HOWARD™
LIGHTING PRODUCTS

Linear Fluorescent Lighting

Energy-Saving Lighting Systems

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Saving money and energy is now an important factor for business owners. Howard's Linear Fluorescent Fixtures provide those money and energy saving values over the standard HID system. While fluorescent lighting has been standard for many years in commercial offices, the same offerings is now going to warehouses, parking areas, industrial facilities and retail stores.

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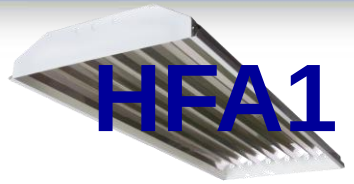
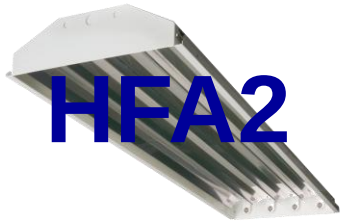
Howard's Linear Fluorescent Fixture Product Line


HFA1


VHA1


VSA4

VSA8


HFA2

FSA4


FSA8


HFA3

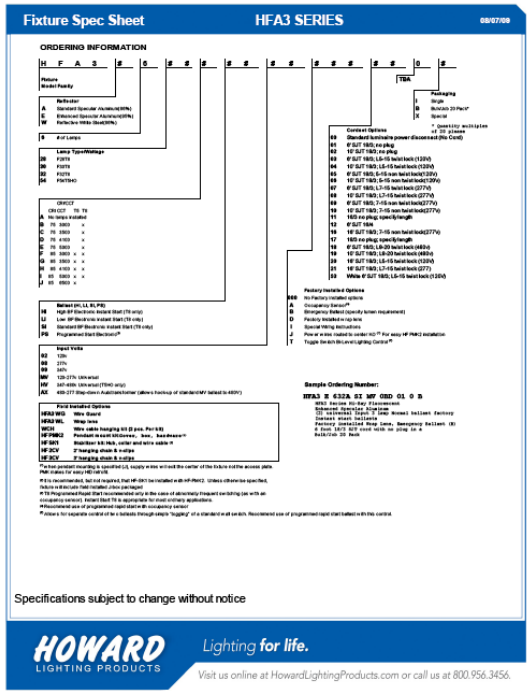

HFA4

FW24

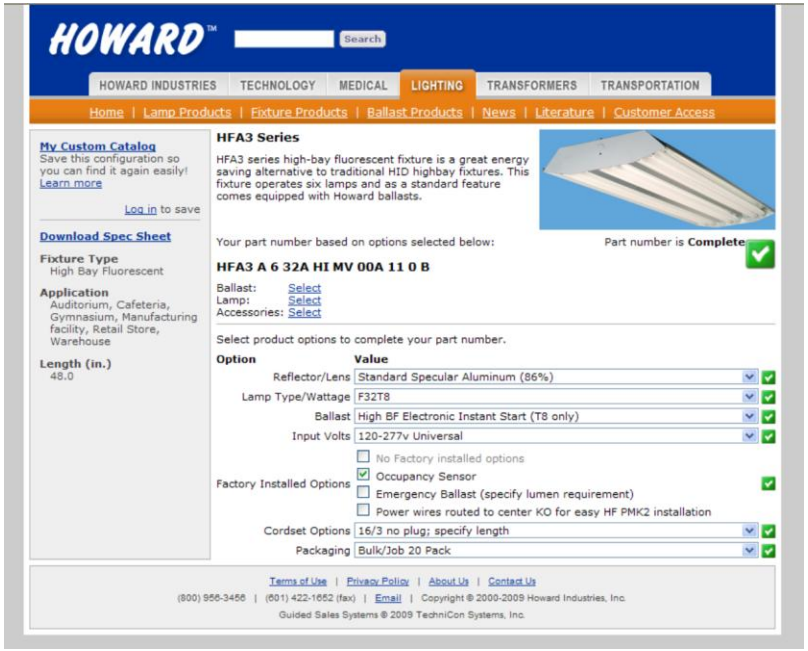

FW44

Building a Model Number

We offer great ways for you and your customers to build a Howard Part number!!!!



Spec sheets are available online at
www.howardlightingproducts.com



From our home page, click on ***Product Configurator*** on the top banner.

