Smart Blue Filter™
OUR JOURNEY TO IMPROVE VISION HAS EVOLVED OVER THE PAST 50 YEARS

- From **BIFOCAL** to **PROGRESSIVE** lenses for clear vision at all distances.
- From **GLASS** to **PLASTIC** to **POLYCARBONATE** lens materials for improved safety.
- From **THICK** to **ULTRA-THIN** lenses for better aesthetics and increased comfort.
- From **CLEAR** to **PHOTOCHROMIC** lenses for increased comfort in all light conditions.
- From **front-side only UV protection** to **additional backside UV protection** for healthier vision.
We Hope You Will
JOIN US On Our Next Step
to Provide **Eye Protection** Against UV
and Harmful Blue Light For All Wearers
EXPOSURE TO HARMFUL BLUE LIGHT INCREASES EVERY YEAR

With improved health, we are living longer but as we age, our eyes weaken and become more at risk for developing eye diseases like cataract and age-related macular degeneration (AMD).\(^1\)

**Average Age of Occurrence:**

- **Age 45\(^2\)** Presbyopia
- **Age 65\(^3\)** Cataract
- **Age 75\(^4\)** AMD

**Sources:**
OUR EVOLVING LIFESTYLES MEAN THAT OUR EYES ARE CONSTANTLY EXPOSED TO HARMFUL LIGHT

Direct EXPOSURE TO BLUE LIGHT over our lifetime is more than ever before¹

LED Light is expected to reach 84% market penetration worldwide by 2020²

30% of adults spend 9+ hours on a digital device each day³

Sources:
UNDERSTANDING BLUE LIGHT
UNDERSTANDING THE LIGHT SPECTRUM

ELECTROMAGNETIC LIGHT SPECTRUM

Non-Visible: 200nm to 415nm
Visible: 415nm to 780nm

Harmful Light (UV)
- UV
- Blue-Violet

Beneficial Light (Blue-Turquoise)

415nm - 455nm Danger Zone
The sun emits Harmful Blue Light all year long, and in all weather conditions. The sun is the largest singular source of Harmful Blue Light. The sun scatters light through the atmosphere and is up to 500x more intense than the Harmful Blue Light we are exposed to indoors.

OUTDOORS

Harmful Blue Light is 500X more intense than indoors

- The sun emits Harmful Blue Light all year long, and in all weather conditions
- The sun is the largest singular source of Harmful Blue Light
- The sun scatters light through the atmosphere and is up to 500x more intense than the Harmful Blue Light we are exposed to indoors
Blue Light is emitted by many indoor sources of light such as LED lamps and compact fluorescent light bulbs (CFLs).

Harmful Blue Light is also present in modern digital devices like computer screens, tablets, and many smart phones.

As the U.S. moves toward more energy-efficient light sources (LEDs), Blue Light surrounds us even more.
INDOOR HARMFUL BLUE LIGHT

Harmful Blue Light
(435 ± 20 nm)

- peak at 435 nm
- peak between 440 & 450 nm

- Compact Fluorescent Lamp
- White LED (screen, office lighting...)

Relative energy (artificial source of light)

Wavelength (nm)

Harmful Light Beneficial Light
HARMFUL BLUE LIGHT

has been linked to retinal disorders such as age-related macular degeneration (AMD)*, which is a leading cause of vision loss in adults over the age of 50.**

Source:
WITH AN AGING POPULATION, THE OCCURRENCE OF AMD WILL BE DOUBLED IN 30 YEARS

AMD POPULATION*
Worldwide est. 100 Million

HARMFUL BLUE LIGHT has been linked to Retinal cell death and AMD.
Help us to provide patients with the Harmful Blue Light protection they need. EVERY EYE. EVERYONE.
IN THE PAST THERE WERE TWO WAYS OF BLOCKING HARMFUL BLUE LIGHT

<table>
<thead>
<tr>
<th>FEATURE</th>
<th>COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>TINT</td>
<td>YELLOW/BROWN TINT</td>
</tr>
<tr>
<td>REFLECTION</td>
<td>BLUE/PURPLE REFLECTIVE COLOR</td>
</tr>
</tbody>
</table>

These protective methods often led patients to choose their protection based on appearance alone.

*Now they can choose lenses based on the protection they need!*
Smart Blue Filter™
Embedded protection against Harmful Blue Light in a clear lens.

Absorbs Harmful Blue Light by having protection that is embedded into the lens.

Transmits essential Blue-Turquoise Light (in the range between 465-495nm).

Clear in color and appearance.

Reduces at least 20% of Harmful Blue Light (in the range between 415-455nm).

No additional cost.
Varilux® Transitions®
Eyezen™+

Smart Blue Filter™ Products
THE #1 PROGRESSIVE LENS BRAND will now provide Harmful Blue Light protection at NO ADDITIONAL COST TO YOU

NEW VARILUX SMART BLUE FILTER™ DIGITAL DESIGNS

<table>
<thead>
<tr>
<th>VARILUX S 4D™</th>
<th>VARILUX® PHYSIO® W3+ EYECODE™</th>
<th>VARILUX COMFORT® W2+ EYECODE™</th>
</tr>
</thead>
<tbody>
<tr>
<td>VARILUX S FIT™</td>
<td>VARILUX® PHYSIO® W3+ FIT</td>
<td>VARILUX COMFORT® W2+ FIT</td>
</tr>
<tr>
<td>VARILUX S DESIGN™</td>
<td>VARILUX® PHYSIO® W3+</td>
<td>VARILUX® COMFORT DRX™</td>
</tr>
<tr>
<td></td>
<td>VARILUX® PHYSIO DRX™</td>
<td>VARILUX COMFORT SHORT DRX™</td>
</tr>
<tr>
<td></td>
<td>VARILUX PHYSIO SHORT DRX™</td>
<td></td>
</tr>
</tbody>
</table>

