

XTRACTIVE®

NEW GENERATION

BEST XTRA DARKNESS

BEST XTRA LIGHT
PROTECTION

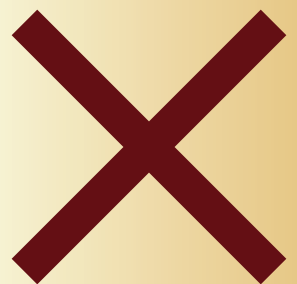
The darkest in hot temperatures, in the car and offering the best overall blue light protection across light situations among clear to extra dark photochromic lenses.



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NEW



Transitions™

Light
Intelligent
Lenses



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KEY TAKEAWAYS



TRANSITIONS OPTICAL AT THE FOREFRONT OF LIGHT PROTECTION

At Transitions Optical, with over **30 years of category leadership**, it is our driving passion and mission to share the benefits of light intelligent lenses with wearers worldwide through a comprehensive understanding of our consumers, pioneering light science research and relentless product innovation.

We have observed an **increase in awareness of the need for light protection** with 7 out of 10 eyeglass wearers saying that protecting their eyes and their eye health is more important now than ever.¹ The latest research in eye health continues to reinforce the importance of light protection and the impact that unprotected, overexposure can have on our vision.

As the most recognized brand for light protection among ECPs and consumers²⁵, *Transitions® Light Intelligent Lenses™* are **the new standard in everyday optical lenses** thanks to their ability to provide the in-demand benefits of superior light protection, an empowered vision experience, glasses-boosting style, and effortless, long-lasting performance through daily life.

In particular, *Transitions® XTRActive®* lenses are very popular with eyeglass wearers who are very sensitive to light and are the #1 selling clear-to-extra dark photochromic lens.²⁵ These wearers seek out *Transitions XTRActive* lenses because they have a strong desire for extra light protection and a superior visual experience.

We are proud to **introduce a new generation of Transitions XTRActive lenses**, especially designed to deliver the best extra darkness and the best extra light protection⁹ that very light sensitive eyeglass wearers and people who are exposed to intense bright light desire.

1. THE NEED FOR EXTRA LIGHT PROTECTION

Wearers who are **very sensitive to light** and wearers who are **exposed to intense bright light situations** seek **extra light protection**.



These challenging lights can impact our immediate vision in the moment of exposure and over time. Long term, cumulative exposure to UV and blue light, for example, can damage our eyes and impact our vision.²¹ This is why wearers who are frequently exposed to bright light or harsh artificial lights can greatly benefit from extra light protection.

VERY LIGHT SENSITIVE WEARERS

30% of eyeglass wearers are **very light sensitive**⁴ and experience **painful symptoms 2.2x more often** than others.⁶

Extra light protection is essential for very light sensitive wearers because they have a **lower light sensitivity threshold**. Even low light intensity from everyday lighting environments (e.g. artificial lighting in the office or supermarket) can bother them. Their struggle intensifies as the light intensity increases and they can **experience symptoms** such as dry

eyes, itchy eyes, headaches and eyestrain³.

For very light sensitive wearers, *Transitions*[®] *XTRActive*[®] new generation lenses can be a life changing experience because they help provide the **extra protection from light** they need from bright light outdoors and from harsh indoor lights and screens.

SYMPTOMS ARE REAL, PAINFUL & EXPERIENCED MORE OFTEN⁶

ITCHY, DRY, OR RED EYES

1 out of 2

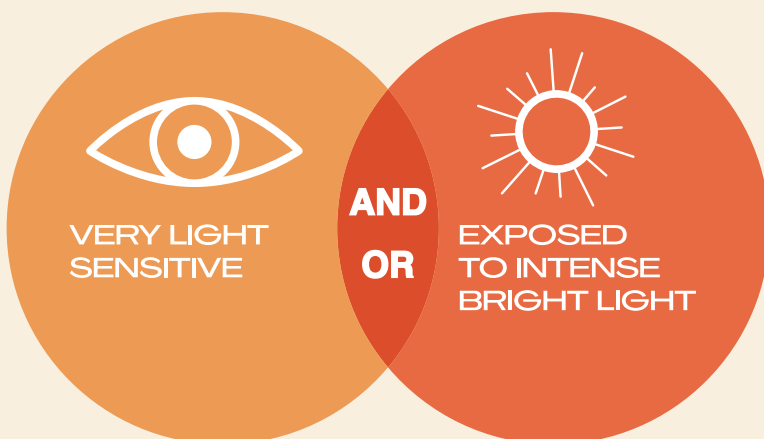
EYESTRAIN OR EYE FATIGUE

8 out of 10

HEADACHE

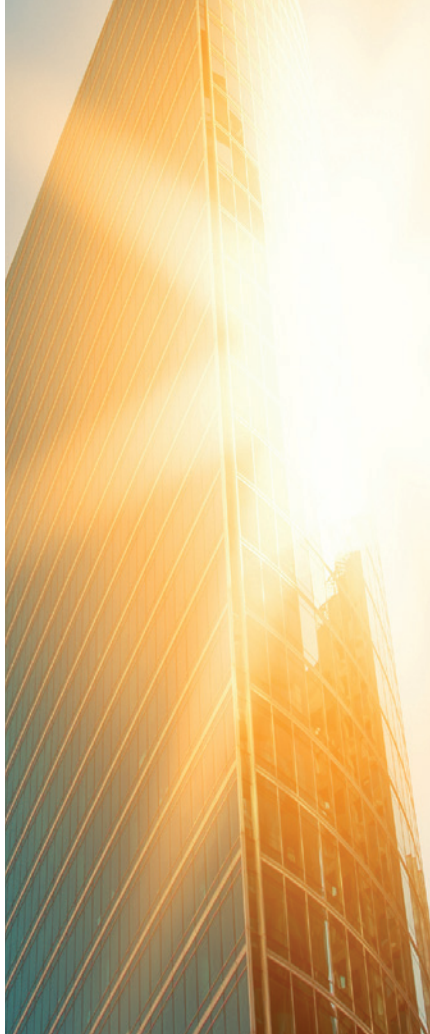
7 out of 10

Figure 1: Who are the wearers who need *Transitions XTRActive* lenses?



