ALSI Holdings, LLC v. Current Lighting Solutions, LLC, d/b/a GE Current, A Daintree Company, and HLI Solutions, Inc. f/k/a Hubbell Lighting, Inc., both d/b/a Hubbell Control Solutions and/or Current
Case No. 6:21-cv-01187-ADA (W.D. Tex.)

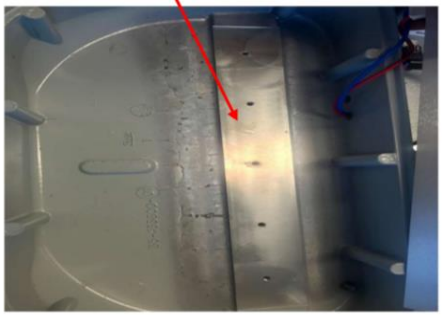
Plaintiff ALSI Holdings, LLC ("ALSI") contends that Defendant Current Lighting ("Current") has infringed, is infringing, and continues to infringe, directly and indirectly, literally and under the doctrine of equivalents, at least the claims of the '854 Patent charted herein by making, using, offering to sell, importing, and/or selling roadway and street light fixtures, including at least its portfolio of Evolve® LED luminaires for streets and roadways ("Evolve Luminaires"). The Evolve Luminaires include, but are not limited to: (i) Evolve® LED CobraHeads (ERLC, ERL1, and ERL2); (ii) Evolve® LED High Mast (ERHM02); (ii) Evolve® LED Security Light (E2SC); (iv) Evolve® LED Area & Site (EACL, EALS, and EALP); and Evolve® LED Roadway Light Scalable Cobrahead (ERS1, ERS2, ERS3, ERS4). *See, e.g.*, CUPO038644-38666; CUPO038667-38694; CUPO038695-38714.

These contentions and disclosures are based on presently available information. ALSI reserves the right to supplement these contentions and disclosures based on further discovery, in response to Defendants' additional productions and disclosures, after claim terms are construed, and as permitted by the Court under the local rules, or otherwise. ALSI expects that these contentions may be amended or supplemented based on additional products identified during discovery, or released, developed, or made available by Defendants after the date on which these contentions are served. These contentions and disclosures are also subject to correction for inadvertent errors or omissions, if any.

Based on its current understanding of the claim language and available information concerning the Evolve® Luminaires, ALSI contends that Current Lighting literally infringes each element or step of the claims charted below. However, to the extent that any claim element or step is deemed to be not literally present in or performed by the Evolve® Luminaires, that element or step is satisfied under the doctrine of equivalents because any difference between such element or step and the accused element or step is insubstantial. ALSI reserves the right to revise its theory of direct infringement for each asserted claim based on discovery and/or future rulings by the Court.

Each claim asserted herein is entitled to a priority date of at least December 21, 2007.

Infringement Claim Chart for U.S. Patent No. 9,699,854

U.S. Patent No. 9,699,854	Earliest Priority Date	Infringement Contentions
1. A light emitting diode (LED) lighting arrangement for a lighting fixture, comprising:	December 21, 2007	The preamble is not a limitation.
[1A] a base plate;	December 21, 2007	As shown below, the Evolve® Luminaires have a die cast aluminum housing, *i.e.*, a "base plate," which includes the raised portion underneath the LED lighting strip. **Front Side of Base Plate (Inner Housing)** **Raised Portion** 

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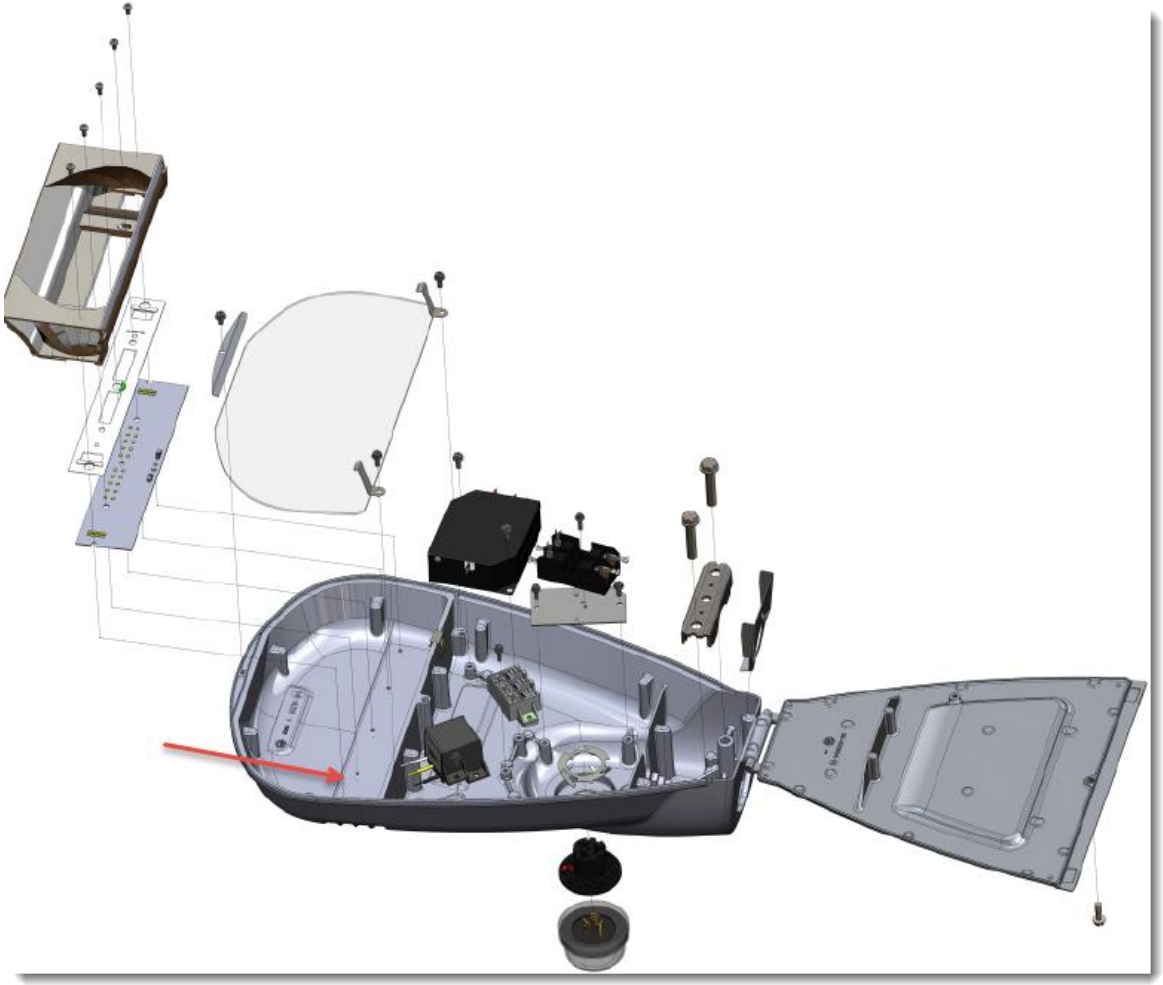
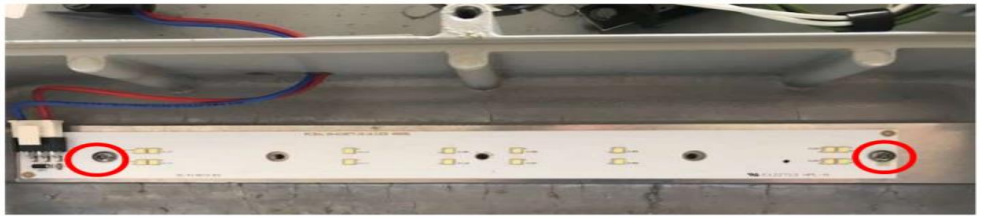
		 *See* CUPO064712 (red arrow pointing to the base plate).

U.S. Patent No. 9,699,854	Earliest Priority Date	Infringement Contentions
		See also CUPO064715; CUPO064716; CUPO064717; CUPO064727; CUPO064728; CUPO064761; CUPO064762; CUPO064763; CUPO064795; CUPO064796; CUPO064797; CUPO064824; CUPO064905.
[1B] a lighting strip coupled to the base plate, the lighting strip comprising a plurality of light emitting diodes (LEDs) arranged along a substantially planar surface of the lighting strip;	December 21, 2007	Visual inspection of the Evolve Luminaires' lighting strip (below) shows it secured (i.e., "coupled") by screws (circled in red below) to the base plate.  As shown above, the Evolve Luminaires' lighting strips have multiple (i.e., plurality of) light emitting diodes (LEDs) arranged along a substantially planar surface of the lighting strip.

