

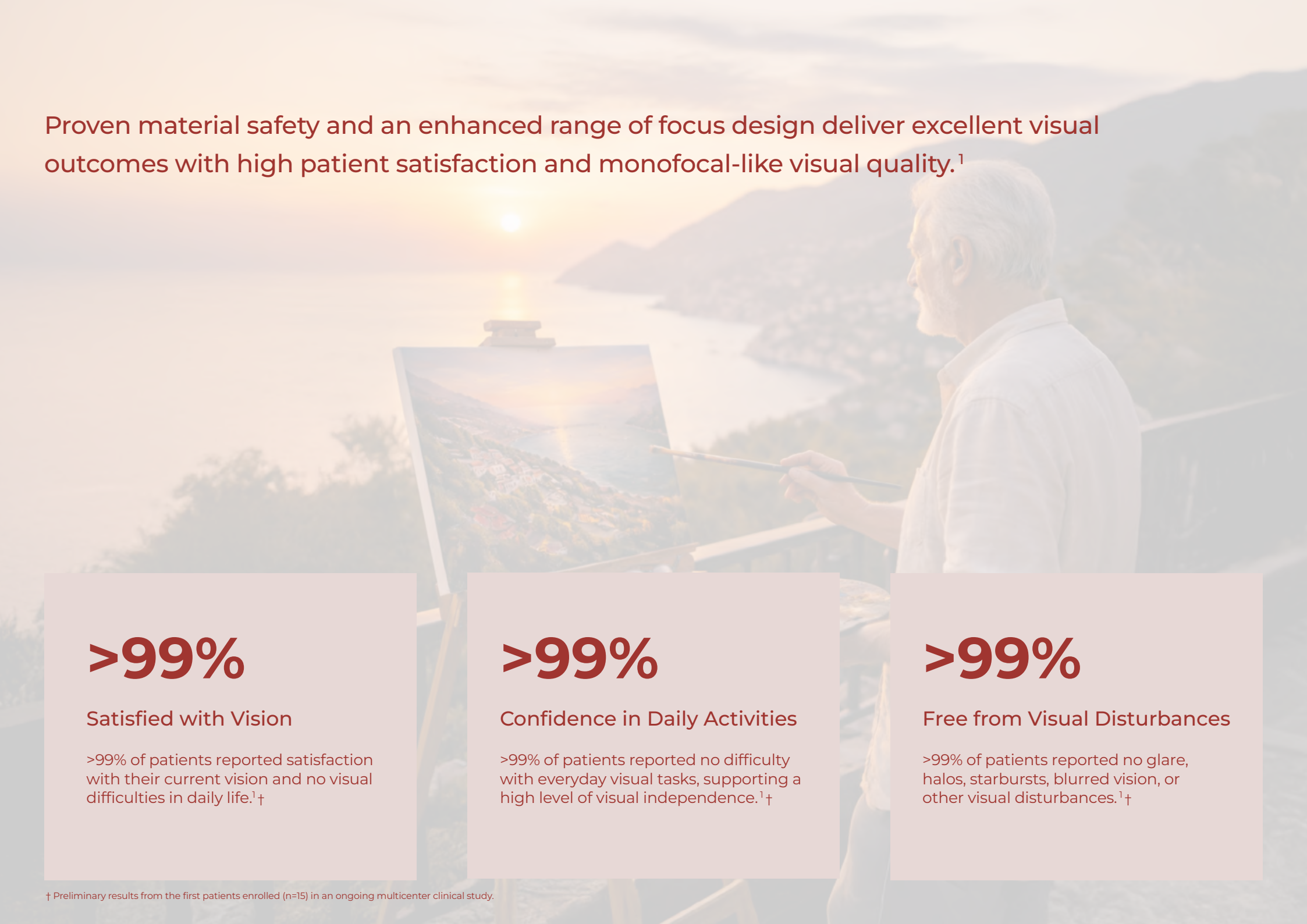
The Next Generation in Enhanced Range of Vision

Asqelio™ Pluris™
Phase-Ring™ Technology*



*Patent Pending



A man with white hair and a beard, wearing a white shirt, is seen from the side, painting a landscape on an easel. The background is a soft-focus image of a sunset over a body of water with mountains in the distance. The sun is low on the horizon, creating a warm, golden glow. The man is holding a paintbrush and is focused on his work.

