

REFLECTANCE WAVELENGTH CALIBRATION STANDARDS



Reflectance Wavelength Calibration Standards

Categories: [PHYSICAL STANDARDS](#), [REFLECTANCE STANDARDS](#)

- [Product Information](#)



Avian Technologies offers four types of wavelength calibration standards: [Rare Earth Oxide Standards](#), [UV-Vis Calibration Standards](#), [Near-Infrared Calibration Standards](#), and [Long Wavelength Range Wavelength Calibration Standards](#).

Rare Earth Oxide Standards

Avian Technologies' Rare Earth Oxide wavelength calibration standards display sharp absorbance peaks over much of the UV-Vis-NIR spectral range, and are designed for calibration of UV-Vis-NIR spectrometers. The mixture of rare earth oxides is chosen to give the best coverage over the wavelength range of interest.

We offer three rare earth oxide standards:

Packed Powder Wavelength Calibration Standard

This standard is a mixture of highly purified holmium oxide, dysprosium oxide, and erbium oxide in a hermetically sealed black anodized aluminum holder with either 2" (52mm) or 1.5" (37 mm) optical glass window. The standard has the same components as [NIST SRM-1920a*](#). The standards are made in large batches and each batch is calibrated traceable to NIST/NRC.

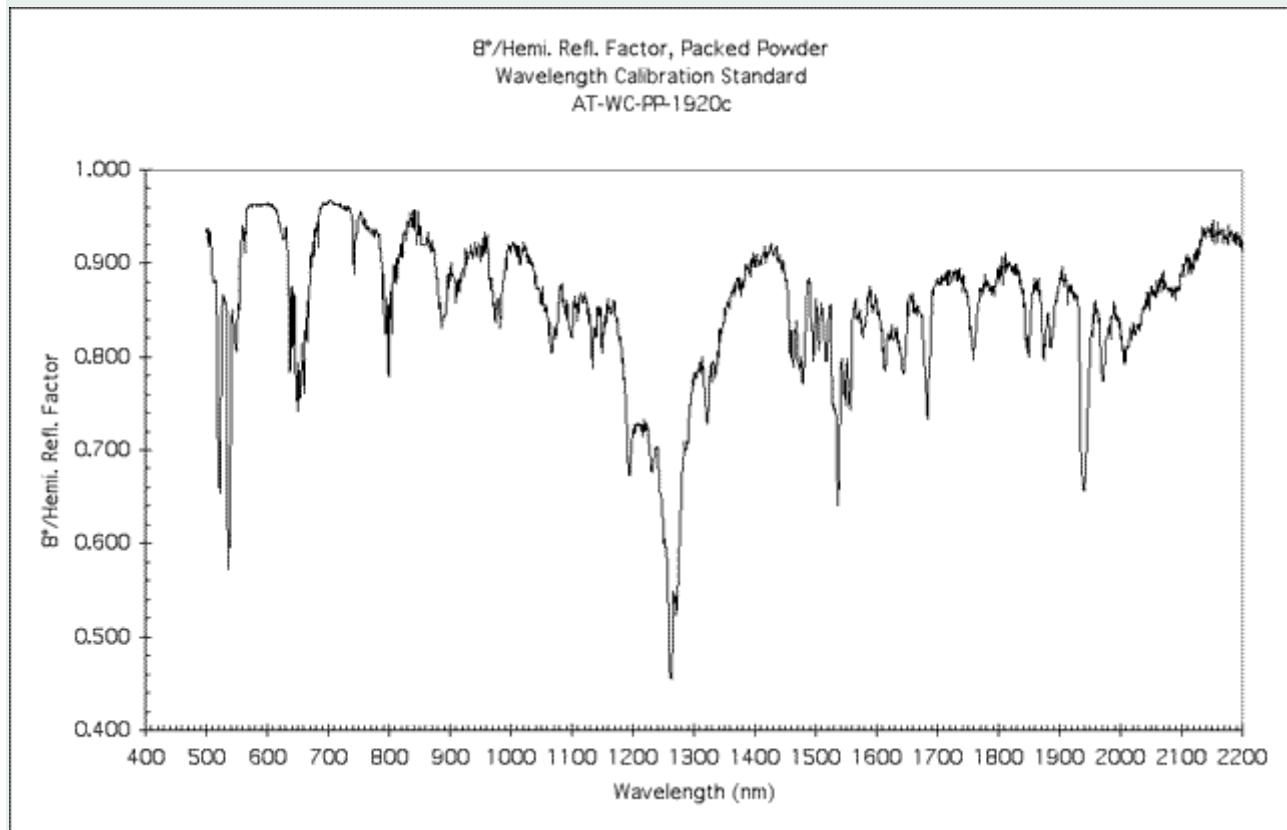
Encapsulated Vis-NIR Standard

This standard complements our encapsulated gray scale standards. The standard has the same components as [NIST SRM-1920a*](#), with a small amount of an inert, spectrally non-absorbing binder, encased in a hermetically sealed Delrin holder. Unlike sintered equivalents of SRM-1920a, this standard exhibits no peak shifting and is both durable and stable. The spectral features are the same as our packed powder wavelength calibration standard. The standard is also available in an extended version, with the addition of talc to provide extra peaks in the longer wavelength range.

