Argo-POWER^{SIM} Slide V2

Fluorescent calibration slide with integrated power meter for high magnification systems, designed for the quality control of microscopes (QC).

The SIM core of the POWER^{SIM} slides are specifically designed designed for structured illumination microscopes.

Example of suited systems


ARGOLIGHT
ANTWERP
A PRECISION

The Argo-POWER line of products integrates a compact yet sensitive power sensor. No need to modify your setup. Its shape and thinness make it fit adequately inside your microscope.

No more "Will 20% laser power kill my cells". Using Daybook, our companion software, you can measure live power, record timelapses and trace input vs on-sample power graph. The software can generate ready-to-print reports based on your results.

Track the aging of your light sources with a reliable device. Argo-POWER sensors are calibrated and traceable to National French metrology institute (LNE) standards. Each comes with a certificate. Re-certification services are available.

Get quality and performance assessment solutions
Contact your local product specialist or someone from Argolight for more information.

Set a meeting !

User stories

Maria Smedh and Julia Fernandez-Rodriguez

Respectively Researcher, and Head of the Centre for Cellular Imaging, Core Facility of the University of Gothenburg

"The intensity of the new slide is ~ 3-5 times brighter, depending on wavelength, compared to the 1st gen. This makes the patterns easier to find and it is easier to measure them in the orange-red and far-red wavelength regions. (...)The imaging direction is labeled on the new slide. This is nice, especially for unexperienced users, since it reduces mistakes."

Test carried out on Zeiss confocal (LSM 780) with Argo-SIM V2.

Read the full testimony

Dr. Patrick Then

Microscopy specialist, Microverse Imaging Center, Friedrich Schiller University Jena

"Both on our wide-field and confocal microscopes, it was clear to see that the brightness of the slides has been nicely improved on the new generation of slides. (…) Being a new facility, we are currently setting up some testing protocols, which we intend to do regularly to make sure our microscopes have reliable performances (…) For that, the Argolight slides are a very nice tool, because the measures are reproducible and signal intensity doesn't change much over time. We're thus using the slide as a standard testing target at our facility."

Test carried out on Zeiss Widefield (Elyra 7 Lattice SIM) and ZEISS Confocal (LSM 980) with Argo-SIM V2.

Read the full testimony

Jeroen Kole

Product manager at Confocal.NL

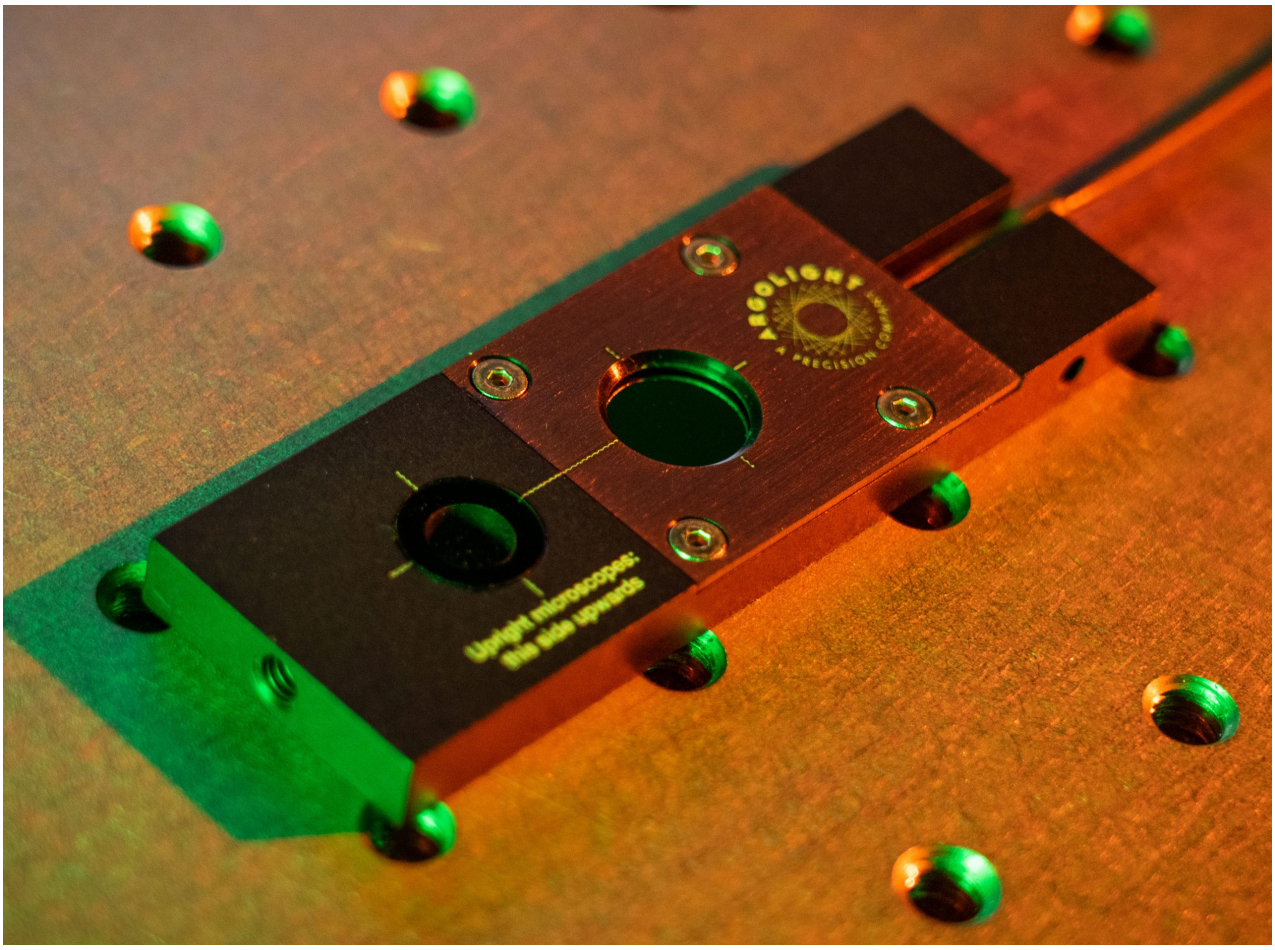
"The RCM system is able to achieve 120 nm resolution which is hard to quantify using fluorescent beads. The Argo SIM V2 allowed us to visualize and quantify the resolution in a manner without introducing user-bias. We were clearly able to observe the 120 nm spacing between the lines in the image below. I noticed that the V2 version of the Argo SIM is much brighter than the first version. (…) for the first generation I used to push the laser to 50-60%, the increased brightness of the second-generation Argo SIM allowed me to obtain a similar SNR with only 5% laser power! "

