



# LEED 2009 for Schools New Construction and Major Renovations

## SS CREDIT 8: LIGHT POLLUTION REDUCTION

All fields and uploads are required unless otherwise noted.

### INTERIOR LIGHTING

This static sample form has been modified for offline access. All sections of the form are visible. Sample forms are for reference only.

Select one of the following:

- ☐ **Option 1. Reduced Input Power.** For all nonemergency interior luminaires with a direct line of sight to any openings in the building envelope, input power is reduced by at least 50% between 11pm and 5am via automatic device(s).
- ☐ **Option 2. Shielding.** All openings in the building envelope with direct line of sight to any nonemergency interior luminaires are shielded between 11pm and 5am, for a resultant transmittance of less than 10%.
- ☐ No non-emergency interior luminaires have a direct line of sight to openings in the building envelope.

A Licensed Professional Exemption (LPE) is available for Licensed Engineers in lieu of the following:

- 1) Drawings illustrating the location of automatic controls
- 2) Sequence of operation for interior lighting

Select one of the following:

- ☒ Streamlined Path: LPE (PE)
- ☐ Full Documentation.



### LICENSED PROFESSIONAL EXEMPTION

*NOTE: For each Licensed Professional Exemption claimed, the relevant licensed professional must complete the corresponding Exemption Signature on the Licensed Professional Exemptions tab in order to be considered a valid submittal. Elements highlighted in gray below are exempt.*

Licensed Professional Exemption claimed by:

**Upload SSc8-1.** Provide documentation (such as plans or drawings) showing the location of automatic controls.

**Upload SSc8-2.** Provide documentation detailing the sequence of operation for interior lighting at the project building.

A Licensed Professional Exemption (LPE) is available for Licensed Engineers in lieu of the following:

- 1) Drawings illustrating the location of automatic shading devices
- 2) Sequence of operation for automatic shading devices
- 3) Specifications confirming that resultant transmittance is less than 10%

Select one of the following:

☒ Streamlined Path: LPE (PE).

☐ Full Documentation.



## LICENSED PROFESSIONAL EXEMPTION

*NOTE: For each Licensed Professional Exemption claimed, the relevant licensed professional must complete the corresponding Exemption Signature on the Licensed Professional Exemptions tab in order to be considered a valid submittal. Elements highlighted in gray below are exempt.*

Licensed Professional Exemption claimed by:

**Upload SSc8-3.** Provide drawings illustrating the location of automatic shading devices.

**Upload SSc8-4.** Provide documentation detailing the sequence of operation for automatic shading devices.

**Upload SSc8-5.** Provide documentation (such as manufacturer product specifications) confirming that the resultant transmittance of shading devices is less than 10%.

## EXTERIOR LIGHTING

Select one of the following:

☐ There are no exterior lighting devices within the LEED project boundary.

☐ Exterior lighting devices are present within the LEED project boundary.

### Table SSc8-1. Lighting Power Density For Building Exteriors: Tradable Surfaces

For each tradable lighting surface, list the actual lighting power density (LPD) and the ASHRAE/IESNA Standard 90.1-2007 allowable LPD. Total actual exterior site lighting must not exceed the total ASHRAE allowable site lighting.

Location ID	Area or Length	Units	Actual LPD	ASHRAE Allowable LPD
Exterior site lighting actual power (Watts)				
Exterior site lighting ASHRAE allowable power (Watts) <sup>1</sup>				

<sup>1</sup>Adds 5% unrestricted allowance per ASHRAE 90.1-2007

### Table SSc8-2. Lighting Power Density For Building Exterior: Nontradable Surfaces

For each lighting surface, list the actual lighting power density (LPD) and the ASHRAE/IESNA Standard 90.1-2007 allowable LPD. For each surface listed, the actual LPD must not exceed the ASHRAE allowable LPD.

Location ID	Area or Length	Units	Actual LPD	ASHRAE Allowable LPD

Classify the project under one of the following zones:

- ☐ **LZ1: Dark.** Developed areas within national parks, state parks, forest land and rural areas.
- ☐ **LZ2: Low.** Areas predominantly consisting of residential zoning, neighborhood business districts, light industrial with limited nighttime use, and residential mixed use areas.
- ☐ **LZ3: Medium.** All other areas not included in LZ1, LZ2 or LZ4 such as Commercial/Industrial, High-Density Residential.
- ☐ **LZ4: High.** High activity commercial districts in major metropolitan areas.  
*Note: To be LZ4, the area must be so designated by the local jurisdiction such as the local zoning authority.*

Table SSc8-3. Site Lumen Calculation

Complete the table below for each fixture type. The percentage of site fixture lumens above 90 degrees from nadir should not exceed: 0 for LZ1, 2% for LZ2, 5% for LZ3, and 10% for LZ4.

Fixture Type	Quantity of Installed Luminaires	Initial Fixture Lumens per Luminaire	Initial Fixture Lumens Above 90 Degrees from Nadir	Total Fixture Lumens	Total Fixture Lumens Above 90 Degrees from Nadir
Total site fixture lumens					
Total site fixture lumens above 90 degrees from nadir					
Percentage of site fixture lumens above 90 degrees from nadir					

**Upload SSc8-6.** Provide an exterior photometric site plan showing the LEED project boundary and point-by-point foot candle levels 10 feet beyond the boundary for LZ2 and 15 feet beyond the boundary for LZ3 and LZ4.

- ☐ Light trespass requirements are met relative to the curb line instead of the site boundary, as the site boundary abuts a public right-of-way. (Optional)
- ☐ For the illuminance generated from a single luminaire placed at the intersection of a vehicular driveway and public roadway accessing the site, the centerline of the public roadway is used as the site boundary for no more than a length of 2 times the driveway width centered at the centerline of the driveway. (Optional)

ADDITIONAL DETAILS

- ☐ Special circumstances preclude documentation of credit compliance with the submittal requirements outlined in this form.

SPECIAL CIRCUMSTANCES

Describe the circumstances limiting the project team's ability to provide the submittals required in this form. Be sure to reference what additional documentation has been provided, if any. Non-standard documentation will be considered upon its merits.

**Upload SSc8-SC.** Provide any additional documentation that supports the claim to special circumstances. (Optional)

☐ The project team is using an alternative compliance approach in lieu of standard submittal paths.

ALTERNATIVE COMPLIANCE PATH

Describe the alternative compliance path used by the project team. Include justification that this path meets the credit intent and requirements. Be sure to reference what additional documentation has been provided, if any. Non-standard documentation will be considered upon its merits.

**Upload SSc8-ACP.** Provide any additional documents that support the alternative compliance path approach. (Optional)

SUMMARY

SS Credit 8: Light Pollution Reduction Points Documented: