

EnergyWatch



March 2016

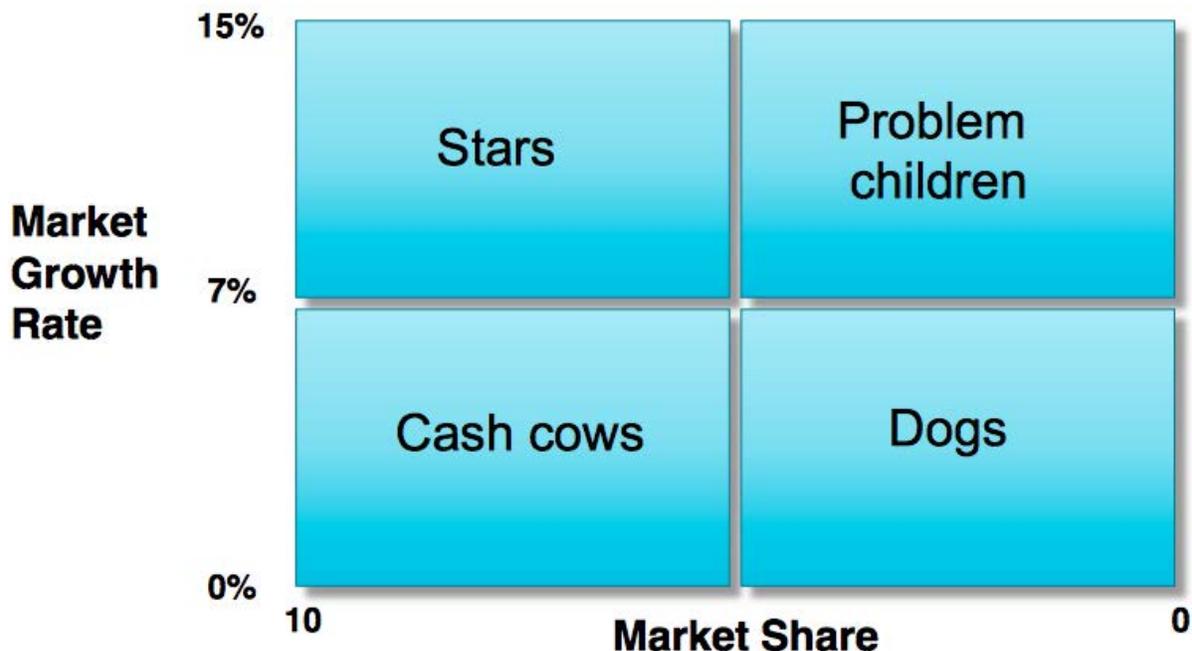
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Printers are educated in the belief that when men differ in opinion, both sides ought equally to have the advantage of being heard by the public; and that when Truth and Error have fair play, the former is always an overmatch for the latter. Benjamin Franklin

Government should be prudent, limited and neutral...it need not pretend to know what is the good life, only that people should be free to figure it out for themselves. David Brooks

Something to Think About... *What Do We Do With A Problem Child?*

Boston Consulting Group Matrix



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I woke up in the middle of the night with worry about a problem child. Not a family issue but I've done that too over the years. I think I figured out where the strategic business units (SBUs) of our friends in the lighting industry think they are and why they are making the decisions they are. If anyone out there has taken a marketing class, I'm sure you remember the Boston Consulting Group (BCG) matrix. It's all about market share and market growth and the strategic decisions one must make to be viable. Here's a refresher course and how it affects the lighting industry, in my opinion:

