

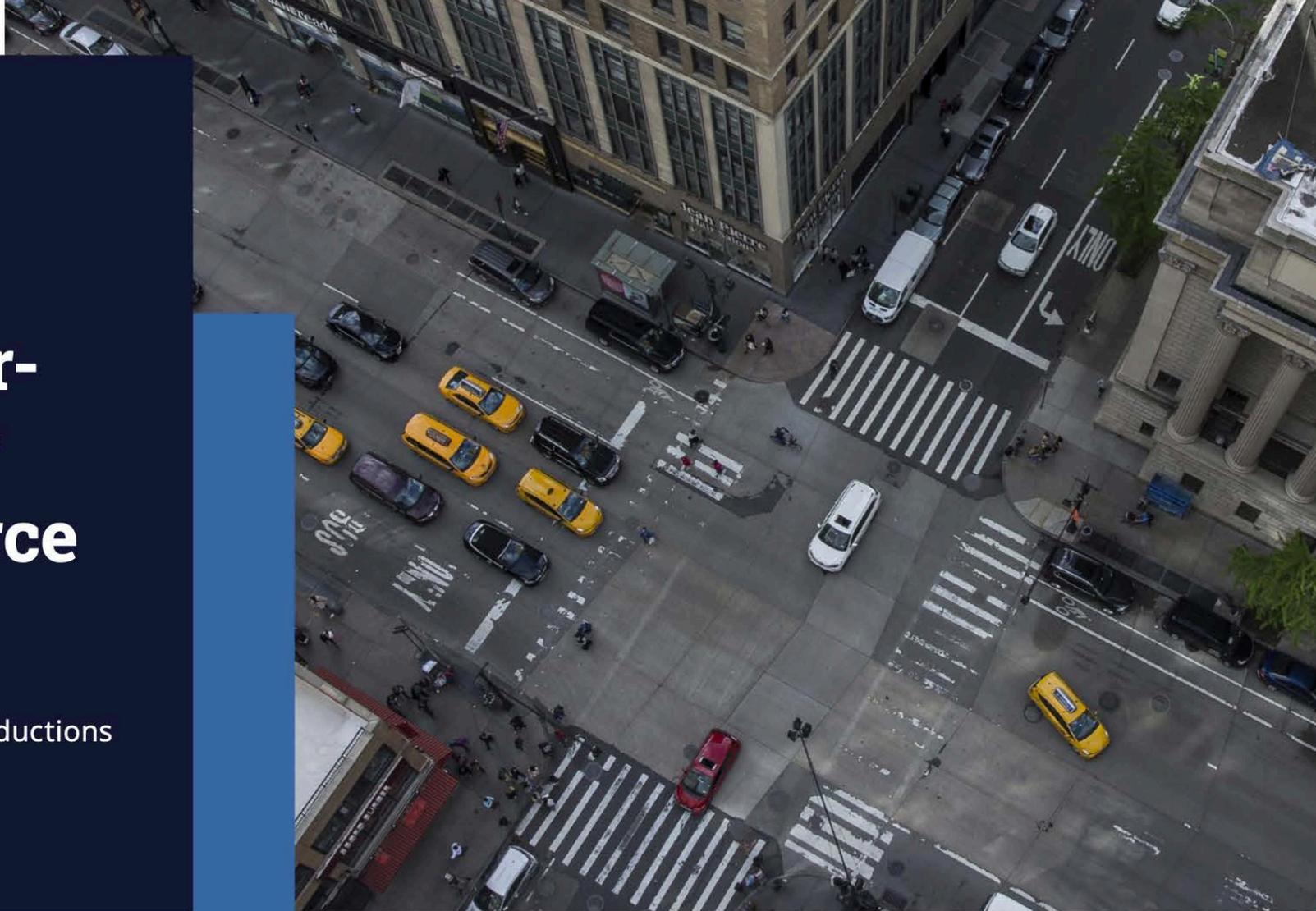
White Paper

Alliance of Motion Picture and
Television Producers

Industry-Wide Labor- Management Safety Committee Task Force

Proposed Health and Safety Guidelines
for Motion Picture, Television, and Streaming Productions
During the COVID-19 Pandemic

