification Testing for Lamps*** - In the interest of maintaining the integrity of the LED lamp market, EPA has decided to retain the full 6,000-hour testing of LED lamps to evaluate lumen and color maintenance as well as rated life. EPA will re-evaluate the guidance after assessing the results from 2015 verification testing. [Third-Party Certification Directives web page](#)
8. ***Daintree Networks Takes Building Energy Management into the Cloud*** - Daintree’s Building Energy Management as a Service (BEMaaS™) approach makes its ControlScope™ software available as a cloud-based building automation technology to enable comprehensive energy management that far surpasses simple lighting control. This is a true end-to-end energy management service offering that spans various building applications and control down to individual devices including lighting, thermostat, plug load, fans and more. <http://www.daintree.net/wp-content/uploads/2014/10/BEMaaS-print-102014.pdf>



9. LEDucation Offers the Largest Number of CEU Educational Sessions in its Nine Year History -

To be held in NYC on March 5th & 6th at the Sheraton NY Times Square hotel. The Designers Lighting Forum of New York (DLFNY) offers special sessions and events that have been designed to meet the needs of specific industry areas such as Interior Design and Controls. To become more familiar and comfortable with the new LED technologies and controls; and to learn the basic terminology, light sources, how to evaluate a sample, and write a specification. Attendees will have the opportunity to participate in small group Docent Tours of the LEDucation Expo with a dedicated guide available to answer specific questions regarding the technologies. www.leducation.org



10. LED Lighting Market in North America 2015-2019 - The analysts forecast the LED Lighting market in North America will grow at a CAGR of 21.12 percent over the period 2014-2019. The LED Lighting market in North America can be divided into three application segments including: Automotive Lighting, Backlighting, and General Lighting. The report has been prepared based on an in-depth market analysis with inputs from industry experts. It covers the market landscape and its growth prospects in the coming years. The report also includes a discussion on the key vendors operating in this market. For more information please click on:

http://www.researchandmarkets.com/publication/m1719cp/led_lighting_market_in_north

11. LED Lighting: Market Shares, Strategies, and Forecasts, Worldwide, 2015 to 2020 - Next generation lighting achieves a complete replacement of incandescent filament bulbs with LED lighting that is more energy efficient, lasts longer and has a significantly lower cost of operation. Market shifts provide entry points for new competitors. They create significant opportunities for participants to achieve rapid increase in market share. Shifts in market share are anticipated as vendors move up the value chain to increase returns on investment. For more information, click on:

http://www.researchandmarkets.com/publication/mnwfzrd/led_lighting_market_shares

12. Four SBIR-STTR Proposals Selected for Award for SSL Technology - The U.S. Department of Energy Office of Science has selected for award four Small Business Innovation Research (SBIR)-Small Business Technology Transfer (STTR) proposals targeting advances in solid-state lighting technology: To learn more about these awards, visit the [DOE SSL website](#)

- PhosphorTech Corporation: Plasmonic-Enhanced High Light Extraction Phosphor Sheets for Solid-State Lighting
 - Lumisyn, LLC: Nanocrystal-Based Phosphors with Enhanced Lifetime Stability
 - Triton Systems, Inc.: Improved Light Extraction from GaN LEDs
 - OLEDWorks, LLC: Shorting Reduction Layer Process Development for OLED Lighting Panels
- To learn more about SBIR and STTR programs: visit <http://science.energy.gov/sbir/>

13. Automotive LED Lighting Market in Americas to Grow at a 25.26% CAGR by 2019 - The key trend upcoming in this market is the increased use of LED headlamps. LED headlamps increase occupant safety as they are powerful and provide constant high-light quality, which allows for illumination at longer distances. These headlamps also reduce energy consumption and improve the esthetic appeal of vehicles. A lighting system provides vehicle safety and road illumination. It can also display information about the vehicle's presence, position, speed, size, and direction to oncoming vehicles. Order a copy of this report at (Prices start at US \$ 2500 for a single user PDF):

<http://www.reportsreports.com/Purchase.aspx?name=322408>



14. Philips Online Courses on Lighting Controls - Inefficient use of light can easily lead to energy waste. Philips' interactive lighting controls can help you save on operational costs by ensuring the correct lighting level for the task at hand. Think presence detection and daylight harvesting for example. Philips lighting controls can also be networked in with other automated systems such as security cameras, traffic lights, fire alarms, climate control and building access systems. Learn more about controls through the courses at the online Philips Lighting University:
http://www.lighting.philips.com/main/connect/Lighting_University/philips-lightingcontrols/

