ENERGY OBSERVER

A MONTHLY NEWSLETTER FROM AMERLUX®

APR 2022

Amerlux ActiveCLEAN's high-intensity, antimicrobial wavelengths of 405 nanometers protect your business with the most beautiful, comfortable, non-glare illumination. Utilizing VyV's signature UV-free antimicrobial technology, our spec-grade (Linea or Gruv) family of luminaries provides continuous surface cleaning by creating spaces that are inhospitable for bacteria, fungi, yeast, mold, mildew and viruses to live, on any surface—and in any application—the light touches.
Amerlux - Antimicrobial Commercial Lighting | UV Commerical Lighting

For standard Linea products click these links: Linea 1.5", Linea 2.5"
For "How To Use" information and "Application Guide" click here

For standard GRUV products click these links: GRUV 1.5, GRUV 2.5, GRUV 4, GRUV-FR
For "How To Use" information and "Application Guide" click here

National LED Energy Market Observer:

1. **Registration for LightFair 2022 Now Open** - Reconnect in person and discover what's new in architectural and commercial lighting at LightFair 2022. Featuring the latest products from leading exhibitors, a robust conference program and unparalleled networking opportunities, this is one event no lighting professional will want to miss.
Registration for LightFair 2022 Now Open – lightED (lightedmag.com)
DATE: June 19 – 23, 2022
LOCATION: Las Vegas, NV
DEADLINE: Early-bird pricing ends April 15

2. **NAED's National Meeting Opens for Registration** - Early Bird Cutoff is April 22. For the first time in three years, NAED will be hosting an in-person **National Meeting on May 17-20 at the Westin Kierland Resort & Spa in Scottsdale, Arizona**. At this year's NAED National Meeting, the association will focus on the "Connected Industry of the Future" with a panel discussion on what distributors are going to need to keep up with customer demands and digital opportunities in the not-too-distant future. Another panel will focus on what the next generation of leadership believes will be necessary to stay on top of digitization and technology needs. And also for the first time in three years, NAED will hand out its Annual Awards. NAED - 2022 National Meeting

3. **NEMA New Lighting Standards Assist with Reporting Energy Data** - ANSI C137.5 American National Standard for Lighting Systems—Energy Reporting Requirements for Lighting Devices specifies the minimum performance requirements necessary for lighting devices that report energy data. These requirements include the specific energy data types that need to be reported, the nominal and statistical accuracy performance for all reported data types, and references to other standards that define the information model for all data types. ANSI C137.5-2021 is available on the NEMA website for $90...

4. **NEMA New Lighting Standards Assist with Tagging Meta Data** - ANSI C137.6 American National Standard for Lighting Systems—Data Tagging Vocabulary (Semantic Model Elements) for Interoperability contains a controlled vocabulary of terms for lighting systems. These terms enable the development of semantic model elements, like tags, that facilitate the exchange of data and metadata used in lighting controls and analytics. The terms contained in this standard are for use by available semantic models such as, but not limited to, the future ASHRAE 223P standard, Project Haystack and Brick. ANSI C137.6-2021 is available on the NEMA website for $90.....

5. **NEMA Debuts Its 2022 Electrical Standards and Products Guide** - The National Electrical Manufacturers Association (NEMA) recently published the 2022 Electrical Standards & Products Guide (ESPG), which is the electroindustry's go-to resource for 1,000 standards and technical documents, product categories, and the manufacturers of those products. This year's edition features 20 new documents published in 2021. From batteries, enclosures, and switchgear to lighting, motors, and medical imaging, the NEMA technical library covers millions of member products. These standards play a key part in the design, production, and distribution of products destined for national and international commerce. ESPG provides sales contact information, by product type, for hundreds of NEMA-member electrical manufacturers. Electrical Standards & Products Guide (ESPG) (nema.org)

6. **2022 Rebate Outlook by Craig DiLouie** - The commercial market lighting rebate outlook for 2022 is even stronger than 2021, with relatively stable, substantial rebates promoting adoption of energy-efficient lighting and controls. Utilities and energy efficiency organizations offer rebates as an investment in reducing electric demand, thereby avoiding the cost of building new power plants. These rebates are primarily targeted to existing buildings. While custom rebates are available, the majority are prescriptive, offering a cash award per installed qualifying product. In the majority of programs, the cash is given to the owner. Some "midstream" programs, however, realize the financial benefit at the point of sale, typically involving rebates for very common lamps and luminaires. Horticultural lighting rebates are growing and transitioning from custom to prescriptive. Lighting control rebates continue to be stable and substantial. And networked lighting control rebates continue to expand. 2022 Rebate Outlook (lightingcontrolsassociation.org)

