Short Form Work Paper WPSDGENRLG0181

**Revision 5**

**San Diego Gas & Electric**

**Energy Efficiency Engineering**

**LED Outdoor Area and Street Lighting**

**Implementation IDs: 464091-464136**

**464171-464213**

**June 4, 2018**

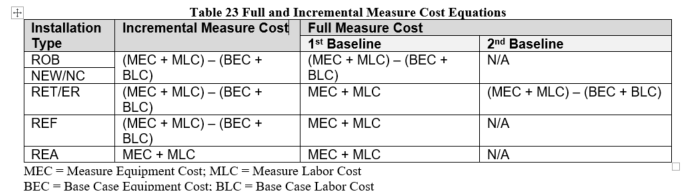
# SDG&E Exterior LED Lighting Outdoor Street and Area Short Form Workpaper

## Introduction

This short form workpaper documents the adoption of PEAR database DEER Measure IDs and PG&E’s interim Outdoor Area and Street Lighting workpaper (PGECOLTG151 Rev08) for calculating ex-ante savings impacts and cost-effectiveness values used for LED outdoor area and street lighting. The savings and costs are based on READi version 2.4.8 Preliminary Review Database values.

Exceptions and Clarifications

* For ease of reporting claims process, the PEAR Measure Cost ID cost type was updated to “FULL”
* Standard Cost ID = “BaseCostZero” = 0.
* Incremental Measure Cost = IMC
* Table below provided by PGE workpaper (PGECOLTG151 R8 LED Outdoor Lighting)



## Document Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Rev** | **Date** | **Author** | **Summary of Changes** |
| 0 | 11/19/2008 | PG&E | Original work paper (adopted form PG&E Work paper) |
| **1** | **12/03/2009** | Lucie Sidibe / SDG&E | 1-Update NTG to 2011 filing table  2- Update Run Hrs to 4,165 hours (ET Assessment Study)  3- Update Base case/Measure Value  4-SDG&E weighted Saving Calc  5- Completed measure cost using DEER08 as base case data |
| 2 | 6/27/2014 | Judelson Enriquez / RMS | 1. Updated Measures table with product codes and measure requirements, DEER Difference Summary table, Code Summary table, EUL ID table, NTG ID table, GSIA ID table, building type, load shape, and TOU section.  2. Updated costs and tables using SCE costs and approach.  3. Updated measure wattage summary table using May 30 lighting disposition and generated the calculation template. |
| 4 | 1/02/2018 | Eduardo Reynoso/ SDG&E | 1. Workpaper revision 3 was a database error and skipped to revision 4. 2. Adoption of PGECOLTG151 Revision 8 workpaper dated 1/1/2018. 3. Updated the measures requirements to new DLC V4.2 minimum Standards. 4. Generated new MFm building type savings impacts with the assumption that the HOU (3390 hours/year) for outdoor area lighting differ between Res (MFm) and Non-Res. The SDG&E Implementation IDs associated with these are 464214-464225 and 464262-464265. 5. Created new SDG&E Implementations IDs: 464091-464136; 464171-464225; 464262-464265. |
| 5 | 6/02/2018 | Keith Valenzuela/ SDG&E Contractor | 1. Adopted short from workpaper formate 2. Updated based on 2018 Outdoor Lighting Disposition Update Covering Workpaper Resubmission in Response to a 2018 Phase 1 Disposition dated May 7th, 2018 3. Removed new MFm building type savings impacts with the assumption that the HOU (3390 hours/year) for outdoor area lighting differ between Res (MFm) and Non-Res. The SDG&E Implementation IDs associated with these are 464214-464225 and 464262-464265. |

