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May 15, 2024

BY MAIL

Sophie Shulman, Acting Director
National Highway Traffic Safety Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Re: Petition to Set Limits on Correlated Color Temperature for Headlights and Daytime Running Lights

Dear Sophie Shulman,

Pursuant to CFR Title 49, Subtitle B, Chapter V, Part 552, Subpart A Petitions for Rulemaking, Defect, and Non-Compliance Orders, the Soft Lights Foundation hereby submits this petition requesting that NHTSA update FMVSS-108 to set minimum and maximum limits on the Correlated Color Temperature for headlights and daytime running lights. The petition is contained in the following pages.

Sincerely,

A handwritten signature in black ink that reads "Mark Baker". The signature is written in a cursive, slightly slanted style.

Mark Baker
President
Soft Lights Foundation
mbaker@softlights.org

cc:

Representative Mike Thompson
Representative Mark Pocan
Representative John Garamendi
Representative Judy Chu

Petition to Limit Correlated Color Temperature for Headlights and Daytime Running Lights

I. Public Comments

The public has serious concerns about the safety of LED headlights. Over 60,000 people have signed a petition demanding that blinding LED headlights be banned.¹ The petition contains thousands of comments describing the blinding glare, eye pain, and fear for their safety due to the use of LED headlights. The thousands of comments from this petition have been submitted to NHTSA on multiple occasions. Below are a few of the most recent safety comments about LED headlights.



susan hopf
1 week ago

Tired of being blinded on the road. It is not safe given that after exposed I cannot see a thing.



Zaneh Khuzam
3 weeks ago

I have been hurt multiple times by these bright lights and they are unnecessary



James Young
3 weeks ago

I value my eyesight and safety. Ultra bright headlights are damaging to the eye and dangerous as they blind you from seeing potential danger.



Andrew Donoghue
4 weeks ago

The lights are a safety hazard

On May 2, 2024, the Federation Internationale De L'Automobile published a report titled European Survey Glare on Road Traffic, which included a survey of 22,000 members and stating "3 out of 4 of the respondents believe that glare prevention should be better regulated."² The surveys also found:

- 71 % of the respondents find the glare unbearable or annoying

¹ <https://www.change.org/p/u-s-dot-ban-blinding-headlights-and-save-lives>

² <https://unece.org/sites/default/files/2024-05/GRE-90-40e.pdf>

- 32 % almost always or regularly feel dazzled
- 51 % of respondents pinch their eyes shut or even close them briefly
- 58 % have problems perceiving objects in the vicinity of the dazzling light source
- 30 % stated that they continued to see an image of the light source for a limited time after passing it (afterimage), or even felt pain.

Over 6,000 comments were received, with typical responses shown below:

♣ "The balance between "seeing and being seen" is gone. Car lights have become so bright that other road users are (almost) invisible. The one who gets to drive the brightest headlights has the best vision, those around are overruled by a large amount of light, which literally blinds."

♣ "I often find the current car lighting very irritating. It seems like some vehicles are constantly running high beams. And the adaptive/self-thinking lights are also irritating. Sometimes it looks like flashing disco lights. Up for improvement/fine-tuning."

♣ "In fact, I think that numerous one-sided accidents at night on the country road are due to those light cannons of the oncoming traffic, which simply make it impossible to see the road in front of you. In rain, it is then even more dangerous!"

♣ "I was recently so blinded by lights from the car behind me that I automatically looked in my mirror. As a result, I drove hard into the pavement and had a burst tire."

♣ "Apart from the far too bright light, the colour is also a problem. From intense white, it suddenly changes to a blue flash, as if a blue flashing light is approaching. Very confusing. 2nd issue are the tall SUVs. The intense white and bright light is so high that it shines straight into the mirrors. Extremely annoying."

The report states that one of the causes of the glare is blue light because "Additional, the cells on the retina are very sensitive to blue light, which increases the side effects like glare with light sources, which have a high part of blue light in their light colour distribution."

Figure 1 shows the extremely hazardous and dangerous glare from LED headlights as posted in the social media group r/fuckyourheadlights on Reddit.³ Notice the excessive glare and blue tinge of the LED headlights on the vehicle on the right, versus the yellow tinge and low glare of the traditional headlights on the vehicle on the left.