Wavelength Reflectance Standard

The reflectance version of our [transmittance wavelength calibration](#) standard is the equivalent of [NIST SRM-2036](#). This standard is ideal for calibration of the wavelength scale of both scanning and Fourier transform near-infrared spectrometers used in the reflectance configuration. The standard consists of a 1.0" diameter WCT-2065 filter backed with Avian Technologies Fluorilon™ FW-99 diffuse reflectance material, in a black anodized aluminum holder designed to fit most spectrometers. This standard is usable in the 320-2200 nm range, and is available calibrated or uncalibrated.

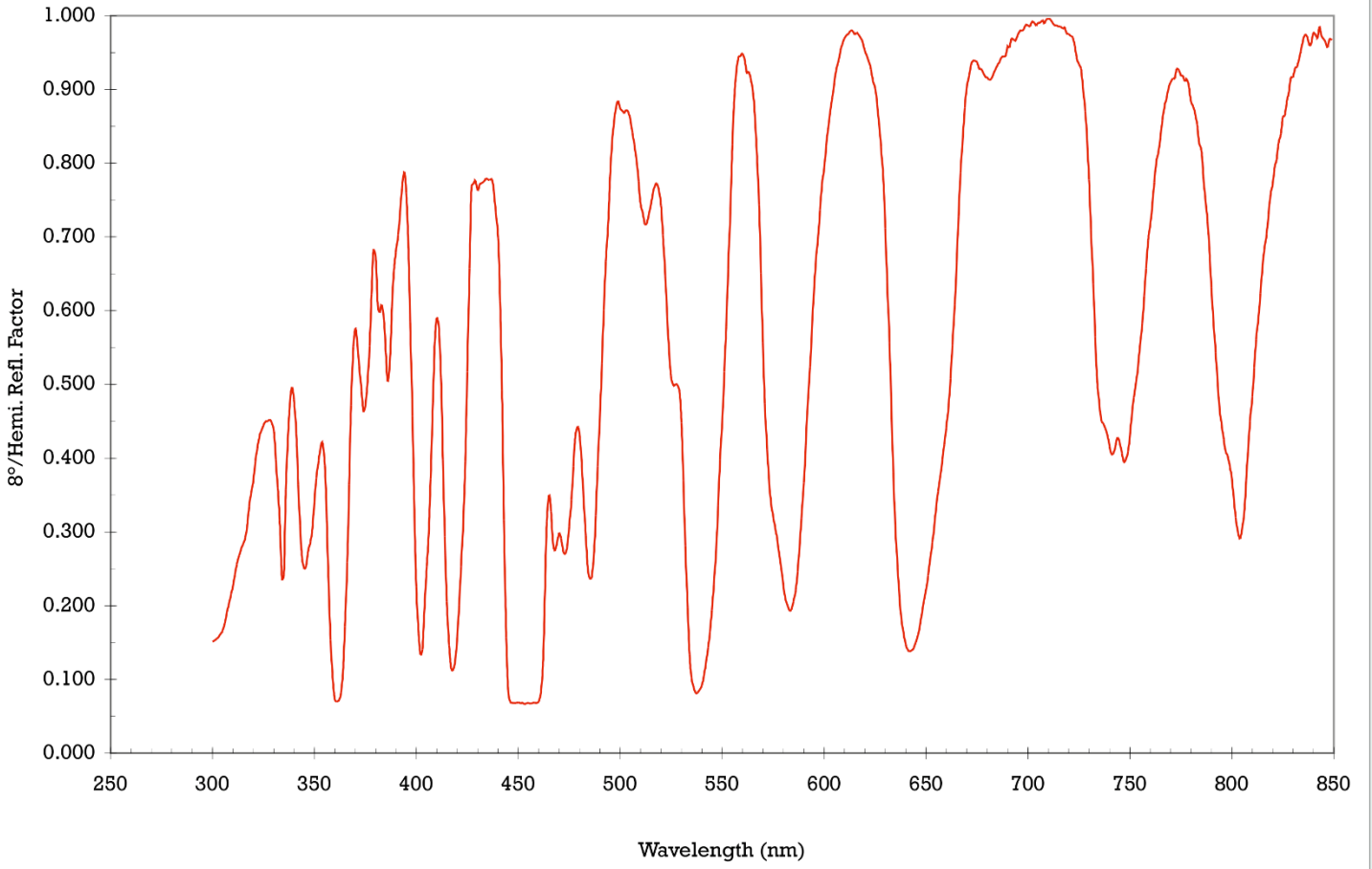
*For detailed information on SRM-1920a, refer to [NIST Special Publication SP-250-48 \(Spectral Reflectance\)](#).



