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PRODUCT INFORMATION
Alcon Laboratories, Inc.

AcrySof® IQ PanOptix®
TRIFOCAL IOL

Model TFNT00

AcrySof® IQ PanOptix® Toric
TRIFOCAL IOL

Models TFNT30, TFNT40, TFNT50, TFNT60

Rx only

DESCRIPTION
The AcrySof® IQ PanOptix® Trifocal Intraocular Lens (IOL) Model TFNT00 and AcrySof® IQ PanOptix® Toric Trifocal Intraocular Lenses (IOLs) Models TFNT30, TFNT40, TFNT50, and TFNT60 are ultraviolet absorbing and blue light filtering foldable multifocal IOLs. Each IOL model is a single-piece design with a central optic and two open-loop haptics (**Figure 1**). The optic consists of a proprietary high refractive index hydrophobic acrylic material with a blue light filtering chromophore, which filters light in a manner that approximates the human crystalline lens in the 400-475 nm blue light wavelength range (Boettner and Wolter, 1962). The optic is biconvex and consists of a soft acrylic material capable of being folded prior to insertion, allowing placement through an incision smaller than the optic diameter of the lens. The optic is 6.0 mm in diameter and the lens has an overall diameter of 13.0 mm. After surgical insertion into the eye, the lens gently unfolds to its intended shape. The optic diffractive structure is in the central 4.5 mm portion of the optic and divides the incoming light to create a +2.17 D intermediate and a +3.25 D near add power at the IOL plane (representing +1.65 D and +2.35 D at the corneal plane after implantation, respectively, for an average human eye). The anterior surface is designed with negative spherical aberration to compensate for the positive spherical aberration of the cornea. The posterior surface of the AcrySof® IQ PanOptix® Toric Trifocal IOL optic has a toric surface and is marked with 6 indentations (3 on each side) identifying the flatter meridian of the optic. The physical properties of this lens are described in **Table 1** and **Figures 1, 2 and 3**.

Table 1: Physical Characteristics of AcrySof® IQ PanOptix® Trifocal IOLs

Physical Characteristics	Description
Optic Type	Single-piece IOL with diffractive aspheric optic
UV Cutoff at 10% T	401 nm for 21 D
Index Of Refraction	1.55
Spherical Powers	+6.0 through +30.0 diopter in 0.5 diopter increments; +31.0 through +34.0 diopter in 1.0 diopter increments
Add Powers	2.17 diopter intermediate and a +3.25 diopter near add power at the IOL plane (representing +1.65 D and +2.35 D at the corneal plane after implantation, respectively, for an average human eye)
Cylinder Powers	Model: Cylinder Power, D TFNT00: 0 TFNT30: 1.50 TFNT40: 2.25 TFNT50: 3.00 TFNT60: 3.75
Haptic Configuration	STABLEFORCE™ Modified-L Haptics
Lens Material	Ultraviolet light absorbing and blue light filtering Acrylate/Methacrylate Copolymer
Optic Diameter (mm)	6.0
Overall Length (mm)	13.0
Haptic Angle	0º

Figure 1: Physical Characteristics
All dimensions in millimeters

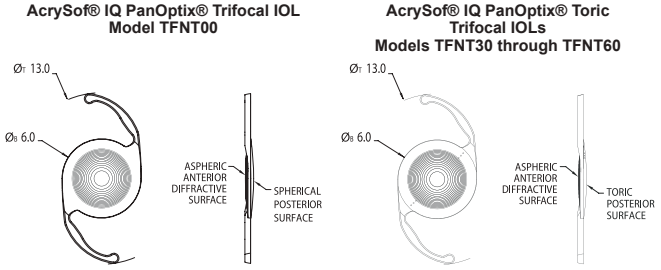
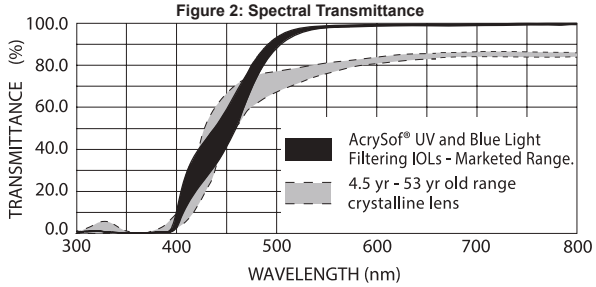
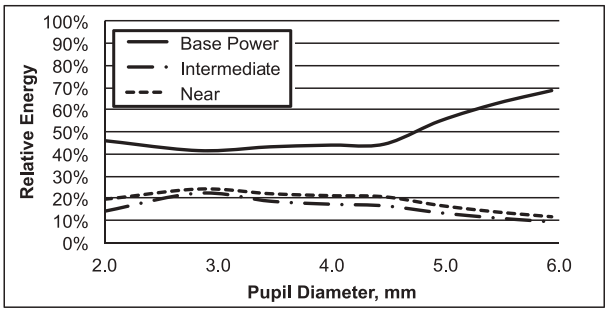


Figure 2: Spectral Transmittance



Human crystalline lens data is from Boettner and Wolter (1962).

Figure 3: Theoretical Percentage of Light Energy at 550 nm Wavelength



MODE OF ACTION
The AcrySof® IQ PanOptix® Trifocal IOLs are intended to be positioned in the lens capsule in the posterior chamber of the eye, replacing the human crystalline lens. This position allows the lens to function as a refractive medium in the correction of aphakia. This IOL has a biconvex optic containing an aspheric design and a diffractive structure on the anterior surface. The diffractive structure divides incoming light to provide a range of vision from distance to intermediate to near. This IOL provides an option for clinicians to provide patients an intermediate add power of +2.17 D and a near add power of +3.25 D at the IOL plane (representing +1.65 D and +2.35 D at the corneal plane after implantation, respectively, for an average human eye). Additionally, the AcrySof® IQ PanOptix® Toric Trifocal IOLs have a toric component on the posterior surface with axis marks to denote the flat meridian (plus cylinder axis). Alignment of the toric axis marks with the post-operative steep corneal meridian allows the lens to correct pre-existing corneal astigmatism. The astigmatic correction at the corneal plane for each model is shown in **Table 2.**

Table 2: Cylinder Power and Corneal Astigmatism Correction Range

	Cylinder Power		Recommend Corneal Astigmatism Range*	
Lens Model	IOL Plane	Corneal Plane*	Lower	Upper
TFNT30	1.50	1.03	0.75	1.28
TFNT40	2.25	1.55	1.29	1.80
TFNT50	3.00	2.06	1.81	2.32
TFNT60	3.75	2.57	2.33	2.82

*Based on an average pseudophakic human eye

INDICATIONS
The AcrySof® IQ PanOptix® Trifocal Intraocular lens is indicated for primary implantation in the capsular bag in the posterior chamber of the eye for the visual correction of aphakia in adult patients, with less than 1 diopter of pre-existing corneal astigmatism, in whom a cataractous lens has been removed. The lens mitigates the effects of presbyopia by providing improved intermediate and near visual acuity, while maintaining comparable distance visual acuity with a reduced need for eyeglasses, compared to a monofocal IOL.

The AcrySof® IQ PanOptix® Toric Trifocal Intraocular lens is indicated for primary implantation in the capsular bag in the posterior chamber of the eye for the visual correction of aphakia and the reduction of residual refractive astigmatism, in adult patients in whom a cataractous lens has been removed. The lens mitigates the effects of presbyopia by providing improved intermediate and near visual acuity, while maintaining comparable distance visual acuity with a reduced need for eyeglasses, compared to a monofocal IOL.

WARNINGS
1. Some visual effects may be expected due to the superposition of focused and unfocused multiple images. These may include some perceptions of halos or starbursts, as well as other visual symptoms. As with other multifocal IOLs, there is a possibility that visual symptoms may be significant enough that the patient will request explant of the multifocal IOL.
2. A reduction in contrast sensitivity as compared to a monofocal IOL may be experienced by some patients and may be more prevalent in low lighting conditions. Therefore, patients implanted with multifocal IOLs should exercise caution when driving at night or in poor visibility conditions.
3. The physician should consider the following points that are common to the use of multifocal IOLs:
   - The surgeon must target emmetropia to achieve optimal visual performance.
   - For the AcrySof® IQ PanOptix® Trifocal IOL, patients with significant preoperative (determined by keratometry) or expected postoperative astigmatism ≥ 1.0 D may not achieve optimal visual acuity.
   - For the AcrySof® IQ PanOptix® Toric Trifocal IOLs, the surgeon should target the lowest possible residual astigmatism. Patients with significant post-operative astigmatism >1.0 D may not achieve optimal visual acuity.
   - Care should be taken to achieve IOL centration as lens decentration may result in a patient experiencing visual disturbances under certain lighting conditions.
   - Patients should be advised that unexpected outcomes could lead to continued spectacle dependence or the need for secondary surgical intervention (e.g., intraocular lens replacement or repositioning).

4. For the AcrySof® IQ PanOptix® Toric Trifocal IOLs, rotation of the IOL away from its intended axis can reduce the astigmatic correction. Misalignment greater than 30° may increase postoperative refractive cylinder. If necessary, lens repositioning should occur as early as possible prior to lens encapsulation. Some clinical cases suggest encapsulation is complete within four weeks of implantation (Nishi 2002; Sacu 2005).
5. For the AcrySof® IQ PanOptix® Toric Trifocal IOLs, the lens should not be implanted if the posterior capsule is ruptured, if the zonules are damaged, or if a primary posterior capsulotomy is planned.
6. For the AcrySof® IQ PanOptix® Toric Trifocal IOLs, carefully remove all viscoelastic from both the anterior and posterior sides of the lens. Residual viscoelastic may cause complications including lens rotation resulting in misalignment of the AcrySof® PanOptix® Toric Trifocal IOL with the intended axis of placement.
7. This device is sterile until the inner pouch is opened. Inspect the pouch carefully for tears, cuts, punctures or other signs that the pouch has been opened or damaged. DO NOT implant the IOL if the sterility has been compromised.
8. DO NOT reuse this IOL. This device is for single use only.
9. DO NOT re-sterilize these intraocular lenses by any method.

PRECAUTIONS

1. Prior to surgery, prospective patients should be informed of the possible risks and benefits associated with the AcrySof® IQ PanOptix® Trifocal IOLs. A Patient Information Brochure can be found at http://ifu.alcon.com. Please provide a copy of the Patient Information Brochure to the patient.
2. As with other multifocal IOLs, patients may need glasses when reading small print or looking at small objects.
3. Posterior capsule opacification (PCO) may significantly affect the vision of patients with multifocal IOLs sooner in its progression than patients with monofocal IOLs. This may be due to the reduced contrast sensitivity observed with multifocal IOLs.
4. The safety and effectiveness of the AcrySof® IQ PanOptix® Trifocal IOL have not been substantiated in patients with pre-existing ocular conditions and intraoperative complications (see below). As with the implantation of any IOL, careful preoperative evaluation and sound clinical judgment should be used by the surgeon to decide the benefit/risk ratio before implanting a lens in a patient. Alternative treatment should be considered for patients with one or more pre-existing conditions and intraoperative complications described below.

Before Surgery

- Irregular corneal astigmatism
- Significant irregular corneal aberration
- Corneal irregularity (including irregularity due to dry eye syndrome)
- Retinal conditions or predisposition to retinal conditions, previous history of, or a predisposition to, retinal detachment or proliferative diabetic retinopathy, in which future treatment may be compromised by implanting this lens.
- Subjects with diagnosed degenerative visual disorders (e.g., macular degeneration or other retinal disorders) that are predicted (by subjective assessment of the retina) to cause future acuity losses to a level worse than 0.3 logMAR
- Amblyopia
- Clinically severe corneal dystrophy (e.g., epithelial, stromal, or endothelial dystrophy), keratitis, keratoconjunctivitis, keratouveitis, keratopathy, or kerectasia
- Any Inflammation or edema (swelling) of the cornea
- Rubella, congenital, traumatic, or complicated cataracts
- Extremely shallow anterior chamber, not due to swollen cataract
- History of or current anterior or posterior segment inflammation of any etiology
- Aniridia
- Iris neovascularization
- Glaucoma (uncontrolled or controlled with medication)
- Microphthalmos or Macrophthalmos
- Optic nerve atrophy
- Previous corneal transplant
- Pre-existing ocular conditions which may negatively impact stability of the implant
- Diabetic retinopathy
- Previous refractive surgery
- Cervical dystonia or spasmodic torticollis may interfere with the pre-operative surgical plan or IOL axis orientation during surgery
- Pregnancy

During Surgery

- Other planned ocular surgery procedures, including but not limited to, LASIK, astigmatic keratotomy, and limbal relaxing incisions
- Excessive iris mobility
- Mechanical or surgical manipulation required to enlarge the pupil to 4.5 mm or larger just prior to IOL implantation
- Significant vitreous loss
- Significant anterior chamber bleeding
- Uncontrollable positive intraocular pressure
- Complications in which the IOL stability could be compromised, including zonular separation, including, but not limited to:
  - Zonular damage, separation, or rupture
  - Capsulotomy by any technique other than a circular tear or femtosecond laser
  - The presence of radial tears known or suspected at the time of surgery
  - Situations in which the integrity of the circular tear cannot be confirmed by direct visualization
  - Cataract extraction by techniques other than phacoemulsification or liquefaction
  - Situations where the need for a large capsulotomy can be anticipated (e.g., diabetics, retinal detachment in the fellow eye, peripheral retinal pathology, etc.)
  - Capsular rupture or capsulorhexis tear
  - Bag-sulcus, sulcus-sulcus or unknown placement of the haptics