7. **Where Will Li-Fi Take Hold? Only in the Skies, Under Water, and on Land by Mark Halper** - Even on solar panels. But it will all be laser, not LED, says KSLD. As LEDs Magazine has been reporting, the ability of laser chips to operate at much higher speeds than LEDs could be the leap that Li-Fi technology needs to finally push it into commonplace use. To that end, at the 2022 CES consumer electronics show in Las Vegas, KSLD demonstrated a rudimentary laser Li-Fi setup operating at 100 Gbps, which is 100 times faster than any LED Li-Fi demo, and probably around 600 to 700 times faster than the fastest commercially deployed LED Li-Fi. LED system speeds in real-world deployments can often be not much faster than Wi-Fi. Where will Li-Fi take hold? Only in the skies, under water, and on land | LEDs Magazine

8. **LEDs Magazine Introduces the 2022 BrightStar Awards** - The BrightStar Awards will honor the Sapphire legacy of recognizing product developments that have advanced LED-centric SSL components, systems, and applications into the mainstream and that have promoted performance and capabilities beyond traditional light sources. Submissions, which must be commercially available, will be evaluated against several criteria, including energy efficiency; improvements to performance or features over previously available products (such as color rendering, luminous efficacy, and spectral power distribution); and their role in advancing emerging applications or existing applications. Entry categories will range from LED light sources to enabling technologies and finished SSL products across indoor, outdoor, specialty, and other applications beyond general-purpose illumination. Visit our BrightStar Awards portal for full submission details and to begin an entry. LEDs Magazine introduces the 2022 BrightStar Awards | LEDs Magazine

9. **Seven Trends Shaping the Lighting & Control Industry Today by Devis Mulunda of Lutron** - Lighting was in the midst of a substantial transformation long before March 2020. Smart lighting control systems introduced us to the opportunity for more dynamic, responsive environments, and wireless solutions began making design, installation, and management easier, faster, and more future-proof. Although intensified and accelerated by the pandemic, these changes will continue to shape the industry for years to come. We can step back and consider two common themes that continue to surface — demand for flexibility and a desire for enhanced user experiences through light. In response, electrical contractors and engineers can add value for their customers by delivering effective, quick solutions through smart design and responsive, scalable technology. Following are seven trends in the lighting and controls arena that electrical professionals should continue to watch for the rest of this year and beyond. Seven Trends Shaping the Lighting & Control Industry Today | EC&M (ecmweb.com)

10. **LEDucation's Very Successful Day 1 by Randy Reid** - The first in-person day of LEDucation can only be classified as a huge success. We received the numbers late Tuesday evening:

- 5365 Total Registered
- 2400+ Attended in person on Tuesday
- 3563 Attendees for Monday's virtual conference combined with Tuesday's in person conference

The numbers are good but they don't capture the passion seen at the show. The attendees and exhibitors are happy, almost gleeful, as the industry begins to roar back. Lighting designers tell me they have never been busier and that demand seems to be working its way through our many channels as the OEMs say they see a very strong 2022. EdisonReport visited a few booths yesterday for LightPitch™ and here are those stories: https://edisonreport.com/lightpitch-at-leducation-2/

11. **Time to Register for LEDucation 2023** – Don't miss LEDucation next year.....2022 was a blast. Great to see everyone face-to-face. Nearly 400 exhibitors and over 4000 people attended LEDucation 2022, which is slightly less than in 2019. Exhibitor registration is now open for 2023 which will be held 7-8 March at the New York Hilton Midtown. Sign ups for exhibitor space for 2023 is strong. Sign up to exhibit: LEDucation 2023 Booth - Login - CONEXSYS Registration (myconexsys.com)

