Energy · Quality · Controllability℠

The DLC SSL Family Grouping Policy: More Efficient Product Qualification

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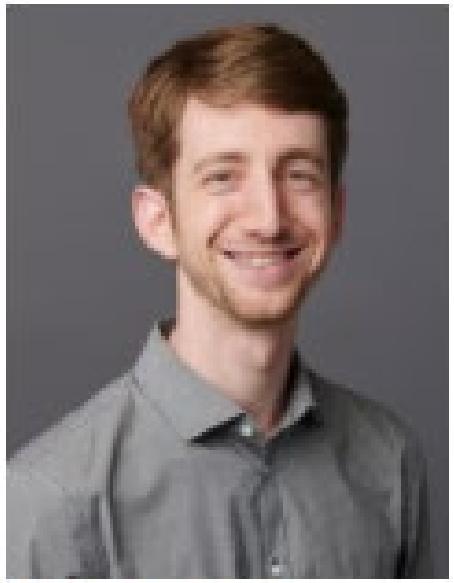

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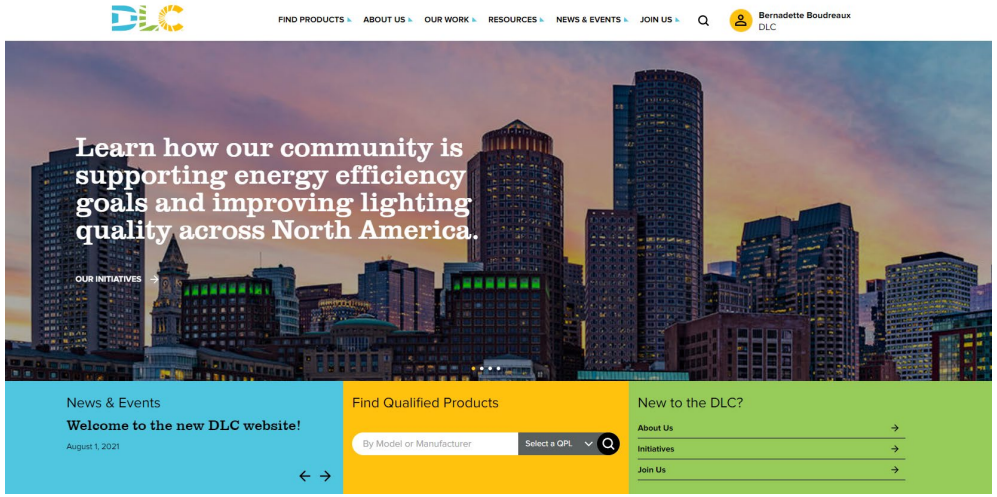
Webinar Logistics

- **Slides and recorded webinar will be posted** on the *DLC Website* www.designlights.org shortly after today's presentation
- All attendees are automatically muted
  - If you experience technical issues, please use the chat feature to let us know



Q & A

- Please place all questions in the Q&A chat box and will answer during the meeting
- In the Q&A session at the end of the presentation we will address a set of questions to the entire audience

Agenda

Goal: Promote understanding of the DLC Family Grouping Policy and lead to more effective and efficient qualification of products.

- What is the DLC Family Grouping Policy?
- Why should I use the Family Grouping Policy?
- What is allowed/not allowed by the policy?
- How can I use the policy effectively?

What is the DLC Family Grouping Policy?

What is the DLC Family Grouping Policy?

- Family Grouping is a pathway to qualify groups of related products with reduced testing burden, and lower per-product application costs, relative to testing and listing all products separately.
  - That is, as compared with submitting applications with single products.

- Generally, it is useable within “product lines” , groups of products built and marketed based on a common platform, with variations that exist on certain performance parameters to serve the needs of multiple markets/customers.

Why should I use DLC Family Grouping Policy?

Why Use Family Grouping?

- When used effectively, the DLC Family Grouping policy is the most efficient and cost-effective means of qualifying products.

