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October 31, 2024

BY EMAIL

Adam Elghoul, Transportation Planner
Southeast Michigan Council of Governments
elghoul@semcog.org

Re: Blue-rich LED Street Lights Are Carcinogenic

Dear Adam Elghoul,

The Ann Arbor City Council voted on August 8, 2024 to accept a \$980,000 carbon reduction grant from SEMCOG. However, Ann Arbor has failed to produce an environmental impact report that addresses the environmental and human health impacts of switching from High Pressure Sodium to LED streetlights. The Soft Lights Foundation requests that SEMCOG withhold the carbon reduction grant from Ann Arbor until a valid EIR is published.

The US Department of Energy states that LEDs are a “radically new technology” that emit a “directional” light with “unique characteristics”.¹ Despite these statements by the DOE, Ann Arbor has not evaluated the environmental and human health impacts of switching to such a radically new technology. The EIR must contain the following analysis sections.

1. Ecology. See Appendix A.
2. Human Health. See Appendix B.
3. Disability Rights. See Appendix C.
4. Reports of Harm. See Appendix D.
5. Public Policy. See Appendix E.

Sincerely,

/s/ Mark Baker
President

Soft Lights Foundation
mbaker@softlights.org

¹ https://www1.eere.energy.gov/buildings/publications/pdfs/ssl/ssl_lessons-learned_2014.pdf

Appendix A - Ecology

October 8, 2024 – [Shedding light with harmonic radar: Unveiling the hidden impacts of streetlights on moth flight behavior](#) – Impacts of streetlights on moths.

July 26, 2024 – [How to reduce the negative impacts of artificial light at night on flying insects](#) – Reduced light levels and homogeneity of coverage reduces adverse insect impacts.

January 20, 2024 – [Research Note: Red light to mitigate light pollution: Is it possible to balance functionality and ecological impact?](#) – Even red light at night can have adverse ecological impacts.

January 19, 2024 – [Artificial light at night reduces earthworm activity but increases growth of invasive ragweed](#) – Light pollution reduced earthworm surface activity by 76% and increased ragweed height growth by 104%.

January 11, 2024 – [How Artificial Light Threatens Nature](#) – Video documentary that details how artificial light is devastating the ecosystem.

January 4, 2024 – [Why flying insects gather at artificial light](#) – Insects turn their dorsum towards the lights which provides orientation. Artificial light causes the insects to steer in a circle until death.

October 30, 2023 – [Light Pollution in Complex Ecological Systems](#) – Light pollution is increasing at 10% per year and adversely impacting entire ecosystems.

September 21, 2023 – [Phenotypic signatures of urbanization? Resident, but not migratory, songbird eye size varies with urban-associated light pollution levels](#) – The eye size of urban birds is shrinking.

September 19, 2023 – [Healing with the Night: Investigations into Experiences of Natural Darkness in Overnight Recollective Practices](#) – The healing properties of natural night.

September 14, 2022 – [Environmental risks from artificial nighttime lighting widespread and increasing across Europe](#) – LEDs have increased light pollution and have increased the emissions of toxic blue wavelength light.

September 9, 2022 – [The Dark Side of LEDs: Suppression of Melatonin by Blue Light](#) – An article about the studies of researcher

May 20, 2022 – [Light pollution can disorient monarch butterflies](#) – Even a single light can interfere with a butterfly's navigation system.

March 29, 2022 – [Broad spectrum artificial light at night increases the conspicuousness of camouflaged prey](#) – LED light leads to predator advantage.

April 27, 2022 – [Oriented Migratory Flight at Night: Consequences of nighttime light pollution for monarch butterflies](#) – ALAN interferes with monarch butterfly migration.

January 27, 2022 – [The growing threat of light pollution to ground-based observatories](#) – Impacts of skyglow on dark skies.

2022 – [Artificial Light at Night: State of the Science 2022](#) – IDA report. Discusses how LED light is increasing light pollution. Falsely claims that LEDs are energy efficient.

August, 2021 – [Street lighting has detrimental impacts on local insect populations](#) – This study shows that LEDs are killing insects even faster than High Pressure Sodium.

August, 2021 – [First Estimation of Global Trends in Nocturnal Power Emissions Reveals Acceleration of Light Pollution](#) – Light pollution continues to grow and LED blue wavelength light is making it worse.

April, 2021 – [Narrow Spectrum Artificial Light Silences Fireflies](#) – Artificial light, especially bright amber, suppresses courtship. “we should focus on minimizing the time that lights are on and how bright they are.” – [News Story](#)

March, 2021 – [Light Pollution Drives Increased Risk of West Nile Virus](#) – Even low levels of artificial light at night increase the risk of transmission of the virus.

March, 2021 – [Superoxide is Promoted by Sucrose and Affects Amplitude of Circadian Rhythms in the Evening](#) – Both light and sugars affect the biological clock of plants. – [News Story](#)

March 10, 2020 – [Artificial Lighting Impacts to Salmon in WRIA 8 Briefing Memo](#) – Artificial light is impacting the survival of juvenile salmon.

January, 2020 – [Australian Light Pollution Guidelines for Wildlife](#) This detailed document describes best lighting practices.

2020 – [“use lamps with the lowest CCT, melanopic response, or M/P value possible to achieve the goals of the lighting project.”](#) – Illuminating Engineering Society – [On the Use of Summary Metrics of Light Spectral Characteristics to Assess Effects of Artificial Light at Night on Wildlife](#)

2020 – [“ALAN reduces habitat suitability”](#) – El Sevier – [Effects of artificial light at night on the foraging behavior of an endangered nocturnal mammal](#)

July 30, 2018 – [Waters under Artificial Lights: Does Light Pollution Matter for Aquatic Primary Producers?](#) – ALAN and LED light negatively impacts periphyton.

July 30, 2018 – [Waters under Artificial Lights: Does Light Pollution Matter for Aquatic Primary Producers?](#) – ALAN negatively impacts periphyton.

2018 – [“Anthropogenic lighting drastically alters nocturnal environments, threatening a wide range of species”](#) – Colorado State University – [Anthropogenic light disrupts natural light cycles in critical conservation areas](#)

2018 – [“we advocate warm color temperature white light as nighttime illumination”](#) – Health and Human Services USA – [Light at night disrupts nocturnal rest and elevates glucocorticoids at cool color temperatures](#)

2018 – [“bombarded with numerous novel stimuli in their environment that could lead to grave consequences.” – Journal of Ecology – Connecting spectral radiometry of anthropogenic light sources to the visual ecology of organisms](#)

2018 – [“if the tendency to light more when light is cheaper can be overcome” – Luger Research – Hazard or Hope? LEDs and Wildlife](#)

2017 – [“When the installation was illuminated, birds aggregated in high densities, decreased flight speeds, followed circular flight paths, and vocalized frequently” – Proceedings of the National Academy of Sciences – High-intensity urban light installation dramatically alters nocturnal bird migration](#)

2013 – [“alters detection of day and night” – Exeter University – Measuring biological light pollution and uncovering its ecological effects](#)

2013 – [“the significant impact that even low levels of nighttime light pollution can have” – Cambridge University – The ecological impacts of nighttime light pollution: a mechanistic appraisal](#)

November, 2017 – [Artificially lit surface of Earth at night increasing in radiance and extent](#) – This study uses satellite data to show that light pollution has increased due to the use of LED lights.

2017 – [“Managers should avoid lights that have ultraviolet or blue light \(shorter wavelengths\)” – National Park Service – Artificial Night Lighting and Protected Lands](#)

April, 2015 – [Artificial Light at Night and the Predator-Prey Dynamics of Juvenile Atlantic Salmon](#) – Even tiny amounts of artificial light affect salmon.

2015 – [“The most immediate threat from anthropogenic noise and light is the loss of species” – Trends in Ecology & Evolution – A framework to assess evolutionary responses to anthropogenic light and sound](#)

May 29, 2014 – [Potential Biological and Ecological Effects of Flickering Artificial Light](#) – Explains how the visual system of different creatures have a rate at which they capture images. Electric light interferes with this system, causing perceived flicker.

2014 – [“exacerbate existing domestic, e.g., midge swarms and industrial infestations of sanitary and phytosanitary pests” – Ecological Society of America – LED lighting increases the ecological impact of light pollution irrespective of color temperature](#)

2012 – [“Technological innovations and changes in lighting strategies should consider benefits for reductions in greenhouse gases and energy consumption in parallel with their potential ecological impacts” – Global Change Biology – Conserving energy at a cost to biodiversity? Impacts of LED lighting on bats](#)

2009 – [“Light pollution can have significant conservation consequences for a threatened bat species” – Current Biology – Street Lighting Disturbs Commuting Bats](#)

Appendix B – Human Health

October 1, 2024 – [Solid State Lighting: Review of Health Effects](#) – A detailed literature of the health impacts of LED lighting by the International Energy Agency.

September 15, 2024 – [Light pollution: time to consider testicular effects](#) – Given the strong interrelationships between energy metabolism and fertility ([Hansen et al., 2013](#); [Della Torre et al., 2014](#); [Roa and Tena-Sempere, 2014](#); [Service et al., 2023](#)), it is plausible that light pollution could impact fertility – impacts that include adverse effects on puberty from smart phone use at bedtime during adolescence.

September 5, 2024 – [Outdoor nighttime light exposure \(light pollution\) is associated with Alzheimer’s disease](#) – Higher outdoor nighttime light was associated with higher prevalence of Alzheimer’s Disease.

April 8, 2024 – [Why Are Cancer Rates in Young People Climbing?](#) – Blue-rich lighting may be a culprit in the rise of cancers in the young.

April 5, 2024 – [Melanopsin: Light response, circadian rhythm, and blue light exposure](#) – An article on the light-detecting protein melanopsin and how it is found in the eye, fat, skin, blood vessels, and brain.

March 25, 2024 – [Outdoor Light at Night, Air Pollution, and Risk of Cerebrovascular Disease: A Cohort Study in China](#) – ALAN increases risk of disease.

February 20, 2024 – [Light stimulation of mitochondria reduces blood glucose levels](#) – Red light can reduce blood glucose spikes. Red light is generally beneficial, as compared to blue light which is the controller of our circadian rhythms, but also hazardous.

February 14, 2024 – [Influence of Light at Night on Allergic Diseases: A Systematic Review and Meta-Analysis](#) – Study finds that artificial light increases the risk of allergic diseases.

January 26, 2024 – [Breast Cancer Incidence Among US Women Aged 20 to 49 Years by Race, Stage, and Hormone Receptor Status](#) – Breast cancer rates started rising at 4% per year in correlation with the adoption of blue-rich LED lights.

October 9, 2023 – [Day and night light exposure are associated with psychiatric disorders: an objective light study in >85,000 people](#) – Increased exposure to light at night increases a person’s risk for psychiatric disorders such as anxiety, bipolar and PTSD severity as well as self-harm.

October 4, 2023 – [Lights should support circadian rhythms: evidence-based scientific consensus](#) – 2,697 peer-reviewed publications show the blue light is harmful.

August 21, 2023 – [Induction of Skin Cancer by Long-Term Blue Light Irradiation](#) – The results of this study showed that daily exposure to blue light for 1 year induced skin cancer.

June 23, 2023 – [Outdoor artificial light at night and risk of early-onset dementia: A case-control study in the Modena population, Northern Italy](#) – Study showing a connection between artificial light at night and dementia.

June, 2023 – [Non-image-forming functional roles of OPN3, OPN4 and OPN5 photopigments](#) – Proteins that can detect light.

May, 2023 – [Understanding Light Pollution: Recent Advances on Its Health Threats and Regulations](#) – Discussion of health impacts of light pollution.

March 17, 2023 – [Light as a Modulator of Non-Image-Forming Brain Functions—Positive and Negative Impacts of Increasing Light Availability](#) – Melanopsin-expressing ipRGCs mediate the influence of light on several circadian, neuroendocrine, and neurobehavioral functions collectively defined as NIF, i.e., functions not directly related to image formation.

March 16, 2023 – [Light at night and cause-specific mortality risk in Mainland China: a nationwide observational study](#) – The first study showing a direct correlation between artificial light at night and death. – Cellular risks of blue light exposure.

March 13, 2023 – [The #1 EMF You’ve Forgotten About](#) – Detailed blog discussion of the impacts of blue wavelength light on human health.

January 4, 2023 – [Network-driven intracellular cAMP coordinates circadian rhythm in the suprachiasmatic nucleus](#) – Circadian rhythms are controlled by blue wavelength light.

December, 2022 – [Associations Between Indoor Light Pollution and Unhealthy Outcomes in 2,947 Adults: Cross-sectional Analysis in HEIJO-KYO Cohort](#) – LAN levels are significantly associated with parameters of obesity, dyslipidemia, systemic inflammation, sleep disturbances, and depressive symptoms.

October 24, 2022 – [Light Pollution Linked with Cognitive Decline](#) – Outdoor light pollution study.

September 28, 2022 – [Functional connectivity of brain networks with three monochromatic wavelengths: a pilot study using resting-state functional magnetic resonance imaging](#) – Each wavelength has different impacts on human brain activity.

September 26, 2022 – [Associations between indoor light pollution and unhealthy outcomes in 2,947 adults: Cross-sectional analysis in the HEIJO-KYO cohort](#) – LAN levels are significantly associated with parameters of obesity, dyslipidemia, systemic inflammation, sleep disturbances, and depressive symptoms.

August 10, 2022 – [Artificial light at night and risk of mental disorders: A systematic review](#) – “the epidemiological evidence produced so far seems to support an association between LAN and risk of depressive disorders.”

August 10, 2022 – [Disruption of the Circadian Clock Drives Apc Loss of Heterozygosity to Accelerate Colorectal Cancer](#) – Interruption of the circadian clock increases cancer risk.

July 15, 2022 – [Outdoor light at night, overweight and obesity in school-aged children and adolescents](#) – Outdoor light at night increases obesity in children.

June 22, 2022 – [Light at Night in Older Age Associated with Obesity, Diabetes, and Hypertension](#) – ALAN causes sickness.

June 14, 2022 – [Linking Individual Differences Between in Human Primary Visual to Contrast Sensitivity Around the Visual Field](#) – Research on how vision works.

June 6, 2022 – [Risk of COPD Exacerbation is Increased by Poor Sleep Quality and Modified by Social Adversity](#) – Poor sleep increases risk of lung disease.

March 14, 2022 – [Light Exposure During Sleep Impairs Cardiometabolic Function](#) – Blue light is bad. Any light is bad. Tiny amounts of light at night is bad.

March 10, 2022 – [Outdoor Light at Night and Autism Spectrum Disorder](#) – Artificial Light at Night significantly increases the risk of developing autism.

March 3, 2022 – [The Mind After Midnight: Nocturnal Wakefulness, Behavioral Dysregulation, and Psychopathology](#) – Maladaptive Behaviors After Midnight.

