



# sMap 3D

A Revolution in Scleral Lens Fitting



[www.Visionary-Optics.com/sMap3D](http://www.Visionary-Optics.com/sMap3D)  
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The future of custom scleral contact lens fitting is here! I have had extraordinary success in fitting the Jupiter and Europa scleral lenses for years in my specialty contact lens practice. The sMap3D system has had a measurable impact on my practice. This technology has allowed me to reduce my remake percentage, chair time, and fit patients in lenses who have previously been unable to wear contact lenses of any type. It has helped me understand patient complaints with fits that seemed good using conventional methods. Using this technology has not only shown that most patients have a toric sclera, but also that it is possible to improve comfort, wear time and clouding by compensating for it. In any specialty contact lens practice, efficiency and patient satisfaction have a profound impact on success. The sMap3D combines advanced precision technology with an outstanding lens design. It is rare I am this excited about a technological advancement. I can't deny the results. Well done!"

**Randy Charrier, O.D., F.A.A.O.**  
Family Vision Solutions



# sMap 3D

A Revolution in Scleral Lens Fitting



Eliminate the guesswork and save valuable chair time  
**MEASURE. CUSTOMIZE. ANALYZE. ORDER.**  
All in one simple platform!



## **THE sMap3D ADVANTAGE**

- Fluorescence based structured light topographer with more than 22mm range and 360 degree scleral coverage.
- PRECISION SURFACE MAPPING: exceptional accuracy with 10 micron precision and up to 1 million measurements points. Obtain detailed maps of the cornea and sclera, much like a fingerprint, no two are the same.
- Integrated software for fitting and customizing Europa Scleral lenses.
- EMR (Electronic Medical Record) Integration by saving sMap3D reports in your EMR software and avoiding manual data entry.





The sMap3D topographer allows us to measure scleral toricity for the first time. This has propelled my evaluation of scleral lenses forward by having the ability to more precisely align scleral haptics with the tissue. This results in better lens centration and corneal contouring which means better vision and less induced astigmatism.”

**Jeffrey Sonsino, O.D., F.A.A.O.**  
Optique Nashville



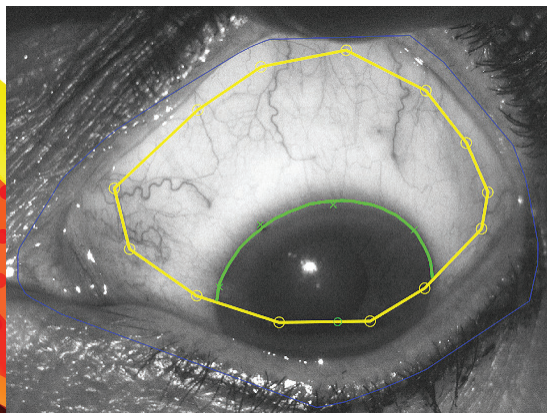
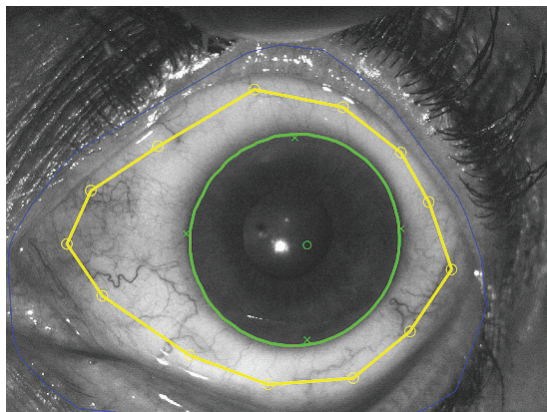
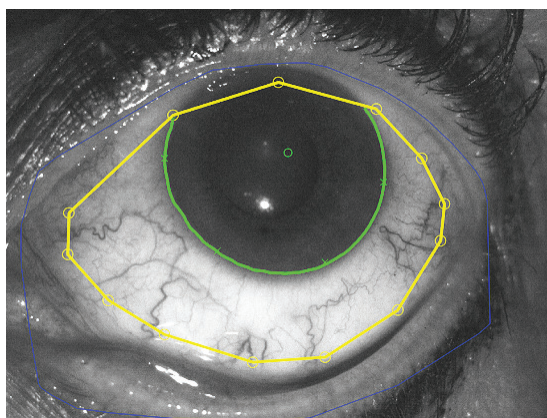
The sMap3D has revolutionized my scleral lens practice. Studies now show that most scleras are toric. The sMap3D allows me to fit customized back surface toric scleral lenses to fit each individual eye. Improved haptic fitting using back surface toricity increases patient comfort, satisfaction, and reduces the potential for reservoir debris. I am now able to use back surface toricity to stabilize front surface toric scleral lenses for patients who have residual astigmatism. Stabilized front surface toric lenses using back surface toricity are significantly more comfortable than using slab-off prism stabilization, which some patients find uncomfortable secondary to increased edge thickness. The sMap3D allows me to quickly know the base curve needed to achieve a preset amount of corneal vault and the diameter needed to optimize limbal clearance. In my practice, fitting Europa sclerals with diagnostic lenses, which is time consuming and involves estimating parameters, has been replaced with the sMap3D.”

