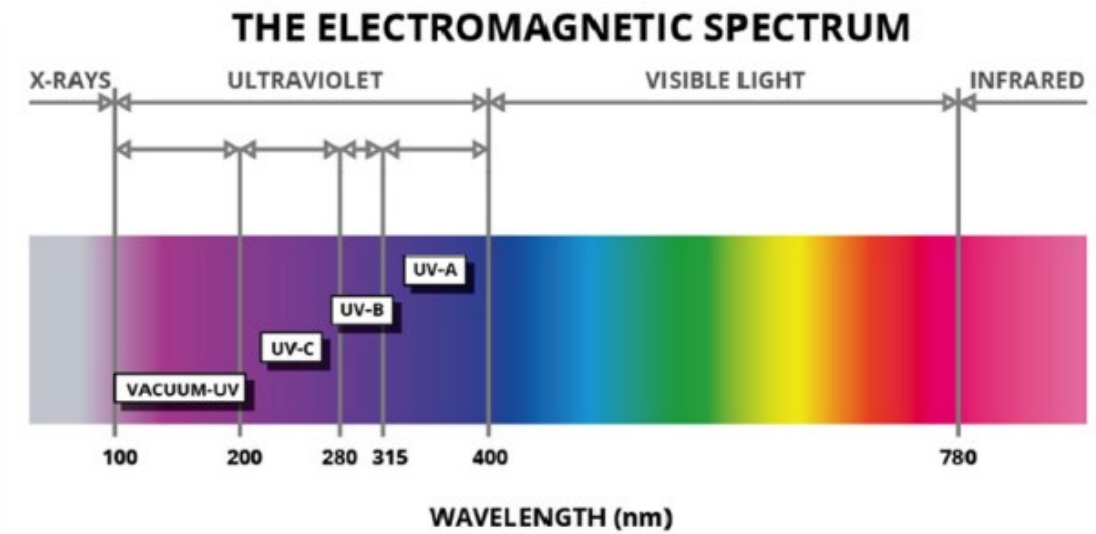
UV – How it Works – Our Energy Source

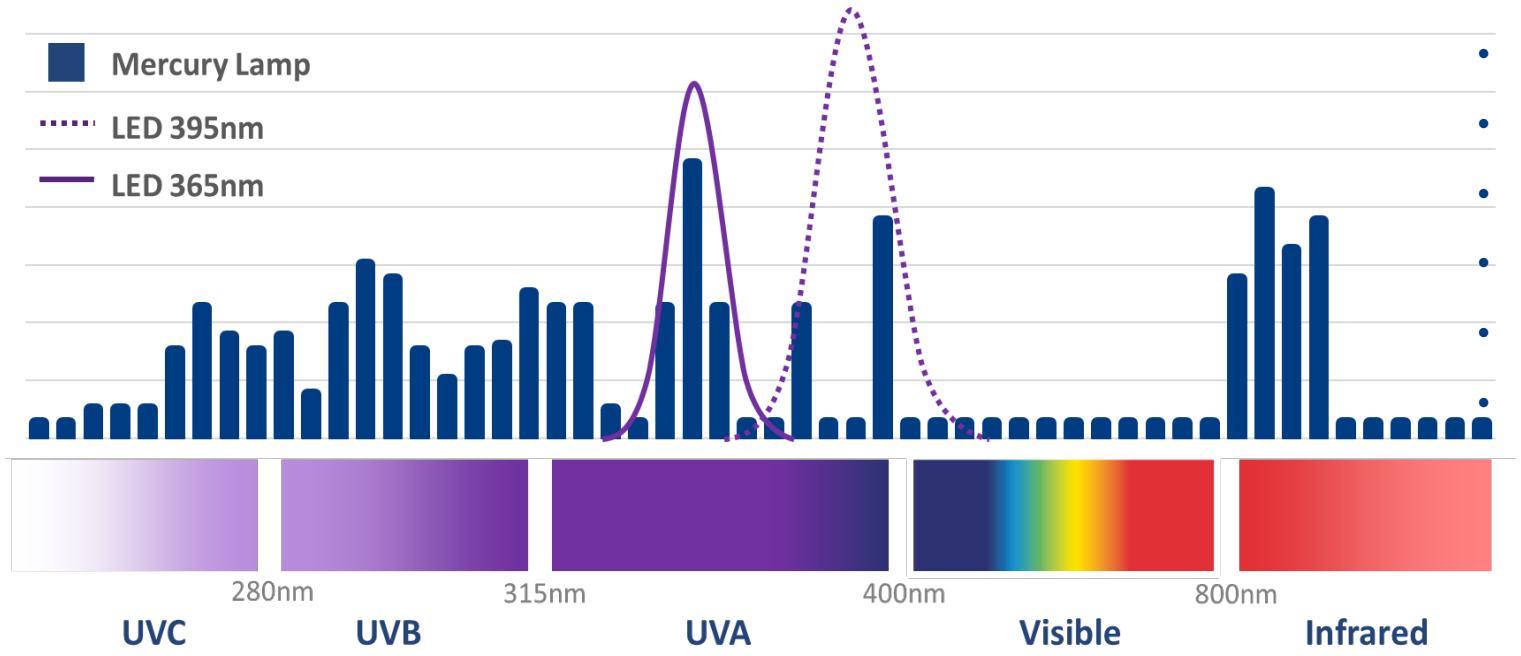


Energy of a photon ~ 1240/λ in eV.

