

Varilux® X series™: For a generation of wearers with new needs

Today's presbyopes are made up of 2 generations: the Baby Boomers and Generation X.

Generation X has been strongly shaped by the emergence of new technologies such as the walkman, computers and the internet, resulting in a new way of life. The main attributes of Generation X are:



LATE PARENTS

♦ Median age to have their first child rose to 30 years old (1)



ALWAYS FEEL RUSHED

♦ 31% for Generation X, versus 23% for other adults⁽²⁾



MULTITASKERS

◆ They want to balance it all: career, family, hobbies...⁽³⁾



CONNECTED

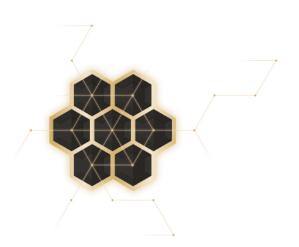
♦ The first generation to grow up with computers



- ♦ 90% of time is spent indoors, mostly using intermediate and near vision
- Close vision is associated with personal space and highly emotional situations to which people grant much importance

This new way of life impacts visual needs and what they expect from their glasses. They want to be able to:

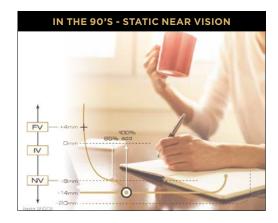
- Keep up with the pace they have
- Navigate seamlessly and with fluidity in their multitasking world



Pew research center (2015) / The Nielsen Global Survey of E-commerce (2014) / Toledoblade, Gen X interviewee

A pioneering approach to near vision

Based on their needs and the challenges that they face today, Varilux has reinvented near vision at arm's length, moving from one "near" to multiple "near".



A SINGLE NEAR DISTANCE

(1 PLANE AT 40 CM)

Previously in the design of a progressive lens, we only considered for near vision one single plane for one single gaze direction (40 cm at 36°).



MULTIPLE NEAR DISTANCES

(SPHERE AT ARM'S LENGTH: 40 TO 70 CM)

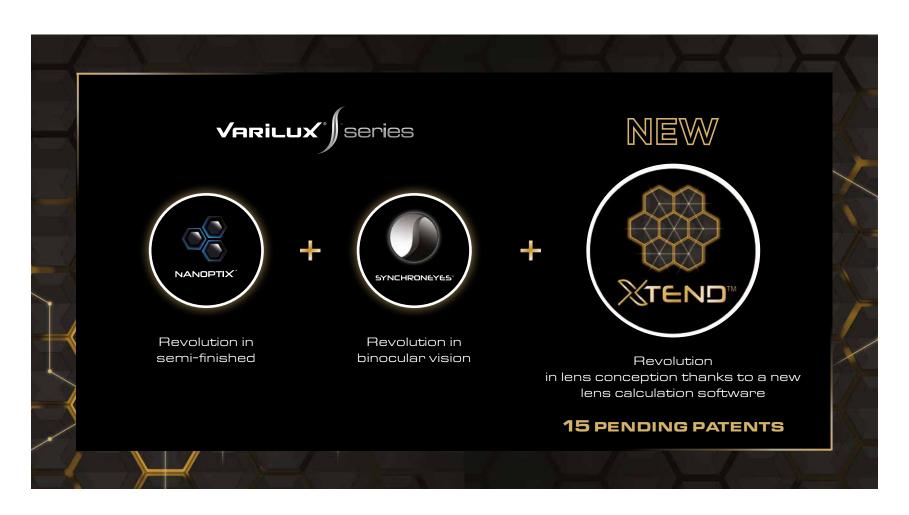
Today for Varilux' X series, we take into account the full variety of visual needs at near. These multiple near distances correspond to a sphere between 40 and 70cm at **arm's length** (from 22° to 34°).



Introducing Varilux® X series™, extended vision within arm's reach

Varilux X series allows your patients to seamlessly capture every detail within arm's reach, as well as beyond.

Varilux X series is the unique combination of 3 revolutionary technologies.



NEW: Xtend technology, the highest match with wearers' visual needs at arm's length.