Packed

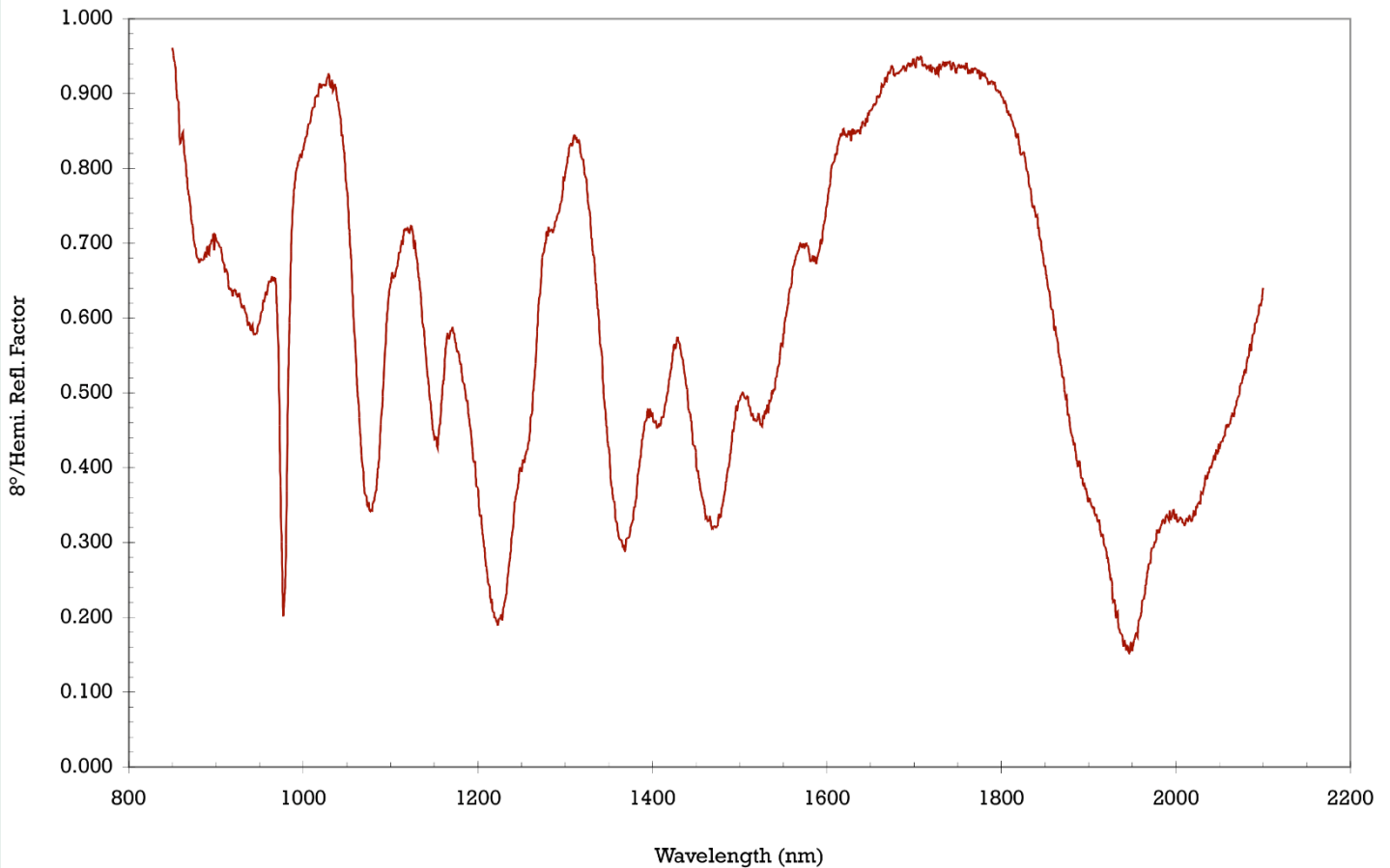
Powder Wavelength Calibration Standard 8° Hemispherical Reflectance Factor ([click for full size](#))

Avian Technologies LLC
WCR-2036/66-025c



Wavelength Calibration Standard 8° Hemispherical Reflectance Factor

Avian Technologies LLC
WCR-2036/66-025c (NIR)



