



## THE DANGERS OF UV EXPOSURE

- There is no amount of UV exposure that is healthy for your eyes
- UV damage to the eyes is cumulative over time and often irreversible
- In almost half of your normal daily activities, such as running errands or walking the dog, your eyes are susceptible to harmful UV rays
- Complete UV protection on your everyday clear lenses can help protect the long-term health of your eyes

## TIME SPENT OUTSIDE IN EVERYDAY CLEAR GLASSES VS SUNWEAR

- 23% of people do not wear any sunwear protection while outside
- Over 40% of annual UV exposure is received during conditions when people are not in full sunlight and are less likely to wear protection

	UV qty (Lx)	UV qty per year
Indoors	500	~8%
Cloudy Days	5 000	5%
Filtered Sunlight	25 000	30%
Full Sunlight	100 000	58%

} >40%

Calculation based on urban workers in northern hemisphere.  
Indoor low UV emission from compact fluorescent lightbulbs.

## UV damage is a serious threat to eye health. No-Glare lenses with UV protection are the most complete solution for long-term eye health.

Crizal® is the only No-Glare portfolio on the market offering the most complete protection against the invisible and often irreversible dangers of UV light reflection.

**REFERENCE:**  
The Eye and Solar Ultraviolet Radiation: New Understanding of the Hazards, Costs and Prevention of Morbidity. June 18, 2011. Salt Lake City, UT USA.

**Crizal** **Crizaleasy<sup>UV</sup>** **Crizal ALIZE<sup>UV</sup>** **Crizal AVANCÉ<sup>UV</sup>** **Crizal SAPPHIRE<sup>UV</sup>**

To learn more visit [www.CrizalUSA.com](http://www.CrizalUSA.com)

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## UV Light and Eye Health

A clinical guide that quantifies, demonstrates and validates No-Glare lenses with UV protection as the most complete everyday solution for long-term eye health.

## UV LIGHT DAMAGES YOUR EYES JUST LIKE YOUR SKIN

- 79% of people know they need sun protection for their skin; however, **only 6%** know they need sun protection for their eyes
- The only internal tissues of the body that are directly exposed to environmental UV light are the eyes

## UV LIGHT CAN SERIOUSLY DAMAGE YOUR EYES

- UV damage is **cumulative and often irreversible**
- UV damage due to chronic sun exposure is a factor in many eye diseases, such as cataracts

## UV PROTECTION IS NEEDED 365 DAYS A YEAR

- In almost half of your daily activities, your eyes are exposed to harmful UV light that could cause damage
- Over 40% of your annual UV exposure is received when you are **not in full sunlight** and are less likely to wear protection

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### UV DAMAGE AND YOUR EYES

- No amount of UV exposure is healthy for your eyes
- UV light reflection is a newly recognized hazard to eye health
- Most higher quality lens materials provide protection from UV light transmission. However, UV light is still reflected off the backside of the lens, directly into the eyes

### EYE-SUN PROTECTION FACTOR™ (E-SPF)™

- E-SPF is a new index that integrates UV protection from UV light coming from both sides of the lens
- This index can help make better-informed purchasing decisions for eyewear



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## UV LIGHT DAMAGES YOUR EYES JUST LIKE IT DOES YOUR SKIN

- 79% of patients know they need sun protection for their skin, but only 6% know they need sun protection for their eyes<sup>1</sup>
- 90% of visible premature aging on areas such as the delicate skin around the eyes is caused by UV damage
- 90% of skin cancer occurs on the face and neck, with 5-10% occurring on the eyelids<sup>2</sup>



## WHAT UV DAMAGE MEANS TO YOUR EYES

- Eye disease associated with UV damage causes serious problems for both individuals and society, such as loss of productivity, social limitations and increased healthcare costs
- Studies worldwide have shown that UV damage due to chronic UV light exposure is a factor in many diseases of the eye, including pterygium, cataracts and possibly age-related macular degeneration

