

# Optical Biometry & Topography System

## ALADDIN



PERFORMANCE  
YOU CAN COUNT ON

Metro  
Ophthalmic



 **TOPCON**

## ALADDIN

### The complete picture

- Biometry by low coherence interferometry
- Keratometry
- Anterior Chamber Depth
- Corneal Diameter (White-to-white)
- Dynamic Pupillometry
- Full Corneal Topography



Cataract surgery is one of the most routinely and accurately performed operative procedures worldwide. Patients and surgeons alike have very high expectations for its outcome; therefore modern cataract surgery has become more of a phaco refractive procedure.

With increasing expectations, surgeons require improved optical information. Where conventional optical biometers provide accurate information for determining the spherical power of the Intraocular Lens (IOL), they don't offer the information to completely understand the total refractive properties of the optics of the eye such as corneal topography and dynamic pupillometry.

Topcon offers the complete picture with the new ALADDIN Biometer and Corneal Topographer. ALADDIN assists the surgeon not only in choosing the spherical power of the IOL, but also in the choice of the right premium IOL for each particular patient. Topcon provides an Axial Length ADD IN to your trusted topographer with ALADDIN, combining well known Placido topography with the very latest interferometry. Biometry results are complemented with anterior topography and pupillometry in one fast, accurate and easy acquisition.

You get the complete picture for all cataract surgeries. Whether you are performing standard cataract surgery or premium IOL implantation, you can screen for corneal aberrations, previous corneal procedures and other corneal conditions all at once.

# KEY FEATURES

The ALADDIN was developed with three key points in mind:

## SPEED

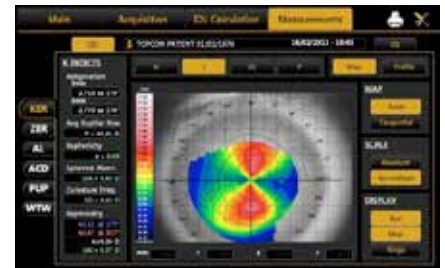
Point and shoot acquisition, all necessary measurements are taken in under 5 seconds. Single measurements are supported for even faster Anterior Chamber Depth (ACD), Axial Length (AL) or topography, as well as a separate full pupillometry.

## ACCURACY

Proven Interferometry technology provide extremely accurate axial length and corneal radii information for precise determination of IOL power.

## EASE OF USE

The operator is only 3 clicks away from printing the ALADDIN report. The 10.1 inch color touchscreen monitor with its wide angle of view is responsive and comfortable to use.



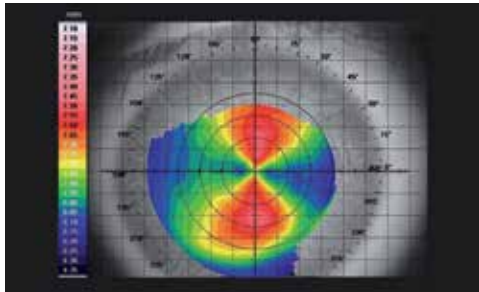
## TRUSTED RESULTS EACH TIME:

- » Providing Real Corneal Radii, measuring over 6200 points
- » Visualizing post refractive procedures with topography
- » Providing IOL-power calculation for post refractive eyes
- » Multiple surgeon settings for optimal customization
- » Reduce preoperative screening times
- » Adjusting for special eye conditions like aphakic and pseudophakic eyes
- » Offering customization and updates using the full ULIB database
- » Matching any comparable instrument in the market today.\*
- » Providing the complete picture

\*Data on file at Topcon Europe Medical

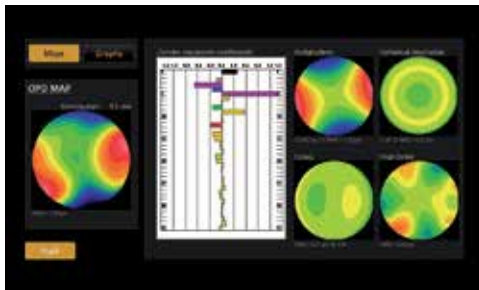
# SOFTWARE

## The Complete Picture says more than a thousand words



Full anterior topography provides much more information than just K-values, instantly distinguishing regular and irregular astigmatism.

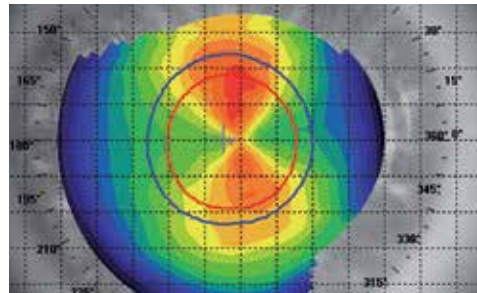
- » Axial and tangential
- » Absolute and Normalized
- » mm and diopter



Zernike analyses of the topographic data provides the Optical Path Difference (OPD) and information on astigmatism, spherical aberrations, higher order aberrations and Coma for various pupil sizes.



