



**BSR/ASHRAE/ASHE Addendum I
to ANSI/ASHRAE/ASHE Standard 189.3-2021**

Public Review Draft

**Proposed Addendum I to
Standard 189.3-2021, Design,
Construction, and Operation of
Sustainable High-Performance
Health Care Facilities**

**First Public Review (July 2024)
(Draft shows Proposed Changes to Current Standard)**

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FOREWORD

This addendum updates the lighting power densities with special consideration for healthcare areas. Table 7.4.6.1 B and C are updated to reflect these changes along with updated foot notes for the user to follow the table. The values in the tables are provided by Mazzetti. Mazzetti's Lighting Design Studio undertook a comprehensive analysis aimed at developing a proactive strategy for realistic yet ambitious lighting power densities (LPDs) for ASHRAE Standard 189.3. The study encompassed ten distinct healthcare facilities, ranging from medical office buildings to acute care centers, children's hospitals, cancer centers and birthing centers, situated across California, Hawaii, Tennessee, Georgia, and Oregon. Projects varied in size from 20,000 square feet to several hundred thousand square feet, representing recent projects. By averaging LPDs across these facilities, the studio conducted comparisons against prevailing energy codes such as Title24, IECC, ASHRAE 90.1, and 189.1. This rigorous evaluation yielded detailed insights into current industry standards and the results informed the LPD values listed in this addendum.

Note: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~strike through~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.

Addendum 1 to Standard 189.3-2021

Insert New Tables to Section 7.4.6.1. Note that Table 7.4.6.1A does not exist in Standard 189.3. Table 7.4.6.1B is recreated here with specifics from 189.1 and tailored to 189.3 specifications for healthcare spaces for consistency across the standards.

7.4.6.1 Lighting Power Allowance. The interior lighting power allowances shall be as determined in accordance with Standard 189.1 Section 7.4.6.1. Tables 7.4.6.1B and 7.4.6.1C shall be used in compliance with lighting power allowances in appropriate health care facilities where not listed in Standard 189.1.

Table 7.4.6.1B Lighting Power Density (LPD) Allowances, Room Cavity Ratio (RCR) Thresholds, and Additional Lighting Power Allowances for Common Space Types Using the Space-by-Space Method

Informative Note: This table covers common space types typically found in multiple building types. Table 7.4.6.1C covers building specific space types typically found in a single building type.

<u>Common Space Types</u> ^a	<u>LPD,</u> <u>W/ft²</u>	<u>LPD,</u> <u>W/m²</u>	<u>RCR</u> <u>Threshold</u>	<u>Qualified</u> <u>Lighting System</u> ^b	<u>Additional Lighting Power</u>	
					<u>Allowance</u> <u>(W/ft²)</u>	<u>Allowance</u> <u>(W/m²)</u>
<u>Health Care Facility</u>						
<u>Hospital Corridor (Patient/Public)</u> ^{c,d}	<u>0.55</u>	<u>5.9</u>	<u>width <8 ft</u> <u>(2.4 m)</u>	<u>Decorative/display</u>	<u>0.25</u>	<u>2.7</u>
<u>Hospital Corridor (Staff/Back of House)</u>	<u>0.37</u>	<u>4.0</u>	<u>8</u>	<u>=</u>	<u>=</u>	<u>=</u>
<u>Residential Health Care and Support Facilities</u> <u>Corridor (Resident/Public)</u> ^{c,d}	<u>0.55</u>	<u>5.9</u>	<u>width <8 ft</u> <u>(2.4 m)</u>	<u>Decorative/display</u>	<u>0.25</u>	<u>2.7</u>
<u>Residential Health Care and Support Facilities</u> <u>Corridor (Staff/Back of House)</u> ^c	<u>0.37</u>	<u>4.0</u>	<u>8</u>	<u>=</u>	<u>=</u>	<u>=</u>
<u>Exam/treatment room</u>	<u>1.10</u>	<u>11.8</u>	<u>8</u>	<u>=</u>	<u>=</u>	<u>=</u>
<u>Imaging room</u>	<u>0.60</u>	<u>6.5</u>	<u>6</u>	<u>Decorative/display</u>	<u>0.20</u>	<u>2.3</u>
<u>Infusion/procedural room</u> ^c	<u>0.90</u>	<u>9.7</u>	<u>8</u>	<u>=</u>	<u>=</u>	<u>=</u>
<u>Lounge</u> ^c	<u>0.44</u>	<u>4.7</u>	<u>6</u>	<u>Decorative/display</u>	<u>0.25</u>	<u>2.7</u>
<u>Medical supply room</u>	<u>0.54</u>	<u>5.8</u>	<u>6</u>	<u>=</u>	<u>=</u>	<u>=</u>
<u>Medication prep room</u>	<u>0.54</u>	<u>5.8</u>	<u>6</u>	<u>=</u>	<u>=</u>	<u>=</u>

