LUMETRONICS
Test & Measuring Equipment

- Custom built Test Equipment
- Photometry
- Safety & Compliance
- Physical & Material
- Electro-Mechanical
- Environmental
- Calibration Services

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LUMETRON RB Series Reference Ballasts for Lamps

Lumetronics has specialized in the manufacture of custom built control gear for lamps. These are designed and manufactured to meet not only customers specifications, but also our own high standards of workmanship and performance. A Reference Ballast is used to select and test Reference Lamps that are subsequently used for testing manufactured ballasts. The purpose of selecting Reference Lamps by measurement in conjunction with a Reference Ballast is to obtain a reproducible "standard" lamp that can then, in turn, be used to test and compare manufactured ballasts. The aim is to ensure that all equipment gives fair treatment to the fluorescent lamp without excessive over or under running and without in any way sacrificing lamp performance or life. The Reference Lamp can be used to find suitable "routine comparison ballasts" of the same type as manufactured. Electrical characteristics of these ballasts can then be measured separately without the lamp, and the values obtained can, with suitable tolerances, be used by the manufacturer to test ballast production.

40 W TF Lamp Reference Ballast

The current, voltage and power delivered to a fluorescent lamp depends very much upon the electrical characteristics of the Ballast. Before Reference Lamps can be selected, it is necessary to specify the electrical characteristics of the Reference Ballast that will be used in the test circuit.

For purposes of lamp operation and measurement, a Ballast can be specified by three main parameters or values. These are:

IMPEDANCE: Ratio of sinusoidal ballast voltage & current.

Power Factor: Ratio of ballast watt loss & volt-amps.

Distortion of current wave due to harmonics: Measured by linearity of impedance over a range of currents.

These three electrical values used to specify a Reference Ballast must be kept within close tolerances, and it is usual to make check measurements each time before the ballast is used. Further, Reference Ballasts must be soundly constructed and designed to run cool and to give the required electrical characteristics with provision, if possible, for slight adjustments. It should be noted that a lamp is not used during measurement of the characteristics of the Reference Ballast.

Reference Ballasts are available for Tubular Fluorescent Lamps, Compact Fluorescent Lamps and Discharge Lamps. The Reference Ballasts consist of a combination of Inductor coils and a carefully matched set of resistors. Terminations for connecting the Reference Ballast to the test circuit are provided, as well as a separate pair of terminals to allow precise measurement of Ballast Voltage.

Features

* Wide range of precision Reference Ballasts for Tubular Fluorescent Lamps, Compact Fluorescent Lamps, Discharge Lamps, etc.
* Precision engineered Reference Ballast for use in Photometric Test Laboratories.
* Highly accurate and stable calibration of electrical parameters.
* Rugged and robust design for very low temperature rise and negligible magnetic influences.
* Four terminals (4mm sockets) allow easy and convenient use in electrical circuits. Two terminals for connection to the circuit, and remaining two terminals to connect Voltmeter for measurement of Reference Ballast voltage.
* Housed in a strong, steel, powder coated cabinet with convenient carrying handles.
* Protective guard for electrical terminals.
* Handy conversion chart to allow voltage compensation for frequency errors.
* Earthing terminal for safety grounding of the Reference Ballast while testing.

References

* IS:1534 (Part I) 1977	: Specification for Ballasts for Fluorescent Lamps, Part I
* BS:2818 1981	: Specification for Ballasts for Tubular Fluorescent Lamps
* IEC 82 1980	: Recommendations for Ballasts for Fluorescent Lamps