## Measure Summary

Table : Measure Summary Table

| **Section** | **Value** |
| --- | --- |
| **Summary & Purpose** | This short form workpaper documents adoption of the PG&E Outdoor Area and Street Lighting workpaper (PGECOLTG151 Rev08) based on 2018 Outdoor Lighting Disposition Update Covering Workpaper Resubmission in Response to a 2018 Phase 1 Disposition dated May 7th, 2018 released by the CPUC Energy Division. |
| **1.1 Measure & Baseline Data** | Adopted from PG&E workpaper PGECOLTG151 Revision 8.   |  |  |  |  | | --- | --- | --- | --- | | SDG&E Implem. ID  (Delivery/Sector) | PGE Msr Code | PEAR database DEER Measure ID | Measure Description | | * 464091-464097   (PreRebDown/ NonRes)   * 464171-464177   (PreRebUp/ NonRes) | LT282 | C-Out-Strt-LEDFixt-PM-Ext(29w)-dW14 | LED STREET LIGHTING: INSTALL 0 - 29 W FIXTURE | | LT283 | C-Out-Strt-LEDFixt-PM-Ext(45w)-dW14 | LED STREET LIGHTING: INSTALL 30 - 45 W FIXTURE | | LT284 | C-Out-Strt-LEDFixt-PM-Ext-1(68w)-dW22 | LED STREET LIGHTING: INSTALL 46 - 68 W FIXTURE | | LT285 | C-Out-Strt-LEDFixt-PM-Ext-1(90w)-dW27 | LED STREET LIGHTING: INSTALL 69 - 90 W FIXTURE | | LT286 | C-Out-Strt-LEDFixt-PM-Ext(107w)-dW29 | LED STREET LIGHTING: INSTALL 91 - 107 W FIXTURE | | LT287 | C-Out-Strt-LEDFixt-PM-Ext(146w)-dW29 | LED STREET LIGHTING: INSTALL 108 - 146 W FIXTURE | | LT288 | C-Out-Strt-LEDFixt-PM-Ext(235w)-dW43 | LED STREET LIGHTING: INSTALL 147 - 235 W FIXTURE | | * 464098-464104   (PreRebDown/ NonRes)   * 464178-464184   (PreRebUp/ NonRes) | LT289 | C-Out-Strt-LEDFixt-PM-Ext(29w)-dW14 | LS1 LED STREET LIGHTING: INSTALL 0 - 29 W FIXTURE | | LT290 | C-Out-Strt-LEDFixt-PM-Ext(45w)-dW14 | LS1 LED STREET LIGHTING: INSTALL 30 - 45 W FIXTURE | | LT291 | C-Out-Strt-LEDFixt-PM-Ext-1(68w)-dW22 | LS1 LED STREET LIGHTING: INSTALL 46 - 68 W FIXTURE | | LT292 | C-Out-Strt-LEDFixt-PM-Ext-1(90w)-dW27 | LS1 LED STREET LIGHTING: INSTALL 69 - 90 W FIXTURE | | LT293 | C-Out-Strt-LEDFixt-PM-Ext(107w)-dW29 | LS1 LED STREET LIGHTING: INSTALL 91 - 107 W FIXTURE | | LT294 | C-Out-Strt-LEDFixt-PM-Ext(146w)-dW29 | LS1 LED STREET LIGHTING: INSTALL 108 - 146 W FIXTURE | | LT295 | C-Out-Strt-LEDFixt-PM-Ext(235w)-dW43 | LS1 LED STREET LIGHTING: INSTALL 147 - 235 W FIXTURE | | * 464105-464114   (PreRebDown/ NonRes)   * 464185-464193   (PreRebUp/ NonRes) | LT296 | C-Out-RdAr-LEDFixt-PM-Ext(29w)-dW14 | LED OUTDOOR POLE/ARM-MOUNTED AREA LIGHTING: INSTALL 0 - 29 W FIXTURE | | LT297 | C-Out-RdAr-LEDFixt-PM-Ext(45w)-dW14 | LED OUTDOOR POLE/ARM-MOUNTED AREA LIGHTING: INSTALL 30 - 45 W FIXTURE | | LT298 | C-Out-RdAr-LEDFixt-PM-Ext-1(68w)-dW22 | LED OUTDOOR POLE/ARM-MOUNTED AREA LIGHTING: INSTALL 46 - 68 W FIXTURE | | LT299 | C-Out-RdAr-LEDFixt-PM-Ext-1(90w)-dW27 | LED OUTDOOR POLE/ARM-MOUNTED AREA LIGHTING: INSTALL 69 - 90 W FIXTURE | | LT300 | C-Out-RdAr-LEDFixt-PM-Ext(107w)-dW29 | LED OUTDOOR POLE/ARM-MOUNTED AREA LIGHTING: INSTALL 91 - 107 W FIXTURE | | LT301 | C-Out-RdAr-LEDFixt-PM-Ext(146w)-dW29 | LED OUTDOOR POLE/ARM-MOUNTED AREA