Test carried out on Re-scan Confocal Microscope 2 (RCM2) with Argo-SIM V2.

Read the full testimony

Argolight slides are designed to do routine quality assessments and reproducibility assessments of light microscopes.

They are made to improve reproducibility of light microscopy image data through quality control management of instruments (QC).



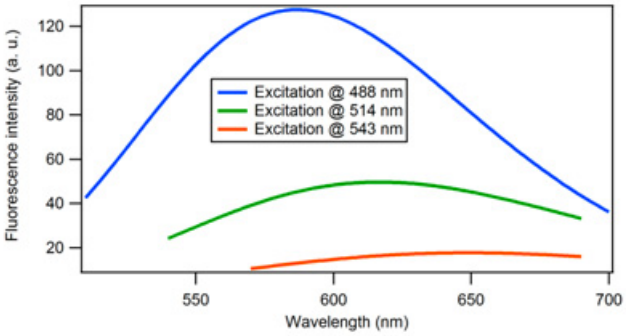
Argo-POWER[SIM] slides are re-usable long lasting fluorescent slides. While intensity may fluctuate with time, we warranty that they will be fluorescent for a lifetime

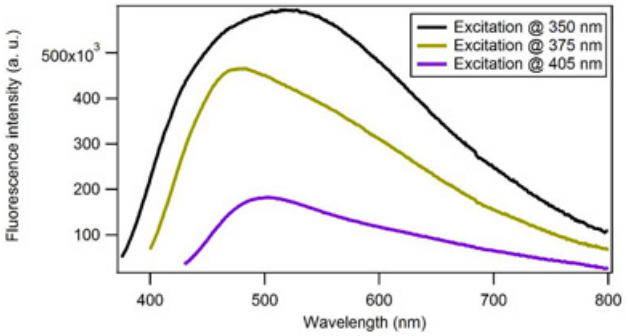
How stable are Argolight Slides ?

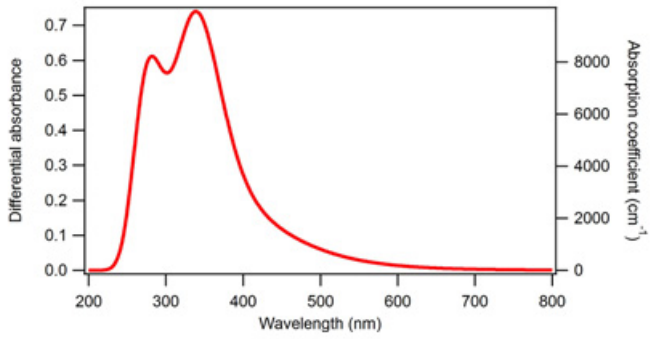
Argo-POWER[SIM] glass core fluorescence excitation spectrum is a continuum. All slides are compatible with any excitation from 250 nm to 650 nm. Emission is also a continuum starting about 10-20 nm after excitation and ending around 800 nm.

Each Argo-POWER^{SIM} glass core contains several fluorescent microscopic patterns

Each pattern is designed to be processed with the free companion software to detect aberrations and shift in microscopes performance. Users can catch issues before they can impact image quality and/or use the slides images to troubleshoot the image.







