

PSO Business Rebates Retrofit Lighting Technical Requirements

Application Requirements

- Project pre-approval is required when the project includes the installation of either:
 - 100 high bay/exterior fixtures or more, or
 - 500 other fixture types or more.
- For projects that do not require pre-approval, a rebate application must be submitted within 60 days of the invoice date.

General LED Requirements

- **NEW:** LED measure selection and wattage reduction requirements are based on nominal wattage.
- LED replacement lamps and LED luminaires must be listed on the [Design Lights Consortium](#) (DLC), [ENERGY STAR® Qualified Products List](#) (QPL), or meet the corresponding lumen, warranty, and UL requirements.
- DLC or ENERGY STAR qualified 'Integrated-style' retrofit kits are acceptable as substitutions for fixture replacements. This includes a retrofit system which replaces the entire optical systems of the existing luminaire and fully integrates a replacement light source, optics, and reflective panel.
- All linear lamps are based on 4-foot length. If any other lamp length is used to determine the measure or corresponding rebate amount the equivalent quantity and rebate will be adjusted proportionally.
- LED upgrades not listed on this document may be considered under the custom application, provided the upgrades are DLC or ENERGY STAR qualified products.
- LED lamps purchased through retail channels where PSO ENERGY STAR residential lighting discounts are applied at the point-of-sale are not eligible for rebates.

TLED Requirements

- All TLEDs, regardless of type or application, must be listed on the [DLC QPL](#).
- If proposing to use the LED permanent de-lamping measure, then standard fluorescent de-lamping technical requirements apply, such as requiring lamp centering and the use of listed retrofit kits.
- Currently, three types of TLED products are recognized. Specific technical requirements for each TLED variant are listed below.

Type A – TLED using instant or rapid start fluorescent ballast as power supply

- New compatible instant or rapid start fluorescent ballast must be installed for T8 replacements. T5 replacements do not require a ballast replacement.
- The existing ballast must be removed and legally disposed of. All rebates shall be denied on Type "A" lamp replacements that do not meet these application requirements.
- Label must be installed in fixture indicating that fixture has been retrofitted with TLEDs and that fluorescent lamps should not be installed as replacements.

For more information, visit PowerForwardWithPSO.com, or call 888.776.1366.

Type B – TLED with no external driver; line voltage (120 / 277v) applied to TLED via lamp-holder

- Existing fluorescent ballast must be removed.
- Condition of existing lamp-holders must be verified; replace damaged, corroded, cracked lamp-holders as necessary.
- Label must be installed in fixture indicating that fixture has been retrofitted with TLEDs and that fluorescent lamps should not be installed as replacements.

Type C – TLED using dedicated external driver

- Existing fluorescent ballast must be removed.
- Technical specifications for the power supply/driver supplied with the TLEDs must be submitted.

Agricultural and Specialized LED Lighting

- Specialized LED lighting, such as for agricultural facilities, paint houses, etc., that is not covered by categories on the **DLC** or **ENERGY STAR QPL** may be considered on a case by case basis.
- Manufacturer’s specification sheets demonstrating product testing in compliance with standards such as IES LM79/80/TM21 must be submitted with application.
- Applicant must provide narrative, under separate cover, describing the proposed project.

Retrofit Lighting Measures and Rebates

Upgrade Description		Min. Watts Reduced	Rebate/ Unit	Technical Requirements
LED Integral Replacement Lamps	LED Screw-in Lamp	15 Watts/ Lamp	\$2/ Lamp	<ul style="list-style-type: none"> • Installation of type A, PAR, MR, BR, R, G or B, medium (E26), candelabra based integral screw-in lamps; or MR11/MR16, 4-pin plug-in lamps that replace incandescent, halogen, or CFLs of similar nominal size. • Applicant must verify compatibility with existing controls. • Self-contained LED retrofit can/downlight trim kits (using a socket adaptor) qualify. • Lamps must be installed in hard-wired, wall- or ceiling-mounted fixtures. Lamps installed in portable fixtures are not eligible for rebates.
	LED HID Replacement Lamp: 100 watts and lower	80 Watts/ Lamp	\$25/ Lamp	<ul style="list-style-type: none"> • Installation of mogul (E39) Type B or C (ballast bypass) screw-base LED replacement lamps in HID fixtures. • If a socket adapter is used, the rebate applies to the type of lamp installed. (Ex. If an E39 adapter is used on an E26 lamp, the lamp only qualifies as a LED Screw-in Lamp rebate.)
	LED HID Replacement Lamp: 101 watts and higher	180 Watts/ Lamp	\$60/ Lamp	