12. **Current Extends Horticulture Range with New, High-Intensity Arize® Element Top Lighting** - The latest L1000 model offers an increased maximum output of up to 2600µmol/s, adding a new option to the existing L1000 portfolio, which already features efficacy-oriented models that offer up to 3.6µmol/J. With the all-new, 3600µmol/s Arize Element L2000, Current is giving growers a wider variety of options than ever before when designing a lighting plan that's optimized for their greenhouse operations. Following the same design as the Arize Element L1000 Next-Gen, the new L1000 model features an ultra-slim form factor, a choice of eight tailored light spectra and Current's proprietary XW Optic to ensure uniform light dispersion across a wider area. This version is designed as a 1:1 replacement for HPS fixtures, helping to boost productivity and reduce energy costs. The L2000 consumes 1000W, and its next-gen XW optic spreads light even wider than the L1000, further reducing fixture count and increasing yields in HPS retrofit applications. For more information on the full Arize Element portfolio, visit https://www.gecurrent.com

14. **Glow up Your Grow with Cree LED's New Horticulture Reference Design** - This reference design is to showcase the J Series® 2835 G class white LED working together with the XLamp® XP-G3 S Line Photo Red LED in an updated 12 inch vertical farming fixture. The 2835 G class of LEDs are valued for their high efficacy and uniform appearance. The XP-G3 S Line Photo Red LED is optimized for enhanced-spectrum horticulture applications. Cree LED LEDs for Horticulture Applications (cree-led.com)

15. **Get Recognized Through the Integrated Lighting Campaign** - The Better Buildings' Integrated Lighting Campaign (ILC) is looking to recognize innovative lighting projects that contributed to energy savings or occupant comfort. The ILC is a national effort to accelerate the deployment of advanced lighting systems and integration with other systems. Your project has the potential to empower others to launch similar projects with greater confidence of success. We made the recognition submission process easy. First, familiarize yourself with this year's recognition categories. Then, complete our short application form (**March 30th deadline has been extended to April 15th!**). Your submission will be evaluated by an expert team of lighting engineers and researchers at Pacific Northwest National Laboratory (PNNL).

16. **How Lighting Helps to Prepare for the Future Integration of IoT Sensors by Martin Mercier, P.Eng.** - Lighting accounts for an average of 35% of the total energy in a building and upgrading to LED can provide more than 50% in energy savings. If you add a control system, this can provide an additional 25% in savings, bringing significant value to your bottom line. Typical lighting controls systems allow you to control a building's lighting – from adjusting light levels to providing a more comfortable and productive environment to turning the lights off and on based on occupancy. Advanced lighting control systems go beyond just controlling the lights by allowing the gathering of data, bringing 10 to 100 times more value to the end-user. In the context of lighting, we are talking about the data collected around the areas surrounding the luminaires, which is communicated to a local or remote server, then analyzed, and shared with other systems, providing useful insights for the customer. How Lighting Helps to Prepare for the Future Integration of IoT Sensors | EC&M (ecmweb.com)

17. **RESEARCH: Smart LED Bulbs Global Market Report 2022** - The global smart led bulbs market is expected grow from $8.89 billion in 2021 to $11.08 billion in 2022 at a compound annual growth rate (CAGR) of 24.6%. The growth is mainly due to the companies resuming their operations and adapting to the new normal while recovering from the COVID-19 impact, which had earlier led to restrictive containment measures involving social distancing, remote working, and the closure of commercial activities that resulted in operational challenges. The market is expected to reach $25.06 billion in 2026 at a CAGR of 22.6%. Smart bulb is an internet-enabled LED light bulb that allows the lighting to be personalized, programmed and regulated. https://www.reportlinker.com/p06247534/?utm_source=GNW

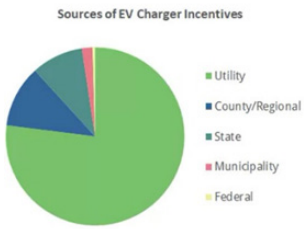
18. **TRAINING: Lightfair 126.5 CEUs Over 5 Days** - Choose from a wide spectrum of courses covering lighting fundamentals, energy efficiency, controls and more. The first two days of Pre-Conference offer 3-hour / all-day workshops and deep-dive sessions you won't find at many conferences.

