

CE
2460

EYECRYL™ *Actw*
IOL RANGE

OPTIMALLY
TREATING
PRESBYOPIA



biotech
VISIONCARE



iLED TECHNOLOGY

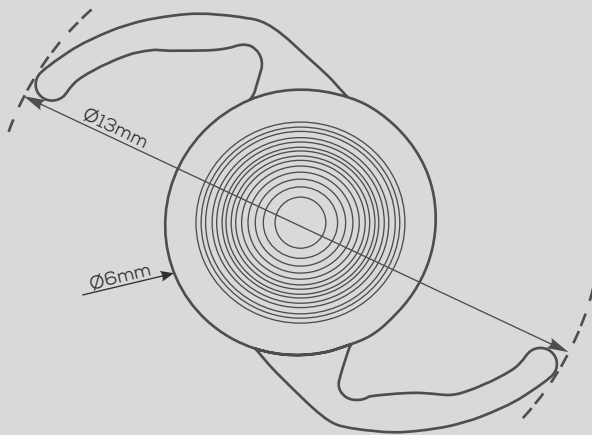
Improved near vision without compromising the distance vision

- Designed for Natural Adaptation
- Effective use of unused light energy and balanced energy distribution
- Improved near vision without disturbing the distance vision
- Less pupil dependency
- Optimized light distribution to maintain good contrast
- Controlled halos and glares

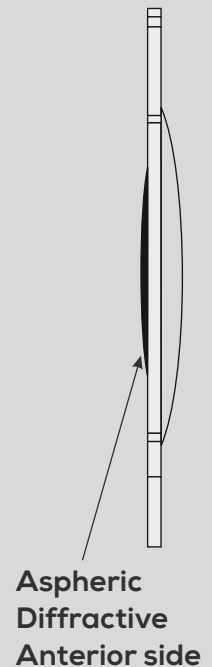
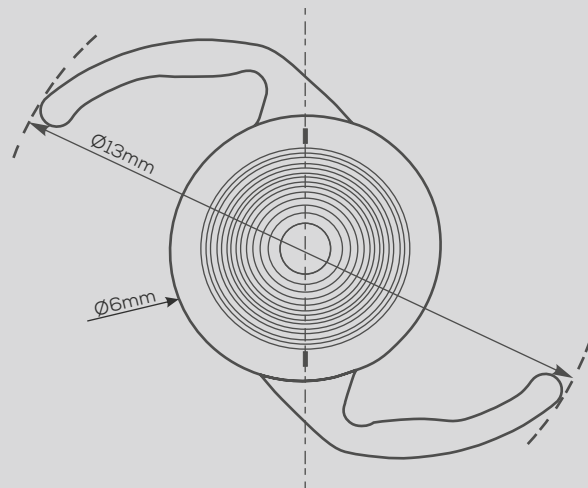
UNIQUE REFRACTIVE DIFFRACTIVE ASPHERIC DESIGN

- Optimized center zone (Refractive Zone) supports larger angle Alpha & minimizes haloes and glares
- Optimized Diffractive Zone reduces dependency on pupil Size
- Peripheral Refractive Zone supports the Distance Vision in dimmer lighting conditions

EYECRYL ACTV



EYECRYL ACTV TORIC



EYECRYL™ Actv

DIFFRACTIVE - REFRACTIVE HYDROPHOBIC
FOLDABLE IOL WITH DELIVERY SYSTEM



EYECRYL ACTV IOLs are
Diffractive-Refractive Multifocal IOLs
having a series of concentric rings
with diffractive steps

EYECRYL™ Actv TORIC

DIFFRACTIVE TORIC HYDROPHOBIC FOLDABLE IOL
WITH ASPHERIC OPTIC



EYECRYL ACTV TORIC IOLs are
Diffractive-Refractive Multifocal IOLs
having a series of concentric rings with
diffractive steps and cylindrical correction
for treatment of corneal astigmatism

PROVEN PLATFORMS



EYECRYL ACTV TORIC is Aspheric Multifocal TORIC IOL which is manufactured by combining, the proven technologies of EYECRYL ACTV-Multifocal IOL and EYECRYL TORIC - TORIC IOL, using pre-hydrated advanced hydrophobic material.



The spacing between the steps gets progressively closer from the central to outer diffractive ring of lens. EYECRYL ACTV IOLs use this technology to provide excellent distance and near vision.



EYECRYL TORIC lenses have cylinder power built into the lens to correct astigmatism and provides excellent rotational stability.

