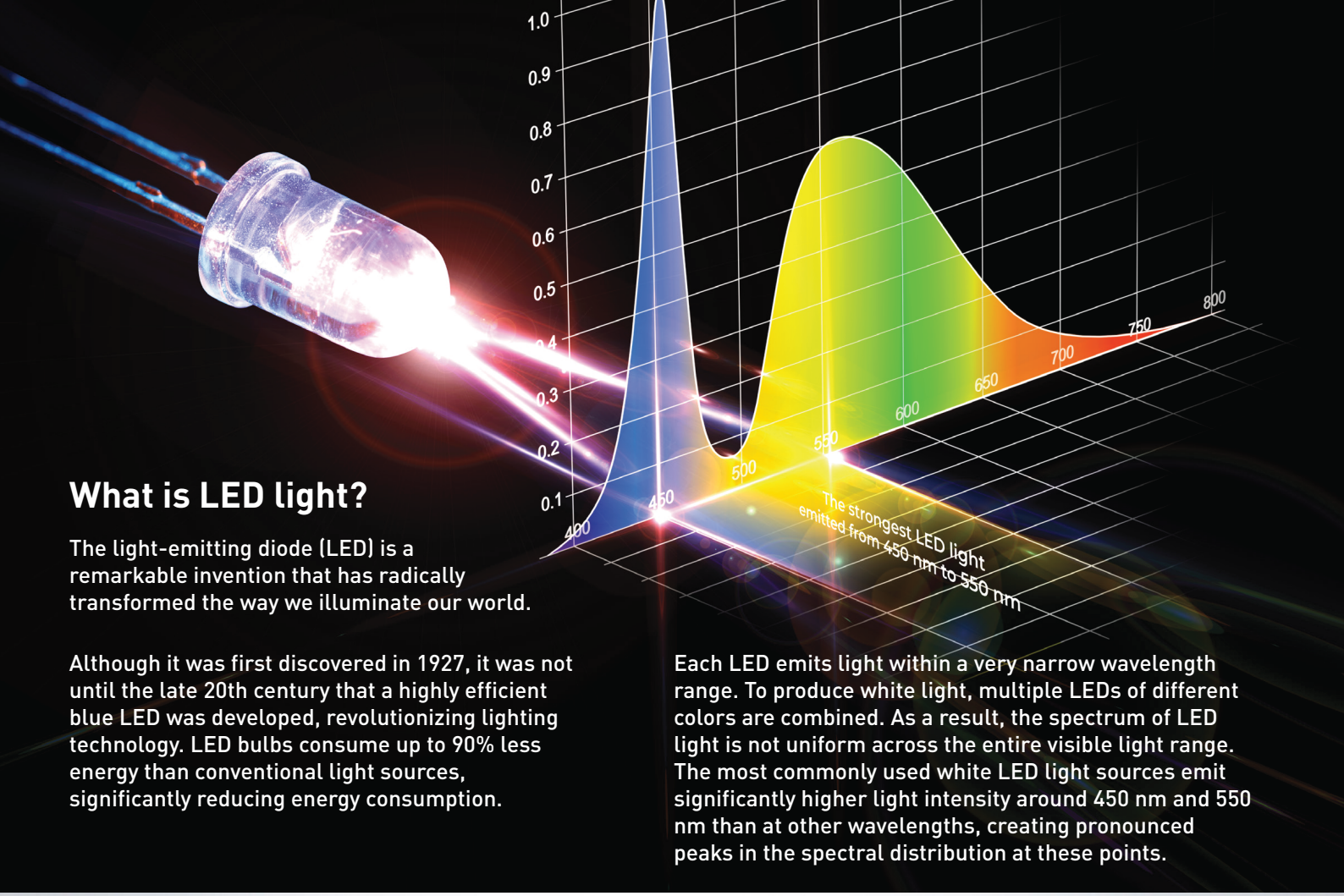
LED PRO

Intelligent LED Light Control

The first patented ophthalmic lens technology designed to deliver advanced optical performance and superior visual comfort for everyday exposure to LED light.

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What is LED light?

The light-emitting diode (LED) is a remarkable invention that has radically transformed the way we illuminate our world.

Although it was first discovered in 1927, it was not until the late 20th century that a highly efficient blue LED was developed, revolutionizing lighting technology. LED bulbs consume up to 90% less energy than conventional light sources, significantly reducing energy consumption.

Each LED emits light within a very narrow wavelength range. To produce white light, multiple LEDs of different colors are combined. As a result, the spectrum of LED light is not uniform across the entire visible light range. The most commonly used white LED light sources emit significantly higher light intensity around 450 nm and 550 nm than at other wavelengths, creating pronounced peaks in the spectral distribution at these points.

