

# Product Guide



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Pages 4-30



**Exit/Emergency**  
Pages 31-34



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Pages 35-40



**Lamps**  
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## We are your one source for lighting needs.

For years you've grown to trust our industrial and utility products. You know that anytime you see our HI logo, you no longer have to worry about performance or quality. The same is true of our lamps, fixtures, and ballasts. And as the only manufacturer in the marketplace where you can obtain all of these products on the same purchase order, we are truly your one-stop-shop for lighting!

With a comprehensive offering of ballasts, fixtures, and lamps it is easy to see why Howard Lighting is becoming your one source for lighting needs. This product guide is intended to assist you in choosing and buying your high-volume lighting products. Other products or variations of these products can be found on our website, [www.howard-lighting.com](http://www.howard-lighting.com). We also have specification sheets, IES files, and other associated literature available for viewing on our website. You can always count on Howard Lighting to deliver superior lighting products where you need them the most – Life.

Pricing for all of our products can be obtained by calling our customer support department at 800.956.3456, your local Howard Lighting representative, or your Howard Lighting Sales Manager. Our friendly staff of professionals are ready and willing to help you with all of your lighting needs.

Rapid Ship Program: At our factory headquarters in Mississippi, we are dedicated to keeping an extensive inventory of the high- volume products. We remain dedicated to provide you, the customer, with the fastest delivery time on your order.

..... **Lighting for life**

• Specifications are subject to change without notice.



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## Highbay Fluorescent - Linear Fluorescent

### Benefits include

- Energy saving compared to HID Systems
- Exceptional color rendering
- High system efficacy
- Long lamp life
- Instant on/Re-strike capability
- Howard ballast and lamps as a system is covered by Howard Industries warranty
- Quality lamp holders
- Computer designed reflectors
- Compliant with safety and performance standards

### Features include

- 3 to 12 lamp options
- Flat or curved profile body
- T8 or T5
- Instant Start or Program Rapid Start Ballasts
- High Efficiency (CEE listed) Ballasts

### Additional options<sup>+</sup>

- Occupancy Sensor
- Door
- Lens
- Wireguard
- Pendant Mount
- Chain Hanging Kits
- Emergency Ballast



**HFA1 Series**  
6 lamp  
Flat profile



**HFA2 Series**  
4 lamp  
Flat profile



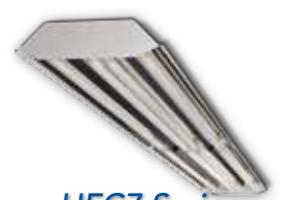
**HFA3 Series**  
6 lamp  
Curved profile



**HFB3 Series**  
4 lamp  
Curved profile



**HFC1 Series**  
8 lamp  
Flat profile



**HFC7 Series**  
8 lamp  
Curved profile-tandem



**HFB9 Series**  
3 or 4 lamp  
Louvered architectural



**HFE7 Series**  
12 lamp  
Curved profile-tandem

<sup>+</sup> All options are not available on every model. Consult factory.

• Specifications are subject to change without notice.



## Highbay Fluorescent - Linear Fluorescent

Ordering Guide<sup>+</sup>

Model #	Description
HFA1 Series	
HFA1A632AHEMV000000I	HFA1 High Bay Fluorescent, Standard Specular (86%), 6 Lamp 32W T8, High BF Instant Start Ballast, High Efficiency Multi-Volt
HFA1A632ASIMV000000I	HFA1 High Bay Fluorescent, Standard Specular (86%), 6 Lamp 32W T8, Standard BF Instant Start Ballast Multi-Volt
HFA1A654APSMV000000I	HFA1 High Bay Fluorescent, Standard Specular (86%), 6 Lamp 54W T5, Program Start Ballast Multi-Volt
HFA1E632AHEMV000000I	HFA1 High Bay Fluorescent, Enhanced Specular (95%), 6 Lamp 32W T8, High BF Instant Start Ballast, High Efficiency Multi-Volt
HFA1E632ASIMV000000I	HFA1 High Bay Fluorescent, Enhanced Specular (95%), 6 Lamp 32W T8, Standard BF Instant Start Ballast Multi-Volt
HFA1E654APSMV000000I	HFA1 High Bay Fluorescent, Enhanced Specular (95%), 6 Lamp 54W T5, Program Start Ballast Multi-Volt, No F10's
HFA1W632AHEMV000000I	HFA1 High Bay Fluorescent, White Reflector (91%), 6 Lamp 32W T8, High BF Instant Start Ballast, High Efficiency Multi-Volt
HFA1W632ASIMV000000I	HFA1, High Bay Fluorescent, White Reflector (91%), 6 Lamp 32W T8, Standard BF Instant Start Ballast Multi-Volt
HFA1W654APSMV000000I	HFA1, High Bay Fluorescent, White Reflector (91%), 6 Lamp 54W T5, Program Start Ballast Multi-Volt
HFA2 Series	
HFA2A432AHEMV000000I	HFA2 High Bay Fluorescent, Standard Specular (86%), 4 Lamp 32W T8, High BF Instant Start Ballast, High Efficiency Multi-Volt
HFA2A432ASIMV000000I	HFA2, High Bay Fluorescent, Standard Specular (86%), 4 Lamp 32W T8, Standard BF Instant Start Ballast Multi-Volt
HFA2A454APSMV000000I	HFA2 High Bay Fluorescent, Standard Specular (86%), 4 Lamp 54W T5, Program Start Ballast Multi-Volt
HFA2E432AHEMV000000I	HFA2 High Bay Fluorescent, Enhanced Specular (95%), 4 Lamp 32W T8, High BF Instant Start Ballast, High Efficiency Multi-Volt
HFA2E432ASIMV000000I	HFA2 High Bay Fluorescent, Enhanced Specular (95%), 4 Lamp 32W T8, Standard BF Instant Start Ballast Multi-Volt
HFA2E454APSMV000000I	HFA2 High Bay Fluorescent, Enhanced Specular (95%), 4 Lamp 54W T5, Program Start Ballast Multi-Volt
HFA2W432ASIMV000000I	HFA2, High Bay Fluorescent, White Reflector (91%), 4 Lamp 32W T8, Standard BF Instant Start Ballast Multi-Volt
HFA2W454APSMV000000I	HFA2, High Bay Fluorescent, White Reflector (91%), 4 Lamp 54W T5, Program Start Ballast Multi-Volt
HFA3 Series	
HFA3A632ASIMV000000I	HFA3 High Bay Fluorescent, Standard Specular (86%), 6 Lamp 32W T8, Standard BF Instant Start Ballast Multi-Volt
HFA3A654APSMV000000I	HFA3 High Bay Fluorescent, Standard Specular (86%), 6 Lamp 54W T5, Program Start Ballast Multi-Volt
HFA3E632AHEMV000000I	HFA3, High Bay Fluorescent, Enhanced Specular (95%), 6 Lamp 32W T8, High BF Instant Start Ballast, High Efficiency Multi-Volt
HFA3E632ASIMV000000I	HFA3 High Bay Fluorescent, Enhanced Specular (95%), 6 Lamp 32W T8, Standard BF Instant Start Ballast Multi-Volt
HFA3E654APSMV000000I	HFA3 High Bay Fluorescent, Enhanced Specular (95%), 6 Lamp 54W T5, Program Start Ballast Multi-Volt
HFA3W632AHEMV000000I	HFA3, High Bay Fluorescent, White Reflector (91%), 6 Lamp 32W T8, High BF Instant Start Ballast, High Efficiency Multi-Volt
HFA3W654APSMV000000I	HFA3, High Bay Fluorescent, White Reflector (91%), 6 Lamp 54W T5, Program Start Ballast Multi-Volt
HFB3 Series	
HFB3A432ASIMV000000I	HFB3 High Bay Fluorescent, Standard Specular (86%), 4 Lamp 32W T8, Standard Ballast Factor Instant Start Ballast Multi-Volt
HFB3A454APSMV000000I	HFB3 High Bay Fluorescent, Standard Specular (86%), 4 Lamp 54W T5HO, Program Rapid Start Ballast Multi-Volt
HFB3E432ASEMV000000I	HFB3 High Bay Fluorescent, Enhanced Specular (95%), 4 Lamp 32W T8, Standard Ballast Factor Instant Start High Efficiency Ballast Multi-Volt
HFB3E454APSMV000000I	HFB3 High Bay Fluorescent, Enhanced Specular (95%), 4 Lamp 54W T5HO, Program Rapid Start Ballast Multi-Volt
HFB3W432AHEMV000000I	HFB3, High Bay Fluorescent, White Specular (91%), 4 Lamp 32W T8, High Ballast Factor Instant Start Ballast, High Efficiency, Multi-Volt
HFB3W454APSMV000000I	HFB3, High Bay Fluorescent, White Specular (91%), 4 Lamp 54W T5, Program Rapid Start Ballast Multi-Volt
HFC1 Series	
HFC1A832AHEMV000000I	HFC1 High Bay Fluorescent, Standard Specular (86%), 8 Lamp 32W T8, High BF Instant Start High Efficiency Ballast Multi-Volt
HFC1A832ASIMV000000I	HFC1 High Bay Fluorescent, Standard Specular (86%), 8 Lamp 32W T8, Standard BF Instant Start Ballast Multi-Volt
HFC1A854APSMV000000I	HFC1, High Bay Fluorescent, Standard Specular (86%), 8 Lamp 54W T5, Program Start Ballast Multi-Volt
HFC1E832AHEMV000000I	HFC1 High Bay Fluorescent, Enhanced Specular (95%), 8 Lamp 32W T8, High BF Instant Start High Efficiency Ballast Multi-Volt
HFC1E854APSMV000000I	HFC1 High Bay Fluorescent, Enhanced Specular (95%), 8 Lamp 54W T5, Program Start Ballast Multi-Volt
HFC7 Series	
HFC7E832AHEMV000000I	HFC7 High Bay Fluorescent, Enhanced Specular (95%), 8 Lamp 32W T8, High Ballast Factor Instant Start Ballast, High Efficiency, Multi-Volt
HFC7E854APSMV000000I	HFC7 High Bay Fluorescent, Enhanced Specular (95%), 8 Lamp 54W T5, Program Start Ballast Multi-Volt

See Page 11 for options and accessories

+ Other configurations available  
• Specifications are subject to change without notice.



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## Strip & Troffer Retrofit Kits

### Benefits include

- Lower cost of ownership through energy savings
- Modern look
- Modern efficient lamp and ballast technology
- Utility rebates
- Reduced cost and waste relative to installing new fixtures

### Features include

- Code gauge steel
- 1 to 4 lamp options
- High quality lamp holders
- Designed for trouble-free installation
- T8 or T5
- Instant Start or Program Rapid Start Ballasts
- High Efficiency (CEE listed) Ballasts

### Additional options<sup>+</sup>

- Reflector options
- Emergency Ballast

### Did You Know?

**NEW US DEPT. OF ENERGY  
REGULATIONS AS OF JULY 14, 2012:  
ALL 75W F96T12 & 110W F96T12HO, AND  
MOST 60W F96T12/ES LAMPS  
WILL NO LONGER BE MANUFACTURED.**



**FSR4 Series**  
1 or 2 lamp  
4' Strip Channel Retrofit



**FSR8 Series**  
2 or 4 lamp  
8' Strip Channel Retrofit



**FTR1 Series**  
2 or 4 lamp  
Troffer Retrofit

<sup>+</sup> All options are not available on every model. Consult factory.

• Specifications are subject to change without notice.



## Strip and Troffer Retrofit Kits

Ordering Guide<sup>+</sup>

Model #	Description
FSR4 Series	
FSR44232AHEMV000000I	FSR4 Fluor. Retrofit Strip, 4-ft, 4.25 Wide, 2 Lamp 32W T8 (1 4' Retrofit Cover), Instant Start Ballast, High Ballast Factor, High Efficiency, Multi-Volt
FSR44232ASEMV000000I	FSR4 Fluor. Retrofit Strip, 4-ft, 4.25 Wide, 2 Lamp 32W T8 (1 4' Retrofit Cover), Instant Start Ballast, Standard Ballast Factor, High Efficiency, Multi-Volt
FSR44254APSMV000000I	FSR4 Fluor. Retrofit Strip, 4-ft, 4.25 Wide, 2 Lamp 54W T5 (1 4' Retrofit Cover), (1) Program Start Multi-Volt Ballast
FSR8 Series	
FSR84432AHEMV000000I	FSR8 Fluor. Retrofit Strip, 8-ft, 4.25 Wide, 4 Lamp 32W T8 (2 4' Retrofit Covers, High Ballast Factor High Efficiency Multi Volt Ballast
FSR84432ASEMV000000I	FSR8 Fluor. Retrofit Strip, 8-ft, 4.25 Wide, 4 Lamp 32W T8 (2 4' Retrofit Covers, Instant Start Standard Ballast Factor, High Efficiency, Multi-Volt
FSR84454APSMV000000I	FSR8 Fluor. Retrofit Strip, 8-ft, 4.25 Wide, 4 Lamp 54W T5 (2 4' Retrofit Covers, (2) Program Start Multi-Volt Ballast
FTR1 Series	
FTR12214APSMV0000I	FTR1 Direct/Indirect Fluorescent Troffer Retrofit Kit, 2'x2', Steel, 2 Lamp 14W T5, Programmed Rapid Start, Multi-Volt
FTR14228APSMV0000I	FTR1 Direct/Indirect Fluorescent Troffer Retrofit Kit, 2'x4', Steel, 2 Lamp 28W T5, Programmed Rapid Start, Multi-Volt
FTR14254APSMV0000I	FTR1 Direct/Indirect Fluorescent Troffer Retrofit Kit, 2'x4', Steel, 2 Lamp 54W T5, Programmed Rapid Start, Multi-Volt

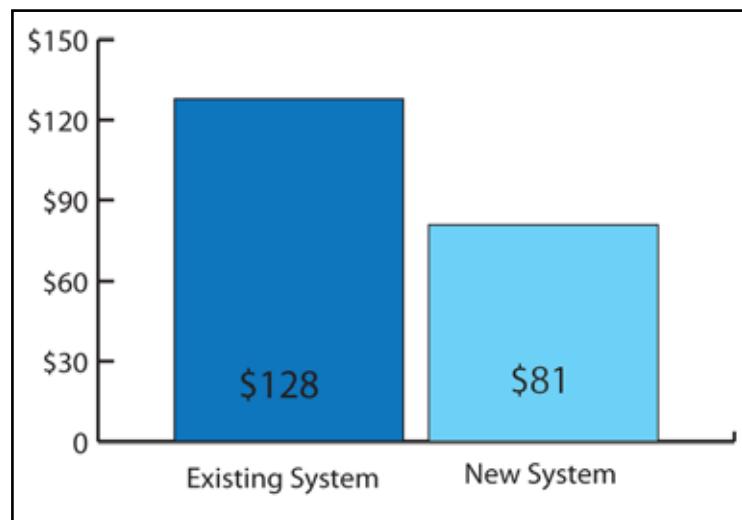
## Field Installed Reflectors

Model #	Description
FSR4-A	FSR4 Retrofit Kit Specular Aluminum Reflector (86%)
FSR4-E	FSR4 Retrofit Kit Enhanced Specular Aluminum Reflector (95%)
FSR4-W	FSR4 Retrofit Kit White Aluminum Reflector (91%)
FSR8-A	FSR8 Retrofit Kit Specular Aluminum Reflector (86%)
FSR8-E	FSR8 Retrofit Kit Enhanced Specular Aluminum Reflector (95%)
FSR8-W	FSR8 Retrofit Kit White Aluminum Reflector (91%)

## Experience the savings!

Below is an example of the potential money saved in energy costs for 1 year by retrofitting a T12 Magnetic Fluorescent Fixtures for an eight foot Retrofit Strip. With energy saving costs like this, the fixtures will pay for themselves! Also, if you act now, there are rebate incentives with local utilities when you purchase lamps!

Energy Cost Estimator					
		Existing System		New System	
		2x 110W T12HO		FSR84432AHI High Ballast Factor Fluorescent Strip Retrofit	
Hours burned per year	4368	Number of Fixtures	1	Number of Fixtures	1
Cost per kWh\$	0.12	Watts per Fixture (existing system)	244	Watts per Fixture (new system)	154
Energy Cost Estimation		Energy used per year (existing system)	\$128	Energy used per year (new system)	\$81
Energy saving per year (per fixture)		<b>\$47.00</b>			



+ Other configurations available  
• Specifications are subject to change without notice.



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## Strips and Wraps

### Applications

- Great for area lighting, display cases, shops, sheds, task lighting, storage areas, hallways and corridors, schools and offices

### Features include

- Die-formed code gauge steel
- High gloss baked enamel finish
- NEC compliant luminaire power disconnect
- Shipped fully wired
- Shipped fully assembled (wrap only)
- Tool Free Snap together assembly
- High quality lamp holders
- Numerous knockouts on side, back and ends



**FSA4 Series**  
4' foot Strip  
1 or 2 lamps



**FW24 Series**  
2' x 4' Wrap  
2 lamps



**FW44 Series**  
4' x 4' Wrap  
4 lamps

### Ordering Guide<sup>+</sup>

Model #	Description
FSA4 Series	
FSA40232ASIMV000000I	FSA4 Fluorescent Strip, 4-foot,NA, 2-Lamp 32w T8, Standard BF Instant Start Ballast Multi-Volt
FSA40232ASIMV00B000I	FSA4 Fluorescent Strip, 4-foot,NA, 2-Lamp 32w T8, Standard BF Instant Start Ballast Multi-Volt, w/ Emergency Ballast (specify lumens)
FSA8 Series	
FSA80432AHEMV000000I	FSA8 Fluorescent Strip, 8-foot,NA, 4 Lamp 32W T8, High BF Instant Start Ballast, High Efficiency Multi-Volt
FSA80432ALEMV000000I	FSA8 Fluorescent Strip, 8-foot,NA, 4 Lamp 32W T8, Low BF Instant Start Ballast, High Efficiency Multi-Volt
FSA80432ASIMV000000I	FSA8 Fluorescent Strip, 8-foot,NA, 4 Lamp 32W T8, Standard BF Instant Start Ballast Multi-Volt
FW24 & FW44 Series	
FW240232ASIMV000000I	FW24 Fluorescent Wrap 4-Ft, 2-Lamp 32w T8, Standard BF Instant Start Ballast Multi-Volt
FW440432ASIMV000000I	FW44 Fluorescent Wrap 4-Ft, 4 Lamp 32W T8, Standard BF Instant Start Ballast Multi-Volt

+ Other configurations available

• Specifications are subject to change without notice.



## Vaporproof Highbay and Strips

### Benefits include

- High corrosion resistance
- Low dirt depreciation
- Easy maintenance
- Resists abuse
- Durable construction
- Long service life

### Features include

- One piece upper body; no seams to crack, break or leak
- Reinforced fiberglass body is corrosion resistant
- Latches for positive lens retention
- Stainless steel hardware for maximum durability
- High gloss, baked enamel reflective front
- High gasket compression recovery ensures a solid seal over life of fixture
- Frosted ends and lineal prisms on sides reduce glare

### Ordering Guide<sup>+</sup>

Model #	Description
VHA1 Series	
VHA1A432AHIMV000000I	VHA1 Vaporproof Fluorescent Highbay, Impact Resistant Acrylic Lens, 4 Lamp 32W T8, High BF Instant Start Ballast Multi-Volt, V-hook, Individual Carton
VHA1A454APSMV000000I	VHA1 Vaporproof Fluorescent Highbay, Impact Resistant Acrylic Lens, 4 Lamp 54W T5, Program Start Ballast Multi-Volt, V-hook, Individual Carton
VHA1A632AHIMV000000I	VHA1 Vaporproof Fluorescent Highbay, Impact Resistant Acrylic Lens, 6 Lamp 32W T8, High BF Instant Start Ballast Multi-Volt, V-hook, Individual Carton
VHA1A654APSMV000000I	VHA1 Vaporproof Fluorescent Highbay, Impact Resistant Acrylic Lens, 6 Lamp 54W T5, Program Start Ballast Multi-Volt, V-hook, Individual Carton
VSA4 Series	
VSA4A154APSMV000000I	VSA4 Vaporproof Strip Fluorescent Fixture, Impact Resistant Acrylic Lens, 1 Lamp 54W T5, Program Start Ballast Multi-Volt, Mounting straps included, Individual Carton
VSA4A232ASEMV000000I	VSA4 Vaporproof Strip Fluorescent Fixture, Impact Resistant Acrylic Lens, 2-Lamp 32w T8, Standard BF Instant Start Ballast, High Efficiency Multi-Volt, Mounting straps included, Individual Carton
VSA4A254APSMV000000I	VSA4 Vaporproof Strip Fluorescent Fixture, Impact Resistant Acrylic Lens, 2 Lamp 54W T5, Program Start Ballast Multi-Volt, Mounting straps included, Individual Carton
VSA8 Series	
VSA8A432ASIMV000000I	VSA8 Vaporproof Strip Fluorescent Fixture, Impact Resistant Acrylic Lens, 4 Lamp 32W T8, Standard BF Instant Start Ballast Multi-Volt, Mounting straps included, Individual Carton



**VHA1 Series**  
3 to 6 lamps  
Vaporproof Highbay



**VSA4 Series**  
1, 2 or 3 lamps  
4' Vaporproof Strip



**VSA8 Series**  
1, 2, 4 or 6 lamps  
8' Vaporproof Strip

<sup>+</sup> Other configurations available  
• Specifications are subject to change without notice.



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## Vaporproof Strip for Food Processing

### Applications

- Meat or prepared food processing plants
- Carwashes
- Bottling plants
- Canning plants
- Pharmaceutical plants
- Any industrial application requiring exposure to heavy hose-down and caustic cleaning chemicals

### Features include

- Clear acrylic tube with smooth water shed design
- Water resistant seal
- Fully gasketed endcaps
- Stainless steel hardware
- Heavy duty steel channel is corrosion and rust resistant



**VFP Series**  
2 foot  
4 foot  
8 foot

### Options



Fixed Mounting Bracket



End Caps -  
White & Stainless Steel



Stainless Steel  
Chain Mount



Mini Receptacle  
Mini Connector

### Ordering Guide<sup>+</sup>

Model #	Description
VFP2 Series	
VFP2A217ASEMV000110I	Vaporproof Food Processing - 2-foot, Acrylic Lens, 2 lamp (not included) F17T8 Standard BF Electronic Instant Start HE Ballast Multi-Volt, 6ft cord
VFP2A224APSMV000110I	Vaporproof Food Processing - 2-foot, Acrylic Lens, 2 lamp (not included) F24T5HO Program Rapid Start Ballast Multi-Volt, 6ft cord
VFP4 Series	
VFP4A232ASEMV000110I	Vaporproof Food Processing - 4-foot, Acrylic Lens, 2 lamp (not included) F32T8 Standard BF Electronic Instant Start HE Ballast Multi-Volt, 6ft cord
VFP4A254APSMV000110I	Vaporproof Food Processing - 4-foot, Acrylic Lens, 2 lamp (not included) F54T5HO Program Rapid Start Ballast Multi-Volt, 6ft cord
VFP8 Series	
VFP8A432ASEMV000110I	Vaporproof Food Processing - 8-foot, Acrylic Lens, 4 lamp (not included) F32T8 Standard BF Electronic Instant Start HE Ballast Multi-Volt, 6ft cord
VFP8A654APSMV000110I	Vaporproof Food Processing - 8-foot, Acrylic Lens, 6 lamp (not included) F54T5HO Program Rapid Start Ballast Multi-Volt, 6ft cord

+ Other configurations available

• Specifications are subject to change without notice.

