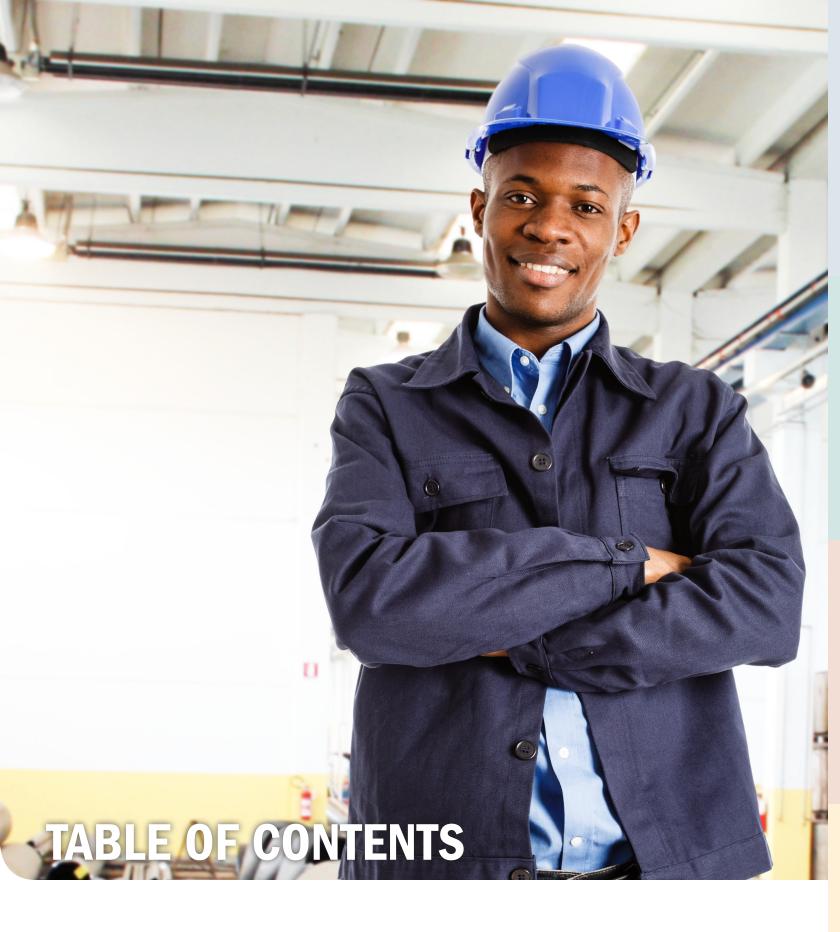
# **2020 BUSINESS OFFERINGS**



**LIGHTING** 





#### **ABOUT FOCUS ON ENERGY®**

Focus on Energy works with eligible Wisconsin residents and businesses to install cost-effective energy efficiency and renewable energy projects. Focus on Energy information, resources and financial incentives help to implement projects that otherwise would not get completed, or to complete projects sooner than scheduled. Its efforts help Wisconsin residents and businesses manage rising energy costs, promote in-state economic development, protect our environment and control the state's growing demand for electricity and natural gas.

For more information, call 800.762.7077 or visit focusonenergy.com

LIGHTING CONTROLS 34



# **HOW TO APPLY**

NEED HELP? Call 800.762.7077

Focus on Energy makes saving energy and money easy for Wisconsin businesses. Use the information below to help guide your way to savings. For electronic copies of the forms, visit **focusonenergy.com/catalogs**.



#### **BEFORE YOU APPLY:**

#### Verify customer and product eligibility:

- O Confirm your gas and/or electric utilities participate in Focus on Energy at focusonenergy.com/utilities.
- Read product requirements, both general and technologyspecific, in your equipment's corresponding incentive catalog.
- O Review the Participation Requirements page.
- Review the Terms and Conditions at focusonenergy.com/terms.
- View the qualified product lists at focusonenergy.com/business/qpls.
- Applications exceeding \$10,000 can request preapproval. Applications not preapproved may not receive payment if program funds have been exhausted.

Qualifying products must be installed by December 31, 2020.



#### **WHAT YOU'LL NEED:**

- O Incentive Application & Equipment Incentive Catalog(s)
- O Gas & Electric Utility Account Numbers
- Tax ID Number
- Invoice showing proof of purchase(s)/installation MUST include:
  - O Trade Ally name, address and phone number
  - O Itemized list of each product along with manufacturer name, model number, and quantity
  - Itemized purchase price of product/installation
  - O Job Site Address

Reminder: Incentives are capped at 100% of equipment cost unless otherwise noted. Like-for-like equipment replacement due to recall, warranty replacement, etc. is not eligible for an incentive.

- Manufacturer specifications (when required) MUST include:
  - O Full model number
  - O Energy performance information
- Additional documentation (when required)

**STEP**3

#### **COMPLETE THIS APPLICATION:**

- All fields on application are required. Incomplete application(s) cannot be processed.
- Complete SECTION 7 with all product information. Use the Incentive Product Information Sheet found at focusonenergy.com/catalogs if you need additional lines.
- O Include installation date (date of the last product installed). If project is new construction, use the occupancy date. Project is considered complete when products are installed and operational.
- Complete the catalog-specific Supplemental Data Sheet for applicable measures. An asterisk (\*) next to the code indicates when this is needed. Read the measure requirements in your catalog for directions.
- O Include the reservation code(s) in SECTION 7 when applicable.
- O The utility ratepayer must sign and date SECTION 8.
- Ensure supporting documents are attached, including itemized invoice(s).
- Make a copy of the application and supporting documents for your records.

**STEP**4

#### **SUBMIT YOUR APPLICATION:**

Mail or email your application and all supporting documentation. **Applications must be submitted within 60 calendar days of completed project installation,** no later than January 31, 2021.

MAIL: Focus on Energy

725 W. Park Avenue Chippewa Falls, WI 54729

E-MAIL: business@focusonenergy.com

# PARTICIPATION REQUIREMENTS

NEED HELP? Call 800.762.7077



Use the eligibility requirements below to see if your business qualifies for program incentives. You can also visit **focusonenergy.com** to find savings opportunities specific to your business.

#### **CUSTOMER ELIGIBILITY**

All non-residential customers (agriculture, commercial, government, industrial, multifamily, and schools) located in a participating utility territory are eligible to receive Focus on Energy incentives. To see if your utility participates, go to focusonenergy.com/participating-utilities.

#### **CUSTOM INCENTIVES**

Does your project not fit in one of our prescriptive offers? Custom project incentives are calculated on a case-by-case basis for non-standard technologies and are based on estimated first-year energy savings. Whether you operate a large industrial facility, a chain store or franchise, an office, school or municipal building, a farm, or anything in between, we can show you how to be more energy efficient — and how to save on the cost of making improvements.

Before purchasing equipment or proceeding with upgrades, you must contact an Energy Advisor from Focus on Energy. Your Energy Advisor will help you determine if your project qualifies for a Focus on Energy custom incentive and will help you obtain necessary pre-approval.

To get started with your custom project, download and complete the Custom Incentive Guide at **focusonenergy.com/custom**.

#### **NEW CONSTRUCTION**

Qualifying projects are new, stand-alone commercial, industrial and multifamily residential facilities, additions to existing facilities, and major renovations due to a change in the use of space (e.g., a warehouse to office). Typical facility types include:

- School facilities (e.g., public and private k-12, technical colleges, colleges, universities)
- Commercial facilities (e.g., banks, hotels, offices, convenience stores/gas stations, manufacturing, breweries, restaurants)
- Healthcare facilities (e.g., nursing homes/skilled nursing, Community-Based Residential Facilities (CBRF), hospitals)
- Residential properties with four or more dwelling units under one roof (e.g., apartment/condominium buildings, student housing)

New Construction incentives available include Whole Building Design incentives and prescriptive incentives included in this catalog. Reach out to an Energy Advisor from Focus on Energy to help identify what is best for your project.

New Construction measures and incentives will appear in a **grey table**, while Existing Building measures and incentives will appear in a **blue table**. If a measure does not have a grey table, New Construction incentives are not offered for that measure.

#### **INFORMATION AND REQUIREMENTS**

Before you start your project, make sure you are familiar with participation requirements, program information and Terms and Conditions.

#### **General Terms and Conditions**

Review the Focus on Energy Terms and Conditions at focusonenergy.com/terms or call 800.762.7077 to request a copy.

#### **Incentive Limits**

Incentives are limited to \$300,000 per project and \$400,000 per customer per calendar year for all Focus on Energy incentives (prescriptive and custom).

Depending on your business tax classification, you may receive IRS form 1099 for incentives totaling over \$600 in a calendar year.

#### **Trade Ally Information**

A Trade Ally represents the company who provided/installed the equipment for a project or performed the service for which a Customer is seeking an incentive. Trade Allies who have signed an agreement with Focus on Energy are allowed to enjoy certain program benefits, one of which is to receive direct payment of incentives at the Trade Ally's request. Incentives can only be paid directly to a registered Trade Ally who has a W-9 on file with Focus on Energy. For more information on becoming a registered Trade Ally, visit focusonenergy.com/tradeally.

The Federal Employer Identification Number (FEIN) and Business Classification of the Trade Ally is required IF you received your incentive as a credit on your invoice, whereby the incentive is paid directly to the Trade Ally. In this scenario, the credit must be clearly labeled as the Focus on Energy incentive and deducted from the amount due.

If your project was completed by more than one Trade Ally (example, equipment was purchased from one Trade Ally but installed by another Trade Ally) and the incentive is being paid to you the Customer, enter the information of the Trade Ally who installed your equipment in Section 4: Trade Ally Information. If the equipment was self-installed, enter the information of the Trade Ally from whom you purchased the equipment.

#### Assignment of Incentives to Other Payee

The Customer for the project site listed on the application may assign their right to participate and receive incentives to Other Payee. The Customer must sign Section 8 and identify the Other Payee in Section 5.

NOTES	

# **INCENTIVE APPLICATION**

FOR PROJECTS COMPLETED BY 12/31/2020

PLEASE COMPLETE ALL SECTIONS. INCOMPLETE APPLICATIONS CANNOT BE PROCESSED AND WILL DELAY PAYMENT OF INCENTIVES. APPLICATIONS MUST BE SUBMITTED WITHIN 60 DAYS OF COMPLETED PROJECT INSTALLATION, NO LATER THAN JANUARY 31, 2021. FOR ADDITIONAL COPIES OF THIS FORM, VISIT FOCUSONENERGY.COM/ CATALOGS.



#### **ACCOUNT AND CUSTOMER INFORMATION**

TAX IDENTIFICATION	NUMBER	(Check	one.
--------------------	--------	--------	------

O FEIN or O SSN

FEIN OR SOCIAL SECURITY NUMBER

CLASSIFICATION	

(Check one. Require	d for all b	ousinesses, in	icluding no	n-profits.)
O Sala Proprietorch	in OI	ndividual	O Single	MomborllC

_	ooio i ropiiotoit	۸ه		- og.oo.
0	C Corporation	0.5	S Corporation	<ul><li>Partnership</li></ul>

O Limited Liability Corporation Classification C, S, P (C = C corporation, S = S corporation, P = partnership)

OWNER NAME (REQUIRED IF SSN IS USED AS TAX IDENTIFICATION NUMBER)

COMPANY NAME

LEGAL ADDRESS (AS SHOWN ON COMPANY W-9)

CITY

WHO DID YOU WORK WITH FROM FOCUS ON ENERGY ON THIS PROJECT? (CONTACT NAME)

STATE

GAS ACCOUNT #

How did you hear about us? (Check one.)

- O Community Association/Agency O Distributor/Supplier
- O Focus Direct Mail/Postcard O Focus Email O Focus Event
- O Focus Staff/Energy Advisor O Focus Website O Internet Search
- O Manufacturer O National Rebate Administrator O Newspaper
- O Past Participation O Radio O Social Media O Trade Ally/Contractor
- O Trade Show/Fair O TV O Utility Bill Insert/Direct Mail
- O Utility Contact O Utility Email O Utility Website
- O Word of Mouth Referral O Other:



#### **JOB SITE INFORMATION**

(Refer to your utility bills for account numbers below.)

