

3x1m Characterization Sheet

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Chlorophyll Scale Factor

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

$$\text{CHL (}\mu\text{g/l)} = \text{Scale Factor} \times (\text{Output} - \text{Dark Counts})$$

Dark Counts

Scale Factor (SF)

Maximum Output

Resolution

470 nm

50 counts

0.0121 µg/l/count

4133 counts

1.1 counts

BB3(Basic Blue 3) Scale Factor

Basic Blue 3 equivalent concentration expressed in ppb can be derived using the equation:

$$\text{BB3} = \text{Scale Factor} \times (\text{Output} - \text{Dark Counts})$$

Dark Counts

Solution Value

Scale Factor (SF)

Maximum Output

Resolution

440 nm

49

470 nm

50

532 nm

50 counts

1028

1013

1022 counts

0.2091

0.2126

0.2106 ppb/count

4133

4133

4133 counts

1.0

1.1

1.3 counts

Ambient temperature during calibration

°C

22.3

See reverse side for definition of terms.

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

Solution Value: Signal output of the scattering wavelengths when measuring a sample of interest.

SF (CHL): Determined using the following equation: $SF = x \div (\text{output} - \text{dark counts})$, 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 th

SF (BB3): Scale factor is determined using the following equation: $SF = xx \div (\text{Output} - \text{Dark counts})$, where xx is the value of a Basic Blue 3 concentration. For example: $12.2 \div (2011 - 50) = 0.0062$.

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

Resolution: standard deviation of 1 minute of collected data.