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FLNTU Characterization Sheet

Date: 12/22/15 S/N: FLNTURTD-3398

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	0.069	V	47	counts
Scale Factor (SF)	10	µg/l/V	0.0115	µg/l/count
Maximum Output	4.97	V	4130	counts
Resolution	0.6	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	0.055	V	50	counts
NTU Solution Value	1.68	V	1390	counts
Scale Factor (SF)	5	NTU/V	0.0066	NTU/count
Maximum Output	4.97	V	4130	counts
Resolution	0.6	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.

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Scattering Meter Calibration Sheet

12/21/2015
Wavelength: 700

S/N FLNTURTD-3398

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**	=	1.873E-05 $(m^{-1}sr^{-1})$/counts	1.543E-02 $(m^{-1}sr^{-1})$/volts
• **Output**	=	meter output counts	meter output volts
• **Dark Counts**	=	49 counts	0.07 volts
Instrument Resolution	=	1.0 counts 0.5838 mV	1.87E-05 $(m^{-1}sr^{-1})$

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.