A wearer could be both very light sensitive and exposed to intense bright light or just meet one of these criteria (Figure 1). Regardless, *Transitions XTRActive* lenses are **specifically designed to meet their need for extra light protection**.⁵

THE NEED FOR EXTRA LIGHT PROTECTION



22%
of people declare they spend more time going outdoors in bright sunshine than before the pandemic.¹

INTENSE BRIGHT LIGHT EXPOSURE

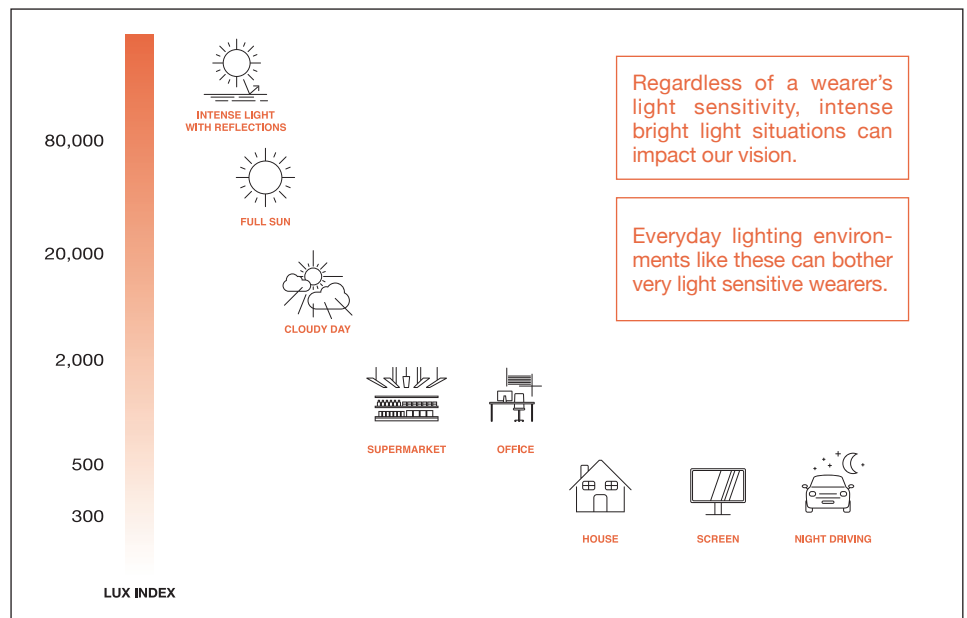
Intense bright light can compromise our vision, creating a poor visual experience.

When there is too much light we may experience photoreceptor saturation, impacting our immediate vision. In bright light situations the retinal processes can be saturated and the wearer can experience blinding glare.²⁰ This is why in bright sunlight we blink or squint as a reflex to protect our eyes.

In the long term, **repetitive exposure** to some lights - including **bright sunlight** - can create a **cumulative effect** and could have an impact on eye health.

Unprotected UV and harmful blue light exposure accelerates eye aging and may cause eye damage or lead to irreversible pathologies.²¹

Figure 2: Different levels of light intensity.





66%

of people declare they spend more time indoors in front of a screen than before the pandemic.¹

BLUE LIGHT EXPOSURE

Modern lifestyles can amplify our struggle with light, especially the effects of blue light.

Unlike natural sunlight which maintains a balance across the spectrum, many of today's devices utilize specific lights - like LEDs - that have an unbalanced spectrum, with a **high ratio of blue light**, which may **accelerate symptoms of vision fatigue, dry eye, and blurred vision.**²³

The problem is amplified when you consider that these lights are typically too focused and the light source is often too close to our eyes. However, it is not only screens that we should be aware of. There is also a **high quantity of blue light in bright light and intense glare.**

In fact, the sun is the largest singular source of harmful blue light, scattering it through the atmosphere and emitting **over 100 times the intensity of electronic devices and screens.**²³

Plenty of research has been carried out on the cumulative effect of blue light and scientists are currently exploring the **impact of blue light** on retinal cells and on long-term eye health.

Transitions® XTRActive® new generation lenses help protect from harsh lights indoors, filtering up to **34% of harmful blue light indoors.**¹⁸ When wearers need blue light protection the most, they block up to **90% of harmful blue light outdoors.**¹⁸

THE NEED FOR EXTRA LIGHT PROTECTION

WEARERS ARE SEEKING A SOLUTION

Today, wearers are more involved than ever in buying their eyeglasses¹, especially wearers who are very light sensitive.

In a recent study, 73% of eyecare professionals reported that wearers were **more interested to eyecare and protection** and 70% agreed that wearers were **more appreciative of**

the relationship with their ECP than than before the pandemic.²² Wearers are more aware than ever of the need to protect their eyes and the important role lenses play.



