

# Energy Independence and Security Act of 2007

On December 19, 2007, the Energy Independence and Security Act of 2007 was signed into law as Public Law number 110-140. Under section 324 of this law metal halide luminaires manufactured after January 1, 2009 must comply with the following requirements...

- Metal halide luminaires (150-500 watts) using probe start lamps that use a magnetic ballast must have a minimum ballast efficiency of 94%.
- Metal halide luminaires (150-500 watts) using pulse start lamps that use a magnetic ballast must have a minimum ballast efficiency of 88%.
- Metal halide luminaires (150-250 watts) that use an electronic ballast must have a minimum ballast efficiency of 90%.
- Metal halide luminaires (251-500 watts) that use an electronic ballast must have a minimum ballast efficiency of 92%.

Exceptions to this regulation include fixtures with regulated lag ballasts; fixtures that use electronic ballasts that operate at 480V; or fixtures rated only for 150W lamps, for use in wet locations, and contain a ballast rated to operate at ambient air temperatures above 50°C.

The new requirements present a challenge to designers not only in that it limits the types of lamps which may be specified but also the ballasts that operate these lamps. To date, there are no commercially available potted ballasts for pulse start lamps which comply with the minimum efficiency ratings. Since the ballast noise may be objectionable in these wattages it may be desirable to remote mount the ballasts, however, pulse start ballasts are inherently limited to short remote distances.

In probe start technology the allowable ballast distance was determined by the wire gauge but in pulse start technology the ignitor determines the remote distance (typically 2 to 10 feet).

Electronic ballasts are available which comply with the efficiency requirements and most have a sound rating of "A". Additional benefits include superior lamp regulation, end of lamp life protection and many are available with dimming down to 50%.

**elliptipar** now offers a choice of pulse start metal halide lamps and ballasts. Since all of our high performance luminaires are compact in size and operate lamps in a horizontal position, we are offering tubular pulse start metal halide lamps which are optimized for horizontal operation. These lamps are available in 250, 320 and 350 watts and are available in 4000K color temperature with a CRI of 68.

At the moment, ballast choices are limited to open core and coil ballasts (not potted) or electronic ballast (208-277 volt input).

In addition to the tubular horizontal pulse start lamps **elliptipar** offers ceramic pulse start metal halide lamps in 250 and 400 watts. These lamps are available in 3000K and have a CRI of 85. The lamps are designed to operate on high pressure sodium ballasts ANSI type S50 and S51 and as such they are exempt from the requirements of PL 110-140.

The ceramic pulse start metal halide lamps offer several advantages over standard pulse start systems. The lamps employ ceramic arc tube technology to achieve high color rendering and improved color consistency. The ballasts are available in potted versions to reduce noise on integral ballasted units and are also available with long range ignitors for remote mounting up to 50 feet.

The table on the following page lists the benefits of each type of lamp choice.

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Going forward the 175W medium base lamp will be replaced by 150W G12 base ceramic metal halide for all of our ".5" large metal halide units. The 150W will be offered with electronic ballast only since the available magnetic ballasts do not comply with the new efficiency requirements. Our 250W and 400W horizontal probe start metal halide lamps will be replaced by a choice of 250W and 400W ceramic arc tube pulse start metal halide or 250W, 320W and 350W quartz tube pulse start metal halide.

## CERAMIC ARC TUBE PULSE START METAL HALIDE

LAMP CODE	WATTAGE	LAMP NUMBER	MFR	MFR #	ANSI CODE	INITIAL LUMENS	RATED LIFE	CRI	CCT	BASE	BULB	elliptipar #	AVAILABLE VOLTAGES	VOLTAGE CODES	BALLAST DESCRIPTION	REMOTE DISTANCE	SOUND RATING
150G	150	CDM150/T6/830	Philips	<a href="#">232728</a>	M142/E	14000	10000	85	3000K	G12	T6	60026	120-277V	1 2	Electronic	15 FT	A
250C	250	CMH250/U/830/R	GE	<a href="#">93357</a>	S50	25000	16000	85	3000K	MOG	T15	60140	120/277V	A B	Potted Core and Coil	50 FT	B
													120/277V	A B	Open Core and Coil	50 FT	n/a
400C	400	CMH400/U/830/R	GE	<a href="#">93295</a>	S51	41000	20000	80	3000K	MOG	ED18	60141	120/277V	A B	Potted Core and Coil	50 FT	B
													120/277V	A B	Open Core and Coil	50 FT	n/a
240C	2x400	(2) CMH400/U/830/R	GE	<a href="#">93295</a>	S51	41000	20000	80	3000K	MOG	ED18	60141	120/277V	A B	Potted Core and Coil	50 FT	B
													120/277V	A B	Open Core and Coil	50 FT	n/a

## QUARTZ ARC TUBE PULSE START METAL HALIDE

LAMP CODE	WATTAGE	LAMP NUMBER	MFR	MFR #	ANSI CODE	INITIAL LUMENS	RATED LIFE	CRI	CCT	BASE	BULB	elliptipar #	VOLTAGES	VOLTAGES	BALLAST DESCRIPTION	REMOTE DISTANCE	SOUND RATING
250P	250	MS 250W/H75/T15/PS/740	Venture	<a href="#">57625</a>	M138 M153/E	22000	15000	68	4000K	MOG	T15	60164	120/277V	A B	Open Core and Coil	50 FT	n/a
													208-277V	U	Electronic with dimming	16 FT	A
320P	320	MS 320W/H75/T15/S/PS/740	Venture	<a href="#">57626</a>	M132 M154/E	30000	20000	68	4000K	MOG	T15	60999	120/277V	A B	Open Core and Coil	50 FT	n/a
													208-277V	U	Electronic with dimming	30 FT	A
350P	350	MS 350W/H75/T15/PS/740	Venture	<a href="#">93749</a>	M131/E	33000	20000	68	4000K	MOG	T15	60165	120/277V	A B	Open Core and Coil	50 FT	n/a
													208-277V	U	Electronic with dimming	30 FT	A

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