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## Tokai Eye Care Design, a new standard in ophthalmic lens design.

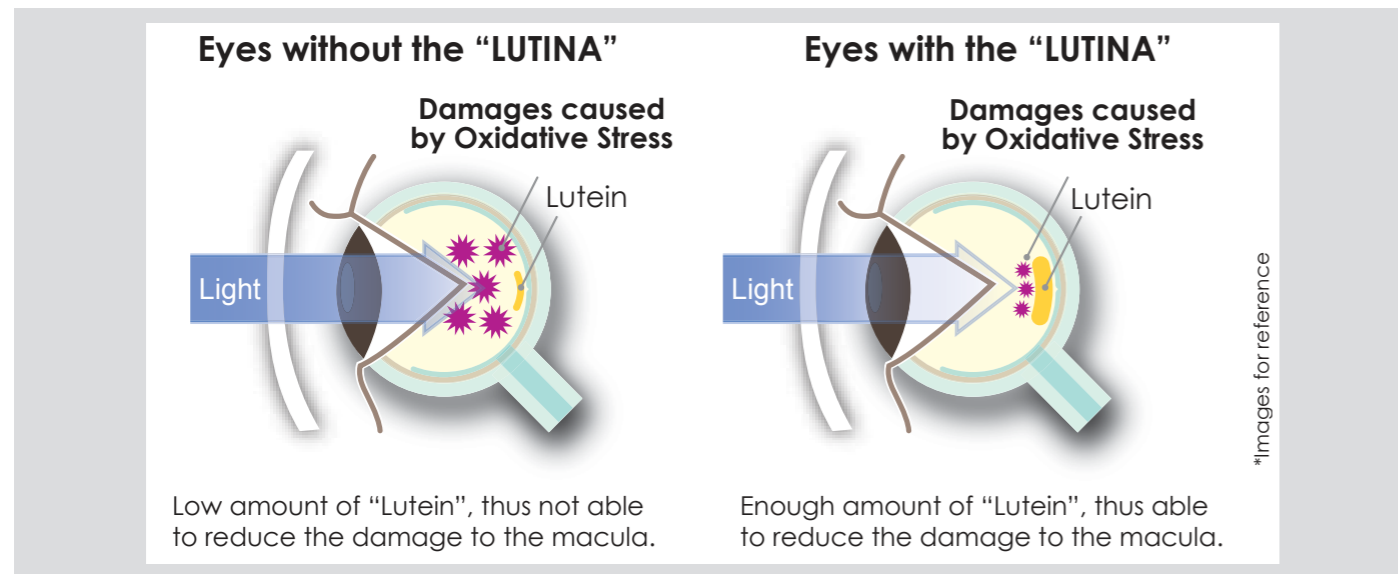
'Tokai EYE CARE DESIGN' sets a new standard in ophthalmic lens design: these lenses not only offer the optimum in visual correction and comfort, but also work to help protect the health of your eyes.

Tokai has taken the concept of 'good eye sight' to the next level. It not only combines the perfect balance of optical parameters, it also focuses on taking care of the ocular health of the wearer.



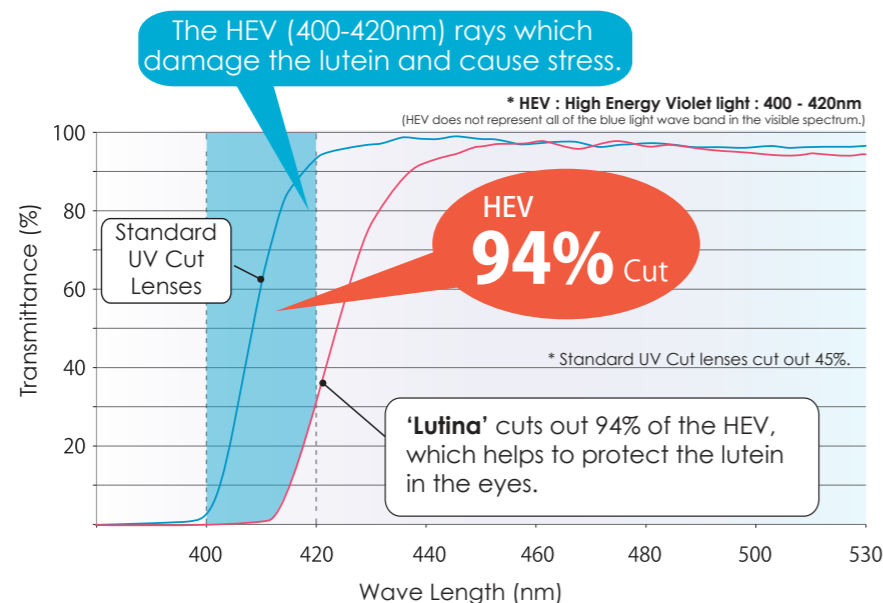
Many ocular diseases are thought to be caused by oxidative stress due to the generation of singlet oxygen. Lutein is one of the three carotenoid pigments that are present in very high concentrations in the retina of the eye or more specifically in the lens and macula. It has antioxidant properties that suppresses this oxidative stress and also filters blue light, both contributing to the prevention of Age-Related Macular Degeneration. AMD is the most common cause of vision loss for the 50+ age group.