November, 2021 – [One Third of Us are At Risk](#) – Compiled links to medical research on the effects of LEDs.

June 6, 2021 – [Afraid of the dark: Light acutely suppresses activity in the human amygdala](#) – Fear of the dark is real.

May 13, 2021 – [Should We Re-think Regulations and Standards for Lighting at Workplaces? A Practice Review on Existing Lighting Recommendations](#) – Quote: the quality of light should not be reduced for lower energy consumption.

March, 2021 – [Do no harm: the beginning of the age of healthy hospital lighting](#) – Reduction of blue wavelength light improves sleep.

February 8, 2021 – [Associations between Artificial Light and Risk for Thyroid Cancer](#) – Artificial light increases thyroid cancer risk by 55%.

February, 2021 – [Insights into blue light accelerated tooth whitening](#) – At a radiance of 190 mW/cm², LEDs will bleach teeth.

January 27, 2021 – [Moonstruck sleep: Synchronization of human sleep with the moon cycle under field conditions](#) – Sleep timing is synchronized under the moon cycle. Artificial light disrupts this cycle.

January 7, 2021 – [Light Pollution, Sleep Deprivation, and Infant Health at Birth](#) – This study confirms that light pollution can lead to premature births.

November 5, 2020 – [Evening home lighting adversely impacts the circadian system and sleep](#) – This article makes the case that the economic benefits of energy efficient LED lighting are outweighed by the substantial disease burden they produce.

May 24, 2020 – [20% to 30% Have Heightened Sensitivity](#) – This article articulates how the 20% to 30% of the population who are sensitive receptors have been so far snubbed by the the psychology profession.

February 29, 2020 – [LED Street Lights – Major Health Concerns](#) This presentation by Dr. Wojcik summarizes the research about the dangers of blue wavelength light.

February 27, 2020 – [Blue Light Suppresses Melatonin in Dairy Calves](#) This study shows that melatonin is suppressed by blue wavelength light, thus affecting eating, drinking, etc.

2020 – [Replace Toxic Fluorescent Light with Natural Light Now!](#) – A discussion of research studies showing the adverse health impacts of fluorescent and LED light on health and student learning.

December 13, 2019 – [Light-Emitting Diodes \(LEDs\): Implications for Safety](#) – Even though this is an article from ICNIRP, it contains a fundamentally false statement on efficiency and is missing discussion of non-uniform luminance.

November 29, 2019 – [Acute Exposure to Low Level Light at Night is Sufficient to Induce Neurological Changes and Depressive-like Behavior](#) – Acute exposure to LAN alters brain physiology and can be detrimental to wellbeing in otherwise healthy individuals.

October 17, 2019 – [Daily blue-light exposure shortens lifespan and causes brain neurodegeneration in Drosophila.](#) – LED blue wavelength light causes serious injury to flies.

May 22, 2019 – [Implication of Melanopsin and Trigeminal Neural Pathways in Blue Light Photosensitivity *in vivo*](#) – Melanopsin is a protein that can detect light. The researchers demonstrate that blue-light exposure provokes important immune and inflammatory responses in the ocular surface, trigeminal pathways and the retina.

April, 2019 – [Ocular hazards of curing light units used in dental practice – A systematic review](#) – The article states, “This review concludes that blue light poses maximum risk to cause retinal degeneration based on the evaluated studies.”

October 2, 2018 – [Melatonin: An Anti-Tumor Agent](#) This study shows that light at night increases risk of breast and prostate cancer.

September 9, 2018 – [Blue light negatively affects the survival of ARPE19 cells through an action on their mitochondria and blunted by red light](#) – Red light blunts the negative effects of blue light.

July 2018 – [Light Pollution, Sleep Deprivation, and Infant Health at Birth](#) – Skyglow results in reduced birth weight and pre-term births.

June 25, 2018 – [Current Understanding of Photophobia, Visual Networks, and Headaches](#) – How light triggers pain.

June 5, 2018 – [SCHEER Final Opinion on Light Emitting Diodes](#) – An overly positive opinion of LEDs, choosing to ignore the downsides and missing studies.

February, 2018 – [Including an index measuring the weighted content of blue light in lamp labelling](#) – A proposal for G-Index in place of Correlated Color Temperature.

August 8, 2017 – [Harvard University – Outdoor Light at Night and Breast Cancer Incidence in the Nurses' Health Study II](#) This study shows the link between artificial light at night and breast cancer.

February, 2017 – [Blue Light Paradox](#) – Blue wavelength controls circadian rhythms, but also damages the eye.

January 31, 2017 – [National Institutes of Health – Timing of Light Exposure Affects Mood and Brain Circuits](#) – This scientific research article covers how circadian rhythms are being disrupted by artificial light at night.

January 2017 – [Photobiological Safety](#) – Discussion of the impacts of LED light on circadian rhythms and eye cells by Christophe Martinsons.

April, 2016 – [Exposure of Fluid Milk to LED Light](#) – LED light has a strong negative impact on the taste of milk.

January 24, 2016 – [NIH – Effects of Blue Light on the Circadian System and Eye Physiology](#) This scientific research paper concludes that blue light causes photoreceptor damage.

November 17, 2014 – [Melanopsin mediates light-dependent relaxation in blood vessels](#) – Melanopsin proteins are found in blood vessels and can detect light.

January 2013 – [Health Effects of Large LED Screens on Local Residents](#) – Luminance above 10,000 nits is dangerous and this article mentions the need to further study the impacts of LEDs on those with epilepsy.

November 8, 2012 – [Ensuring Safety in LED Lighting](#) – Significant coverage of the dangers of LED radiation. Blue light hazard, excessive luminance, macular degeneration, sleep disruption, and LEDs classified as lasers for use in toys.

June 3, 2011 – [Limiting the impact of light pollution on human health, environment, and stellar visibility.](#) – Impacts of light pollution.

December, 2010 – [Light Pollution: Light at Night and Breast Cancer Risk Worldwide](#) This study shows that cancer risk increased by as high as 50% for countries with high Artificial Light at Night.

August 20, 1999 – [Daylighting in Schools Study](#) – Students perform better under natural light.

November 22, 1996 – [Effect of bright light exposure on muscle sympathetic nerve activity in human](#) – 5000 lux light triggers nerve activity, even after the light is shut off.

Appendix C – Disability Rights

Code of Federal Regulations

28 C.F.R. § 35.151(a)(1):

Each facility or part of a facility constructed by, on behalf of, or for the use of a public entity shall be designed and constructed in such manner that the facility or part of the facility is readily accessible to and usable by individuals with disabilities, if the construction was commenced after January 26, 1992.²

28 C.F.R. § 35.151(b)(1):

Each facility or part of a facility altered by, on behalf of, or for the use of a public entity in a manner that affects or could affect the usability of the facility or part of the facility shall, to the maximum extent feasible, be altered in such manner that the altered portion of the facility is readily accessible to and usable by individuals with disabilities, if the alteration was commenced after January 26, 1992.

U.S. Constitution

AMENDMENT XIV

Section 1.

All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside. No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.

² <https://www.law.cornell.edu/cfr/text/28/35.151>

Appendix D – Reports of Harm

The following reports have been collected by the Soft Lights Foundation and have been submitted to the US Food and Drug Administration.

October, 2024

October 21, 2024 – Paoli, PA – Migraine

I have recently started to suffer from severe chronic migraines. As a result, I am photophobic almost all of the time. This makes LED lights not only painful and very uncomfortable when I drive at night, but also dangerous. Whenever a car with LED lights passes me at night, I am blinded for about three seconds. I have to pray that a deer or other animal will not run out in front of my car, especially now that it is deer rutting season and the deer are very active. This is all made so much worse by the fact that many people in my area have new cars, meaning ultra bright or powerful LED lights. I did not have a migraine earlier today, but I may develop one soon after driving tonight.

October 20, 2024 – Harbor Springs, MI – None

I can't drive in the morning or at night because of these blinding headlights. This is crazy, worse than drunk drivers. What happened to the Auto Safety industry or safety regulations? I am either going to have to lose work/get fired because of this or literally drive blind and pray I don't die or kill someone else.

October 18, 2024 – Portland, OR – Astigmatism

I thought I could get over it, because LED headlights are so unavoidable. I tried everything I could possibly do to cope. But lately it has evolved to suicidal thoughts, because I feel like I'll never be able to live a normal life again. I was thinking maybe I have autism, maybe I should get that checked out, but I feel ridiculous. Do I really go tell a therapist that LED headlights make me want to kill myself? Is that what I have to do?

October 12, 2024 – Esparto, CA – Autism

I was driving behind a vehicle when it suddenly pulled to the side of the road. Coming towards us was an ambulance with LED flashing lights. I felt like I was electrocuted and was going to go unconscious. I instantly closed my eyes and stopped my car. After a few seconds, a car behind me honked, and when I opened my eyes, the ambulance was already gone. Now I'm suffering the psychological after-effects.

October 11, 2024 – Yolo County, CA – Autism

I was driving East on a County road in the day when a vehicle came towards me with intense, rapidly flashing amber LED lights. I felt panic rushing in and put my arms up to block the assault. Since I now couldn't see the road, I came to a full stop. Then somebody honked a horn. I moved my arms, and saw that the lead truck had passed, but a wide-load mobile home on a truck was inches from the left side of my car. These LED flashing lights are a menace and violation of our civil rights. My anxiety ran high for 30 minutes after the encounter.

October 11, 2024 – Brooklyn, NY – Other

Causes nervous system dysregulation which impacts motor skills & orientation, migraines, seizures, nausea, ability to digest food, vomiting

October 7, 2024 – Augusta, ME – Astigmatism

There are multiple times, every time that I am driving at night that certain oncoming vehicles had their high beams on, and I would put on my high beams, only for them to flash their brights at me because I was wrong. It seems to have gotten worse now that 1. I've been diagnosed with astigmatism, 2. I now live in a town that doesn't have street lights, and 3. I am driving more at night. It just seems as if EVERY oncoming vehicle have the high beams on. I try every trick in the book to not look directly at the lights, to focus on the right side line on the road and physically block out the lights with my hand. I am afraid my myself and the safety of others if I cannot see when I am driving, especially living in the state of Maine where moose are not easily seen in the dark.

October 6, 2024 – Howell, MI – None

Nice to find out I am not alone regarding this topic Engineers at automotive companies are responsible for what I consider an environmental pollution nightmare. I never had any trouble driving at night until about the past 8 years or so when I noticed the blue LED lights being applied to more and more vehicles. At first, it was only a few vehicles so a bit of a nuisance, but manageable. Now almost 80% of the vehicles on the road have these super bright blue spectrum LED emitters just blasting out light. I can literally feel the pain in my eyes when these vehicles approach. I started wearing my polarized sunglasses for driving all the time including nighttime. Does anyone know how those lights may be damaging our eyesight, especially at night when the pupil is dilated due to ambient darkness? Come on engineers, do your job! Ask the questions and demand the answers before you release products which can cause harm.

October 3, 2024 – Bethlehem, GA – None

I can no longer drive in what I feel to be a safe manner due to the piercing brightness of headlights. Over the last year they have become so sharp on the eyes that even in the various hours of the morning, dusk night and even overcast days I am forced to stare at the white line in the side of the road. Giant, oversized trucks with these horrid headlights are near perfectly at eye level often times leaving me stunned.

I've had my eyes checked to ensure they're is no damage to them or a condition being developed that's in need of correction. This is not the case as aside from a mild prescription I received a couple years ago, nothing has changed personally.

I've also made mention of the problem to friends and family and ALL agree that it's out of control. My mother refusing to drive at night as well at this point.

It's flat out dangerous to the public and out of control.

October 1, 2024 – Elk Grove, CA – Autism

I attempted to enter a large box store that had installed collections of LED "white" tube lights in the ceiling. I glanced up at these LED lights and immediately felt eye pain. I turned and left the store, knowing that the situation would only get worse if I remained.

October 1, 2024 – Easton, MA – None

There are multiple times, almost nightly, that I would bet my paycheck that certain oncoming vehicles had their high beams on, and I would put on my high beams, only for them to flash their brights at me because I was wrong. I've been driving for almost 50 years and I have always preferred driving at night until the last 5 or 6 six years or so. It just seems as if EVERY oncoming vehicle have the high beams on. I try every trick in the book to not look directly at the lights, to focus on the right side line on the road and I've even purchased a few pairs of night driving glasses. The glasses reduce the glare a little bit, but doesn't help much. Most of the sunglasses I have work, but I can't see the road properly. After an

oncoming car passes I have difficulty seeing, have spots etc, that last anywhere between 20 and 55 seconds where I have limited visuals on the road, instead of my usual 100% attention, while waiting for my eyes to adjust. Sometimes after I get to my destination, I realize I have a headache. My first car had two round, sealed beam headlights with incandescent lamps. Only one was functioning and that was plenty of light for me to see and drive. My current vehicle, a 2018 Silverado has more than enough light and projects for what seems like a half mile in front of me. I don't need to see that far down the road!. When I put the brights on, its crazy bright! I don't need all of that light. Things would be a little better if they eliminated to Auto-High-Beam function. Massachusetts drivers complained years ago of the brightness of the State Police emergency lights being too bright, practically blinding you as you were approaching the police cruiser. Eventually after a few collisions and unfortunately injured troopers, they changed the lights to be less intense. I get stressed out when I have to drive at night because of this easy-to-rectify problem with LED Lights being so bright, when they don't have to be.

September, 2024

September 30, 2024 – Westminster, CO – None

Sitting at an intersection with a car on the other side whose lights were so bright that the traffic lights could barley break through the “white out” effect from LED lights. Multiple people (myself included) flashed their lights at the driver in hopes they would turn them off but instead the driver made them brighter. Even if this person was not on the road with illegally modified headlights I come home every night with so many spots in my vision that I am almost blind and it seems to get worse with every repetition, I fear I might loose my eyesight.

September 28, 2024 – Denver, CO – Other

This report is for many different incidents as I don't feel like submitting over 500 different incidences. It's a daily problem, every time I drive I am affected by these lights. There has been times I've almost driven off the road because I simply can't see the road from being blinded. It's absolutely absurd that this has not been regulated. I get migraines from these lights now, it produces extreme amounts of stress, it has made me dread night driving which I work a night job so I'm kind of stuck dealing with it. I've had pedestrians run out in front of my car and I almost killed them because I was being blinded. These are an extreme safety hazard and something MUST BE DONE.

September 27, 2024 – Bar Harbor, ME – Migraine

Have had migraines since youth, worsened by post-concussion syndrome in young adulthood. Construction vehicles, night driving, and even LEDs at pool facilities are intensely disruptive. Most recent example was a construction firm pickup with blinking yellow/white at 6am. Has seared my retinas for days and increased sensitivity to other lights. I already have to live with enough avoidance of crowded noisy places and entertainment venues due to strobes and music- LEDs make avoidance near impossible and driving potentially hazardous.