15. GE LED 101: Understanding the Benefits - Here's a guide to the basics. By the year 2030, the U.S. DOE estimates that LED technology could save about 190 terawatt hours of electricity per year. That's enough electricity to power 95 million homes. And at today's prices, it's \$15 billion in savings. But what exactly is an LED? And what are the benefits? Download this reference guide for the basics on how LEDs work and their performance capabilities.
[Download LED 101 →](#)



16. Philips Signs 'Largest Street Lighting Upgrade' - CEO Frans van Houten told investors that the division's performance in North America was "unsatisfactory", and he has appointed a new head of Philips' America Lighting business - in the form of Amy Huntington. "The company is in discussion with external investors for the combined Lumileds and automotive lighting businesses and expects to complete a transaction in the first half of 2015." Philips estimates that the market for high-power LEDs used in general lighting will grow at a compound annual growth rate (CAGR) of 17-21 per cent through 2018, while the growth of the lighting market overall is pegged at between 3 and 5 per cent. Van Houten claims that Philips is spending upwards of 30 per cent more than its closest rival in relative research and development costs. In the meantime "Philips signed a contract to provide the city of Madrid with what is the world's largest street lighting upgrade to date, involving the replacement of 225,000 luminaires," said the CEO. Another initiative will see more than 1.5 million Philips LED lamps distributed in India, to more than a million households. <http://optics.org/news/6/1/34>

17. The Significance of the LED Lighting Industry by SSLDesign/LIGHTimes Editorial Team - A big motivation (or frustration) factor in most people's lives is significance. When we feel we're making an impact, not only do we feel better about ourselves, we feel better about pretty much everyone. When we don't think we're making a difference, things will typically start to fall off the rails. Apathy being the mild symptom, and tragedy being the extreme. As we kick off 2015, we'd like to stake out our position concerning LED technology and LED lighting: The industry has huge significance, and anyone supplying, applying or producing should be proud of their contribution. All this is coming as a parallel of two elements: 1) The capabilities of LEDs to allow us to unlock the "secrets" of light; and 2) The coming *real* smart lighting revolution.
<http://sslighting.net/documents/view/news.php?id=124618#editorial>

18. US Government Accelerates LED Street Light Push in DOE Program - President Obama announced an acceleration in the "Presidential Challenge for Outdoor Lighting" program that is being administered by the US DOE under the Better Buildings program. Obama had earlier called for 500,000 poles to be retrofitted with energy-efficient lighting, primarily LED-based fixtures, by 2016. On Friday, 1/23, at the US Conference of Mayors meeting, the President upped the goal to 1.5 million LED street light poles by May 2016. The DOE will assist the participants in selecting and in finding funding for LED street light retrofit projects. <http://www.ledsmagazine.com>





19. *The LED Debate Continues at [www.energywatchnews](http://www.energywatchnews.com)* Chris Brown, CEO, Wiedenbach-Brown, Hawthorne, N.Y., identifies a ton of new competitors now selling LED products in his latest post on the energywatchnews.com blog. Think companies like Apple, Armstrong, Cisco, Corning and Google aren't interested in getting a piece of the lighting market? Think again, says, Chris. <http://ewweb.com/lighting/led-debate-continues-wwwenergywatchnewscom>

20. *One for the Road: Roadway Lighting by Susan Bloom* - Roughly 70 million U.S. street and roadway lighting fixtures—estimated to be a \$200–300 million market—represent big business for electrical contractors, especially as this application increasingly converts to light-emitting diode (LED) technology. Several industry experts discuss the range of benefits LED sources bring to the roadway-lighting segment and how contractors can participate in this lucrative and rapidly expanding upgrade opportunity. <http://www.ecmag.com/section/lighting/one-road-roadway-lighting>

21. *The Challenges of Specifying LEDs* - The many benefits associated with light-emitting diode (LED) illumination explain why it has “accelerated into the market place over the last decade at an unprecedented rate for a new light source,” said OSRAM SYLVANIA Director of Government & Industry Relations Mark Lien, the lead-off speaker for a panel of experts that the National Lighting Bureau assembled to discuss the challenges of specifying LEDs. The key challenge associated with LED lighting, panelists said, is rapid obsolescence. <http://www.nlb.org/index.cfm?cid=11099&pid=10213>

