LED Streetlight Conversion Analysis

Maidencreek Township currently has 507 streetlights.

1. The Township owns 277.
2. Met Ed owns 230.
3. The projected annual cost for electric to high pressure sodium street lights is $86,000.
    a. Annual electric (.0525 kWH from Constellation Energy) $21,000
    b. Annual Transmission (Met-Ed) $65,000

HOWEVER…

Met Ed has requested a 43% rate increase from the PUC.

1. Effective sometime in 2017 if approved.
2. Would increase our annual streetlight electric transmission costs by $27,950

ANNUAL TOTAL COST: $113,950

LED options (Remember that LED lights have an estimated life of 10 years.)

Met Ed's conversion program would require the Township to pay for the cost of replacing all streetlights owned by the Township and pay for any lights converted from mercury vapor to HPS within the last 10 years (190 Met Ed owned lights were converted in 2010). The actual cost of this has not been determined but I estimate $600 to purchase a LED cobra head. I have no idea if Met Ed would charge for time. When these cobra heads fail, we would have to replace the whole head. I would budget $300,000 for such a conversion (277 Township owned lights and 190 Met Ed owned lights). This doesn't make sense financially given the increase proposed for LED transmission rates is 94%.

Alternate Proposal - LED Bulbs

WESCO International has quoted a cost of $86 each for 54W LED bulb purchased in quantities of 20. These bulbs could be installed in our existing 277 streetlight heads by removing the ballasts and other parts from the light. Met Ed has approved the bulb cut sheet for the LED rate. **Cost $23,822**. We could then convert the 40 Met Ed lights at no charge and not convert the 190 HPS lights until 2020. The cost for streetlight electric would be:

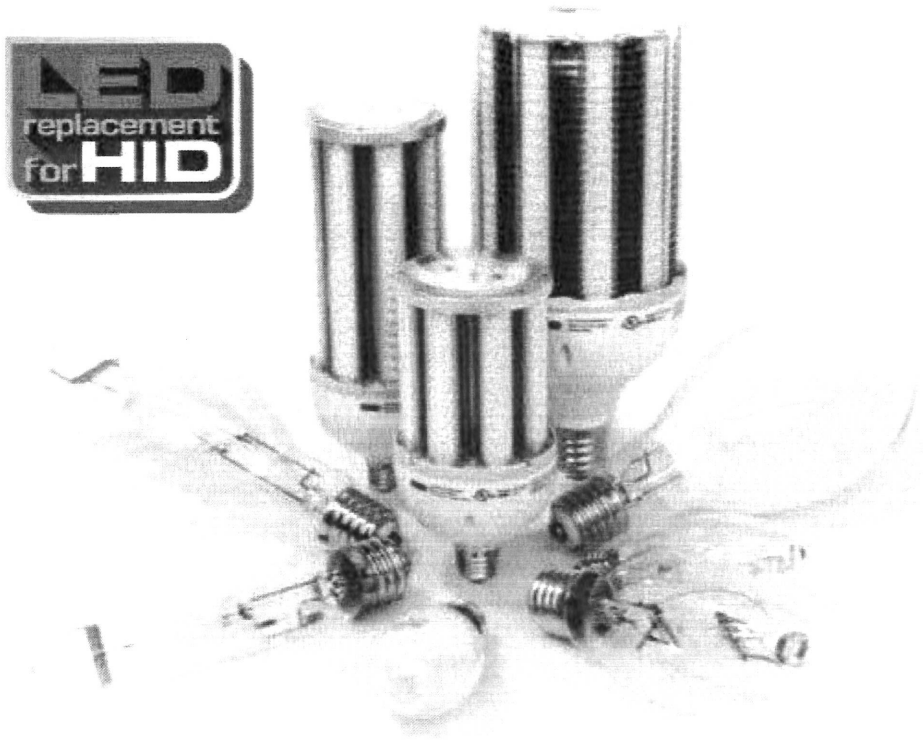
Electricity through Constellation for 317 streetlights converted to 50W - $3600
Electricity for 190 HPS Met Ed owned lights - $5525
LED Transmission Costs for 317 lights - $50,600
HPS Transmission Costs for 190 lights - $34,450

ANNUAL TOTAL COST $94,175 (Annual savings $19,775) Payback on bulb purchase 15 months.



