



LED Retrofit Lamps Approved for Hazardous Locations

A Smart, Safe Switch From HID



AVAILABLE ONLY IN TYPE B



RATED FOR:

**CLASS I, DIVISION 2,
GROUPS A, B, C, D**

**CLASS II, DIVISION 1,
GROUPS E, F, G**

**CLASS II, DIVISION 2,
GROUPS F, G**



**INDUSTRY-LEADING
LUMEN OUTPUT IN
COMPACT FORM**



**UL-CERTIFIED
FIXTURES***

GE Lighting Filtr-Gard® H2 Series
GE Lighting Powr-Gard® H9 Series
Crouse-Hinds Champ® VMV
Appleton Mercmaster™ II
Appleton Mercmaster™ III
Hubbell Killark® VM Series
Holophane Petrolux® P3M
Holophane Petrolux® II PETL
Thomas & Betts Hazlux® 3 Series



50,000-hour rated life
2.5x longer life than HID



50% less energy usage
with similar light output -
up to 23,500 lumens



E39 socket adapter
included with
E26 base lamps



**High maximum
temperature ratings**
21W: 65°C | 35W: 55°C
45W: 45°C | 80W: 55°C
150W: 40°C

Minimum starting
temperature: -20°C

**For use at drilling rigs, petrochemical facilities, food and beverage facilities
and other heavy-industry areas**

*Suitable luminaire fittings may vary. Contact your Current representative or check installation guide for details.



LED HID for Hazardous Locations

What's Considered a Hazardous Location?

The National Electrical Code (NEC) defines hazardous locations in terms of **CLASS**, **DIVISION** and **GROUP**:

- **CLASS I** locations are those in which flammable gases or vapors are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures.
- **CLASS II** locations are those that are hazardous because of the presence of combustible dust.

Each **CLASS** is further defined as either **DIVISION 1** or **DIVISION 2**.

- **DIVISION 1** is an environment that is normally hazardous.
- **DIVISION 2** is an environment that is not normally hazardous.

GROUP defines the specific hazardous material in the surrounding atmosphere. See the table below for specific examples.

NEC Class	Division	Group	Typical Atmosphere and Auto-ignition Temperatures
I - Gases, Vapors	2 - Not normally present	A	Acetylene (305°C, 581°F)
		B	Hydrogen (502°C, 986°F) manufactured gases containing more than 30% hydrogen (by volume)
		C	Ethylene (450°C, 842°F) Cylopropane (503°C, 938°F)
		D	Hexane (225°C, 437°F) Butane (288°C, 550°F) Propane (450°C, 842°F) Acetone (465°C, 869°F) Benzene (420°C, 788°F) Gasoline (280°-471°C, 536°-880°F)
II - Combustible Dusts	1 - Normally present 2 - Not normally present	E	Metal Dusts (Aluminum, Magnesium)
		F	Carbonaceous Dusts (Coal, Carbon black, Charcoal, Coke)
		G	Dusts not in Groups E or F (Flour, Grain, Wood, Plastic)

Typical Hazardous Substances and Auto-ignition Temperatures by Group

How are LED Retrofits Certified?

UL evaluates Retrofit Luminaire Conversion Kits for Use in Hazardous Locations in accordance with the appropriate Standards. LED Lamps are UL-certified as part of Retrofit Kits that also include an installation guide detailing instructions for retrofitting hazardous location luminaires and a fixture label that indicates the lamp being used and associated new temperature code.

Current's LED lamps are certified for use in a variety of hazardous locations:

- Class I, Division 2, Groups A, B, C, D**
- Class II, Division 1, Groups E, F, G**
- Class II, Division 2, Groups F, G**

See lamp installation guides for full luminaire fitting details.



LED HID for Hazardous Locations

Temperature Profiles & Approved Fixtures

Temperature Codes are used to convey the maximum temperature of Hazardous Location systems. LED replacement lamps typically run cooler than HID lamps, so the Temperature Codes for LED lamps may correspond to lower temperatures.

