

# I2R LABS

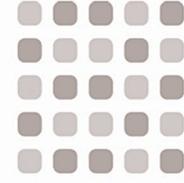
IDEAS INTO REALITY

"Know Your Health. Own Your Life."



# I2R LABS

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**Petri Dish Spectrophotometric Reader**  
Non-Contact Reflective Spectroscopy for Surface-Based Analysis



The Petri Dish Spectrophotometric Reader is a specialized optical system designed for non-contact spectral analysis of samples placed in standard petri dishes. Utilizing both UV and white light in reflective mode, it enables surface-level absorbance, reflectance, or fluorescence analysis of biological and chemical materials—ideal for cultures, powders, suspensions, or layered liquids.



## Petri Dish Spectrophotometric Reader

### Non-Contact Reflective Spectroscopy for Surface-Based Analysis

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### Key Features:

#### Dual Reflective Light Sources:

- UV LED (365 nm) for surface fluorescence or excitation studies
- White Light (800–400 nm) for reflectance-based VIS/NIR measurements

#### Petri Dish Compatible Design:

- Accepts standard petri dishes with inner/outer sitting rings for stable placement
- Lid and mounting ensure uniform measurement geometry and reduce ambient light

#### Non-Contact, Surface-Focused Measurement:

- Optical setup allows reflective detection without disturbing the sample
- Ideal for delicate, growing, or semi-solid materials

#### Integrated Optical Housing:

- LED array and sensor positioned for optimized angular reflection
- Internal baffling for light control and measurement repeatability

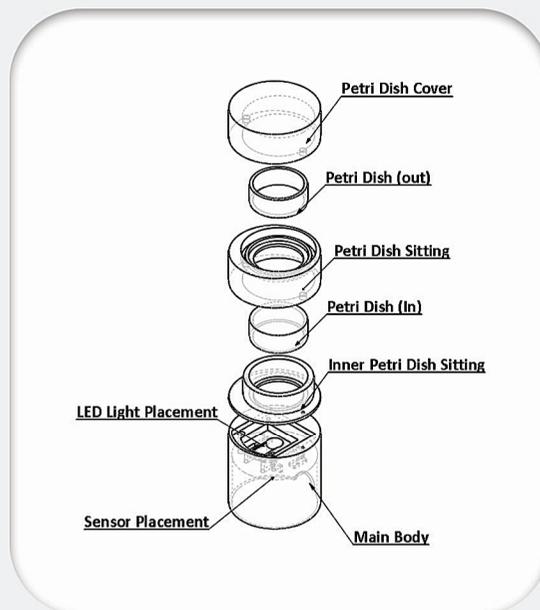
### Advantages:

- Non-contact, contamination-free testing
- Supports fragile or biological materials
- Reflective measurement suitable for surface-layer interactions
- Easy to use, with minimal alignment needed
- Portable and lab-ready enclosure

### Technical Highlights

#### Parameter Specification

- Spectral Range 800–340 nm (UV + Visible/NIR)
- UV Excitation 365 nm, reflective mode
- White Light Illumination 800–400 nm, reflective mode
- Spectral Resolution ~15 nm
- Sample Format Standard Petri Dish
- Light Sources Integrated UV & White LED PCB array
- Optical Interface Non-contact reflective path with baffled optics
- Sensor Spectral CMOS sensor (compact integration)
- Data Output Full spectrum via USB or serial



### Package Includes

- Main optical body with integrated sensor and LED modules
  - Petri dish mounting interface and light control hood
  - Removable top cover for flexible access
  - Software for spectral acquisition and real-time analysis
  - Optional calibration standards and carrying case
- Reflect. Detect. Analyze.  
Perfect for surface-based biological and chemical inspection in real time.

### Applications:

#### Bacterial & Fungal Culture Analysis:

Monitor colony growth, pigmentation, and metabolic fluorescence.

#### Powder & Solid Surface Inspection:

Assess reflectivity, color, or fluorescence of surface-bound materials.

#### Chemical Reactions on Surface:

Observe reaction progress or endpoint in thin-layer setups.

#### Gel, Agar, or Semi-Liquid Analysis:

Conduct non-destructive optical scanning without contact or penetration.

