



**NOTE**

All numerical values are in metric units [with U.S. customary units in brackets]. Dimensions are in millimeters. Unless otherwise specified, dimensions have a tolerance of  $\pm 0.10$  and angles have a tolerance of  $\pm 2^\circ$ . Figures and illustrations are for identification only and are not drawn to scale.

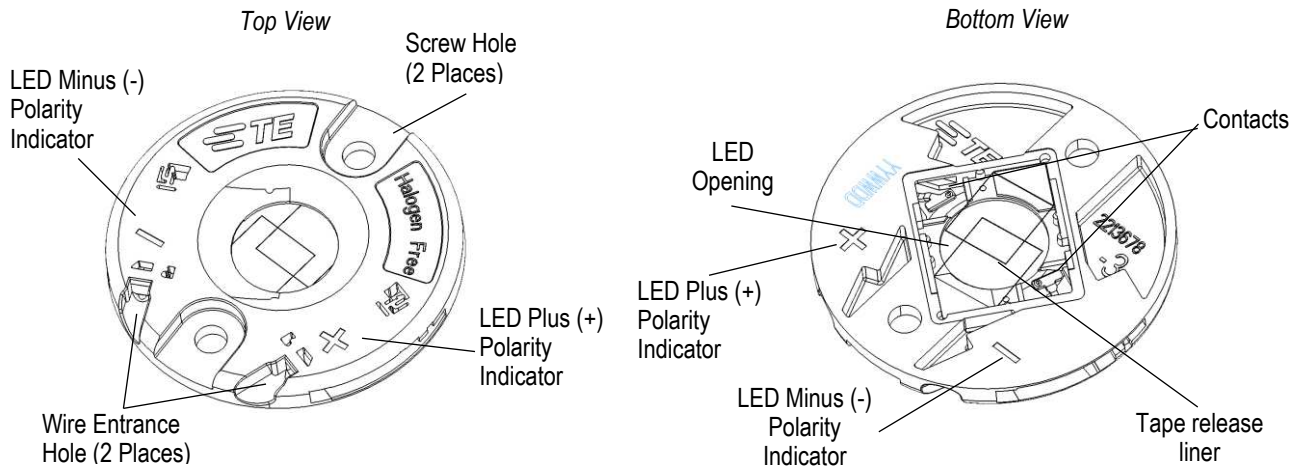
**1. INTRODUCTION**

This specification covers the requirements for application of LUMAWISE Z35/Z35L LED holder. The LED holder allows direct attachment of the LED to a cooling device using two customer-supplied M3 or No. 4-40 with minimum length of 8mm mounting screws and provides poke-in termination to electrically connect the LED.

The LED holder features an LED opening with adhesive tape, wire entrance hole for the minus (-) & plus (+) polarity wires, and two screw holes that each accept a screw for mounting. The LED opening accepts the LED, and an embossed LED minus (-) & plus (+) polarity indicator on the top and on the bottom of the LED holder indicates orientation of the LED and wiring. The adhesive tape is only there to assist easy assembly of the holder with LED to the heatsink (preventing LED from falling out of the holder).

When corresponding with personnel, use the terminology provided in this specification to facilitate inquiries for information. Basic terms and features of this product are provided in Figure 1.

