

ESCRS 2017

Seeing is Believing. 840nm AS-OCT

How could I work without it before?

Claudio Macaluso



ESCRS 2017

MS-39

AS – OCT *by* CSO

Claudio Macaluso



UNIVERSITÀ DEGLI
STUDI DI PARMA



CAMO
CENTRO AMBROSIANO OFTALMICO

AS - OCT

Combining in one instrument:

- **topography and accurate AS measurements**
- **detailed morphology of the whole cornea + AS**

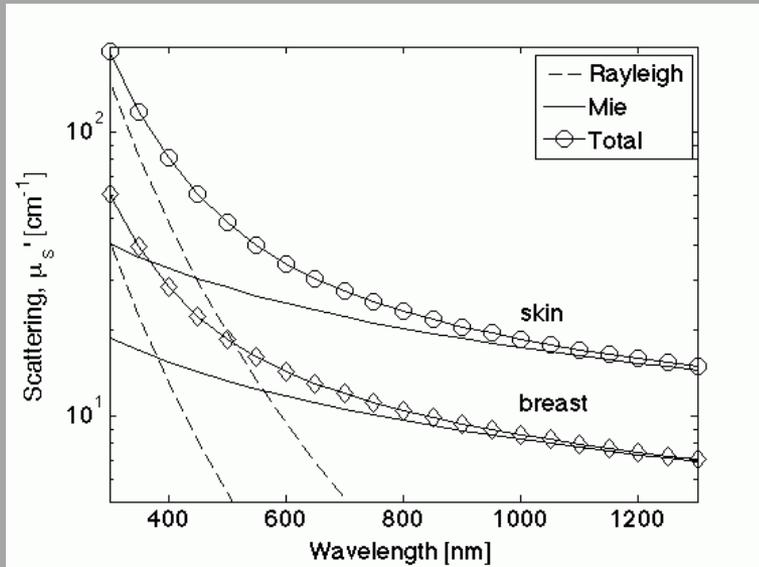
AS - OCT



Tomey CASIA 2

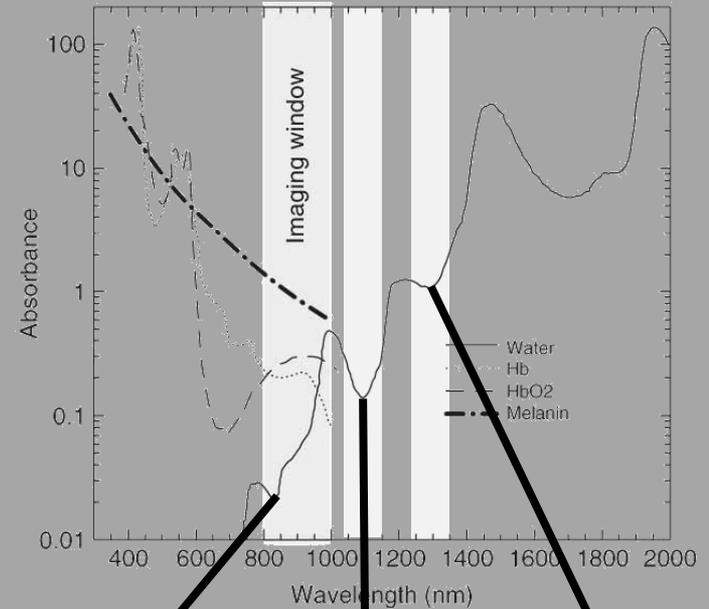
NIR optical window (750nm to 1400nm)

Scattering



Jacques et al, 1989

Absorption



Hanblin and Demidova, 2009

~830nm ~1050nm ~1300nm

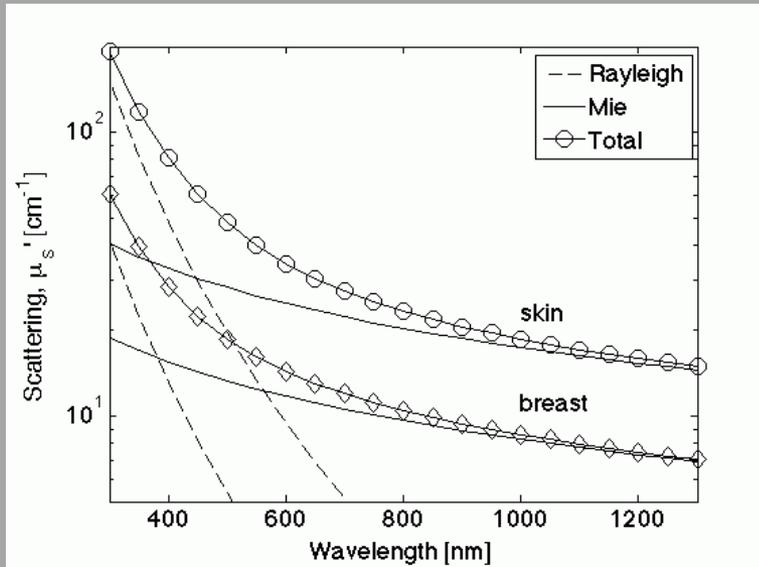
→

~0.75mW ~2mWm ~14mW

American National Standard for the Safe Use of Lasers:
ANSI Z136.1-1993

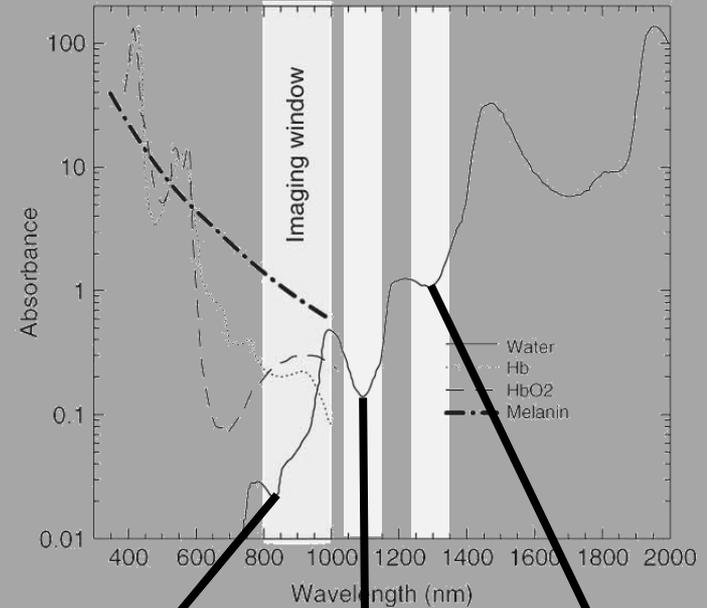
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~1050nm

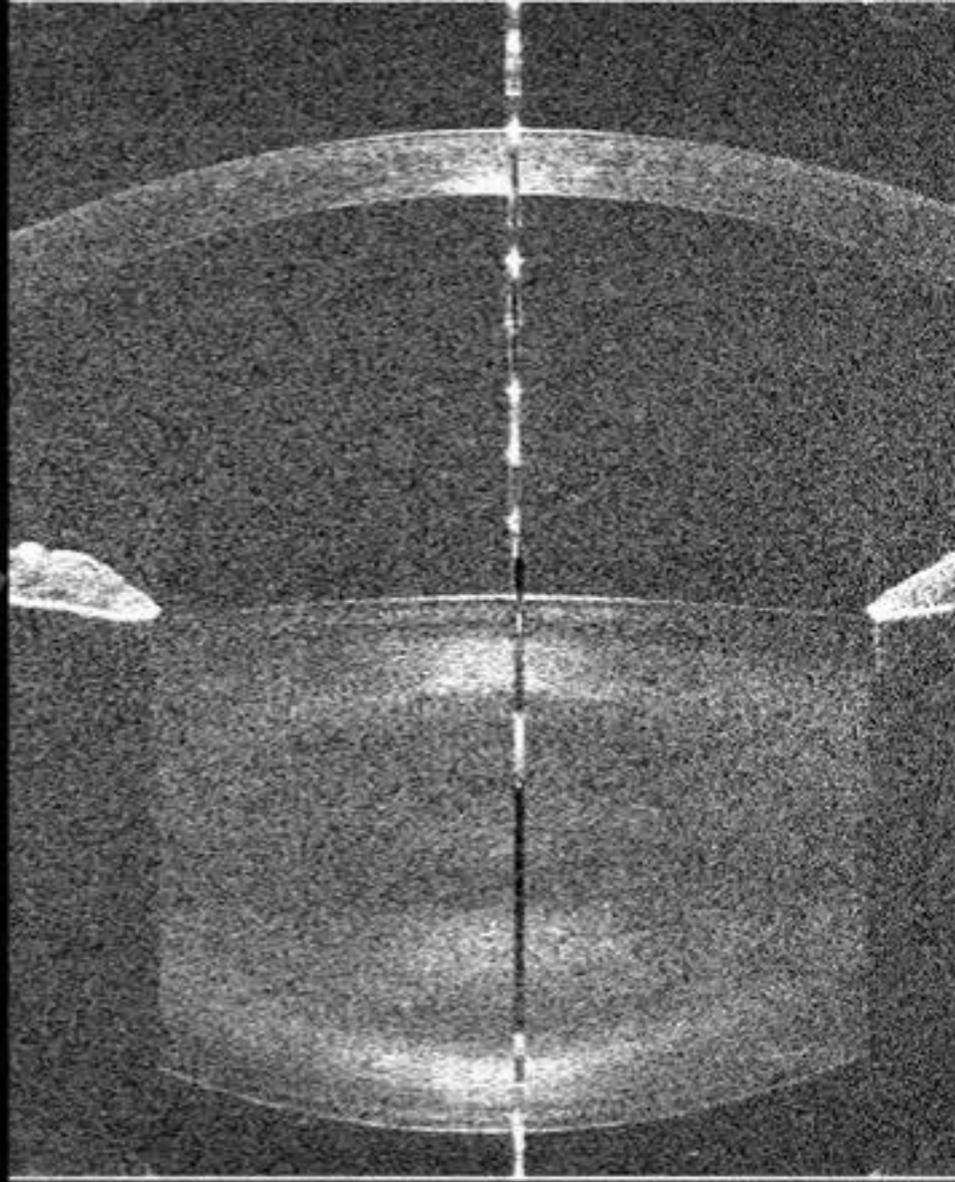
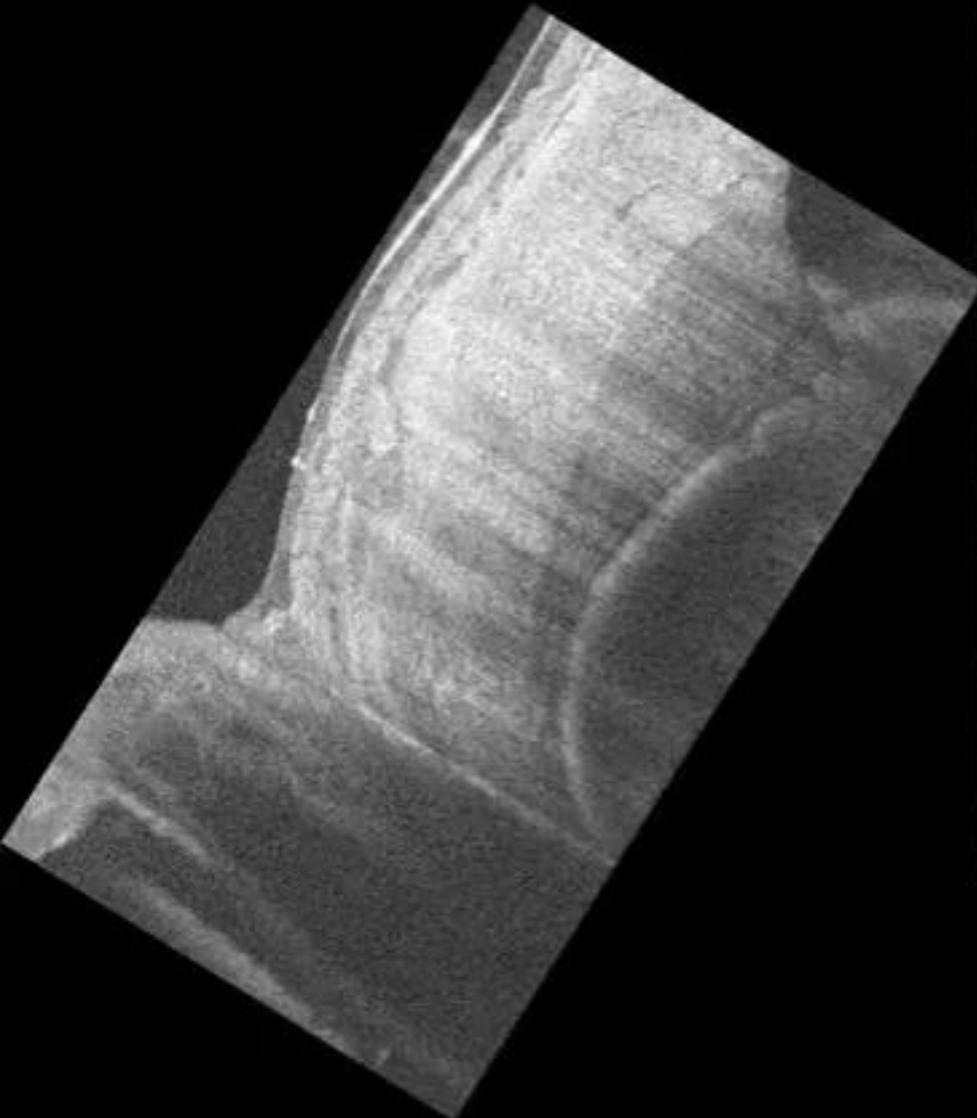
~1300nm

~0.75mW

~2mWm

~14mW

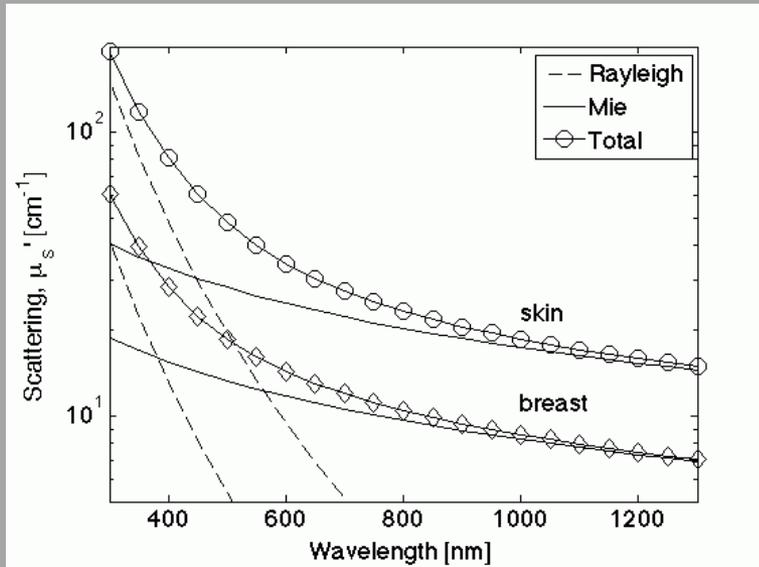
American National Standard for the Safe Use of Lasers:
ANSI Z136.1-1993



Courtesy Dr. Marco Ruggeri, PhD

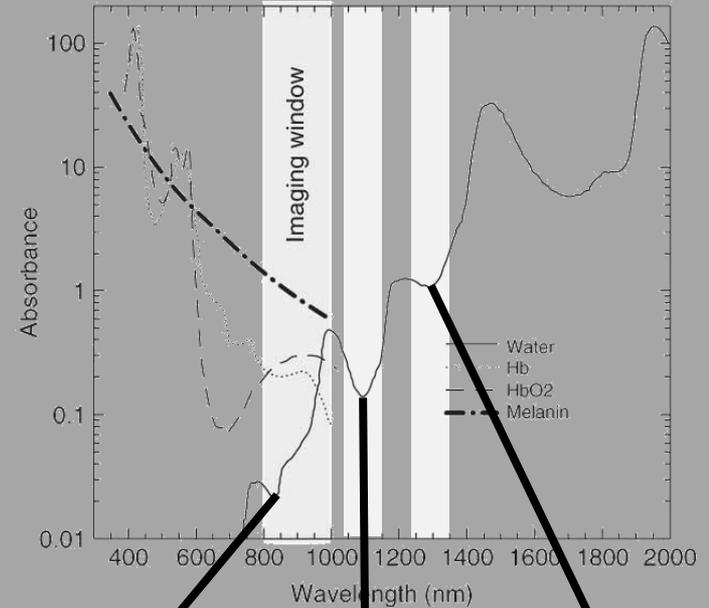
NIR optical window (750nm to 1400nm)

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~830nm

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~14mW

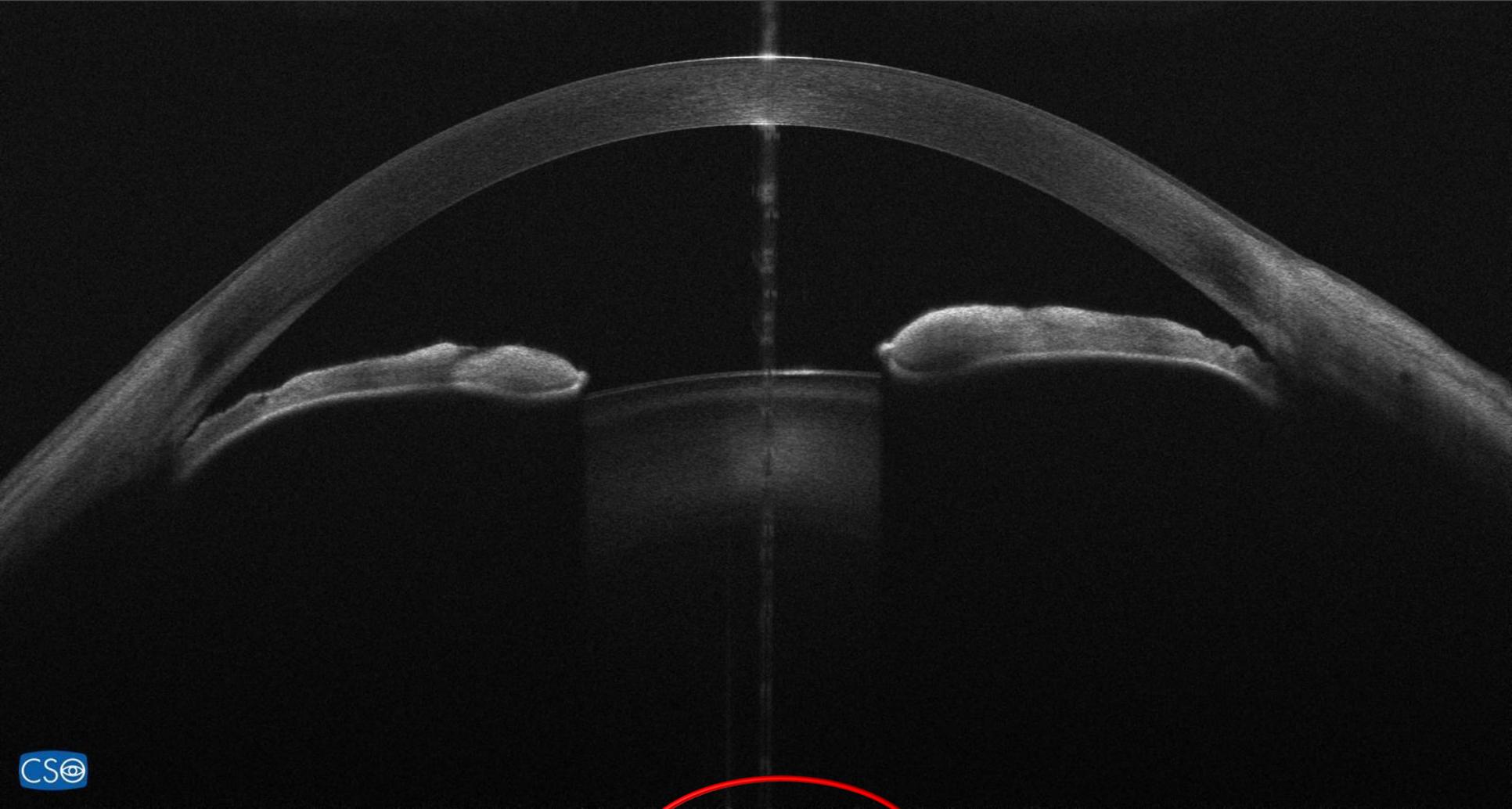
American National Standard for the Safe Use of Lasers:
ANSI Z136.1-1993

AS - OCT



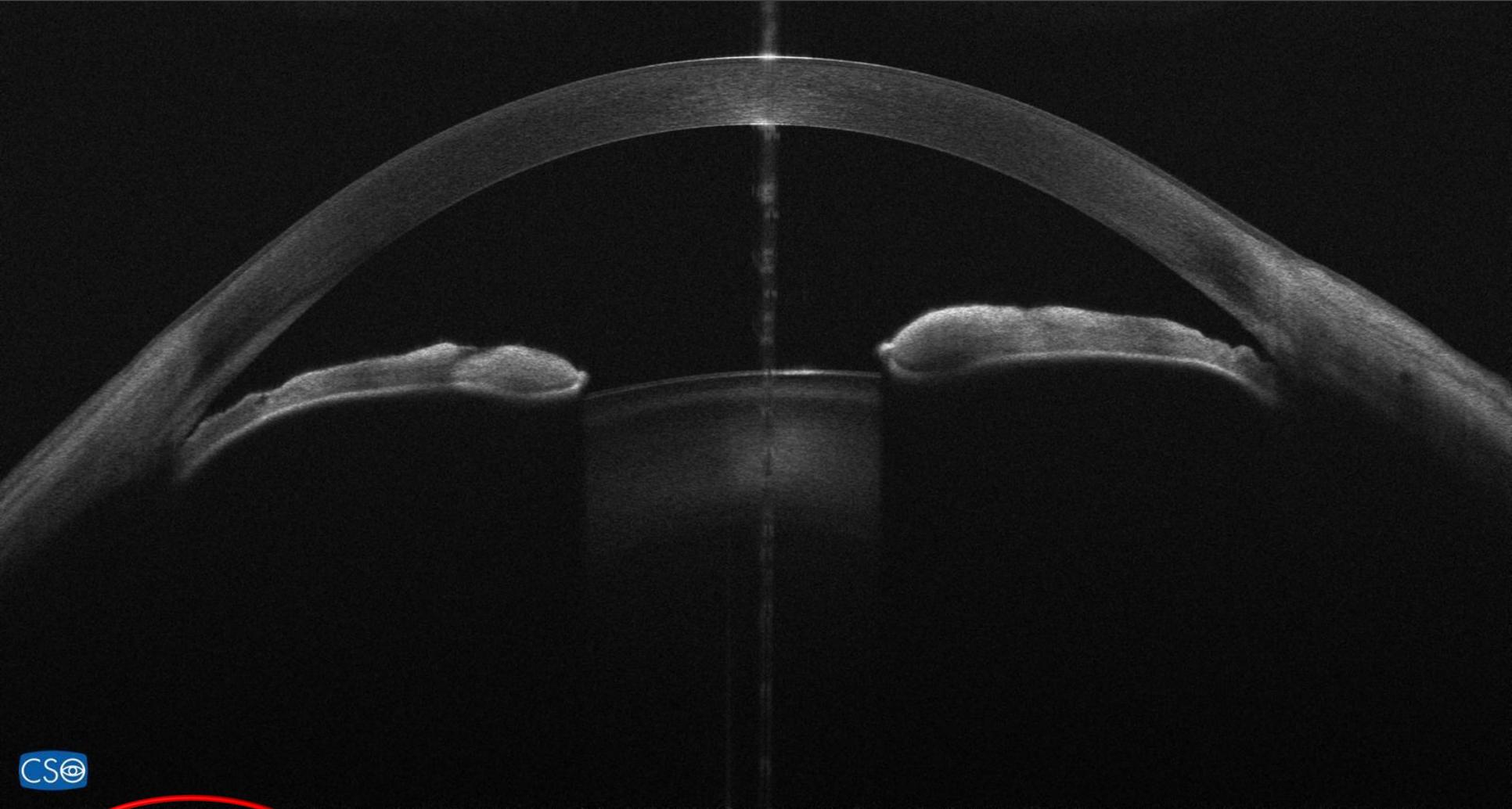
1300 nm

MS-39 AS – OCT by CSO



840 nm

AS - OCT



CSO

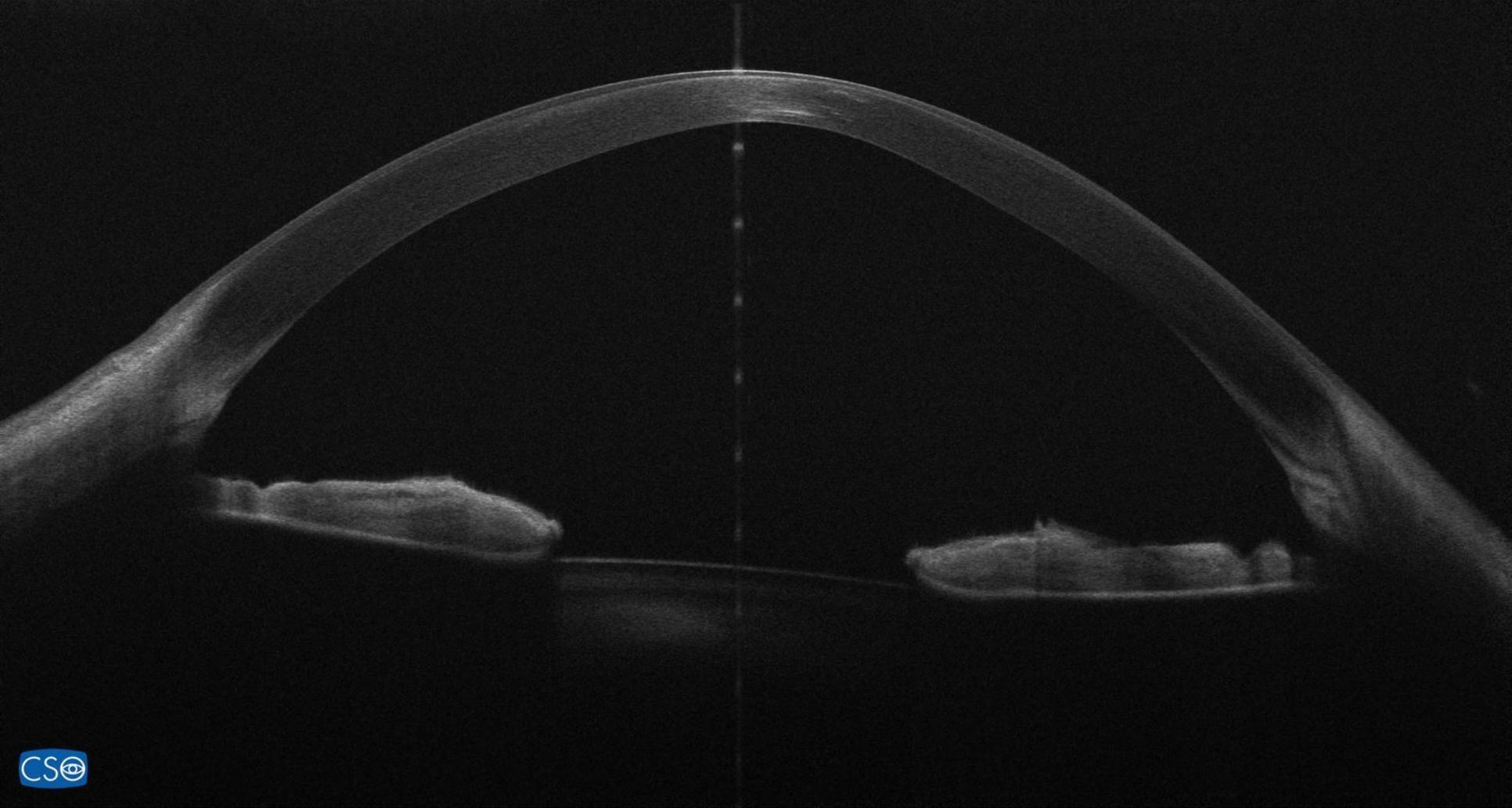
840 nm: closer to the spectrum of visible light

