Energy · Quality · Controllability℠

LUNA IS LIVE!

Application Processing and Tips

April 8, 2022

Agenda

- What is LUNA?
- How to Submit LUNA Applications
  - The Process and What Changed
  - Application Excel Forms
- New Submitter Tools
  - New DLC-formatted SPD and Luminous Intensity Images
- New Controllability Terms (Table 7 vs Table 9)
- How to Find LUNA Products on the QPL
- Fees and Review Timelines
- Resources Available

Webinar Team

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Application Process

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Senior Technical Analyst
Application Process

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Technical Manager
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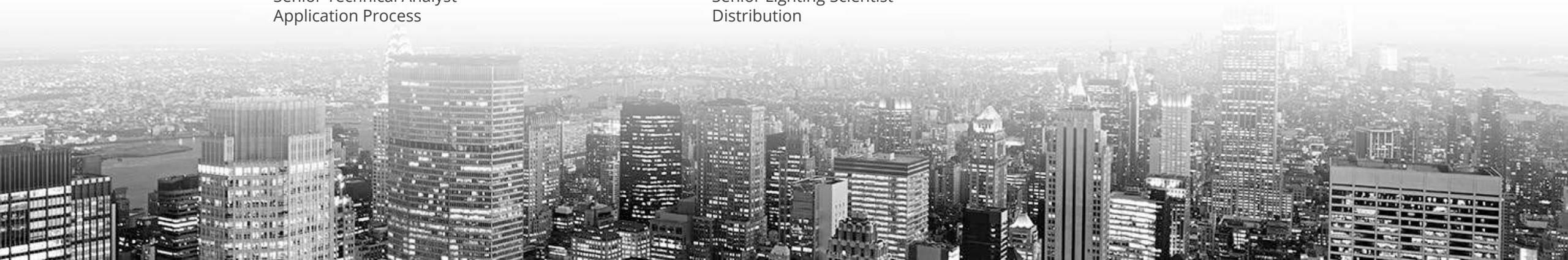
Leora Radetsky
Senior Lighting Scientist
Distribution

Levin Nock
Technical Manager
Controllability

Q&A Moderator

Dave Ryan
SSL/LUNA Lead Reviewer



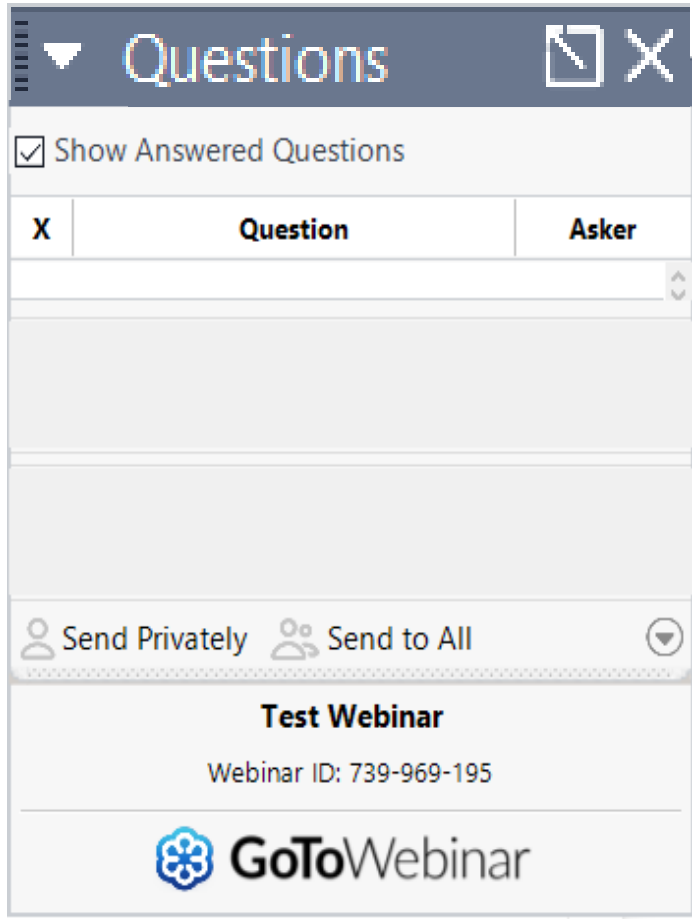
Webinar Logistics

Please enter your questions in the Questions pane in GoToWebinar.

- Some questions answered in the Questions Pane
- Some questions answered aloud (anonymously) at the end during the Q&A session

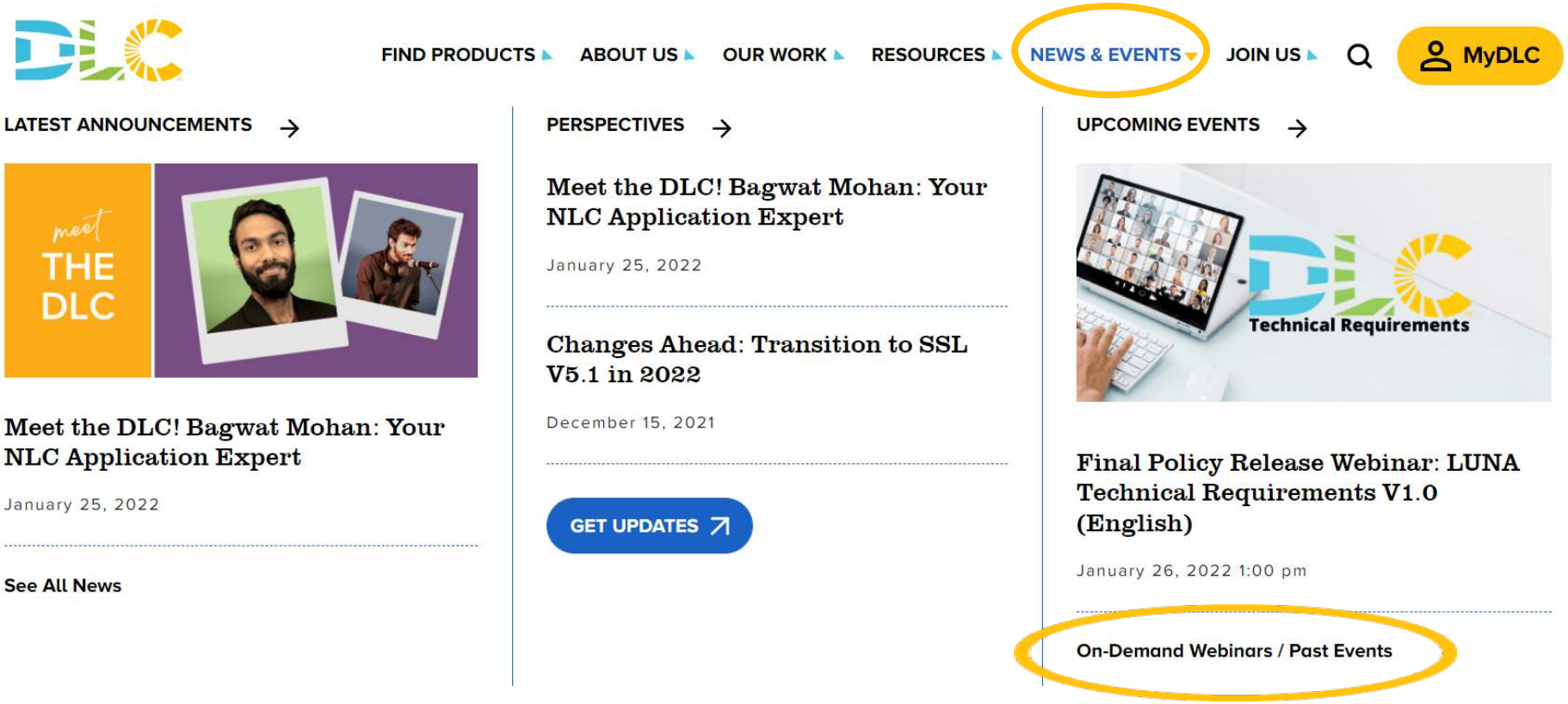
All attendees are automatically muted

If you experience technical issues, please use the chat pane to let us know



Recordings

- **Slides and recorded webinar will be posted** on the *DLC News & Events* page at www.designlights.org/news-events shortly after today's presentation



Overview

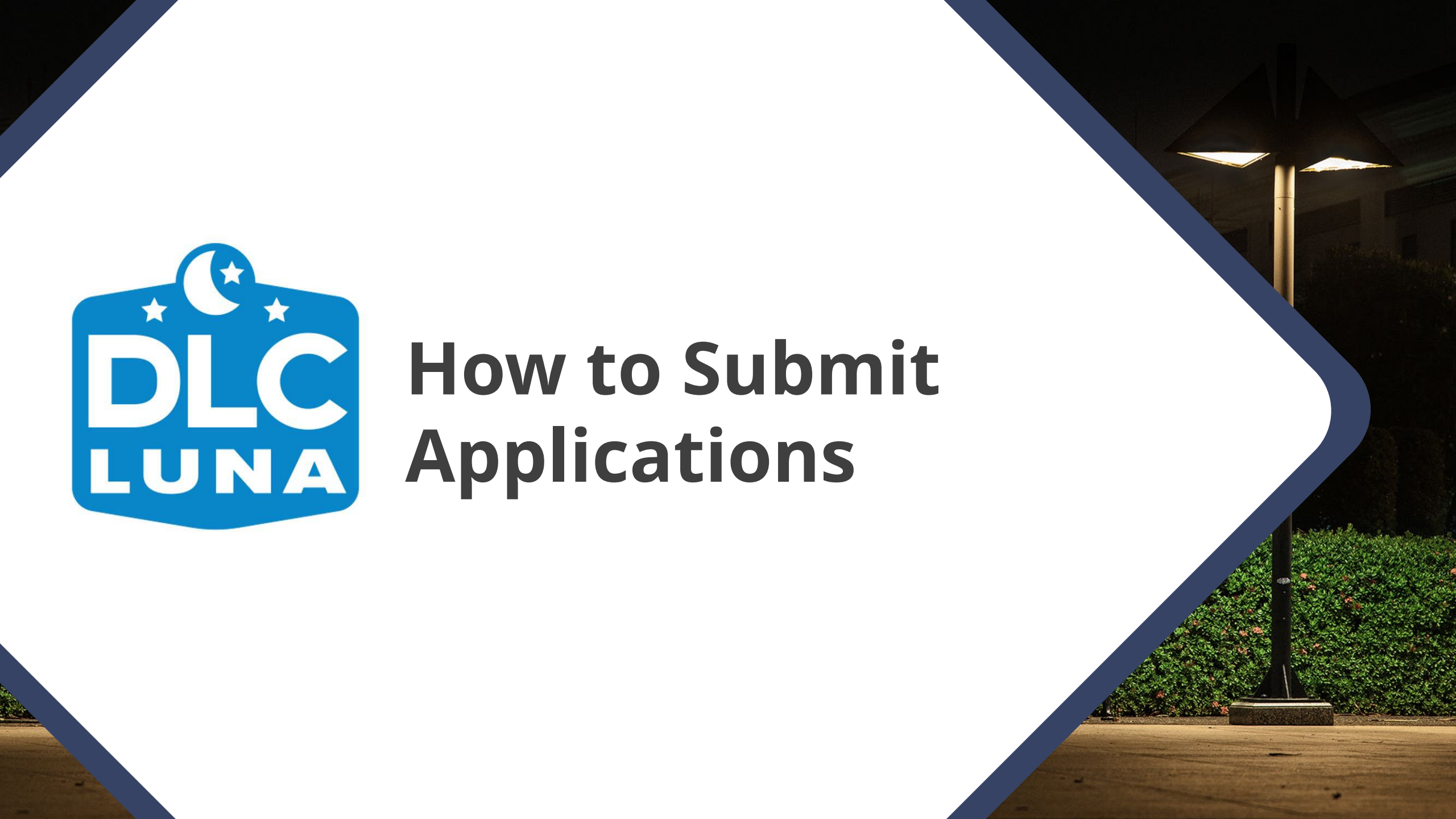
LUNA Outdoor Luminaires

1. Minimize lighting energy use

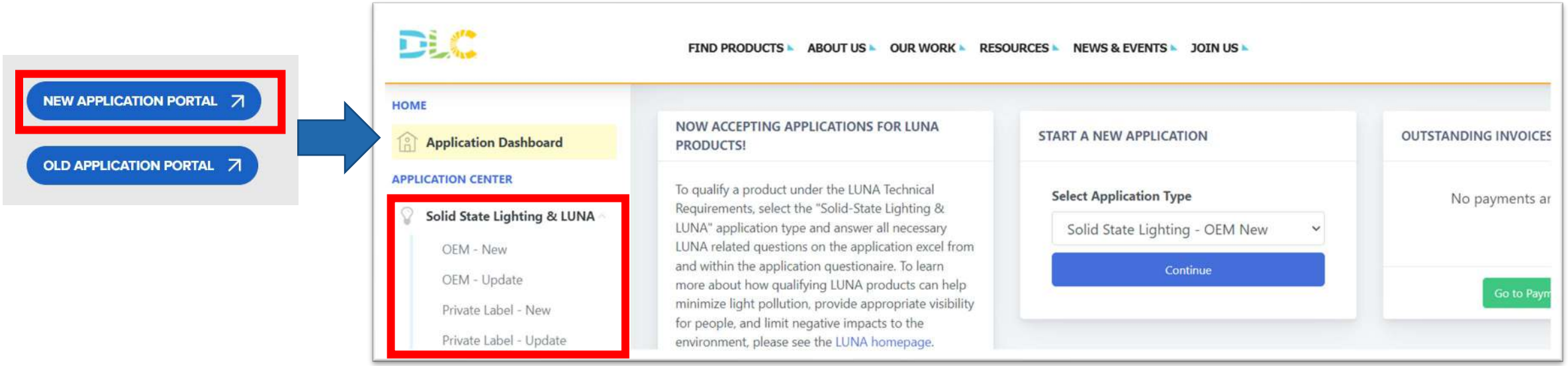
2. Minimize light pollution

3. Provide appropriate visibility for people

How to Submit Applications



How to Submit a LUNA Application



To submit for LUNA you must submit the appropriate SSL application:
Each application type will include specific questions related to LUNA

- SSL OEM NEW AND UPDATE
- SSL PL NEW AND UPDATE

You can update a product to LUNA or qualify a product to 5.1 and LUNA with the same application.