FEATURES

EYECRYL™ *Activ*

DIFFRACTIVE - REFRACTIVE HYDROPHOBIC
FOLDABLE IOL WITH DELIVERY SYSTEM

- IOL remains Glistenings-free
- Excellent visual acuity for all distances
- No unwanted photopic phenomenon
- 360° square edge
- Aspheric optic to correct positive spherical aberration of cornea
- Significantly better contrast sensitivity under mesopic condition

EYECRYL™ *Activ* TORIC

DIFFRACTIVE TORIC HYDROPHOBIC FOLDABLE IOL
WITH ASPHERIC OPTIC

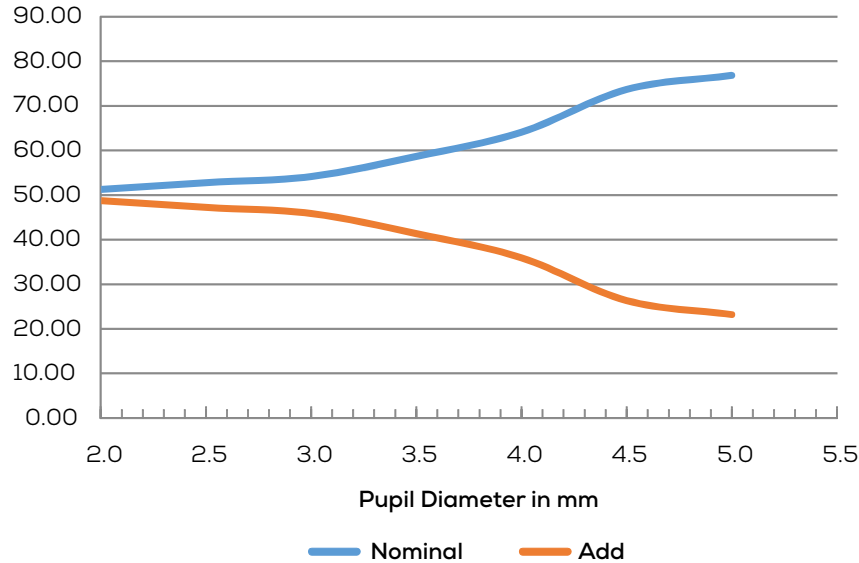
- Combined solution for Astigmatism and Presbiopia
- Excellent visual acuity for all distances
- Refractive astigmatism accuracy within +/- 0.5D in 98% eyes
- Excellent Rotational Stability
- 360° square edge
- Aspheric optic to correct positive spherical aberration of cornea
- IOL remains Glistenings-free

OPTIMIZED LIGHT DISTRIBUTION

Effective use of unused light energy and balanced energy distribution

- High Transmitted Light energy will provide good quality of vision and will improve contrast sensitivity
- Priority for the Near vision without compromising the Distance vision.
- Effective use of unused light energy

EYECRYL ACTV Light energy Distribution @546 nm



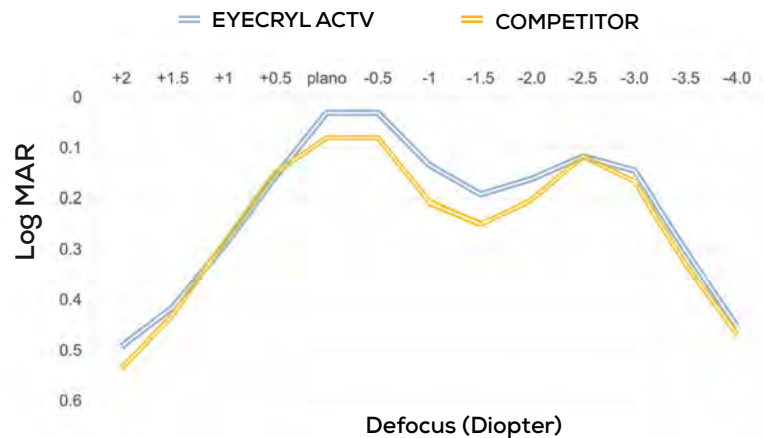
- As per literature study around 80% energy will be utilized in Bifocal IOLs.

