



## **EXHIBIT H**

### **IRFQ No. MAO2016841 – Ettie St. and Lake Merritt Pump Stations Electrical Lighting Replacement and Upgrades Services**

# Dialight

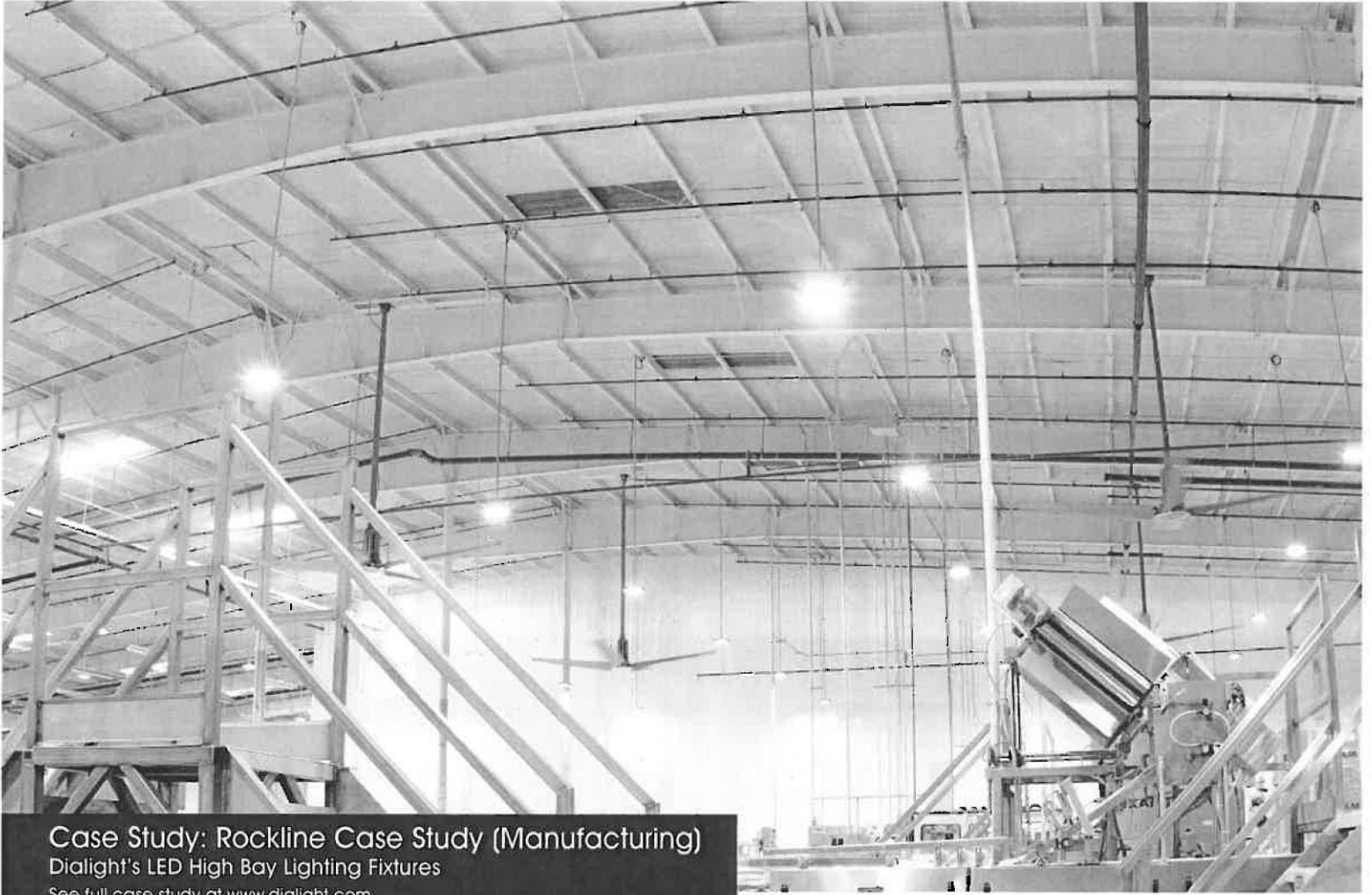
EXHIBIT H



**Vigilant® LED High Bay - UL**  
for Indoor and Outdoor Industrial Applications

# Vigilant® LED High Bay - UL

for Indoor and Outdoor Industrial Applications



## Case Study: Rockline Case Study (Manufacturing)

Dialight's LED High Bay Lighting Fixtures

See full case study at [www.dialight.com](http://www.dialight.com)

### About Dialight

Dialight (LSE: DIA.L) is leading the energy efficient LED lighting revolution around the world for industrial and hazardous areas as well as transportation and infrastructure applications. For 40 years it has been committed to the development of LED lighting solutions that enable organizations to vastly reduce energy use and maintenance needs, improve safety, ease disposal and reduce CO<sub>2</sub> emissions.

### History at a Glance

- 1938 - Dialight founded in Brooklyn, NY
- 1971 - LED Circuit Board Indicator
- 1994 - LED Transit Vehicle Signals
- 1995 - LED Traffic Signals
- 2000 - FAA certified LED Obstruction Lights
- 2007 - LED Lighting for Hazardous Locations
- 2009 - LED High Bay Fixtures
- 2012 - Full performance 10-year warranty
- 2013 - Controls for LED Lighting
- 2014 - 125lm / W High Bay

### Typical Applications

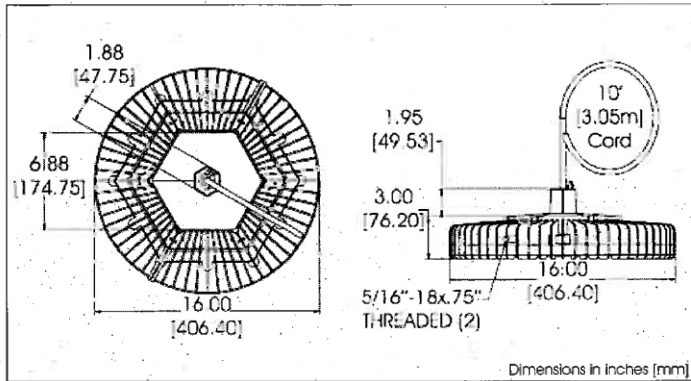
- Oil, Gas & Petrochemical
- Power Generation
- Mining
- Chemical
- Pharmaceutical
- Water & Sewage
- Food & Beverage
- Manufacturing
- Warehousing
- Cold Storage

Complete your own Return on Investment calculation at: [www.dialight.com/tcoCalculator/Vigilant\\_HighBay](http://www.dialight.com/tcoCalculator/Vigilant_HighBay)



Patent pending

## Vigilant® LED High Bay - UL



### Certifications & Ratings

- UL 1598/A
- CSA 22 #250
- CE
- NEMA 4X
- IP66 / 67
- Dark Sky Compliant

### Features & Benefits

- 10 year full performance warranty
- L70 rated for >100,000 hours @ 25°C ambient
- 125 LPW
- Dual Mounting option available
- Significantly reduced glare
- Instant on/off
- Maintenance free
- Mercury free
- No UV or IR
- Resistant to shock and vibration

### Application

At 125 lumens per Watt, Dialight's new ultra-efficient industrial LED High Bay revolutionizes the world of LED lighting and is by far the most innovative LED fixture available today. With a market-leading 10 year full performance warranty, the new 26,500 lumen high bay utilizes cutting-edge optical and electrical design to provide for significantly reduced glare and superior light distribution.

### Mechanical Information

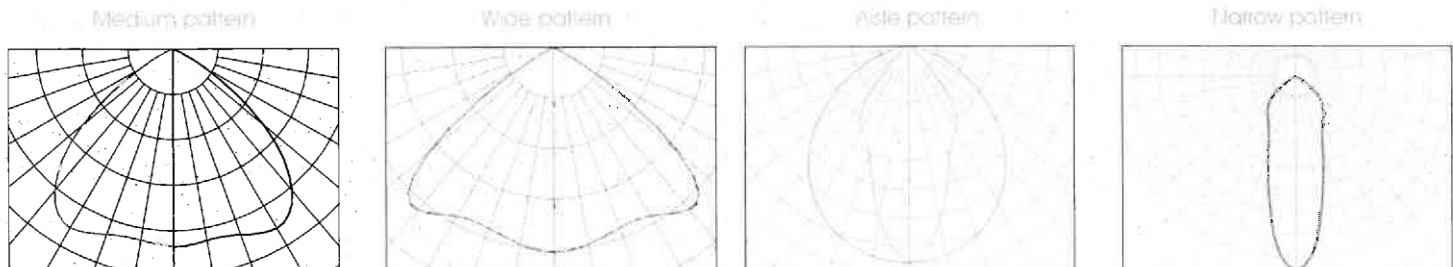
Fixture Weight:	18 lbs (8.16kg)
Shipping Weight:	24 lbs (10.8kg)
Mounting:	(1) 3/4" NPT - top (2) 5/16"-18 x .75" UNC - side
Entries:	10' (3.05m) STOCW Power Cord

