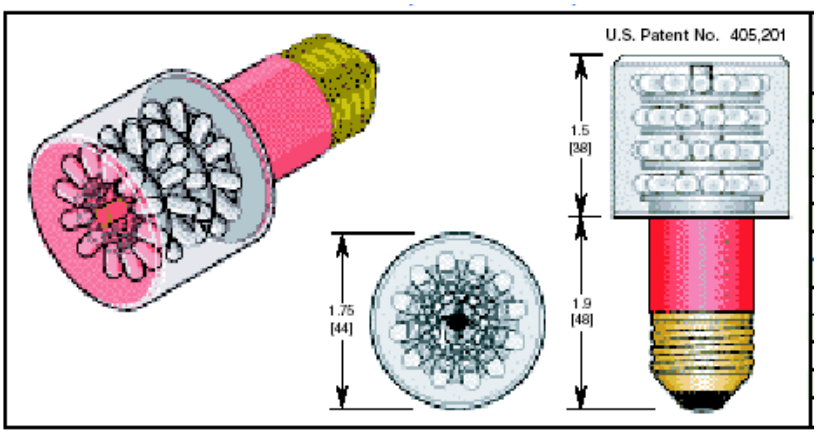
12V MEDIUM BASE LED LAMP



GENERAL USAGE: Lamp shall be generally used for solar-powered and battery-powered applications. Power system used shall provide voltage regulation to protect against over-voltage.

GENERAL CONSTRUCTION: Lamp shall consist of a 4-tiered array of 48 individual LEDs. In the event of failure of one or more individual LEDs, remaining LEDs shall continue to operate. Entire assembly shall be neatly potted into a molded Rynite FR350 stem fitted with a standard medium screw Edison base. Lamp head shall be filled with an optically clear silicon gel.

POWER REQUIREMENT: Lamp shall be designed for 12V operation and shall consume approximately 3W for red or 2W for green.

LIGHT OUTPUT: Overall luminosity of the LED array shall be 55 lumens for red and 91 lumens for green arrays. The light output exceeds U.S. Coast Guard specifications.

COLOR: Lamp color shall match the color of the fixture lens for maximum light output. Red LEDs shall have a wavelength of approximately 660nm. Green LEDs shall have a wavelength of approximately 525nm.

LENS: Lamp array shall be enclosed in a clear UV polycarbonate lens.

SURGE PROTECTION: The array shall incorporate a built-in surge protection device with a clamping voltage of 380VAC @ 2 amps to protect the array from normal voltage surges. Surge protection device shall be capable of absorbing multiple surges without loss of protection.

LAMP LIFE AND MAINTENANCE: Individual LEDs shall have a MTBF rating of 100,000 hours at 12V. Actual performance life may vary due to varying voltage output, if used with battery systems. Scheduled lamp replacement is recommended at 8 year maximum intervals if operated using a daylight sensing and shutoff device or 4 year maximum intervals if operated 24 hours per day.

RECEPTACLE and MOUNTING (for navigational lights): Medium base receptacles shall be rated for 250V, 660W and shall be porcelain with a nickel-plated brass shell to resist lamp freezing. Lamp mounting shall center the array on the focal plane of the lens. Receptacles shall be mounted on a bracket, which shall be isolated from the navigation light fixture with rubber grommets to minimize shock and vibration. Mounting assembly shall position the array at the focal plane of the fixture lens for optimal light transmission.

PART NUMBERS: Part numbers shall be PLP-LED1952R/S and PLP-LED1952G/S.

Revised 1/06