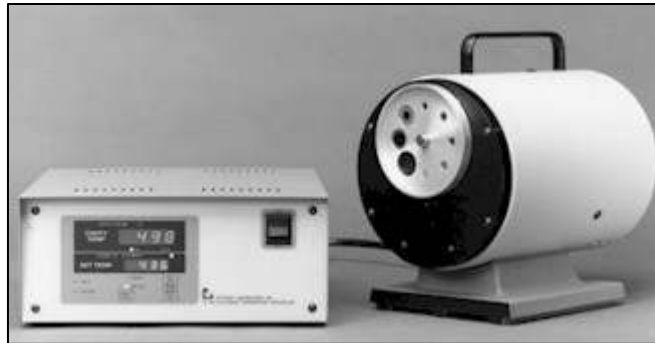


OL 480 Blackbody Calibration Standard



The OL 480 Blackbody Calibration Standard provides an accurate, high temperature (100° to 1200°C) source of infrared radiation. It is specifically designed for calibrating infrared radiometric and spectroradiometric measurement systems.

The blackbody features a unique, uniformly heated recessed cone cavity with an emissivity of 0.99 ± 0.01 . Accuracy of calibration is ensured by the use of an NIST-traceable platinum vs. platinum 10% rhodium thermocouple. An 8-position aperture wheel provides a convenient means of controlling the flux radiated by the blackbody (Table 1). The small aperture sizes enable the source to be used as a point source target at a finite working distance, while the larger apertures allow direct calibrations for radiance.

A convenient microprocessor-based, self-tuning digital PID controller holds the selected temperature to within $\pm 0.05\%$ of full scale. The controller has dual displays with the lower display indicating the desired setpoint and the upper display indicating the actual blackbody source temperature.

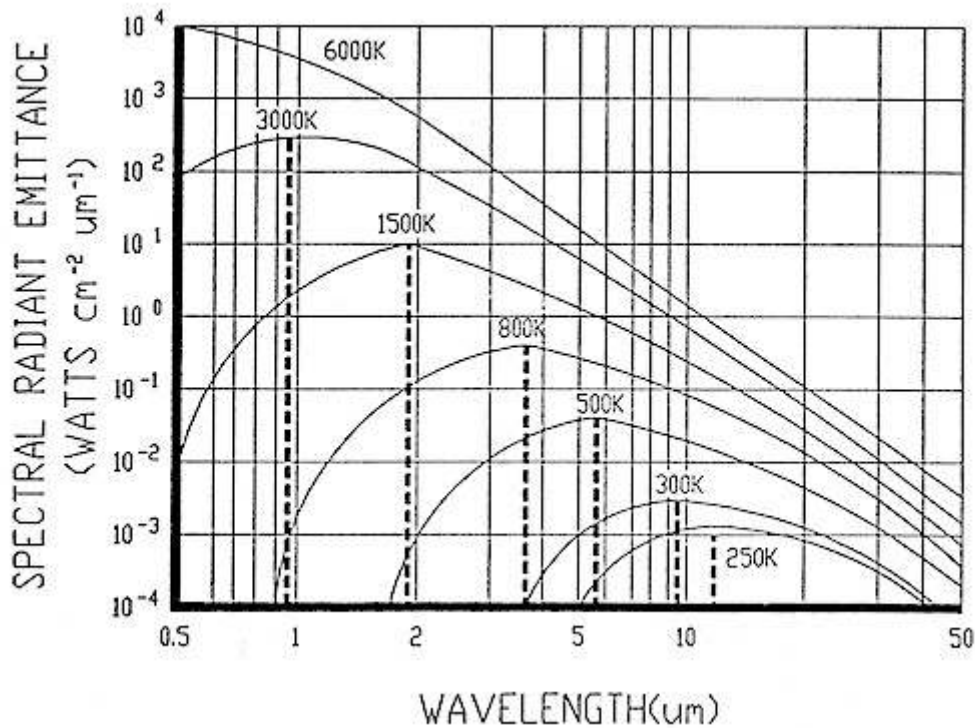
The OL 480 can also be coupled to the OL 740-4P Off-Axis Parabola Telescope for obtaining a highly collimated, infrared source of radiant flux.

The OL 480 features:

- Digital Controller
- Direct Mount Modulators Available
- 16 Interval Ramp and Hold from Front Panel
- Two (2) Customer Configured Alarm Relays
- One (1) Year Warranty
- RS-232C/422A/485 or IEEE-488 (optional)

SPECIFICATIONS	
SOURCE	
Temperature Range	50° to 1200° C
Accuracy	$\pm 0.02\% \pm 1$ digit
Setability	1° C or 0.1° C selectable
Overall System Stability	$\pm 0.02\%$ of full scale per 24 hour period
Cavity Opening	1.0" (25mm)
Cavity Type	Recessed 20° cone
Emissivity	0.99 ± 0.01
Sensing Element	Type S Platinum/Platinum-10% Rhodium special 0.01% tolerance, matched to sensing T/C
Max. Aperture Temp Rise	30° C
Max. Housing Temp Rise	20° C
Dimensions	11.75" X 8" X 11.4"
Net Weight	17 lbs.
Mounting: The source can be mounted to the OL 740-4P telescope.	
CONTROL MODULE	
Dimensions	5.1" X 12" X 13.4"
Net Weight	9 lbs.
Warm-Up time (ambient to 1200°C)	50 minutes
Operating temperature	0 - 50° C
Controller	Digital Auto-Tune PID
Cooling	Fan cooled
Power req.	110-120vac, 50/60Hz, 1 Phase 5.0 amp max 220vac option available (installed internally)

Table 1 Aperture Sizes	
Inches	Millimeters
1.000*	25.40*
0.600	15.2
0.400	10.2
0.200	5.1
0.100	2.5
0.050	1.3
0.025	0.6
0.0125	0.4
*Cavity Opening	



Blackbody Spectral Radiant Emittance At Various Temperatures