**Example of the LUMAWISE Z35 LED holder**



**Example of the LUMAWISE Z35L LED holder for LEDiL Elise 50 Reflector (P/N 4-2213678-3 and 4-2213678-5 only)**

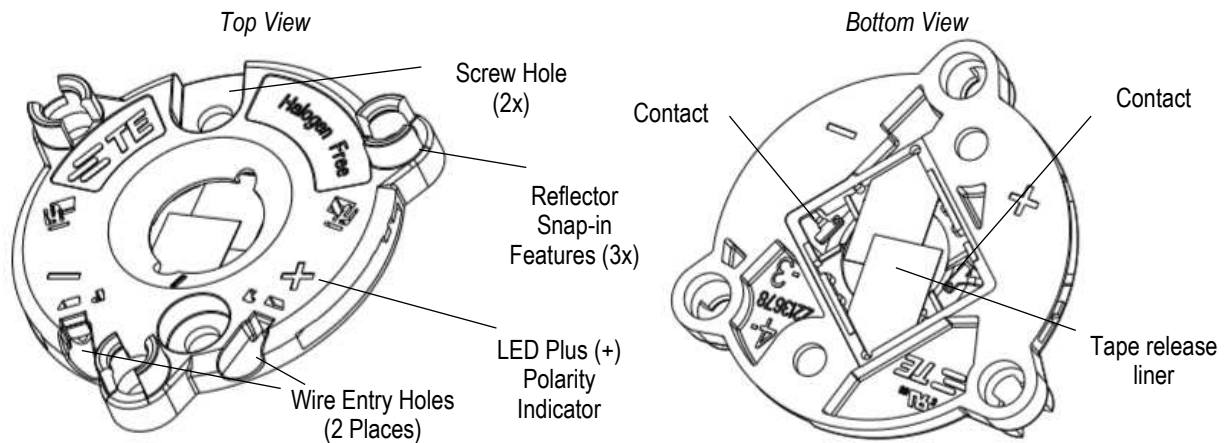


Figure 1

## 2. REFERENCE MATERIAL

### 2.1. Revision Summary

Revisions to this application specification include:

- Added details for LEDiL specific LED Holders 4-2213678-3 and 4-2213678-5.

### 2.2. Customer Assistance

Reference Product Base Part Number x-2213678-y, x-2213929-y and Product Code L836 are representative of LUMAWISE Z35 LED holder. Use of these numbers will identify the product line and help you to obtain product and tooling information. Such information can be obtained through a local Representative, by visiting our website at [www.te.com](http://www.te.com), or by calling PRODUCT INFORMATION or the TOOLING ASSISTANCE CENTER at the numbers at the bottom of this page.

### 2.3. Drawings

Customer Drawings for product part numbers are available from the service network. If there is a conflict between the information contained in the Customer Drawings and this specification or with any other technical documentation supplied, call PRODUCT INFORMATION at the number at the bottom of page 1.

### 2.4. Specifications

Product Specification 108-133062 provides product performance and test information.

### 2.5. Instructional Material

Instruction Sheets (408-series) provide product assembly instructions. There are no instruction sheets available that pertain to this product.

## 3. REQUIREMENTS

### 3.1. Safety

Do not stack product shipping containers so high that the containers buckle or deform.

It is recommended using the LED holder (in combination with the LED) with low-voltage low energy circuits supplied from a class 2 or low-voltage limited energy (LVLE) power source.

### 3.2. Storage

The LED holders should remain in the shipping containers until ready for use to prevent deformation to the contacts. The LED holders should be used on a first in, first out basis to avoid storage contamination that could adversely affect performance.