### Electrical specifications

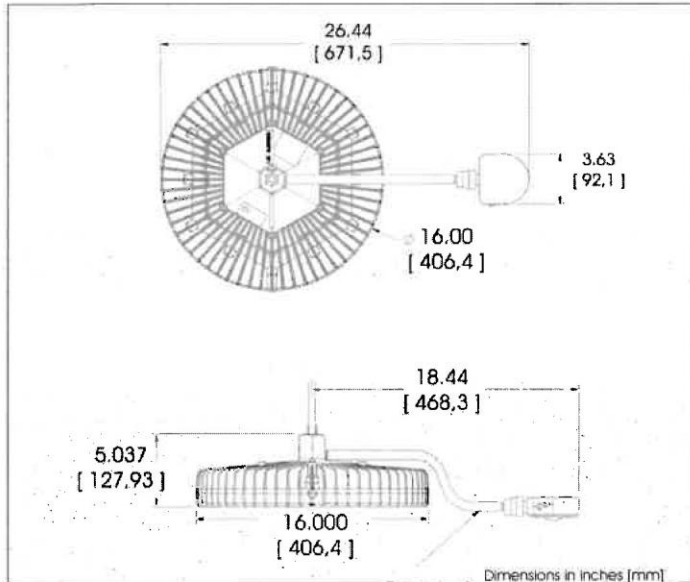
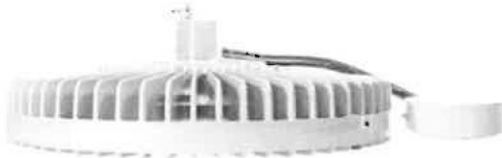
Operating Voltage:	25,750 & 26,500lm models 18,000, 14,000 & 11,000lm models
Power Consumption:	See table
Operating Temp:	-40°F to +149°F (-40°C to +65°C)
Harmonics:	IEC 61000-3-2
Noise requirement / EMC:	FCC Title 47, Subpart B, Section 15, class A device. RF Immunity, 10V/m, 80MHz-1GHz
Transient protection:	Protection devices capable of handling up to 6kV. Tested for 6kV/2 ohm combination wave, as per IEEE C62.41, line-line and line-ground
THD:	<20%
Power Factor:	> 0.9
<b>Construction</b>	
Housing:	Copper free aluminum
Finish:	Superior dual coat finish Sealed polyester topcoat Chemical-resistant epoxy prime
Lens:	Tempered glass
<b>Photometric Information</b>	
CRI:	75
CCT:	5000K (cool white) 4000K (neutral white)
IES Files:	available at <a href="http://www.dialight.com">www.dialight.com</a>

All values typical unless otherwise stated  
 All lumen values are typical (tolerance +/- 10%)

### Light Distribution Pattern



## Vigilant® LED High Bay - UL Occupancy Sensor Models



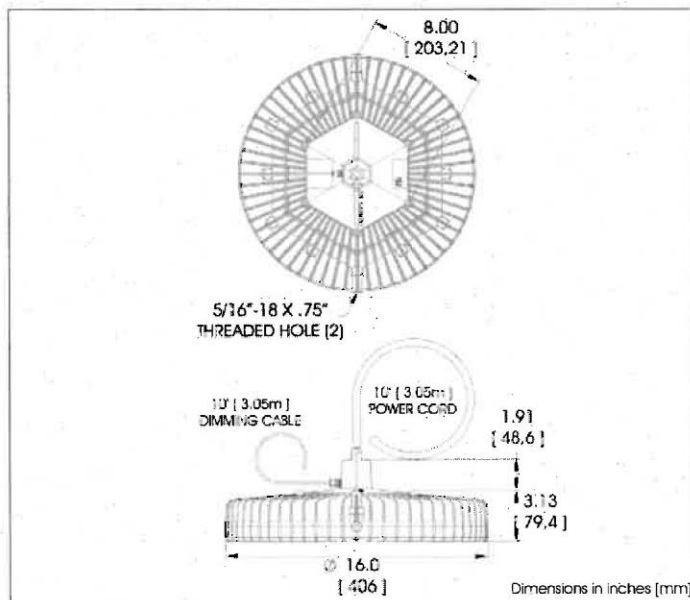
Mechanical, Electrical and Photometric information is the same as on page 3 except where detail is provided

Fixture Weight:	20 lbs (13.34kg)
Container Weight:	27 lbs (9.62kg)
Sensor Mounting:	Attached to the base of the neck using a semi-rigid flexible conduit
Occupancy Sensor:	Wet location wattstopper
Sensor Timing:	30 seconds to 20 minutes
Sensor Lens Options:	Comes complete with interchangeable lenses for multiple mounting heights and sensor patterns
Operating Temperature:	-40°F to +149°F (-40°C to +65°C)
Rating:	IP65

### Features & Benefits

- No additional electrical connections required for installation
- Flexible conduit permitting the positioning of the occupancy sensor for optimal coverage
- Interchangeable sensor lens for high bay, low bay, or aisle application

## Variable Dimming Models



Mechanical, Electrical and Photometric information is the same as on page 3 except where detail is provided

Variable Dimming Cable:	Two conductor cable
Power Cable:	Three conductor cable
Dimming Cable Position:	Side of the neck through a cable gland
Variable Dimming Control:	0-10V DC
Dimming Range:	10V DC = 100% light output 0V DC = 30% light output

### Features & Benefits

- 10' plenum rated dimming control cable pre-installed
- Dimming cabling independent of fixture wiring
- Multiple High Bays can be connected to the same dimmer

# Vigilant® LED High Bay - UL - Ordering information

Part number	Fixture lumens	Wattage	Lumens per Watt	Wet Locations	Voltage	CCT	Lens	Optical Pattern			
								Medium	Wide	Asie	Narrow
Standard Models											
HEGMC4PN-SNG	26,500	212	125	IP66	110 - 277V AC	5000K (cool white)	Tempered glass	*			
HEGRC4PN-SNG	26,500	212	125	IP66	110 - 277V AC	5000K (cool white)	Tempered glass		*		
HEGEC4PN-SNG	25,750	204	125	IP66	110 - 277V AC	5000K (cool white)	Tempered glass			*	
HEGNC4PN-SNG	26,500	212	125	IP66	110 - 277V AC	5000K (cool white)	Tempered glass				*
HEGMC4KN-SNG	18,000	144	125	IP66	100 - 277V AC	5000K (cool white)	Tempered glass	*			
HEGRC4KN-SNG	18,000	144	125	IP66	100 - 277V AC	5000K (cool white)	Tempered glass		*		
HEGEC4KN-SNG	18,000	144	125	IP66	100 - 277V AC	5000K (cool white)	Tempered glass			*	
HEGNC4KN-SNG	18,000	144	125	IP66	100 - 277V AC	5000K (cool white)	Tempered glass				*
(15) HEGMC4GN-SNG	14,000	112	125	IP66	100 - 277V AC	5000K (cool white)	Tempered glass	*			
HEGRC4GN-SNG	14,000	112	125	IP66	100 - 277V AC	5000K (cool white)	Tempered glass		*		
HEGEC4GN-SNG	14,000	112	125	IP66	100 - 277V AC	5000K (cool white)	Tempered glass			*	
HEGNC4GN-SNG	14,000	112	125	IP66	100 - 277V AC	5000K (cool white)	Tempered glass				*
HEGMC4DN-SNG	11,000	88	125	IP66	100 - 277V AC	5000K (cool white)	Tempered glass	*			
HEGRC4DN-SNG	11,000	88	125	IP66	100 - 277V AC	5000K (cool white)	Tempered glass		*		
HEGEC4DN-SNG	11,000	88	125	IP66	100 - 277V AC	5000K (cool white)	Tempered glass			*	
HEGNC4DN-SNG	11,000	88	125	IP66	100 - 277V AC	5000K (cool white)	Tempered glass				*
Occupancy Sensor Models											
HEGMC1PM-SNG	26,500	212	125	IP65	110 - 277V AC	5000K (cool white)	Tempered glass	*			
HEGRC1PM-SNG	26,500	212	125	IP65	110 - 277V AC	5000K (cool white)	Tempered glass		*		
HEGMC1KM-SNG	18,000	144	125	IP65	100 - 277V AC	5000K (cool white)	Tempered glass	*			
HEGRC1KM-SNG	18,000	144	125	IP65	100 - 277V AC	5000K (cool white)	Tempered glass		*		
HEGMC1GM-SNG	14,000	112	125	IP65	100 - 277V AC	5000K (cool white)	Tempered glass	*			
HEGRC1GM-SNG	14,000	112	125	IP65	100 - 277V AC	5000K (cool white)	Tempered glass		*		
HEGMC1DM-SNG	11,000	88	125	IP65	100 - 277V AC	5000K (cool white)	Tempered glass	*			
HEGRC1DM-SNG	11,000	88	125	IP65	100 - 277V AC	5000K (cool white)	Tempered glass		*		
Variable Dimming Models											
HEGMC4PD-SNG	26,500	212	125	IP66	110 - 277V AC	5000K (cool white)	Tempered glass	*			
HEGRC4PD-SNG	26,500	212	125	IP66	110 - 277V AC	5000K (cool white)	Tempered glass		*		
HEGMC4KD-SNG	18,000	144	125	IP66	100 - 277V AC	5000K (cool white)	Tempered glass	*			
HEGRC4KD-SNG	18,000	144	125	IP66	100 - 277V AC	5000K (cool white)	Tempered glass		*		
HEGMC4GD-SNG	14,000	112	125	IP66	100 - 277V AC	5000K (cool white)	Tempered glass	*			
HEGRC4GD-SNG	14,000	112	125	IP66	100 - 277V AC	5000K (cool white)	Tempered glass		*		
HEGMC4DD-SNG	11,000	88	125	IP66	100 - 277V AC	5000K (cool white)	Tempered glass	*			
HEGRC4DD-SNG	11,000	88	125	IP66	100 - 277V AC	5000K (cool white)	Tempered glass		*		
Powerwash Models											
HEGMC4PN-SPG	26,500	212	125	1000 PSI	110 - 277V AC	5000K (cool white)	Tempered glass	*			
HEGRC4PN-SPG	26,500	212	125	1000 PSI	110 - 277V AC	5000K (cool white)	Tempered glass		*		
HEGMC4KN-SPG	18,000	144	125	1000 PSI	100 - 277V AC	5000K (cool white)	Tempered glass	*			
HEGRC4KN-SPG	18,000	144	125	1000 PSI	100 - 277V AC	5000K (cool white)	Tempered glass		*		
HEGMC4GN-SPG	14,000	112	125	1000 PSI	100 - 277V AC	5000K (cool white)	Tempered glass	*			
HEGRC4GN-SPG	14,000	112	125	1000 PSI	100 - 277V AC	5000K (cool white)	Tempered glass		*		
HEGMC4DN-SPG	11,000	88	125	1000 PSI	100 - 277V AC	5000K (cool white)	Tempered glass	*			
HEGRC4DN-SPG	11,000	88	125	1000 PSI	100 - 277V AC	5000K (cool white)	Tempered glass		*		

