

**INTERPRETATION IC 90.1-2010-33 OF
ANSI/ASHRAE/IES STANDARD 90.1-2010
Energy Standard for Buildings Except Low-Rise Residential Buildings**

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Request from: Gail Hampsmire, GBCI, 2101 L St., NW, Suite 500, Washington, DC 20037.

Reference: This request for interpretation refers to the requirements presented in ANSI/ASHRAE/IES Standard 90.1-2010, Section 9.4.3, regarding the definition of “designed to be illuminated” for exterior surfaces.

Background: ASHRAE/IES 90.1-2010 Section 9.4.3 stipulates that “The total *exterior lighting power allowance* for all exterior building applications is the sum of the base site lighting allowance plus the individual allowances for areas that are designed to be illuminated ...”. However, no definitions are provided for areas that are “designed to be illuminated”. For tradable surfaces in an extreme scenario, a claim could be made that a 100,000 square foot parking area with one 50 Watt fixture, that provides extremely low levels of lighting to most of the parking lot is “designed to be illuminated”. Using the 90.1-2010 Appendix G Performance Rating Method, this could lead to a Baseline lighting power allowance of as much as 14,300 Watts (a 97.6% improvement in lighting power). This does not appear to align with the intent of the requirement.

Interpretation No.1: An area that is “designed to be illuminated” must be designed with average illumination that meets or exceeds published minimum recommended illumination levels for the surface type (such as the IESNA Handbook, Zumtobel – the Lighting Handbook, EN 1264-2, local code regulations, etc.).

Question No.1: Is this interpretation correct?

Answer No.1: No.

Comments: The qualifier “...designed to be illuminated...” does not specify lighting design criteria. However, it was the intent of the Standard that spaces, areas, or applications that claim Lighting Power Density for compliance or performance rating have been designed to some reasonable lighting design criteria that meets industry standards, good design practice, and client desires.

This interpretation also applies to the 2013 and 2016 versions of Standard 90.1.

Interpretation No.2: For tradable surfaces, only the area that is designed to be illuminated may be included in the exterior lighting power allowance (ELPA). For example, if 50,000 square feet on the West Side of a parking lot has lighting fixtures designed to illuminate that area, and 50,000 square feet on the East side of the parking lot has no lighting fixtures designed to illuminate that area, a parking lot area of 50,000 square feet shall be used to calculate the ELPA.

Question No.2: Is this interpretation correct?

Answer No.2: Yes.