5. When binocular implantation of the AcrySof® PanOptix® Trifocal IOLs is planned, both eyes of a subject are not intended to be operated on the same day. Simultaneous binocular implantation has not been studied.
6. A high level of surgical skill is required for intraocular lens implantation. The surgeon should have observed and/or assisted in numerous implantations and successfully completed one or more courses on intraocular lens implantation before attempting to implant intraocular lenses.
7. As with any surgical procedure, there is risk involved. Potential complications accompanying cataract or implant surgery may include, but are not limited to, the following: lens epithelial cell on-growth, corneal endothelial damage, infection (endophthalmitis), retinal detachment, vitritis, cystoid macular edema, corneal edema, pupillary block, cyclitic membrane, iris prolapse, hypopyon, anterior uveitis, hyphema, pigment dispersion, posterior capsule opacification, transient or persistent glaucoma, and secondary surgical intervention. Secondary surgical interventions include, but are not limited to: lens repositioning, lens replacement, vitreous aspiration, iridectomy for pupillary block, wound leak repair, and retinal detachment repair.
8. Care should be taken to remove all viscoelastic from the eye prior to completing surgery.
9. The clinical study of the AcrySof® IQ PanOptix® Trifocal IOL was conducted with the lens intended for implantation in the capsular bag only. There are no clinical data to demonstrate its safety and effectiveness for placement in the ciliary sulcus.
10. For AcrySof® IQ PanOptix® Toric Trifocal IOLs, anatomic and/or surgical factors may be related to the likelihood that a toric IOL could be placed incorrectly or rotate away from the intended position after placement. Some of these factors can be identified before or during the surgery, but others cannot. If a secondary surgical intervention is necessary to reposition the IOL, explantation should be considered as some subjects may have recurrent or persistent issues related to rotational instability and misalignment.
11. For AcrySof® IQ PanOptix® Toric Trifocal IOLs, accurate keratometry and biometry in addition to the use of the Alcon Toric IOL Calculator (http://www.myalcon-toriccalc.com) are recommended.
12. In the clinical study of the parent toric multifocal IOL all corneal incisions were placed temporally and a surgically induced astigmatism (SIA) input value of 0.0 diopters was used in the AcrySof® IQ ReSTOR® +3.0 D Multifocal Toric IOL Calculator (http://www.myalcon-toriccalc.com). The SIA input value of 0.0 diopters was derived from an assumed 0.25 diopter with-the-rule vector SIA from the temporal incision, which was assumed to be compensated by an average 0.25 diopter against-the-rule posterior corneal astigmatism in the clinical study. The marketed AcrySof® IQ PanOptix® Toric Trifocal IOL Calculator allows the surgeon to customize the incision site and SIA based on the surgeon's clinical judgement. Clinical outcomes using incision site or SIA input value different than used in the clinical study have not been evaluated.
13. For the AcrySof® IQ PanOptix® Toric Trifocal IOLs, anatomic and/or surgical factors may be related to the likelihood that a toric IOL could be placed incorrectly or rotate away from the intended position after placement. Some of these factors can be identified before or during the surgery, but others cannot. If a secondary surgical intervention is necessary to reposition the IOL, explantation should be considered as some subjects may have recurrent or persistent issues related to rotational instability and misalignment.
14. For the AcrySof® IQ PanOptix® Toric Trifocal IOLs, all preoperative surgical parameters are important when choosing a toric lens for implantation, including preoperative keratometric cylinder (magnitude and axis), incision location, surgeon's estimated surgically induced astigmatism (SIA) and biometry. Variability in any of the preoperative measurements can influence patient outcomes, and the effectiveness of treating eyes with lower amounts of preoperative corneal astigmatism.
15. Do not store intraocular lenses at temperatures over 45° C (113° F).
16. Do not soak or rinse the intraocular lens with any solution other than sterile intraocular irrigating solutions (such as BSS® or BSS PLUS® solution).
17. The AcrySof® IQ PanOptix® Toric IOLs have not been evaluated in a clinical study. However, simulated effects of residual astigmatism on visual acuity were evaluated in the US pivotal study. The results of this astigmatic blur simulation study are summarized in the clinical study results section. Clinical results for the parent multifocal toric are presented in the clinical study section. As with other multifocal IOLs, patients with large levels of residual astigmatism may need spectacle correction to achieve satisfactory visual acuity.

CALCULATION OF LENS POWER

Accurate biometry is essential for successful visual outcomes. Preoperative calculation of required lens power for the AcrySof® IQ PanOptix® Trifocal IOLs should be determined by the surgeon's experience and preference. A reference SRK/T A-Constant value for optical biometry equipment such as IOLMaster† or LenStar† is listed on the outer label. This reference A-Constant anticipates the use of both corneal power and axial length values from optical biometry equipment with standard settings for a typical patient population and a spectacle far point at 6 meters. IOL power calculation methods are often included with biometry equipment, and they are described in the references below (Hoffer 1993; Holladay 1997; Olsen 2007; Retzlaff, Sanders & Kraff 1990; Haigis 2014).

In general, lens constants must be "personalized" to compensate for such things as differences in instrumentation, surgical techniques, and IOL power calculation that may exist between clinical practices. In the United States, if additional information on lens power calculation is needed, please contact Alcon Laboratories, Inc. at 1-800-TO-ALCON (1-800-862-5266). Outside the United States, contact local Alcon offices or distributors.

AcrySof® IQ PanOptix® Toric Trifocal IOLs are labeled with the IOL spherical equivalent power. In order to optimize IOL selection and axis placement, Alcon provides an AcrySof® IQ PanOptix® Toric Trifocal IOL calculator for the surgeon. Use of the AcrySof® IQ PanOptix® Toric Trifocal IOL Calculator (http://www.myalcon-toriccalc.com, Abulafia, Barrett, et al. 2015 and Abulafia, Hill, et al. 2015) is recommended to select the cylinder power of the AcrySof® IQ PanOptix® Toric Trifocal IOL. The astigmatism to be corrected should be determined from keratometry and biometry data rather than refractive data since the presence of lenticular astigmatism in the crystalline lens to be removed may influence results. The size and location of the surgical incision may affect the amount and axis of corneal astigmatism. Pre-operative keratometry and biometry data, incision location (temporal was used in the clinical study of the parent toric multifocal IOL), and the surgeon's estimated surgically induced corneal astigmatism are used to determine the appropriate AcrySof® IQ PanOptix® Toric Trifocal IOL model, spherical equivalent lens power, and axis of placement in the eye.

DIRECTIONS FOR USE

1. Examine the label on the unopened package for model, powers (base power, add powers, and cylinder power as appropriate), proper configuration, and expiration date.
2. After opening the cardboard storage container, verify lens case information (e.g., model, power, serial number) is consistent with information on outer package labeling.
3. To remove the lens, open the undamaged pouch and transfer the case to a sterile environment. Carefully open the case to expose the lens.
4. To minimize the occurrence of marks on the lens due to handling, all instrumentation should be scrupulously clean. Any forceps used for lens handling must have round edges and smooth surfaces.
5. When removing the lens from the case, DO NOT grasp the optical area with forceps. The IOL should only be handled by the haptics. Handle lenses carefully to avoid damage to lens surfaces or haptics. DO NOT attempt to reshape haptics in any way.
6. Rinse the lens thoroughly using sterile intraocular irrigating solution such as BSS® or BSS PLUS® solutions. Prior to insertion, the lens should be carefully examined to ensure that particles have not adhered during handling.
7. Alcon recommends using an Alcon approved delivery system.
8. It is recommended that viscoelastic be removed from the eye at the close of surgery with emphasis on the space between the posterior capsule and lens. This may be accomplished by gently depressing the IOL optic posteriorly with the I/A tip and using standard irrigation/aspiration techniques to remove the viscoelastic agent from the eye. This should force any trapped viscoelastic anteriorly where it can be easily aspirated.
9. There are various surgical procedures that can be used, and the surgeon should select a procedure that is appropriate for the patient. Surgeons should verify that appropriate instrumentation is available prior to surgery.
10. During implantation of the IOL, an Alcon qualified delivery system and viscoelastic combination should be used. The use of an unqualified combination may cause damage to the lens and potential complications during the implantation process. Alcon recommends using the qualified MONARCH® IOL Delivery System or any other Alcon qualified combination. For Alcon qualified viscoelastics, handpieces and cartridges for this lens, please contact your local Alcon representative.

PLACEMENT OF THE AcrySof® IQ PanOptix® TORIC TRIFOCAL IOL
For optimal results, the surgeon must ensure the correct placement and orientation of the lens within the capsular bag. The posterior surface of the IOL is marked with indentations (three at each end) at the haptic/optic junction that identify the flat meridian of the AcrySof® IQ PanOptix® Toric Trifocal IOL optic. These indentations form an imaginary line representing the plus cylinder axis (note: IOL cylinder steep meridian is 90º away). The AcrySof® IQ PanOptix® Toric Trifocal IOL cylinder axis marks should be aligned with the post-incision steep corneal meridian (intended axis of placement) or as determined by the AcrySof® IQ PanOptix® Toric Trifocal IOL calculator.

Prior to surgery mark the operative eye with at least two reference points. Alcon recommends one of the following methods for marking the eye: 1) with the patient sitting upright, clearly and precisely mark the two reference positions with a surgical skin marker or a marking pencil, or 2) with the subject sitting upright, use an axis marker to clearly and precisely mark the intended axis of the IOL placement identified by the web-based AcrySof® IQ PanOptix® Toric Trifocal IOL calculator. Using these marks as reference points, an axis marker can be used immediately prior to or during surgery to mark the axis of lens placement following the use of the AcrySof® IQ PanOptix® Toric Trifocal IOL calculator to determine the optimal axis of placement.

After the lens is inserted, precisely align the axis marking indentations on the AcrySof® IQ PanOptix® Toric Trifocal IOL with the marked axis of lens placement. Carefully remove all viscoelastic from both the anterior and posterior sides of the lens. This may be accomplished by manipulating the IOL optic with the I/A tip and using standard irrigation/aspiration techniques to remove all viscoelastic from the eye. Bimanual techniques may be used, if preferred, to ensure removal of viscoelastic from behind the lens implant. Special care should be taken to ensure proper positioning of the AcrySof® IQ PanOptix® Toric Trifocal IOL at the intended axis following viscoelastic removal. Residual viscoelastic may allow the lens to rotate causing misalignment of the AcrySof® IQ PanOptix® Toric Trifocal IOL with the intended axis of placement.

Misalignment of the axis of the lens with the intended axis of placement may compromise its astigmatic correction. Such misalignment can result from inaccurate keratometry or marking of the cornea, inaccurate placement of the AcrySof® IQ PanOptix® Toric Trifocal IOL axis during surgery, an unanticipated surgically induced change in the cornea, or physical rotation of the AcrySof® IQ PanOptix® Toric Trifocal IOL after implantation. In order to minimize this effect, the surgeon should be careful to ensure that preoperative keratometry and biometry is accurate and that the IOL is properly oriented prior to the end of surgery.

PATIENT REGISTRATION AND REPORTING
The Patient Identification Card included in the package is to be completed and given to the patient, together with instructions to keep the card as a permanent record to be shown to any eye care practitioner that the patient consults in the future.

In the United States, each patient must be registered with Alcon Laboratories, Inc., immediately following implantation of one of these lenses. Registration is accomplished by completing the Implant Registration Card that is enclosed in the lens box and mailing it to Alcon Laboratories, Inc. at the address below. Patient registration is essential for the long-term patient follow-up program and will assist Alcon Laboratories, Inc. in responding to reports of adverse events.

In the USA, mail Implant Registration Cards to:
Alcon Laboratories, Inc.
PO Box 6600
Fort Worth TX 76115-9972

Events that reasonably suggest that the lens may have caused or contributed to death or serious injury, including events occurring as a result of failure of a medical device to meet its performance specifications or otherwise perform as intended, should be reported to Alcon Laboratories, Inc. This information is being requested from all surgeons in order to document potential long-term effects of intraocular lens implantation.

Surgeons should use the following address, telephone number, or web site for reporting adverse events involving these intraocular lenses:

In the USA, report Adverse Events and Complaints to:
Alcon Laboratories, Inc.
QA Medical Complaints Department
Mail code: AB2-6
6201 South Freeway
Fort Worth, TX 76134-2099
USA

Call Toll free: 1-800-757-9780

URL: http://www.alcon.com/contact-us/

CLINICAL STUDIES
The data from a recent clinical study of the AcrySof® PanOptix® Trifocal IOL Model TFNT00, and data from two relevant prior studies are included in this section. Another prior study is described.

1. A clinical study was conducted to assess the safety and effectiveness of the AcrySof® IQ PanOptix® Trifocal IOL Model TFNT00.
2. A prior clinical study was conducted to assess the safety and effectiveness of the AcrySof® IQ ReSTOR® +3.0 D Multifocal Toric IOL Models SND1T3 to SND1T6. The AcrySof® IQ PanOptix® Toric Trifocal IOL Models TFNT30-TFNT60 are also multifocal toric IOLs using the same cylinder power design. Results relevant to the cylinder power design are included here.
3. A prior clinical study, including a night driving simulator sub-study, was conducted to demonstrate the safety and effectiveness of the non-blue-light-filtering multi-piece and single-piece AcrySof® ReSTOR® IOL Models MA60D3 and SA60D3. The AcrySof® PanOptix® Trifocal IOL uses a diffractive pattern on the anterior surface of the IOL as in Models MA60D3 and SA60D3. The night driving simulation results provide an expanded description of the safety profile of AcrySof® PanOptix® Trifocal IOL.
4. A prior clinical study (described in Marshall et al., 2005), including assessment of color perception, was conducted to demonstrate the safety and effectiveness of the AcrySof® Natural single-piece monofocal IOL Model SB30AL. The AcrySof® IQ PanOptix® Trifocal IOL is also a single-piece IOL using the same material mechanical platform and the same blue light filtering chromophore. This study showed that the blue light filtering chromophore did not have an effect on visual acuity, contrast sensitivity, or color perception in subjects with normal color vision prior to surgery. These results provide an expanded description of the safety profile expected of the AcrySof® IQ PanOptix® Trifocal IOL.

Summaries of clinical studies 1 through 3 are provided below. Please use caution when comparing these results with results from similar device studies due to potential differences in subject cohorts, test methods, etc.

1. AcrySof® PanOptix® TRIFOCAL INTRAOCULAR LENSES (IOLS)

Summary of Clinical Study
The clinical study was a prospective, nonrandomized, vision assessor-masked, parallel-group study and was designed for bilateral implantation of 250 subjects in total, with 125 subjects implanted with the investigational AcrySof® IQ PanOptix® Trifocal IOL Model TFNT00 (referred to as the PanOptix IOL below), and 125 subjects implanted with the FDA approved AcrySof® monofocal IOL Model SN60AT (referred to as the Monofocal IOL below), at 12 investigational sites in the United States.

The purpose of this clinical study was to compare the monocular distance-corrected visual acuities of the AcrySof® IQ PanOptix® Trifocal IOL Model TFNT00 against those of a monofocal lens, the AcrySof® Monofocal IOL Model SN60AT, in order to demonstrate comparable distance visual acuity and superior near and intermediate visual acuities.

All eyes with successful IOL implantation and at least one post-operative visit were considered evaluable for the All Implanted analyses. All eyes successfully implanted that had at least one postoperative visit and had no preoperative ocular pathology or macular degeneration at any time, and no major protocol deviations, were evaluable for Best Case analyses. The Best Case data set was the primary data set for contrast sensitivity and binocular defocus analyses. The analyses for the astigmatic blur sub-study were performed on the “Astigmatic Blur Sub-Study Set (ABS),” which included a subset of the best case data set. All eyes with attempted IOL implantation (successful or aborted after contact with the eye) were considered evaluable for the safety analyses. The Safety Analysis Set (SAS) was the primary set for all safety analyses, except contrast sensitivity.

Clinical Study Results
The co-primary effectiveness objectives were to demonstrate statistical non-inferiority in mean photopic monocular BCDVA (non-inferiority margin of 0.1 logMAR) and to demonstrate statistical superiority of mean photopic monocular DCNVA for the first operative eyes at Month 6. Non-inferiority of PanOptix® IOL to Monofocal IOL was demonstrated as the 95% upper confidence limit of the difference of the least squared means (0.04 logMAR) was less than the margin of 0.1 logMAR. The second co-primary effectiveness objective was also met because results demonstrated a statistically significant difference in population means for DCNVA of 0.42 logMAR in favor of PanOptix® IOL. The secondary effectiveness objectives were to demonstrate statistical superiority of mean photopic monocular DCIVA for first operative eyes at Month 6 and the superiority of PanOptix® IOL compared to the concurrent control Monofocal IOL in proportion of subjects who respond “Never” to Q1 of the IOLSAT questionnaire (Overall, in the past 7 days, how often did you need to wear eyeglasses to see?) at Month 6. A statistically significant difference in population means for DCIVA of 0.26 logMAR was observed in favor of PanOptix® IOL. Superiority of PanOptix® IOL to Monofocal IOL in proportion of subjects who respond “Never” was demonstrated, based on the 71.2% statistically significant difference in proportions, in favor of PanOptix® IOL.