**Greg DeNaeyer, O.D., F.A.A.O.**  
Arena Eye Surgeons

# UNIQUE FEATURES

## OPTIMIZED 3D IMAGING

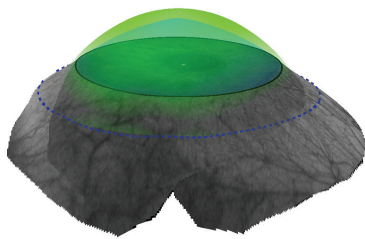
Utilizing 3D stitching, combine multiple gaze directions into a complete model of the ocular surface, minimizing interference by the eyelids. Map the entire cornea and sclera, with a true range of greater than 22mm diameter in all directions!



USE OF STRAIGHT GAZE ALONE FREQUENTLY PROVIDES INSUFFICIENT SUPERIOR AND INFERIOR SCLERAL COVERAGE TO ACCURATELY MEASURE SCLERAL TORICITY OUT TO THE DIAMETER OF A SCLERAL LENS. ACCURATE SCLERAL TORICITY VALUES ARE CRITICAL TO OPTIMUM SCLERAL LENS FIT. A STITCHED IMAGE MAKES ACCURATE SCLERAL TORICITY POSSIBLE IN VIRTUALLY EVERY CASE.

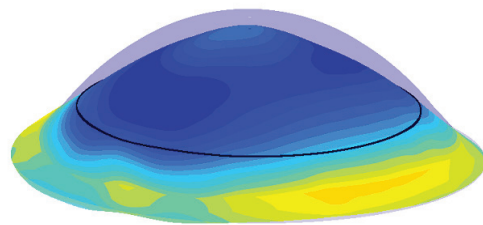
## ENHANCED 2D & 3D VISUAL ASSESSMENT

Utilizing the two and three dimensional maps of the corneal and scleral surfaces allow the practitioner to accurately assess how the Europa scleral lens will fit relative to the corneal and scleral surface.



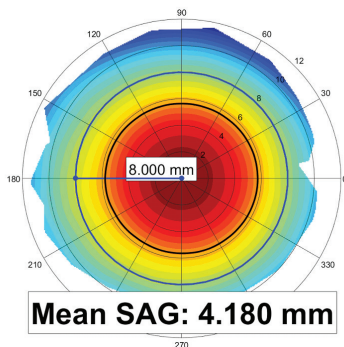
### SIMULATED FLUORESCEIN 3D

In this image, you can use the simulated fluorescein image to predict how the lens is vaulting over the cornea and how it will align with the scleral surface.