Figure 1 - LED Headlight Glare

II. Color

NHTSA sets the standards for vehicle lighting in the Federal Motor Vehicle Safety Standard Section 108. The Headlighting System Requirements are in section S10. Section S14 is titled Physical and photometry test procedures and performance requirements. Section S14.4 is titled General test procedures and performance requirements. Section S14.4.1 is titled Color Test and states:

The requirement applies to the overall effective color of light emitted by the device and not to the color of the light from a small area of the lens. It does not apply to any pilot, indicator, or tell-tale lights. The color of the sample device must comply when tested by either the Visual Method or the Tristimulus Method.

³ <https://www.reddit.com/r/fuckyourheadlights/>

There are two methods for measuring the color of a lighting system, the Visual Method and the Tristimulus Method. Section S14.4.1.3 is titled Visual method and states:

The color of light from the sample device must be compared visually with the color of the light from a standard. The standard may consist of a filter or limit glass. In the case of white, CIE Source A is used only as a color reference. The chromaticity coordinates of the color standards must be as close as possible to the limits listed. The color of the standard filters is determined spectrophotometrically.

CIE Source A refers to a tungsten filament light source with a color temperature of 2856 degrees Kelvin.⁴

France required selective yellow headlights from about 1937 to 1993 based on research by the French Academy of Sciences that yellow light was less dazzling than white light.⁵ Selective yellow improves vision by removing short, blue to violet wavelengths from the projected light. The short wavelengths are difficult for the human visual system to process properly, and they cause perceived dazzle and also increase glare effects in rain, fog and snow.⁶



Figure 2 - Selective Yellow Headlamp

⁴ <https://support.hunterlab.com/hc/en-us/articles/203995845-Equivalent-White-Light-Sources-and-CIE-Illuminants-an05-05>

⁵ <https://en.wikipedia.org/wiki/Headlamp>

⁶ https://en.wikipedia.org/wiki/Selective_yellow

III. Spectral Power Distribution

With the invention of LED headlights and LED daytime running lights, the use of 'color' and comparing color of the headlights and DRLs visually is no longer adequate. The light from LEDs is measured with spectral power distribution and is displayed either graphically or as a simplified single value called Correlated Color Temperature (CCT).

A spectral power distribution (SPD) graph shows the energy distribution for each wavelength emitted by the source. Figure 3 shows the SPD graph for an incandescent lamp. Notice that most of the energy is emitted as infrared (IR) light, which is also known as heat. This has important biological health and safety implications.