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		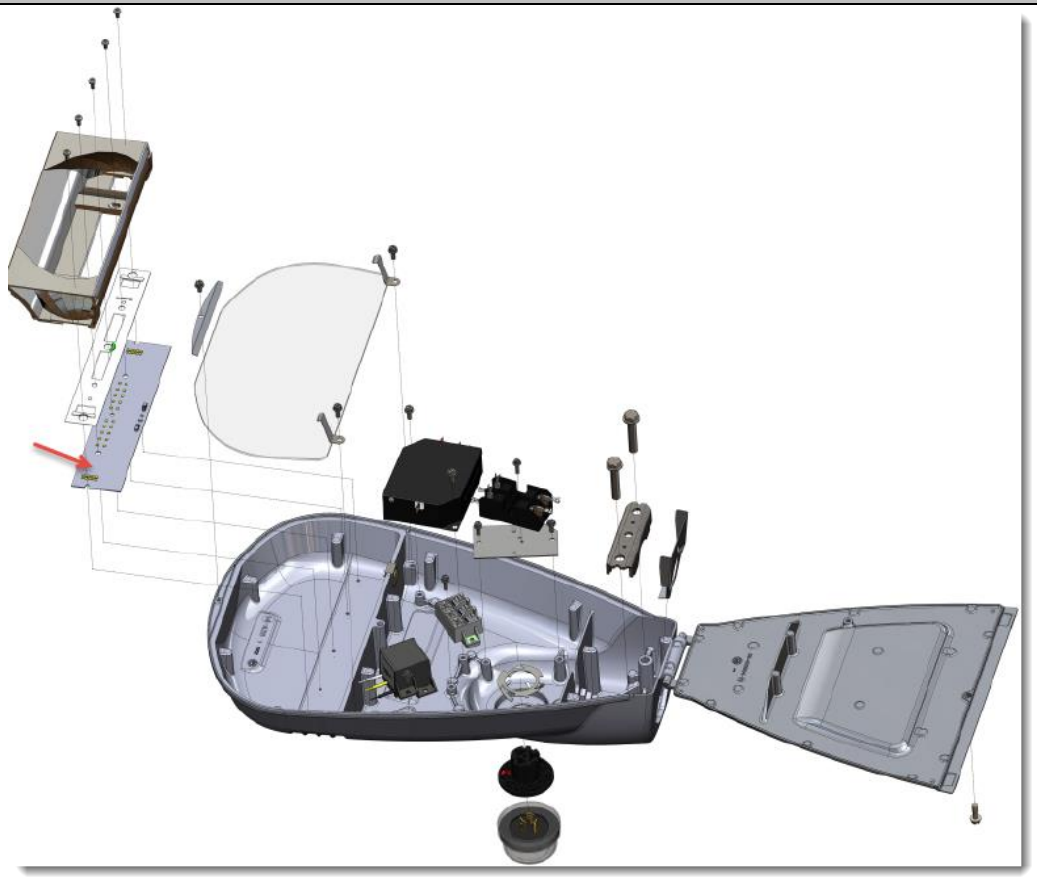 *See* CUPO064712 (red arrow pointing to the lighting strip comprising a plurality of LEDs arranged along a substantially planar surface of the lighting strip).

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		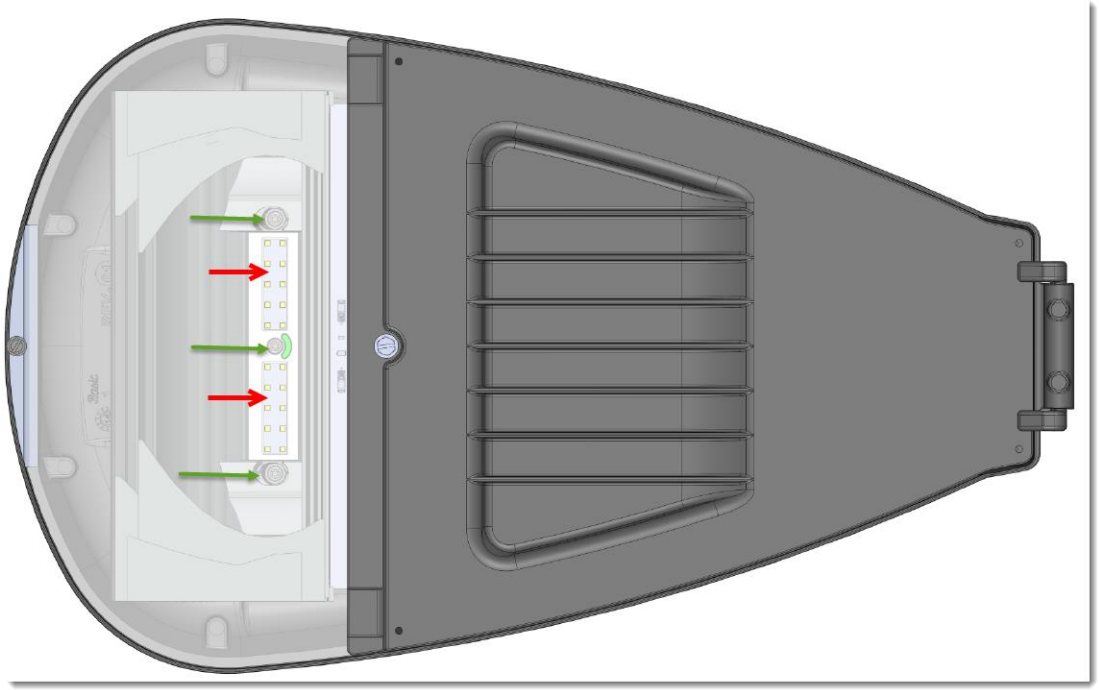 *See* CUPO064713 (red arrows pointing to plurality of LEDs arranged along a substantially planar surface of the lighting strip and green arrows showing the mechanism by which the lighting strip is coupled to the base plate). *See also* CUPO064715; CUPO064716; CUPO064717; CUPO064725; CUPO064727; CUPO064728; CUPO064754; CUPO064761; CUPO064762; CUPO064763; CUPO064795; CUPO064796; CUPO064797; CUPO064824; CUPO064905.

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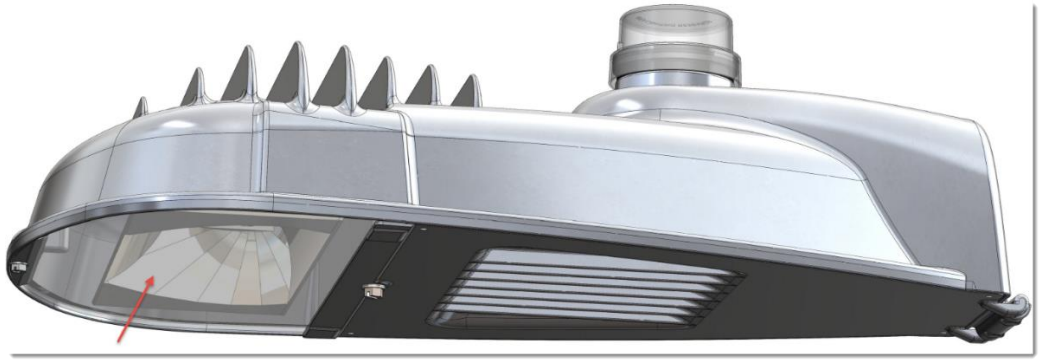
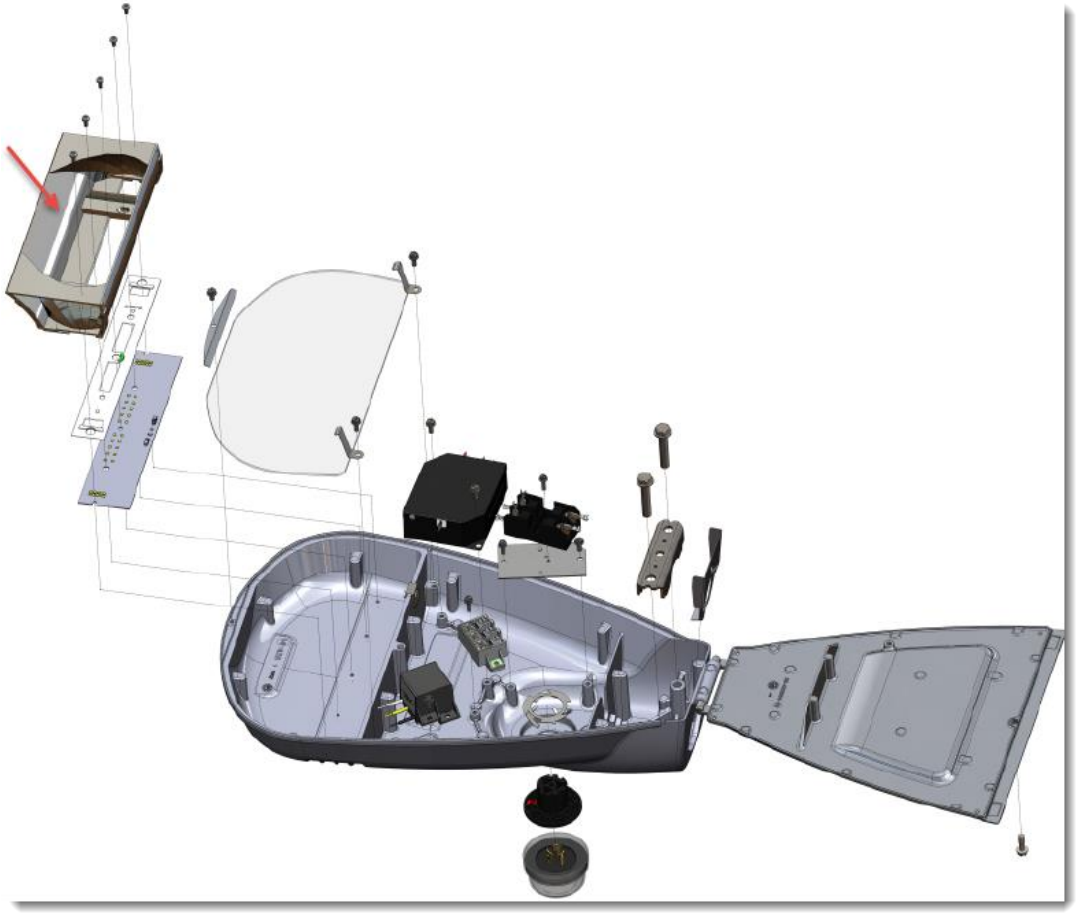
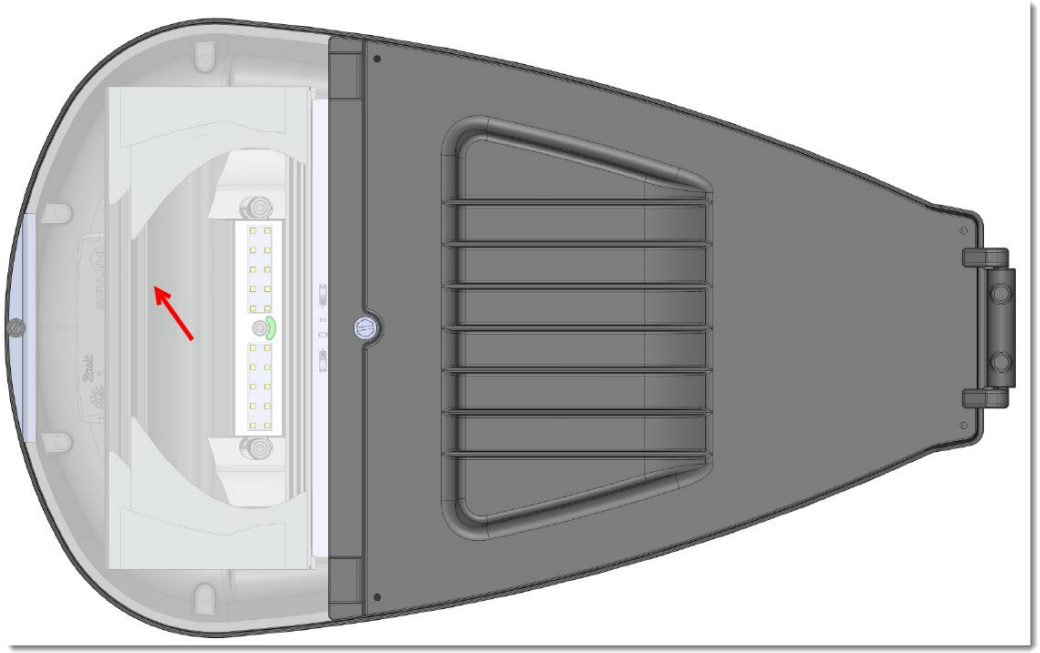
[1C] at least one reflector sheet comprising:	December 21, 2007	As shown below, the Evolve Luminaires have at least one reflector sheet surrounding the LED strip.  *See, e.g.*, CUPO064896 (red arrow pointing to the reflector sheet).

