

January 1, 2022

BY EMAIL

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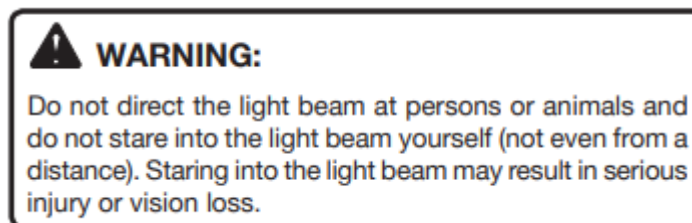
Re: The LED Fraud

Dear Bridgett Brennan,

The company Purdue Pharma fraudulently claimed that OxyContin is not addictive. The company Theranos fraudulently claimed that they could detect hundreds of diseases with a pin prick worth of blood. Similarly, Toledo Edison has fraudulently claimed that LED streetlights save energy, are safe, and do not discriminate.

Incandescent and High-Pressure Sodium lights emit spatially uniform visible radiation that illuminates a volume of space. LEDs do not save energy compared to High Pressure Sodium because LEDs don't perform that same function of providing uniform illumination. The claim that LEDs save energy or are energy efficient is fraudulent.

As an example of the hazard of LED radiation, the operator's manual for the Ryobi P720 Work Light includes the following: "WARNING: Do not direct the light beam at persons or animals and do not stare into the beam yourself (not even from a distance) Staring into the light beam may result in serious injury or vision loss."



The Ryobi warning includes infants and children who are an identified high-risk population vulnerable to LED-exposure harm. Babies often lack an adult's automatic, self-protective aversion response to bright or intense light, and will stare directly at the source.

LED radiation is discriminatory because it interferes with human nerves and disrupts major life functions such as seeing, thinking, and concentrating for people with disabilities, such as those with epilepsy, autism, PTSD, migraines, bipolar disorder, and others. LED radiation prevents safe access to

public services such as roads, sidewalks, and government facilities because exposure to this type of radiation is immediate sickness in the form of headaches, nausea, eye pain, loss of balance, migraines, panic response, altered vision, epileptic seizures, disorientation, and other neurological disturbances. Each of these symptoms is being verifiably reported by an increasing number of individuals and constitute medical evidence of LED-induced harm.

Figure 1 is a diagram that shows the uniform radiation from an incandescent or High-Pressure Sodium light versus the non-uniform radiation from a flat surface emitter such as an LED.

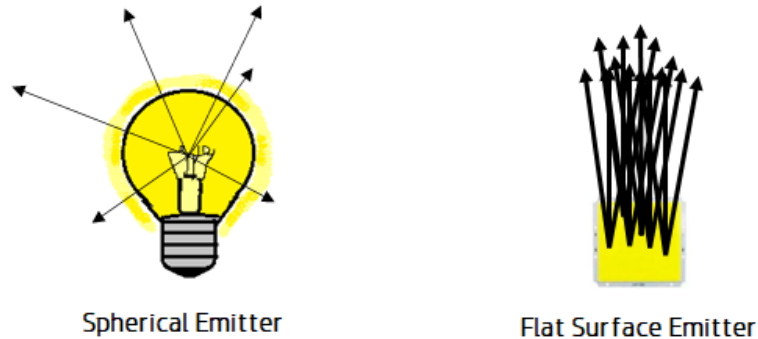


Figure 1 - Spherical vs. Flat Surface Emitter

Figure 2 shows three streetlights. The left-most streetlight is a High-Pressure Sodium, emitting spatially uniform light which is compatible with the human nervous system. The right-most streetlight is the radiation emitted by an LED device, where the radiation is not uniform and not compatible with the human nervous system. The middle streetlight shows the fraudulent claim made by Toledo Edison that LED streetlights emit spatially uniform, directed light. LEDs do not emit light the way Toledo Edison claims; the radiation is not uniform, and therefore the claim that LEDs save energy is fraudulent.

