

VISIA^{CRP} Generation 5

Presented by Canfield Scientific



VISIA-CR[®]

Your Comprehensive
Solution for Qualitative
and Quantitative Facial
Imaging Assessments

Acne Vulgaris



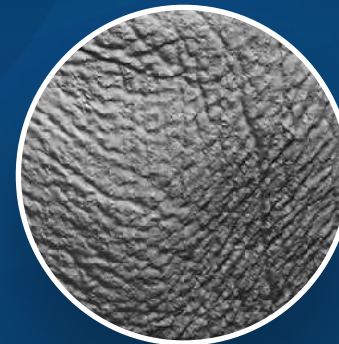
Aesthetics



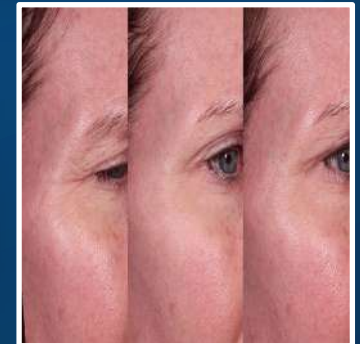
Vitiligo



Skin Quality



Dynamic Expression



System Specifications



Rotational imaging housing

- Position subject once, rotate around subject
- Modular head support / subject indexing system

Multiple capture systems

- Canon R5
 - 2D still: 45MP full-frame Dual-Pixel CMOS
 - Video: 4k @ 120 fps, 8k @ 30 fps
- Primos 300 (*optional*)
 - 3D FOV: 200x300 mm @ 80µm
- 'Lateral' alignment cameras (8mp)
 - additional profile views for positioning

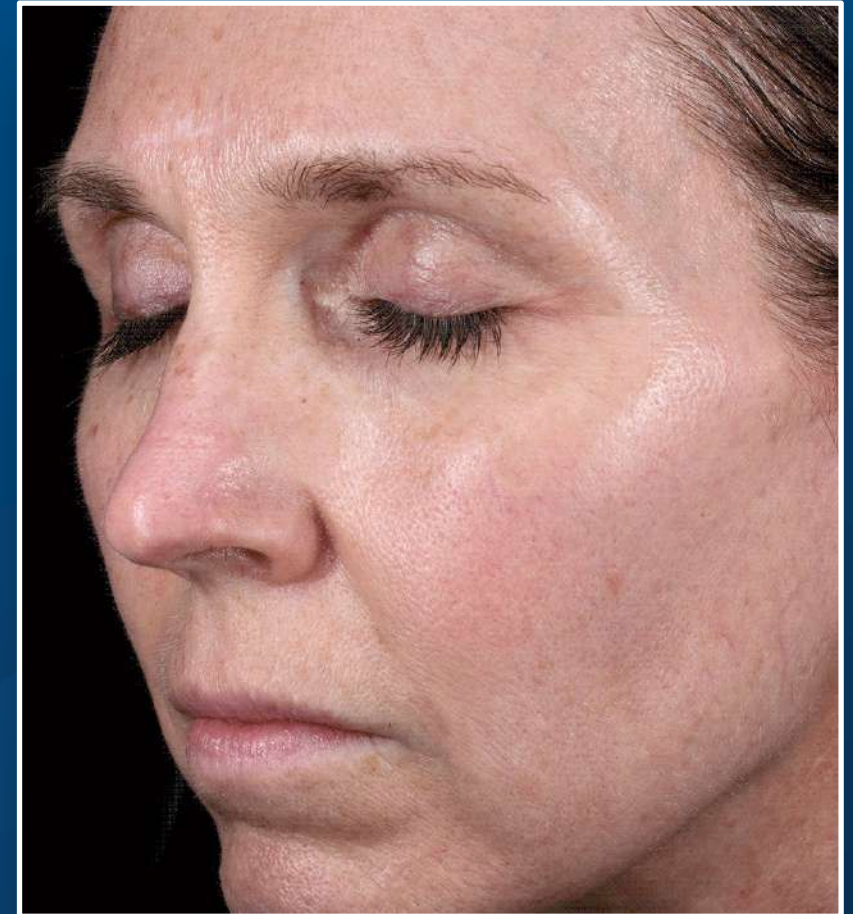
LED 'flash' illumination

- Low energy, high stability



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Lighting Modes





Standard Clinical

A white light photograph, the typical “clinical” photo.

Provides balanced lighting for qualitative visual assessment of most skin features.





Raked

A white light photograph illuminating the face similar to natural lighting.

Enhance topographical skin attributes including fine lines, wrinkles, and texture.



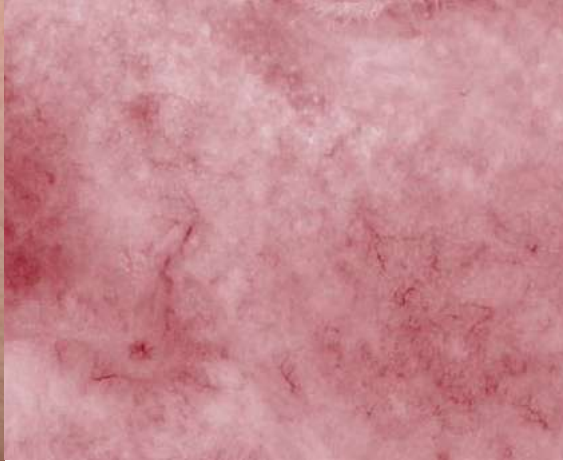
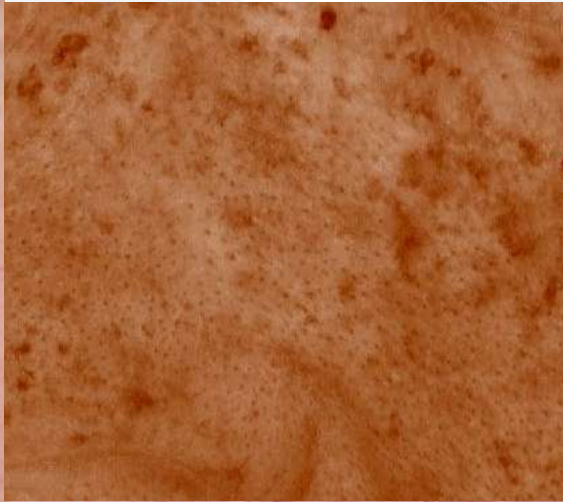


Cross Polarized

Polarized strobes captured through a perpendicular-polarized lens.

Attenuates surface reflections for superior visualization of sub-surface details (erythema, inflammatory lesions, telangiectasia and Hyper/Hypo-pigmentation).





RBX Processing

RBX is a proprietary color transform model that displays discreet red and brown information from the cross-polarized image

Red correlates to vascular conditions

Brown correlates to melanin condition



Parallel Polarized

Polarised strobes captured through a parallel-polarised lens.

Accentuates surface reflections for superior visualization of topographical information (skin texture, wrinkles, fine lines, pores, etc.) as well as oiliness and shine





Blue Absorption

Narrow Band Blue (405 ± 10 nm) strobos captured through an unattenuated lens

Absorption image enhances the visualisation of superficial pigmentation





Blue Fluorescence

Narrow Band Blue (405 ± 10 nm)
strokes captured through a filtered lens

This fluorescence image is geared
towards enhancing the visibility of
Protoporphyrin-IX (PPIX) and
Coproporphyrin-III (CPIII - p. acne)





UVA Absorption

UVA (365 ± 10 nm) strobes captured through an un-attenuated lens

This absorption image enhances visualisation of superficial pigmentation.