All models shown in the table are cool white, for models in Neutral White, 4000K CCT, replace the 5th character with a N. Ex: HEGMC4PN-SNG becomes HEGMN4PN-SNG. Deduct 5% from lumen values when specifying neutral.

For models needing a safety bracket, replace the 10th character with a S. Example HEGMC4PN-SNG becomes HEGMC4PN-SNG.

All models show in the above table come with an internal fuse. For models needing an external fuse, replace the 10th character with a E. Ex: HEGMC4PN-SNG becomes HEGMC4PN-SEG. (Fixture will be listed damp location only with internal fuse)















For models needing both safety bracket & fuse, replace the 10th character with a Q. Ex: HEGMC4PN-SNG becomes HEGMC4PN-SQG.

Part numbers with occupancy sensor that will be installed with hook or loop (HBXH or HBXL) accessories will require a counter balance installed prior to shipment. Replace the 10th character with a C. Ex: HEGMC4PN-SNG becomes HEGMC4PN-SCG.

Part numbers listed in the tables above come with a glass lens. For models needing a polycarbonate dome lens, replace the 3rd character with a L. Ex: HEGMC4PN-SNG becomes HELMC4PN-SNG (deduct ~11% from lumens). For models needing a polycarbonate flat lens, replace the 3rd character with a F. Ex: HEGMC4PN-SNG becomes HE2MC4PN-SNG (deduct ~3% from lumens). For models needing an acrylic lens, replace the 3rd character with a A. Ex: HEGMC4PN-SNG becomes HELMC4PN-SNG (deduct ~3% from lumens). Dome & acrylic lens not available on power wash models, please use glass or flat polycarbonate.

For Dialight's complete list of DLC qualified products, please click this link: [www.dialight.com/DLC](http://www.dialight.com/DLC)

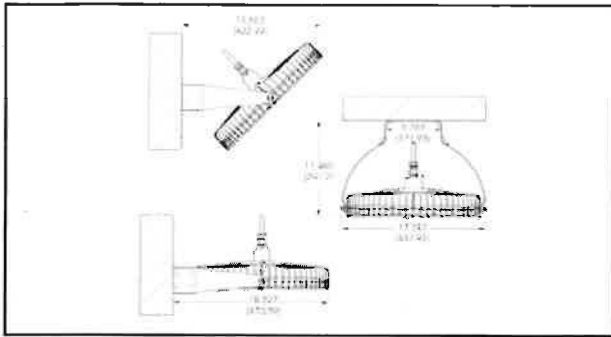
## Vigilant® LED High Bay - UL - Options and Accessories

	Part Number	Description	Kit includes
Safety cable			
	HBXDUALBRCKT	Dual Bracket	Junction Box
	HBXW2	Swivel Bracket and Cable Gland	Swivel Bracket, Bracket to fixture hardware, Cable Gland (1/2"), Reducer (3/4" to 1/2")
	HBXW3	Swivel Bracket	Swivel Bracket Bracket to Fixture Hardware
	HBXCU	Ceiling Mount	Swivel Hanger Cover 3" Conduit Nipple
	HBXCG	Cable Gland	Cable Gland (1/2") Reducer (3/4" to 1/2")
	HBXL	Loop (consult factory when using with occupancy sensor models)	Hanger Loop (GE LOOPM353)
	HBXH	Hook (consult factory when using with occupancy sensor models)	Hanger Hook (GE HOOKM353)
	HBXCAB48	48" Long Stainless Steel Safety Rope	3/32" Diameter Stainless rope with locking spring clip
	HBXTH347480	Top hat with 347-480V isolated step down transformer, IP 66 rated (consult factory when using with hook or loop)	Top and bottom clam shell, conduit nipple 6' STOOW cable, 347-480V step down transformer, Fuse holder, 2 Fuses
	HBXLENGC	Tempered Glass	Lens, replacement clips, screws, gasket
	HBXLENAC	Acrylic Lens, Clear	
	HBXLENAD	Acrylic Lens, Diffused	
	LBXLENP	Replacement Dome Lens	
	HBXREF22	22" Acrylic Reflector (must be ordered with High Bay, not a retrofit option)	Reflector, brackets, screws
	HBXDC	21° slope dust cover	Dust cover, clamp, spacer
	HBXDC45	45° slope dust cover	
	HBXDC60	60° slope dust cover	
	HBXW3-SSL-316	316 Stainless Steel Swivel Bracket	Stainless Steel Swivel Bracket and Stainless Steel Mounting Hardware
	HBXW3-SSL-304	304 Stainless Steel Swivel Bracket	

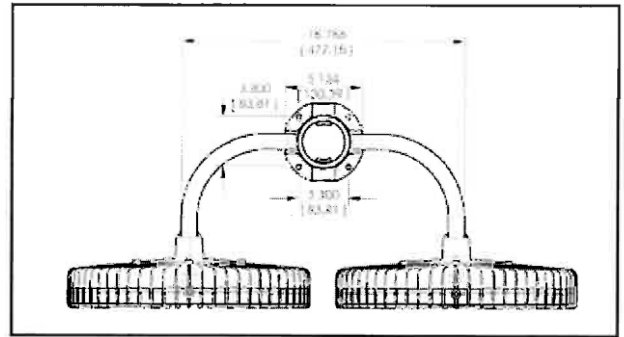
Top hat cannot be used with a mounting bracket

