



Vikuiti™ Diffuse Reflective Polarizer Film (DRPF)

A new enhancement film for large viewing requirements

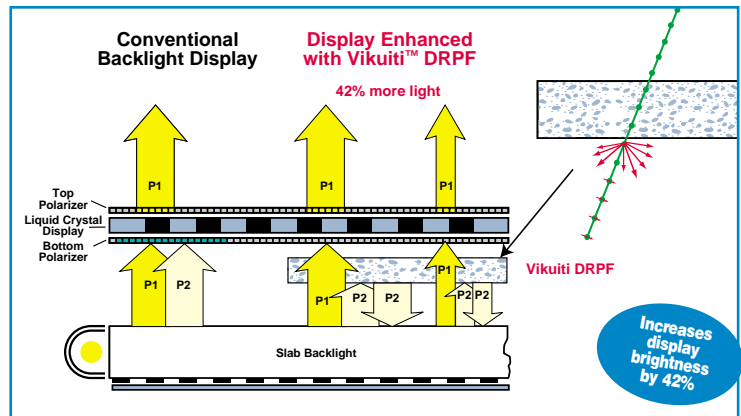
Features:

- Ideal for LCD monitors and environmentally demanding display applications
- Vikuiti™ DRPF film provides brightness increase over the entire LCD viewing range
- Ideal for large LCD displays such as monitors with wide angle viewing technologies such as IPS and MVA, with greater than 160° full viewing
- Thin film reflective polarizer that increases on-axis display illuminance up to 42%
- Provides increased environmental stability for high-temperature applications
- Combined with one Vikuiti™ BEF film, DRPF provides an on-axis illumination increase of up to 70% for a slab backlight
- Low-cost reflective polarizer solution
- Increased display uniformity provided by diffuse surface properties
- DRPF's diffuse structure eliminates wetout and reduces reflective moiré
- Optional two-sided hard coat version also increases on-axis display illuminance up to 42% in slab backlight designs
- Vikuiti™ DRPF-H provides increased scratch and warp resistant properties with no premask



How it works

Vikuiti™ Display Enhancement Films can help you manage light in three ways: angle, reflection and polarization. Vikuiti DRPF works through polarization recycling. The diagram shows a conventional backlight system emitting P1 and P2 polarized light. A typical polarizer absorbs the P2 component, but Vikuiti DRPF reflects P2 into the backlight, where it is scrambled into P1 and P2. Therefore, more P1 polarized light is available to be transmitted through the LCD. With Vikuiti DRPF, on-axis illuminance is increased by up to 42% for a slab backlight.



Nominal film properties

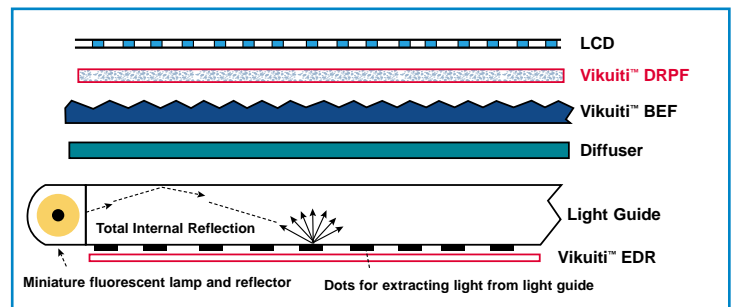
Film properties	Vikuiti™ DRPF	Vikuiti™ DRPF + BEF III-T
On-axis Illumination:*		
• Slab, increase	42%	71%
• Wedge, increase	50%	143%
Half Brightness for Full Viewing Angle*		
• Slab, Horz./Vert.	54°/44°	48°/34°
• Wedge, Horz./Vert.	53°/44°	45°/32°
Physical Characteristics	Vikuiti™ DRPF	Vikuiti™ DRPF-H
• Nominal Thickness, (ASTM D2103)	127µm (5.0 mils)	134µm (5.3 mils)
• Thermal Shrinkage, MD/TD	0.2/0.0%	0.1/0.0%
• Thermal Expansion, MD/TD	0.5/0.0%	0.4/0.0%
• Thermal properties above per 3M Test Method; 85°C, 15 minutes		
Nominal Polarization Properties**		
• Parallel Transmission	83%	
• Total Transmission Single Film	43%	

The technical data for the products are typical, based on information accumulated during their life, and are not to be used in the generation of purchase specifications, which define property limits rather than typical performance.

* Vikuiti DRPF brightness gain depends on the backlight material composition, design and overall lighting efficiency.