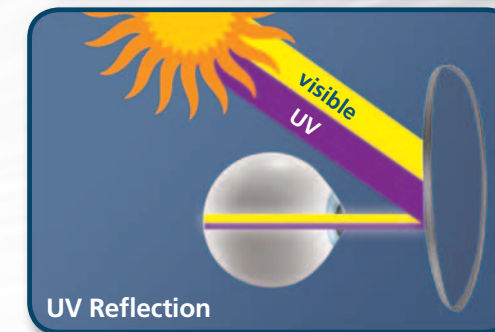
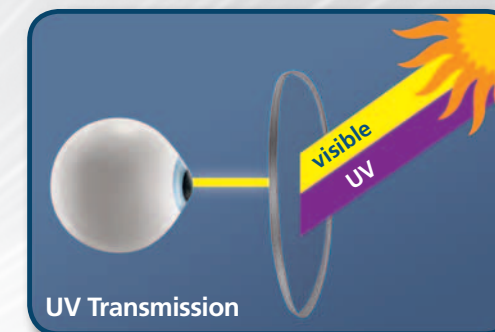
### OPHTHALMIC CONDITIONS IN WHICH UV EXPOSURE HAS BEEN IMPLICATED IN DEVELOPMENT

<b>Eyelid</b>	Wrinkles; sunburn, photosensitivity reactions, malignancy—basal cell carcinoma, squamous cell carcinoma
<b>Ocular surface</b>	Pinguecula, pterygium, climatic keratopathy (Labrador keratopathy), keratitis (flash, snow blindness), dysplasia and malignancy of the cornea or conjunctiva
<b>Crystalline lens</b>	Cortical cataract
<b>Uvea</b>	Melanoma, miosis, pigment dispersion, uveitis, blood-ocular barrier incompetence
<b>Vitreous</b>	Liquification
<b>Retina</b>	Age-related macular degeneration

<sup>1</sup> Results of International Communication Research (ICR) study of USA, 1002 respondents, 2002.  
<sup>2</sup> Myers M, Gurwood AS. Periocular malignancies and primary eye care. *Optometry*. 2011;72(11):705-12.

## THE COMPLETE STORY OF UV PROTECTION

- A significant amount of UV light can reach the eyes from around the lens
- Measures have found that up to 50%<sup>†</sup> of UV light reaches the eyes from the back and sides of the lens
- For the most complete UV protection, lenses should protect from **UV Transmission** AND **UV Reflection**



## UV LIGHT TRANSMISSION AND REFLECTION

### UV reflection is a newly recognized hazard

- UV light comes from all directions, reflecting off surrounding surfaces and creating dangerous exposure
- The back surface of everyday clear glasses has been found to reflect light coming from the back and sides of the lens, increasing UV light exposure to the eyes
- Most sunglasses and clear lenses with higher quality materials block UV light from transmitting through the front of the lens, but they do not address the UV light reflecting off the backside of the lens



<sup>†</sup>On average 20%, ranging from 10% to 50%

## MATERIALS AND UV LIGHT TRANSMISSION PROTECTION

- Each material has a unique transmission value that indicates how well that material blocks and absorbs UV light to prevent transmission to the eye
- Photochromic and clear lenses made out of higher quality lens materials (polycarbonate, Trivex<sup>®</sup> material or high index) block 100% of the UV exposure coming from the front side of the lens
- Clear 1.5 plastic does not provide 100% protection from UV transmission and therefore compromises eye health and visual comfort



## EYE-SUN PROTECTION FACTOR™ (E-SPF)™††

- E-SPF is a new index developed by Essilor, endorsed by independent third parties, measuring protection from UV light coming from both sides of the lens
- This index helps to make better-informed purchasing decisions by selecting eyewear with optimal UV protection
- An E-SPF of 25 means your eyes are 25 times better protected from dangerous UV light than wearing no protection at all



<b>CRIZAL LENSES</b>	<b>25</b>
<b>COMPETITOR A</b>	<b>≤3</b>
<b>COMPETITOR B</b>	<b>5</b>
<b>COMPETITOR C</b>	<b>5</b>

<sup>††</sup>Most complete UV protection for all Crizal lenses compared to No-Glare clear lenses with equivalent material. 25 for all clear daily Crizal lenses, except plastic 1.50 (E-SPF=10). Lens performance only. Measurements conducted by an independent third party—USA—2011. The Essilor lenses were tested against the latest premium lens offerings from major competitors like Hoya, Zeiss and Sola.