

# DLC Stakeholder Meeting 2015

Aug 4-5 | Washington, DC

DESIGNLIGHTS  
CONSORTIUM

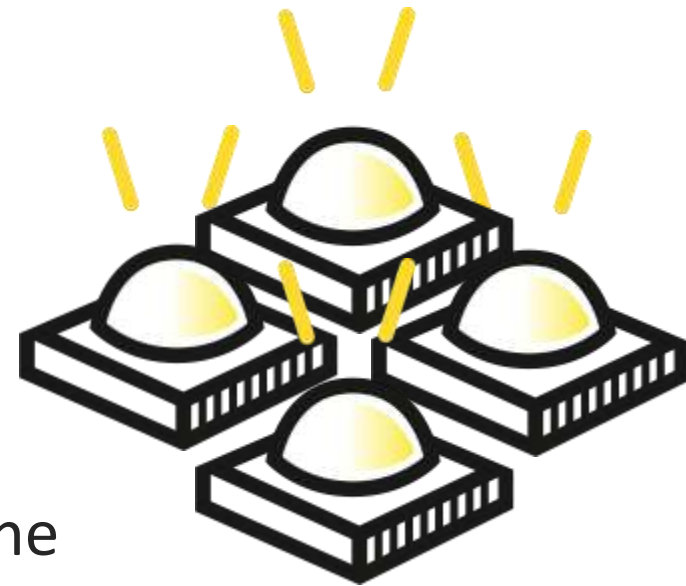
Multiverse by Leo Villareal, National Gallery of Art, Washington, DC

## Scaled Performance Table Methodology

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# Overview: Why are you here?

- What is the scaled performance table?
- Understanding its importance
- Scaling methodology
- Completing the scaled performance table
- Discussion of the TR version 3.0 additions
- Goal: Develop an understanding of the scaled performance table to ensure thorough completion and minimize application review delays



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# What is the scaled performance table?



**Readme/Notes:** Please fill out the table below with scaled performance information for each product submitted for qualification.

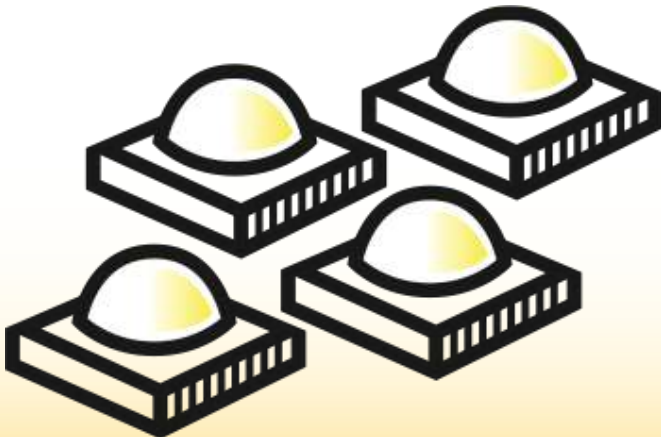
**Scaling Methodology**

Explain the scaling methodology used for any values listed in the Scaled Performance Table.  
Scaled Methodology Explanation:

General Application	Primary/ Specialty Use Designation	Tier (Standard/ Premium)	Model Number	Scaled Initial Light Output (lumens)	Scaled Luminaires efficacy (lm/lw)	Scaled Input power (W)	Scaled Total Harmonic Distortion (THD)	Scaled Power Factor	Scaled CCT (K)	Scaled CRI	Houring Variation	Driver Model Number	Vertical NEMA Beam Spread (Flood and Spot Lighting Only)	Horizontal NEMA Beam Spread (Flood and Spot Lighting Only)	Integrated occupancy sensor and/or photocentrals? (Yes/No)	Is the product capable of dimming? (Yes/No)	If the product is capable of dimming, what is the dimming type? (Continuous/Stopped)	If Continuous, can the product dim to 10% or below its full input power when installed in the appropriate system? (Yes/No)

# What is the scaled performance table?

- Located on the second tab of the application form
- Provides a performance overview of the products being submitted
- Documents additional details for each product in the application
- Used by the review staff to calculate application fees