Proven material safety and an enhanced range of focus design deliver excellent visual outcomes with high patient satisfaction and monofocal-like visual quality.[†]

>99%

Satisfied with Vision

>99% of patients reported satisfaction with their current vision and no visual difficulties in daily life.[†]†

>99%

Confidence in Daily Activities

>99% of patients reported no difficulty with everyday visual tasks, supporting a high level of visual independence.[†]†

>99%

Free from Visual Disturbances

>99% of patients reported no glare, halos, starbursts, blurred vision, or other visual disturbances.[†]†

Fusion of Technologies for Exceptional Vision

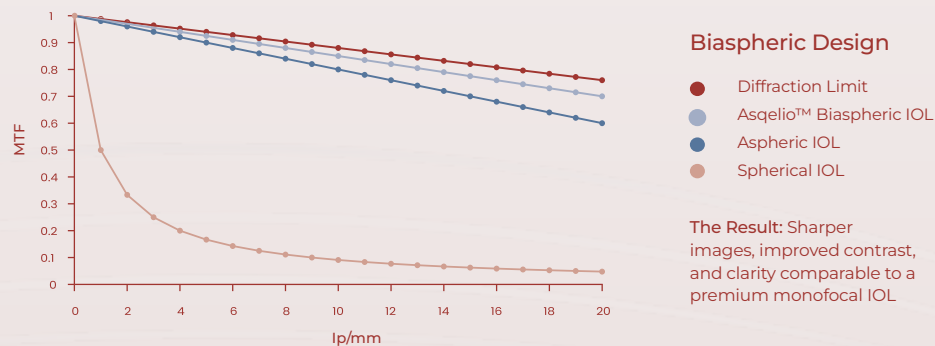
The Foundation: It starts with a clearer image

Visual performance begins with optical design. Asqelio™ Pluris™ combines a biaspheric platform for image clarity with proprietary Phase-Ring™ Technology to extend focus seamlessly and without compromise

A superior visual experience starts at the source. Asqelio™ Pluris™ uses a biaspheric platform to neutralize aberrations and maximize image quality, ensuring the highest clarity and contrast before extending depth of focus.

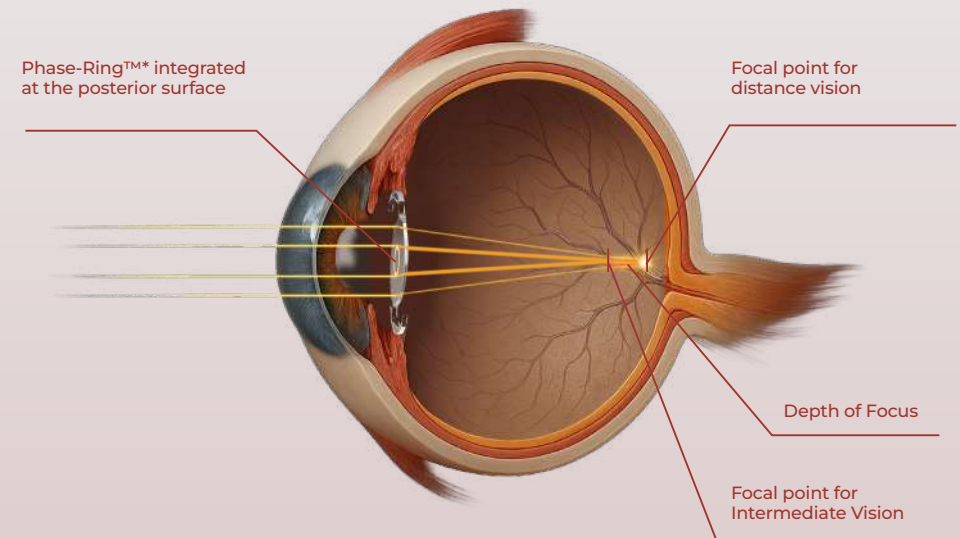


Simulation generated using Zemax OpticStudio 18.9 for a 6 mm pupil diameter considering the average human cornea of +0.27 μm SA.



The Mechanism Patented Phase-Ring™ Technology*.

Structured phase rings reshape the wavefront to create controlled focal allocation, redistribute optical energy across a smooth and usable focal range, and preserve distance image quality.



The Result

Asqelio™ Pluris™ delivers more consistent clarity across defocus levels, a smoother transition from distance to intermediate, and preserved functional image quality with minimal photic phenomena.

Monofocal-Like Clarity

High clarity and contrast supported by a biaspheric optical platform.

