2/22/2015

Highbay Fluorescent - 6 & 5 Lamp
Curved Profile Design

Highbay Fluorescent

Project:	
Catalog#:	
Approved by:	

Description

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

Applications

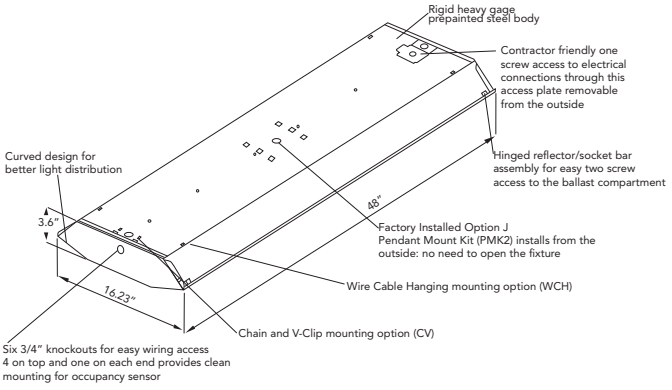
Warehouse
Manufacturing Facility
Gymnasium
Cafeteria
Auditorium

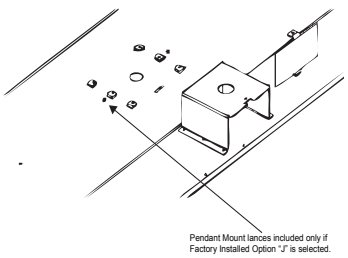
Features

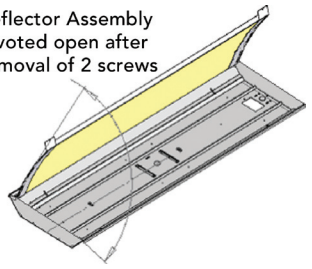
- Easy access to wiring compartment & ballast
- Access plate provides access to electrical wiring with-out the need to open the fixture
- Knock-outs for easy electrical wiring and assembly
- Factory Installed Occupancy Sensor option
- Factory Installed Emergency ballast option
- Factory Installed Wrap 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)
- Choice of 86% Standard Specular Aluminum Reflector, 95% Specular Enhanced Aluminum Reflector or 91% White Reflector
- Heavy Duty pre-painted steel construction
- Wireguard available (not factory installed)
- 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.
- UL Listed for Damp Locations

Benefits

- 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 Designed, Approved, Manufactured, and Tested by Howard Industries in Mendenhall Mississippi.
- Compliant with Safety and performance standards.







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Ordering Information

Model Family	Reflector	No. of Lamps	Lamp Type/ Wattage(1)	CRI/CCT	Ballast	Input Volts	Factory Installed Options	Cordset Options (see customer service for other cordset options)	TBA	Pack.
HFA3	E	6	32	A	HE	MV	00D	01	0	I
HFA3	E: Enhanced Specular Aluminum (95%) A: Specular Aluminum (86%) W: White reflective (91%)	6 5	**T8 Lamps** 28: F28T8 32: F32T8 **T5 Lamps** 28:F28T5 54: F54T5HO	A: No Lamps B: 75 3000 X C: 75 3500 X D: 75 4100 X E: 75 5000 X F: 85 3000 X X G: 85 3500 X X H: 85 4100 X X I: 85 5000 X X J: 85 6500 X K: 85 3000 Yes X L: 85 3500 Yes X M: 85 4100 Yes X N: 85 5000 Yes X (CRI, CCT, High Lumen, T8, T5)	SE: SBF High Eff(2) HE: HBF High Eff(2) LE: LBF High Eff(2) P8: PRS T8(2) PS: PRS T5	MV: 120-277v AX: 480-277(3) MV: 120-277v HV: 347-480v (T5HO)	000: No FIOs A: Occ Sensor(4) B: Emergency Ballast(5) D: Wrap Lens(6) I: Special Wiring Instructions J: J-box config.(7) T: Toggle switch bi-level lighting control(8)	00: Standard Disconnect 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 L5-15twist lock 120v 05: 6′ SJT 18/3 5-15non twist lock 120v 06: 10′ SJT 18/3 5-15non 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 7-15 non twist lock 277v 10: 10′ SJT 7-15 non twist lock 277v 11: 16/3, no plug spec lens 12: 16/4, no plug spec lens 16: 16′ SJT 18/3 7-15, non twist lock 277v 17: 18/3, no plug spec lens 18: 6′ STW L8-20, twist lock 480v 19: 10′ STW L8-20, twist lock 480v 20: 16′ SJT 18/3 L5-15, twist lock 120v 21: 16′ SJT 18/3 L5-15, twist lock 277v		I: Single B: Bulk

