



PRIMUS 200 from ZEISS

How to read the reports





ZEISS PRIMUS™ 200 analysis reports offer clinically relevant qualitative and quantitative information in an easy-to-read format. Analysis results can be printed or integrated with other instrument data through the FORUM® Eye Care data management system. This guide explains the various areas of each report and the valuable information it provides for your clinical assessment.

This guide is intended to provide base information, it is not intended to replace your User Manual.

Macular Thickness Analysis Report

ZEISS PRIMUS 200

Based on the 6 mm x 6 mm data cube captured by the Macular Thickness Analysis, this report provides qualitative and quantitative evaluation of the retina.

Qualitative

- 1 This section shows a Confocal Scanning Laser Ophthalmoscope (cSLO) fundus image with an Internal Limiting Membrane (ILM) – Retinal Pigment Epithelium (RPE) retinal thickness map overlay. Alternately, an Early Treatment Diabetic Retinopathy Study grid (ETDRS) is available from the Analysis screen.
- 2 This **Slice navigator** is displaying the location of the selected B-scan from the captured Optical Coherence Tomography (OCT) cube.
- 3 The B-scan image corresponds with the location of the blue line on fundus image above. By default, the B-scan passing through the fovea found by the **Auto FoveaFinder™** is displayed.

Quantitative

- 4 The ETDRS measurement grid is centered by the **Auto FoveaFinder** to automatically and accurately locate the fovea, providing precise macular thickness values compared with reference normative data.
- 5 Enter custom or predefined comments here for patient reporting.

Patient: _____

DOB: _____ Gender: **Female**

Patient ID: _____

Referring Doctor: _____

Doctor: _____ Operator: _____

OD Macular Thickness Analysis

Scan Date & Time: **5/22/2014, 12:40** Signal Strength: **9/10** Fovea: **253, 16**

1

2

3

4

	Central subfield thickness (µm)	Cube volume (mm³)	Cube avg thickness (µm)
ILM-RPE	005	13.6	379

Global Distribution of Normals(%)

- 99%
- 95%
- 5%
- 1%

5

Macular Thickness Analysis Report

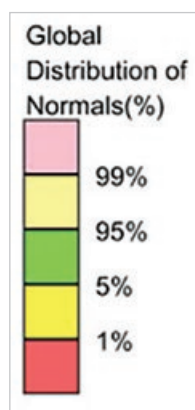
ZEISS PRIMUS 200

Macula Normative Database

The Macular Thickness Analysis supports the clinician in identifying areas of the macula that may be of clinical concern by comparing the measured macular thickness to age-matched reference data in the Macula Normative Database. Normative data that is age-matched to the patient appears when you perform a Macular Thickness Analysis on patients at least 18 years old.

The Normative Database uses a color code to indicate the normal distribution percentiles. The color code applies to the average thickness values shown on the ETDRS grid and in the data table. Among same-age individuals in the normal population, the percentiles apply to each particular retinal thickness measurement as follows:

- The thickest 1% of measurements fall in the light red area. Measurements in light red are considered outside normal limits (light red > 99% above normal limits).
- The thickest 5% of measurements fall in the light yellow area or above (95% < light yellow ≤ 99%, suspect above normal).
- 90% of measurements fall in the green area (5% ≤ green ≤ 95%).
- The thinnest 5% of measurements fall in the yellow area or below (1% ≤ yellow < 5%, suspect below normal).
- The thinnest 1% of measurements fall in the red area. Measurements in red are considered outside normal limits (red < 1% below normal limits).



Note: Clinicians must exercise judgment in the interpretation of the normative macula data. For any particular measurement, note that 2 out of 20 normal eyes (10%) will fall either above or below green.

5 Line HD Raster Analysis Report

ZEISS PRIMUS 200

Based on the 5 Line High-Definition (HD) scan, this analysis provides qualitative evaluation of the retina. By default, the lines are horizontal, but the scan direction and location is adjustable during acquisition. Each of the 5 lines is scanned multiple times using **Selective Pixel Profiling™** to display an optimal B-scan.

Qualitative

- 1 The scan angle, signal strength and scan date and time information are displayed here.
- 2 This shows the location of the 5 Line scan pattern overlaid on top of the fundus image with the blue line displaying the chosen B-scan in the primary view port.
- 3 The enlarged B-scan in the primary view-port corresponds with the location of the blue line on fundus image above. The default is the center (third) scan of the five.
- 4 **Thumbnail Views** display the remaining four B-scans corresponding to the red lines overlaid on the fundus image.
- 5 Enter custom or predefined comments here for patient reporting.

The screenshot displays the 'OS 5 Line HD Raster Analysis' report. At the top, patient information is shown: Patient, DOB, Gender (Male), Patient ID, Referring Doctor, Doctor, Operator, CZM, Tel, and Email. Below this, the scan parameters are listed: Scan Date & Time: 6-14-2014, 15:29; Signal Strength: 9/10 (with a bar chart); and Scan Angle: 0°. The main display area is divided into several sections: 1. A fundus image with five horizontal scan lines overlaid. 2. A primary B-scan view showing a cross-section of the retina, corresponding to the blue line on the fundus image. 3. Four thumbnail B-scan views, labeled 1 through 4, corresponding to the other four scan lines. 4. A comments section with a text input field and a signature line. 5. The ZEISS logo in the bottom right corner.

Single Line HD Analysis Report

ZEISS PRIMUS 200

Based on the 8 mm single line HD scan, this analysis provides qualitative evaluation of the retina. By default, the line is horizontal, but the scan direction and location is adjustable during acquisition. The single line is scanned multiple times using **Selective Pixel Profiling** to display an optimal B-scan.

Qualitative

- 1 The scan angle, signal strength and scan date and time information are displayed here.
- 2 This image shows the location of the Single Line scan pattern overlaid on top of the fundus image.
- 3 This enlarged B-scan corresponds with the location of the blue line on fundus image above.
- 4 Enter custom or predefined comments here for patient reporting.


Patient: _____

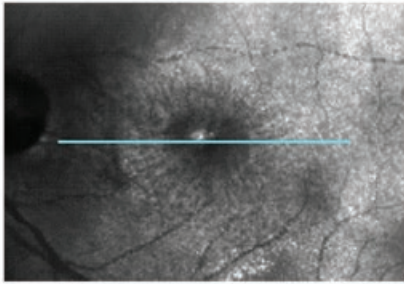
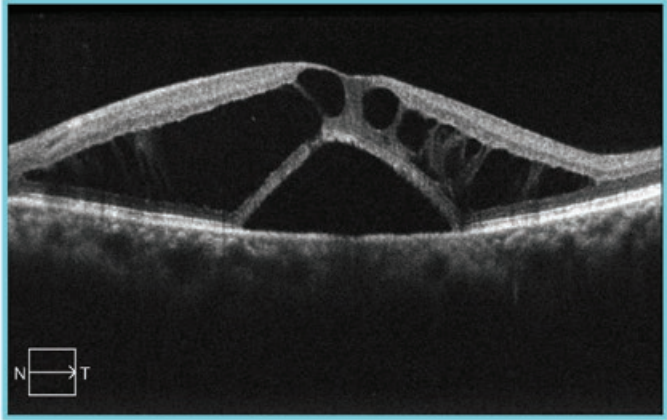
DOB: _____ Gender: **Male** CZM: _____

Patient ID: _____


Referring Doctor: _____ Doctor: _____ Operator: _____ Tel: _____ Email: _____

OS 1 Line HD Analysis

Scan Date & Time: **6-14-2014, 15:30** Signal Strength: **9/10**  Scan Angle: **0°**