PRIMOS 300 *optional

- 3D FOV: 200x300mm @ 80µm
- Micron-resolution capture of skin topography
- Enables quantitative and objective measurements: volume, surface area, roughness, texture



Canfield can create full face 3D image and apply any of the color skin textures for marketing and objective measurements

Processed Images –



RBx Red



RBx Brown



Blue Absorption



CP-III



PP-XI



UV Absorption

VISIA^{CRP} | Analysis Examples

VISIA^{CRP}

2D Analysis

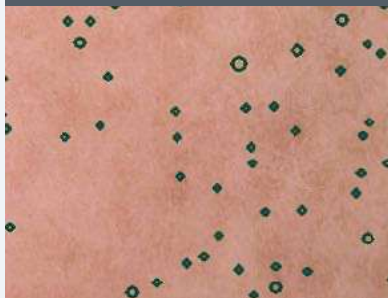
Wrinkles

fine lines and
wrinkles severity



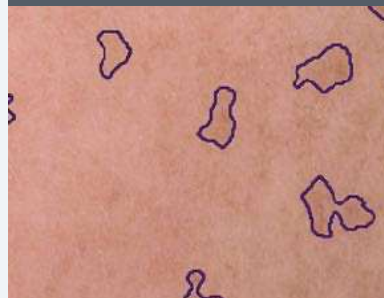
Pores

visible under standard
lighting conditions



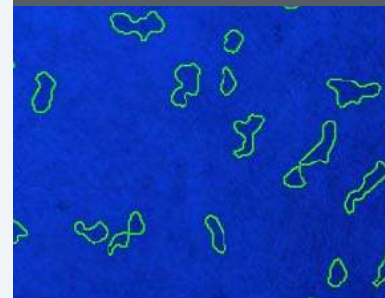
Spots (visible)

visible under standard
lighting conditions



Spots (blue)

hyperpigmented spots visible
under blue lighting



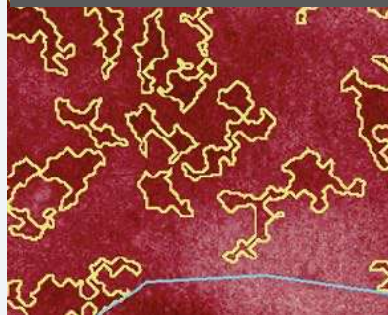
Spots (UVA)

hyperpigmented spots visible
under UVA lighting



RBX Red

vascular features & spots
derived from RBX



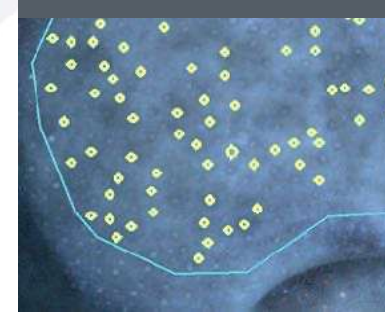
RBX Brown

hyperpigmented spots derived
from RBX



Porphyryns (UVA)

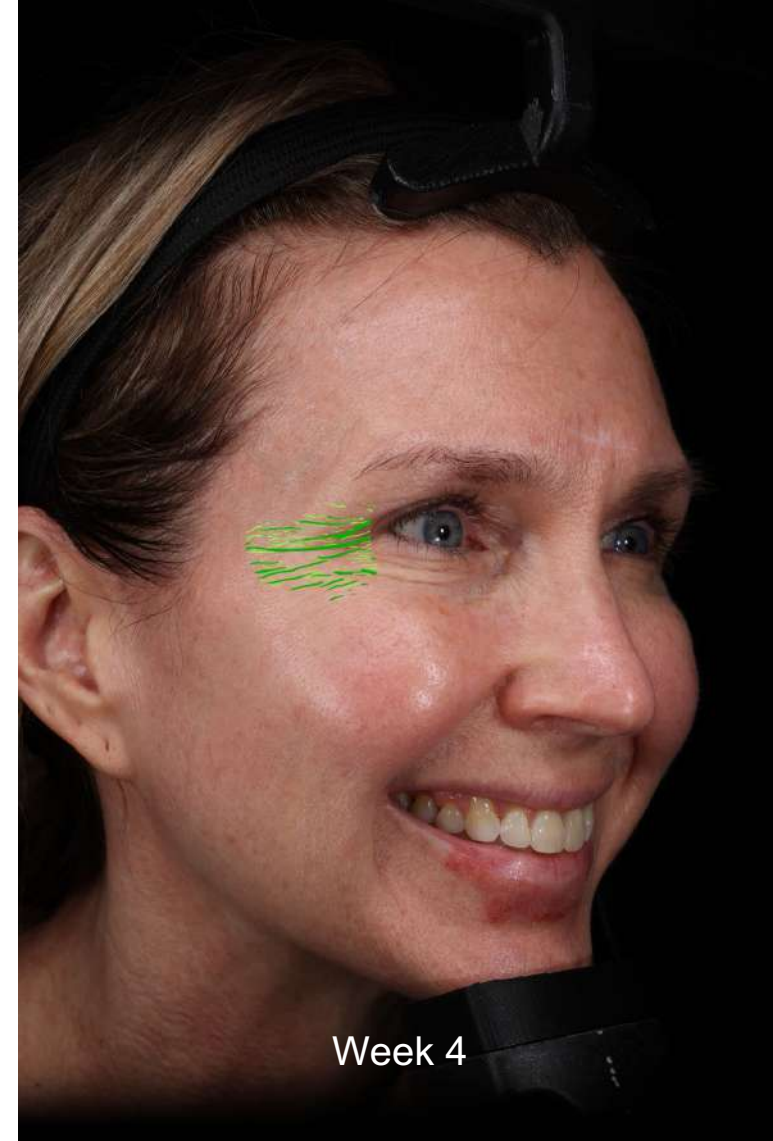
microbial activity visible
under UVA lighting