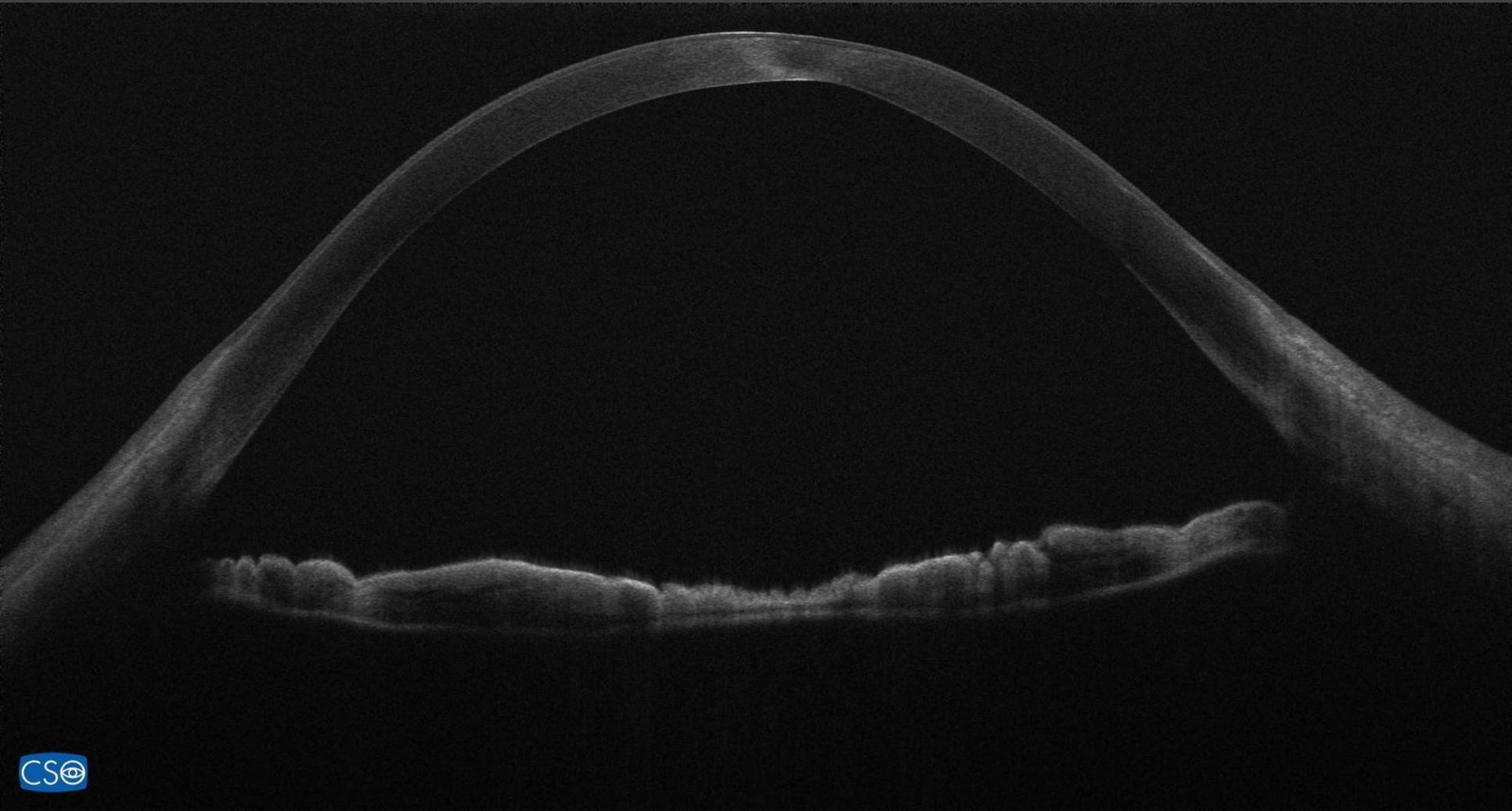
ESCRS 2017

MS-39

AS – OCT *by* CSO

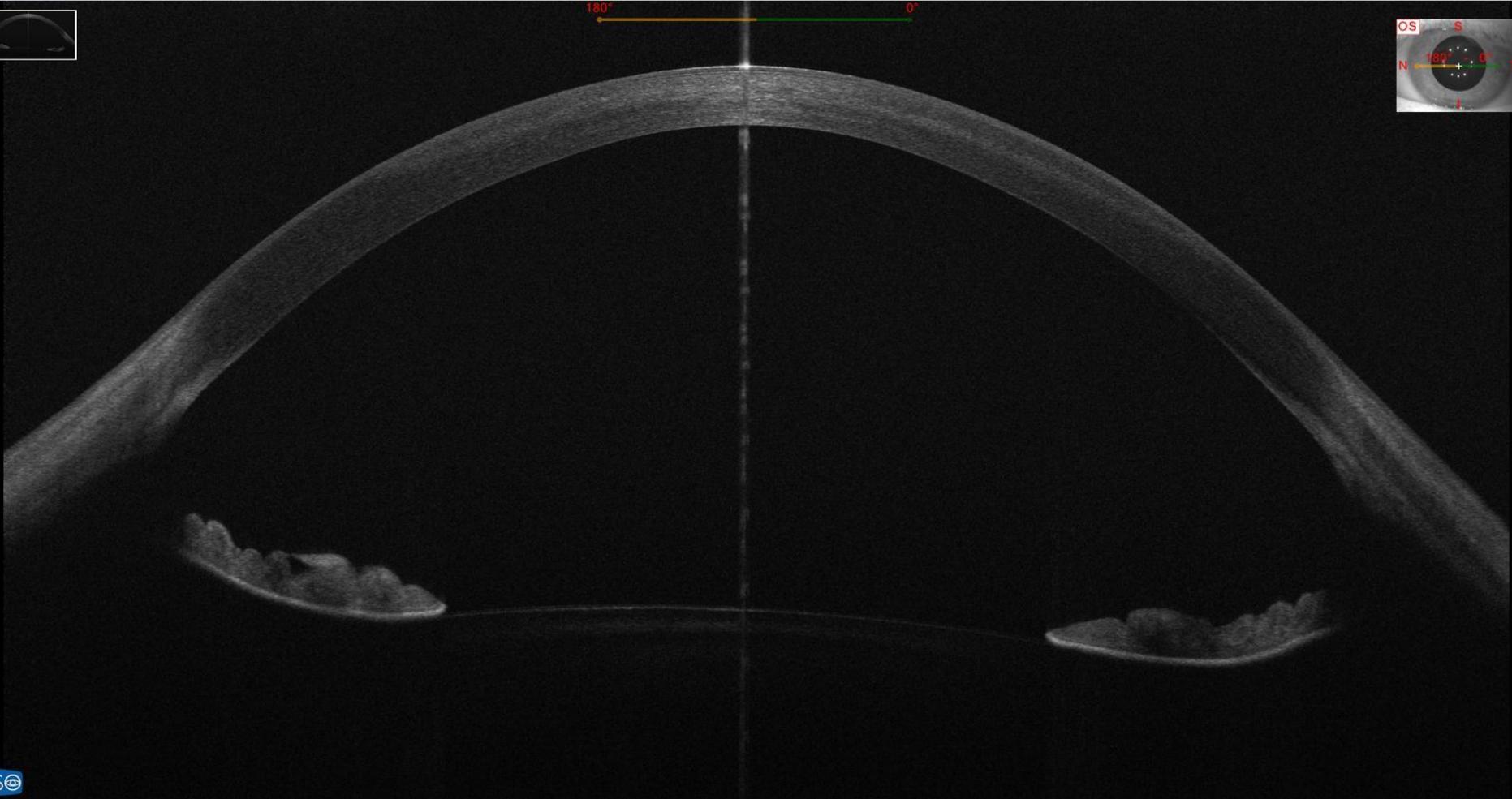
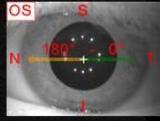
EXAMPLES

