



PLR™-3000 Pupillometer



NEUR OPTICS

PLR™-3000 Pupillometer

Important Research Tool

- Used by researchers at leading universities, pharmaceutical companies, and contract research organizations worldwide
- Quickly and accurately measures pupil size and pupillary light reflex

Simple to Use and Operate

- One button activation
- No calibration required
- Portable, battery operated, hand-held device
- Durable, ergonomic design

Features

- Adjustable settings (light stimulus intensity and duration, duration and onset of measurement, background illumination)
- Data stored on device, results uploadable to external computer via Bluetooth®
- Infrared camera, high precision optics, processor and LED light source
- Video playback wand downloading video of last measurement.
- Continuous pupil recording (≤ 10 minutes without light stimulus, ≤ 41 seconds with light stimulus)



“Great **quantitative tool** for research.”

—Sr. Researcher, Allergan



Reproducible Measurement Results

Testing has shown that the NeurOptics® Pupillometer is consistent from unit to unit and operator to operator. In fact, the NeurOptics Pupillometer has the highest accuracy and lowest error of all commercially available pupillometers, while at the same time being the most economical hand-held infrared device.

Objective Measurement

| Broadcast Function | Range |
|-------------------------------------|---|
| Init = Maximum Diameter | Maximum pupil size before constriction |
| End = Minimum Diameter | Pupil diameter at peak constriction |
| Delta = % Change | % of change (Size-MIN)/Size as a % |
| LAT = Latency of constriction | Time of onset of constriction following initiation of the light stimulus |
| ACV = Constriction Velocity | Average velocity of how the pupil diameter is constricting measured in millimeters per second |
| MCV = Maximum Constriction Velocity | Maximum velocity of how the pupil diameter is constricting measured in millimeters per second |
| ADV = Dilation Velocity | The average pupillary velocity when, after having reached the peak of constriction, the pupil tends to recover and to dilate back to the initial resting size, measured in millimeters per second |
| T75 = Time to reach 75% recovery | The time to reach 75% of the original baseline pupil diameter after the peak of the constriction |



“More insight on pharmacokinetic data.”

–Clinical Study Manager, Covance

Ordering Information

| NeurOptics® PLR™-3000 | Part Number |
|--|-----------------|
| System Includes: PLR™-3000 Pupillometer, Charging Station & Power Supply, Eye Cups (2), Carrying Case | PLR3-KIT-01 |
| Optional Accessories | Part Number |
| Printer Kit | NEUR-PRTS445-BT |
| Barcode Scanner | BCS-CC-01 |

Caution: Federal (USA) law restricts this device to sale by or on order of a physician. Refer to product package insert for instructions, warnings, precautions and complications.

Bluetooth® Broadcast Range and Frequency

| Broadcast Function | Range | Frequency |
|---|--|-----------|
| Bluetooth Barcode Scanner to/from PLR-3000 Pupillometer | Up to 100 yards depending on environment | 2.45 GHz |

Technical Specifications

| Parameter | Description |
|--|---|
| Measurement Characteristics | Input= Human pupil sizing varying from 1 mm–9 mm |
| | Mean and standard deviation of pupil diameter at different background illuminations |
| | Accuracy: +/- 0.03 mm |
| Degree of protection against electric shock | Pupillometer is double insulated (Class II protection) |
| Classification of the equipment against ingress of liquids | Ordinary equipment |
| Degree of safety of application in the presence of flammable anesthetic mixture with air or with oxygen or nitrous oxide | The equipment is not an AP or APG category equipment |
| Mode of Operation | On Demand battery operation |
| Power Supply | Input: 100-240 VAC +/- 8% |
| | Output: 6V, 2.8 Amps |
| Battery | 3.7V 3350 mAmp/hour Li: Ion Cell |
| Operating Environment | Temperature Range: 18° C (65 F) to 30° C (86° F) |
| | Relative Humidity: 20% to 70% RH. Non condensing at all times |
| Transportation and storage environment | Temperature Range: 0° C (32° F) to 75° C (167° F) |
| | Relative Humidity: 10% to 95% RH. Non-condensing at all times |
| Dimensions | With eye cup = 7.5" H, 3.5" W, 4.5" D |
| | Without eye cup = 7.5" H, 3.5" W, 3.5" D |
| Weight | 320 grams +/- 10 grams |
| Classification | Class 1 LED product per IEC 60825 |

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NEUR OPTICS

Pupillary Evaluation...Down to a Science™



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