A MONTHLY NEWSLETTER FROM AMERLUX®





Interior Spaces - Our lighting designer toolkit encompasses a broad spectrum of tools that help you shape how occupants perceive the interior characteristics of your space: commercial downlights, linear systems, multiples, track heads, wall mounts, troffers, cylinders and pendants. All share the same award-winning pedigree: ours.

Exterior Spaces - Weather-proof, water-resistant and vandal-proof—not to mention Dark Sky-friendly. Our extensive lineup of exterior architecture lighting fixtures accentuates modern structures by providing safe, balanced lighting to outdoor venues, including landscapes, parking lots, garages and streetscapes.

Technology in Spaces - From color-tuning and color-rendering to antimicrobial lighting and WiFi and Bluetooth controllability, design professionals and facility executives who employ the best lighting and control technologies effectively monitor and control their most critical asset: their bottom line.

Amerlux - Commercial Lighting Manufacturer

National LED Market Observer

- 1. **Prepare for 2023 Commercial LED Lighting Rebates** The Solid-State Lighting Qualified Products List (SSL QPL) provides a comprehensive list of commercial lighting products that maximize energy savings and user benefits, as outlined in the <u>SSL V5.1 Technical Requirements</u>. Over 90% of DLC Members require DLC listing for rebate eligibility, meaning you must install a V5.1 listed product to ensure you will receive incentives. Currently, many utilities' commercial lighting rebate programs are still providing rebates for V5.0 products, but by next year they'll only allow V5.1 products. Now is the time for distributors, manufacturer representatives, energy services companies and others to prepare. Please read the DLC's blog for more information on the <u>SSL V5.1</u>. Prepare for 2023 Commercial LED Lighting Rebates DesignLights
- 2. **Another Lighting Event Announces Biennial Cadence** On the heels of recent news that LightFair is converting to a biennial show, another lighting trade show and conference, **LightSPEC West**, has also announced an every-other-year cadence. The result of the biennial rhythm of these events will put LightFair in New York City in odd years through 2029, and LightSPEC West in SoCal in even years. The world's largest lighting trade show, Frankfurt, Germany's Light + Building, is set to return to its biennial springtime rhythm in March 2024. <u>Another Lighting Event Announces Biennial Cadence (inside.lighting)</u>



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- 3. **New DOE Guidance on GSL & GSIL Backstop Timing and Certification Requirements** On October 28th, the US DOE issued new guidance for the industry to comply with the GSL & GSIL certification requirements and timing. In May 2022, the DOE issued two final rules for these lamps:
 - 1. Expanded definition of GSL & GSIL that became effective on 7/8/22 ("the Definitions Rule"),
 - 2. The prohibition of selling any GSL below 45 lm/W, effective 7/25/22 ("the Backstop Rule").

These rules changed which lamps have to be certified to DOE CCMS. Although GSLs must comply with the Backstop Rule, manufacturers are not currently required to certify compliance to the efficacy backstop. This may become required at a future date. DOE is only requiring certification to the applicable pre-backstop standard. **DOE will pursue penalties for GSLs that do not meet the 45 lm/W requirement, whether they are certified to a pre-backstop standard or not.** New DOE Guidance On GSL & GSIL Backstop Timing and Certification Requirements | LightNOW (lightnowblog.com)

- 4. Energy Star Proposes Sunset of Lamps, Luminaires & Ceiling Fan Light Kit Programs In recent years, utility programs have been declining in anticipation of forthcoming federal standards, and with the backstop triggered, the new baseline for lighting will make it difficult for utility programs to justify continuing their rebates. It is EPA's understanding that some utility programs may continue to offer rebates on ENERGY STAR lighting through the end of 2023, and fewer may be able to continue offering free bulbs to income eligible customers through 2024. Consistent with the anticipated phase down of utility rebate programs leveraging ENERGY STAR lighting, EPA proposes to sunset the ENERGY STAR label for lamps, luminaires, and ceiling fan light kits effective the end of 2024. The Agency expects to stop accepting new certifications for these products as of the end of 2023. EPA requests feedback on this proposal no later than January 6, 2023. ENERGY STAR Lighting Sunset Proposal Memo
- 5. **RESEARCH: LED Downlight Market to Reach \$6 Billion** Research and Markets unveiled in the new document, US LED Downlight Market: Industry Trends, Share, Size, Growth, Opportunity and Forecast 2022-2027 that the market is expected to reach \$6.3 billion and grow at a CAGR of 8.32% by the end of the forecast period. The report, broken up by product type, application and region, focuses on key topics like the impact of the pandemic on the market, important players in the industry, price trends and more. According to the report, LED downlights have become a preferred choice for outdoor applications due to their energy savings and endurance through harsh conditions such as weather events, shocks and vibrations and traffic-related public exposure. Governments in developing nations have also encouraged widespread use of this solution as energy prices increase. <u>US LED Downlight Market: Industry Trends, Share, Size, Growth, Opportunity and Forecast 2022-2027 (researchandmarkets.com)</u>