TEMPERATURE CODE IDENTIFICATION NUMBERS

Identification Number	Max. Temp. Range (°C)	Identification Number	Max. Temp. Range (°C)
T1	450	T3A	180
T2	300	T3B	165
T2A	280	T3C	160
T2B	260	T4	135
T2C	230	T4A	120
T2D	215	T5	100
T3	200	T6	85

CURRENT HAZARDOUS LOCATION LAMPS - TEMPERATURE PROFILE DATA

HAZ Model Family	Max. Ambient Temp. (°C)	Operating Temp. Code
LED21ED17	65	T4A
LED35ED17	55	T4
LED45ED17	45	T4
LED80ED23.5	55	T4
LED150ED28	40	T4

CURRENT HAZARDOUS LOCATION LAMPS - APPROVED UL FIXTURES BY CLASSIFICATION

Classifications: Class 1, Division 2, Groups A, B, C, D

UL HazLoc Fixture Type	ED17	ED23.5	ED28
GE Filtr-Gard® H2	Yes	Yes	Yes
GE Powr-Gard® H9	-	-	-
Appleton Mercmaster™ II	Yes	Yes	Yes
Appleton Mercmaster™ III	Yes	Yes	Yes
Crouse-Hinds Champ® VMV	Yes	Yes	Yes
Thomas & Betts Hazlux® 3	Yes	Yes	Yes
Hubbell Killark® VM Series	Yes	Yes	Yes
Holophane Petrolux® P3M	Yes	Yes	-
Holophane Petrolux® II PETL	-	-	Yes

Classifications: Class II, Division 1, Groups E, F, G; Class II, Division 2, Groups F, G

UL HazLoc Fixture Type	ED17	ED23.5	ED28
GE Filtr-Gard® H2	-	-	-
GE Powr-Gard® H9	Yes	Yes	-
Appleton Mercmaster™ II	Yes	Yes	Yes
Appleton Mercmaster™ III	Yes	Yes	Yes
Crouse-Hinds Champ® VMV	Yes	-	Yes
Thomas & Betts Hazlux® 3	Yes	Yes	Yes
Hubbell Killark® VM Series	Yes	Yes	Yes
Holophane Petrolux® P3M	Yes	Yes	-
Holophane Petrolux® II PETL	-	-	Yes

FIXTURE TEMPERATURE PROFILE DATA WITH TRADITIONAL HID LAMPS

UL HazLoc Fixture Type	Original HID Lamp Wattage	Original Fixture Rated Tcode Max. Ambient Temp. 40°C	Original Fixture Rated Tcode Max. Ambient Temp. 55°C	Original Fixture Rated Tcode Max. Ambient Temp. 65°C
Classifications: Class 1, Division 2 – Groups A, B, C, D				
GE Filtr-Gard® H2	50	T3A	T3	T3
GE Filtr-Gard® H2	70	T3A	T3	T3
GE Filtr-Gard® H2	100	T2B	T2C	T2C
GE Filtr-Gard® H2	150	T2A	T2	T2
GE Filtr-Gard® H2	175	T2B	N/A	N/A
GE Filtr-Gard® H2	250	T1	N/A	N/A
GE Filtr-Gard® H2	400	T1	N/A	N/A
Appleton Mercmaster™ II	50	T3	N/A	N/A
Appleton Mercmaster™ II	70	T3	N/A	N/A
Appleton Mercmaster™ II	100	T2C	N/A	N/A
Appleton Mercmaster™ II	150	T2A	N/A	N/A
Appleton Mercmaster™ II	175	T2B	N/A	N/A
Appleton Mercmaster™ III	50	T3B	T3A	T3
Appleton Mercmaster™ III	70	T3A	T3A	T3A
Appleton Mercmaster™ III	100	T2D	T2D	T2D
Appleton Mercmaster™ III	150	T2B	T2A	N/A
Appleton Mercmaster™ III	175	T2B	T2A	T2
Appleton Mercmaster™ III	250	T2	T2	N/A
Crouse-Hinds Champ® VMV	50	T3A	T3A	T3
Crouse-Hinds Champ® VMV	70	T3	T3	N/A
Crouse-Hinds Champ® VMV	100	T2C	T2B	N/A
Crouse-Hinds Champ® VMV	150	T2A	T2	N/A
Crouse-Hinds Champ® VMV	175	T2A	N/A	N/A
Crouse-Hinds Champ® VMV	250	325°C	350°C	N/A
Crouse-Hinds Champ® VMV	400	T1	T1	N/A
Thomas & Betts Hazlux® 3	50	T3C	N/A	N/A
Thomas & Betts Hazlux® 3	70	T3A	N/A	N/A
Thomas & Betts Hazlux® 3	100	T3	N/A	N/A
Thomas & Betts Hazlux® 3	150	T2A	N/A	N/A
Thomas & Betts Hazlux® 3	175	T2	N/A	N/A
Thomas & Betts Hazlux® 3	250	T2	N/A	N/A
Thomas & Betts Hazlux® 3	400	T1	N/A	N/A
Hubbell Killark® VM Series	50	T3B	T3A	T3
Hubbell Killark® VM Series	70	T2C	T2C	T2B
Hubbell Killark® VM Series	100	T2B	T2A	T2A
Hubbell Killark® VM Series	150	T2A	T2A	N/A
Hubbell Killark® VM Series	175	T2A	T2	N/A
Hubbell Killark® VM Series	250	T2B	T2A	N/A
Hubbell Killark® VM Series	400	T2A	T2	N/A
Holophane Petrolux® P3M	50	T3C	T3C	T3B
Holophane Petrolux® P3M	70	T3B	T3A	T3A
Holophane Petrolux® P3M	100	T2B	T2B	T2D
Holophane Petrolux® P3M	150	T2B	T2B	N/A
Holophane Petrolux® P3M	175	T2A	T2A	T2B
Holophane Petrolux® II PETL	175	T2B	T2B	T2B
Holophane Petrolux® II PETL	250	T2A	N/A	N/A
Holophane Petrolux® II PETL	400	T2	N/A	N/A