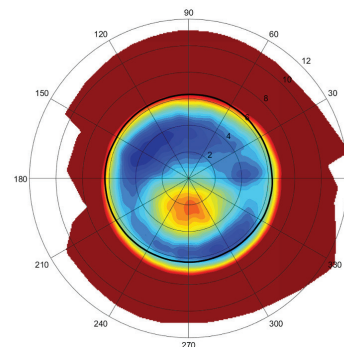
### LENS ELEVATION 3D

In this image, you can view a 3D map utilizing the eye surface to compare the overlying Europa Scleral Lens.



### SAGITTAL HEIGHT 2D

In this image, you can utilize the measurement tool to define the sagittal height at any chord you decide.



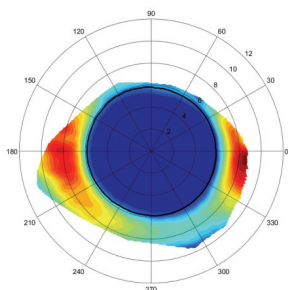
### CORNEAL ELEVATION 2D

In this image, the practitioner can utilize this map to clinically assess and diagnose the patient's slightly inferior elevated cone.

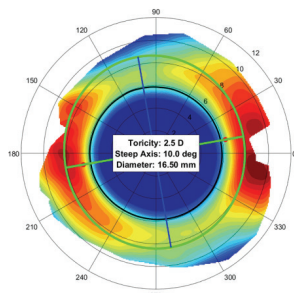
# BACK SURFACE CUSTOMIZATION

Use of toric peripheral haptics in scleral lenses has been reported to improve comfort, reduce or eliminate edge lift, decrease debris build-up under the lens and rotationally stabilize the lens. With the sMap3D, Visionary Optics can now tell the scleral lens fitter if and how much peripheral haptic toricity is needed to accurately design customized toric scleral lenses.

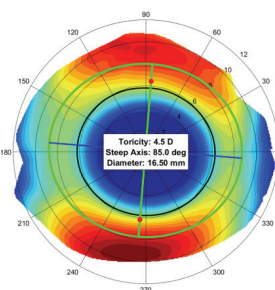
## STRAIGHT GAZE ONLY



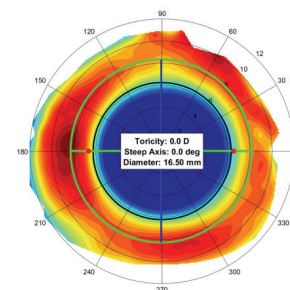
## STITCHED IMAGE



## RIGHT EYE (OD)

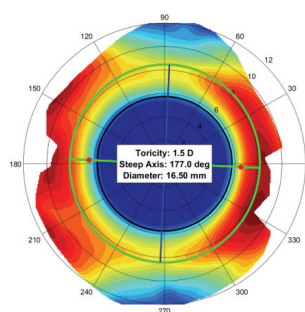
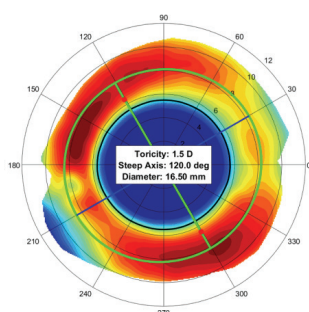
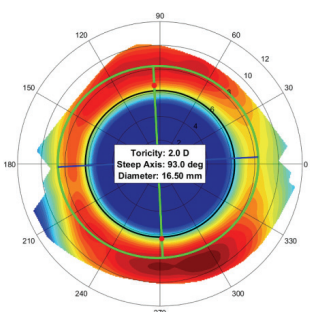


## LEFT EYE (OS)



Insufficient scleral data is available in the straight gaze only to accurately measure scleral toricity. The stitched image combines the data from the up, straight and down gazes, showing 2.5D of scleral toricity.

Data from the same patient showing 4.5D of scleral toricity in the right eye and no scleral toricity in the left eye demonstrates the wide variation in **amount** of scleral toricity measured not only among patients, but even within the **same patient**.



The images (to the left) demonstrate the wide variation in **orientation** of the scleral toricity measured.