- 6. LCA and DALI Alliance Announce MOU to Further Awareness of Lighting Control The DALI Alliance (DiiA) and the Lighting Controls Association are pleased to announce a new Memorandum of Understanding to educate the public about lighting controls and promote the use of lighting-control systems in different applications, including solutions based on the Digital Addressable Lighting Interface (DALI®) protocol. A council of the National Electrical Manufacturers Association (NEMA), the LCA is manufacturer consortium dedicated to public education and category promotion focused on lighting controls. The DALI Alliance is the global industry organization for DALI, the internationally standardized protocol for digital communication between lighting control devices. Under the MOU, the organizations will respectively share information with the public that spreads awareness of the application and benefits of lighting controls. Lighting Controls Association and DALI Alliance Announce MOU to Further Awareness of Lighting Control
- 7. **Peak Fossil-Fuel Demand Is Possible in a Few Years, IEA Says** Fossil fuel demand is expected to plateau worldwide starting in the next few years, according to the International Energy Agency. Higher prices and loss of Russian-sourced energy because of the war in Ukraine have influenced the timetable set by the IEA. As a share of global energy supplies, fossil fuels have held steady at 80% for decades. The IEA said the shift presaged by the current energy crisis will reduce that to below 75% by 2030 and to 60% by 2050. The Organization of the Petroleum Exporting Countries, have set the timeline much further out. OPEC has said that demand for oil should peak in wealthier nations starting in the mid-2020s, but that demand in poorer countries will continue to grow at least until 2045. Peak Fossil-Fuel Demand Is Possible in a Few Years, IEA Says WSJ



