

WAI Committee

From: Duane Henderson <dhenderson@creelighting.com>
Sent: Tuesday, September 16, 2025 4:23 AM
To: WAI Committee
Cc: Jon Vollers; Eric Miyasato; County Clerk
Subject: Cree Lighting - Guideway Streetlight (2025 09 02 WAI Meeting Response - Testimony)
Attachments: Cree Lighting - Guideway Streetlight (2025 09 02 WAI Meeting Response - Testimony).pdf

Some people who received this message don't often get email from dhenderson@creelighting.com. [Learn why this is important](#)

Aloha WAI Committee Members,

Attached is a formal response from Cree Lighting regarding several inaccurate statements made about us and our Guideway® Series luminaire that were presented at your committee meeting on September 2, 2025. We seek to correct these misrepresentations and further educate committee members so that a more informed decision can be made. We'd also be happy to answer any additional questions you may have to aid you in your decision.

Thanks, Duane

Duane Henderson, LC

Training & Education

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September 16, 2025

Maui County Water and Infrastructure Committee (WAI)
Maui County, HI

Dear WAI Committee Members,

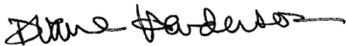
As representatives of Cree Lighting, we are writing to inform you that during the opening presentation by the corporation council regarding WAI-11 Bill 109 (2025) at the Water and Infrastructure committee meeting held on September 2, 2025, there were several inaccurate statements made regarding Cree Lighting and our Guideway® Series luminaire. In response, we seek to correct these misrepresentations and advise you of the following facts:

1. Our Guideway® Series luminaire **is a streetlight**, designed for and able to meet or exceed the lighting requirements of typical roadway applications.
2. The Illuminating Engineering Society's Recommended Practice (RP-8-25) design criteria for streetlighting gives **no direct guidance on the use of 70 CRI minimum** products, and in alignment with this, nor do we.
3. Our 1900K/50CRI (19K5) Guideway® Series closely resembles the visual color appearance of the existing High Pressure Sodium (HPS) technology, which Maui County has been using for decades but has **significantly better color quality**.

The following appendix provides additional detail to further validate these points. We hope you find this information useful and welcome the opportunity to answer any additional questions or concerns the county may have regarding our products and/or this application. We also strongly encourage a site visit to see our product first-hand as part of your overall evaluation.

Above all, we believe that Cree Lighting's 19K5 Guideway® streetlight provides Maui County with an excellent opportunity to lead and demonstrate to other communities how to develop and execute reduced blue light goals that benefit both its residents and valued wildlife.

Sincerely,



Duane Henderson, LC
dhenderson@creelighting.com

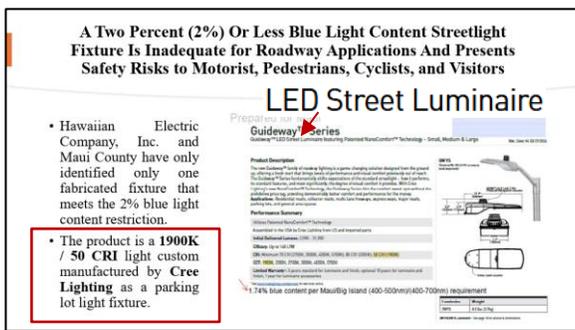


Jonathan Voller, LC
jvollers@creelighting.com

APPENDIX

Note: All responses below refer to slides found in this presentation; [WAI-11 Bill 109 \(2025\) - Presentation from Corporation Counsel 09-02-2025](#), published on the Maui County public website.

#1. Our Guideway® Series luminaire is a streetlight, designed for and able to meet or exceed the lighting requirements of typical roadway applications.



A Two Percent (2%) Or Less Blue Light Content Streetlight Fixture Is Inadequate for Roadway Applications And Presents Safety Risks to Motorist, Pedestrians, Cyclists, and Visitors

LED Street Luminaire

Presented by Cree Lighting

- Hawaiian Electric Company, Inc. and Maui County have only identified only one fabricated fixture that meets the 2% blue light content restriction.
- The product is a 1900K / 50 CRI light custom manufactured by Cree Lighting as a parking lot light fixture.

