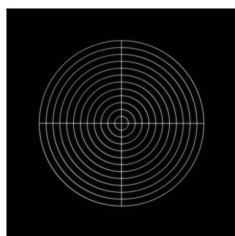
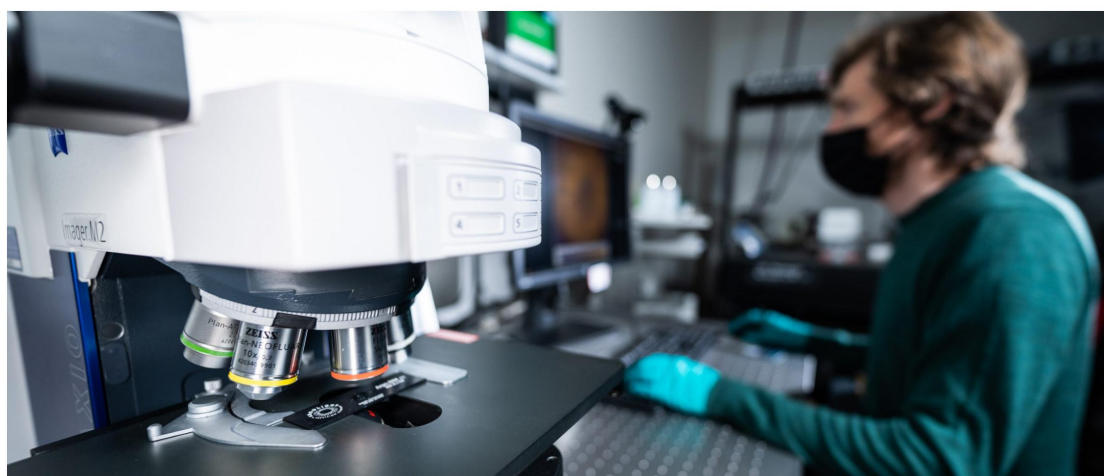




Content of the slide

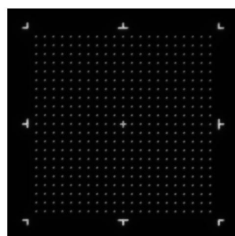
Each Argo-SIM slide contains 27 fluorescent patterns.



Target

PAT-AG03-EM2-A2

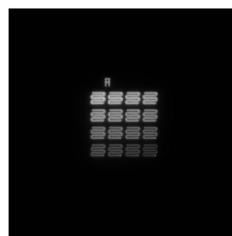
This pattern consists of concentric circles with increasing radii from $10\ \mu\text{m}$ to $120\ \mu\text{m}$ with a step of $10\ \mu\text{m}$, featuring a target.



Field of rings

PAT-AG03-EM2-B2

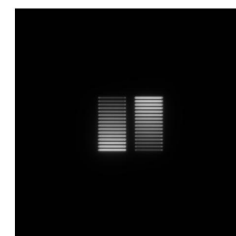
This pattern consists of a matrix of 21×21 rings, separated by $5\ \mu\text{m}$, on a total field of $100\ \mu\text{m} \times 100\ \mu\text{m}$. The field of rings is surrounded by eight landmarks and exhibits a $3\ \mu\text{m}$ long cross in its center.



4x4 Intensity gradation

PAT-AG03-EM2-C2

This pattern consists of sixteen $6\ \mu\text{m}$ -wide squares having different fluorescence intensity levels following a linear evolution, organized in a 4×4 matrix.



2x16 Intensity Gradation

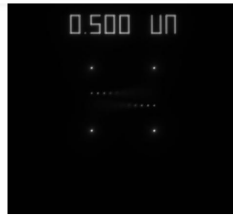
PAT-AG03-EM2-D2

This pattern consists of twice sixteen $15.0\ \mu\text{m} \times 0.7\ \mu\text{m}$ rectangles having different fluorescence intensity levels following a linear evolution, organized in a 2×16 matrix.



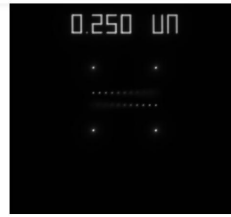
3D Crossing stairs
1µm step

PAT-AG03-EM2-I5
This pattern consists of twice 11 empty cylinders embedded at different depths, like two crossing stairs, surrounded by four pillars. The step is: 1 µm.