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- 8. **DOE L-Prize**: **Prototype Phase Deadlines Approaching** The L-Prize® Prototype Phase "Intent to Submit" deadline is approaching on January 13, 2023. The U.S. Department of Energy L-Prize is intended to break new ground, challenging industry to bring forward new innovations to realize the full potential of advanced lighting systems for commercial buildings. The prize rewards lighting systems that not only reduce energy use, emissions, and the overall impact on the environment, but also make commercial buildings better places to work and occupy. The L-Prize competition has three distinct phases: Concept Phase winners were announced in February 2022, the Prototype Phase opened in June 2022, and a Manufacturing and Installation Phase will conclude the competition. The Prototype Phase introduces two tracks: one for luminaires and the other for connected systems. Visit the L-Prize American-Made Challenges website and review the L-Prize Official Rules
- 9. **The Good Stuff, Volume 45** United in the belief that future generations need solutions like controlled environment agriculture (CEA) to help feed the world, Current has donated \$10,000 to the AppHarvest Foundation to support the AgTech Education Program. The program introduces high school students to CEA opportunities that grow tomorrow's farmers and futurists by teaching entrepreneurship and high-tech indoor agriculture. See all the ways we support food cultivation as an avenue to ending hunger at gecurrent.com/brands/arize. To directly support bringing cutting-edge agricultural technologies into Kentucky classrooms, visit AppHarvestFoundation.org. The Good Stuff, Volume 45 lightED (lightedmag.com)
- 10. Adding Functionality to Fixtures by Craig DiLouie Luminaire-level lighting control is a flexible, energy-saving solution. Commercial building energy codes and lighting control best practices promote light reduction or shutoff in response to occupancy (occupancy or vacancy sensing) or daylight (light sensing). Luminaire-level lighting control (LLLC) incorporates this functionality directly into the luminaire to increase flexibility and energy savings while potentially simplifying installation. Typically installed in office buildings and schools, an LLLC solution consists of an LED luminaire, input sensors and a lighting controller built into the LED driver(s) or installed separately and using a relay to send dimming commands to the driver(s). As outputs, the luminaire is capable of switching and potentially continuous dimming and color tuning. Due to the advantages of networked lighting control, the Department of Energy estimates luminaires with network connectivity will grow from an installed base of less than 1% of all U.S. luminaires to nearly a third of lighting in commercial buildings by 2035. Adding Functionality to Fixtures: Luminaire-level lighting control is a flexible, energy-saving solution | Electrical Contractor Magazine (ecmag.com)
- 11. Cree Photophyll™ Select for Horticulture Applications Cree Photophyll Select is a new phosphor-converted LED color with blue and green spectral output tuned for horticulture applications. These LEDs are designed to replace the white LEDs that are common in two-channel white + red horticulture luminaires. By maximizing green content and minimizing red content versus standard lighting LEDs, this LED color enables significant enhancements to luminaire cost and performance. XLamp XP-G3 Photophyll Select LEDs combine this new color and the many strengths of the XP-G3 platform, including efficiency, long-term reliability, convenient design ecosystem and optical control. J Series 2835 3V G Class Photophyll Select LEDs combine this new color with the industry's highest efficacy 2835 platform to achieve breakthrough system-level performance. Photophyll Select LEDs are the industry's first LEDs to be entirely binned in horticulture metrics. Photophyll™ Select Available on XLamp® XP-G3 and J Series® 2835 3V G Class LEDs Cree LED (cree-led.com)
- 12. **WEBINAR: Choosing an Optimized High Intensity White LED for High-Performance Directional Lighting** December 1st LEDs Magazine-hosted webinar sponsored by Luminus, Inc. In this webinar, we will review the features of SST and SFT white LEDs, such as high on-axis intensity, small emitting area and superior color uniformity. We will present a list of design examples to showcase how these LED features can enhance a directional lighting system's efficiency, quality of light and form factor. Webinar: Choosing an Optimized High Intensity White LED for High-Performance Directional Lighting | LEDs Magazine



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- 13. **DLC Horticultural Lighting Technical Requirements V3.0 Final Will Be Released November 30, 2022** On Wednesday, November 30, the DLC will release the final version of the horticultural lighting Technical Requirements V3.0 to support the acceleration of energy efficient lighting in controlled environment agriculture (CEA). Here is a summary of the changes in Hort V3.0:
 - · Increase efficacy threshold
 - Report application (intended use) information
 - Require product-level controllability capabilities
 - Require LM-79 and TM-33 reporting
 - Surveillance Testing Policy

More information about the horticultural lighting technical requirements is available here.

Learn more at the final release webinar scheduled for Wednesday December 14 from 1-2pm ET.

Register for the DLC webinar here. <u>DLC Horticultural Lighting Technical Requirements V3.0 Final Will Be Released November 30, 2022 | LightNOW (lightnowblog.com)</u>

