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C-Star Calibration

Date April 25, 2008 S/N# CST-399DR Pathlength 25cm

	Analog meter
V_d	0.061 V
V_{air}	4.800 V
V_{ref}	4.693 V

Temperature of calibration water	23.0 °C
Ambient temperature during calibration	26.1 °C

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

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.

27 Jun '08 $m = 19.687596$
 $b = -1.1301$