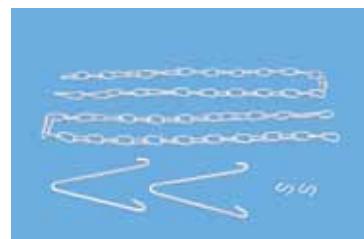
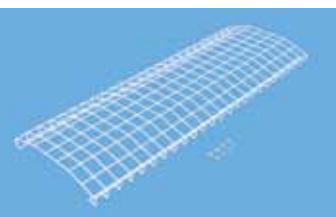
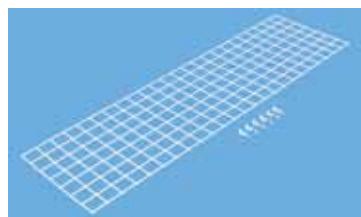
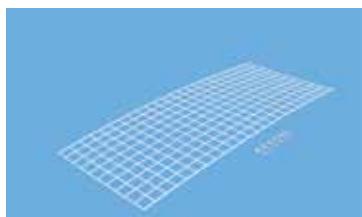


## Linear Fluorescent Fixture Accessories

Options and accessories noted on this page do not apply to every linear fluorescent model available. Also, this is not a complete list of our offering, just the most popular. Please visit our website ([www.Howard-Lighting.com](http://www.Howard-Lighting.com)) or call our factory for more information about our accessory offering.

### Ordering Guide<sup>+</sup>

Model #	Description
HF 2CV	2' hanging chain & v-clips
HF 3CV	3' hanging chain & v-clips
HF-OS1	120-277 Vac Sensor w/ Extender arm
HF-PMK1	Pendant mount kit: Cover, box, anchor plate, screws and lock nuts
HF-PMK2	Pendant mount kit: Cover, J-box, screws and lock nuts
HF-SK1	Stabilizer kit: Hub, collar and wire cable
HF-WCH	Wire cable hanging kit (2 pcs. Per kit)
HFA1-WG	Wire Guard
HFA2-WG	Wire Guard
HFA3-WG	Wire Guard (slide on/off; lens or no lens)
HFA3-WL	HFA3 Series Wrap Lens



<sup>+</sup> Other options available  
• Specifications are subject to change without notice.



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## HID/CFL Canopies, Garage Lighters, Dusk-to-Dawn

### Applications

- Great for security lighting

### Features include

#### Canopies

- Die-cast housing
- Textured bronze finish with polycarbonate lens
- 1/2" conduit access
- UL listed for wet locations



**8x8C Series**  
8" x 8" Canopy  
HPS / 35-70 watts  
PSMH / 50-70 watts  
CF / 26 or 42 watts



**12x12CV Series**  
12" x 12" Canopy  
HPS / 35-150 watts  
PSMH / 50-150 watts  
CF / 84 watts

#### Garage Lighter

- Die-cast housing with coin plugs on sides for conduit access (lamp included)
- Textured bronze finish with vandal resistant polycarbonate lens
- Built-in template for mounting to electrical box
- UL listed for wet locations



**11RC Series**  
11" Round Canopy  
HPS / 50-70 watts  
PSMH / 50-70 watts



**15RC Series**  
15" Round Canopy  
HPS / 70-150 watts  
PSMH / 70-100 watts

#### Dusk-to-Dawn

- Photocontrol Included
- Coated lamp included
- 24" mounting arm included
- UL listed for wet locations



**VGL Series**  
Vandal Resistant  
Garage Lighter  
HPS / 70-150 watts  
PSMH / 70-150 watts



**DTDC Series**  
Dusk to Dawn  
PSMH / 100 watts

### Did you know?

Our canopy fixtures are available in HID, CFL, LED and Induction. Four light sources to meet your lighting needs!

• Specifications are subject to change without notice.



## HID/ CFL Canopies, Garage Lighters, Dusk-to-Dawn

Ordering Guide<sup>+</sup>

Model #	Description
8" x 8" Small Canopy	
8X8C-42-CF-MV	Small Canopy, 42W CFL (Lamp included), MULTI-VOLT (120-277V)
8X8C-50-HPS-120	Small Canopy, 50W HPS S68 (Lamp included), 120V 60Hz
8X8C-50-MH-2T	Small Canopy, 50W MH M110/E (Lamp included), 120/277V 60Hz
8X8C-70-HPS-120	Small Canopy, 70W HPS S62 (Lamp included), 120V 60Hz
8x8C-70-MH-4T	Small Canopy, 70W MH M98/O (Lamp included), 120/208/240/277V 60Hz
12" x 12" Medium Canopy	
12x12CV-50-MH-2T	Medium Canopy, 50W MH M110/E (Lamp included), 120/277V 60Hz
12x12CV-70-HPS-120	Medium Canopy, 70W HPS S62 (Lamp included), 120V 60Hz
12X12CV-70-HPS-4T	Medium Canopy, 70W HPS S62 (Lamp included), 120/208/240/277V 60Hz
12X12CV-70-MH-4T	Medium Canopy, 70W MH M98/E (Lamp included), 120/208/240/277V 60Hz
12X12CV-100-HPS-120	Medium Canopy, 100W HPS S54 (Lamp included), 120V 60Hz
12X12CV-100-HPS-4T	Medium Canopy, 100W HPS S54 (Lamp included), 120/208/240/277V 60Hz
12x12CV-100-MH-4T	Medium Canopy, 100W MH M90/E (Lamp included), 120/208/240/277V 60Hz
12X12CV-150-HPS-120	Medium Canopy, 150W HPS S55 (Lamp included), 120V 60Hz
12X12CV-150-HPS-4T	Medium Canopy, 150W HPS S55 (Lamp included), 120/208/240/277V 60Hz
12x12CV-150-PS-4T	Medium Canopy, 150W PSMH M102/E (Lamp included), 120/208/240/277V 60Hz
11" Round Canopy	
11RC-50-HPS-120	11" Round Canopy, 50W HPS S68 (Lamp included), 120V 60Hz
11RC-50-MH-2T	11" Round Canopy, 50W MH M110/E (Lamp included), 120/277V 60Hz
11RC-70-HPS-120	11" Round Canopy, 70W HPS S62 (Lamp included), 120V 60Hz
11RC-70-HPS-4T	11" Round Canopy, 70W HPS S62 (Lamp included), 120/208/240/277V 60Hz
11RC-70-MH-4T	11" Round Canopy, 70W MH M98/E (Lamp included), 120/208/240/277V 60Hz
15" Round Canopy	
15RC-70-HPS-120	15" Round Canopy, 70W HPS S62 (Lamp included), 120V 60Hz
15RC-70-HPS-4T	15" Round Canopy, 70W HPS S62 (Lamp included), 120/208/240/277V 60Hz
15RC-70-MH-4T	15" Round Canopy, 70W MH M98/E (Lamp included), 120/208/240/277V 60Hz
15RC-100-HPS-120	15" Round Canopy, 100W HPS S54 (Lamp included), 120V 60Hz
15RC-100-MH-4T	15" Round Canopy, 100W MH M90/E (Lamp included), 120/208/240/277V 60Hz
15RC-150-HPS-120	15" Round Canopy, 150W HPS S55 (Lamp included), 120V 60Hz
Vandal Garage Lighter	
VGL-70-HPS-120	Vandal Garage Lighter, 70W HPS S62 (Lamp included), 120V 60Hz
VGL-70-HPS-4T	Vandal Garage Lighter, 70W HPS S62 (Lamp included), 120/208/240/277V 60Hz
VGL-70-MH-4T	Vandal Garage Lighter, 70W MH M98/O (Lamp included), 120/208/240/277V 60Hz
VGL-100-HPS-120	Vandal Garage Lighter, 100W HPS S54 (Lamp included), 120V 60Hz
VGL-100-HPS-4T	Vandal Garage Lighter, 100W HPS S54 (Lamp included), 120/208/240/277V 60Hz
VGL-100-MH-4T	Vandal Garage Lighter, 100W MH M90/E (Lamp included), 120/208/240/277V 60Hz
VGL-150-HPS-120	Vandal Garage Lighter, 150W HPS S55 (Lamp included), 120V 60Hz
VGL-150-HPS-4T	Vandal Garage Lighter, 150W HPS S55 (Lamp included), 120/208/240/277V 60Hz
VGL-150-PS-4T	Vandal Garage Lighter, 150W PS M102/E (Lamp included), 120/208/240/277V 60Hz
Dusk-to-Dawn	
DTDC-100-MH-120	Dusk-to-Dawn Commercial, 100W MH M90 (Lamp included), 120V 60Hz

+ Other configurations available

• Specifications are subject to change without notice.



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## HID Flood Lights

### Applications

- Great for building facades, displays, signs and general security lighting purposes

### Features include

- Die-cast housing with hinged door frame
- Lamp included
- Textured bronze finish
- Tempered glass lens
- UL listed for wet locations



**SFL Series**  
Small Flood Light  
HPS / 35-100 watts  
PSMH / 50-100 watts



**HFL Series**  
Horizontal Flood Light  
HPS / 150-400 watts  
PSMH / 200-4000 watts



**MSF Series**  
Mid-Size Flood  
HPS / 35-150 watts  
PSMH / 50-150 watts



**MSWF Series**  
Mid-Size Wide Flood  
HPS / 35-150 watts  
PSMH / 50-150 watts  
CF / 52 watts



**MSWFT Series**  
Mid-Size Wide Flood  
Tenon Mount  
HPS / 35-150 watts  
PSMH / 50-150 watts



**MEDF Series**  
Medium Flood  
HPS / 35-150 watts  
PSMH / 50-150 watts



**LFL Series**  
Large Flood Light  
HPS / 150-400 watts  
PSMH / 200-400 watts



**ELFL Series**  
Extra Large Flood Light  
HPS / 400-1000 watts  
MH / 1000 watts  
PSMH / 400-1000 watts



**RBF Series**  
Roundback Flood  
HPS / 35-150 watts  
PSMH / 50-150 watts

• Specifications are subject to change without notice.



**HID Flood Lights**Ordering Guide<sup>+</sup>

Model #	Description
<b>Small Flood</b>	
SFL-35-HPS-120	Small Flood, 35W HPS S76 (Lamp included), 120V 60Hz
SFL-50-HPS-120	Small Flood, 50W HPS S68 (Lamp included), 120V 60Hz
SFL-70-HPS-120	Small Flood, 70W HPS S62 (Lamp included), 120V 60Hz
SFL-70-HPS-4T	Small Flood, 70W HPS S62 (Lamp included), 120/208/240/277V 60Hz
SFL-70-MH-4T	Small Flood, 70W MH M98/O (Lamp included), 120/208/240/277V 60Hz
SFL-100-HPS-120	Small Flood, 100W HPS S54 (Lamp included), 120V 60Hz
SFL-100-MH-4T	Small Flood, 100W MH M90/E (Lamp included), 120/208/240/277V 60Hz
<b>Horizontal Flood</b>	
HFL-200-PS-4T-A	Horizontal Flood, 200W PS M136/E (Lamp included), 120/208/240/277V 60Hz, W/ HFSLY Bracket
HFL-250-HPS-4T-A	Horizontal Flood, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz, W/ HFSLY Bracket
HFL-250-PS-4T-A	Horizontal Flood, 250W PS M153/E (Lamp included), 120/208/240/277V 60Hz, W/ HFSLY Bracket
HFL-250-PS-4T-B	Horizontal Flood, 250W PS M153/E (Lamp included), 120/208/240/277V 60Hz, W/ HFLLY Bracket
HFL-320-PS-4T-A	Horizontal Flood, 320W PS M154/E (Lamp included), 120/208/240/277V 60Hz, W/ HFSLY Bracket
HFL-350-PS-4T-A	Horizontal Flood, 350W PS M131/E (Lamp included), 120/208/240/277V 60Hz, W/ HFSLY Bracket
HFL-400-HPS-4T-A	Horizontal Flood, 400W HPS S51 (Lamp included), 120/208/240/277V 60Hz, W/ HFSLY Bracket
HFL-400-HPS-4T-B	Horizontal Flood, 400W HPS S51 (Lamp included), 120/208/240/277V 60Hz, W/ HFLLY Bracket
HFL-400-HPS-5T-B	Horizontal Flood, 400W HPS S51 (Lamp included), 120/208/240/277/480V 60Hz, W/ HFLLY Bracket
HFL-400-PS-4T-A	Horizontal Flood, 400W PS M155/E (Lamp included), 120/208/240/277V 60Hz, W/ HFSLY Bracket
<b>Mid Size Flood</b>	
MSF-70-HPS-120	Mid Size Flood, 70W HPS S62 (Lamp included), 120V 60Hz
MSF-70-HPS-4T	Mid Size Flood, 70W HPS S62 (Lamp included), 120/208/240/277V 60Hz
MSF-70-MH-4T	Mid Size Flood, 70W MH M98/O (Lamp included), 120/208/240/277V 60Hz
MSF-100-HPS-4T	Mid Size Flood, 100W HPS S54 (Lamp included), 120/208/240/277V 60Hz
MSF-100-MH-4T	Mid Size Flood, 100W MH M90/E (Lamp included), 120/208/240/277V 60Hz
MSF-150-HPS-120	Mid Size Flood, 150W HPS S55 (Lamp included), 120V 60Hz
MSF-150-HPS-4T	Mid Size Flood, 150W HPS S55 (Lamp included), 120/208/240/277V 60Hz
MSF-150-PS-4T	Mid Size Flood, 150W PS M102/E (Lamp included), 120/208/240/277V 60Hz
<b>Mid Size Wide Flood</b>	
MSWF-52-CF-MV	Mid Size Wide Flood, 52W CFL (Lamp included), MULTI-VOLT (120-277V)
MSWF-70-HPS-120	Mid Size Wide Flood, 70W HPS S62 (Lamp included), 120V 60Hz
MSWF-70-HPS-4T	Mid Size Wide Flood, 70W HPS S62 (Lamp included), 120/208/240/277V 60Hz
MSWF-70-MH-4T	Mid Size Wide Flood, 70W MH M98/O (Lamp included), 120/208/240/277V 60Hz
MSWF-100-HPS-120	Mid Size Wide Flood, 100W HPS S54 (Lamp included), 120V 60Hz
MSWF-100-HPS-4T	Mid Size Wide Flood, 100W HPS S54 (Lamp included), 120/208/240/277V 60Hz
MSWF-100-MH-4T	Mid Size Wide Flood, 100W MH M90/E (Lamp included), 120/208/240/277V 60Hz
MSWF-150-HPS-120	Mid Size Wide Flood, 150W HPS S55 (Lamp included), 120V 60Hz
MSWF-150-HPS-4T	Mid Size Wide Flood, 150W HPS S55 (Lamp included), 120/208/240/277V 60Hz
MSWF-150-PS-4T	Mid Size Wide Flood, 150W PS M102/E (Lamp included), 120/208/240/277V 60Hz

See Page 17 for options and accessories

+ Other configurations available

• Specifications are subject to change without notice.



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## HID Flood Lights (con't)

Ordering Guide<sup>+</sup>

Model #	Description
Mid Size Wide Flood - Tenon Mount	
MSWFT-70-HPS-120	Mid Size Wide Flood Tenon Mount, 70W HPS S62 (Lamp included), 120V 60Hz
MSWFT-70-HPS-4T	Mid Size Wide Flood Tenon Mount, 70W HPS S62 (Lamp included), 120/208/240/277V 60Hz
MSWFT-70-MH-4T	Mid Size Wide Flood Tenon Mount, 70W MH M98/O (Lamp included), 120/208/240/277V 60Hz
MSWFT-100-HPS-4T	Mid Size Wide Flood Tenon Mount, 100W HPS S54 (Lamp included), 120/208/240/277V 60Hz
MSWFT-100-MH-4T	Mid Size Wide Flood Tenon Mount, 100W MH M90/E (Lamp included), 120/208/240/277V 60Hz
MSWFT-150-HPS-4T	Mid Size Wide Flood Tenon Mount, 150W HPS S55 (Lamp included), 120/208/240/277V 60Hz
MSWFT-150-PS-4T	Mid Size Wide Flood Tenon Mount, 150W PS M102/E (Lamp included), 120/208/240/277V 60Hz
Medium Flood	
MEDF-70-HPS-120	Medium Flood, 70W HPS S62 (Lamp included), 120V 60Hz
MEDF-70-HPS-4T	Medium Flood, 70W HPS S62 (Lamp included), 120/208/240/277V 60Hz
MEDF-70-MH-4T	Medium Flood, 70W MH M98/E (Lamp included), 120/208/240/277V 60Hz
MEDF-100-HPS-4T	Medium Flood, 100W HPS S54 (Lamp included), 120/208/240/277V 60Hz
MEDF-100-MH-4T	Medium Flood, 100W MH M90/E (Lamp included), 120/208/240/277V 60Hz
MEDF-150-HPS-120	Medium Flood, 150W HPS S55 (Lamp included), 120V 60Hz
MEDF-150-PS-4T	Medium Flood, 150W PS M102/E (Lamp included), 120/208/240/277V 60Hz
Large Flood	
LFL-250-HPS-4T-A	Large Flood, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz, W/ MFSB Bracket
LFL-250-HPS-4T-B	Large Flood, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz, W/ MFLSF Bracket
LFL-250-PS-4T-A	Large Flood, 250W PS M153/E (Lamp included), 120/208/240/277V 60Hz, W/ MFSB Bracket
LFL-250-PS-4T-B	Large Flood, 250W PS M153/E (Lamp included), 120/208/240/277V 60Hz, W/ MFLSF Bracket
LFL-320-PS-4T-A	Large Flood, 320W PS M154/E (Lamp included), 120/208/240/277V 60Hz, W/ MFSB Bracket
LFL-320-PS-4T-B	Large Flood, 320W PS M154/E (Lamp included), 120/208/240/277V 60Hz, W/ MFLSF Bracket
LFL-350-PS-4T-A	Large Flood, 350W PS M155/E (Lamp included), 120/208/240/277V 60Hz, W/ MFSB Bracket
LFL-350-PS-4T-B	Large Flood, 350W PS M155/E (Lamp included), 120/208/240/277V 60Hz, W/ MFLSF Bracket
LFL-400-HPS-4T-A	Large Flood, 400W HPS S51 (Lamp included), 120/208/240/277V 60Hz, W/ MFSB Bracket
LFL-400-HPS-4T-B	Large Flood, 400W HPS S51 (Lamp included), 120/208/240/277V 60Hz, W/ MFLSF Bracket
LFL-400-PS-4T-A	Large Flood, 400W PS M155/S (Lamp included), 120/208/240/277V 60Hz, W/ MFSB Bracket
LFL-400-PS-4T-B	Large Flood, 400W PS M155/S (Lamp included), 120/208/240/277V 60Hz, W/ MFLSF Bracket
Extra Large Flood	
ELFL-1000-HPS-4T-A	Extra Large Flood, 1000W HPS S52 (Lamp included), 120/208/240/277V 60Hz, W/ ELFSB Bracket
ELFL-1000-HPS-4T-B	Extra Large Flood, 1000W HPS S52 (Lamp included), 120/208/240/277V 60Hz, W/ ELFSF Bracket
ELFL-1000-MH-4T-A	Extra Large Flood, 1000W MH M47/E (Lamp included), 120/208/240/277V 60Hz, W/ ELFSB Bracket
ELFL-1000-MH-4T-B	Extra Large Flood, 1000W MH M47/E (Lamp included), 120/208/240/277V 60Hz, W/ ELFSF Bracket
ELFL-1000-PS-4T-A	Extra Large Flood, 1000W PS M141/E (Lamp included), 120/208/240/277V 60Hz, W/ ELFSB Bracket
ELFL-1000-PS-4T-B	Extra Large Flood, 1000W PS M141/E (Lamp included), 120/208/240/277V 60Hz, W/ ELFSF Bracket
Roundback Flood	
RBF-70-HPS-120	Roundback Flood, 70W HPS S62 (Lamp included), 120/208/240/277V 60Hz
RBF-70-MH-4T	Roundback Flood, 70W MH M98/O (Lamp included), 120/208/240/277V 60Hz
RBF-100-HPS-4T	Roundback Flood, 100W HPS S54 (Lamp included), 120/208/240/277V 60Hz
RBF-100-MH-4T	Roundback Flood, 100W MH M90/E (Lamp included), 120/208/240/277V 60Hz
RBF-150-HPS-4T	Roundback Flood, 150W HPS S55 (Lamp included), 120/208/240/277V 60Hz
RBF-150-PS-4T	Roundback Flood, 150W PSMH M102/E (Lamp included), 120/208/240/277V 60Hz

+ Other configurations available

• Specifications are subject to change without notice.



## Flood Accessories

Options and accessories noted on this page do not apply to every flood model available. Also, this is not a complete list of our offering, just the most popular. Please visit our website ([www.Howard-Lighting.com](http://www.Howard-Lighting.com)) or call our factory for more information about our accessory offering.

Model #	Description
ELFLB	Extra Large Flood Accessory, Baffle Glareshield
ELFLGS	Extra Large Flood Accessory, Glareshield
ELFLSF	Extra Large Flood Accessory, Mounting Accessory, Slipfitter
ELFLVG	Extra Large Flood Accessory, Vandal Guard
ELFLWG	Extra Large Flood Accessory, Wire Guard
FLGSTK	Mounting Accessory, Ground Stake
FLPTM	Mounting Accessory, Mounting Accessory, Pole Tenon Mount
HFLLY	Horizontal Flood Accessory, Mounting Accessory, Large Yoke
HFLSY	Horizontal Flood Accessory, Mounting Accessory, Small Yoke
HFLVG	Horizontal Flood Accessory, Vandal Guard
HFLWG	Horizontal Flood Accessory, Wire Guard
LFLB	Large Flood Accessory, Baffle
LFLGS	Large Flood Accessory, Glareshield
LFLVG	Large Flood Accessory, Vandal Guard
LFLWG	Large Flood Accessory, Wire Guard
MEDFGS	Medium Flood Accessory, Glareshield
MEDFVG	Medium Flood Accessory, Vandal Guard
MEDFWG	Medium Flood Accessory, Wire Guard
MFLSF	Mounting Accessory, Mounting Accessory, Slipfitter
MFSB	Mounting Accessory, Mounting Accessory, Swivel Bracket
MSFGS	Mid Size Flood Accessory, Glareshield
MSFVG	Mid Size Flood Accessory, Vandal Guard
RBFGS	Round Back Flood Accessory, Glareshield
RBFVG	Round Back Flood Accessory, Vandal Guard
SFLGS	Small Flood Accessory, Glareshield
SFLWG	Small Flood Accessory, Wire Guard



Baffle



Glareshield



Slipfitter



Ground Stake



Swivel Bracket



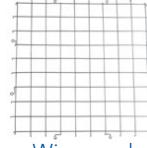
Pole Tenon Mount



Large Yoke Mount



Small Yoke Mount



Wireguard



Vandal Guard

• Specifications are subject to change without notice.