Xtend[™] technology: A revolution in lens conception thanks to a new lens calculation software

2 STEPS TO PROVIDE VISION VOLUME



FOR THE FIRST TIME, BREAKTHROUGH XTEND™ TECHNOLOGY DELIVERS THE HIGHEST MATCH WITH WEARERS' VISUAL NEEDS WITHIN ARM'S REACH THAT HAS EVER BEEN ACHIEVED BY A PROGRESSIVE LENS DESIGN***

1 - VARILUX DESIGNERS CAPTURED WEARERS' VOLUME OF NEEDS**



Laptop keyboardSheet of paper

Laptop screen

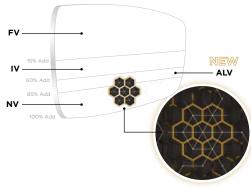
Social interaction

E-ReaderSmartphone

PC monitor

Tablet

2 - THEY RESHAPED A SPECIFIC ZONE: ARM'S LENGTH VISION ZONE (ALV)



STANDARD OPTIMISATION

1 TARGET FOR 1 GAZE DIRECTION



XTEND™ TECHNOLOGY OPTIMISATION

MULTIPLE TARGETS FOR 1 GAZE DIRECTION



^{*15} pending patents refering to regular, short and personalised versions of Varilux[∗] X series[™]

^{**}Volume of needs represents the sum of the vision volume of all objects within arm's length. Each object's individual volume is calculated based on an average volume over 20 subjects positioned at an average distance from the object.

^{***75%} match with Varilux* X design, highest match vs 8 premium progressive lenses from Essilor's main competitors. % Match is calculated on the base of lenses sets: [-4.00D Add +2.00], -4.00D Add +2.00]; [-3.00D ADD +2.00], -1.50D ADD +2.00]; [-4.00D ADD +2.00], +4.00D ADD +2.00]; [-4.00D ADD +2.00], -4.00D ADD +2.00]; [-4.00D ADD ADD +2.00];

Varilux® X series™: Approved by wearers

Comprehensive wearer validation process to ensure full satisfaction

WEARER TEST

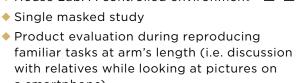
- ◆ Real life testing for 2-3 weeks
- ◆ Controlled, cross-over & double masked study
- Product evaluation through a validated questionnaire based on universal criteria (i.e. quality of vision)



USAGE TESTS NEW

- House Lab: A controlled environment
- Product evaluation during reproducing with relatives while looking at pictures on a smartphone)







HIGH SATISFACTION WITHIN ARM'S REACH

following

morning beauty routine

SEAMLESSLY

CAPTURE EVERY

DETAIL WITHIN

ARM'S REACH⁽⁴⁾

doing precise

tasks

90% orienteering

in the street

97%

looking at a

dashboard

reading in a lying

position

100%

watching a movie

& sending texts

group discussion

NO MORE HEAD MOVEMENTS

In all situations tested, wearers find that they need very little head movement to find the right spot during multitasking at arm's length(3)









⁽¹⁾ Single-centre study - Eurosyn - France (n=42). Among wearers who made a choice (n=28/42).

⁽²⁾ International multi-centre study (n=66). For overall and dynamic vision, wearers rated on a 10-point scale from 'Not clear at all' to 'Very clear'. Good visual quality is from 7 to 10. For distance, intermediate and near vision, wearers rated on the same scale and on a 10-point scale from 'Not clear at all' to 'Very clear'. 'Very narrow' to 'Very wide'. Good visual quality is when average of clarity and width is from 7 to 10.

⁽⁵⁾ Single-centre study - Eurosyn - France (n=42). % of wearers who need a little or no head movements to see clear. Wearers chose among: 'Not at all', 'A little, just right', 'Too much', 'Far too much'.

⁽⁶⁾ Single-centre study - Eurosyn - France (n=42). Wearers rated on a 10-point scale from 'Not satisfied at all' to 'Very satisfied'. Satisfied wearers are from 7 to 10 (n=19 to 42/42 depending on activities). Wearers rated 'satisfaction with focus' for 'Multitasking' activity. *Pr. José Sahel received no remuneration for validating these protocols.

Varilux® Xclusive 4D™ - The first complete in-practice experience that combines physiological and behavioural measurements.

Physiological components measured through highly accurate Visioffice": Fitting parameters Eye rotation centre Dominant eye Behavioural components measured through the reproduction of a familiar near vision daily task: Near Vision Behaviour

Varilux® Xclusive 4D™: up to 84% match** with wearers' visual needs at arm's length

- ◆ Varilux* Xclusive 4D™ combines a wearer's physiological data from Visioffice* with their behavioural and postural data from the Near Vision Behaviour measurement, achieving the highest level of personalisation within the Varilux* range.
- New Varilux* Xclusive 4D™ progressive lens outperforms Varilux* X design and competitor lenses, giving wearers the highest match with their visual needs at arm's length: up to 84% match for Varilux* Xclusive 4D™ vs. 75% for Varilux* X design and 59% on average for competitors' premium PALs**.
- With Varilux* Xclusive 4D™, wearers will enjoy the highest visual performance* and a complete in-store experience that they will come back for.

^{*} Visioffice 2

^{*}Within Varilux* X series™ range, and considering Varilux* X design superiority (without any personalised measure) vs. 8 main competitors. 2016 R&D calculations.

^{**} Best score vs 8 premium lenses from main competitors tested. Up to calculation for 1 NVB measure and 1 Eyecode" measure. % Match is calculated on the base of lenses sets: [-4.00D ADD +2.00, -4.00D ADD +2.00]; [-3.00D ADD +2.00]; [-3.00D ADD +2.00]; [-4.00D ADD +2

By recreating a familiar near vision task in practice, we can accurately capture the Near Vision Behaviour measurement.



A 4-in-1 measurement combining postural and visual behaviour in near vision

• Near Vision Behaviour is an imitation of a reading task. It tracks the reader's eye saccades to assess their visual needs and optimise the shape and position of vision volume.

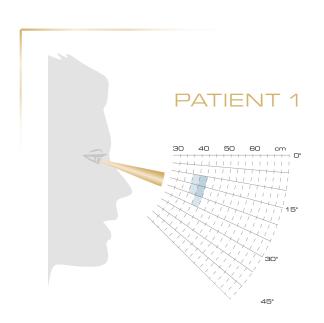


Near Vision Behaviour is key

Each patient behaves differently whilst performing a near vision task.

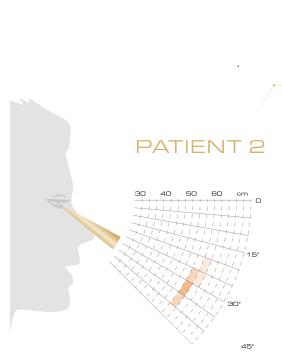
That's why knowing a presbyope's behaviour at near is key to providing them with:

- ◆ The best possible vision
- ◆ The best postural comfort



BEHAVIOUR OF PATIENT 1:

- ♦ Holds tablet close
- Slight gaze lowering
- ◆ Concentrated behaviour

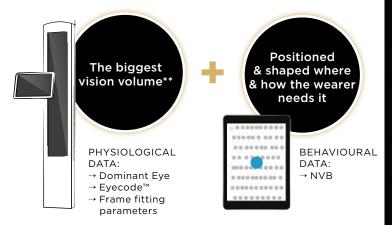


BEHAVIOUR OF PATIENT 2:

- Holds tablet far
- Significant gaze lowering
- Spread behaviour

Varilux® Xclusive 4D™ capitalises on Visioffice measurements to achieve the highest visual performance

Individual parameters measured by Visioffice*® (Dominant Eye, Eyecode™ and frame fitting parameters) contribute to define the biggest vision volume**, while Near Vision Behaviour measurements helps position and shape it where and how the wearer needs it.



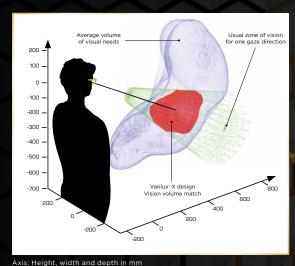


^{*} Visioffice2

*****Best score vs 8 premium lenses from main competitors tested. Up to calculation for 1 NVB measure and 1 Eyecode** measure. % Match is calculated on the base of lenses sets: [-4.00D ADD +2.00, -4.00D ADD +2.00]; [-3.00D ADD +2.00, -1.50D ADD +2.00]; [Plano Add +2.00, Plano Add +2.00]; [-1.50D ADD +2.00, +2.50D ADD +2.00]; [+4.00D ADD +2.00, +4.00D ADD +2.00] and head posture [Incl: 50° Ex: 0°]; [Incl: 20° Ex: 0°]; [Incl: 0° Ex: 5°]; [Incl: -10° Ex: 5°]. 2016 R&D calculations.



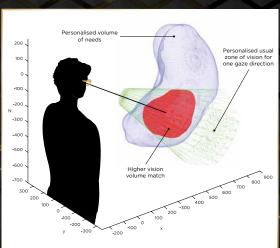
With Varilux' X design, a given wearer benefits from an **average** volume of visual needs, regardless of their behaviour and posture.



from a **personalised** volume of visual needs, that is optimised for their own behaviour and posture.

