# AL126 Series

## High Dispersion Narrow Bar Lights

## Product Datasheet

ADVANCED ILLUMINATION by Exaktera

### High Dispersion Output

Produces a highly uniform, scattered light output that results in soft shadows and reduced specular reflections.

### Scalable Extrusion-Based Housing

Engineered with extrusion-based aluminum construction allowing for scalability while maintaining structural rigidity and durability.

### Narrow Form Factor

Designed with a narrower profile to facilitate integration into space-constrained machine vision applications where the wider AL116 may not fit.

### M4 Mounting Channel

Equipped with an M4 mounting channel on its base, allowing for highly adjustable positioning.

## AL126 Series Description

The AL126 High Dispersion Narrow Bar Light Series delivers uniform, soft illumination, providing a solution for machine vision applications sensitive to harsh shadows and certain specular reflections. Its narrower form factor compared to the wider AL116 allows it to better integrate into space-constrained machine builds.

Furthermore, its diffuse characteristics make it highly suitable for close working distances, eliminating the potential for intensity hotspots often produced by focused bar lights.

- **Scalable Design**
- **Polarization Available**
- **13 Available Wavelengths**
- **1-2 Week Lead Times**

## General Information

### General Specifications

| Category | Specification | | | Detail | |
|---|---|---|---|---|---|
| Optical | Available Wavelengths | | | White, 365 nm, 375 nm, 385 nm, 395 nm, 405 nm, 455 nm, 470 nm, 530 nm, 590 nm, 625 nm, 850 nm, 940 nm, | |
| | Available Lensing | | | No Lenses | |
| | Available Light Conditioning | | | Diffuser or Polarizer | |
| Electrical | Power Consumption Info | | | See Power Requirements on Page 10 | |
| | Cable Info | | | 80" -0/+6" Long (2 m -0/+150 mm), -105°C Rated, Foil Shield w/ Drain | |
| Mechanical | Sizing Info | Standard | Length | 3.15"(80.1mm) to 21.15"(537.2mm) | See Page 8 for More Details |
| | | | Width | 0.79"(20.0mm) | |
| | | | Height | 0.79"(20.0mm) | |
| | | Sealed | Length | 3.27"(83.1mm) to 21.27"(540.3mm) | |
| | | | Width | 0.79"(20.0mm) | |
| | | | Height | 0.79"(20.0mm) | |
| | Weight Info (Standard) | | | ~ 0.14 lbs (~63 g) per 4" Unit Length | |
| | Mounting Info | | | M4 Mounting Nut Channel | |
| | Material Info | | | Anodized Aluminum Housing, Acrylic Window, Nickel Plated Brass Strain Relief, PVC Cable Jacket, , Steel Black Oxide Fasteners, Optional: Silicone Sealant, Neoprene Gasket, Nylon Washers | |
| Thermal | Operating Case Temperatures | | | 25 °C to 60 °C | |
| | Operating Ambient Temperatures | | | 0 °C to 35 °C | |
| Certification | Compliance | | | CE, RoHS, IEC 62471 | |
| | IP Rating | | | IP50 or IP65 | |
| | Lumen Maintenance - White Only | | | L70 (50,000 Hours) | |

## General Information - Continued

### Part Number Key

| Model | Emitting Length (in) | - | Peak Wavelength | Connector/ Control | Washdown Option | Light Conditioning Option | - | Alternative Connector |
|---|---|---|---|---|---|---|---|---|
| AL126 | XX | - | XX | XX | X | X | - | XXX |
| | 02" increments from 02" to 40" | | 365 (UV)[3] | C1 | W | D (Diffuser) | | M8[1] |
| | | | 375 (UV)[3] | C5 | | P[2] (Polarizer) | | M12[1] |
| | | | 385 (UV)[3] | IC | | | | |
| | | | 395 (UV)[3] | I3 | | | | |
| | | | 405 (UV)[3] | I3S | | | | |
| | | | 455 (royal blue) | I4 | | | | |
| | | | 470 (blue) | 24 | | | | |
| | | | 530 (green) | | | | | |
| | | | 590 (amber) | | | | | |
| | | | 625 (red orange) | | | | | |
| | | | 850 (IR) | | | | | |
| | | | 940 (IR) | | | | | |
| | | | WHI (white) | | | | | |
| more info on page | 8 | | 5 | 10 | | 6 | | 12 |

**Example Part Numbers:**
AL12602-WHIIC
AL12618-625C5W

[1] Available with IC, I3, I3S, and 24 V options only
[2] 470 (blue) will reduce life of the polarizer
[3] Not available with (D) diffuser or (P) polarizer options

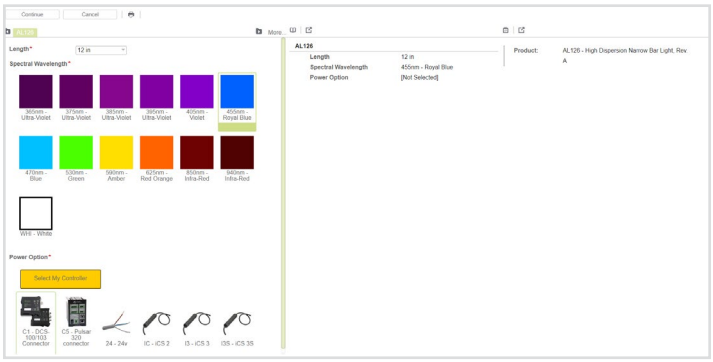
### In Stock

AL126-WHIIC

### Lead Times

Stock products ship within three days.
Build-to-Order custom products ship within one to two weeks (typical).

