



BioVir Laboratories, Inc.

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FROM: Richard Danielson, Ph.D.
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SUBJECT: Report P030559: Ultraviolet Light Disinfection Unit Comparison.

On 4/11/03 BioVir Laboratories, Inc. conducted a comparison of ultraviolet (UV) light irradiance between two in-line UV disinfection systems. The two systems evaluated were:

Unit 1. Emperor Aquatics, Model 02025, 25 watt.
Unit 2. Aqua UltraViolet, Serial # 071508.

Following your instruction, a hole was drilled into the side of the outer housing of each unit to accommodate the UV light sensing device. The hole was located in the "middle" (from each end) of the tube. A Spectrolin[®], DRC-100X Digital Radiometer (SN#1225504, Calibrated 3/25/03) was fitted with a Spectrolin[®] DIX-254A UV sensor (SN#1225505, Calibrated 3/25/03). The sensor was shielded from light between readings. Each unit was started and the irradiance was monitored over a period of one hour. Observations were taken at Time = 5, 10, 15, 20 and 60 minutes.

Please find below the results of the Ultraviolet (UV) light disinfection unit comparison in Table 1 and Figure 1.

Table 1.
Results of UV Disinfection Unit Comparison P030559.

Time (min)	Emperor Aquatics UV Irradiance ($\mu\text{W}/\text{cm}^2$)	Aqua UltraViolet UV Irradiance ($\mu\text{W}/\text{cm}^2$)
5	3250	3910
10	2600	3200
15	2330	2770
20	1960	2500
60	1600	2070

Please contact me if you have any questions regarding these results.

Figure 1.
UV Disinfection Unit Comparison

