ENERGY OBSERVER
A MONTHLY NEWSLETTER FROM AMERLUX®

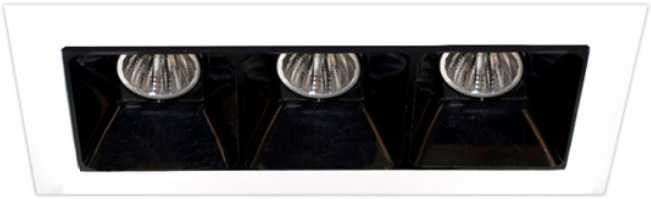
DEC 2021

MERRY CHRISTMAS EVERYBODY

CUBEBITS

Specifiers and designers looking to make a bold, look-at-me statement with design and performance now have the recessed linear downlights form they have been looking for.

The solution: **Cubebits** - The fixture's 1.5" wide profile is available in 3-cell, 6-cell, 9-cell and 12-cell units and is compatible with grid and flange ceilings for up to 1-1/2" ceiling thickness.



https://amerlux.com/Products/Interior/Downlights/Cubebits

National LED Energy Market Observer:

1. **U.S. Electrical Manufacturers Poised to Play Essential Role in an Historic Investment in 21st Century Infrastructures** - Bipartisan legislation passed by Congress today includes nearly $415 billion for modernizing America's infrastructure through electrification. According to NEMA's analysis, the bill directs $23.7 billion in direct funding to electrification-related energy projects. That total includes nearly $8.3 billion for grid investments; **$320 million for buildings and lighting**; $2.5 billion for transportation charging equipment; $735 million for industrial efficiency; and $800 million to expand U.S. manufacturing. National Electrical Manufacturers Association (NEMA)

2. **Construction Input Prices See Largest Monthly Increase Since June** - Construction input prices are 21.1% higher than in October 2020, while nonresidential construction input prices increased 22.3% over that span. Steel mill product prices have increased 141.6% since October 2020, while iron and steel prices are up 101.5%. Softwood lumber prices, which surged during the pandemic, are now down 19.5% from the same time last year. "Any notion that the bout of pandemic-induced inflation was simply transitory has gone by the wayside," said ABC Chief Economist Anirban Basu. Construction Input Prices See Largest Monthly Increase Since June – tEDmag

Producer Price Index, October 2021

	1-Month % Change	12-Month % Change
Inputs to Construction	1.5%	21.1%
Inputs to Nonresidential Construction	1.4%	22.3%
Plumbing Fixtures and Fittings	0.4%	3.3%
Fabricated Structural Metal Products	1.8%	38.8%
Iron and Steel	3.7%	101.5%
Steel Mill Products	4.8%	141.6%
Nonferrous Wire and Cable	1.0%	31.3%
Softwood Lumber	7.3%	-19.5%
Concrete Products	1.0%	6.4%
Prepared Asphalt, Tar Roofing & Siding Products	0.3%	17.7%
Crude Petroleum	16.6%	116.9%
Natural Gas	33.7%	231.3%
Unprocessed Energy Materials	23.3%	135.5%

Source: U.S. Bureau of Labor Statistics

3. **Port Industry Leader: Supply Chain Issues Could Worsen Under Biden Vaccine Mandate** - Pacific Maritime Association President James McKenna told Bloomberg Law he was concerned that some unvaccinated workers won't report for duty with a mandate in place. McKenna estimated that 30% to 40% of local dockworkers aren't vaccinated. The supply chain crisis has created a backlog of nearly 80,000 shipping containers at the Port of Savannah in Georgia, the third-largest container port in the United States, with around 20 ships anchored off the Atlantic coast, waiting to offload their cargo. A shortage of truck drivers to transport goods from warehouses to retailers has caused shipping containers to be backed up. Gov. Ron DeSantis, R-Fla., last month said Florida was ready to help with the nation's supply-chain logjam by welcoming ships that can't unload their cargoes in California. Gov. Greg Abbott, R-Texas, also offered his state's help in alleviating the supply-chain crisis. Port Industry Leader: Supply Chain Issues Could Worsen Under Biden Vaccine Mandate | Newsmax.com

