

Pole Light Replacement Project - Information Packet

RLEP Objective

Replace existing unshielded High Intensity Discharge (HID) pole lights with energy-efficient, state-of-the art, long-life Light Emitting Diode (LED) light fixtures that produce equivalent or better illumination of targeted areas while reducing unwanted glare for surrounding properties. The new lights will be fully-shielded (down-shielded) with a warm color (3000K) to be community-friendly and dark sky compliant. A Light Trespass Shield can be added to further reduce glare in a specific direction.

Types of Pole Lights

In Rappahannock County, there are basically three categories of unshielded lights mounted on telephone poles or the sides of buildings. These are:

- Lights leased to members of the Rappahannock Electrical Cooperative (REC) for a monthly fee. These pole lights may be on residential property, at business establishments or at places of worship. These lights are always mounted on a pole and wired directly to the nearest REC transformer.
- Privately-owned lights installed by property owners, either on poles or on the sides of buildings. Most of these lights closely resemble those leased from REC, however their power is wired from the property owner's electrical box downstream of the REC power meter.
- Lights installed on county or state government properties. Lighting styles may vary.

RLEP Strategy

RLEP's strategy is to replace existing unshielded lights with 'dark sky compliant' lights from qualified manufacturers. REC's replacement lights are manufactured by Evluma. RLEP may also select Evluma products for replacing privately-owned lights for consistency, however if more cost-effective models can be found, they will be offered to the property owner. Below are the specifications and model numbers for the replacement lights for each category of light.

- Replace REC-leased lights (typically 100-175 watt HID with 40 watt LED (3000K color, 3900 lumens). Evluma model number: AM-40-3K-V-C-S3-STD-6.
- Privately-owned lights (up to 175 watt HID) to be replaced by 40 watt LED (3000K color, 3900 lumens). Evluma model number: AM-40-3K-V-C-S3-STD-6.
- If the existing REC-leased or privately-owned light wattage exceeds 175 watts a 70 watt LED (3000K color, 6800 lumens). Evluma model number: AM-70-3K-V-C-S3-STD-6.
- If additional glare reduction in a specific direction is desired, a Light Trespass Shield (LTS) accessory can be ordered from Evluma. Model number: AMAX-LTS. This is offered by RLEP for only for privately-owned lights since REC will not offer or allow these shields to be installed on their lights.

The "V" in the Evluma model number ensures the light fixture produces an even circular distribution with same intensity at all angles. See light distribution pattern

The "C" in the Evluma model number ensures the light is fitted with an optical lens that is flat with textured glass, resulting in bright diffuse light but emitting no light above 90° (the horizontal).

Procedure to Replace Lights

To replace a pole light leased from REC, the REC member must contact REC to initiate the replacement. REC has graciously offered to replace any of their leased unshielded lights FREE of charge; however, REC will not allow RLEP to make the request on behalf of a property owner. Below are the steps the property owner need to take to replace an REC-leased light.

- Contact the REC Call Center at 800-552-3904
- Follow the telephone prompts to get to “Culpeper Engineering”
- Provide REC member name, REC account number, and physical address
- Specifically request the ‘**dark skies compliant**’ model (as described above) which contains less blue light. If the dark skies compliance model is no longer in stock, REC will order the lights and install them when received.

Please note: If the REC member is a business owner and REC deems replacing the lights will require traffic control, the replacement will cost \$85 each, however this will be fully subsidized. Call RLEP at (703) 250-7943 to request a check be sent to REC on behalf of the REC member.

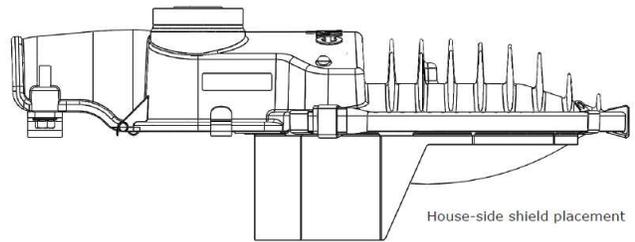
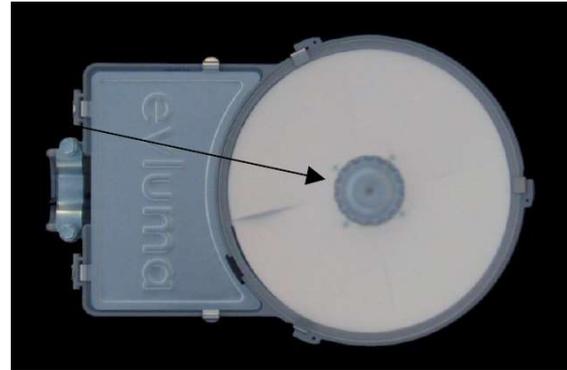
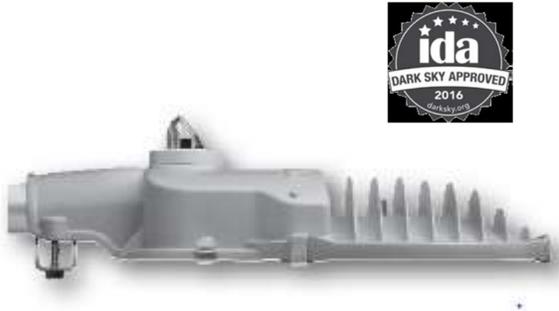
To replace privately-owned pole lights or flood lights that are unshielded, please take the following steps. Replacement is FREE of charge.