1. **Stars-** Stars represent business units having large market share in a fast growing industry, like the intelligent lighting industry. They are dominant leaders in the industry they serve. They may generate cash but because of this fast growing market, Stars require huge investments to establish and maintain their lead. SBU's located in this cell are innovators, highly competitive, attractive to investors and are positioned to take advantage of the changes only they envision. As the lighting industry transitions, I really need your help because at this stage, I really do not know of anyone who should be in this quadrant. I have my suspicions and I'm sure some will claim to belong here but what do you think? Who do you think will be the dominant market share leaders in the Intelligent Lighting industry?
2. **Cash Cows-** Cash Cows represents business units having a large market share in a mature, slow growing, fading industry. Legendary or traditional lighting comes to mind, ya think? Cash cows require little investment and generate cash that can be utilized for investment in Star business units. These SBU's are the corporation's key source of cash, and are specifically the base of an organization and their core business. Here's what woke me up in a sweat: it dawned on me that when you feel your SBU is a cash cow, you want a financial executive to run that business, right? Cash cows make money and should be "milked" to provide as much cash as possible. That my friends, is what General Electric knows how to do and do better than most. Enter Bill Lacey, former CFO of GE Lighting, just promoted to run the traditional GE Lighting in Nela Park as its CEO. Who else is thinking like GE and considers themselves as Cash Cows? Let me know, ok? Oh, where's Maryrose Sylvester, former CEO of GE Lighting, you ask.....she moved to Boston to run the new GE digital lighting business, Current, and I quote: "the smart, connected, commercial space for lighting." They moved this SBU into the Problem Child cell...now let's see what their options are now.
3. **Problem Children (Question Marks)** – Now I get to the Problem Child that keeps me up at night. Some call it Question Marks, either way, it's SBUs with low market share in a fast growing market: Intelligent Lighting. They require huge amount of cash to maintain or gain market share. They require attention to determine if the venture can be viable. They want to be Stars. There is no specific strategy which can be adopted.....expansion, retrenchment, repositioning, whatever? As with all problem children, they cannot be ignored. The best way to handle a problem child is either to invest heavily in them to gain market share and become a Star, or to sell them off before they become a Dog. GE is facing this decision. So are many others. I would love to be in the halls of Philips (where I was once) and Osram as they evaluate their options. If you followed the recent news stories about them, sounds like the decision has been made.....you make the call. One thing I know for certain is these decisions are hard and why top executives make the big bucks. Opinion: most of the traditional players are all Problem Childs at this point in the transition process as well as the high-tech electronic companies who are searching for a reason to be in the lighting business. You cannot tell the players without a score card and you certainly cannot predict who will make it to the Star quadrant.



4. **Dogs** – My friend and cohort Chris Brown likes to say, “some are out of business and don’t know it yet.” He’s talking about Dogs. They represent businesses having weak market shares in low-growth markets: the traditional lighting market. They neither generate cash nor require huge amount of cash but due to their low market share and weak marketing practices, they will be the first to go. It’s never good to be mediocre in any business but in a mature traditional lighting industry, you could get away with it and survive and you did. In the Intelligent Lighting industry, you really cannot and must not be mediocre. For those who did survive, you have a choice, a second chance to be great: shape up, understand what’s happening and make the necessary changes in your business to compete at a high level this time, or look for work in some other industry. Just trying to make the choices as simple as possible. What do you think?

We still teach the principles of the BCG Matrix and it applies here. It’s getting clearer that those in the Cash Cow or Dog quadrants are facing Illumigeddon. Thank you Chris Brown for the wake-up call. It may be too early to know who the Stars are or will be but it sure feels like most, even the new entrants, are Problem Childs. As we move from the Traditional Lighting industry to Smart Lighting to Intelligent Lighting, who will emerge as the innovators, who will make the necessary investments, who will reposition their business to adopt, who will expand and gain market share, who will become the future captains of our industry? Maybe you know.....let us know, ok? Much appreciated...

LED Energy Watch...

1. **Apple Set to Add Li-Fi Capability to iPhone** - Apple looks set to include a li-fi capability in future versions of the iPhone, meaning it can access high-speed data using lighting. The backing of a tech giant like Apple would transform the technology from scientific curiosity into a mainstream technique for accessing the internet, and provide a huge boost to the lighting industry. The iPhone’s operating system now openly references li-fi capability in its programming code. Li-fi uses modulated visible light from LEDs to transmit data to enabled devices. It’s invisible to the human eye, and is much faster than traditional wi-fi. Apple already holds a patent on using its camera to capture data as well as images, so the company is well placed to exploit the new technology. It’s not the first time this year that Apple has been making news in the lighting industry. In January Apple received its first ever patent for a lighting system, in a move that has again raised the issue of the company’s intentions in the lighting market. <http://luxreview.com/article/2016/02/breaking-apple-set-to-add-lifi-capability-to-iphone>
2. **The Lux Two-Minute Explainer: Li-fi** - 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. Li-fi is a way of transmitting data to devices such as smart phones using visible light pulsed at high frequency. Li-fi is a term first used by Professor Harold Haas of Edinburgh-based start-up company PureLi-fi, but it’s also known as visual light communication, or VLC. 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 fiber 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 on LED lighting systems. <http://luxreview.com/article/2016/02/the-lux-explainer-li-fi>