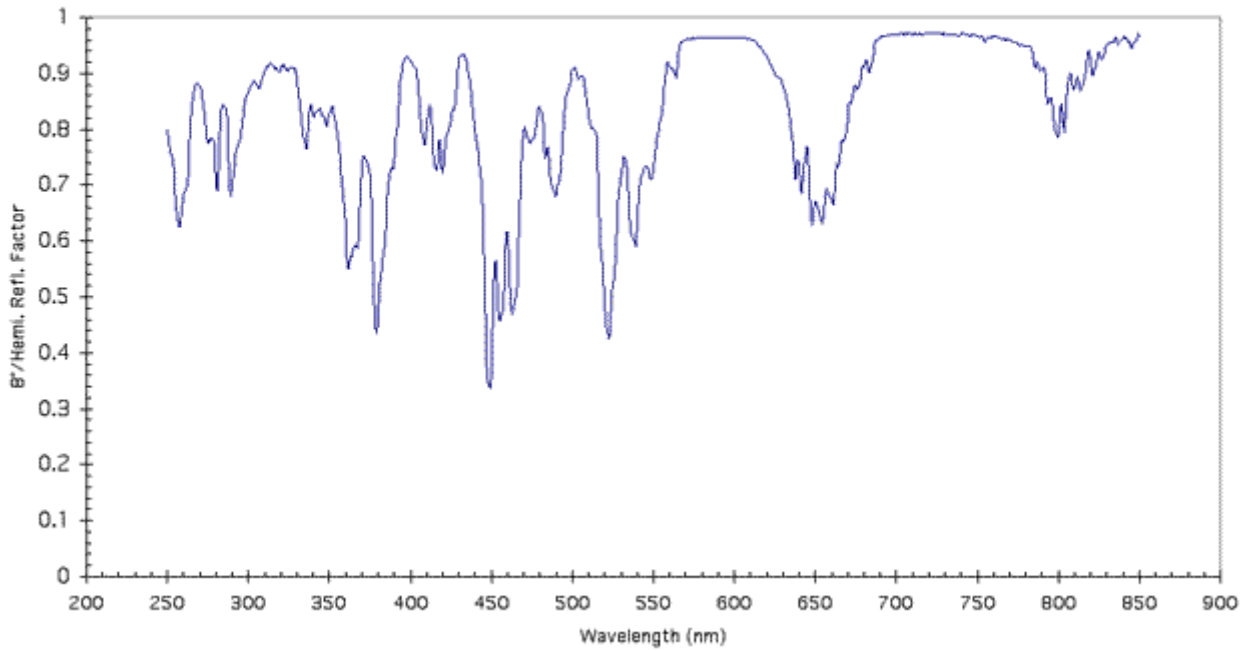
Wavelength Calibration Standard 8° Hemispherical Reflectance Factor - NIR

UV-Vis Calibration Standards

Avian Technologies UV-Vis Wavelength Calibration Standards are a mixture of holmium and erbium oxides in an inert, durable, spectrally neutral matrix. Calibrations are traceable to the National Research Council Canada (NRC) and NIST. These standards, calibrated from 250-850 nm, are ideal for the calibration of UV-Vis spectrophotometers.

Standards are available in 1.25" (37mm) and 2.0" (50.8mm) diameter sizes, and come in a Delrin holder with cover.