Product Description: The Cree Lighting Guideway Series luminaire is a streetlight designed for roadway applications. It features a 1900K CCT and 50 CRI, meeting the 2% blue light content requirement. The luminaire is available in various sizes and configurations, including 150W, 250W, 350W, 450W, and 600W. It is designed to provide high-quality lighting for roadway applications, including street lighting, parking lot lighting, and area lighting. The luminaire is available in various finishes, including white, black, and bronze. It is designed to be easy to install and maintain. The luminaire is available in various sizes and configurations, including 150W, 250W, 350W, 450W, and 600W. It is designed to provide high-quality lighting for roadway applications, including street lighting, parking lot lighting, and area lighting. The luminaire is available in various finishes, including white, black, and bronze. It is designed to be easy to install and maintain.

Performance Summary: The Cree Lighting Guideway Series luminaire is a streetlight designed for roadway applications. It features a 1900K CCT and 50 CRI, meeting the 2% blue light content requirement. The luminaire is available in various sizes and configurations, including 150W, 250W, 350W, 450W, and 600W. It is designed to provide high-quality lighting for roadway applications, including street lighting, parking lot lighting, and area lighting. The luminaire is available in various finishes, including white, black, and bronze. It is designed to be easy to install and maintain.

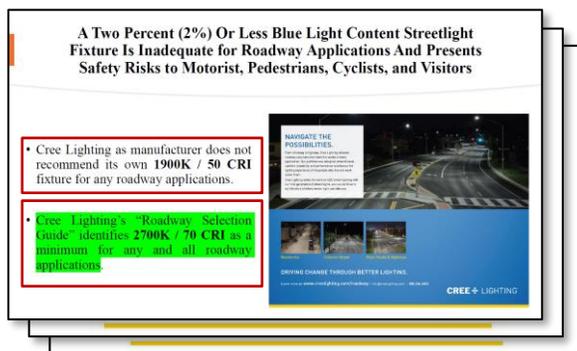
1.74% blue content per Maui/Big Island (400-500nm) requirement

Slide 14

On Slide 14, the Cree Lighting Guideway® streetlight is mischaracterized as a “parking lot light fixture.” However, as clearly stated in our [2023 product launch announcement](#), and shown on our [spec sheet](#), the Guideway Series is in fact an “LED Street Luminaire” able to meet or exceed the lighting requirements of typical roadway applications.

Furthermore, as noted on the spec sheet, our 1900K/50 CRI (19K5) option is a *standard* offering and not “custom manufactured” as identified and presented to the committee.

#2. The Illuminating Engineering Society’s Recommended Practice (RP-8-25) design criteria for streetlighting gives no direct guidance on the use of 70 CRI minimum products, and in alignment with this, nor do we.



A Two Percent (2%) Or Less Blue Light Content Streetlight Fixture Is Inadequate for Roadway Applications And Presents Safety Risks to Motorist, Pedestrians, Cyclists, and Visitors

MANAGING THE POSSIBILITIES

- Cree Lighting as manufacturer does not recommend its own 1900K / 50 CRI fixture for any roadway applications.
- Cree Lighting's Roadway Selection Guide identifies 2700K / 70 CRI as a minimum for any and all roadway applications.

DRINK! CHANGE THROUGH BETTER LIGHTING

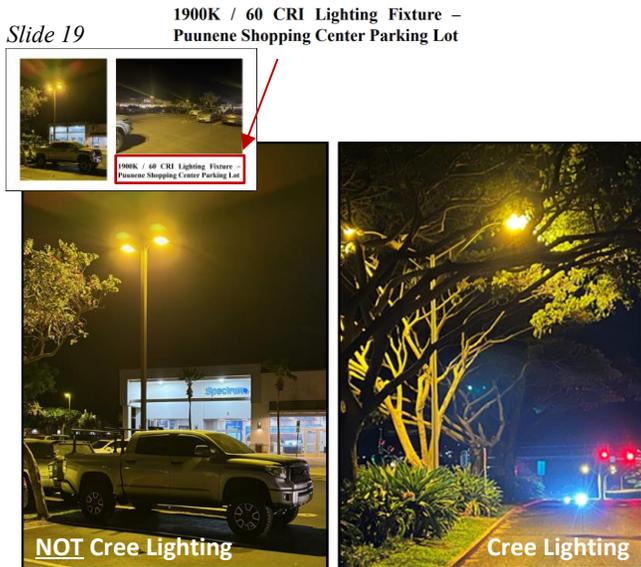
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Slides 15-17

On Slides 15-17, Cree Lighting is mischaracterized as solely recommending a minimum 70 CRI, and not at all recommending our 19K5 option, for “any and all” roadway applications. This false assertion is based on an archived version of our marketing collateral which was published in 2022 prior to the invention of our 19K5 option. The [current version of this same collateral](#) clearly includes our 19K5 option. Neither version positions one CCT or CRI option as more or less preferred than any other. Rather, Cree Lighting is committed to providing superior performing products that meet our customers’ lighting goals regardless of their CCT/CRI selection.

