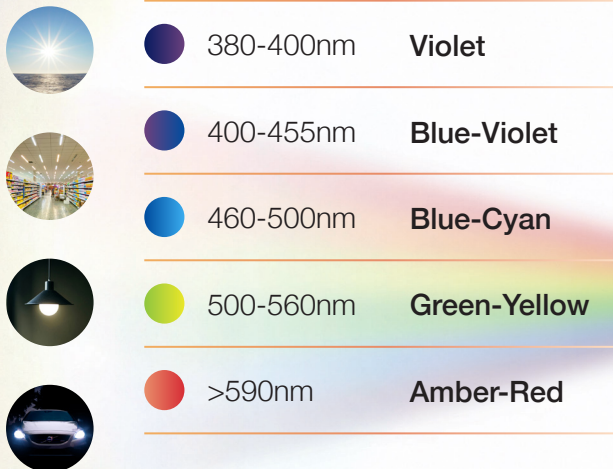


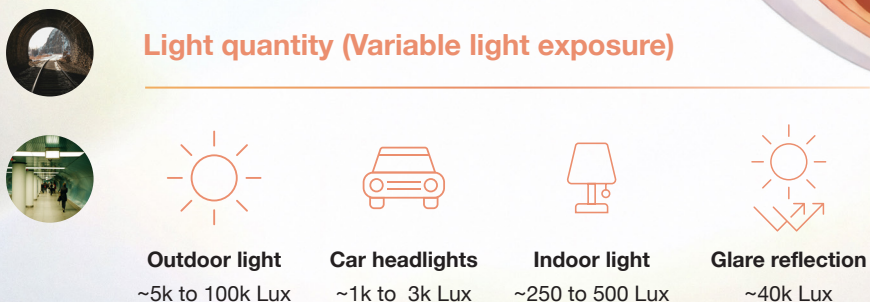
Inadequate light quantity and quality stress the visual system
triggering physiological responses and exacerbating ocular symptoms

• LIGHT COMPONENTS

Light quality (Light Spectrum)



Light quantity (Variable light exposure)



• POTENTIAL PHYSIOLOGICAL EFFECTS

Physiological responses to light quality

► Symptoms

Ultraviolet light¹
High energy absorption

Higher cataract risk

Blue-violet light^{2,3}
Retinal oxidative stress

Potential acceleration of retinal aging

Blue circadian light⁴
IpRGC stimulation

Potential sleep disorders
Depending on the time of day light is received

Physiological responses to light quantity

► Symptoms

Retinal overstimulation⁵
Bleaching

Blurry vision
Transient vision loss

Retinal continuous adaptation⁶
Photopigment regeneration

Delayed visual recovery

Increased neuronal activity⁷
Hyperexcitability

Higher glare sensitivity
Migraine sensitivity

1. Yam, J. C. S., & Kwok, A. K. H. (2014). Ultraviolet light and ocular diseases. *International Ophthalmology*, 34(2), 383–400. 2. Arnault, E., et al. (2013). Phototoxic action spectrum on a retinal pigment epithelium model of age-related macular degeneration exposed to sunlight normalized conditions. *PLOS ONE*, 8(8), e71398. 3. Barrau, C., et al. (2024). Prevention of Sunlight-Induced Cell Damage by Selective Blue-Violet-Light-Filtering Lenses in A2E-Loaded Retinal Pigment Epithelial Cells. *Antioxidants*, 13(10), 1195. 4. Silvani, M. I., Wender, R., & Perret, C. (2022). The influence of blue light on sleep, performance and wellbeing in young adults: A systematic review. *Frontiers in Physiology*, 13, 943108. 5. Mainster, M. A., & Turner, P. L. (2012). Glare's causes, consequences, and clinical challenges after a century of ophthalmic study. *American Journal of Ophthalmology*, 153(4), 587–593. 6. Wang, S., & Zhao, J. (2022). New perspectives on light adaptation of visual system research with the emerging knowledge on non-image-forming effect. *Frontiers in Built Environment*. 7. Digre, K. B., & Brennan, K. C. (2012). Shedding light on photophobia. *Journal of Neuro-Ophthalmology*, 32(1), 68–81. Transitions and the Transitions logo are registered trademarks of Transitions Optical, Inc.

Ultra dynamic lenses provide the optimal light for better vision^{1,2}
and eye protection^{3,4} in changing light

• LIGHT IMPACTS VISION

Bright light



- Blurry vision
- Transient vision loss

Light variation



- Higher vision recovery time
- Discomfort glare
- Eye strain

• LIGHT IMPACTS EYE PROTECTION

UVA / UVB



- Potential damage of the skin and the eye's anterior segment⁵

Blue-Violet light³



- Potential harmful range of light involved in accelerated retinal aging^{3,6}



Transitions®
GEN S™ Lenses

• VISION BENEFITS WITH TRANSITIONS® ULTRA DYNAMIC LENSES

Compared to static clear lenses

Better vision quality in changing light



- 2.5x faster vision recovery¹
- 2x less squinting behavior for better comfort²

Light protection



- Blocks 100% UVA & UVB
- Up to 32% blue-violet light filtered indoors³
- Up to 85% blue-violet light filtered outdoors³

Light stabilization



- Stabilizes 90% of light exposure compared to 30% with static clear lenses⁷

1. Duarte-Toledo, R., Mompean, J., Paniagua-Díaz, A., Lakhchaf, N., Kobia-Acquah, E., Artal, P. and Barrau, C. (2025), A new light-adaptive lens improves contrast sensitivity when transitioning from bright to dark environments. *Acta Ophthalmol*, 103. 2. Harth JB, Hammond BR, Wysocky CJ, Renzi-Hammond LM. New photochromic spectacle lenses improve glare discomfort and photostress recovery. *Results in Optics*. 2025 Feb 1;18:100783. 3. Blue-violet light is measured between 400 nm and 455 nm (ISO TR 20772:2018). 4. For polycarbonate & CR39 lenses across colors achieving 18% transmission at 23°C. 5. Coroneo, M. (2011). Ultraviolet radiation and the anterior eye. *Eye & Contact Lens*, 37(4), 214–224. 6. Arnault, E., et al. (2013). Phototoxic action spectrum on a retinal pigment epithelium model of age-related macular degeneration exposed to sunlight normalized conditions. *PLOS ONE*, 8(8), e71398. 7. Ultra-Fast Light-Adaptive Lens stabilizes light exposure across a comprehensive real-world light database. *EAEO Congress 2025*. Transitions and the Transitions logo are registered trademarks of Transitions Optical, Inc. Used under license by Transitions Optical Limited. GEN S is a trademark of Transitions Optical Limited. ©2024 Transitions Optical Limited. Photochromic performance is influenced by temperature, UV exposure and lens material.