PL manufacturers have the OPTION to qualify a product to LUNA if the OEM products have the LUNA designation

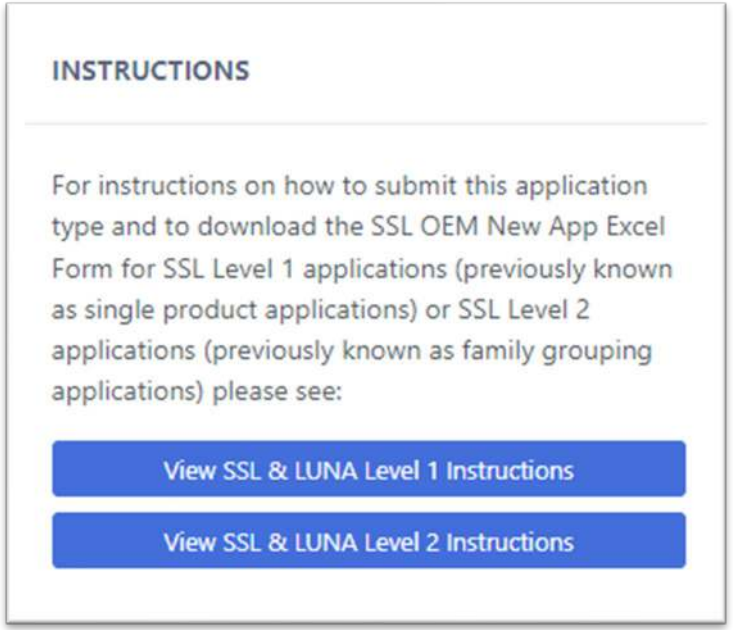
Apps that were submitted prior to 4/4 must submit a new app to add LUNA

The Process and What Has Changed

Application process flow the same for SSL and LUNA

SSL and LUNA OEM New & Update Applications

SSL and LUNA Private Label New & Update Applications



Questionnaire

There are new and updated questions added to the LUNA application form:

2. Please select if any products in this application are targeting LUNA qualification. Required

This is only eligible for specific primary use designations within the outdoor luminaires category.
Additional information on LUNA qualification can be found on the LUNA program page.

- ○ Yes
- ◉ No

Added to ALL apps
Default = No
Existing App – select No
Only addition for PL

Include Shield/Mounting Info where applicable on spec sheet or other docs

3. Please upload a specification sheet for each product included in your application. Required

For LUNA applications, if your specification sheet does not include shielding and/or mounting options/accessories please upload additional documentation describing these options/accessories. Specification sheets that are submitted must be the customer-facing specification sheets used in the marketplace. Specification sheets created for the sole purpose of DLC submission are not acceptable. Product specification sheets must clearly detail dimming/control capabilities if products are capable of dimming and/or have controls. Multiple specification sheets are acceptable if all products are not included in a single document.

25. Please upload an LM-79/distribution report PDF for each unique optical variation submitted. Required

This is required for LUNA applications and optional for non-LUNA application.
PDF distribution reports may be beneficial for the reviewer to understand the testing conducted on your products.
The following are for LUNA products only:
These must accompany all IES photometric files uploaded above.
The tested product from this report must be the highest light output within the family and include the worst case performance affecting mounting options.
A product image must be included in this report showing the optics, mounting and shields if applicable.

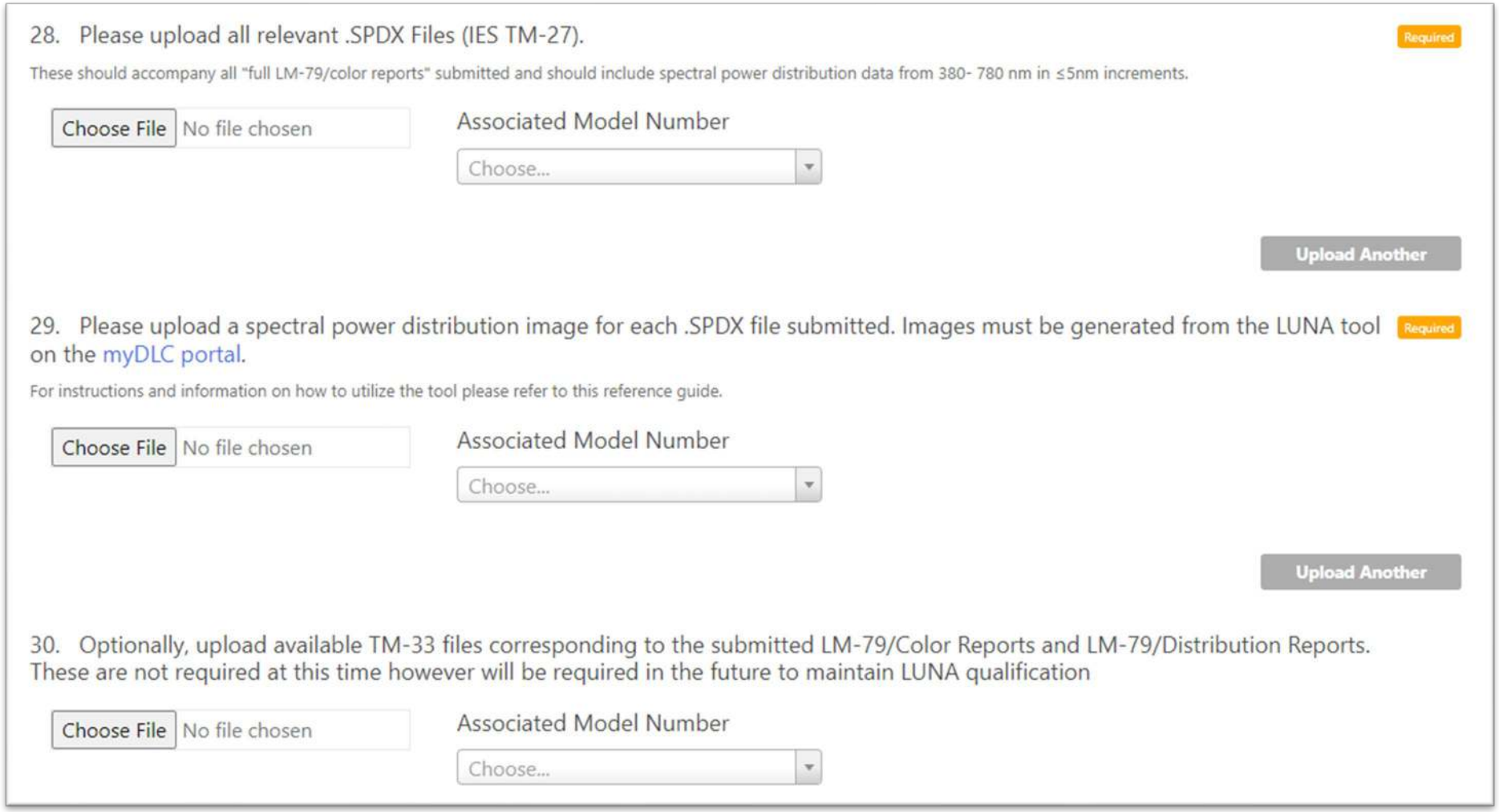
Required for LUNA

Use Submitter Tools on MyDLC Portal

29. Please upload a luminous intensity distribution image, also known as a polar candela plot, for each unique optical variation submitted. Images must be generated from the LUNA tool on the myDLC portal. Required

For instructions and information on how to utilize the tool please refer to this reference guide.

Questionnaire



Submit same file used to generate images

Use TM-27

Use Submitter Tools on MyDLC Portal

OPTIONAL:
Will be required in future revisions

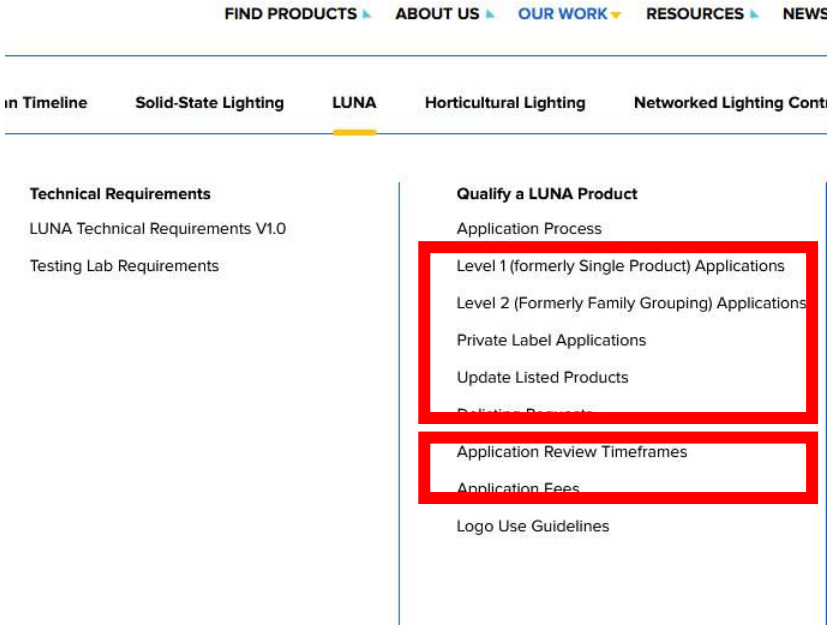
Application Excel Forms

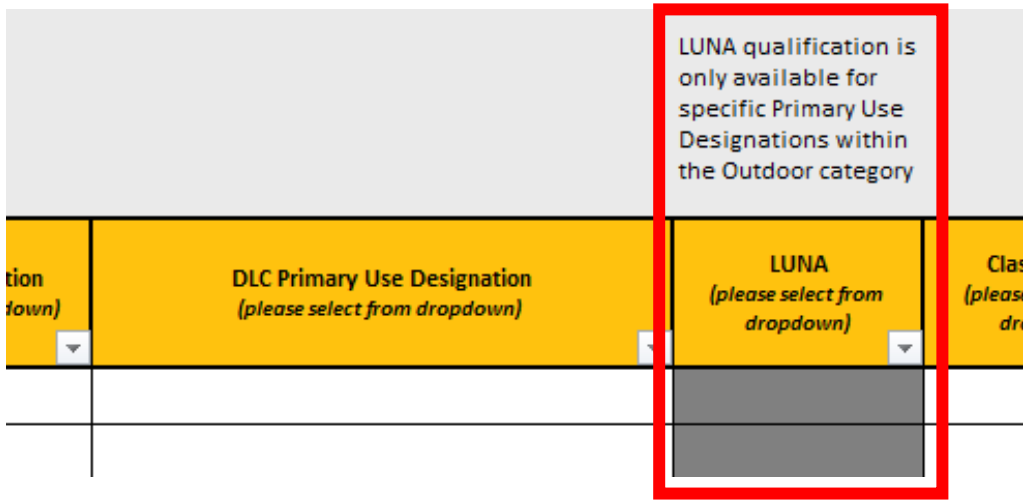
Application Excel Forms

New Excel Forms need to be used for LUNA

- SSL OEM New
- SSL OEM Update

- There will be new fields that capture info on LUNA products
- LUNA sections are required when LUNA is selected





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Controllability: Integral Controls
Select in addition to 5.1 controls

LUNA Specific Columns Start Here				
Integral Control Capabilities Please select any additional capabilities beyond those selected in column AG			Integral Control Receptacle Standard	
			Please leave blank if not applicable	
Part Night Dim *(please select from dropdown)*	Photocontrol with Self-Calibrating Astronomic Clock *(please select from dropdown)*	Low-end Trim for Vacancy Mode *(please select from dropdown)*	Integral Control Receptacle Standard *(please select from dropdown)*	Other Integral Control Receptacle Standard Name

Controllability
Wired Communication for a Single Control Point- Table 7

Wired Communication for a Single Control Point - Table 7 of LUNA specification									
									Please type in any wired communication protocols for a single control point available on the product that are not listed on the left.
Minimum Dimming Level	0-10V IEC 60929 Annex E *(please select from dropdown)*	0-10V ANSI C137.1 (8V) *(please select from dropdown)*	0-10V ANSI C137.1 (9V) *(please select from dropdown)*	Fwd Phase NEMA SSL 7A *(please select from dropdown)*	DALI *(please select from dropdown)*	DALI2 *(please select from dropdown)*	D4i *(please select from dropdown)*	DMX512 *(please select from dropdown)*	Other Wired Communication for a Single Control Point

Controllability
Wired Communication Between Multiple Control Points-Table 9

Wired Communication Between Multiple Control Points - Table 9 of LUNA specification						
						Please type in any wired communication protocols between multiple control points available on the product that are not listed on the left.
DALI	DALI2	DMX512	BACnet *(please select from dropdown)*	LONworks *(please select from dropdown)*	Modbus *(please select from dropdown)*	Other Wired Communication Between Multiple Control Points

Controllability-Wireless

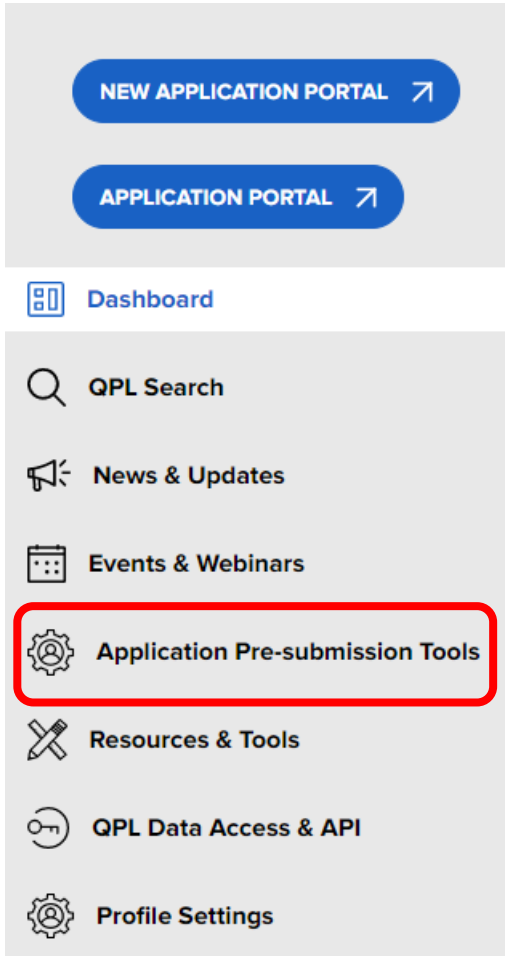
Wireless Communication Between Multiple Control Points