The co-primary safety objectives were to estimate the cumulative rate of secondary surgical interventions (SSIs) related to the optical properties of the IOL for the first operative eye up to Month 6 and to evaluate the mean binocular contrast sensitivity with and without glare for photopic and mesopic conditions at Month 6. Only one SSI related to the optical properties of the IOLs was reported in the clinical study. Binocular contrast sensitivity results were slightly reduced for the PanOptix IOL compared to the monofocal control IOL at higher spatial frequencies. However, these differences were not clinically meaningful. There was no clinically significant difference in contrast sensitivity between the 2 groups, comparing all spatial frequencies, and regardless of lighting condition or the presence of glare source. The secondary safety objective was to estimate rates of severe and most bothersome visual disturbances as reported by the subjects using a questionnaire at Month 6. Visual disturbances of starbursts, halos, and glare were the most frequently rated “severe” symptoms in the PanOptix® IOL group. Starbursts, halos, and glare were also rated as the most bothersome symptoms by subjects in the PanOptix® IOL group; however, less than 5% of subjects rated these symptoms as “bothered very much” at Month 6. The third safety objective was to evaluate rates of cumulative and persistent Adverse Events in first operative eyes at Month 6 in comparison to ISO 11979-7 Safety and SPE grid rates. The rate of cumulative and persistent adverse events, including SSIs, for PanOptix® IOL was below the SPE threshold as set forth by ISO 11979-7:2014.

Tables presented below covering clinical results from this clinical study use the following conventions. In a column header, “(N=)” is the number in the treatment group. The number of subjects with data (“n”) are indicated in the table body.

Subject Population
A total of 243 subjects were implanted in this clinical study with 129 subjects receiving the PanOptix® IOL and 114 subjects receiving the control Monofocal IOL.

The study consisted of 67.5% females and 32.5% males. Stratifying by race, the proportions were 86.0% White, 7.8% Black or African American, 3.3% Asian, 0.8% Native Hawaiian or Other Pacific Islander and 2.1% designated “Other”. Ethnicity of the study population designated 4.5% as Hispanic or Latino. The mean (± SD) age for the study population was 67 ± 7 years. The Best Case cohort consisted of 129 PanOptix® IOL subjects and 111 Monofocal IOL subjects. Data are reported for the 6 month visit.

Monocular Visual Acuity
Visual Acuity was assessed using a computerized test system (CTS, M&S Technologies, Niles, IOL). The first co-primary effectiveness objective was statistical non-inferiority of mean photopic monocular BCDVA with a noninferiority margin of 0.1 logMAR. Noninferiority of the PanOptix® Trifocal IOL to the Monofocal IOL was demonstrated as the 95% upper confidence limit of the difference of least squared means (0.04 logMAR) was less than the margin of 0.1 logMAR for the first operative eyes at Month 6. The other co-primary effectiveness objective was statistical superiority of mean photopic monocular DCNVA. A statistically significant difference in population means of 0.42 logMAR was observed in favor of PanOptix® IOL for the first operative eyes at Month 6.

The secondary effectiveness objective was statistical superiority of mean photopic monocular DCIVA. A statistically significant difference in population means of 0.26 logMAR was observed in favor of PanOptix® IOL for the first operative eye at Month 6.

Tables 3-6 summarize the monocular visual acuity (VA) endpoint analyses and results for subjects who completed the Form 4A (6 months after second eye implantation) visit.

Table 3: Comparison of Mean Photopic Monocular Distance Corrected Visual Acuity (logMAR) Using Least Square Estimates, First Eye, All Implanted

		PanOptix® IOL (N=129)	Monofocal IOL (N=114)	Difference
4 m	n	127	113	
	Mean	-0.014	-0.039	0.024
	SE	0.008	0.009	0.010
	Snellen line approximate equivalent	20/20	20/20	--
	95% UCL	--	--	0.041
66 cm	n	127	113	
	Mean	0.070	0.327	-0.257
	SE	0.011	0.011	0.015
	Snellen line approximate equivalent	20/25	20/40	--
	95% CI	--	--	(-0.287, -0.227)
40 cm	n	127	113	
	Mean	0.105	0.529	-0.424
	SE	0.012	0.013	0.017
	Snellen line approximate equivalent	20/25	20/63	--
	95% CI	--	--	(-0.458, -0.390)

Difference = PanOptix® IOL – Monofocal IOL
Estimates were based on the repeated measure analysis of covariance
UCL = Upper confidence limit; SE = Standard error; CI = Confidence interval

Table 4A: Cumulative Monocular Near (40 cm) Snellen Visual Acuity by Lens Model, First Eye, All Implanted

				20/20^{-2} or better	20/25^{-2} or better	20/32^{-2} or better	20/40^{-2} or better	Worse than 20/40^{-2}
		N	Total	n (%)	n (%)	n (%)	n (%)	n (%)
Uncorrected Photopic	PanOptix® IOL	129	127	32 (25.2)	83 (65.4)	112 (88.2)	121 (95.3)	6 (4.7)
	Monofocal IOL	114	113	0 (0.0)	2 (1.8)	16 (14.2)	34 (30.1)	79 (69.9)
Distance Corrected Photopic	PanOptix® IOL	129	127	34 (26.8)	96 (75.6)	120 (94.5)	125 (98.4)	2 (1.6)
	Monofocal IOL	114	113	0 (0.0)	0 (0.0)	3 (2.7)	21 (18.6)	92 (81.4)
Distance Corrected Mesopic	PanOptix® IOL	129	127	3 (2.4)	20 (15.7)	54 (42.5)	97 (76.4)	30 (23.6)
	Monofocal IOL	114	113	0 (0.0)	1 (0.9)	5 (4.4)	8 (7.1)	105 (92.9)

Percentage calculated as (n / Total) * 100
Snellen VA was converted from logMAR VA. A Snellen notation of 20/20^{-2} or better indicates a logMAR VA of 0.04 or better, which means 3 or more of the 5 ETDRS chart letters in the line were identified correctly.

Table 4B: Cumulative Monocular Near (40 cm) LogMAR Visual Acuity by Lens Model, First Eye, All Implanted

				0.00 logMAR or better	0.10 logMAR or better	0.20 logMAR or better	0.30 logMAR or better	Worse than 0.30 logMAR
		N	Total	n (%)	n (%)	n (%)	n (%)	n (%)
Uncorrected Photopic	PanOptix® IOL	129	127	15 (11.8)	62 (48.8)	104 (81.9)	119 (93.7)	8 (6.3)
	Monofocal IOL	114	113	0 (0.0)	1 (0.9)	11 (9.7)	28 (24.8)	85 (75.2)
Distance Corrected Photopic	PanOptix® IOL	129	127	13 (10.2)	78 (61.4)	117 (92.1)	124 (97.6)	3 (2.4)
	Monofocal IOL	114	113	0 (0.0)	0 (0.0)	2 (1.8)	16 (14.2)	97 (85.8)
Distance Corrected Mesopic	PanOptix® IOL	129	127	2 (1.6)	10 (7.9)	38 (29.9)	87 (68.5)	40 (31.5)
	Monofocal IOL	114	113	0 (0.0)	1 (0.9)	5 (4.4)	6 (5.3)	107 (94.7)

Percentage calculated as (n / Total) * 100

Table 5A: Cumulative Monocular Photopic Intermediate (66 cm) Snellen Visual Acuity by Lens Model, First Eye, All Implanted

				20/20^{-2} or better	20/25^{-2} or better	20/32^{-2} or better	20/40^{-2} or better	Worse than 20/40^{-2}
		N	Total	n (%)	n (%)	n (%)	n (%)	n (%)
Uncorrected	PanOptix® IOL	129	127	47 (37.0)	90 (70.9)	113 (89.0)	123 (96.9)	4 (3.1)
	Monofocal IOL	114	113	13 (11.5)	32 (28.3)	64 (56.6)	82 (72.6)	31 (27.4)
Distance Corrected	PanOptix® IOL	129	127	63 (49.6)	103 (81.1)	119 (93.7)	126 (99.2)	1 (0.8)
	Monofocal IOL	114	113	0 (0.0)	8 (7.1)	39 (34.5)	67 (59.3)	46 (40.7)

Percentage calculated as (n / Total) * 100
Snellen VA was converted from logMAR VA. A Snellen notation of 20/20^{-2} or better indicates a logMAR VA of 0.04 or better, which means 3 or more of the 5 ETDRS chart letters in the line were identified correctly.

Table 5B: Cumulative Photopic Monocular Photopic Intermediate (66 cm) LogMAR Visual Acuity by Lens Model, First Eye, All Implanted

				0.00 logMAR or better	0.10 logMAR or better	0.20 logMAR or better	0.30 logMAR or better	Worse than 0.30 logMAR
		N	Total	n (%)	n (%)	n (%)	n (%)	n (%)
Uncorrected	PanOptix® IOL	129	127	21 (16.5)	70 (55.1)	102 (80.3)	119 (93.7)	8 (6.3)
	Monofocal IOL	114	113	7 (6.2)	21 (18.6)	50 (44.2)	74 (65.5)	39 (34.5)
Distance Corrected	PanOptix® IOL	129	127	40 (31.5)	89 (70.1)	115 (90.6)	124 (97.6)	3 (2.4)
	Monofocal IOL	114	113	0 (0.0)	3 (2.7)	30 (26.5)	49 (43.4)	64 (56.6)

Percentage calculated as (n / Total) * 100

Table 6A: Cumulative Monocular Photopic Distance (4 m) Snellen Visual Acuity by Lens Model, First Eye, All Implanted

				20/20^{-2} or better	20/25^{-2} or better	20/32^{-2} or better	20/40^{-2} or better	Worse than 20/40^{-2}
		N	Total	n (%)	n (%)	n (%)	n (%)	n (%)
Uncorrected	PanOptix® IOL	129	127	57 (44.9)	92 (72.4)	118 (92.9)	124 (97.6)	3 (2.4)
	Monofocal IOL	114	113	57 (50.4)	95 (84.1)	107 (94.7)	112 (99.1)	1 (0.9)
Best Corrected	PanOptix® IOL	129	127	104 (81.9)	124 (97.6)	125 (98.4)	127 (100.0)	0 (0.0)
	Monofocal IOL	114	113	100 (88.5)	112 (99.1)	113 (100.0)	113 (100.0)	0 (0.0)

Percentage calculated as (n / Total) * 100
Snellen VA was converted from logMAR VA. A Snellen notation of 20/20^{-2} or better indicates a logMAR VA of 0.04 or better, which means 3 or more of the 5 ETDRS chart letters in the line were identified correctly.

Table 6B: Cumulative Monocular Photopic Distance (4 m) LogMAR Visual Acuity by Lens Model, First Eye, All Implanted

				0.00 logMAR or better	0.10 logMAR or better	0.20 logMAR or better	0.30 logMAR or better	Worse than 0.30 logMAR
		N	Total	n (%)	n (%)	n (%)	n (%)	n (%)
Uncorrected	PanOptix® IOL	129	127	39 (30.7)	87 (68.5)	114 (89.8)	124 (97.6)	3 (2.4)
	Monofocal IOL	114	113	42 (37.2)	82 (72.6)	103 (91.2)	108 (95.6)	5 (4.4)
Best Corrected	PanOptix® IOL	129	127	85 (66.9)	121 (95.3)	125 (98.4)	127 (100.0)	0 (0.0)
	Monofocal IOL	114	113	85 (75.2)	111 (98.2)	113 (100.0)	113 (100.0)	0 (0.0)

Percentage calculated as (n / Total) * 100

Binocular Visual Acuity
There were clinically relevant differences in mean photopic binocular Distance Corrected Visual Acuity (DCVA) at 40 cm and 66 cm for subjects implanted with the PanOptix® IOL compared with subjects implanted with the control Monofocal IOL.

The following is a summary of photopic binocular visual acuity (VA) results for subjects who completed the Form 4A (6 months after second eye implantation) visit. The data are presented in **Tables 7-10** below.

Table 7: Overall Comparison of Mean (±SD) Photopic Binocular Distance-Corrected Visual Acuity (logMAR), All Implanted

	Near VA at 40 cm		Intermediate VA at 66 cm		Distance VA	
Model	**logMAR**	**Snellen Line Approximate Equivalent**	**logMAR**	**Snellen Line Approximate Equivalent**	**logMAR**	**Snellen Line Approximate Equivalent**
PanOptix® IOL	0.050 (0.070)	20/25	-0.007 (0.079)	20/20	-0.062 (0.066)	20/16
Monofocal IOL	0.406 (0.148)	20/50	0.230 (0.124)	20/32	-0.086 (0.063)	20/16

Table 8A: Cumulative Binocular Near (40 cm) Snellen Visual Acuity by Lens Model, All Implanted

				20/20^{-2} or better	20/25^{-2} or better	20/32^{-2} or better	20/40^{-2} or better	Worse than 20/40^{-2}
		N	**Total**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
Uncorrected Photopic	**PanOptix® IOL**	129	127	63 (49.6)	117 (92.1)	125 (98.4)	127 (100.0)	0 (0.0)
	Monofocal IOL	114	111	1 (0.9)	10 (9.0)	38 (34.2)	67 (60.4)	44 (39.6)
Distance Corrected Photopic	**PanOptix® IOL**	129	127	60 (47.2)	122 (96.1)	127 (100.0)	127 (100.0)	0 (0.0)
	Monofocal IOL	114	111	0 (0.0)	0 (0.0)	18 (16.2)	44 (39.6)	67 (60.4)
Distance Corrected Mesopic	**PanOptix® IOL**	129	127	5 (3.9)	33 (26.0)	85 (66.9)	119 (93.7)	8 (6.3)
	Monofocal IOL	114	111	0 (0.0)	2 (1.8)	6 (5.4)	12 (10.8)	99 (89.2)

Percentage calculated as (n / Total) * 100
Snellen VA was converted from logMAR VA. A Snellen notation of 20/20^{-2} or better indicates a logMAR VA of 0.04 or better, which means 3 or more of the 5 ETDRS chart letters in the line were identified correctly.

Table 8B: Cumulative Binocular Near (40 cm) LogMAR Visual Acuity by Lens Model, All Implanted

				0.00 logMAR or better	0.10 logMAR or better	0.20 logMAR or better	0.30 logMAR or better	Worse than 0.30 logMAR
		N	**Total**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
Uncorrected Photopic	**PanOptix® IOL**	129	127	40 (31.5)	106 (83.5)	123 (96.9)	127 (100.0)	0 (0.0)
	Monofocal IOL	114	111	0 (0.0)	6 (5.4)	24 (21.6)	56 (50.5)	55 (49.5)
Distance Corrected Photopic	**PanOptix® IOL**	129	127	32 (25.2)	105 (82.7)	127 (100.0)	127 (100.0)	0 (0.0)
	Monofocal IOL	114	111	0 (0.0)	0 (0.0)	11 (9.9)	30 (27.0)	81 (73.0)
Distance Corrected Mesopic	**PanOptix® IOL**	129	127	4 (3.1)	16 (12.6)	63 (49.6)	111 (87.4)	16 (12.6)
	Monofocal IOL	114	111	0 (0.0)	0 (0.0)	5 (4.5)	9 (8.1)	102 (91.9)

Percentage calculated as (n / Total) * 100

Table 9A: Cumulative Binocular Photopic Intermediate (66 cm) Snellen Visual Acuity by Lens Model, All Implanted

				20/20^{-2} or better	20/25^{-2} or better	20/32^{-2} or better	20/40^{-2} or better	Worse than 20/40^{-2}
		N	**Total**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
Uncorrected	**PanOptix® IOL**	129	127	93 (73.2)	119 (93.7)	124 (97.6)	127 (100.0)	0 (0.0)
	Monofocal IOL	114	111	25 (22.5)	56 (50.5)	85 (76.6)	102 (91.9)	9 (8.1)
Distance Corrected	**PanOptix® IOL**	129	127	104 (81.9)	124 (97.6)	127 (100.0)	127 (100.0)	0 (0.0)
	Monofocal IOL	114	111	6 (5.4)	29 (26.1)	71 (64.0)	92 (82.9)	19 (17.1)

Percentage calculated as (n / Total) * 100
Snellen VA was converted from logMAR VA. A Snellen notation of 20/20^{-2} or better indicates a logMAR VA of 0.04 or better, which means 3 or more of the 5 ETDRS chart letters in the line were identified correctly.