=> Shorter wavelength = higher energy

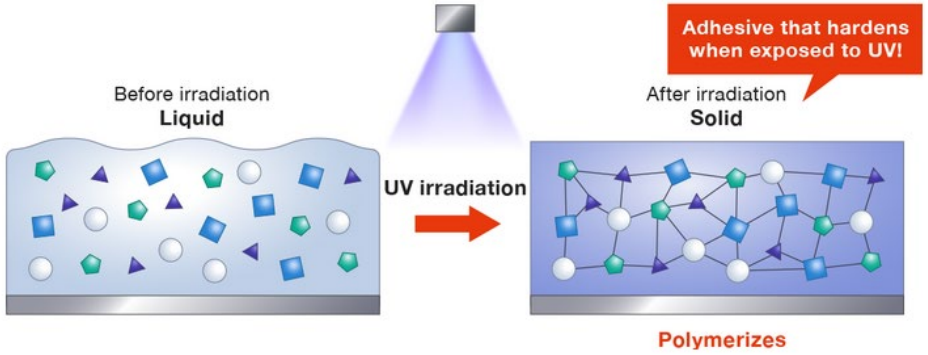
Introduction

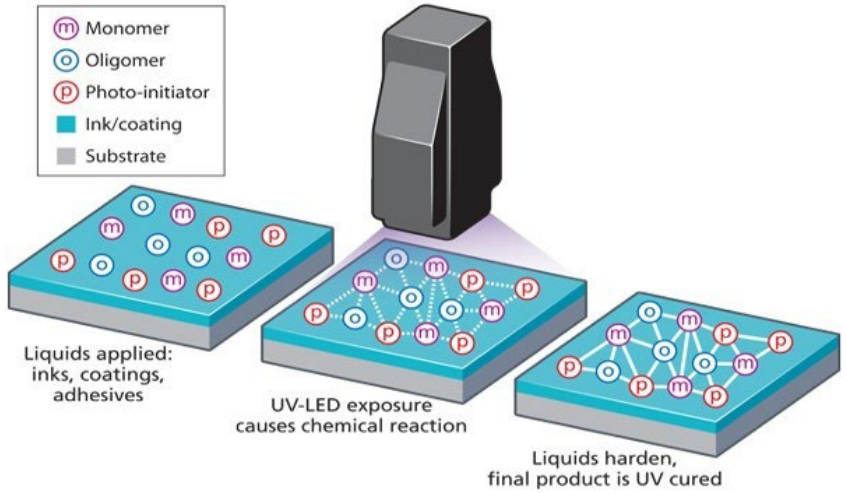
LED



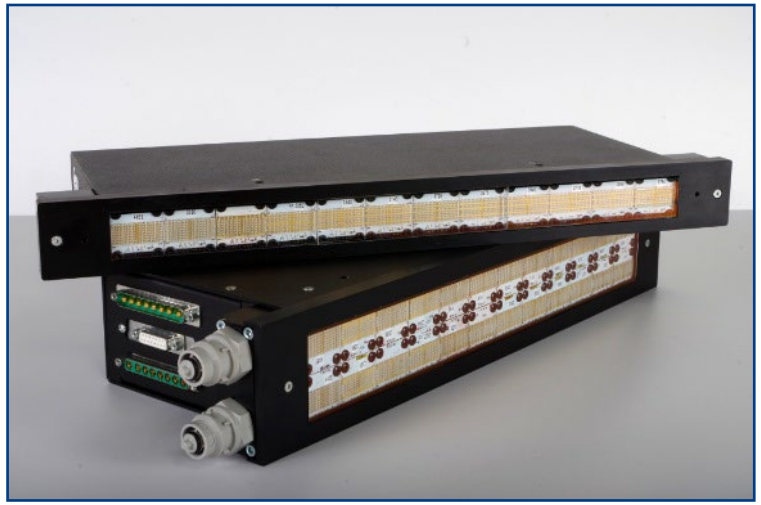
- Monochromatic UVA output.
- Created by special Light Emitting Diodes = LED.
- Long wavelength, less energetic then UVC.
- Pros and cons LED vs. UV.
- Due diligence with LED platform.
- Hybrid ... A good comprimise.

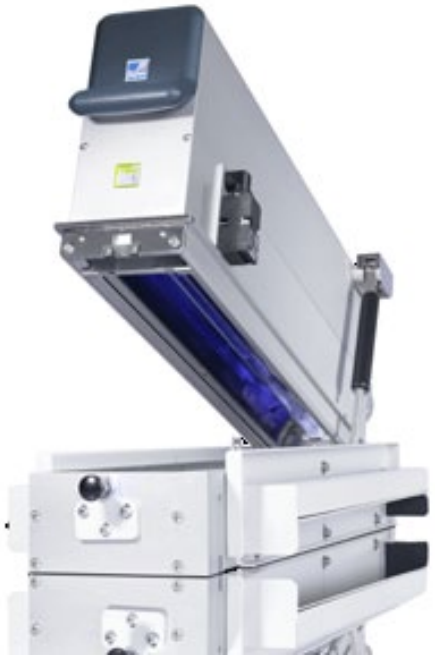
UV – How it Works – Photons + Chemistry

