Easy on the eyes.
More protection,
less reflection.

ZEISS

Seeing beyond

ZEISS BlueGuard Lenses

Offer your patients lenses which:

- protect eyes against blue light and UV
- address digital eye strain
- look good, with less blue-purple reflections.

zeiss.ca/pro-blueguard

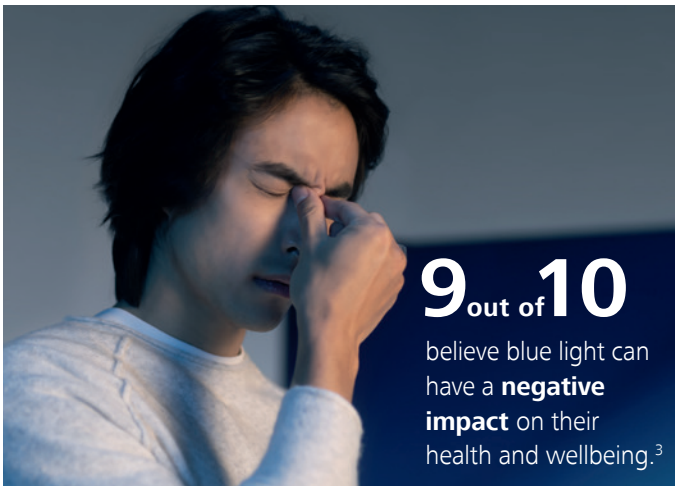
The need for this product is real.

8 out of 10 consumers **say it is important** to protect their eyes from blue light.[3]

More exposure – independent of age.

The COVID-19 pandemic has changed the way we work, learn and socialise. As early as April 2020, research has shown that people of all ages, from all over the world are spending more time on digital devices.[4]

In addition, more time is spent indoors at home, where buildings are nowadays equipped with LED lights that also emit blue light. So, besides facing potentially harmful blue light emitted by the sun, most people are increasingly exposed to artificial blue light.



9 out of 10 believe blue light can have a **negative impact** on their health and wellbeing.[3]

Increased awareness of digital eye strain.

Up to two thirds of adults[5] who regularly use digital devices experience various symptoms associated with digital eye strain. People search online for more information and solutions for digital eyestrain as indicated by a significant increase for the term "blue light blocking glasses" at Google searches.

Consumers are now more open than ever for products offering blue light protection.

Conscious about looks – on-and-offline.

Online parties, video meetings and digital family catch-ups have become commonplace. More than ever before, people are seeing themselves and others on-screen for extended periods of time. Lenses that look good without irritating blue reflections are now top of mind.

What is digital eye strain?

- Digital eye strain (DES) is the combination of eye and vision problems associated with the use of computers and other electronic displays.
- DES causes visual disturbance and / or visual discomfort.
- Most frequently named symptoms include glare / dazzle, uncomfortable vision, accommodation stress and dysfunction, fixation disparity, pain in or around the eyes, dryness and eye fatigue.

ZEISS BlueGuard Lenses.

The next generation of blue light blocking lenses.

More protection, less reflection.

A product in demand.

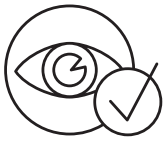
Accelerated by the global COVID-19 pandemic, the usage of digital devices is skyrocketing – and with this, people's awareness of digital blue light. Not only are they more concerned about the possible impact it has on their eyes, but also the effect it has on the way they look – especially during online calls and virtual meetings.

A new innovation by ZEISS.

With previous product generations, blue light blocking is achieved via coatings reflecting blue light. ZEISS BlueGuard Lenses incorporate blue light blocking properties into the lens material itself. This allows us to apply ZEISS DuraVision Platinum – our most premium lens coating – as a standard to ZEISS BlueGuard Lenses.

More protection:

Built on the foundation of ZEISS UVProtect Technology, the ZEISS BlueGuard lens material provides full UV Protection and now additionally **blocks up to 40 %**[1] of potentially harmful and irritating blue light.



