

Dialight



*LED Lighting for Hazardous Locations*

ver 2.0

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

Dialight



**GENERAL AREA LIGHTING TO HAZARDOUS AREA LIGHTING:  
LED BASED LIGHTING PRODUCTS FOR HAZARDOUS LOCATIONS**

# About Dialight Corporation

In business since 1938, Dialight has been pioneering some of the most innovative applications in LED technology since it was developed in the early 1970s.

Our LED products for the electronics industry have given engineers better ways to indicate status on all kinds of equipment. Dialight LED traffic signals have saved municipalities millions of dollars in energy costs and maintenance. Our LED signal and marker lights for heavy-duty vehicles often outlast the vehicles themselves.

We put our expertise to work for you by designing the most reliable and cost-effective LED products available. As a vertically integrated supplier, Dialight has the resources to design and produce everything in-house, supported by a global sales and distribution network. So if you're looking for the best and brightest in LEDs, look no further than Dialight.






**Benefits of Dialight's LED Technology**

- Low power consumption
- Reduces CO<sub>2</sub> emissions
- Instant on/off
- 5 year warranty
- Weather / corrosion resistant
- Resistant to shock and vibration
- Cold start capable
- Minimized light spill

## Ratings & Certifications



New SafeSite® LED lighting on the left and HPS lighting on the right

Boxed Symbol	Explanation of the symbol
	ETL Listed
	ETL Verified
	FCC
	ATEX (explosion protection)
	CE



(Shown with Channel Bracket Mount Option)

Patents Pending

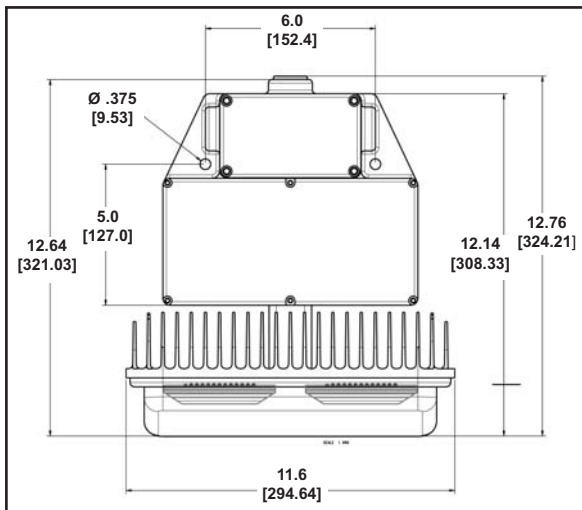
## Certifications:

Class I, Div 2, Groups A, B, C, D  
hazardous environments T4A rated

Class II, Div 2, Groups F, G  
hazardous environments T3B rated

UL 844 / NEMA 4x / UL1598 / UL 1598A  
CSA 22.2 NO. 137-M1981 / NO. 250.0-04  
Suitable for wet locations

# SafeSite® Series LED White Downlight



Dimensions in Inches [mm]

### Features & Benefits:

- ▷ Class I, Div 2, Groups A, B, C, D hazardous environments T4A rated
- ▷ Class II, Div 2, Groups F, G hazardous environments T3B rated
- ▷ Certified to UL844 / NEMA 4X / UL1598 / UL1598A / CSA 22.2
- ▷ IP66 rated
- ▷ Low power consumption
- ▷ Instant on/off response
- ▷ Weather/corrosion resistant lamp assembly and housing
- ▷ Universal input supply (120-277 VAC)
- ▷ Resistant to shock and vibration
- ▷ 5 year warranty

\*DC version specs

**Operating Voltage:** 24-48 VDC

**Input Power:** 100W

**Protection:** Reverse polarity protected

Quick fact -  
The energy savings per year that is generated for a typical plant retro-fitting 1,000 SafeSite 250 units in place of 250W HPS = \$164,000!

### Application:

Dialight introduces the new state of the art fixture for hazardous location lighting. Its rugged solid state design creates a new era where failed lamps and expensive relamping costs become a thing of the past. This light incorporates both cutting edge LED technology along with proprietary optics to achieve area lighting comparable with other traditional light sources. By focusing the light where it is needed, the SafeSite Series is the most efficient light source available for hazardous area lighting applications. Whether your application is in a refinery, oil platform, chemical plant or any other Class I, Division 2 / Class II, Div 2 application, this fixture offers improved performance across the board.

### Order codes:

#### 150 Watt Equivalent

HZC-02-150-1111-201 SafeSite 150 - 180 Degree  
HZC-02-150-1111-301 SafeSite 150 - 360 Degree

#### 250 Watt Equivalent

HZC-02-250-1111-201 SafeSite 250 - 180 Degree  
HZC-02-250-1111-301 SafeSite 250 - 360 Degree

\*Consult factory for DC versions.

