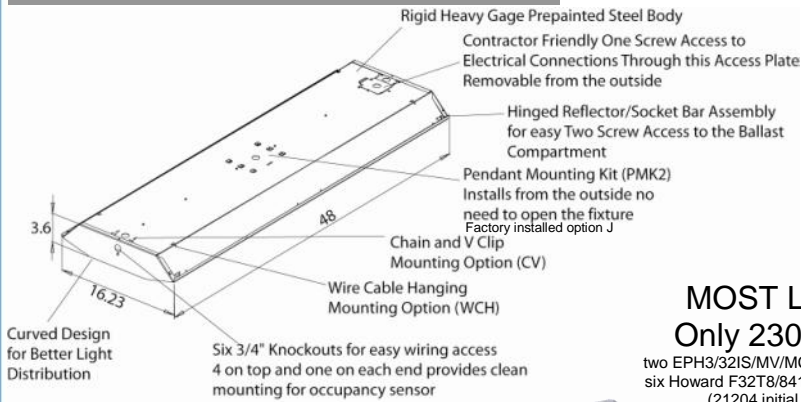


HIGH BAY FLUORESCENT—SIX LAMP



DESCRIPTION

HFA3 series high-bay fluorescent fixture is a great energy saving alternative to traditional HID high-bay fixtures. This fixture operates six lamps and as a standard feature comes equipped with Howard ballasts.

Benefits of fluorescent high-bay luminaries include:

- Energy Saving Compared to HID systems
- Exceptional Color Rendering
- High System Efficacy
- Long Lamp Life
- Instant On/Re-strike Capability
- Howard Ballast and Howard Lamp as a system is covered by Howard Industries Warranty
- Quality Lamp holders
- Computer Designed Reflectors
- System Tested, Designed, Approved, and Manufactured by Howard Industries in Mendenhall Mississippi.
- Compliant with Safety and performance standards.

APPLICATIONS

- Warehouse
- Manufacturing facility
- Retail Store
- Gymnasium
- Cafeteria
- Auditorium

FEATURES

- Easy access to wiring compartment & ballast
- Access plate provides access to electrical wiring without the need to open the fixture
- Knock-outs for easy electrical wiring and assembly
- Factory Installed Occupancy Sensor option
- Factory Installed Emergency ballast option
- Factory Installed Wrap Lens option
- Lamp Installation option available
- Multiple power cord set options, (voltage, length, gage)
- Pendant mount kit provides a top J-box to simplify HID retrofit installations. Can be used with a hook or rigid conduit and fasteners (Fixture must be specified with "J" option)
- Lens kit options available
- Choice of 86% Standard Specular Aluminum Reflector, 95% Specular Enhanced Aluminum Reflector or 91% White Reflector
- Heavy Duty pre-painted steel construction
- Wireguard available
- Custom configurations available
- Can be easily mounted by a single person
- Suspended or Pendant mounting insures a quick painless install
- Chain and V-Clip Hanging option
- Wire cable hanging option.
- Special wiring available upon request

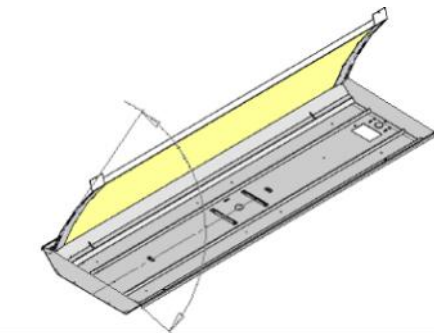
**MOST LIGHT
Only 230Watts!**

two EPH3/32IS/MV/MC/HE Ballasts and six Howard F32T8/841/HL/ECO Lamps (21204 initial lumens)

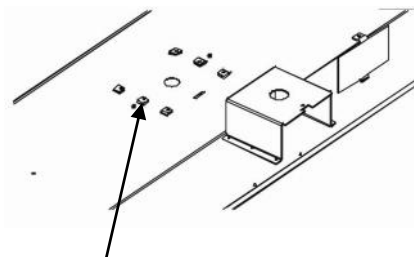


**LOWEST ENERGY
Only 124Watts!**

two EPL3/32IS/MV/SC/HE Ballasts and six Howard F28T8 Lamps (12260 initial lumens)



Reflector Assembly pivoted open after removal of 2 Screws



Pendant mount option assembly

Pendant Mount lances included only if Factory Installed Option "J" is selected



Specifications subject to change without notice

Lighting for life.

