

3M Science.
Applied to Life.™

3M Display Materials & Systems Division
Solutions for Large Displays

The right look matters



Enabling customer success
with 3M display solutions.



Enhanced Visual Quality



Energy Efficient



Simplified Design

Create amazing displays.

3M Display Enhancement Films

- **Wide viewing angle**

All seats in front of the TV are the best seats

- **More colorful**

3M color enhancing film makes your product a stand-out

- **More energy efficient**

3M films provide brightness with efficiency

- **Brighter**

3M™ DBEF is proven to maximize light to the viewer



Excellent color performance.

3M Display Enhancement Solutions Introduction

Reflective Polarizer Films



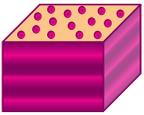
- Increases backlight efficiency (~ 50%)
- Increase brightness or reduces power
- Increases wide angle luminance

Brightness Enhancement Films



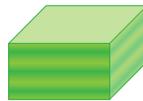
- Increases forward brightness
- Enhances uniformity and backlight defect hiding

Multifunctional Enhancement Films



- Reflective polarizer + geometric enhancement
- Enables reduction in number of films
- Increases brightness compared to reflective polarizer alone

Uniformity + Color Enhancement Films



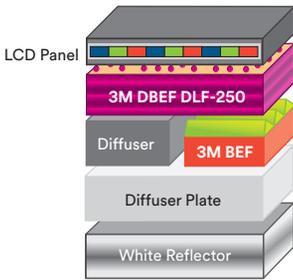
- Enables light source removal beyond traditional uniformity limits
- Efficiently enables color gamuts beyond 100% NTSC

Ultra high
definition.

