



Multi-Vapor® Lamps

What with the Energy Crisis, rising costs, and recent light-source improvements, it's time to call your attention to an outstanding lamp that was developed, patented, and introduced by

GENERAL ELECTRIC:

multi-vapor® metal halide lamp

It's no secret that it offers you . . .

- **High Luminous Efficacy**—up to 100 lumens per watt
- **Crisp White Light**—for good color rendition
- **Good Optical Control**—small clear arc tube
- **Economical Operation**—second only to Lucalox lamps
- **Operation on Most Mercury Ballasts**—with I-line M-V lamps only

Now—Improved Multi-Vapor . . .

- **Improved Light Output**
100,000 initial lumens, vertical burning
98,000 initial lumens, horizontal burning
- **Improved Color**—compare its color-rendering properties with other metal halide lamps
- **Improved Color Uniformity**—color variation from lamp to lamp less than with other metal halide lamps
- **Improved Life**—up 67% for vertical burning: now 10,000 hours, average

The Improved Multi-Vapor lamp is designed for lighting . . .

Building facades
Sports arenas
Stadiums
Industrial plants

Indoor and outdoor tennis courts
High-rise signs
Car lots
Parking lots

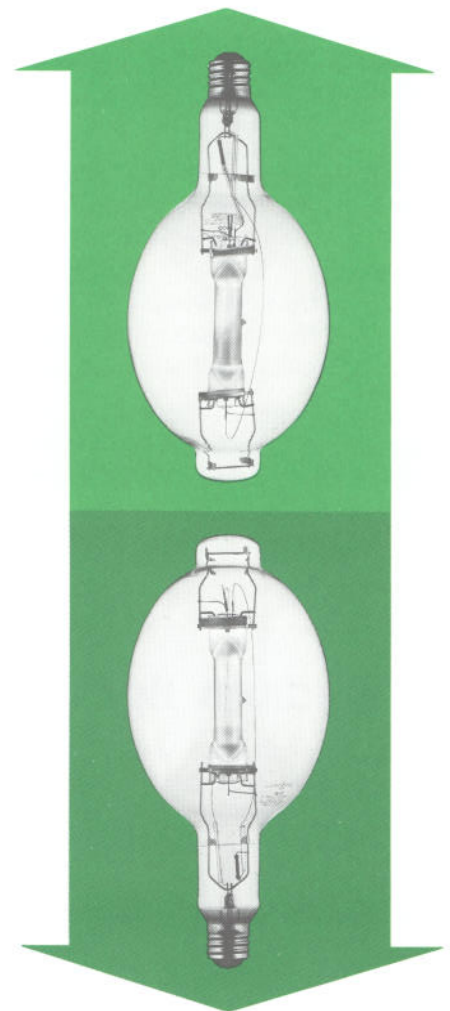
At present there are two listings of the Improved lamps:

MV1000/BUH—burn base up to 10° below horizontal

MV1000/BD—burn base down to 10° below horizontal

Additional listings are in the offing.

The lamps can be used in open or in enclosed fixtures for vertical burning $\pm 10^\circ$ (base up, base down). For all other burning positions, use enclosed fixtures only.



**the 1000-watt
improved
multi-vapor lamp**

(That's what
it's called, because
that's what it is!)

I-line

multi-vapor lamps

These I-line lamps are designed to operate on most of the mercury lamp ballasts, as well as on metal halide lamp ballasts.

So now: many a mercury lighting system can be converted to a Multi-Vapor system by doing nothing more than changing lamps—no new ballasts or fixtures, no rewiring, no extra installation cost.

The result? At the very least, a 50% increase in lighting level—usually much more, up to 300%, because it can be assumed that new mercury lamps will not be immediately replaced—so the light output probably will have deteriorated by the time mercury lamps are replaced by Multi-Vapor. For example, where the mercury lamps have burned long enough to have dropped to half of initial light output, replacement with I-line Multi-Vapor will *triple* the lighting level immediately — — — and maintain over 40% more light throughout life.

You can change from mercury to I-line Multi-Vapor if

- the fixtures position the lamps vertically $\pm 15^\circ$
- ambient temperatures are 50°F or higher (400-watt lamps) and -20°F or higher (1000-watt lamps)
- there is adequate line voltage
- the ballasts qualify (have no peaking capacitors)
- color evaluation or color variation from lamp to lamp is not critical

For further details on I-line lamps and their operation, see our I-line Multi-Vapor Lamp Information Bulletin. Your G E Lamp Representative will be glad to supply a copy.

stadium lighting

One specialized M-V application should be noted. The 1500-watt lamps are being used extensively to light sport stadiums. Their high luminous efficacy helps to hold down power consumption, and the color of the light is compatible with the requirements of color television cameras.