- 14. **Pave Parking Lot and Put Up a Paradise?** The future of LED-lit indoor farming could include redundant car garages and the like, according to controlled environment agricultural engineering firm urban-gro. Such repurposing would be part of a broader trend toward comparatively small indoor farms that will be built in urban environments. Russia's current disruption of the world's food supply has further raised awareness of indoor food production. Conversely, LED and LED lighting vendors ams Osram and Fluence owner Signify recently reported that rising energy costs a consequence of Russia's war has limited horticultural lighting sales, as growers are finding the upfront costs of new lighting unaffordable. Pave parking lot and put up a paradise? I LEDs Magazine
- 15. **LEDs Gain Dominance in Cannabis Trade** LED lighting use continues to surge among indoor and greenhouse cannabis farms in North America, as over 70% of respondents to the latest annual State of the Cannabis Lighting Market survey stated they now deploy the technology. What's more, the number is at least 70% across all three growth phases: propagation, vegetation, and the once-lagging LED category of flowering according to the 2022 survey, carried out by Stillwater, Minn.-based Readex Research for <u>Cannabis Business Times</u> in partnership with LED lighting vendor Fluence. <u>LEDs gain dominance in cannabis trade | LEDs Magazine</u>
- 16. In Search of Outrageous Holiday Lighting Photos Send in your photos of the most lavish holiday lighting displays you've seen. The EC&M editorial team loves to get photos submitted from our readers. So if you've ever snapped a photo that would rival Chevy Chase's masterpiece in Christmas Vacation, please send them to us. We will present these lavish lighting setups in a photo gallery later in the year for all to enjoy. Email Editor-in-Chief Ellen Parson at eparson@endeavorb2b.com with your favorites.
- 17. A Year-End Reflection on Lighting and LED Innovations by Wanda Lau Wanda Lau peruses our coverage from the past year, noting not only the expanded applications of LEDs but also industry-wide activities promoting standards, quality improvements, and environmental and social awareness of the need for optimal lighting. Some of this year's industry developments and applications at: COMMENTARY | A year-end reflection on lighting and LED innovations | LEDs Magazine
- 18. **Everything You Need to Know About the 2024 IECC** -The International Energy Conservation Codes (IECC) is one of two predominant energy codes adopted by states in the Northeast and Mid-Atlantic. Developed by the International Codes Council, the IECC has provisions for both residential and commercial homes and buildings. States often adopt the IECC in its entirety for both residential and commercial. To assist stakeholders in understanding the code, the process, and the provisions for energy efficiency, NEEP has created a new web page on the 2024 IECC. This page will be regularly updated throughout the 2024 IECC process. International Energy Conservation Code (IECC) 2024 | Northeast Energy Efficiency Partnerships (neep.org)



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- 19. **Utility Rebates for Solid-State Lighting V5.1-Only in 2023** While many utility commercial lighting rebate programs are still providing rebates for Solid-State Lighting (SSL) V5.0 products, only V5.1-compliant products will be eligible as of 2023. Now is the time for distributors, manufacturer reps, energy services companies and others to get ready for this change. The SSL Qualified Products List provides a comprehensive list of commercial lighting products that maximize energy savings and user benefits, as outlined in the <u>SSL V5.1 Technical Requirements</u>. More than 90% of <u>DesignLights Consortium (DLC)</u> members require DLC listing for rebate eligibility, meaning you must install a V5.1-listed product to ensure you will receive incentives. You can read the full DLC post here to learn more. <u>Utility Rebates for Solid-State Lighting V5.1-Only in 2023 | EC&M (ecmweb.com)</u>
- 20. **TRAINING:** Integrated Controls: The Key to Smart Buildings This course addresses the importance of connected buildings and smart buildings; and how the lighting industry has changed and adapted to technology to solve many of the problems in the space. The traditional approach has been siloed disciplines such as safety, fire alarm, HVAC, and lighting that are not operating as an integrated system. The course covers how to bridge those disparate systems with interoperability and data collection. Different regulations and codes for energy consumption in buildings are addressed to set the stage for the type of benefits that can be had by implementing the connectivity available. Joe Dung, Director of Total Solutions, is the instructor on this course. Integrated Controls: The Key to Smart Buildings Lighting Learning Lab
- 21. **LEDs Will Continue to Serve Li-Fi, Even as Faster Lasers Come In** Like many vendors in the Li-Fi business, France's Oledcomm believes there is a strong future for the use of lasers, which will provide exponentially faster data transmission rates than do today's LED-based Li-Fi systems. But there's an eye-opening reason why LEDs will stay on the roadmap. "In some use cases, lasers have an issue which is eye safety," Oledcomm co-CEO Benjamin Azoulay told LEDs Magazine. "I'm not sure you'd use lasers in schools, for example, because lasers will never have the eye safety that is required for this type of operation. So I think in the future there will be both solutions, lasers on one side and LEDs also, depending on the type of application." <u>LEDs will continue to serve Li-Fi, even as faster lasers come in I LEDs Magazine</u>
- 22. **GC Launches Electrical Apprenticeship Program** Garrett College, McHenry, MD has launched an electrical apprenticeship program in partnership with a pair of local businesses that combines hands-on, in-person class and lab work with an online learning component. The College is using Mike Holt's Electrical Apprenticeship Curriculum, based on the National Electrical Code, for the program's online content. The four-year program which launched its first class last month and will include 576 classroom hours and 8,000 hours of work experience provides a clear pathway to becoming a master electrician. While the employers provide the up-front funding of the work hours, the Maryland State Department of Labor provides annual employer reimbursement for students who are successfully progressing through the program. Garrett College has also started a heating, ventilation, and air conditioning (HVAC) apprenticeship program I Garrett News I wynews.com
- 23. Administration Announces \$13B to Modernize and Expand Power Grid The \$13 billion in new financing represents the largest single direct federal investment in critical transmission and distribution infrastructure and one of the first down payments on an over \$20 billion investment under the Administration's Building a Better Grid Initiative. Independent estimates indicate that the U.S. needs to expand electricity transmission systems by 60% by 2030 and may need to triple current capacity by 2050 to accommodate the country's rapidly increasing supply of cheaper, cleaner energy and meet increasing power demand for electric vehicles and electric home heating and reduce power outages from severe weather. Administration Announces \$13B to Modernize and Expand Power Grid tEDmag
- 24. Advance Registration Is Open for LEDucation 2023 The 2023 LEDucation Trade Show and Conference will be held March 7–8, once again at the New York Hilton Midtown with virtual sessions being held Monday, March 6th. More than 380 exhibitors from across the globe will be displaying state-of-the-art lighting and technologies. This is an excellent opportunity to raise your brand awareness in one of the industry's most successful educational and exhibition events in lighting trends and technology. Registration LEDucation