22. *Strategies Unlimited Forecasts COB LED Market to Grow to \$4.4B in 2020* - It is forecasted that the overall market for these COBs (Chips on Board) will grow significantly to \$4.4 billion in 2020 from \$1.5 billion in 2014, and the market will experience a very respectable 40% growth from 2014 to 2015. Long term growth is mainly due to the increased penetration of COBs into directional and high lumen applications. The World Market for COB LEDs in General Lighting offers unprecedented insight into the total lighting market through 2020 by covering all applications of luminaires and lamps, including troffers, downlights, spotlights, street lights, high bay, MR-16, reflectors, and other replacement lamps. <http://www.ledsmagazine.com/ugc/2015/01/23/strategies-unlimited-forecasts-cob-led-market-to-grow-to-4-4b-in-2020.html>

23. *Ariel, a New LED Light Lasts 40 Years* - The world of illumination is about to change thanks to Jake Dyson, who has developed a light that never goes out and is going to be released in May 2015. At full brightness, the product has enough power to run for 180,000 hours. That is 12 hours a day for four decades. Ariel lights are also fitted with Wi-Fi technology, so they can be controlled via an app. They are also equipped with sensors that allow the brightness to adapt to sunshine and darkness. As The product also records energy consumption and converts the information into KW/hour cost in the country in which it is installed. <http://www.businessinsider.com/jack-dyson-ariel-led-light-lasts-40-years-2014-12>

24. *China LED Chip Production Value Expected to Surpass Taiwan's in 2015-2016* - While some China-based LED chip makers withdrew from the market, larger ones including San'an Optoelectronics, HC SemiTek, Suzhou Nanojoin Photonics and Aucksun used government subsidies to expand production capacities by adding 155-170 MOCVD sets in 2014. In 2015, more than 250 MOCVD sets, mostly for making 4-inch LED epitaxial wafers, are expected to be added, the sources noted. The total production value rising from 52% in 2013 to 60% in 2014 (US\$1.95-\$2.24 billion); and is expected to grow by about 35% in 2015. <http://www.digitimes.com/pda/a20150115PD216.html>



LED Technologies to Watch...

25. Smart LEDs Comparison - <http://www.cnet.com/products/cree-connected-led-bulb/>

	Connected Cree LED	GE Link LED	Philips Hue Lux LED	Connected TCP LED	Belkin WeMo LED
Lumens (stated/measured)	815 / 872	800 / 855	750 / 733	800 / 840	800 / 829
Watts	11.5	11	9	11	9.5
Efficiency (lumens/watt)	76	78	81	76	87
Color temperature (stated / measured)	2,700K / 2,696K	2,700K / 2,830K	2,700K / 2,640K	2,700K / 2,603K	3,000K / 3,058K
Color rendering index	80	90	79	80	88
Lifespan	25,000 hours	25,000 hrs	25,000 hours	25,000 hours	25,000 hrs
Dimmable range	7.8 - 100%	10.2-100%	0.5 - 100%	1.2 - 100%	3.8 - 100%
Weight	1.90 oz.	6.20 oz.	4.60 oz.	6.05 oz.	2.75 oz.
Remote	No	No	Yes (\$60)	Yes (\$20)	No
Bulbs per kit	N/A	2	2	2	2
Price per bulb	\$15	\$15	\$30	\$20	\$30
Price per kit	N/A	\$50	\$100	\$80	\$100

26. GREEN CREATIVE Launches New BR30 LED Lamp Featuring Revolutionary CLOUD Design -

The BR30 8W CLOUD is the latest addition to GREEN CREATIVE's TITANIUM LED SERIES 4.0 and was selected by the IES for its prestigious 2014 Progress Report. Weighing less than 100g, the BR30 CLOUD features a revolutionary design that is 60% lighter than the previous generation BR30. This dimmable lamp emits smooth and evenly distributed light and is one of the only BR30 65W replacements available that is suitable for use in totally enclosed fixtures. Its traditional incandescent form factor makes it an ideal choice for recessed, accent and general lighting applications. At 81 LPW, this lamp's efficacy is more than 20% higher than the Tier 1 LED 65W replacement industry average and exceeds ENERGY STAR® requirements by upwards of 100%. The BR30 CLOUD is ENERGY STAR certified, dimmable, lasts 25,000 hours and is available in 2400K, 2700K, 3000K and 4000K CCT. Detailed information and data sheet about this new product is available: <http://www.gc-lighting.com/products/cloud-br30-8w/>



