PO Box 518
620 Applegate St.
Philomath, OR 97370

SEA-BIRD SCIENTIFIC

(541) 929-5650
Fax (541) 929-5277
www.sea-birdscientific.com

C-Star Post-Deployment Characterization

Date December 31, 2019 S/N# CST-1269DR Pathlength 25 cm

	Analog output	
V_d	0.059 V	
V_{air}	4.826 V	
V_{ref}	4.730 V	
Temperature of calibration water		22.3 °C
Ambient temperature during calibration		23.5 °C

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

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.