Chaperone LED Indirect Garage Luminaire - Our attractive new Chaperone renders old sodium downlights obsolete, reduces glare, offers the visual comfort of indirect lighting, and incorporates great cost efficiencies for owners. Parking garages are often dark, uncomfortable places. Until now. Chaperone turns lonely parking environments into safe, pedestrian-friendly venues with top visibility and new levels of safety. Our amazing new Chaperone changes the game, rendering old sodium downlights obsolete. Crisp and attractive, Chaperone also greatly reduces glare giving the comfort of indirect lighting and incorporating great cost efficiencies for owners. This Amerlux Garage Luminaire is designed to replace ceiling mounted garage fixtures as a complete LED luminaire solution. This new garage light is instant on, and can be integrated with many different control system options in the market today. [http://www.amerlux.com/products/G300](http://www.amerlux.com/products/G300)

LED Energy Market Observer:

1. DOE Webinar Series on Healthcare Lighting - Registration is open for a three-part webinar series on healthcare lighting. All one hour webinars will start at 1:00 p.m. Eastern (10:00 a.m. Pacific):
   - Tuesday, September 13: The Nurses’ Perspective on Hospital Patient Room Lighting
     Learn how SSL technology provides new opportunities to address a holistic set of goals for healthcare lighting. What are the major considerations when designing the next generation of patient room lighting systems? [https://attendee.gotowebinar.com/register/437692087163990860](https://attendee.gotowebinar.com/register/437692087163990860)
   - Tuesday, October 4: Evidence-Based Design for Healthcare Lighting—Where's the Evidence? Results from a major literature review summarizing published evidence for the benefits of high-quality healthcare lighting reported in recent research. How can future research provide even stronger evidence to link the design of healthcare facilities to a holistic set of human needs? [https://attendee.gotowebinar.com/register/8840805039403559425](https://attendee.gotowebinar.com/register/8840805039403559425)
   - Tuesday, October 18: Tuning the Light in Senior Care: Evaluation of a pilot study of LED lighting systems in preparation for a planned expansion and renovation at a Sacramento senior-care center, with comparisons to existing fluorescent systems and before/after analysis of behavioral and health measures. [https://attendee.gotowebinar.com/register/2112378817600468993](https://attendee.gotowebinar.com/register/2112378817600468993)

2. What’s in Store at the Next DOE SSL Workshop - DOE’s 11th annual SSL Technology Development Workshop takes place November 16-17 in Denver at the Grand Hyatt Denver, and it couldn't come at a more opportune time. Although today’s SSL products outperform their conventional counterparts in most ways for most applications, recent headlines highlight some of the persistent misconceptions about the technology, while promising technological improvements are poised to open up even more doors to wider use and deeper energy savings. DOE workshops get the facts, examine trends and issues related to today's products, and look ahead to prepare for the next wave of innovation. [http://energy.gov/eere/ssl/2016-ssl-technology-development-workshop](http://energy.gov/eere/ssl/2016-ssl-technology-development-workshop)

3. New Phosphor Blend for LEDs Could Crank Up Li-Fi Speed - Adding perovskite to the material that converts blue LED light into white boosts visible light communication modulation rates by a factor of 40, researchers find, improving the capabilities of Li-Fi. VLC uses the invisible modulations in LED lightwaves to transmit data via the lightwaves. It is the technology behind Li-Fi, the light-based alternative to radio-based Wi-Fi, for wireless Internet transmission. Supporters of Li-Fi and its underlying VLC technology say that it will add enormous capacity to wireless communications, because the visible light spectrum is 10,000 times larger than the radio frequency spectrum that Wi-Fi uses. [http://www.ledsmagazine.com](http://www.ledsmagazine.com)
4. Smart Traffic Lights to ’Talk’ to Drivers - Dashboards equipped with ’traffic light assist’ technology will receive real-time information from a traffic management system that monitors traffic lights. While waiting at a connected traffic light, the dashboard will make the driver aware of the time remaining before the signal flicks to green. The system makes use of an on board LTE data connection, a high-speed wireless communication for mobile phones and data terminals, which talks to Audi's servers. The company is currently in the process of linking these to smart city servers. The development is yet another example of the increasing interconnectivity of city streets. [http://luxreview.com/article/2016/08/smart-traffic-lights-to-talk-to-drivers](http://luxreview.com/article/2016/08/smart-traffic-lights-to-talk-to-drivers).