**WORLDWIDE, PEOPLE
DECLARE¹**

7 out of **10**

say protecting
their eyes and their eye health
is more important now
than ever.

78%

of wearers agreeing
the protection
of their eyes offered by
the lenses is important.

75%

of wearers agree
the lenses should protect from
both UV light and blue light.



It is no wonder then that **brands and products** are playing an increasingly important role in a wearer's eyewear decision.

Prior to their visit, over half of wearers say they search online for information on eyeglasses, and over 40% say

they **try on eyeglasses virtually** via an application.¹

For wearers searching for extra light protection, the new generation of *Transitions® XTRActive®* lenses is an **incredible find**.

MAIN REASONS PEOPLE SEARCH FOR EXTRA LIGHT PROTECTION⁷

DAY DRIVING

"I would say that the argument is road safety. When I drive in the morning or in the evening there is a light that bothers me a lot."

ARTIFICIAL LIGHT INDOORS

"Inside too, I'm sensitive; I sometimes squint. Even after only an hour of looking at a screen, I started to get headaches."

IN FRONT OF SCREENS

"In front of the screens also, they [*Transitions XTRActive* new generation lenses] are restful. We really feel it."

BRIGHT SUNLIGHT

"My eyes hurt when the light is too bright."



2. INTRODUCING *TRANSITIONS*® *XTRACTIVE*® NEW GENERATION

Transitions® *XTRActive*® new generation lenses offer the **best extra darkness** and the **best extra light protection**.⁹



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INTRODUCING TRANSITIONS XTRACTIVE NEW GENERATION

BEST XTRA DARKNESS BEST XTRA LIGHT PROTECTION

THE DARKEST IN HOT TEMPERATURES




**THE DARKEST
IN HOT
TEMPERATURES**

DARKNESS

Specially designed for intense bright light, *Transitions® XTRActive®* lenses achieve their maximum darkness in moderate temperatures.

They are the darkest lens in hot temperatures being the only photochromic lens achieving category 3 levels of darkness in hot temperatures.¹⁰



**BLOCK
100%
UVA & UVB**

UV PROTECTION

The level of darkness is optimized to allow usage across light situations.

As with all *Transitions* lenses they block 100% of UVA and UVB rays.





THE DARKEST IN THE CAR



In the car, *Transitions® XTRActive®* lenses utilize exclusive broad-spectrum dyes to absorb visible light and activate behind the windshield according to the light intensity. *Transitions XTRActive* new generation lenses are the darkest photochromic lens to activate in the car and the only one to achieve category 2 levels of darkness.¹¹



BEST BLUE LIGHT PROTECTION INDOORS



Transitions XTRActive new generation lenses help provide the best blue light protection indoors¹⁶, blocking up to 34% of harmful blue light.¹⁸

They activate from clear indoors to extra-dark outdoors to help provide the best overall blue light protection across light situations¹⁷, outdoors they block up to 90% of harmful blue light.¹⁸

INTRODUCING TRANSITIONS XTRACTIVE NEW GENERATION

FASTER TO FADEBACK AND CLEAR INDOORS



**CLEAR
INDOORS
WITH A HINT OF
PROTECTIVE
TINT**

INDOOR CLARITY

Indoors, under low light intensity, *Transitions® XTRActive®* new generation lenses are clear with a hint of protective tint to help protect from harsh indoor lighting and digital devices.



**UP TO 35%
FASTER
FADEBACK**

RESPONSIVENESS

Transitions XTRActive new generation are up to 35% faster to fadeback¹⁴ compared to our previous generation.





WEARER EXPERIENCE

Transitions[®] *XTRActive*[®] new generation lenses have been tested by wearers in their daily life with impressive results and an overall satisfaction rating of 98%.¹³

At Transitions Optical, we utilize a **proprietary comprehensive, consumer-centric approach to product development**. This helps ensure not only the quality and performance of our products but also the relevance to wearers daily lives.

In one particular, wearers test we recruited a panel of participants to try both *Transitions XTRActive* new generation lenses and premium clear lenses for 7 days for each pair.⁸

We then explored their experience even further by conducting in-depth individual interviews to help gain insights into their vision experience with *Transitions XTRActive* new generation lenses.

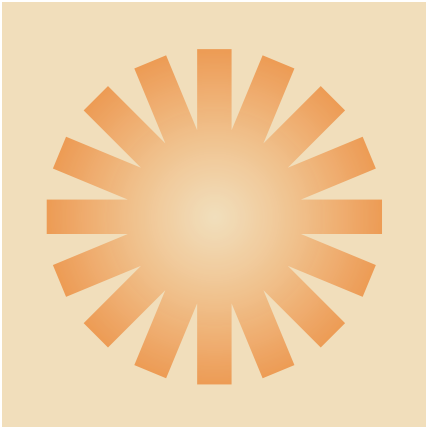
The results of our testing revealed that wearers who prefer *Transitions XTRActive* new generation lenses recognized that the lenses help **provide superior protection** and an **improved vision experience** that includes greater sharpness, higher contrast, and a wider field of vision.⁷



INTRODUCING TRANSITIONS XTRACTIVE NEW GENERATION

88%

of wearers feel their eyes
were very well protected.⁸



LIGHT PROTECTION: OUTSTANDING WEARER SATISFACTION

The protection offered by *Transitions*® *XTRActive*® new generation lenses, especially in bright sunlight outdoors, is often the first thing wearers appreciate about the lenses.

