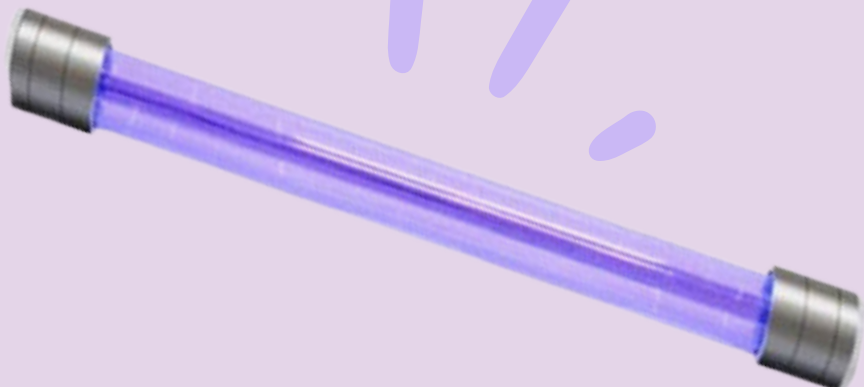
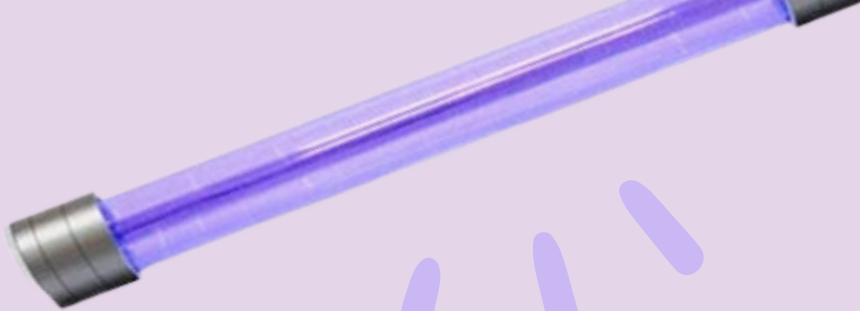