3. ***Connected SSL Represents Tremendous Market Opportunity By Philip Smallwood*** - LEDs have already assumed a huge presence in the globally installed base of lighting products, but the bulk of the growth is yet to come. Based on recent research, however, we feel a large part of the opportunity will come in connected lighting products indoors and out. Let's consider the opportunity and potential obstacles given that solid-state lighting (SSL) and all of the enabling technologies covered in *LEDs Magazine* Suppliers Directory will find a home in connected products. Based on a recent Strategies Unlimited (SU) Connected Indoor Lighting report, we project 25% annual growth in networked indoor luminaires through 2022 with the market potentially reaching \$12B in revenue. <http://store.strategies-u.com/connected-indoor-lighting-market-analysis-and-forecast-2015/>
4. ***GE LED Transition*** - GE Lighting will discontinue the manufacture and sale of CFLs for the US residential market by the end of 2016 in favor of LED-based lamps. GE Lighting has been among the leaders working on LED-based retrofit lamps in the past few years, so the focus shift to LED lamps isn't exactly surprising. Still, the move completely away from CFLs is bold given that LED-based lamps still cost more. GE listed several motivating factors for the move including the fact that LEDs are symbiotic with the trend toward intelligent lighting. About 15% of consumers have used LED lamps and GE projects that 50% of residential sockets will be filled with LED products in 2020. <http://www.ledsmagazine.com>
5. ***Shakeup at GE Lighting: Unit Gets New CEO; Changes Ignite More Sale Rumors by Chuck Soder*** - GE Lighting is undergoing major changes — just like the rest of the lighting industry. General Electric cut the business into two parts last fall, which sparked a shakeup at GE Lighting and reignited rumors that it might be sold. For one, it has a new CEO. Bill Lacey, who previously served as chief financial officer, has replaced Maryrose Sylvester. She recently moved to Boston to lead Current, the new business unit that GE carved out back in October — a unit tasked with commercializing some of GE Lighting's biggest ideas. And she's not the only GE Lighting employee who has joined Current. The company also wouldn't comment on a recent Bloomberg article stating that GE is open to the idea of selling its retail lighting business. Lighting industry veteran Bill Attardi said GE probably is asking itself whether it can be a player in the effort to digitize lighting without GE Lighting — the company with the hardware expertise. He thinks the answer is yes: "They could do it by partnering with other companies. They can cut deals with anybody". <http://www.crainscleveland.com/article/20160207/NEWS/160209870/shakeup-at-ge-lighting-unit-gets-new-ceo-changes-ignite-more-sale>
6. ***GE Digital Unveils Global Alliance Program*** - GE recently announced the GE Digital Alliance Program, the first ever dedicated to growing the digital industrial ecosystem. This new alliance program is designed to connect systems integrators, telecommunications service providers, independent software vendors, technology providers and resellers with the technology and digital industrial expertise of GE. GE alliance members will be able to train and certify their developers and begin building industrial apps with Predix, GE's cloud platform for the Industrial Internet. The program will also offer participants access to sales, marketing and technical resources from across GE Digital, as well as digital tools, training and enablement, online content and assets, Predix certification, developer sandboxes, joint deal registration and specific benefits based upon contribution level. GE unveiled new collaborations with Intel, Capgemini, TCS, Deloitte Digital, Infosys, Genpact, Softtek and Wipro Limited. <http://www.ge.com/digital/partners>