To help preserve the lutein in the eyes, Tokai developed Lutina. **Tokai Lutina lenses** have the ability to **absorb light between 400 to 420 nm**. Cutting light in this wavelength range effectively suppresses generation of active oxygen and deterioration of lutein.



As humans cannot naturally produce this essential substance, we depend on eating green and yellow vegetables to absorb and replenish its supply. Just like taking supplements, wearing Lutina lenses on a daily basis is thought to be an effective way of helping to protect the essential Lutein within the eyes.

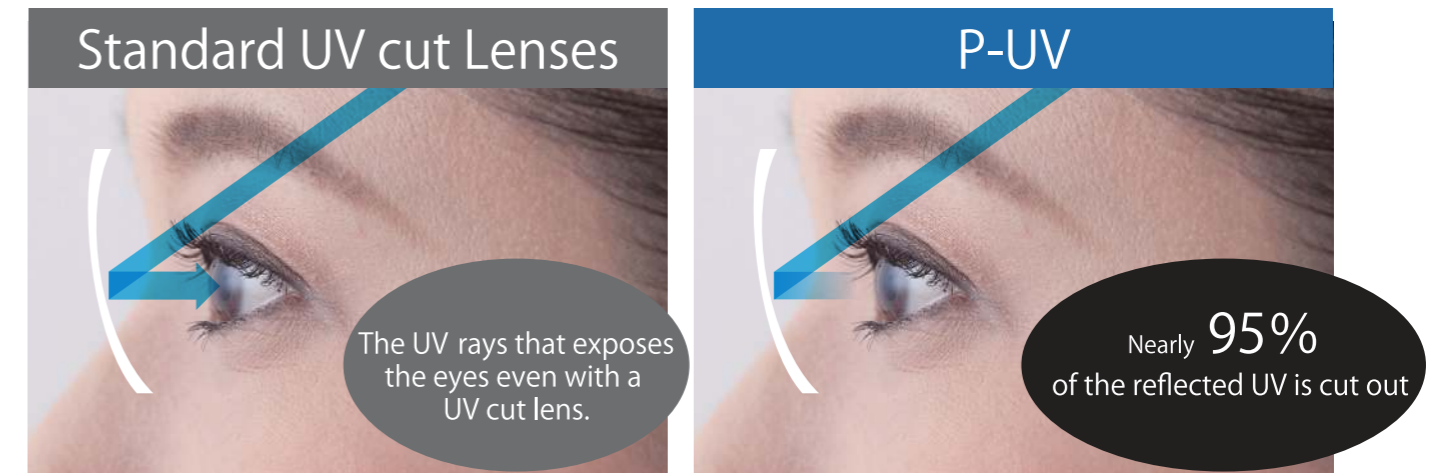
To help preserve the lutein in the eyes, Tokai developed Lutina. This lens **cuts out 94% of High Energy Violet Light (400 - 420 nm)**, and by doing so, **helps to preserve ocular health.**



\*Knels, L., Valtink, M., Roehiecke, C., Lupp, A., Vega, J. d. I., Mehner, M., & Funk, R. H. W. (2011) Blue light stress in retinal neuronal (R28) cells is dependent on wavelength range and irradiance. European Journal of Neuroscience, 34, 548-558

P-UV (Protection Ultraviolet) coating not only protects the eyes against direct UV rays, it also protects them against indirect UV rays or rays reflected on the back side of the lens into the eyes.

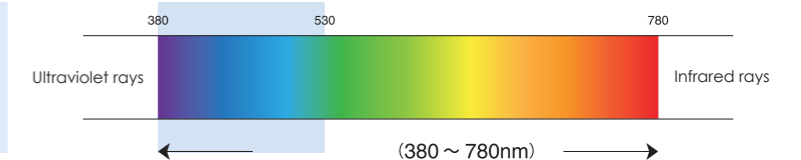
P-UV **neutralises no less than 95% of the reflected UV rays**, significantly reducing the danger of damaging the eyes.



## TBC

Bright lights from TV screens, PC monitors and LED lights are omnipresent in our life. Many of these lights emit a lot of 'blue colour light' to emphasize brightness. Because blue colour light has a very short wavelength like ultraviolet rays, it may cause damage to the eyes.

'Blue colour light' is light in the range of visible rays with a high frequency, in-between 380nm to 530nm (violet to blue light).



The **Tokai Blue Coating** filters blue colour light and ultraviolet rays, thus **reducing glare, improving contrast and relaxing the eyes.**

