



C-Star Calibration

Date **September 7, 2011** S/N# **CST-1116DR** Pathlength **25**

Analog output

V_d **0.060 V**
V_{air} **4.797 V**
V_{ref} **4.689 V**

Temperature of calibration water **23.6 °C**
Ambient temperature during calibration **25.6 °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.