

LAMBDA UV/Vis/NIR and UV/Vis Spectrophotometers

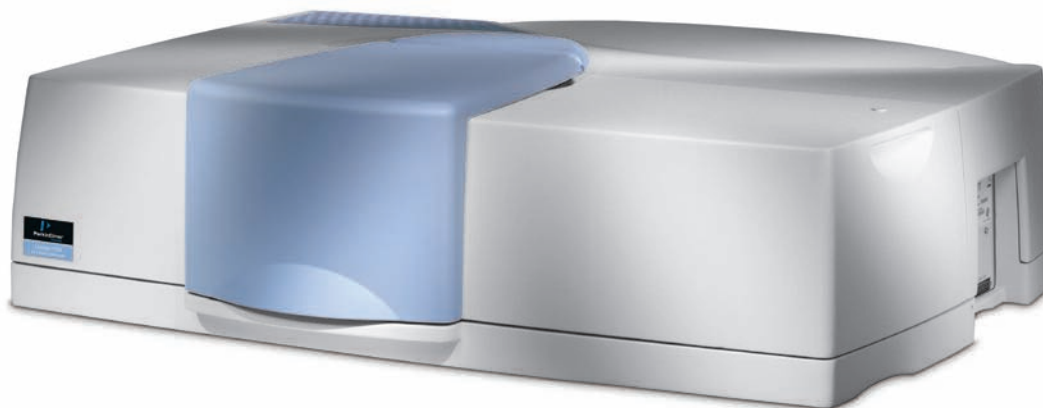
850 / 950 / 1050



Why limit yourself?



Get ready to go where
you've never gone before.



Driving Innovation to Create New Opportunities

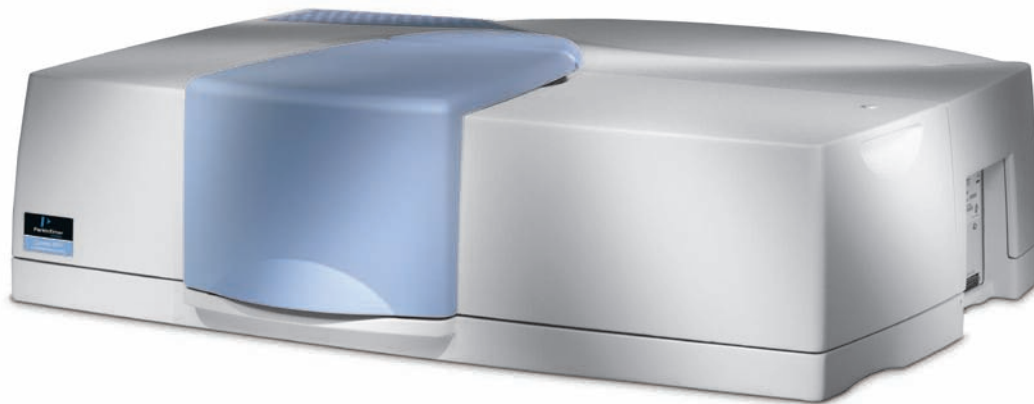
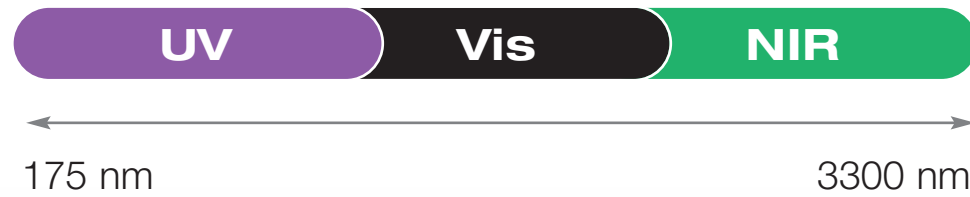
For more than 50 years, PerkinElmer has been setting the standard in spectrophotometry technology. Our instruments are known worldwide for data integrity, sampling flexibility and ease of use. Trendsetting features include snap-in modules, innovative accessories and intuitive software, all designed to make your process more efficient, versatile and productive.