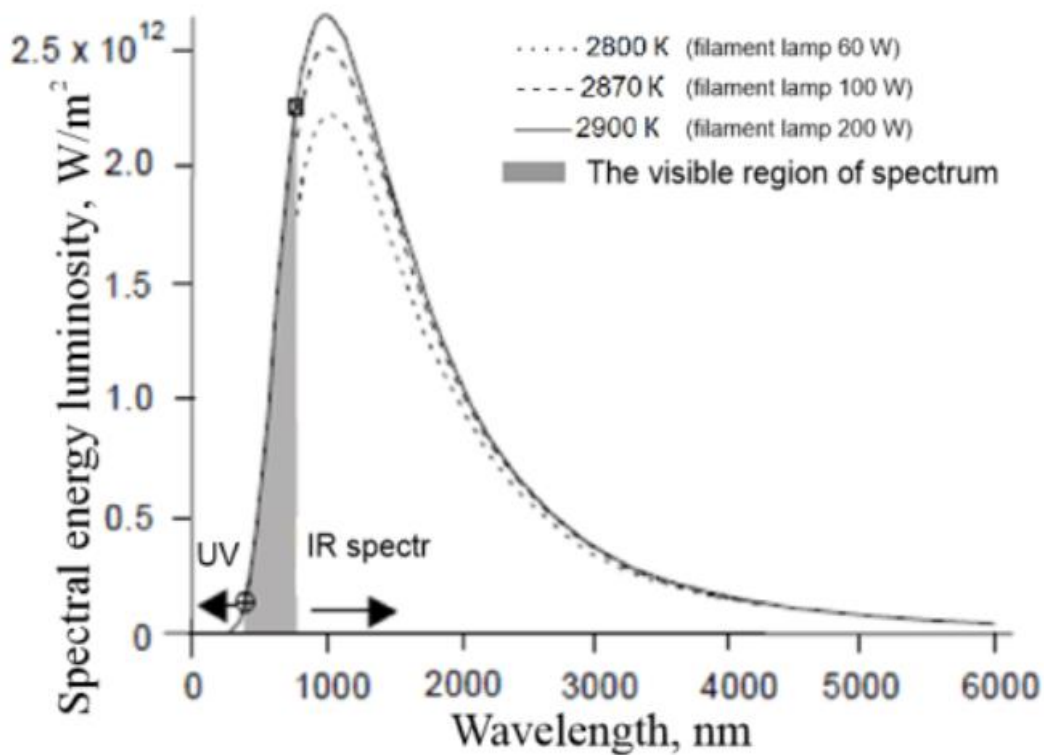


Figure 3 - Spectral Power Distribution Incandescent Lamp⁷

Figure 4 zooms in on the visible light part of the spectrum for an incandescent light. Note that there is very little blue wavelength, with most of

⁷ https://www.researchgate.net/figure/Radiation-spectrum-of-incandescent-lamps-with-different-power_fig1_335644149

the light being emitted in the red and infrared wavelengths. Also note the smooth curve from 400 to 800 nanometers.

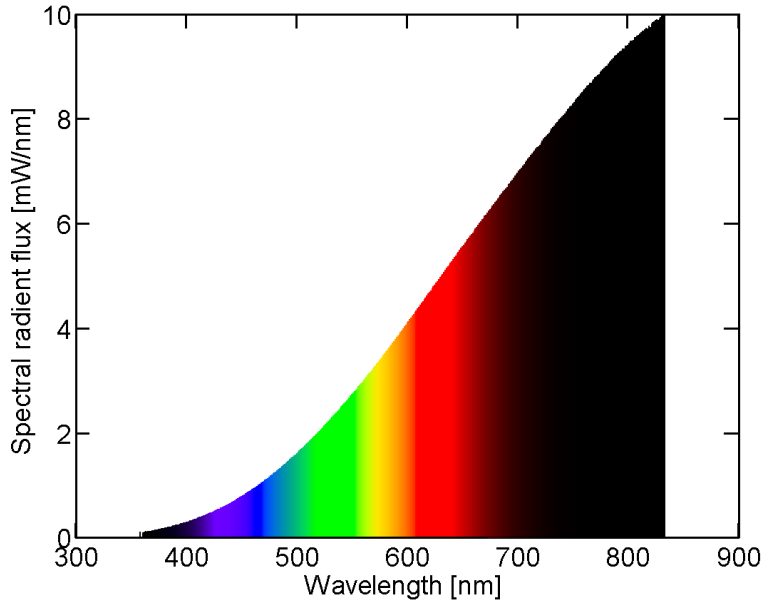


Figure 4- Spectral Power Distribution - Tungsten Filament

On the other hand, Figure 5 shows a typical LED vehicle headlight with an extreme peak of blue wavelength light and almost no red or infrared. Blue wavelength light is a significant cause of discomfort and disability glare, and the lack of red wavelengths allows the blue light to be more hazardous to the eye.