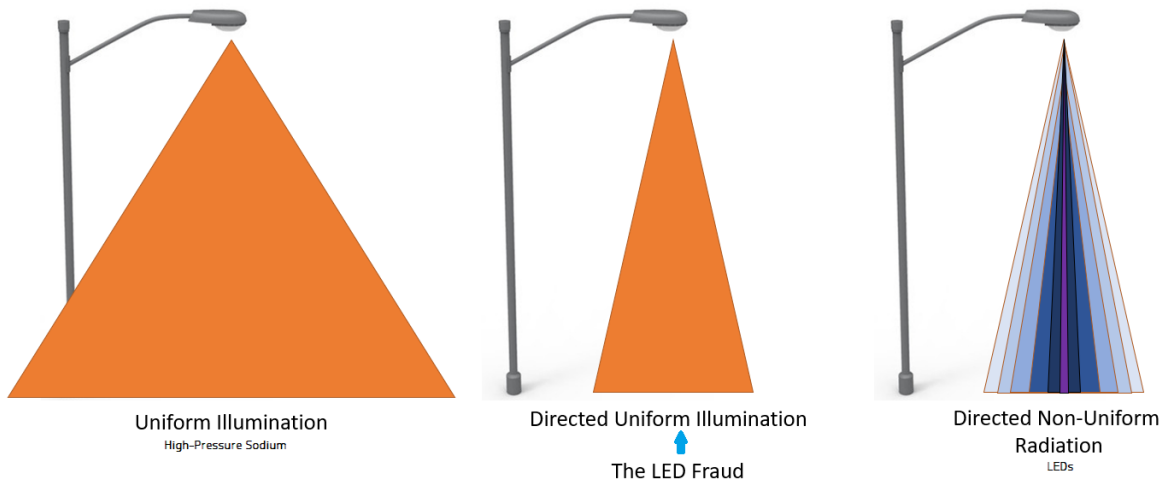


Figure 2 - Street Lights

Figure 3 shows the categorization of radiation and illustrates that *light* and *illumination* are spatially isotropic radiation in the human visible portion of the electromagnetic spectrum. Radiation emitted by LEDs do meet the regulatory meaning of or comply with standards for the use of light as illumination.

Regulatory Meaning of Light and Illumination

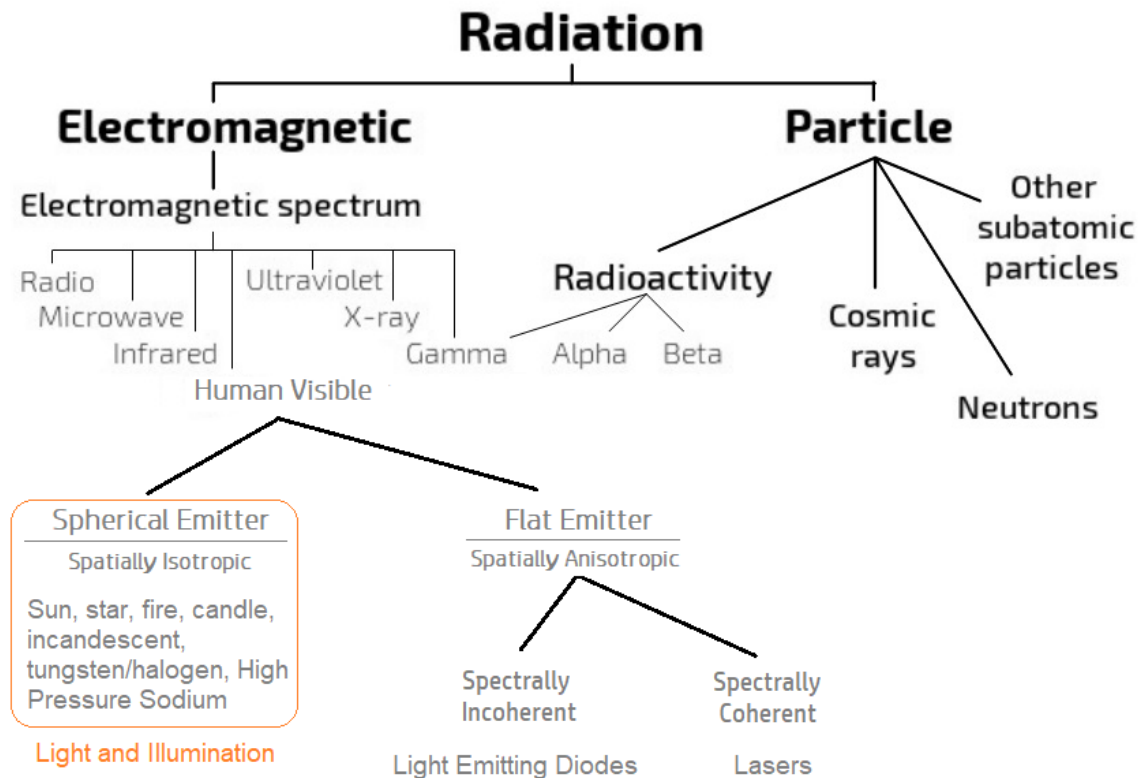


Figure 3 - Radiation Categories

The city of Toledo, Ohio could save 50% on energy costs by reducing 100-watt HPS to 50-watt HPS, with no loss of safety and without the toxicity, hazards, and discriminatory nature of switch to LED radiation devices. Throwing out the existing, functioning HPS streetlights for LED streetlights was wasteful, and now the city has LED streetlights that are not saving energy, only producing a low-quality, toxic, hazardous and discriminatory radiation.

The entire LED fraud is detailed on our website at www.softlights.org/led-fraud. We request a full-scale investigation into Toledo Edison's actions because the switch to LED radiation devices is based on fraud.

Sincerely,

Mark Baker

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