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Upgrade Description		Min. Watts Reduced	Rebate/ Unit	Technical Requirements
Interior Fixtures	LED Downlight Fixture	25 Watts/ Fixture	\$6/ Fixture	<ul style="list-style-type: none"> • Installation of new recessed “can”, surface, pendant, track luminaires to replace incandescent, halogen, linear fluorescent or CFL luminaires. • Applicant must verify compatibility with existing controls. • LED retrofit can/downlight trim kits qualify under LED Screw-in lamp.
	LED Panel, Troffer, or Linear Fixture: 30 watts and lower	20 Watts/ Fixture	\$8/ Fixture	<ul style="list-style-type: none"> • Installation of new LED troffers, panels, wraps or similar linear luminaires. Integrated-style LED retrofit kits (as defined on page 1) - are also permitted
	LED Panel, Troffer, or Linear Fixture: 31 watts and higher	40 Watts/ Fixture	\$15/ Fixture	<ul style="list-style-type: none"> • Applicant must verify compatibility with existing controls. • Installation of TLEDs qualifies under TLED – Tubular LED.
	LED Stairwell Fixture	10 Watts/ Fixture	\$20/ Fixture	<ul style="list-style-type: none"> • Installation of self-contained occupancy-based luminaires in stairwell retrofit projects. • Eligible fixtures contain onboard, factory-furnished occupancy controls and are designed for stairwells and other seldom-occupied spaces. • Not eligible for additional lighting control rebates.
LED Linear Lamp Retrofit	Linear Retrofit Kit: retrofitting an existing 1-2 linear lamp fixtures	25 Watts/ Fixture	\$5/ Retrofitted Fixture	<ul style="list-style-type: none"> • Installation of tube-shaped or strip-style retrofit kits for troffers that do not replace the fixture optics. • All linear lamps are based on 4-ft. length, e.g. (1) 8-ft. lamp is equivalent to (2) 4-ft. lamps, and (2) 2-ft. lamp is equivalent to (1) 4-ft. lamp.
	Linear Retrofit Kits: retrofitting an existing 3+ linear lamp fixtures	25 Watts/ Fixture	\$10/ Retrofitted Fixture	
	TLED – Tubular LED	10 Watts/ Lamp	\$2/ Lamp	<ul style="list-style-type: none"> • One-for-one replacement of T12, T8 or T5 fluorescent lamps with TLED lamps. • Refer to TLED requirements on page 1. • Installation of TLEDs in new fixtures does not qualify for rebates; TLED rebates are for the retrofit of existing fixtures only. • All linear lamps are based on 4-ft. length, e.g. (1) 8-ft. lamp is equivalent to (2) 4-ft. lamps, and (2) 2-ft. lamp is equivalent to (1) 4-ft. lamp. Rebates will also be adjusted proportionately. U-bend lamps are based off of linear feet.

Upgrade Description		Min. Watts Reduced	Rebate/ Unit	Technical Requirements
Permanent De-lamping LED Lamp Retrofit	LED Permanent De-lamping: 2-3 lamps existing, removing 1	18 Watts/ Fixture	\$5/ Fixture	<ul style="list-style-type: none"> De-lamping and retrofit of existing linear T12, T8 or T5 fluorescent systems with TLED lamps. If installing Type A - TLED lamps, new qualifying CEE-listed electronic ballasts must be installed. Refer to TLED requirements on page 1. Installation of TLEDs in new fixtures does not qualify for rebates; TLED rebates are for the retrofit of existing fixtures only. Luminaires must be permanently de-lamped through the use of UL / CSA-listed retrofit kits specifically for this purpose; lamps must be re-centered in luminaires. Light levels may be affected; therefore, de-lamping may not be appropriate for all applications. When de-lamping 8-ft fixtures using 4-ft nominal lamps in tandem, total existing and proposed lamp footage will be used as basis for determining appropriate measure code.
	LED Permanent De-lamping: 4+ lamps existing, removing 2+	40 Watts/ Fixture	\$8/ Fixture	
LED High Bay Fixtures	LED High Bay Fixture: 124 watts and lower	80 Watts/ Fixture	\$40/ Fixture	<ul style="list-style-type: none"> Installation of LED high or low bay luminaires in place of HID sources or existing linear fluorescent high/low bay luminaires. Luminaires must be on DLC QPL as one of the following categories: High Bay Luminaires for Commercial and Industrial Buildings; Low Bay Luminaires for Commercial and Industrial Buildings or High Bay Aisle Luminaires for Commercial and Industrial Buildings. Fluorescent high/low bay luminaires lamped with TLEDs will not qualify for rebates. Luminaires must be installed ≥ 15-ft AFF. Installation of on-board occupancy sensors qualifies for additional Occupancy Sensor rebate. Integrated-style high bay/low bay kits qualify under this measure.
	LED High Bay Fixture: 125-250 watts	120 Watts/ Fixture	\$70/ Fixture	
	LED High Bay Fixture: 251 watts and higher	180 Watts / Fixture	\$80/ Fixture	
LED Exit Signs	LED Exit Signs	10 Watts/ Fixture	\$6/ Sign	<ul style="list-style-type: none"> Installation of LED exit signs to replace incandescent or fluorescent sources. LED retrofit kits are not eligible.
LED Refrigeration Lighting	LED Refrigeration Lighting	N/A	\$15/ Fixture	<ul style="list-style-type: none"> Installation of LED strips to replace T12 and T8 sources in refrigerated display case. LED strips must completely replace existing gear. Existing channel wiring may be reused, if necessary.

