

Field Technician Quick-Reference Checklist: TIR Radiometer

Daily Radiometer Verification & Blackbody Calibration Form

Station / Tower ID:		Date & Time:	
Instrument Serial #:		Target Emissivity:	$\epsilon = 0.98$ (Vegetation/Soil)

Step	Task / Verification Description	Acceptance Criteria	Result
1. Germanium Window	Inspect germanium window for dirt, water droplets, or film.	Window clean & dry	☐ Pass ☐ Fail
2. Radiation Shield	Verify white solar radiation shield is intact and securely mounted.	Shield aligned, no shade block	☐ Pass ☐ Fail
3. Sensor Body Temp	Check internal body thermistor T_{body} reading on datalogger.	Stable ambient T_{body}	☐ Pass ☐ Fail
4. Blackbody Low Check	Point radiometer at 15.0°C reference blackbody cavity.	$T = 15.0 \pm 0.2^{\circ}\text{C}$	☐ Pass ☐ Fail
5. Blackbody High Check	Point radiometer at 45.0°C reference blackbody cavity.	$T = 45.0 \pm 0.2^{\circ}\text{C}$	☐ Pass ☐ Fail
6. Emissivity Setting	Verify datalogger multiplier for surface emissivity ($\epsilon_s = 0.98$).	Setting = 0.98	☐ Pass ☐ Fail
7. Field-of-View (FOV)	Check 45° downward view angle to ensure no structural metal in FOV.	Pure canopy/soil FOV	☐ Pass ☐ Fail
8. Sky Temp Sync	Verify sky temperature (T_{sky}) background correction input.	$T_{sky} \approx T_a - 15^{\circ}\text{C}$	☐ Pass ☐ Fail
9. CWSI Output Check	Verify live calculated CWSI values scale properly between 0.0 and 1.0.	$0.0 \leq \text{CWSI} \leq 1.0$	☐ Pass ☐ Fail
10. Signal Cable Relief	Inspect cable strain relief and weatherproof connector seal.	Conduit sealed, no chafing	☐ Pass ☐ Fail

FIELD VERIFICATION & APPROVAL SIGN-OFF	
Prepared & Approved By:	Kadeem Manning (Lead Field Specialist)
Technician Signature:	Kadeem Manning
Verification Date:	September 16, 2026
Calibration Status:	☒ PASSED & VERIFIED ☐ REJECTED