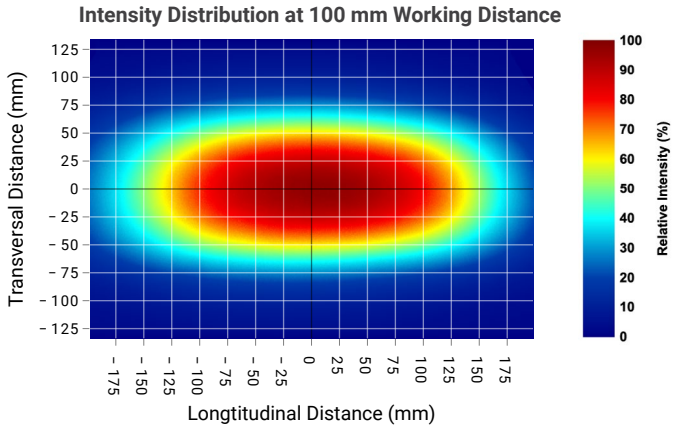
### Configurator

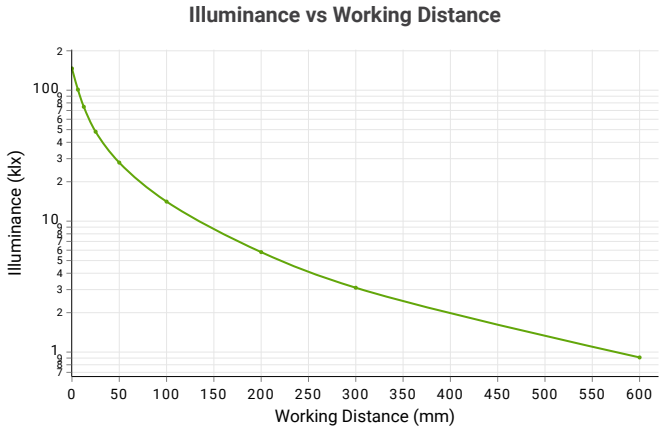


Need a build-to-order custom lighting solution in 2 weeks or less? Advanced Illumination's online configurator helps you tailor our AL126 High Dispersion Narrow Bar Light Series to your specific needs. For a guided configuration, visit our online configurator.

## Optical Information

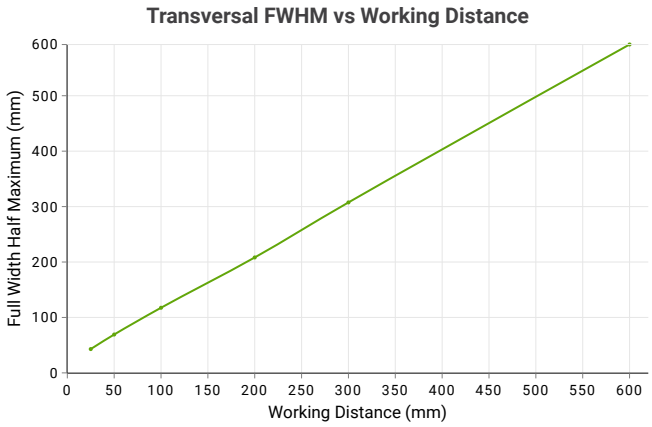
### Intensity Characteristics

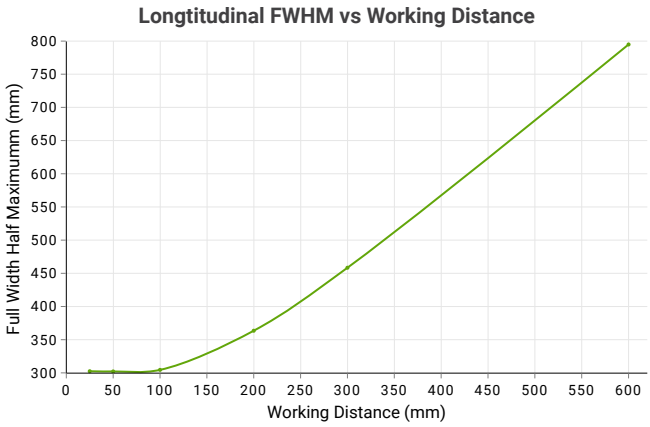



Data shown above have been collected using a 12-inch white AL126 unit.

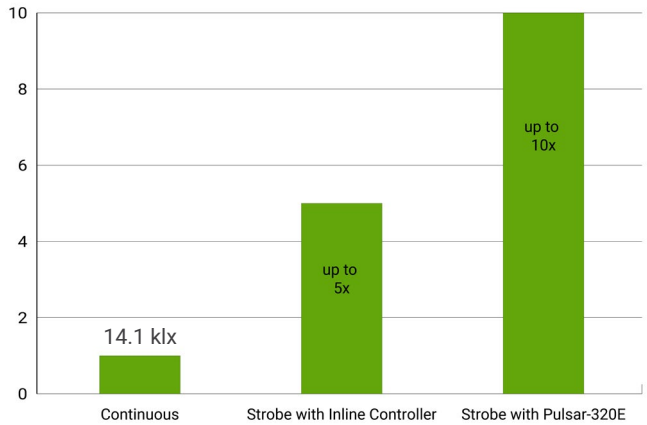
### FWHM vs Working Distance




Both Full Width Half Maximum (FWHM) vs Working Distance plots shown above have been measured using a 12-inch white AL126 unit.

### Continuous vs Pulsed Intensity

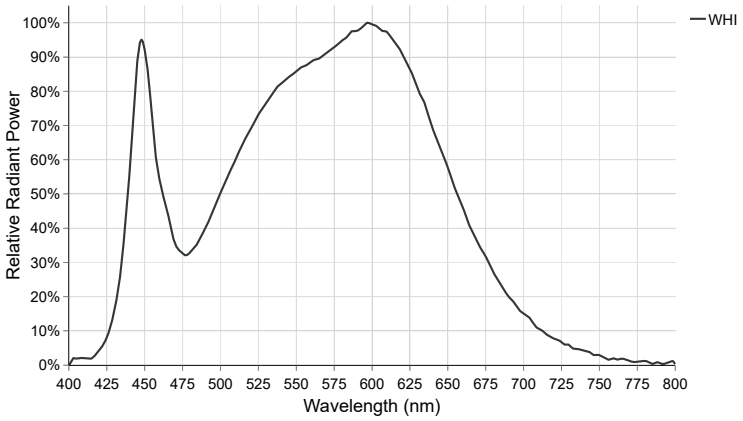



Under continuous operation, a 12-inch white AL126 unit will output an **illuminance of 14.1 klx** and an **irradiance of 48.2 W/m²** at a 100 mm working distance. For applications that require higher output, the AL126 Series has been engineered to be overdrive strobe capable. When configured with AI's strobe enabled Inline Controller (I3, I3S, and I4), the AL126 is capable of outputting up-to 5X continuous levels. When configured with a C5 connector, compatible with AI's Pulsar 320E, an **AL126 can be strobed up-to 10X continuous intensity levels.**

Disclaimer: The measurements provided above are for approximations only and may vary depending on the method of measurement and the specific configuration being measured.