LED Light and Vision

Thanks to its energy efficiency and narrow light spectrum, LED lighting is generally much more intense than traditional lighting technologies.

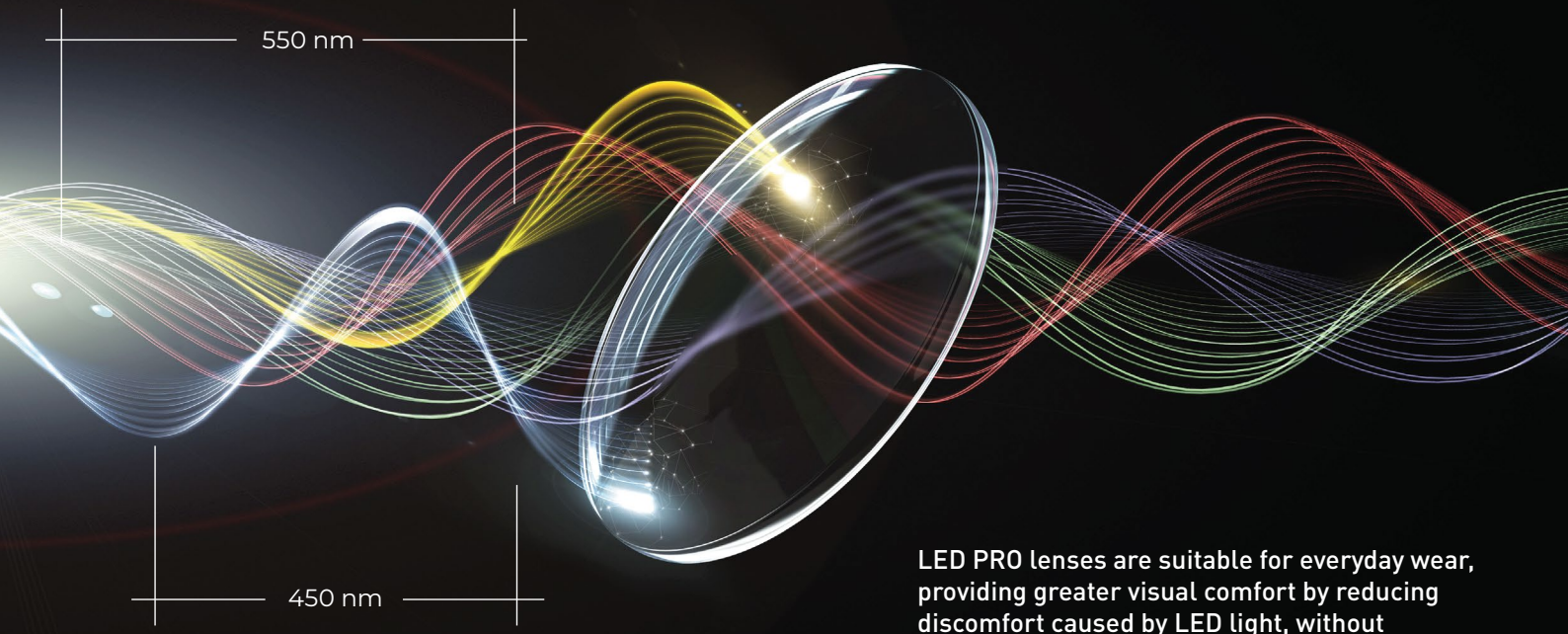
This increased intensity can be both an advantage and a disadvantage. On the one hand, it provides improved visibility in low-light conditions. On the other hand, it may contribute to visual discomfort and eye fatigue, particularly during prolonged exposure or when the light is directed directly toward the eyes.

Today, our eyes are constantly exposed to LED light in our everyday environments. Studies indicate that people who require vision correction may be more susceptible to discomfort caused by this type of lighting.

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LED Light Control

LED PRO lenses control light intensity at 450 nm and 550 nm helping to reduce visual discomfort.



LED PRO lenses are suitable for everyday wear, providing greater visual comfort by reducing discomfort caused by LED light, without compromising visual quality.

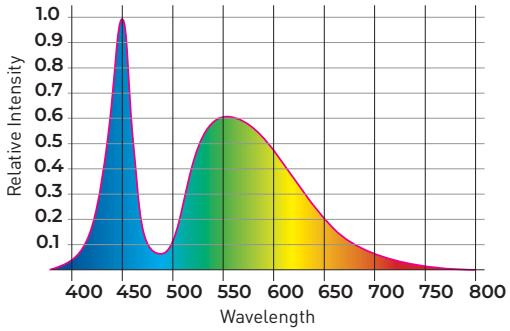
Due to the absorption of part of the visible light spectrum, LED PRO lenses have a subtle greenish tint. However, when combined with an effective anti-reflective coating, they transmit nearly 90% of visible light. They are Category 1 lenses, with no restrictions on everyday use.