VISIA CRP

Wrinkle Detection

Expression: Big Smile
Lighting Modality: Standard 1



VISIA^{CRP}

Wrinkle Detection

Expression: Big Smile
Lighting Modality: Standard 1

Total Fractional Area: 0.2404



Baseline

Total Fractional Area: 0.1510 | Δ : -37.19%

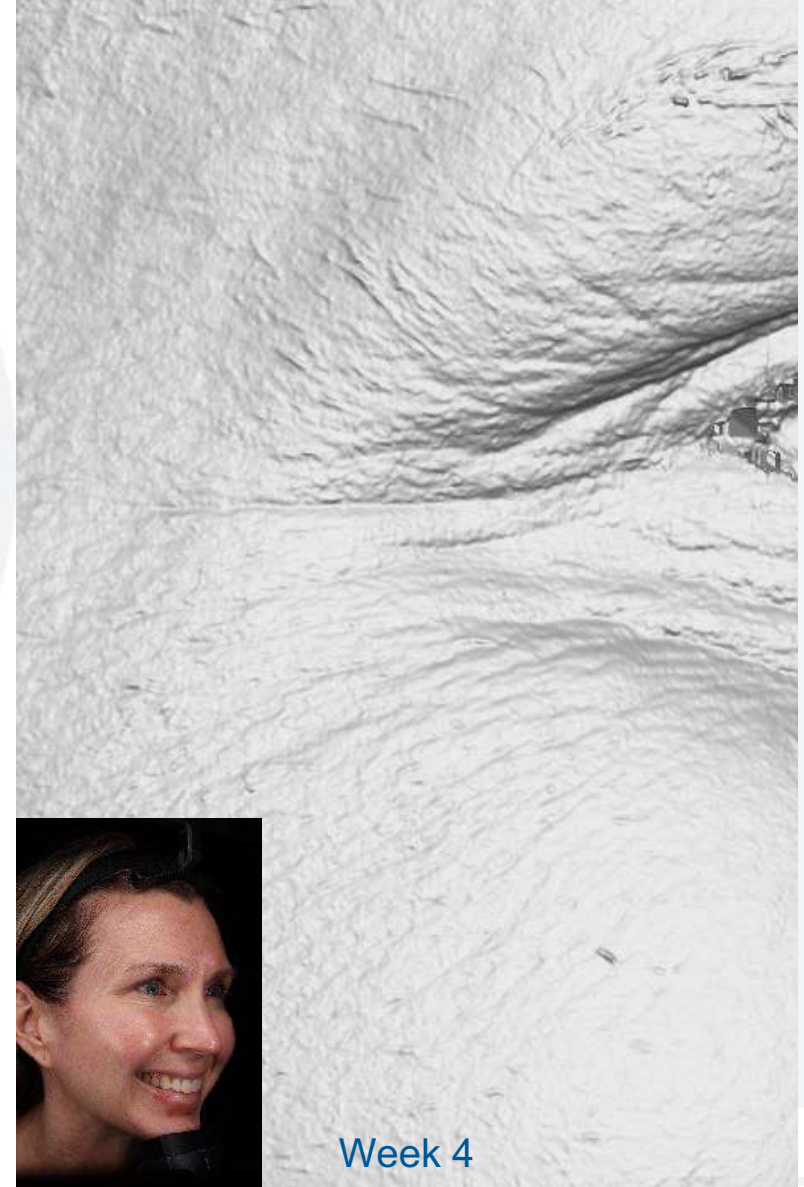
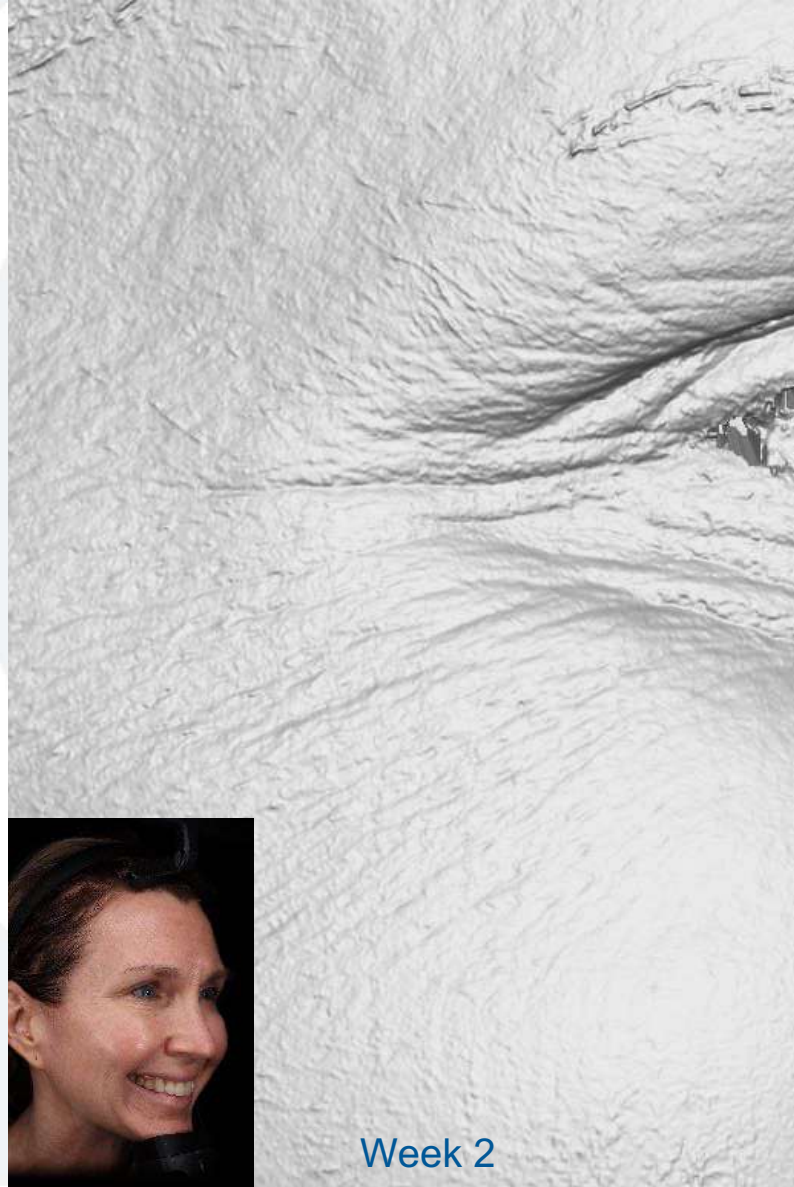
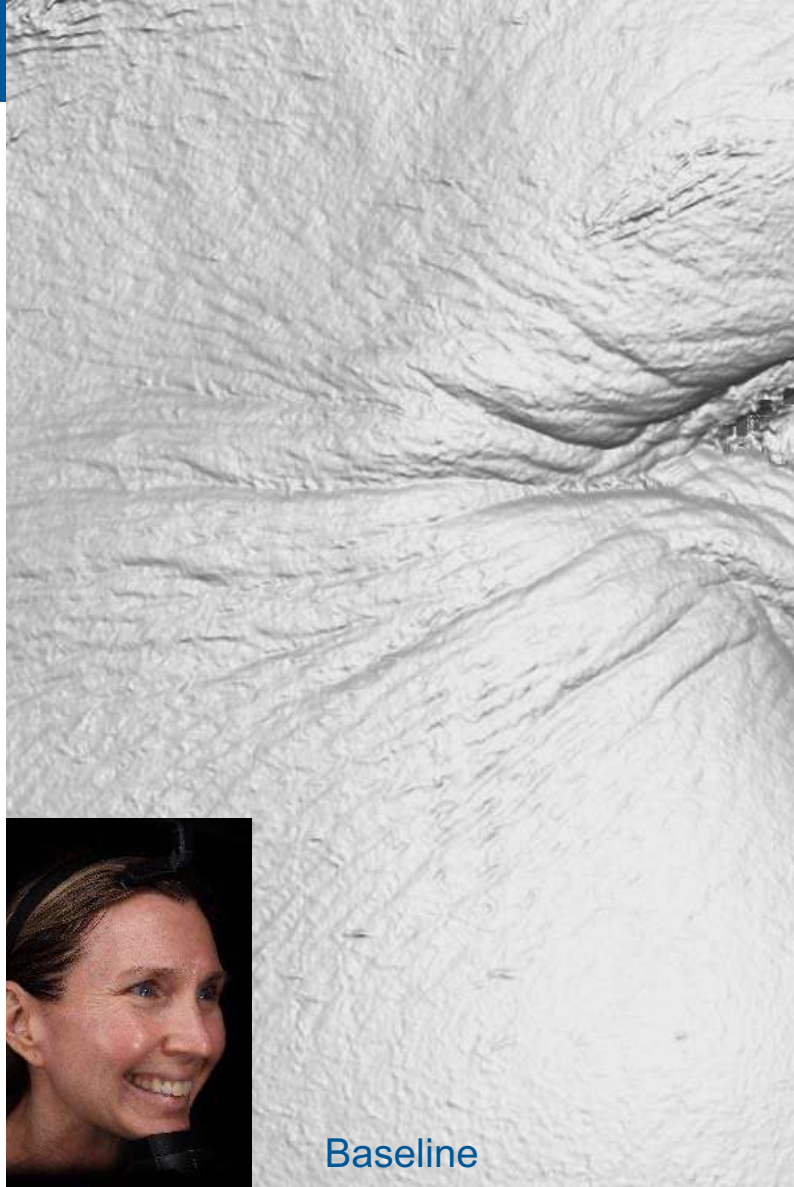