- Consider an example:
  - Family of Outdoor Wall-Mounted Area Luminaire
  - 2 Different CCTs (3K, 4K)
  - 2 Different lumen packages (1600, 2000 lumens)
  - 2 Different optics (clear lens, ribbed lens)
  - **6 total products**

Example: Clear lens

Model Number	Rated Lumen Package	Rated Efficacy	Optic/Lens	Rated CCT
ABC-BB-16-C-30K	1600 lm	130 lm/W	Clear	3000K
ABC-BB-16-C-40K	1600 lm	130 lm/W	Clear	4000K
ABC-BB-20-C-30K	2000 lm	128 lm/W	Clear	3000K
ABC-BB-20-C-40K	2000 lm	128 lm/W	Clear	4000K

Example: Ribbed Lens

Model Number	Rated Lumen Package	Rated Efficacy	Optic/Lens	Rated CCT
ABC-BB-16-R-30K	1600 lm	130 lm/W	Ribbed	3000K
ABC-BB-16-R-40K	1600 lm	130 lm/W	Ribbed	4000K
ABC-BB-20-R-30K	2000 lm	128 lm/W	Ribbed	3000K
ABC-BB-20-R-40K	2000 lm	128 lm/W	Ribbed	4000K

Comparison SAVES ALMOST HALF OF THE FEES

SINGLE STANDARD APPLICATION

- Only allowable groupings are CCT
- Leads to **4 (FOUR) individual** applications
- **12 required tests**:
  - 8 LM-79/color reports
  - 4 LM-79/distribution reports
  - 4 ISTMTs
- 4 x $750 = **$3000 in total app fees**
  - $750 per single/standard application

FAMILY GROUPING APPLICATION

- All variations are allowed to be grouped
- Leads to **1 (ONE!) application**
- **6 required tests**:
  - 3 LM-79/color reports
    - Worst-case Light Output
    - Worst-case Efficacy
    - Representative high CCT
  - 2 LM-79/distribution reports
    - One for each optic/lens
  - 1 ISTMT
    - Worst-case thermals
- (4 x $375) + (2 x $30) = **$1530 in total application fees**
  - **$375 per ITR and $30 family member fee**

What is allowed by the Family Grouping Policy?

Variations not eligible within the Family Grouping Policy

- **Different LEDs**
  - Generally, if LED packages cannot represented by the same LM-80, products using those different packages must be split into separate groups.
- **Color-tunable and non-color-tunable products**
  - Note, different color tuning ranges are also required to be submitted in separate families
- **DC-powered and AC-powered variants** of a product
- **Design differences that are not well understood** on how they affect performance, or which fundamentally make the product a different design and construction.

- https://www.designlights.org/our-work/solid-state-lighting/submit-a-product/family-grouping-applications/

Allowed variations within the Family Grouping Policy

Products with related construction and intentionally designed performance variations:

- Lumen packages
  - LED count, drive current changes, both
- Chromaticity
- Color Rendering
- Driver variations

- Optics
  - Both intentional optical distributions and changes in optical distribution resulting from any other change, such as a lens style or option that introduces a variation in the optical pathways
- Non-performance affecting variations
  - Housing colors, mountings, control/sensor options, dimming options
- **Differences in housing or heat-sinking that are well-understood and documented, within an otherwise similarly constructed product line**

How can I effectively use the Family Grouping Policy?

Initial Qualification

- Qualifying the largest number of variations during an initial qualification is generally most time and cost-effective in the long term.
  - When adding products to an existing family, and new family members that are new worst-case variations will require additional testing which could have been avoided with long-term planning.
  - If there are too many variations to qualify initially, consider qualifying absolute worst-cases of the group, thereby enabling later additions to be only additional family members.

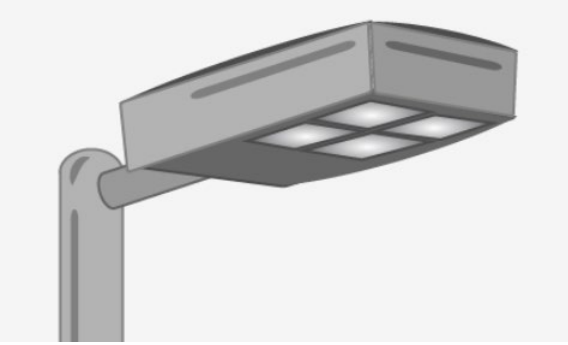
Update Applications

- Consider all of your current listings: were any products qualified separately that could be grouped together?
  - Updating products from multiple groups into a single family can be done within an update application.
  - In the Update Application, indicate that the products are relatable via the family grouping policy.
  - New or resubmitted testing during the update now can bracket the entirety of the product line.