**Container Dimensions:** 15" X 16" X 10"  
381mm x 407mm x 254mm

**Container Weight:** 19 lbs (8.2 kg)

**Operating Voltage:** 120-277 VAC

**Power Consumption:** 100 W

**Operating Temp:** -40°F to +133°F (-40°C to +55°C)

**Harmonics:** IEC 6100-3-2

**Surge / Lightning Protection:** 1 kV line to line  
2 kV line to ground

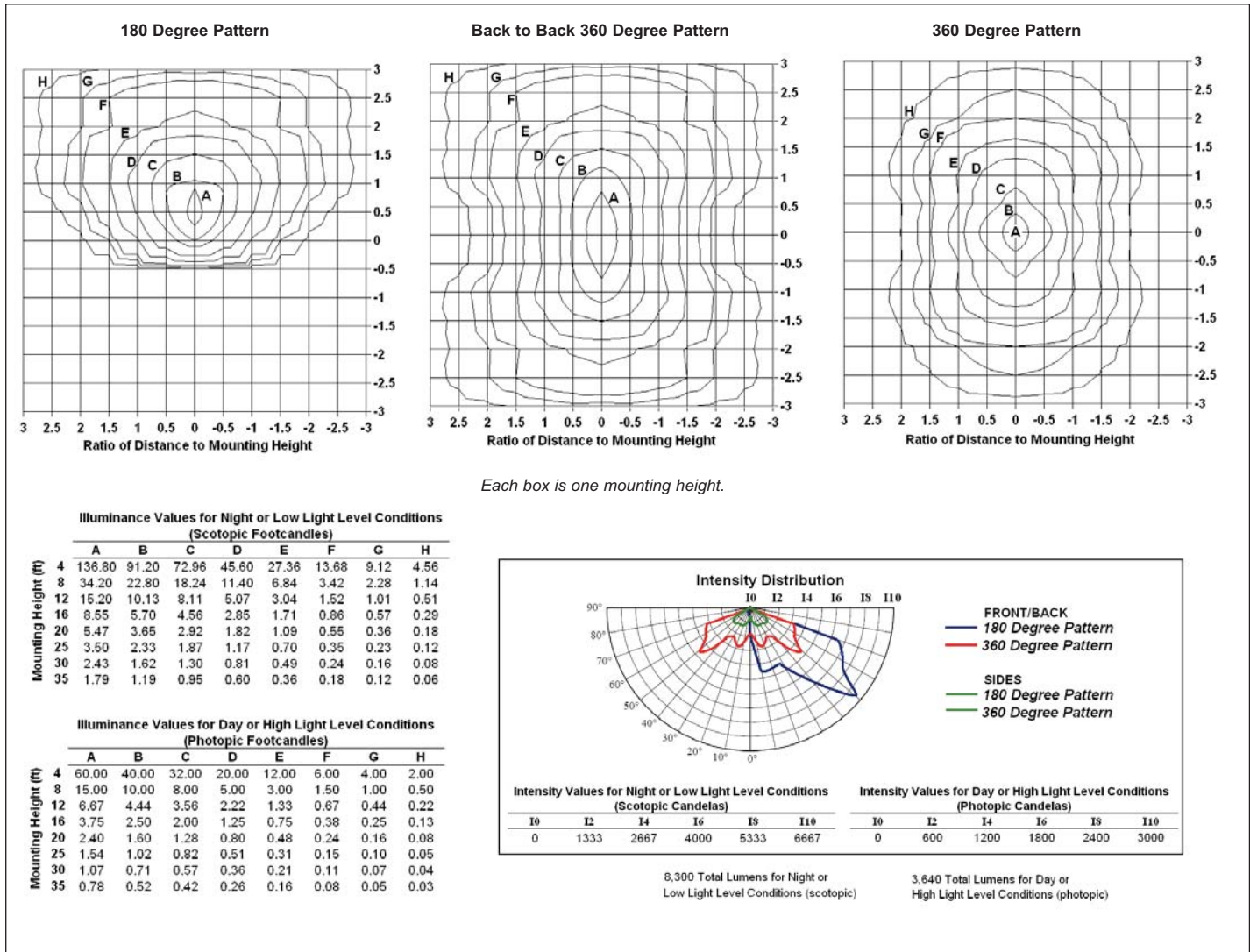
**THD:** < 20 %

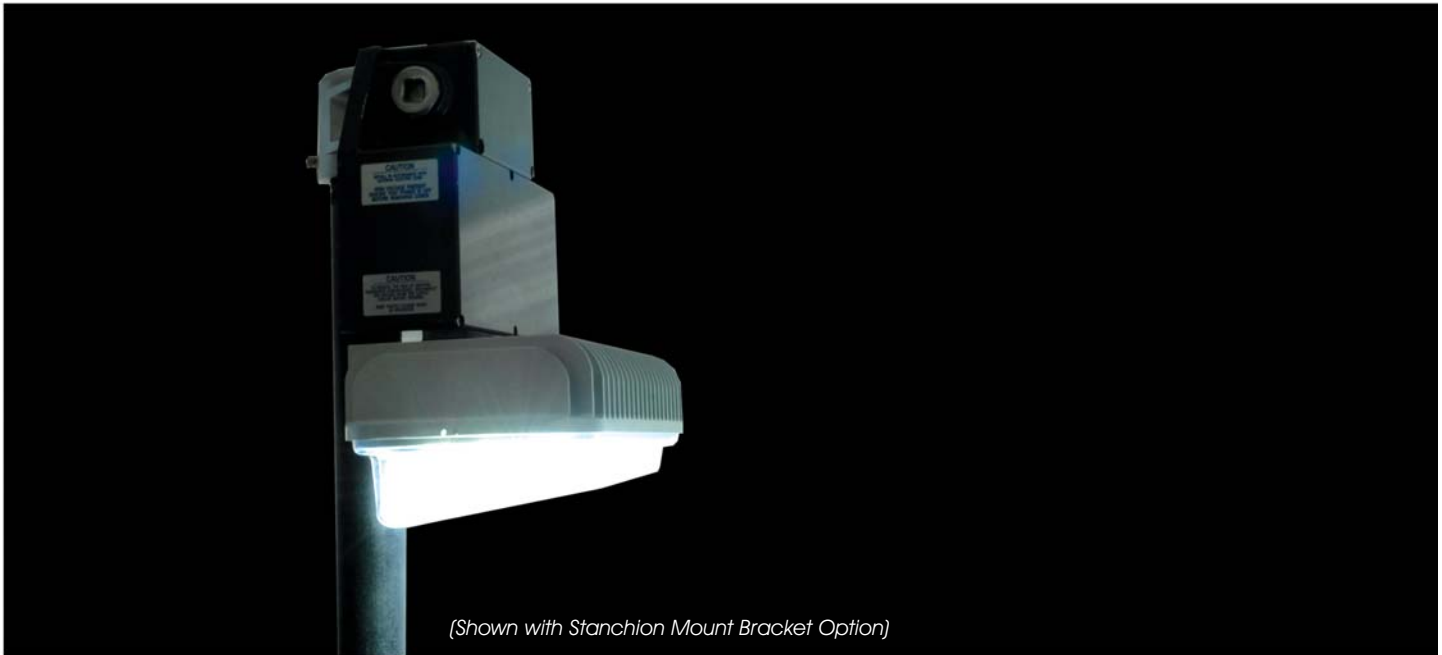
**Power Factor:** > 0.9



(Shown with Stanchion Mount Bracket Option)

