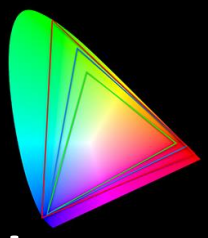
Quantum SOLUTIONS™

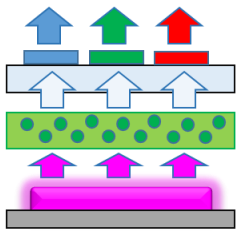


QDot™ LCD SharpGreen Perovskite Film for Displays

QDot™ LCD SharpGreen Perovskite Film is the colour enhancement film that allows LCD displays to achieve an exceptionally wide colour gamut (over 85% of Rec2020 standard) and outstanding brightness. This makes display images look more lifelike, close to the way that out eyes perceive images in the real world. QDot™ LCD Film is a polymer composite with embedded, green emitting perovskite quantum dots. The material is RoHS compliant and cadmium free. The film exhibits bright green emission centred at 525 nm, high photoluminescent quantum yield (PLQY > 80 %) and narrowband emission (FWHM < 20-25 nm) all of which make it a better quality alternative to the current CdSe or InP QDs.

BENEFITS:

- Bright green colour emission centred at 525 nm for high Rec2020 color gamut coverage
- The narrowest FWHM among all QDs (< 20-25 nm)
- High PLQY up to 100 %
- RoHS compliant for LCD backlighting, cadmium free
- High reliability

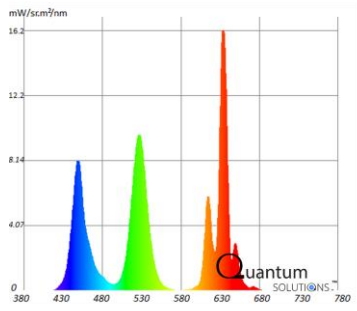


QDot™ LCD SharpGreen Perovskite Film display architecture

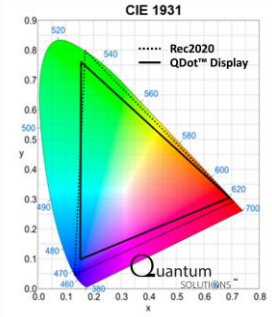
DEVICE EXAMPLE:

QDot™ LCD SharpGreen Perovskite Film is used as a LCD backlighting unit in combination with magenta LEDs. The LCD display demonstrates high color gamut coverage (Rec2020 > 84%, DCI-P3 > 92% and sRGB > 98%) and impressive brightness up to 2000 nits.

Display spectral emission



Chromaticity Diagram

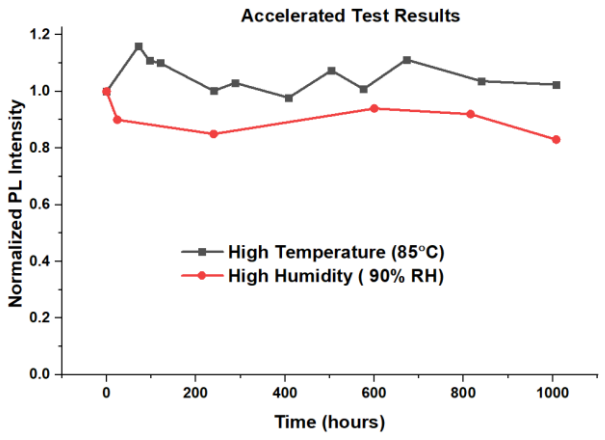


LCD PERFORMANCE:

Parameter	Typical values
Rec2020 color gamut coverage/ratio	> 84% / > 86%
DCI-P3 color gamut coverage/ratio	> 92% / > 115%
sRGB color gamut coverage/ratio	> 98% / > 158%
Brightness	Up to 1500 nits

RELIABILITY:

QDot™ LCD SharpGreen Perovskite Film has high reliability under heat, high flux and humidity. It retains > 80 % of initial photoluminescence within 1000 hours of accelerated exposure tests under high heat and humidity and > 50% of initial photoluminescence under high flux conditions.



Products portfolio:

QDot™ LCD SharpGreen Perovskite Film

Quantum-Solutions.com info@quantum-solutions.com +44 7389826941