

(541) 929-5650 Fax (541) 929-5277 www.wetlabs.com

SLC Testing Certification

Date

5/20/2019

S/N# FLBBCDSLC-5701

Low temperature test #1

Chill 2.5 hr at -20 °C

High temperature test #1 Verify operation post-testing

Heat 2.5 hr at 50 °C

Low temperature test #2 same protocol as #1

High temperature test #2 same protocol as #1

Vacuum test

< 0.1" Hg change in 10 min.

Pressure test

5 cycles, 0-1250 m with 10-sec. soaks

Held at 1250 m for 2 hrs. on last cycle

Electrical isolation

Resistance between copper faceplate and grounding wire is > 1 $m\Omega$

Calibration verification

Verify calibration and dark counts in bb, chl, and CDOM channels

Verify 5% of single point check for chl and bb

Verify 10% of single point check for CDOM

Signature

In GaidUS Mory

NOTES:

PO Box 518 620 Applegate St. Philomath, OR 97370



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ECO Chlorophyll Fluorometer Characterization Sheet

Date: 5/16/2019

S/N: FLBBCDSLC-5701

Chlorophyll concentration expressed in µg/l can be derived using the equation:

CHL (µg/I) = Scale Factor * (Output - Dark counts)

Dark counts Scale Factor (SF) Maximum Output Resolution

41 counts
0.0073 µg/l/count
4130 counts
1.3 counts

Digital

Ambient temperature during characterization

22.5 °C

Dark Counts: Signal output of the meter in clean water with black tape over detector.

solution used during instrument characterization. SF is used to derive instrument output concentration from the raw SF: Determined using the following equation: SF = x + (output - dark counts), where x is the concentration of the signal output of the fluorometer.

Maximum Output: Maximum signal output the fluorometer is capable of.

Resolution: Standard deviation of 1 minute of collected data.

concentration using a fluorometer, you must perform secondary measurements on the populations of interest. This is typically done document was determined using a mono-culture of phytoplankton (Thalassiosira weissflogii). The population was assumed to be reasonably healthy and the concentration was determined by using the absorption method. To accurately determine chlorophyll The relationship between fluorescence and chlorophyll-a concentrations in-situ is highly variable. The scale factor listed on this using extraction-based measurement techniques on discrete samples. For additional information on determining chlorophyll concentration see "Standard Methods for the Examination of Water and Wastewater" part 10200 H, published jointly by the American Public Health Association, American Water Works Association, and the Water Environment Federation.

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Scattering Meter Calibration Sheet

5/16/2019

Wavelength: 700

S/N FLBBCDSLC-5701

Use the following equation to obtain either digital or analog "scaled" output values:

$eta(heta_c)$ m $^{-1}$ sr $^{-1}$	= Sca	$\beta(\theta_c)$ m ⁻¹ sr ⁻¹ = Scale Factor × (Output - Dark Counts)
 Scale Factor for 700 nm 	II	1.835E-06 (m ⁻¹ sr ⁻¹)/counts
• Output	II	meter output counts
Dark Counts	II	53 counts
Instrument Resolution	II	1.1 counts

Definitions:

- Scale Factor: Calibration șcale factor, $\beta(\theta_c)$ /counts. Refer to User's Guide for derivation.
- Output: Measured signal output of the scattering meter.
- Dark Counts: Signal obtained by covering detector with black tape and submersing sensor in water. Instrument Resolution: Standard deviation of 1 minute of collected data.

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ECO CDOM Fluorometer Characterization Sheet

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CDOM concentration expressed in ppb can be derived using the equation:

CDOM (ppb) = Scale Factor * (Output - Dark Counts)

Scale Factor (SF) Maximum Output Dark Counts Resolution 22.5 °C

0.0907 ppb/count

49 counts

Digital

4130 counts 1.0 counts

Ambient temperature during characterization

Dark Counts: Signal output of the meter in clean water with black tape over detector.

SF: Determined using the following equation: SF = x + (output - dark counts), where x is the concentration of the solution used during instrument characterization. SF is used to derive instrument output concentration from the raw signal output of the fluorometer.

Maximum Output: Maximum signal output the fluorometer is capable of.

Resolution: Standard deviation of 1 minute of collected data