

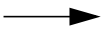
LAMP ANALYZER



DESCRIPTION

The Model 526B MOD 2 Lamp Analyzer measures the average luminous intensity, color temperature, filament voltage and filament current of miniature and subminiature tungsten filament lamps. The lamp filament is energized from a self contained digitally programmable D.C. power supply. The four measured parameters are presented on a 1.5" x 5" Liquid Crystal Display (LCD) panel in units of Spherical Candelas, degrees Kelvin, Volts and Amperes.

Zeroing of all instrumentation functions, dark cell compensation, ranging, and calibration are all automated functions. System operation is coordinated by a versatile custom microcomputer which allows any one of the four above listed parameters to be selected as an independent variable. Numerical values of the remaining three parameters are displayed on the screen.



WESTERN PHOTOMETRIC LABORATORIES DIVISION



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LAMP
ANALYZER

MODEL 526B MOD 2

FEATURES

The Lamp Analyzer is operated from a twenty-button keypad by selecting constant voltage, current, candela or color temperature mode and entering the value of the selected parameter. Filament inrush current is limited by computer controlled ramping of the applied voltage.

A serial communication port (RS232C) is provided on the back panel for connection to an external computer system or printer. The communication port allows tabulation, analysis and printout of lamp data.

The light processing system consists of the 12" integrating sphere which has a special interior finish and an array of three optically filtered silicon photocells. One photocell has a photopic response for measurement of average luminous intensity and the other two are filtered for determination of lamp color temperature.

The photometric parameters, power supply voltage and current are factory calibrated. The calibration procedure is highly automated and may be performed in the field by using the recommended accessory standards.

LAMP ANALYZER KIT

In addition to the Lamp Analyzer, the Lamp Analyzer Kit P/N 526B-MOD2-KIT includes the following accessory items, which can also be ordered as replacement parts:

526B-220	Calibration Lamp Set
526B-131-3.1	Lamp Analyzer Software Kit
530A-076	Miniature Lamp Adaptor Transition
530A-118	S8 Single Filament Lamp Adaptor
530A-139	Power Supply Calibration Adaptor
WPL-EPZS17506C	Power Cord
526B-177	Owner/Operator Manual

ACCESSORIES

Lamp Base Adaptors are available, fitted with a wide selection of lamp sockets to accommodate the majority of miniature and subminiature lamp bases commonly used in aircraft and electronic applications.

The set of three multi-point Calibrated Lamps are used for periodic calibration of instrument. The certified lamps, traceable to National Institute of Standards and Technology (NIST), are calibrated for average luminous intensity and color temperature.

SPECIFICATIONS

GENERAL:

Input Power: Instrument is powered from a single phase 3-wire grounded AC power line at nominal voltage of 115 VAC, (230 VAC available upon request) 50 or 60 Hz. Full load input power is approximately 100 Watts.

Sphere: Twelve inches in diameter. Interior finished with a special durable flat spectral reflectance lusterless white coating.

AVERAGE LUMINOUS INTENSITY:

Dual Autorange: 0 to 1.9999 Spherical Candelas and 2.000 to 110.000 Spherical Candelas.

Linearity: $\pm 0.1\%$ of reading, $\pm 0.01\%$ of full scale.

Spectral Response: Optically filtered photodetector provides accurate photopic opto-electric response from 380nm to 760nm. Deviation in readout due to change in color temperature of an incandescent source is within $\pm 1\%$ over a color temperature range of $2400^{\circ}\text{K} \pm 600^{\circ}\text{K}$.

COLOR TEMPERATURE:

Range and Resolution: 1600°K to 3400°K .

Accuracy: $\pm 10^{\circ}\text{K}$.

Sensitivity: Automatic shut-off below 0.01 spherical candela.

FILAMENT VOLTAGE:

Range and Resolution: 0 to 50.000 volts D.C.

Linearity: $\pm .002\%$ of full scale.

Input Impedance of Volt Meter: 2.5 Megohms.

FILAMENT CURRENT:

Range and Resolution: 0 to 4.2000 Amperes from 0 to 13.25 volts; 2.1000 Amperes from 13.251 volts to 26.500 volts; 1.0500 Amperes from 26.501 volts to 50.000 volts, with automatic current limiting.

Linearity: $\pm .005\%$ of full scale.

Ammeter Shunt Resistance: 0.01 ohm (voltage drop compensated by Control Circuitry).

FILAMENT POWER SUPPLY:

Line and Load Regulation: Digital correction of analog references holds regulated parameter (voltage or current) to within ± 1 least significant digit.

Output Power: 50 watts minimum at the top of each current range. Available power is a function of programmed output voltage.



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