With Varilux Xclusive 4D™, the same wearer benefits

VARILUX clusive 40



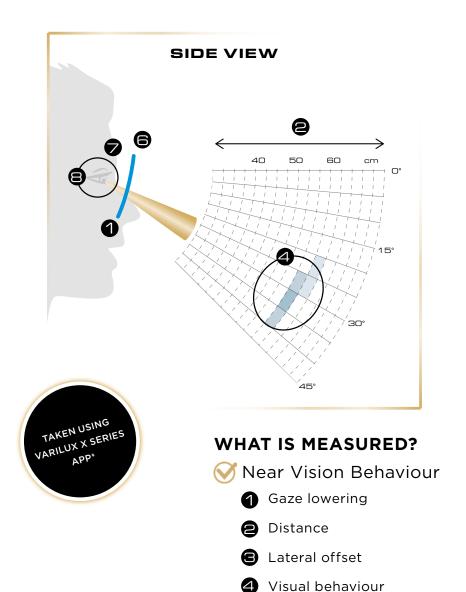
Axis: Height, width and depth in mm

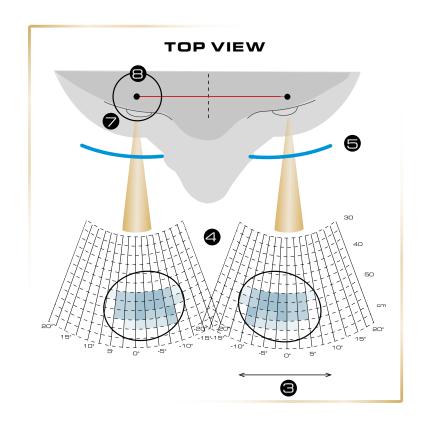
THIS COMBINATION OF PHYSIOLOGICAL AND BEHAVIOURAL MEASURES HELPS ACHIEVE THE HIGHEST MATCH WITH WEARERS' VISUAL NEEDS AT ARM'S LENGTH EVER ACHIEVED BY A PROGRESSIVE LENS: UP TO 84% (vs. 75% for Varilux X design and 59% on average for competitors' premium PALs)****

^{**}Personalised vision volume with the wearer's own visual needs

^{***}Up to 84% match for Varilux* Xclusive 4D**. Best score vs 8 premium lenses from an competitors tested. Up to calculation for 1 NVB measure and 1 Eyecode** measure. % Match is calculated on the base of lenses sets: [-4.00D ADD +2.00, -4.00D ADD +2.00]; [-3.00D ADD +2.00, -1.50D ADD +2.00]; [Plano Add +2.00, Plano Add +2.00]; [+1.50D ADD +2.00, -4.50D ADD +2.00] and head posture [Incl: 50° Ex: 0°]; [Incl: 20° Ex: 0°]; [Incl: 0° Ex: 5°]; [Incl: -10° Ex: 0°]; [Incl: -10° Ex: 0°];

Representation of your patient's visual behaviour: Combined measurements for ultimate level of personalisation



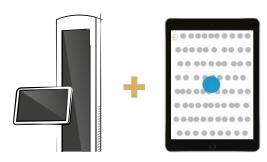


- Frame fitting parameters (wrap angle **5**, pantoscopic tilt **6**)
- **⊘** Eyecode® (ERC **⊘**)
- ✓ Dominant eye
 ⑤

*Compatible with iPad Air & iPad Air 2

Beyond product performance, patients expect more from their buying experience





89%

OF PATIENTS THINK NEAR VISION BEHAVIOUR HAS A STRONG IMPACT ON LENS PERFORMANCE AFTER EXPERIENCING BOTH VISIOFFICE' AND NEAR VISION BEHAVIOUR MEASUREMENT IN STORE(4)

Single-centre study - Eurosyn- France (n=44/136) | (1) % of wearers who think the protocol is easy to perform. Wearers chose among: 'Very easy', 'Somewhat difficult', 'Very difficult', 'Nery difficult', 'Dery difficult', 'Dery difficult', 'Dery difficult', 'Dery difficult', 'Nery difficult', 'Dery difficult', 'Der

What do you need to dispense Varilux® Xclusive 4D™?



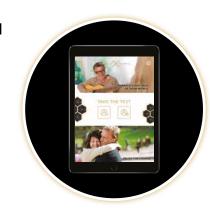
1 - VISIOFFICE* COLUMN

Your expert equipment measuring Dominant Eye, Eyecode™ and frame fitting parameters



2 - CLIP NEW

For both Visioffice® & NVB measurements



3 - TABLET

A tool patients are familiar with to make them comfortable when performing the Near Vision Behaviour reading task.

4 - VARILUX® X SERIES™ APP NEW

A dedicated iOS application for your tablet to download from the App Store* with restricted access thanks to your exclusive license code**.