DEFOCUS CURVE

The binocular defocus curve for EYECRYL ACTV showed two peaks at 0.0 to -0.5 D (6–2 m) and at -2.5 D (maximum near visual acuity at 40 cm)

- The Mean visual Acuity at 0.0 D is 0.031 in EYECRYL ACTV and 0.08 in competitor IOL
- Visual Acuity at -1.0D is 0.13 in EYECRYL ACTV against 0.20 in competitor IOL
- The defocus curve was better for EYECRYL ACTV than competitor IOL

Defocus Curve EYECRYL ACTV

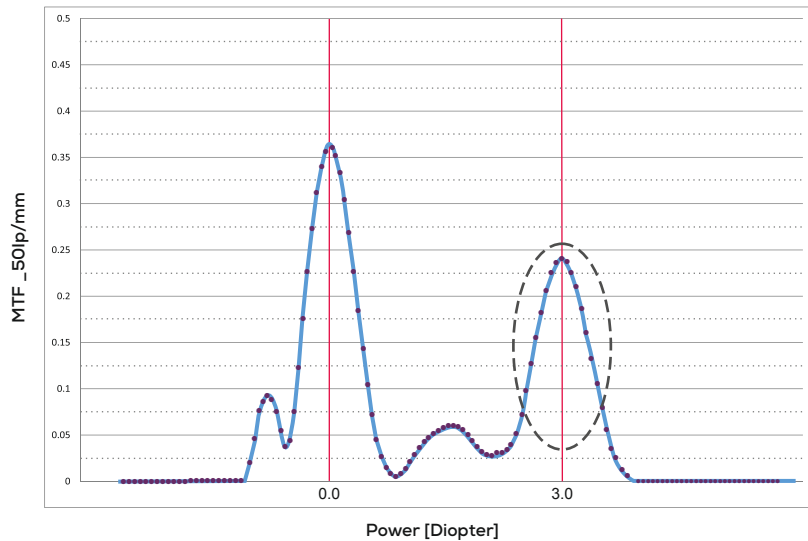


MODULATION TRANSFER FUNCTION

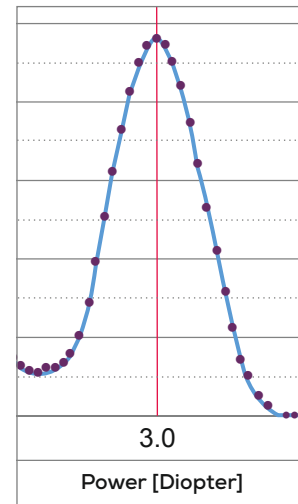
- Sufficient energy distribution at each focal point
- Better MTF
- Better resolution
- Good contrast

Improved near vision without compromising the distance vision

- Extended depth of focus at near vision will provide Extended range of quality vision for Daily activities
- Covers 35–55 cm distance Near vision without loss of contrast sensitivity



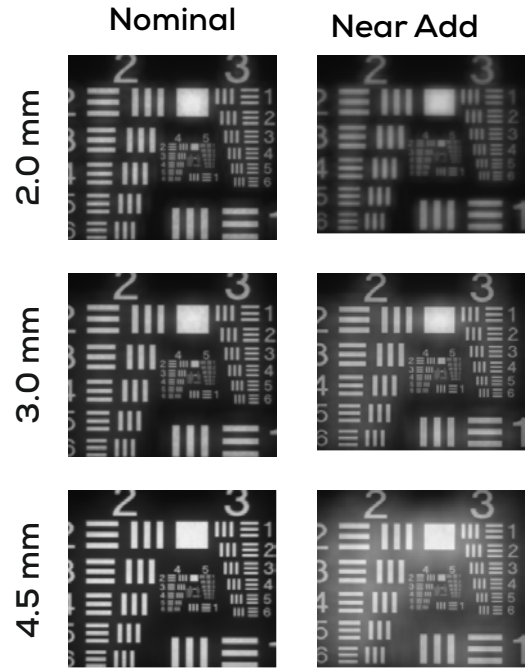
Modulation Transfer Function at 3.0 mm aperture