September 26, 2024 – Idledale, CO – Migraine

LED headlights have ruined my life by being the primary trigger of my migraine headaches. I never had migraines until these awful lights became common place. I can no longer drive at dawn, dusk, or night, and have frequently had migraines triggered by LED headlights during the daytime. I can't even stand the light from my own LED headlights and wish there was a way to replace them with halogen bulbs. Unfortunately my new car was pounded by hail shortly after purchasing it, or else I'd get rid of it in a heartbeat. When will these dangerous headlights be outlawed. As it is the auto industry and lack of

action by Congress has forced me to stay home and limit my activities at night. I consider this discrimination.

September 25, 2024 – Anytown, VA – Other

In night time car headlights are blinding and the state does not allow you to tint windshield.

September 21, 2024 – Shipperville, PA – Migraine

At the dance studio. A parent had suv running outside while child took class. So they were sitting not driving with the headlights on full (low beam). Plus there was this weird strip of running lights wrapped the headlights and the grill. The lights were more white and not as purple as most. So the hit seemed a bit less. I know to not look up or towards the door. I always put up a hand by my eyes to block and avoid grazes. I've had troubles with headlights coming in the door historically. In which a seizure was triggered (in front of children). So now I always keep my head down and walk on the one side of the building to avoid the door to the outside. This door is a full see through business type glass. As I walked along the "safe" side of the building. The led headlights reflected off an interior (glass see through) door (it was at a slight angle), and hit me in my left eye, mostly. Part of the right eye. Instant reaction. Blink reflex. Yet couldn't open eyes. Couldn't walk. Felt short of breath. Almost threw up. Stood in a veg state for several minutes. Couldn't respond to anyone's questions despite hearing them. Slowly I pulled myself back to the world after 5 min or so and was able to walk away. Sat down. Couldn't do any of the work I was working on. Organizing and cleaning the teacher shelves. Etc. Couldn't even finish the task I started. Barely made it through our team meeting. Couldn't think or filter my thoughts and words. I had severe pain on left eyebrow felt like an ice pick stabbed in. Yet felt like a bomb went off in my brain. Pain was so severe. Eyeballs hurt. The clarity of my vision decreased. Couldn't read fine print like I usually can. Left side of my face went numb. Size of my fist of an additional throbbing pain around my eye socket. I got super super super cold. Started shivering and had goosebumps. I have an apple watch. My heart rate skyrocketed at the exact time I got hit. And continued to be high for 20-30 min. But the worst was immediately following the hit. When hit by LEDs I struggle to sleep at night. It's like my brain is sooooo tired and sore but it's wired. Electrified. I can't sleep no matter what I do. Yep this happened. Couldn't sleep well at all. Today I have a massive migraine. The whole left top side of my brain is beyond sore. Can't touch my scalp. My eyeballs are killing me. Left area around the eyeball is pulsing in like mini pulses. Quick but defined. I can't think. I can't come up with the right words. Im so tired. This is all because a led headlight reflected off a glass door.

September 20, 2024 – Raleigh, NC – None

Headlights on newer cars make daytime and nighttime driving a constant safety and health risk. These weaponized devices are a clear violation of my rights.

September 17, 2024 – Easton, CT – Electromagnetic Sensitivity

My neighbor keeps her very strong LED lights on over her garage all night long from 7 p.m. to 7 a.m. and I cannot sit in the room where their light shines into my kitchen area. I feel sick and nauseous. I feel there is a very strong connection with the LED and frequency that is generated by the towers, wifi-routers, smart meters on their home and my home since I cannot have it removed. I place a date in this form but it is daily I am subjected to these harmful energies from the LED. The bright light is a light trespass into my private space.

September 16, 2024 – Kensington, MD – None

I have personally side-swiped a pile of debris on 270 that was jutting into the lane at highway speed that was ****invisible**** because of oncoming LED Headlights almost taking out myself and my family. Luckily it just scraped up the side of my car. On other occasions I have barely seen pedestrians on the street who

were completely shrouded in darkness because of the contrast these ultra-bright lights create outside of their dazzling beams. I often find it very difficult to see the road markings or the actual profile of an oncoming vehicle because the only thing visible is the floating white ovals in my windshield.

September 16, 2024 – Shipperville, PA – Migraine

On August 27, 2024, my husband took me to an appointment with a Neurologist/Headache Specialist at the Cleveland Clinic at their Brunswick location. On the ride there I had a few minor hits from LED headlights which caused a migraine. While at the doctors office I was met with LED lights throughout the office. I got a severe migraine and a tingling feeling in my face. It made the visit with the doctor very difficult as I was unable to come up with the right words to describe exactly how the LED lights are effecting me due to the cognitive loss I had from the LED lights. During this visit it was stated by the Neurologist that LEDs are a common trigger for migraines.

September 16, 2024 – Shipperville, PA – Migraine

I was riding in a vehicle with co-workers as I am unable to drive because of the LED lights. I picked my head up to look around because we were in the woods when the vehicle in front of us hit their breaks and the lights came on and caused an immediate migraine. Note that the vehicle that caused this was a government vehicle. I had an aura and severe cognitive decline that lasted for hours. Also had a numbness feeling on the left side of my face around my eye and nose.

September 16, 2024 – Nashville, TN – Other

I have Mast Cell Activation Syndrome. My body produces an allergic reaction to things that wouldn't normally cause anyone else a problem, including LED lights. My brain interprets the rapid flashing light as if there's something attacking my body, resulting in what we call a "histamine dump." Histamine dumps lower blood pressure. But given I have a condition known as Postural Orthostatic Tachycardia Syndrome, which already gives me low blood pressure, the combination of this condition with MCAS histamine dump causes me to go into hypovolemic shock. It causes the worst pain I've ever known, where my brain is screaming for oxygen and nutrients, fading in and out of being hyperaware of how much pain I'm in only to dissociate from it as a way to protect myself from the mental anguish of that pain. I've almost died from this several times. For almost a decade, I exhibited symptoms of hypovolemic shock at the end of nearly every day, only to be told it was a cervicogenic headache or migraine. Now that I'm diagnosed, I'm on a medication to treat it. But that medication isn't strong enough to counteract the effects of extremely bright LED headlights, let alone LED streetlights. Every time I leave the house at night, I get sick. I'm already disabled my multiple chronic conditions. My life is already limited. I don't know how to live life unable to even go outside at night.

September 14, 2024 – Vacaville, CA – Autism

I was driving at dusk when a fire truck or ambulance suddenly appeared with LED lights flashing. I immediately threw both of my arms in front of my face and hit the brakes to stop the car. I thought that this might be the end of my life. The LED flashing lights are sheer terror and I can't function. After the fire truck/ambulance passed by, I felt like I was going to cry from the emotional trauma. My brain then feels like it's dead even hours later.

September 12, 2024 – Moorhead, MN – None

When driving on roads with multiple lanes last night, I turned my driver's side mirror out and flipped the tab on my rearview mirror because the headlights around me were causing me physical pain and making it nearly impossible to drive. I couldn't see the road in front of me when the headlights were reflecting from the mirrors into my eyes. After adjusting my mirrors, I couldn't see anyone on my driver's side

without turning my head, and I couldn't see well behind me in my rearview, but I felt like a much safer driver with those changes because I could actually see the road in front of me.

September 5, 2024 – Keene, NH – Other

Driving down a tree lined road at around 6 PM (dusk) there was a vehicle stopped in the oncoming lane with their lights blinding me. As I slowed down and continued on my side, I saw a headlight blink. That was the only warning I had that there was someone in the road. I slowed down to a crawl, and the driver was out walking around their vehicle with the driver's side door wide open into my lane. If I continued going the speed limit (30 MPH) I may have hit the driver or at the very least hit their open door. I was able to stay calm driving home, but when I got home 10 minutes later and realized how close I came to possibly killing someone (because the LED headlights were blinding me) I had an anxiety attack, including shortness of breath, racing heartbeat, and a feeling of doom. I already only drive as strictly necessary because of these lights, and this incident further fuels my fear of these headlights causing me to get into an accident.

September 3, 2024 – West Deptford, NJ – Photophobia

This is an ongoing problem. For the past few years I have been unable to shop at the local Shop Rite ever since they doubled or even tripled the amount of lighting above the checkout lines. I get migraine symptoms within minutes even while wearing my tinted glasses and a wide brimmed hat to block much of the light. The lighting is that intense. I get visual distortions, nausea, and the Pain starts in about 5 to 11 minutes (I've timed it)

I can no longer shop at my local supermarket. The manager I spoke to had callous disregard for my condition, and my emails to management have received zero replies of any kind.

Other Shop Rites aren't nearly this bad. The Glassboro location recently remodeled and installed DECENT, HUMAN LIGHTING that doesn't bother me at all. Why can't all supermarkets do this?

There is some financial damage from this: I've been paying the higher prices at Acme because I can stand the lighting, or driving the 16 mile round trip to the Glassboro location just to feel human when I shop, so that's extra gas and miles on my car every time.

September 3, 2024 – Deptford, NJ – Photophobia

I tried to shop at the Five Below in Deptford NJ on Almonesson Road. I only needed one item, I hadn't been in this particular Five Below before. I barely lasted 5 minutes in there before migraine symptoms started, even with the protection of my FL41 tinted sunglasses. The LED lighting is so intense it completely overwhelmed any protection. I was fine when I entered the store, but within minutes I felt nausea and the beginnings of the familiar headache. I had to rest for a few minutes in my car where it was dark, just to recover.

September 2, 2024 – Zwolle, The Netherlands – Migraine

Hello, I am not able to use any screens that use dithering and low frequency of PWM. With in use of a product that use these technologies it will give migrenen instantly. I am really conserd of the future because more screens are made with this technology. I have 3 kids and for so long i can i will not let the use devices that use PWM on los frequency and dithering. It will do damage on the long run. For now there is to low attention for this problem and i hope senserly that in the near future this will be widely known.

September 1, 2024 – Novi Sad, Serbia – None

Dear FDA Representatives,

I am writing to bring to your attention a serious health concern I have experienced with MacBooks manufactured after 2022. All MacBooks purchased after 2022, including the MacBook Pro M2 Max, cause severe eye pain, muscle tension around the eyes, and migraines. These issues occur when using macOS, with symptoms appearing almost immediately upon using the device. I sustained a severe eye injury during testing, limiting my work time to 40-minute intervals. Even a year later, I cannot work for more than 8 hours a day. Despite consulting several ophthalmologists and specialists in binocular vision disorders, no significant issues were found, and all professionals confirmed that my eyes are healthy. My symptoms disappear when I stop using MacBooks and switch to other devices that do not use Temporal Dithering. There is a clear connection between my symptoms and the use of Temporal Dithering technology in MacBooks. More information on this technology can be found on the following forum: <https://ledstrain.org/t/temporal-dithering>. As further evidence, MacOS users who managed to disable Temporal Dithering no longer experience headaches or eye pain: <https://ledstrain.org/d/2686-i-disabled-dithering-on-apple-silicon-introducing-stillcolor-macos-m1m2m3>. I am deeply concerned that in the future, I may be unable to use any Apple device, compromising my rights and ability to work. I urge the FDA to regulate the use of technologies that involve pixel flickering for color display in Apple products. Your intervention is essential to ensure that sensitive users can continue to use Apple technology safely and effectively.

August, 2024

August 31, 2024 – Madison, California – Autism

I was a passenger in a car. As we approached a roundabout, a truck with white LED lights, the circular ones near the bumper, struck me directly. I screamed profanity and began crying. The other 3 passengers all confirmed that the light was excessively bright. For me, however, it was severe emotional trauma. The after effects are very long lasting.

August 29, 2024 – Christchurch, New Zealand – Sjogren's

I was driving and came to a set of roadworks where I had to stop at some temporary traffic lights. I was the car in the front of the queue at the light. There was a worker's utility vehicle parked right behind the light in my line of sight. It had its rapidly strobing lights on. I am unable to function if I look at strobing lights due to neurological and eye symptoms from my common autoimmune condition called Sjogren's (for example Sjogren's impacts an estimated 3-4 million people in the U.S.). I do not have trouble with sunlight or incandescent lights, but LEDs are painfully glaring to me, and strobing lights cause even worse disability. In the incident I am describing I had to block my eyes with my visor and arm, which meant I could not look at the traffic light and I had to wait until the car behind me tooted so that I could know when to drive on. Even then I had to do so VERY slowly as I had to keep blocking my eyes as I went past the strobing vehicle and there was a danger I could hit a roadworker.

August 28, 2024 – Esparto, CA – Autism

I was driving and encountered a utility truck with both sets of headlights turned on. I turned on my non-LED high beams in the hope that the driver would turn off the high beams. Instead, the driver turned on amber LED flashing lights that incapacitated me. I was unable to proceed forward and stopped my car. Instead of driving off, the driver of the utility truck stopped also. My vision and cognitive abilities were severely impaired, with panic setting in. Finally, I started to inch forward, and then so did the utility truck. It seems like the driver was doing it on purpose. After he left, I spent several minutes simply stopped in the middle of the road, trying to breathe and let the panic subside.

August 24, 2024 – Crawfordville, FL – Epilepsy

Hi! I was diagnosed around 27 with epilepsy, cataplexy, and narcolepsy. It is a rare condition. I am now 52. I lost my license to drive at 27 bc I had a grande mal seizure front the sun shining down through the trees and as I drove thru them the light would blink and next thing I had totaled my car. I noticed that the sun was a problem to me around the age of 16. Wearing sunglasses doesn't really help much. I am very sensitive to the light. My favorite thing to do is shop. The LED lights in the stores have now even made it to where I can not shop if they have the newest led lighting. I know what stores to avoid It will actually make me very sick if I go into a store w led. I'm not sure to tell you if I am shaking but I do know I get very confused and I will pouring with sweat. It almost paralyzes me. I can barely move or walk. I recently was in Big Lots where I had my last episode less then a week ago. I'm begging someone to listen. I will even have my mom record an episode and send it to you. Many people are affected by this. I want to be the voice that gets heard. I am literally begging to make this lighting go away so I can safely buy groceries.

August 23, 2024 – Monroeville, PA – Autism

I am unable to focus when I drive at night due to LED headlights. I had zero issue driving prior to their introduction. Even during the transitional hours of morning and evening sometimes these headlights are too bright. I am blinded to the point that I see afterimages of the lights in my eyes even without directly looking at them as if there were many tiny suns on the road.

August 22, 2024 – Rocklin, CA – Autism

LED headlights, along with increasing levels of aircraft noise, have literally taken away my ability to live independently.

I was diagnosed with high functioning autism when I was 17 and one of my symptoms is a high sensitivity to light and noise, which is common among autistic people.