^{*} Visioffice 2

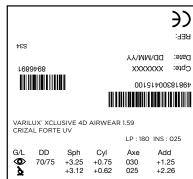
^{**} iPad Air & iPad Air 2

Near Vision Behaviour

An exclusive & secured output

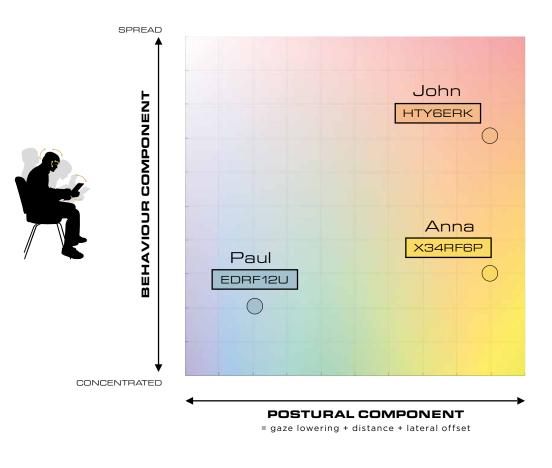
- An encoded result
 (7 alphanumerical digits)
- Represented in a colour block
- ◆ Why is Near Vision Behaviour encoded?
 → For exclusivity: No possible use of measurement result elsewhere
 → For security: A code including a checksum to avoid errors
- Traditional parameters
 (progression length + inset)
 displayed on the lens packet





A unique code highlighted as a colour

THE NVB OUTPUT IS THE UNIQUE COMBINATION FOR EACH PATIENT OF BEHAVIOURAL AND POSTURAL COMPONENTS





Varilux® Xclusive 4D™: Tested and approved by wearers

1 - HIGHEST LEVEL OF VISUAL PERFORMANCE*





WITH WEARERS' VISUAL NEEDS AT ARM'S LENGTH

(vs. 59% on average for competitors**)

Within Varilux X series™ range, and considering Varilux* X design superiority (without any personalised measure) vs. 8 main competitors, 2016 R&D calculations.

**Up to 84% match for Varilux* Xclusive 4D™ (vs 75% for Varilux* X design). Best score vs 8 premium lenses from main competitors tested. Up to calculation for 1 NVB measure and 1 Eyecode™ measure. % Match is calculated on the base of lenses sets: [-4.00D ADD +2.00, -4.00D ADD +2.00]; [-3.00D ADD +2.00, -1.50D ADD +2.00]; [PlanoAdd2, Plano Add +2.00]; [+1.50D ADD +2.00, +2.50D ADD +2.00]; [+4.00D ADD +2.00] and head posture [Incl: 50° Ex: 0°]; [Incl: 20° Ex: 0°]; [Incl: 20° Ex: 0°]; [Incl: 20° Ex: 0°]; [Incl: 20° Ex: 5°]; [Incl: -10° Ex: 5°]; [Incl:

Approved b<u>u</u> Wearers

Test conducted in accordance with an endorsed protocol by the Pr. José Sahel''s team at the Institut de la Vision

2 - ACCELERATED ADAPTATION



ADAPTATION QUICKNESS

% of wearers who experienced quick adaptation Quick adaptation is <1 day⁽¹⁾



ADAPTATION EASINESS

% of wearers who experienced easy adaptation(2)

Technical information





Coating:

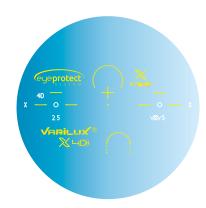
- Crizal Prevencia
- Optifog UV
- Crizal Forte UV

Transitions:

- Transitions Signature VII:
 - Brown, Graphite green and Grey
- Transitions XTRActive:
 - Brown, Graphite green and Grey

Sunwear:*

- Optifog Sun UV
- Crizal Sun UV
- Xperio polarised:
 - Brown and grey
- ♦ E-Mirror UV
- Silver Shadow CT



Personalisation:**

- Near Vision Behaviour:
 - Gaze lowering
 - Distance
 - Lateral offset
 - Visual behaviour
- Frame fitting parameters:
 - Wrap angle
 - Pantoscopic tilt
- Eyecode:
 - Eye rotation centre
- Dominant eye

Checking, fitting and mounting

Varilux X series lenses benefit from Nanoptix that modifies greatly the shape of the lens. As a result the power measured with the focimeter will be different to the ordered prescription. When checking, please refer to the measured power values indicated on the second line of the lens packet.

For more information, visit ecp.essilor.co.uk or speak to your Essilor Account Manager

