

## Section 2. Initial Qualifying Criteria

### 2.1. Completing & Submitting Initial Qualifying Criteria Documentation

As described in **RFP Section 5 – Criteria for Proposal Evaluation & Selection**, Bidders must complete and provide executed originals of the following documents as part of the proposal Bidders submit. *Equalis Group will not consider a Bidder's Technical and Cost Proposals unless these forms are properly completed and submitted as part of the Bidder's proposal.*

2.1.1.	<b>Attachment C – Required Bidder Information &amp; Certifications.</b> This document includes information about the Bidder, key points of contact for proposal and legal questions that may arise during Equalis Group's review of the response, minority business enterprise and certifications, required affirmations subject to Ohio Revised Code guidelines, equal employment opportunity questions, questions regarding the subcontracting of certain elements of a Bidder's service delivery to Members, and confirmation that Bidder has reviewed and annotated, if applicable, the Equalis Group model i) Master Agreement, and ii) Administration Agreement entered into with Winning Suppliers.
Please see completed & signed Attachment C – Required Bidder Information & Certifications. (Attachment: Attachment C Required Bidder Information Certifications – Musco Lighting)	
2.1.2.	<b>Attachment D – W-9.</b> Bidders must complete the W-9 form and include the completed W-9 form in their response.
Please see completed & signed Attachment D - W-9. (Attachment: Attachment D W-9 – Musco Lighting)	
2.1.3.	Does your proposal include the properly completed and executed <b>Attachment C</b> and <b>Attachment D</b> ? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Please see completed & signed Attachment C & Attachment D. (Attachments: Attachment C Required Bidder Information Certifications – Musco Lighting and Attachment D W-9 – Musco Lighting)	

## Section 3. Bidder Overview & Qualifications

### 3.1. Company Information

3.1.1.	<b>Company Name &amp; Address.</b>	
Company Name:	Musco Sports Lighting, LLC	
Headquarters Street Address:	100 1 <sup>st</sup> Ave West, PO Box 808	
City, State & Zip Code:	Oskaloosa, IA 52577	
Main Telephone Number:	800-825-6030	
Website:	www.musco.com	
3.1.2.	<b>Formation.</b> In what year was the company formed? For how long has your company been operating under its present business name? If your company has changed its business name, include the most recent prior business name and the year of the name change.	
<p>Musco Sports Lighting (Musco/Musco Lighting) was founded in 1976 (44 years) and has been operating as Musco Sports Lighting, LLC for the past 19 years. The prior 25 years operating as Musco Sports Lighting, Inc.</p> <p>Since 1976, Musco Sports Lighting, LLC has been providing sports and large area lighting systems. Musco's mission has been to provide sports field and large area lighting solutions for public and private entities throughout the United States of America and internationally.</p> <p>Musco has been the industry leader in developing an industry leading lighting system that provides high quality on field performance and environmental sensitivity to the surrounding area. Energy efficiency, spill and glare control, and field management solutions have been our staple for success in the industry.</p> <p>Throughout the history of Musco, we have had the pleasure of being the recipient of an Academy Award®, Emmy® Award and the Paul Waterbury Award for Excellence for Outdoor Lighting. Musco has also developed partnerships with Little League® Baseball and Softball Programs and the U.S. Soccer Foundation®, to name a couple. (Attachment: Technical Proposal – Musco Lighting – Section 3.1.2 – Musco Company Profile)</p>		
3.1.3.	<b>Legal Structure.</b> Check the box next to the option that best describes the company's legal structure. Include requested narrative in the space provided.	
<input type="checkbox"/>	Corporation – provide the State of incorporation and the company ownership structure.	<a href="#">Click here to enter response.</a>
<input type="checkbox"/>	Partnership – provide the State of registration and the names of all partners.	<a href="#">Click here to enter response.</a>
<input type="checkbox"/>	Sole Proprietorship – provide the State of registration and the name and title of the principal.	<a href="#">Click here to enter response.</a>
<input type="checkbox"/>	Joint Venture – provide the State of registration and the names and titles of all principals.	<a href="#">Click here to enter response.</a>



☒	Other – provide detailed description of corporate structure and ownership.	Limited Liability Company organized in the State of Iowa
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### 3.2. Financial Strength & Legal Considerations

3.2.1.	<p><b>Financial Strength.</b> Provide three (3) years of company and any parent company financial statements or other documents that speak to the financial strength of the company, such as the most recent Annual Report to Shareholders and 10K Report (if applicable) or audited financial statements, including income statement and balance sheet. <i>Note: you may mark this information as a “Trade Secret” per the terms of <u>RFP Section 3.4 – Trade Secrets Prohibition; Public Information Disclaimer</u> and provide your response to this question in a separate electronic file that includes a “Trade Secret” watermark. Any company financial information provided should be included as part of the Technical Proposal. The proposal scoring of this <u>Section 3.2.1.</u> for Bidders that do not provide any financial information will be zero/fails to meet.</i></p>
Musco Sports Lighting, LLC is a privately held company and does not release our financial information. Please find a letter from Wells Fargo Bank, N.A. regarding financials. (Technical Proposal – Musco Lighting – Section 3.2.1 – Financial Information – Trade Secret)	
3.2.2.	<p><b>Bankruptcy &amp; Insolvency.</b> Describe any bankruptcy or insolvency for your organization (or its predecessors, if any) or any principal of the firm in the last three (3) years.</p>
Musco Sports Lighting, LLC has not been the subject to any voluntary or involuntary bankruptcy, insolvency or receivership proceeding.	
3.2.3.	<p><b>Litigation.</b> Describe any litigation in which your company has been involved in the last three (3) years and the status of that litigation.</p>
Musco Sports Lighting, LLC has not had any litigation that would impact our ability to perform under this contract.	
3.2.4.	<p><b>Mandatory Contract Performance Disclosure.</b> Pursuant to <u>RFP Section 3.13</u>, disclose whether the your company's performance and/or the performance of any of the proposed subcontractor(s) under contracts for the provision of services that are the same or similar to those to be provided for the Program which is the subject of this RFP has resulted in any “formal claims” for breach of those contracts. For purposes of this disclosure, “formal claims” means any claims for breach that have been filed as a lawsuit in any court, submitted for arbitration (whether voluntary or involuntary, binding or not), or assigned to mediation. For any such claims disclosed, fully explain the details of those claims, including the allegations regarding all alleged breaches, any written or legal action resulting from those allegations, and the results of any litigation, arbitration, or mediation regarding those claims, including terms of any settlement. While disclosure of any formal claims will not automatically disqualify a Bidder from consideration, at the sole discretion of Equalis Group, such claims and a review of the background details may result in a rejection of a Bidder's proposal. Equalis Group will make this decision based on the Proposal Review Team's determination of the seriousness of the claims, the potential impact that the behavior that led to the claims could have on the Bidder's performance of the work, and the best interests of Members.</p>
Musco Sports Lighting, LLC has not been subject to any formal claims for breach of contract.	
3.2.5.	<p><b>Mandatory Disclosure of Governmental Investigations.</b> Pursuant to <u>RFP Section 3.14</u>, indicate whether your company and/or any of the proposed subcontractor(s) has been the subject of any adverse regulatory or adverse administrative governmental action (federal, state, or local) with respect to your company's performance of services similar to those described in this RFP. If any such instances are disclosed, Bidders must fully explain, in detail, the nature of the governmental action, the allegations that led to the governmental action, and the results of the governmental action including any legal action that was taken against the Bidder by the governmental agency. While disclosure of any governmental action will not automatically disqualify a Bidder from consideration, such governmental action and a review of the background details may result in a rejection of the Bidder's proposal at Group's sole discretion. Equalis Group will</p>

	make this decision based on the Proposal Review Team's determination of the seriousness of the claims, the potential impact that the behavior that led to the claims could have on the Bidder's performance of the work, and the best interests of Members.
Musco Sports Lighting, LLC has not been subject to any adverse regulatory or adverse administrative governmental (federal, state or local) action.	

### 3.3. Industry Qualifications

3.3.1.	<b>Company Identification.</b> How is your organization best identified? Is it a manufacturer, distributor/dealer/reseller, or service provider? Based on your answer, please provide a response to question 3.3.1.1 or 3.1.1.2.
Musco Sports Lighting, LLC is a manufacturer of sports lighting and large area lighting systems.	
3.3.1.1.	<b>Authorization.</b> If your company is best described as a distributor/dealer/reseller (or similar entity), please provide your written authorization to act as a distributor/dealer/reseller for the manufacturer of the products proposed in this RFP. If applicable, is your dealer network independent or company owned?
Please see the answer to question 3.3.1.2.	
3.3.1.2.	<b>Network Relationship.</b> If your company is best described as a manufacturer or service provider, please describe your direct sales and service force and how your dealer network operates to sell and deliver the Products & Services proposed in this RFP. Is your direct sales force employed by your company or by a third party? Please explain.
<p>Musco has a sales force of over 100 dedicated Sales Team Members throughout the United States of America. Musco has sales offices conveniently located around the United States of America.</p> <p>Musco Sports Lighting, LLC has over 160 Team Members dedicated to operating and maintaining customer lighting around the USA. Regionally based service technicians are available for quick responses. These Team Members are factory-trained and specialize in routine maintenance, repairs, and analysis of sports lighting systems. Our Control-Link Central™ service center is staffed 24/7/365 with trained operators whom provide scheduling and report assistance, along with one-on-one phone training. Proactive nightly testing is done to assure customer's control systems are operating properly and field operations are constantly monitored.</p> <p>Along with our Lighting Services and Control-Link Central™ teams, we have a fully staffed group of internal experts including but not limited to Sales Representatives, Regional Sales Associates, Service Representatives, Part Representatives, Project Coordinators, Project Planning Specialists, Schedulers, and Engineers. We will ensure your project flows smoothly and you get the results you expect.</p> <p>These Team Members are employed by Musco Sports Lighting, LLC. Musco Sports Lighting has no agents or dealer authorized to represent the company. Musco's custom designed, engineered to order lighting systems must be purchased directly from the company.</p>	
3.3.2.	<b>Industry Experience.</b> For how long has your company been in the lighting and/or related products and services industry? What percentage of your company's revenue in each of the last three (3) full calendar years was generated from the provision of sports and facility lighting and/or related products and services?
Musco Sports Lighting was founded in 1976 (44 years).	



3.3.3.	<b>Geographic Reach.</b> Describe your company's service area in the United States (e.g., nationwide, the continental United States, or specific states or regions). If your company does not currently provide services nationwide, describe your plans/timeframes to achieve nationwide service provision, if applicable.
Musco Sports Lighting, LLC is authorized to sell products and provide services in all 50 states and the District of Columbia. Musco will be able to fully serve all geographic areas through the proposed contract.	
3.3.4.	<b>Certifications and Licenses.</b> Provide a detailed explanation outlining the licenses and certifications that are i) required to be held, and ii) actually held by your organization (including third parties and subcontractors that you use). Has your company maintained these certifications on an ongoing basis? If not, when and why did your company lose any referenced certifications?
<p>Musco Sports Lighting, LLC is authorized to sell products and provide services in all 50 states and District of Columbia. Musco complies with applicable federal, state, local, and industry laws for each purchasing customer. Musco holds several contractor licenses throughout the United States of America. (Attachment: Technical Proposal – Musco Lighting – Section 3.3.4 – Musco Contractor License Information)</p> <p>As a General Contractor, Musco selects and contracts with local subcontractor organizations that meet our quality standards and can fulfill our time constraints to perform the type of work outlined in this RFP. Musco does obtain license verification and insurance certificates for all subcontractors whom work with us.</p> <p>Musco has a number of designs and technology protected by U.S. and foreign patent(s), both issued and pending. Musco has numerous UL product certifications and our luminaries have been reviewed by UL to UL and CSA standards.</p>	

### 3.4. Public Sector Focus

3.4.1.	<b>Public Sector Contract Vehicles.</b> What Public Sector contract vehicles (e.g., state term contracts, General Services Administration schedules, group purchasing organization contracts, etc.) does your company have in place to provide sports and facility lighting and/or related products and services to public sector entities under an exemption from the standard public sector bid/RFP process? For each contract vehicle, when was the contract established, what is the expiration date, and is the award sole source or multi-source (i.e., is your company the only supplier for the spending category or are multiple competing suppliers included in the contract vehicle), and how much annual revenue your company generated through the contract(s) in each of the last three (3) calendar years?
<p>Musco Sports Lighting is an awarded vendor on several national and regional cooperative purchasing contracts, see list below.</p> <p>1 Government Procurement Alliance (1GPA)</p> <p>BuyBoard</p> <p>Clay County FL</p> <p>Cooperative Educational Services (CES)</p> <p>CoStars</p> <p>James Madison University (JMU)</p> <p>Keystone Purchasing Network (KPN)</p> <p>King County Director's Association (KCDA)</p> <p>Louisiana Municipal Advisory and Technical Service Bureau, Inc. (LaMats)</p> <p>Sourcewell</p> <p>State of Utah Division of Purchasing</p>	

#### The Interlocal Purchasing System (TIPS)

**3.4.2.** ***Public Sector Success.*** What is the i) total dollar amount, and ii) percentage of your company's total annual revenue generated by sales to educational institutions (i.e., K-12 schools & school districts and high education) and local governments (i.e., municipalities, counties, special districts, and state agencies)?

Musco Sports Lighting, LLC is a privately held company and does not release our financial information.

**3.4.3.** ***Public Sector Strategic Growth Plan.*** Describe your company's three to five-year local government, K-12, and higher education sales objectives and the key elements of your strategic plan to achieve those objectives. What is the total annual dollar value of your company's revenue generated by sales to local governments and educational institutions in each of the last three (3) calendar years? What percentage of your company's total annual revenue is generated by sales to local governments and educational institutions?

Musco Sports Lighting, LLC is a privately held company and does not release our financial information.

### 3.5. Customer References

**3.5.1.** Provide references of at least five (5) local government or educational institution customers for which your company has provided products and services similar in nature and scope to those defined in this RFP in the last three (3) years. Your references should include a mix of types and sizes of public sector entities such as municipalities, K-12 schools or schools districts, and colleges and universities. Each reference should include:

- Customer name and location;
- Customer contact person and their title, telephone number, and email address;
- A brief description of the products and services provided by your company;
- Customer relationship starting and ending dates; and,
- Notes or other pertinent information relating to the customer and/or the products and services your company provided.

[Redacted]

[Redacted]

[Redacted]



### 3.6. Insurance Coverage

3.6.1.	<b>General Liability, Property &amp; Automobile Insurance.</b> If your company is selected as the Winning Supplier, during the term of any agreements between your company and Equalis Group, and for two (2) years following expiration or termination of such agreements, your company, at its own expense, will maintain and will require that its agents, subcontractors, or suppliers engaged in your company's performance of its duties under such agreements, maintain general liability insurance, property insurance, and automobile insurance (at a minimum, in the amount of \$1,000,000 per occurrence/\$5,000,000 annual aggregate) applicable to any claims, liabilities, damages, costs, or expenses arising out of its performance under such agreements. Confirm that your company either a) has, or b) will purchase insurance coverage as described herein.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Musco Lighting will comply with the above General Liability, Property & Automobile Insurance requirements.

3.6.2.	<b>Employee Dishonesty – Members.</b> The Winning Supplier shall be held fully liable for any and all dishonest acts of its employees and/or its subcontractor's employees. Coverage must be provided for Third Party Employee Dishonesty, covering all employees and all officers of your company and any subcontractors, in an amount not less than \$100,000 per occurrence. Confirm that your company either a) has, or b) will purchase insurance coverage as described above covering all employees and all officers of your company, in an amount not less than \$100,000 per occurrence for each Equalis Group Member utilizing the Program.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Musco Lighting will comply with the above Employee Dishonesty – Members insurance requirements.

3.6.3.	<b>Third Party Employment Practice Liability – Members.</b> The Winning Supplier shall be held fully liable for any and all employment practice acts of its employees and/or its subcontractor's employees, such as, but not limited to, sexual harassment and discrimination. Coverage must be provided for employment practice liability, covering all employees and all officers of your company and any subcontractors, in an amount not less than \$1,000,000 per occurrence. Confirm that your company either a) has, or b) will purchase insurance coverage as described above covering all employees and all officers of your company, in an amount not less than \$1,000,000 per occurrence for each Equalis Group Member utilizing the Program.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Musco Lighting will comply with the above Third Party Employment Practice Liability – Members insurance requirements.



## Section 4. Products and Services

### 4.1. Products

**Note:** The products priced and included in **Attachment B – Cost Proposal** will be used to define the products that will be offered to Equalis Group Members.

**4.1.1. Lighting System Description(s).** Provide a detailed description of the lighting system(s) included in your proposal. Your response may include, but is not limited to, descriptions of the lighting system's controls, construction, applications, durability, energy efficiency, spill & glare control, structural design, and monitoring capabilities.

Light-Structure System™ lighting with Total Light Control – TLC for LED™ technology is for new outdoor lighting applications. It is engineered as a 5 Easy Pieces™ complete system from foundation to poletop designed to a customer's needs. Lights, structures, and electrical components are engineered to work together. This ensures the designed lighting gets in place and stays there over the life of the system, while also maintaining and protecting the operation environment so the components continue to function. We've included features like factory aimed luminaires, easy to reach remote drivers, integrated grounding, and surge protection to ensure the longevity of the lighting system. Musco's Light-Structure System™ is engineered as a complete system including the precast concrete base, galvanized steel pole, electrical components enclosure, wire harness and poletop luminaire assembly. This allows for installation ease and reduced time and expense. Musco's TLC for LED® luminaire is available in several wattage, Kelvin & CRI combinations to meet custom project requirements. Multiple light control visor options are available to allow for precise light control therefore dramatically reducing glare and spill. Our unique heat sink has convective air cooling design that maintains a low LED junction temperature during high wattage operation. This system includes our Control-Link® control system for remote operation and is covered by Musco's Constant 25™ product assurance and warranty program.

SportsCluster® lighting system with Total Light Control – TLC for LED™ or Total Light Control – TLC for LED™ Retrofit System technology is for outdoor and indoor lighting applications. It is a modular photometric unit, factory aimed and tested, to interface with a customer's existing structures, making an easy retrofit lighting solution. Musco's TLC for LED® luminaire is available in several wattage, Kelvin & CRI combinations to meet custom project requirements. Multiple light control visor options are available to allow for precise light control therefore dramatically reducing glare and spill. Our unique heat sink has convective air cooling design that maintains a low LED junction temperature during high wattage operation. This system includes our Control-Link® control system for remote operation and is covered by Musco's Constant 10™ product assurance and warranty program, contingent upon Musco's inspection and approval of existing structure and electrical wiring.

Control-Link® control and monitoring system offers efficient, cost-effective tools that are both cutting-edge and simple to use. Musco will have your back 24/7/365 to ensure your lights are only on when needed, keeping neighbors and taxpayers happy. Because more than anything, it's about peace of mind. The Control-Link® system provides comprehensive scheduling assistance, system monitoring, secure password-protected access, automated equipment controls, and valuable usage data.

Show-Light™ entertainment package provides a cost-effective way for you to bring professional light shows to your facility. From pre-game introductions, to halftime shows, to celebrating big plays and big wins, this special effects lighting will energize players and fans and take your game atmosphere to a new level. Special effects light shows aren't just for the pros anymore. Musco's Show-Light™ technology utilizes instant on/off and the advanced control capabilities of LED, is easy to use, and delivers both predesigned and customized light shows.

Show-Light+™ entertainment package will tap into advanced customization capabilities and more complex light shows that incorporate music along with the special effects lighting. The Show-Light+™ system is easy to use and will provide even more memorable game night experience. Light and sound shows that mirror what's seen at the biggest and best professional stadiums. The equipment you'll be supplied with, and the light shows it will deliver, are exactly the same as what we provide the NFL, MLB, NBA, and NHL customers. Musco is not responsible for obtaining rights to or any cost associated with music licenses.

Mini-Pitch System™ modular sports solution has an innovative, all-in-one design to help communities create fun and active play spaces by revitalizing public areas. Created to assist the U.S. Soccer Foundation® in providing safer places to play the game, the Mini-Pitch System™ solution is ideal for transforming abandoned courts and other underutilized areas into places where children and families can come together in the spirit of teamwork, empowerment, and physical activity. It comes as a modular system complete with lighting, fencing, goals, benches, ADA-compliant access, and lockable storage. This system is only available with the TLC for LED® lighting technology.

MuscoVision™ video system is a complete automated sports broadcasting solution that includes camera equipment, networking, streaming services, broadcast production, and distribution for watching various sporting events on a variety of platforms. It includes automated camera switching and game tracking for an enhanced broadcast experience. Also, it includes active game detection for ease of scheduling utilizing the same toolset used to schedule lighting. The customer must provide their own internet connection, install our MuscoVision™ video system equipment, and set a broadcast schedule in Musco's Control-Link® control system. Musco does the rest!

Installation services are available on a per project basis dependent on Musco's compliance with state and local licensing requirements. Labor and materials for the complete installation, including but not limited to foundations, pole erection, trenching, backfill, conduit, wire, electrical distribution and service cabinet(s) and site restoration shall utilize the current RS Means pricing, coefficient and must also include the appropriate City Cost Index. Musco Sports Lighting, LLC has a network of over 1,800 contractors around the United States of America that we utilize to install and maintain our lighting systems per the Musco Constant 25™ and Musco Constant 10™ warranty documents.

Musco Sports Lighting, LLC has over 160 Team Members dedicated to operating and maintaining customer lighting around the USA. Regionally based service technicians are available for quick responses. These Team Members are factory-trained and specialize in routine maintenance, repairs, and analysis of sports lighting systems. Our Control-Link Central™ service center is staffed 24/7/365 with trained operators whom provide scheduling and report assistance, along with one-on-one phone training. Proactive nightly testing is done to assure customer's control systems are operating properly and field operations are constantly monitored.

Along with our Lighting Services and Control-Link Central™ teams, we have a fully staffed group of internal experts including but not limited to Sales Representatives, Regional Sales Associates, Service Representatives, Part Representatives, Project Coordinators, Project Planning Specialists, Schedulers, and Engineers. We will ensure your project flows smoothly and you get the results you expect.

For your reference and more information on Musco Lighting products, please see attached product brochures. (Technical Proposal – Musco Lighting – Section 4.1.1. – Product Brochures)

**4.1.2. Differentiators.** Describe what differentiates your company's products from your competitors.

Musco's Light-Structure System™ has delivered long-term performance for thousands of customers around the world. Lights, structures, and electrical components are engineered to work together. This assures the designed lighting gets in the place and stays there over the life of the system, while also maintaining and protecting the operating environment so the components continue to function. We have included features like easy to reach remote drivers, integrated grounding, and surge protection to ensure the longevity of the LED's sensitive electronic components.

Musco's Light-Structure System™ with Total Light Control – TLC for LED™ is backed by an industry-leading 25 year warranty. Musco's Constant 25™ Product Assurance & Warranty program covers all materials and labor to maintain operation of its lighting system to original design criteria for 25 years. Specific funds are set aside to provide solid financial resources to fulfill the maintenance and warranty needs for every Musco Lighting project. Musco's industry-leading 25 year warranty has had long proven success in the marketplace since its inception in 2005.



Musco Sports Lighting, LLC has over 160 Team Members dedicated to operating and maintaining customer lighting around the USA. Regionally based service technicians are available for quick responses. These Team Members are factory-trained and specialize in routine maintenance, repairs, and analysis of sports-lighting systems. Our Control-Link Central™ is staffed 24/7/365 with trained operators whom provide scheduling and report assistance, along with one-on-one phone training. Proactive nightly testing is done to assure customers control systems are operating properly and field operations are constantly monitored.

Along with our Lighting Services and Control-Link Central™ teams, we have a fully staffed group of internal experts including but not limited to Sales Representatives, Regional Sales Associates, Service Representatives, Part Representatives, Project Coordinators, Project Planning Specialists, Schedulers, and Engineers. We will ensure your project flows smoothly and you get the results you expect.

**4.1.3. Lighting Levels.** Provide the length of time for which your lighting system's light levels are guaranteed.

As part of Musco's Constant 25™ & Constant 10™ Product Assurance & Warranty programs, Musco guarantees the light levels will not drop below the designed performance for the warranty period of the lighting system. In the case that it happens, corrective action will be taken under our industry-leading warranty programs.

**4.1.4. Point-By-Point Analysis.** Describe your computer-generated point-by-point analysis capabilities.

Musco uses a software program that generates a point by point analysis based on IES RP-6-15.

**4.1.5. Uniformity Ratios.** Describe your prescribed uniformity ratios and layout by sport and other lighting scenarios. Your response should address, but is not limited to, the ratios for football, soccer, baseball, softball, tennis, basketball (indoor & outdoor), and parking lots.

Football 2.0:1 (max/min)  
Soccer 2.0:1 (max/min)  
Baseball/Softball 2.0:1/2.5:1 (max/min)  
Tennis 2.0:1 (max/min)  
Basketball (outdoor) 2.0:1 (max/min)  
Basketball (indoor) 2.0:1 (max/min)

**4.1.6. Building Code.** Does the proposed lighting system(s) comply with International Building Code, Edition 2012, Exposure C, standard variation with a wind speed of 115 mph? Describe if your lighting system is capable of being designed to perform under higher wind speeds. ☒ Yes ☐ No

Musco Lighting provides a custom designed, engineered to order lighting system. Musco designs all projects to meet local building code & wind speed based on the project's location.

## 4.2. Manufacturing

**4.2.1. Manufacturing.** Describe your manufacturing operations including, but not limited to, any ISO certifications or operational advantages.

Musco Sports Lighting, LLC has manufacturing facilities located in Oskaloosa, IA, Muscatine, IA, Des Moines, IA, Shanghai, China and Gumi, South Korea. Musco's quality management system is based on ISO9001:2000 standard tailored to meet Musco's specific quality assurance needs.

4.2.2.	<b>Quality Control.</b> Describe your quality control and quality assurance processes and procedures.
Musco's quality management system is based on ISO9001:2000 standard tailored to meet Musco's specific quality assurance needs. The system is documented and administrated through the Quality Policy Manual.	

## Section 5. Services

### 5.1. Turnkey Capabilities

<b>Note:</b> The capabilities priced and included in <b>Attachment B – Cost Proposal</b> will be used to define the capabilities that will be offered to Equalis Group Members.	
5.1.1.	<b>Turnkey Capabilities.</b> Describe the capabilities available through your company and, if applicable, your authorized network of dealers and resellers that support your ability to provide turnkey solutions for Equalis Group Members. Identify which of those capabilities are provided by your company and which are provided by your network of dealers and resellers.
Musco Lighting provides a complete turnkey solution for our customers from start to finish. It includes, but not limited to preliminary price estimates, design & consultation services, all the way through the commissioning & post sale activities. Musco has a group of internal experts including but not limited to Sales Representatives, Regional Sales Associates, Service Representatives, Parts Representatives, Project Coordinators, Project Planning Specialists, Lighting Services team, Schedulers, and Engineers. They will ensure your project flows smoothly and the customer gets the results that they expect. Musco selects and contracts with local subcontractor organizations throughout the USA that meet our quality standards and can fulfill our time constraints to perform installation of Musco product.	

### 5.2. Installation

<b>Note:</b> The services priced and included in <b>Attachment B – Cost Proposal</b> will be used to define the services that will be offered to Equalis Group Members.	
5.2.1.	<b>Installation.</b> Is installation available as a part of your proposal? If yes, continue answering the remaining questions in 5.2. <span style="float: right;"><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</span>
Installation services are available on a per project basis dependent on Musco's compliance with state and local licensing requirements. Labor and materials for the complete installation, including but not limited to foundations, pole erection, trenching, backfill, conduit, wire, electrical distribution and service cabinet(s) and site restoration.	
5.2.2.	<b>Installers.</b> Is the installation service performed by a company owned installation team or one of your dealers or resellers? <span style="float: right;"><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</span>
As a General Contractor, Musco selects and contracts with local subcontractor organizations that meet our quality of standards and can fulfill our time constraints to perform the type of work outlined in this RFP. Musco does obtain license verification and insurance certificates for any subcontractor that is selected to perform work for us. Musco has a network of over 1,800 subcontractor organizations located throughout the USA.	
5.2.3.	<b>Qualifications.</b> Describe the qualification of your installation crews. Your response may include, but is not limited to, training and certification requirements.
Musco obtains license verification and insurance certificates for any subcontractor that is selected to perform work. Musco has a network of over 1,800 subcontractor organizations located throughout the USA.	

5.2.4.	<b>Scope.</b> Describe the type of work your installers are capable of providing during the course of installation. Your response may address, but is not limited to, work & labor associated with underground electrical feeders, ground rods, panel board, transformers, and site restoration
Installation services can include, but is not limited to foundations, pole erection, trenching, backfill, conduit, wire, electrical distribution and service cabinet(s) and site restoration.	

### 5.3. Other Services

5.3.1.	<b>Design.</b> Are design services included in your proposal? If yes, please provide a description of the service and whether it is provided by your company or one of your dealers, distributors, resellers, or contractors.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Musco has a team of in-house engineers that provide design services for our custom designed, engineered to order lighting systems.		
5.3.2.	<b>Consultation.</b> Are consulting services included in your proposal? If yes, please provide a description of the service and whether it is provided by your company or one of your dealers, distributors, resellers, or contractors.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Musco has a team of internal experts including but not limited to our Sales Representatives, Regional Sales Associates, Project Coordinators, Project Planning Specialists, Engineers, Project Managers and Technicians that are available for consultation to ensure the project flows smoothly and achieves the expected results.		
5.3.3.	<b>Training.</b> Is training included in your proposal? If yes, please provide a description of the service and whether it is provided by your company or one of your dealers, distributors, resellers, or contractors.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Musco includes training with the purchase of our products. Our Control-Link Central™ is staffed 24/7/365 with trained operators whom provide scheduling and report assistance, along with one-on-one phone training.		
5.3.4.	<b>Maintenance &amp; Repair Services.</b> Are maintenance and repair services included in your proposal? If yes, please provide a description of the service and whether it is provided by your company or one of your dealers, distributors, resellers, or contractors.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Click here to provide additional commentary, if necessary.		
5.3.5.	<b>Inspection &amp; Verification.</b> Are inspection and verification services included in your proposal? If yes, please provide a description of the service and whether it is provided by your company or one of your dealers, distributors, resellers, or contractors.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Inspection & verification of the new lighting systems will be provided by our Sales Representatives, Regional Sales Associates, Project Managers, Engineers or Technicians.		



## Section 6. Business Operations

### 6.1. Customer Service

6.1.1.	<b>Customer Service Department.</b> Describe your company's customer service department & operations. Your description may include, but is not limited to, hours of operation, number and location of service centers, parts outlets, number of customer service representatives. Clarify if the service centers are owned by your company or if they are a network of subcontractors.
Musco Sports Lighting has over 160 Team Members dedicated to operating and maintaining customer lighting around the USA. Regionally based service technicians are available for quick responses. These Team Members are factory-trained and specialize in routine maintenance, repairs, and analysis of sports-lighting systems. Our Control-Link Central™ is staffed 24/7/365 with trained operators whom provide scheduling and report assistance, along with one-on-one phone training. Proactive nightly testing is done to assure customers control systems are operating properly and field operations are constantly monitored. (Attachment: Technical Proposal – Musco Lighting – Section 6.1.13 – Musco Controls and Lighting Services Team)	
6.1.2.	<b>Complaint Resolution.</b> Describe your customer complaint resolution process. Describe how unresolved complaints are handled.
Musco Lighting will address any customer complaint issues as they arise.	

### 6.2. Order & Invoice Processing; Payment

6.2.1.	<b>Purchasing Options.</b> Describe the different channels in which this contract will be made available to Equalis Group Members. Your response should include, but is not limited to, whether your organization will serve as the single point of contact or if the contract will be made available to your dealers and reseller to serve as the single point of contact.
Musco Sports Lighting, LLC has no agents or dealers authorized to represent the company. Musco's custom designed, engineered to order lighting systems must be purchased directly from the company. Musco has a sales force of over 100 dedicated Sales Team Members throughout the United States of America.	
6.2.2.	<b>Order Process.</b> Describe your company's proposal development and order submission process.
As Musco provides a custom designed, engineered to order lighting system, our order process is also custom designed by project, scope & size of the project.	
6.2.3.	<b>Invoice Process.</b> Describe your company's invoicing process.
Musco Sports Lighting invoices our customer at the appropriate time during the project, shipment of the equipment and size and scope of the project.	
6.2.4.	<b>Payment.</b> What is your standard payment terms? What methods of payment do your company accept?
Musco's typical payment terms for a governmental or educational customer are Net 30. A service charge of 1 ½% per month (annual percentage rate of 18%) will be charged on all invoices 30 days past due. Musco's Credit Department reserves the right to adjust payment terms as needed. Musco accepts payment by check or bank transfer of funds.	
6.2.5.	<b>Financing.</b> Does your company offer any financing options or programs? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Musco Finance™ was established in 2006, it provides competitive financing solutions that enable customers to realize the benefits of Musco products and services. Hundreds of customers have used these solutions to complete their lighting projects. Musco Finance™ has provided budget-accommodating financing for governmental, commercial, and not-for-profit entities throughout the United States of America.

The municipal lease-purchase program, offered by Musco Finance™, provides the funding opportunity many public entities need for facility improvements such as sports lighting. The program provides a flexible, cost-effective means of funding essential renovations and, in many areas, may eliminate much of the time and expense associated with selling bonds for a project. A known set expense can be budgeted annually; freeing entities from budget uncertainties and lowering cash flow impact. (Attachment: Technical Proposal – Musco Lighting – Section 6.2.5 – Musco Finance Municipal Lease-Purchase Program)

### 6.3. Members Contracting for Services

**6.3.1. Customer Set Up.** Once an Equalis Group Member decides to accept your company's proposal for services as described in this RFP, what is the process for the Member to become a customer?

Once Musco provides an Equalis Group Member with a quote, we consider them a customer of Musco Sports Lighting, LLC.

**6.3.2. Customer Agreements.** Does your company have standard customer agreements? If yes, please provide copies of any standard customer agreements and provide a response to question 6.3.3. ☐ Yes ☒ No

Click here to enter response.

**6.3.3. Contracting.** What is the process for reviewing, negotiating, and finalizing any customer-specific contract terms or requirements? Approximately how long does the contracting process take to complete (i.e., secure a fully executed contract document)? What is the typical term length of your customer agreements?

Contracting requirements & time is dependent on the size & scope of the project.

### 6.4. Bonding Capabilities

**6.4.1. Bonding.** Describe your company's bonding capacity.

Please see attached letter from Musco's bonding agent, Travelers Casualty and Surety Company of America. (Attachment: Technical Proposal – Musco Lighting – Section 6.4.1 – Bond Letter)

**6.4.2. Rating.** Is your bonding obtained from a surety with an "A" rating from AM Best? ☒ Yes ☐ No

Please see attached letter from Musco's bonding agent, Travelers Casualty and Surety Company of America. (Attachment: Technical Proposal – Musco Lighting – Section 6.4.1 – Bond Letter)

## Section 7. Warranty

### 7.1. Warranty

7.1.1.	<p><b>Warranty.</b> Provide a copy of the manufacturer's warranty. If required, please attach the warranty as an attachment as instructed in <b>Section 2.3</b> of this document. Describe notable features and/or characteristics of the warranty that a public sector customer would find interesting or appealing. How long is the warranty? Please indicate, and describe if applicable, if there are any optional extended warranty coverage available to Members. How does your warranty coverage compare to that of your competitors? Pricing related to the any extended warranty options must be included in <b>Attachment B – Cost Proposal</b>.</p>
<p>Musco Sports Lighting, LLC will provide all materials and labor to maintain operation of its lighting system to original design criteria for 25 or 10 years. Musco products and services are guaranteed to perform for the customer as detailed in the Musco Constant 25™ or Musco Constant 10™ documents. Specific funds are set aside to provide solid financial resources to fulfill the maintenance and warranty needs for every Musco Lighting project.</p> <p>Under the Musco Constant 25™ or Musco Constant 10™ Product Assurance &amp; Warranty Program, Musco pays any upfront cost for shipping cost, installation cost, any associated rental equipment cost &amp; disposal cost for the replaced equipment. With Musco's TLC for LED®, there is no hour usage restriction for our Musco Constant 25™ or Musco Constant 10™ Product Assurance &amp; Warranty Program but we do ask for expected usage hours to meet design criteria of the project. (Attachment: Technical Proposal – Musco Lighting – Section 7.1.1 – Warranty)</p>	
7.1.2.	<p><b>Claims.</b> Describe your warranty claims process.</p>
<p>For customers that have purchased the control and monitoring as part of their lighting, Musco will proactively monitor for outages and make contact with the customer if one occurs. For non-monitored facilities, customers can call into Musco's Control-Link Central™ (CLC) and speak directly with someone about their claim. In either instance, our Control-Link Central™ is available 24/7/365 for any scheduling or questions.</p>	



## Section 8. Additional Features & Other Offerings

### 8.1. Additional Features

8.1.1.	<p><b>Value Add.</b> Describe any other features or capabilities relating to sports and facility lighting that would improve or enhance the Program. Your response may include, but is not limited to, ecommerce capabilities, marketing capabilities, green initiatives, and technological advancements.</p>
<p>At Musco, our approach is more than just selling and installing poles and fixtures. We are in the business of selling the right amount of light, on and off the facility, for the least amount of cost over the life of the warranty. We work closely with the owner and their consultants to gain a full understanding of the facility, its use and surroundings.</p> <p>Musco's Light-Structure System™ has delivered long-term performance for thousands of customers around the world. Lights, structures, and electrical components are engineered to work together. This assures the designed lighting gets in the place and stays there over the life of the system, while also maintaining and protecting the operating environment so the components continue to function. We have included features like easy to reach remote drivers, integrated grounding, and surge protection to ensure the longevity of the LED's sensitive electronic components.</p> <p>For over a decade, the Musco Team has been testing the LED light source and applying it on projects where it was the best choice. We have researched LED's distinctive challenges and advantages and applied our knowledge of light control to the unique characteristics of the diode, assuring the quality of lighting for which Musco is known. We have paired our expertise in controlling light with the advancing output of LED to the point that we are confident it's a cost-effective option to consider for recreational facilities. Musco creates controlled light, not floodlights.</p> <p>LED brings many benefits and new opportunities, but it's a tool, not a solution. Controlling LED's intense light source is challenging. But with Total Light Control – TLC for LED™, we are able to achieve things never before possible – from pinpoint precision, to instant on/off, to varying light levels for different needs and sport presentation theatrics (choreographed light &amp; music shows).</p> <p>The key issues in sports lighting haven't changed: generating light, projecting it onto the target, keeping it out of the neighborhood and night sky, and creating an operating environment that allows it to last in real world conditions. Musco is able to carve out the area to be lit and dramatically cut off any impact on the surrounding area. We use more of the light produced by the fixture, lose less light, and don't abuse the neighborhood.</p> <p>With cities and recreational needs growing faster than ever, it's critical to maximize the available resources and make solid decisions about managing and expanding facilities. The Control-Link® System is a reliable, cost-effective control system that helps control, monitor, and manage recreation facility lighting. It can control existing lighting systems and other electrically-operated equipment. Whether for new lighting systems or to upgrade existing lights, the Control-Link® system includes our Control-Link Central™ team, the on-site Control-Link® equipment, and an industry-leading warranty. Our exclusive Control-Link Central™ team is staffed 24/7/365 to assist with your scheduling and reporting needs.</p> <p>Musco's Light-Structure System™ with Total Light Control – TLC for LED™ is backed by an industry-leading 25 year warranty. Musco's Constant 25™ Product Assurance &amp; Warranty program covers all materials and labor to maintain operation of its lighting system to original design criteria for 25 years. Specific funds are set aside to provide financial resources to fulfill the maintenance and warranty needs for every Musco Lighting project.</p> <p>Musco is committed to excellence and leadership in the protection of the environment, and the implementation of sustainable guidelines. We minimize the emissions to air, water, and land through programs to reduce pollution at its source and will conserve energy through the use of energy efficient lighting systems.</p>	

Product:

- Musco's Green Generation Lighting® (HID) and TLC for LED® technology are 30 to 80 percent more energy efficient than traditional lighting equipment.
- Customized optics direct light onto the desired surface, reducing wasted light into the surrounding area.
- Control-Link® system provides remote on/off control, allowing customers to schedule our light systems to help maximize energy efficiency.
- Eases pollution by eliminating or reducing the use of hazardous substances and reducing greenhouse gas emissions.

Manufacturing:

- On-site waste management includes recycling manufacturing scrap materials, wooden skids, paper and other packaging materials.
- Packaging of our Light-Structure System™ contains between 30 to 50 percent recycled material.
- Reusable packaging is used to move components from original fabrication through the complete manufacturing process.
- During the spot maintenance and complete system lamping provided by Musco, all HID lamps are recycled to salvage both the mercury and glass.
- Reuse water during the manufacturing process and conserve water when possible.

Office:

- Electronic components that are not re-usable due to equipment failure or are below minimum requirements are recycled through an E-Waste Facility.
- Use geothermal heating and air conditioning to minimize energy consumption.
- Our facilities have automatic toilets and faucets to minimize water usage.

Musco has several brochures available to market our product to Equalis Group members. A sampling of what we can supply is listed below and attached (Technical Proposal – Musco Lighting – Section 8.1.1. – Brochures).

- World Class Leaders brochure
- Always Ready to Play brochure
- Light-Structure System™ with Total Lighting Control – TLC for LED® brochure
- Retrofit Lighting Solutions TLC for LED® brochure
- Large Area Lighting brochure
- Indoor Sports Lighting Solutions brochure
- Musco Control Solutions brochure
- MuscoVison™ Automated Sports Broadcasting brochure
- Mini-Pitch System™ Modular Sports Solution brochure

Musco Sports Lighting markets our products through tradeshow, conventions, direct mail and advertising. Musco does targeted, personalized marketing promotions to specific customer groups and would be able to provide information on Equalis Group as appropriate in those promotions. Our National Sales Team would promote Equalis Group by informing qualified customers of this available resource for their use in purchasing their sports lighting system.

Over Musco's 44 years, we have developed several partnerships, including but not limited to Babe Ruth League®, International Dark-Sky Association (IDA), Little League® Baseball and Softball Programs, Minor League Baseball™ (MiLB), National Interscholastic Athletic Administrators Association® (NIAAA), National Junior College Athletic Association® (NJCAA), U.S. Soccer Foundation®, USA Football® and the United Soccer League™ (USL).



Musco regularly provides updates about our team, partnerships, product, services and projects via our web site ([www.musco.com](http://www.musco.com)) & social media accounts (Twitter, Facebook & LinkedIn). In addition to the company ran social media accounts, our Sales Representatives each have a Twitter account that they post updates to on a regular basis.

Due to Musco's custom designed, engineered to order lighting systems, our products and services are not available through any e-procurement ordering process.

## 8.2. Additional Offerings

8.2.1.

***Other Capabilities.*** Identify and describe any other products and/or services your company offers outside the primary scope of this RFP that can be made available to Equalis Group Members. Include proposed pricing for any additional products or services your company offers in **Attachment B – Cost Proposal** in accordance with the directions provide in **RFP Section 2.3 Cost Proposal & Acceptable Pricing Formats.**

At this time, Musco does not have additional offerings but reserve the right to present any future products or services during the length of the contract.



## Section 9. Partnering with Equalis Group

### 9.1. Bidder Organizational Structure & Staffing of Relationship

9.1.1.	<b>Primary Point of Contact for Equalis Group.</b> Who is the individual that will serve as Equalis Group's primary point of contact for developing and implementing a go-to-market strategy to increase Program participation by local governments and educational institutions across the country? Include the individual's name, title, a description of their role, and a resume or biography.
Amanda Hudnut Funding Resource Specialist 21 year Musco Team Member	
9.1.2.	<b>Key Staff.</b> Provide the names, roles, and tenure with the company of other key staff members who will be working with Equalis Group in such areas as sales management, field sales, marketing, collateral development and approval, accounting, and reporting.
<p><b>Sales Management</b>          Doug Miller          Regional Sales Manager          20 year Musco Team Member</p> <p>Chad Richmond          Regional Sales Manager          15 year Musco Team Member</p> <p><b>Contract Administration/Marketing</b>          Amanda Hudnut          Funding Resource Specialist          21 year Musco Team Member</p> <p>Kiley Broadway          Customer Development Manager          13 year Musco Team Member</p> <p><b>Accounting</b>          Margie Greenhalgh          Accounting Manager          16 year Musco Team Member</p> <p><b>Reporting</b>          Melissa McNally          Sales Administrator          19 year Musco Team Member</p>	
9.1.3.	<b>Organizational Chart.</b> Provide an organizational chart describing the roles and reporting relationships of senior management and departments or divisions within your company.
Musco Sports Lighting has approximately 1,100 Team Members located in the United States of America and approximately an additional 200 located at our international locations. Within the USA, Musco's Sales Teams are organized as 6 regions (Central, Great Plains, Northeast, Southeast, Southwest and West), Key Accounts and our Transportation & Infrastructure division. Our Sales Teams are	

supported by our fully staffed group of internal experts including but not limited to Service Representatives, Parts Representatives, Project Coordinators, Project Planning Specialists, Lighting Services Teams, Schedulers and Engineers. Our Musco Team Members ensure the project flows smoothly and the customer gets the results that they expect. (Attachment: Technical Proposal – Musco Lighting – Section 9.1.3. – USA Sales Team Org Chart)

**9.1.4. Sales Organization.** Provide a description of your sales organization, including key staff members, the size of the organization, in-house vs. third-party sales resources, geographic territories, vertical market segmentation, segmentation by account size, inside sales, field sales, and how sales representatives are compensated (e.g., on gross revenue, profitability, or some other formula).

Musco has a sales force of over 100 dedicated Sales Team Members throughout the United States of America. Musco has sales offices conveniently located around the United States of America. These Team Members are employed by Musco Sports Lighting, LLC. Musco Sports Lighting has no agents or dealer authorized to represent the company. Musco's custom designed, engineered to order lighting systems must be purchased directly from the company.

## 9.2. Contract Implementation Strategy & Expectations

**9.2.1. Five (5) Year Sales Vision & Strategy.** A piggybackable Master Agreement with Equalis Group provides your company with an opportunity to win new and renew existing local government and educational institution business through an exemption to the traditional bid/RFP process. In other words, public sector entities that want to purchase your company's products and services can do so without having to conduct a bid or RFP. Describe your company's vision and strategy to leverage a piggybackable Master Agreement with Equalis Group to win and retain local government and educational institution business over the next five (5) years.

Within Musco's sales process we present various purchasing options and have been highly successful in guiding our customers to cooperative purchasing organizations. Musco envisions Equalis Group providing a purchasing solution for sports lighting, transportation and infrastructure markets.

**9.2.2. Driving Program Participation & Revenue.** What geographies and public sector vertical markets will be targeted and in what timeframe?

Musco will target our national markets with an Equalis Group contract and that will begin immediately on execution of the official contract documents.

**9.2.3. Master Agreement Deployment with Sales Team.** How will the piggybackable Master Agreement be deployed with your public sector sales team?

Our National Sales Team Members will be notified via company communication from our Funding Resource Specialist and Sales Management Teams.

**9.2.4. Sales Team Incentives.** How will your sales team be incentivized to leverage the Equalis Group piggybackable Master Agreement when pursuing public sector business?

Musco does not have a specific incentive program that will be related to Equalis Group or any of our currently awarded cooperative contracts.

**9.2.5. Revenue Objectives.** What are your revenue objectives in each of the five (5) years of the piggybackable Master Agreement?



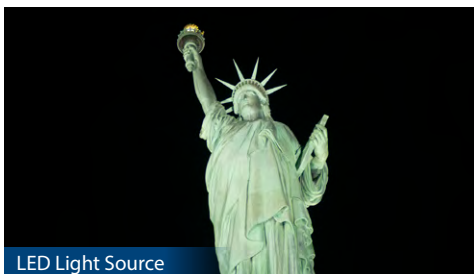
Musco Sports Lighting, LLC is a privately held company and does not release our financial information.

### 9.3. Administrative Fee & Reporting

9.3.1.	<b>Administrative Fee.</b> Equalis Group generates revenue as a percentage of the Winning Supplier's revenue from local government and educational institutions purchasing products and services from Winning Supplier through the piggybackable Master Agreement between the Winning Supplier and Equalis Group. The Administrative Fee is designed to align the interests of the Winning Supplier and Equalis Group – Equalis Group only generates revenue when the Winning Supplier generates revenue based on Program utilization by current and future Members. The Administrative Fee for this Program is two percent (2%) of the Winning Supplier's Program revenue, payable upon invoice issued by the Winning Supplier to participating Equalis Group Members. Confirm that, if selected as the Winning Supplier of this RFP process, Bidder agrees to this Administrative Fee structure.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Musco proposes a 1% administrative fee for an Equalis Group contract. This will allow Musco to be more competitive in the market place.		
9.3.2.	<b>Sales &amp; Administrative Fee Reporting.</b> Equalis Group requires monthly reports detailing sales invoiced the prior month and associated Administrative Fees earned by the 15 <sup>th</sup> of each month and reports detailing the prior calendar year's sales invoiced and Administrative Fees earned within thirty (30) days following the end of the calendar year. Confirm that your company will meet or exceed this reporting requirement. If your company cannot meet this reporting requirements schedule, explain why and propose an alternative time schedule for providing these reports to Equalis Group.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Musco proposes a quarterly reporting schedule for an Equalis Group contract.		

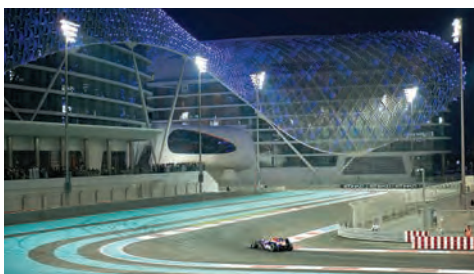


## Company Profile

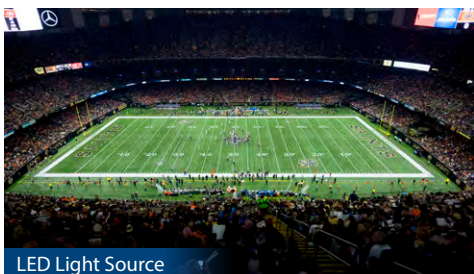


LED Light Source

Statue of Liberty National Monument  
New York, New York, USA

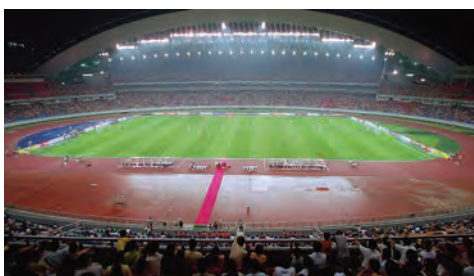


Yas Marina Circuit  
Grand Prix Racing  
Abu Dhabi, UAE



LED Light Source

Mercedes-Benz Superdome  
New Orleans Saints  
New Orleans, Louisiana, USA



Chongqing Olympic Sports Center  
Chongqing Lifan F.C.  
Chongqing, China



LED Light Source

Vancouver International Airport  
Vancouver, BC, Canada

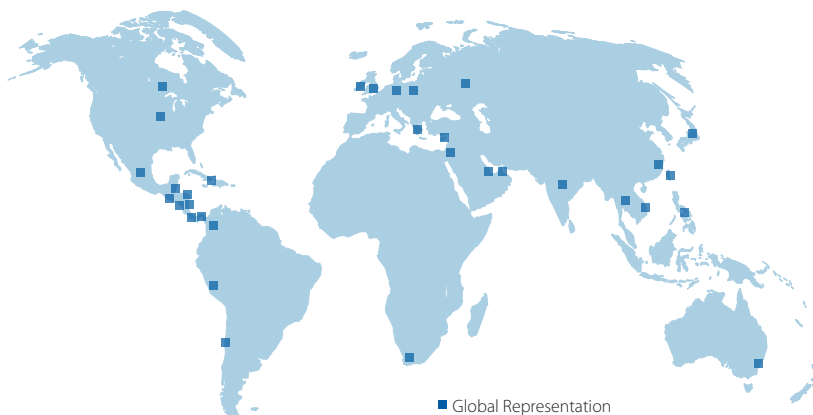
## Introduction

Since 1976, Musco Lighting has specialized in the design and manufacture of sports and large-area lighting with innovations in glare reduction and light control responsible to the needs of facility owners, users, neighbors, and the night sky. Musco's Total Light Control – TLC for LED™ technology delivers a level of light control and uniformity that can't be matched, and is the solution of choice for neighborhood Little League® fields, collegiate and professional stadiums and arenas, international airports, rail yards, the Olympic Games, iconic landmarks, and some of the largest ports around the world. Musco has a global team of experts that partner with customers to plan, complete, and maintain a cost-effective, trouble-free lighting solution for their facility.

**Headquarters:** Oskaloosa, Iowa, USA

**Manufacturing:** Muscatine, Iowa USA; Shanghai, China; Gumi, South Korea

**Global Representation:** Australia, Belize, Canada, Caribbean Islands, Chile, China, Colombia, Costa Rica, Cyprus, El Salvador, Germany, Greece, Guatemala, Honduras, India, Ireland, Japan, Jordan, Mexico, Nicaragua, Panama, Peru, Philippines, Poland, Qatar, Russia, South Africa, South Korea, Taiwan, Thailand, United Arab Emirates, United Kingdom, United States, Vietnam



■ Global Representation

## Special Projects

- Olympic Games — Rio, 2016; Sochi, 2014; London, 2012; Vancouver, 2010; Athens, 2004; Sydney, 2000; Atlanta, 1996; Los Angeles, 1984
- "Battle": Tiger Woods Golf, 2000–2004
- ESPN Wide World of Sports Complex
- Daytona International Speedway
- Losail International Circuit
- Yas Marina Circuit
- Bahrain International Circuit
- Churchill Downs
- Wimbledon Centre Court
- Madison Square Garden
- Mercedes-Benz Arena, Shanghai
- Mercedes-Benz Arena, Berlin
- Purcell Pavilion, University of Notre Dame
- Munn Ice Arena, Michigan State University
- AT&T Center, San Antonio Spurs
- Emirates Stadium, Arsenal F.C.
- Twickenham Stadium, England National Rugby
- Tianjin TEDA Football Stadium, Tianjin TEDA F.C.
- Citi Field, New York Mets
- NRG Stadium, Houston Texans
- Nationals Park, Washington Nationals
- Dodger Stadium, Los Angeles Dodgers
- Comerica Park, Detroit Tigers
- Lamade Stadium, Home of the Little League® World Series
- Super Bowls XVII, XIX, XXI, XXVII, XXX, XXXV, XXXVIII, XL, XLII, XLIII, XLIV, LI
- ESPN X Games
- San Francisco-Oakland Bay Bridge East Span
- Statue of Liberty
- The White House
- Mount Rushmore National Memorial
- McCarran International Airport
- DP World Jebel Ali Port Terminal 2

*continued on back*



[www.musco.com](http://www.musco.com) • [lighting@musco.com](mailto:lighting@musco.com)

## Company Profile

### Major Innovations

- 1982** “The night the lights went on at Notre Dame Stadium,” said Keith Jackson, broadcaster, made television history by taking sports lighting on the road with Musco mobile lighting systems for broadcast of the Notre Dame vs. Michigan prime time college football game.
- 1987** Made significant technical advancements in providing affordable light control with Level-8™ and Total Light Control™ systems.
- 1991** Introduced the industry’s first sports-lighting system complete from foundation to poletop: Light-Structure System™.
- 1992** Revolutionized NASCAR broadcasts by making night racing at the Winston Cup level possible. Mirtran™ systems were first used at Charlotte Motor Speedway and as of 2017, are in place at 20 speedways and racetracks, including the Daytona International Speedway and the Bahrain International Circuit.
- 1996** Introduced cost-effective, quality lighting for special effects and dramatic player introductions in large indoor arenas. ShowLight™ systems were first used at Charlotte Coliseum and are installed throughout the U.S., England, and Ireland.
- 1999** Introduced technology to dramatically advance on/off capability and facility management. Control-Link® system allows facility managers to control their lighting systems remotely as well as provide critical management reports.
- 2005** Revolutionized the sports lighting industry with the introduction of Green Generation™ technology. This system reduces energy consumption by half, spill light by 50% and includes maintenance & relamping for 25 years. Musco’s Constant 25™ product assurance and warranty program guarantees the system will perform at the designed light levels for the duration of the warranty.
- 2008** Installed a cutting-edge lighting system using LED technology in Washington D.C. at the White House. This system dramatically reduced energy consumption by 87%, while providing a clean, color accurate light.
- 2013** Matched its proven system design and application expertise with the evolving LED technology to provide custom lighting solutions for several major arenas and the East Span of the San Francisco-Oakland Bay Bridge.
- 2016** Introduced TLC for LED™ technology, delivering to customers light control and uniformity never before possible, while virtually eliminating glare and significantly improving efficiency. The system is backed by a 25-year parts and labor warranty.

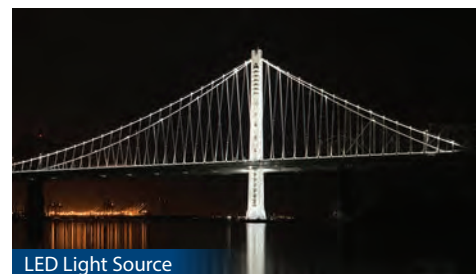
### Television Credits

ABC, CBS, NBC, TBS, TNN, ESPN, ESPN2, FOX, FoxSports, SkyTV, CBC, BTN, ESPNU, Longhorn Network, and Channel 9 (Australia) have relied on Musco to provide quality lighting to meet broadcast requirements.



LED Light Source

Xcel Energy Center  
St. Paul, Minnesota, USA



LED Light Source

San Francisco-Oakland Bay Bridge  
Oakland, California, USA



LED Light Source

Twickenham Stadium  
England National Rugby  
Twickenham, United Kingdom



02 Ski and Resort  
Taebaek-si, Gangwon-do, South Korea




DP World Jebel Ali Terminal 1  
Dubai, UAE

Musco Sports Lighting, LLC has contractor licenses in the following States:

State	License Number	Type	Term	Expiration
Alabama	38480	General Contractor	1 year	4/30/2021
Alabama	1369	Electrical Contractor	1 Year	12/30/2020
Arizona	164216	Electrical	2 years	4/30/2021
Arkansas	328230521	General Contractor	1 year	5/31/2021
California	797757	Electrical	2 years	2/28/2022
District of Columbia	70106835	General Contractor	2 years	7/31/2022
Florida	ECA000891	Electrical Contractor	2 years	8/31/2022
Florida – Brevard County	EL03442	Electrician Journeyman	1 year	8/31/2020*
Georgia	EN216016	Electrical Contractor	1 year	6/30/2022
Idaho	31579	Electrical Contractor	1 year	12/31/2020
Idaho	31531	Public Works	1 year	12/31/2020
Idaho	25773	Master Electrician	1 year	3/31/2022
Indiana	1079	Contractor	1 year	11/15/2020
Iowa	EL000185EC	Electrical Contractor	2 year	12/31/2022
Iowa	C093887	Contractor	1 year	10/5/2020
Iowa	EL060764MA	Master Class A	2 year	12/31/2022
Louisiana	18243	Electrical	1 year	10/11/2020
Maryland	30256582	Construction	1 year	4/30/2021
Minnesota	EA673399	Electrical Contractor – Class A	2 years	2/29/2022
Minnesota	AM672536	Master A Electrician	2 years	2/28/2021
Mississippi	20092-MC	Electrical Contractor	1 year	7/25/2021
Montana	162133	Contractor Registration	2 years	5/1/2021
Nebraska	21967	Contractor Registration	1 year	10/1/2020
New Mexico	372271	Electrical	2 years	11/30/2020
North Carolina	U.11174	Electrical Contractor	1 year	12/31/2020
North Carolina	76348	General Contractor	1 year	12/31/2020
North Dakota	43962 Class A	General Contractor	1 year	3/1/2021
Oregon	182477	Construction	2 years	6/9/2022
Rhode Island	34588	Contractor Registration	2 years	3/1/2021
South Carolina	CLM.103943	Contractor	2 years	10/31/2021
South Dakota	EC 3023	Electrical Contractor	2 years	6/30/2022
Tennessee	45527	Electrical	2 years	5/31/2021
Utah	9181121-5501	Contractor	2 year	11/30/2021
Utah	8926662-5502	Master Electrician	2 year	11/30/2020
Virginia	2705 061726A	Electrical	2 years	4/30/2021
Virginia	2710024100	Tradesman		9/30/2022
Washington	CC MUSCOSL992JB	General Construction	2 year	7/10/2021
Washington	EC MUSCOSL888BD	Electrical Contractor	2 years	1/7/2022
West Virginia	WV050531	Electrical Contractor	1 year	3/7/2021
West Virginia	M0068BM0918	Masters Electrician	1 year	6/30/2021

\*Renewal has been applied for





A contractor license is required to act as a General Contractor in these states. Musco Sports Lighting, LLC has applied for a contractor license in the State of Nevada. The remaining states not listed, do not require a contractor license for the installation of sports lighting equipment.

Introducing  
**TLC<sup>®</sup> for LED**  
Total Light Control<sup>™</sup>



We Make It Happen.<sup>®</sup>

# TLC<sup>®</sup> for LED<sup>®</sup>

## Total Light Control<sup>™</sup>

Continuing the commitment to excellence...

Keeping good lighting affordable...

Guaranteed for 25 years, from foundation to poletop.

Light-Emitting Diode (LED) is a new tool but the issues for sports lighting are the same. For nearly a decade, the Musco Team has been testing the LED light source and applying it on projects where it was the best choice. While LED saved energy, for a typical recreational facility the hours of operation weren't great enough to offset the higher cost.