27. ConTech Lighting Announces its 03 Linear Multiple LED Recessed Downlight Adjustables -

The new construction features an 18-gauge steel housing that is suitable for trimmed or trim-less applications, with wing-type mounting brackets for 3-in. vertical adjustment intended for use in remodeled spaces. The downlights' are available in single- to four-head units, with the four-head unit offered in a rectangular or two-by-two square shape. The fixtures' light engines each contain one high-lumen, multi-chip LED array, and fixture-to-fixture consistency is maintained within a 2-step MacAdam ellipse. Finishing options include powder-coat matte black, white or silver. For more information: www.contechlighting.com



28. **10 Lighting Innovations You'll Be Seeing More of in 2015** - Watch the video:

<http://www.luxreview.com/news/590/10-lighting-innovations-you-ll-be-seeing-more-of-in-2015>

29. **The Right Smart Bulb at The Right Time, for The Right Price - The Good:** The Cree Connected LED boasts solid lighting specs, strong ease of use and a terrific price point: \$14.97. **The Bad:** At launch, your only option to automate Cree's bulbs is the Wink Hub. Also, unlike standard Cree LEDs, the new connected bulbs won't dim very well on dimmer switches due to interference from the built-in Zigbee dimming smarts. **The Bottom Line:** With tried and true hardware inside the bulb, strong performance on the Wink platform and the promise of additional hub options in the near future, this \$15 smart bulb is a smart bet for connected lighting. Watch the video at: <http://www.cnet.com/products/cree-connected-led-bulb/>



30. **Hubbell Outdoor Lighting LNC2 LED Wallpack with Two Motion Sensor Options** - To provide greater control and more energy savings. The wallpack is intended for perimeter illumination and is mounted at 15 ft with 50-60-ft fixture spacing. The upgraded SCO motion sensor option has an ON/OFF sensor, while the upgraded SCP option has a programmable sensor as well as an adjustable time delay and dimming level, as well as an Integral Photocell that requires an SCP Remote accessory for programming in the field. For more information: www.hubbelloutdoor.com



31. **QHC Modular Chassis LED High-Bay by Precision-Paragon** - Features TIR-based short wavelength light suppression optics, preventing emission of light waves below 500 nm. This allows installation in sensitive applications such as certain food processing plants, dairies and pharmaceutical manufacturing facilities, where goods are susceptible to photooxidation–degradation due to reaction to certain wavelengths of light. This degradation can create off-flavors and reduce the shelf life of foods like milk, chocolate, beer and butter. According to Precision-Paragon, the 139W QHC can replace a 465W high-pressure sodium luminaire for 70% energy savings. Learn more: <http://www.p-2.com/products/qhc>



32. **GREEN CREATIVE Releases Next Generation Plug And Play T8 DIR LED Tube** - The new T8 DIR LED tubes come in three versions: [T8 17W 4FT. DIR](#), [T8 15W 4FT. DIR](#) and [T8 10W 2FT. DIR](#). All versions come in a frosted finish in 4000K and 5000K CCT. In addition, each tube has a 50,000-hour lifetime, >105 LPW efficacy and is suitable for use in totally enclosed fixtures. The T8 17W DIR and T8 15W DIR models are DLC qualified. The T8 DIR tube is compatible with Instant Start ballasts so no rewiring is required during installation. The new T8 DIR tubes combine a micro-designed driver and compact light engine to create an extra wide beam angle. The integrated driver is stored discreetly within the tube end cap to improve thermal performance and eliminate dark spots. The result is uniform and seamless light from end to end. Detailed information and data sheets about these new products are available at <http://www.gc-lighting.com/categories/tube/>



National Energy Issues to Watch...