## Optical Information - Continued

### White Spectral Profile

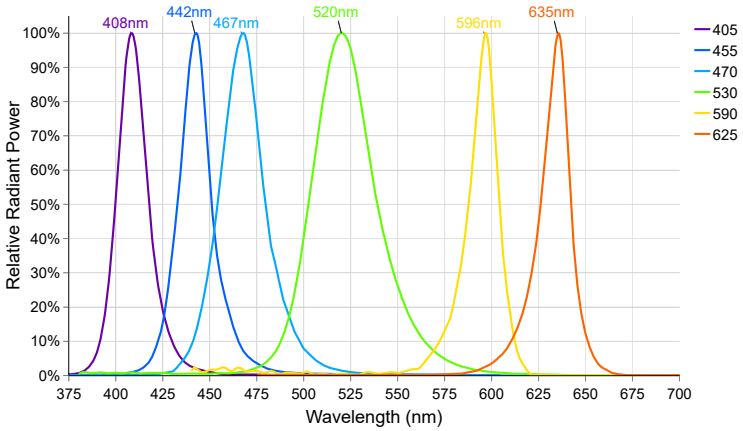



White LED illumination is the most commonly used machine vision lighting configuration. It is often the default choice when specific features of interest do not require color-based highlighting. However, white LEDs can vary in color temperature, which can impact machine vision systems, specifically when matching white light sources.

The AL126 Series white LEDs have a relatively neutral color correlated temperature (CCT) of **5000k.**

For a more detailed look at the white spectral data, download the csv file of the raw spectral values and refer to our Product Spectra Distribution Charts PDF.

### Visible Spectral Profiles

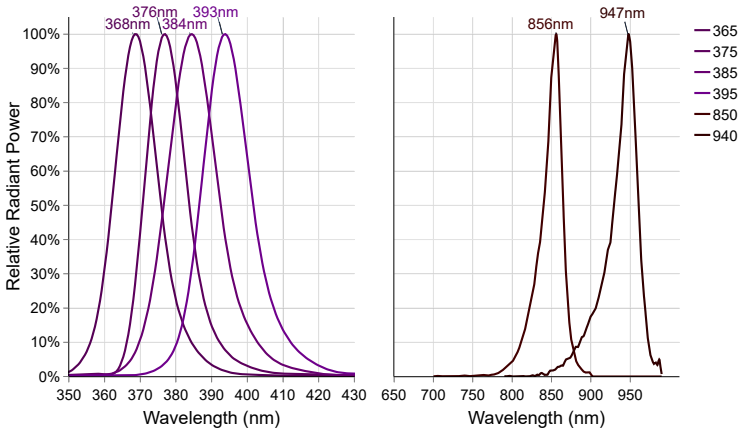



Visible color illumination consists of using wavelengths between 400-700 nm to either create or eliminate contrast on an inspection subject based on differences in a features color hue. When referring to a color wheel, simply remember the following; like colors reflect and brighten surfaces; conversely, opposing colors absorb and darken surfaces. The

AL126 is available in **405 nm, 455 nm, 470 nm, 530 nm, 590 nm, and 625 nm** visible color configurations.

For a more detailed look at the visible color spectral data, download the csv file of the raw spectral values and refer to our Product Spectra Distribution Charts PDF.

### Non-Visible Spectral Profiles




Near-infrared (NIR) and ultraviolet A (UVA) imaging are machine vision techniques that utilize wavelengths outside the visible spectrum. NIR light, with wavelengths between 700-1000 nm, can penetrate certain materials opaque to visible light, making it ideal for circuit board analysis, food safety inspection, and medical imaging. In contrast, UVA light, typically ranging between 315-400 nm, interacts with specific materials to induce fluorescence or highlight surface features, useful in applications like counterfeit detection, leak detection, and contamination detection.

The AL126 Series is available in **365 nm, 375 nm, 385 nm, 395 nm, 850 nm, and 940 nm** configurations.

For a more detailed look at the NIR or UVA spectral data, download the csv file of the raw spectral values and refer to our Product Spectra Distribution Charts PDF.

Disclaimer: The measurements provided above are for approximations only and may vary depending on the method of measurement and the specific configuration being measured.

## Optical Information - Continued

### Polarization Option Detail

**Non-polarized**


**Polarized**


Polarization can be used in a variety of ways, such as to reduce glare on specular surfaces or to increase edge clarity of transparent injection-molded objects, as shown above. This is known as cross-polarization. When unpolarized light passes through two cross-polarized filters (oriented 90 degrees perpendicular to each other), it is completely blocked. However, if the light is already polarized, it will only be blocked if its polarization is perpendicular to the axis of the second polarizer, creating the cross-polarization effect shown above.

### Photobiological Risk Factors

| Group | Description | Affected Wavelengths |
|---|---|---|
| Exempt | No Photobiological Hazard | 850 nm, 940 nm |
| Group 1 | No Photobiological hazard under normal behavioral limitations | 455nm, 470nm, 530nm, 590nm, 625 nm, WHI |
| Group 2 | Does not pose a hazard due to aversion response to bright light or thermal discomfort | 365nm, 375nm, 385nm, 395nm, 405nm |

Advanced Illumination's lighting products have been tested and classified to IEC standards by accredited testing services. For more information on photobiological risk factors, please view the following PDF: https://www.advancedillumination.com/wp-content/uploads/2019/04/IEC-040119.pdf

### Cleaning Guidelines


To clean our light's optics, it is best to only clean when necessary. Dusting is always the first step in cleaning your optics. Wiping a dusty optic is like cleaning it with sandpaper. So always dust with a canned air duster or compressed and filtered air before wiping any optic. If the dusted optic has no visible stains after you dust it, then remember: "If it's not dirty, don't clean it." Avoid wiping optics when possible.

If dusting did not clean the lens or the lens has stains, use only de-ionized water and mild dish soap with a low lint cloth designed for optics to avoid damage to the optic by any harsh chemicals.

Polarizers, beam splitters and collimated films should never be wiped with any type of cloth or solvent, only use the air dusting method to clean these types of optics.

The aluminum housing can be wiped down when dusting is not a sufficient means to thoroughly clean.

Disclaimer: The measurements provided above are for approximations only and may vary depending on the method of measurement and the specific configuration being measured.