### 3.3. Wire Selection and Preparation

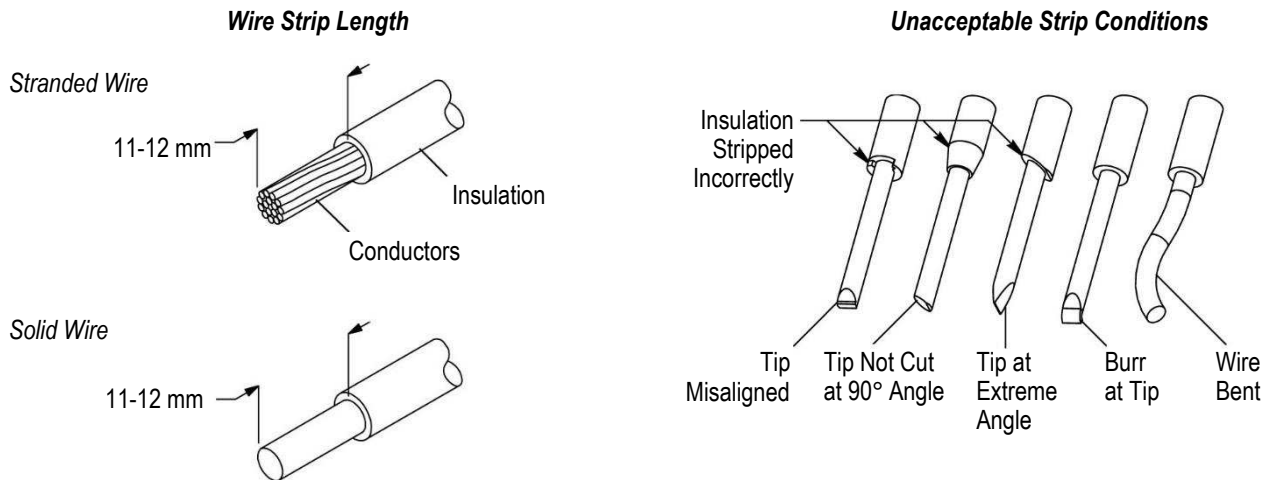
The LED holder accepts solid, fused or stranded wire sizes 18 to 20 AWG (16 strands max for 18AWG and 7 strands max for 20AWG). It is recommended to use Underwriters Laboratories Inc. (UL) Appliance Wiring Material (AWM) Style 1007 or 1061 with a maximum isolation diameter of 2.3mm. The wire must be stripped within the dimensions provided in Figure 2.

TE Connectivity recommends the use of solid or fused wires with the LUMAWISE Z35 LED holder, if stranded wire is used, it is recommended to twist the strands after stripping for ease when inserting the wire into the socket wire entrance hole.



#### **CAUTION**

*Wire conductors must not be nicked, cut, or scrapped during or after the stripping operation.*



Fused Wire Not Shown; Same Strip Length Applies

Figure 2

### 3.4. Mounting Hole Pattern

The cooling device must be clean and flat with no crowns or peaks in the mounting area. The recommended mounting hole pattern (not to scale) is provided on the customer drawing for the LED holder and is shown in Figure 3, Detail A.

After the holes are drilled and tapped, the surface must be cleaned with isopropyl alcohol. It is recommended to install a paste or phase-change type thermal interface material (TIM) onto the LED area of the cooling device. For optimal selection of the TIM, the physical behavior at extreme temperature, mechanical versus thermal performance, heat sink choice and quality, and thermal requirements from the LED manufacturer must be considered.

Please note the difference in holders designed for flatheads and countersunk screws, see Figure 3, detail C.



**NOTE**

For the Z35 LED Holders (PN 4-2213678-3,4-2213678-5) pan head screws must be used. ISO 7045/DIN 7985 screws with a head height of 2.52 mm max should be used.