- Five tracks: Technologies, Design Guidance + Tools, Evidence-Based Design, Experiencing Lighting, The Art of Lighting
- Hands-on workshops (June 19-20)
- 60-minute and 90-minute sessions

All conference sessions include 3-day expo access.
LightFair Program and Schedule | LightFair Commercial Lighting Tradeshow
Nearly 300 exhibitors so far: Search for All Exhibitors - LightFair 2022 (mapyourshow.com)

19. **TRAINING: Lighting Controls Association Offers Course on California Title 24, Part 6 (2019)** - The Lighting Controls Association (LCA) now offers EE203: Lighting Controls and Energy Codes, Part 4: California Title 24, Part 6 (2019) as a new learning module in its popular Education Express program. Title 24, Part 6 contains robust, detailed lighting and control requirements. Regarding lighting controls, it requires a broad range of strategies to ensure general lighting is turned Off or reduced when it is not needed. Because of the code's importance, the Lighting Controls Association produced this Education Express learning module, authored by Craig DiLouie, LC, CLCP, to describe its major features. In late 2022/early 2023, the LCA will revise the course for the new 2022 version. Education Express | (aboutlightingcontrols.org)

20. **Where Can You Find EV Charger Rebates?** - A broader charging network with more EV charging stations, or EVSE, must be built out. Rebates, grants, and incentives have sprouted up nationwide to help build out the charging infrastructure. While many people are familiar with energy efficiency rebates for lighting, HVAC, and water heaters, rebates for EV chargers are entirely different. EV chargers are not an energy efficiency measure; they actually increase electric energy usage. Because of that, finding and applying for EV charging rebates is quite different. For anyone who has worked with commercial rebates before, the utility is the first place they think to start since they're the primary source of energy efficiency rebates. However, for EV chargers, those are just a portion of what's available. The sources of incentives for EV Chargers fall into five different categories per the chart: Where Can You Find EV Charger Rebates? (briteswitch.com)



21. **Automated Energy Management and EV Charging: A Possible Answer to the EV Electrical Infrastructure Challenge by Mike Majewski** - With an estimated half a million EVs sold in the U.S. in the past year and the trend only rising, states, cities, and utilities are preparing for an increased demand for EV chargers and the infrastructure required to support the additional electrical needs. With this, quite a few challenges will complicate transition if it's not appropriately planned. Electrification is a crucial part of the world's transition to clean energy. Yet, investing in more EV chargers isn't the only answer. It's also essential to pay attention to the electrical infrastructure supplying electricity to the EV chargers. Without a mechanism to help manage the electrical demand and consumption, specifically at installation sites with numerous EV charging stations, the country's electrical infrastructure isn't ready for millions of EV owners to plug in. https://www.nema.org/

22. **IALD Enlighten Americas Returns in Palm Springs, CA USA!** - Our return to in-person conferences! Palm Springs is the perfect backdrop for collaboration, discovery and learning with the best and brightest in lighting design at Enlighten Americas. Add to your calendar:

- 29 September – 1 October 2022
- Westin Rancho Mirage Golf Resort & Spa
- Coachella Valley, Palm Springs, CA

Relax, energize and take in education sessions by and for lighting designers while surrounded by the stunning mountain views of the Palm Springs desert. International Association of Lighting Designers - Start your reservation (passkey.com)

Global LED Energy Market Observer:

23. **RESEARCH: Global High Power LED Market (2021-2026)** - The Global High Power LED Market is estimated to be USD 6.1 Bn in 2021 and is expected to reach USD 7.88 Bn by 2026, growing at a CAGR of 5.25%. The Global High Power LED Market is driving due to growing high brightness LED applications, including mobile phones, restaurants, signal lighting, and nightclubs. The benefits offered by high power LED, such as continuous usage with a long life of the device, are driving the market's growth. The rising awareness of energy-efficient systems will create potential opportunities for the market to grow in the forecasted period. Furthermore, the growing demand and adoption of smart lighting systems, technological advancements such as IoT, real-time monitoring of illuminations, developing research and development activities. Moreover, the risk of overcoming thermal problems is a challenge that may negatively affect the market growth. https://www.researchandmarkets.com/

