Create amazing displays.

3M Display Enhancement Films

Improve visual quality.

Wide viewing angle and increased brightness

Improved sunlight readability

Enables use of higher resolution and higher color gamut systems

More robust.

Constructed to withstand various environments and use modes

Maximize power efficiency.

Adds ‘virtual battery’ by reducing power consumption

Longer battery life for optimal user experience

Reduce thickness and weight.

Thinner brightness enhancement films

Smaller battery than a similarly performing unit without 3M films

Make your smart tablet’s performance as impressive as its design.

Enhanced Visual Quality

Weight Reduction

Thickness Reduction

Power Efficiency

Environmentally Stable

Reflective Polarizer Films

(increase in-module brightness 35% to 40% & widen viewing angles)

Product Description	Structure	Thickness (µm)	Features
3M APF-QWP On-glass reflective polarizer		28 ± 6	• Reflective polarizer for lamination to the rear absorbing polarizer with brightness boosting quarter wave plate
3M APF-V3-26 On-glass reflective polarizer		26 ± 3	• Reflective polarizer for lamination to the rear absorbing polarizer with imprint resistant surface
3M APF-v3 HC On-glass reflective polarizer		29 ± 3	• For lamination to the rear absorbing polarizer with 3M hardcoat technology
3M APF-T35 On-glass reflective polarizer		35 ± 3	• For lamination to the rear absorbing polarizer, designed for tablet and notebook applications
3M DBEF5 Backlight matte coated reflective polarizer with anti-static property		125 ± 12	• Thinner high performance RP available through backlight channel • Matte coating provides defect hiding performance for low haze systems • Anti-static properties for improved handling and debris control

Brightness Enhancement Films

(on-axis light management)

Product Description	Structure	Thickness (µm)	Pitches (µm)	Features
3M ASOC3-106 High brightness matte prism film, eliminates the need for top diffuser		106 ± 10	24	• Integrated dual prism stack for thin backlight
3M BEF4-DT-90 Durable, high brightness transparent prism film		90 ± 7	24	• Durable high refractive index prisms with improved impact resistance • Provides similar brightness performance to BEF4-GT
3M TBEF2-DT-65 Durable, high brightness transparent prism film		65 ± 5	21, 24	• Durable high refractive index prisms with improved impact resistance • Provides similar brightness performance to TBEF2-GT
3M BEF4-DMH-LS-95 High brightness transparent prism film		95 ± 7	24	• Durable high refractive prisms in combination with a higher haze designed matte for superior defect hiding • Designed to enable removal of a top diffuser for thinner design

Diffuser Films

(efficiently increase color gamut)

Product Description	Structure	Thickness (µm)	Features
3M UDF2-50		50 ± 3	• Ultra diffuser for even brightness

Reflector Films

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

Product Description	Structure	Thickness (µm)	Features
3M ESR-80 v2 Mid-sized MOF specular reflector		82 ± 7	• Improves the light recycling efficiency of a backlight across the visible spectrum
3M ESR-100		100 ± 4	
3M LBR-160W MOF specular reflector laminated to white PET		160 ± 16	• Improves the light recycling efficiency of a backlight across the visible spectrum • Laminated structure provides extra stability in no tray or partial tray systems

3M™ Advanced Polarizer Film-Quarter Wave Plate (APF-QWP)
3M™ Advanced Polarizer Film (APF)
3M™ Brightness Enhancement Film Reflective Polarizer (BEFRP)
3M™ Advanced Structured Optical Composite (ASOC)
3M™ Thin Brightness Enhancement Film (TBEF)

3M™ Ultra Diffuse Film (UDF)
3M™ Advanced Specular Reflector (ASR)
3M™ Enhanced Specular Reflector (ESR)
3M™ Enhanced Diffuse Reflector (EDR)
3M™ Light Back Reflector (LBR)

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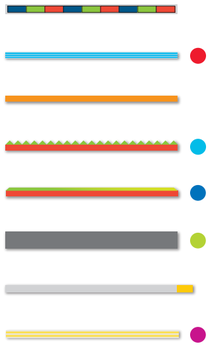
Power that changes the world.

3M Display Materials & Systems Division
Display Solutions for Tablets

Anatomy of a tablet film stack.

Tablet Optical Films

Typical Tablet Film Stack



3M Solutions

● Reflective Polarizer

3M APF-QWP	27 µm, on-glass
3M APF-V3-26	26 µm, on-glass
3M APF-v3 HC	26 µm, on-glass with 3M™ Hard Coat technology
3M APF-T35	35 µm, on-glass with 3M™ Hard Coat technology
3M DBEF5	125 µm, backlight

● Top 3M BEF

3M ASOC-106	106 µm, eliminates needs for top diffuser
3M ASOC-135	135 µm, eliminates needs for top diffuser
3M BEF4-DT	90 µm, durable high gain
3M BEF2-DT	155 µm, durable high gain
BEF4-DMH-90	95 µm, durable high gain, matte

● Bottom 3M BEF

3M BEF4-DT	90 µm, durable high gain
3M TBEF2-DT	65 µm, durable high gain

● Bottom Diffuser

Replaces Bottom Diffuser

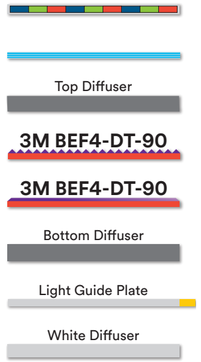
3M UDF2-50	50 µm, ultra-diffusing for even light distribution

● Back Reflector

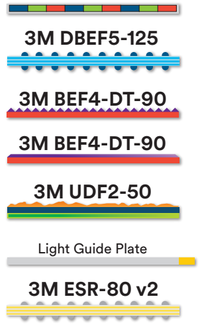
3M ESR-80 v2	80 µm, specular
3M ESR-100	100 µm, specular
3M LBR-160W	160 µm, specular

Improve brightness and power efficiency.

Conventional



Backlight Solution



+43% Brighter
-30% Backlight Power

On-Glass Solution

+53% Brighter
-35% Backlight Power

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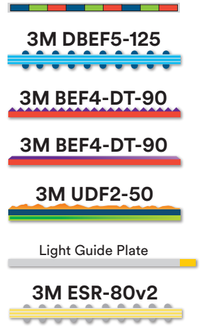
3M™ Advanced Specular Reflector (ASR)
3M™ Enhanced Specular Reflector (ESR)
3M™ Enhanced Diffuse Reflector (EDR)
3M™ Light Back Reflector (LBR)

Reduce thickness.

Typical



Thin & Bright

-93 µm thickness reduction
Equivalent brightness

** In-module performance is dependent upon backlight design*