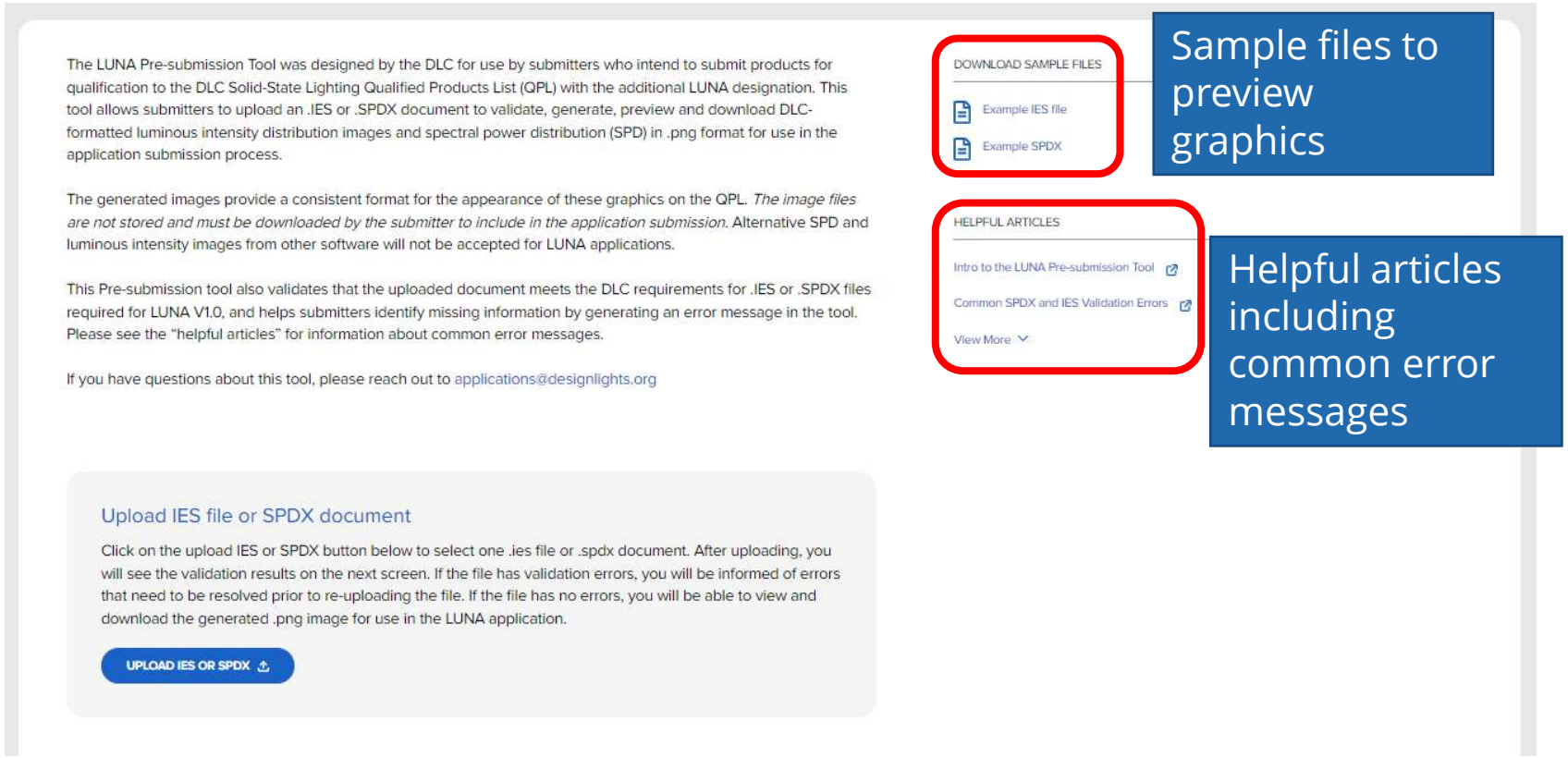
Table 9 of LUNA specification

Wireless Communication Between Multiple Control Points - Table 9 of LUNA specification										
										Please type in any wireless communication protocols between multiple control points available on the product that are not listed on the left.
BLE MDP v2 *(please select from dropdown)*	BLE SIG Mesh v1 *(please select from dropdown)*	BLE Proprietary *(please select from dropdown)*	4G *(please select from dropdown)*	5G *(please select from dropdown)*	EnOcean *(please select from dropdown)*	Wi-Fi *(please select from dropdown)*	Zigbee Certified Product *(please select from dropdown)*	Zigbee 3.0 *(please select from dropdown)*	Zigbee Proprietary *(please select from dropdown)*	Other Wireless Communication Between Multiple Control Points

New Submitter Tools

Web





Sample files to preview graphics

Helpful articles including common error messages

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Instructions

Step 1: Upload data

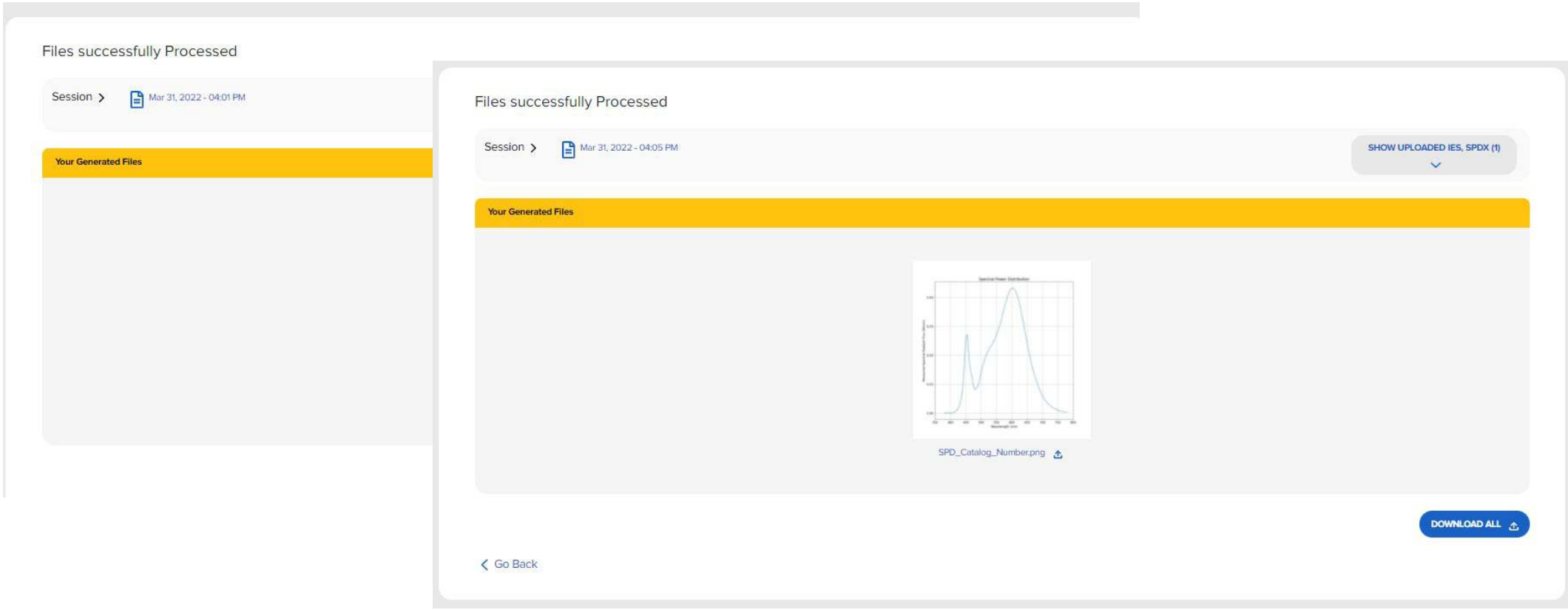
Upload IES file or SPDX document

Click on the upload IES or SPDX button below to select one .ies file or .spdx document. After uploading, you will see the validation results on the next screen. If the file has validation errors, you will be informed of errors that need to be resolved prior to re-uploading the file. If the file has no errors, you will be able to view and download the generated .png image for use in the LUNA application.

UPLOAD IES OR SPDX

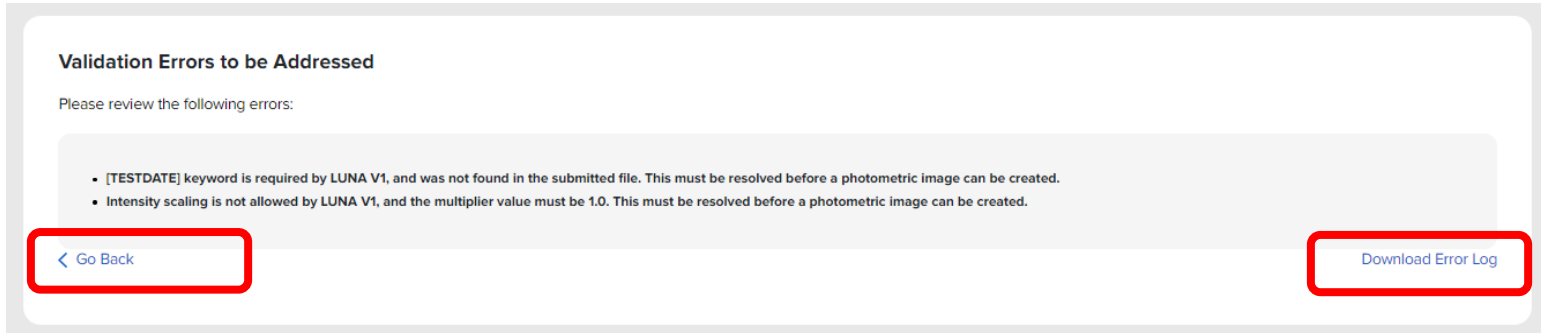
Instructions

Step 2a: Preview file (no validation errors)

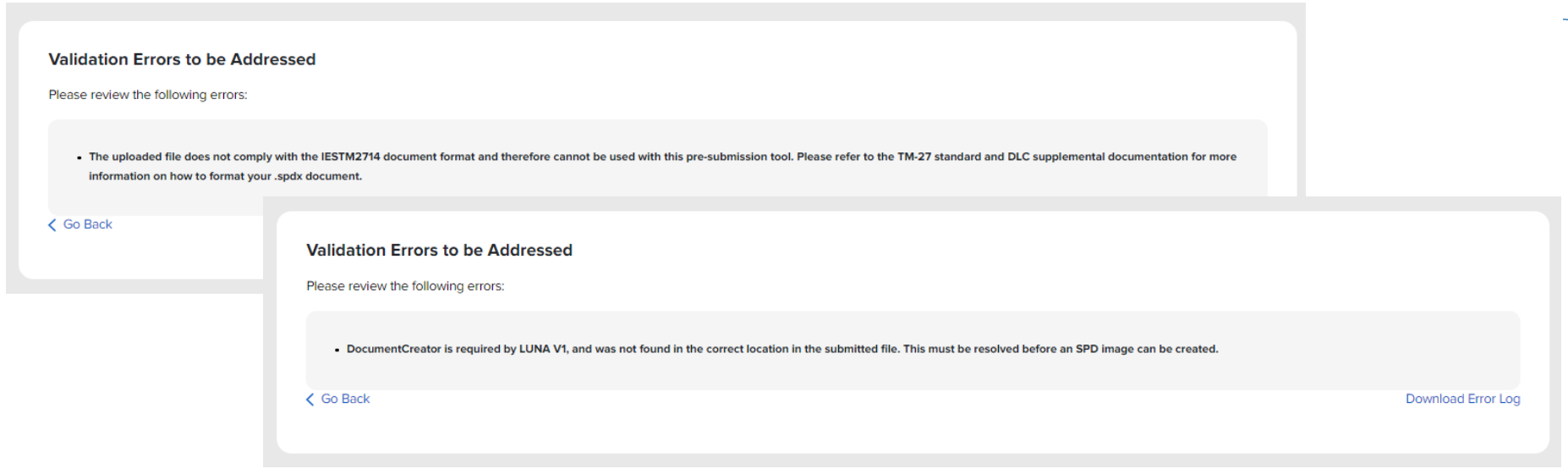


Instructions

Step 2b: Fix validation errors



Validation errors for .ies

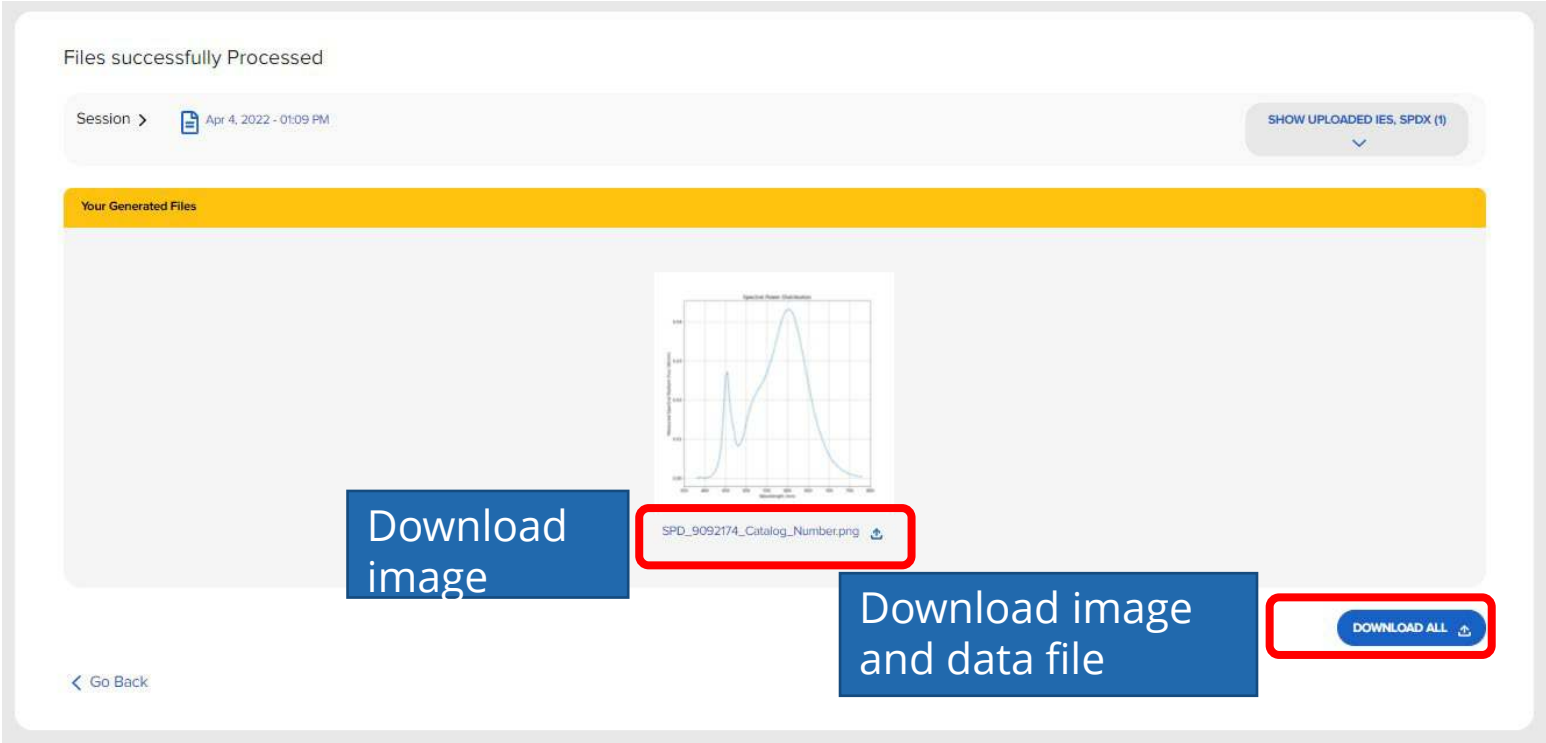


Validation errors for .spdx documents

https://www.designlights.org/graphics-tool/common-spdx-and-ies-validation-errors/