I worked as a mechanical engineer in the San Diego metropolitan area for about 3 years after graduating college in 2020. During that time, I was with a long-term girlfriend and was even living with her for the last year of my time there. While living in San Diego I was getting more and more anxious and overwhelmed to the point where I wasn't able to function enough to keep my job or be a good partner with my girlfriend. Eventually, I had something akin to a nervous breakdown and I am now living at home with my parents and working at my local grocery store (thank god I have loving parents who are willing to help me out).

I believe that the exponential increase in recent years of both LED headlights and ceaseless air traffic over residential communities were the main cause of my anxiety. As an autistic, I need to live in an environment that's a sensory safe space (dim and quiet) so that I can recharge from the stimulation of a full day in the hustle and bustle of life. When there's aircraft noise penetrating my room and LED light every time I drive, there's very little break from the overstimulation. If I'm not able to get this recharge time, the sensory overload causes a cumulative effect, and anxiety builds in me.

While living with my parents, in an area with much less air traffic, I've been able to work reduced hours and limit my nighttime driving. I'm starting to see my mental health improve. However, I still have to be careful not to drive for more than 15 minutes or so at night and I mostly have to stay indoors where I can control the lighting and noise levels.

I used to love exploring at night. In fact, I would often go out during the nighttime because this was when the noise of the city quiets down and I feel more comfortable. It's not fair that the world is taking this freedom away from me by creating an unnecessarily harsh environment for sensory sensitive people. I also used to love camping for similar reasons (it was an escape from the noise of the city), but the proliferation of aircraft have taken this escape away from me as well. I have done a lot of brainstorming and can think of several ways that we could make our world more sensory friendly

without significantly reducing quality of life for neurotypicals, such as reducing brightness / adding diffusers to LED lighting, enforcing common sense vehicle noise laws, and creating no-fly zones over designated sensitive areas.

August 19, 2024 – Marietta, OH – None

I work mornings mostly, which means I'm on the road when it's dark out. Every led that passes me or gets behind me blinds me. Most times I have to stare down at the middle line to make sure I'm still on the road. Even dark dirt road my cars yellow brights work just fine. There's no need for someone to light up the whole state of Ohio

August 16, 2024 – Middlefield, OH – Migraine

I went to my bank while it was closed on the weekend to get money from the ATM, but there were so many LEDs that I had difficulty making out the buttons, I felt disoriented, and quickly started to have pain in my eyes and head, resulting in a low grade migraine. I had difficulty responding to the passenger with me in the vehicle and making quick judgements while driving afterwards. I had a headache the rest of the day and into the next day after the couple of minutes at a machine to access my funds.

August 15, 2024 – Round Lake Park, IL – Photophobia

I have had glasses since I was 10 years old and am now 31. After reaching my 20s my eyes leveled out and my prescription did not change for over 6 years. In the past year and a half I have worked from home on a computer. Between computer screen and the blue LED headlights my prescription went from -3.5/-3.75 to -4.25/-4.25. Even more recently for 2 days my left eye experienced a 'halo' effect when looking at lights that worsened at night. Thankfully it went away after a few days, but 2 ophthalmologists couldn't determine the cause. Driving at night is an increasing hazard due the brightness headlights, especially the LED ones. There does not seem to be any regulation on how bright headlights can be and all the LEDs make it difficult to see the road when there are oncoming and they leave a lingering effect on my eyes after they've gone. I have order my new prescription with blue light filter lenses to lessen the effect of headlights and screens. Those special lenses seem to range anywhere from an additional \$30 to upwards of \$100 on top of the cost for the frames themselves. And that was on a cheap website like ZenniOptical.

August 14, 2024 – Goodyear, AZ – Migraine

I have migraines that get triggered from bright lights from light bulbs and sun glare. I used to be safe from this affliction at night, but that hasn't been the case ever since LED headlights have become popular. I now feel that I have to wear sunglasses at night as well as during the day to avoid what feels like the unabated light of the sun from traffic from the opposite side of the street or from trucks who tailgate me for not going 80 mph on the freeway. I am essentially left blind and with a burgeoning migraine every time a passing car shines their lights at me, and I am certain I am not the only one who suffers from this.

August 12, 2024 – Queen Creek, AZ – Electromagnetic Sensitivity

My wife started to develop dizziness every time she would go inside of a newly opened Costco near our home. When she would arrive home, she would be nauseous and have to rest for a while. Now, she struggles to go there alone because of how being in the store makes her feel, and usually needs someone to go with her. The lighting in the store is the bright white LED type. Very agitating to the eyes. Not sure if there's other factors at play, by the lighting is definitely an assault on the eyes. When I go in there, I'm in and out pretty fast because the lighting is so stressful.

August 9, 2024 – Jefferson, OH – Other

I have worked with injurious light emitting devices for 15 years. The act of being forced to look into high powered led arrays has been a continuous thing for me and at least a few other people at work. This has increased to a ridiculous glaring issue, and nobody seems concerned about. I became more interested in all of this recently when i noticed a sort of hole in my vision where if I look at something for a few seconds it just starts to go black. A common daily routine for me involves taking measurements thermal and electrical measurements of several very high powered lights in the space of a meter that output 72,000 lumens pointing up at my face, my face is less than 2 feet away. I was not given proper PPE and had to ask for it, then i received improper ppe, and by way of my own ended up using a shade 5 ppe for welding.(which is still not good enough because the stuff hurts my eyes also there appears to be zero science in choosing the right ppe for staring into injurious light) I am confused about what ppe to use for reading meters while viewing intense light. I went to the optometrist, and he claimed my eyes did not seem damaged, suggested i am experiencing some sort of photo bleaching and said that they will be damaged and he recomended that the company i work for should seek a safety hygienist. But like i said stuff disappears if i look at it for a few seconds a plus i seem to experience mental problems while being around these intense lights. I have read through all the regulations and shortcomings of various federal regulatory bodies and i just don't know where to start besides letting the safety coordinator person know my problems. I have not done that because i want to make a clear case and show everyone what is really wrong. That and i don't want to end up being ignored or dismissed.

August 7, 2024 – Knoxville, TN – None

Excessively bright, unshielded lights are being set up over the city, some residential, some commercial. Despite being against code, the City does not effectively address the issue. Lights close to my home leave me and my neighbors blinded to own properties, as well are problematic for drivers. I am literally unable to look across my lawn when they are on, as the glare is blinding and painful to my eyes (I have no eyesight issues), meaning I cannot see anything. They're also an ecological catastrophe. It is unbelievable these lights have gone unregulated this long.

August 7, 2024 – Valley Stream, NY – None

LED headlights are incredibly irritating and they've become far brighter than is necessary. Not only are they absolutely blinding in some cases but they're DISTRACTING, and I can't imagine what could be worse on the road. Headlights should be sufficient and shouldn't pose an issue for other drivers. The fact that they do risks lives every day!

August 6, 2024 – Winters, CA – Autism

I was driving on a country road in the daytime. Over 1 mile ahead of me was a utility truck on the side of the road with amber LED flashing lights. For the entire mile, I was either glued to these LED flashing lights, or forcing myself to look away. As I approached the truck, the LED strobe lights were overwhelming and I could not see through the lights. I stopped my car in the road and started to panic. I put my hand in front of my right eye, and then tried to use my left eye to navigate around the truck. It is impossible for me to think or see with these LED flashing lights blasting me and I suffer extreme anxiety and panic.

August 6, 2024 – San Diego, CA – Other

Honestly, this is an issue I must deal with EVERY time I have to drive at night! There are far too many outrageously and dangerously bright headlights that blind me and so many others I know. Whether it's headlights that haven't been positioned correctly, or large vehicles beams that shine directly into my review and side mirrors, either way it's awful! In order to drive without being blinded nonstop, I must

flip my review mirror up, and use my left hand to block my drivers side mirror. This GREATLY reduces my safe usage of these needed tools, but I have no choice. I either do these things or be completely blinded by these eye scorching beams. I can recall when there were warnings against looking into these LED beams when flashlights started using them, and now, we are forced to be blinded by them WHILE DRIVING!!!

August 6, 2024 – Culver City, CA – Other

I have to hold one hand w/ a newspaper, and bring down my visor, the rear view & side mirrors to block all LED headlights. This makes it very difficult to see any traffic hazards. If the light does hit my eyes, i get a piercing pain back to my optic nerve worse than a migraine.

August 5, 2024 – Beaverton, OR – Migraine

Poorly designed LED lights impact my health severely. Flickering LED lights induce migraine headaches, and this affects my health nearly every day. Overly bright LED headlights and street lights impair my night vision and make driving more dangerous.

August 5, 2024 – Bradford, England – None

I walk my dog along part of a busy road, the car LED lights are so bright coming toward me that one night I did not see a bramble which hit my face leaving blood running down my face!

August 4, 2024 – Spokane Valley, WA – Epilepsy

The use of LED lights in public spaces has and continues to become a more and more serious issue as more and more are being used and lights are being switched to this. In department stores like Walmart, I can only be in there for about 10 minutes max and it sets off my epilepsy. I get nauseous, and dizzy and begin to have auras. I have to immediately go outside to natural light. They are being used as street lamps and at night with it already dark outside, it makes them that much more awful for people like me. They are being used in headlights and I made a serious note of this when my son and I drove to Denver and back from WA. If there was oncoming traffic at night and older cars with older style headlights, there is no issues driving at night. Sure they are bright and you always have a little of that bright headlight thing going on, but those new LED headlights are just obnoxious beyond belief. Not only are they bright, but when you get a row of them and you have epilepsy – they flicker, and some flicker noticeably because when it is temperature change ie colder they seem to have an issue and cause flickering. As a person with epilepsy you only have the instinct to close your eyes and you can't because you are driving the car. Same with going down a street light with LED street lamps. And while I get that you have epilepsy and they say don't drive. I CAN drive, and DO have my license and it is unfair to me to take away my license because of some light bulbs!!!! When I am otherwise allowed to drive. In my recent drive to Denver and the flickering head lights – some were almost to a point of flashing like an emergency vehicle. How on earth is that even safe for any driver encountering that in the dark at night? It is visually distracting like a strobe light.

And then finally – I can not even have lighting in my own home or my office any more. You have completely gotten rid of any light bulb that a person with epilepsy or a person with strokes etc can use in their own home and using those ones that change the lighting tone from natural lighting to bright lighting really doesn't help sorry. So what do you expect all of us to do? Go back to only lighting our houses by candlelight? You, as the FDA need to LISTEN! I am in architecture and interior design, I am well aware of design and lighting. This is a very REAL issue that needs to be looked at. It is a health/ medical concern. My mom recently had a serious of mild strokes, and upon researching it since I have epilepsy – I discovered that strokes including decreasing blood flow to the brain CAN because by LED lighting! Before this is dismissed as a whim, you need to actually look at this. It is a real problem. If I go

in to Lowe's or Home Depot in their lighting section I can last about 2 minutes and I have to go running out of there and want to throw up it is so bad. I used to love their lighting section – even just a couple years ago it was still ok because not all the lighting had been switched out yet – there was still a balance. Today I can make it about 2 minutes – you want to tell me that is not a serious health concern? I am just one person out of millions with epilepsy, strokes, migraines..... This effects a lot of people – not a handful. On my same adventure drive to Denver the other day – we stopped at hotel and stayed the night. When I came to the reception counter, the woman behind the counter had the lights above the counter area turned off. So I asked her about it and told her I had epilepsy and just wondered if she did and that's why she had the lights off. She told me that ever since the hotel had switched to the new lights, she can't keep them on any more. that she had a car accident and now had a serious stigmatism that caused her migraines. The new lights make it so bad she gets sick and can not be around them at all so she had no choice but to turn off the lights just to be in that space. The FDA needs to listen – it is a REAL problem! Thank you

August 4, 2024 – Kittitas, WA – Astigmatism

I have had to stop my car entirely when driving at night because the lights were so blinding. I literally can not see and choose to stop my car in the middle of the road for everyone's safety. I don't have this issue with all the headlights. For some lights, I do use my hand to shield my eyes from the headlights. I had to do this over the weekend once again. I have noticed that when I use my hand to shield my eyes I feel heat on my hand. This weekend's incident stood out because I had the a/c on in my car and I could still feel heat on my hand from the on coming headlights. I have also noticed that my left eye, the eye that gets the most direct LED light, has been slowly getting worse.

August 4, 2024 – Webster, MA – Migraine

When the migraine sets in after just ONE oncoming LED vehicle I have much trouble focusing my eyes back on the road. Especially on darker back roads which I travel to work on in the early morning and also have trouble focusing at work.

August 3, 2024 – Riverside, CA – Other

Retinal retention where bright lights blind and the retina holds the image

August 3, 2024 – Greenville, SC – None

Because of super bright LED lights, I can no longer drive at night. My eyes are very sensitive to that horrible brightness and I had to change my life around this problem. I had to look for a job where my schedule is not ending at night. How can this be allowed? All of you know that this is wrong. WHY?

August 3, 2024 – Onsted, MI – Astigmatism

Led headlights (low beams) , white led running lights, LED brake lights, emergency flashing Led lights and Led streetlights have adversely affected my ability to drive safely. I do not drive at dusk or Night anymore unless I have to (for work). I live in Michigan with snow covered roads and the most dangerous aspect of driving is being blasted by someone's Led headlights. I cannot use my read view or side mirrors anymore because of the vehicles behind me blinding my visions with their Led headlights. I have to constantly shield my eyes to be able to see the road due to oncoming Led headlights. I love nature and now my ability to enjoy the Night skies is ruined because of bright Led lights on at night. I never had any problems driving at night prior to Led headlights. Now driving has become a nightmare and a very dangerous task. Led headlights should be banned or at least some type of regulation regarding luminance and Kelvin temperature. Many Led low beams are much brighter than halogen highbeams. In addition to the dangers of led headlights being dangerous, they cause me headaches and eye pain. It's

common knowledge that blue light is detrimental to the health of humans and don't understand why this type of lighting is being used in the public.

August 3, 2024 – Portland, OR – Other

A few years ago I was driving on Hwy. 211 in Oregon near Molalla at night when I encountered a pickup truck with LED (BLINDING!) lights headed toward me. The glare caused me to be blinded to my lane from the oncoming LED lights, and there was a deer I did not see until after the pickup truck passed. That was too late. Although I was not hurt, the deer could have crashed thru my windshield; I have seen this before. My car was "totaled".

August 3, 2024 – Fountain Hills, AZ – None

Apparently the plan to get drivers off the road is working with the BLINDING LED vehicle headlights. The police LED flashing lights are SUPER BLINDING.

August 3, 2024 – Canaan, NY – Astigmatism

The LED headlights are a hazard. I'm still fairly young and have had to give up driving at night completely due to how unsafe it is getting blinded by them and not seeing the road for several seconds afterwards. I, like millions of others, have astigmatism in one eye, but I also have had migraines triggered by these lights, even during daytime driving from drivers with headlights on! My optometrist and doctor's office staff have stated that many other patients report similar issues. The internet is full of forums with people complaining about these lights, and their accounts are very similar – if not even worse – than mine. It's astonishing and reckless that these lights are being inflicted on the driving public!