We also know the importance of delivering reliable data on even the most demanding applications. That's why with every instrument we've designed, we've advanced what's possible for your testing capabilities, whether it's measuring the absolute reflectance of coatings at various angles with our LAMBDA® 950 or analyzing highly absorbing liquids with the LAMBDA 850.

Now, with the new LAMBDA 1050, we're pushing the limits even more. The LAMBDA 1050 redefines your range of capabilities by providing a better level of sensitivity, resolution and scanning speed in the NIR range than was previously possible. This opens up a whole new world of quality control, product improvement and discovery for countless industries and applications.

**Your dreams aren't limited.
Why should your capabilities be?**

Introducing the LAMBDA 1050



Optimal Performance That Truly Goes the Distance

Responding to the need for a UV/Vis/NIR spectrophotometer with improved sensitivity, PerkinElmer is proud to offer the LAMBDA 1050. Now, you can achieve a greater level of sensitivity, resolution and speed in the NIR range. It's perfect for a wide range of demanding applications, such as high absorbing glass, optical coatings or thin film filters.

But the LAMBDA 1050's versatility doesn't end there. It also features two large sampling compartments and a variety of snap-in modules and accessories, including a general-purpose optical bench (GPOB), integrating spheres and our patented Universal Reflectance Accessory (URA).

Want a spectrophotometer that won't limit you today or tomorrow? The LAMBDA 1050 is the perfect choice.

Unmatched Sensitivity and Resolution

The LAMBDA 1050 features a unique PMT, InGaAs and PbS 3-detector module for testing across the entire UV/Vis/NIR range. Our cooled InGaAs detector allows you to extend the spectral range up to 2500 nm. And because of its high sensitivity, you can set the resolution to the exact level you need, down to .20 nm.

Increased Scanning Speed

With its high sensitivity, the LAMBDA 1050 can scan faster than ever with no reduction in data quality.

Better Sample Control

The LAMBDA 1050 was designed with a host of features and accessories to control your sample and ensure the quality of your data, including:

- **The industry's largest sample compartments** for more sample maneuverability and quick installation of various accessories
- **Snap-in integrating spheres** to capture diffuse and specular reflectance. Available in 60 and 150 mm, with 8° reflectance and center mount capability
- **Universal Reflectance Accessory** with dual Si and InGaAs detectors for automated, precise and reproducible angle adjustments
- **Pol/Depol Drive Unit** for automatic control of polarized or depolarized light via PC
- **Internal instrument controlled attenuation** from 1 to .1%, for high absorbing measurements

Smarter Flexibility

The LAMBDA 1050's smart modular design and range of snap-in accessories allow you to set up the instrument to suit a variety of needs and configurations, including:

- **Dual Sampling Compartment** — The LAMBDA 1050 can be configured with two large sampling compartments for twice the flexibility. Use one for standard reflectance or transmission tests, and the other for more specific customizable applications
- **General-Purpose Optical Bench** — Swap in our GPOB to accommodate larger samples such as lenses, beamsplitters and optics
- **Universal Reflectance Accessory** — Remove the standard detector and snap in this innovative accessory for automatically measuring sample angles

And the Fastest Setup Time

With so many user-friendly features, the LAMBDA Series offers the industry's lowest sampling setup time. So, not only can you go where you've never gone before, but you can get there the fastest way possible!

PerkinElmer also offers a standard validation kit for all of our LAMBDA spectrophotometers.