- 33. *The International Year of Light in 2015*** - A global initiative which will highlight to the citizens of the world the importance of light and optical technologies in their lives, for their futures, and for the development of society. On 20 December 2013, The United Nations (UN) General Assembly 68th Session proclaimed 2015 as the **International Year of Light and Light-based Technologies**. This International Year has been the initiative of a large consortium of scientific bodies together with UNESCO, and will bring together many different stakeholders including scientific societies and unions, educational institutions, technology platforms, non-profit organizations and private sector partners. <http://www.light2015.org/Home.html>
- 34. *New Energy Efficiency Standards for Fluorescent Lamps*** - The DOE has released two new standards to improve energy efficiency efforts that apply to general service fluorescent lamps and automatic commercial ice makers. The latest benchmarks are expected to reduce carbon emissions by over 435 million metric tons and save homeowners and businesses up to \$78 billion on electricity by 2030. Noting that the lamps are used for an average of 4,000 hours in the commercial environment and 4,500 hours in the industrial sector every year, the DOE estimates that the updated efficiency requirements will save over \$15 billion on electricity. <http://www.energy.gov/articles/new-energy-efficiency-standards-help-americans-save-money-saving-energy-cut-carbon>
- 35. *Compact Fluorescent Lamp Shipments Continue to Lag*** - NEMA's index for CFL shipments registered a year-over-year decline of 14.5 percent in the third quarter of 2014 despite a modest quarterly increase of 1.5 percent. For the first three quarters of 2014, the CFL index decreased 13.1 percent compared to the same period last year. The shipments index for incandescent A-line lamps posted a decline of 62.9 percent (q/q). In contrast, shipments of LED A-line and halogen A-line lamps continued to grow, showing quarterly gains of 53.8 and 37.7 percent, respectively. Halogen A-line lamps captured a share of 39.9 percent during the quarter, second only to CFLs with a 41.1 percent share. The share of LED lamp shipments was 5.1 percent, an increase of 2 percentage points. Incandescent A-line lamps fell nearly 20 points to a share of 13.6 percent. www.nema.org
- 36. NEMA Publishes ANSI C82.77-10-2014 American National Standard for Lighting Equipment—Harmonic Emission Limits—Related Power Quality Requirements** - This standard specifies harmonic limits, their methods of measurement, and power factor for lighting equipment. With the increased use of sensitive electronic equipment, harmonic distortion on power lines is an ever-increasing issue for residential, commercial, and industrial users. Developing a standard that specifies the limits of total harmonic distortion helps ensure that a manufacturer's equipment meets industry guidelines and protects the overall quality of the power system. [ANSI C82.77-10-2014](http://www.nema.org/ansi-c82.77-10-2014) may be purchased for \$69 in electronic or hardcopy format on the NEMA [website](http://www.nema.org). www.nema.org
- 37. ENERGY STAR Luminaires V2.0 Draft 1 Stakeholder Meeting Reminder** - EPA will be holding a webinar and an in person meeting in Washington, D.C. on January 21, 2015 from 2:00 pm to 5:00 pm EST. RSVP for the meeting to lighting@energystar.gov with the subject line "RSVP Luminaires V2.0 Draft 1 Meeting", and indicate whether you intend to attend in person or online. The cover letter, draft, comments and agency response are available on the ENERGY STAR Luminaires V2.0 product development webpage at www.energystar.gov/luminaires



38. DOE Issues Energy Conservation Standards for General Service Fluorescent Lamps and Incandescent Reflector Lamps - On the last day of 2014, the Department of Energy (DOE) completed new standards for general-service fluorescent lamps. The regulations appear to strengthen existing lamp standards with a majority of covered lamp types. We will post a more detailed write-up of the new standards by Craig DiLouie with his permission. Stay tuned...
http://energy.gov/sites/prod/files/2014/12/f19/gsfll_final_rule.pdf

Table I.1. Energy Conservation Standards for General Service Fluorescent Lamps (Compliance Starting [INSERT DATE])

Lamp Type	Covered Wattages W	Correlated Color Temperature Kelvin	Adopted Level lm/W*	Percent Increase Over Current Standards
4-Foot Medium Bipin	≥ 25 W	≤ 4,500 K	92.4	3.8
		> 4,500 K and ≤ 7,000 K	88.7	0.8
2-Foot U-Shaped	≥ 25 W	≤ 4,500 K	85.0	1.2
		> 4,500 K and ≤ 7,000 K	83.3	2.8
8-Foot Slimline	≥ 49 W	≤ 4,500 K	97.0	0.0
		> 4,500 K and ≤ 7,000 K	93.0	0.0
8-Foot Recessed Double Contact High Output	All	≤ 4,500 K	92.0	0.0
		> 4,500 K and ≤ 7,000 K	88.0	0.0
4-Foot Miniature Bipin Standard Output	≥ 25 W	≤ 4,500 K	95.0	10.5
		> 4,500 K and ≤ 7,000 K	89.3	10.2
4-Foot Miniature Bipin High Output	≥ 44 W	≤ 4,500 K	82.7	8.8
		> 4,500 K and ≤ 7,000 K	76.9	6.8

* A "lumen" is a measurement of the radiometric energy emission from a light source weighted by the response function of a human eye, called the photopic spectral luminous efficiency function, V(λ). Test procedures for measuring lumens are also specified at 10 CFR part 430, subpart B, appendix R.

