Brighten your view.
Create amazing displays.

3M Display Enhancement Films

Wide viewing angle. Solutions that make your TV stand out brighter at any angle

Design flexibility. 3M Films deliver slim, light and versatile design capability while lowering system costs

More colorful. 3M MOF’s add gamut and efficiency

More energy efficient. 3M films provide brightness with efficiency

Brighter. 3M DBEF is proven to maximize light to the viewer

Multiple Delivery formats. 3M DBEF is available in laminates, roll form, and mastersheet to providing flexibility to the supply chain

Enabling customer success with 3M display solutions.
**Reflective Polarizer Films**

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Structure</th>
<th>Description</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>3M DBEF D2-400, -280</td>
<td></td>
<td></td>
<td>• Products perform similar optical function and are suitable for edge and direct-lit applications of all sizes which require an efficiency improvement</td>
</tr>
<tr>
<td>3M DBEF D3-260</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3M DBEF D4-400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3M DBEF D5-315</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3M DBEF D5-QvX</td>
<td></td>
<td></td>
<td>• High brightness solution integrated with the LCD for increased robustness</td>
</tr>
</tbody>
</table>

**Brightness Enhancement Films**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>3M BEF3-T-285</td>
<td></td>
<td></td>
<td>• Suitable for applications that can tolerate a reduction in viewing cone to achieve higher brightness</td>
</tr>
<tr>
<td>3M BEF3-T-205</td>
<td></td>
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</table>

**Multifunctional Films**

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</tr>
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<tbody>
<tr>
<td>3M DBEF + Prism</td>
<td></td>
<td></td>
<td>• Displays that require high efficiency and uniformity plus slim design and robustness</td>
</tr>
<tr>
<td>3M DBEF-BA</td>
<td></td>
<td></td>
<td>• Cost competitive solution for displays that require design flexibility</td>
</tr>
<tr>
<td>3M ULF-250</td>
<td></td>
<td></td>
<td>• Displays that require high efficiency and uniformity</td>
</tr>
<tr>
<td>3M ULF-400</td>
<td></td>
<td></td>
<td>• Can be used with or without an additional prism film</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Can be used with or without an additional film</td>
</tr>
</tbody>
</table>

**Higher Efficient On-glass Films**

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>3M DBEF PVOH</td>
<td></td>
<td></td>
<td>• Cost competitive solution for displays that require design flexibility</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Can be used with or without additional films</td>
</tr>
</tbody>
</table>

**Reflector Films**

*(increase in-module brightness 5% to 15%)*

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<tr>
<td>3M SESR-80</td>
<td></td>
<td>Structured Enhanced Specular mid-sized MOF reflector</td>
<td>• Improves the light recycling efficiency of a backlight across the visible spectrum</td>
</tr>
<tr>
<td>3M ESR-80 v2</td>
<td></td>
<td>Mid-sized MOF specular reflector</td>
<td>• More robust surface structure when used with Polycarbonate light guide</td>
</tr>
<tr>
<td>3M ESR-100</td>
<td></td>
<td>110u MOF specular reflector</td>
<td>• Improves the light recycling efficiency of a backlight across the visible spectrum</td>
</tr>
<tr>
<td>3M LBR-160W</td>
<td></td>
<td>MOF specular reflector laminated to white PET</td>
<td>• Surface designed for reduced wet out</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Improves the light recycling efficiency of a backlight across the visible spectrum</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Laminated structure provides extra stability in no tray or partial tray systems</td>
</tr>
</tbody>
</table>
Solutions on High Efficiency

**TV**
- 3M DBEF D4-400
- 3M BEF
- 3M BEF
- Light Guide Plate
- White Reflector

**Solution Benefit**
Improves brightness up to 40% reducing systems cost

**Monitor**
- 3M DBEF D3-260
- 3M BEF
- Light Guide Plate
- White Reflector

**Solutions for 8K**

**Direct-Lit**
- 3M DBEF D4-400
- 3M BEF
- 3M BEF
- Diffuser Plate
- 3M ESR

**Solution Benefit**
Reduces total display thickness while improving brightness up to 70%

**Edge-Lit**

*Under Development*
- 3M APF-QWP
- 3M Matte Turning Film
- Light Guide Plate
- 3M ESR

**Solutions for Wide View Angle**

**Direct-Lit**
- 3M DBEF-BA-260
- No Film
- Diffuser
- Diffuser Plate
- White Reflector

**Solution Benefit**
Enhances brightness up to 75% at 60deg viewing angle

**Edge-Lit**
- 3M DBEF-BA-260
- Diffuser
- Light Guide Plate
- White Reflector
Solutions on Flexible Design

On Glass Solution

Solution Benefit

3M DBEF PVOH (Absorbing + Reflective Polarizer) combines the functionality of multiple free floating films in to one solution

Format Options

- Die cuts
- Master sheets
- Roll goods

3M provides solutions that can be converted and attached to other films providing design flexibility

Solutions on Color Performance Enhancement

Solution Benefit

Solutions that can add efficiency and increase color gamut

Representations for illustration purposes only—not to scale.

3M™ Dual Brightness Enhancement Film (DBEF)
3M™ Brightness Enhancement Film (BEF)
3M™ Ultra Lit Film (ULF)