4. **Biden Plan to Run LA Port 24/7 to Break Backlog Falls Short** - Port of Los Angeles Executive Director Gene Seroka said in an online briefing Tuesday that the sprawling complex has "24/7 capability," but a shortage of truck drivers and nighttime warehouse workers pose problems in establishing a nonstop schedule, along with getting importers to embrace expanded hours. As of Tuesday, there were 84 container ships waiting offshore to get into the Port of Los Angeles or its neighboring sister port in Long Beach, an improvement from some recent days when the number topped 100. In normal busy times, only a handful of ships have to wait to dock. Biden Plan to Run LA Port 24/7 to Break Backlog Falls Short – tEDmag

5. **U.S. Regular Gasoline Prices (dollars per gallon)** -
Gasoline and Diesel Fuel Update - U.S. Energy Information Administration (EIA)

Change from	10/11	10/18	10/25	week ago	year ago
U.S.	3.267	3.322	3.383	0.061	1.240
East Coast (PADD1)	3.182	3.243	3.338	0.095	1.244
New England (PADD1A)	3.198	3.311	3.380	0.069	1.286
Central Atlantic (PADD1B)	3.332	3.401	3.480	0.079	1.216
Lower Atlantic (PADD1C)	3.085	3.129	3.242	0.113	1.254
Midwest (PADD2)	3.143	3.202	3.217	0.015	1.206
Gulf Coast (PADD3)	2.935	2.984	3.062	0.078	1.230
Rocky Mountain (PADD4)	3.562	3.566	3.559	-0.007	1.322
West Coast (PADD5)	3.968	4.013	4.069	0.056	1.283
West Coast less California	3.625	3.637	3.701	0.064	1.223

6. **15 States Rally to Reinstate Light Bulb Bans** - The Attorneys General from 15 states and two major cities have collaborated in support of the U.S. Department of Energy's (DOE) proposal to strengthen energy efficiency requirements for certain light sources. DOE's proposal would reinstate expanded product definitions, originally defined in 2017, to include a wide range of light sources commonly used in homes and businesses, such as 3-way bulbs, cone-shaped reflector bulbs used in recessed and track lighting, candle-shaped bulbs used in chandeliers and sconces, and round globe-shaped bulbs often used in bathroom lighting fixtures. Specifically, the rules discontinued exemptions for reflector lamps; rough service lamps; shatter resistant lamps; 3-way incandescent lamps; vibration service lamps; T shape lamps of 40 watts (W) or less or length of 10 inches or more; B, BA, CA, F, G16-1/2, G25, G30, S, M-14 lamps of 40W or less; and incandescent reflector lamps. The definition also included high-lumen (2,601 and 3,300 lumens) incandescent lamps in the GSL and GSIL definitions. The states and cities that filed the joint statement are listed at: States Rally to Reinstate Light Bulb Bans (inside.lighting)

7. **Virtual Solid-State Lighting Workshop, January 31–February 3** - Join the U.S. Department of Energy and the Illuminating Engineering Society at the 19th annual Solid-State Lighting Workshop January 31–February 3, 2022. As always, this event will gather top lighting scientists and industry thought leaders to share progress, challenges, ideas, and solutions to shape the future of lighting. We value your input and participation and are designing an agenda filled with interactive, expert panel discussions and moderated topic table discussions, capped by the workshop's signature and robust poster session for researchers to share their work, discuss potential future collaborations, and network. **The 2022 workshop will be virtual and free to attend.**

8. **How do Smart Lights Work? by Simon Sage** - Light-emitting diodes are front and center for many of our digital experiences. Every modern phone and tablet you look at uses LEDs in its display. It's worth knowing how these work. In short, LEDs transfer electricity through a semiconductor. To dig into that, we need to define semiconductors. They are a class of materials (typically metals) with conductivity that falls somewhere between conductors, like copper, and insulators, like glass. The semiconductors used in LEDs can relax excited electrons moving from negatively-charged cathode to positively-charged anode by shedding photons and very little heat. Traditional incandescent bulbs waste a lot of power on heat emission, while LEDs only need about 10% electricity to generate the same amount of light. Wireless communication is what separates the smart home future wheat from the dumb ol' incandescent chaff. With light bulbs that can connect to the internet and your phone, you open up all sorts of possibilities. How Do Smart Lights Work? | Digital Trends