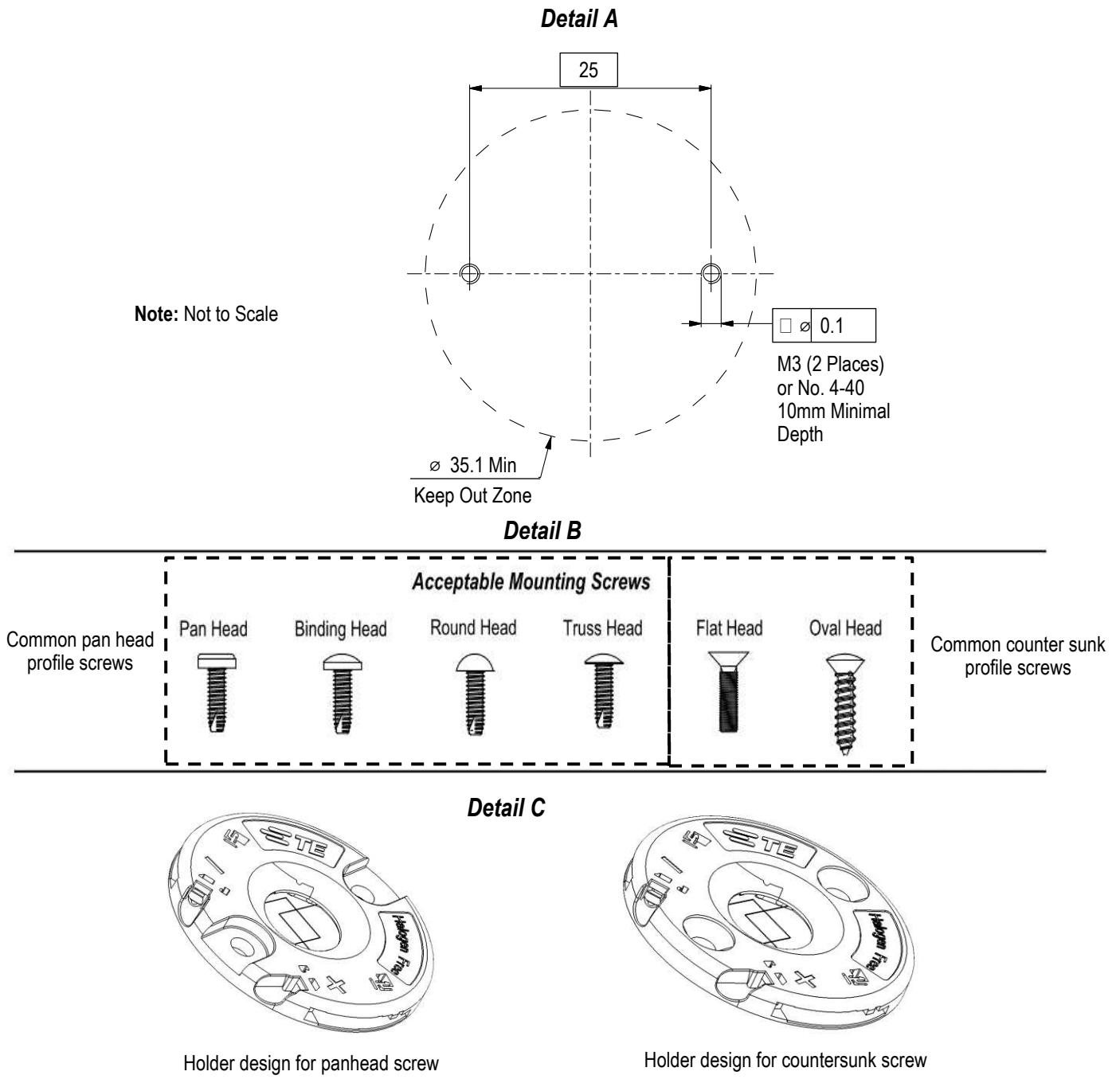


Figure 3

### 3.5. Assembly for Z35 and Z35L LED Holders.



**CAUTION**

The LED holder is designed for use in a ventilated environment that allows volatile organic compound (VOC) escaping. To avoid damage to the LED, reflection of LED light from a diffuser directly onto the surface of the LED holder must be prevented as much as possible.

1. Take both release liners in the middle with a tweezer and pull the release liners with one move perpendicular to the release liners off the tape. See Figure 4, details A.

2. The LED polarity indicator must be observed when orienting the LED into the LED opening. Insert the LED and push the LED hard down in the corners with the tape, ensure you do not press the light emitting (yellow part) part of the LED. See Figure 4, details B.



**CAUTION**

To avoid damage to the LED, the LED must be properly positioned and seated in the LED holder. If not, the LED could crack when mounting the LED holder to the cooling device.