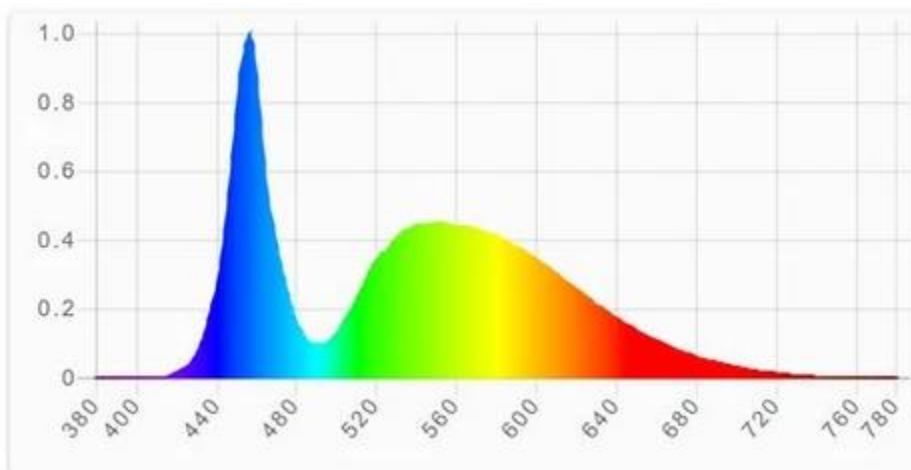


Figure 5 - 6500K Spectral Power Distribution

IV. Correlated Color Temperature

A spectral power distribution graph can be condensed into a single value called Correlated Color Temperature (CCT). A single value cannot convey all the spectral information, but it can provide a reasonable approximation of the amount of blue light emitted. The higher the CCT, the bluer the light, and thus the more discomfort and disability glare. CCT is measured in degrees Kelvin (K).

As noted above, a CIE Source A illuminant has a CCT of 2856K. This CCT value represents the spectral power distribution graph shown in Figure 4. The SPD graph shown in Figure 5 has a CCT of 6500K, which is the same value as a CIE Source D65 illuminant representing noon daylight. A value of 6500K indicates far more hazardous and glare-inducing blue wavelength light and is inappropriate for nighttime use.

Tungsten filament headlights with a CCT of 2856K generated very few complaints to NHTSA. The introduction of halogen headlights increased the CCT to approximately 3000K. Xenon High Intensity Discharge headlights further increased the CCT to 3000K, 4000K, 5000K and higher. NHTSA received about 5,000 complaints regarding glare in the 2001 public docket.⁸ The public headlight petition that was started in 2016 after LED headlights started appearing in vehicles has received over 60,000 complaints about blinding glare.⁹

LED headlights and daytime running lights that have been installed on vehicles since about 2007 have a CCT of approximately 6500K. Numerous studies have shown that this high 6500K color temperature creates dangerous glare and is a photobiological hazard. NHTSA has not studied the impacts of glare from LED headlights and has not published the required performance standards for LED headlights which would place a limit on Correlated Color Temperature, even though LED headlamps are found to be inferior to conventional headlamps with respect to glare and even though smaller lenses create greater chromatic aberration.^{10,11}

We propose that NHTSA set CCT limits based on the value 2856K, which is the CCT of CIE Source A and which is also in the yellow range, for headlights

⁸ <https://www.nhtsa.gov/sites/nhtsa.gov/files/811043.pdf>

⁹ <https://www.change.org/p/u-s-dot-ban-blinding-headlights-and-save-lives>

¹⁰ <https://link.springer.com/article/10.1007/s12239-010-0087-0>

¹¹ <https://opg.optica.org/ao/viewmedia.cfm?uri=ao-56-17-5106&seq=0&html=true>

and daytime running lights for photobiological safety and to limit discomfort and disability glare.

V. Previous NHTSA Response

In the rejection letter for petition NHTSA-2022-0109, Ann Collins wrote, "NHTSA *believes the current research supports that FMVSS No. 108 contains the appropriate requirements to address these areas. NHTSA agrees that glare can have a negative safety impact and believes FMVSS No. 108 addresses that issue.*" However, FMVSS-108 contains no limit on blue wavelength light, which is a major contributor to glare, and thus Ann Collins' claim that FMVSS-108 contains appropriate requirements to address glare caused by the use of LED technology is not justified.

Ann Collins also wrote, "*While LED integral beam headlamps can be made to have a smaller footprint compared to lamps that use halogen or high-intensity discharge (HID) light sources, which can be perceived to be more uncomfortable at closer distances, an agency report to Congress, "Nighttime Glare and Driving Performance," stated that when viewed from more than approximately 100 feet, the size of a headlamp has little impact on discomfort and that no research has identified any impact of oncoming headlamp size on the visibility of the person experiencing glare.*"¹²

The above statement is based on a report that was delivered to Congress in 2007, prior to the widespread introduction of LED headlights. In that glare report to Congress, NHTSA writes, "*New headlamp technologies (e.g., light emitting diodes), even newer than HID and projector headlamps, are beginning to be introduced on vehicles in the United States.*" and "*Indeed, new headlamp systems may aid in reducing the tradeoff between visibility and glare by allowing systems to respond dynamically to the driving situation. At the same time, these dynamic headlamp systems will present new challenges for regulation of vehicle lighting.*"