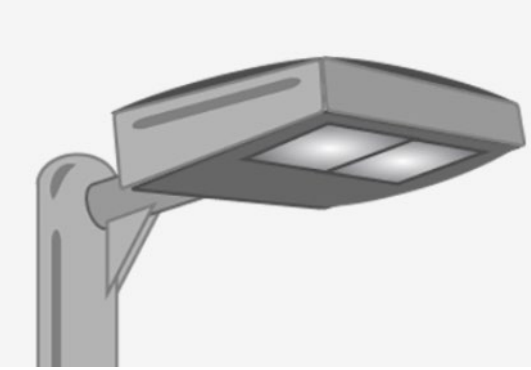
Family Grouping Examples

Outdoor Luminaires; Different End-Uses of Same Platform

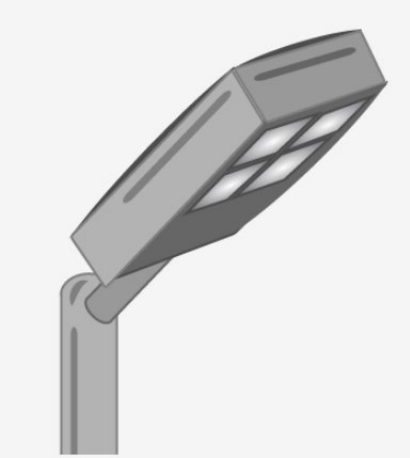
Area Site



