

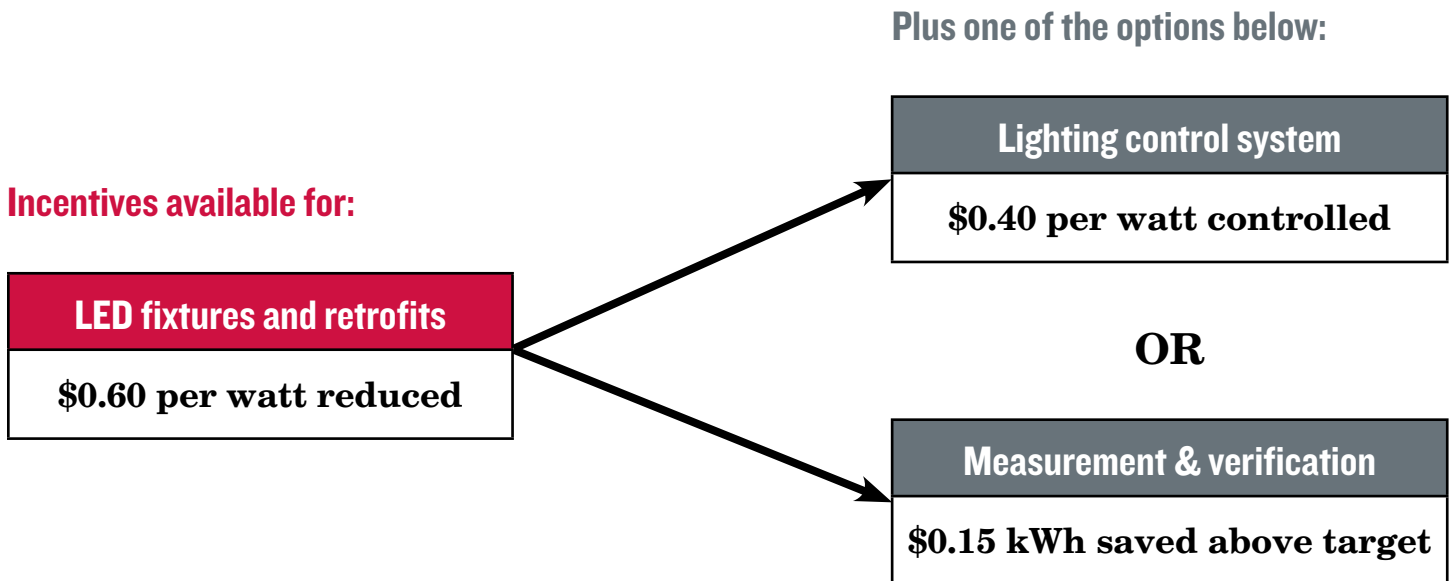
# INDOOR NETWORKED LIGHTING SYSTEM WORKSHEET

January 1 through December 31, 2021

ComEd Energy Efficiency Program offers networked lighting system incentives for intelligent lighting control systems that optimize the performance of a network of efficient light fixtures and sensors. Networked lighting systems have three components:

- High-efficiency fixtures and sensors tied to a central control system
- A central control system that can be accessed from a central computer or mobile device that can control all nodes/fixtures without the need to move around, show real-time status of the lighting system and generate detailed reports about the system's performance. Control strategies such as occupancy sensors, dimming and zone control are selected by the user and programmed into the control system.
- A minimum one (1) month post-installation measurement and verification period, in which energy data is captured to verify reductions in usage (optional).
- Data recorded should be a representative sample of typical facility operating schedule and should be collected after the system has been commissioned to meet facility needs.

Networked lighting system incentives may be used to replace an existing lighting system or to install a new system where none exists. Incentives also are available for customers that wish to install an intelligent control system for use with existing fixtures.



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**Directions:** Please save a copy of this form to your computer by selecting “File/Save As” before entering text and numbers. Then fill in your information electronically and select “Save.” Note that this form requires Adobe Reader® version 11.0 to function properly. Download the most recent version of Adobe Acrobat Reader DC® at <http://get.adobe.com/reader>.

**Pre-application is required; review instructions on the standard incentives application form. Wait for a reservation letter before starting your project.**

**All lighting projects are expected to comply with the Illuminating Engineering Society of North America (IESNA) recommended lighting levels or the local code.**

## Networked Lighting System with New, High-Efficiency Fixtures and Control System

**To receive the incentives, the following requirements must be met, in addition to all measure-specific specifications:**

1. Incentives are applicable only to new high-efficiency LED fixtures which must meet the specifications below. Fixtures that do not qualify may be eligible for the measurement & verification incentive.
2. A majority of total new system wattage must meet the fixture specifications detailed below.
3. IECC 2018 lighting power densities should be used to determine baseline conditions for projects where there is no existing lighting system.
4. A minimum one (1) month post-installation measurement and verification (M&V) normal operation period is only required if pursuing the \$0.15 kWh M&V additional project incentive. Please see specifications for M&V requirements.