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## HID Highbays, Lowbays, Construction Lights

### Applications

- Excellent lighting for warehouses, industrial, and retail facilities

### Features include

- Die-cast housing with electrical box
- Adjustable accessory bracket
- Lamp and hook included
- Tempered glass lens (aluminum models)
- Acrylic drop lens (aluminum and acrylic models)
- Acrylic flat lens (acrylic models)
- Wireguards available (some models)



**IHAL16O Series**  
Highbay Aluminum  
16" Open Bottom  
HPS / 250-400 watts  
PSMH / 250-400 watts



**IHAL16E Series**  
Highbay Aluminum  
16" Enclosed Bottom  
HPS / 250-400 watts  
PSMH / 250-400 watts



**IHAL22O Series**  
Highbay Aluminum  
22" Open Bottom  
HPS / 250-400 watts  
PSMH / 250-400 watts



**IHAL22E Series**  
Highbay Aluminum  
22" Enclosed Bottom  
HPS / 250-400 watts  
PSMH / 250-400 watts



**IHAC16O Series**  
Highbay Acrylic  
16" Open Bottom  
HPS / 250-400 watts  
PSMH / 250-400 watts



**IHAC16E Series**  
Highbay Acrylic  
16" Enclosed Bottom  
HPS / 250-400 watts  
PSMH / 250-400 watts



**IHAC16D Series**  
Highbay Acrylic  
16" Drop Lens  
HPS / 250-400 watts  
PSMH / 250-400 watts



**IHAC22O Series**  
Highbay Acrylic  
22" Open Bottom  
HPS / 250-400 watts  
PSMH / 250-400 watts



**IHAC22D Series**  
Highbay Acrylic  
22" Drop Lens  
HPS / 250-400 watts  
PSMH / 250-400 watts



**ILAC16 Series**  
16" Lowbay Acrylic  
HPS / 250 watts  
PSMH / 250 watts



**ILAC22 Series**  
22" Lowbay Acrylic  
HPS / 250-400 watts  
PSMH / 250-400 watts



**ILAL16 Series**  
16" Lowbay  
Aluminum  
HPS / 250 watts  
PSMH / 250 watts



**ILAL22 Series**  
22" Lowbay  
Aluminum  
HPS / 250-400 watts  
PSMH / 250-400 watts



**IHTL Series**  
Temporary  
Construction Light  
HPS / 250-400 watts

• Specifications are subject to change without notice.



## HID Highbays, Lowbays, Construction Lights

### Ordering Guide<sup>+</sup>

Model #	Description
Inline Highbay 16" Acrylic Open	
IHAC16O-250-HPS-4T	Inline High Bay 16" Acrylic Open, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
IHAC16O-250-PS-4T	Inline High Bay 16" Acrylic Open, 250W PS M153/O (Lamp included), 120/208/240/277V 60Hz
IHAC16O-400-HPS-4T	Inline High Bay 16" Acrylic Open, 400W HPS S51 (Lamp included), 120/208/240/277V 60Hz
IHAC16O-400-PS-4T	Inline High Bay 16" Acrylic Open, 400W PS M155/O (Lamp included), 120/208/240/277V 60Hz
Inline Highbay 16" Acrylic Enclosed	
IHAC16E-250-HPS-4T	Inline High Bay 16" Acrylic w/ Flat ACR lens, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
IHAC16E-250-PS-4T	Inline High Bay 16" Acrylic w/ Flat ACR lens, 250W PS M153/O (Lamp included), 120/208/240/277V 60Hz
Inline Highbay 16" Acrylic - Drop Lens	
IHAC16D-250-HPS-4T	Inline High Bay 16" Acrylic w/ Drop Lens, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
IHAC16D-250-PS-4T	Inline High Bay 16" Acrylic w/ Drop Lens, 250W PS M153/O (Lamp included), 120/208/240/277V 60Hz
Inline Highbay 22" Acrylic Open	
IHAC22O-250-HPS-4T	Inline High Bay 22" ACR Open, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
IHAC22O-250-PS-4T	Inline High Bay 22" ACR Open, 250W PS M153/O (Lamp included), 120/208/240/277V 60Hz
IHAC22O-400-HPS-4T	Inline High Bay 22" ACR Open, 400W HPS S51 (Lamp included), 120/208/240/277V 60Hz
IHAC22O-400-PS-4T	Inline High Bay 22" ACR Open, 400W PS M155/O (Lamp included), 120/208/240/277V 60Hz
Inline Highbay 22" Acrylic Enclosed	
IHAC22E-250-HPS-4T	Inline High Bay 22" Acrylic w/ Flat ACR lens, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
IHAC22E-250-PS-4T	Inline High Bay 22" Acrylic w/ Flat ACR lens, 250W PS M153/O (Lamp included), 120/208/240/277V 60Hz
IHAC22E-400-HPS-4T	Inline High Bay 22" Acrylic w/ Flat ACR lens, 400W HPS S51 (Lamp included), 120/208/240/277V 60Hz
IHAC22E-400-PS-4T	Inline High Bay 22" Acrylic w/ Flat ACR lens, 400W PS M155/O (Lamp included), 120/208/240/277V 60Hz
Inline Highbay 22" Acrylic - Conical Lens	
IHAC22C-250-HPS-4T	Inline High Bay 22" Acrylic w/ Conical lens, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
IHAC22C-250-PS-4T	Inline High Bay 22" Acrylic w/ Conical lens, 250W PS M153/O (Lamp included), 120/208/240/277V 60Hz
IHAC22C-400-HPS-4T	Inline High Bay 22" Acrylic w/ Conical lens, 400W HPS S51 (Lamp included), 120/208/240/277V 60Hz
IHAC22C-400-PS-4T	Inline High Bay 22" Acrylic w/ Conical lens, 400W PS M155/O (Lamp included), 120/208/240/277V 60Hz
Inline Highbay 22" Acrylic - Drop Lens	
IHAC22D-250-HPS-4T	Inline High Bay 22" Acrylic w/ Drop Lens, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
IHAC22D-250-PS-4T	Inline High Bay 22" Acrylic w/ Drop Lens, 250W PS M153/O (Lamp included), 120/208/240/277V 60Hz
IHAC22D-320-PS-4T	Inline High Bay 22" Acrylic w/ Drop Lens, 320W PS M154/O (Lamp included), 120/208/240/277V 60Hz
IHAC22D-350-PS-4T	Inline High Bay 22" Acrylic w/ Drop Lens, 350W PS M131/O (Lamp included), 120/208/240/277V 60Hz
IHAC22D-400-HPS-4T	Inline High Bay 22" Acrylic w/ Drop Lens, 400W HPS S51 (Lamp included), 120/208/240/277V 60Hz
IHAC22D-400-PS-4T	Inline High Bay 22" Acrylic w/ Drop Lens, 400W PS M155/O (Lamp included), 120/208/240/277V 60Hz
Inline Highbay 16" Aluminum Open	
IHAL16O-250-HPS-4T	Inline High Bay 16" AL Open, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
IHAL16O-250-PS-4T	Inline High Bay 16" AL Open, 250W PS M153/O (Lamp included), 120/208/240/277V 60Hz
IHAL16O-320-PS-4T	Inline High Bay 16" AL Open, 320W PS M154/O (Lamp included), 120/208/240/277V 60Hz
IHAL16O-350-PS-4T	Inline High Bay 16" AL Open, 350W PS M131/O (Lamp included), 120/208/240/277V 60Hz
IHAL16O-400-HPS-4T	Inline High Bay 16" AL Open, 400W HPS S51 (Lamp included), 120/208/240/277V 60Hz
IHAL16O-400-PS-4T	Inline High Bay 16" AL Open, 400W PS M155/O (Lamp included), 120/208/240/277V 60Hz

See Page 21 for options and accessories

+ Other configurations available

• Specifications are subject to change without notice.



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## HID Highbays, Lowbays, Construction Lights (con't)

### Ordering Guide<sup>+</sup>

Model #	Description
Inline Highbay 16" Aluminum Enclosed	
IHAL16E-250-HPS-4T	Inline High Bay 16" AL w/ Glass Lens, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
IHAL16E-250-PS-4T	Inline High Bay 16" AL w/ Glass Lens, 250W PS M153/E (Lamp included), 120/208/240/277V 60Hz
IHAL16E-400-HPS-4T	Inline High Bay 16" AL w/ Glass Lens, 400W HPS S51 (Lamp included), 120/208/240/277V 60Hz
IHAL16E-400-PS-4T	Inline High Bay 16" AL w/ Glass Lens, 400W PS M155/E (Lamp included), 120/208/240/277V 60Hz
Inline Highbay 22" Aluminum Open	
IHAL22O-250-HPS-4T	Inline High Bay 22" AL Open, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
IHAL22O-250-PS-4T	Inline High Bay 22" AL Open, 250W PS M153/O (Lamp included), 120/208/240/277V 60Hz
IHAL22O-320-PS-4T	Inline High Bay 22" AL Open, 320W PS M154/O (Lamp included), 120/208/240/277V 60Hz
IHAL22O-350-PS-4T	Inline High Bay 22" AL Open, 350W PS M131/O (Lamp included), 120/208/240/277V 60Hz
IHAL22O-400-HPS-4T	Inline High Bay 22" AL Open, 400W HPS S51 (Lamp included), 120/208/240/277V 60Hz
IHAL22O-400-PS-4T	Inline High Bay 22" AL Open, 400W PS M155/O (Lamp included), 120/208/240/277V 60Hz
Inline Highbay 16" Aluminum Enclosed	
IHAL22E-250-HPS-4T	Inline High Bay 22" AL w/ Glass Lens, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
IHAL22E-250-PS-4T	Inline High Bay 22" AL w/ Glass Lens, 250W PS M153/E (Lamp included), 120/208/240/277V 60Hz
IHAL22E-320-PS-4T	Inline High Bay 22" AL w/ Glass Lens, 320W PS M154/E (Lamp included), 120/208/240/277V 60Hz
IHAL22E-350-PS-4T	Inline High Bay 22" AL w/ Glass Lens, 350W PS M131/E (Lamp included), 120/208/240/277V 60Hz
IHAL22E-400-HPS-4T	Inline High Bay 22" AL w/ Glass Lens, 400W HPS S51 (Lamp included), 120/208/240/277V 60Hz
IHAL22E-400-PS-4T	Inline High Bay 22" AL w/ Glass Lens, 400W PS M155/E (Lamp included), 120/208/240/277V 60Hz
Inline Lowbay 16" Acrylic	
ILAC16-250-HPS-4T	Inline Low Bay Acrylic 16" (Acrylic Drop Lens), 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
ILAC16-250-PS-4T	Inline Low Bay Acrylic 16" (Acrylic Drop Lens), 250W PS M153/O (Lamp included), 120/208/240/277V 60Hz
Inline Lowbay 22" Acrylic	
ILAC22-250-HPS-4T	Inline Low Bay 22" Acrylic w/ Drop Lens, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
ILAC22-250-PS-4T	Inline Low Bay 22" Acrylic w/ Drop Lens, 250W PS M153/O (Lamp included), 120/208/240/277V 60Hz
ILAC22-320-PS-4T	Inline Low Bay 22" Acrylic w/ Drop Lens, 320W PS M154/O (Lamp included), 120/208/240/277V 60Hz
ILAC22-350-PS-4T	Inline Low Bay 22" Acrylic w/ Drop Lens, 350W PS M131/O (Lamp included), 120/208/240/277V 60Hz
ILAC22-400-HPS-4T	Inline Low Bay 22" Acrylic w/ Drop Lens, 400W HPS S51 (Lamp included), 120/208/240/277V 60Hz
ILAC22-400-PS-4T	Inline Low Bay 22" Acrylic w/ Drop Lens, 400W PS M155/O (Lamp included), 120/208/240/277V 60Hz
Inline Lowbay 16" Aluminum	
ILAL16-250-HPS-4T	Inline Low Bay AL 16" (Acrylic Drop Lens), 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
ILAL16-250-PS-4T	Inline Low Bay AL 16" (Acrylic Drop Lens), 250W PS M153/O (Lamp included), 120/208/240/277V 60Hz
Inline Lowbay 22" Aluminum	
ILAL22-250-HPS-4T	Inline Low Bay 22" AL w/ Drop Lens, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
ILAL22-250-PS-4T	Inline Low Bay 22" AL w/ Drop Lens, 250W PS M153/O (Lamp included), 120/208/240/277V 60Hz
ILAL22-320-PS-4T	Inline Low Bay 22" AL w/ Drop Lens, 320W PS M154/O (Lamp included), 120/208/240/277V 60Hz
ILAL22-350-PS-4T	Inline Low Bay 22" AL w/ Drop Lens, 350W PS M131/O (Lamp included), 120/208/240/277V 60Hz
ILAL22-400-HPS-4T	Inline Low Bay 22" AL w/ Drop Lens, 400W HPS S51 (Lamp included), 120/208/240/277V 60Hz
ILAL22-400-PS-4T	Inline Low Bay 22" AL w/ Drop Lens, 400W PS M155/O (Lamp included), 120/208/240/277V 60Hz
Inline Highbay Temporary Construction Light	
IHTL-250-HPS-4T	Inline Highbay Temp Worklight, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
IHTL-400-HPS-4T	Inline Highbay Temp Worklight, 400W HPS S51 (Lamp included), 120/208/240/277V 60Hz

+ Other configurations available

• Specifications are subject to change without notice.

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## HID Highbays, Lowbays, Construction Lights Accessories

### Ordering Guide

Options and accessories noted on this page do not apply to every highbay/lowbay/construction light model available. Also, this is not a complete list of our offering, just the most popular. Please visit our website ([www.Howard-Lighting.com](http://www.Howard-Lighting.com)) or call our factory for more information about our accessory offering.

Model #	Description
16ACR	High Bay Accessory, 16" Acrylic Refractor Assembly, 250W max
16ALR	16" Aluminum Reflector
16ALR-LB	16" Aluminum Reflector - Low Bay
16CB	High Bay Accessory, 16" Clamp Band
16DL	High Bay Accessory, 16" Acrylic Drop Lens, 250W max
16EZCB	High Bay Accessory, 16" Clamp Band
16FG	High Bay Accessory, 16" Flat Glass Lens, 250W max
16WG	High Bay Accessory, 16" Wire Guard
22ACR	High Bay Accessory, 22" Acrylic Refractor Assembly, 400W max
22ALR	22" Aluminum Reflector
22ALR-LB	22" Aluminum Reflector - Low Bay
22CB	High Bay Accessory, 22" Clamp Band
22CL	High Bay Accessory, 22" Acrylic Conical Drop Lens, 400W max
22DL	High Bay Accessory, 22" Acrylic Drop Lens, 400W max
22EZCB	High Bay Accessory, 22" Clamp Band
22FA	High Bay Accessory, 22" Flat Acrylic Lens, 400W max
22FG	High Bay Accessory, 22" Flat Glass Lens, 400W max
22WG	High Bay Accessory, 22" Wire Guard
25DL	High Bay Accessory, 25" Acrylic Drop Lens, 400W max
CS120	Misc Cord/Cordset, 120V Cord W/PLUG, 16-3 / 36", L5-15 Plug
CS240	Misc Cord/Cordset, 240V Cord W/PLUG, 16-3 / 36", L6-15 Plug
CS277	Misc Cord/Cordset, 277V Cord W/PLUG, 16-3, 44", L7-15 Plug
CS480	Misc Cord/Cordset, 480V Cord W/PLUG, 16-3, 36", L8-20 Plug
QR	High Bay Accessory, Quartz Restrike Kit
SSH2	High Bay Accessory, Mounting Hook, Screw Shut
TLWG	TEMPORARY CONSTRUCTION LIGHT, Wire Guard



Clamp Band



Flat Glass Lens



Lowbay Aluminum Reflector



Acrylic Reflector



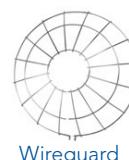
Aluminum Reflector



Screw Shut Hook



Quartz Restrike Kit



Wireguard



Temp Construction Wireguard



Cordset

• Specifications are subject to change without notice.



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## HID Wallpacks

### Applications

- Excellent lighting residential exteriors, entry ways, stairways, parking garages, and storage areas

### Features include

- Die-cast housing
- Lamp included
- Photocell adaptable
- Polycarbonate or glass lens
- Knockouts for conduit access
- UL listed for wet locations



**MINIWP Series**  
Mini Wallpack  
Glass Lens  
HPS / 50-100 watts  
PSMH / 50-100 watts  
CF / 42-84 watts



**MINIWPP Series**  
Mini Wallpack  
Polycarb Lens  
HPS / 35-70 watts  
CF / 26 watts



**12WP Series**  
12" Wallpack  
HPS / 70-150 watts  
PSMH / 70-150 watts



**SSWP Series**  
Small Semi-Cutoff  
Wallpack  
HPS / 35-100 watts  
PSMH / 50-100 watts



**SLWP Series**  
Slimline Wallpack  
HPS / 100-400 watts  
PSMH / 200-400 watts



**SWPG Series**  
Small Wallpack  
Glass Lens  
HPS / 35-100 watts  
PSMH / 50-100 watts



**SWPP Series**  
Small Wallpack  
Polycarb Lens  
HPS / 35-100 watts  
PSMH / 50-70 watts  
CF / 42 watts



**MWP Series**  
Medium Wallpack  
HPS / 50-150 watts  
PSMH / 70-150 watts  
CF / 84 watts



**MCWP Series**  
Medium Cutoff  
Wallpack  
HPS / 50-150 watts  
PSMH / 70-150 watts  
CF / 84 watts



**MSWP Series**  
Medium Semi-Cutoff  
Wallpack  
HPS / 50-150 watts  
PSMH / 70-150 watts



**LWP Series**  
Large Wallpack  
HPS / 150-250 watts  
PSMH / 200-250 watts



**LCWP Series**  
Large Cutoff Wallpack  
HPS / 250 watts  
PSMH / 250 watts



**LDWP Series**  
Large Deep Wallpack  
HPS / 250-400 watts  
PSMH / 320-400 watts



**LSWP Series**  
Large Semi-Cutoff  
Wallpack  
HPS / 250-400 watts

• Specifications are subject to change without notice.



**HID Wallpacks**Ordering Guide<sup>+</sup>

Model #	Description
Mini Wallpack - Glass Lens	
MINIWP-50-HPS-120	Mini Wallpack, 50W HPS S68 (Lamp included), 120V 60Hz
MINIWP-70-HPS-120	Mini Wallpack, 70W HPS S62 (Lamp included), 120V 60Hz
MINIWP-70-HPS-4T	Mini Wallpack, 70W HPS S62 (Lamp included), 120/208/240/277V 60Hz
MINIWP-70-MH-4T	Mini Wallpack, 70W MH M98/O (Lamp included), 120/208/240/277V 60Hz
MINIWP-100-HPS-120	Mini Wallpack, 100W HPS S54 (Lamp included), 120V 60Hz
MINIWP-100-HPS-4T	Mini Wallpack, 100W HPS S54 (Lamp included), 120/208/240/277V 60Hz
MINIWP-100-MH-4T	Mini Wallpack, 100W MH M90/E (Lamp included), 120/208/240/277V 60Hz
Mini Wallpack - Polycarbonate Lens	
MINIWPP-35-HPS-120	Mini Wallpack - Polycarbonate, 35W HPS S76 (Lamp included), 120V 60Hz
MINIWPP-50-HPS-120	Mini Wallpack - Polycarbonate, 50W HPS S68 (Lamp included), 120V 60Hz
MINIWPP-70-HPS-120	Mini Wallpack - Polycarbonate, 70W HPS S62 (Lamp included), 120V 60Hz
Slimline Wallpack	
SLWP-250-HPS-4T	Slimline Wallpack, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
SLWP-320-PS-4T	Slimline Wallpack, 320W PS M154/E (Lamp included), 120/208/240/277V 60Hz
SLWP-350-PS-4T	Slimline Wallpack, 350W PS M131/E (Lamp included), 120/208/240/277V 60Hz
SLWP-400-HPS-4T	Slimline Wallpack, 400W HPS S51 (Lamp included), 120/208/240/277V 60Hz
Small Wallpack - Glass Lens	
SWPG-35-HPS-120	Small Wallpack Glass Lens, 35W HPS S76 (Lamp included), 120V 60Hz
SWPG-50-HPS-120	Small Wallpack Glass Lens, 50W HPS S68 (Lamp included), 120V 60Hz
SWPG-70-HPS-120	Small Wallpack Glass Lens, 70W HPS S62 (Lamp included), 120V 60Hz
SWPG-70-MH-4T	Small Wallpack Glass Lens, 70W MH M98/O (Lamp included), 120/208/240/277V 60Hz
SWPG-100-HPS-120	Small Wallpack Glass Lens, 100W HPS S54 (Lamp included), 120V 60Hz
Small Wallpack - Polycarbonate Lens	
SWPP-35-HPS-120	Small Wallpack P Lens, 35W HPS S76 (Lamp included), 120V 60Hz
SWPP-50-HPS-120	Small Wallpack P Lens, 50W HPS S68 (Lamp included), 120V 60Hz
SWPP-70-HPS-120	Small Wallpack P Lens, 70W HPS S62 (Lamp included), 120V 60Hz
SWPP-70-HPS-4T	Small Wallpack P Lens, 70W HPS S62 (Lamp included), 120/208/240/277V 60Hz
SWPP-100-HPS-120	Small Wallpack P Lens, 100W HPS S54 (Lamp included), 120V 60Hz
Medium Wallpack	
MWP-70-HPS-120	Medium Wallpack, 70W HPS S62 (Lamp included), 120V 60Hz
MWP-70-HPS-4T	Medium Wallpack, 70W HPS S62 (Lamp included), 120/208/240/277V 60Hz
MWP-70-MH-4T	Medium Wallpack, 70W MH M98/E (Lamp included), 120/208/240/277V 60Hz
MWP-100-HPS-120	Medium Wallpack, 100W HPS S54 (Lamp included), 120V 60Hz
MWP-100-MH-4T	Medium Wallpack, 100W MH M90/E (Lamp included), 120/208/240/277V 60Hz
MWP-150-HPS-120	Medium Wallpack, 150W HPS S55 (Lamp included), 120V 60Hz
MWP-150-HPS-4T	Medium Wallpack, 150W HPS S55 (Lamp included), 120/208/240/277V 60Hz
MWP-150-PS-4T	Medium Wallpack, 150W PSMH M102/O (Lamp included), 120/208/240/277V 60Hz
Large Wallpack	
LWP-200-PS-4T	Large Wallpack, 200W PS M136/E (Lamp included), 120/208/240/277V 60Hz
LWP-250-HPS-4T	Large Wallpack, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
LWP-250-MH-4T	Large Wallpack, 250W MH M58/E (Lamp included), 120/208/240/277V 60Hz
LWP-250-PS-4T	Large Wallpack, 250W PS M153/O (Lamp included), 120/208/240/277V 60Hz

+ Other configurations available

• Specifications are subject to change without notice.