5. TALQ Consortium Expands Scope to Smart City, IoT - In 2012, leading lighting industry players founded the TALQ Consortium to develop an interoperable interface to connect and manage heterogeneous street lighting networks from various hardware and software vendors. Following the demand from cities, software suppliers and hardware manufacturers globally, a new Smart City Requirements Work Group was set up to extend the TALQ specification to support IoT interfaces for cities. This decision will broaden the reach of the consortium for new member companies, including those not from the lighting industry. Today cities face many challenges on the way to becoming smart cities, including making sure they choose the right technology when developing a large variety of public services, ranging from outdoor lighting over parking and waste management to E-Mobility and many other applications. [http://www.talq-consortium.org/](http://www.talq-consortium.org/)

6. New Website from LRC: Lighting Patterns for Healthy Buildings - To assist lighting designers and specifiers in selecting quality lighting that supports healthy living. Lighting affects peoples’ visual, circadian, and perceptual systems. A 24-hour lighting scheme, first proposed by Mariana Figueiro in 2008 for older adults, augments lighting design by including high circadian stimulation during the daytime, low circadian stimulation in the evening, good lighting for visibility, and nightlights with horizontal and vertical cues to improve postural stability. Applying the results of circadian stimulus (CS) research, this website presents a portfolio of lighting patterns for various building types. Each pattern presents lighting plans, renderings, and generic luminaire information useful for providing healthy lighting throughout the day. [http://lightingpatternsforhealthybuildings.org/](http://lightingpatternsforhealthybuildings.org/).

7. The Best Smart Lights You Can Buy by The Verge - Smart home gadgets can make your life way more convenient. The trouble is, a lot of them aren't very good — and they can become more of a headache than a convenience. That's particularly true for smart lighting. If you know what to get, smart lighting can be surprisingly helpful and do some pretty cool things: turn off when you leave the house, turn on when you come home, make lights warmer or cooler throughout the day, and flash to notify you of events or new information, making lighting even more useful than normal. But it’s really, really important that you pick out the right system. [http://www.theverge.com/2016/8/23/12560024/best-smart-lights-home-gadgets-philips-hue](http://www.theverge.com/2016/8/23/12560024/best-smart-lights-home-gadgets-philips-hue)

8. Visible Light Communications - The visible light communications (VLC) market is in its infancy, with limited adoption of this technology thus far. As the adoption of LEDs has increased, so has their potential as a source of data transference. LEDs can create a data source because they have the ability to modulate, a process that is invisible to the human eye. While VLC technology is only 5 years old, significant advancements have been made, and a number of companies have seized the opportunity to stake a place in this growing market. The market for VLC is technology-driven, not demand-driven. Beyond advancements in technology, the rising number of connected devices will cause the VLC market to grow substantially. This Navigant Research report analyzes VLC technologies, focusing on the current and projected state of the global market. It also examines the various applications for VLC technologies and provides insight into key market players. [http://www.navigantresearch.com/research/visible-light-communications](http://www.navigantresearch.com/research/visible-light-communications)
9. Energy Efficiency Retrofits for Commercial and Public Buildings - On a global scale, buildings (both residential and commercial) account for 37%-45% of total final energy consumption. This Navigant Research report provides a comprehensive examination of the state of the global market for energy efficiency retrofits in commercial and public buildings. The report analyzes the significant market and technology issues related to energy efficiency retrofits, with a focus on the following product and service types: HVAC, lighting, building controls, water efficiency, water heating, building envelope, energy production, commissioning, and installation. Global market forecasts for revenue, broken out by region, product and service type, and building type, extend through 2025. The report also assesses the key demand drivers and market dynamics that will contribute to market growth, as well as the competitive landscape. [http://www.navigantresearch.com](http://www.navigantresearch.com)

