2020 ANNUAL REPORT

From the Executive Director

The lighting industry — and everyone else — began 2020 with anticipation of the fresh opportunities and challenges a new decade would bring. It goes without saying that the year's challenges far outweighed anything we could have predicted.

Despite navigating truly uncharted waters, the DLC stayed steadfastly committed to quality and controllability, as well as foundational energy efficiency and technological advances that can mitigate the impact of climate change. We did this by being nimble and innovative — using these unusual circumstances to enhance our communication and collaboration with one another. I and the entire DLC staff — all of whom pivoted to fully remote work during the pandemic to ensure safety — are thankful for the support, input and participation we received from members and stakeholders throughout this difficult year.

Although we may have been working from home offices, the DLC continued to deliver our core programs, and take on new endeavors. We strengthened technical requirements in the Solid-State Lighting (SSL), Horticultural, and Networked Lighting Controls (NLC) programs, including the launch of draft provisions to add three additional product types to the DLC's Horticultural Qualified Products List, and new SSL performance standards for quality related to color performance, discomfort glare, and dimming capability.

On the NLC front, we expanded cybersecurity requirements for DLC-listed systems, and partnered with the Northwest Energy Efficiency Alliance on a study that bolsters the case for expanding use of NLCs to significantly drive energy savings in the commercial and industrial sector.

In 2020, we also laid the groundwork for a new draft policy that responds to the many issues surrounding artificial light at night — paving the way for new DLC technical requirements designed to protect dark skies and benefit human communities, wildlife, and scientific research, while reducing wasted electricity as another step on the path toward a net zero carbon future.

All these efforts have benefited from the input and advice of the Efficiency Forward Board of Directors, DLC members, and industry professionals who share with our staff a desire to improve the quality of light in the built environment while achieving energy savings necessary to significantly reduce the energy sector's contribution to climate change.

As we approach a new year, we do it with renewed confidence that together, through mutual support, constructive feedback and an agile approach, we are positioned to tackle ambitious goals with meaningful impact for the future.

Ch Halfpenny

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About the DLC

DLC Mission

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

DLC Values

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

COLLABORATION: The input of our colleagues and stakeholders is paramount. We diligently pursue opportunities for cooperation and comprehensive feedback on our work.

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

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

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.

Doing More with Solid-State Lighting

STATISTICS

11%
growth of SSL QPL with new quality and controllability requirements

60%
of the SSL QPL meets our highest efficacy thresholds

83%
of SSL qualified products have listed control capabilities

While adjusting timelines to accommodate business uncertainties caused by the COVID-19 pandemic, the DLC embraced new opportunities for energy savings and quality of light in a two-phase update to its Solid-State Lighting (SSL) Technical Requirements. During 2020, the DLC completed full implementation of SSL Versions 5.0 and 5.1. The new policy supports the DLC's mission to increase energy efficiency and expand installation of quality, connected lighting that facilitates the advancement of smart buildings and cities. V5.0/5.1 continues the DLC's push toward greater efficacy, increasing efficiency benchmarks by an average of nearly 12 percent, while supporting quality of light attributes, such as color and spectral quality, shown to positively impact people's mood, comfort, and wellbeing. V5.0/5.1 leads the market towards controls — adding dimmability requirements and reporting on controls and sensors to the SSL QPL. Looking ahead, we anticipate more research and collaboration with members and stakeholders as we consider refinements to our new quality of light requirements, and explore strategies to maximize energy savings through the combined efficiency potential of LEDs with lighting controls.

Integrating Networked Lighting Controls

Removing barriers to widespread adoption of networked lighting controls (NLC) continued as a DLC priority in 2020, in the face of mounting evidence of this under-utilized technology's ability to support efforts to increase building intelligence and significantly reduce electricity consumption on a path to net zero carbon emissions. In 2020, the DLC released and began accepting applications under the fifth iteration of its NLC Technical Requirements, NLC5 — a policy that strengthened criteria related to cybersecurity, energy monitoring, and interoperability. The DLC also released a report, Interoperability for Networked Lighting Controls, which concluded that interoperability standards are essential for the adoption and long-lasting relevance of NLCs. The report details three use cases, showing why interoperability is a core component of energy savings programs and outlining steps lighting stakeholders can take to move the industry toward a more interoperable future.

