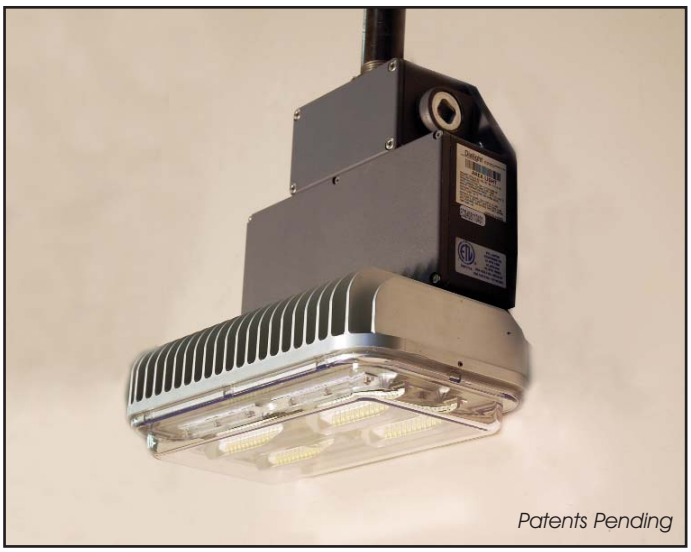
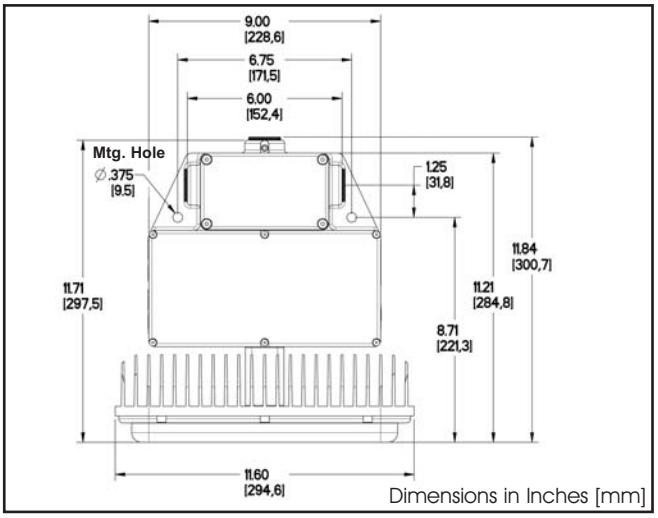



# SafeSite® LED White Downlight




**Certifications & Ratings:**

- ▷ Class I, Div 2, Groups A, B, C, D hazardous environments T4A rated
- ▷ Class II, Div 2, Groups F, G hazardous environments T3B rated
- ▷ 3 G Ex nA II T4 (incorporates wire cage)
- ▷ 3 D Ex tD B22 IP66 T1 (incorporates wire cage)
- ▷ Certified to UL844 / NEMA 4X / UL1598 / UL1598A / CSA 22.2
- ▷ IP66 rated

**Features & Benefits:**

- ▷ Low power consumption
- ▷ Instant on/off response
- ▷ Weather/corrosion resistant lamp assembly and housing
- ▷ Universal input (120-277 VAC), 50/60 Hz
- ▷ *Resistant to shock (IEC 68-2-27) and vibration (FAA 150/5345-46C)
- ▷ 5 year warranty
- ▷ 70% lumen maintenance over 60,000 operating hours

**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.

**Mechanical Information:**

| | |
|---|---|
| **Container Dimensions:** | 15" X 16" X 10"<br>381mm x 407mm x 254mm |
| **Container Weight:** | 19 lbs (8.2 kg) |
| **Mounting:** | Threaded 1" NPT on 3 sides of splice box |

**Electrical specifications:**

| | |
|---|---|
| **Operating Voltage:** | 120-277 VAC, 50/60 Hz<br>*(DC versions available - consult factory)* |
| **Power Consumption**: | 100 W |
| **Operating Temp:** | -40°F to +133°F (-40°C to +55°C) |
| **Harmonics:** | IEC 6100-3-2 class C |
| **Surge / Lightning Protection:** | 1 kV line to line<br>2 kV line to ground |
| **THD:** | < 20 % |
| **Power Factor:** | > 0.9 |