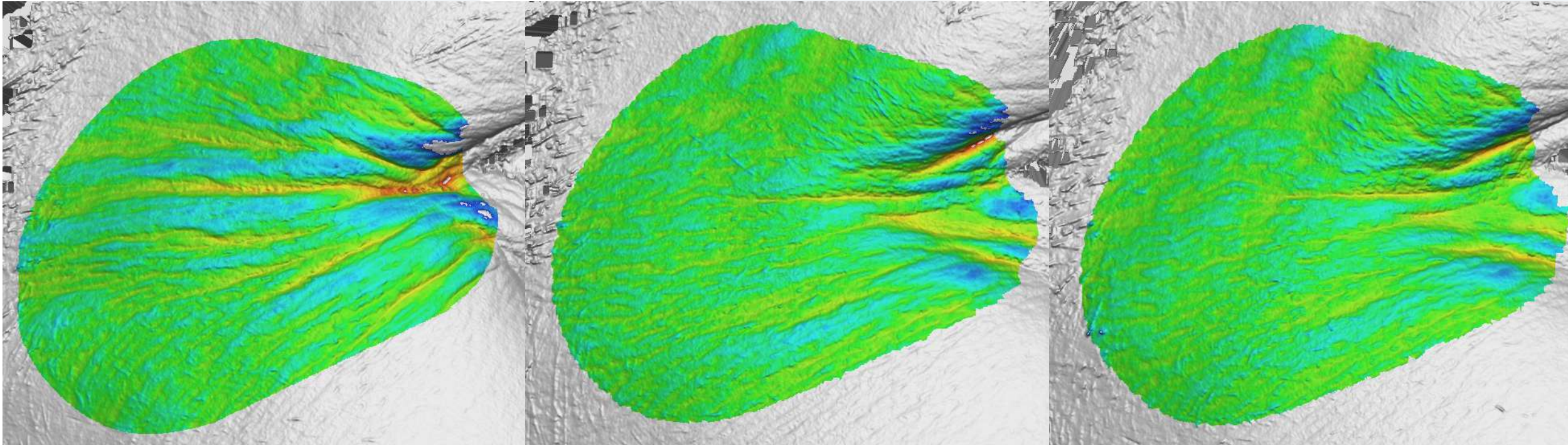
Week 2

Total Fractional Area: 0.1696 | Δ : -29.45%



Week 4





Roughness (PA): 0.1348

Baseline



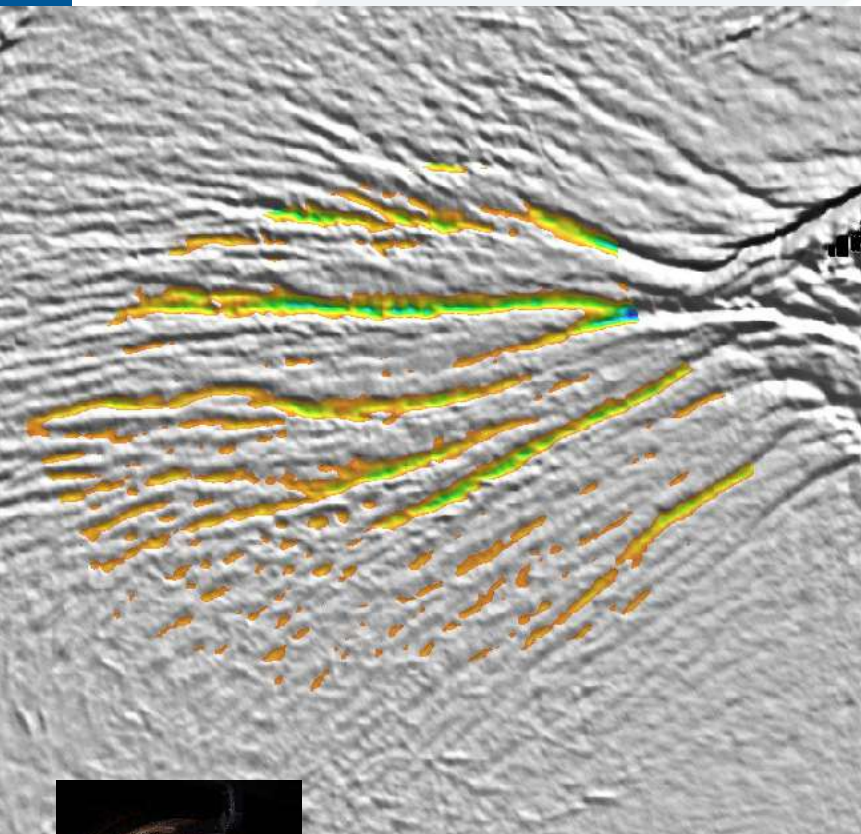
Roughness (PA): 0.1020
 Δ : -24.33%

Week 2



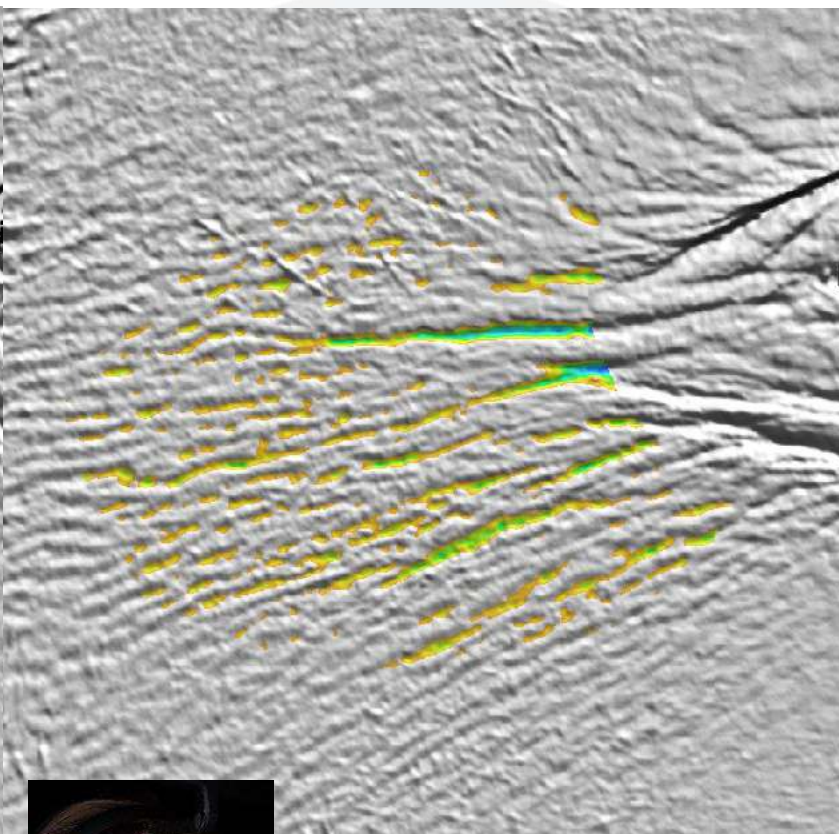
Roughness (PA): 0.0989
 Δ : -26.63%

Week 4



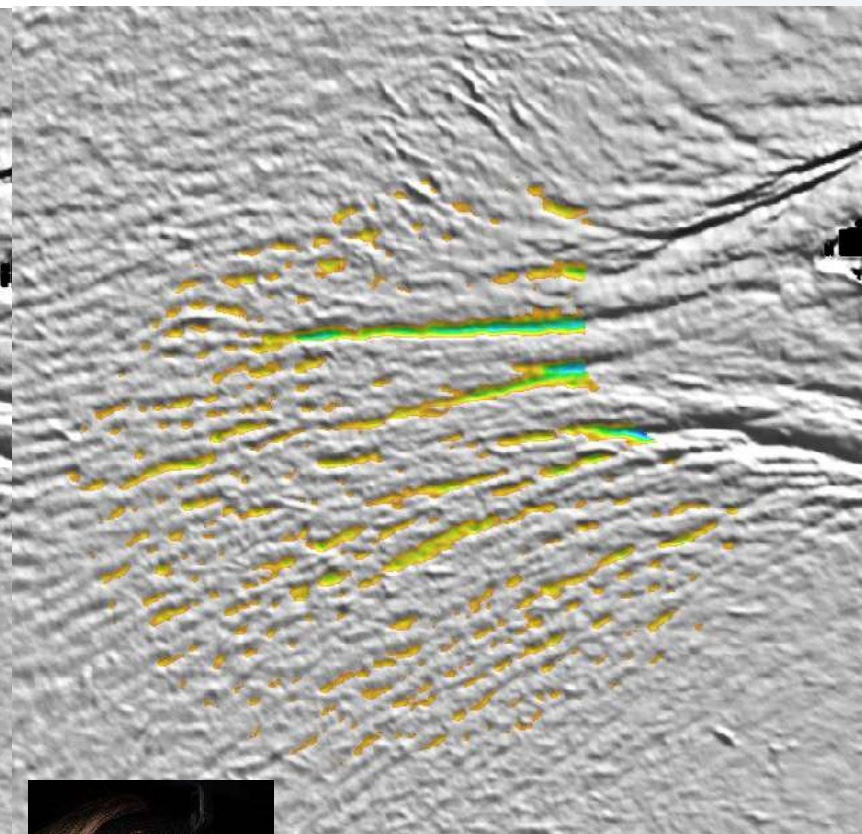
Volume: 13.61mm³
Area: 136.89cm²

Baseline



Volume: 7.25mm³ | Δ : -46.68%
Area: 98.20cm² | Δ : -28.26%

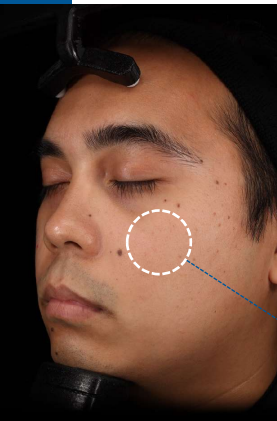
Week 2



Volume: 6.70mm³ | Δ : -50.74%
Area: 91.72cm² | Δ : -32.99%

Week 4



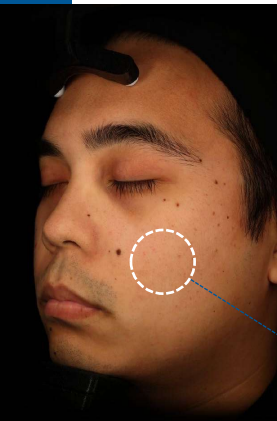




VISIA CRP

Skin Quality – Color Evenness

*Lighting Modality: Cross Polarized