August 3, 2024 – Bellevue, WA – None

Interestingly, I believe this is also an issue for people with very good vision and not wearing glasses like me. The lights can focus very well onto my retina and make me uncomfortable looking forward at night, but how can people safely drive cars without looking at where the car is going? Due to the strong headlights in new cars, I simply avoid driving cars at night now.

I live in Greater Seattle Area where it's mostly cloudy over the year, and the sun sets very early in winter. Some of these LED headlights are so bright, it's even a pain for me driving around noon during day time. As a paradox, Daytime Running Lights should promote road safety, but they do act as a safety hazard on some cars now. This video should demonstrate my point well:

https://www.youtube.com/watch?v=s4Ws0_yiXg

Thanks.

August 3, 2024 – Rochester, NY – Astigmatism

LED lights have caused a multitude of problems for me since their general use. I'm blinded by LED headlights making it impossible to see after they have passed. LED lights in and on public buildings have resulted in headaches and migraines. LED streetlights makes driving difficult as it does not give diffuse light pole to pole. LED streetlights in a snowstorm create a dazzling reflection making orientation of the road impossible. LED strobes on emergency vehicles, construction vehicles and personal vehicles have induced seizure type symptoms. Driving at night and being exposed to LEDs cause sleeplessness

August 3, 2024 – Acton, MA – Sjogren's

Having Sjogren's makes it extremely difficult to see with oncoming cars with unregulated LED headlights. They make it impossible to maintain any degree of driver safety. I must focus on the right edge of the road to be certain there are no pedestrians walking on the side of roads in the suburbs and country. Leaving the left side of my car exposed to the driving skills of the offending driver, which does not follow the defensive driving skills I was taught and use whenever I am in the driver's seat.

The other issue I encounter are the extremely bright blue LED lights on police cars when I approach the scene of an accident or when they pull a car over for a driving incident. Even when driving at 2-5 miles an hour to be cautious not to hit anyone I cannot see what's in front of me. Their blue lights put me at risk of hitting a pedestrian even when driving at 2-5 mph.

Why should my passengers and my safety be put at risk because of unregulated LED lights? If it has not already happened, this will lead to many lawsuits with the automotive manufacturers throwing the weight of their legal teams defending themselves when the regulation of LEDs would have prevented the injuries and loss of life.

August 3, 2024 – Chicago, IL – Photophobia

EVERY DAY BLINDED AND SEE SPOTS VISION IS DECLINING EVEN IN DAYTIME!!!!

August 3, 2024 – Austin, TX – Other

I have early cataracts. The LED headlights blind me, whereas halogen lights do not impair my vision at all. At a minimum adaptive driving beams should be required in the US like they have been used in Europe since 2012.

August 3, 2024 – Fresno, CA – Astigmatism

Why do we have dimmer switches on our cars' headlights if intensity doesn't matter?

As a person with astigmatism I just had a conversation about these lights at my ophthalmologist's office as several of the office staff were nearby and joined in. All agreed these lights are so blinding, especially to those with astigmatism, and it creates a driving hazard. We all opined that they need to be regulated because they said they see problems with them across the board with their patients and in their own lives.

I'm also very photosensitive and have to look away from those oncoming lights to not be blinded by them. Should you really have to take your eyes off the road to drive? Does that make any sense?

Again, why do we have dimmer switches on our cars headlights if intensity doesn't matter?

August 3, 2024 – Hamilton, MA – Astigmatism

Like myself, millions of Americans have astigmatism that makes it difficult to drive at night. LED lights from oncoming cars, esp on 2 lane country roads, make it almost impossible to navigate safely when coming home from work in the winter. I have almost driven my car into a lake after being momentarily blinded by this kind of headlight. While good for the driver who has them, they are DANGEROUS for everyone else using the roads at night. Thank you.

August 3, 2024 – Fort Collins, CO – Other

At 74 and having cataract replaced and it is nearly impossible to drive safely with the blinding blue white glaring LED lights. It is so distracting and frustrating I lose my concentration to drive properly. The lights seem to bounce up and down with a blinding flashing impact. Even police vehicles red and blue flashing on the side of the road are so blinding it is difficult and unsafe to go around them. I can't see what is in front of me. The contrast from dark to blinding flashing lights is too much to see what's in front of me.

August 3, 2024 – Chicago, IL – Astigmatism

Bright LEDs make it hard to drive at night. It's blinding and unsafe for me and the public. Sometimes sunglasses help but I shouldn't wear those at night

August 3, 2024 – Hinsdale, NH – Photophobia

I absolutely can't look straight ahead and watch the road when an oncoming car with LED light comes

toward me. I actually turn my head to the right a bit so as to not get blindness. If I do look at them, I see dark spot in my vision, just like a dark shadow that blocks the road. I also get migraines and have come home from driving at night very upset because I realize my migraine is most like due to the bright lights. I have to limit my driving at night unless it is necessary. It is a danger to me and others to be on the road at night. Please help with this scary situation.

August 3, 2024 – Yonkers, NY – Migraine

Headlight blind me. I cannot go out at night even for dinner with friends without being blinded and triggering migraines. I have better than 20/20 vision and these newer headlight blind like like the older ones never did. They really limit my quality of life. I went out for dinner with friends in the evening in July and was so blinded on the way home that I barely got home. I got a severe migraine lasting several days.

August 3, 2024 – Glenville, GA – Migraine

They make me have stroke symptoms every time I am near an LED light of any kind

August 2, 2024 – Portland, OR – Photophobia

I am 40 years old, and I cannot see at night when faced with LED headlights (can see fine when they are not present). I have been told by 4 eye doctors that there is nothing wrong with my eyes and I have no condition to warrant a diagnosable handicap. Because I cannot see at night, ESPECIALLY in the rain (here in Oregon we get 9 months of rain per year), I am forced to get rides from others or not drive at all at night. This significantly impacts my job opportunities and my income potential. I am incredibly stressed out because of this and do not understand why no government agencies are taking action on this problem. I plan to pursue further lobbying activities or and/or legal action.

August 1, 2024 – Mangonui, New Zealand – Migraine

After accidentally (I have to avoid exposure to the direct beam of the LED) viewing a small but powerful security light for less than a second, I had to violently throw up for up to two minutes at which point I lost consciousness and fell to the concrete floor and hit my head. I woke in a pool of blood and further vomit. The security light has been turned off so I am safer in my home but unable to go anywhere with LEDs safely. I am now registered disabled and struggling to maintain my work which now has to take place at home. I have had several severe episodes where they have caused me to have seizures that can take months to recover from. I now experience up to 3 led induced migraines as opposed to once every three months prior to the roll out of LEDs. If I look briefly look directly at an LED it damages my vision and I am left with spots in my vision for hours to days. If spending time in spaces lit by LED I can find it hard to think clearly, I am unable to speak clearly and cant remember words. this also happens when I have a migraine with aura set off by a strong LED. My life has changed in every way imaginable since they where rolled out in my location around January 2021.

August 1, 2024 – London, United Kingdom – Other

Council lawnmower with flashing LED lights drove past me while I was walking along the road. I felt immediate severe head pain, nausea and disoriented, and fell into the roadside ditch. I then vomited, climbed out with blurred vision and pounding head.

July, 2024

July 30, 2024 – Federal Way, WA – Other

LEDs cause me so many neurological symptoms brain fog, anxiety, depression, OCD, headaches,

ghosting (ex. When looking at led tail lights and looking away I see them but it's a ghost appearance that's green) , lose my place when talking, visual accomodation spasm trigger, disconnect feeling, nausea. It's been a nightmare with LED lights. Some are worse than others.. especially ones using PWM as their brightness control which induces flickering. Car headlights are the WORST. I can see the flicker of most led headlights it's very uncomfortable.

July 24, 2024 – Blandon, PA – Other

I had an LED come downhill at me with high beams on while I was driving. Despite having light blocking glasses on, and being in my car behind my windshield, I still managed to suffer a temporary vision injury. For several minutes following the car passing me, I had a GIANT hallucination of an oval of light, with regular sight in the dead center, in both eyes. It was my first time experiencing this, and after the second minute I had begun to think it may be permanent. The experience was terrifying, I was over an hour from home, and so emotionally distraught on top of the vision impairment that it was difficult to maintain stable driving.

July 17, 2024 – Sacramento, CA – Autism

I was driving on the freeway in the slow lane, when a tow truck in the fast lane ahead of me suddenly turned on LED strobe lights on the top of his truck. It felt like a lighting bolt when through my body. I instantly closed both eyes and felt like I should drive off the bridge.

July 16, 2024 – Albuquerque, NM – Migraine

When I am too close to these white LEDs, I tend to get a large, massive migraine and then I start to lose control of my senses. I become extremely quiet and my friend that I stay with has been noticing that I would act strange and also tend to get a little violent with him. Again, I have NO control of my senses when I am TOO CLOSE to these bright lights! I end up basically not remembering anything and my friend is telling me like, "why were you acting like that??" And I first did NOT know what was causing the problem, until I figured out that when I am REALLY CLOSE to these white LEDs, I tend to start getting that migraine and then lose complete control of my body! I currently am staying with my friend and where he lives, the city is refusing to take matters of these issues that SOME of the residents are experiencing SIMILAR symptoms. My friend who is Autistic will get really painful migraines! And he'll take WAY TOO many painkillers to try and stop his headaches. Before the city of Albuquerque changed their streetlights to white LEDs, my friend and I have had NONE of these issues. After a few months of these leds being installed in the city, Me and my friend had started to get these strange symptoms and they have only gotten worse! I've personally contacted the state and city's legislature and administration regarding this problem. BUT they don't want to do anything about the problem! My friend has contacted the whole state PLENTY of times explaining that this is extremely dangerous, but again, they do NOT want to do anything about it! I'm hoping that somehow, we can make Albuquerque replace their led white lights to a softer light like, 2200k HID LEDs and also MAYBE some LED VAPOR lights! I hope you can help force Albuquerque to do this!

July 15, 2024 – Albuquerque, NM – Autism

I am Autistic and have a sensitivity issue with BRIGHT LIGHTS. My city has changed their streetlights to LED 3000k and 4000k lights from streets to parking lots. Ever since these lights were installed, I have been getting constant migraines and large headaches multiple times a month. My city is REFUSING to do ANYTHING to bring back ANY form of AMBER streetlights. I've contacted the city AND state A LOT! And they won't do anything. I've even tried contacting the DOT of the state and he won't even be much help. My city continues to IGNORE my concern and also continues to install these WHITE LEDs. I've tried EVERYTHING I could to help my city but they won't do ANYTHING. I hope I can FIND a way to FORCE my

city to bring back these AMBER AND VAPOR streetlights back! My city had installed these lights back in 2019 and I've done EVERYTHING I could to try and make the city understand that these lights are TOO BRIGHT, and I CANNOT continue much longer going to bed every night and waking up every day with a LARGE MIGRAINE that causes me to even become DIZZY at times! I hope you can help me fight this issue in my city and FORCE my city to bring back AMBER AND VAPOR streetlights! Thank you for reading this!

July 9, 2024 – Woodland, California – Autism

A fire truck came down the street with LED strobe lights. The strobe lights caused me to suffer psychological trauma which lasts for hours after the incident.

July 9, 2024 – Mangonui, New Zealand – Migraine

While traveling in the passenger seat along the state highway felt sudden thunderclap pain to the left occiput passing three flashing LED lights on three diggers repairing the road. My left eye began to stream, my speech became slurred, then dysaesthesia to the left side of my face and arm occurred. I felt as though I had a concussion. The symptoms of this hemiplegic migraine event resolved gradually over a three day period.

June, 2024

June 29, 2024 – Hillsboro, OR – Other

My partner and I are blinded by LED headlights that drive behind us these days. It is getting worse. WE ABSOLUTLY HATE IT!!! It's unsafe and poses a safety hazard. LED Headlights are basically high beams. At least "high beams" have regulations on when they can be safely used.

June 21, 2024 – USA – Autism

An individual contacted the Soft Lights Foundation to report thoughts of suicide due to repeated exposure to blue-rich LED lights such as vehicle headlights. The neighbors called the police who came out for a welfare check. The police stated that only the city council could do something about the LED lights.

June 14, 2024 – Havre, MT – Other

The Bureau of Reclamation, a federal agency, is conducting a three-to four year construction project near our home. They are using high-intensity LED lights on the site. Our home is over one-half mile away from the site and 100 feet higher in elevation but the construction lights are projecting into our home, lighting it up from end to the other, and have been doing so since the summer of 2023. We have been asking them to modify their lights since August of 2023. When I started having daily migraines in December of 2023, we started blocking some of our windows with cardboard, but the damage turned out to be far worse. A few months ago, my husband was diagnosed with a sudden and drastic change of vision in one eye which alarmed his ophthalmologist, who was unable to find any physical reason for the loss of vision.

June 12, 2024 – San Tan Valley, AZ – Migraine

It literally feels like it is burning my retinas. I no longer feel safe driving at night. It's not safe for me or others. I don't know what to do. I feel like I'm going crazy.

June 12, 2024 – Tampa, FL – None

I recently visited a local establishment for lunch and every single one of their lights had 5000k (maybe

even higher) bulbs in their fixtures. The color wasn't the only problem, but they clearly used some cheap bulbs with a very low CRI and a terrible flicker rate.

I'm normally not *that* sensitive to bad lighting, but this place in particular immediately triggered a full migraine and a feeling I can only describe as nauseating. I looked up pics on Google maps and years ago this place had nice warm lighting and used Edison style incandescents. Makes sense that I had no ill effects the last time I was there.

June 8, 2024 – Brantford, ON, Canada – Photophobia

I am blinded by LED headlights while driving. This is extremely unsafe. LED headlights should be banned.

June 5, 2024 – Escondido, CA – None

As I walked into my local Costco, I was assaulted by an LED demonstration light. Immediately I got a headache and my vision turned blurry. Even after getting past the light, the effects lingered. As I walked down the first aisle, another demonstration light hit me, with the same result. I spent the rest of my time shopping under duress. I spoke with Jose H., the membership manager, and explained how dangerous those lights are, especially to people with neurological sensitivities, that they can cause seizures and worse, and requested that they be turned off. He said he couldn't do anything. He would have to confer with the corporate office.

June 5, 2024 – Doylestown, PA – None

The LED lights are like Searing Laser High Intensity Lights that BLIND the drivers visibility and harm my eyes with pain and headaches. There is no avoiding them, I find I have to shield my eyes anytime one of the LED vehicles come toward me on the road. It is Impossible at night to drive and extremely difficult during the day I suggest going back to a softer headlight and putting an AMBER shield on vehicles that have LED lights to soften and stop the blinding that they cause or best go back to the softer traditional lights. It is IMPOSSIBLE to drive at night and will eventually lead to burned out retinas and macular degeneration with this constant blazing brightness directly in the drivers eyes.