**Material:**

| | |
|---|---|
| **Lens:** | UV stabilized Polycarbonate with enhanced abrasive resistance |
| **Body:** | Grey epoxy powder coat aluminum |
| **Heat sink:** | Clear anodized aluminum |
| **Accessories (hardware):** | Stainless steel |

**Photometric Information:**

| | |
|---|---|
| **CRI (typ):** | 70 |
| **CCT:** | 4500-7000K |

**Order Codes:**

| SafeSite Series 150 Watt Equivalent Fixtures | |
|---|---|
| HZC-02-150-1111-201 | CID2/CIID2 Cert- 180 Degree |
| HZC-02-150-1111-301 | CID2/CIID2 Cert - 360 Degree |
| HZC-04-150-1111-201 | ATEX Cert - 180 Degree |
| HZC-04-150-1111-301 | ATEX Cert - 360 Degree |
| *HZC-02-150-1111-202 | CID2/CIID2 Cert - 180 Degree, HVS |
| *HZC-02-150-1111-302 | CID2/CIID2 Cert - 360 Degree, HVS |
| **HZC-02-150-1111-211 | CID2/CIID2 Cert - 180 Degree, PC |
| **HZC-02-150-1111-311 | CID2/CIID2 Cert - 360 Degree, PC |

| SafeSite Series 250 Watt Equivalent Fixtures | |
|---|---|
| HZC-02-250-1111-201 | CID2/CIID2 Cert- 180 Degree |
| HZC-02-250-1111-301 | CID2/CIID2 Cert - 360 Degree |
| HZC-04-250-1111-201 | ATEX Cert - 180 Degree |
| HZC-04-250-1111-301 | ATEX Cert - 360 Degree |
| *HZC-02-250-1111-202 | CID2/CIID2 Cert - 180 Degree, HVS |
| *HZC-02-250-1111-302 | CID2/CIID2 Cert - 360 Degree, HVS |
| **HZC-02-250-1111-211 | CID2/CIID2 Cert - 180 Degree, PC |
| **HZC-02-250-1111-311 | CID2/CIID2 Cert - 360 Degree, PC |

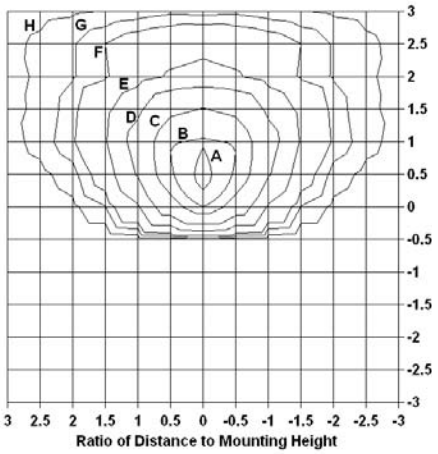
**Additional Options:**

** HVS order codes are High Vibration & Shock resistant with T4 rating (CID2)*

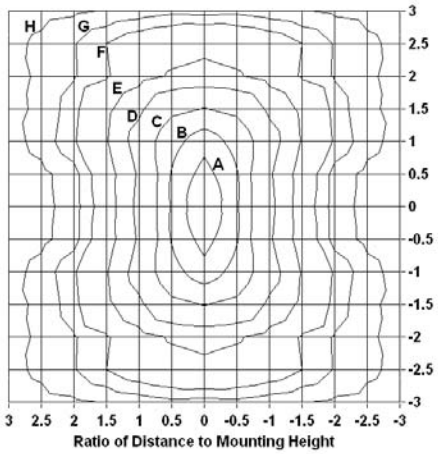
**PC order codes are hard coated lens and powder coat on all exposed aluminum parts

# Light Measurement Data

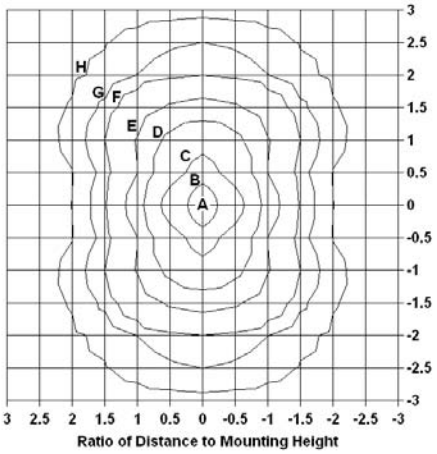
**180 Degree Pattern**




**Back to Back 360 Degree Pattern**




**360 Degree Pattern**




*Each box is one mounting height.*

## 150 Watt Equivalent Fixtures

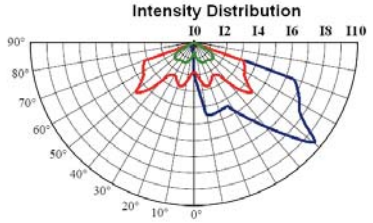
**Illuminance Values for Night or Low Light Level Conditions (Scotopic Footcandles)**