Table 9B: Cumulative Binocular Photopic Intermediate (66 cm) LogMAR Visual Acuity by Lens Model, All Implanted

				0.00 logMAR or better	0.10 logMAR or better	0.20 logMAR or better	0.30 logMAR or better	Worse than 0.30 logMAR
		N	**Total**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
Uncorrected	**PanOptix® IOL**	129	127	69 (54.3)	109 (85.8)	123 (96.9)	127 (100.0)	0 (0.0)
	Monofocal IOL	114	111	16 (14.4)	50 (45.0)	75 (67.6)	96 (86.5)	15 (13.5)
Distance Corrected	**PanOptix® IOL**	129	127	80 (63.0)	118 (92.9)	126 (99.2)	127 (100.0)	0 (0.0)
	Monofocal IOL	114	111	3 (2.7)	15 (13.5)	54 (48.6)	85 (76.6)	26 (23.4)

Percentage calculated as (n / Total) * 100

Table 10A: Cumulative Binocular Photopic Distance (4 m) Snellen Visual Acuity by Lens Model, All Implanted

				20/20^{-2} or better	20/25^{-2} or better	20/32^{-2} or better	20/40^{-2} or better	Worse than 20/40^{-2}
		N	**Total**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
Uncorrected	**PanOptix® IOL**	129	127	93 (73.2)	117 (92.1)	126 (99.2)	127 (100.0)	0 (0.0)
	Monofocal IOL	114	111	87 (78.4)	105 (94.6)	110 (99.1)	111 (100.0)	0 (0.0)
Best Corrected	**PanOptix® IOL**	129	127	123 (96.9)	127 (100.0)	127 (100.0)	127 (100.0)	0 (0.0)
	Monofocal IOL	114	111	109 (98.2)	111 (100.0)	111 (100.0)	111 (100.0)	0 (0.0)

Percentage calculated as (n / Total) * 100
Snellen VA was converted from logMAR VA. A Snellen notation of 20/20^{-2} or better indicates a logMAR VA of 0.04 or better, which means 3 or more of the 5 ETDRS chart letters in the line were identified correctly.

Table 10B: Cumulative Binocular Photopic Distance (4 m) LogMAR Visual Acuity of by Lens Model, All Implanted

				0.00 logMAR or better	0.10 logMAR or better	0.20 logMAR or better	0.30 logMAR or better	Worse than 0.30 logMAR
		N	**Total**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
Uncorrected	**PanOptix® IOL**	129	127	82 (64.6)	109 (85.8)	123 (96.9)	126 (99.2)	1 (0.8)
	Monofocal IOL	114	111	76 (68.5)	102 (91.9)	107 (96.4)	110 (99.1)	1 (0.9)
Best Corrected	**PanOptix® IOL**	129	127	111 (87.4)	126 (99.2)	127 (100.0)	127 (100.0)	0 (0.0)
	Monofocal IOL	114	111	104 (93.7)	111 (100.0)	111 (100.0)	111 (100.0)	0 (0.0)

Percentage calculated as (n / Total) * 100

Table 11A shows the proportion of subjects achieving each Snellen level or better uncorrected binocular visual acuity for all distances (distance – 4 m, intermediate – 66 cm, near – 40 cm). 95.3% of the PanOptix® IOL subjects achieved 20/32 at all distances while **Table 11B** shows the logMAR visual acuity.

Table 11A: Proportion of Subjects Achieving Snellen VA Thresholds for the Near, Intermediate, and Distance Uncorrected Photopic Binocular Visual Acuity, All Implanted

Snellen Category	PanOptix® IOL (N = 129) n (%)	Monofocal IOL (N = 114) n (%)
Total	127	111
20/20^{-2} or better	50 (39.4)	1 (0.9)
20/25^{-2} or better	106 (83.5)	9 (8.1)
20/32^{-2} or better	121 (95.3)	37 (33.3)
20/40^{-2} or better	127 (100.0)	66 (59.5)
Worse than 20/40^{-2}	0 (0.0)	45 (40.5)
Percentage calculated as (n / Total) * 100 Snellen VA was converted from logMAR VA. A Snellen notation of 20/20^{-2} or better indicates a logMAR VA of 0.04 or better, which means 3 or more of the 5 ETDRS chart letters in the line were identified correctly.		

Table 11B: Proportion of Subjects Achieving LogMAR VA Thresholds for the Near, Intermediate, and Distance Uncorrected Photopic Binocular Visual Acuity, All Implanted

Snellen Category	PanOptix® IOL (N = 129) n (%)	Monofocal IOL (N = 114) n (%)
Total	127	111
0.00 logMAR or better	25 (19.7)	0 (0.0)
0.10 logMAR or better	89 (70.1)	4 (3.6)
0.20 logMAR or better	117 (92.1)	23 (20.7)
0.30 logMAR or better	126 (99.2)	55 (49.5)
Worse than 0.30 logMAR	1 (0.8)	56 (50.5)
Percentage calculated as (n / Total) * 100		

Binocular Defocus Curves

Binocular defocus curves were obtained at 6 months for the PanOptix® IOL and the Monofocal IOL and are shown in **Figure 4** with 95% confidence intervals error bars and in **Figure 5** with standard deviation error bars**.** Vertical lines indicate the the distance (optical infinity), intermediate, and near visual acuity testing distance. Binocular defocus curves obtained at 6 months stratified by post-operative (6 months) pupil size are presented in **Figures 6** and **7** for the PanOptix® IOL and the Monofocal IOL, respectively.

Data were obtained from best case patients in each arm using a computerized visual acuity test system (CTS, M&S Technologies, Niles, IL). The curves display two peaks and one peak respectively that demonstrate the PanOptix® IOL versus Monofocal IOL performance. The main peak, or single peak for the Monofocal IOL, is at the zero defocus baseline position, which corresponds to optical infinity. For the PanOptix® IOL, an additional peak demonstrates the improved performance compared to a Monofocal IOL. The PanOptix® IOL provided mean performance of 0.1 logMAR or better vision (depth of focus) from -2.5 D to 0.00 D, corresponding to a range of distances from approximately 40 cm to infinity.

Figure 4: Mean Binocular Defocus Curves with 95% Confidence Limits by Lens Model at 6 Months, Best Case

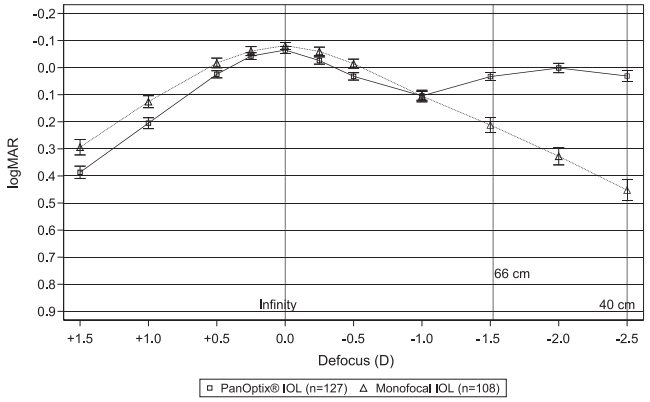


Figure 5: Mean Binocular Defocus Curves with ±1 Standard Deviation by Lens Model at 6 Months, Best Case

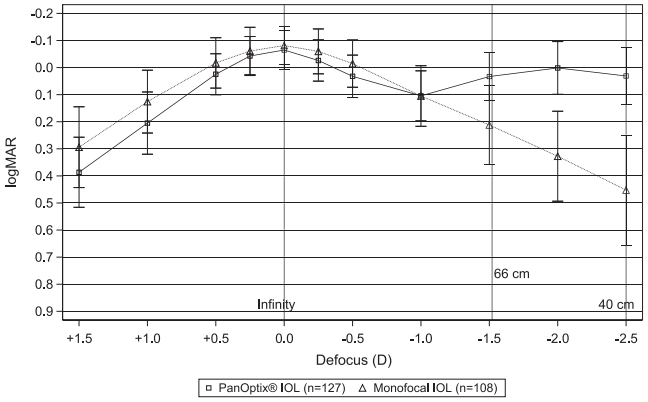


Figure 6: Mean Binocular Defocus Curves (logMAR) by Post-operative Pupil Size Category at 6 Months, Best Case

Treatment = PanOptix® IOL

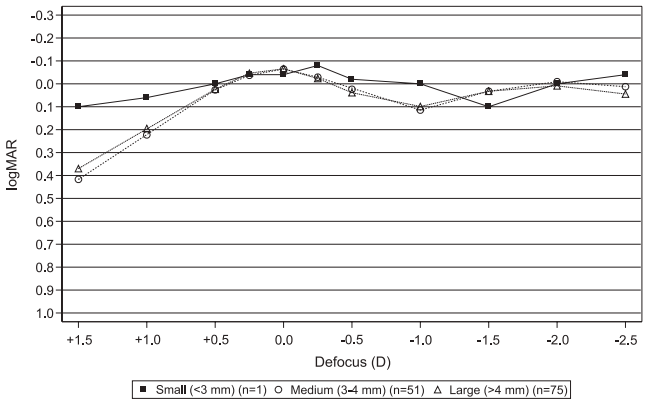
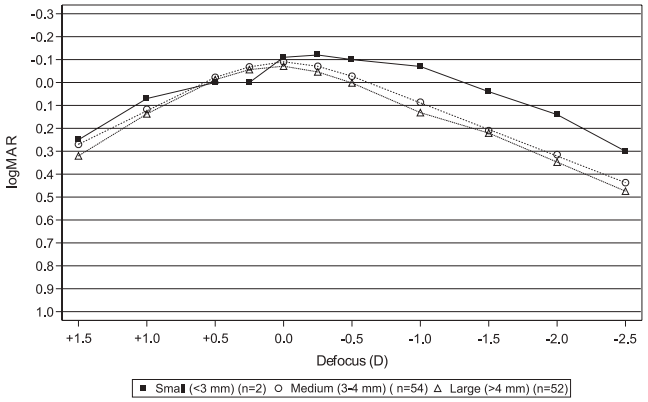


Figure 7: Mean Binocular Defocus Curves (logMAR) by Post-operative Pupil Size Category at 6 Months, Best Case

Treatment = Monofocal IOL



Astigmatic Blur Sub-Study

To assess the potential effect of residual astigmatism on visual performance, four different residual astigmatism conditions (1.0 D and 1.5 D of mixed astigmatism, with and against the rule) were added to each subject's distance correction and visual acuity tested at 4 m, 66 cm, and 40 cm. Testing was planned for 30 best case subjects for both the test and control groups across five clinical sites. Subjects were excluded from the sub-study if they had oblique post-operative residual astigmatism (axis between 30 to 60 degrees or 120 to 150 degrees). Baseline characteristics for these subjects are shown in **Table 12** below.

Table 12: Baseline Characteristics, First Eye, Astigmatic Blur Sub-Study Set

	PanOptix® IOL (N = 38)	Monofocal IOL (N = 33)	Overall (N = 71)
Age (Years), n (%)			
< 65	13 (34.2)	7 (21.2)	20 (28.2)
≥ 65	25 (65.8)	26 (78.8)	51 (71.8)
Mean (SD)	64.5 (8.02)	69.1 (6.77)	66.6 (7.77)
Median	66.5	68.0	67.0
(Min, Max)	(44, 79)	(58, 84)	(44, 84)
Sex, n (%)			
Female	27 (71.1)	21 (63.6)	48 (67.6)
Male	11 (28.9)	12 (36.4)	23 (32.4)
Race, n (%)			
White	32 (84.2)	30 (90.9)	62 (87.3)
Black or African American	4 (10.5)	3 (9.1)	7 (9.9)
American Indian or Alaska Native	0 (0.0)	0 (0.0)	0 (0.0)
Asian	2 (5.3)	0 (0.0)	2 (2.8)
Native Hawaiian or Other Pacific Islander	0 (0.0)	0 (0.0)	0 (0.0)
Other	0 (0.0)	0 (0.0)	0 (0.0)
Mesopic Pupil Size (mm)			
n	38	33	71
Mean (SD)	4.67 (1.22)	4.70 (1.05)	4.68 (1.13)
Median	5.0	4.5	5.0
(Min, Max)	(2.0, 7.5)	(2.5, 7.0)	(2.0, 7.5)
Photopic Pupil Size (mm)			
n	38	33	71
Mean (SD)	4.28 (0.76)	3.94 (0.85)	4.12 (0.82)
Median	4.0	4.0	4.0
(Min, Max)	(3.0, 6.0)	(2.0, 5.5)	(2.0, 6.0)
Absolute Refractive Cylinder (D)			
n	38	33	71
Mean (SD)	0.171 (0.329)	0.235 (0.306)	0.201 (0.318)
Median	0.00	0.00	0.00
(Min, Max)	(0.00, 1.50)	(0.00, 1.00)	(0.00, 1.50)

Percentage calculated as (n / N) * 100
N = Number of eyes in each treatment group
n = Number of eyes at visit
SD = Standard Deviation
Baseline = Preoperative
Absolute refractive cylinder collected at 6-months

A within-subject analysis of the mean paired differences in *distance* VA before and after inducing blur, showed a maximum of 0.28 logMAR mean reduction and 0.22 logMAR mean reduction for the PanOptix® IOL and Monofocal Control groups respectively, indicating a less than 1 line difference between the two groups, regardless of the orientation of astigmatism or cylinder magnitude. A within-subject analysis of the mean paired differences in *near* VA before and after inducing blur, showed minimal impact of induced astigmatism on monocular and binocular near VA for the PanOptix® IOL groups, with a maximum of 0.12 logMAR mean reduction, irrespective of the orientation of astigmatism or cylinder magnitude. A within-subject analysis of the mean paired differences in *intermediate* VA before and after inducing blur, also showed minimal impact of induced astigmatism on monocular and binocular intermediate VA for the PanOptix® IOL groups, with a maximum of 0.14 logMAR mean reduction, irrespective of the orientation of astigmatism or cylinder magnitude. Under simulated astigmatic blur conditions, the resultant mean intermediate and mean near visual acuity remained better than 0.23 logMAR for the PanOptix® IOL group.

Patients that have significant toric lens misalignment from the intended position, or errors in the estimated postoperative astigmatism, are likely to achieve poorer results with respect to uncorrected visual acuities (far, intermediate, and near), rates of spectacle wear, and rates of secondary surgical interventions (to correct axial misalignment), as expected with any multifocal toric IOL.