Adequate and well-controlled illumination that meets the seeing requirements of players and spectators is provided on this high-school football field. Light sources are 1500-watt Multi-Vapor lamps, mounted 18 to a pole. Good color rendition of players' uniforms and half-time spectacles is a plus value added by the M-V lamps.



MULTI-VAPOR METAL HALIDE LAMPS

Metal halide lamps normally exhibit some color variations from lamp to lamp, and gradual change in color throughout life. Operating conditions such as burning position and normal voltage variations can also affect the color of these lamps.

All Multi-Vapor lamps have clear bulbs made of heat-resistant glass.

The lamps are supplied with date-coded nickel-plated brass bases.

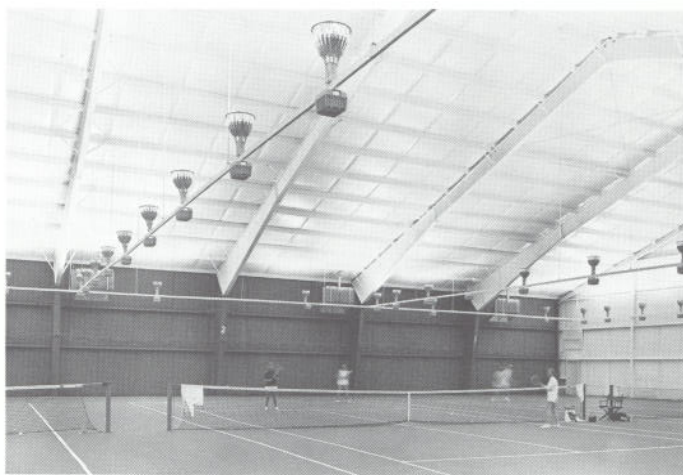
Bulb	Base	Lamp Ordering Code	Use on metal halide ballast only, unless otherwise stated. Description	Std. Pkg. Qty.	M. O. L. (In.)	Avg. Rated Life Hours at 10 hrs. per start	Approx. Lumens for Vertical Operation		Applications
							Initial	Mean (10 hrs. per start)	
400 WATTS									
E-37	Mog.	MV400/BU/I	"I-line." Burn vertical base up ± 15°. Can be used on "ap- proved" mercury ballasts in an ambient temp. of 50°F or above. OPEN OR ENCLOSED FIXTURES.	6	11 ¹ / ₁₆	15,000	34,000	26,500	Gen. interior lighting
		MV400/BD/I	"I-line." Burn vertical base down ± 15°. Can be used on "approved" mercury ballasts in an ambient temp. of 50°F or above. OPEN OR ENCLOSED FIXTURES.	6	11 ¹ / ₁₆	15,000	34,000	26,500	Gen. interior lighting
		MV400/HV/E	Burning position: horizontal to vertical. USE IN ENCLOSED FIXTURES ONLY.	6	11 ¹ / ₁₆	8,000	32,000	Horiz: 24,100	Gen. flood lighting
1000 WATTS									
BT-56	Mog.	MV1000/BU/I	"I-line." Burn vertical base up ± 15°. Can be used on "ap- proved" mercury ballasts in an ambient temp. of -20°F or above. OPEN OR ENCLOSED FIXTURES.	6	15 ¹ / ₁₆	10,000	88,000	70,400	Gen. interior lighting
		MV1000/BUH	Can be used in OPEN fixtures with vertical ± 10° burning. Use enclosed fixtures for all other burning positions.	6	15 ¹ / ₁₆	Vert. ± 30°: 10,000 All other positions: 6,000	Vertical: 100,000 Horizontal: 98,000	80,000	Gen. outdoor lighting
		MV1000/BD	Can be used in OPEN fixtures with vertical ± 10° burning. Use enclosed fixtures for all other burning positions.	6	15 ¹ / ₁₆	Vert. ± 30°: 10,000 All other positions: 6,000	100,000	80,000	Gen. flood- and street lighting
		MV1000/HBU/E	Burn base up to 15° below hori- zontal. USE IN ENCLOSED FIX- TURES ONLY.	6	15 ¹ / ₁₆	6,000	Vertical: 98,000 Horizontal: 85,500	Horizontal: 71,000	Flood lighting
		MV1000/HBD/E	Burn base down to 15° above horizontal. USE IN ENCLOSED FIXTURES ONLY.	6	15 ¹ / ₁₆	6,000	Horizontal: 85,500	Horizontal: 71,000	Flood lighting
1500 WATTS									
BT-56	Mog.	*MV1500/HBU/E	Burn base up to 15° below hori- zontal. USE IN ENCLOSED FIX- TURES ONLY.	6	15 ¹ / ₁₆	1,500 (@ 5 or more hrs. per start)	Vertical: 153,000 Horizontal: 132,500	Vertical: 142,000 Horizontal: 123,200	Outdoor sports lighting
		*MV1500/HBD/E	Burn base down to 15° above horizontal. USE IN ENCLOSED FIXTURES ONLY.	6	15 ¹ / ₁₆	1,500 (@ 5 or more hrs. per start)	Vertical: 153,000 Horizontal: 132,500	Vertical: 142,000 Horizontal: 123,200	Outdoor sports lighting

*Use as lamp replacements in existing installations equipped with 480-volt reactor mercury ballasts.