UV-Vis Reflectance Wavelength Calibration Standard
WC-FW-UWVIS-02

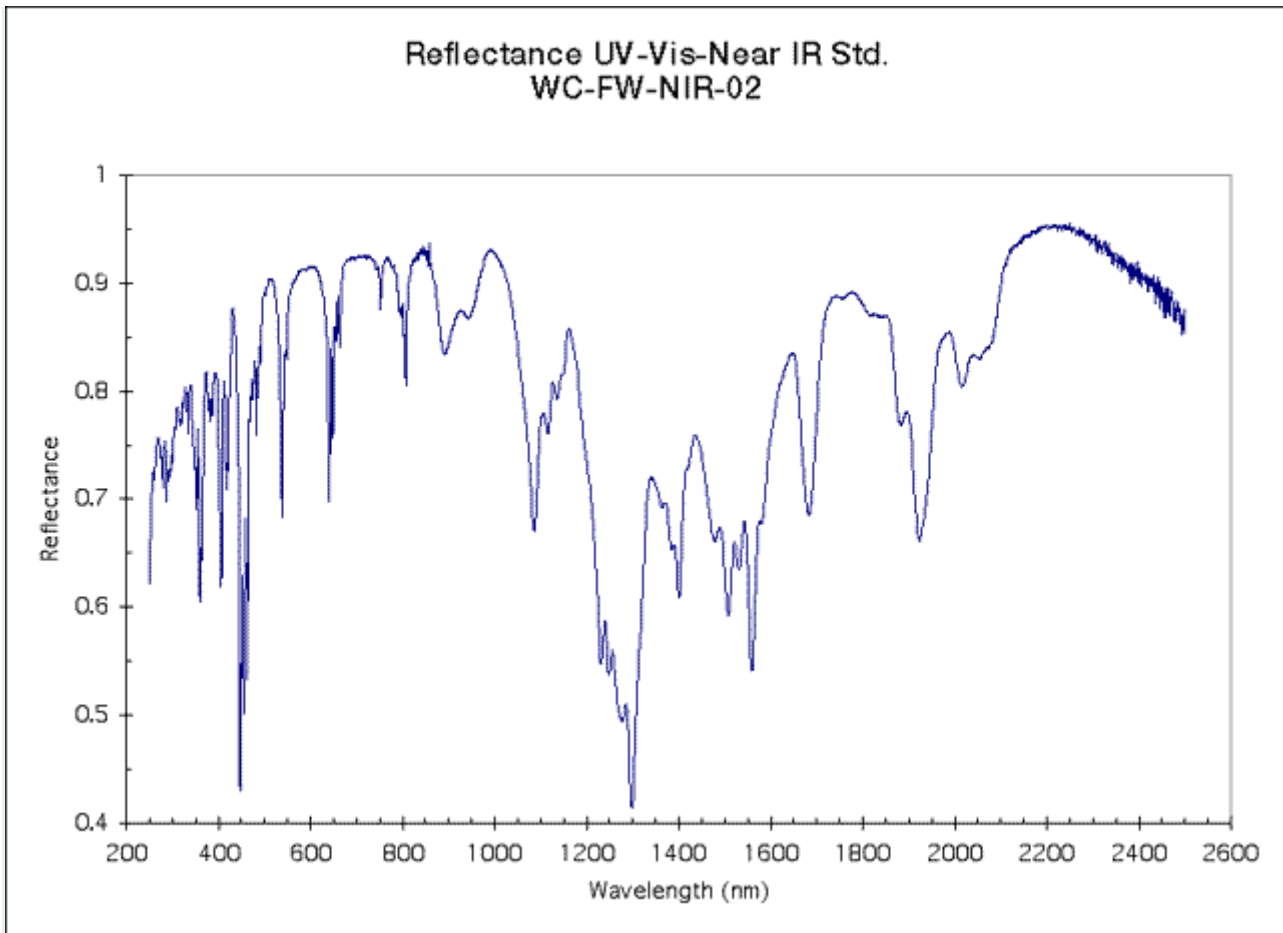


UV-Vis Calibration Standard Reflectance

Near-Infrared Calibration Standards

Avian Technologies Near-Infrared Wavelength Calibration Standards are a mixture of dysprosium, holmium, and erbium oxides in an inert, durable, spectrally neutral matrix. Calibration is traceable to the NRC and NIST. These standards are ideal for calibration of Vis-NIR spectrophotometers.

Standards are available in 1.25" (37 mm) and 2" (51 mm) diameter sizes, and come in a Delrin holder with cover.



Near-IR Standard Reflectance

Long Wavelength Calibration Standards

This Avian Technologies standard combines NIST 2065 glass (Avian Technologies WCT-2065) and polystyrene in a package with a Fluorilon-99W™ backing to give a wavelength standard with useable peaks beyond 2300 nm, to meet the calibration needs for modern portable near-infrared spectrometers.

The standard size is 1.25" diameter (0.950" active area), and is mounted in a Thorlabs MR1 filter mount with a 2" mounting post.. Full calibration data, traceable to NIST/NRC, is provided with each standard.

Ordering

WC-PP-1920a-01	<i>Packed Powder Wavelength Calibration Standard 1.25" diameter Individually calibrated</i>
WC-PP-1920a-02	<i>Packed Powder Wavelength Calibration Standard 2.00" diameter Individually calibrated</i>
EWC-P1920a-02c	<i>Encapsulated Vis-NIR Wavelength Standard, 2"</i>
EWC-P1920aT-02c	<i>Encapsulated Vis-NIR Wavelength Standard extended, 2"</i>

WCR-2066-025	<i>Wavelength Reflectance Standard, 1" diameter Available calibrated or uncalibrated</i>
WCR-FW-UVVIS-01	<i>UV-VIS Calibration Standard (Er-Ho Oxide) 1.25" diameter Tile, Calibrated</i>
WCR-FW-UVVIS-02	<i>UV-VIS Calibration Standard (Er-Ho Oxide) 2.00" diameter Tile, Calibrated</i>
WCR-FW-VISNIR-01	<i>NIR Calibration Standard (Ho-Er-Dy Oxides) 1.25" diameter Tile, Calibrated</i>
WCR-FW-VISNIR-02	<i>NIR Calibration Standard (Ho-Er-Dy Oxides) 2.00" diameter Tile, Calibrated</i>
WCR-2066/PS-025	<i>Long Wavelength Calibration Standard 1.25" diameter, calibrated</i>
Custom	<i>Custom products are our specialty! Contact us for more information.</i>

This standard is also available in a [transmittance format](#).

TRANSMITTANCE WAVELENGTH CALIBRATION STANDARDS

Rare earth oxide filters for calibration of spectrophotometers in the UV-Vis-NIR range
Categories: [PHYSICAL STANDARDS](#), [TRANSMITTANCE STANDARDS](#)

- [Product Information](#)



Avian Technologies offers four rare earth oxide glass filters; [holmium oxide glass](#), [didymium oxide glass](#), a [multiple oxide filter](#), and a [long wavelength filter](#). All filters have peaks useable in the UV-Vis-NIR; didymium oxide is typically used in the visible region of the spectrum, while multiple oxide, holmium oxide, and long wavelength filters are used over the entire UV-Vis-NIR range.