# ADAPTIVE FIT

Post Corneal Transplant

STANDARD FIT

Central: 655  $\mu$ m  
Optical Zone: 210  $\mu$ m  
Min Limbus: 46  $\mu$ m  
Ave Limbus: 248  $\mu$ m  
Base Curve: 47.00 D

User-defined clearance in sMap3D software:  
Central: 300  $\mu$ m ←  
Optical Zone: 200  $\mu$ m

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Central: 300  $\mu$ m  
Optical Zone: 200  $\mu$ m  
Min Limbus: 43  $\mu$ m  
Ave Limbus: 244  $\mu$ m  
Base Curve: 36.90 D

ADAPTIVE FIT

BC ↔ PC1

Central: 300  $\mu$ m ⇨ = User-defined clearances

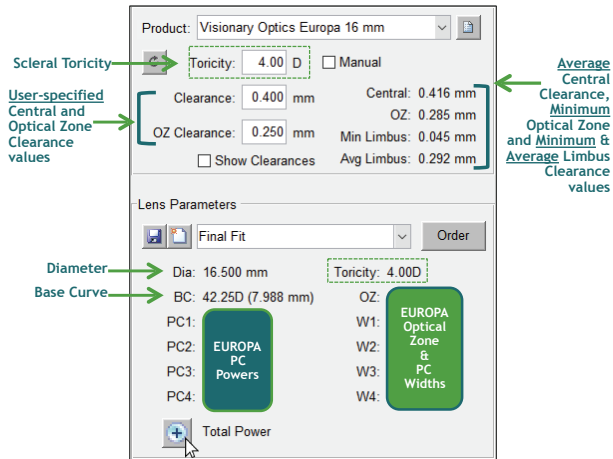
The adaptive fit option can optimize the central and optical zone clearances of the Europa Scleral lens on the initial fit. Within the sMapPro software, the user is able to modify the relationship between the Base Curve and PC1 to get as close as possible to the user-defined optimal central and optical zone clearance of the lens on the initial fit.

This is ideal for Oblate (Post-Transplant and Post-LASIK/ Post-RK) and Prolate (More extreme Keratoconus) corneas.

# INTUITIVE ANALYSIS & REPORTING

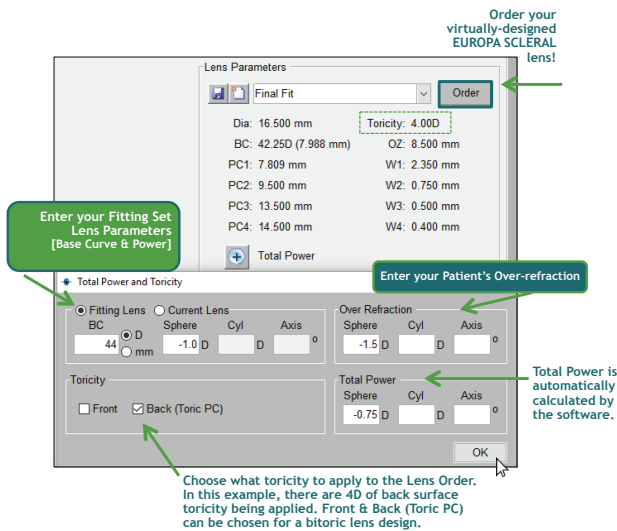
Accurate mapping and a complete range of customization options let you tailor the lens to fit each eye. Seamless integration with Visionary Optics Europa Scleral lens designed to minimize refits by prescribing lenses directly from surface measurements. View virtual fits and customize lens parameters with the goal of achieving optimal fits for every eye in one simple platform.

1.