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Global LED Energy Market Observer:

25. **Mobile Light Tower Market Expected to Surpass \$3.1 Billion by 2031 by Brionna Farney** - The global mobile light tower market, valued at \$1.9 billion in 2021, is expected to reach a \$3.1 billion valuation by 2031. A September 2022 report <u>published by Allied Market Research</u> details the causes and trends leading to the expected 5.2% compound annual growth rate from 2022 to 2031. An increase in infrastructure projects is the leading growth factor. Construction applications led the market growth, specifically the highway, railway and bridge construction segments. Mobile light towers are essential on construction sites that lack adequate lighting and for nighttime operations. In addition, using light towers on railway, highway, roadway, sewer, power and other infrastructure projects increases worker safety and productivity. A mobile light tower uses an array of electric lamps affixed to the top of a mast. The tower is positioned on top of a trailer, allowing easy transportation from site to site. A generator at the back of the trailer illuminates the lights using diesel, solar, battery power or hybrid methods. Mobile Light Tower Market Expected to Surpass \$3.1 Billion by 2031 | Electrical Contractor Magazine (ecmag.com)

26. **designing lighting (di) Magazine Launches a Global Issue** - Launching early 2023, designing lighting global (dlg) was announced today by Publisher Randy Reid at the Lutron Experience Center, London, at a special event attended by over 100 architectural lighting designers. Reid commented, "Our existing North American platform, designing lighting (dl), has grown in circulation by 100% in just two years. We have seen much demand by readers and advertisers to offer a companion platform focused outside the US." dlg will showcase superior lighting design, cutting edge technology, new product launches, and other content. It also focuses on best practices of the business of lighting design. Industry press veteran Ray Molony is editor. He is working with leading designers to deliver exclusive project content and other subject matter. Lighting specifiers, industry players, and others allied to the industry can sign up here to subscribe, designing lighting (dl) magazine launches a global issue. - YouTube

27. **Signify's Trulifi Technology Brings Best-In-Class Connectivity to Pioneering Berlin School** -Signify has equipped a Berlin school with Trulifi technology to enable fast, secure data transmission through light waves. Students and teachers at the Freie Waldorfschule in the Prenzlauer Berg district can now enjoy high-speed access to a wide range of online learning resources, independent of a WiFi connection. With this initiative, the school joins educational institutions in Italy, Germany, Belgium, The Netherlands and the US that are already using Trulifi by Signify. In a world full of online meetings, live streaming, social media, and gaming, Internet connectivity and data communication must be fast, secure, and reliable. Trulifi by Signify, ensuring high-speed connectivity through light, is the perfect solution. Signify's Trulifi technology brings best-in-class connectivity to pioneering Berlin school - LEDinside

