

## ■ 2.5-7 Daylighting and Artificial Lighting Systems

### 2.5-7.1 General

#### 2.5-7.1.1 Application

Parking lots, approaches to buildings, and all occupied spaces in buildings shall be wired and provided with lighting equipment.

#### \*2.5-7.1.2 Lighting Design

**2.5-7.1.2.1** Lighting shall be designed to meet the needs of occupants in specific spaces. See Section 1.2-5.1 (Lighting Planning) for requirements.

**2.5-7.1.2.2** Unless alternative lighting levels are justified by the functional program, Table 2.5-2 (Minimum Maintained Average Illuminance) shall be used as the minimum required ambient and task lighting levels in all rooms, spaces, and exterior walkways.

**2.5-7.1.2.3** Means shall be provided for controlling light levels to suit space use and availability of daylight.

**2.5-7.1.2.4** Glare from all light sources shall be minimized.

- (1) Daylight shall be controlled and diffused to minimize glare.
- \*(2) Artificial lighting sources shall be indirect, concealed, or diffused to minimize glare.

**2.5-7.1.2.5** The combination of connected lighting equipment shall not produce flickering from ballast/drivers/dimmers and light sources.

### \*2.5-7.2 Daylighting Systems in Resident Living, Participant, and Outpatient Areas

**\*2.5-7.2.1** Dining, recreation/lounge, and activity areas for daytime use shall have windows for daylight and views to the outdoors that take up no less than 40 percent of the wall area.

**\*2.5-7.2.2** Translucent shades, sheers, blinds, or other window treatments shall be provided to control brightness and reduce glare.

### 2.5-7.3 Artificial Lighting Systems

#### \*2.5-7.3.1 Light Fixtures

Light fixtures in wet areas (e.g., kitchens, showers) shall be vapor resistant and have cleanable, shatter-resistant lenses and no exposed lamps.

## APPENDIX

### A2.5-7.1.2 Lighting design

- a. Additional lighting quality issues to consider include the following:
- Color rendering properties should be addressed in lamp selection.
  - Finish selection should address light reflectance values (LRV) in conjunction with lamp selection.
- b. Other lighting design practices developed by the Illuminating Engineering Society (IES) and described in ANSI/IES RP-28: *Recommended Practices for Lighting and the Visual Environment for Senior Living* should be considered.

**A2.5-7.1.2.4 (2) Avoiding glare from artificial lighting.** Lighting that creates glare because the bright light source is visible should be avoided since glare is detrimental to visual acuity. Indirect lighting is most effective in residential care and support facilities since the light source is entirely hidden from view. See appendix section A2.5-7.3.2 (Lighting in transition spaces) for additional information.

**A2.5-7.2 Daylighting.** Because residents benefit from the higher light levels and color associated with daylight, daylighting should be provided in resident living areas. Windows and skylights should be used to minimize the need for artificial light and to allow residents, participants, and outpatients to experience the natural daylight cycle. High levels of daylight are required to entrain circadian rhythms.

**A2.5-7.2.1** Light shelves, diffused skylights, and other daylighting techniques should be used to balance the daylight in a space.

**A2.5-7.2.2** Glare or brightness from windows can reduce visual acuity or even disorient elders. Placement of windows at the ends of corridors is not recommended unless the excessive brightness of daylight is mitigated by window coverings or building orientation.

**A2.5-7.3.1 Light fixtures.** Care should be taken to avoid injury from light fixtures. Light sources that may burn residents, participants, or outpatients or ignite window coverings, clothing, or other flammable items by direct contact should be covered or protected.