38. HID Lamp Shipment Indexes Relinquish Recent Gains - NEMA's HID lamp shipments indexes showed quarterly declines in two of the three lamp types. Sodium- and mercury-vapor lamps slipped 8.9 and 10.9 percent, respectively, from the second quarter to the third quarter. Only the index for metal halide increased during the quarter, posting a modest gain of 2 percent. Shipments of metal halide lamps increased 2.7 percentage points to a share of 63.5 percent of the HID market. The market share for sodium vapor lamps slipped to 32.7 percent, a decline of 2.3 percentage points. Mercury vapor lamps decreased by 0.4 points to a share of 3.8 percent. www.nema.org

39. Lighting Systems Index on the Rise During Third Quarter - NEMA's Lighting Systems Index increased 1.9 percent from the second to the third quarters of 2014, climbing to its highest level to date in calendar year 2014. The index posted a gain of 4.1 percent on a year-over-year basis. Shipments of emergency lighting, fixtures, and miniature lamps improved during the quarter; however, ballast and large lamp shipments fell. www.nema.org

39. IES and IEEE Sign Memo of Understanding - This past Fall, the [Illuminating Engineering Society](http://www.ies.org) (IES) and the [Institute of Electrical and Electronics Engineers](http://www.ieee.org), (IEEE) signed a Memorandum of Understanding. The three-year agreement (2014 – 2017), allows the two organizations to more actively collaborate and exchange technical information. <http://www.archlighting.com/>



40. The 2015 IES Illumination Awards Program is Open for Submissions - It is comprised of five program categories:

- 1) *The Lighting Controls Innovation Award Sponsored by the Lighting Controls Association*
- 2) *The Edwin F. Guth Memorial Award for Interior Lighting Design*
- 3) *The Outdoor Lighting Design Award Sponsored by Eaton's Cooper Lighting Business*
- 4) *The Aileen Page Cutler Memorial Award for Residential Lighting Design*
- 5) *The Energy and Environmental Lighting Design Award Sponsored By Osram Sylvania*

Judging is based on how well the lighting design meets the specified criteria for the category the project is entered in. Anyone may enter the program. To submit projects go to the IES IA landing page www.ies.org/ia. The submission process will close On **February 14, 2015** at 11:59pm EST.

41. DOE to Spend \$8 Million for Wave, Tidal, Current Energy Systems Development

The Energy Department today announced \$8 million in available funding to spur innovation in next-generation marine and hydrokinetic (MHK) control and component technologies. In the United States, waves, tides, and ocean currents represent a largely untapped renewable energy resource that could provide clean, affordable energy to homes and businesses across the country's coastal regions. Advancements in MHK technologies will help these devices harness even more sustainable energy from marine environments.



<http://ecmweb.com/news/doe-spend-8-million-wave-tidal-current-energy-systems-development>

42. Lighting Product Markets in the World to 2019 - Market Size, Trends, and Forecasts - Between 2008 and 2014 the market increased with an average annual growth of 6.2%. China, Germany, Japan, the United Kingdom and the United States represent the largest lighting product markets while the strongest annual growth is forecast to occur in Vietnam (11.3%), the United States (11.1%), Bolivia (10.1%), Jordan (8.2%) and Philippines (7.5%). The report includes historic market data from 2008 to 2014 and forecasts until 2019 For more information please click on:

http://www.researchandmarkets.com/publication/m8181p2/lighting_product_markets_in_the

43. NEMA Publishes ANSI C82.77-10-2014 - American National Standard for Lighting Equipment–Harmonic Emission Limits–Related Power Quality Requirements. Specifies harmonic limits, their methods of measurement, and power factor (PF) for lighting equipment. This standard covers all types of lighting equipment that is used for general illumination typically found in residential, commercial, and industrial applications. <http://www.nema.org/Standards/Pages/default.aspx>

44. Jason Brown Wins First U.S. Figure Skating Title - You remember Jason Brown, the son of Steve Brown and grandson of Bill Brown of A.L.P. Lighting Components.....Well he made history again: **Jason Brown**, a YouTube sensation, the youngest U.S. Olympic men's singles skater since 1976 and a Sochi bronze medalist, added another accolade to his résumé Sunday — U.S. champion. Brown, 20, became the youngest man to win a national championship since Johnny Weir in 2004, holding off Adam Rippon by 2.5 points, the closest margin since Weir and Evan Lysacek had matching scores in 2008. Josh Farris took bronze, seven points back ([full results here](#)). Brown, Rippon and Farris were later named as the three U.S. men to make up the World Championships roster.