3. The LED holder (bottom side) must be placed on the cooling device so that the screws holes align over the holes in the cooling device. The LED holder must be secured to the cooling device using two customer-supplied M3 or No. 4-40 with minimum length of 8mm mounting screws. Each mounting screw should be tightened to a torque between 0.4Nm and 0.6Nm [3.45 and 5.31 in.-lb]. See Figure 4, detail C.

4. Strip the end of each wire, ensure the wire end is acceptable (see figure 2, proper length and shape). Insert the wire straight (aligned with centerline of the hole) in the entrance hole according the polarity indicator until the wire bottoms. See Figure 4, Detail D.

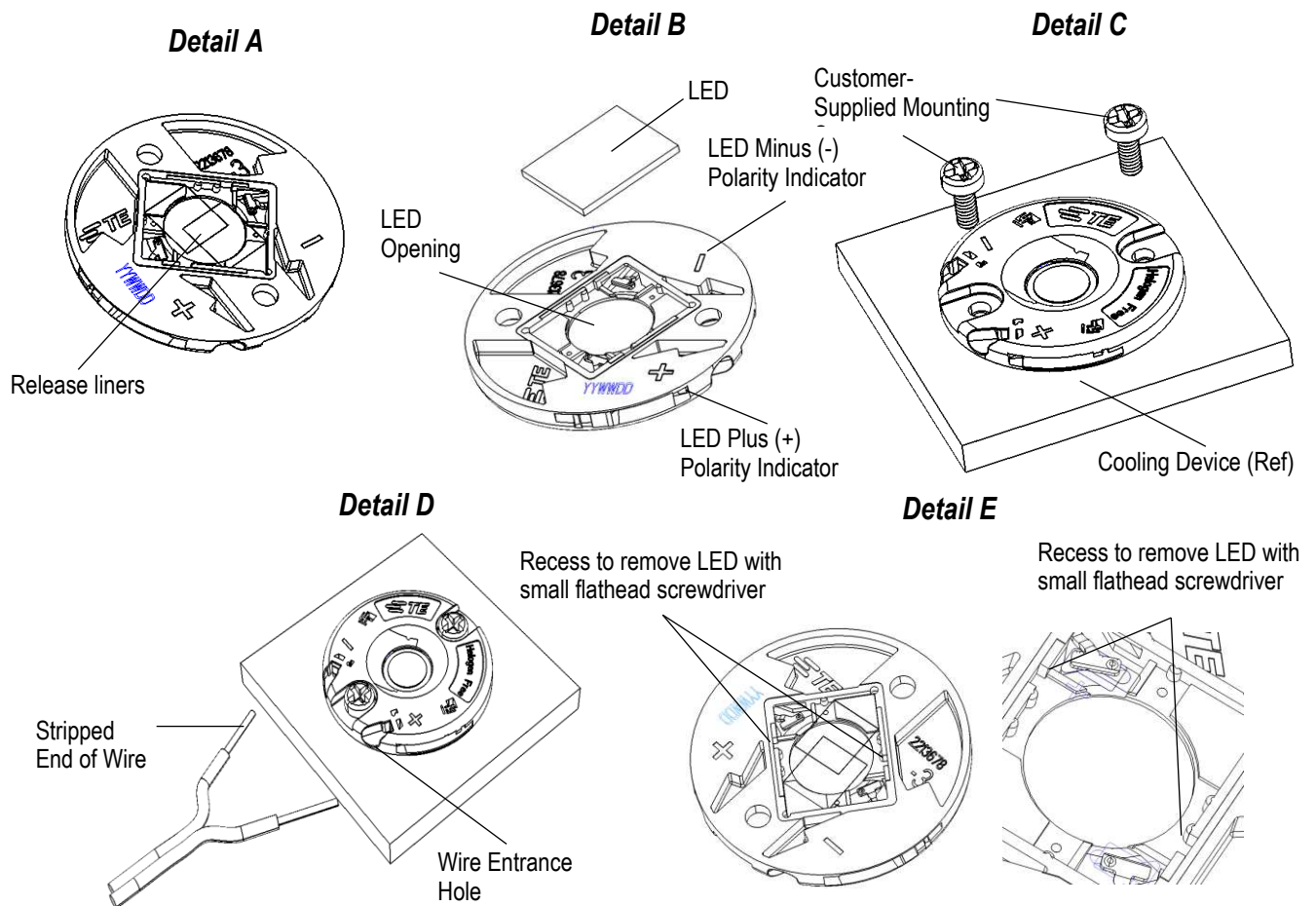


Figure 4

### 3.6. Z35L LED Holder for LEDiL Elise 50 Reflector Assembly Instructions (P/N 4-2213678-3 and 4-2213678-5 only)

1. Align the reflector mating features with the LED Holder Reflector snap in feature (3 total) and snap in the reflector vertically into the LED holder. Push the reflector in until an audible “click” is observed, or the reflector sits flush against the LED Holder. See Figure 5, Detail A and B.