OPTICAL BENCH MEASUREMENTS

Optimized light distribution to maintain good contrast

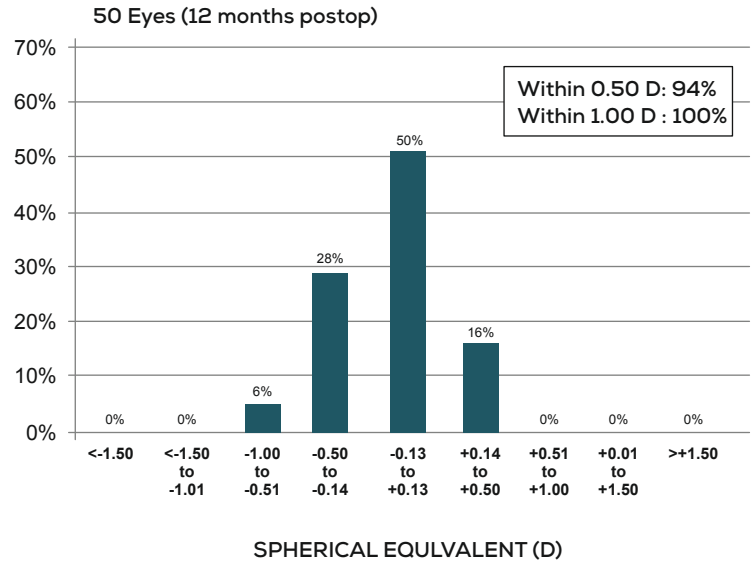
- Optimized light distribution provides better resolution and good contrast



CLINICAL RESULTS² (n=59)

SPHERICAL EQUIVALENT (D)

SE refraction accuracy within ± 0.50 D was achieved in 94% eyes and all eyes had SE refraction accuracy within ± 1.00 D



READING SPEED

Reading speed and reading acuity was comparable in both the groups in low and high illuminations. Critical print size showed significant difference in low illumination ($p=0.004$) but not in higher illumination

Parameters	EYECRYL™ ACTV Mean (Min-Max)
Reading Speed in low illumination	178.32 (177.13 , 179.51)
Reading Speed in high illumination	149.26 (145.54 , 152.97)
Reading acuity in low illumination	0.237 (0.212 , 0.263)
Reading acuity in high illumination	0.207 (0.187 , 0.228)
Critical Print size in low illumination	0.918 (0.905 , 0.931)
Critical Print size in high illumination	1.009 (0.993 , 1.026)

CLINICAL RESULTS²(n=59)

VISUAL OUTCOME

The best corrected distance visual acuity were 0.112 ± 0.088 in EYECRYL™ ACTV IOLs at 6 months.

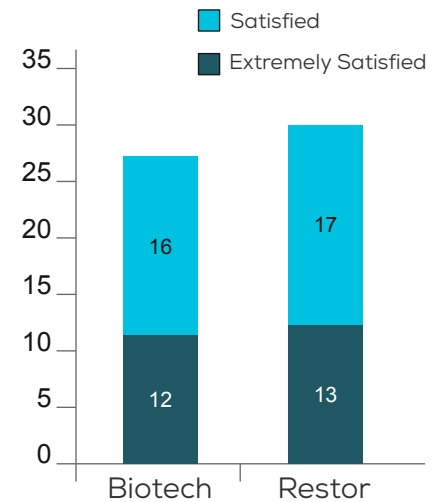
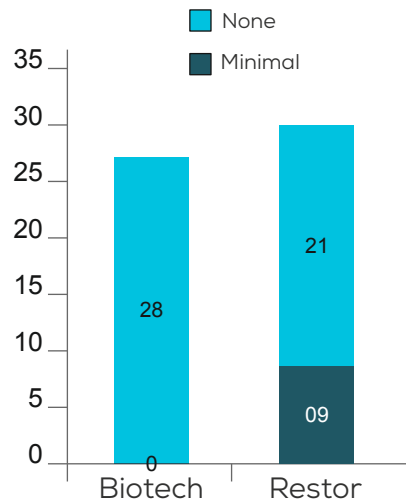
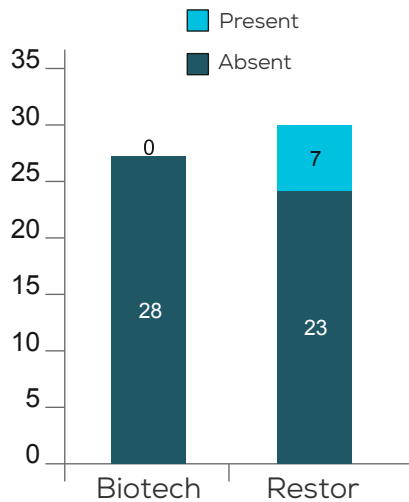
The best distance corrected near visual acuity were 0.192 ± 0.037 .