| Mounting Height (ft) | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 4 | 136.80 | 91.20 | 72.96 | 45.60 | 27.36 | 13.68 | 9.12 | 4.56 |
| 8 | 34.20 | 22.80 | 18.24 | 11.40 | 6.84 | 3.42 | 2.28 | 1.14 |
| 12 | 15.20 | 10.13 | 8.11 | 5.07 | 3.04 | 1.52 | 1.01 | 0.51 |
| 16 | 8.55 | 5.70 | 4.56 | 2.85 | 1.71 | 0.86 | 0.57 | 0.29 |
| 20 | 5.47 | 3.65 | 2.92 | 1.82 | 1.09 | 0.55 | 0.36 | 0.18 |
| 25 | 3.50 | 2.33 | 1.87 | 1.17 | 0.70 | 0.35 | 0.23 | 0.12 |
| 30 | 2.43 | 1.62 | 1.30 | 0.81 | 0.49 | 0.24 | 0.16 | 0.08 |
| 35 | 1.79 | 1.19 | 0.95 | 0.60 | 0.36 | 0.18 | 0.12 | 0.06 |

**Illuminance Values for Day or High Light Level Conditions (Photopic Footcandles)**

| Mounting Height (ft) | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 4 | 60.00 | 40.00 | 32.00 | 20.00 | 12.00 | 6.00 | 4.00 | 2.00 |
| 8 | 15.00 | 10.00 | 8.00 | 5.00 | 3.00 | 1.50 | 1.00 | 0.50 |
| 12 | 6.67 | 4.44 | 3.56 | 2.22 | 1.33 | 0.67 | 0.44 | 0.22 |
| 16 | 3.75 | 2.50 | 2.00 | 1.25 | 0.75 | 0.38 | 0.25 | 0.13 |
| 20 | 2.40 | 1.60 | 1.28 | 0.80 | 0.48 | 0.24 | 0.16 | 0.08 |
| 25 | 1.54 | 1.02 | 0.82 | 0.51 | 0.31 | 0.15 | 0.10 | 0.05 |
| 30 | 1.07 | 0.71 | 0.57 | 0.36 | 0.21 | 0.11 | 0.07 | 0.04 |
| 35 | 0.78 | 0.52 | 0.42 | 0.26 | 0.16 | 0.08 | 0.05 | 0.03 |

**Intensity Distribution**




FRONT/BACK
*180 Degree Pattern*
*360 Degree Pattern*

SIDES
*180 Degree Pattern*
*360 Degree Pattern*

**Intensity Values for Night or Low Light Level Conditions (Scotopic Candelas)**

| I0 | I2 | I4 | I6 | I8 | I10 |
|---|---|---|---|---|---|
| 0 | 1333 | 2667 | 4000 | 5333 | 6667 |

**Intensity Values for Day or High Light Level Conditions (Photopic Candelas)**

| I0 | I2 | I4 | I6 | I8 | I10 |
|---|---|---|---|---|---|
| 0 | 600 | 1200 | 1800 | 2400 | 3000 |

8,300 Total Lumens for Night or Low Light Level Conditions (scotopic)

3,640 Total Lumens for Day or High Light Level Conditions (photopic)

## 250 Watt Equivalent Fixtures

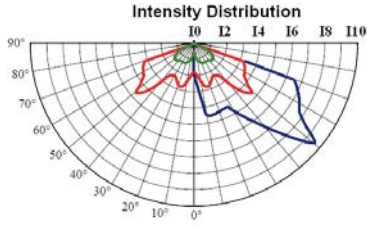
**Illuminance Values for Night or Low Light Level Conditions (Scotopic Footcandles)**