JOB SITE BUSINESS NAME

ELECTRIC UTILITY AT JOB SITE ELECTRIC ACCOUNT #

GAS UTILITY AT JOB SITE

O Job Site Address is same as Legal Address

O Job Site Address is different (complete below)

JOB SITE ADDRESS





#### **CUSTOMER CONTACT INFORMATION**

	JOB SITE CUSTOMER CONTACT NAME
	PRIMARY PHONE # E-MAIL ADDRESS
	O I opt in to receive program updates via text message.  Preferred method of contact:  O Call O E-mail O Text  If Focus on Energy has a question about this application, we should contact:  O Customer O Trade Ally O Other
	- Calcaring - Calc
section4	TRADE ALLY INFORMATION TRADE
	TRADE ALLY CONTACT NAME
	PRIMARY PHONE # E-MAIL ADDRESS
	TRADE ALLY COMPANY NAME
	ADDRESS
	CITY STATE ZIP
SECTION 5	BUSINESS PAYMENT INFORMATION  Make incentive check payable to:  O Customer  O Trade Ally (complete items B and C)  O Other Payee (Complete items A, B and C)
	Mail check to:  Customer Address  Job Site Address  Trade Ally Address  Other Payee or Alternate Address (complete below)
	COMPANY NAME
	ADDRESS
	CITY STATE ZIP
	ATTENTION TO (OPTIONAL)
	A. For Other Payee, specify relationship to utility account holder (tihs is required if check payable to someone other than Customer or Trade Ally):  O Tenant O Building Owner O Other (specify)
	B. If a Trade Ally or Other Payee is receiving the incentive payment, provide the Tax Identification Number. To receive payment, a Trade Ally must be registered. Payee is responsible for any associated tax consequences.
	TAX IDENTIFICATION NUMBER (Check one.)
	○ FEIN <b>or</b> ○ SSN FEIN OR SOCIAL SECURITY NUMBER
	C. BUSINESS CLASSIFICATION
	(Check one. Required for all businesses, including non-profits.)
	O Sole Proprietorship O Individual O Single-Member LLC O C Corporation O S Corporation O Partnership

O Limited Liability Corporation Classification C, S, P (C = C corporation, S = S corporation, P = partnership)

O Other \_



#### **BUSINESS PROPERTY TYPE**

Select one only. If applying for both existing and new construction equipment incentives please complete two separate applications. O Existing Building O New Construction

Select one (1) property type that best describes you	r business:		
O Agriculture Producer	O Government	O Multifamily	O Retail
O Dairy - Traditional O If Dairy, how many	O Grocery/Convenience Store	O Office	O Vehicles Sales/Service
O Dairy - Robotic milking cows do you have (includes	O Healthcare	O Religious Worship	O Water/Wastewater
Other: you have (includes dry cows; excludes	O Hotels & Lodging	O With K+ Daily Education	O Other:
O Education heifers not yet fresh)?:	O Manufacturing (product):	O No K+ Daily Education O Restaurant	
O Financial Institution		3 Restaulant	

SECTIO	ν7

#### **INCENTIVE PRODUCT INFORMATION**

Refer to:

- Applicable incentive catalog at focusonenergy.com/catalogs for incentive codes, incentive per unit and product eligibility requirements.
- focusonenergy.com/business/qpls for qualified products lists.
- Invoice showing proof of purchase for Manufacturer and Model Number.
- Incentive Product Information Sheet at focusonenergy.com/catalogs if additional lines are needed.

INCENTIVE CODE	MANUFACTURER NAME		MODEL #	UNIT MEASURE	# OF UNITS (A)	INCENTIVE PER UNIT (B)	REQUESTED Incentive (A X B)
L3111 (example)	STARK LIGHTING		LED5VZP	Fixture	10	\$ 18.00	\$ 180.00
						\$	\$
						\$	\$
						\$	\$
						\$	\$
						\$	\$
						\$	\$
						\$	\$
						\$	\$
Manufacturer Sp	pecifications Attached (if applicable):	Yes 🔾	RESERVATION CODE(S) (if applicable):			n Incentive Product neet (if applicable)	\$
Itemize	d Invoice(s) Attached:	Yes 🔾	INSTALLATION DATE:	/ /	INC	ENTIVE TOTAL*	\$



#### **CUSTOMER SIGNATURE**

I, the undersigned Customer or authorized representative of the Customer, agree the stated energy-efficiency measure(s) was (were) installed at the job site address listed above as part of the FOCUS ON ENERGY® Program. I have read and agreed to the provisions set forth herein and to the Terms and Conditions posted at focusonenergy.com/ terms. I understand Focus on Energy may revise these Terms and Conditions at any time, and I will not be notified in the event changes are made. To the best of my knowledge, the statements made on this application are complete, true and correct, and I have submitted the appropriate supporting documentation to receive an incentive.

If Other Payee is indicated in Section 2, and I assign the right to participate in and receive incentives from the Focus on Energy Program to the Other Payee identified in Section 5.

Certification: The following certifications are required in order for this form to substitute for the Internal Revenue Service (IRS) form W-9. Under penalty of perjury, I certify

- · The number shown on this form is the correct taxpayer identification number.
- · I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the IRS that I am subject to backup withholding as a result of failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding.
- · I am a U.S. person.

The IRS does not require my consent to any provision of this document other than the certifications required to avoid backup withholding

no asse not roquite my	osinosis to any provident of and accument only than the continuation required to and	SIGN
CUSTOMER SIGNATURE	NAME (PRINT) DATE	



#### **Submit applications to:**

MAIL: Focus on Energy

725 W. Park Avenue Chippewa Falls, WI 54729

\*Incentive may be adjusted based on project caps. See measure requirements and Terms and Conditions for E-MAIL: business@focusonenergy.com more information.

#### 2020 LIGHTING INCENTIVE CATALOG SUPPLEMENTAL DATA SHEET

THIS FORM MUST BE ATTACHED TO COMPLETED INCENTIVE APPLICATION AND SUBMITTED TOGETHER FOR PROJECTS INSTALLED BY 12/31/2020. NEED HELP? CALL 800.762.7077.

#### **HOW TO FILL OUT THIS FORM**

Refer to the Lighting Incentive Catalog for measure requirements and information.

- · Complete the table corresponding to the measure in the catalog.
- If the new equipment is listed under DesignLights Consortium® (DLC)
  TRT V4.4 or higher, use the tested data for wattage of new equipment
  (green background). If the tested data is not available and only family
  data is available (yellow background), then use the wattage listed on the
  specification sheet of the new equipment.
- · If the new equipment is listed under ENERGY STAR®, then use the wattage on the ENERGY STAR certification instead of the specification sheet.
- Round both Existing Equipment and New Equipment Wattage to the nearest whole number.

#### **CUSTOMER INFORMATION**

JOB SITE BUSINESS NAME

JOB SITE ADDRESS

TRADE ALLY NAME

# REMINDER

Exact model numbers and manufacturer of equipment installed must be identified on invoicing and any qualified product list when required. For Focus on Energy's Private Label policy, visit focusonenergy.com/private\_label\_policy.

Attach this form to a completed **Incentive Application** and submit together.

WATTAGE REDUCTION WORKSHEET FOR WATTS REDUCED MEASURES BUSINESS INCENTIVE CODE: L3903, L3904, L3962, L3963, L4354, L4356, L4779, L4813, L4814								ES 15-16, 18
EQUIP #	TYPE OF EXISTING EQUIPMENT	(A) ROUNDED WATTAGE OF EXISTING EQUIPMENT PER FIXTURE	(B) QUANTITY OF EXISTING EQUIPMENT	TYPE OF NEW EQUIPMENT	(C) ROUNDED WATTAGE OF NEW EQUIPMENT PER FIXTURE	(D) QUANTITY OF NEW EQUIPMENT	(E) INCENTIVE PER WATT REDUCED (\$/Watt Reduced)	REQUESTED INCENTIVE* [(A x B) - (C x D)] x E
Example	2L 32w CFL	70	5	10w LED downlight	11	5	\$0.13/W reduced	\$38.35

If applying for an interior or exterior LED sign light measure, please include the existing ballast make and model number in addition to the specific lamp type or provide metering data (amperage and voltage readings) of the existing equipment.

B LIGHTING POWER DENSITY (LPD) INCENTIVE CODE: L4948								PAGE 21
(A) SQUARE FOOTAGE	(B) HOU (FROM TABLE ON PG. 41)	(C) BASELINE W/FT <sup>2</sup> (FROM COMCHECK OR TABLE ON PG. 41)	(D) NEW SYSTEM WATTAGE (W)	(E) NEW SYSTEM W/FT <sup>2</sup> (D/A)	(F) W/FT <sup>2</sup> REDUCED (C - E)	(G) KWH REDUCED ([A X B X F ]/ 1000)	(H) INCENTIVE RATE (kWh/FT <sup>2</sup> REDUCED)	(I) REQUESTED INCENTIVE* (G X H)
(Example) 43,000	3,239	0.87	24,100	0.56	0.31	43,176	\$0.04	\$1,727.03

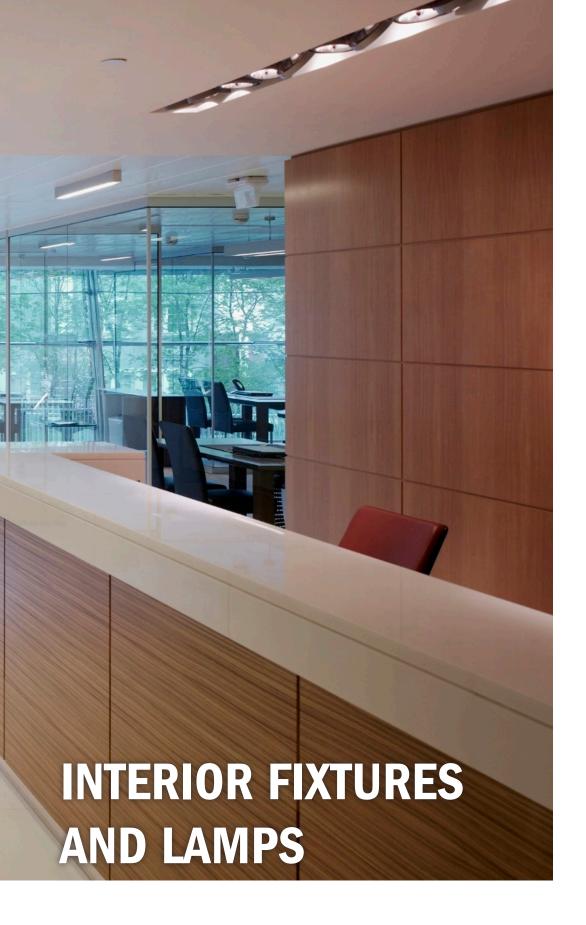
<sup>\*</sup>Focus on Energy may adjust total incentive based on projects caps or variances in wattages provided for existing or proposed conditions.







For more information, call 800.762.7077 or visit focusonenergy.com





# **LINEAR LIGHTING**

General Requirements: Incentives are available for replacing T8 or T12 fixtures with light emitting diode (LED) as described in the sections below.

Manufacturer and model number(s) are required. Product categories listed below do not imply equivalency – all installations are expected to meet current IESNA recommendations for delivered light level and uniformity. Compliance is the responsibility of the installer.



#### LED HIGH PERFORMANCE TROFFER (1X4 AND 2X4)



#### Requirements for 1X4 LED products:

- · For 1-for-1 replacement of T12 or standard T8 fluorescent fixtures as noted in measure descriptions.
  - Must be DLC TRT V4.4 or higher listed in either the "1X4 Luminaires for Ambient Lighting of Interior Commercial Spaces," "Linear Retrofit Kits for 1X4 Luminaires" or "Integrated Retrofit Kits for 1X4 Luminaires" primary use categories.
  - · Other LED configurations may qualify for a custom incentive.

#### Requirements for 2X4 LED products:

- · For 1-for-1 replacement of T12 or standard T8 fluorescent fixtures as noted in measure descriptions.
  - Must be DLC TRT V4.4 or higher listed in either the "2X4 Luminaires for Ambient Lighting of Interior Commercial Spaces," "Linear Retrofit Kits for 2X4 Luminaires" or "Integrated Retrofit Kits for 2X4 Luminaires" primary use categories.
  - · Other LED configurations may qualify for a custom incentive.

EXISTING BUILDING IN	CENTIVES		
Measure Description	Code	Incentive	Unit
1X4 LED, <44W replacing 1- or 2-lamp T8 or T12 troffer	L3760	\$5	Fixture
2X4 LED, <44W replacing 1- or 2-lamp T8 or T12 troffer	L4793	\$5	Fixture
2X4 LED, ≤55W replacing 3- or 4-lamp T8 or T12 troffer	L3111	\$18	Fixture

# REMINDER

Customers looking for incentives for their new construction project should use the Lighting Power Density (LPD) measure. See page 21 for details.

