

16500S01 - INDOOR LIGHTING

1. INDOOR LIGHTING

*Note: This standard is a design guideline for all new buildings and renovations. On LEED certified new building designs and on renovations designed to meet LEED-EB requirements, design exceptions may be taken to this standard if those are required for LEED designs and as long as the owner is aware (in writing) of the exceptions taken to meet LEED design requirements.

- 1.1. All general area lighting shall be 2'x4' fixtures with T 8 (1" diameter) or T-5 (5/8" diameter) fluorescent lamps and energy efficient electronic ballast.
Exception: LED lighting may be used if basic color and light levels are maintained.
- 1.2. All new and replacement lighted "EXIT" signs shall be UL-924 approved, 2 watt or less red LED type.
- 1.3. Computer Labs, Libraries and similar areas to have indirect lighting to minimize glare and subsequently eye fatigue. If economics dictates, deep cell parabolic louvers may be used in lieu of indirect lighting.
- 1.4. Can lights shall be compact fluorescent by exception to item 1.1 above.

2. LIGHTING BY AREA TYPE

Light intensity to be as follows:

2.1. General Areas

Type area	Foot candles (Maintained ¹)
Corridors	15 ⁴
Stairs	15
Offices	70 ^{2,3,5}
Mech. Rooms	20
Computer Labs	100
Libraries	100

NOTES

- 1 Foot candle levels must have, associated with them, a good equivalent sphere illumination level.
- 2 Provide two (2) levels of illumination when possible. Provide dimmers when required.
- 3 Motion detectors
- 4 Motion detectors when safety permits.
- 5 Foot candle illumination in office areas shall be measured at workstation surface with occupant in place.

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2.2. Classrooms

Type area	Foot candles (Maintained ¹)
Art Rooms	70
Drafting Rooms	100
Home Economics Room, Sewing	100
Home Economics Room, Cooking & Ironing	50
Home Economics Room, Sink Act, Note Taking Areas	70
Laboratories	100
Lecture Rooms, Audience Area	50
Lecture Rooms, Demonstration Area	100
Music Rooms, Simple Scores	30
Music Rooms, Advanced Scores	70
Recreation Areas	35
Shops	100
Sight Saving Rooms	70
Study Halls	70
Typing	70

2.3. Lighting by Task in Area

School Task:	Foot Candles (Maintained ¹)
Reading	70
Spirit Duplicated Material	100
Drafting, Bench work	100
Lip Reading, Chalkboards, Sewing	100

NOTES

1 Foot candle levels must have, associated with them, a good equivalent sphere illumination level.

3. INDOOR SPECIALTY LIGHTING

Review with owner in design phase of project and provide as designed.

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4. GENERAL REQUIREMENTS FOR ALL LIGHTING

- 4.1. All new construction and major renovation lighting shall meet the ASHRAE/IESNA 90.1 requirements for efficiency. If design is specified as a LEED design, lighting design shall contribute to LEED certification as required.
- 4.2. All ballast to be low noise type, sound rated "Class A" UL Listed "Class P".
- 4.3. All ballast to be electronic type, power factor greater than .98, THD less than 10%, 3rd harmonic distortion less than 6%, transient protected per ANSI C62.41, Cat A, EMI must comply with FCC Part 18, Subpart C.
- 4.4. Unless specified otherwise, lighting to be industrial quality.
- 4.5. All lighting to be installed in accordance with UK Standards 16000-16999.
- 4.6. All lighting on emergency generator circuits to be non restrike type.
- 4.7. At minimum, all lighting provided to be "Energy Saving" type.
- 4.8. Do not provide radio active lighting of any kind on University projects.
- 4.9. Install a 120 volt receptacle at floor level near each exit that has an exit sign.
- 4.10. No quartz or mercury vapor lighting is to be added on the UK projects.
- 4.11. No incandescent lighting shall be added on the UK projects unless by written exception. Exception will be considered when energy efficient lamp varieties will not work for the application.
- 4.12. Lighting controllers shall be Lutron or equal and shall be interfaced with the building automation system.