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2460

EYECRYL™ *Actw*  
IOL RANGE

OPTIMALLY  
TREATING  
PRESBYOPIA



biotech  
VISIONCARE



## ILED TECHNOLOGY

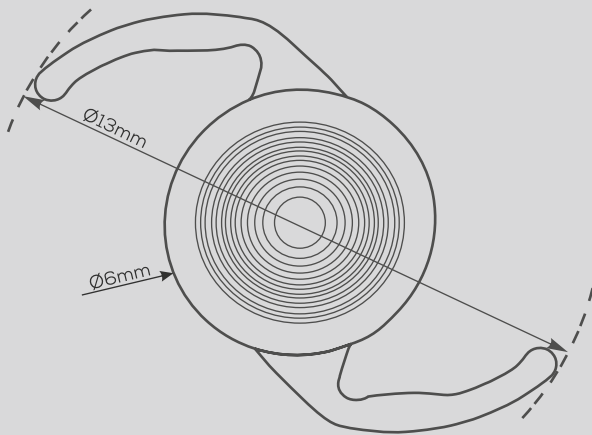
### Improved near vision without compromising the distance vision

- 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

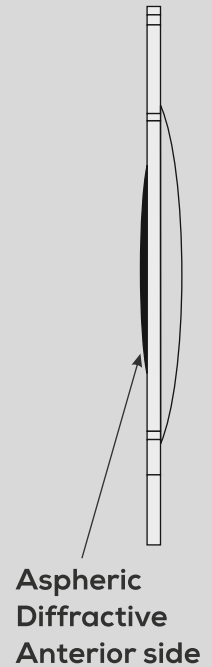
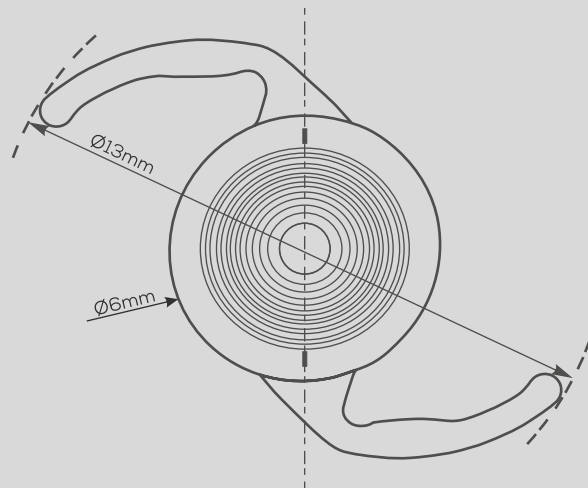
## UNIQUE REFRACTIVE DIFFRACTIVE ASPHERIC DESIGN

- 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

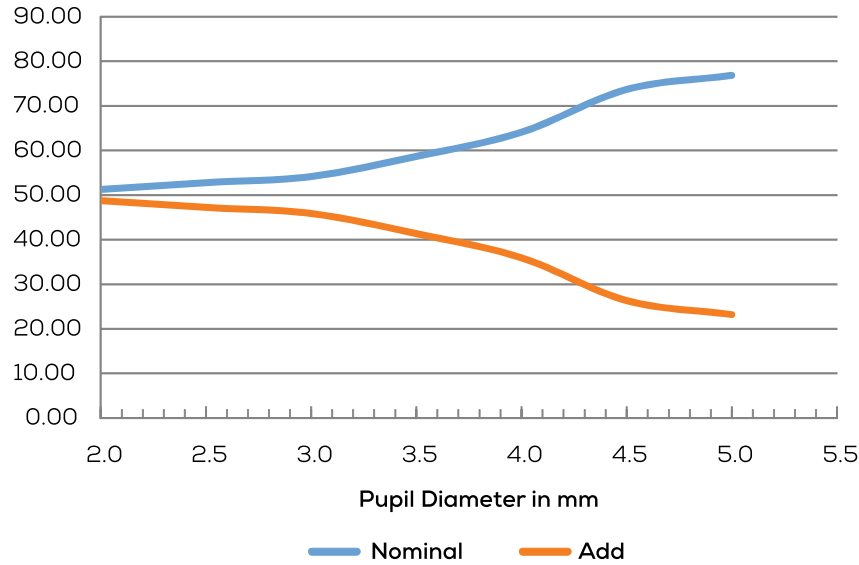
- Combined solution for Astigmatism and Presbiopia
- Excellent visual acuity for all distances
- Refractive astigmatism accuracy within +/- 0.5D in 98% eyes
- Excellent Rotational Stability
- 360° square edge
- Aspheric optic to correct positive spherical aberration of cornea
- IOL remains Glistenings-free