Lower heat profile = Lower temperature code



LED HID for Hazardous Locations

NEMA LED HID Wattage Equivalency

In February of 2021, the National Electrical Manufacturers Association (NEMA) published NEMA LL 10-2020 *Replacing HID Lamps with LED Lamps: Light Output Equivalency Claims*. Current uses this Standard for LED products replacing HID lamps, meeting or exceeding the minimum LED light output for equivalency claims. The LED wattage equivalency varies based on the type of HID lamp being replaced - Metal Halide (MH) or High Pressure Sodium (HPS).

Metal Halide Lamp Wattage (W)	Metal Halide Initial Light Output (lm)	Minimum LED Lamp Initial Light Output (lm)	Current LED Ordinary Location Retrofit Lamps	Current LED Hazardous Location Retrofit Lamps
50	3200	2000	LED21ED17	LED21ED17/HAZ
70	5200	3000	LED21ED17	LED21ED17/HAZ
100	8100	5000	LED35ED17; LED45ED17	LED35ED17/HAZ; LED45ED17/HAZ
150	12000	7500	LED50ED23.5	
175	11000	7000	LED45ED17; LED50ED23.5	
250	19100	12000	LED80ED23.5	LED80ED23.5/HAZ
320	25600	16500	LED115ED28	
350	28400	18000	LED115ED28	
360	29400	19000	LED150ED28	LED150ED28/HAZ
400	33100	21500	LED150ED28; LED200ED37	LED150ED28/HAZ
750	72300	46500	LED360ED37	
1000	100280	65000	LED450BT56; LED470BT56	

HPS Lamp Wattage (W)	HPS Initial Light Output (lm)	Minimum LED Lamp Initial Light Output (lm)	Current LED Ordinary Location Retrofit Lamps	Current LED Hazardous Location Retrofit Lamps
50	4500	2500	LED21ED17	LED21ED17/HAZ
70	6300	4000	LED35ED17	LED35ED17/HAZ
100	9500	6000	LED45ED17; LED50ED23.5	LED45ED17/HAZ
150	13000	8500	LED80ED23.5	LED80ED23.5/HAZ
200	19500	12500		
250	26000	17000	LED115ED28	
310	33200	21500	LED150ED28	LED150ED28/HAZ
400	44000	29000	LED200ED37; LED270BT56	
600	66000	42500	LED360ED37	
750	82500	53500	LED450BT56	
1000	110000	73000	LED470BT56	



LED HID for Hazardous Locations

CUSTOMER NAME _____
 PROJECT NAME _____
 DATE _____ NOTES _____

A Versatile Turn for the Better

LED lamps approved for hazardous locations from Current offer industry-leading light output, efficiency, and versatility, with an E39 adapter included with every E26 base lamp. The quality and reliability of these lamps set us apart from the competition.