## Bar Light Comparison Matrix

Not finding the optical specifications you are looking for with the AL126 Series? Refer to the bar light comparison matrix below to compare and contrast Advanced Illumination's comprehensive product offering:

| Attributes | AL325 | | | | | AL295 | | LL174 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Lens Type** | Narrow (N) | Medium (M) | Wide (W) | Extra Wide (Z) | Eliptical (E) | Medium (M) | Wide (W) | Narrow (N) | Medium (M) | Wide (W) |
| **Beam Angle** | 14° | 25° | 36° | 55° | 45° x 15° | 20° | 32° | 10° | 25° | 40° |
| **Beam Direction** | Normal or Oblique | | | | | Normal | | Normal | | |
| **Intensity at 100 mm WD** | 163 klx | 134 klx | 110 klx | 80 klx | TBD | 88 klx | 65 klx | 75 klx | 57 klx | 45 klx |
| | 456 W/m$^2$ | 427 W/m$^2$ | 352 W/m$^2$ | 254 W/m$^2$ | TBD | 288 W/m$^2$ | 208 W/m$^2$ | 250 W/m$^2$ | 187 W/m$^2$ | 146 W/m$^2$ |
| **Transversal FWHM at 600 mm WD** | 8.54 in (217 mm) | 11.73 in (298 mm) | 14.25 in (362 mm) | 17.12 in (450 mm) | TBD | 12.79 in (325 mm) | 15.12 in (384 mm) | 9.06 in (230 mm) | 13.90 in (353 mm) | 16.06 in (408 mm) |
| **Longitudinal FWHM at 600 mm WD** | 12.05 in (306 mm) | 14.25 in (362 mm) | 16.34 in (415 mm) | 19.45 in (494 mm) | TBD | 15.95 in (405 mm) | 17.72 in (450 mm) | 13.50 in (343 mm) | 16.69 in (424 mm) | 18.35 in (466 mm) |
| **Minimum Working Distance** | 3.94 in (100 mm) | 3.94 in (100 mm) | 3.94 in (100 mm) | 1.97 in (50 mm) | TBD | 0.98 in (25 mm) | 0.79 in (20 mm) | 3.94 in (100 mm) | 1.97 in (50 mm) | 1.46 in (37 mm) |
| **Light Width** | 1.57 in (39.8 mm) | | | | | 0.79 in (20.0 mm) | | 1.33 in (33.8 mm) | | |
| **Light Height** | 1.78 in (45.2 mm) | | | | | 0.79 in (20.1 mm) | | 1.12 in (28.4 mm) | | |
| **Longest Emitting Window Length** | 84.28 in (2140 mm) | | | | | 41.61 in (1057 mm) | | 96.72 in (2457 mm) | | |
| **Sizes Available** | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 16 | 16 | 16 |
| **Visible Wavelengths Available** | 9 | 9 | 9 | 8 | 8 | 9 | 8 | 8 | 9 | 8 |
| **UV Wavelengths Available** | 4 | 4 | 4 | 0 | 0 | 4 | 0 | 0 | 4 | 0 |
| **IR Wavelengths Available** | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| **Polarization Available** | Yes | Yes | Yes | Yes | Yes | No | No | Yes | Yes | Yes |
| **Diffusion Available** | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| **IP Rating** | IP50 | | | | | IP50 | | IP50 | | |
| **Price** | $$ | $$ | $$ | $$ | $$ | $$ | $$ | $$ | $$ | $$ |

To ensure consistent comparisons, all data presented above is based on 12-inch white LED models unless explicitly stated otherwise. Additionally, all measurements provided above are derived from "standard" configurations, excluding sealed models if available as optional.

If you are still not finding the optical specifications needed for your application, inquire about our semi-custom and full-custom capabilities.

Disclaimer: The measurements provided above are for approximations only and may vary depending on the method of measurement and the specific configuration being measured.

## Bar Light Comparison Matrix - Continued

Refer to the continued bar light comparison matrix below to compare and contrast Advanced Illumination's product offering:

| Attributes | AL247 | | | AL116 | AL126 | AL150 |
|---|---|---|---|---|---|---|
| **Lens Type** | Narrow (N) | Medium (M) | Wide (W) | No Lenses | No Lenses | Aimed |
| **Beam Angle** | 10° | 25° | 40° | 70° | 60° | N/A |
| **Beam Direction** | | Normal | | Normal | Normal | Oblique |
| **Intensity at 100 mm WD** | 84 klx | 67 klx | 48 klx | 32 klx | 14 klx | 2.2 klx |
| | 277 $W/m^2$ | 218 $W/m^2$ | 155 $W/m^2$ | 110 $W/m^2$ | 48 $W/m^2$ | 8.5 $W/m^2$ |
| **Transversal FWHM at 600 mm WD** | 9.57 in (243 mm) | 11.38 in (289 mm) | 15.87 in (403 mm) | 31.54 in (801 mm) | 23.31 in (592 mm) | N/A |
| **Longitudinal FWHM at 600 mm WD** | 13.58 in (345 mm) | 14.65 in (372 mm) | 18.03 in (458 mm) | 46.34 in (1177 mm) | 31.26 in (794 mm) | N/A |
| **Minimum Working Distance** | 3.94 in (100 mm) | 1.97 in (50 mm) | 1.46 in (37 mm) | 0.47 in (12 mm) | 0.47 in (12 mm) | 0.47 in (12 mm) |
| **Light Width** | | 1.69 in (42.9 mm) | | 0.79 in (20 mm) | 1.27 in (32 mm) | 1.33 in (34 mm) |
| **Light Height** | | 0.95 in (24.0 mm) | | 0.79 in (20 mm) | 0.79 in (20 mm) | 1.12 in (28 mm) |
| **Longest Emitting Window Length** | | 24 in (610 mm) | | 20.27 in (515 mm) | 41.42 in (1052 mm) | 82.12 in (2086 mm) |
| **Sizes Available** | 4 | 4 | 4 | 10 | 20 | 80 |
| **Visible Wavelengths Available** | 8 | 8 | 8 | 8 | 8 | 4 |
| **UV Wavelengths Available** | 0 | 0 | 0 | 4 | 4 | 1 |
| **IR Wavelengths Available** | 3 | 3 | 3 | 2 | 2 | 1 |
| **Polarization Available** | No | No | No | Yes | Yes | Yes |
| **Diffusion Available** | No | No | No | Yes | Yes | Yes |
| **IP Rating** | | IP69K | | IP50 | IP50 | IP50 |
| **Price** | $$$ | $$$ | $$$ | $$ | $ | $$$$ |

To ensure consistent comparisons, all data presented above is based on 12-inch white LED models unless explicitly stated otherwise. Additionally, all measurements provided above are derived from "standard" configurations, excluding sealed models if available as optional.

If you are still not finding the optical specifications needed for your application, inquire about our semi-custom and full-custom capabilities.