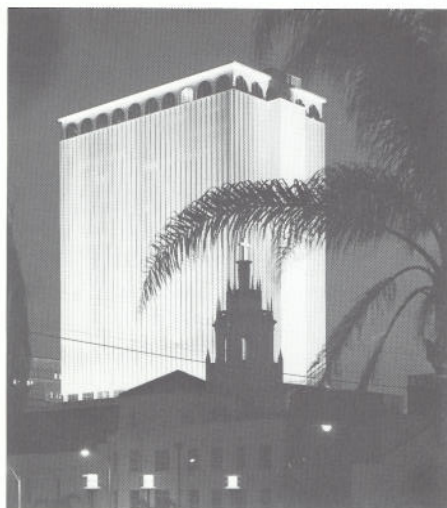
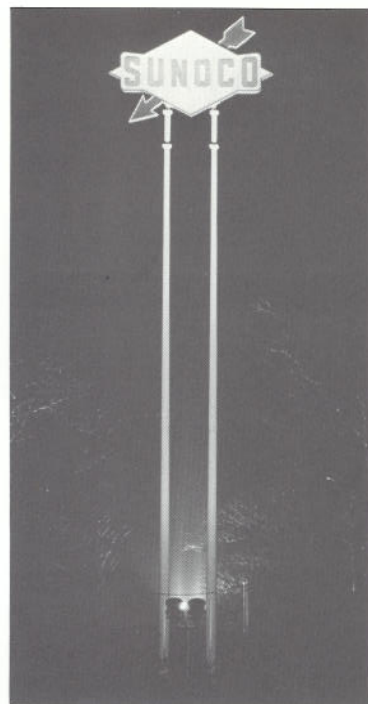
application

High luminous efficacy, good color rendition, and excellent optical control of the light combine to make Multi-Vapor lamps the logical choices in the representative lighting applications shown on this page. The efficiency of light production and the precise beam control possible with small light sources adds up to economical operation and conservative use of electric power.

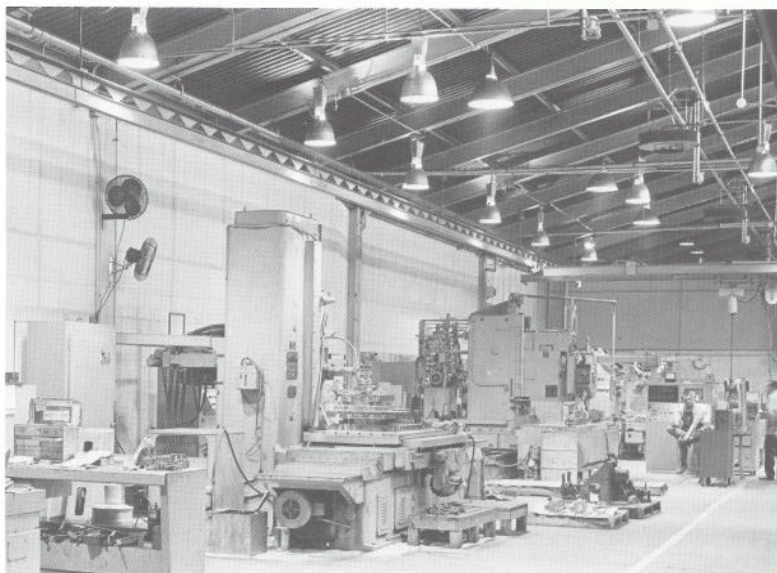
The 1000-watt Improved Multi-Vapor lamps are used here in open-top luminaires to provide comfortable and adequate indirect lighting for indoor tennis.



Colorful high-rise sign floodlighted by 1000-watt Multi-Vapor lamps. Greatest economy here lies in the ground-level maintenance—no one has to climb up to the sign to replace lamps. Made possible by precise beam control and the color-rendering properties of M-V light.



Floodlighting with 1000-watt Multi-Vapor lamps has made this bank a nighttime landmark. The facade is illuminated to 30 footcandles.



Both 400- and 1000-watt I-line Multi-Vapor lamps replaced depreciated mercury lamps in this installation. Footcandles increased from 60 to a minimum of 140—and up to 500 in places.

GENERAL  ELECTRIC