U.S. Patent No. 9,699,854	Earliest Priority Date	Infringement Contentions
		 *See* CUPO064712 (red arrow pointing to the reflector sheet).

U.S. Patent No. 9,699,854	Earliest Priority Date	Infringement Contentions
		 *See* CUPO064713 (red arrow pointing to the reflector sheet).

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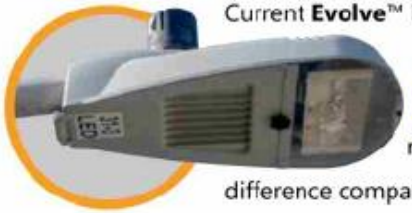
		 See CUPO038672 (emphasis added).

U.S. Patent No. 9,699,854	Earliest Priority Date	Infringement Contentions
		Smooth operator  Current **Evolve**™ LED Outdoor Luminaires with flat glass lens and reflective optics chamber offers a dirt depreciation rate of just 1.0% per year, a significant difference compared to competitor luminaires that use less streamlined lens designs and alternative optics engineering. ***That means time and money saved on cleaning schedules.*** **Product** / **LED Optic** / **Dirt Depreciation Rate** **Current Evolve** / **Flat Glass** / **1.0% per year** Tested Product A / Individually Molded Acrylic / 1.8% per year Tested Product B / Molded Glass / 2.2% per year Tested Product C / Individually Molded Acrylic With No Outer Optic / 3.0% per year Tested Product D / Large Individually Molded Acrylic / 3.8% per year **Source:** Illuminating Engineering Society, RES-1-16 Measure and Report Luminaire Dirt Depreciation (LDD) in LED Luminaires for Street and Roadway Lighting Applications; Gibbons, Palmer, Meyer, Terry *See* CUPO038672 (emphasis added).

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[1C] (cont'd) a first multi-faceted side wall of the at least one reflector sheet extending along the lighting arrangement along an entire length of the lighting strip with a first edge adjacent a first side of the lighting strip and extending at an angle along an entire length of the lighting strip; and	December 21, 2007	As shown below (left), the reflector sheet has a first multi-angled (multi-faceted) side wall that extends along an entire length of the lighting strip. The first multi-faceted sidewall has a first edge adjacent a first side of the lighting strip. The sidewall (as shown below in the photo on the right) extends at an angle along an entire length of the lighting strip.

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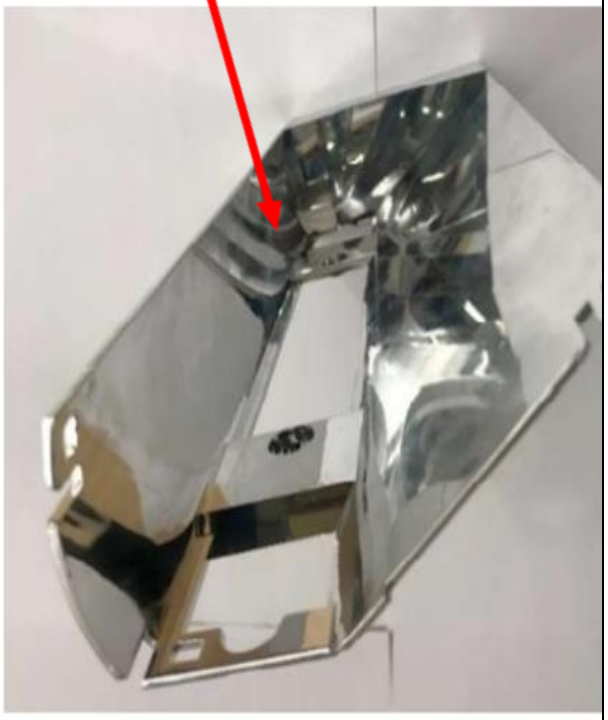
[1C] (cont'd) a second multi-faceted side wall of the at least one reflector sheet extending along the lighting arrangement along an entire length of the lighting strip, the second side wall having a first edge adjacent a second, opposite side of the lighting strip at an angle that extends along an entire length of the lighting strip,	December 21, 2007	As shown in the photos below, the Evolve Luminaires' reflectors include a second multi-angled (i.e., multi-faceted) sidewall spanning the entire length of the LED lighting strip. The second multi-faceted sidewall has an edge in close proximity (i.e., adjacent) to the opposite side of the LED lighting strip that extends the entire length of the LED lighting strip. **Second Sidewall** 

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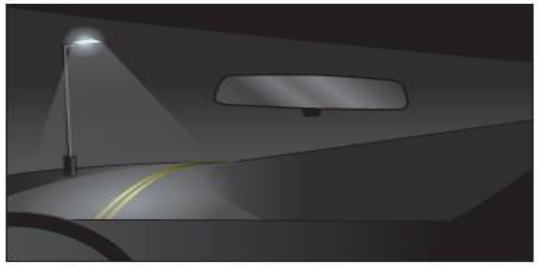
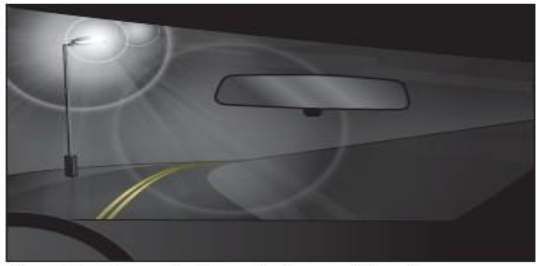
[1D] wherein the first and second multi- faceted side walls extend away from the lighting strip at an angle and are configured to cause light produced by the plurality of light emitting diodes (LEDs) to be amplified and formed into a uniform beam, and	December 21, 2007	As shown in the above photos for claim element [1C], and as described in Current's documents, the Evolve Luminaires' first and second multi-faceted side walls extend away from the LED lighting strip at angles. The angles cause light emitted from the plurality of diodes to reflect from the first and second side walls, respectively, and converge in a uniform beam at a distance away from the first and second side walls, therebyamplifying the light at that distance. GE  Our unique reflective technology allows us to focus light where it's needed – on the road – with less glare. COMPETITION  The refractive technology design used by other manufacturers typically results in more wasted light trespass and glare for drivers. minimizing glare GE's innovative reflective design only puts light where it is needed and minimizes direct view of the light source v a non-pixilated appearance. GE design recesses the LED array within the optic (or reflector) to limit visibility of the LEDs from the drivers' field o minimizing glare. Many competing optical designs use LED arrays with individual optics, making the entire array visil driver, resulting in a pixilated appearance with higher levels of glare and increased light trespass. Source: (https://images.salsify.com/images/jd78iecqdf2uyxest783/OLP3186-Evolve-Outdoor-PortfolioBrochure.pdf).