Thus, at least as far back as 2007, NHTSA was aware that the impacts of LED headlights needed study and that regulation of LED technology was a requirement. Yet rather than notify the automakers that they were required to comply with 5 U.S.C. 551-559 and petition NHTSA for authorization to sell vehicles with LED headlights and provide proof to NHTSA that LED headlights were safe, NHTSA took no action. Previous petitions by the automakers for modifications to FMVSS-108 required approximately a decade for NHTSA to study the new technology and eventually grant approval of the petition. In the

¹² https://www.nhtsa.gov/sites/nhtsa.gov/files/glare_congressional_report.pdf

case of LED headlights, the entire regulatory process was skipped, with LED headlights simply appearing on roadways with no regulation at all, putting public safety at risk.

VI. Food and Drug Administration

The FDA is mandated by 21 U.S.C. 360ii to collaborate with other federal agencies, such as NHTSA, to establish performance standards for electronic products that emit electromagnetic radiation, including LED vehicle headlights and LED daytime running lights. 21 U.S.C. 360ii(a)(6) states, "The Secretary shall establish and carry out an electronic product radiation control program designed to protect the public health and safety from electronic product radiation. As a part of such program, he shall consult and maintain liaison with ... other appropriate Federal departments and agencies on ... the development of performance standards pursuant to section 360kk of this title to control such radiation emissions."¹³ Nothing in 21 U.S.C. 360ii limits NHTSA from initiating this collaboration with the FDA. Since the FDA is the only federal agency that is authorized to publish performance standards for electronic products that emit electromagnetic radiation, and in the absence of FDA regulations for the spectral power distribution of LED headlights and LED daytime running lights, NHTSA must initiate the collaboration with the FDA to set performance standards for spectral power distribution and Correlated Color Temperature for vehicle headlights and daytime running lights.

VII. Requested Action

1. Amend FMVSS-108 to include Section S10.19 Spectral Power Distribution. Section S10.19 should set the Correlated Color Temperature for headlights and daytime running lights to 2000K minimum and 2900K maximum or other values that NHTSA and the FDA determines ensures best visual acuity for the driver, and which ensures the comfort, health, safety, and civil rights of any oncoming driver, pedestrian, bicyclist, wheelchair user, child, and all others and which ensures photobiological, neurological, psychological, and hormonal safety for Visible Light radiation emitted by an electronic product.

¹³ <https://www.law.cornell.edu/uscode/text/21/chapter-9/subchapter-V/part-C>

APPENDIX A – BLUE LIGHT HAZARD

April 17, 2024 – [The Position Index of Overhead LED Sources Under Different Spectral Power Distributions and Background Luminances](#) – “LED products can exhibit very high luminance values. Even when used at high angles they can be uncomfortably bright. Some emitters measure at over 1,000,000cd/m², although those luminances are usually reduced with the use of diffusing materials or indirect optical systems.”

February 2, 2024 – [The blue light hazard and its use on the evaluation of photochemical risk for domestic lighting. An in vivo study](#) – Light spectrum matters, not just blue light. The risk to cellular death from Visible Light has been drastically underestimated.

January 16, 2024 – [Nighttime Outdoor Artificial Light and Risk of Age-Related Macular Degeneration](#) – A study of 126,418 subjects found a correlation between Artificial Outdoor Light At Night and Exudative Age-related Macular Degeneration.

December 17, 2023 – [Lighting for the Aging Eye](#) – Discussion of the impacts of light on an older person’s eyes.

May, 2023 – [Blueberry Stem Extract Suppresses Blue Light-Emitting Diode Light-Induced Endoplasmic Reticulum Stress on Retinal Photoreceptor Cells](#) – Blue light causes retinal photoreceptor damage via oxidative and endoplasmic reticulum (ER) stress.

April, 2023 – [Blue light exposure collapses the inner blood-retinal barrier by accelerating endothelial CLDN5 degradation through the disturbance of GNAZ and the activation of ADAM17](#) – Blue light causes cellular harm.

March, 2023 – [Blue Light—Ocular and Systemic Damaging Effects: A Narrative Review](#) – The harmful effects of blue wavelength light.

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

January, 2023 – [Blue light pollution causes retinal damage and degeneration by inducing ferroptosis](#) – Blue wavelength light causes cell death.

