



## Chlorophyll WETStar Characterization

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S/N: WS3S-556P

Chlorophyll concentration expressed in  $\mu\text{g/l}$  can be derived using the equation:

$$\text{CHL}(\mu\text{g/l}) = \text{Scale Factor} \times (\text{Output} - \text{Clean Water Offset})$$

**Pre-Cal with Dirty Quartz Tube (as received).**

|                                              |                           |
|----------------------------------------------|---------------------------|
|                                              | Analog output             |
| Clean Water Offset (CWO)                     | 0.240 V                   |
| Scale Factor (SF)                            | 5.4 $\mu\text{g/l/V}$     |
| Maximum Output                               | 5.45 V                    |
| Resolution                                   | 0.00 mV                   |
| Ambient Characterization Temperature         | $22 \pm 1^\circ\text{C}$  |
| Current Draw                                 | 30 mA @ 12V (typical)     |
| 12-hour Stability                            | 0.00 mV/hr                |
| Temperature Stability, 25–2 $^\circ\text{C}$ | 0.00 mV/ $^\circ\text{C}$ |

| Range               |   |
|---------------------|---|
| 15 $\mu\text{g/l}$  | 0 |
| 75 $\mu\text{g/l}$  | 0 |
| 150 $\mu\text{g/l}$ | 0 |

### Definitions:

**CWO:** Clean Water Offset value obtained using pure filtered de-ionized water.

**SF:** Scale Factor is used to convert the fluorescence response of the instrument into chlorophyll-a concentration. Scale Factor is determined at WET Labs during a cross calibration using a liquid fluorescent standard and a reference fluorometer whose chlorophyll fluorescence response has been characterized in a laboratory using a mono-species lab culture of *Thalassiosira weissflogii* phytoplankton.

**Maximum Output:** Maximum signal output of the fluorometer.

**Resolution:** Standard deviation of 1 minute of clean water data, sampled once per second.

**Ambient Characterization Temperature:** Room temperature at time of characterization.

**Current Draw:** The amount of current the instrument uses for operation.

**12-hour Stability:** Deviation of output averaged over 12 hours.

**Temperature Stability:** Measured output variation per degree.