# Vigilant® LED High Bay - UL - Options and Accessories Drawings

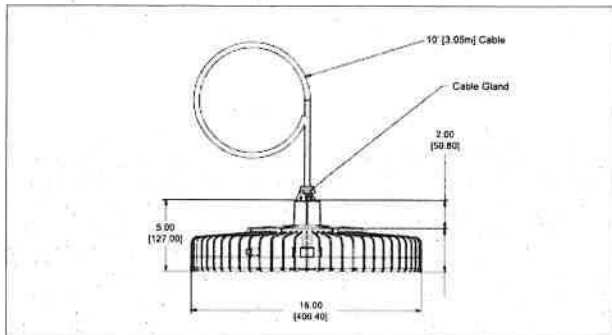
HBXW2 - Swivel Bracket and Cable Gland



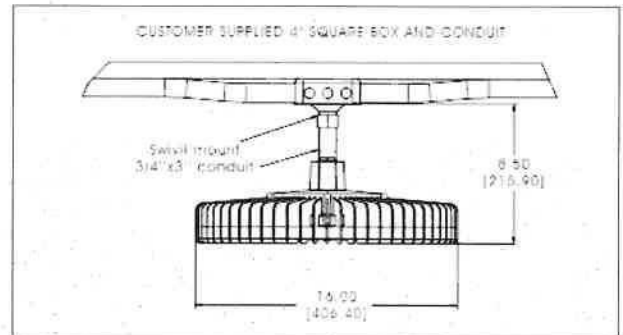
HBXDUALBRCKT - Dual Bracket



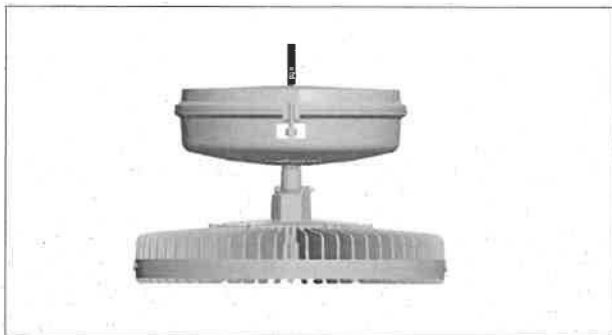
HBXCG - Cable Gland



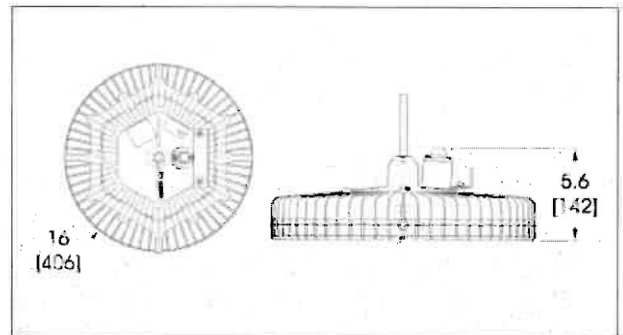
HBXCU - Ceiling Mount



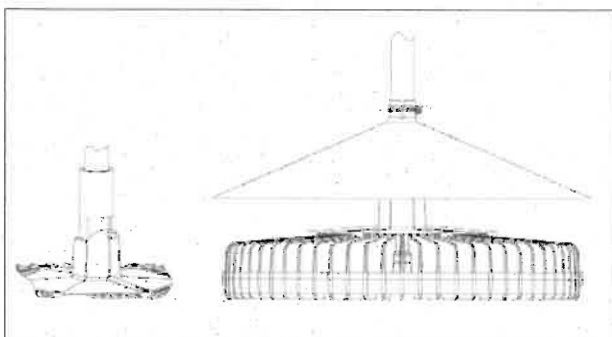
HBXTH347480 - Top Hat (fixture sold separately)



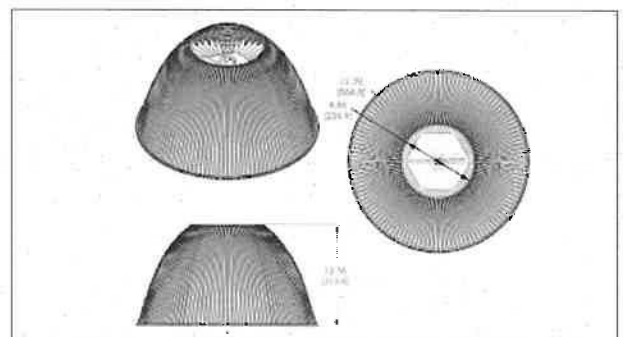
HEGMxxxx-SGG - Safety Bracket and Fuse Options



HBXDC - Dust Cover



22" Acrylic Reflector - Consult factory



Dialight reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: [www.dialight.com/Assets/Brochures\\_And\\_Catalogs/Illumination/MDEXHB125X001.pdf](http://www.dialight.com/Assets/Brochures_And_Catalogs/Illumination/MDEXHB125X001.pdf). Warranty Statement: EXCEPT FOR THE WARRANTY EXPRESSLY PROVIDED FOR [HEREIN/ABOVE/BELOW], DIALIGHT DISCLAIMS ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, AND NON-INFRINGEMENT.



**Vigilant® LED High Bay - UL**  
for Indoor and Outdoor Industrial Applications



GE  
Lighting

# Evolve™ LED Area Light

Scalable Wall Pack (EWS2)



imagination at work

## Product Features

The GE Evolve™ LED Scalable Wall Pack is optimized for customers looking for an efficient and reliable LED solution for wall mounted, site, area and general lighting applications.

Depending on the application, Evolve™ LED Scalable Wall Pack can yield up to a 75% reduction in system energy consumption compared with standard HID systems. This reliable system operates well in cold temperatures and offers more than 11 years of service life to reduce maintenance frequency and expense, based on a 50,000 hour rated life and 12 hours of operation per day. Containing no mercury or lead, this environmentally responsible product is RoHS compliant.

### Applications

- Wall mounted, site, area and general lighting utilizing an advanced LED optical system providing uniformity, vertical light distribution, reduced offsite visibility, reduced on-site glare and effective security light levels.

### Housing

- Die-cast aluminum housing.
- Sleek architectural design incorporating a heat sink directly into the unit ensuring maximum heat transfer and long LED life.
- Meets 1.5 G vibration standards per ANSI C136.31-2010.



### LED & Optical Assembly

- Structured LED array for optimized area light photometric distribution.
- Evolve™ LED light engine utilizes reflective technology to optimize application efficiency and minimize glare.
- Utilizes high brightness LEDs, 70 CRI at 4000K & 5000K typical.
- LM-79 tests and reports are performed in accordance with IESNA standards.

### Lumen Maintenance

- System rating is L85 at 50,000 hours. Contact manufacturer for Lxx rating (Lumen Depreciation) beyond 50,000 hours.

### Ratings

-  listed, suitable for wet locations.
-  listed with option code "J" SKUs.
- IP 65 rated optical enclosure per ANSI C136.25-2009.
- Title 24 compliant with motion sensor option.
- Temperature rated at -40° to 50°C. (35°C at high wattage 91W SKU).
- Upward Light Output Ratio (ULOR) = 0
- DLC Listed

### Mounting

- Flush wall mount to "J" Box with inspection hole for IP 65.

### Finish

- Corrosion resistant polyester powder paint, minimum 2.0 mil. thickness.
- Standard colors: Black and Dark Bronze.
- RAL & custom colors available.

### Electrical

- 120-277 volt and 347-480 volt available.
- System power factor is >90% and THD <20%\*.
- Integral surge protection:
  - Exceeds ANSI C136.2-2015 "Basic" (6kV/3kA) (120 strike)
- EMI: FCC Title 47 CFR Part 15 Class A.
- Motion sensor with dimming capability available with "H" option code.

\* System THD <26% for 347-480v supply with A7 power level.

# Ordering Number Logic

## Scalable Wall Pack (EWS2)



### EWS2

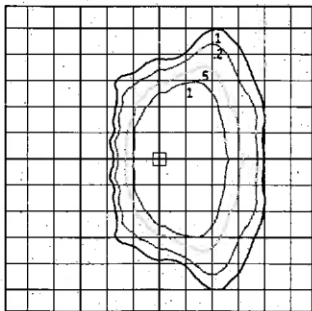
PROD. ID	VOLTAGE	POWER LEVEL	PHOTOMETRIC TYPE	LED COLOR TEMP	PE FUNCTION	COLOR	OPTIONS
E = Evolve	0 = 120-277 H = 347-480		D1 = Asymmetric Forward E1 = Asymmetric Medium	40 = 4000K 50 = 5000K	1 = None NOTE: Select "H" Option for PE functionality with Motion-Sensing Dimming Control.	BLCK = Black DKBZ = Dark Bronze GRAY = Gray WHTE = White Contact manufacturer for other colors.	F = Fusing H = Motion Sensor* J = cUL/Canada XXX = Special Options  *Option H only available in 120-277V. Reference page 5 (under H Motion Sensing Option) for more details.
W = Wallpack	1 = 120* 2 = 208*						
S = Scalable	3 = 240* 4 = 277* 5 = 480* D = 347*						
2 = Product Generation							

\*Specify single voltage only if fuse option is selected.

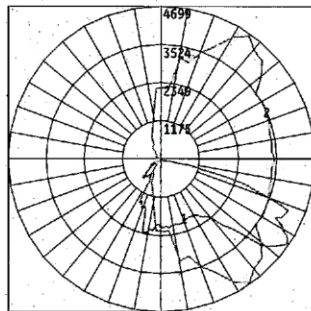
POWER LEVEL	PHOTOMETRIC TYPE	TYPICAL INITIAL LUMENS		TYPICAL SYSTEM WATTAGE		IES FILE NUMBERS 4000K		IES FILE NUMBERS 4000K		IES FILE NUMBERS 5000K		IES FILE NUMBERS 5000K		B-U-G RATING
		4000K	5000K	120-277V	347-480V	120-277V	347-480V	120-277V	347-480V	120-277V	347-480V			
A7	D1	3,100	3,100	29	34	EWS2_A7D140	-120-277V.IES	EWS2_A7D140	-347-480V.IES	EWS2_A7D150	-120-277V.IES	EWS2_A7D150	-347-480V.IES	1-0-1
	E1	3,100	3,100	29	34	EWS2_A7E140	-120-277V.IES	EWS2_A7E140	-347-480V.IES	EWS2_A7E150	-120-277V.IES	EWS2_A7E150	-347-480V.IES	1-0-1
B7	D1	3,900	3,900	39	44	EWS2_B7D140	-120-277V.IES	EWS2_B7D140	-347-480V.IES	EWS2_B7D150	-120-277V.IES	EWS2_B7D150	-347-480V.IES	1-0-1
	E1	4,000	4,000	39	44	EWS2_B7E140	-120-277V.IES	EWS2_B7E140	-347-480V.IES	EWS2_B7E150	-120-277V.IES	EWS2_B7E150	-347-480V.IES	1-0-1
C7	D1	4,800	4,800	51	55	EWS2_C7D140	-120-277V.IES	EWS2_C7D140	-347-480V.IES	EWS2_C7D150	-120-277V.IES	EWS2_C7D150	-347-480V.IES	1-0-1
	E1	4,900	4,900	51	55	EWS2_C7E140	-120-277V.IES	EWS2_C7E140	-347-480V.IES	EWS2_C7E150	-120-277V.IES	EWS2_C7E150	-347-480V.IES	1-0-1
D3	D1	6,700	6,700	70	70		EWS2_D3D140	.IES			EWS2_D3D150	.IES		1-0-1
	E1	7,000	7,000	70	70		EWS2_D3E140	.IES			EWS2_D3E150	.IES		2-0-1
E3	D1	8,400	8,400	91	91		EWS2_E3D140	.IES			EWS2_E3D150	.IES		2-0-2
	E1	8,500	8,500	91	91		EWS2_E3E140	.IES			EWS2_E3E150	.IES		2-0-1