LIGHTING: INSTALL 108 - 146 W FIXTURE | | LT302 | C-Out-RdAr-LEDFixt-PM-Ext(235w)-dW43 | LED OUTDOOR POLE/ARM-MOUNTED AREA LIGHTING: INSTALL 147 - 235 W FIXTURE | | LT303 | C-Out-RdAr-LEDFixt-PM-Ext(390w)-dW54 | LED OUTDOOR POLE/ARM-MOUNTED AREA LIGHTING: INSTALL 236 - 390 W FIXTURE | | LT304 | C-Out-RdAr-LEDFixt-PM-Ext(571w)-dW94 | LED OUTDOOR POLE/ARM-MOUNTED AREA LIGHTING: INSTALL 391 - 571 W FIXTURE | | * 464115-464118   (PreRebDown/ NonRes)   * 464194-464197   (PreRebUp/ NonRes) | LT305 | C-Out-Gar-LEDFixt-CM-Ext(38w)-dW26 | LED OUTDOOR PARKING GARAGE LIGHTING: INSTALL 0 - 38 WATTS FIXTURE | | LT306 | C-Out-Gar-LEDFixt-CM-Ext(38w)-dW26 | LED OUTDOOR PARKING GARAGE LIGHTING: INSTALL 39 - 56 WATTS FIXTURE | | LT307 | C-Out-Gar-LEDFixt-CM-Ext(88w)-dW37 | LED OUTDOOR PARKING GARAGE LIGHTING: INSTALL 57 - 88 WATTS FIXTURE | | LT308 | C-Out-Gar-LEDFixt-CM-Ext(113w)-dW47 | LED OUTDOOR PARKING GARAGE LIGHTING: INSTALL 89 - 113 WATTS FIXTURE | |  |  |  |  | |
|  | |  |  |  |  | | --- | --- | --- | --- | | SDGE Implem.  ID (Delivery  / Sector) | PGE Msr Code | PEAR database DEER Measure ID | Measure Description (Solution Code) | | * 464135;   (DirInstall/  NonRes)   * 464198-   464206;  (PreRebUp/  NonRes) | LT309 | C-Out-LEDFixt-WM-Ext-1(25w)-dW16 | LED OUTDOOR WALL-MOUNTED AREA LIGHTING: INSTALL 0 - 25 WATTS FIXTURE | | LT310 | C-Out-LEDFixt-WM-Ext-1(39w)-dW13 | LED OUTDOOR WALL-MOUNTED AREA LIGHTING: INSTALL 26 - 39 WATTS FIXTURE | | LT311 | C-Out-LEDFixt-WM-Ext(58w)-dW21 | LED OUTDOOR WALL-MOUNTED AREA LIGHTING: INSTALL 40 - 58 WATTS FIXTURE | | LT312 | C-Out-LEDFixt-WM-Ext(78w)-dW19 | LED OUTDOOR WALL-MOUNTED AREA LIGHTING: INSTALL 59 - 78 WATTS FIXTURE | | LT313 | C-Out-LEDFixt-WM-Ext(97w)-dW20 | LED OUTDOOR WALL-MOUNTED AREA LIGHTING: INSTALL 79 - 97 WATTS FIXTURE | | LT314 | C-Out-LEDFixt-WM-Ext(126w)-dW25 | LED OUTDOOR WALL-MOUNTED AREA LIGHTING: INSTALL 98 - 126 WATTS FIXTURE | | LT315 | C-Out-LEDFixt-WM-Ext(203w)-dW28 | LED OUTDOOR WALL-MOUNTED AREA LIGHTING: INSTALL 127 - 203 WATTS FIXTURE | | LT316 | C-Out-LEDFixt-WM-Ext(337w)-dW55 | LED OUTDOOR WALL-MOUNTED AREA LIGHTING: INSTALL 204 - 337 WATTS FIXTURE | | LT317 | C-Out-LEDFixt-WM-Ext(493w)-dW86 | LED OUTDOOR WALL-MOUNTED AREA LIGHTING: INSTALL 338 - 493 WATTS FIXTURE | | * 464128-   464134;  (PreRebDown/  NonRes)   * 464136;   (DirInstall/ NonRes)   * 464207-464213;   (PreRebUp/ NonRes) | LT318 | C-Out-Cnpy-LEDFixt-Ext(19w)-dW9 | LED OUTDOOR FUEL PUMP CANOPY LIGHTING: INSTALL 0 - 19 WATTS FIXTURE | | LT319 | C-Out-Cnpy-LEDFixt-Ext(29w)-dW7 | LED OUTDOOR FUEL PUMP CANOPY LIGHTING: INSTALL 20 - 29 WATTS FIXTURE | | LT320 | C-Out-Cnpy-LEDFixt-Ext-1(46w)-dW11 | LED OUTDOOR FUEL PUMP CANOPY LIGHTING: INSTALL 30 - 46 WATTS FIXTURE | | LT321 | C-Out-Cnpy-LEDFixt-Ext(59w)-dW12 | LED OUTDOOR FUEL PUMP CANOPY LIGHTING: INSTALL 47 - 59 WATTS FIXTURE | | LT322 | C-Out-Cnpy-LEDFixt-Ext-3(73w)-dW15 | LED OUTDOOR FUEL PUMP CANOPY LIGHTING: INSTALL 60 - 73 WATTS FIXTURE | | LT323 | C-Out-Cnpy-LEDFixt-Ext-3(99w)-dW16 | LED OUTDOOR FUEL PUMP CANOPY LIGHTING: INSTALL 74 - 99 WATTS FIXTURE | | LT324 | C-Out-Cnpy-LEDFixt-Ext(153w)-dW22 | LED OUTDOOR FUEL PUMP CANOPY LIGHTING: INSTALL 100 - 153 WATTS FIXTURE |   Note: refers to the SDG&E Ex-ante database submittal for additional detail. |
