SECTION 11.0

EXTERIOR LIGHTING DESIGN GUIDELINES

11.1 OVERVIEW

Inside its buildings and facilities the University of Houston desires to have a high quality of light suitable for the functions performed in each area while also achieving energy efficiency. By and large the design of this lighting is the responsibility of the designers of the individual project in accordance with the program requirements for each area.

Outside the buildings and facilities, UH desires to have a campus that is lighted so as to feel safe and secure to its nighttime users. These guidelines express the overall intent for lighting the campus; this intent is purposefully presented as a sequence of lighting that recognizes that safe and secure lighting levels vary with location, function, and adjacent influences. The sequence begins with street lighting for vehicular access and progresses to arrival in the parking lots. From the parking lots the sequence recognizes a lighting level for walkways adjacent to the parking lots that are influenced by the lighting in the lots and a lighting level for walkways farther away from the lots. The sequence proposes a lighting level for destinations such as building entrances and special places, as well as for landscaped areas adjacent to the walkways.

The UH recognizes that these lighting levels must flow from one to another and are not precise. The levels are indeed guidelines. However, it is the desire of the UH that the overall effect of all combined outdoor lighting works in a way similar to the lighting in the interior in that it is appropriate to each area so as to convey a sense of security and safety.

11.2 LIGHTING INTENSITIES

The brightest lighting intensity is typically found in the parking lots. This intensity is used as the basis for establishing all others.

11.2.1 Parking Lots

Lighting intensity for parking lots is described as follows:
Please also see Section 9.9.2 for additional criteria for parking lot lighting.

Designation	Average	Maximum/Minimum	Minimum / Average
PL	**6 fcs**	**8 : 1**	**4 : 1**

11.2.2 Streets

Lighting intensities on UH streets should conform to those on public right of ways, or 1 to 1.5 foot-candles. This intensity is described as follows:

Designation	Average	Maximum/Minimum	Minimum / Average
ST	**1-1.5 fcs**	**12 : 1**	**6 : 1**

11.2.3 Walkways Crossing Streets

Lighting intensity for walkways crossing campus streets is described thusly:

Designation	Average	Maximum/Minimum	Minimum / Average
WS	**4.5 fcs**	**8 : 1**	**4 : 1**

11.2.4 Walkways Adjacent to Parking Lots

Walkways adjacent to parking lots (the first 100 feet) are the next brightest intensity at 2 to 3 foot-candles at the center of the walkway. This intensity is described as follows:

Designation	Average	Maximum/Minimum	Minimum / Average
WB	**2-3 fcs**	**10 : 1-11 : 1**	**4 : 1**

11.2.5 Walkways at Interior of Campus

Walkways away from the spillover influence of parking lot lighting are the "normal" level lighting intensity at 1.5 to 2 foot-candles at the center of the walkway. This intensity is described as follows:

Designation	Average	Maximum/Minimum	Minimum / Average
WN1	**1.5-2 fcs**	**8 : 1**	**4 : 1**

11.2.6 Walkways at Interior of Campus in Large Open Areas

Walkways away from the spillover influence of parking lots and in large open areas are another "normal" level of lighting intensity. This least bright intensity is described as follows:

Designation	Average	Maximum/Minimum	Minimum / Average
WN2	**.75 fcs**	**8 : 1**	**4 : 1**

11.2.7 Landscape Areas Adjacent to Walkways

Landscape areas within twenty-five feet of the walkways should be lighted to an intensity of 1.5 to 2 foot-candles so as to eliminate their appearance as dark islands. This intensity is described as follows:

Designation	Average	Maximum/Minimum	Minimum / Average
LA	**1.5-2 fcs**	**8 : 1**	**4 : 1**

11.2.8 Building Entrances

Building entrances are the destinations for most nighttime trips on the campus. They should be illuminated at an intensity of 6 to 9 foot-candles, so as to emphasize them to the pedestrian. The name of the building should be clearly illuminated as well. This lighting inside the building entrance should be designed so as to provide a transition to the lighting intensity at the building entrance outside. The entrance lighting intensity is described thusly:

Designation	Average	Maximum/Minimum	Minimum / Average
BE	**6-9 fcs**	**n/a**	**n/a**

11.3 LIGHT QUALITY

11.3.1 Color Spectrum

Lighting at walkways in particular must be "white" or the cool spectrum such as is necessary for distinguishing colors easily by eye and by remote security scanning cameras.

Pedestrian lighting at streets and walkways is gradually being retrofitted with LED lamps; all future pedestrian lighting shall be the University's standard pedestrian light fixture including LED lamp. Lighting at building entrances shall also be LED.

Parking lot illumination at the University of Houston is in a transitional phase between the traditional metal halide fixtures and preferred LED lighting. It is anticipated that a LED retrofit fixture adaptable to the current luminaire standard soon can be found and implemented in its place

11.4 CONTINUITY OF LIGHTING PERFORMANCE

Light pole bases have occasionally been knocked over, physically breaking the circuit and leaving areas of the campus without light. The University of Houston desires to further ensure functionality by individually fusing certain lights as follows:

- All walkway lights, street lights, and parking lot lights shall be individually fused at each pole base. Fuses shall be Bussman HEB-JW-RLC-J with weather boot or UH –approved equal,

11.5 FIXTURE LOCATIONS

11.5.1 General Comments

- Architectural showcase lighting should not be used except for landmark or theme buildings. Even for these exceptions the lighting intensity should be as low as possible for the purpose.

- Lighting fixtures (especially flood lights) are not to be mounted on buildings except to illuminate the entrance, as described in **Section 11.2.7** above.

- Lighting fixtures should be carefully located and screened so as not to shine in the eyes of the pedestrian.

11.6 RELATIVE LIGHTING INTENSITY SEQUENCE DIAGRAM