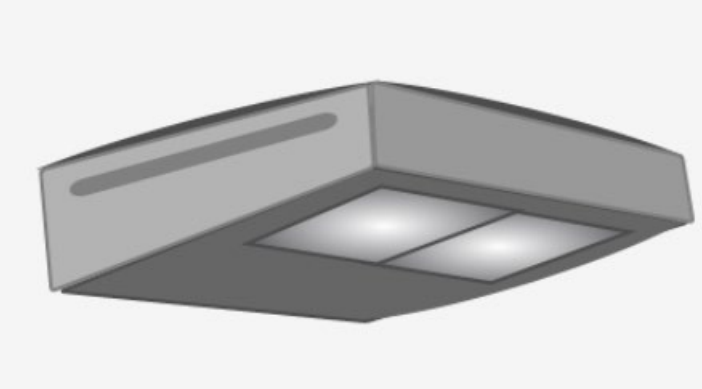
Pedestrian

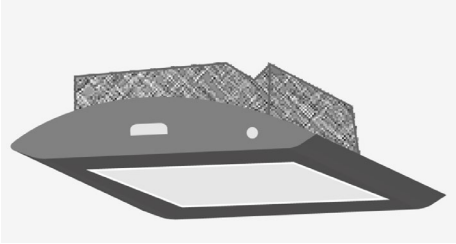


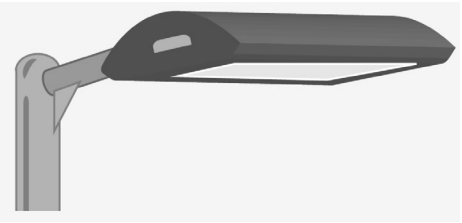
Flood

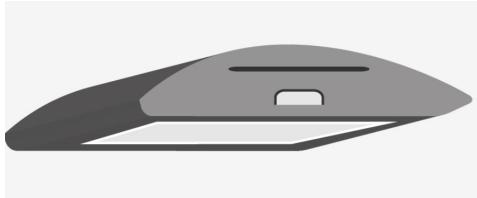


Wall

