



C-Star Calibration

Date **May 5, 2014** S/N# **CST-1032DR** Pathlength **25cm**

	Analog output	Digital output
V_d	0.008 V	0 counts
V_{air}	4.847 V	15945 counts
V_{ref}	4.704 V	15469 counts

Temperature of calibration water	19.0 °C
Ambient temperature during calibration	20.6 °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.