24. **RESEARCH: TrendForce 2022 Global LED Lighting Market Analysis** - According to TrendForce's latest market research report 2022 Global LED Lighting Market Analysis-1H22, the lighting industry has increasingly emphasized the light quality of products (e.g., CRI, R9 value, and SDCM), and HCL for health. Moreover, the rising trends of luminaire digitalization and light- and color tuning in LED lighting products have stimulated smart LED penetration. Nowadays, new technological applications and potential demand have contributed to growth in the lighting market. TrendForce projects the global LED lighting market scale to reach USD 72.10 billion in 2022 (+11.7%YoY) and hit USD 93.47 billion in 2026. In the long run, however, that for LED lamps will slow down mainly due to decreased replacement demand and consumers' increasing preference for luminaire products. https://www.ledinside.com/intelligence/2022/2/lighting_led

25. **Wanted: High-Level Lighting Executive, No Lighting Experience Necessary** - Those aren't Fagerhult Group's exact words, but they describe the company's search for the person who will push it further into IoT and connectivity. Fagerhult is advertising on LinkedIn for a CTO — chief technology officer — who will be responsible for taking the Swedish lighting company and its 13 brands to the next level in IoT lighting and controls, reporting to CEO Bodil Sonesson. The idea is to track assets, people, and environmental conditions, often collecting and analyzing data. This in turn assists all sorts of operations. The most common benefit is often smarter and more effective lighting controls. IoT lighting can also help optimize space, keep tabs on easy-to-lose items, guide people around large premises, engage in-store customers in individualized assistance and promotions, reroute drivers around traffic jams, and so forth. Wanted: High-level lighting executive, no lighting experience necessary | LEDs Magazine

26. **Chinese Shutdowns Raise Threat of Trade Disruption** - Shenzen, a tech and finance hub adjacent to Hong Kong in the south, is a shipping and manufacturing port that also produces LED lighting. A surge in Omicron variant infections has prompted Chinese authorities to lock down residents, close factories, and stop truck traffic, snarling already frayed supply chains. Chinese Shutdowns Raise Threat of Trade Disruption – lightED (lightedmag.com)

27. **LEDs Now More Economical, Fluorescent Bulbs Should Be Phased Out** - The bulbs at issue are the four- and eight-foot tubes common in commercial buildings and in some home kitchens, basements, and garages, as well as several types of compact fluorescent bulbs designed for use in certain fixtures. An international agreement among 137 countries, the Minamata Convention on Mercury, is phasing out the use of mercury in numerous products and industrial processes and uses. But the convention—drafted in 2013—specifically exempts lighting, citing a lack of cost-effective alternatives at that time. Later this month, the nations will consider a proposal that would ban the manufacture, import, and export of fluorescent bulbs in the participating countries. LEDs Now More Economical, Fluorescent Bulbs Should Be Phased Out (facilityexecutive.com)

28. **Fluence Launches Intercanopy Lighting Solution VYNE for Global Horticulture Market** - The company's newest luminaire is equipped with multiple spectral options to enable growers to balance light efficacy with crop quality and yield. Intercanopy lighting can be an effective strategy for high-density vine crops such as tomatoes and cucumbers. Fluence's VYNE solution is ideal for greenhouse environments in combination with supplemental top lighting. With VYNE, photosynthetically active radiation reaches leaves lower in the canopy, improving photosynthesis and ultimately increasing plant yield. Cultivators can also leverage VYNE in greenhouses with lower ceilings where top light installation is limited. VYNE is available in two standard spectra, offering market-leading efficacies under Fluence's PhysioSpec™ BROAD R6 and DUAL R9B spectra. For more information on Fluence and its portfolio of LED solutions, visit www.fluence.science.

29. **More Success for Your Horticulture Projects with OSRAM LED Technology** - With the innovative Planta Seed modules, OSRAM DS is launching high-performance products that can boost your growth success in horticultural systems. Compatible with our LED drivers, they can be used flexibly and individually – so you can reach your next level in horticulture. OSRAM Expert for Linear Lighting Systems | OSRAM Digital Systems

