

**Lighting Information
for Sports Facilities**

**University
Interscholastic
League**



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LIGHTING INFORMATION

for sports facilities

The University Interscholastic League (UIL) presents the following information. This manual is intended as a resource for those seeking information on lighting of sports facilities.

The information contained in this manual is intended as an educational tool to assist those who intend to build a new sports facility or to upgrade an existing sports facility.

Questions concerning materials presented in this manual should be directed to the University Interscholastic League at www.uil.utexas.edu.

I. Standards

These standards are for all lighting installations. Any modification in existing lighting systems should be done so as to result in a lighting system meeting these standards. **The word “should,” for the purposes of this document, is to be interpreted as being advisory in nature and non-regulatory.**

A. Lighting

1. Quantity (also see table on page 8 for light level references)

a. Baseball/Softball

There should be maintained a minimum average quantity of 50 horizontal footcandles on the infield and a minimum average quantity of 30 horizontal footcandles on the outfield.

b. Football

There should be maintained a minimum average of 30 horizontal footcandles on the playing field for facilities with fewer than 2000 spectators. For facilities with more than 2000 spectators, there should be maintained a minimum average of 50 horizontal footcandles on the playing field. For practice fields, there should be a maintained minimum average of 20 horizontal footcandles.

c. Soccer

There should be maintained a minimum average of 30 horizontal footcandles on the playing field for facilities with fewer than 2000 spectators. For facilities with more than 2000 spectators, there should be maintained a minimum average of 50 horizontal footcandles on the playing field.

d. Tennis

There should be maintained a minimum average of 50 horizontal footcandles on the playing area.

e. Gymnasiums/Basketball Arenas¹

There should be maintained a minimum average of 80 horizontal footcandles for events with spectators. For gymnasiums used for recreational purposes there should be maintained a minimum average of 50 horizontal footcandles.

f. Track and Field

There should be maintained a minimum average of 30 horizontal footcandles on the track and area where field events are held.

g. Combination/Multi-Purpose

Should meet the highest minimum average among the standards for activities played on field.

h. Natatoriums

Lighting natatoriums involves many variables important to the safety of participants. It is recommended that schools wishing to light a natatorium use consultants and lighting manufacturers with experience and knowledge in that specialized venue. They should also be in compliance with local codes. As national organizations develop standards and/or specifications, we will continue to update this section.

2. Quality (also see table on page 8 for uniformities references)

a. Baseball/Softball

The quality of the lighting should be determined on a basis of uniformity and smoothness.

• **Uniformity**

Infield: the highest measure of quantity of light should not be greater than 2.0 times the lowest quantity of light. Outfield: the highest quantity of light should not be greater than 2.5 times the measurement of the lowest quantity of light at given target points.

• **Smoothness**

Over the entire area of the infield and outfield, the change in the quantity of horizontal footcandles should not occur at a rate greater than 10% per 10 feet except for the outside perimeter reading which may change at a greater rate.

b. Football

The quality of the lighting should be determined on a basis of uniformity and smoothness.

• **Uniformity**

Should be such that the highest measure of quantity of light should not be greater than 2.5 times the lowest quantity of light for fields lit to 30 footcandles or 2.0 times for fields lit to 50 footcandles.

• **Smoothness**

Over the entire area of the field, the change in the quantity of horizontal footcandles should not occur at a rate greater than 10% per 10 feet except for the outside perimeter reading which may change at a greater rate.

- For stadiums with large seating capacities (5000 plus) or specialized television or video taping requirements, please confer with consultants and lighting manufacturers with specific experience and knowledge in the area of lighting large stadiums and for television.

c. Soccer

The quality of the lighting should be determined on a basis of uniformity and smoothness.

• **Uniformity**

Should be such that the highest measure of quantity of light should not be greater than 2.5 times the lowest quantity of light for fields lit to 30 footcandles or 2.0 times for fields lit to 50 footcandles.

• **Smoothness**

Over the entire area of the field, the change in the quantity of horizontal footcandles should not occur at a rate greater than 10% per 10 feet. The outside perimeter reading, except for the goal area, may change at a greater rate.

d. Tennis

The quality of the lighting should be determined on a basis of uniformity and smoothness.

• **Uniformity**

Should be such that the highest measure of quantity of light should not be greater than 2.0 times the lowest quality of light within the principle playing area.

• **Smoothness**

Over the entire area of the field, the change in the quantity of horizontal footcandles should not occur at a rate greater than 10% per 10 feet except for the outside perimeter reading which may change at a greater rate.

e. Gymnasiums/Basketball Arenas

The quality of the lighting should be determined on a basis of uniformity and smoothness.

• **Uniformity**

Should be such that the highest measure of quantity of light should not be greater than 2.0 times the lowest quantity of light.

• **Smoothness**

Over the entire area of the field, the change in the quantity of horizontal footcandles should not occur at a rate greater than 10% per 10 feet except for the outside perimeter reading which may change at a greater rate.