Instructions

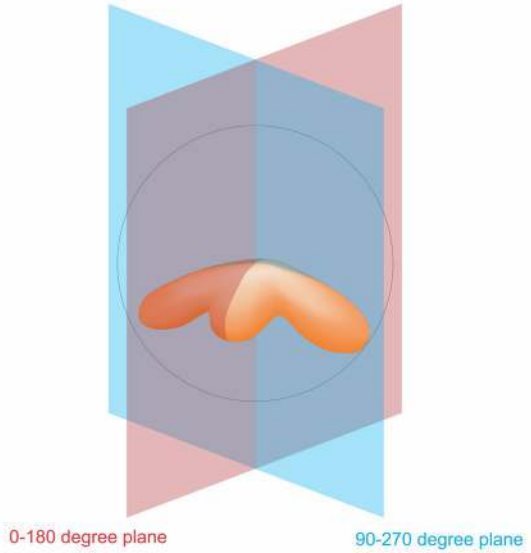
Step 3: Download image for submission



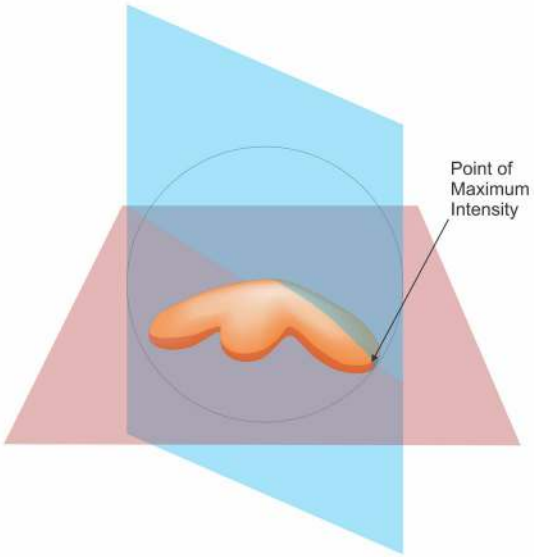
Requirements: **Distribution**

What may be different

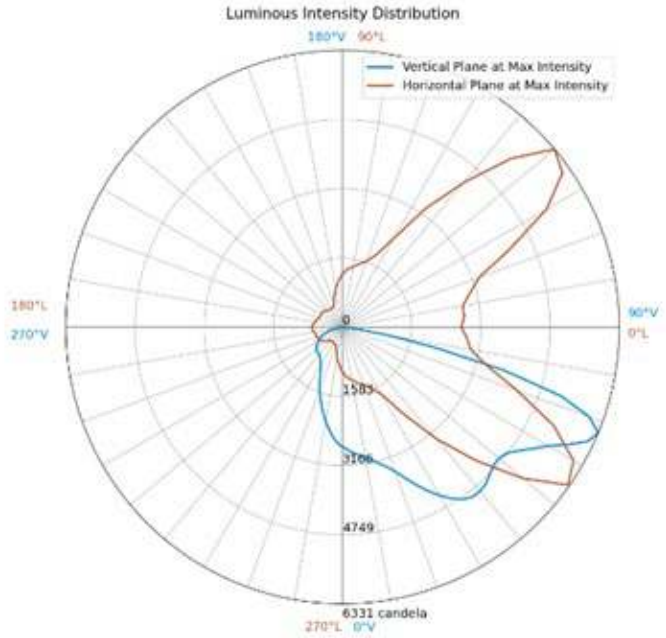
Fixed vertical planes



DLC:
Planes through max intensity



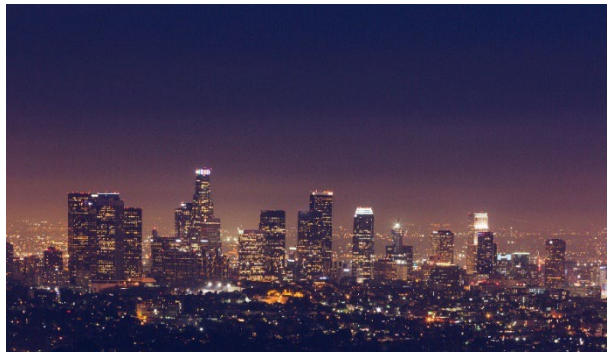
DLC formatted image
from LUNA Pre-submission Tool



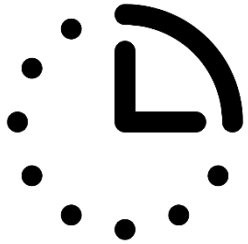
Requirements: **Controllability**

LUNA Controllability Rationale

1) Minimize sky glow and light trespass flexibly throughout the night



2) Minimize lighting energy use flexibly throughout the night



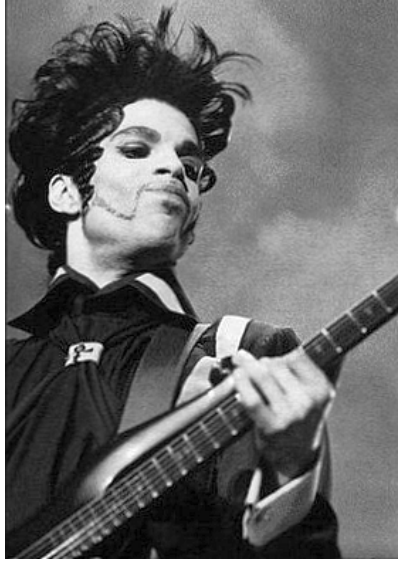
3) Recognize circuit level controls and standalone controls as inexpensive ways to address Goals 1,2

Controllability: Overview

LUNA controllability testing and reporting requirements.
Highlights from Table 7 of the LUNA Technical Requirements.
(not required for Specialty Primary Use Designations intended for hazardous locations)

Metric	LUNA V1 Requirements
Dimming Capability	Continuous dimming capability to ≤20% of maximum output power is **required**. Each product is **required** must support at least one Communication method for dimming (either wired communication for a single control point, or communication between multiple controls points)
Wired Communication for a Single Control Point	Wired Communication for a Single Control Point is **reported**.
Integral Controls	Capability for integral controls is **reported**.
Communication Between Multiple Control Points (Wired or Wireless)	The communication standard protocol is **reported**.

The Parameter Formerly Known as Dimming Protocol



Old

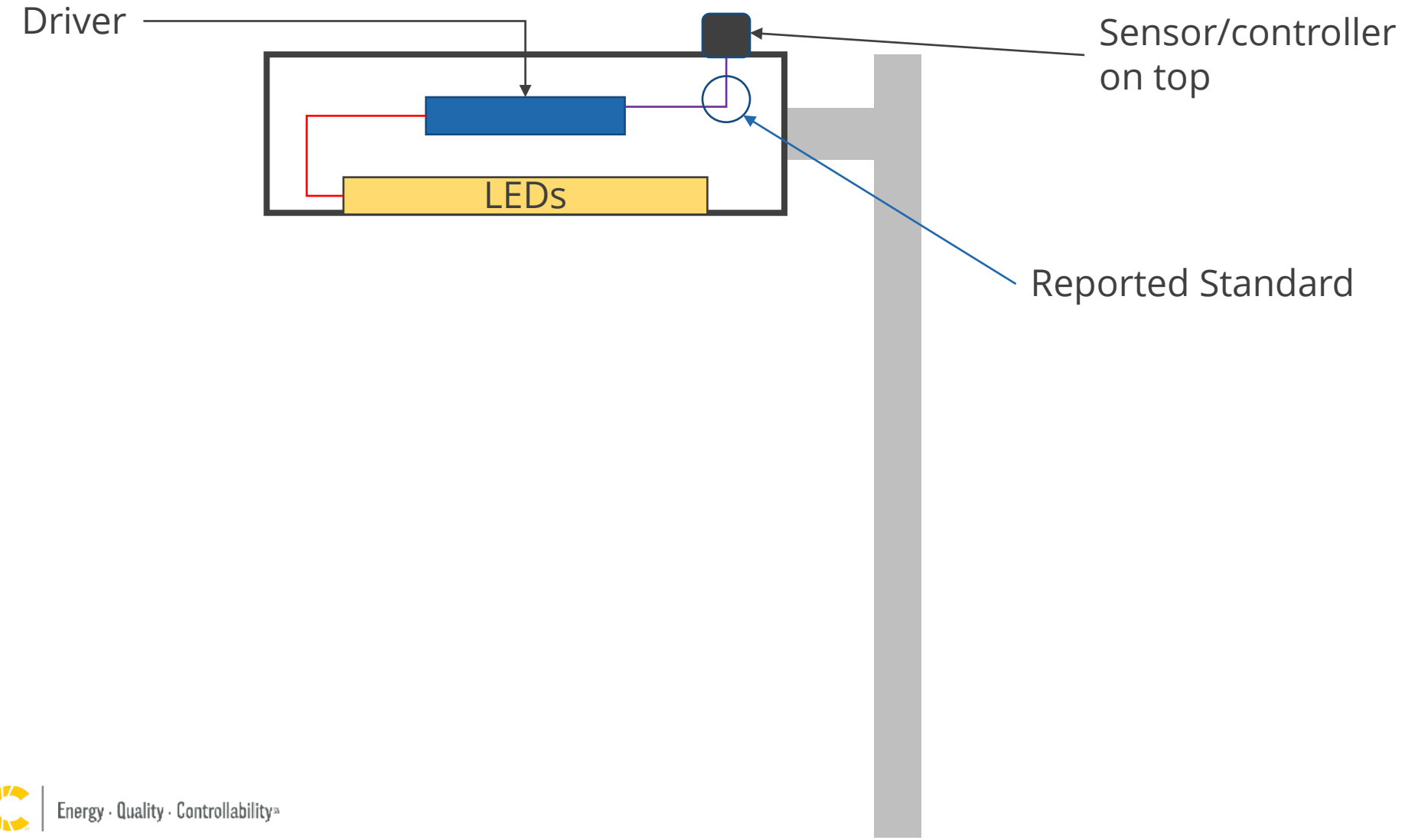
- Dimming standard protocol between driver and sensor/controller
- Communication standard protocol between luminaires and other devices

became

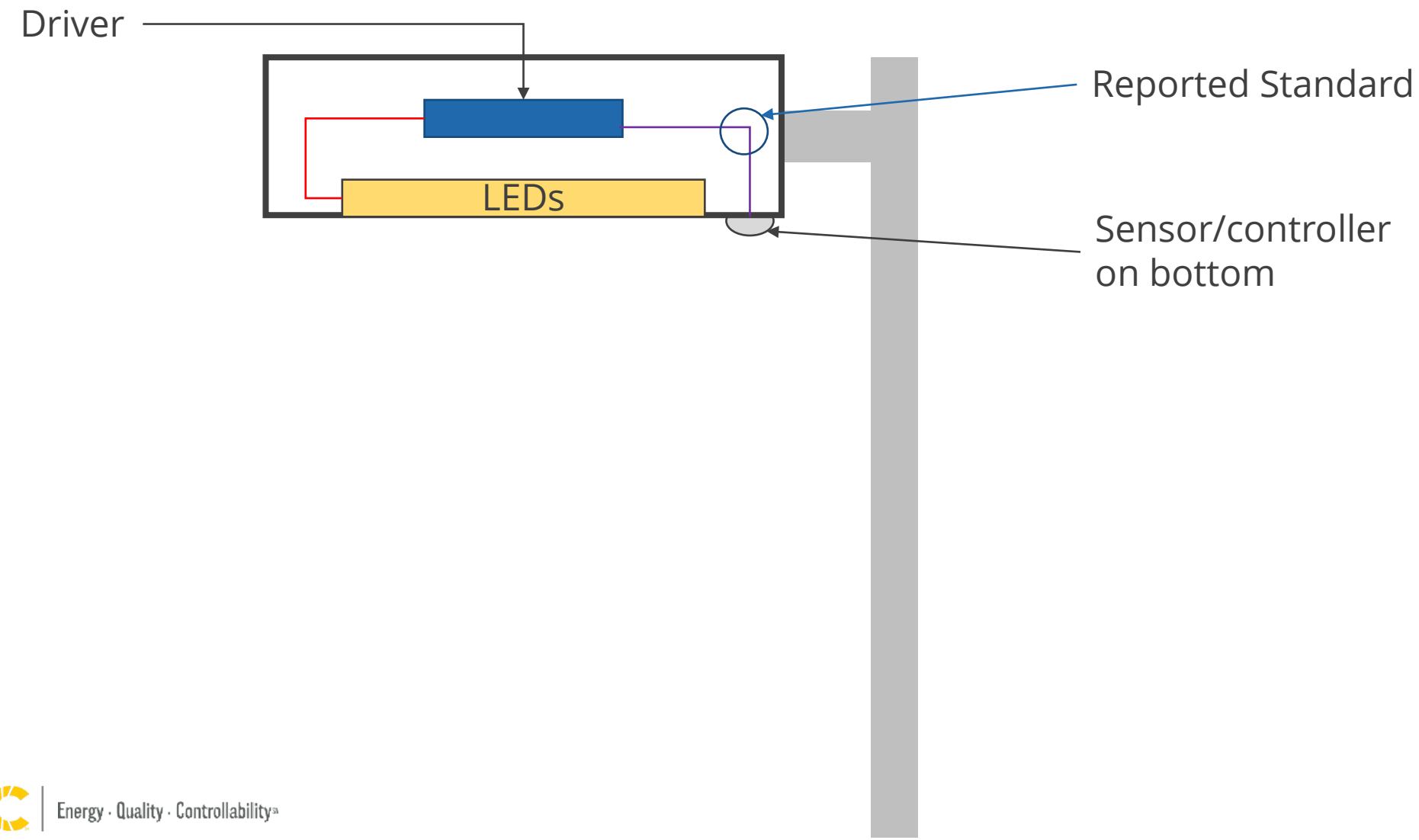
New

- Wired Communication for a Single Control Point
- Communication Between Multiple Control Points

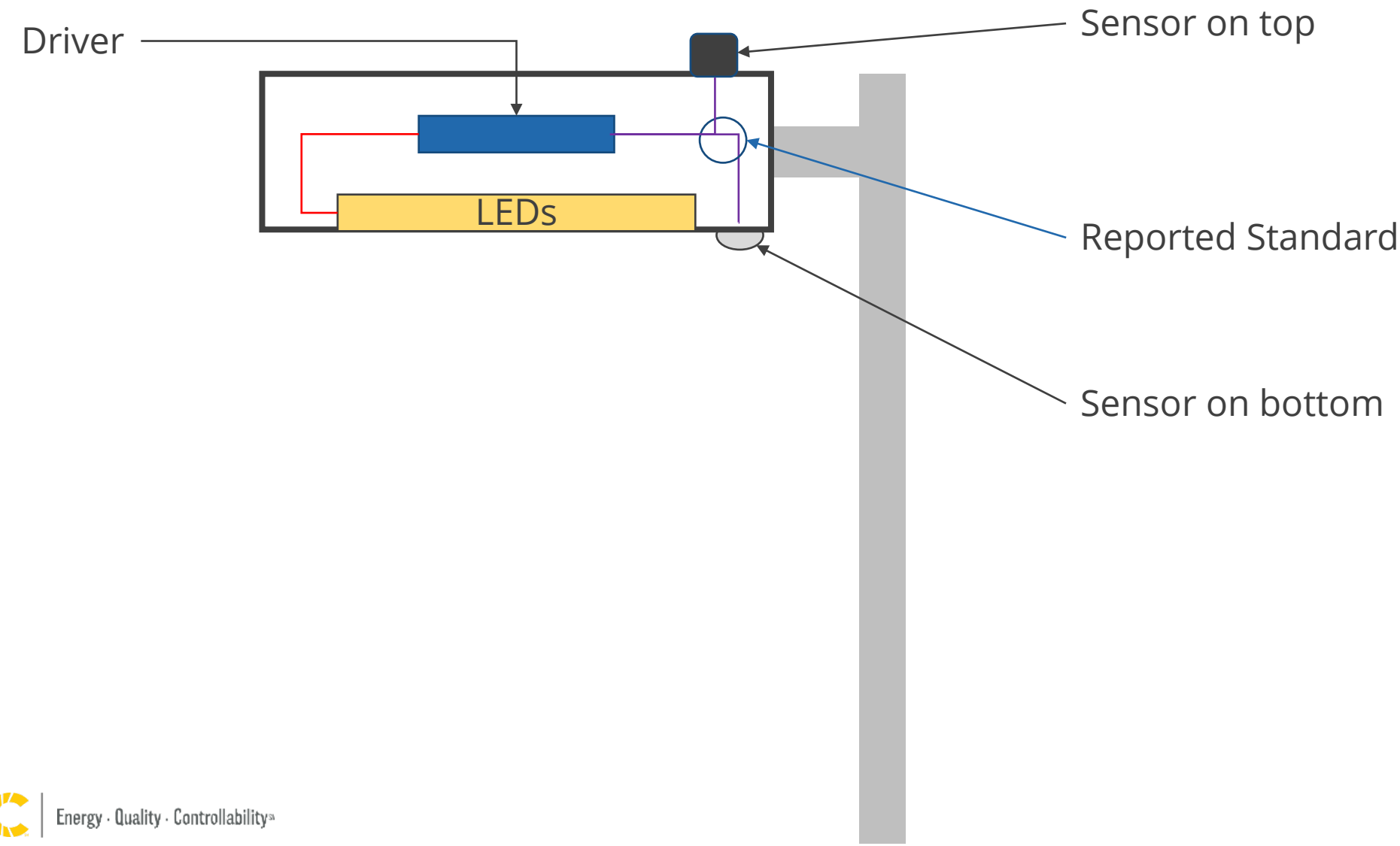
Wired Communication for a Single Control Point