(1) Lamp installation available.
(2) High Efficiency ballasts are CEE Listed.
(3) Step-down autotransformer. Allows hook-up of standard MV ballast to 480v.
(4) Occupancy Sensors should be used with programmed rapid start ballasts for maximum lamp life.
Standard Occupancy Sensor requires neutral wired fixtures (ex. -120v or -277v).
For phase-to-phase voltage applications (240v) advise Customer Service at time of request.
(5) 500 Lumen ballast is standard for T8. 120 or 277v input only. Advise Customer Service at time of quote for higher lumen rated ballast.
(6) Standard acrylic prismatic, pattern 12, 0.100" thick. Call for options.
(7) 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.
(8) 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.

SE	Standard Ballast Factor High Efficiency Instant Start T8 Ballast
HE	High Ballast Factor High Efficiency Instant Start T8 Ballast
LE	Low Ballast Factor High Efficiency Instant Start T8 Ballast
PS	Program Rapid Start T5 Ballast
P8	Program Rapid Start High Efficiency T8 Ballast

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Sample Ordering Number:
HFA3 E 6 32 A HE MV 00D 01 I
HFA3 Series Highbay Fluorescent
Enhanced Specular Aluminum Reflector
6-lamps (none installed)
F32T8 High Ballast Factor High Efficiency Ballast
Multi-volt (120-277v)
Wrap Lens Factory Installed Options
6′ SJT 18/3 cord, no plug
Single Packaging

RAPID SHIP MODELS
AVAILABLE FOR NEXT DAY SHIPMENT

- HFA3A632AHEMV000000I
- HFA3A654APSMV000000I
- HFA3E632AHEMV000000I
- HFA3E632NHEMV000000I *(with lamps)*
- HFA3E654APSMV000000I
- HFA3E654IPSMV000000I *(with lamps)*

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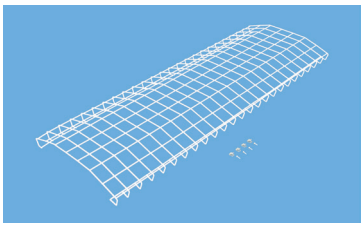
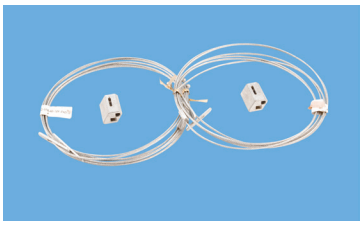
Highbay Fluorescent

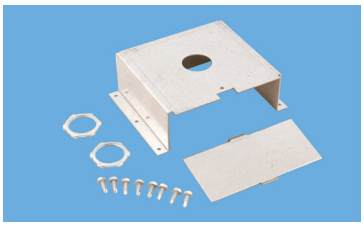
Field Installed Options Ordering



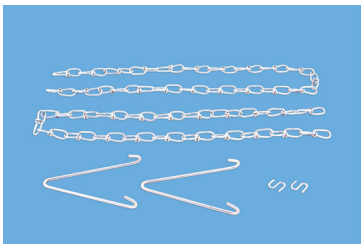
HFA3-WG
Wire Guard



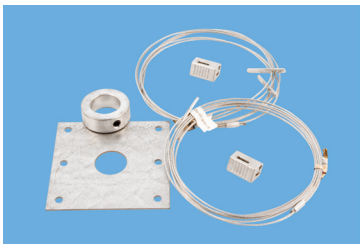
HFA-WCH
Wire Cable Hanging Kit
(2 pcs per kit)



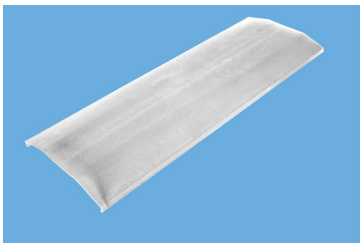
HF-PMK2
Pendant Mount Kit
with 1.0" diameter through hole