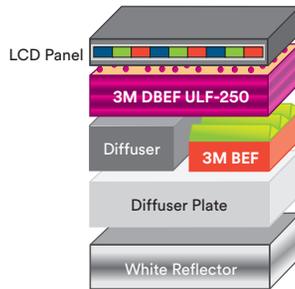


Direct-Lit Solutions*

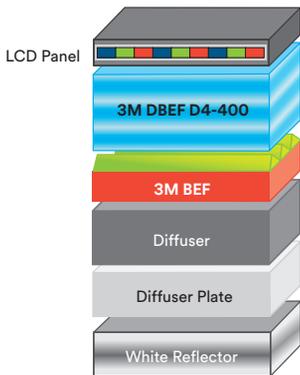
Entry Level



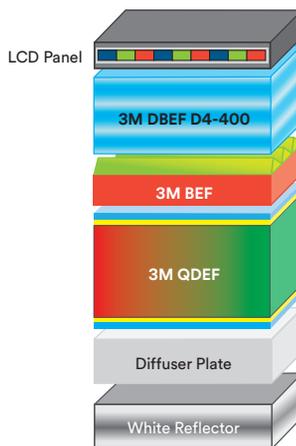
Low Sparkle – High Brightness



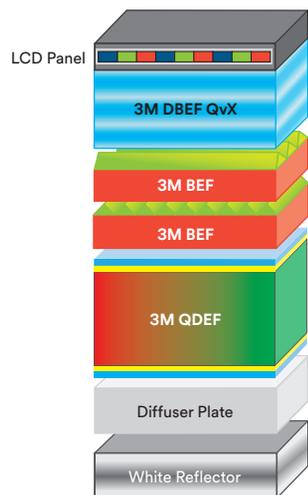
Efficiency Solution



Color Solution

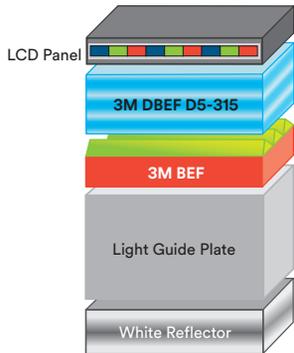


Brighter Color Solution

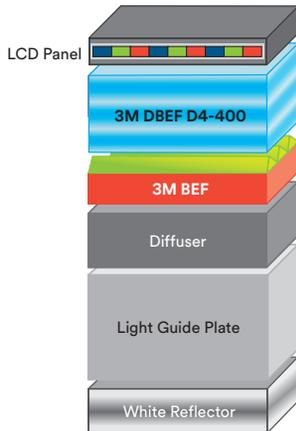


Edge-Lit Solutions*

Entry Level



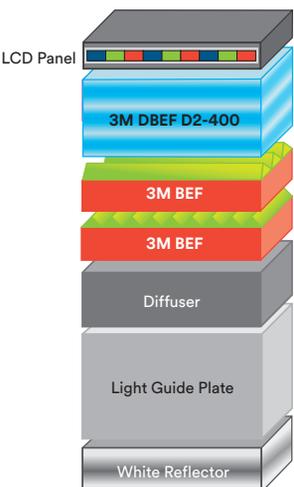
High Brightness



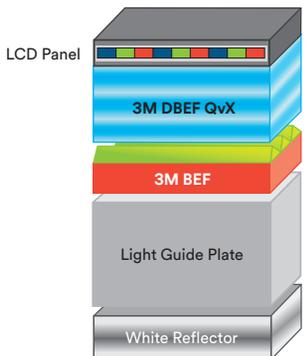
Low Sparkle – High Brightness



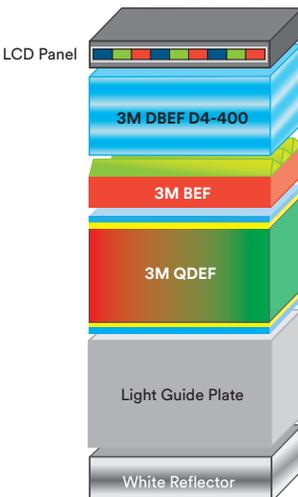
High Brightness – Large Sizes



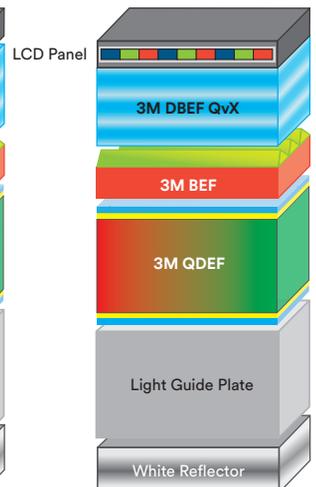
Thin Solution



Color Solution



HCG Thin Solution



* Representations for illustration purposes only—not to scale

Brightness Enhancement Film (BEF)

Product Name	Structure	Description	Application
3M BEF3-T-285		Sharp-tipped prism films on 7 and 10 mil PET substrates	Suitable for applications that can tolerate a reduction in viewing cone to achieve higher brightness.
3M BEF3-T-205			

Reflective Polarizer Films

Product Name	Structure	Description	Application
3M D2-400, -280		Reflective polarizer between two stiffening and diffusing sheets of polycarbonate. Nominal thickness in microns is indicated by the name.	Products perform similar optical function and are suitable for edge and direct-lit applications of all sizes which require an efficiency improvement.
3M D3-260			
3M D4-400			
3M D5-315			
3M LEF-D2-350		Highest efficiency reflective polarizer between two sheets of reduced-haze polycarbonate.	Highest efficiency backlight reflective polarizer suitable for large sized applications with luminance demands.
3M DBEF-Qvx, Qv2		Reflective polarizer delivered on the rear display polarizer.	High brightness solution integrated with the LCD for increased robustness.
3M DBEF-LS		Reflective polarizer between two stiffening and customized diffusing sheets of polycarbonate.	Reduced sparkle backlight reflective polarizer suitable for high resolution applications with luminance demands.

Multifunctional Films

Product Description	Structure	Description	Application
3M DLF-250		Reflective polarizer with integrated gain diffuser and anti-stat matte rear-side coating.	Displays that require high efficiency and uniformity. Can be used with or without an additional prism film. Edge and direct lit application.
3M DBEF ULF-250		Reflective polarizer with integrated gain diffuser and anti-stat matte rear-side coating.	Displays that require high efficiency and uniformity. Can be used with or without an additional prism film. Edge and direct lit application. Higher brightness.
3M DBEF ULF-400		Reflective polarizer between two stiffening and customized diffusing sheets of polycarbonate.	Reduced sparkle backlight reflective polarizer suitable for high resolution applications with luminance demands.

Uniformity and Color Enhancement Films

Product Description	Structure	Description	Application
3M Uniformity Tape		Microreplicated prism film with adhesive applied to the input edge of the lightguide	Edge-lit systems where LED removal would result in a spatial nonuniformity. Enables minimum number of light sources in edge lit applications.
3M Quantum Dot Enhancement Film		Light conversion film that generates white light output from blue light input	Intended for applications of all sizes and architectures that demand the highest possible color rendering