Building a Model Number

10 steps to creating a Howard Fluorescent fixture model number

1. Choose Fixture Family
2. Choose Reflector
3. Number of Lamps
4. Lamp Type/Wattage
5. Lamp CRI/CCT
6. Ballast Type
7. Ballast Voltage
8. Factory Installed Options
9. Cordset Options
10. Packages

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HFA1

HFA2

High Bay Fluorescents

HFA3

HFA4

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Vaporproof Fluorescents

VHA1

VSA4

VSA8

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FSA4

FSA8

Fluorescent Strips and Wraps

FW24

FW44

High Bay Fluorescents

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HFA1

HFA2

HFA3

HFA4

Choosing the correct lighting solution for your application…

- Warehouse
  - HFA1, HFA2, HFA3, HFA4
- Manufacturing Facility
  - HFA1, HFA2, HFA3, HFA4
- Retail Store
  - HFA1, HFA2, HFA3, HFA4
- Gymnasium
  - HFA1, HFA2, HFA3, HFA4
- Cafeteria
  - HFA1, HFA2, HFA3, HFA4
- Auditorium
  - HFA1, HFA2, HFA3, HFA4

Vaporproof Fluorescents

- Entrance Lighting
  - VHA1, VSA4, VSA8
- Car Washes
  - VHA1, VSA4, VSA8
- Public Areas
  - VHA1, VSA8
- Parking Structures
  - VHA1, VSA4, VSA8
- Beverage Industry
  - VHA1
- Food Processing
  - VHA1, VSA4, VSA8
- Construction Sites
  - VHA1
- Industrial Lighting
  - VHA1, VSA4, VSA8
- Freezer
  - VSA4

Choosing the correct lighting solution for your application…

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Fluorescent Strips and Wraps

FSA4

FSA8

Choosing the correct lighting solution for your application…

FW24

FW44

- Area Lighting
  - FSA4, FSA8
- Display Cases
  - FSA4, FSA8
- Shops/Sheds
  - FSA4, FSA8, FW24, FW44
- Task Lighting
  - FSA4, FSA8
- Storage Area
  - FSA4, FSA8
- Utility Areas
  - FSA4, FSA8, FW24, FW44
- Hallway/Coridor
  - FW24, FW44
- Schools
  - FW24, FW44
- Office
  - FW, 24, FW44

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Lamp Options Available

Lamp Installation Available*

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Lamp Options Available*

Sample ordering information

Lamp Type/Wattage

Ordering code	Description
28	F28T8
30	F30T8
32	F32T8
54	F54T5HO

CCR/CCT

Ordering Code	CRI	CCT	T5	T8
A	No Lamps Installed			
B	75	3000	No	No
C	75	3500	No	No
D	75	4100	No	No
E	75	5000	No	No
F	85	3000	Yes	Yes
G	85	3500	Yes	Yes
H	85	4100	Yes	Yes
I	85	5000	Yes	Yes
J	85	6500	Yes	Yes

* Consult factory for additional options you might need, but do not see on this example

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Ballast Options available*

T8
Instant Start
Normal Power
2, 3, 4 lamps

T5HO
Program Rapid Start
Normal Power
2 lamps

T8
Instant Start
Low Power
2, 3, 4 lamps

T8
Program Rapid Start
Normal Power
2 lamps

T12
Rapid Start
Normal Power
2 lamps

T8
Instant Start
High Power
2, 3, 4 lamps

T12
Instant Start
Normal Power
2 lamps

*Not all ballasts will work in every fixture. Please consult spec sheets available online at www.howardlightingproducts.com or consult with the factory.

Ballast Options available*

Sample ordering information

Lamp Type/Wattage

Ordering code	Description
HI	High BF electronic Instant Start (T8 only)
LI	Low BF Instant Start (T8 only)
SI	Standard BF Instant Start (T8 only)
PS	Programmed Rapid Start

Input Volts

Ordering Code	CRI
02	120 Volt
08	277 Volt
09	347 Volt
MV	120-277 Volt Universal
HV	347-480v Universal T5HO only
HX	480-277 Step-down Autotransformer (allows hook-up of standard MV ballast to 480V)

*Not all ballasts will work in every fixture. Please consult spec sheets available online at www.howardlightingproducts.com or consult with the factory.