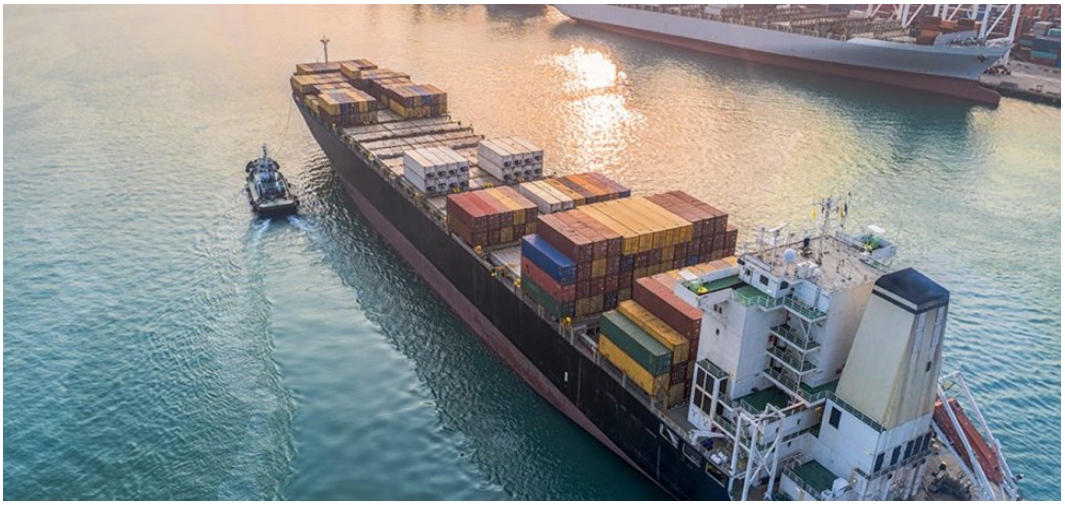
30. **Fluence Adds Cannabis Luminaire for the Home Grower** - The new SPYDR Fang provides the same spectral distribution as the company's professional LED models. As horticultural lighting specialist Fluence gets ready to change hands from ams Osram to Signify, it continues to crank out new LED products. The company has again expanded its bread-and-butter cannabis line, this time with a luminaire aimed at the home grower. The new SPYDR Fang delivers 1,600-µmol/s photosynthetic photon flux (PPF). That's not quite the 2,100-µmol/s PPF of the professionally-aimed SPYDR 2h introduced last month. But the new Fang delivers the same spectral content as the 2h, with a complete blue-through-red emission that Fluence brands as its PhysioSpec Broad R4, aimed at facilitating rapid plant growth. Fluence adds cannabis luminaire for the home grower | LEDs Magazine

31. **Fluence Partners with Hydrofarm to Distribute LED Lighting Solution to U.S. Retailers** - Hydrofarm will distribute Fluence's newly released SPYDR Fang LED lighting solution to its network of hydro-shop retailers throughout the U.S. beginning early April 2022. For more than 40 years, Hydrofarm has manufactured and distributed controlled environment agriculture equipment and supplies that provide growers with greater quality, efficiency, consistency and speed in their cultivation operations. Fluence's SPYDR Fang joins Hydrofarm's wide portfolio of cultivation products as LED adoption continues to rise among cultivators. Growers throughout the U.S. will have greater access to Fluence's technology via Hydrofarm's national hydro-shop retail network. Fluence Partners with Hydrofarm to Distribute LED Lighting Solution to U.S. Retailers - Fluence By OSRAM

Monthly Feature:

Why the Global Shipping Crisis Isn't Going Away Anytime Soon - This is an excerpt from a global shipping crisis report written by Chris Jones, executive vice president of industry and services at logistics provider Descartes. The company published the report earlier this month. You can see the report in its entirety at: Global Logistics Shipping Crisis: Record Import Volumes, Strong Economic Drivers, Conflict & Inflation Uncertainty | Descartes

Supply chain issues continue to plague the industry, while persistent inflation and conflict abroad could create additional market chaos. Here's what it means for distributors. A strong economy and hiring environment is the force behind the record demand for consumer goods and the import volumes the U.S. is experiencing; however, there are not enough goods to meet demand and inflation has been on the rise since mid-2021. Energy has been cited as a significant inflation factor and this is where the Russia/Ukraine conflict may accelerate inflation and help slow down consumer demand.



Another factor to consider is the impact of sanctions that are being applied to Russia, Belarus and the breakaway portions of the Ukraine. Sanctions apply to not only these regions, but also to specific companies and people. The impact of these sanctions is not limited to the conflict region and, in many cases, apply globally. While Russia in particular has more of a mid-tier stance in global trade, the impact of sanctions on specific industries could be significant. Why the Global Shipping Crisis Isn't Going Away Anytime Soon - Modern Distribution Management (mdm.com)