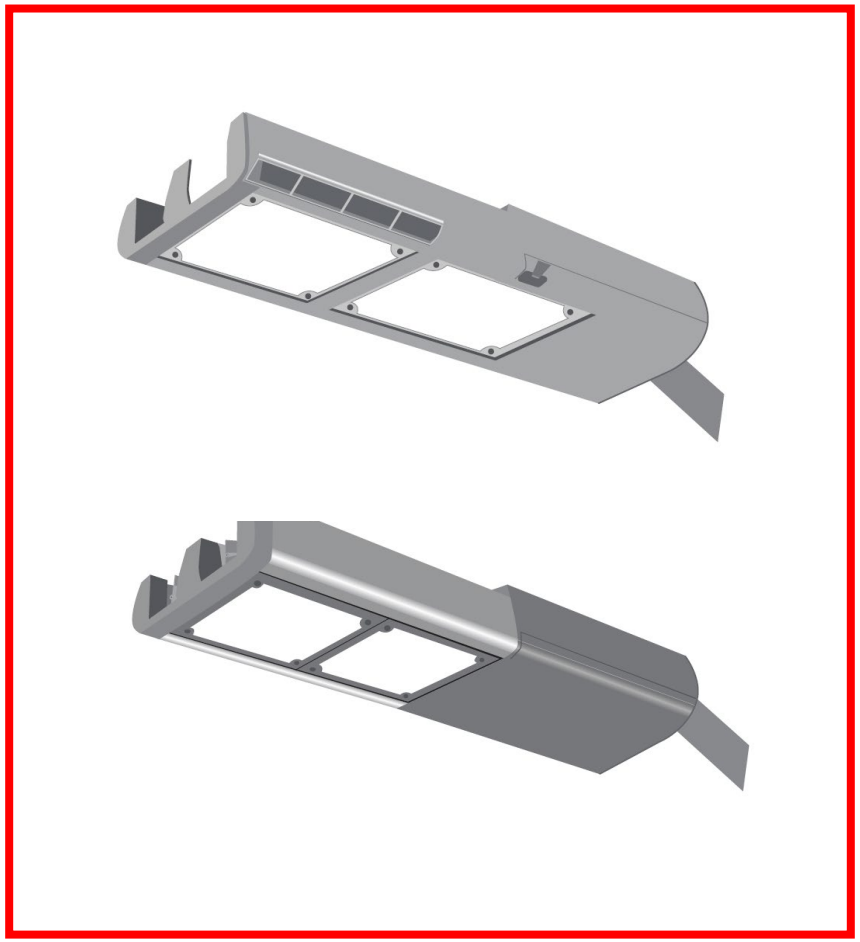




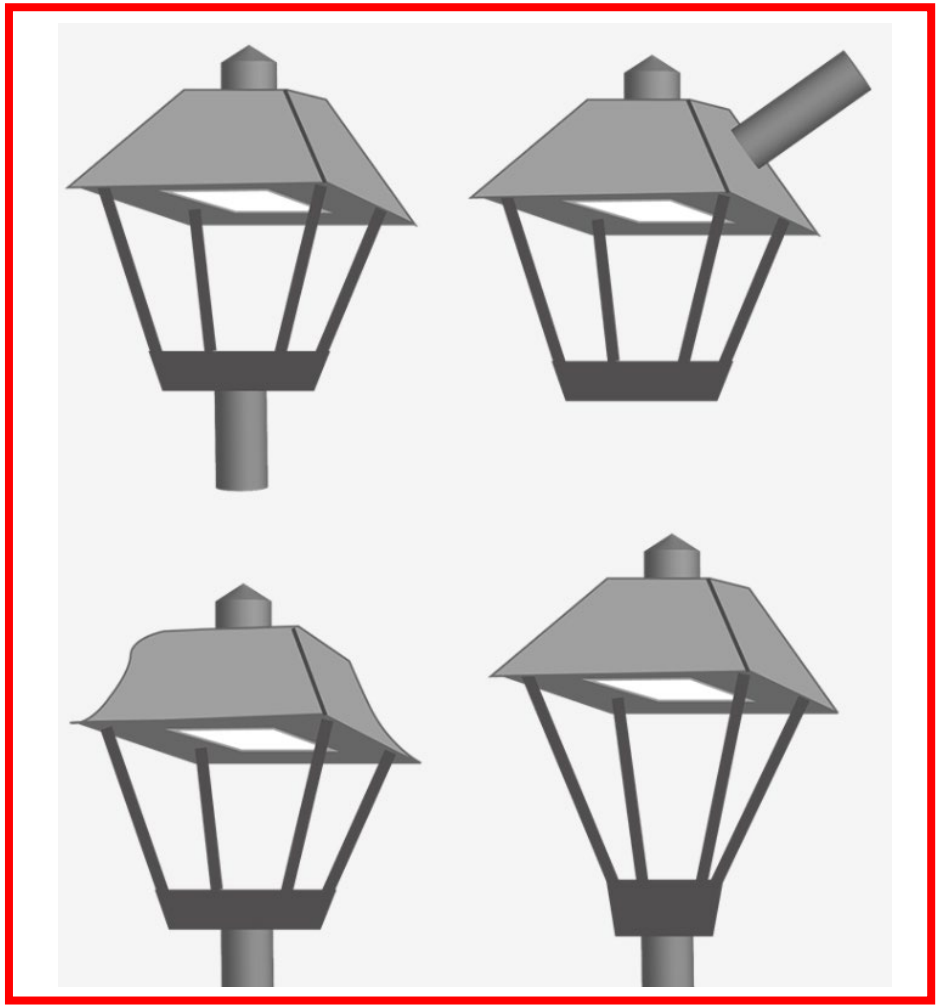


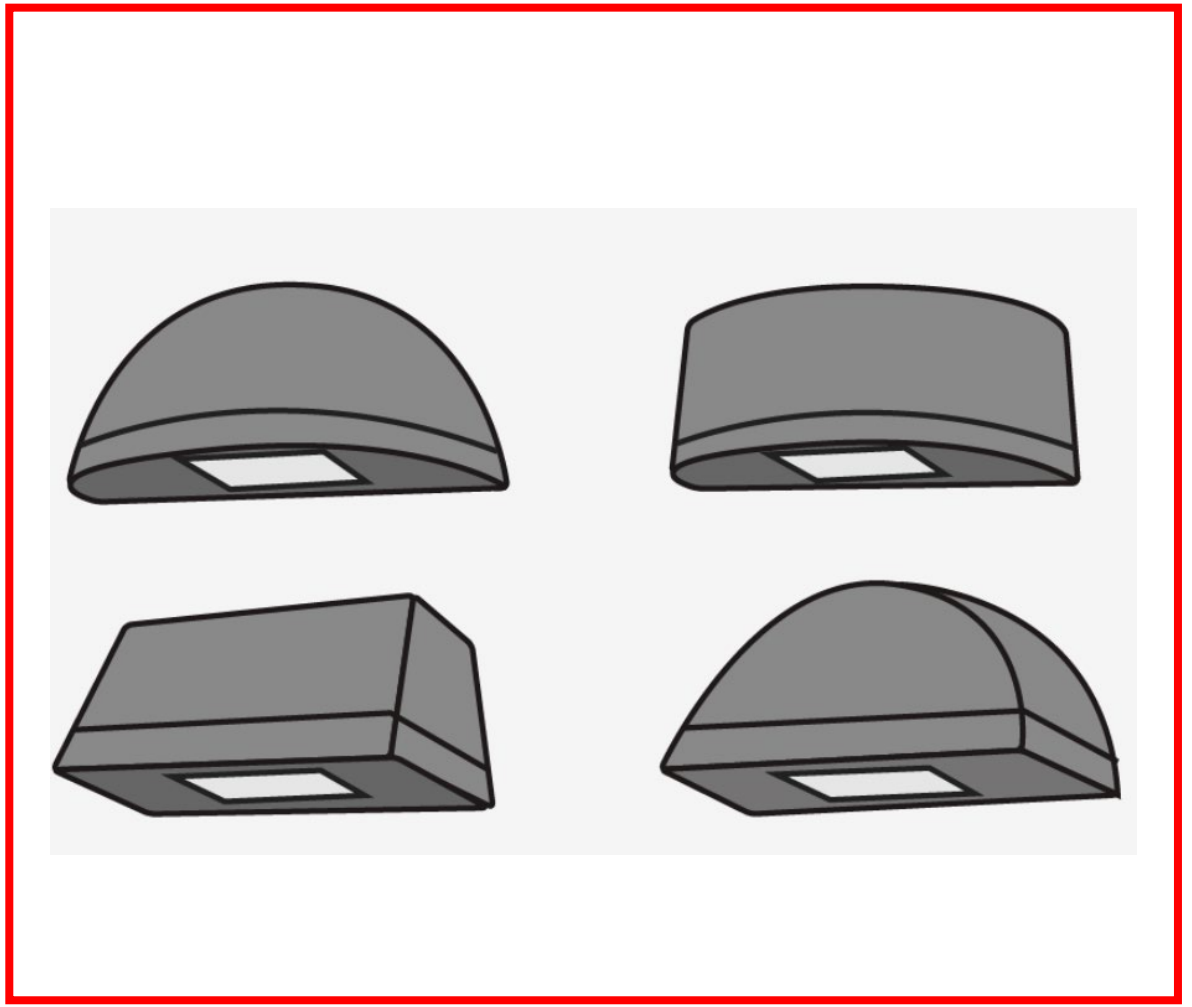


Outdoor Luminaires; Relatable Heat-Sinks

