Meeting Minutes

Meeting Name  Luminaire Section Comment Consensus Meeting
Meeting Place  Join Microsoft Teams Meeting
+1 571-616-0491  United States, Arlington (Toll)
Conference ID: 169 861 982#
Date & Time  Monday, June 22, 2020, 11:00 AM - 12:00 PM EDT
Presiding Officers  Tanya Hernandez, CHAIR, Acuity Brands, Inc.

Members in Attendance
- ABB Installation Products Ltd.
- Acuity Brands, Inc.
- Cooper Lighting Solutions
- GE Current, a Daintree company
- Halco Lighting Technologies
- LEDVANCE LLC
- Lutron Electronics Company, Inc.
- Satco Products, Inc.
- Signify North America Corporation

Members Absent
- Atlas Lighting Products, Inc.
- Cree Lighting
- Dialight
- EiKO Global, LLC
- Emerson Automation Solutions
- EYE Lighting International of N.A., Inc.
- Hubbell Lighting, Inc.
- Legrand, North America
- Leviton Manufacturing Co., Inc.
- MaxLite
- RAB Lighting Inc.
- Southwire Company
- TCP International Holdings Ltd.
- Universal Lighting Technologies
- Westgate MFG Inc.
1 Call to Order and Review of NEMA Meeting Guidelines
The meeting was called to order. The Guidelines for Conducting NEMA Meetings were reviewed.

2 Roll Call/Quorum
A roll call was conducted. A quorum was not present.

3 Review and Approve Agenda
The draft agenda was reviewed and submitted for approval. Members were invited to make proposals for new agenda items at this time.

4 Business
Business items to be discussed:

4.1 Ballot Summary
Previously Submitted Comment 1:

Affirmative – 17, Negative – 5, Abstain – 2

Previously Submitted Comment 2 - 5:

Affirmative – 15, Negative – 7, Abstain – 2

Two affirmative votes were submitted with additional new comments

- Ms. Willis furnished a review of the criteria used in the vote
- All members of the section were invited to this meeting.
- Consensus on the new comments will be decided by the members who chose to attend

4.2 Previously Submitted Comment 1

1. The subject of the cover letter states “NEMA Comments Regarding DLC SSL Version 5.0/5.1, and the topic of dimming TLEDs and LED HID replacement
lamps.” It is not clear from the start that this a letter, and it should be, that the letter is on behalf of NEMA’s Light Source Section. The Luminaire Section requests that the subject of the letter includes “Light Source Section”.

- This comment was accepted as a Luminaire Section consensus comment by ballot

4.3 Previously Submitted Comment 2

2. The Light Source letter includes a reference to the industry consensus comment that states "we agree with the change in Draft 2 to remove the dimming requirement from TLEDs. TLEDs and Retrofit Kits serve the same market need so should be treated equivalently in terms of dimming. Most of the installed base of fluorescent ballasts are not dimmable and most dimming ballasts are not compatible with TLEDs. Solution: Remove dimming requirements from Retrofit Kits" (including kits using TLEDs).” The industry consensus comment was a compromise after members disagreed with giving TLEDs a pass on dimming if retrofit kits must be dimmable, however the Light Source Section letter does not advocate for a dimming exception of retrofits kits, only TLEDs and HID replacement lamps.

The DLC is not familiar with the structure of the Lighting Systems Division and will likely assume that the letter is a consensus position of NEMA lighting members in general. Since consensus within the LSD has not been attempted or achieved, the Luminaire Section requests that the cover letter state that the opinion or position expressed in the letter is not necessarily the opinion of all Lighting System Division Sections/members.

- This comment was not accepted as a Luminaire Section consensus comment by ballot

4.4 Previously Submitted Comment 3

3. The Light Source letter advocates for non-dimmable TLEDs which may be in direct opposition to general NEMA positions on alterations in building energy codes (CA T24, for example) and other policy issues like infrastructure stimulus where controllability is often highlighted and promoted. The Luminaire Section requests that NEMA staff review current and past advocacy statements to ensure the position in the letter does not negatively impact the consensus policy objectives.