LITESPANLED

LED HID replacement lamps



LitespanLED™ by EIKO continues to provide highly efficient, budget-friendly, environmentally conscious and sustainable LED alternatives to traditional lighting options. Introducing our all-new **LED HID Replacement Lamps** – designed to replace traditional 50-400W metal halide, high pressure sodium or mercury vapor lamps while consuming up to 75% less energy, with double the lifetime of HID.

Available with standard medium E26 or mogul E39 screw bases, and your choice of 4000K or 5000K CCT, these replacement lamps deliver over 110 lumens per watt. The universal mounting position allows for vertical base up/base down or horizontal operation for ultimate design flexibility. They're shatter resistant and RoHS Compliant for environmentally mindfulness. And with their ultra long life, they virtually eliminate routine maintenance costs!

SAMSUNG RoHS Compliant c UL US LISTED

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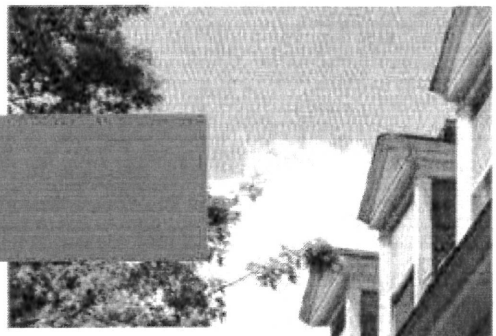
LITESPANLED

LED HID retrofit lamp

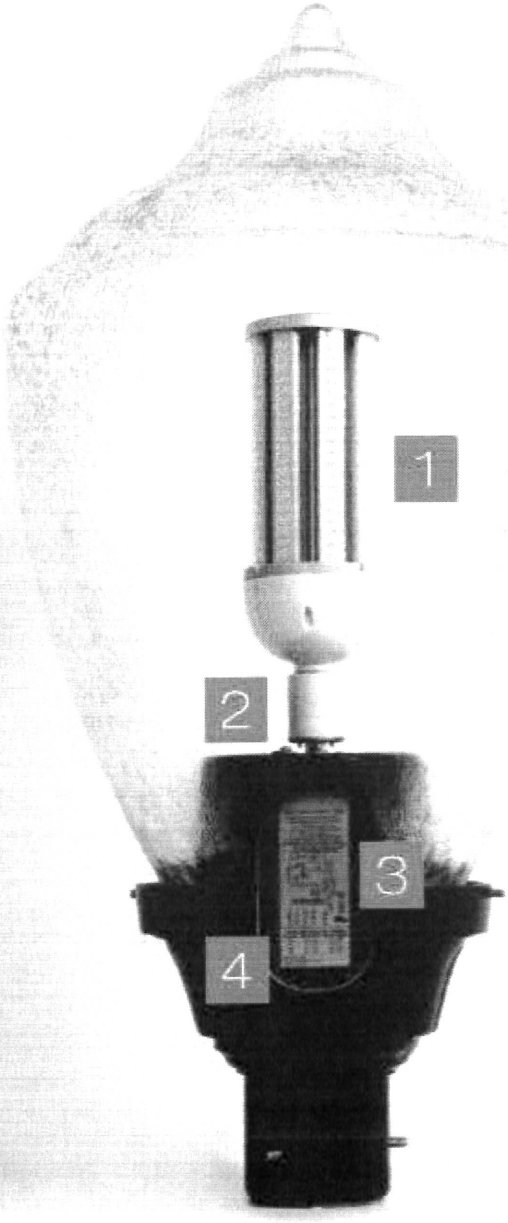


1 LED HID retrofit lamp
with integral 120-277V universal driver

2 socket
utilizes existing E26 medium or E39 mogul base sockets

3 HID ballast
remove existing HID ballast from electrical circuit

4 wiring
attach line voltage 120-277V directly to existing socket



LED replacement for HID

innovative LED technology!

