Energy · Quality · Controllability℠

ANNUAL REPORT

2019

FROM THE EXECUTIVE DIRECTOR

More than ever before, the world is focused on health and wellbeing. The commercial and industrial lighting market is no exception, and the DLC devoted ample attention in 2019 to policies that focus on the future to maximize energy efficiency and improve the comfort and safety of people living and working in the built environment.

In all our efforts, we have been privileged to work with DLC Members and industry professionals devoted to pursuing excellence in the realm of high-performance commercial and industrial lighting. I am personally grateful to them, as well as to the stellar DLC staff who each day push the envelope to ensure the DLC is a leading influence in the field of efficient, intelligent, and connected lighting.

The DLC established four value statements in 2019 outlining our commitment to diversity, integrity, collaboration, and impact. As we begin a new decade, 2020 presents a unique set of challenges for all of us. I'm confident the DLC and our partners will work collectively to bring new solutions to these challenges, and I look forward to the accomplishments we will share with you a year from now.

Ch Halfpenny

CHRISTINA HALFPENNY
Executive Director

DLC BOARD OF DIRECTORS

ALECIA WARD
Lawrence Berkeley National Lab

SCOTT JOHNSTONE
NE Energy Market Leader

ALICIA BARTON
NYSERDA

VIGNESH GOWRISHANKAR
National Resources Defense Council

CARLOS NOUEL
National Grid

REGINA DURGA
SmartWatt, Inc.

OUR MISSION

The DLC's mission is to achieve **energy optimization** by enabling **controllability** with a focus on **quality, people, and the environment.**

OUR VALUES

Integrity.

We are dedicated to the work we do and are committed to honesty, transparency, and environmental stewardship.

Collaboration.

The input of our stakeholders is paramount. We diligently pursue opportunities for cooperation and comprehensive feedback.

Impact.

We hold ourselves accountable for the outcomes of our work and actively pursue opportunities that best support our environmental mission.

Diversity.

We are committed to inclusion, representation, and a voice for all those affected by our work.

THE DLC GUIDEPOSTS TO INNOVATION

Energy.

Integrate lighting into Smart Building technologies, achieving dramatic improvements in energy efficiency.

Quality.

Research, promote and enable standards for quality lighting.

Controllability.

Drive connectivity of the built environment to optimize quality and energy benefits.

DLC PROGRAM PLATFORMS

Solid-State Lighting

In 2019, the DLC developed new metrics for the QPL to ensure that the realization of energy savings also delivers on quality of light and controls capabilities. These new requirements work to achieve energy efficiency goals and a better experience for building occupants, especially when combined with networked lighting controls.

Achievable energy savings from commercial lighting is expected to range from 10-20 TWh annually through 2035.[1] Additional value can be realized by taking advantage of peak demand savings.

Networked Lighting Controls

To facilitate the shift to networked lighting in buildings, in 2019 the DLC built upon interoperability, cybersecurity, and energy monitoring plans in the Technical Requirements to encourage the persistence, reliability, and superior functionality of the technology.

With aggressive utility support, networked lighting controls have the potential to save half of the remaining lighting load after an LED lighting retrofit and will enable C&I utility lighting savings programs to be maintained twice as long as compared to support for LED fixtures and lamps alone.[1]

Horticultural Lighting

The DLC developed Technical Requirements for Horticultural Lighting and launched the industry's first Horticultural Lighting QPL, which qualified its first products in 2019. The new QPL is already an important resource for energy efficiency programs and codes bodies endeavoring to ensure energy savings in this new and growing market.

The annual electricity consumption of all indoor US horticultural installations in 2017 was about 5.9 TWh – approximately equal to the annual usage of more than half a million US households.[2] Energy consumption is expected to grow by 19% yearly through 2025 if the lighting technology mix doesn't change and illuminated area continues to increase. The LED market for cannabis crops alone is forecasted to grow more than 300% in the next five years.[3]

DLC COLLABORATION

The DLC is committed to stakeholder input.

The DLC is a consortium that values stakeholder input and perspective. Our work relies on engagement processes that seek input from industry, energy efficiency, and technology experts to inform Technical Requirements and policy development. This process results in standards that enable high quality, energy efficient lighting products to be installed in lighting projects all over the country.

