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Meadowlark Optics LC Variable Retarder, Uncompensated, 1" Dia 450-700nm

Stock **#72-836** **2 In Stock**

- 1 + ₹1,10,700

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Qty 1+	**₹1,10,700** each
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General

Type:
Liquid Crystal Variable Retarder, Uncompensated

Note:
Item supplied with retardance vs voltage performance data. Coaxial cable with mating connector is provided. Controller (#72-848 or #72-849) required for operation.

Physical & Mechanical Properties

Clear Aperture CA (mm):
9.4

Diameter (mm):

25.40 ±0.13

Thickness (mm):

31.24 ±0.13

Optical Properties

Coating:

AR-Coat

Substrate:

Optical Quality synthetic fused silica

Reflection (%):

≤ 0.5% per surface at 0°deg AOI

Surface Quality:

40-20

Beam Deviation (arcmin):

≤ 2

Transmitted Wavefront Distortion (RMS):

≤ λ/4 @ 632.8nm

Wavelength Range (nm):

450 - 700

Damage Threshold, Reference:

500 W/cm^2, CW 300 mJ/cm^2, 10 ns, visible

Retardance Range:

~30nm to λ/2

Threading & Mounting

Mount:

Anodized Aluminium

Material Properties

Retarder Material:

Nematic Liquid Crystal

Environmental & Durability Factors

Operating Temperature (°C):

0 to 50

Regulatory Compliance

Certificate of Conformance:

View

Country of Origin:

United States

Imported By:

Edmund Optics India Private Limited

Product Details

- Enable Precision Electrical Control of Polarization
- Multiple Options for UV to NIR wavelengths
- Compatible with **Meadowlark Optics Liquid Crystal Controllers**

Meadowlark Optics Liquid Crystal Variable Retarders enable precise electrical control of polarization through variation of effective birefringence with applied voltage. This alters the input polarized light to any chosen elliptical, linear, or circular polarization. These retarders are constructed using a birefringent nematic liquid crystal material between optically flat fused silica windows coated with transparent conductive Indium Tin Oxide (ITO) for maximum transmission within a specified wavelength range. Meadowlark Optics Liquid Crystal Variable Retarders are ideal for active polarization control in metrology and medical applications such as stress analysis, pharmaceutical ingredient analysis, and biological microscopy. For uncompensated retarders, there will be a residual retardance of around 30nm at high voltage.

Note: These variable retarders should be electrically driven with an AC waveform with no DC component to prevent ionic buildup which can damage the liquid crystal layer. For control, a 2 kHz square wave of adjustable amplitude is required. The **Meadowlark Liquid Crystal Analog and Digital Controllers** ensure the drive requirements are met and are recommended for use.

Meadowlark Optics Liquid Crystal Variable Retarders enable the precision electrical control of polarization through the variation of effective birefringence with applied voltage, altering the input polarized light to any chosen elliptical, linear, or circular polarization. As voltage is increased, retardance is decreased. For uncompensated retarders, there will be a residual retardance of around 30nm at high voltage.

These retarders are constructed using a birefringent nematic liquid crystal material between optically flat fused silica windows coated with transparent conductive Indium Tin Oxide (ITO) for maximum transmission within a specified wavelength range.

Each Meadowlark Optics Liquid Crystal Variable Retarder is supplied with retardance vs voltage performance data for the specified wavelength range, and a coaxial cable with mating connector is provided for easy attachment to one to Meadowlark Optics Liquid Crystal Controllers.

These variable retarders should be electrically driven with an AC waveform with no DC component to prevent ionic buildup which can damage the liquid crystal layer. For control, a 2 kHz square wave of adjustable amplitude is required.

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