STATISTICS

33%
growth of the NLC QPL in 2020

◆ ◆ ◆

52
NLC systems that meet the new energy monitoring requirements

◆ ◆ ◆

31
unique manufacturers represented on the NLC QPL

◆ ◆ ◆

>70%
of DLC member territories offering incentives for NLCs

Transforming Horticultural Lighting

STATISTICS

55
new manufacturers with listed products in 2020

◆ ◆ ◆

185%
growth of the Hort QPL in 2020

During 2020, the DLC finalized and published its Version 2.0 Horticultural Lighting Technical Requirements, and the first draft of Version 2.1, both of which aim to broaden the variety of products eligible for the DLC's Horticultural Qualified Products List (QPL). A testament to rapid growth in the horticultural lighting sector, the DLC's Horticultural QPL nearly doubled in 2020 — now containing more than 400 products, with more being reviewed and added regularly. The 2020 updates include proposed eligibility for private labeling, family grouping of products, and the addition of three new product categories: linear lamps, externally supplied actively cooled fixtures, and DC-powered products. The US DOE estimates that transitioning all horticultural lighting to LEDs could reduce electricity usage by at least 40 percent, saving growers approximately $240 million annually. With these savings on the table, the DLC's Horticultural QPL of efficient, effective, rebate-eligible products is poised to be an integral resource for the burgeoning controlled environment agriculture industry.

Finding Solutions for the Future

While the DLC made great progress in all its core program areas during 2020, there are still a myriad of avenues to explore as we work with partners and stakeholders across the C & I lighting landscape to achieve a more sustainable, carbon neutral world. The past year, the DLC delved deeper into questions surrounding the path to net zero electricity consumption, as we commissioned a study to begin quantifying the value proposition of using NLCs in retrofits and new construction as a net zero strategy. We explored building management systems, the smart building, and the role of lighting within them. The DLC also launched plans for a new program designed to set requirements for high quality outdoor lighting at night that minimizes light pollution, provides appropriate visibility for people and limits impacts to the natural environment. With the International Dark Sky Association reporting that a third of all outdoor lighting in the US is wasted by unshielded fixtures — costing $3.3 billion and responsible for 21 million tons of carbon emissions annually, the LUNA requirements will address this significant opportunity to save energy by encouraging the use of outdoor lighting only where and when it is needed.

Collaboration in a Virtual World

2020 began for the DLC as it did for virtually every other organization and company on Earth — mastering ways to effectively conduct all our business remotely. Thanks to adaptable staff, members and stakeholders, we accomplished it well. We worked with industry on policy postponements, first due to COVID and then due to supply chain disruptions that continue to affect manufacturing and shipping. We also worked as liaisons to efficiency programs, describing the challenges facing the industry. The DLC's work continued, and continuous improvement was made throughout 2020. As we sought ways to keep stakeholders informed and involved, we pivoted from an in-person horticultural lighting summit to a series of three participant driven webinars that included presentations by industry experts followed by working group discussions. In addition to our Hort Webinar Wednesdays (a tradition we are continuing in 2021), the DLC held 11 other public, free webinars focusing on topics ranging from understanding DLC policies and requirements to exploring research studies. We held over 20 online meetings, working groups, and webinars specifically for our energy efficiency program members, closed out the two year term of the Industry Advisory Committee, and held open elections for the 2021-2022 term.

The DLC implemented its scheduled Technical Requirement updates throughout 2020. Against this collaborative backdrop, the DLC implemented SSL Technical Requirements V5.0 and V.5.1 introducing new quality and controllability metrics, as well as NLC5, which added a cybersecurity requirement. Horticultural Technical Requirements V2.0 was also implemented, and we released the first draft of V2.1, setting the stage to allow qualification of a greater variety of products.

Finally, in preparation for planned new SSL QPL criteria related for light at night, the DLC began in 2020 to work with industry experts and aligned organizations to plan for a new program that will recognize and promote outdoor light fixtures that are both energy efficiency and protect the night sky from light pollution.