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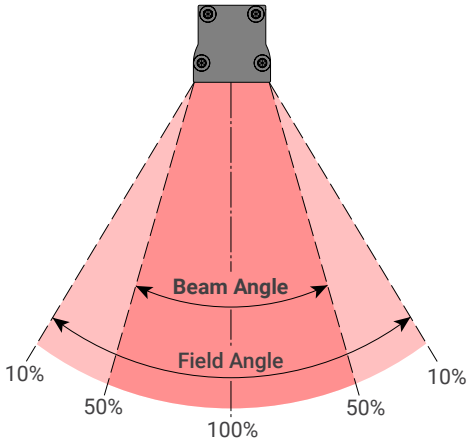
## Bar Light Comparison Matrix - Definitions

For definitions on the terminology used on the previous page, please refer to the table below:

### Definitions

#### Beam Angle

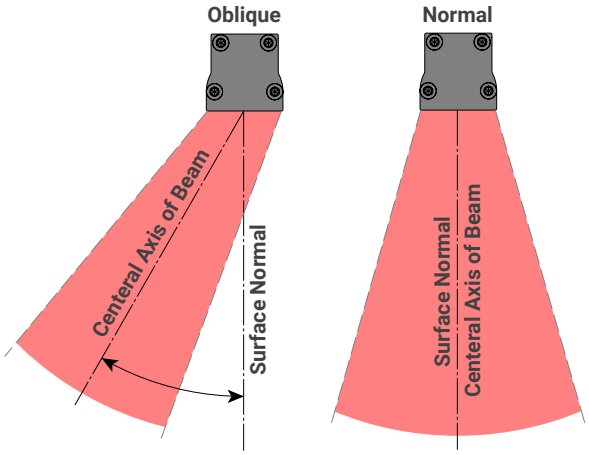



Beam Angle defines the spread of usable light from a projected machine vision light source. It's the angle where the intensity drops to 50% of its peak (FWHM). Beam angle dictates the concentrated, higher-intensity portion of the Field of View (FOV). Field angle is wider, encompassing the total spread of light down to 10% of peak intensity.

#### FWHM (Full Width Half Maximum)

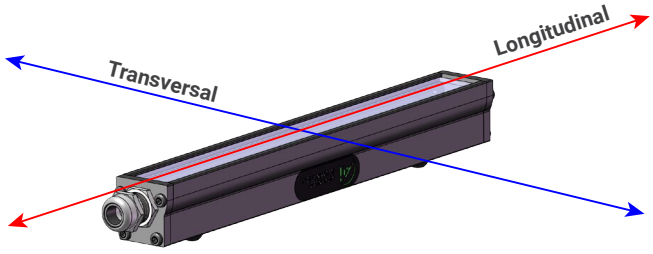

FWHM (Full Width Half Maximum) is a measure of the width of a light source's intensity distribution. Specifically, it defines the distance between the points on the intensity profile where the light intensity drops to 50% of its peak value. This FWHM distance is often used to determine the usable FOV (Field of View) when aiming a light at a surface for inspection.

#### Beam Direction




A normal beam direction refers to light emitted perpendicular to the light source's emitting surface, in which the central optical axis is co-linear to the surface normal of the emitting window. An oblique beam direction describes light emitted at an angle relative to the light source's surface normal. Oblique sources can be useful when imaging specular surfaces, depending on system geometry.

#### Longitudinal vs Transversal




The longitudinal direction refers to the direction that runs parallel to the long axis of the light source. This is typically the longest dimension of the light source housing or emitting surface.

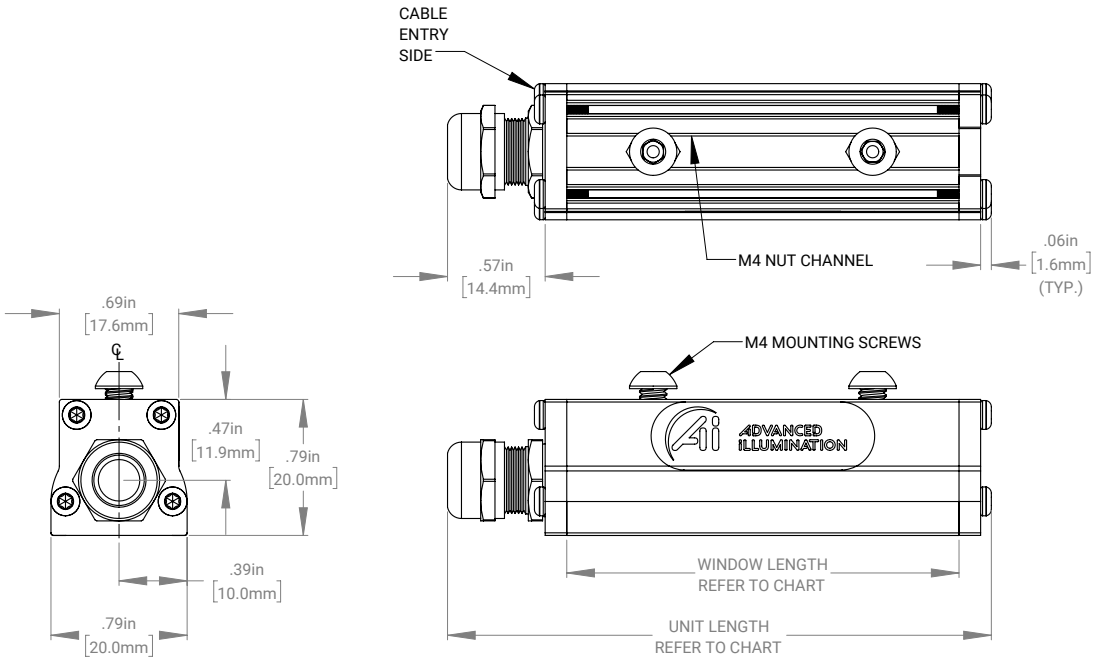
The transversal direction, in contrast, refers to any direction that is perpendicular to the longitudinal direction. It essentially describes any direction that "cuts across" the long axis of the light source.

Disclaimer: The measurements provided above are for approximations only and may vary depending on the method of measurement and the specific configuration being measured.

