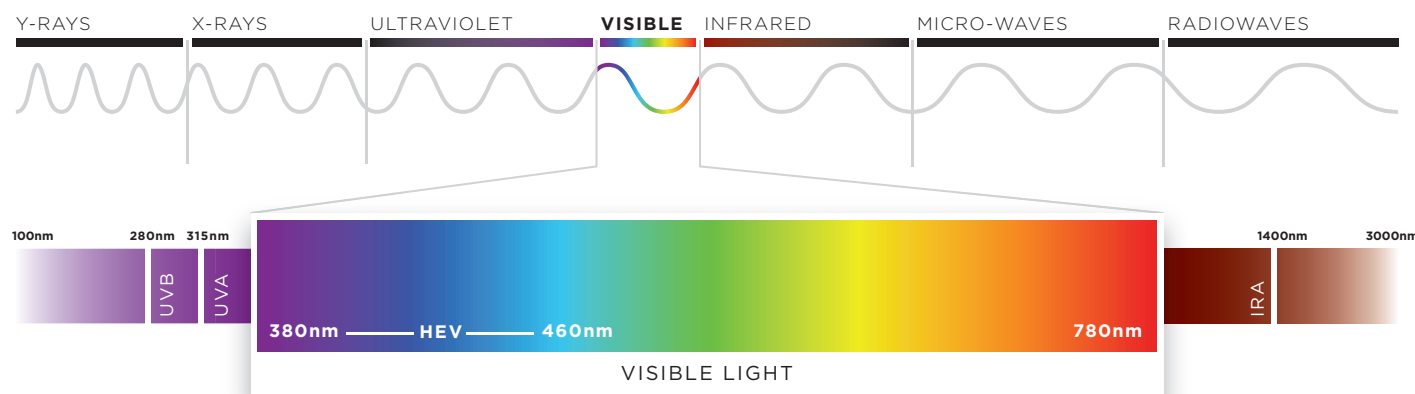


## What is Harmful Blue Light?

Blue light (also known as High Energy Visible Light) is at the far end of the visible spectrum, close to ultraviolet light, with a wavelength of between 380-460 nanometers. Harmful Blue Light peaks around 435nm<sup>1</sup>.

*TRANSITIONS*<sup>®</sup>  
LIGHT INTELLIGENT  
LENSES<sup>™</sup> AND  
HARMFUL  
BLUE LIGHT



## Where is Harmful Blue Light found?

Often associated exclusively with electronic devices and screens, Harmful Blue Light is actually present both indoors and outdoors. The sun is the largest singular source of Harmful Blue Light, scattering it through the atmosphere and emitting over 100 times the intensity of electronic devices and screens!



## How do *Transitions* lenses help?

Delivering comfortable vision today and helping provide comprehensive protection for tomorrow, *Transitions* lenses block harmful UV and reduce exposure to Harmful Blue Light indoors and outdoors so you can safely enjoy your vision today and in the future.

**Transitions**<sup>™</sup>  
light intelligent lenses

### Quick Study Guide

To learn more, visit [www.brainshark.com/transitions/bluelight](http://www.brainshark.com/transitions/bluelight)

<sup>1</sup>Arnault E, Barrau C, Nanteau C, Gondouin P, Bigot K, 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. doi:10.1371/journal.pone.0071398 (August 23, 2013). Identified Harmful Blue Light through in vitro experiment on swine retinal cells, where the most toxic wavelengths are high energy visible light falling between 415-455nm on the light spectrum (blue-violet light).

\* Depending on location, the time of day, the weather, and the season.

All *Transitions*® lenses help protect eyes from Harmful Blue Light, indoors and outdoors.



**Indoors,** *Transitions* lenses filter Harmful Blue Light emitted by artificial sources such as digital devices and LED lights.



Outdoors, they protect from the Sun's UV rays and darken to provide even more protection from Harmful Blue Light and intense glare.

**Transitions**  
Signature®

*Transitions*® *Signature*® lenses block at least 20%<sup>2</sup> of Harmful Blue Light indoors, and block up to 85% outdoors.<sup>3</sup>



**Blocks at least  
20% indoors**



**Blocks up to  
85%  
outdoors**

**Transitions**  
XTRActive®

*Transitions*® *XTRActive*® lenses help provide more protection than *Transitions Signature* lenses — they provide more protection against Harmful Blue Light everywhere you need it by blocking at least 34%<sup>4</sup> of the Harmful Blue Light indoors and 88% to 95% of Harmful Blue Light outdoors.



**Blocks at least  
34% indoors**



**Blocks over  
88%  
outdoors**

**Transitions**  
Vantage®

*Transitions*® *Vantage*® lenses reduce exposure to Harmful Blue Light, blocking at least 34% indoors, and over 85% outdoors.



**Blocks at least  
34% indoors**



**Blocks over  
85%  
outdoors**

**Transitions**  
light intelligent lenses

<sup>2</sup> *Transitions* lenses block 20% to 36% of Harmful Blue Light indoors excluding CR607 *Transitions Signature* products which block 14% to 19%.

<sup>3</sup> The new *Transitions Signature* lenses style colors block 76% of Harmful Blue Light outdoors.

<sup>4</sup> *Transitions XTRActive* lenses and *Transitions Vantage* lenses block 34% to 36% of Harmful Blue Light indoors excluding CR607 *Transitions XTRActive* products which block 27% to 31%.

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