ENTERED 8 Feb 05

PO Box 518
620 Applegate St.
Philomath, OR 97370

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

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# C-Star Calibration

| | | | | | |
|---|---|---|---|---|---|
| Date | January 28, 2005 | Customer | Marine Technology Group | Work order | 002 |
| Job # | 0308016 | S/N# | CST-722DR | Pathlength | 25 cm |

| | Analog meter |
|---|---|
| $V_d$ | 0.061 V |
| $V_{air}$ | 4.722 V |
| $V_{ref}$ | 4.610 V |

| | |
|---|---|
| Temperature of calibration water | 20.0 °C |
| Ambient temperature during calibration | 24.6 °C |

Relationship of transmittance (Tr) to beam attenuation coefficient (c), and pathlength (x): $\mathbf{Tr = e^{-cx}}$

To determine beam transmittance: $\mathbf{Tr = (V_{sig} - V_{dark}) / (V_{ref} - V_{dark})}$

To determine beam attenuation coefficient: $\mathbf{c = -1/x * \ln (Tr)}$

$V_d$ Meter output with the beam blocked. This is the offset.
$V_{air}$ Meter output in air with a clear beam path.
$V_{ref}$ Meter output with clean water in the path.
Temperature of calibration water: temperature of clean water used to obtain $V_{ref}$.
Ambient temperature: meter temperature in air during the calibration.
$V_{sig}$ Measured signal output of meter.

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# C-Star Calibration and Repairs

| | | | | | |
|---|---|---|---|---|---|
| Date | 1/28/2005 | Customer | | Marine Technology Group | |
| Job # | 0308016 | S/N# | CST-722DR | Work order | 002 |

## Repairs and Modifications:

Replaced bulkhead connector and zinc anode. Recalibrated.

## Comments:

- Shake-tested unit
- Pressure-tested unit
- Noise test: 1 sample/sec for 60 sec
- Stability test: 1 sample/min for 12 hrs
- Performed water calibration
- Temperature test, 27–2 °C
- Updated unit's calibration sheet