LED PRO lenses block 100% of UV radiation, as well as high-intensity visible light up to 400 nm, providing important eye-protection benefits in addition to enhanced visual comfort in LED-lit environments.

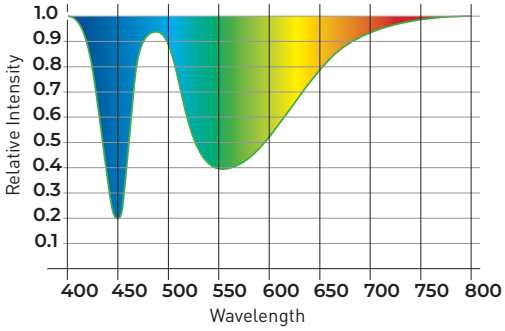
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Cum funcționează lentilele LED PRO?

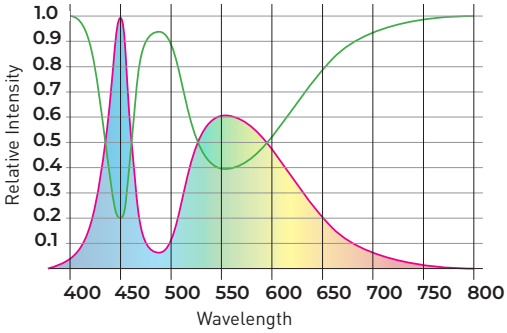
LED Light Visible Spectrum



LED PRO Lens Absorption



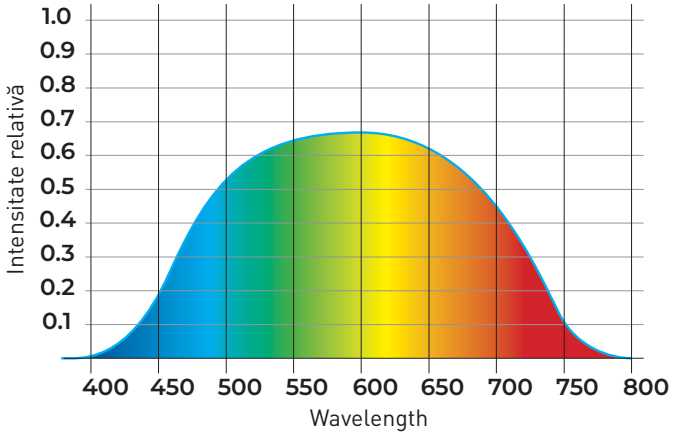
Reduction of LED Light Glare



LED PRO lenses use advanced technology based on selective light-absorbing dyes, which target specific wavelengths of light.

Rather than absorbing light across the entire visible spectrum, these dyes selectively absorb a narrow band of the light spectrum around 450 nm and 550 nm.

LED Light Controlled by LED PRO Lenses



As a result, LED PRO lenses attenuate the emission peaks of LED light, helping to reduce the glare caused by intense LED light and contributing to greater visual comfort and reduced eye fatigue.

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BENEFITS OF LED PRO LENSES

Night Driving

Most vehicles are equipped with LED headlights, taillights and other LED light sources.

While these lights provide drivers with improved visibility at night, the high intensity of LED headlights can be uncomfortable for other road users, particularly oncoming drivers.

In addition, drivers who frequently drive at night or for extended periods may experience increased visual fatigue due to prolonged exposure to the intense LED lights of other vehicles.

Indoor Sports

People who participate in sports such as tennis, padel, football, baseball and other evening activities may experience visual fatigue and general discomfort due to the high-intensity LED lighting commonly used in indoor and evening sports facilities.





Industrial Environments

LED lighting has become increasingly common in industrial and commercial environments. Because LED lighting can be more powerful and intense than conventional lighting, prolonged exposure may contribute to visual fatigue and discomfort.

LED Monitors

Most computer monitors and gaming consoles use LED technology. Prolonged exposure to LED light may contribute to visual fatigue and, in some individuals, headaches, particularly during extended periods of screen use.



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Clinical Study Results for LED PRO Lenses

METHODOLOGY: Participants evaluated their level of satisfaction when wearing standard lenses and LED PRO lenses while performing specific visual tasks at different distances. To assess the initial wearing experience, participants completed a satisfaction questionnaire using a scale from 1 (lowest rating) to 5 (highest rating)

100%

Participants rated LED PRO lenses 4 or higher for reducing glare and reflections, vision under artificial lighting, ease of adaptation, and vision in low-light conditions.

90%

Participants rated LED PRO lenses 4 or higher for visual comfort and vision in natural light.

80%

Participants rated LED PRO lenses 4 or higher for reduced visual fatigue, colour perception, and overall visual quality.

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