## 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



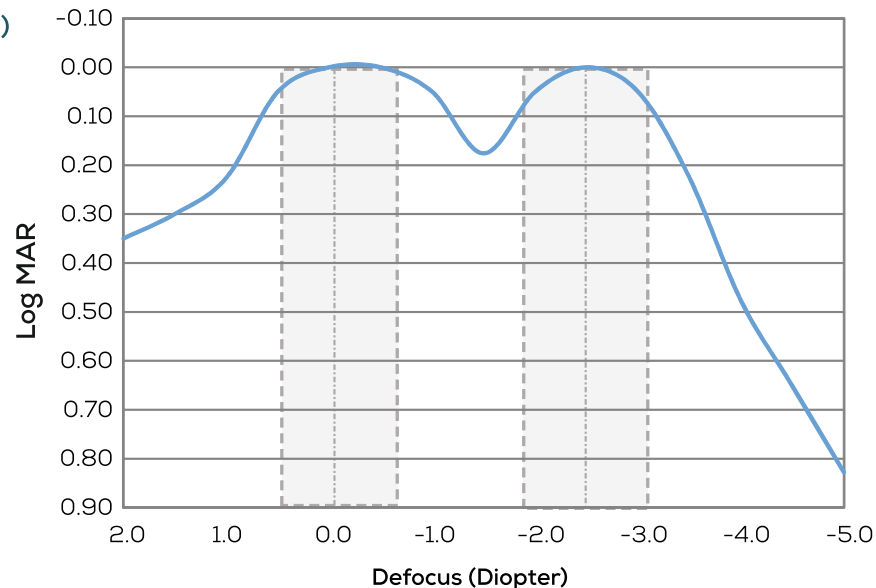
- As per literature study around 80% energy will be utilized in Bifocal IOLs.