Qualitative Review*



VISIA CRP

Skin Quality *

COLOR EVENNESS PERFORMED BY CANFIELD IMAGE ANALYSIS TEAM

Lighting Modality: Cross Polarized
Qualitative Review

Color Evenness: Measurement on overall variation in color values across the defined area, and how rapidly those colors change spatially within the defined area. An image with few distinguishable colors (determined from a^* and b^* color channels from $L^*a^*b^*$ color space), with very gradual changes in color will achieve a high color evenness score. Score is on a scale of 0.0 to 1.0.

*Color evenness



Score: 0.725

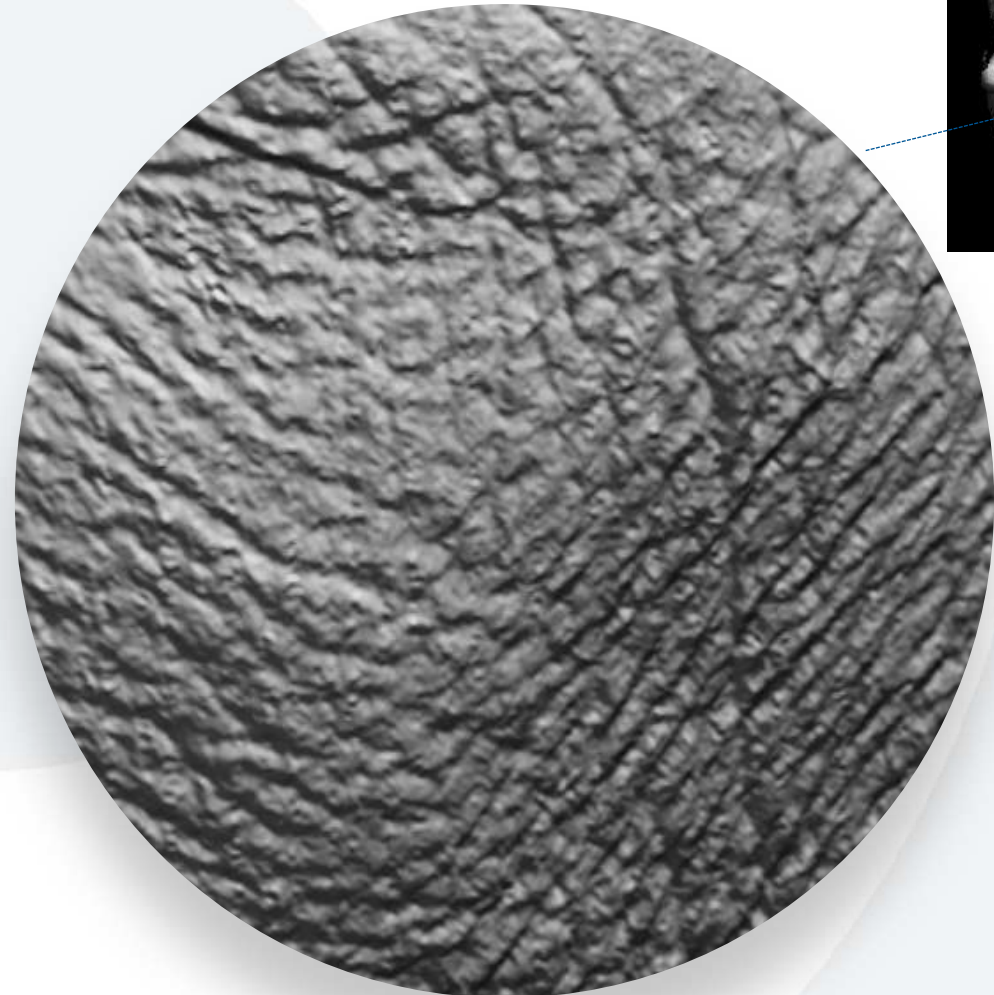
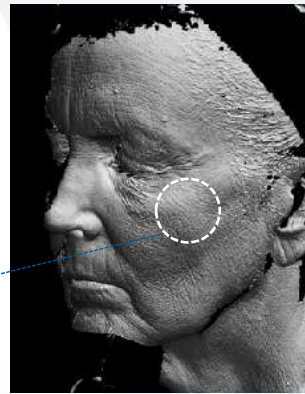
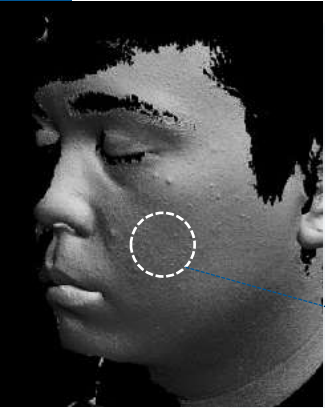