July 27, 2022 – [Age-dependent effects of blue light exposure on lifespan, neurodegeneration, and mitochondria physiology in *Drosophila melanogaster*](#) – Blue wavelength light is even more toxic as we age.

April, 2021 – [What is Photobiological Safety Standard?](#) – Discussion of IEC 62471 and concern about eye damage from LEDs and the classification groups Risk Group 0, 1, 2 and 3.

July 14, 2020 – [Comparison of ophthalmic toxicity of light-emitting diode and organic light-emitting diode light sources](#) – LEDs are toxic to the eye, OLEDs less so.

February, 2020 – [Light-induced Retinal Ganglion Cell Damage and the Relevant Mechanisms](#) – Retinal Ganglion Cells in the eye are damaged by excessive visible radiation.

August 21, 2019 – [Mitochondria as Potential Targets and Initiators of the Blue Light Hazard to the Retina](#) – Describes the structure of the eye at the cellular level and details the photobiological hazards and serious injury to the eye caused by blue wavelength light.

December 18, 2018 – [Research progress about the effect and prevention of blue light on eyes](#) – Quote: “High energy short wave blue light between 415 and 455 nm is the most harmful. Direct penetration of crystals into the retina causes irreversible photochemical retinal damage.”

December, 2018 – [Exposure to excessive blue LED light damages retinal pigment epithelium and photoreceptors of pigmented mice.](#)

June 29, 2017 – [Effects of white light-emitting diode \(LED\) exposure on retinal pigment epithelium *in vivo*](#)

February 18, 2017 – [Light-emitting-diode induced retinal damage and its wavelength dependency *in vivo*](#)

October, 2016 – [Blue Light: What are the Risks to Our Eyes?](#) – International Review of Ophthalmic Optics – Quote: *We cannot seriously deny the potential ocular risks from overexposure to blue light. It is important not to forget that it is the cumulative effect over time that is dangerous and must be fought.*

April 8, 2015 – [Retinal damage induced by commercial light emitting diodes \(LEDs\).](#)

March, 2014 – [White light-emitting diodes \(LEDs\) at domestic lighting levels and retinal injury in a rat model.](#)

January, 2011 – [Retinal light toxicity](#) – Discussion of eye hazards from light and different types of toxicity.

APPENDIX B – GLARE

May 2, 2024 - [European Survey - Glare on Road Traffic](#) - Submitted by Federation Internationale de l'Automobile to the United Nations Economic Commission of Europe.

April 26, 2024 - [Glare on Road Traffic - European Consumer Study 2024](#) - Submitted by Federation Internationale de l'Automobile to the United Nations Economic Commission of Europe.

October 1, 2023 - [Assessment of Headlamp Aim for New Vehicles](#) - NHTSA report.

March 22, 2023 - [Performance investigation of different headlights used in vehicles under foggy conditions](#) - LED headlights are worse for driver detection times in fog.

July 23, 2022 - [Why are LED Headlights so Glaring?](#) - In this two-part video, Dr. Peter Veto explains the technical details of why LED headlights are so dangerous. LEDs are a small source, thus emitting more glare and LED headlights emit more high-energy blue wavelength.

June 23, 2021 - [Adaptive Driving Beam and Glare](#) - Dr. Peter Veto discusses the fallacy of ADB headlights.

March, 2021 - [Pedestrian Fatalities by State: Preliminary 2020 data](#) - - This report shows that pedestrian fatalities increased by 21% from 2019 to 2020.

September, 2008 - [Nighttime Glare and Driving Performance: Research Findings](#) - NHTSA Report on glare which does not include LED headlights or LED daytime running lights.

APPENDIX C – MEDIA STORIES

May 12, 2024 – [Elana Scherr: Are Modern Headlights Too Bright?](#) – Car and Driver magazine publishes an article about super-bright LED headlights that are frying our corneas.

April 24, 2024 – [Vehicles with White LED Headlights to Face Legal Action in this Indian State](#) – The Indian government is taking legal action against aftermarket LED headlights.

April 4, 2024 – [5 On Your Side: New headlights could end nighttime blinding, but haven't hit US roads yet](#) – Misstates the impacts of ADB on blinding headlights.

April 2, 2024 – [The Problem with LED Headlights](#) – Sonoma State student editorial on blinding LED headlights.

