

## Starting Methods

- Instant Start
  - Instant On
  - Maximum Energy Savings
  - 10-15K Switch Cycles
- Rapid Start
  - Low Voltage Applied Prior to Lamp Ignition
  - 1.5-2W Loss Per Lamp
  - 15-20K Switch Cycles



## Starting Methods

- Programmed Start
  - Pre-heats Cathodes to 700 Degrees C
  - Maximum Lamp Life
  - Up To 50,000 Switch Cycles



## Ballast Factor

- Ballast Factor is the measurement of how much light the lamps will actually produce when connected to the ballast
- It is the percentage of light output from a commercial ballast vs. light output from a laboratory reference ballast specified by ANSI or 'Perfect Ballast'



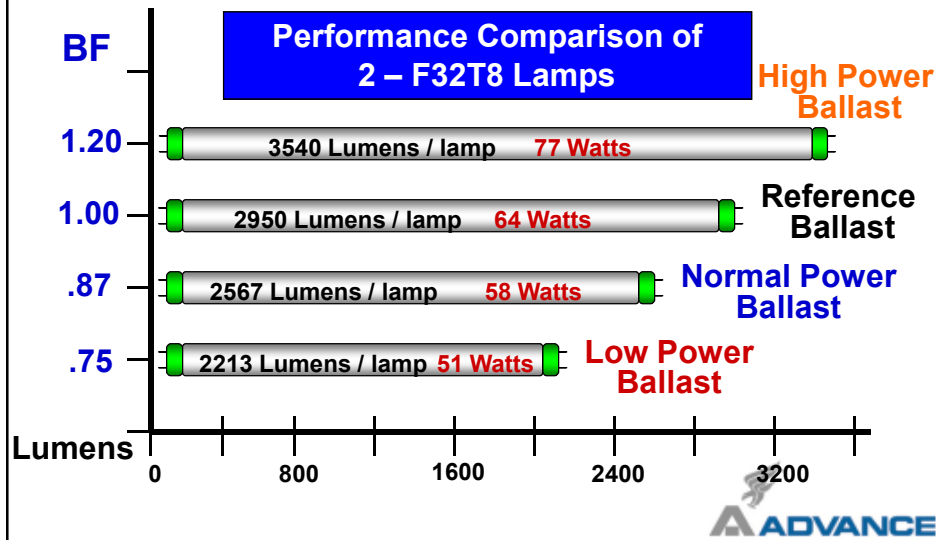
## Ballast Factor & Light Output

### ***Ballast Factor Enables "Tweaking"***

- LW (.75) - Standard (.88) - HL (1.20)
- Using the "1 less" Method\*
  - **Operating 3 lamps on a 4-lamp ballast**
  - **Operating 2 lamps on a 3-lamp ballast**
  - **Operating 1 lamp on a 2-lamp ballast**
- \* active current regulation eliminates this option
- Dimming - the ultimate tweak
  - **From 1.0 to .05 ballast factor**



## Ballast Factor & Light Output



## The High Efficiency Advantage

### FEATURE

- ⊕ High Efficiency: ~ 3 watt reduction in ballast losses
- ⊕ Instant AND programmed start models
- ⊕ IntelliVolt operation: 120-277V
- ⊕ Operate all standard AND energy saving T8 lamps

### BENEFIT

- ⊕ Lower energy bills
- ⊕ Maximized lamp life AND energy savings for every application
- ⊕ Simplifies energy-audits, reduces installation and maintenance costs
- ⊕ Elimination of system restrictions maximizes user choice

**ADVANCE**

## The High Efficiency Advantage

### FEATURE

- ⊕ Lamp auto re-strike
- ⊕ -20 °F Minimum Starting Temperature
- ⊕ Meet new NEMA/CEE BEF standards for high-efficiency ballasts
- ⊕ Leads exit on “correct side” of the ballast

### BENEFIT

- ⊕ Reduced maintenance costs
- ⊕ Creates new T8 system opportunities
- ⊕ Qualify for utility “Super T8” rebates
- ⊕ Reduced installation and maintenance costs



## The High Efficiency Advantage

### FEATURE

- ⊕ Lamp anti-striation circuitry to eliminate flicker
- ⊕ UL Type CC anti-arc rating
- ⊕ Operating frequency between 42-50 kHz

### BENEFIT

- ⊕ Improves visual comfort in open (parabolic) fixtures
- ⊕ Protects system components in the event of damaged sockets or poorly seated lamps
- ⊕ No interference with Infrared or Article Surveillance Systems