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## HID Wallpacks

Ordering Guide<sup>+</sup>

Model #	Description
Medium Semi Cutoff Wallpack	
MSWP-70-HPS-120	Medium SemiCutoff Wallpack, 70W HPS S62 (Lamp included), 120V 60Hz
MSWP-70-HPS-4T	Medium SemiCutoff Wallpack, 70W HPS S62 (Lamp included), 120/208/240/277V 60Hz
MSWP-70-MH-4T	Medium SemiCutoff Wallpack, 70W MH M98/E (Lamp included), 120/208/240/277V 60Hz
MSWP-100-HPS-120	Medium SemiCutoff Wallpack, 100W HPS S54 (Lamp included), 120V 60Hz
MSWP-100-HPS-4T	Medium SemiCutoff Wallpack, 100W HPS S54 (Lamp included), 120/208/240/277V 60Hz
MSWP-150-HPS-120	Medium SemiCutoff Wallpack, 150W HPS S55 (Lamp included), 120V 60Hz
MSWP-150-HPS-4T	Medium SemiCutoff Wallpack, 150W HPS S55 (Lamp included), 120/208/240/277V 60Hz
MSWP-150-PS-4T	Medium SemiCutoff Wallpack, 150W MH M102/E (Lamp included), 120/208/240/277V 60Hz
Large Semi Cutoff Wallpack	
LSPW-250-PS-4T	Large Semi-cutoff Wall Pack, 250W PS M153/E (Lamp included), 120/208/240/277V 60Hz
LSPW-320-PS-4T	Large Semi-cutoff Wall Pack, 320W PS M154/E (Lamp included), 120/208/240/277V 60Hz
LSPW-350-PS-4T	Large Semi-cutoff Wall Pack, 350W PS M131/E (Lamp included), 120/208/240/277V 60Hz
Medium Cutoff Wallpack	
MCWP-70-HPS-120	Medium Cutoff Wallpacks, 70W HPS S62 (Lamp included), 120V 60Hz
MCWP-70-HPS-4T	Medium Cutoff Wallpacks, 70W HPS S62 (Lamp included), 120/208/240/277V 60Hz
MCWP-70-MH-4T	Medium Cutoff Wallpacks, 70W MH M98/E (Lamp included), 120/208/240/277V 60Hz
MCWP-100-HPS-4T	Medium Cutoff Wallpacks, 100W HPS S54 (Lamp included), 120/208/240/277V 60Hz
MCWP-150-HPS-120	Medium Cutoff Wallpacks, 150W HPS S55 (Lamp included), 120V 60Hz
MCWP-150-HPS-4T	Medium Cutoff Wallpacks, 150W HPS S55 (Lamp included), 120/208/240/277V 60Hz
MCWP-150-PS-4T	Medium Cutoff Wallpacks, 150W PSMH M102/E (Lamp included), 120/208/240/277V 60Hz
Large Cutoff Wallpack	
LCWP-250-HPS-4T	Large Cutoff Wallpacks, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
LCWP-250-PS-4T	Large Cutoff Wallpacks, 250W PS M153/E (Lamp included), 120/208/240/277V 60Hz
LCWP-320-PS-4T	Large Cutoff Wallpacks, 320W PS M154/E (Lamp included), 120/208/240/277V 60Hz
LDWP-250-HPS-4T	Large Deep Wallpack, 250W HPS S50 (Lamp included), 120/208/240/277V 60Hz
LDWP-250-PS-4T	Large Deep Wallpack, 250W PS M153/E (Lamp included), 120/208/240/277V 60Hz
LDWP-400-HPS-4T	Large Deep Wallpack, 400W HPS S51 (Lamp included), 120/208/240/277V 60Hz
LDWP-400-PS-4T	Large Deep Wallpack, 400W PS M155/E (Lamp included), 120/208/240/277V 60Hz

## HID Wallpack Accessories

Ordering Guide

Model #	Description
BPC120	Photocontrol 120V Button Style
BPC208/277	Photocontrol 208-277V Button Style
LWPVG	Large Wallpack Accessory, Polycarbonate Vandal Guard
SPMRP	Swivel Pendant Mount Round Mounting Plate
SPMSP	Swivel Pendant Mount Square Mounting Plate
SWPGF	Small Wallpack Glass, Replacement Lens/Frame
SWPGFC	Small Wallpack Glass Accessory, Full Cutoff Glareshield
SWPGL	Small Wallpack Glass, Replacement Lens
SWPGWG	Small Wallpack Glass Accessory, Wire Guard
WPMP	Die Cast Wallpack Mounting Plate

+ Other configurations available

• Specifications are subject to change without notice.



## Sports Lighter

### Applications

- Great for illuminating sporting areas or any external environment requiring bright light



**SL Series**

**HPS / 400-1000 watts**

**MH / 1000-1500 watts**

**PSMH / 400-1000 watts**

### Features include

- Die cast aluminum housing with bronze finish is suitable for yoke mount or cross arm mounting.
- Suitable for Wet locations.
- Die cast aluminum socket housing with vertical aiming scale.
- Anodized aluminum reflectors for Type 3, 4, or 5 distribution.
- Optical chamber is sealed to inhibit contaminants.
- UL Listed porcelain mogul socket (1500W, 600V, 5kv pulse rated).
- Suitable for -30C MH / -40C HPS.
- Max weight (1500W) 49 lbs.
- EPA: 2.2 sq. ft. (Type 5-19") / 2.5 sq.ft. (Type 4 or 5) / 2.9 sq. ft. (Type 3)

### Ordering Guide<sup>+</sup>

Model #	Description
SL0320P1M4AY9C0F0	Sports Lighter, Yoke Mount(sold separately), 320w PSMH, Alum Quad Tap (Prewired 277v), NEMA 5 reflector, Lamp included
SL1000M1M1AY9C0F0	Sports Lighter, Yoke Mount(sold separately),1000w MH, Alum Quad Tap (Prewired 120v), NEMA 5 reflector, Lamp included
SL1000P1M1AB9S6F0	Sports Lighter, Bolt Mount, 1000w PSMH, Alum Quad Tap (Prewired 120v), NEMA 5 reflector, SPCL Cord - 6-ft 14/3 w/5-15 plug, Lamp included
SL1000S0M4CB9C0F0	Sports Lighter, Bolt Mount, 1000w HPS, Cu Quad Tap (Prewired 277v), NEMA 5 reflector, Lamp not included
SL1500M1M4AY9C0F0	Sports Lighter, Yoke Mount(sold separately),1500w MH, Alum Quad Tap (Prewired 277v), NEMA 5 reflector, Lamp included
SL1500M1M4CB4C0F0	Sports Lighter, Bolt Mount, 1500w MH, Cu Quad Tap (Prewired 277v), NEMA 4 reflector, Lamp included

## Sports Lighter Accessories

Model #	Description
SLR-3	Replacement Type 3 23" Reflector
SLR-4	Replacement Type 4 21" Reflector
SLR-5	Replacement Type 5 21" Reflector
SLR-9	Replacement Type 5 19" Reflector
SLR-3-LENS	Replacement Type 3 Lens - Hinged Clamp Band - Gasket Assembly (Clip Closure)
SLR-4-LENS	Replacement Type 4 Lens - Hinged Clamp Band - Gasket Assembly (Clip Closure)
SLR-5-LENS	Replacement Type 5 Lens - Hinged Clamp Band - Gasket Assembly (Clip Closure)
SLR-9-LENS	Replacement Type 5 19" Lens - Hinged Clamp Band - Gasket Assembly (Screw Closure)
SLPTM	Textured bronze finished pole top mount that allows aiming of fixture (includes hardware)
SLILB	Internal lamp brace that fits inside reflector and provides support for lamp
SLYM	Steel yoke mount

+ Other configurations available  
• Specifications are subject to change without notice.



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## Quartz Floods

### Applications

- Building facades, signs, sports fields, or general floodlighting applications

### Features include

- Die-cast housing aluminum construction
- 1/2" threaded adjustable knuckle
- Hinged frame
- Lamp Included
- Standard bronze finish (white available on some models)



**SQF Series**  
Small Quartz Flood  
Quartz / 150 watts



**MQF Series**  
Medium Quartz Flood  
Quartz / 300-500 watts



**LQF Series**  
Large Quartz Flood  
Quartz / 1000-1500  
watts

### Ordering Guide<sup>+</sup>

Model #	Description
SQF-150-120	Small Quartz Flood, 150W QTZ (Lamp included), 120V 60Hz
MQF-500-120	Medium Quartz Flood, 500W QTZ (Lamp included), 120V 60Hz
MQF-500-120-W	Medium Quartz Flood, 500W QTZ (Lamp included), 120V 60Hz
LQF-1000-240	Large Quartz Flood, 1000W QTZ (Lamp included), 240V 60Hz
LQF-1500-240	Large Quartz Flood, 1500W QTZ (Lamp included), 240V 60Hz

<sup>+</sup> Other configurations available  
• Specifications are subject to change without notice.



## Incandescent Motion Sensor Lighting

### Applications

- Great for residential security lighting

### Features include

- Manual override
- Adjustable settings
- Photocell
- UL listed for wet locations



**IBMSL Series**  
Covered  
INCAN / 2 X 150 watts



**IMSL Series**  
INCAN / 2 X 150 watts



**MS Series**  
Motion Sensor

### Ordering Guide

Model #	Description
IBMSL-2-300-180-120	Motion Sensor Light, 2 head, Bronze, 300W, 180 degree, 120v, w/cover
IBMSL-2-300-180-120W	Motion Sensor Light, 2 head, White, 300W, 180 degree, 120v, w/cover
IMSL-2-300-180-120	Motion Sensor Light, 2 head, Bronze, 300W, 180 degree, 120v
IMSL-2-300-180-120W	Motion Sensor Light, 2 head, White, 300W, 180 degree, 120v
MS-180 BNZ	Motion Sensor, Bronze, 120V 60Hz
MS-180 WHT	Motion Sensor, White, 120V 60Hz

## Need Lamps?

We offer just the lamps you need!

See page 45 for our Self Ballasted PAR Lamps

Or see pages 50-51 for our Halogen PAR lamps

+ Other configurations available  
• Specifications are subject to change without notice.



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## Incandescent Vaporproofs

### Applications

- Ideal for non-hazardous industrial uses such as bridges, harbors, manufacturing sites, and tunnels

### Features include

- Textured gray powdercoat finish
- Tempered clear glass lens
- Porcelain medium base socket
- Lamp not included
- Available in 1/2" or 3/4" NPT
- UL listed for wet locations



**VIB Series**  
Vaporproof Box Mount  
INCAN / 2 x 150 watts



**VIP Series**  
Vaporproof Pendant Mount  
INCAN / 2 x 150 watts



**VIW Series**  
Vaporproof Wall Mount  
INCAN / 2 x 150 watts

### Ordering Guide

Model #	Description
VIB-1/2-200	Vaporproof Incandescent, 200W Incand (Lamp not included)
VIB-3/4-300	Vaporproof Incandescent, 300W Incand (Lamp not included)
VIP-1/2-200	Vaporproof Incandescent, 200W Incand (Lamp not included)
VIP-3/4-300	Vaporproof Incandescent, 300W Incand (Lamp not included)
VIW-1/2-200	Vaporproof Incandescent, 200W Incand (Lamp not included)
VIW-3/4-300	Vaporproof Incandescent, 300W Incand (Lamp not included)

## Incandescent Vaporproof Accessories

Model	Description
VPAS200	Vaporproof Fixture Accessory, Glareshield, Angled Shade - 200W
VPAS300	Vaporproof Fixture Accessory, Glareshield, Angled Shade - 300W
VPASWG	Vaporproof Fixture Accessory, Wire Guard, Angled Shade application
VPFG200	Vaporproof Fixture Accessory, Replacement Globe, Frosted Glass - 200W
VPFG300	Vaporproof Fixture Accessory, Replacement Globe, Frosted Glass - 300W
VPREB1	Vaporproof Fixture Accessory, Electrical Box
VPSS200	Vaporproof Fixture Accessory, Glareshield, Straight Shade - 200W
VPSS300	Vaporproof Fixture Accessory, Glareshield, Straight Shade - 300W
VPSSWG	Vaporproof Fixture Accessory, Wire Guard, Straight Shade application

• Specifications are subject to change without notice.



## LED Lighting Fixtures

### Applications

- For parking facilities, entry ways, perimeter/pathway lighting, underpasses, residential exteriors, storage areas, building facades, displays, signs or general security lighting

### Features include

- Die-cast housing
- Glass or polycarbonate lens
- High quality long-life LEDs
- Lumens per LED: 90-95
- UL listed



**MINIWPP Series**  
Mini Wallpack  
Polycarbonate Lens  
LED / 10 watts



**MAW Series**  
Mini Architectural Wallpack  
LED / 20 watts



**MWP Series**  
Medium Wallpack  
LED / 20 or 30 watts



**MSWP2 Series**  
Medium Semi-Cutoff Wallpack  
LED / 20 or 30 watts



**MCWP2 Series**  
Medium Cutoff Wallpack  
LED / 48 watts



**SSWP Series**  
Small Semi-Cutoff Wallpack  
LED / 10 watts



**CWP2 Series**  
Cutoff Wallpack  
LED / 48 watts



**CWPO Series**  
Cutoff Wallpack-Oval Shape  
LED / 30 or 48 watts



**LC12 Series**  
12" Canopy  
LED / 20, 40 or 60 watts



**SFL Series**  
Small Floodlight  
LED / 20 watts



**HFL2 Series**  
Horizontal Floodlight  
LED / 40 watts



**RGL Series**  
Round Garage Lighter  
LED / 36 watts

• Specifications are subject to change without notice.



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## Induction Lighting Fixtures

### Applications

- For walkways, driveways, tennis courts, malls shopping centers, commercial and industrial complexes, residential areas, park lighting, signs, and other general lighting.

### Features include

- Die-cast housing
- High quality powdercoat finish
- Long-life electrodeless induction lamps
- UL Listed



**ALA1 Series**  
Area Light Architectural  
IND / 80, 120 or 150 watts



**ALL Series**  
Area Light - Large  
IND / 200 watts



**ALM1 Series**  
Area Light - Medium  
IND / 80 or 120 watts



**ARSBF Series**  
Area Light Shoebox  
IND / 200 or 300 watts



**HFL2 Series**  
Horizontal Floodlight  
IND / 40 watts



**RGL Series**  
Round Garage Lighter  
IND / 40 or 80 watts



**C19 Series**  
Large Canopy  
IND / 80, 120, or 200 watts



**C12 Series**  
Medium Canopy  
IND / 40 or 80 watts



**C08 Series**  
Small Canopy  
IND / 15 or 23 watts



**MWP Series**  
Medium Wallpack  
IND / 40 or 60 watts



**CWP Series**  
Cut-off Wallpack  
IND / 15, 23 or 40 watts



**GHAC16 Series**  
16" Highbay Acrylic  
IND / 120 or 150 watts



**GHAC22 Series**  
22" Highbay Acrylic  
IND / 200, 300 or 380 watts



**LDWP2 Series**  
Large Deep Wallpack  
IND / 80, 120 or 150 watts



**LWP2 Series**  
Large Wallpack  
IND / 80 watts

• Specifications are subject to change without notice.



## Exit Signs and Combo Units

Features include

- Self contained
- Snap-fit faceplates
- Universal mounting
- Universal voltage
- Battery backup (some models)
- Remote capabilities (some models)
- Self diagnostics (some models)
- UL listed



**HL0205 Series**  
Steel Exit Signs



**HSLXTU Series**  
Tritium Self Luminous



**HL0226 Series**  
Wet Location  
Exit Sign



**HL0228 Series**  
Wet Location  
Exit/Emergency Combo



**HL0203NY Series**  
City of New York  
Edge Lite LED Exit Sign  
Remote or Surface Mount



**HL0210NY Series**  
City of New York  
Die-Cast Aluminum  
LED Exit Sign



**HL0201 Series**  
Slimline Thermoplastic  
LED Exit Sign



**HL0301 Series**  
Slimline Thermoplastic  
LED Exit Sign



**HL0210 Series**  
Die-Cast Aluminum  
LED Exit Sign



**HL0203 Series**  
Edge Lite LED Exit Sign  
Remote or Surface Mount



**HL0409 Series**  
Thermoplastic LED  
Exit/Emergency Combo



**HL0214 Series**  
Thermoplastic LED  
Exit/Emergency Combo



**HLCSXLED Series**  
All White LED  
Exit/Emergency Combo  
Square Heads



**HLRCXLED Series**  
All White LED  
Exit/Emergency Combo  
Round Heads



**HL0204 Series**  
City of Chicago  
Exit Sign



**HL0245NY Series**  
City of New York  
Exit/Emergency  
Combo Unit

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## Emergency Lights

Features include

- Injection molded design
- High impact
- Universal voltage
- Remote capabilities (some models)
- Self diagnostics (some models)
- UL listed



**HL202 Series**  
Adjustable Optics  
Emergency Light



**HL223W Series**  
Fixed Optics  
Emergency Light



**HL0242 & HL0244 Series**  
50W High Wattage  
Emergency Light



**HL0243 & HL0245 Series**  
100W High Wattage  
Emergency Light



**HLTFX-2 Series**  
Wet Location  
Emergency Light



**HLEMRL-1 Series**  
Recessed  
Emergency Light



**HLR16 Series**  
Halogen  
Emergency Light



**HLRMR Series**  
Halogen  
Emergency Light



**HLR-7 Series**  
Recessed  
Emergency Light



**HLCA26S10 Series**  
City of Chicago  
Emergency Light

## Remote Lamp Heads



**HLRH16 Series**  
Remote Heads  
1 or 2 heads  
Square



**HLRHR Series**  
Remote Heads  
1 or 2 heads  
Round heads



**Weather Proof Heads**  
Remote Heads  
HLRH1WP (1 head)  
HLRH2WP (2 heads)



**HLRH Series**  
Remote Heads  
1 or 2 heads  
Square heads

• Specifications are subject to change without notice.



## Exit/Emergency

### Ordering Guide<sup>+</sup>

Model #	Description
Exit Signs	
HL02012GW	Exit Sign - Thermoplastic LED, White Case/Housing, Green Letters, AC only
HL02012RW	Exit Sign - Thermoplastic LED, White Case/Housing, Red Letters, AC only
HL0201B2GW	Exit Sign - Thermoplastic LED, White Case/Housing, Green Letters, Battery Backup
HL0301B2GW	Exit Sign - Thermoplastic LED, White Case/Housing, Green Letters, Battery Backup
HL0301B2RW	Exit Sign - Thermoplastic LED, White Case/Housing, Red Letters, Battery Backup
HL0203RB1GA	Exit Sign - Edge Lite LED, Recessed Mount Case/Housing, Green on Clear, Battery Backup
HL0203RB1RA	Exit Sign - Edge Lite LED, Recessed Mount Case/Housing, Red on Clear, Battery Backup
HL0203SB1GA	Exit Sign - Edge Lite LED, Surface Mount Case/Housing, Green on Clear, Battery Backup
HL0203SB1RA	Exit Sign - Edge Lite LED, Surface Mount Case/Housing, Red on Clear, Battery Backup
HL0203SB2GA	Exit Sign - Edge Lite LED, Surface Mount Case/Housing, Green on Clear, Battery Backup
HL0203SB2RA	Exit Sign - Edge Lite LED, Surface Mount Case/Housing, Red on Clear, Battery Backup
HL02101RBA	Exit Sign - Die Cast Aluminum LED, Brushed Aluminum Case/Housing, Red Letters, AC only
HL0210B1RBA	Exit Sign - Die Cast Aluminum LED, Brushed Aluminum Case/Housing, Red Letters, Battery Backup
HL0226BG	Exit Sign - Wet Location LED, White Case/Housing, Green Letters, Battery Backup
HL0226BR	Exit Sign - Wet Location LED, White Case/Housing, Red Letters, Battery Backup
Combo Exit Signs/Emergency Lights	
HL0228BG	Combo Exit/Emergency - Light Wet Location LED, White Case/Housing, Green Letters, Battery Backup
HL0228BR	Combo Exit/Emergency - Light Wet Location LED, White Case/Housing, Red Letters, Battery Backup
HL04093GW	Combo Exit/Emergency Light LED, White Case/Housing, Green Letters, Battery Backup
HL04093RW	Combo Exit/Emergency Light LED, White Case/Housing, Red Letters, Battery Backup
HL02143GW	Combo Exit/Emergency Light LED, White Case/Housing, Green Letters, Battery Backup
HL02143GWR	Combo Exit/Emergency Light LED, White Case/Housing, Green Letters, Battery Backup, Remote Capable
HL02143RW	Combo Exit/Emergency Light LED, White Case/Housing, Red Letters, Battery Backup
HL02143RWRC	Combo Exit/Emergency Light LED, White Case/Housing, Red Letters, Battery Backup, Remote Capable
HL-CSXLED-2W	Combo Exit/Emergency Light LED, White Case/Housing, Red/Green Letters included
Emergency Lights	
HL0202SW	Emergency Light, White Case/Housing, Adjustable Optics
HL0202RCW	Emergency Light, White Case/Housing, Adjustable Optics, Remote Capable
HL0223W	Emergency Light, White Case/Housing, Fixed Optics, Battery (Lead)
HL0242	Emergency Light, White Case/Housing, Adjustable Optics, 6V, 50w max
HL0243	Emergency Light, White Case/Housing, Adjustable Optics, 6V, 100w max
HL0244	Emergency Light, White Case/Housing, Adjustable Optics, 12V, 50w max
HL0245	Emergency Light, White Case/Housing, Adjustable Optics, 12V, 100w max
HLTFX-2	Emergency Light, White Case/Housing, Adjustable Optics, Wet Location
Remote Lamp Heads	
HLRH1-6V5	Remote Lamp Head, White Case/Housing, Remote Lamp Head for HL0202
HLRH1-6V9	Remote Lamp Head, White Case/Housing, Remote Lamp Head for HL0202
HLRH16-1	Remote Lamp Head, White Case/Housing, Remote Lamp Head for HL0202
HLRH2-6V5	Remote Lamp Head, White Case/Housing, Remote Lamp Head for HL0202
HLRH2-6V9	Remote Lamp Head, White Case/Housing, Remote Lamp Head for HL0202
HLRH1WP-2	Remote Lamp Head-Round Weatherproof, Remote Lamp Head for HL0243
HLRH2-WP-6V7	Remote Lamp Head-Round Weatherproof, Remote Lamp Head for HL0243

+ Other configurations available  
• Specifications are subject to change without notice.



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## Emergency Ballast

Howard Lighting fluorescent emergency ballasts can be used for both normal and emergency operations. In the event of a power failure, the unit switches to emergency mode and operates the existing lamps for a minimum of 90 minutes. Each ballast includes a battery pack, battery charger, and inverter circuit, and can be top-mounted on the fixture or in the fixture wiring compartment. All ballasts comply with the latest codes and standards including UL924.



**BAL500**  
T8 Lamp operation



**BAL650C-2**  
CFL Lamp operation



**BAL650C-4**  
CFL/T8/T10/T12  
Lamp operation



**BAL700**  
T8/T10/T12  
Lamp operation



**BAL1400**  
T8/T9/T10/T12/CFL  
Lamp operation



**BAL3000**  
T8/T9/T10/T12  
Lamp operation



**BALT5-500**  
T5/T8  
Lamp operation



**BALT5-800**  
T5/T8/CFL  
Lamp operation



**BALT5-1300**  
T5/T8/CFL  
Lamp operation

### Ordering Guide

Model #	Description
BAL1400	Emergency Ballast 1100-1400 Lumens
BAL3000	Emergency Ballast 1450-3000 Lumens
BAL500	Emergency Ballast 350-500 Lumens
BAL650C-2	Emergency Ballast 300-650 Lumens
BAL650C-4	Emergency Ballast 300-750 Lumens
BAL700	Emergency Ballast 600-700 Lumens
BALT5-1300	Emergency Ballast 1300 Lumens
BALT5-500	Emergency Ballast 450-500 Lumens
BALT5-800	Emergency Ballast 800 Lumen

• Specifications are subject to change without notice.



