

**CALIFORNIA BUILDING STANDARDS COMMISSION
2016 INTERVENING CYCLE
GREEN BUILDING FOCUS GROUP
WORKSHOP #2
November 18, 2016 - Agenda Item 4i**

**DRAFT EXPRESS TERMS for the 2016
CALIFORNIA GREEN BUILDING STANDARDS CODE,
(CALGreen), PART 11,
CALIFORNIA BUILDING STANDARDS CODE,
TITLE 24, CALIFORNIA CODE OF REGULATIONS**

Proposed code language for the 2016 Intervening Code Adoption Cycle

<p>LEGEND FOR DRAFT EXPRESS TERMS</p> <ol style="list-style-type: none"> 1. New California amendments: All such language appears <u>underlined</u>. 2. Repealed text: All such language appears in strikeout. <i>[Information for the reader is bracketed and in red italics]</i>

COMPLIANCE FORMS, WORKSHEETS AND REFERENCE MATERIALS

Statement of specific purpose, problem, rationale and benefits:

CBSC is proposing to clarify the language to address Light Pollution Reduction by adding the Illuminating Engineering Society (IES) Backlight Ratings lighting levels table and California Energy Code Uplight & Glare Ratings lighting level tables to Chapter 8 (Compliance Forms, Worksheets and Reference Materials). These tables are referenced from Section 5.106.8 Light Pollution Reduction.

These proposed code amendments will provide convenience for the code-user by incorporating the lighting level tables into Chapter 8, within the *CALGreen* code.

COMPLIANCE FORMS, WORKSHEETS AND REFERENCE MATERIALS...

FOR REFERENCE ONLY: The following table has been reprinted from IES TM-15-11.

[New table is being added to the CALGreen Code]

IES TM-15-11 TABLE A-1 Backlight Ratings (Maximum Zonal Lumens)

Secondary Solid Angle	Maximum Zonal Lumens per Outdoor Lighting Zone				
	LZ0	LZ 1	LZ 2	LZ 3	LZ 4
Backlight High (BH) 60 to 80 degrees	110	500	1000	2500	5000
Backlight Medium (BM) 30 to <60 degrees	220	1000	2500	5000	8500
Backlight Low (BL) 0 to < 30 degrees	110	500	1000	2500	5000

FOR REFERENCE ONLY: The following table has been reprinted from the *California Energy Code*.

[New table is being added to the CALGreen Code]

TABLE 130.2-A Uplight Ratings (Maximum Zonal Lumens)

Secondary Solid Angle	Maximum Zonal Lumens per Outdoor Lighting Zone				
	LZ0	LZ 1	LZ 2	LZ 3	LZ 4
Uplight High (UH) 100 to 180 degrees	0	10	50	500	1,000
Uplight Low (UL) 90 to <100 degrees	0	10	50	500	1,000

FOR REFERENCE ONLY: The following table has been reprinted from the *California Energy Code*.

[New table is being added to the CALGreen Code]

TABLE 130.2-B Glare Ratings (Maximum Zonal Lumens)

Glare Rating for Asymmetrical Luminaire Types (Type 1, Type II, Type III, Type IV)					
Secondary Solid Angle	Maximum Zonal Lumens per Outdoor Lighting Zone				
	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
Forward Very High (FVH) 80 to 90 degrees	10	100	225	500	750
Backlight Very High (BVH) 80 to 90 degrees	10	100	225	500	750
Forward High (FH) 60 to <80 degrees	660	1,800	5,000	7,500	12,000
Backlight High (BH) 60 to <80 degrees	110	500	1,000	2,500	5,000
Glare Rating for Quadrilateral Symmetrical Luminaire Types (Type V, Type V Square)					
Secondary Solid Angle	Maximum Zonal Lumens per Outdoor Lighting Zone				
	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4

Forward Very High (FVH) 80 to 90 degrees	10	100	225	500	750
Backlight Very High (BVH) 80 to 90 degrees	10	100	225	500	750
Forward High (FH) 60 to <80 degrees	660	1,800	5,000	7,500	12,000
Backlight High (BH) 60 to <80 degrees	660	1,800	5,000	7,500	12,000

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