- Contact RLEP at 703-250-7943 to initiate the replacement. If an additional ‘light trespass shield’ is desired, please indicate preferred orientation of shielding.
- An RLEP representative will offer to discuss and agree replacement options with the property owner.
- RLEP will order the new ‘dark sky compliant’ lighting fixtures and contract with a qualified local electrician to install them.
- The electrician should perform the replacement within one week after materials are received. The electrician will provide documentation to RLEP affirming that the replacements have been properly completed.

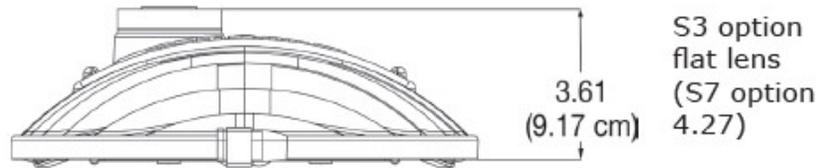
Please contact RLEP at 703-250-7943 for any questions regarding the light replacement project.

Additional Technical Information – Replacement with Evluma Luminaires

Vendor photos and Diagrams



DIMENSIONS (inches)

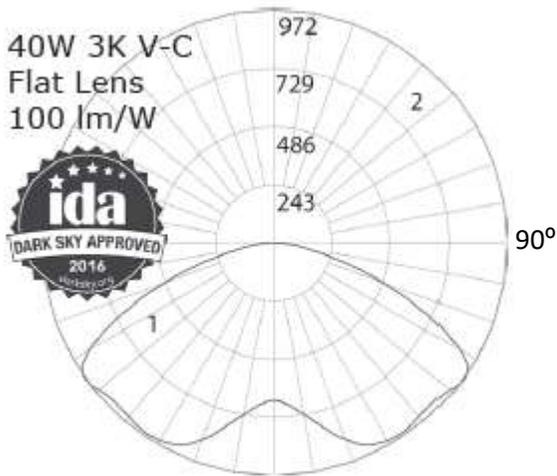


Light Distribution Patterns for New LED Lights

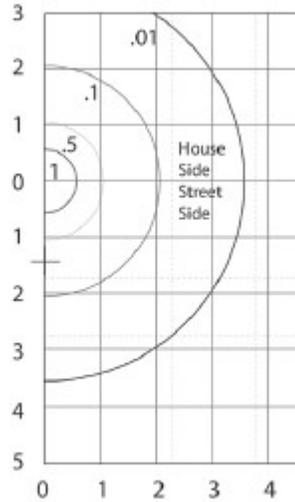
40 watt - Polar Candela Distribution, Isofootcandle Lines of Horizontal Illuminance - 25 ft pole mounting

Very little light above 80° (10° below horizontal)

Less than 1% light at 90 feet from pole



Max Candela: 972 at 54°

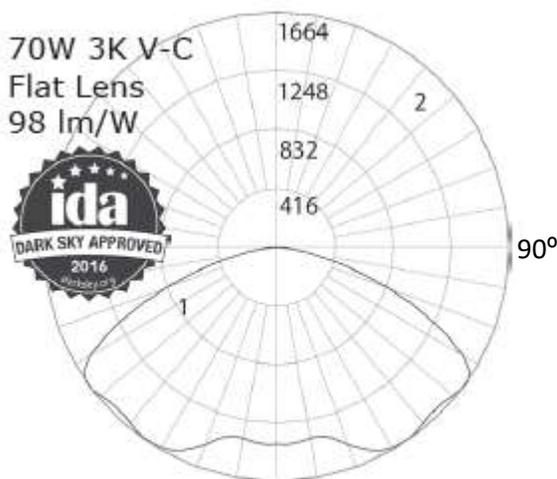


.01 fc at over 3 25' mtg htgs

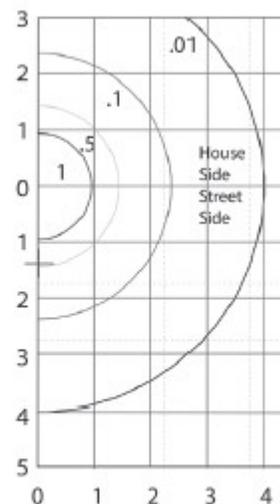
70 watt - Polar Candela Distribution, Isofootcandle Lines of Horizontal Illuminance - 25 ft pole mounting