# **PRO TIP**

Have you considered Networked Lighting Controls? Take full advantage of your LED investment and harness benefits like remote diagnostics, energy monitoring, and bi-level control.



#### LED HIGH PERFORMANCE TROFFER (2X2)



#### Requirements:

- Must be DLC TRT V4.4 or higher listed in either the "2X2 Luminaires for Ambient Lighting of Interior Commercial Spaces," "Linear Retrofit Kits for 2X2 Luminaires" or "Integrated Retrofit Kits for 2X2 Luminaires" primary use categories.
- $\cdot~$  2G11 base lamps replaced must have a nominal lamp wattage between 40-55 watts.
- · Other LED configurations may qualify for a custom incentive.

EXISTING BUILDING INCENTIVES			
Measure Description	Code	Incentive	Unit
2X2 LED, ≤36W, replacing Fixture with 2 or more T8 or T12 Lamps	L3400	\$8	Fixture
2X2 LED, ≤85W, replacing Fixture with 2 or more 2G11 base Lamps	L3401	\$16	Fixture

#### REMINDER

Exact model numbers and manufacturer of equipment installed must be identified on invoicing and any qualified product list, when required. For Focus on Energy's Private Label policy, visit focusonenergy.com/private\_label\_policy.







- Must be DLC TRT V4.4 or higher listed in either "Direct Linear Ambient Luminaires," "Linear Ambient Luminaires w/Indirect component" or "Retrofit Kits
  for Direct Linear Ambient Luminaires" primary use categories. Fixtures ENERGY STAR listed as under cabinet or cove may also be eligible. Contact Focus
  on Energy for details.
- · For replacements, overall LED fixture length must match existing fluorescent fixture length, other LED configurations may qualify for a custom incentive.
- · This incentive is for the 1-for-1 replacement of surface mount or suspended linear T5, T8 or T12 fluorescent fixtures.
- · Recessed troffers (2X2, 1X4 and 2X4) and LED replacement lamps are not eligible under these incentives.

EXISTING BUILDING INCENTIVES							
Measure Description	Code	Incentive	Unit				
LED Fixture <11W/FT Replacing 1- or 2-lamp T8 or T12 Lamp(s) in Cross Section	L3740	\$1.50	Linear Foot				
LED Fixture <24W/FT Replacing 3- or 4-lamp T8 or T12 Lamps in Cross Section	L3741	\$3	Linear Foot				
LED Fixture <12W/FT Replacing 1- or 2-lamp T5 Lamp(s) in Cross Section	L3738	\$1.50	Linear Foot				
LED Fixture <28W/FT Replacing 3- or 4-lamp T5 Lamps in Cross Section	L3739	\$3	Linear Foot				

# REMINDER

Exact model numbers and manufacturer of equipment installed must be identified on invoicing and any qualified product list, when required. For Focus on Energy's Private Label policy, visit focusonenergy.com/private\_label\_policy.



#### LED RETROFIT OF 8 FOOT FIXTURES



- · Retrofit kit must be replacing an 8' fixture housing 8' lamps. The new 4' lamps must be DLC listed and <24W per lamp.
- · 4' Tubular LED (TLED) lamps must be DLC TRT V4.4 or higher listed in one of the following primary use categories:
  - · Replacement Lamps ("Plug and Play") (UL Type A)
  - · Internal Driver/Line Voltage (UL Type B) Lamps
  - · 2-lamp External Driver (UL Type C) Lamps
  - · 3-lamp External Driver (UL Type C) Lamps
  - · 4-lamp External Driver (UL Type C) Lamps
  - · Dual Mode Internal Driver (UL Type A or B)
- · Installed equipment must be a complete retrofit kit including, but not limited to, sockets, socket brackets and/or channel covers. Detail must be provided on invoicing and spec sheets.
- 4' TLED lamp only upgrades can be found on page 19.
- UL TYPE B PRODUCTS By signing the application, customers agree that necessary steps have been taken to ensure product, luminaire and maintenance safety.

EXISTING BUILD	ING INCENTIVES		
Measure Description	Code	Incentive	Unit
4' 2-lamp TLED <24W replacing 8' 1-lamp T8 or T12	L4314	\$7.50	Fixture
4' 2-lamp TLED <24W replacing 8' 1-lamp T8HO or T12HO	L4317	\$7.50	Fixture
4' 4-lamp TLED <24W replacing 8' 2-lamp T8 or T12	L4320	\$13	Fixture
4' 4-lamp TLED <24W replacing 8' 2-lamp T8HO or T12HO	L4323	\$15	Fixture
4' 2-lamp TLED <24W replacing 8' 2-lamp T8 or T12	L4326	\$18	Fixture
4' 2-lamp TLED <24W replacing 8' 2-lamp T8HO or T12HO	L4329	\$20	Fixture

# **HIGH BAY AND LOW BAY**

**General Requirements:** Incentives are available for replacing or retrofitting existing high intensity discharge (HID) or linear fluorescent fixtures with permanently wired or applicable cord and plug high/low bay light emitting diode (LED) as described in each of the sections below. All products must be intended for use in high bay or low bay applications. New luminaires or hardwired retrofits only. Integral ballast screw-based retrofit products of any technology are not eligible for these incentives. For projects where two fixtures are installed replacing a single HID fixture, the combined wattage must be equal or less than the wattage requirements shown. **Manufacturer and model number(s) are required. Product categories listed below do not imply equivalency – all installations are expected to meet current IESNA recommendations for delivered light level and uniformity. Compliance is the responsibility of the installer.** 



#### LED HIGH AND LOW BAY LIGHTING



- Retrofit products must be listed on the DLC TRT V4.4 or higher qualified product list under the High-Bay General Application and be permanently wired or applicable cord and plug.
- · New fixtures must be DesignLights Consortium™ (DLC) TRT V4.4 or higher listed under the High-Bay General Application.
- · Must be a one-for-one replacement. Incentive is per fixture replaced.
- · Integral ballast screw-based lamp retrofit products are not eligible for this incentive. Refer to page 18 for High/Low-Bay Mogul Screw-base (E39) LED lamps.
- · ≤500W and ≤800W refers to LED total system watts and may consist of up to two fixtures replacing a single HID fixture.
- · Long-Day Lighting fixtures for dairy applications are eligible for this incentive.

EXISTING E	BUILDING INCENTIVES		
Measure Description	Code	Incentive	Unit
≤155W LED, replacing 250W HID	L3091	\$30	Fixture
≤250W LED, replacing 320-399W HID	L3092	\$35	Fixture
≤250W LED, replacing 400W HID	L3093	\$50	Fixture
≤365W LED, replacing 400W HID	L3094	\$30	Fixture
≤500W LED, replacing 1000W HID	L3095	\$80	Fixture
≤800W LED, replacing 1000W HID	L3096	\$50	Fixture
≤180W LED, replacing 6LT8 or 4LT5H0	L3393	\$30	Fixture
≤250W LED, replacing 8LT8 or 6LT5H0	L4347	\$40	Fixture
≤300W LED, replacing 10LT8 or 8LT5H0	L4795	\$60	Fixture
≤350W LED, replacing 12LT8 or 10LT5H0	L4796	\$80	Fixture

# **OTHER INTERIOR FIXTURES**

**General Requirements:** Incentives are available for replacing or retrofitting existing incandescent, compact fluorescent lamp (CFL), or high intensity discharge (HID) with light emitting diode (LED) including new fixtures or fixture upgrades which meet the requirements as described in each of the sections below. All fixture replacements must result in a wattage reduction from the existing condition. Incentives are also available for replacing existing stainwell and passageway fixtures with LED as described in the stainwell and passageway section. **Manufacturer and model number(s) are required.** 



# LED DOWNLIGHTS



#### Requirements:

- · Complete Table A of the "Lighting Incentive Catalog Supplemental Data Sheet" for these measures.
- For businesses, fixture must be listed on ENERGY STAR as a "Downlight Recessed," "Downlight Solid State Retrofit" or "Downlight Surface Mount" fixture
  type and be intended for commercial use. Fixtures listed in other ceiling, surface, or downlight categories may also be eligible. Contact Focus on Energy
  for details
- · For replacement of incandescent, CFL or HID fixtures in interior applications.
- · Low voltage or decorative LED fixtures that do not meet the criteria below may be eligible for custom incentives.

EXISTING BUILDI	NG INCENTIVES		
Measure Description	Code	Incentive	Unit
LED Downlight Fixtures replacing Incandescent, CFL or HID fixture (See system wattage table on pg. 41 for baseline inputs)	L4354*	\$0.13	Watt Reduced
* Supplemental De	ata Chaat naadad		

# **HOW TO APPLY EXAMPLE**

EQUIP #	TYPE OF EXISTING EQUIPMENT	(A) ROUNDED WATTAGE OF EXISTING EQUIPMENT PER FIXTURE	(B) QUANTITY OF FIXTURES	TYPE OF NEW EQUIPMENT	(C) ROUNDED WATTAGE OF NEW EQUIPMENT PER FIXTURE	(D) QUANTITY OF NEW EQUIPMENT	(E) INCENTIVE PER WATT REDUCED (\$/Watt Reduced)	REQUESTED INCENTIVE* [(AxB) - (CxD)] x E
Downlights	2L 32w CFL	70	5	10w LED downlight	11	5	\$0.13/W reduced	\$38.35



#### LED TRACK/ACCENT FIXTURES





- · Complete Table A of the "Lighting Incentive Catalog Supplemental Data Sheet" for these measures.
- For businesses, fixture must be listed on ENERGY STAR and in a category not defined by linear ambient (pg. 13) or downlight (pg. 15) measures. Eligible
  fixtures may also be DLC TRT V4.4 or higher listed in the "Track or Mono-point Luminaires" or "Wall-wash Luminaires" primary use categories. Fixtures
  must be intended for commercial use.
- · Must be permanently wired fixtures and include housing, lens, heat sink, driver and light source.

EXISTING BUILDING INCENTIV	VES					
Measure Description	Code	Incentive	Unit			
LED track/mono/accent fixtures replacing incandescent, CFL, or HID fixture (See system wattage table on pg. 41 for baseline inputs)	L4813*	\$0.10	Watt Reduced			
* Supplemental Data Sheet needed						



# LED STAIRWELL/PASSAGEWAY FIXTURE

#### Requirements:

- · Must be DLC TRT V4.4 or higher listed in the "Stairwell and Passageway Luminaires" primary use category and operate at ≤55W in high/occupied state.
- · Replacement of 2-lamp 4' fluorescent fixture with complete, new LED fixture including integrated, remote or on-board occupancy sensor system.
- · Must utilize a passive infrared and/or ultrasonic occupancy sensor with a fail-safe feature (fails in ON position).
- Must operate in low standby light level during vacancy and switch to high light output upon occupancy. Fixture cannot exceed 50% of full wattage during unoccupied periods.
- · Items not eligible include fixtures whose settings can be overridden and screw-in lamps.
- · Incentive cannot be combined with other incentives for controls or fixtures.

EXISTING BUILDING	G INCENTIVES		
Measure Description	Code	Incentive	Unit
LED Stairwell/Passageway Fixture	L3097	\$20	Fixture



#### LED INTERIOR SIGNAGE

#### Requirements:

- · Complete Table A of the "Lighting Incentive Catalog Supplemental Data Sheet" for these measures.
- · Must result in at least a 30% wattage reduction to be eligible.
- · Measure is intended for LED upgrades from incandescent, HID, fluorescent or neon interior commercial signage.
- · Applications include, but are not limited to, channel lettering, backlit displays and menu boards.
- · Signs illuminated by screw-in or pin-based lamps should refer to replacement lamp incentives on pages 17-18.
- Clear documentation (i.e. spec sheets, sign schematics, existing ballast or transformer) of existing equipment or metering data (i.e. voltage and amperage readings) MUST be provided or measure eligibility will be subject to disqualification.
- · Replacement lamp products that intend to use existing sockets or lamp holders MUST be reviewed by Focus on Energy prior to installation.
- · Incentive may be adjusted if existing ballast information is not provided.