7. ***Cisco Marches into Connected Lighting with New Partners*** - The networking giant's Philips alliance for connected lighting was just a start now that it has announced 15 new collaborators, including Cree. LEDs in the "digital ceiling" are key to its huge Internet of Things push. Cisco is staking its claim to indoor connected lighting under a new "Digital Ceiling" flag, which it unfurled here in Berlin at CiscoLive2016, a week-long gathering of over 12,000 Cisco customers, developers, and partners. Cisco's digital ceiling initiative also includes partners from outside the lighting industry, including buildings controls giant Johnson Controls and interconnect maker Molex. The emergence of the IoT is potential gold mine for vendors. The world is spending a mind-boggling \$2.5 million per second outfitting the IoT. <http://www.ledsmagazine.com>
8. ***Philips Teams with Cisco and Dutch Energy Utility Alliander on Smart Lighting Project*** - The threesome teamed with a private-public group called Amsterdam Smart City, Dutch telecoms giant KPN, and others to install a connected lighting scheme and public Wi-Fi at Hoekenrodeplein, a large modern square with shops, hotels, and music that's near Amsterdam Arena — the city's main soccer (football) stadium and mega concert venue. Intelligent lighting taps wired and wireless information technology networks to allow users to remotely and dynamically change lighting brightness, colors, and the like. It also embeds sensors into luminaires and lighting fixtures/accessories such as lamp posts to note everything from crowds, traffic, parking conditions, air quality, and much more, and to feed that information to systems and users who could benefit from it. The Dutch project provides an early example of how the lighting industry and the IT and energy worlds are trying to cooperate on intelligent lighting. <http://www.ledsmagazine.com>
9. ***Philips Talking Strategy and Performance by Frans van Houten, CEO Royal Philips*** - In September 2014, Philips announced its plan to sharpen its strategic focus by establishing two stand-alone companies focused on the HealthTech and Lighting opportunities respectively. We have established a stand-alone structure for Philips Lighting within the Philips Group effective February 1, 2016. We expect to be able to announce the separation of the Lighting business in the first half of 2016, subject to market conditions and other relevant circumstances. As previously stated, we are reviewing all strategic options for Philips Lighting, including an initial public offering and a private sale. Philips is now actively engaging with other parties that have expressed an interest in the businesses and will continue to report the Lumileds and Automotive businesses as discontinued operations. <https://www.annualreport.philips.com/#!/home/tab=videos>
10. ***Cree Announces SmartCast PoE with Cisco to Enable IoT*** - SmartCast PoE is the first LED lighting platform that makes the Cisco® Digital Ceiling framework ready for mass deployment and adoption. Cree's SmartCast PoE embeds intelligence to make buildings more efficient and people more productive, while delivering far better light for less energy than ordinary LED lighting systems. The solution was announced today at Cisco Live!® Berlin and is part of the Cisco Digital Ceiling framework, which connects disparate systems into a single IP network to create smart, more secure, seamlessly connected building systems. Cree is part of the Digital Ceiling partner community, a network of partners working to enhance the traditional workforce through the connection of intelligent things to create new user experiences, lower total costs and enable business analytics. Video at: <http://www2.cree.com/smartcast-landing-page>



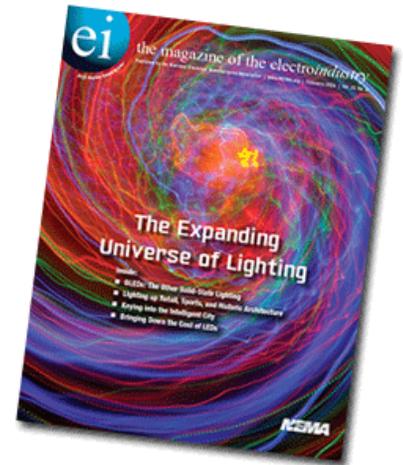
- 11. Siemens and IBM Team on Building Energy Management Solutions** The Siemens Building Technologies Division and IBM recently announced cloud-based solutions that will leverage Siemens' building expertise and IBM Internet of Things (IoT) capabilities to maximize the potential of connected buildings and the data they create, helping corporate real estate owners across multiple industries drive business results and meet energy efficiency goals. Building intelligence is evolving through emerging technologies in cloud computing, data analytics, and intelligent field devices – effectively merging the virtual and real worlds within the built environment. Siemens is integrating software from IBM's Watson IoT Business Unit, including analytics and asset management, into its cloud-based Navigator energy and sustainability management platform. <http://www.tedmag.com>
- 12. Look Good, Die Young: Osram's Novel Strategy to Gain in LED Lighting by Michael Kanellos** - Ten years is more than enough time. That is the idea underlying a new line of LED bulbs from Osram Sylvania designed to gain the company new customers and market share. Rather than produce bulbs for consumers that might last 25,000 to 20,000 hours (or about 20 years of ordinary use), the new bulbs are made from components that will effectively give the bulbs a more limited lifespan of around 11,000 hours. Trimming the life expectancy and other tweaks, however, enables Osram to drop the price of a 60 watt-equivalent A19 LED bulb to \$3, lower than bulbs of comparable quality from competitors. McKinsey & Co. estimates that worldwide revenue for LEDs in general lighting will mushroom from approximately \$6.5 billion in 2011 to over \$75 billion by 2020 while the market share for LEDs in lighting will grow from approximately 45% percent in 2016 to 70% by 2020. <http://www.forbes.com/sites/michaelkanellos/2016/02/18/look-good-die-young-osrams-novel-strategy-to-gain-in-led-lighting/#2d766c462aa3>
- 13. ReFlex OLED Smartphone Enables Multitouch with Bend Input** - Revolutionary flexible smartphone allows users to feel the buzz by bending their apps. Researchers at Queen's University's Human Media Lab have developed the world's first full-color, high-resolution and wireless flexible smartphone to combine multitouch with bend input. The phone, which they have named ReFlex, allows users to experience physical tactile feedback when interacting with their apps through bend gestures. ReFlex is based on a high definition 720p LG Display Flexible OLED touch screen powered by an Android 4.4 "KitKat" board mounted to the side of the display. Bend sensors behind the display sense the force with which a user bends the screen, which is made available to apps for use as input. ReFlex also features a voice coil that allows the phone to simulate forces and friction through highly detailed vibrations of the display. Combined with the passive force feedback felt when bending the display, this allows for a highly realistic simulation of physical forces when interacting with virtual objects. Watch the video: https://www.youtube.com/watch?v=Sfc_Peev660
- 14. DOE Report 23: Photometric Testing of White Tunable LED Luminaires** - The US DOE has published a caliper snapshot report that finds only meager progress in led-based MR16 lamps over the course of two years since the agency last published a similar report. New products have improved color rendering but generally the solid-state lighting (SSL) alternatives cannot match the performance of 50w halogen lamps. The DOE has also released an addendum to caliper "Report 23: photometric testing of white-tunable led luminaires" that seeks to answer the question of how many CCT test points are required for accurate operational characterization of such products. <http://energy.gov/eere/ssl/downloads/report-23-photometric-testing-white-tunable-led-luminaires>