## Linear Fluorescent Ballast

### Ordering Guide



#### T8 Electronic Fluorescent Ballasts

Starting Ballast Factor	Ballast Factor CEE Listed				F32T8**			F32T8/ES (30W)			F32T8/ES (28W)			F32T8/ES (25W)			
		Model #	Number of Lamps	Input Voltage	Ballast Factor	Input Watts	Ballast Efficacy Factor	Ballast Factor	Input Watts	Ballast Efficacy Factor	Ballast Factor	Input Watts	Ballast Efficacy Factor	Ballast Factor	Input Watts	Ballast Efficacy Factor	
INSTANT START	Standard	E2/32IS-120MC	2	120V	0.85	59	1.44	0.87	54	1.61							
		EP2/32IS/MV/MC	2	Multi-volt 120	0.89	59	1.51	0.89	55	1.62	0.89	49	1.82	0.89	47	1.89	
		EP2/32IS/MV/MC	2	Multi-volt 277	0.89	57	1.56	0.89	54	1.65	0.89	48	1.85	0.89	46	1.93	
		EPL2/32IS/MV/MC	2	Multi-volt 120	0.80	52	1.54										
		EP2/32IS/MV/MC/HE	2	Multi-volt 120	0.89	55	1.59	0.89	51	1.74	0.89	49	1.82	0.89	46	1.92	
		EP2/32IS/MV/MC/HE	2	Multi-volt 277	0.89	54	1.60	0.89	51	1.70	0.89	47	1.89	0.89	45	1.95	
		EP3/32IS/MV/MC/HE	3	Multi-volt 120	0.88	84	1.05	0.88	79	1.11	0.88	72	1.22	0.90	68	1.32	
		EP3/32IS/MV/MC/HE	3	Multi-volt 277	0.88	83	1.06	0.88	77	1.14	0.88	70	1.25	0.90	68	1.32	
		EP4/32IS/MV/MC/HE	4	Multi-volt 120	0.88	110	0.80	0.88	101	0.87	0.88	94	0.94	0.88	88	1.00	
		EP4/32IS/MV/MC/HE	4	Multi-volt 277	0.88	108	0.81	0.88	100	0.88	0.88	94	0.94	0.88	88	1.00	
		EPL2/32IS/MV/MC/HE	2	Multi-volt 120	0.78	48	1.59	0.78	45	1.59	0.78	41	1.90	0.78	39	2.00	
		EPL2/32IS/MV/MC/HE	2	Multi-volt 277	0.78	48	1.60	0.78	46	1.60	0.78	41	1.90	0.78	38	2.00	
		EPL3/32IS/MV/MC/HE	3	Multi-volt 120	0.78	75	1.04	0.81	71	1.14	0.81	64	1.26	0.85	63	1.34	
		EPL3/32IS/MV/MC/HE	3	Multi-volt 277	0.78	74	1.05	0.81	70	1.15	0.81	63	1.28	0.85	61	1.39	
		EPL4/32IS/MV/MC/HE	4	Multi-volt 120	0.77	98	0.79	0.77	90	0.85	0.77	84	0.91	0.78	82	0.95	
		EPL4/32IS/MV/MC/HE	4	Multi-volt 277	0.77	96	0.80	0.77	98	0.86	0.77	84	0.91	0.78	81	0.96	
		EPH2/32IS/MV/MC/HE	2	Multi-volt 120	1.18	74	1.59	1.18	69	1.71	1.18	64	1.84	1.18	63	1.87	
		EPH2/32IS/MV/MC/HE	2	Multi-volt 277	1.18	73	1.61	1.18	69	1.71	1.18	63	1.87	1.18	62	1.90	
		EPH3/32IS/MV/MC/HE	3	Multi-volt 120	1.18	109	1.06	1.18	99	1.18	1.18	93	1.25	1.20	86	1.37	
		EPH3/32IS/MV/MC/HE	3	Multi-volt 277	1.18	107	1.08	1.18	99	1.19	1.18	92	1.27	1.20	85	1.40	
		EPH4/32IS/MV/SC/HE	4	Multi-volt 120	1.16	145	0.80	1.16	120	0.97	1.16	116	1.00	1.16	108	1.07	
		EPH4/32IS/MV/SC/HE	4	Multi-volt 277	1.16	144	0.81	1.16	120	0.97	1.16	115	1.01	1.16	109	1.06	
		EP2/32PRS/MV/MC/HE	2	Multi-volt 120	0.88	57	1.54	0.90	53	1.67	0.90	52	1.73	1.00	50	2.00	
		EP2/32PRS/MV/MC/HE	2	Multi-volt 277	0.88	56	1.56	0.90	52	1.70	0.90	51	1.76	1.00	49	2.04	
		EP2/32PPRS/MV/MC/HE	2	Multi-volt 120	0.88	60	1.47	0.88	56	1.57	0.90	54	1.67	0.92	50	1.84	
		EP2/32PPRS/MV/MC/HE	2	Multi-volt 277	0.88	60	1.47	0.88	56	1.57	0.90	54	1.67	0.92	50	1.84	
		EP4/32PPRS/MV/MC/HE	4	Multi-volt 120	0.86	114	0.75	0.83	104	0.80	0.85	100	0.85	0.89	93	0.96	
		EP4/32PPRS/MV/MC/HE	4	Multi-volt 277	0.86	114	0.76	0.84	104	0.80	0.86	100	0.86	0.89	93	0.96	

#### T5 Electronic Fluorescent Ballasts

Starting Ballast Factor	Ballast Factor CEE Listed				F54T5HO**			F39T5/HO**			F28T5**			FC12T5/HO			
		Model #	Number of Lamps	Input Voltage	Ballast Factor	Input Watts	Ballast Efficacy Factor	Ballast Factor	Input Watts	Ballast Efficacy Factor	Ballast Factor	Input Watts	Ballast Efficacy Factor	Ballast Factor	Input Watts	Ballast Efficacy Factor	
PROGRAM RAID START	Standard	EP2/54HO/PRS/MV/90C/W	2	Multi-volt 120	1.00	120	0.83										
		EP2/54HO/PRS/MV/90C/W	2	Multi-volt 277	1.00	117	0.85										
		EP2/54HO/PRS/MV/W/SC	2	Multi-volt 120	1.00	120	0.83										
		EP2/54HO/PRS/MV/W/SC	2	Multi-volt 277	1.00	120	0.83										
PROGRAM RAID START	Standard	EP2/39HO/PRS/MV	2	Multi-volt 120				1.00	90	1.11							
		EP2/39HO/PRS/MV	2	Multi-volt 277				1.00	89	1.12							
		EP2/28T5/PRS/MV	2	Multi-volt 120							1.05	67	1.57				
		EP2/28T5/PRS/MV	2	Multi-volt 277							1.05	67	1.57				

CEE: Meets Consortium of Energy Efficiency Standards

\*\* This is the primary lamp for this ballast. See specs sheets on our web for other lamps run by this ballast.

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## Linear Fluorescent Ballast

### Ordering Guide



#### T8 Electronic/T12 Electronic

Starting				F96T8**			F96T12**			F40T12**			F96T12HO**		
	Model #	Number of Lamps	Input Voltage	Ballast Factor	Input Watts	Ballast Efficacy Factor	Ballast Factor	Input Watts	Ballast Efficacy Factor	Ballast Factor	Input Watts	Ballast Efficacy Factor	Ballast Factor	Input Watts	Ballast Efficacy Factor
INSTANT START	EP2/59IS/MV/MC	1	Multi-volt 120	1.09	68	1.60									
			Multi-volt 277	1.09	67	1.63									
		2	Multi-volt 120	0.88	108	0.81									
			Multi-volt 277	0.88	106	0.83									
	EP2/75IS/MV/SC	2	Multi-volt 120				0.90	137	0.66						
			Multi-volt 277				0.90	135	0.67						
	E2/75IS-120MC	1	120 volt				1.02	82	1.24						
		2	120 volt				0.88	135	0.65						
RAPID START	EP2/40RS/MV/MC	1	Multi-volt 120							0.55	72	1.18			
		2	Multi-volt 277							0.85	70	1.21			
	E2/40RS-120MC	2	120 volt							0.85	73	1.16			
													1.03	113	0.91
	E2/110RS-120	1	120 volt										0.90	200	0.45
		2	120 volt										0.92	104	0.88
	EP2/110RS-MV	1	Multi-volt 120										0.92	104	0.88
		2	Multi-volt 277										0.85	196	0.43
													0.85	196	0.43

## Compact Fluorescent Ballast

### Ordering Guide

#### Electronic Compact Fluorescent

Starting				CF13DE**			CF18DE**			CF26DE**			CF42TE**		
	Model #	Number of Lamps	Input Voltage	Ballast Factor	Input Watts	Ballast Efficacy Factor	Ballast Factor	Input Watts	Ballast Efficacy Factor	Ballast Factor	Input Watts	Ballast Efficacy Factor	Ballast Factor	Input Watts	Ballast Efficacy Factor
PROGRAM START	EP2/13CF/MV/K2	2	Multi-volt 120	1.00	29	3.45									
			Multi-volt 277	1.00	29	3.45									
	EP2/18CF/MV/K	2	Multi-volt 120				1.08	44	2.48						
			Multi-volt 277				1.08	42	2.54						
	EP2/26CF/MV/K2	2	Multi-volt 120							1.00	51	1.96			
			Multi-volt 277							1.00	51	1.96			
	EP2/42CF/MV/K2	2	Multi-volt 120										1.00	94	1.14
			Multi-volt 277										1.00	93	1.08

#### Electronic Compact Fluorescent

Starting				FT40W/2G11**		
	Model #	Number of Lamps	Input Voltage	Ballast Factor	Input Watts	Ballast Efficacy Factor
INSTANT START	EP2/40IS-TT/MV/SC	2	Multi-volt 120	0.84	67	1.25
			Multi-volt 277	0.84	65	1.29
	EP3/40IS-TT/MV/SC	3	Multi-volt 120	0.84	97	0.87
			Multi-volt 277	0.84	95	0.88



\*\* This is the primary lamp for this ballast. See specs sheets on our web for other lamps run by this ballast.

• Specifications are subject to change without notice.



## Magnetic Fluorescent Ballast

### Ordering Guide



### Magnetic Fluorescent Ballast

Model #	Description
M1/110RS-120	MAG BALLAST (1) F96T12HO 120V
M1/110RS-277	MAG BALLAST (1) F96T12HO 277V
M1/13CFH-120	MAG BALLAST (1) 13W CFL 120V
M1/13CFN-120	MAG BALLAST (1) 13W CFL 120V
M1/18CFH-120	MAG BALLAST (1) 18W CFL 120V
M1/20TR-120	MAG BALLAST (1) F20T12 120V
M1/22PHC-120	MAG BALLAST (1) FC8T9 CIRCLINE 120V PREHEAT
M1/22RSC-120	MAG BALLAST (1) FC8T9 CIRCLINE 120V
M1/26CFH-120	MAG BALLAST (1) 26W CFL 120V
M1/26CFN-277	MAG BALLAST (1) 26W CFL 277V
M1/28CFH-120	MAG BALLAST (1) 28W CFL 120V
M1/75IS-277	MAG BALLAST (1) F96T12 SLIMLINE 277V
M1/9CFN-120	MAG BALLAST (1) 9W CFL 120V
M2/13CFH-120	MAG BALLAST (2) 13W CFL 120V
M2/20TR-120	MAG BALLAST (2) F20T12 120V
M2/30RS-120	MAG BALLAST (2) F30T12 120V
M2/32RS-120	MAG BALLAST (2) F32T8 120V
M2/32RS-277	MAG BALLAST (2) F32T8 277V
M2/40RS-220	MAG BALLAST (2) F40T12 220V
M2/40RS-240	MAG BALLAST (2) F40T12 240V
M2/40RSCH-120	MAG BALLAST (1) FC12T9 & (1) FC16T9 CIRCLINE 120V

## Sign Ballast

### Ordering Guide



### Magnetic Sign Ballast

Model #	Description
MSB/0412/12/120	MAG SIGN BALLAST 1-2 LAMPS 4' MIN-12' MAX 120V
MSB/0620/24/120	MAG SIGN BALLAST 2-4 LAMPS 6' MIN-20' MAX 120V
MSB/1224/24/120	MAG SIGN BALLAST 2-4 LAMPS 12' MIN-24' MAX 120V
MSB/1240/46/120	MAG SIGN BALLAST 4-6 LAMPS 12' MIN-40' MAX 120V
MSB/2040/24/120	MAG SIGN BALLAST 2-4 LAMPS 20' MIN-40' MAX 120V
MSB/2448/46/120	MAG SIGN BALLAST 4-6 LAMPS 24' MIN-48' MAX 120V

### Electronic Sign Ballast

EBO-3-8-24	ELEC SIGN BALLAST 1-3 LAMPS 4' MIN-24' MAX 120V
EBO-4-10-40	ELEC SIGN BALLAST 1-4 LAMPS 10' MIN-40' MAX 120V
EBO-6-8-32	ELEC SIGN BALLAST 1-6 LAMPS 8' MIN-32' MAX 120V
EBO-6-8-48	ELEC SIGN BALLAST 2-6 LAMPS 10' MIN-48' MAX 120V

• Specifications are subject to change without notice.



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## Magnetic HID Ballast

### Ordering Guide

#### Metal Halide

Model #	Description
M0050-23C-511-DK	MH Ballast, 50w, M110, 120/277, HX-HPF, Dry Kit
M0070-71C-511-DK	MH Ballast, 70w, M98, Quad, HX-HPF, Dry Kit
M0100-71C-512-CK	MH Ballast, 100w, M90, Quad, HX-HPF, Oil Kit
M0100-71C-512-DK	MH Ballast, 100w, M90, Quad, HX-HPF, Dry Kit
M0150-71C-511-DK	MH Ballast, 150w, M102, Quad, HX-HPF, Dry Kit
M0175-71C-214-CK	MH Ballast, 175w, M57, Quad, CWA, Alum, Oil Kit
M0175-71C-214-DK	MH Ballast, 175w, M57, Quad, CWA, Alum, Dry Kit
M0175-81C-213-CK	MH Ballast, 175w, M57, 5-Tap, CWA, Alum, Oil Kit
M0175-81C-213-DK	MH Ballast, 175w, M57, 5-Tap, CWA, Alum, Dry Kit
M0250-71C-215-CK	MH Ballast, 250w, M58, Quad, CWA, Alum, Oil Kit
M0250-71C-215-DK	MH Ballast, 250w, M58, Quad, CWA, Alum, Dry Kit
M0250-81C-215-CK	MH Ballast, 250w, M58, 5-Tap, CWA, Alum, Oil Kit
M0250-81C-215-DK	MH Ballast, 250w, M58, 5-Tap, CWA, Alum, Dry Kit
M0400-71C-213-CK	MH Ballast, 400w, M59, Quad, CWA, Alum, Oil Kit
M0400-71C-213-DK	MH Ballast, 400w, M59, Quad, CWA, Alum, Dry Kit
M0400-81C-212-CK	MH Ballast, 400w, M59, 5-TAP, CWA, Alum, Oil Kit
M0400-81C-212-DK	MH Ballast, 400w, M59, 5-TAP, CWA, Alum, Dry Kit
M1000-71C-214-CK	MH Ballast, 1000w, M47, Quad, CWA, Alum, Oil Kit
M1000-81C-213-CK	MH Ballast, 1000w, M47, 5-TAP, CWA, Alum, Oil Kit
M1500-71C-214-CK	MH Ballast, 1500w, M48, Quad, CWA, Oil Kit

Note:

Quad (71C) = 120, 208, 240, 277

5-Tap (81C) = 120, 208, 240, 277, 480

HX-HPF = High Reactance - High Power Factor

CWA = Constant Wattage Autotransformer



#### Pulse Start Metal Halide

Model #	Description
M0320-71C-6E4-CK	PSMH Ballast, 320w, M132/M154, Quad, PS-CWA, Alum, Circle E, Oil Kit
M0320-71C-6E4-DK	PSMH Ballast, 320w, M132/M154, Quad, PS-CWA, Alum, Circle E, Dry Kit
M0350-71C-6E4-CK	PSMH Ballast, 350w, M131, Quad, PS-CWA, Circle E, Oil Kit
M0350-71C-6E4-DK	PSMH Ballast, 350w, M131, Quad, PS-CWA, Circle E, Oil Kit
M0400-71C-6E3-CK	PSMH Ballast, 400w, M128/M135/M155, Quad, PS-CWA, Alum, Circle E, Oil Kit
M0400-71C-6E3-DK	PSMH Ballast, 400w, M135/M155 Quad, PS-CWA, Circle E, Dry Kit
M0750-71C-611-CK	PSMH Ballast, 750w, M149, Quad, PS-CWA, Alum, Oil Kit
M0875-71C-611-CK	PSMH Ballast, 875w, M166, Quad, PS-CWA, Alum, Oil Kit
M1000-71C-613-CK	PSMH Ballast, 1000w, M141, Quad, PS-CWA, Aluminum Secondary, Oil Kit

Note:

Quad (71C) = 120, 208, 240, 277

5-Tap (81C) = 120, 208, 240, 277, 480

PS-CWA = Pulse Start Constant Wattage Autotransformer

## Need Lamps?

See pages 46-47 for Metal Halide  
and Pulse Start Metal Halide  
Lamp Ordering Information

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## Magnetic HID Ballast

### Ordering Guide

#### High Pressure Sodium

Model #	Description
S0035-02C-111-DK	HPS Ballast, 35w, S76, 120v, R-HPF, Dry Kit
S0035-02C-111-K	HPS Ballast, 35w, S76, 120v, R-NPF, Kit
S0050-02C-111-DK	HPS Ballast, 50w, S68, 120v, R-HPF, Dry Kit
S0050-02C-111-K	HPS Ballast, 50w, S68, 120v, R-NPF, Kit
S0070-02C-111-DK	HPS Ballast, 70w, S62, 120v, R-HPF, Dry Kit
S0070-02C-111-K	HPS Ballast, 70w, S62, 120v, R-NPF, Kit
S0070-71C-512-CK	HPS Ballast, 70w, S62, Quad, HX-HPF, Oil Kit
S0070-71C-512-DK	HPS Ballast, 70w, S62, Quad, HX-HPF, Dry Kit
S0100-02C-111-DK	HPS Ballast, 100w, S54, 120v, R-HPF, Dry Kit
S0100-02C-111-K	HPS Ballast, 100w, S54, 120v, R-NPF, Kit
S0100-71C-512-CK	HPS Ballast, 100w, S54, Quad, HX-HPF, Oil Kit
S0100-71C-512-DK	HPS Ballast, 100w, S54, Quad, HX-HPF, Dry Kit
S0150-02C-111-DK	HPS Ballast, 150w, S55, 120v, R-HPF, Dry Kit
S0150-02C-111-K	HPS Ballast, 150w, S55, 120v, R-NPF, Kit
S0150-71C-512-CK	HPS Ballast, 150w, S55, Quad, HX-HPF, Oil Kit
S0150-71C-512-DK	HPS Ballast, 150w, S55, Quad, HX-HPF, Dry Kit
S0250-71C-214-CK	HPS Ballast, 250w, S50, Quad, CWA, Oil Kit
S0250-71C-214-DK	HPS Ballast, 250w, S50, Quad, CWA, Dry Kit
S0250-81C-212-CK	HPS Ballast, 250w, S50, 5-Tap, CWA, Oil Kit
S0250-81C-212-DK	HPS Ballast, 250w, S50, 5-TAP, CWA, Dry Kit
S0400-71C-212-CK	HPS Ballast, 400w, S51, Quad, CWA, Oil Kit
S0400-71C-212-DK	HPS Ballast, 400w, S51, Quad, CWA, Dry Kit
S0400-81C-212-CK	HPS Ballast, 400w, S51, 5-TAP, CWA, Oil Kit
S0400-81C-212-DK	HPS Ballast, 400w, S51, 5-TAP, CWA, Dry Kit
S1000-71C-212-CK	HPS Ballast, 1000w, S52, Quad, CWA, Oil Kit
S1000-81C-212-DK	HPS Ballast, 1000w, S52, 5-Tap, CWA, Oil Kit

Note:  
Quad (71C) = 120, 208, 240, 277  
5-Tap (81C) = 120, 208, 240, 277, 480  
R-HPF = Reactor-High Power Factor  
R-NPF = Reactor-Normal Power Factor  
CWA = Constant Wattage Autotransformer



## Need Lamps?

See page 45 for High Pressure Sodium Lamp Ordering Information



### Did you know?

Howard also offers lamp ballast kits.  
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• Specifications are subject to change without notice.