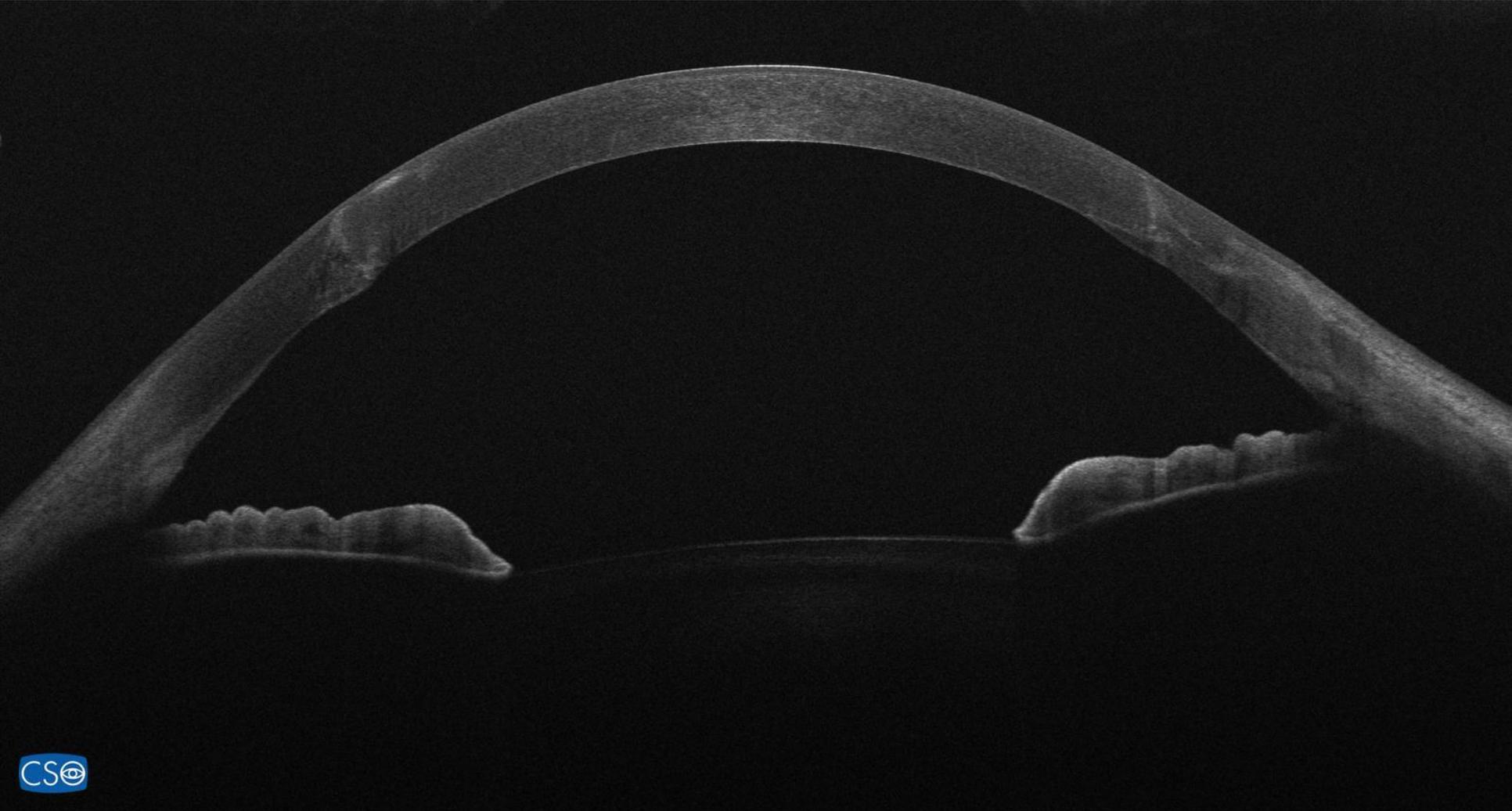


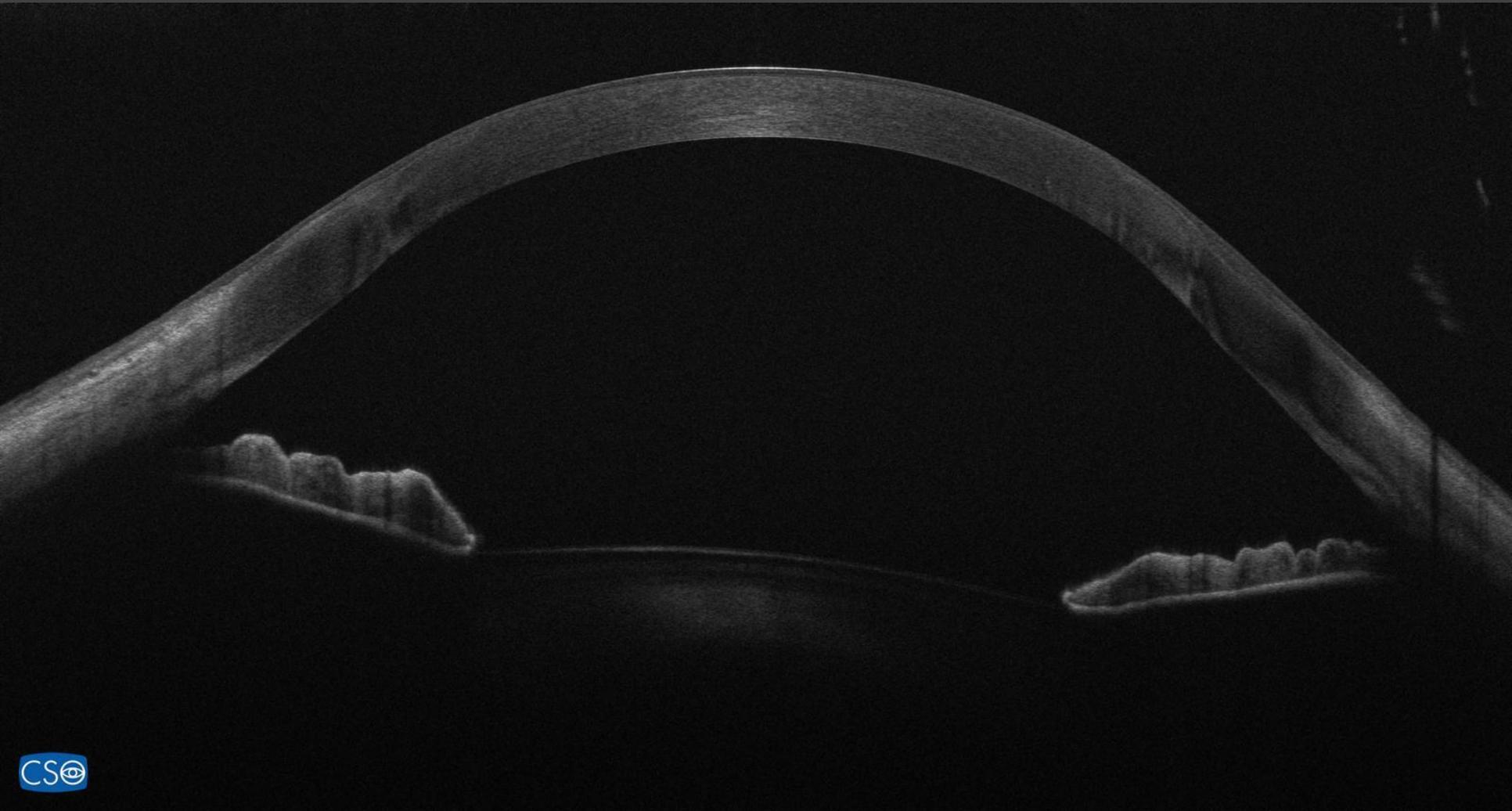


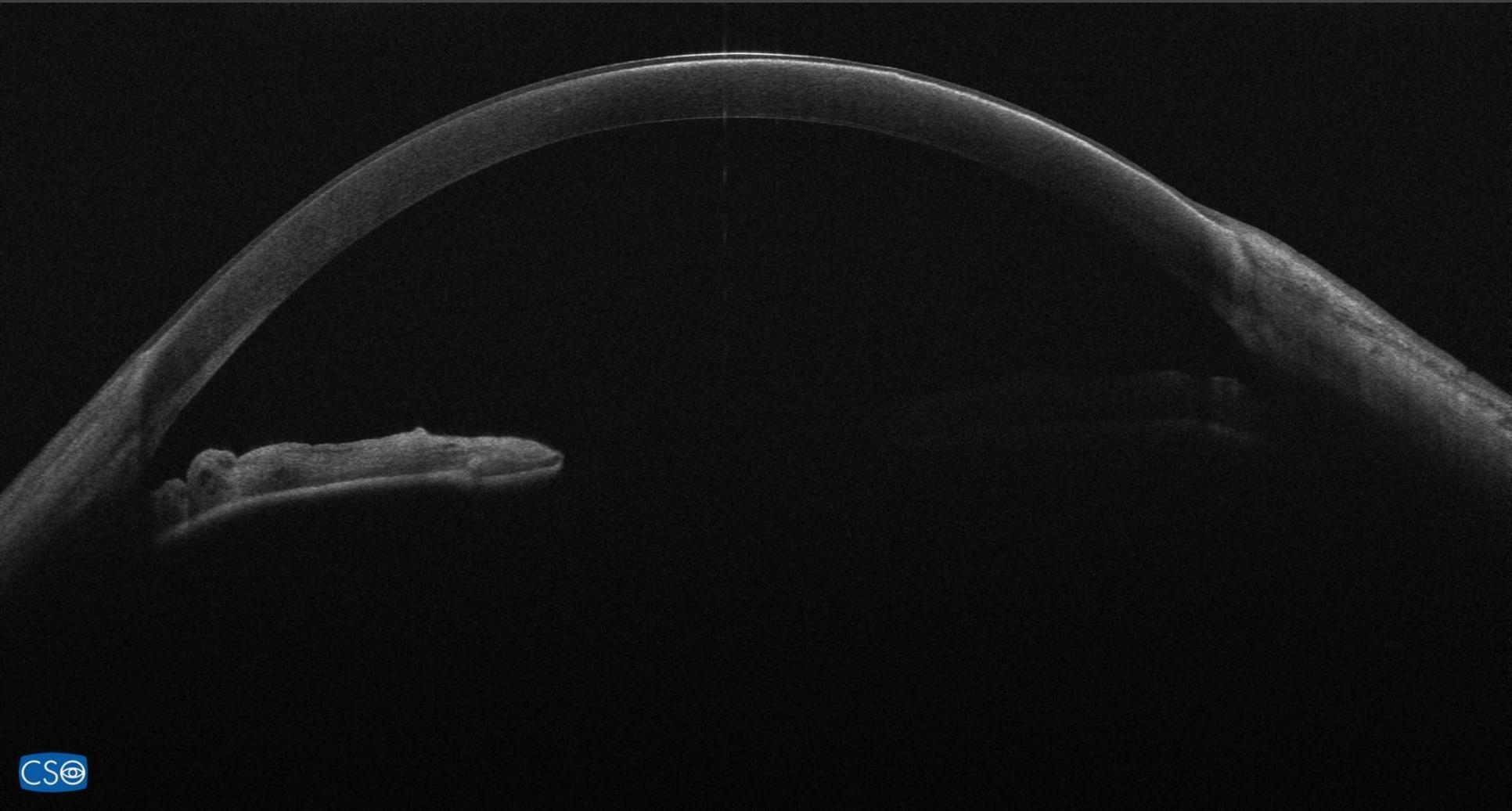


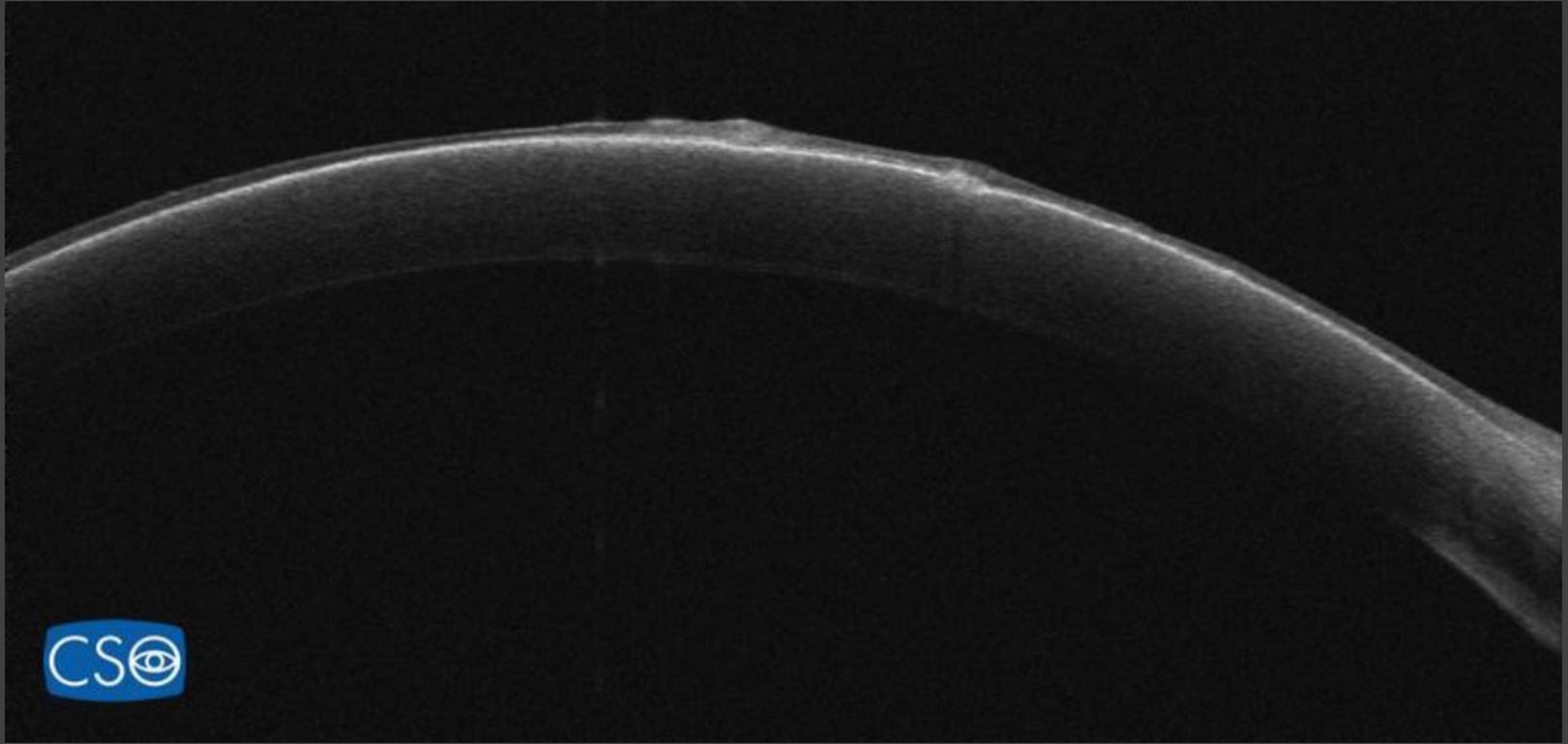
180° 0°

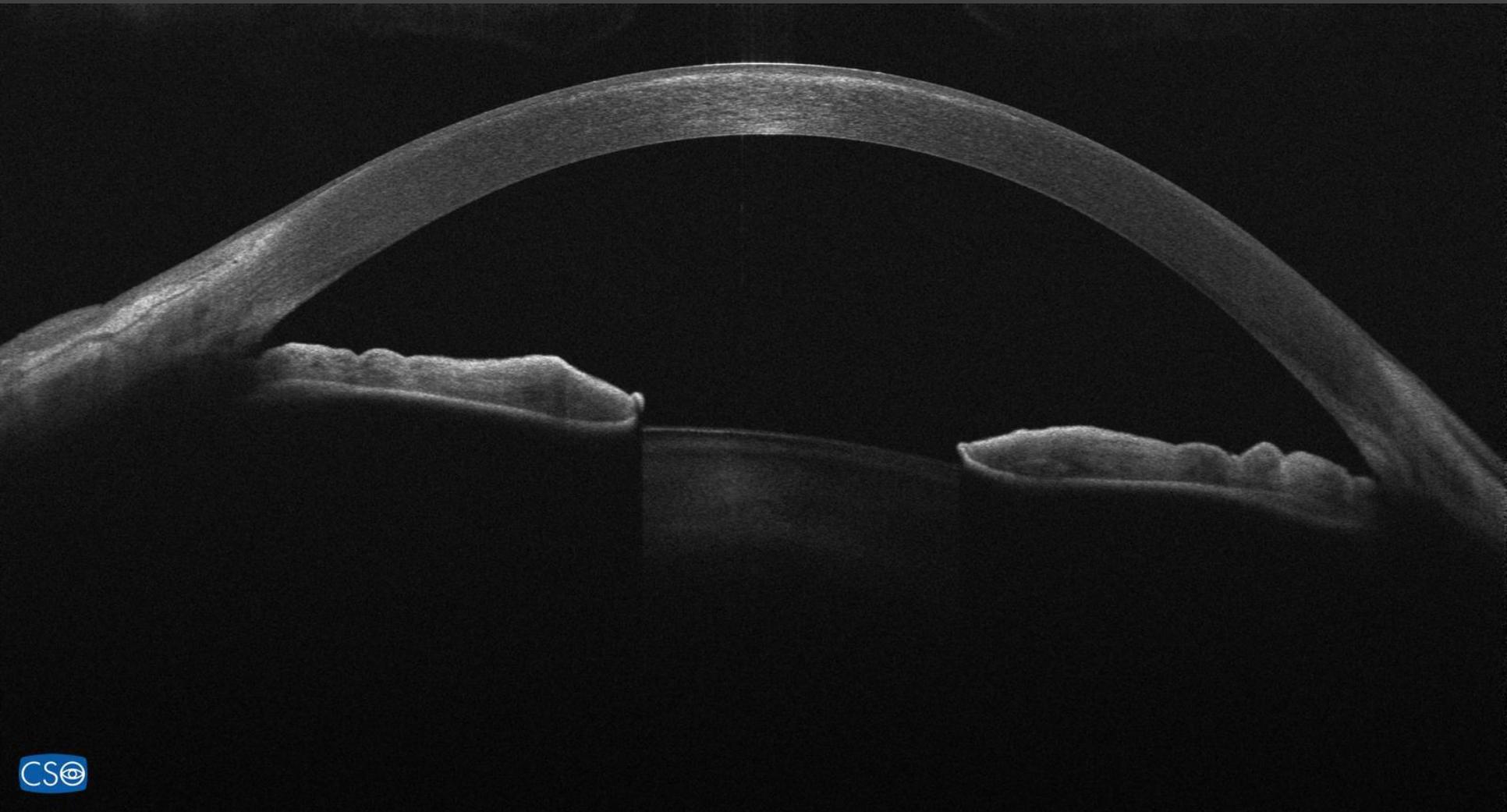


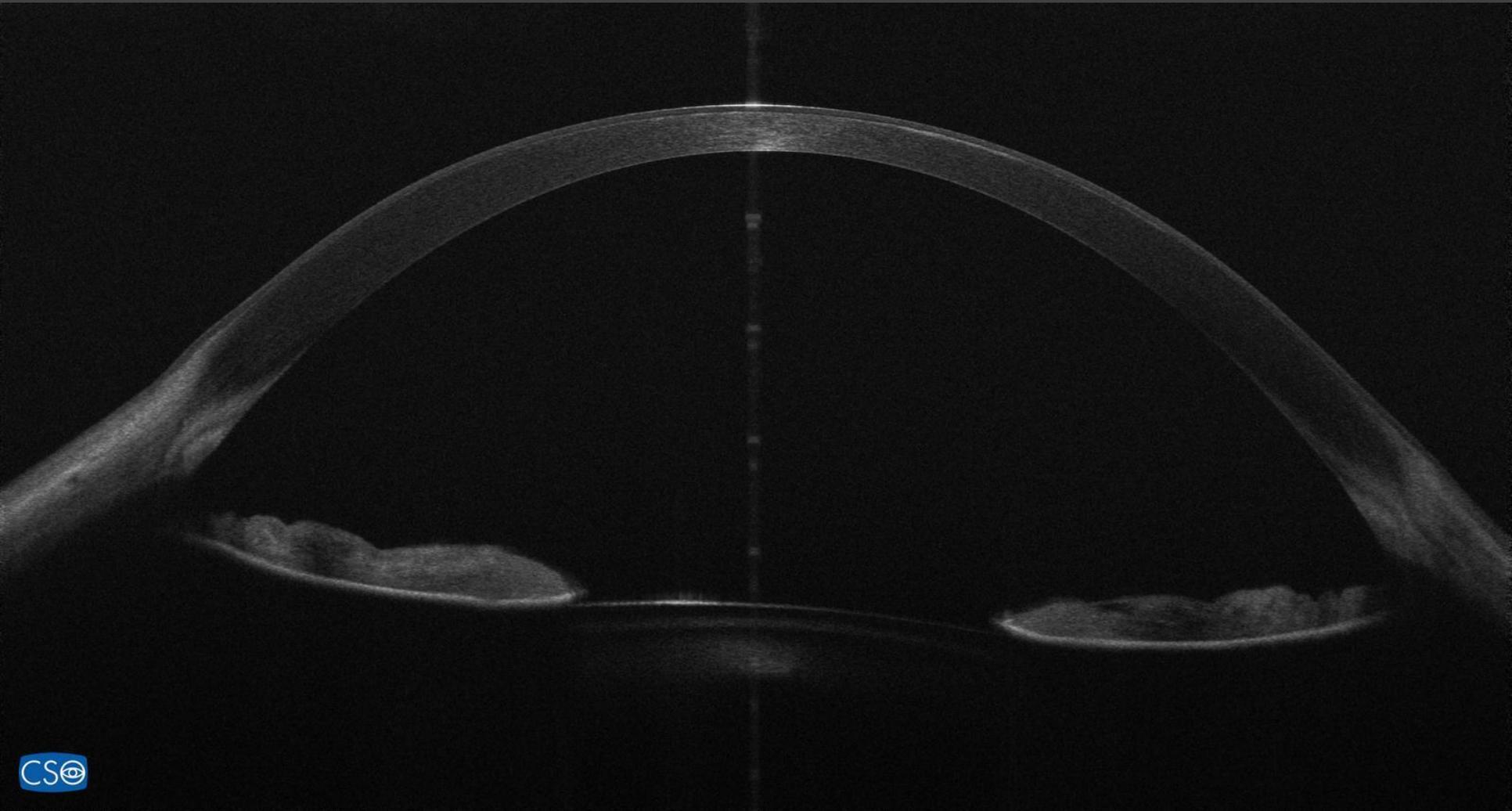




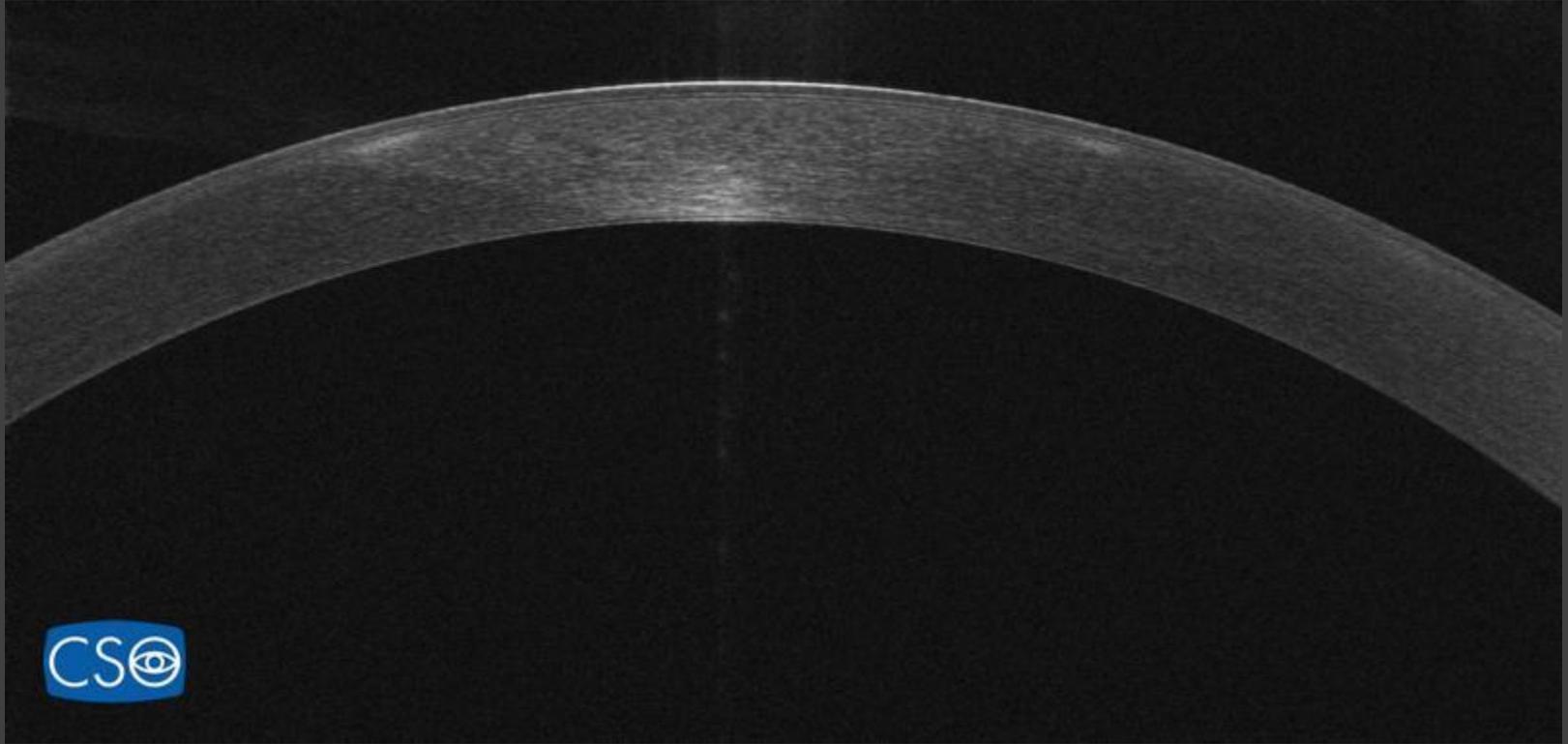


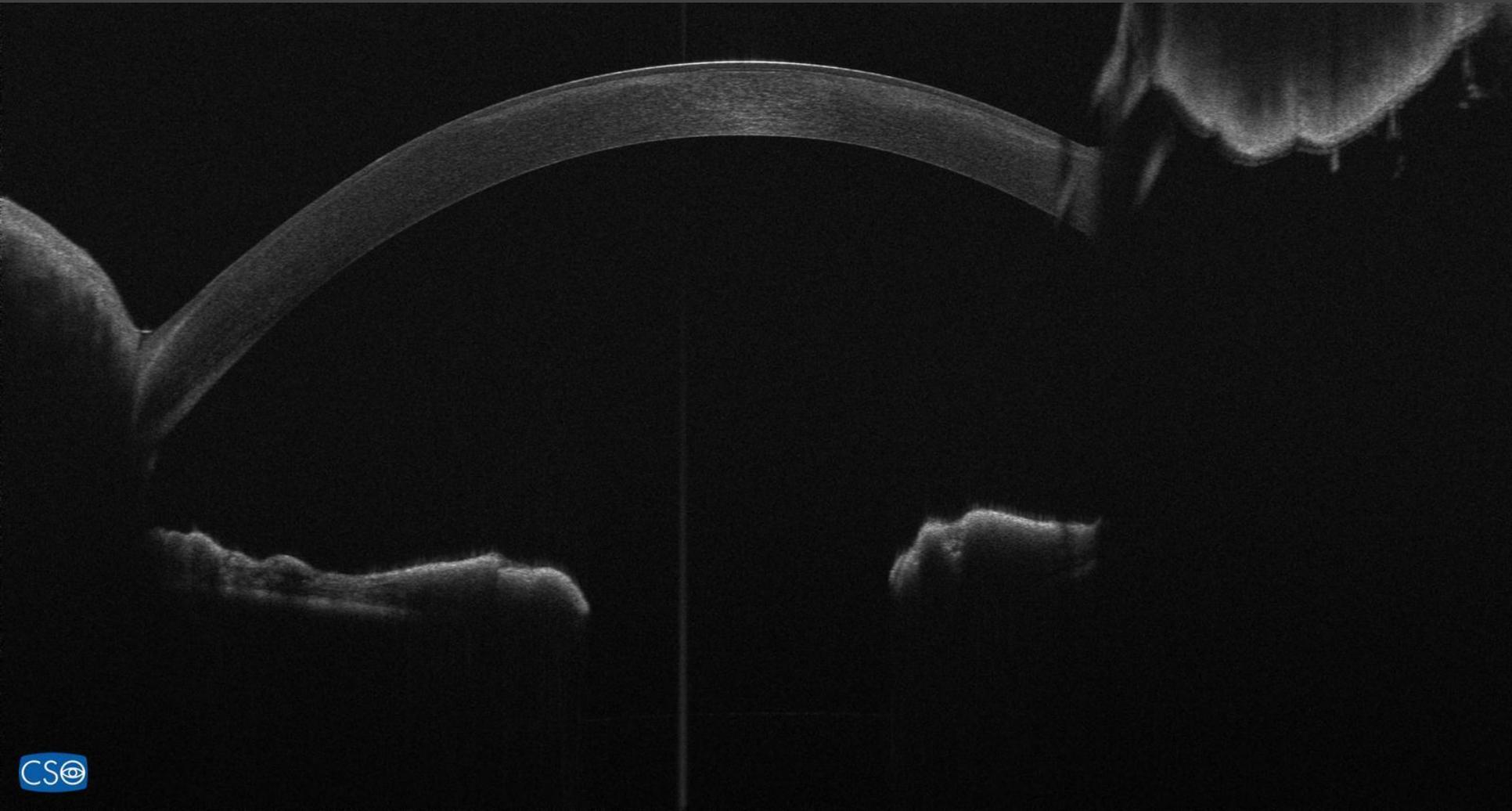




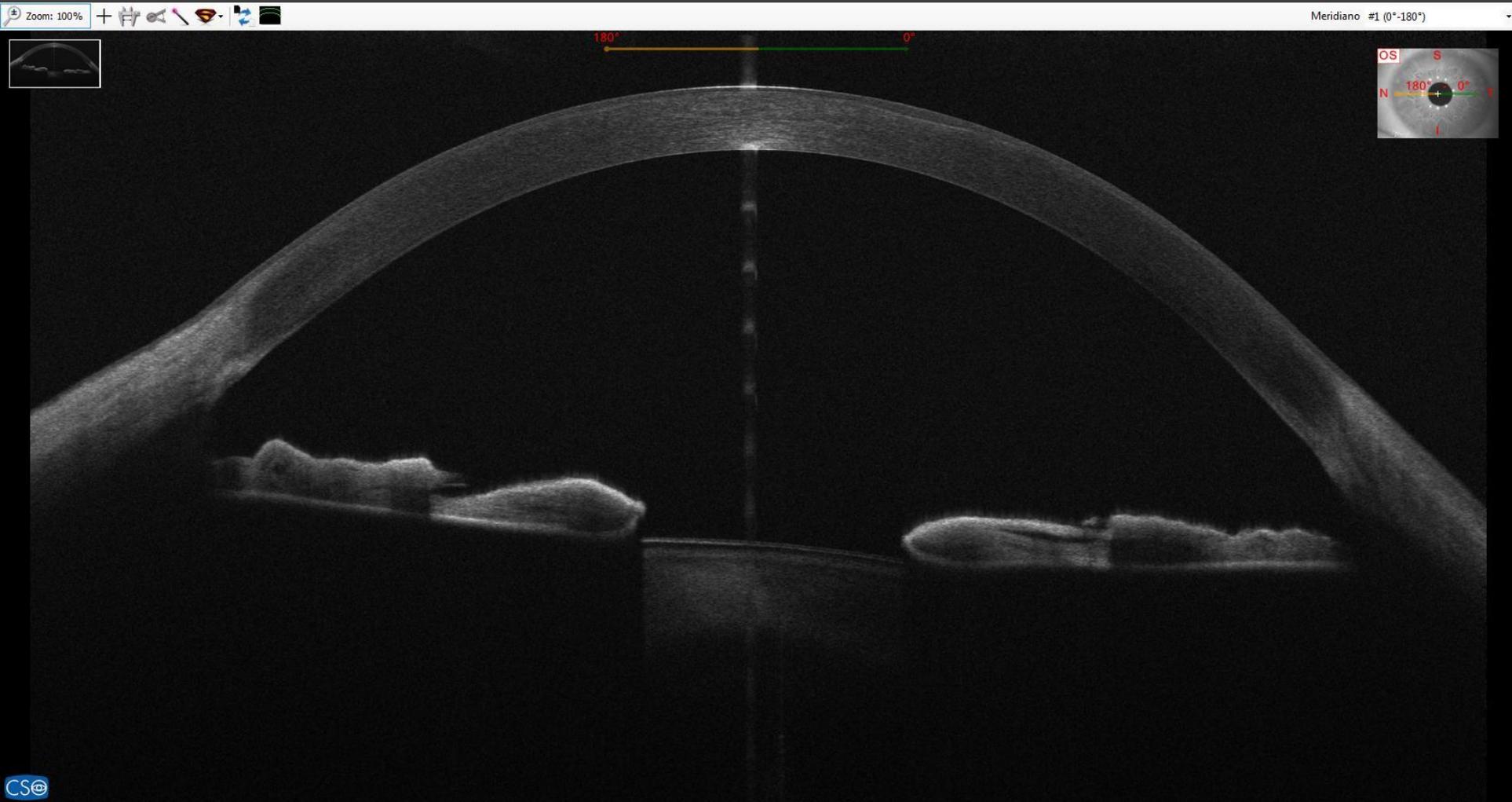




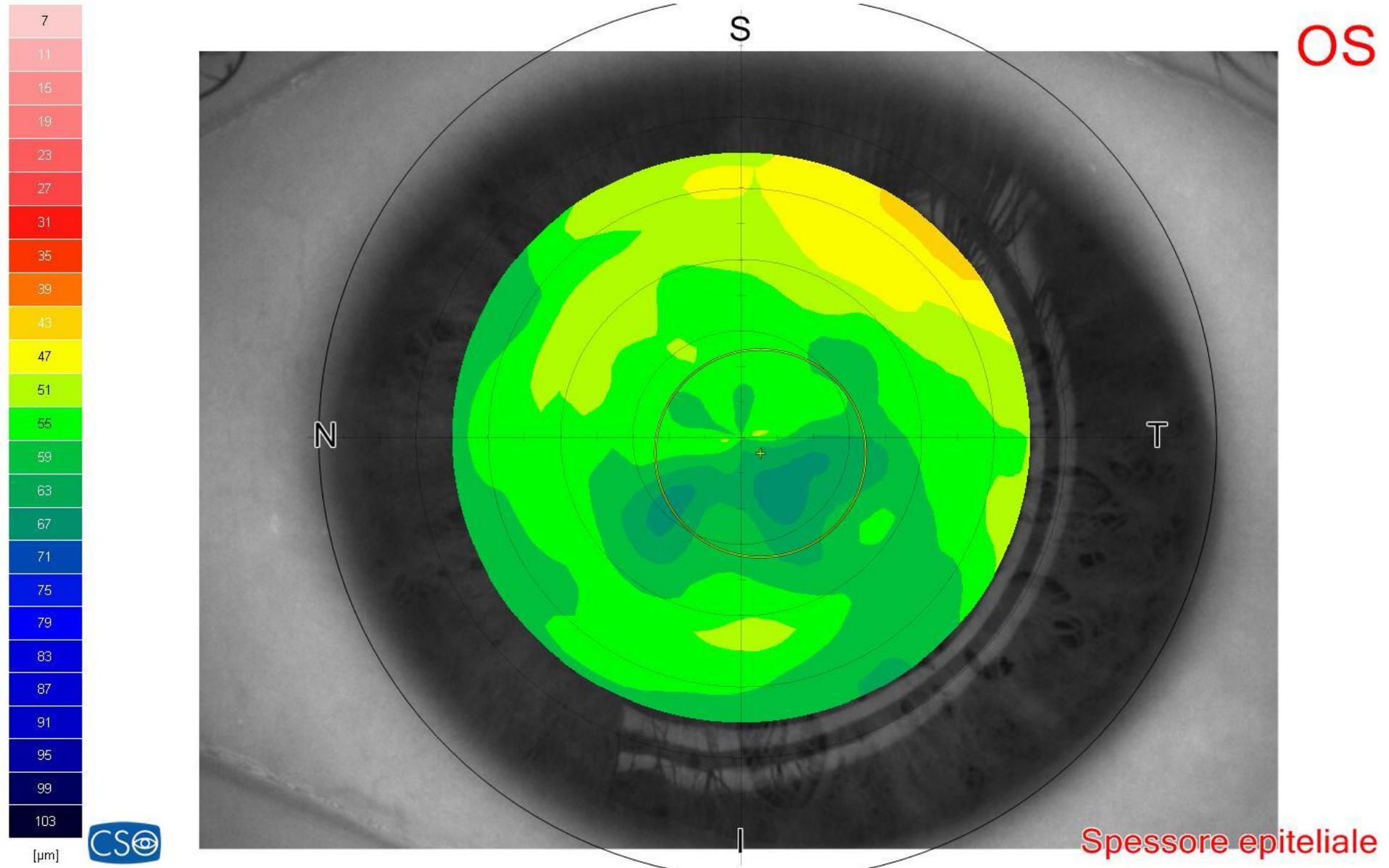




AS-OCT: detailed morphology + epithelial maps



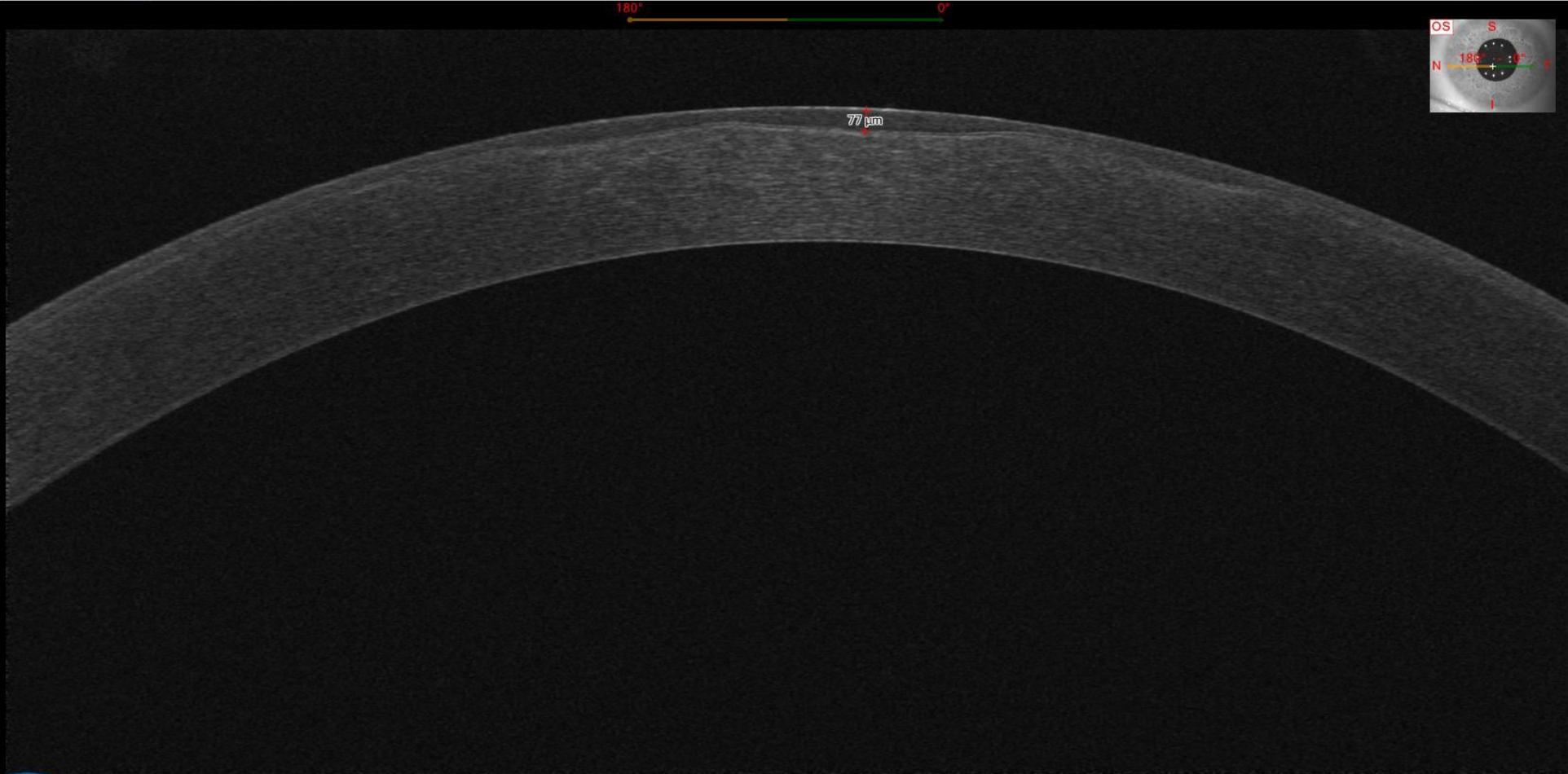
AS-OCT: detailed morphology + epithelial maps



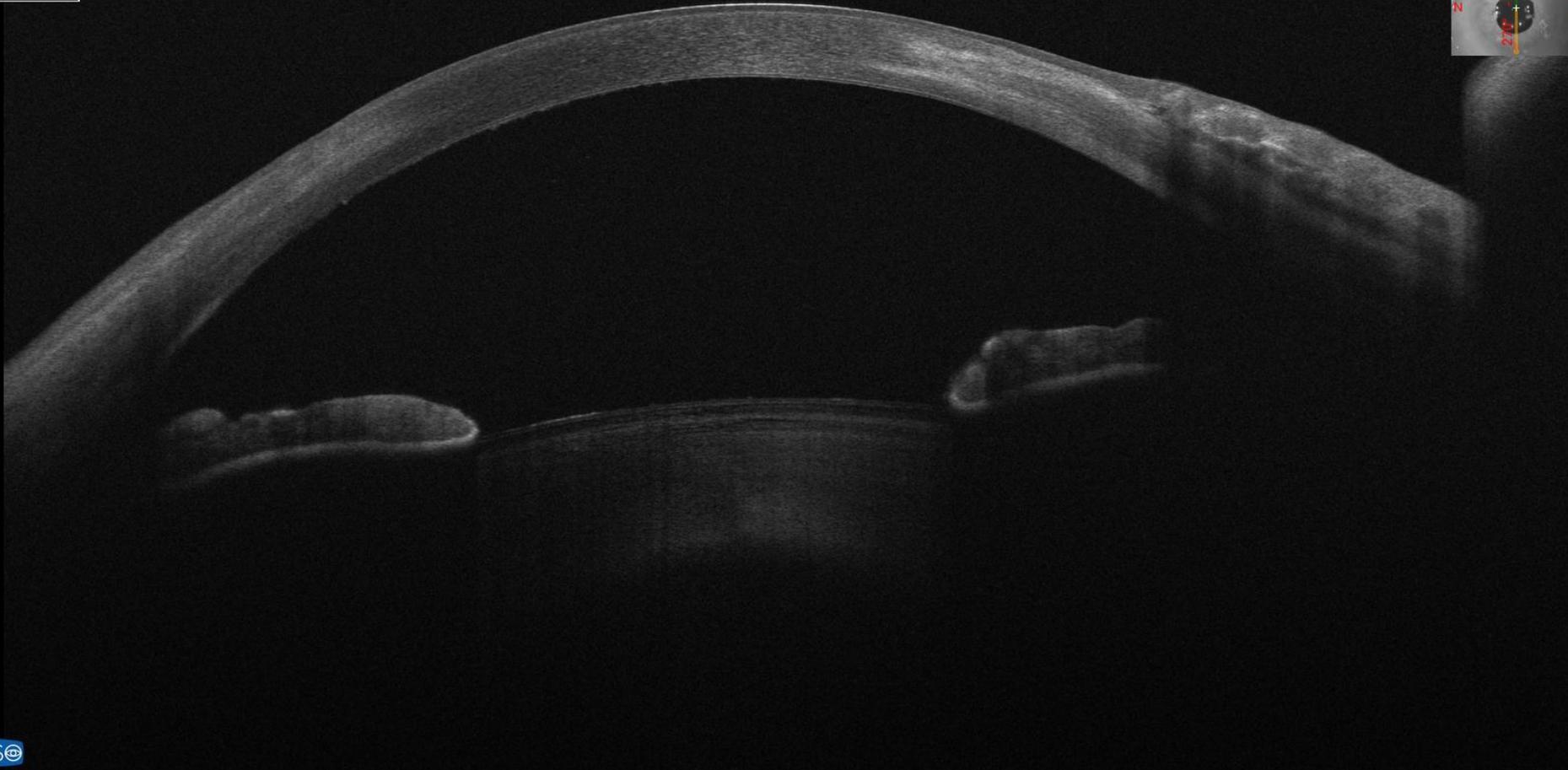
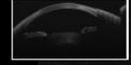
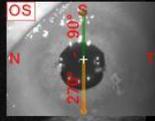
AS-OCT: detailed morphology + epithelial maps

Zoom: 100% +

Meridiano #1 (0°-180°)

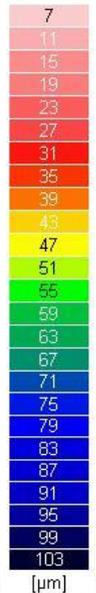
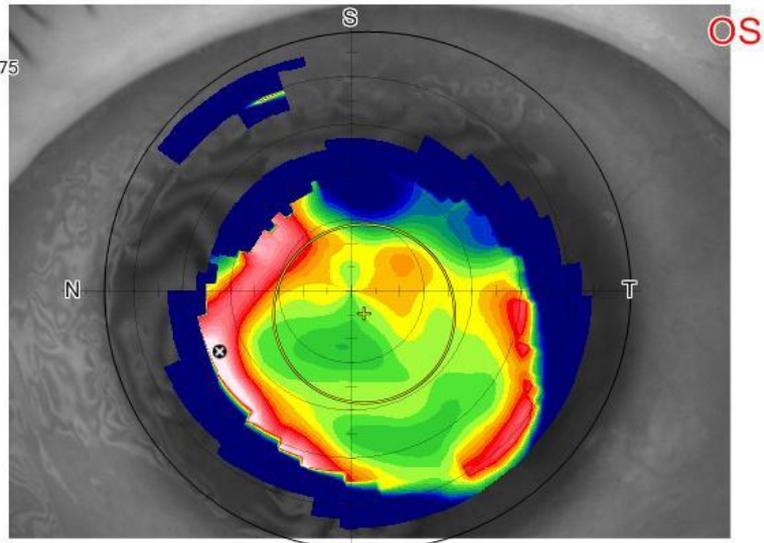


270° 90°

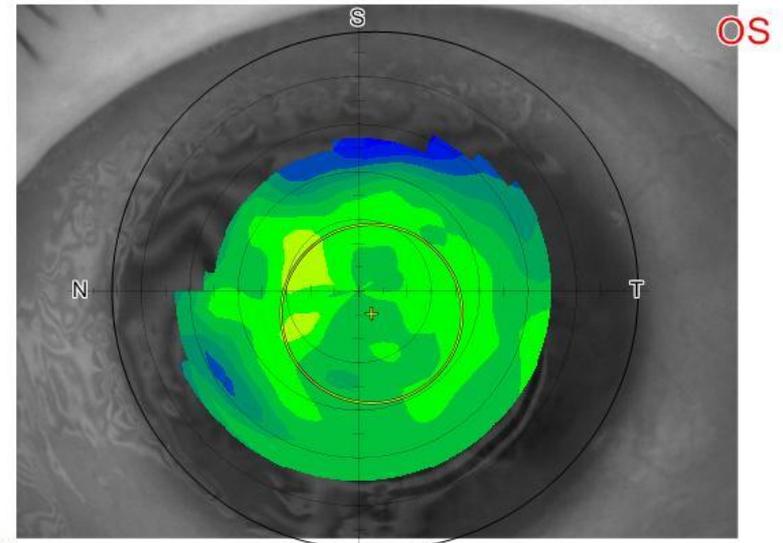




n0 = 1
n1 = 1,3375



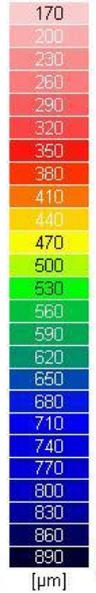
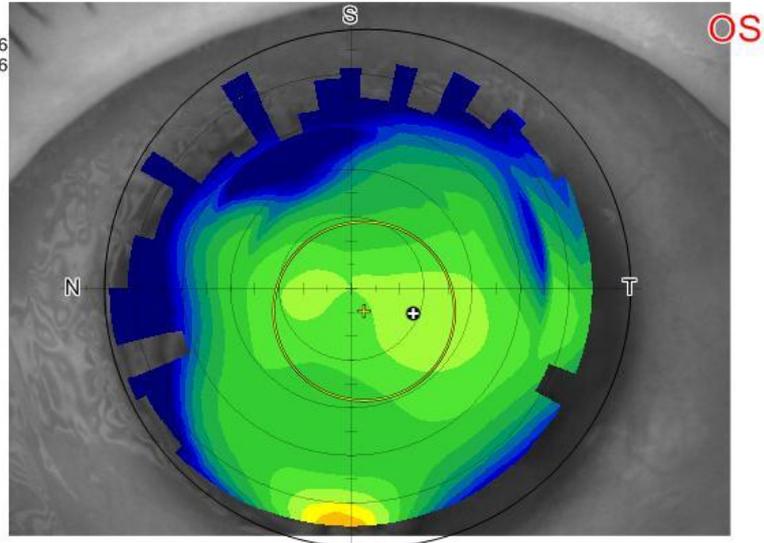
Tangenziale anteriore



