Soft Lights Foundation

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BY EMAIL

Scott Smith, General Counsel
Genuine Parts Company
Scott.smith@genpt.com

Re: Spatially Anisotropic Visible-Radiation Devices

Dear Scott Smith,

English Common Law dating back to 1663 states that a property owner has an easement to allow *light* to enter their property.[1] The word *light* referred to sunlight and starlight that could be seen by human eyes. We now know that human-visible light is the set of frequencies between approximately 400nm and 700nm on the electromagnetic spectrum. For regulatory purposes, *light* is spatially isotropic, meaning that the shape of the radiation is the same in all spherical directions.

Biological systems have a long history of evolution with *light*. The substance emitted by the sun, stars, fire, candles, and fireflies is *light* and is a fundamental component of biological life. Humans use their visual receptors to see objects using reflected light, the different wavelengths of light provide color information, and *light* controls circadian rhythms and mood. *Light is spatially isotropic radiation in the human visible portion of the electromagnetic spectrum*.

The substance emitted by LEDs does not meet the regulatory definition of *light*. Light Emitting Diodes are misnamed because they emit visible radiation, but not *light*. LEDs should more properly be named Visible Radiation Emitting Devices or VREDs. Because the substance that LEDs emit is spatially anisotropic radiation and not *light*, this substance interferes with the nervous system and can cause eye damage, pain, epileptic seizures, migraines, psychiatric trauma, and thoughts of suicide.

We wish to alert Genuine Parts to liability issues related to the sale of LED radiation devices. Figure 1 is a diagram that shows that *light* is spatially isotropic radiation in the human visible portion of the electromagnetic spectrum and that the radiation emitted by LEDs, while visible, is not *light*.