| Mounting Height (ft) | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 4 | 205.20 | 136.80 | 109.44 | 68.40 | 41.04 | 20.52 | 13.68 | 6.84 |
| 8 | 51.30 | 34.20 | 27.36 | 17.10 | 10.26 | 5.13 | 3.42 | 1.71 |
| 12 | 22.80 | 15.20 | 12.16 | 7.60 | 4.56 | 2.28 | 1.52 | 0.76 |
| 16 | 12.83 | 8.55 | 6.84 | 4.28 | 2.57 | 1.28 | 0.86 | 0.43 |
| 20 | 8.21 | 5.47 | 4.38 | 2.74 | 1.64 | 0.82 | 0.55 | 0.27 |
| 25 | 5.25 | 3.50 | 2.80 | 1.75 | 1.05 | 0.53 | 0.35 | 0.18 |
| 30 | 3.65 | 2.43 | 1.95 | 1.22 | 0.73 | 0.36 | 0.24 | 0.12 |
| 35 | 2.68 | 1.79 | 1.43 | 0.89 | 0.54 | 0.27 | 0.18 | 0.09 |

**Illuminance Values for Day or High Light Level Conditions (Photopic Footcandles)**

| Mounting Height (ft) | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 4 | 90.00 | 60.00 | 48.00 | 30.00 | 18.00 | 9.00 | 6.00 | 3.00 |
| 8 | 22.50 | 15.00 | 12.00 | 7.50 | 4.50 | 2.25 | 1.50 | 0.75 |
| 12 | 10.00 | 6.67 | 5.33 | 3.33 | 2.00 | 1.00 | 0.67 | 0.33 |
| 16 | 5.63 | 3.75 | 3.00 | 1.88 | 1.13 | 0.56 | 0.38 | 0.19 |
| 20 | 3.60 | 2.40 | 1.92 | 1.20 | 0.72 | 0.36 | 0.24 | 0.12 |
| 25 | 2.30 | 1.54 | 1.23 | 0.77 | 0.46 | 0.23 | 0.15 | 0.08 |
| 30 | 1.60 | 1.07 | 0.85 | 0.53 | 0.32 | 0.16 | 0.11 | 0.05 |
| 35 | 1.18 | 0.78 | 0.63 | 0.39 | 0.24 | 0.12 | 0.08 | 0.04 |

**Intensity Distribution**




FRONT/BACK
*180 Degree Pattern*
*360 Degree Pattern*

SIDES
*180 Degree Pattern*
*360 Degree Pattern*

**Intensity Values for Night or Low Light Level Conditions (Scotopic Candelas)**

| I0 | I2 | I4 | I6 | I8 | I10 |
|---|---|---|---|---|---|
| 0 | 2000 | 4000 | 6000 | 8000 | 10000 |

**Intensity Values for Day or High Light Level Conditions (Photopic Candelas)**

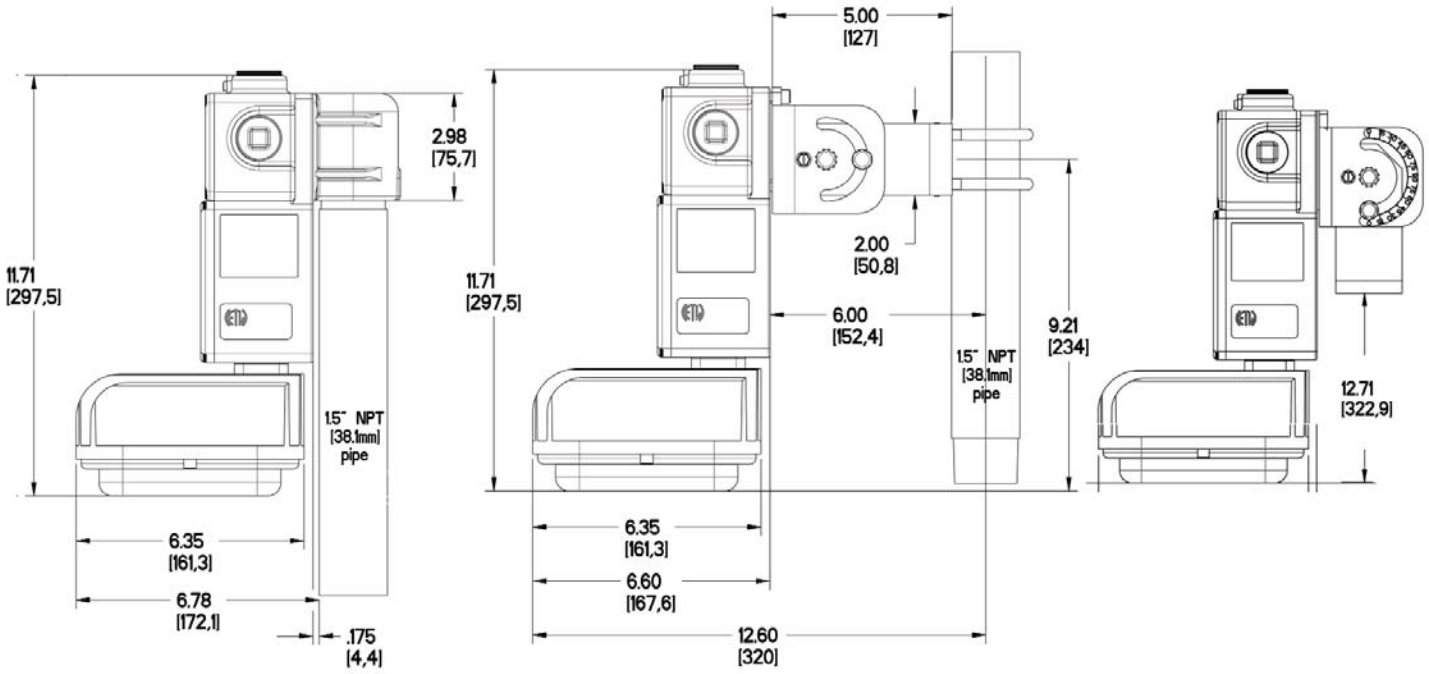
| I0 | I2 | I4 | I6 | I8 | I10 |
|---|---|---|---|---|---|
| 0 | 900 | 1800 | 2700 | 3600 | 4500 |

