

VIAVI

Birefringent Contrast Enhancer

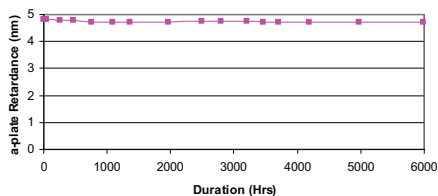
Perfecting the image with BCE

VIAVI Solutions continues its tradition of providing innovative optical components to the display industry with the introduction of its Birefringent Contrast Enhancer (BCE). VIAVI BCE has been optimized for maximum performance when used in LCOS engine architectures based on wire grid polarizers (WGP). Using proprietary birefringent film technology, the BCE enables 5 to 10x contrast improvement with unprecedented uniformity.

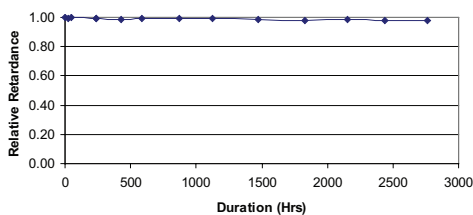
VIAVI unique ability to tailor both the a-plate retardance (in plane) and the c-plate retardance (out of plane) allows the freedom to optimize the system performance as never before. This independent control allows simultaneous compensation for unwanted polarization effects introduced by the pre-tilt of the liquid crystal microdisplay and the cone angle of the light.

Using a combination of proprietary thin film coatings and Hybrid Liquid Crystal material, VIAVI is able to provide compensating retarders which exhibit outstanding reliability and durability. VIAVI BCE exhibits particular advantage at shorter wavelengths toward the blue and at high light fluxes and elevated temperatures (up to 120°C) where competing products typically struggle or fail.

BCE Stability at Elevated Temps (120°C)



BCE Stability during Accelerated Lifetime Tests (Test Conditions: 10MLux, 75°C)

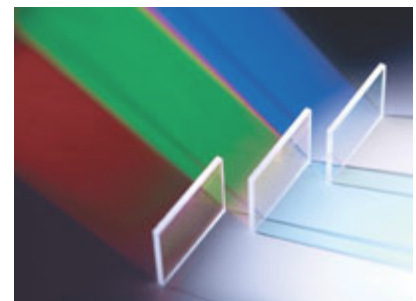


Key Features

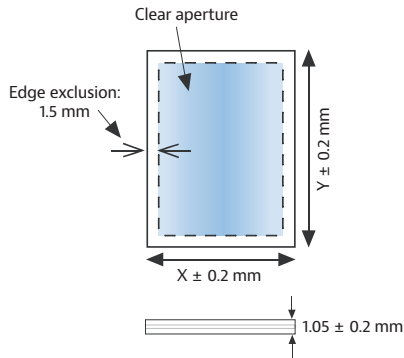
- Extraordinary contrast improvement
- Independent control of a-plate and c-plate retardance
- Exceptional uniformity
- Excellent reliability and stability
- High transmission
- Superior angular response
- Customizable to fit your requirements

Applications

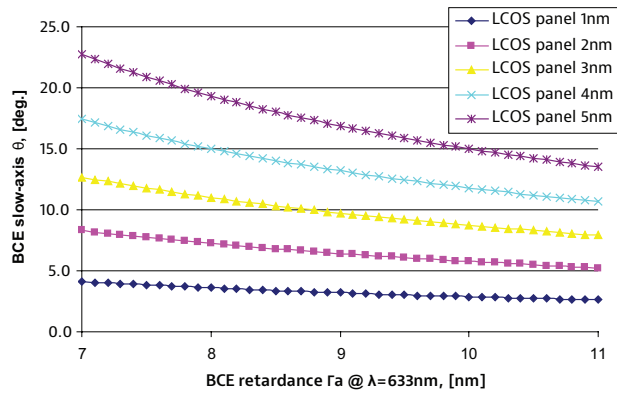
- Projection systems – LCOS microdisplay
- Rear projection TV , video walls, cockpit projection displays
- Front projection – business/data projection, home theater
- Automotive and avionic Head Up Displays (HUD)
- Head Mounted Displays (HMD)



BCE Critical Dimensions



Approximate BCE Slow-axis vs. Retardance



Specification

Representative Specifications for Custom Fluorescence Filter Sets

Parameter	Symbol	Nominal Value	Notes
a-plate retardance	Γ_a	9 nm	Customizable from 1 nm to 20 nm
Slow axis orientation	θ_{slow}	—	Customized for particular microdisplay
c-plate retardance	Γ_c	-240 nm	Customizable from -150 to -450 nm
A/R coating reflectivity	R	<0.25%	Optimized for each color band
Substrate	—	Fused silica	Eagle 2000 and other custom options possible
BCE thickness	—	1.05 mm	Customizable depending on substrate choice

Ordering Information

For more information on this or other products and their availability, please contact your local VIAVI account manager or VIAVI directly at 1-800-254-3684 or via e-mail at ospcustomerservice@viavisolutions.com.



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