## Section I:

### LED Fixtures and Retrofits

#### \$0.60 per watt reduced

Installation of a new lighting system containing LED fixtures, or a retrofit lighting system containing LEDs.

### Specifications and Eligible Equipment

1. Fixtures must be installed with a control system that meets the specifications listed on page 4 in the worksheet to be eligible for this incentive.
2. Manufacturer’s specifications for new fixtures must accompany pre-application and final applications.
3. Fixtures must be on the DesignLights™ Consortium (DLC) Qualified Products List available at [designlights.org](http://designlights.org).
4. This measure does not apply to channel signs, open signs, LED screw-based replacement for HID lamps or refrigerated display case lighting. Linear TLEDs type A and B, and trim kits/downlights are not eligible for standard incentives but may be eligible for instant discounts when purchased from a participating distributor. Contact a distributor to check product eligibility; visit [ComEd.com/BizLights](http://ComEd.com/BizLights) for details.

Customer Name:

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## Section I: Watt Reduction Worksheet for New LED Fixtures and Retrofits Replacing an Existing Lighting System

Use this worksheet to calculate the incentives. (See example below)

TYPE OF EQUIPMENT TO BE REPLACED	QUANTITY OF EQUIPMENT TO BE REPLACED	WATTAGE OF EQUIPMENT TO BE REPLACED	TYPE OF NEW FIXTURE TO BE INSTALLED (MODEL NUMBER)	QUANTITY OF NEW EQUIPMENT	WATTAGE OF NEW EQUIPMENT	DIFFERENCE (OLD WATTAGE MINUS NEW)
example: 2-lamp 4-ft T12	100	72	example: LED ARV2- 12/480/8CPT4	120	44	1,920
<b>Total wattage reduction</b>						
<b>LED Fixtures and Retrofits (per watt reduced)</b>						<b>\$0.60</b>
<b>SECTION I INCENTIVE SUBTOTAL</b>						<b>\$</b>

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## Section 2:

### Control System

#### \$0.40 per watt controlled

Installation of a new control system with new or existing fixtures that meet applicable fixture specifications. Control system must apply at least one control strategy

### Specifications

1. Manufacturer's specifications must accompany the standard incentives application form.
2. The control system must be new and meet the following criteria:
  - System must control new or existing LED fixtures that meet the applicable specifications set forth in Section 1 – Fixtures on this worksheet
  - System must have a graphical user interface that is accessible from a single central computer and/or mobile device without the need to move around to access separate fixtures
  - System must have network interoperability (e.g., BACNet MS/TP, Zigbee, etc.)
  - System must have the ability to show the “real-time” status of the light fixtures (e.g., on/off, dimmed, etc.)
  - All installed sensors must be tied to the central control system
3. The installed control system must apply at least one control strategy. The following is a list of suggested control strategies.

### Please check all control strategies being implemented.

- Occupancy sensors with timeout setting controls - Occupancy sensors are installed using passive infrared and/or ultrasonic technology. Sensors should have adjustable timeout settings.
- Dimming (continuous or step) – Fixtures dimmed to light levels less than 70%. Dimming settings are managed by the central control system.
- Daylight harvesting – Photocells are installed to control interior fixtures; sensors should assess amount of ambient light and adjust fixtures to meet facility illumination requirement.
- Zone control – At least two (2) zones in a facility with different profiles.
- Scheduling – Lighting is managed based on shifts, operating hours, seasonal changes, etc.
- High-end trimming – Setting a maximum light allowance at less than 100 percent light output.
- User set preference/occupant profiles.
- Other (specify): \_\_\_\_\_

Please complete the watts controlled worksheet for new control system on the following page. If you need more room than what is available, you may attach a separate sheet.



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## Section 3:

### Energy Savings Documented through Measurement and Verification (M&V)

#### \$0.15 per kWh above target

Networked lighting system that achieves kWh savings above a calculated target kWh

**(NOTE: If you are applying for Control Strategy incentives (see pages 4 and 5), you are not eligible for an M&V incentive)**

### Specifications

Additional incentives are available for verifying the kilowatt-hour (kWh) savings above the calculated target kWh through a trend report generated by the networked lighting control system. Please complete and submit this worksheet page with the M&V data file after the M&V has been collected.

1. Submit a detailed description of the existing lighting controls with the pre-application.
2. The required M&V data file must be provided and the information must be submitted according to the following requirements:
  - Minimum one (1) month period of M&V collection during normal facility operation, which does not include holiday breaks, facility shutdowns or other periods of non-standard operation; depending on the project, the ComEd Energy Efficiency Program team may request a longer M&V period
  - Minimum 15 minute kW interval readings or kWh averaged over a maximum of 1 hour is allowed
  - M&V should be provided in a .csv, .xlsx, or .xls file (pdf data files will not be accepted)
  - To receive M&V incentive, system must have the ability to generate reports that show details such as energy consumption, demand, fixtures on/off time, fixture light level (percentage), etc.