Varilux® Digital Progressive Lenses

VARILUX Physio DRx / VARILUX Comfort DRx	VARILUX COMFORT W2+	VARILUX PHYSIO W3+	VARILUX X series	
			REDUCES HEAD MOVEMENT within arm's reach	XTEND™ TECHNOLOGY
			HELPS ELIMINATE OFF-BALANCE FEELING	NANOPTIX™
		SMOOTH TRANSITIONS from distance to near	SMOOTH TRANSITIONS from distance to near	SYNCHRONEYES™ TECHNOLOGY (BINOCULAR BOOSTER)
	SHARPER VISION even in low light	SHARPER VISION even in low light	SHARPER VISION even in low light	W.A.V.E. TECHNOLOGY 2™
LARGE READING AREA	LARGE READING AREA	LARGE READING AREA	LARGE READING AREA	CUSTOMIZED NEAR VISION

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essilor Better Sight. Better Life.

Transitions™ Crizal® VARILUX® Eyezen™ Xperio UV™

VARILUX®

COMPETITIVE PERFORMANCE REPORT

MANY PROGRESSIVE LENS BRANDS MAKE CLAIMS ABOUT THEIR LENSES.
VARILUX LENSES CAN PROVE THEIR PERFORMANCE WITH INDEPENDENT CLINICAL STUDIES.

7 out of 10 patients prefer Varilux® X Series™ lenses over Varilux® S Series™ lenses

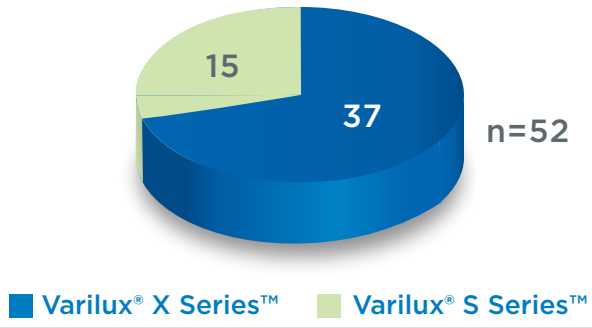
Objective: To compare the performance of Varilux X Series lenses versus Varilux S Series lenses in a variety of tasks.

Method: Each subject was asked to compare in a double-blind study two pairs of lenses in terms of preference and satisfaction while performing a series of tasks. Tasks included:

- Reading and typing text messages on a cell phone
- Reading text on a tablet
- Determining movement of objects being separated
- Looking at different locations within a car (odometer, radio station, GPS, side mirror, and rear view mirror)

Conclusions: Over 70% of subjects preferred Varilux X Series over Varilux S Series overall.

Overall Performance



Task	Varilux® X Series™	Varilux® S Series™
Reading and typing text messages on a cell phone	35	17
Reading text on a tablet	36	16
Visual Separation	33	19
Looking at different locations in a car	34	18
Overall Performance	**37**	**15**

Study conducted in 2017 by an independent third party sponsored by Essilor of America, Inc. (n=52)

Varilux Comfort® W2+ lenses were preferred over the leading competitor by more than 2 to 1

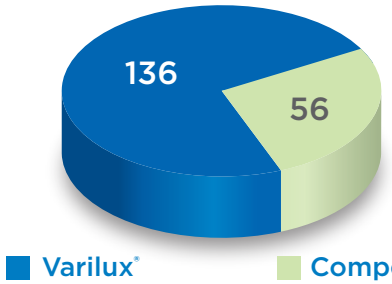
Objective: To compare the performance of Varilux Comfort W2+ lenses versus Competitor Y premium PAL in a variety of tasks in high and low lighting conditions.

Method: Each subject performed several tasks and expressed a preference for one of the two PAL designs. Tasks included:

1. Reading a pill bottle in low illumination
2. Reading a restaurant menu in low illumination
3. Reading a pill bottle in high illumination
4. Reading a restaurant menu in high illumination
5. Reading an article on a tablet computer in low illumination

Conclusions: The subjects preferred Varilux Comfort W2+ lenses in each task in each lighting condition, with 71% of wearers expressing a preference for Varilux Comfort W2+ lenses overall.