## Mechanical Information

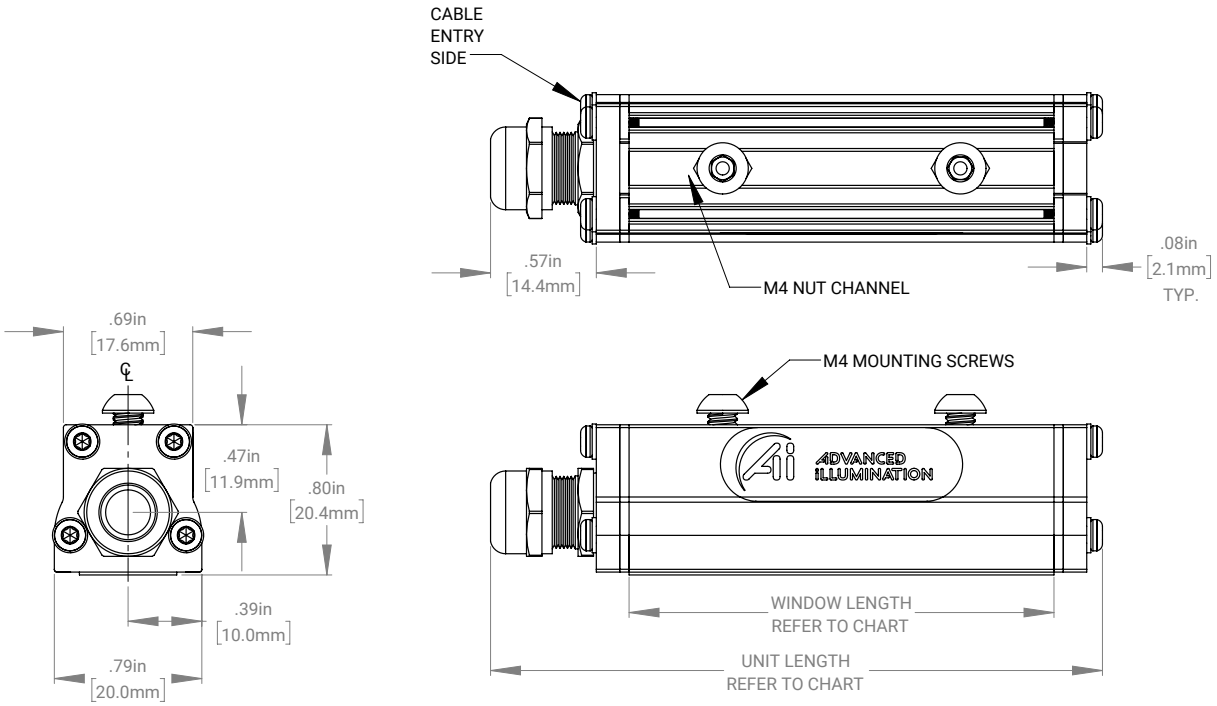
### Installation Drawings

#### Non-Sealed Configuration




For full installation drawings and complete CAD models of this non-sealed configuration, please visit the downloads section of the product webpage.

#### Sealed Configuration




For full installation drawings and complete CAD models of this sealed configuration, please visit the downloads section of the product webpage.

## Mechanical Information - Continued

### Sizing Chart

| Part Number | Length (Inches) | | | | Length (Millimeters) | | | |
|---|---|---|---|---|---|---|---|---|
| | Non-Washdown | | Washdown | | Non-Washdown | | Washdown | |
| | Unit | Window | Unit | Window | Unit | Window | Unit | Window |
| AL12602 | 3.15 | 3.42 | 3.27 | 3.42 | 80.01 | 86.87 | 83.06 | 86.87 |
| AL12604 | 5.15 | 5.42 | 5.27 | 5.42 | 130.81 | 137.67 | 133.86 | 137.67 |
| AL12606 | 7.15 | 7.42 | 7.27 | 7.42 | 181.61 | 188.47 | 184.66 | 188.47 |
| AL12608 | 9.15 | 9.42 | 9.27 | 9.42 | 232.41 | 239.27 | 235.46 | 239.27 |
| AL12610 | 11.15 | 11.42 | 11.27 | 11.42 | 283.21 | 290.07 | 286.26 | 290.07 |
| AL12612 | 13.15 | 13.42 | 13.27 | 13.42 | 334.01 | 340.87 | 337.06 | 340.87 |
| AL12614 | 15.15 | 15.42 | 15.27 | 15.42 | 384.81 | 391.67 | 387.86 | 391.67 |
| AL12616 | 17.15 | 17.42 | 17.27 | 17.42 | 435.61 | 442.47 | 438.66 | 442.47 |
| AL12618 | 19.15 | 19.42 | 19.27 | 19.42 | 486.41 | 493.27 | 489.46 | 493.27 |
| AL12620 | 21.15 | 21.42 | 21.27 | 21.42 | 537.21 | 544.07 | 540.26 | 544.07 |
| AL12622 | 23.15 | 23.42 | 23.27 | 23.42 | 588.01 | 594.87 | 591.06 | 594.87 |
| AL12624 | 25.15 | 25.42 | 25.27 | 25.42 | 638.81 | 645.67 | 641.86 | 645.67 |
| AL12626 | 27.15 | 27.42 | 27.27 | 27.42 | 689.61 | 696.47 | 692.66 | 696.47 |
| AL12628 | 29.15 | 29.42 | 29.27 | 29.42 | 740.41 | 747.27 | 743.46 | 747.27 |
| AL12630 | 31.15 | 31.42 | 31.27 | 31.42 | 791.21 | 798.07 | 794.26 | 798.07 |
| AL12632 | 33.15 | 33.42 | 33.27 | 33.42 | 842.01 | 848.87 | 845.06 | 848.87 |
| AL12634 | 35.15 | 35.42 | 35.27 | 35.42 | 892.81 | 899.67 | 895.86 | 899.67 |
| AL12636 | 37.15 | 37.42 | 37.27 | 37.42 | 943.61 | 950.47 | 946.66 | 950.47 |
| AL12638 | 39.15 | 39.42 | 39.27 | 39.42 | 994.41 | 1001.27 | 997.46 | 1001.27 |
| AL12640 | 41.15 | 41.42 | 41.27 | 41.42 | 1045.21 | 1052.07 | 1048.26 | 1052.07 |

## Electrical Information

### Power Requirements

#### Current Required for Power Supply Sizing

| Wavelengths | Configured w/ Voltage Drive (24) | Configured w/ Standard Controller (IC, I3, I3S, I4, C1, C5) |
|---|---|---|
| 365 nm, 375 nm, 385 nm, 405 nm | 0.012A per linear inch | 0.170A per linear inch |
| 455 nm, 530 nm, 590 nm, 625 nm, 850 nm, 940 nm, WHI | 0.012A per linear inch | 0.240A per linear inch |

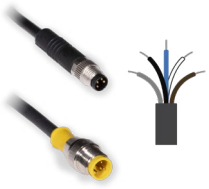
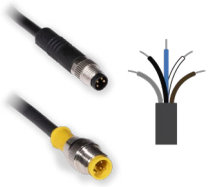
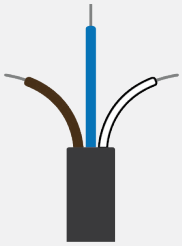
Note: All Advanced Illumination lights and controllers are nominally powered by 24V DC unless otherwise noted. Strobe overdriving with controller based models may require more current and voltage overhead. The values above do not include background current draw from the controller (~100 mA total).