## 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



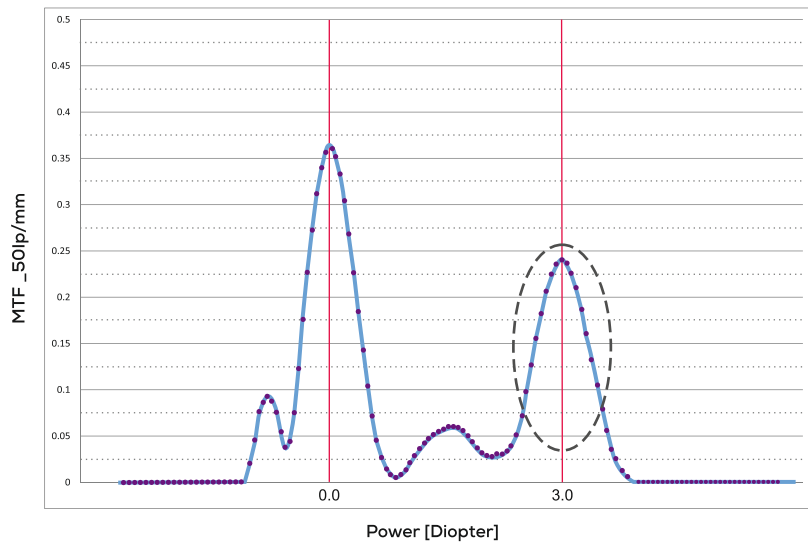
# MODULATION TRANSFER FUNCTION

## Improved near vision without disturbing the distance vision

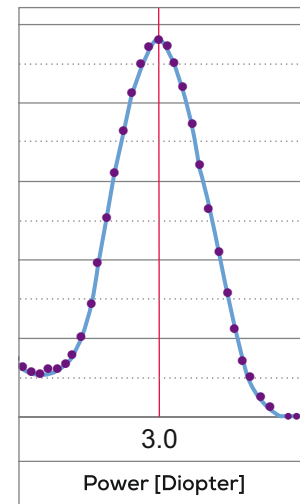
- Sufficient energy distribution at each focal point
- Better MTF
- Better resolution
- Good contrast

## 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



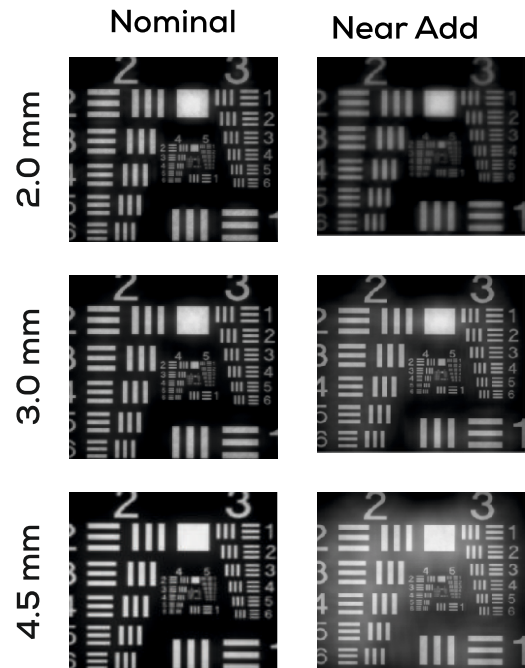
Modulation Transfer Function at 3.0 mm aperture



## OPTICAL BENCH MEASUREMENTS

Optimized light distribution to maintain good contrast

- Optimized light distribution provides better resolution and good contrast

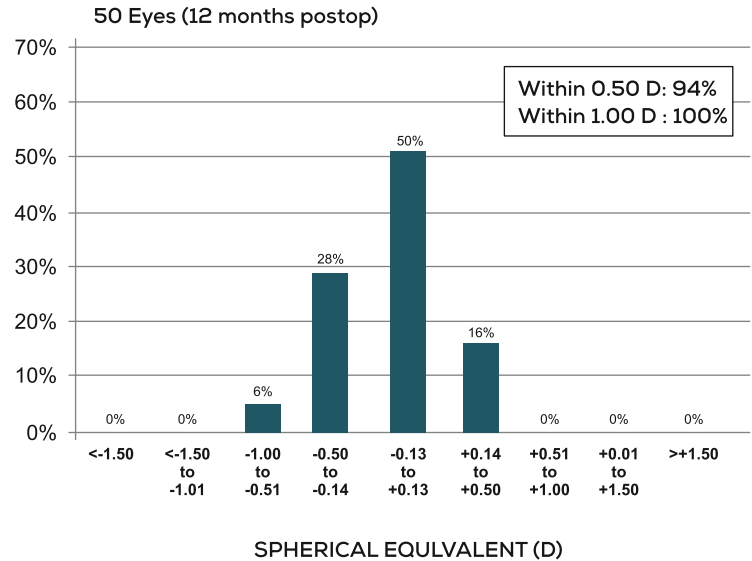




## CLINICAL RESULTS<sup>1</sup>(n=59)

### SPHERICAL EQUIVALENT (D)

SE refraction accuracy within  $\pm 0.50$  D was achieved in 94% eyes and all eyes had SE refraction accuracy within  $\pm 1.00$  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 RESULTS<sup>1</sup>(n=59)