Additionally, some wearers are reassured to see the slight activation of the lenses in intense visible light indoors. This hint of protective tint is not noticeable by all wearers, but those that notice it say it comforts them confirm that the lenses do the “job” to protect them when needed, even when they are not conscious of this need.

IMPROVED VISION EXPERIENCE

Transitions XTRActive new generation lenses, superior vision performance is one of the top reasons wearers keep them.

Wearers are impressed with the ability of *Transitions XTRActive* new generation lenses to provide sharpness of vision, higher contrast, wider corrected scope, and clarity—while decreasing fatigue, discomfort and perceived symptoms associated with poor vision.

WEARERS' SATISFACTION¹³

97%

are satisfied with the ability
to see their environment
quickly and precisely

98%

are satisfied with the clarity
of vision

94%

are satisfied with the field
of vision

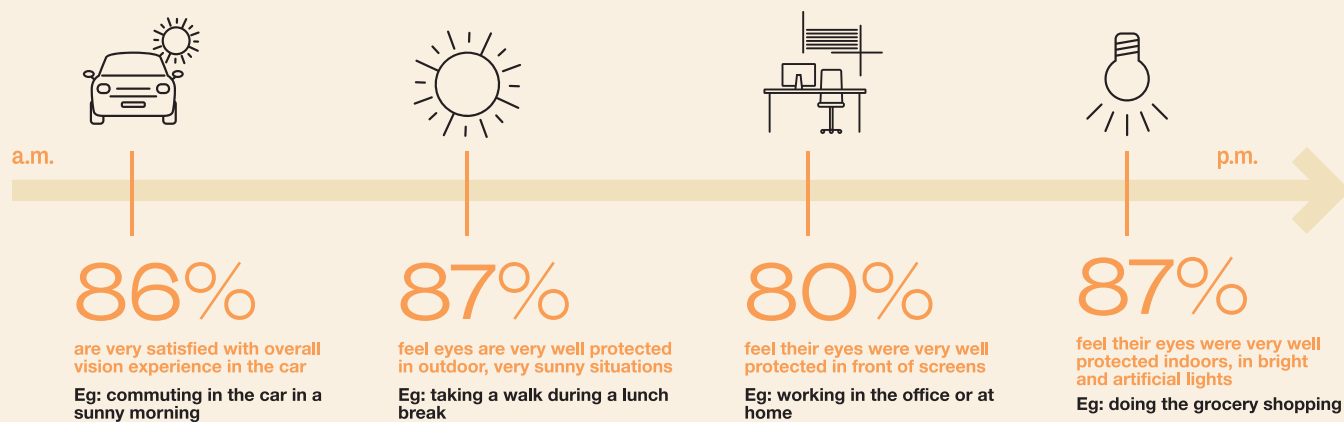


IDENTIFYING WEARERS WHO PREFER TRANSITIONS® XTRACTIVE® NEW GENERATION

As eyecare professionals, you can be confident recommending this new innovation to eyeglass wearers who are aware of their need for light protection and who are seeking better vision performance.

Our testing indicates that you can easily identify these wearers by looking for people who are aware of their sensitivity to light—bright light outdoors and in changing, artificial or specific light situations—and are consciously aware of the need to protect their eyes from light.⁷

Figure 3: *Transitions XTRActive* new generation wearers experience in daily life.¹³



3. CUTTING-EDGE CLEAR-TO- EXTRA DARK TECHNOLOGY

Transitions® XTRActive® new generation lenses leverage the most cutting-edge clear-to-extra dark technology on the market today for an evolutionary leap in innovation and unmatched performance.



NEW POWERFUL XTRACTIVE DYES

Transitions[®] *XTRActive*[®] new generation lenses introduce our most advanced dye package ever with new photochromic molecules fine-tuned to provide the best darkness, improved activation and fadeback, and consistent color through all phases of activation.

BEST EXTRA DARKNESS, EVEN IN HOT TEMPERATURES

All photochromic molecules, fadeback reaction is impacted by temperature, and the higher the temperature the faster the rate of fade. For other photochromic lenses, higher temperatures typically leads to less darkness overall.

Transitions XTRActive new generation lenses have **cracked the temperature challenge by absorbing further into the visible region of the light spectrum.** As a result, they are more powerful, providing the best extra darkness outdoors—up to a category 3 level even in hot temperatures.¹⁰



EXTENDED MOLECULAR STRUCTURE

These new molecules are the result of Transitions Optical's **many years of expertise in modifying the molecular structure** of photochromic dyes. By adding or replacing branches in the molecular structure, Transitions dye chemists manipulate specific areas of the molecules to achieve **improvements in darkness, color and speed.**

Utilizing our extensive expertise in this area, Transitions Optical has successfully extended the molecular structure of the dye, improving their **ability to absorb more visible light energy** which drives the activation of the lenses in intense light situations.

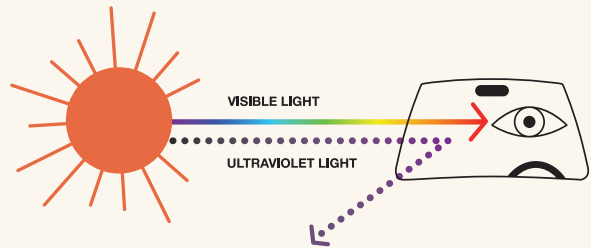
CUTTING-EDGE CLEAR-TO-EXTRA DARK TECHNOLOGY

IMPROVED SOLAR SPECTRUM ABSORPTION

These new, powerful *XTRActive* dyes **absorb energy further into the visible wavelengths of the solar spectrum**, allowing for the best ever activated darkness in the *XTRActive* range.

