

265600S01 EXTERIOR LIGHTING

1. SITE, STREET, AREA, WALKWAY, ACCENT AND OTHER OUTDOOR LIGHTING

GENERAL REQUIREMENTS FOR LIGHTING AND LIGHTING CONTROLS

All new construction and renovation shall comply with 2012 IECC and/or ASHRAE / IES 9.1 – 2010 or with the codes currently adopted by the State of Kentucky

1. Parking lot lighting shall be LED. Lot lighting circuits shall be on a contactor. Contactor control shall be by photocell. Photocell contact(s) to be in parallel with and turned on by the building automation system (BAS) if one exists near the contactor. Illumination to be 1.5 average maintained foot-candles minimum. Control by written exception we will accept individual photocell control per fixture with wireless networking managed by software owned by UK and operated locally on the UK Campus.
 1. Fixtures: Use black fixtures manufactured by Holophane (Mongoose) or equivalent. Substitutions should have equivalent photo metrics and a glass lens. Poles will be a minimum of 30 foot black aluminum. Provide lot layout with photometric design.
2. Parking structure lighting is to be LED. Lighting at the parking structure entrance and for 75 feet past the entrance, shall be maintained at 6 foot-candles and will be on separate dedicated circuits. Lighting circuits shall be on a contactor. Contactor control shall be by the Building Automation System (BAS) using an algorithm for light level adjustment based on a schedule of exterior and interior light levels and on safety and efficiency. Illumination to be 6 average maintained foot-candles minimum. Control: By written exception we will accept individual photocell control per fixture with networking managed by software owned by UK and operated locally on the UK Campus. Control software may include dimming and follow me roaming to increase light levels during occupied times.
 1. Lighting branch circuits are to be arranged so that every other fixture is on a different circuit (i.e. if a breaker trips, worst case is only every other light goes out). Branch circuits should be arranged such that lighting levels can be staged on at 25%, 50%, 75% and 100% in an area to provide maximum energy efficiency. The inner core should be controllable separate from the outer perimeter and east separate from west so that during daylight hours the lights in the different areas may be on or off depending on the need and providing maximum energy efficiency thru daylight harvesting.
 2. Fixtures: Use die-cast aluminum fixtures manufactured by Holophane, KIM, Lithonia, LSI or equal.
3. Grounds and walkway lighting is to be LED. Grounds and walkway lighting circuits shall be on a contactor. Contactor control shall be by photocell. Photocell contact(s) to be in parallel with and turned on by the building automation system (BAS) if one exists near the contactor. Illumination to be 1.5 average maintained foot-candles minimum.
 1. Fixtures for Grounds and Walkway Lighting – The standard fixtures to use are based on the zone/area to be lit.
 - a. Central Campus Traditional Core Area - Use black Holophane RSL 350 LED series with Charleston CH14F4 Black aluminum fluted pole.

265600S01 EXTERIOR LIGHTING

- b. All Other Areas – use either of the following two styles based on building architecture or match similar fixtures in the area. 1.) Use black Holophane RSL 350 LED series with Charleston CH14F4 Black aluminum fluted pole or 2.) Use black shoebox slim style fixtures manufactured by KIM (Archetype) or equal. Shoebox poles will be (16 to 20) foot black aluminum. Substitutions should have equivalent photo metrics and a tempered glass lens.
4. Building exterior lighting shall be LED. Building exterior lighting circuits shall be on a contactor. Contactor control shall be by photocell. Photocell contact(s) to be in parallel with and turned on by the building automation system (BAS) if one exists near the contactor. Illumination to be 1.5 average maintained foot-candles minimum.
5. Building exterior egress lighting shall be LED and shall be controlled by a photocell. Equip with non-glare diffuser. Building exterior egress lighting is to be powered from the emergency generator if available. If the building does not have emergency generator power, then use a battery pack inverter.
6. Building exterior accent lighting to be LED. Accent lighting circuits shall be on a contactor. Contactor control shall be by photocell. Photocell contact(s) to be in parallel with and turned on by the building automation system (BAS) if one exists near the contactor. Equip with non-glare diffuser.
7. UK See Blue LED lights shall be controlled by the BAS.
8. Each lighting project shall determine if any of the exterior security type lighting needs to be on emergency generator power.

2. BASKETBALL COURTS, TENNIS COURTS

Refer to standard 265658S01 for this and other similar lighting.

3. OUTDOOR/SITE SPECIALTY LIGHTING

Review with owner in design phase of project and custom design as required.

4. GENERAL REQUIREMENTS OF ALL LIGHTING

1. Standard color temperature for LED lighting design shall be 4100 degree Kelvin. Other color temperatures may be provided if the standard deviation is clearly noted in the design documents and acknowledged by the UK Representative.
2. All outdoor/exterior LED drivers to have minimum expected life of 100,000 hours at 25 degrees C.
3. All indoor LED drivers to deliver IES LM-80-08 performance for a minimum expected life of 50,000 hours.
4. All indoor and outdoor lighting fixtures shall have power factor greater than .9, EMI shall comply with FCC Part 18, Subpart C and design shall specify the fixture lumen efficacy and shall specify the minimum IEC/PAS photometric code xxx.xxx.
5. All LED luminaires/fixtures shall have transient surge protection per ANSI C62.41.
6. All lighting lenses shall be of high quality and securely affixed to the fixture.
7. Unless specified otherwise, lighting is to be industrial quality.
8. All lighting is to be installed in accordance with UK Standards Division 26.

265600S01 EXTERIOR LIGHTING

9. Do not provide radioactive lighting of any kind on University projects.
10. Lens to be tempered Glass, no polycarbonate, acrylic or other plastics.
11. Bollard lighting is not to be used as area, grounds, street, parking or walkway lighting. Bollard lighting may only be used with written exception by UK representative and then only as accent lighting. Other fixtures in the area must be used and must be mounted a minimum of fourteen feet high and provide light levels as specified in this section, independent of the bollard light contribution.
12. Low mounted wall floods or step lights will be considered accent lighting only. Other fixtures in the area must be used and must provide light levels as specified in this section above the wall floods or step lights.
13. No direct buried posts. Lighting shall be set on concrete pier with bolts.
14. All lighting poles less than 41 feet shall be aluminum.
15. No new Mercury Vapor, Metal Halide or High Pressure Sodium lighting is to be added on the UK Campus if there is an LED solution for the application.
16. No quartz area or accent lighting is to be added on the UK Campus.