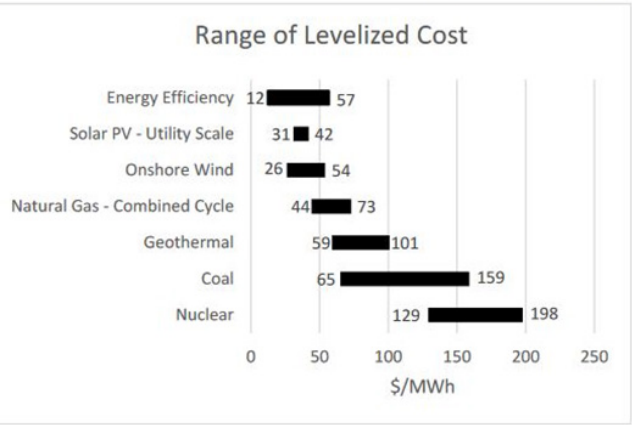
9. **DALI Alliance Technical Guides Explain DALI+ and Wireless Gateways** - The DALI Alliance recently published two new Technical Guides that detail DALI specifications for wireless and IP-based connectivity. One Technical Guide examines wireless lighting control with DALI gateways, while the other explores the DALI+ specification for providing DALI lighting control over wireless and IP-based networks. Downloads - Digital Illumination Interface Alliance (dali-alliance.org)

10. **NEMA Statement on Infrastructure Investment and Jobs Act** - "The comprehensive package signed into law today represents a significant milestone in the transformation of U.S. infrastructure systems toward accessible, electrified transportation systems, modernized buildings and lighting, a more resilient grid, and increased efficiency of expanded manufacturing. NEMA members are integral to realizing this vision in ways that will enhance the quality of life for all Americans, grow our economy, protect the environment and serve the nation's long-term interests." "While this legislation provides an unprecedented opportunity to bolster our nation's infrastructure, its promise will only be realized if our manufacturing, supply chain and regulatory systems are able to meet the coming demand. Our industry looks forward to working with lawmakers on policies and programs that will fortify our nation's manufacturing base, strengthen supply chain systems and streamline regulatory programs to support the creation of an electrified, connected, and sustainable future." **NEMA President and CEO Debra Phillips** NEMA

11. **LEDs Rack Up Leading Lighting Presence on Cannabis Farms** - LEDS are rapidly becoming the light source of choice for cannabis growers in North America, as a recent survey revealed that more than 60% of respondents now use the technology across all stages of growth including propagation, vegetation, and flowering. The 60% marks a hefty leap over the "no more than 21%" who reported using solid-state lighting (SSL) for all stages five years ago The report is titled State of the Cannabis Lighting Market 2021 - Fluence By OSRAM Fluence is ams Osram's Austin, TX-based horticultural lighting subsidiary. Its authors pointed out that "one potential explanation behind what is driving this surge in LED fixture adoption is the ability to customize light output (in certain models). Both university researchers and experimentally minded cultivators have been investigating the impacts of various spectra and intensities on cannabis production." LEDs rack up leading lighting presence on cannabis farms | LEDs Magazine

12. **WHITE PAPER: National Governors Association Publishes Whitepaper on Energy Efficiency** - A new white paper from the National Governors Association outlines measures states have taken to increase energy efficiency, and steps for governors and states to consider as they continue to examine policy innovations and best practices. Energy efficiency is becoming even more important not only as instrumental to least-cost resource planning for power generation (as shown in the graphic), but also as a decarbonization strategy as governments get more serious about addressing climate change. Energy efficiency measures and their resulting emissions reductions are vital to meeting ambitious state and federal decarbonization goals. Sixteen Governors plus D.C. have ordered or signed into law 100 percent clean energy or zero-carbon electricity generation goals. Energy-Efficiency-Toolkit.pdf (nga.org)

Figure 1 – 2020 Levelized Cost of Generating Electricity[14,]