| **1.2 Technical Description** | ***Program Restrictions and Guidelines***  To qualify for a rebate, the following requirements must be met:   * DLC Premium LEDs must replace Metal halide, Linear fluorescent (for parking garage only) or other LEDs * Proposed fixture must be on the Design Lights Consortium (DLC) Qualified Products List (QPL), classified as Premium, and listed under the Outdoor General Application. * DLC-qualified luminaires must have a power factor of ≥0.9, and a total harmonic distortion (THD) of ≤20%. * Proposed fixture must be listed on the DLC QPL under the appropriate DLC Primary uses for the measure codes:  |  |  | | --- | --- | | **Table 2 Measure Code and DLC v 4.2 Primary**  **Use Alignment Measure Code Range** | **Eligible DLC Primary Uses** | | PG&E: LT282 – LT295 (Street light) | * Outdoor Pole/Arm-Mounted Area and Roadway Luminaires * Retrofit Kits for Large Outdoor Pole/Arm-Mounted Area and Roadway Luminaires * Retrofit Kits for Outdoor Pole/Arm-Mounted Area and Roadway Luminaires | | SDG&E: 464091-464097; 464171-464177;  464098-464104; 464178-464184; | | PG&E: LT296 – LT304 (Outdoor area pole/arm-mounted) | * Outdoor Pole/Arm-Mounted Area and Roadway Luminaires * Retrofit Kits for Large Outdoor Pole/Arm-Mounted Area and Roadway Luminaires * Retrofit Kits for Outdoor Pole/Arm-Mounted Area and Roadway Luminaires | | SDG&E: 464105-464114; 464185-464193; | | PG&E: LT305 – LT308 (Garage) | * Parking Garage Luminaires * Retrofit Kits for Parking Garage Luminaires | | SDG&E: 464115-464118; 464194-464197; | | PG&E: LT309 – LT317 (Wall-mounted) | * Outdoor Full-Cutoff Wall-Mounted Area Luminaires * Outdoor Non-Cutoff and Semi-Cutoff Wall-Mounted Area Luminaires * Retrofit Kits for Outdoor Full-Cutoff Wall-Mounted Area Luminaires | | SDG&E: 464119-464127; 464135;  464198-464206; | | LT318– LT324 (Canopy) | * Fuel Pump Canopy Luminaires * Retrofit Kits for Fuel Pump Canopy Luminaires | | SDG&E: 464128-464134; 464136;  464207-464213; |   \*All Outdoor Street and Area Luminaires types listed above must meet a minimum efficacy in lumens per watt, based on their light output. |
| Requirements | |  |  |  | | --- | --- | --- | | **Table 3 DLC v 4.2 Premium Efficacy Requirements**  **General Application** | **Light Output Range (lm)** | **Minimum Efficacy (lm/W)** | | Outdoor – Low Output | 250 – 5,000 | 110 | | Outdoor – Mid Output | 5,000 – 10,000 | 115 | | Outdoor – High Output | 10,000 – 30,000 | 120 | | Outdoor – Very High Output | ≥30,000 | 120 |  * Luminaire/enclosure type must be certified by NEMA/IEC as wet location for exterior parking, roadway, area, or wall-mounted luminaires and damp (or wet) location for parking garage