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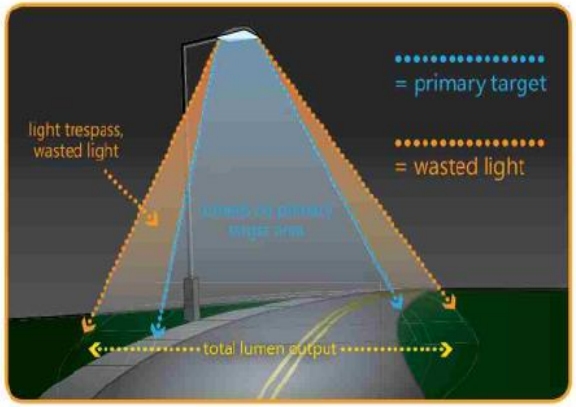
		Aiming to please Current uses an advanced reflective optic design that meets RP-8 recommended practices for luminance, illuminance and small target visibility. This unique design ensures that **Evolve**™ LED Light fixtures will deliver light control with significantly less waste than the other optical technologies used by many of our competitors. **Evolve**™ LED Light fixtures have improved ratings for backlight, up-light and glare (BUG ratings) to direct more light on the intended surface and not in neighboring properties, meeting tight local ordinances and International Dark-Sky (IDA) requirements. CURRENT Our unique reflective technology allows us to focus light where it's needed with less glare. COMPETITION The refractive technology design used by other manufacturers typically results in more wasted light trespass and glare at ground level. *See* CUPO038671. **Light on target: coefficient of utilization** By putting energy toward the task of lighting the roadway, parking lot, rail yard or work area and not the surrounding property, **Evolve**™ LED Light fixtures put light where it is intended and provide more efficient utilization of light. This is known as coefficient of utilization or (CU), and is a key characteristic of any fixture when determining its ability to light the intended area. A higher CU means less wasted light which, in turn, means lower energy consumption. This will reduce costs over the life of the fixture.  Efficiency in *action* • Lumens per Watt (LPW) = Total Lumen Output/ Total Watts • Coefficient of Utilization (CU) = Lumens on Primary Target Area/Total Lumen Output • Higher the Coefficient of Utilization (CU) = Less Wasted Light *See* CUPO038671.

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		 See CUPO038672 (emphasis added).
[1E] wherein the coupling between the lighting strips and the base plate provides heat transfer between the lighting strips and the base plate such that heat produced by the plurality of LEDs comprised in the lighting strip is conducted to the base plate for	December 21, 2007	As shown in element 1B above and directly below, the Evolve Luminaires' base plate and lighting strip with the plurality of LEDs are secured by screws and are in direct physical contact with one another. As a result of the direct contact between the LED lighting strip and the base plate, heat generated by its plurality of LEDs is conducted from the lighting strip to the base plate and transferred to the ambient environment.

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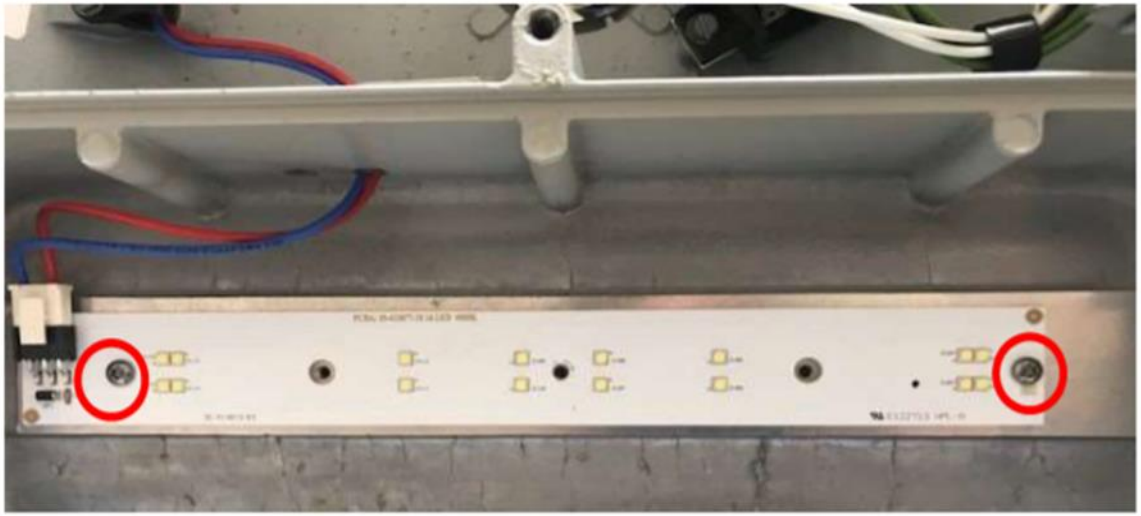
transfer to the ambient environment.		 Source: https://www.gecurrent.com/outdoor-lighting/led-roadway-street-lights ("design incorporates the heat sink directly into the unit for heat transfer to prolong LED life").

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		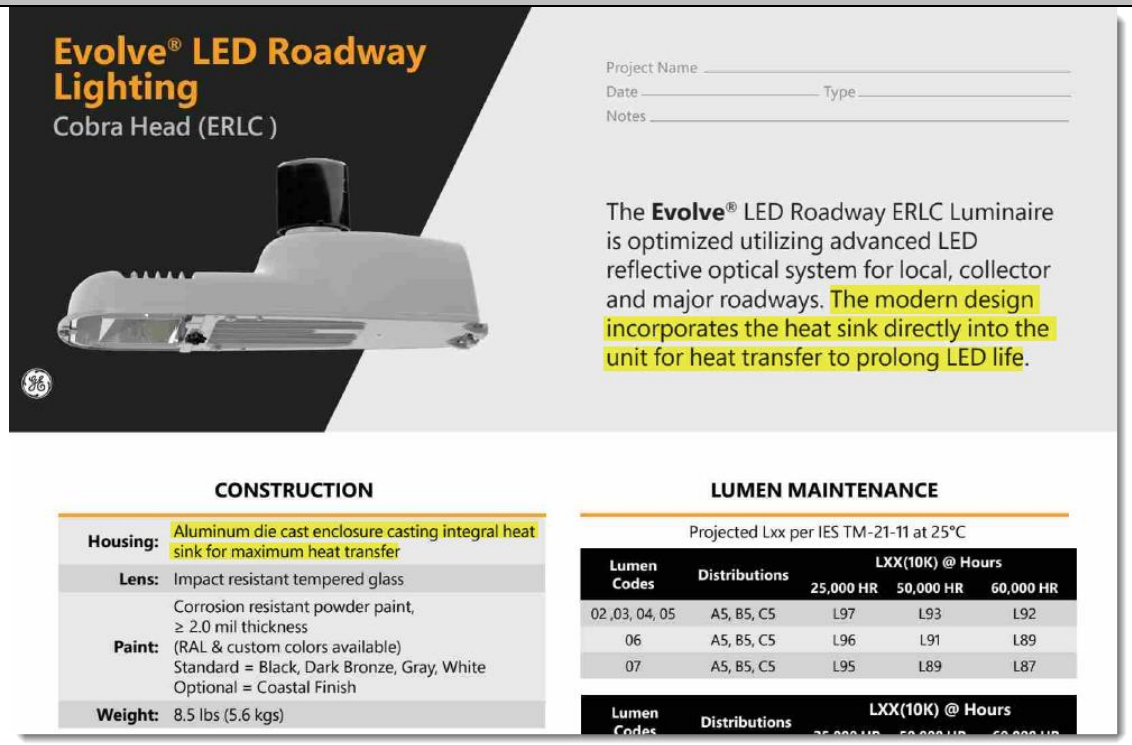 Evolve® LED Roadway Lighting Cobra Head (ERLC) Project Name Date Type Notes The **Evolve**® LED Roadway ERLC Luminaire is optimized utilizing advanced LED reflective optical system for local, collector and major roadways. The modern design incorporates the heat sink directly into the unit for heat transfer to prolong LED life. **CONSTRUCTION** **Housing:** Aluminum die cast enclosure casting integral heat sink for maximum heat transfer **Lens:** Impact resistant tempered glass **Paint:** Corrosion resistant powder paint, ≥ 2.0 mil thickness (RAL & custom colors available) Standard = Black, Dark Bronze, Gray, White Optional = Coastal Finish **Weight:** 8.5 lbs (5.6 kgs) **LUMEN MAINTENANCE** Projected Lxx per IES TM-21-11 at 25°C Lumen Codes / Distributions / LXX(10K) @ Hours: 25,000 HR, 50,000 HR, 60,000 HR 02 ,03, 04, 05 — A5, B5, C5 — L97 — L93 — L92 06 — A5, B5, C5 — L96 — L91 — L89 07 — A5, B5, C5 — L95 — L89 — L87 Lumen Codes / Distributions / LXX(10K) @ Hours *See* CUPO038645 (emphasis added); *see also* CUPO038650; CUPO038655; CUPO038660; CUPO38696; CUPO038701; CUPO038707.
2. The light emitting diode (LED) lighting arrangement for a lighting fixture as claimed in claim	December 21, 2007	As shown above for element [1B], the Evolve Luminaires' have light emitting diodes arranged in a straight (i.e., linear) row along the length of the lighting strip.