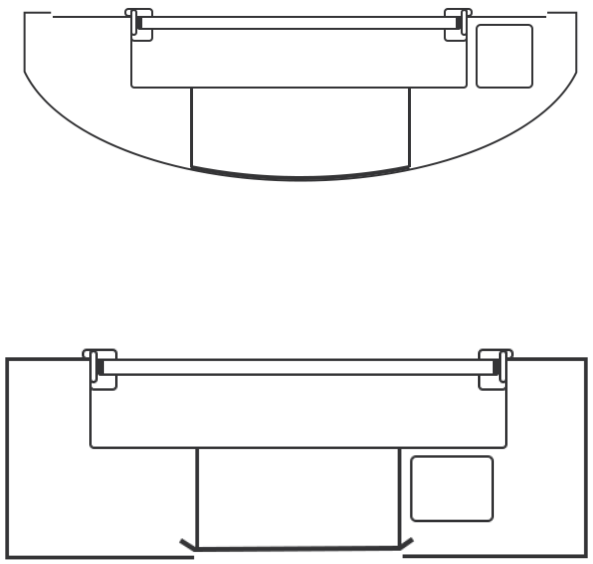


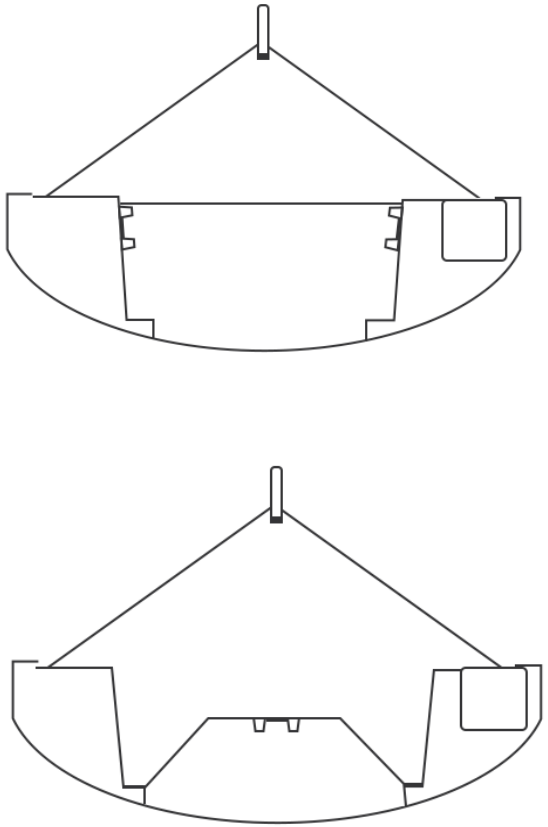
Outdoor Lighting: Relatable Shapes

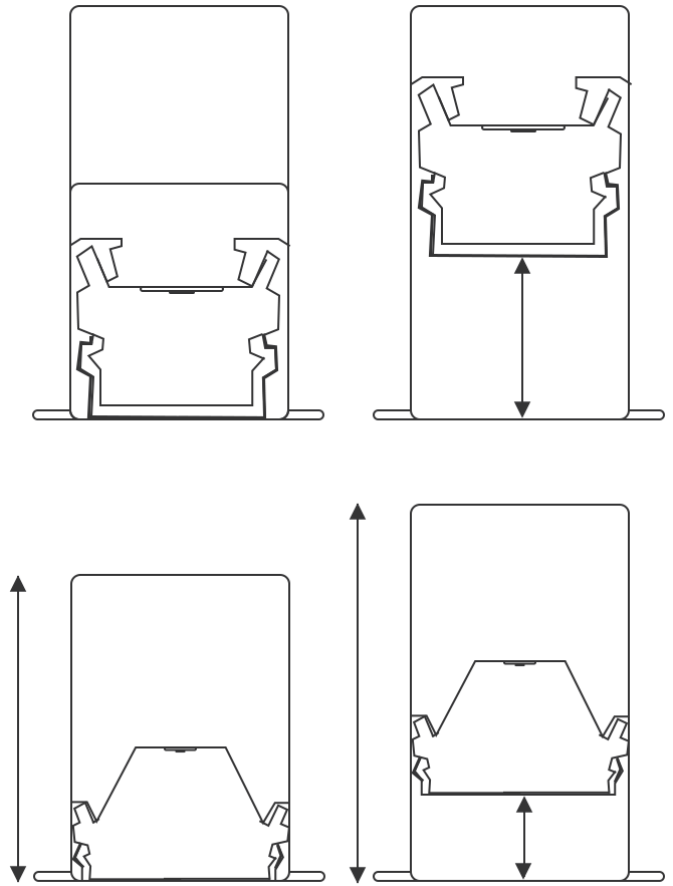




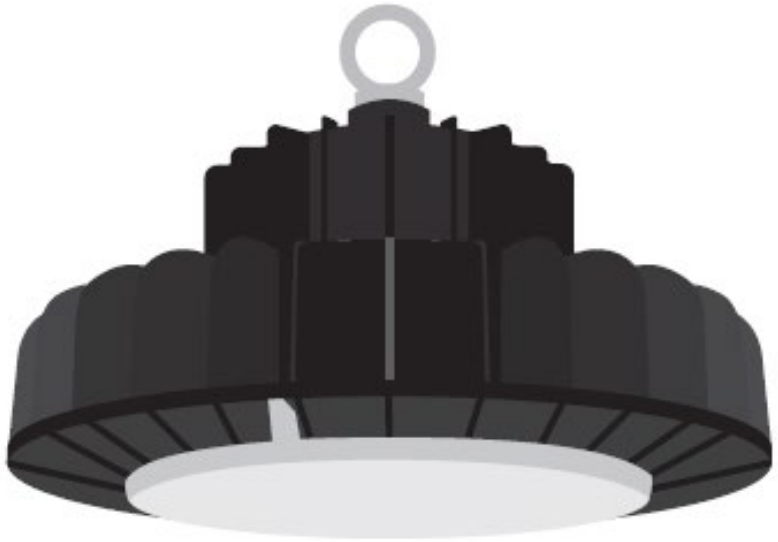