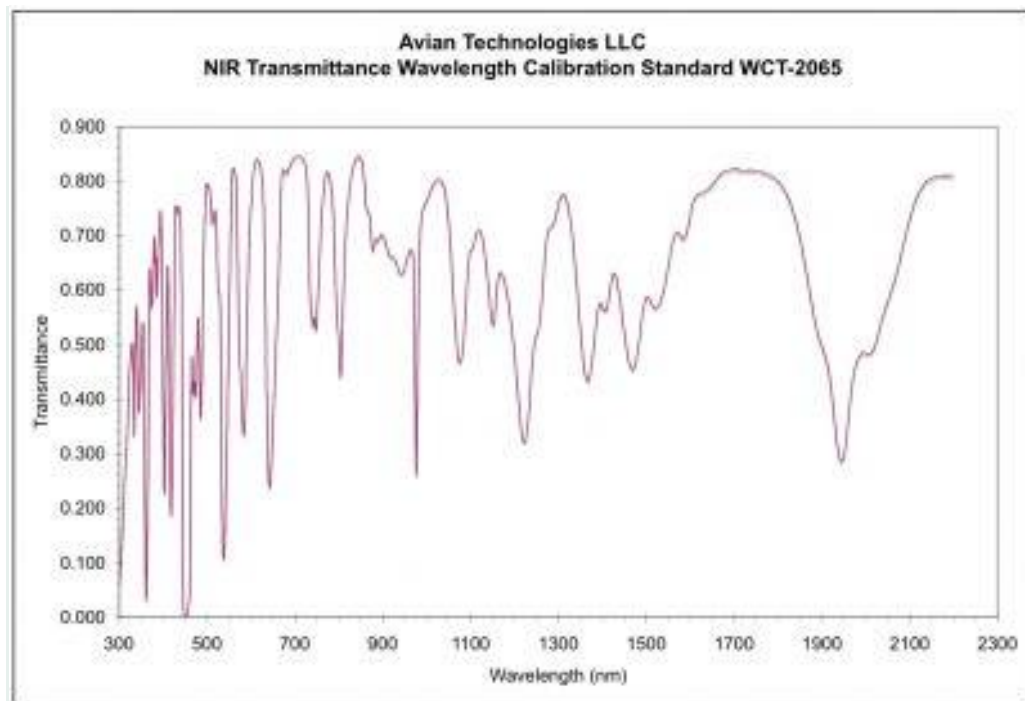
Multiple Oxide Filter (WCT-2065)

Avian Technologies, working in conjunction with the Analytical Chemistry Division of NIST, offers a wavelength calibration standard for the Vis-NIR spectral range.

WCT-2065 is the equivalent of NIST SRM-2065. This standard is useful in the calibration of NIR spectrophotometers, both dispersive and Fourier transform, in the 400-2200 nm wavelength range. The filter material is glass made with a combination of rare earth oxides, including holmium oxide, samarium oxide, ytterbium oxide, and neodymium oxide in a base glass containing oxides of lanthanum, boron, silicon, and zirconium.

The standard is also available in a [reflectance version](#).

Options/Specifications



WCT-2065 NIR Transmittance Wavelength Calibration Standard

Holmium Oxide & Didymium Oxide Filters

Avian Technologies also offers Holmium Oxide and Didymium Oxide filters.

Options/Specifications

Didymium: Calibrated 300-900 nm or 300-2200 nm, traceable to NRC

Calibration

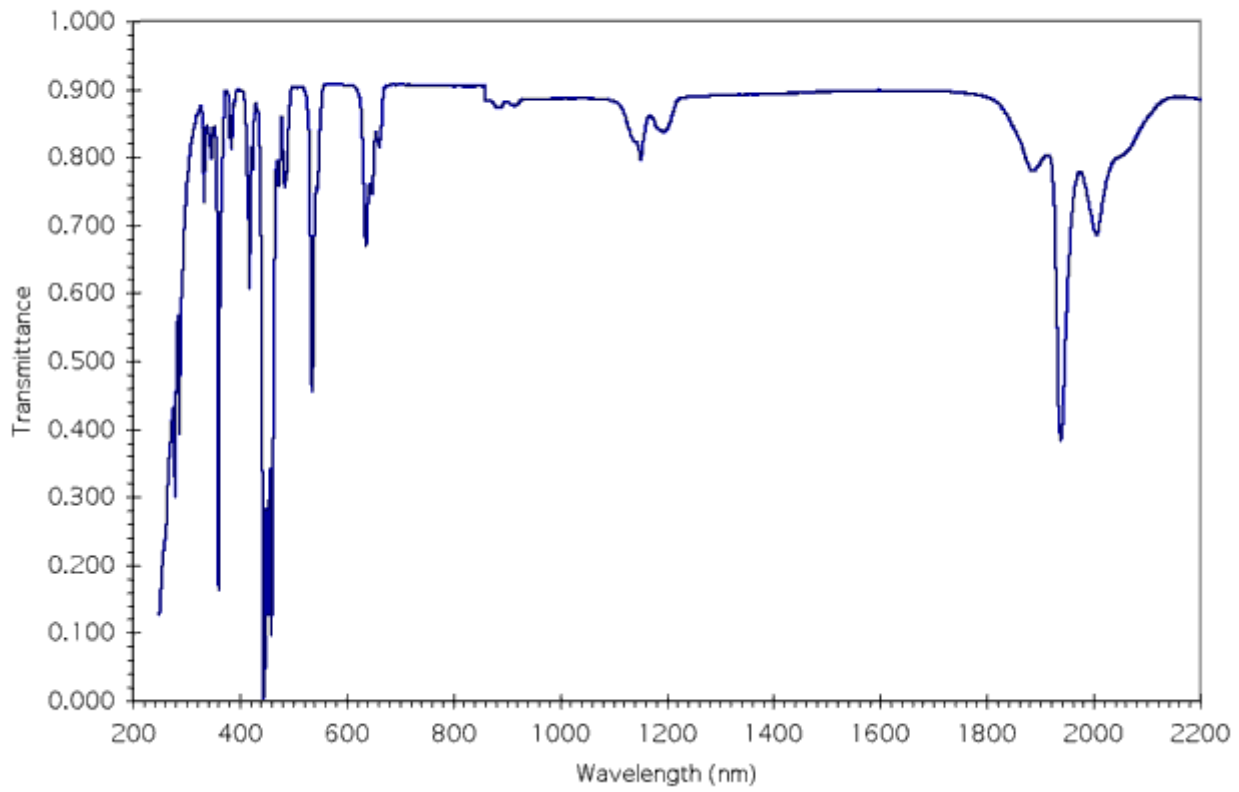
Holmium: Calibrated UV-VIS only or UV-VIS-NIR, traceable to NRC

