



NCAA Best Lighting Practices

Goals: 1. **Quality TV Broadcasts:** To establish best practices for lighting televised NCAA events, providing quality broadcasts within a reasonable budget. The light level expectations are applicable for both SD and HD broadcast.
 2. **Value-based Lighting System:** To provide recommended best practices for lighting college level sporting events with considerations for quality lighting for player safety; reduced energy, maintenance and life-cycle costs; and environmental sensitivity.
Considerations: 1. Size of facility, 2. Level of TV broadcast, 3. Validation of light levels, and 4. Cost consciousness.

| | | Baseball | Basketball* | Football | Ice Hockey | Lacrosse | Soccer | Softball | Swimming / Water Polo | Tennis | Track & Field | | Volleyball | Wrestling / Boxing** | |
|--|-------------------------|----------------------------|------------------|------------|------------------|------------------|------------------|----------------------------|-----------------------|------------------|------------------|------------------|------------------|----------------------|------------------|
| | | Infield / Outfield | | | | | | | Infield / Outfield | | | Track | Field | | |
| Intercollegiate Play (no broadcast) | Horizontal Footcandles: | 70 / 50 | 80 | 50 | 100 | 50 | 50 | 70 / 50 | 50 | 75 | 30 | 50 | 80 | 80* | |
| | Horizontal Uniformity: | 2:1 / 2.5:1 | 2:1 | 2:1 | 2.5:1 | 2:1 | 2:1 | 2:1 / 2.5:1 | 2.5:1 | 1.7:1 | 3:1 | 3:1 | 2:1 | 2:1 | |
| | Typical Seating: | N/A | N/A | Under 5K | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| | Pole position: | 6+ poles | N/A | 4+ poles | N/A | 4+ poles | 4+ poles | 4+ poles | N/A | 4+ poles | 4+ poles | 4+ poles | N/A | N/A | |
| Regional Broadcast | Horizontal Footcandles: | 100 / 70 | 80 | 75 | 100 | 75 | 75 | 100/70 | 75 | 75 | 75 | 75 | 80 | 80* | |
| | Horizontal Uniformity: | 1.5:1 / 2:1 | 2:1 | 2:1 | 2:1 | 2:1 | 2:1 | 1.5:1 / 2:1 | 2:1 | 1.7:1 | 2:1 | 2:1 | 2:1 | 2:1 | |
| | Camera #1 | 1st & 3rd Bases | Center main side | 50 yd line | Center main side | Center main side | Center main side | 1st & 3rd Bases | Center main side | High End | Center main side | Center main side | Center main side | Center main side | |
| | Vertical Footcandles: | 70 / 40 | 75 | 75 | 75 | 75 | 75 | 70 / 40 | 75 | 75 | 75 | 75 | 75 | 75 | |
| | Vertical Uniformity: | N/A | 2:1 | 2:1 | 2:1 | 2:1 | 2:1 | N/A | 2:1 | 2:1 | 2:1 | 2:1 | 2:1 | 2:1 | |
| | Camera #2 | High Home Plate | End | End Zone | End | End | End | High Home Plate | End | Net | N/A | N/A | End | End | |
| | Vertical: | 70 / 40 | 45 | 45 | 45 | 45 | 45 | 70 / 40 | 45 | 45 | N/A | N/A | 45 | 45 | |
| | Typical Seating: | N/A | N/A | 5 - 25K | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| Pole position: | 6+ poles | N/A | 6+ poles | N/A | 6+ poles | 6+ poles | 6+ poles | N/A | 4+ poles | 6+ poles | 6+ poles | N/A | N/A | | |
| National Broadcast | Horizontal Footcandles: | Same as Regional Broadcast | 100 | 100 | 100 | 100 | 100 | Same as Regional Broadcast | 100 | 100 | 100 | 100 | 100 | 100 | |