12,500 Total Lumens for Night or Low Light Level Conditions (scotopic)

5,500 Total Lumens for Day or High Light Level Conditions (photopic)

**IES Files:** Available at www.dialight.com


# SafeSite® Downlight Fixture Mounting Brackets - Single Units

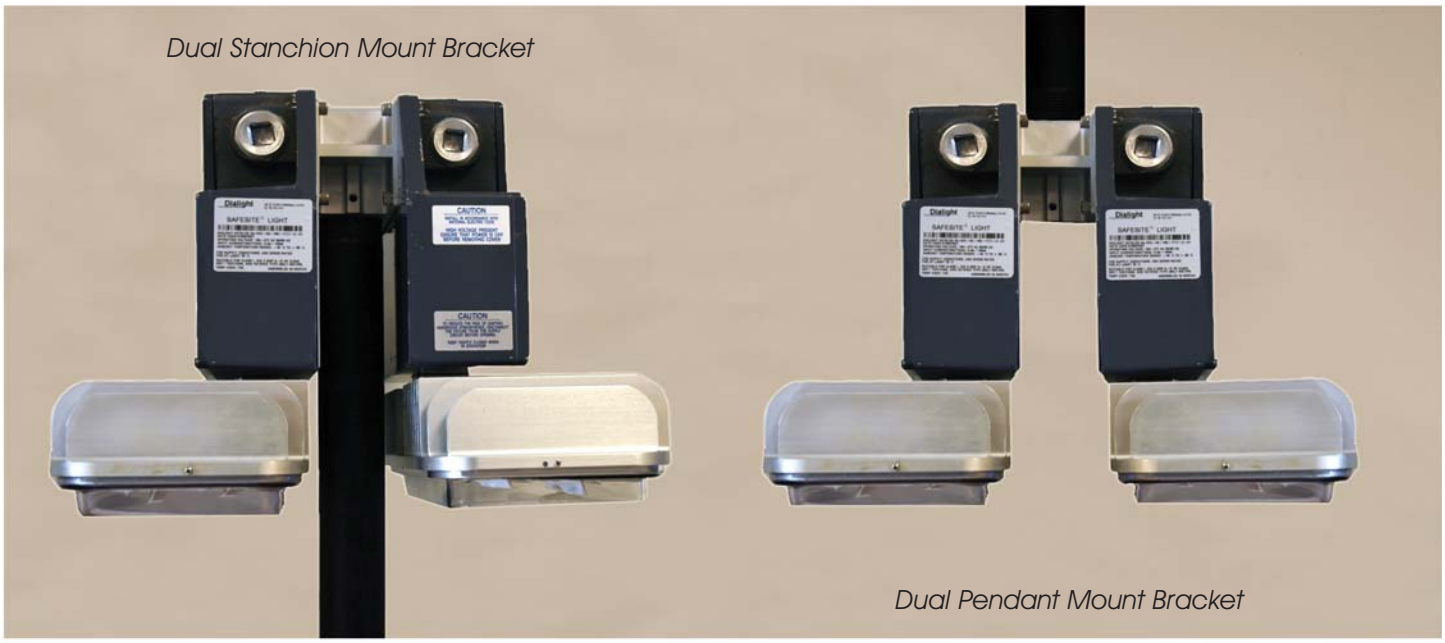



**Stanchion Mount Bracket**
**Order code:** HZC-3000

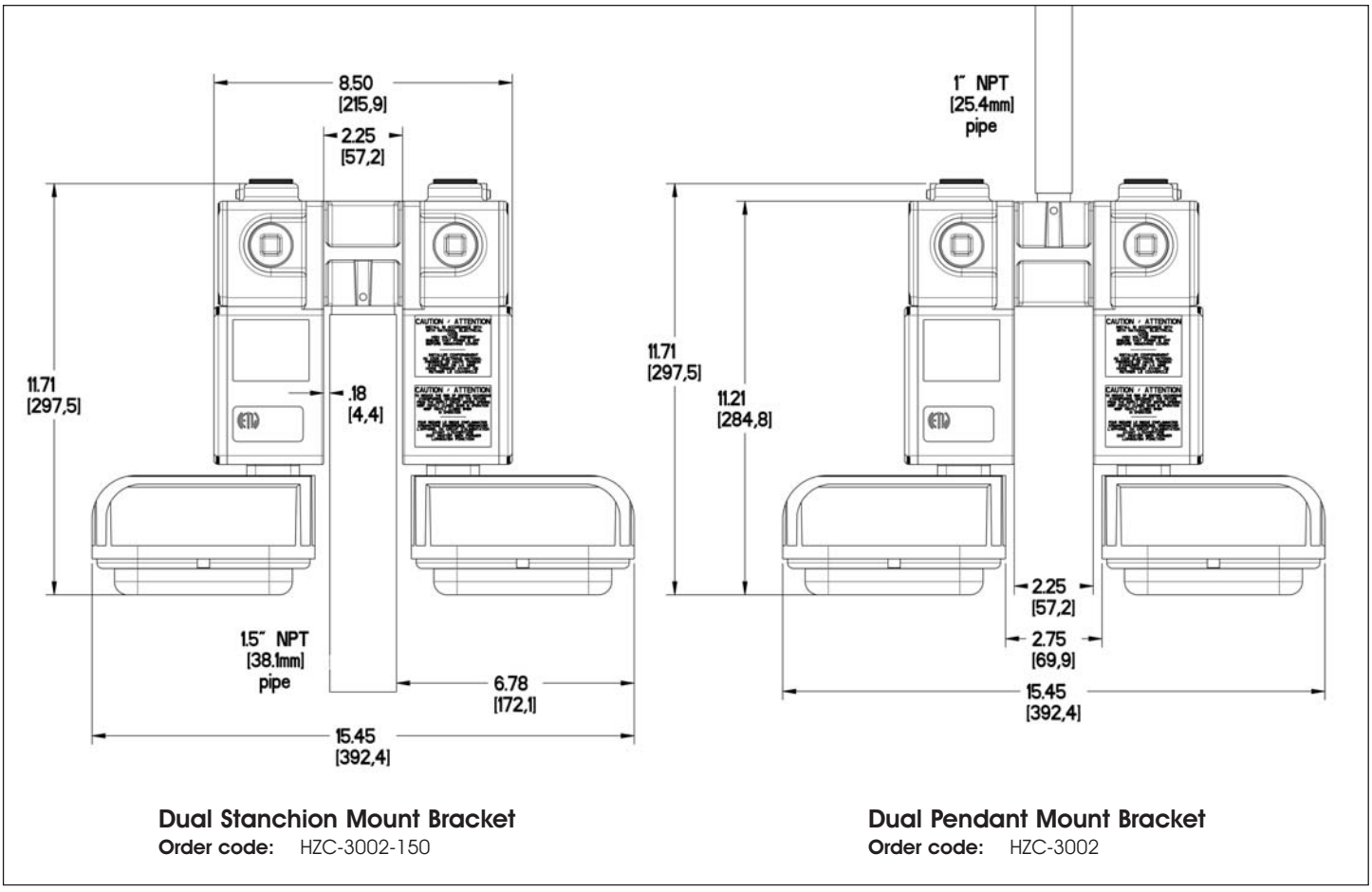
**Pipe Mount Clamp Kit**
**Order code:** HZC-3003 (Includes HZC-3001)