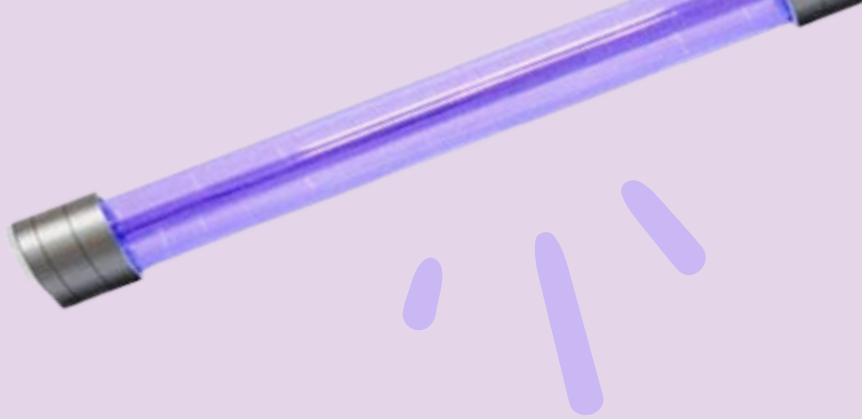
a guide to

Far-UVC light

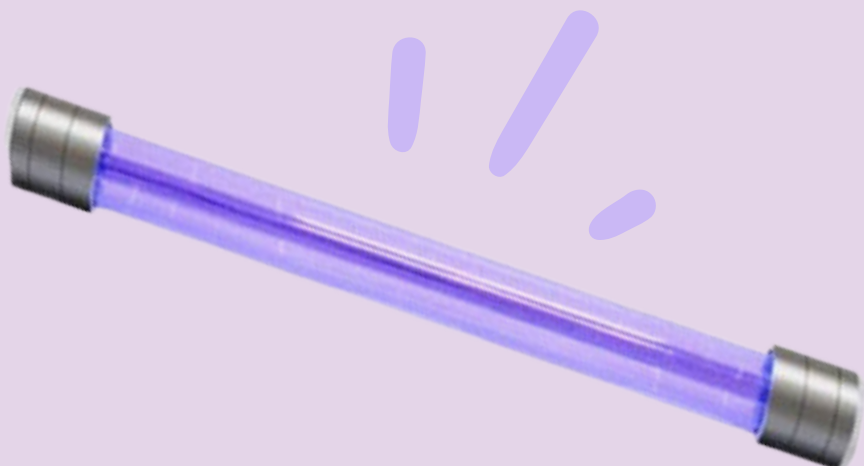
and

Covid Safety



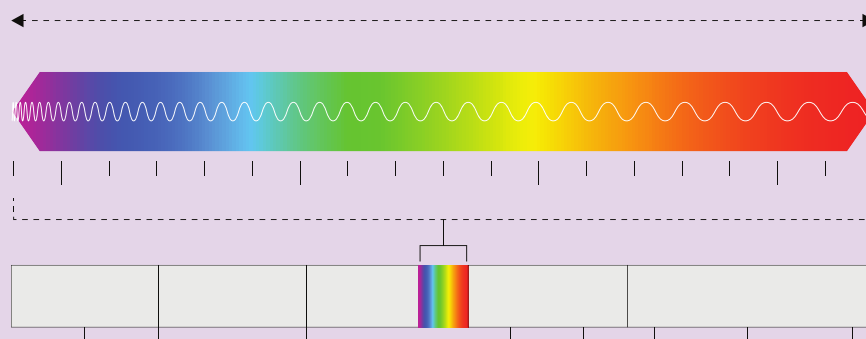


Far-UVC lamps are an effective way to rapidly reduce the concentration of airborne viruses in indoor spaces.

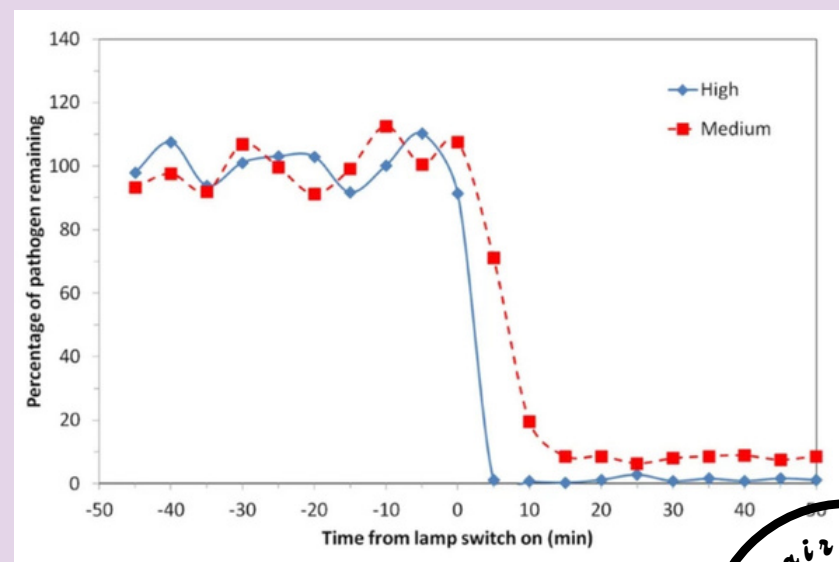
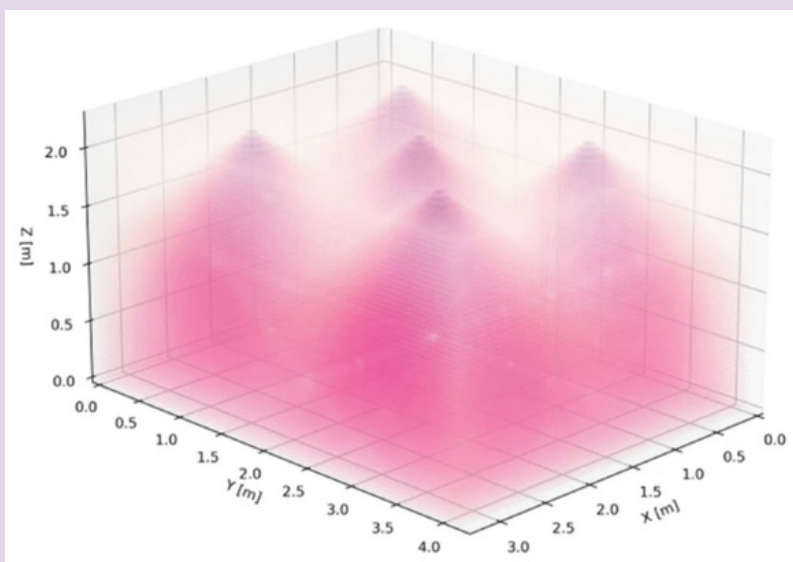


Far-UVC light (207–222 nm) is a region of the ultraviolet light spectrum that inactivates viral and microbial pathogens.