*Patent Pending

Smooth Visual Continuity

A seamless transition from distance toward intermediate vision

Minimal Disturbance Profile

Preserved optical quality with minimized visual disturbances.

Stable Everyday Performance

Consistent visual quality across real-world lighting conditions.

From Spherical Aberration to Phase-Ring™ Technology

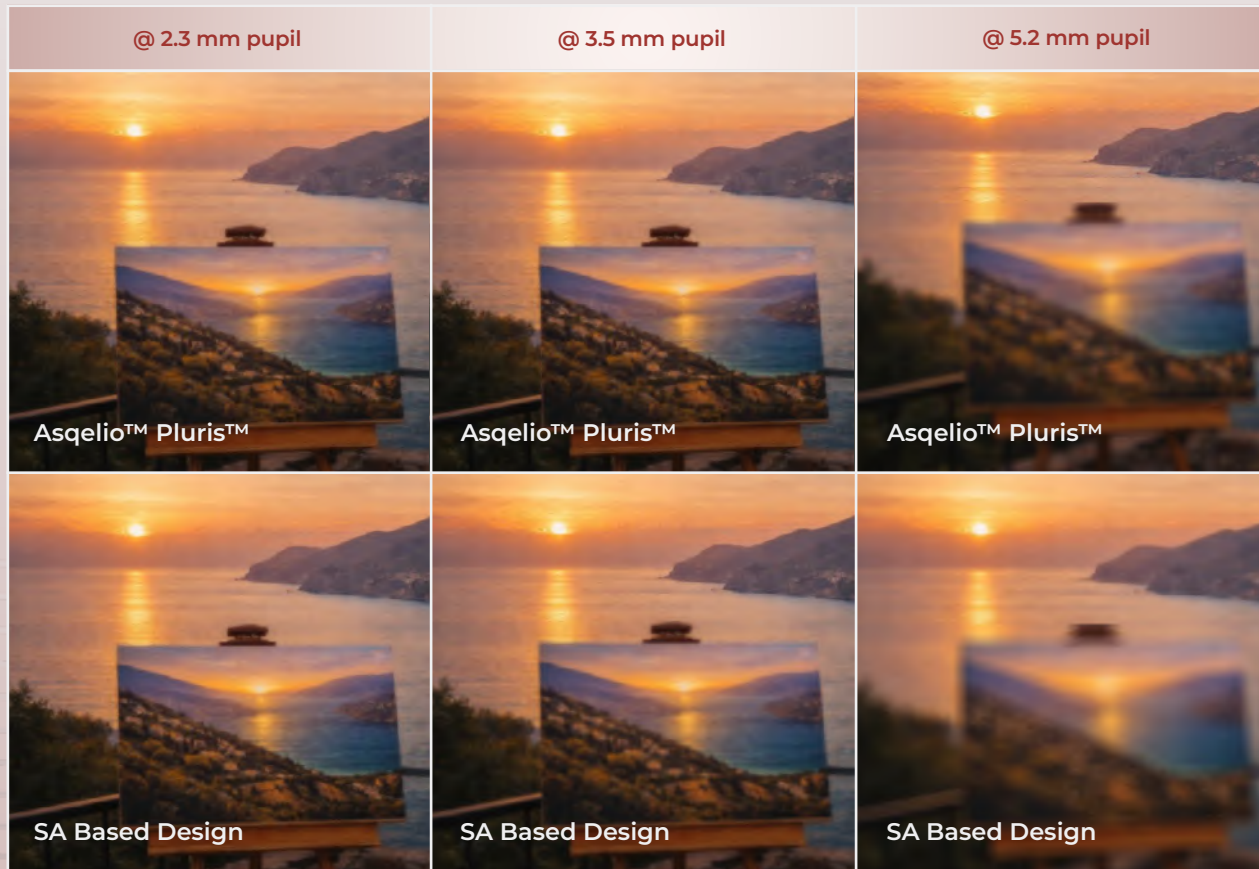
Spherical aberration (SA) based focus extension

Focus extension is achieved through spherical aberration-based blur broadening
Energy is distributed smoothly, with less structural control over focal allocation
As a result, peak image quality and contrast may be more difficult to preserve

EVOLUTION

Phase-Ring™ Technology focus extension

Focus extension uses structured wavefront shaping with controlled focal allocation
Energy is more evenly distributed across a smooth, usable focal range
Image quality and contrast are preserved from distance to intermediate



