

2-WATT ZIRCONIUM ARC LAMP**No. 30,360**AVERAGE SPECIFICATIONS:

Power: 2-Watts
Operating Voltage: 38 Volts D.C.
Amps.: 0.055

Base connections:
Pin #1 - Positive
Pin #2 - No connection
Pin #3 - Negative

Minimum Starting Voltage: 1000 Volts D.C.
Mean Light Source Diameter: 0.005 in.
Average Brightness: 15,500 Candles per square inch
Socket for Lamp: Amphenol 91-MPF3 78PC63 or equivalent
Average Axial Candle Power: 0.30
Color Temperature: 3200°K

This lamp is unusual because of the extreme brightness and very small light emitting area. The brightness of the arc is about ten times the brightness of an ordinary incandescent lamp but is slightly less than a carbon arc. The lamp possesses several advantages over the carbon arc. The most notable are the elimination of continuous electrode adjustment and the fact that forced ventilation is not necessary in most applications.

THEORY OF OPERATION:

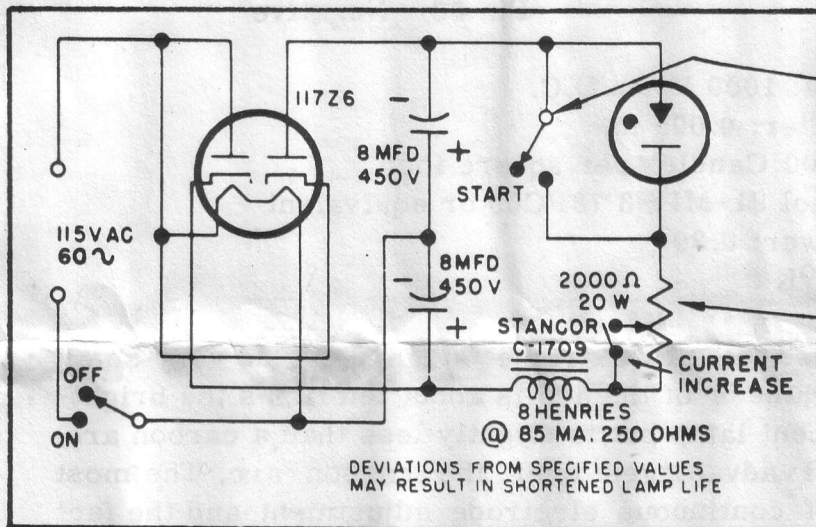
The actual arc is established between the anode and cathode within the lamp. The surface of the cathode is raised to its melting temperature and metallic zirconium vapor is liberated. It is this molten surface of the cathode and the cloud of vaporized zirconium extending a few thousandths of an inch from the cathode, that emits the brilliant white light characteristic of the lamp. The vapor is drawn to the cathode and renews it, thus providing an exceptionally long life.

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TECHNICAL DATA...

WATTS	LAMP VOLTS	LAMP AMPS	SUPPLY VOLTS MINIMUM	STARTING VOLTS MINIMUM	MEAN LIGHT SOURCE DIA.	AVE. BRIGHTNESS CANDLES PER SQUARE MM	AVE. BRIGHTNESS CANDLES PER SQUARE INCH
2	38	0.055	200	1000	0.005 in.	25	15,500

AVG. AXIAL CANDLE POWER	MEAN CANDLE POWER PER WATT	AVE. LUMENS IN 90° ANGLE	BULB TYPE	BASE TYPE	MAX. TEMP. F°		AVE. LIFE HRS.
					BULB	BASE	
0.30	0.13	0.47	T5	Min. 3 Pin	140	100	150



Start Toggle Switch should be momentary contact type, normally off and should have a very quick break action.

2-1,000 OHM 20W resistors can be used. This resistor should be mounted some distance from the other components with air circulation provided to carry off heat it produces during operation.

2 WATT Power Supply Circuit Diagram

APPLICATIONS:

Microscopy and metallography - Color temperature. Ideal for color photomicrography. Intensity allows short exposures.

Microfilm Printing - Small source allows fine definition and 35X magnification.

Optical Point Source - Extremely small source area ideal for lens and mirror testing.

Shadow Projection - Shadows are sharp. Can be used for industrial inspection of edges of opaque materials as well as showing up striations, scratches, etc. in transparent and translucent materials.