EXI	TING BUILDING INCENTIVES		
Measure Description	Code	Incentive	Unit
LED Interior Signage	L3903*	\$0.20	Watt Reduced
* Su	plemental Data Sheet needed		

# **HOW TO APPLY EXAMPLE**

EQUIP #	TYPE OF EXISTING EQUIPMENT	(A) ROUNDED WATTAGE OF EXISTING EQUIPMENT PER FIXTURE	(B) QUANTITY OF EXISTING EQUIPMENT	TYPE OF NEW EQUIPMENT	(C) ROUNDED WATTAGE OF NEW EQUIPMENT PER FIXTURE	(D) QUANTITY OF NEW EQUIPMENT	(E) INCENTIVE PER WATT REDUCED (\$/Watt Reduced)	REQUESTED INCENTIVE* [(A x B) - (C x D) x E]
Interior signage	1L F96T12	121	1	25' LED strip, 2 watts/ft	50	1	\$0.20/W reduced	\$14.20

# **REMINDER**

Exact model numbers and manufacturer of equipment installed must be identified on invoicing and any qualified product list, when required. For Focus on Energy's Private Label policy, visit focusonenergy.com/private\_label\_policy.

# SCREW-BASED/PIN-BASED REPLACEMENT LAMPS



**General Requirements**: Incentives are available for replacing existing incandescent, CFL or standard wattage metal halide (MH) lamps with integral ballast/driver, screw-based or pin-based light emitting diode (LED) as described in each of the sections below. Lamps that are pre-discounted by Focus on Energy at retail locations are not eligible for the incentives below. **Manufacturer and model number(s) are required.** 



#### LED OMNIDIRECTIONAL OR DECORATIVE LAMP



#### Requirements:

- · Must appear on ENERGY STAR certified light bulbs qualified product list under Omnidirectional or Decorative Lamp Category.
- · Eligible for interior lamp replacements only.
- · One-for-one replacement of incandescent or CFL only.
- · LED lamp must contain integral driver.
- · Lamps may not be used for resale or giveaway-type promotions.
- Incentive is limited to 50% of the retail product cost. Product cost is the amount paid by the customer for qualifying equipment, excluding any Focus on
  Energy incentive credit, shipping and sales tax. Focus on Energy reserves the right to confirm actual payment.
- · Lamps sold at participating instant discount retailers are not eligible.

EXISTING BUILDING INCENTIVES			
Measure Description	Code	Incentive	Unit
LED with rated lumen output of 1,600-1,999 replacing incandescent or CFL	L3952	\$3	Lamp
LED with rated lumen output of 1,100-1,599 replacing incandescent or CFL	L3953	\$2	Lamp
LED with rated lumen output of 800-1,099 replacing incandescent or CFL	L3954	\$1.50	Lamp
LED with rated lumen output of 450-799 replacing incandescent or CFL	L3955	\$1	Lamp
LED with rated lumen output of 250-449 replacing incandescent or CFL	L3956	\$1	Lamp



#### LED DIRECTIONAL LAMP



- · Must appear on ENERGY STAR certified light bulbs qualified product list under Directional Lamp Category.
- · Eligible for interior lamp replacements only.
- · One-for-one replacement of incandescent or compact fluorescent (CFL) only.
- · LED lamp must contain integral driver.
- · Lamps may not be used for resale or giveaway-type promotions.
- Incentive is limited to 50% of the retail product cost for Business Incentives. Product cost is the amount paid by the customer for qualifying equipment, excluding any Focus on Energy incentive credit, shipping and sales tax. Focus on Energy reserves the right to confirm actual payment.
- · Lamps sold at participating instant discount retailers are not eligible.

EXISTING BUILDING INCENTIVES							
Measure Description	Code	Incentive	Unit				
LED replacing incandescent 120W – 250W	L3941	\$5	Lamp				
LED replacing incandescent 100W - 119W	L3942	\$4	Lamp				
LED replacing incandescent 75W – 99W	L3943	\$3	Lamp				
LED replacing incandescent 55W - 74W	L3944	\$2	Lamp				
LED replacing incandescent 36W – 54W	L3945	\$1.50	Lamp				
LED replacing incandescent ≤35W	L3946	\$1	Lamp				
LED replacing CFL ≥23W	L3932	\$1.75	Lamp				
LED replacing CFL 14W - 22W	L3933	\$1.50	Lamp				
LED replacing CFL ≤13W	L3934	\$1	Lamp				



#### LED HIGH/LOW-BAY MOGUL SCREW-BASE (E39) LAMP



#### Requirements:

- $\cdot$   $\,$  Complete Table A of the "Lighting Incentive Catalog Supplemental Data Sheet" for this measure.
- · Must be DLC TRT V4.4 or higher listed in one of the following primary use categories
  - · Replacement Lamps for High Bay Luminaires (UL Type B)
  - · Replacement Lamps for Low Bay Luminaires (UL Type B)
  - · Replacement Lamps for High Bay Luminaires (UL Type C)
  - · Replacement Lamps for Low Bay Luminaires (UL Type C)
- · Replacement lamps must be installed in high or low bay luminaires only.
- · Interior medium screw-base (E26) lamps may be eligible if E39 option is DLC listed. Contact Focus on Energy for assistance.
- · Reference default system wattage table for common HID systems on page 41 for baseline input. Contact Focus on Energy for any system not listed.
- · Existing incandescent or high-wattage CFL upgrades are also eligible for this incentive.
- UL TYPE B PRODUCTS By signing the application, customers agree that necessary steps have been taken to ensure product, luminaire and maintenance safety.

EXISTING BUILDING INCENTIVES						
Measure Description	Code	Incentive	Unit			
Mogul Screw-Base (E39) replacing existing E39 base lamp	L3962*	\$0.10	Watt Reduced			
* Supplemental Data Sheet needed						

# REMINDER

Exact model numbers and manufacturer of equipment installed must be identified on invoicing and any qualified product list, when required. For Focus on Energy's Private Label policy, visit focusonenergy.com/private\_label\_policy.



#### LED FOUR PIN-BASE LAMP



#### Requirements:

- · Complete Table A of the "Lighting Incentive Catalog Supplemental Data Sheet" for this measure.
- · Must be DLC TRT V4.4 or higher listed in one of the following primary use categories:
  - · Vertically/Horizontally-Mounted Lamps:
    - · Replacement Lamps ("Plug and Play") (UL Type A)
- · 2G11 Base Replacement Lamps:
  - · Vertically/Horizontally-Mounted Lamps:
    - · Internal Driver/Line Voltage (UL Type B) Lamps
    - · 2-lamp External Driver (UL Type C) Lamps
    - · 3-lamp External Driver (UL Type C) Lamps
    - · Dual Mode Internal Drive (UL Type A or B)
- · Reference default system wattage table for common CFL systems on page 41 for baseline input. Contact Focus on Energy for any system not listed.
- UL TYPE B PRODUCTS By signing the application, customers agree that necessary steps have been taken to ensure product, luminaire and maintenance safety.

EXISTING BUILDING	INCENTIVES		
Measure Description	Code	Incentive	Unit
Four Pin-Base Lamp Replacing CFL	L4779*	\$0.10	Watt Reduced
* Supplemental Data	Sheet needed		

# **HOW TO APPLY EXAMPLE**

EQUIP #	TYPE OF EXISTING EQUIPMENT	(A) ROUNDED WATTAGE OF EXISTING EQUIPMENT PER FIXTURE	(B) QUANTITY OF EXISTING EQUIPMENT	TYPE OF NEW EQUIPMENT	(C) ROUNDED WATTAGE OF NEW EQUIPMENT PER FIXTURE	(D) QUANTITY OF NEW EQUIPMENT	(E) INCENTIVE PER WATT REDUCED (\$/Watt Reduced)	REQUESTED INCENTIVE* [(A x B) - (C x D) x E]
Mogul screw-base	400W HID	455	1	200W LED	11	5	\$0.10/W reduced	\$25.50

# **LINEAR REPLACEMENT LAMPS**

General Requirements: Incentives are available for replacing existing standard wattage linear fluorescent lamps with reduced wattage light emitting diode (LED) as described in each of the sections below. Incentive is limited to 50% of the retail product cost. Product cost is the amount paid by the customer for qualifying equipment, excluding any Focus on Energy incentive credit, shipping and sales tax. Focus on Energy reserves the right to confirm actual payment. Manufacturer and model number(s) are required.



# LED 4 FOOT T8 LAMP

#### Requirements:

- Must be DLC TRT V4.4 or higher listed in the Four-Foot Linear Replacement Lamps General Application.
- Measures MAY NOT be combined with fixture incentives.
- · 4' LED replacement lamps DLC listed as "Dual Mode Internal Driver (UL Type A or B)" may apply for the measure by which they are installed.
- Measures are not intended for refrigerated display case applications.
- UL TYPE B PRODUCTS By signing the application, customers agree that necessary steps have been taken to ensure product, luminaire and maintenance

EXISTING BUILDING INCENTIVES			
Measure Description	Code	Incentive	Unit
4' TLED, $\leq$ 24W, replacing 4' T8 or T12 Lamp w/External Driver (UL Type C)	L3511	\$1.50	Lamp
4' TLED, ≤24W, replacing 4' T8 or T12 Lamp, Direct Wire (UL Type B)	L3759	\$1.50	Lamp
4' TLED, $\leq$ 24W, replacing 4' T8 or T12 Lamp Utilizing Existing Ballast (UL Type A)	L3512	\$1.25	Lamp
4'TLED, <24W, replacing 4'T8 orT12 Lamp Utilizing Existing Ballast (UL Type A)	L3512	\$1.25	Lamp



# LED 4 FOOT T5/T5HO LAMP



#### Requirements:

- Must be DLC TRT V4.4 or higher listed in the T5/T5HO Four-Foot Linear Replacement Lamps General Application.
- Measures MAY NOT be combined with fixture incentives.
- · 4' LED replacement lamps DLC listed as "Dual Mode Internal Driver (UL Type A or B)" may apply for the measure by which they are installed.
- Measures are not intended for refrigerated display case applications.
- UL TYPE B PRODUCTS By signing the application, customers agree that necessary steps have been taken to ensure product, luminaire and maintenance safety.

EXISTING BUILDING INCENTIVES							
Measure Description	Code	Incentive	Unit				
LED Replacement of 4' T5 Lamp w/External Driver (UL Type C)	L4803	\$2	Lamp				
LED Replacement of 4' T5HO Lamp w/External Driver (ULType C)	L4804	\$3	Lamp				
LED Replacement of 4' T5 Lamp, Direct Wire (UL Type B)	L4805	\$2	Lamp				
LED Replacement of 4' T5HO Lamp, Direct Wire (ULType B)	L4806	\$3	Lamp				
LED Replacement of 4'T5 Lamp Utilizing Existing Ballast (ULType A)	L4807	\$1.50	Lamp				
LED Replacement of 4' T5HO Lamp Utilizing Existing Ballast (UL Type A)	L4808	\$2.50	Lamp				

# REMINDER

Exact model numbers and manufacturer of equipment installed must be identified on invoicing and any qualified product list, when required. For Focus on Energy's Private Label policy, visit focusonenergy.com/private\_label\_policy.

# REMINDER

Customers looking for incentives for their new construction project should use the Lighting Power Density (LPD) measure. See page 21 for details.



# LED 2 FOOT T8 LAMP

#### Requirements:

- Must be DLC TRT V4.4 or higher listed in the Two-Foot Linear Replacement Lamps General Application.
- Measures MAY NOT be combined with fixture incentives.
- · 2' LED replacement lamps DLC listed as "Dual Mode Internal Driver (UL Type A or B)" may apply for the measure by which they are installed.
- · Measures are not intended for refrigerated display case applications.
- · UL TYPE B PRODUCTS By signing the application, customers agree that necessary steps have been taken to ensure product, luminaire and maintenance safety.

BUSINESS INCENTIVES			
Measure Description	Code	Incentive	Unit
LED Replacement of 2' T8 or T12 Lamp w/External Driver (UL Type C)	L4797	\$1.25	Lamp
LED Replacement of 2'T8 or T12 Lamp, Direct Wire (UL Type B)	L4798	\$1.50	Lamp
LED Replacement of 2'T8 orT12 Lamp Utilizing Existing Ballast (UL Type A)	L4799	\$1	Lamp



# LED U-BEND T8 LAMP

#### Requirements:

- Must be DLC TRT V4.4 or higher listed in the U-Bend Replacement Lamps General Application.
- Measures MAY NOT be combined with fixture incentives.
- · U-Bend LED replacement lamps DLC listed as "Dual Mode Internal Driver (ULType A or B)" may apply for the measure by which they are installed.
- · Measures are not intended for refrigerated display case applications.
- UL TYPE B PRODUCTS By signing the application, customers agree that necessary steps have been taken to ensure product, luminaire and maintenance safety.