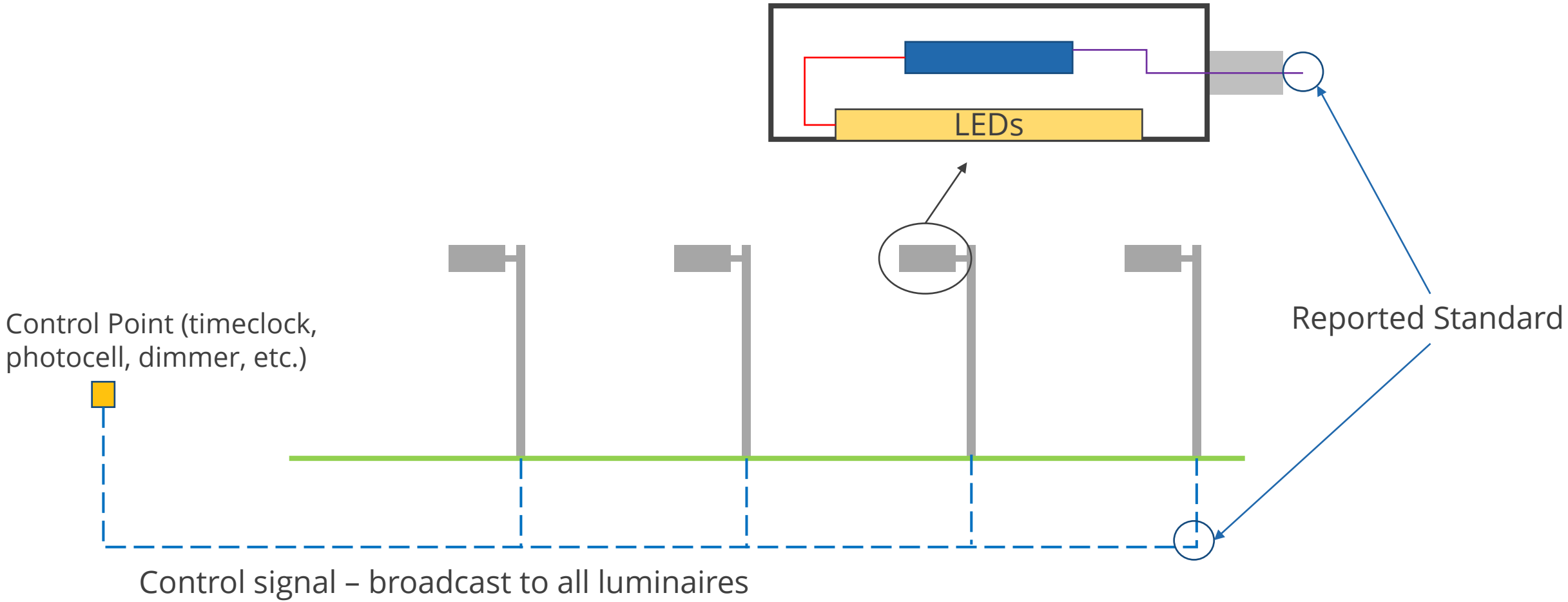
Wired Communication for a Single Control Point



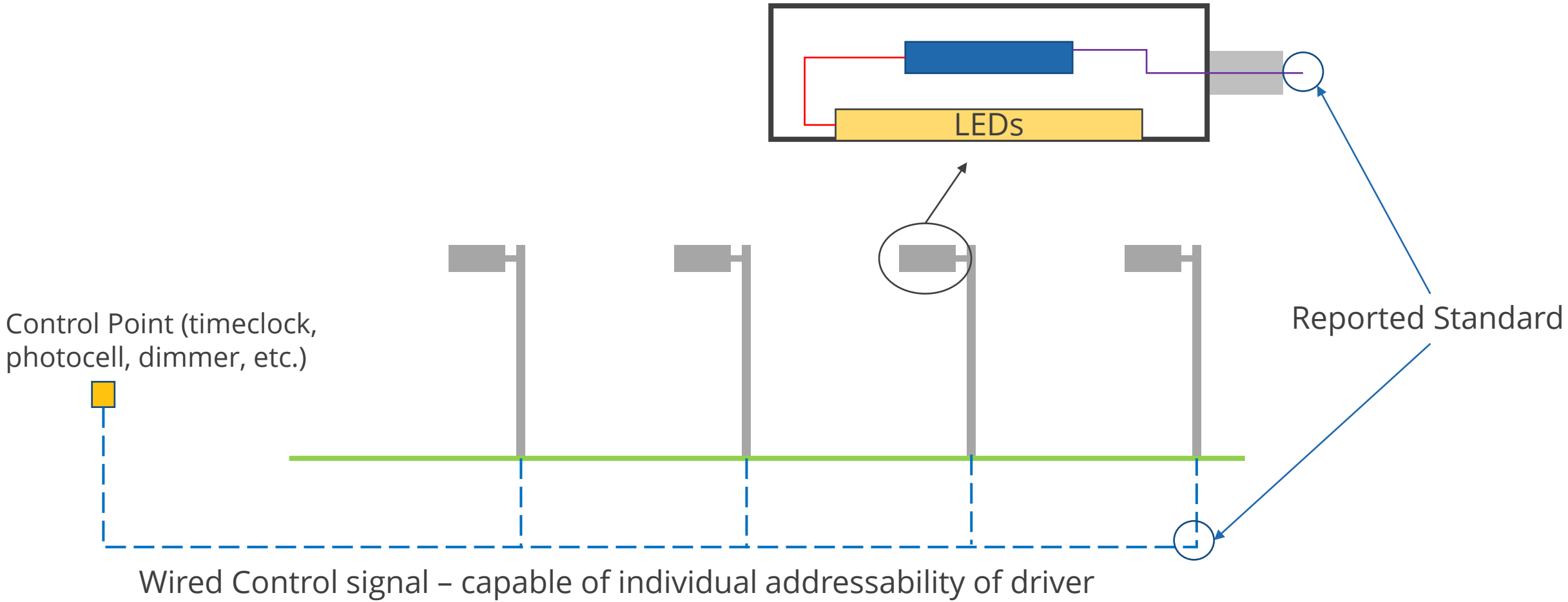
Wired Communication for a Single Control Point



Wired Communication for a Single Control Point

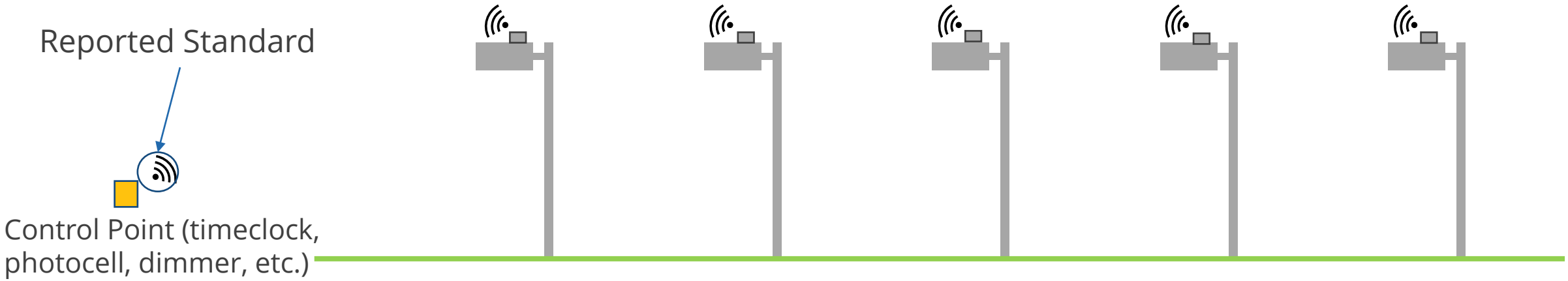


Communication Between Multiple Control Points



Communication Between Multiple Control Points

Wireless Control signal – capable of individual addressability of driver/controller



Wired Communication for a Single Control Point is Reported.

From Table 7 of the LUNA Technical Requirements

Metric	LUNA V1 Requirements
Dimming Capability	Continuous dimming capability to ≤20% of maximum output power is **required.** Each product is **required** must support at least one Communication method for dimming (either wired communication for a single control point, or communication between multiple control points)
Wired Communication for a Single Control Point	Wired Communication for a Single Control Point is **reported.**
Integral Controls	Capability for integral controls is **reported.**
Communication Between Multiple Control Points (Wired or Wireless)	The communication standard protocol is **reported.**

- Wired, Analog
  - 0-10V IEC 60929 Annex E
  - 0-10V ANSI C137.1-2019 (8-Volt)
  - 0-10V ANSI C137.1-2019 (9-Volt)
  - Forward Phase NEMA SSL 7A-2015 (R2021)
- Wired, Digital
  - DALI
  - DALI 2
  - D4i
  - DMX512
- Other

Communication Between Multiple Control Points is Reported

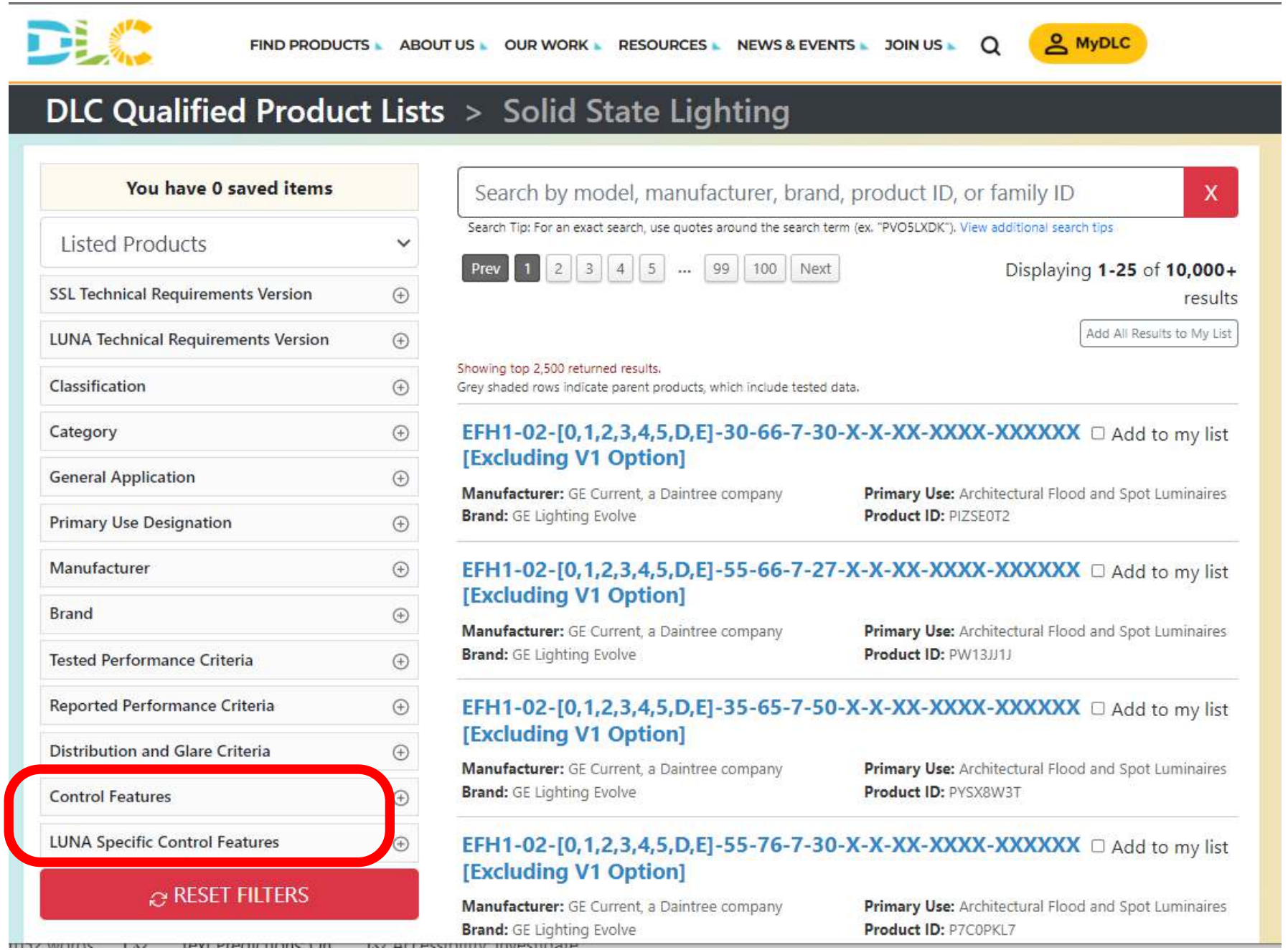
From Table 9 of the LUNA Technical Requirements

Metric	LUNA V1 Requirements
Dimming Capability	Continuous dimming capability to ≤20% of maximum output power is **required.** Each product is **required** must support at least one Communication method for dimming (either wired communication for a single control point, or communication between multiple controls points)
Wired Communication for a Single Control Point	Wired Communication for a Single Control Point is **reported.**
Integral Controls	Capability for integral controls is **reported.**
Communication Between Multiple Control Points (Wired or Wireless)	The communication standard protocol is **reported.**