Submitted: June 1, 2020



Alliance of Motion Picture and Television Producers

- Regular periodic testing.
- Equipment such as radios/walkie-talkies will be issued to a single cast or crew member and used exclusively by that cast or crew member for the duration of production.
- Cast and crew should not leave the job site to obtain food during the course of the workday.
- Cast and crew in close proximity must wear a face mask and/or face shield at all times and perform hand hygiene before and after the encounter.
- Advised against universal glove use.
- PPE not considered bio-hazard waste.
- Personal equipment (such as tools, headsets, microphones and radios) shall be cleaned and disinfected before being issued and then at least once per day.
- Whenever possible, use of paper should be minimized.
- Stagger cast and crew call and wrap times to limit the number of individuals arriving to and departing from work simultaneously.

- *Key Bullet Points from the Paper*
- *Link to full paper: <https://bit.ly/2Gz5a5v>*

True Sterilization Options

**UV-C Light
Radiation**



Ozone



**Dry
Heat**



**Steam
Autoclave**



True Sterilization Options

**UV-C Light
Radiation**



**Chemical
(Ozone)**



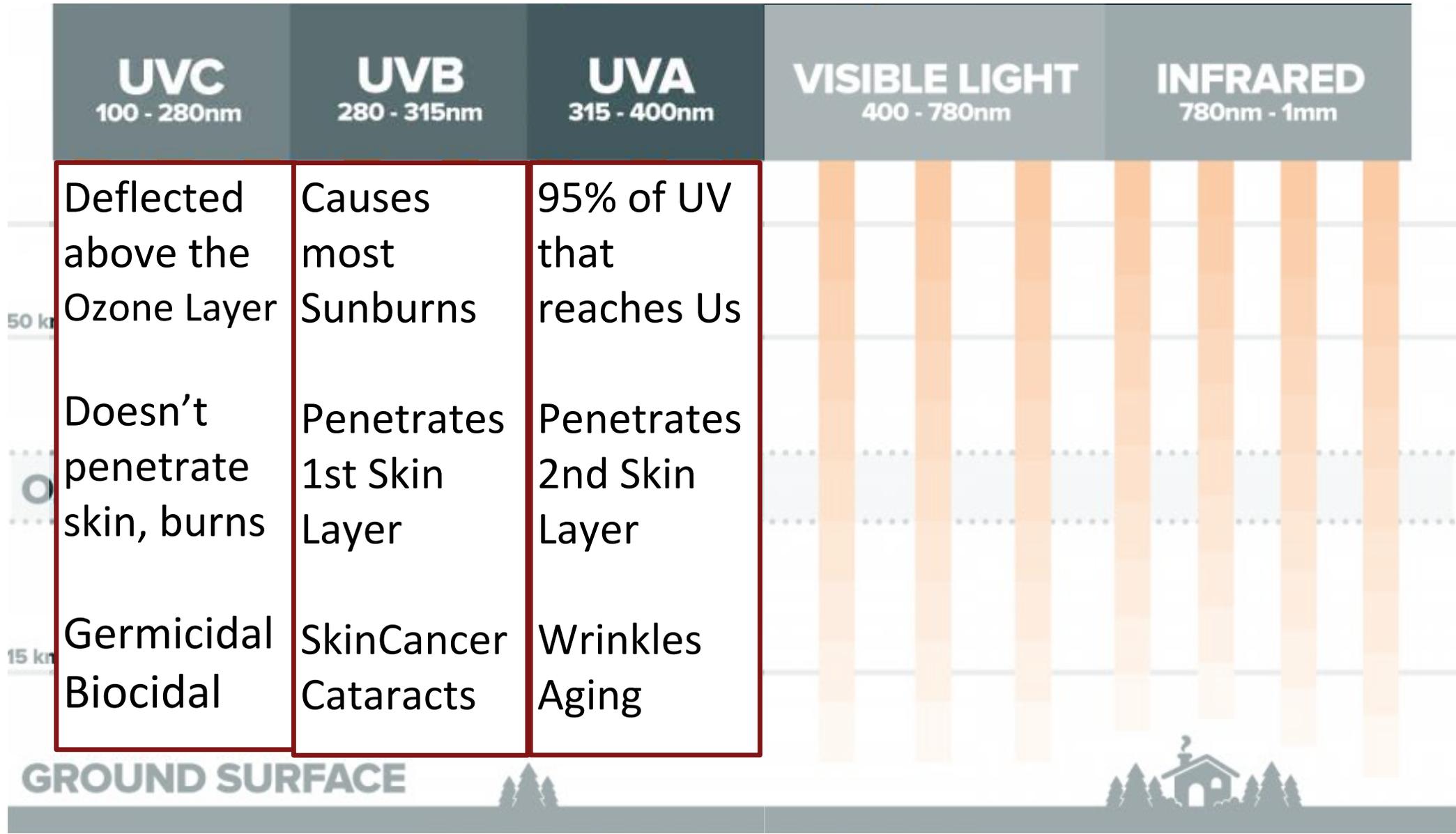
**Dry
Heat**



**Steam
Autoclave**

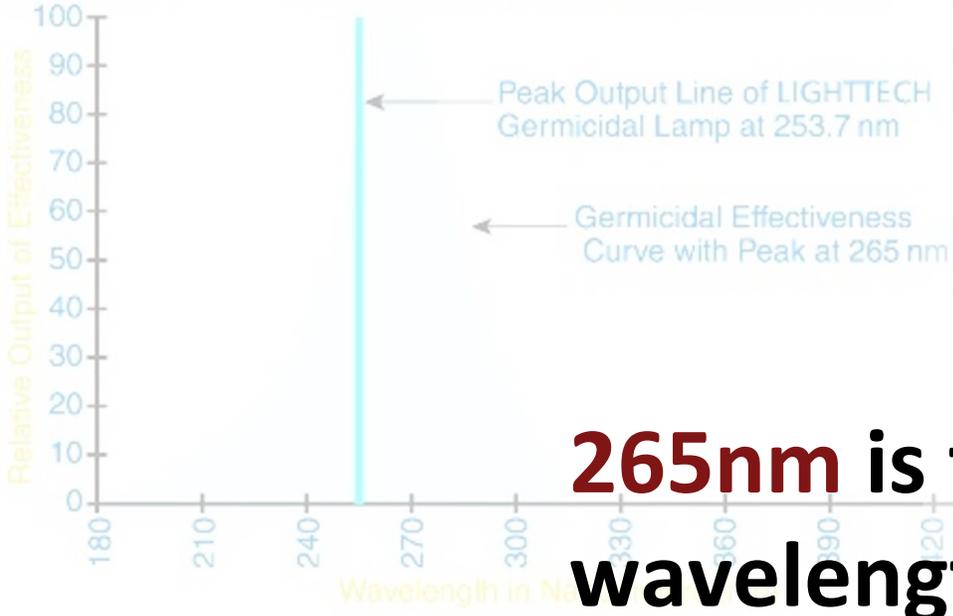


UV Theory

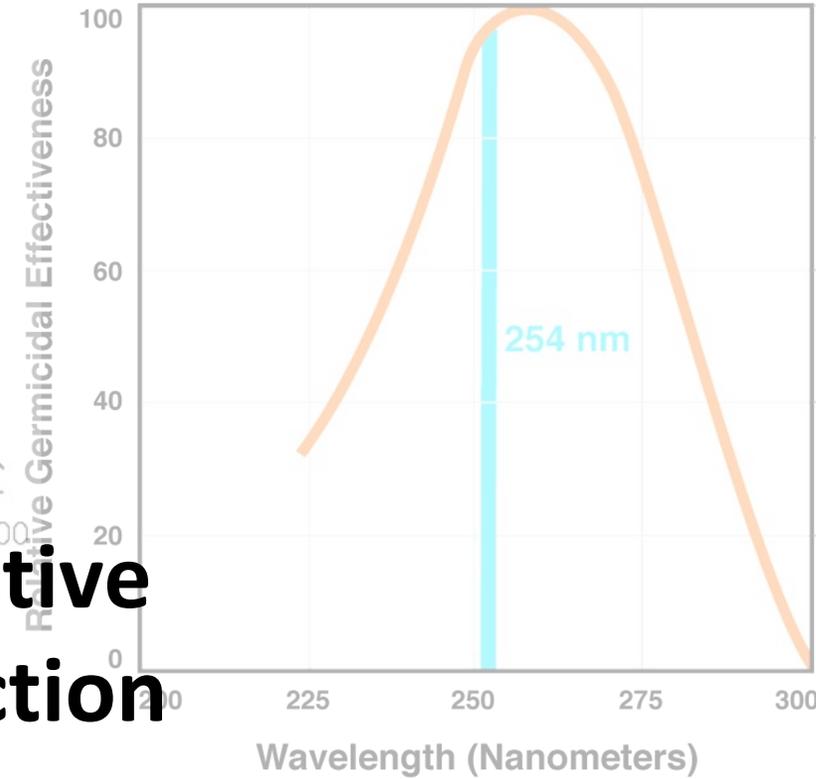
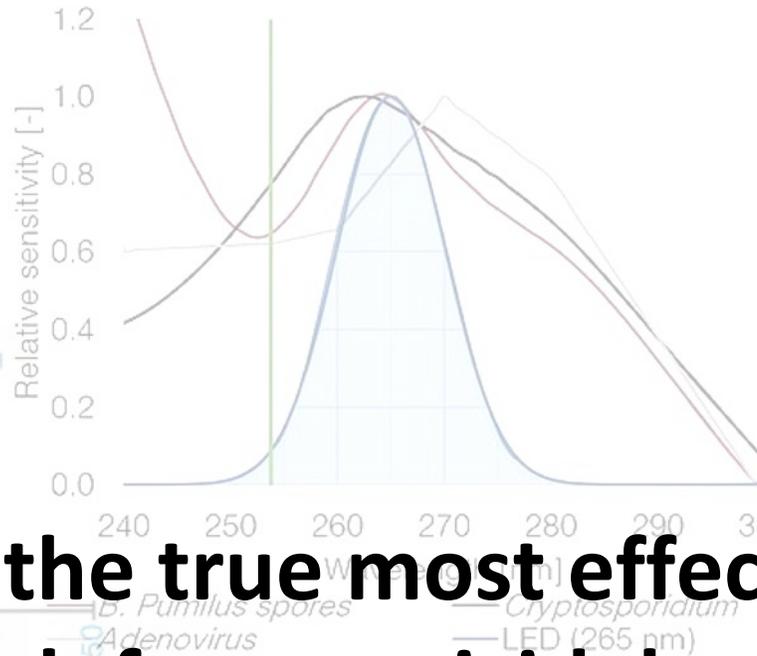




