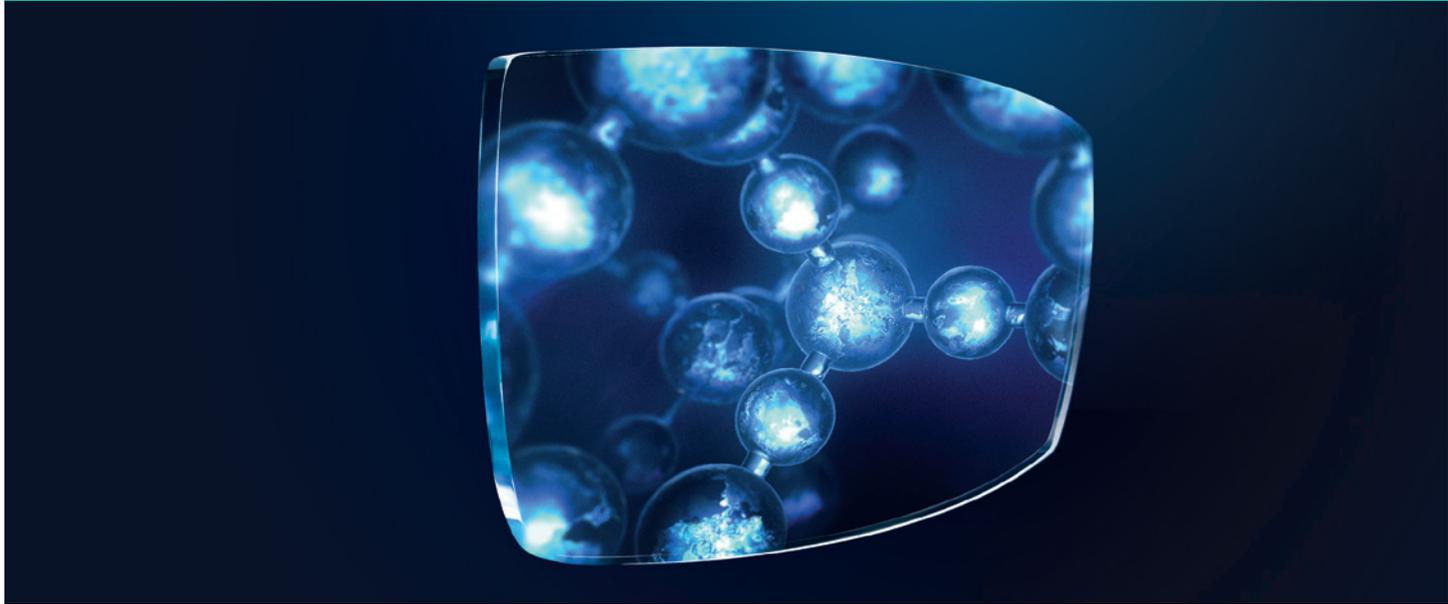


DISCOVER EYE PROTECT SYSTEM: A REVOLUTION IN PROTECTION AGAINST HARMFUL UV AND BLUE-VIOLET LIGHT



HARMFUL LIGHT ⁽¹⁾

HARMFUL LIGHT IS EVERYWHERE

- Harmful light is mostly outdoors, but new light sources, such as LED lighting, can also be harmful
- Lens wearers spend more time indoors exposed to new artificial light sources
- Lens wearers spend on average 7 hours viewing a screen a day⁽⁵⁾

UV IS ONE IDENTIFIED FACTOR CONTRIBUTING TO THE DEVELOPMENT OF CATARACTS⁽⁹⁾

BLUE-VIOLET PART OF VISIBLE LIGHT HAS BEEN IDENTIFIED IN RECENT RESEARCH TO BE THE MOST HARMFUL TO THE OUTER RETINA⁽²⁾ AND IS ONE CONTRIBUTING FACTOR OF AMD⁽¹¹⁾

INTRODUCING EYE PROTECT SYSTEM

- Eye Protect System is the **first embedded** protection against harmful light in an aesthetically clear lens
- It uses a unique absorption process resulting in 3 benefits

<p>UV protection UVA & UVB are efficiently absorbed by the lens⁽³⁾</p>	<p>Smart Blue-Violet light protection Up to 3 times more protective against blue-violet light than standard prescription lenses⁽⁴⁾</p>	<p>Aesthetic clarity Enhanced lens aesthetics without altering colour perception</p>
--	--	---

PROTECT YOUR PATIENT'S EYES

- It is estimated that the number of cases of cataracts and AMD will double in 30 years⁽¹⁰⁾
- With increasing life expectancy and evolving lifestyles, your patient's eyes are more exposed to harmful light every day

DISPENSING

- Eye Protect System comes as standard on Varilux S series, Varilux E series and Essilor Eyezen clear lenses
- All Eye Protect System clear lenses will be easily identifiable with the eye engraving: 

EYE PROTECT SYSTEM REVOLUTIONARY EVERY DAY HARMFUL LIGHT PROTECTION

- Why should you protect your eyes?
- Natural light is essential to our well being. However we should also be aware that some light can be harmful to our eyes⁽⁶⁾

DID YOU KNOW?