10. The Revival of DC Power by Jim Sinopoli - DC is making a resurgence. One reason is that Power over Ethernet (POE) has matured into a technology capable of delivering power to many building control systems and building equipment. POE uses inexpensive cabling that carries both data and power. Data rates are fast, and the POE can be managed remotely. The trends of Power over Ethernet indicated that:
   - Over 100 million Power over Ethernet (PoE) enabled ports are shipping annually
   - Cisco® 80w Universal PoE (UPOE) technology is driving the adoption of virtual desktop infrastructure (VDI)
   - Power over HDBaseT (POH) technology can deliver up to 100w over twisted-pair cable, supporting full HD digital video, audio, 100BASE-T and control signals in TV and display apps
   - The IEEE 802.3bt DTE Power via MDI over 4-Pair Task Force is developing a new remote powering application that will provide superior energy efficiency compared to a two-pair application which will significantly expand the market for PoE systems [http://automatedbuildings.com/news/aug16/articles/sinopoli/160721115005sinopoli.html](http://automatedbuildings.com/news/aug16/articles/sinopoli/160721115005sinopoli.html)

11. GE Lighting to Close More Plants - GE Lighting is making the strategic decision to close plants that are working far below capacity due to consumer demand for traditional lighting at an all-time low. Last week, tEDmag.com reported the closures of two Kentucky plants and a plant in Illinois. The latest closures in the news are that of the Dover Products Plant in Dover, Ohio and the GE Lighting Glass Plant in Bridgeville, Pennsylvania. “Looking forward, GE Lighting will focus entirely on driving innovation and growth in LED technology. By 2020, half of the US market’s consumer light bulb sockets will be LED and more than 80 percent of all global lighting revenues will come from LED.” [http://www.tedmag.com/](http://www.tedmag.com/)

12. 3-Part Article Explaining the Synergy Between LEDs and the Building IoT by Naomi Millán - Part 1: LEDs Are an Ideal Platform for the Building IoT - LEDs have revolutionized the lighting industry. What might be a surprise to facility managers, however, is that LED lighting systems may now be poised to turn building automation on its ear by becoming the platform for the Building Internet of Things (IoT). In the USA alone there are about 327 million smartphones — and 7 billion light fixtures..........everywhere IoT wants to be.
   Part 2: Common IoT Applications for LED Lighting Systems - Having the ability to load up a luminaire with sensors for temperature, pressure, vibration, daylight, occupancy, or humidity — with cameras or microphones, or with whatever other digital measurement device is desired — is all well and good, but the lighting system must be networked to the larger facility.
   Part 3: SIDEBAR: Overcoming Privacy Concerns with Network Lighting Systems - A networked lighting system that can provide audio, visual, and space use data is a huge boon to facility managers, but has the potential to leave some facility occupants feeling like they’re under constant surveillance. One way to get around this concern is to ensure that data is used in the aggregate, instead of being tagged to a particular user. [http://www.facilitiesnet.com](http://www.facilitiesnet.com)
13. **Lighting’s Inventory Puzzles by Doug Chandler** - How electrical distributors are dealing with inventory in lighting’s new world of accelerated obsolescence. The wondrous changes brought by LED lighting technology over the past few years — the ability to offer your customers a product that provides better lighting along with dramatic reductions in energy and maintenance costs over a longer product lifetime with far better control than they ever had available before — also bring with them a fiendish set of puzzles for distributors to solve in terms of inventory. For a typical full-line electrical distributor, lamps account for about 5%-6% of annual sales and fixtures another 17%, according to our latest research. That doesn’t break out the growing segment — likely to become prevalent over the medium to longer term — where LED light sources are included with the fixture. In general terms, distributors tell us they’re trying to keep shelf stock smaller and under tighter control and concentrating on turning stock faster. [http://ewweb.com/lighting/lighting-s-inventory-puzzles](http://ewweb.com/lighting/lighting-s-inventory-puzzles)