luminaires. * Power supply shall have a minimum operating temperature rating of –20°C or below and when used in luminaires intended for outdoor applications. * Not to exceed the power supply manufacturer’s maximum recommended case temperature or TMP when measured during in-situ operation. **Note:** This performance characteristic is separate and distinct from thermal requirements established by UL, which governs safety rather than longevity of the power supply. * A product cut sheet and installation instructions must be provided. * Public Utilities Code Section 384.5 requires SDG&E to pay to the customer any “rebate or incentive through ratepayer-funded programs intended to increase energy efficiency.” In compliance with the statute SDG&E to offer rebates for Rate Schedule LS-1 to be applicable to IOU-owned streetlights pursuant to AB719.   ***Terms and Conditions***  The customer must be a SDG&E electrical customer served under a streetlight or commercial/industrial rate schedule.  ***Market Applicability***  This measure applies to the Customer-Owned Street and Highway Lighting, Outdoor Area Lighting Service, and the commercial/industrial rate schedules. This program has both Downstream and Direct Install delivery types. |
| Measures | Refer to the SDG&E Ex-ante database submittal |
| Code for All Measures | As stated per PGECOLTG151 Revision 8 workpaper and provided herein below. Codes & Standards Requirements ***Title 20***: These measures do not fall under Title 20 [2016] of the California Energy Regulations. The Metal Halide (MH) fixtures in the base case do fall under Title 20, and the wattages used for savings calculations are based on formulae from Table N-1 on page 283 and section 1605.3(n)(1)(B) on page 318.[[1]](#endnote-1)  ***Title 24:*** Section 110.9 and 130.2 of Title 24 [2016] details the mandatory requirements for lighting control devices and systems, ballasts, and luminaires and outdoor lighting controls and equipment. Power consumption is prescribed through calculations at the site level. Individual fixture optical performance is restricted only in section 130.2. This section describes the number of lumens exiting the fixtures at upward angles and angles near-horizontal, which also depends on the lighting zone.  Title 24 Section 130.1(c)7B for parking garage controls:  In parking garages, parking areas and loading and unloading areas, general lighting shall be controlled by occupant sensing controls having at least one control step between 20 percent and 50 percent of design lighting power. No more than 500 watts of rated lighting power shall be controlled together as a single zone. A reasonably uniform level of illuminance shall be achieved in accordance with the applicable requirements in TABLE 130.1-A. The occupant sensing controls shall be capable of automatically turning the lighting fully ON only in the separately controlled space, and shall be automatically activated from all designed paths of egress. Interior areas of parking garages are classified as indoor lighting for compliance with Section 130.1(c)7B. Parking areas on the roof of a parking structure are classified as outdoor hardscape and shall comply with the applicable provisions in Section 130.2.  