Need for Eyeglasses/Contact Lenses
A Patient Reported Outcome Measure instrument was developed and validated for use in this clinical study to assess need for eyeglass/contact lens following implantation with the IOL. **Table 13** provides the proportion of subjects who responded "never" to Question 1 (Q1) "Overall, in the past 7 days, how often did you need to wear eyeglasses to see?" In the study, PanOptix® IOL was shown to be superior in the proportion of subjects who responded "never" compared to the Monofocal IOL control subjects (80.5% to 8.2%).

Table 13: Proportion of Subjects Who Respond "Never" to Q1 of the IOLSAT Questionnaire at 6 Months, All Implanted

	PanOptix® IOL (N = 129) n (%)	Monofocal IOL (N = 114) n (%)	Difference	
			%	(95% CI)
Total	123	110		
Never	99 (80.5)	9 (8.2)	71.2	(61.87, 80.46)

Percentage calculated as (n / Total) * 100
Difference = PanOptix® IOL – Monofocal IOL
Treatment 1 - Treatment 2 estimate based on Mantel-Haenszel common difference in proportions stratified by site
CI = Confidence Interval for the common difference, Response scored per user manual

Additionally, the need for eyeglasses or contact lenses was evaluated using the IOLSAT questionnaire at three specific distances by all patients. The responses are shown in **Tables 14 to 16**.

Table 14 provides the proportions for each response to Question 2 (Q2) "In the past 7 days, how often did you need to wear eyeglasses to see **'up close'** (for example, reading a book)?"

Table 14: Proportion of Subject Responses to Q2 of the IOLSAT Questionnaire at 6 Months, All Implanted

	PanOptix® IOL (N = 129) n (%)	Monofocal IOL (N = 114) n (%)
Total	122	110
Never	102 (83.6)	9 (8.2)
Rarely	10 (8.2)	4 (3.6)
Sometimes	7 (5.7)	18 (16.4)
Most of the time	2 (1.6)	35 (31.8)
All the time	1 (0.8)	44 (40.0)
Percentage calculated as (n / Total) * 100		

Table 15 provides the proportions for each response to Question 3 (Q3) "In the past 7 days, how often did you need to wear eyeglasses to see **'at arm's length'** (for example, using an ATM or seeing the dashboard of a car)?"

Table 15: Proportion of Subject Responses to Q3 of the IOLSAT Questionnaire at 6 Months, All Implanted

	PanOptix® IOL (N = 129) n (%)	Monofocal IOL (N = 114) n (%)
Total	122	110
Never	115 (94.3)	45 (40.9)
Rarely	6 (4.9)	29 (26.4)
Sometimes	0 (0.0)	20 (18.2)
Most of the time	1 (0.8)	12 (10.9)
All the time	0 (0.0)	4 (3.6)
Percentage calculated as (n / Total) * 100		

Table 16 provides the proportions for each response to Question 4 (Q4) "In the past 7 days, how often did you need to wear eyeglasses to see **'far away'** (for example, seeing street signs)?"

Table 16: Proportion of Subject Responses to Q4 of the IOLSAT Questionnaire at 6 Months, All Implanted

	PanOptix® IOL (N = 129) n (%)	Monofocal IOL (N = 114) n (%)
Total	122	110
Never	117 (95.9)	93 (84.5)
Rarely	2 (1.6)	5 (4.5)
Sometimes	1 (0.8)	8 (7.3)
Most of the time	1 (0.8)	2 (1.8)
All the time	1 (0.8)	2 (1.8)
Percentage calculated as (n / Total) * 100		

Secondary Surgical Interventions Due to Optical Properties of the IOL
One of the co-primary safety objectives was to estimate the cumulative rate of secondary surgical interventions (SSIs) related to the optical properties of the IOL for the first operative eye up to Month 6. Only one SSI related to the optical properties of the IOLs was reported in the clinical study as shown in **Table 17.** In a first eye for a PanOptix® IOL subject, there was an explant of the IOL due to subjective complaints of dissatisfaction with the level of vision.

Table 17: Secondary Surgical Interventions Due to Optical Properties of the IOL, First Eye, Safety Analysis Set

Statistic	PanOptix® IOL (N = 129)	Monofocal IOL (N = 114)	Difference
n	1	0	1
%	0.8	0.0	0.8
95% CI	(0.02, 4.24)	(0.00, 3.18)	(-11.79, 13.32)

Difference = PanOptix® IOL – Monofocal IOL
Percentages are calculated as (n/N) * 100, CI = Confidence Interval (exact)
n and % for the treatment difference column are based on observed differences between the groups

Adverse Events
The incidences of cumulative adverse events for the PanOptix® IOL and the control Monofocal IOL as compared to the ISO 11979-7:2014 historical grid rates are provided in **Tables 18** and **19**. If the same event occurred multiple times in an eye, only the first occurrence is counted in the table below. The rate of secondary surgical interventions (SSIs) did not exceed the FDA grid rate for the PanOptix® IOL or the Monofocal IOL group. The results of adverse events analyses based on the consensus definitions as set forth by American Academy of Ophthalmology's Task Force (Masket et al. Ophthalmology 2017) are shown in **Tables 20** and **21**.

Table 18: Cumulative and Persistent Serious Adverse Events and SPE Rates, First Eye, Safety Analysis Set

	PanOptix® IOL			
	(N = 129) n %	2-sided 95% CI	1-sided 95% Lower CL	SPE %
Cumulative Serious Adverse Events				
Cystoid macular oedema	0 (0.0)	(0.00, 2.82)	0.00	3.0
Hypopyon	0 (0.0)	(0.00, 2.82)	0.00	0.3
Endophthalmitis	0 (0.0)	(0.00, 2.82)	0.00	0.1
Lens dislocated from posterior chamber	0 (0.0)	(0.00, 2.82)	0.00	0.1
Pupillary block	0 (0.0)	(0.00, 2.82)	0.00	0.1
Retinal detachment	0 (0.0)	(0.00, 2.82)	0.00	0.3
Secondary surgical intervention	1 (0.8)	(0.02, 4.24)	0.04	0.8
Other				
Retinal tear	1 (0.8)	(0.02, 4.24)	0.04	N/A
Persistent Serious Adverse Events				
Corneal stroma oedema	0 (0.0)	(0.00, 2.82)	0.00	0.3
Cystoid macular oedema	0 (0.0)	(0.00, 2.82)	0.00	0.5
Iritis	0 (0.0)	(0.00, 2.82)	0.00	0.3
Raised IOP requiring treatment	0 (0.0)	(0.00, 2.82)	0.00	0.4

CI = Confidence Interval, CL = Confidence Limit, SPE = Safety and Performance Endpoints
Persistent = present or ongoing at the final scheduled visit,
IOP = Intraocular Pressure
If an eye has multiple occurrences of an AE, the eye is presented only once in the respective eye count column (n) for the corresponding AE, Percentages are calculated as (n/N) * 100
The SPE rate is considered not exceeded if the 1-sided 95% lower CL for an AE is less than the SPE%
"Other" includes the MedDRA Preferred Term for ocular SAEs that do not belong to any predefined SPE categories

The single secondary surgical intervention that occurred with the first eye for PanOptix® IOL was an explant of the IOL due to subjective complaints of dissatisfaction with the level of vision. This SSI was determined to be related to the optical properties of the IOL.

Table 19: Cumulative and Persistent Serious Adverse Events and SPE Rates, Second Eye, Safety Analysis Set

	PanOptix® IOL			
	(N = 127) n %	2-sided 95% CI	1-sided 95% Lower CL	SPE %
Cumulative Serious Adverse Events				
Cystoid macular oedema	1 (0.8)	(0.02, 4.31)	0.04	3.0
Hypopyon	0 (0.0)	(0.00, 2.86)	0.00	0.3
Endophthalmitis	0 (0.0)	(0.00, 2.86)	0.00	0.1
Lens dislocated from posterior chamber	0 (0.0)	(0.00, 2.86)	0.00	0.1
Pupillary block	0 (0.0)	(0.00, 2.86)	0.00	0.1
Retinal detachment	0 (0.0)	(0.00, 2.86)	0.00	0.3
Secondary surgical intervention	2 (1.6)	(0.19, 5.57)	0.28	0.8
Other				
Device dislocation	1 (0.8)	(0.02, 4.31)	0.04	N/A
Vitreous prolapse	1 (0.8)	(0.02, 4.31)	0.04	N/A
Persistent Serious Adverse Events				
Corneal stroma oedema	0 (0.0)	(0.00, 2.86)	0.00	0.3
Cystoid macular oedema	0 (0.0)	(0.00, 2.86)	0.00	0.5
Iritis	0 (0.0)	(0.00, 2.86)	0.00	0.3
Raised IOP requiring treatment	0 (0.0)	(0.00, 2.86)	0.00	0.4

CI = Confidence Interval, CL = Confidence Limit, SPE = Safety and Performance Endpoints
Persistent = present or ongoing at the final scheduled visit,
IOP = Intraocular Pressure
If an eye has multiple occurrences of an AE, the eye is presented only once in the respective eye count column (n) for the corresponding AE, Percentages are calculated as (n/N) * 100
The SPE rate is considered not exceeded if the 1-sided 95% lower CL for an AE is less than the SPE%
"Other" includes the MedDRA Preferred Term for ocular SAEs that do not belong to any predefined SPE categories

The first secondary surgical intervention that occurred with the second eye for PanOptix® IOL was a vitrectomy performed due to a vitreous prolapse. The second secondary surgical intervention that occurred with the second eye for PanOptix® IOL was a lens repositioning procedure due to a tilted/displaced IOL. These SSIs occurred in different subjects and neither were determined to be related to the optical properties of the IOL.

Table 20: Supportive Characterization of Ocular Adverse Events based on a Modified Version of AAO Consensus (Masket et al., 2017), First Eye, Safety Analysis Set

	PanOptix® IOL (N = 129)			Monofocal IOL (N = 114)		
Adverse Event	**n (%)**	**2-sided 95% CI**	**E**	**n (%)**	**2-sided 95% CI**	**E**
Chronic anterior uveitis	0 (0.0)	(0.00, 2.82)	0	0 (0.0)	(0.00, 3.18)	0
Clinically significant cystoid macular edema	0 (0.0)	(0.00, 2.82)	0	0 (0.0)	(0.00, 3.18)	0
Visually significant corneal edema	0 (0.0)	(0.00, 2.82)	0	0 (0.0)	(0.00, 3.18)	0
Endophthalmitis	0 (0.0)	(0.00, 2.82)	0	0 (0.0)	(0.00, 3.18)	0
Mechanical pupillary block	0 (0.0)	(0.00, 2.82)	0	0 (0.0)	(0.00, 3.18)	0
Increased IOP	5 (3.9)	(1.27, 8.81)	5	2 (1.8)	(0.21, 6.19)	2
Rhegmatogenous RD	0 (0.0)	(0.00, 2.82)	0	0 (0.0)	(0.00, 3.18)	0
Toxic anterior segment syndrome	0 (0.0)	(0.00, 2.82)	0	0 (0.0)	(0.00, 3.18)	0
Secondary IOL intervention - Exchange	0 (0.0)	(0.00, 2.82)	0	0 (0.0)	(0.00, 3.18)	0
Secondary IOL intervention - Removal	1 (0.8)	(0.02, 4.24)	1	1 (0.9)	(0.02, 4.79)	1
Secondary IOL intervention - Reposition	0 (0.0)	(0.00, 2.82)	0	0 (0.0)	(0.00, 3.18)	0
Percentage calculated as (n / N) * 100						

Table 21: Supportive Characterization of Ocular Adverse Events based on a Modified Version of AAO Consensus (Masket et al., 2017), Second Eye, Safety Analysis Set

	PanOptix® IOL (N = 127)			Monofocal IOL (N = 111)		
Adverse Event	**n (%)**	**2-sided 95% CI**	**E**	**n (%)**	**2-sided 95% CI**	**E**
Chronic anterior uveitis	0 (0.0)	(0.00, 2.86)	0	0 (0.0)	(0.00, 3.27)	0
Clinically significant cystoid macular edema	0 (0.0)	(0.00, 2.86)	0	0 (0.0)	(0.00, 3.27)	0
Visually significant corneal edema	0 (0.0)	(0.00, 2.86)	0	0 (0.0)	(0.00, 3.27)	0
Endophthalmitis	0 (0.0)	(0.00, 2.86)	0	0 (0.0)	(0.00, 3.27)	0
Mechanical pupillary block	0 (0.0)	(0.00, 2.86)	0	0 (0.0)	(0.00, 3.27)	0
Increased IOP	3 (2.4)	(0.49, 6.75)	4	1 (0.9)	(0.02, 4.92)	1
Rhegmatogenous RD	0 (0.0)	(0.00, 2.86)	0	0 (0.0)	(0.00, 3.27)	0
Toxic anterior segment syndrome	0 (0.0)	(0.00, 2.86)	0	0 (0.0)	(0.00, 3.27)	0
Secondary IOL intervention - Exchange	0 (0.0)	(0.00, 2.86)	0	0 (0.0)	(0.00, 3.27)	0
Secondary IOL intervention - Removal	0 (0.0)	(0.00, 2.86)	0	0 (0.0)	(0.00, 3.27)	0
Secondary IOL intervention - Reposition	1 (0.8)	(0.02, 4.31)	1	0 (0.0)	(0.00, 3.27)	0
Percentage calculated as (n / N) * 100						

Contrast Sensitivity

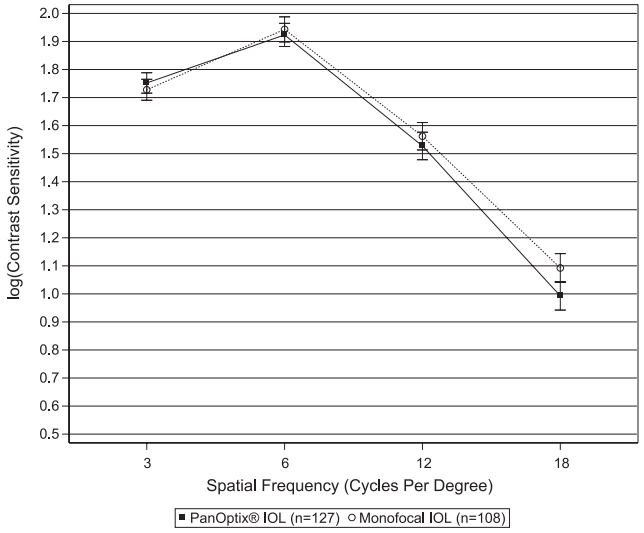
Binocular best corrected distance contrast sensitivity was performed using a backlit sine wave grating chart system (CSV1000, VectorVision, Greenville, OH) at 6 months under four conditions:

- photopic (approximately 85 cd/m^2) without glare,
- photopic (approximately 85 cd/m^2) with glare,
- mesopic (approximately 3 cd/m^2) without glare,
- and mesopic (approximately 3 cd/m^2) with glare.

This analysis uses the best case cohort. Although monocular contrast sensitivity is a more accurate assessment of individual IOL performance compared to binocular contrast sensitivity, monocular contrast sensitivity was not performed in this study and would be expected to be lower than binocular contrast sensitivity, consistent with contrast sensitivity testing for any IOL.