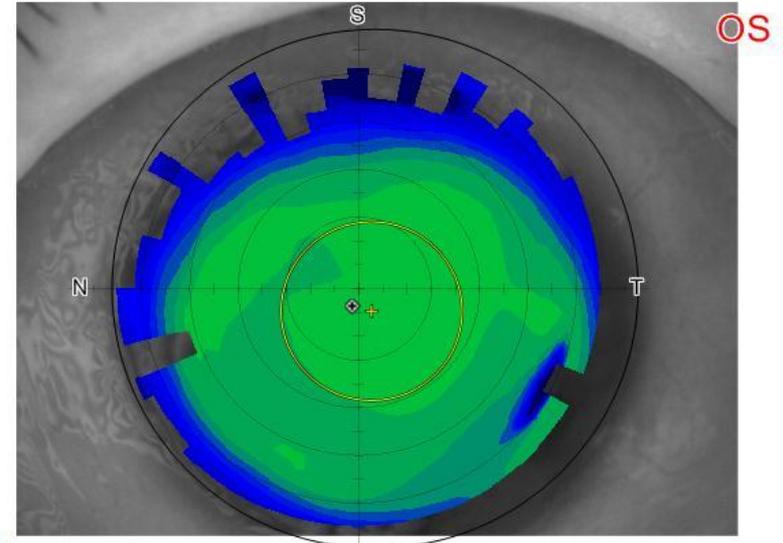
Spessore epiteliale



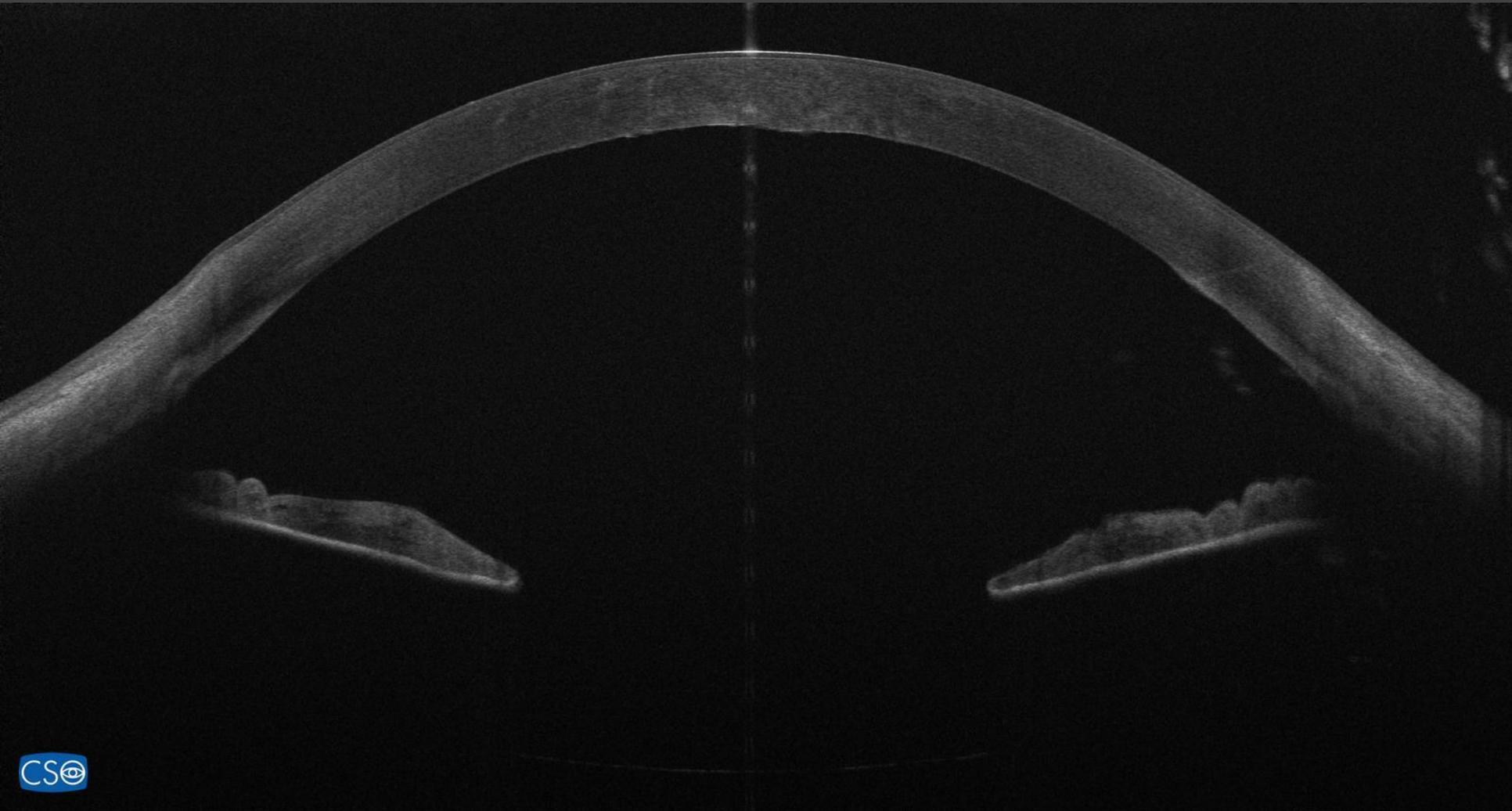
n1 = 1,376
n2 = 1,336

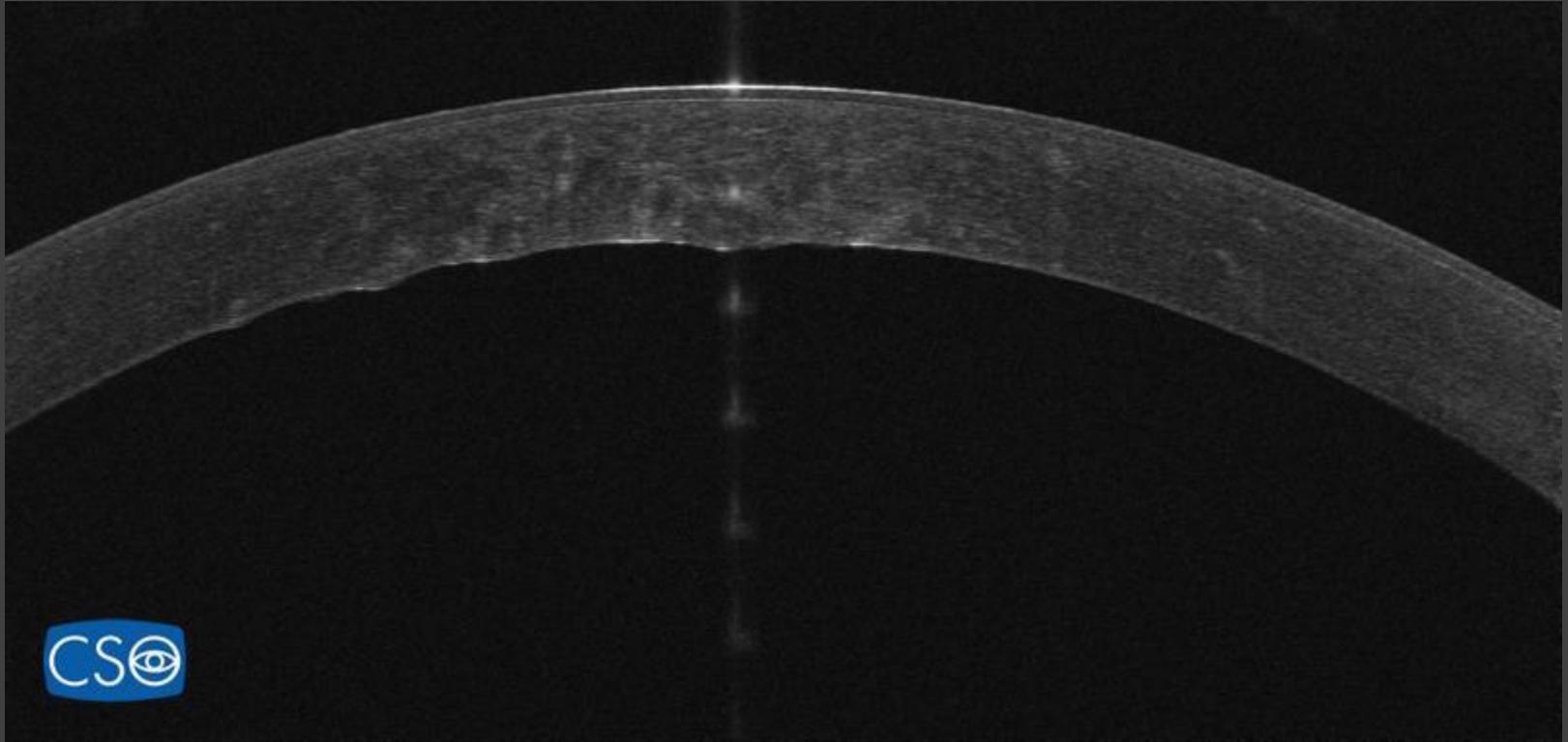


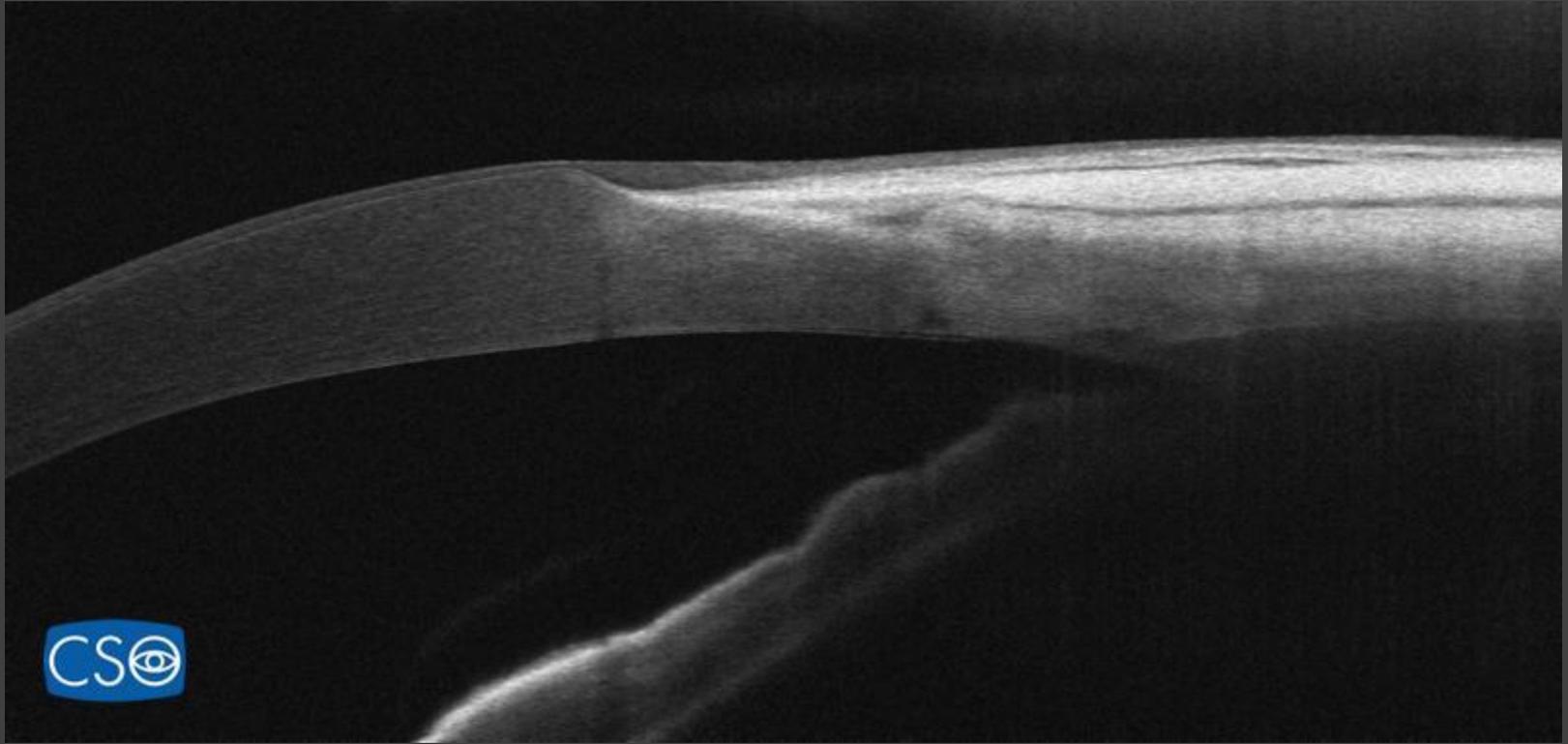
Tangenziale posteriore

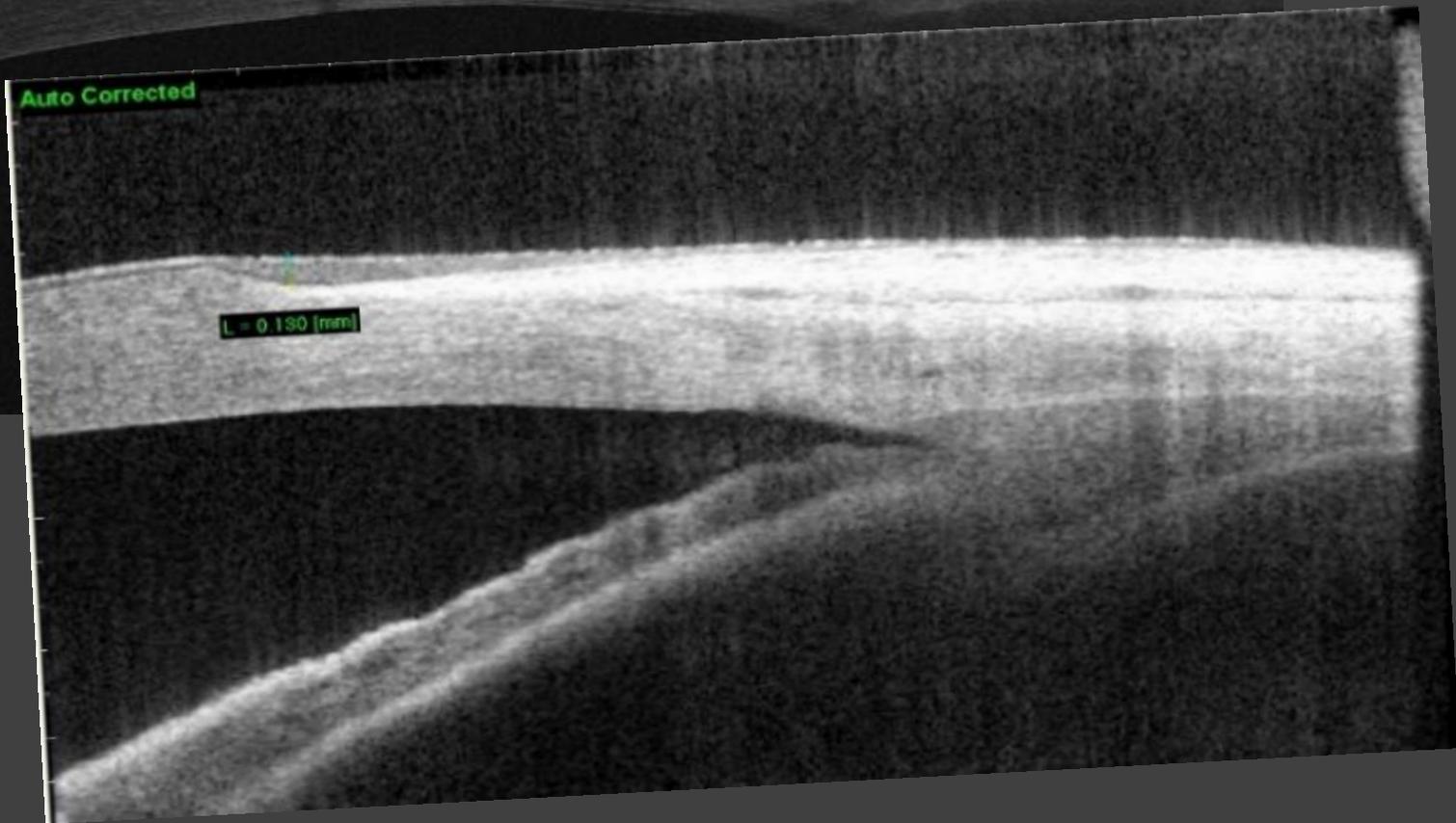
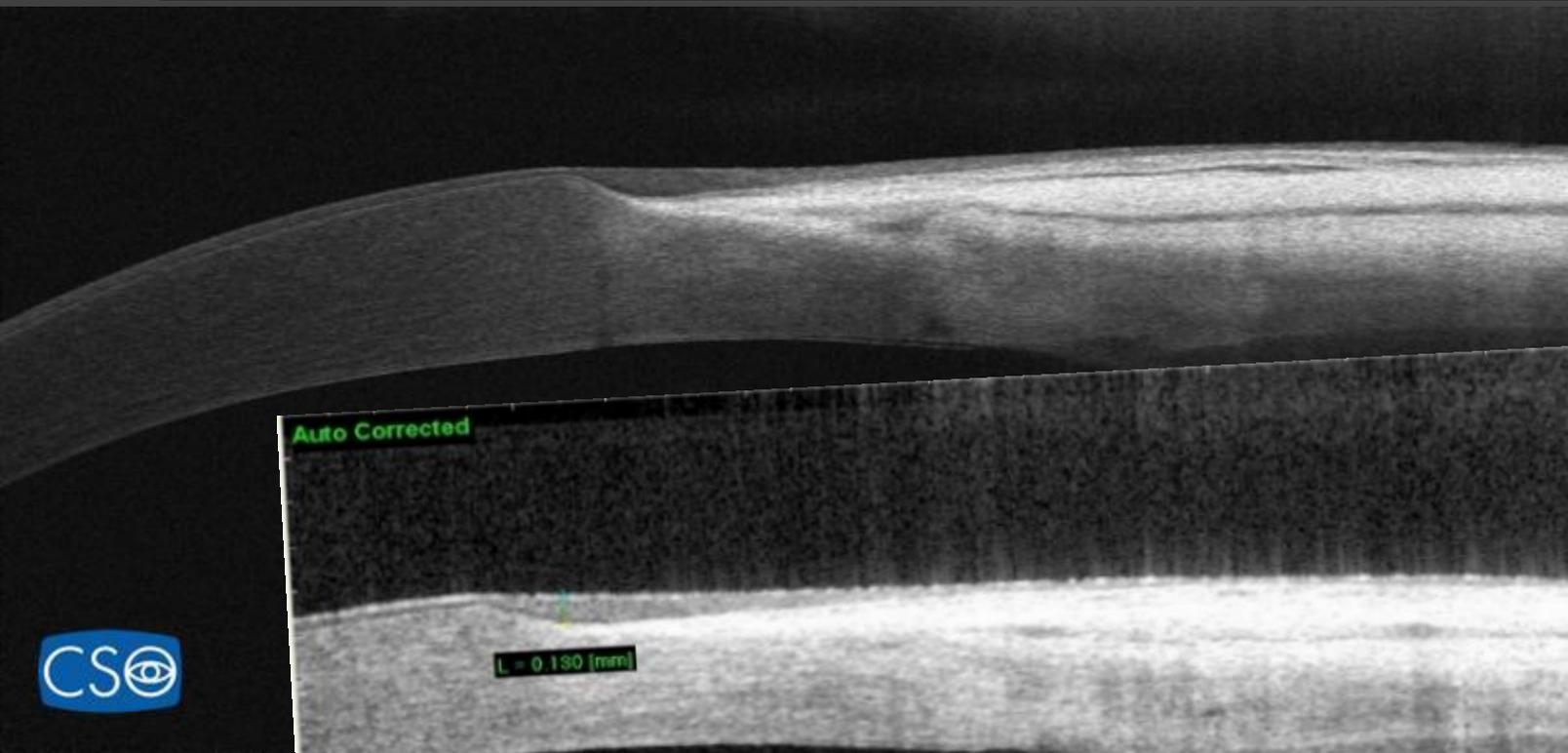