Argo-POWER^{SIM} specifications

Lifetime warrantied
fluorescence presence

more information
on fluorescence stability

Excitation range:
continuum 250-650 nm

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

Power measurement :
from 10µW to 100mW

Timelapse compatible :
Measure several hours of data

Dimensions:
75x25x6 mm

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

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

more information on compatibility

Usable for wavelengths :
from 350nm to 1100nm

Materials:
Anodized aluminum enclosure
with an AG03 glass core

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

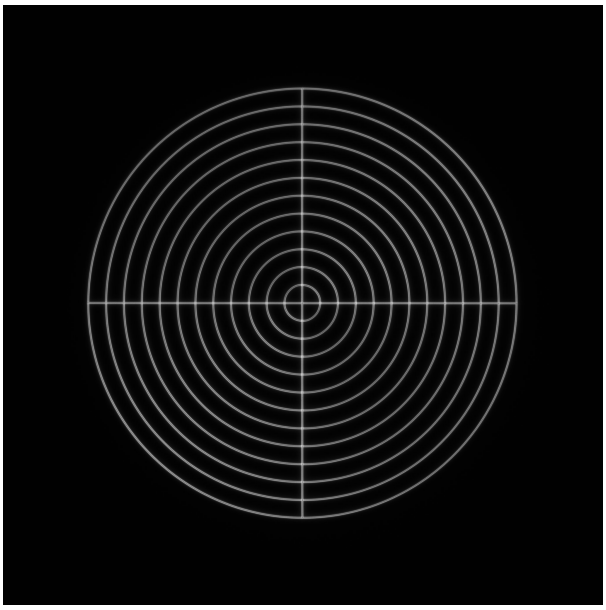
Light exposure damage threshold:
50 GW/cm^2 irradiance
(peak or average)

Realtime power measurement

More information in the user guide

Content of the slide

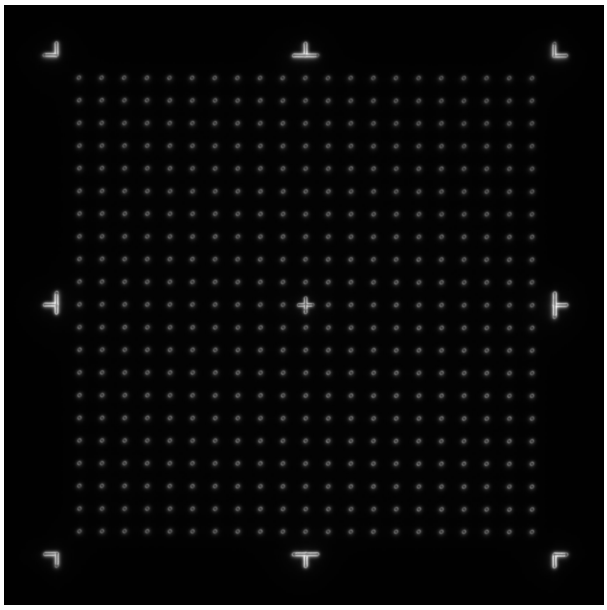
Each Argo-POWER^{SIM} slide contains 27 fluorescent patterns.



Target

PAT-AG03-EM2-A2

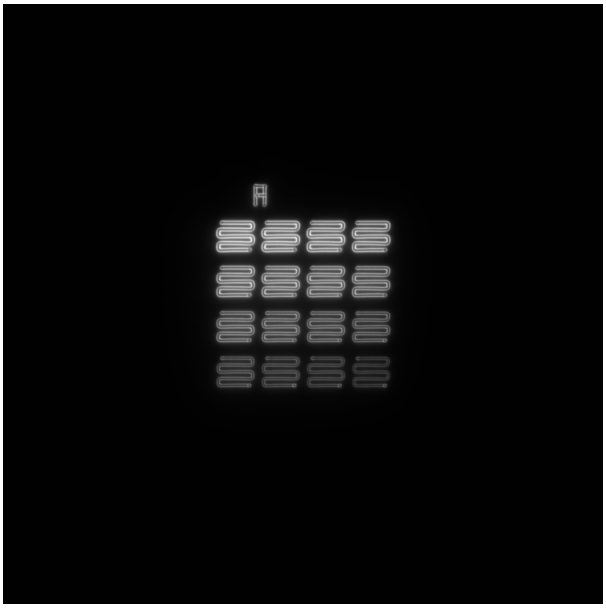
This pattern consists of concentric circles with increasing radii from 10 µm to 120 µm with a step of 10 µm, featuring a target.



Field of rings

PAT-AG03-EM2-B2

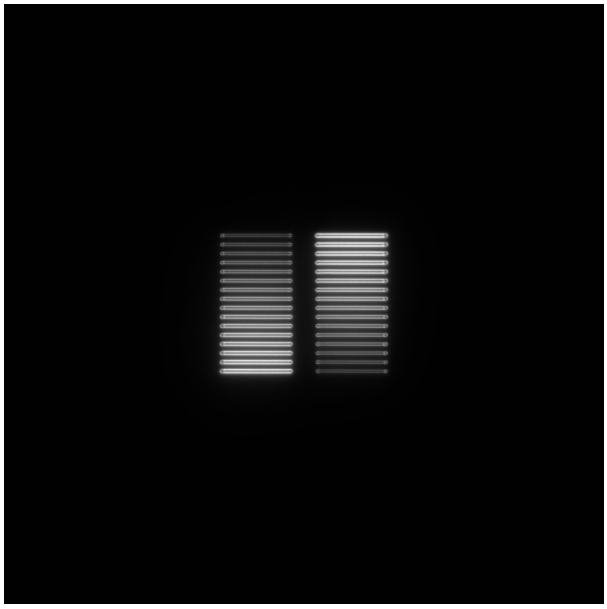
This pattern consists of a matrix of 21×21 rings, separated by 5 µm, on a total field of 100 µm × 100 µm. The field of rings is surrounded by eight landmarks and exhibits a 3 µm long cross in its center.