- This comment was not accepted as a Luminaire Section consensus comment by ballot

4.5 Previously Submitted Comment 4

4. The Light Source letter asks that DLC clarify to their participating utilities that adding dimming to every product type and application would be expected to raise the energy consumption in the great majority of installations that are non-dimming. The Luminaire
Section requests that Light Source Section validate this claim with data, consensus white paper, etc. and provide a notation to the reference material in the letter for the Code and Standards Committee to evaluate.

- This comment was not accepted as a Luminaire Section consensus comment by ballot

### 4.6 Previously Submitted Comment 5

5. The Light Source letter also asks DLC to clarify to all participants a higher expectation of poor customer experiences due to the complexities involving fluorescent dimming systems. The Luminaire Section requests that Light Source Section validate this claim with data, consensus white paper, etc. and provide a notation to the reference material in the letter for the Code and Standards Committee to evaluate.

- This comment was not accepted as a Luminaire Section consensus comment by ballot

### 4.7 New Comment 1

1. The Luminaire Section should send in a letter requesting that luminaires and luminaire retrofit kits be kept at a technology parity to non-dimming TLEDs within the DLC technical specs such that DLC remove dimming requirements for luminaires and luminaire retrofit kits.

- This comment was not accepted as a Luminaire Section consensus comment by discussion during the comment resolution meeting

### 4.8 New Comment 2

2. The best approach is as follows: A joint letter from both the Luminaire and Light Source Sections requesting that all LED technologies allow for non-dimming. This maintains a unified position and there is rationale to do so.

Note: To be clear, DLC provides technology favoritism towards TLEDs already with lower performance requirements within a luminaire. Integrated LEDs within a luminaire and luminaire retrofit kits technical requirements (e.g.: Luminaire Efficacy, Minimum Lumens, etc.) require higher performance levels to qualify than TLEDs. Allowing non-dimming TLEDs and requiring dimming luminaires and luminaire retrofit kits continues to propagate a bias toward TLEDs which should be avoided.

- This comment was not accepted as a Luminaire Section consensus comment by discussion during the comment resolution meeting
4.9 New Comment 3

1. The cover letter should be clear if the contents reflect the consensus position of NEMA or just the comments of one section. If the following points are addressed, the cover is ok as written; if not, then it should be changed to read:

These comments are submitted on behalf of the NEMA Light Source Member companies across multiple product categories. The comments do not represent a consensus of the NEMA Lighting System Division.

- This comment was accepted as a Luminaire Section consensus comment by discussion during the comment resolution meeting and will be forwarded the Light Source Section for consideration

4.10 New Comment 4

2. Previous NEMA comments were developed between the 02LL and 02LE sections. Revise the narrative to reflect this. Recommended changes below:

NEMA Light Source and Luminaire Sections Members submitted the following joint comments in support of the DLC assessment (SSL Technical Requirements Version 5.0 Draft 2, Table 9 comments dated 11/8/2019).

- This comment was accepted as a Luminaire Section consensus comment by discussion during the comment resolution meeting and will be forwarded the Light Source Section for consideration

4.11 New Comment 5

3. The DLC SSL spec is setup according to Primary Use Designations. Instead of a blanket statement about TLED technology that is hard to justify, we recommend suggesting a new PUD that describes the assumed application and exempt that new PUD from dimming requirements. Lutron has supported the argument that there are applications for which dimming is not needed. To ensure open competition in this space, any dimming exemption should apply to any lamp/luminaire that fulfills that same PUD, independent of technology.
Additionally, there are many good applications for Type-C TLEDs where the ballast is replaced with an appropriate LED driver. It is this application most deserving of rebates as the installed cost is higher.

Finally, for the benefit of the whole industry, it seems wildly inappropriate for any NEMA document to describe dimming as either \textit{complex} or \textit{inefficient}. ‘Complexity’ is a matter of opinion and ‘inefficient’ exaggerates the losses and assumes operation only at high end. This is no different than any other energy-savings strategy, such as occ sensors. This is in direct conflict with other NEMA work, such as LSD-82 which argues that these functions, while they do consume some power, save far more energy than they consume.