This includes **behind the windshield of a car** where UV absorbers protect the car interior and passengers from harmful UV. By absorbing intense visible light behind the windshield, *Transitions® XTRActive®* new generation lenses are **the darkest clear-to-extra-dark photochromic lens to activate in the car and the only one to ever achieve category 2 levels of darkness.**¹¹

Figure 4: *Transitions XTRActive* new generation visible light activation for in car darkness.

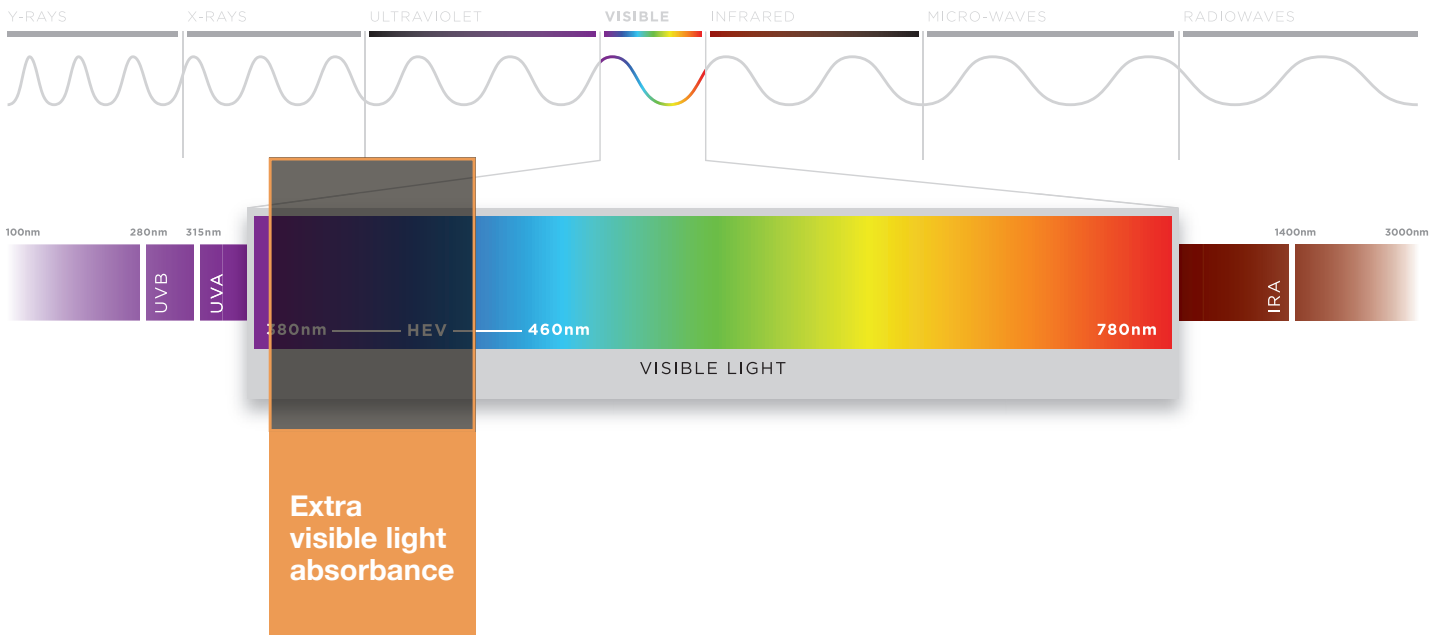


ENHANCED PERFORMANCE IN MORE SITUATIONS

Transitions XTRActive new generation lenses are more powerful than other clear-to-extra-dark photochromic lenses thanks to the extra visible light absorbance of this new generation of powerful *XTRActive* dyes. As a result, they achieve **better activated darkness under a variety**

of conditions including in the car, in hot temperatures, and even in lower temperatures where *Transitions* dye chemists have been able to modify the dye molecules in such a way that they avoid being too dark in colder environments.

Figure 5: *Transitions XTRActive* new generation extra visible light absorbance.