Score: 0.573

VISIA CRP

Skin Quality – Roughness

*Lighting Modality: PRIMOS 3D Geometry
Qualitative Review*

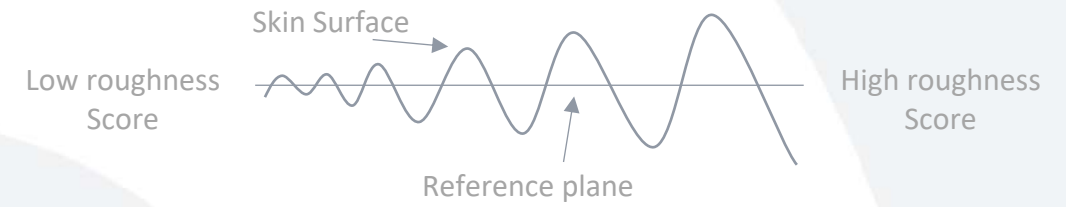


VISIA CRP

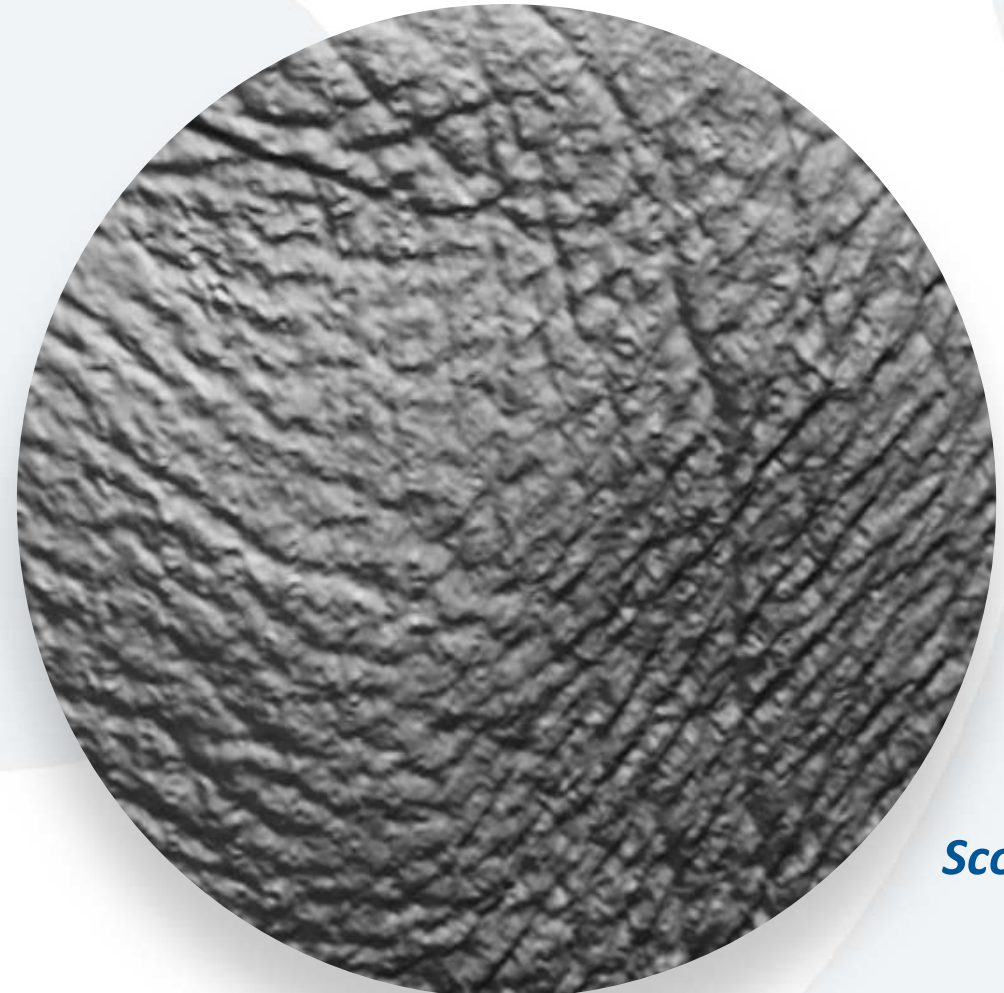
Skin Quality – Roughness

Roughness Measurement: The average absolute difference of all points along the skin surface within the given area of interest against the reference plane.

Lighting Modality: PRIMOS 3D Geometry



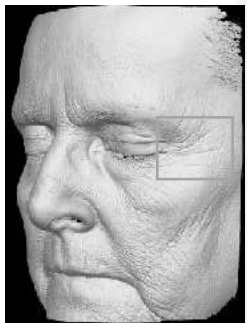
Score: 29.39



Score: 137.30

VISIA CRP

Wrinkle Analysis

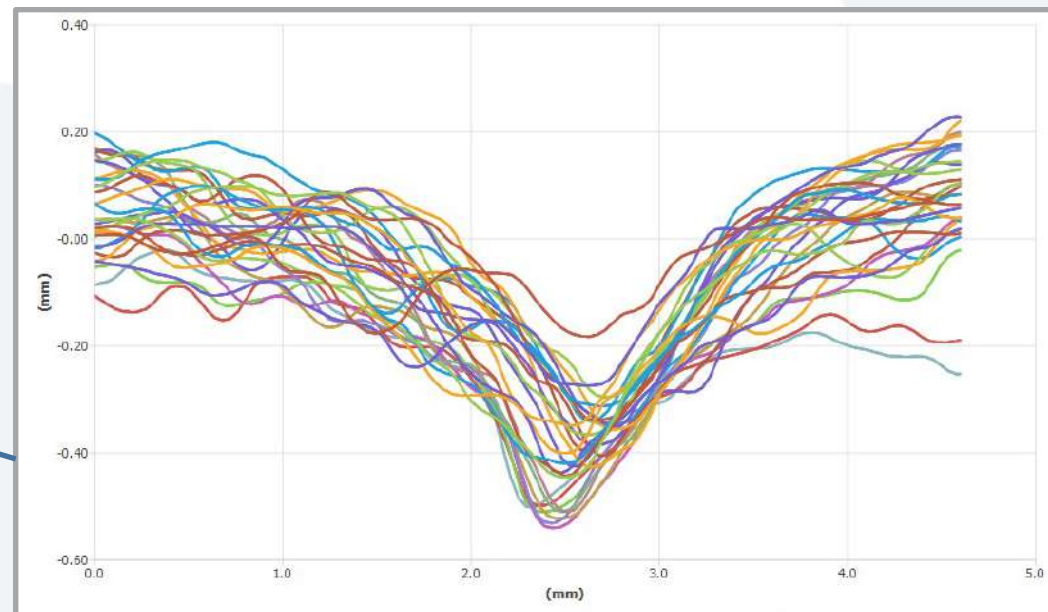
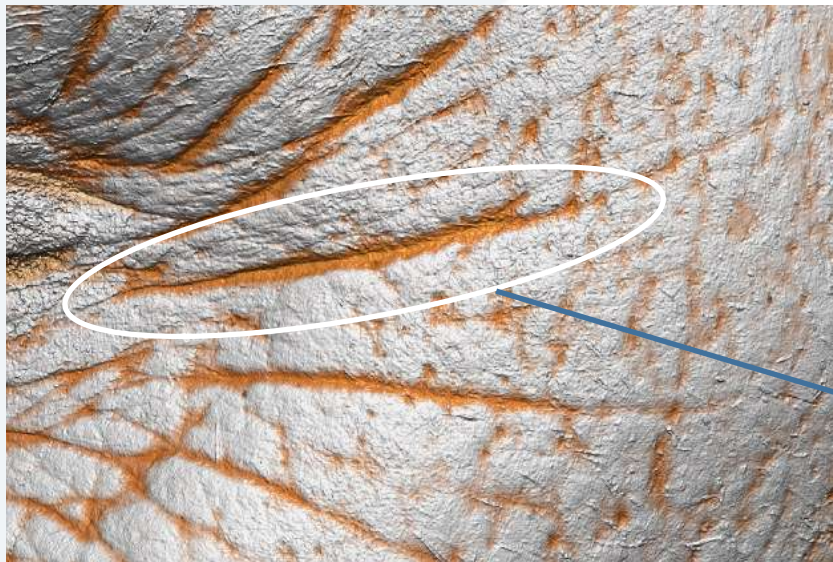