## Photometrics

EWS2 - Asymmetric Forward (D1)  
8400 Lumens, 5000K (EWS2\_E3D150...IES)

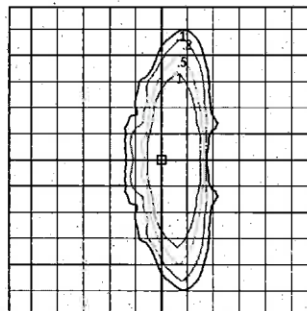


Grid Distance in Units of Mounting Height at 12° Initial Footcandle Values at Grade

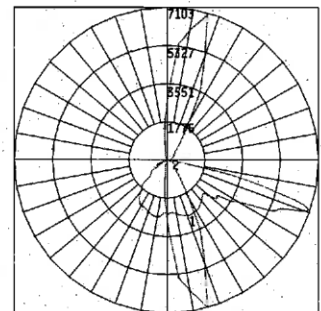


Polar Trace Vertical and Horizontal Plane through Horizontal Angle of Maximum Candlepower

EWS2 - Asymmetric Medium (E1)  
8500 Lumens, 5000K (EWS2\_E3E150...IES)



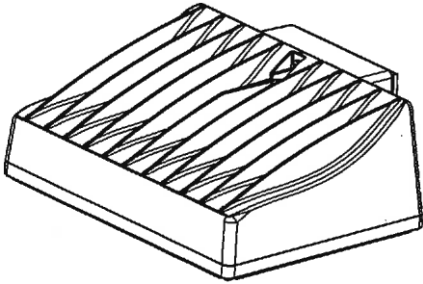
Grid Distance in Units of Mounting Height at 12° Initial Footcandle Values at Grade



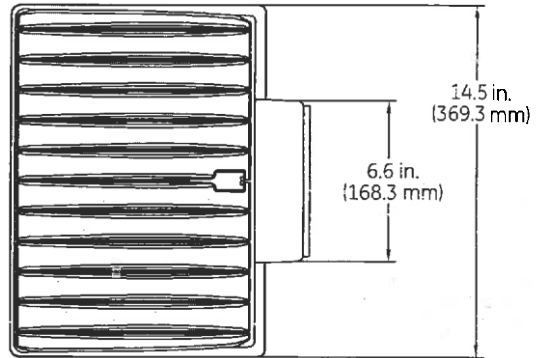
Polar Trace Vertical and Horizontal Plane through Horizontal Angle of Maximum Candlepower

# Product Dimensions

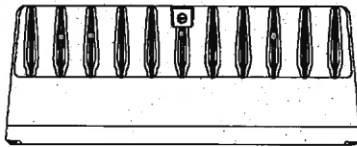
Top/Side View



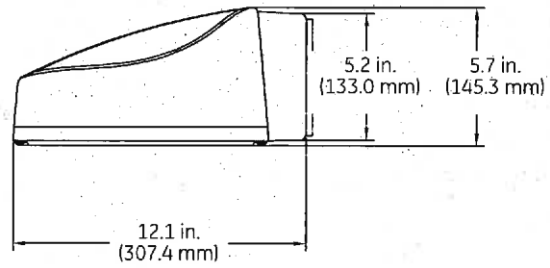
Top View



Front View

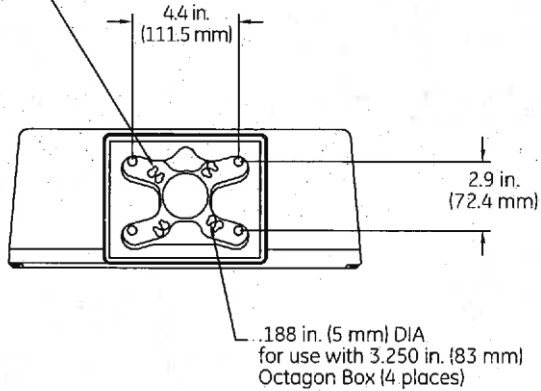


Side View



.188 in. (5 mm) DIA  
for use with 4.000 in. (102 mm)  
Octagon Box (4 places)

Back View

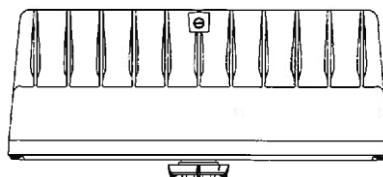


DATA

• Approximate Net Weight: 21 lbs (9.53 kgs)

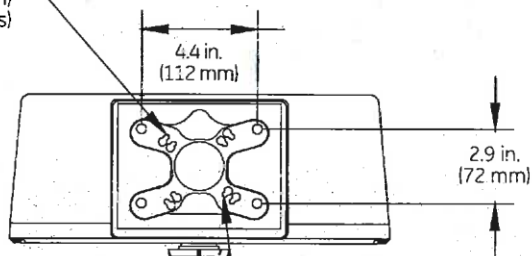
# Product Dimensions

Front View with Motion Sensor Option



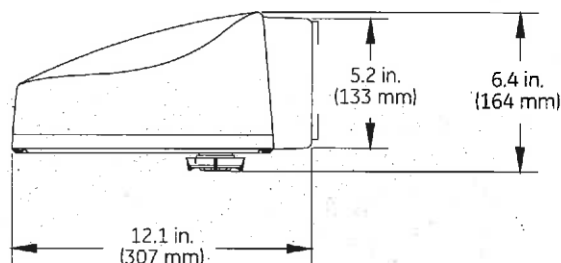
Back View with Motion Sensor Option

.188 in. (5 mm) DIA for use with 4.000 in. (102 mm) Octagon Box (4 places)



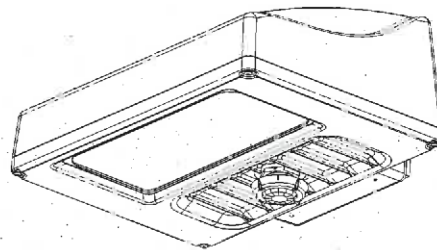
.188 in. (5 mm) DIA for use with 3.250 in. (83 mm) Octagon Box (4 places)

Side View with Motion Sensor Option



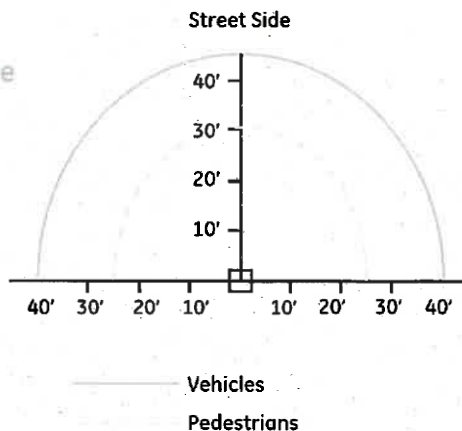
## H-Motion Sensing Option:

- Intended for 8-25ft mounting heights.
- Provides a coverage area radius for walking motion of 25-30ft.
- Provides 180° of coverage (~180° is blocked by the wall).
- Factory preset to 50% dimming with no occupancy.
- May be reprogrammed using additional remote programmer.  
Remote Programmer part number: WS FSIR-100 PROGRAMMER (197634)
- Photoelectric control is integrated through the motion sensor, and is offered as standard.



## Sensor Pattern:

Sensing Pattern Wall Pack Fixture  
Up to 25ft.





