

PO Box 518
620 Applegate St.
Philomath, OR 97370



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

ECO Phycocyanin Fluorometer Characterization Sheet

Date: 2/15/2019

S/N: BBFL2WB-1442

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

$$\text{Phycocyanin (ppb)} = \text{Scale Factor} * (\text{Output} - \text{Dark Counts})$$

Dark Counts	Digital
Scale Factor (SF)	63 counts
Maximum Output	0.0429 ppb/count
Resolution	4130 counts
	1.5 counts
Ambient temperature during characterization	22.3 °C

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

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

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

Resolution: Standard deviation of 1 minute of collected data.

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ECO Calibration and Repairs

Diagnosis: Evaluated instrument (BBFL2W-1442) and found no serious problems.

Repairs and Modifications: Standard service performed. Retuned PC channel as incoming evaluation showed it to be around 30% low. Repaired damaged wiring in the bulkhead flange. Installed new motor and connector. Installed new battery pack, batteries, faceplate, wiper, and all case seals.

Comments: New Device file and characterization sheets included.

ECO Standard Service:

The instrument bulkhead connector, pressure housing and window\optics are inspected for damage. Instrument is checked to determine proper functionality. Incoming settings and memory are collected if incoming condition allows.

A pre-service characterization is performed. Data is analyzed and Instrument is rescaled, if applicable.

The head is inspected for cracks in detector and motor bores. Case seals, shaft, shaft seal, faceplate, wiper, desiccant pack and batteries (if equipped) are replaced. Noise, stability, and live pressure test is performed.

Final calibration and characterization is completed. Including calibration of thermistor and pressure sensor, if equipped. A device file, repair sheet, and new characterization sheets are provided to customer via hard copy and CD.