BUSINESS INCENTIVES							
Measure Description	Code	Incentive	Unit				
LED Replacement of U-Bend T8 or T12 Lamp w/External Driver (UL Type C)	L4800	\$1.50	Lamp				
LED Replacement of U-Bend T8 or T12 Lamp, Direct Wire (UL Type B)	L4801	\$2	Lamp				
LED Replacement of U-Bend T8 or T12 Lamp Utilizing Existing Ballast (UL Type A)	L4802	\$1.50	Lamp				





- Must be DLC TRT V4.4 or higher listed in the Eight-Foot Linear Replacement Lamps General Application.
- Measures MAY NOT be combined with fixture incentives.
- · 8' LED replacement lamps DLC listed as "Dual Mode Internal Driver (UL Type A or B)" may apply for the measure by which they are installed.
- · Measures are not intended for refrigerated display case applications.
- · UL TYPE B PRODUCTS By signing the application, customers agree that necessary steps have been taken to ensure product, luminaire and maintenance safety.

BUSINESS INCENTIVES							
Measure Description	Code	Incentive	Unit				
LED Replacement of 8'T8 or T12 Lamp w/External Driver (UL Type C)	L4809	\$3.50	Lamp				
LED Replacement of 8'T8 or T12 Lamp, Direct Wire (UL Type B)	L4810	\$4	Lamp				
LED Replacement of 8'T8 or T12 Lamp Utilizing Existing Ballast (UL Type A)	L4811	\$3	Lamp				

# **NEW CONSTRUCTION**



**General Requirements:** Incentives are available for new construction and major renovations where Lighting Power Density (LPD) thresholds would apply. Projects participating in this offering are **NOT** eligible for individual interior lighting measures.



#### NEW CONSTRUCTION LIGHTING POWER DENSITY (LPD) REDUCTION

#### Requirements:

- · Complete Table B in the "Lighting Incentive Catalog Supplemental Data Sheet" for this measure.
  - · For "Square Footage", enter total square footage of interior space being illuminated.
  - · For "Hours of Use (HOU)", enter hours from table on page 41 corresponding to the appropriate sector and building type.
  - · For "Baseline W/ft²", enter Baseline Lighting Power Density (LPD) value from COMcheck™ report or table on page 41.
  - · For "New System Wattage", enter total wattage for interior lighting solution as defined in IECC 2015.
  - · The "New System W/ft2" is: "New System Wattage" / "Square Footage."
  - · The "W/ft2 Reduced" is: "Baseline W/ft2" "New System W/ft2."
  - · The "kWh Reduced" is: ("Square Footage" x "HOU" x "W/ft2 Reduced") / 1000.
  - · The "Incentive Rate" is: \$0.04 / kWh Reduced.
  - · The "Requested Incentive" is: "kWh Reduced" x "Incentive Rate."
- · Incentives are based on current Wisconsin Energy Code (IECC 2015 with Wisconsin Amendments found in SPS Chapter 363) Lighting Power Density (LPD) requirements.
- All installations are expected to meet current IESNA recommendations for delivered light level and uniformity. Compliance is the responsibility of the installer/designer.
- · Incentive is for interior lighting only.
- · If your Building Type Baseline LPD is not listed in the LPD table on page 41, contact an Energy Advisor for assistance.
- · Upon project completion, the follow must be included in addition to standard application requirements:
  - · The most recent revision of the electrical plans and schedules.
  - · Cut sheets for fixtures and lamps for each fixture type showing lamp type, lamp quantity and input wattage.
  - · Approved COMcheck™ report if used to demonstrate compliace with the state energy code.

NEW CONSTRUCTION I	NCENTIVES		
Measure Description	Code	Incentive	Unit
Lighting Power Density (LPD) better than code requirements	L4948*	\$0.04	kWh Reduced
* Supplemental Data S	neet needed		

# **HOW TO APPLY EXAMPLE**

(A) SQUARE FOOTAGE	(B) HOU (FROM TABLE ON PG. 41)	(C) BASELINE W/FT <sup>2</sup> (FROM COMCHECK OR TABLE ON PG. 41)	(D) NEW SYSTEM WATTAGE (W)	(E) NEW SYSTEM W/FT <sup>2</sup> (D/A)	(F) W/FT <sup>2</sup> REDUCED (C · E)	(G) KWH REDUCED ([A X B X F ]/ 1000)	(H) INCENTIVE RATE (kWh/FT² REDUCED)	(I) REQUESTED INCENTIVE* (G X H)
43,000	3,239	0.87	24,100	0.56	0.31	43,176	\$0.04	\$1,727.03

# **NEED HELP?**

Call 800.762.7077 for assistance.



For more information, call 800.762.7077 or visit focusonenergy.com





# **EXTERIOR FIXTURES**

General Requirements: Incentives are available for replacing or retrofitting existing high intensity discharge (HID) fixtures with light emitting diode (LED) fixtures as described in each of the sections below. Existing fixture operation must be dusk-to-dawn (4,280 annual hours) unless otherwise noted.

Manufacturer and model number(s) are required. Product categories listed below do not imply equivalence – all installations are expected to meet current IESNA recommendations for delivered light level and uniformity. Compliance is the responsibility of the installer.



#### **EXTERIOR LED AREA FIXTURES & RETROFIT KITS**



#### Requirements:

- Must be DLC TRT V4.4 or higher listed in "Outdoor" category.
- Must be permanently wired. Integral ballast screw-based lamp retrofit products of any technology are not eligible for these incentives. Refer to page 28 for Exterior Mogul Screw-base (E39) LED lamps.
- · Stadium lighting is not eligible for prescriptive incentives. Contact your Energy Advisor to determine eligibility for a custom incentive.
- Customers applying for municipal roadway lighting MUST submit a copy of utility bill verifying customer is on a utility rate for customer owned street lights. Utility owned street lights are not eligible for incentives.
- · For stairwell/passageway fixtures, see page 16 for specific offering.









EXISTING BUILDING INCENTIVES								
Measure Description	Code	General Application	Incentive	Unit				
Area Fixtures & Retrofit Kits:  Exterior Outdoor Pole-Mounted	L4280	Outdoor – Low Output	\$15	Fixture				
Exterior Outdoor Decorative Area & Post-Top     Exterior Parking Garage & Canopy/Soffit     Exterior Outdoor Wall-Mounted     Exterior Outdoor Flood & Spot     Exterior Bollards	L4281	Outdoor – Mid Output	\$25	Fixture				
	L4282	Outdoor – High Output	\$50	Fixture				
	L4283	Outdoor – Very High Output	\$120	Fixture				

NEW CONSTRUCTION INCENTIVES				
Measure Description	Code	General Application	Incentive	Unit
Area Fixtures & Retrofit Kits:  • Exterior Outdoor Pole-Mounted	N-L4280	Outdoor – Low Output	\$10	Fixture
Exterior Outdoor Pole-Modified     Exterior Outdoor Decorative Area & Post-Top     Exterior Parking Garage & Canopy/Soffit	N-L4281	Outdoor – Mid Output	\$20	Fixture
Exterior Outdoor Wall-Mounted     Exterior Outdoor Flood & Spot	N-L4282	Outdoor – High Output	\$50	Fixture
Exterior Outdoor Flood & Spot     Exterior Bollards	N-L4283	Outdoor – Very High Output	\$100	Fixture

# REMINDER

Exact model numbers and manufacturer of equipment installed must be identified on invoicing and any qualified product list, when required. For Focus on Energy's Private Label policy, visit focusonenergy.com/private\_label\_policy.





**General Requirements:** Incentives are available for replacing existing incandescent or high intensity discharge (HID) fixtures with light emitting diode (LED) fixtures that meet the requirements described below. All fixture replacements must result in a wattage reduction from the existing condition. **Manufacturer and model number(s) are required.** 



#### **EXTERIOR LED DOWNLIGHTS**



#### Requirements:

- · Complete Table A of the "Lighting Incentive Catalog Supplemental Data Sheet" for these measures.
- For businesses, fixture must be listed on ENERGY STAR as a "Downlight Recessed," "Downlight Solid State Retrofit" or "Downlight Surface Mount" fixture type and be intended for commercial use.
- For multifamily buildings, fixture must be listed on ENERGY STAR as a "Downlight Recessed," "Downlight Solid State Retrofit" or "Downlight Surface Mount" fixture type and be intended for commercial and/or residential use.
- · For replacement of incandescent, CFL or HID fixtures in exterior applications.
- · For new construction applications, use the proposed LED fixture wattage times 2.5 for the baseline.
- · Fixtures rated for wet locations and/or labeled for exterior installations are recommended.

	ING BUILDING INCENTIVES		
Measure Description	Code	Incentive	Unit
LED Downlight Fixtures replacing Incandescent, CFL or HID fixture (See system wattage table on pg. 41 for baseline inputs)	L4356*	\$0.13	Watt Reduced
	lemental Data Sheet needed		
	CONSTRUCTION INCENTIVES		
Measure Description	Code	Incentive	Unit
LED Downlight Fixtures instead of Incandescent, CFL or HID fixture (See system wattage table on pg. 41 for baseline inputs)	N-L4356*	\$0.10	Watt Reduced
	lemental Data Sheet needed		



#### **EXTERIOR LED LINEAR AMBIENT FIXTURES**





- Must be DLC TRT V4.4 or higher listed in either "Direct Linear Ambient Luminaires," "Linear Ambient Luminaires w/Indirect component" or "Retrofit Kits
  for Direct Linear Ambient Luminaires" primary use categories. Fixtures ENERGY STAR listed as "Outdoor Ceiling Mount" may also be eligible. Contact
  Focus on Energy for details.
- · This incentive is for the 1-for-1 replacement of surface mount or suspended linear T5, T8 or T12 fluorescent fixtures.
- · Overall LED fixture length must match existing fluorescent fixture length; other LED configurations may qualify for a custom incentive.
- · For stairwell/passageway fixtures, see page 16 for specific offering.

EXISTING BUILDING INCENTIVE	ES .		
Measure Description	Code	Incentive	Unit
LED Fixture <11W/FT replacing 1- or 2-lamp T8 or T12 Lamp(s) in Cross Section	24 Hour: L4781 12 Hour: L4782	\$2	Linear Foot
LED Fixture <24W/FT replacing 3- or 4-lamp T8 or T12 Lamps in Cross Section	24 Hour: L4783 12 Hour: L4784	\$5	Linear Foot
LED Fixture <12W/FT replacing 1- or 2-lamp T5 Lamp(s) in Cross Section	24 Hour: L4785 12 Hour: L4786	\$2	Linear Foot
LED Fixture <28W/FT replacing 3- or 4-lamp T5 Lamps in Cross Section	24 Hour: L4787 12 Hour: L4788	\$5	Linear Foot

NEW CONSTRUCTION INCENTIV	ES		
Measure Description	Code	Incentive	Unit
LED Fixture <11W/FT instead of 1- or 2-lamp T8 or T12 Lamp(s) in Cross Section	24 Hour: N-L4781 12 Hour: N-L4782	\$1	Linear Foot
LED Fixture <24W/FT instead of 3- or 4-lamp T8 or T12 Lamps in Cross Section	24 Hour: N-L4783 12 Hour: N-L4784	\$3	Linear Foot
LED Fixture <12W/FT instead of 1- or 2-lamp T5 Lamp(s) in Cross Section	24 Hour: N-L4785 12 Hour: N-L4786	\$1	Linear Foot
LED Fixture <28W/FT instead of 3- or 4-lamp T5 Lamps in Cross Section	24 Hour: N-L4787 12 Hour: N-L4788	\$3	Linear Foot



#### LED RETROFIT OF EXTERIOR 8 FOOT FIXTURES



#### Requirements:

- · Retrofit kit must be replacing an 8' fixture housing 8' lamps. The new 4' lamps must be DLC listed and <24W per lamp.
- · 4¹ Tubular LED (TLED) lamps must be DLC TRT V4.4 or higher listed in one of the following primary use categories:
  - · Replacement Lamps ("Plug and Play") (UL Type A)
  - Internal Driver/Line Voltage (UL Type B) Lamps
  - · 2-lamp External Driver (UL Type C) Lamps
  - 3-lamp External Driver (UL Type C) Lamps
  - · 4-lamp External Driver (UL Type C) Lamps
  - · Dual Mode Internal Driver (UL Type A or B)
- Installed equipment must be a complete retrofit kit including, but not limited to sockets, socket brackets and/or channel covers. Detail must be provided on invoicing and spec sheets.
- · 4'TLED lamp exterior upgrades can be found on page 30.
- UL TYPE B PRODUCTS By signing the application, customers agree that necessary steps have been taken to ensure product, luminaire and maintenance safety.

