

Title 20 California State Appliance Energy Regulation

Overview Flyer

Metal Halide Luminaire Requirements



Title 20 Legislation Details

An update to the original California Title 20 goes into effect January 1, 2010, and regulates the sale of any 150–500W metal halide product in California after December 31, 2009, unless stringent energy requirements are satisfied.

Indoor Lighting

An **indoor** metal halide luminaire must:

by 1/1/2010 utilize one of the following features

1. use a high-efficiency ballast (90% for 150–250W or 92% for 251–500W) **OR**
2. use a ballast that is at least 88% efficient and an integral control occupancy sensor that reduces the lamp power by a minimum of 40% within 30 minutes after an area is vacated **OR**
3. use a ballast that is at least 88% efficiency and an integral control for automatic daylight sensing that reduces lamp power by a minimum of 40% **OR**
4. use a ballast that is at least 88% efficient and a reduced-wattage lamp. The luminaire must incorporate a factory-installed relamping label corresponding to appropriate lamp wattage.
150–160W
200–215W
290–335W
336–500W — lamp must be a minimum of 80 mean lumens per watt and must be shipped with the luminaire

by 1/1/2015

use a ballast that is at least 88% efficient and a reduced-wattage lamp. The luminaire must incorporate a factory-installed relamping label corresponding to appropriate lamp wattage.

- 150–160W
- 200–215W
- 290–335W
- 336–500W — lamp must be a minimum of 80 mean lumens per watt and must be shipped with the luminaire

AND at least one of the following items:

1. use a high-efficiency ballast (90% for 150–250W or 92% for 251–500W) **OR**
2. use a ballast that is at least 88% efficient and an integral control occupancy sensor that reduces the lamp power by a minimum of 40% within 30 minutes after an area is vacated **OR**
3. use a ballast that is at least 88% efficient and an integral control for automatic daylight sensing that reduces lamp power by a minimum of 40%



Outdoor Lighting

An **outdoor** metal halide luminaire must:

by 1/1/2010

MAY incorporate an integral control for automatic daylight sensing that reduces lamp power by a minimum of 40% and **SHALL** utilize one of the following features:

1. use a high-efficiency ballast (90% for 150-250W or 92% for 251-500W) **OR**
2. use a ballast that is at least 88% efficient and an integral control occupancy sensor that reduces the lamp power by a minimum of 40% within 30 minutes after an area is vacated **OR**
3. use a ballast that is at least 88% efficient and a reduced-wattage lamp. The luminaire must incorporate a factory-installed relamping label corresponding to appropriate lamp wattage.
 - 150-160W
 - 200-215W
 - 290-335W
 - 336-500W — lamp must be a minimum of 80 mean lumens per watt and must be shipped with the luminaire

Exceptions

Exceptions to these restrictions: The following metal halide lighting systems shall not have probe-start ballasts and are not required to meet the minimum ballast efficiency requirements.

- Luminaires that use regulated lag ballasts; **OR**
- Luminaires that use electronic ballasts which operate at 480V; **OR**
- Luminaires that meet all three of the following requirements:
 1. Are rated for use only with 150W lamps, and
 2. Are rated for use in wet locations, as specified by the National Electrical Code 2002, Section 410.4(A), and
 3. Contain a ballast that is rated to operate at ambient air temperatures above 50°C as specified by UL 1029-2001.

Title 20 Compliance Advantages

Energy-efficient technology dramatically every aspect of metal halide lighting, including improved lumens per watt, lumen maintenance, lamp life and color stability.

Using **lower-wattage lamps** in place of standard wattage 150-500W metal halide systems will result in energy savings.

Using **occupancy sensors** on 150-500W luminaires provides:

- Significant energy savings
- Light when you need it
- Multiple light levels within the space
- Options to use standard wattage lamps: 175W, 250W, 400W

Using **electronic ballasts** in metal halide luminaires can produce:

- Longer lamp life
- Flexible dimming capabilities
- Better efficiency
- Quicker re-strike

Title 20 Compliance Alternatives

In some instances, meeting Title 20 requirements with 150-500W metal halide luminaires either is not feasible or is not the best option. For these isolated situations, consider one of the following luminaire alternatives. If you are unsure the best solution for your application, please see our compatibility matrices on the following page or consult with your local sales representative.

Alternate lighting sources

- Fluorescent
- High pressure sodium
- LED

Alternative wattages

- <150W
- >500W