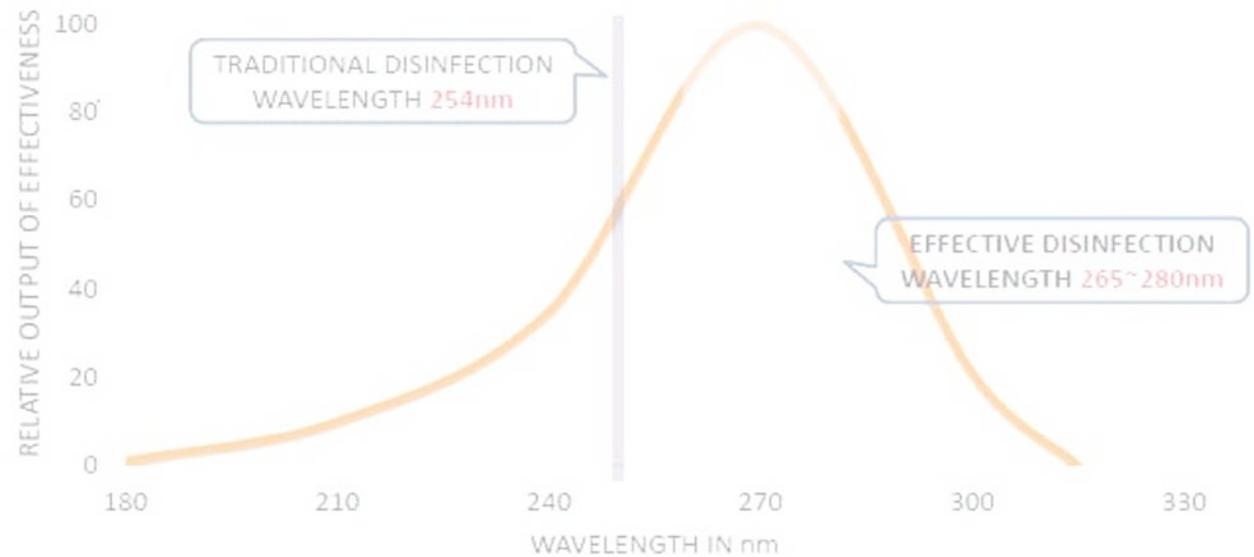
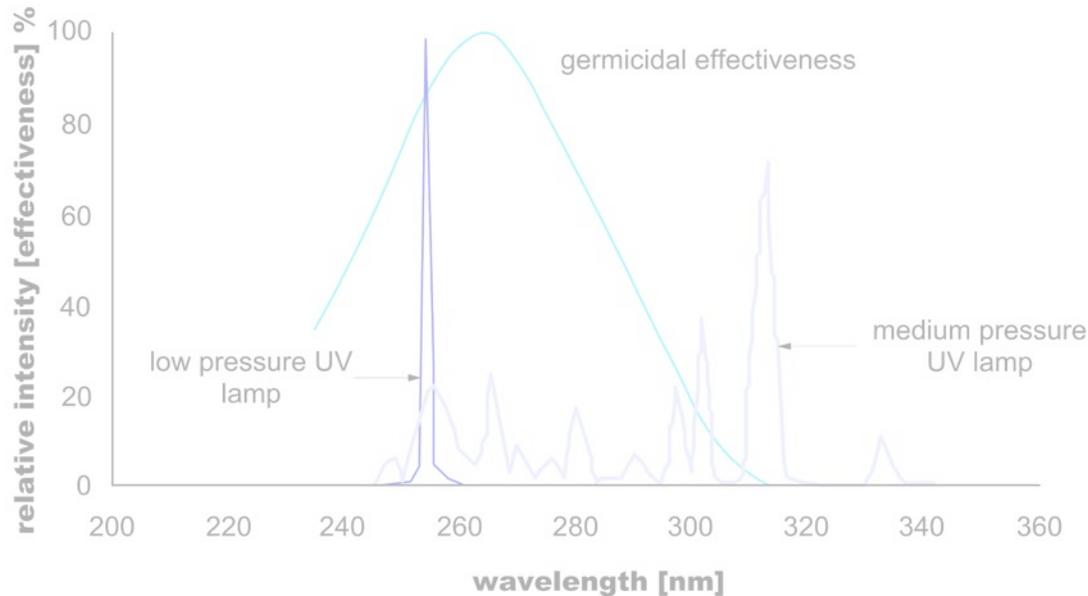
LAMP OUTPUT vs. EFFECTIVENESS



UV Absorption Effectiveness



265nm is the true most effective wavelength for germicidal action



UV Theory

Germicidal irradiation, benefits, and differences of **ULTRAVIOLET LIGHT**

UV type	NANOMETERS (nm)	SAFE for skin and eyes	RAPID DEGRADATION on materials like plastic and rubber	PRACTICAL USES
VUV Far-UV	100-200	YES	YES	Medical equipment
Far-UVC	207-222	YES	YES	Germicidal, most effective for disinfecting , sensing
UV-C	200-280	NO	YES	Germicidal, most effective for disinfecting , sensing
UV-B	280-315	NO	YES	Curing, tanning, medical applications
UV-A	315-400	NO	NOT TYPICALLY	Curing, printing, lithography, sensing, medical applications

UV Theory

Germicidal irradiation, benefits, and differences of **ULTRAVIOLET LIGHT**

UV type	NANOMETERS (nm)	SAFE for skin and eyes	RAPID DEGRADATION on materials like plastic and rubber	PRACTICAL USES
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Far-UVC	207-222	YES	YES	Germicidal, most effective for disinfecting , sensing
UV-C	200-280	NO	YES	Germicidal, most effective for disinfecting , sensing

UV Theory

Microbe colony destruction is measured by the Logarithmic Scale



$$\text{DOSE} = \text{Intensity}[I] \times \text{Time}[T]$$

ClorDiSys, 2019

mJ/cm ²	Log 1 Reduction	Log 2 Reduction	Log 3 Reduction
Bacillus Anthracis (Anthrax)	4.52	9.04	13.56
Bacillus Anthracis Spores (Anthrax Spores)	24.32	48.64	72.96
Hepatitis A	5.5	9.8	15
Influenza	3.4	6.8	10.2
MRSA	3.2	6.4	9.6
Escherichia coli	2.5	3	3.5