### VISUAL OUTCOME

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

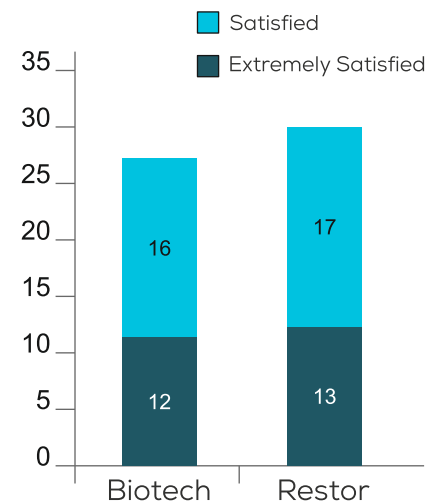
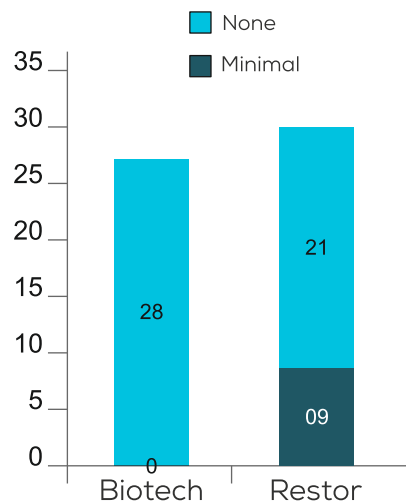
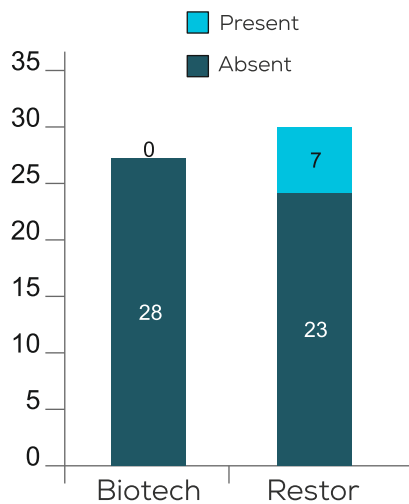
The best distance corrected near visual acuity were  $0.192 \pm 0.037$ .

6 Months  
EYECRYL™ ACTV Mean (SD)

BCDVA 0.112 (0.088)

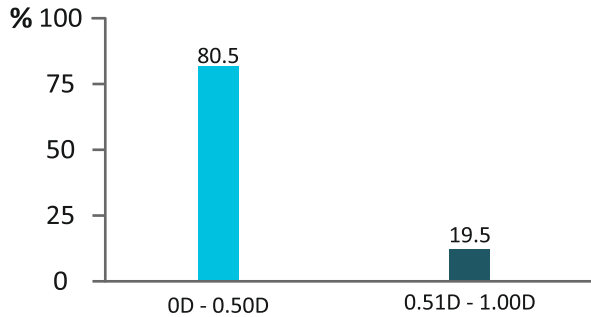
DCNVA 0.192 (0.037)

### DYSPHOTOPSIA QUESTIONNAIRE



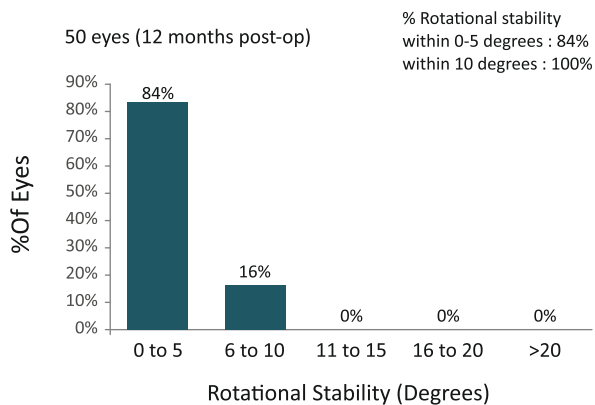
## CYLINDRICAL CORRECTION

EYECRYL ACTV TORIC IOLs demonstrate excellent capability for cylindrical correction. Study result shows that refractive cylinder was within 0.50D in 80.5% cases and within 1.00D in 100.0% cases.