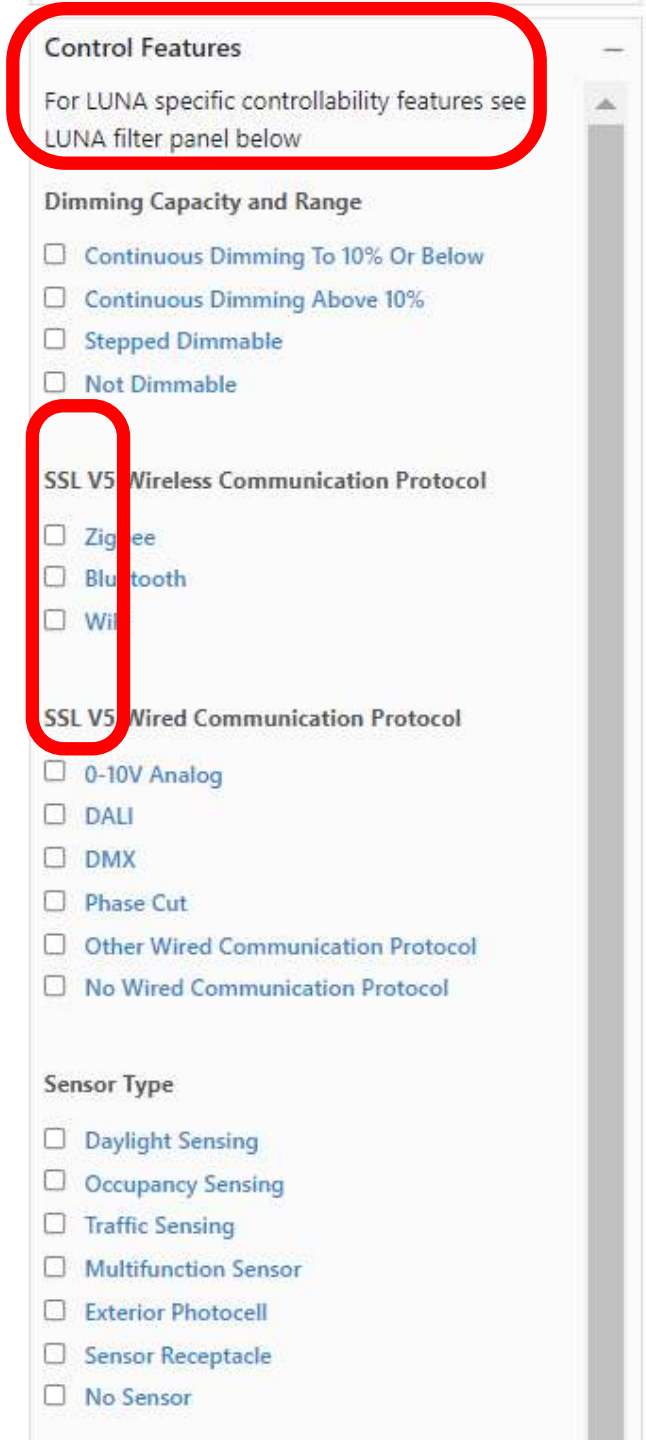
Table 9: Communication Between Multiple Control Points (reported capability)

Physical Medium	Standard Protocol	Acceptable Terms or Conditions
Wired	DALI	DALI, "Registered" at https://www.dali-alliance.org/products
	DALI2	DALI2, DALI-2, "Certified product" at https://www.dali-alliance.org/products
	DMX512	DMX512
	BACnet	BACnet
	LONworks	LONworks
	Modbus	Modbus
	Other (describe)	
Wireless	Bluetooth Mesh	
	• BLE MDP v2	Bluetooth SIG mesh version 2, BLE SIG mesh v2
	• BLE SIG Mesh v1.x	Bluetooth SIG mesh version 1, BLE SIG mesh v1
	• BLE Proprietary	Bluetooth mesh, BLE mesh, Product listing at https://launchstudio.bluetooth.com/Listings/Search
	Cellular	
	• 4G	4G, IMT-2000, LTE Advanced, IEEE 802.16m
	• 5G	5G, 3GPP 5G NR, IMT-2020
	EnOcean	EnOcean, Product listing at https://www.enocean-alliance.org/products/
	Wi-Fi	Wi-Fi, WiFi, IEEE 802.11, Wi-Fi Certified, Product listing at https://www.wi-fi.org/product-finder
	Zigbee Certified Product	Zigbee Certified Product, Product listing as "Zigbee Certified Product" at https://zigbeealliance.org/product_type/certified_product/
	Zigbee 3.0	Zigbee 3.0
	Zigbee Proprietary	Zigbee
	Other (describe)	

Control Filters



Existing Control Filters in SSL V5.1



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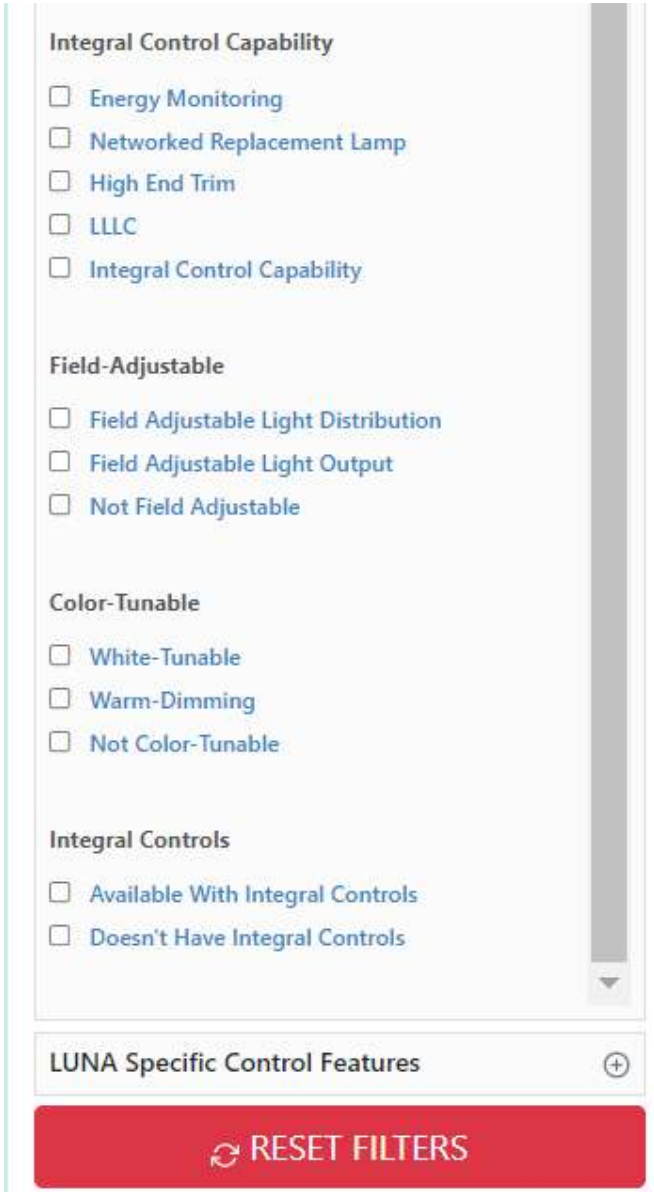
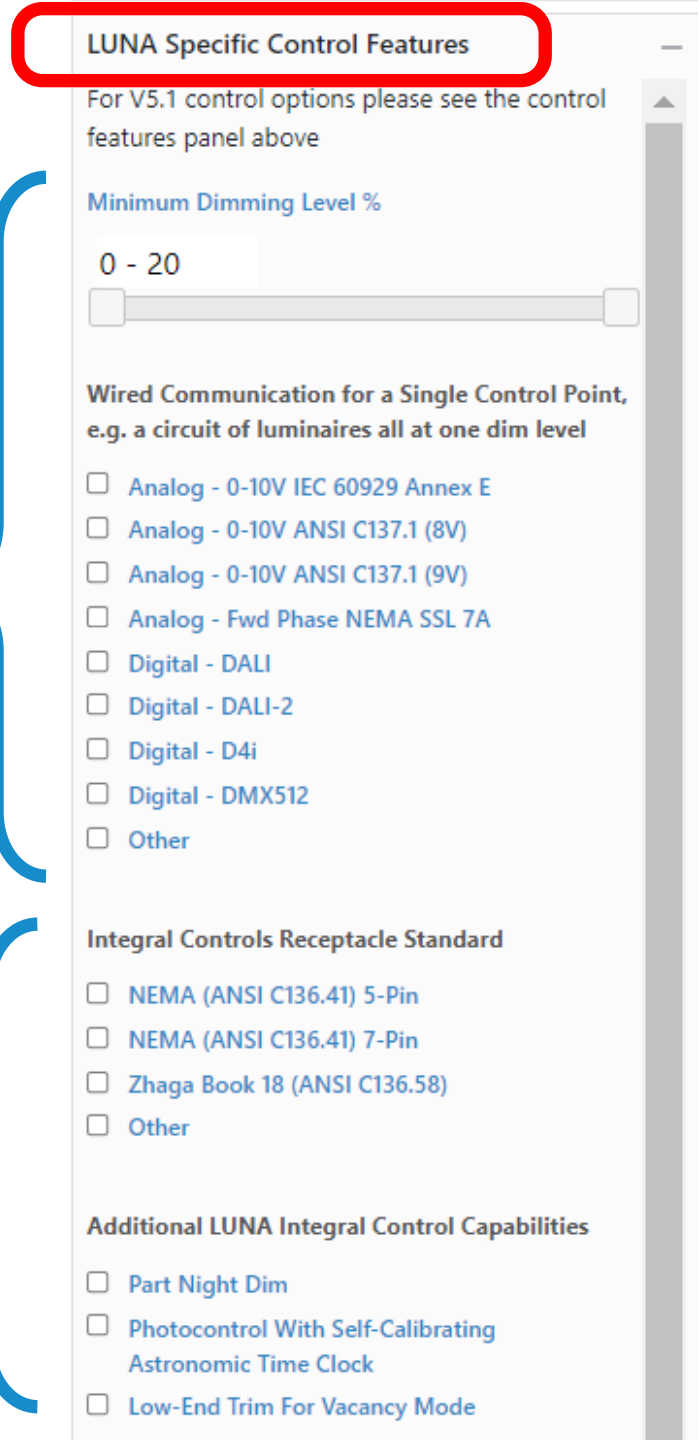


New LUNA Specific Control Filters

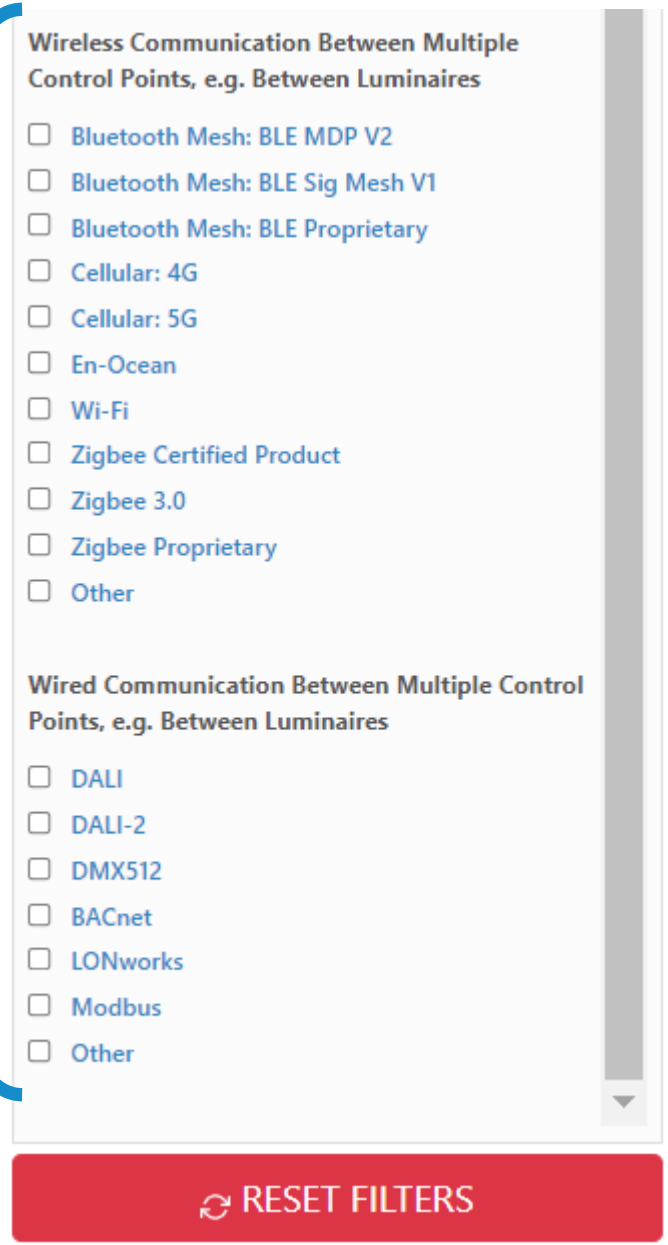
From LUNA Technical Requirements Table 7

From LUNA Technical Requirements Table 8



(Continued from previous column)

From LUNA Technical Requirements Table 9



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How New LUNA Capabilities Appear on the SSL Qualified Products List

PRODUCT INFORMATION
PRODUCT CATEGORIZATION VIEW DETAILS
PRODUCT CAPABILITIES VIEW DETAILS
REPORTED PHOTOMETRIC PERFORMANCE VIEW DETAILS
REPORTED ELECTRICAL PERFORMANCE VIEW DETAILS
TESTED PHOTOMETRIC PERFORMANCE VIEW DETAILS
TESTED ELECTRICAL PERFORMANCE VIEW DETAILS
PHOTOMETRIC IMAGES AND FILES VIEW DETAILS
VERSION HISTORY VIEW DETAILS

PRODUCT CATEGORIZATION VIEW DETAILS

PRODUCT CAPABILITIES

Integral Controls	Yes
Dimming Capability and Range	Continuous Dimming above 10%
Integral Control Capability	No Control Capability
Sensor Type	Exterior Photocell,Sensor Receptacle,Occupancy Sensing
SSL V5 Wired Communication Protocol	0-10V Analog,DALI
SSL V5 Wireless Communication Protocol	No Wireless Protocol
Field Adjustable Light Output	No
White-Tunable	Yes
Warm-Dimming	Yes
Field Adjustable Light Distribution	No
Wired Communication for a Single Control Point	0-10V ANSI C137 (9V)
Wired Communication Between Multiple Control Points	DALI, DALI-2, DMX655
Wireless Communication Between Multiple Control Points	BLE MDP v2, BLE Proprietary, Zigbee Certified Product, Zigbee 3.143
Integral Control Receptacle Standard	NEMA 7-pin
Minimum Dimming Level	14.4 %

