



Apollo 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 Apollo's photon-based purification technology was tested against Human CoronaVirus OC43 (ATCC: VR-1558)

Set Up

The study protocol was adapted from ASTM 1053: Standard Practice to Assess Virucidal Activity of Chemicals Intended for Disinfection of Inanimate, Nonporous Environmental Surfaces. The study was performed to evaluate the virucidal efficacy of the UVC radiation exposure at various distances from The Apollo. Human Coronavirus OC43 was used as a challenge virus and was inoculated onto glass 100 mm carriers. Briefly, two-hundred microliters of virus suspension (containing soil load) was added to each carrier and allowed to dry. The Apollo unit was placed in a room and inoculated carriers were placed at indicated distances from the unit. Two carriers were placed at each distance 1, 4, and 8 meters and three carriers were placed at 5.65 meters in distance. In all tests the carriers were placed so that the inoculated surface was directly facing the Apollo. The Apollo was activated for 1 hour setting and a NIST traceable laboratory timer was started. Following the 60 minute 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 on the day of the study at undiluted and at ten-fold dilutions in replicates of five. The average number of microorganisms recovered from the recovery control carriers was used to calculate the starting concentration. Positive, negative and neutralization controls were performed along with test subjects to provide quality control and reference data as per laboratory standard accredited ISO17025:2017 methodology. Viruses were enumerated as Infectious Units (I.U.) using the Most Probable Number (MPN) analysis of the cell culture results. Analysis was conducted as per method EPA/600/R-95/178 and reported as I.U./Carrier section.

Result

The Apollo's photon-based purification technology was able to reduce the concentration of Human CoronaVirus OC43 by the percentages below on the following page.

Full Report

[Link to full report](#)

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HCV OC43

Distance	Time Exposed	Percent Reduction	Log10 Reduction
1 Meter	60 Minutes	99.997%	Log4.5
4 Meters	60 Minutes	99.935%	Log3.2
5.65 Meters	60 Minutes	99.973%	Log3.6
8 Meters	60 Minutes	90.550%	Log1.1

HCV OC43
Results Graphed