15. *ei, The Magazine of the Electroindustry* – ei is NEMA’s monthly publication. In addition to the latest reports from Capitol Hill, what’s happening in the world of standards, and industry news, each issue features an in-depth look at technical issues, international developments, and information about various new technologies and projects. The February issue covers the Expanding Universe of Lighting:

- OLEDs: The Other Solid-State Lighting
- Lighting Up Retail, Sports, and Historic Architecture
- Keying into the Intelligent City
- Bring Down the Cost of LEDs

http://www.nxtbook.com/ygsreprints/NEMA/Nema_feb16/#/44



16. *LED Inventor Bets on Lasers to Replace LEDs* – Dr. Shuji Nakamura, co-founded SoraaLaser an independent spin-off from Soraa Inc., says laser diodes are the future of lighting – and have compelling advantages over LED. Because the laser light is focused to a small spot on the phosphor and converted to white light, the SoraaLaser light sources enable safe, highly collimated white light output, ‘vastly superior’ optical control with miniature optics and reflectors, along with high efficiency fiber optic transport and glare-free waveguide delivery. The company says initial markets will be in applications such as architectural, hospitality, retail, security, entertainment, and automotive. Laser lighting is already used for automobile headlamps at BMW and Audi, because the laser diode’s efficiency is ten times higher than that of the LED headlamp.

<http://luxreview.com/article/2016/02/led-inventor-bets-on-lasers-to-replace-leds>

17. *Another Strong Quarter for LED A-Line and Halogen Lamp Shipments* - LED A-line lamps posted another strong showing in 2015Q3, surging 237.2% during the quarter on a year-over-year basis. Halogen A-line lamps posted a year-over-year increase of 33%. In contrast, incandescent A-line lamps decreased by 31.5% while compact fluorescents lamps dropped 28%. Compared to 2015Q2, LED shipments rose 17.2%, while halogen A-lines increased 4.6%. CFL shipments saw a quarter-to-quarter decrease of 16.3% and incandescent A-line lamp shipments decreased 16.5%. As of 2015Q3, halogen A-line lamps accounted for almost half of all consumer lamp shipments at 48.6%, followed by CFLs with a share of 27.3% and incandescent A-lines at 9%. LED A-line lamps increased their sales share by two percentage points to 15.1% of the consumer lamp market.

<http://www.lightnowblog.com/>

18. *DOE ISSUANCE 2016-02-12: Energy Conservation Standards for General Service Lamps* -

Notice of Proposed Rulemaking... The Energy Policy and Conservation Act of 1975 (EPCA), as amended, prescribes energy conservation standards for various consumer products and certain commercial and industrial equipment, including general service lamps (GSLs). EPCA also requires the U.S. DOE to periodically determine whether more-stringent, amended standards would be technologically feasible and economically justified, and would save a significant amount of energy. In this notice, DOE proposes amended energy conservation standards for GSLs, and also announces a public meeting to receive comment on these proposed standards and associated analyses and results. DOE will hold a public meeting on Friday, April 1, 2016, from 9:00 a.m. to 4:00 p.m., in Washington, D.C. The meeting will also be broadcast as a webinar. DOE will accept comments, data, and information regarding this NOPR.