a. In cases where a *space* type appears in both Table 7.4.6.1B and Table 7.4.6.1C, the building-specific *space* type in Table 7.4.6.1C shall apply.

b. See Section 7.4.6.1.1 of Standard 189.1 for criteria of qualified lighting systems.

c. For facilities for the visually impaired an additional lighting power allowance ≤ 0.30 W/ft² (5.4 W/m²) is permitted for this space type.

d. In corridors, the extra lighting power density allowance is permitted when the width of the corridor is less than 8ft (2.4 m) and is not based on the RCR, see Section 7.4.6.1(c).

Table 7.4.6.1C Lighting Power Density (LPD) Allowances, and Room Cavity Ratio (RCR) Thresholds, and Additional Lighting Power Allowances for Common Space Types Using the Space-by-Space Method

Informative Note: This table covers common space types typically found in a single building type. Table 7.4.6.1B covers common space types typically found in multiple building types.

<u>Building-Specific Space Types</u> ^a	<u>LPD,</u> <u>W/ft²</u>	<u>LPD,</u> <u>W/m²</u>	<u>RCR</u> <u>Threshold</u>	<u>Qualified Lighting System</u> ^b	<u>Additional Lighting Power</u>	
					<u>Additional Allowance</u> <u>(W/ft²)</u>	<u>Additional Allowance</u> <u>(W/m²)</u>
<u>Nursery</u>	<u>0.80</u>	<u>8.6</u>	<u>6</u>	<u>=</u>	<u>=</u>	<u>=</u>
<u>Nurse's station</u>	<u>0.75</u>	<u>8.1</u>	<u>6</u>	<u>Specialized task</u>	<u>0.30</u>	<u>3.2</u>
<u>Operating room</u>	<u>1.87</u>	<u>20.1</u>	<u>6</u>	<u>=</u>	<u>=</u>	<u>=</u>
<u>Patient room – critical care</u>	<u>0.90</u>	<u>9.7</u>	<u>6</u>	<u>Decorative/display</u>	<u>0.25</u>	<u>2.7</u>
<u>Patient room – general^c</u>	<u>0.60</u>	<u>6.5</u>	<u>6</u>	<u>Decorative/display</u>	<u>0.25</u>	<u>2.7</u>
<u>Patient room – restroom^c</u>	<u>0.57</u>	<u>6.1</u>	<u>8</u>	<u>=</u>	<u>=</u>	<u>=</u>
<u>Physical therapy room</u>	<u>0.75</u>	<u>8.1</u>	<u>6</u>	<u>Decorative/display</u>	<u>0.25</u>	<u>2.7</u>
<u>Recovery room</u>	<u>0.89</u>	<u>9.6</u>	<u>6</u>	<u>Specialized task</u>	<u>0.30</u>	<u>3.2</u>
<u>Resident room^c</u>	<u>0.60</u>	<u>6.5</u>	<u>6</u>	<u>Decorative/display/specialized task</u>	<u>0.30</u>	<u>2.7</u>
<u>Resident room – restroom^c</u>	<u>0.60</u>	<u>6.1</u>	<u>8</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>Telemedicine^d</u>	<u>0.83</u>	<u>8.9</u>	<u>8</u>	<u>Videoconferencing</u>	<u>0.50</u>	<u>5.4</u>

- a. In cases where a *space* type appears in both Table 7.4.6.1B and Table 7.4.6.1C, the building-specific *space* type in Table 7.4.6.1C shall apply.
- b. See Section 7.4.6.1.1 for criteria of qualified lighting systems.
- c. For facilities for the visually impaired an additional lighting power allowance ≤ 0.30 W/ft² (5.4 W/m²) is permitted for this space type.
- d. To use additional lighting power allowance, space must be a videoconferencing space and have controls described in 7.4.6.1.1(f) of Standard 189.1.