UV

- UV rays are present all year round, even when it's cloudy.
- 40% of UV exposure occurs when we are not in full sunlight⁽⁷⁾
- 90% of UV can pass through clouds⁽⁷⁾

Over time, UV rays may accelerate eye ageing and the early development of cataracts⁽⁸⁾

Blue-Violet light

- It is mostly emitted by the sun, but also in smaller amounts by increasingly popular artificial light sources, such as LEDs and digital screens.
- LED is estimated to account for 70% of all lighting sources by 2020⁽⁵⁾
- An average person spends 7 hours viewing a screen a day⁽⁵⁾

Blue-Violet light is potentially harmful to the retina and has been identified as a contributing factor to Age-related Macular Degeneration (AMD)⁽⁹⁾

HARMFUL LIGHT PROTECTION

Eye Protect System™ is a new everyday lens innovation that helps protect your eyes against both:

Harmful UV rays  (3)

Harmful Blue-Violet light⁽³⁾ 

Unlike similar protective solutions, the Eye Protect System™ lens innovation delivers this through:

Aesthetically clear lenses



With a unique filtration system embedded in the lens Eye Protect System™ does not alter your perception of colours

CRIZAL PREVENCIA POWERED BY EYE PROTECT SYSTEM

PROTECTION FOR EYES THAT STILL HAVE SO MUCH TO SEE

Two features against harmful light complement each other for strengthened Blue-Violet light protection

- Crizal Prevenzia coating selectively reflects harmful Blue-Violet light
- Eye Protect System is embedded in the lens to absorb harmful UV and Blue-Violet light

For Eye Protect System™ lenses with Crizal® Prevenzia® coating, 35% decrease in light-induced retinal cell death versus no filter.
For Eye Protect System™ lenses with Crizal Forte® UV coating, 25% decrease.

- (1) Harmful light = UV and Blue-Violet light
- (2) In vitro photobiology experiments conducted by Essilor and Paris Vision Institute. Primary retinal pigment epithelium cells were photosensitized with A2E, a major component of the age pigment lipofuscin. These cells were then exposed for 18 hours to 10 nm illumination bands centered from 390 to 520 nm in 10 nm increments (+ illumination band centered at 630 nm). To mimic physiological light conditions, light irradiances were moderate and normalised with respect to the natural sunlight reaching the retina. (Arnault et al., 2013 PLOs One).
- (3) For Eye Protect System™ lenses with Crizal Forte® UV, 25% decrease in light-induced retinal cell death versus no filter. For standard lenses: Orma 1.5 or Airwear 1.59 with Crizal Forte® UV, about 7% decrease (mathematically modeled). The E-SPF® index depends on the lens material itself and the coating. E-SPF® is a global index rating the overall UV protection of a lens. E-SPF® was developed by Essilor International and endorsed by 3rd party experts. Lens performance only. The E-SPF® index excludes direct eye exposure that depends on external factors (wearer's morphology, frame shape, position of wear).
- (4) Based on In Vitro photoprotection tests on retinal cells. Smart Blue Filter™ lens feature provides a minimum level of efficacy, decreasing light-induced retinal cell death versus no filter: 25% (+/-5%). It depends on the lens material and the coating and can be evaluated by in vitro tests on RPE (Retinal Pigment Epithelium) cells or by mathematical modeling.
- (5) McGoldrick, Joline, Multiscreening and Simultaneous Media Use: Unlocking the Golden Age of Digital Advertising. Forbes. March 2014
- (6) Eye health relies on various factors (age, genetics, smoking, diet...). Light is one of the modifiable risk factors on which an ophthalmic lens may act. UV is one contributing factor of Cataracts. Blue-Violet light is one contributing factor of AMD.
- (7) Citek K, Andre B, Butler JJ et al. The Eye and Solar Ultraviolet Radiation: New understandings of the hazards, costs and prevention of morbidity. Report of a roundtable. June 2011. Calculation based on urban workers in the northern hemisphere.
- (8) McCarty CA, Taylor HR. A review of the epidemiologic evidence. Linking ultraviolet radiation and cataracts. Dev Ophthalmol. 2002; 35:21-31.
- (9) Sunlight and the 10-year incidence of age-related maculopathy: The Beaver Dam Eye Study. Arch. Ophthalmol., 122, 750-757. New discoveries and therapies in retinal phototoxicity, Serge Picaut and Emilie Arnault, Points de Vue N°68, Spring 2013.
- (10) Simplified Extrapolation AMD model. Essilor International, DMS, EL, Jan. 2013. United nation: World Population Prospects, epidemiological and marketing studies.
- (11) Eye health relies on various factors (age, genetic, smoking, diet...). Light is one of the modifiable risk factors on which an ophthalmic lens may act. The outer retina is composed of retinal pigment epithelium (RPE) cells plus the outer segments of visual photoreceptors RPE is critical to the functioning, survival and constant renewal of photoreceptors.