

# Sustainable Purchasing Guide

## Lighting Products



### Use this Guide When Purchasing

- Lamps (light bulbs)
- Luminaires (light fixtures - interior and exterior)
- Lighting retrofit kits

The light-emitting diode (LED) is today's most energy-efficient and rapidly developing lighting technology. Compared to fluorescent lamps, LEDs use only about half the electricity to produce the same amount of light. Quality LEDs last longer, are less prone to breakage, and offer comparable or better light quality than other types of lighting. LED lamps and retrofit kits are often compatible with existing light fixtures with no need to rewire or replace fixtures, and LED products are available for most lighting applications.



### How to Purchase

Check with your central procurement office or administrative or facilities staff to find out if you have any contracts that employees are required to use to purchase lighting products. When you are seeking these products in a store or online, check the product details to confirm it meets the Minimum Requirements listed below. If lighting is included in a construction project, confirm that the designer and contractor are informed about the following Minimum Requirements as well.

### Product Requirements - *specify or seek:*

MINIMUM REQUIREMENTS/SPECIFICATIONS	LEADERSHIP OPPORTUNITIES
<ul style="list-style-type: none"><li>• All* lamps, fixtures, and retrofits are:<ul style="list-style-type: none"><li>• LED-based and have either ENERGY STAR or Design Lights Consortium (Standard or Premium) certification</li></ul></li><li>• Outdoor luminaires (light fixtures) are dark-sky friendly in that they:<ul style="list-style-type: none"><li>• Are fully shielded (eliminate upward-directed light)</li><li>• Are directional (will light only the area that needs it)</li><li>• Minimize blue-light emissions (utilize warmer color lights)</li></ul></li></ul>	<p><i>Minimum Requirements plus one or more of the following:</i></p> <ul style="list-style-type: none"><li>• Labeled RoHS-compliant</li><li>• Have a rated life of 60,000 hours or more</li><li>• Outdoor fixtures have either the DesignLights Consortium Luna or International Dark Sky Association certification</li></ul>



\*excluding emergency and specialty lighting products

## Related Tips

- When shopping for LED lamps/bulbs look for the Lighting Facts label. This label tells you the:
  - Brightness/Light Output, measured in lumens (*e.g., 800 lumens is about the amount of light an old 60 watt incandescent bulb would put out*)
  - Estimated yearly energy cost
  - Lifespan
  - Light Appearance, from warm to cool, measured by correlated color temperature (CCT) on the Kelvin (K) scale
  - Energy Consumption, measured in watts

Lighting Facts Per Bulb	
Brightness	800 lumens
Estimated Yearly Energy Cost	\$1.31
Based on 3 hrs/day, 12¢/kWh. Cost depends on rates and use.	
Life	22.8 years
Based on 3 hrs/day	
Light Appearance	Warm ————— Cool
2700 K	
Energy Used	10 watts

## PRODUCT REGISTRIES

Find/verify certified lighting products by using the following online certified product registries:

- ENERGY STAR Product Registries: [Lamps](#) (bulbs) & [Luminaires](#) (fixtures)
- [DesignLights Consortium](#) Qualified Product List
- [International Dark Sky Association](#) Approved Products List

## Benefits

### Switching to LEDs:

- Reduces energy costs and has a good return on investment (lifetime cost savings exceed upfront costs).
- Reduces operational greenhouse gas (GHG) emissions by reducing energy consumption.
- Supports custom applications, since many LEDs are dimmable and support programmable lighting systems.
- Prevents mercury pollution since unlike fluorescent lamps, LEDs do not contain this toxic element.

## About Light Pollution

The inappropriate or excessive use of artificial light - known as light pollution - can have serious environmental consequences for humans, wildlife, and our climate. Much outdoor lighting used at night is inefficient, overly bright, poorly targeted, improperly shielded, and, in many cases, completely unnecessary. To minimize the harmful effects of light pollution, outdoor lighting should:

- Only be on when needed
- Only light the area that needs it
- Be no brighter than necessary
- Minimize blue-light emissions
- Eliminate upward-directed light
- Be on either the DLC Luna or IDA Approved Product Lists

## Additional Resources

- Check the [DesignLights Consortium](#) website for lighting specifications, how-to guides, case studies, etc.
- Read [Farewell to Fluorescent Lighting](#) by the American Council for an Energy Efficient Economy (ACEEE) for information on the economic benefits of transitioning to LEDs.
- Read [Mercury in Fluorescent Lighting: Unnecessary Health Risks and Actionable Solutions](#) for more on the health benefits of switching from fluorescent lighting to LEDs.
- Check the [StopWaste Sustainable Purchasing Website](#) for additional implementation resources such as cooperative contract opportunities and other support tools.

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