Measure Description         Code         Incentive         Unit           4' 2-lamp TLED <24W replacing 8' 1-lamp T8 or T12         24 Hour 12 Ho	EXISTING BUILDING INCENTIVES				
4' 2-lamp TLED <24W replacing 8' 1-lamp T8 or T12  4' 2-lamp TLED <24W replacing 8' 1-lamp T8HO or T12HO  24 Hour L4315 \$10 Fixture  4' 4-lamp TLED <24W replacing 8' 2-lamp T8 or T12  4' 4-lamp TLED <24W replacing 8' 2-lamp T8 or T12  4' 4-lamp TLED <24W replacing 8' 2-lamp T8HO or T12HO  24 Hour L4322	Measure Description	Cod	le	Incentive	Unit
4' 4-lamp TLED <24W replacing 8' 2-lamp T8 or T12  4' 4-lamp TLED <24W replacing 8' 2-lamp T8 or T12  4' 4-lamp TLED <24W replacing 8' 2-lamp T8 or T12  4' 4-lamp TLED <24W replacing 8' 2-lamp T8HO or T12HO  24 Hour L4325	4' 2-lamp TLED <24W replacing 8' 1-lamp T8 or T12			\$10	Fixture
4' 4-lamp TLED <24W replacing 8' 2-lamp T8H0 or T12H0  4' 4-lamp TLED <24W replacing 8' 2-lamp T8H0 or T12H0  24 Hour L4325	4' 2-lamp TLED <24W replacing 8' 1-lamp T8HO or T12HO			\$10	Fixture
4' 4-lamp TLED <24W replacing 8' 2-lamp T8H0 or T12H0  12 Hour L4324  4' 2-lamp TLED <24W replacing 8' 2-lamp T8 or T12  24 Hour L4328 12 Hour L4327  4' 2-lamp TLED <24W replacing 8' 2-lamp T8 or T12  24 Hour L4311  \$22.50 Fixture	4' 4-lamp TLED <24W replacing 8' 2-lamp T8 or T12			\$12.50	Fixture
4' 2-lamp ILED <24W replacing 8' 2-lamp 18 or 112	4' 4-lamp TLED <24W replacing 8' 2-lamp T8H0 or T12H0			\$12.50	Fixture
4' 2-lamn TLFD < 24W replacing 8' 2-lamn T8H0 or T12H0	4' 2-lamp TLED <24W replacing 8' 2-lamp T8 or T12			\$22.50	Fixture
12 Hour E-000	4' 2-lamp TLED <24W replacing 8' 2-lamp T8HO or T12HO	24 Hour 12 Hour	L4331 L4330	\$22.50	Fixture



#### LED PORCH FIXTURES



- · Porch fixtures must be listed on ENERGY STAR as an "Outdoor Porch Wall Mount," "Porch (Wall Mounted)" or other pre-approved outdoor fixture type.
- $\cdot$   $\,$  For replacement of incandescent fixtures as noted in measure description.
- · Must be permanently wired fixtures and include housing, lens, heat sink, driver and light source.
- · Fixture must operate a minimum of 2 hours per day.

EXISTING BUILDING INCENTIVES			
Measure Description	Code	Incentive	Unit
LED Porch fixtures replacing 60-100W Incandescent	L3157	\$8	Fixture
NEW CONSTRUCTION INCENTIVES			
Measure Description	Code	Incentive	Unit
LED Porch fixtures replacing 60-100W Incandescent	N-L3157	\$4	Fixture



#### **EXTERIOR LED SIGNAGE**

#### Requirements:

- · Complete Table A of the "Lighting Incentive Catalog Supplemental Data Sheet" for these measures.
- Must result in at least a 30% wattage reduction to be eligible.
- · Measure is intended for LED upgrades from incandescent, HID, fluorescent or neon exterior commercial signage.
- · Applications include, but are not limited to channel lettering, backlit displays and menu boards.
- · Signs illuminated by flood fixtures should refer to flood fixture incentive offerings on page 24.
- · Clear documentation (i.e. spec sheets, sign schematics, existing ballast or transformer) of existing equipment or metering data (i.e. voltage and amperage readings) MUST be provided or measure eligibility will be subject to disqualification.
- · Replacement lamp products that intend to use existing sockets or lamp holders MUST be reviewed by Focus on Energy prior to installation.
- · Incentive may be adjusted if existing ballast information is not provided.

EXISTING BUILDING INCE	NTIVES		
Measure Description	Code	Incentive	Unit
Exterior LED Signage	L3904*	\$0.20	Watt Reduced
* Supplemental Data Table	needed		

# **HOW TO APPLY EXAMPLE**

EQUIP#	TYPE OF EXISTING EQUIPMENT	(A) ROUNDED WATTAGE OF EXISTING EQUIPMENT PER FIXTURE	(B) QUANTITY OF EXISTING EQUIPMENT	TYPE OF NEW EQUIPMENT	(C) ROUNDED WATTAGE OF NEW EQUIPMENT PER FIXTURE	(D) QUANTITY OF NEW EQUIPMENT	(E) INCENTIVE PER WATT REDUCED (\$/Watt Reduced)	REQUESTED INCENTIVE* [(A x B) - (C x D) x E]
Exterior signage	1L F96T12	121	1	25' LED strip, 2 watts/ft	50	1	\$0.20/W reduced	\$14.20



# REPLACEMENT LAMPS

**General Requirements:** Incentives are available for replacing existing metal halide (MH) or mogul screw-base (E39), with light emitting diode (LED) replacement lamps as well as replacing incandescent or CFL medium screw-base (E26) with light emitting diode (LED) lamps. **Manufacturer and model number(s) are required.** 



#### EXTERIOR LED MOGUL SCREW-BASE (E39) LAMP



- · Complete Table A of the "Lighting Incentive Catalog Supplemental Data Sheet" for these measures.
- · Must be DLC TRT V4.4 or higher listed in one the following primary use categories:
  - · Replacement Lamps for Outdoor Pole/Arm-Mounted Area and Roadway Luminaires (UL Type B)
  - · Replacement Lamps for Outdoor Pole/Arm-Mounted Decorative Luminaires (UL Type B)
  - · Replacement Lamps for Outdoor Full-Cutoff Wall-Mounted Area Luminaires (UL Type B)
  - · Replacement Lamps for Parking Garage Luminaires (UL Type B)
  - · Replacement Lamps for Fuel Pump Canopy Luminaires (UL Type B)
  - · Replacement Lamps for Outdoor Pole/Arm-Mounted Area and Roadway Luminaires (UL Type C)
  - · Replacement Lamps for Outdoor Pole/Arm-Mounted Decorative Luminaires (UL Type C)
  - · Replacement Lamps for Outdoor Full-Cutoff Wall-Mounted Area Luminaires (UL Type C)
  - · Replacement Lamps for Parking Garage Luminaires (UL Type C)
- · Replacement lamps must be installed in luminaire they are DLC listed under.
- · Exterior medium screw-base (E26) lamps may be eligible if E39 option is DLC listed. Contact Focus on Energy for assistance.
- · Existing incandescent or high-wattage CFL upgrades are also eligible for this incentive.
- · Reference default system wattage table for common HID systems on page 41 for baseline input. Contact Focus on Energy for any system not listed.
- UL TYPE B PRODUCTS By signing the application, customers agree that necessary steps have been taken to ensure product, luminaire and maintenance safety.
- Customers applying for municipal roadway lighting MUST submit a copy of utility bill verifying customer is on a utility rate for customer owned street lights. Utility owned street lights are not eligible for incentives.

EXISTING BUILDING INCENTIVES			
Measure Description	Code	Incentive	Unit
Mogul Screw-in Base (E39) replacing existing E39 base lamp	L3963*	\$0.15	Watt Reduced
* Supplemental Data Table needed			



#### EXTERIOR LED OMNIDIRECTIONAL OR DECORATIVE LAMP



#### Requirements:

- · Product must appear on ENERGY STAR certified light bulbs qualified product list under Omnidirectional or Decorative Lamp Category.
- · Eligible for exterior lamp replacements only.
- · One-for-one replacement of incandescent or CFL only.
- · LED lamp must contain integral driver.
- · Lamps may not be used for resale or giveaway-type promotions.
- Incentive is limited to 50% of the retail product cost. Product cost is the amount paid by the customer for qualifying equipment, excluding any Focus on Energy incentive credit, shipping and sales tax. Focus on Energy reserves the right to confirm actual payment.
- · Lamps sold at participating instant discount retailers are not eligible.

EXISTING BUILDING INCENTIVES			
Measure Description	Code	Incentive	Unit
LED with rated lumen output of 1,600-1,999 replacing incandescent or CFL	L3947	\$3	Lamp
LED with rated lumen output of 1,100-1,599 replacing incandescent or CFL	L3948	\$2	Lamp
LED with rated lumen output of 800-1,099 replacing incandescent or CFL	L3949	\$1.50	Lamp
LED with rated lumen output of 450-799 replacing incandescent or CFL	L3950	\$1	Lamp
LED with rated lumen output of 250-449 replacing incandescent or CFL	L3951	\$1	Lamp

NEW CONSTRUCTION INCENTIVES			
Measure Description	Code	Incentive	Unit
LED with rated lumen output of 1,600-1,999 instead of incandescent or CFL	N-L3947	\$3	Lamp
LED with rated lumen output of 1,100-1,599 instead of incandescent or CFL	N-L3948	\$2	Lamp
LED with rated lumen output of 800-1,099 instead of incandescent or CFL	N-L3949	\$1.50	Lamp
LED with rated lumen output of 450-799 instead of incandescent or CFL	N-L3950	\$1	Lamp
LED with rated lumen output of 250-449 instead of incandescent or CFL	N-L3951	\$1	Lamp



#### EXTERIOR LED DIRECTIONAL LAMP REPLACING COMPACT FLUORESCENT (CFL)



- · Product must appear on ENERGY STAR certified light bulbs qualified product list under Directional Lamp Category.
- · Eligible for exterior lamp replacements only.
- · One-for-one replacement of incandescent or compact fluorescent only.
- · LED lamp must contain integral driver.
- · Lamps may not be used for resale or giveaway-type promotions.
- Incentive is limited to 50% of the retail product cost. Product cost is the amount paid by the customer for qualifying equipment, excluding any Focus on Energy incentive credit, shipping and sales tax. Focus on Energy reserves the right to confirm actual payment.
- $\cdot$  Lamps sold at participating instant discount retailers are not eligible.

EXISTING BUILDING IF	ICENTIVES		
Measure Description	Code	Incentive	Unit
LED replacing incandescent 120W - 250W	L3935	\$5	Lamp
LED replacing incandescent 100W - 119W	L3936	\$4	Lamp
LED replacing incandescent 75W - 99W	L3937	\$3	Lamp
LED replacing incandescent 55W - 74W	L3938	\$2	Lamp
LED replacing incandescent 36W - 54W	L3939	\$1.50	Lamp
LED replacing incandescent ≤ 35W	L3940	\$1	Lamp
LED replacing CFL ≥ 23W	L3929	\$1.75	Lamp
LED replacing CFL 14W – 22W	L3930	\$1.50	Lamp
LED replacing CFL ≤ 13W	L3931	\$1	Lamp

NEW CONSTRUCTIO	ON INCENTIVES		
Measure Description	Code	Incentive	Unit
LED instead of CFL ≥ 23W	N-L3929	\$0.90	Lamp
LED instead of CFL 14W - 22W	N-L3930	\$0.60	Lamp
LED instead of CFL ≤ 13W	N-L3931	\$0.40	Lamp



# EXTERIOR LED 4 FOOT T8 LAMP

- $\cdot \quad \text{Must be DLC TRT V4.4 or higher listed in the Four-Foot Linear Replacement Lamps General Application.}$
- · DLC rated wattage listing must be  $\leq$ 24W per lamp.
- · Measures MAY NOT be combined with fixture incentives.
- · 4' LED replacement lamps DLC listed as "Dual Mode Internal Driver (UL Type A or B)" may apply for the measure by which they are installed.
- Incentive is limited to 50% of the retail product cost. Product cost is the amount paid by the customer for qualifying equipment, excluding any Focus on Energy incentive credit, shipping and sales tax. Focus on Energy reserves the right to confirm actual payment.
- UL TYPE B PRODUCTS By signing the application, customers agree that necessary steps have been taken to ensure product, luminaire and maintenance safety.

EXISTING BUILDING INCENTIVES				
Measure Description	Code	Incentive	Unit	
24 Hour, LED Replacement of 4' T8 or T12 Lamp w/External Driver (UL Type C)	L4353	\$2	Lamp	
24 Hour, LED Replacement of 4' T8 or T12 Lamp, Direct Wire (UL Type B)	L4351	\$2	Lamp	
24 Hour, LED Replacement of 4' T8 Lamp Utilizing Existing Ballast (UL Type A)	L4349	\$1.50	Lamp	
Dusk to Dawn, LED Replacement of 4' T8 or T12 Lamp w/External Driver (UL Type C)	L4352	\$2	Lamp	
Dusk to Dawn, LED Replacement of 4' T8 or T12 Lamp, Direct Wire (UL Type B)	L4350	\$2	Lamp	
Dusk to Dawn, LED Replacement of 4' T8 Lamp Utilizing Existing Ballast (UL Type A)	L4348	\$1.50	Lamp	

NOTES	



For more information, call 800.762.7077 or visit focusonenergy.com





# **LIGHTING CONTROLS**

**General Requirements:** Incentives are available for installing lighting controls which meet the requirements as described in each of the sections below. Controls may be installed on existing lighting equipment or in conjunction with new equipment listed throughout the catalog. Sensors may control more than one fixture. Rapid or programmed start ballasts are recommended for fluorescent fixtures to extend lamp life. Control costs must be itemized separately on invoice.



#### **DAYLIGHTING CONTROLS**

#### Requirements:

- · Must be step dimmed with at least one level in addition to full power and off or continuous dimming controls.
- · Specification sheets for controls and fixtures controlled must be submitted with the application.
- · Inventory of fixtures controlled (including quantity, fixture type and number of lamps per fixture) by space type or lighting diagram must be submitted with the application.
- · For retrofit situations where specification sheets are not available for existing fixtures, program default wattages will be used for calculating incentives. Please reference page 41 for default wattage table or contact Focus on Energy to obtain a system not listed.
- · Retrofits may be combined with additional incentive for occupancy sensors.

EXISTING BUILDING INCENTIVES			
Measure Description	Code	Incentive	Unit
Daylighting Controls	L3406	\$0.05	Watt Controlled



#### **HIGH BAY CONTROLS**

- · Sensors must be ultrasonic, passive infrared, microwave or dual technology and rated for controlling high bay fixtures.
- · May be high/low or on/off controls as listed below.
- · Eligible sensors include high wall, ceiling, or fixture mounted sensors designed for controlling fixtures in high or low bay applications.
- · Rapid or programmed start ballasts are recommended for fluorescent fixtures to extend lamp life.
- · Sensors may control more than one fixture.
- · Socket-based occupancy sensors do not qualify.
- · Timers do not qualify for prescriptive incentives, but may be eligible for custom incentives.
- · Upgrading existing daylighting controls are not eligible.

	EXISTING BUILDING INCENTIVES			
Measure Description		Code	Incentive	Unit
On/Off Occupancy Control		L3978	\$10	Controlled Fixture
Bi-Level Occupancy Control		L3979	\$10	Controlled Fixture





#### Requirements:

- · Must be ultrasonic, passive infrared, microphonic, microwave or dual technology occupancy/vacancy sensors controlling non-high bay fixture types.
- $\cdot$  Rapid or programmed start ballasts are recommended for fluorescent fixtures to extend lamp life.
- · Sensors may control more than one fixture.
- · Socket based occupancy sensors do not qualify.
- · Timers do not qualify for prescriptive incentives, but may be eligible for custom incentives.
- · Upgrading existing non-high bay controls are not eligible.





# **HOW TO APPLY EXAMPLE**

INCENTIVE CODE	MANUFACTURER NAME	MODEL #	UNIT MEASURE	(A) # OF UNITS	(B) INCENTIVE PER UNIT	TOTAL INCENTIVE (A x B)
L4812	XYZ	ABCD	Watt Controlled	500	\$0.05	\$25.00

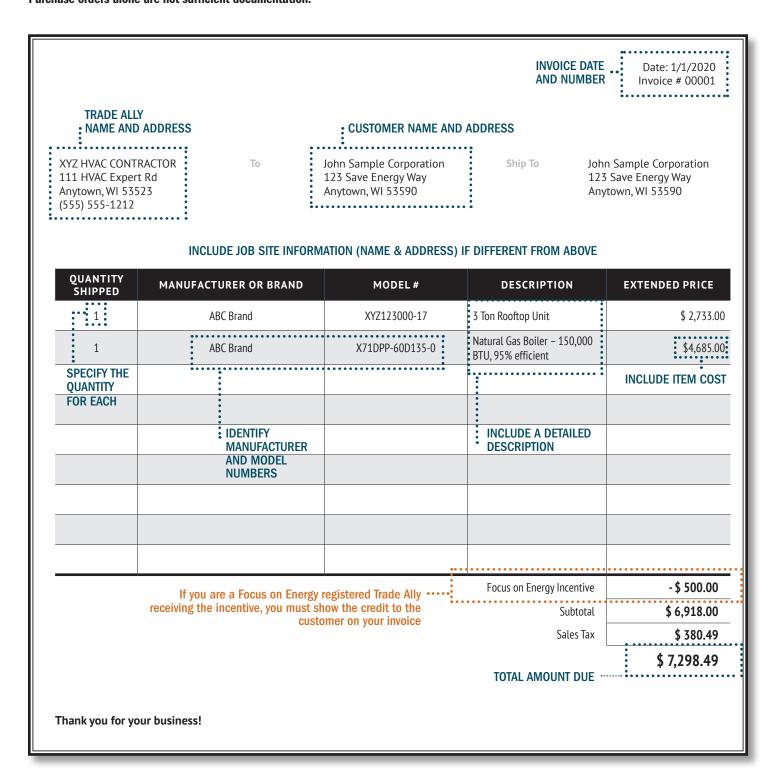
# **PRO TIP**

Position wall sensors in an office on the same wall as the door so that the sensor can only "see" the area intended to be controlled and not the hallway outside of the door. The most common cause of "false-on" triggering of sensors is incorrect positioning of the sensor.

# **SAMPLE INVOICE**

NEED HELP? Call 800.762.7077

Focus on Energy requires a copy of your itemized invoice to process incentives. Use this example to help guide you through our invoice requirements. Only registered Trade Allies can receive incentive payments on behalf of their customers. If submitting a purchase order, submit an invoice as well. **Purchase orders alone are not sufficient documentation.** 



# **GLOSSARY**

NEED HELP? Call 800.762.7077



Acronyms, abbreviations and technical terms used throughout this catalog are defined below.

#### **ACRONYMS AND ABBREVIATIONS**

1x4	One foot by four feet in dimension (nominal)	IESNA	Illuminating Engineering Society of North America
2x2	Two feet by two feet in dimension (nominal)	kW	Kilowatts
2x4	Two feet by four feet in dimension (nominal)	kWh	Kilowatt-hours
A-Lamp	Standard incandescent lamp shape	LED	Light emitting diode
ANSI	American National Standards Institute	lm	Lumen(s)
BF	Ballast factor	lm/W	Lumens per Watt
BR Lamp	Bulged reflector lamp	NEC	National Electric Code
CCT	Correlated color temperature	MH	Metal halide
CEE	Consortium for Energy Efficiency	MV	Mercury vapor
CFL	Compact fluorescent lamp	PAR Lamp	Parabolic aluminized reflector lamp
СМН	Ceramic metal halide	PSMH	Pulse-start metal halide
CRI	Color Rendering Index	QPL	Qualified products list
DLC	DesignLights Consortium®	R Lamp	Reflector lamp
DOE	U.S. Department of Energy	RWT8	Reduced wattage 1" diameter fluorescent lamp
ES	ENERGY STAR®	SSL	Solid-state lighting
G Lamp	Globe-shaped light bulb, generally for exposed use	T5	<sup>5</sup> / <sub>8</sub> " diameter tubular lamp
HID	High-intensity discharge. Includes: HPS, MH, CMH, PSMH and	T8	1" diameter tubular lamp
	mercury vapor	T12	1½" diameter tubular lamp
НО	High output	VHO	Very high output
HPS	High-pressure sodium	W	Watt(s) demand for electricity and natural gas
HPT8	High performance 1" diameter fluorescent lamp		

#### **GLOSSARY TERMS**

#### A Lamp

Standard incandescent lamp shape, typically with an omnidirectional distribution of light.

#### Average Rated Life

An average rating, in hours, indicating end of useful life. For most lamps, this indicates when 50% of a large group of lamps will have failed, when operated at nominal lamp voltage and current. For LED, this would be the point at which the light system has depreciated to an unacceptable level and needs to be replaced, often when it has dropped to 70% of initial light output.

#### Ballast

An electrical control device that initiates the light arc in fluorescent and HID lights with high starting voltage and regulates the operation of the lamp.

#### **Ballast Factor (BF)**

The ratio of the light output of a fluorescent lamp or lamps operated on a ballast to the light output of the lamp(s) operated on a standard (reference) ballast. BF depends on both the ballast and the lamp type; a single ballast can have several ballast factors depending on lamp type. Rated Lamp Lumens x BF = Net Lumen output for the system. Also referred to as relative light output. Typically grouped into Low ( $\leq 0.85$ ), Normal (> 0.85 to  $\leq 1.0$ ) and High ( $\geq 1.01$ ) light output categories.

#### **Bi-Level Control**

Device that controls light source intensity at two discrete levels in addition to off.

#### Bollards

Lights mounted on short, heavy piers or posts. They are used mostly for larger residences and campus settings.

#### **Bulged Reflector Lamp (BR Lamp)**

Flood style lamp with wide, diffuse beam. Often used in downlights for general lighting.

#### **Canopy Lighting**

Recessed or surface-mounted lighting on the underside of a covered drive through, covered walkway or covered gasoline pumping station.

#### Color Rendering Index (CRI)

A rating index commonly used to represent how well a light source renders the colors of objects that it illuminates. The maximum value of 100 indicates that the colors of objects can be expected to be seen as they would appear under an incandescent or natural daylight. Sources with CRI values less than 50 are generally regarded as rendering colors poorly.

#### Consortium for Energy Efficiency (CEE)

CEE is the U.S. and Canadian consortium of gas and electric efficiency program administrators. CEE works together to accelerate the development and availability of energy-efficient products and services for lasting public benefit.

#### **Continuous Dimming**

Control of a light source's intensity to practically any value within a given operating range.

#### **Correlated Color Temperature (CCT)**

A measure of the color appearance of a light source relative to a black body at a particular temperature expressed in degrees Kelvin (°K). Incandescent lights have a low color temperature (approximately 2700°K) and have a red-yellowish tone; daylight has a high color temperature (approximately 5000°K) and appears bluish (fluorescent Cool White is rated at 4100°K).

#### **Cove Lighting**

Light built into a cove, a shelf or ledge at the upper part of a wall, to illuminate the ceiling and upper wall area.

#### **Daylight Sensor**

A device which senses the amount of daylight in a room and adjusts the electric lighting accordingly.

#### **Decorative Lamps**

General service lamps available in a variety of wattages and shapes. Decorative bulbs include flame, teardrop, globe and candelabra shapes. Typically available in incandescent, CFL and LED.

#### **Delamping**

The selective, permanent removal of one or more lamps from a luminaire to reduce wattage and light level. Buildings designed in the 1970s and 1980s are often over lit compared to modern design standards and existing fixtures in these spaces may be effectively delamped to save energy and correct light levels.

#### DesignLights Consortium®(DLC)

The DLC is a project of Northeast Energy Efficiency Partnerships (NEEP), a regional non-profit, whose mission is to serve the Northeast and mid-Atlantic regions to accelerate energy efficiency in the building sector through public policy, program strategies and education. Visit designlights.org

#### Diffuser

Light control device that spreads light by scattering it.

#### Dimme

Control that varies the output of the light source by reducing the voltage or current to the lamp.

#### **Directional Lamps**

Lamp type which typically integrates a reflector to distribute light forward away from the lamp. Typically used to direct light toward an object or display. Includes flood and spot lamps with a variety of beam patterns (includes PAR, R, BR, MR, and AR types).

#### Downlights

Light fixtures that direct all of the light in a downward direction. Most often are completely recessed into the ceiling, circular or square shaped, and less than 12" in diameter.

#### Efficacy

The amount of light produced per watt of electricity (lumens/watt). It is the rate at which a light source is able to convert electrical power (watts) into light (lumens), expressed in terms of lumens per watt (LPW). For example, a 10 watt lamp producing 800 lumens has an efficacy of 80 lumens per watt.