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Factory Installed Options

Ordering Code	Description
000	No factory installed options
A	Occupancy Sensor
B	Emergency Ballast
C	Door with lens and safety cable
D	Door with lens
G	Wireguard
I	Special wiring instructions
J	J-Box Mounting Plate with power wires routed to center Knock Out
T	Toggle Switch Bi-Level Lighting Control

Factory Installed Options

Occupancy Sensor –

self contained sensor mounts directly to the luminaire or electrical box to provide local occupancy control for both general area and aisle way pattern detection…

- Passive Infrared technology
- Use in warehouses, manufacturing, and other high ceilings

Factory Installed Options

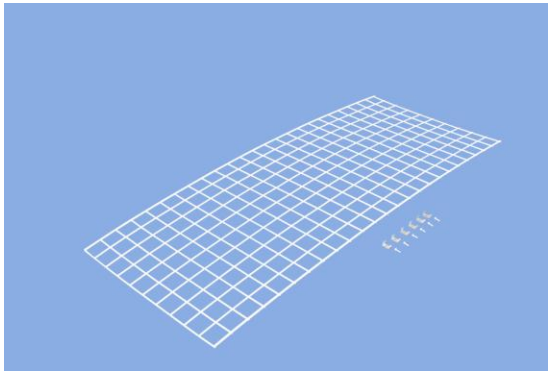
Emergency Ballast –

The emergency ballast works with an AC ballast to convert new or existing fluorescent fixtures into emergency lighting. When there is a power outage, the emergency ballast takes over. When orderings, Lumen specification is required to ensure you have the proper emergency lighting system.

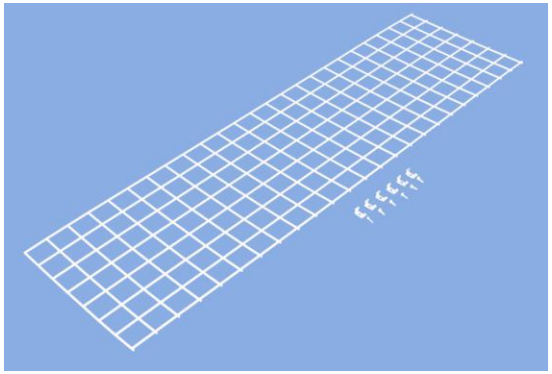
Factory Installed Options

Wire Guards –

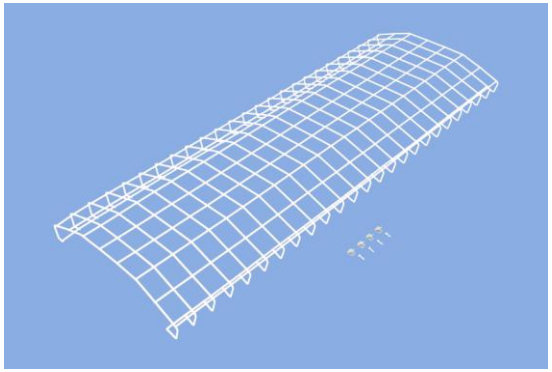
When you need a little extra protection.
Includes attachment hardware.



HFA1



HFA2



HFA3

Factory Installed Options

Toggle Switch Bi-Level Lighting Control –

Allows for Separate control of two ballasts through simple “toggling” of a standard wall switch. Recommended use of programmed start ballast with this control.

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Cordset Options

Ordering Code	Description
00	Standard luminaire power disconnect (No Cord)
01	6' SJT 18/3; no plug
02	10' SJT 18/3; no plug
03	6' SJT 18/3; L5-15 twist lock (120V)
04	10' SJT 18/3; L5-15 twist lock (120V)
05	6' SJT 18/3; 5-15 non twist lock(120V)
06	10' SJT 18/3; 5-15 non twist lock(120V)
07	6' SJT 18/3; L7-15 twist lock (277V)
08	10' SJT 18/3; L7-15 twist lock (277V)
09	6' SJT 18/3; 7-15 non twist lock(277V)
10	10' SJT 18/3; 7-15 non twist lock(277V)
11	16/3 no plug; specify length
12	6' SJT 16/4
16	16' SJT 18/3; 7-15 non twist lock(277V)
17	18/3 no plug; specify length
18	6' SJT 16/3; L8-20 twist lock (480v)
19	10' SJT 16/3; L8-20 twist lock (480v)
20	16' SJT 18/3; L5-15 twist lock (120V)
21	16' SJT 18/3; L7-15 twist lock (277)
53	White 6' SJT 18/3; L5-15 twist lock (120V)

Packaging Options

Ordering Code	Description
I	Individual packaging
B	Bulk packaging

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Why Choose Fluorescent High Bays?