# Importance

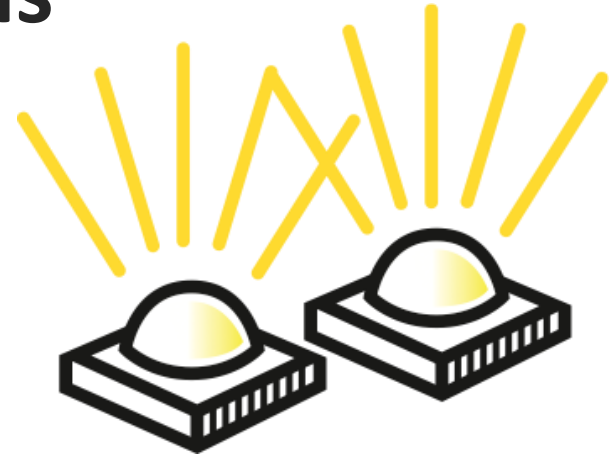
- Understanding the product family
  - Expected performance
  - Worst-case models
- Fee calculation
  - Independent test reports for worst-case models
  - Multiple primary use designations
  - Premium classification fees
- Data is listed on the QPL
  - Review scaling methodology to ensure accuracy

# Scaling Methodology

- Identify key variations and how they affect product performance
- Determine the worst-case models
- Conduct preliminary testing to understand product performance
- Develop methodology that can be applied to non-tested members in the product family
- Be able to explain/support your scaling methodology

# Identify worst-case models

- Worst-case metrics to focus on:
  - Worst-case light output
  - Worst-case efficacy
  - Worst-case thermals
  - Worst-case electricals; loading conditions (PF, THD)
- Identifying worst-case models will form a “bracket” around the family that enables us to analyze the product performance of product families with reduced testing burden on manufacturers
- Understanding the performance of the worst-case models will set the baseline for your scaling methodology





# Worst-case light output

- Product variables that affect light output
  - Number of LEDs (smaller quantity is worse)
  - Drive current (lower is worse)
  - CCT (lower is worse)
  - Optical efficiencies (which is least efficient?)
  - Color Rendering Index (CRI) (higher is worse)
  - Thermal conditions (hotter is worse)

# Worst-case efficacy

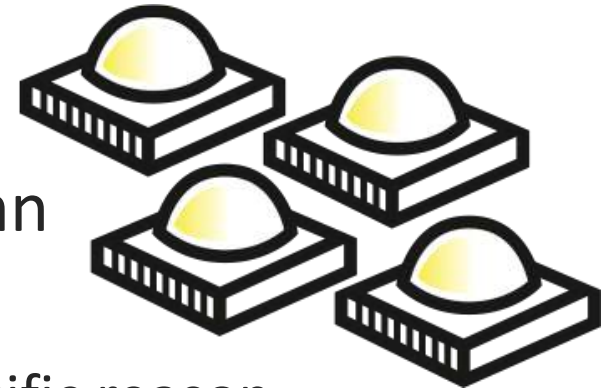
- Product variable that affect efficacy
  - CCT (lower is worse)
  - Thermal conditions (hotter is worse)
  - Optical efficiencies (which is least efficient?)
  - Drive current (higher is worse)
  - Loading conditions (lower is worse)
  - CRI (higher is worse)

# Worst-case thermal environment

- Product variables that affect the thermal environment
  - Number of LEDs (larger quantity is worse)
  - Internal volume (smaller is worse)
  - Drive current (higher is worse)
  - CCT (lower is worse)
  - CRI (higher is worse)
  - Optical efficiencies (which is least efficient?)
  - Proximity of other heat sources? (e.g., driver)

# How to complete the scaled performance table

- Read the provided instructions
- Complete every applicable column in the scaled performance table
  - Everything is being asked for a specific reason
- Make sure that every model you wish to submit is included in the scaled performance table
  - Models not included will not be considered in the application
- The more information you provide, the better
- Please contact us with any questions you have about the scaled performance table



# TR version 3.0 additions

- General application column
- Primary use/ specialty designation
  - Extremely important if you wish to submit under multiple primary uses within the same application
- Classification
  - If you want to be considered in the standard or premium classification, it must be noted in the scaled performance table
- Housing variation(s)
- Driver model number
- Integral controls
  - Must be provided for premium classification or if you want to have it listed on the QPL

**Thank you!**

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