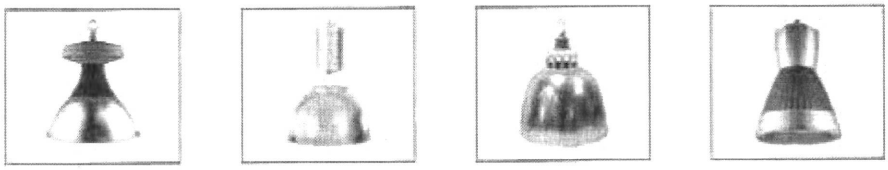


retrofitting options

The LED HID Replacement Lamp is ideal for use in:

- post-tops
- wallpacks
- area lights
- highbays
- lanterns
- flood lights
- garages
- temporary lighting

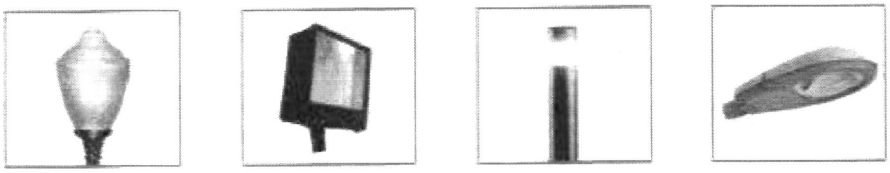
▪ retrofits into most high bay fixtures



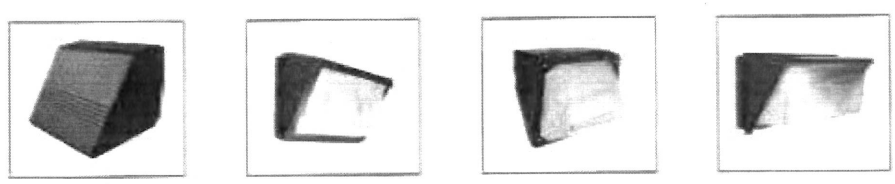
▪ retrofits into many popular garage & low bay fixtures



▪ retrofits into most post-top, bollard & area fixtures



▪ retrofits into most HID wall pack fixtures



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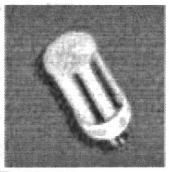
LITESPANLED

LED HID replacement lamps





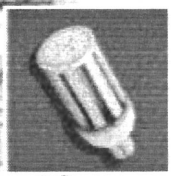
20W: replaces 50-70W HID

LED20WPT40KMED-G6	2,100 LM	4000K CCT	Medium Base
LED20WPT50KMED-G5	2,100 LM	5000K CCT	Medium Base



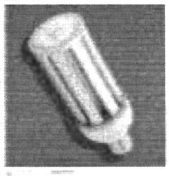
27W: replaces 50-100W HID

LED27WPT40KMED-G5	3,000 LM	4000K CCT	Medium Base
LED27WPT40KMOG-G5	3,000 LM	4000K CCT	Mogul Base
LED27WPT50KMED-G5	3,240 LM	5000K CCT	Medium Base
LED27WPT50KMOG-G5	3,240 LM	5000K CCT	Mogul Base



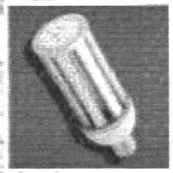
36W: replaces 100-150W HID

LED36WPT40KMED-G5	4,000 LM	4000K CCT	Medium Base
LED36WPT40KMOG-G5	4,000 LM	4000K CCT	Mogul Base
LED36WPT50KMED-G5	4,320 LM	5000K CCT	Medium Base
LED36WPT50KMOG-G5	4,320 LM	5000K CCT	Mogul Base



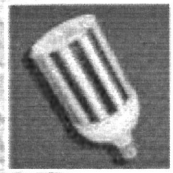
45W: replaces 150-175W HID

LED45WPT40KMED-G5	5,000 LM	4000K CCT	Medium Base
LED45WPT40KMOG-G5	5,000 LM	4000K CCT	Mogul Base
LED45WPT50KMED-G5	5,400 LM	5000K CCT	Medium Base
LED45WPT50KMOG-G5	5,400 LM	5000K CCT	Mogul Base



54W: replaces 175-250W HID

LED54WPT40KMED-G5*	6,600 LM	4000K CCT	Medium Base
LED54WPT40KMOG-G5*	6,600 LM	4000K CCT	Mogul Base
LED54WPT50KMED-G5*	6,480 LM	5000K CCT	Medium Base
LED54WPT50KMOG-G5*	6,480 LM	5000K CCT	Mogul Base



100W: replaces 250-400W HID

LED100WPT40KMOG-G5**	12,500 LM	4000K CCT	Mogul Base

All lamps are 100-277V and feature 80+ CRI and a 50,000 hour rated life.
*When used in enclosed fixture, minimum lamp compartment dimensions 400mm x 400 mm.
**Open fixture damp location rated.