1000+

Total stakeholder comments received on SSL Technical Requirements V5.0

51

Unique organizations that provided feedback on SSL Technical Requirements V5.0.

2019 Stakeholder Meeting in St. Louis, MO.

In 2019, the DLC combined the annual Controls Summit and Stakeholder Meeting into a single interactive workshop for stakeholders to collaboratively tackle quality of light and controllability to help realize maximum savings potential from LED lighting solutions in commercial buildings. Over 200 DLC stakeholders participated in facilitated discussion sessions to explore the DLC's proposed topics for Technical Requirements V5.0 and NLC5, including:

- Controllability
- Cybersecurity
- Energy Monitoring
- Glare and Light Distribution
- Efficacy
- Flicker
- Color and Spectral Quality of Light

DLC COLLABORATION

DLC Membership

DLC Members are integral to the success of our mission. Together, our Members create a collective force that provides expertise and insight into DLC policy development on topics such as quality, performance, and energy efficiency to drive the lighting market transformation.

72

Participating DLC Member programs across the US and Canada

Industry Advisory Committee

The IAC supports the mission and strategic direction of the DLC and helps drive efficient lighting through education, collaboration, and expertise. The committee is made up of lighting manufacturers, controls manufacturers, lighting designers, and distributors from the following organizations:

- Eaton Lighting
- Acuity Brands
- Hubbell Lighting
- Signify
- GE Lighting
- EiKO Global
- Deco Lighting
- RAB Lighting
- Stanpro Lighting
- Lutron Electronics
- OSRAM
- Enlighted, Inc.
- Benya Burnett Lighting Design
- Abernathy Lighting Design
- Premier Lighting

SOLID-STATE LIGHTING

The DLC's SSL efforts in 2019 were dedicated to developing the fifth major revision of the SSL Technical Requirements, an unprecedented specification that works not only to save energy, but to differentiate lighting with a focus on quality of light that can provide comfortable, safe environments for people.

Goals of Version 5.0:

- Increase the required minimum efficacy of listed product by over 10%, and up to 23% for some categories of lighting.
- Ensure that virtually all listed luminaires and retrofit kits are dimmable, providing more energy savings and increased user satisfaction.
- Require color quality standards that will help provide people with the lighting they want with more color consistency over time.
- Give lighting decision makers better confidence in the glare performance of DLC listed products.

2019 SSL Program Statistics:

99K
New energy efficient lighting products qualified

37%
Percentage of the QPL listed as DLC Premium

54K
Products updated on the QPL, reflecting improved product performance and accurate data for lighting decision makers

1962
Unique lighting manufacturers represented on the SSL QPL

85
Solid-state lighting categories qualified by the DLC

NETWORKED LIGHTING CONTROLS

The DLC's Networked Lighting Controls program goal is for widespread adoption of networked controls in commercial buildings. With the fourth version of the NLC Technical Requirements published, an in person and remote training curriculum for installers underway, and energy savings and peak savings reports made publicly available, the NLC program provides reliable, up-to-date information on market-ready systems that have high value, high impact technical capabilities, and meet stringent reliability standards.

2019 Accomplishments:

Added interoperability, cybersecurity, and energy monitoring implementation plans into the NLC Technical Requirements, encouraging manufacturers to include capabilities that will enable support for NLC systems.

Published new research in partnership with the Alliance to Save Energy that recommends shifting EE programs toward incentive strategies that promote LED lighting and NLCs as a system, potentially increasing NLC lifetime savings by 22%. The report also provides a first-of-its-kind compilation of estimates related to peak demand impacts possible through such a systems approach - noting that peak savings available for targeting from C&I lighting technologies could be over 37,000 megawatts, by 2035, equal to 5% of today's fossil fuel capacity.

Launched an online, searchable NLC QPL database to help users select systems that work best for their specific projects.

2019 NLC Program Statistics:

47
NLC systems qualified on the NLC QPL

29
Unique manufacturers represented on the NLC QPL

868
Trade allies that have completed the DLC's NLC training program to date

HORTICULTURAL LIGHTING

Energy efficiency takes root.