Performance with pupil size

Asqelio™ Pluris™ IOL

- More consistent clarity across defocus
- Smoother distance-to-intermediate transition
- More consistent performance across pupil conditions

SA Based Design

- Rapid contrast loss with defocus
- Blurred intermediate vision
- Less consistent performance across pupil conditions

Quality Vision Starts with High Performance Materials

High-quality vision begins with a high-performance, glistening-free (Miyata grade 0)² soft hydrophobic acrylic material. Our manufacturing process incorporates Cryolathing Technology, enabling ultra-precise shaping at cryogenic temperatures. This ensures superior surface smoothness and optical performance. Each one of our lenses is individually verified for its material, design, and power before it reaches your hands. This rigorous inspection is the foundation of our uncompromising quality, translating directly to maximum reproducibility and predictability.

Low Chromatic Aberration

The Asqelio™ material, with an Abbe number of 50, reduces longitudinal chromatic aberration, contributing to enhanced image sharpness and improved contrast sensitivity.³



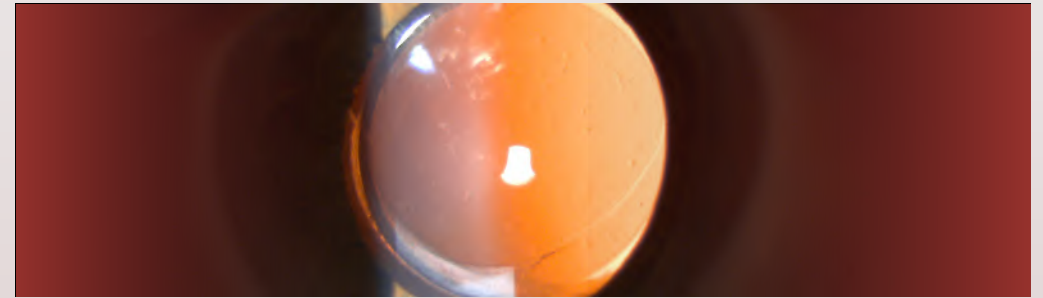
Simulated images to illustrate the visual impact of chromatic aberrations

Natural Lens Transmittance

Asqelio™ material delivers high light transmittance and superior transparency, integrating advanced UV protection that blocks 99% of UVB and 90% of UVA.

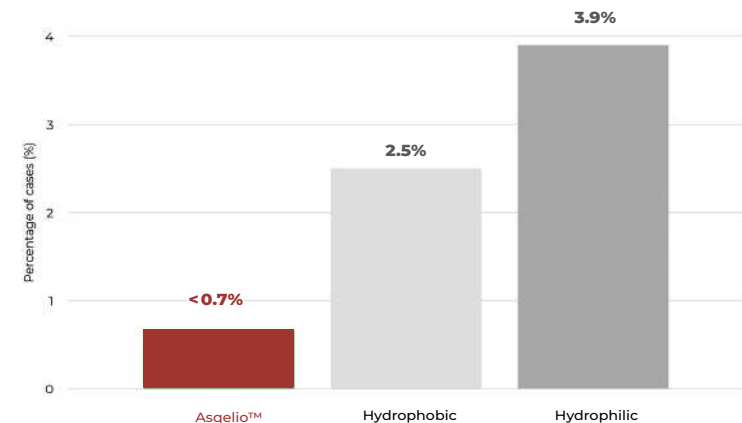


Reduced PCO



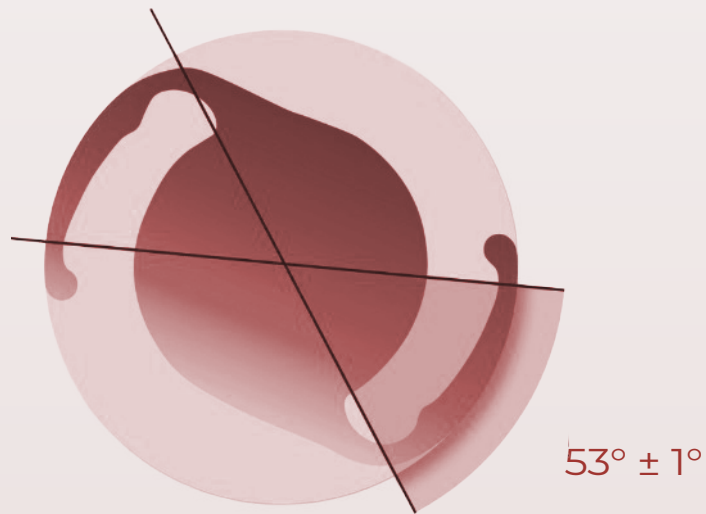
Proven Long-Term Capsular Stability

Asqelio™ demonstrates significantly lower laser capsulotomy rates compared to real-world industry benchmarks. Laser Capsulotomy Rate at ~2 years in the Asqelio™ studies^{1,3} fall within the ranges reported in a large UK real-world benchmark stratified by IOL material.⁴