Using the latest technology in low-coherence interferometry and signal processing, ALADDIN achieves axial length measurement with high signal-to-noise ratio and is able to measure through cataracts.

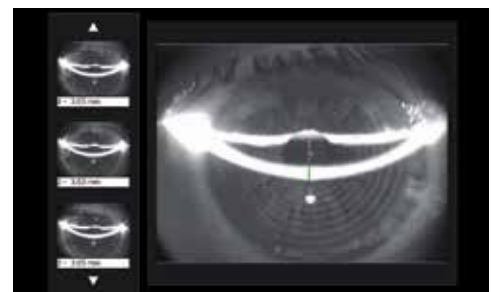


During Placido evaluation, pupillary response is measured to assess a pseudo photopic and pseudo scotopic pupil size, indicating response and normal range of the pupil.

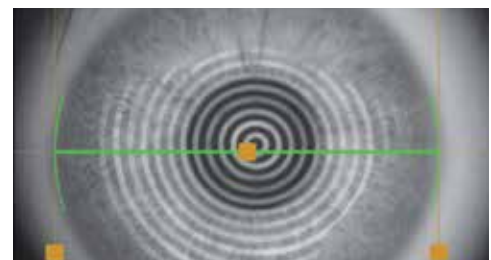


Full pupillometry screening assists to evaluate eyes for multifocal IOL implantation or refractive surgery.

- » Dynamic
- » Photopic
- » Scotopic



ACD measurement provides a slit lamp image of the anterior chamber for easy control and validation.



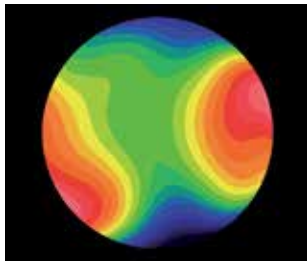
Manual control of white to white measurement gives you reliable results and the option to assess the presence of corneal and scleral irregularities.

# IOL SELECTION

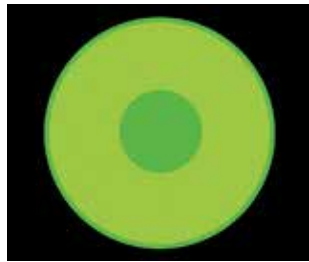
## Choose the right IOL for every patient



In addition to regular biometry, the ALADDIN provides keratometric indices, Zernike analyses and topographical maps, all valuable in premium IOL-implantation.



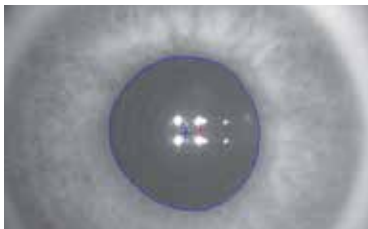
OPD, rms 1.17 µm



Sph. Ab. rms 0.23 µm

### ASPHERIC AND SPHERIC IOLS

IOL manufacturers produce aspherical IOL's with standardized spherical aberration correction. When topography is not performed to measure the actual spherical aberration, the choice for the individual best lens cannot be properly made. When using the actual Spherical Aberration provided by Zernike analysis, you can select the appropriate IOL according to the patient's individual required spherical aberration correction.



### PUPILLOMETRY

For any cataract or refractive procedure, it is important to evaluate the pupil in different light conditions. It will provide you the possibility to assess patients before multifocal IOL implantation and exclude cases of extreme small or decentered pupils.



### CORNEAL REFRACTIVE PROCEDURES

In eyes that have previously undergone refractive surgery, spherical aberration values are often out of the standard values. In these often demanding cases, choosing the right asphericity is vital to ensure patient satisfaction. Integrated Camellin-Calossi post-LASIK formula aids in selecting the right diopter.

# ALADDIN OUTPUT

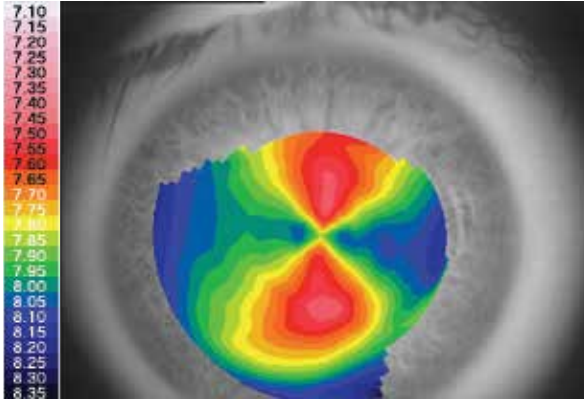


**Patient** : TOPCON PATIENT  
**Patient ID** : 19500101  
**Date Of Birth** : 01/01/1950  
(dd/mm/yyyy)

## OD

Phakic

Normalized Axial Map



mm

### Measurement Summary

AL **24.95 mm** K1 **8.01 mm @ 174°**  
 ACD **3.81 mm** K2 **7.53 mm @ 84°**  
 WtoW **11.98 mm**