[www.gelighting.com](http://www.gelighting.com)

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OLP3092 (Rev 09/23/15)

# Dialight



Patent Pending

**DuroSite® LED Low Bay - UL**  
for Indoor and Outdoor Applications





# DuroSite® LED Low Bay



## Features & Benefits

- L70 rated for >100,000 hours @ 25°C ambient
- 5 & 10 year full performance warranty
- Up to 84 lm/W
- Significant energy savings
- Low profile versus traditional HID fixtures
- Instant on/off
- Maintenance free
- Mercury free
- No UV or IR
- Produces minimal heat compared to traditional fixtures
- Reflector based optics for precise light control
- Resistant to shock and vibration
- Temperature compensation technology for long life
- Copper free aluminum
- Typical payback < 2 years

## Typical Applications

- Parking Structures
- Cold Storage
- Warehouse
- Walkways
- Manufacturing
- Fuel Pump Canopy

View the full case studies at:

FOX3 Parking Garage - [www.dialight.com/News/Details/fox31\\_case\\_study](http://www.dialight.com/News/Details/fox31_case_study)

City of London Parking Garage - [www.dialight.com/News/Details/city\\_of\\_london\\_corp](http://www.dialight.com/News/Details/city_of_london_corp)

Milwaukee Airport - [www.dialight.com/Assets/Brochures\\_And\\_Catalogs/Illumination/Case\\_study\\_Milwaukee\\_Airport.pdf](http://www.dialight.com/Assets/Brochures_And_Catalogs/Illumination/Case_study_Milwaukee_Airport.pdf)

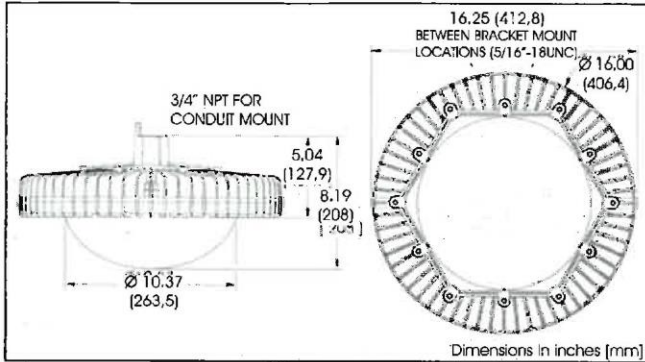
Lanxess - [www.dialight.com/Assets/Brochures\\_And\\_Catalogs/Illumination/LANXESS\\_Case\\_Study.pdf](http://www.dialight.com/Assets/Brochures_And_Catalogs/Illumination/LANXESS_Case_Study.pdf)

Complete your own Return on Investment calculation at: [www.dialight.com/tcoCalculator/Durosite\\_LowBay](http://www.dialight.com/tcoCalculator/Durosite_LowBay)

[www.dialight.com](http://www.dialight.com)



## DuroSite® LED Low Bay Fixture



### Certifications and Ratings

- UL1598/A (wet locations)
- CSA C22.2 No. 250.0-08
- UL8750
- IP66 (IEC 60529)
- NEMA 4X
- ANSI C 136.15-2011

### Application:

Dialight's DuroSite® LED low bay fixture was designed specifically to replace conventional lighting in a wide variety of industrial applications, both indoor and outdoor. Its low profile, light weight design and versatile mounting options make it ideal for many applications such as parking decks, garages, cold storage and other applications with mounting heights up to 20 feet.

All of Dialight's long life LED luminaires are designed to meet the most demanding specification criteria while offering maximum energy savings, reduced maintenance costs, and a superior quality of light.

### Mechanical Information

Fixture Weight: 18 lbs (8.2 kg)  
 Shipping Weight: 24 lbs (10.92 kg)  
 Mounting: (1) 3/4" NPT or (2) 5/16"-18 x .75" UNC

### Electrical specifications

Operating Voltage: 100-277V AC, 50/60 Hz  
 Total System Power Consumption: 45W / 80W / 140W  
 Operating Temp: -40°F to +149°F (-40°C to +65°C)  
 Noise Requirements/ EMC: FCC Title 47, Subpart B, Section 15, class A device, RF Immunity; 10V/m, 80MHz-1GHz  
 Harmonics: EN61000-3-2  
 Transient Protection: 1 kV line to line  
 2 kV line to ground

THD: <20%  
 Power Factor: > 0.9

### Construction

Body: Powder coated aluminum  
 EPA: 0.60  
 Finish: Epoxy polyester powder coated for superior corrosion resistance  
 Lens: Polycarbonate

### Photometric Information

CRI: 70  
 CCT: 5000K (cool white)  
 4000K (neutral white)

All values typical unless otherwise stated  
 All lumen values are typical (tolerance +/- 10%)

### Ordering Code:

Part Number	Warranty	Fixture Lumens	Wattage	Lumens Per Watt	CCT	Occupancy Sensor	Variable Dimming
LBW1C1A	5 yr	4,250	54	78	5000K (cool white)		
LBW1N1A	5 yr	4,250	54	78	4000K (neutral white)		
LBW1C2A	5 yr	4,250	54	78	5000K (cool white)		
LBW1N2A	5 yr	4,250	54	78	4000K (neutral white)		
LBW1C5A	5 yr	4,250	54	78	5000K (cool white)		
LBW1N5A	5 yr	4,250	54	78	4000K (neutral white)		
LBW1C1D	5 yr	6,000	80	75	5000K (cool white)		
LBW1N1D	5 yr	6,000	80	75	4000K (neutral white)		
LBW1C2D	5 yr	6,000	80	75	5000K (cool white)		
LBW1N2D	5 yr	6,000	80	75	4000K (neutral white)		
LBW1C5D	5 yr	6,000	80	75	5000K (cool white)		
LBW1N5D	5 yr	6,000	80	75	4000K (neutral white)		
HBWC4L	10 yr	8,500	107	79	5000K (cool white)		
HBWN4L	10 yr	8,500	107	79	4000K (neutral white)		


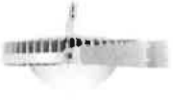












Part numbers with occupancy sensor that will be installed with Hook or Loop (HBXH or HBXL) accessories will require a counter balance installed prior to shipment. Add -CB to the end of the part number. Example LBW1C2D will become LBW1C2D-CB. Please consult with customer service when ordering  
 For Dialight's complete list of DLC qualified products, please click this link: [www.dialight.com/DLC](http://www.dialight.com/DLC)

(4)

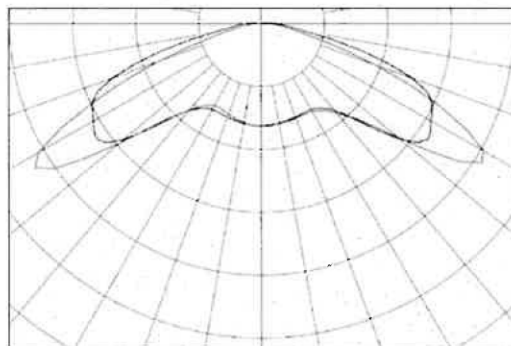
(4)(5)

# DuroSite® LED Low Bay Fixture

## Options and Accessories

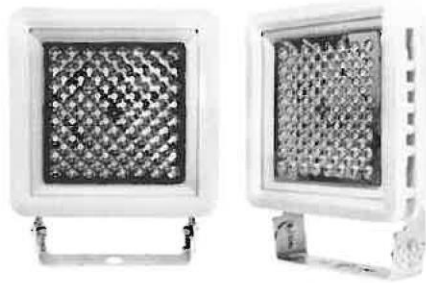
		Part Number	Description	Kit Includes
		No Part Number	3/4" NPT pendant mount (conduit supplied by installer)	Conduit supplied by installer
		HBXW2	Swivel bracket and cable Gland	Swivel bracket Bracket to fixture hardware Cable gland (1/2") Reducer (3/4" to 1/2")
		HBXW3	Swivel bracket	Swivel bracket Bracket to fixture hardware
		HBXCU	Ceiling mount	Swivel hanger cover 3" Conduit nipple
		HBXCG	Cable gland	Cable gland (1/2") Reducer (3/4" to 1/2")
		HBXL	Loop	Hanger loop (GE LOOPM353)
		HBXH	Hook	Hanger hook (GE HOOKM353)
		LBXLENP	Replacement dome Lens	Lens Replacement screws Gasket

### Light Distribution



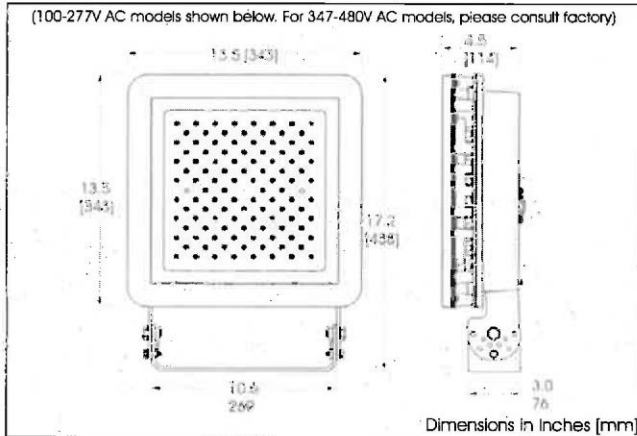
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# Dialight



Patent Pending

## DuroSite® LED Floodlight



### Certifications & Ratings

- UL1598/A
- CSA 22.2 NO. 250
- NEMA 4X
- IP 66/67
- IK07

### Features & Benefits

- 10 year full performance warranty
- L70 rated for >100,000 hours @ 25°C ambient
- DLC listed
- Instant on/off operation
- Universal input (100-277V AC, 50/60Hz or 347-480V AC, 60Hz)
- Superior color rendition index compared to HPS, LPS, MV
- Mercury free
- Resistant to shock and vibration
- Temperature compensation technology for longer life
- Factory sealed
- Isolated wiring compartment
- Integral Safety Straps

### Application:

The DuroSite® LED Floodlight represents the future of energy efficient facility illumination for industrial applications worldwide. The lighting fixture consumes at least 50% less energy than traditional HID light sources, while reducing maintenance and carbon emissions. This light incorporates both cutting edge LED technology along with proprietary optics to achieve flood lighting comparable with other traditional light sources.