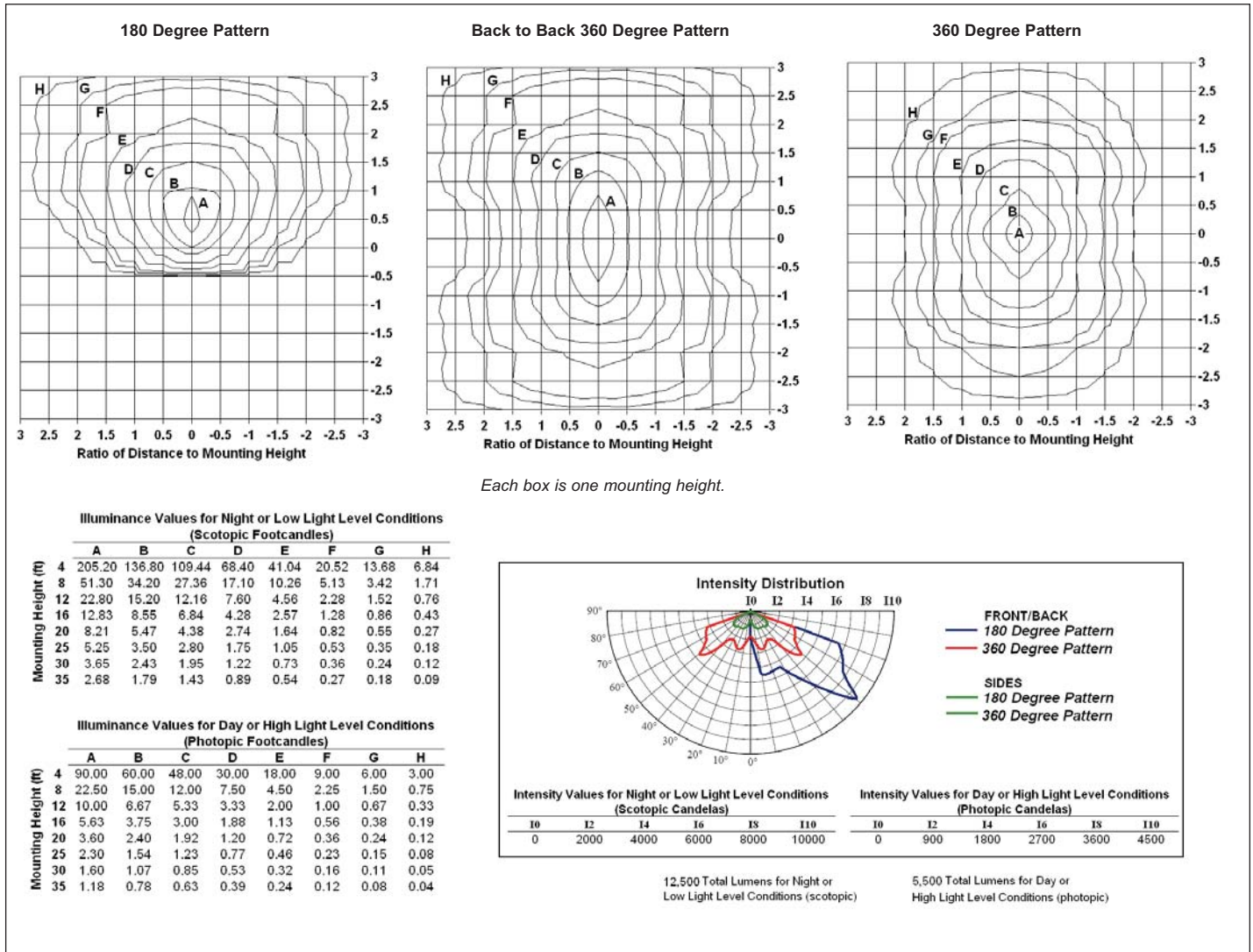
## SafeSite® 150 Series - Light Measurement Data





(Shown with Stanchion Mount Bracket Option)

## SafeSite<sup>®</sup> 250 Series - Light Measurement Data



# How SafeSite creates a safer work environment with superior illumination

SafeSite delivers measurably superior illumination to traditional lighting solutions. That means better visual acuity, reduced eye strain and a safer work environment. By delivering pure "full spectrum" white light with no gaps in the color spectrum, SafeSite is much easier to see under for tasks that require reliable visual acuity like viewing color coded wiring, reading colored plaques or distinguishing steam from the smoke of a fire.

Objects appear colorful because they reflect some colors of light to our eyes and absorb others. For example, an object that reflects blue and absorbs all other colors appears blue to the eye, but this only occurs if the object is being illuminated by a light source that emits blue light. Our night vision (scotopic) is more sensitive than our day vision (photopic) to the blue end of the spectrum and less sensitive to the red end.

As shown in Fig.1, high pressure sodium (HPS) lamps emit light almost exclusively in the orange area of the color spectrum and almost no blue light is emitted, so under HPS a blue object will appear very dark. Our night sensitivity peaks in the blue area of the spectrum where the HPS lamp emits very little light, so this means that HPS lamps are normally very difficult to see with at night because they emit mostly orange light (around 600 nm) and our eyes are not very sensitive to this area of the spectrum under low light level conditions.

As shown by Figs 1-3, HPS, fluorescent and induction lights all have large areas missing in their color spectrum that cause colored objects to appear off color, while Fig. 4 shows that the SafeSite LED light is designed to be well centered in the night sensitivity range. In fact, under purely scotopic night vision the Safesite LED will appear 1.7 times brighter than the metal halide, 2.0 times brighter than the induction lamp and 3.0 times brighter than the HPS for the same photopic lumens.

Fig. 1 – High Pressure Sodium Color Content

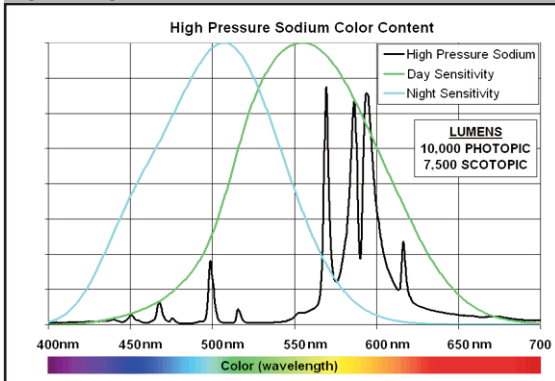


Fig. 2 - Induction Lamp (fluorescent) Color Content

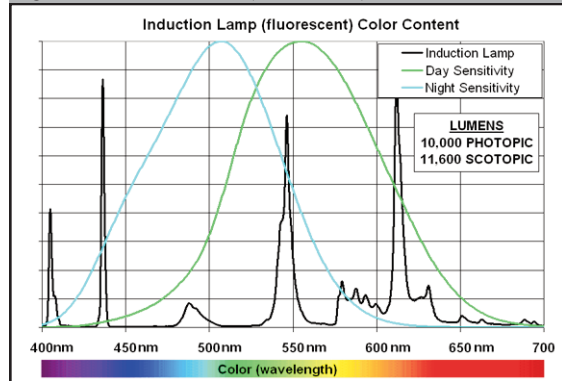


Fig. 3 – Metal Halide Color Content

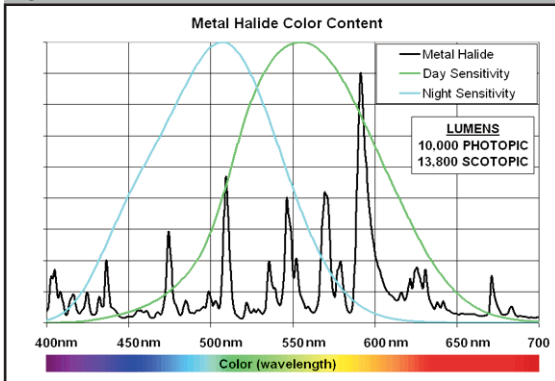
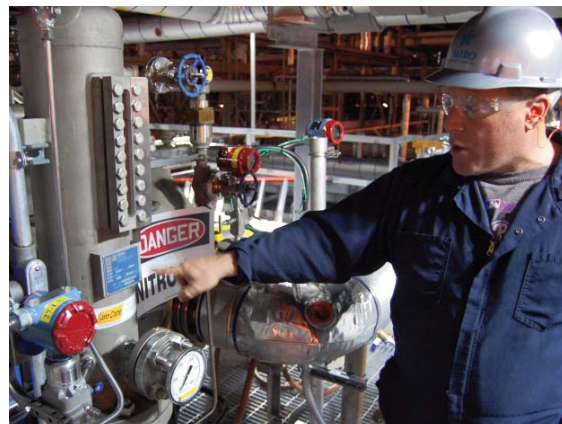
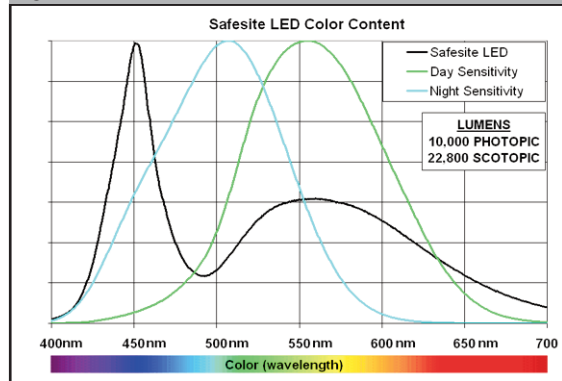