### Keratorefractive Indices

CYL 3 mm **-2.71 D** Ax: **173°**  
 CYL 5 mm **-2.77 D** Ax: **174°**

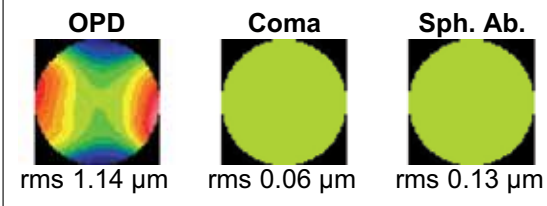
SD	SAI	e	Kc
<b>0.53 D</b>	<b>0.37 D</b>	<b>0.49</b>	<b>43.11</b>

AK	AGC	SI	p
<b>46.17 D</b>	<b>1.66 D/mm</b>	<b>0.08 D</b>	<b>15%</b>

### Pupil Data

Photo: Diam 4.30 mm Dec 0.14 mm; 172°  
 Meso: Diam Dec

### Zernike Analysis 5 mm



**Patient** : TOPCON PATIENT  
**Patient ID** : 19500101  
**Date Of Birth** : 01/01/1950  
(dd/mm/yyyy)

## OD

Phakic

**Data Measurements** n: **1.3375**

*Aladdin Optical*

AL : **24.95 mm** K1 : **8.01 mm @ 174°**  
 ACD : **4.54 mm** K2 : **7.53 mm @ 84°**  
 CYL : **-2.72 D** ax **174°**

**Target Refraction: 0**

Oculentis  
L-313

Hoffer Q	
IOL(D)	REF(D)
14.50	0.78
15.00	0.45
<b>15.50</b>	<b>0.11</b>
16.00	-0.23
16.50	-0.58

IOL @ Target 15.66 pACD = 5.010

Oculentis  
LS-313 MF30

SRK/T	
IOL(D)	REF(D)
15.50	0.55
16.00	0.22
<b>16.50</b>	<b>-0.12</b>
17.00	-0.46
17.50	-0.80

IOL @ Target 16.32 A = 118.500

Oculentis  
LU-313 MF30T

Haigis	
IOL(D)	REF(D)
15.50	0.67
16.00	0.33
<b>16.50</b>	<b>-0.02</b>
17.00	-0.37
17.50	-0.73

IOL @ Target 16.47 A0 = 0.870  
A1 = 0.400  
A2 = 0.100

Oculentis  
L-303

Holladay I	
IOL(D)	REF(D)
15.00	0.76
15.50	0.43
<b>16.00</b>	<b>0.10</b>
16.50	-0.24
17.00	-0.58

IOL @ Target 16.15 SF = 1.360

Oculentis  
L-312

Hoffer Q	
IOL(D)	REF(D)
15.00	0.67
15.50	0.35
<b>16.00</b>	<b>0.02</b>
16.50	-0.32
17.00	-0.66

IOL @ Target 16.02 pACD = 5.260

## Specifications

<b>Measurement ranges for IOL power calculation</b>	
<b>Axial Length (interferometry)</b>	15 mm - 38 mm
<b>Corneal Radii</b>	3.3 - 37,5 mm / 9.0 - 101.5 D
<b>Anterior Chamber Depth</b>	1.5 mm - 5.5 mm
<b>White to White</b>	6 - 18 mm
<b>Pupil size</b>	0.5 - 10 mm
<b>On-board IOL calculation formulae</b>	
	SRK II, SRK/T, Hoffer Q, Holladay 1, Haigis, Camellin-Calossi (post refractive IOL calculation)
<b>Placido Topography Specifications</b>	
<b>Keratoscope cone</b>	24 rings equally spaced on a 43D sphere
<b>Analyzed points</b>	Over 100,000
<b>Measured points</b>	Over 6,200
<b>Corneal coverage</b>	Up to 9.8 mm on a sphere of 8 mm radius (42.2 dioptres with n=1.3375)
<b>Diopter power range</b>	9.0 -101.5 D
<b>Resolution</b>	± 0.01D, 1 micron
<b>Accuracy/precision axial radius</b>	± 0.02 mm
<b>Machine Specifications</b>	
<b>Display</b>	10.1 inch color touch screen
<b>Interfaces</b>	2 USB, LAN
<b>External Printer</b>	Any USB printer (provided by user)
<b>Dimensions/Weight</b>	47cm (L) x 49cm (H) x 32cm (W) / 18kg
<b>Power Consumption</b>	max. 150 VA
<b>Power Supply</b>	AC 100-240 V 47-63 Hz

## ALADDIN - The complete picture in Optical biometry & placido topography



### IMPORTANT

Subject to change in design and/or specifications without advanced notice.

In order to obtain the best results with this instrument, please be sure to review all user instructions prior to operation.