LED replacement for HID

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Rev. 1/25/15

STREET LIGHTING AGREEMENT

THIS AGREEMENT, made and entered into this the_____ day of _____, 2016, by and between, the Township of Maidencreek, hereinafter called "Customer", and Metropolitan Edison Company, a public utility corporation organized and existing under the laws of the Commonwealth of Pennsylvania, hereinafter called "Met-Ed".

WITNESSETH:

WHEREAS, Customer desires Met-Ed to provide street lighting service to Met-Ed owned street lighting facilities and Customer owned street lighting facilities ("Units"); situated in the Township of Maidencreek, County of Berks, Commonwealth of Pennsylvania; and

WHEREAS, Customer may from time to time desire Met-Ed to add, replace and/or remove the Met-Ed owned Units; and

WHEREAS, Customer desires Met-Ed to provide street lighting service to any additional or replaced Units;

NOW, THEREFORE, Customer and Met-Ed, in consideration of the mutual promises set forth herein and intending to be legally bound, hereby agree as follows:

1. AGREEMENT TERM AND RENEWAL – The term of this AGREEMENT shall be as follows:

   Ten (10) years from the date hereof for street lighting service provided pursuant to Rate LED Street Lighting; and, thereafter, subject to the Tariff as defined herein below, shall continue in full force and effect for successive one (1) year terms, unless or until terminated by either party by giving written notice to such effect to the other party not less than ninety (90) days prior to the end of the then current term.

2. RATE – Customer shall receive and pay for street lighting service provided hereunder in accordance with Met-Ed's applicable rules, regulations, rate schedules and riders presently in effect and on file with the Pennsylvania Public Utility Commission and as the same may, from time to time, be amended ("Tariff"). Met-Ed shall provide street lighting service hereunder in accordance with the Tariff. When the Customer makes a request to install, or remove streetlight(s) Met-Ed will provide a document detailing the work requested and any up-front cost to the Customer. An authorized representative from the Customer must sign the document and make payment, if required, prior to the work being completed by the Company.

3. LOCATION OF UNITS – The location of existing Units shall be identified on a Met-Ed computerized database. Any addition, replacement and/or removal of Units shall be noted on such database by Met-Ed. It is the Customer's responsibility to make request for new streetlight installation locations based on locations where they are permitted to do so.

4. ADDITION, REPLACEMENT AND/OR REMOVAL OF UNITS – At the request of Customer and in accordance with the Tariff, Met-Ed will add, replace and/or remove Units. I

   In the event, Customer requests the addition or replacement of a Unit, the term of this AGREEMENT as to that additional or replaced Unit shall be ten (10) years from the date of its installation, and, thereafter, as specified in Paragraph 1 hereof.

5. OWNERSHIP – None of the facilities or equipment installed or to be installed by Met-Ed, in connection with the supply of the street lighting service by Met-Ed shall be deemed to be or become a part of the real estate crossed by or abutting such facilities or equipment or to be subject to any mortgage, lien or encumbrance applicable to such real estate; but shall, at all times, remain the personal property of Met-Ed.

6. GENERAL PROVISIONS – Reference is made to the Tariff for all other terms, provisions and conditions relative to the supply of street lighting service, including the installation, operation, maintenance, repair and replacement of the Units, the installation of additional Units and certain restrictions and limitation. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania. This Agreement and the Tariff shall constitute the entire agreement among the parties hereto and supersedes any and all prior written or oral communications, negotiations, representations, or promises with respect to the subjects addressed in this Agreement.

This AGREEMENT shall be binding upon Customer and Met-Ed and their respective successors and assigns.

IN WITNESS WHEREOF, the parties hereto have caused this AGREEMENT to be executed as of the day and year first above written.

ATTEST: MAIDENCREEK TOWNSHIP

_____ By: _____

Title: _____ Title: _____

Date: _____

Met-Ed Witness: Met-Ed

_____ By: _____

Title: _____ Title: _____

Date: _____