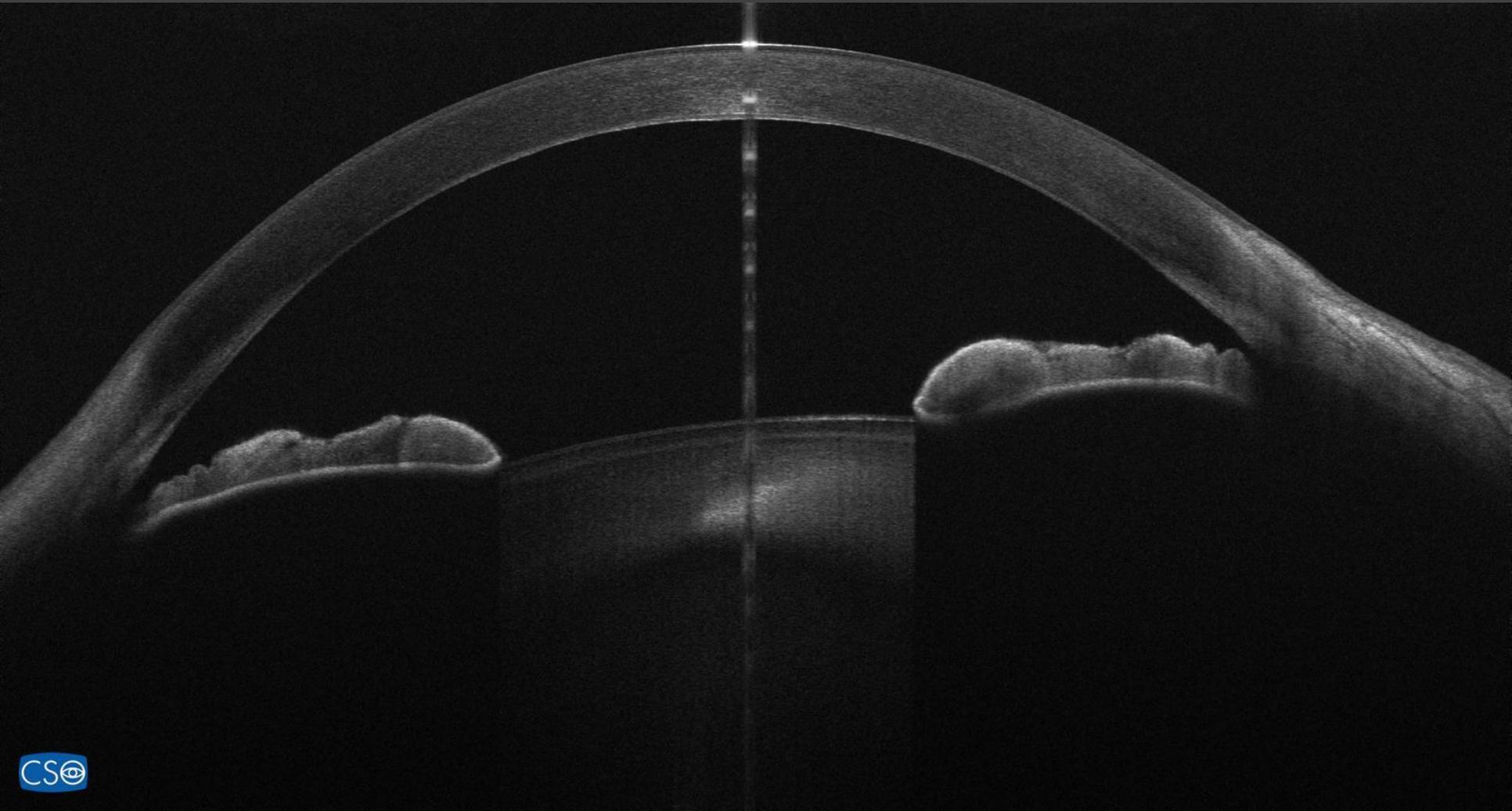
Spessore corneale

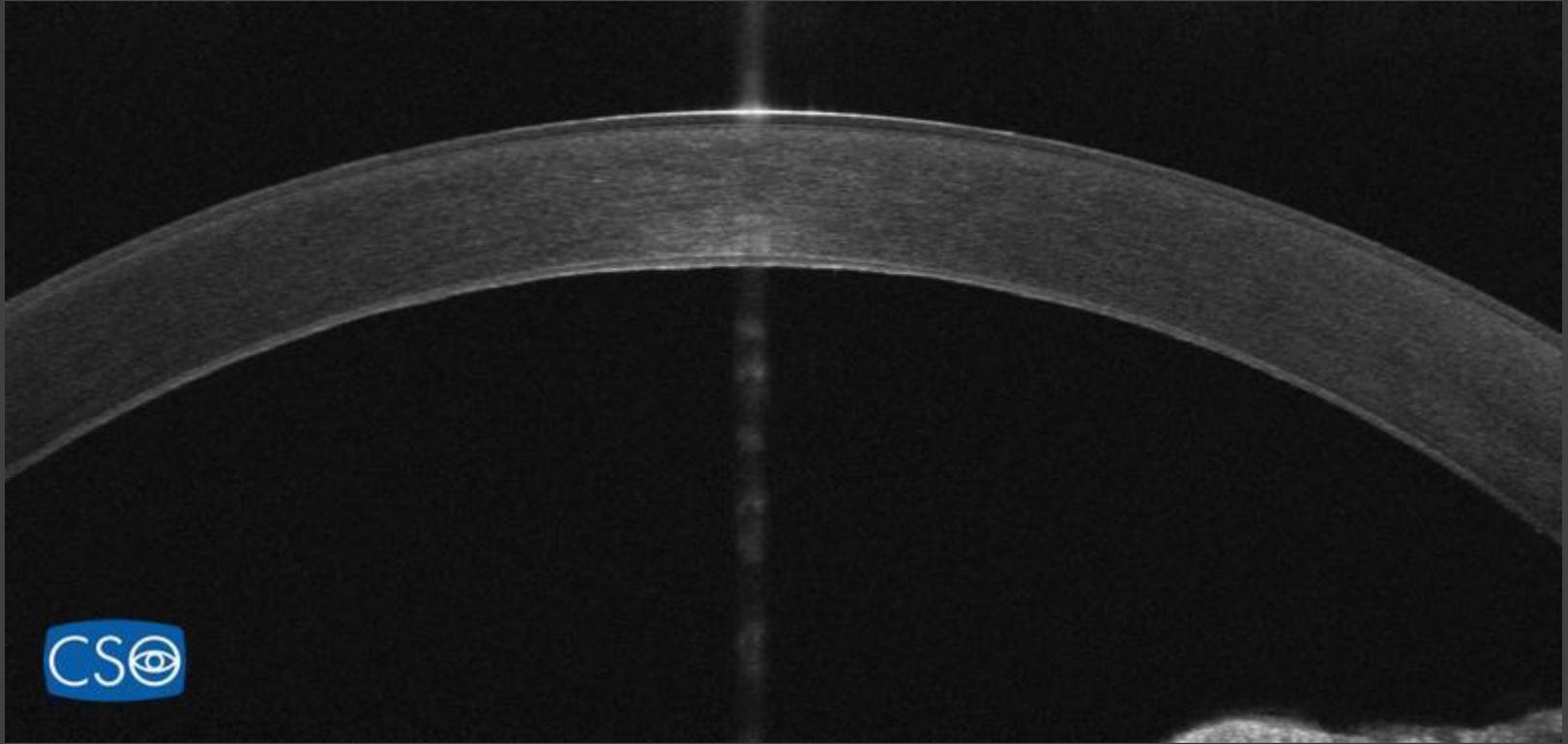


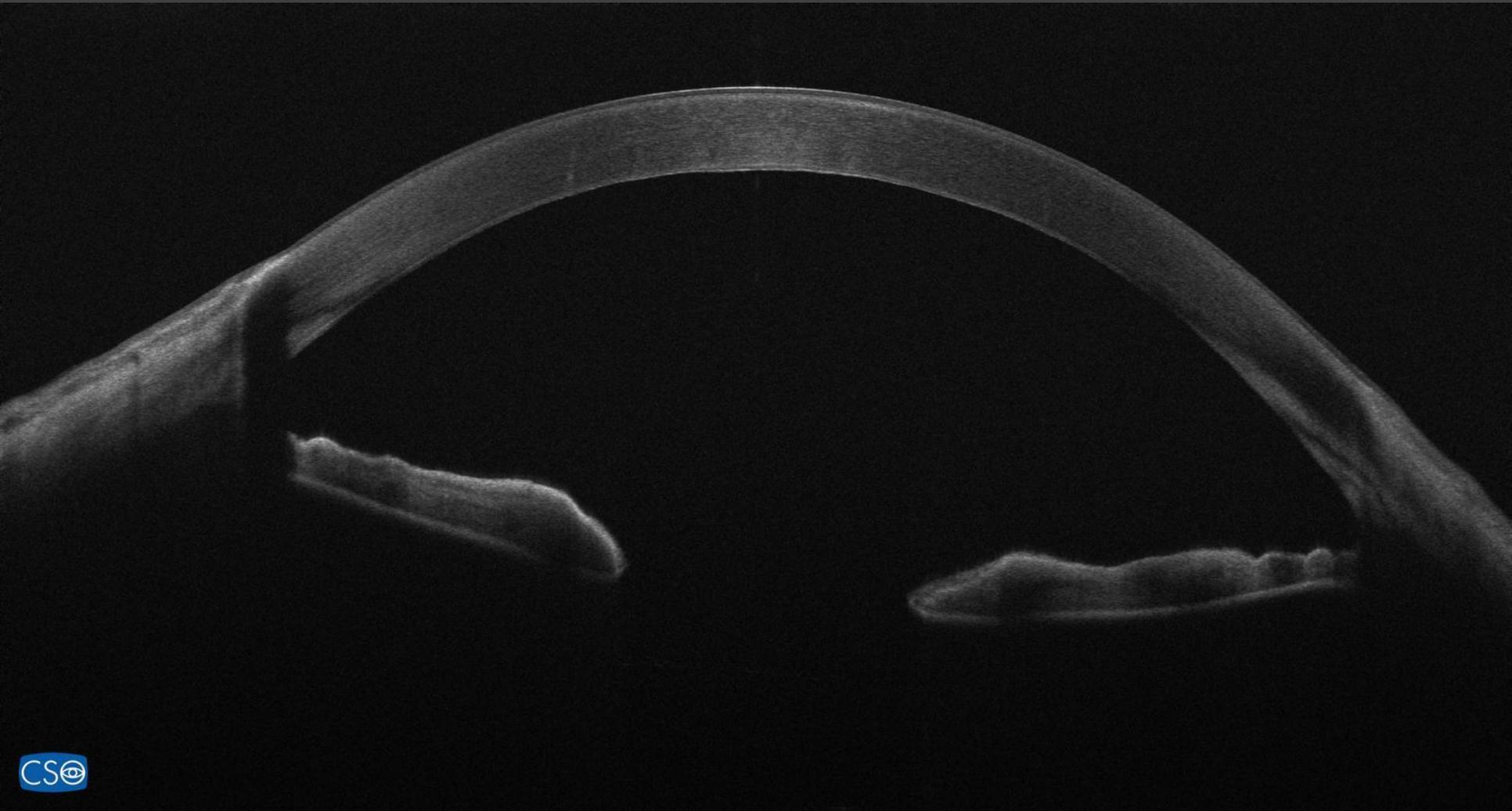


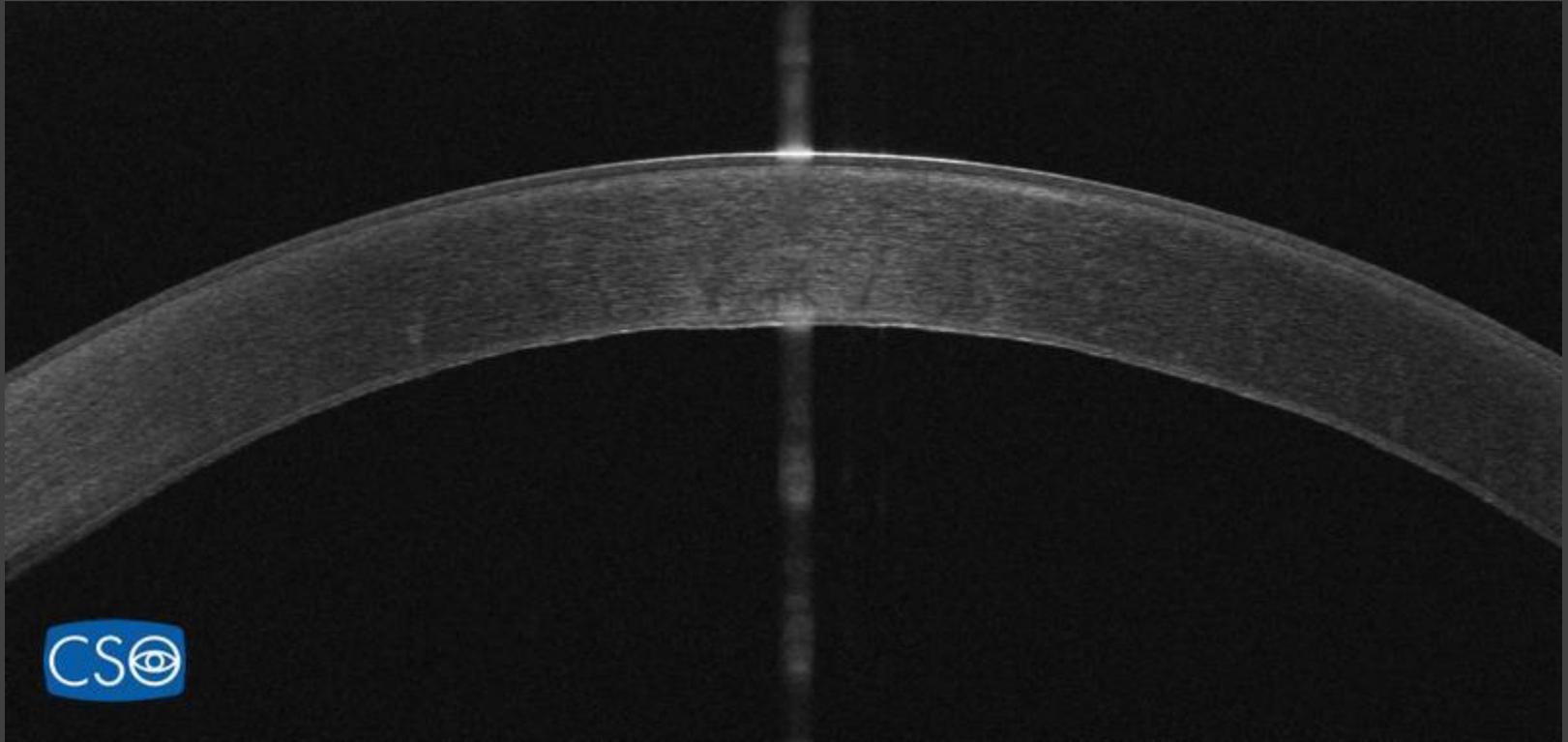


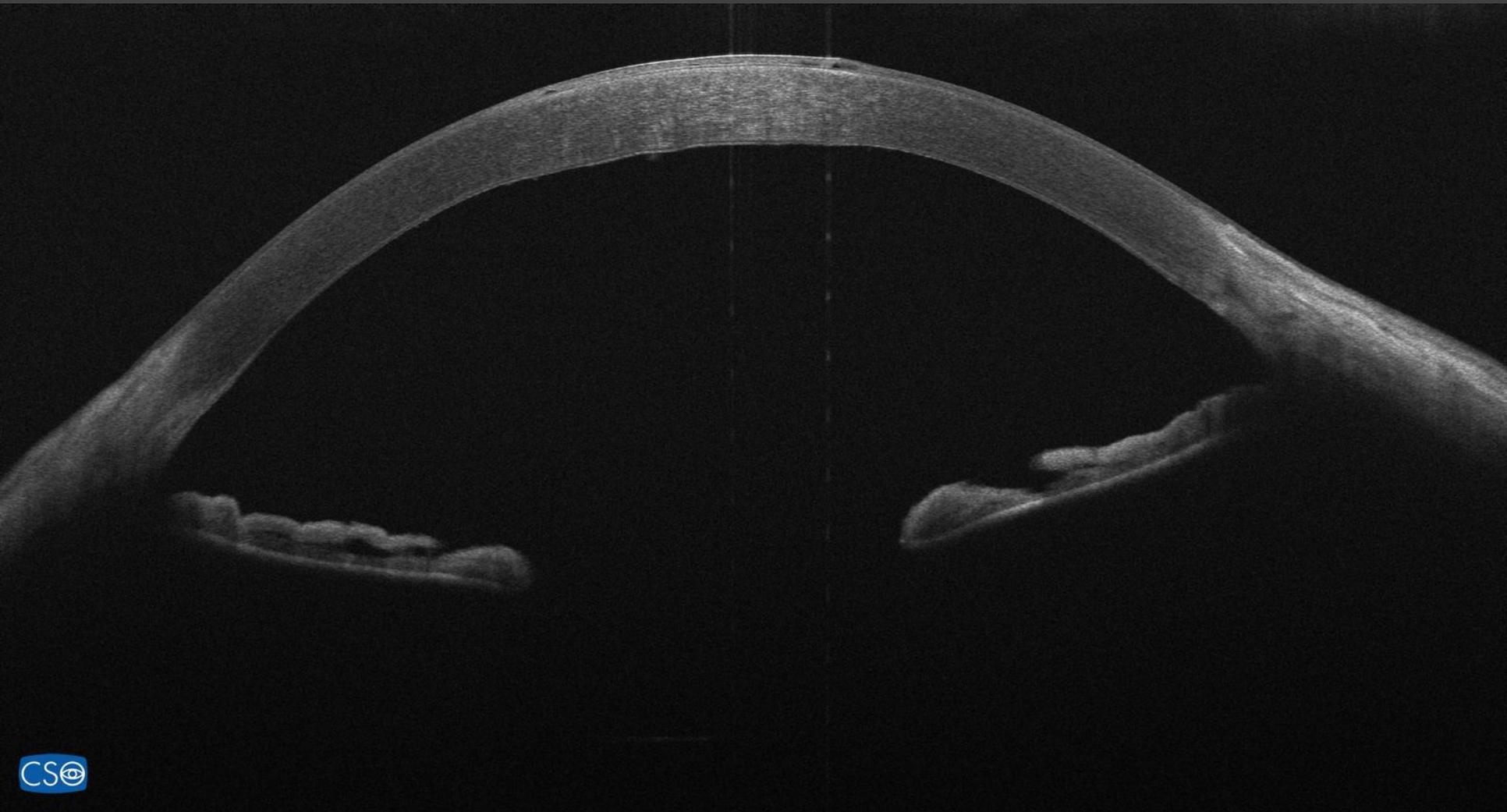


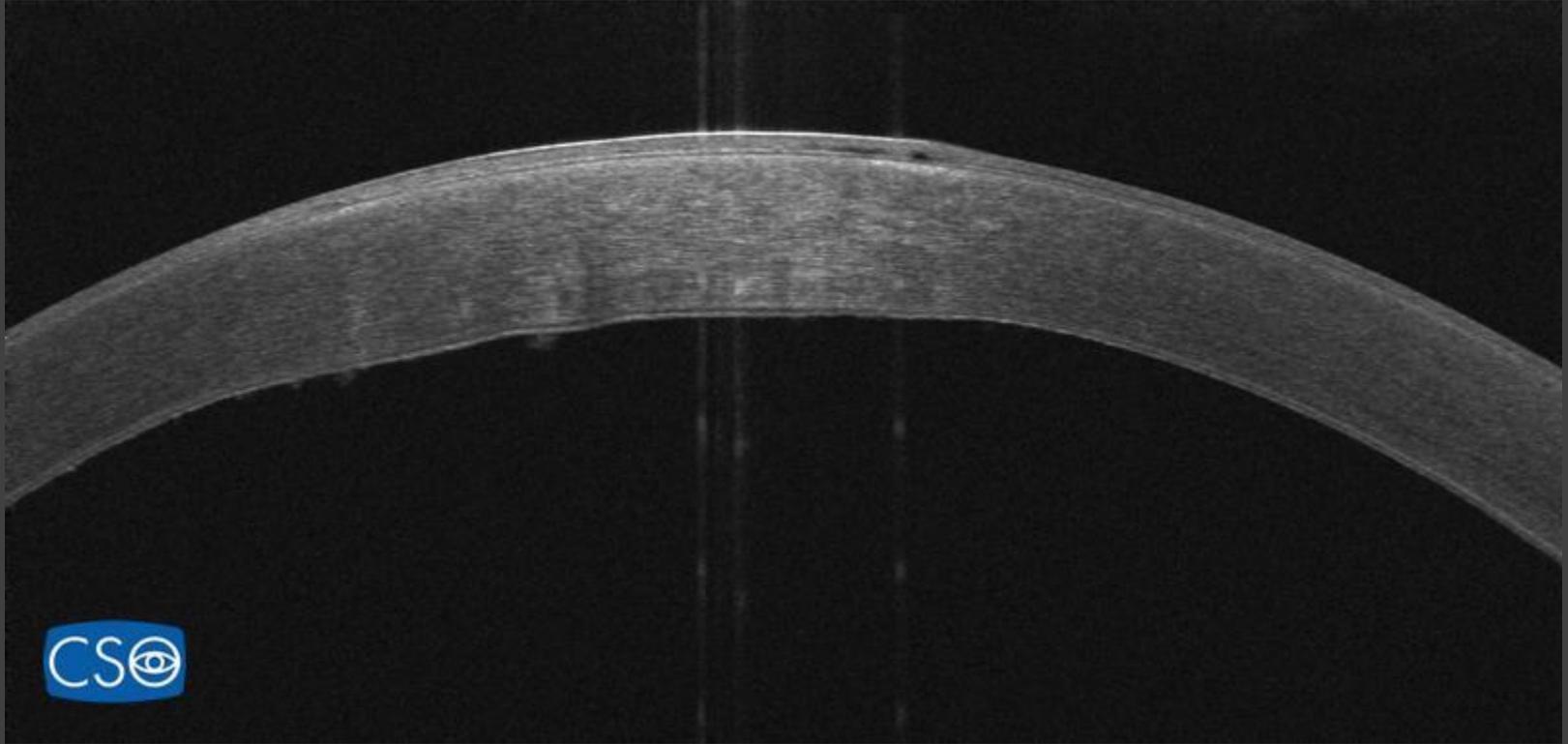


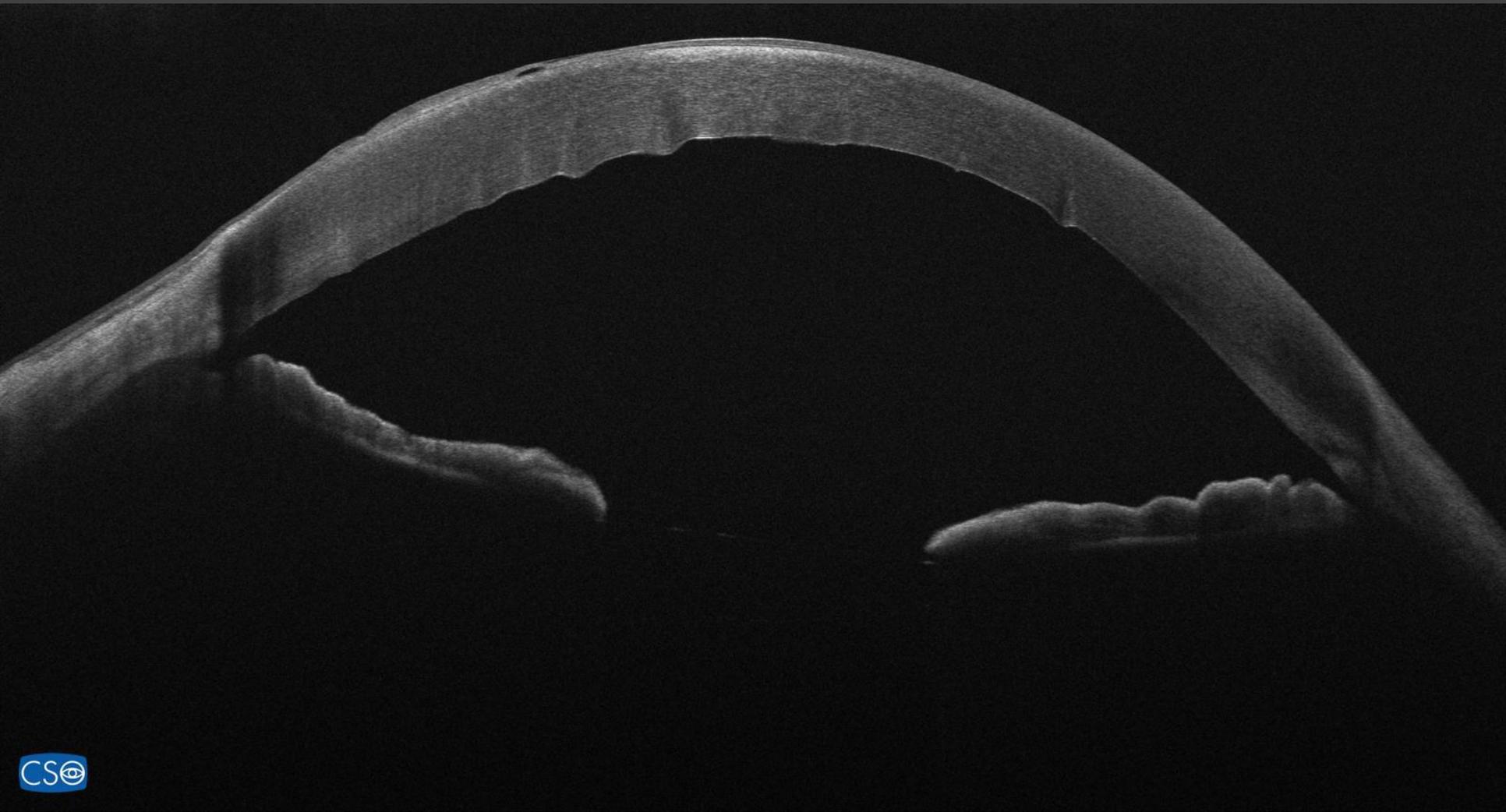


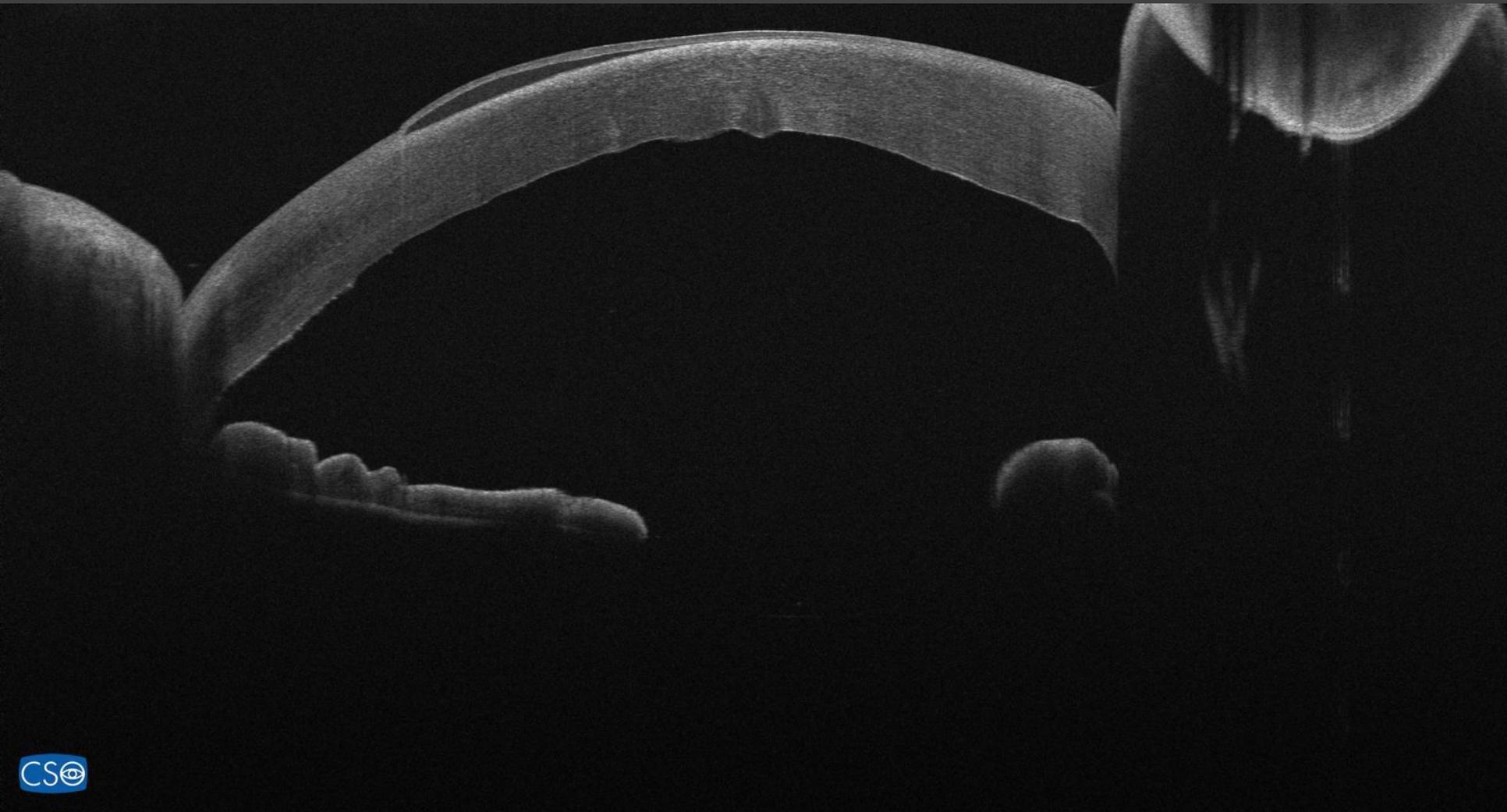


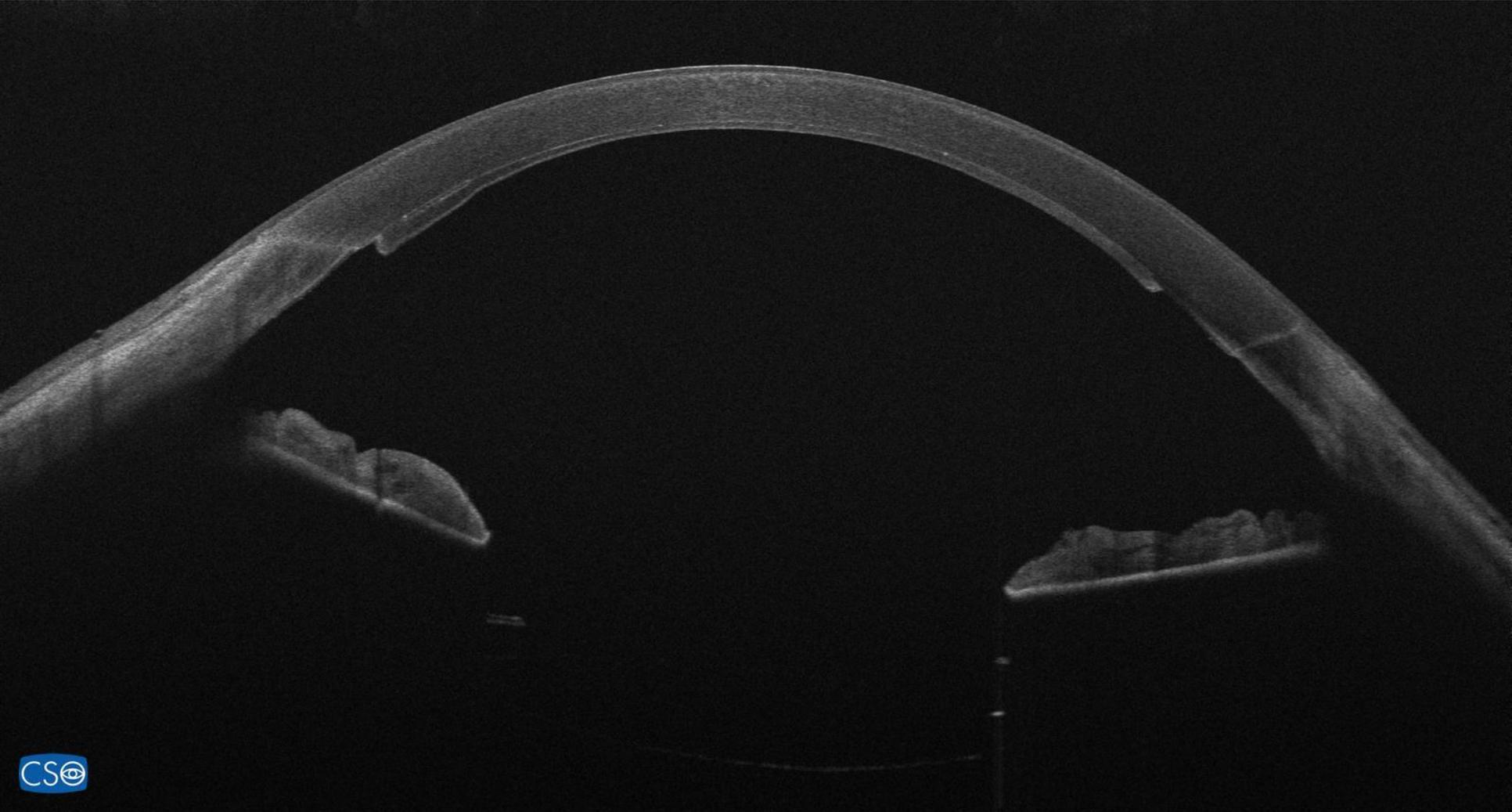


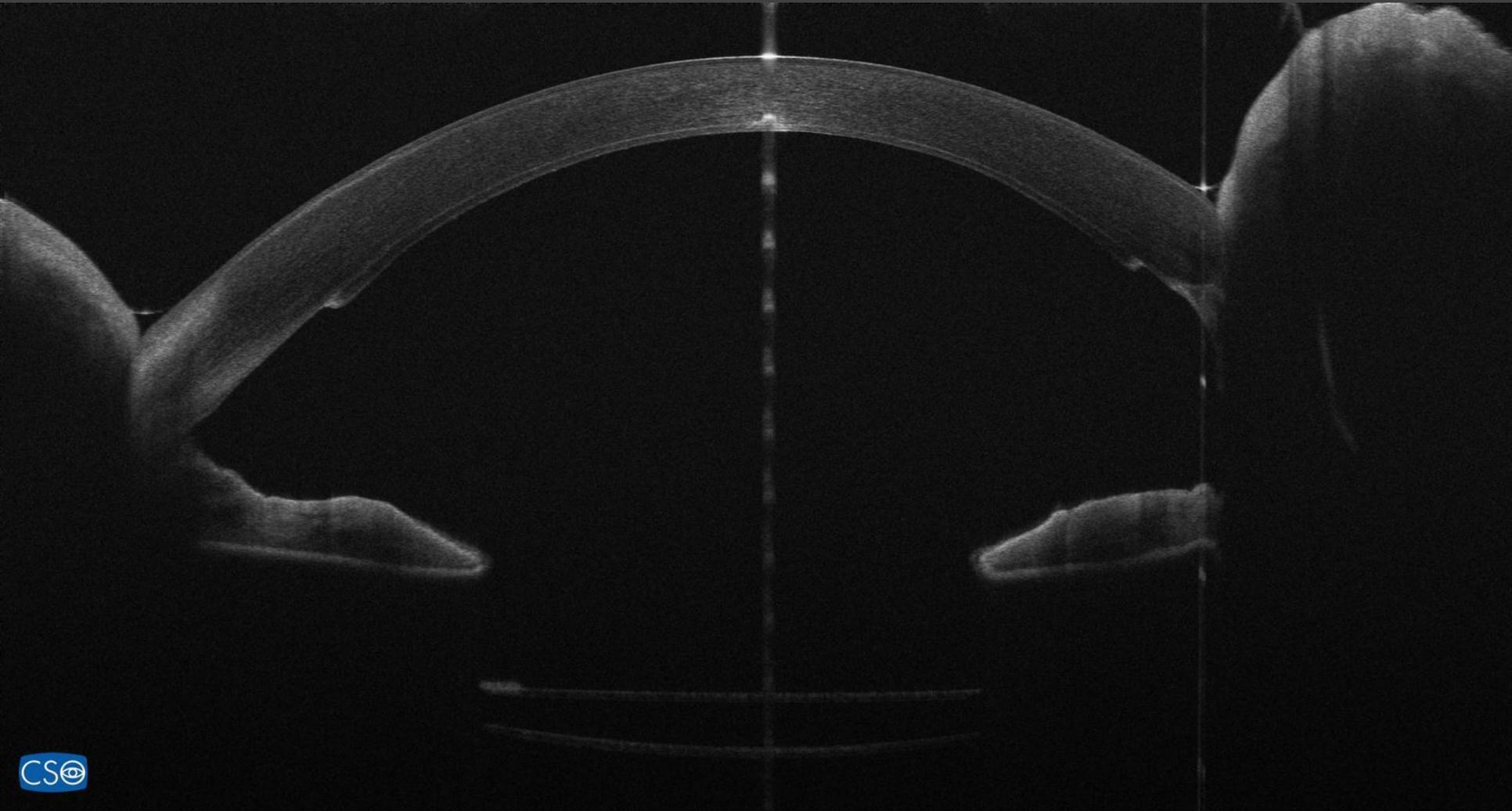


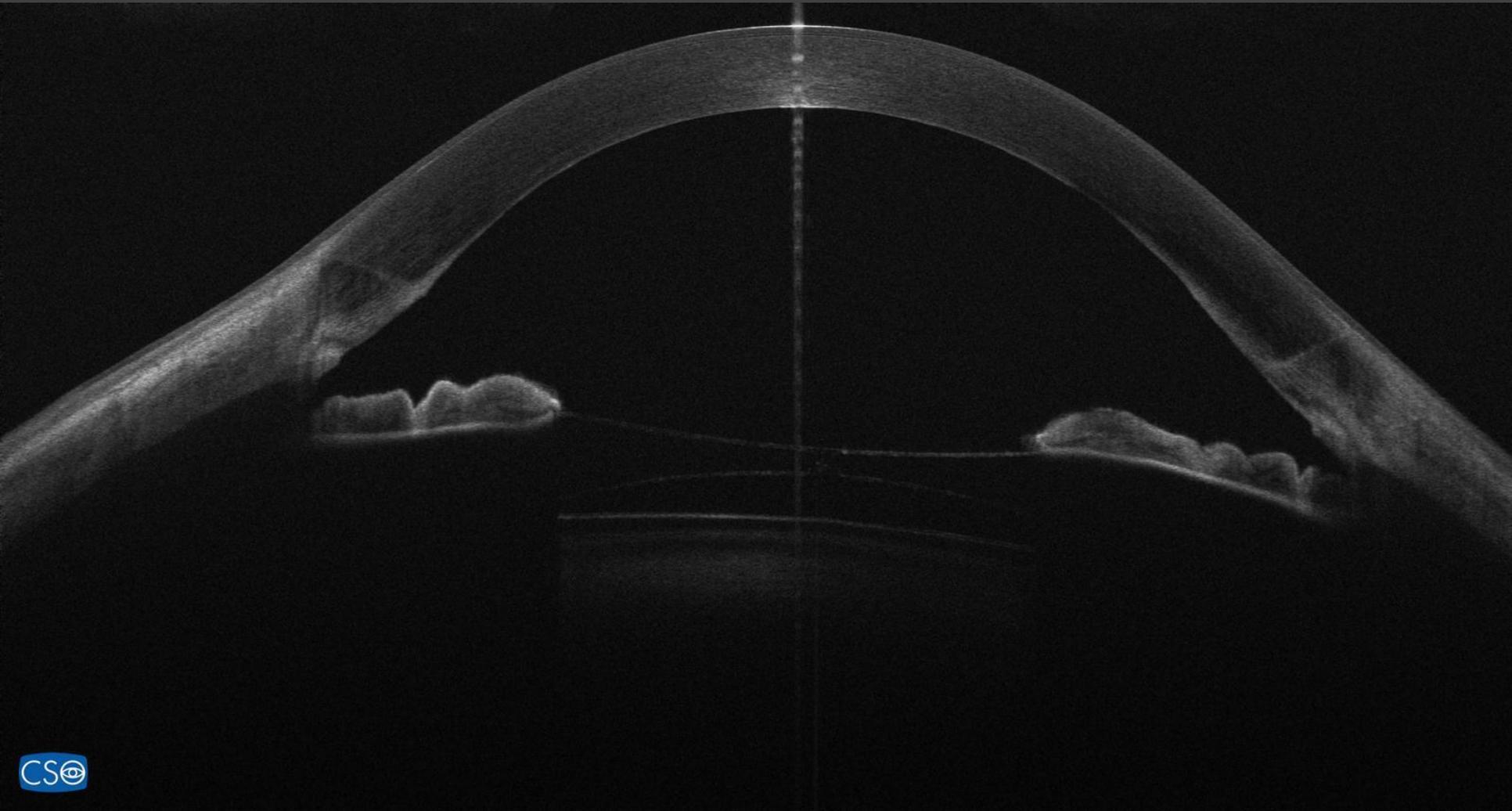


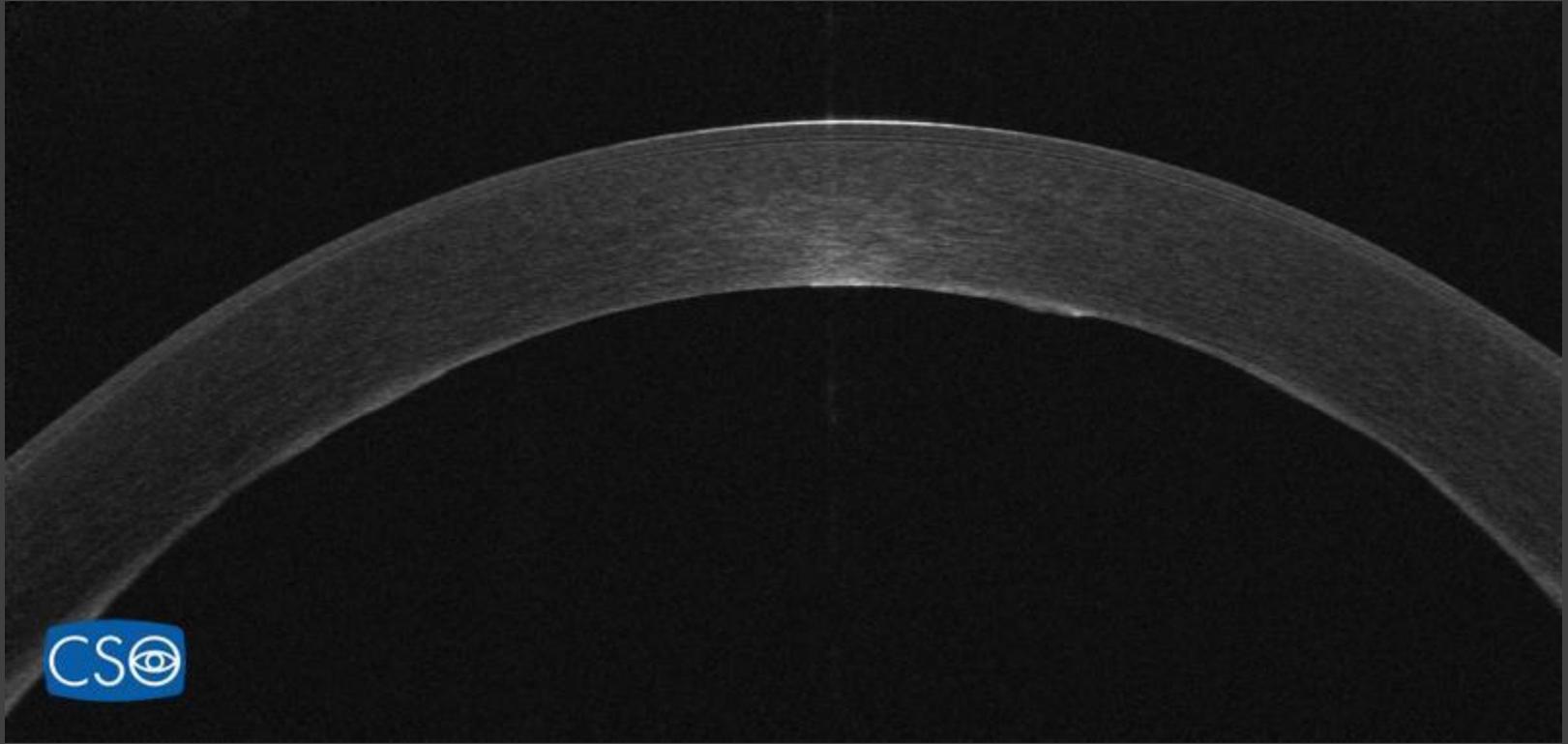


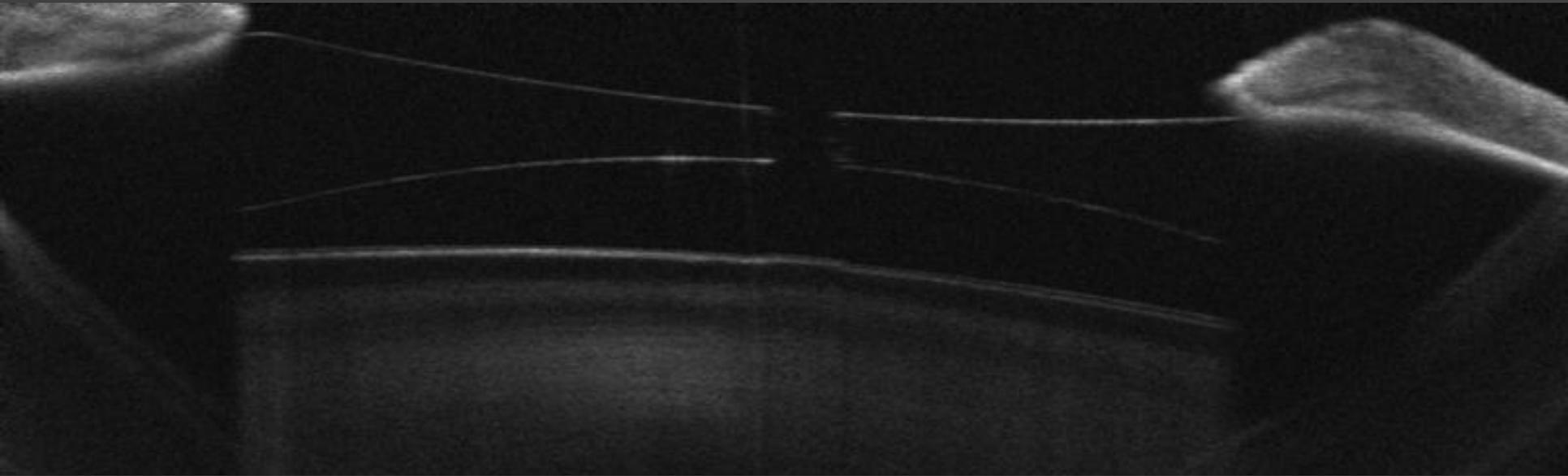


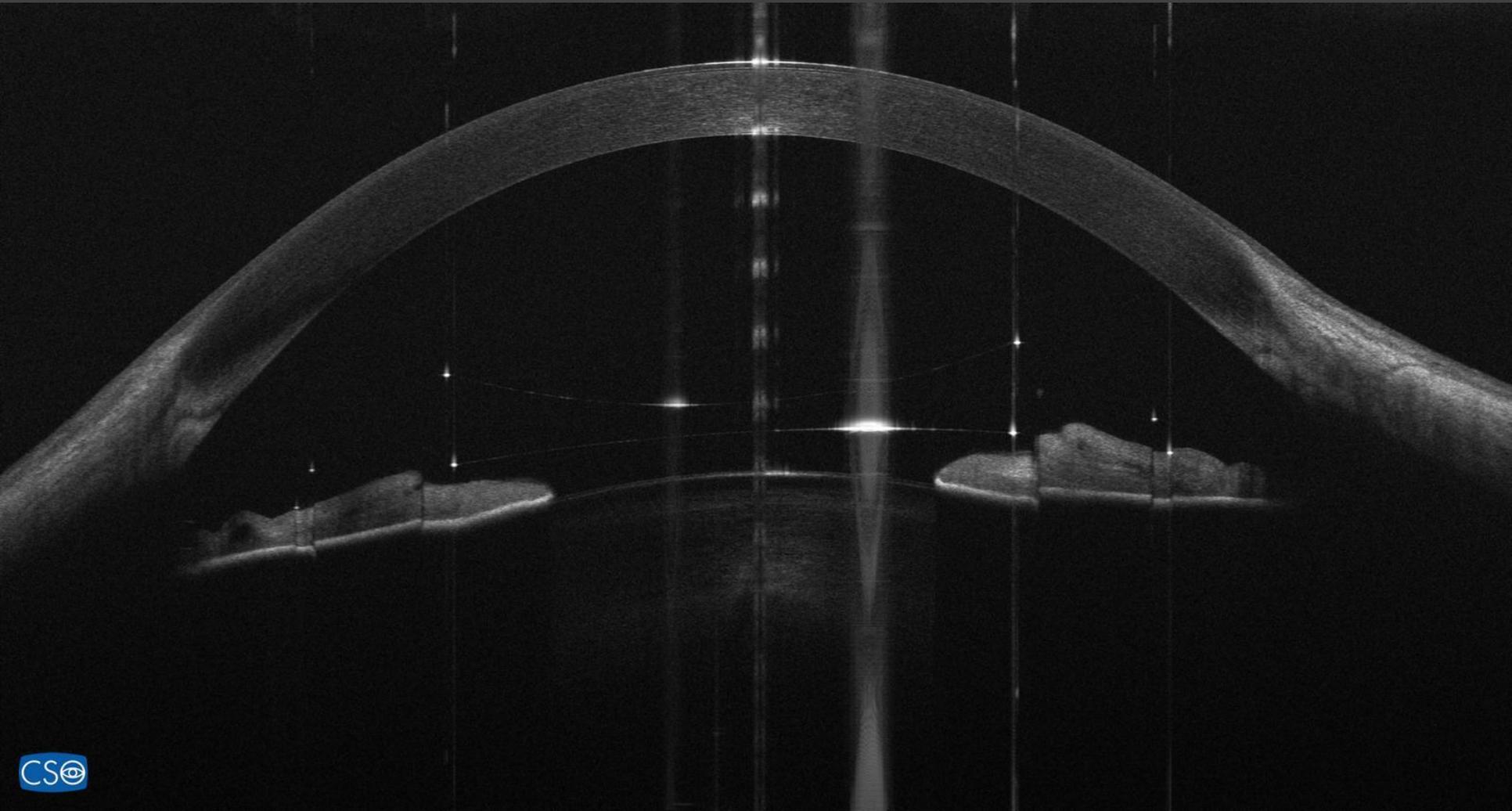


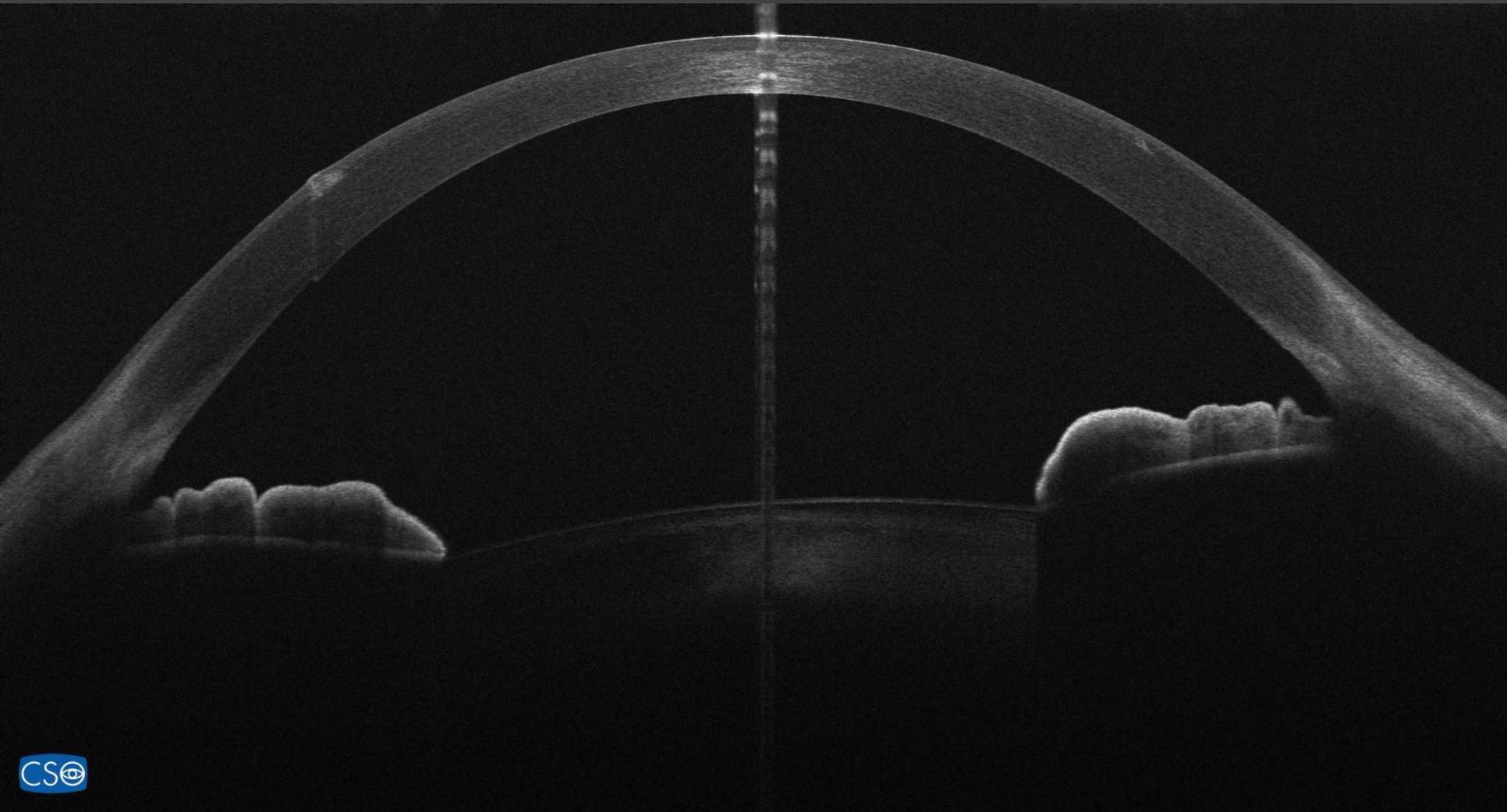