LED HID - Type B - Hazardous Locations

Bulb Shape	Base Type ¹	Watts	Order Code	Description	Volts	Carton Qty ²	MOL (in)	MOD (in)	Lumens (Initial)	Color Temp. (Initial)	CRI	Wattage Replacement ⁸	Rated Life L70 (Hrs) ¹	DLC ^{3,4}	Location Rating ^{5,6}
LED Replacement Lamps for HID - Ballast Bypass (Type B) - Hazardous Locations															
	E26/EX39	21	93134832	LED21ED17/730/HAZ	120-277	3	5.4	2.6	3,000	3000K	>70	50W HPS / 70W MH	50,000	-	Damp
	E26/EX39	21	93134833	LED21ED17/740/HAZ	120-277	3	5.4	2.6	3,000	4000K	>70	50W HPS / 70W MH	50,000	-	Damp
	E26/EX39	21	93134834	LED21ED17/750/HAZ	120-277	3	5.4	2.6	3,000	5000K	>70	50W HPS / 70W MH	50,000	-	Damp
	E26/EX39	35	93134830	LED35ED17/740/HAZ	120-277	3	5.4	2.6	5,000	4000K	>70	70W HPS / 100W MH	50,000	-	Damp
	E26/EX39	35	93134831	LED35ED17/750/HAZ	120-277	3	5.4	2.6	5,000	5000K	>70	70W HPS / 100W MH	50,000	-	Damp
	E26/EX39	45	93134846	LED45ED17/730/HAZ	120-277	3	5.4	2.6	6,000	3000K	>70	100W HPS / 100W MH	50,000	-	Damp
	E26/EX39	45	93134847	LED45ED17/740/HAZ	120-277	3	5.4	2.6	6,000	4000K	>70	100W HPS / 100W MH	50,000	-	Damp
	E26/EX39	45	93134848	LED45ED17/750/HAZ	120-277	3	5.4	2.6	6,000	5000K	>70	100W HPS / 100W MH	50,000	-	Damp
	E26/EX39	80	93141934	LED80ED23.5/740/HAZ	120-277	3	7.8	3.7	12,000	4000K	>70	150W HPS / 250W MH	50,000	-	Damp
	EX39	80	93141935	LED80ED23.5/750/HAZ	120-277	3	7.8	3.7	12,000	5000K	>70	150W HPS / 250W MH	50,000	-	Damp
	EX39	80	93148146	LED80ED23.5/740/277/480/HAZ	277-480	3	7.8	3.7	12,000	4000K	>70	150W HPS / 250W MH	50,000	Yes	Damp
	EX39	80	93148147	LED80ED23.5/750/277/480/HAZ	277-480	3	7.8	3.7	12,000	5000K	>70	150W HPS / 250W MH	50,000	Yes	Damp
	EX39	150	93154635	LED150ED28/740/HAZ	120-277	3	8.3	4.1	23,500	4000K	>70	310W HPS / 400W MH	50,000	Yes	Damp
	EX39	150	93154636	LED150ED28/750/HAZ	120-277	3	8.3	4.1	23,500	5000K	>70	310W HPS / 400W MH	50,000	Yes	Damp
	EX39	150	93154647	LED150ED28/740/277/480/HAZ	277-480	3	8.3	4.1	23,500	4000K	>70	310W HPS / 400W MH	50,000	Yes	Damp
EX39	150	93154648	LED150ED28/750/277/480/HAZ	277-480	3	8.3	4.1	23,500	5000K	>70	310W HPS / 400W MH	50,000	Yes	Damp	

Additional Information for LED Replacement Lamps for HID: Open and Closed Rated - Ballast bypass required
 These products are covered by U.S. Patents 10788163 and 10508776. These products may also be covered by other U.S. patents or pending applications.

* EX39 socket adapter is included with HAZ E26 based lamps for mogul base applications.

¹ The life rating is based on the hours of operation the lamp will provide before reaching 70% of its original lumen output (L70)

² Minimum order quantity = 1

³ E26 based products are not eligible for DLC. Not all product variations on this page are DLC qualified. Visit qpl.designlights.org/solid-state-lighting to confirm qualification.

⁴ Do not use with phase-cut dimmers. Dimming functions only with external Variac control devices.

⁵ UL 1993 Environmental Requirements for LED LAMPS

Damp Location - Exterior or interior location that is normally or periodically subject to condensation of moisture in, on, or adjacent to electrical equipment, including partially protected locations

⁸ Wattage Replacement levels correspond with wattage levels. Wattage Replacements based on NEMA Standards Publication LL 10-2020 *Replacing HID Lamps with LED Lamps: Light Output Equivalency Claims*.

⁶ See Installation Guide for applicable Hazardous Location luminaire fittings

Information provided is subject to change without notice. Please verify all details with Current. All values are design or typical values when measured under laboratory conditions, and Current makes no warranty or guarantee, expressed or implied, that such performance will be obtained under end-use conditions.