

Instrument Checklist

Date: 09/14/09

S/N: CST-1034DR

Order # 6708

Contents:

Description	Qty	Packed
■ C-Star Transmissometer	1	X
■ Lock Collar	1	X
■ User's Guide	1	
■ Calibration Sheet	1	X
■ Repair/Modification Sheet	1	X
■ Anti-Static Shipping Bag	1	X
■ Pigtail w/Lock Collar	1	
■ Adapter Cable	1	
■		
■		

Checked by: KN

Comments: _____

C-Star Calibration and Repairs

Date 9/14/2009 Customer U of Hawaii

S/N# CST-1034DR Work order 6708

Standard Service

- Cleaned meter
- Replaced all seals
- Focused and aligned optics
- Performed noise test: 1 sample/sec for 60 sec
- Performed stability test: 1 sample/min for 12 hrs
- Performed temperature test
- Performed water calibration
- Shake-tested unit
- Pressure-tested unit
- Updated unit's calibration sheet

Additional Repairs

Replaced LED, Reference detector, and signal detector free of charge

Comments

C-Star Calibration

Date September 14, 2009 S/N# CST-1034DR Pathlength 25cm

	Analog output	Digital output
V_d	0.061 V	69 counts
V_{air}	4.849 V	<u>4033 counts</u>
V_{ref}	4.714 V	<u>3922 counts</u>

Temperature of calibration water	21.9 °C
Ambient temperature during calibration	22.3 °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.