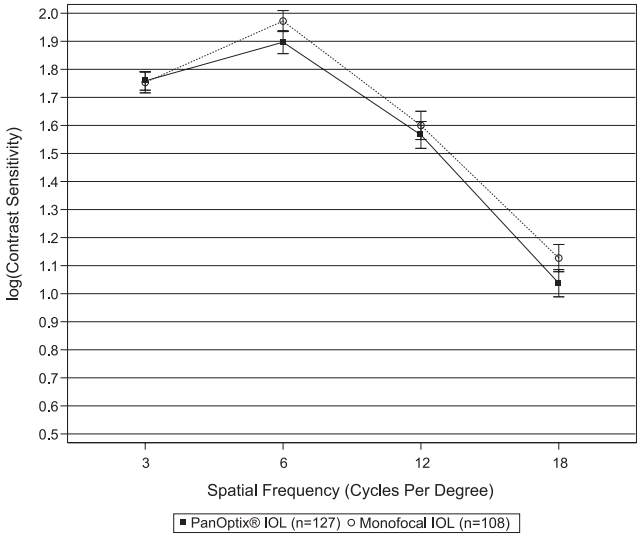
The mean and 95% confidence intervals results are shown in **Figures 8 to 11**.

Figure 8: Mean Binocular Photopic Contrast Sensitivity without Glare (log units) with 2-sided 95% confidence interval at 6 Months, Best Case



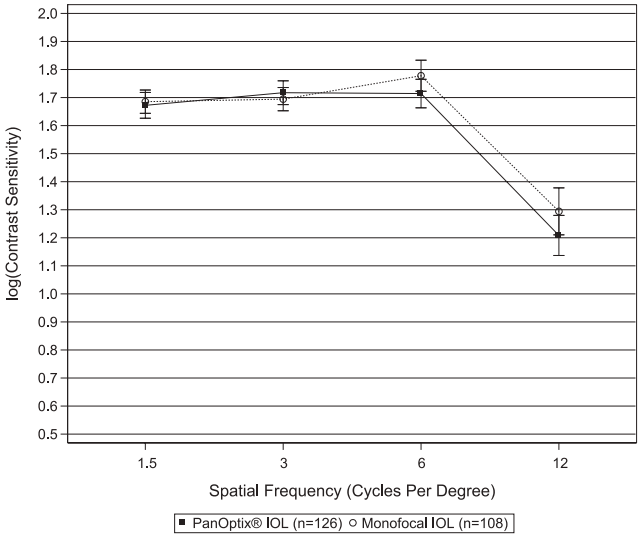
n = Number of subjects with contrast sensitivity test

Figure 9: Mean Binocular Photopic Contrast Sensitivity with Glare (log units) with 2-sided 95% confidence interval at 6 Months, Best Case



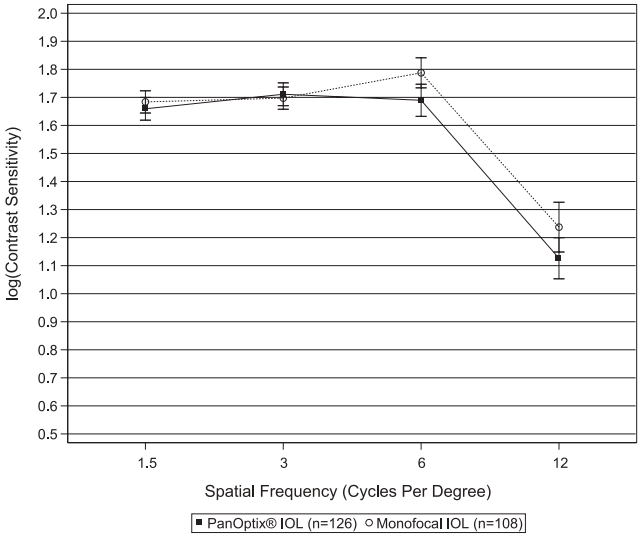
n = Number of subjects with contrast sensitivity test

Figure 10: Mean Binocular Mesopic Contrast Sensitivity without Glare (log units) with 2-sided 95% confidence interval at 6 Months, Best Case



n = Number of subjects with contrast sensitivity test

Figure 11: Mean Binocular Mesopic Contrast Sensitivity with Glare (log units) with 2-sided 95% confidence interval at 6 Months, Best Case



n = Number of subjects with contrast sensitivity test

Low Contrast Visual Acuity
Binocular low contrast visual acuity assessments were performed using a 10% low contrast visual acuity chart. Testing was completed under photopic conditions at 4 m, 66 cm, and 40 cm and under mesopic conditions at 4 m. Subjects were corrected for the 4 m distance for acuity measurements at all distances. Low contrast VA assessments reduced the percentage of subjects achieving 0.3 logMAR or better compared to high contrast VA assessments for both groups. The PanOptix® IOL group was impacted largely at intermediate and near distances while the control Monofocal IOL group was impacted largely at the intermediate distance. Differences in distance VA mean values between the 2 groups for all assessments were not clinically significant (all means within 1 line). The 2-line improvement of PanOptix® IOL over control Monofocal IOL, observed for the high contrast DCIVA assessment, reduced to a 1-line improvement in low contrast conditions. The near 4-line improvement of PanOptix® IOL over control Monofocal IOL for high contrast DCNVA was reduced to a 3-line difference in low contrast conditions.

Visual Disturbances
A Patient Reported Outcome Measure instrument was developed and validated for use in this clinical study to assess visual disturbances. Subjects were first asked if they experienced a particular visual disturbance. If the subject responded affirmatively, he or she was asked to rate the severity, frequency, and bothersomeness. A single subject may report multiple symptoms.

As demonstrated in **Table 22**, reports of visual disturbances were similar between the PanOptix® IOL and the control Monofocal IOL groups at 6 months. The highest rate of most bothersome reports (“Bothered Very Much”) of visual disturbances/distortions at 6 months was for starbursts at 4.8% for the PanOptix® Trifocal IOL and 0.9% for the control Monofocal IOL.

As demonstrated in **Table 23**, starbursts and halos were perceived by subjects with a higher rate of severity (moderate to severe) than all other reported symptoms, and at a higher rate in the PanOptix® IOL group; however, the majority of subjects reported these symptoms as “not bothered at all” to “bothered somewhat” as shown in **Table 22**.

Table 22: Visual Disturbance Bothersomeness, Safety Analysis Set

	PanOptix® IOL N=129						Monofocal IOL N=114					
		Bothered						Bothered				
Visual Disturbance	n	Not experienced or Not bothered at all %	A Little bit %	Some-what %	Quite a bit %	Very much %	n	Not experienced or Not bothered at all %	A Little bit %	Some-what %	Quite a bit %	Very much %
Glare	126	54.8	18.3	18.3	7.1	1.6	111	69.4	15.3	8.1	6.3	0.9
Halos	127	51.2	21.3	16.5	8.7	2.4	110	83.6	10.9	3.6	0.9	0.9
Starbursts	125	55.2	16.8	16.0	7.2	4.8	109	79.8	10.1	8.3	0.9	0.9
Hazy vision	125	86.4	6.4	6.4	0.8	0.0	110	89.1	5.5	3.6	0.9	0.9
Blurred vision	127	81.1	10.2	6.3	2.4	0.0	111	86.5	4.5	3.6	3.6	1.8
Double vision	125	96.0	2.4	1.6	0.0	0.0	110	98.2	0.0	1.8	0.0	0.0
Dark Area*	127	89.8	7.1	3.1	0.0	0.0	111	92.8	3.6	2.7	0.9	0.0

Percentage calculated as (n / N) * 100
*Dark Area corresponds to negative dysphotopsia

Table 23: Visual Disturbance Severity, Safety Analysis Set

	PanOptix® IOL N=129						Monofocal IOL N=114					
		Severity						Severity				
Visual Disturbance	n	None %	A Little %	Mild %	Moderate %	Severe %	n	None %	A Little %	Mild %	Moderate %	Severe %
Glare	126	49.2	7.9	21.4	18.3	3.2	111	67.6	3.6	13.5	13.5	1.8
Halos	127	36.2	9.4	18.9	22.8	12.6	110	77.3	7.3	8.2	6.4	0.9
Starbursts	125	44.0	2.4	10.4	27.2	16.0	109	73.4	8.3	9.2	7.3	1.8
Hazy vision	125	84.0	4.0	6.4	5.6	0.0	110	88.2	1.8	8.2	1.8	0.0
Blurred vision	127	80.3	10.2	8.7	0.8	0.0	111	82.0	6.3	9.0	2.7	0.0
Double vision	125	96.0	4.0	0.0	0.0	0.0	110	98.2	0.9	0.9	0.0	0.0
Dark Area*	127	89.8	3.9	3.9	2.4	0.0	111	88.3	6.3	3.6	1.8	0.0

Percentage calculated as (n / N) * 100
*Dark Area corresponds to negative dysphotopsia

Fundus Visualization
There was no reported difficulty in fundus visualization at any postoperative visits for the first or second eyes in the study.

Patient Satisfaction
A Patient Reported Outcome Measure instrument was developed for use in this clinical study to assess descriptive patient satisfaction results following implantation with the IOL. **Table 24** provides the results.

Table 24: IOLSAT: Satisfaction with Your Vision (Collected at 6 Months) All Implanted

		PanOptix® IOL (N = 129)	Monofocal IOL (N = 114)
Question	**Response**	**n (%)**	**n (%)**
In the past 7 days, how satisfied were you with your vision?	Total	127	110
	Very Dissatisfied	2 (1.6)	0 (0.0)
	Dissatisfied	2 (1.6)	3 (2.7)
	Neither Satisfied nor Dissatisfied	2 (1.6)	7 (6.4)
	Satisfied	27 (21.3)	34 (30.9)
	Very Satisfied	94 (74.0)	66 (60.0)
Given your vision today, if you had to do it all over, would you have the same lenses implanted again?	Total	127	111
	No	1 (0.8)	14 (12.6)
	Yes	126 (99.2)	97 (87.4)
Given your vision today, would you recommend the lenses you had implanted to your family or friends?	Total	127	110
	No	2 (1.6)	5 (4.5)
	Yes	125 (98.4)	105 (95.5)
Percentage calculated as (n / Total) * 100			

2. AcrySof® IQ ReSTOR® +3.0 D MULTIFOCAL TORIC INTRAOCULAR LENSES (IOLS)

Summary of Clinical Study
The clinical study was a prospective, nonrandomized, unmasked, parallel-group study was designed for bilateral implantation of a minimum of 510 (maximum of 600 subjects) subjects in total, with a minimum of 340 subjects implanted with the investigational AcrySof® IQ ReSTOR® +3.0 D Multifocal Toric IOL Models SND1T3-SND1T6 (referred to as the ReSTOR® Toric +3.0 D IOL below), and a minimum of 170 subjects implanted with the FDA approved AcrySof® ReSTOR® (+4.0 D Add) Multifocal IOL Model SA60D3 (referred to as the ReSTOR® +4.0 D IOL below), at up to 25 investigational sites in the United States. Assuming a 10% drop-out rate for a 12 month follow-up in the all implanted data set, approximately 459 subjects were intended to be evaluated at the 12 month visit; approximately 306 investigational lens subjects and 153 control lens subjects. The investigational ReSTOR® Toric +3.0 D IOL was designed with a near reading distance of 40 cm and the control ReSTOR® +4.0 D IOL was designed with a near reading distance of 33 cm. The parameters impacted by the near add power difference were intermediate visual acuity and binocular defocus, in favor of the ReSTOR® Toric +3.0 D IOL. No difference was observed in the rate of severe visual disturbances/distortions between the ReSTOR® Toric +3.0 D IOL and the ReSTOR® +4.0 D IOL, although this would be expected to favor the ReSTOR® Toric +3.0 D IOL based on the add power difference.

Inclusion of the ReSTOR® +4.0 D IOL as an active control in the clinical study was necessary to evaluate the safety and the effectiveness of the investigational lens as a new toric multifocal IOL with similar attributes to this established multifocal lens. The study objective was to demonstrate that the efficacy and safety profile, demonstrated with the control ReSTOR® +4.0 D IOL in non-astigmatic subjects was reasonably retained with the investigational ReSTOR® Toric +3.0 D IOL in subjects with corneal astigmatism.

All of the subjects in the ReSTOR® +4.0 D IOL group were required to have ≤ 0.74 D of preoperative keratometric astigmatism in both eyes as measured only by the IOLMaster†. Subjects with preoperative astigmatism of ≥ 0.75 D, as measured only by the IOLMaster†, in both operative eyes and with 0.75 D to 2.82 D of predicted cross cylinder in both operative eyes, based on the study specific web-based AcrySof® IQ ReSTOR® +3.0 D Multifocal Toric IOL Clinical Calculator, were required to be implanted with one of the ReSTOR® Toric +3.0 D IOL Models SND1T3-SND1T6. All corneal incisions were placed temporally and a surgically induced astigmatism (SIA) input value of 0.0 diopters was used in the study specific web based AcrySof® IQ ReSTOR® +3.0 D Multifocal Toric IOL Calculator.

In the investigational ReSTOR® Toric +3.0 D IOL group, a minimum of 240 subjects needed to be implanted with Model SND1T3 or SND1T4 in the first operative eye (≤ 2.0 D astigmatism) and a minimum of 100 subjects needed to be implanted with Model SND1T5 or SND1T6 in the first operative eye (>2.0 D astigmatism).

All eyes with successful IOL implantation in at least one eye were considered evaluable for the All Implanted analyses. All eyes successfully implanted that had at least one postoperative visit and had no preoperative ocular pathology or macular degeneration at any time were evaluable for Best Case analyses. The Best Case data set was the primary data set of analysis for the contrast sensitivity and binocular defocus. All eyes with attempted IOL implantation (successful or aborted after contact with the eye) were considered evaluable for the safety analyses.

For subjects with IOL replacement due to visual disturbance, performance testing (including UCDVA, BCDVA, manifest refraction, slit-lamp examination, dilated fundus examination and subject responses to the patient reported outcome questionnaires) results collected prior to the secondary surgical intervention were carried forward to the final analysis.

Clinical Study Results

Subject Population
A total of 574 subjects were bilaterally implanted in this clinical study with 386 subjects receiving the ReSTOR® Toric +3.0 D IOL and 188 subjects receiving the control ReSTOR® +4.0 D IOL.

The study consisted of 65.5% females and 34.5% males. Stratifying by race, there were 93.7% White, 4.5% Black or African American, 0.9% Asian and 0.9% designated “Other”. Ethnicity of the study population designated 1.6% as Hispanic. A Best Case cohort (no clinically significant preoperative ocular pathology or postoperative macular degeneration) consisted of 365 ReSTOR® Toric +3.0 D IOL subjects and 175 ReSTOR® +4.0 D IOL control subjects. The mean age for the study population was 67 ± 9 years. The length of subject follow-up was 12 months.

Monocular Visual Acuity
ReSTOR® Toric +3.0 D IOL met the clinical performance target (non-inferiority margin of 0.10 logMAR) for Uncorrected Distance Visual Acuity. There were no clinically relevant differences in the mean Best Corrected Distance Visual Acuity for subjects implanted with either the ReSTOR® Toric +3.0 D IOL compared with subjects implanted with the control ReSTOR® +4.0 D IOL.

The following is a summary of monocular visual acuity (VA) results for subjects who completed the Form 5 (1 year after second eye implantation) visit. The data are presented in **Tables 25** and **26** below.