Overall



Reading Task	Varilux Comfort W2+	Competitor Y
1. Pill Bottle - Low Light	142	50
2. Menu - Low Light	121	71
3. Pill Bottle - High Light	135	57
4. Menu - High Light	134	70
5. Tablet - Low Light	134	58
Overall	**136**	**56**

*Study conducted in 2016 by independent third party sponsored by Essilor of America, Inc. (n=192)

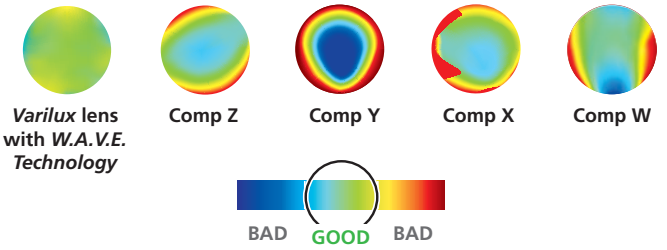
Varilux™ lenses with W.A.V.E. Technology 2™ preserve visual sharpness better than competitors, especially in dim lighting

Objective: To compare visual sharpness of Varilux lenses with W.A.V.E. Technology 2 compared to four competing PAL designs in different lighting conditions.

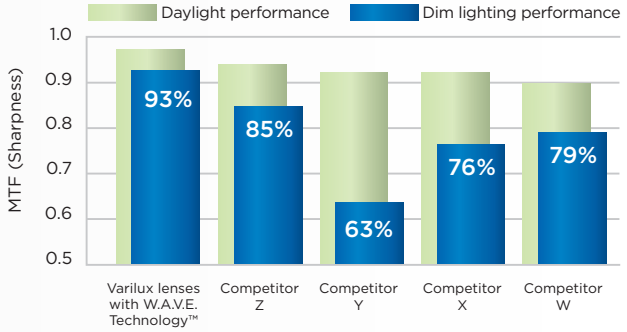
Method: Tests compared wavefront aberration levels and contrast sensitivity of Varilux lenses with W.A.V.E. Technology 2 and four competitor premium PALs of identical prescription and material in daylight and dim lighting conditions.

Conclusions: Varilux lenses with W.A.V.E. Technology 2 maintained better contrast sensitivity in both low-light and bright-light conditions as indicated by a higher modulation transfer function (MTF). Evaluation based on a –4.00 D lens with +2.00 D add and pupillary diameters of 3 mm (bright light) and 8 mm (dim light).

Comparison of Wavefront Aberration Levels



Comparison of Visual Sharpness in Low-light Conditions



*Study conducted in 2010 by independent third party sponsored by Essilor of America, Inc.
Modulation = difference (in luminance) between the brightest and darkest portion of a perceived object.
Transfer Function = the amount of modulation contained in the image made by the lens divided by the amount of modulation in the actual object.

Varilux® lenses with W.A.V.E. Technology 2™ preferred 25:1 in dim lighting

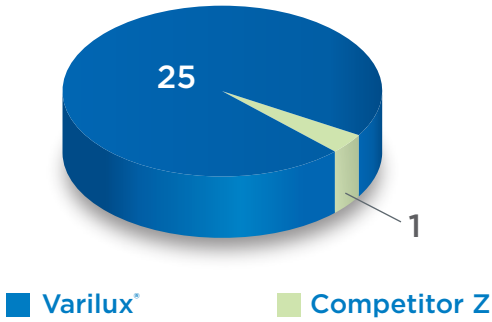
Objective: To evaluate and compare the performance of Varilux lenses with Wavefront Advanced Vision Enhancement (W.A.V.E.) Technology 2 versus Competitor Z premium PAL for use in dim lighting conditions.

Method: Each subject evaluated designs for three near activities as well as overall performance.
Tasks included:

1. Near vision – Standard chart positioned at 16”
2. Near vision – Low contrast target (restaurant menu) positioned at 16”
3. Near vision – Column target to judge width of vision

Conclusions: Of the subjects who had a preference, 96% of wearers preferred Varilux lenses with W.A.V.E. Technology 2 over Competitor Z premium PAL overall for near vision activities in dim lighting conditions.

Overall Performance



Reading Task	Varilux with W.A.V.E Technology 2	Competitor Z	No Preference
1. Near Visual Quality	19	2	9
2. Near Vision – Menu	19	4	7
3. Near Visual Width	14	5	11
Overall Performance	**25**	**1**	**4**

*Study conducted in 2011 by independent third party sponsored by Essilor of America, Inc. Results based on wearers who had a preference (n=30).