In 2019, the Horticultural QPL qualified its first products and transitioned to nomenclature and terminology that align with ANSI/ASABE definitions. The DLC's Horticultural Technical Requirements have been referenced in the cannabis regulations in two states so far and qualified products that meet those regulations can be found on the DLC QPL.

Energy savings from horticultural LED lighting can amount to up to 40% over non-LED alternative lighting (representing a savings of approximately $240 million)[2]. With these savings on the table, the Hort QPL aims to become an integral industry resource in the coming years.

2019 Horticultural Program Statistics:

38
Horticultural fixtures qualified on the Hort QPL

40%
Potential energy savings from LED horticultural lighting compared to non-LED alternatives

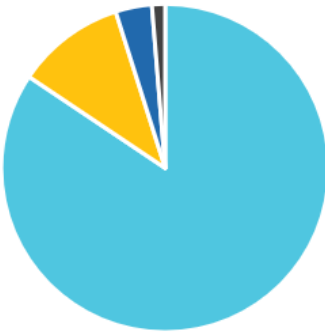
2
US states already referencing the DLC Technical Requirements in cannabis regulations

$240mil
Potential savings to be captured by switching to all LED horticultural lighting technology

2019 FINANCIALS

REVENUE

$10,840,533



- SSL, NLC & Hort QPLs
- Membership Fees
- Trainings and Events
- Other

EXPENSES

$9,553,152

- General & Administration
- Programs (Technical, program, and IT support for Solid-State Lighting QPL, Lighting Controls QPL, Hort QPL, Member Program, Trainings, and more)

The majority of DLC revenue comes from QPL application fees, while most of the expenses are dedicated to application processing and maintenance and development of the DLC's many IT systems. Other annual expenses include DLC events, development of industry research and resources, and the deployment of the DLC's tools and training programs.

LOOKING AHEAD

Lighting isn't just lighting anymore was a recurring theme at the DLC's 2019 Stakeholder Meeting, and one that will continue to not only echo, but amplify, in the months ahead. If embracing LED technology was the main lighting innovation of the past decade, today's hallmark is the leveraging of that technology to more fully realize the potential to both reduce electricity use and improve the livability of the built environment.

The DLC has a full and exciting agenda for 2020, as we engage with Members and stakeholders to effectively implement three key policies: SSL V5, NLC5, and Hort V2.0. Driving our work is the overarching commitment to ensuring that advances in commercial and industrial lighting help to progress toward lower greenhouse gas emissions and smart, net zero buildings and facilities.

The DLC's continued implementation of SSL V5 will capture advancements in lighting quality and control functionality of installed products. Going forward, products on our QPL will reflect new requirements for characteristics such as color performance and discomfort glare, and virtually all products will be required to have dimming capability. Expanding energy savings and maximizing user satisfaction are parallel objectives as we pursue this work.

Similarly, implementation of the newest version of the DLC's requirements for NLCs is guided by a multi-year plan through which we are committed to enabling cybersecurity, interoperability and energy monitoring – issues we know are key to increasing customer confidence and, thus, wider adoption of this energy-saving and smart building-enabling technology.

Finally, with the annual consumption of electricity for indoor horticultural installations increasing rapidly, the DLC's work on horticultural lighting could not be more relevant. We are pleased to support this burgeoning industry while raising the bar on efficacy pursuant to technological advances.

The DLC is eager to carry out these activities with your input, participation and collaboration. Current challenges notwithstanding, our future is bright!

REFERENCES

[1] Mellinger, D. (2018). *Energy Savings Potential of DLC Commercial Lighting and Networked Lighting Controls.* DesignLights Consortium. https://www.designlights.org/resources/energy-savings-potential-of-dlc-commercial-lighting-and-networked-lighting-controls

[2] U.S. Department of Energy. (2017). *Energy Savings Potential of SSL in Horticultural Applications*. Navigant Consulting, Inc. https://www.energy.gov/sites/prod/files/2017/12/f46/ssl_horticulture_dec2017.pdf

[3] Strategies Unlimited. (2019). *North American Cannabis Lighting Market, Market Analysis and Forecast 2019*. https://store.strategies-u.com/north-american-cannabis-lighting-market-market-analysis-and-forecast-2019

DLC℠

Energy · Quality · Controllability℠