Title 24 Section 130.2(c)3 for outdoor luminaires mounted below 24 feet:  All installed outdoor lighting, where the bottom of the luminaire is mounted 24 feet or less above the ground, shall be controlled with automatic lighting controls that meet all of the following requirements:  A. Shall be motion sensors or other lighting control systems that automatically controls lighting in accordance with Item B in response to the area being vacated of occupants; and  B. Shall be capable of automatically reducing the lighting power of each luminaire by at least 40 percent but not exceeding 90 percent, or provide continuous dimming through a range that includes 40 percent through 90 percent, and  C. Shall employ auto-ON functionality when the area becomes occupied; and  D. No more than 1,500 watts of lighting power shall be controlled together  EXCEPTION 3 to Section 130.2(c)3: Outdoor lighting, where luminaire rated wattage is determined in accordance with Section 130.0(c), and which meet one of the following conditions:  A. Pole-mounted luminaires each with a maximum rated wattage of 75 watts; or  B. Non-pole mounted luminaires with a maximum rated wattage of 30 watts each; or  C. Linear lighting with a maximum wattage of 4 watts per linear foot of luminaire.  ***Federal Standards:*** Department of Energy (DOE) regulates Metal Halide outdoor lamps via a Metal Halide Light Fixture standard enforced starting February 10, 2017. |
| **1.3 Installation Type and Delivery Mechanisms** |  |
| Installation Type | * Replace On Burnout (ROB) |
| Delivery Mechanisms | * PreRebDown - Downstream Rebate – Deemed * PreRebDI - Direct Install – Deemed   Notes   1. SDG&E Business Energy Solution (BES) program contracts with third party implementers for the installation of these measures. The customer participation includes a copay and financial incentive buy-down. The delivery type has been determined to be “PreRebDown” due to customer copay to third party implementer. Traditionally this program is eligible for Direct Install delivery method absent a customer copay option. 2. SDG&E Mid-Stream Lighting Programs (3223L, 3233L and 3239L) has contracted with local Lighting Distributors to provide a discounted luminaire (incentive to others) for providing customer site address and customer utility account. The end-use customer to benefit from a discounted luminaire given that customer information is being collected. The Delivery Type has been determined to be a Mid-Stream “PreRebUp” solution for the given case mentioned. |
| **1.4.1 DEER Data** |  |
| GSIA | |  |  |  | | --- | --- | --- | | GSIA ID | GSIA Value | Sector | | Def-GSIA | 1.0 | NonRes | |
| Net-to-Gross Ratio | |  |  |  | | --- | --- | --- | | NTG ID | NTG Value | Sector | | Com-Out-Ltg-LEDFixt | 0.91 | NonRes | |
