Smart UV

# CoronaVirus Kill Report Summary

SmartUV has validated the effectiveness of its Apollo UV-C lamp on inactivating Human CoronaVirus OC43 (ATCC: VR-1558) at 1 meter, 4 meters, and 8 meters.

**Results indicate that there is over a 99.9% effectiveness at killing CoronaVirus at the maximum advertised distance. Additionally, at twice the maximum advertised distance, there was over a 90% kill rate on CoronaVirus.**

## What is the Coronavirus

Human Coronavirus (HCoVs), classified within the Coronaviridae family are named after their crown-like spikes on their membrane surface.

As stated by the CDC, there are 4 common types of human coronavirus that can infect people(1).

The OC43 strain that is used in testing is known to cause up to one-third of the common cold infections(2).

COV-2 is the strain that causes coronavirus. Although we did not test for COV-2 all strains in the Coronaviridae family are biologically and structurally similar.(4)

This means that the methods that are effective at eliminating one will be as effective against the others.

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SmartUVs UVC bulbs emit light at the same wavelength as other UVC devices on the market which has been effective in sterilizing against COVID-19, Such as Signify and Boston University testing demonstrating that UVC lights can eliminate up to 99.9% of the SARS-COV-2 virus(3).

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# Effectiveness of Disinfection

Disinfection is determined by a simple mathematical term known as a Log Reduction Value (or LRV). This is used to express the estimated number of live microbes that are eliminated by the disinfection process. (5)

**Microbe Reduction Example**

| LRV | Factor | Percent |
|---|---|---|
| 1 | 10 | 90% |
| 2 | 100 | 99% |
| 3 | 1,000 | 99.9% |
| 4 | 10,000 | 99.99% |

# The Results

SmartUV has undergone testing for Human CoronaVirus OC43 (ATCC: VR-1558) in an EPA, FDA, & ISO17025 accredited laboratory.

The test results came back very positive. There was a 4.5 LRV at 1 meter, 3.5 LRV at 4 meters, and 1 LRV at 8 meters (twice the maximum advertised distance).

The results indicated an average CoronaVirus kill percentage of 99.997% at 1 meter (3.28 feet) away. An average of 99.935% at 4 meters (13.12 feet) away. As well as an average of 90.550% at 8 meters (26.24 feet) away - This is twice the maximum advertised distance.

These results indicate that there is over a 99.9% effectiveness at killing CoronaVirus at the maximum advertised distance. Additionally, at twice the maximum advertised distance, there was over a 90% kill rate on CoronaVirus.

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# References


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