Linear Ambient Luminaires: Shapes and Optics

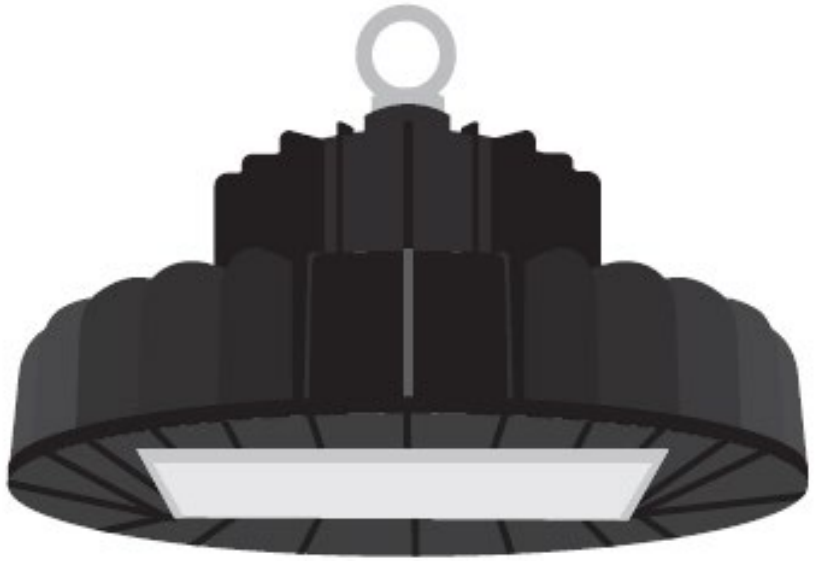






High Bay Luminaires: Shapes and Optics





Summary

What is the DLC Family Grouping Policy?

