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| |  |  | | --- | --- | | |  | | --- | |  | |  |  |  | | --- | --- | | |  | | --- | | Hello and welcome to the latest UV-Guard Newsletter. In this edition we discuss some recent testing we completed using our UV Surface Disinfector and a generic UV Light Wand. We have shared these results below, and what is evident is the difference between a battery operated unit and the UV-Guard Surface Disinfector is significant.  We also share a video we created to show our customers how we can assist with their UV Disinfection needs.  Read on to find out more. | |  |  |  | | --- | --- | | |  | | --- | |  | |  |  |  | | --- | --- | | |  | | --- | | **Our UV Surface Disinfector vs Other UV Light Wands**  We have noticed that there has been an influx of portable UV Light Wands available on the market. They are becoming readily available online with some promising a 99.99% reduction in E.Coli in just 3-5 seconds. This seems unrealistic based on the power of some products and so we decided to purchase one and compare it to our **UV Surface Disinfector**. | |  |  |  | | --- | --- | | |  | | --- | | **Testing Methodology**  Our testing methodology was as follows:   1. Turn generic UV Light Wand on and wait 30s to allow it to reach optimum UV output 2. Measure UV intensity at 50mm away from UV sensor 3. Record UV intensity and calculate exposure time to inactivate E.coli by 99.99%   The above process was repeated for the UV-Guard **UV Surface Disinfector**. | |  |  |  | | --- | --- | | |  | | --- | | **UV Dose Calculation**  UV dose is a function of UV intensity and exposure time. To calculate the UV dose being achieved on a particular surface, the UV intensity at the surface needs to be multiplied by the exposure time. Once the UV dose has been established, micro-organism log inactivation tables can be referred to in order to establish bacteria or virus inactivation rates at the calculated UV dose.   By referring to industry approved log inactivation tables we can see that E.Coli requires a UV dose of 12mJ/cm2 to achieve a 99.99% reduction. By dividing this UV dose by the UV intensity measured when the device is 50mm away we get the required exposure time to achieve that UV dose. | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **The Results**     |  |  |  | | --- | --- | --- | | **Device Used** | **UV-Guard UV Surface Disinfector** | **Generic UV Light Wand** | | **Intensity at 50mm** | 3.2mW/cm2 | 0.012mW/cm2 | | **UV Dose Required for 99.99% reduction in E.coli** | 12mJ/cm2 | 12mJ/cm2 | | **Exposure Time Required** | **3.75s** | **1000s (16 minutes)** |   As you can see, the generic UV Light Wand requires an exposure time of 16 minutes to generate the same UV dose the UV-Guard **UV Surface Disinfector**achieves in just under 4 seconds.  This is a much longer exposure time to the published 3-5 seconds making this particular UV Light Wand useless for effective bacteria and virus inactivation. The results have prompted us to separate ourselves from these inferior UV Light Wands. As such, we re-branded our UV Disinfection Wand to the **UV Surface Disinfector.** | |  |  |  | | --- | --- | | |  | | --- | | **The UV-Guard UV Surface Disinfector**  If the **UV Surface Disinfector** is 50mm away from the surface, a beam of UVC radiation covering a 100cm2 area is generated (approximately 33cm long and 3cm wide). Simply scanning this beam across a surface provides comprehensive disinfection in a matter of seconds. | | |