

December 24, 2021

BY EMAIL

Sterling Spainhour, General Counsel
Georgia Power
sspainhour@southernco.com

Re: Spatially Anisotropic Visible-Radiation Devices

Dear Sterling Spainhour,

We wish to alert Georgia Power of the fraudulent statements being made by Georgia Power regarding LED radiation devices. Figure 1 is a list of quotes about LED radiation devices made by Georgia Power.

LED Lighting Experts

Georgia Power is a global leader in light-emitting diode (LED) technology. Energy-efficient, environmentally friendly LED lighting offers benefits including:

- Superior lighting quality/uniformity
- White light provides better visibility
- Long fixture life
- Reduced maintenance requests
- Instant on/no warm-up

Figure 1 - Georgia Power Quotes¹

“Energy-efficient” - This is a fraudulent statement. According to the US Department of Energy’s website, energy efficiency means “using less energy to get the same job done.”² The job is to provide

¹ <https://www.georgiapower.com/business/products-programs/lighting-and-smart-services/outdoor-lighting.html>

² https://www.energystar.gov/about/about_energy_efficiency

uniform illumination with minimal harm. LEDs do not produce uniform illumination³, but rather they emit radiation from a flat surface which creates a mix of energies that are not uniform. Since LEDs do not do the same job as an incandescent or High-Pressure Sodium, the claim that LEDs are energy efficient cannot be made. LEDs are simply a low quality, toxic, hazardous, and discriminatory type of visible radiation.

Figure 2 is a diagram showing the categorization of radiation and shows that *light* and *illumination* are spatially isotropic radiation in the human visible portion of the electromagnetic spectrum. Radiation emitted by LEDs do not meet the regulatory meaning or comply with standards for the use of light as illumination.

Regulatory Meaning of Light and Illumination

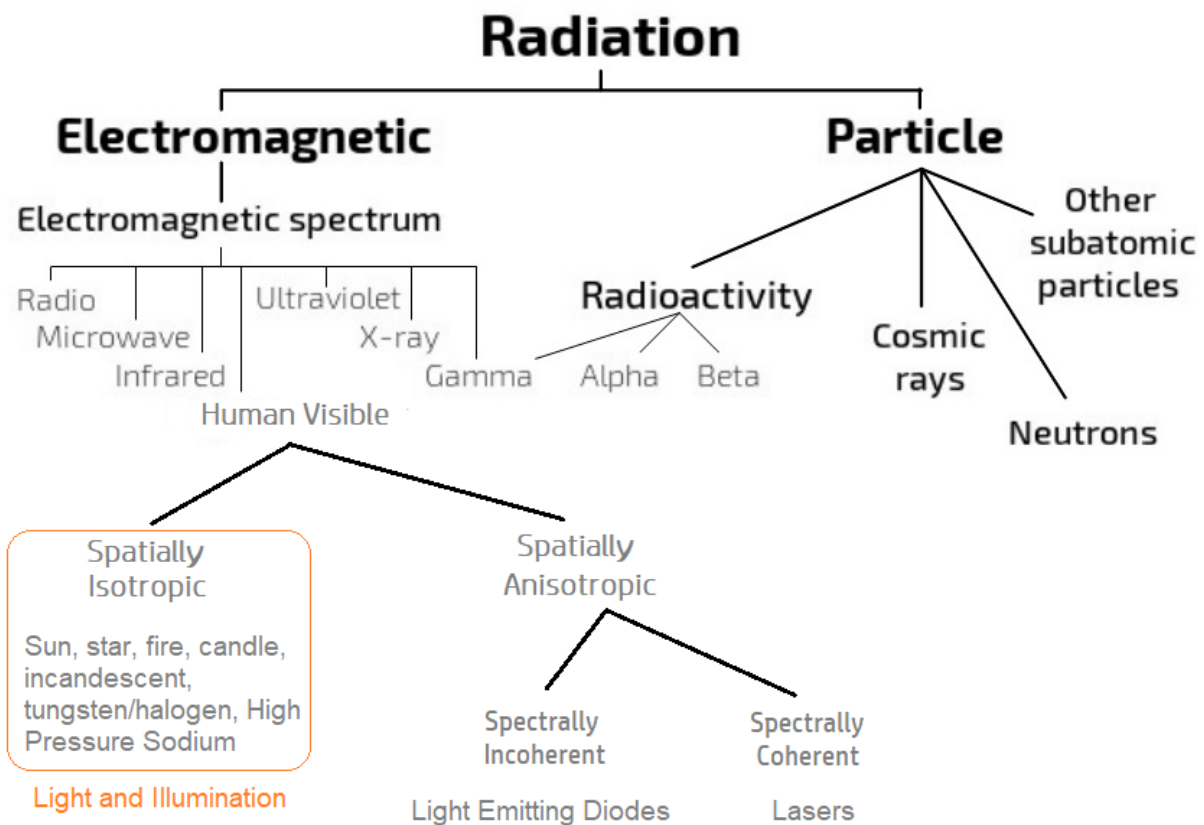


Figure 2 - Radiation Types

“Superior lighting quality/uniformity” - This is a fraudulent statement. The truth is that LEDs are an extremely low-quality light because it is non-uniform. The center of the beam is extremely intense and does not spread evenly over the angle or steradian to be illuminated. The result of exposure to this type of radiation is sickness, epileptic seizures, migraines, psychological trauma, and

³ <https://ieeexplore.ieee.org/document/8879542>

thoughts of suicide.⁴ Because LEDs do not emit uniform light, LED streetlights do not comply with standards such as the Illuminating Engineering Society IES RP-8-18 which was written only for spatially isotropic light sources.

“White light provides better visibility” - This is a fraudulent statement because it is so misleading. The visible radiation produced by LEDs, especially those labeled as “white”, 3000K, 4000K or 5000K, are mostly 450nm blue wavelength. The yellow phosphor tricks the eye into not seeing the true blue color of the visible radiation from an LED, but it’s very misleading and likely fraudulent to claim that the color is “white”. White is the color of an object when uniform visible radiation from the sun reflects off an object such that all the visible wavelengths are reflected essentially equally. The so-called white from an LED is simply the brain going haywire, not understanding what this spatially anisotropic radiation is. The high glare of LED radiation does not improve visibility, especially when it is undiffused and directed into the eyes of pedestrians or drivers.

As an example of how dangerous LED radiation is, consider this warning shown in Figure 3 from the company Gear Light.



Figure 3 - LED Flashlight

To avoid liability, Georgia Power must notify its customers of the true nature of LED radiation devices and must remove any claims that LED radiation devices are energy efficient or save energy.

⁴ www.softlights.org/stories

Sincerely,

Mark Baker

Mark Baker
President
Soft Lights Foundation
www.softlights.org
mbaker@softlights.org
9450 SW Gemini Drive PMB 44671
Beaverton, OR 97008