1" x 9 mm cuvette format

Format/Dimensions

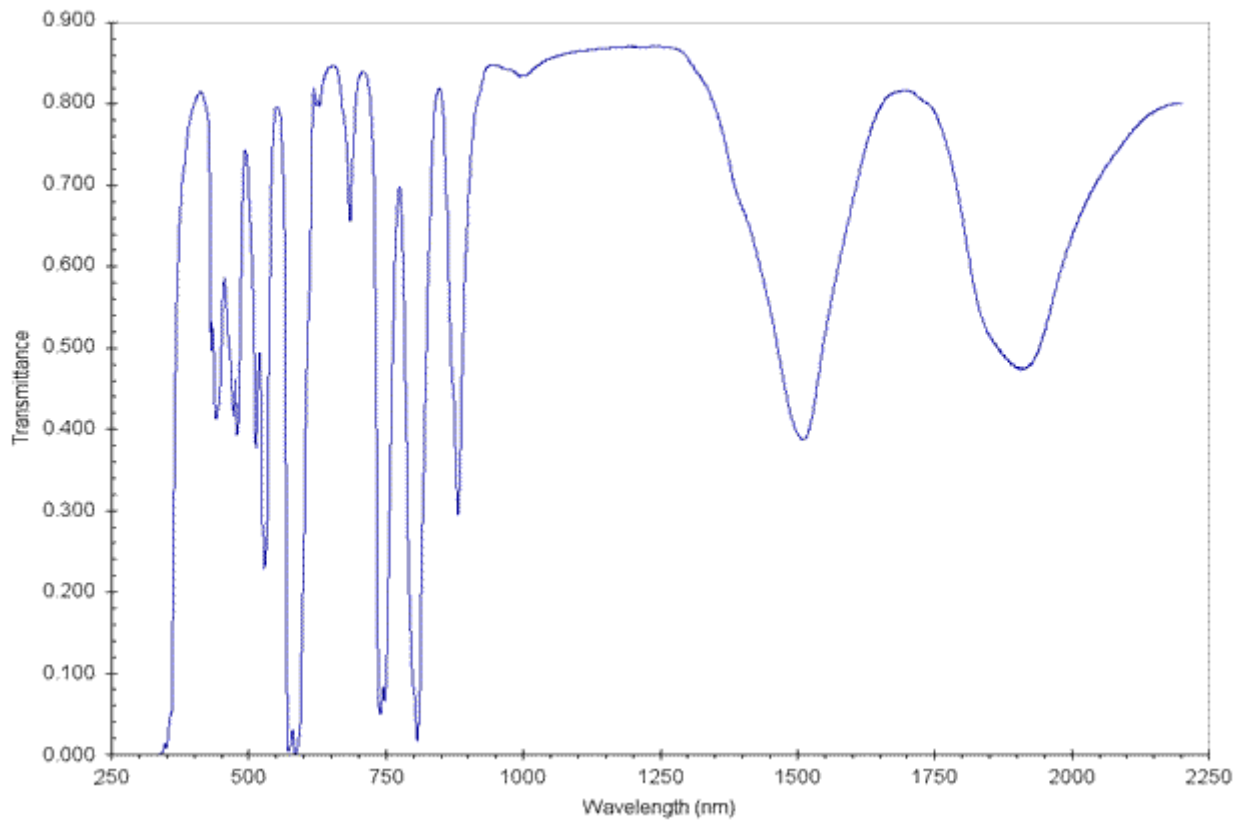
2" square

**Holmium Oxide Filter
WC-Ho-02**



Holmium Oxide Filter

**Didymium Oxide Filter
WC-DD-02**



Didymium Oxide filter

Long Wavelength Range Wavelength Calibration Standard

This Avian Technologies standard combines NIST 2065 glass (Avian Technologies WCT-2065) and polystyrene to give a wavelength standard with useable peaks beyond 2300 nm, to meet the calibration needs for modern portable near-infrared spectrometers.