Fig. 4 – SafeSite LED Color Content



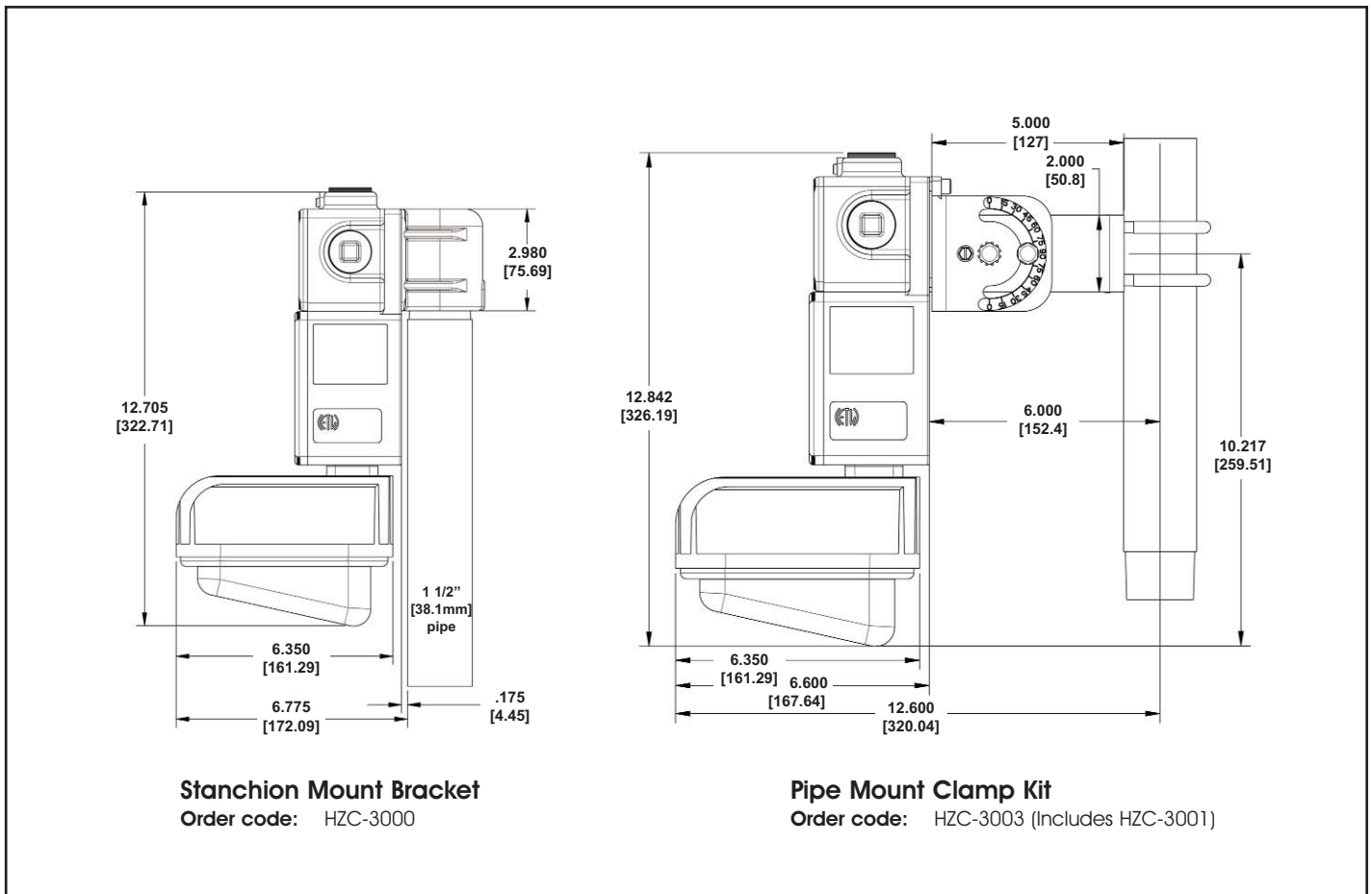
These photographs show the clear difference in light quality between LED lighting and HPS and the high quality color rendition that SafeSite delivers for a safer work environment.

