SPORTS FIELD LIGHTING
1. Participants will understand how to evaluate sports lighting options for facilities.

2. Participants will experience how lighting can increase field playability, spectator viewing and televised results.

3. Participants will learn what the goals are for protecting the environment and night skies... 3rd party evaluations are available.
WHY ARE SPORTS FIELDS LIGHTED?

Spectators
Play can be observed by family members who work day shifts.

Player Safety
Play games during the cooler portion of the day to reduce chances of heat exhaustion in players.

More Games
Lengthening the number of playing hours in the day, allows for more games at facilities.
Which should I consider?

HID  LED

Sports Lighting Sources!!
Up until a few years ago, HID (metal halide) sources were the choice for nearly all sports lighting throughout the US.

1. High lumen per watt ratios
2. Economical solution
3. Good color properties
4. Adequate life span for the tasks

...So why LED, now?
Why has LED become the choice for sports lighting?

**Efficacy Enhancements:**

- Source – 100 lpw to near 200 lpw
- TIR Optical Control - near perfect lumen harnessing
- Resulting in more applied lumens for the energy consumed – Coefficient of Utilization (CU)
Why has LED become the choice for sports lighting?

Lumen Maintenance Improvements:

• Virtually no lumen depreciation for the number of hours typically associated with outdoor sporting facilities.

• Dirt Depreciation remains but is accounted for.
Why has LED become the choice for sports lighting?

**Color Palette Variations:**

- CCT – MH (4000K-4200K), LED (What ever you desire)
- CRI – equal to or better than MH
Why has LED become the choice for sports lighting?

Lighting Control Flexibility:

- Instant on/off
- Theatrical Effects – Enhanced spectator experience
Why has LED become the choice for sports lighting?

**Economics:**

- The price point of LED is more inline with the HID solution.
- Energy consumption is much less than HID.
What have been the common issues associated with lighting sporting facilities?

1. Unwanted activity at night in surrounding neighborhoods. – Lighting enables this activity.
2. Light Pollution:
   a. Sky Glow - Interference with enjoyment of the night sky
   b. Spill Light - Lighting up my back yard/neighborhood
   c. Glare – Bright lights shining in my windows

Contrary to popular belief (marketing tactics), controlling lumens does NOT mean glare control!!
TABLE TOP DEMONSTRATION
FLOODLIGHTS EMIT LIGHT AT MANY ANGLES

TILTED 45° DOWN

POINTED AT HORIZON
Spectator and Neighbor point of view. Which is preferred?
What is Glare? We all know it when we experience it.

1. There are a number of metrics utilized to evaluate indoor applications.
2. There are few metrics, none in the US, for outdoor applications.
3. Without a US metric, the wild west is alive and well...make up whatever benefits your marketing scheme.
4. CIE, basically everything outside North America, has a Luminous Intensity (source brightness) based metric.
5. The IES currently has a committee, which I Chair, tasked with defining Discomfort Glare in Outdoor Nighttime Environments.

How do we predict, measure and assess glare so that evaluations are consistent?...Stay Tuned!
GLARE FROM LED SOLUTIONS CAN BE WORSE THAN HID SOLUTIONS, IF NOT PROPERLY ADDRESSED
SHIELDING IS CRITICAL!

• Light can be placed on the field and still have unacceptable glare.

• How many lighting cut sheets have you seen promoting glare control?

• If the source is visible, glare will exist!!
WHAT ABOUT SKY GLOW? CAN WE PROTECT COMMUNITIES AND DARK SKIES WHILE LIGHTING A SPORTING FACILITY?
IS IT POSSIBLE FOR THESE TO COEXIST?
The International Dark-Sky Association (IDA) has developed a Best Practices program.

This is a 3rd Party independent evaluation where criteria has been established.

Contact Pete Strasser about the Community-Friendly Outdoor Sports Lighting Program.
UNDER THE MICROSCOPE (AND TELESCOPE)

Smithsonian Whipple Observatory Complex: ~$200 million value

Robson Quail Creek Luxury Retirement Community: ~5000 Residents
With Chapters located throughout the US, the International Dark-Sky Association can be a valuable resource for those projects where protecting the night-skies and good sports lighting practices need to co-exist.

Contact Bettymaya Footh about IDA Chapters in your area.