



## SPECIALIZED BACKLIGHT

### LED BACKLIGHT, PASSIVE AND ACTIVE ENHANCEMENTS TO OEM BACKLIGHTS

After optimizing the front of the display optics, the next place to focus for improvement is the LCD backlight. Depending on your requirements and product goals this can be accomplished either through passive and/or active enhancements.

### PASSIVE BACKLIGHT ENHANCEMENTS

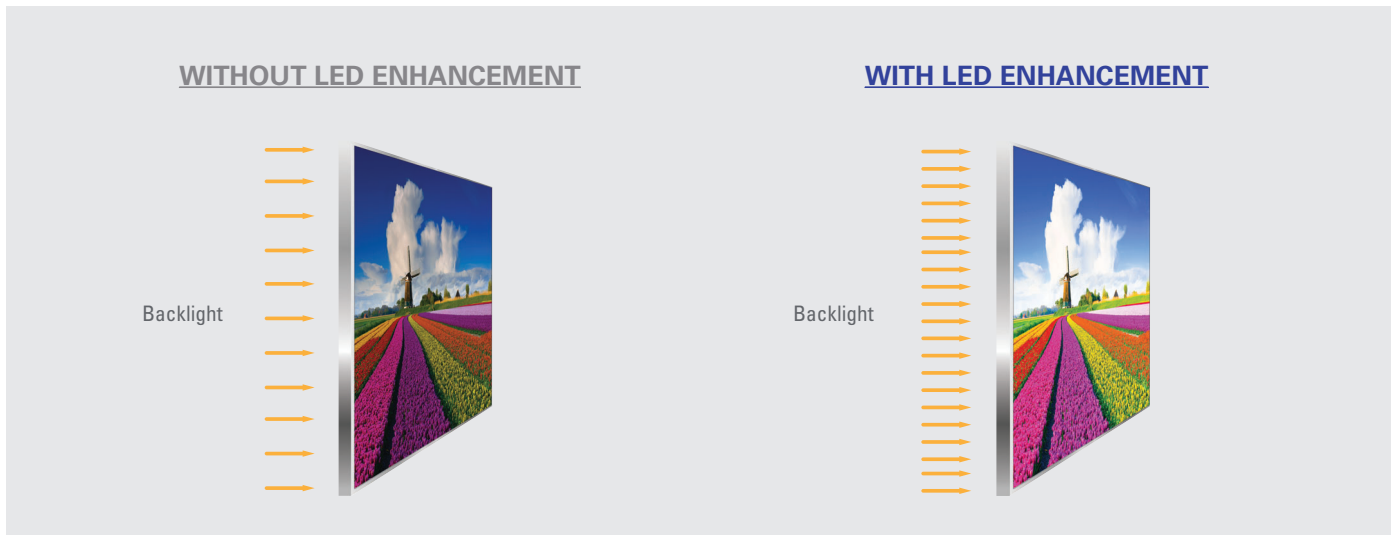
Many LCD displays benefit from passive enhancements utilizing efficient light diffusing films in the optical path by focusing the existing light emitted from the display to the optimal user eye position. Passive Enhancements alone nearly double the light output of many displays.

Two of our primary passive enhancements tools are 3M Vikuiti™ Brightness Enhancement Film (BEF) and Dual Brightness Enhancement Film (DBEF). BEF materials function by focusing the light to the Viewer. DBEF film is a reflective film that recycles the light that would otherwise be attenuated by the rear display polarizer.

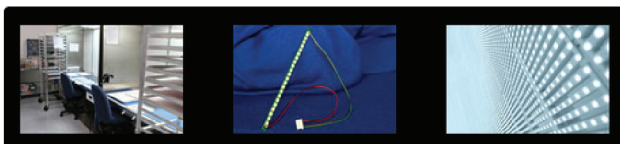
We are one of North America's largest consumers of 3M Vikuiti™ film.

### LED BACKLIGHTS AND ACTIVE ENHANCEMENTS

IDS designs and commercially provides LED backlight for display enhancement. LED backlight solutions provides increased brightness with less power and a wide operation temperature range. There is no required warm-up time (instant on in all conditions). Since LEDs are solid state devices, they are more robust in harsh environments.



### Benefits of LED Backlights



- Higher Brightness with less power consumption
- Less heat to remove from the system
- Wide Operating Temperatures – Instant On
- Low Voltage operation for minimal impact on EMI/RFI
- More robust when subject to mechanical shock and vibration
- NVIS compatible LEDs for dual mode operation
- Can be used in direct backlighting application to increase dynamic contrast
- Long Life Operation and Redundancy
- No Mercury / ROHS Compliant