6 Months
EYECRYL™ ACTV Mean (SD)

BCDVA 0.112 (0.088)

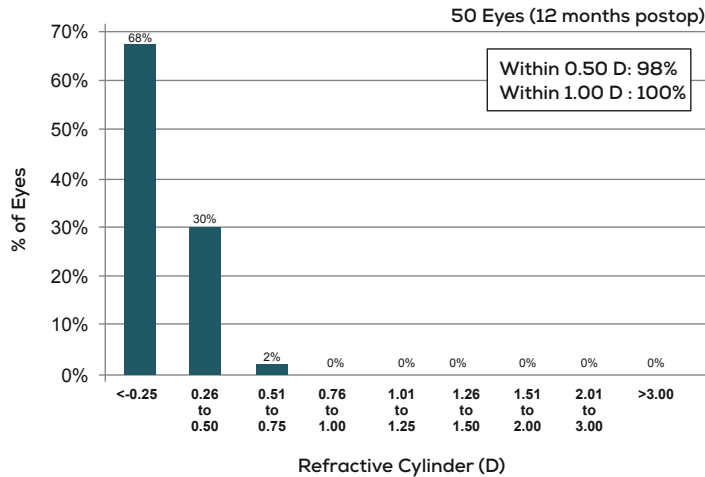
DCNVA 0.192 (0.037)

DYSPHOTOPSIA QUESTIONNAIRE



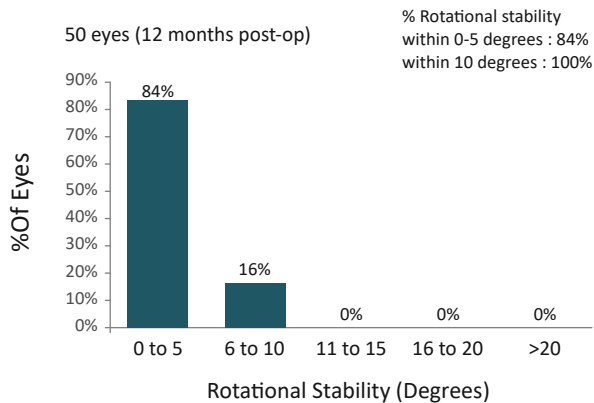
REFRACTIVE CYLINDER

98% eyes achieved refractive astigmatism accuracy within 0.50 D, while 100% were within 1.00 D of post-operative residual cylinder



ROTATIONAL STABILITY

The mean absolute change in axis orientation between visits was less than 3° for all visit interval. At 1 year, IOL rotation of 5° or less was noted for 84% of eyes.



DIFFRACTIVE TORIC HYDROPHOBIC FOLDABLE IOL

WITH ASPHERIC OPTIC

SPECIFICATIONS

MATERIAL	Hydrophobic Acrylic Containing Natural Yellow Chromophore		
OPTIC TYPE	Single Piece, Diffractive-Refractive, 360° Square Edge with Toric Aspheric Optic		
NEAR ADDITION	+3.0 D		
OPTIC SIZE	6.00 mm		
OVERALL SIZE	13.00 mm		
ANGULATION	0°		
ACD	5.28		
REFRACTIVE INDEX	1.483		
RECOMMENDED ULTRASOUND A-CONSTANT	SRK-T 118.60		
RECOMMENDED OPTICAL A-CONSTANTS	SRK - T 119.00	SRK - II 119.40	Holl 1 Const SF : 1.74
	HOFFER Q ACD: 5.52		HAIGIS α_0 :1.309, α_1 :0.400, α_2 :0.100
	Barrett 1.88		
DIOPTER RANGE	+10.0 D to +30.0 D (with 0.5 D steps)		
CYLINDER RANGE	1.0 D to 6.0 D (with 0.5D step between 1.0D to 1.5D & with 0.75D step between 1.5D to 6.0D)		
IMPLANTATION SITE	Capsular Bag		
STERILIZATION	Irradiation		
SHELF LIFE	4 years from date of manufacture		