14. **UBI Sees the OLED Lighting Market Grow from $114 Million to $1.6 Billion by 2020, Led by LG Display** - UBI Research says that the OLED lighting market will grow rapidly in the near future (a CAGR of 66% in 2017-2025). LG Display will lead the market with a market share of 53% (in terms of revenue). UBI estimates the OLED lighting market in 2016 at $114 million, and LGD's current market share is 15% (or $17 million in sales). General indoor downright and automotive lighting are expected to be the largest two segments in the OLED lighting market. Other areas in which OLED lighting will expand into include outdoor, medical, and exhibition use. By 2025, automotive OLED lighting will reach $2.7 billion in sales, while indoor lighting will reach $3.4 billion. [http://www.oled-info.com/tags/market_reports](http://www.oled-info.com/tags/market_reports)

15. **LIFX Expands Smart Home Lighting Possibilities with “If This Then That” Deal** - LED bulb pioneer LIFX continues to widen the possibilities for residential smart lighting enthusiasts, as it now allows LIFX app users to program their lights to respond to an abundance of physical world and cyber events such as rain, snow, sports scores, or Twitter alerts by using the popular IFTTT — “if this then that” — tool from service company IFTTT. As a development partner, LIFX is adding support for IFTTT to the LIFX app. IFTTT has 331 partners, now including LIFX as well as Twitter, sports network ESPN, Facebook, smart lock company August, and many others. Using IFTTT “recipes,” IFTTT users can trigger their own cause-and-effect actions involving the different constituents. [http://www.ledsmagazine.com](http://www.ledsmagazine.com)

16. **Global Energy Market Observer:**

16. **China’s Ministry of Commerce Approves Foxconn Takeover of Sharp** - Major iPhone assembler Hon Hai Precision Industry, or also known as Foxconn Technology Group announced the Chinese government finally gave it the green light to approve Japanese conglomerate Sharp for US $3.5 billion, reported Nikkei Asian Review. Under the deal Foxconn and Sharp signed in early April, Foxconn and its affiliates will acquire a 66% stake in the Japanese company for $3.5 billion. Foxconn and Sharp agreed that the deadline for the payment to conclude the acquisition will be on Oct. 5, 2016. [http://www.ledinside.com](http://www.ledinside.com)

17. **Analysis of Product, Channel and Entering Strategies in the India Lighting Market** - India’s lighting sector has enjoyed accelerated development recently. The scale of the country’s LED lighting market in particular is projected to expand 47.1% year on year in 2016 to $1.14 billion, according to the 2016 Indian Lighting Market Report by LEDinside, a division of Trend-Force. The government of India intends to turn itself into hub of lighting products across East Asia and countries along the coast. International firms include Osram and Toshiba have taken India as their manufacturing base of global market. It’s expected that the market will see explosive growth over the next two to three years. By 2020, the Indian LED lighting market is forecast to grow to $1.715 billion. [http://www.ledinside.com](http://www.ledinside.com)
18. **MLS / Forest Lighting & LEDVANCE Customer Interaction after Signing** - The attached letter, co-signed by MLS and the LEDVANCE division of Osram: “As announced last week, the Chinese consortium consisting of the Chinese lighting company MLS, the strategic investor IDG, and the financial investor Yiwu signed to acquire LEDVANCE. We expect the official Closing of this deal by latest beginning of next calendar year (subject to regulatory approval by the relevant authorities). While we are starting now a project to define the future joint “go-to-market” setup, please adhere to the following rules until further notice:

- The existing legal structure and reporting lines stay in place.
- The customer interaction does not change – each company and country distributor continue “business as usual”.
- We do not start any cross-selling activities yet.

In summary: Any interaction between the companies shall be treated like a normal supplier-customer relationship.”

http://forestlighting.com

19. **Lighting as a Service by Navigant Research** - LaaS defined as the third-party management of a lighting system that may include additional technical, maintenance, financial, or other services. Navigant Research predicts global LaaS revenue will grow from $35.2 million in 2016 to $1.6 billion in 2025. The lighting industry is in the midst of two concurrent upheavals. LED lighting is rapidly taking over from incumbent technologies, and lighting controls systems are greatly expanding the abilities of the technology that operates the lights. The lack of experience with new lighting and lighting controls products is one of the primary barriers to a more complete adoption of these beneficial technologies. In this atmosphere, the lighting industry is primed for yet another change—a shift in how all the solutions involved in a modern lighting system are provided to building end users. The stage is set for the rise of lighting as a service (LaaS). This Navigant Research report examines the global LaaS market for commercial buildings. https://www.navigantresearch.com/research/lighting-as-a-service

20. **Forest Lighting Parent Company Has Signed an Agreement to Acquire Sylvania Brand Name as Part of Ledvance Acquisition** - MLS, parent company of Atlanta-based Forest Lighting USA, has announced it is part of a consortium that plans to acquire Osram's Ledvance lighting business, which includes the Sylvania brand name for the general lighting market. MLS intends to maintain a dual brand strategy for its product lines.