HOWARD
LIGHTING PRODUCTS

Visit us online at HowardLightingProducts.com or call us at 800.956.3456.

Ordering Information:

Model Family	Reflector/ Lens	No. of Lamps	Lamp Type/ Wattage	CRI/CCT	Ballast	Input Volts	Factory Installed Options	Cord/Plug Description	TBA	Packaging
HFA3	E	6	32	A	HI	MV	0CJ	01	0	I
HFA3	A Standard specular aluminum (86%) E: Enhanced specular aluminum (95%) W: Reflective white (91%)	6	28: F28T8 30: F30T8 32: F32T8 54: F54T5HO	CRI CCT High Lumen T5 T8 A: No lamps installed B: 75 3000 No x C: 75 3500 No x D: 75 4100 No x E: 75 5000 No x F: 85 3000 No x x G: 85 3500 No x x H: 85 4100 No x x I: 85 5000 No x x J: 85 6500 No x K: 85 3000 Yes x L: 85 3500 Yes x M: 85 4100 Yes x N: 85 5000 Yes x	HI: High BF Electronic Instant Start (T8 only) LI: Low BF Electronic Instant Start (T8 only) SI: Standard BF Electronic Instant Start (T8 only) HE High BF Electronic Instant Start CEE Listed High Efficiency (T8 only) LE Low BF Electronic Instant Start CEE Listed High Efficiency (T8 only) SE Standard BF Electronic Instant Start CEE Listed High Efficiency (T8 only) PS: Programmed Start Electronic (T8 CEE Listed) ⁽¹⁾	02: 120V 08: 277V 09: 347V MV: 120-277V Universal HV: 347-480v Universal (T5HO only) AX: 480-477 Step-down autotransformer ⁽²⁾	000: No factory installed options A: Occupancy sensor with extender arm ⁽³⁾ B: Emergency ballast (specify lumen requirement) D: Wrap Lens ⁽⁴⁾ I: Special wiring instructions J: J-box (Pendant Mount) Configuration ⁽⁵⁾ T: Toggle switch bi-level lighting control ⁽⁶⁾	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 (277V) 22 6' SJT 16/3; L7-20 twist lock(277V) 23 6' SJT 18/3; L6-15 twist lock (240V) 25 3' SJT 16/3; L8-20 twist lock (480v) 26 NEMA L6-20 6'L 240V CSET 27 NEMA L6-20 10'L 240V CS 28 20' SJT 16/3; L8-20 twist lock (480v) 29 14/3 no plug; specify length 30 10' SJT 18/3; L6-15 twist lock (240V) 31 10' SJT 16/3; L7-20 twist lock(277V) 32 6' SJT 16/3; L5-20 twist lock (120V) 51 White 6' SJT 18/3; no plug 52 White 10' SJT 18/3; no plug 53 White 6' SJT 18/3; L5-15 twist lock (120V)	TBA	I: Single X: Special

Field Installed Options	
HFA3 WG	Wire Guard
HFA3 WL	Wrap lens
HF-WCH	Wire cable hanging kit (2 pcs. Per kit)
HF SK1	Stabilizer kit: Hub, collar and wire cable ⁽⁵⁾
HF 2CV	2' hanging chain & v-clips
HF 3CV	3' hanging chain & v-clips

Sample Ordering Number
HFA3 E 632A HI MV 0CJ 01 0 I

HFA3 Series Hi-Bay Fluorescent
 Enhanced Specular Aluminum
 6 lamp design; no lamps installed F32T8/841 Lamp
 High Ballast Factor Ballast w/ Universal Input (120-to-277v)
 Door with lens and safety cable (C),
 and J-Box mounting plate (J)
 6 foot 18/3 SJT cord
 Individual Box Packaging