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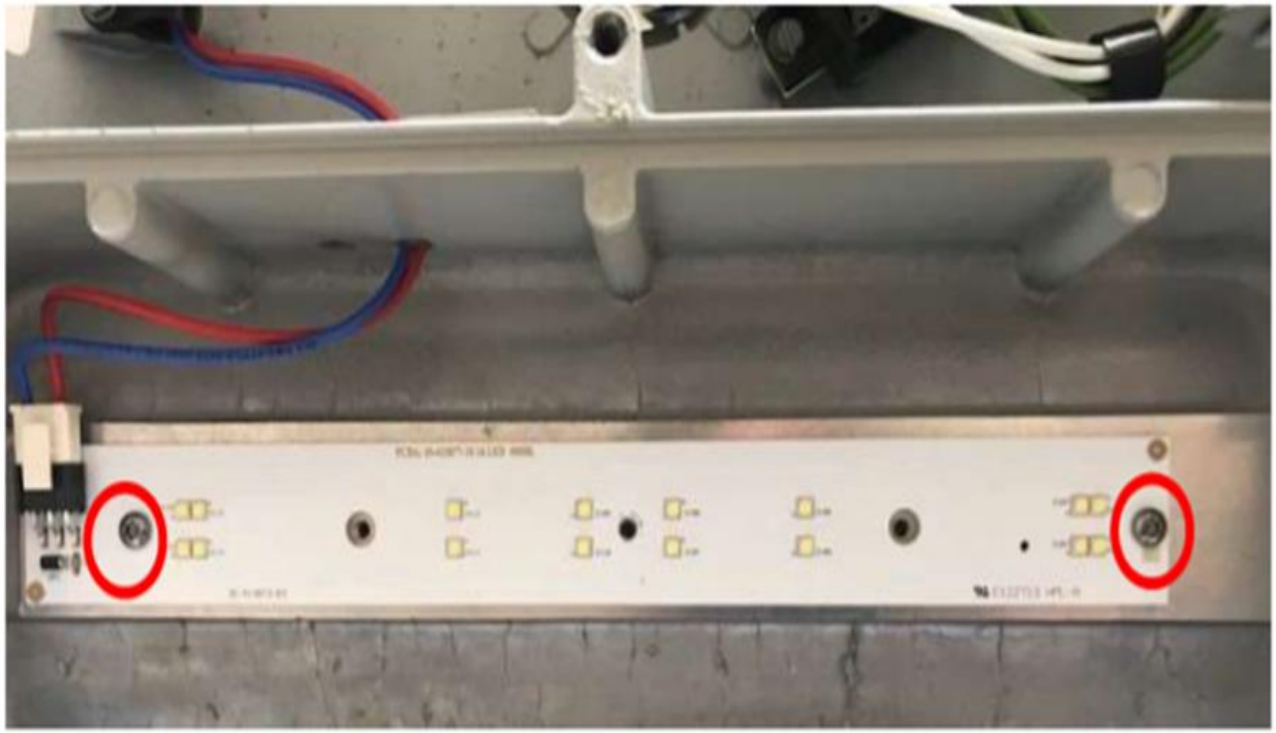
1, wherein the light emitting diodes (LEDs) are arranged in a linear row along the length of the lighting strip.		
3. The light emitting diode (LED) lighting arrangement for a lighting fixture as claimed in claim	December 21, 2007	As shown above for element [1B], the Evolve Luminaires' first and second sidewalls extend away from the base of the reflector (or base member). The base member has multiple openings to receive light emitting portions of one or more strips of LEDs containing multiple LEDs.

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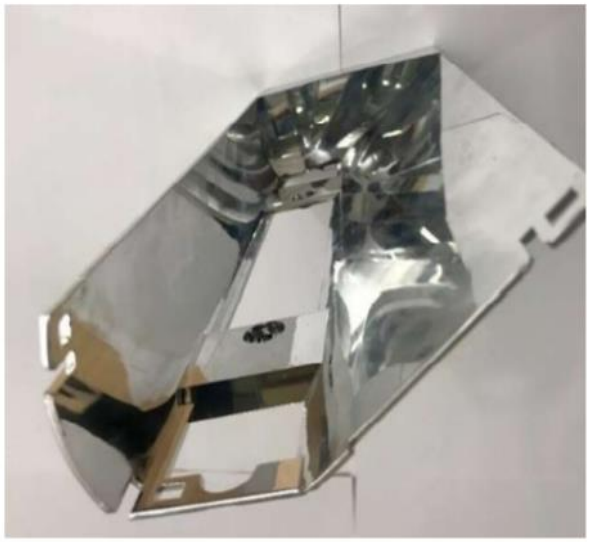
1, wherein the first and second multi-faceted side walls extend away from a base member defining a plurality of openings receiving at least a light emitting portion of the plurality of light emitting diodes (LEDs), respectively.		

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		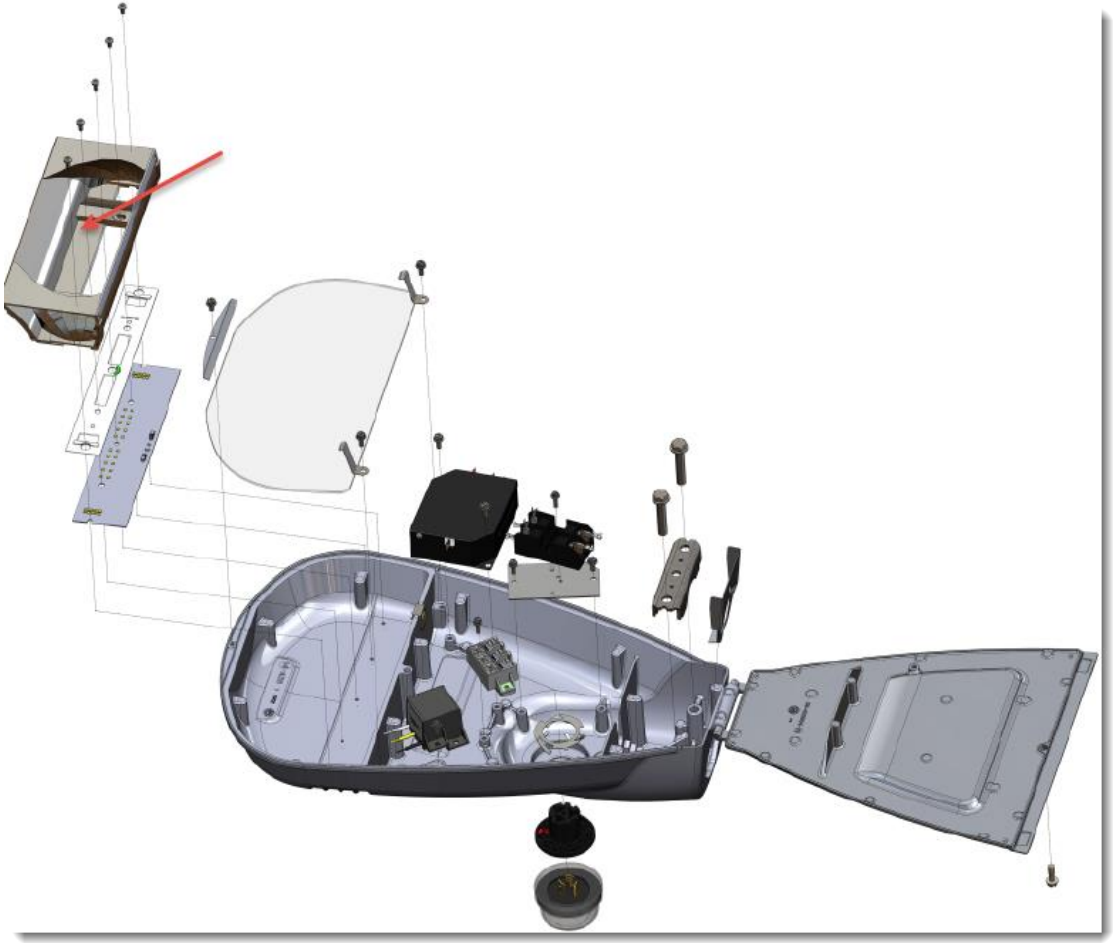 *See* CUPO064712 (red arrow pointing to the base member defining a plurality of openings receiving at least a light emitting portion of the plurality of the LEDs).

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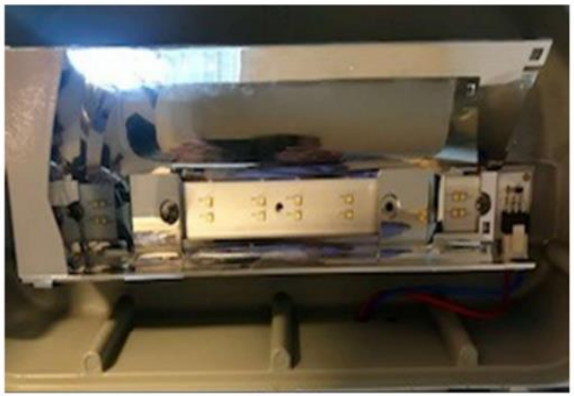
4. The light emitting diode (LED) lighting arrangement for a lighting fixture as claimed in claim 3, wherein the first and second multi-faceted side walls are formed integral with the base member.	December 21, 2007	As shown above for element [1C], and in the photo below, the Evolve Luminaires' reflectors are integrated with the base member. **Base Member** 
5. The light emitting diode (LED) lighting arrangement for a lighting fixture as claimed in claim 3, wherein the first and second multi-faceted side walls comprise multi-angle side walls.	December 21, 2007	As shown above for element [1C], both sidewalls of the Evolve Luminaires' multi-faceted reflectors are multi-angled sidewalls.

