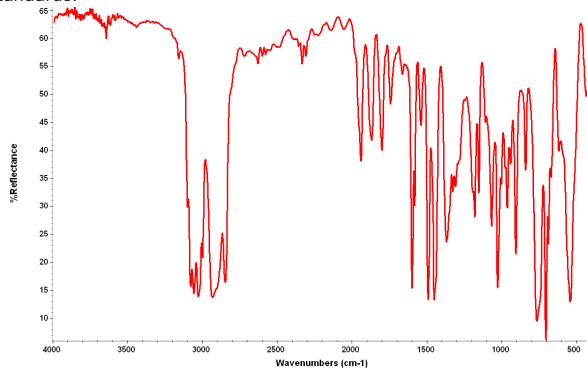


# LWIR Diffuse Reflectance Wavelength Standard

## LWIR Diffuse Reflectance Wavelength Standard

Diffuse reflectance optical arrangement is used often in the mid-infrared wavelength region to measure the reflectance spectra of powders, films and other samples. Middleton Spectral developed a NIST Traceable Diffuse Reflectance Wavelength Standard that has well identified sharp bands throughout the whole mid-infrared region. FTIR accessories, manufactured by FTIR spectrometer or infrared accessory manufacturers can be validated using this traceable standard.

For the LWIR range the Diffuse Reflectance Wavelength Standard is ideal for the calibration of hyperspectral cameras operating in the 8-14  $\mu\text{m}$ . The spectral peaks span the whole wavelength range, from 8 - 14  $\mu\text{m}$  (see chart below). Please note that the observed spectrum is different if measured at lower resolution. The standard is traceable to NIST infrared standards.



Reflectance spectrum of LWIR diffuse reflectance wavelength standard measured at 4  $\text{cm}^{-1}$  resolution on FTIR.

## Specifications

Size: 2.25" diameter x 0.6"

Optical area: 1.65" (41.8 mm) diameter

Protective window:  $\text{CaF}_2$  (water and humidity resistant) or KBr (Hygroscopic)

Wavelength range: 4000-950  $\text{cm}^{-1}$  (with  $\text{CaF}_2$  window) or 4000-400  $\text{cm}^{-1}$  (with KBr window)

Recommended operational temperature: Room temperature

Maximum temperature: 60 degrees C.

## Traceability

The LWIR Diffuse Reflectance Wavelength Standard comes with Certificate, Wavelength Table and hardcopy infrared spectrum.

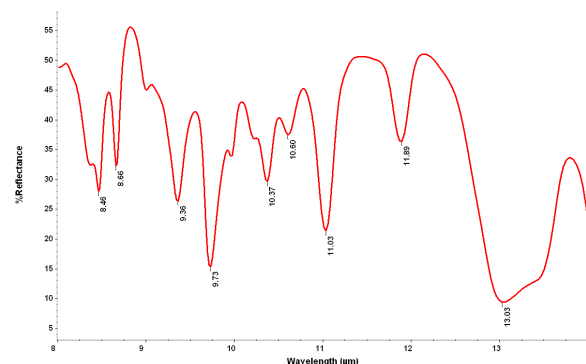
The standard is traceable to NIST 1921b.

Recommended expiration of the certificate is 18 months. User may elect to adjust the expiration date based on their scientific studies.



## Recertifications

Recertification service is offered by Middleton Spectral Vision. It takes a maximum of 5 business days to perform the recertification. It is recommended that the recertifications be made yearly thereafter. One day turnaround expedited recertification can be requested.



Reflectance spectrum of LWIR diffuse reflectance wavelength standard measured with 4  $\text{cm}^{-1}$  resolution. Peak maxima are indicated in  $\mu\text{m}$ .

## Specifications and Ordering Information

MRC-910-1921GW

LWIR Diffuse Reflectance Wavelength Standard

MRC-910-1921GW-RC

Recertification-LWIR Diffuse Reflectance Wavelength Standard