REPORTED PHOTOMETRIC PERFORMANCE VIEW DETAILS

Existing SSL Control Capabilities

New LUNA Control Capabilities

Field Adjustable Distribution Type

DLC LISTED DLC LUNA

DLC Energy · Quality · Controllability℠

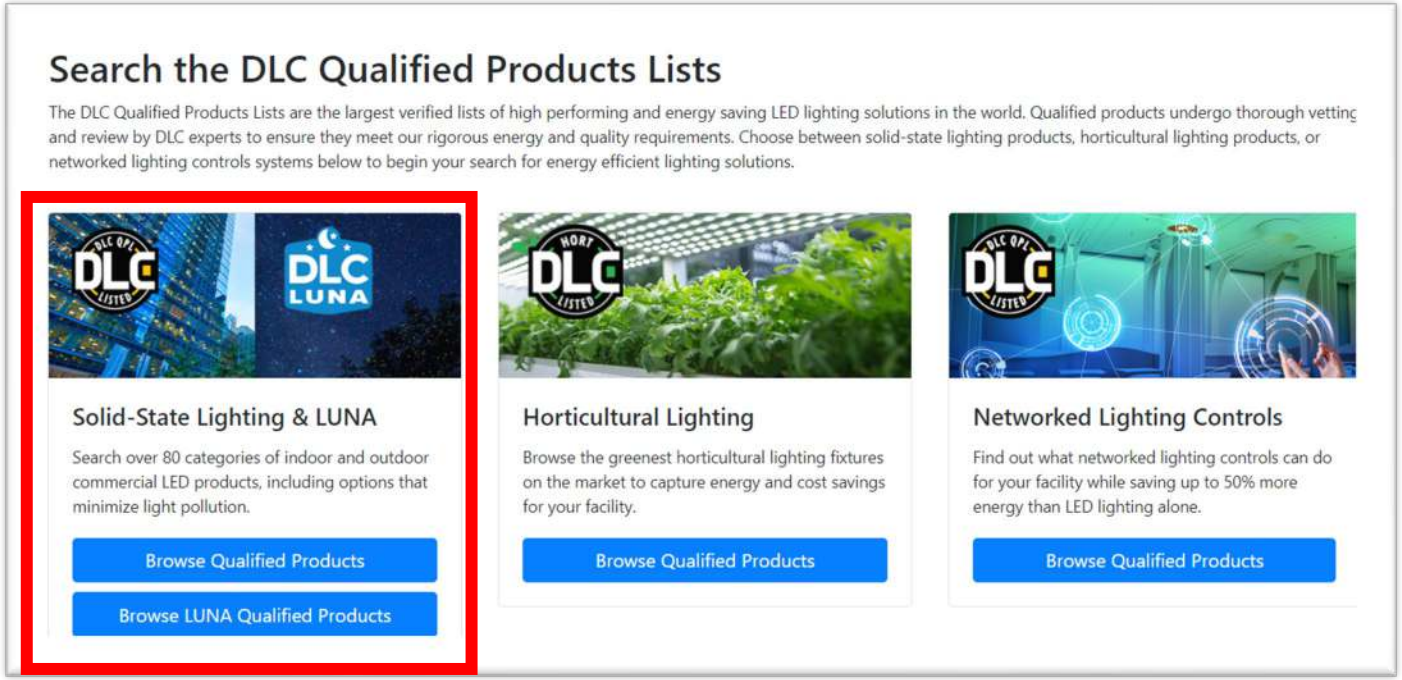
How New LUNA Capabilities Appear on the SSL Qualified Products List

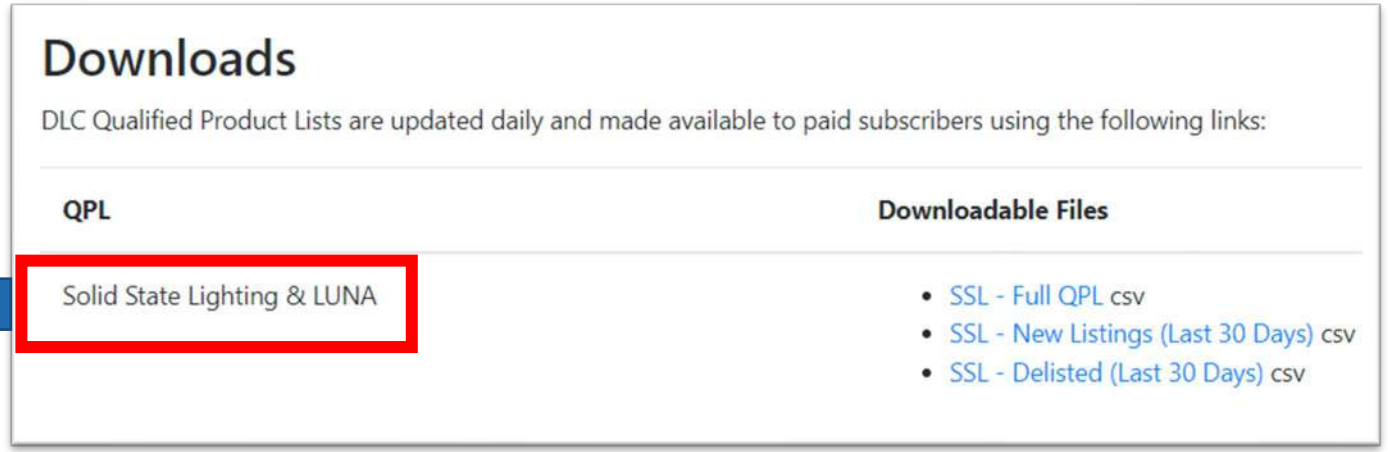
Wired Communication for a Single Control Point	0-10V ANSI C137 (9V)
Wired Communication Between Multiple Control Points	DALI-2
Wireless Communication Between Multiple Control Points	BLE MDP v2, BLE Proprietary, Zigbee Certified Product,
Integral Control Receptacle Standard	NEMA 7-pin
Minimum Dimming Level	14.4 %

New LUNA Control Capabilities

How to Find Luna Products

QPL and Downloads





SSL Downloads will include SSL and LUNA properties

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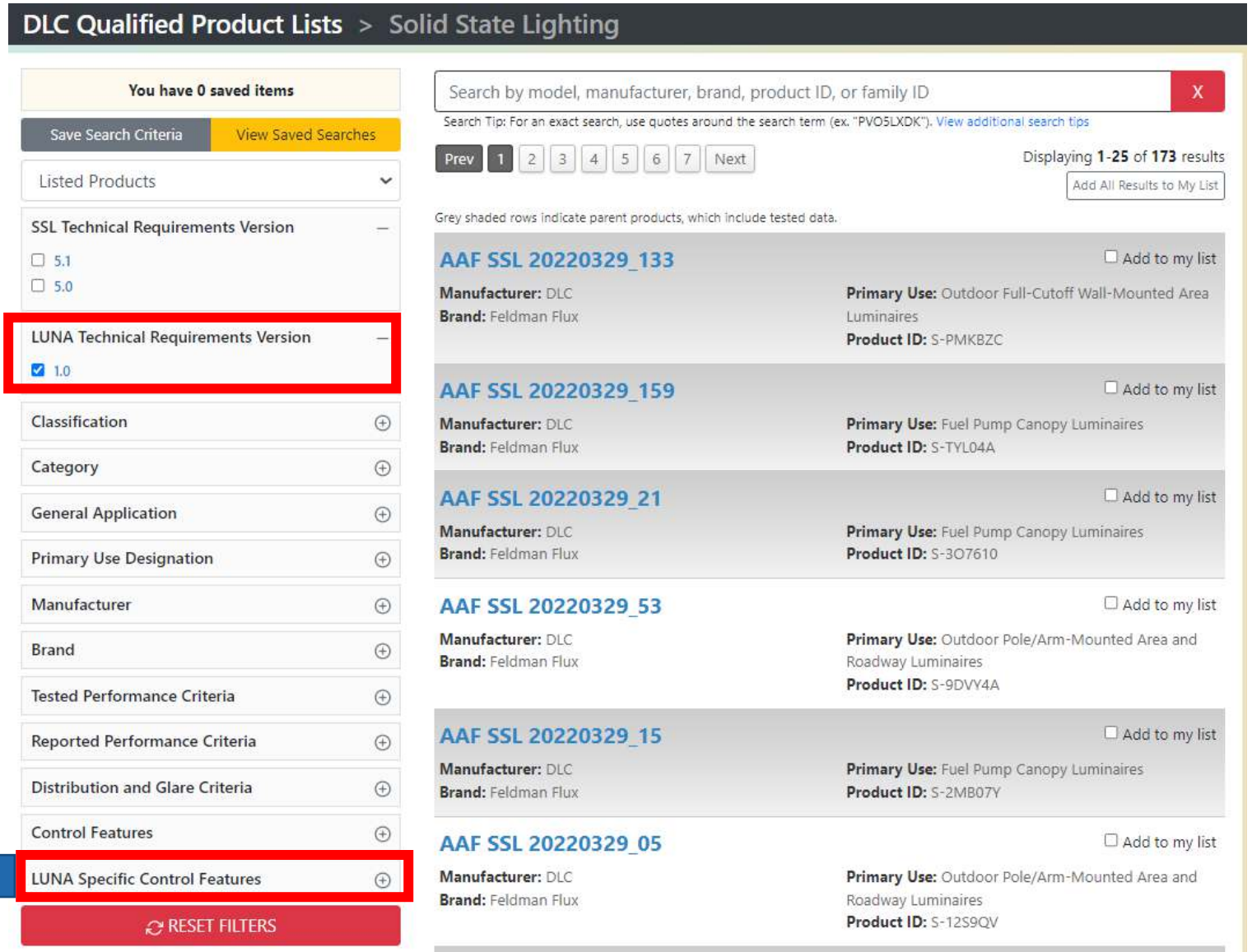
New LUNA Filter Panels

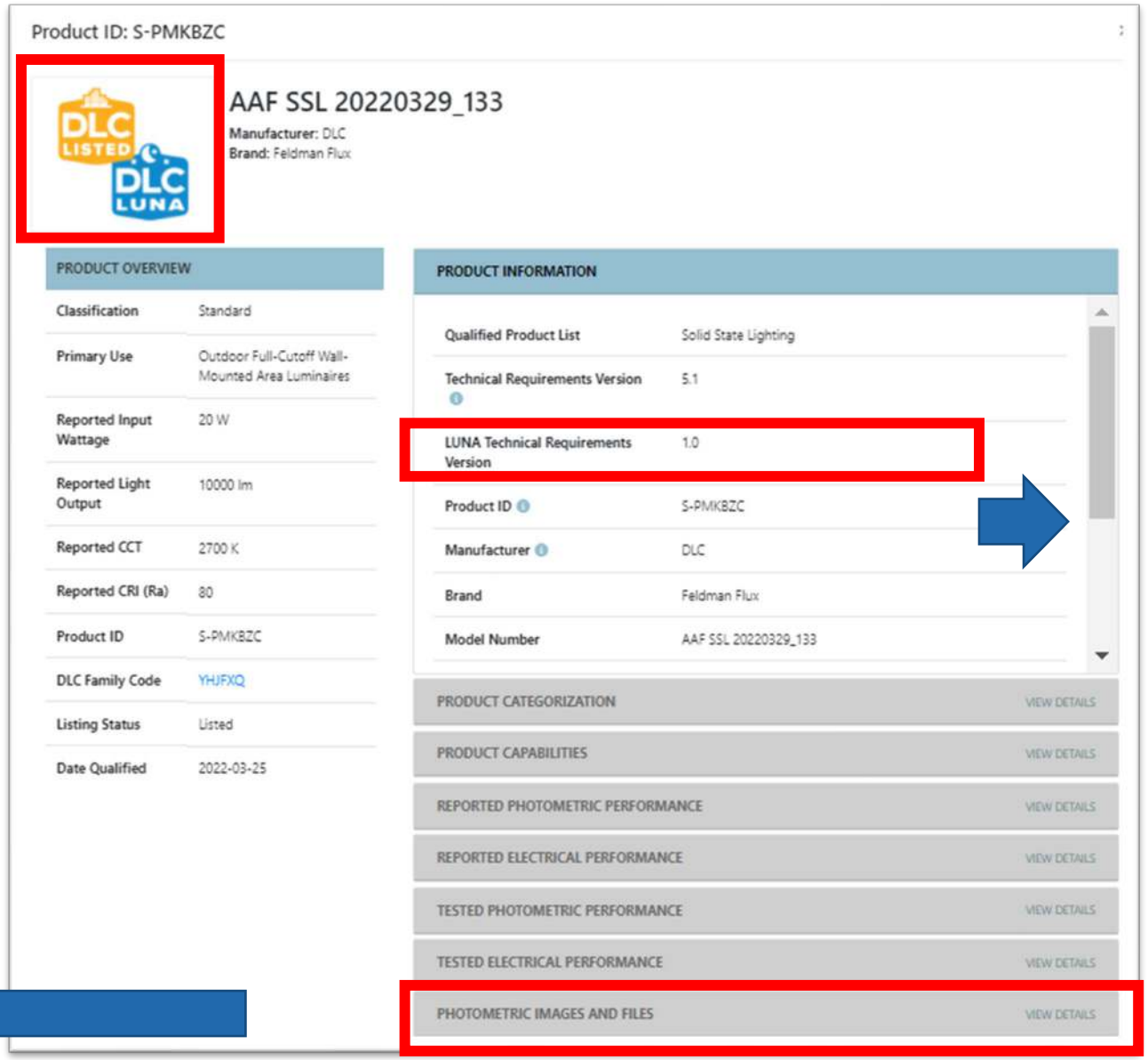
Filter for LUNA products

Filter for LUNA controls



New Product Display Page

New LUNA Logo for Standard and Premium



LUNA Technical Req

New LUNA Images

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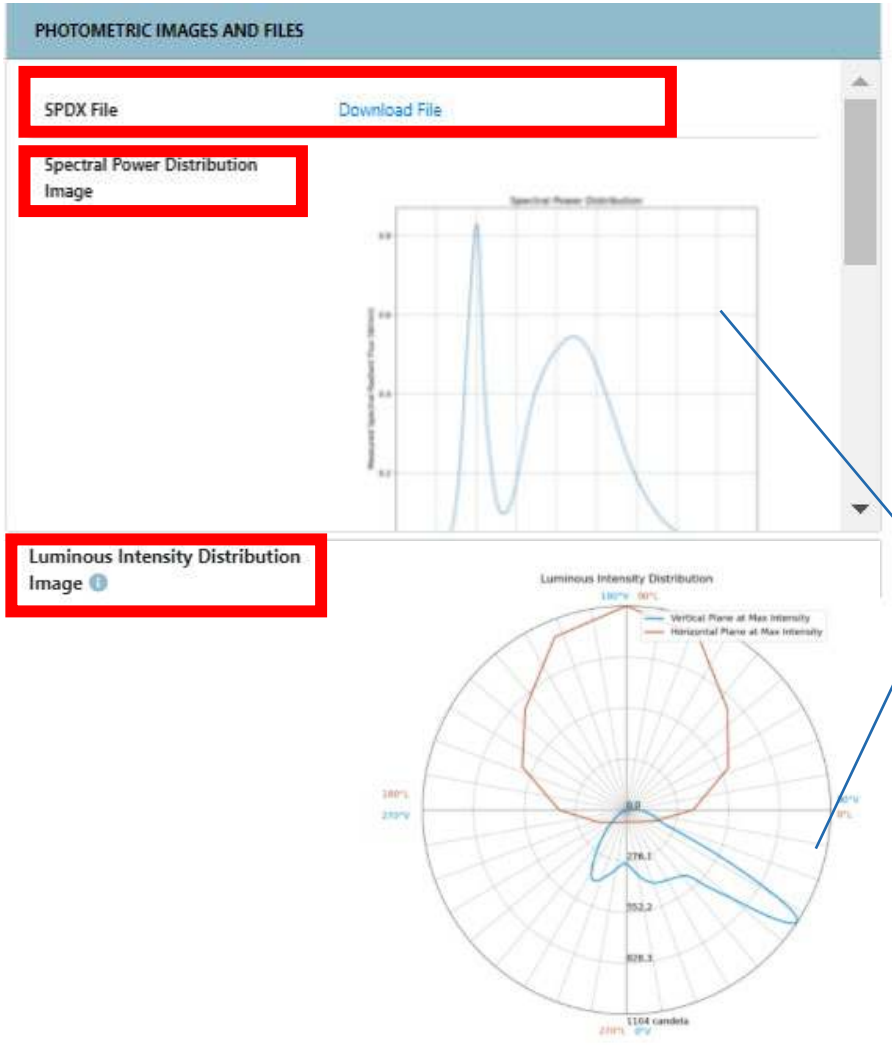
LUNA Photometric Files & Images

For PARENT products



Downloadable SPDX File (TM-27)
Please ensure to remove confidential information

Images generated on myDLC portal by submitters on website and uploaded to portal during submission