### Control Options

| Controller Image | Controller Details | Connector Image |
|---|---|---|
|  | **DCS Single Output Controller - Compatible with C1 Configurations**<br>*PN: DCS-100E*<br><br>The DCS-100E is a compact, din-rail mounted general-purpose external controller with one C1 output connector, wired with three channels. Capable of providing single channel control or multi-channel control for RGB compatible lights.<br><br>**Output Power:** 90 W Max Continuous, 540 W Max Pulsed (Overdrive Strobe)<br>**Output Current:** 4.5A Max Continuous, 15 A Max Pulsed<br>**I/Os:** 3 External Trigger Inputs<br>**Interface:** 10/100 Ethernet with Software and browser-based GUIs. SDKs are also available.<br><br>For more information about our DCS-100E, please visit the controller product page. |  |
|  | **DCS Triple Output Controller - Compatible with C1 Configurations**<br>*PN: DCS-103E*<br><br>The DCS-103E is a din-rail mounted general-purpose multi-light controller with three C1 output connectors. Capable of driving three lights in sync or asynchronously.<br><br>**Output Power:** 30 W Max Continuous / Output, 180 W Max Pulsed / Output<br>**Output Current:** 1.5A Max Continuous / Output, 5 A Max Pulsed / Output<br>**I/Os:** 3 External Trigger Inputs<br>**Interface:** 10/100 Ethernet with Software and browser-based GUIs. SDKs are also available.<br><br>For more information about our DCS-103E, please visit the controller product page. |  |
|  | **Pulsar 320E High Current Controller - Compatible with C5 Configuration**<br>*PN: Pulsar 320E*<br><br>The Pulsar 320E is a high-power, dual output, pulse-only controller geared for overdriving driving lights at very short flash durations with very high current.<br><br>**Output Power:** 2500 W Max Pulsed / Output<br>**Output Current:** 50 A Max Pulsed / Output<br>I**/Os:** 2 External Trigger Inputs<br>**Interface:** 10/100 Ethernet with Software GUI. SDKs are also available.<br><br>For more information about our Pulsar 320E, please visit the controller product page. |  |

## Electrical Information - Continued

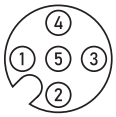
### Control Options - Continued

| Controller Image | Controller Details | Connector Image |
|---|---|---|
|  | **Inline Controller - Continuous Only - IC Configurations**<br>*PN: N/A*<br><br>The IC is an inline, cable-mounted continuous-only controller configured/wired directly for the ordered light head.<br><br>**Output Power:** 25 W Max Continuous<br>**Output Current:** 1.25 A Max Continuous<br>**I/O:** 1 0-10 V Analog Dimming Input<br>**Interface:** Direct Cable (flying leads or optional connector)<br><br>For more information about our IC Controller please visit the controller product page. |  |
|  | **Inline Controller - Strobe and Continuous - I3 & I3S Configurations**<br>*PN: N/A*<br><br>The I3 and I3S are inline, cable-mounted continuous and pulse (overdrive strobe) capable controllers configured/wired directly for the ordered light head. When operated in pulsed mode, the I3 is a default-on device on power up, whereas the I3S is default-off, requiring a trigger to illuminate.<br><br>**Output Power:** 25 W Max Continuous, 125 W Max Pulsed<br>**Output Current:** 1.25 A Max Continuous, 8 A Max Pulsed (Load Dependent)<br>**I/Os:** 1 Gated Trigger Signal, 1 0-10 V Analog Dimming Input<br>**Interface:** Direct Cable (flying leads or optional connector)<br><br>For more information about our I3/I3S Controller, please visit the controller product page. |  |
|  | **Inline Controller - Strobe and Continuous - I4 Configurations**<br>*PN: N/A*<br><br>The I4 is an inline, cable-mounted continuous and pulse (overdrive strobe) capable controller configured/wired directly for the ordered light head. The I4 can either be operated with a PNP or NPN trigger signal.<br><br>**Output Power:** 50 W Max Continuous, 150 W Max Pulsed<br>**Output Current:** 2.1 A Max Continuous, 8 A Max Pulsed (Load Dependent)<br>**I/Os:** 1 Gated Trigger Signal, 1 0-10 V Analog Dimming Input<br>**Interface:** Direct Cable (flying leads or optional connector)<br><br>For more information about our IC Controller please visit the controller product page. |  |
|  | **24V Driver - Continuous Only - 24 Configurations**<br>*PN: N/A*<br><br>24V option allows lights to operate continuous output with 24V connection and no additional controllers.<br><br>**Modes:** Continuous, can be wired to some 3rd party controllers or external relays for gated operation<br>**Interface:** Direct cable (flying leads or connector options) |  |

## Electrical Information - Continued

### Inline Control Option Wiring Information

#### Standard Flying Lead and Optional M12 Connector Pinout Functions

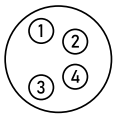
| Pin (M12) | Wire Color | 24V Functions | IC Functions | I3/I3S Functions | I4 Functions | M12 Pinout |
|---|---|---|---|---|---|---|
| 1 | BROWN | 24V DC | 24V DC | 24V DC | 24 V DC |  |
| 2 | WHITE | N/A | 0-10V Analog Control | Reserved | NPN/Active Low Trigger | |
| 3 | BLUE | DC GND | DC GND | DC GND | DC GND | |
| 4 | BLACK | N/A | Gate Low | PNP/Active High Trigger | PNP/Active High Trigger | |
| 5 | GRAY | N/A | N/A | 0-10V Analog Control | 0-10 V Analog Dimming | |



*5-Position Male Connector*

The functions above are only applicable when ordering an 24, IC, I3, I3s, or I4 power configuration with our without an M12 connector. For more wiring information pertaining to strobing and dimming functionality, please download the controller manuals and datasheets.

#### Optional M8 Connector Pinout Functions

| Pin (M8) | Wire Color | 24V Functions | IC Functions | I3/I3S Functions | I4 Functions | M8 Pinout |
|---|---|---|---|---|---|---|
| 1 | BROWN | 24V DC | 24V DC | 24V DC | 24 V DC |  |
| 2 | WHITE | N/A | 0-10V Analog Control | Reserved | Active Low Trigger | |
| 3 | BLUE | DC GND | DC GND | DC GND | DC GND | |
| 4 | BLACK | N/A | Gate Low | Active High Trigger | Active High Trigger | |



*4-Position Male Connector*

The functions above are only applicable when ordering an 24, IC, I3, I3s, or I4 power configuration with our without an M8 connector. For more wiring information pertaining to strobing and dimming functionality, please download the controller manuals and datasheets.