Recommended changes below:

\textbf{First,} since the overwhelming majority of the existing applications where TLEDs are being installed do not require dimming, we question if there are enough dimmable applications and installations to justify the extra complexity of wireless or phase-cut dimming; or running an extra pair of control wires to the luminaire and a dimming control and dimming ballast or driver. Typical utility incentives for dimmable lamps do not compensate for this additional complexity. Additionally, dimming TLEDs could require special, non-shunted dimming sockets to be retrofitted in most fixtures. Also, because most TLEDs are not interoperable or compatible with many dimmable ballasts, this would increase the probability of field performance issues.

\textbf{Furthermore,} a typical dimmable system has lower operating efficiency (also at full output). Since most applications do not require dimming, these systems would consume more power than many of the non-dimmable systems that are being offered in the market today. Eventually this will reduce the energy savings the utilities are expecting.

DLC has stated that it has data showing the cost/benefit situation for dimming the affected lamps. NEMA Light Source Members, however, do not comprehend such claims. \textit{We would expect a poor financial return for a dimming system in most applications with lower energy savings and a lack of practical use.}

NEMA Light Source Section Members request that DLC share their analysis, detailed findings, and the rationale for radically and abruptly reversing the position to exclude non-dimmable retrofit lamps.
• This comment was accepted as a Luminaire Section consensus comment by discussion during the comment resolution meeting and will be forwarded the Light Source Section for consideration.
• Members of the Luminaire Section are open to working with the Light Source Section to refine the language

4.12 New Comment 6

4. Replacing a fluorescent fixture with a dimmable TLED should still save energy, even if dimming is not used. Perhaps the intent of the original text was to say that the savings could be less if dimming is not used. Nonetheless, as mentioned above, NEMA statements that dimming waste energy should be avoided as to not confuse the market the energy-savings potential of dimming systems.

Also, customers can expect excellent performance from Type-C TLEDs operated on proper equipment. NEMA positions cannot include a broad expectation of poor performance when there are quality solutions available. We recommend eliminating the following lines.

Recommended changes below:

DLC should clarify to their participating utilities that adding dimming to every product type and application would be expected to raise the energy consumption in the great majority of installations that are non-dimming.

Clarify to all participants a higher expectation of poor customer experiences due to the complexities involving fluorescent dimming systems.

If lamps continue to be excluded from the dimming requirement in SSL V5.1, as in SSL v5 draft 2, Table 11, page 27 as we propose, an increase in efficacy, practicality and energy savings can be maintained. Removing the dimming requirement for retrofit lamps is justifiable because most applications and markets for these products do not require or desire dimming and the energy savings from dimming will in most cases be small but costly to achieve.

• The Luminaire Section ran out of time to fully discuss this comment. Light Source Section is asked to take this comment into consideration
5  Next Steps
   • The secretary will forward the consensus comments to the Light Source Section

6  Adjournment
   The meeting was adjourned at 12:03 PM

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NEMALink Code 02LE
Submitted By Richmond, David
Submitted On 6/26/2020
Legal Review Reviewed by Counsel Peter Tolsdorf on 6-30-20 and 7-2-20
Meeting Evaluation Meeting Evaluation URL
Upload Location Enter upload location.
Comments 1 – 4 below represent Luminaire Section Consensus comments to the Light Source DLC Letter Dated April 20, 2020. Light Source Section members are also requested to take comment 5 into consideration.

1. The subject of the cover letter states “NEMA Comments Regarding DLC SSL Version 5.0/5.1, and the topic of dimming TLEDs and LED HID replacement lamps.” It is not clear from the start that this a letter, and it should be, that the letter is on behalf of NEMA’s Light Source Section. The Luminaire Section requests that the subject of the letter includes “Light Source Section”.

2. The cover letter should be clear if the contents reflect the consensus position of NEMA or just the comments of one section. If the following points are addressed, the cover is ok as written; if not, then it should be changed to read:

   These comments are submitted on behalf of the NEMA Light Source Member companies across multiple product categories. The comments do not represent a consensus of the NEMA Lighting System Division.

