

# LEED® with LIGHTING

LEED promotes a whole building approach to sustainability by recognizing performance in five key areas in building design and construction: sustainable site development, water efficiency, energy performance, the use and selection of building materials, and indoor environmental quality.

Certification is achieved by meeting the prerequisites and a sufficient number of optional credits for a specific version of the LEED standard. The lighting related requirements have been described below for the New Construction version.

Please consult the appropriate Reference Guide on [www.USGBC.org](http://www.USGBC.org) for full details on all LEED criteria.



Acuity Brands Lighting is a proud member of the US Green Building Council.

## LEED-NC for New Construction

NC version 2.2



LEED for New Construction and Major Renovations is designed to guide and distinguish high performance commercial and institutional projects.

### Prerequisite Requirements

- Meet ASHRAE/IESNA 90.1-2004 or local energy code may be substituted if it is at least as stringent
- Lighting controls, including daylight controls, must be commissioned

### Energy Performance (1-10 points)

The building must be designed to use energy at levels significantly below what is set forth in ASHRAE/IESNA 90.1-2004. The required reductions range from 10.5 to 42% and can provide 1 to 10 LEED points. Alternative methods of compliance may be used including the 'ASHRAE Advanced Energy Design Guide for Small Offices' for up to 4 points or using the 'Advanced Buildings Benchmark' for up to 1 point.

### Controllability of Lighting Systems (1 point)

The lighting design must provide individual lighting controls for at least 90% of the building occupants to enable adjustments to suit individual task needs and preferences. Also, lighting controls must be provided in all multi-occupant spaces to enable light adjustments to meet group needs and preferences.

### Daylight and Views (1-2 points)

By providing occupants with a connection with the outdoors through daylight and daylight views, a space can earn up to 2 LEED-NC points. One point may be earned by providing sufficient daylight factor or by demonstrating the introduction of at least 25 footcandles by daylight in 75% of all regularly occupied spaces. An additional point is available if 90% of all regularly occupied areas have a direct line-of-sight to the outdoor environment.

### Light Pollution Reduction (1 point)

This point requires that the outdoor lighting use 50-80% of the lighting power densities prescribed in ASHRAE/IESNA 90.1-2004. Also, depending on the lighting zone of the project, the light system may emit no more than 0-10% of its light as uplight and result in no more than 0.01-0.60 footcandles (horizontal & vertical) at the site boundaries. In addition, all interior lighting must be controlled such that the maximum intensity of each luminaire is not emitted out of the building.

### Tools Provided by Acuity Brands Lighting to Assist in Meeting These LEED-NC Requirements:

The following tools are available through [www.acuitybrandslighting.com/LEED-Credits.htm](http://www.acuitybrandslighting.com/LEED-Credits.htm).

- Product and design solutions to maximize energy performance
- Design Guides showing best practices for certain applications
- References for power density and light levels
- Tool for light pollution uplight compliance
- VISUAL™ design software for lighting calculations
- Photometric Viewer tool for viewing and printing photometric reports

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## LEED-EB:O&M for Existing Buildings Operations & Maintenance



LEED for Existing Buildings: Operations and Maintenance provides a benchmark for building owners and operators to measure operations, improvements and maintenance.

### Prerequisite Requirements

- Achieve an EPA rating of at least 69 using the ENERGY STAR® Portfolio Manager.
- A narrative must be provided on the design light levels throughout the building.

### Energy Performance (1-15 points)

The building needs to achieve an EPA rating of at least 71 to 95, using the ENERGY STAR® Portfolio Manager to earn 3-15 LEED points. Alternative methods of compliance are available for buildings not specifically covered in the EPA tool.

### Reduced Mercury in Lamps (1-2 points)

A lighting purchasing plan must be developed that minimizes mercury content. To earn 1 point requires that the weighted average picograms per lumen-hour be kept no greater than 90, while limiting it to no greater than 70, will earn a total of 2 points.

### Occupant Controlled Lighting (1 point)

The lighting design must provide individual lighting controls for at least 50% of the building occupants to enable adjustments to suit individual task needs and preferences. Also, lighting controls must be provided in all multi-occupant spaces to enable light adjustments to meet group needs and preferences.

### Light Pollution Reduction (1 point)

This credit has three options to show compliance: (1) the existing building was already LEED-NC certified and earned the SSc8 point, (2) all fixtures over 50 watts are shielded or partially shielded, or (3) it is demonstrated that the light levels on the perimeter are not increased by more than 20% when the building exterior lights are turned on.

### Tools Provided by Acuity Brands Lighting to Assist in Meeting These LEED-EBOM Requirements:

The following tools are available through [www.acuitybrandslighting.com/LEED-Credits.htm](http://www.acuitybrandslighting.com/LEED-Credits.htm).

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