- 1 
- 2 
- 3
- 4

Comments: _____ Signature: _____



ONH and RNFL Analysis Report

ZEISS PRIMUS 200

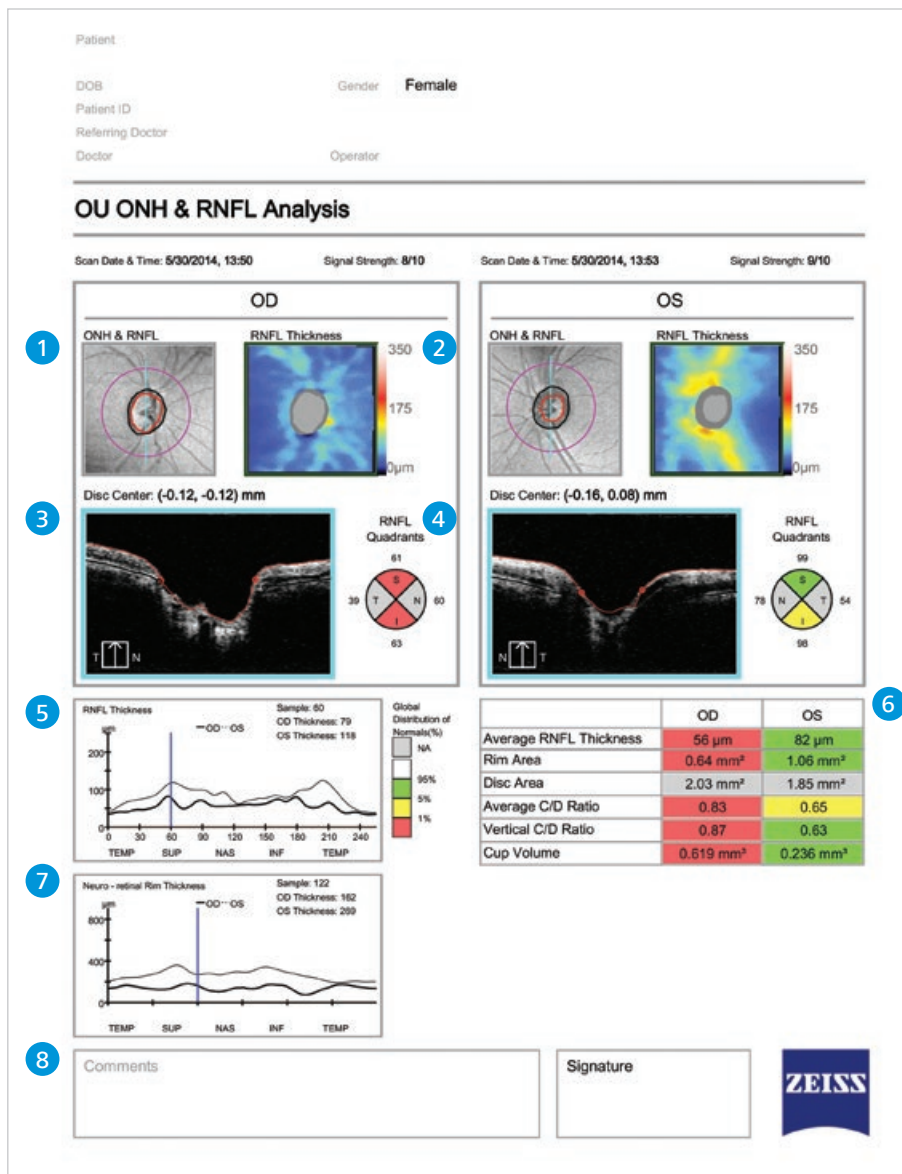
This report shows qualitative and quantitative assessment of Optic Nerve Head (ONH) and Retinal Nerve Fiber Layer (RNFL) for both eyes.

Qualitative

- 1 This image shows the OCT fundus of the Optic Nerve Head. The **AutoCenter™** feature automatically centers the RNFL circle around the optic disc.
- 2 The **RNFL thickness map** is a topographical display of RNFL thickness. This is an important feature to get the first impression of thickness of RNFL bundles in superior and inferior zones.
- 3 The **Vertical B-scan** is extracted from the data cube passing through the center of the optic disc. The RPE layer and disc boundaries are shown in black. ILM and cup boundaries are shown in red.

Quantitative

- 4 The **RNFL Quadrant** displays patient's RNFL average thickness in each quadrant along the calculation circle with superior and inferior normative data colors.
- 5 The **RNFL thickness** is displayed in this RNFL Thickness graph.
- 6 **Key parameters of optic disc** are displayed in this table format along with normative data colors.
- 7 The **Neuro-retinal Rim Thickness** profile is displayed in this graph.
- 8 Enter custom or predefined comments here for patient reporting.

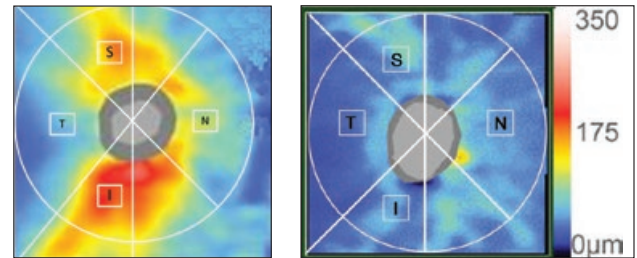


ONH and RNFL Analysis Report

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Step 1: Using the ISNT Rule on the RNFL Thickness Map

- Normal eyes with normal disc shape follow the "ISNT rule".
- The nerve fiber layer & neuro-retinal rim is thickest / widest in inferior region (I) > superior region (S) > nasal region (N) > temporal region (T).
- The Application of the ISNT rule is helpful in detecting early glaucomatous change, since in early stage glaucoma nerve fibers thin out preferentially in **inferior-temporal** or **superior-temporal** regions.