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Upgrade Description		Min. Watts Reduced	Rebate/ Unit	Technical Requirements
LED Parking Garage Fixtures	LED Parking Garage Fixture: 99 watts and lower	50 Watts/ Fixture	\$40/ Fixture	<ul style="list-style-type: none"> • Installation of recessed or surface luminaires in parking garages to replace HID or linear fluorescent luminaires. • DLC listed integrated retrofit kits are acceptable. • Installation of on-board occupancy sensors qualifies for additional rebate under Lighting Controls.
	LED Parking Garage Fixture: 100 watts and higher.	80 Watts/ Fixture	\$60/ Fixture	
LED Exterior Fixtures	LED Exterior Fixture: 65 watts and lower	35 Watts/ Fixture	\$25/Fixture	<ul style="list-style-type: none"> • Installation of exterior parking lot, gasoline canopy, area, flood, or wall pack, landscape, accent, stairway, step and bollard luminaires to replace HID or incandescent luminaires • DLC listed integrated retrofit kits are acceptable.
	LED Exterior Fixture: 66-150 Watts	50 Watts/ Fixture	\$40/ Fixture	
	LED Exterior Fixture: 151-250 Watts.	80 Watts/ Fixture	\$80/ Fixture	
	LED Exterior Fixture: 251-350 Watts	350 Watts/ Fixture	\$90/ Fixture	
	LED Exterior Fixture: 351 watts and higher	550 Watts / Fixture	\$110/ Fixture	
LED Exterior Fixtures	LED Pole-Mounted Outdoor Fixtures: Replacing multiple 1000 watts or higher fixtures, mounted on the same pole with 50% or fewer new fixtures.	850 Watts / New Fixture	\$225/ Fixture	<ul style="list-style-type: none"> • Installation of Parking Lot, Roadway, Area, or Flood pole mounted luminaires to replace HID or incandescent luminaires. • DLC-listed integrated retrofit kits are acceptable. • Refers to pole-mounted luminaires, where the number of fixtures per pole will be reduced to half or less than the number of existing fixtures.

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Retrofit Sign Lighting Measures and Rebates

- These requirements are for retrofitting existing neon, cold cathode, linear fluorescent, or HID signs using LED technology; LED signs installed in new construction or those installed as part of a complete sign replacement are not eligible.
- Photos of existing system and internal sign components (ballast, lamps, transformers, etc.) and proposed system, including new LED components (LED modules, drivers, etc.) must be submitted with ALL sign lighting applications.
- Manufacturer’s specification sheets for all proposed components must be submitted with application.
- Equipment must be UL Listed.

Upgrade Description		Min. Watts Reduced	Rebate/ Unit	Technical Requirements
LED Sign Lighting	24/7 Sign Lighting	NA	\$1.00/ watt reduced	<ul style="list-style-type: none"> • Retrofitting existing neon, cold cathode, linear fluorescent or HID signs using LED technology. • Complete sign replacements are not eligible. • Equipment must be UL listed.
	Dusk to Dawn Sign Lighting	NA	\$0.50/ watt reduced	
	Interior Retail Sign Lighting	NA	\$0.50/ watt reduced	

Retrofit Lighting Control Measures and Rebates

- For interior lighting only.

Upgrade Description		Min. Watts Controlled	Rebate/ Unit	Technical Requirements	
Interior Lighting Controls	Occupancy Sensors	30 Watts	\$10/ Control	<ul style="list-style-type: none"> • Passive infrared, ultrasonic or dual technology occupancy controls. • Controls may be furnished as new equipment by fixture manufacturer or installed on existing fixture(s) as a retrofit measure. • Photo control designed to dim, multiple step dim and turn off/extinguish lamps in response to ambient daylight. 	
					Wall Switch Replacement
					Ceiling/Wall Mounted
	Daylight Controls				Fixture Mounted
					Continuous Dimming
					Multiple Step Dimming
	Occupancy Sensors with Daylight Controls		On/Off (Indoor)		\$15/ Control
			Continuous Dimming		
			Multiple Step Dimming		
On/Off (Indoor)					

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