**NOTE**

For information on LEDiL reflectors compatible with P/N 4-2213678-3 and 4-2213678-5, please contact LEDiL for more details.

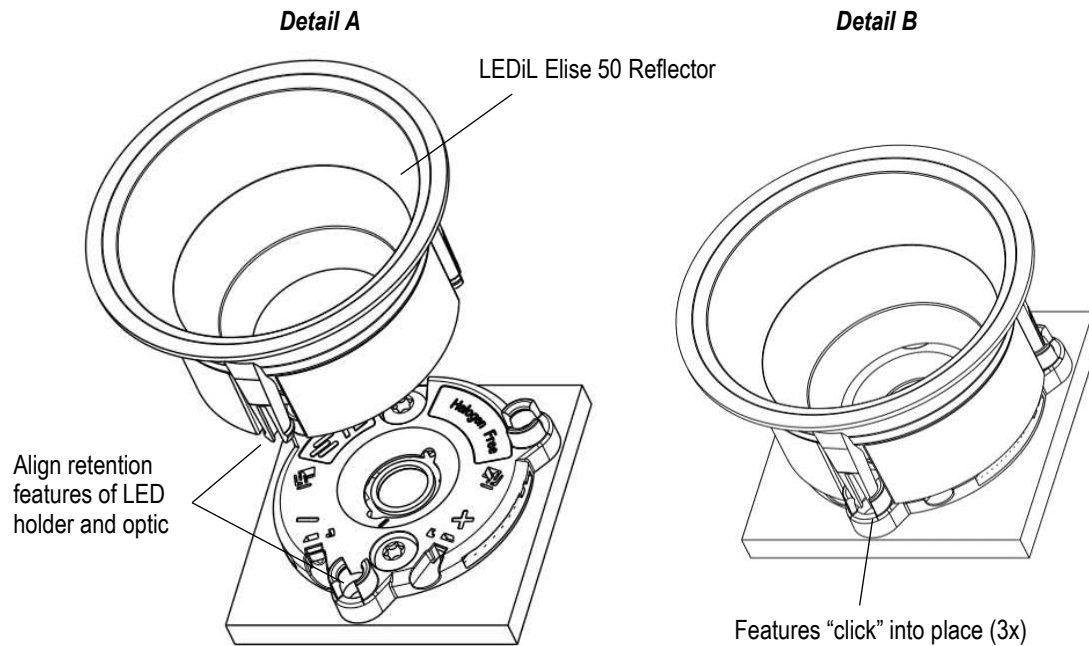


Figure 5



**CAUTION**

If the optic needs to be removed, pull the optic in the upward direction. Do NOT twist the optic.

### 3.7. Removal

The LED holder can be removed from the cooling device by removing the customer-supplied mounting screws.

### 3.8. Replacement and Repair

Defective or damaged LED holders must not be used. Wires can be removed by turning and lightly pulling the wires, this may be done maximum of 3 times, however doing this might damage the wire clamping force and is not recommended. The maximum mating cycle for the terminated LED holder (inserting a LED) is 3. The LED can be removed using a small flathead screwdriver and using the recess in the bottom next to the LED to lift the LED out of the holder. See Figure 4, Detail E.