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## Magnetic HID Ballast Accessories

### Ordering Guide

#### Capacitors

Model #	Description
10.0/280-1A	10.0 microfarad, 280V, oval oil capacitor
10.0/280-2B	10.0 microfarad, 280V, dry capacitor
10.0/400-1B	10.0 microfarad, 400V, oval oil capacitor
10.0/400-2B	10.0 microfarad, 400V, dry capacitor
10.0/400-3A	10.0 microfarad, 400V, round oil capacitor
12.0/280-1A	12.0 microfarad, 280V, oval oil capacitor
12.0/280-2B	12.0 microfarad, 280V, dry capacitor
14.0/280-1B	14.0 microfarad, 280V, oval oil capacitor
14.0/280-2B	14.0 microfarad, 280V, dry capacitor
15.0/300-1C	15.0 microfarad, 300V, oval oil capacitor
15.0/400-1C	15.0 microfarad, 400V, oval oil capacitor
15.0/400-2C	15.0 microfarad, 400V, dry capacitor
16.0/280-2B	16.0 microfarad, 280V, dry capacitor
17.5/280-1B	17.5 microfarad, 280V, oval oil capacitor
17.5/280-2C	17.5 microfarad, 280V, dry capacitor
19.0/480-1C	19.0 microfarad, 480V, oval oil capacitor
19.5/380-2C	19.5 microfarad, 380V, dry capacitor
19.5/400-1C	19.5 microfarad, 400V, oval oil capacitor
19.5/400-3B	19.5 microfarad, 400V, round oil capacitor
20.0/280-1B	20.0 microfarad, 280V, oval oil capacitor
20.0/280-2C	20.0 microfarad, 280V, dry capacitor
20.5/380-2C	20.5 microfarad, 380V, dry capacitor
20.5/400-1C	20.5 microfarad, 400V, oval oil capacitor
21.0/480-1C	21.0 microfarad, 480V, oval oil capacitor
24.0/400-1C	24.0 microfarad, 400V, oval oil capacitor
24.0/400-2C	24.0 microfarad, 400V, dry capacitor
24.0/400-3C	24.0 microfarad, 400V, round oil capacitor
24.0/480-1C	24.0 microfarad, 480V, oval oil capacitor
24.0/480-3C	24.0 microfarad, 480V, round oil capacitor
26.0/330-1C	26.0 microfarad, 330V, oval oil capacitor
26.0/330-2C	26.0 microfarad, 330V, dry capacitor
26.0/525-1C	26.0 microfarad, 525V, oval oil capacitor
26.0/525-3C	26.0 microfarad, 525V, round oil capacitor
28.0/280-1C	28.0 microfarad, 280V, oval oil capacitor
28.0/280-2C	28.0 microfarad, 280V, dry capacitor
28.0/400-3B	28.0 microfarad, 400V, round oil capacitor
32.0/525-1D	32.0 microfarad, 525V, oval oil capacitor
32.0/525-3D	32.0 microfarad, 525V, round oil capacitor
35.0/240-1C	35.0 microfarad, 240V, oval oil capacitor
35.0/240-2C	35.0 microfarad, 240V, dry capacitor
35.0/240-3C	35.0 microfarad, 240V, round oil capacitor

#### Capacitors

Model #	Description
46.0/280-2C	46.0 microfarad, 280V dry capacitor
5.0/280-1A	5.0 microfarad, 280V, oval oil capacitor
5.0/280-2A	5.0 microfarad, 280V, dry capacitor
55.0/240-1C	55.0 microfarad, 240V, oval oil capacitor
55.0/240-2C	55.0 microfarad, 240V, dry capacitor
6.0/280-1B	6.0 microfarad, 280V, oval oil capacitor
6.0/280-2A	6.0 microfarad, 280V, dry capacitor
6.0/280-3A	6.0 microfarad, 280V, round oil capacitor
7.0/280-1A	7.0 microfarad, 280V, oval oil capacitor
7.0/280-2A	7.0 microfarad, 280V, dry capacitor
8.0/280-2A	8.0 microfarad, 280V, dry capacitor

#### Starters

Model #	Description
ST1000	Starter HI: Pulse Start Ignitor 250-400W
ST1001	Starter HI: Pulse Start Ignitor 50-400W
ST1002	Starter HI: Pulse Start Ignitor 175-400W
ST1003	Starter HI: Pulse Start Ignitor 750W
ST2000	Starter HI: High Pressure Sodium Ignitor 200-400W
ST2001A	Starter HI: High Pressure Sodium Ignitor 35-150W
ST2002	Starter HI: High Pressure Sodium Ignitor 1000W
ST2002LR	Starter HI: High Pressure Sodium Long Range Ignitor 1000W

Starter



Dry Capacitor



Round Oil Capacitor



Oval Oil Capacitor



• Specifications are subject to change without notice.



## Linear Fluorescent T8 Lamps

### Ordering Guide

Watts	Bulb	Nom. Length (in)	MOL (in)	Base	Model #	Lumens Initial (lm)	Lumens Mean (lm)	Avg. Life (hours)	CRI	Color Temperature (K)					Pkg. Qty.	Footnotes	
										3000	3500	4100	5000	6500			
T8 Fluorescent Low Mercury																	
25	T8	48	47.78	Med Bipin	F25T8/8xx/ES/ECO	2500	2425	24000	85	X	X	X	X		25	1,2,3, E ,ECO	
25	T8	48	47.78	Med Bipin	F25T8/8xx/ES/ECO/IC	2500	2425	24000	85	X	X	X	X		25	1,2,3, E ,ECO	
28	T8	48	47.78	Med Bipin	F28T8/8xx/ES/ECO	2725	2560	24000	85	X	X	X	X		25	1,2,3, E ,ECO	
28	T8	48	47.78	Med Bipin	F28T8/8xx/ES/ECO/IC	2725	2560	24000	85	X		X	X		25	1,2,3, E ,ECO	
30	T8	48	47.78	Med Bipin	F30T8/8xx/ES/ECO	2850	2680	24000	85	X	X	X			25	1,2,3, E ,ECO	
32	T8	48	47.78	Med Bipin	F32T8/8xx/HL/ECO	3100	2950	24000	85	X	X	X	X		25	1,2,3, E ,ECO	
32	T8	48	47.78	Med Bipin	F32T8/8xx/HL/ECO/IC	3100	2950	24000	85	X	X	X	X	X	25	1,2,3, E ,ECO	
17	T8	24	23.61	Med Bipin	F17T8/7xx	1350	1200	24000	75	X	X	X			25	1,2,3, E ,ECO	
17	T8	24	23.61	Med Bipin	F17T8/8xx	1400	1275	24000	83	X	X	X		X	25	1,2,3, E ,ECO	
25	T8	36	35.42	Med Bipin	F25T8/7xx	2150	1925	24000	75	X	X	X			25	1,2,3, E ,ECO	
25	T8	36	35.42	Med Bipin	F25T8/8xx	2225	2050	24000	83	X	X	X		X	25	1,2,3, E ,ECO	
32	T8	48	47.22	Med Bipin	F32T8/7xx	2850	2710	24000	75	X	X	X	X		25	1,2,3, E ,ECO	
32	T8	48	47.22	Med Bipin	F32T8/8xx	3050	2800	24000	83	X	X	X	X	X	25	1,2,3, E ,ECO	
32	T8	48	47.22	Med Bipin	F32T8/7xx/ECO/IC	2850	2710	24000	75	X	X	X	X		25	1,2,3, E ,ECO	
32	T8	48	47.22	Med Bipin	F32T8/8xx/ECO/IC	3050	2800	24000	83		X	X	X	X	X	25	1,2,3, E ,ECO



## Linear Fluorescent U-bent Lamps

### Ordering Guide

Watts	Bulb	Nom. Length (in)	MOL (in)	Base	Model #	Lumens Initial (lm)	Lumens Mean (lm)	Avg. Life (hours)	CRI	Color Temperature (K)					Pkg. Qty.	Footnotes
										3000	3500	4100	5000	6500		
T8 Fluorescent U-Bent, 6" Spacing, Low Mercury																
25	T8	22.5	22.6	Med Bipin	FB25T8/8xx/ES/ECO	2400	-	24000	85	X	X	X	X		20	1,2,3, E ,ECO
28	T8	22.5	22.6	Med Bipin	FB28T8/8xx/ES/ECO	2600	-	24000	85	X	X	X	X		20	1,2,3, E ,ECO
32	T8	22.5	23	Med Bipin	FB32T8/7xx/6	2750	-	24000	75	X	X	X			20	1,2,3, E ,ECO
32	T8	22.5	23	Med Bipin	FB32T8/8xx/6	3000	-	24000	85	X	X	X	X		20	1,2,3, E ,ECO
T8 Fluorescent U-Bent, 1 5/8" Spacing, Low Mercury																
31	T8	22.5	23	Med Bipin	FB31T8/8xx	2775	-	24000	82	X	X	X			20	1,2,3, E ,ECO



#### Footnote Legend:

- 1. Average-rated life is based on 3 hours per start
- 2. Average-rated life at 12 hours per start will increase life by approximately 25% (e.g. lamps rated at 24000 would go to 30000)
- 3. Lumen ratings, CRI and average-rated lamp life subject to change
- E. This lamp meets Federal Minimum Efficiency standards
- ECO. Low-Mercury fluorescent lamps pass the Federal TCLP for hazardous waste. Disposal regulations may vary; check local and state regulations

## Need Ballast?

See pages 35-36 for Linear Fluorescent Ballast Ordering Information

- Meets Consortium of Energy Efficiency Standards
- Specifications are subject to change without notice.



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## Linear Fluorescent T5 Lamps

### Ordering Guide

Watts	Bulb	Nom. Length (in)	MOL (in)	Base	Model #	Lumens Initial (lm)	Lumens Mean (lm)	Avg. Life (hours)	CRI	Color Temperature (K)					Pkg. Qty.	Footnotes
										3000	3500	4100	5000	6500		
T5 Standard																
14	T5	24	21.89	Med Bipin (G5)	F14T5/8xx	1350	1250	20000	85	X	X	X		X	25	1,2,3,4,5,6,7
21	T5	36	33.70	Med Bipin (G5)	F21T5/8xx	2250	2050	20000	85	X	X	X	X	X	25	1,2,3,4,5,6,7
28	T5	48	45.52	Med Bipin (G5)	F28T5/8xx	2900	2700	20000	85	X	X	X		X	25	1,2,3,4,5,6,7
T5 High Output																
24	T5	24	21.89	Med Bipin (G5)	F24T5/8xx/HO	2000	1900	20000	85	X	X	X	X	X	25	1,2,3,4,5,6,7
39	T5	36	33.70	Med Bipin (G5)	F39T5/8xx/HO	3500	3300	20000	85	X	X	X	X	X	25	1,2,3,4,5,6,7
54	T5	48	45.52	Med Bipin (G5)	F54T5/8xx/HO	5400	4950	20000	85	X	X	X	X	X	25	1,2,3,4,5,6,7



## Fluorescent Circline Lamps

### Ordering Guide

Watts	Bulb	Outside Diameter (o.d.)	Base	Model #	Lumens Initial (lm)	Lumens Mean (lm)	Avg. Life (hours)	CRI	Color Temperature (K)	Pkg. Qty.
T9 Circline										
22	T9	8	G10q	FC8T9/CW	1150	1050	10000	62	4100	12
32	T9	12	G10q	FC12T9/CW	2100	2000	10000	62	4100	12
40	T9	16	G10q	FC16T9/CW	2900	2700	10000	62	4100	12
T5 Circline										
22	T5	9	2GX13	FC22T5/835	1900	1800	10000	82	3500	12
22	T5	9	2GX13	FC22T5/841	1900	1800	10000	82	4100	12
40	T5	12	2GX13	FC40T5/835	3350	3150	10000	82	3500	20
40	T5	12	2GX13	FC40T5/841	3350	3150	10000	82	4100	20



#### Footnote Legend:

1. Average-rated life is based on 3 hours per start.
2. Average-rated life at 12 hours per start will increase life by approximately 25% (e.g., lamps rated at 20000 would go to 25000).
3. Lumen ratings, CRI and average-rated lamp life subject to change.
4. NEMA recommends that ballasts for this lamp have end-of-life shutdown circuitry which will safely shut the system down in the event of an abnormal end-of-life failure mode. See [www.NEMA.org](http://www.NEMA.org) for details.
5. Minimum start temperature is a function of the ballast; consult the ballast manufacturer.
6. The nominal length of linear fluorescent lamps is typically measured from back of lampholder to back of lampholder. T5 and T5HO linear lamps are exceptions. The nominal length given for T5 and T5HO linear lamps is the closest familiar nominal length.
7. Call for availability.

• Specifications are subject to change without notice.

## Need Ballast?

See pages 35-36 for Linear  
Fluorescent Ballast  
Ordering Information



## Compact Fluorescent Lamps

### Ordering Guide

Watts	Model #	Base	Lumens Initial (lm)	Lumens Mean (lm)	MOL (mm)	Avg. Life (hours)	Color Temperature (K)				Pkg. Qty.
							2700	3000	3500	4100	
Single Tube (2-Pin G23 Base)											
5	CF5S/827	G23	250	230	110	10000	X			X	50
7	CF7S/827	G23	400	360	139	10000	X		X	X	50
9	CF9S/827	G23	600	540	170	10000	X		X	X	50
Single Tube (2-Pin GX23 Base)											
13	CF13S/830	GX23	800	720	182	10000		X	X	X	50
Single Tube (4-Pin 2G7 Base for Electronic Ballast-Dimmable)											
5	CF5SE/827	2G7	250	230	87	10000	X			X	50
7	CF7SE/827	2G7	400	360	116	10000	X			X	50
9	CF9SE/827	2G7	600	540	146	10000	X			X	50
Single Tube (4-Pin 2GX7 Base for Electronic Ballast-Dimmable)											
13	CF13SE/827	2GX7	800	720	162	10000	X		X	X	50
Double Tube (2-Pin G23-2 Base)											
9	CF9D/827	G23-2	525	475	110	10000	X		X	X	50
Double Tube (2-Pin GX23-2 Base)											
13	CF13D/827	GX23-2	780	700	120	10000	X		X	X	50
Double Tube (2-Pin G24d-2 Base)											
18	CF18D/827	G24d-2	1200	1080	154	10000	X	X	X	X	50
26	CF26D/827	G24d-3	1800	1620	175	10000	X	X	X	X	50
Double Tube (4-Pin G24q-1 Base for Electronic Ballast)											
13	CF13DE/827	G24q-1	900	810	134	10000	X		X	X	50
Double Tube (4-Pin G24q-2 Base for Electronic Ballast)											
18	CF18DE/827	G24q-2	1200	1080	149	10000	X	X	X	X	50
Double Tube (4-Pin G24q-3 Base for Electronic Ballast)											
26	CF26DE/827	G24q-3	1800	1620	167	10000	X	X	X	X	50
Triple Tube (2-Pin GX24d-2 Base)											
18	CF18T/827	GX24d-2	1200	1080	123	10000	X				50
Triple Tube (2-Pin GX24d-3 Base)											
26	CF26T/827	GX24d-3	1800	1620	139	10000	X				50
Triple Tube (4-Pin GX24q-1 Base for Electronic Ballast)											
13	CF13TE/827	GX24q-1	900	810	113	10000	X	X	X	X	50
Triple Tube (4-Pin GX24q-3 Base for Electronic Ballast)											
26	CF26TE/827	G24q-3	1800	1620	175	10000	X	X	X	X	50
Triple Tube (4-Pin GX24q-4 Base for Electronic Ballast)											
42	CF42TE/827	GX24q-4	3200	2880	172	10000	X	X	X	X	50



Single Tube



Double Tube



Triple Tube

### Need Ballast?

See page 36 for  
Compact Fluorescent Ballast  
Ordering Information

• Specifications are subject to change without notice.



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## Self Ballasted Compact Fluorescent Lamps

### Ordering Guide

Watts	Bulb	Base	Model #	Incandescent Equivalent (Watts)	Lumens Initial (lm)	MOL (in)	Dia. (in)	Avg. Life (hours)	Color Temp. (K)	CRI	Power Factor	Pkg. Qty.
Mini Spiral Self Ballasted Compact Fluorescent												
9	Mini Spiral	MED	CF9MS/827	40	500	3.58	1.65	10,000	2700	>80	>0.5	48
13	Mini Spiral	MED	CF13MS/827	60	900	4.41	1.97	10,000	2700	>80	>0.5	48
13	Mini Spiral	MED	CF13MS/841	60	900	4.41	1.97	10,000	4100	>80	>0.5	48
14	Mini Spiral	MED	CF14MS/865	60	900	4.06	1.65	10,000	6500	>80	>0.5	48
19	Mini Spiral	MED	CF19MS/841	75	1200	4.33	2.05	10,000	4100	>80	>0.5	48
20	Mini Spiral	MED	CF20MS/827	75	1250	5.24	2.05	10,000	2700	>80	>0.5	48
23	Mini Spiral	MED	CF23MS/827	100	1600	5.04	2.36	10,000	2700	>80	>0.5	48
23	Mini Spiral	MED	CF23MS/841	100	1600	4.33	2.44	10,000	4100	>80	>0.5	48
23	Mini Spiral	MED	CF23MS/865	100	1600	4.33	2.44	10,000	6500	>80	>0.5	48
30	Mini Spiral	MED	CF30MS/827	120	1800	5.60	2.32	10,000	2700	>80	>0.5	48
30	Mini Spiral	MED	CF30MS/841	120	1800	5.60	2.32	10,000	4100	>80	>0.5	48
Decorative Self Ballasted Compact Fluorescent												
5	Torpedo	E12	CF5TC/M/827	15	160	4.41	1.60	8,000	2700	>80	>0.5	12/48
7	Torpedo	E12	CF7TC/M/827	25	350	4.41	1.60	8,000	2700	>80	>0.5	12/48
Globe Self Ballasted Compact Fluorescent												
11	Globe (G25)	MED	CF11G25/827	45	600	4.29	4.33	8,000	2700	>80	>0.5	12/48
15	Globe (G30)	MED	CF15G30/827	60	800	5.04	3.74	8,000	2700	>80	>0.5	12/48
Reflector Self Ballasted Compact Fluorescent												
15	R30	MED	CF15R30/841	65	750	5.47	3.70	8,000	4100	>80	>0.5	12
15	R30	MED	CF15R30/865	65	750	5.47	3.70	8,000	6500	>80	>0.5	12
15	R30	MED	CF15R30/850	65	750	5.47	3.70	8,000	5000	>80	>0.5	12
16	R30	MED	CF16R30/827	65	750	5.47	3.70	8,000	2700	>80	>0.5	12
20	R40	MED	CF20R40/827	70	900	5.91	4.69	8,000	2700	>80	>0.5	12
20	R40	MED	CF20R40/841	70	900	5.91	4.69	8,000	4100	>80	>0.5	12
20	R40	MED	CF20R40/850	70	900	5.91	4.69	8,000	5000	>80	>0.5	12
23	PAR38	MED	CF23PAR38/827	85	1050	5.50	4.80	8,000	2700	>80	>0.5	12
23	PAR38	MED	CF23PAR38/841	85	1050	5.50	4.80	8,000	4100	>80	>0.5	12
23	PAR38	MED	CF23PAR38/865	85	1050	5.50	4.80	8,000	6500	>80	>0.5	12
23	PAR38	MED	CF23PAR38/850	85	1050	5.50	4.80	8,000	5000	>80	>0.5	12



Mini Spiral



Decorative



Globe



Reflector

### Did you know?

Energy Independence and Security Act of 2007  
 Incandescent phase out will begin in 2012 and continue as follows:  
 100w Incandescent - 1/1/2012  
 75w Incandescent - 1/1/2013  
 60w & 40w - 1/1/2014

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## High Intensity Discharge Lamps

### Ordering Guide



Watts	Model #	Bulb	Base	ANSI	Burning Position	Lumens Initial (lm)	Lumens Mean (lm)	MOL (in)	LCL (in)	Avg. Life (hours)	Color Temp (K)	CRI	Lamp Finish	Pkg. Qty
High Pressure Sodium														
50	LU50	ED23.5	MOG	S68	Universal	4000	3600	7.75	5	24000+	2100	22	Clear	12
70	LU70	ED23.5	MOG	S62	Universal	6300	5500	7.75	5	24000+	2100	22	Clear	12
70	LU70/SBY	ED23.5	MOG	S62	Universal	6050	4950	7.75	5	40000	2100	22	Clear	12
100	LU100	ED23.5	MOG	S54	Universal	9500	8550	7.75	5	24000+	2100	22	Clear	12
100	LU100/SBY	ED23.5	MOG	S54	Universal	9500	7600	7.75	5	40000	2100	22	Clear	12
100	LU100/NC	ED23.5	MOG	S54	Universal	10,500	n/a	7.76	5	20000+	2000	22	Clear	12
150	LU150/55	ED23.5	MOG	S55	Universal	16000	14400	7.75	5	24000+	2100	22	Clear	12
150	LU150/55/SBY	ED23.5	MOG	S55	Universal	15700	12100	7.75	5	40000	2100	22	Clear	12
150	LU150/55/NC	ED23.5	MOG	S55	Universal	16500	n/a	7.76	5	24000+	2000	22	Clear	12
150	LU150/100	ED28	MOG	S56	Universal	15000	13500	8.31	5	24000+	2100	22	Clear	12
200	LU200	ET18	MOG	S66	Universal	22000	19800	9.65	5.7	24000+	2100	22	Clear	24
200	LU200/SBY	ET18	MOG	S66	Universal	21500	18000	9.65	5.7	40000	2100	22	Clear	24
250	LU250	ET18	MOG	S50	Universal	28000	27000	9.65	5.7	24000+	2100	22	Clear	24
250	LU250/SBY	ET18	MOG	S50	Universal	27500	23200	9.65	5.7	40000	2100	22	Clear	24
250	LU250/NC	ED18	MOG	S50	Universal	32000	n/a	9.75	5.75	24000+	2000	22	Clear	24
310	LU310	ET18	MOG	S67	Universal	37000	33300	9.65	5.7	24000+	2100	22	Clear	24
400	LU400	ET18	MOG	S51	Universal	51000	45000	9.65	5.7	24000+	2100	22	Clear	24
400	LU400/SBY	ET18	MOG	S51	Universal	47500	40000	9.65	5.7	40000	2100	22	Clear	24
400	LU400/NC	ED18	MOG	S51	Universal	53500	53500	9.75	5.75	24000+	2000	22	Clear	24
1000	LU1000	ET25	MOG	S52	Universal	140000	126000	15.06	8.75	24000+	2100	22	Clear	12
1000	LU1000/SBY	ET25	MOG	S52	Universal	140000	126000	15.06	8.75	40000	2100	22	Clear	12
Mercury Vapor <sup>1</sup>														
100	H38AV-100/DX	ED17	MED	H38	Universal	4000	2600	5.43	3.5	6000+	3900	50	Coated	12
100	H38JA-100/DX	ED23.5	MOG	H38	Universal	4000	2600	7.5	5	10000+	3900	50	Coated	12
175	H39KC-175/DX	ED28	MOG	H39	Universal	7800	6800	8.25	5	10000+	3900	50	Coated	12
175	H39KB-175	ED28	MOG	H39	Universal	7800	6800	8.25	5	10000+	4500	20	Clear	12
250	H37KC-250/DX	ED28	MOG	H37	Universal	11200	8400	8.25	5	10000+	3900	50	Coated	12
250	H37KB-250	ED28	MOG	H37	Universal	11200	8400	8.25	5	10000+	4500	20	Clear	12
400	H33GL-400/DX	ED37	MOG	H33	Universal	22600	14400	11.31	7	10000+	3900	50	Coated	12
400	H33CD-400	ED37	MOG	H33	Universal	22600	14400	11.31	7	10000+	4500	20	Clear	12
1000	H36GW-1000/DX	BT56	MOG	H36	Universal	58000	29000	15.38	9.5	10000+	3900	50	Coated	6

<sup>1</sup> WARNING: This lamp can cause serious skin burn and eye inflammation from short-wave radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available.

