



## Energy Independence and Security Act of 2007 (EISA)

*Regulation of Metal Halide Luminaires*



### What is EISA?

- The Federal Energy Independence and Security Act of 2007 (EISA) is a federal law that has broad-reaching implications aimed at the reduction of energy consumption, reduced dependence on oil and strategies for addressing global climate change.

### Section 324 mandates metal halide luminaire efficiencies

- Prohibits the sale in the United States of any metal halide product between 150W - 500W produced after December 31, 2008, unless the ballast in that product is greater than 88 percent efficient.





## Ballast Efficiency Requirements

Ballast Type	Lamp Wattage	Ballast Efficiency
Magnetic Probe Start	150W - 500W	94%
Pulse Start	150W - 500W	88%
Non-Pulse Start Electronic	150W - 250W	90%
Non-Pulse Start Electronic	251W - 500W	92%



## Metal Halide Luminaire Exemptions

- Standards do NOT apply to fixtures that:
  - Use regulated lag ballasts
  - Use electronic ballasts rated for 480 volts
  - Meet **all** the following criteria
    - Rated only for 150W lamps; **AND**
    - Rated for wet location use as defined by National Electric Code 2002 Section 410.4(A); **AND**
    - Contain a ballast rated to operate at an ambient air temperature above 50° C as specified by UL 1029-2001



## California, Domestic & International Exceptions

- EISA preempts all states that have previously passed regulations for MH luminaires – except California.
- California Energy Commission is authorized to implement regulations until 2011.
- EISA does not impact the manufacture or sale of metal halide luminaires for markets outside of the United States.
- U.S. territories must comply with the EISA legislation



## Labeling and Package Requirements

- The encircled capital letter “E” (i.e., circle “E”) will indicate that the product meets applicable DOE energy efficiency standards and is consistent with the labeling requirements for other lighting products.
- Only covered products that meet the ballast efficiency requirements may contain the circle “E” label.
- The circle “E” label must be clearly and conspicuously disclosed in color-contrasting ink on:
  - the ballasts contained in those fixtures; and
  - metal halide lamp fixture packages
  - Point of sale displays
  - Catalogs printed after July 1, 2009





## System Comparisons / Recommendations

Proposing the energy efficient solution — at equivalent lumen levels

Today				Recommended EISA Compliant SOLUTION #1				Recommended EISA Compliant SOLUTION #2				Recommended EISA Compliant SOLUTION #3											
Balast Type	Lamp (Color)	Application Orientation	Bulb Type	Mean Lumens	Input Watts	Lamp Life	Balast Type	Lamp (Color)	Bulb Type	Mean Lumens	Input Watts	Lamp Life	Lamp (Color)	Bulb Type	Mean Lumens	Input Watts	Lamp Life	Lamp (Color)	Bulb Type	Mean Lumens	Input Watts	Lamp Life	
Pulse	150W Universal	Horizontal	ED-17	8,000	185	10,000	Pulse	150W	ED-17 ceramic	9,750	185	20,000	100W Universal	ED-17 ceramic	6,750	129	20,000						
Pulse	150W Universal	Vertical	ED-17	8,000	185	15,000	Pulse	150W	ED-17 ceramic	9,750	185	20,000	100W Universal	ED-17 ceramic	6,750	129	20,000						
Probe	175W Horizontal	Horizontal	ED-17	8,300	210	7,500	Pulse	150W	ED-17 ceramic	9,750	185	20,000	150W Universal	ED-17	8,000	185	10,000						
Probe	175W Vertical	Vertical	ED-17	8,300	210	10,000	Pulse	150W	ED-17 ceramic	9,750	185	20,000	150W Universal	ED-17	8,000	185	15,000						
Probe	175W Horizontal	Horizontal	ED-28	8,300	210	7,500	Pulse	150W	ED-23.5 ceramic	9,360	185	24,000	150W Universal	ED-17 ceramic	9,750	185	20,000						
Probe	175W Vertical	Vertical	ED-28	8,300	210	10,000	Pulse	150W	ED-23.5 ceramic	9,360	185	24,000	150W Universal	ED-17 ceramic	9,750	185	20,000	175W EISA only	ED-28	12,800	198	15,000	
Probe	250W Horizontal	Horizontal	ED-28	13,000	295	7,500	Pulse	250W	BT-28	14,000	291	12,000											
Probe	250W Vertical	Vertical	ED-28	13,000	295	10,000	Pulse	250W	BT-28	15,400	291	15,000	200W	ED-28	16,800	227	15,000						
Probe	400W Horizontal	Horizontal	BT-28	20,500	458	15,000	Pulse	220W	ED-28	21,000	361	20,000											
Probe	400W Vertical	Vertical	BT-28	20,500	458	20,000	Pulse	400W	ED-28	25,500	452	20,000	320W	ED-28	21,000	361	20,000						
Probe	400W Horizontal	Horizontal	BT-37	20,500	458	15,000	Pulse	320W	ED-37	23,140	361	20,000	400W	BT-37	20,500	458	15,000						
Probe	400W Vertical	Vertical	BT-37	23,500	458	20,000	Pulse	300W	ED-37	25,200	397	20,000	320W	ED-38	21,000	361	20,000	400W	BT-37	23,500	458	20,000	

The data is representative however, it will vary between manufacturers. Reference the lamp manufacturer's specification sheets for specific mean lumen and rated life information.



## The Pulse Start Opportunity

- Up to 50% Greater Efficacy
- Up to 16% Better Lumen Maintenance
- Up to 50% Longer Lamp Life
- Superior Color Rendition (Up to 85+ CRI)
- Reduced Color Shift
- Faster Warm-up (2 Minutes)
- Quicker Re-strike (3-4 Minutes)
- Colder Starting Temperature (As low as -40°F)





## Pulse Start vs. Probe Start

Features	Probe Start	Pulse Start	Pulse Start (E)
Color	White	Whiter	Whiter
Efficacy (L/W)	60 - 85	90 - 110	90 - 110
Ballast Efficiency	81 – 86%	86 – 88%	≥88%
Lumen Maintenance	65%	70 - 75%	70 - 75%
Lamp Wattages	175 - 400	150 - 450	150 - 450
Lamp Life (kHrs)	6 - 16	10 - 30	10 - 30

Note: Maximum Pulse Start wattage is 450W. EISA legislation regulates up to 500W.



## EISA Tools



Web address:

[www.AcuityBrandsLighting.com/EISA](http://www.AcuityBrandsLighting.com/EISA)