June 4, 2024 – Petrolia, CA – None

At night when an oncoming car or especially truck has LED bright lights, I stop right where I am. I can't see to move forward lest I drive into the oncoming vehicle or drive off the road, hit a tree or down a hillside. This happens frequently in the rural areas. In town, I cannot see pedestrians or even signal lights when the headlights are aimed at me. It makes all the other features like crosswalks and parked vehicles disappear. Certain headlights are a danger and I'm glad I haven't had an accident from being blinded by them.

June 4, 2024 – Cumberland, MD – Migraine

I have spent many hours trying to block the harsh alien light that floods our house since the LED streetlight has been installed in front of our house. It is summer now with leaves on trees. The light will be even more intense and be on for longer times in the winter. When I step onto my porch in the evening I am blinded by the LED streetlight and it is difficult to leave the porch without the risk of tripping on steps. I no longer take evening strolls because of the blinding glare on our streets. When I do walk at night, I get red spots in my vision and suffer headaches. I have had several panic attacks while trying to sleep. I feel that these have been triggered primarily by the oppressive feeling that my home and home life has been severely impacted and there is nothing I can do about it.

June 3, 2024 – Oakland, CA – Other

blinded by oncoming headlights and totaled my car (1-17-2024)

June 1, 2024 – Fairfield, CA – Autism

During the day, I was driving a vehicle on a freeway when I struck by an LED flashing light from a bicycle on a parallel road. I reactively closed my eyes and then suffered a seizure reaction, which I would describe as like an electrical shock and loss of cognitive functioning and vision. I then had to emotionally fight off a panic attack.

May, 2024

May 31, 2024 – Logan, UT – None

Our city has a 'suggested' policy of dark sky compliance where often they will cheap out violating EISs for various road projects. I successfully had a 'cobra' style HPS light typically used at interstate interchanges removed from near my home due to light pollution. Now on the street the rest are being phased out for Dark Sky Compliant (DSC) LED lights and it is a wonderful change. The light is diffuse, lights up the sidewalks, and has minimal spill onto homes or the street. A new hotel has been built across the street from us and the owner incorporated Dark Sky Compliant LED lights in the parking lot and surrounding and it is only slightly more bright at night than before, and it is safe for the hotel guests. I'd recommend making formal comments to Beaverton City to mandate future construction to be DSC and incentivize retrofits to meet DSC. Glaring lights are only slightly less annoying to me than sound pollution, but I've worked with our city to address both.

May 30, 2024 – Jaffrey, NH – None

Being the director of a public library which offers evening hours, I regularly need to drive the 1/2 commute home in the dark. I also help care for my 93 year-old father, which again requires night driving. I am not elderly, do not wear glasses, and just passed the vision portion of my driver's license renewal. I have no health issues that would make night driving difficult.

The new LED headlights have made night driving extremely dangerous for me and by extension, anyone else I encounter on the road. I am literally blinded by the headlight intensity of both the oncoming traffic and the cars behind me if they have LED headlights. I studiously attempt to not look at the oncoming cars with LEDs, which means I don't have full visual scope, but as I live in a rural area, cars can come from around corners or over hills before I know where exactly to focus my eyes to avoid direct contact; thus I am constantly dazzled. If I accidentally have even a momentary direct eyeline contact with LED headlights, I have a blinding afterimage that lasts for several hundred yards. There are no shoulders on the rural highways I travel, so I cannot pull over until my blindness passes (and I would have difficulty seeing the shoulder after exposure anyway). If a car behind me has LED headlights, the glare in my rearview and side mirrors can interfere so badly with my ability to see that I sometimes have to turn all the mirrors away so that the glare is targeted elsewhere—very dangerous, if not illegal. The LED light from the car behind me is so intense, I could easily read a book if stationary. I have begun wearing special yellow glare-reducing glasses to drive at night, but as they reduce and darken my overall vision, this is risky.

I cannot cease driving at night if I wish to remain employed. I cannot cease driving at night if my father is to continue to receive my care. I don't wish to cease driving at night and limit my ability to freely live my life simply because all new cars have ridiculously blinding headlights. The invention of LED headlights has created a real problem in my life, and the danger of an accident is real. There doesn't even seem to be a justification for their widespread use, which is additionally maddening.

I have limited my comments to the issue of safety re LED headlights. In other areas, I also find LED light

has reduced my quality of life (I can no longer see the night sky due to neighbor outdoor LEDs, etc.) and am outraged that I am given no choice in the matter of home lighting. For decades, I have line dried all my laundry in an effort to energy-offset my continued use of incandescent lightbulbs. Now it is illegal to sell incandescent lightbulbs and I am consigned to having to spend every night hour of the rest of my life illuminated by light that feels like nails on a chalkboard to me. That rant can wait for another day. Please take complaints regarding LED headlights seriously. They are TOO BRIGHT. How many accidents will need to happen before this is addressed? I know I feel like an accident waiting to happen unless I cease driving altogether, which is not an option and shouldn't have to be. Thank you.

5/30/2024 – Brighton, England – Migraine

My life has been devastated by LED lights. I am severely triggered by LED lighting, especially car headlights. I experience extreme migraine for up to 2-3 days after looking at a car headlight or a LED strip light, depending on duration of exposure. LED panels in shops, buildings and street lights make me very ill also.

I can be vomiting for 6 hrs or more after exposure and have severe head pain, weakness and complete disability. Consequently I am now pretty much housebound and excluded from all social activities, travel and work. I have tried all the blue light blocking glasses but it is the FLICKER that is the trigger. In the same way strobe lighting affects people with epilepsy.

It is totally unacceptable that so many peoples lives have now been pretty much ruined by ubiquitous LED lighting.

5/28/2024 – Kuala Lumpur, Malaysia – Photophobia

Instant trigger of chronic migraines. Can't even function at all.

5/28/2024 – West Springfield, MA – Other

Driving home at night from visiting my daughter and grandkids, my partner and I who are in our late sixties were constantly bombarded by LED lights. He was behind the wheel while we both kept aware for the usual zig-zagging speeders and with warm weather, motorcycles (why aren't they required to have a red light or reflector on the back of their helmets?).

It's like running the gauntlet having white/ blue blasts of light dazzle you from opposing traffic. Even on highways with wide median strips you never know when you will be temporarily blinded!

There is construction everywhere, lane shifts, narrow temporary lanes with rough pavement and confusing signs and then those lights, sometimes from packs of cars all with LEDs hitting your eyes.

Trucks or SUVs behind you and your rear and sideview mirrors are useless! You have to fiddle around, while driving to tilt the side mirrors or literally drive with a hand up blocking your rear view. This affects all ages but is particularly bad for seniors! Older eyes have slower dilation response to glare. In a way it's age discrimination as older people will have to think twice about whether they can go out at night!

We have laws prohibiting people from shining laser lights into the sky as it can blind pilots in airplanes. This is the same thing. We worry about folks distracted by their phones or impaired by alcohol, but no one thought about super bright lights glaring in your eyes!

This impacts my life. It's dangerous! They should be recalled immediately. Like other car malfunctions manufacturers should change out the lights or put a filter on them. Let's do this now, not in 10 years or so. Switch back to halogen for the safety of all drivers.

5/28/2024 – Winsted, CT – Other

Dangerous driving conditions at night on my way home from work!! I have to literally close my eyes as ridiculously bright LED headlights blind me while passing in the other lane. This is so dangerous and damaging!!!!!!!!!!!!!! How can this not be being addressed. I have almost crashed multiple times. I feel my eye sight is being damaged from these lights and getting worse. Please help up.

5/28/2024 – Bangor, Northern Ireland – None

I see that because the Prime Minister has declared there will be an election in the UK, the petition for the issue to be debated has been declared null & void..... Raging ! The reflector size of dipped headlights gets ever smaller, increasing the intensity of dipped headlights – a triumph of style over function !

5/27/2024 – Avondale, PA – None

Unable to see the road, cars, or surrounding areas while driving when high beam LEDs are in use. Lowering these LEDs to regular or low beam does no use. Even in low setting these LEDs are 10 times brighter than my vehicle's regular incandescent lights and my eyes cannot adjust to account for dark adaptation to drive at night. Ban LEDs in vehicles or reduce them 75% to match other older model vehicles. Also – point them downwards so they light the roads instead of tree tops and telephone poles.

5/25/2024 – Portage, MI – Photophobia

Debilitating headaches, dizziness and seizure like response when exposed to LED lighting. Increased sensitivity to any lighting type after prolonged exposure in LEDs.

5/18/2024 – Houston, TX – Photophobia

While visiting a friend I was exposed to LED from overhead light fixtures in the apartment, and the extreme LED of Samsung TV. Together, they suddenly triggered photophobia, migraine, & brain fog in me and I am not a TV watcher. Just walking into a room with LED TV and lightning or shopping in grocery and drugstores with All the LED now triggers my eyes with pain. Shopping mall is out of the question for me. I have to wear very dark sunglasses and a cap with a bill. I Must have phone and other devices Very dark, And have limited screen time. I have to cover lamp shades with scarves. I've tried blue block glasses which don't help at all. Obviously the LED has caused me to be much less social. It has also caused my eyes to twitch, and has made them have intermittent blurry vision.

5/18/2024 – Los Angeles, CA – None

LED lights make it dangerous to drive at night because my vision gets blocked while I'm driving a vehicle.

5/14/2024 – Sammamish, WA – Autism

I have largely avoided walking around my neighborhood at night for quite a while because of extremely bright LED headlights, except for viewing the aurora borealis on May 10, 2024, and I was horrified at the growing rate my neighbors are installing very bright LED light bulbs that far exceed 2700 Kelvin. I had to walk to darker parts of the neighborhood to avoid my view being ruined by the glare of LED lights. Even while walking around at 3 in the morning to view the aurora without seeing a single car with LED headlights, I was subjected to extremely intense blue-rich white light LED radiation from many homes along my usual route. I was honestly hoping the solar storm would knock our power out, which didn't happen.

In addition, I witnessed many poorly shielded LED lights without any diffuser at many stations along the newly opened Line 2 Link Light Rail in the Seattle area and was horrified at how these LED lamps are a potential discriminatory barrier. We always talk about diversity and inclusion here in the Seattle area and making transit accessible and yet never consider the needs of those with autism or epilepsy. I've

even noticed that many buses by King County Metro (and likely Sound Transit) are now being fitted with LED headlights.

Banning incandescent bulbs is a crime against humanity and an attack on nature itself. We need very strict national light pollution laws instead of doing this at the local level. Or better yet, unban incandescent bulbs and let the customer choose instead of the government doing it for us.

5/14/2024 – Cambridge, NY – Epilepsy

My daughter and I walked out to run an errand one afternoon. As we came around a building, there was an LED streetlamp, still on though it was daytime. I'd been completely fine a moment before, but the light struck me and I was instantly incapacitated by severe neurological symptoms, stumbling and shaking. I couldn't walk, speak or see properly and my face and left arm went numb. We turned back immediately, and my daughter had to hold me upright so we could get away from the light as quickly as possible. We did not complete the errand. About a week later it happened again. This time I was alone, and my impression was that the street lamp snapped on as I got closer. This time there was no-one to catch me. I fell and couldn't get back up again. I was nauseous, dizzy and disoriented, unable to see, my limbs uncontrollably hitting the ground. Eventually I crawled/dragged myself back home and remained ill for many hours. I felt humiliated on top of everything else. I do not know if anybody witnessed what happened. Nobody came to help me and I could not call for help because I couldn't speak.

5/14/2024 – Chicago, IL – Other

blinding me and seeing spots all day. extremely stressed when i have to drive!!!! I hate these lights and cannot believe this is legal!!!!people don't give a crap!!!

5/12/2024 – Hancock, WI

I almost hit a pedestrian on the side of the street because the car in oncoming traffic had blinding LEDs. I did not see the pedestrian until the oncoming car had passed. If the timing was just a little different, there would have been a terrible ending. I reported it to the nhtsa. They said the lights just seem brighter. (This was a few years back.) I used to love driving at night. Now I can't handle the LEDs. This puts more traffic on the road during the day. Even when someone driving next to me has LEDs, I have to lift my hand to cover my side mirror from letting it blind me.

5/10/2024 – Yonkers, NY – Migraine

Led lights blind me in the road and flare up migraine. Have to stay home at night. Interfere with my life. Very dangerous.

5/9/2024 – Saint Paul, MN – Photophobia

My eyes have retinal injury and bright LED lights cause intense pain and discomfort. Overly bright LED's impact my life in numerous ways. There is widespread illegal use of intense LED floodlights in my neighborhood, but the local law for legal use of LED floodlights is not enforced. LED streetlights seem designed to blind drivers, rather than illuminate streets. Streets are dimly lit, but streetlights are shine right into drivers eyes. Vehicles keep their headlights on day and night, and shine into sideview and rearview mirrors. This causes eye pain and discomfort.

5/6/2024 – Cleveland, OH – Autism

LED lights give off a poor quality light, pure and simple. With the cheapening of everything these days, proper fixtures are usually non-existent, i.e., there is rarely any diffusion in the form of a large shade or lens—just the raw diode. For those who have in-focus vision (as everyone strives for with corrective lenses and such), the intensity of viewing a high-powered and undiffused LED at any distance is always

an unpleasant one. As it happens literally thousands of times a day, our retinas get “etched” and degraded. This is not to say that an incandescent bulb can’t be painful, it’s just that in the days of incandescent bulbs we made proper fixtures.

For me, when I’m presented with an unexpected bright source of light, my eye naturally moves and centers it in my vision. There is something physiologically that makes it hard to look away instantly. It literally takes like a complete second to pull your eye away from it. However, the damage is already done. You stared directly into something that was of an infinitely higher magnitude of brightness in relation to its surroundings. THE EYE IS NOT BUILT FOR THIS. These encounters cause a tense visceral reaction throughout the body. Considering that there are BRIGHT LED lights on just about every conceivable object these days, and it’s common for someone to have these negative encounters thousands of times in one day, and considering that the center of your vision is by far the most important throughout our lives, the collective pain and suffering is unimaginable.

There’s a certain obsession with safety that I believe our society has falsely bought into. For example, daytime running lights used to be a small halogen bulb, perhaps 10 watts. Now, there are cars with many layered stacks of raw LEDs with candela measurements far exceeding our proper range of vision. It is saying that that person’s car is the most important thing you ought to see down the road. Animals, pedestrians, everything else, doesn’t get to grab your attention. Your vision system is so overloaded with the fact that “there’s that car,” that other possible visuals are much harder to see. Overall, the eye does not need that much light to see as long as the relative values are thoughtfully presented (as they used to be).