HF-2CV (2 foot)
HF-3CV (3 foot)
Hanging Chain & V-clips



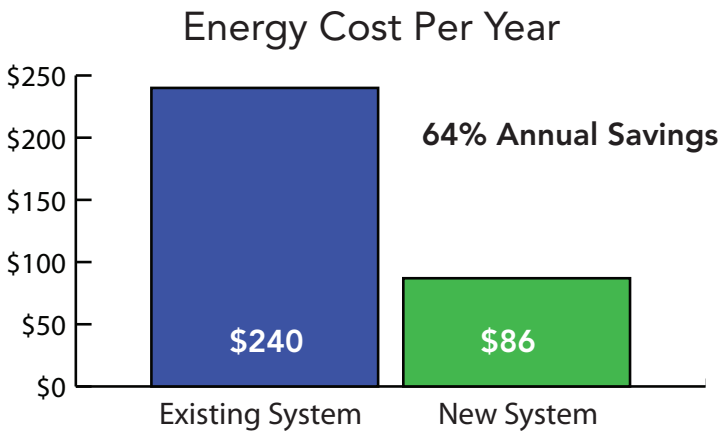
HF-SK1
Stabilizer Kit
(Hub, color and wire cable)



HFA3-WL
Wrap Lens
(Can be used with wire guard)

Energy Cost Estimator

		Existing System		New System	
		400W MH Highbay		HFA3E632ASE High Eff Standard BF 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)	165
Energy Cost Estimation		Energy used per year (existing system)	$240	Energy used per year (new system)	$86
		Energy saving per year (per fixture)		$154	



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".

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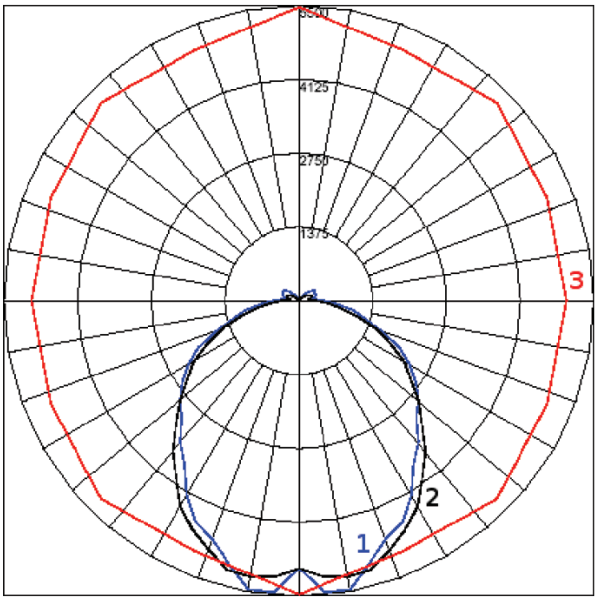
Photometric Data - 6 Lamp T8 (HFA3E632)

Candela Polar Plot



HFA3E632
Test Report: HFA3E632AHE.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	%Fix
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	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

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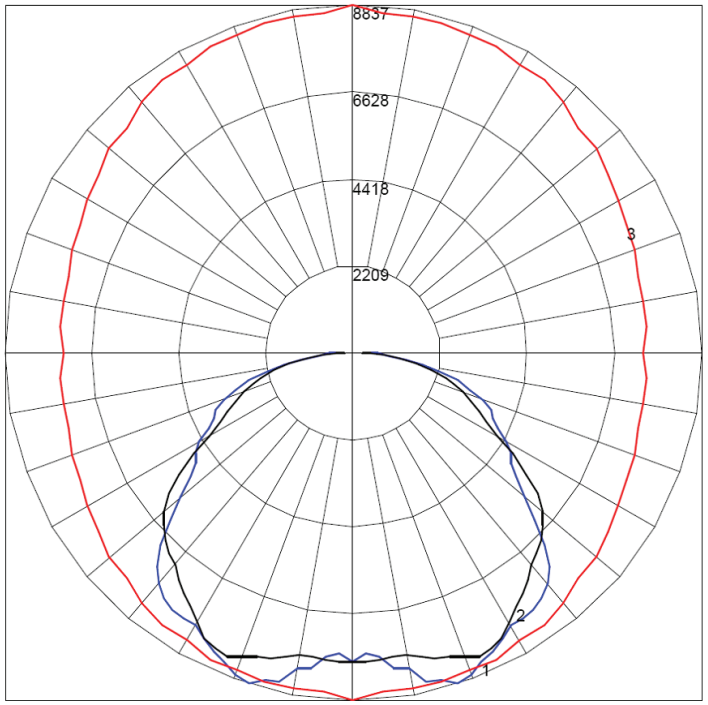
Highbay Fluorescent

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 (Diagononal): 1.58

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	%Fix
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
RW	70	50	30	10	70	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	59	54	51	49
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
10	47	35	28	23	45	34	27	23	33	27	22	32	26	22	31	25	22	20

Specifications subject to change without notice.