LIGHT PROGRESS

UltraViolet Germicidal Irradiation

SUMMARY REPORT ON TEST CARRIED OUT AT

"INNOVATIVE BIOANALYSIS Inc." - California – USA LABORATORIES

MEASURING EFFECTIVENESS OF "UV-FAN" AIR PURIFIER

AGAINST AEROSOLIZED SARS-COV-2 VIRUS.

Study conducted to determine the effectiveness of the UV-FAN device in reducing the aerosolized pathogen SARS-CoV-2, in a single air passage; using a test model following a detailed scientific protocol by aerosolizing the SARS-COV-2 virus, responsible for COVID-19 in a strain assimilated to the variant named "Delta" and determine the effectiveness of the Light Progress purifier in operation.

September 2021

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PREMISE:

UV-FAN is a system that allows continuous air purification through UV-C technology, reducing any airborne pathogens in any environment, ensuring the improvement of air quality especially in spaces constantly occupied by people.

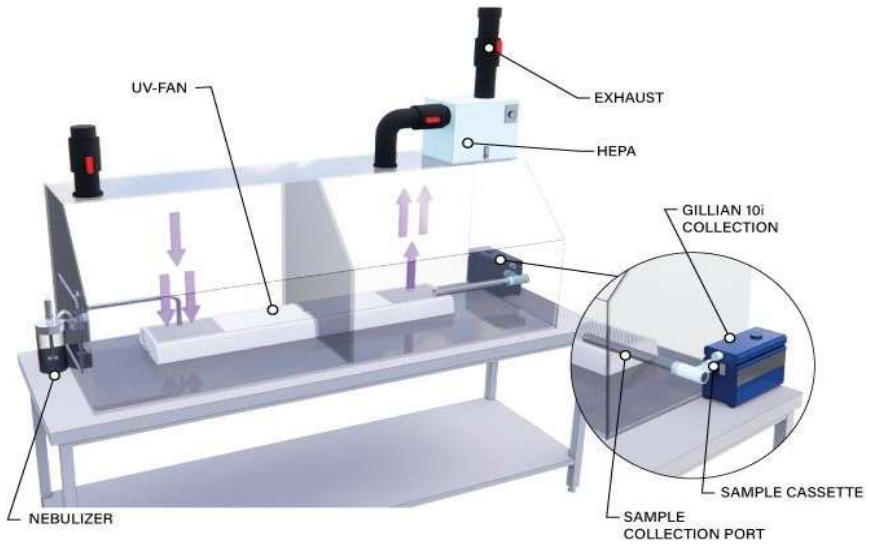
This in vitro study was conducted to determine the effectiveness of the UV-FAN device in operation to reduce aerosolized SARS-CoV-2 pathogen. As it has been shown, Coronavirus can spread both through the air and due to contact with contaminated surfaces. After the determination of this important discovery, the demand for air purifiers capable of eliminate infectious pathogens has grown greatly and the market has recently been enriched with proposals and technologies that "promise" results but often have no scientific value.

Light Progress has chosen to follow its corporate mission, which is to design, manufacture and promote only products with proven scientific efficacy.

It has been particularly difficult to find a laboratory able to perform a "Sars-COV-2 test in air" since in many countries the aerosolization of the Virus is forbidden even in the laboratory, for clear safety reasons. We were able to find a laboratory in California: "*Innovative Bioanalys Inc.* " certified and globally recognized, which has recently developed a protocol for the analysis of results against the virus causing COVID-19 and its variants by performing tests on air. "*Innovative Bioanalys Inc*. follows CDC (Center for Disease Control- USA) and WHO (World Health Organization) guidelines for handling SARS-CoV-2 (COVID-19) samples by classifying specific laboratory procedures and appropriate requirements to simulate an environment as close to reality as possible, while maintaining a high standard of operator safety.

TEST SETUP:

The test was conducted inside a sealed and controlled BSL3 chamber. A linear air stream was fed through a duct capable of drawing air in upstream of our UV-FAN, and then re-suck it at the exit of the germicidal chamber. Viral units were injected into the airflow and samples were taken after the air had passed through the purifier, to evaluate the presence or absence of active viruses still capable of being "infectious".



Airflow was controlled using a variable speed ventilation device placed on the upstream section to recreate airflow patterns similar to real environments. Air samples were collected at the outlet section of the device where 2 sampling probes were mounted.

The test system was built to meet the expected safety requirements and avoid any release of test material into the atmosphere, all joints were sealed and the entire test set was pressurized prior to testing confirming that there were no leaks.

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TEST STEPS: NEBULIZATION OF SARS-COV-2 / AIR SAMPLING / SAMPLE ANALYSIS

1. Air samples were taken every 15 minutes at the same sampling point continuously.
2. A fan located on the upstream side of the UV-FAN provided constant airflow through the device.
3. Prior to testing, the device was turned ON for 15 minutes to allow the UV-C lamps to reach normal operating conditions.
4. The UV ventilation system remained ON from the start of virus spraying until air sampling was completed.
5. For each test, a known amount of viral load was sprayed from a diffusion nozzle into the airstream on the inlet side of the UV FAN device.
6. The viral medium was nebulized at a constant rate for 10 minutes.
7. During each test, air samples were continuously taken from the downstream airstream.
8. Air samples were collected for the 10 minutes during the nebulization period and 5 minutes after stopping the nebulization for a total of 15 minutes for each test.
9. Samples were removed from the collection system after each control cycle and each air passage test and pooled.
10. After removal, sample sets were taken to an adjacent biosafety cabinet for extraction and placement in viral suspension media.
11. Two controls (UV-FAN OFF) and three viral tests (UV-FAN ON) were conducted using the same methodology.