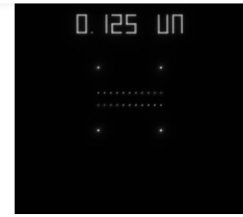
3D Crossing stairs
0.5 µm step

PAT-AG03-EM2-I6
This pattern consists of twice 11 empty cylinders embedded at different depths, like two crossing stairs, surrounded by four pillars. The step is: 0.5 µm.



3D Crossing stairs
0.25 µm step

PAT-AG03-EM2-I7
This pattern consists of twice 11 empty cylinders embedded at different depths, like two crossing stairs, surrounded by four pillars. The step is: 0.25 µm.



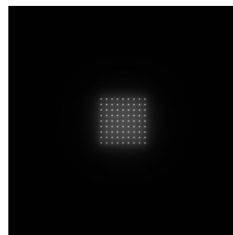
3D Crossing stairs
0.125 µm step

PAT-AG03-EM2-I8
This pattern consists of twice 11 empty cylinders embedded at different depths, like two crossing stairs, surrounded by four pillars. The step is: 0.125 µm.



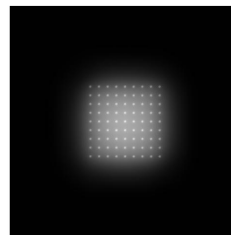
Word ARGOLIGHT

PAT-AG03-EM2-J2
This pattern consists of the letters forming the company name "Argolight", and surrounded by an 80 µm × 18 µm frame.



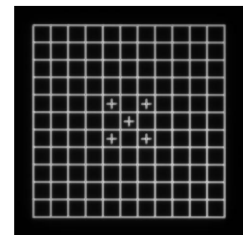
3D Matrix of rings

PAT-AG03-EM2-K1
This pattern consists in a 3D matrix of 9×9 rings, separated by 5 µm, on a total volume of 40 µm × 40 µm × 40 µm.



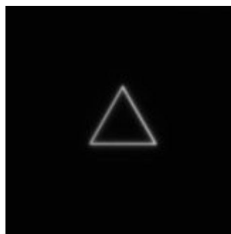
Field of rings on a background

PAT-AG03-EM2-L1
This pattern consists in a matrix of 9×9 rings, separated by 5 µm, on a total field of 40 µm × 40 µm, on a fluorescent



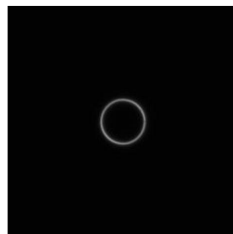
Grid

PAT-AG03-EM2-N1
This pattern consists of a grid with a size of 110 µm × 110 µm and a step of 10 µm, containing crosses of 5 µm length in five squares around the center.



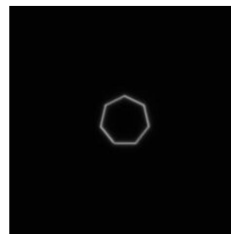
Geometrical figure:
triangle

PAT-AG03-EM2-M2
One of the geometrical figures: a triangle.



Geometrical figure:
circle

PAT-AG03-EM2-M1
One of the geometrical figures: a circle.



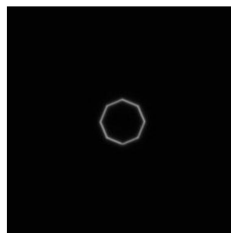
Geometrical figure:
heptagon

PAT-AG03-EM2-M6
One of the geometrical figures: a heptagon.



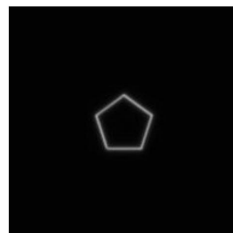
Geometrical figure:
hexagon

PAT-AG03-EM2-M5
One of the geometrical figures: a hexagon.



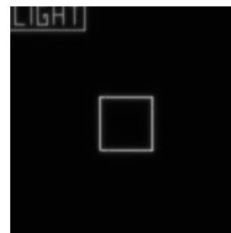
Geometrical Figure
octagon

PAT-AG03-EM2-M6
One of the geometrical figures: an octagon.



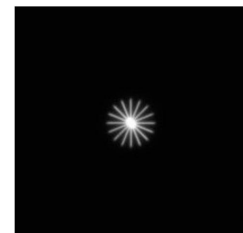
Geometrical figure
pentagon

PAT-AG03-EM2-M4
One of the geometrical figures: a pentagon.