<http://olympictalk.nbcsports.com/2015/01/25/jason-brown-wins-figure-skating-nationals-us-championships-olympics/>



City & State Energy Issues to Watch...

45. Philips Supplies Dynamic LED Lighting for Madison Square Garden - The Madison Square Garden Company (MSG) has installed a programmable color-capable, LED-based solid-state lighting (SSL) system on the outside of the iconic sports venue located on Manhattan in New York City. The Philips Lighting SSL products located in cove channels of the building and around the roof ring can be used to present dynamic light shows and effects on the façade of the venue and can be programmed to promote the home team's colors for an upcoming event. <http://www.ledsmagazine.com>



46. New York State Adopts Outdoor Lighting Legislation - New York Governor Andrew Cuomo has signed into law the “Healthy, Safe and Energy Efficient Outdoor Lighting Act,” which establishes requirements for outdoor lighting installed by state agencies. The bill requires the use of properly shielded luminaires to prevent unnecessary up- and side-lighting, thereby reducing light trespass and sky glow. http://www.ies.org/LDA/E-newsletter/2015/January/newswire/2015_01-mlo.cfm

47. Constellation Awarded Contract by Port Authority of NY and NJ for \$25.8 Million Energy Efficiency Upgrade - Constellation today announced that it has been awarded phase 2 of a contract in energy efficiency and water conservation measures. Phase 2 of the project includes the installation of more than 5,000 LED exterior lighting fixtures at the George Washington Bridge, the Holland and Lincoln tunnel Roadways, the Goethals Bridge and the Outerbridge Crossing. Constellation will also install efficiency upgrades at the administration buildings for the tunnels and bridges including: interior lighting and building automation controls. 1/22 BUSINESSWIRE

48. Con Ed Offers Attractive DR Incentives For Large Commercial Buildings - New York's Con Edison has some attractive incentives to offer the owners of large commercial buildings who participate in the utility's summer demand response programs. The program will pay the owner of a building or buildings a maximum of \$500,000 over three years for each megawatt of power saved. One program notifies customers that they should begin conserving within at most two hours. The other notifies customers 21 hours ahead of time.....customers can enroll in both programs. Eligible customers must have interval meters which track electricity use at 15-minute intervals. <http://www.smartgridnews.com>

49. NFL Super Bowl Viewers Will Experience the Benefits of LED-Based SSL - Ephesus Lighting announced back in September 2014 that it had supplied LED-based fixtures for a lighting retrofit at the University of Phoenix Stadium in Glendale, AZ — home of the Arizona Cardinals National Football League (NFL) team and the NFL Super Bowl XLIX. The stadium retrofit involved replacing 780 metal halide (MH) fixtures with only 312 SSL luminaires. The prior MH lighting delivered 148 fc on average at the playing surface. The new lighting maintains 277 fc while also delivering 75% energy savings. <http://www.ledsmagazine.com>



