Common SSL Application Questions
Presenter

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Agenda

• Product Eligibility
• Product Testing
• Private Label Applications
• Updating Products
Product Eligibility
Determining Eligibility

• Products submitted must be marketed as and intended for one of the available Primary Use designations to be eligible

• DLC reviews product specification sheet for marketing language and product images
  - “SSL Application Supporting Documentation” Breakout Session will discuss more about DLC review Wednesday at 2 PM
Common Eligibility Questions

• Are color tuning products eligible?
• Are products intended for horticultural applications eligible?
• Are products that can be adjusted in the field eligible?
• Are products that use multiple LEDs eligible?
Color Tuning Products

• Not currently eligible
• No defined policies for evaluating performance
• Policy Development underway
  – Discussion Session Tuesday 3:30 PM
  – Proposed policy released for comment December 2016, not finalized
  – Focused on white color tuning achieved via linear tuning with distinct, settable CCTs

"Lichtsegel LED Tunable White" by Claudia Angerer is licensed under CC BY-SA 4.0
Horticultural Products

• Not currently eligible
• Likely require distinct Primary Use designation
• DLC monitoring industry developments for standard testing and evaluation methodologies
• Under consideration for future Policy Development
  – Discussion Session Tuesday 3:30 PM
Field Adjustable Products

• Not currently eligible

• Products marketed with adjustable or settable performance during/after installation
  – Dimmable products with traditional dimmer controls and aimable mounting options excepted
    ▪ Mounting orientation noted on QPL
    ▪ Marketing materials must clearly identify qualified orientations

• Under consideration for future Policy Development
  – Discussion Session Tuesday 3:30 PM
Products with Multiple LEDs

• Eligible, but with restrictions
  – LED types and construction, including count, must be known
  – LED may not be dynamically controlled for purposes of color tuning

• Must meet lumen maintenance requirements for each LED
  – ISTMT measurements of hottest LED of each type
  – LM-80 reports and TM-21 projections required for each LED

Derivative of "Flexfire LEDs comparison between 5050 and 3528" by BrentMauriello used under CC BY-SA 4.0
Product Testing
Testing Requirements Information

- LM-79, ISTMT, LM-80, and electrical testing required for qualification
- Laboratories must be accredited
- [Test Lab Requirements](#) details accreditations

- Submit a Product pages detail testing requirements by application type
- Certain Primary Uses have specific [Testing Requirements](#)
  - Retrofit Kits
  - Linear Replacement Lamps
  - Screw-base Replacement Lamps
  - Four Pin-Base Replacement Lamps for CFLs
Common Testing Questions

• My product operates at multiple input voltages. At what voltage should I test the product?

• What testing is required if there are multiple CCT variations in my product family?

• How should I test my retrofit kit or screw-base replacement lamp if it is designed for multiple Primary Use designations?

• If my linear replacement lamp is Dual Mode, should all measurements be conducted with an instant start ballast?
Voltage Variations

• Conduct testing at the worst case operating mode by metric
  – If light output will be worse at 347V, but power factor worse at 277V, test photometrics at 347V and electrical at 277V

• For universal voltage products (120-277V), DLC typically expects worst case photometrics at 120V and worst electricals at 277V

• Technical rationale must be provided to justify testing
  – You can provide in-house testing and specification materials of driver, but consider loading conditions
Multiple CCT Product Groups

- Must demonstrate lowest and highest CCT meets requirements
- LM-79 testing for worst case light output and efficacy expected at lowest CCT
- Highest CCT LM-79 testing required for both Standard and Family Grouping applications
- All products must meet all DLC requirements
Retrofit Kits & Replacement Lamps

- Retrofit Kits and Replacement Lamps must be tested in a reference housing
  - Option A (General Purpose): Test in an approved housings
    - Housings selected to represent typical environments
    - Alternate fixtures considered if commonly used and similar to approved housings
  - Option B (Luminaire Specific): Test in housing the retrofit kit is specifically design for and not already approved
  - To qualify in multiple Primary Uses, testing must be conducted in multiple approved housings
Linear Replacement Lamps

• Test lamps designed to operate off existing fluorescent ballast with reference ballast
  – T8 lamps: standard 0.88 ballast factor, instant-start ballast
  – T5 & T5HO lamps: normal 1.0 ballast factor, electronic programmed-start ballast

• Dual Mode products (UL Type A and UL Type B) must test as Type A: with ballast, in fixture. Bare lamp testing for Type B mode.
Private Label Applications
Private Label Applications

• Allows the option to re-list qualified products under alternate organizations without submitting duplicate testing information

• Products are expected to be identical to originally qualified versions

• For more information, visit the Private Label Applications page
  – “SSL Application Supporting Documentation” Breakout Session will discuss more about DLC review Wednesday at 2 PM
Common Private Label Questions

• Can I submit an application on behalf of the company private labeling my products?

• Is the OEM’s safety certification documentation sufficient to list the products under my brand name?
Submitting Organization

• Either the OEM or the Private Labeling organization may submit

• Best practice is to have an available contact at both organizations

• Product spec sheets from both organizations required
  – Spec sheets created for the application are not allowed

• Signatures from both organizations required in agreement form
Safety Certification

• Safety certification required as of January 1, 2017
• DLC relies on safety certification organization to certify to the appropriate standard
• Must be certified by safety certification organization relevant in U.S. or Canada
  – Recognized by OSHA or Standards Council of Canada
• Documentation must indicate
  – The products as sold under the Private Label organization, brand, and model number, are covered
  – Safety certification has already been obtained
Updating Products
Updating Products

• DLC allows updating of previously qualified products

• Updates typically used to
  – Upgrade listing to DLC Premium
  – List better performance for generational improvements
  – Revise nomenclature due to marketing changes

• Information and documentation requirements depend on type of update
  – Details available in Product Update Applications page
Common Product Update Questions

• How can I revise the model number of my QPL listing?

• How can I update the performance of my product since I’ve upgraded components?

• How can I upgrade my products to the DLC Premium classification?
Product Nomenclature Updates

• Required documentation:
  – Signed statement on company letterhead certifying no changes other than nomenclature
  – Updated spec sheets that reflects nomenclature change
  – Completed Nomenclature Update Form

• Required for Private Label products:
  – Updated Private Label Agreement form
Product Performance Updates

• New testing must be provided and requires DLC review
• Testing dependent upon design change
• Provide a detailed description of design changes
• To list both the original and new product, different model numbers are required
Upgrading to DLC Premium

• Luminaires and retrofit kits eligible for DLC Premium

• Additional performance requirements
  – Higher efficacy
  – $L_{90} > 36,000$ hours
  – Integral controls reporting
  – Driver reliability

• Additional testing and documentation needed:
  – Driver temperature measurements (ISTMT)
  – Driver spec sheet detailing lifetime vs case temperature and temperature measurement point
  – $L_{90}$ TM-21 calculator
Questions?

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