**Swing Mount Bracket**
**Order code:** HZC-3001

Dimensions in Inches [mm]




# SafeSite® Downlight Fixture Mounting Brackets - Dual Units




**Dual Stanchion Mount Bracket**
**Order code:** HZC-3002-150

**Dual Pendant Mount Bracket**
**Order code:** HZC-3002

Dimensions in Inches [mm]

# 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

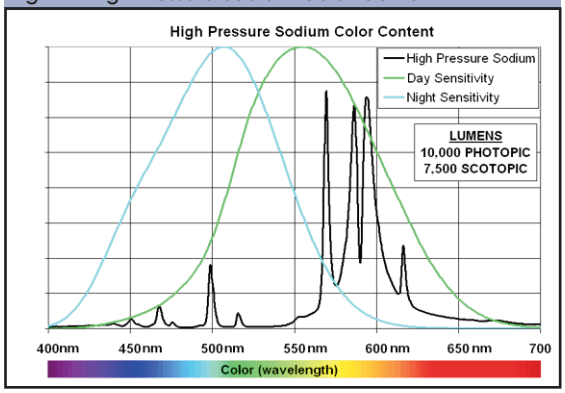
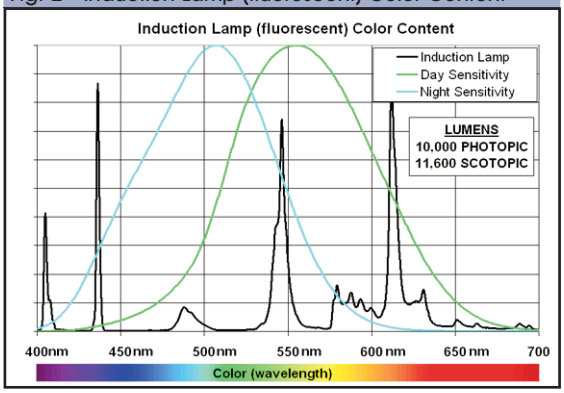



Fig. 2 - Induction Lamp (fluorescent) Color Content




**Benefits of LED Technology**

Low power consumption
Reduces $CO_2$ emissions
Instant on/off
5 year warranty
Weather / corrosion resistant
Resistant to shock & vibration
Cold start capable
Minimized light spill

Fig. 3 – Metal Halide Color Content

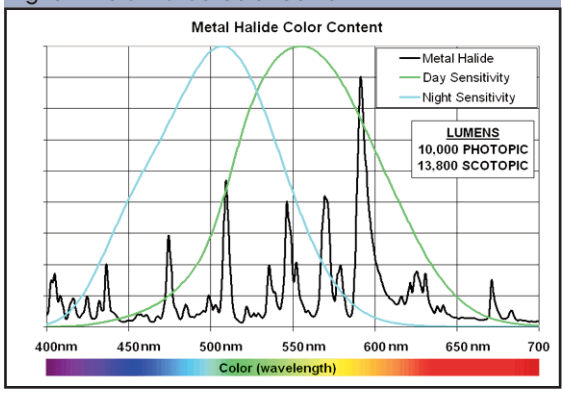
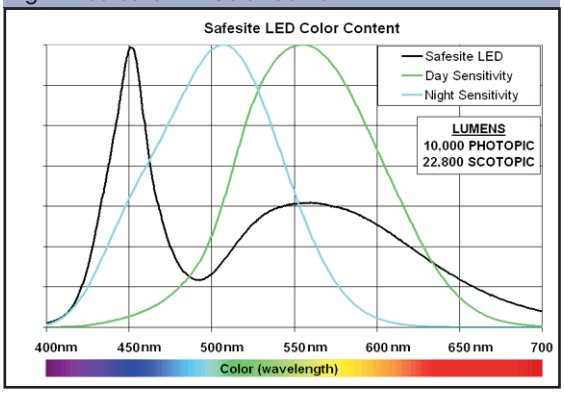



Fig. 4 – SafeSite LED Color Content




**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!


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.