Scan For
Surgery Video



DIFFRACTIVE - REFRACTIVE HYDROPHOBIC
FOLDABLE IOL WITH DELIVERY SYSTEM

SPECIFICATIONS

MATERIAL	Hydrophobic Acrylic Containing Natural Yellow Chromophore		
OPTIC TYPE	Single Piece, Diffractive-Refractive, 360° Square Edge with Aspheric Optic		
NEAR ADDITION	+3.0 D		
OPTIC SIZE	6.00 mm		
OVERALL SIZE	13.00 mm		
ANGULATION	0°		
ACD	5.28		
REFRACTIVE INDEX	1.483		
RECOMMENDED ULTRASOUND A-CONSTANT	SRK-T 118.00		
RECOMMENDED OPTICAL A-CONSTANTS	SRK - T 118.35	SRK - II 118.56	Holl 1 Const SF : 1.45
	HOFFER Q ACD: 5.17		HAIGIS α_0 :0.879, α_1 :0.400, α_2 :0.100
	Barrett 1.54		
DIOPTR RANGE	+7.5 D to +30.0 D (with 0.5 D steps)		
IMPLANTATION SITE	Capsular Bag		
STERILIZATION	Irradiation		
SHELF LIFE	4 years from date of manufacture		

Scan For
Surgery Video



A woman with short, wavy grey hair and a light blue button-down shirt is leaning over a young child with blonde hair. The child is wearing a purple and yellow plaid shirt. They are both looking at a purple folder held by the woman. The background is a soft, out-of-focus indoor setting.

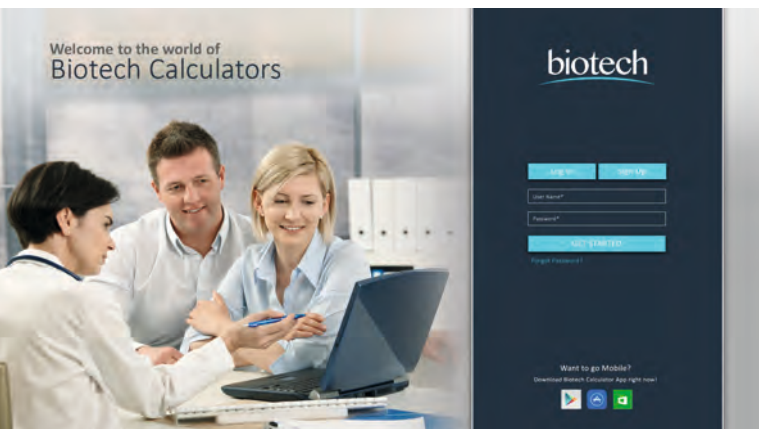
USER FRIENDLY
AND ACCURATE
EYECRYL™ *Actv* TORIC
CALCULATOR

Biotech EYECRYL ACTV TORIC calculator is user friendly and provides options to choose suitable IOL model with predictable post-operative outcomes.

MODELS AVAILABLE - EYECRYL[™] *Actv* TORIC

Model	Near Addition	Cylinder Power		Recommended Range of corneal astigmatic correction*
		At IOL plane	At Corneal plane ²	
HFYD-05	+3.0 D	1.00 D	0.68 D	0.25 D to 0.86 D
HFYD-10	+3.0 D	1.50 D	1.03 D	0.87 D to 1.25 D
HFYD-20	+3.0 D	2.25 D	1.54 D	1.26 D to 1.75 D
HFYD-30	+3.0 D	3.00 D	2.05 D	1.76 D to 2.25 D
HFYD-35	+3.0 D	3.75 D	2.57 D	2.26 D to 2.75 D
HFYD-40	+3.0 D	4.50 D	3.08 D	2.76 D to 3.25 D
HFYD-50	+3.0 D	5.25 D	3.60 D	3.26 D to 3.75 D
HFYD-60	+3.0 D	6.00 D	4.11 D	3.76 D & Above

To choose suitable EYECRYL ACTV TORIC model, please logon to



Download Mobile App for Biotech Calculators



REFERENCE

1. R&D to prove this through technology & manufacturing documents
2. Comparison of Post-Cataract Surgery Visual Outcomes and Quality of Life in Patients Bilaterally Implanted with Multifocal Intraocular Lenses Ophthalmol Ther <https://doi.org/10.1007/s40123>
3. Clinical outcomes and rotational stability following implantation of Eyecryl toric intraocular lens Results of a 12-months prospective study 2021 Indian Journal of Ophthalmology | Published by Wolters Kluwer Medknow
4. PS1203_Rev. 01_09.08.21 (IFU) Combined IFU Hydrophobic HF_English
5. Glistening formation in a new hydrophobic acrylic intraocular lens Yildirim et al. BMC Ophthalmology (2020) 20:186
6. Clinical outcomes and rotational stability following implantation of Eyecryl toric intraocular lens - Results of a 12-months prospective study 2021 Indian Journal of Ophthalmology | Published by Wolters Kluwer - Medknow



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