Footnotes:

- (1) T8 Programmed Rapid Start recommended only in the case of abnormally frequent switching (as with an occupancy sensor). Instant Start T8 is appropriate for most ordinary applications.
- (2) Allows hook-up of standard MV ballast to 480V
- (3) Recommend use of programmed rapid start with occupancy sensor
- (4) Standard Acrylic Prismatic, Pattern 12, 0.100" thick. Call for options.
- (5) Unless otherwise specified, fixture will include field installed J-box. Supply wires will exit the center of the fixture, not the access plate. J-box can be installed without entering the fixture
- (6) Allows for separate control of two ballasts through simple "toggling" of a standard wall switch. Recommend use of programmed rapid start ballast with this control.



Lighting for life.

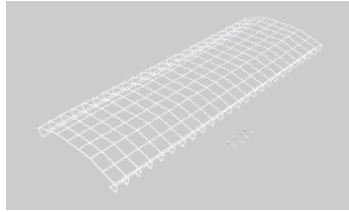
Specifications subject to change without notice



Visit us online at HowardLightingProducts.com or call us at 800.956.3456.



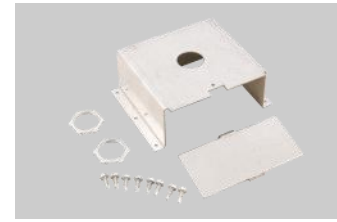
Our Fluorescent fixtures can be ordered with lamps already installed. Call factory for details, availability and lead times.



**Wireguard
W. hardware**



Wire Cable Hanging Kit



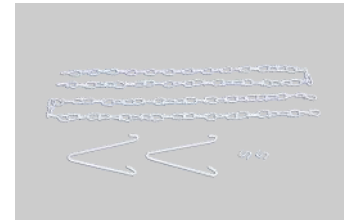
Pendant Mount Kit



Wrap Lens*
Wrap Lens can be used w/ wire guard

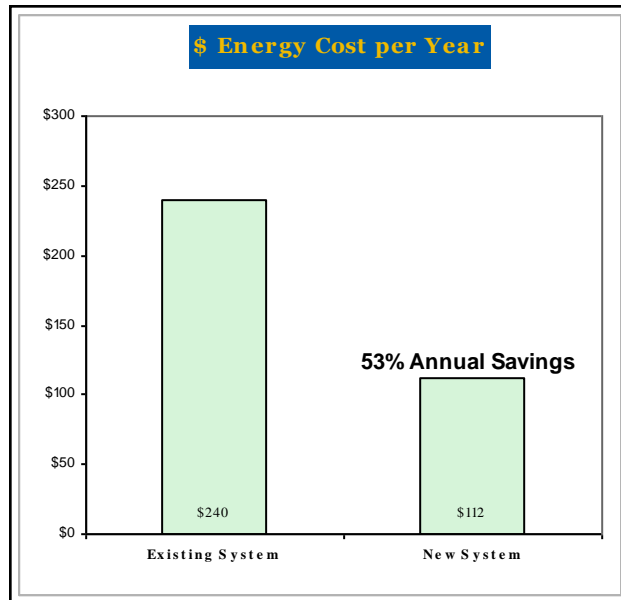


Stabilizer Kit



Hanging Chain & V-clips

Energy Cost					
System Descriptions		Existing System		New System	
		400 Watt MH High Bay		HFA3E632AHI High Ballast Factor Fluorescent Highbay	
Hours burned per year	4368	Number of Fixtures	1	Number of Fixtures	1
Cost per kWh \$	0.12	Watts per Fixture (existing system)	458	Watts per Fixture (new system)	214
		(ballast input watts)		(ballast input watts)	
Energy Cost Estimation		Energy used per yr. (existing system) \$240		Energy used per yr. (new system) \$112	
Potential Yearly Savings:			\$128		



Howard Industries provides this tool to examine the potential impact of lighting decisions. This tool provides an ESTIMATE only. The analysis of this tool does not warrant or guarantee the actual costs or savings that will be realized as the analysis suggested. You can find the full version of this cost saving tool at the Howard Lighting Website—www.howardlightingproducts.com. Click "Cost of Ownership Calculator".

