

January 18, 2022

BY EMAIL

Dr. Donna Broshek, Associate Professor of Psychiatry and Neurobehavioral Sciences
University of Virginia
dkb6v@virginia.edu

Re: LED Light Beams Trigger Epileptic Seizures

Dear Donna Broshek,

The purpose of this letter is to formally notify you that LEDs, both static and flashing, trigger epileptic seizures and violate basic human rights.

MarieAnn Cherry is an adult who has epilepsy and who has been injured by LED light beams many times. Her exposures to LED light beams, even for a fraction of a second, has led to hundreds of seizures resulting in broken bones, lost teeth, and psychological trauma. MarieAnn has researched the issue and has written up a synopsis of how the safety of LEDs has been ignored by the authorities.¹ MarieAnn's document also contains links to 40 studies on the toxic effects of LEDs.

While it is unethical to directly study whether a technology triggers a life-threatening seizure in humans by exposing the person to the possible trigger and it is also unethical to involuntarily subject humans to medical experiments,² a study does not necessarily have to be carried out in a laboratory. A study of verifiable reports of incidents related to LED light beam exposure is a valid study. MarieAnn has compiled a list of verifiable quotes from persons who have been injured by LED exposure.³

On January 9, 2022, a member of the Facebook group Epilepsy and Seizure Support Group posted the following question, "LED lights bother anyone else?" This question constitutes a study on how LED light beams impact people with epilepsy.

¹ http://www.softlights.org/wp-content/uploads/2022/01/One-Third-of-us-at-Risk_-The-Medical-science-of-LEDs.pdf

² https://media.tghn.org/medialibrary/2011/04/BMJ_No_7070_Volume_313_The_Nuremberg_Code.pdf

³ <http://www.softlights.org/wp-content/uploads/2022/01/Quotes-from-individuals-harmed-by-LED-exposure.pdf>



Holly Rena Hale

January 9 at 12:18 PM · 🌐



LED lights bother anyone else?

👍 39

61 Comments 1 Share

👍 Like

💬 Comment

➦ Share

As of January 12, 2022, there are 61 responses, some of which are posted below.



Patrice Marker

Yes



Like · Reply · Share · 3d



Trista Johnson

Big time yes!!!



Like · Reply · Share · 3d



Trina Gelinas

Yes it does



Like · Reply · Share · 3d



Ashley Last

Omg yes I cannot go to my boyfriends moms house she's got them everywhere I have absent seizures constantly when I'm there 😭😭



Like · Reply · Share · 3d



Nikki Kristal McCune

big time!!!!!!



Like · Reply · Share · 3d



Tiah Martinez

Yep



Like · Reply · Share · 3d



Lucas Howard

Yes



Like · Reply · Share · 3d



Kanny Ross
Yes and Florescent ones too

...

Like · Reply · Share · 3d



Riise Prochaska
All of them 😞 this is my first year diagnosed. I missed the Christmas lights because they made me feel funny

...

Like · Reply · Share · 3d



Erin Kathleen Perez
The Christmas lights in my neighborhood messed with me big time 🤦

...

Like · Reply · Share · 3d



David Kennedy
Only the ones on police cars ambulance and fire trucks really bother me I have to ask them to shut those off

...

Like · Reply · Share · 3d

According to an article published by the National Institutes of Health, there are seven principles of public health ethics.⁴ As a health official and are therefore obligated to follow these seven ethical principles of non-maleficence, beneficence, health maximization, efficiency, respect for autonomy, justice, and proportionality.

The article states, “*The principle of non-maleficence – do no harm – asserts that a health care professional should act in such a way that he or she does no harm.*” Failing to publish information on the dangers of LED light beams is a failure to “do no harm” because hiding the truth about LEDs causes harm and injury.

The section on beneficence states, “*The obligation to produce a benefit, for individual patients or clients, as we have implied above, is intimately connected to non-maleficence.*” As a health official, you are obligated to produce a benefit, which includes publishing information about the toxicity of LED light beams on people with epilepsy.

The section on justice states, “[Justice] also includes a fair distribution of health outcomes in societies.” For example, justice is not done if a person with epilepsy is forced to suffer injury from LED light beams just so that others could use these same light beams.

The United Nations has defined 30 basic human rights.⁵ These rights are:

1. All human beings are free and equal.
2. No discrimination.
3. Right to life.
4. No slavery.
5. No torture.

⁴ <https://pubmed.ncbi.nlm.nih.gov/25288039/>

⁵ <https://www.youthforhumanrights.org/what-are-human-rights/universal-declaration-of-human-rights/articles-1-15.html>

6. Same right to use law.
7. Equal before the law.
8. Right to treated fair by court.
9. No unfair detainment.
10. Right to trial.
11. Innocent until proved guilty.
12. Right to privacy.
13. Freedom to movement and residence.
14. Right to asylum.
15. Right to nationality.
16. Rights to marry and have family.
17. Right to own things.
18. Freedom of thought and religion.
19. Freedom of opinion and expression.
20. Right to assemble.
21. Right to democracy.
22. Right to social security.
23. Right to work.
24. Right to rest and holiday.
25. Right of social service.
26. Right to education.
27. Right of cultural and art.
28. Freedom around the world.
29. Subject to law.
30. Human rights can't be taken away.