Options/Specifications

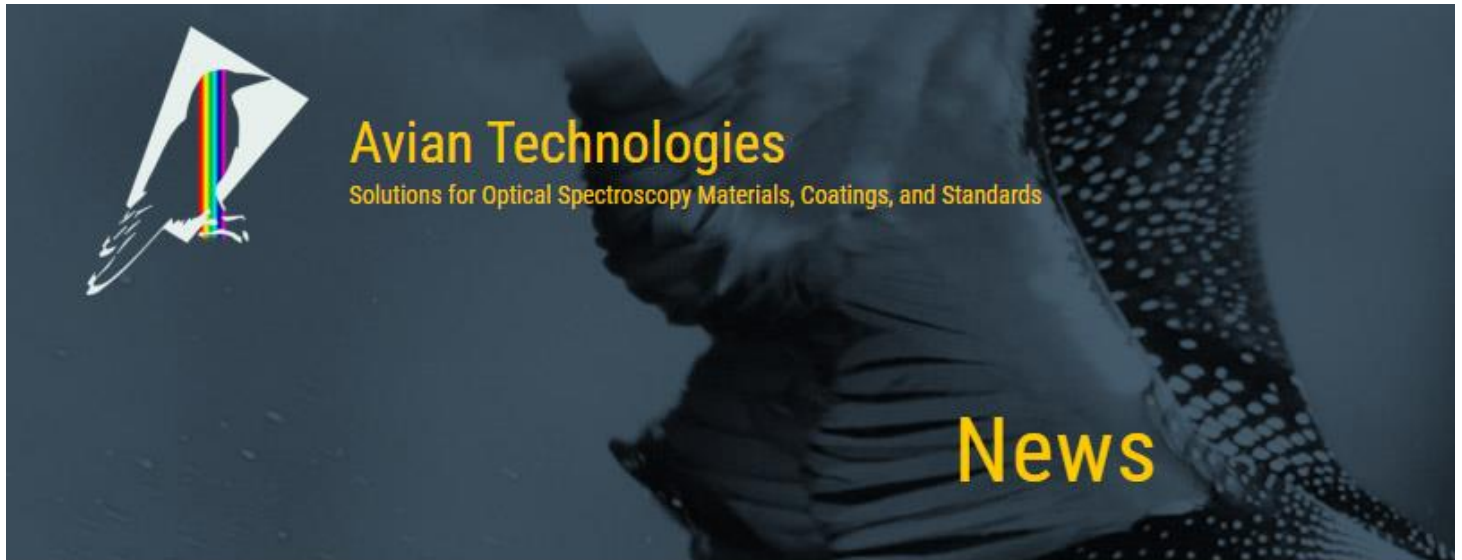
Calibration	Full calibration data, traceable to NIST/NRC provided with each standard
Mount	Thorlabs MR1 filter mount with a 2" mounting post
Dimensions	1.25" diameter (0.950" active area)

Ordering

WCT-2065-020	<i>NIR Wavelength Calibration Standard 20 mm diameter x 1.5 mm thick</i>
WCT-2065-025	<i>NIR Wavelength Calibration Standard 1" diameter x 1.5 mm thick</i>
WCT-2065-Cuv	<i>NIR Wavelength Calibration Standard Cuvette format</i>
WCT-Ho-UVVIS-02	<i>Holmium Oxide Wavelength Calibration Filter 2" square, calibrated UV-VIS only</i>
WCT-Ho-UVVIS-cuv	<i>Holmium Oxide Wavelength Calibration Filter 1" x 9 mm cuvette format, calibrated UV-VIS only</i>
WCT-Ho-UVVISNIR-02	<i>Holmium Oxide Wavelength Calibration Filter 2" square, calibrated UV-VIS-NIR</i>
WCT-Ho-UVVISNIR-cuv	<i>Holmium Oxide Wavelength Calibration Filter 1" x 9 mm cuvette format, calibrated UV-VIS-NIR</i>
WCT-DD-02	<i>Didymium Oxide Wavelength Calibration Filter 2" square, calibrated 300-900 nm</i>
WCT-DD-02ext	<i>Didymium Oxide Wavelength Calibration Filter 2" square, calibrated 300-2200 nm</i>
WCT-DD-cuv	<i>Didymium Oxide Wavelength Calibration Filter 1" x 9mm cuvette format, calibrated 300-900 nm</i>
WCT-DD-cuvert	<i>Didymium Oxide Wavelength Calibration Filter 1" x 9mm cuvette format, calibrated 300-2200 nm</i>
WCT-2066/PS-025	<i>Wavelength Calibration Standard- Long wavelength range in transmittance format 1.25" diameter</i>

Custom

*Custom products are our specialty!
Contact us for more information.*



NEWS

LC Instru Represents Avian Technologies

Avian Technologies is pleased to welcome our newest representative, **LC Instru**. If you are interested in purchasing Avian Technologies products in France, give them a call!

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