Copyright (c) 2008 Howard Industries All Rights Reserved.



Specifications subject to change without notice

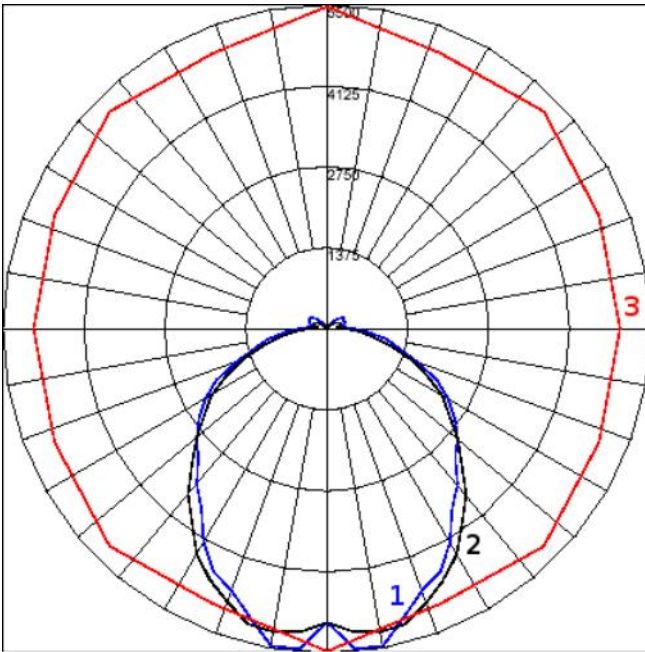
Lighting for life.

HOWARD
LIGHTING PRODUCTS

Visit us online at HowardLightingProducts.com or call us at 800.956.3456.

Photometric Data - 6 Lamp T8 (HFA3E632)

Candela Polar Plot



HFA3E632
Test report: HFA3E632AHI.IES

Spacing Criteria (0-180): 1.28
Spacing Criteria (90-270): 1.36
Spacing Criteria (Diagonal): 1.46

Maximum Candela = 5467

Located At Horizontal Angle = 90, Vertical Angle = 10
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Vertical Plane Through Horizontal Angles (45 - 225)
3 - Horizontal Cone Through Vertical Angle (10) (Through Max. Cd.)

Luminaire Efficiencies*

Reflector Type	T8
Enhanced Specular	88%
Specular	83%
White	83%

*Luminaire efficiency is the ratio of light output emitted by the luminaire to the light output emitted by its lamps.

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixture
0-30	4042.0	22.8	25.1
0-40	6461.0	37.1	40.8
0-60	11510.0	65.0	71.5
0-90	15256.0	86.2	94.8
0-180	16099.0	91.0	100.0

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	9508	7662	7255
55	8894	6911	7111
65	8032	6258	6775
75	7236	5040	5428
85	3175	3940	4836

Coefficients of Utilization – Zonal Cavity Method
Effective floor cavity reflectance 0.20

RC	80%				70%				50%				30%				10%				0%		
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
0		107	107	107	107	104	104	104	104	98	98	98	93	93	93	88	88	88	86				
1		97	92	88	84	94	90	86	82	85	82	79	81	78	76	76	74	73	70				
2		88	80	74	68	85	78	72	67	74	69	65	70	66	62	67	63	60	58				
3		80	70	62	56	77	68	61	55	65	59	54	62	57	52	72	68	64	62				
4		73	62	54	48	71	60	53	47	58	51	46	55	49	45	52	47	44	41				
5		67	55	47	41	65	54	46	40	52	45	40	49	43	39	47	42	38	36				
6		62	50	42	36	60	49	41	35	46	40	35	44	38	34	43	37	33	31				
7		58	45	37	31	56	44	37	31	42	35	31	41	35	30	39	34	29	28				
8		54	41	33	28	52	40	33	28	39	32	27	37	31	27	36	30	26	25				
9		50	38	30	25	48	37	30	25	36	29	25	34	28	24	33	28	24	22				



