

**BUILDING STANDARDS COMMISSION**

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## BUILDING STANDARDS BULLETIN 11-02

**DATE:** April 26, 2011

**TO:** LOCAL BUILDING OFFICIALS  
INTERESTED PARTIES

**SUBJECT:** CHANGES TO THE CALIFORNIA GREEN BUILDING  
STANDARDS CODE (CALGreen) REGARDING LIGHT  
POLLUTION REDUCTION

This bulletin is to bring attention to new requirements of the 2010 California Building Standards Code in Title 24, Part 11 of the California Code of Regulations (as also known as CALGreen). Specifically, the new requirement affects Chapter 5 - Nonresidential Mandatory Measures, Division 5.1, Section 5.106.8 Light pollution reduction.

The California Building Standards Commission (CBSC) at its April 19, 2011 meeting approved an emergency proposal submitted in response to a public petition regarding concerns over security aspects of the light pollution reduction provisions currently in effect in the 2010 CALGreen code.

The repealed language and modified language relocated to Appendix A5 via this emergency adoption, is reprinted herein for your reference. Please note that during the ensuing comment period which this provision is subject to, the language may be further amended.

Upon approval of the proposed emergency, the existing provisions in Section 5.106.8 were repealed and new requirements were approved. Proposed changes to the regulations include removal of language that presented public safety concerns and compliance difficulties in favor of referenced national standards.

This action corrects and simplifies the light pollution provisions and moves them to the voluntary appendix, with mandatory adoption delayed until July 1, 2012, to allow designers, builders and enforcing agencies time to adjust to the new standards. These emergency modifications were made within CBSC authority, with necessary amendments, and in the interest of public safety.

Should you have questions or further clarification is needed concerning this bulletin, please feel free to contact our technical staff at (916) 263-0916 or through our contact e-mail address [cbsc@dgs.ca.gov](mailto:cbsc@dgs.ca.gov).

Dave Walls  
Executive Director

(REPEAL LANGUAGE)

SECTION 5.106  
SITE DEVELOPMENT

**5.106.8 Light pollution reduction.** Meet lighting power requirements in the California Energy Code, CCR, Title 24, Part 6, and design interior and exterior lighting such that zero direct beam illumination leaves the building site. Comply with lighting zones 1-4 and lighting zone characteristics as defined in Chapter 10 of the California Administrative Code, CCR, Title 24, Part 1, using the following strategies:

1. Shield all exterior luminaires or provide cutoff luminaires per Section 132 (b) of the California Energy Code.
2. Contain interior lighting within each source.
3. Allow no more than .01 horizontal footcandles to escape 15 feet beyond the site boundary.
4. Automatically control exterior lighting dusk to dawn to turn off or lower light levels during inactive periods.

**Exceptions:**

1. CCR, Title 24, Part 2, Chapter 12, Section 1205.6 for campus lighting requirements for parking facilities and walkways
2. Emergency lighting and lighting required for nighttime security

(NEW AMENDED LANGUAGE)

SECTION A5.106  
SITE DEVELOPMENT

**A5.106.8 Light pollution reduction.** Outdoor lighting systems shall be designed and installed to comply with the following:

1. The minimum requirements in the California Energy Code for Lighting Zones 1-4 as defined in Chapter 10 of the California Administrative Code; and
2. Backlight, Uplight and Glare (BUG) ratings as defined in IESNA TM-15-07; and
3. Allowable BUG ratings not exceeding those shown in Table A5.106.8, or

Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.

**Exceptions:**

1. Luminaires that qualify as exceptions in the California Energy Code
2. Emergency lighting

**Note:** See also California Building Code, Chapter 12, Section 1205.6 for college campus lighting requirements for parking facilities and walkways.

**TABLE A5.106.8**  
Maximum Allowable Backlight, Uplight and Glare (BUG) Ratings<sup>1</sup>

Allowable Rating	Lighting Zone 1	Lighting Zone 2	Lighting Zone 3	Lighting Zone 4
<b>Allowed Backlight Rating</b>				
Greater than 2 mounting heights from property line	B3	B4	B5	B5
1 – 2 mounting heights from property line and oriented with B towards the property line	B2	B3	B4	B4
0.5 – 1 mounting height from property line and oriented with B towards the property line	B1	B2	B3	B3
Less than 0.5 mounting height from property line adjacent to a street and oriented with B towards the property line <sup>2</sup>	B0	B1	B2	B3
Less than 0.5 mounting height from property line and oriented with B towards the property line	B0	B0	B1	B2
<b>Allowed Uplight Rating</b>	U0	U1	U2	U3
<b>Allowed Glare Rating<sup>2</sup></b>	G1	G2	G3	G4
<b>Allowed Glare Rating, Building Mounted Luminaires<sup>3</sup></b>				
Greater than 2 mounting heights to any property line	G1	G2	G3	G4
1 – 2 mounting heights to any property line	G0	G1	G1	G2
0.5 – 1 mounting heights to any property line	G0	G0	G1	G1
Less than 0.5 mounting height to any property line	G0	G0	G0	G1

<sup>1</sup> IESNA Lighting Zones 0 and 5 are not applicable; refer to Lighting Zones as defined in the California Energy Code and Chapter 10 of the California Administrative Code.

<sup>2</sup> For purposes of compliance with this section, the property line may be considered to be the centerline of a public roadway or transit line. For properties adjacent to public walkways, bikeways, plazas and parking lots, the property line may be considered to be five feet beyond the site boundary.

<sup>3</sup> Building-mounted luminaires that cannot be mounted with their backlight to the property line shall meet the Allowed Glare rating for all luminaires. Light from a building-mounted luminaire shall not exceed the Backlight rating in the direction of the property line.