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California Title 24-2008 Lighting Proposals

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BENYA LIGHTING DESIGN

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Proposals

1. Changes to Lighting Power Density Values Affected by Developments in Electronic Ballasts for Metal Halide Lighting
2. Changes to Lighting Power Density Values: Bringing Certain Values in Line with Standard 90.
3. Added Space Types and LPD values to Section 146
4. Added Requirement for Motion (Occupant) Sensing Controls for Lighting in Certain Rooms

Changes to Lighting Power Density Values Affected by Developments in Electronic Ballasts for Metal Halide Lighting

Unit for unit replacement

Existing Equipment

- 400 watt “quartz” pulse start metal halide
- Magnetic core and coil ballast 458 w

Replace with

- 320 watt “ceramic” pulse start metal halide
- Electronic low frequency ballast 345 w

Changes to Lighting Power Density Values Affected by Developments in Electronic Ballasts for Metal Halide Lighting

Table 146-B

General commercial and industrial work buildings

High bay	1.1	1.0
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Retail and wholesale stores*	1.5	1.3
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Table 146 –C

General commercial and industrial work

High bay	1.1**	1.0**
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Precision	1.3***	1.2**
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Retail merchandise sales, wholesale showrooms	1.7	1.5
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Changes to Lighting Power Density Values: Bringing Certain Values in Line with Standard 90.

Issues

- Whole building values have similar basis, but differing building types
- T24 area category has similarity to 90.1 Space by Space method, but they're different
- 90.1 has no close analogy to Tailored Method

Changes to Lighting Power Density Values: Bringing Certain Values in Line with Standard 90.

Actions

- Checked the extent that direct correlation could be made
- Checked that the 90.1 value was reasonable
- Developed the following proposal:

Changes to Lighting Power Density Values: Bringing Certain Values in Line with Standard 90.

Table 146-B

• Convention Centers	1.3	1.2
• Office Buildings	1.1	1.0
• Parking Garage	0.4††	0.3

Table 146 –C

• Auto Repair	1.1**	0.9**
• Office	1.2	1.1
• Parking Garage Parking Area	†	0.2
• Ramps and Entries	†	0.6

† No existing value

†† Value previously in table 146-C

Added Space Types and LPD values to Section 146

Method

Determined problematic space types from
CEC staff experience

Developed LPD modeling similar to current
standards

Added Space Types and LPD values to Section 146

Table 146 –C

Hair, Nail and Beauty Salons and Barbershops	†	1.7* w/sf
Video Conferencing Rooms	†	3.2 w/sf

Note: for any room with general lighting equipped for video conferencing, up to 2.0 w/sf of lighting specifically for video conferencing may be added provided (a) the room has a permanently installed video conferencing facility (definition needed) and (b) the room is equipped with a preset lighting scene controller or interlocking manual controls to prevent the simultaneous operation of video conference lighting and any other lighting in excess of 1.2 w/sf.

Added Requirement for Motion (Occupant) Sensing Controls for Lighting in Certain Rooms

Method

Evaluated Seattle and 90.1 requirements for motion sensing controls in specific space types

Developed proposed language consistent with Sections 119, 131 and 146.

Added Requirement for Motion (Occupant) Sensing Controls for Lighting in Certain Rooms

EXCEPTIONS to Section 131 (d) 1:

4. Classrooms of any size; lecture, training, or vocational rooms of less than 1000 square feet; and in hotels and convention, conference, multipurpose and meeting centers, classrooms, conference rooms, meeting rooms and multipurpose rooms of less than 1000 square feet shall be equipped with occupant sensor(s) to shut off lighting. In addition, control device(s) shall be provided that permit lights to be manually shut off regardless of sensor status. A device achieving a temporary “on” override of up to 60 minutes may also be installed in these spaces.

Prepared by Benya Lighting Design in
conjunction with Architectural Energy
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Commission

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