Nighttime is all but a faint memory as it is almost always ruined by the presence of stinging, streaking, damaging, high candella artificial lighting. We, as a species (and all species living in our vicinity) have lost a cherished and peaceful time; the hours of darkness that we once called, and still hypocritically call nighttime.

I don’t believe that our nation should have any real discussion about mental health until we face the reality that we’re degrading each other’s eyes, our most important sense, on a grand scale.

People are literally suffering and slowly dying from the continued assault on their eyes, and thus, their brains.

5/3/2024 – Amherst, NY – Photophobia

Discomfort, people and sleeping patterns, also disruptive for me from exercising early mornings or evenings with street lights over 2700k

5/1/2024 – San Leandro, CA – Astigmatism

I regularly walk home from work in the evenings, which in the colder months means walking down a dimly lit street. Having poor eyesight and balance, I’m always afraid that the blinding headlights of the cars zooming down the street will cause me to stumble off the sidewalk and into the path of an oncoming car. It certainly doesn’t help that some cars have headlights bright enough to leave afterimages in my vision, the last thing I’d want to deal with when walking at night.

April, 2024

4/30/2024 – Roseville, CA – Autism

I was standing in a room and another person’s cell phone buzzed with a message notification. The iPhone also pulsed its LED camera flash, which struck me in the eyes. I fell to my knees, breathing hard, and trying to fight off a panic attack.

4/30/2024 – Auckland, New Zealand – Migraine

LEDs cause me to suffer hemiplegic migraines of three day duration. This has resulted in partial confinement to my home, exclusion from municipal life, partial loss of employment and deterioration of health. The migraine results in blurred vision, dysaesthesia to the left side of my face and left arm with severe occipital pain. It has resulted in loss of consciousness on multiple occasions, one of which leading to a three part fracture to my right arm.

4/30/2024 – Swanage, England – Other

LEDs have been fitted as replacements for low pressure sodium street lights in the area where I live, which is within the Dorset Area of Outstanding Natural Beauty and immediately adjacent to a National Nature Reserve. The CCT rating of the LEDs that have been installed here is 4000K, which results in an eerie blue-white light which I find most unpleasant. The glare from the new lights is excessive, to the extent that when I walk beneath them I have to look down at the pavement rather than looking forwards along the road, to keep the lights out of my field of view. The light spill from these lights is excessive, resulting in the blue-white glare of the lights penetrating the windows of my house, which makes the interior of my home feel unwelcoming. I find that the light penetrating my home negatively affects my sleep quality, even though I have blackout blinds on my windows (the light still penetrates around the sides). This light intrusion was never a problem when the lights were low pressure sodium, as the orange glow was quite restful and not at all disturbing.

My view across the Nature Reserve at night is now compromised by the new LED street lights, which produce an incredible amount of sky glow. My home is just 400 metres from the coast, so there is often mist or fog in this area, and these LED street lights cause the whole area to light up as the light scatters in the mist. It is exceedingly unpleasant. One of the lights is 185 metres away from my house and is over ten metres below it, yet the street light casts a bright image of my window onto my bedroom wall. It is so bright it appears as if a car is parked on the hillside with its full-beam headlights directed straight at my house.

I have been so disturbed by these lights over the past two years that I believe my current condition of ophthalmic shingles (herpes zoster ophthalmicus) was triggered by them. I have been suffering photophobia, nerve pain, a facial rash with blistering and acute inflammation of one eye because of this condition, which has resulted in the hopefully temporary loss of useful sight in that eye. Since I am otherwise fit and healthy and have had no other stress to cause this condition to appear, I firmly believe that it is a direct consequence of the installation of LED lighting outside my home.

4/29/2024 – Irvine, CA – Photophobia

I have photophobia and photosensitivity due to multiple autoimmune conditions, and my life has changed significantly for the worse with the introduction of intense blue-white LED car headlights and the (ongoing) replacement of a large (about 16000) number of HPS lamps with LED fixtures (at correlated color temperatures of 3000 K and 4000 K) in my city (Irvine, CA).

Street lights:

Bright exposed LED street lights of any color, but particularly those above 2700 K, pose a health risk and serious disability barrier for me. Being sharp and pointed sources of high glare and discomfort, they can exacerbate my dry eye symptoms (I have Sjögren's syndrome) and the likelihood of an autoimmune flare-up. As a SLE (lupus) sufferer, I need to keep my daytime exposure to sunlight limited. It used to be that nights were my go-to option for long strolls, a drive to the grocery or restaurant, or a chance to bask in moonlight or stars at night—something that the gentler glow of shielded HPS lamps afforded. Over the past decade or so, and particularly in 2024, most of these basic human comforts have been taken away from me. I have pleaded with city officials to undo the damage and the discriminatory barrier that street lights cause me, and despite their efforts to mitigate a small portion of the damage (I

have met with a very modest degree of success) via glare shields in my immediate neighborhood, the city at night is becoming a cheap, vicious display of human sensibilities and human compassion gone awry.

Headlights:

Vehicle headlights with blue-white LED lights piercing into one's eyes from oncoming traffic are the stuff of nightmares—poorly-angled, egregious beam patterns pretending to be “safety features.” Even five minutes' exposure to this type of rampant glare while I drive or sit in a passenger's seat is sufficient to bring on severe eye pain and vision disturbances, headaches that last days, and emotional distress. It is appalling that those objecting to these ill-conceived and risky fixtures are not taken more seriously. Light pollution is a menace not just to humans but also to wildlife and foliage that suffer without shutters. Researching, designing, and implementing options that are conducive to safety and easy on the eyes must be high on the agenda, an urgent societal cause.

“So benumbed are we nowadays by electric lights that we have become utterly insensitive to the evils of excessive illumination”

— Jun'ichirō Tanizaki, In Praise of Shadows

This evil is eradicable; let's do what it takes.

4/28/2024 – Algonquin, IL – Photophobia

I can't go out at night anymore due to the plague that is LED light pollution. It brought me solace. I can't walk my dog or enjoy it at all anymore. I don't see wildlife at night anymore. I love nature and it's harder to appreciate now. I used to love driving but I can't without immediate extreme dizziness and migraine. I can't look outside at all when the sun starts to set. The building I work at has hideously bright LEDs that make me ill on a daily basis. I'm always squinting and averting my eyes. ALWAYS. It took many aspects and simple pleasures of my life away and I miss them dearly. Please do something about this! I want my life back!

4/28/2024 – Los Gatos, CA – Astigmatism

With the increase in use of LEDs in car headlights in addition to cars raised too high (or their headlights tilted too high), driving on the roads at night is an incredible hazard. I commonly find myself unable to ascertain details of what's going on behind me with traffic and the position of other objects/cars when faced with these blinding lights. I have to get creative to even be able to see, and still face blind spots due to these stupidly bright lights. It makes driving dangerous and I can't believe LED lights in headlights didn't get banned years ago.

Every day the government allows this is increasing the likelihood of accidents, health issues from staring at these lights and just a generally worse quality of life.

4/28/2024 – Amesbury, MA – None

I am blinded by these headlights, streetlights, floodlights morning and night every day. These lights are a hazard on the road and unnecessarily bright and incorrectly dispersed. This is a danger to everyone and regulations need to occur swiftly

4/28/2024 – Ottawa, Canada – Migraine

I am very sensitive to many things, including light and sound. I loved to walk a lot at night when the lights used Halide orange/pink lights. Now that the city has been switching out the Halide lights with super bright LED white street lights my walks are much less enjoyable. It feels like I'm walking around in the day time. I don't understand this obsession people have with lighting the world up like a giant football stadium. It's not necessary, it's not pleasant, it messes with your circadian rhythm. In my case, it can cause headaches and light fatigue. It also hurts our environment. Birds, animals and insects cannot

follow their natural rhythms because their environment is so bright at night now. Also, while driving, I'm blinded by headlights that use these horrendous white LEDs. I hope there is an invention of filters for the lights that are currently on vehicles and that it is enforced to add the filters to the headlights. A return to a golden soft colour would be preferable. As well as adding golden/orange filters to street lights and/or a different design that mimics old styles and colours of street lights. I really hope the government begins to regulate this. It's dangerous for the environment, people's health and eyes as well as creating an ugly world to look upon.

4/28/2024 – Milwaukee, WI – None

I am blinded by the brightness of the LED lights not only at night, but during the daytime. Even from a car behind me glaring in mirrors during daylight. Making it dangerous for me to drive. My eyes cannot adjust due to the brightness. I've swerved off the side of the road. Had to pull over. Which is not always possible when there's traffic behind you and traffic coming at you. This is a problem. There should be a limit on the brightness of the LED. This is such an easy thing to fix, but for some reason nothing gets done.

4/28/2024 – Onsted, MI – Astigmatism

I get eye pain and headaches by being exposed to 4500K or higher led lights
Whether I am driving at night or during a sunny day I am constantly shielding my eyes from led low beam headlights, running lights and brake lights. I have to adjust my side and rear view mirrors so I cannot use them to see properly to avoid being dazzled by led lights. If streetlights are on during the day and night I put my sun visors down because the leds are too bright. I drive over 1000 miles a week for my job. I dread cloudy, rainy days, dusk and night driving because of led lights. It's like torture to my senses. I am constantly blinded at night and have been during the day as well because of led headlights. If I am walking in a parking lot on a cloudy day I have to shield my eyes because led running lights are too bright. I have asked my neighbors to shield their outdoor lights or use softer 2700K led and it has caused me civil lawsuits and many legal problems do to this simple request. I have to wear dark sunglasses inside of places that have led lighting. I never had eye pain or headaches prior to led lights. LED headlights are the most dangerous aspect of driving by far. These lights have ruined normal day and nighttime activity for me were they are present.

4/28/2024 – Marshfield, WI – Astigmatism

LED headlights are blinding to the point where I have almost hit deer and other vehicles because I cannot see when the LED lights are coming at me

4/28/2024 – Lancaster, PA – Migraine

I am a migraine sufferer, and my trigger is photosensitivity, especially from intense bright lights. For the last several years auto makers have installed LED headlights and the color temperature they have chosen to use is blinding for oncoming drivers. There truly is no need for the adaptive or "moving part" of the headlight if ya warmer color temperature is programmed into the LED headlight. The extremely intense and blinding colder "blue" white light emitted from LED headlights just feet away is MORE dangerous than looking up at the sun. If focused intense cold bright white light is not dangerous why do welders use masks? It is literally the same reason and effect these OEM LED headlights have on oncoming drivers. How many people need to die before LED headlights are given a warmer light temperature? It is really not that hard. The technology already exists. Just look at the average teenager and how they use LED lights in their bedrooms. They have a small remote and they can change the color and or color temperature of the lights at their will. Thank you for your time.

4/28/2024 – Webster, MA – Other

Large pick up trucks as well as SUVs and other cars especially in MA., were it seems that tailgating is legal, get behind you and blind you from behind making it very difficult to see ahead of you. Same situation with vehicles approaching from the opposite direction.

4/28/2024 – Hamilton, Canada – Migraine

LED headlights on numerous occasions have given such intense sharp pain in my eyes that induced migraines, forcing me to pull to the side of the road and vomit. Glare from LED headlights has blinded me on thousands of occasions. In some of those instances it has taken more than 5 seconds to regain my sight. LED headlights and taillights physically hurt my eyes when I'm in close proximity to them (i.e. stoplight) forcing me to physically block them with my hand. The glare, blindness, eye pain and migraines caused by LED headlights have been confirmed by my optometrist, Dr. Otto Lee. Among eye care professionals, LEDs are a known and documented problem in every age group. Driving at night for longer than 30 minutes has almost always resulted in me getting a migraine, which was never the case before LED headlights existed. As a result, I have to limit my nighttime driving to less than 15 minutes. This limits how much work I can do, or how much I can visit my family, especially in the winter months. I've had to restructure my life around LED lights.

4/28/2024 – Chicago, IL – None

Every single day day or night I am blinded over and over again even driving short distances, I get spots and yesterday my eye was in actual physical pain as 1 car was so dam bright like the eclipse!!!! I'm collecting evidence to sue. We all should sue every driver who damages our vision and the government for allowing this!!! you CANNOT drive anymore EVER. Our Country is lost.

4/28/2024- Baltimore, MD – None

I can't for the life of me understand how this is even something I have to report.

Do none of these people drive at night or in inclement weather?

Do none of them pass billboards?

I used to love driving at night, even prefer it in some cases, but the new street lights are terrible, especially the defective ones that turn purple and create such harsh lighting I literally can't look at it. And the LOW beams on the new cars are more blinding than some of the old high beams!!!! I've flashed my lights at other drivers to alert them they're driving with high beams on and they flash back that it's their low beams.

Not only does it "daze" my eyes so that I see spots and can't see the road properly for a few seconds, but it also creates harsh lighting conditions that makes it hard to discern what's hiding in the shadows behind objects like trees and street signs.

And the blue hue of these LEDs that's being used is also not only harmful and exhausting on the eyes but colors things weirdly so it's harder to tell what's what.

The car I drive still has "older" (aka not blue or insanely bright) headlights, and I used to love renting cars for longer trips but now every car I rent has those headlights which makes it an unsafe environment to drive in, and in those vehicles I have other cars flashing their lights at me to alert me I'm driving with high beams when I'm not!!!! Which again, causes a "daze" and I see spots and my sight is not clear while I'm maneuvering roads at night.

This is clearly unsafe!!!

I'm in my 30s! I don't have other eye problems and I shouldn't sound like a crotchety old person when talking about driving at night! It's absurd!

In addition to all that, I've recently experienced billboards that switched from canvas to LED and LED signs outside of businesses that are so insanely bright you can probably see them from space. It might

be necessary during the day when the ambient light is brighter, but these things need light sensors and to adjust to a dimmer display during the night time. Because when I drive by it's like someone shining a flashlight in my eyes for a minute. It's absolutely not safe!!!!

I have a similar issue with the road crews that do construction on the highway at night. A bunch of those crews have these flood lights that are supposed to illuminate the area for them but they aim them in such a way that they blind the drivers too! Who's "genius" idea was that!?

Either the people making these things are blind as bats anyway or they just don't care.

4/28/2024 – Fareham, United Kingdom – None

Comment on statement "DOE researched studies and other publications to ascertain any known impacts of LED lamps on human health and has not found any evidence concluding that LED lighting used for general lighting applications directly results in adverse health effects.": 'General lighting applications' is not the same as directed beam applications & the FDA should recognise this situation in the case of headlights.

4/27/2024 – Rodeo, CA – None

I drive a fairly small car. On the highway at night, I find the excessively bright LED headlamps are both disrupting and an impediment to driver safety. As cars approach from the rear on either side, their headlamps reflected in my side-view mirrors are often so dazzling that I have to hold my hand in front of the mirror to be able to safely see the road. Even with my rear-view mirror in the "night" position, the brilliance of these headlamps when behind me can be distracting and blinding.