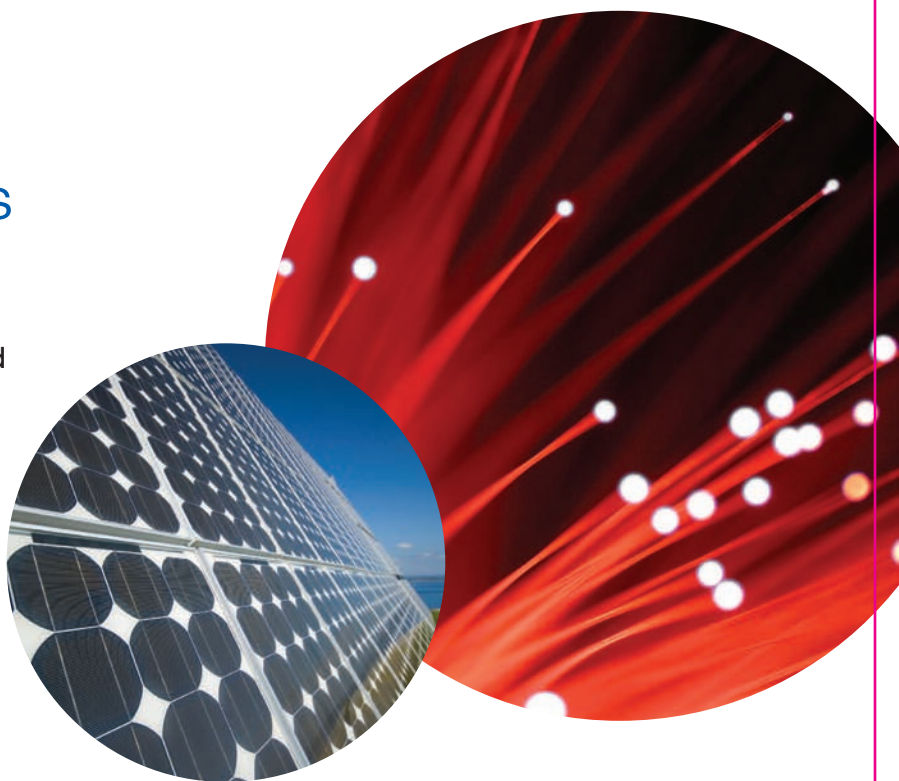
In just seconds, the LAMBDA 1050 can go from our standard large sample compartment instrument to operating with our Universal Reflectance Accessory or general-purpose optical bench.



The LAMBDA 1050 with dual compartments and a 60 mm snap-in integrating sphere.

For the Most Demanding Applications

With the LAMBDA 1050's increased sensitivity in the NIR range, you can handle a wide range of demanding applications and measurements with more reliable results.



High Absorbing Glass

From cockpit and automotive windshields to laser protection shields to safety eyewear and headgear, the LAMBDA 1050 can look deeper, at far higher resolutions with better signal-to-noise ratios. And the world can be safer because of it.

Optical Coatings

In the past, optical companies were limited when trying to measure coatings in the NIR range in order to improve the quality of their products. With the LAMBDA 1050, that's all about to change, and optical companies will finally get the competitive edge they need.

Fiber Optic Filters

For narrow band optical filters, such as DWDM filters, the LAMBDA 1050 can provide the necessary wavelength separation needed to ensure quality or detect areas of improvement. Once again, the LAMBDA 1050 answers the call for better testing methods.

Architectural Glass Coatings and Compounds

As more and more architectural glass is being coated or made with laminated materials, the need for an instrument that can measure varying and innovative new compounds is evident.

Only with LAMBDA

Interchangeable 3-detector Module

Since many companies today have a wide range of testing needs, PerkinElmer developed a 3-detector module for the LAMBDA 1050 that allows for PMT, InGaAs and PbS testing all in one instrument. The 3-detector module provides ultimate testing flexibility, as well as optimal sensitivity, resolution and speed in the NIR range.

Universal Reflectance Accessory

A breakthrough in high-sensitivity, absolute reflectance measurements, our exclusive Universal Reflectance Accessory (URA) dramatically improves on traditional methods of testing by automatically and reproducibly changing the angle of your sample. Previously, multi-angle analyses required several accessories and many manual adjustments. Now, sampling angles can be pre-set with a simple mouse-click, and the URA makes all the adjustments automatically. In addition, the sample is placed on a horizontal sampling plate to avoid damage caused by vertical clamping.