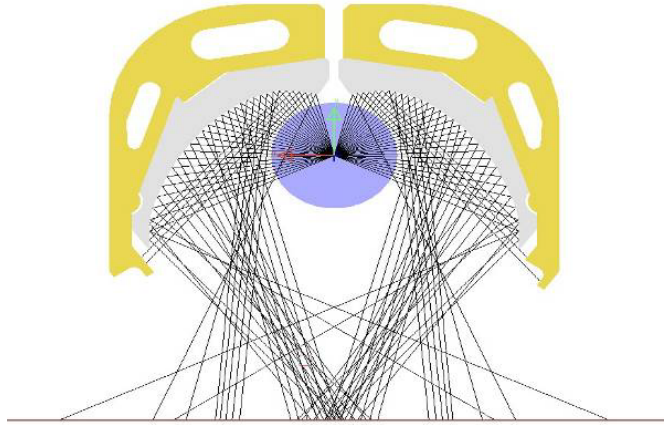




Typical UV & LED Lamp Modules







UV & LED – Key Parameters

- Intensity (Peak) in mW/cm^2
- Dose (energy density) in mJ/cm^2
- Both are defined in UVC, UVB and UVA … and Dose usually has a velocity value given.
- Both can be measured with a radiometer (EIT Power Puck or similar).
- Type of reaction – free radical or cationic will also define your UV system configuration.
- UV Output is NOT measured in Watts/inch … this is INPUT!!! Only a general indicator