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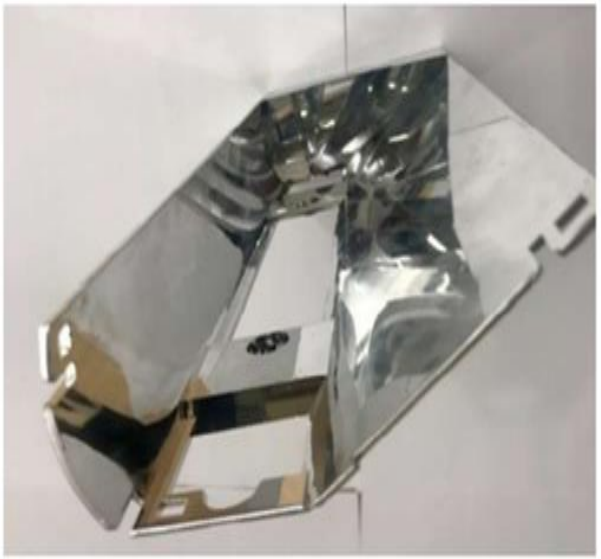
6. The light emitting diode (LED) lighting arrangement for a lighting fixture as claimed in claim 1, wherein the first and second multi-faceted side walls extend away from a base member and are symmetrical about an axis of symmetry that runs through a center of the base member.	December 21, 2007	As shown above for element [1C], and in the photo below, the Evolve Luminaires' reflector sidewalls extend away from the base member and are symmetrical about an axis of symmetry that runs generally horizontally through the center of the base member. 

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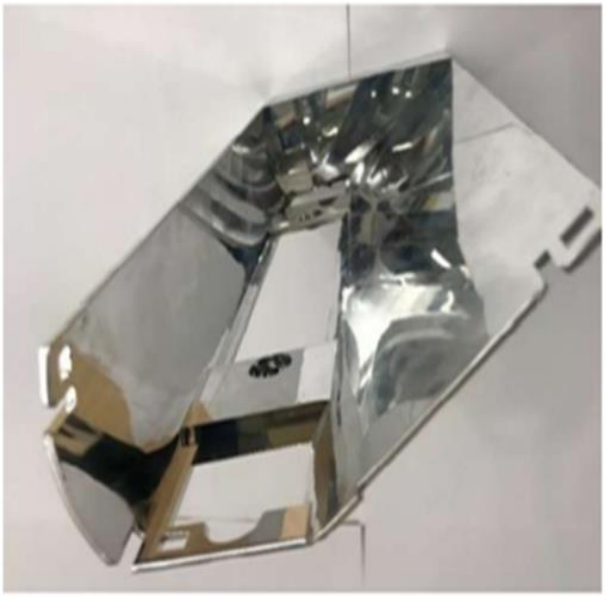
7. The light emitting diode (LED) lighting arrangement for a lighting fixture as claimed in claim 6, wherein the first and second multi-faceted side walls each comprise a first portion defining a first angle with the base member and a second portion defining a second angle with the first portion.	December 21, 2007	As shown above for element [1C], and in the photo below, the Evolve Luminaires' multi-faceted side walls include a first portion defining a first angle with the base member and a second portion defining a second angle with the first portion. 

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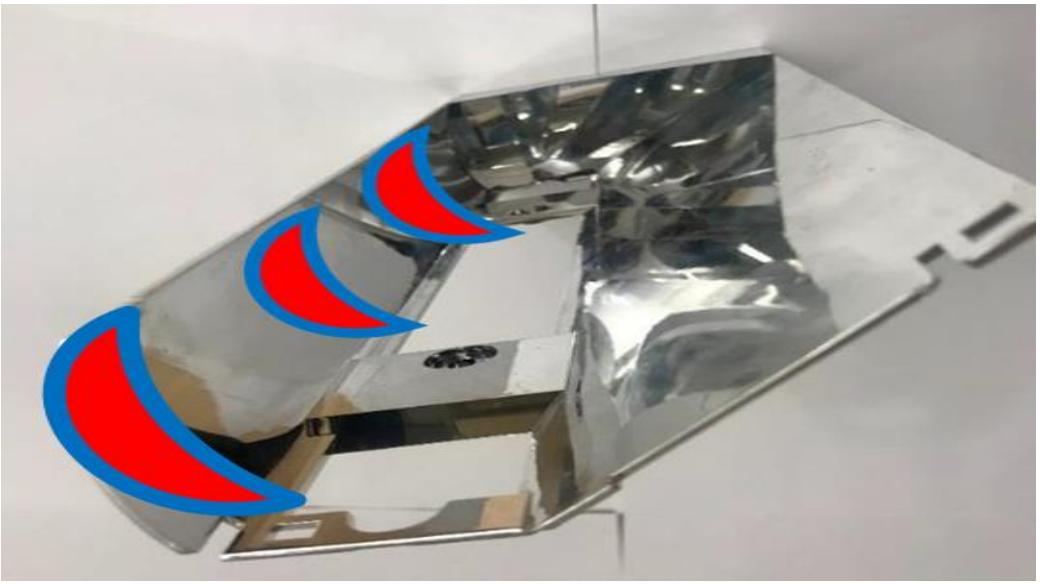
8. The light emitting diode (LED) lighting arrangement for a lighting fixture as claimed in claim 7, wherein the first angle and second angle are different angles.	December 21, 2007	As depicted below, the first and second angles differ relative to the base member. 

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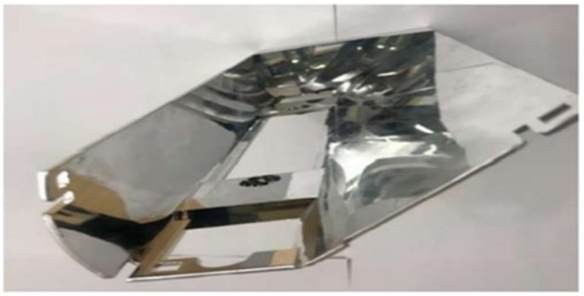
9. The light emitting diode (LED) lighting arrangement for a lighting fixture as claimed in claim 1, wherein the first and second multi-faceted side walls comprise multi-angle side walls.	December 21, 2007	As shown above for element [1C], and in the photo below, the Evolve Luminaires' multifaceted sidewalls each have multiple angles, including their end caps. 

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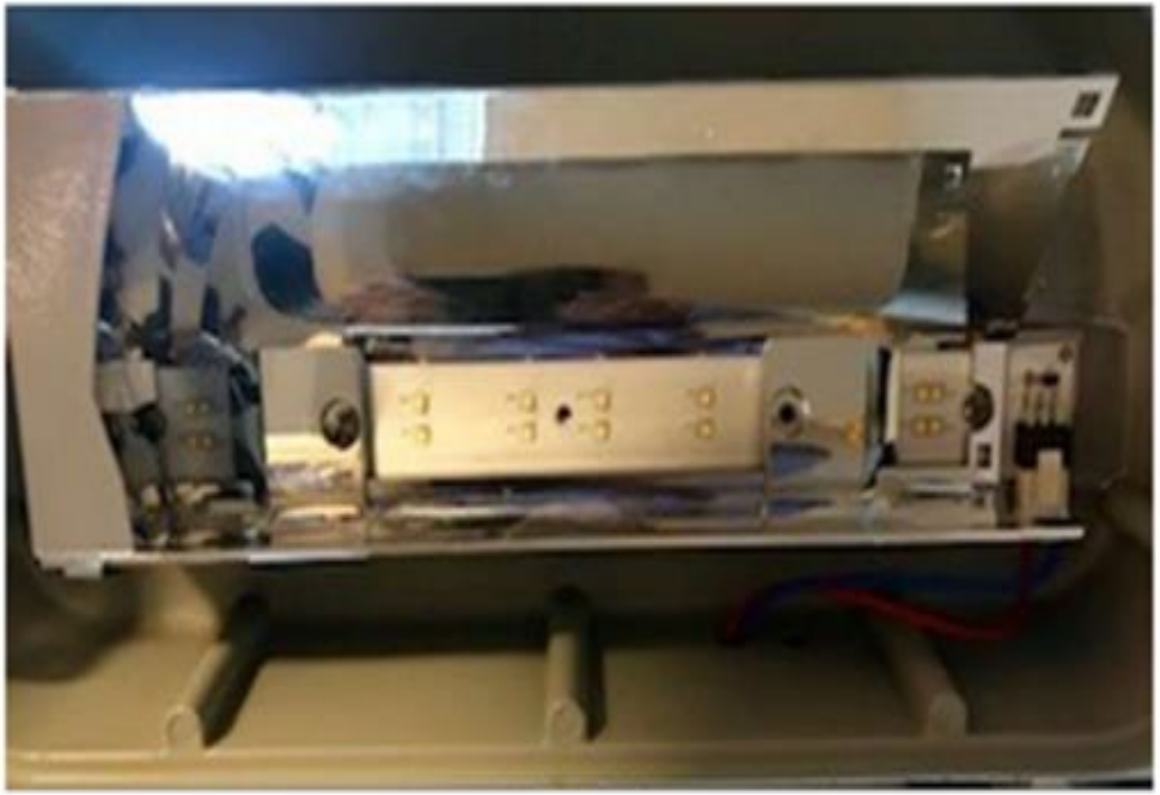
10. The LED lighting arrangement of claim 1, wherein the first multi-faceted side wall adjacent the lighting strip extends along the entire length of the lighting strip from a position level with a bottom portion of a light emitting portion of each of the LEDs, and wherein the second multi-faceted side wall adjacent the lighting strip extends along the entire length of the lighting strip on a side opposite the first multi-faceted side wall from a position level with a	December 21, 2007	As shown above for element [1C], and in the photo below, the Evolve Luminaires' sidewalls extend the length of the lighting strip, and at their base they are level with the bottom of the LEDs' light emitting portions. 

