AvaLight-HAL-CAL-Mini and AvaLight-DH-CAL Calibrated Light Sources

AvaLight-HAL-CAL-Mini

Calibrating your spectrometer has never been easier: the AvaLight-HAL-CAL-Mini and Avalight-DH-CAL are NIST traceable calibrated light sources which measure absolute spectral intensity.

The AvaLight-HAL-CAL-Mini is a compact, affordable light source. It is calibrated for the visible range (350-1095 nm). Optionally, an extended calibration for the near-infrared spectral range (1100-2500 nm) can be ordered. It has a built-in diffuser, a cosine corrector with SMA adapter and comes with a calibration file in ASCII format. Calibration can be done using the AvaSoft software.

The AvaLight-HAL-CAL-ISPxx-Mini is a special version of the Avalight-HAL-CAL-Mini, which enables coupling any of Avantes' AvaSphere-xx-IRRAD integrating spheres to the lightsource (xx=30, 50 or 80) for calibration. This source is supplied with a special bottom plate to stabilize the AvaSphere. The Avalight-HAL-CAL-Mini and Avalight-HAL-CAL-ISPxx-Mini include a power supply.

- Field calibration
- Visible and optional NIR range
- Built-in diffuser
- Versatile

AvaLight-DH-CAL

For calibrations in the ultraviolet and visible range (200-1099 nm), the AvaLight-DH-CAL is the best solution. This source can be used with all AvaSpec spectrometers to calibrate for absolute spectral intensity. It is supplied with a built-in diffuser, a cosine corrector (CC-VIS/NIR) with SMA adapter and the calibration files in ASCII format.

Two calibration files are included: one for irradiance calibration over the full range (200-1099 nm) and one over the visible and near infrared range (350-1099 nm). For the first file, both the deuterium and the halogen bulb should be used during calibration. The second file is to be used with only the halogen light. The halogen only spectrum provides a smoother black body calibration spectrum for the longer wavelengths.

For a more balanced spectrum accross the 200-1100 nm range, Avantes offers the AvaLight-DH-BAL-CAL. For ultraviolet range calibration only (200-400 nm), the AvaLight-D-CAL is the right choice.

The calibration files can be imported in the AvaSoft-IRRAD application software, for intensity calibration which turns your spectrometer into a spectroradiometer.

The AvaLight-DH-CAL-ISPxx is a special version of these calibrated light sources, meant to facilitate coupling of the AvaSphere-xx-IRRAD integrating spheres to the light source. (xx is 30, 50 or 80).

- Flexible calibration
- Ultraviolet and visible range
- Built-in diffuser and cosine corrector

Technical Data

	AvaLight-HAL-CAL-Mini	AvaLight-DH-(BAL)-CAL
Calibration use	Irradiance µW cm-2 nm-1	Irradiance µW cm-2 nm-1
Calibrated surface	CC-VIS/NIR or AvaSphere	CC-VIS/NIR or AvaSphere
Wavelength Range	350-1095 nm / 1100-2500 nm*	200-1099 nm
Calibration Repeatability	± 0.5 %	± 1.0%
Calibration Relative Uncertainty to NIST standard	±5.0% (350-1100 nm) ±3.5% (1100-1950 nm) ±5.0% (1950-2500 nm)	±10% (200-240 nm) ±9% (240-350 nm) ±10% (350-400 nm) ±9.5% (400-1100 nm)
Calibration valid for	60 hrs	60 hrs
Warm-up Time	Ca. 15 min.	Ca. 30 min.
Bulb Output	170µW cm-2 nm-1 (@800 nm)	80 µW cm-2 nm-1 (@215 nm) 5 µW cm-2 nm-1 (@800 nm)
Power requirement	12 V / 2.08A	100-240 VAC
Dimensions	150 x 78 x 37 mm	315 x 165 x 140 mm

* optional extended range NIR calibration

Ordering Information

AvaLight-HAL-CAL-Mini	• NIST traceable Halogen Lamp with CC- VIS/NIR diffuser, incl. PS-12V/2.08A
AvaLight-HAL-CAL-ISP30-Mini	• NIST traceable Halogen Lamp for use with AvaSphere-30-IRRAD, incl. PS-12V/2.08A and special sphere holder bottom plate
AvaLight-HAL-CAL-ISP50-Mini	• As AvaLight-HAL-CAL-ISP30-Mini for use with AvaSphere-50-IRRAD
AvaLight-HAL-CAL-ISP80-Mini	• As AvaLight-HAL-CAL-ISP30-Mini for use with AvaSphere-80-IRRAD
HL-Recal	• AvaLight-HAL-CAL recalibration service 350-1095 nm
HL-Recal-NIR	• AvaLight-HAL-CAL extended or recalibration service 1100-2500 nm
AvaLight-D-CAL	• NIST traceable UV Deuterium Lamp with CC-VIS/NIR diffuser, -SR fibers recommended
AvaLight-DH-CAL	• NIST traceable UV/VIS Deuterium/Halogen Lamp with CC-VIS/NIR diffuser, -SR fibers recommended
AvaLight-DH-BAL-CAL	• As AvaLight-DH-CAL, but balanced UV/VIS Deuterium/Halogen
AvaLight-DH-CAL-ISP30	• NIST traceable UV/VIS Deuterium/Halogen Lamp for use with AvaSphere-30-IRRAD, incl. special sphere holder bottom plate, -SR fibers recommended
AvaLight-DH-CAL-ISP50	• As AvaLight-DH-CAL-ISP30 for use with AvaSphere-50-IRRAD
AvaLight-DH-CAL-ISP80	• As AvaLight-DH-CAL-ISP30 for use with AvaSphere-80-IRRAD
DH-Recal	• AvaLight-DH-CAL recalibration service 200-1099 nm
AvaSoft-IRRAD	• Irradiance add-on software, to be ordered with AvaSoft-Full

AVANTES
MEMBER OF THE NYNOMIC GROUP