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## High Intensity Discharge Lamps

### Ordering Guide

Watts	Model #	Bulb	Base	ANSI	Burning Position	Lumens Initial (lm)	Lumens Mean (lm)	MOL (in)	LCL (in)	Avg. Life (hours)	Color Temp (K)	CRI	Lamp Finish	Pkg. Qty
Metal Halide <sup>1</sup>														
50	MH50/U/MED	ED17	MED	M110/E	Universal	3400	2000	5.44	3.38	8000V/6000H	4200	65	Clear	12
70	MH70/U/MED	ED17	MED	M98/E	Universal	6000	4400	5.44	3.38	10000V/7500H	4200	65	Clear	12
70	MH70/C/U/MED	ED17	MED	M98/E	Universal	5700	4100	5.44	3.38	10000V/7500H	4000	65	Coated	12
100	MH100/U/MED	ED17	MED	M90/E	Universal	8500	5800	5.44	3.38	10000V/7500H	4200	65	Clear	12
100	MH100/C/U/MED	ED17	MED	M90/E	Universal	8000	5500	5.44	3.38	10000V/7500H	4000	65	Coated	12
150	MH150/U/MED	ED17	MED	M102/E	Universal	12000	10000	5.44	3.38	10000V/7500H	4200	65	Clear	12
150	MH150/C/U/MED	ED17	MED	M102/E	Universal	11000	9000	5.44	3.38	10000V/7500H	4000	65	Coated	12
150	MH150/U	ED28	MOG	M102/E	Universal	12000	10000	8.37	5	10000V/7500H	4200	65	Clear	12
175	MH175/U/MED	ED17	MED	M57/E	Universal	14000	9300	5.44	3.38	10000	4200	65	Clear	12
175	MH175/C/U/MED	ED17	MED	M57/E	Universal	13300	8400	5.44	3.38	10000	4000	65	Coated	12
175	MH175/U	ED28	MOG	M57/E	Universal	16000	12800	8.31	5	10000	4200	65	Clear	12
175	MH175/C/U	ED28	MOG	M57/E	Universal	15200	12160	8.31	5	10000V/7500H	4000	65	Coated	12
250	MH250/U	ED28	MOG	M58/E	Universal	20500	17000	8.31	5	10000	4200	60	Clear	12
250	MH250/C/U	ED28	MOG	M58/E	Universal	19475	15580	8.31	5	10000	4000	65	Clear	12
250	MH250/HOR	T15	MOG	M58/E	Horizontal	20500	10000	8.31	5	10000	4200	60	Clear	24
400	MH400/U/ED28	ED28	MOG	M59/E	Universal	36000	23500	8.31	5	10000	4200	60	Clear	12
400	MH400/C/U/ED28	ED28	MOG	M59/E	Universal	34000	22500	8.31	5	10000	4000	65	Coated	12
400	MH400/U	ED37	MOG	M59/E	Universal	38000	25000	11.5	7	20000	4200	65	Clear	12
400	MH400/C/U	ED37	MOG	M59/E	Universal	34000	22500	11.5	7	10000	4000	65	Coated	12
400	MH400/HOR	T15	MOG	M59/E	Horizontal	36000	23400	9.75	5.75	10000	4200	60	Clear	24
1000	MH1000/U	BT56	MOG	M47/E	Universal	110000	86000	15.38	9.5	15000	4200	60	Clear	6
1000	MH1000/C/U	BT56	MOG	M47/E	Universal	105000	80000	15.38	9.5	15000	4000	65	Coated	6
1000	MH1000/U/BT37	BT37	MOG	M47/E	Universal	110000	93500	11.5	7	10000	4200	60	Clear	6
1500	MH1500/HBU	BT56	MOG	M48/E	Horizontal Base Up	161000	100000	15.38	9.5	3000	4200	60	Clear	6
50	MP50/U/MED	ED17	MED	M110/O	Universal	3400	2000	5.44	3.38	10000	4200	65	Clear	12
50	MP50/C/U/MED	ED17	MED	M110/O	Universal	3200	1750	5.44	3.38	10000	4000	65	Coated	12
70	MP70/U/MED	ED17	MED	M98/O	Universal	5300	3400	5.44	3.38	10000	4200	65	Clear	12
70	MP70/C/U/MED	ED17	MED	M98/O	Universal	5700	4100	5.44	3.38	10000V/7500H	4000	65	Coated	12
100	MP100/U/MED	ED17	MED	M90/O	Universal	8500	5500	5.44	3.38	10000	4200	65	Clear	12
100	MP100/C/U/MED	ED17	MED	M90/O	Universal	7900	5500	5.44	3.38	10000	4000	65	Coated	12
150	MP150/U/MED	ED17	MED	M102/O	Universal	12500	10000	5.44	3.38	10000	4200	65	Clear	12
150	MP150/C/U/MED	ED17	MED	M102/O	Universal	11600	9000	10000	5.44	3.38	4000	65	Coated	12
175	MP175/C/U/MED	ED17	MED	M57/O	Universal	12800	7800	10000	5.44	3.38	4000	65	Coated	12

<sup>1</sup> WARNING: This lamp can cause serious skin burn and eye inflammation from short-wave radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available.

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## High Intensity Discharge Lamps

### Ordering Guide



Watts	Model #	Bulb	Base	ANSI	Burning Position	Lumens Initial (lm)	Lumens Mean (lm)	MOL (in)	LCL (in)	Avg. Life (hours)	Color Temp (K)	CRI	Lamp Finish	Pkg. Qty
175	MP175/BU	BT28	MOG (EX39)	M57/O	Base Up	14400	10200	8.31	5	10000	4200	65	Clear	12
175	MP175/C/BU	BT28	MOG (EX39)	M57/O	Base Up	12800	7800	8.31	5	10000	4000	65	Coated	12
250	MP250/BU	BT28	MOG (EX39)	M58/O	Base Up	23000	17000	8.31	5	15000V/10000H	4200	70	Clear	12
250	MP250/C/BU	BT28	MOG (EX39)	M58/O	Base Up	20000	14350	8.31	5	15000V/10000H	3000	70	Coated	12
400	MP400/BU	BT37	MOG (EX39)	M59/O	Base Up	40000	26000	11.5	7	15000V/10000H	4200	70	Clear	12
400	MP400/C/BU	BT37	MOG (EX39)	M59/O	Base Up	38500	25000	11.5	7	15000V/10000H	3000	70	Coated	12
1000	MP1000/BU	BT56	MOG (EX39)	M47/O	Base Up	107000	85000	15.38	9.5	15000V/10000H	4200	65	Clear	6
<b>Pulse Start Metal Halide</b>														
200	MH200/BU/ED28/PS	ED28	MOG	M136/E	Base Up	21000	16800	8.31	5	15000	4200	60	Clear	12
200	MH200/C/BU/ED28/PS	ED28	MOG	M136/E	Base Up	20000	16000	8.31	5	15000	4000	65	Coated	12
250	MH250/U/ED28/PS	ED28	MOG	M138/M157/E	Universal	21000V 18900H	15750	8.3	5	20000V 15000H	4000	65	Clear	12
250	MH250/BU/ED28/PS	ED28	MOG	M138/E	Base Up	25000	20000	8.31	5	15000	4200	70	Clear	12
250	MH250/C/BU/ED28/PS	ED28	MOG	M138/E	Base Up	23000	19000	8.31	5	15000	4000	75	Coated	12
320	MH320/BU/ED28/PS	ED28	MOG	M132/E	Base Up	34000	27200	8.31	5	15000	4200	70	Clear	12
320	MH320/C/BU/ED28/PS	ED28	MOG	M132/E	Base Up	32300	24500	8.31	5	20000	4000	75	Coated	12
350	MH350/BU/ED28/PS	ED28	MOG	M131/E	Base Up	37000	29600	8.31	5	20000	4200	70	Clear	12
350	MH350/C/BU/ED28/PS	ED28	MOG	M132/E	Base Up	35200	28200	8.31	5	20000	4000	75	Coated	12
400	MH400/U/ED28/PS	ED28	MOG	M135/M	Universal	36000V 15000H	27000	11.5	7	20000V 15000H	4000	65	Clear	12
400	MH400/BU/ED37/PS	ED37	MOG	M135/E	Base Up	44000	35200	11.5	7	20000	4200	70	Clear	12
400	MH400/C/BU/ED37/PS	ED37	MOG	M135/E	Base Up	4200	33600	11.5	7	20000	4000	75	Coated	12
400	MH400/HOR/ED28/PS	ED28	MOG	M135/E	Base Up	40000	32000	8.31	5	20000	4000	65	Clear	12
750	MH750/BU/BT37/PS	BT37	MOG	M149/E	Base Up	80000	60000	11.5	7	16000	4000	60	Clear	12
750	MH750/BU/BT37/PS	BT37	MOG	M149/E	Base Up	75000	56000	11.5	7	16000	4000	60	Coated	12
1000	MH1000/BU/BT37/PS	BT37	MOG	M141/E	Base Up	110000	96000	11.5	7	10000+	4200	60	Clear	12
200	MP200/BU/ED28/PS	ED28	MOG (EX39)	M136/O	Base Up	20000	16000	8.31	5	15000	4200	60	Clear	12
200	MP200/C/BU/ED28/PS	ED28	MOG (EX39)	M136/O	Base Up	19000	15200	8.31	5	15000	4000	65	Clear	12
250	MP250/BU/ED28/PS	ED28	MOG (EX39)	M138/O	Base Up	23800	19000	8.31	5	15000	4200	70	Clear	12
250	MP250/C/BU/ED28/PS	ED28	MOG (EX39)	M138/O	Base Up	22600	18100	8.31	5	15000	4000	75	Coated	12
320	MP320/BU/ED28/PS	ED28	MOG (EX39)	M132/O	Base Up	32300	25800	8.31	5	20000+	4200	70	Clear	12
320	MP320/C/BU/ED28/PS	ED28	MOG (EX39)	M132/O	Base Up	30600	24500	8.31	5	20000+	4000	75	Coated	12
350	MP350/BU/ED28/PS	ED28	MOG (EX39)	M131/O	Base Up	35200	28200	8.31	5	20000+	4200	70	Clear	12
350	MP350/C/BU/ED28/PS	ED28	MOG (EX39)	M131/O	Base Up	33400	26700	8.31	5	20000+	4000	75	Coated	12
400	MP400/BU/ED37/PS	ED37	MOG (EX39)	M135/O	Base Up	42000	33600	11.5	7	20000+	4200	70	Clear	12
400	MP400/C/BU/ED37/PS	ED37	MOG (EX39)	M135/O	Base Up	40000	32000	11.5	7	20000+	4000	75	Coated	12

<sup>1</sup> WARNING: This lamp can cause serious skin burn and eye inflammation from short-wave radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available.

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## Halogen Lamps

### Ordering Guide



Watts	Model #	Base	Volts	Beam Spread	MOL (in)	Dia. (in)	Filament	CBCP	Beam Angle Degree	Avg. Life (hours)	Pkg. Qty.
MR11 Standard Dichroic Open Reflector											
20	20MR11/NSP(FTB)	GU4	12	NSP	1.38	1.38	C-8	4800	10	2000	20
20	20MR11/NFL(FTC)	GU4	12	NFL	1.38	1.38	C-8	1550	20	2000	20
20	20MR11/FL(FTD)	GU4	12	FL	1.38	1.38	C-8	600	30	2000	20
35	35MR11/NSP(FTE)	GU4	12	NSP	1.38	1.38	C-8	7500	10	2000	20
35	35MR11/NFL(FTF)	GU4	12	NFL	1.38	1.38	C-8	3000	20	2000	20
35	35MR11/FL(FTH)	GU4	12	FL	1.38	1.38	C-8	1200	30	2000	20
MR11 Covered Dichroic Reflector (Lensed)											
20	20MR11/NSP/C(FTB-C)	GU4	12	NSP	1.38	1.38	C-8	4800	10	2000	20
20	20MR11/NFL/C(FTC-C)	GU4	12	NFL	1.38	1.38	C-8	1550	20	2000	20
20	20MR11/FL/C(FTD-C)	GU4	12	FL	1.38	1.38	C-8	600	30	2000	20
35	35MR11/NSP/C(FTE-C)	GU4	12	NSP	1.38	1.38	C-8	7500	10	2000	20
35	35MR11/NFL/C(FTF-C)	GU4	12	NFL	1.38	1.38	C-8	3000	20	2000	20
35	35MR11/FL/C(FTH-C)	GU4	12	FL	1.38	1.38	C-8	1200	30	2000	20
MR16 Standard Dichroic Open Reflector											
20	20MR16/NSP(ESX)	GU5.3	12	NSP	1.77	2	C-8	3300	12	2000	20
20	20MR16/FL(BAB)	GU5.3	12	FL	1.77	2	C-8	460	36	2000	20
35	35MR16/NSP(FMT)	GU5.3	12	NSP	1.77	2	C-8	6300	12	2000	20
35	35MR16/NFL(FMV)	GU5.3	12	NFL	1.77	2	C-8	3600	24	2000	20
35	35MR16/FL(FMW)	GU5.3	12	FL	1.77	2	C-8	730	36	2000	20
50	50MR16/NSP(EXT)	GU5.3	12	NSP	1.77	2	C-8	9150	12	2000	20
50	50MR16/NFL(EXZ)	GU5.3	12	NFL	1.77	2	C-8	3000	24	2000	20
50	50MR16/FL(EXN)	GU5.3	12	FL	1.77	2	C-8	1500	36	2000	20
50	50MR16/WFL(FNV)	GU5.3	12	WFL	1.77	2	C-8	750	60	2000	20
75	75MR16/NSP(EYF)	GU5.3	12	NSP	1.77	2	C-8	11500	12	2000	20
75	75MR16/NFL(EYJ)	GU5.3	12	NFL	1.77	2	C-8	4600	24	2000	20
75	75MR16/FL(EYC)	GU5.3	12	FL	1.77	2	C-8	2000	36	2000	20
MR16 Covered Dichroic Reflector (Lensed)											
20	20MR16/NSP/C(ESX-C)	GU5.3	12	NSP	1.77	2	C-8	3300	12	2000	20
20	20MR16/FL/C(BAB-C)	GU5.3	12	FL	1.77	2	C-8	460	36	2000	20
35	35MR16/NSP/C(FMT-C)	GU5.3	12	NSP	1.77	2	C-8	6300	12	2000	20
35	35MR16/NFL/C(FMV-C)	GU5.3	12	NFL	1.77	2	C-8	3600	24	2000	20
35	35MR16/FL/C(FMW-C)	GU5.3	12	FL	1.77	2	C-8	730	36	2000	20
50	50MR16/NSP/C(EXT-C)	GU5.3	12	NSP	1.77	2	C-8	9150	12	2000	20
50	50MR16/NFL/C(EXZ-C)	GU5.3	12	NFL	1.77	2	C-8	3000	24	2000	20
50	50MR16/FL/C(EXN-C)	GU5.3	12	FL	1.77	2	C-8	1500	36	2000	20
50	50MR16/WFL/C(FNV-C)	GU5.3	12	WFL	1.77	2	C-8	750	60	2000	20
75	75MR16/NSP/C(EYF-C)	GU5.3	12	NSP	1.77	2	C-8	11500	12	2000	20
75	75MR16/NFL/C(EYJ-C)	GU5.3	12	NFL	1.77	2	C-8	4600	24	2000	20
75	75MR16/FL/C(EYC-C)	GU5.3	12	FL	1.77	2	C-8	2000	36	2000	20

• Specifications are subject to change without notice.



## Halogen Lamps

### Ordering Guide



Watts	Model #	Base	Volts	Beam Spread	MOL (in)	Dia. (in)	Filament	Approx. Lumens Initial (lm)	Beam Angle Degree	Avg. Life (hours)	Pkg. Qty.
Par 16 Halogen Medium Screw Base											
60	60PAR16/H/NSP-130 @ 120 volts, approximate 53 watts, 515 lumens, 5000 hours	Med. (E26)	130	NSP	2.88	2	CC-8	660	12	2500	40
60	60PAR16/H/FL-130 @ 120 volts, approximate 53 watts, 515 lumens, 5000 hours	Med. (E26)	130	FL	2.88	2	CC-8	660	36	2500	40
75	75PAR16/H/NSP-130 @ 120 volts, approximate 66 watts, 663 lumens, 5000 hours	Med. (E26)	130	NSP	2.88	2	CC-8	850	12	2500	40
75	75PAR16/H/FL-130 @ 120 volts, approximate 66 watts, 663 lumens, 5000 hours	Med. (E26)	130	FL	2.88	2	CC-8	850	36	2500	40
Par 20 Halogen Medium Screw Base											
35	35PAR20/H/SP-130 @ 120 volts, approximate 31 watts, 281 lumens, 5000 hours	Med. (E26)	130	SP	3.31	2.5	CC-8	360	12	2500	30
35	35PAR20/H/NFL-130 @ 120 volts, approximate 31 watts, 281 lumens, 5000 hours	Med. (E26)	130	NFL	3.31	2.5	CC-8	360	24	2500	30
35	35PAR20/H/FL-130 @ 120 volts, approximate 31 watts, 281 lumens, 5000 hours	Med. (E26)	130	FL	3.31	2.5	CC-8	360	36	2500	30
50	50PAR20/H/SP-130 @ 120 volts, approximate 44 watts, 406 lumens, 5000 hours	Med. (E26)	130	SP	3.31	2.5	CC-8	520	12	2500	30
50	50PAR20/H/NFL-130 @ 120 volts, approximate 44 watts, 406 lumens, 5000 hours	Med. (E26)	130	NFL	3.31	2.5	CC-8	520	24	2500	30
50	50PAR20/H/FL-130 @ 120 volts, approximate 44 watts, 406 lumens, 5000 hours	Med. (E26)	130	FL	3.31	2.5	CC-8	520	36	2500	30
Par 30 Halogen Medium Screw Base											
50	50PAR30/H/SP-130 @ 120 volts, approximate 44 watts, 468 lumens, 5000 hours	Med. (E26)	130	SP	3.6	3.7	CC-8	600	12	2500	30
50	50PAR30/H/NFL-130 @ 120 volts, approximate 44 watts, 468 lumens, 5000 hours	Med. (E26)	130	NFL	3.6	3.7	CC-8	600	24	2500	30
50	50PAR30/H/FL-130 @ 120 volts, approximate 44 watts, 468 lumens, 5000 hours	Med. (E26)	130	FL	3.6	3.7	CC-8	600	36	2500	30
60	60PAR30/H/SP-130 @ 120 volts, approximate 53 watts, 671 lumens, 5000 hours	Med. (E26)	130	SP	3.6	3.7	CC-8	860	12	2500	30
60	60PAR30/H/NFL-130 @ 120 volts, approximate 53 watts, 671 lumens, 5000 hours	Med. (E26)	130	NFL	3.6	3.7	CC-8	860	24	2500	30
60	60PAR30/H/FL-130 @ 120 volts, approximate 53 watts, 671 lumens, 5000 hours	Med. (E26)	130	FL	3.6	3.7	CC-8	860	36	2500	30
75	75PAR30/H/SP-130 @ 120 volts, approximate 66 watts, 764 lumens, 5000 hours	Med. (E26)	130	SP	3.6	3.7	CC-8	980	12	2500	30
75	75PAR30/H/NFL-130 @ 120 volts, approximate 66 watts, 764 lumens, 5000 hours	Med. (E26)	130	NFL	3.6	3.7	CC-8	980	24	2500	30
75	75PAR30/H/FL-130 @ 120 volts, approximate 66 watts, 764 lumens, 5000 hours	Med. (E26)	130	FL	3.6	3.7	CC-8	980	36	2500	30

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## Halogen Lamps

### Ordering Guide

Watts	Model #	Base	Volts	Beam Spread	MOL (in)	Dia. (in)	Filament	Approx. Lumens Initial (lm)	Beam Angle Degree	Avg. Life (hours)	Pkg. Qty.
Par 30 Long Neck Halogen Medium Screw Base											
50	50PAR30/LN/H/SP-130 @ 120 volts, approximate 44 watts, 429 lumens, 5000 hours	Med. (E26)	130	SP	4.5	3.74	CC-8	550	12	2500	15
50	50PAR30/LN/H/NFL-130 @ 120 volts, approximate 44 watts, 429 lumens, 5000 hours	Med. (E26)	130	NFL	4.5	3.74	CC-8	550	24	2500	15
50	50PAR30/LN/H/FL-130 @ 120 volts, approximate 44 watts, 429 lumens, 5000 hours	Med. (E26)	130	FL	4.5	3.74	CC-8	550	36	2500	15
75	75PAR30/LN/H/SP-130 @ 120 volts, approximate 66 watts, 764 lumens, 5000 hours	Med. (E26)	130	SP	4.5	3.74	CC-8	980	12	2500	15
75	75PAR30/LN/H/NFL-130 @ 120 volts, approximate 66 watts, 764 lumens, 5000 hours	Med. (E26)	130	NFL	4.5	3.74	CC-8	980	24	2500	15
75	75PAR30/LN/H/FL-130 @ 120 volts, approximate 66 watts, 764 lumens, 5000 hours	Med. (E26)	130	FL	4.5	3.74	CC-8	980	36	2500	15
Par 38 Halogen Medium Screw Base											
45	45PAR38/H/SP-130 @ 120 volts, approximate 40 watts, 406 lumens, 5000 hours	Med. Skt. (E26)	130	SP	5.31	4.76	CC-8	520	12	2500	15
45	45PAR38/H/FL-130 @ 120 volts, approximate 40 watts, 406 lumens, 5000 hours	Med. Skt. (E26)	130	FL	5.31	4.76	CC-8	520	36	2500	15
45	45PAR38/H/WFL-130 @ 120 volts, approximate 40 watts, 406 lumens, 5000 hours	Med. Skt. (E26)	130	WFL	5.31	4.76	CC-8	520	50	2500	15
60	60PAR38/H/SP-130 @ 120 volts, approximate 53 watts, 507 lumens, 5000 hours	Med. Skt. (E26)	130	SP	5.31	4.76	CC-8	650	12	2500	15
60	60PAR38/H/FL-130 @ 120 volts, approximate 53 watts, 507 lumens, 5000 hours	Med. Skt. (E26)	130	FL	5.31	4.76	CC-8	650	36	2500	15
60	60PAR38/H/WFL-130 @ 120 volts, approximate 53 watts, 507 lumens, 5000 hours	Med. Skt. (E26)	130	WFL	5.31	4.76	CC-8	650	50	2500	15
75	75PAR38/H/SP-130 @ 120 volts, approximate 66 watts, 764 lumens, 5000 hours	Med. Skt. (E26)	130	SP	5.31	4.76	CC-8	980	12	2500	15
75	75PAR38/H/FL-130 @ 120 volts, approximate 66 watts, 764 lumens, 5000 hours	Med. Skt. (E26)	130	FL	5.31	4.76	CC-8	980	36	2500	15
75	75PAR38/H/WFL-130 @ 120 volts, approximate 66 watts, 764 lumens, 5000 hours	Med. Skt. (E26)	130	WFL	5.31	4.76	CC-8	980	50	2500	15
90	90PAR38/H/NSP-130 @ 120 volts, approximate 79 watts, 858 lumens, 5000 hours	Med. Skt. (E26)	130	NSP	5.31	4.76	CC-8	1100	8	2500	15
90	90PAR38/H/SP-130 @ 120 volts, approximate 79 watts, 858 lumens, 5000 hours	Med. Skt. (E26)	130	SP	5.31	4.76	CC-8	1100	12	2500	15
90	90PAR38/H//FL-130 @ 120 volts, approximate 79 watts, 858 lumens, 5000 hours	Med. Skt. (E26)	130	FL	5.31	4.76	CC-8	1100	36	2500	15
90	90PAR38/H/WFL-130 @ 120 volts, approximate 79 watts, 858 lumens, 5000 hours	Med. Skt. (E26)	130	WFL	5.31	4.76	CC-8	1100	50	2500	15
100	100PAR38/H/FL-130 @ 120 volts, approximate 88 watts, 936 lumens, 5000 hours	Med. Skt. (E26)	130	FL	5.32	4.76	CC-8	1200	36	2500	15

• Specifications are subject to change without notice.