## 4. QUALIFICATION

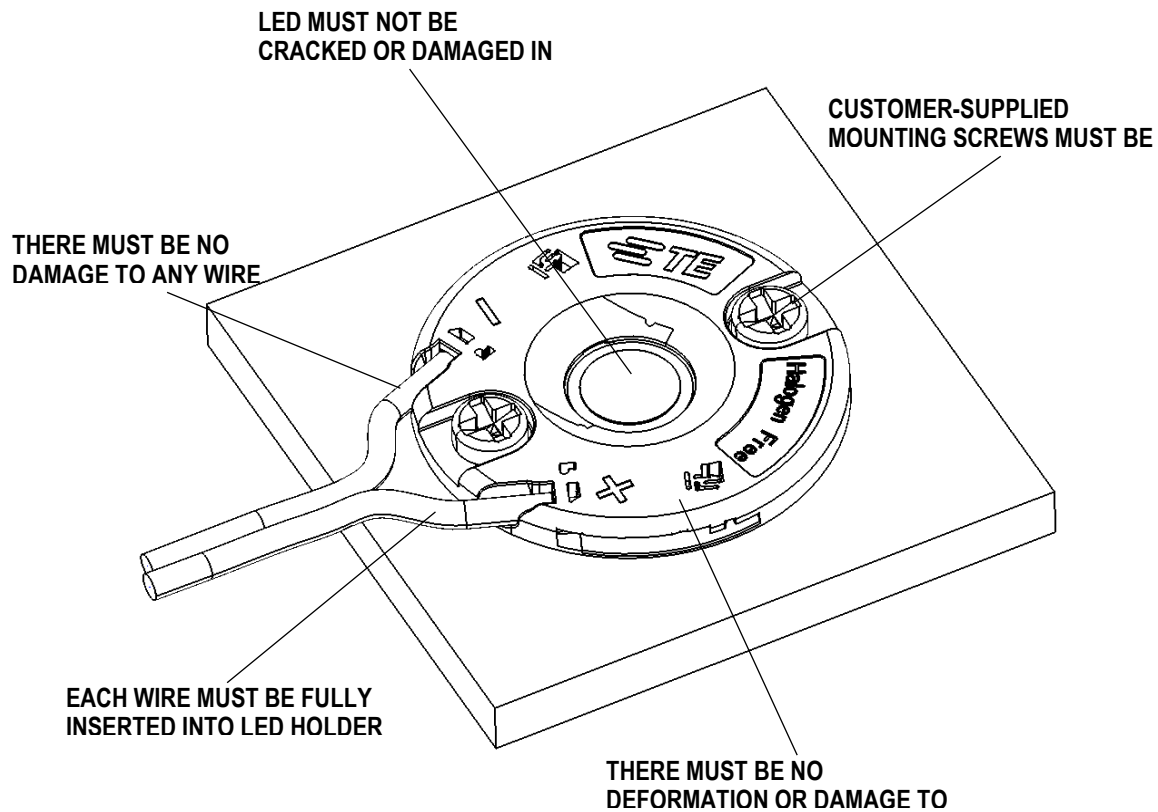
All LUMAWISE Z35/Z35L LED Holders are recognized by Underwriters Laboratories Inc. UL file number E469276.

## 5. TOOLING

A suitable screwdriver with a torque limitation is required to tighten the customer-supplied mounting screws for mounting the LED holder to the cooling device.

## 6. VISUAL AID

The illustration below shows a typical application of the LUMAWISE Z35 LED holder. This illustration should be used by production personnel to ensure a correctly applied product. Applications which DO NOT appear correct should be inspected using the information in the preceding pages of this specification and in the instructional material shipped with the product or tooling.



**FIGURE 6. VISUAL AID**