STATISTICS

>1900
participants that attended webinars and online workshops

◆ ◆ ◆

6
total working groups, committees, and advisory groups administered by the DLC

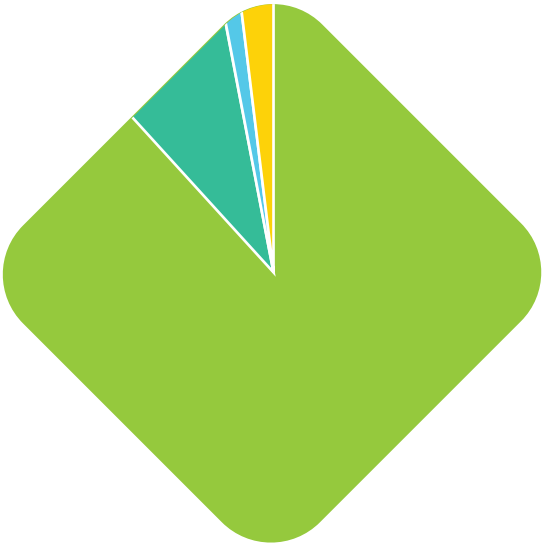
Renovating the DLC Online Experience

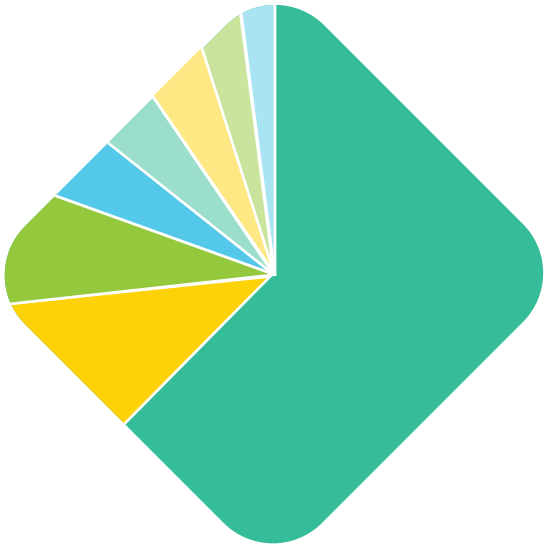
Similar to the rethinking office space and remaking of home space for work, the DLC took on our virtual space in 2020. The DLC's website and other signature online features will look and function differently — and better, thanks to a major effort undertaken in 2020 to align the DLC's web and digital presence with state-of-the-art online standards. In addition to major improvements to the DLC website, this three-pronged project includes the QPL databases and the infrastructure through which we process product applications. The project addresses the following goals:

- **Emphasize** the DLC's mission and efforts toward accomplishing it;
- **Improve** the logged in experience for DLC website users, with better tools and easier navigation to help them stay current with DLC news and updates;
- **Enable** website and QPL users to search for and locate information faster;
- **Intuitive QPL search functionality**, with more user-friendly design for displaying product information in line with e-commerce norms; and
- **Streamline** the QPL application submission process and allow users to better track the progress of application reviews.

2020 Financials

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





REVENUE: $9,458,360

DLC QPLS	$8,365,800
MEMBERSHIP FEES	$822,107
TRAININGS & EVENTS	$92,950
OTHER	$177,503

EXPENSES: $9,867,118

SSL REQUIREMENTS & QPL	$5,676,391
GENERAL & ADMINISTRATIVE	$1,746,867
INFORMATION TECHNOLOGY	$674,390
OUTREACH & ENGAGEMENT	$481,573
NLC REQUIREMENTS & QPL	$435,671
HORT REQUIREMENTS & QPL	$429,783
OTHER PROGRAMS	$274,331
SURVEILLANCE TESTING	$148,360

Looking Ahead

While navigating unpredictable terrain in 2020, the DLC team stayed true to its mission, working closely with our members and partners to achieve energy optimization by enabling controllability with a focus on quality, people, and the environment. As the world adapts to post-pandemic norms in 2021, the path ahead for efficient, connected lighting is truly bright.

We're emerging from a truly challenging situation more energized than ever to overcome barriers to increased energy savings by collaborating to maximize the value of the many lighting and control technologies at our fingertips.

The DLC's 2021 agenda includes continued development of solid-state lighting (SSL), horticultural lighting, and networked lighting controls (NLC) policies that support expanded adoption of products that make our built environment more connected and energy efficient. Leveraging the largely untapped potential of controls to significantly increase the efficiency of LED products remains a major focus. As lighting controls also contribute to the wellbeing and comfort of building occupants, the DLC is confident that expanding deployment of this technology will pay dividends for facility owners and managers seeking to both save energy costs and attract and retain a productive workforce.

Moreover, with the international scientific community warning that the Earth is risking irreparable harm from climate change, and with just a decade left to cut carbon pollution enough to prevent it, the DLC's continued emphasis on efficiency and integrated controls contributes to the solutions we must urgently pursue.

We are undertaking our newest program, LUNA, with this urgency in mind. As we refine these new technical requirements in 2021, the DLC is mindful of data from the **International Dark Sky Association** indicating that a third of all outdoor lighting in the US is wasted — largely by unshielded fixtures that allow light to spill where it's not needed, costing an unnecessary $3.3 billion and causing 21 million tons of carbon emissions annually. We are excited to join with an array of stakeholders to reduce this impact enroute to a zero net emissions future.

As sobering as 2020 was, it yielded some important lessons — among them how remarkably interconnected the world is. It's a reminder of how actions — even simple ones like turning on a light — can cause unintended adverse impacts or how intentional ones, like using controls to turn off lights when they are not needed, can benefit people and the environment.

Looking ahead to 2021, the DLC anticipates a host of opportunities to collaborate with our diverse stakeholders to develop, refine, and promote additional solutions that support energy efficient, smart, quality lighting for everyone.

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