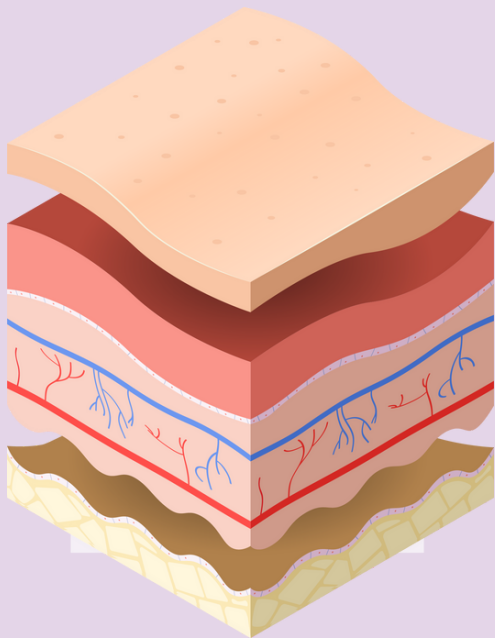
Krypton Chloride excimer lamps, a common source of Far-UVC light, have been shown to inactivate drug-resistant bacteria, influenza viruses, and Covid.



Studies show that exposing a room to Far-UVC light reduces the concentration of aerosolized pathogens by 98.4% in 5 minutes, providing an additional 184 equivalent air changes per hour. This is over 10 times more effective than air purifiers.

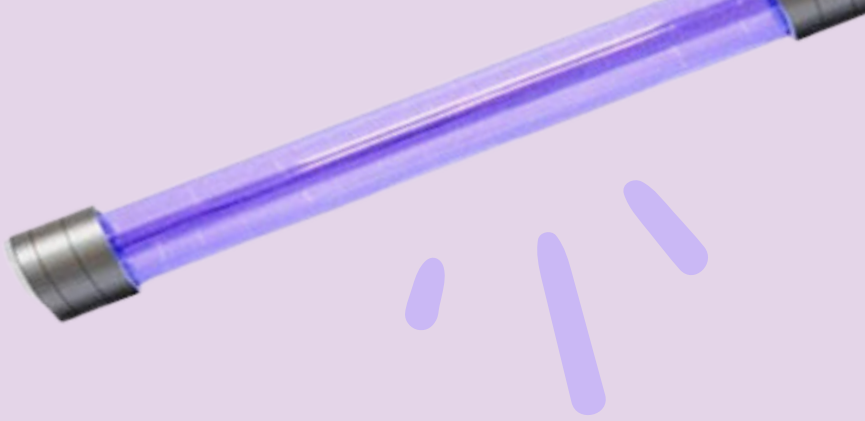


The main concern with exposure to conventional UVC light is damage to our skin and eyes. However, Far-UVC light does not have sufficient range to penetrate through the outer layer of human skin nor the outer tear layer of the eye.

