

Overview

Upper-Room GUV (UVGI) is a proven technology recommended by the CDC and Harvard to combat disease transmission by reducing airborne pathogens, with an effectiveness 3-4 times that of well-designed ventilation. Studies have found an ~80% reduction in flu, measles, and acute respiratory symptoms. This makes the application of this technology critical in modern workplaces, hospitals, and schools.

Problem

- Protection against respiratory diseases has become even more important as Covid-19 has joined the flu as a recurring disease, and concerns about infectious diseases are at an all-time high.
- At the request of White House, **ASHRAE Standard 241** has established the level of clean airflow necessary to protect against airborne pathogens, typically 3-4 times the current building code.
- Upgrading ventilation systems to meet ASHRAE 241 is extremely costly, both in initial and annual costs, and significantly increases the carbon footprint. It also disrupts normal building use, as all the vents in the building need to be resized when done properly.

Solution

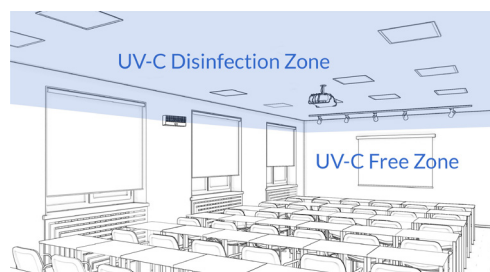
Unlike other technologies, Upper-Room UVGI has been studied for decades and is recommended by the CDC, ASHRAE, Harvard, Yale, and PNNL.

How it works:

- Because hot air rises, body heat causes exhaled breath to rise in a phenomenon called the “Human Thermal Plume.” This, along with mechanical air mixing, causes air to enter the disinfection zone above people’s height, continually inactivating airborne pathogens.
- Planled’s UVCUE is a professional grade Upper-Room UVGI system, with modern upgrades and superior optical design making it an ideal choice.

“So really about the only thing that seems practical is something like Upper-Room UV which we’ve got again here, a 254nm system.”

(**Bill Bahnfleth**, Past President of ASHRAE and the Chair of Standard 241)



“the three established and proven air disinfection technologies are mechanical ventilation, upper room GUV, and portable room air cleaners. Of these, upper room UV is the most cost-effective and is demonstrably safe and readily available to deploy today to reduce COVID-19 and other respiratory virus transmission.”

(**Dr. Ed Nardell**, Harvard Medical School)

Qualification

Planled is a professional lighting company that focuses in research-applied solutions, focusing in applications where quality and dependability matters such as professional sports stadiums and airplane manufacturing plants. Planled’s customers include Yankee Stadium, Moda Center, and Boeing, among others.

Impact

Installing Upper-Room UVGI is low-cost at \$1-\$2/sq ft, compared to HVAC upgrades that can cost up to \$30/sq ft. Annual energy costs are 10-20 times lower than conventional HVAC for providing an equivalent level of clean airflow. Reduced exposure to infectious viruses and bacteria in the air has been shown to reduce sick days and improve productivity, employee satisfaction, and retention.