### Mechanical Information

Fixture Weight:	27 lb (12 kg)
100-277V AC:	30 lb (14 kg) (15,000 - 13,500lm models)
347-480V AC:	30 lb (14 kg)
Shipping Weight:	31 lb (14 kg)
100-277V AC:	34 lb (16 kg) (15,000 - 13,500lm models)
347-480V AC:	34 lb (16 kg)
EPA (Sq.ft):	0.55 sq.ft
Mounting:	304 Stainless Steel trunnion mounting bracket included
Entry:	(2) 3/4" NPT cable entry

### Electrical specifications

Operating Voltage:	100-277V AC, 50/60Hz 347-480V AC, 60Hz
Power Consumption:	See table
Operating Temp:	-40°F to +149°F (-40°C to +65°C)
Noise Requirements/ EMC:	EN 55015 - conducted and radiated FCC Title 47, Subpart B, Section 15, class A device, RF Immunity; 10V/m, 80MHz-1GHz
Surge Protection:	Verified up to 6kV/2ohms at an independent test laboratory Protection devices capable of 20kV
THD:	< 15% typical (<20% maximum)
Power Factor:	> 0.9

### Construction

Housing:	Powder coated copper free aluminum
Finish:	Polyester / Epoxy powder coat gray RAL 7040 for superior corrosion resistance
Lens:	Tempered glass

### Photometric Information

CRI:	70
CCT:	5000K (cool white)
NEMA Patterns:	7x6 - Asymmetrical (140° x 115°) 6x7 - Asymmetrical (115° x 140°) 6 - Very wide (115°) 5 - Wide (93°) 4 - Medium (52°) 2 - Narrow (23°)
IES Files:	available at <a href="http://www.dialight.com">www.dialight.com</a>

All values typical unless otherwise stated  
All lumen values are typical (tolerance +/- 10%)



# DuroSite® LED Floodlight

## Ordering information

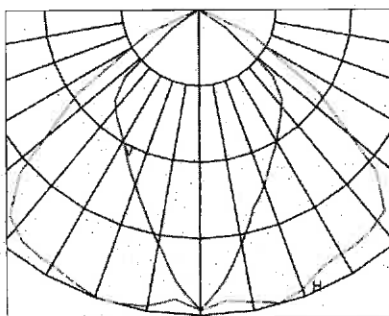
Part Number	Optical Pattern	Voltage	Color	Fixture Lumens	Wattage	Lumens Per Watt
100 - 277V AC Models						
FLW466NC4NG	Nema 6, field angle 115°	100 - 277V AC	5000K (cool white)	15,000	140	107
FLW476NC4NG	Nema 7x6, field angle 140° x 115°	100 - 277V AC	5000K (cool white)	14,750	140	105
FLW467NC4NG	Nema 6x7, field angle 115° x 140°	100 - 277V AC	5000K (cool white)	14,750	140	105
FLW455NC4NG	Nema 5, field angle 93°	100 - 277V AC	5000K (cool white)	14,500	140	104
FLW444NC4NG	Nema 4, field angle 52°	100 - 277V AC	5000K (cool white)	14,500	140	104
FLW422NC4NG	Nema 2, field angle 23°	100 - 277V AC	5000K (cool white)	13,500	140	96
FLW276NC2NG	Nema 7x6, field angle 140° x 115°	100 - 277V AC	5000K (cool white)	11,500	109	105
FLW267NC2NG	Nema 6x7, field angle 115° x 140°	100 - 277V AC	5000K (cool white)	11,500	109	105
4)+(2) FLW266NC2NG	Nema 6, field angle 115°	100 - 277V AC	5000K (cool white)	11,250	109	103
FLW255NC2NG	Nema 5, field angle 93°	100 - 277V AC	5000K (cool white)	11,000	109	101
FLW244NC2NG	Nema 4, field angle 52°	100 - 277V AC	5000K (cool white)	10,500	109	96
FLW222NC2NG	Nema 2, field angle 23°	100 - 277V AC	5000K (cool white)	10,750	109	99
347 - 480V AC Models						
FLW276NC5NG	Asymmetrical (140° x 115°)	347 - 480V AC	5000K (cool white)	11,750	113	104
FLW266NC5NG	Very Wide (115°)	347 - 480V AC	5000K (cool white)	11,250	113	100
FLW255NC5NG	Wide (93°)	347 - 480V AC	5000K (cool white)	10,000	112	89
FLW244NC5NG	Medium (52°)	347 - 480V AC	5000K (cool white)	10,000	112	89
FLW222NC5NG	Narrow (23°)	347 - 480V AC	5000K (cool white)	10,000	112	89

Part numbers listed in the above table are powder coated gray. For bronze powder coat, replace the 10th character with **Z**. FLW244NC2NG becomes FLW244NC2ZG

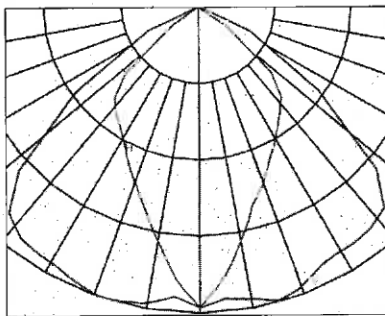
For Dialight's complete list of DLC qualified products, please click this link: [www.dialight.com/DLC](http://www.dialight.com/DLC)

### Optical Patterns

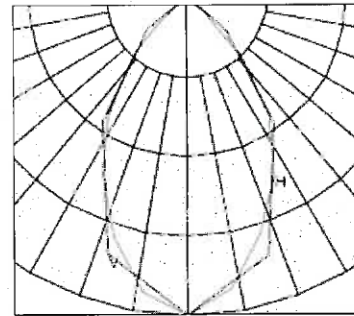
NEMA 7x6  
Field angle = 140° x 115°



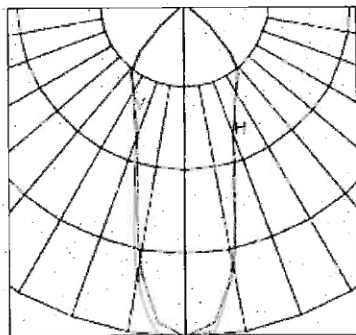
NEMA 6x7  
Field angle = 115° x 140°



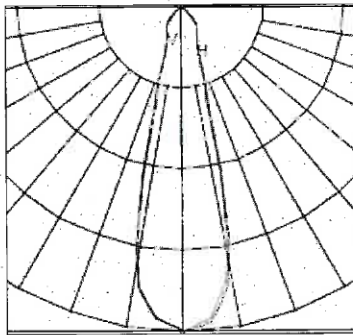
NEMA 6  
Field angle = 115°



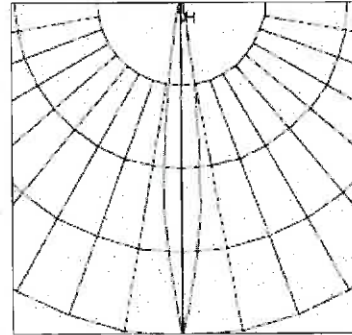
NEMA 5  
Field angle = 93°






NEMA 4  
Field angle = 52°













NEMA 2  
Field angle = 23°



# DuroSite® LED Floodlight - Mounting Options

	Part Number	Description	Kit includes
Safety Cable Kit			
	HZXSAFECBLS	Safety cable Kit	2 Safety cables
Tenon adapter (Bronze)			
	FLX-1TPT-20DB	Tenon pole topper, 2-3/8" mount	Tenon topper, pole set screws, and mounting hardware
Stanchion Mount Junction Box (Grey)			
	HZXSTAN100S	1.00" (1.315" Pole OD) Slip-fit stanchion mount junction box	Junction box Mounting hardware Cable gland
	HZXSTAN125S	1.25" (1.660" Pole OD) Slip-fit stanchion mount junction box	
	HZXSTAN150S	1.50" (1.900" Pole OD) Slip-fit stanchion mount junction box	
	<b>HZXSTAN200S</b>	<b>2.00" (2.375" Pole OD) Slip-fit stanchion mount junction box</b>	
	HZXSTAN100T	1.00" NPT (1.315" Pole OD) Threaded stanchion mount junction box	
	HZXSTAN125T	1.25" NPT (1.660" Pole OD) Threaded stanchion mount junction box	
	HZXSTAN150T	1.50" NPT (1.900" Pole OD) Threaded stanchion mount junction box	
HZXSTAN200T	2.00" NPT (2.375" Pole OD) Threaded stanchion mount junction box		

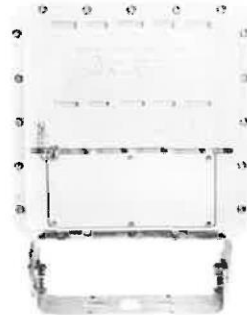
Brackets and adapters below require either tenon adapter (FLX-1TPT-20DB) or stanchion mount junction box (HZXSTAN200S) to mount floodlight. Tenon adapter and stanchion mount junction box sold separately.