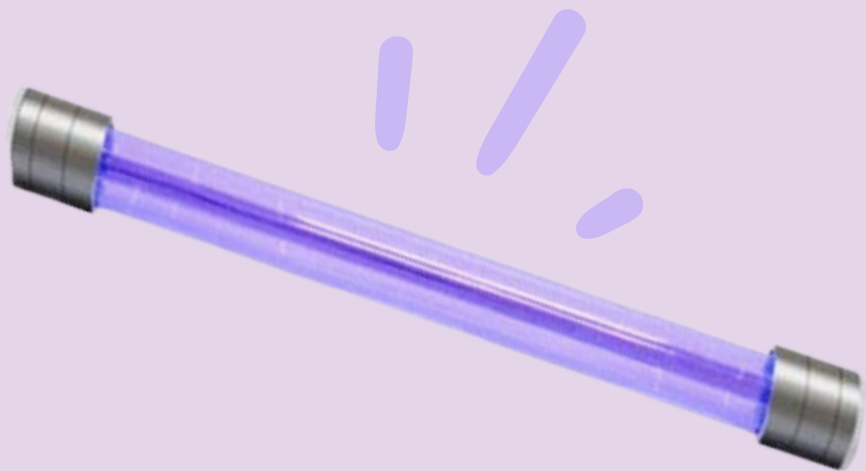


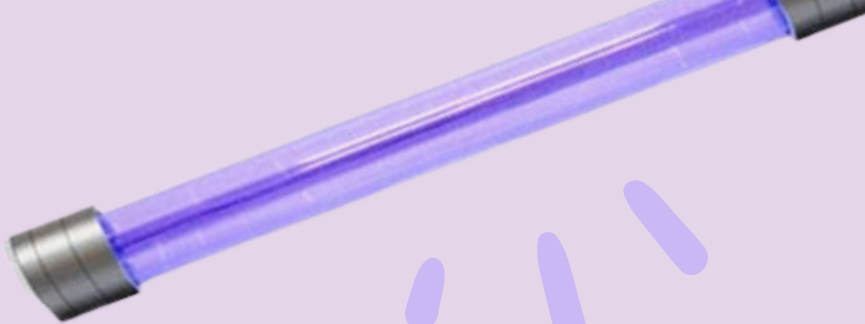
For this reason, Far-UVC lamps can be used without apparent harm to exposed human skin as long as distance and dose-time are properly observed.



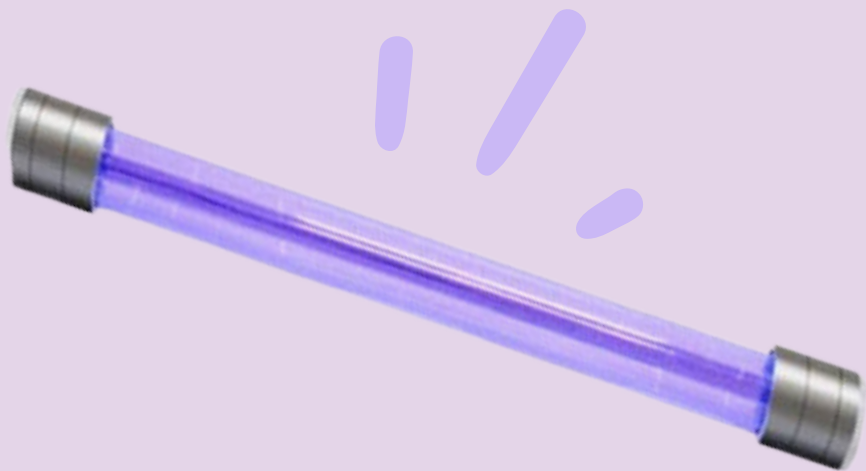


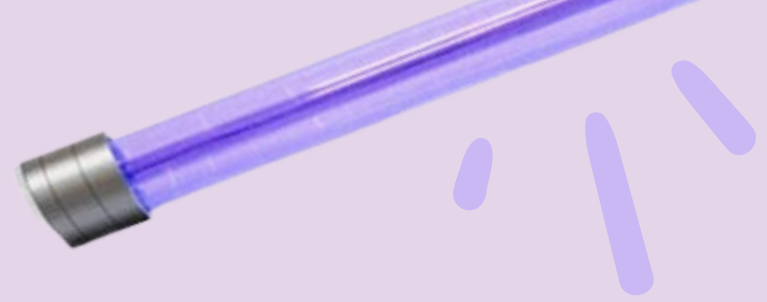
Because these lamps emit a small amount of ozone, which is harmful for respiratory health, it is important that they are used in spaces with functioning HVAC to maintain ozone concentrations below regulated values.





Effective Far-UVC lamps run between \$1,000 – \$3,000. These costs put them in the range of permanent infrastructure investments, like heating and air conditioning appliances, borne by public institutions and venues.





References:

Blatchley III et al., “Far UV-C Radiation: Current State-of Knowledge,” The IUVA Task Force on Far UV-C Radiation for Disinfection of Air and Surfaces.

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Buonanno et al., “Far-UVC light (222 nm) efficiently and safely inactivates airborne human coronaviruses.” *Scientific Reports* 10:10285 (2020).

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Reed, Nicholas, “The History of Ultraviolet Germicidal Irradiation for Air Disinfection.” *Public Health Rep.* 2010 Jan-Feb; 125(1): 15-27.

Welch et al., “Far-UVC light: A new tool to control the spread of airborne-mediated microbial diseases.” *Scientific Reports* 8:2752 (2018).

