

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 proper UV 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 the most complete UV protection are the optimal solution for long-term eye health.

All Crizal® No-Glare lenses provide 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.

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.

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UV LIGHT DAMAGES YOUR EYES JUST LIKE IT DOES YOUR SKIN

- 94% of people don't know UV exposure is bad for their eyes¹
- 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 eyelids²



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

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

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

MATERIALS AND UV LIGHT TRANSMISSION PROTECTION

- Clear 1.5 plastic does not provide 100% protection from UV transmission and therefore compromises eye health and visual comfort
- Photochromic and clear lenses made out of higher quality lens materials (polycarbonate, TREXA[®] lens material or high index) block 100% of the UV exposure coming from the front side of the lens
- For the most complete UV protection, photochromic lenses and higher quality lens materials should be paired with a No-Glare product that also minimizes backside UV reflections



UV LIGHT TRANSMISSION AND REFLECTION

UV reflection is a recognized hazard

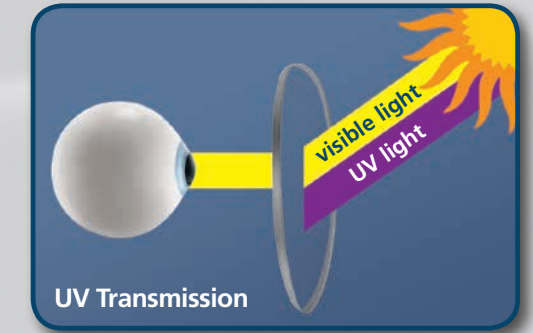
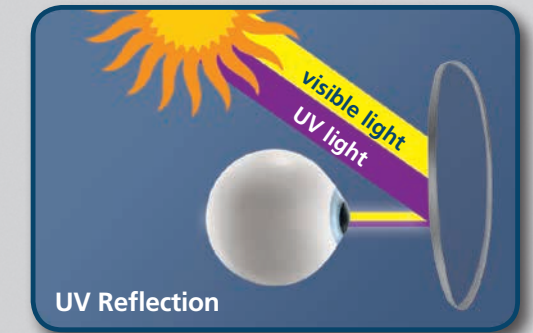
- UV light comes from all directions, reflecting off surrounding surfaces and creating dangerous exposure
- The back surface of eyeglass lenses has been found to reflect light directly to the eyes
- Lenses with higher quality materials block UV light from transmitting through the front of the lens, but they do not address the UV light reflecting off the backside of the lens



¹On average 20%, ranging from 10% to 50%

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%[†] 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**



EYE-SUN PROTECTION FACTOR (E-SPF[®])^{††}

- E-SPF[®] is a global index developed by Essilor, endorsed by independent third parties, measuring protection from UV light coming from both sides of the lens
- This index helps patients 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



^{††}E-SPF is a global index developed by Essilor, endorsed by independent third parties, measuring the lens' UV protection excluding direct eye exposure from around the lens. E-SPF of 25 means the wearer is 25 times more protected than without any lens. With clear 1.5 plastic, E-SPF of 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.