3. Previous NEMA comments were developed between the 02LL and 02LE sections. Revise the narrative to reflect this. Recommended changes below:

   NEMA Light Source and Luminaire Sections Members submitted the following joint comments in support of the DLC assessment (SSL Technical Requirements Version 5.0 Draft 2, Table 9 comments dated 11/8/2019).

4. The DLC SSL spec is setup according to Primary Use Designations. Instead of a blanket statement about TLED technology that is hard to justify, we recommend suggesting a new PUD that describes the assumed application and exempt that new PUD from dimming requirements. Lutron has supported the argument that there are applications for which dimming is not needed. To keep an even playing field, any dimming exemption should apply to any lamp/luminaire that fulfills that same PUD, independent of technology.

   Additionally, there are many good applications for Type-C TLEDs where the ballast is replaced with an appropriate LED driver. It is this application most deserving of rebates as the installed cost is higher.

   Finally, for the benefit of the whole industry, it seems wildly inappropriate for any NEMA document to describe dimming as either complex or inefficient. ‘Complexity’ is a matter of opinion and ‘inefficient’ exaggerates the losses and assumes operation only at high end. This is no different than any other energy-
savings strategy, such as occ sensors. This is in direct conflict with other NEMA work, such as LSD-82 which argues that these functions, while they do consume some power, save far more energy than they consume.

Recommended changes below:

First, since the overwhelming majority of the existing applications where TLEDs are being installed do not require dimming, we question if there are enough dimmable applications and installations to justify the extra complexity of wireless or phase-cut dimming; or running an extra pair of control wires to the luminaire and a dimming control and dimming ballast or driver. Typical utility incentives for dimmable lamps do not compensate for this additional complexity. Additionally, dimming TLEDs could require special, non-shunted dimming sockets to be retrofitted in most fixtures. Also, because most TLEDs are not interoperable or compatible with many dimmable ballasts, this would increase the probability of field performance issues.

Furthermore, a typical dimmable system has lower operating efficiency (also at full output). Since most applications do not require dimming, these systems would consume more power than many of the non-dimmable systems that are being offered in the market today. Eventually this will reduce the energy savings the utilities are expecting.

DLC has stated that it has data showing the cost/benefit situation for dimming the affected lamps. NEMA Light Source Members, however, do not comprehend such claims. We would expect a poor financial return for a dimming system in most applications with lower energy savings and a lack of practical use.

NEMA Light Source Section Members request that DLC share their analysis, detailed findings, and the rationale for radically and abruptly reversing the position to exclude non-dimmable retrofit lamps.

Secretary Note: This comment illustrates points of concern for the Luminaire Section Members and is not intended to be taken verbatim as submitted, but as an example. The Luminaire Section Members request the opportunity to collaborate with the Light Source Section to refine these points.

5. Replacing a fluorescent fixture with a dimmable TLED should still save energy, even if dimming is not used. Perhaps the intent of the original text was to say that the savings could be less if dimming is not used. Nonetheless, as mentioned
above, NEMA statements that dimming waste energy should be avoided as to not confuse the market the energy-savings potential of dimming systems.

Also, customers can expect excellent performance from Type-C TLEDs operated on proper equipment. NEMA positions cannot include a broad expectation of poor performance when there are quality solutions available. We recommend eliminating the following lines.

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Secretary Note: The Luminaire Section ran out of time to fully discuss this last comment and cannot submit it as a consensus comment. However, the Light Source Section is requested to take this comment into consideration.
Meeting Minutes

**Meeting Name**: Light Source Section DLC Letter Comment Review

**Meeting Place**: Join Microsoft Teams Meeting
  
  +1 571-616-0491  United States, Arlington (Toll)
  
  Conference ID: 560 505 037#

**Date & Time**: Wednesday, June 24, 2020, 10:00 AM - 11:00 AM EDT

**Presiding Officers**: David Woodward, CHAIR, Signify North America Corporation
  
  Dave Gatto, VICE-CHAIR, Westinghouse Lighting

**Members Attending**

- GE Current, a Daintree company
- GE Lighting
- LEDVANCE LLC
- Leviton Manufacturing Company, Inc.
- Lutron Electronics Company, Inc.
- OSRAM SYLVANIA Inc.
- Signify North America Corporation
- Westinghouse Lighting

**Members Absent**

- Cree Lighting
- EiKO Global, LLC
- EYE Lighting International of N.A., Inc.
- Feit Electric Company, Inc
- Halco Lighting Technologies
- MaxLite
- Satco Products, Inc.
- Southwire Company
- TCP International Holdings Ltd.
- Universal Lighting Technologies

**NEMA Staff**

- David Richmond
- Karen Willis
1 Call to Order and Review of NEMA Meeting Guidelines
The meeting was called to order. The Guidelines for Conducting NEMA Meetings were reviewed.