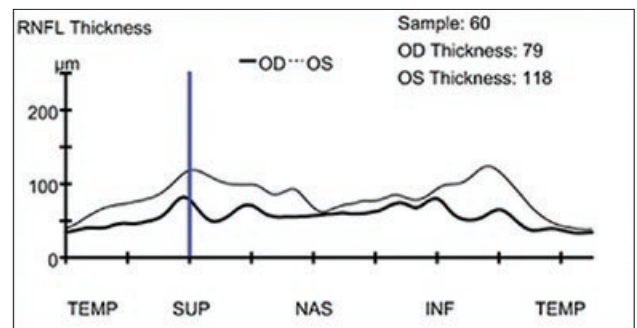
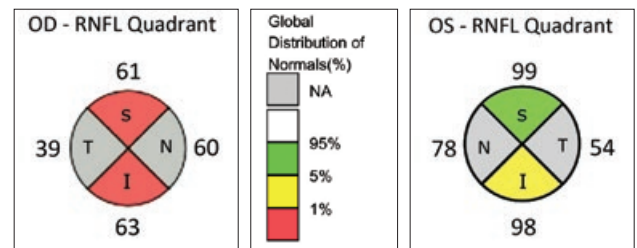
Thickness Map of a healthy subject

Thickness Map showing thinned RNFL bundles

Step 2: Normative Database for Retinal Nerve Fiber Layer

Clinicians must exercise judgment in the interpretation of the normative data. For any particular measurement, note that 2 out of 20 normal eyes (10%) will fall either above or below green.

- **Grey:** ■ Age-matched normal subjects when not available will be shown in grey.
- **White:** □ The thickest 5% of measurements fall in the white area (white > 95%).
- **Green:** ■ 90% of the age-matched normal subjects with normal RNFL thickness will fall in the green area.
- **Yellow:** ■ < 5% of the age-matched normal subjects with normal RNFL thickness will fall in the yellow area.
- **Red:** ■ < 1% of the age-matched normal subjects RNFL thickness will be in the red shaded area.



Observe the pattern TEMP to SUP (30-90) & INF to TEMP (180-240) regions for the trend of nerve fiber thickness.

30- | 180-

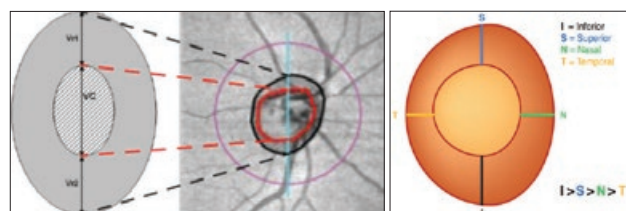
ONH and RNFL Analysis Report

ZEISS PRIMUS 200

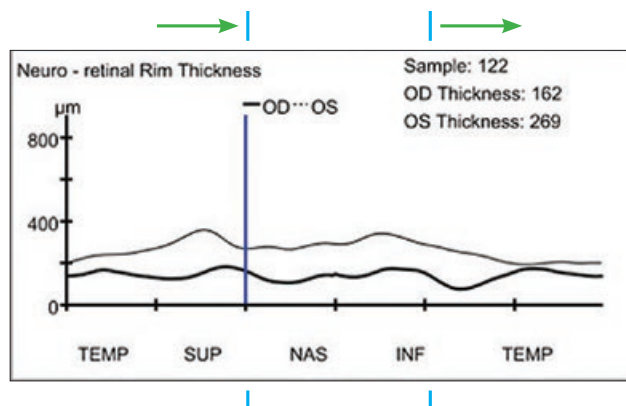
Step 3: Normative Database for Optic Nerve Head

- Normative database for ONH parameters is based on subjects disc size and age.
- For a particular disc size and age the parameters are expected to be within certain ranges. Disc area is not compared to normative database, hence it is always greyed.
- For a particular subject if the disc size is outside available normal range (small $<1.3 \text{ mm}^2$ or large $>2.5 \text{ mm}^2$) then all other parameters will also be greyed.
- Vertical Cup to Disc (C/D) ratio - is the quotient of vertical cup diameter to the vertical overall disc diameter. Higher C/D ratio in normal disc sizes can be indicative of early glaucomatous changes.
- Neuro-retinal rim is thicker at inferior and superior poles and follows the "ISNT rule".
- Observe the pattern TEMP to SUP & INF to TEMP regions for the trend of neuro-retinal rim thickness.