## System Solutions At-A-Glance

Ballast(s)	Lamps	Input Watts	Relative Light Output	Savings
(2) Magnetic	(4) 34 Watt T12	144	100%	N/A
(2) Electronic	(4) 34 Watt T12	120	97%	17%
(1) Low-watt ELE	(4) 32 Watt T8	98	100%	32%
(1) Low-watt ELE	(4) 30 Watt T8	91	102%	37%
(1) Low-watt ELE	(4) 28 Watt T8	85	95%	41%
(1) High-efficiency ELE	(4) 25 Watt T8	85	98%	41%
(1) High-efficiency low-watt ELE	(4) 25 Watt T8	76	88%	47%

## Pulse Start Metal Halide

### What are the three new ballast types?

- SuperCWA
  - **Standard, superior performance**
  - **Available for all voltages**
- Linear Reactor
  - **The 277V energy saver**
- Regulated Lag
  - **Premium lamp performance**
    - life
    - lumen maintenance



## Electronic HID

- Fully electronic
- Aims to:
  - **Improve lumen maintenance**
  - **Reduce size and weight**
  - **Increase efficiency**
  - **Provide platform for lamp mfgs for e-HID lamps**

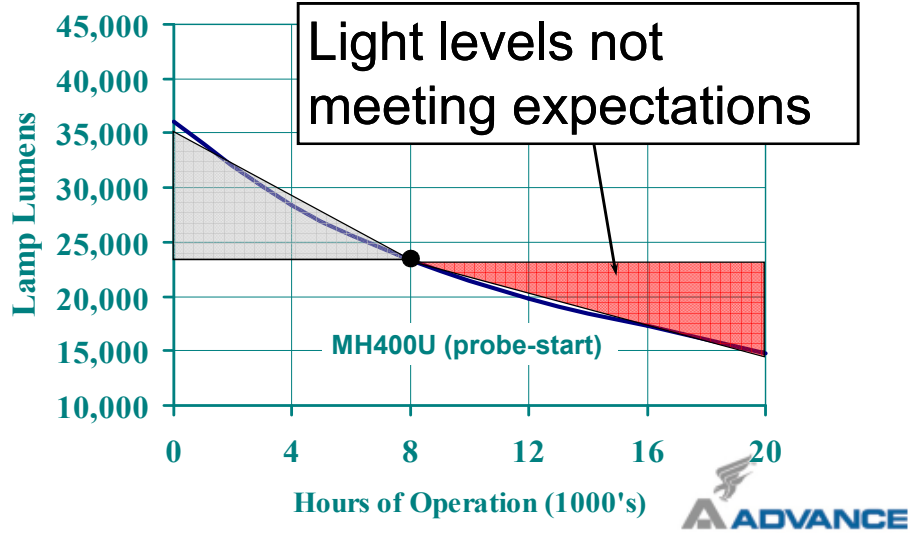


## Electronic HID Overview

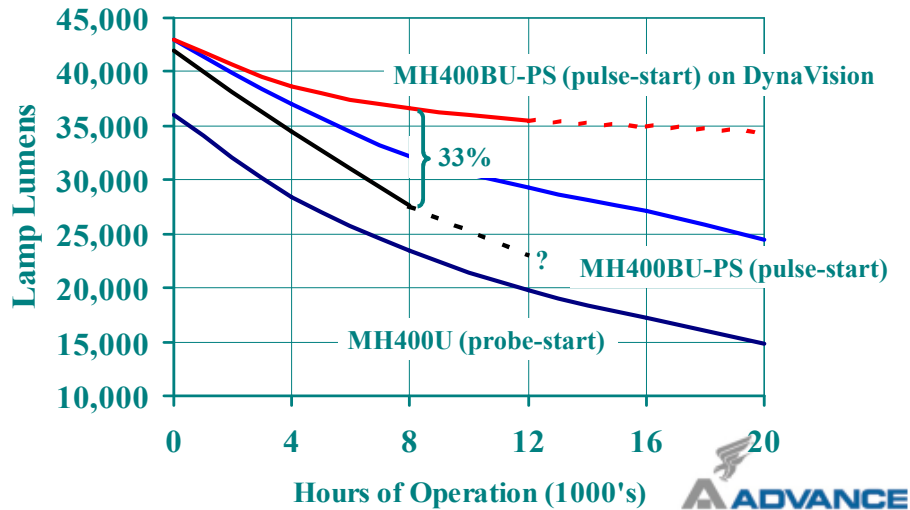
- 320/350/400 selectable tri-watt pulse-start MH
  - Operates all lamps at rated wattage, regardless of:
    - **Line voltage variation**
    - **Lamp voltage rise over life**
- 200-277V 50/60Hz applications
- 120kHz, 2-stage with microprocessor
  - **Cost efficient**
  - **Programmable**
  - **Size efficient: 5¼" x 8" x 2½"**



## Lamp Performance



## Electronic HID Performance



# DynaVision™ Performance