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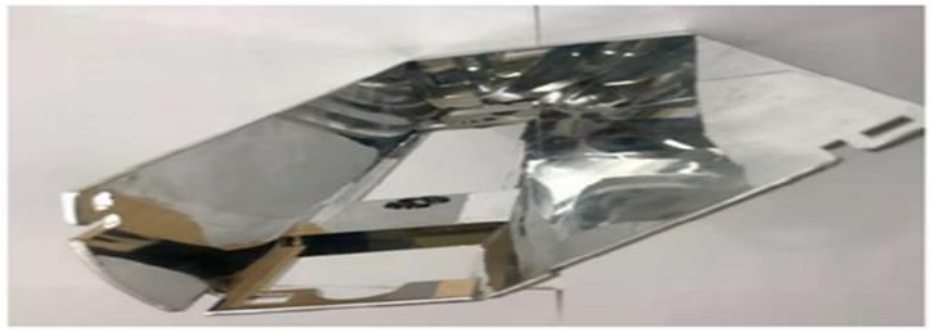
bottom portion of a light emitting portion of each of the LEDs.		
13.The LED lighting arrangement of claim 1, wherein the first side wall and second side wall each are formed by a single reflector sheet.	December 21, 2007	As shown below, each side wall of the Evolve Luminaires' reflectors sidewalls are formed from one reflector sheet. 
14. The LED lighting arrangement of claim 1, wherein the first and second multi-faceted side walls begin at a level of	December 21, 2007	As shown below, the Evolve Luminaires first and second multi-faceted sidewalls are at one end level with the lighting strip and extend away from the lighting strip.

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the lighting strip and extend away from the lighting strip.		
15. A light emitting diode (LED) lighting fixture, comprising:	December 21, 2007	The preamble is not a limitation.
[15A] a base plate having a front side and a rear side;		See Claim 1A above.

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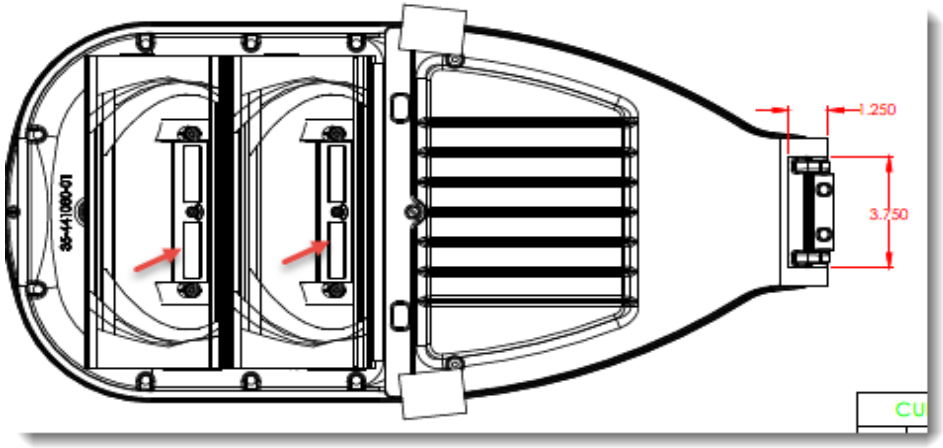
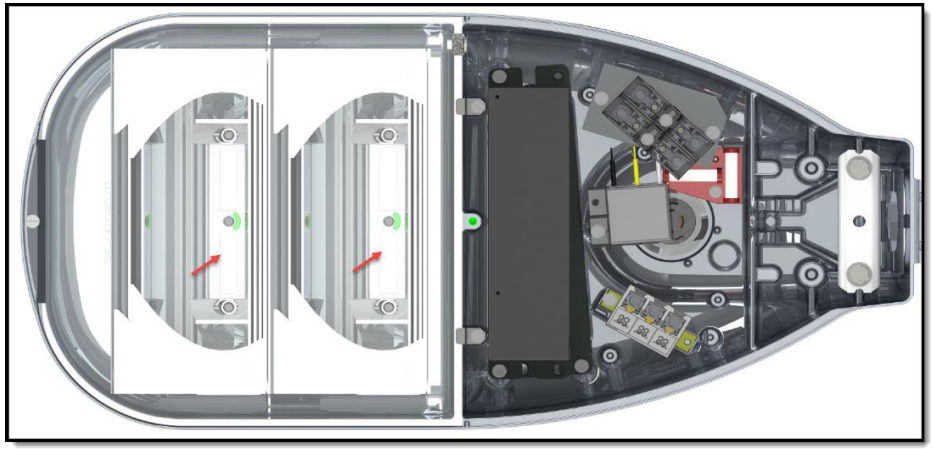
[15B] a plurality of lighting strips mounted on the front side of the base plate, each of the lighting strips comprising a plurality of light emitting diodes (LEDs) arranged along a length of the lighting strip; and		 *See* CUPO064725 (red arrows pointing to a plurality of lighting strips mounted on the front side of the base plate).  *See* CUPO064754 (red arrows pointing to a plurality of lighting strips mounted on the front side of the base plate).

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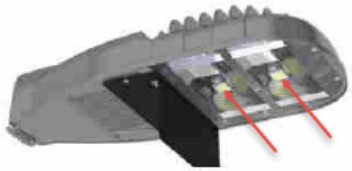
		ERL2 SHIELDS Product Code: 93070722 Description: ELSHS-ERL2-BLCK Product Code: 93085564 Description: ELSHS-ERL2-GRAY Product Code: 93096747 Description: ELSHS-ERL2-DKBZ  *See* CUPO038665 (red arrows pointing in the general direction of a plurality of lighting strips mounted on the front side of the base plate); *see also* CUPO038713. *See also* CUPO064795; CUPO064796; CUPO064797; CUPO064804.
[15C] driver circuitry and control circuitry electrically coupled to the plurality of light emitting diodes (LEDs) for providing power		As illustrated below, the Evolve® Luminaires contain a driver circuitry and a control circuitry electrically coupled to a plurality of LEDs for providing power to the LEDs.

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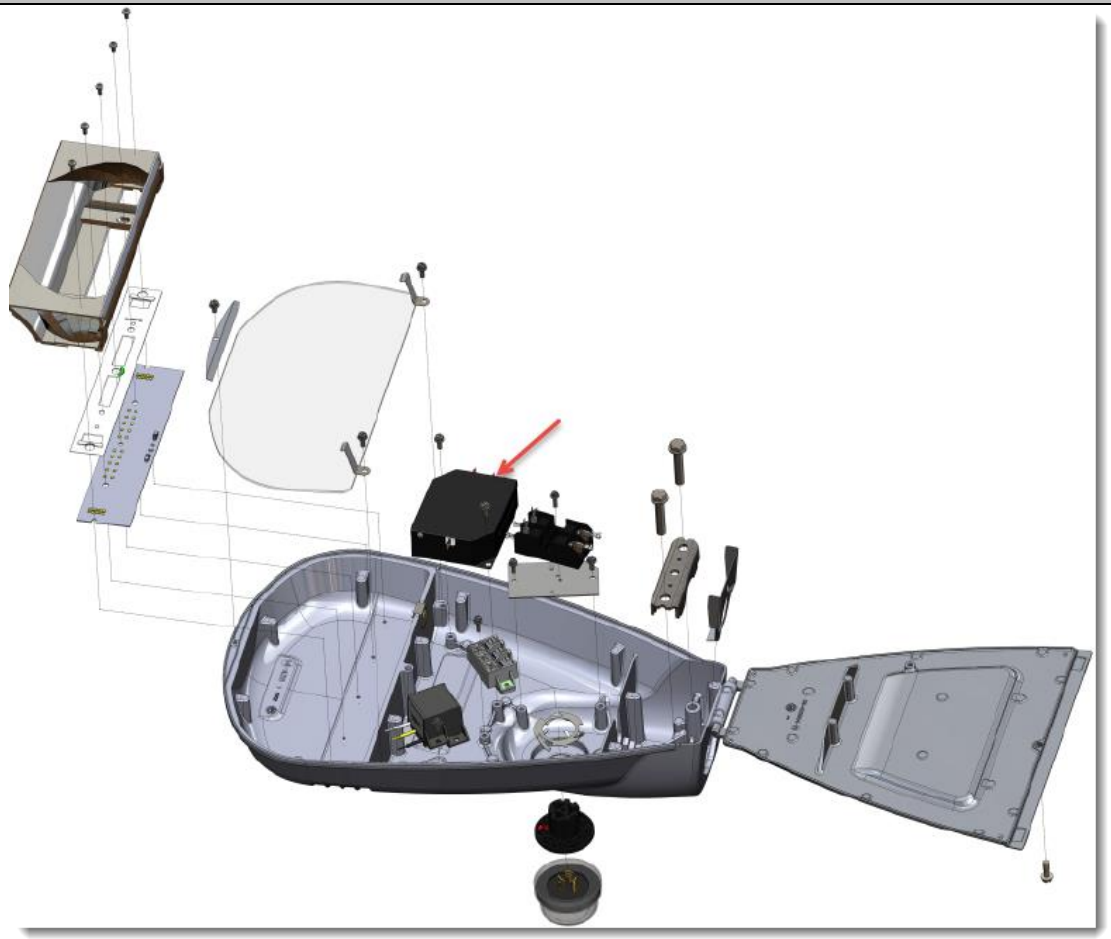
to the light emitting diodes (LEDs),		 *See* CUPO064712 (red arrow pointing to the box in which the driver circuitry and control circuitry are housed).