Two Large Sampling Compartments

Twice the flexibility. Twice the ease. All LAMBDA instruments can be configured to include dual sampling compartments, which also happen to be the largest in the industry. The primary compartment is used for a range of standard reflectance and transmission accessories and polarizers, while the second is customizable to a variety of intelligent sampling accessories or modules, including integrating spheres, the URA or transmission optics.

General-Purpose Optical Bench

Designed to accommodate large or oddly shaped optical samples, our GPOB gives you the flexibility to configure a measurement in minutes.



The LAMBDA 950



High Performance across the UV/Vis/NIR Range

Long the industry standard in spectrophotometry, the LAMBDA 950 uses a gridless PMT with Peltier-controlled PbS detector to achieve high-performance testing across the spectral range up to 3300 nm. The UV/Vis resolution reaches 0.05 nm, while the NIR resolution reaches up to 0.20 nm. It also features our industry-leading components and accessories for sample control and flexibility, including:

- Large, dual sample compartments
- Universal Reflectance Accessory
- Snap-in integrating spheres
- General-purpose optical bench

Architectural and Specialty Glass

Energy conservation is more important now than ever before. Analysis of coated glass provides important information on thermal efficiency and other key design considerations.

Flat Panel Displays

The need to improve display performance continues in several areas. Color, brightness, viewing angle and power consumption are all important. Measurements are needed to improve overall performance.

Optical Component Measurements

Busy optical labs must be capable of dealing with a wide variety of components over a large number of measurement techniques. The flexibility of the LAMBDA series helps meet this ever-changing need.

Solar Energy Research

Solar cells are becoming more important as a source of renewable energy. Once limited to use in space and military applications due to cost, research is ongoing to reduce cost and improve performance. The LAMBDA 950's capability in the NIR region allows full characterization of not only the active solar cell materials but also the reflective protective covering.

The LAMBDA 850



Optimal Performance in the UV/Vis Range

For companies and products that only require UV/Vis testing capabilities, the LAMBDA 850 has just what you need. Equipped with our state-of-the-art gridless PMT detector, the LAMBDA 850 provides excellent sensitivity between 175 and 900 nm, with resolution up to 0.05 nm. It also provides optimal sample control and flexibility with a range of features and accessories, including:

- Large, dual sample compartments
- Universal Reflectance Accessory
- Snap-in integrating spheres
- General-purpose optical bench

Cosmetics and Sun Protection Products

Appearance and protection from UV rays are important considerations in consumer purchases. Spectroscopic measurements are critical to understand things like SPF factors or determining the true color of a material.

Flat Panel Displays

The need to improve display performance continues in several areas. Color, brightness, viewing angle and power consumption are all important. Measurements are needed to improve overall performance.

Inks, Dyes, Pigments, Paints

With the explosion of digital photography, there is a need to develop inks and dyes that will represent true color and not fade over time. These products will require more accurate measurements.

Solar Energy Research

Silicon-based solar cells are becoming more important as a source of renewable energy. Once limited to use in space and military applications due to cost, research is ongoing to reduce cost and improve performance.

Inside the LAMBDA

Another PerkinElmer Exclusive

All three of the LAMBDA series instruments feature unique polarization measurement capabilities to match your analytical needs.

1

Deuterium and Tungsten Halogen Light sources

Prealigned and prefocused for quick replacement and maximum uptime. Source Doubling Mirror (LAMBDA 1050 only) for ultra-high sensitivity.

2

Double Holographic Grating Monochromators

For ultra-low stray light performance.

3

Common Beam Mask

Allows precise adjustment of beam height to match samples of different dimensions.

4

Common Beam Depolarizer

Corrects for inherent instrument polarization to allow accurate measurements of birefringent samples (optional).

5

Chopper

Switches between sample and reference beam. Four-segment design provides individual blank readings for sample and reference, increasing measurement accuracy.

6

Sample and Reference Beam Attenuators

For extremely sensitive and accurate measurements on highly absorbing samples.