When approaching from the opposite direction, especially on narrow roads, they present even greater threat to driver comfort and safety, often causing momentary blindness. The worst cases are often Tesla headlamps, but many newer SUVs and pickup truck headlamps exhibit similar characteristics and are very nearly as bad.

These headlamps are unnecessarily bright, producing a spectrum of light that is especially blinding. They often illuminate not only the road, but the overhead road signs and the interior of the cars ahead of them. These headlamps are both a nuisance and a hazard to other drivers. And, in recent years, it seems to be getting worse. The headlamp arms-race is rapidly getting out of control at the expense of driver safety. Car makers must be made to comply with existing headlamp regulations, and, in fact, those regulations must be amended to consider ever increasing lux levels, higher color temperatures, and broader and taller light-pattern spread.

4/27/2024 – Tuscon, AZ – None

LED headlights are having a negative impact on my driving continuously. I have good night vision, excellent reflexes, am generally quite alert at night. But I rarely drive at night because of the hazard of LED headlights. They blind me to the point where I cannot see the road AT ALL. I have very mild cataracts, and LED headlights totally make me see nothing but white. The only way I can navigate safely is to MEMORIZE the road ahead while I can still see it, and DRIVE TO THE RIGHT of the oncoming car. If it is a road I am not familiar with, I might not be willing to drive it at all. It is too easy to be surprised by an unexpected curve when I cannot see the road. I drive prudently. I am not willing to put up with this hazard. So I do not drive at night if I can possibly help it, and this has an impact on my life, and my ability to get home safely if I end up having to stay someplace away from home longer than anticipated. People are going to do what they have to do to stay safe. The mere fact there are not more accidents is not proof that LED headlights are safe. It is only proof that people try to avoid hazards, and may not be driving at all during nighttime hours. And what kind of harm does a laser directly into the face do to the eyes any time of day? Unanswered question.

4/27/2024 – Izhevsk, Russia – Other

I cannot stand the LED headlights. It all started about 4 years ago when the amount of cars with LED headlights started to become noticeable. I understood at that time that I couldn't look at these lights because my mind goes sick, my eyes begin immediately to get irritated to a very considerable degree that it really hurts, my muscles are becoming stiff and I get nervous tics, that is involuntary rapid head movements. Moreover, I begin to feel some sort of panic attack. Back then the amount of cars with LED headlights in my area was around 12-16 percent and it was possible to get along. Since then, the situation only got worse. The amount of cars with very blinding and extremely piercing LED headlights nears probably already 40 percent in my area and I gave up at all staring in the oncoming traffic direction because I just cannot do it any more.

Because of a neurological condition, I was not allowed to drive a car and now it seems that it's even for the better. I cannot even imagine how people drive nowadays with this killer light. In my country we have day running headlights as a must so the headlights are on 24/7. While there is a sunny and clear weather I can somewhat go along the road facing the opposite direction, but with a gloomy weather, rainy weather, dusk, let alone nighttime I cannot physically do this. I have to avoid major roads going either along residential areas with much less traffic or going along a pavement that runs parallel to the incoming traffic, thus I somehow can move away my head and eyes and to see what is going on on the upcoming lane (a lane that is further away from the pavement). When using public transport I have to sit in that part of a bus/tram that has windows on the left right from the driver seat. so that I am spared to see the upcoming lanes with the upcoming traffic.

Thanks to all this, to a huge light pollution caused by LEDs and other numerous LED lights sources sprung up recently, I am almost confined at home during nighttime because I cannot stand this light. Only warm shielded LED in moderate quantities are more or less OK for me, but unshielded LEDs over 3000 K, bright LED shop signage, LED digital billboards and LED decorative building lighting makes me have fits of very severe panic attacks. I don't feel these attacks at all with outdoor halogen headlights and sodium/incandescent/CFL lamps or warm (2700 K and less LEDs in moderate quantities). The indoor LED lighting has less negative impact on me, though too much white indoor LED light is also uncomfortable while the indoor white fluorescent light is quite OK for me.

I am asking the US regulatory agencies to give the answer why LED light can trigger severe panic attacks while other light sources are quite alright and even uncomfortable. I am sure that I am not alone.

4/27/2024 – Elk Grove, CA – Autism

The Ziosk portable kiosk payment system has a bright LED screen. During dinner at a Chilis restaurant, we placed the kiosk face down on the table to avoid exposure to the LED Visible Light radiation from the LED screen. At payment time, my partner inserted the credit card for processing. At the completion of the processing, a large white LED light on the side of the kiosk suddenly irradiated me with white LED Visible Light radiation.

Due to the intensity of the white light, everything around me became black, except for the overwhelming feeling of bright white light. I felt disconnected from reality and as if I had entered a nightmare dream. I believe that I was partially unconscious. As I began to recover consciousness, I thought that perhaps I was staring at the LED flash on a cell phone, but that this was much more powerful. Then, as I became more aware of my surroundings, I realized that that the white light was from a large, white LED from the side of the Ziosk device.

I felt nauseous, so I fell to my stomach and tried to vomit, but I only ended up coughing. I then felt overwhelming anxiety and panic and went to the kitchen, demanding accommodation. A staff person then began yelling at me. I ran outside screaming. I continued to try to vomit, but only spit came out. At some point, both of my hands went numb and tingly.

The police were called. I dialed 911 to tell them not to turn on their LED flashing lights, but they had the red and blue flashing lights on, which further debilitated me.

4/27/2024 – Coudersport, PA – None

I am beyond infuriated with the use of bright white LED lights, I'm beyond frustrated with the searing eye pain that LED lights procure, I am beyond infuriated with the intense migraines that I suffer from when dealing with bright white LED lights. I am beyond frustrated with the amount of pain that is brought upon me due to these LED lights. They are an unnecessary monstrosity that never should have been brought into public view! They are NOT beneficial in any way, shape, or form. In fact they are detrimental to society and the environment.

4/25/2024 – Horseheads, NY – Astigmatism

I have astigmatism, which is 30% of the population of ALL ages. LED headlights and all bright white LED lights give me a wicked headache all day that pain meds don't touch. I rented a car recently with LED headlights & I had a huge headache from the headlights reflecting off of other surfaces. So I can't even drive a car with LED headlights. Just in the past couple of weeks, I almost was in 3 accidents while being blinded by LED headlights. I have no problem with halogen headlights. My work commute is on a 2-lane road for an hour & I need to work to live. I can't just stay home. What kind of life is that? So I have to put my hand up to block the headlights of the line of cars going the opposite way and look at the white line. One morning when it was raining thus more reflections, I was on a slight bend and looked up just in time to see an older SUV unsafely trying to pass a huge line of cars coming right at me in my lane. They were hurrying to get back over maybe 20 feet from the nose of my car. They had aftermarket LED headlights, so it was like two big floodlights that blinded me. The 2nd time was I was approaching a roundabout and pickup truck from the opposite side had blinding LED headlights. I checked to make sure no one was coming from the left before I got there, but *poof* a car appeared out of no where and honked at me. They almost hit me. I was so distracted by being blinded by the LED headlights, I didn't see them. And another time I was at a crosswalk and had been stopped for other pedestrians. But a car going the opposite direction had blinding LED headlights. I didn't see the additional pedestrians until I was passing over the crosswalk. I had looked too. The pedestrian had thankfully stopped. They were partially blocked by my windshield frame too. Again, I never had these problems with halogens. LED headlights are dangerous! Explain to me how lights that are 800x brighter than halogens are not blinding other people. LED headlights are marginalizing almost 50% of the population...specifically people with disabilities that include astigmatism (30%), migraines (17% women & 6%), and seizures (4%). And we can't forget age discrimination against seniors with cataracts. It also affects the circadian rhythm and eye health of both people and wildlife...all of them. That is why there are blue light filters on devices. Please do the right thing and ban bright white LED headlights and LED lights in general.

4/24/2024 – Mantua, NJ – None

Multiple incidents. I had to cancel 2 gym memberships because of bright LED lighting they installed, and there's no gym within a workable distance that doesn't have this insane lighting. I've cobbled together used gym equipment at home for more money than I could afford.

I can't work without special tinted glasses, or I get migraine symptoms within minutes. Even with this protection there are places I can't stand and directions I can't look because some of the LED fixtures are simply too intense and instantly painful.

I can no longer go to the local grocery store under any circumstances, it's too bright, and the list of places I can't go is growing as businesses install this harsh intense LED lighting.

Shop Rite, Five Below, Giant Fitness, Planet Fitness, Pantry One, T Mobile- these are some of the places I simply can't enter with any level of protection short of a complete blackout blindfold.

4/23/2024 – Dallas, TX – None

Makes me blind and hard to see road. Especially oncoming traffic when the lights are elevated higher than me.

4/23/2024 – Sammamish, WA – Autism

I'm a lifelong resident of the Seattle area, and I was diagnosed with Asperger syndrome in early childhood. Additionally, I have been diagnosed with depression, adjustment disorder, anxiety, attention deficit disorder (ADD), and I suspect that I might also have undiagnosed post-traumatic stress disorder (PTSD).

My biggest concern, especially in the last couple of years, is the dangerously bright light-emitting diode (LED) headlights that have been proliferating on our roadways at a disturbing rate since the early 2020s. They have had deleterious impacts on my quality of life since I can no longer exercise outdoors or drive at night without fear of being exposed to excessively bright LED headlights, experiencing sensory overload, and having meltdowns as a result. Even during sunny days, if drivers leave those LED headlights on, they are still too bright and extremely unpleasant to look at; it's particularly worse when it's cloudy or raining. LED headlights, especially those on Teslas, are some of the worst offenders, to the extent that I can recognize a Tesla from a distance solely by its headlights.

I am an avid lifelong cyclist and ride my bike all over King County. I have visited places such as Skagit County, Whatcom County, Snohomish County, Pierce County, Vancouver Island, Point Roberts, Snoqualmie Pass, Cle Elum, Vashon Island, Whidbey Island, the Kitsap Peninsula, and San Juan Island—all by bicycle. I have also ridden on nearly every regional trail in the Seattle area as well. However, my enjoyment of this activity has been greatly diminished by the excessive glare from these LED headlights, starting in the early 2020s. I have effectively lost one of the best stress relief methods I use to cope with my mental health issues, compounding my problems even more.

I also enjoy going on walks, and they have also been impacted by these LED headlights, making it unpleasant for me. I can no longer enjoy walking outside at night, robbing me of the ability to walk during times when it's cooling off during what are supposed to be pleasant summer evenings. Again, even during the day, I constantly encounter excessive LED radiation and glare from these LED headlights. Earlier this winter, my neighbor was driving a rental car equipped with LED headlights, which shone into my bedroom when they returned from work in the evening. They have since returned to their regular car, which still has halogen bulbs; however, one of their halogen lights has burned out, and I'm afraid the owner might install LED headlights to replace it. Despite this, I still have LED headlights shining towards my bedroom from passing drivers since I live near a "T" intersection. This situation makes me feel unsafe in my own home, particularly during winter when daylight is limited.

The distress caused by these lights has led to hospitalization, and I feel as though I'm under house arrest because of them, causing serious mobility issues for me. I have written to ALL, and I mean ALL, of my elected officials at the state and federal level, and the lack of any adequate response has only added to my frustration and anguish.

My ultimate goal is to urge the government and policymakers to acknowledge the problems of these excessively bright LED headlights and the dangers they pose to the general public. I advocate for regulations on their brightness and for using a warmer color temperature instead of the bluish light, which disrupts circadian rhythms and makes it difficult to spot road hazards at night.

Personally, I wish to see LED headlights banned completely from our roadways in favor of tungsten filament halogen bulbs, which are less harsh and easier on the eyes. The so-called benefits of LED headlights are outweighed by the risks they pose to the general public, and for many of the reasons I have cited, they need to be completely banned from our public roadways.

I'm extremely appalled and deeply troubled by the fact that I cannot safely use public rights of way that I have paid my tax dollars for because these LED headlights have formed a discriminatory barrier and

infringe on my constitutional rights to freedom of movement. I strongly urge the Food and Drug Administration to take action. I believe that these lights are a threat to national security and public health, and swift action must be taken. The current situation is completely unacceptable!

4/22/2024 – Wakefield, MI – None

Sitting in the left-turn lane waiting for the light to turn green, the pickup truck in the opposing left-turn lane had a new pinpoint LED turn signal that was so bright and so focused, was like a laser pointer shooting right into my right eye. Even in broad daylight the LED was so bright and so focused like a laser pointer I had to shield my eyes with my hand until the traffic light turned green and I completed my turn. Hours later I am still seeing spots with my right eye. Praying there is no permanent damage.

4/21/2024 – Davis, CA – Migraine

I used to go for long walks at night in my neighborhood for exercise and as therapy for my chronic eye migraine issue. Since 2016 when the City replaced all the sodium vapor street lights with LEDs, I have not been able to walk at night due to the harsh glare and brightness of the lights. They are nothing like the old lights. Add to that all the LED house lights that have been installed since then. My neighborhood has become a no go zone. I paid mello roos taxes for years to pay for all the green spaces I can no longer use because of these lights. Some are even on all day and hurt my eyes even in the day time. My health has suffered from not being able to get my walks – weight gain, high blood pressure. And this is just a fraction of the story. I can no longer drive at night because of the intense LED car headlights in my face. I cannot go into town at night to a restaurant or store for the same reason – LED lights everywhere. I cannot travel on a train or bus for the same reason. Airports also have these lights taking the joy out of plane travel. I have to shop for my groceries online in stores like Safeway that have installed these lights nationwide. If I get exposed to these lights, I will get a ripping eye ache that lasts for weeks, a feeling that the surface of my eyeballs has been lased.

4/21/2024 – Beaverton, OR – Autism

LED flashing lights cause me to suffer severe anxiety, panic attacks, and fear.

Appendix E – Public Policy

October, 2024 – [Solid State Lighting: Review of Health Effects](#) – International Energy Agency - Extensive report on the health impacts of LEDs.

April 19, 2024 – [Health Impacts, Disability Rights, and Regulatory Status of LED Streetlights](#) – Prepared for Henderson, NV by the Soft Lights Foundation.

January, 2021 – [Recommendations to Keep Dark and Quiet Skies for Science and Society](#) – United Nations – “If phosphor-converted amber LED or white LED lights are used, the amount of blue light ($\lambda < 500$ nm) should be below 5 per cent of the total spectral power. Generally, this requires using LED luminaires with a correlated colour temperature of 2200K or less.”

January, 2014 – [Solid-State Lighting: Early Lessons Learned on the Way to Market](#) – Describes LEDs as a radically new technology with directional light and unique characteristics.

New York State Public Service Commission Case 21-02623 - LED streetlights – (<https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=23-E-0727>)