

# GE to introduce metal-halide lamp for residential use

A metal-halide lamp, expected to sell for a retail price of about \$10, has been announced by the General Electric Co. Designed as an energy-saving replacement for incandescent sources, the lamp, known as the "Electronic Halarc," is scheduled to be available to the public in early 1980.

The first of the new lamps has a high and low setting. On high, it emits as much light as a typical 50 / 100 / 150-W three-way lamp on its highest setting, yet uses only about one-third the power. It is designed for an average life of 5000 hours. Future members of the family are expected to include a replacement for the 100-W general-purpose lamp and a variety of reflector lamps.

There are three functional parts to the lamp. The slender tube suspended in the upper globe is a quartz arc. Encased within the plastic base is the ballast. The third functional part - the incandescent filaments-provides light when the lamp is first ignited and helps the ballast regulate power to the arc tube. These two tungsten filaments are at low power levels, except during start-up, when the arc tube is

heating up. When the lamp is turned on, it changes in color from yellow to blue to brilliant white.

Lamps for the U.S. market will be the standard 120-V variety; 220- and 240-V, 50-Hz versions will be available for European use in 1982.

GE said it had evaluated several possible technologies as light sources for the future. Two others are the selenoidal-electrodeless-fluorescent and the infrared. The selenoidal or "SEF" lamp uses a high-frequency ballast with a ferrite ring that replaces the electrodes of traditional fluorescent sources. The SEF fits the standard household socket and has about the same light output as a 150-watt incandescent, but consumes one-third the power. According to GE, the SEF's high cost and size will limit its immediate application.

The infrared (IR) lamp has a specially-designed spherical bulb with an inside coating to reflect heat back to the filament. According to GE, development of a satisfactory reflective coating has been a problem.

In a separate development, Duro-Test Corp.,

which has been investigating an IR lamp that will replace general-purpose incandescent sources, announced that development of its lamp is on schedule and proceeding satisfactorily. The lamp is expected to be in test production and marketing in 1980. Price of the Duro-Test lamp, which will have an average life of 2500 hours, will be under \$5. As previously reported in these pages, laboratory experimentation reveals that, with a perfect spherical envelope and the heat-reflecting film, the manufacturer can realize a goal of 60 percent energy savings over a conventional incandescent lamp. Duro-Test has just placed a \$440,000 order with Materials Research Corp. for initial production equipment.

The "Litek" lamp-a magnetic-fluorescent source first announced in *LD&A* three years ago-is still undergoing tests, with the capital now coming from private rather than government sources. As *LD&A* pointed out previously, miniaturization, heat management, and high RFI levels are among the obstacles the developers of this lamp face before it can enter production. □