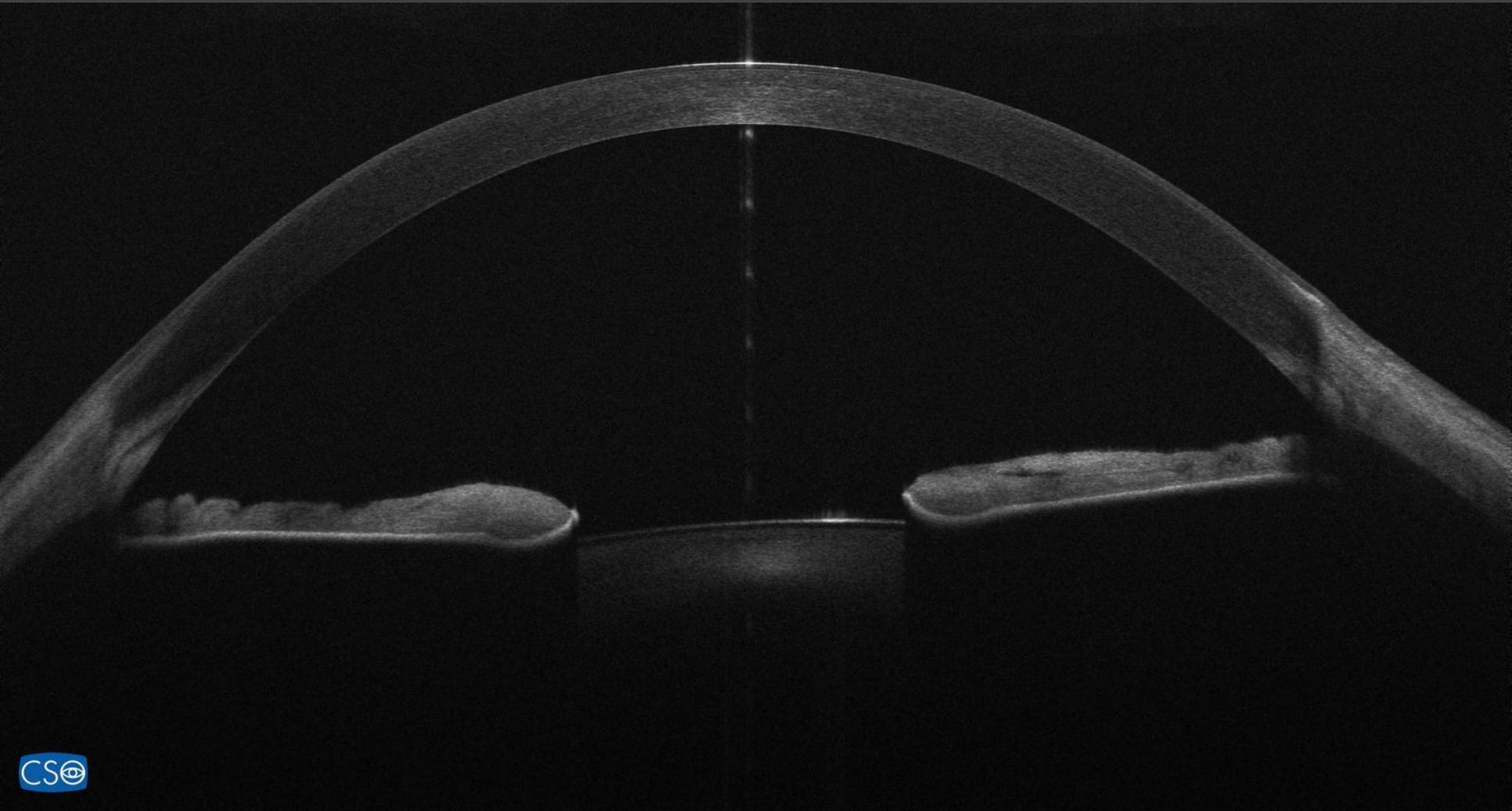


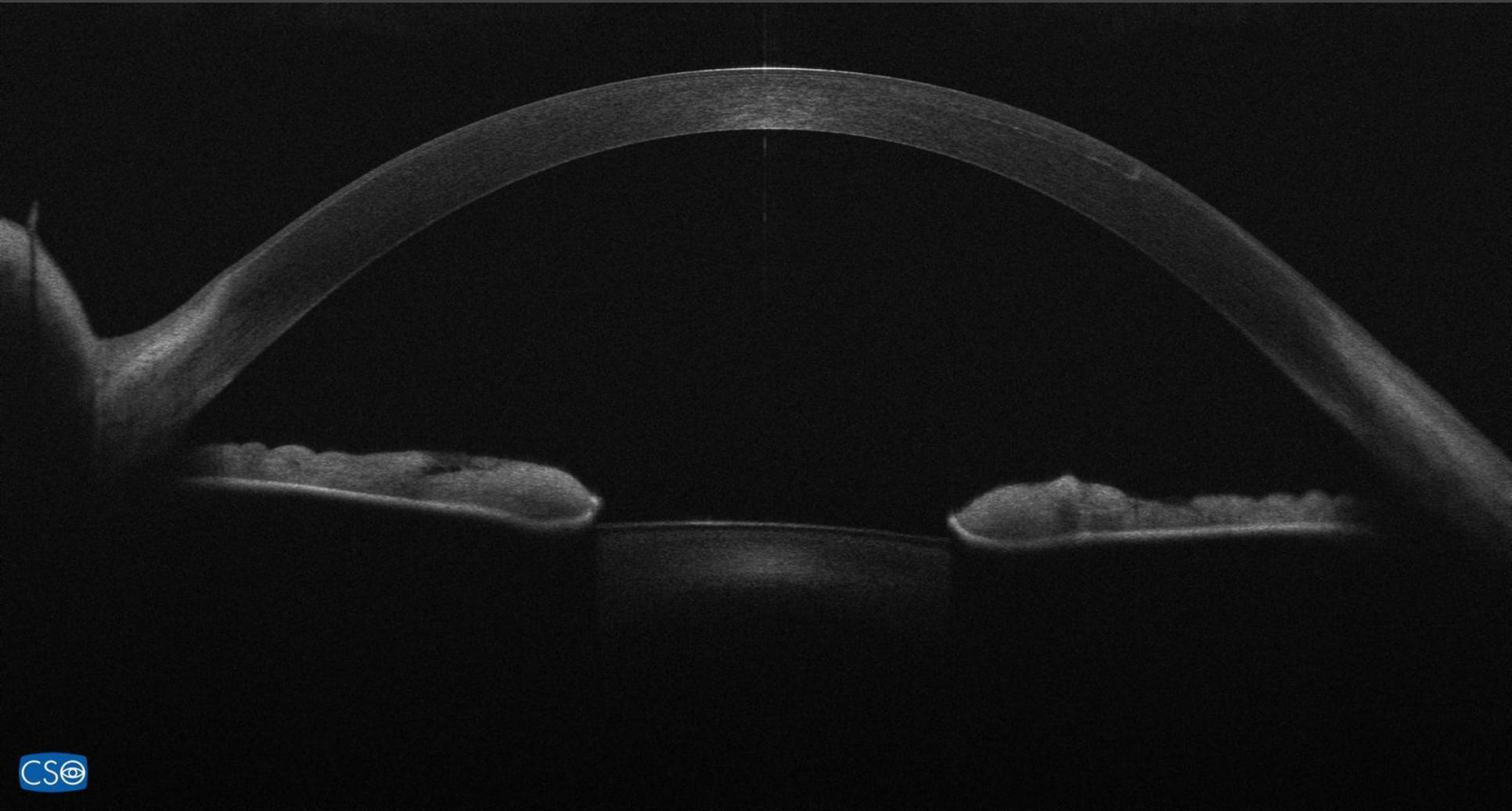


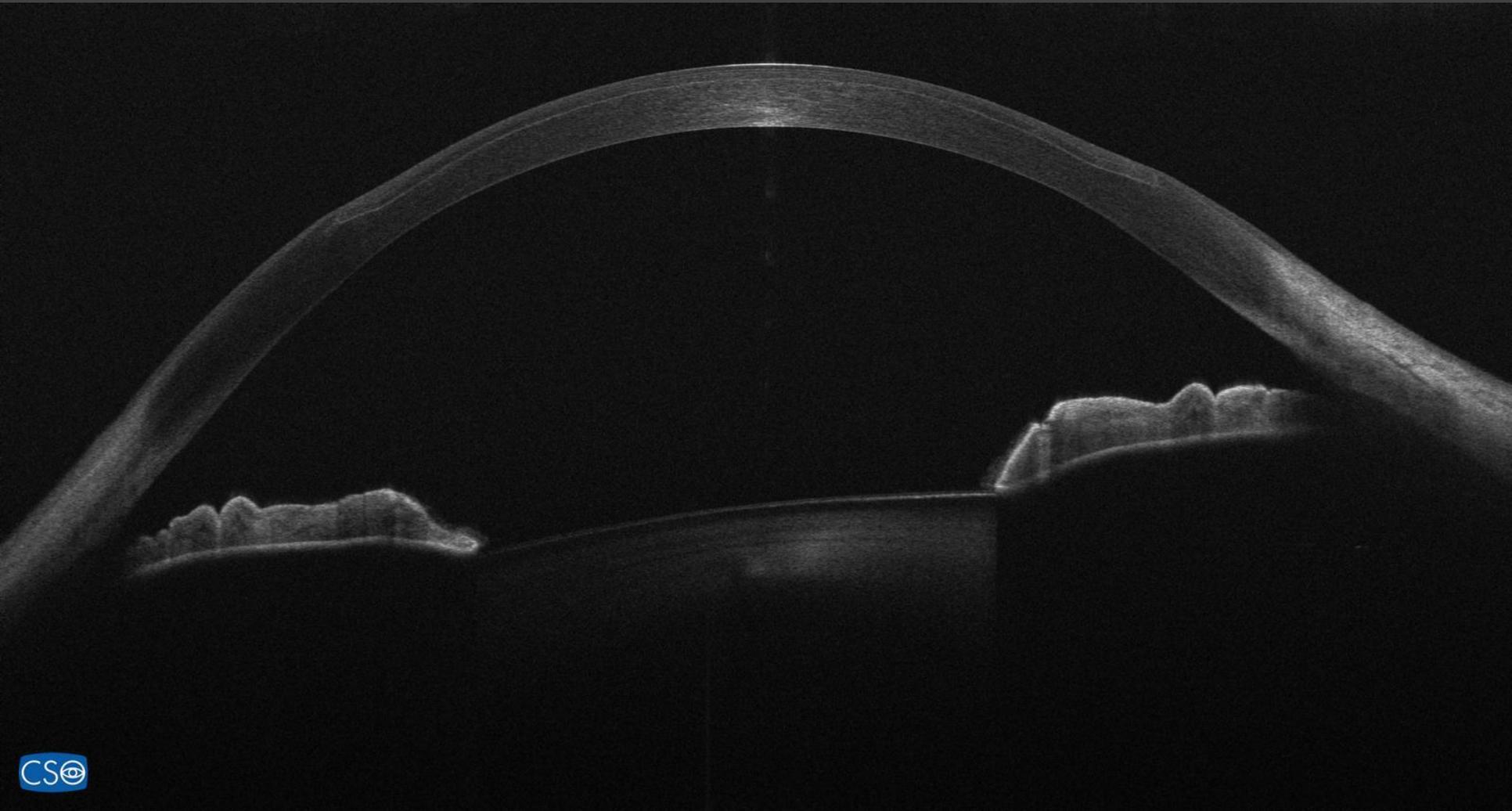


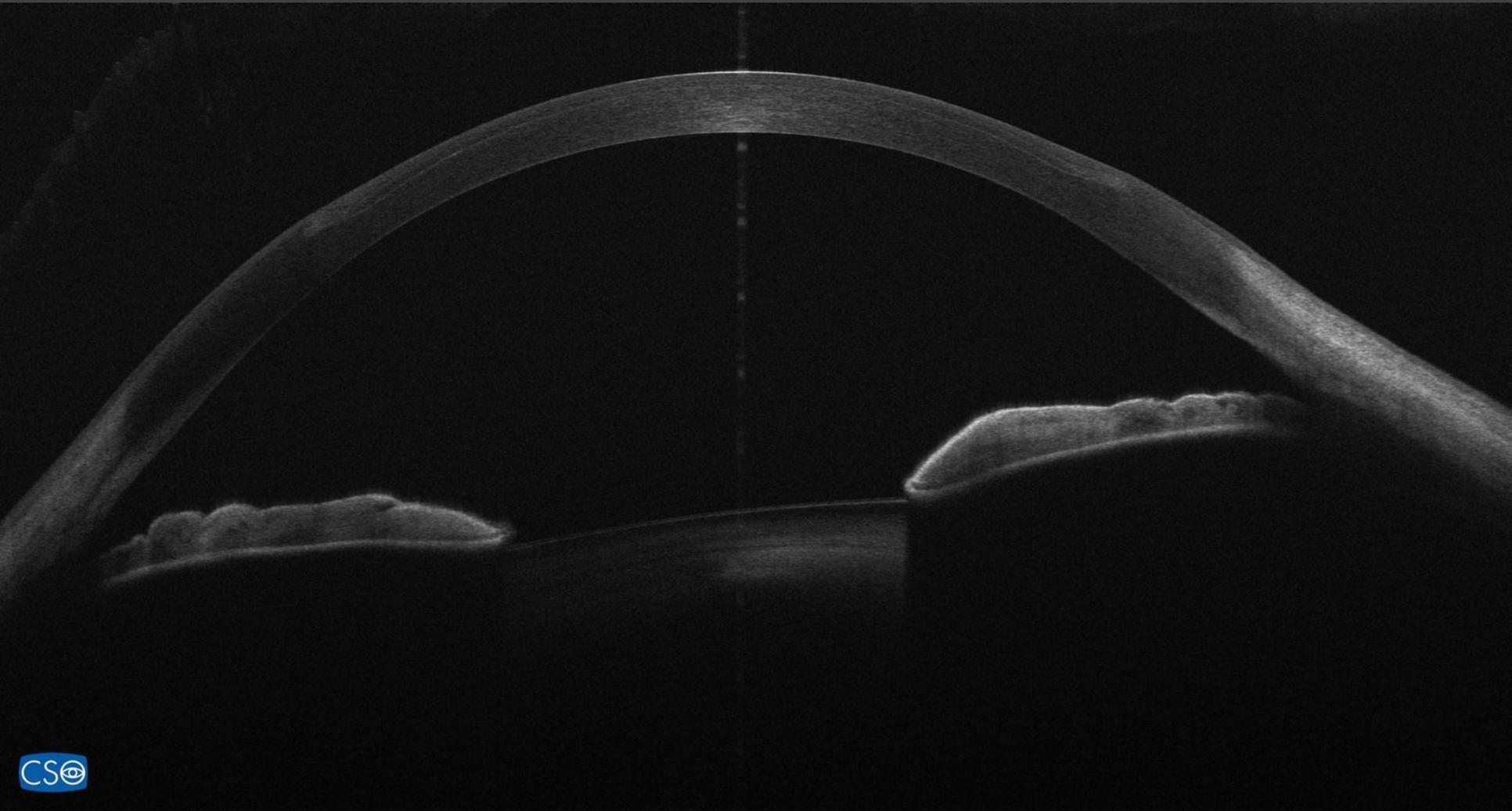


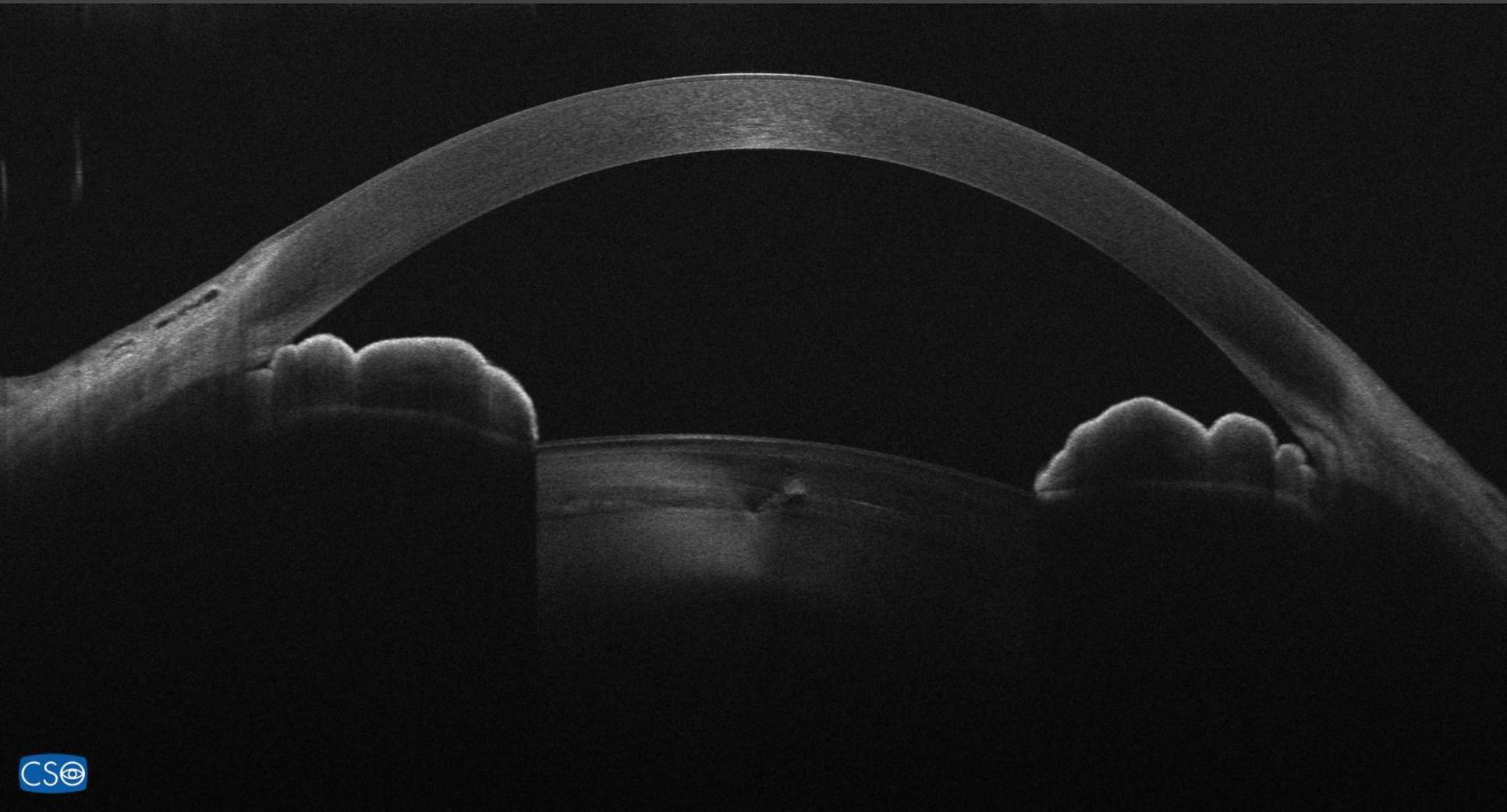


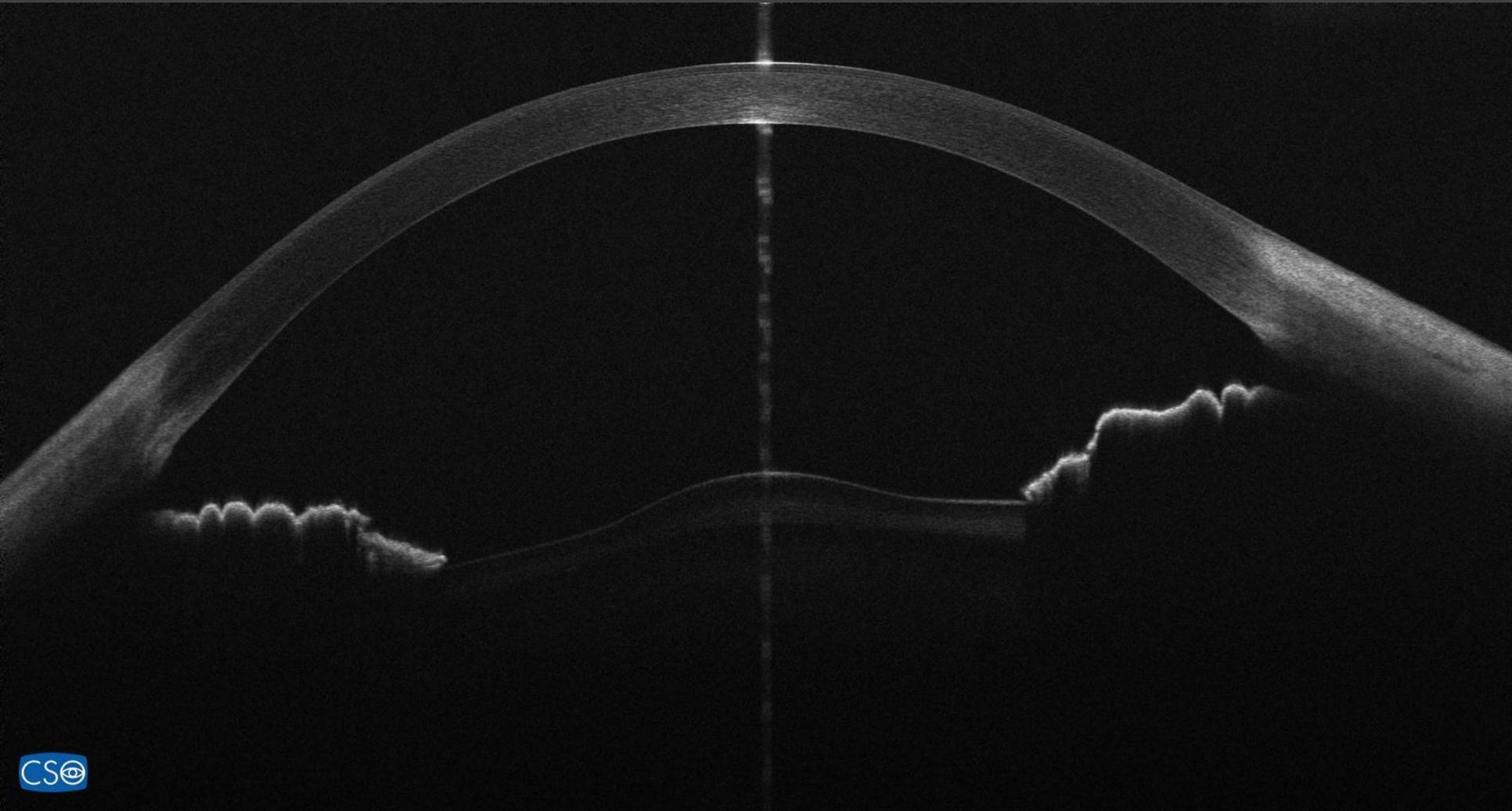


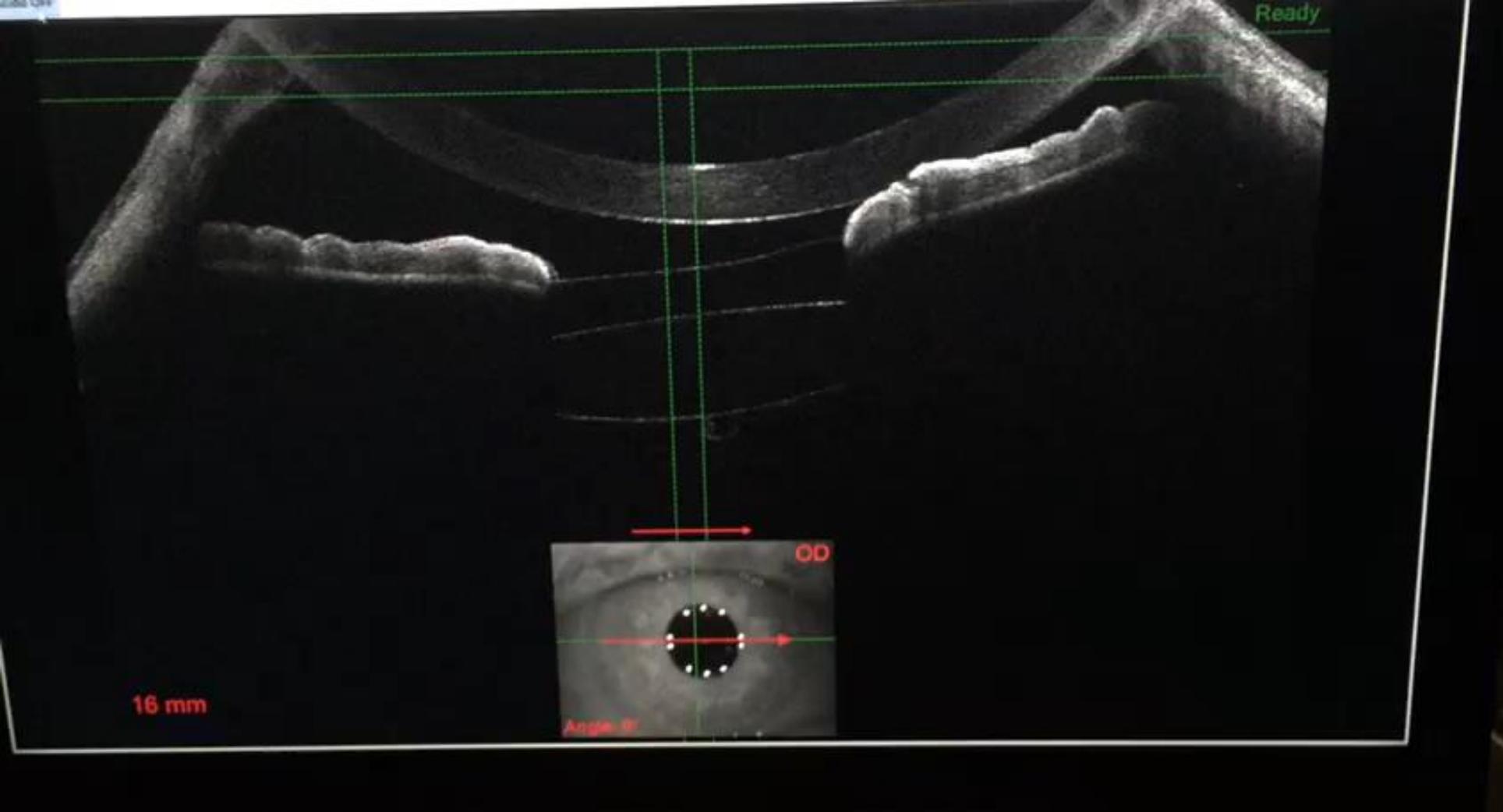


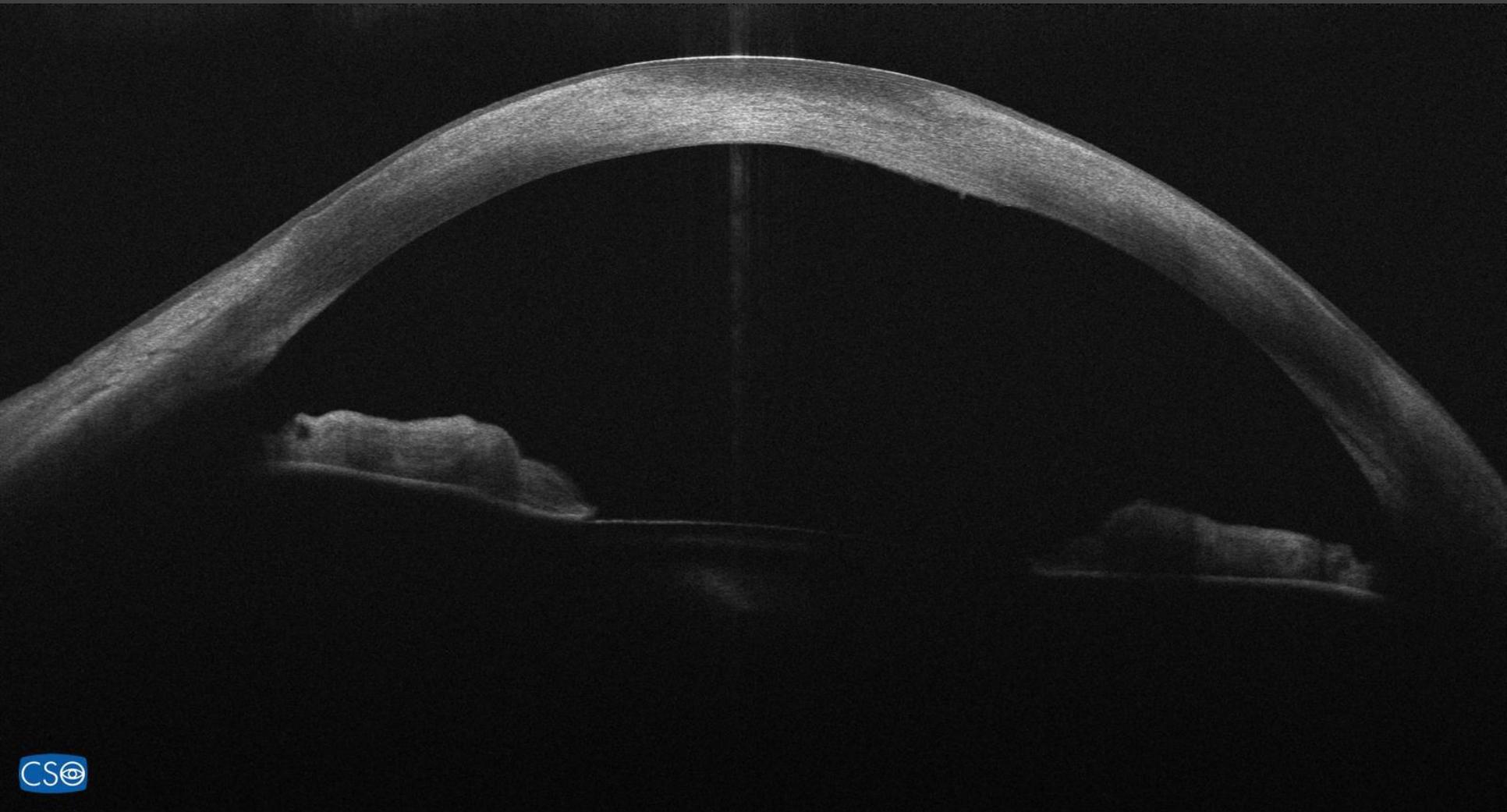


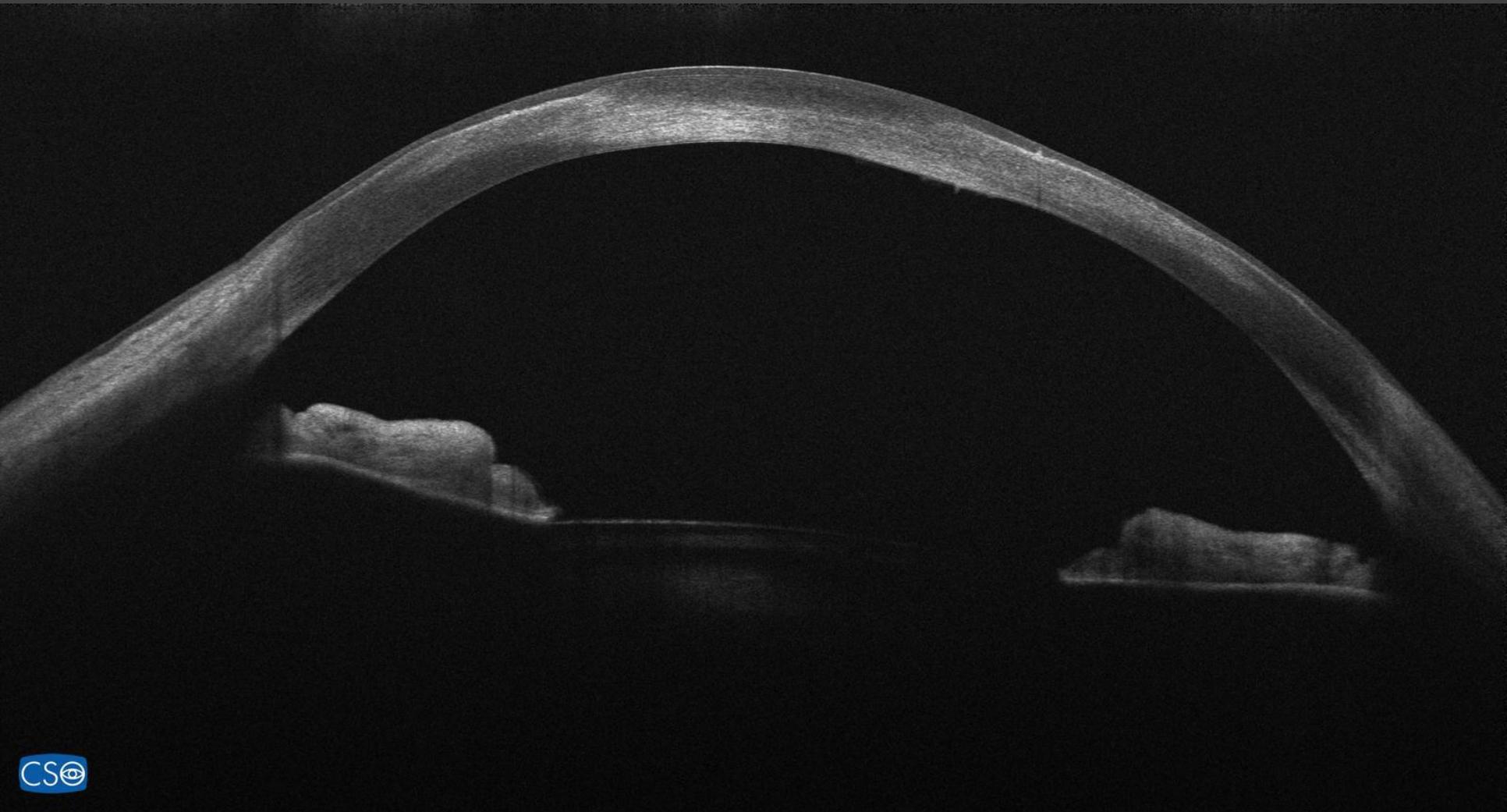


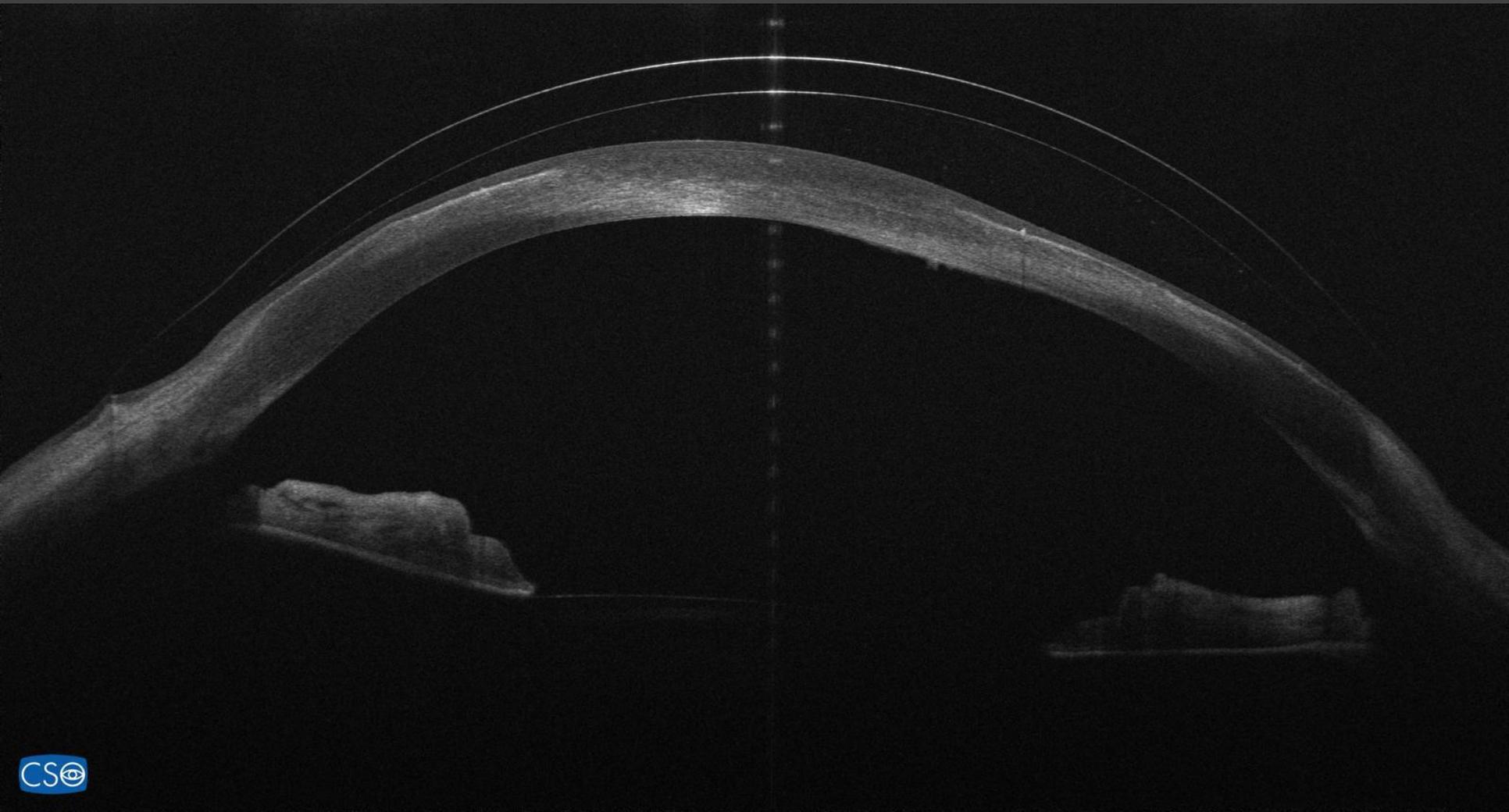


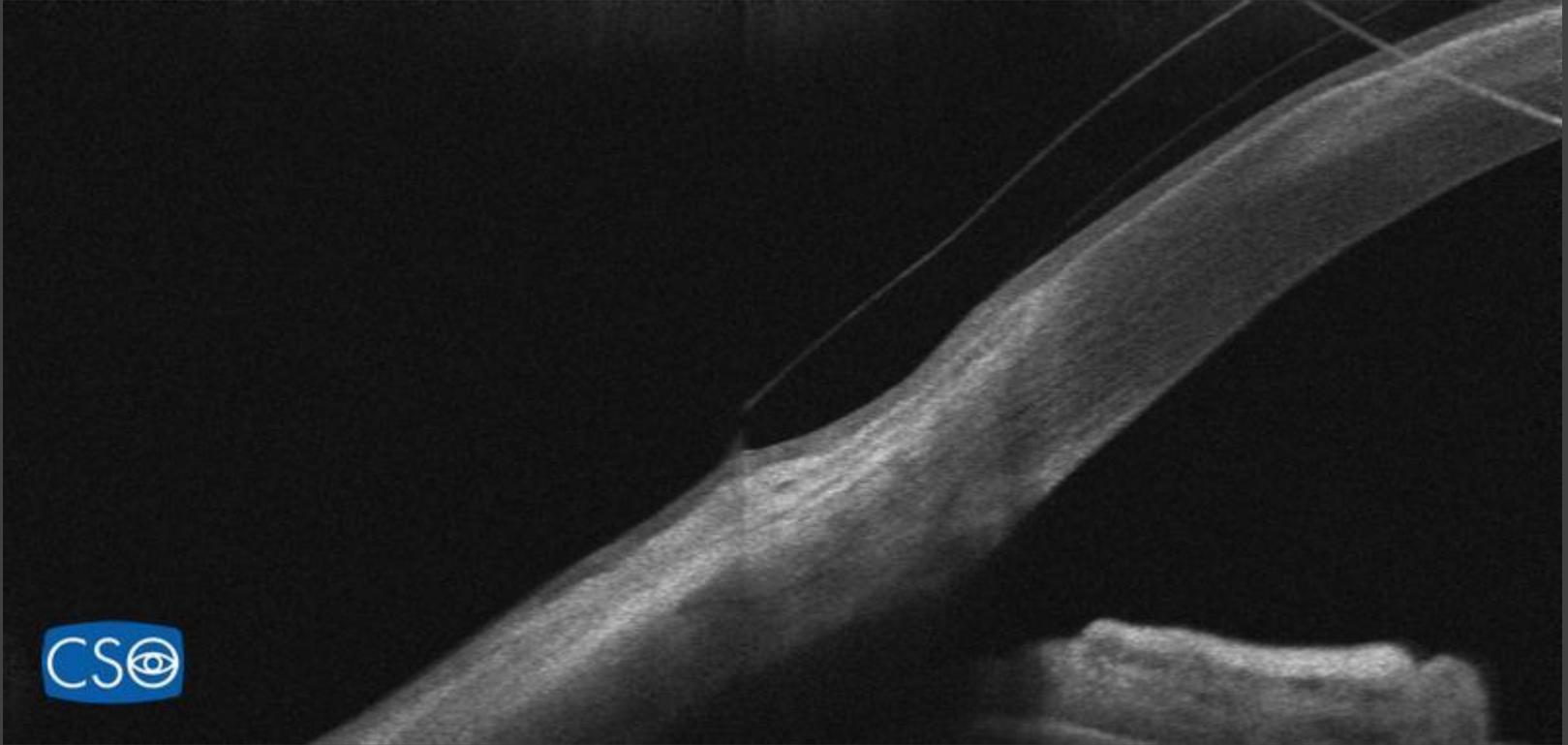


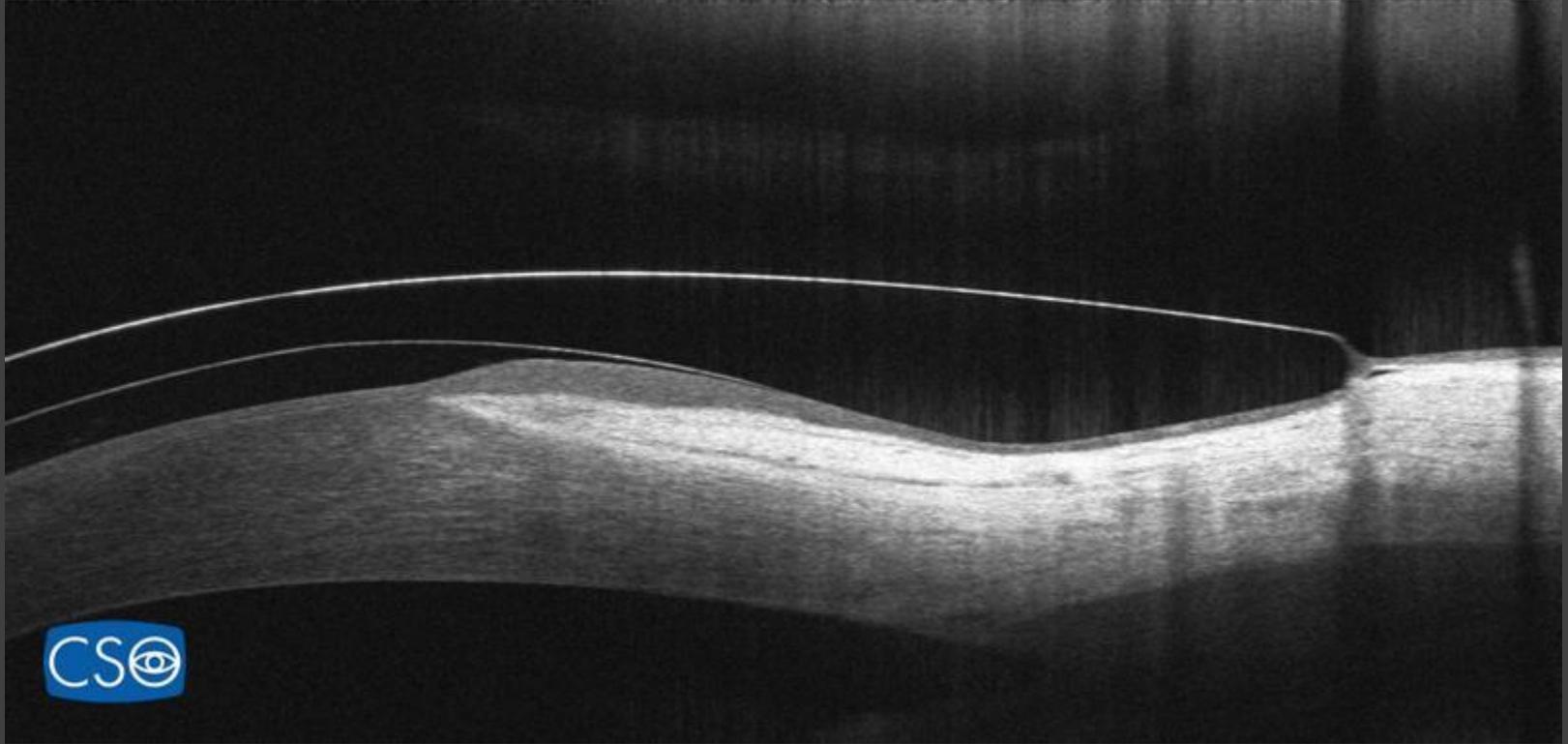


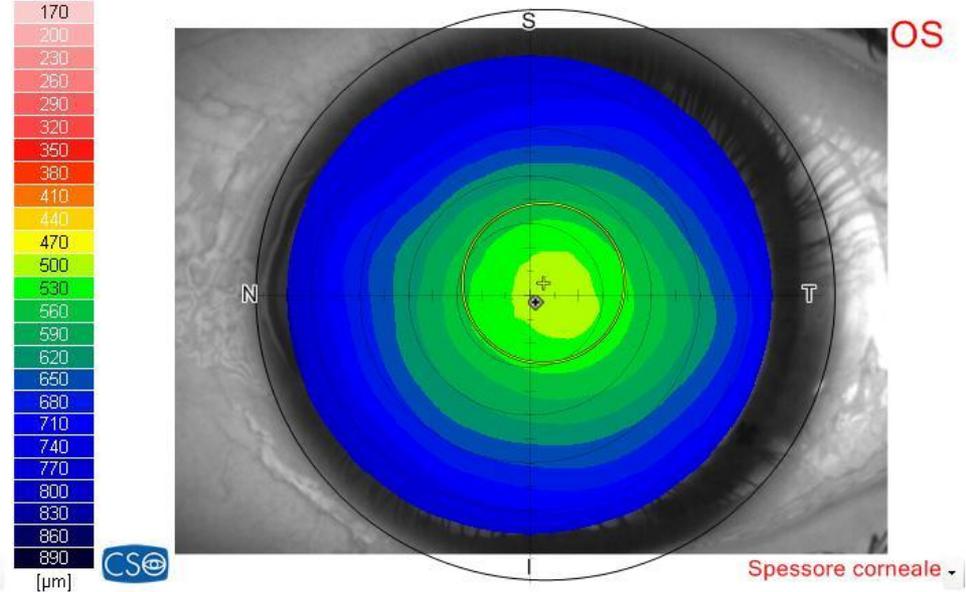
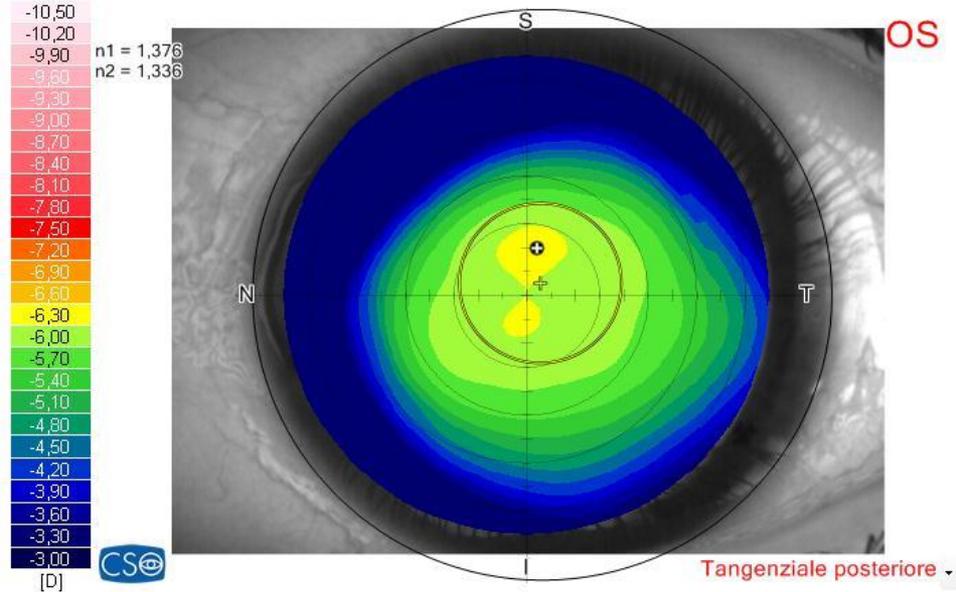
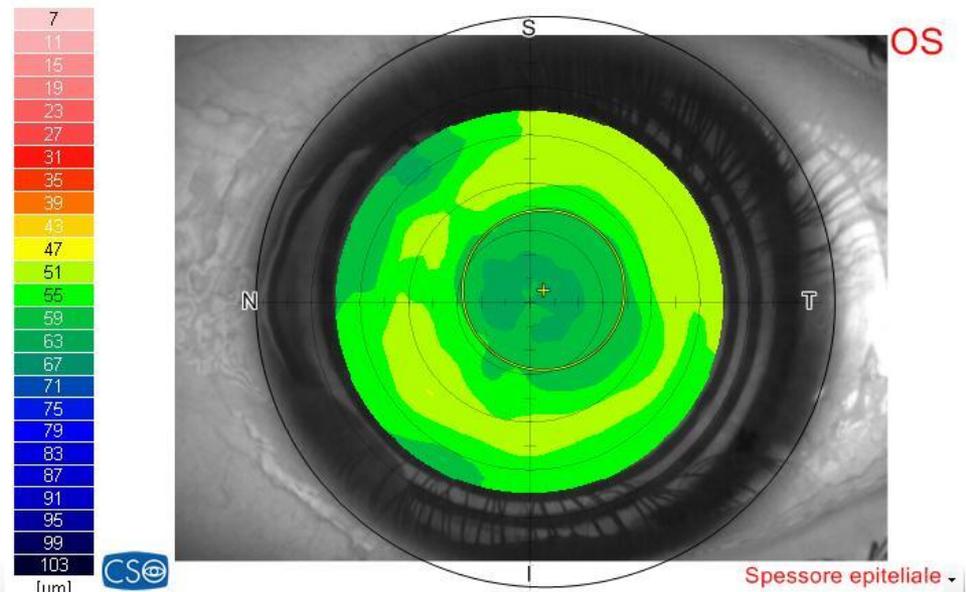