Easy on the eyes:

Designed to address digital eye strain in an increasingly digital world.

Less reflection:

For good looks on- and offline, ZEISS BlueGuard Lenses have up to **50 %**[2] **less reflections** of digital blue light compared to ZEISS DuraVision BlueProtect coating. It comes standard with ZEISS DuraVision Platinum Coating for excellent clarity, easy cleanability and superior hardness.

What is blue light?

- Visible blue light is electromagnetic radiation in the wavelength from 380–500 nm.
- The spectral range between 400–455 nm is considered potentially harmful blue light.
- *455 nm is defined by ISO/TR 20772-2018 as the upper limit of the light spectrum which has the greatest phototoxic risk to retinal pigment epithelial (RPE) cells.

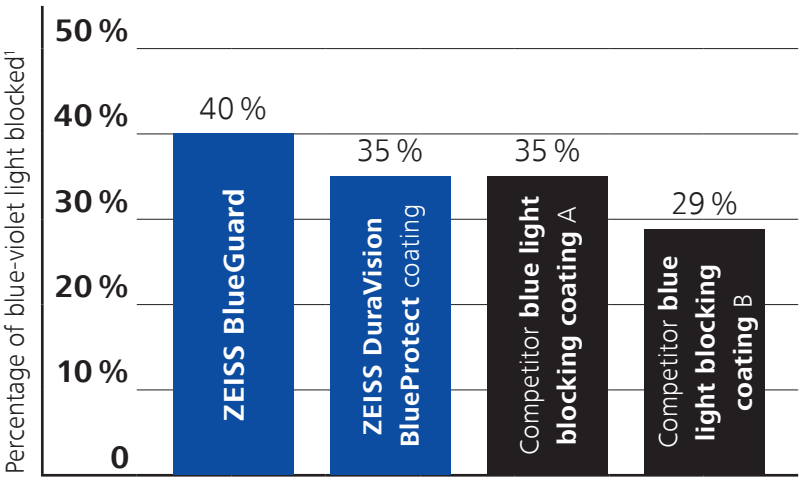
The solution: ZEISS BlueGuard Lenses
with DuraVision Platinum UV coating.

Protection

ZEISS BlueGuard Lenses block **up to 40 %[1]** of potentially harmful and irritating blue light.

Thanks to the latest organic chemical technology, blue light blocking properties are now an intrinsic part of the chemical make-up of the lens material. In addition to blocking the potentially harmful blue light from the sun, ZEISS BlueGuard Lenses also filter irritating digital blue light.

Talking about the sun – ZEISS BlueGuard also includes ZEISS UVProtect technology that provides full UV protection up to 400 nm.



ZEISS BlueGuard Lenses (1.6 Lens Material) block slightly more blue light than blue light blocking coatings.

An excellent balance
between protection, visual comfort and aesthetics.

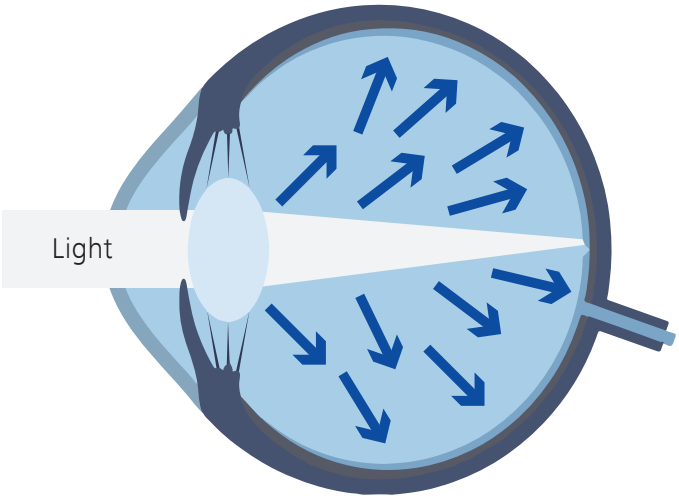
Visual comfort

ZEISS BlueGuard Lenses are designed to address **digital eye strain.**

We are constantly surrounded by light sources like digital devices and LED lights that emit disproportionally high amounts of blue light.