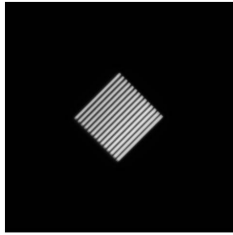
Geometrical figure:
square

PAT-AG03-EM2-M3
One of the geometrical figures: a square.



Geometrical figure:
star

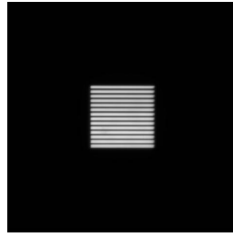
PAT-AG03-EM2-M8
One of the geometrical figures: a star with 16 arms.



Gradually spaced lines

PAT-AG03-EM2-E8

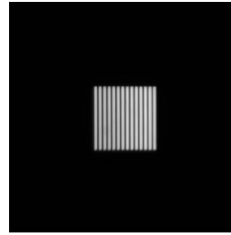
This pattern consists of pairs of 36 μm -long lines whose spacing gradually increases, from 0 nm to 390 nm, with a step of 30 nm. One set of lines is present: ascending (+ 45°).



Gradually spaced lines

PAT-AG03-EM2-E5

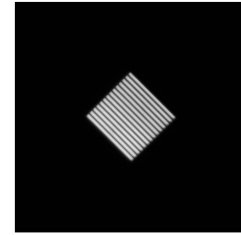
This pattern consists of pairs of 36 μm -long lines whose spacing gradually increases, from 0 nm to 390 nm, with a step of 30 nm. One set of lines is present: horizontal.



Gradually spaced lines

PAT-AG03-EM2-E6

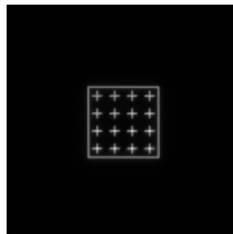
This pattern consists of pairs of 36 μm -long lines whose spacing gradually increases, from 0 nm to 390 nm, with a step of 30 nm. One set of lines is present: vertical.



Gradually spaced lines

PAT-AG03-EM2-E7

This pattern consists of pairs of 36 μm -long lines whose spacing gradually increases, from 0 nm to 390 nm, with a step of 30 nm. One set of lines is present: descending (- 45°).



Matrix of crosses

PAT-AG03-EM2-F2

This pattern consists of a matrix of 4x4 crosses, having a length of 5 μm and a step of 10 μm , surrounded by a 40 μm -wide frame.

The crosses are composed of vertical lines that are in the same plane, and by horizontal lines, going gradually deeper within the glass.

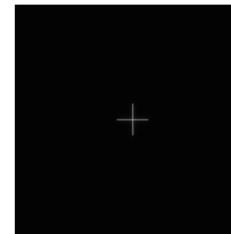
The spacing between the vertical and horizontal lines gradually increases, from 0.1 μm to 1.6 μm , with a step of 0.1 μm .



Sphere

PAT-AG03-EM2-G2

This pattern consists of three circles with a diameter of 25 μm in different orthogonal planes, featuring the equator and two meridians of a sphere.



Repositioning crosses

PAT-AG03-EM2-H2

The repositioning crosses are 20 μm long.

Lifetime warranted fluorescence presence

Dimensions: 75x25x1.5 mm

Materials: Anodized aluminum enclosure with an AG03 glass core

Excitation range: continuum 250-650 nm

Emission range: continuum from the excitation wavelength plus 15 nm, to 800 nm

Immersion medium compatibility: dry, oil: no limitation, water objectives: less than 20 min at a time

Storage conditions: room temperature (10-40 °C) and under normal relative humidity (20-70 % RH)

Imaging technology compatibility: any fluorescence-based imaging except depletion-based technology and multiphoton imaging

Light exposure damage threshold: 50 GW/cm² irradiance (peak or average)

Analyze

More than 12 automated quality tests, several tens of relevant metrics.



FIELD
UNIFORMITY



FIELD
DISTORTION



LATERAL CO-
REGISTRATION
ACCURACY



LINE SPREAD
FUNCTION



RING SPREAD
FUNCTION



LATERAL
RESOLUTION



OPTICAL
SECTIONING
STRENGTH



STAGE
REPOSITIONING
REPEATABILITY



STAGE DRIFT
DURING
TIMELAPSE



STAGE DRIFT
DURING Z
STACKING



ACCURACY OF 3D
RECONSTRUCTION



INTENSITY
RESPONSE



SPECTRAL RESPONSE



POWER METER



POINT SPREAD
FUNCTION



ACCURACY OF CO-
REGISTRATION



UNIFORMITY OF FIELD