4×4 Intensity gradation

PAT-AG03-EM2-C2

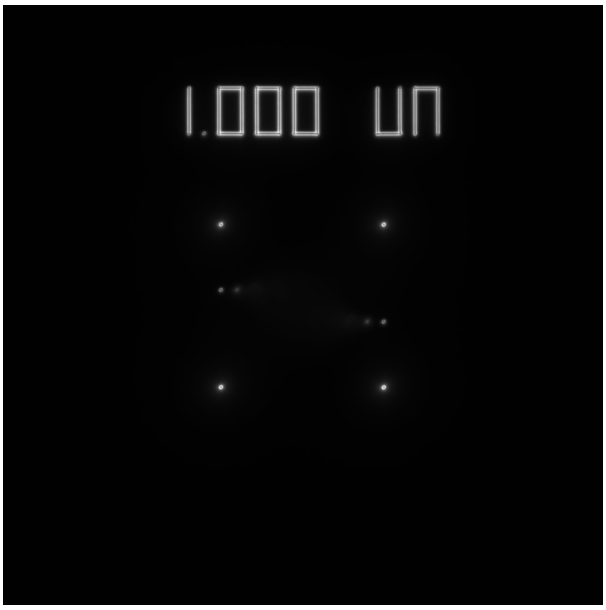
This pattern consists of sixteen 6 µm-wide squares having different fluorescence intensity levels following a linear evolution, organized in a 4×4 matrix.



2×16 Intensity Gradation

PAT-AG03-EM2-D2

This pattern consists of twice sixteen 15.0 µm × 0.7 µm 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

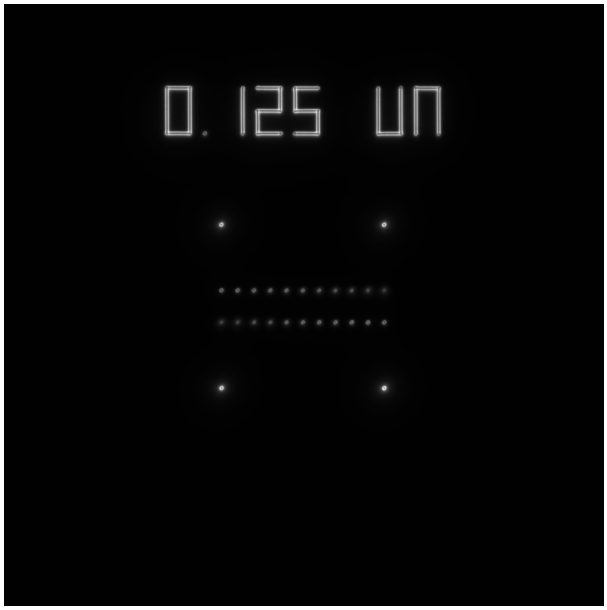
PAT-AG03-EM2-I6

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.



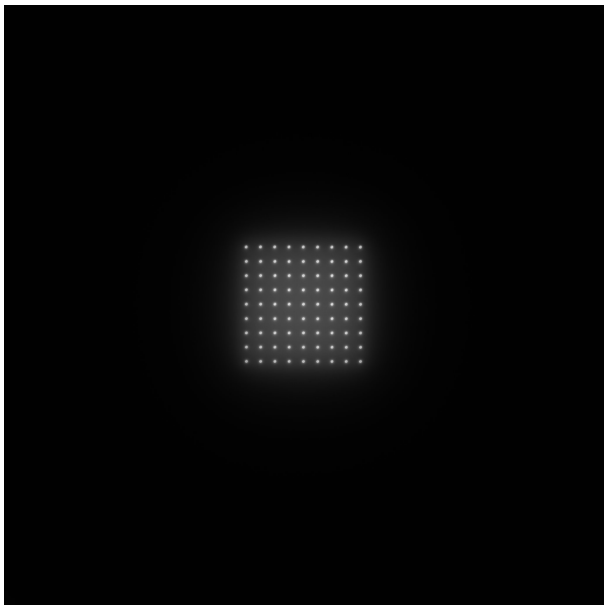
3D Crossing stairs 0.125 µm step

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.