	OD	OS
Average RNFL Thickness	56 μm	82 μm
Rim Area	0.64 mm^2	1.06 mm^2
Disc Area	2.03 mm^2	1.85 mm^2
Average C/D Ratio	0.83	0.65
Vertical C/D Ratio	0.87	0.63
Cup Volume	0.619 mm^3	0.236 mm^3



Note: There is measurement variability for the retinal nerve fiber layer and optic nerve head parameters which may impact the normative data colors. If the true value is near the limit of what the software uses to determine the normative database color code, then it is possible that the color code could vary from exam to exam.



Angle View Analysis Report

ZEISS PRIMUS 200

Based on the 8 mm single line HD scan, this analysis provides qualitative evaluation of the anterior chamber angle. By default, the line is horizontal, but the scan direction and location is adjustable during acquisition.

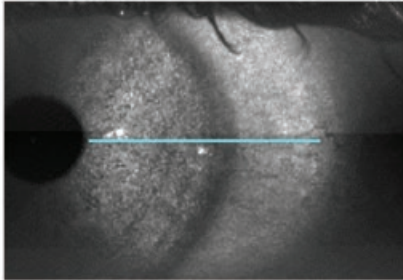
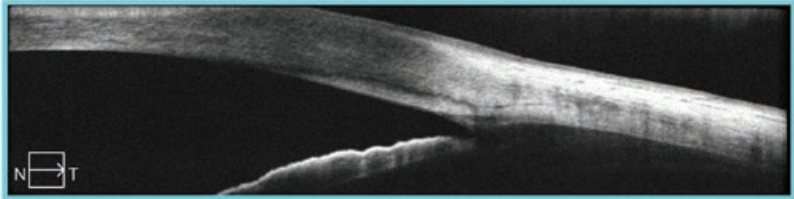
Qualitative


- 1 This image view allows you to see a clear image of the iris and sclera, along with the scan line location.
- 2 This is a single-line, high-definition angle view B-scan using the Selective Pixel Profiling™ algorithm.
- 3 Enter custom or predefined comments here for patient reporting.

Patient:			
DOB:	Gender: Male		CZM:
Patient ID:			
Referring Doctor:	Operator: Administrator		Tel: Email:
Doctor:			

OS Angle View Analysis

Scan Date & Time: 12-1-2014, 16:26 Scan Angle: 0°

- 1 
- 2 
- 3

Comments	Signature	
<input type="text"/>	<input type="text"/>	

Cornea Analysis Report

ZEISS PRIMUS 200

Based on the 8 mm single line HD scan, this analysis provides qualitative evaluation of the cornea. By default, the line is horizontal, but the scan direction and location is adjustable during acquisition.

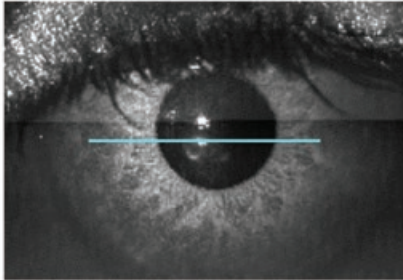
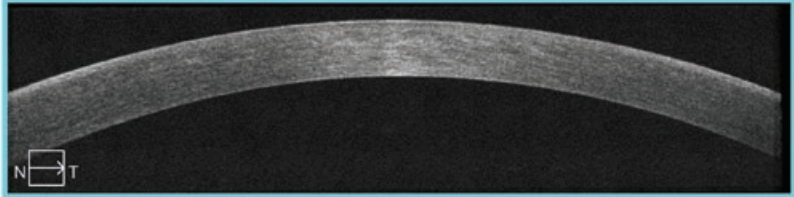
Qualitative


- 1 This image allows you to see a clear image of the cornea, iris and sclera, along with the scan line location.
- 2 This single-line, high-definition cornea B-scan allows you to identify the epithelium, Bowman's membrane, and stroma.
- 3 Enter custom or predefined comments here for patient reporting.

Patient:			
DOB:	Gender: Male		CZM:
Patient ID:			
Referring Doctor:	Operator: Administrator		Tel: Email:
Doctor:			

OS Cornea Analysis

Scan Date & Time: 12-1-2014, 16:13 Scan Angle: 0°

- 1 
- 2 
- 3

Comments	Signature	
<input type="text"/>	<input type="text"/>	

CE 0297



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