## Halogen Lamps

### Ordering Guide



Watts	Model #	Bulb	Base	Volts	Lumens	LCL (in)	MOL (in)	Filament	Description	Avg. Life (hours)	Pkg. Qty.
Halogen JD Series (Single Ended T4)											
75	75Q/CL	T4	E11 Min-Can	120	900	1.38	2.63	CC-8	Clear	2000	100
100	100Q/CL/DC	T4	DC Bayonet (BA15d)	120	1200	1.38	2.63	CC-8	Clear	2000	100
100	100Q/CL	T4	E11 Min-Can	120	1200	1.38	2.63	CC-8	Clear	2000	100
150	150Q/CL/DC	T4	DC Bayonet (BA15d)	120	2100	1.38	2.63	CC-8	Clear	2000	100
150	150Q/CL	T4	E11 Min-Can	120	2100	1.38	2.63	CC-8	Clear	2000	100
250	250Q/CL/DC	T4	DC Bayonet (BA15d)	120	4500	1.38	2.63	CC-8	Clear	2000	100
250	250Q/CL	T4	E11 Min-Can	120	4500	1.38	2.63	CC-8	Clear	2000	100
Halogen J Series (Double Ended T3)											
100	100T3Q/CL/S	T3	RSC	130	1400	-	3.13	CC-8	Clear	2000	100
150	150T3Q/CL/S	T3	RSC	130	2400	-	3.13	CC-8	Clear	2000	100
150	150T3Q/CL	T3	RSC	130	2400	-	4.69	C-8	Clear	2000	100
300	300T3Q/CL	T3	RSC	130	5950	-	4.69	C-8	Clear	2000	100
500	500T3Q/CL	T3	RSC	130	10500	-	4.69	C-8	Clear	2000	100
1000	1000T3Q/CL	T3	RSC	240	21000	-	10.13	C-8	Clear	2000	50
1500	1500T3Q/CL	T3	RSC	240	33000	-	10.13	C-8	Clear	2000	50
1500	1500T3Q/CL/277	T3	RSC	277	33000	-	10.13	C-8	Clear	2000	50
Halogen JC Series (Only for Use in Approved Enclosed Halogen Fixtures)											
5	5T3Q/CL	T3	G4	12	60	.88	1.25	C-6	Clear	2000	100
10	10T3Q/CL	T3	G4	12	120	.88	1.25	C-6	Clear	2000	100
20	20T3Q/CL	T3	G4	12	350	.88	1.25	C-6	Clear	2000	100
50	50T4Q/CL	T4	G6.35	12	900	1.13	1.75	C-6	Clear	2000	100
75	75T4Q/CL	T4	G6.35	12	1350	1.13	1.75	C-6	Clear	2000	100
Halogen JCD Series (Only for Use in Approved Enclosed Halogen Fixtures)											
50	50T4Q/CL/G8	T4	G8	120	950	1.13	1.75	CC-2	Clear	2000	100
75	75T4Q/CL/G8	T4	G8	120	1300	1.13	1.75	CC-2	Clear	2000	100
100	100T4Q/CL/G8	T4	G8	120	1900	1.13	1.75	CC-2	Clear	2000	100

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LAMPS

## Combination Lamp/Ballast System Warranty "Security Plus"

Howard Industries, Inc. – Lighting Products Division warrants lamps installed on Howard electronic ballast to be free from defects in material and workmanship and to operate from the date of installation (or date of manufacture if installation date is not known or available) for the time periods and subject to the terms and conditions specified in the table below. If

lamps fail to operate for the warranty period, Howard Lighting Products will provide a free replacement lamp (no labor allowance). If a Howard electronic ballast fails to operate within the warranty period, Howard Lighting Products will provide a free replacement ballast and labor allowance in accordance with our ballast warranty guide.

Electronic Ballast	Lamp	Ballast Warranty	Lamp Warranty
Standard Power	F17T8/xxx/ECO, F25T8/xxx/ECO, F30T8/8xx/ES/ECO, F32T8/xxx/ECO, F32T8/8xx/HL/ECO, FB32T8/xxx/6/ECO	60 months	36 months <sup>1</sup>
Low Power	F17T8/xxx/ECO, F25T8/xxx/ECO, F30T8/8xx/ES/ECO, F32T8/xxx/ECO, F32T8/8xx/HL/ECO, FB32T8/xxx/6/ECO	60 months	36 months <sup>1</sup>
High Power	F17T8/xxx/ECO, F25T8/xxx/ECO, F30T8/8xx/ES/ECO, F32T8/xxx/ECO, F32T8/8xx/HL/ECO, FB32T8/xxx/6/ECO	60 months	36 months <sup>1</sup>
HE Standard Power	F17T8/xxx/ECO, F25T8/xxx/ECO, F28T8/8xx/ES/ECO, F30T8/8xx/ES/ECO, F32T8/xxx/ECO, F32T8/8xx/HL/ECO, FB28T8/8xx/ES/ECO, FB32T8/xxx/6/ECO	60 months	36 months <sup>1</sup>
HE Low Power	F17T8/xxx/ECO, F25T8/xxx/ECO, F28T8/8xx/ES/ECO, F30T8/8xx/ES/ECO, F32T8/xxx/ECO, F32T8/8xx/HL/ECO, FB28T8/8xx/ES/ECO, FB32T8/xxx/6/ECO	60 months	36 months <sup>1</sup>
T5HO	F54T5/8xx/HO	36 months @ <90°C case	36 months <sup>1</sup>
		60 months @ <75°C case	36 months <sup>1</sup>

Note: Fluorescent lamp warranty periods are based on a 3 hour minimum cycle, unless otherwise noted, with a maximum of 4,000 hours per year. Other operating cycles may affect the warranty period. The Howard lamp warranty can renew when the installation is group relamped. For more details contact Howard Lighting Products.

1. Occupancy sensor application, 15 minute/start minimum, allowed with program start ballast

2. Maximum case temperature <70°C, for normal environmental operating conditions (40°C max., ambient) unless noted

### Terms and Conditions

1. HOWARD Industries warrants the lamps to be free from defects in material and workmanship, and warrants its ballasts as provided in HOWARD's current published ballast warranty, hereby made part of this warranty.
2. Howard lamps and electronic ballast must be installed together as a system. Lamps must be operated on ballasts indicated, within the electrical values noted on HOWARD ballast labels, and with all lamp and lighting equipment instructions and be operated within the normal specified operating range of environmental conditions for the systems. Ballasts and lamps must be installed and operated in accordance with the latest National Electric Code, UL, and ANSI specifications. Ballasts and lamps operated in any system, which has been subjected to abnormal stresses, but not limited to, excess temperatures or under or over voltage conditions are excluded from coverage under this Warranty.
3. The installation must be registered with HOWARD Industries within thirty (30) days from date of completion. HOWARD's combination T8 Lamp/Ballast System Warranty (Security Plus) Registration Form must be completed per instructions and installation acknowledged by HOWARD Industries.
4. Replacement of Howard lamps with lamps from other manufacturers will void the lamp portion of this warranty.
5. Replacement of Howard electronic ballast with any other ballast manufacturer will void the entire warranty.
6. For ballast refer to HOWARD Industries current published ballast warranty. HOWARD Industries will replace in-warranty failures by furnishing lamps in kind.
7. Howard Industries reserves the right to examine all failed ballasts and/or lamps and reserves the right to be the sole judge as to whether any ballasts and/or lamps are defective and covered under this warranty.
8. This Warranty shall be the sole remedy of the Customer and the sole liability of HOWARD Industries to Customer. NO IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE OR IS TO BE IMPLIED. HOWARD Industries will not under any circumstances whether as a result of breach of contract, breach of warranty, tort, strict liability or otherwise be liable for consequential, incidental, special or exemplary damages including, but not limited to, loss of profits or revenues, loss of use of ballasts or any other goods or associated equipment or damages to any associated equipment, cost of capital, cost of substitute products, facilities or services, down time costs, or claims of claimant's customers.
9. After contacting Howard Lighting Products and receiving a return authorization number, the user/customer shall promptly return the product at the user/customer's expense to Howard Lighting Products after receiving instructions as to when and where to ship product. Failure to follow this procedure shall void this warranty.
10. Refer to HOWARD Industries Ballast Limited Warranty for other terms and conditions and limitations not otherwise superseded in the foregoing HOWARD Lighting Products Combination T8 Lamp/Ballast System Warranty (Security Plus).
11. Subject to change without notice.

• Specifications are subject to change without notice.



## HID Lamp Limited Warranty

Howard Industries, Inc. – Lighting Products Division (“Howard Lighting Products”) warrants HID lamps to be free from defects in material and workmanship. Howard Lighting Products’ HID lamps with greater than 12,000 hours average rated life are warranted for a period of one year from date of purchase based on max operation of 6,000 hours per year (minimum 10 hr/start for lamp). If lamps fail to operate for the warranty period, Howard Lighting Products’ sole warranty obligation is to provide a free replacement lamp (no labor allowance).

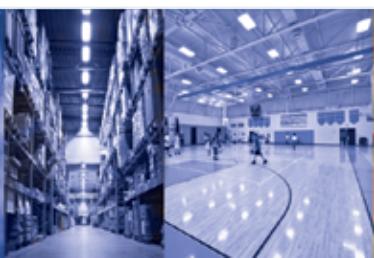
### Terms and Conditions

1. Howard Lighting Products warrants the lamps to be free from defects in material and workmanship.
2. Howard Lighting Products’ HID lamps must be operated on ballasts designed to operate the lamps. The ballast should be marked with the same ANSI lamp code designation as the lamp. The electrical values depicted on the HID ballast label, as well as the lamp and lighting equipment instructions must be adhered to. The lamp must be operated within the normal specified operating range, orientation, and environmental conditions for the HID system. Lamps operated in any system that has been subjected to abnormal stresses, such as, but not limited to, excess temperatures, mechanical stresses, excessive switching cycles or under or over voltage conditions or on ballasts, control gear, or electrical systems that are outside of the defined ANSI parameters in the appropriate ANSI standards are excluded from coverage under this Warranty.
3. This warranty excludes any product damaged from misuse, faulty installation, inadequate maintenance, damage, negligence, accident, or tampering.
4. Howard Lighting Products reserves the right to examine all failed lamps and reserves the right to be the sole judge as to whether lamps are defective and covered under this warranty.
5. This Warranty shall be the sole remedy of the Customer and the sole liability of Howard Lighting Products to Customer.

NO IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE OR IS TO BE IMPLIED. Howard Lighting Products will not under any circumstances whether as a result of breach of contract, breach of warranty, tort, strict liability or otherwise be liable for consequential, incidental, special or exemplary damages including, but not limited to, loss of profits or revenues, loss of use of lamps or any other goods or associated equipment or damages to any associated equipment, cost of capital, cost of substitute products, facilities or services, down time costs, or claims of claimant's customers.

6. After contacting Howard Lighting Products and receiving a return authorization number, the user/customer shall promptly return the product at the user/customer's expense to Howard Lighting Products after receiving instructions as to when and where to ship product. Failure to follow this procedure shall void this warranty.
7. Howard Lighting Products reserves the right to change the warranty period without notice.
8. Lamps and applications that have average rated life of 12,000 hours or less will be warranted for 6 months from date of purchase based on max operation of 4000 hours per year (minimum 10hr/start for lamp). Lamps and applications with rated average life of less than 7,000 hours are excluded from this warranty.

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## Magnetic HID Ballast 2 Year Limited Warranty

Howard Industries, Inc. warrants to the purchaser that its magnetic HID ballasts will be free from defects in material and workmanship as conditioned herein for a period of two (2) years from date of manufacture. The date of manufacture by Howard Industries, Inc., Ballast Products Division is stamped on the ballast.

During said warranty period, Howard Industries, Inc. agrees and shall be obligated to a limit of refund of the purchase price of the ballast or, at the option of Howard Industries, Inc., replacement of defective ballasts.

This warranty is not applicable and is voided to any product manufactured by Howard Industries, Inc. which is not stored, installed, operated and maintained in accordance with:

- The National Electric Code (NEC)
- The Standards for Safety of Underwriters Laboratories, Inc. (UL)
- The Standards for the American National Standards Institute (ANSI)
- The Specific Instructions Provided by Howard Industries, Inc. for the Installation of the Product(s)
- Accepted industry practices

*The warranties set forth herein are in lieu of any and all other warranties expressed or implied including the warranties of merchantability and fitness for a particular purpose. In no case shall Howard Industries, Inc. be obligated or liable for any indirect, consequential, or incidental damages for breach of this or any other warranty, expressed or implied, whatsoever.*

Should at any time within the stated two year period from date of manufacture any appearance of defect in material or workmanship appear, purchaser must notify Howard Industries, Inc. by calling 1-800-956-3456 or (601) 422-0033. Written notice may be mailed to Howard Industries, Inc., Ballast Products Division, PO Box 1590, Laurel, MS 39441 or by fax at (601) 422-1652.

As a condition to qualify for refund of original ballast purchase price or replacement under the provisions of this limited warranty, defective ballasts must be available for return to Howard Industries, Inc. at its request for inspection and test analysis. Prior written approval for return must be obtained from the factory.

## Magnetic Fluorescent Ballast 3 Year Limited Warranty

Howard Industries, Inc. warrants to the purchaser that its magnetic fluorescent ballasts will be free from defects in material and workmanship as conditioned herein for a period of three (3) years from date of manufacture. The date of manufacture by Howard Industries, Inc., Ballast Products Division is stamped on the ballast.

During said warranty period, Howard Industries, Inc. agrees and shall be obligated to a limit of refund of the purchase price of the ballast or, at the option of Howard Industries, Inc., replacement of defective ballasts.

This warranty is not applicable and is voided to any product manufactured by Howard Industries, Inc. which is not stored, installed, operated and maintained in accordance with:

- The National Electric Code (NEC)
- The Standards for Safety of Underwriters Laboratories, Inc. (UL)
- The Standards for the American National Standards Institute (ANSI)
- The Specific Instructions Provided by Howard Industries, Inc. for the Installation of the Product(s)
- Accepted industry practices

*The warranties set forth herein are in lieu of any and all other warranties expressed or implied including the warranties of merchantability and fitness for a particular purpose. In no case shall Howard Industries, Inc. be obligated or liable for any indirect, consequential, or incidental damages for breach of this or any other warranty, expressed or implied, whatsoever.*

Should at any time within the stated three year period from date of manufacture any appearance of defect in material or workmanship appear, purchaser must notify Howard Industries, Inc. by calling 1-800-956-3456 or (601) 422-0033. Written notice may be mailed to Howard Industries, Inc., Ballast Products Division, PO Box 1590, Laurel, MS 39441 or by fax at (601) 422-1652.

As a condition to qualify for refund of original ballast purchase price or replacement under the provisions of this limited warranty, defective ballasts must be available for return to Howard Industries, Inc. at its request for inspection and test analysis. Prior written approval for return must be obtained from the factory.

• Specifications are subject to change without notice.



## Fixture Limited Warranty

To the original purchaser, Howard Industries, Inc. – Lighting Products Division (hereinafter "Howard Lighting") warrants its HID and fluorescent fixtures to be free from manufacturing defects for the period of one (1) year from the shipment date from Howard Lighting's factory or an authorized representative's warehouse. If at any time during the warranty period the HID or fluorescent fixture exhibits the appearance of defect in material or workmanship, the purchaser must notify Howard Lighting's customer support via telephone, fax, or mail as noted below to qualify for a refund, repair, or replacement.

Howard Industries, Inc. – Lighting Products Division  
P.O. Box 1590  
Laurel, MS 39441  
800.956.3456 or 601.422.0033  
601.422.1652 (fax)

This limited warranty is null and void if the Howard Lighting HID and fluorescent fixtures have not been properly stored, installed, operated, and maintained in accordance with the following:

- The National Electric Code (NEC)
- The Standards for Safety of Underwriters Laboratories, Inc. (UL)
- The Standards for the American National Standards Institute (ANSI)
- The specific instructions provided by Howard Lighting for the installation of the product(s)
- Accepted industry practices

Under the terms of this limited warranty, purchaser also agrees to make defective lighting products available (upon request) to Howard Lighting or an authorized representative of Howard Lighting for review, inspection, and/or analysis with the express understanding of the following:

- Refunds, repairs, or replacement will be at the sole discretion of Howard Lighting.
- Reimbursement for any field labor and/or service charges must be pre-approved in writing by Howard Lighting.
- The purchaser must obtain written approval from Howard Lighting prior to returning any defective product. With this approval, the purchaser will be reimbursed for any reasonable shipping costs.
- Certain lamps having a published rated life of less than one (1) year will not be covered under this limited warranty.
- Damage or defects arising from acts of God, fire, vandalism, civil disturbances, or war are not covered.

The warranties set forth herein are in lieu of any and all other warranties expressed or implied including the warranties of merchantability and fitness for a particular purpose. In no case shall Howard Lighting or Howard Industries, Inc. be obligated or liable for any indirect, consequential, or incidental damages for breach of this or any other warranty, expressed or implied, whatsoever.

• Specifications are subject to change without notice.



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# Terms and Conditions of Sales

## 1. General

- a. All orders are subject to acceptance by Howard Industries, Inc. – Lighting Products Division (hereinafter "Howard Lighting").
- b. Specifications are subject to change without notice. Contact Howard Lighting for verification.
- c. Howard Lighting assumes no responsibility for the improper selection, installation, use, and/or maintenance of its products.
- d. The terms and conditions set forth herein are in lieu of any and all other terms and conditions expressed or implied including the warranties of merchantability and fitness for a particular purpose. In no case shall Howard Lighting or Howard Industries, Inc. be obligated or liable for any indirect, consequential, or incidental damages for breach of these or any other terms and conditions expressed or implied whatsoever.

## 2. Terms

- a. Purchaser understands net is due thirty (30) calendar days from the Howard Lighting invoice date.
- b. Purchaser understands an interest charge of 1.5% per month will be added on any past due balances.

## 3. Pricing

Unless noted otherwise in writing by Howard Lighting:

- a. All pricing and quotes are based on US dollars.
- b. Pricing is subject to change without notice.
- c. The applicable taxes will be added to invoices.
- d. Written quotes will be honored for thirty (30) calendar days given all fixtures are released for shipment within sixty (60) calendar days from the quote date.
- e. Shipments requested after a quote expires may be subject to a price increase.
  - i. Exceptions may be made when specific ship dates are noted on the original quote.
  - ii. Pricing is subject to change if any accessory, option, or other condition is changed from the original quote.

## 4. Minimum Billing

Howard Lighting's minimum billing amount is \$100 (US).

## 5. Freight Allowance

- a. Howard Lighting provides a freight allowance for orders totaling \$1,000 (US) net given the full order is being shipped via normal freight to the same address in any of the contiguous 48 states in the US. Additional freight charges will be added as applicable to shipments to Alaska, Hawaii, and outside the US.
- b. Partial shipments and shipments made to more than one location must each total \$1,000 (US) net to earn a freight allowance. Howard Lighting may make partial shipments at its own discretion, billing each shipment as it is made, but with freight terms applicable to the complete order.
- c. Orders of less than \$1,000 (US) net will be shipped as directed by the purchaser either freight collect or prepaid with the freight charges being added to the invoice.
- d. For air or premium freight requests on orders over \$1,000 (US) net, Howard Lighting will add the air or premium freight charges less the normally-incurred freight charges to the invoice.
- e. Unless noted otherwise in writing by Howard Lighting, all published prices and quotes are F.O.B. factory, Mendenhall, MS or from one of our authorized representatives' facilities.

- f. To qualify for this freight allowance, Howard Lighting reserves the right to select the shipment's point of origin, method of transportation, and routing.

## 6. Freight Claims

Purchaser understands and agrees to report claims for damage, shortage, or errors in material as follows:

- a. Claims for damage and/or shortage caused by shipping must be made by the consignee to the shipper within ten (10) calendar days of delivery.
  - i. All items in question must be kept in their original cartons and at the original delivery point for inspection by carrier (upon request).
  - ii. If notified, Howard Lighting will assist purchaser as possible with claim.
- b. Claims involving shortages or errors in material believed to be caused by Howard Lighting will not be considered unless noted on the delivery receipt and reported to Howard Lighting within ten (10) calendar days of delivery.

## 7. Returned Goods Policy

- a. Howard Lighting will not accept any returned products without prior written authorization from Howard Lighting.
- b. Return request must be made to Howard Lighting within 90 days of original shipment.
- c. Purchaser agrees to prepay all transportation charges on all returned products.
- d. Credit will be issued at the prices in effect at the time of shipment or at the time of the return – whichever is lower – provided the products are in a saleable condition, are current models, and are listed in the published price sheet in effect at the time of the return.
- e. Purchaser understands that all non-stock, special, custom, or modified versions of normal factory-stock items are not returnable.
- f. If Howard Lighting accepts the returned merchandise and credits the purchaser's account, the purchaser agrees to pay a restocking fee of 25% plus the original freight cost. These amounts will be deducted from the credit to cover the cost of handling and inspection.
- g. Howard Lighting will not issue account credits when the value of the items to be returned is less than \$50 (US).
- h. Returns from any one-job order will be limited to no more than 10% of the original job order's value.
- i. Orders for stocked products may be cancelled without any cancellation charges provided Howard Lighting receives a written cancellation request prior to shipment.
- j. Order cancellations for custom products are subject to cancellation charges based on the costs incurred and commitments made by Howard Lighting up to and including the date the written cancellation notification was received.

## 8. Hold For Release Orders

Orders received as "hold for release" or "will advise" are not processed for manufacture until a written release is received and the order has been priced.

## 9. Claims

Refunds, repairs, or replacement will be at the sole discretion of Howard Lighting. Reimbursement for any field labor and/or service charges must be pre-approved in writing by Howard Lighting. Refer to our product warranty for more information.

• Specifications are subject to change without notice.





## Howard Corporate Headquarters

Howard Industries' corporate headquarters and computer and medical cart manufacturing facilities are nestled within the 504-acre Howard Technology Park.

### Building highlights:

- 60,000 sq ft of office space
- 72,000 sq ft of manufacturing space
- 3,200 sq ft bridge way connecting offices to manufacturing facility

## Power Solutions



Howard Power Solutions, originally known as Howard Industries, was founded in 1968 by Billy W. Howard, Sr. Over the past four decades, this company has grown to be the nation's leading manufacturer of distribution transformers, with over 7 million transformers in service throughout the United States and abroad. Located in Laurel, MS, this facility has 2 million square feet, making it the largest transformer plant in the world. Our newest transformer division, Howard Substation Transformers, located near corporate headquarters, began manufacturing operations in April 2005 producing power transformers with higher KVA and voltage ratings.

## Technology Solutions



Our new Corporate Headquarters is also home to our technology division, Howard Technology Solutions, and its medical division, Howard Medical. These 2 divisions bring to market cutting-edge, high-quality technology and medical equipment. Whether selling Howard-manufactured products such as desktops, notebooks, servers, and medical carts or partnering with other industry-leading companies to provide over 190,000 products, one can be sure when you buy from Howard, the needed equipment is available at affordable prices.

## Lighting Products



Howard Lighting Products markets a vast portfolio including electronic fluorescent ballasts, magnetic HID ballasts, as well as T5/T8 and compact fluorescent lamps, HID lamps and halogen lamps; as well as a full line of HID, linear fluorescent, LED, and Induction fixtures. This division continually updates their product lines to meet the ever-changing demands of the market.

## Transportation



Howard Transportation, a wholly-owned subsidiary of Howard Industries, Inc., operates a full-load, long-haul, flat-bed common carrier truck line and brokerage firm that transports commodities and industrial goods throughout the continental United States. Initially started to transport Howard Power Solutions' raw materials and finished products, this division today consists of over 200 trucks with regional terminal facilities also located in West Virginia and North Carolina.



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• Specifications are subject to change without notice.



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