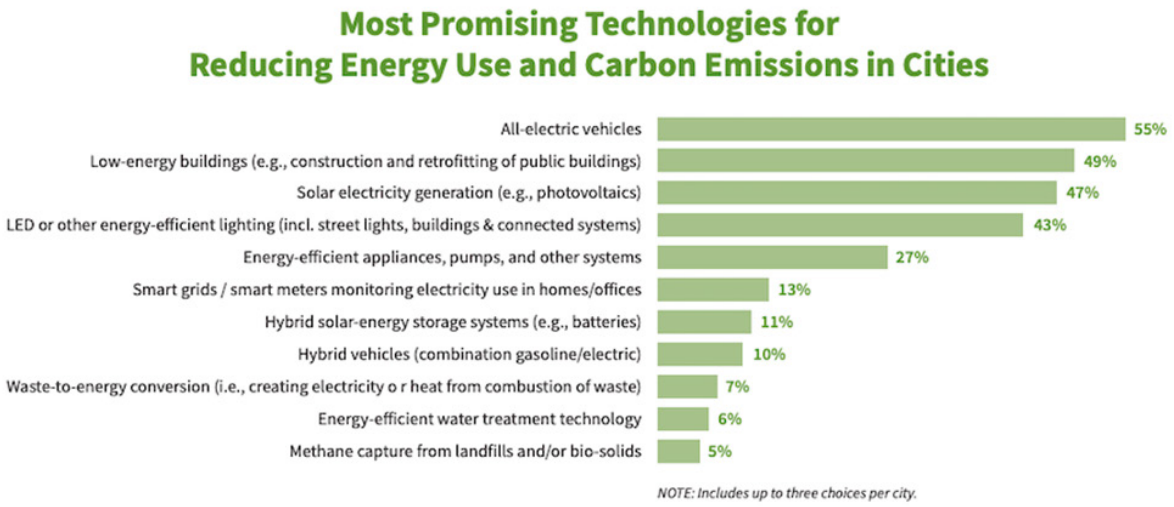
13. **WHITE PAPER: 5 Top Trends That Will Drive Distribution Technology Investments in 2022** - Among the pandemic-era trends that have impacted distributors, a deeper focus on robust technology investments may be the longest lasting. Read the results and analysis of the technology portion of the 2022 MDM Trends Survey, where you'll find how distributors expect to make technology investments and ways companies can plan now to get ahead of the next wave of innovation. Whitepaper: Tech Trends Survey - Modern Distribution Management (mdm.com)

14. **RESEARCH: Adaptive Lighting in Outdoor Security Applications by CLTC Researchers** - Today, adaptive lighting, which is lighting controlled by occupancy sensors or schedules that adjust light levels based on actual site conditions, is considered best practice for numerous outdoor applications. Adaptive lighting has been adopted as part of some commercial energy standards and the strategy is now included in many outdoor lighting specifications and design guides. Outdoor areas with heightened security requirements, however, are often excluded from adaptive lighting control requirements and these areas remain lit with high, uniform levels of static illumination. Common practice follows the principle that more light equals more safety and security at night. For many of these areas, however, few people have site access and few visitors, if any, are ever present in the space, making them prime spots for use of occupancy-controlled lighting. Adaptive Lighting in Outdoor Security Applications | California Lighting Technology Center (ucdavis.edu)

15. **DLC Webinar to Discuss Poor Quality Light at Night in Marginalized Communities** - The DesignLights Consortium (DLC) recently announced it will host a free webinar on December 9 from 1 p.m. to 2 p.m., which will dive into issues related to poor nighttime lighting in underserved, marginalized communities, with an expert panel offering insights about these impacts and how to balance safety with responsible lighting while bridging the inequality gap. Registration information: Meeting Registration - Zoom

16. **LED Luminaires Help End-Users Meet Federal and State Energy Mandates** - Federal and state energy reduction mandates and building codes are helping drive the adoption of LED luminaires. But, as is so often the case with the government, there are numerous acts passed by Congress with very detailed language. So, I thought I'd explore the federal mandates, a few of the state mandates, and how they may affect those involved with LED luminaires – manufacturers, lighting designers and specifiers. Because building lighting is commonly considered one of the easiest energy uses in which to find energy savings, it is often targeted in building energy codes and standards when energy reductions are sought. Therefore, it is important for lighting energy code developers and the lighting design community to coordinate efforts to ensure that lighting energy codes continue to be energy effective without inhibiting quality lighting design and implementation. LED Journal – The Magazine of Solid-State Lighting

17. **LED Lighting, Low-Energy Buildings, Solar Dominate Energy Agendas** - Cities are using energy technologies and infrastructure upgrades to advance local energy and climate goals, helping the U.S. make further progress in addressing its growing energy and climate challenges, according to a new report from the United States Conference of Mayors (USCM). 21.69.USCM.Energy.Survey.MEC-4.pdf (usmayors.org)