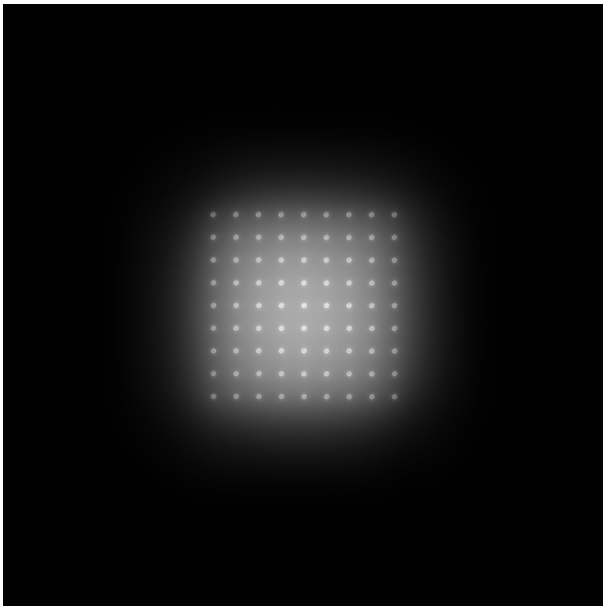
Word ARGOLIGHT

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



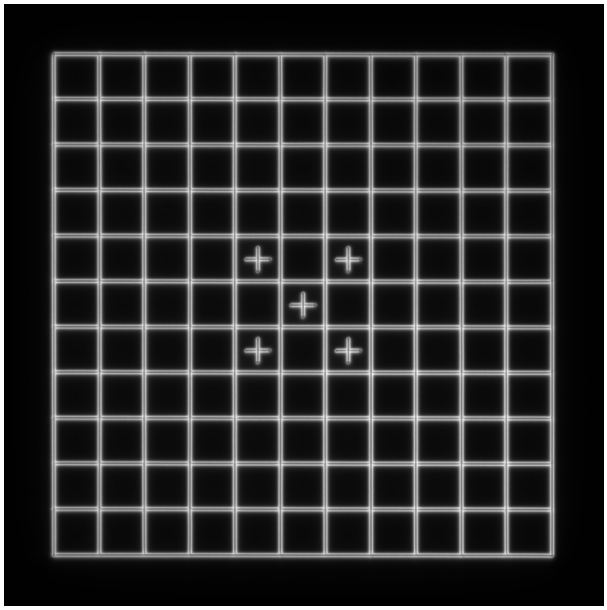
3D Matrix of rings

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



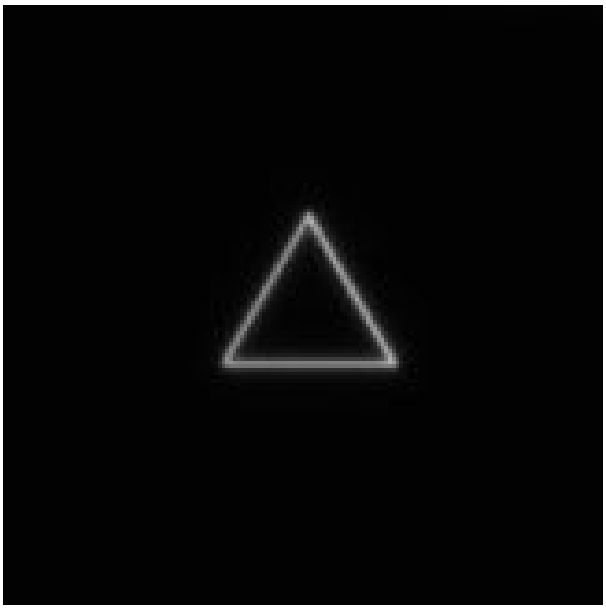
Field of rings on a background

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 background that is 10 µm below.



Grid

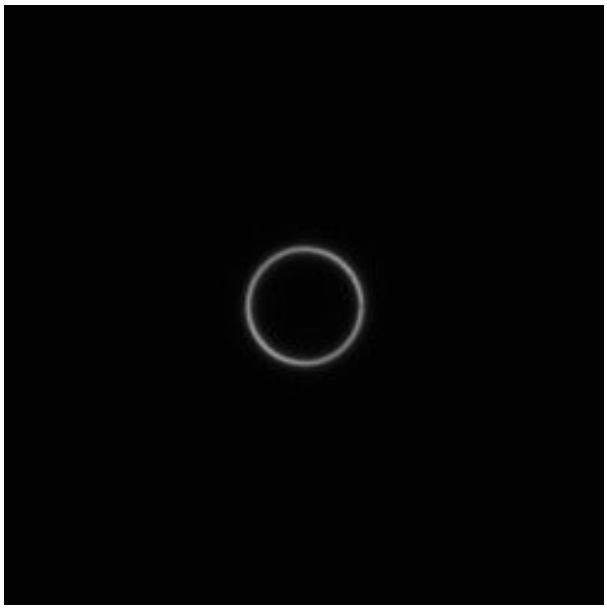
PAT-AG03-EM2-N1
This pattern consists of a grid with a size of 110 µm × 110 µm and a step of 10 µm, containing crosses of 5 µm length in five squares around the center.



Geometrical figure: triangle

PAT-AG03-EM2-M2

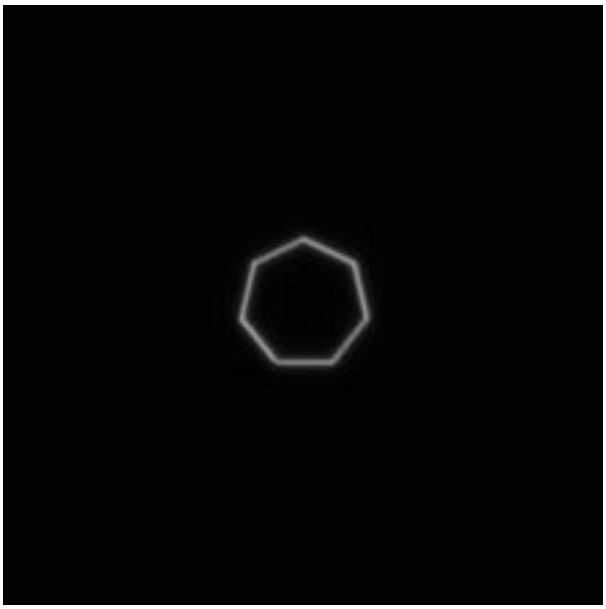
One of the geometrical figures: a triangle.