#### **ENERGY STAR®**

A U.S. Environmental Protection Agency (EPA) voluntary program that helps businesses and individuals save money and protect our climate through superior energy efficiency.

#### Flood

Floodlights create a widespread distribution of light for illuminating a wall, sign or large object or building. A floodlight should be well shielded with an accessory louver or shield to avoid stray light and glare.

#### Fluorescent Lamps

Lamps which operate by creating an electric arc inside a gas-filled tube. The color of the light is determined by the type of phosphor coating used in the lamp.

#### Fluorescent Troffers

Recessed fluorescent fixtures for 2-foot and 4-foot lamps, generally in modular sizes (2'x4', 1'x4', 2'x2'); commonly used in commercial spaces.

#### **Flushmount**

A type of light fixture that mounts directly to a junction box, typically in the ceiling.

#### **GLOSSARY TERMS**

#### **Footcandle**

The unit of measure for the density of light as it reaches a surface. One footcandle is equal to one lumen per square foot.

#### G Lamp

Globe-shaped light bulb, generally for exposed use.

#### **General Lighting**

Also known as ambient lighting, general lighting provides an area with overall, non-specific illumination.

#### Glare

Lighting that causes discomfort and impairs good visibility.

#### Halogen Lamp

An incandescent lamp that uses a halogen fill gas. Halogen lamps have higher-rated efficacies and longer lives than standard incandescent A-lamps.

#### **High Bay**

Interior Lighting where the roof trusses or ceiling height is greater than approximately 25 feet above the floor. Common in big box retail, warehouse and industrial settings.

#### High-Intensity Discharge (HID)

An electric lamp that produces light directly from an arc discharge under high pressure. Metal halide, high-pressure sodium, and mercury vapor are types of HID lamps.

#### High-Pressure Sodium (HPS)

Lamp type that uses sodium under high pressure as the primary light-producing element. HPS lamps produce a yellow light with a CCT of approximately 2000 Kelvin. HPS lamps are among the most efficacious light sources, with efficacies as high as 150 lumens per watt, although those with higher CRI values have efficacies as low as 25 lumens per watt.

#### **High Voltage**

Voltage that exceeds 50 volts.

#### Illuminance

The density of luminous flux on a surface, is measured in footcandles (one lumen per square foot) or lux (one lumen per square meter).

#### **Incandescent Lamp**

Produces light with a wire filament, which creates light as it is heated by electric current.

#### **Induction Lamp**

An electrodeless fluorescent lamp which is powered by an electromagnetic induction generator to excite gases within the lamp to light rather than using electrodes internal to the lamp which can wear out.

#### **Initial Lumens**

The lumens produced by a lamp after an initial burn in period (usually 100 hours).

#### **Input Watts**

The total wattage required by both the ballast or driver and the lamp or light source in a luminaire.

#### **Instant Start**

Ballast starting type. Applies high voltage across the lamp with no preheating of the cathode. The higher voltage is necessary because the electrodes are not heated prior to starting. It is more energy efficient than rapid or preheat starting, but results in greater wear on the electrodes during starting. The life of instant-start lamps that are switched on and off frequently may be reduced by as much as 25% relative to rapid-start operation. However, for longer burning cycles (such as 12 hours per start), there may be no difference in lamp life for different starting methods.

#### Kelvin

Color temperature is measured in degrees Kelvin, which indicate the hue of a specific type of light source. Higher temperatures indicate whiter, "cooler" colors, while lower temperatures indicate yellower, "warmer" colors (see CCT).

#### Kilowatt (kW)

1000 watts

#### Kilowatt Hour (kWh)

A unit of measurement for electrical energy usage. One kilowatt hour equals 1000 watts of energy used for one hour.

#### Job Site

The physical location and address where the measures were installed.

#### Lamp

The light source within a fixture. Some types are referred to as a bulb or tube.

#### Lamp Disposal

Refers to the proper recycling of lamps containing mercury or other hazardous materials.

#### Lamp Holder

Socket inside a housing, which holds the lamp in place and connects it to the electrical source.

#### Lens

A glass or plastic diffuser used in luminaires to seal a fixture or control the exiting light.

#### Light Emitting Diode (LED)

A semiconductor diode (electronic components that let electricity pass in only one direction) that emit visible light when electricity is applied and is used in lamps and digital displays. LED is available in a wide variety of colors and lighting fixture types and typically has a much longer-rated life than traditional lighting technologies.

#### **Lighting Controls**

Devices that adjust lighting systems to vary light level or turn on or off.

#### **Light Distribution**

Pattern of light produced by a fixture or created in a room or in an area.

#### Line Voltage

The voltage supplied by a power line, measured at the point of use.

#### Low Bay

Interior lighting where the roof trusses or ceiling height is approximately 25 feet or less above the floor. Common in warehouses, athletic facilities and industrial settings.

#### Low Voltage Lighting

Lighting system that operates on a system that supplies  $\leq 50$  volts to the lamps or light sources.

#### Lumens Per Watt (LPW)

The number of lumens produced by a light source for each watt of electrical power supplied to the light source. Also known as efficacy.

#### Lumei

Unit of total light output of a light source in all directions, expressed in lumens.

#### **Lumen Depreciation**

The decrease in lumen output of a light source over time. The decrease in lumen output that occurs as a lamp is operated, until failure. Also referred to as lamp lumen depreciation (LLD).

#### **Lumen Maintenance**

The ability of a lamp to retain its light output over time. Greater lumen maintenance means a lamp will remain brighter longer. The opposite of lumen maintenance is lumen depreciation, which represents the reduction of lumen output over time.

#### Luminaire

A complete lighting fixture consisting of lamp or lamps together with the socket and parts designed to distribute the light, to position and protect lights and to connect the lights to their power supply.

#### **Luminaire Efficiency**

The ratio, expressed as a percentage, of the light output of a luminaire to the light output of the luminaire's lamp(s) (percentage of the light generated by the light source that actually makes it out of the luminaire). Luminaire efficiency accounts for the optical and thermal effects that occur within the luminaire under standard test conditions.

#### **Mean Lumens**

The average lumen output of a lamp over its rated life. Mean lumen values for fluorescent and HID lamps are typically measured at 40% of their rated lives.

#### Mercury Vapor (MV) Lamp

A high-intensity discharge lamp type that uses mercury as the primary light-producing element. Mercury vapor lamps produce light with a CCT from 3000 to 7000 K. Mercury vapor lamps are less efficacious than other HID lamp types, typically producing only 30 to 65 LPW.

#### Metal Halide (MH) Lamp

A high-intensity discharge lamp type that uses mercury and several halide additives as light-producing elements. MH lamps have better color properties than other HID lamp types because the different additives produce more visible wavelengths, resulting in a more complete spectrum. MH lamps are available with CCTs from 2300 to 5400 K and with CRI values from 60 to 93. Efficacies of MH lamps typically range from 75 to 125 LPW.

#### Multi-Facet Reflector Lamp (MR Lamp)

Multi-facet reflector lamp, of which the most popular is MR16.

#### **Occupancy Sensor**

A device which activates a fixture upon sensing the presence of a person in a space.

#### Parabolic Aluminized Reflector Lamp (PAR Lamp)

Incandescent PAR lamps are constructed of hard glass with a separate back reflector. Also available in CMH and LED. LED PAR lamps typically have a similar overall shape and beam angle of light, but do not actually use the parabolic reflector.

#### **Photocell**

Light-sensitive device used to operate fixtures according to available daylight. They are used to integrate an electric lighting system with a daylighting system so lights operate only when daylighting is insufficient and turn outdoor or security lights on and off at dusk and dawn.

#### **Programmed Start**

A method of starting fluorescent lamps, associated with electronic ballasts, where low voltage is applied to the cathode to pre-heat prior to lamp ignition. Recommended for use with occupancy sensors.

#### Rated Lamp Life

See: Average Rated Life

#### **Recessed Fixture**

A fixture mounted in the ceiling. With downlights, only the aperture and trim are visible from below. With fluorescent troffers and luminous ceilings, only the light shield is visible.

#### R Lamp

Reflector lamp whose interior is coated with a reflecting material so as to direct the light forward.

#### Relamping

A project where the existing lighting fixtures are cleaned and new lamps installed.

#### Re-Strike

Refers to the restarting of a previously operating HID lamp shortly after turn off. Typically requires a minimum of 4-15 minutes to restart after turn off.

#### Retrofit

Upgrading a fixture by installing new lighting fixtures, parts or equipment.

#### Semi-Specular

A reflective but somewhat diffuse surface.

#### Soffit

In architecture, the underside of an overhead component. Often used to describe an exterior element under the roofline.

#### Solid State

Electronics that use semi-conductor chips and circuitry.

#### **Specular**

A highly polished or mirrored surface.

#### Spot Lamp

Reflectorized lamp with a narrow light distribution.

#### **Task Lighting**

Lighting directed to a specific area or surface that provides illumination for visual tasks, such as reading, writing, wiring or grinding.

#### **Thermal Characteristics**

The manner in which a luminaire manages heat, either dissipating heat or retaining it.

#### Timer

Device that turns lights on and off at pre-programmed times.

#### Track Lighting

Lighting system that utilizes multiple fixtures which operate off a track or strip mounted to the wall or ceiling. May be low voltage or line voltage.

#### Trim

The edge or visible part of a recessed downlight. The finishing section of the exterior of a recessed fixture.

#### Troffer

Recessed fluorescent fixture for use in a suspended ceiling; derived from the words "trough" and "coffer."

#### TRT vX.X

Acronym for DLC's Technical Requirements Table followed by version number.

#### **U** Lamp

Linear, double-ended fluorescent lamp, usually T8 or T12, bent into a "U" shape.

#### UL

Underwriters Laboratory. An independent organization whose responsibilities include rigorous testing of electrical products.

#### Watt

A unit of electrical power.

 ${\sf GELighting.com/LightingWeb/emea/resources/world-of-ge-lighting/glossary/}$ 

focusonenergy.com

Lightsearch.com/resources

#### **DEFAULT SYSTEM WATTAGE TABLES**

#### FOR COMMON CFL DOWNLIGHTS

Existing Lamp Configuration	Total System Wattage
(1) 13W CFL	16
(1) 18W CFL	23
(1) 26W CFL	31
(1) 32W CFL	35
(1) 42W CFL	46
(1) 36/39W 2G11 CFL	51
(1) 40W 2G11 CFL	48
(1) 55W 2G11 CFL	58
(2) 13W CFL	32
(2) 18 W CFL	46
(2) 26W CFL	62
(2) 32W CFL	70
(2) 42W CFL	92

#### FOR COMMON HID SYSTEMS

Existing Lamp Configuration	Total System Wattage
50W HID	65
70W HID	94
100W HID	126
150W HID	179
175W HID	210
250W HID	293
320W HID	356
400W HID	455
1,000W HID	1,079

#### FOR COMMON LINEAR FLUORESCENT SYSTEMS

Existing Lamp Configuration	Total System Wattage
1L F32 T8 Normal BF	33
1L F34 T12	39
1L F40 T12	39
2L F32 T8 Normal BF	61
2L FU32T8/6	55
2L F34 T12	66
2L F40 T12	79
2L FU40T12	72
3L F32 T8 Normal BF	91
3L F34 T12	103
3L F40 T12	124
4L F54 T5H0	234
4L F32 T8 Normal BF	120
4L F32 T8 High BF	151
4L F34 T12	136
4L F40 T12	153
6L F54 T5H0	355
6L F32 T8 High BF	224
8L F32 T8 High BF	291
1L F96T8	61
2L F96T8	107
1L F96T12	69
1L F96T12/H0	115
2L F96T12	109
2L F96T12/H0	190

#### LIGHTING POWER DENSITY (LPD) TABLES

Sector	<b>Building Type Description</b>	Baseline LPD (W/ft <sup>2</sup> )
Commercial	Office	0.82
Commercial	Performing Arts Theater	1.39
Commercial	Retail	1.26
Commercial	Sports Arena	0.91
Industrial	Transportation	0.70
Industrial	Warehouse	0.66
Industrial	Workshop	1.19
Schools & Government	Post Office	0.87
Schools & Government	Penitentiary	0.81
Schools & Government	Fire Station	0.67
Schools & Government	Police Station	0.87
Schools & Government	Religious Building	1.00
Schools & Government	School/University	0.87
Schools & Government	Town Hall	0.89

Hours-of-Use by Sector		
Sector	HOU	
Commercial	3,730	
Industrial	4,475	
Agriculture	4,698	
Schools & Government	3,239	

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