Stanchion Mount Bracket

Pipe Mount Clamp Kit



## SafeSite<sup>®</sup> Mounting Brackets - Single Units



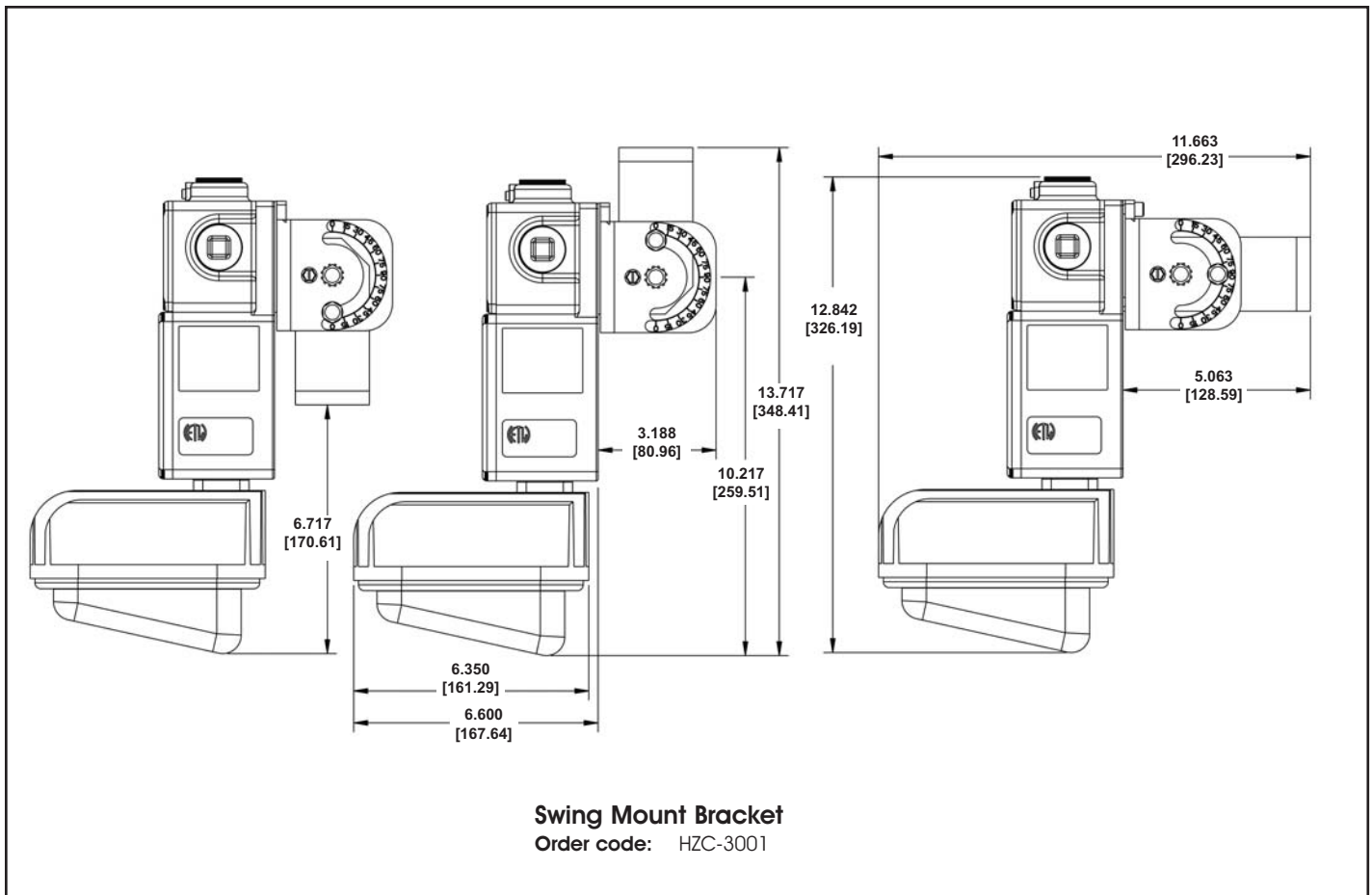
Dimensions in Inches [mm]

**Materials:** Anodized Aluminum with Stainless Steel

180° Adjustable Swing Mount Bracket



## SafeSite® Mounting Brackets - Single Units



Dimensions in Inches [mm]

**Materials:** Anodized Aluminum with Stainless Steel

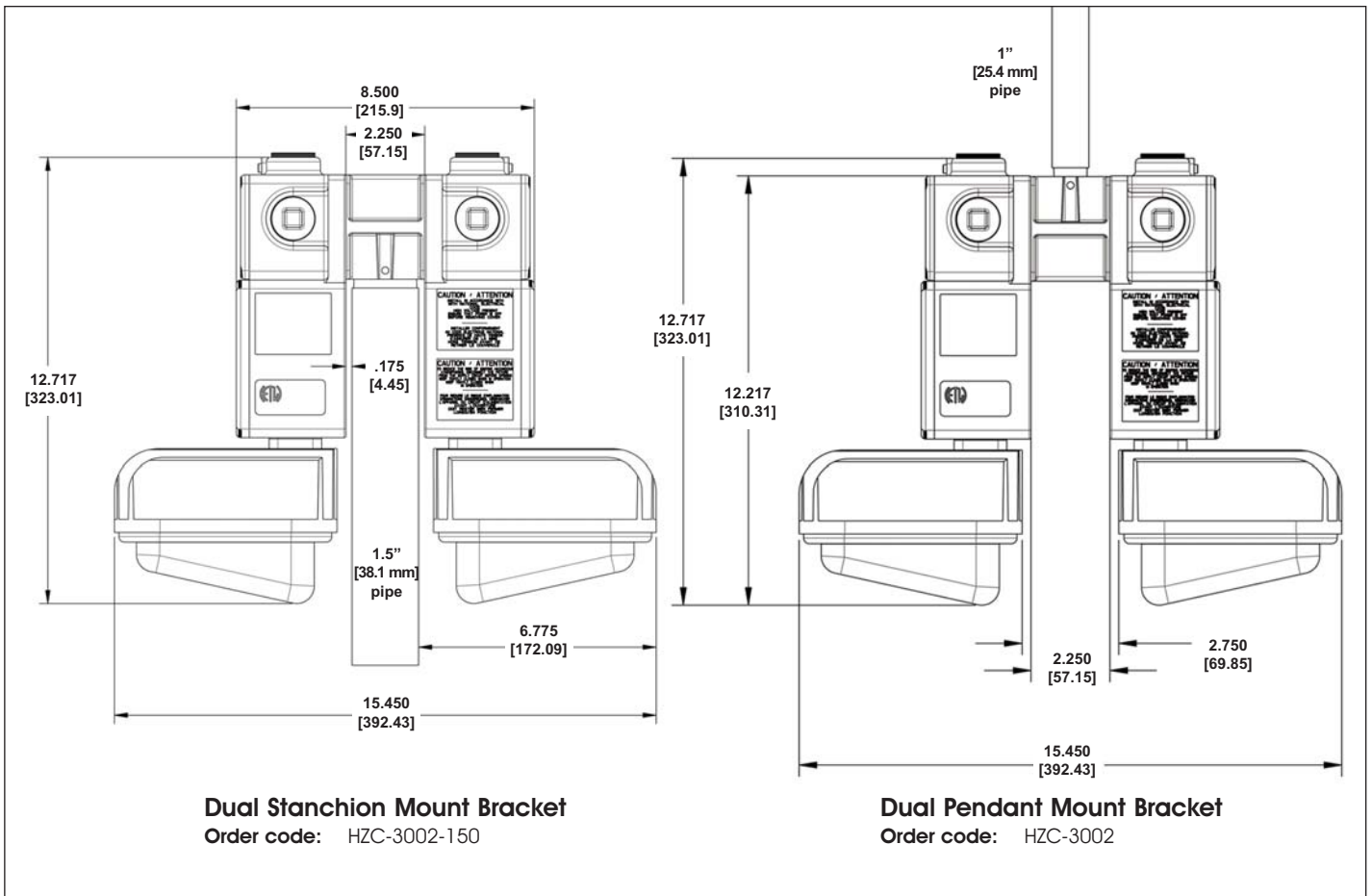


Dual Stanchion Mount Bracket



Dual Pendant Mount Bracket

## SafeSite® Mounting Brackets - Dual Units



Dimensions in Inches [mm]

**Materials:** Anodized Aluminum with Stainless Steel



**Certifications:**

Class I, Div 2, Groups A, B, C, D hazardous environments T5 rated

ATEX certified, equipment group II (surface industries), category 3 (Zone 2), T4 rated

