Reconvene and Report
Efficacy and Flicker
The Collaborators

70% Manufacturers
20% Utilities
10% Labs

Co-Facilitators
Issues Identified & Proposed Solutions:

Efficacy Tradeoffs with Quality and Cost

- Efficacy allowances for quality metrics
  - Application Specific Efficacy allowances
- Eligibility
  - Standard (efficacy boost with quality reporting)
  - Premium (No change in efficacy and quality thresholds applied)
- Higher utility rebates for quality products
- ROI calc for cost of quality metrics
Issues Identified & Proposed Solutions:

Flicker Test Burden

• Stakeholders are concerned with testing burden

• Suggestions to reduce burden
  • Identify worst case for flicker
  • Qualify using family grouping
  • Skip 100% output test and only test worst case
  • Test one voltage in a driver family

• Qualify flicker based on driver performance (reduce lab/manufacturing burden)
Issues Identified & Proposed Solutions:

**Flicker Performance**

- Tolerances for flicker need to be defined
- QPL should use a pass/fail criteria for flicker
- DLC should consider additional data resources for flicker performance
- Application specific requirements should be considered
- Consider no flicker requirement for systems that dim in response to vacancy
Next Steps
Next Steps

• We’ll summarize take-aways from this session
  • DLC will report out at the end of the day

• How to get involved
  • Send additional comments and questions to comments@designlights.org
  • Sign up for DLC newsletter and keep an eye out for Draft 2
  • Submit comments and participate in policy development process

• Enjoy the rest of the Meeting!
  • If something comes to mind later on, track us down
Thank You!

Axel Pearson, DLC
Bernadette Boudreaux, DLC
Matt Rusteika, DLC
Dan Mellinger, Energy Futures Group
Naomi Miller, PNNL

Please send questions and comments to:
Comments@designlights.org

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Color and Spectral Quality
Topic Overview

Color & Spectral Quality
Issues Identified

Topic 1: How should we collect SPD?
Where should it come from? Who should collect it? Which products/components?

Topic 2: Are two tiers enough for segmenting performance?
Indoor vs. Outdoor? How do circadian metrics fit into tiers?

Topic 3: How can we prevent misapplication of published metrics?
What can be misinterpreted? Education, tools or other efforts?
Takeaways – Collecting SPD

• The group agreed that 1nm resolution should be required (it’s fair)
• No one agrees with testing every single product listed on the QPL

So...
- Evaluate LED package level data
  - Fixture impacts (reflectance, optics, filters, etc)
  - Fixtures with multiple LED package types
- Redefine family grouping based on base or most common case?
  - Can we leverage what we know? (database)
  - Consideration for testing sample size (3 = NO!)
  - No generally accepted “base case” definition
Takeaways – Two tier concept

- Two tiers is not enough....
- Three seems to capture the missing pieces

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<tr>
<th>Tier 1 (A)</th>
<th>Tier 2 (B)</th>
<th>Tier 3 (C)</th>
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<td>Indoor (except Highbay)</td>
<td>Outdoor + Highbay (~CRI70)</td>
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- Reconsider the currently proposed red rendering values
- Circadian metrics should be an *optional* reporting requirement
- Consider products which may not fit into the tiers, but are still ‘good’
Takeaways – Preventing misapplication

• Circadian metrics can be easily misinterpreted and misapplied.

• Concerns about the stigma of OPTIONAL reporting on metrics

• TM-30 may not be useful for all applications (compared to CRI)
  “In the absence of data, any data will do…” – John Wilson
  ...what about too much data?
Next Steps

*Leave your comments on the post-it notes!

*Keep an eye out for Draft 2

*Continue to Engage...
Energy Monitoring
Energy monitoring

Group demographics: 50+ attendees, all perspectives present from utilities and manufacturers as well as labs and our 1 specifier.

Comments on what works:
• Data can be used to inform program design and support customer participation
• Validate savings associated with lighting
• Provides info on the health of the luminaire
Issues Identified

1. Required data details
2. Exterior vs. Interior
3. How to define room-level systems?
1. Required Data Details

• Define the terms for consistency (interior and exterior systems, 15min data sets, site vs. system,

• Related to accuracy
  • How to handle legacy luminaires
  • System vs. device level
  • Confidence levels in the reporting

• How long to store the data

• Focus on API (Application Programming Interface) next year
Exterior vs. Interior

• Separating DLC requirements for interior and exterior system is premature before ANSI Standards are published.

• If separation is needed, it should just be roadway systems.
How to Define Room-Level Systems

• You have to walk into the room to retrieve data.

• Tier-based approach
  1) Room-level system
  2) Calculated (with manual input)
  3) Measured automatically
Next Steps

• Draft 2 will be released mid-April, comments accepted until mid-May
• Add comments on Post-It now (outside the room)
• Additional comments can be provided later to

Levin Nock
Lnock@designlights.org
So What’s Next?
Thank you to our sponsors:
Thank you!
SSL V5.0 Timeline

* Subject to change. There will be an additional grace period before any delisting impacts.
# NLC V4.0 Timeline

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<th>Event</th>
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* Subject to change. There is a one-year grace period before any delisting impacts.