PO Box 518
620 Applegate St.
Philomath, OR 97370

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

WET ● Labs

FLNTU Characterization Sheet

Date: 22-Dec-15   S/N: FLNTURTD-3397

Chlorophyll Scale Factor

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

CHL (µg/l) = Scale Factor x (Output - Dark Counts)

	Analog		Digital	
Dark Counts	0.063	V	48	counts
Scale Factor (SF)	10	µg/l/V	0.0117	µg/l/count
Maximum Output	4.97	V	4130	counts
Resolution	0.7	mV	1.0	counts
Ambient temperature during calibration	22.3	°C		

Nephelometric Turbidity Unit (NTU) Scale Factor

Turbidity units expressed in NTU can be derived using the equation:

NTU = Scale Factor x (Output - Dark Counts)

	Analog		Digital	
Dark Counts	0.065	V	50	counts
NTU Solution Value	1.68	V	1374	counts
Scale Factor (SF)	5	NTU/V	0.0067	NTU/count
Maximum Output	4.98	V	4130	counts
Resolution	0.7	mV	1.0	counts
Ambient temperature during calibration	22.3	°C		

Definition of terms:

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

NTU Solution Value: Signal output of the turbidity sensor when measuring a sample of interest.

SF (CHL): 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.

SF (NTU): Scale factor is determined using the following equation: SF = xx ÷ (Output - Dark counts), where xx is the value of a Formazin concentration. For example: 12.2 ÷ (2011 - 50) = 0.0062.

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

Resolution: standard deviation of 1 minute of collected data.

PO Box 518
620 Applegate St.
Philomath, OR 97370

WET ● Labs

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

Scattering Meter Calibration Sheet

12/22/2015
Wavelength: 700

S/N FLNTURTD-3397

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

$$\beta(\theta_c)\ m^{-1}\ sr^{-1} = \text{Scale Factor} \times (\text{Output} - \text{Dark Counts})$$

- **Scale Factor for 700 nm** $=$ 1.877E-05 $(m^{-1}sr^{-1})$/counts   1.530E-02 $(m^{-1}sr^{-1})$/volts
- **Output** $=$ meter output counts   meter output volts
- **Dark Counts** $=$ 48 counts   0.079 volts

Instrument Resolution $=$ 1.0 counts   1.88E-05 $(m^{-1}sr^{-1})$
0.7414 mV

Definitions:

- **Scale Factor**: Calibration scale 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.