<http://energy.gov/eere/buildings/downloads/issuance-2016-02-12-energy-conservation-program-energy-conservation>



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- 19. 2016 SSL R&D Workshop Presentations and Materials Available** - It's becoming increasingly clear that light is no longer just for illumination, but also can benefit health and wellbeing, productivity, and a host of other related things. That point was driven home repeatedly throughout the 13th annual DOE SSL R&D Workshop. Download the presentations from the workshop, held February 2–4 in Raleigh, North Carolina. Please note, some speakers did not grant permission for online posting. <http://energy.gov/eere/ssl/2016-ssl-rd-workshop-presentations-and-materials>
- 20. Rebate Trends for 2016 by BriteSwitch** - Over the past few months, organizations across the country have been busy updating their 2016 rebate programs. Right now, 64% of the country is covered by an active commercial lighting rebate program. We've noticed the following trends:
- **Record Number of Programs Ran Out of Funding in 2015**
 - **Number of Rebates for LED Tubes Went Up While Dollar Amounts Went Down**
 - **LED Screw-in Lamps for HID Make Their Debut in Rebate Programs**
- <http://www.briteswitch.com>

Global LED EnergyWatch...

- 21. Global Wireless Smart Lighting Controls Consumption Market Forecast to 2021** – This report is a professional and in-depth study on the current state of the Wireless Smart Lighting Controls Consumption industry which provides key statistics on the state of the industry and is a valuable source of guidance and direction for companies and individuals interested in the market. This new report also shares details about the industry chain structure, competitive landscape and new project SWOT analysis. This report provides a basic overview of the industry including definitions and classifications. <https://www.whatech.com/market-research/energy/131413-wireless-smart-lighting-controls-consumption-market-forecast-to-2021>
- 22. Canada to Spend CA \$13M (US \$9.29M) on LED Street Lights** - Local municipalities to convert 42,000 street lights to LED bulbs starting this year, to conserve energy and save on operating costs. Pending final budget approval in some of the municipalities, a request for proposals to complete the work is expected to be issued in March. Cambridge, Waterloo, Wellesley, Wilmot, Woolwich and the Region of Waterloo estimate they will save at least CA \$1.6 million combined annually in operating costs after the upfront cost has been returned through savings. Depending on the municipality, the initial investment will be paid back in savings anywhere between six and 10 years. All the lights are expected to be converted by fall 2018. <http://www.therecord.com/news-story/6257017-local-governments-to-spend-13m-on-led-street-lights/>
- 23. Indian City Chennai to Install 30K LED Streetlights** - The Energy Efficiency Service Limited (EESL) has installed more than 600,000 LED streetlights across several cities in India under the ESCO model. Chennai is the capital city of the Indian state of Tamil Nadu. The greater Chennai Corporation approved the project of installing 30,000 LED streetlights across the city for US\$ 21.26 million. As the full capital investment is supported by EESL there is no upfront cost for municipal corporations. <http://www.ledinside.com>



24. No Light Switches at Cisco's Own Berlin Smart Building - openBerlin is one of nine Cisco innovation centers around the world where Cisco and startups hash out ideas and co-develop next-generation networking technologies such as smart lighting. “You don't see any light switches here,” said Bernd Heinrichs, managing director of Internet of Everything (IoE) Sales for openBerlin Innovation Centre. “Everything is automated. Heating, air conditioning, the lights, et cetera...All of it's done by a huge amount of sensors. We have 5000 sensors installed now, and we probably will go to 10,000 very soon,” he said. The sensors — largely from German supplier Bosch — are peppered around the walls and ceilings, in some cases hidden away in or near connected lighting fixtures. Some automatically adjust light settings depending on room occupancy, but they're not all for lighting per se. They detect not only room occupancy but climatic conditions like room temperature. They feed data about what they notice into the building's central IT systems, which in turn can trigger actions such as turning the heating or cooling system on, off, up, or down. Users can change not only on/off and brightness settings but also the color and color temperature of the ceiling panel LED luminaires via network commands, a hallmark of PoE lighting. <http://www.ledsmagazine.com>

LED Technology Watch...