We've researched LED's distinctive challenges and advantages and applied our knowledge of light control to the unique characteristics of the diode, assuring the quality of lighting for which Musco is known.

We've paired our expertise in controlling light with the advancing output of LED to the point where we're confident it's a cost-effective option to consider for recreational facilities. With our patented BallTracker<sup>™</sup> technology, in-flight balls "pop" against night skies so that tracking the ball is easier than ever before.

The result is a system that makes Musco's great lighting even better.

### ***Better for players...***

who want to perform their best and be able to track the entire flight of the ball.

### ***Better for neighbors...***

who don't want glare in or around their homes or lights left on when not in use.

### ***Better for the night sky...***

with bright, uniform light directed onto the field and not spilling above it.

### ***Better for your budget...***

an affordable system that's built to last and control operating costs.

### ***And...you can mark maintenance off your list for 25 years!***

The Musco Team looks at the combination of issues to achieve the best solution to meet your needs—from structures, to quality of on-field light, to off-site impact, to energy and costs.



# Control

from foundation to poletop...

from the light source to the field,  
preserving the night sky...

assuring the results you expect,  
day 1... year 1... and for 25 years.



# Still Light-Structure System™...

5 Easy Pieces™ complete from foundation to poletop.

Our Light-Structure System™ has delivered long-term performance for thousands of customers around the world.

Lights, structures, and electrical components are engineered to work together. This assures the designed lighting gets in place and stays there over the life of the system, while also maintaining and protecting the operating environment so the components continue to function.

We've included features like easy to reach remote drivers, integrated grounding, and surge protection to ensure the longevity of the LED's sensitive electronic components.

The Light-Structure System™ adapts to support both LED and metal halide light sources.

## 25 years of proven performance



Control  
from the foundation to the poletop.



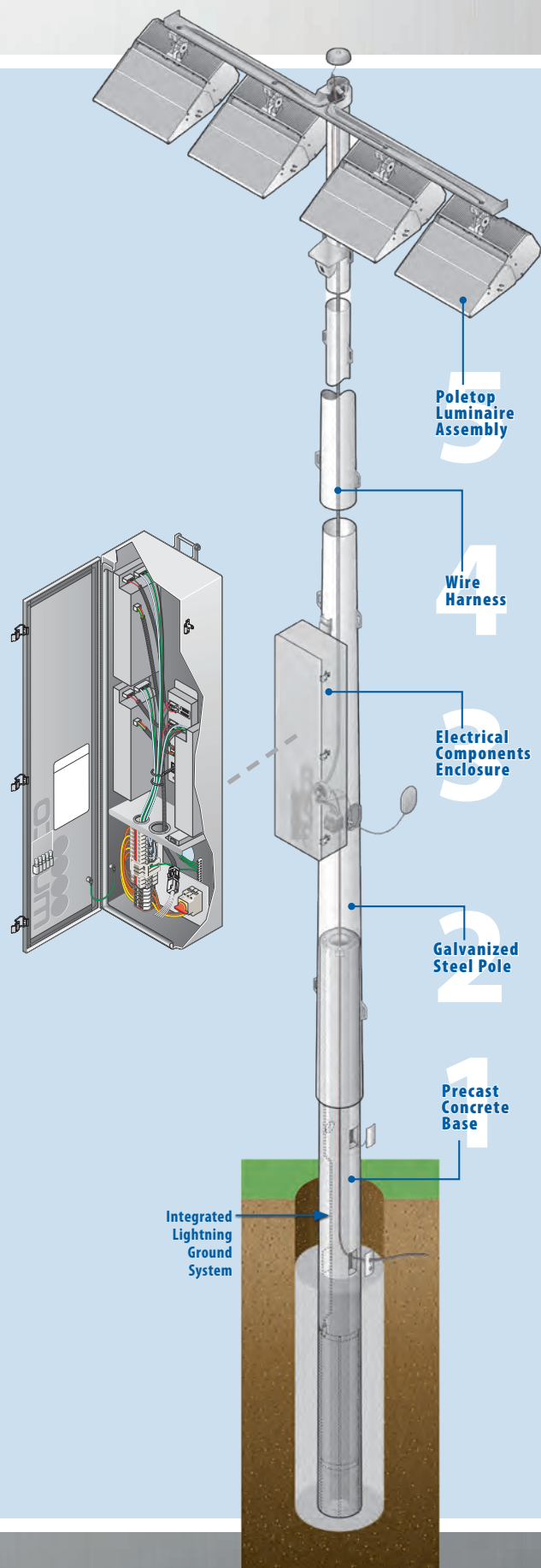
**TLC for LED®**  
Total Light Control™



Other Light Source Option  
**Green Generation® Lighting.**  
Metal Halide  
10 year warranty

*"LEDs must be carefully integrated into lighting fixtures. The efficiency of a poorly designed fixture that uses even the best LEDs will be only a fraction of what it would be if the fixture were well-designed, and the design can also affect lumen maintenance."*

— U.S. Department of Energy  
[www.energy.gov/eere/ssl/led-basics](http://www.energy.gov/eere/ssl/led-basics)





# Musco can light a ballfield better than ever.

## We create controlled light, not floodlights.

An LED floodlight is a serious step backward when it comes to the quality of light on your field. It may flood light into the neighborhood, into the night sky, and into the eyes of players.

### New Tool

LED brings many benefits and new opportunities, but it's a tool, not a solution. Controlling the LED's intense, "rifle shot" of light is challenging. But with Total Light Control—TLC for LED®, we're able to achieve things never before possible—from pinpoint precision, to instant on/off, to varying light levels for different needs and sports presentation theatrics.

### Same Issues

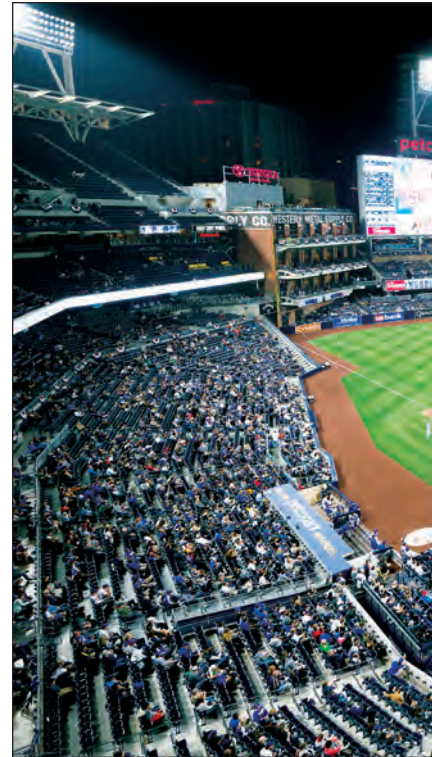
The key issues in sports lighting haven't changed: generating light, projecting it onto the target, keeping it out of the neighborhood and night sky, and creating an operating environment that allows it to last in real world conditions. Musco is able to carve out the area to be lighted and dramatically cut off any impact on the surrounding area. We use more of the light produced by the fixture, lose less light, and don't abuse the neighborhood. Our patented BallTracker™ light management technology puts vertical light precisely where it is needed. BallTracker minimizes impact on the night sky while lighting the underside of aerial balls, making night-time tracking easier than ever before.

## When you walk onto a Musco-lighted field, it just looks better.

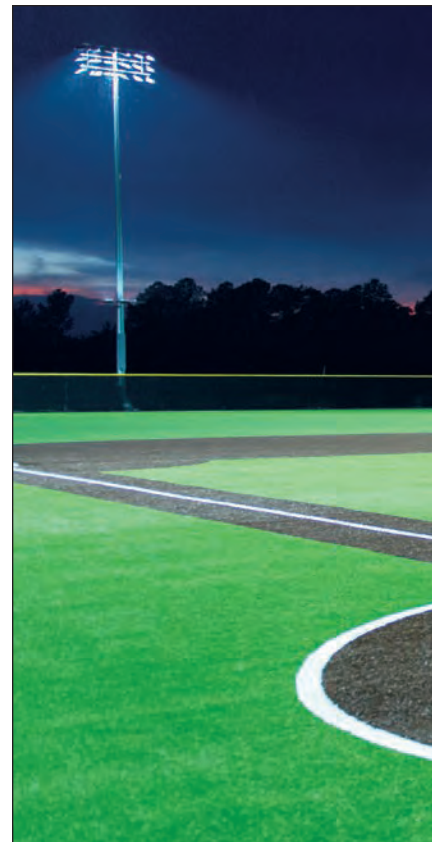
*"When you stand at home plate and look out to center field, there's no glare, but the field is totally bright and you see how the white of the ball pops, it looks amazing."*

— Tyson Kimm  
Vice President of Perfect Game USA,  
a major tenant at LakePoint Sports Community

Control  
from the light source to the field.



San Diego Padres Petco Park · San Diego, California, USA



LakePoint Sports Community · Emerson, Georgia, USA



. for players, fans, and TV cameras.



Theatrics and special effects enhance fan and TV experience.



Mount Rushmore - Keystone, South Dakota, USA

Pinpoint control from 1,100 feet away highlights the target area while preserving surrounding darkness.



University of Notre Dame - Notre Dame, Indiana, USA

Sensational event lighting with dimming saves energy for high-usage, multi-use venues.



With patented BallTracker™ technology, players enjoy quality lighting, no glare, and better ability to track the entire flight of the ball.

# The neighbors will love it.

Musco cares as much about preserving darkness as it does about creating light.

Emitting light is easy. But LED fixtures that can't effectively control the light being emitted brings the unintended consequences of abusive glare for players and neighbors, and wasteful spill into the night sky.

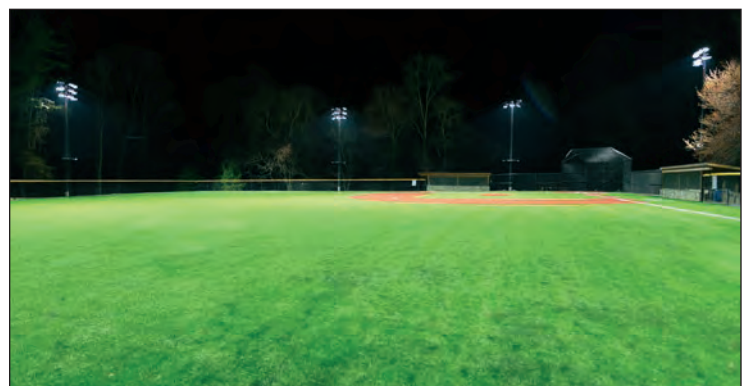
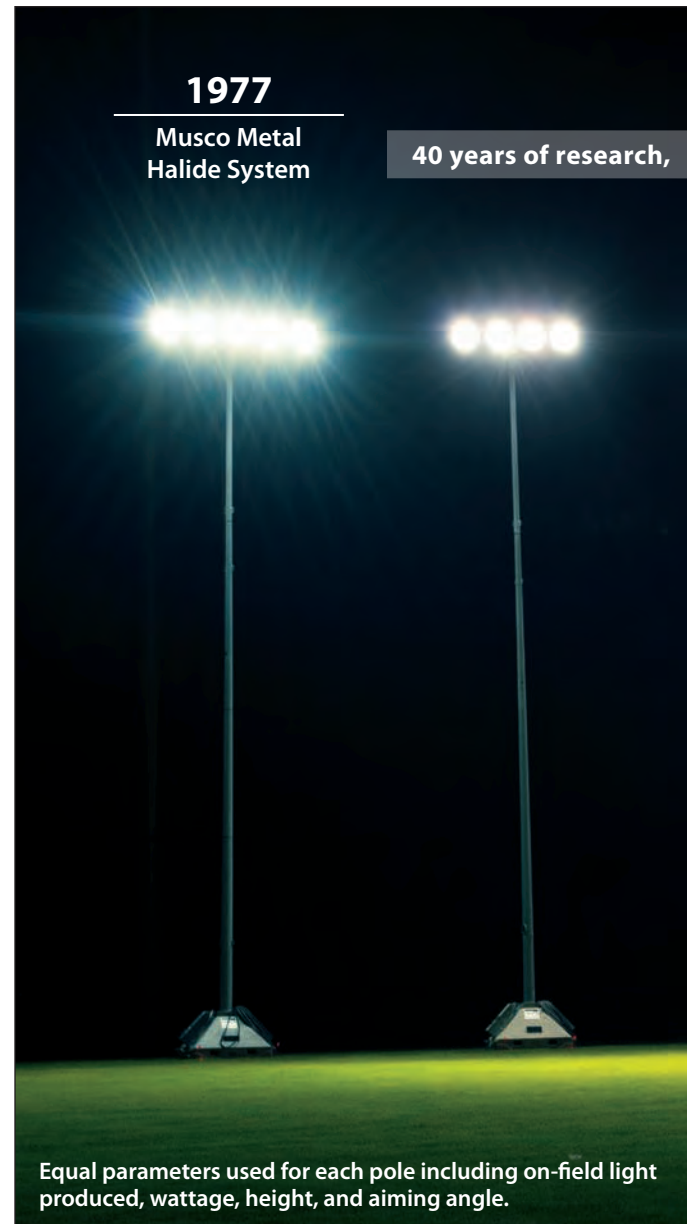
With Musco's Total Light Control—TLC for LED®, we've taken LED to a level of performance and precision never before seen in sports lighting. It means no disruptive glare into nearby homes and the preservation of dark skies above.

And it opens up new opportunities for where fields can be located within a community, and for existing fields that, until now, weren't able to install lights because of community push back.

**Control**  
preserving the night sky.

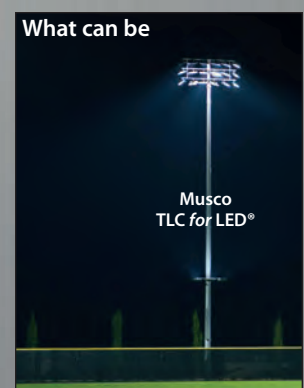
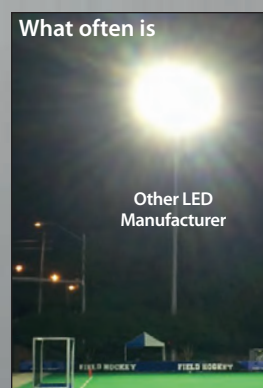
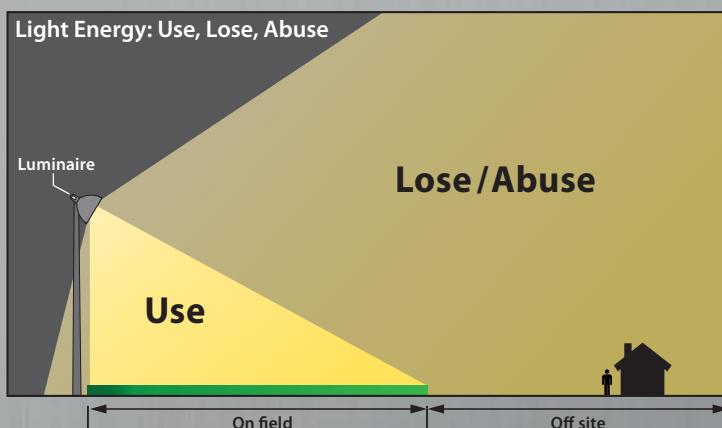
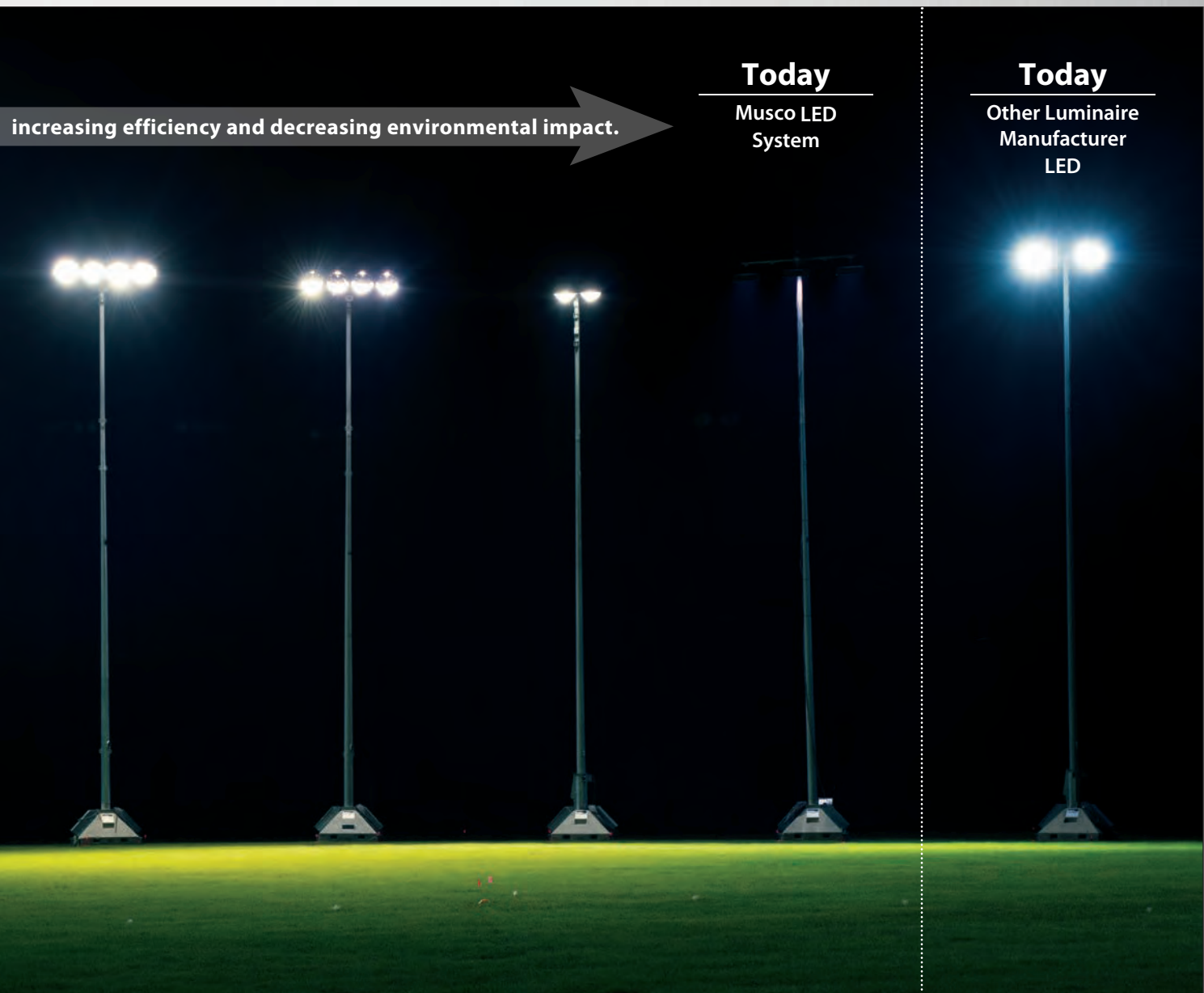
*"Glyndon Park is in a naturally wooded residential area. We didn't want to illuminate the homes of neighbors in the area. I initially wasn't supportive of putting in traditional lights. The product Musco has developed allows us to light this field, yet light nothing else around it."*

— Cathy Salgado,  
Parks and Recreation Director, Vienna, VA



Glyndon Park Little League, Vienna, Virginia





# And, your field is always ready to play.

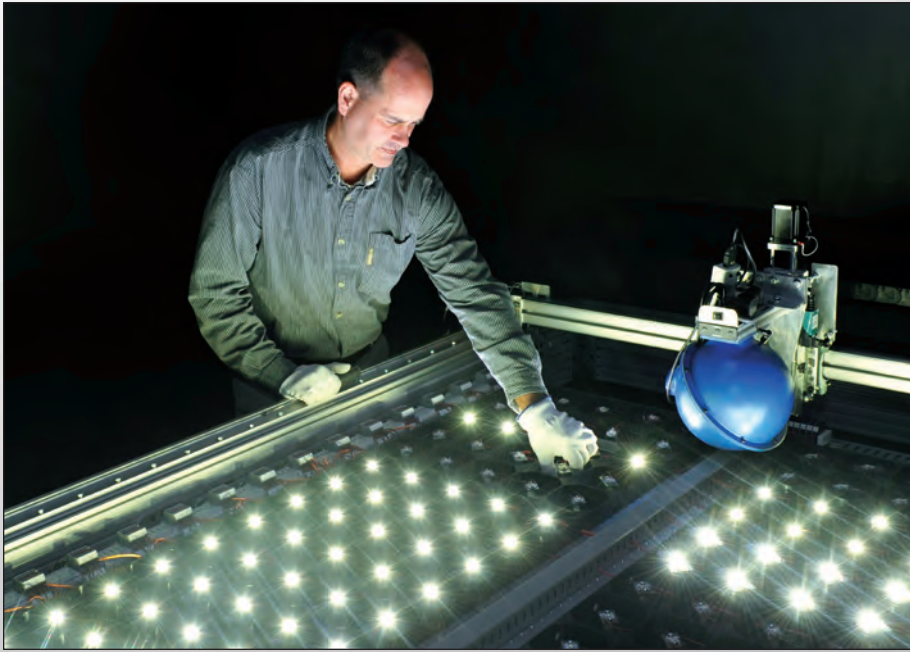
## Here's a look at what the Musco Team has done in the last year as a partner in service to customers like you...

- Turned lights on and off remotely for more than 5.5 million games and events
- Conducted routine inspections and maintenance at over 11,000 fields
- Taken more than 350,000 calls, answering questions and helping with scheduling
- Carried out group lamp replacements on more than 30,000 metal halide fixtures
- Traveled enough miles servicing fields to circle the equator 24 times

## And here's what our customers enjoy for 25 years...

***Peace of mind for 9,125 days*** knowing that if a problem arises, we'll be there, and a budget with virtually ***zero dollars spent on maintenance, increased staff productivity*** resulting from not having to worry about managing your lights, plus ***restful nights***, free from midnight calls from unhappy neighbors about lights left on.

**Control**  
assuring the results you expect.



We do the R&D to create it. We customize and apply solutions to your facility.

*"Musco called to let us know there was an issue before we knew we had a problem."*

— Stephen Cooke, CPRP, CYSA  
Greenville County Recreation Athletics Manager, Taylors, SC



We're on the road to support it for 25 years.

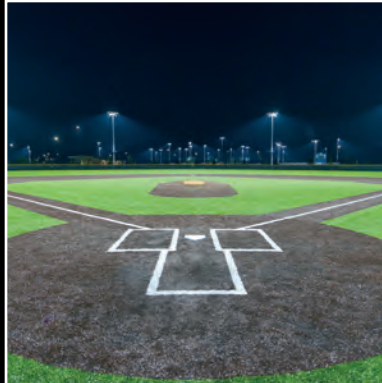


We provide 24-7 Control-Link® support to monitor and operate your facility.



From metal halide to LED,  
Musco's Light-Structure System™ performs  
in real world conditions **for 25 years, guaranteed.**  
**We Make It Happen.**





# Control

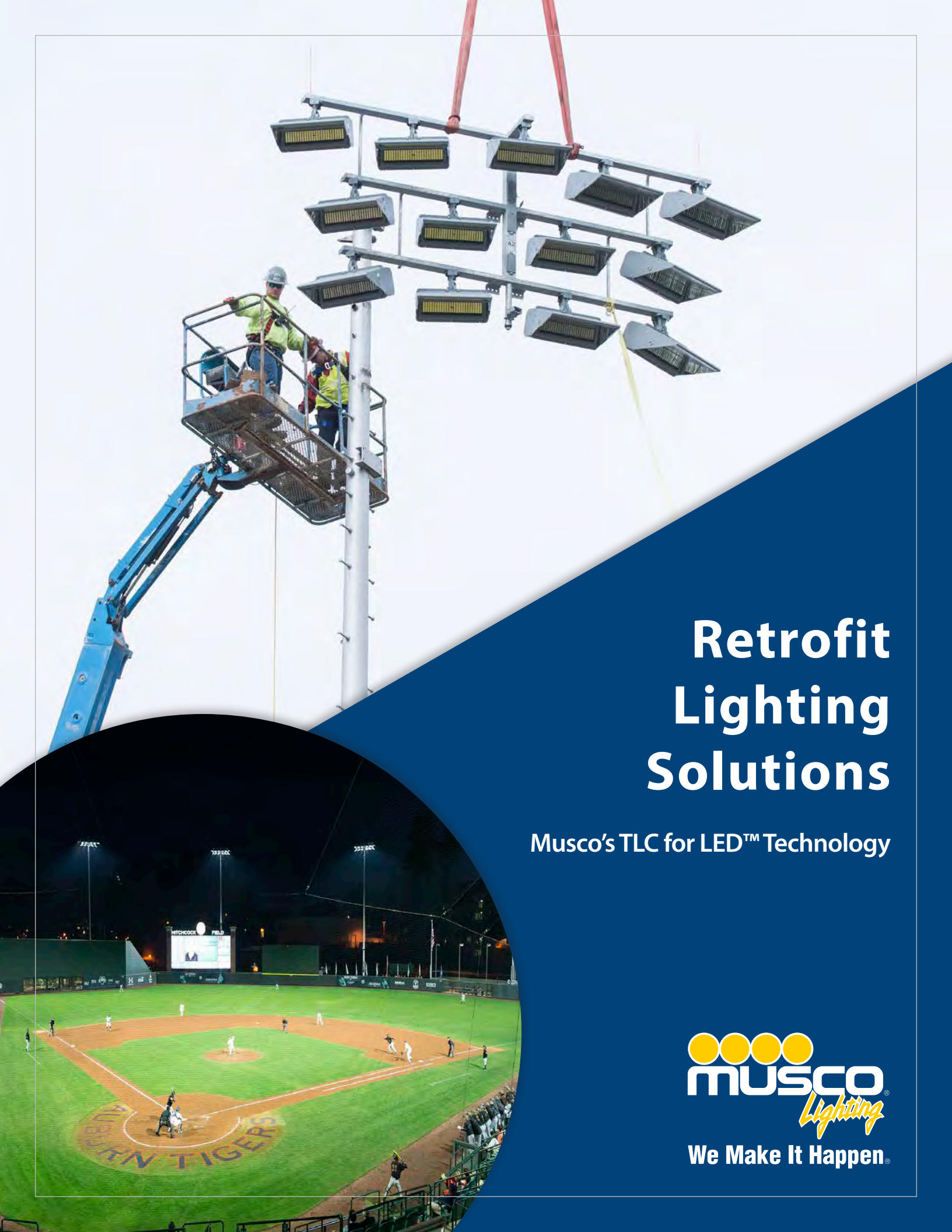
from foundation to poletop...

from the light source to the field,  
preserving the night sky...

assuring the results you expect,  
day 1... year 1... and for 25 years.



**We Make It Happen®**



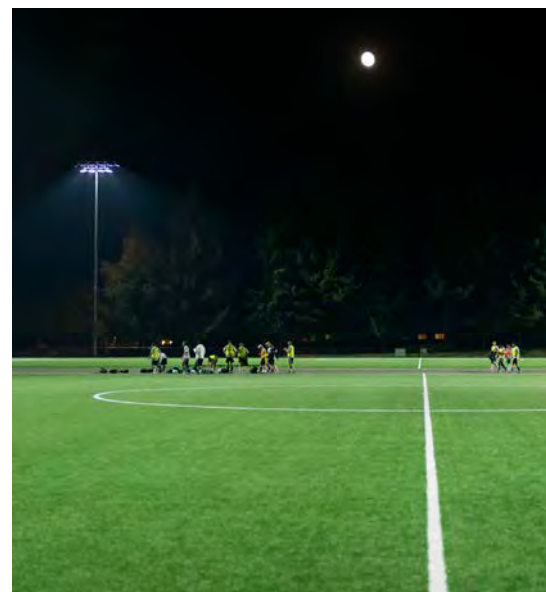
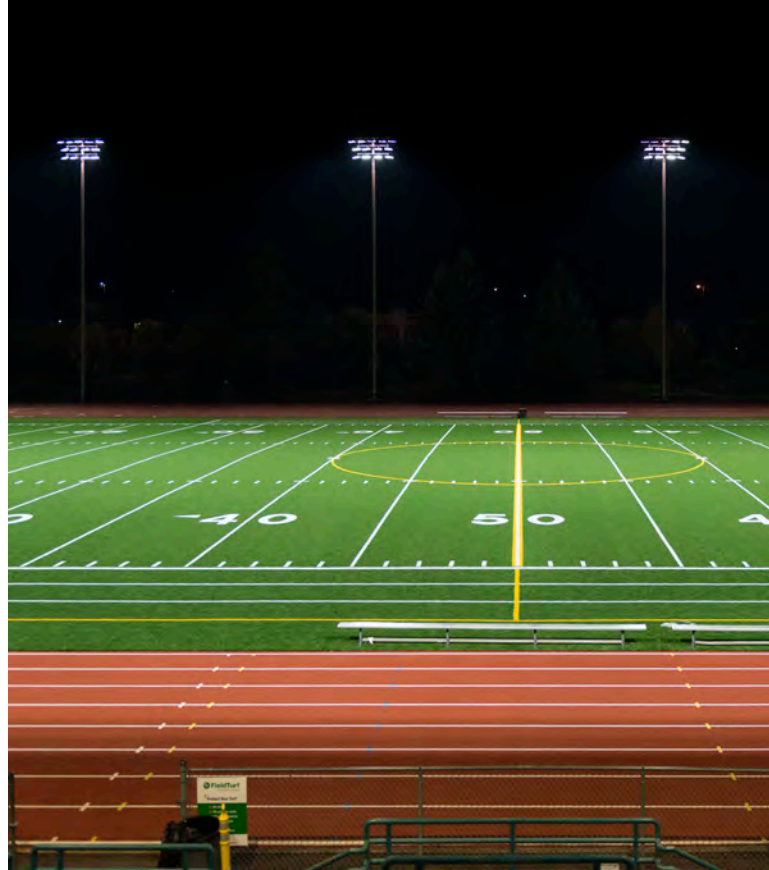
# Retrofit Lighting Solutions

Musco's TLC for LED™ Technology



**We Make It Happen.**









## A Proven Retrofit System

The quality of LED sports lighting is only as good as the system that applies it. Across the country, and around the world, sports venues of all sizes are discovering this every day.

At Musco, we're using our more than 40 years of experience in light and glare control to take advantage of the unique characteristics of the LED source. As a result, our system-based TLC for LED™ technology realizes the potential of LED as a retrofit solution in ways single fixtures simply can't.

### Better On-Field Lighting

The whiter and more uniform distribution of TLC for LED improves visibility for players and fans.

### Total Light Control™

Our patented glare control technology preserves darkness around fields like never before.

### Improved Efficiency

We've helped retrofit customers reduce energy consumption by as much as 80 percent.

### Long-Term Parts and Labor Warranty

No worrying about maintenance, or paying for it, for anywhere from 10 to 25 years.



*"Musco's design for Petco Park was different from the competitors by far. They actually redesigned our sports lighting racks. So we basically put up a brand new rack, already pre-aimed. When we compared Musco's product to all the competitors we felt they had the least amount of glare. We don't have any dark spots on the field, and our light levels blow away Major League standards."*

*- Randy McWilliams, Senior Director of Engineering  
San Diego Padres*



## Retrofitting with Musco's TLC for LED™ Technology

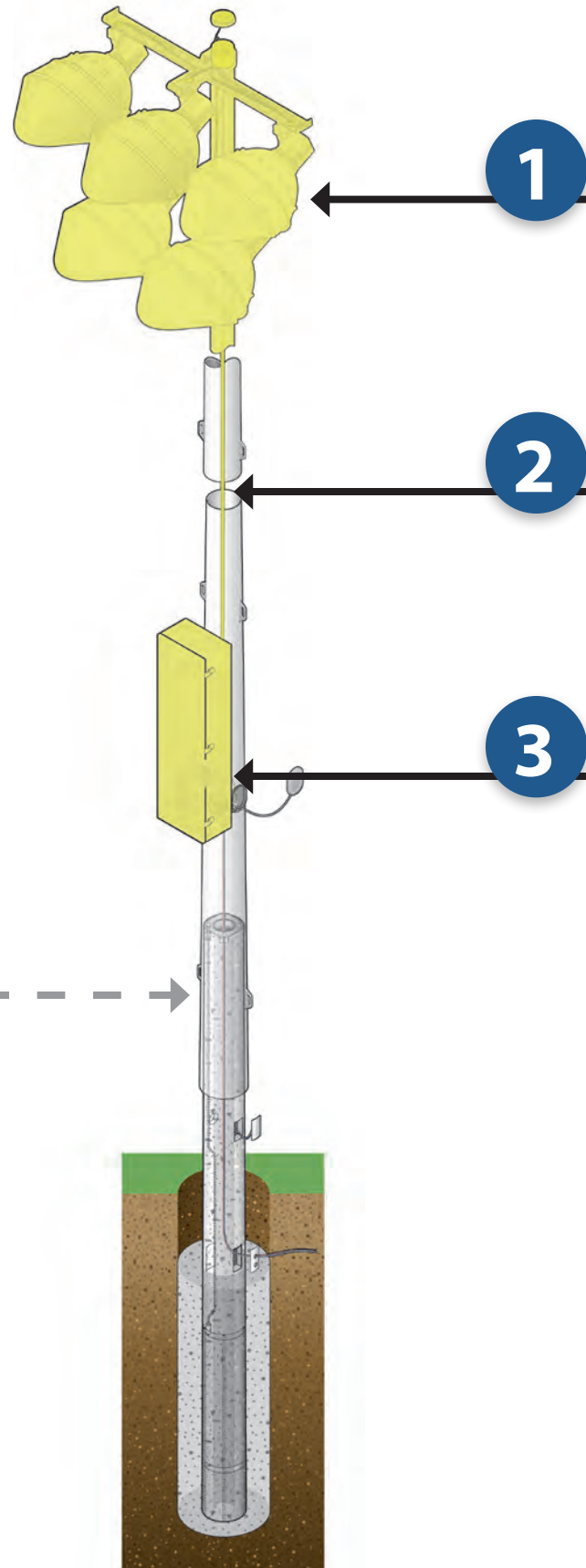
When you walk onto a field that's been retrofitted with Musco's LED technology, it just looks better. There's a reason for that.

Our solutions are designed as a system—with lighting, electrical, and structural components engineered to work together. We'll conduct a structural assessment of your current lighting, and our retrofit solution will include a new wire harness and new, custom cross arms to ensure structural integrity and long-term reliability.

### Structural Analysis

- To determine integrity of existing support structure

## Existing Light-Structure System™

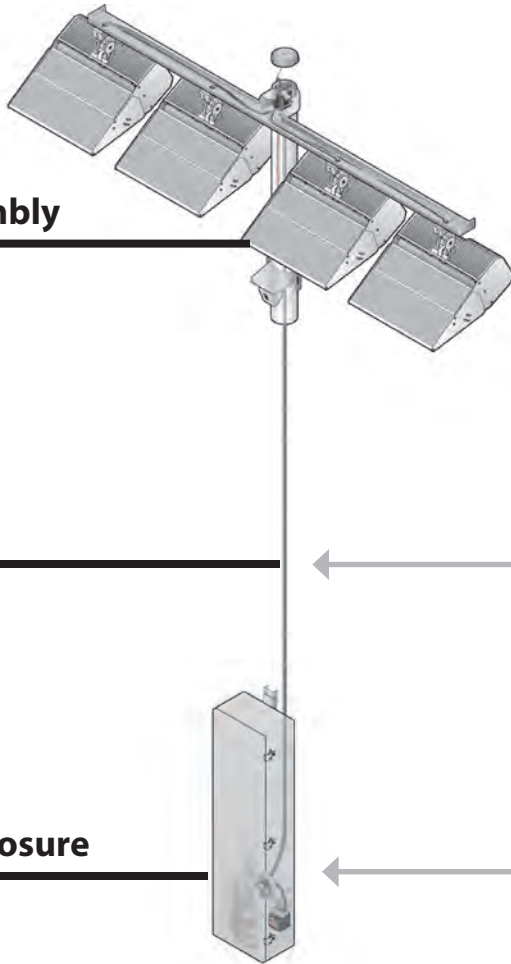


## Retrofit to TLC for LED™ Technology

### Poletop Luminaire Assembly

### Wire Harness

### Electrical Component Enclosure



- Patented optics and glare control for better on-field lighting and precise control
  - New cross arms to replace existing support structure
  - Factory wired, aimed, and tested
  - Single aiming point for fast, reliable installation
- 
- New factory-built wire harness
  - Custom made per pole length and luminaire configuration
  - Ensures no exposed wiring and solid connections with quick connect plug-ins
- 
- Located remotely for easy access
  - Houses major electrical components
  - Factory wired and tested, with surge protection and fusing for sensitive electronic components

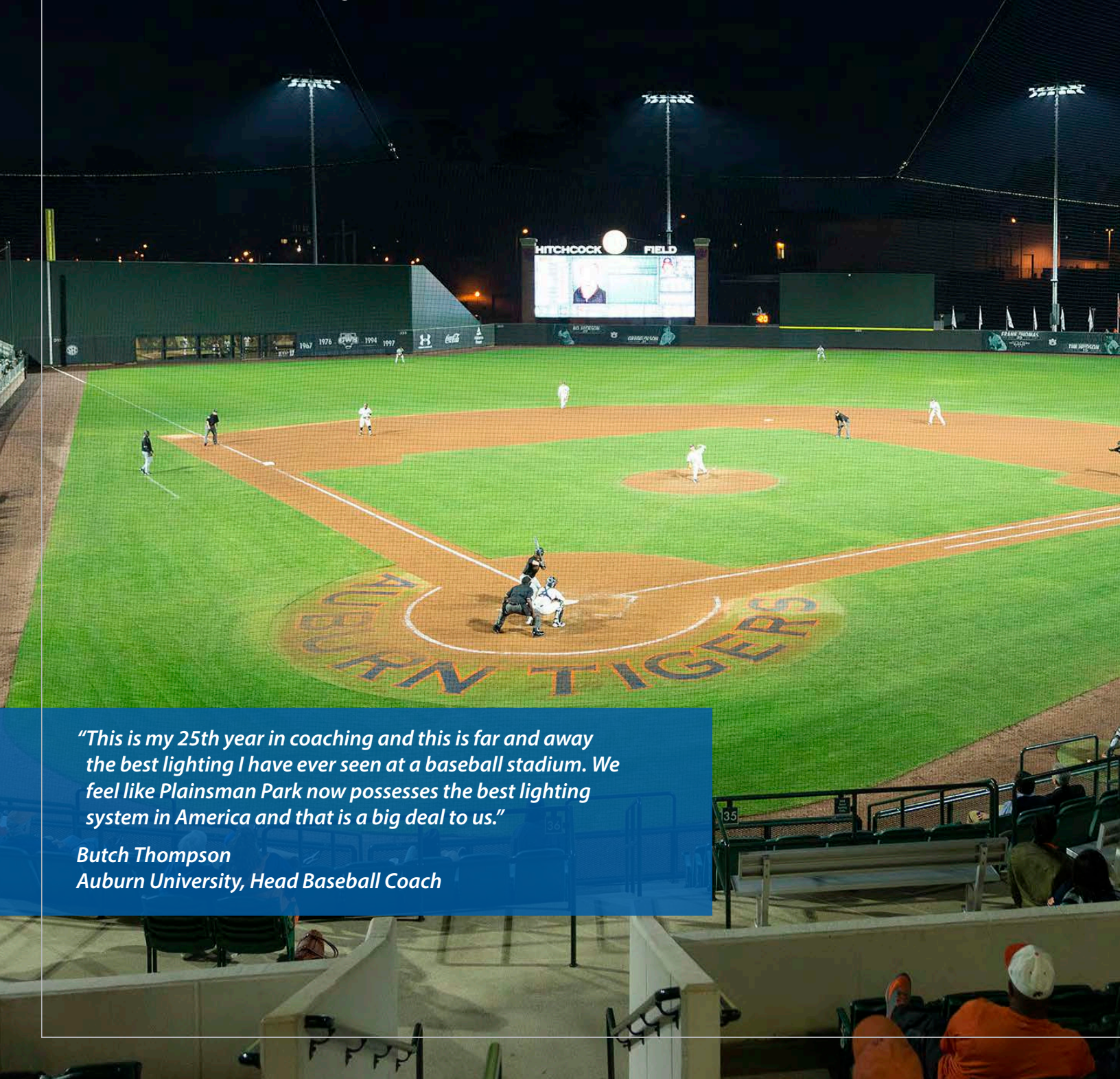
**In addition to retrofits, Musco also provides industry-leading sports lighting solutions that are complete and newly installed at stadiums, fields, and arenas of all sizes.**



# Better On-Field Lig

Every lighting project is unique. But at the core of each of them is improving the quality of light on the field of play.

We've spent more than a decade researching and designing systems around LED. TLC for LED™ along with our innovative BallTracker™ technology delivers a whiter and more uniform light, allowing players and fans to track the entire flight of the ball.



*"This is my 25th year in coaching and this is far and away the best lighting I have ever seen at a baseball stadium. We feel like Plainsman Park now possesses the best lighting system in America and that is a big deal to us."*

**Butch Thompson**  
Auburn University, Head Baseball Coach



# Lighting

## Auburn University – Samford Stadium- Hitchcock Field at Plainsman Park

Auburn, Alabama, USA

### The Challenge

- Increase light levels and improve the quality of on-field lighting and player visibility
- Mount luminaire assemblies on the existing poles from the previous lighting equipment
- Make the experience at one of college baseball's best stadiums even better

### The Solution

- University project leaders visited two other college stadiums to observe the performance of different LED lighting
- One featured Musco's TLC for LED™ technology, while the other had LED fixtures from another manufacturer
- Auburn chose TLC for LED with BallTracker™ technology, which proved far superior in player visibility and reduced glare

### The Result

- TLC for LED luminaire assemblies were successfully retrofitted onto the stadium's poles
- Playability has been significantly enhanced and glare has been virtually eliminated
- Musco's system technology ensures long-term reliability, and its long-term parts and labor warranty means no maintenance concerns or costs for 25 years



Energy cut by  
**43%**

CO<sub>2</sub>

**845**

metric tons  
reduced  
(25 years)



**178**

Cars off the road for  
one year CO<sub>2</sub> reduction  
equivalent



**\$158,917**

maintenance  
cost saved  
(25 years)



Hear from the coach and  
university staff, scan or visit  
[www.musco.com/news/auburn](http://www.musco.com/news/auburn)



## University of Colorado Colorado Springs – Alpine Field

Colorado Springs, Colorado, USA

### The Challenge

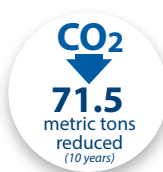
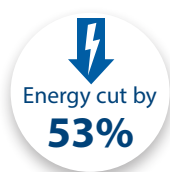
- Eliminate glare spilling into nearby homes from another manufacturer's newly installed lights
- Utilize existing poles and overcome challenges of the field's elevation atop a four-level parking garage
- Maintain existing light levels and improve uniformity on the 85,000-square-foot multi-sport field

### The Solution

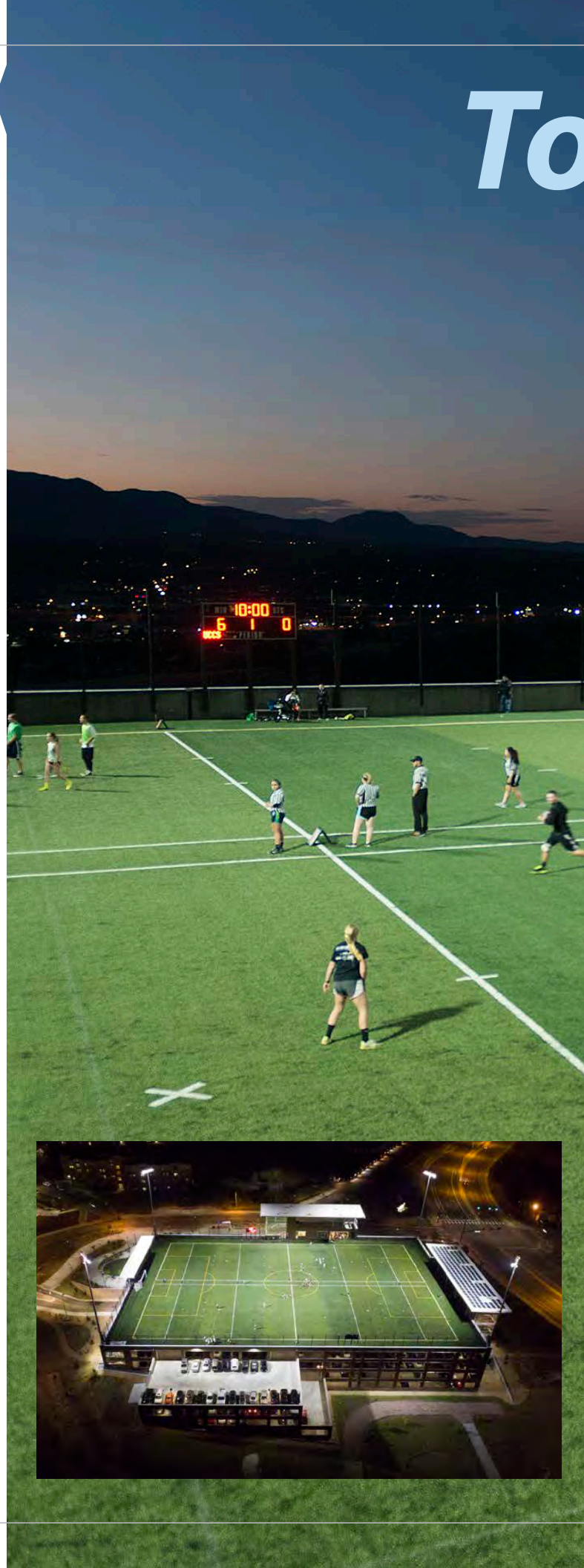
- When the original manufacturer failed to resolve neighborhood complaints, UCCS reached out to Musco
- Within days of receiving the call Musco's engineers and project managers were on site
- A customized system featuring TLC for LED™ technology was designed and retrofitted onto Alpine Field's existing 90-foot poles

### The Result

- Glare in nearby homes was virtually eliminated, dropping from 80,000-90,000 candela per fixture to 1,000.
- The system maintained the field's existing 30 footcandles and greatly improved light uniformity
- UCCS solidified its positive relationship with homeowners in the Colorado Springs community



Hear from the neighbors and  
university staff, scan or visit  
[www.musco.com/news/alpine](http://www.musco.com/news/alpine)





# otal Light Control™



We believe in designing lighting solutions responsible to the needs of everything being impacted—from facility owners and users, to neighbors and the night sky.

The patented light control technology of TLC for LED™ delivers a level of precision never before possible, re-directing previously wasted light onto the field and virtually eliminating glare and spill.

*"Musco really responded. Their representative was here within days, we explained the problem and they engineered a solution using the four poles in the corners of the field using their LED technology."*

**Gary Reynolds**  
UCCS, Assistant Vice Chancellor for Administration



# Improved Efficiency

Our TLC for LED™ technology has helped retrofit customers reduce their energy consumption by as much as 80 percent.

But when we talk about efficiency, it goes beyond energy—and dollars—saved. It's also about the efficiency of your lights, putting more on your field and spilling less around it. And it's about improving operations with streamlined scheduling and facility management.

*"The direction and control of the field lighting system is extremely efficient, there is a significant reduction of light spill onto the neighboring properties."*

**Matt Finch**  
Edmonds School District, Design & Construction Manager

FieldTurf

ProSport® Real Turf



## Edmonds School District Stadium

Edmonds, Washington, USA

### The Challenge

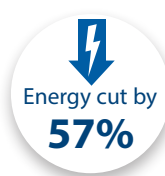
- Provide a high-quality lighting system that would help the district reduce energy consumption
- Customize a retrofit system using existing roof-mounted structures on one side of the stadium
- Reduce glare from spilling into the surrounding area while maintaining light levels on the field

### The Solution

- Musco's TLC for LED™ technology using two custom-designed lighting systems
- Light-Structure System™ complete from foundation-to-poletop was installed on one side, with SportsCluster System™ retrofitted on the roof-mounted structures
- Took advantage of a \$50,000 public utility incentive for energy savings

### The Result

- Energy consumption was reduced by 57 percent compared to the previous metal halide lights
- A much whiter and more uniform light on the field with the virtual elimination of glare and spill around it
- Efficient scheduling and system management with the 24/7 support of Control-Link®





## Ken Pridgeon Stadium

Houston, Texas, USA

### The Challenge

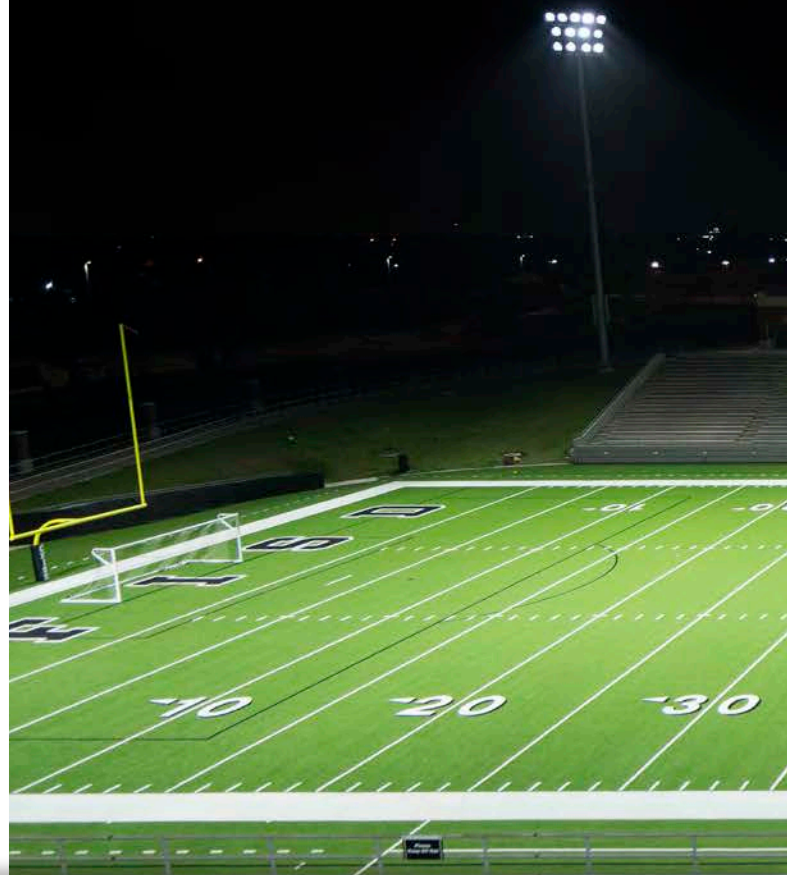
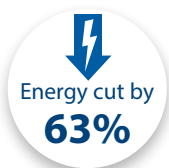
- Eliminate maintenance hassles and costs for the school district
- Deliver a solution that would reduce operating costs through improved efficiency and maintenance
- Help position Cypress-Fairbanks Independent School District as the first all LED lighted high school athletic complex in the country

### The Solution

- Musco's TLC for LED™ technology was retrofitted at the stadium which was built in the 1970s
- Solution included 10-year parts and labor warranty
- Included guaranteed light levels for the duration of the warranty

### The Result

- School district will save more than \$148,000 over 10 years between the elimination of maintenance costs and energy efficiency
- Will reduce CO2 emissions by 721 metric tons over the next decade
- Eliminates the hassle of re-lamping and having to budget for maintenance expenses for 10 years



# Parts are

### In one year alone the Musco Team has...



**Monitored and  
turned lights on  
and off remotely for  
more than 5 million  
games and events**



**Taken more than  
350,000 calls answering  
questions and helping  
with scheduling**



**Traveled enough miles  
servicing fields to circle  
the equator 33 times**

# nd Labor Warranty

Throughout our history we've always stood by our solutions, and our customers.

Our long-term warranty and product assurance program—which ranges from 10 to 25 years—includes guaranteed light levels, covers parts and labor, and is backed by a global team of technicians. So when an issue with your system arises, you don't touch it, and you don't pay for it. And our Control-Link® system scheduling and monitoring service provides 24/7 support.



*"We're going from a maintenance agreement that was changing out bulbs. With the extended warranty that Musco provides, we won't be looking at doing any of that maintenance any time soon."*

**Josh Solis**  
Project Manager, Cypress-Fairbanks Independent School District





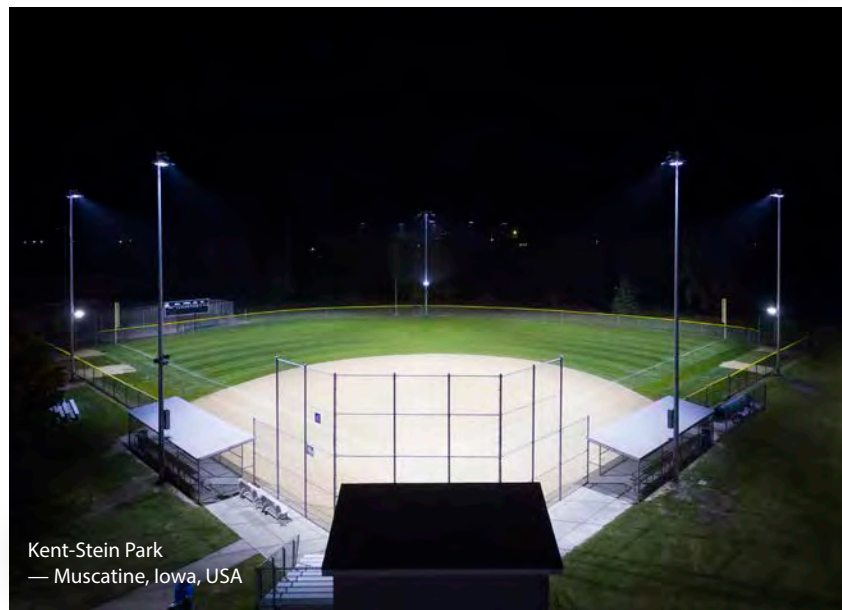
Petco Park, Home of the San Diego Padres  
— San Diego, California, USA



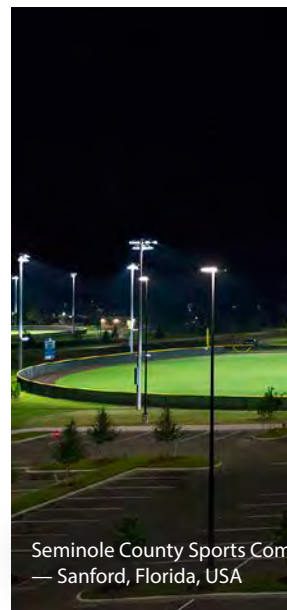
LakePoint Sporting Community, South Campus  
— Emerson, Georgia, USA



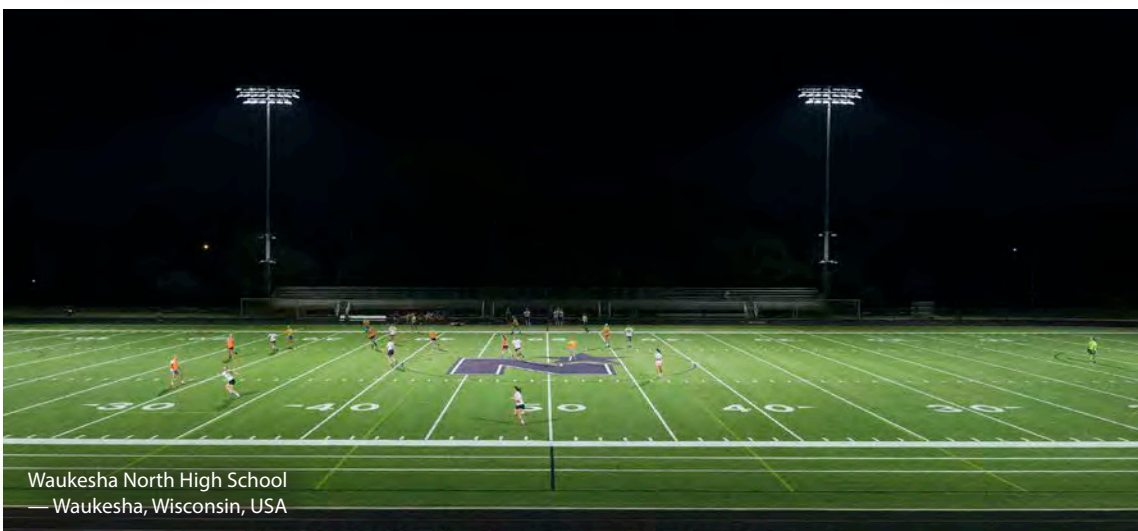
Steve Cox Memorial Park  
— Seattle, Washington, USA



Kent-Stein Park  
— Muscatine, Iowa, USA



Seminole County Sports Complex  
— Sanford, Florida, USA



Waukesha North High School  
— Waukesha, Wisconsin, USA

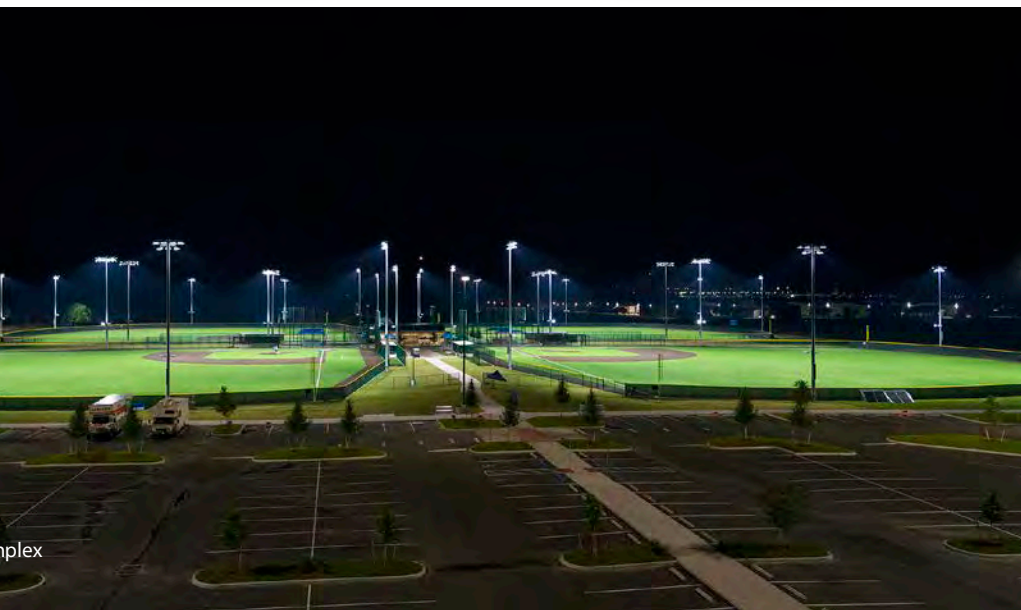




University of Alabama, Sewell-Thomas Stadium  
— Tuscaloosa, Alabama, USA



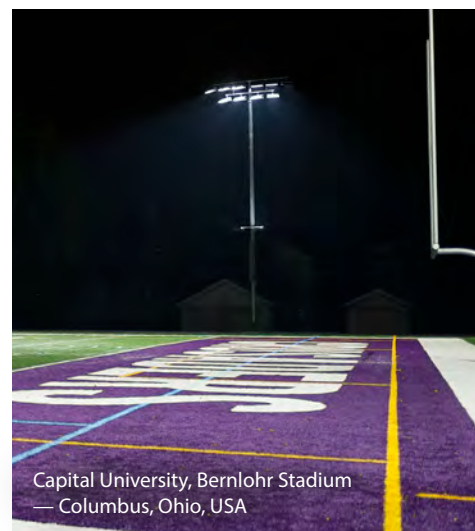
New Milford High School  
— New Milford, Connecticut, USA



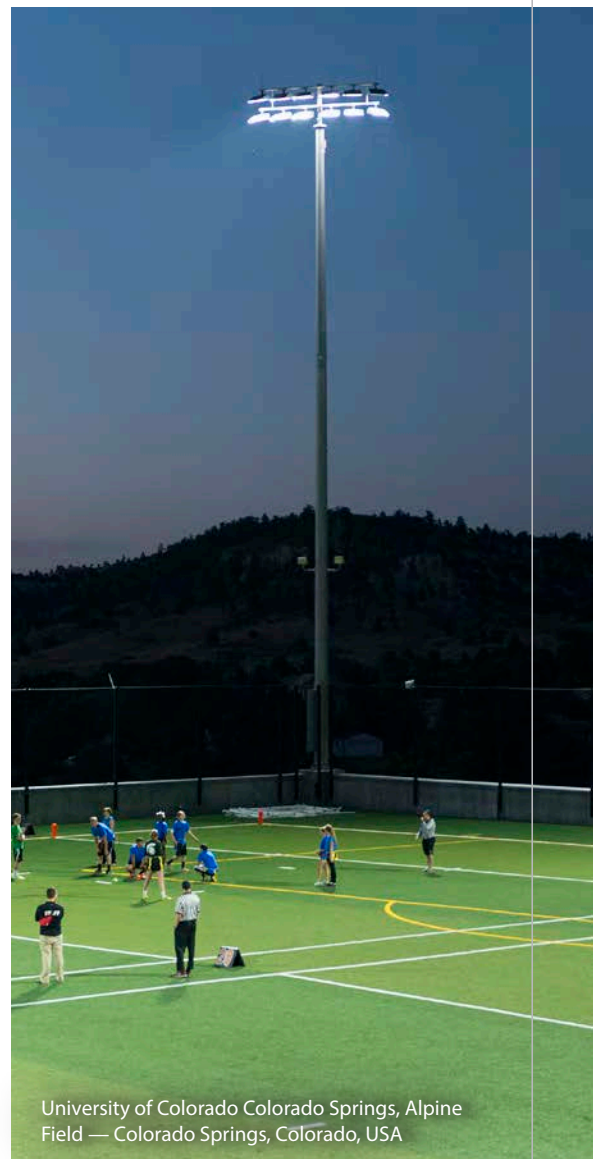
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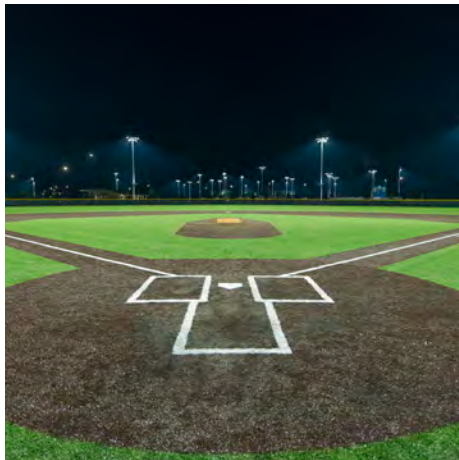
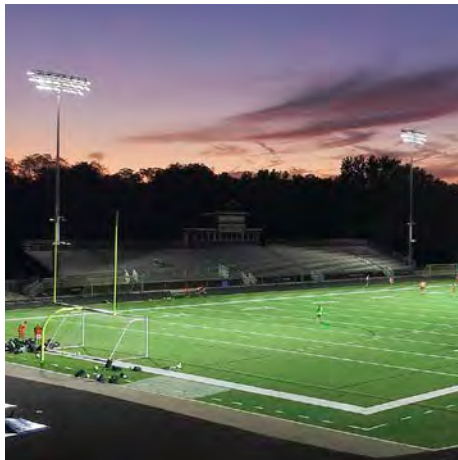
Clemson University, LoConte Family Field  
— Clemson, South Carolina, USA



Capital University, Bernlohr Stadium  
— Columbus, Ohio, USA



University of Colorado Colorado Springs, Alpine Field  
— Colorado Springs, Colorado, USA



**Unequaled performance . . .**  
*for your budget, for the environment.*

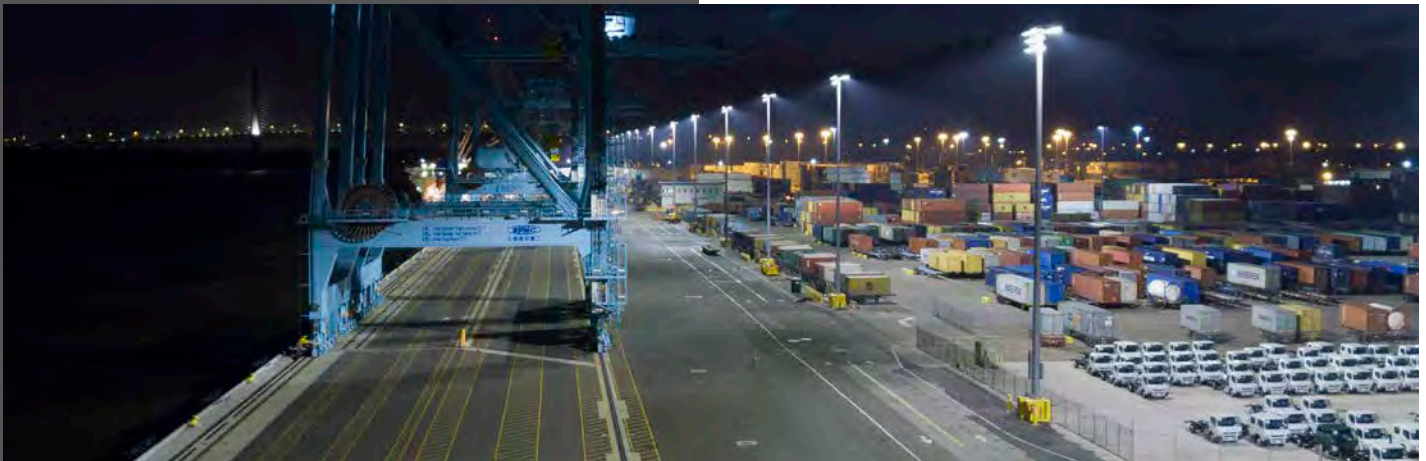
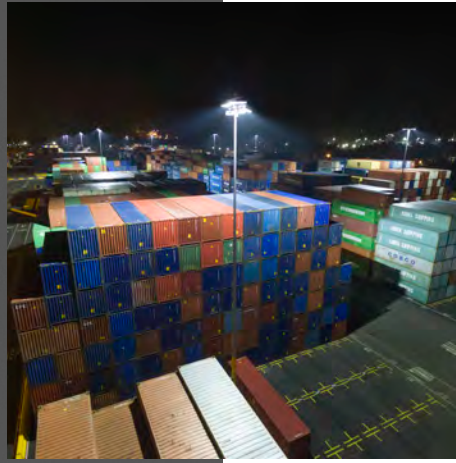


**We Make It Happen®**

[www.musco.com](http://www.musco.com)  
e-mail: [lighting@musco.com](mailto:lighting@musco.com)

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U.S. and foreign patents issued and pending.





# Large Area Lighting Solutions

Rail, Seaports, Airports,  
Construction, and Industrial

**MUSCO**  
*Lighting*  
We Make It Happen®





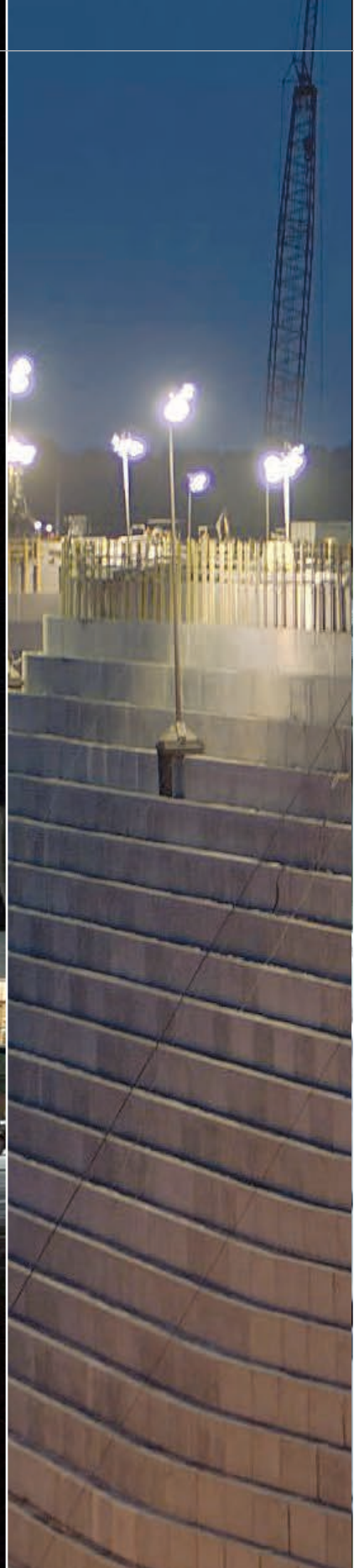
**Rail**



**Ports**



**Airports**



**Construction Sites**





**Industrial**



**Other Applications**

## Bringing Lighting Solutions to the World

Since 1976, Musco has established itself as the global leader in sports and large area lighting solutions. Little League® baseball fields. International speedways. The White House. San Francisco's Bay Bridge. NFL stadiums. The Olympics. And some of the largest ports in the world. When innovations in lighting systems are needed to enhance light quality, improve effectiveness, reduce spill light and glare, cut costs, and minimize the impact on our environment, customers turn to Musco.

With representatives in 34 countries and lighting projects in nearly 100 countries around the world, our team of engineering professionals, project managers, technicians, and build-to-order manufacturing capabilities are just part of what sets Musco apart. From the design of your system, to installation, to maintenance and performance monitoring, our Total Light Control — TLC for LED™ system provides a complete solution.

- Cuts energy consumption
- Reduces spill light and glare with total light control
- Eliminates 100 percent of routine maintenance for 10 years, provided by our global network of trained technicians

Our innovative lighting systems — with an LED or HID light source — have ushered in a new era for large area lighting and offer a solution complete from foundation to poletop.



**We Make It Happen.®**

## Santa Teresa Rail Yard

Santa Teresa, New Mexico, USA

### The Challenge

- Install a lighting system at one of the oldest and most important rail corridors in the U.S.
- Design a solution for a massive facility spanning nearly 12 miles and covering more than 2,200 acres
- Improve energy efficiency and cost effectiveness at Santa Teresa

### The Solution

- With experience developing systems for rail facilities around the world, Musco was uniquely positioned to deliver the best possible solution at Santa Teresa
- Musco engineered a solution with its Light-Structure System™ built from foundation to poletop in 5 Easy Pieces™, using Green Generation™ technology
- The new lighting system was customized to meet the specific operational and safety needs at Santa Teresa

### The Result



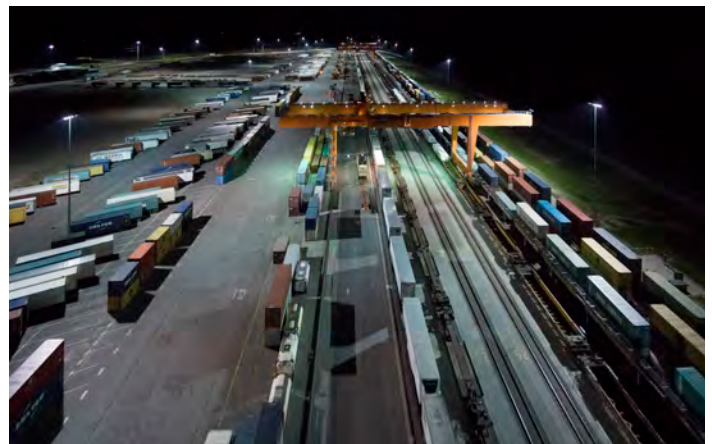
**Visibility** — The system delivered higher quality lighting with fewer luminaires, and its patented light control technology virtually eliminated glare and spill



**Energy Efficiency** — Energy consumption was reduced by 33 percent, providing a 10-year energy savings of \$1.5 million compared to typical 1,000-watt metal halide equipment



**Zero Maintenance** — Musco's long-term parts and labor warranty eliminated maintenance concerns and costs for 10 years

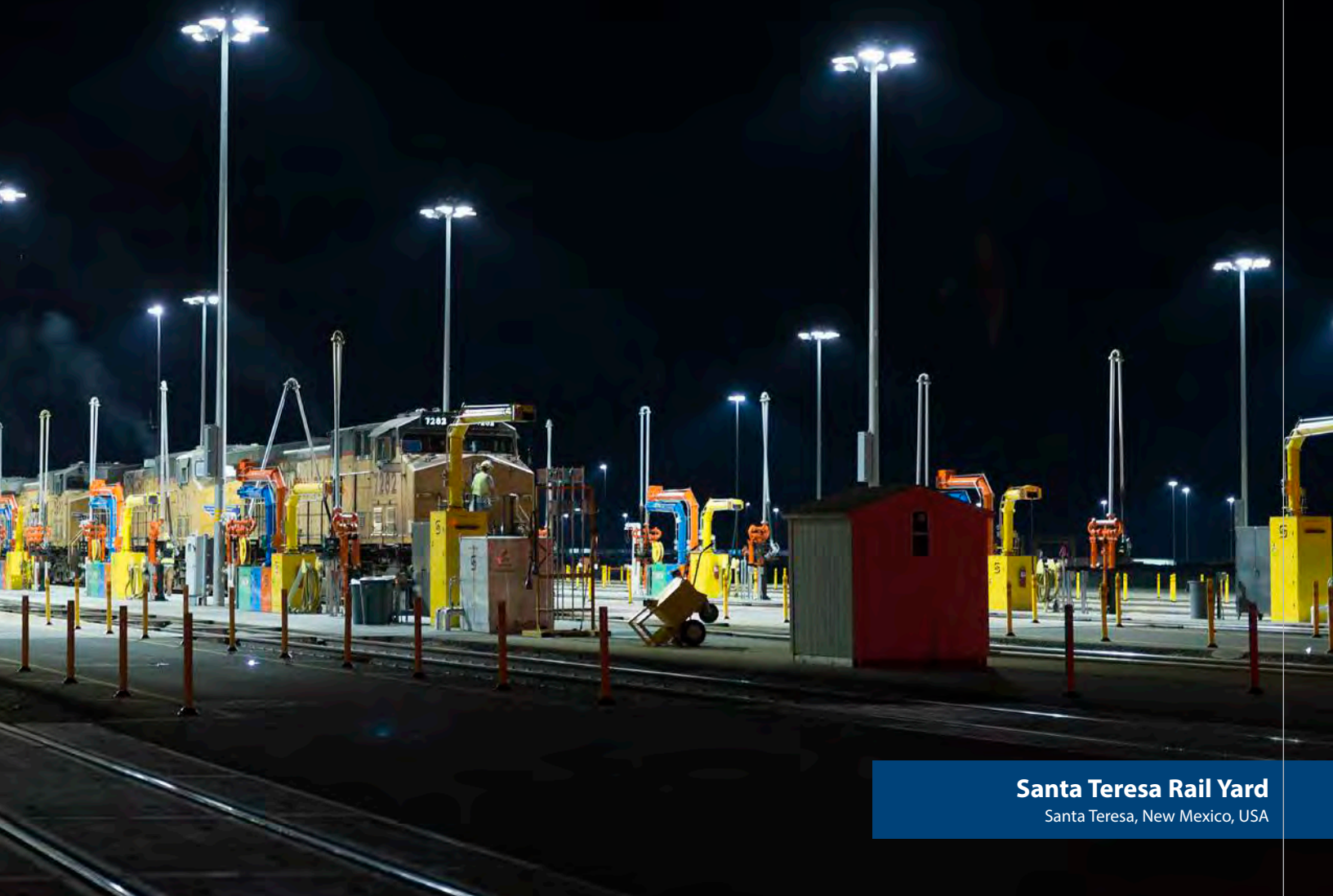


## BNSF Railway – Logistics Park Kansas City Intermodal Facility

Edgerton, Kansas, USA



# *Solutions for Rail Yards*



**Santa Teresa Rail Yard**

Santa Teresa, New Mexico, USA



**San Antonio Intermodal Terminal**

Van Ormy, Texas, USA

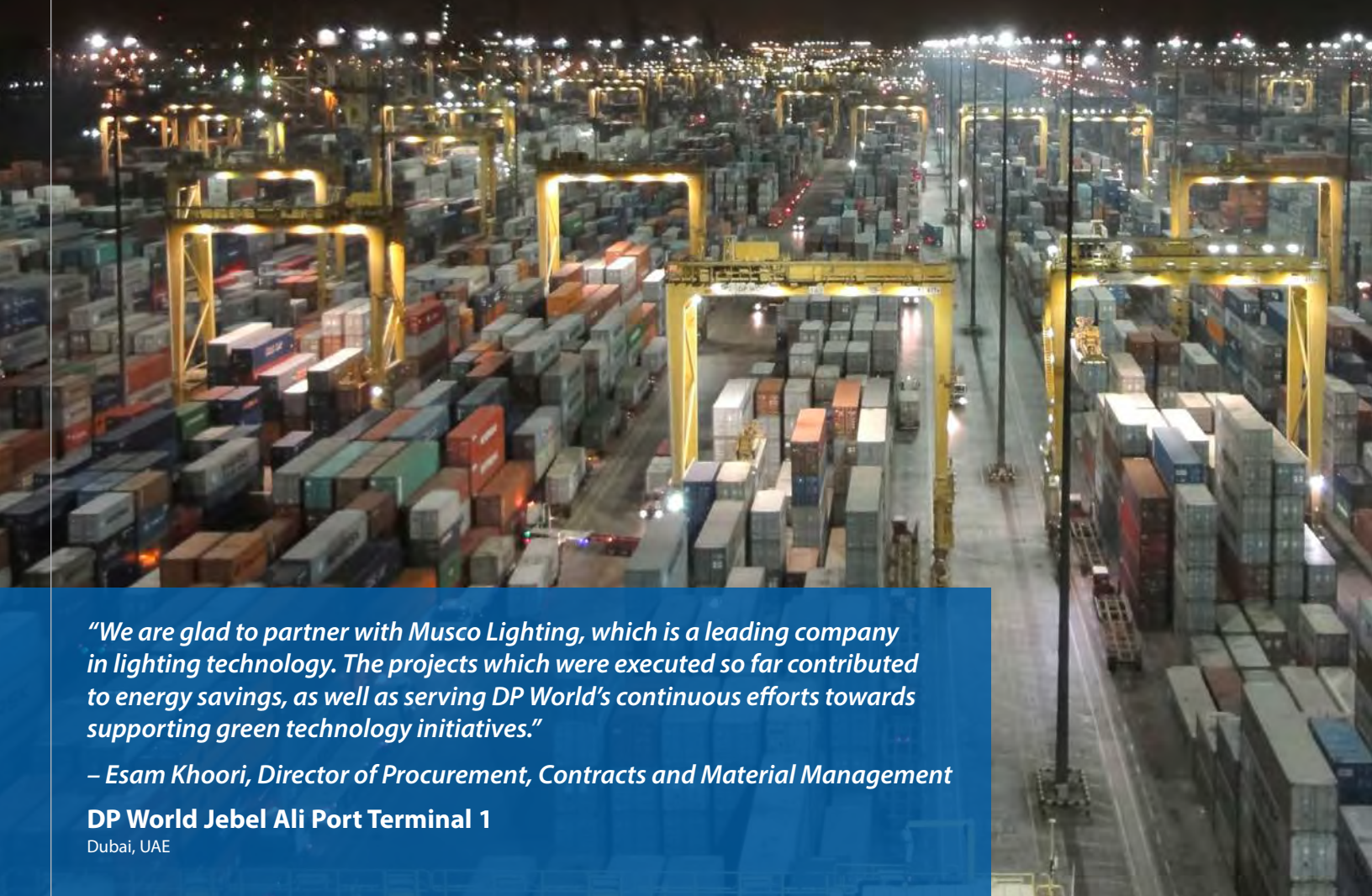


**Dolton Yard Center Intermodal Terminal**

Dolton, Illinois, USA



# Solutions for *Ports*

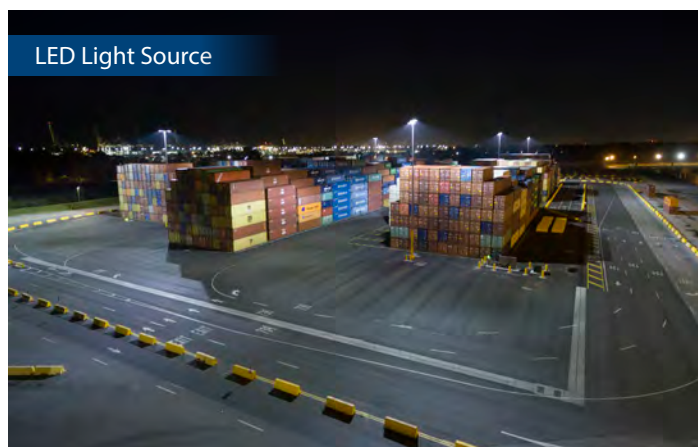


*"We are glad to partner with Musco Lighting, which is a leading company in lighting technology. The projects which were executed so far contributed to energy savings, as well as serving DP World's continuous efforts towards supporting green technology initiatives."*

*– Esam Khoori, Director of Procurement, Contracts and Material Management*

**DP World Jebel Ali Port Terminal 1**

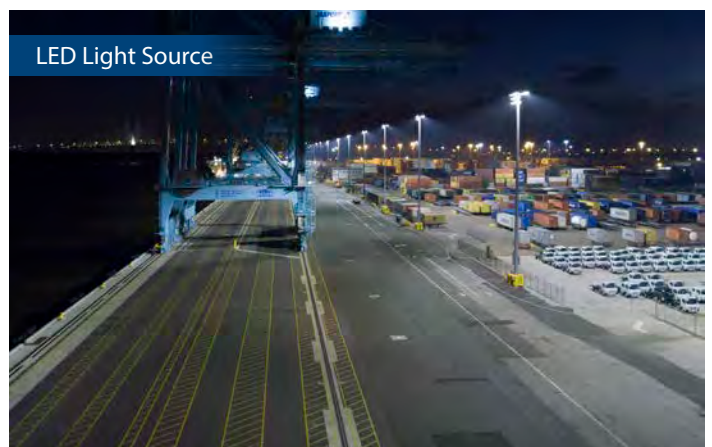
Dubai, UAE



LED Light Source

**Georgia Ports Authority – Mason Empty Yard**

Savannah, Georgia, USA



LED Light Source

**Jacksonville Port Authority – JaxPort Wharf Reconstruction**

Jacksonville, Florida, USA





## DP World Jebel Ali Port Terminal 2

Dubai, UAE

### The Challenge

- Install a state-of-the-art lighting system at one of the largest ports in the Middle East, allowing the facility to stay operational during the installation process
- Provide higher light quality and consistent light levels while reducing glare and off-site spill
- Improve energy efficiency and reduce massive operating costs due to energy consumption and maintenance

### The Solution

- Musco's experience lighting some of the world's biggest ports uniquely positioned the company to overcome the project's major challenges
- The solution involved custom-designing Musco's Total Light Control — TLC for LED™ technology
- Patented light and glare control delivers light precisely where intended while preserving darkness where light isn't wanted

### The Result



**Easy Installation** — The streamlined installation of Musco's TLC for LED technology onto existing poles allowed the port to stay operational during the retrofit process



**Improved Operations** — The system strategically lit the sides of stacks and roadways, helping to improve safety for truck and lift operators



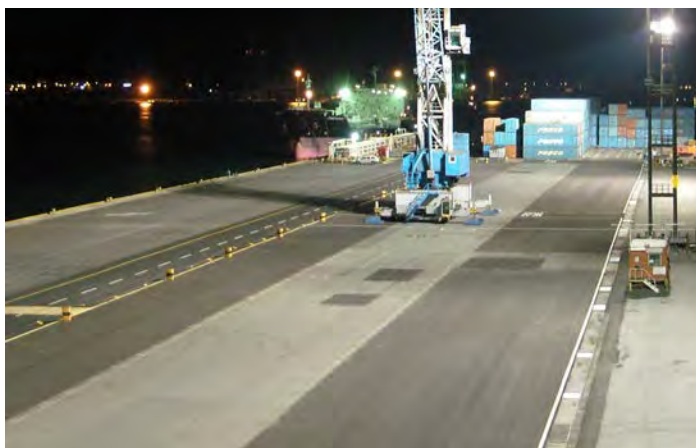
**Visibility** — The remarkable light control and cut off of TLC for LED resulted in higher quality and more uniform lighting precisely where intended



**Energy Efficiency** — Energy consumption was cut 66 percent, DP World would realize a savings of \$2.9 million in energy and operating costs, and maintenance was eliminated for 15 years



**Cost Effective** — DP World is expected to pay off its initial investment in the lighting in less than four years



## Ulsan Container Terminal

Ulsan, Korea



## Vancouver International Airport (YVR)

Richmond, British Columbia, Canada

### The Challenge

- Install an LED apron lighting system at the second busiest airport in Canada without disrupting the operations of YVR's ground crews
- Help improve safety of pilots, air traffic controllers, and ground staff by increasing light levels, improving uniformity, reducing glare, and preserving darkness around the airport
- Improve energy efficiency by making the system adaptive based on gate usage, reduce operating costs, and eliminate maintenance

### The Solution

- Having installed its LED solution at other major airports around the world, Musco was identified as the best partner for the project at YVR
- Musco's Total Light Control — TLC for LED™ system technology was retrofitted onto the existing support structures, and featured remote electrical component enclosures for easy access
- The system delivers unprecedented light control to apply a more uniform light precisely where intended, as well as instant on/off/dimming capabilities

### The Result



**Easy Installation** — The system was installed at YVR in a streamlined manner that didn't disrupt regular operations at the airport



**Visibility** — The improved light quality and reduced glare helped enhance operational effectiveness and safety for ground crew, pilots, and air traffic controllers while also preserving darkness around YVR



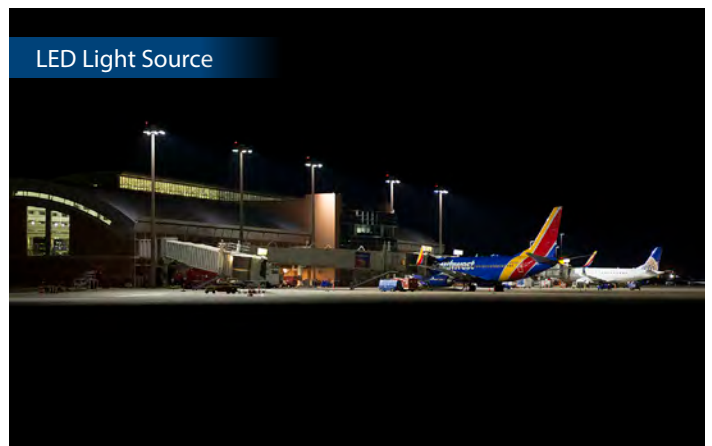
**Energy Efficiency** — The system improved efficiency by adapting light levels at gates based on usage, reducing energy consumption at YVR by 715,000/kW hours per year



**Zero Maintenance** — Musco's long-term parts and labor warranty eliminates maintenance concerns and costs for 10 years



LED Light Source



## Midland International Air & Space Port

Midland, Texas, USA



# Solutions for Airports

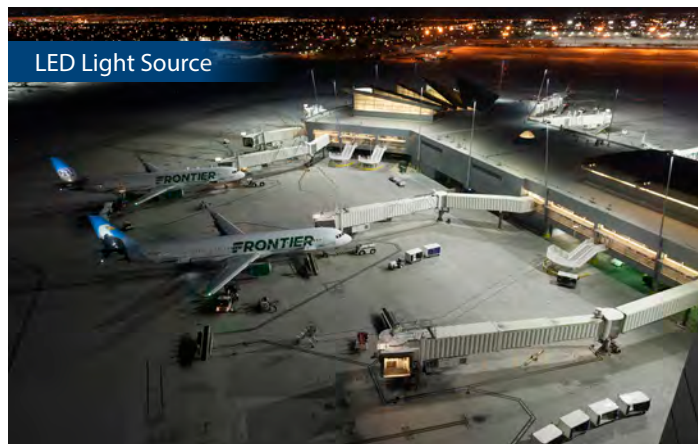
## Vancouver International Airport (YVR)

Richmond, British Columbia, Canada

LED Light Source



PRIOR: HID LIGHT SOURCE



LED Light Source

## McCarran International Airport

Las Vegas, Nevada, USA



## Xiamen Airport Terminal 3 Apron Relighting

Xiamen, Fujian, China



# *Solutions for* **Construction**



## **Saluda Dam**

Lexington, South Carolina, USA



## **I-90 Albany**

Albany, New York, USA



# on Sites



## Saluda Dam

Lexington, South Carolina, USA

### The Challenge

- Provide high-quality lighting for the Saluda Dam Remediation Project for Barnard Construction Company
- Help Barnard workers complete the dam strengthening project to protect the state's capital, Columbia, on time and on budget
- Provide enough quality light for workers at night to help ensure their safety at a job site where they worked around two active power plants, five penstocks, two circulation pipelines, high-voltage transmission lines, and a high-pressure gas line

### The Solution

- Having developed the most powerful and efficient temporary lighting solutions in the world, Musco was an ideal partner and had worked with Barnard Construction Company on previous projects
- Musco's industry-leading lighting system was mounted on temporary structures to provide quality and efficient light throughout the night
- The solution allowed for the lighting of hard to reach areas at the job site

### The Result



**Improved Operations** — Musco's temporary lighting allowed construction at Saluda Dam to be fast-tracked with work happening at night



**Visibility** — The solution provided high-quality, efficient lighting that helped ensure a safer work environment for workers



**Project Efficiency** — Barnard Construction Company completed the project at Saluda Dam ahead of schedule



## Miami of Ohio Athletic Facility Construction

Oxford, Ohio, USA

## Des Moines Wastewater Reclamation Authority

Des Moines, Iowa, USA

### The Challenge

- Install a lighting system that would help the Wastewater Reclamation Authority reduce energy consumption while treating an average of 59,000,000 gallons per day
- Reduce light spill and glare, and provide dimming capabilities, as other ways to improve energy efficiency
- Keep up-front costs down, reduce energy and operating costs, and eliminate maintenance at the plant

### The Solution

- Musco's experience designing lighting solutions for applications of all sizes—from small parking lots to major transportation structures—made it an ideal fit for the project
- The solution involved retrofitting Musco's Total Light Control — TLC for LED™ technology onto the facility's existing poles
- The Authority received an energy rebate for choosing Musco's energy efficient LED system, helping to offset initial costs

### The Result



**Energy Efficiency** — Musco's solution reduced energy consumption at the Wastewater Reclamation Authority by 73 percent



**Dimming Controls** — With dimming controls, the system allowed the facility to further enhance efficiency while also having security lighting in place

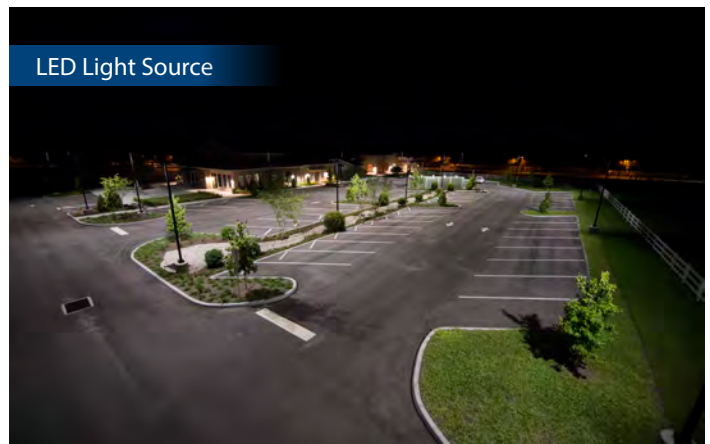


**Light Quality** — Off-site spill and glare was virtually eliminated



**Zero Maintenance** — Operating costs have been cut \$121,000 over the next decade, and maintenance costs and concerns were eliminated for 10 years

# Solutions for *In* Large Area App



LED Light Source

### Harmony Retail Center

Harmony, Florida, USA



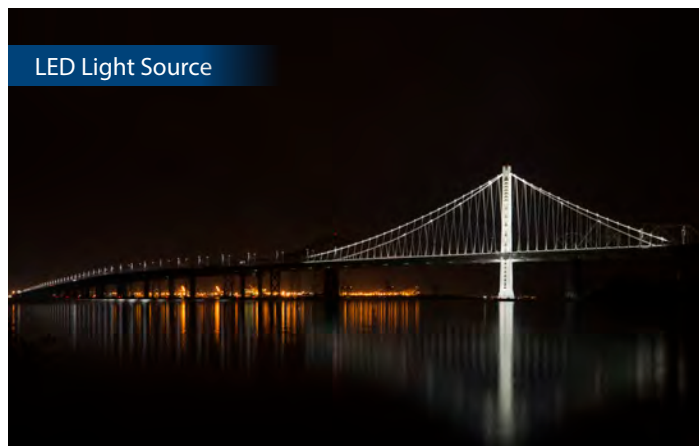
# ***dustrial and other applications***



**Des Moines Wastewater Reclamation Authority**

Des Moines, Iowa, USA

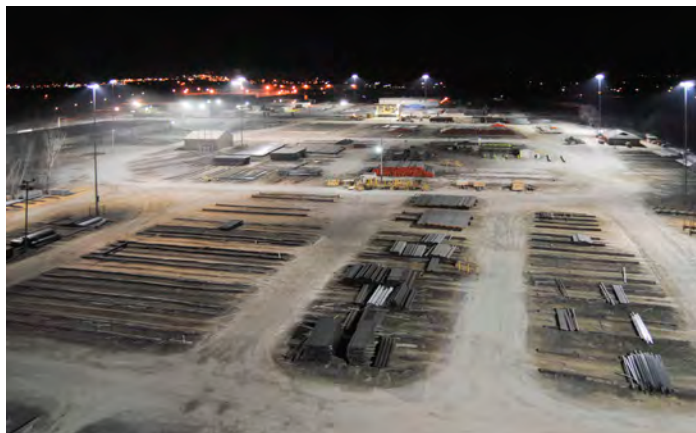
LED Light Source



LED Light Source

**San Francisco-Oakland Bay Bridge**

Oakland, California, USA



**TMK IPSCO Steel Tubulars**

Camanche, Iowa, USA



# System Technology

## A Complete System or Retrofit Solution

### 5 Easy Pieces™

Light-Structure System™ is designed in 5 Easy Pieces from foundation to poletop to provide a complete solution for lighting, electrical, and structural needs.

- Unique reflector system and optic design provide optimal energy efficiency and light control
- Patented glare control technology keeps light away from neighboring facilities
- Durable system delivers trouble-free operation
- Small structural footprint maximizes the available area around the poles

### Unique considerations for large area lighting

- Musco offers modular light solutions for existing poles, specialty-use poles, and roof-mounted structures

### Lighting Control and Management

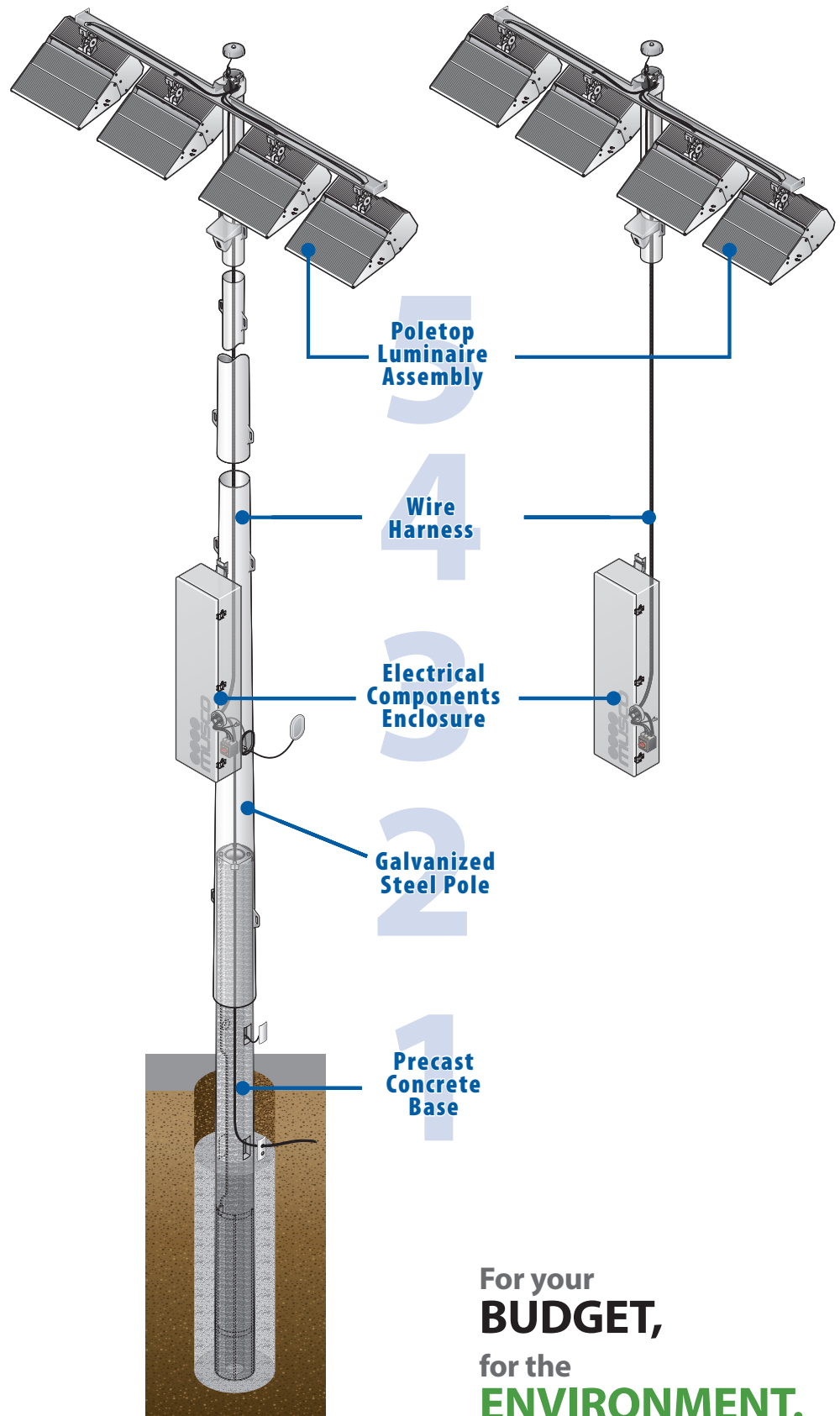
- Control-Link® controls and monitoring system manages facility lighting and other electrical equipment

### Retrofit Applications

- Includes new cross arms
- Factory wired, aimed, and tested
- New wire harnesses ensures no exposed wiring and solid connections with quick connection plug-ins
- Electrical Components Enclosure is located remotely for easy access

## Complete Solution Light-Structure System™

## Retrofit Solution

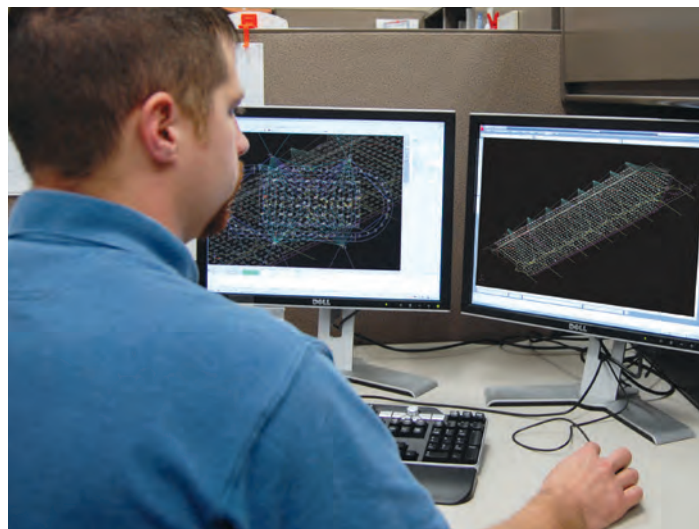


For your  
**BUDGET,**  
for the  
**ENVIRONMENT.**

## Design Expertise

Our team of certified lighting engineers will work with you to design a custom lighting solution to:

- Reduce your facility's energy use
- Deliver superior working light by optimizing light aiming angles and reducing disruptive glare
- Provide controlled light per specified light levels
- Control off-site spill light and glare
- Minimize the number of poles needed to light an area
- Ensure structural requirements for poles and foundations



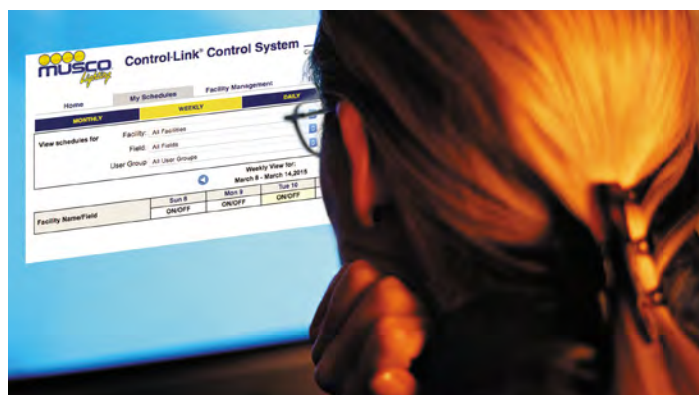
## Installation Services and Project Management

- Full installation services available from electrical to structural
- Network of more than 1,800 trained contractors
- Experienced project managers available throughout the installation process
- Minimize disruption to ongoing operations



## Controls & Monitoring Systems

- Control-Link® manages the scheduling for lighting and other electrical equipment via an easy to use website, smartphone app, email, and 24/7 call center
- This system schedules nearly 5 million events each year, helping to reduce energy usage, cut labor expenses, and provide usage information
- Alerts Musco's service team of any potential problems with the lighting components
- Compatible with existing or other control systems

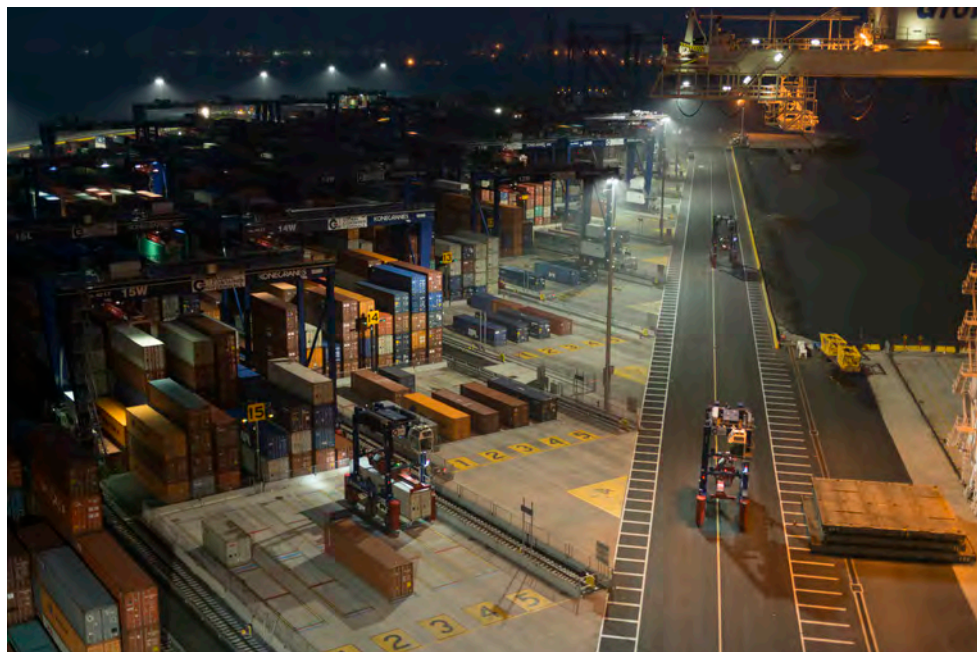


## Warranty and Support

- Musco's comprehensive warranties are backed by a service and warranty team that includes more than 160 members
- Musco monitors the performance of its lighting systems in facilities around the world to ensure they are always ready for operation
- Each year Musco's technicians provide field maintenance, perform warranty work, and consult on temporary lighting needs at more than 5,000 facilities







**Unequaled performance . . .**  
*for your budget, for the environment.*



**We Make It Happen®**

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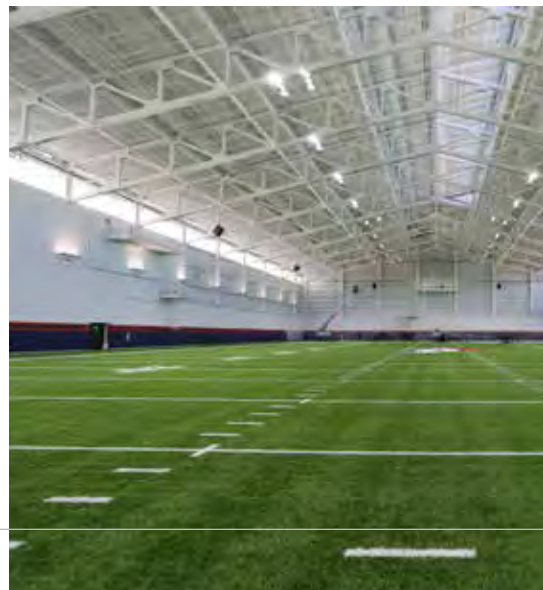
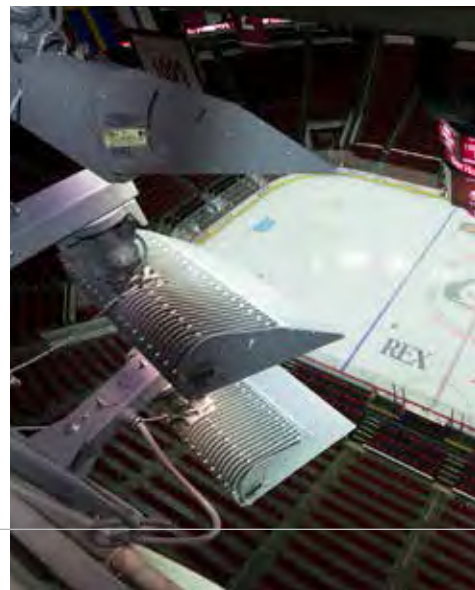
# Indoor Sports Lighting Solutions

Musco's TLC for LED™ Technology



We Make It Happen®









# A NEW ERA for Indoor Sports Lighting

Across the country, more and more indoor sports venues are transitioning to LED lighting as it becomes an affordable, higher quality solution.

And what they're discovering is that the quality of LED lighting is only as good as the system that applies it.

At Musco, we've applied more than 40 years of experience in light and glare control to develop our TLC for LED™--a revolutionary innovation that realizes the potential of the LED source in ways non-system fixtures simply can't.



#### **Virtually Eliminates Glare**

Patented light control technology virtually eliminates glare from impacting players, spectators, and television broadcasts.



#### **Improves Energy Efficiency**

Indoor venues, which use lights for thousands of hours per year, dramatically reduce energy consumption to the point where those savings ultimately pay for the system itself.




#### **Enhances Entertainment Experience**

Integration with DMX boards helps arenas take the entertainment experience for players and fans to the next level.



#### **Backed by a Long-Term Parts and Labor Warranty**

No worrying about maintenance, or paying for it, for anywhere from 10 to 25 years.



***"Musco has delivered. The LED installation was on time and within budget, but most importantly has provided a product that will undeniably provide an improved viewing experience during Carolina Hurricanes hockey and N.C. State men's basketball games."***

***- Dave Olsen, Executive V.P. & G.M. of PNC Arena***





## Amway Center — Home of the Orlando Magic

Orlando, Florida, USA

### The Challenge

- Install an LED lighting system that would strengthen the Amway Center's reputation for offering an unmatched fan experience
- Customize a system that will be in keeping with the arena's commitment to energy efficiency and sustainability
- Improve playability for athletes, while improving visibility for spectators and TV broadcasts

### The Solution

- Leaders with the Orlando Magic organization and the city of Orlando chose to partner with Musco, which has installed its LED technology at a number of NBA arenas
- The new lighting featured Musco's SportsCluster® system with TLC for LED™ technology with patented glare control
- System solution with lighting, structural, and electrical components and interface capabilities with the arena's DMX control board

### The Result



**Light Control** — Glare throughout the arena was virtually eliminated, creating a stage-like atmosphere for players and spectators



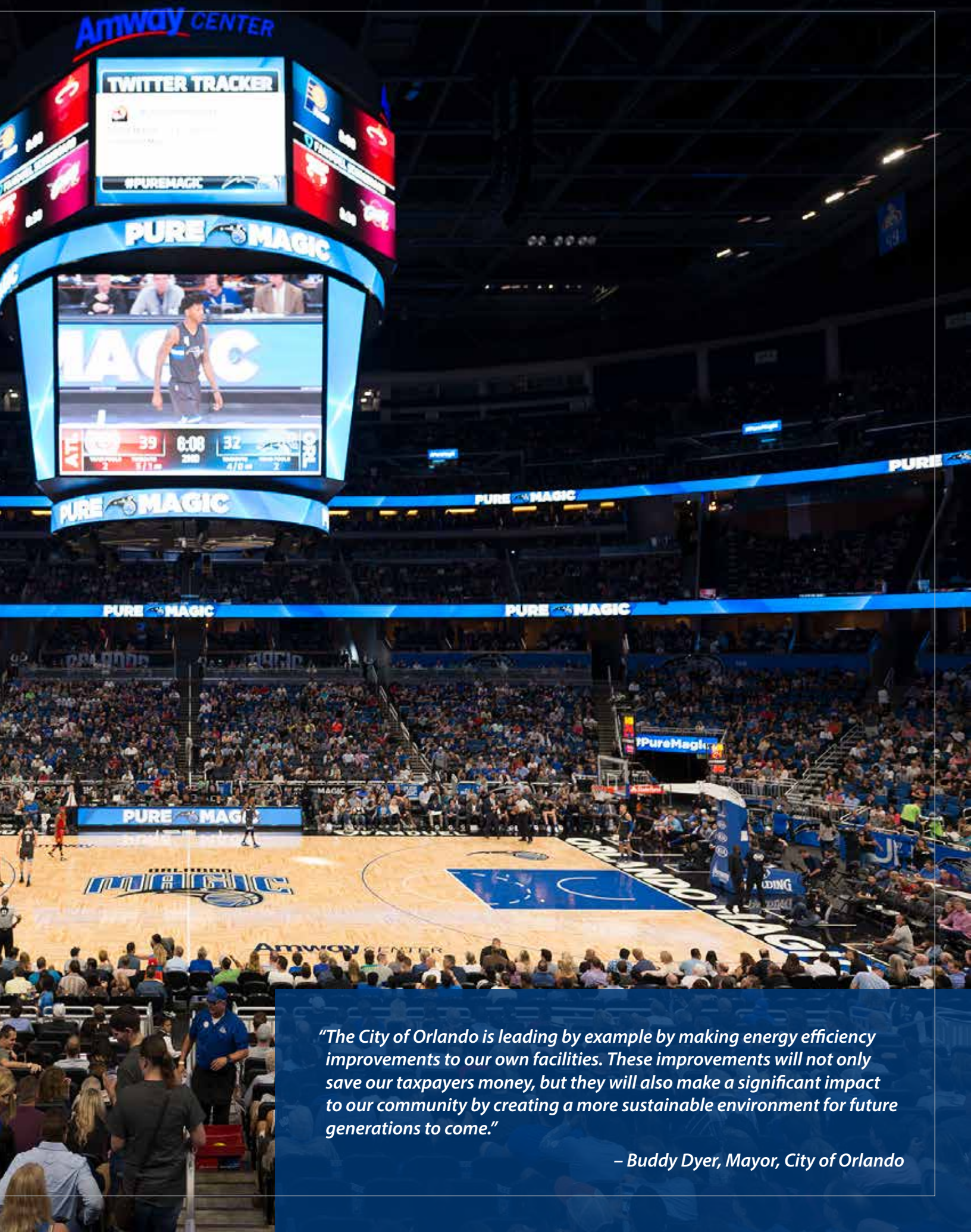
**Improved Broadcasts** — New special effects lighting possibilities were created, and HD broadcasts were enhanced with the system's ability to eliminate the "flicker" effect



**Energy Efficiency** — Energy consumption was cut 60 percent, and a 10-year parts and labor warranty eliminated maintenance costs for the next decade







*"The City of Orlando is leading by example by making energy efficiency improvements to our own facilities. These improvements will not only save our taxpayers money, but they will also make a significant impact to our community by creating a more sustainable environment for future generations to come."*

*– Buddy Dyer, Mayor, City of Orlando*





SUPERAMERICA

WILD SCORE, YOU SAVE

WILD SCORE 1 GOAL - \$5 OFF GAS WITH GAME TIX

SUPERAMERICA

WILD SCORE, YOU SAVE

WILD SCORE 1 GOAL - \$5 OFF GAS WITH GAME TIX

SUPERAMERICA

WILD SCORE, YOU SAVE

WILD SCORE 1 GOAL - \$5 OFF GAS WITH GAME TIX

LOFFLER

GOAL LIGHT

ZUCKER 16

34 HASB

PARISE 11

KOIVO 9

PARISE 11





## Xcel Energy Center — Home of the Minnesota Wild

Saint Paul, Minnesota, USA

### The Challenge

- Install a state-of-the-art LED lighting system in time for the Minnesota Wild's 2016 season opener
- Deliver a customized solution that will meet the NHL's new light quality standards, as well as the lighting needs of concerts and other events
- Improve the arena's energy efficiency and enhance the entertainment experience for spectators and TV broadcasts

### The Solution

- Project leaders at the Xcel Energy Center partnered with Musco, which has installed its LED system technology at an impressive list of NHL and NBA arenas
- Musco installed its SportsCluster® system with TLC for LED™ technology featuring patented optics and glare control
- System included lighting, structural, and electrical components designed to work together and was retrofitted onto the arena's existing support structures

### The Result



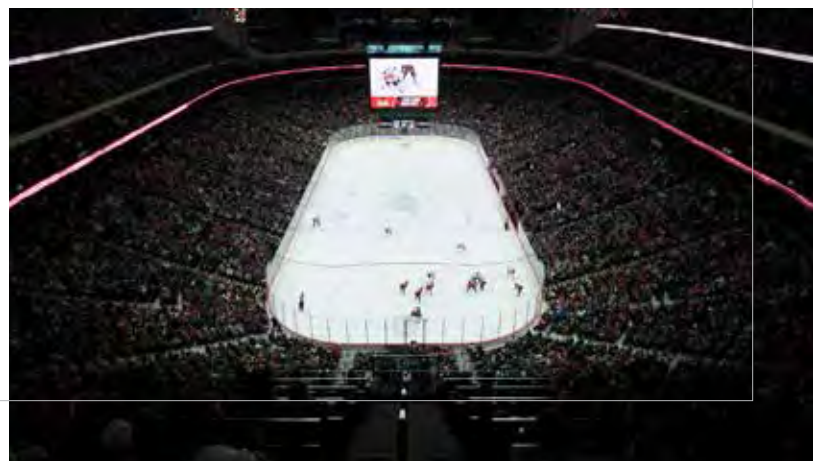
**Visibility** — Musco's TLC for LED technology virtually eliminated glare from affecting players and spectators in the arena



**Special Effects** — Color-changing luminaires and interface capabilities with the arena's DMX control board created new special effects lighting opportunities



**Energy Efficiency** — Energy consumption was cut 63 percent, and a 10-year parts and labor warranty eliminated maintenance costs for the next decade





## University of Arizona, McKale Center

Tucson, Arizona, USA

### The Challenge

- Install a state-of-the-art LED lighting system that will enhance the experience for players and fans
- Meet the unique lighting needs of a variety of University of Arizona athletic programs including basketball, gymnastics, and volleyball
- Improve energy efficiency and the quality of HD broadcasts, while eliminating maintenance costs

### The Solution

- In partnership with other contractors the University selected Musco, which has installed its LED technology at several major college arenas
- Musco installed its SportsCluster® system with TLC for LED™ technology which was retrofitted onto the arena's existing support structures
- System included lighting, structural, and electrical components designed to work together and was custom-engineered to meet the needs of several indoor sports

### The Result



**Visibility** — Glare at the McKale Center was virtually eliminated, improving playability for student-athletes and the viewing experience for spectators



**Better Broadcasts** — Light quality for HD broadcasts was significantly improved, along with new possibilities for special effects lighting creating a stage-like atmosphere



**Zero Maintenance** — Energy consumption was cut 60 percent at full power and 80 percent with dimming controls, and a 10-year parts and labor warranty eliminated maintenance costs for the University



Hear from the coach and university staff, scan or visit [www.musco.com/news/mckale](http://www.musco.com/news/mckale)

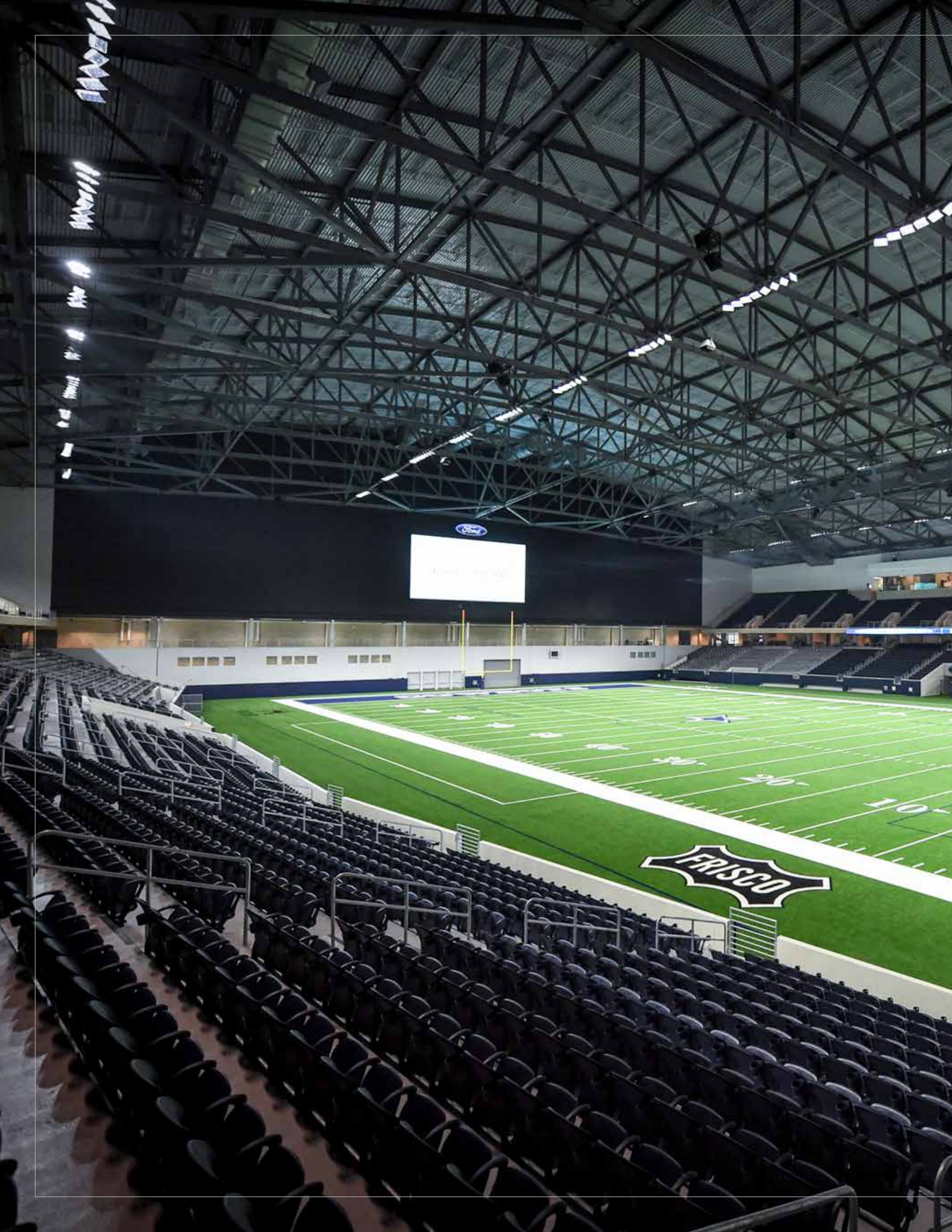




*"We received a state-of-the-art LED lighting system that is dimmable and allows for an immediate on/off feature that enhances our entertainment value for the venue while saving us 60-80% annually on energy bills. Additionally, we can use the system in a variety of ways and set the controls to work for both national TV broadcasts and every day activities."*

*– Suzy Mason  
Senior Associate Athletic Director Event, Facilities, and Operations  
University of Arizona*









## The Ford Center at The Star

Frisco, Texas, USA

### The Challenge

- Help the Dallas Cowboys achieve sustainability and performance goals at its \$1 billion practice facility
- Custom design a system that will deliver the best possible light quality on the field
- Ensure long-term reliability and eliminate maintenance concerns and costs

### The Solution

- After having Musco's LED technology installed at AT&T Stadium the organization again decided to partner with the company for the practice facility project
- Musco's SportsCluster® System with TLC for LED™ technology was installed at the Ford Center at the Star
- The system technology easily adapts to the facility's unique architectural environment, virtually eliminates glare, and is energy efficient

### The Result



**Visibility** — Musco's patented glare control technology delivers a uniform light to the field while virtually eliminating glare from impacting the players

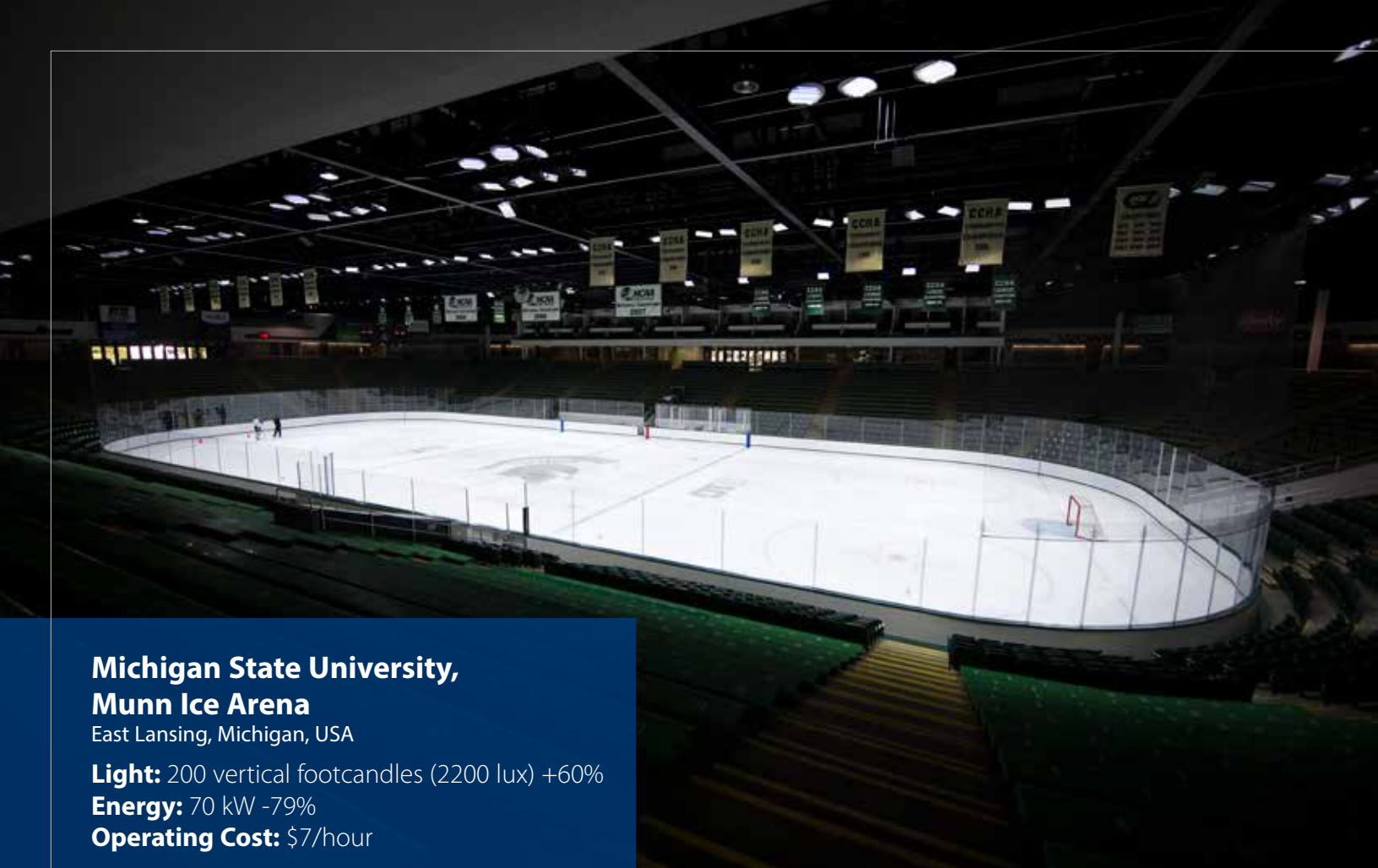


**Energy Efficiency** — Energy consumption was cut 56 percent compared to typical metal halide equipment, and CO2 was reduced by 502 metric tons over 10 years



**Cost Effective** — Musco's 10-year parts and labor warranty eliminated maintenance costs, and the 10-year cost of ownership for the Cowboys was reduced by more than \$144,000





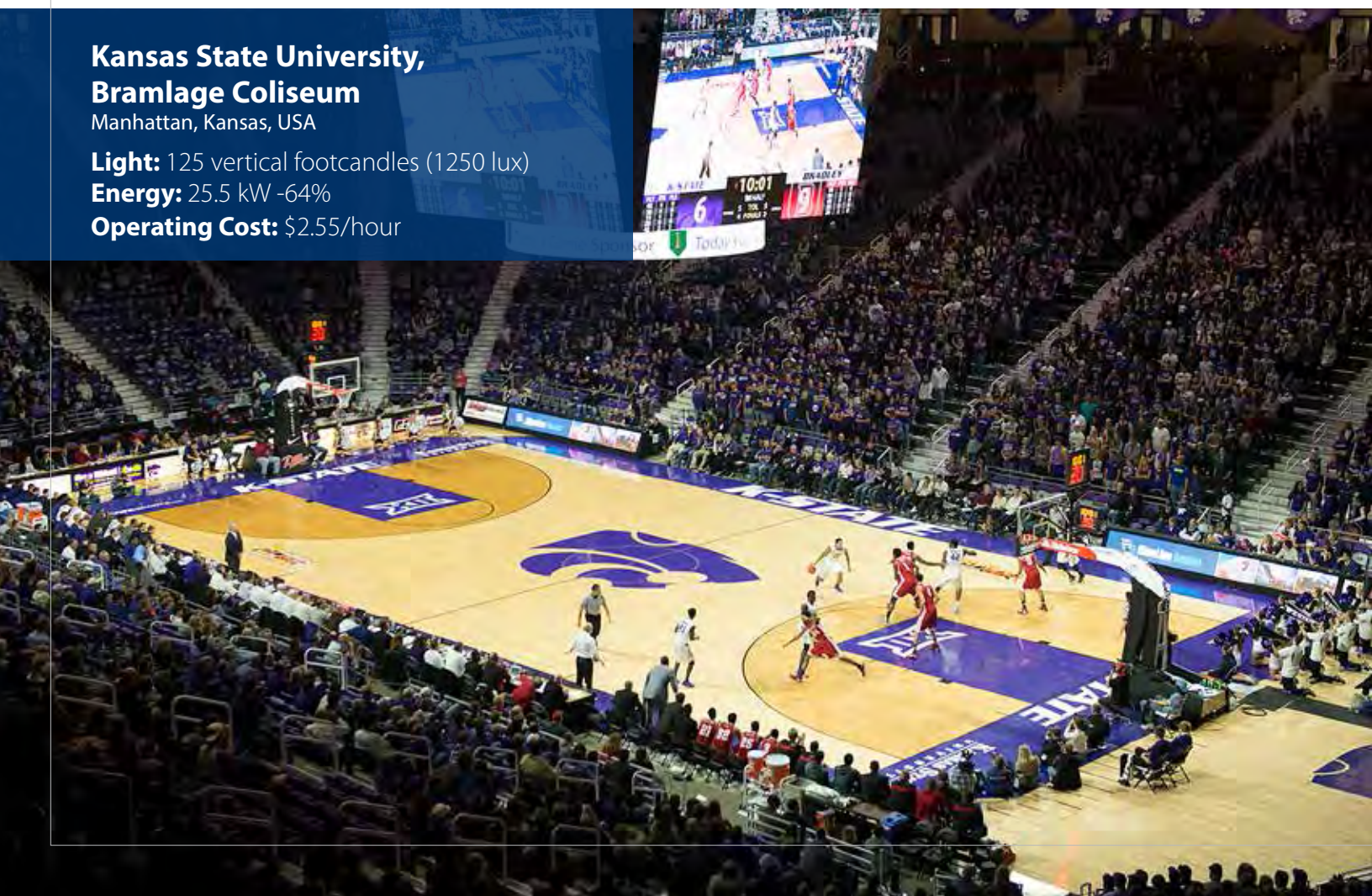
## Michigan State University, Munn Ice Arena

East Lansing, Michigan, USA

**Light:** 200 vertical footcandles (2200 lux) +60%

**Energy:** 70 kW -79%

**Operating Cost:** \$7/hour



## Kansas State University, Bramlage Coliseum

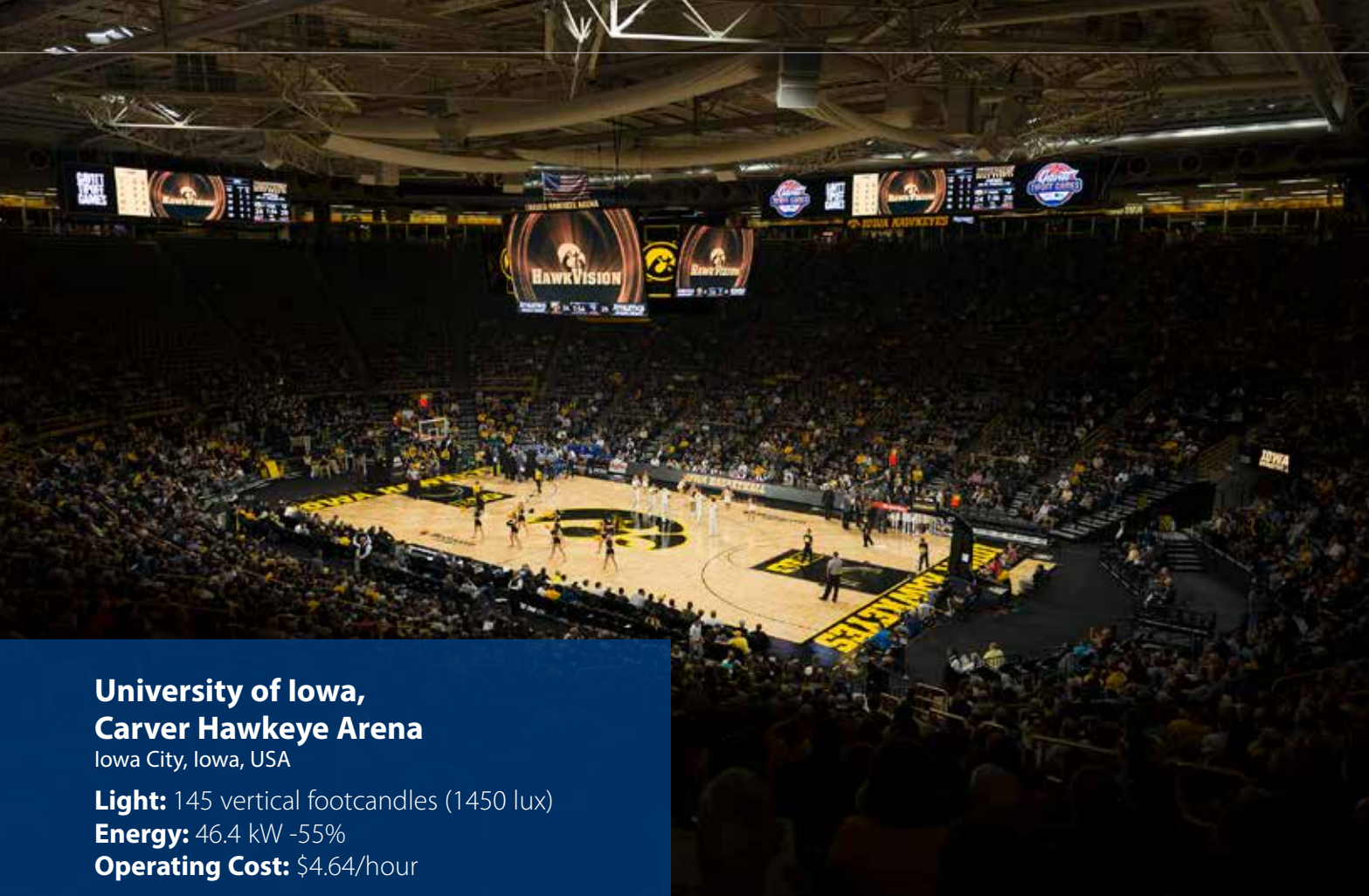
Manhattan, Kansas, USA

**Light:** 125 vertical footcandles (1250 lux)

**Energy:** 25.5 kW -64%

**Operating Cost:** \$2.55/hour





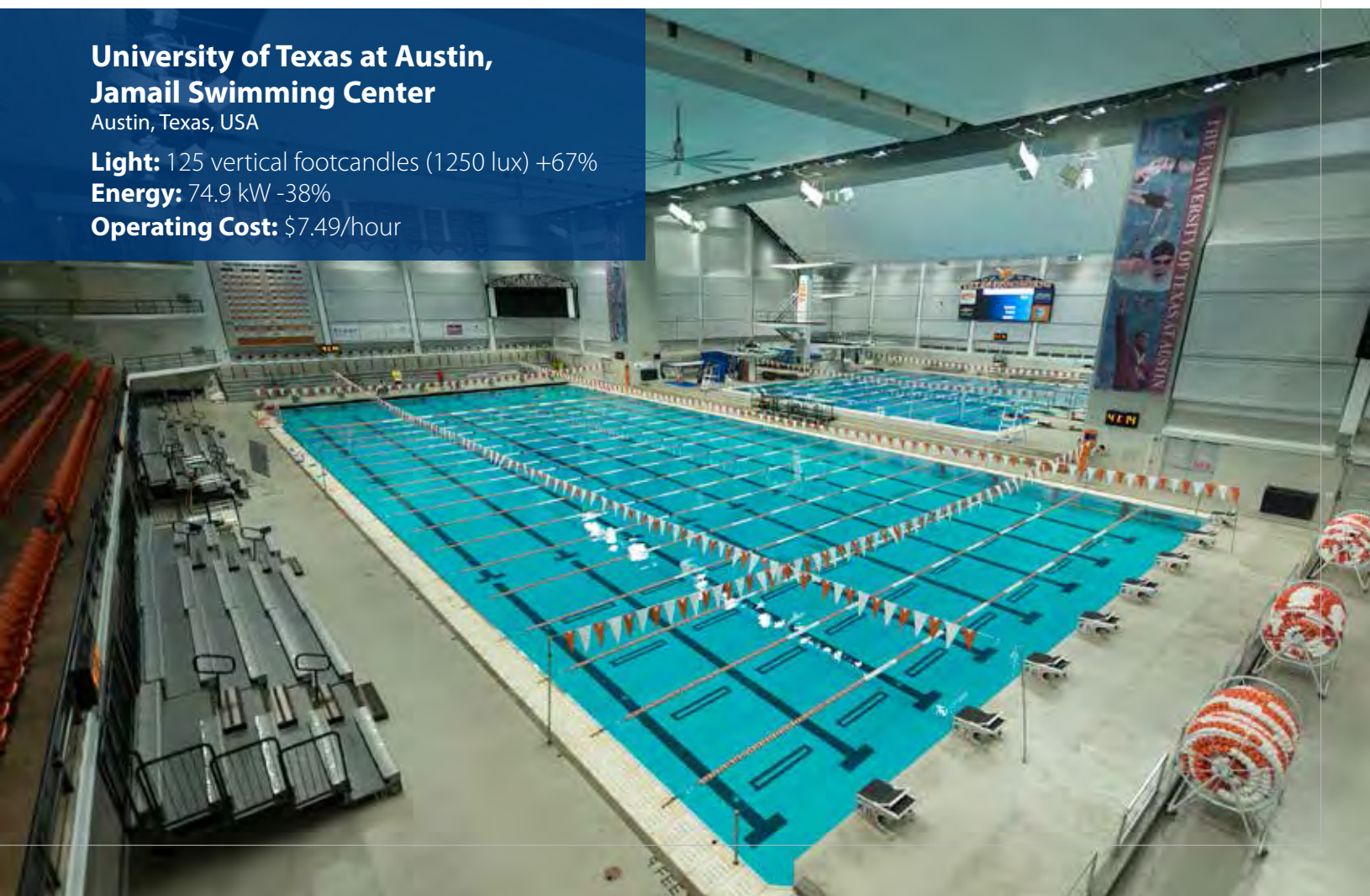
## University of Iowa, Carver Hawkeye Arena

Iowa City, Iowa, USA

**Light:** 145 vertical footcandles (1450 lux)

**Energy:** 46.4 kW -55%

**Operating Cost:** \$4.64/hour



## University of Texas at Austin, Jamail Swimming Center

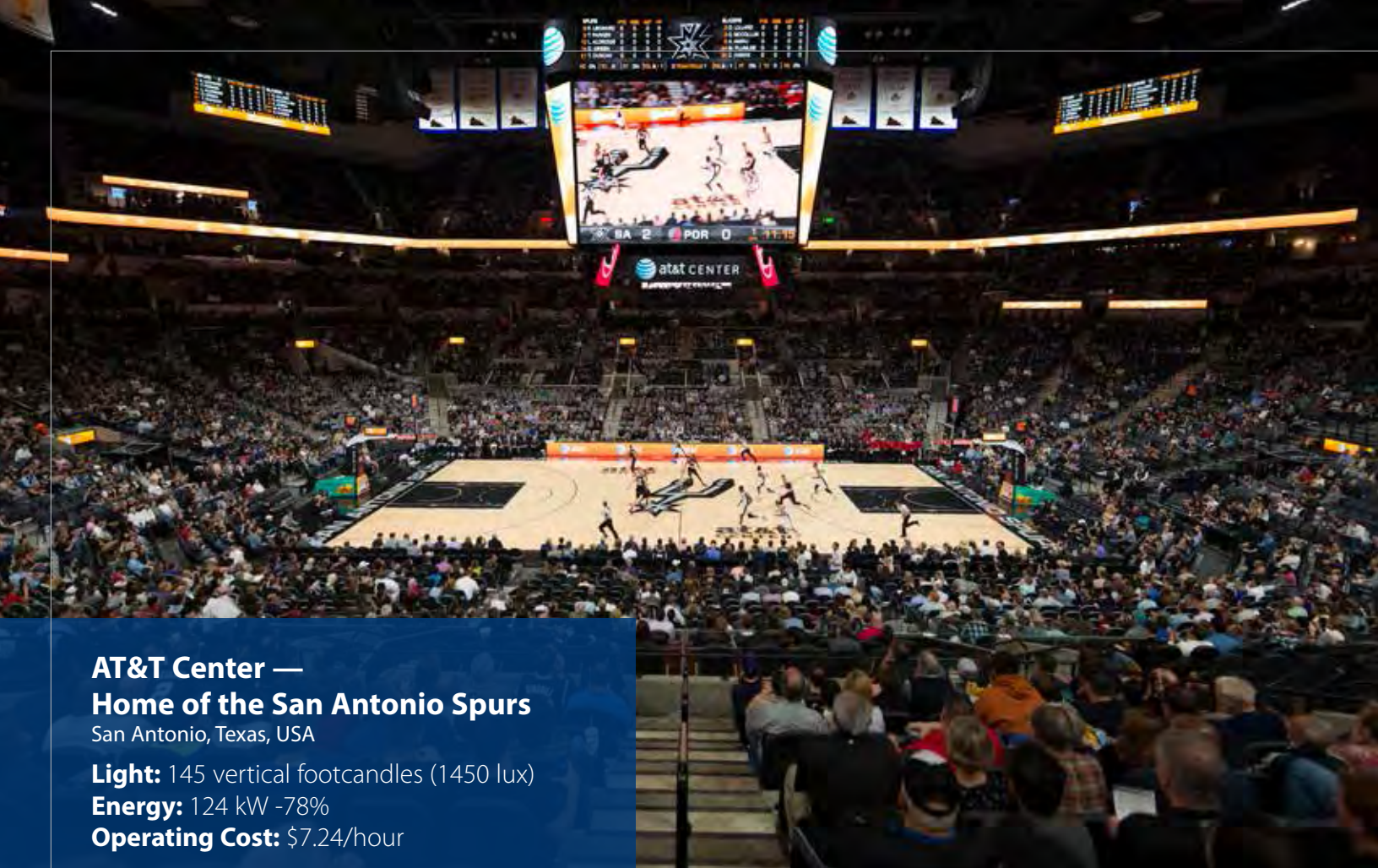
Austin, Texas, USA

**Light:** 125 vertical footcandles (1250 lux) +67%

**Energy:** 74.9 kW -38%

**Operating Cost:** \$7.49/hour





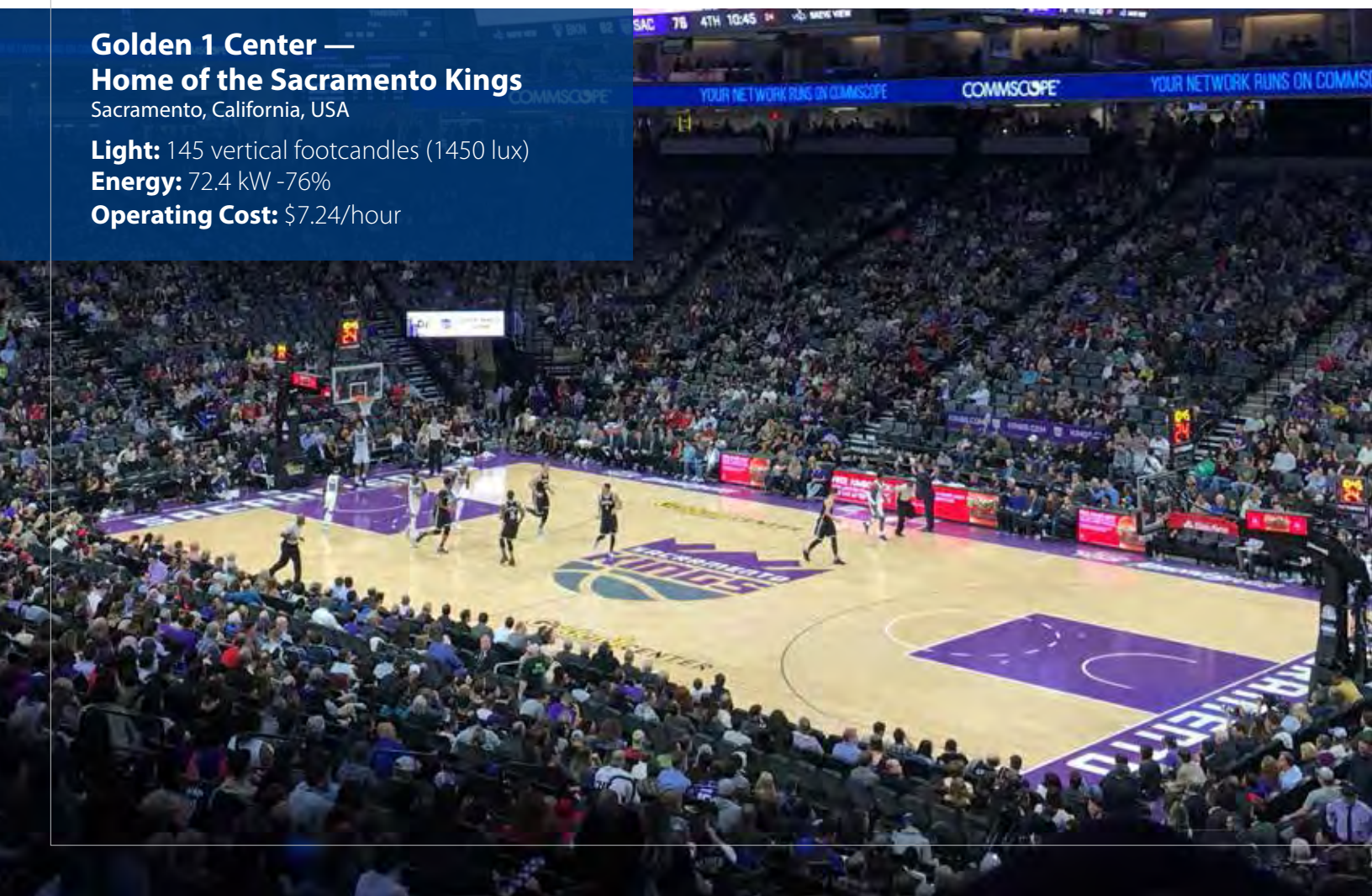
**AT&T Center —  
Home of the San Antonio Spurs**

San Antonio, Texas, USA

**Light:** 145 vertical footcandles (1450 lux)

**Energy:** 124 kW -78%

**Operating Cost:** \$7.24/hour



**Golden 1 Center —  
Home of the Sacramento Kings**

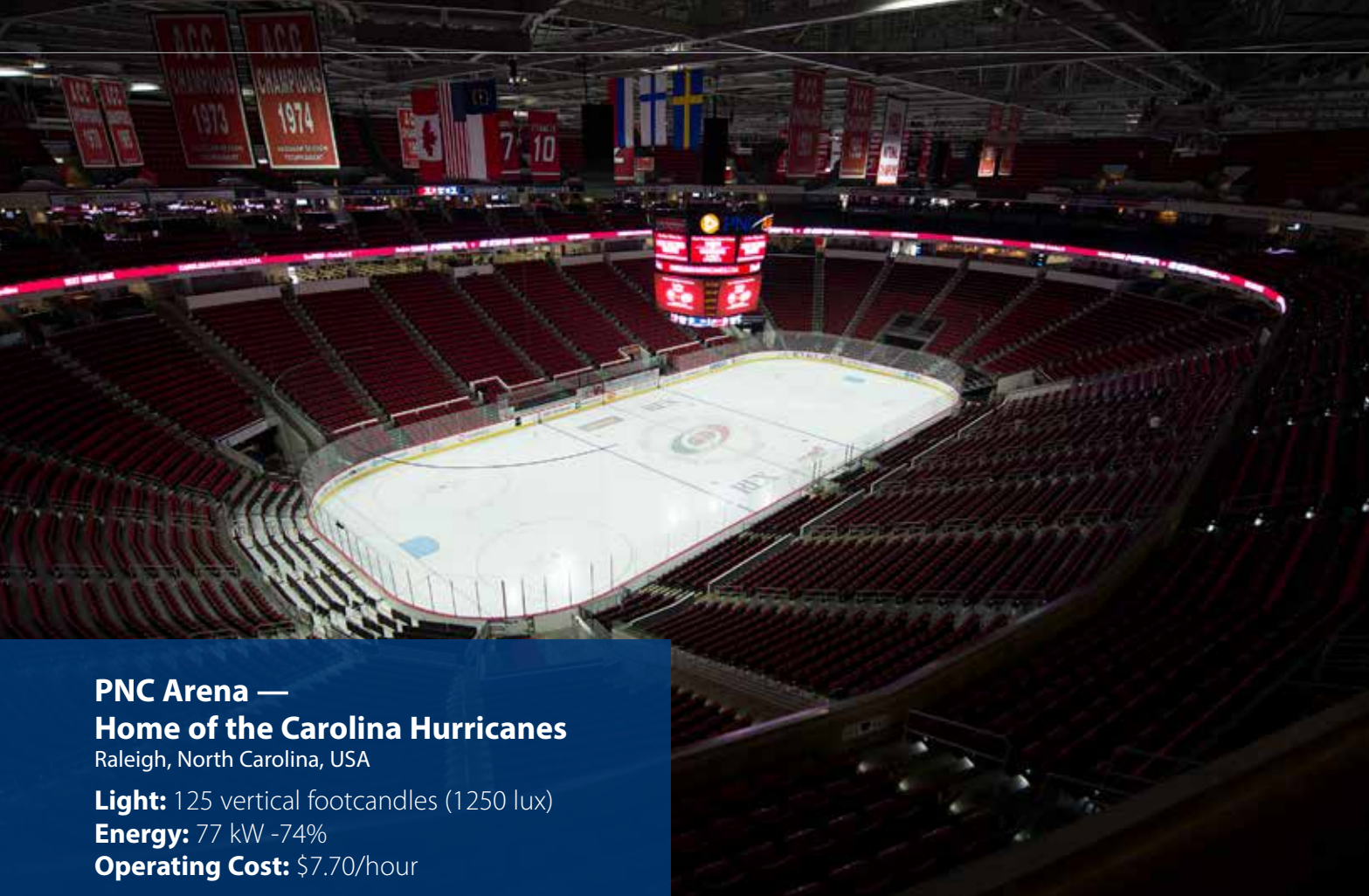
Sacramento, California, USA

**Light:** 145 vertical footcandles (1450 lux)

**Energy:** 72.4 kW -76%

**Operating Cost:** \$7.24/hour





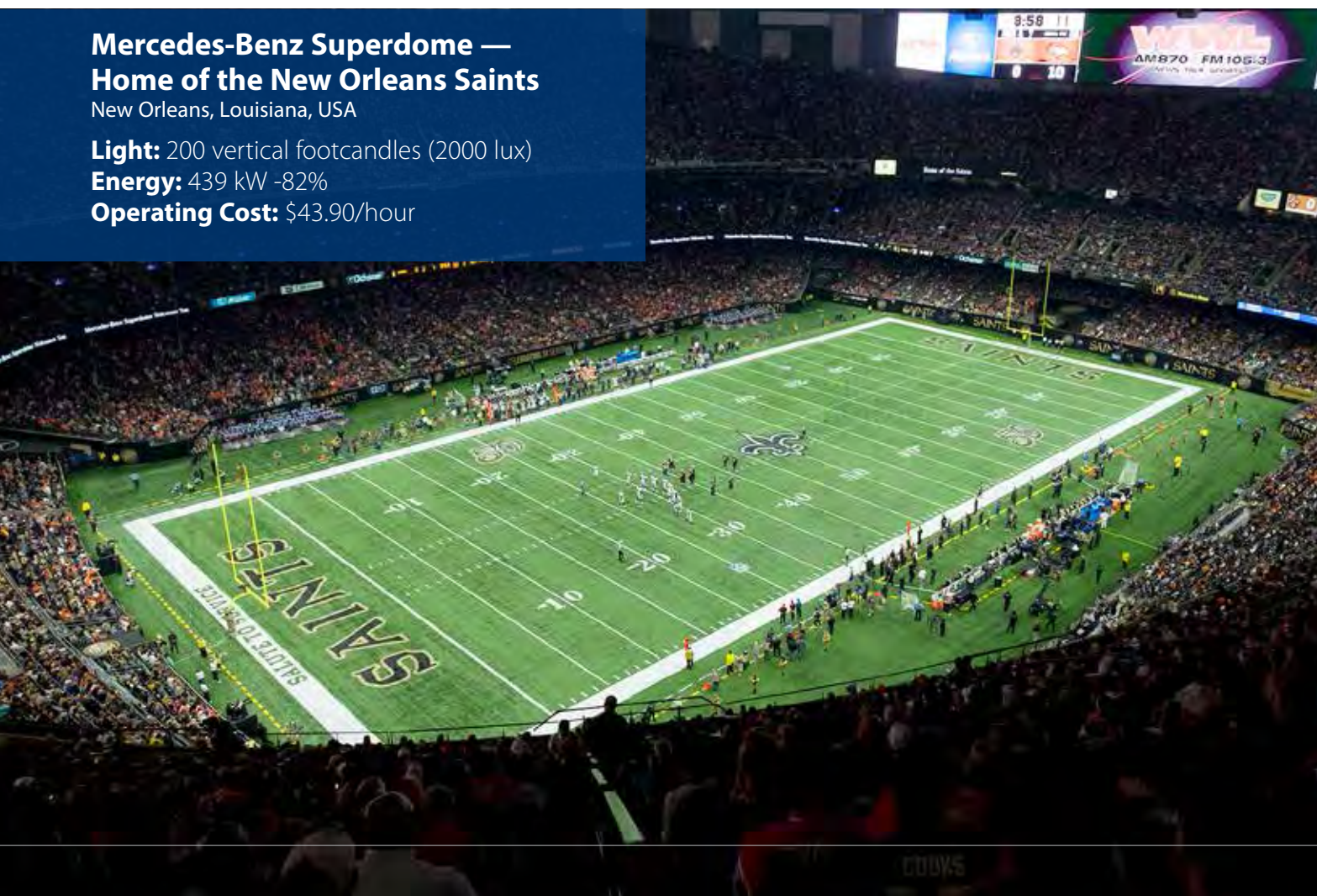
**PNC Arena —  
Home of the Carolina Hurricanes**

Raleigh, North Carolina, USA

**Light:** 125 vertical footcandles (1250 lux)

**Energy:** 77 kW -74%

**Operating Cost:** \$7.70/hour



**Mercedes-Benz Superdome —  
Home of the New Orleans Saints**

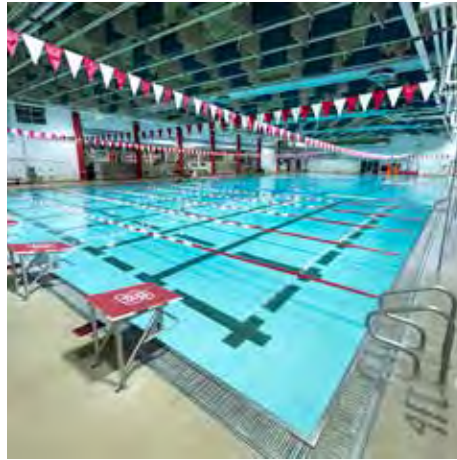
New Orleans, Louisiana, USA

**Light:** 200 vertical footcandles (2000 lux)

**Energy:** 439 kW -82%

**Operating Cost:** \$43.90/hour





**Unequaled performance . . .**  
*for your budget, for the environment.*



**We Make It Happen®**

[www.musco.com](http://www.musco.com)  
e-mail: [lighting@musco.com](mailto:lighting@musco.com)

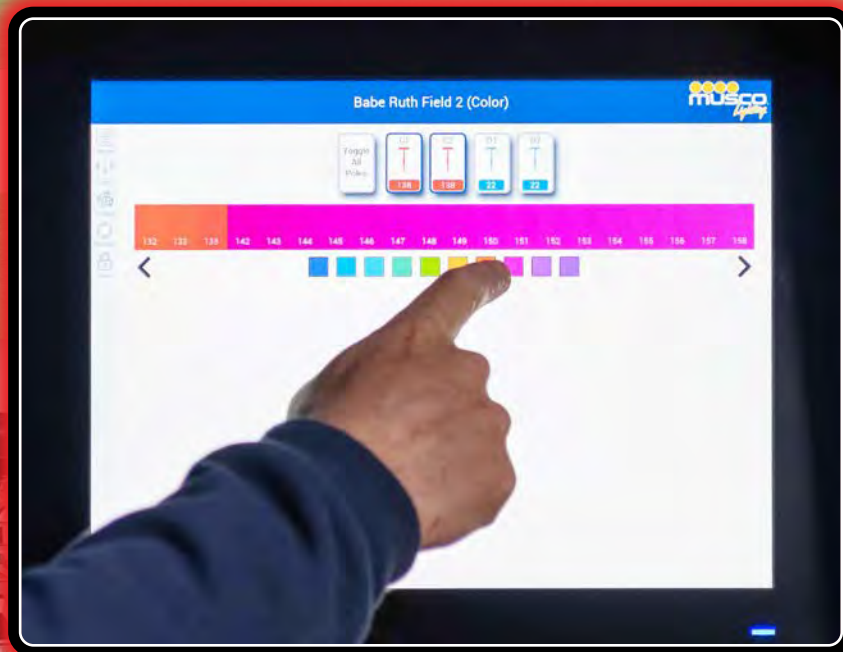
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U.S. and foreign patents issued and pending.

# Musco Control Solutions

24/7/365 monitoring and support

Control-Link® control and monitoring system

Show-Light™ entertainment package





# Making Facility Management Easy Since 1999

The most innovative solutions are developed in response to real-world problems. In 1999 Musco introduced Control-Link® as a first-of-its-kind light management system to help customers who were getting calls from neighbors at 2 a.m. about lights left on, to help cut energy costs, and save staff time.

Since that first introduction, Musco has installed thousands of control systems from fully automated unmanned recreational sites to complex theatrical solutions for many of the largest stadiums in the world.

**Anytime, Anywhere ...**Control-Link management tools allow you to access and manage your lights instantly, from anywhere via a cellular internet connection.

**A Real, Live Voice ...**Control-Link Central™ team will monitor, schedule, and help manage your lights 24/7/365, and a real live voice will be on the other end of the phone when you call.

**Factory Wired, Programmed, and Tested ...**our unique system approach streamlines installation and assures that your controls, from basic on/off to professional level light shows, will be ready to work on day one.



**5.8 million**

schedules managed  
and monitored by our  
Control-Link Central™  
Team last year



**360,000**

calls fielded to assist  
customers last year

## How can controls enhance your facility?

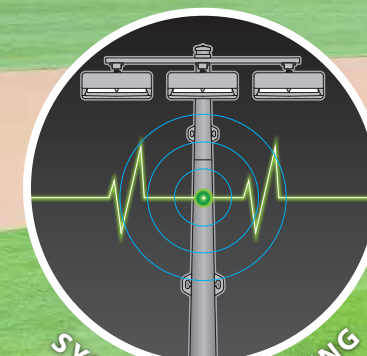
- ☐ **Remote on/off scheduling**  
for easy control from anywhere
  - ☐ **Dimming** (3 levels)  
saves energy for practice and other activities
  - ☐ **System monitoring**  
alerts Musco of any issues
- 
- ☐ **Predesigned light shows**  
add excitement to events
  - ☐ **Color accent option**  
to highlight poles and other structures
- 
- ☐ **Custom-choreographed light shows**  
precisely timed to music



REMOTE ON/OFF SCHEDULING



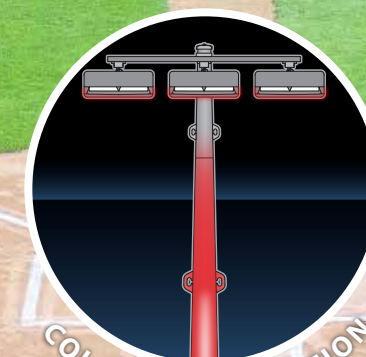
DIMMING



SYSTEM MONITORING



PREDESIGNED LIGHT SHOWS



COLOR ACCENT OPTION



CUSTOM LIGHT SHOWS



# Flexible Control, Solid Management

Your Control-Link® control and monitoring system offers efficient, cost-effective tools that are both cutting-edge and simple to use.

Musco will have your back 24/7/365 to ensure your lights are only on when needed, keeping neighbors and taxpayers happy. Because more than anything, it's about your peace of mind.

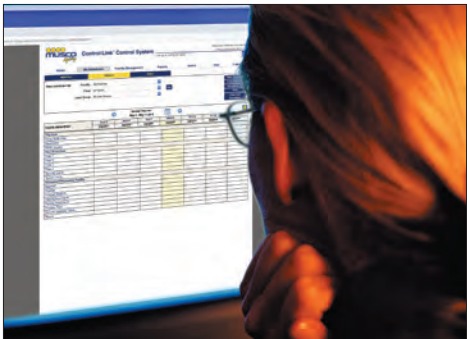
The Control-Link system provides comprehensive scheduling assistance, system monitoring, secure password-protected access, automated equipment controls, and valuable usage data.

**Flexible and Reliable . . .** remote scheduling and controls mean no more staffing headaches, tracking multiple sets of keys, or late-night hours being on-site to turn your lights off.

**24/7/365 Monitoring . . .** our Team will monitor your system's performance at the luminaire level, so if an issue arises we'll likely know about it before you do.

**Better for Your Budget . . .** automated operation of your lights, as well as three levels of dimming that come standard, will reduce energy consumption and cut staffing costs.

**Data You Can Use . . .** we'll help create usage reports and analytics for your facilities from the extensive data we store, which will help improve operational efficiencies and future planning.



Enter schedules up to 10 years in advance.

MUSCO Control-Link Control System									
Sample Owner: Tuesday, Wednesday, August 2, 2010									
Home My Schedules Facility Management Reports Admin Help Logout									
DASHBOARD SERVICES									
Owner: Mahaska Comm. Rec Foundation									
Facility: Lacey Park Ballfields									
Field: All Fields									
Energy Used kWh: 519 YTD (Jul 2010)									
Service Visits: 6									
Schedules: 171 1,333									
Phone Calls to CLC: 16 90									
Web Logins: 2 13									
All Facilities for Mahaska Comm. Rec Foundation - All Fields for Lacey Park Ballfields									
FIELD	Lamp Outages	Controls	Switch Position	Lamp Life	Relamps Completed	Musco Warranty Program	Warranty Start Date	Estimated Warranty Expire Date	
SB 88 Field 24-ED7			Auto	543 hrs used	0 of 1	Constant 25	03/26/2017	05/26/2022	
SD 88 Field 34-LSG			Auto	555 hrs used	0 of 1	Constant 25	05/04/2008	05/04/2013	
SB 88 Field 44-LSG			Auto	1543 hrs used	0 of 1	Constant 25	06/04/2008	06/04/2013	
SD 88 Field 54-LSG			Auto	5003 hrs used	0 of 1	Constant 25	05/04/2008	05/04/2013	

Dashboard tracking allows you to see the operation and service status of your fields.

Musco Control-Link Usage Report (Auto Only)			
By Facility, Field			
Usage Type of Light Usage			
June, 2019			
Summary by Facility			
Facility	Total Auto Hours Usage	Total Hours Saved from Early Offs	
Cowley	112:50	17:08	
Dunbar	64:53	29:46	
Garland Parklet	49:48	0:00	
Herschel Field	256:47	26:05	
<b>Total:</b>	<b>484:18</b>	<b>72:59</b>	
Summary by Facility, Field			
Facility	Field	Total Auto Hours Usage	Total Hours Saved from Early Offs
Cowley	Baseball	63:04	17:08
Cowley	Basketball	49:46	0:00

Control-Link Central database stores usage data by field and user group.

## Control-Link. Control and Monitoring System

- ✓ **Remote on/off scheduling** for easy control from anywhere
- ✓ **Dimming (3 levels)** saves energy for practice and other activities
- ✓ **System monitoring** alerts Musco of any issues

*Includes Musco's management tools — user securities, usage tracking, facility status dashboard, and reports*

*Includes Control-Link Central™ support team — available 24/7/365*

*"In the past, a light could've gone out and our guys wouldn't see it for two to three weeks or until a whole pole went dark. Now if one light goes out we get an e-mail notice immediately from Musco's Control-Link Central."*

– Chuck Vones, Parks and Recreation Director  
Pembroke Pines, Florida



# Big Time Light Shows at Hometown Fields

Our Show-Light™ entertainment package provides a cost-effective way for you to bring professional light shows to your facility. From pre-game introductions, to halftime shows, to celebrating big plays and big wins, this special effects lighting will energize players and fans and take your game atmosphere to a new level.

Special effects light shows aren't just for the pros anymore.

Musco's Show-Light technology utilizes instant on/off and the advanced control capabilities of LED, is easy to use, and delivers both predesigned and customized light shows.

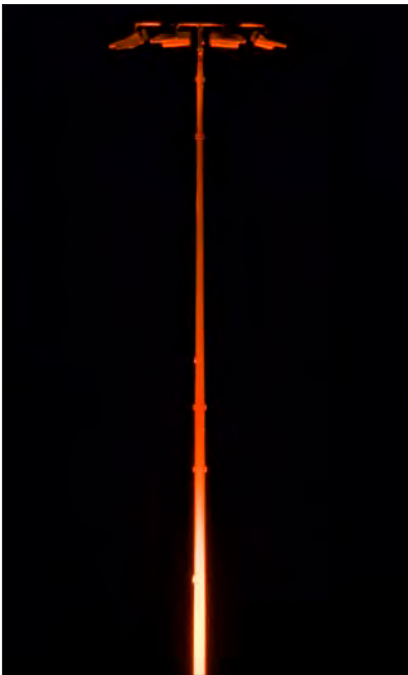
**Set the Scene . . .** you'll get preprogrammed light shows that will set the scene and excite players and fans through the entire game night experience.

**Plenty of Options . . .** you can choose from Musco's library of light shows or work with our design engineers to create customized shows and scenes.

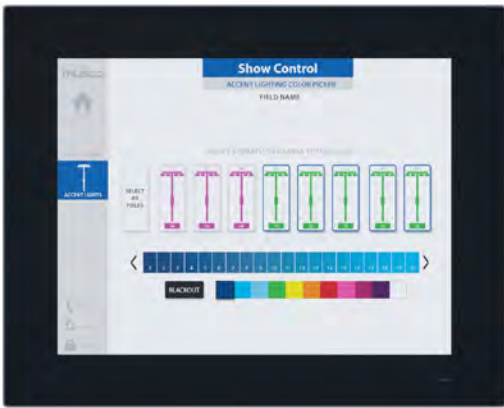
**As Easy as a Touchscreen . . .** you'll be provided an industrial grade 15-inch smart device with touchscreen to start and stop shows, select dimming levels, and adjust optional accent colors.

**Reliable and Versatile . . .** your light shows will be stored on site and backed up at Control-Link Central™ data center.

**Color Changing Technology Option . . .** by adding optional color changing luminaires you can enhance shows with pops of color, color wash, or accent lighting.



Optional color accent lighting highlights poles or other structures.



With optional color changing luminaires you can choose from over 100 color options to show your team color, highlight special events, or enhance light shows.



*"The people Musco has answering the phones and adjusting the schedule are the most friendly and accommodating of any phone service I have ever called. They are always extremely friendly and professional, the service could not be better."*

– Mark Buggins, Head Baseball Coach (retired)  
Sitka High School

## Show-Light™ Entertainment Package

- ✓ **Remote on/off scheduling**  
for easy control from anywhere
- ✓ **Dimming (3 levels)**  
saves energy for practice and other activities
- ✓ **System monitoring**  
alerts Musco of any issues
- ✓ **Predesigned light shows**  
add excitement to events
- ✓ **Color accent option**  
to highlight poles and other structures

*Includes industrial grade touchscreen tablet for easy control*

*Includes Control-Link Central™ support team — available 24/7/365*



*See West Des Moines Valley High School's light shows in action.*



# Take Your Light Shows to the Next Level

With our Show-Light+™ entertainment package, you'll tap into advanced customization capabilities and more complex light shows that incorporate music along with the special effects lighting. The Show-Light+ system is easy to use and will provide an even more memorable game night experience.

Light and sound shows that mirror what's seen at the biggest and best professional stadiums.

The equipment you'll be supplied with, and the light shows it will deliver, are exactly the same as what we provide our NFL, MLB, NBA, and NHL customers.

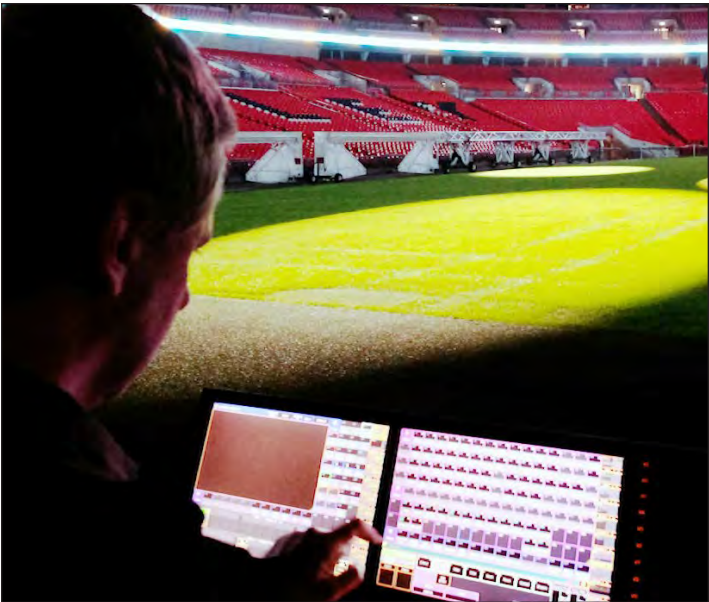
**Light and Sound . . .** in addition to the preprogrammed light shows from the base Show-Light package, you'll get three shows with lights synchronized to your music for an amazing visual and audio experience.

**Easy to Use . . .** for each light show Musco's design engineers will align lighting cues with audio files played through an on-site server, you just start and stop the shows with an easy-to-use touchscreen device.

**Streamlined Solution . . .** if you already have a DMX system, Show-Light+ equipment will act as a fully integrated extension of that system.



Musco's field lighting shows can interface with your separate controller for other show features, such as pyrotechnics.



Light shows are operated via an easy-to-use touchscreen.



Musco's light show programming specialists will custom time shows to your music.

## Show-Light+™ Entertainment Package

- ✓ **Remote on/off scheduling**  
for easy control from anywhere
- ✓ **Dimming (3 levels)**  
saves energy for practice and other activities
- ✓ **System monitoring**  
alerts Musco of any issues
- ✓ **Predesigned light shows**  
add excitement to events
- ✓ **Color accent option**  
to highlight poles and other structures
- ✓ **Custom-choreographed light shows**  
precisely timed to music

*Includes DMX controller and cue server*

*Includes Control-Link Central™ support team — available 24/7/365*



*See Southampton's light shows in action.*

*"The fan reaction has been great. I look for the lights to be as much of an entertainment vehicle as I do fireworks — seventh inning stretch, when we hit a home run, when we win the game. Everybody loves it, particularly when we make the lights flash and dance to the music."*

– Sam Bernabe, President & General Manager  
Iowa Cubs



# Innovative, Streamlined Communications Managed by Our Team 24/7/365

Each component of the Control-Link® system is designed, factory-built and tested for seamless operation and integration with your lighting system.

**Proven Technology, Innovated . . .** Musco's advanced powerline communication technology provides robust control and monitoring for the system.

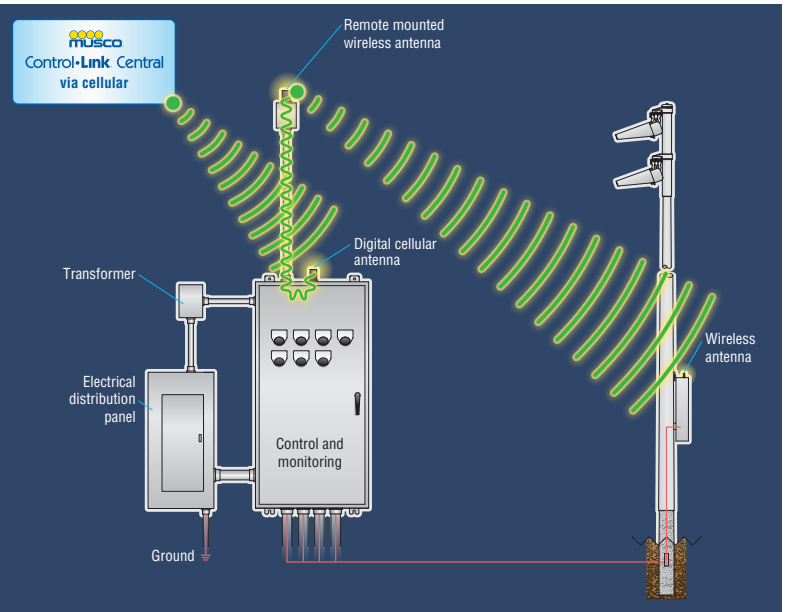
**Reliable Installation and Operation . . .** no added communication cable installation costs. Lights may be scheduled remotely or operated manually on site with a key switch.

**Safety Features . . .** electricity is only on when the system is in use, with built-in fusing and surge protection.

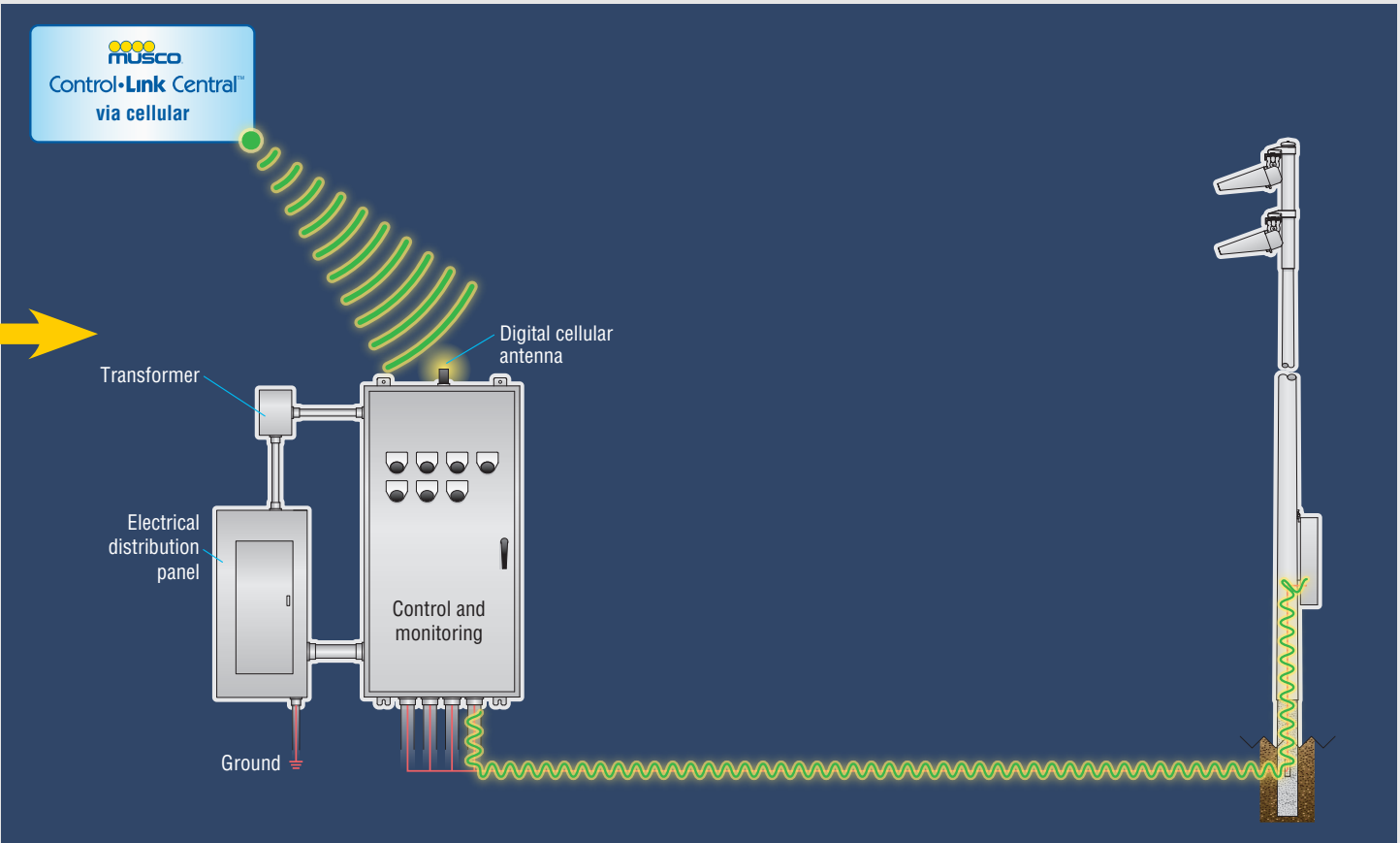
**Monitoring and Support . . .** our Control-Link Central™ Team monitors your system 24/7/365 to ensure schedules execute and to provide assistance.

## Wireless Communication

An optional wireless mesh network is available depending on your project requirements



## Powerline Communication System™ Uses supply wiring for control commands and monitoring feedback



### 1) Enter schedules at your convenience

Based on security levels, users schedule field lighting and other equipment such as door locks, concession stands, and security lights from any location via website, smartphone app, or phone call.

### 2) Control-Link Central™ data center routes schedules, with 24/7/365 team member monitoring support

Schedules are received, routed to your site, and backed up at the Control-Link Central data center, where our staff provides scheduling support and verification, and monitors your lighting system operation.

### 3) Schedules are stored on-site

Schedules are transmitted to your facility via cellular technology and stored in the on-site equipment controller.

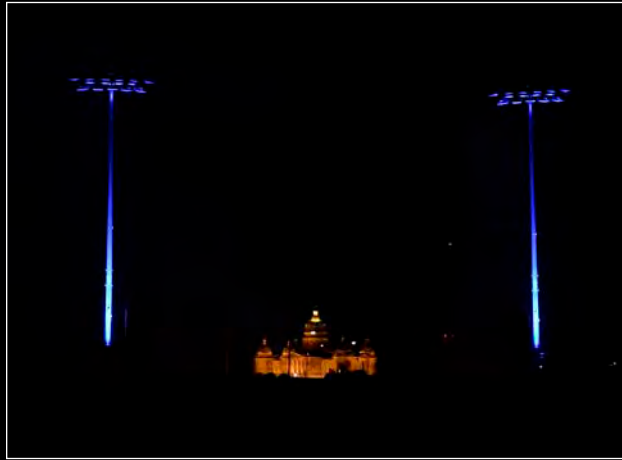
### 4) Equipment is controlled automatically with on-site show controls

Lights are operated per your schedules via Musco's Powerline Communication System technology. You can control optional Show-Light™ features with the on-site tablet.

### 5) Continuous monitoring

Entire system is monitored during operation and the Control-Link Central team is notified of any issues.





**Unequaled performance . . .**  
*for your budget, for the environment.*



**We Make It Happen®**

[www.musco.com](http://www.musco.com)

e-mail: [lighting@musco.com](mailto:lighting@musco.com)

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# Mini-Pitch System™

## Modular Sports Solution



**MUSCO**  
Lighting  
We Make It Happen®

**U.S.**  
SOCCER  
FOUNDATION



***The Mini-Pitch System™  
modular sports solution has  
an innovative, all-in-one design  
to help communities create  
fun and active play spaces by  
revitalizing public areas.***

Created to assist the U.S. Soccer Foundation in providing safer places to play the game, the Mini-Pitch System is ideal for transforming abandoned courts and other underutilized areas into places where children and families can come together in the spirit of teamwork, empowerment, and physical activity. The system supports the Foundation's *It's Everyone's Game* movement to ensure that all children have access to the game and its many benefits.

**Complete**

The mini-pitch comes as a modular system complete with lighting, fencing, goals, benches, ADA-compliant access, and lockable storage.

**Convenient**

Assembly can be done by a three-person crew in approximately 16 hours.

**Customizable**

You'll have options on the size of your pitch and custom signage to ensure it meets your exact needs. Surfacing is handled by another vendor on a project-by-project basis.







***"Since the installation at Santa Fe South, we're seeing kids from different high schools hanging out and playing together almost every night. It's unifying kids using these courts."***

**– Mickey Dollens, Executive Director of the Energy Assist Foundation**

## Complete System

The Mini-Pitch System™ modular sports solution includes lighting, structural, and electrical components designed and engineered to work together for streamlined installation and reliable operation.

- Factory-built, wired, aimed, and tested.
- Fast, trouble-free installation.
- Rugged reliability, designed to be long-lasting in all weather conditions and atop all surfaces.
- 10-year warranty covers all parts and labor.

## TLC for LED® Lighting

Enjoy the benefits of the LED sports lighting technology of choice at venues around the world.

- Custom optics create a more uniform distribution of light for better visibility.
- Patented glare control preserves darkness around your pitch, keeping neighbors happy.
- Instant on/off and energy efficient operation.

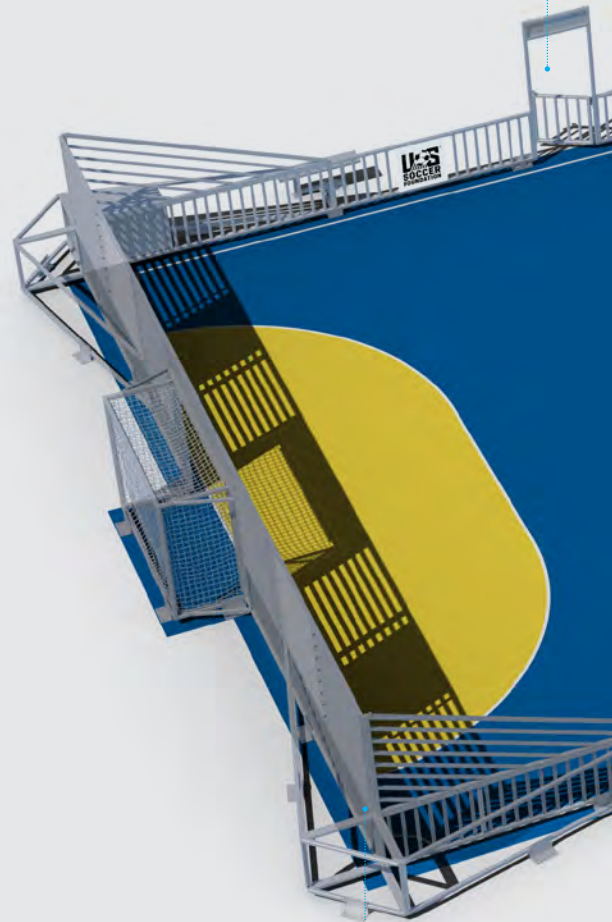
## Control-Link® Service

Your system will be supported by Musco's Control-Link control and monitoring service.

- Manage your lights instantly, from anywhere, with a touch of a smart phone.
- 24/7 support from the Musco Team includes proactive monitoring and scheduling assistance.
- Get a real, live voice on the other end of the phone anytime you call Control-Link Central™ service center.

Lighting control system  
with 24/7 monitoring

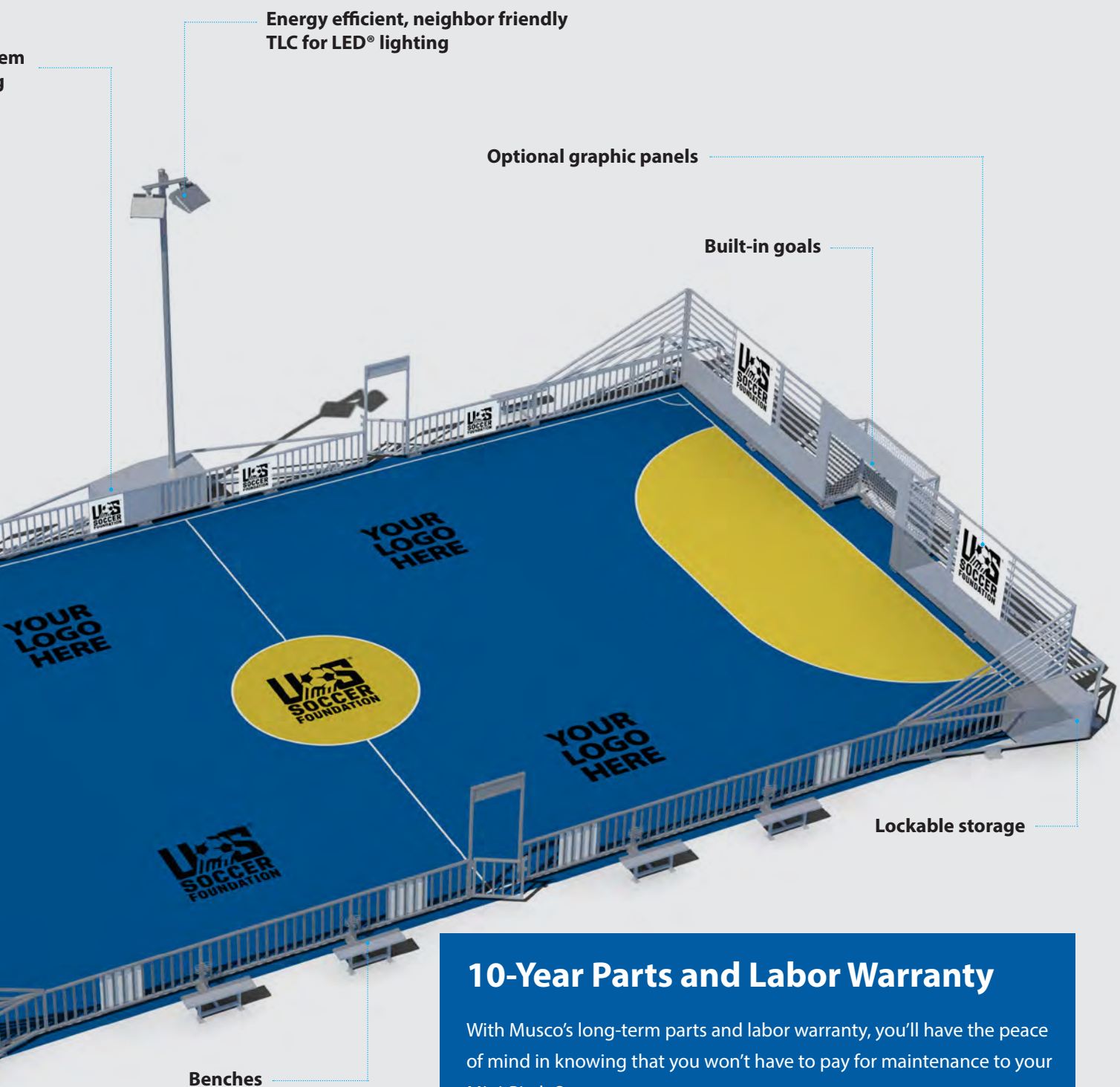
ADA-compliant access



Galvanized  
and structural

Surfaces provided by others, evaluated on a project-by-project basis.





## 10-Year Parts and Labor Warranty

With Musco's long-term parts and labor warranty, you'll have the peace of mind in knowing that you won't have to pay for maintenance to your Mini-Pitch System.

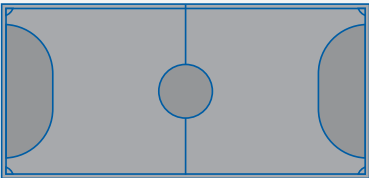
- No maintenance costs for the next decade.
- Every part and all labor covered.
- Supported by Musco's regionally-based technicians.

And with the 24/7 proactive monitoring of Control-Link, if any issues with your mini-pitch lighting arise we'll probably know before you do.

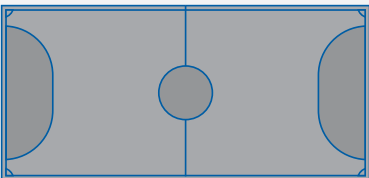
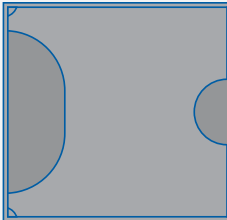
*Separate playing surface warranty is provided by the surface contractor.*

The Mini-Pitch System™ modular sports solution gives

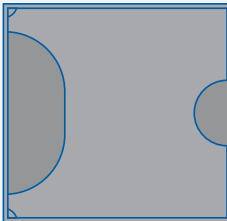
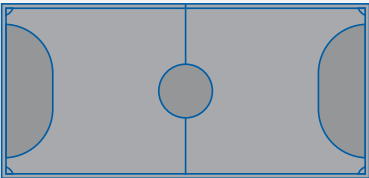
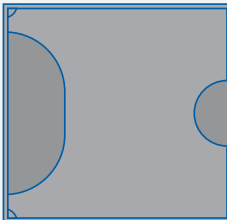
**Size**



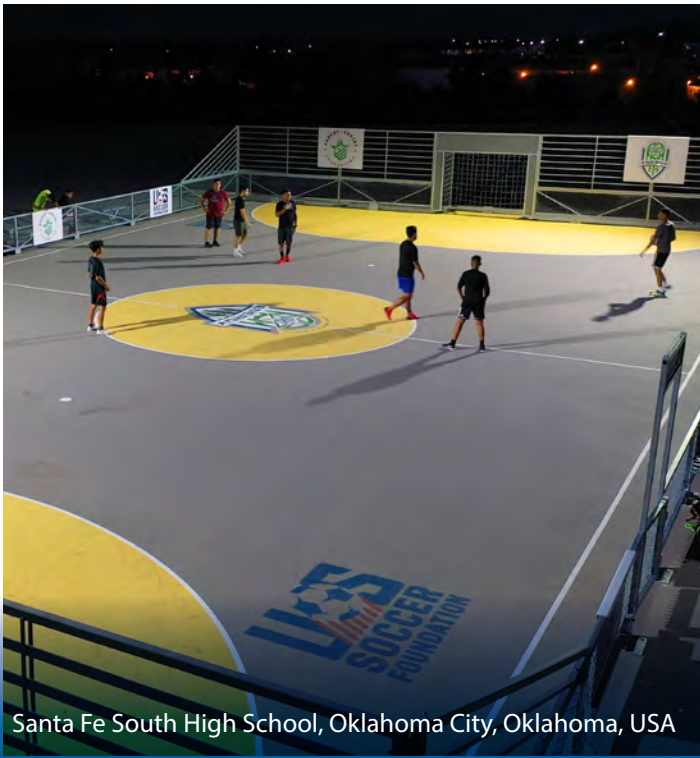
40 ft x 84 ft  
12 m x 25 m



76 ft x 84 ft  
23 m x 25 m



Desert West, Phoenix, Arizona, USA

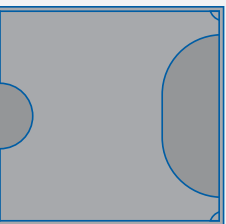


Santa Fe South High School, Oklahoma City, Oklahoma, USA

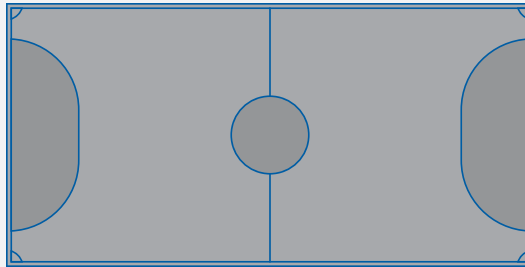


# Your Way

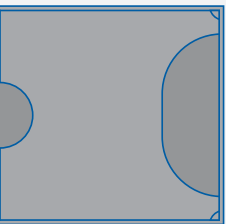
you customization options to meet your exact needs.



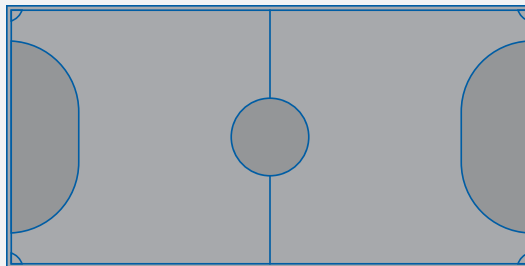
50 ft x 104 ft  
15 m x 31 m



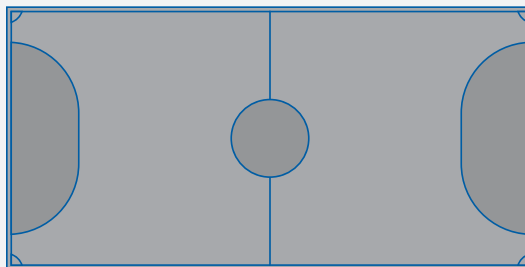
60 ft x 120 ft  
18 m x 36 m



96 ft x 104 ft  
29 m x 32 m



116 ft x 120 ft  
35 m x 36 m



Eakin Elementary School, Columbus, Ohio, USA



Oklahoma State University – Oklahoma City Campus  
Oklahoma City, Oklahoma



**We Make It Happen®**

[www.musco.com](http://www.musco.com)  
e-mail: [lighting@musco.com](mailto:lighting@musco.com)



[www.ussoccerfoundation.org](http://www.ussoccerfoundation.org)  
e-mail: [info@ussoccerfoundation.org](mailto:info@ussoccerfoundation.org)

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U.S. and foreign patents issued and pending.

US Soccer Foundation is a registered trademark in the United States to United States Soccer Foundation.



# Big Time Broadcasts on Hometown Fields

*Simple · Reliable · Cost-effective*



**MuscoVISION™**

Automated Sports Broadcasting

Now you can provide a hassle-free video solution for your facility to keep fans connected even when they can't be there in person . . . making your fields more desirable for games and providing additional revenue potential.

The MuscoVision™ system packages all components you need to capture, produce and distribute a professional-quality video solution. Covered by a 5-year warranty that includes all parts and labor.

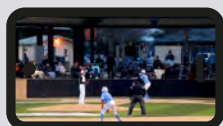
### Capture – Complete system in 5 Easy Pieces™

- Includes camera, structures, and electrical – foundation to poletop
- Factory assembled, wired and tested for reliability – UL Listed
- Saves installation time and assures compatibility



### Produce – Built-in intelligence automates production

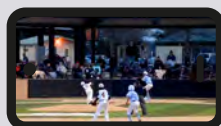
- No on-site staff needed
- Detects game play and starts the high definition video stream
- Knows how each sport is played and selects camera shots based on game action – emulates the sequence and cadence of a national broadcast



Center Field



Backstop



Center Field



Backstop



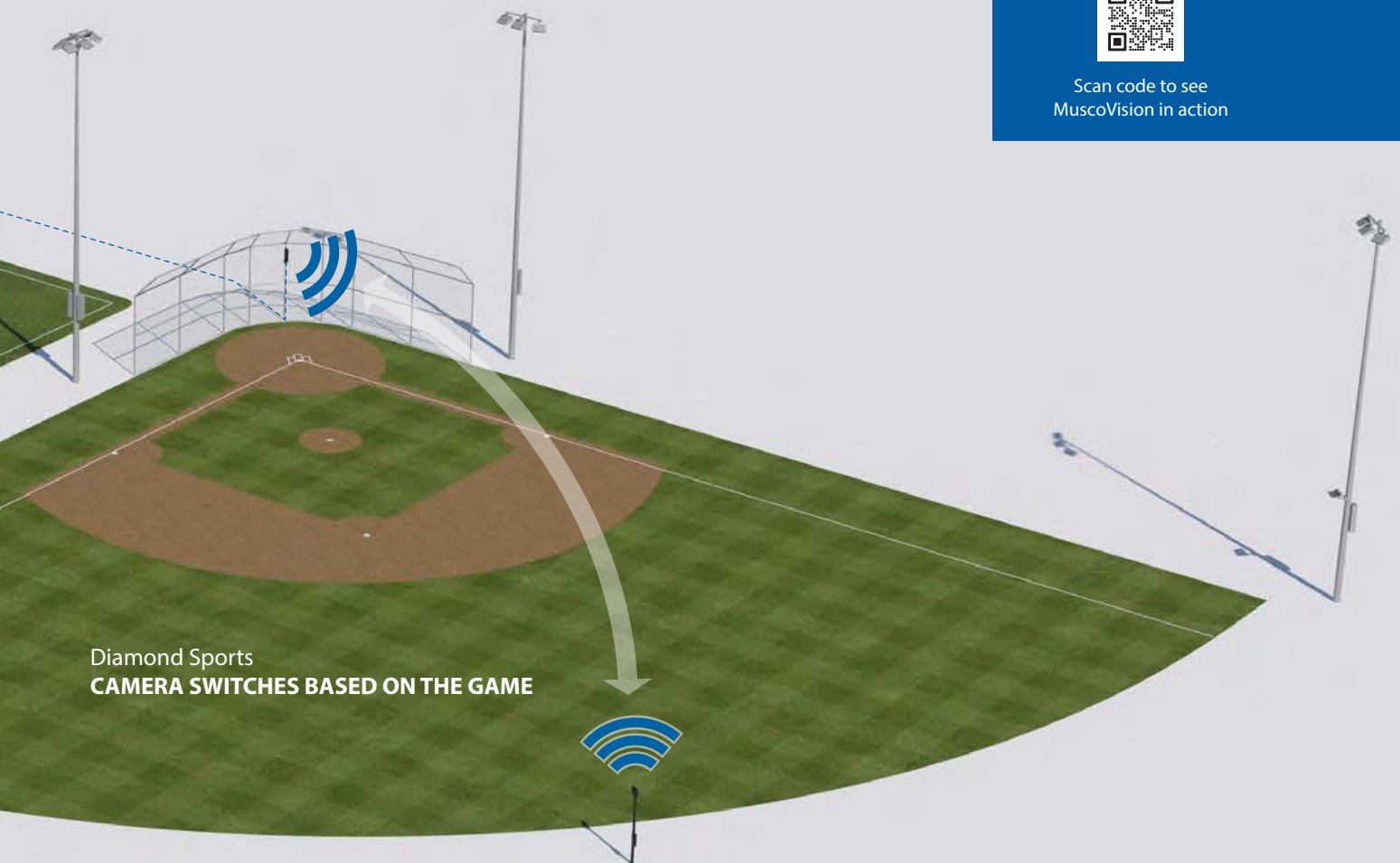
# Hometown sports broadcasting made simple

## Connect – Custom-designed communication system )))

- On-site network designed and supplied by Musco
- Customer provides internet to the site
- Schedule broadcast from anywhere via phone, website or app
- Monitoring and support provided 24/7/365 – always ready to play

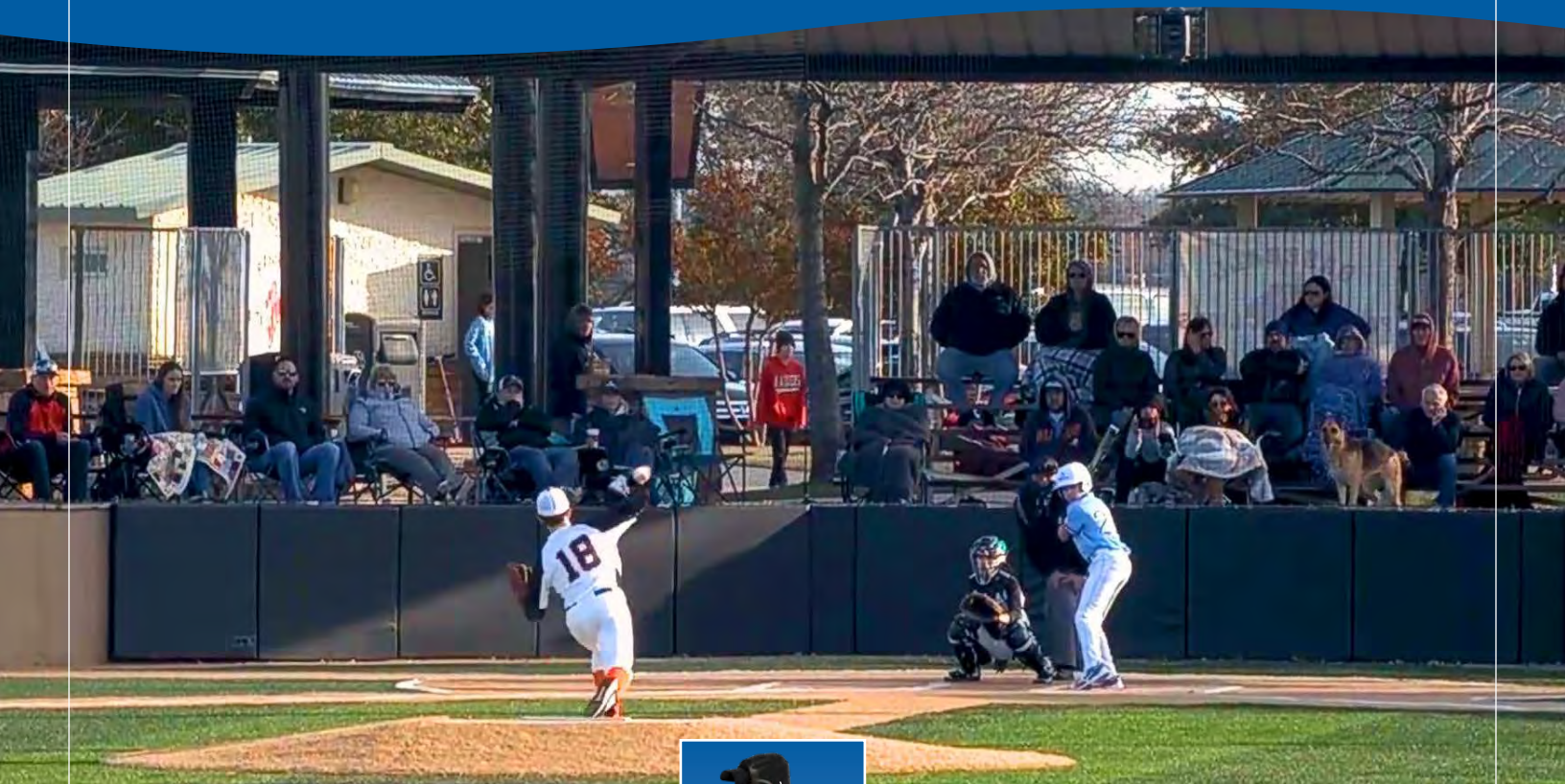


Scan code to see  
MuscoVision in action



## Distribute – Easy and fun to watch for fans, coaches, players

- Watch and download live and on-demand recorded video via website, app, or Smart TV
- Viewing features include tagging, clipping highlights and sharing via social media
- Flexible subscription options – Musco handles the payment transaction, providing you reports and revenue payments



**MuscoVision™**

**Automated Sports Broadcasting**

Custom designed for your facility, each piece of the system is engineered to work together. This single source approach for camera, structural, electrical, and control components delivers consistent results.



**5 Easy Pieces™**

Foundation-to-poletop system

**5. Poletop Camera Assembly**

**4. Wire Harness**

**3. Electrical Components Enclosure**

**2. Pole**

**1. Base**



**We Make It Happen®**

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# Musco's Controls & Lighting Services Teams

## UNEQUALED. ACCESSIBLE. KNOWLEDGABLE. ACCOUNTABLE.

Over 160 team members dedicated to operating and maintaining your sports lighting



**Control-Link Central™ • (877) 347-3319**  
[www.control-link.com](http://www.control-link.com) • [schedule@musco.com](mailto:schedule@musco.com) • FAX (800) 853-8847

- Staffed 24/7 with several easy ways to contact us
- Trained operators provide scheduling and reporting assistance and one-on-one phone training
- Conducts proactive nightly tests to assure your control system is operating properly, even when the lights aren't in use
- Easy access to field usage data
- Field operation monitoring

*"We strive to provide a level of service where every customer reaches a live operator, rather than a voice mail system, when they call in. We can make your last minute schedule changes happen in just a few minutes."*

— Mike Mason, Control-Link Manager



**Lighting Services Team • (800) 825-6020**  
[warranty@musco.com](mailto:warranty@musco.com) • FAX (888) 397-8736

- Trained technicians specializing in sports lighting provide field maintenance, warranty work, consulting, and temporary lighting
- Regionally based to effectively provide lighting services in every state plus a network of over 1800 contractors
- Ongoing field inspection program

*"Our technicians have an unequalled expertise in sports lighting. With our field monitoring, we'll contact you within one business day of detecting a fixture outage on your field . . . often before you even know about it."*

— Jeff McNulty, Director of Field Operations



Control-Link Central operators oversee the on/off control of over 22,000 fields each month and have experience with controlling over 4 million schedules per year.



Our lighting services team travels over 1 million miles each year. They inspect, fine tune, or provide yearly maintenance on more than 11,000 fields and supply temporary lighting for over 250 hours of live television broadcasts annually.



Each year, Musco technicians work atop a combined total of 318 miles of poles to ensure trouble-free operation for customers. That's the equivalent of climbing to the summit of Mount Everest . . . 58 times.

Specific funds are set aside to provide solid financial resources to fulfill the maintenance and warranty needs for every Musco Lighting project.

**Musco Service ... We Make It Happen®**

# The flexible and affordable way to finance your lighting project today

## Make your project happen

The municipal lease-purchase program, offered by Musco Finance™, provides the funding opportunity many public entities need for facility improvements such as sports lighting.

The program provides a flexible, cost-effective means of funding essential renovations and, in many areas, may eliminate much of the time and expense associated with selling bonds for a project.

A known set expense can be budgeted annually; freeing you from budget uncertainties and lowering cash flow impact.

## Start seeing the benefits now

- Added revenue from expanded use of your facility can help make next year's payment
- Lower energy and operating costs with upgraded, energy-efficient Musco systems
- Avoid inflationary pressures by completing your project at current prices

## The program makes funding easy

- No down payment required
- No payments for up to one year
- Fund up to 100% of project costs, including installation
- Low, fixed interest rates
- Flexible payment schedules with terms of up to 10 years
- No bond election, simply an agenda item for board/council approval
- Does not constitute debt or encumber future councils

### Example of Financing Structure

Project total: \$100,000

Down payment: \$0

Annual payments (5): \$23,140

*Example based on a 4.95% interest rate. Interest rates are subject to change without notice.*

## Make your recreation dreams a reality now

Musco Finance can tailor a funding solution to suit your needs. Your organization can begin to enjoy new lighting at your facility now, and you'll have the peace of mind knowing you have provided a quality system that will last for many years to come.



**Call 800/825-6020 today to make your sports-lighting dreams a reality.**







# Musco Constant 25™

25-Year Product Assurance & Warranty Program

Project name: \_\_\_\_\_ Project number: \_\_\_\_\_

Owner: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_

Covered product(s): \_\_\_\_\_

Date issued: \_\_\_\_\_ Expiration: \_\_\_\_\_

Musco Sports Lighting, LLC will provide all materials and labor to maintain operation of your lighting system to original design criteria for 25 years. Musco products and services are guaranteed to perform on your project as detailed in this document.

## Light Performance

Specified illumination levels will be maintained and are marked as guaranteed in the Musco Illumination Summary.

Individual luminaire outages that occur during the warranty and maintenance period are repaired when the usage of any field is materially impacted.

## Spill Light Control

If specified, spill light levels at identified locations are guaranteed to be controlled to the maximum values provided in the Musco Illumination Summary.

## Energy Consumption

Total average kW consumption for your lighting system is guaranteed to be not more than the total load shown in the Musco Illumination Summary.

## Monitoring, Maintenance, and Control Services

Musco shall monitor the performance of your lighting system, including on/off status, hours of usage, and luminaire outages. If outages that affect playability are detected, Musco will contact you and proactively dispatch technicians.

On-off control of your lighting system is provided via an easy-to-use web site scheduling system, smartphone app, phone, email, or fax. Our trained Control-Link Central™ service center staff is available toll-free 24/7. Regular usage reports are always available on Control-Link Central's web site.

## Structural Integrity

Your project has been designed to \_\_\_\_\_.  
Structural integrity of equipment manufactured by Musco is guaranteed.

**Musco has a team of people to ensure fulfillment of our product and services warranty and maintains financial reserves dedicated to support our fulfillment of this warranty. Please keep this document as your signed contract guaranteeing comprehensive service for the 25 year period.**



# Musco Constant 25™

## 25-Year Product Assurance & Warranty Program

### Terms and Conditions

Service under this Contract is provided by Musco Sports Lighting, LLC ("Musco") or an authorized servicer approved by Musco. Services performed under this Contract shall consist of furnishing labor and parts necessary to restore the operation of the Covered Product(s) to original design criteria provided such service is necessitated by failure of the Covered Product(s) during normal usage. This Contract covers Product(s) consisting of Musco's Total Light Control – TLC for LED® with Control-Link® and any additional Musco manufactured product as listed on page 1.

"We", "us," and "our" mean Musco. "You" and "your" mean the purchaser of the Covered Product(s). No one has the authority to change this Contract without the prior written approval of Musco. Musco shall not assume responsibility for their agents or assignees other than as described below. If there is a conflict between the terms of this Contract and information communicated either orally or in writing by one or more of our employees or agents, this Contract shall control.

#### Additional Provisions

- 1. Availability of Service:** Control-Link Central™ operators shall be available 24/7 via web site, phone, fax, or email. Maintenance service specialists shall be available 8AM to 5PM Central Time, and services shall be rendered during these same hours in your local time zone, Monday through Friday (with the exception of national holidays). Hours of operation are subject to change without notice to you. Musco will exercise all reasonable efforts to perform service under this Contract, but will not be responsible for delays or failure in performing such services caused by adverse weather conditions, acts of any government, failure of transportation, accidents, riots, war, labor actions or strikes or other causes beyond its control.
- 2. Determination of Repairs:** Musco will utilize the field monitoring system and any information provided by the customer to determine when the usage of the field is materially impacted. From this information, Musco will determine needed repair and/or replacement of Covered Product(s) and parts. Repair will be with Product(s) of like kind and quality.
- 3. Your Requirements Under this Contract:** You must meet all electrical and installation requirements as specified by the manufacturer. In addition, you promise and assure: full cooperation with Musco, Musco's technicians and authorized servicers during telephone diagnosis and repair of the Covered Product(s); reasonable accessibility of the Covered Product(s); a nonthreatening and safe environment for service.

You agree to check fuses and to replace fuses as needed. Musco provides spare fuses in the lowest alpha-numeric numbered enclosure. Musco will replenish spare fuses used.

You agree to keep your control system online. This means keeping the required control voltage to the control system at all times. Any deviation from this practice must be discussed with Musco's Warranty Department.

- 4. Service Limitations — This Contract does not cover:** Maintenance, repair, or replacement necessitated by loss or damage resulting from any external causes such as, but not limited to, theft, environmental conditions, negligence, misuse, abuse, improper electrical/power supply, unauthorized repairs by third parties, attachments, damage to cabinetry, equipment modifications, vandalism, animal or insect infestation, physical damage to Covered Product(s) parts or components, failure of existing structures, supporting electrical systems or any non-Musco equipment, or acts of God/nature (including, but not limited to: earthquake, flood, tornadoes, typhoons, hurricanes, or lightning).

#### 5. Contract Limitations:

- a. EXCLUSIONS FROM COVERAGE:** IN NO EVENT WILL MUSCO BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES WHICH INCLUDE, BUT ARE NOT LIMITED TO, ANY DELAY IN RENDERING SERVICE OR LOSS OF USE DURING THE REPAIR PERIOD OF THE COVERED PRODUCT(S) OR WHILE OTHERWISE AWAITING PARTS.
- b. Limitation of Liability:** To the extent permitted by applicable law, the liability of Musco, if any, for any allegedly defective Covered Product(s) or components shall be limited to repair or replacement of the Covered Product(s) or components at Musco's option. THIS CONTRACT IS YOUR SOLE EXPRESS WARRANTY WITH RESPECT TO THE COVERED PRODUCT(S). ALL IMPLIED WARRANTIES WITH RESPECT TO THE COVERED PRODUCT(S) INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXPRESSLY EXCLUDED.
- c. For the purposes of and by your acceptance of this Contract you acknowledge and agree that if a surety bond ("Bond") is provided the warranty and/or maintenance guarantee provided for in this Contract and any corresponding liability on behalf of the issuing surety under the Bond is limited to the first twelve (12) months of said warranty and/or maintenance guarantee coverage period. Any warranty and/or guarantee coverage period in excess of said initial 12 month period does not fall within the scope of the Bond and shall be the sole responsibility of Musco.**
- d. Musco requires reasonable access for a crane or man lift equipment to service the lighting system. Musco will not be responsible for damage from operating the vehicle on the property when the equipment is operated in the prescribed manner over the designated access route.**
- e. Obsolescence or Environmental Restrictions:** If during any maintenance or other work performed under this Warranty, any of the parts of the Covered Product(s) are found to be either obsolete, no longer available, or prohibited by any state or federal agency, Musco shall replace said parts with comparable parts and materials with equal operating characteristics solely at Musco's discretion. The cost of replacement of any obsolete cellular related technology shall be borne by you. Prior to completing any such work, Musco shall notify you of the cost (if any) you will incur in the replacement of such parts under this section.
- 6. Transfer and Assignment:** Except to owners, you shall not have the right to assign or otherwise transfer your rights and obligations under this Contract except with the prior written consent of Musco; however, a successor in interest by merger, operation of law, assignment or purchase or otherwise of your entire business shall acquire all of your interests under this Contract.
- 7. Governing Law:** Unless otherwise governed by applicable state law, the Contract shall be interpreted and enforced according to the laws of the State of Iowa.
- 8. Subrogation:** In the event Musco repairs or replaces any Covered Product(s), parts or components due to any defect for which the manufacturer or its agents or suppliers may be legally responsible, you agree to assign your rights of recovery to Musco. You will be reimbursed for any reasonable costs and expenses you may incur in connection with the assignment of your rights. You will be made whole before Musco retains any amounts it may recover.

Signature: \_\_\_\_\_

Vice President of Sales





# Musco Constant 10™

10-Year Product Assurance & Warranty Program

Project name: \_\_\_\_\_ Project number: \_\_\_\_\_

Owner: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_

Covered product(s): \_\_\_\_\_

Date issued: \_\_\_\_\_ Expiration: \_\_\_\_\_

Musco Sports Lighting, LLC will provide all materials and labor to maintain operation of your lighting system to original design criteria for 10 years. Musco products and services are guaranteed to perform on your project as detailed in this document.

## Light Performance

Specified illumination levels will be maintained and are marked as guaranteed in the Musco Illumination Summary.

Individual luminaire outages that occur during the warranty and maintenance period are repaired when the usage of any field is materially impacted.

## Spill Light Control

If specified, spill light levels at identified locations are guaranteed to be controlled to the maximum values provided in the Musco Illumination Summary.

## Energy Consumption

Total average kW consumption for your lighting system is guaranteed to be not more than the total load shown in the Musco Illumination Summary.

## Monitoring, Maintenance, and Control Services

Musco shall monitor the performance of your lighting system, including on/off status, hours of usage, and luminaire outages. If outages that affect playability are detected, Musco will contact you and proactively dispatch technicians.

On-off control of your lighting system is provided via an easy-to-use web site scheduling system, smartphone app, phone, email, or fax. Our trained Control-Link Central™ service center staff is available toll-free 24/7. Regular usage reports are always available on Control-Link Central's web site.

## Structural Integrity

Your project has been designed to \_\_\_\_\_.  
Structural integrity of equipment manufactured by Musco is guaranteed.

**Musco has a team to ensure fulfillment of our product and services warranty and maintains financial reserves dedicated to support our fulfillment of this warranty. Please keep this document as your signed contract guaranteeing comprehensive service for the 10 year period.**



# Musco Constant 10™

## 10-Year Product Assurance & Warranty Program

### Terms and Conditions

Service under this Contract is provided by Musco Sports Lighting, LLC ("Musco") or an authorized servicer approved by Musco. Services performed under this Contract shall consist of furnishing labor and parts necessary to restore the operation of the Covered Product(s) to original design criteria provided such service is necessitated by failure of the Covered Product(s) during normal usage. This Contract covers Product(s) consisting of Musco's Total Light Control – TLC for LED® with Control-Link® and any additional Musco manufactured product as listed on page 1.

"We", "us," and "our" mean Musco. "You" and "your" mean the purchaser of the Covered Product(s). No one has the authority to change this Contract without the prior written approval of Musco. Musco shall not assume responsibility for their agents or assignees other than as described below. If there is a conflict between the terms of this Contract and information communicated either orally or in writing by one or more of our employees or agents, this Contract shall control.

#### Additional Provisions

1. **Availability of Service:** Control-Link Central™ operators shall be available 24/7 via web site, phone, fax, or email. Maintenance service specialists shall be available 8AM to 5PM Central Time, and services shall be rendered during these same hours in your local time zone, Monday through Friday (with the exception of national holidays). Hours of operation are subject to change without notice to you. Musco will exercise all reasonable efforts to perform service under this Contract, but will not be responsible for delays or failure in performing such services caused by adverse weather conditions, acts of any government, failure of transportation, accidents, riots, war, labor actions or strikes or other causes beyond its control.
2. **Determination of Repairs:** Musco will utilize the field monitoring system and any information provided by the customer to determine when the usage of the field is materially impacted. From this information, Musco will determine needed repair and/or replacement of Covered Product(s) and parts. Repair will be with Product(s) of like kind and quality.
3. **Your Requirements Under this Contract:** You must meet all electrical and installation requirements as specified by the manufacturer. In addition, you promise and assure: full cooperation with Musco, Musco's technicians and authorized servicers during telephone diagnosis and repair of the Covered Product(s); reasonable accessibility of the Covered Product(s); a nonthreatening and safe environment for service.  
  
You agree to check fuses and to replace fuses as needed. Musco provides spare fuses in the lowest alpha-numeric numbered enclosure. Musco will replenish spare fuses used.  
  
You agree to keep your control system online. This means keeping the required control voltage to the control system at all times. Any deviation from this practice must be discussed with Musco's Warranty Department.
4. **Service Limitations — This Contract does not cover:** Maintenance, repair, or replacement necessitated by loss or damage resulting from any external causes such as, but not limited to, theft, environmental conditions, negligence, misuse, abuse, improper electrical/power supply, unauthorized repairs by third parties, attachments, damage to cabinetry, equipment modifications, vandalism, animal or insect infestation, physical damage to Covered Product(s) parts or components, failure of existing structures, supporting electrical systems or any non-Musco equipment, or acts of nature (including, but not limited to: earthquake, flood, tornadoes, typhoons, hurricanes, or lightning).

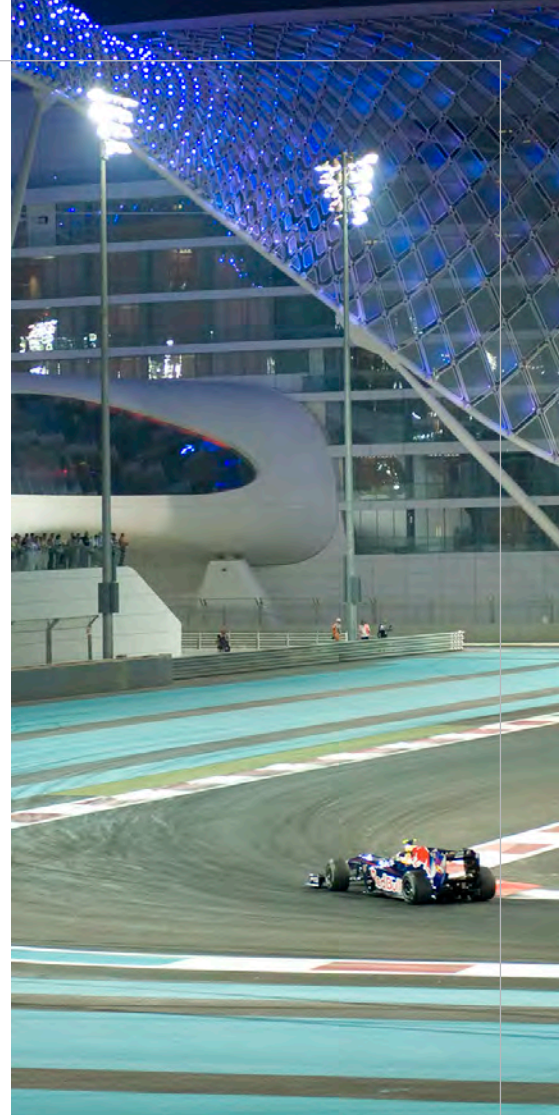
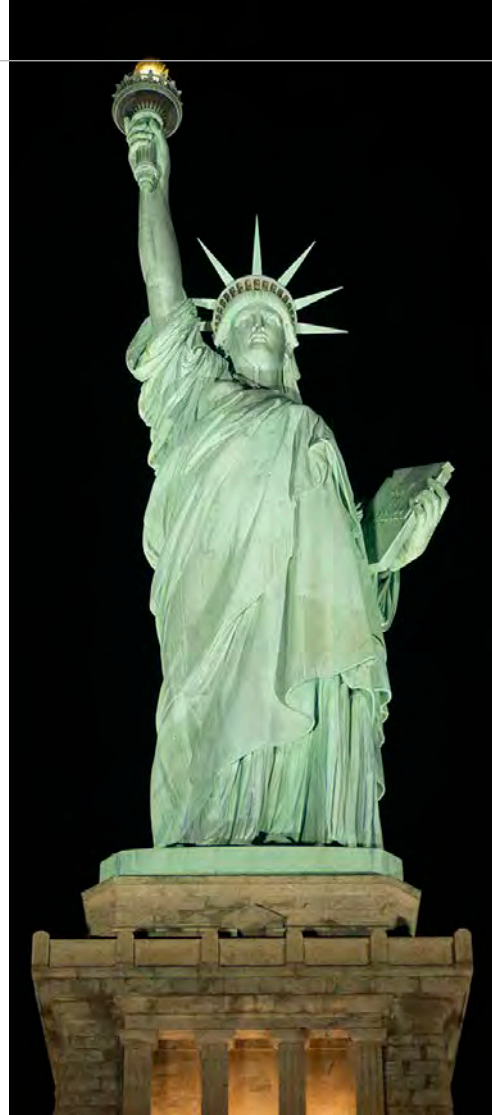
#### 5. Contract Limitations:

- a. **EXCLUSIONS FROM COVERAGE:** IN NO EVENT WILL MUSCO BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES WHICH INCLUDE, BUT ARE NOT LIMITED TO, ANY DELAY IN RENDERING SERVICE OR LOSS OF USE DURING THE REPAIR PERIOD OF THE COVERED PRODUCT(S) OR WHILE OTHERWISE AWAITING PARTS.
- b. **LIMITATION OF LIABILITY:** To the extent permitted by applicable law, the liability of Musco, if any, for any allegedly defective Covered Product(s) or components shall be limited to repair or replacement of the Covered Product(s) or components at Musco's option. THIS CONTRACT IS YOUR SOLE EXPRESS WARRANTY WITH RESPECT TO THE COVERED PRODUCT(S). ALL IMPLIED WARRANTIES WITH RESPECT TO THE COVERED PRODUCT(S) INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXPRESSLY EXCLUDED.
- c. For the purposes of and by your acceptance of this Contract you acknowledge and agree that if a surety bond ("Bond") is provided the warranty and/or maintenance guarantee provided for in this Contract and any corresponding liability on behalf of the issuing surety under the Bond is limited to the first twelve (12) months of said warranty and/or maintenance guarantee coverage period. Any warranty and/or guarantee coverage period in excess of said initial 12 month period does not fall within the scope of the Bond and shall be the sole responsibility of Musco.
- d. Musco requires reasonable access for a crane or man lift equipment to service the lighting system. Musco will not be responsible for damage from operating the vehicle on the property when the equipment is operated in the prescribed manner over the designated access route.
- e. **Obsolescence or Environmental Restrictions:** If during any maintenance or other work performed under this Warranty, any of the parts of the Covered Product(s) are found to be either obsolete, no longer available, or prohibited by any state or federal agency, Musco shall replace said parts with comparable parts and materials with equal operating characteristics solely at Musco's discretion. The cost of replacement of any obsolete cellular related technology shall be borne by you. Prior to completing any such work, Musco shall notify you of the cost (if any) you will incur in the replacement of such parts under this section.
6. **Transfer and Assignment:** Except to owners, you shall not have the right to assign or otherwise transfer your rights and obligations under this Contract except with the prior written consent of Musco; however, a successor in interest by merger, operation of law, assignment or purchase or otherwise of your entire business shall acquire all of your interests under this Contract.
7. **Governing Law:** The Contract shall be interpreted and enforced according to the laws of the project location.
8. **Subrogation:** In the event Musco repairs or replaces any Covered Product(s), parts or components due to any defect for which the manufacturer or its agents or suppliers may be legally responsible, you agree to assign your rights of recovery to Musco. You will be reimbursed for any reasonable costs and expenses you may incur in connection with the assignment of your rights. You will be made whole before Musco retains any amounts it may recover.

Signature: \_\_\_\_\_

Vice President of Sales





# World Class Leaders

Sports and Large Area Lighting



**MUSCO**  
*Lighting*  
We Make It Happen.



# SPORTS LIGHTING SOLUTIONS

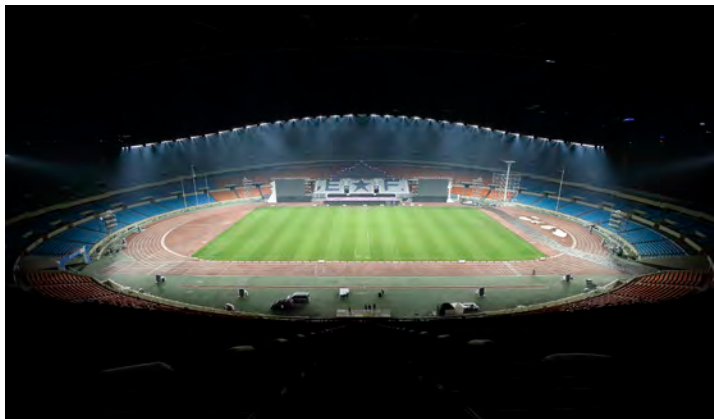


## **Tottenham Hotspur Stadium** London, United Kingdom

Created a one-of-a-kind TLC for LED® system for one of the most innovative new stadiums in the world.

Custom designed virtually every aspect of the system including site-specific mounting structures and remote electrical components enclosures in dedicated electrical rooms.

Minimized glare for better visibility and integrated custom controls with other feature lighting for cutting-edge special effects and light shows.



## **Seoul Olympic Stadium** Seoul, South Korea

Designed versatile system capable of meeting the needs for major sports, concerts, and entertainment events, while reducing energy consumption by 63 percent compared to prior metal halide equipment.



## **Yas Marina F1™ Circuit** Abu Dhabi, UAE

Overcame challenging rocky environment to install a highly-customized system with nearly 4,700 luminaires, and helped stage the first ever twilight run of a Formula One event.



## **Estadio Caliente LMX** Tijuana, Mexico

Included Show-Light+™ entertainment package as part of this custom TLC for LED system, allowing Club Tijuana to wash the stadium Xolos red during pre- and post-game light shows.



## **TD Garden, Home of the Boston Bruins and Celtics** Boston, Massachusetts, USA

Installed customized TLC for LED system without disrupting the arena's busy concert season, and met the distinct lighting standards of both the National Basketball Association and National Hockey League.





### Rogers Place, Home of the Edmonton Oilers

Edmonton, Alberta, Canada

Designed a TLC for LED® system that adapted to the arena's unique, innovative architectural design and achieved the ultimate spectator experience for everything from professional hockey to major concerts.



### Lamade Stadium

Williamsport, Pennsylvania, USA

Partnered with Little League® since 1994 to develop the A Safety Awareness Program™ (ASAP™), which fosters and expands safety initiatives and helps prevent injuries.



### Anna Meares Velodrome

Chandler, QLD, Australia

Engineered a customized, energy-efficient system in time for the 2018 Commonwealth Games, making it the first velodrome in the world with digital broadcast quality TLC for LED lighting.



### Shougang Ice Hockey Arena

Beijing, China

Helped transform a former coal station into an energy-efficient hockey arena with customized TLC for LED lighting that will achieve broadcast requirements for the 2022 Olympic Games.

### AT&T Stadium

#### Home of the Dallas Cowboys

Arlington, Texas, USA

Reduced glare and enhanced visibility for players and spectators with the TLC for LED system's custom optics and patented visoring.

Increased light levels by 42 percent to meet broadcast requirements for major television networks.

Reduced energy consumption by 76 percent from the prior metal halide lighting equipment.





# SPORTS LIGHTING SOLUTIONS



## Hazza Bin Zayed Stadium

Al Ain, UAE

Custom designed a TLC for LED® system built specifically to adapt to the stadium's unique roof and architectural structures.

Overcame a shipping delay, beyond Musco's control, and completed installation in half the original timeline.

Exceeded lighting requirements for the FIFA Club World Cup™, created spectacular special effects, and made the stadium the first in the UAE with LED lighting.



## Wimbledon Centre Court

London, United Kingdom

Designed an innovative TLC for LED system for the retractable roof at the All England Lawn Tennis and Croquet Club Centre Court, using both direct and indirect lighting to achieve broadcast requirements for The Championships.



## Coetzenburg Athletics Stadium

Stellenbosch, South Africa

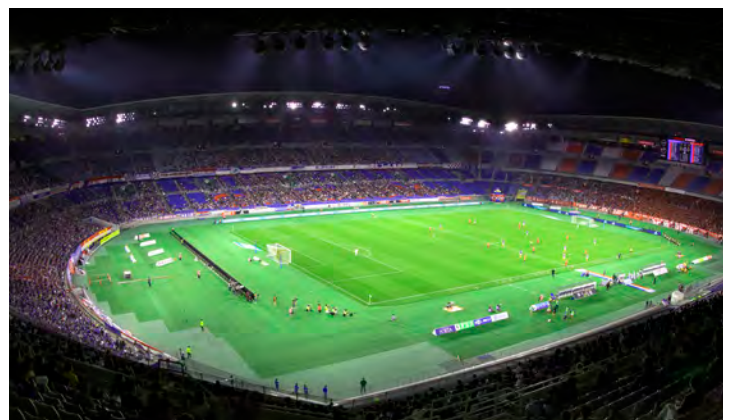
Helped the stadium achieve efficiency goals, attract internationally renowned athletes and events, and become the first athletics stadium in South Africa to feature LED lighting.



## Southwell Racecourse

Southwell, United Kingdom

Created an innovative, adaptable system capable of lighting just the sections of track utilized in each race—ranging from five furlongs to two miles—and made it Europe's first horse track with LED lighting.



## Nissan Stadium

Yokohama, Japan

Engineered a TLC for LED system to meet the lighting requirements of the 2019 Rugby World Cup and 2020 Olympic soccer matches, and created exciting special effects with light, sound, and video synchronization.





### Arthur Ashe Stadium

New York, New York, USA

Fabricated custom mounting brackets for the stadium's unique architecture, significantly reduced glare from affecting players, achieved HD broadcast requirements, and cut energy consumption by 73 percent.



### St. Mary's Stadium, Home of Southampton F.C.

Southampton, United Kingdom

Replaced another manufacturer's LED lighting to solve problems with glare and reliability, and included special effects capabilities to create exciting light shows for the first time ever at Southampton's home ground.



### Estadio Municipal de Lo Barnechea, Home of A.C. Barnechea

Santiago, Chile

Engineered innovative field lighting system at the historic, 80-year-old stadium to improve visibility for players and create a more memorable experience for Barnechea fans.



### Mokdong Baseball Stadium, Home of the Nexen Heroes

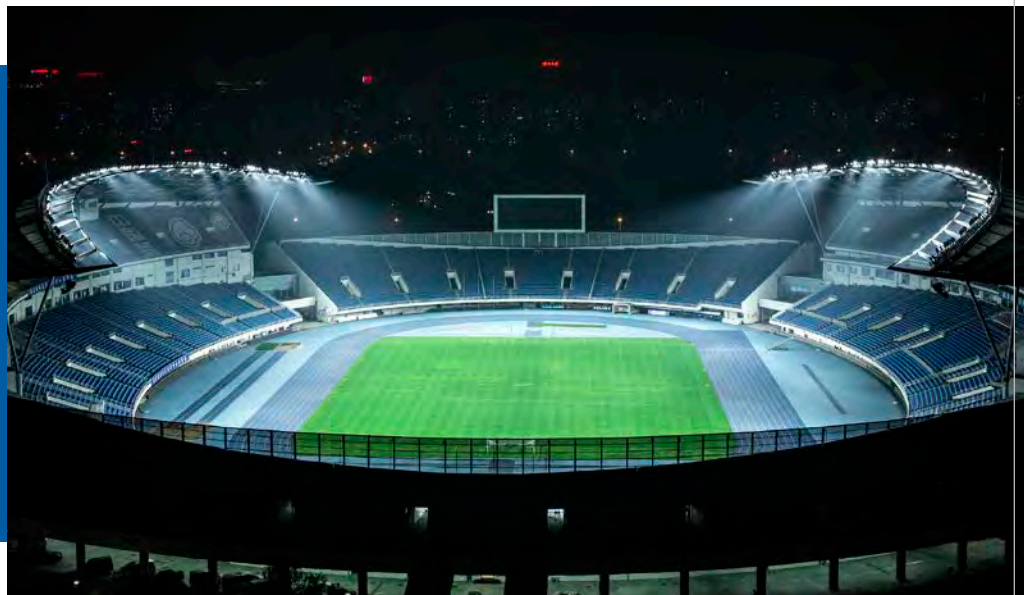
Seoul, South Korea

Installed a custom TLC for LED® system that enhanced the experience for players and fans and differentiated Mokdong Stadium from other baseball venues in South Korea.

### National Olympic Center Stadium

Beijing, China

Developed a cutting-edge TLC for LED system for the one-of-a-kind architectural design at the stadium with stunning special effects and shows with light-to-music synchronization.





# TRANSPORTATION AND INFRASTRUCTURE LIGHTING



## McCarran International Airport (LAS)

Las Vegas, Nevada, USA

Ensured better visibility for pilots, ground crews, and air traffic controllers with custom optics that create more uniform light distribution, free from glare.

Provided a complete retrofit solution using custom mounting brackets, luminaires, and wire harnesses on airport's existing poles.

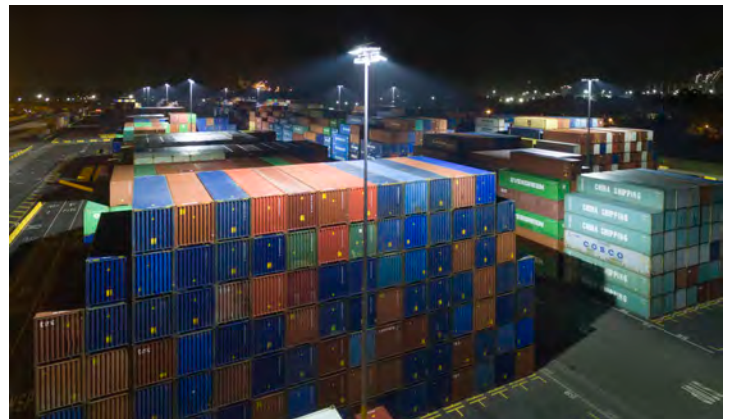
Cut energy consumption by 54 percent compared to prior HPS lighting, eliminated maintenance costs with 10-year parts and labor warranty, saving LAS more than \$1.3 million over the next decade.



## Taulov Intermodal Facility

Federicia, Denmark

Delivered a complete solution from foundation to poletop which achieved better visibility for workers, cut energy consumption by 58 percent, and eliminated maintenance costs for the next 10 years.



## Mason Empty Depot—Georgia Ports Authority (GPA)

Savannah, Georgia, USA

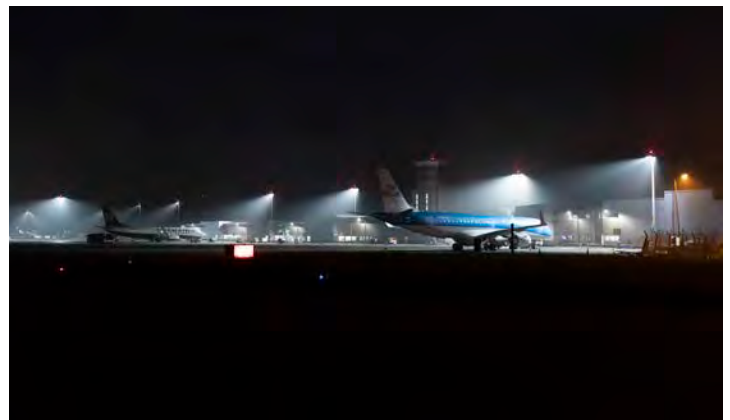
Provided uniform light coverage throughout the massive facility, trouble-free installation, and easy remote facility management with Control-Link® control and monitoring system.



## JAXPORT Cruise Terminal—Jacksonville Port Authority

Jacksonville, Florida, USA

Reduced operating costs by \$1.6 million over 10 years at Florida's number one container port complex.



## Bristol Airport (BRS)

Bristol, United Kingdom

After exploring several lighting manufacturers, Bristol chose Musco for its superior quality, light control, and efficiency; as well as the long-term parts and labor warranty that eliminates maintenance costs.



# ING SOLUTIONS



## **Associated British Ports — Newport Docks**

Newport, South Wales, United Kingdom

Improved visibility for workers with increased light levels and better uniformity while also reducing energy consumption by 81 percent.



## **Pittsburgh Intermodal Rail Terminal—CSX Transportation**

Pittsburgh, Pennsylvania, USA

Lighted a 70-acre facility using TLC for LED technology that achieved superior light quality and control, better energy and operational efficiency, and eliminated long term maintenance costs.



## **Vancouver International Airport (YVR)**

Vancouver, British Columbia, Canada

Helped the second busiest airport in Canada reduce energy consumption by 60 percent and increase light levels by 40 percent with a retrofit TLC for LED® system.



## **DP World Jebel Ali Port Terminal 2**

Dubai, UAE

Earned DP World's 2014 Excellent Performer Award after installing a TLC for LED system at Terminal 2 which greatly improved efficiency, light control, and reduced cost of ownership.

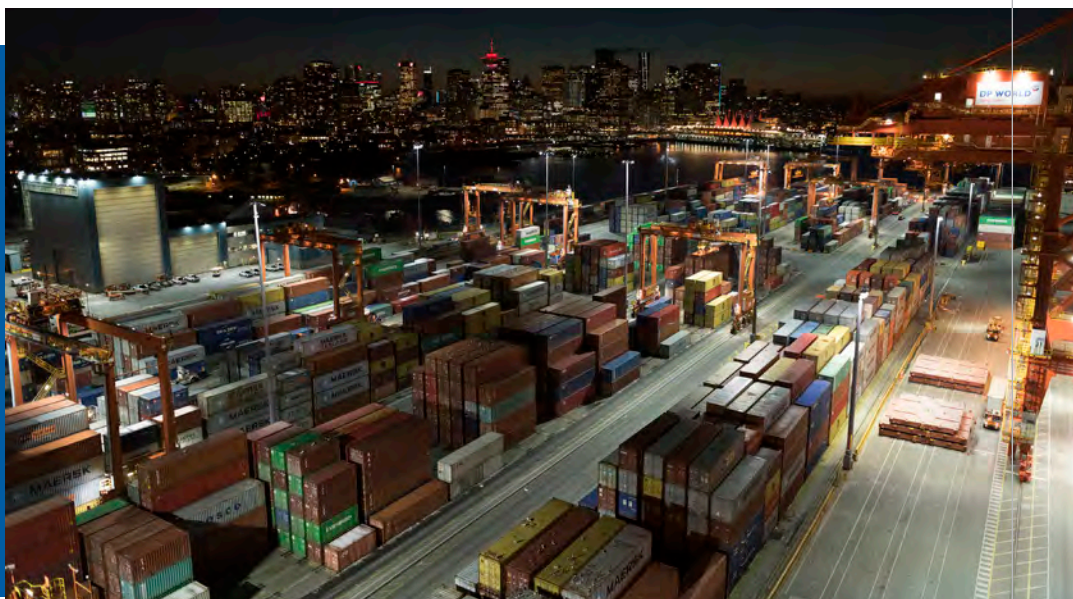
## **DP World Vancouver**

Vancouver, British Columbia, Canada

Achieved minimum light levels of 50 lux consistently throughout the terminal, improving visibility with patented light control without creating glare for workers.

Reduced energy consumption by 58 percent compared to the previous lighting equipment, and eliminated maintenance costs for 10 years with a long-term parts and labor warranty.

Created a customized system solution utilizing existing poles along with custom-built crossarms, electrical enclosures, wire harnesses and luminaires for reliable operation.



# ARCHITECTURE LIGHTING SOLUTIONS



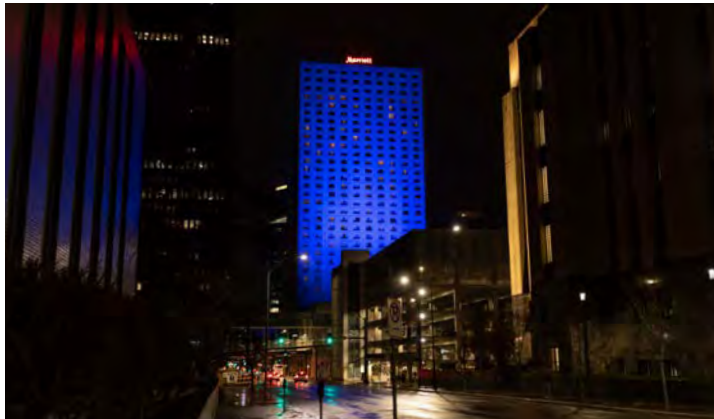
## Statue of Liberty

New York, New York, USA

Installed a temporary LED lighting solution to light the monument after damage sustained from Hurricane Sandy.

Replaced the temporary lighting with a permanent TLC for LED® system with custom optics designed to highlight the aesthetic details of the monument while minimizing sky glow above it.

Doubled the light levels projected onto the monument while reducing energy consumption by 62 percent compared to metal halide equipment.



## Des Moines Marriott

Des Moines, Iowa, USA

Utilized color-changing RGBW technology to give an exciting presentation to the building's facade and the night time downtown skyline.



## Grand Central Terminal

New York, New York, USA

Highlighted the façade's architecture with attractive contrast, reduced energy consumption by 80 percent compared to prior lighting, and greatly reduced glare from affecting pedestrians, drivers, and neighboring buildings.



## The White House

Washington D.C., USA

Custom designed a one-of-a-kind system, Musco's first architectural lighting solution utilizing LED technology, to light the White House exterior at the request of First Lady Laura Bush.



## Al Dhaid Flagpole

Sharjah, UAE

Developed a customized LED system to illuminate the flag of the United Arab Emirates.





### Mount Rushmore National Memorial

Keystone, South Dakota, USA

Custom-built a new permanent TLC for LED® system projecting light over 1000 feet to adapt to the unique physical environment and beautifully illuminate the memorial.



### Ministry of Foreign Affairs

Abu Dhabi, UAE

Created energy-efficient TLC for LED system to illuminate the building's exterior and highlight its architecture, as part of an expansive national initiative to convert to LED technology.



### Sava Bridge

Belgrade, Serbia

Designed a custom LED lighting system for the exterior of one of the longest single-pylon cable-stayed bridges in the world.



### SW 5th Street Bridge, Principal Park, Iowa Capitol

Des Moines, Iowa, USA

Enhanced the Des Moines night skyline with custom-designed TLC for LED systems at the state's Capitol, Principal Park (home of the Iowa Cubs), and the adjacent SW 5th Street Bridge leading to the city's downtown area.

### San Francisco-Oakland Bay Bridge East Span

San Francisco, California, USA

Developed an unprecedented system utilizing LED technology to meet the meticulous performance and aesthetic requirements at the Bay Bridge.

Included more than 1,600 light fixtures and 51,500 LEDs perfectly aimed to provide a safer environment free from glare for the 300,000 daily drivers.

Reduced energy consumption by 50 percent compared to metal halide lighting equipment.





# TEMPORARY LIGHTING SOLUTIONS



## 2016 Rio Summer Games

Rio de Janeiro, Brazil

Provided permanent and temporary lighting systems at nearly 200 venues and areas including Copacabana Arena for beach volleyball and Rio Olympic Arena for gymnastics.

Installed a customized, permanent TLC for LED system at Maracanazinho Arena, creating a stage-like atmosphere and cutting energy consumption 79 percent compared to metal halide equipment.

Made the 2016 event the first-ever Summer Games to feature LED sports lighting.



## 2014 Winter X Games

Aspen, Colorado, USA

Delivered mobile and temporary lighting solutions to provide the best possible night time setting for this major ESPN winter sports competition.



## Notre Dame Stadium – First-Ever Night Game

South Bend, Indiana, USA

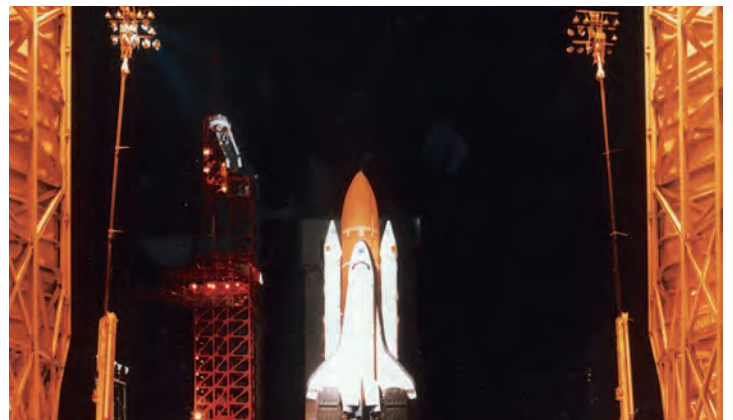
Engineered a first-of-its-kind mobile lighting solution within just eight months to meet broadcast requirements and help bring the first-ever night game at Notre Dame Stadium, featuring the Fighting Irish and Michigan Wolverines.



## United States Capitol

Washington D.C., USA

Designed mobile lighting solutions for several presidential inaugurations, the funeral services of President George H.W. Bush, and major events at the Capitol including "A Capitol Fourth on PBS."



## Space Shuttle Launch Complex 6 – Lighting Test

Vandenberg Air Force Base, California, USA

Conducted lighting test and provided photo optic lighting for high speed photography at Space Shuttle Launch Complex 6.





## Fort Bragg Field, Atlanta Braves vs Miami Marlins

Fort Bragg, North Carolina, USA

Created a temporary system for the Fort Bragg Game between the Atlanta Braves and Florida Marlins, the first regular season professional sports event ever held on an active military base and broadcast on ESPN.



## Air + Style Show

Pasadena, California, USA

Developed the first-ever mobile lighting solution using the LED light source, meeting network broadcast requirements at the Big Air ramp which was nearly 16 stories tall.



## Titanic Movie Set

Rosarito Beach, Baja California, Mexico

Provided an even light source around the movie set of an 800-foot model of Titanic for complex special effects sequences during the filming of one of the highest-grossing films of all time.



## Red Bull Stratos

Roswell, New Mexico, USA

Provided lighting at the launch of Red Bull Stratos, which was a skydiving event that took skydiver Felix Baumgartner 24 miles into the stratosphere and broke the record for the highest altitude jump ever.

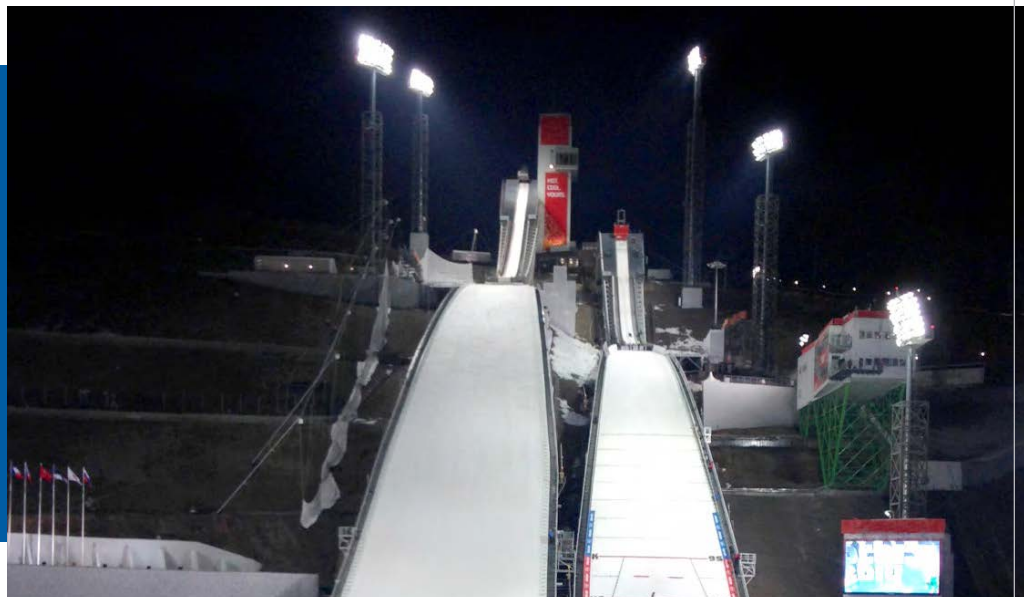
## 2014 Sochi Winter Games

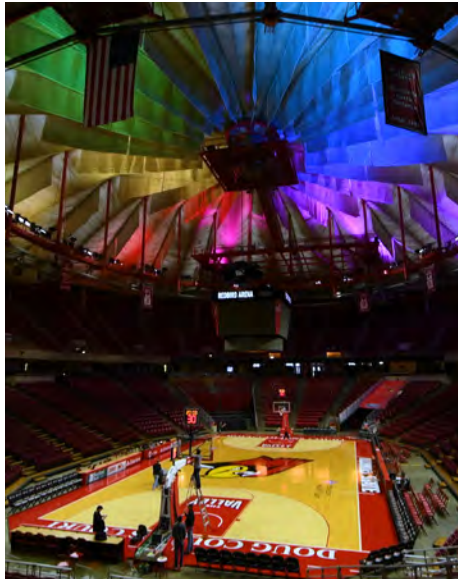
Sochi, Russia

Custom designed temporary and permanent lighting solutions, as well as supplemental lighting, for every venue at the Winter Games.

Helped the event venues achieve broadcast lighting requirements for major networks airing the competition.

Overcame frequent timeline adjustments and logistical challenges to get the lighting installed on time and at the necessary level for HD broadcasts.





## Illinois State University Redbird Arena

Normal, Illinois, USA



## Mount Rushmore National Memorial

Keystone, South Dakota, USA



## Mokdong Baseball Stadium

Seoul, South Korea



### Academy Award®

The Academy of Motion Picture Arts and Sciences awarded Musco an Academy Award for scientific and engineering achievement in film lighting.



### International Lighting Design Award

The 1993 Paul Waterbury Award of Excellence for Outdoor Lighting, one of two presented worldwide, was awarded to Musco for innovative design at Charlotte Motor Speedway.



### EMMY® Award

Musco was awarded an Emmy by the Academy of Television Arts and Sciences for lighting NCAA football telecasts.



**We Make It Happen.®**

[www.musco.com](http://www.musco.com)  
e-mail: [lighting@musco.com](mailto:lighting@musco.com)

On the cover: Emirates Stadium-- Arsenal Football Club, Holloway, London, U.K.; Statue of Liberty-- New York, New York, USA; Yas Marina Circuit-- Abu Dhabi, United Arab Emirates

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**ALWAYS READY FOR  
PLAY**





# Musco's LED Solutions

As more organizations transition to LED field lighting, they're finding out that the performance of different LED sports lighting varies greatly.

We've spent over 40 years designing systems with one thing in mind — solving problems.

Our Total Light Control - TLC for LED® technology is the result of a depth of knowledge that cannot be matched, achieving results for customers — and solving their problems — in ways others simply can't.



Scan or visit to learn more:  
[www.musco.com/project-showcase/tlcled/](http://www.musco.com/project-showcase/tlcled/)





# LakePoint Sporting Community wanted players to see the ball like never before.

With eight baseball fields for elite travel teams, LakePoint needed lighting that would enhance player visibility and let them track the ball's entire flight.

By using our TLC for LED system with BallTracker™ technology — which creates precisely-aimed vertical lighting targeted to enhance visibility of aerial balls — that's exactly what they got.

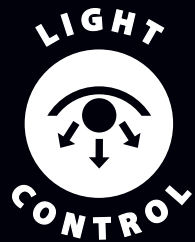


*"When you stand at home plate and look out to center field and there's no glare, but the field is totally bright and the white of the ball pops, it looks amazing."*  
- Tyson Kimm, Vice President of Perfect Game USA, main tenant at LakePoint

Scan or visit to learn more:  
[www.musco.com/project-showcase/lakepoint/](http://www.musco.com/project-showcase/lakepoint/)







# When the original lights went on at Notre Dame Prep, nobody was happy.

Excessive glare and spill brought complaints from homeowners, motorists, and the City of Scottsdale, forcing the school to shut the lights down until a solution was found.

When the original manufacturer failed, we were brought in and custom-designed a TLC for LED solution that eliminated glare and spill from impacting the surrounding area.



Scan or visit to learn more:  
[www.musco.com/project-showcase/ndprep/](http://www.musco.com/project-showcase/ndprep/)

*"We could not imagine our field looking more beautiful than it does now. We are so grateful for the excellent products and customer service we received from Musco Lighting."*  
– Jill Platt, Principal, Notre Dame Preparatory High School



# Alpine Field needed a retrofit solution to replace its newly installed lights, fast.

The field at the University of Colorado Colorado Springs quickly became a source of complaints when its LED lighting from a different manufacturer created glare and spill for nearby homes.

Within weeks our TLC for LED system was retrofitted onto the original poles, saving UCCS money and eliminating the impact on neighbors.



*"The results are absolutely phenomenal. I had neighbors calling saying they couldn't believe the difference. We got our nights back again."*  
– Ron Toman, Eaglerock Neighborhood Association

Scan or visit to learn more:  
[www.musco.com/project-showcase/alpine/](http://www.musco.com/project-showcase/alpine/)







# With over 6,000 students playing intramurals, Clemson needed field lights it could count on.

High hours of usage at LoConte Family Field required lighting that was efficient, reliable, and easy to program given the field's remote location.

Our TLC for LED solution reduced energy consumption 63 percent compared to metal halide, and with the 24/7 monitoring and remote scheduling of Control-Link®, the field is always ready for play.



Scan or visit to learn more:  
[www.musco.com/project-showcase/clemson/](http://www.musco.com/project-showcase/clemson/)

*"Musco's LED system has allowed us to increase intramural programming by extending hours, and the ability to program the lights remotely is a neat feature."  
– Chris Cox, Assistant Director of Intramural Sports, Clemson University*



# They didn't just want new lights at Pridgeon Stadium, they wanted to make history.

As a home stadium for the Cypress–Fairbanks School District, the 40-year-old venue needed to greatly improve on-field light quality.

Our TLC for LED system's custom optics provided superior light levels and uniformity, and made Pridgeon Stadium the first high school sports complex in the U.S. to be lit entirely with LED.



*"We have an average maintained footcandle higher than anyone I know. And that's something to boast about. You could host ESPN games out here."*  
– Josh Solis, Project Manager, Cypress-Fairbanks Independent School District

Scan or visit to learn more:  
[www.musco.com/project-showcase/pridgeon/](http://www.musco.com/project-showcase/pridgeon/)







# Seminole County wanted a premier sports complex, without breaking the bank.

To make it happen they needed high-quality field lighting that would eliminate maintenance concerns and costs.

Our parts and labor warranty, which covers every part and all labor, helped Seminole County save over \$1 million in operating costs for the next decade.



Scan or visit to learn more:  
[www.musco.com/project-showcase/seminolecounty/](http://www.musco.com/project-showcase/seminolecounty/)

*"Players love it. We love it. It's saving us money. Musco has been an incredible partner through the entire process."*  
– Joe Abel, Director of Leisure Services, Seminole County, Florida



# Energy efficiency was the name of the game for re-lighting Julian Fisher Park.

The City of Monrovia wanted high-quality lighting for the park's frequently used basketball courts that would conserve energy and keep costs down.

Our customized two-pole design and TLC for LED technology delivered the light levels and uniformity the courts needed, and cut energy consumption 51 percent compared to metal halide.



*"Musco's state-of-the-art LED lighting not only reduced our electrical use, it also has improved the overall park lighting dramatically."*  
– Tina Cherry, Public Services Director, City of Monrovia

Scan or visit to learn more:  
[www.musco.com/project-showcase/julianfisher/](http://www.musco.com/project-showcase/julianfisher/)





# Will your story be next?

Whatever problem you're trying to solve, we've probably seen it and helped someone overcome it. Because that's what has driven us to design and create the most innovative sports lighting solutions in the world for over 40 years.

Will your story be next?

Call us today, 800/825-6030

or visit [www.iwantlighting.com](http://www.iwantlighting.com)







**We Make It Happen.®**

[www.musco.com](http://www.musco.com)

e-mail: [lighting@musco.com](mailto:lighting@musco.com)

©2015, 2018 Musco Sports Lighting LLC · M-1897-enUS-2  
U.S. and foreign patents issued and pending.

Introducing  
**TLC<sup>®</sup> for LED**  
Total Light Control<sup>™</sup>



We Make It Happen<sup>®</sup>



# TLC<sup>®</sup> for LED<sup>®</sup>

## Total Light Control<sup>™</sup>

Continuing the commitment to excellence...

Keeping good lighting affordable...

Guaranteed for 25 years, from foundation to poletop.

Light-Emitting Diode (LED) is a new tool but the issues for sports lighting are the same. For nearly a decade, the Musco Team has been testing the LED light source and applying it on projects where it was the best choice. While LED saved energy, for a typical recreational facility the hours of operation weren't great enough to offset the higher cost.

We've researched LED's distinctive challenges and advantages and applied our knowledge of light control to the unique characteristics of the diode, assuring the quality of lighting for which Musco is known.

We've paired our expertise in controlling light with the advancing output of LED to the point where we're confident it's a cost-effective option to consider for recreational facilities. With our patented BallTracker<sup>™</sup> technology, in-flight balls "pop" against night skies so that tracking the ball is easier than ever before.

The result is a system that makes Musco's great lighting even better.

### ***Better for players...***

who want to perform their best and be able to track the entire flight of the ball.

### ***Better for neighbors...***

who don't want glare in or around their homes or lights left on when not in use.

### ***Better for the night sky...***

with bright, uniform light directed onto the field and not spilling above it.

### ***Better for your budget...***

an affordable system that's built to last and control operating costs.

### ***And...you can mark maintenance off your list for 25 years!***

The Musco Team looks at the combination of issues to achieve the best solution to meet your needs—from structures, to quality of on-field light, to off-site impact, to energy and costs.

# Control

from foundation to poletop...

from the light source to the field,  
preserving the night sky...

assuring the results you expect,  
day 1... year 1... and for 25 years.





# Still Light-Structure System™...

5 Easy Pieces™ complete from foundation to poletop.

Our Light-Structure System™ has delivered long-term performance for thousands of customers around the world.

Lights, structures, and electrical components are engineered to work together. This assures the designed lighting gets in place and stays there over the life of the system, while also maintaining and protecting the operating environment so the components continue to function.

We've included features like easy to reach remote drivers, integrated grounding, and surge protection to ensure the longevity of the LED's sensitive electronic components.

The Light-Structure System™ adapts to support both LED and metal halide light sources.

## 25 years of proven performance



Control  
from the foundation to the poletop.



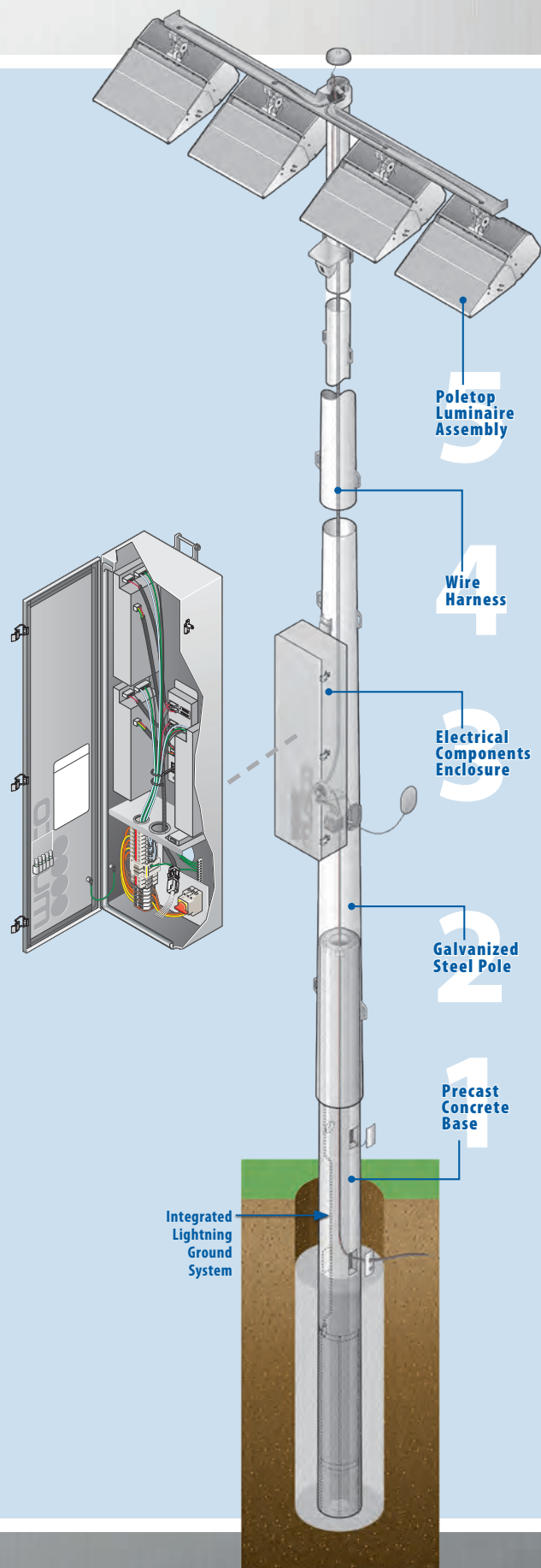
**TLC for LED®**  
Total Light Control™



Other Light Source Option  
**Green Generation® Lighting**  
Metal Halide  
10 year warranty

*"LEDs must be carefully integrated into lighting fixtures. The efficiency of a poorly designed fixture that uses even the best LEDs will be only a fraction of what it would be if the fixture were well-designed, and the design can also affect lumen maintenance."*

— U.S. Department of Energy  
[www.energy.gov/eere/ssl/led-basics](http://www.energy.gov/eere/ssl/led-basics)





# Musco can light a ballfield better than ever.

## We create controlled light, not floodlights.

An LED floodlight is a serious step backward when it comes to the quality of light on your field. It may flood light into the neighborhood, into the night sky, and into the eyes of players.

### New Tool

LED brings many benefits and new opportunities, but it's a tool, not a solution. Controlling the LED's intense, "rifle shot" of light is challenging. But with Total Light Control—TLC for LED®, we're able to achieve things never before possible—from pinpoint precision, to instant on/off, to varying light levels for different needs and sports presentation theatrics.

### Same Issues

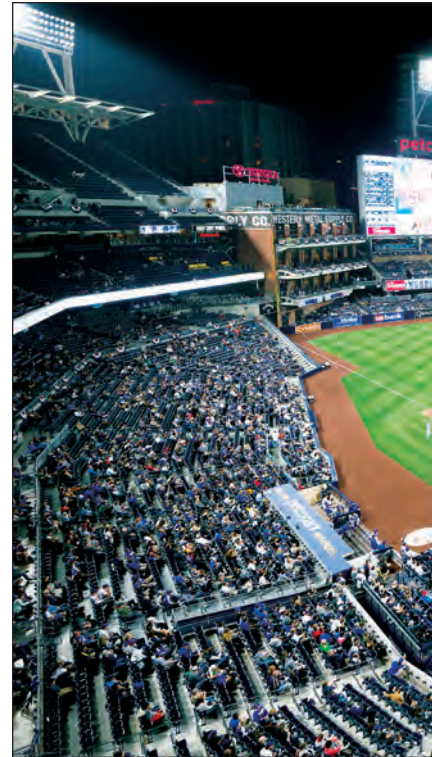
The key issues in sports lighting haven't changed: generating light, projecting it onto the target, keeping it out of the neighborhood and night sky, and creating an operating environment that allows it to last in real world conditions. Musco is able to carve out the area to be lighted and dramatically cut off any impact on the surrounding area. We use more of the light produced by the fixture, lose less light, and don't abuse the neighborhood. Our patented BallTracker™ light management technology puts vertical light precisely where it is needed. BallTracker minimizes impact on the night sky while lighting the underside of aerial balls, making night-time tracking easier than ever before.

## When you walk onto a Musco-lighted field, it just looks better.

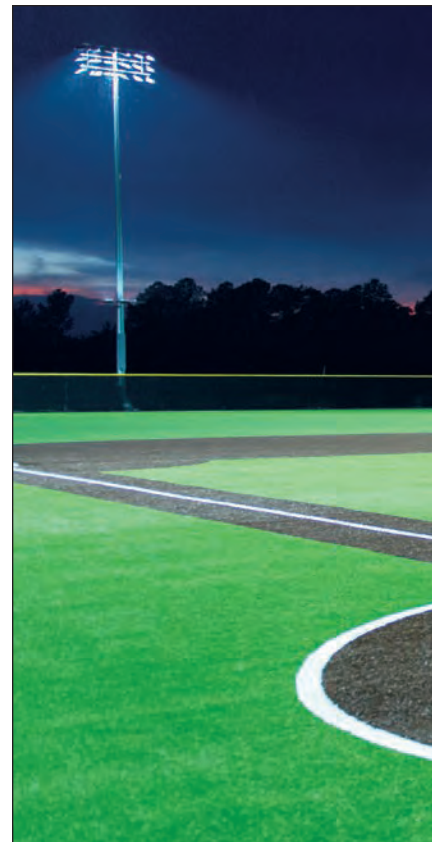
*"When you stand at home plate and look out to center field, there's no glare, but the field is totally bright and you see how the white of the ball pops, it looks amazing."*

— Tyson Kimm  
Vice President of Perfect Game USA,  
a major tenant at LakePoint Sports Community

Control  
from the light source to the field.



San Diego Padres Petco Park · San Diego, California, USA



LakePoint Sports Community · Emerson, Georgia, USA



. for players, fans, and TV cameras.



Theatrics and special effects enhance fan and TV experience.



Mount Rushmore - Keystone, South Dakota, USA

Pinpoint control from 1,100 feet away highlights the target area while preserving surrounding darkness.



University of Notre Dame - Notre Dame, Indiana, USA

Sensational event lighting with dimming saves energy for high-usage, multi-use venues.



With patented BallTracker™ technology, players enjoy quality lighting, no glare, and better ability to track the entire flight of the ball.



# The neighbors will love it.

Musco cares as much about preserving darkness as it does about creating light.

Emitting light is easy. But LED fixtures that can't effectively control the light being emitted brings the unintended consequences of abusive glare for players and neighbors, and wasteful spill into the night sky.

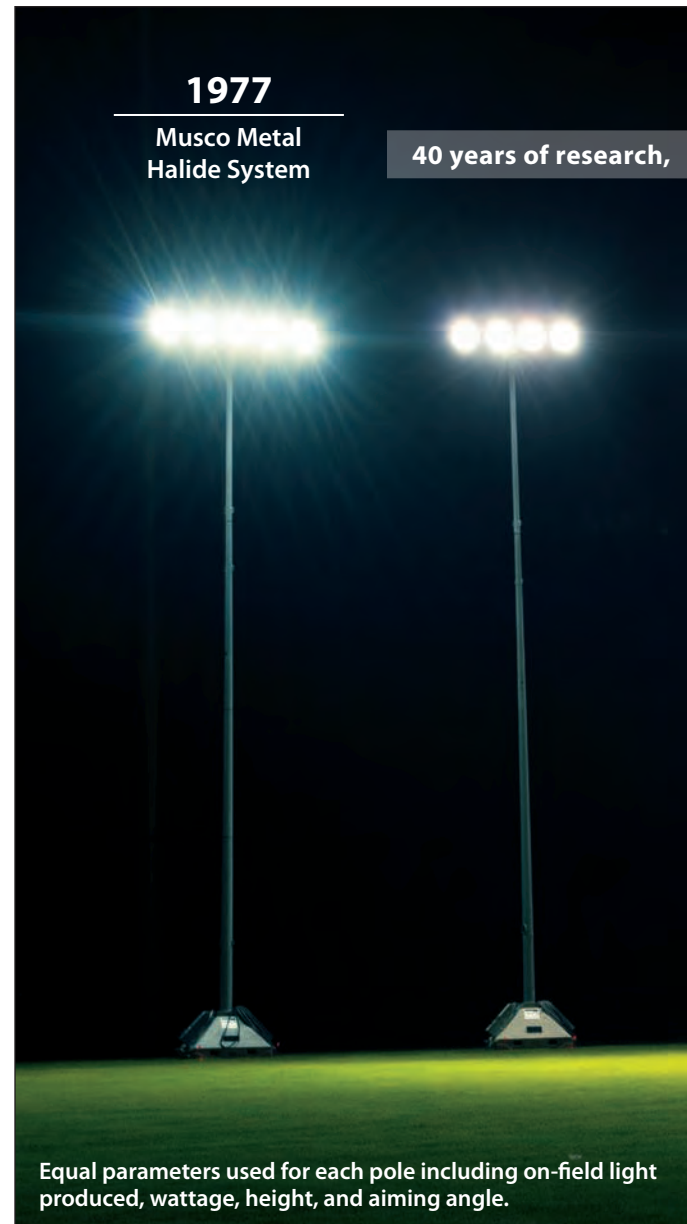
With Musco's Total Light Control—TLC for LED®, we've taken LED to a level of performance and precision never before seen in sports lighting. It means no disruptive glare into nearby homes and the preservation of dark skies above.

And it opens up new opportunities for where fields can be located within a community, and for existing fields that, until now, weren't able to install lights because of community push back.

**Control**  
preserving the night sky.

*"Glyndon Park is in a naturally wooded residential area. We didn't want to illuminate the homes of neighbors in the area. I initially wasn't supportive of putting in traditional lights. The product Musco has developed allows us to light this field, yet light nothing else around it."*

— Cathy Salgado,  
Parks and Recreation Director, Vienna, VA



Glyndon Park Little League, Vienna, Virginia

increasing efficiency and decreasing environmental impact.

**Today**

Musco LED  
System

**Today**

Other Luminaire  
Manufacturer  
LED



Light Energy: Use, Lose, Abuse

Luminaire

**Lose / Abuse**

**Use**

On field

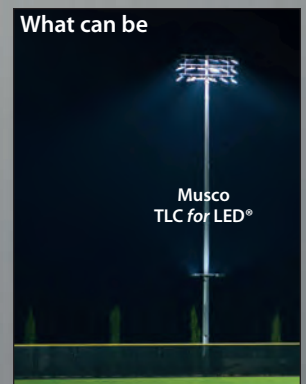
Off site

What often is

Other LED  
Manufacturer

What can be

Musco  
TLC for LED®





# And, your field is always ready to play.

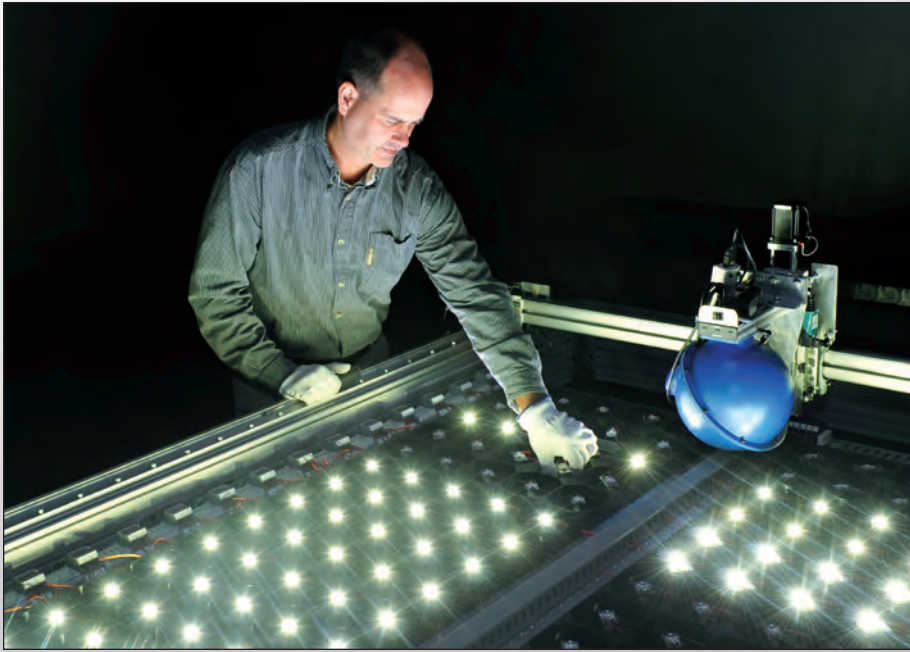
## Here's a look at what the Musco Team has done in the last year as a partner in service to customers like you...

- Turned lights on and off remotely for more than 5.5 million games and events
- Conducted routine inspections and maintenance at over 11,000 fields
- Taken more than 350,000 calls, answering questions and helping with scheduling
- Carried out group lamp replacements on more than 30,000 metal halide fixtures
- Traveled enough miles servicing fields to circle the equator 24 times

## And here's what our customers enjoy for 25 years...

***Peace of mind for 9,125 days*** knowing that if a problem arises, we'll be there, and a budget with virtually ***zero dollars spent on maintenance, increased staff productivity*** resulting from not having to worry about managing your lights, plus ***restful nights***, free from midnight calls from unhappy neighbors about lights left on.

**Control**  
assuring the results you expect.



We do the R&D to create it. We customize and apply solutions to your facility.

*"Musco called to let us know there was an issue before we knew we had a problem."*

— Stephen Cooke, CPRP, CYSA  
Greenville County Recreation Athletics Manager, Taylors, SC



We're on the road to support it for 25 years.

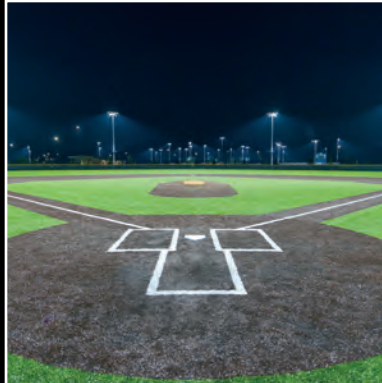


We provide 24-7 Control-Link® support to monitor and operate your facility.



From metal halide to LED,  
Musco's Light-Structure System™ performs  
in real world conditions **for 25 years, guaranteed.**  
**We Make It Happen.**





# Control

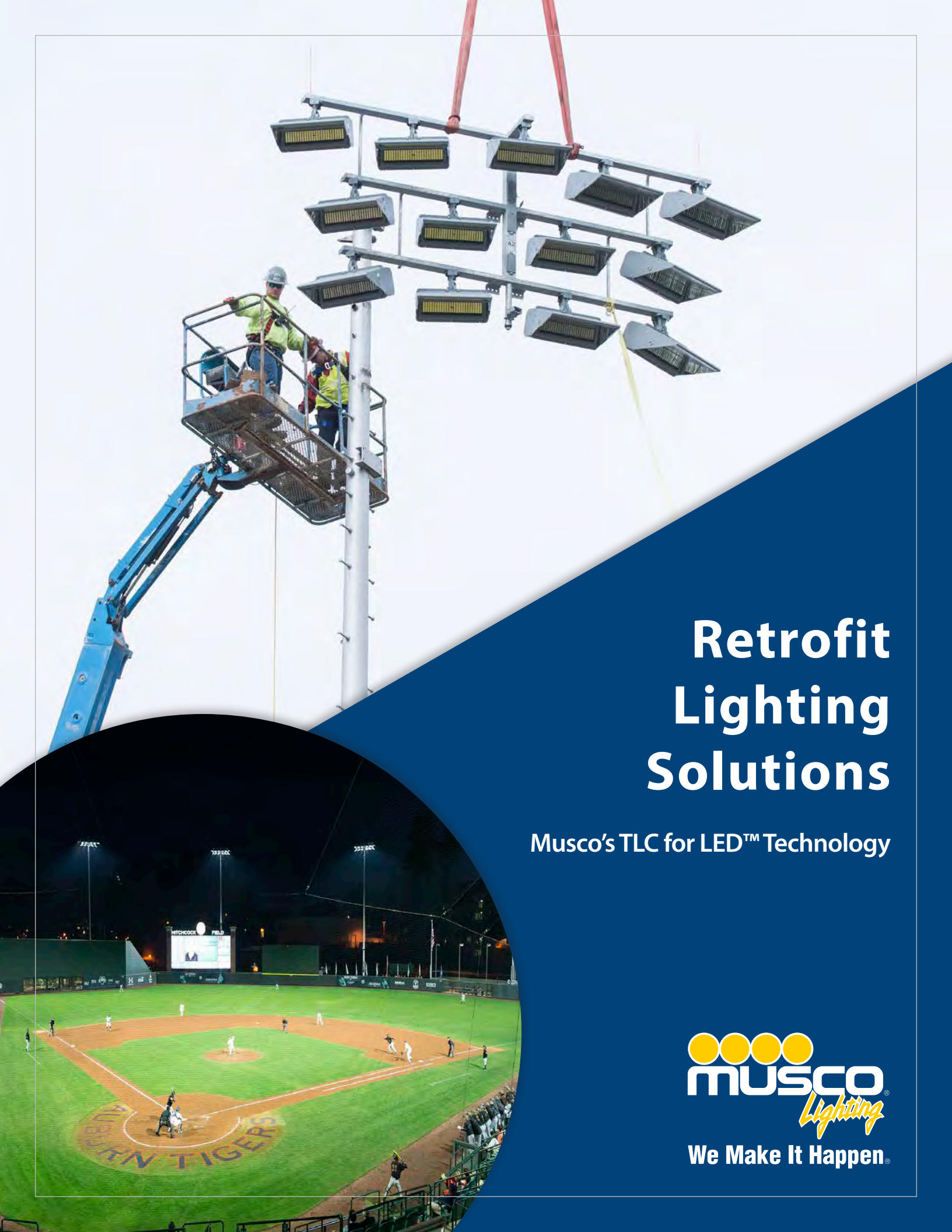
from foundation to poletop...

from the light source to the field,  
preserving the night sky...

assuring the results you expect,  
day 1... year 1... and for 25 years.



**We Make It Happen®**



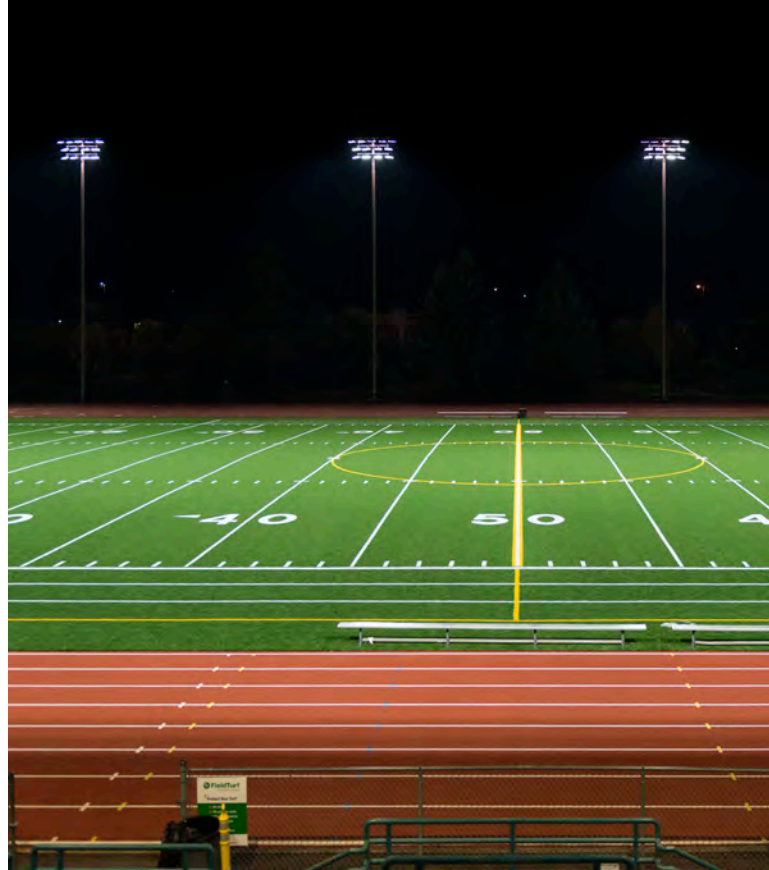
# Retrofit Lighting Solutions

Musco's TLC for LED™ Technology



**We Make It Happen.**







## A Proven Retrofit System

The quality of LED sports lighting is only as good as the system that applies it. Across the country, and around the world, sports venues of all sizes are discovering this every day.

At Musco, we're using our more than 40 years of experience in light and glare control to take advantage of the unique characteristics of the LED source. As a result, our system-based TLC for LED™ technology realizes the potential of LED as a retrofit solution in ways single fixtures simply can't.

### Better On-Field Lighting

The whiter and more uniform distribution of TLC for LED improves visibility for players and fans.

### Total Light Control™

Our patented glare control technology preserves darkness around fields like never before.

### Improved Efficiency

We've helped retrofit customers reduce energy consumption by as much as 80 percent.

### Long-Term Parts and Labor Warranty

No worrying about maintenance, or paying for it, for anywhere from 10 to 25 years.



*"Musco's design for Petco Park was different from the competitors by far. They actually redesigned our sports lighting racks. So we basically put up a brand new rack, already pre-aimed. When we compared Musco's product to all the competitors we felt they had the least amount of glare. We don't have any dark spots on the field, and our light levels blow away Major League standards."*

*- Randy McWilliams, Senior Director of Engineering  
San Diego Padres*





## Retrofitting with Musco's TLC for LED™ Technology

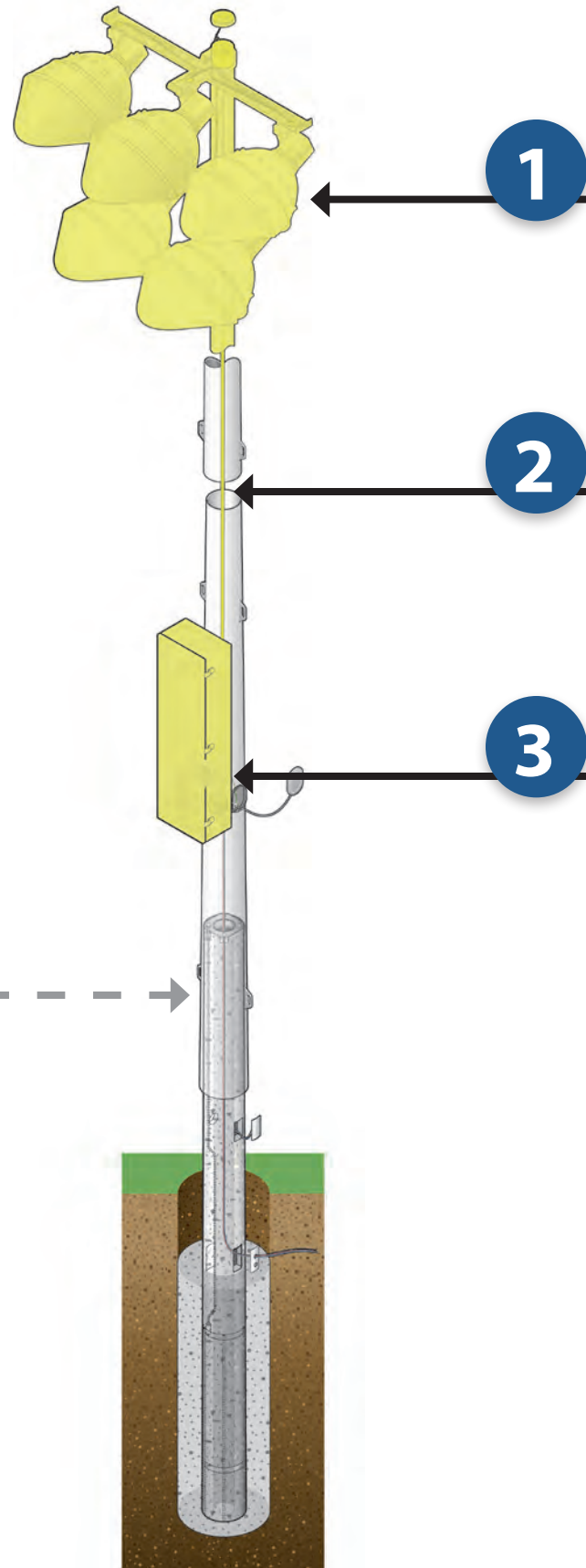
When you walk onto a field that's been retrofitted with Musco's LED technology, it just looks better. There's a reason for that.

Our solutions are designed as a system—with lighting, electrical, and structural components engineered to work together. We'll conduct a structural assessment of your current lighting, and our retrofit solution will include a new wire harness and new, custom cross arms to ensure structural integrity and long-term reliability.

### Structural Analysis

- To determine integrity of existing support structure

## Existing Light-Structure System™

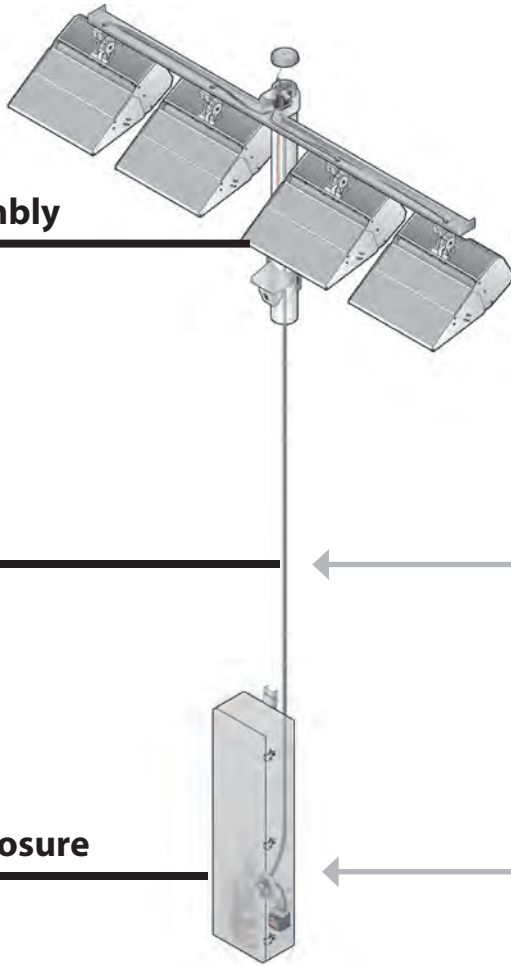


## Retrofit to TLC for LED™ Technology

### Poletop Luminaire Assembly

### Wire Harness

### Electrical Component Enclosure



- Patented optics and glare control for better on-field lighting and precise control
  - New cross arms to replace existing support structure
  - Factory wired, aimed, and tested
  - Single aiming point for fast, reliable installation
- 
- New factory-built wire harness
  - Custom made per pole length and luminaire configuration
  - Ensures no exposed wiring and solid connections with quick connect plug-ins
- 
- Located remotely for easy access
  - Houses major electrical components
  - Factory wired and tested, with surge protection and fusing for sensitive electronic components

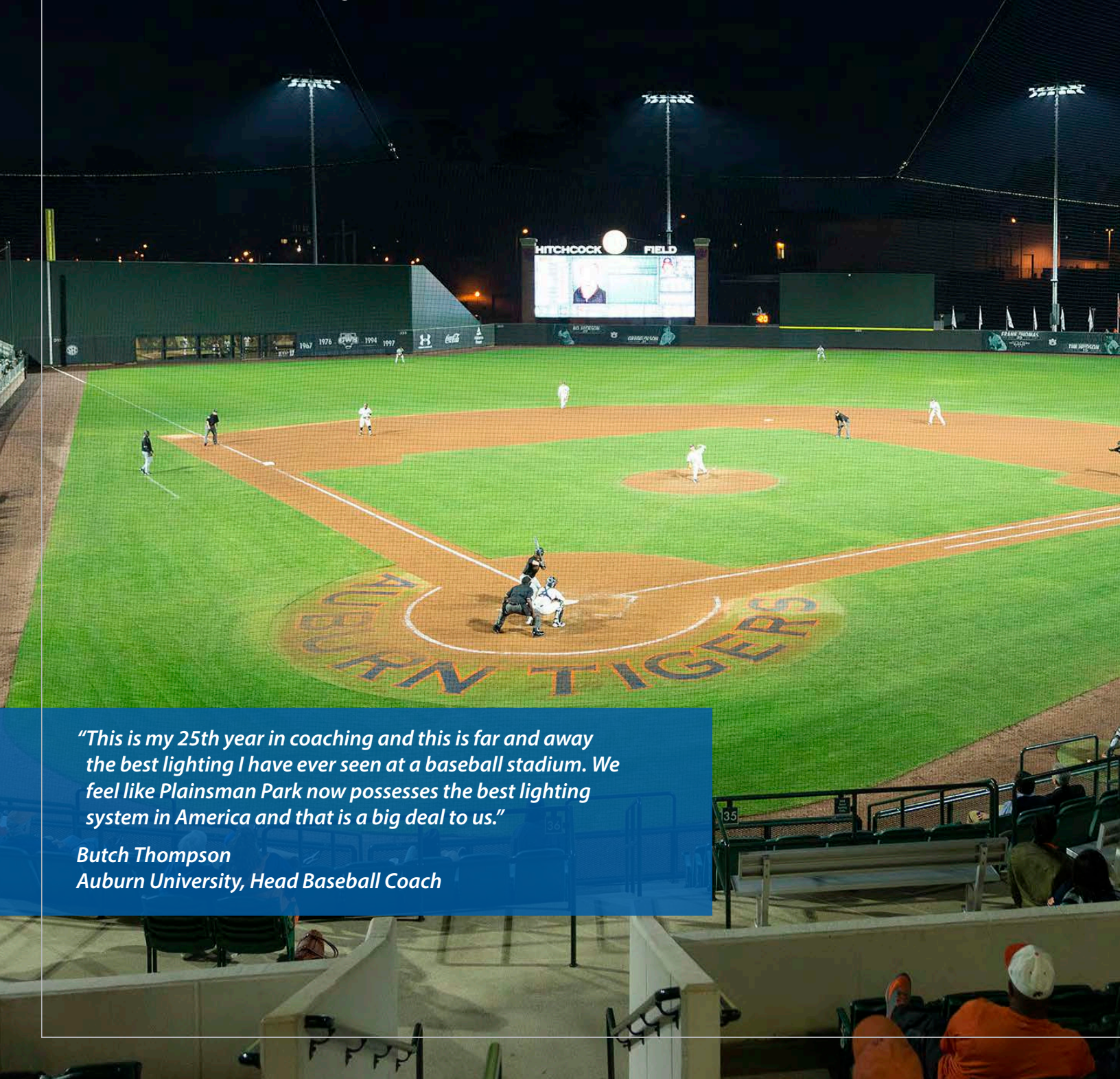
**In addition to retrofits, Musco also provides industry-leading sports lighting solutions that are complete and newly installed at stadiums, fields, and arenas of all sizes.**



# Better On-Field Lig

Every lighting project is unique. But at the core of each of them is improving the quality of light on the field of play.

We've spent more than a decade researching and designing systems around LED. TLC for LED™ along with our innovative BallTracker™ technology delivers a whiter and more uniform light, allowing players and fans to track the entire flight of the ball.



*"This is my 25th year in coaching and this is far and away the best lighting I have ever seen at a baseball stadium. We feel like Plainsman Park now possesses the best lighting system in America and that is a big deal to us."*

**Butch Thompson**  
Auburn University, Head Baseball Coach



# Lighting



## Auburn University – Samford Stadium- Hitchcock Field at Plainsman Park

Auburn, Alabama, USA

### The Challenge

- Increase light levels and improve the quality of on-field lighting and player visibility
- Mount luminaire assemblies on the existing poles from the previous lighting equipment
- Make the experience at one of college baseball's best stadiums even better

### The Solution

- University project leaders visited two other college stadiums to observe the performance of different LED lighting
- One featured Musco's TLC for LED™ technology, while the other had LED fixtures from another manufacturer
- Auburn chose TLC for LED with BallTracker™ technology, which proved far superior in player visibility and reduced glare

### The Result

- TLC for LED luminaire assemblies were successfully retrofitted onto the stadium's poles
- Playability has been significantly enhanced and glare has been virtually eliminated
- Musco's system technology ensures long-term reliability, and its long-term parts and labor warranty means no maintenance concerns or costs for 25 years



Energy cut by  
**43%**

CO<sub>2</sub>

**845**

metric tons  
reduced  
(25 years)



**178**

Cars off the road for  
one year CO<sub>2</sub> reduction  
equivalent



**\$158,917**

maintenance  
cost saved  
(25 years)



Hear from the coach and  
university staff, scan or visit  
[www.musco.com/news/auburn](http://www.musco.com/news/auburn)



## University of Colorado Colorado Springs – Alpine Field

Colorado Springs, Colorado, USA

### The Challenge

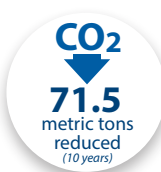
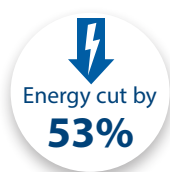
- Eliminate glare spilling into nearby homes from another manufacturer's newly installed lights
- Utilize existing poles and overcome challenges of the field's elevation atop a four-level parking garage
- Maintain existing light levels and improve uniformity on the 85,000-square-foot multi-sport field

### The Solution

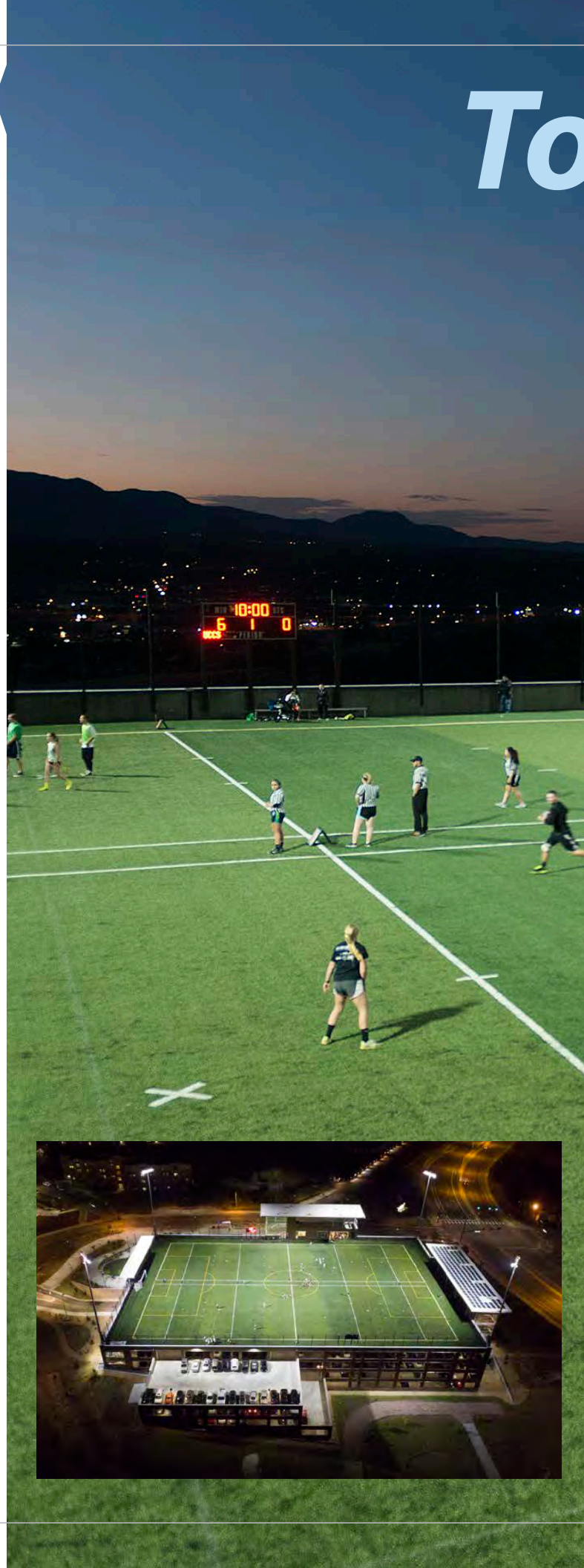
- When the original manufacturer failed to resolve neighborhood complaints, UCCS reached out to Musco
- Within days of receiving the call Musco's engineers and project managers were on site
- A customized system featuring TLC for LED™ technology was designed and retrofitted onto Alpine Field's existing 90-foot poles

### The Result

- Glare in nearby homes was virtually eliminated, dropping from 80,000-90,000 candela per fixture to 1,000.
- The system maintained the field's existing 30 footcandles and greatly improved light uniformity
- UCCS solidified its positive relationship with homeowners in the Colorado Springs community



Hear from the neighbors and  
university staff, scan or visit  
[www.musco.com/news/alpine](http://www.musco.com/news/alpine)





# otal Light Control™



We believe in designing lighting solutions responsible to the needs of everything being impacted—from facility owners and users, to neighbors and the night sky.

The patented light control technology of TLC for LED™ delivers a level of precision never before possible, re-directing previously wasted light onto the field and virtually eliminating glare and spill.

*"Musco really responded. Their representative was here within days, we explained the problem and they engineered a solution using the four poles in the corners of the field using their LED technology."*

**Gary Reynolds**  
UCCS, Assistant Vice Chancellor for Administration



# Improved Efficiency

Our TLC for LED™ technology has helped retrofit customers reduce their energy consumption by as much as 80 percent.

But when we talk about efficiency, it goes beyond energy—and dollars—saved. It's also about the efficiency of your lights, putting more on your field and spilling less around it. And it's about improving operations with streamlined scheduling and facility management.

*"The direction and control of the field lighting system is extremely efficient, there is a significant reduction of light spill onto the neighboring properties."*

**Matt Finch**  
Edmonds School District, Design & Construction Manager

FieldTurf

Product Near Turf



## Edmonds School District Stadium

Edmonds, Washington, USA

### The Challenge

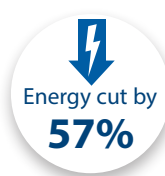
- Provide a high-quality lighting system that would help the district reduce energy consumption
- Customize a retrofit system using existing roof-mounted structures on one side of the stadium
- Reduce glare from spilling into the surrounding area while maintaining light levels on the field

### The Solution

- Musco's TLC for LED™ technology using two custom-designed lighting systems
- Light-Structure System™ complete from foundation-to-poletop was installed on one side, with SportsCluster System™ retrofitted on the roof-mounted structures
- Took advantage of a \$50,000 public utility incentive for energy savings

### The Result

- Energy consumption was reduced by 57 percent compared to the previous metal halide lights
- A much whiter and more uniform light on the field with the virtual elimination of glare and spill around it
- Efficient scheduling and system management with the 24/7 support of Control-Link®





## Ken Pridgeon Stadium

Houston, Texas, USA

### The Challenge

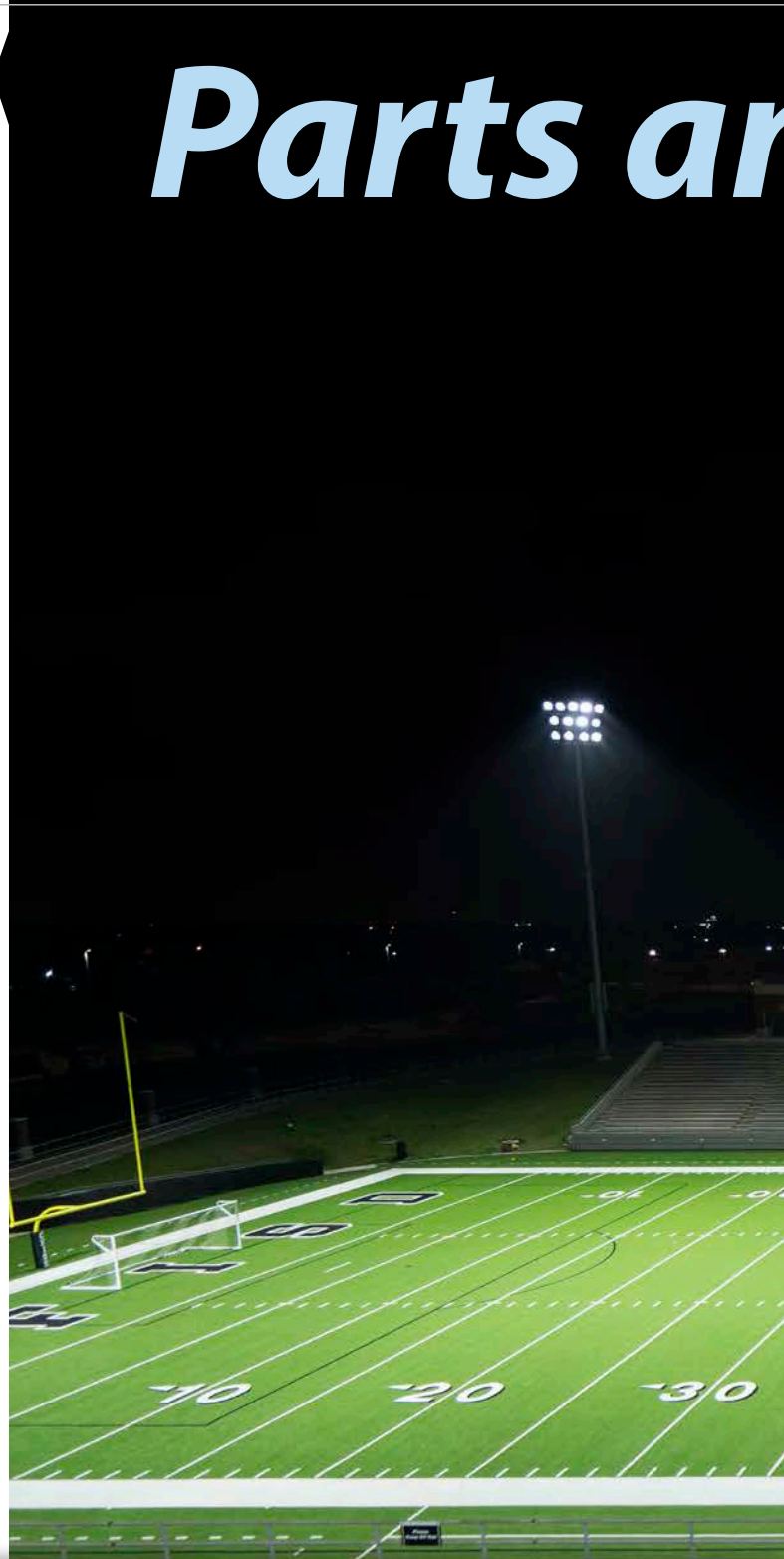
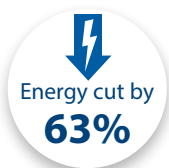
- Eliminate maintenance hassles and costs for the school district
- Deliver a solution that would reduce operating costs through improved efficiency and maintenance
- Help position Cypress-Fairbanks Independent School District as the first all LED lighted high school athletic complex in the country

### The Solution

- Musco's TLC for LED™ technology was retrofitted at the stadium which was built in the 1970s
- Solution included 10-year parts and labor warranty
- Included guaranteed light levels for the duration of the warranty

### The Result

- School district will save more than \$148,000 over 10 years between the elimination of maintenance costs and energy efficiency
- Will reduce CO2 emissions by 721 metric tons over the next decade
- Eliminates the hassle of re-lamping and having to budget for maintenance expenses for 10 years



### In one year alone the Musco Team has...



**Monitored and turned lights on and off remotely for more than 5 million games and events**



**Taken more than 350,000 calls answering questions and helping with scheduling**



**Traveled enough miles servicing fields to circle the equator 33 times**

# nd Labor Warranty

Throughout our history we've always stood by our solutions, and our customers.

Our long-term warranty and product assurance program—which ranges from 10 to 25 years—includes guaranteed light levels, covers parts and labor, and is backed by a global team of technicians. So when an issue with your system arises, you don't touch it, and you don't pay for it. And our Control-Link® system scheduling and monitoring service provides 24/7 support.



*"We're going from a maintenance agreement that was changing out bulbs. With the extended warranty that Musco provides, we won't be looking at doing any of that maintenance any time soon."*

**Josh Solis**  
Project Manager, Cypress-Fairbanks Independent School District





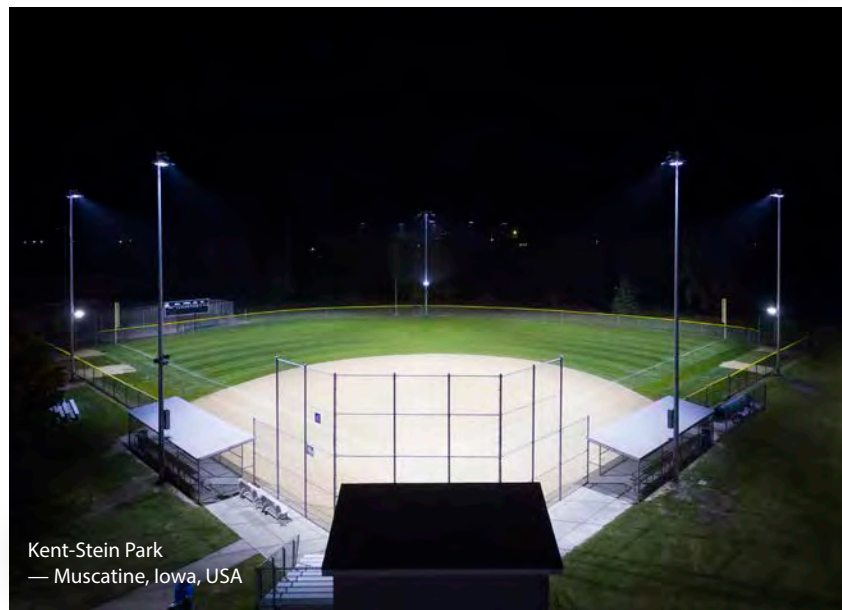
Petco Park, Home of the San Diego Padres  
— San Diego, California, USA



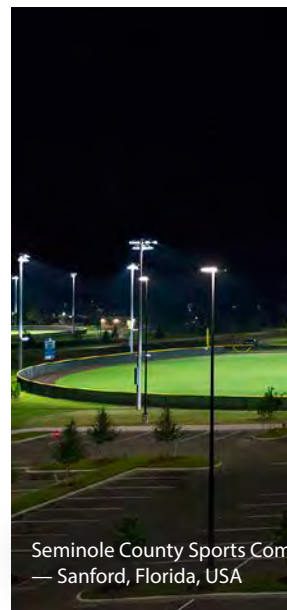
LakePoint Sporting Community, South Campus  
— Emerson, Georgia, USA



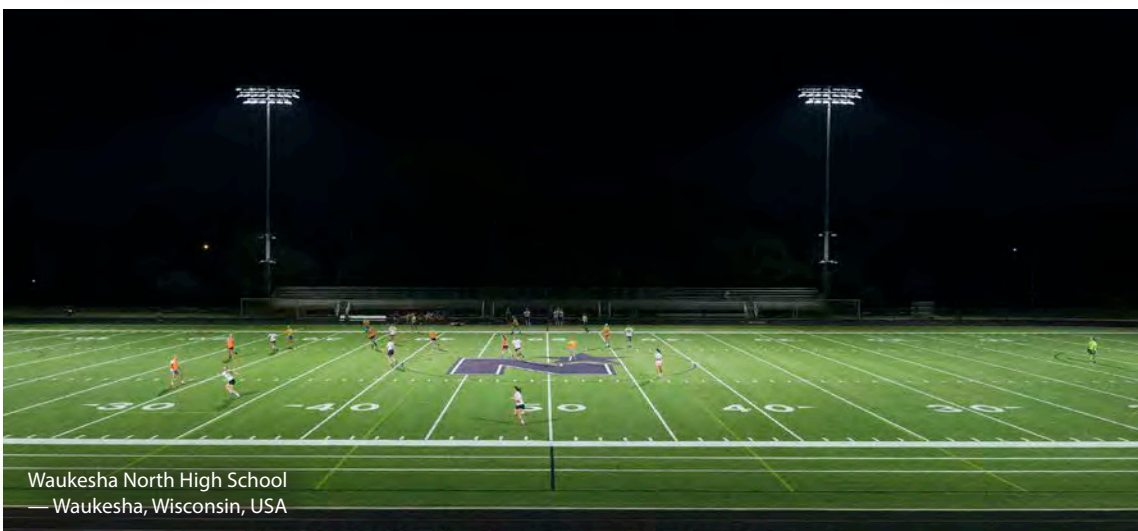
Steve Cox Memorial Park  
— Seattle, Washington, USA



Kent-Stein Park  
— Muscatine, Iowa, USA



Seminole County Sports Complex  
— Sanford, Florida, USA



Waukesha North High School  
— Waukesha, Wisconsin, USA

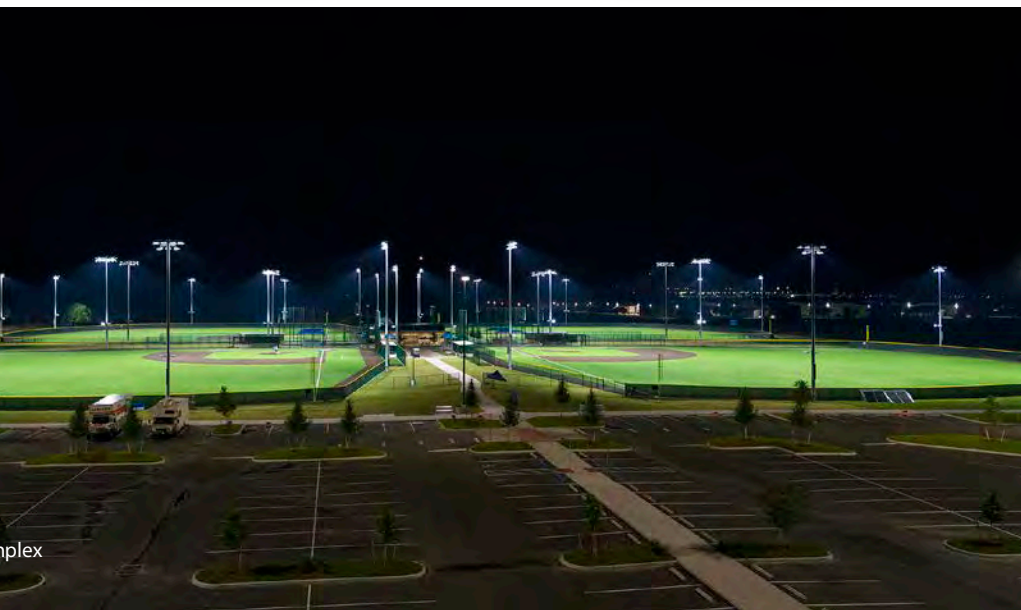




University of Alabama, Sewell-Thomas Stadium  
— Tuscaloosa, Alabama, USA



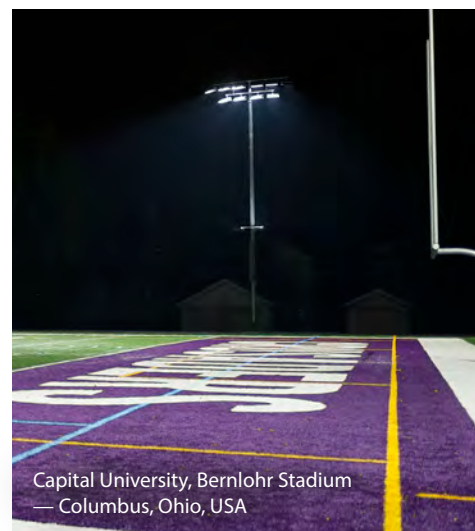
New Milford High School  
— New Milford, Connecticut, USA



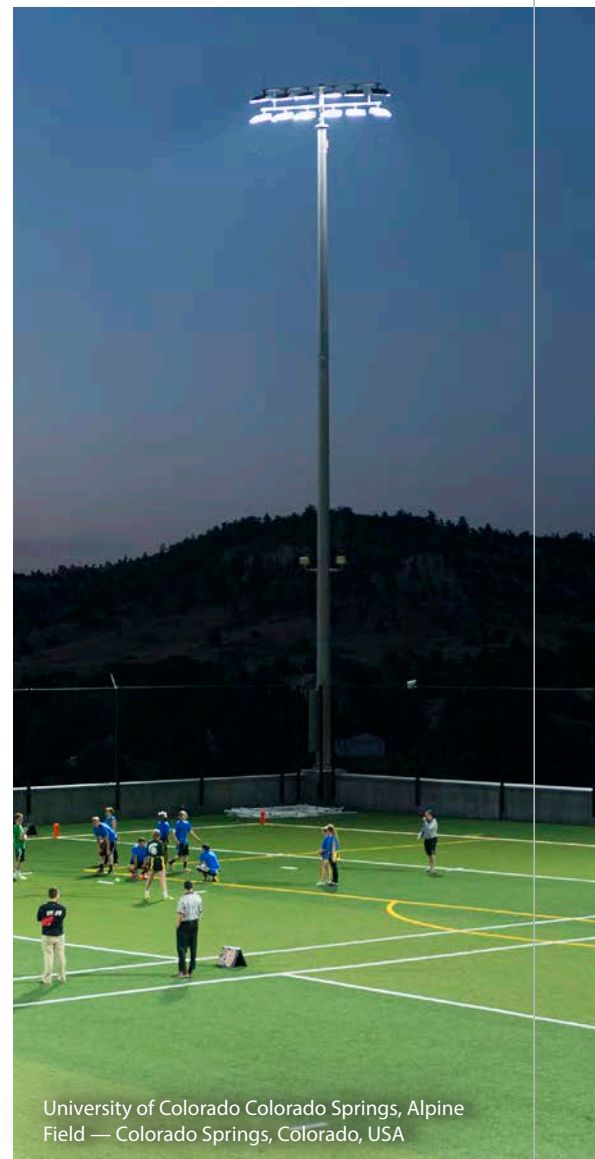
plex



Clemson University, LoConte Family Field  
— Clemson, South Carolina, USA

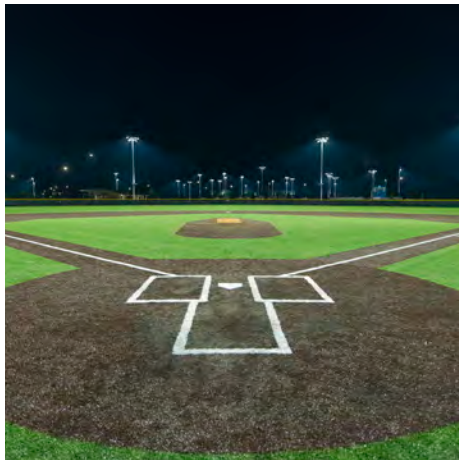
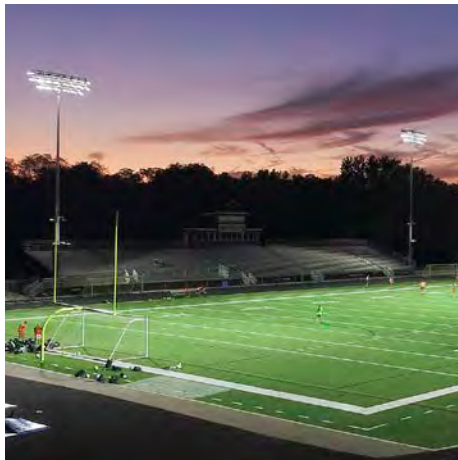


Capital University, Bernlohr Stadium  
— Columbus, Ohio, USA



University of Colorado Colorado Springs, Alpine Field  
— Colorado Springs, Colorado, USA





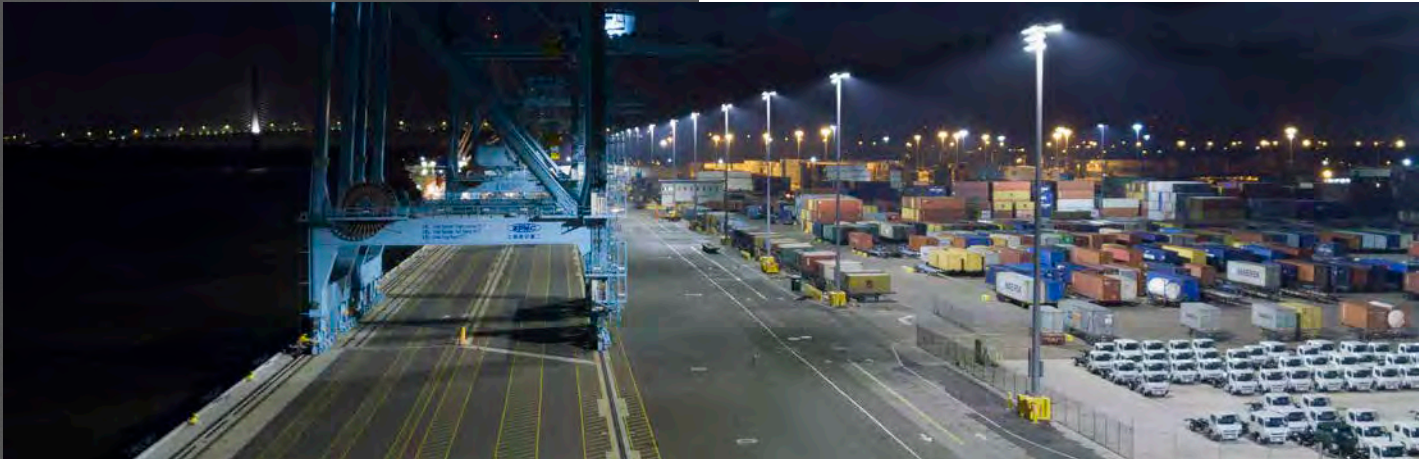
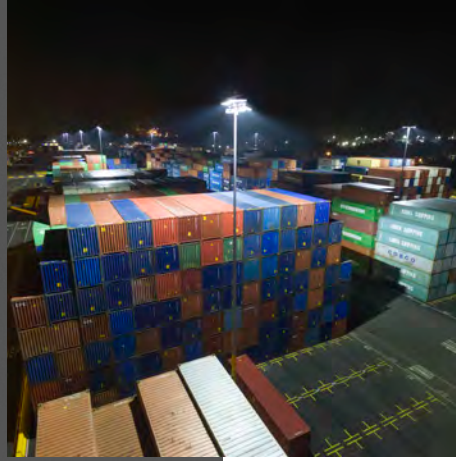
**Unequaled performance . . .**  
*for your budget, for the environment.*



**We Make It Happen®**

[www.musco.com](http://www.musco.com)  
e-mail: [lighting@musco.com](mailto:lighting@musco.com)

©2017 Musco Sports Lighting LLC - M-2309-en04-3  
U.S. and foreign patents issued and pending.



## Large Area Lighting Solutions

Rail, Seaports, Airports,  
Construction, and Industrial

  
We Make It Happen®





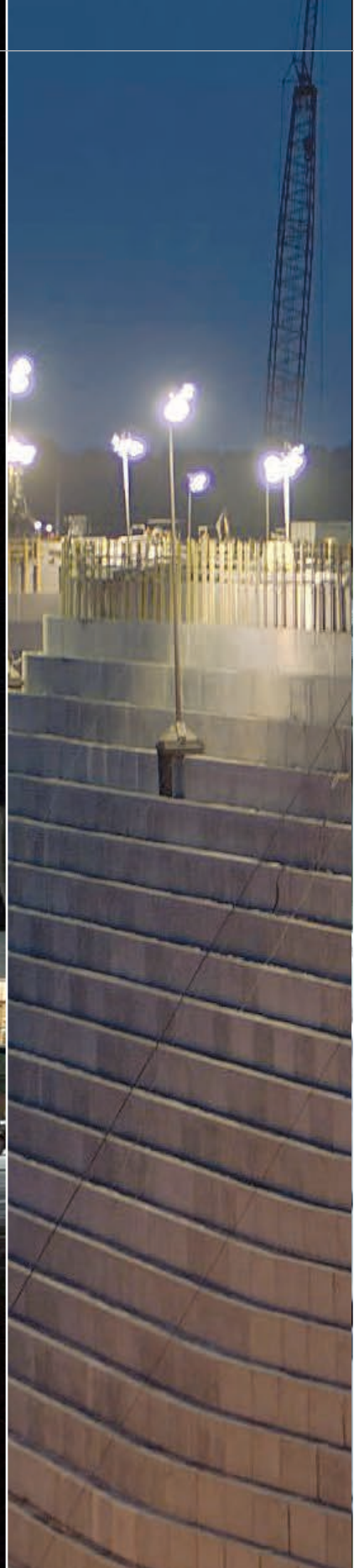
**Rail**



**Ports**



**Airports**



**Construction Sites**





**Industrial**



**Other Applications**

## Bringing Lighting Solutions to the World

Since 1976, Musco has established itself as the global leader in sports and large area lighting solutions. Little League® baseball fields. International speedways. The White House. San Francisco's Bay Bridge. NFL stadiums. The Olympics. And some of the largest ports in the world. When innovations in lighting systems are needed to enhance light quality, improve effectiveness, reduce spill light and glare, cut costs, and minimize the impact on our environment, customers turn to Musco.

With representatives in 34 countries and lighting projects in nearly 100 countries around the world, our team of engineering professionals, project managers, technicians, and build-to-order manufacturing capabilities are just part of what sets Musco apart. From the design of your system, to installation, to maintenance and performance monitoring, our Total Light Control — TLC for LED™ system provides a complete solution.

- Cuts energy consumption
- Reduces spill light and glare with total light control
- Eliminates 100 percent of routine maintenance for 10 years, provided by our global network of trained technicians

Our innovative lighting systems — with an LED or HID light source — have ushered in a new era for large area lighting and offer a solution complete from foundation to poletop.



**We Make It Happen.®**



## Santa Teresa Rail Yard

Santa Teresa, New Mexico, USA

### The Challenge

- Install a lighting system at one of the oldest and most important rail corridors in the U.S.
- Design a solution for a massive facility spanning nearly 12 miles and covering more than 2,200 acres
- Improve energy efficiency and cost effectiveness at Santa Teresa

### The Solution

- With experience developing systems for rail facilities around the world, Musco was uniquely positioned to deliver the best possible solution at Santa Teresa
- Musco engineered a solution with its Light-Structure System™ built from foundation to poletop in 5 Easy Pieces™, using Green Generation™ technology
- The new lighting system was customized to meet the specific operational and safety needs at Santa Teresa

### The Result



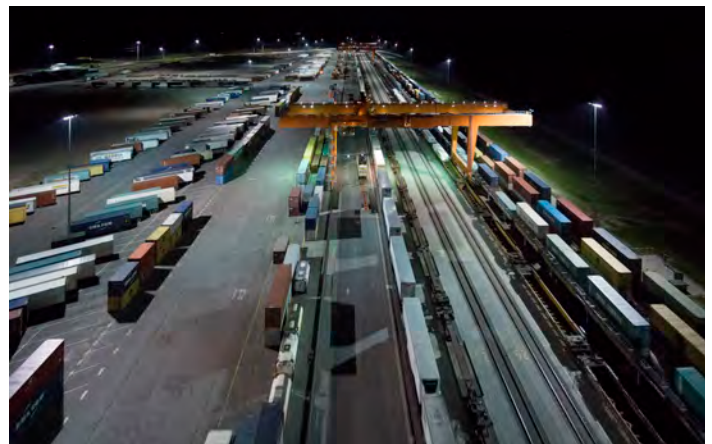
**Visibility** — The system delivered higher quality lighting with fewer luminaires, and its patented light control technology virtually eliminated glare and spill



**Energy Efficiency** — Energy consumption was reduced by 33 percent, providing a 10-year energy savings of \$1.5 million compared to typical 1,000-watt metal halide equipment



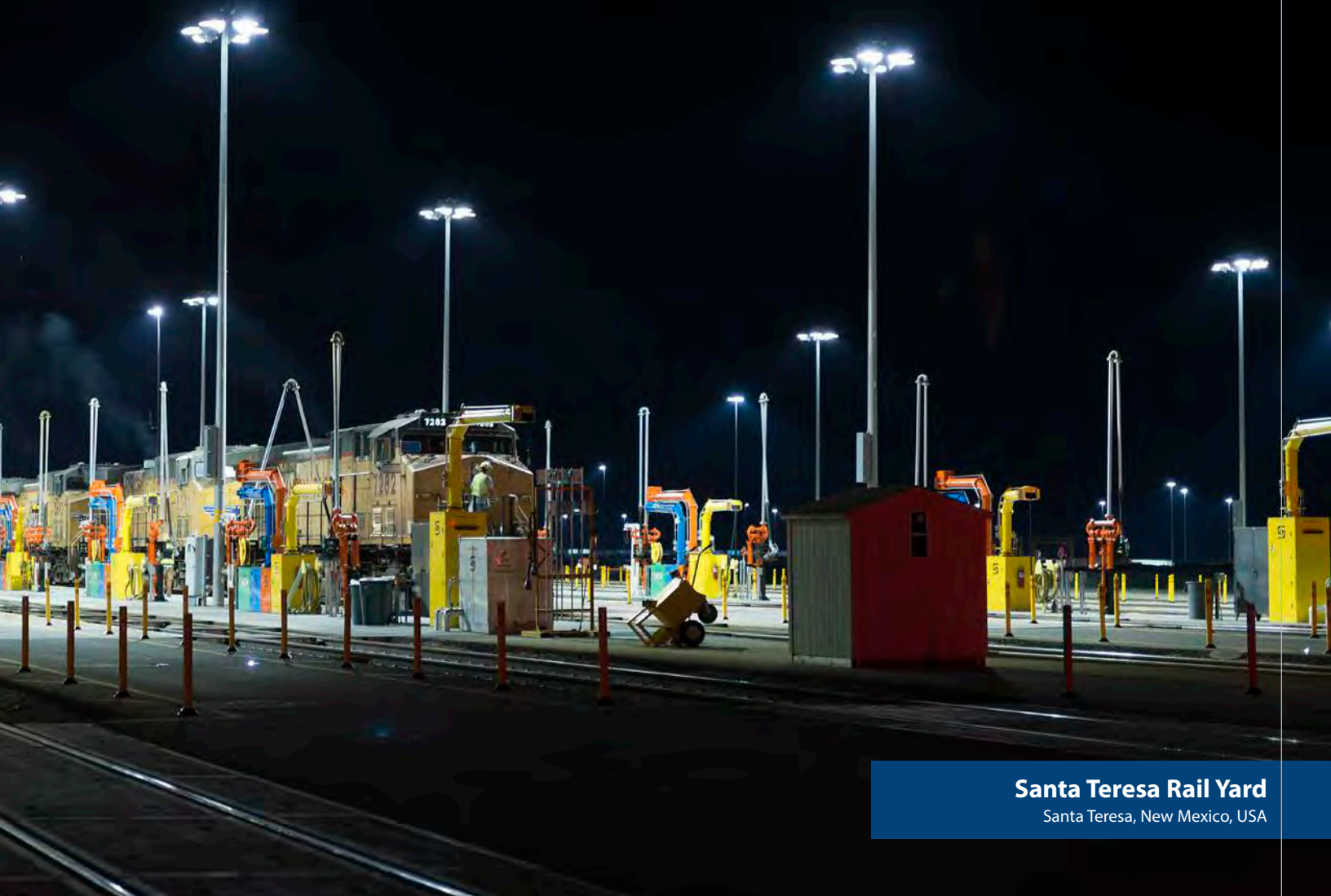
**Zero Maintenance** — Musco's long-term parts and labor warranty eliminated maintenance concerns and costs for 10 years



## BNSF Railway – Logistics Park Kansas City Intermodal Facility

Edgerton, Kansas, USA

# *Solutions for Rail Yards*



**Santa Teresa Rail Yard**

Santa Teresa, New Mexico, USA



**San Antonio Intermodal Terminal**

Van Ormy, Texas, USA

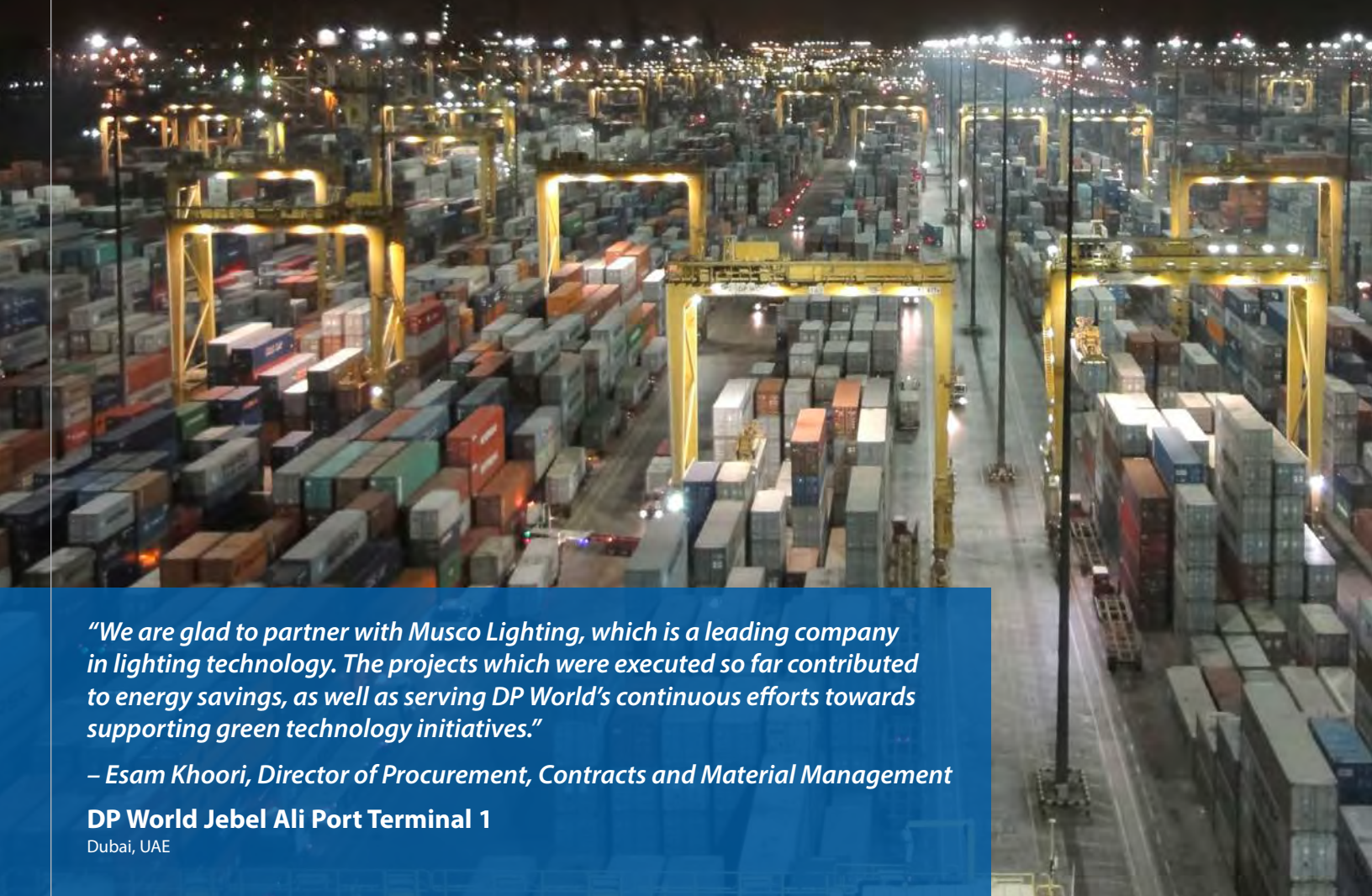


**Dolton Yard Center Intermodal Terminal**

Dolton, Illinois, USA



# Solutions for *Ports*

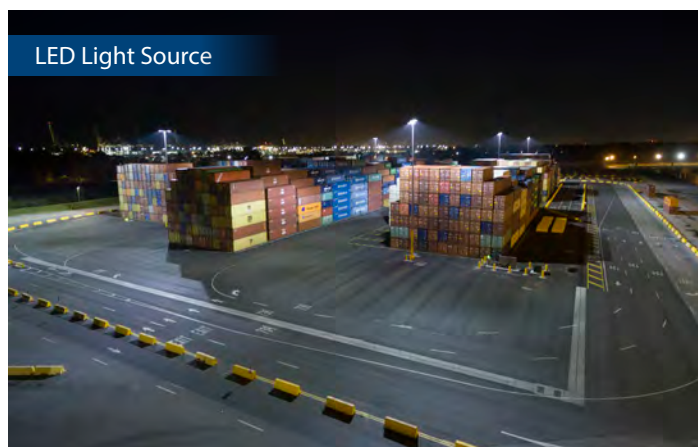


*"We are glad to partner with Musco Lighting, which is a leading company in lighting technology. The projects which were executed so far contributed to energy savings, as well as serving DP World's continuous efforts towards supporting green technology initiatives."*

*– Esam Khoori, Director of Procurement, Contracts and Material Management*

**DP World Jebel Ali Port Terminal 1**

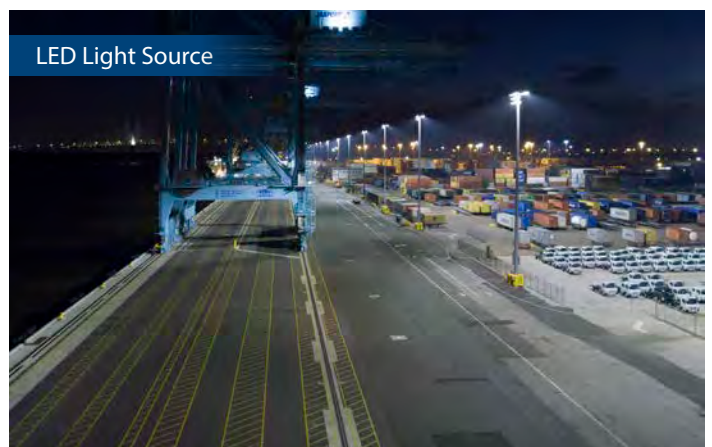
Dubai, UAE



LED Light Source

**Georgia Ports Authority – Mason Empty Yard**

Savannah, Georgia, USA



LED Light Source

**Jacksonville Port Authority – JaxPort Wharf Reconstruction**

Jacksonville, Florida, USA





## DP World Jebel Ali Port Terminal 2

Dubai, UAE

### The Challenge

- Install a state-of-the-art lighting system at one of the largest ports in the Middle East, allowing the facility to stay operational during the installation process
- Provide higher light quality and consistent light levels while reducing glare and off-site spill
- Improve energy efficiency and reduce massive operating costs due to energy consumption and maintenance

### The Solution

- Musco's experience lighting some of the world's biggest ports uniquely positioned the company to overcome the project's major challenges
- The solution involved custom-designing Musco's Total Light Control — TLC for LED™ technology
- Patented light and glare control delivers light precisely where intended while preserving darkness where light isn't wanted

### The Result



**Easy Installation** — The streamlined installation of Musco's TLC for LED technology onto existing poles allowed the port to stay operational during the retrofit process



**Improved Operations** — The system strategically lit the sides of stacks and roadways, helping to improve safety for truck and lift operators



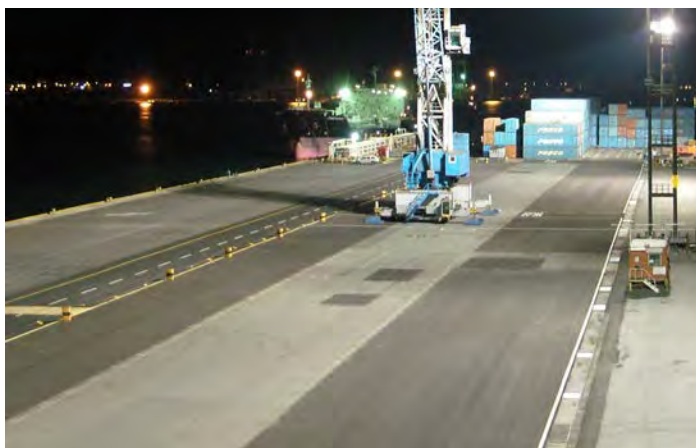
**Visibility** — The remarkable light control and cut off of TLC for LED resulted in higher quality and more uniform lighting precisely where intended



**Energy Efficiency** — Energy consumption was cut 66 percent, DP World would realize a savings of \$2.9 million in energy and operating costs, and maintenance was eliminated for 15 years



**Cost Effective** — DP World is expected to pay off its initial investment in the lighting in less than four years



## Ulsan Container Terminal

Ulsan, Korea



## Vancouver International Airport (YVR)

Richmond, British Columbia, Canada

### The Challenge

- Install an LED apron lighting system at the second busiest airport in Canada without disrupting the operations of YVR's ground crews
- Help improve safety of pilots, air traffic controllers, and ground staff by increasing light levels, improving uniformity, reducing glare, and preserving darkness around the airport
- Improve energy efficiency by making the system adaptive based on gate usage, reduce operating costs, and eliminate maintenance

### The Solution

- Having installed its LED solution at other major airports around the world, Musco was identified as the best partner for the project at YVR
- Musco's Total Light Control — TLC for LED™ system technology was retrofitted onto the existing support structures, and featured remote electrical component enclosures for easy access
- The system delivers unprecedented light control to apply a more uniform light precisely where intended, as well as instant on/off/dimming capabilities

### The Result



**Easy Installation** — The system was installed at YVR in a streamlined manner that didn't disrupt regular operations at the airport



**Visibility** — The improved light quality and reduced glare helped enhance operational effectiveness and safety for ground crew, pilots, and air traffic controllers while also preserving darkness around YVR



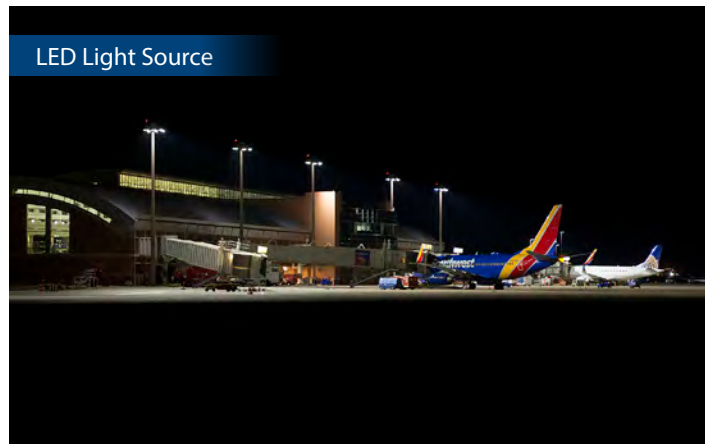
**Energy Efficiency** — The system improved efficiency by adapting light levels at gates based on usage, reducing energy consumption at YVR by 715,000/kW hours per year



**Zero Maintenance** — Musco's long-term parts and labor warranty eliminates maintenance concerns and costs for 10 years



LED Light Source



## Midland International Air & Space Port

Midland, Texas, USA



# Solutions for Airports

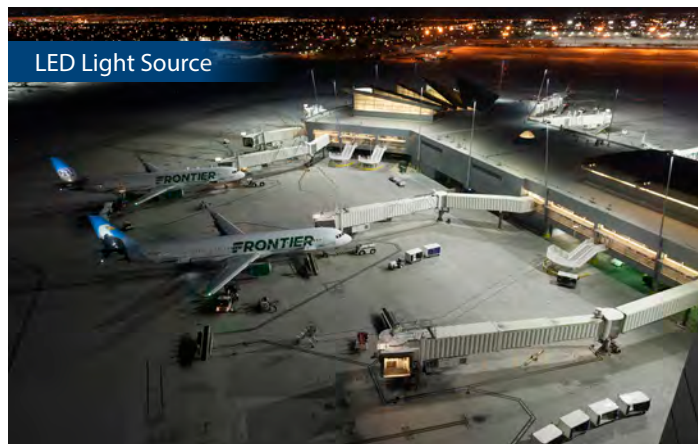
## Vancouver International Airport (YVR)

Richmond, British Columbia, Canada

LED Light Source



PRIOR: HID LIGHT SOURCE



LED Light Source

## McCarran International Airport

Las Vegas, Nevada, USA



## Xiamen Airport Terminal 3 Apron Relighting

Xiamen, Fujian, China



# *Solutions for* **Construction**



## **Saluda Dam**

Lexington, South Carolina, USA



## **I-90 Albany**

Albany, New York, USA

# on Sites



## Saluda Dam

Lexington, South Carolina, USA

### The Challenge

- Provide high-quality lighting for the Saluda Dam Remediation Project for Barnard Construction Company
- Help Barnard workers complete the dam strengthening project to protect the state's capital, Columbia, on time and on budget
- Provide enough quality light for workers at night to help ensure their safety at a job site where they worked around two active power plants, five penstocks, two circulation pipelines, high-voltage transmission lines, and a high-pressure gas line

### The Solution

- Having developed the most powerful and efficient temporary lighting solutions in the world, Musco was an ideal partner and had worked with Barnard Construction Company on previous projects
- Musco's industry-leading lighting system was mounted on temporary structures to provide quality and efficient light throughout the night
- The solution allowed for the lighting of hard to reach areas at the job site

### The Result



**Improved Operations** — Musco's temporary lighting allowed construction at Saluda Dam to be fast-tracked with work happening at night



**Visibility** — The solution provided high-quality, efficient lighting that helped ensure a safer work environment for workers



**Project Efficiency** — Barnard Construction Company completed the project at Saluda Dam ahead of schedule



## Miami of Ohio Athletic Facility Construction

Oxford, Ohio, USA



## Des Moines Wastewater Reclamation Authority

Des Moines, Iowa, USA

### The Challenge

- Install a lighting system that would help the Wastewater Reclamation Authority reduce energy consumption while treating an average of 59,000,000 gallons per day
- Reduce light spill and glare, and provide dimming capabilities, as other ways to improve energy efficiency
- Keep up-front costs down, reduce energy and operating costs, and eliminate maintenance at the plant

### The Solution

- Musco's experience designing lighting solutions for applications of all sizes—from small parking lots to major transportation structures—made it an ideal fit for the project
- The solution involved retrofitting Musco's Total Light Control — TLC for LED™ technology onto the facility's existing poles
- The Authority received an energy rebate for choosing Musco's energy efficient LED system, helping to offset initial costs

### The Result



**Energy Efficiency** — Musco's solution reduced energy consumption at the Wastewater Reclamation Authority by 73 percent



**Dimming Controls** — With dimming controls, the system allowed the facility to further enhance efficiency while also having security lighting in place

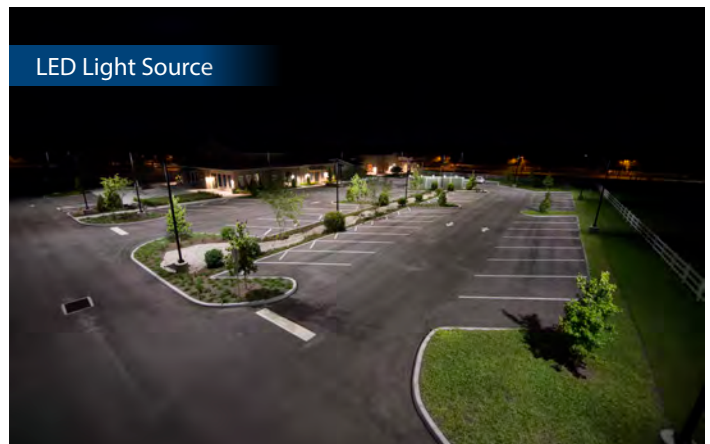


**Light Quality** — Off-site spill and glare was virtually eliminated



**Zero Maintenance** — Operating costs have been cut \$121,000 over the next decade, and maintenance costs and concerns were eliminated for 10 years

# Solutions for *In* Large Area Appl



LED Light Source

## Harmony Retail Center

Harmony, Florida, USA

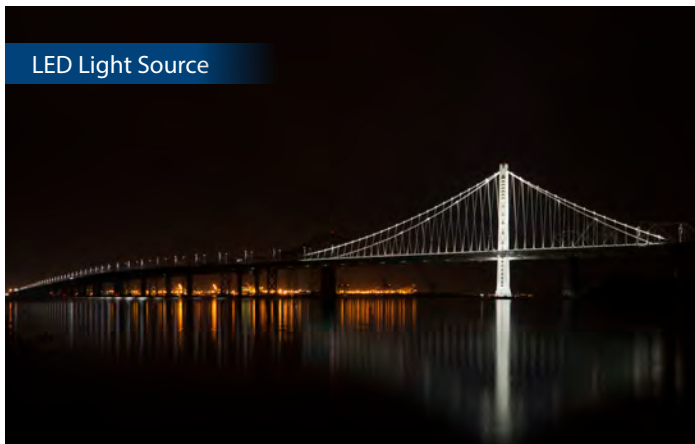
# *Industrial and other applications*



**Des Moines Wastewater Reclamation Authority**

Des Moines, Iowa, USA

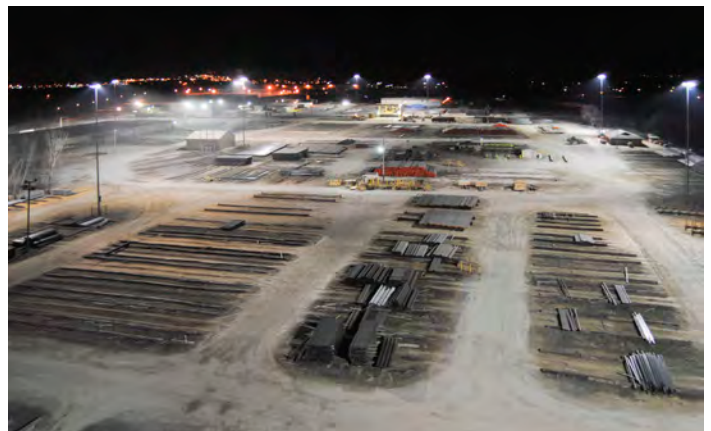
LED Light Source



LED Light Source

**San Francisco-Oakland Bay Bridge**

Oakland, California, USA



**TMK IPSCO Steel Tubulars**

Camanche, Iowa, USA



# System Technology

## A Complete System or Retrofit Solution

### 5 Easy Pieces™

Light-Structure System™ is designed in 5 Easy Pieces from foundation to poletop to provide a complete solution for lighting, electrical, and structural needs.

- Unique reflector system and optic design provide optimal energy efficiency and light control
- Patented glare control technology keeps light away from neighboring facilities
- Durable system delivers trouble-free operation
- Small structural footprint maximizes the available area around the poles

### Unique considerations for large area lighting

- Musco offers modular light solutions for existing poles, specialty-use poles, and roof-mounted structures

### Lighting Control and Management

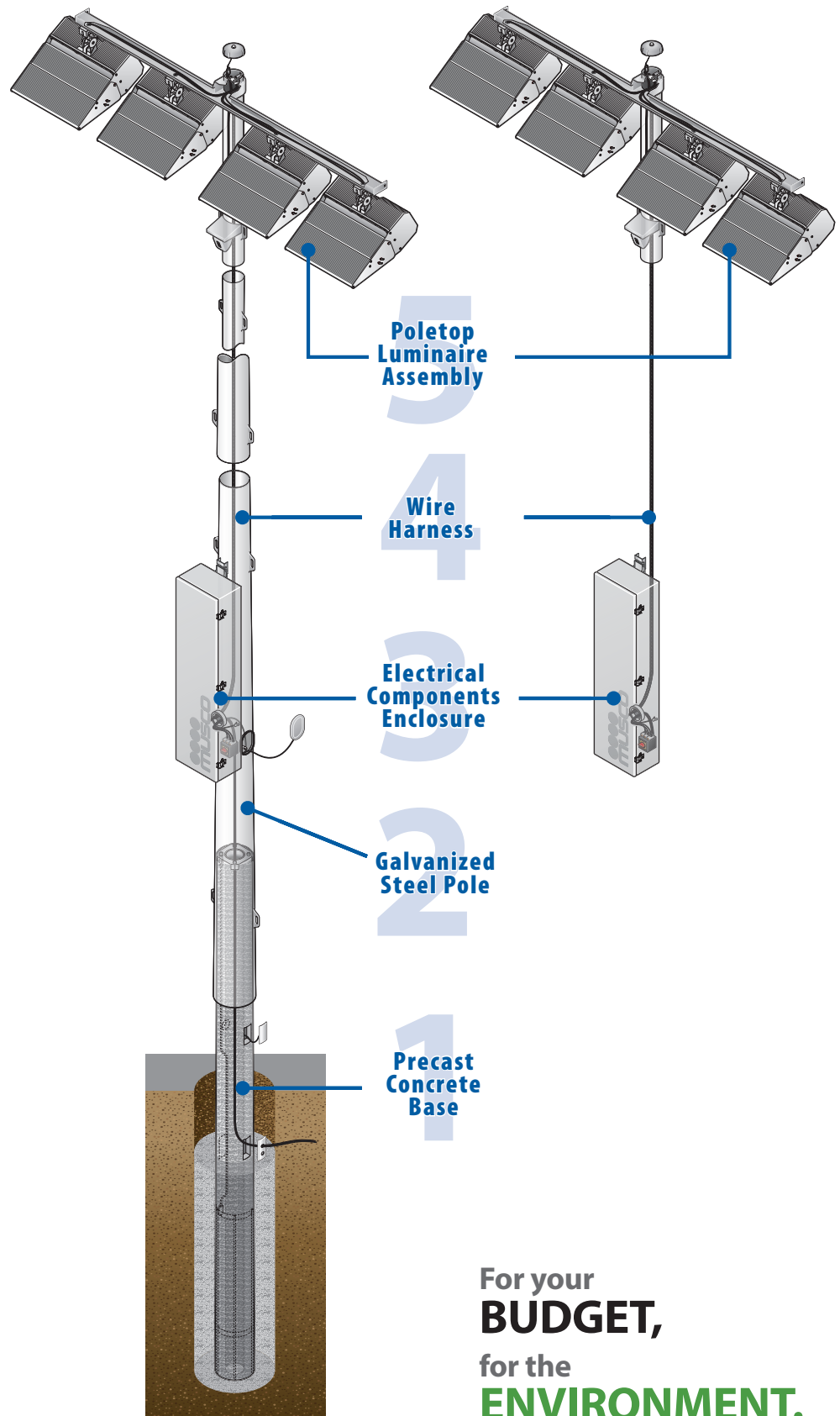
- Control-Link® controls and monitoring system manages facility lighting and other electrical equipment

### Retrofit Applications

- Includes new cross arms
- Factory wired, aimed, and tested
- New wire harnesses ensures no exposed wiring and solid connections with quick connection plug-ins
- Electrical Components Enclosure is located remotely for easy access

## Complete Solution Light-Structure System™

## Retrofit Solution

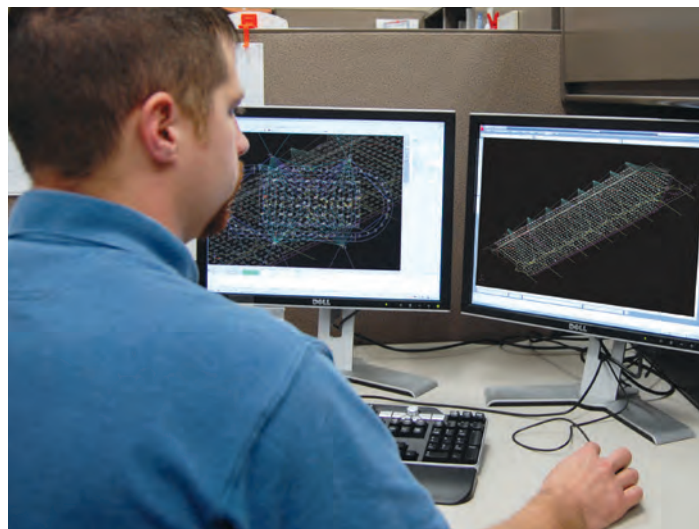


For your  
**BUDGET,**  
for the  
**ENVIRONMENT.**

## Design Expertise

Our team of certified lighting engineers will work with you to design a custom lighting solution to:

- Reduce your facility's energy use
- Deliver superior working light by optimizing light aiming angles and reducing disruptive glare
- Provide controlled light per specified light levels
- Control off-site spill light and glare
- Minimize the number of poles needed to light an area
- Ensure structural requirements for poles and foundations



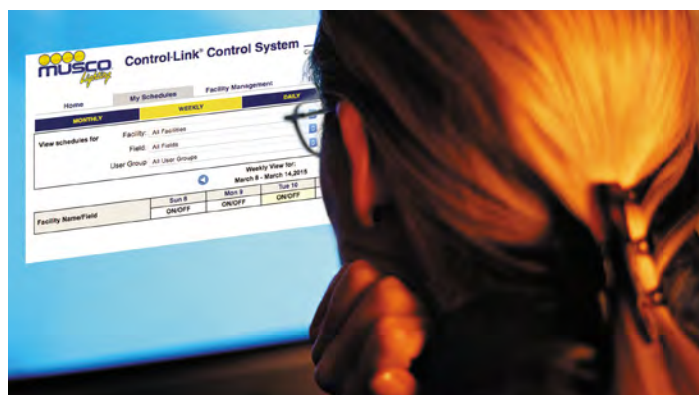
## Installation Services and Project Management

- Full installation services available from electrical to structural
- Network of more than 1,800 trained contractors
- Experienced project managers available throughout the installation process
- Minimize disruption to ongoing operations



## Controls & Monitoring Systems

- Control-Link® manages the scheduling for lighting and other electrical equipment via an easy to use website, smartphone app, email, and 24/7 call center
- This system schedules nearly 5 million events each year, helping to reduce energy usage, cut labor expenses, and provide usage information
- Alerts Musco's service team of any potential problems with the lighting components
- Compatible with existing or other control systems

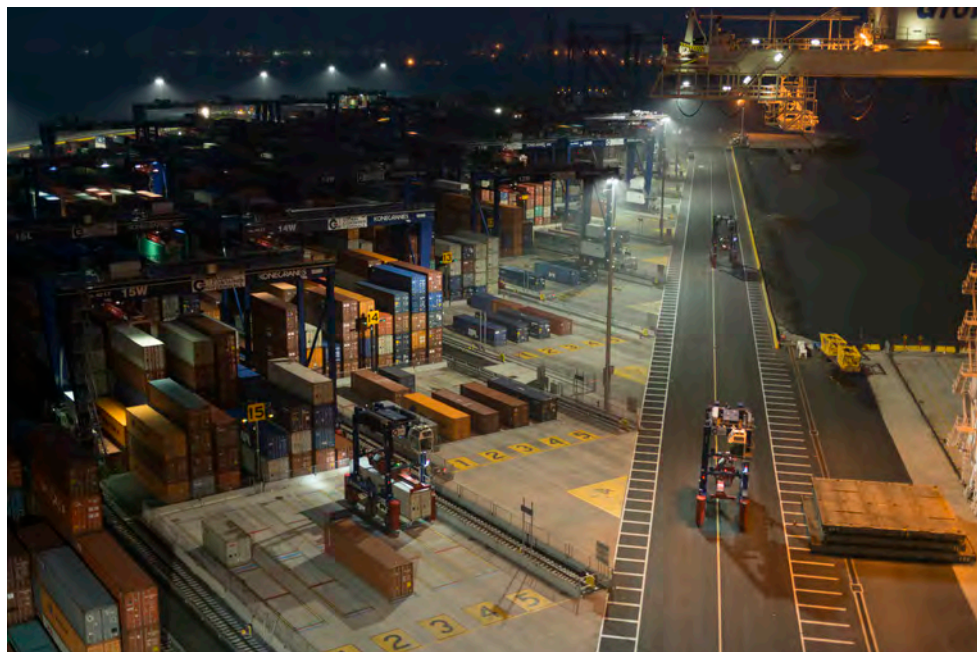


## Warranty and Support

- Musco's comprehensive warranties are backed by a service and warranty team that includes more than 160 members
- Musco monitors the performance of its lighting systems in facilities around the world to ensure they are always ready for operation
- Each year Musco's technicians provide field maintenance, perform warranty work, and consult on temporary lighting needs at more than 5,000 facilities







**Unequaled performance . . .**  
*for your budget, for the environment.*



**We Make It Happen®**

[www.musco.com](http://www.musco.com)  
e-mail: [lighting@musco.com](mailto:lighting@musco.com)



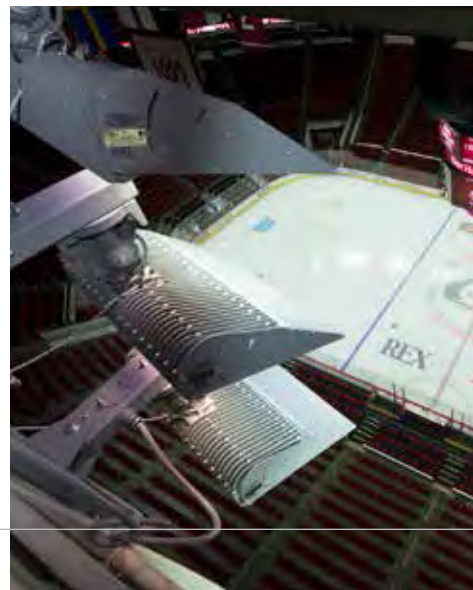
# Indoor Sports Lighting Solutions

Musco's TLC for LED™ Technology



We Make It Happen®









# A NEW ERA for Indoor Sports Lighting

Across the country, more and more indoor sports venues are transitioning to LED lighting as it becomes an affordable, higher quality solution.

And what they're discovering is that the quality of LED lighting is only as good as the system that applies it.

At Musco, we've applied more than 40 years of experience in light and glare control to develop our TLC for LED™--a revolutionary innovation that realizes the potential of the LED source in ways non-system fixtures simply can't.



#### **Virtually Eliminates Glare**

Patented light control technology virtually eliminates glare from impacting players, spectators, and television broadcasts.



#### **Improves Energy Efficiency**

Indoor venues, which use lights for thousands of hours per year, dramatically reduce energy consumption to the point where those savings ultimately pay for the system itself.




#### **Enhances Entertainment Experience**

Integration with DMX boards helps arenas take the entertainment experience for players and fans to the next level.



#### **Backed by a Long-Term Parts and Labor Warranty**

No worrying about maintenance, or paying for it, for anywhere from 10 to 25 years.



***"Musco has delivered. The LED installation was on time and within budget, but most importantly has provided a product that will undeniably provide an improved viewing experience during Carolina Hurricanes hockey and N.C. State men's basketball games."***

***- Dave Olsen, Executive V.P. & G.M. of PNC Arena***





## Amway Center — Home of the Orlando Magic

Orlando, Florida, USA

### The Challenge

- Install an LED lighting system that would strengthen the Amway Center's reputation for offering an unmatched fan experience
- Customize a system that will be in keeping with the arena's commitment to energy efficiency and sustainability
- Improve playability for athletes, while improving visibility for spectators and TV broadcasts

### The Solution

- Leaders with the Orlando Magic organization and the city of Orlando chose to partner with Musco, which has installed its LED technology at a number of NBA arenas
- The new lighting featured Musco's SportsCluster® system with TLC for LED™ technology with patented glare control
- System solution with lighting, structural, and electrical components and interface capabilities with the arena's DMX control board

### The Result



**Light Control** — Glare throughout the arena was virtually eliminated, creating a stage-like atmosphere for players and spectators



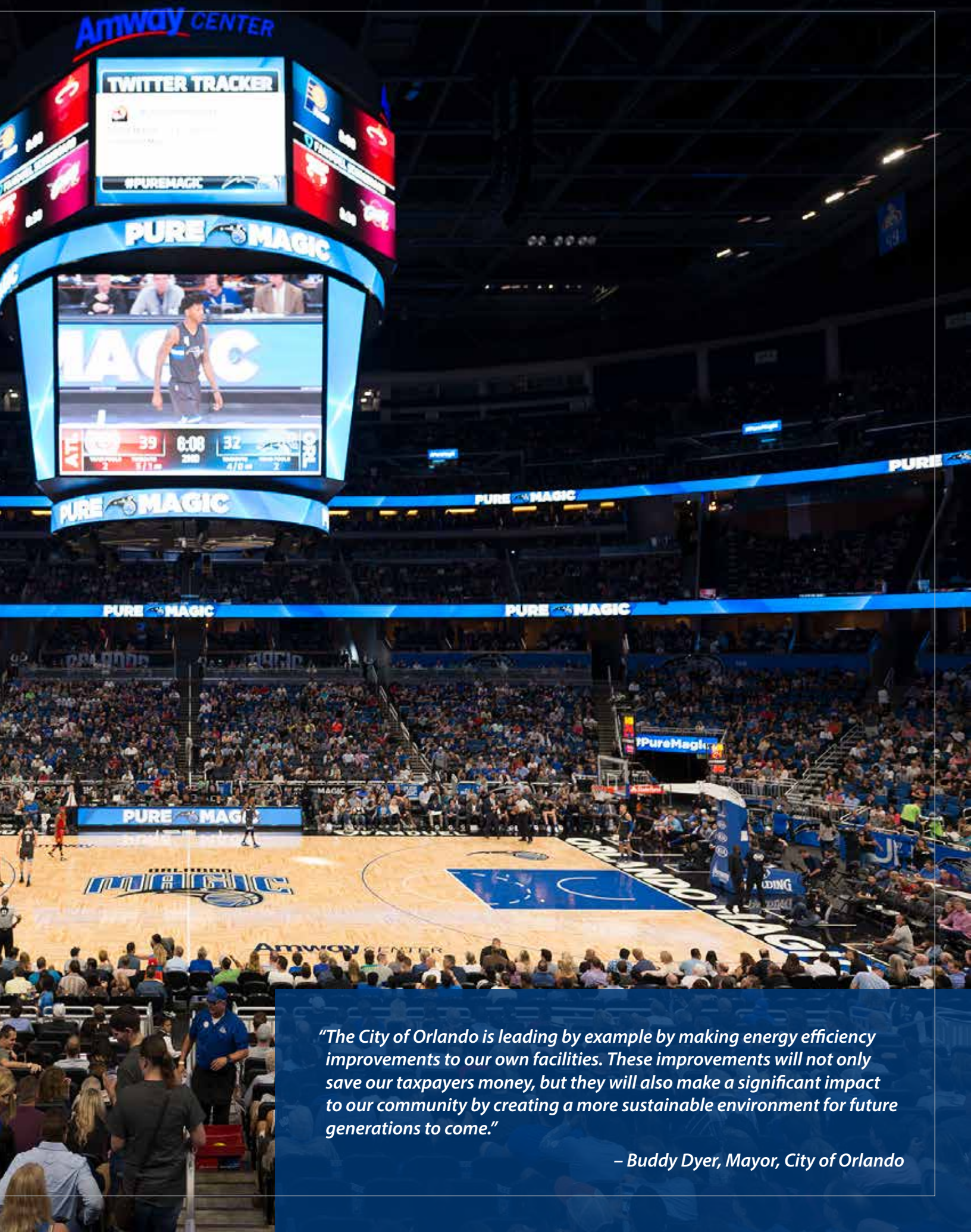
**Improved Broadcasts** — New special effects lighting possibilities were created, and HD broadcasts were enhanced with the system's ability to eliminate the "flicker" effect



**Energy Efficiency** — Energy consumption was cut 60 percent, and a 10-year parts and labor warranty eliminated maintenance costs for the next decade







*"The City of Orlando is leading by example by making energy efficiency improvements to our own facilities. These improvements will not only save our taxpayers money, but they will also make a significant impact to our community by creating a more sustainable environment for future generations to come."*

*– Buddy Dyer, Mayor, City of Orlando*









## Xcel Energy Center — Home of the Minnesota Wild

Saint Paul, Minnesota, USA

### The Challenge

- Install a state-of-the-art LED lighting system in time for the Minnesota Wild's 2016 season opener
- Deliver a customized solution that will meet the NHL's new light quality standards, as well as the lighting needs of concerts and other events
- Improve the arena's energy efficiency and enhance the entertainment experience for spectators and TV broadcasts

### The Solution

- Project leaders at the Xcel Energy Center partnered with Musco, which has installed its LED system technology at an impressive list of NHL and NBA arenas
- Musco installed its SportsCluster® system with TLC for LED™ technology featuring patented optics and glare control
- System included lighting, structural, and electrical components designed to work together and was retrofitted onto the arena's existing support structures

### The Result



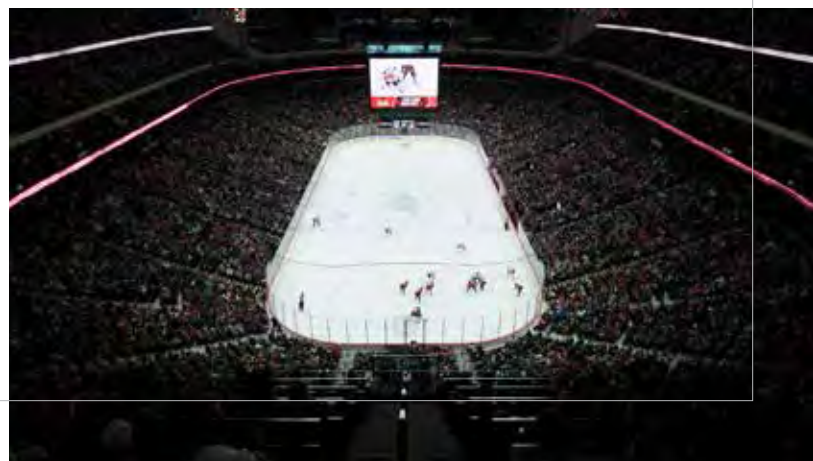
**Visibility** — Musco's TLC for LED technology virtually eliminated glare from affecting players and spectators in the arena



**Special Effects** — Color-changing luminaires and interface capabilities with the arena's DMX control board created new special effects lighting opportunities



**Energy Efficiency** — Energy consumption was cut 63 percent, and a 10-year parts and labor warranty eliminated maintenance costs for the next decade





## University of Arizona, McKale Center

Tucson, Arizona, USA

### The Challenge

- Install a state-of-the-art LED lighting system that will enhance the experience for players and fans
- Meet the unique lighting needs of a variety of University of Arizona athletic programs including basketball, gymnastics, and volleyball
- Improve energy efficiency and the quality of HD broadcasts, while eliminating maintenance costs

### The Solution

- In partnership with other contractors the University selected Musco, which has installed its LED technology at several major college arenas
- Musco installed its SportsCluster® system with TLC for LED™ technology which was retrofitted onto the arena's existing support structures
- System included lighting, structural, and electrical components designed to work together and was custom-engineered to meet the needs of several indoor sports

### The Result



**Visibility** — Glare at the McKale Center was virtually eliminated, improving playability for student-athletes and the viewing experience for spectators



**Better Broadcasts** — Light quality for HD broadcasts was significantly improved, along with new possibilities for special effects lighting creating a stage-like atmosphere



**Zero Maintenance** — Energy consumption was cut 60 percent at full power and 80 percent with dimming controls, and a 10-year parts and labor warranty eliminated maintenance costs for the University



Hear from the coach and university staff, scan or visit [www.musco.com/news/mckale](http://www.musco.com/news/mckale)



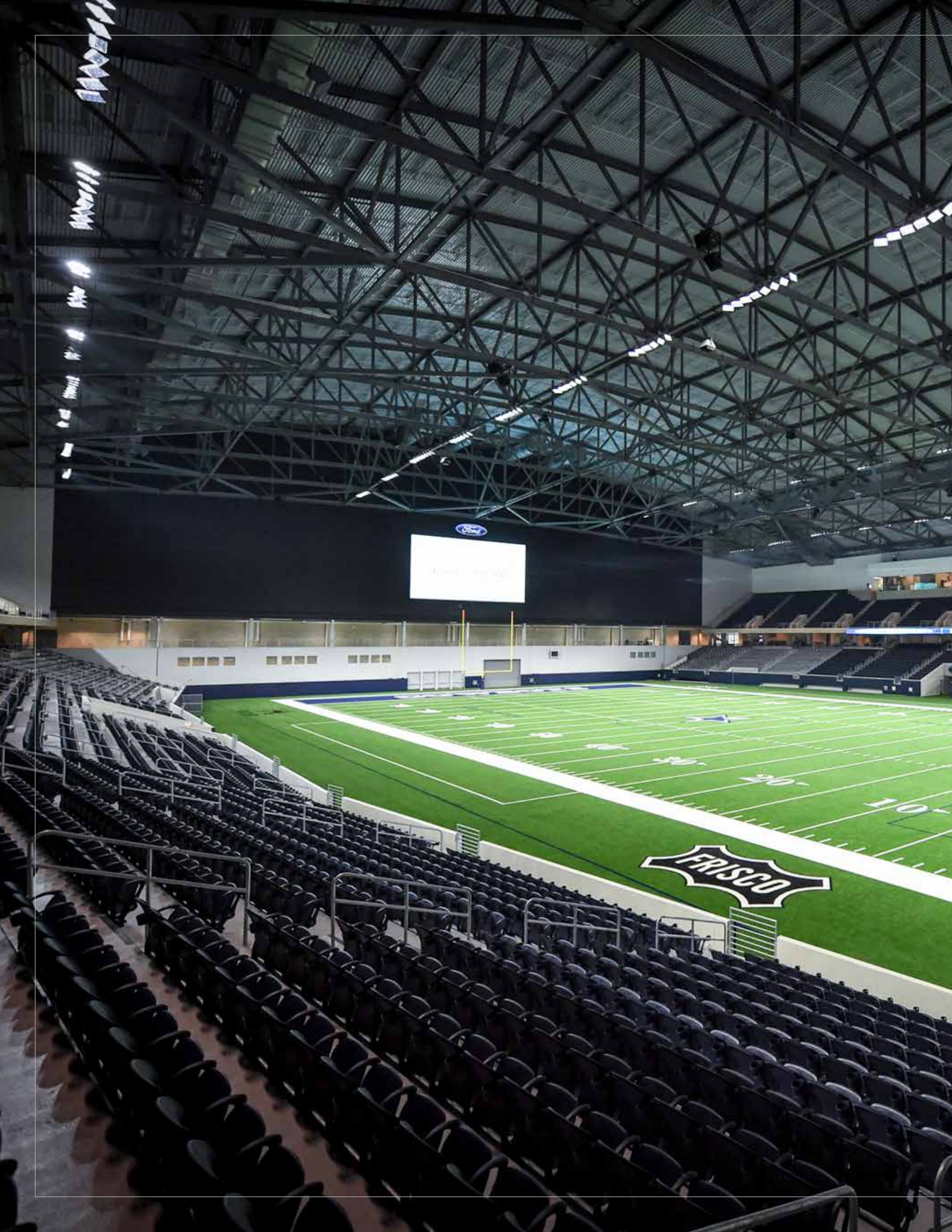




*"We received a state-of-the-art LED lighting system that is dimmable and allows for an immediate on/off feature that enhances our entertainment value for the venue while saving us 60-80% annually on energy bills. Additionally, we can use the system in a variety of ways and set the controls to work for both national TV broadcasts and every day activities."*