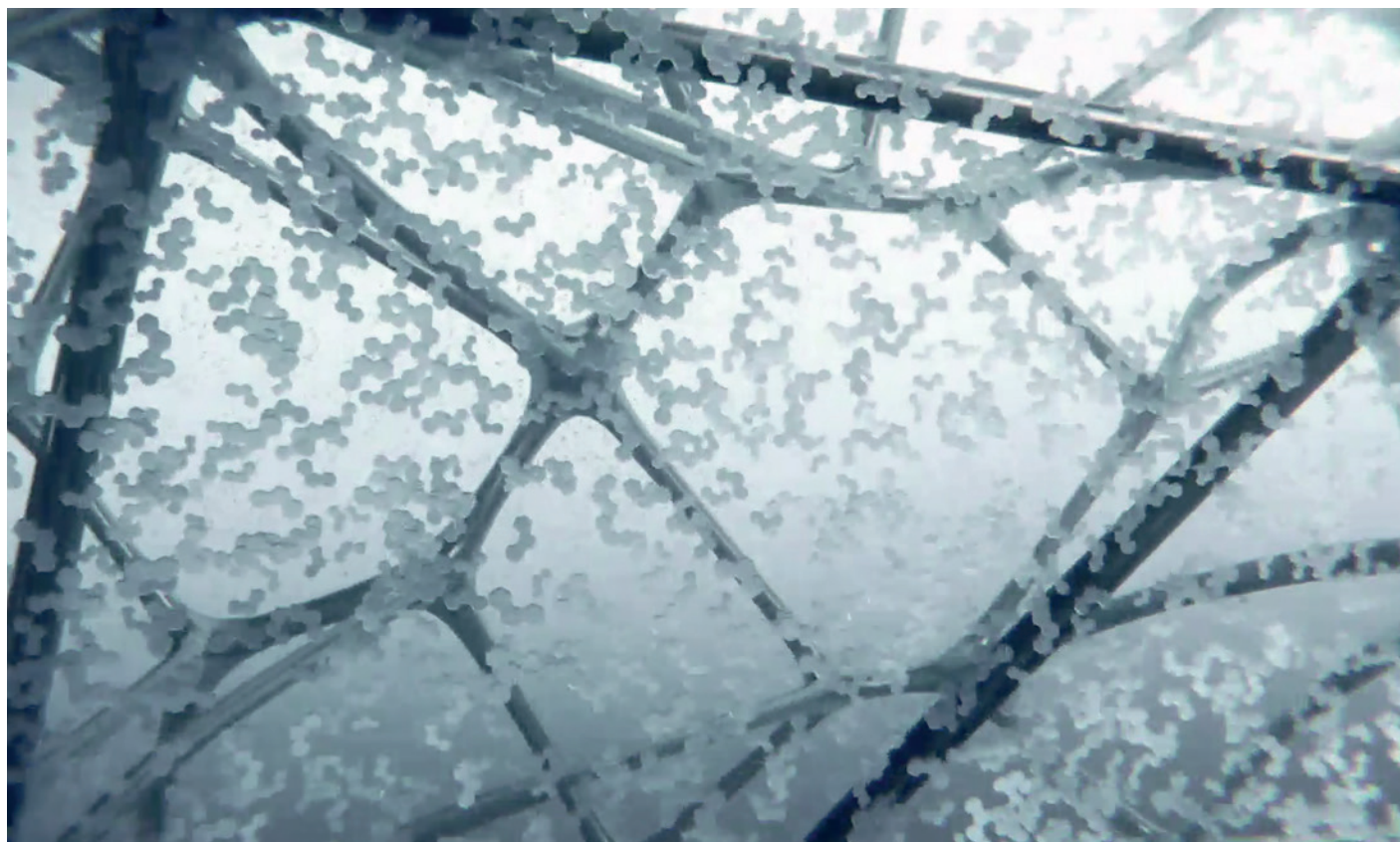
EXCLUSIVE, NEW NANO-COMPOSITE MATRIX

Transitions® *XTRActive*® new generation lenses take advantage of all of the advancements made on *Transitions* exclusive, new nano-composite matrix technology to **break the compromise between darker and faster performance.**

This exclusive, new nano-composite matrix mimics a semi-crystalline structure that creates more defined hard and soft domains. This ensures the matrix avoids the trap

other photochromics fall into to achieve an improvement in one dimension (e.g. improving darkness or speed) while declining in another (e.g. sacrificing hardness or clarity).

By creating hard and soft spaces, the powerful *XTRActive* dyes can easily seek the softer environments allowing them increased mobility and resulting in lenses that activate and fadeback fast without sacrificing darkness or durability.



EXCLUSIVE NEW TECHNOLOGY

UNMATCHED PERFORMANCE

Being the darkest, Transitions® XTRACTive® new generation lenses are the most powerful lens in the clear-to-extra dark category.

They provide superior, unmatched performance across a range of light situations:





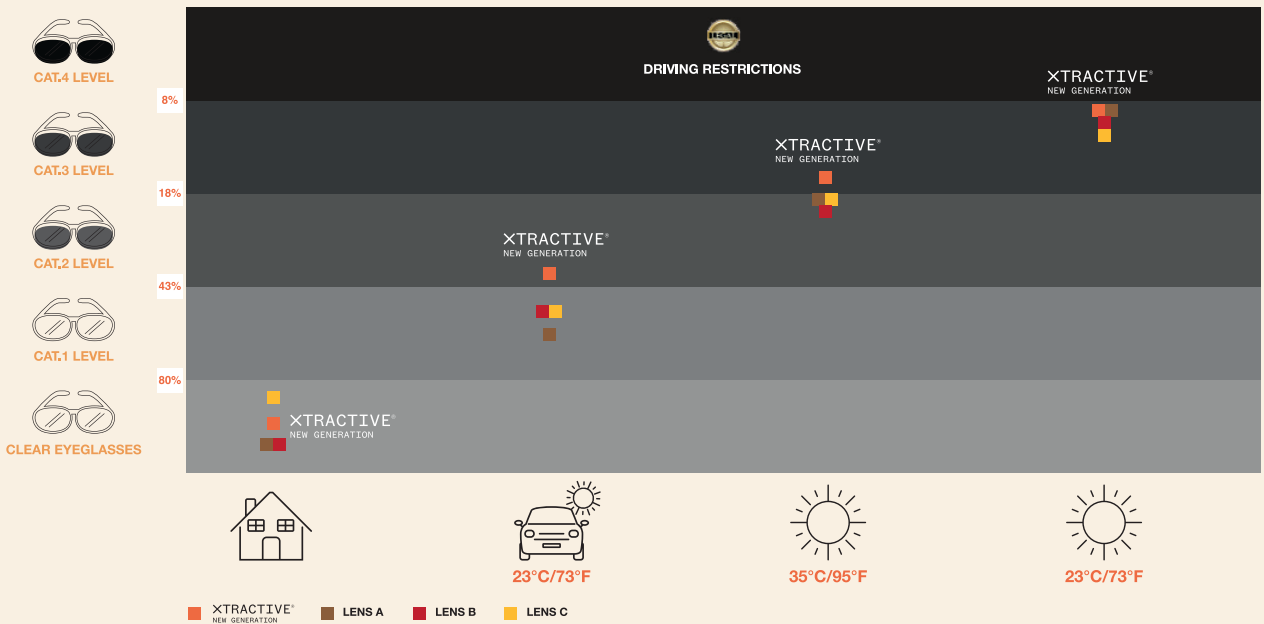
-  Best blue light protection indoors.¹⁶
-  Darkest in the car and the only photochromic lens to achieve category 2 levels behind the windshield.¹¹
-  Best extra darkness, even in hot climates and the only photochromic lens achieving category 3 levels of darkness in hot temperatures.¹⁰
-  Achieves maximum darkness in moderate temperatures.²⁴

