



Sanitization Technologies Using Light (Photons)

Category	Ultraviolet	Ultraviolet	Visible Light	Visible Light	Comments
Technology	Various	Various	STRATHCLYDE VITALVIO	Nextsence - P&P	
Commercial Brands	Many	Many	Kenall (Strath) VyV (Vitalvio) Amerlux (VyV)	Biovitae	Amerlux branded "ActiveClean" UV-Free
Type	Monochromatic	Monochromatic	Monochromatic	Blended	
Spectrum	Far UV-C	Pulsed UV-C	Violet	Visible Light	
Wavelength	222nm	254.7nm	405nm	400-450nm	
Kills Pathogens: Viruses, Bacteria, molds, fungus	Yes	Yes	Yes	Yes	
Deactivates SARS-CoV-2	Yes	Yes	Yes	Yes	
Application	Surfaces	Surfaces	Surfaces	Surfaces-Air	
Effective Dosage	Concentrated	Concentrated	Continuous	Continuous	
Biofilm Effectiveness	No	No	Yes	Yes	
Resistance Development	Yes	Yes	None	None	Because UV is not on all the time, pathogens return and can mutate resistance
Safety Precaution Requirements	High	High	None	None	
Environmental Risks	Yes	Yes	None	None	
Odor Emissions	Yes	Yes	None	None	
Occupancy Exposure	Limited	NO	Yes	Yes	
White Light Available	NO	NO	Single or Dual Modes	Integrated and Continuous	405 Technology antimicrobial mode is violet. White light is an add-on option
Usage Training	Yes	Yes	Yes	None	
Operations Cost	Yes	Yes	?	None	
Product Cost	High	High	Medium?	Medium?	
Maintenance Cost	High	High	Medium	None	
Controls Required	Yes	Yes	Yes	None	<u>Timers, Occupancy Sensors, Presets</u>
Total Cost of Ownership (TCO)	Very High	Very High	High?	Medium?	