25. Newest Cree® CXB Series LED High Bay Fixtures - Cree high bay fixtures have advanced to offer even better light performance, lower operating costs and longer life as the ideal LED replacement for high ceiling applications. Cree's CXB High Bay LED fixture delivers up to 24,000 lumens and provides a combination of high performance and affordability, eliminating the need for energy-wasting fluorescent and HID high bay luminaires. The newest CXB High Bay LED luminaire provides customers with a better light experience through a higher color rendering index of 80-plus and delivers greater efficiency of 113 lumens per watt, lowering operating costs and paying for itself in less than three years. It also includes an improved thermal system, ensuring high reliability over its 100,000-hour rated lifetime and an updated lens mounting and edge design for a quick and easy one-for-one replacement of up to 400-watt HID fixtures and multi-lamp fluorescent high bay luminaires. <http://lighting.cree.com/products/indoor/high-bay-low-bay/cxb-series>



National Energy Watch...

26. Section 179D Federal EPA Act Tax Benefits Extended for Two Years - 179D was extended for two years, one year retroactive (2015) and one year forward (2016). Section 179D tax incentives of up to \$1.80 per square foot are available for qualifying lighting, HVAC, and building envelope projects. Both existing buildings and new buildings are eligible for the tax incentive. Although virtually all building categories are tax-incentive-eligible, the benefits are particularly favorable for warehouses and manufacturing buildings. For the tax years 2006 through 2015, the energy code standard that needs to be surpassed by a specified amount is ASHRAE 90.1-2001. For projects completed in 2016 the building energy code that must be surpassed is ASHRAE 90.1-2007. <http://www.facilitiesnet.com>



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- 27. NEMA Announced ANSI Accredited Standards Committee C82 Reaffirms C82.1-2004 - Line Frequency Fluorescent Lamp Ballasts:** This standard covers ballasts which have rated open circuit voltages of 2000 volts or less and are intended to operate lamps at a frequency of 50 Hz or 60 Hz. May be purchased in hard copy or electronic download for \$94 on the NEMA website.
<http://www.nema.org>

City & State EnergyWatch...

- 28. GE Strikes Deal to Install LED Lighting at 5,000 J.P. Morgan Bank Branches -** Under the deal, Current will replace some 1.4 million existing lights with LEDs, covering 25 million square feet, over the coming two years. The deal also is a shot in the arm for Current, which is based in Boston headed up by Maryrose Sylvester, Current's CEO. The company is experimenting with offering lighting as a service--customers would pay Current a monthly rate for which GE would provide the lighting. The offering is another sign of GE's efforts to move away from commoditized businesses--such as making and selling lightbulbs--and toward industrial businesses, where it can leverage its scale and provide investors with consistent earnings from industrial business lines.
<http://www.nasdaq.com/article/ge-strikes-deal-to-install-led-lighting-at-5000-jp-morgan-bank-branches-20160218-01361>
- 29. NYPA Begins Lighting Upgrade Project at New York State Museum in Albany -** NYPA is partnering with the New York State Education Department, which runs the museum. The Power Authority is providing more than \$1.7 million in financing for the energy efficiency upgrades. All of the existing, inefficient incandescent lighting throughout the museum's exhibit areas will be replaced with high-performance LED track lighting. About 2,000 fixtures will be installed, along with a lighting-control system that will enable staff to illuminate specific areas and pathways to meet the particular needs of an exhibit. 2/24- MarketLine
- 30. Energy Efficient Lighting at Virginia VA Hospital to Help Fund Additional Services -** A \$1.58 million project will renovate Virginia VA hospital with new energy efficient lighting, sensors and controls. The funds saved by the new lighting system is expected to fund addition services for veterans. The hospital's inefficient legacy lighting will be replaced with almost 12,000 LED systems and sensors and other high-efficiency fixtures in office, exterior, and other applications. Financed with a utility energy services contract, the project will not require any hospital operating funds to install the technology. The project helps meet several federal mandates and VA policies for sustainability to reduce energy consumption, promote healthy work environments and protect natural resources. <http://www.facilitiesnet.com>
- 31. Simon Property Group and Acuity Brands Kicks off Pilot Smart Parking Lot Lighting Projects in Atlanta and Florida -** A pilot program will employ outdoor LED lighting systems to monitor parking lot vehicle counts and occupancy data to facilitate the efficient management of traffic and parking. The pilot will be conducted at Lenox Square in Atlanta, GA and Florida Mall in Orlando, Florida. Parking lot density will be monitored via existing Acuity Brands lighting fixtures installed throughout the two malls. Sensors will be added to the fixtures and will transmit occupancy data to an online dashboard, creating heat maps for visualizing parking density and highlighting locations where there is parking availability. <http://www.ledinside.com>



32. *Lighting the Way Across the Big Four Bridges* - As a result of some innovative lighting work, a rusted railroad bridge has become a stunningly eye-appealing destination. The Big Four Bridge, built in 1895 and updated in 1929, is a former railroad truss bridge crossing the Ohio River, connecting Louisville, Ky., with Jeffersonville, Ind. After being closed for a number of years, the bridge was reopened in early 2013 as a combination pedestrian-bicycle bridge—1,800 feet shore to shore, and about 2,500 feet from end to end, including ramps on both sides. What is unique about the bridge isn't that it is limited to pedestrians and bicyclists; it's the lighting—some 1,500 LED lights strategically strung across the bridge and programmed for multiple colors and patterns. The lights were provided by Philips Lighting, designed and programmed by Vincent Lighting Systems, and installed by Advanced Electrical Systems Inc. (AES) of Louisville.