Figure 6: Level of darkness across a range of light situations.

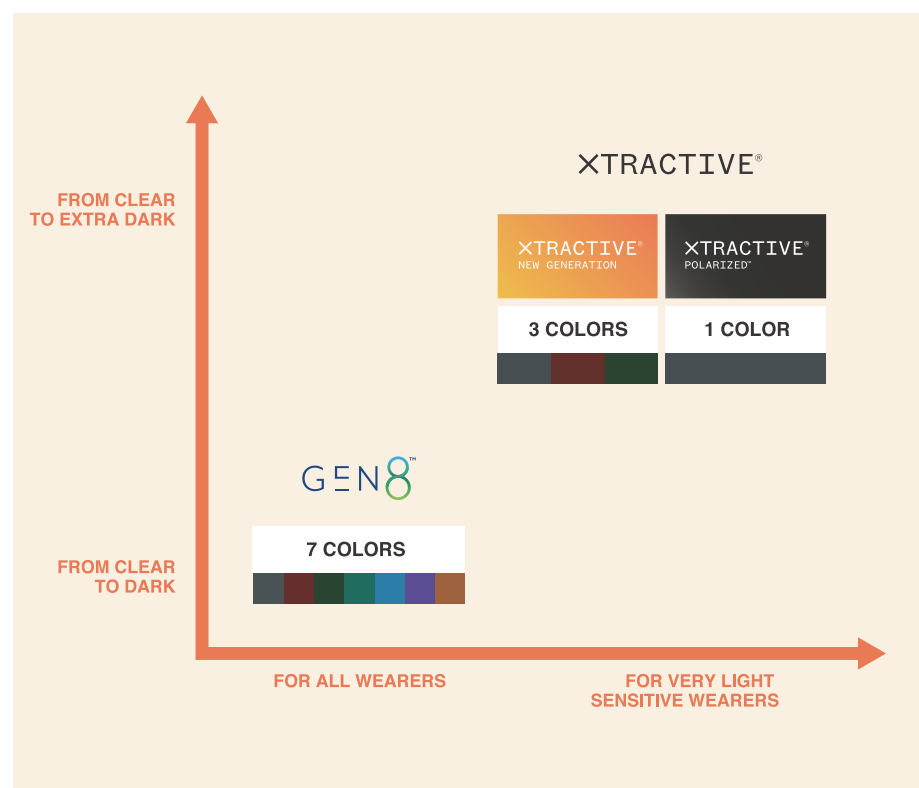




TRANSITIONS®, THE NEW STANDARD IN EVERYDAY OPTICAL LENSES

Transitions portfolio provides a tailor made solution for all eyeglass wearers to meet their desire for superior light protection, empowered vision experience, and style.

Figure 7: *Transitions*® light intelligent lenses™: the new standard in everyday optical lenses.



For those who are very light sensitive and/or frequently exposed to very bright lights, the new ***Transitions XTRActive*** range of extra dark lenses - led by ***Transitions XTRActive*** new generation - are uniquely designed to meet their need for the **best extra darkness and best light protection**⁹.

Now this incredible range is also introducing ***Transitions@ XTRActive@ Polarized™*** lenses - **the only and best ever photochromic polarized lens**¹² that activates from clear indoors to dark and polarized outdoors.

For more on this exciting new innovation, refer to the white paper ***Transitions XTRActive Polarized: Defy the Glare.***

DEFY
THE
BRIGHT



KEY TAKEAWAYS

***Transitions® XTRActive®* new generation lenses offer the best extra darkness and the best extra light protection⁹.**

- *Transitions XTRActive* new generation lenses are especially designed to deliver the **best extra darkness** and the **best extra light protection** that **very light sensitive** eyeglass wearers and people who are **exposed to intense bright light** expect.
- *Transitions XTRActive* new generation lenses utilize the most advanced, cutting-edge technology to achieve an **evolutionary leap in clear-to-extra dark performance**.
- *Transitions XTRActive* new generation lenses are the **most powerful lens in the clear-to-extra dark category** offering the best extra darkness even in hot climates¹⁰ and are the darkest in the car.¹¹
- *Transitions XTRActive* new generation lenses are **clearer than ever with a hint of protective tint to provide** the **best blue light protection indoors**.¹⁶
- Thanks to *Transitions wearers testing*, you can be **confident recommending** *Transitions XTRActive* new generation lenses to eyeglass wearers who are aware of their need for **extra light protection** and who are **seeking superior vision**.
- For people who want extra protection in high-glare situations, the *XTRActive* range now includes ***Transitions® XTRActive® Polarized™* lenses - the only and best ever photochromic polarized lenses¹²** that activate from clear indoors to dark and polarized outdoors.

