



LWIRCS is a long-wavelength infrared calibration source. Originally built for the Far-Infrared Spectroscopy of the Troposphere (FIRST) program, it has been enhanced and is in the process of being certified as SDL's secondary NIST radiance standard. LWIRCS was calibrated at the National Institute of Standards and Technology using the NIST Absolute Cryogenic Radiometer (ACR). It has been used for infrared sensor calibration programs including testing of the NIST TXR radiometer at the Space Dynamics Laboratory.

SPECIFICATIONS

OPTICAL

BLACKBODY CONE (DIAMETER / HEIGHT)	10" / 7.5"
BLACKBODY CYLINDER (LENGTH)	12"
EXIT APERTURE	6"
SPECTRAL RANGE	1 to 100 μm
NORMAL EMISSIVITY (1-15 μm)	0.9999 or better
NORMAL EMISSIVITY (15-35 μm)	0.9998 or better
NORMAL EMISSIVITY (35-100 μm)	0.9980 or better

THERMAL CONTROL

NIST TRACEABLE PRTS	8
THERMISTORS	2
CONTROL TEMPERATURE RANGE	100 – 350K
TIME TO COOL & STABILIZE	<15 hrs
TIME TO HEAT & STABILIZE (NEAR 150K)	~2 hrs
TIME TO HEAT & STABILIZE (NEAR 300K)	~3 hrs

Multi-level cryogenic cooling to minimize thermal gradients

MECHANICAL

OUTSIDE LENGTH	40"
OUTSIDE DIAMETER OF ISO400 TUBE	16"



Space Dynamics
LABORATORY

Utah State University Research Foundation