7

Largest Sample Compartment in the Industry

Allows easy access to a wide variety of sampling accessories and sample types.

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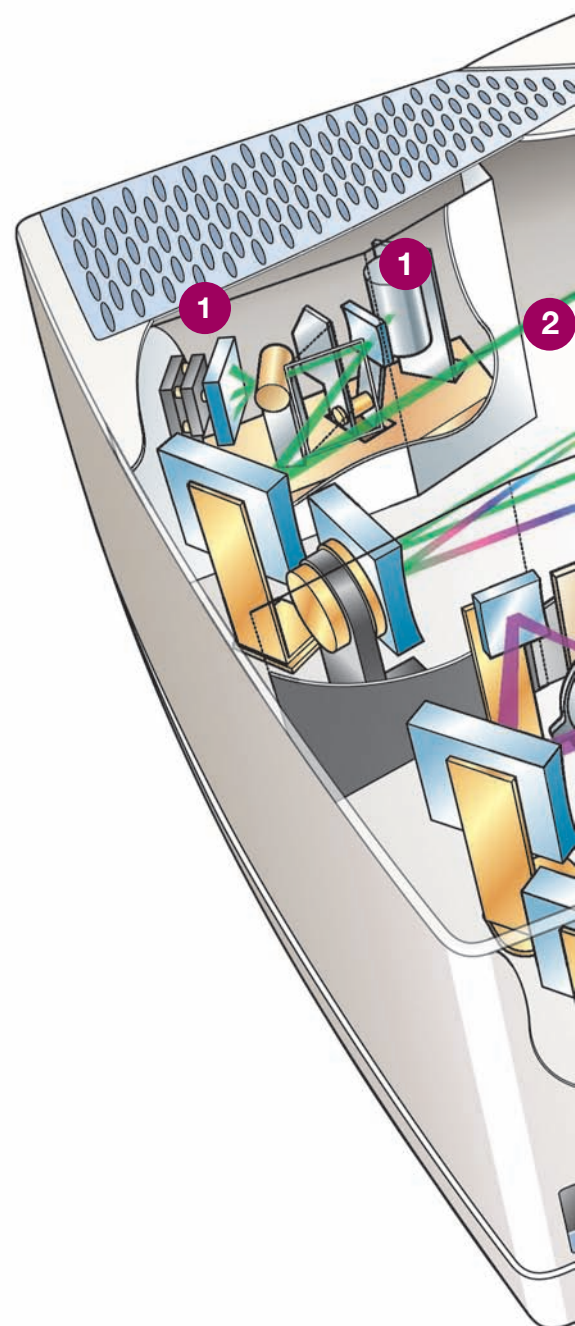
High-sensitivity Photomultiplier and Peltier-controlled PbS Detectors

