

Glare

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“Disability Glare” is the worst effect of undesirable lighting

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Glare-free zone: only above!

“Light pollution” is one of the most unfortunate names.

Light pollution in traffic scenarios degenerates into light contamination.

Lighting engineers originally meant well and increased the intensity to improve a driver’s vision, however this has escalated out of control now specifying excessively high-energy spectra angling to isotropy, thereby doing a disservice to road safety and accident victims.

“Disability Glare” is the worst effect of undesirable lighting.

Massive glare resulting from excessively blinding light intensities can result in complete disorientation and the inability to act.

The duration of glare after-effect i.e. disability, discomfort, dazzling, distracting and scotomatic (photostress) glare (3) varies.

An extremely dazzled driver feels as if they are driving in a *‘pitch-black tunnel’*.

The period of “Disability Glare” varies with age for a young person it may be only five seconds but for an older person (retinal disease, macular degeneration, old light damage etc.) maybe up to ten seconds:

Speed			Metres Travelled	
km/hr	m/s	mph	5 secs	10 secs
32	9	20	45	90
50	14	31	70	140
100	28	60	140	280
150	41	93	205	410

During this period of glare induced blindness there may be other traffic-relevant objects which are not perceived during the retinal recovery period. a driver could miss a person or cross a junction with fatal consequences.

Glare as the trigger or the root cause of a traffic accident:

This is not recognized by the courts as a mitigating factor, since "drivers are obliged to adapt their driving style to the circumstances, i.e. to reduce driving speeds in this case and to drive more carefully accordingly."

This is a contradiction: The bright, bluish-white headlight beam, set to the point of phototoxicity, 'hit the eyes without warning - 'like lightning'.

Headlights from trucks, buses, SUVs, emergency vehicles, e-scooters, bikes including unphysiologically unsuitable building floodlights and extremely bright traffic lights that shine above the horizontal compete in terms of their potentially fatal glare effects.

Bluish bright light massively worsens the situation, yellowish light scatters less and improves contrast vision.

Visually impaired people are much more sensitive to glare, those with minor eye impairments or clinically insignificant (peripheral) lens irregularities and even those with healthy eyes suffer from misplaced, extremely blinding light beams interspersed with impenetrable 'curtains of fog'. Intense, blue-dominated light can make the situation much worse. Yellow light scatters less, distracts less and improves contrast vision.

High light intensities blind oncoming pedestrians and drivers, they are an absolute contraindication.

“Disability Glare” and “Distraction Blindness” are absent in police, legal and insurance terminology - accident causation can be incorrectly recorded.

This creates, to put it mildly - imbalances in the legal system, but above all in the criminal jurisprudence on criminal law.

Conclusion:

A philosophy of ‘superlatives’ is not only wrong in politics, but also in road traffic, especially when it comes to light intensities in road traffic scenarios, these should be banned without exception - worldwide.

Reference:

1 Casado P et al (2023) A study on disability glare vision in young adult subjects. Sci Rep. ;13(1):3508.

2 Boadi-Kusi SB et al (2021) Disability glare and nighttime driving performance among commercial drivers in Ghana. J Occup Health. Jan;63(1):e12279.

3 Mainster MA et al (2012) Glare's causes, consequences, and clinical challenges after a century of ophthalmic study. Am J Ophthalmol;153(4):587-93.

4 Heilig P (2023) Lichtempfindlichkeit, Photophobie <https://ub.meduniwien.ac.at/blog/>

5 Heilig P (2021) Distraction Blindness <https://ub.meduniwien.ac.at/blog/?p=36064>
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* Disability glare <https://www.setick.com/what-is-disability-glare/>

Gender: beyond

Interest: no conflict