The use of LED light beams violates the right to be free and equal, the right to no discrimination, the right to life, the right to no torture, the right to freedom of movement, the right to freedom of thought, the right to work, the right to social security, and the right to not have these rights taken away. It is unethical to purposely hide the loss of human rights caused by LED devices.

To assist you with the technical details of why LED light beams are so toxic, we provide additional technical information. LEDs emit electromagnetic radiation from a flat surface which creates a mix of energies that are not uniform, and the result is a low quality, toxic, hazardous, and discriminatory type of visible electromagnetic radiation.

Light Emitting Diodes produce light beams, rather than spatially uniform light. The result of the emission from the flat surface of an LED chip is an exceedingly intense beam from the middle of the chip that exceeds human tolerance levels and is toxic, hazardous, and discriminatory. This spatially non-uniform electromagnetic radiation from LEDs is unregulated and not approved by the government.

The left side of Figure 1 shows a spherical emitter that sends light in all directions in space. Because of the curvature of the emitter, the light rays do not overlap, and the radiation is spatially, spectrally, and temporally uniform. Every single point on the sphere is the same as any other point. On the other hand, the right side of Figure 1 shows a flat surface emitter such as an LED, which has a middle

and edges. This flat surface creates a situation where the middle of the chip has different energy than the edges of the chip. LEDs send light only in the forward direction and the light rays are confined to an 'escape angle' which is determined by the physical characteristics of the chip. Thus, there are overlapping rays, with the most overlap being in the center of the chip, and the least overlap being on the edges. The result is that every point in space has different spatial, spectral, and temporal properties.

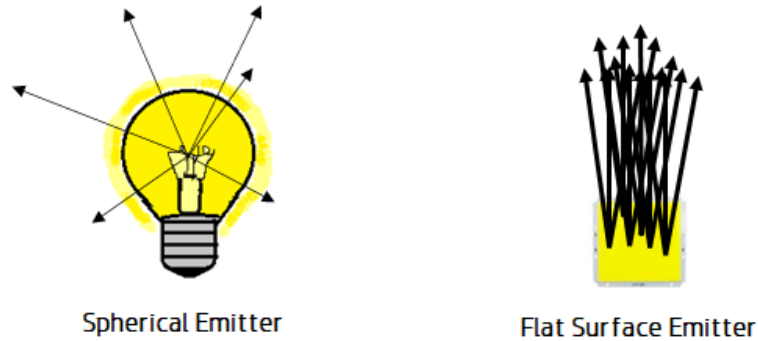


Figure 1 - Spherical vs. Flat Surface Emitter

Figure 2 shows the uniform spatial energy from candles, incandescent and High-Pressure Sodium versus the non-uniform spatial energy and extreme peak to edge luminance values from an LED. The intense peak of energy will cause eye damage and will overload the nerve signals to the brain because the information is not uniform. These negative outcomes are the effects of the toxicity of LEDs.

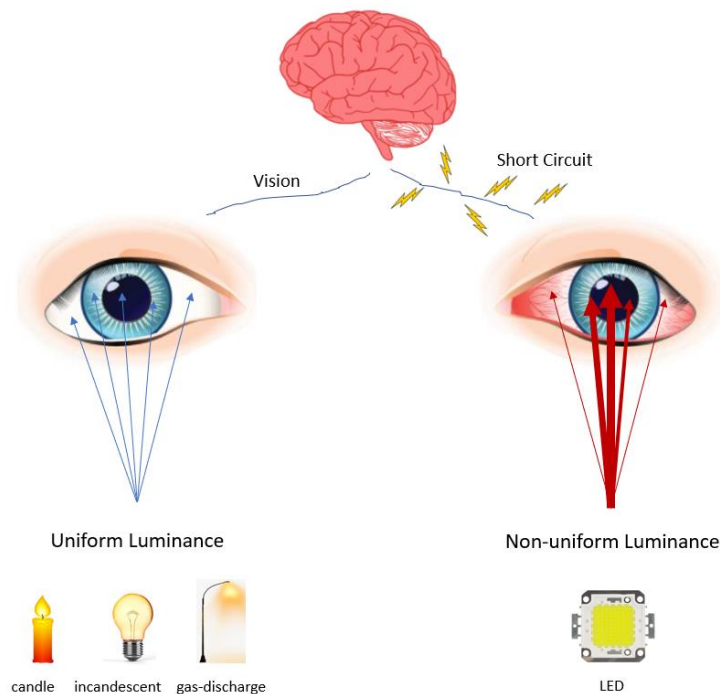


Figure 2 - Spatially Uniform v. Non-Uniform Radiation

Figure 3 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 meet the regulatory meaning of or comply with standards for the use of light as illumination.