	Part Number	Description	Kit includes
Right Angle Bracket (Bronze)			
	FLX-1RAB-20DB	Right angle mounting bracket for 2-3/8" light mount	Right angle bracket
Bull Horn Bracket (Bronze)			
	FLX-2LBH-20DB	Bull horn for 2 lights, 2-3/8" mount, 26" spacing	Bull horn Pole set screws
	FLX-3LBH-20DB	Bull horn for 3 lights, 2-3/8" mount, 26" spacing	Bull horn Pole set screws
	FLX-4LBH-20DB	Bull horn for 4 lights, 2-3/8" mount, 26" spacing	Bull horn Pole set screws
	FLX-4RBH-20DB	Bull horn for 4 lights in star configuration, 2-3/8" mount, 26" spacing	Bull horn Pole set screws
Round Square Round Bracket (Bronze)			
	FLX-2RSR-20DB	Round square round bracket for 2 lights, 2-3/8" mount, 26" spacing	Bull horn Pole set screws
	FLX-3RSR-20DB	Round square round bracket for 3 lights, 2-3/8" mount, 26" spacing	Bull horn Pole set screws
	FLX-4RSR-20DB	Round square round bracket for 4 lights, 2-3/8" mount, 26" spacing	Bull horn Pole set screws
Round Tenon Adapter (Bronze)			
	FLX-3RPA-20DB	Reducer for 3" OD round pole top to 2-3/8" light mount	Reducer Pole set screws
	FLX-4RPA-20DB	Reducer for 4" OD round pole top to 2-3/8" light mount	Reducer Pole set screws
Square Tenon Adapter (Bronze)			
	FLX-4SPA-20DB	Internal tenon adapter for 4" square pole top to 2-3/8" light mount	Adapter
	FLX-5SPA-20DB	Internal tenon adapter for 5" square pole top to 2-3/8" light mount	Adapter
	FLX-6SPA-20DB	Internal tenon adapter for 6" square pole top to 2-3/8" light mount	Adapter

Tenon adapter (FLX-1TPT-20DB) or stanchion mount junction box (HZXSTAN200S) sold separately.

# DuroSite® LED Floodlight

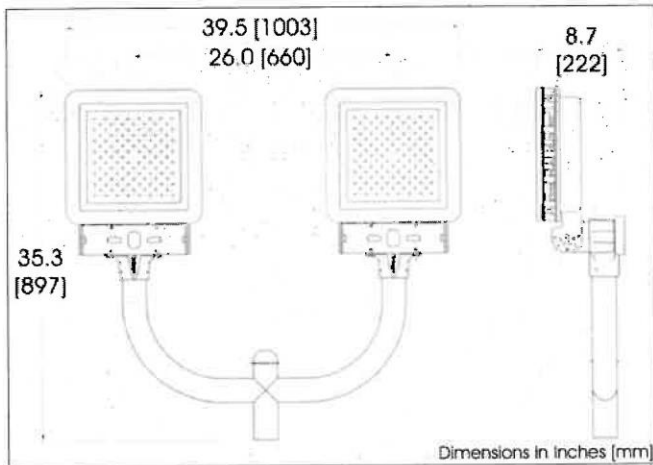
## Mounting Options



Product shipped with bracket installed  
 (Bracket has locking positions of 0°, (±) 22.5°, (±) 45°, (±) 67.5°, and 90°)

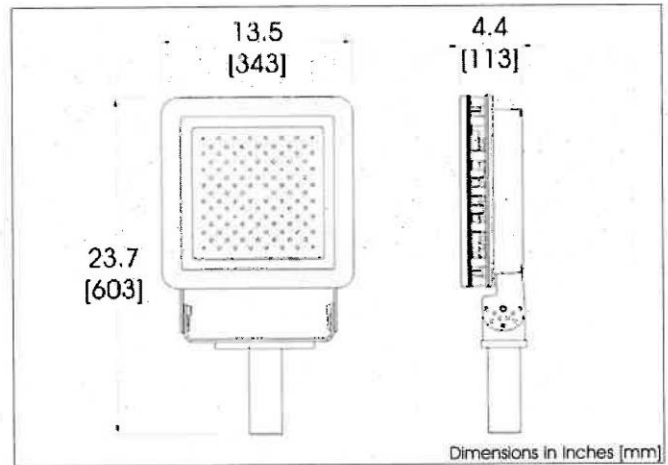
### FLX-2LBH-20DB Dimensions

(Fixture sold separately 100-277V AC models shown below. For 347-480V AC models, please consult factory)



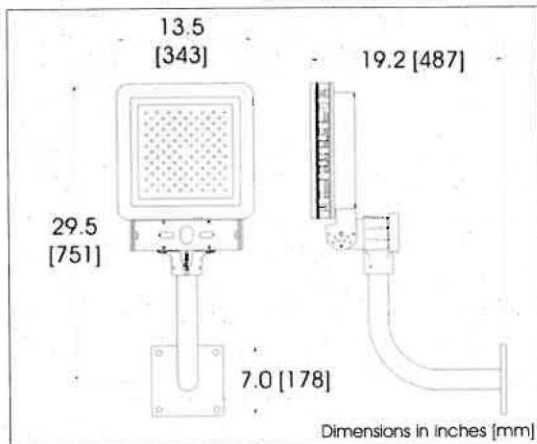
### FLX-1TPT-20DB Dimensions

(Fixture sold separately 100-277V AC models shown below. For 347-480V AC models, please consult factory)



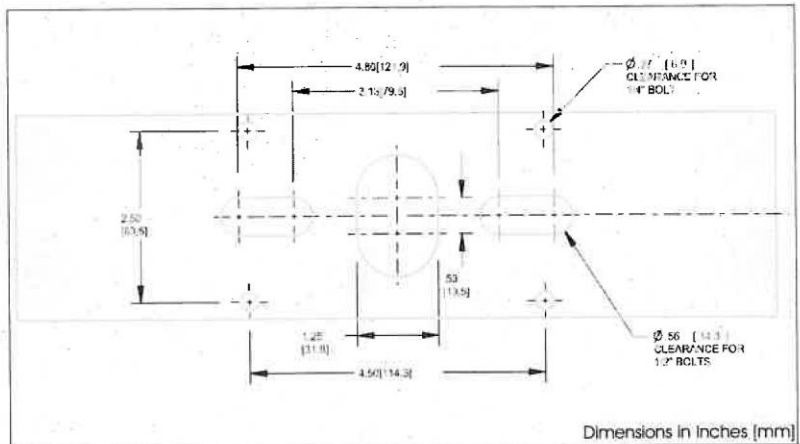
### FLX-1RAB-20DB Dimensions

(Fixture sold separately 100-277V AC models shown below. For 347-480V AC models, please consult factory)



### Factory Installed Mounting Bracket Dimensions

(100-277V AC models shown below. For 347-480V AC models, please consult factory)

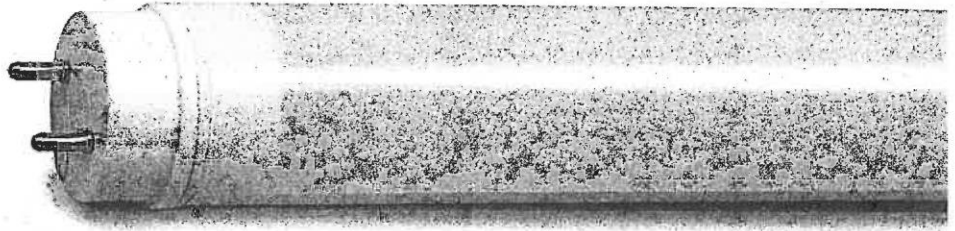


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# Integrated LED Tubes

## 18 Watt

### Refit Solutions from GE



#### Description

Convert your existing linear fluorescent fixture to LED lighting without needing a comprehensive reinstall. LED tubes are ideal for those seeking high energy savings with minimal installation time. Each LED tube is outfitted with an internal GE Lightech™ driver. The GE integrated LED tubes run on electronic T8 instant-start or programmed start ballasts.

#### Features

- 4' tubes
- 2,200 - 2,300 lumen options available
- 120 - 125 lumens per watt (LPW)
- Choice of three color temperatures (3500°K, 4000°K, 5000°K)
- 50,000 hours
- Dimmable - on PRS ballast
- DLC listed
- UL and cUL approved technologies  
- in compliance with 1598 certification
- NSF rated for food application
- Shatter-resistant
- 5-year limited warranty

#### LED Tubes Ranking among Complete Refit Solutions Portfolio

		BETTER	BEST
Initial Acquisition Costs			✓
Installation Time/Cost			✓
Energy Costs			✓
Total Life Cycle Costs		✓	
Light Distribution/Aesthetics			



Savings calculations are based on energy costs using \$0.11 per kWh and 16 hours of daily operation.

# Product Specifications

## Integrated Refit LED Tubes

GE Product Code	Description	Bulb Shape	Base	Low BF Watts	Normal BF Watts	High BF Watts	Case Qty	Length (in)	Low BF Initial Lumens	Normal BF Initial Lumens	High BF Initial Lumens	Color Temp (°K)	CRI	Rated Life (L70)
93133	LED18ET8/4/835	T8	Medium Bi-Pin (G13)	15	18	23	25	48	1850	2200	2800	3500	80	50,000
93135	LED18ET8/4/840	T8	Medium Bi-Pin (G13)	15	18	23	25	48	1850	2200	2800	4000	80	50,000
93140	LED18ET8/4/850	T8	Medium Bi-Pin (G13)	15	18	23	25	48	1850	2200	2800	5000	80	50,000



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