## 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 117.89		
RECOMMENDED OPTICAL A-CONSTANTS	SRK - T 118.29	SRK - II 118.51	Holl 1 Const SF : 1.28
	HOFFER Q ACD: 5.07	HAIGIS $\alpha 0:0.838$ , $\alpha 1:0.40$ , $\alpha 2:0.10$	
	Barrett 1.52	Olsen ACD 4.18	
DIOPTRER RANGE	+10.0 D to +30.0 D ( with 0.5 D steps )		
CYLINDER RANGE	1.5 D to 6.0 D (with 0.75D step)		
IMPLANTATION SITE	Capsular Bag		
STERILIZATION	Irradiation		
SHELF LIFE	4 years from date of manufacture		

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Surgery Video



**DIFFRACTIVE - REFRACTIVE HYDROPHOBIC**  
FOLDABLE IOL WITH DELIVERY SYSTEM

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OVERALL SIZE	13.00 mm		
ANGULATION	0°		
ACD	5.28		
REFRACTIVE INDEX	1.483		
RECOMMENDED ULTRASOUND A-CONSTANT	SRK-T 118.3		
RECOMMENDED OPTICAL A-CONSTANTS	SRK - T 118.7	SRK - II 118.9	Holl 1 Const SF : 1.63
	HOFFER Q ACD: 5.42		HAIGIS α0:1.240, α1:0.40, α2:0.10
	Barrett 1.73		Olsen ACD 4.47
DIOPTRER 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







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.

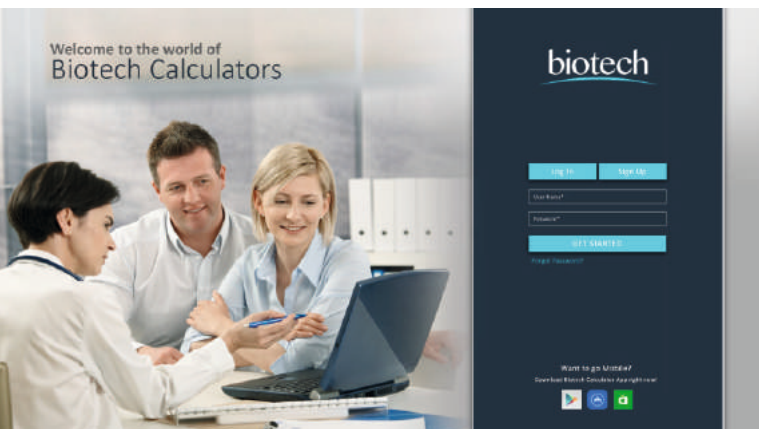
REFERENCE

1. Dr. Suhas Haldipurkar, Dr. Vijay Shetty; "Clinical Study Report-Prospective , Comparative clinical study of Eyecryl™ ACTV versus AcrySof®IQ ReSTOR® multifocal intraocular lens"-2019
2. <https://jamanetwork.com/> on 07/05/2022

# MODELS AVAILABLE - EYECRYL<sup>™</sup> *Actv* TORIC

Model	Near Addition	Cylinder Power		Recommended Range of corneal astigmatic correction*
		At IOL plane	At Corneal plane <sup>2</sup>	
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



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**BIOTECH VISION CARE PVT LTD** Block 1, Abhishree Corporate Park, Opp. Swagat Bunglow BRTS Stop  
Bopal - Ambli Road, Ahmedabad - 380 058 Gujarat India. | Tel: +91 79 66823000  
Email: [indiasales@biotechhealthcare.com](mailto:indiasales@biotechhealthcare.com) | [intlsales@biotechhealthcare.com](mailto:intlsales@biotechhealthcare.com) | [www.biotechhealthcare.com](http://www.biotechhealthcare.com)