| Effective and Remaining Useful Life | EUL/RUL   |  |  |  | | --- | --- | --- | | EUL ID | EUL Value | Sector | | Oltg-Com-LED-50000hr | 12 | NonRes | |
| **Section 2. Calculation Methodology** |  |
| Energy Savings/Peak Demand Reduction – All Measures | As stated in the PG&E Outdoor Area and Street Lighting workpaper (PGECOLTG151 Revision 8) Section 2.0 pages 9-17.   * No Peak savings associated with outdoor lighting * Refer to SDG&E Ex-ante database for savings impacts |
| **Section 3. Load Shapes** | SDG:01-ALC-AllCommercial-ExtLight |
| **Section 4. Costs** |  |
| **Section 4.1 Modeled Costs** |  |
| Base Cost | As stated per PGE workpaper (PGECOLTG178 R3) and 2018 May 7th Phase 2 CPUC Energy Division Lighting Disposition for High-Bay and Low-Bay Interim approval of PEAR database and DEER/READi 2.4.8 user interface and available on [www.deeresources.net](http://www.deeresources.net) .  Base Cost = $ 0.00 =  Standard Cost ID = “BaseCostZero” = 0 |
| Measure Cost | All costs are adopted from PEAR database using READi Tool v2.4.8 and as stated per PGE workpaper (PGECOLTG178 R3) and 2018 May 7th Phase 2 CPUC Energy Division Lighting Disposition for High-Bay and Low-Bay Interim approval of PEAR database using DEER/READi Tool version 2.4.8 user interface and available on [www.deeresources.net](http://www.deeresources.net)  Measure Cost = Incremental Measure Cost  (MC = IMC)   |  |  |  |  |  | | --- | --- | --- | --- | --- | | SDG&E  ImplemID | PEAR Measure  Cost ID | Cost Value $  (MC = IMC) | PGE Msr Code | Measure Description | | 464091-  464097;  464171-  464177; | Strt-LEDFixt-PM-Ext(29w) | 11.00 | LT282 | LED STREET LIGHTING (0 – 29W) FIXTURE | | Strt-LEDFixt-PM-Ext(45w) | 13.20 | LT283 | LED STREET LIGHTING (30 - 45 W) FIXTURE | | Strt-LEDFixt-PM-Ext-1(68w) | 16.50 | LT284 | LED STREET LIGHTING (46 - 68 W) FIXTURE | | Strt-LEDFixt-PM-Ext-1(90w) | 18.70 | LT285 | LED STREET LIGHTING (69 - 90 W) FIXTURE | | Strt-LEDFixt-PM-Ext(107w) | 22.00 | LT286 | LED STREET LIGHTING (91 - 107 W) FIXTURE | | Strt-LEDFixt-PM-Ext(146w) | 27.50 | LT287 | LED STREET LIGHTING (108 - 146 W) FIXTURE | | Strt-LEDFixt-PM-Ext(235w) | 33.00 | LT288 | LED STREET LIGHTING (147 - 235 W) FIXTURE | | 464098-  464104;  464178-  464184; | Strt-LEDFixt-PM-Ext(29w) | 11.00 | LT289 | LS1 LED STREET LIGHTING (0 - 29 W) FIXTURE | | Strt-LEDFixt-PM-Ext(45w) | 13.20 | LT290 | LS1 LED STREET LIGHTING (30 - 45 W) FIXTURE | | Strt-LEDFixt-PM-Ext-1(68w) | 16.50 | LT291 | LS1 LED STREET LIGHTING (46 - 68 W) FIXTURE | | Strt-LEDFixt-PM-Ext-1(90w) | 18.70 | LT292 | LS1 LED STREET LIGHTING (69 - 90 W) FIXTURE | | Strt-LEDFixt-PM-Ext(107w) | 22.00 | LT293 | LS1 LED STREET LIGHTING (91 - 107 W) FIXTURE | | Strt-LEDFixt-PM-Ext(146w) | 27.50 | LT294 | LS1 LED STREET LIGHTING (108 - 146 W) FIXTURE | | Strt-LEDFixt-PM-Ext(235w) | 33.00 | LT295 | LS1 LED STREET LIGHTING (147 - 235 W) FIXTURE | | 464105-  464114;  464185-  464193; | RdAr-LEDFixt-PM-Ext(29w) | 