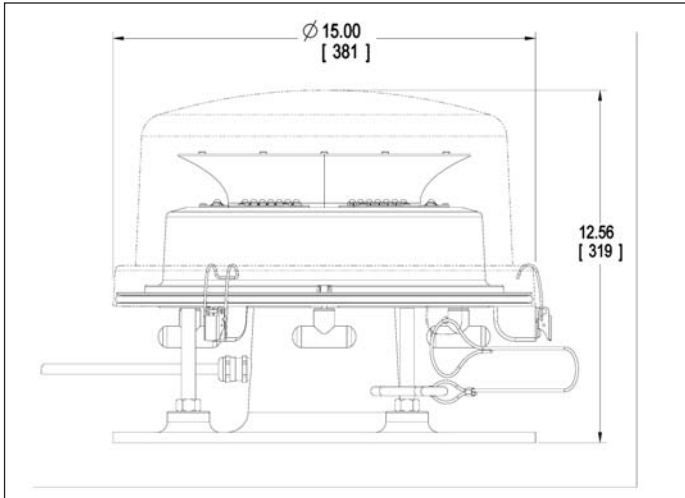
FAA AC NO: 150/5345-43F

Canadian Aviation Regulation CAR 621.9 (Transport Canada)

ETL Listed in compliance with UL1598 and UL844 for use in Class I, Div 2 hazardous locations

US Patent # 7,281,821

**L864 Red LED Medium Intensity Beacon**



Dimensions in Inches [mm]

**Order codes:**

D164-B13-001 Class I, Div 2 120/230 VAC Beacon  
 D264-D13-001 ATEX 120/230 VAC Beacon

**Container Dimensions:** 24" X 24" X 24"  
 610mm x 610mm x 610mm

**Container Weight:** 32lbs (12.70 kg)

**Current (Amps):** 0.4 / 0.2

**Power Consumption:** 48 W (nom)

**Operating Temp:** -40°F to +133°F (-40°C to +55°C)

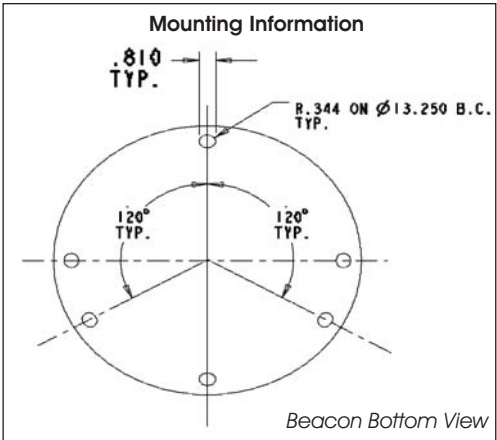
**Power Factor:** > 0.9

**Features & Benefits:**

- ▷ Class I, Div 2, Groups A, B, C, D hazardous environments T5 rated
- ▷ ATEX certified, equipment group II (surface industries), category 3 (Zone 2), T4 rated
- ▷ FAA AC No. 150/5345-43F
- ▷ Compliant to: ICAO (Annex 14 - Fourth Edition, July 2004), DGAC Mexico
- ▷ IP66 / NEMA 4X rated
- ▷ Uses 90% less energy than an incandescent
- ▷ Resistant to shock and vibration
- ▷ Lasts years longer than an incandescent
- ▷ Flash or steady burn
- ▷ 5 year warranty

**Application:**

Dialight's L864 LED Based Class I, Division 2 certified medium intensity red beacon was designed to easily interface into existing systems or to be provided as a red lighting fixture for new installations. The beacon is used to mark any obstacle that may provide hazards to aircraft navigation. Versions of this fixture are available in 120VAC or 230VAC.





## Certifications:

Class I, Div 2, Groups A, B, C, D hazardous environments T4A rated

ATEX certified, equipment group II (surface industries), category 3 (Zone 2), T4 rated

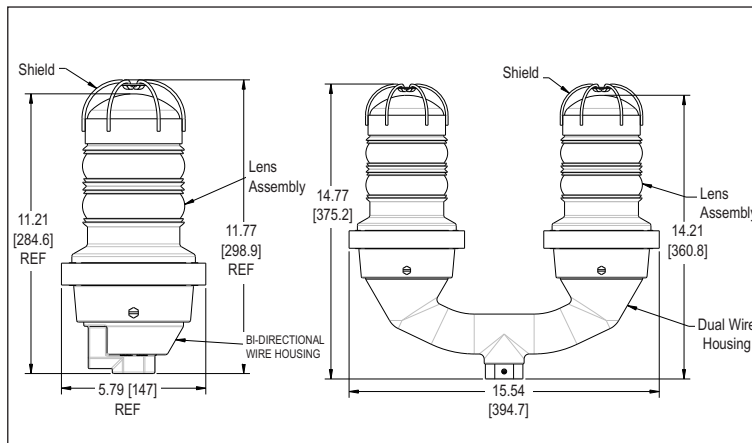
FAA AC NO: 150/5345-43F

Canadian Aviation Regulation CAR 621.9 (Transport Canada)

ETL Listed in compliance with UL1598 and UL844 for use in Class I, Div 2 hazardous locations

US Patent # 6,425,678

## L810 Red LED Obstruction Lights



Dimensions in Inches [mm]

### Features & Benefits:

- ▷ Class I, Div 2, Groups A, B, C, D hazardous environments T4 rated
- ▷ ATEX certified, equipment group II (surface industries), category 3 (Zone 2), T4 rated
- ▷ FAA AC No. 150/5345-43F
- ▷ Compliant to: ICAO (Annex 14 - Fourth Edition, July 2004), DGAC Mexico
- ▷ IP65 / IP66 / NEMA 4X rated
- ▷ Uses 90% less energy than an incandescent
- ▷ Weather/corrosion resistant lamp assembly and housing
- ▷ Resistant to shock and vibration
- ▷ Available as a single or dual unit
- ▷ Unique optically designed lens to enhance LED operation and provide 360° visibility
- ▷ Flash or steady burn
- ▷ Will withstand wind in excess of 150 mph (240 kph), salt fog
- ▷ 5 year warranty

### Application:

LED Based L810 Red Obstruction light certified to meet both the rigorous FAA requirements for red LED obstruction lights and Class I, Division 2 for hazardous area lighting locations. It is available in 120VAC or 230VAC versions and can be ordered as single or dual units.