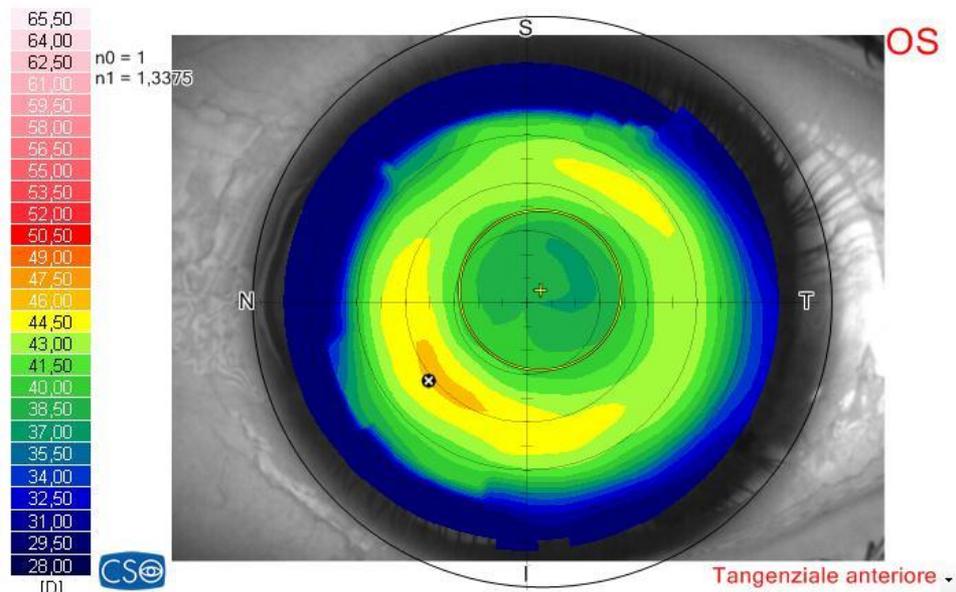


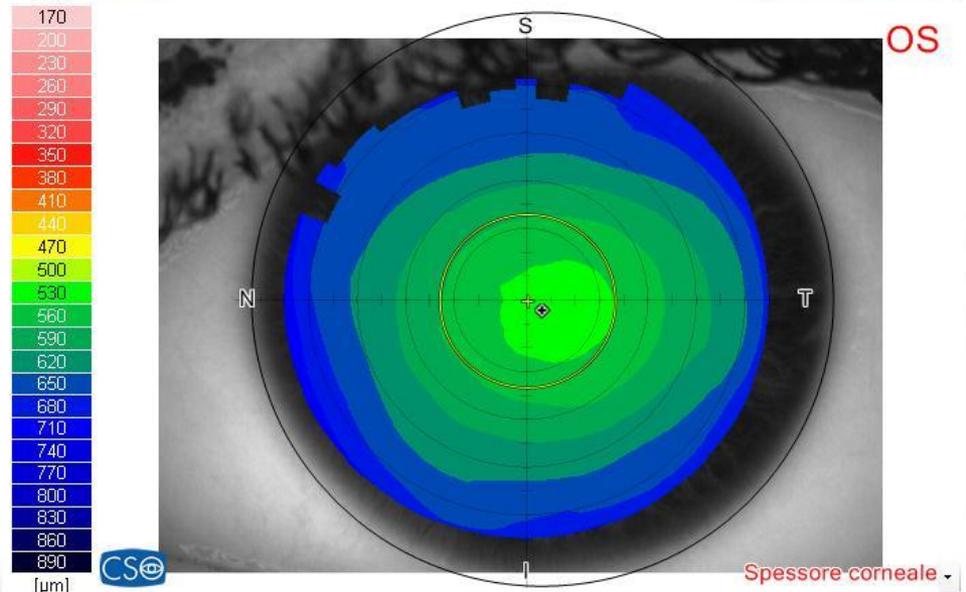
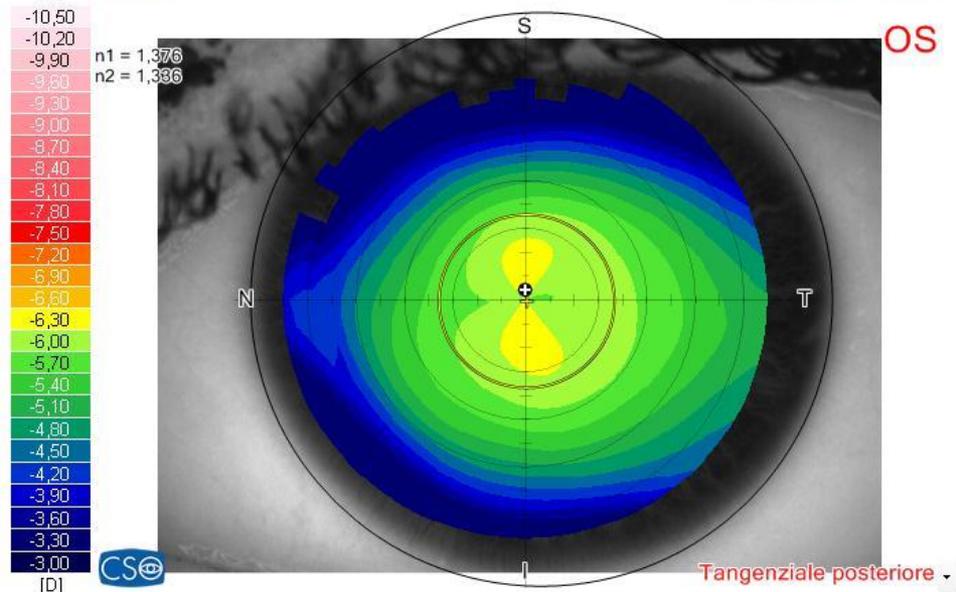
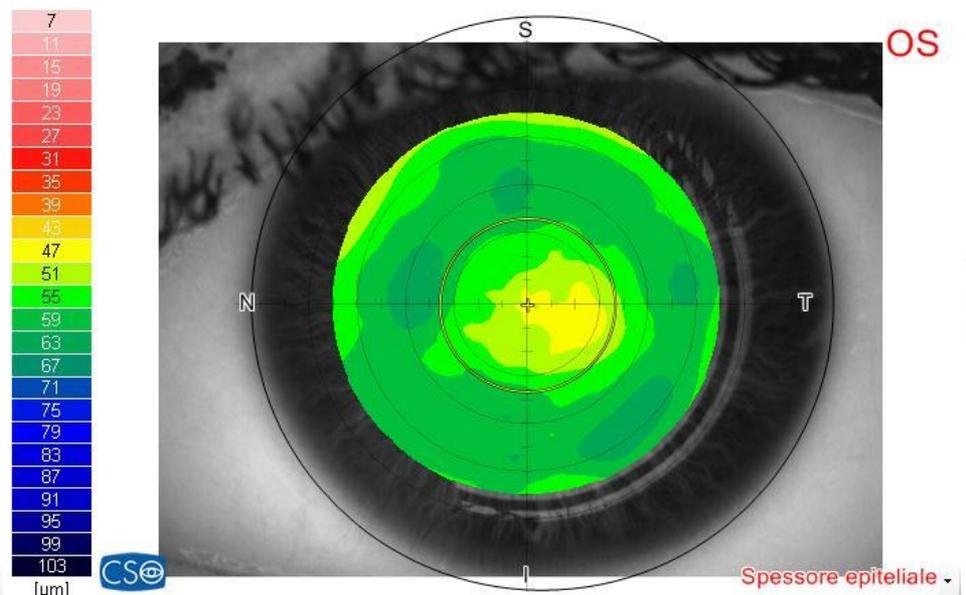
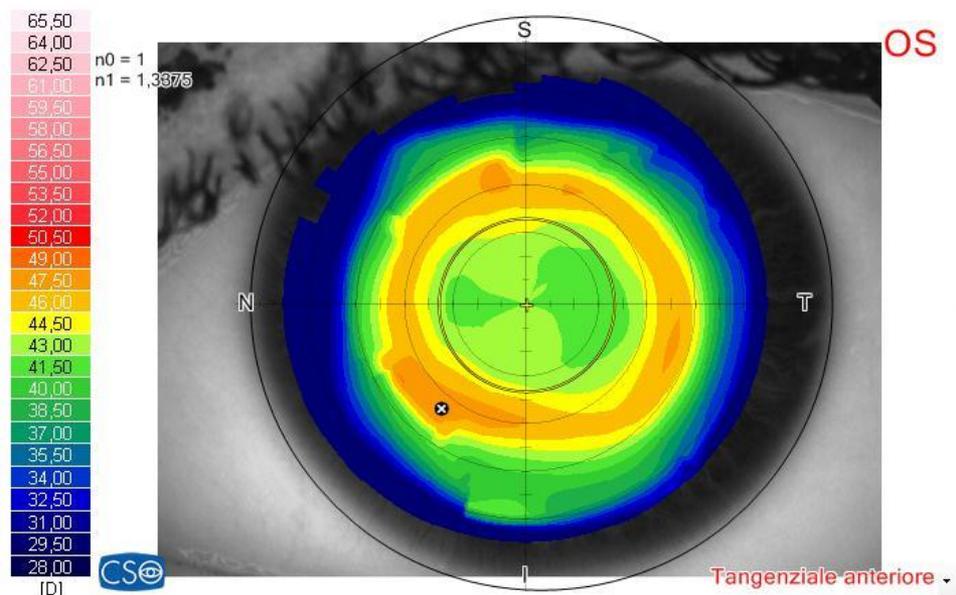












LASER VISION SA

A trusted name in vision

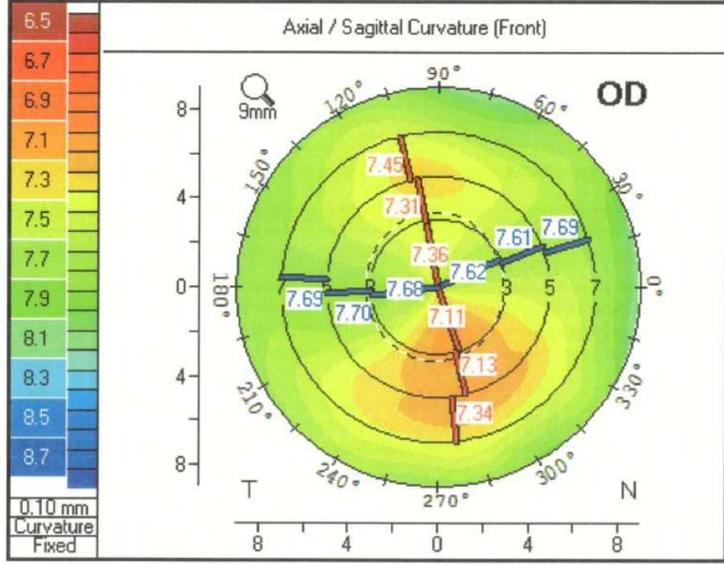
- PENTACAM Topometric / KC Staging

1.20r76

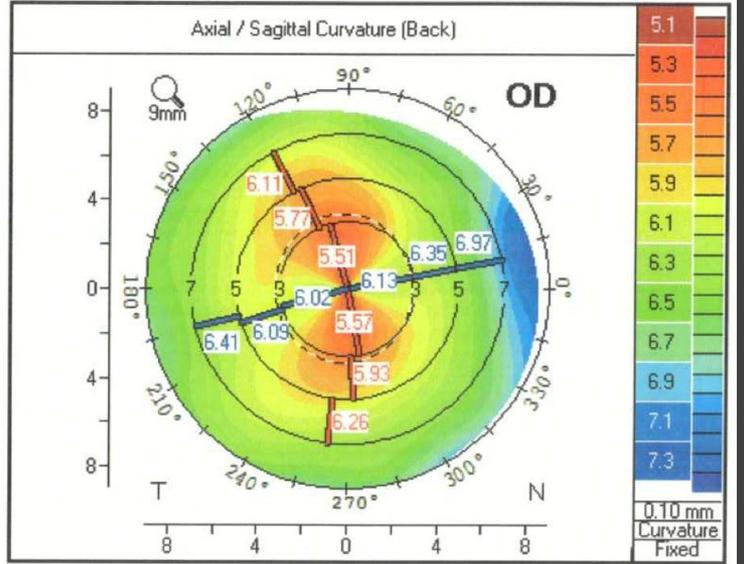
schneider
phn
508101955
8/10/1955
Eye: Right
0/09/2017
Time: 08:36:41

Cornea Front	
7.63 mm	K1: 44.2 D
7.25 mm	K2: 46.5 D
7.44 mm	Km: 45.3 D
104.2°	Astig: -2.3 D
7.68 mm	Rmin: 7.10 mm

Cornea Back	
6.10 mm	K1: -6.6 D
5.52 mm	K2: -7.2 D
5.81 mm	Km: -6.9 D
98.8°	Astig: +0.7 D