| | Horizontal Uniformity: | | 1.7:1 | 1.7:1 | 1.7:1 | 1.7:1 | 1.7:1 | | 1.7:1 | 1.7:1 | 1.7:1 | 1.7:1 | 1.7:1 | 1.7:1 | 1.7:1 |
| | Camera #1 | | Center main side | 50 yd line | Center main side | Center main side | Center main side | | Center main side | Center main side | High End | Center main side | Center main side | Center main side | Center main side |
| | Vertical Footcandles: | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Vertical Uniformity: | | 1.7:1 | 1.7:1 | 1.7:1 | 1.7:1 | 1.7:1 | | 1.7:1 | 1.7:1 | 1.7:1 | 1.7:1 | 1.7:1 | 1.7:1 | 1.7:1 |
| | Camera #2 | | End | End Zone | End | End | End | | End | End | Net | N/A | N/A | End | End |
| | Vertical Footcandles: | | 60 | 60 | 60 | 60 | 60 | | 60 | 60 | 60 | N/A | N/A | 60 | 60 |
| | Typical Seating: | | N/A | 25 - 45K | N/A | N/A | N/A | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Pole position: | N/A | 6+ poles | N/A | 6+ poles | 6+ poles | 6+ poles | 6+ poles | N/A | 4+ poles | 6+ poles | 6+ poles | N/A | N/A | | |
| National Championship Final Site | Horizontal Footcandles: | 125 / 100 | 125 | 125 | 125 | 125 | 125 | 125 / 100 | 125 | 125 | 125 | 125 | 125 | 125 | |
| | Horizontal Uniformity: | 1.3:1 / 1.7:1 | 1.5:1 | 1.5:1 | 1.5:1 | 1.5:1 | 1.5:1 | 1.3:1 / 1.7:1 | 1.5:1 | 1.5:1 | 1.5:1 | 1.5:1 | 1.5:1 | 1.5:1 | |
| | Camera #1 | 1st & 3rd Bases | Center main side | 50 yd line | Center main side | Center main side | Center main side | 1st & 3rd Bases | Center main side | High End | Center main side | Center main side | Center main side | Center main side | |
| | Vertical Footcandles: | 90 / 50 | 125 | 125 | 125 | 125 | 125 | 90 / 50 | 125 | 125 | 125 | 125 | 125 | 125 | |
| | Vertical Uniformity: | N/A | 1.5:1 | 1.5:1 | 1.5:1 | 1.5:1 | 1.5:1 | N/A | 1.5:1 | 1.5:1 | 1.5:1 | 1.5:1 | 1.5:1 | 1.5:1 | |
| | Camera #2 | High Home Plate | End | End Zone | End | End | End | High Home Plate | End | Net | N/A | N/A | End | End | |
| | Vertical Footcandles: | 90 / 50 | 75 | 75 | 75 | 75 | 75 | 90 / 50 | 75 | 75 | N/A | N/A | 75 | 75 | |
| | Vertical Uniformity: | N/A | 2.5:1 | 2.5:1 | 2.5:1 | 2.5:1 | 2.5:1 | N/A | 2.5:1 | 1.7:1 | N/A | N/A | 2.5:1 | 2.5:1 | |
| Typical Seating: | N/A | N/A | 45K+ | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | | |
| Pole position: | 6+ poles | N/A | 6+ poles | N/A | 6+ poles | 6+ poles | 6+ poles | N/A | 4+ poles | 8+ poles | 6+ poles | N/A | N/A | | |

*Refer to NCAA Basketball Championships Best Lighting Practices for television broadcast located under the Basketball link

**Competition is typically held at the same venue as basketball or volleyball

Notes:

1. All footcandle levels are target minimum averages
2. New lighting system designs are recommended to use 0.7 Recoverable Light Loss Factor or Constant Illumination
3. Lamp Characteristics
 - a. Minimum color temperature must be 3600 degrees Kelvin
 - b. Minimum Color Rendering Index (CRI) must be 65
4. Refer to the NCAA Broadcast Lighting Requirements for additional information
5. Refer to sport and broadcast specific documents for design examples and verification forms

Contact NCAA at 317/917-6222 or www.NCAA.com with questions.