27.50 | LT296 | LED OUTDOOR POLE-MOUNTED (0 - 29 W) FIXTURE | | RdAr-LEDFixt-PM-Ext(45w) | 33.00 | LT297 | LED OUTDOOR POLE-MOUNTED (30 - 45 W) FIXTURE | | RdAr-LEDFixt-PM-Ext-1(68w) | 38.50 | LT298 | LED OUTDOOR POLE-MOUNTED (46 - 68 W) FIXTURE | | RdAr-LEDFixt-PM-Ext-1(90w) | 44.00 | LT299 | LED OUTDOOR POLE-MOUNTED (69 - 90 W) FIXTURE | | RdAr-LEDFixt-PM-Ext(107w) | 49.50 | LT300 | LED OUTDOOR POLE-MOUNTED (91 - 107 W) FIXTURE | | RdAr-LEDFixt-PM-Ext(146w) | 60.50 | LT301 | LED OUTDOOR POLE-MOUNTED (108 - 146 W) FIXTURE | | RdAr-LEDFixt-PM-Ext(235w) | 66.00 | LT302 | LED OUTDOOR POLE-MOUNTED (147 - 235 W) FIXTURE | | RdAr-LEDFixt-PM-Ext(390w) | 71.50 | LT303 | LED OUTDOOR POLE-MOUNTED (236 - 390 W) FIXTURE | | RdAr-LEDFixt-PM-Ext(571w) | 77.00 | LT304 | LED OUTDOOR POLE-MOUNTED (391 - 571 W) FIXTURE | | 464115-  464118  464194-  464197; | Gar-LEDFixt-CM-Ext(38w) | 16.50 | LT305 | LED OUTDOOR PARKING GARAGE (0 - 38 W) FIXTURE | | Gar-LEDFixt-CM-Ext(56w) | 22.00 | LT306 | LED OUTDOOR PARKING GARAGE (39 - 56 W) FIXTURE | | Gar-LEDFixt-CM-Ext(88w) | 27.50 | LT307 | LED OUTDOOR PARKING GARAGE (57 - 88 W) FIXTURE | | Gar-LEDFixt-CM-Ext(113w) | 33.00 | LT308 | LED OUTDOOR PARKING GARAGE (89 - 113 W) FIXTURE | |
| Measure Cost (continued) | |  |  |  |  |  | | --- | --- | --- | --- | --- | | SDGE ImplemID | PEAR Measure  Cost ID | Cost Value $ | PGE Msr Code | Measure Description (Solution Code) | | 464119-  464127;  464135;  464198-  464206; | LEDFixt-WM-Ext-1(25w) | 27.50 | LT309 | LED OUTDOOR WALL-MOUNTED (0 - 25 W) FIXTURE | | LEDFixt-WM-Ext-1(39w) | 33.00 | LT310 | LED OUTDOOR WALL-MOUNTED (26 - 39 W) FIXTURE | | LEDFixt-WM-Ext(58w) | 38.50 | LT311 | LED OUTDOOR WALL-MOUNTED (40 - 58 W) FIXTURE | | LEDFixt-WM-Ext(78w) | 44.00 | LT312 | LED OUTDOOR WALL-MOUNTED (59 - 78 W) FIXTURE | | LEDFixt-WM-Ext(97w) | 49.50 | LT313 | LED OUTDOOR WALL-MOUNTED (79 - 97 W) FIXTURE | | LEDFixt-WM-Ext(126w) | 66.00 | LT314 | LED OUTDOOR WALL-MOUNTED (98 - 126 W) FIXTURE | | LEDFixt-WM-Ext(203w) | 77.00 | LT315 | LED OUTDOOR WALL-MOUNTED (127 - 203 W) FIXTURE | | LEDFixt-WM-Ext(337w) | 99.00 | LT316 | LED OUTDOOR WALL-MOUNTED (204 - 337 W) FIXTURE | | LEDFixt-WM-Ext(493w) | 115.50 | LT317 | LED OUTDOOR WALL-MOUNTED (338 - 493 W) FIXTURE | | 464128-  464134;  464136;  464207-  464213; | Cnpy-LEDFixt-Ext(19w) | 16.50 | LT318 | LED OUTDOOR FUEL PUMP CANOPY (0 - 19 W) FIXTURE | | Cnpy-LEDFixt-Ext(29w) | 22.00 | LT319 | LED OUTDOOR FUEL PUMP CANOPY (20 - 29 W) FIXTURE | | Cnpy-LEDFixt-Ext-1(46w) | 27.50 | LT320 | LED OUTDOOR FUEL PUMP CANOPY (30 - 46 W) FIXTURE | | Cnpy-LEDFixt-Ext(59w) | 33.00 | LT321 | LED OUTDOOR FUEL PUMP CANOPY (47 - 59 W) FIXTURE | | Cnpy-LEDFixt-Ext-3(73w) | 38.50 | LT322 | LED OUTDOOR FUEL PUMP CANOPY (60 - 73 W) FIXTURE | | Cnpy-LEDFixt-Ext-3(99w) | 44.00 | LT323 | LED OUTDOOR FUEL PUMP CANOPY (74 - 99 W) FIXTURE | | Cnpy-LEDFixt-Ext(153w) | 49.50 | LT324 | LED OUTDOOR FUEL PUMP CANOPY (100 - 153 W) FIXTURE | |

1. [↑](#endnote-ref-1)