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		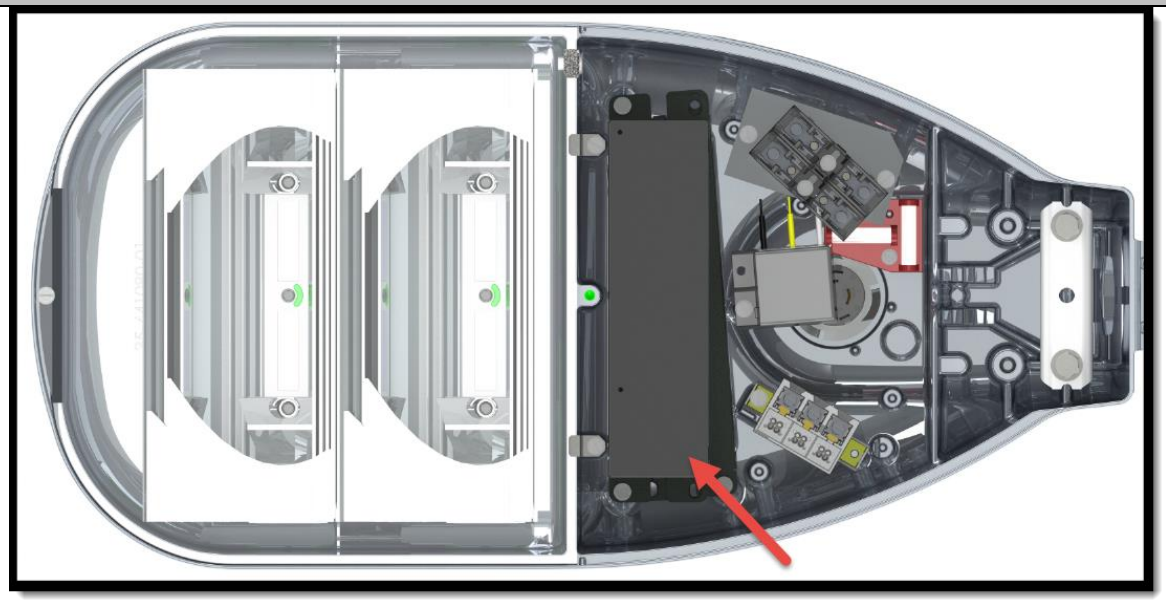 *See also* CUPO064754 (red arrow pointing to the box in which the driver circuitry and control circuitry are, on information and belief, housed).
[15D] wherein each of the lighting strips includes at least one reflector sheet comprising: a first multi-faceted side wall of the at least one reflector sheet		See Claims 1C, 8, & 9 above.

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extending at an angle from a first side of the lighting strip along an entire length of the lighting strip, the first side wall comprising a sheet bent to form the angle; a second multi-faceted side wall of the at least one reflector sheet extending along the lighting arrangement adjacent a second, opposite side of the lighting strip along an entire length of the lighting strip, and		
[15E] wherein the first and second multi-faceted side walls extend away from the		See Claim 1D above.

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lighting strip at an angle and are configured to cause light produced by the plurality of light emitting diodes (LEDs) to be amplified and formed into a uniform beam, and		
[15F] wherein contact between the lighting strips and the base plate provides heat transfer between the lighting strips and the base plate such that heat produced by the plurality of LEDs comprised in the lighting strip is conducted to the base plate for transfer to the		See Claim 1E above.

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ambient environment.		
18. The light emitting diode (LED) lighting fixture as claimed in claim 15, wherein each light emitting diode (LED) of each lighting strip is electrically connected in series, and each lighting strip is electrically connected to the driver circuitry in parallel.	December 21, 2007	On information and belief, the Evolve® Luminaires include lighting strips where each light emitting diode (LED) of each lighting strip is electrically connected in series, and each lighting strip is electrically connected to the driver circuitry in parallel. The output voltage in the power supplies, such as the UltraMax Programmable Driver shown below, is 290 VDC and is necessary because the LEDs are wired in series causing the operating voltages to add up, hence the large output voltage capability. Furthermore, on information and belief, for Evolve® Luminaires that include more than one lighting strip, they are connected in parallel. **Analog strips** come in mono (one color) or RGB (full color spectrum). They are sold on reels and can be cut into small segments. The segments are marked by metal contact pads and sometimes have a scissors icon screen printed right on them (love those!). The strips shown here are segmented in 5cm and 10cm lengths, each segment containing 3 LEDs. Usually strips use 30, 32, 60 or 120 LEDs per meter, which will change price and power consumption. For each segment the LEDs are wired in series, which means the operating voltages are added up, giving the higher voltage needed. All of the segments are wired in parallel, so they get all get the same amount of voltage all the way down the strip, but the current draw adds up depending on the length of the strip. For more information on how to power your strip, skip to step 3. **Behavior** The LEDs that fade and blink together, stay together. All the LEDs on the strip will act as one, they are non-addressable. One way to tell by sight is that they do not have any driver chips that you can see on the strip (that would be digital!).

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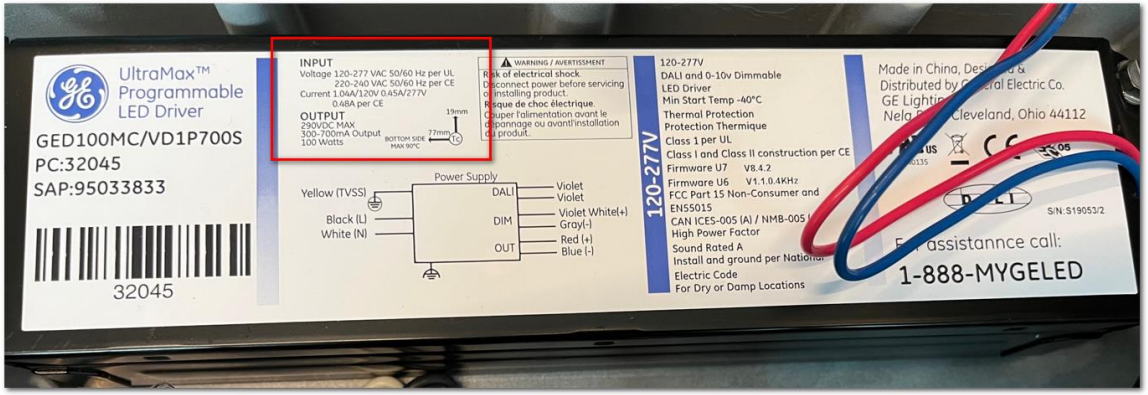
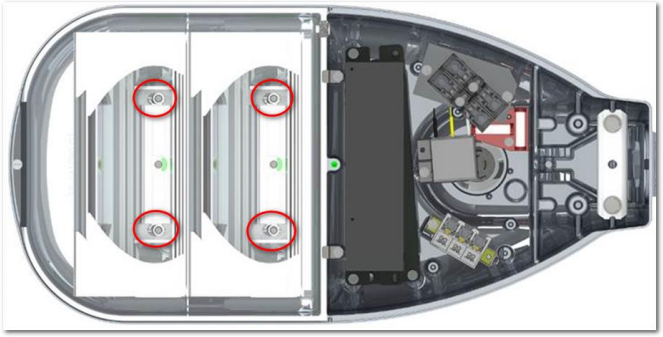
		 Source: https://www.instructables.com/Intro-to-LED-Strips/ (emphasis added) Sample of Evolve ERL1 light fixture.
19. The light emitting diode (LED) lighting fixture as claimed in claim 15, wherein each plurality of lighting strips is individually removably mounted to the base plate, so as to permit	December 21, 2007	The Evolve® Luminaires with more than one lighting strip include a plurality of lighting strips where each is individually removably mounted to the base plate, so as to permit individual replacement of each lighting strip irrespective of the other lighting strips. 

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individual replacement of each lighting strip irrespective of the other lighting strips.		The highlighted red circles are the mounting screws for each of the plurality of lighting strips. *See* CUPO064754
20. The light emitting diode (LED) lighting fixture as claimed in claim 15, wherein the light emitting diodes (LEDs) in each of the lighting strips are arranged in a linear row along the length of the lighting strip.	December 21, 2007	See Claim 2 above.