### Single Units

#### Order codes:

860-2R01-001	Class I, Div 2 120 VAC
860-2R02-001	Class I, Div 2 230 VAC
860-9R01-001	ATEX 120 VAC
860-9R02-001	ATEX 230 VAC

**Container Dimensions:** 16" X 9" X 8"  
406mm x 229mm x 203mm

**Container Weight:** 7.14 lbs (3.24 kg)

### Dual Units

#### Order codes:

860-2R01-002	Class I, Div 2 120 VAC
860-2R02-002	Class I, Div 2 230 VAC
860-9R01-002	ATEX 120 VAC
860-9R02-002	ATEX 230 VAC

**Container Dimensions:** 22" X 17" X 9"  
559mm x 432mm x 229mm

**Container Weight:** 16.06 lbs (7.28 kg)

### Per Light:

**Volt Amps:** 44 VA (120 VAC Units)  
67 VA (230 VAC Units)

**Input Power:** 14.5 W (120 VAC Units)  
16.0 W (230 VAC Units)

**Operating Temp:** -67°F to +131°F (-55°C to +55°C)

**Mounting:** Threaded 1" NPT and 3/4" NPT bottom hub for mounting

**Material:** Cast aluminum housing and stainless steel hardware



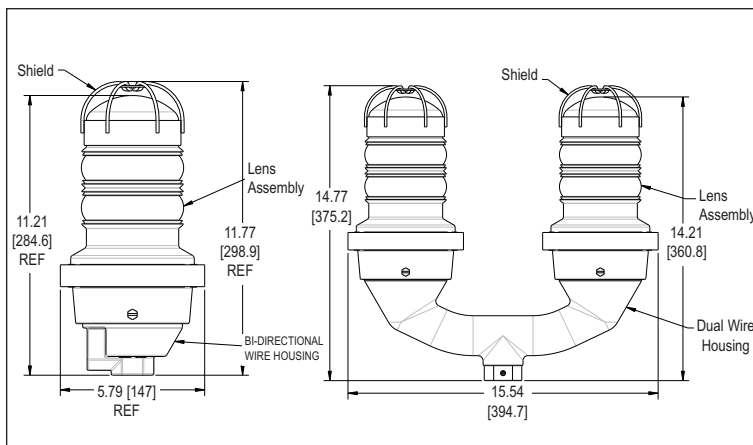
## Certifications:

Class I, Div 2, Groups A, B, C, D  
hazardous environments T4A rated

ETL Listed in compliance with UL1598 and  
UL844 for use in Class I, Div 2 hazardous  
locations

US Patent # 6,425,678

# 860 Series LED Steady Burn Visual Signal Lights



Dimensions in Inches [mm]

### Features & Benefits:

- ▷ Class I, Div 2, Groups A, B, C, D hazardous environments T4 rated
- ▷ ATEX certified, equipment group II (surface industries), category 3 (Zone 2), T4 rated
- ▷ IP65 / IP66 / NEMA 4X rated
- ▷ Uses 90% less energy than an incandescent
- ▷ Weather/corrosion resistant lamp assembly and housing
- ▷ Resistant to shock and vibration
- ▷ Available as a single or dual unit
- ▷ Unique optically designed lens to enhance LED operation and provide 360° visibility
- ▷ 5 year warranty

### Application:

Dialight's steady burn LED Based Class I, Division 2 Visual Signals are used in a wide range of industries for visual indication in hazardous environments. Versions of this fixture are available in 120VAC or 230VAC.

### Order codes - Single Units:

860-2R01-001	Class I, Div 2 Red 120 VAC
860-2W01-001	Class I, Div 2 White 120 VAC
860-2G01-001	Class I, Div 2 Green 120 VAC
860-2Y01-001	Class I, Div 2 Yellow 120 VAC
860-2B01-001	Class I, Div 2 Blue 120 VAC
860-2R02-001	Class I, Div 2 Red 230 VAC
860-2W02-001	Class I, Div 2 White 230 VAC
860-2G02-001	Class I, Div 2 Green 230 VAC
860-2Y02-001	Class I, Div 2 Yellow 230 VAC
860-2B02-001	Class I, Div 2 Blue 230 VAC

ATEX versions available - consult factory

**Container Dimensions:** 16" X 9" X 8"  
406mm x 229mm x 203mm

**Container Weight:** 7.14 lbs (3.24 kg)

### Order codes - Dual Units:

860-2R01-002	Class I, Div 2 Red 120 VAC
860-2W01-002	Class I, Div 2 White 120 VAC
860-2G01-002	Class I, Div 2 Green 120 VAC
860-2Y01-002	Class I, Div 2 Yellow 120 VAC
860-2B01-002	Class I, Div 2 Blue 120 VAC
860-2R02-002	Class I, Div 2 Red 230 VAC
860-2W02-002	Class I, Div 2 White 230 VAC
860-2G02-002	Class I, Div 2 Green 230 VAC
860-2Y02-002	Class I, Div 2 Yellow 230 VAC
860-2B02-002	Class I, Div 2 Blue 230 VAC

ATEX versions available - consult factory

**Container Dimensions:** 22" X 17" X 9"  
559mm x 432mm x 229mm

**Container Weight:** 16.06 lbs (7.28 kg)

### Per Light:

**Volt Amps:** 44 VA (120 VAC Units)  
67 VA (230 VAC Units)

**Input Power:** 14.5 W (120 VAC Units)  
16.0 W (230 VAC Units)

**Operating Temp:** -67°F to +131°F (-55°C to +55°C)

**Mounting:** Threaded 1" NPT and 3/4" NPT  
bottom hub for mounting

**Material:** Cast aluminum housing and  
stainless steel hardware

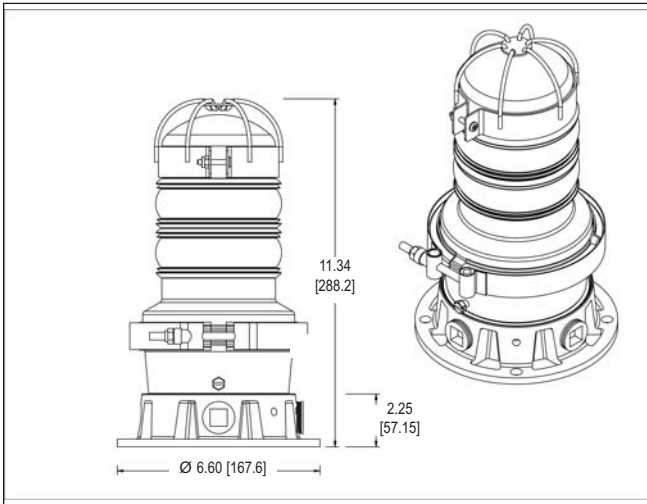


**Certifications:**

Class I, Div 2, Groups A, B, C, D hazardous environments (pending)

ETL Listed in compliance with UL1598 and UL844 for use in Class I, Div 2 hazardous locations

**860 Series LED Visual Signal Lights w/ Flat Base Junction Box**



Dimensions in Inches [mm]

**Features & Benefits:**

- ▷ Class I, Div 2, Groups A, B, C, D hazardous environments (pending)
- ▷ IP65 / IP66 / NEMA 4X rated
- ▷ Uses 90% less energy than an incandescent
- ▷ Weather/corrosion resistant lamp assembly and housing
- ▷ Resistant to shock and vibration
- ▷ Unique optically designed lens to enhance LED operation and provide 360° visibility
- ▷ 5 year warranty

**Application:**

Dialight's flat base junction box allows versatility of mounting and installation. It's flat bottom base design creates the ability to mount the visual signal against level surfaces such as walls, ceilings and platforms.