**All in CIE 1931 space.

Vikuiti™ DRPF in a typical LCD



Product Size Offering

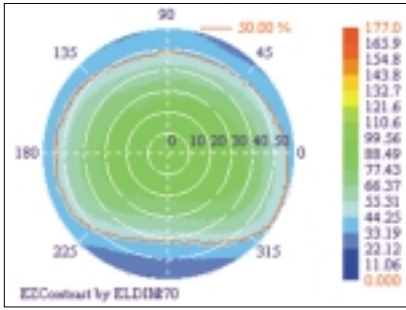
- Custom Sizes – Converted to Customer Size
- Product Kits – 30 Sheets 11" x 11", 10 Sheets 17" x 17"

Vikuiti™ Diffuse Reflective Polarizer Film (DRPF)

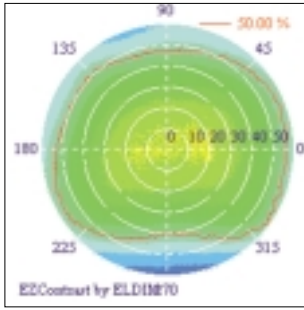
Polar plots on standard slab design light guide

Can also be used with other Vikuiti™ Display Enhancement Films when greater brightness is needed

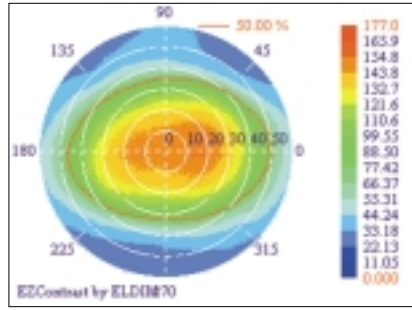
Display



Vikuiti™ DRPF

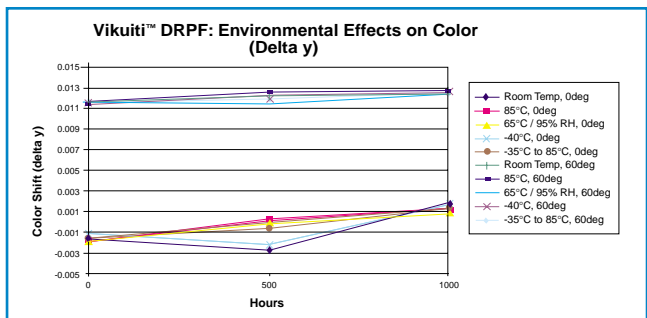
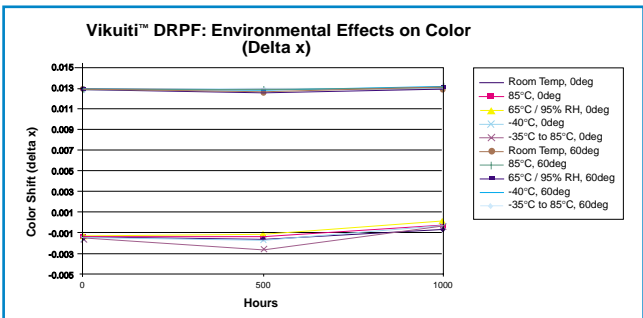
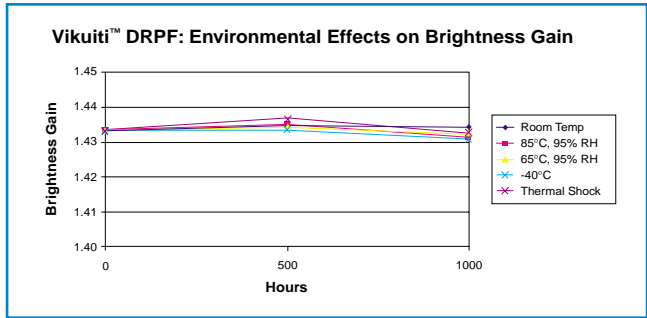
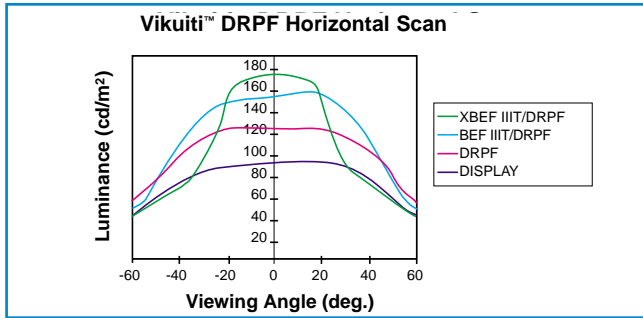


Vikuiti™ DRPF & BEF III-T



Bottom BEF	Top BEF	Reflective Polarizer	Axial Luminance (nt)	Integrated Intensity (lm/m²)	Horizontal 1/2 Viewing Angle (°)	Vertical 1/2 Viewing Angle (°)
none	none	none	87	162	55	45
none	none	DRPF	120	225	54	44
BEF III-T	none	DRPF	149	219	48	34
BEF III-T	BEF III-T	DRPF	169	190	30	29

Eldim optical data taken on standard production TFT display, with slab light guide with single CCFL illumination source.



For ordering information on Vikuiti™ Display Enhancement Films from 3M, please call: **1-800-553-9215**
For technical information please send an e-mail to: ostechserv@mmm.com

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40% Pre-consumer waste paper
10% Post-consumer waste paper

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