<http://www.ecmag.com/section/your-business/lighting-way-across-big-four-bridge%E2%80%A9>

33. *Raleigh, NC Historic Neighborhoods Square Off Over LED Streetlights* - As Raleigh installs new, energy-saving streetlights in most parts of town, residents of some of the city's oldest neighborhoods are turning up their noses at the replacements as too bright and just too modern. The city last fall launched a \$12 million effort to replace about 30,000 streetlights across the city with LED bulbs and fixtures. The city-proposed LED fixtures emit light at 4,000 Kelvin. Committee members and residents want something that's 3,000 Kelvin or less. The problem: Duke Energy isn't offering lights that are 3,000 Kelvin or less, according to city staff. So some residents are lobbying City Council members to find and approve more historic-looking LED lights – with or without Duke Energy. The city is working with Duke on the issue, which owns the fixtures that Raleigh leases.

<http://www.newsobserver.com/news/local/counties/wake-county/raleigh-report-blog/article62302452.html>

34. *California Tightens Color Performance of LED-Based Lamps* - The California Energy Commission (CEC) has approved the new *Title 20 Appliance Efficiency Regulations* document that includes regulations on the performance of LED-based replacement lamps. Both general-service A-lamps and small directional lamps sold in California will now have to meet more stringent color rendering requirements that some in the industry believe will both cost more and use more energy than do the most popular lamps on the market today. Indeed, the National Electrical Manufacturers Association (NEMA) lobbied the CEC against the rulemaking, but the CEC also received numerous comments in support of the new lighting regulations. <http://www.ledsmagazine.com>

35. *Camas, WA Begins Replacing Its Streetlights with LEDs* - The \$3 million project will replace about 2,000 "cobra head" streetlights and about 1,100 "acorn" lights -- the more decorative ones. The cobra head lights are expected to be fully in place by mid-March, and the acorn lights, which are in more residential areas, will start switching over in late March or early April and continue through late spring or early summer. The LED replacement part of the project will cost \$2.3 million, with \$500,000 awarded to the city from the Washington State Department of Commerce's Energy Efficiency Grant Program. The rest of the money for the project will come from the city's general obligation bond. 2/24 The Columbian



Monthly Special Feature... *EPA Act 179D Lighting Tax Deduction Wattages*
<http://www.facilitiesnet.com>

Standard for 2006-2015 Projects

Building Type	ASHRAE 2001	25% Improvement \$0.30/Sq Ft	40% Improvement \$0.60/Sq Ft
Automotive Facility	1.5	1.13	0.90
Convention Center	1.4	1.05	0.84
Court House	1.4	1.05	0.84
Bar Lounge/Leisure	1.5	1.13	0.90
Cafeteria/Fast Food	1.8	1.35	1.08
Family Dining	1.9	1.43	1.14
Dormitory	1.5	1.13	0.90
Exercise Center	1.4	1.05	0.84
Gymnasium	1.7	1.28	1.02
Health Care Clinic	1.6	1.20	0.96
Hospital	1.6	1.20	0.96
Hotel	1.7	1.28	1.02
Library	1.5	1.13	0.90
Manufacturing	2.2	1.65	1.32
Motel	2.0	1.50	1.20
Movie Theater	1.6	1.20	0.96
Multifamily	1.0	0.75	0.60
Museum	1.6	1.20	0.96
Office	1.3	0.98	0.78
Parking Garage	0.3	0.23	0.18
Theater	1.5	1.13	0.90
Police/Fire Station	1.3	0.98	0.78
Post Office	1.6	1.20	0.96
Retail	1.9	1.43	1.14
School/University	1.5	1.13	0.90
Sports Arena	1.5	1.13	0.90
Town Hall	1.4	1.05	0.84
Transportation	1.2	0.90	0.72
Warehouse	1.2	0.60 (50% Improvement Required)	
Workshop	1.7	1.28	1.02