Blue light tends to scatter throughout the vitreous humor when entering the eye, causing so-called “visual noise”. This could be perceived as discomfort glare and reduction in contrast perception. Additionally, blue light causes longitudinal aberrations that may lead to blurred images. This unfocused “visual noise” can contribute to visual discomfort and symptoms associated with digital eye strain.

ZEISS BlueGuard Lenses block a part of the blue light that could intensify symptoms of digital eye strain.



Blue light scatters in the occular media, causing discomfort glare.

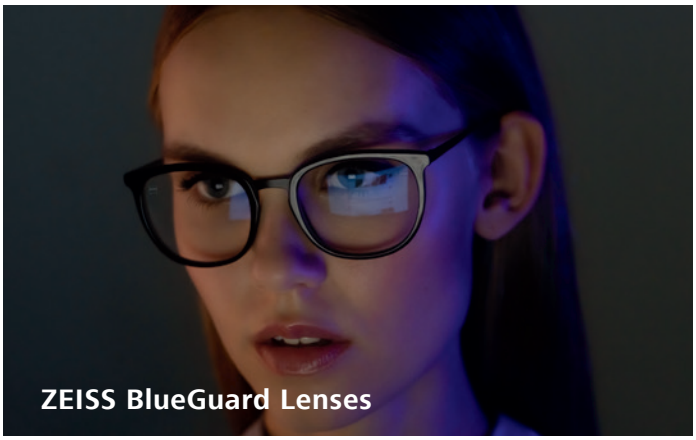
Aesthetics

Blue light blocking coatings are designed to block blue light by reflecting it, which is why its residual reflections are higher. The reflection on the lens surface can cause cosmetic irritation to observers and may distract the wearer, creating visual disturbance. Especially indoors, when displays or LEDs are the main sources of illumination, these reflections tend to be more visible and become very obvious.

Now, people can take selfies and have video calls with more confidence.

By incorporating blue light blocking properties into the lens material, ZEISS BlueGuard Lenses come standard with the ZEISS DuraVision Platinum coating and its light blue residual reflection, meaning the eyes are more visible behind the lenses.

ZEISS BlueGuard Lenses have **up to 50% less reflections** of digital blue light than ZEISS DuraVision BlueProtect coating.



More protection, less reflection.
Available to everyone.

- Suitable for all ages
- Available across most relevant ZEISS designs*
- Available across all plastic lens material indices
- Available only with ZEISS DuraVision Platinum UV.

* excluded and not available for: Bifocal and Trifocal Lenses, DriveSafe Lenses, Sports Lenses including tint, Myopia Lens products.

Let's put blue light **in the spotlight.**

Enabling you to **seal the deal.**

From an eye-catching shop window display to informative in-store tools, customers will not only be aware of this exciting new product, but will be happy to invest in some "wellness for their eyes".

References	
1	Inhouse measurements and calculations based on the BVB (Blue-Violet-Block) metric. Analyses by Technology and Innovation, ZEISS Vision Care, DE 2020
2	Inhouse measurements and calculations based on the DBRLED (Digital Blue Light Reflection) metric. Analyses by Technology and Innovation, ZEISS Vision Care, DE 2020
3	Quantitative survey with N=100 consumers (spectacle lens wearers) in Germany in September 2020
4	Watson A. (2020). In-home media consumption due to the coronavirus outbreak among internet users worldwide as of March 2020, by country. www.statista.com, URL https://www.statista.com/statistics/1106498/home-media-consumption-coronavirus-worldwide-by-country
5	The Vision Council (2016). 2016 Digital Eye Strain Report

ZEISS BlueGuard Lenses

Contact your ZEISS sales agent or visit
www.zeiss.ca/pro-blueguard to learn more.

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