2 Roll Call/Quorum
A roll call was conducted, a quorum was not present.

3 Review and Approve Agenda
The draft agenda was reviewed and submitted for approval. Members were invited to make proposals for new agenda items at this time.

4 Business
Business items to be discussed:

4.1 The Luminaire Section DLC Letter Consensus Comments Document will be reviewed.
- Mr. Yon requested that retrofit kits be added to the letter to address the concerns of the Luminaire Section
- Mr. Parisella noted he was ok with rewording the letter to make it more applicable to the NEMA Lighting Division as a whole
- All present agreed with rewording the document on-line.

4.2 Edits to DLC Letter
- Change NEMA Light Source Section to NEMA Lighting Division, all occurrences
- Change subject line from “dimming TLEDs, LED HID Replacement Lamps” to TLED, LED HID Replacement Lamps, and retrofit kits"
- 1st sentence paragraph 1- remove the word “acute” and reword “TLEDs” as “TLED replacement lamps”
- Add a statement that overall NEMA supports dimming for energy savings but acknowledges that there is a significant amount of existing infrastructure that does not support dimming
- Add a proposal to create a new Preliminary Use Designation (PUD) in table 5 to create a category for fixed light output lamps
- Remove language disputing practicality of replacing existing infrastructure
5 Next Steps

- Secretary will circulate draft copy of the letter to the Light Source Section
- Secretary will schedule meeting for June 26 at 9:00am

6 Date and Time of Next Meetings

The next meeting is scheduled for:
Date: June 26, 2020
Time: 9:00 – 10:00 am

7 Adjournment

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NEMALink Code 02LL
Submitted By Richmond, David
Submitted On 6/29/2020
Legal Review Reviewed by Counsel Peter Tolsdorf on 7/2/20
Meeting Evaluation Meeting Evaluation URL
Upload Location Enter upload location.
Meeting Minutes

**Meeting Name**  Light Source Section DLC Letter Review

**Meeting Place**  [Join Microsoft Teams Meeting](#)
+1 571-616-0491  United States, Arlington (Toll)
Conference ID: 851 696 829#

**Date & Time**  Friday, June 26, 2020, 9:00 AM - 10:00 AM EDT

**Presiding Officers**  
David Woodward, CHAIR, Signify North America Corporation  
Dave Gatto, VICE-CHAIR, Westinghouse Lighting

**Members Attending**  
GE Current, a Daintree company  
GE Lighting  
LEDVANCE LLC  
Lutron Electronics Company, Inc.  
OSRAM SYLVANIA Inc.  
Signify North America Corporation  
Westinghouse Lighting

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**NEMA Staff**  
David Richmond  
Karen Willis
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2 Roll Call/Quorum
A roll call was conducted, a quorum was not present.

3 Review and Approve Agenda
The draft agenda was reviewed and submitted for approval. Members were invited to make proposals for new agenda items at this time.

4 Business
Business items to be discussed:

4.1 Draft Updates to the Light Source DLC Letter will be Reviewed
- Clarify the new Proposed Use Designations, move from Table 5 to Table 6 to align with most recent revision.
- Review and editorial corrections

5 Next Steps
- The secretary will forward a clean copy to Ms. Hernandez for review
- The secretary will distribute the letter to the Lighting Division for a one-week review.
- If no objections are received the secretary will submit the letter for NEMA and C&S approval on July 6, 2020

6 Adjournment
The meeting was adjourned at 10:00 am.

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NEMALink Code 02LL
Submitted By Richmond, David
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<th>6/29/2020</th>
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