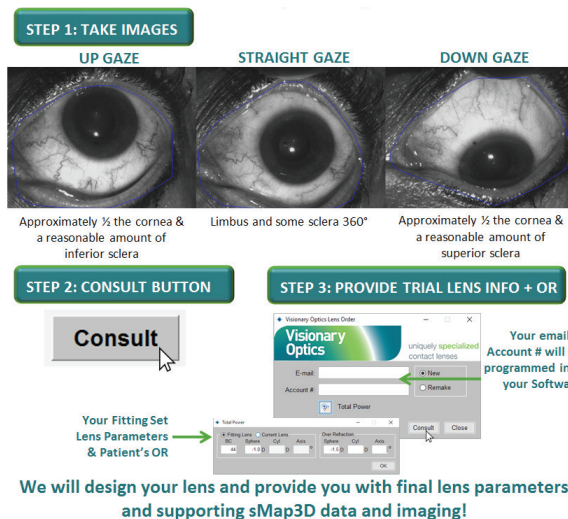
The sMapPro software provides an intuitive user interface showing the Visionary Optics Europa Scleral Fit Settings and Lens Parameters. The Lens Parameters box displays the lens parameters of the virtually-fit Europa Scleral lens. All parameters can be modified, offering you a complete range of customization options.

2.



The Total Power and Toricity window collects the Fitting Set lens parameters (Base Curve & Power), the patient's over-refraction, and the desired toricity. The Fitting Set lens information is collected for power calculation only. After entering this information, press the 'Order' button to submit your virtually-designed Europa Scleral lens order!

3.



The sMapPro software offers a Consult option. When utilizing this option, you simply need to obtain your three images and provide the Fitting Lens information and the patient's over-refraction – Visionary Optics will do the rest! – providing you with final lens parameters and supporting sMap3D data and imaging.

# sMap3D SPECS + FEATURES

## COVERAGE

Single: up to 17mm diameter  
Stitched: up to 22mm diameter

## FIELD OF VIEW

Single: H22mm x V17mm  
Stitched: H22mm x V22mm

## MEASUREMENT POINTS

32,400

## ANALYZED POINTS

1,000,000+

## SHIPPING DIMENSIONS/WEIGHT

Head: 14" x 14" x 12"  
(36cm x 36cm x 30cm)  
15lb. (6.8kg)

Manipulator: 14" x 13.5" x 7.5"  
(36cm x 34cm x 19 cm)  
12lb. (5.44kg)

Chinrest: 21" x 10.5" x 3"  
(53cm x 27cm x 8cm)  
5lb. (2.26kg)

Base: 20" x 14" x 3"  
(51cm x 36cm x 8cm)  
7lb. (3.2kg)

## FOOTPRINT

Width: 9.5" x 13.5" x 6"  
(24cm x 34cm x 15cm)  
varied width from patient to doctor

Depth: 17" (43cm)  
Height: 19"-21" (48cm - 53cm)  
[with head fully lowered and fully raised]

## WEIGHT

Est. 11lb. (5kg) (head only)

## POWER REQUIREMENTS

5V DC 3A

## SUPPLIED PC

HP Envy 15" i7  
8GB RAM

## HIGHLIGHTS

- Fluorescence based structured light topographer with more than 22mm range and 360° scleral coverage
- Under the eyelid scleral measurements
- Over 1 million measurement points with a 10 micron precision
- Integrated software for fitting and customizing Europa Scleral lenses with direct ordering capabilities
- Unbeatable Price

## FEATURED MAPS

- Sagittal Elevation
- Texture-mapped image elevation
- Lens Elevation
- Mean curvature
- Simulated fluorescein pattern
- Corneal and Scleral Elevation (Best-fit sphere)
- Polar display
- Full 3D display

## TOOLS

- Principle toricity display at varying diameters
- Distance measurement
- Mean sagittal height at varying diameters
- Lens and sagittal height cross-section display
- Customizable Data tips
- Customizable color scales
- Brightness and contrast adjustments
- Customizable for multiple users
- Online storage

## CONTACT LENS FITTING

- Scleral Lenses
  - Normal Corneas
  - Irregular Corneas
- Customized Soft Lenses
- Customized Back Surfaces

## HVID/VVID MEASUREMENT

L91 V3.0

[www.Visionary-Optics.com/sMap3D](http://www.Visionary-Optics.com/sMap3D)

Visionary Optics is the exclusive US Distributor of the sMap3D.

**CAUTION: Federal (USA) law restricts this device to sale by or on the order of a licensed practitioner.**