Note: Two control tests were conducted without the UV system in operation. Controls were completed in the same test environment to determine how much of the virus survives the misting process and being moved at a given airflow rate if there was no treatment. Control samples were taken at the corresponding sampling times used for the test with the UV-FAN purifier turned on.

Nebulization of viral media and collection methods were the same. The control assay was used to assess viral reduction when the UV FAN device is operating, by detecting the net reduction of virus in air **at each passage within the UV-FAN germicidal chamber**. In addition, temperature and relative humidity were monitored and confirmed in the same range.

At the conclusion of each test, the UV system within the test chamber was activated for 30 minutes and all components and machinery used were decontaminated with hydrogen peroxide mixtures.

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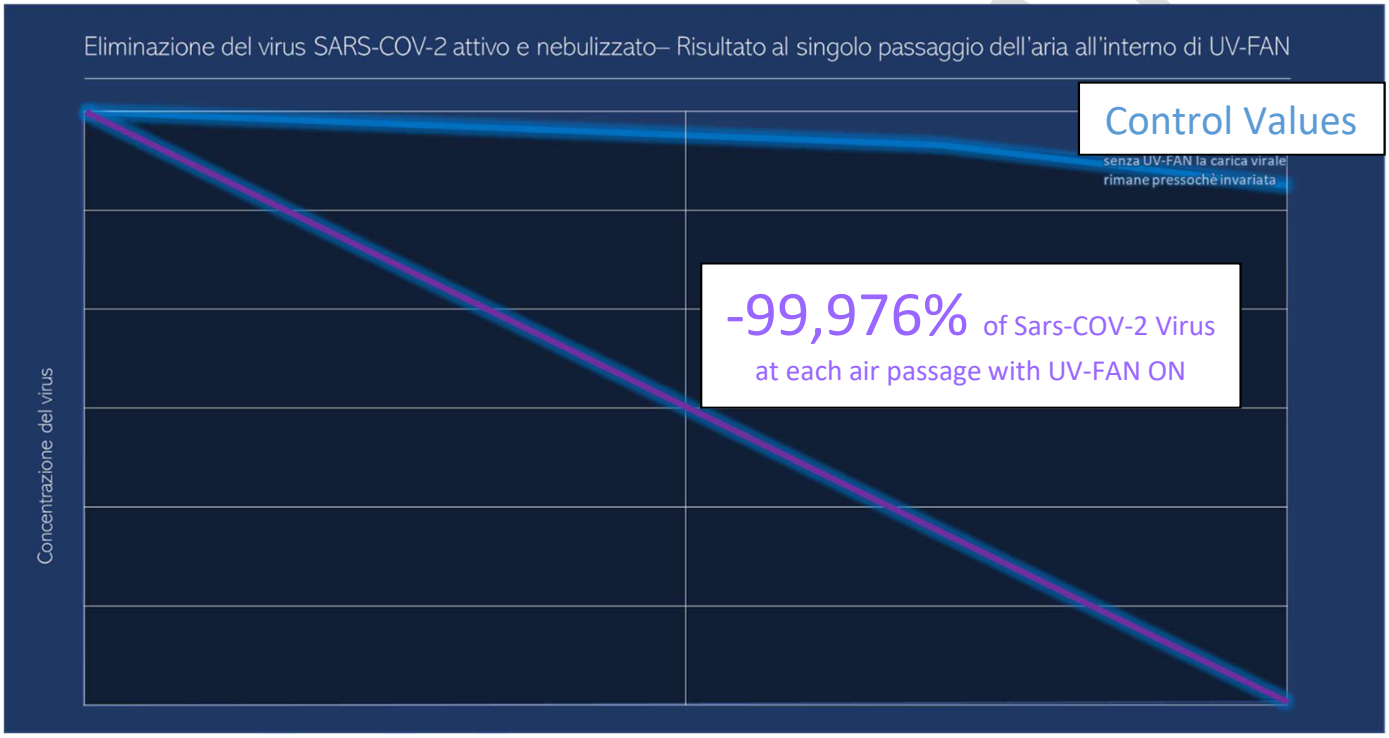
RESULTS:

The average reduction observed after performing three air passage tests was approximately 99.97%.

Overall, the tests have shown that the device is efficient in reducing viral concentrations in the air passing through the device and thus in constantly diluting the viral load potentially present in the air in a constant and continuous manner when kept in operation in the presence of people.



The study focused on the analysis and effectiveness of the treatment at the single air passage within the purifier.

An effort was made to simulate a real-life environment while taking into consideration the special precautions required when working with a biosafety level 3 pathogen. Every effort has been made to address these limitations with the design and execution of the tests.

The success of the test is represented by the fact that the control samples were particularly loaded with viruses, demonstrating the effectiveness of the UV-FAN system when operated in a closed environment, such as the one we tried to simulate in the laboratory.