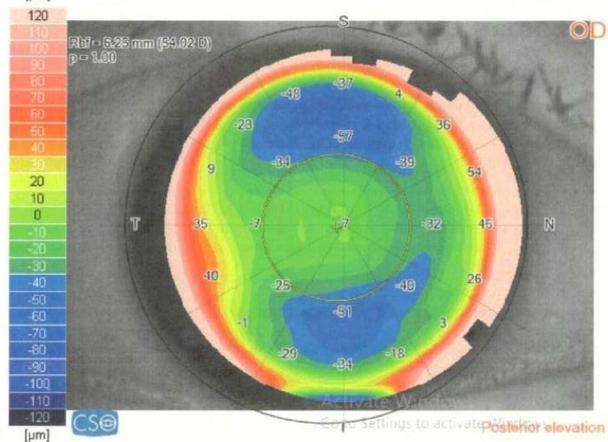
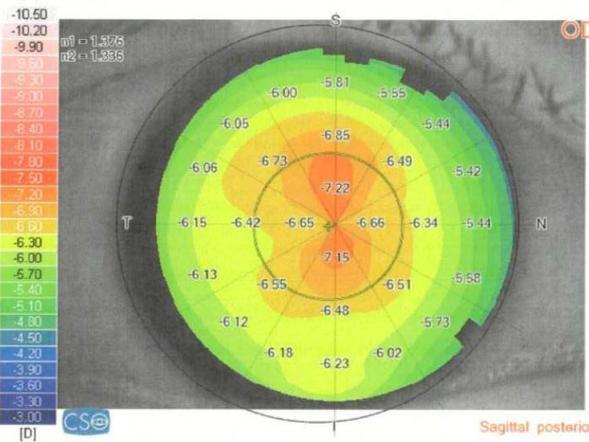
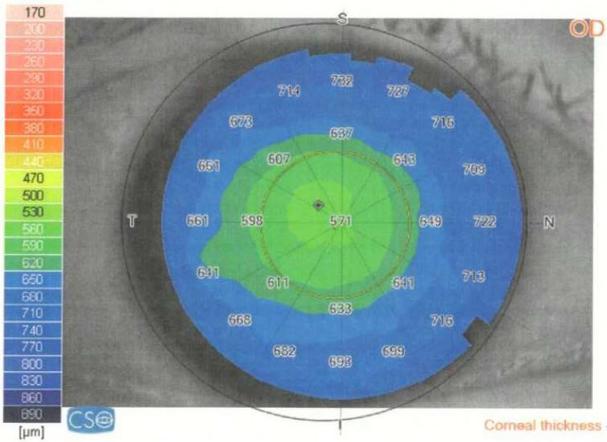
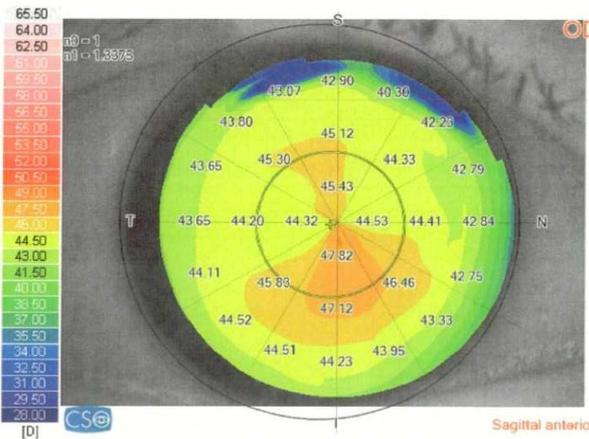
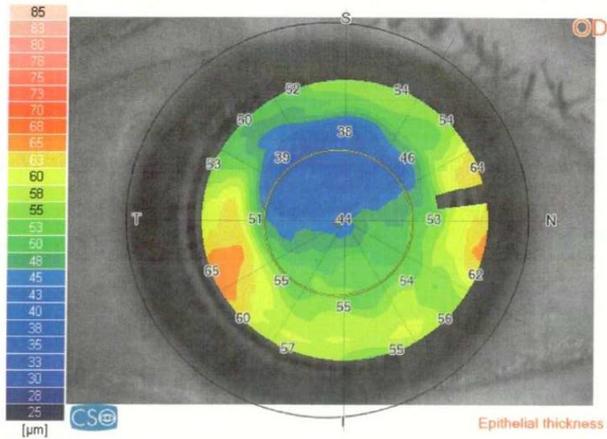
Belin ABCD Keratoconus Staging	



Asphericity (Front) of Major Meridians	

Courtesy Dr. Graham Fraenkel, M.D.

Birthdate: 8/10/1955
 Identification code: P0386710146
 Acquisition date: 20/09/2017 08:31:21 [#1-2]



Courtesy Dr. Graham Fraenkel, M.D.

THANK YOU!

MS-39

AS – OCT *by* CSO

Seeing is Believing with 840nm AS-OCT

How could I work without it before?



**UNIVERSITÀ DEGLI
STUDI DI PARMA**



CAMO
CENTRO AMBROSIANO OFTALMICO