Specifications subject to change without notice

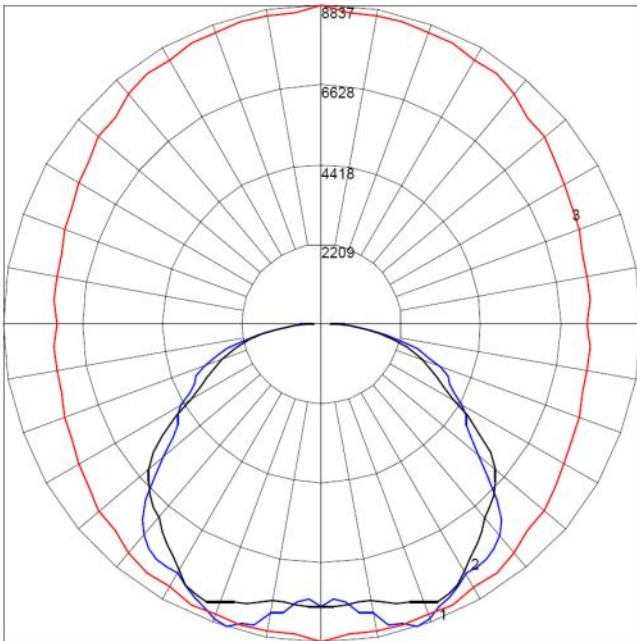
Lighting for life.

HOWARD
LIGHTING PRODUCTS

Visit us online at HowardLightingProducts.com or call us at 800.956.3456.

Photometric Data - 6 Lamp T5 (HFA3E654)

Candela Polar Plot



HFA3E654
Test report: HFA3E654.IES

Spacing Criteria (0-180): 1.26
Spacing Criteria (90-270): 1.54
Spacing Criteria (Diagonal): 1.54

Maximum Candela = 8836.93

Located At Horizontal Angle = 90, Vertical Angle = 17.5
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Vertical Plane Through Horizontal Angles (45 - 225)
3 - Horizontal Cone Through Vertical Angle (17.5) (Through Max. Cd.)

Luminaire Efficiencies*

Reflector Type	T5
Enhanced Specular	92%
Specular	87%
White	87%

*Luminaire efficiency is the ratio of light output emitted by the luminaire to the light output emitted by its lamps.

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	6689.19	22.30	24.20
0-40	11289.07	37.60	40.90
0-60	20735.75	69.10	75.10
0-90	27623.12	92.10	100.00
0-180	27623.12	92.10	100.00

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	13885	16065	16307
55	12833	14735	13235
65	11207	11763	12827
75	9140	10768	11819
85	5101	5415	6441

COEFFICIENTS OF UTILIZATION -ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20																		
RC	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	110	110	110	110	107	107	107	107	102	102	102	98	98	98	94	94	94	92
1	99	94	90	86	97	92	88	85	88	85	82	85	82	80	81	79	77	75
2	90	82	75	69	87	80	74	68	76	71	67	73	69	65	71	67	64	62
3	81	71	63	57	79	70	62	56	67	61	55	64	59	54	62	57	53	51
4	74	63	54	48	72	61	54	47	59	52	47	57	51	46	55	50	45	43
5	68	56	47	41	66	55	47	41	53	46	40	51	45	40	49	44	39	37
6	63	50	41	35	61	49	41	35	47	40	35	46	39	35	44	39	34	32
7	58	45	37	31	56	44	37	31	43	36	31	42	35	30	40	35	30	28
8	54	41	33	28	53	40	33	27	39	32	27	38	32	27	37	31	27	25
9	50	38	30	25	49	37	30	25	36	29	24	35	29	24	34	28	24	22
10	47	35	27	22	46	34	27	22	33	27	22	32	26	22	32	26	22	20



Specifications subject to change without notice

Lighting for life.

HOWARD
LIGHTING PRODUCTS

Visit us online at HowardLightingProducts.com or call us at 800.956.3456.