Table 25: Comparison of Monocular Uncorrected Distance Visual Acuity Using Least Square Estimates, 1 Year Postoperative, All Implanted

		ReSTOR® Toric +3.0 D (N=386)	ReSTOR® +4.0 D (N=186)	Difference (95%UCL)
First Implanted Eye	N	373	180	
	Mean	0.126	0.125	0.001 (0.030)
	SE	0.013	0.015	
Second Implanted Eye	N	371	180	
	Mean	0.113	0.102	0.011 (0.038)
	SE	0.011	0.013	

ReSTOR® Toric +3.0 D IOL = AcrySof® IQ ReSTOR® +3.0 D Multifocal Lens Models SND1T3/SND1T4/SND1T5/SND1T6
ReSTOR® +4.0 D IOL = AcrySof® ReSTOR® Multifocal Lens (+4.0 D Add) Model SA60D3
Difference = ReSTOR® Toric +3.0 D IOL – ReSTOR® +4.0 D IOL
Estimates were based on the repeated measure analysis of covariance
UCL = 95% Upper confidence limit; SE = Standard error
“(N=)” in column header is number in the treatment group. Subjects who discontinued before Visit 5 are excluded from this analysis. Numbers with data are indicated in the table body.

ReSTOR® Toric +3.0 D IOL met the clinical performance target (non-inferiority margin of 0.10 logMAR) for Uncorrected Near Visual Acuity at fixed distance. No clinically relevant differences in Distance Corrected Near Visual Acuity at fixed distance for the ReSTOR® Toric +3.0 D IOL and the control ReSTOR® +4.0 D IOL were observed.

Table 26: Comparison of Monocular Uncorrected Near Visual Acuity At Fixed Distance Using Least Square Estimates, 1 Year Postoperative, All Implanted

		ReSTOR® Toric +3.0 D (N=386)	ReSTOR® +4.0 D (N=186)	Difference (95%UCL)
First Implanted Eye	N	373	180	
	Mean	0.193	0.236	-0.044 (-0.017)
	SE	0.015	0.017	
Second Implanted Eye	N	371	180	
	Mean	0.181	0.234	-0.052 (-0.026)
	SE	0.013	0.015	

ReSTOR® Toric +3.0 D IOL = AcrySof® IQ ReSTOR® +3.0 D Multifocal Lens Models SND1T3/SND1T4/SND1T5/SND1T6
ReSTOR® +4.0 D IOL = AcrySof® ReSTOR® Multifocal Lens (+4.0 D Add) Model SA60D3
Difference = ReSTOR® Toric +3.0 D IOL – ReSTOR® +4.0 D IOL
Estimates were based on the repeated measure analysis of covariance
UCL = 95% Upper confidence limit; SE = Standard error
"(N=)" in column header is number in the treatment group. Subjects who discontinued before Visit 5 are excluded from this analysis. Numbers with data are indicated in the table body.

No clinically relevant differences in Uncorrected Near Visual Acuity at best distance were observed for either the ReSTOR® Toric +3.0 D IOL or the control ReSTOR® +4.0 D IOL. Additionally, there were no clinically relevant differences in Distance Corrected Near Visual Acuity at best distance observed for the ReSTOR® Toric +3.0 D IOL or the control ReSTOR® +4.0 D IOLs under photopic or mesopic conditions.

The Best Corrected Near Visual Acuity (BCNVA) for subjects implanted with the ReSTOR® Toric +3.0 D IOL compared favorably to the BCNVA for subjects implanted with the or the control ReSTOR® +4.0 D IOL.

Binocular Visual Acuity
There were no clinically relevant differences in mean Best Corrected Distance Visual Acuity (BCDVA) for subjects implanted with the ReSTOR® Toric +3.0 D IOL compared with subjects implanted with the control ReSTOR® +4.0 D IOL. The observed percentage of subjects achieving a 2 or greater line improvement in BCDVA was similar among the two lens models (ReSTOR® Toric +3.0 D and the control ReSTOR® +4.0 D IOL).

The following is a summary of binocular visual acuity (VA) results for subjects who completed the Form 5 (1 year after second eye implantation) visit. The data are presented in **Tables 27-31** below.

Table 27: Overall Comparison of Mean Binocular Distance-Corrected Visual Acuity (logMAR), 1 Year Postoperative, All Implanted

Model	Near VA @ Best Distance	Intermediate VA @ 50 cm	Intermediate VA @ 60 cm	Intermediate VA @ 70 cm	Distance VA
ReSTOR® +3.0 D Toric	0.08 (20/25)	0.08 (20/25)	0.14 (20/25)	0.20 (20/32)	-0.04 (20/20)
ReSTOR® +4.0 D	0.09 (20/25)	0.28 (20/40)	0.35 (20/50)	0.36 (20/50)	-0.04 (20/20)

ReSTOR® Toric +3.0 D = AcrySof® IQ ReSTOR® +3.0 D Multifocal Toric IOL Models SND1T3/SND1T4/SND1T5/SND1T6
ReSTOR® +4.0 D = AcrySof® ReSTOR® Multifocal IOL (+4.0 D Add) Model SA60D3
Snellen conversions for the logMAR acuities presented reflect scoring on a standard Snellen VA chart where majority of the letters in a row are correctly identified.

Table 28: Cumulative Binocular Photopic Near Visual Acuity by Lens Model, 1 Year Postoperative, All Implanted

			20/20 (J1) or better	20/25 (J2) or better	20/32 (J4) or better	20/40 (J5) or better	20/50 (J6) or better	20/63 (J8) or better	Worse than 20/63 (J8)
		N	%	%	%	%	%	%	%
Uncorrected (Best Distance*)	ReSTOR® Toric +3.0 D	371	35.6	69.5	89.5	97.8	98.7	99.5	0.5
	ReSTOR® +4.0 D	180	25.6	67.8	88.9	96.1	98.3	99.4	0.6
Uncorrected (Standard Distance**)	ReSTOR® Toric +3.0 D	371	42.3	70.9	89.5	96.2	98.1	99.7	0.3
	ReSTOR® +4.0 D	180	23.9	56.1	84.4	92.2	97.8	98.9	1.1
Distance Corrected (Best Distance*)	ReSTOR® Toric +3.0 D	371	37.5	73.9	94.6	97.8	99.2	99.5	0.5
	ReSTOR® +4.0 D	180	35.0	72.2	93.9	95.6	99.4	100.0	0.0
Distance Corrected (Standard Distance**)	ReSTOR® Toric +3.0 D	371	44.5	80.6	94.1	98.1	98.9	99.5	0.5
	ReSTOR® +4.0 D	180	31.1	65.6	88.9	97.2	98.3	98.9	1.1
Best Corrected (Standard Distance**)	ReSTOR® Toric +3.0 D	371	58.2	86.0	97.3	99.2	99.5	100.0	0.0
	ReSTOR® +4.0 D	180	41.7	81.1	92.8	98.3	99.4	100.0	0.0

ReSTOR® Toric +3.0 D = AcrySof® IQ ReSTOR® +3.0 D Multifocal Toric IOL Models SND1T3/SND1T4/SND1T5/ SND1T6
ReSTOR® +4.0 D = AcrySof® ReSTOR® Multifocal IOL (+4.0 D Add) Model SA60D3
*Best distance: The distance selected by the subject as the distance of best near vision
**Standard distance: 33 cm for the ReSTOR® +4.0 D IOL and 40 cm for ReSTOR® +3.0 D Toric IOL
Snellen conversions for the logMAR acuities presented reflect scoring on a standard Snellen VA chart where majority of the letters in a row are correctly identified.

Table 29: Cumulative Binocular Photopic Distance Visual Acuity by Lens Model, 1 Year Postoperative, All Implanted

			20/20 or better	20/25 or better	20/32 or better	20/40 or better	20/50 or better	20/63 or better	Worse than 20/63
		N	%	%	%	%	%	%	%
Uncorrected	ReSTOR® Toric +3.0 D	371	65.0	88.7	96.0	98.9	99.2	99.5	0.5
	ReSTOR® +4.0 D	180	68.9	91.7	97.8	99.4	99.4	100.0	0.0
Best Corrected	ReSTOR® Toric +3.0 D	371	90.3	97.3	99.2	99.7	100.0	100.0	0.0
	ReSTOR® +4.0 D	180	96.1	97.8	99.4	99.4	100.0	100.0	0.0

ReSTOR® Toric +3.0 D = AcrySof® IQ ReSTOR® +3.0 D Multifocal Toric IOL Models SND1T3/SND1T4/SND1T5/ SND1T6
ReSTOR® +4.0 D = AcrySof® ReSTOR® Multifocal IOL (+4.0 D Add) Model SA60D3
Snellen conversions for the logMAR acuities presented reflect scoring on a standard Snellen VA chart where majority of the letters in a row are correctly identified.

Clinically relevant differences favoring the ReSTOR® Toric +3.0 D IOL were observed for mean Uncorrected Intermediate Visual Acuity and for Distance Corrected Intermediate Visual Acuity at all testing distances (50 cm, 60 cm, and 70 cm).

Table 30: Intermediate Photopic Visual Acuity by Lens Model, 1 Year Postoperative, All Implanted

			Percent 20/40 or better		
		N	50 cm	60 cm	70 cm
Uncorrected	ReSTOR® Toric +3.0 D	371	93.3	86.3	79.8
	ReSTOR® +4.0 D	180	63.3	47.2	50.6
Distance Corrected	ReSTOR® Toric +3.0 D	371	96.5	88.4	79.0
	ReSTOR® +4.0 D	180	66.7	37.8	38.9

ReSTOR® Toric +3.0 D = AcrySof® IQ ReSTOR® +3.0 D Multifocal Toric IOL Models SND1T3/SND1T4/SND1T5/SND1T6
ReSTOR® +4.0 D = AcrySof® ReSTOR® Multifocal IOL (+4.0 D Add) Model SA60D3
Snellen conversions for the logMAR acuities presented reflect scoring on a standard Snellen VA chart where majority of the letters in a row are correctly identified.

Table 31: Mean LogMAR Binocular Distance Corrected Intermediate Visual Acuity, 1 Year Postoperative, All Implanted,

Intermediate VA	ReSTOR® Toric +3.0 D	ReSTOR® +4.0 D
50 cm	0.08	0.28
60 cm	0.14	0.35
70 cm	0.20	0.36

ReSTOR® Toric +3.0 D = AcrySof® IQ ReSTOR® +3.0 D Multifocal Toric IOL Models SND1T3/SND1T4/SND1T5/SND1T6
ReSTOR® +4.0 D = AcrySof® ReSTOR® Multifocal IOL (+4.0 D Add) Model SA60D3

Orientation of Lens Axis
Lens axis misalignment, the orientation of the lens axis at the operative visit compared to the intended lens axis orientation (calculated using preoperative biometry measurements and the study specific web-based Alcon AcrySof® IQ ReSTOR® +3.0 D Multifocal Toric IOL Clinical Calculator) was assessed and accuracy of lens placement was demonstrated with the mean absolute difference between intended axis orientation and achieved axis orientation at surgery being 5.0º (S.D. 6.1) for the ReSTOR® Toric +3.0 D IOLs in the first operative eyes of the all implanted data set (**Table 32**). Nine subjects (seven first eyes and two second eyes) had actual misalignments of 20 degrees or more on the day of surgery, of whom three had SSIs (repositioning surgeries) as a result of incorrect axis placement due to anatomical and/or surgical factors.

Table 32: Absolute Difference Between Intended Axis of Placement and Achieved Axis Placement (Degrees) at the Operative Visit

	First Implanted Eye	Second Implanted Eye
	(n = 363)	(n = 366)
Mean (SD)	5.0 (6.1)	4.7 (4.0)
(Min, Max)	(0,87)	(0,36)
95% CI	(4.3, 5.6)	(4.2, 5.1)

The results for lens axis orientation at all postoperative visits were compared to those at surgery to determine lens axis rotation. The difference between the achieved lens axis orientation at month 12 and the achieved axis placement at surgery was 2.7º ± 5.8 in the first operative eyes and 2.2º ± 2.7 in the second operative eyes of the all implanted data set (**Table 33**). Lens axis rotation ranged from 1.4 to 2.7 degrees at all postoperative visits. Eight subjects had lens axis rotation of twenty degrees or more at month 12 month, two of whom had incorrect lens axis orientation measurements and three of whom underwent lens repositioning and have improved outcomes with the lens implanted (post repositioning rotation was less than 6 degrees). All eight subjects had improved visual performance at month 12.

Table 33: Descriptive Statistics for the Absolute Difference Between Lens Axis Orientation at the Post-operative Visit and Achieved Axis Placement (Degrees) at the Operative Visit

		Absolute Rotation	
		First Implanted Eye	Second Implanted Eye
Day 1	**n**	376	375
	Mean (SD)	1.4 (1.8)	1.5 (1.7)
	(Min, Max)	(0, 18)	(0, 14)
	95% CI	(1.2, 1.6)	(1.3, 1.6)
1 week	**n**	375	366
	Mean (SD)	1.8 (2.3)	2.0 (2.7)
	(Min, Max)	(0, 23)	(0, 30)
	95% CI	(1.6, 2.0)	(1.7, 2.2)
1 month	**n**	367	368
	Mean (SD)	2.2 (5.1)	2.1 (2.7)
	(Min, Max)	(0, 85)	(0, 24)
	95% CI	(1.6, 2.7)	(1.8, 2.4)
6 months	**n**	363	364
	Mean (SD)	2.3 (5.2)	2.3 (3.0)
	(Min, Max)	(0, 85)	(0, 27)
	95% CI	(1.7, 2.8)	(2.0, 2.6)
12 months	**n**	356	357
	Mean (SD)	2.7 (5.8)	2.2 (2.7)
	(Min, Max)	(0, 84)	(0, 24)
	95% CI	(2.1, 3.3)	(1.9, 2.5)

For subjects with missing Operative Visit axis placement data, Day 1 (Visit 1) data were used as baseline.

Furthermore, the rotational stability of the ReSTOR® Toric +3.0 D IOL was maintained between 2 consecutive visits at least 3 months apart (between 1 month and 6 months). As recommended by the 2010 ANSI standard for toric intraocular lenses, the data from the all implanted data set demonstrate that at least 90% of ReSTOR® Toric +3.0 D IOL subjects achieved a rotational stability of 5 degrees or less between 2 consecutive visits, at least 3 months apart (**Table 34**).

Table 34: Number and Percentage of Subjects by Lens Axis Rotation Between 1 Month and 6 Months

		ReSTOR® Toric +3.0 D IOL	
		n	(%)
First Implanted Eye	**Total**	359	
	Lens Movement ≤ 5 degrees	338	(94.2)
	Lens Movement > 5 degrees	21	(5.8)
Second Implanted Eye	**Total**	361	
	Lens Movement ≤ 5 degrees	339	(93.9)
	Lens Movement > 5 degrees	22	(6.1)

ReSTOR® Toric +3.0 D IOL = AcrySof® IQ ReSTOR® +3.0 D Multifocal Toric IOL Models SND1T3/SND1T4/SND1T5/SND1T6
Subjects with missing observations at either 1 month or 6 months were excluded

Reduction Of Cylinder
The ReSTOR® Toric +3.0 D IOLs are effective in the reduction of corneal astigmatism in the range of 0.75 D to 2.82 D. As demonstrated in **Table 35**, the percent reduction in cylinder with respect to target cylinder was calculated and descriptive statistics were computed at each postoperative visit (all implanted data set). Target cylinder was defined as the amount of anticipated residual astigmatism as calculated by the AcrySof® IQ ReSTOR® +3.0 D Multifocal Toric IOL Clinical Calculator.