Exceptional Rotational Stability

Two surfaces, one mission: perfection. The lens is polished for flawless clarity. The haptic is precision-milled for a frosted finish. The advanced haptic and optic edge design features a unique combination of a continuous 360° sharp edge and a frosted haptic surface. This platform is meticulously engineered to ensure both rotational stability and long-term clarity.⁵



Asqelio™
10 mm capsular bag



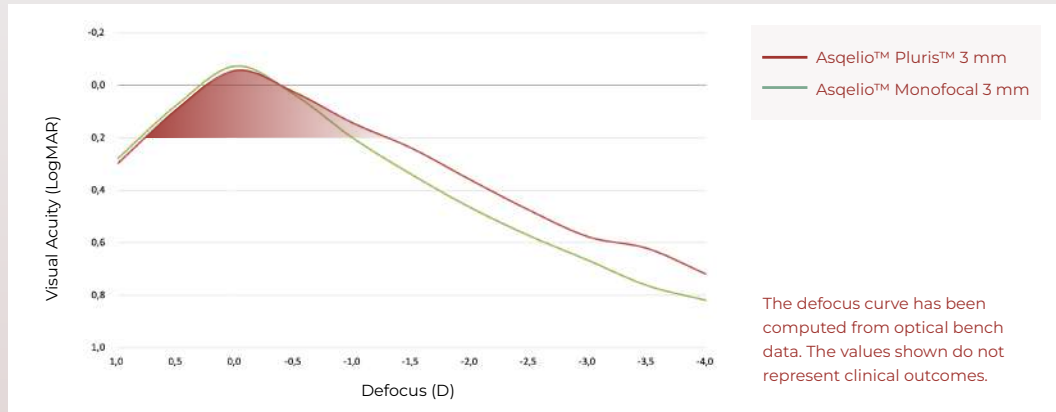
Protects the capsule's fragility and helps prevent ovalization and/or striae of the capsular bag.

The wider contact angle of 106° provides better rotational stability.

Advanced sharp, curved and frosted posterior haptic design engineered to reduce the formation of PCO.²

Clinical Data You Can Trust

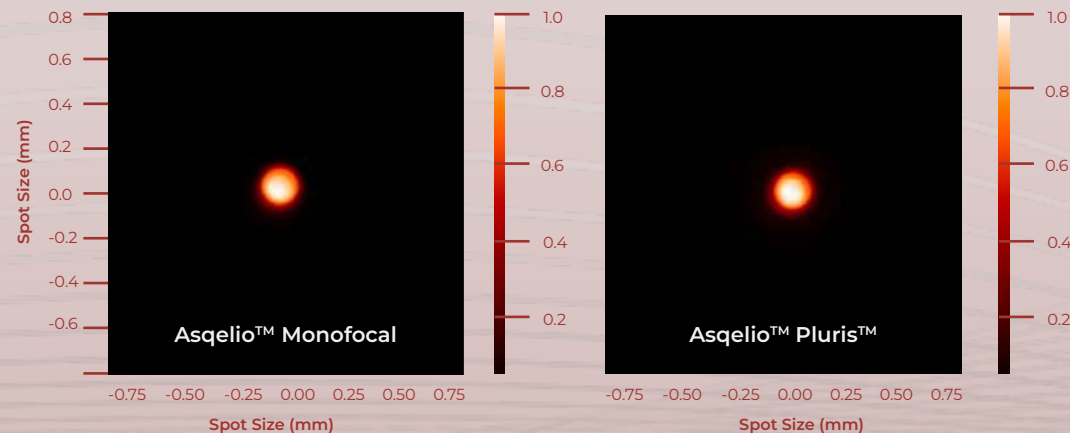
Defocus Curve Monocular¹



The monocular defocus curve shows a clinically meaningful extension of functional vision beyond distance, maintaining visual acuity of 0.2 logMAR or better over a defocus range consistent with the Partial-Enhanced Depth of Field category defined by the Global Functional Vision Working.