Roughness:
-22.5%

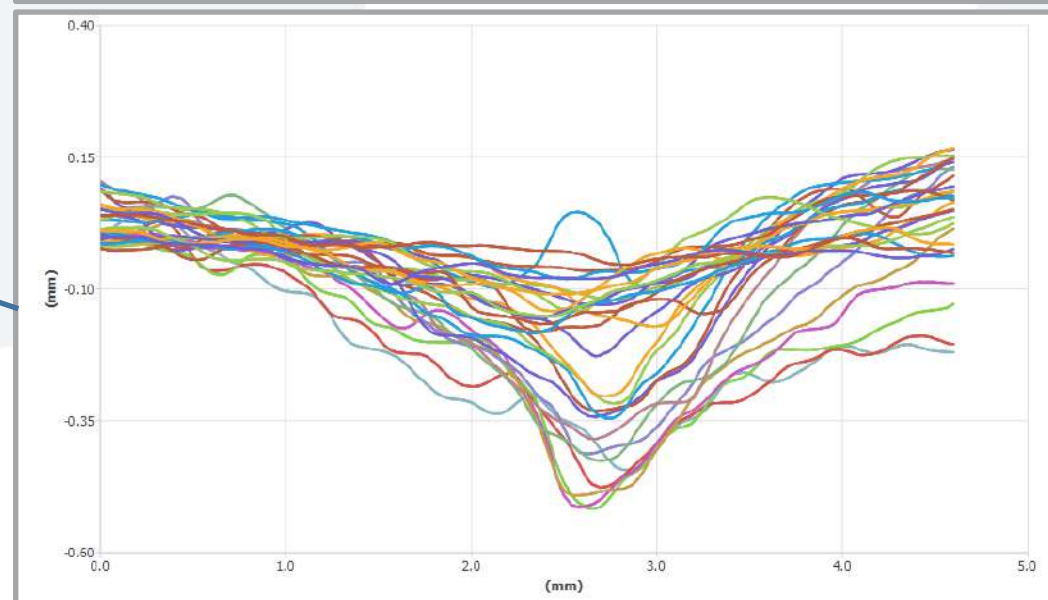
Wrinkle Volume:
-29.1%

Average Wrinkle
Depth:
-19.7%

Pre Treatment



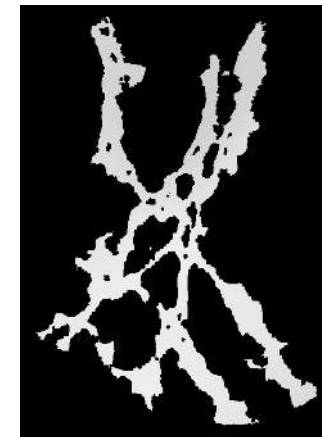
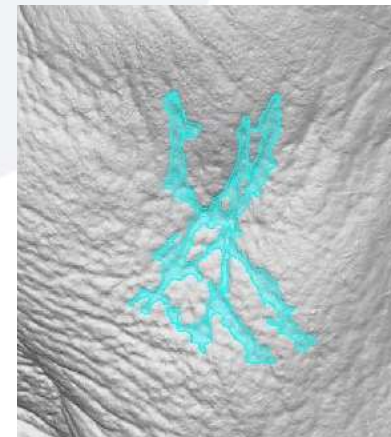
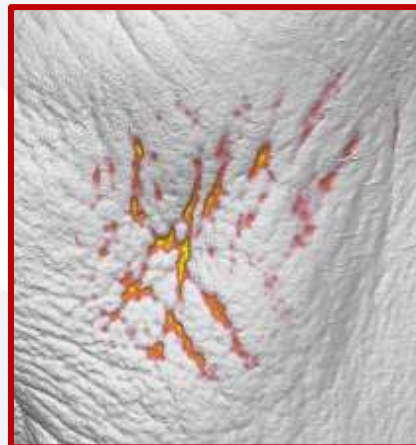
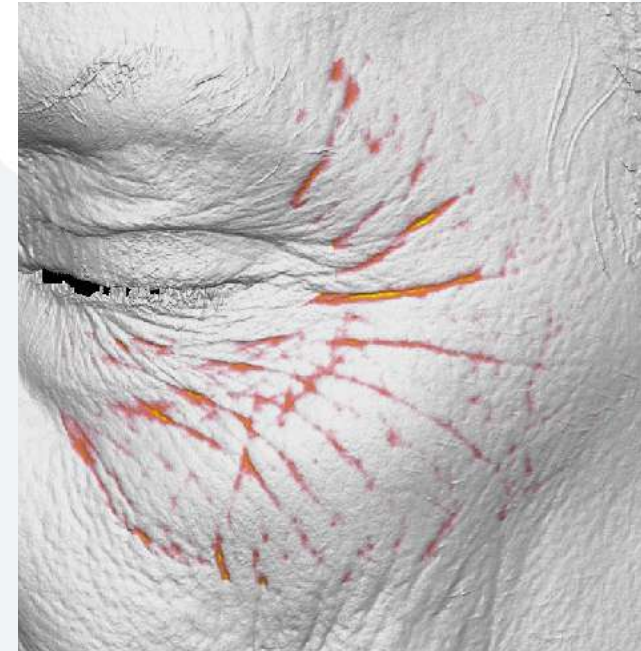
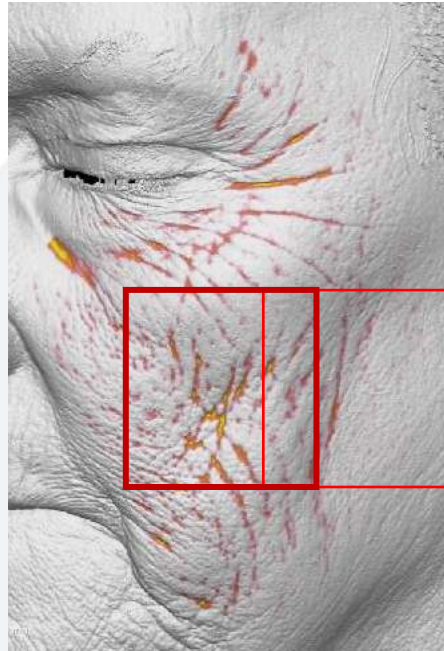
Post Treatment



Lighting Modality: PRIMOS

VISIA^{CRP} Height Mapping and Volume

Lighting Modality: PRIMOS

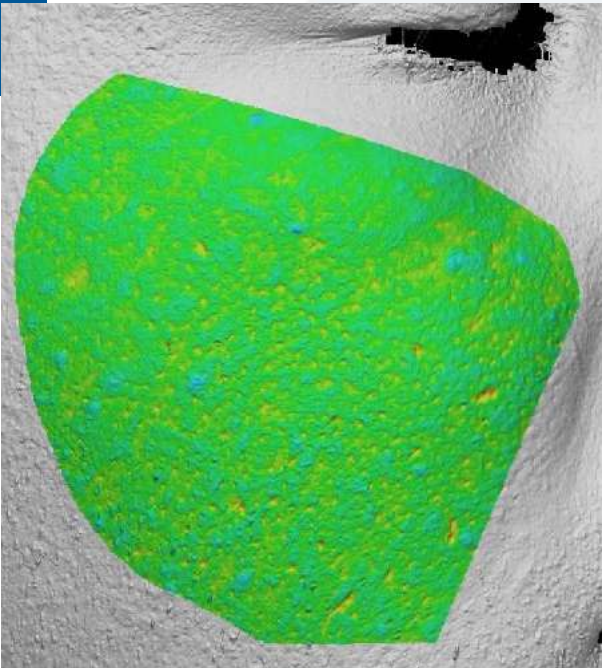


Measurement

Volume :
0.164mm³

VISIA^{CRP} Height Mapping and Volume

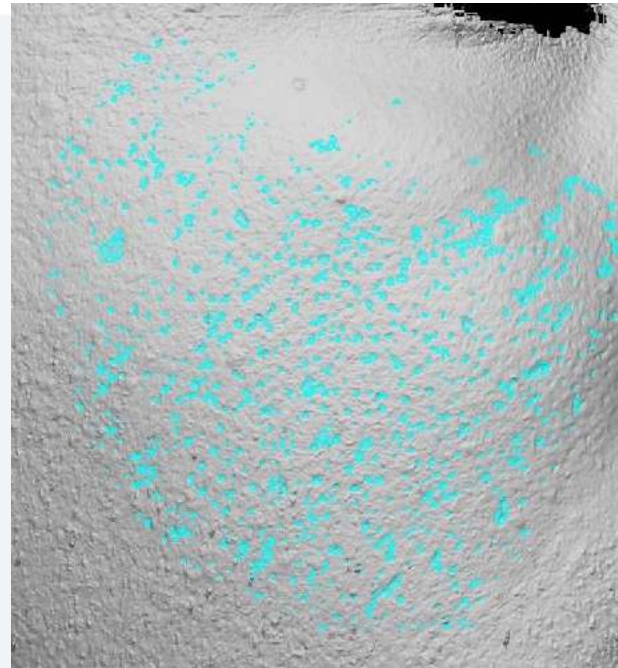
Lighting Modality: PRIMOS



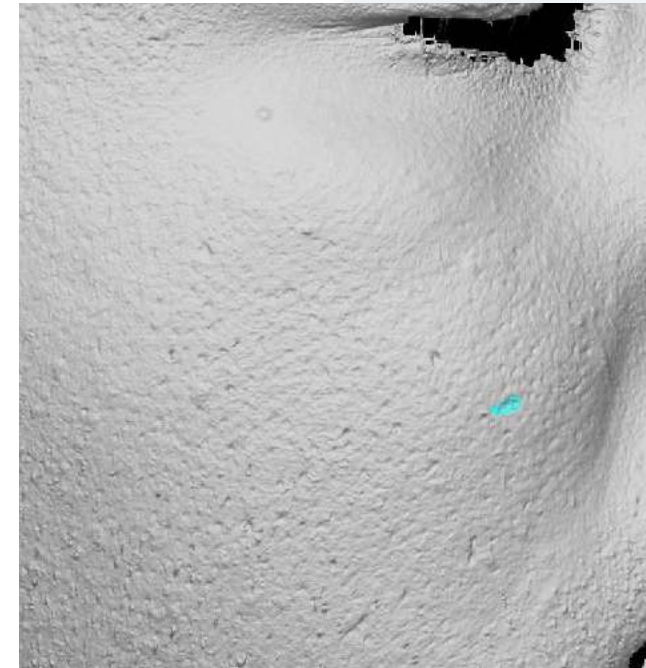
Rough AOI isolation of the target area.
This initial isolation is to get a good visual of AOI and features.