There are benefits to switching to Fluorescent Fixtures. The energy savings associated with switching to fluorescent lighting will allow for the fixtures to pay for themselves over the course of a few years.

Other benefits include:

- 25-50% energy savings over metal halide high bays
- Longer lamp life
- Ballasts are sound free
- Segmented optics for better vertical and horizontal illumination
- Improved color rendition

Simple Energy Cost Estimator

	Existing System	New System
	400 Watt MH High Bay	HFA3E632AHI High Ballast Factor High Eff Fluorescent Highbay
Hours burned per year	4368	
Cost per kWh $	0.10	
Number of fixtures	1	1
Watts per fixture	458	169

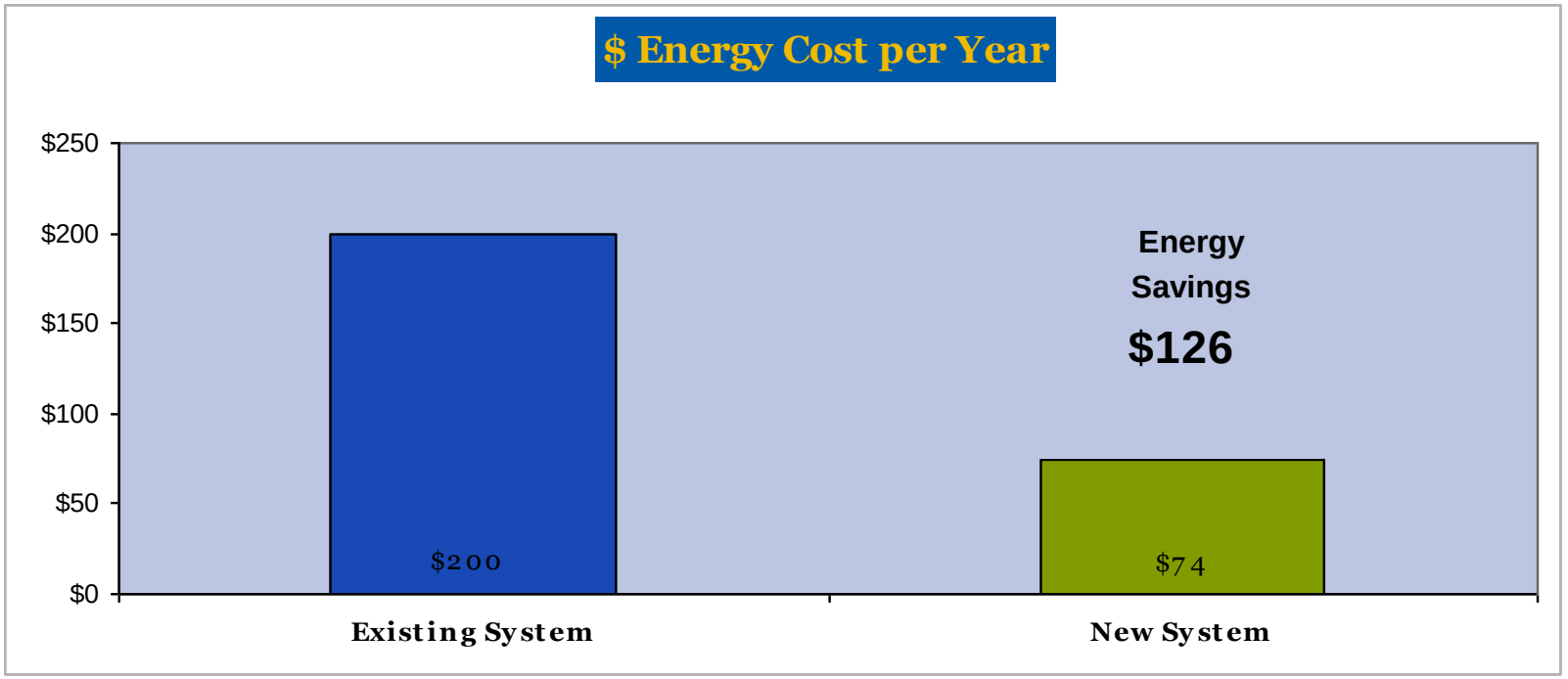
Energy Cost Estimation

Energy used per yr. **(existing system)**	$200	Energy used per yr. **(new system)**	$74
Energy savings per yr. **(entire site)**	$126	Energy savings per year **(each new system fixture)**	$126.24