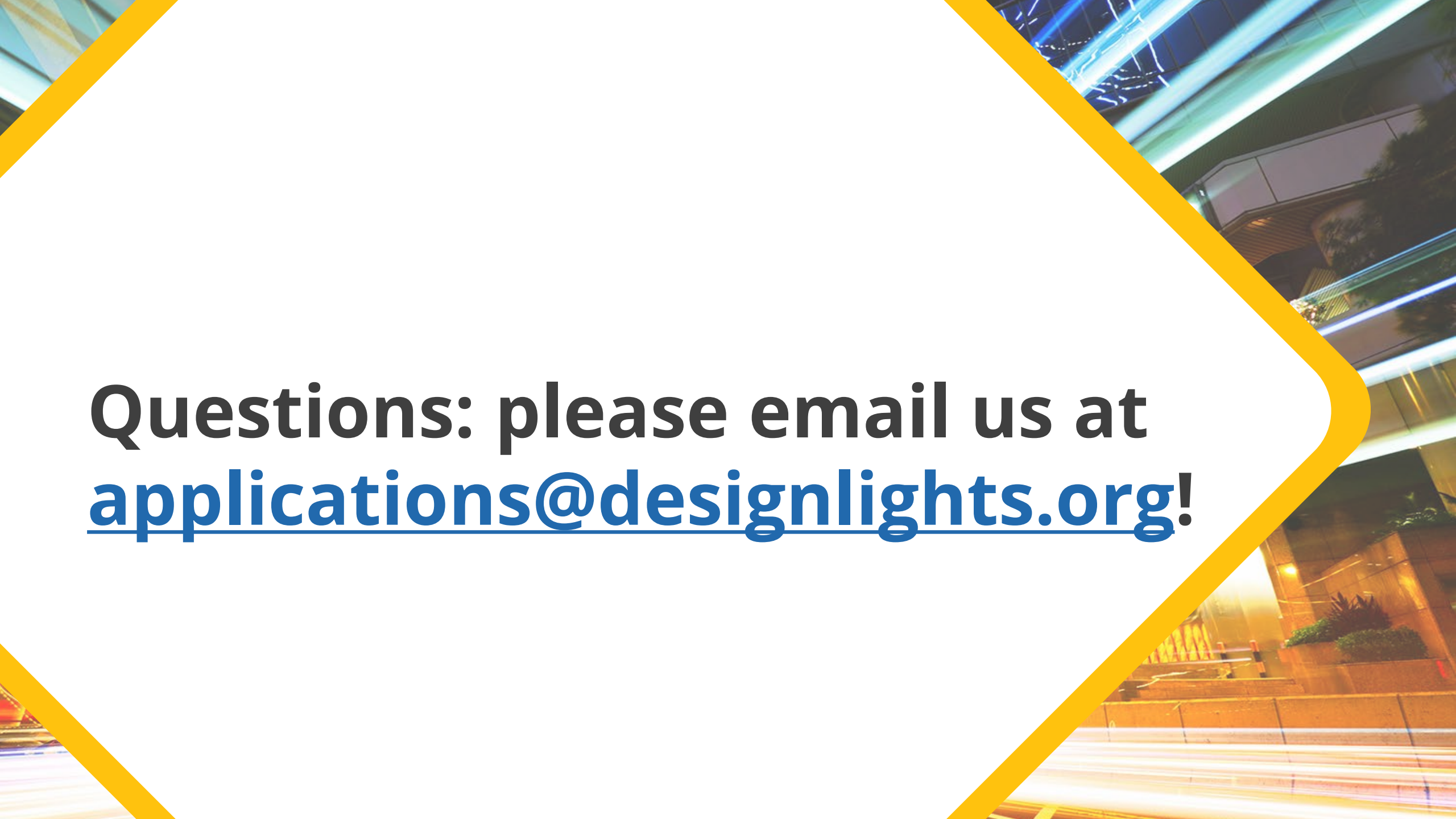
- Family Grouping is a pathway to qualify groups of related products with reduced testing burden, and lower per-product application costs, relative to testing and listing all products separately.

Why should I use the Family Grouping Policy?

- When used effectively, the DLC Family Grouping policy is the most efficient and cost-effective means of qualifying products.

- **What is allowed/not allowed by the policy?**
  - **Not Allowed:**
    - Different LEDs, Input Power Type and Color tuning and non color tuning, **Design differences that are not well understood** on how they affect performance, or which fundamentally make the product a different design and construction
  - **Allowed:**
    - Products with related construction and intentionally designed performance variations:

- **How can I use the policy effectively?**
  - Evaluate allowable variations in products for updates and new applications to **save time, tests and application fees**



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