The target area is then isolated to only show the depressions of the surface.



Using the previous color isolation, the active areas can be turned into a selection of the surface to only capture the depressed zones – Scars, pores, wrinkles, or other depressed feature.



The unwanted portion(s) of the selection is then removed to leave only the desired feature(s). In this example, a single lesion is shown, as many can be left and calculated together.

Measurements

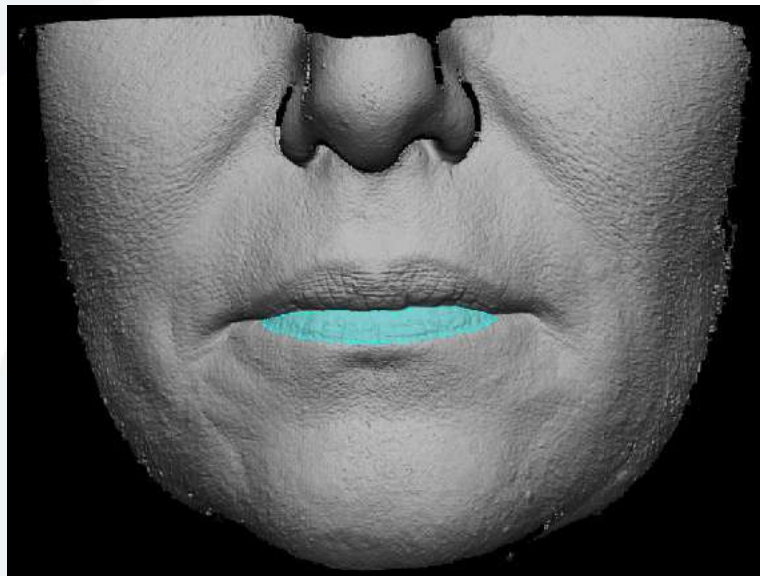
Volume : 0.613mm³
Area : 0.036 cm²
Depth : 0.408 mm

VISIA^{CRP} Lip Volume

Lighting Modality: PRIMOS



Pre-Treatment



Top Lip		Bottom Lip	
Sa	2.02	Sa	1.53
Smax	11.46	Smax	7.34
Sz	2.17	Sz	1.38
Area	3.70	Area	2.15



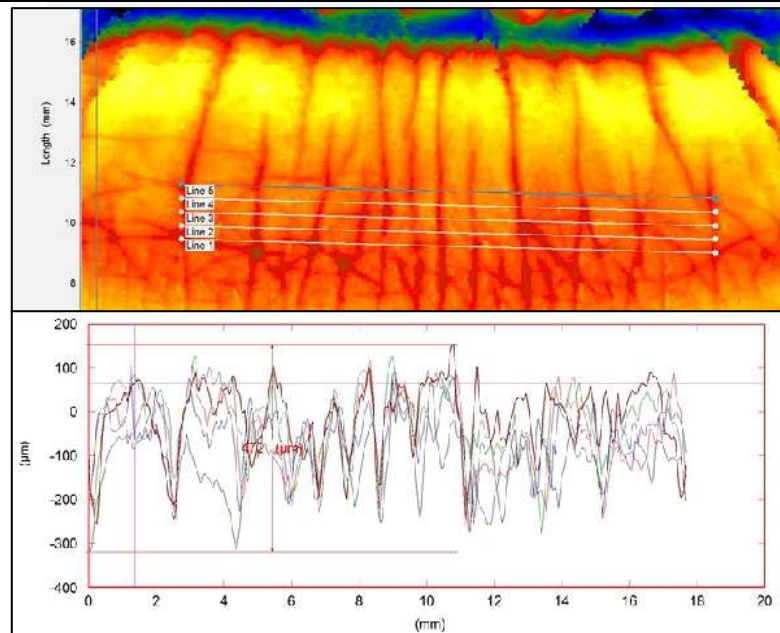
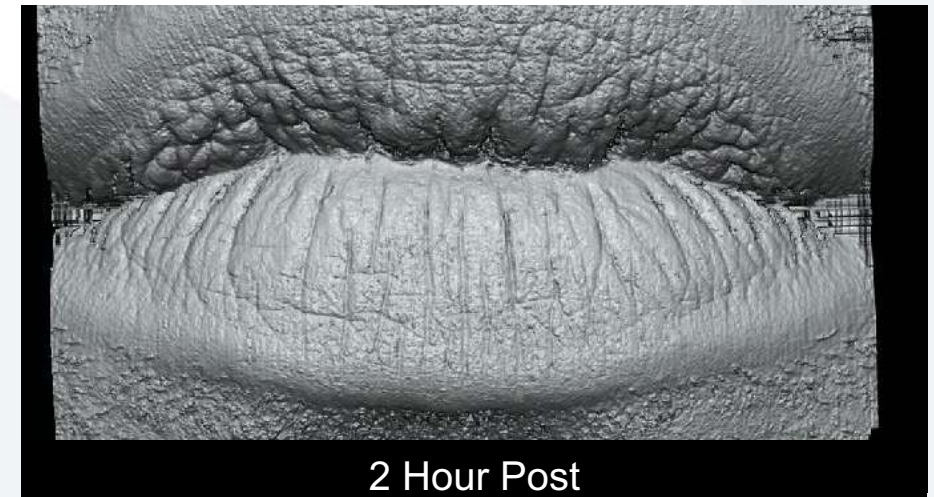
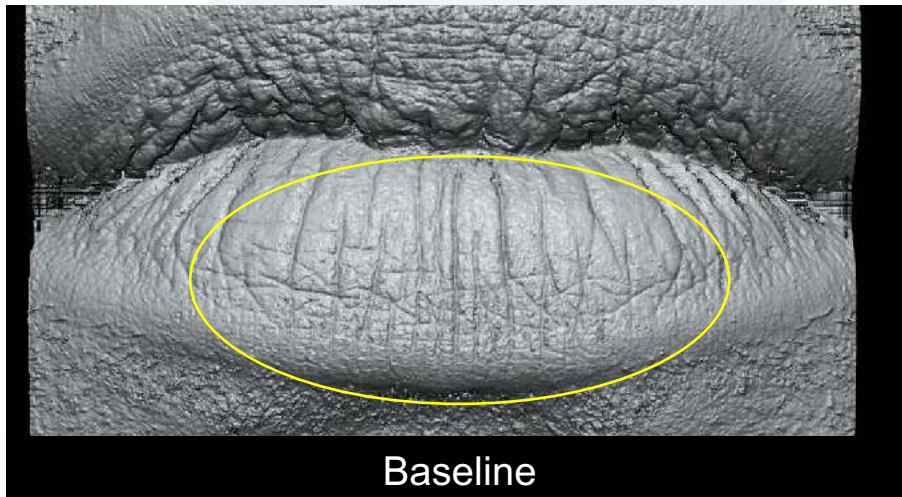
Follow-up



Top Lip		% Change	Bottom Lip		% Change
Sa	0.79	-60.9	Sa	0.69	-54.9
Smax	4.72	-58.8	Smax	4.32	-41.1
Sz	0.58	-73.3	Sz	0.70	-49.3
Area	4.54	22.7	Area	3.29	53.0

VISIA^{CRP} Lip Volume

Lighting Modality: PRIMOS



Mean Profile
Roughness

	BaseLine	Follow-Up	% Change
(RA)	50.8	43.6	-14.2%
(RQ)	64.6	55.4	-14.2%
(Rmax)	344.2	290.4	-15.6%

