

AEDG Implementation Recommendations: Exterior Lighting

The Advanced Energy Design Guide (AEDG) seeks to achieve 30 percent savings over Standard 90.1-1999. This guide focuses on improvements to small office buildings, less than 20,000 square feet. The recommendations below are adapted from the implementation section of the guide, and should be used in cooperation with the whole document.* The full design guide is available from the ASHRAE website, [Advanced Energy Design Guide for Small Office Buildings](#) .

Exterior Lighting Power

Limit exterior lighting power to 0.10 W/ft² for parking lot and grounds lighting. Calculate only for paved areas, excluding grounds that do not require lighting.

Decorative Façade Lighting

Avoid the use of decorative façade lighting. This does not include lighting of walkways or entry areas of the building that may also light the building itself.

Sources

- All general lighting luminaires should utilize pulse-start metal halide or fluorescent or compact fluorescent amalgam lamps with electronic ballasts.
- Standard high-pressure sodium lamps are not recommended due to their reduced visibility and poor color-rendering characteristics.
- Incandescent lamps are only recommended when used on occupancy sensors for lights that are normally off.



Parking lot lighting locations should be coordinated with landscape plantings so that tree growth does not block effective lighting from pole-mounted luminaires.

Parking lot lighting should not be significantly brighter than lighting of the adjacent street. Follow IESNA RP-33-1999 recommendations for uniformity and illuminance recommendations.

For parking lot and grounds lighting, do not increase luminaire wattage in order to use fewer lights and poles. Increased contrast makes it harder to see at night beyond the immediate fixture location. Flood lights and wall-packs should not be used, as they cause hazardous glare and unwanted light encroachment on neighboring properties. Limit lighting in parking and drive areas to not more than 250-watt pulse-start metal halide lamps at a maximum 25 ft mounting height in urban and suburban areas. Limit to 175 watts in rural areas. Use cut-off luminaires that provide all light below the horizontal plane and help eliminate light trespass.



Use photocell or astronomical time switch on all exterior lighting. If a building energy management system is being used to control and monitor mechanical and electrical energy use, it can also be used to schedule and manage outdoor lighting energy use. Turn off exterior lighting not designated for security purposes when the building is unoccupied.

For colder climates, fluorescent and CFL luminaires must be specified with cold temperature ballasts. Use CFL amalgam lamps.

* ASHRAE AEDG Reference and link Copyright, 2004, [American Society of Heating, Refrigerating and Air-Conditioning Engineers](#) , Atlanta, GA. [Advanced Energy Design Guide for Small Office Buildings](#) . Reproduced with permission. All rights reserved.