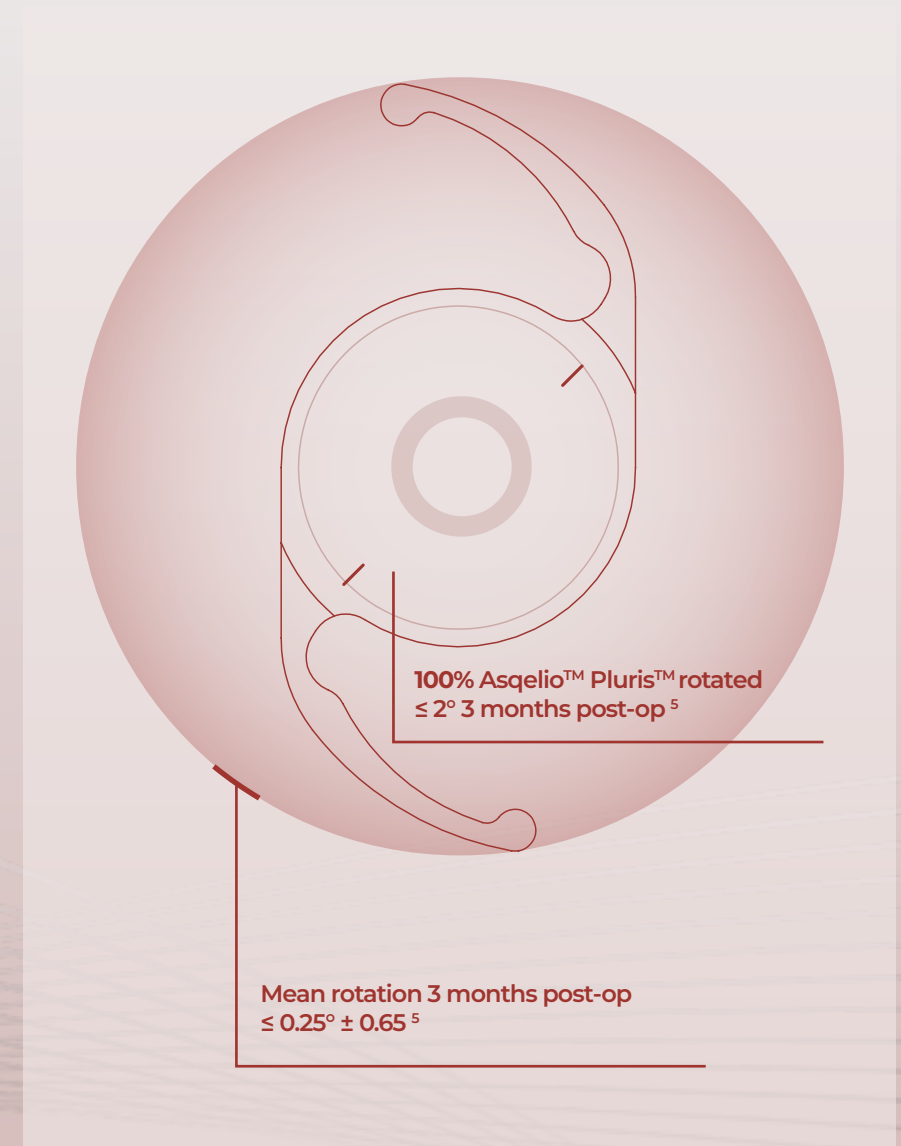
More vision, same comfort

Dysphotopsia profile comparable to that of a standard monofocal IOL.



Simulations obtained considering Optical bench measurements conducted under conditions equivalent to a 5.2 mm pupil size using average human cornea (0.27+ μ m SA).