Click on Images to Enlarge

For CHILD products

Fees and Review Timelines

Review Timeframes

- LUNA reviews will have a longer processing time than Non LUNA
- LUNA reviews will have 5 business days added to review time

Application Type	Application Version	Initial Review	Comprehensive Review
Level 1 (formerly Single Product)	V5.1	9 Business Days	7 Business Days
Level 1 (formerly Single Product)	LUNA	14 Business Days	12 Business Days
Level 2 (formerly Family Grouping)	V5.1	9 Business Days	10 Business Days
Level 2 (formerly Family Grouping)	LUNA	14 Business Days	15 Business Days
Private Label	V5.1	--	12 Business Days**
Product Updates*	V5.1	9 Business Days	10 Business Days

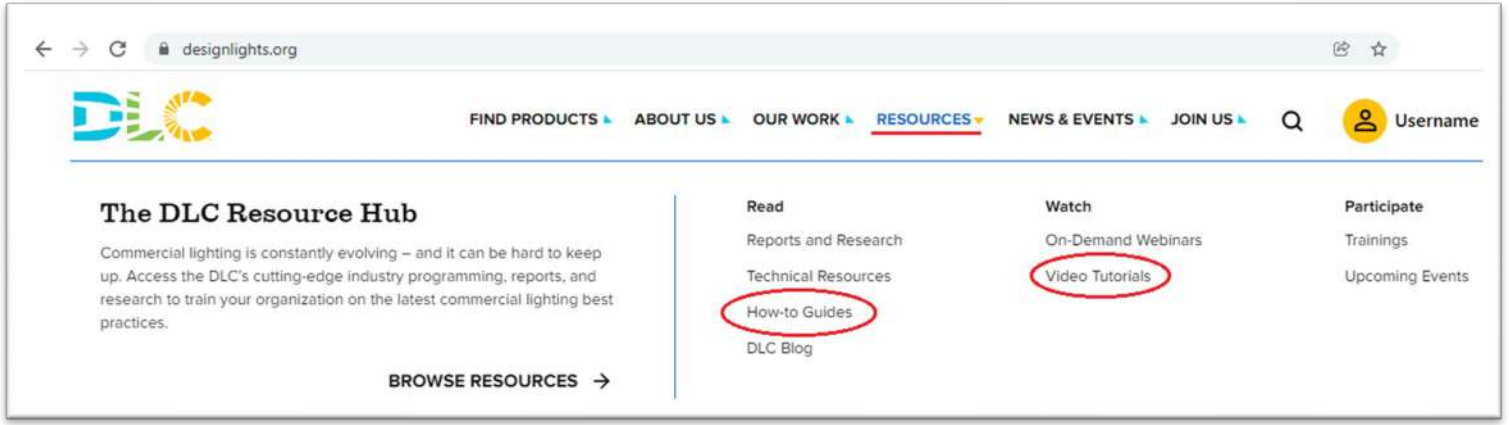
Application Fees

- **For LUNA applications**, in addition to the Single Product Application (LEVEL 1) fee:
  - **$375** for each additional independent test report (ITR) included in the LUNA application
  - **$50** for each product qualified as LUNA
- **For Family Grouping (LEVEL 2) LUNA applications**,
  - **$375** for each additional independent test report (ITR) included in the LUNA application
  - **$50** for each product qualified as LUNA
- **For PL LUNA applications**,
  - **$325** for each Single Product Application (Level 1) fee or independent test report (ITR) included in the original application. Note that driver ISTMT reviews charged for the Premium classification count as an ITR.
  - **$30** for each additional family member in the product group.
  - **$50** for each product qualified as LUNA.

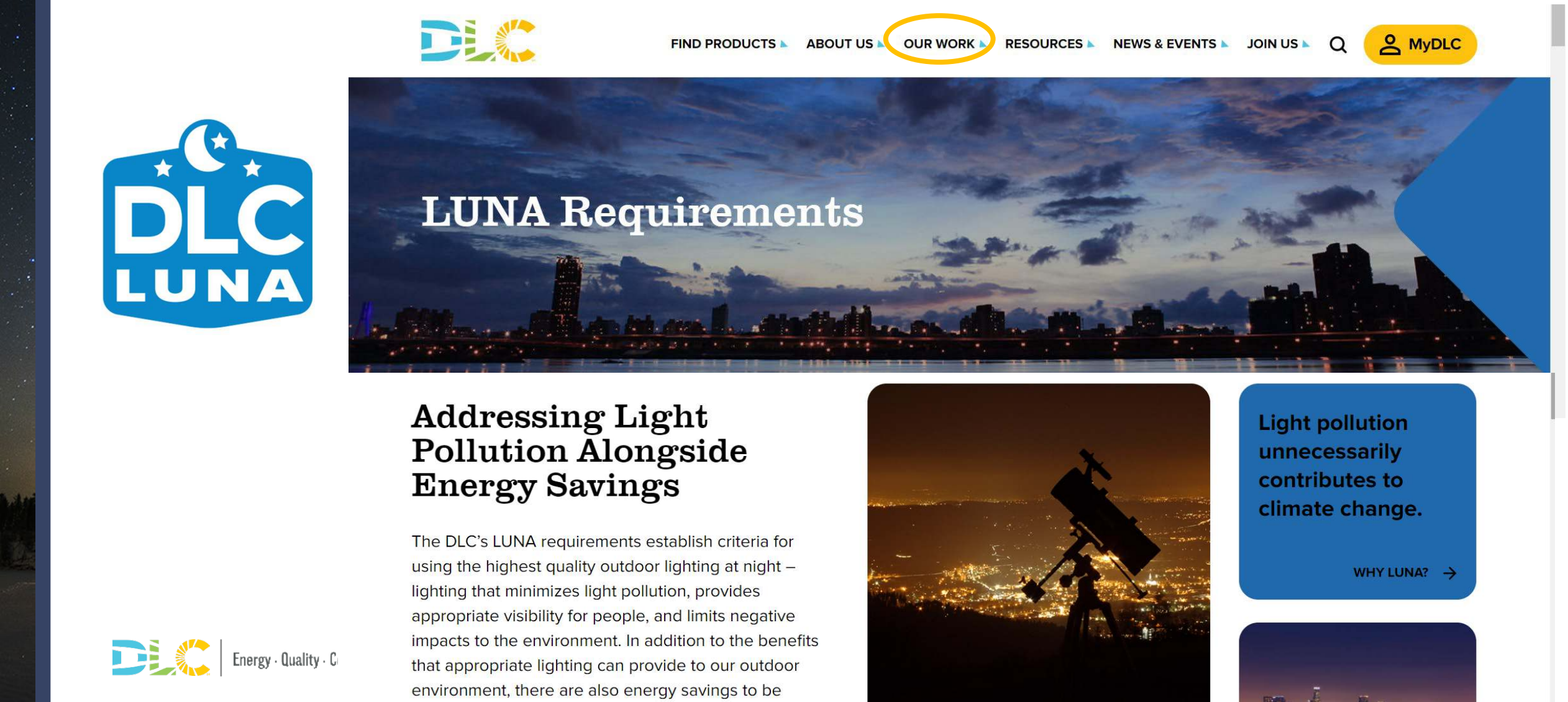
Resources Available

Resources Available

- **Slides and recorded webinar will be posted** on the *DLC website* www.designlights.org shortly after today's presentation
- Videos to assist with the portal transition will be located in the Resource Hub under How to Guides



Find LUNA Requirements at designlights.org “OUR WORK”

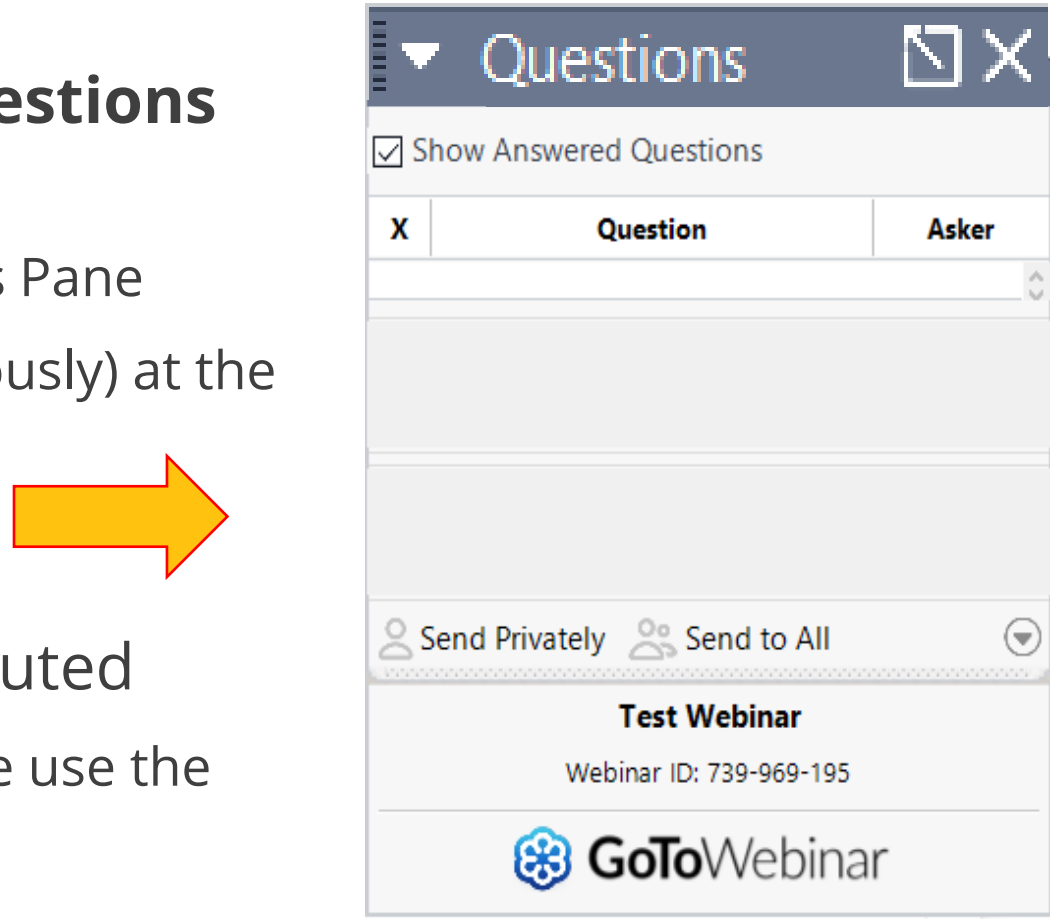


Question and Answer

Webinar Logistics

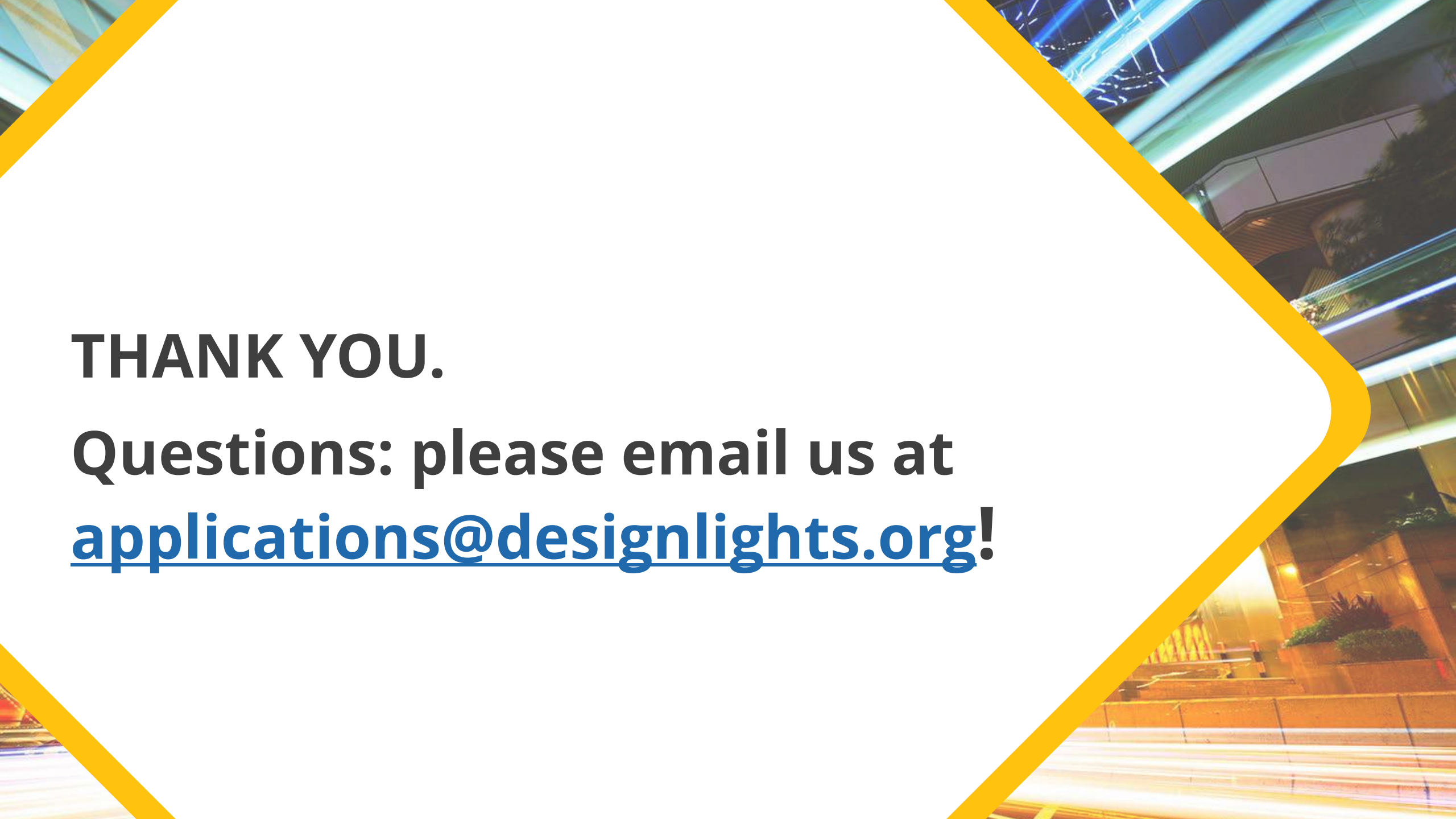
Please enter your questions in the Questions pane in GoToWebinar.

- Some questions answered in the Questions Pane
- Some questions answered aloud (anonymously) at the end during the Q&A session



All attendees are automatically muted

If you experience technical issues, please use the chat pane to let us know



THANK YOU.

Questions: please email us at applications@designlights.org!

DLC SUMMIT '22

May 24, 2022 • Boston, MA

Aloft Boston Seaport

LIGHTING THE PATH TO A DECARBONIZED FUTURE

KEY TOPICS:

- Driving energy and financial savings in buildings and outdoor environments while reducing environmental impact
- Addressing stakeholder needs and overcoming barriers to adoption
- Applying a systems approach to new versions of the DLC technical requirements

WHEN:

Welcome Reception May 23rd 4-6:00 pm

DLC Summit Meeting May 24th 8:30 am-5:00 pm

WHERE:

Aloft Boston Seaport District

Register by May 1st for Early Bird Rate!

designlights.org/events/2022-dlc-summit-meeting

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