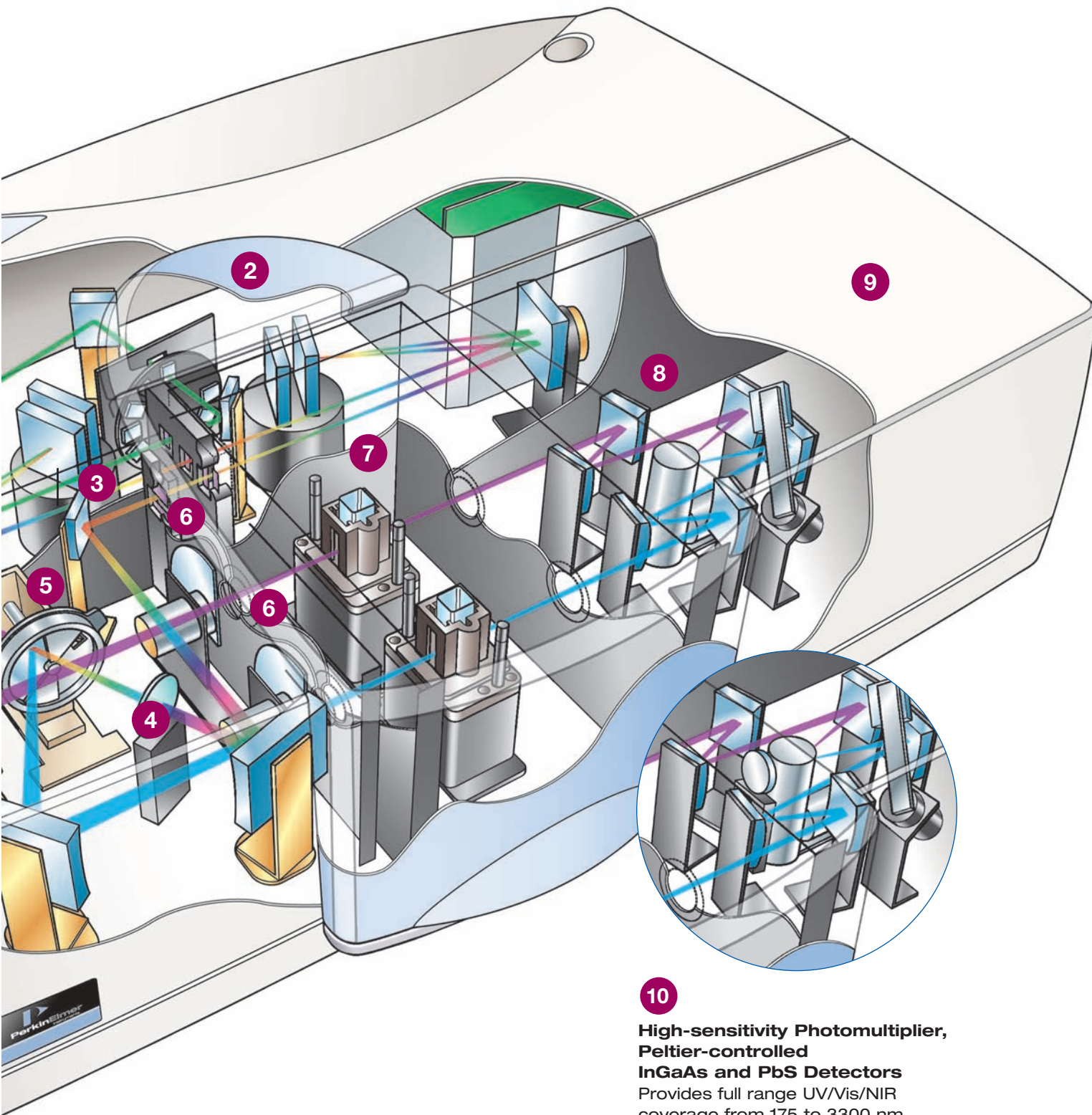
Provides full range UV/Vis/NIR coverage from 175 to 3300 nm (LAMBDA 950).

9

Second Sampling Area

Houses a range of snap-in sampling modules including transmission optics (shown), 60 mm and 150 mm integrating spheres and the Universal Reflectance Accessory for high-precision absolute reflectance measurements.





10

**High-sensitivity Photomultiplier,
Peltier-controlled
InGaAs and PbS Detectors**

Provides full range UV/Vis/NIR
coverage from 175 to 3300 nm
(LAMBDA 1050 only).

Spectrum Optica FT-IR

For Measurement Across the Infrared Range

Spectrum™ Optica is a unique FT-IR spectrometer designed for optical filter, glass and semiconductor measurements, which require improved levels of ordinate accuracy and reproducibility. Unique design features minimize the common sources of ordinate error found in routine FT-IR measurements of difficult materials such as specialty filters and highly polished semiconductor materials.

