# WET Labs

# FLNTU Characterization Sheet

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## 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** | 0.059 | V | 48 | counts |
| **Scale Factor (SF)** | 6 | µg/l/V | 0.0074 | µg/l/count |
| **Maximum Output** | 4.93 | V | 4130 | counts |
| **Resolution** | 0.3 | mV | 1.0 | counts |
| Ambient temperature during calibration | 20.0 | ℃ | | |

## 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** | 0.084 | V | 54 | counts |
| **NTU Solution Value** | 3.29 | V | 2718 | counts |
| **Scale Factor (SF)** | 2 | NTU/V | 0.0024 | NTU/count |
| **Maximum Output** | 4.93 | V | 4130 | counts |
| **Resolution** | 0.8 | mV | 1.0 | counts |
| Ambient temperature during calibration | 20.0 | ℃ | | |

See reverse side for 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.