Very little light above 80° (10° below horizontal)

Less than 1% light at 100 feet from pole



Max Candela: 1664 at 54°



.01 fc at over 4 25' mtg htgs

Photo Control Options from Evluma for New LED Lights

Standard Option (offered by REC, available for private lights): Photocontrol Failsafe™

Each AreaMax leaves the factory programmed for the general location of the end user. Over time, the input from the photo control calibrates the AreaMax to its unique location and lighting conditions. Should the photo control fail, the AreaMax will continue to cycle based on the information it has collected eliminating a maintenance visit and guaranteeing continuous operation.

Light can be ordered from Evluma with an integrated photo control unit (P) or as (S3) to reuse your existing 3 pin photo control or as (S7) to reuse your existing 7 pin photo control.

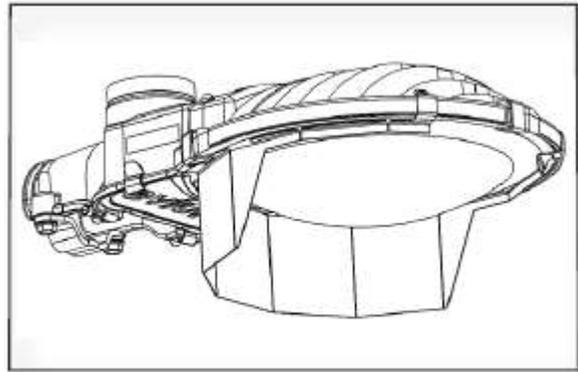
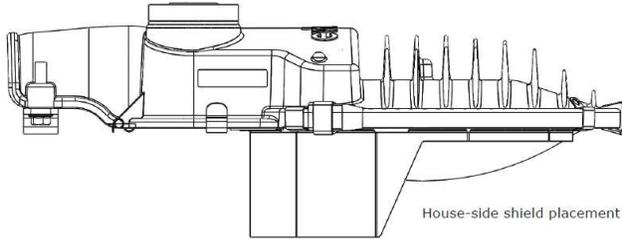
All options support 0-10V dimming and the power and voltage monitoring features of most wireless controls nodes.

Wireless Option (only offered to a utility company's IT department): CONNECTED™

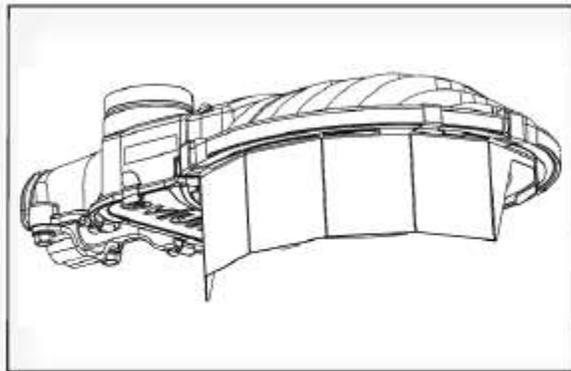
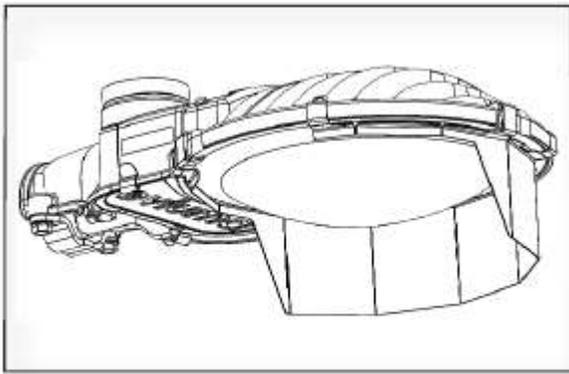
Product Warranty

10 years

Light Trespass Shield Accessory (Model AMAX-LTS)



House-side shield placement



Alternate 90° left and right side shield placement

Light redistribution pattern: no light above 45° in the shielded direction