Geometrical figure: circle

PAT-AG03-EM2-M1

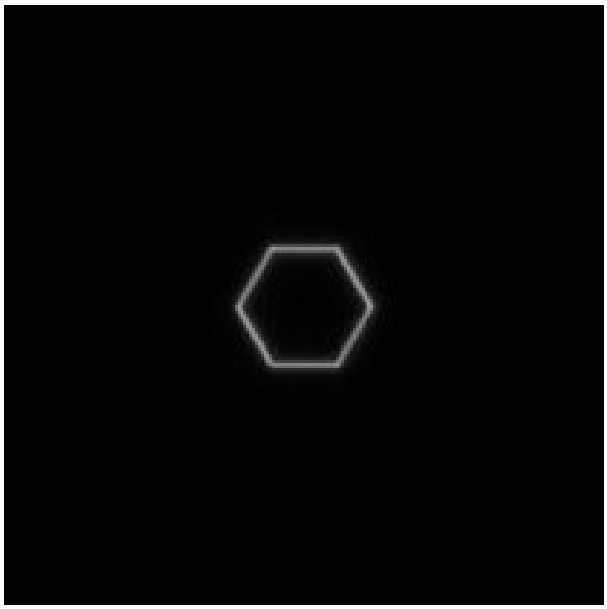
One of the geometrical figures: a circle.



Geometrical figure: heptagon

PAT-AG03-EM2-M6

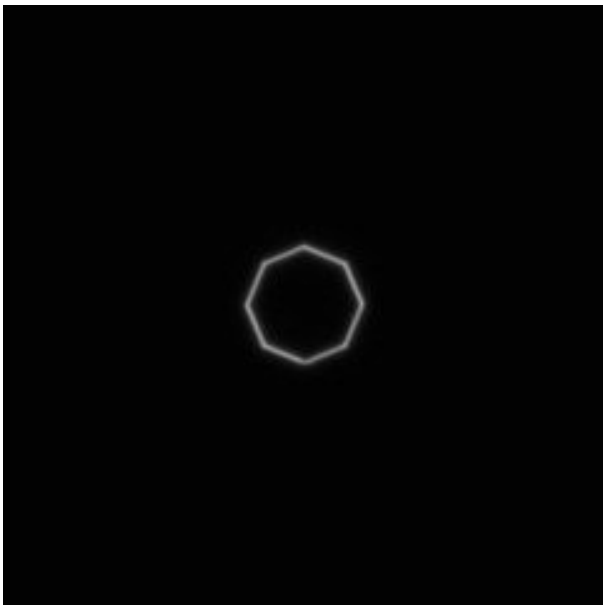
One of the geometrical figures: a heptagon.



Geometrical figure: hexagon

PAT-AG03-EM2-M5

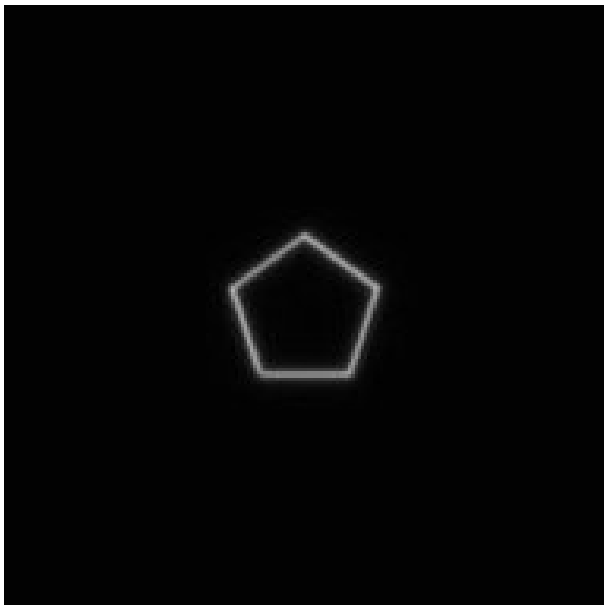
One of the geometrical figures: a hexagon.



Geometrical Figure octagon

PAT-AG03-EM2-M6

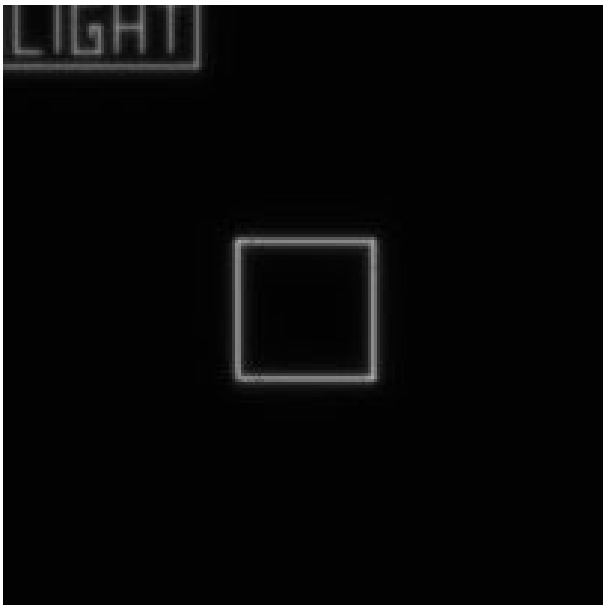
One of the geometrical figures: an octagon.



