| v3 - LEED 2009

Interior lighting - quality

EQpc22 | Possible 1 point

Glossary

Intent

Pilot Credit Closed
This pilot credit is closed to new registrations

Provide for occupant comfort by establishing quality criteria for interior lighting within a space.

Requirements

* This credit language is drawn from the LEED v4 draft. Where other point totals are noted, this pilot credit is worth 1 point in total. *

Establishment

Option 2. Lighting quality (1 point)

Choose four of the following strategies.

A. For all regularly occupied spaces, have in place light fixtures with a luminance of less than 2,500cd/m^2 between 45 and 90 degrees from nadir.
Exceptions include wallwash fixtures properly aimed at walls, as specified by manufacturer's data, indirect uplighting fixtures, provided there is no view down into these uplights from a regularly occupied space above, and any other specific applications (i.e. adjustable fixtures).

B. For the entire project, have in place light sources with a CRI of 80 or higher. Exceptions include lamps or fixtures specifically designed to provide colored lighting for effect, site lighting, or other special use.

C. For at least 75% of the total connected lighting load, have in place light sources that have a rated life (or L70 for LED sources) of at least 24,000 hours (at 3-hour per start, if applicable).

D. Have in place direct-only overhead lighting for 25% or less of the total connected lighting load for all regularly occupied spaces.

E. For at least 90% of the regularly occupied floor area, meet or exceed the following thresholds for area-weighted average surface reflectance: 85% for ceilings, 60% for walls, and 25% for floors.

F. Meet or exceed the following thresholds for area-weighted average surface reflectance: 45% for work surfaces and 50% for movable partitions.

G. For at least 75% of the regularly occupied floor area, meet ratio of average wall surface illuminance (excluding fenestration) to average work surface illuminance that does not exceed 1:10. Must also meet strategy E, strategy F, or demonstrate area-weighted surface reflectance of at least 60% for walls.

H. For at least 75% of the regularly occupied floor area, meet ratio of average ceiling illuminance (excluding fenestration) to work surface illuminance that does not exceed 1:10. Must also meet strategy E, strategy F, or demonstrate area-weighted surface reflectance of at least 85% for ceilings.

Performance

None.

Submittals

General

REGISTER FOR THE PILOT CREDIT

- Participate in the LEEDuser pilot credit forum
- Complete the feedback survey:

CREDITS 1-14

CREDITS 15-27

CREDITS 28-42

CREDITS 43-56

CREDITS 57-67

CREDITS 68-82

CREDITS 83-103

Credit specific

Note: the below submittals are suggestions, alternative forms of documentation or calculation strategies will be accepted.

1. For strategy A, a list of all light fixtures used in the regularly occupied spaces. For each fixture, provide a description, manufacturer name, and indicate whether the fixture has a luminance of less than 2,500cd/m2 between 45 and 90 degrees from nadir. Also indicate whether there are any fixtures excluded and whether they are an approved exception.
2. For strategy B, a list of all light sources included in the interior spaces of the project. For each light source, provide a description, light source type, manufacturer or vendor name, and CRI value. Also indicate whether there are any light sources excluded and whether they are an

approved exception.

3. For strategy C,
    1. A list of all light sources included in the project. For each light source, provide a description, light source type, manufacturer or vendor name, total connected lighting load, and rated life value.
    2. Calculation for the percent of connected lighting load that meets rated life criteria.
4. For strategy D,
    1. A list of all light fixtures used in the regularly occupied spaces. For each fixture, provide a description, manufacturer name, total connected lighting load, and indicate whether the fixture is direct-only overhead lighting.
    2. Calculation for the percent of connected lighting load that is associated with direct-only overhead lighting.
5. For strategy E,
    1. Indicate whether any regularly occupied spaces are being excluded from the credit requirements and the associated floor area.
    2. A list of all surfaces in the regularly occupied spaces that are being included in the credit requirements. For each surface, provide a description, manufacturer or vendor name, reflectance value and the percent of the overall ceiling area, wall area, or floor area that uses the surface.
    3. Calculation for average surface reflectance for ceiling area, wall area, and floor area. The calculation should be area- weighted, based on the percentages provided in the surface list. Only 1 calculation for each surface type is needed, the calculations do not need to be performed on a space-by-space basis.
    4. Description of methods used to determine reflectance values.
6. For strategy F,
    1. A list of all work surfaces and moveable partitions in the project.
    2. For each surface, provide a description, manufacturer or vendor name, reflectance value and the percent of the overall work surface area, or overall moveable partition surface area that is attributed to the surface.
    3. Calculation for average surface reflectance for work surfaces, or moveable partitions. The calculation should be area- weighted, based on the percentages provided in the surface list. Only 1 calculation for each surface type is needed, the calculations do not need to be performed on a space-by-space basis.
    4. Description of methods used to determine reflectance values.
7. For strategy G,
    1. A list that includes representative areas for all regularly occupied spaces in the project. For each area, include an area description, area location(s), work plane description, work plane illuminance value, wall surface illuminance value, and a calculation for work plane illuminance to wall surface illuminance (in the format of 1: X).
    2. Calculation for the average ratio.
    3. Demonstration that the project also meets strategy E, strategy F, or has area-weighted surface reflectance of 60% for walls.
    4. Description of methods used to determine illuminance values.
8. For strategy H,
    1. A list that includes representative areas for all regularly occupied spaces in the project. For each area, include an area description, area location(s), work plane description, work plane illuminance value, wall surface illuminance value, and a calculation for work plane illuminance to ceiling surface illuminance (in the format of 1: X).
    2. Calculation for the average ratio.
    3. Demonstration that the project also meets strategy E, strategy F, or has area-weighted surface reflectance of 85% for ceilings.
    4. Description of methods used to determine illuminance values.

Additional questions:

1. Do the criteria associated with quality interior lighting align with your project's and occupants comfort and productivity needs?
2. How difficult was it to document this credit? Is there anything that could be changed to make it easier to document?

Changes

- Changes made for 2nd Public Comment (08/01/2011):
  Added energy efficiency requirement
  Broke out bullet points into hardware and design categories
  Clarified equations
- Changes made for 3rd Public Comment (03/01/2012):
  Copyedited language
  Added EB: O+M path to the Pilot Library
- Changes made for 5th Public Comment (01/15/2013):
  Updated with LEED v4 5th Public Comment changes
- Changes made (04/15/2013):
  Submittals updated to align with v4 language revisions