

April 28, 2022

**BY EMAIL**

Justin Nickels, Board President  
League of Wisconsin Municipalities  
[league@lwm-info.org](mailto:league@lwm-info.org)

**Re: Toxic and Discriminatory LED Lights**

Dear Justin Nickels,

On April 26, 2022, the US Department of Energy published a rule requiring General Service Lamps to have a luminous efficacy of at least 45 lumens per watt.<sup>1</sup> This action is intended to eliminate the sale of incandescent light bulbs. The definition of energy efficiency is providing the same quality of service using less energy. The tragedy of this rule is that the DOE has invalidly ignored the quality component of the definition of energy efficiency. This will cause the lighting manufacturers to sell toxic, low-quality LED light as replacements for incandescent. There are millions of people who cannot neurologically tolerate LED light. How are these people supposed to live in a world with toxic, intolerable LED light?

Cities have been switching from High-Pressure Sodium streetlights to low-quality LED streetlights which is making people sick. LED streetlights are not energy efficient, but rather a low-quality light well suited for fiber optic communications, but poorly suited for the purpose of illumination. Lighting manufacturers such as Acuity Brands and Signify claim that LED light is the same quality as light from High-Pressure Sodium, but we know this to be false because LED streetlights may impair depth perception, often increase glare, and typically have subsensory flicker. The result of using low-quality LED light includes epileptic seizures, migraines, anxiety, eye pain, and exclusion from public life that did not occur when cities were using point light sources such as HPS.

Ms. Elaine Dennehy's powerful testimony in February 2022 to the Irish Parliament details the impacts of LED light on people's lives.<sup>2</sup> The LightAware Charity's 2021 report describes the harms caused by LED lights and has numerous additional personal stories of the negative impacts of LED light.<sup>3</sup>

The lighting manufacturer Cree Lighting released a whitepaper in April 2022 admitting for the first time that the entire lighting industry has used incorrect metrics for LED lighting.<sup>4</sup> This means that the claims of energy efficiency have been wrong, the claims of LED safety have been wrong, and

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<sup>1</sup> <https://www.energy.gov/articles/biden-administration-implements-new-cost-saving-energy-efficiency-standards-light-bulbs>

<sup>2</sup> [https://www.oireachtas.ie/en/debates/debate/joint\\_committee\\_on\\_disability\\_matters/2022-02-03/2/](https://www.oireachtas.ie/en/debates/debate/joint_committee_on_disability_matters/2022-02-03/2/)

<sup>3</sup> <https://lightaware.org/wp-content/uploads/2021/02/LightAware-LED-Street-lighting-report.pdf>

<sup>4</sup> <http://www.softlights.org/wp-content/uploads/2022/04/Cree-Lighting-White-Paper.pdf>

photometric layouts have been wrong. In other words, nearly everything you have been told about LEDs is wrong and the industry now admits it. The industry has finally realized that they were incorrectly ignoring the non-uniform spatial energy of surface source LED light.

**There is no known safe level of LED light.**

Incandescent light bulbs have a luminous efficacy of approximately 10 lumens per watt. High-Pressure Sodium lights are approximately 120 lumens per watt. Low-Pressure Sodium lights are around 200 lumens per watt. Amber LED streetlights are approximately 100 lumens per watt, but with non-uniform spatial shape which creates a discriminatory barrier for those who are LED-reactive. Given the comparable luminous efficacy between the point source HPS and LPS and the surface source LED, we see no reason to switch to the low-quality, discriminatory LED light.

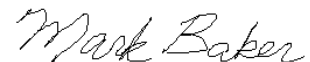
To protect the natural night resource from light pollution, cities should install full shields. To reduce energy usage, switch from 100-watt HPS to 50-watt HPS with no reduction in safety. To reduce energy usage further, switch from HPS to LPS.

The Soft Lights Foundation and others are currently involved in multiple legal actions involving LED lighting. These actions include cases with human rights commissions, state Attorney General investigations, and preparation for class action lawsuits.

Now that the Soft Lights Foundation has made the Wisconsin League of Municipalities aware of the negative impacts of LED light, the WLM has an obligation to let its members know that LED light is a low-quality light, that LED streetlights are not energy efficient as claimed, and that the spatially non-uniform luminance of LED light is making people sick and creating discriminatory barriers, in violation of the federal Americans with Disabilities Act.

The Soft Lights Foundation welcomes any questions on this topic.

Sincerely,



Mark Baker  
President

Soft Lights Foundation  
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