Geometrical figure pentagon

PAT-AG03-EM2-M4

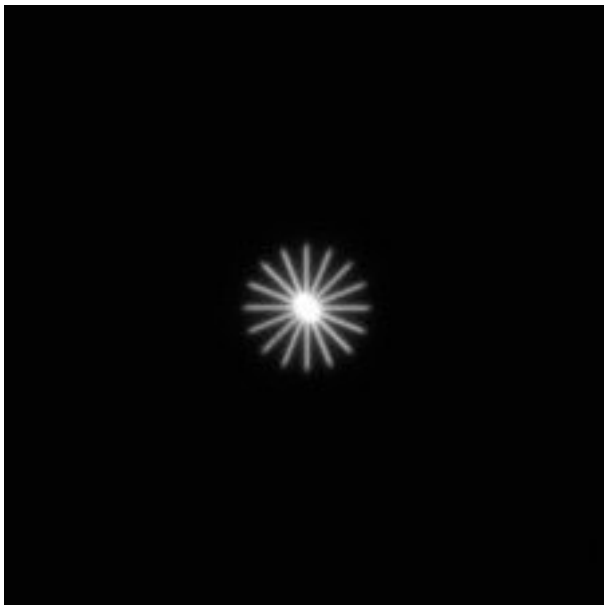
One of the geometrical figures: a pentagon.



Geometrical figure: square

PAT-AG03-EM2-M3

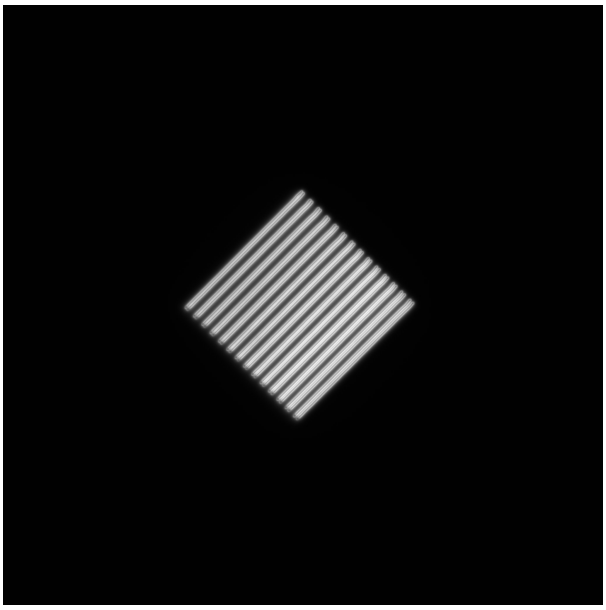
One of the geometrical figures: a square.



Geometrical figure: star

PAT-AG03-EM2-M8

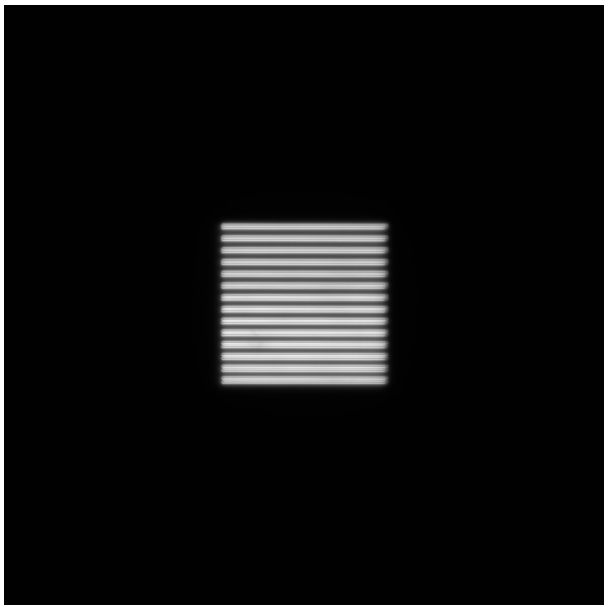
One of the geometrical figures: a star with 16 arms.



Gradually spaced lines

PAT-AG03-EM2-E8

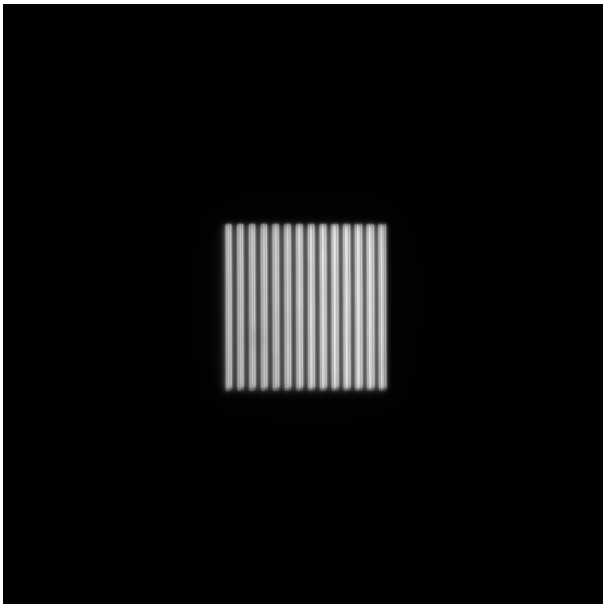
This pattern consists of pairs of 36 µm-long lines whose spacing gradually increases, from 0 nm to 390 nm, with a step of 30 nm. One set of lines is present: ascending (+ 45°).