Driving innovation in the progressive lens category!
Eyezen™+ lenses alleviate digital eyestrain and reduce Harmful Blue Light

All Eyezen™+ lens products will include the Smart Blue Filter™ feature

Eyezen™+ lenses are an upgrade to standard single vision lenses

Driving innovation in the single vision lens category!
All Transitions® Lenses help protect eyes from Harmful Blue Light, both *indoors* and *outdoors*

<table>
<thead>
<tr>
<th>LENS TYPE</th>
<th>INDOOR PROTECTION</th>
<th>OUTDOOR PROTECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transitions® Signature™ VII Lenses</td>
<td>Blocks at least 20% of harmful Blue Light</td>
<td>Blocks over 85% of harmful Blue Light</td>
</tr>
<tr>
<td>Transitions® Vantage™ Lenses</td>
<td>Blocks at least 34% of harmful Blue Light</td>
<td>Blocks over 85% of harmful Blue Light</td>
</tr>
<tr>
<td>Transitions® XTRActive Lenses</td>
<td>Blocks at least 34% of harmful Blue Light</td>
<td>Blocks between 88%-95% of harmful Blue Light</td>
</tr>
</tbody>
</table>

Driving innovation in the adaptive lens category!
COMBINE WITH CRIZAL® FOR THE MOST COMPREHENSIVE EYE PROTECTION
# Eye Protect™ System

## Indoor Protection

<table>
<thead>
<tr>
<th><strong>Smart Blue Filter Products</strong></th>
<th><strong>No-Glare Lens Treatment</strong></th>
<th><strong>Harmful Blue Light Protection</strong></th>
<th><strong>UV Protection</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Varilux® Digital*</td>
<td>Crizal Easy UV</td>
<td>Blocks at least HARMFUL Blue Light</td>
<td>20%</td>
</tr>
<tr>
<td>Eyezen™+</td>
<td>Crizal Alize UV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transitions® Signature™ VII</td>
<td>Crizal Avance UV</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crizal Sapphire UV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varilux® Digital*</td>
<td>Crizal Prevencia</td>
<td>Blocks at least HARMFUL Blue Light</td>
<td>30%</td>
</tr>
<tr>
<td>Eyezen™+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transitions Signature VII</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transitions® XTRActive®</td>
<td>Crizal Prevencia</td>
<td>Blocks at least HARMFUL Blue Light</td>
<td>45%</td>
</tr>
<tr>
<td>Transitions Vantage</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* All Varilux Digital lenses except Varilux Physio Enhanced & Varilux Comfort Enhanced

**E-SPF** is a global index rating the overall UV protection of a lens. E-SPF was developed by Essilor International and endorsed by 3rd party experts. A lens rating of E-SPF 25 means that an eye protected by the lens will receive 25 times less UV exposure than without any lens. E-SPF of 25 when Crizal is made with any lens material other than clear 1.5 plastic.
## Eye Protect™ System
### Outdoor Protection

<table>
<thead>
<tr>
<th>Smart Blue Filter Products</th>
<th>No-Glare Lens Treatment</th>
<th>Harmful Blue Light Protection</th>
<th>UV Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultimate (Activated)</td>
<td></td>
<td>Blocks over HARMFUL Blue Light</td>
<td>85%</td>
</tr>
<tr>
<td>Transitions® Signature™ VII</td>
<td>Crizal Easy UV</td>
<td>Blocks over HARMFUL Blue Light</td>
<td>85%</td>
</tr>
<tr>
<td>Transitions® Vantage</td>
<td>Crizal Alize UV</td>
<td>Blocks over HARMFUL Blue Light</td>
<td>88%</td>
</tr>
<tr>
<td>Transitions® XTRActive</td>
<td>Crizal Avance UV</td>
<td>Blocks over HARMFUL Blue Light</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crizal Sapphire UV</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crizal Prevencia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OUTDOOR Polarized</td>
<td>Xperio UV™ Polarized Sun Lenses</td>
<td>Blocks up to HARMFUL Blue Light</td>
<td>92%</td>
</tr>
</tbody>
</table>

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Protection Against Harmful Light!
Smart Combination
Smart Blue Filter™ + Crizal® Prevencia®

- Together they reduce Harmful Blue Light by 30%
- Allow essential Blue-Turquoise Light

Smart Blue Filter™ Embedded Protection
Crizal® Prevencia® No-Glare Lens Treatment

UV Light
Harmful Blue Light

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Summary

1 Harmful Blue Light
   - Harmful Blue Light has been linked to retinal disorders such as age-related macular degeneration (AMD)* which is the leading cause of vision loss in adults over the age of 50.**

2 No price increase!
   - Valuable innovation you can pass onto your patients
   - Differentiation through superior eye care & brands

3 Offer Blue Light protection to everyone
   - The Smart Blue Filter™ feature will be automatically embedded within Varilux® Digital, Transitions®, and Eyezen™ lenses. This will reduce exposure for millions of patients in the first year alone!

Source: