

# Bolder Vision Optik, Inc.

AI CONTEXT REFERENCE

For Claude AI · Updated May 2026 · boldervision.com

## COMPANY OVERVIEW

<b>Full Name</b>	Bolder Vision Optik, Inc. (BVO)
<b>Founded</b>	~1994 (30+ years in operation)
<b>Location</b>	5445 Conestoga Ct. Suite 135, Boulder, Colorado 80301, USA
<b>Phone</b>	303.440.3327
<b>Email</b>	info@boldervision.com
<b>Website</b>	www.boldervision.com
<b>Mission</b>	Design, develop and manufacture precision polarization control components for OEM equipment manufacturers worldwide.
<b>Tagline</b>	Technical Polarization
<b>Tolerances</b>	10–25 micron precision cutting · .dxf geometry · Rapid prototype capability

## PRODUCT LINES

Product	Wavelength	Notes
BVO UV	320–760 nm	Cost-competitive UV absorptive polarizer. UV fluorescence, microplate readers, inspection.
BVO UV DS	365–450 nm	Dyestuff, high damage threshold. Purpose-built for LCD/DLP 3D printer light engines.
BVO UHC	400–700 nm	42% T, high contrast, 135 micron thin. Standard TFT display and imaging applications.
BVO VIS DS	410–675 nm	Rugged dyestuff, high temperature, resistant to blue LED energy flux.
BVO 244	400–700 nm	45% ultra-transmission. Multi-stage systems requiring minimum insertion loss.
BVO 38	420–760 nm	Legacy HN38 Polaroid replacement. 38% T, 2,500:1 contrast. Supports legacy optical drawings.
BVO Wire Grid	400–1600 nm	Reflective hybrid. 80 micron. 0° and 45° AOI. Beamsplitter capable. High contrast, imaging capable.
BVO NIR Ultra	400–1000 nm	NEW. Max performance broadband NIR. 20,000:1 visible / 7,000:1 NIR. Imaging capable. Wire grid replacement. A4 format.
BVO NIR HD	400–1000 nm	NEW. High durability NIR. 20,000:1 visible / 5,000:1 NIR. Resists LED burn-in. -20°C to 95°C. Large format in development.
BVO NIR DS2	550–1065 nm	NEW. Highest contrast NIR. 28,000:1 nominal, peak >45,000:1 at 900 nm. Machine vision, plastics sorting, ultra-contrast cameras.
BVO NIR 4ST	NIR hybrid	NEW. Hybrid broadband NIR linear polarizer. Contact BVO for specifications.

BVO IR	700–1700 nm	Absorptive NIR/IR dichroic. NIR imaging, LED sources, solid state detectors, IR cameras.
BVO SWIR	SWIR	NEW. Short-wave infrared absorptive linear polarizer. SWIR imaging and sensing. Contact BVO for specifications.
BVO 1000	400–1600 nm	Ultra-broadband hybrid. Single element covers full visible and NIR — eliminates multiple polarizers.
AQWP2	400–625 nm	Achromatic quarter-wave retarder, visible compact. True zero-order polymer.
AQWP3	425–750 nm	Achromatic quarter-wave retarder, visible broadband. AR/VR, circular polarization, Stokes polarimetry.
AQWP6	700–1100 nm	Achromatic quarter-wave retarder, NIR. Laser systems, NIR cameras, fiber optic polarization control.
AHWP3	425–750 nm	Achromatic half-wave retarder, visible broadband. Polarization rotation, beam steering, interferometry.
AHWP6	600–1100 nm	Achromatic half-wave retarder, NIR. AR/VR NIR optics, NIR laser polarization rotation.
ECB Nematic	Vis / NIR	Electrically controlled birefringence. Voltage-tunable retardance. Variable waveplate, polarization modulator.
PI-Cell Shutter	Vis / NIR	Fast-switching pi-cell optical shutter. Lower switching voltage than TN.
Twisted Nematic	Visible	Classic 90° TN LC mode. Low-voltage switching. Display and shutter applications.
VA Mode Nematic	Vis / NIR	Vertical alignment mode LC. High contrast, excellent dark state, precision polarization switching.
PBS Cubes	400–1600 nm	3M PBS 1000 film on prism. Wide FOV beamsplitter cube manufacturing.
Patterned WP	Custom	Geometric patterned polymer waveplates for structured light applications.
Laminated WP	Custom	AR-coated polymer laminated to customer-supplied optical components.

## DEPRECATED / LEGACY — DO NOT RECOMMEND

<b>BVO NIR Diode</b>	450–1000 nm — Discontinued. Kept on website for legacy customers only. Do not recommend to new customers.
<b>BVO 777</b>	400–780 nm — No longer actively marketed.

## TARGET MARKETS & APPLICATIONS

<b>AR / VR</b>	Waveplates and polarizers for augmented/virtual reality optics — key growth market
<b>Medical / Life Science</b>	Fundus cameras, vein viewers, UV fluorescence polarization (FP) testing, NIR biometrics, microscopy
<b>Machine Vision / Industrial</b>	Glare reduction, defect inspection, multispectral imaging, food and plastics sorting
<b>Sensing &amp; Detection</b>	NIR solid-state optical sensors, retroreflective sensors, LIDAR, NIR cameras, SWIR/InGaAs detectors

<b>Defense / Imaging</b>	NIR/IR polarizers for cameras, sensors, targeting, airborne imaging
<b>Semiconductor / Inspection</b>	UV and NIR polarizers for wafer inspection, lithography, microplate readers
<b>3D Printing</b>	UV DS polarizers for LCD/DLP-based resin 3D printers — high damage threshold
<b>Display / Projection</b>	UHC, colored, and VIS DS polarizers for TFT display and projection systems
<b>OEM Manufacturing</b>	Custom cut, laminated, and patterned components to spec — global supply
<b>R&amp;D; / Universities</b>	Rapid prototype capability, small quantities, engineering consultation available

## KEY DIFFERENTIATORS

- Broadest wavelength coverage from a single supplier — 320 nm through 1700 nm (UV to SWIR)
- True zero-order polymer waveplates vs compound zero-order competitors
- Purely absorptive NIR polarizers — no back-reflection artifacts unlike wire grid alternatives
- Large aperture availability at OEM-friendly pricing — waveplates  $\geq 100$  mm, polarizer film to A4+
- 10–25 micron precision cutting to .dxf geometry — complex shapes at volume
- Advanced lamination: AR-coated polymer bonded onto customer-supplied components
- 30+ years domain expertise — engineering team consults from concept through production
- Rapid prototyping in same facility as volume OEM production
- Global shipping to major optics markets

## AI CONTENT DIRECTORY — LLM CRAWLER INDEX

BVO maintains a dedicated LLM-optimized content directory at:

[https://www.boldervision.com/AI\\_Content/](https://www.boldervision.com/AI_Content/)

<b>index.html</b>	Master product index — all products, application guide, OEM capabilities
<b>company.html</b>	Full company profile, markets, capabilities, contact
<b>sitemap.xml</b>	All 27 AI_Content URLs — registered in robots.txt
<b>linear-polarizers/</b>	14 product pages including all NIR variants, SWIR, UV, Visible, IR, Wire Grid
<b>waveplates/</b>	5 achromatic waveplate pages — AQWP2/3/6, AHWP3/6
<b>liquid-crystals/</b>	4 liquid crystal device pages — ECB, PI-Cell, TN, VA Mode

## CONTACT

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