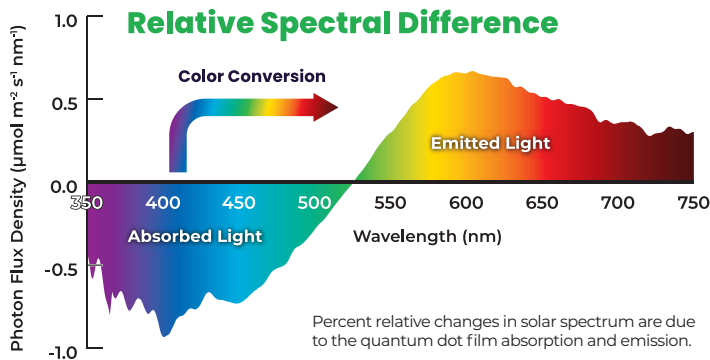




Developed for electricity-free spectral modification inside agricultural & horticultural greenhouses.

Optimizing Sunlight with Quantum Dots

UbiGro™ is a layer of light that helps plants get more from the sun. The luminescent film uses fluorescence to optimize the sunlight spectrum in a greenhouse to **increase crop productivity and yield**. The film incorporates nanoparticles called quantum dots, or colloidal semiconductor nanocrystals, which convert a portion of the UV and blue photons from sunlight into amber light to improve photosynthesis.

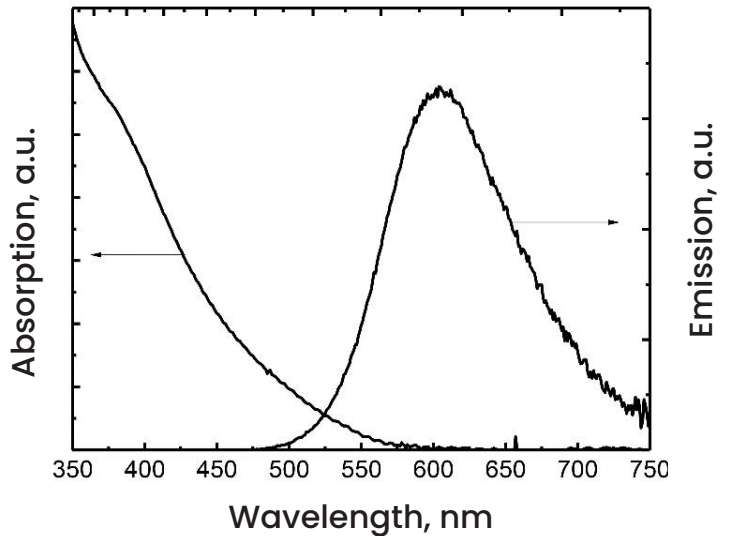


Spectral Region	UV	Blue	Green	Red	Far-red
Range (nm)	350-400	400-500	500-600	600-700	700-750
Relative Change	-63%	-23%	+7%	+13%	+8%

Technical Data

Peak Emission Wavelength (nm)	600 ± 10
Full Width at Half Maximum (nm)	110 ± 20
PAR Transmission (%)	84 ± 1
Haze (%)	1.2 ± 0.2
QD Composition	CuInS ₂ /ZnS
Film Thickness (μm)	295 ± 5
Film Width (m)	1.25
Expected Lifetime (years)	4+

Quantum Dot Absorption & Emission



Use & Handling Recommendations

The retrofit film is cut to length and shipped as a roll. The film is engineered to be deployed within a greenhouse at standard operating conditions. It is recommended to not remove the film prior to replacement. Before installation, read the installation guide available at ubigro.com/resources. Other frequently asked questions can be found at ubigro.com/product.