28. Now ams Osram Cites a Wobbly Round for Horticulture - The energy problem marks a conundrum, because the main reason that growers turn to LED lighting is to save energy. But LED lighting comes at a premium compared to conventional horticultural light sources such as high-pressure sodium. In the current inflationary environment — including steadily rising energy prices — growers are holding off on purchases. The slide is of particular concern to LED lighting and chip vendors, because horticulture has been one of the few bright spots in the LED industry's efforts to redefine itself as more of a high-tech industry. Lighting companies have been trying with only limited success, for example, to outfit their wares with internet-connected sensors and communication chips and thus provide their customers with data collection and analysis that provides all sorts of insights on operations, sales, and assets. Horticulture — or more broadly, controlled environment agriculture — fits the high-tech mold because growers can tailor LED wavelengths and intensities in a different optimized manner for different crops. Now ams Osram cites a wobbly round for horticulture | LEDs Magazine



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29. L'Observatoire International Wins LIT Lighting Design of the Year - The LIT Lighting Design Awards was created to recognize the efforts of talented international lighting product designers and lighting designers. The program celebrates creativity and innovation in the fields of lighting products and applications. The range of work is astonishing, L'Observatoire International was awarded the "Lighting Design of the Year" title for the Hermès' collections at Milan Design Week 2022 and Expolight won the "Lighting Product Design of the Year" award for the Chandelier in the B14 UNIT. City business space. To view the full list of the LIT Lighting Design Awards 2022 winners, check litawards.com/winners

Monthly Feature:

Indoor Farming Market - Growth, Trends, Covid-19 Impact, and Forecasts (2022 - 2027) - The indoor farming market is projected to register a CAGR of 8.1% during the forecast period 2022-2027. With the force and isolation of the COVID-19 pandemic, many countries have realized that strengthening food production and distribution systems is key to fighting hunger and tackling the double burden of malnutrition, and the development of indoor farming can aid in embracing all dimensions of various food security. An increase in health consciousness and consumption of residue-free food has paved the way for the usage of advanced techniques, like indoor farming.

One of the primary reasons indoor farming has been gaining significant traction is because of its ability to produce more with fewer resources. There is an increase in the demand for sustainable food production in the Middle-East, which is achievable by adopting indoor vertical farming technologies in agriculture. The indoor farming market in the Asia-Pacific region is growing rapidly, with the industry benefiting from government policies.

North America is the largest market for indoor farming, accounting for the highest share of the global indoor farming market in 2021. With the help of high-efficiency LED lights and enhanced indoor management practices, US growers have been able to adopt large-scale indoor farming. Such practices are expected to reduce energy lighting costs by about 50%, thus, reducing the carbon footprint of controlled environment agriculture. As per the US Department of Agriculture (USDA), the average yield of conventional lettuce farming doubled twofold when cultivated through vertical farming. Currently, the indoor farming industry in the US is predominantly dominated by greenhouse crop production. The onset of urban population dwellings across cities, such as New York, Chicago, and Milwaukee, has propelled the environment for indoor farming with activities such as revamping derailed vacant warehouses, derelict buildings, and high rises, which has, in turn, led to an increase in the production of fresh grown foods altogether. The demand for greenhouse tomatoes in the US is driving the market demand for hydroponic operations.

Indoor farming is one of the fastest-growing industries in the US. According to the UN Food and Agriculture Organization, drylands in Mexico occupy approximately 101.5 million hectares of land, thereby boosting the need for indoor farming practices. Canada has also seen a positive growth trend, contributing significantly to the world exports of hydroponically grown tomatoes. The growth of hydroponics and aeroponics systems in the region is driving the overall indoor farming market, mainly due to the increasing focus on adopting innovative and efficient technologies to improve yields. A wide variety of crops such as leafy vegetables, herbs, vegetables, fruits, microgreens, and flowers are grown through indoor farming in the countries of North America. Indoor vertical farming systems have provided organic food, which has become the major driving force for indoor vertical farming along with the increasing demand for pesticide- and herbicide-free food among the consumers of North America.

The market for indoor farming is highly fragmented, with the top players accounting for a minor share and other small companies capturing a major share in the market. Some of the major revenue-generating companies in the market are Village Farms International Inc., AeroFarms, Bright Farms Inc., Bowery Inc., FreshBox Farms, Metropolis Farms Inc., and Garden Fresh Farms. Indoor Farming Market Share, Size I Industry Trends (2022 - 27) (mordorintelligence.com)