Distance From Lamp (Inches)	Intensity Factor
0	354
1	127
2	69
4	32
6	20
8	14
10	14
15	6
20	4
25	3
30	2
35	1.4
39.97 (1 meter)	1

<https://www.uvsterilizerreview.com/2009/03/uv-c-watts-microwatts.htm>

2008, Indian Journal of Medical Microbiology

The result suggested four log reductions of bacteria up to eight feet and hence was considered as the maximum distance for disinfection coverage.

Thus, 20-25 minutes exposure to UV light seemed adequate for disinfection and 30 minute exposure time is recommended for UV disinfection

The overall results however, suggest satisfactory inactivation of approx. 4 log reduction when the UV source is at ≤ 8 feet and the exposure time is 30 minutes.

Our preliminary observations had suggested the germicidal UV tubes fixed over the side wall to be inefficient for disinfection of room and the tubes hanging from the central area of the ceiling of seven feet height were found to be more efficient. The present observations indicate that disinfection efficiency is good up to a distance of eight feet on either side of the tube and an exposure time of 30 minutes is adequate.

Lawrence Berkeley Laboratory, 2017

The average bacteria may be killed in 10 seconds at a distance of 6 inches from the lamp.

The **inverse square law applies to** non-laser-UltraViolet Radiation.

Microorganisms beneath dust particles or beneath the work surface are not affected by the UV irradiation.

Above **70% relative humidity,** the germicidal effects drop off extremely.

Optimum temperature for output is **77°F–80°F.**

UV Quick Fact Sheet

- **Germicidal Range: UVC ~265nm wavelength**
- **The light energy shatters DNA/RNA structure, doesn't clean**
- **Less than 8ft for 30 minutes are the minimum exposure**
- **Extreme Proximity can be as short as 30 seconds**
- **Environmental Conditions are Narrow**
 - **Less than 70% humidity**
 - **Roughly 75°F**

UV Expert - Katja Auer, American Ultraviolet

- **Sterilization is 6 Log** (99.9999% colony destruction) and we do not need Sterilization
 - We never need to consider anything past **4 Log** (99.99%)
- UV is an additive disinfection - items **first need to be cleaned** (dirt and grime removed)
- All Polymers(plastics, pleather) significantly degrades from repeated exposures
 - Think of sun damage to a car's paint
 - Hospitals are having UV degradation problems with the rubber strap on N95 mask
- **UV reflects well** off metal! Stainless steel is the best.
- Only consider sources that are rated for **2-year constant use**