As a longstanding member of the IES, Cree Lighting aligns our own lighting design practices to the guidance set forth in published IES standards, such as RP-8-25, which covers design criteria specific to roadway applications. In this standard, while the IES acknowledges that higher color rendering is generally more desirable, they do not establish a specific minimum CRI requirement or recommendation. As such, when selecting replacement lighting, it should be interpreted that *any* improvement in color rendering is generally desirable. This approach affords more flexibility for end users who must balance a variety of lighting goals, such as Maui County, who seek to satisfy its less than 2% blue light ordinance alongside the need to maintain adequate roadway visibility.

#3. Our 1900K/50CRI (19K5) Guideway® Series closely resembles the visual color appearance of the existing High Pressure Sodium (HPS) technology, which Maui County has been using for decades but has significantly better color quality.



60 CRI LED Area Lights as presented to the committee (left) versus actual Cree Lighting 19K5 (50 CRI) Guideway Streetlights (right).

On Slide 19, installation images were identified as 60 CRI LED luminaires that were not made by Cree Lighting, as properly stated by the presenter, but not noted on the slide. However, it was implied that these luminaires at 60 CRI offered poor color rendering but were still better than our 19K5 (50 CRI) Guideway® product.

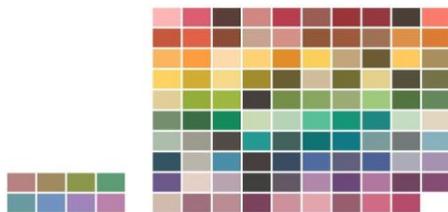
For a more accurate portrayal, see image of our actual 19K5 Guideway streetlight installed in Maui County. As shown, our 19K5 Guideway streetlight renders colors reasonably well, much better than the stated 60 CRI images presented to the committee would imply all while providing the increased benefits of significantly reduced blue light content.

To better evaluate these critical visual differences, we strongly encourage a site visit to see our product first-hand before making any conclusion on its actual color rendering capabilities.



Comparison Test: 2700K / 70 CRI vs. 1900K / 50 CRI

To further illustrate the differences in color rendering and visual appearance, we performed a comparison test displaying one of our 2700K 70 CRI LED products versus our 1900K 50 CRI product. With this, we included a more reliable color rendering metric, R_f , found within [TM-30](#). TM-30, which was developed by the IES in 2015, is a better tool to accurately predict color quality, and was created, in part, due to CRI's shortcomings in performing this task. Like CRI, the fidelity metric, has a maximum score of 100.



Color Evaluation Samples: CRI (8) vs. TM-30 (99)

One of the big improvements TM-30 brings is in the number of color samples it uses to evaluate color quality. While CRI relies on only eight pastel color samples, TM-30 expands this significantly to include 99 color samples – representing a much wider range of real-world colors than CRI, and in doing so delivers much more dependable results in predicting color quality.

As shown, while the 1900K 50 CRI luminaire measured a CRI of 51, its TM-30 R_f value was much higher at 62. This increase was more pronounced than with the 2700K 70 CRI luminaire, which jumped from a CRI of 72 to a TM-30 R_f value of 76. Using this more reliable color fidelity metric from TM-30, the performance of our 1900K 50 CRI luminaire is much closer to the color quality of a 2700K 70 CRI luminaire than the CRI metric alone would suggest.

Furthermore, while LED vs. LED comparisons may be useful, it should be underscored that Maui County intends to use our 19K5 Guideway streetlight to replace legacy High-Pressure Sodium (HPS) streetlights which have been in use across the county for decades. HPS has a CCT range of 1900K-2200K, which is similar in visual appearance to our 19K5 product. However, due to its spectral color content, HPS has a CRI range in the low 20s, which is much lower than our 19K5 Guideway. In the end, our 19K5 product offers noticeably better color rendering than the HPS it will replace, while providing visual continuity to residents who are used to the warmer CCT range of the legacy HPS, all while satisfying the county's less than 2% blue light ordinance and the value it delivers.