

Sports Lighting

– MORE THAN JUST LIGHTS

By Don McLean, DMD and Associates Ltd. Electrical Consultants

The lighting of outdoor playfield's has become an integral part of synthetic turf field projects. Sports lights allow the hours of play to be extended into the hours of darkness thus adding to the overall cost benefit. In the past, many sports lighting systems utilized multi-purpose floodlights with little or no control of the light falling off the site (referred to as spill light) which impacts local residents. Spill light from sports lights has been the cause of public complaint and in some cases even legal action. These poor lighting installations have brought about a greater demand from the public for less obtrusive lighting. As a result of this demand, suppliers have developed lights with improved control of spill light and glare.



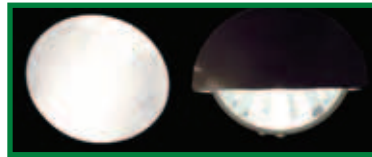
Example of sport lighting with good spill and glare control.

Some however believe all modern sports lighting systems deliver the same performance. Simply put – not true! More so than in the past product performance varies from supplier to supplier, and manufacturers are constantly improving and refining their products for competitive reasons. Quality of materials, photometric performance, customer support, warranty, purchase and operating costs vary from supplier to supplier.

Significant advancements in technology have been made to reduce spill light and save energy while still delivering the required on field lighting levels.

The selection of sports lighting systems is no longer “apples to apples”. The choices are broader than in the past with each sup-

plier's sales staff promoting their own product benefits. How does one separate fact from fiction? Retaining the services of an Electrical Consultant who is knowledgeable and experienced in sports lighting and related electrical design will help owners make informed choices.



Example of floodlight with no spill and glare control on the left and sports light with effective spill and glare control on the right.

A sports lighting system typically costs in the order of \$100K to \$300K per field to install. With such a large investment you get “one shot to get it right or live with results for 20 plus years”. To maximize value and reduce issues a few key considerations include:

- Selection of on-field lighting levels – Light levels will vary depending on level of play (ie; recreational, high school, league, etc).
- Hours of operation – Turn off times often defined by City ordinance or through public process.
- Pole mounting height limitations (sometimes defined by local ordinance) – Pole heights will have a direction impact on off site spill light and on-field playability.
- Operating costs – Operating costs vary from supplier to supplier and can be substantial over time.
- Impacts on local residents – Public consultation is typically undertaken to respond to local residents concerns which are typically parking, noise and rowdy behavior and of course spill light.
- Soils which impact pole foundation designs – A Geotechnical Engineer can assess soils and define foundation requirements.
- Maintenance issues – Access to pole is critical for re-lamping of lights. This is key design consideration.
- Future Needs – Additional conduits and circuits should be considered for future infrastructure such as washroom buildings, scoreboard and PA systems.
- 120V outlets – Can be located on infield lighting poles for pitching machines and other devices.
- Lighting controls – They can allow for remote control and monitoring of the sports lights via the internet. Some suppliers offer system which interface with Parks Management and scheduling Software.
- Delay off – By staggering the turn-off of lighting will allow player to leave the site safely.

Proper planning and consideration will maximize value and improve the performance of a sports lighting system. For further information on sports lighting visit DMD and Associates Ltd web site at www.dmdeng.com.



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