April 2, 2024 – [Ministers to launch review into headlight glare as drivers report being dazzled](#) – News release from the Royal Automobile Club that the UK Department for Transport is opening an investigation into LED headlight glare.

March 29, 2024 – [America's Drivers Agree: LED Headlights Are Just too Bright](#) – Effort by Soft Lights Foundation to petition NHTSA is mentioned.

March 19, 2024 – [Why Are Headlights So Bright? There May Be a Fix, But It's Complicated](#) – WBZ TV news story with Soft Lights Foundation mentioned prominently at the end.

January 17, 2024 – [The Maine Millennial: Car Headlights Are Out of Control](#) – Opinion article about blinding LED headlights.

January 6, 2024 – [Urgent Warning Over 'Blinding' New-style Headlights Experts Label as "Potential Killers" – Is Your Car Affected?](#) – Review of Baroness Hayter UK report on LED headlights.

December 22, 2023 – [Wondering Why Headlights Seem Brighter? Placement is Part of the Problem, Experts Say](#) – More misinformation from IIHS and Consumer Reports.

December 19, 2023 – [Comedian John Oliver rants about LED headlights](#) – John Oliver delivers commentary and hazardous LED headlights.

December 14, 2023 – [LED headlamps draw attention over safety concerns](#) – Discussion of LED headlight glare, NHTSA, and ADB.

December 11, 2023 – [Why Are So Many American Pedestrians Dying At Night?](#) – New York Times article makes no mention of blinding LED light sources.

December 11, 2023 – [LED Headlights Creating Glaring Problem for Drivers](#) – Newsday article.

December 9, 2023 – [Residents Angered Over USPS Delivery Vehicle Change in Massachusetts](#) – Live 95.9 radio station host discusses being “completely blinded” by the LED headlights on USPS trucks.

November 16, 2023 – [Luke Hamnett Comments on LED Headlights](#) – He says he “Can’t see a f...’in thing with these LED headlights.”

May 15, 2023 – [Car headlights are making driving unbearable, says an eye doctor](#) – Article quoting the College of Optometrists worrying about excessively bright headlights.

May 13, 2023 – [Older Drivers Forced Off the Road by Dazzle of Ultra-Powerful Headlights](#) – The Royal Automobile Club acknowledges for the first time that the problem with LED headlights is not misalignment, but unregulated intensity.

May 11, 2023 – [Blinded by the Light: U.S. Cars Still Lack Glare-Reducing Headlights](#) – NBC Today story that places the blame for blinding headlights on misalignment, rather than unregulated intensity.

April 15, 2023 – [Thousands of Drivers Sign Petition Calling for Ban on Blinding Vehicle Headlights](#) – ABC6 Philadelphia reporter on our petition.

March 15, 2023 – [Blinded by the headlights](#) – Opinion article in the Gustavian Weekly.

February 9, 2023 – [Hawaii Bill Introduced to Regulate Blinding Headlights](#) – HB 541 requires headlights to be inspected at inspection stations on a regular basis.

January 13, 2023 – [Times Colonist – Road Safety: The Fight to Ban Dazzle Headlights](#) – John Ducker makes clear that the government has failed to properly regulated LED headlights.

December 11, 2022 – [Blinded by Headlights, Driver Veers Into Creek](#) – News story of driver saying he was blinded by headlights.

March 28, 2022 – [Bright Headlights: What You Can Do To Minimize Their Impact On You While Driving](#) – Blames the individual rather than the technology.

March 25, 2022 – [The Era of the Too-Bright-Headlight is \(slowly\) Coming to an End](#) – Misses the point about non-uniform LED light.

March 4, 2022 – [GM Headlight Recall](#) – NHTSA ordered the recall of 727,000 vehicles with overly bright headlights.

February 28, 2022 – [202 Between New Milford + Litchfield is Bright Headlight Hell](#) – Radio Station op-ed about blinding LED headlights.

February 28, 2022 – [Dolphins Challenge](#) – This TV news story shows dozens of brutal LED bicycle headlights.

February 27, 2022 – [Letter to Editor – Bright Headlights Create Hazards for Other Drivers](#)

February 22, 2022 – [NHTSA publishes ADB final rule in the Federal Register](#). – There are 586 references to glare in the ADB final rule, but zero references to blue wavelength light.