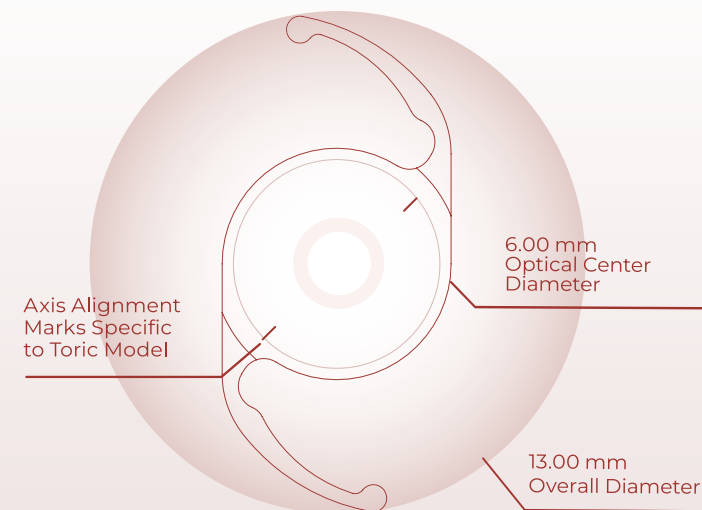
Exceptional Rotational Stability



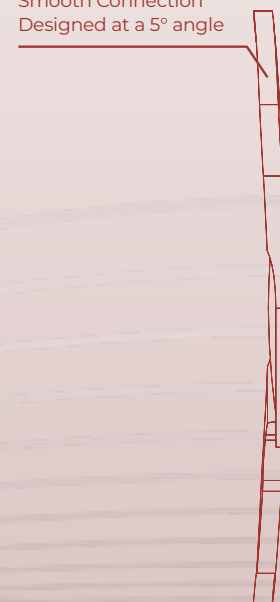
				
Product Name	Asqelio™ Pluris™		Asqelio™ Pluris™ Toric	
Model	ULIO130C (clear) ULIO130Y (yellow)		UTLIO130C (clear) UTLIO130Y (yellow)	
Material	Single piece hydrophobic acrylic with UV absorber + blue light filter. with UV absorber 99% of UVB and 90% of UVA. Refractive index 1.50. Abbe number 50. Water content <0.5%			
Optic Design	BiConvex, Bi-Aspheric Posterior Phase-Ring™ Technology		BiConvex, Bi-Aspheric Posterior Phase-Ring™ Technology Anterior Toric	
Spherical Aberration (SA)	- 0.27 μm @ 6 mm			
Central Thickness	0.59 mm (20 D)			
Spherical Power	Standard range	+5.00 D to +30.00 D		
	Upon request	0.00 D to +5.00 D and +30.00 D to +34.00 D		
	Dioptric Step	0.50 D		
Cylinder Power	N/A		Standard range	+1.00 D to +3.00 D
			Upon request	+3.00 D to +6.00 D
			Dioptric Step	0.50 D
IOL Power Calculation Constants	Optical A-constant †	119.33		
	Barrett Lens Factor (Optical) †	2.09		
	Ultrasound A-constant ††	119.10		
Recommended IOL Delivery Systems	bioli™ IOL Delivery System			
Incision Size	From 2.2 mm Wound Assisted Delivery			
Shelf Life	Five (5) years			
Sterilization Method	Ethylene oxide (EtO)			

Anterior Surface View

360° Sharp Frosted Edge



Smooth Connection Designed at a 5° angle



† IOL constants have been derived from clinical evaluation results of the Asqelio™ Phase-Ring™

†† IOL constants have been theoretically calculated DOI: 10.1097/j.jcrs.0000000000000865.

AST VisionCare Inc. recommends that each surgeon optimize and personalize their own A-constant for each of our IOL models.

1. ASQO102025: Data on file 2024.
2. Hervás-Ontiveros A, España-Gregori E, Fresno-Cañada C, Butrón-Ruiz R, Cerviño A. Posterior Capsular Opacification and Glistening in Hydrophobic Monofocal Bifocal Intraocular Lens Two Years After Implantation: A Case Control Study. J Ophthalmol. 2024;4513478;2024.
3. Cerviño A, Esteve-Taboada JJ, Hervás A. Chromatic Aberration In A High Abbe Number IOL With Different Optical Designs: An Optical Bench Study [oral presentation]. ESCRS 2023 Congress; 2023 Sep 12–8; Vienna, Austria
4. Ursell PG, Dhariwal M, Majirska K, et al. Three-year incidence of Nd:YAG capsulotomy and posterior capsule opacification and its relationship to monofocal acrylic IOL biomaterial: a UK Real World Evidence study. Eye (Lond). 2018 Oct;1589-1579:(10)32.
5. Tañá-Sanz P, Tañá-Sanz S, Rodríguez-Carrillo MD, Ruiz-Santos M, Álvarez de Toledo C, Tañá-Rivero P. Visual and Refractive Outcomes After Bifocal Trifocal Toric Diffractive Intraocular Lens Implantation. J Refract Surg. 2018;34)11(:732-8.



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