SOURCES

- * The darkest in hot temperatures, in the car and offering the best overall blue light protection across light situations among clear to extra dark photochromic lenses.
- 1 Transitions Optical, Global Consumer Sentiment and Behavior, Multi-country survey (AR, AU, CO, FR, IT, SG, ZA, UK, US), Q4 2020, People Research, N=6,403/N=700 per country, Eyeglasses wearers agree to say Top2Boxes.
- 2 Transitions Optical Life 360™ Live Wearer Testing, (U.S., France, China), Ifop, 2016-2017, N=117 eyeglass wearers.
- 3 Transitions Optical, Wearers Survey, Value Proposition & Light Management, U.S., 2019, N=134 (self-declared very light sensitive to light) *caution: small sample size.
- 4 Transitions Optical, Quality of Vision & Vision Experience Test, US, Eurosyn, Q4 2019, Controlled Lab N=133/Real Life N=146. Better protection from UV and harmful blue light compared to premium clear lenses. Higher satisfaction with vision experience declared by wearers compared to premium clear lenses. Better look compared by wearers to premium clear lenses.
- 5 *Transitions XTRActive* new generation being the darkest in hot temperatures, in the car and reaching the maximum at category 3 @23°C, the best blue light protection across more light situations.
- 6 Compared to wearers who declared they were not light sensitive. Transitions Optical, Wearers Survey, Value Proposition & Light Management, U.S., 2019, N=134 (self-declared very light sensitive to light) Transitions Optical, Marketing Value Proposition & Light Management, Consumer research, U.S., Dynata, Q1 2019, N=993.
- 7 Transitions Optical, *XTRActive new generation* Determinant Attributes & Wearer Experience Qualitative Research (IDIs), France, Eurosyn, Q4 2020, N=12 (all participants describe themselves as particularly and even very sensitive to light).
- 8 Transitions Optical, Quality of Vision and Vision Experience Test In Real Life situations (Life Wearer Testing), France, Eurosyn, Q3 2020, N=148 - Top4Boxes.
- 9 *Transitions XTRActive* new generation: the darkest in hot temperatures and in the car, achieving maximum darkness (category 3 levels) @23°C and offering the best overall blue light protection across light situations among clear to extra dark photochromic lenses.
- 10 Clear to extra dark photochromic category. Polycarbonate and 1.5 grey lenses tested at 35°C achieving <18%T using Transitions Optical's standard testing method.
- 11 Clear to extra dark photochromic category. Polycarbonate and 1.5 grey lenses tested at 23°C behind the windshield achieving between 18%T and 43%T.
- 12 Compared to clear to extra dark photochromic lenses.



- 13** Transitions Optical, Quality of Vision and Vision Experience Test In Real Life situations (Life Wearer Testing), France, Eurosyn, Q3 2020, N=148 – Top4Boxes.
*Based on wearers who preferred XTRActive II lenses (32% of total wearers). Cautious: small base size (n=46 wearers who preferred XTRActive II lenses).
- 14** Compared to the previous generation, across materials tested on grey lenses fading back to 70% transmission at 23°C.
- 15** Transitions Optical, *Transitions XTRActive* new generation Determinant Attributes & Wearer Experience Qualitative Research (IDIs), France, Eurosyn, Q4 2020, N=12 Consumers (whopreferred *Transitions XTRActive* new generation lenses).
- 16** Protection from harmful blue light (380nm-460nm) at 23°C among polycarbonate and 1.5 grey lenses in the clear to extra dark photochromic category.
- 17** Harmful blue light (380nm-460nm) indoors measured at 23°C, behind the windshield, outdoors at 23°C and 35°C among polycarbonate and 1.5 grey lenses in the clear to extra dark photochromic category.
- 18** “Harmful blue light” is calculated between 380nm and 460nm. Based on polycarbonate grey lenses tested outdoors at 23°C.
- 19** In the clear to extra dark photochromic category.
- 20** Mainster MA, Turner PL. Glare’s causes, consequences, and clinical challenges after a century of ophthalmic study. American journal of ophthalmology. 2012;153(4):587-593.
- 21** Points de Vue “UV and Blue-violet light ocular risks and prevention” Special Edition #2 Collection of articles 2011-2017.
- 22** Transitions Optical, Global ECPs Sentiment and Behavior in Covid-19 context, Multi-country survey (FR, IT & US), Q4 2020, Viktahu & Sermo, N= 408 ECPs.
- 23** Baillet G., Granger B., How Transitions® lenses filter harmful blue light, Points de Vue, International Review of Ophthalmic Optics, online publication, March 2016.
- 24** Clear to extra dark photochismic category. Tested on grey lenses across materials at 23°C outdoors achieving >8%T (Category 3 Darkness Levels) using Transitions Optical’s standard testing method.
- 25** Sales of extra dark photochromic lenses reported by ECPs. Transitions Optical, Eyecare Professional Brand Tracking (MSW-ARS), 2019: USA.
- 26** MSW-ARS, Global Consumer Brand Tracking, 11 countries (US, CA, FR, IT, UK, SP, GE, BR, CO, CH, IN), 2020. MSW-ARS, US ECPs Brand Tracking, (N=200), Q4 2020, MSW-ARS, FR ECPs Brand Tracking, (N=150), Q4 2020, MSW-ARS, IT ECPs Brand Tracking, (N=147), Q4 2020.