21. **Opple Soars on Debut, Underscoring China's Growing Clout in Lighting Industry** - Shares in Opple, the lighting maker controlled by China billionaire couple Ma Xiuhui and Wang Yaohai, soared by their 44% upper limit on debut at the Shanghai Stock Exchange. Ma and Wang hold 41.9% and 40.5% of Opple after the company's IPO, worth a combined $1.6 billion, at 8/19 closing price. Opple – which means "European standard" in Chinese — issued 58 million new shares at $131.3 million. Opple’s sales rose by more than 8% to $680 million last year; the couple ranked No. 128 on the 2015 Forbes China Rich List with a fortune worth $1.7 billion. Opple's success underscores Asia's and China's growing shares of global lighting sales and manufacturing that were once dominated by Western consumers and manufacturers. http://www.forbes.com

22. **Smart Lighting System Rises at Toronto Skyscraper with IP Addressable LEDs and a Real Estate Push** - The EY Tower would presumably be one of the world's tallest Internet-controlled skyscrapers. And it's not even Power over Ethernet. The owners of a 42-floor skyscraper under construction in Toronto are outfitting it top-to-bottom with an Internet-based building automation network that tenants can tap into for intelligent lighting controls, provided they make their individual LED lights IP addressable. The development illustrates that yet another force — the real estate industry — is getting behind lighting's move into the world of the Internet. Like other smart lighting systems, it would presumably let building occupants turn lights on and off via computers and gadgets, which they could also use to brighten or dim. Some systems also provide the capability to change colors and light temperature, and some include sensors that help control other building functions such as heating and physical security, and that collect data on occupancy that facilities managers use to make more efficient use of space. http://www.ledsmagazine.com
23. **Luminaires Outshine Lamps in 2015 Global Lighting Market** - According to a new market report from IHS Markit, lamp market revenue grew 4.0% in 2015, which was lower than that sector’s 7.3% revenue growth in 2014. “As the lamp market continues to transition to LED, there are two effects combining to mute future revenue growth: an overall decline in lamp shipments (LED technologies have much longer lifespans than traditional technologies, fewer replacement lamps are required), and price erosion of LED lamps.” Luminaires revenue grew 4.8% in 2015, which was higher than the 3.9% growth noted in 2014. Unlike the lamp market, luminaire revenue growth is expected to continue over the forecast period. [http://optics.org/news/7/8/35](http://optics.org/news/7/8/35)

**National Energy Market Observer:**

24. **Apple Can Now Sell Power as Tech Giants Boost Energy Investments** - Apple Inc., which spent $850 million last year on a 130-megawatt solar farm near San Francisco, can begin selling power into wholesale markets, joining Google parent Alphabet Inc. in the energy-trading business. Apple’s subsidiary Apple Energy LLC may sell energy, capacity and other services needed to maintain reliable power, according to an order by the Federal Energy Regulatory Commission on Thursday. In granting approval, the commission determined the Mountain View, California-based company did not raise the risk of being able to unfairly hike up power prices. Apple, together with Google, are among a group of tech companies ramping up investments in energy projects. [http://www.bloomberg.com](http://www.bloomberg.com)

25. **Power over Ethernet (PoE) Market Heats Up** - With new standards allowing for higher power levels over cabling infrastructure, Power over Ethernet (PoE) is expected to see explosive growth in the years to come. By running power and data over a single cable, PoE eliminates the need for additional wiring, reducing cost and simplifying installation. It also makes it easy to deploy devices such as IP phones, security cameras, sensors, and sales kiosks in any building location. Recent and emerging technologies allow for PoE to support even more PoE-ready devices, including the latest high-speed wireless access points, large high-end displays, and computers. [http://www.nema.org/news/Lists/ElectroIndustryMagazine/Attachments/68/EI_Aug16.pdf](http://www.nema.org/news/Lists/ElectroIndustryMagazine/Attachments/68/EI_Aug16.pdf)