- 50. New Minnesota Vikings Stadium to Install High Output LED Lighting from Ephesus Lighting -** The New Minnesota Stadium has the capacity to seat up to 72,000 fans. In addition to housing the NFL franchise beginning in 2016, it will also host a wide assortment of events, including Super Bowl LII (2018), the 2019 NCAA Final Four, a potential Major League Soccer franchise, collegiate baseball and more. Ephesus manufactures the brightest LED on the market and is the only stadium-designed lighting system listed under Design Light Consortium's (DLC) quality, performance and energy efficiency requirements. The DLC certification enables facilities to receive energy incentives from utility providers. It is projected to consume 75% less energy as compared to a traditional metal halide system. Ephesus fixtures are powered by Cree LED's. 1/28 AP
- 51. Seattle Mariners to Use LED Technology to Light Safeco Field -** The Seattle Mariners today announced that Safeco Field will be the first Major League Baseball facility to illuminate the playing field with LED lights. The Mariners partnered with PlanLED to replace outdated metal halide fixtures at Safeco Field with state-of-the-art GigaTera LED fixtures from KMW Inc. The conversion was completed this month and will be unveiled to the public at the 17th Annual Seattle Mariners FanFest at Safeco Field on January 24 & 25. LED fixtures focus multiple narrow beams of light. They produce brighter, more uniform light, which significantly reduces glare and shadows on the field and creates a better atmosphere for players and fans watching the game at the ballpark. For fans watching on HDTV, LED lights provide better color rendering as well. Watch the videos: <http://www.nbcnews.com/news/us-news/seattle-mariners-introduce-leds-mlb-n289651>
<http://planled.com/?portfolio=mariners-project-introduction>
- 52. Understanding New Title 24 Regulations -** New construction or renovations to existing buildings in the Golden State must adhere to more stringent energy standards, according to recent revisions to the **California Building Standards Code, Title 24** <http://www.energy.ca.gov/title24/> of the California Code of Regulations, also referred to as The Energy Efficiency Standards for Residential and Nonresidential Buildings. Established in the 1970s, Title 24 was implemented to reduce California's energy consumption, particularly as the state's growing population increased the demand for electricity. Nearly four decades later, efforts continue to enhance this mission through periodic updates of requirements related to a multitude of structural components ranging from lighting to heating and cooling. <http://go.gelighting.com/rs/gehbsals/images/GE-LED-Commercial-Lighting-Title-24-Updates.pdf>
- 53. California's Title 24, Part 6's New Standards Mandate Flexibility in Controls and Greater Lights-Out Time by Bill Millard -** With the latest version of Title 24, Part 6, the California skyline is about to surrender some of its 24/7 nocturnal glow. The goal is for offices, corridors, stairwells, library stacks, parking garages, and other intermittently used structures to cease producing widespread lighting waste and light pollution. Retrofitted buildings will have to incorporate task-appropriate technologies; in new construction, sensors, timers, and dimmers will be standard equipment. For designers, contractors, and owners, this means some substantial up-front costs, and for the controls industry, some expanding opportunities. What it Does—and Doesn't—Mean <http://www.bsc.ca.gov/>
http://www.archlighting.com/codes-and-standards/california-title-24-part-6-update_o.aspx



Monthly Special Feature...

Pre-Rulemaking on 2016 Building Energy Efficiency Standards –

About Docket #2014-BSTD-01 The California Energy Commission is opening a public process and rulemaking proceeding to adopt changes to the Building Energy Efficiency Standards contained in the California Code of Regulations (CCR), Title 24, Part 6 (also known as the California Energy Code), and associated administrative regulations in Part 1 (collectively referred to here as the Standards). The updated standards will be proposed for adoption in 2015 with an effective date of January 1, 2017.

The California Energy Commission staff will conduct workshops to present potential revisions to the Standards and obtain public suggestions and comment. The scope, time, and date of these workshops will be publicly noticed. Interested parties should be aware the California investor-owned utilities (IOUs) and some publicly owned utilities (PUCs) conduct the statewide Codes and Standards programs through rate payer funds. To support the 2016 revisions to the Standards, the IOUs and POU are conducting a number of Codes and Standards Enhancement (CASE) Initiatives.

These Initiatives address areas of potential change to the Standards that show promise, based on the results of utility research, and the success of incentive programs and document the potential energy savings, cost implications, and specific approaches. Although outside the scope of the Energy Commission's rulemaking proceeding for the 2016 Standards, these Initiatives are important. The California Energy Commission expects the IOUs and POU to engage building industry stakeholders throughout the development of the CASE Initiatives so that these initiatives will be adequately vetted with affected stakeholders prior to proposing potential revisions to the Standards.

To participate in this development process contact Cathy Chappelle at [cchappell @ trcsolutions](mailto:cchappell@trcsolutions.com). Organizations and individuals may also propose new measures. Go to the public participation page for more information. <http://www.energy.ca.gov/title24/participation.html>

To participate in the pre-rulemaking and/or rulemaking process for the update to the 2016 Standards you can attend one or more of the workshops and provide verbal comments to the record. <http://www.energy.ca.gov/title24/2016standards/prerulemaking/>

Written comments can be submitted to the pre-rulemaking or rulemaking docket. Instructions for submitting comments can be found on each Workshop Notice. Members of the public can propose an energy efficiency measure for consideration in the 2016 Standards update process. To document the proposed measure and cost-effectiveness, use the [Building Energy Efficiency Measure Proposal Template](#). Samples of past Proposals can be viewed [here](#).