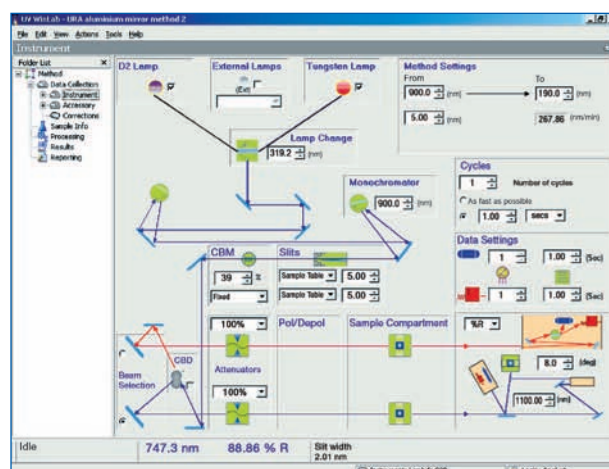
Over the range 5000-400 cm^{-1} , the Spectrum Optica offers radically improved passband (moderate to high transmission) accuracy and stopband transmission limits to 6000 cm^{-1} . This measurement range complements the performance provided by the LAMBDA 1050, giving you complete wavelength coverage from less than 200 nm to greater than 20 microns.

UV WinLab Software

Guides You from Setup to Results

PerkinElmer's powerful UV WinLab™ software guides you through method development and reporting and analysis of results in simple steps. New UV WinLab 6 software includes an improved interface, easier access to stored data and a new data-viewing module.

The software is also available in an Enhanced Security (ES) 21 CFR Part 11 compliant version for regulated industries.

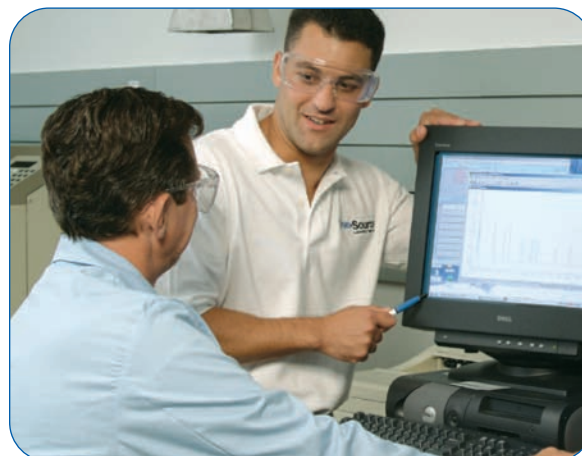


Service and Support

Ensuring Peak Performance Today and Tomorrow

With our worldwide network of certified technicians and service representatives, help is right around the corner for servicing or maintaining your laboratory instruments. Our global service capabilities include:

- Preventive maintenance
- On-site, on-demand repair
- Software and hardware upgrades
- Validation services
- Training and consulting
- Free technical and applications phone support



For the full range of PerkinElmer OneSource® service and support offerings, visit us at www.perkinelmer.com/service.

**Ask your account
manager for detailed
specification sheets.**



You're set to go. Faster. Farther.

The PerkinElmer LAMBDA Advantage

Industry-leading Performance—No Limits!

For more than 50 years, PerkinElmer has been an industry leader in spectrometry technology and continues to set the benchmark with the new LAMBDA 1050. Whether you need high-performing UV, Vis or NIR testing, the LAMBDA series won't limit you.

Lowest Sampling Setup Time

With intelligent design features like snap-in modules, large dual compartments and more, the LAMBDA series offers the industry's lowest sampling setup time.

Enhanced Flexibility and Convenience

The LAMBDA series offers multiple options and the versatility to handle the widest range of sample types. This flexible approach saves time, space and cost by combining all your testing capabilities into one system.

Intuitive UV WinLab Software

Updated software is easy to navigate and provides powerful analysis of your data. UV WinLab 6, with its Data Processor Viewer module, allows easy access and advanced data manipulation.

Global Service and Support

PerkinElmer is by your side today and tomorrow. With a global network of certified support professionals, we're there to help maintain or service your instruments, and keep you up and running.

For a complete listing of our global offices, visit www.perkinelmer.com/lasoffices or visit our Web site at www.perkinelmer.com/new-limits.

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