OXIVIR 1 Wipes

1 Minute Contact

Virucidal

Bactericidal

Tuberculocidal

Fungicidal

30 Second Contact

24 Separate Viruses

EPA's lowest toxicity category

Hydrogen Peroxide based





UV-CLEAN™

*** Motion De-activated**



**Mount
over a
Keyboard
Surface Mount**

**Attach to an
Existing
Cabinet
Retrofit**

**Attach
Under a
Monitor
Clamp Mount**

**Free Stand
on a Flat
Surface
Standalone**

COVERAGE AREA

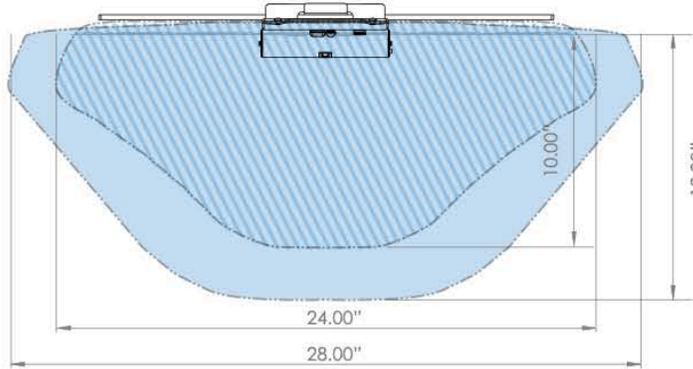


0° Rotation Coverage Area

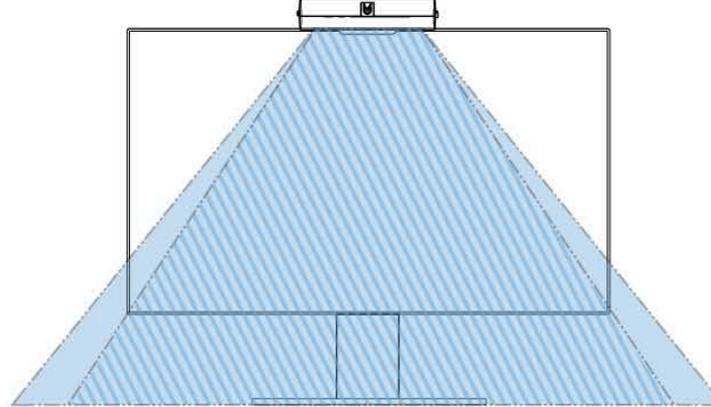


15° Max Rotation Coverage Area

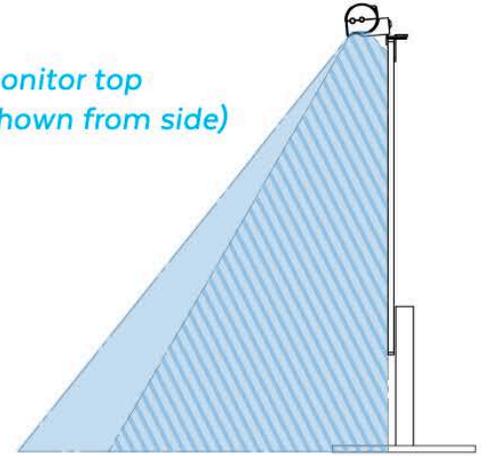
monitor top (shown from above)



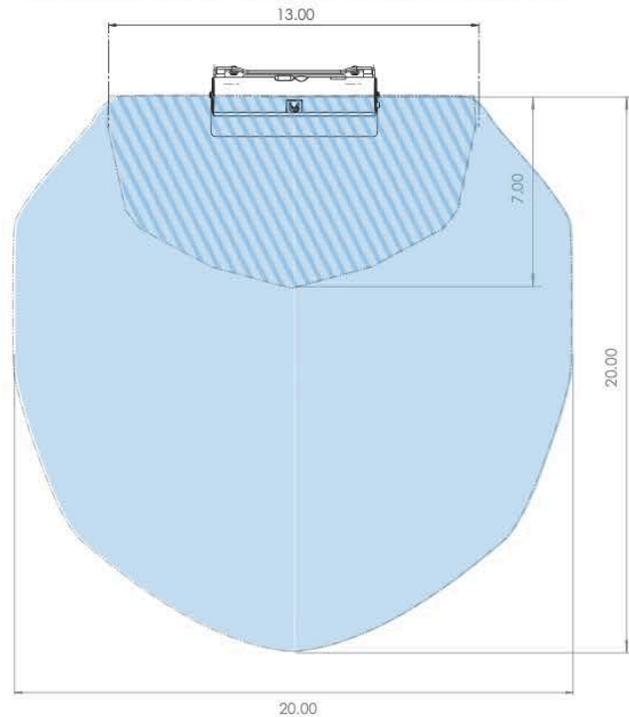
monitor top (shown from front)



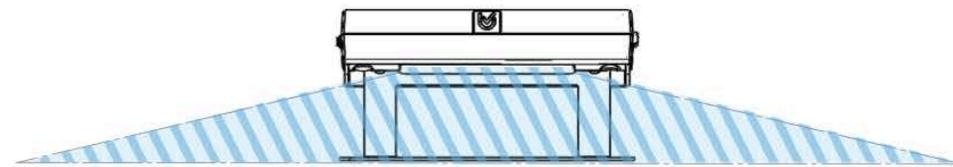
monitor top (shown from side)



keyboard stand (shown from above)



keyboard stand (shown from front)



rotational adjustment for tilt



keyboard stand (shown from side)





MT Cases - Locker



UVC

Reflective interior
Door shut-off switch
Built in Timer

Nightly cleaning

UV is harmful to humans