[1] https://www.britannica.com/topic/ancient-lights

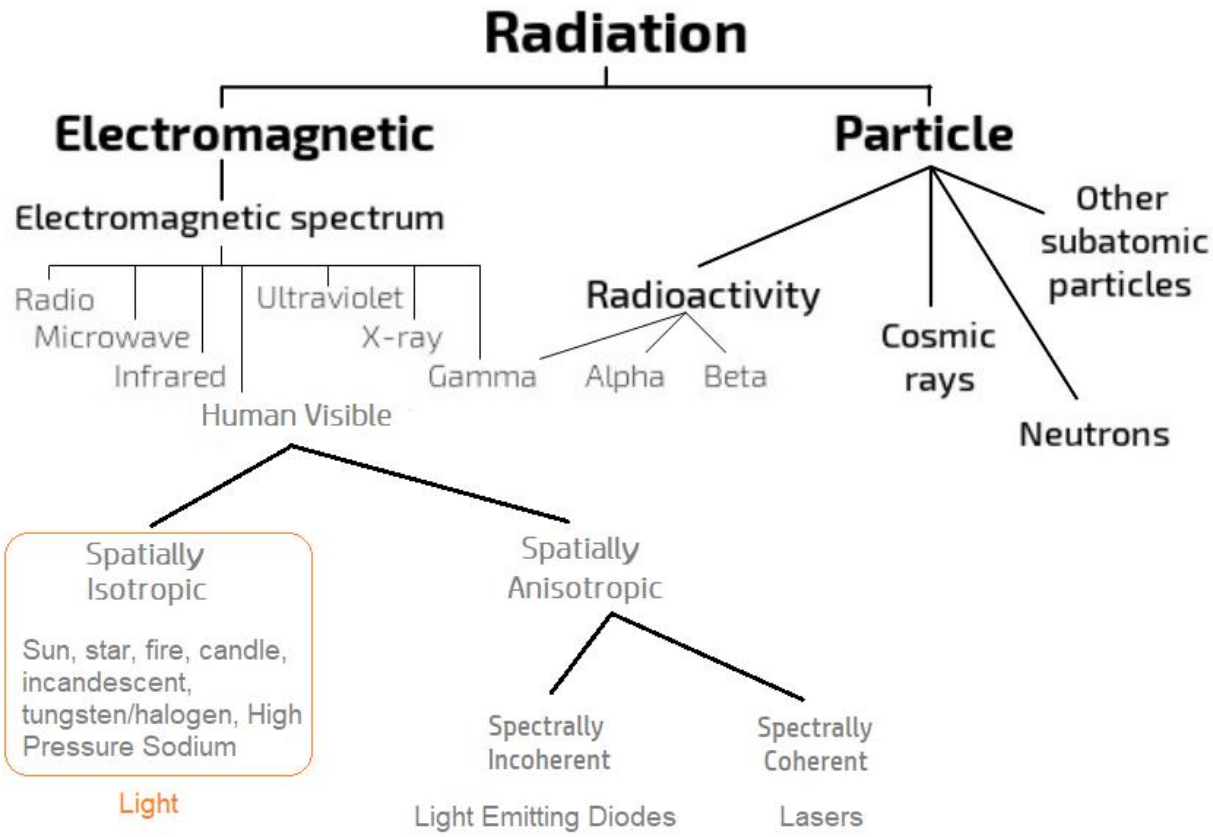


Figure 1 - Radiation

An example of the LED headlights that NAPA sells is shown in Figure 2. The National Highway Transportation Safety Administration regulation FMVSS-108 applies only to devices that emit *light*. Other types of radiation devices such as those that emit x-rays, microwaves, or spatially anisotropic visible radiation such as lasers and LEDs are not regulated by FMVSS-108 and are thus illegal for use as vehicle headlights.

Figure 2 - NAPA LED Headlight[2]

[2] https://www.napaonline.com/en/p/LMPH6054NVLEDN

Figure 3 shows the dangerous blinding glare from an LED headlight. This glare is visible radiation, but not *light*.

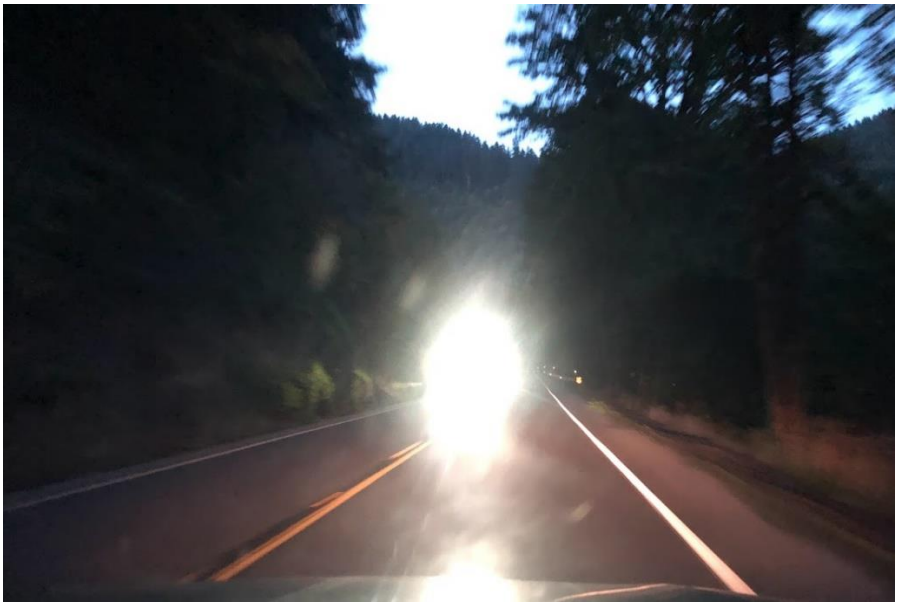


Figure 3 - LED Headlights

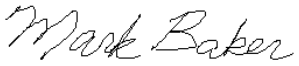
As an example of how dangerous LED radiation is, consider this warning shown in Figure 4 from the company Gear Light. LED chip makers exceeded 100,000,000 nits of peak luminance as of 2018.[3]

Figure 4 - LED Flashlight

[3] focusworld.com/test-measurement/research/article/16555223/nonlaser-light-sources-highluminance-leds-target-emerging-automotive-lighting-applications

Neither the Insurance Institute for Highway Safety nor the National Highway Traffic Safety Administration has addressed the use of LED radiation devices. NHTSA regulation FMVSS-108 applies only to the subset of visible radiation called *light*. FMVSS-108 is not written for x-rays, microwaves or spatially anisotropic radiation from lasers or LEDs. Therefore, all LED headlights, both OEM and aftermarket, are illegal. Genuine Parts has liability exposure for selling LED radiation devices that cannot legally be used in vehicles. If a vehicle uses a Genuine Parts LED radiation device and that vehicle causes an accident by dazzling an oncoming driver with LED radiation or if the LED headlight causes eye damage or other harm to a driver or pedestrian, Genuine Parts is liable.

Sincerely,



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