



SmartUV Mini HC-OC43 Virus Test

Summary Report from Smart UV.

Smart UV's Photon-Based Purification Technology Successfully Killed Human CoronaVirus OC43 in a Scientifically-Controlled & Accredited Testing Facility

Purpose

This experiment tested the effectiveness of The SmartUV Mini UVC Disinfection Lamp's photon-based purification technology was tested against Human CoronaVirus OC43 (ATCC: VR-1558)

Set Up

The study protocol was adapted from ASTM E1053: Standard Practice to Assess Virucidal Activity of Chemicals Intended for Disinfection of Inanimate, Nonporous Environmental Surfaces. Briefly, two-hundred microliters of virus suspension (containing soil load) was added to each carrier and allowed to dry. The inoculation was added as a thin layer to the surface of the carrier and allowed to dry. The test unit was placed in a room and inoculated carriers were placed at indicated distances from the unit. Three carriers were placed one-meter away in distance. Carriers were placed so that the inoculated surface was directly facing the unit. The unit was activated and a NIST traceable laboratory timer was started. Additionally two carriers were inoculated but not exposed to the unit and kept in the dark at the same conditions; they served as recovery controls. Following the contact time, the carriers were removed and eluted with 10ml of D/E Neutralizing Broth and homogenized. The samples were analyzed for viable infectious CoronaVirus OC43 on the day of the study. Viruses were analyzed at undiluted and at tenfold dilutions in replicates of five. Positive, negative and neutralization controls were formed along with test subjects to provide quality control and reference data as per laboratory standard accredited ISO17025:2017 methodology. Viable virus was analyzed using HRT-18 cell infectivity assay. Cell monolayers were monitored for cytopathic effect development over a 14-day period. Viruses enumerated as Infectious Units (I.U.) using the Most Probably Number (MPN) analysis of the cell culture results. Analysis was conducted as per method of EPA/600/R-95/189 and reported as I.U./ Carrier section.

Result

The SmartUV Mini UVC Disinfection Lamp's photon-based purification technology was able to reduce the concentration of Human CoronaVirus OC43 by the percentages below listed on the following page.

Full Report

[Link to full report.](#)



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	Distance	Time Exposed	Percent Reduction	Log10 Reduction
HCV OC43	1 Meter	30 Minutes	99.467%	Log2.26