Table 35: Number and Percentage of Subjects With Reduction of Cylinder Within the Target Cylinder at 1 year for ReSTOR® Toric +3.0 D IOL

	First Implanted Eye		Second Implanted Eye	
	n	(%)	n	(%)
Within 0.5 D	278	(74.5)	295	(79.5)
Within 1.0 D	351	(94.1)	362	(97.6)
> 1.0 D	22	(5.9)	9	(2.4)

SAFETY

Adverse Events
The incidences of cumulative adverse events for the ReSTOR® Toric +3.0 D IOL and the control ReSTOR® 4.0 D IOL as compared to the FDA historical grid rates are provided in **Table 36**. If the same event occurred multiple times in an eye, only the first occurrence is counted in the table below. The rate of secondary surgical interventions (SSIs) exceeded the FDA grid rate in the ReSTOR® Toric +3.0 D IOL group for the first and second eyes. The rate of secondary surgical interventions exceeded the FDA grid rate for the control ReSTOR® +4.0 D IOL group in the second eyes only.

As shown in **Table 37**, a majority of the secondary surgical interventions were unrelated to the IOL and were due to other ocular pathology. **Table 36** includes the number of eyes that underwent a SSI while **Table 37** is the number of actual SSIs (i.e., a single eye could have had more than 1 SSI) that occurred during the study. Details of the discrepancies in numbers are discussed in the footnotes of **Table 37**. There was a single occurrence of a persistent adverse event (adverse events in the FDA grid that are observed at the 12 month postoperative visit) observed in one subject implanted with the ReSTOR® Toric +3.0 D IOL. The observed persistent adverse event rates in each eye did not exceed the Safety and Performance Endpoints (SPE) rates.

Table 36: Serious and Persistent Adverse Events and SPE Rates, Safety Analysis Set

	First implanted eye						Second implanted eye					
	ReSTOR® Toric +3.0 D (N = 386)			ReSTOR® +4.0 D (N = 188)			ReSTOR® Toric +3.0 D (N = 383)			ReSTOR® +4.0 D (N = 188)		
	N	%	SPE %	N	%	SPE %	N	%	SPE %	N	%	SPE %
Serious Adverse Events												
Cystoid macular edema	1	(0.3)	3.0	0	(0.0)	3.0	3	(0.8)	3.0	1	(0.5)	3.0
Endophthalmitis	0	(0.0)	0.1	0	(0.0)	0.1	0	(0.0)	0.1	0	(0.0)	0.1
Hypopyon	0	(0.0)	0.3	0	(0.0)	0.3	0	(0.0)	0.3	0	(0.0)	0.3
Lens dislocated from posterior chamber	0	(0.0)	0.1	0	(0.0)	0.1	0	(0.0)	0.1	0	(0.0)	0.1
Pupillary block	0	(0.0)	0.1	0	(0.0)	0.1	0	(0.0)	0.1	0	(0.0)	0.1
Retinal detachment	1	(0.3)	0.3	0	(0.0)	0.3	2	(0.5)	0.3	1	(0.5)	0.3
Secondary surgical intervention	12	(3.1)	0.8	4	(2.1)	0.8	11	(2.9)	0.8	6	(3.2)	0.8
Persistent Serious Adverse Events												
Corneal edema	0	(0.0)	0.3	0	(0.0)	0.3	0	(0.0)	0.3	0	(0.0)	0.3
Cystoid macular edema	1	(0.3)	0.5	0	(0.0)	0.5	1	(0.3)	0.5	0	(0.0)	0.5
Iritis	0	(0.0)	0.3	0	(0.0)	0.3	0	(0.0)	0.3	0	(0.0)	0.3
Raised IOP requiring treatment	0	(0.0)	0.4	0	(0.0)	0.4	0	(0.0)	0.4	0	(0.0)	0.4

ReSTOR® Toric +3.0 D = AcrySof® IQ ReSTOR® +3.0 D Multifocal Toric IOL Models SND1T3/SND1T4/SND1T5/SND1T6
ReSTOR® +4.0 D = AcrySof® ReSTOR® Multifocal IOL (+4.0 D Add) Model SA60D3

Table 37: Secondary Surgical Interventions, Safety Analysis Set

	First Eye		Second Eye	
	ReSTOR® Toric +3.0 D (N=386)	ReSTOR® +4.0 D (N=188)	ReSTOR® Toric +3.0 D (N=383)	ReSTOR® +4.0 D (N=188)
Secondary Surgical Intervention	**15**	**5**	**13**	**6**
IOL repositioning due to IOL misalignment	1[a]	0	0	0
IOL repositioning due to inaccurate IOL placement	4[b,c]	0	0	0
IOL repositioning due to haptic outside of the bag	1	0	0	0
IOL replacement due to visual disturbances	0	2	0	2
LASIK to correct residual refractive error	1	0	1	0
Astigmatic keratotomy to correct residual refractive error (astigmatism)	1	0	0	0
Limbal relaxing incision to correct surgically induced astigmatism	1	0	1	0
Limbal relaxing incision to correct pre-existing astigmatism	0	1	0	1
Macular hole repair	0	0	1	0
YAG laser capsulotomy for wrinkles, folds or strands in capsule	1[b]	0	3	0
Intraocular injection for wet age related macular degeneration	0	2[d]	0	0
Retinal detachment repair and prophylactic retinopexy	2	0	5[e]	1
Retained lens removal	2	0	1	1
Corneal wound leak repair	0	0	1	1
Anterior vitrectomy	1	0	0	0

[a] One subject required an IOL repositioning surgery at the 6 month visit. The Investigator considered the event related to the patient's eye anatomy and the IOL rotation was assumed to have occurred within the first 24 hours following surgery.
[b] One subject experienced floppy iris during surgery and required two repositioning procedures. The same subject also experienced a YAG laser capsulotomy for wrinkled capsule in the first eye.
[c] The IOL was implanted at the incorrect axis in two subjects.
[d] One subject was administered two intraocular injections for wet age related macular degeneration in the first eye.
[e] One subject had one prophylactic retinopexy procedure performed in the first eye and three retinopexy procedures performed in the second eye.
ReSTOR® Toric +3.0 D = AcrySof® IQ ReSTOR® +3.0 D Multifocal Toric IOL Models SND1T3/SND1T4/SND1T5/SND1T6
ReSTOR® +4.0 D = AcrySof® ReSTOR® Multifocal IOL (+4.0 D Add) Model SA60D3

3. AcrySof® ReSTOR® APODIZED DIFFRACTIVE OPTIC POSTERIOR CHAMBER MULTIFOCAL IOL CLINICAL STUDIES

Multicenter clinical studies were conducted in the United States and Europe to establish the safety and effectiveness of the AcrySof® ReSTOR® Apodized Diffractive Optic IOL (+4.0 D Add) (Models MA60D3 and SA60D3). A total of 566 first-eye implanted ReSTOR® IOL (440 Model MA60D3 and 126 Model SA60D3) and 194 AcrySof® Monofocal IOL Model MA60BM Control subjects comprise the All Implanted cohort. A Best Case cohort (subjects with no clinically significant preoperative ocular pathology or postoperative macular degeneration) consisted of 391 Model MA60D3 and 109 Model SA60D3 ReSTOR® IOL subjects and 172 Model MA60BM monofocal IOL subjects. Demographically, these studies consisted of 65.3% female and 34.7% male subjects. Stratified by race, subjects were 93.9% Caucasian, 2.6% Black, 0.9% Asian, and 2.5% designated "Other." The mean age for the total study population was 68.8 years.

Summary of Driving Sub-study (Models MA60D3 and SA60D3)
Night driving performance was tested using the NDS (Night Driving Simulator) developed and validated by Vision Sciences Research, Corp. in bilaterally implanted subjects (23 subjects implanted with ReSTOR® IOL Model MA60D3 and 25 subjects implanted with monofocal control Model MA60BM) were tested to determine visibility distances for the detection and identification of road warning signs, message signs and road hazards under various conditions (clear [normal], inclement weather [fog] and glare conditions). The simulated driving scenes using the NDS (Night Driving Simulator) were a city street at night with streetlights and a rural highway with low beam headlights.

It is important to realize that there are no absolute detection and identification distances for all targets to determine safety and efficacy. Actual visibility distances, excluding individual differences, will depend upon the target size, contrast (sign age, clean or dirty sign), background clutter (oncoming vehicle headlights, street and store lights) and vehicle headlight condition (low or high beams, clean or dirty lens). The NDS was designed to provide similar visibility distances to that of similar targets reported in the literature. One could use other targets in the real world and obtain other visibility distances; however, those distances would be relevant only for the conditions noted above, such as age and condition of the target, and would change over time. Therefore, safety and efficacy analysis can only be based on relative differences between the lenses, not absolute values. Visibility distance values could be biased to allow a very large difference between lenses to satisfy stopping distance requirements by making the simulator targets visible at very large distances or, conversely, visibility distance values could be biased to allow a very small difference between lenses to satisfy stopping distance requirements by making the simulator targets visible at very small distances. With this in mind, further analysis uses the actual target visibility distance examples first reported in the validation study literature for the NDS.

The ability of ReSTOR® IOL (Models MA60D3 and SA60D3) subjects to detect and identify road signs and hazards at night was similar to the monofocal control Model MA60BM under normal visibility driving conditions.

Sign Identification
Rural Driving Conditions
The mean visibility distances, standard deviation and percentage difference of monofocal (Model MA60BM) and ReSTOR® IOL (Model MA60D3) subjects for sign identification under normal, fog and glare conditions in the rural scene are shown in **Table 38.**
Both fog and glare are seen to cause larger differences between the monofocal and ReSTOR® IOL Model MA60D3 subject performance than the clear night condition. However, in all instances the mean differences were less than 15%.

Table 38: Mean (± SD) Sign Identification Distances in Rural Scene

Identification Distance (feet)		Lens		Difference	% Loss over Control
		Control	ReSTOR® IOL		
Visibility Condition	**Targets**	249 ± 57	230 ± 41	19	7.5 %
Normal	Text				
	Warning	523 ± 68	476 ± 81	47	8.9 %
Fog	Text	248 ± 42	215 ± 50	33	13.4 %
	Warning	512 ± 89	453 ± 88	60	11.6 %
Glare	Text	228 ± 56	195 ± 52	33	14.1 %
	Warning	512 ± 89	448 ± 83	64	12.5 %

City Driving Conditions
The mean visibility distances, standard deviation and percentage difference of monofocal (Model MA60BM) and ReSTOR® IOL Model MA60D3 subjects for sign identification under normal, fog and glare conditions in the city scene are shown in **Table 39**.

Under glare conditions, the ability of the ReSTOR® IOL Model MA60D3 subjects to identify the text sign is reduced on average by 28%, however there was only a small difference under these conditions for the warning sign.

Table 39: Sign Identification Distances in City Scene

Identification Distance (feet)		Lens		Difference	% Loss Over Control
		Control	ReSTOR® IOL		
Visibility Condition	**Targets**	160 ± 30	143 ± 31	17	10.8 %
Normal	Text				
	Warning	211 ± 26	201 ± 25	10	4.7 %
Fog	Text	159 ± 24	138 ± 34	21	13.2 %
	Warning	208 ± 23	184 ± 31	24	11.7 %
Glare	Text	142 ± 33	102 ± 46	40	28 %
	Warning	194 ± 26	170 ± 28	24	12.5 %

Detecting Hazards
Rural Conditions
The mean visibility distances, standard deviation and percentage difference of monofocal (Model MA60BM) subjects and ReSTOR® IOL (Model MA60D3) subjects for hazard detection under normal, fog and glare conditions in the rural scene are shown in **Table 40**. In rural conditions, all differences for detecting hazards were less than 20%.

Table 40: Hazard Detection Distances in Rural Scene

Detection Distance (feet)	Lens		Difference	% Loss Over Control
	Control	ReSTOR® IOL		
Visibility Condition				
Normal	511 ± 80	474 ± 87	37	7.2 %
Fog	507 ± 92	465 ± 101	42	8.5 %
Glare	480 ± 98	386 ± 150	94	19.7 %

City Conditions
The mean hazard detection, standard deviation and percentage differences for control (Model MA60BM) subjects and ReSTOR® IOL (Model MA60D3) subjects for hazard detection under normal, fog and glare conditions in the city scene are shown in **Table 41**. For city conditions, in all instances the mean differences were less than 15%.

Table 41: Hazard Detection Distances in City Scene

Detection Distance (feet)	Lens		Difference	% Loss Over Control
	Control	ReSTOR® IOL		
Visibility Condition				
Normal	200 ± 52	183 ± 38	17	8.5 %
Fog	229 ± 66	211 ± 65	18	7.9 %
Glare	190 ± 67	166 ± 48	24	12.6 %

HOW SUPPLIED
These posterior chamber intraocular lenses are supplied dry, in a package terminally sterilized with ethylene oxide, and must be opened only under aseptic conditions (see DIRECTIONS FOR USE).

EXPIRATION DATE
Sterility is guaranteed unless the pouch is damaged or opened. The expiration date is clearly indicated on the outside of the lens package. Any lens held after the expiration date should be returned to Alcon Laboratories, Inc. (see RETURNED GOODS POLICY).

RETURNED GOODS POLICY
In the United States, returned lenses will only be accepted in exchange for other products, not credit. All returns must be accompanied by an Alcon Laboratories, Inc. Returned Goods Number and should be shipped via traceable means. A Returned Goods Number is obtained by contacting Alcon Laboratories, Inc. Customer Service Department. Issuance of this number does not constitute final acceptance of the returned products. For detailed policy guidelines including exchange, please contact your Sales or Customer Service Representative.

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STAND ALONE SYMBOLS FROM ISO 7000/ISO 7001‡ USED ON LABELING
(ISO 7000 Title: Graphical Symbols for Use on Equipment)
(‡ISO 7001 Title: Graphical symbols – Public information symbols)

Symbol	Reference Number from ISO 7000	Symbol Title / Explanatory Text
	1051	Do not re-use
	2608	Do not resterilize
	2607	Use-by date
	2501	Sterilized using ethylene oxide
	2498	Serial number
	2493	Catalogue number
	0434A	Caution
	2497	Date of Manufacture
	3082	Manufacturer
	0533	Upper Limit of Temperature
	1641	Consult instructions for use
	3500	Electronic instructions for use
	2606	Do not use if package is damaged
	3079	Open Here
	3010	RFID tag, general
	5662	Date
	PI PF 002‡	Hospital

‡This symbol is the only one from ISO 7001 in the table above.

ABBREVIATIONS or SYMBOLS USED ON LABELING

Symbol	Symbol Title / Explanatory Text
	Medical device
	Single sterile barrier system
IOL	Intraocular lens
	UV and Blue Light Filter
	Posterior chamber IOL
UV	Ultraviolet
D	Diopter
CYL	Cylinder Power
$Ø_B$	Body diameter (Optic diameter)
$Ø_T$	Overall diameter (Overall length)
L	Left
R	Right
ADD	Add Power
PWR	Power
	D-size nozzle for MONARCH® Delivery System cartridge*
	C-size nozzle for MONARCH® Delivery System cartridge*
	B-size nozzle for MONARCH® Delivery System cartridge*
	Not made with natural rubber latex
	Does not contain PHT (phthalates)
	MR (Magnetic Resonance) Safe
	Caution: Federal (USA) Law restricts this device to sale by or on the order of a physician
*The recommendation shown on the labeling is for the smallest qualified cartridge nozzle size per diopter.		

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