

# LEED™ lighting credits.

by Michael Lane LC



Above: NE 90th Street Bridge in Redmond, WA. New lighting credit criteria for LEED projects would create significantly challenge nighttime lighting on projects such as this urban bridge.

Photo courtesy LMN Architects / Sidney Genette, Lighting Designs Inc.

LEED is “a national standard that aims to improve environmental, health and economic performance of buildings using established and / or advanced industry principals, practices, materials and standards”.

In the US Green Building Council LEED™ Rating System Version 2.1, Credit 8 deals with exterior nighttime requirements under the title of “Light Pollution Reduction”. The credit’s intent is to

- eliminate light trespass
- reduce light pollution
- reduce impacts on nocturnal environments

**The first requirement of the credit is:**

• Meet or provide lower light levels and uniformity ratios than those recommended by the Illuminating Engineering Society of North America (IESNA) Recommended Practice Manual: Lighting for Exterior Environments (RP-33-99).”

**The second requirement is for Exterior Luminaires: (Fig 1)**

• Design exterior lighting such that all exterior luminaires with more than 1000 initial lamp lumens are shielded and all luminaires with more than 3500 initial lamp lumens meet the Full Cutoff IESNA Classification.

**The third requirement is:**

• The maximum candela value of all interior lighting shall fall within the building (not out through windows).

**The fourth requirement is:**

• The maximum candela value of all exterior lighting shall fall within the property.

**The fifth requirement is:**

• Any luminaire within a distance of 2.5 times its mounting height from the property boundary shall have shielding such that no light or brightness from that luminaire crosses the property boundary.

LEED™ Credit 8 is a difficult but not impossible credit to achieve. Proper placement and orientation of all interior and exterior luminaires is critical. Eliminating exterior uplights and using Full-Cutoff luminaires will go a long way in capturing this credit. This credit is currently being looked at to address issues of tree uplighting, American flag lighting & security lighting for buildings where the property line is the edge of the building (as in a downtown setting).

A comprehensive version of this article is available for download as an Adobe Acrobat PDF file from our website at [lightingdesignlab.com/articles](http://lightingdesignlab.com/articles). Additional resources on LEED™ and other sustainable resources are listed in the side-bar at left. If you have specific questions about qualifying for LEED™ Credit 8 on a project, contact Michael Lane LC of the Lighting Design Lab at [michael@lightingdesignlab.com](mailto:michael@lightingdesignlab.com)

Fig 1 limited to less than 1000 lumens



**Noncutoff**  
A luminaire light distribution where there is no candela limitation in the zone above maximum candela. (IESNA)

Right: Use of non-cutoff luminaires is restricted by the LEED™ Credit 8 requirements.

**green lighting resources.**

**BetterBricks**  
[www.betterbricks.com](http://www.betterbricks.com)

**U.S. Green Building Council**  
[www.usgbc.org](http://www.usgbc.org)

**Leadership in Energy & Environmental Design (LEED™)**  
[www.usgbc.org/LEED](http://www.usgbc.org/LEED)

**American Institute of Architects**  
[www.aia.org](http://www.aia.org)

**American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE)**  
[www.ashrae.org](http://www.ashrae.org)

**City of Austin Sustainable Resources**  
[www.ci.austin.tx.us/sustainable/](http://www.ci.austin.tx.us/sustainable/)

**City of Portland - Office of Sustainable Development**  
[www.sustainableportland.org](http://www.sustainableportland.org)

**City of Seattle Sustainable Building Program**  
[www.cityofseattle.net/dpd/sustainability](http://www.cityofseattle.net/dpd/sustainability)

**USGBC Green Building Conference**  
[www.greenbuildexpo.org](http://www.greenbuildexpo.org)

**Federal Energy Management Program**  
[www.eere.energy.gov/femp](http://www.eere.energy.gov/femp)

**Smart Communities Network**  
[www.sustainable.doe.gov](http://www.sustainable.doe.gov)



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