26. **NEMA Publishes NEMA LSD 23-2016** - Recommended Practice—Lamp Seasoning for Fluorescent Dimming Systems. This paper provides a recommended practice to season lamps for fluorescent dimming systems. It is an update to NEMA LSD 23-2010, developed by the NEMA Lighting Systems Division. Download at no cost at: [http://www.nema.org](http://www.nema.org)

27. **NEMA ANSI Accredited Standards Committee C78 Reaffirms ANSI C78.180-2003** - American National Standard for Electric Lamps—Specifications for Fluorescent Lamp Starters. This standard covers performance of glow switch starters used with preheat-type fluorescent and similar discharge lamps. It does not include starters that are an integral part of a lamp or manually operated switches that may be used for lamp starting. Downloads are available at: [www.NEMA.org](http://www.NEMA.org)

28. **NEMA ANSI Accredited Standards Committee C81 Revises ANSI C81.61-2016** - American National Standard for Electric Lamp Bases—Specifications for Bases (Caps) for Electric Lamps. This standard sets forth the specifications for bases (caps) used on electric lamps. This revision includes specifications for the G8 base. NEMA’s Lighting Systems Division, as secretariat of ANSI’s ASC C81 for Bases, Lampholders and Gauges, is looking for industry experts in the User, General Interest, and Producer categories to participate in standards development activities. Contact NEMA at nemalighting@nema.org if interested.
City & State Energy Market Observer:

29. **Yonkers and New York Power Authority Rolls out Large Scale LED Upgrade** - Through the Five Cities Energy Initiative, Yonkers will replace 20,200 interior lighting fixtures with LED energy efficient tubes in all city operated buildings. The interior LED light conversion project is replacing 32 watt, T8 fluorescent tubes to more efficient 12 watt LED T8 tubes. Buildings where its lights are being replaced include Yonkers City Hall, Robert Cacace Justice Center, 87 Nepperhan Government Building, Yonkers Riverfront Library, Grinton I. Will Library, Crestwood Library and the Hudson River Museum. The project is expected to be completed by the end of 2016. 8/10 AP

30. **Buffalo Sabres Upgrades to Eaton’s Advanced LED Lighting and Controls** - The First Niagara Center in Buffalo, NY, home of the National Hockey League’s (NHL®) Buffalo Sabres, are installing Eaton’s advanced Ephesus sports lighting LED and controls system. The Sabres will play their first pre-season game under the new lights on September 27, welcoming the Ottawa Senators, who were the first NHL team to install Ephesus LED sports lighting in 2014 at the Canadian Tire Centre arena. Hundreds of facilities have made the switch to Eaton’s LED sports lighting system including the University of Phoenix Stadium (Arizona Cardinals); U.S. Bank Stadium (Miami Dolphins); Bridgestone Arena (Nashville Predators); Globe Life Park (Texas Rangers) and many more. The LED system is the only one available with 100% dimming capabilities. 7/29 AP

31. **New York to Match California’s 50% Renewable Energy Standard** - The Clean Energy Standard will require 50 percent of New York’s electricity to come from renewable energy sources like wind and solar by 2030, with an aggressive phase in schedule over the next several years. In its initial phase, utilities and other energy suppliers will be required to procure and phase in new renewable power resources starting with 26.31 percent of the state’s total electricity load in 2017 and grow to 30.54 percent of the statewide total in 2021. [http://www.elp.com/articles/2016/07/new-york-to-match-california-s-renewable-energy-standard.html](http://www.elp.com/articles/2016/07/new-york-to-match-california-s-renewable-energy-standard.html)

32. **Silver Spring Expands IoT in Providence, Deploys 17,000 Smart Street Lights** - Silver Spring Networks is deploying its Starfish smart energy networking platform in Providence, Rhode Island, beginning with the installation of 17,000 smart street lights. The smart streetlight deployment is intended to help the city improve public safety and lower energy consumption, and the Starfish platform provides industrial-grade security to every connected device. Moving forward, city officials may consider ways to leverage the network with smart traffic controls, smart parking, smart water, gas and electricity management and environmental sensors. All of the street lighting endpoints in Providence will be installed by the end of September 2016. [http://www.smartgridnews.com](http://www.smartgridnews.com)

33. **New Plan to Bring Better and Safer Lighting to Downtown St. Louis** - There is a new $4 million plan to make Downtown St. Louis safer, and it is not supposed to cost taxpayers a dime. For a while it was just a lot of talk, until Chris Sanna was shot leaving a Cardinals game in a poorly lit part of downtown. Now, the St. Louis Cardinals are helping lead a private effort to replace the yellow sodium street lights downtown with white LED bulbs for safety, and color-changeable LED strips on the arms for flair, similar to the blue strips on the street light fixtures at St. Louis University. Right now the color-changeable LED strips are set to glow red for the Cardinals, but they can be set to blue for the Blues, green for St. Patrick’s Day and every color in between. They hope to have all the lights downtown converted by the end of 2017. [http://fox2now.com/2016/08/23/new-plan-comes-to-light-to-bring-better-lighting-for-downtown-streets/](http://fox2now.com/2016/08/23/new-plan-comes-to-light-to-bring-better-lighting-for-downtown-streets/)

34. **Los Angeles Memorial Coliseum Shines under LED Lighting System** - Three decades ago, as part of its preparations for hosting the Summer Olympics, Los Angeles Memorial Coliseum partnered with Musco—the Official Supplier of Lighting to the 1984 Olympic Games—for the installation of a new lighting system for opening ceremonies and track and field competition. Now, 32 years later, the Coliseum—home to the University of Southern California Trojans and the newly relocated Los Angeles Rams—will once again shine brighter under a state-of-the-art Musco lighting system. The Coliseum's new SportsCluster Green™ LED system is a complete solution for players and spectators while greatly improving the quality of HD broadcasts. [http://www.ledinside.com/](http://www.ledinside.com/)
Monthly Feature:
5 Charts That Illustrate the Remarkable LED Lighting Revolution by Joe Romm
http://thinkprogress.org/climate/2016/08/02/3803742/led-lighting-miracle/

The accelerated deployment of LED bulbs is on track to save U.S. consumers and businesses $20 billion a year in electricity costs within a decade. Let’s look at some key charts and facts that illustrate the LED lighting “miracle,” which is every bit as remarkable — and every bit as unheralded by the major media — as the solar miracle, the battery miracle, and the electric vehicle miracle.

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**LED Lighting**

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**Cumulative LED A-Type Installations**

- **LED A-Type Price**
- **Cumulative LED A-Type Installations**

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**Exhibit 19:** The rapid adoption of LEDs in lighting marks one of the fastest technology shifts in human history.

LEDs for general lighting were commercialized only recently, but will dominate sales by the end of this decade.

<table>
<thead>
<tr>
<th>Year</th>
<th>Market Share</th>
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<tr>
<td>2010</td>
<td>1% 12% Hybrid &amp; electric vehicles</td>
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<tr>
<td>2015</td>
<td>3% 20% Solar PV &amp; Wind</td>
</tr>
<tr>
<td>2020</td>
<td>7% 31% LEDs</td>
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<tr>
<td>2025E</td>
<td>51% 22% Solar PV &amp; Wind</td>
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Exhibit 53: ...and LEDs now account for over half of US lighting sales...
LEDs for residential lighting are seeing over 1000 basis points in market share gain per annum.

Source: DOE, Goldman Sachs Global Investment Research.

Exhibit 54: ...and are on track to cut power consumption for lighting (17% of total) by over 40%.
As LED lighting rapidly penetrates the installed base, US power demand for lighting begins to drop substantially.

Source: Goldman Sachs Global Investment Research.
Exhibit 20: Aggressive policy support in all major jurisdictions has been a key catalyst for growth...
Mandatory phase-outs of incandescent lighting in all major markets played a key role in boosting investment in LEDs

Source: Goldman Sachs Global Investment Research.