## Accessories

Advanced Illumination offers a variety of accessories designed to pair with our lighting and control products. Below you will find a table of accessories which are compatible with many configurations of the BL2 series.

| Category | Accessory Image | Accessory Detail |
|---|---|---|
| **Power Supply** |  | **24 Volt DC Power Supply**<br>*PN: PS24-TL*<br><br>This convenient power source is a universal AC input switching power supply with a regulated output DC current. The power supply comes with an LED Power Indicator, tinned leads marked Positive (+) and Negative (-) and 2 WAGO connectors for simplified assembly.<br><br>For more information about our 24 Volt DC Power Supply, please visit this webpage. |
| **Dimmer** |  | **Manual Dimming Accessory for the IC, I3, I3s and I4**<br>*PN: DCS-MP*<br><br>The DCS-MP is a 30-position potentiometer, detented for precision level control and provides repeatable dimming with cable inline controllers. Features include DIN-rail mountable, a flip up cover to prevent accidental adjustments, spring clamp wiring terminal for flying leads or an M12 connector for use with the IC, I3/I3S or I4 Inline Controllers.<br><br>For more information about our Manual Dimming Accessory please visit this webpage. |

## Accessories - Continued

| Category | Accessory Image | Accessory Detail |
|---|---|---|
| **Dimmer** |  | **Manual Dimming Accessory for the IC**<br>*PN: MP-ICS*<br><br>The MP-ICS is a dimmer which is designed for use on lights with the IC Inline Controller. This unit provides for 0 – 100% intensity control. It is NOT COMPATIBLE with LLI37, BLI38, LLI67, and BLI68 "IC" Lights or lights built with the "24v controller" option.<br><br>For more information about our Manual Dimming Accessory, please visit this webpage. |
| **Extension Cable** |  | **DCS-100E/103E Extension Cable, Single Light Power Cable - C1 Configuration**<br>*PN: LC-XX-S*<br><br>This extension cable was designed for applications requiring power cables longer than the standard 2 meters provided with Ai lights. This single light cable features a single male and single female 7 pin locking connector (C1) and can be purchased in 3 - 15-meter lengths.<br><br>For more information about our DCS-100E/103E Extension Cable, Single Output, please visit this webpage. |
| **Extension Cable** |  | **DCS-100E/103E Extension Cable, Dual Light Power Cable - C1 Configuration**<br>*PN: LC-XX-Y*<br><br>This extension cable was designed for applications requiring two identical lights to be powered through a single controller. These Y cables feature a single male and dual female 7 pin locking connectors (C1) and can be purchased in 3 - 15-meter lengths. See attached spec sheet for compatible light configuration.<br><br>For more information about our DCS-100E/103E Extension Cable, Split Output, please visit this webpage. |
| **Extension Cable** |  | **Pulsar 320E Extension Cable - C5 Configuration**<br>*PN: LC-XX-S-C5*<br><br>This extension cable was designed for applications requiring power cables longer than the standard 2 meters provided with Ai lights. This single light cable features a single male and single female Pulsar 320 connector (C5) and can be purchased in 3 - 15 meter lengths.<br><br>For more information about our Pulsar 320E Extension Cable, please visit this webpage. |
| **Adaptor Cable** |  | **Cognex Gen2 Inline Controller Adaptor Cable**<br>*PN: AD-I3-CGX2*<br><br>This cable adaptor is for connecting I3/I3S configured lights with Cognex Gen2 Cameras, and comes with a male to female M12 connectors.<br><br>For more information about our Cognex Gen2 Inline Controller Adaptor Cable, please visit this webpage. |
| **Filters** |  | **Camera Lens Band Pass FIlters**<br>*PN: BPXXX-YYY*<br><br>Eliminating all but a narrow band of light (+/- 40nm) centered on the specified wavelength, band pass filters are used to enhance colors, or to stop unwanted ambient light from reaching the camera. Filtering can replace existing shrouds, simplifying the physical set up of an inspection site. Ai offers 635nm and 660nm band pass filters to fit several different lens sizes.<br><br>For more information about our Camera Lens Band Pass FIlters, please visit this webpage. |

## Additional Information

### Warranty

Every Advanced illumination, Inc. (Ai) product is thoroughly inspected and tested before leaving the factory. Products are warranted to be free of defects in workmanship and materials for a period of FIVE YEARS from the original date of purchase. Should a defect develop during this period, customers may return the complete product, freight prepaid, to one of Ai's distributors or to the Ai factory. All product warranty returns require a Return Merchandise Authorization (RMA) number which is obtained from Customer Service. The RMA number must be clearly marked on the outside of the package. Ai will inspect the unit, and if a defect is found will, at our option, repair or replace the product without charge. Ai disclaims liability for any implied warranties, including implied warranties of "merchantability" and "fitness for a specific purpose." For products under warranty that have since been discontinued, Ai will make an effort to replace with equivalent parts; for circumstances that do not allow for equivalent replacement, Ai reserves the right to repair or replace these products with an updated version. Ai cannot be held responsible for the unauthorized or inappropriate use of its products. Any unauthorized repair or modifications will result in a voided warranty. No Liability for Consequential Damages: In no event shall Ai be liable for any consequential, special, incidental, or indirect damages of any kind arising from the sale or use of the products.

### Compliancy

Our lighting products are designed and tested to meet CE, RoHS, and IEC standards. As a global ISO 9001 certified company, we understand the importance of compliance and perform accelerated testing on every product before shipment. For more information on our compliance standards, please see our compliancy documentation here: https://www.advancedillumination.com/services/compliance-statements/

### Electromagnetic Compatibility

This product was tested and complies with the regulatory requirements and limits for electromagnetic compatibility (EMC) as stated in the product specifications. These requirements and limits are designed to provide reasonable protection against harmful interference only when the product is operated in its intended industrial electromagnetic environment. To minimize the potential for electromagnetic interference or unacceptable performance degradation, install and use this product in strict accordance with the instructions in the product documentation.

### Customer Service

For information on existing orders, or to make an order adjustment, contact us Monday through Friday 8:00 am to 5:00 pm ET or send an email to orders@advancedillumination.com.

### Company Information

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