

March 13, 2022

BY EMAIL

Neil Sitron, General Counsel
Rivian
nsitron@rivian.com

Re: LED Lights

Dear Neil Sitron,

There are now two types of electromagnetic light sources in this world: point sources and surface sources.

Point source: Examples: The sun, a candle, incandescent, tungsten/halogen, High-Pressure Sodium. The brightness of a point source is measured with luminous intensity in candela. The light from a point source is spatially uniform. The National Highway Transportation Safety Administration FMVSS-108 regulations refer to minimum and maximum candela and is applicable to point sources.

Surface source: Examples: LED, laser. The brightness of a surface source is measured with luminance in nits (candela per square meter). The light from a surface source is spatially non-uniform. NHTSA FMVSS-108 has no references to luminance or nits and is not applicable to surface light sources because of issue of non-uniformity.

NHTSA has no regulations for surface sources such as LED, no regulations for spectral power distribution, no regulations for flicker caused by Pulse Width Modulation, no regulations for eye protection, and no regulations for neurological protection.

Shown below is a warning label for an LED flashlight. This warning is necessary because LED light is dangerous.

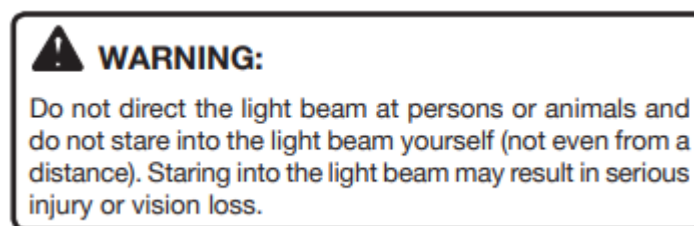


Figure 1 - Ryobi LED Warning

Figure 2 is a photo of tungsten filament headlights. The photo shows the yellowish color and low glare of the tungsten headlights providing essentially uniform illumination.



Figure 2 - Tungsten Filament Headlights¹

Figure 3 is an example of the glare from a surface source LED headlight. Here is a link to a video showing the oncoming glare from different vehicles. Video: <https://youtu.be/sQHpkG7UhA>



Figure 3 - LED Headlight Glare

The Motor Vehicle Safety Act defines motor vehicle safety: *“motor vehicle safety” means the performance of a motor vehicle or motor vehicle equipment in a way that protects the public against unreasonable risk of accidents occurring because of the design, construction, or performance of a motor*

¹ <https://www.usautosales.info/blog/pros-and-cons-of-halogen-and-led-headlights/>

vehicle, and against unreasonable risk of death or injury in an accident, and includes nonoperational safety of a motor vehicle.²

LED headlights and LED Daytime Running Lights are an obvious design flaw because of the non-uniform energy, the spectral power distribution with large spike of blue wavelength light, and the lack of compliance with FMVSS-108. These design flaws create an unreasonable risk of death or injury and thus LED headlights violate the Motor Vehicle Safety Act.

Petition

Tens of thousands of people have signed a petition and provided comments.³ Below are a few of the comments on the petition.



Makaila Carpenter

2 days ago

I have an astigmatism and these LED headlights make driving dangerous and nearly impossible.



Linda Kelly

3 days ago

Lights blind other drivers and cause deaths and accidents



Tina Dougherty

3 days ago

I totally agree with this petition. I don't like driving at night for this reason! It is so dangerous for these lights to be used as headlights.



Ruth MacGabhann

3 days ago

These lights are blinding and make driving in the dark very difficult!



Vanessa Herrera

4 days ago

I have to pull over every time someone with led headlights comes towards me. If I look at their lights. I'm blinded for several minutes

² https://www.law.cornell.edu/definitions/uscode.php?width=840&height=800&iframe=true&def_id=49-USC-1450788177-1380006377&term_occur=28&term_src=

³ <https://www.change.org/p/u-s-dot-ban-blinding-headlights-and-save-lives>



wilmot Price

6 days ago

I have been blinded by these kinds of lights many times.



Louise Dell

1 week ago

I have been blinded far too many times by these lights and have had many near misses! In the dark they dazzle you, and then you can't see properly for minutes after



Christen Croft

3 weeks ago

I wholeheartedly agree. It's dangerous! When they are coming toward me in a narrow dark road at night, some headlights are so blinding and I have to hope for the best until the other vehicle passes. When they are directly behind me, I have to fold my rearview mirror up (which is dangerous in and of itself, but still less so than not doing it) so that I can see on front of me and that only helps so much, since the glare from them are still blinding me from my sideview mirror. I don't understand why this has been allowed to become such an issue, in the first place. I hope this will save some lives.



ryan hansmann

3 weeks ago

I am a professional driver and the harsh white light makes working dangerous and hard to see while driving at night.



Kenneth Moya

4 weeks ago

We're in Southern California where there's streetlights every 15 feet. You don't need these here, and we NEED to be able to see in front of us instead of using both hands to block the rear and side view mirrors when you're behind us.



Jenny Isadore

4 weeks ago

LED head lights are blinding and very dangerous. Especially at night in the rain when you can't see the lines on the road or anything in front of you because you're blinded by LED head lights.

LED headlights and Daytime Running Lights are surface sources, for which NHTSA has not created regulations. LED headlights and DRL's do comply with FMVSS-108. The use of such LED headlights and DRL's makes Rivian liable for the injuries they cause and any vehicles on the road with LED headlights or DRL's will necessarily need to be recalled.

Sincerely,

Mark Baker

Mark Baker

President

Soft Lights Foundation

mbaker@softlights.org

**YOU DON'T HAVE THE RIGHT
TO SHINE YOUR  LIGHT
IN MY **