Energy Savings Return

Metal Halide vs. Linear Fluorescent

$ Investment to upgrade **(per each new fixture)**	$140.40	Energy savings will recover investment in **(months)**	13



Potential Yearly Savings: **$126**

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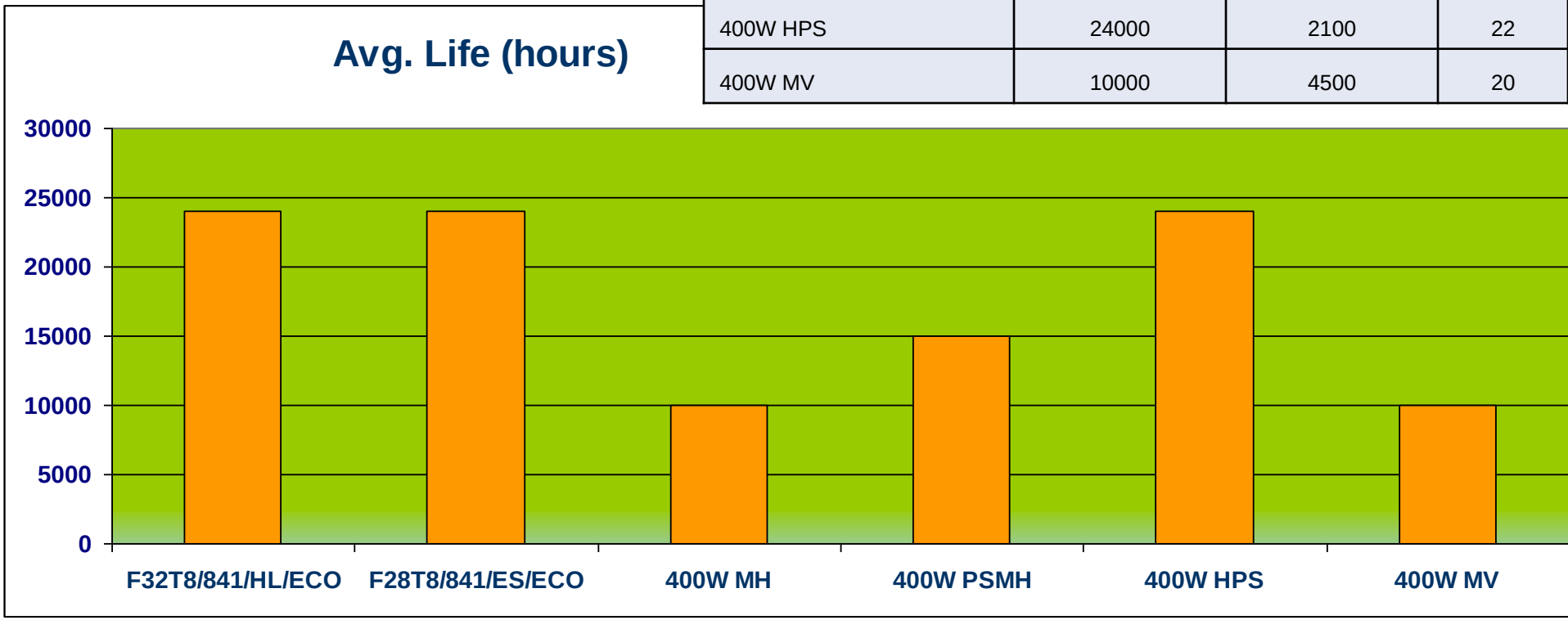
Lamp Comparison

Lamp Type	Avg. Life (hours)	Color Temp. (K)	CRI
F32T8/841/HL/ECO	24000	4100	85
F28T8/841/ES/ECO	24000	4100	85
400W MH	10000	4200	70
400W PSMH	15000	4200	60
400W HPS	24000	2100	22
400W MV	10000	4500	20



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Lamp Comparison

Lamp Type	Color Temp. (K)	CRI
Linear Fluorescent	4100	85
Metal Halide	4200	70
Pulse Start Metal Halide	4200	60
High Pressure Sodium	2100	22
Mercury Vapor	4500	20