18. **Lighting Retrofit Offers Energy Savings to High School** - Enumclaw High School, based in Enumclaw, Wash., started thinking about luminaire level lighting controls (LLLCs) as a retrofit option before they even began renovation plans. LLLCs are a type of networked lighting controls (NLCs) system with factory-integrated sensors in each luminaire. The sensors provide occupancy and daylight sensing and wireless, two-way digital communication with other luminaires in the space, and can connect via gateway and the internet to unite spaces. The sensors have multiple capabilities including dimming, daylight harvesting, glare control, and color tuning, offering flexibility. Since LLLC luminaires can provide light levels only as it is needed, it saves significant amounts of energy. They talked to the staff of Washington-based Pacific Lamp and Supply Co., the vendor who first introduced them to LLLC technology. Lighting Retrofit Offers Energy Savings to High School | EC&M (ecmweb.com)

Global LED Energy Market Observer:

19. **And Now, The First Road-Legal H4-LED Headlight Bulb for Retrofitting Halogen** - Lumileds today advances automotive lighting and improves road safety with the launch of the first road-legal H4-LED in Germany, from its Philips Ultinon Pro6000 LED retrofit range. This is a range extension to the H7-LED that was approved in Germany in May 2021. The new Philips Ultinon Pro6000 H4-LED bulb delivers up to 230% brighter light[1], and its plug-and play-design allows DIY'ers and mechanics to install it on their own. Drivers can now convert their halogen headlamps to the brighter, approved light of Philips Ultinon Pro6000 H4-LED on a wide range of car models. Thanks to its brand-new, one-piece design, this bulb fits easily into existing headlamp units. Integrated electronics ensure a compact footprint, making installation easy for DIYers or mechanics even where space is tight – just plug and play. To find out more, please visit: www.philips.de/LED-Strassenzulassung

20. **Signify Sales Dip Among Unprecedented Supply Chain Disruption** - Blindsided by supply chain difficulties that CEO Eric Rondolat described as the worst he's ever seen, Signify's third-quarter sales took a hit, although the company protected profits with price increases and cost cutting. The revenue decline was particularly noticeable in connected lighting, as port closures and COVID-related factory disruptions among suppliers prevented the company from obtaining various components it needed to carry out Internet of Things (IoT) installations in the commercial market. The port closures and supplier stoppages that crimped third-quarter sales took Signify by surprise. Signify sales dip among unprecedented supply chain disruption | LEDs Magazine

21. **Did Someone Say 'Supply Chain Woes'? ams Osram Joins the Chorus** - Sales were up in the third quarter, but clogged and delayed logistics dampen the outlook. Echoing a refrain currently heard across many industries, ams Osram today said that supply chain problems are clouding its financial outlook, as it reported year-to-year revenue growth of 6% and flat profits for the third quarter. sounding a theme that lighting companies Signify and Fagerhult both emphasized in their own recent quarterlies, Everke and chief financial officer Ingo Bank cautioned against the well-known sluggishness in supply chains afflicting the global economy. Ams Osram seems to be feeling double-sided effects, both as a supplier and receiver of goods. The malfunctioning supply chain appears to be affecting various product areas, including not just existing lines but future ones as well. The end is not immediately in sight. Did someone say 'supply chain woes'? ams Osram joins the chorus | LEDs Magazine

22. **ams OSRAM Unveils World's First Batwing Optic LED Family for Horticulture Applications** - When it comes to horticulture lighting growers often face light uniformity issues with the Pitch-to-Distance ratio. Growers currently try to close the lighting gaps with a higher number of luminaires or accept that some plants receive more light than others. This is not a satisfying solution because the main aim for the grower is to get the highest possible yield at the lowest possible cost. To address this issue, ams OSRAM combined its established and industry leading Oslon Square LED for horticulture lighting with a new innovative primary optic. The new batwing optics enables a special radiation pattern of light that looks like wings. The wide beam angle of 140° and the rectangular shape of light distribution enables higher uniformity and an optimum utilization of space in greenhouses. https://www.ledinside.com/node/32383

23. **Non-compliant Lighting Products are Just One Click Away** - LightingEurope has published the results of mystery shopping exercises that checked whether lighting products that online platforms propose to consumers comply with laws on mandatory information requirements. "The results are alarming. Only 8% of the first 20 products that the online platform algorithm proposed to our shoppers complied with the mandatory information requirements set out in EU law. Customers are being offered products that do not have a CE mark, that do not have an energy label or have the wrong label, or that do not pay towards the collection and recycling of the product at end of life," stated Ourania Georgoutsakou, Secretary General of LightingEurope. LightingEurope_-_Online_Mystery_Shopping_Results_-_20211103.pdf

