



## 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 / Beach Volleyball	Wrestling**	
		Infield / Outfield							Infield / Outfield			Track	Field		
<b>Intercollegiate Play (no broadcast)</b>	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	
<b>Regional Broadcast</b>	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		
<b>National Broadcast</b>	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		
<b>National Championship Final Site</b>	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:
- All footcandle levels are target minimum averages
  - New HID lighting system designs are recommended to use 0.7 Recoverable Light Loss Factor or Constant Illumination
  - Lamp Characteristics
    - LED - Recommended color temperature 4500 - 5700 degrees Kelvin
    - LED - Minimum Color Redering Index (CRI) must be 75
    - HID - Minimum color temperature 4200 degrees Kelvin
    - HID - Minimum Color Rendering Index (CRI) must be 65
  - Refer to the NCAA Broadcast Lighting Requirements for additional information
  - Refer to sport and broadcast specific documents for design examples and verification forms
  - Sports presentation should be considered for fan and TV enhancement for new LED systems
  - NCAA's preferred Lighting Service provider is Musco Sports Lighting LLC

Contact NCAA at 317/917-6222 or [www.NCAA.com](http://www.NCAA.com) with questions.

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