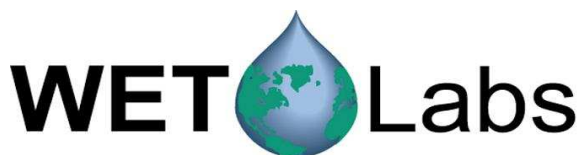


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C-Star Calibration

Date **August 7, 2012** S/N# **CST-1432DR** Pathlength **25cm**

| | Analog output | Digital output |
|------------------------|----------------|---------------------|
| V_d | 0.003 V | 0 counts |
| V_{air} | 4.813 V | 15829 counts |
| V_{ref} | 4.702 V | 15464 counts |

| | |
|--|----------------|
| Temperature of calibration water | 19.9 °C |
| Ambient temperature during calibration | 21.3 °C |

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

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

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

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.