24. **Fagerhult Sales and Profits Up, But Backed-Up Supply Chain Limits Revenue Growth** - The Swedish lighting group will continue raising prices to help offset logistical costs. Sale and profits both swung up for Swedish lighting group Fagerhult in the third quarter as the pandemic slowdown eased in many ways except for one in particular: A clogged and sputtering supply chain limited revenue growth to about half of what it could have been. Fagerhult experienced an anomaly in its order books, reporting a "record order backlog," some of which is attributable to orders that would have converted into sales had it not been for backed-up shipping ports, component unavailability, and the like. Fagerhult sales and profits up, but backed-up supply chain limits revenue growth | LEDs Magazine

25. **Siemens Acquires Wattsense to Boost IoT Systems** - Siemens Smart Infrastructure has completed the acquisition of French startup Wattsense, a hardware and software company which offers an innovative, plug-and-play IoT management system for small and mid-size buildings, expanding Siemens' building products portfolio. Wattsense was started in 2017 and is headquartered in Dardilly, near Lyon, France. Wattsense optimizes the technical management of small and mid-size buildings with a leading IoT solution that combines simplicity and interoperability. It enables the adoption of energy management practices in facilities with little or no building management system technology, meeting the needs of building professionals seeking efficiency and sustainability. http://lightingcontrolsassociation.org/

26. **Seoul Semiconductor's SunLike Natural Spectrum LEDs Selected by LEDVANCE** - Seoul Semiconductor Co., Ltd. announced that SunLike natural spectrum LED to produce light that closely matches the spectrum of natural sunlight has been applied to the 19 models of the premium product line Sun@Home of LEDVANCE, a global lighting brand in Europe. Sun@Home is a premium lighting product line for homes and offices. With the SunLike natural spectrum LED technology, it has an optimal smart solution for remotely and automatically adjusting the color temperature and dimming representing the light from noon to evening. Lighting equipment products utilizing SunLike are listed on Seoul Semiconductor's website (www.seoulsemicon.com/en). https://www.ledinside.com/node/32394

27. **Signify Prints 9000 Lights for Bogota Airport** - Signify is manufacturing products — such as the nearly 9000 downlights now in operation at Bogota's El Dorado International Airport — using 3-D printing. To be clear, the industrial scale 3-D printers at Signify's factory in Turnhout, Belgium are not producing optics and electronics. Rather, they are making luminaire housings. And in that respect Signify estimates that the process slashes the carbon footprint by 75%. Not only does the 3-D process cut down on the use of screws and other parts, but the polycarbonate is "100% recyclable." Signify prints 9000 lights for Bogota airport | LEDs Magazine

Monthly Feature:

Horticulture Lighting and Rebates by BriteSwitch -

Horticulture lighting is a growing segment with huge savings potential. According to the DOE, if all horticulture lighting installations switched to LED, they could reduce the sector's annual energy consumption by 40%. That could result in a savings of roughly $240 million. This opportunity makes it the perfect segment for commercial rebate programs to target with energy efficiency incentives. **The number of utilities offering rebates for horticulture lighting has tripled since 2020**. With over 150 programs in North America, there's a good chance your next project may qualify for an incentive.

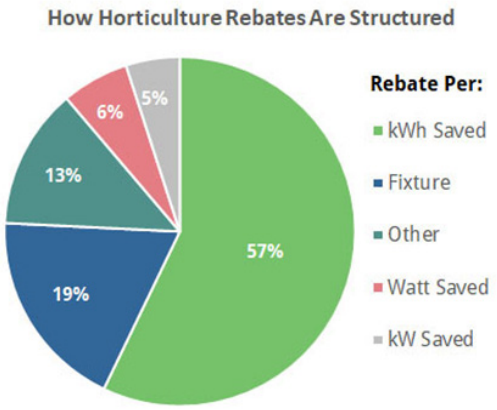
It seems almost comical that humans have spent hundreds of years trying to find a replacement for a seemingly endless resource...the sun. It's available nearly everywhere and is completely free. But humankind is not often happy with the "status quo"; they want things bigger, faster, better. They want to grow plants in places that aren't typically hospitable to them. So they turned to electric lighting to grow plants indoors or to supplement the available sunlight. The problem had always been that artificial light was expensive; the average energy cost made it unprofitable to use plant lights or horticulture lights in many applications. However, the technology has evolved over the years, and today, horticulture lighting can be found in many different applications: greenhouses, vertical farms, tobacco production, flowers, cannabis, even for growing components to make plant-based vaccines. It's a vast market that is growing rapidly due to technological and societal changes. Horticulture lighting can be used alone or can supplement natural light for increased growing opportunities.