**Order codes:**

860-2R01-005	Class I, Div 2 Red 120 VAC - Flat Base
860-2Y01-005	Class I, Div 2 Yellow 120 VAC - Flat Base
860-2B01-005	Class I, Div 2 Blue 120 VAC - Flat Base

**Container Dimensions:** 1.6" X 9" X 8"  
406mm x 229mm x 203mm

**Container Weight:** 7.14 lbs (3.24 kg)

**Volt Amps:** 44 VA (120 VAC Units)

**Input Power:** 14.5 W (120 VAC Units)

**Operating Temp:** -67°F to +131°F (-55°C to +55°C)

**Mounting:** Threaded 1" NPT on 4 sides and 1 on bottom

**Material:** Cast aluminum housing and stainless steel hardware





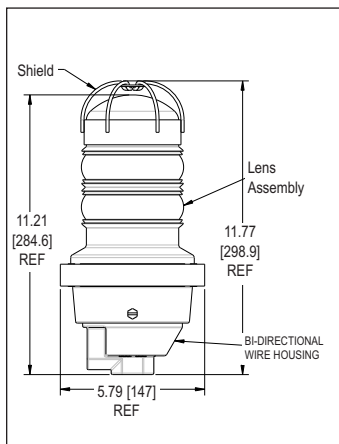
## Certifications:

Class I, Div 2, Groups A, B, C, D hazardous environments T4A rated

ETL Listed in compliance with UL1598 and UL844 for use in Class I, Div 2 hazardous locations

US Patent # 6,425,678

## FLS Series LED Flashing Visual Signal Lights



Dimensions in Inches [mm]

### Features & Benefits:

- ▷ Class I, Div 2, Groups A, B, C, D hazardous environments T4 rated
- ▷ IP66 / NEMA 4X rated
- ▷ Uses 90% less energy than an incandescent
- ▷ Weather/corrosion resistant lamp assembly and housing
- ▷ Resistant to shock and vibration
- ▷ Available as a single unit
- ▷ Unique optically designed lens to enhance LED operation and provide 360° visibility
- ▷ 5 year warranty

### Application:

Daylight's newest addition to their line of Class I, Division 2 Visual Signal Lights, the FLS Series Flashing Signals are used in a wide range of industries for visual indication in hazardous environments. Versions of this fixture are available in 120VAC or 230VAC.

### Order codes:

FLS-2R01-001	Class I, Div 2 Red 120 VAC
FLS-2W01-001	Class I, Div 2 White 120 VAC
FLS-2G01-001	Class I, Div 2 Green 120 VAC
FLS-2Y01-001	Class I, Div 2 Yellow 120 VAC
FLS-2B01-001	Class I, Div 2 Blue 120 VAC
FLS-2R02-001	Class I, Div 2 Red 230 VAC
FLS-2W02-001	Class I, Div 2 White 230 VAC
FLS-2G02-001	Class I, Div 2 Green 230 VAC
FLS-2Y02-001	Class I, Div 2 Yellow 230 VAC
FLS-2B02-001	Class I, Div 2 Blue 230 VAC

Consult factory for ATEX availability

**Container Dimensions:** 16" X 9" X 8"  
406mm x 229mm x 203mm

**Container Weight:** 7.14 lbs (3.24 kg)

**Volt Amps:** 44 VA (120 VAC Units)  
67 VA (230 VAC Units)

**Input Power:** 14.5 W (120 VAC Units)  
16.0 W (230 VAC Units)

**Operating Temp:** -67°F to +131°F (-55°C to +55°C)

**Mounting:** Threaded 1" NPT and 3/4" NPT bottom hub for mounting

**Material:** Cast aluminum housing and stainless steel hardware

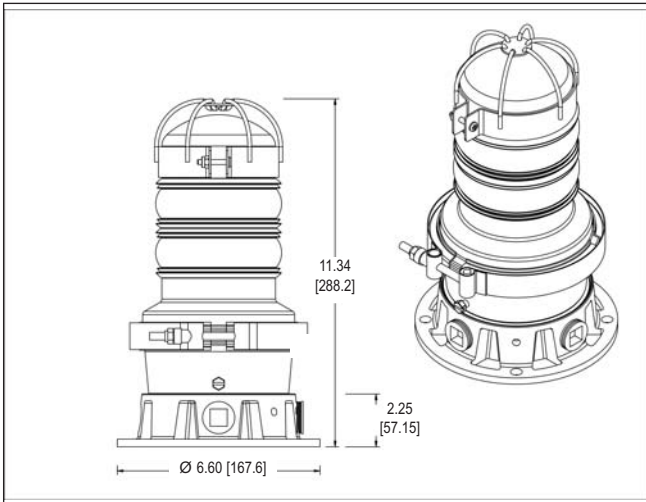


**Certifications:**

Class I, Div 2, Groups A, B, C, D hazardous environments (pending)

ETL Listed in compliance with UL1598 and UL844 for use in Class I, Div 2 hazardous locations

**FLS Series LED Flashing Signal Lights w/ Flat Base Junction Box**



Dimensions in Inches [mm]

**Features & Benefits:**

- ▷ Class I, Div 2, Groups A, B, C, D hazardous environments (pending)
- ▷ IP65 / IP66 / NEMA 4X rated
- ▷ Uses 90% less energy than an incandescent
- ▷ Weather/corrosion resistant lamp assembly and housing
- ▷ Resistant to shock and vibration
- ▷ Unique optically designed lens to enhance LED operation and provide 360° visibility
- ▷ 5 year warranty

**Application:**

Dialight's flat base junction box allows versatility of mounting and installation. It's flat bottom base design creates the ability to mount the flashing signal against level surfaces such as walls, ceilings and platforms.

**Order codes:**

- FLS-2R01-005 Class I, Div 2 Red 120 VAC - Flat Base
- FLS-2Y01-005 Class I, Div 2 Yellow 120 VAC - Flat Base
- FLS-2B01-005 Class I, Div 2 Blue 120 VAC - Flat Base

**Container Dimensions:** 16" X 9" X 8"  
406mm x 229mm x 203mm

**Container Weight:** 7.14 lbs (3.24 kg)

**Volt Amps:** 44 VA (120 VAC Units)

**Input Power:** 14.5 W (120 VAC Units)

**Operating Temp:** -67°F to +131°F (-55°C to +55°C)

**Mounting:** Threaded 1" NPT on 4 sides and 1 on bottom

**Material:** Cast aluminum housing and stainless steel hardware



# Dialight

*LED Lighting for  
Hazardous Locations*  
ver 2.0

SafeSite® Series White Downlight



D164 Medium Intensity Beacon



860 Flashing Visual Signal



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