

A LEED Overview – ‘LEED with Lighting’

The following tables summarize the lighting related prerequisites and credits in the various versions of LEED. These are brief, introductory notes. To see the complete requirements and other associated details, consult the appropriate USGBC/LEED documentation at www.usgbc.org. Some additional details may also be found at <http://www.acuitybrandsighting.com/sustainability/>.

Category	Prerequisite or Credit	NC v2.2 New Construction	EB v2 Existing Buildings	CI v2 Commercial Interiors
Site Selection	Light Pollution Reduction (½ to 1 Credit)	<p>For <u>Interior Lighting</u>:</p> <ul style="list-style-type: none"> The angle of max candela from each interior luminaire shall not exit out through the windows. OR All non-emergency interior lighting shall be automatically controlled to turn off during non-business hours. <p>For <u>Exterior Lighting</u>:</p> <ul style="list-style-type: none"> Do not exceed 80% of the LPDs for exterior areas and 50% for building facades and landscape features as specified in ASHRAE/IESNA Standard 90.1-2004, without amendments. Limits have been set (by IESNA Lighting Zone) for illuminance at site boundaries, fall off of illuminance outside of site boundaries and total uplight. 	<ul style="list-style-type: none"> Have no luminaire, of 50 watts or greater, with uplight or show that less than 5% of light emitted by all exterior luminaires reaches the night sky on an annual basis. The direction of max intensity for all interior luminaires must fall within the building (not striking a window). The direction of max intensity for all exterior luminaires must fall within the property. Shield all luminaires that are within 2.5MH of the property line. 	<ul style="list-style-type: none"> Meet or be lower than light levels in IESNA RP-33-99. Shield all exterior luminaires with initial lamp lumens over 1000 lumens. All exterior luminaires with initial lamp lumens over 3,500 must be IESNA Full Cutoff. The direction of max intensity for all interior luminaires must fall within the building (not striking a window). All exterior lighting within 2.5 mounting heights of the property boundary cannot emit light off of the property.
	Fundamental Commissioning (Prerequisite)	Lighting controls (including for daylighting) must be commissioned.	Lighting system must be commissioned.	Lighting controls (including for daylighting) must be commissioned.
Energy & Atmosphere	Minimum Energy Performance (Prerequisite)	Meet ASHRAE/IESNA 90.1-2004 or local energy code (whichever is more stringent)	Achieve an EPA Energy Performance Rating of at least 60 using the Portfolio Manager	Meet ASHRAE/IESNA 90.1-2004 with amendments or local energy code (whichever is more stringent)
	Optimize Energy Performance (1 -10 Credits) <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>Note: All projects registered after 6/26/07 are required to get at least 2 of the optional energy points.</p> </div>	Reductions in energy costs below that set in ASHRAE/IESNA 90.1-2004 without amendments: <ul style="list-style-type: none"> 10.5% = 1 point 14.0% = 2 17.5% = 3 21.0% = 4 24.5% = 5 28.0% = 6 31.5% = 7 35.0% = 8 38.5% = 9 42.0% = 10 	Achieve an EPA Energy Performance Rating of at least <ul style="list-style-type: none"> 63 = 1 point 67 = 2 71 = 3 75 = 4 79 = 5 83 = 6 87 = 7 91 = 8 95 = 9 99 = 10 	Reductions in lighting power density below that set in ASHRAE/IESNA 90.1-2004 by: <ul style="list-style-type: none"> 15% = 1 point 25% = 2 35% = 3 And install daylight responsive controls in regularly occupied spaces within 15' of windows and under skylights = 1 point
Materials & Resources	Mercury Content in Lamps (Prerequisite)		Below 100 picograms per lumen-hour on weighted average	
	Mercury Content in Lamps (1 Credit)		Below 80 picograms per lumen-hour on weighted average	
	Recycled Content	Lighting equipment is specifically excluded from this credit.		Lighting equipment is specifically excluded from this credit.
	Regional Materials	Lighting equipment is specifically excluded from this credit.		Use a minimum of 20% of materials manufactured within 500 miles.
Indoor Environmental Quality	Controllability of Lighting Systems (1-2 Credits)	<ul style="list-style-type: none"> Provide individual lighting controls for 90% (minimum) of the building occupants to enable adjustments to suit individual task needs and preferences. –AND– Provide lighting system controllability for all shared multi-occupant spaces to enable lighting adjustment that meets group needs and preferences. 	Provide lighting controls for: <ul style="list-style-type: none"> At least 50% of all occupants allowing for individual adjustments, and All shared areas 	Provide lighting controls for: <ul style="list-style-type: none"> At least 90% of all occupants allowing for individual adjustments, and All shared areas

Category	Prerequisite or Credit	CS v2 Core and Shell	H (Pilot Study) Homes
Site Selection	Light Pollution Reduction (1 Credit)	<p>For <u>Interior Lighting</u>: Wherever interior lights can 'see' out an opening, either:</p> <ul style="list-style-type: none"> Automatically shut of the lights from 11p-5a, or Automatically shield the opening from 11p-5a. <p>For <u>Exterior Lighting</u>:</p> <ul style="list-style-type: none"> Do not exceed 80% of the LPDs for exterior areas and 50% for building facades and landscape features as specified in ASHRAE/IESNA Standard 90.1-2004, without amendments. Limits have been set (by IESNA Lighting Zone) for illuminance at site boundaries, fall off of illuminance outside of site boundaries and total uplight. 	
	Fundamental Commissioning (Prerequisite)	Lighting controls (including for daylighting) must be commissioned.	
Energy & Atmosphere	Minimum Energy Performance (Prerequisite)	Meet ASHRAE/IESNA 90.1-2004 or local energy code (whichever is more stringent)	
	Optimize Energy Performance (1 -8 Credits)	<p><u>Option 1:</u> Reductions in energy costs below that set in ASHRAE/IESNA 90.1-2004 without amendments:</p> <ul style="list-style-type: none"> 10.5% = 1 point 14.0% = 2 17.5% = 3 21.0% = 4 24.5% = 5 28.0% = 6 31.5% = 7 35.0% = 8 <p><u>Option 2:</u> Small offices may comply with ASHRAE Advanced Energy Design Guide for Small Office Buildings for up to 3 points.</p> <p><u>Option 3:</u> Comply with NBI Advanced Buildings Benchmark v1.1 for 1 point.</p>	<p><u>Option 1:</u> Select and install any one of the following measures:</p> <ul style="list-style-type: none"> Install motion sensor controls on all outdoor light fixtures AND at least four wireless photovoltaic exterior light fixtures, if exterior fixtures are installed (1 Point) Install at least four ENERGY STAR labeled light fixtures (1 Point) <p>OR</p> <p><u>Option 2:</u> Install ENERGY STAR Advanced Lighting Package (ALP) (3 Points)</p>
	Note: All projects registered after 6/26/07 are required to get at least 2 of the optional energy points.		
Materials & Resources	Mercury Content in Lamps (Prerequisite)		
	Mercury Content in Lamps (1 Credit)		
	Recycled Content	Lighting equipment is specifically excluded from this credit.	
	Regional Materials	Lighting equipment is specifically excluded from this credit.	

Go to www.acuitybrandslighting.com/sustainability for ideas on how ABL can assist you in meeting LEED requirements, including:

- Search for full cutoff and shielded fixtures
- Specification of lighting requirements for outdoor situations
- Spreadsheets to assist with LEED compliance documentation
- Product suggestions