LED Advancements Create New Opportunities - Like they did with traditional lighting, LEDs came along and revolutionized grow lights. With 20 - 40% less energy usage than conventional HID grow lights, they provided a huge opportunity to cut operating costs for growers. The reduced wattage also meant less waste heat, which was hugely beneficial to indoor growing operations. Not only were these LED horticulture lights cheaper to run, but they also provided an opportunity to increase the production and quality of the product. When growing plants indoors, the color of the light is important. The sun offers full-spectrum lighting (all wavelengths). As humans, we perceive these different wavelengths as colors (400 nm wavelength looks violet to us, 700 nm looks red). Plants, on the other hand, interpret the wavelengths in a completely different way. The wavelengths can stimulate different processes in the plant. For example, red light triggers germination and stem growth, while blue can promote root development and transition to flowering. By fine-tuning which wavelengths hit the plant, its development and production can be optimized. The AgroBloom targets the flowering spectrum, while the AgroV focuses on the vegetative spectrum.

DLC Horticulture List Helps Weed Out Underperforming Fixtures - In October 2019, the Design Lights Consortium (DLC) created a new standard and qualified product list (QPL), specifically for horticulture lighting. Over the years, the DLC has been the defacto standard that utilities use to ensure customers install high-quality lighting when applying for incentives. The DLC worked closely with manufacturers on the technical specifications for this list, taking into account the unique aspects of this type of lighting. The DLC Horticulture QPL has over 500 approved fixtures.

Since its debut, the DLC Horticulture list has grown rapidly. In September 2020, there were only 125 products on the list. Just a little over a year later, there are now more than 500 eligible fixtures.

Having a new category specifically for horticulture lighting gave rebate programs more confidence to provide incentives for these types of lighting. As a result, the number of rebates has increased substantially since the list's inception.



Rebates and Horticulture Lighting - LED horticultural lighting has a huge potential for energy savings. According to the DOE report, if all horticulture lighting installations switched to LED, they could reduce the sector's annual energy consumption by 40%. That could result in a savings of roughly $240 million. This opportunity makes it the perfect segment for commercial rebate programs to target with energy efficiency incentives. Horticulture rebates were off to a relatively slow start, but with the introduction of the DLC Horticulture QPL and the evolution of the technology, they have grown. In fact, the number of utilities offering rebates for LED horticulture lighting has nearly tripled since 2020. Source: BriteSwitch RebatePro Nov 2021

Different horticulture rebate approaches about two-thirds of the rebates for horticulture lighting are custom rebates or based on energy savings. That's a big difference from traditional LED fixtures, where most rebates are prescriptive, or a set dollar amount per fixture. As real-world data comes in and utilities fully understand the new technology, programs are expected to transition to easier-to-understand prescriptive incentives.

Horticulture Rebate Amounts - How much of a rebate a horticulture lighting project will see varies a lot based on the geography. The average custom rebate is about $0.13 per kWh saved, but it's quite a large range: from $0.02 to $0.40. For prescriptive rebates, the average incentive is $130 per fixture, though that can range from $10 to $325 depending on the specific fixture type and area.

New Construction Projects Can Qualify As Well - A very substantial amount of horticulture lights are also being installed in new construction projects. They present a challenge for the rebate programs because, unlike retrofit projects, they don't have a baseline energy usage for savings calculations. Most new construction rebate programs for general illumination are based on energy savings compared to the local electrical code's lighting power density (LPD). For horticulture lighting, this really doesn't apply. These lights aren't being used for general illumination, so the typical watts per square foot analysis is essentially meaningless. Because of this, each program may calculate the rebate a little differently.

How to Get Rebates for Horticulture Lighting - With over 150 horticulture lighting rebate programs available in North America, there's a good chance most projects would qualify for an incentive. Here are some tips to make sure you can get rebates for your horticulture lighting project.

1) Use DLC Horticulture Listed Products
2) Make Sure to Get Rebate Pre-approval
3) Check Program Funding Levels
4) Verify The Specific Application is Allowed

BriteSwitch can help you find and capture the rebates -
Outsourcing Rebate Processing Click here to learn more rebate processing
RebatePro To Find Horticulture Rebates Click here to learn more about RebatePro