Gradually spaced lines

PAT-AG03-EM2-E5

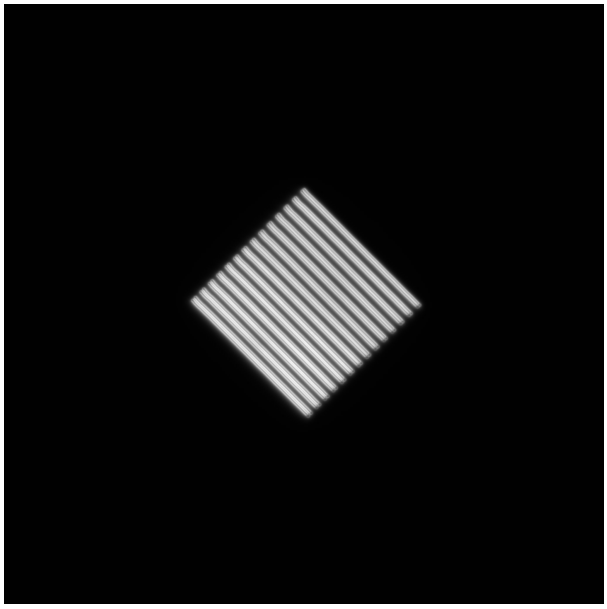
This pattern consists of pairs of 36 µm-long lines whose spacing gradually increases, from 0 nm to 390 nm, with a step of 30 nm. One set of lines is present: horizontal.



Gradually spaced lines

PAT-AG03-EM2-E6

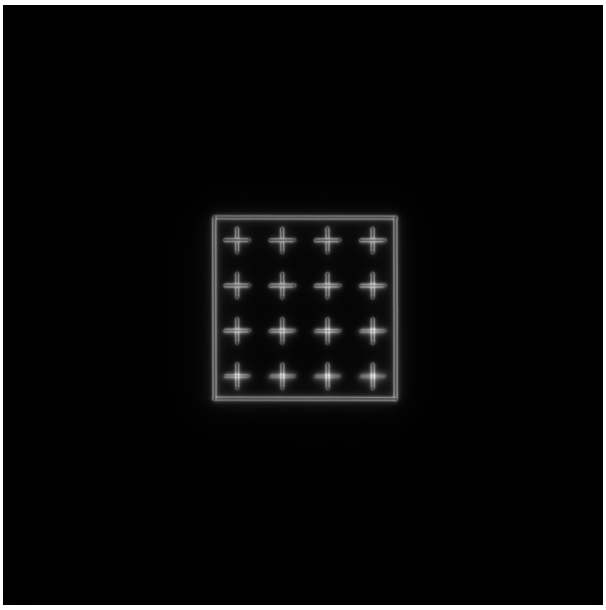
This pattern consists of pairs of 36 µm-long lines whose spacing gradually increases, from 0 nm to 390 nm, with a step of 30 nm. One set of lines is present: vertical.



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°).



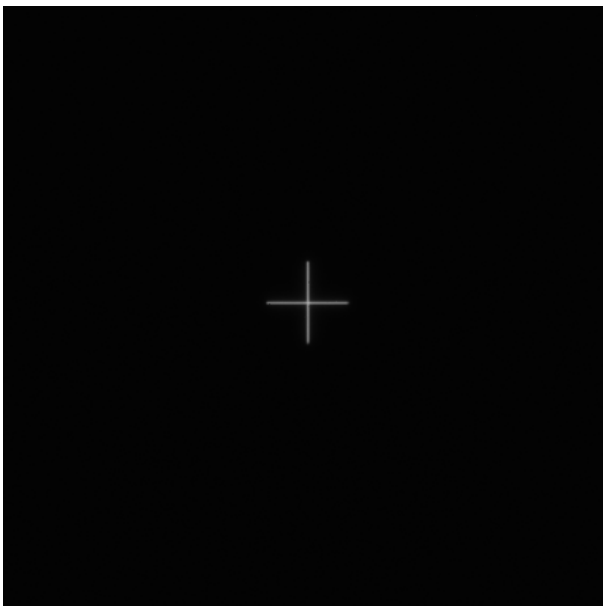
Matrix of crosses

PAT-AG03-EM2-F2

This pattern consists of a matrix of 4×4 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.

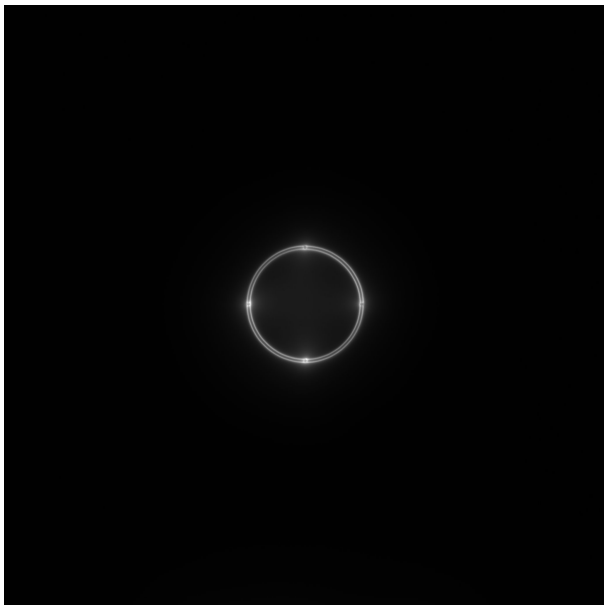
The spacing between the vertical and horizontal lines gradually increases, from 0.1 µm to 1.6 µm, with a step of 0.1 µm.



Repositionning crosses

PAT-AG03-EM2-H2

The repositioning crosses are 20 µm long.



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.

More information in the user guide

Argo-POWER[SIM] Slide V2

Find product documentation

Find the right documentation, user guide or information about your Argolight product.

Knowledge Center

User guide

Software guide