February 16, 2022 – [Patients Complaining of Glare and Double Vision Due to LED Lights](#) –

February 15, 2022 – [Rising U.S. Crash Deaths Are No Accident](#) – Interview with Jessie Singer, an advocate for better design and for laying blame on the system, not the individual.

February 15, 2022 – [Vehicle Crashes, Surging](#) – New York Times article, but no mention of LED headlights or LED flashing lights.

February 9, 2022 – [Rivian R1T Crash](#) – Shows LED headlights, LED streetlights, and LED flashing lights.

February 3, 2022 – [Pedestrian Crash Avoidance Systems Cut Crashes – But not in the Dark](#) – Research paper by IIHS that contains invalid assumptions and does not mention the glare from oncoming LED headlights.

February 1, 2022 – [NHTSA Approves ADB Headlight Systems](#) – This final rule will allow Adaptive Driving Beam headlight systems, even though they have been shown not to work properly.

February 1, 2022 – [US Road Deaths Increase at Record Pace](#) – Secretary of Transportation, Pete Buttigieg, declines to take any action to study the impacts of LED headlights on road deaths.

February 1, 2022 – [Tesla Recall: Full Self-Driving Software Runs Stop Signs](#) – This article quotes NHTSA referring to the Vehicle Safety Act which prohibits manufacturers from making intentional design choices that make vehicles unsafe. LED headlights and Daytime Running Lights are clearly design choices that make the vehicles unsafe.

January 26, 2022 – [Man Hit by Car Dies](#) – Pedestrian hit by vehicle.

January 24, 2022 – [Here are the Worst Automotive Laws](#) – This is a story in Jalopnik. Item 3 lists blinding headlights.

January 24, 2022 – [Miami-Dade Freeway](#) – NHTSA, IIHS, and the NSC say there is nothing wrong with this scene.

January 20, 2022 – [Ford F-150 Hybrid with Flickering Daytime Running Lights](#) – Start at the 5:50 mark. This video shows how LEDs flicker, causing neurological trauma.

January 15, 2022 – [Smart Headlights Are Finally On Their Way](#) – This story in the New York Times is filled with industry talking points about Adaptive Driving Beam, but discusses none of the negative sides of LED light beams.

December 23, 2021 – [California Drivers Endangered by Ultra-Bright Headlights](#) –

December 7, 2021 – [Super-bright headlights a hazard](#) – Letter to the Editor in Mangilao, Guam.

December 5, 2021 – [New LED Headlights are Blinding Drivers](#) – Letter to the Editor in Palm Springs, California.

December 3, 2021 – [Headlight Glare Causes Death](#) – A driver was blinded by headlights, and then ran over and killed a pedestrian.

November 23, 2021 – [Shine a Little Light On: U.S. Headlight Standards to Get Major Update Thanks to Infrastructure Law](#) – Motortrend.com confirms that LED headlights are illegal.

November 5, 2021 – [Driver Passing Police Vehicle in Australia](#) – Video shows dangerous glare shined into the eyes of a police officer as another vehicle passed him.

October 28, 2021 – [2021 Traffic Deaths Increase 18% over 2020](#) – LED headlights not mentioned.

September 25, 2021 – [LED Taillights are Too Bright](#) – An automotive journalist describes how painful it is to sit behind a vehicle with LED taillights.

June 16, 2021 – [ABC News 13](#) – Houston TV News story on blinding headlights with Soft Lights interview.

June 5, 2021 – [Blinded by Brighter Headlights](#) – New York Times article includes quotes from Soft Lights.

February, 2021 – [Pedestrian Hit by Vehicle](#) – Our assessment is that the LED headlights from the truck blinded the driver of the oncoming vehicle who then could not see the pedestrian.

February, 2021 – [Trucks Pulling a Truck](#) – High-glare LED headlights in the snow.

March 16, 2020 – [Aftermarket LED Headlights are Illegal](#) – This article in ARS Technica makes it clear that aftermarket LED headlights are not approved by NHTSA and are therefore illegal.

February 15, 2019 – [Blinded by the Light? Experts Say LED Lights Can Hurt Our Eyes](#) – News video.

January 1, 2019 – [Laser light for cars](#) – Osram now claiming 600,000,000 nits, 3.5 Watts of optical output, and blue wavelength 447nm for laser headlights.