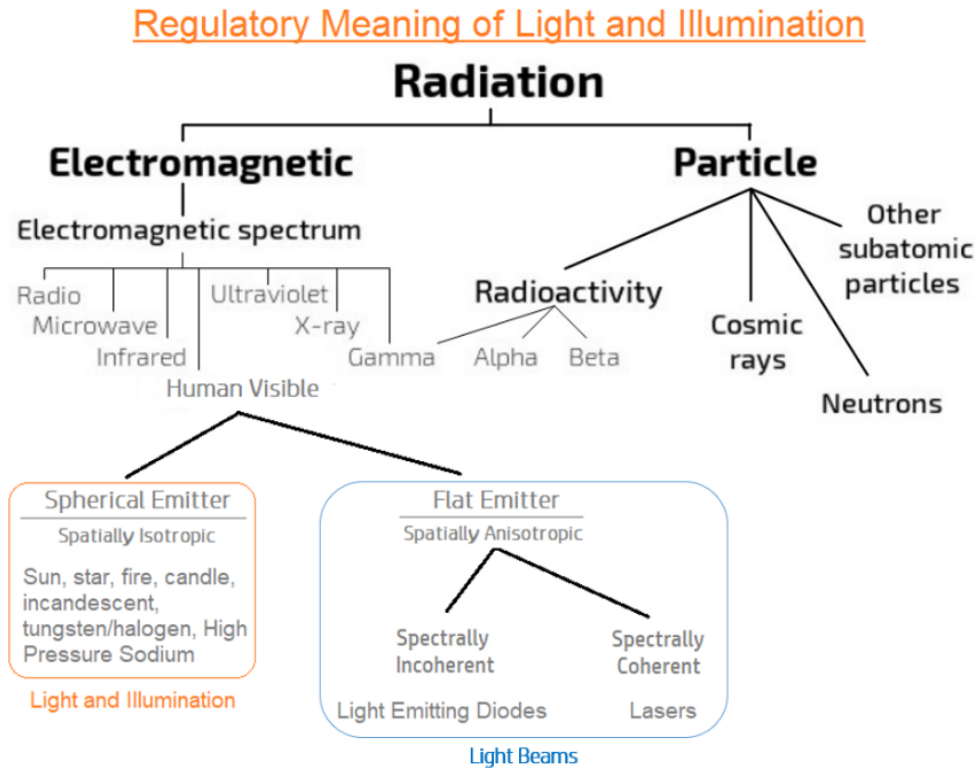


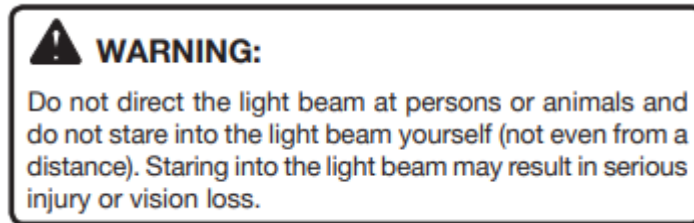
Figure 3 - Radiation Types

Figure 4 shows a uniform illumination device that is compatible with the human nervous system left side of the diagram and the non-uniform radiation emission of a flat surface LED on the right.



Figure 4 - Streetlight Comparison

As an example of how dangerous LED radiation is, the operator’s manual for the Ryobi P705 Flashlight 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 warning also refers to children, who along with infants 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. The parenthetical “(not even from a distance)” indicates a high level of danger.



LED light beams can trigger epileptic seizures, whether the light beam is static (even supposedly static LEDs are probably flickering at some rate) or flashing. Businesses that wish to protect themselves from liability may place a sign at the entry way to their business to alert people with epilepsy of the danger. Considering that nearly all LEDs trigger epileptic seizures, we should be seeing these signs nearly everywhere.



Figure 5 - Epilepsy Warning Sign

The result of exposure to LED electromagnetic 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. LED visible radiation exposure is causing catastrophic physical harm, subjecting individuals to illness and injury, and plunging formerly healthy, independent people into crisis levels of stress, hopelessness, psychological trauma, and persistent thoughts of suicide.

As a doctor, you have a moral, ethical, and most likely legal obligation to clearly explain to the public that LED electromagnetic radiation is toxic, hazardous, and discriminatory for people with epilepsy, and that these LED devices are causing seizures and violating basic human rights. We request

that you prominently notify the public that LED light beams trigger epileptic seizures, and that you notify the Epilepsy Foundation that they must publish this information on their website.

Sincerely,

A handwritten signature in black ink that reads "Mark Baker". The signature is written in a cursive style with a large initial "M".

Mark Baker
President
Soft Lights Foundation
www.softlights.org
mbaker@softlights.org