

W.A.V.E. 2[®] TECHNOLOGY

— WITHIN —

VARILUX[®] LENSES

What does *W.A.V.E. 2* Technology do for patients?

W.A.V.E. 2 Technology provides sharper vision at every distance, even in low light.

W.A.V.E. 2 Technology: Wavefront Advanced Vision Enhancement[®] does two things:

1. Identifies and eliminates distortion based on the prescription.
2. Customizes wavefront correction to the patient's needs.

This creates a unique lens design for every patient – without additional measurements or equipment.

How does *W.A.V.E. 2* Technology work?

All progressive lenses have distortions caused by changes in curvature across the lens surface. These distortions reduce the perception of contrast and sharpness.



Lake reflection with distortions

Distorted image



Lake reflection without distortions

Clear, sharp image

W.A.V.E. 2 Technology enables Varilux[®] lens designers to analyze an entire beam of light as it passes through the lens. This allows them to:

- Identify and virtually eliminate lens distortions for clearer, sharper vision even in low light.
- Customize lens designs by taking into account changes in pupil size.

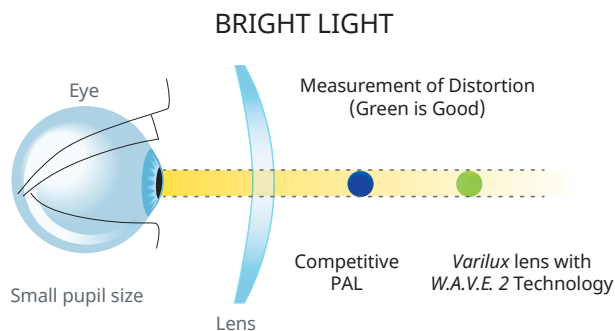
W.A.V.E. 2 Technology is available with the following *Varilux* lens designs:

- Varilux[®] X 4D
- Varilux[®] X Fit
- Varilux[®] X Design
- Varilux[®] Physio[®] W3+ Eyecode[™]
- Varilux[®] Physio[®] W3+ Fit
- Varilux[®] Physio[®] W3+
- Varilux[®] Comfort Max
- Varilux[®] Comfort Max Fit

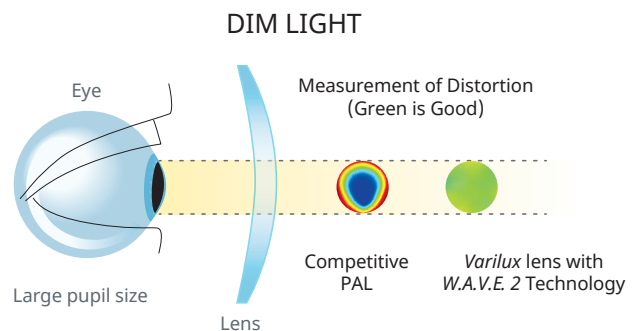


How does W.A.V.E. 2® Technology work? *(continued)*

How does pupil size affect a patient's vision?



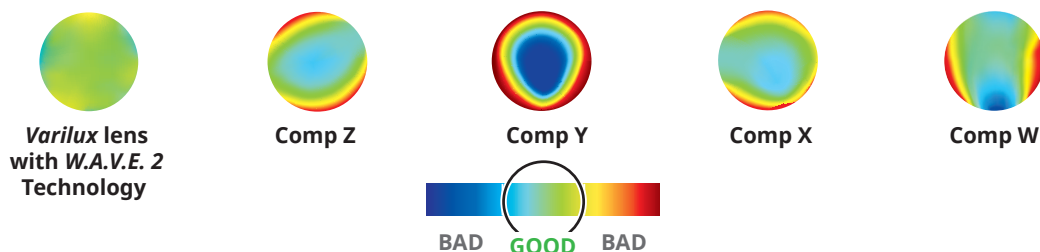
In bright light, the pupil constricts and uses a smaller portion of the lens. Distortion is less apparent in bright light conditions.



In dim light, the pupil enlarges and uses a larger portion of the lens. Any distortion will become more apparent in dim lighting conditions (because image sharpness will be reduced).

W.A.V.E. 2 Technology controls distortion far better than competitive PAL designs.

Comparison of Wavefront Distortion Levels:



Patient Benefits

- Sharper vision at every distance
- Better vision, even in low light

Varilux lenses with W.A.V.E. 2 Technology are preferred 25:1 by patients in dim lighting*

*Study conducted in 2011 by independent third party sponsored by Essilor of America, Inc.

Patented technologies – others do not compare

Varilux lenses with W.A.V.E. 2 Technology are created with 10 patented technologies that competitors cannot duplicate.

US Patent # 7,207,675B1: vertically extended distance zone
US Patent # 7,207,674 B2 1: wider aberration free distance zone
US Patent # 7,413,303 B2: low cylinder and monotonous periphery
US Patent # 6,909,498B2: wavefront measurement technology
US Patent # 7,427,134 B2: low level of wavefront aberration
US Patent # 7,210,780B1: vertical alignment of axis of astigmatism in intermediate vision
US Patent # 7,229,173 B2: dual digital surfacing calculation
US Patent # 7,223,164B2: polishing and controlling tool
US Patent Pending: W.A.V.E. Technology 2 design calculation
US Patent Pending: variable inset



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