*– Suzy Mason  
Senior Associate Athletic Director Event, Facilities, and Operations  
University of Arizona*









## The Ford Center at The Star

Frisco, Texas, USA

### The Challenge

- Help the Dallas Cowboys achieve sustainability and performance goals at its \$1 billion practice facility
- Custom design a system that will deliver the best possible light quality on the field
- Ensure long-term reliability and eliminate maintenance concerns and costs

### The Solution

- After having Musco's LED technology installed at AT&T Stadium the organization again decided to partner with the company for the practice facility project
- Musco's SportsCluster® System with TLC for LED™ technology was installed at the Ford Center at the Star
- The system technology easily adapts to the facility's unique architectural environment, virtually eliminates glare, and is energy efficient

### The Result



**Visibility** — Musco's patented glare control technology delivers a uniform light to the field while virtually eliminating glare from impacting the players

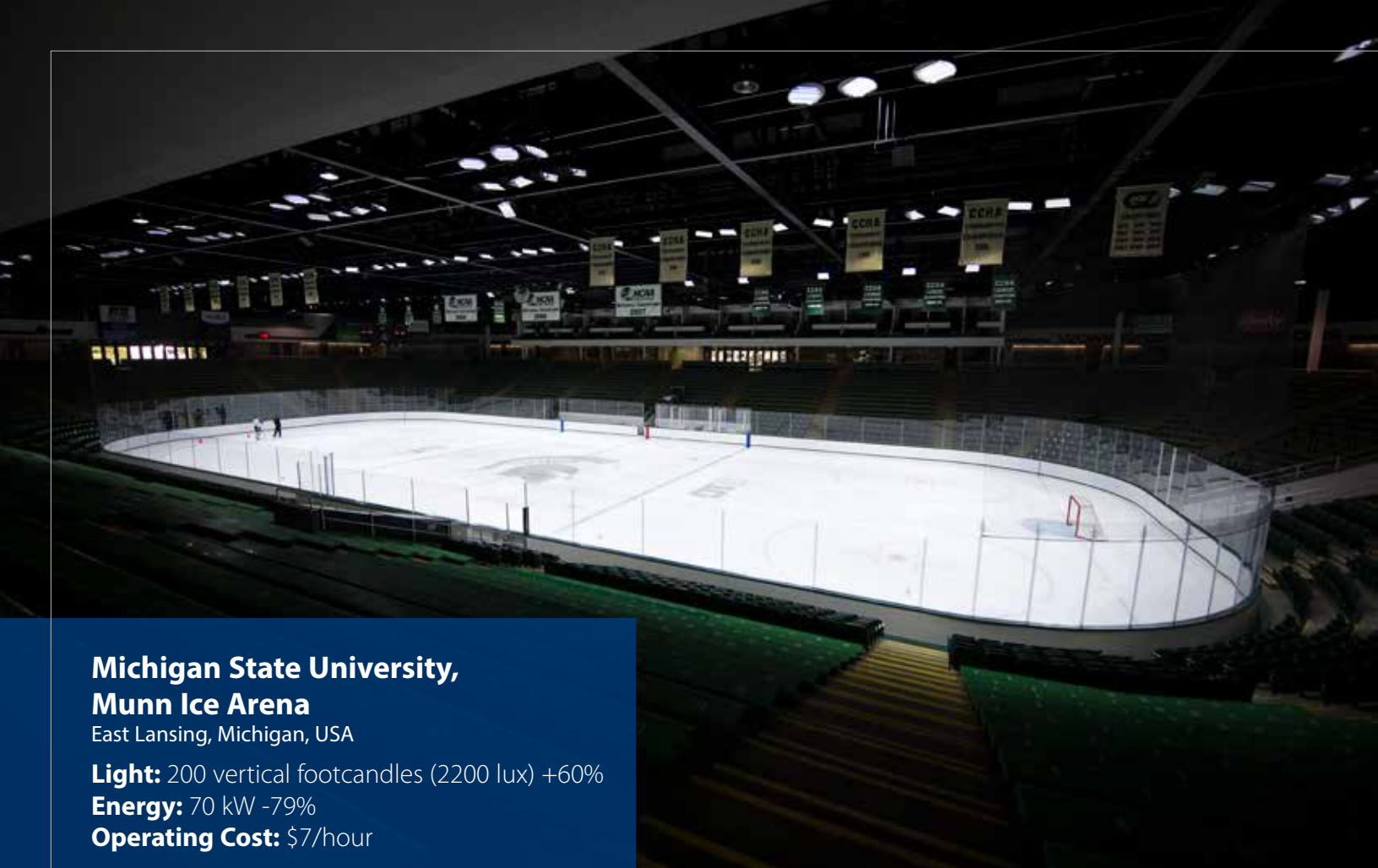


**Energy Efficiency** — Energy consumption was cut 56 percent compared to typical metal halide equipment, and CO2 was reduced by 502 metric tons over 10 years



**Cost Effective** — Musco's 10-year parts and labor warranty eliminated maintenance costs, and the 10-year cost of ownership for the Cowboys was reduced by more than \$144,000





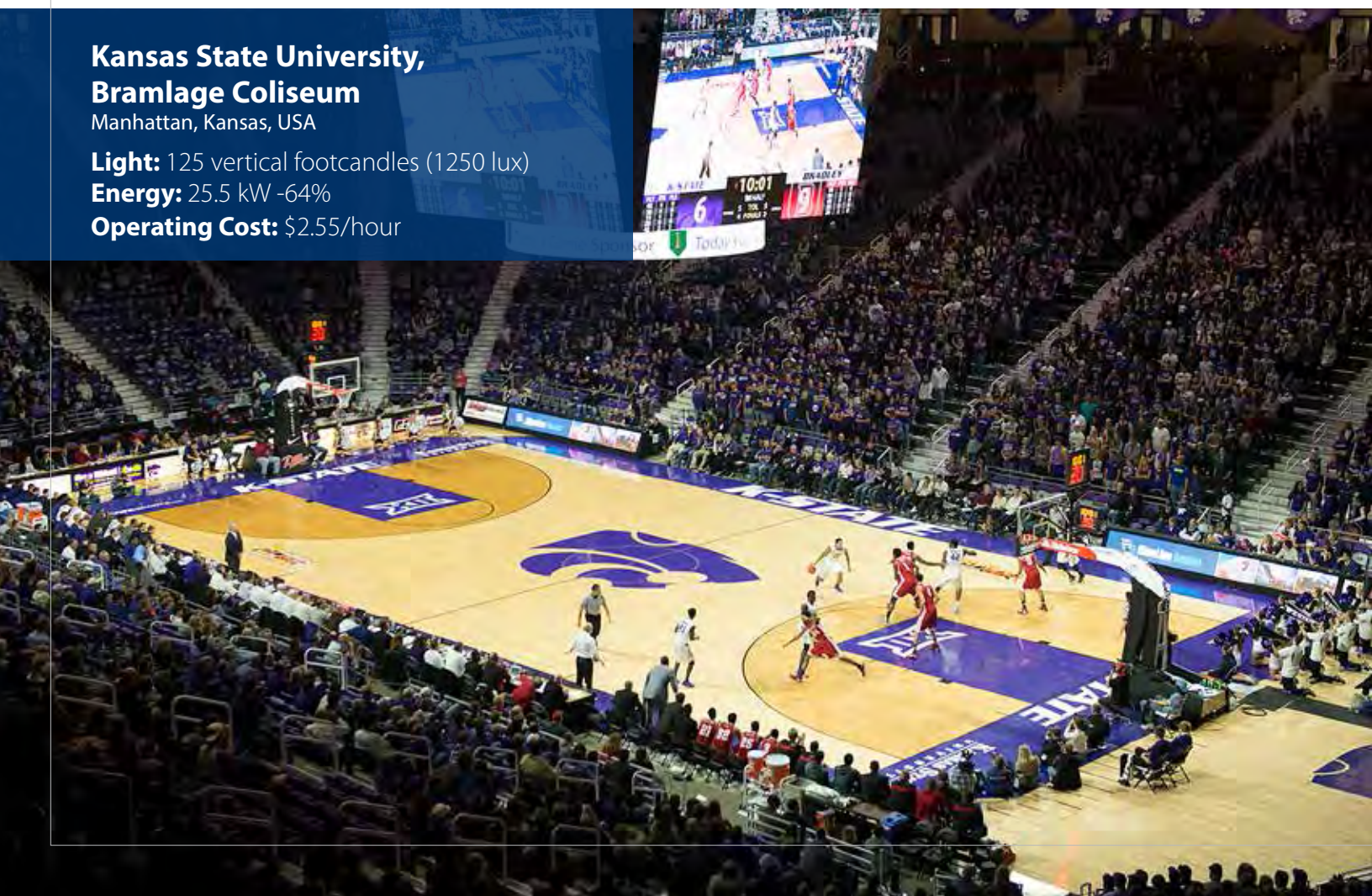
## Michigan State University, Munn Ice Arena

East Lansing, Michigan, USA

**Light:** 200 vertical footcandles (2200 lux) +60%

**Energy:** 70 kW -79%

**Operating Cost:** \$7/hour



## Kansas State University, Bramlage Coliseum

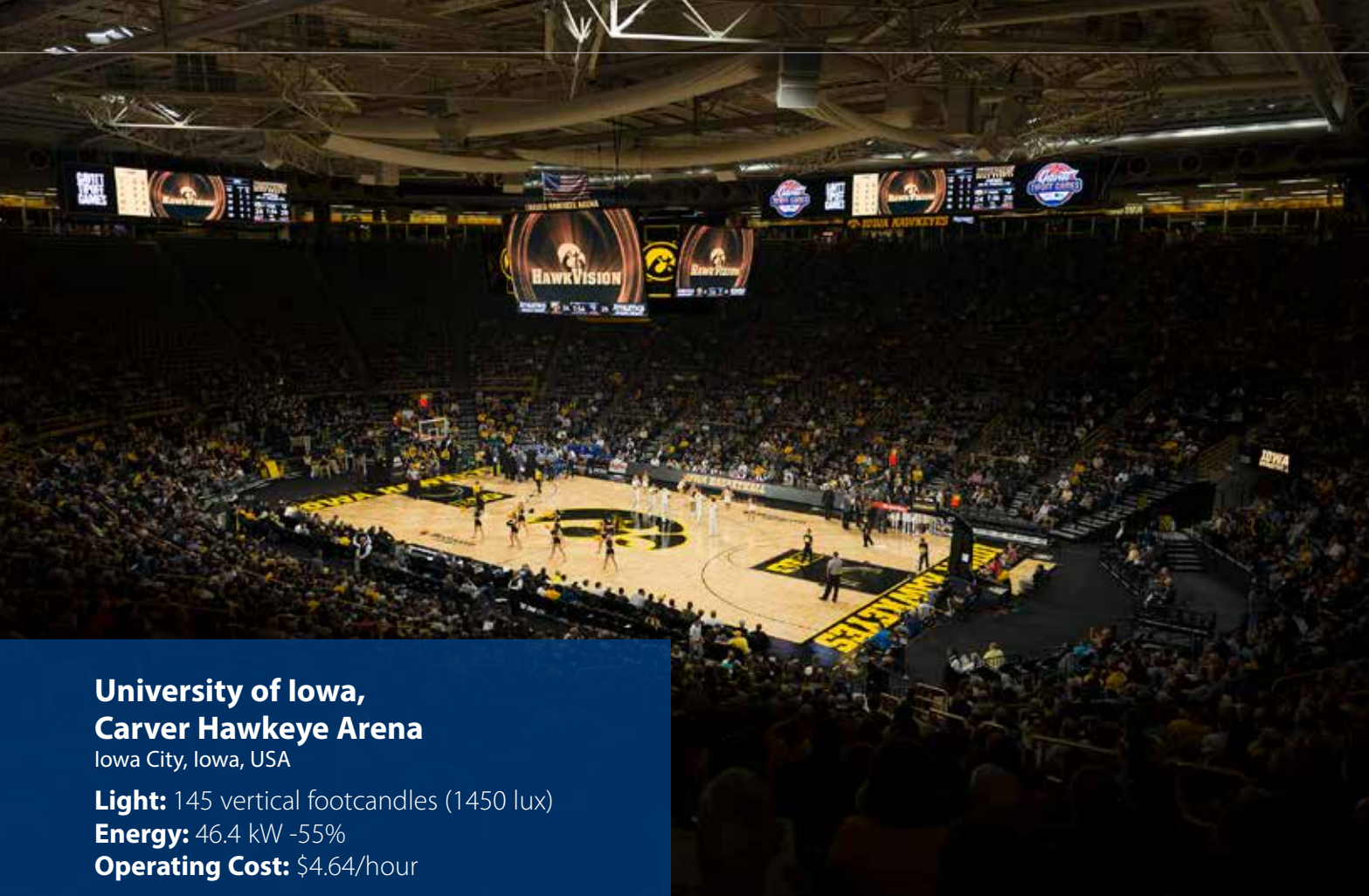
Manhattan, Kansas, USA

**Light:** 125 vertical footcandles (1250 lux)

**Energy:** 25.5 kW -64%

**Operating Cost:** \$2.55/hour





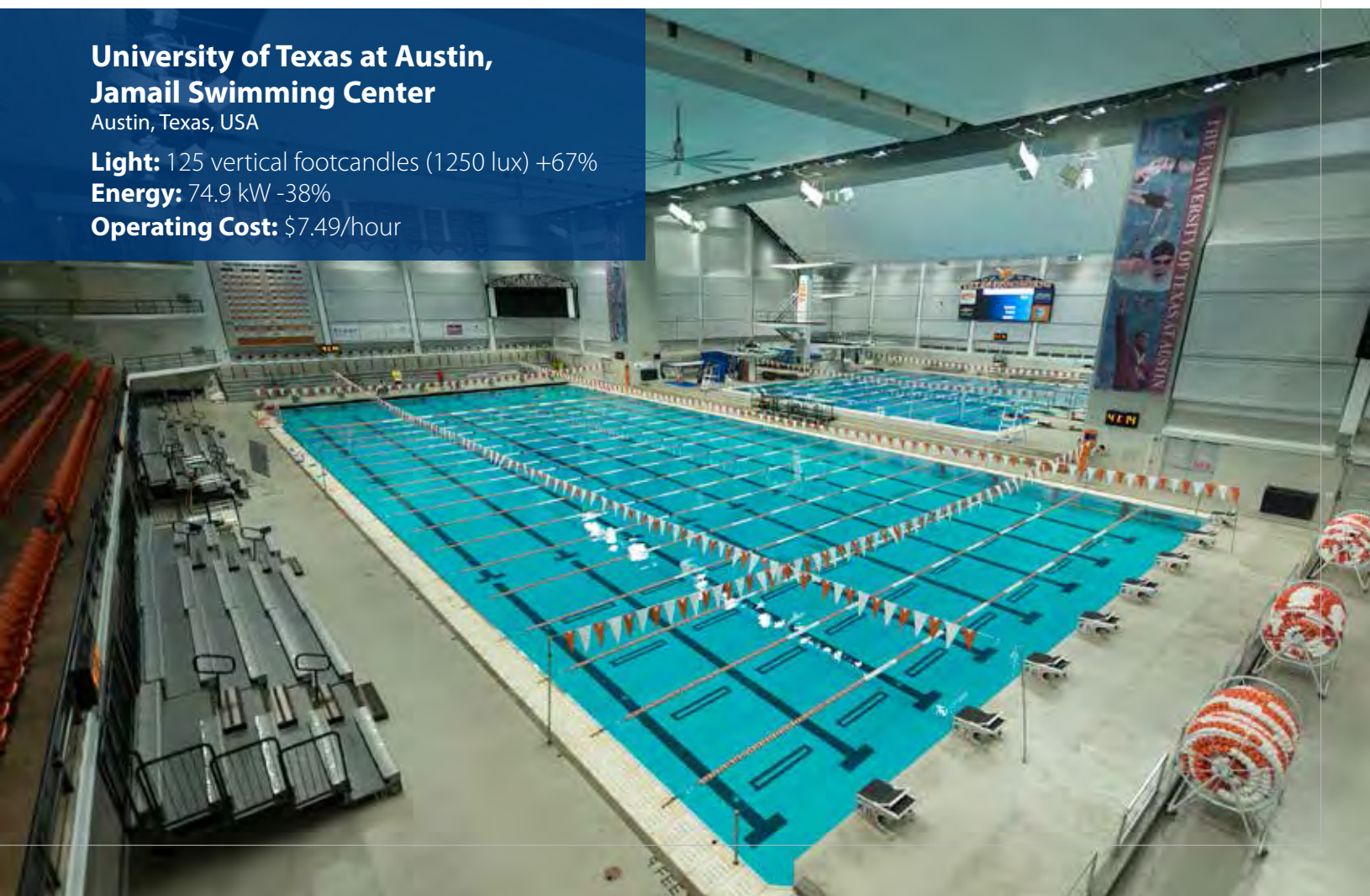
## University of Iowa, Carver Hawkeye Arena

Iowa City, Iowa, USA

**Light:** 145 vertical footcandles (1450 lux)

**Energy:** 46.4 kW -55%

**Operating Cost:** \$4.64/hour



## University of Texas at Austin, Jamail Swimming Center

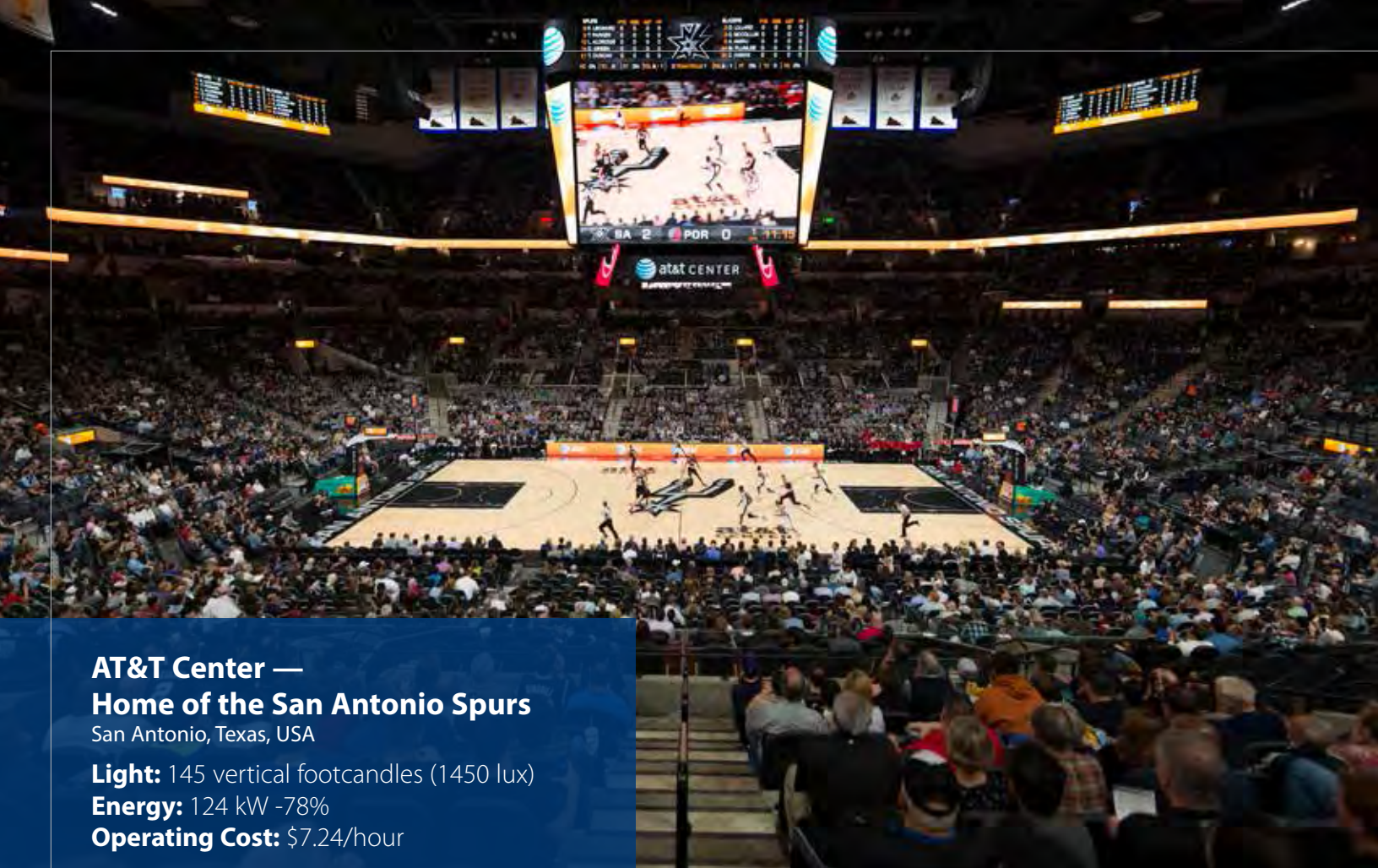
Austin, Texas, USA

**Light:** 125 vertical footcandles (1250 lux) +67%

**Energy:** 74.9 kW -38%

**Operating Cost:** \$7.49/hour





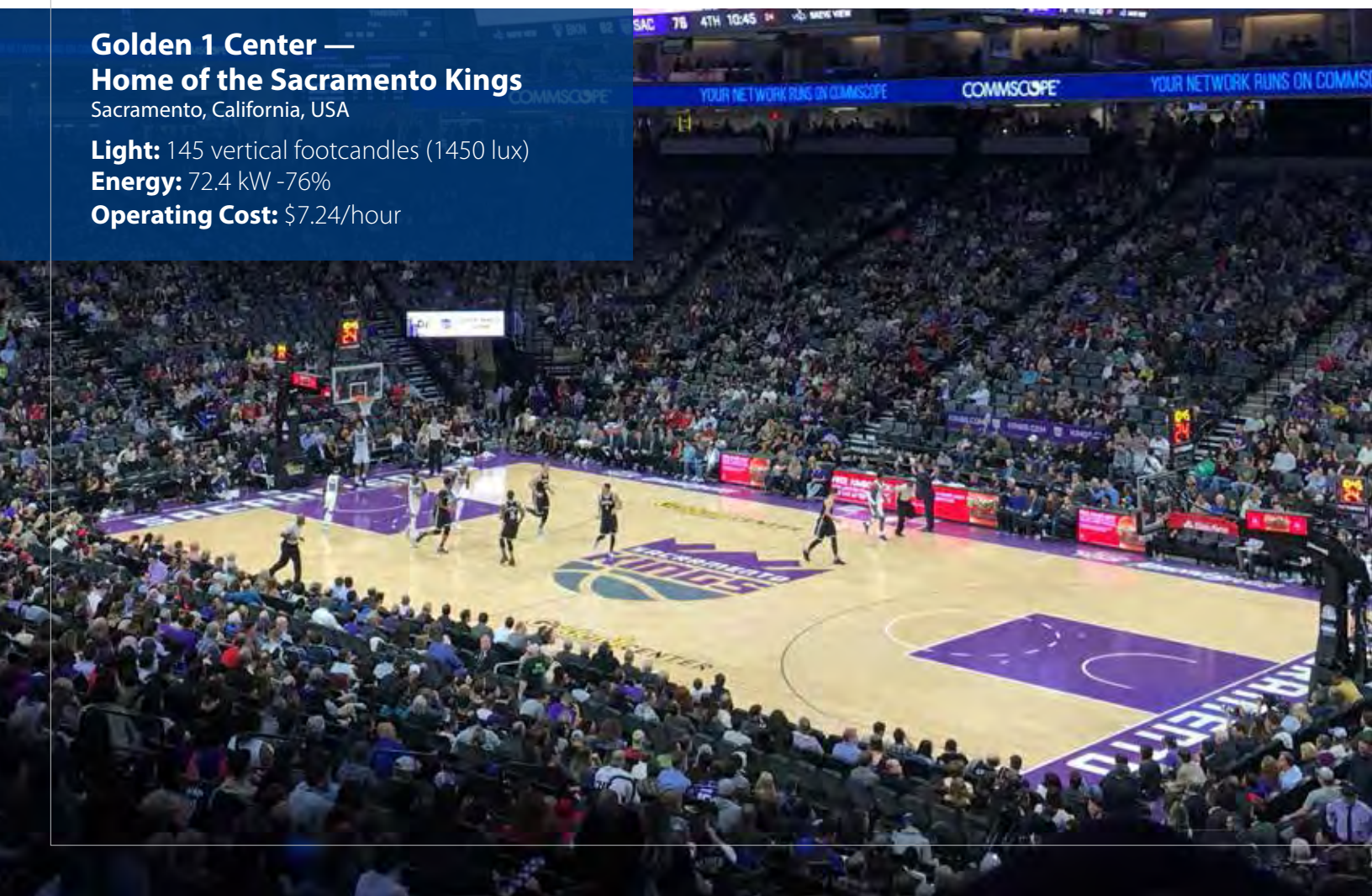
**AT&T Center —  
Home of the San Antonio Spurs**

San Antonio, Texas, USA

**Light:** 145 vertical footcandles (1450 lux)

**Energy:** 124 kW -78%

**Operating Cost:** \$7.24/hour



**Golden 1 Center —  
Home of the Sacramento Kings**

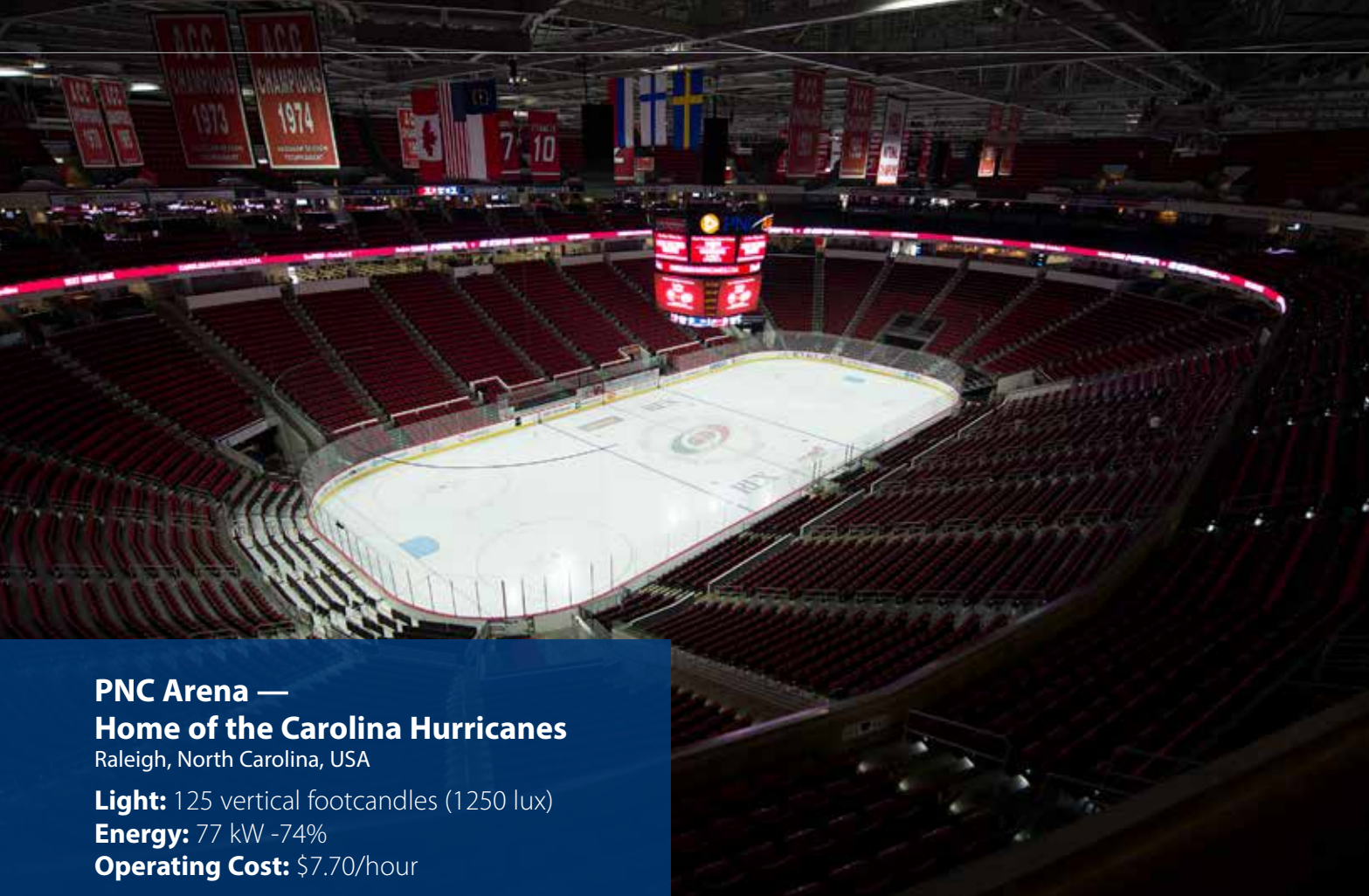
Sacramento, California, USA

**Light:** 145 vertical footcandles (1450 lux)

**Energy:** 72.4 kW -76%

**Operating Cost:** \$7.24/hour





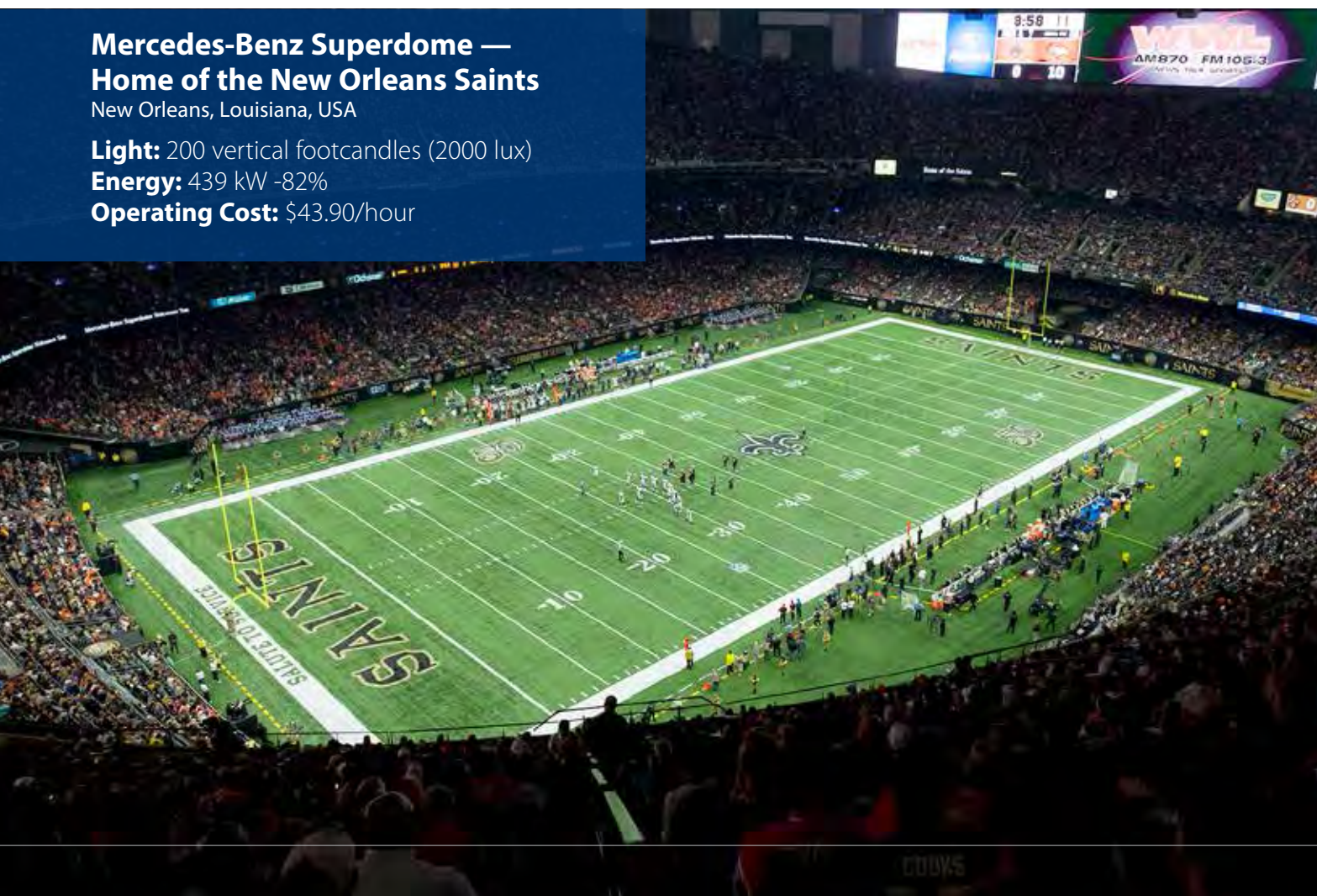
**PNC Arena —  
Home of the Carolina Hurricanes**

Raleigh, North Carolina, USA

**Light:** 125 vertical footcandles (1250 lux)

**Energy:** 77 kW -74%

**Operating Cost:** \$7.70/hour



**Mercedes-Benz Superdome —  
Home of the New Orleans Saints**

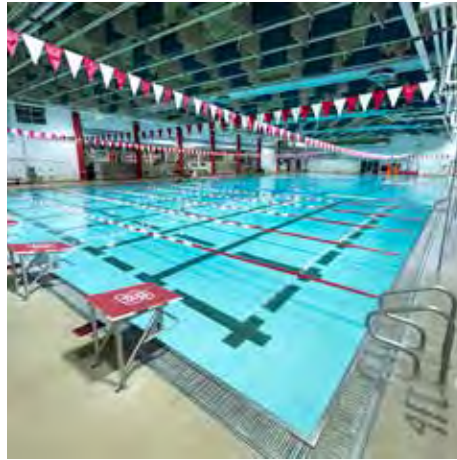
New Orleans, Louisiana, USA

**Light:** 200 vertical footcandles (2000 lux)

**Energy:** 439 kW -82%

**Operating Cost:** \$43.90/hour





**Unequaled performance . . .**  
*for your budget, for the environment.*



**We Make It Happen®**

[www.musco.com](http://www.musco.com)  
e-mail: [lighting@musco.com](mailto:lighting@musco.com)

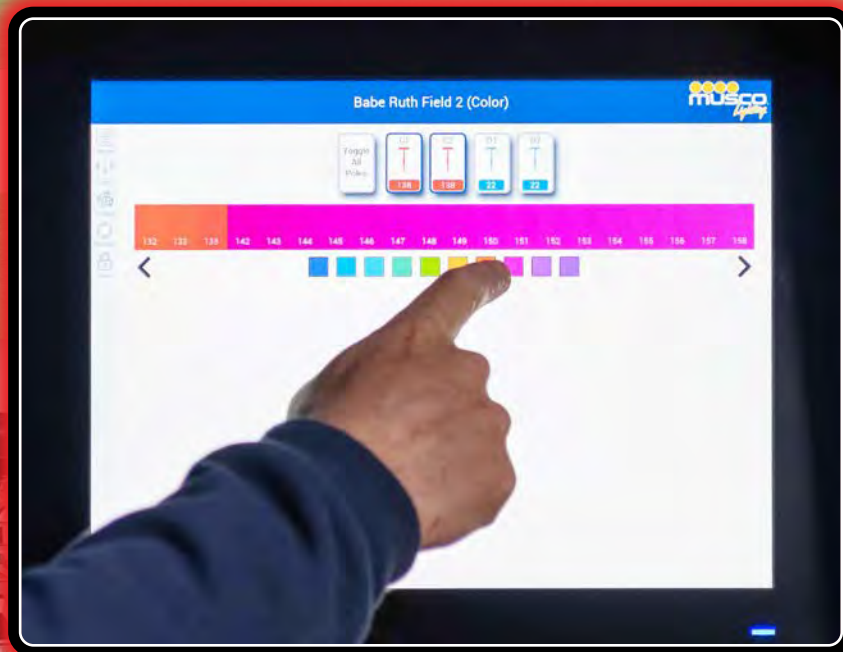
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U.S. and foreign patents issued and pending.

# Musco Control Solutions

24/7/365 monitoring and support

Control-Link® control and monitoring system

Show-Light™ entertainment package





# Making Facility Management Easy Since 1999

The most innovative solutions are developed in response to real-world problems. In 1999 Musco introduced Control-Link® as a first-of-its-kind light management system to help customers who were getting calls from neighbors at 2 a.m. about lights left on, to help cut energy costs, and save staff time.

Since that first introduction, Musco has installed thousands of control systems from fully automated unmanned recreational sites to complex theatrical solutions for many of the largest stadiums in the world.

**Anytime, Anywhere ...**Control-Link management tools allow you to access and manage your lights instantly, from anywhere via a cellular internet connection.

**A Real, Live Voice ...**Control-Link Central™ team will monitor, schedule, and help manage your lights 24/7/365, and a real live voice will be on the other end of the phone when you call.

**Factory Wired, Programmed, and Tested ...**our unique system approach streamlines installation and assures that your controls, from basic on/off to professional level light shows, will be ready to work on day one.



**5.8 million**

schedules managed  
and monitored by our  
Control-Link Central™  
Team last year



**360,000**

calls fielded to assist  
customers last year

## How can controls enhance your facility?

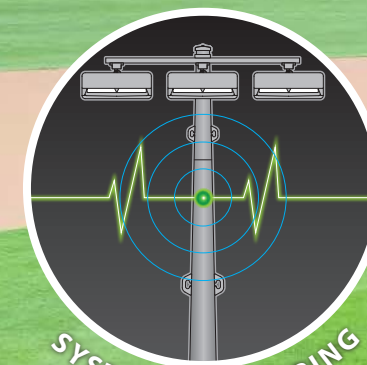
- ☐ **Remote on/off scheduling**  
for easy control from anywhere
  - ☐ **Dimming** (3 levels)  
saves energy for practice and other activities
  - ☐ **System monitoring**  
alerts Musco of any issues
- 
- ☐ **Predesigned light shows**  
add excitement to events
  - ☐ **Color accent option**  
to highlight poles and other structures
- 
- ☐ **Custom-choreographed light shows**  
precisely timed to music



REMOTE ON/OFF SCHEDULING



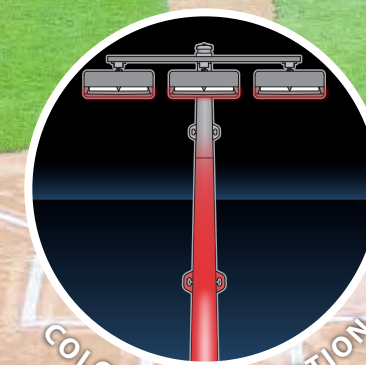
DIMMING



SYSTEM MONITORING



PREDESIGNED LIGHT SHOWS



COLOR ACCENT OPTION



CUSTOM LIGHT SHOWS



# Flexible Control, Solid Management

Your Control-Link® control and monitoring system offers efficient, cost-effective tools that are both cutting-edge and simple to use.

Musco will have your back 24/7/365 to ensure your lights are only on when needed, keeping neighbors and taxpayers happy. Because more than anything, it's about your peace of mind.

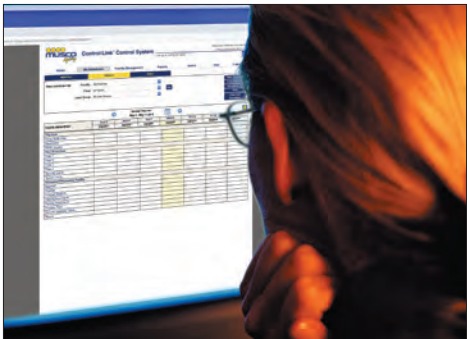
The Control-Link system provides comprehensive scheduling assistance, system monitoring, secure password-protected access, automated equipment controls, and valuable usage data.

**Flexible and Reliable . . .** remote scheduling and controls mean no more staffing headaches, tracking multiple sets of keys, or late-night hours being on-site to turn your lights off.

**24/7/365 Monitoring . . .** our Team will monitor your system's performance at the luminaire level, so if an issue arises we'll likely know about it before you do.

**Better for Your Budget . . .** automated operation of your lights, as well as three levels of dimming that come standard, will reduce energy consumption and cut staffing costs.

**Data You Can Use . . .** we'll help create usage reports and analytics for your facilities from the extensive data we store, which will help improve operational efficiencies and future planning.



Enter schedules up to 10 years in advance.

MUSCO Control-Link Control System									
Sample Owner: Tuesday, Wednesday, August 2, 2010									
Home My Schedules Facility Management Reports Admin Help Logout									
DASHBOARD SERVICES									
Owner: Mahaska Comm. Rec Foundation									
Facility: Lacey Park Ballfields									
Field: All Fields									
Energy Used kWh: 519 YTD (Jul 2010)									
Service Visits: 6									
Schedules: 171 1,333									
Phone Calls to CLC: 16 90									
Web Logins: 2 13									
All Facilities for Mahaska Comm. Rec Foundation - All Fields for Lacey Park Ballfields									
MULTI-CONTROL SERVICE S									
FIELD	Lamp Outages	Controls	Switch Position Auto/Manual	Lamp Life	Relamps Completed	Musco Warranty Program	Warranty Start Date	Estimated Warranty Expiry Date	
SB BB Field 24-ED7			Auto	943 hrs used	0 of 1	Constant 25	03/26/2017	05/26/2022	
SD BB Field 34-LSG			Auto	1550 hrs used	3104 relamps	0 of 1	Constant 25	05/04/2008	05/04/2023
SB BB Field 44-LSG			Auto	1549 hrs used	3105 relamps	0 of 1	Constant 25	05/04/2008	05/04/2023
SB BB Field 54-LSG			Auto	1500 hrs used	3105 relamps	0 of 1	Constant 25	05/04/2008	05/04/2023

Dashboard tracking allows you to see the operation and service status of your fields.

Musco Control-Link Usage Report (Auto Only)			
By Facility, Field			
Usage Type of Light Usage			
June, 2019			
<b>Summary by Facility</b>			
Facility	Total Auto Hours Usage	Total Hours Saved from Early Offs	
Cowley	112:50	17:08	
Dunbar	64:53	29:46	
Garland Parklet	49:48	0:00	
Herschel Field	256:47	26:05	
<b>Total:</b>	<b>484:18</b>	<b>72:59</b>	
<b>Summary by Facility, Field</b>			
Facility	Field	Total Auto Hours Usage	Total Hours Saved from Early Offs
Cowley	Baseball	63:04	17:08
Cowley	Basketball	49:46	0:00

Control-Link Central database stores usage data by field and user group.

## Control-Link. Control and Monitoring System

- ✓ **Remote on/off scheduling** for easy control from anywhere
- ✓ **Dimming (3 levels)** saves energy for practice and other activities
- ✓ **System monitoring** alerts Musco of any issues

*Includes Musco's management tools — user securities, usage tracking, facility status dashboard, and reports*

*Includes Control-Link Central™ support team — available 24/7/365*

*"In the past, a light could've gone out and our guys wouldn't see it for two to three weeks or until a whole pole went dark. Now if one light goes out we get an e-mail notice immediately from Musco's Control-Link Central."*

– Chuck Vones, Parks and Recreation Director  
Pembroke Pines, Florida



# Big Time Light Shows at Hometown Fields

Our Show-Light™ entertainment package provides a cost-effective way for you to bring professional light shows to your facility. From pre-game introductions, to halftime shows, to celebrating big plays and big wins, this special effects lighting will energize players and fans and take your game atmosphere to a new level.

Special effects light shows aren't just for the pros anymore.

Musco's Show-Light technology utilizes instant on/off and the advanced control capabilities of LED, is easy to use, and delivers both predesigned and customized light shows.

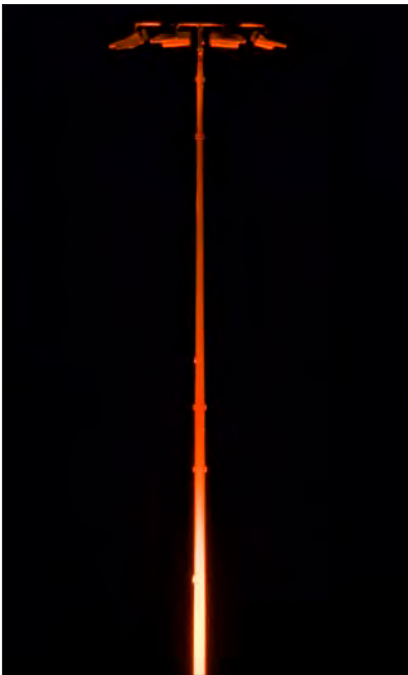
**Set the Scene . . .** you'll get preprogrammed light shows that will set the scene and excite players and fans through the entire game night experience.

**Plenty of Options . . .** you can choose from Musco's library of light shows or work with our design engineers to create customized shows and scenes.

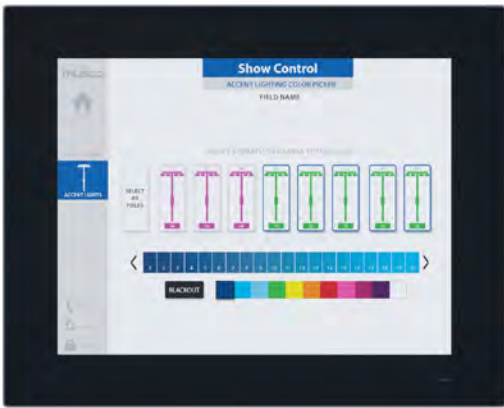
**As Easy as a Touchscreen . . .** you'll be provided an industrial grade 15-inch smart device with touchscreen to start and stop shows, select dimming levels, and adjust optional accent colors.

**Reliable and Versatile . . .** your light shows will be stored on site and backed up at Control-Link Central™ data center.

**Color Changing Technology Option . . .** by adding optional color changing luminaires you can enhance shows with pops of color, color wash, or accent lighting.



Optional color accent lighting highlights poles or other structures.



With optional color changing luminaires you can choose from over 100 color options to show your team color, highlight special events, or enhance light shows.



*"The people Musco has answering the phones and adjusting the schedule are the most friendly and accommodating of any phone service I have ever called. They are always extremely friendly and professional, the service could not be better."*

– Mark Buggins, Head Baseball Coach (retired)  
Sitka High School

## Show-Light™ Entertainment Package

- ✓ **Remote on/off scheduling**  
for easy control from anywhere
- ✓ **Dimming (3 levels)**  
saves energy for practice and other activities
- ✓ **System monitoring**  
alerts Musco of any issues
- ✓ **Predesigned light shows**  
add excitement to events
- ✓ **Color accent option**  
to highlight poles and other structures

*Includes industrial grade touchscreen tablet for easy control*

*Includes Control-Link Central™ support team — available 24/7/365*



*See West Des Moines Valley High School's light shows in action.*



# Take Your Light Shows to the Next Level

With our Show-Light+™ entertainment package, you'll tap into advanced customization capabilities and more complex light shows that incorporate music along with the special effects lighting. The Show-Light+ system is easy to use and will provide an even more memorable game night experience.

Light and sound shows that mirror what's seen at the biggest and best professional stadiums.

The equipment you'll be supplied with, and the light shows it will deliver, are exactly the same as what we provide our NFL, MLB, NBA, and NHL customers.

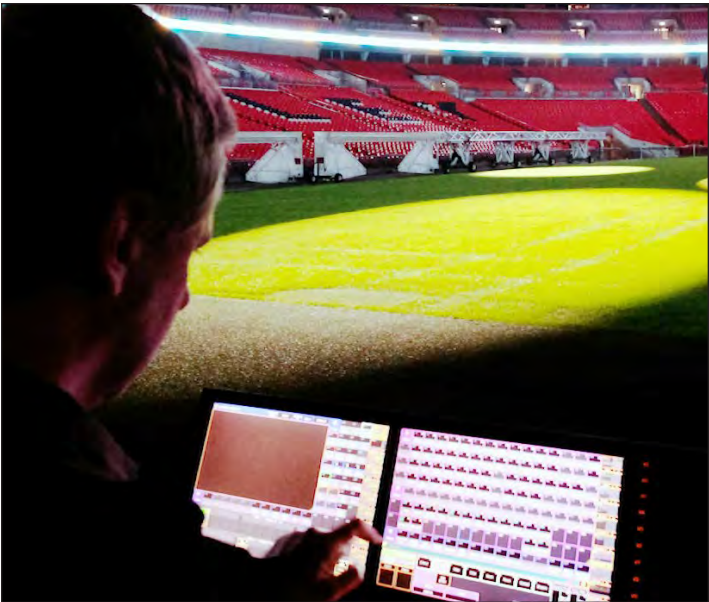
**Light and Sound . . .** in addition to the preprogrammed light shows from the base Show-Light package, you'll get three shows with lights synchronized to your music for an amazing visual and audio experience.

**Easy to Use . . .** for each light show Musco's design engineers will align lighting cues with audio files played through an on-site server, you just start and stop the shows with an easy-to-use touchscreen device.

**Streamlined Solution . . .** if you already have a DMX system, Show-Light+ equipment will act as a fully integrated extension of that system.



Musco's field lighting shows can interface with your separate controller for other show features, such as pyrotechnics.



Light shows are operated via an easy-to-use touchscreen.



Musco's light show programming specialists will custom time shows to your music.

## Show-Light+™ Entertainment Package

- ✓ **Remote on/off scheduling**  
for easy control from anywhere
- ✓ **Dimming (3 levels)**  
saves energy for practice and other activities
- ✓ **System monitoring**  
alerts Musco of any issues
- ✓ **Predesigned light shows**  
add excitement to events
- ✓ **Color accent option**  
to highlight poles and other structures
- ✓ **Custom-choreographed light shows**  
precisely timed to music

*Includes DMX controller and cue server*

*Includes Control-Link Central™ support team — available 24/7/365*



*"The fan reaction has been great. I look for the lights to be as much of an entertainment vehicle as I do fireworks — seventh inning stretch, when we hit a home run, when we win the game. Everybody loves it, particularly when we make the lights flash and dance to the music."*

– Sam Bernabe, President & General Manager  
Iowa Cubs



# Innovative, Streamlined Communications Managed by Our Team 24/7/365

Each component of the Control-Link® system is designed, factory-built and tested for seamless operation and integration with your lighting system.

**Proven Technology, Innovated . . .** Musco's advanced powerline communication technology provides robust control and monitoring for the system.

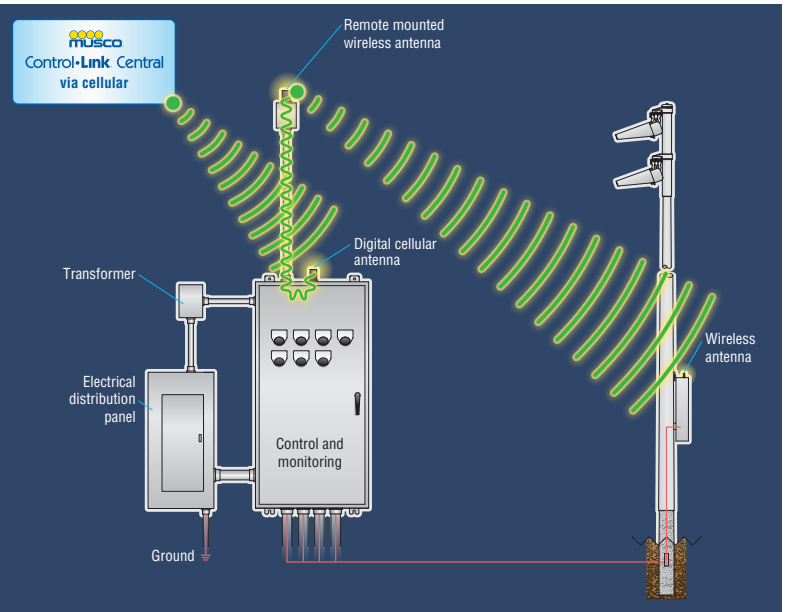
**Reliable Installation and Operation . . .** no added communication cable installation costs. Lights may be scheduled remotely or operated manually on site with a key switch.

**Safety Features . . .** electricity is only on when the system is in use, with built-in fusing and surge protection.

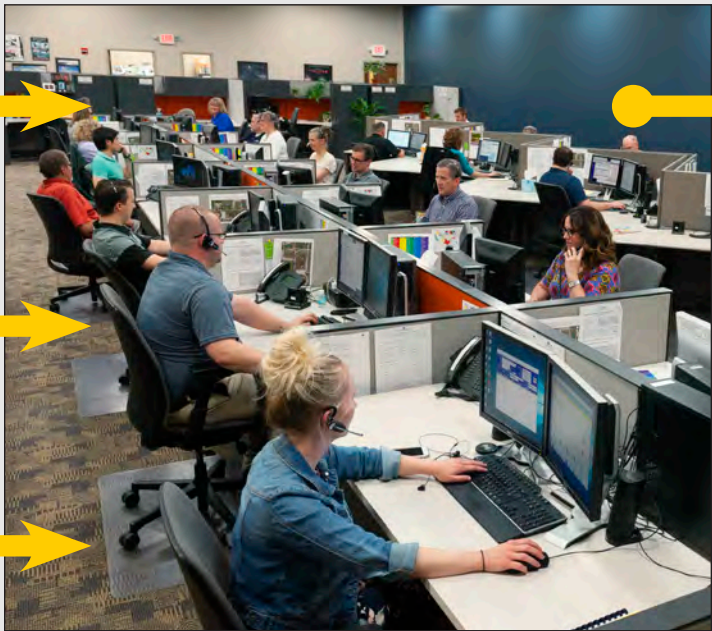
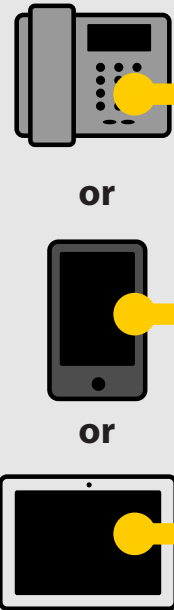
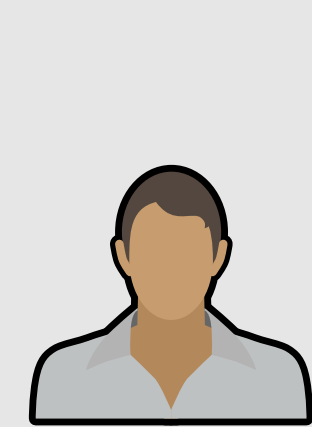
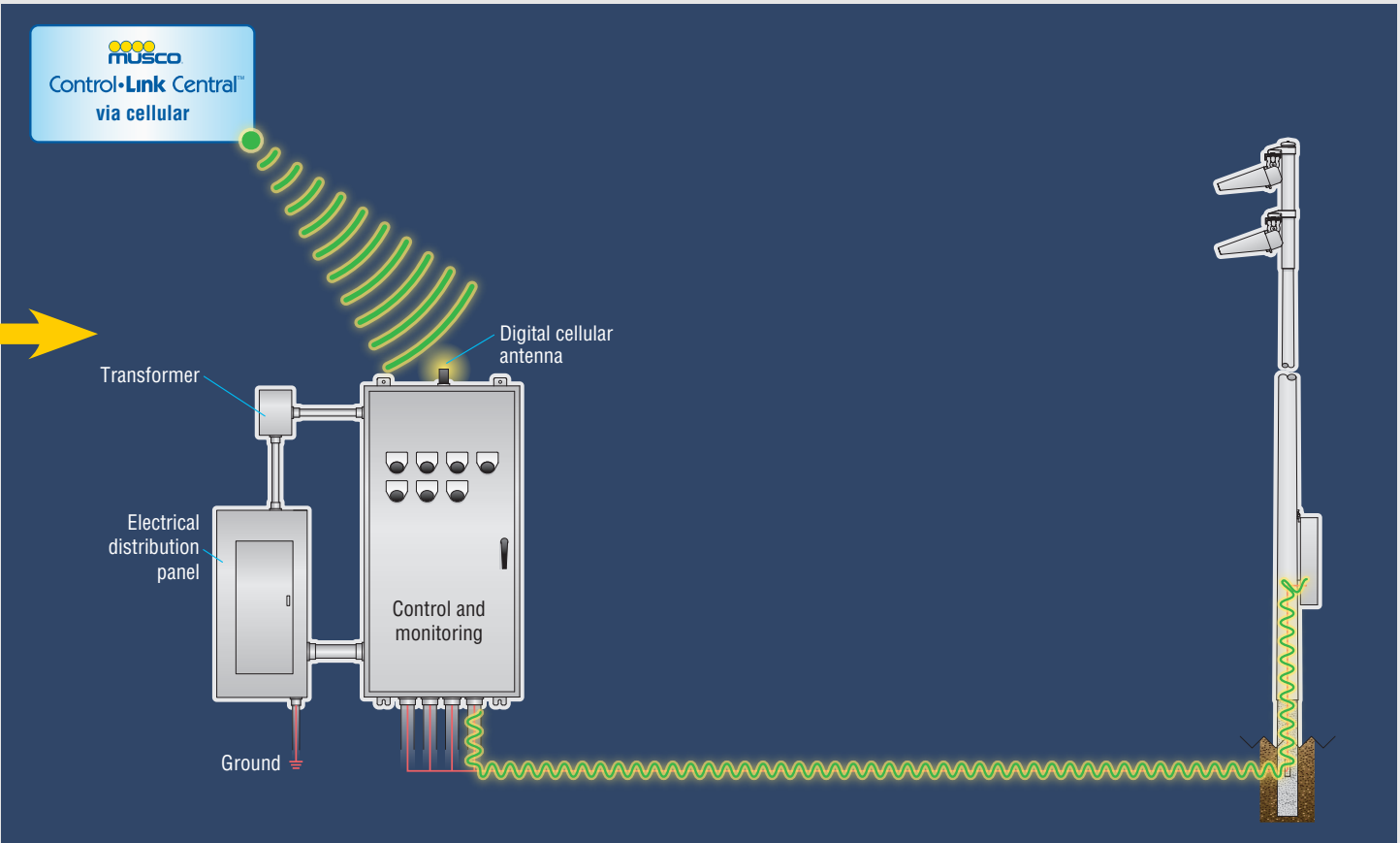
**Monitoring and Support . . .** our Control-Link Central™ Team monitors your system 24/7/365 to ensure schedules execute and to provide assistance.

## Wireless Communication

An optional wireless mesh network is available depending on your project requirements



## Powerline Communication System™ Uses supply wiring for control commands and monitoring feedback



### 1) Enter schedules at your convenience

Based on security levels, users schedule field lighting and other equipment such as door locks, concession stands, and security lights from any location via website, smartphone app, or phone call.

### 2) Control-Link Central™ data center routes schedules, with 24/7/365 team member monitoring support

Schedules are received, routed to your site, and backed up at the Control-Link Central data center, where our staff provides scheduling support and verification, and monitors your lighting system operation.

### 3) Schedules are stored on-site

Schedules are transmitted to your facility via cellular technology and stored in the on-site equipment controller.

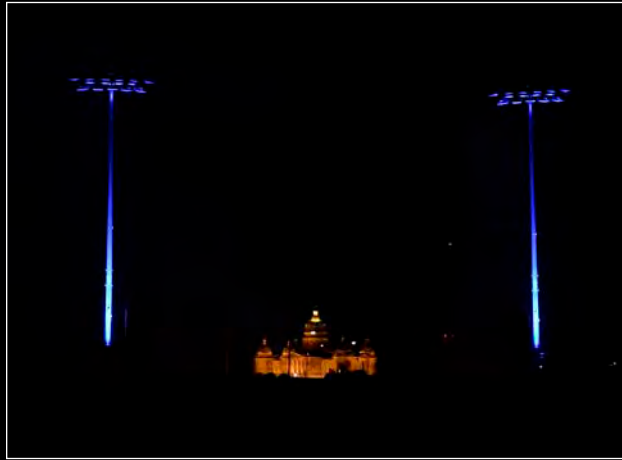
### 4) Equipment is controlled automatically with on-site show controls

Lights are operated per your schedules via Musco's Powerline Communication System technology. You can control optional Show-Light™ features with the on-site tablet.

### 5) Continuous monitoring

Entire system is monitored during operation and the Control-Link Central team is notified of any issues.





**Unequaled performance . . .**  
*for your budget, for the environment.*



**We Make It Happen®**

[www.musco.com](http://www.musco.com)

e-mail: [lighting@musco.com](mailto:lighting@musco.com)

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# Big Time Broadcasts on Hometown Fields

*Simple · Reliable · Cost-effective*



**MuscoVision™**

Automated Sports Broadcasting

Now you can provide a hassle-free video solution for your facility to keep fans connected even when they can't be there in person . . . making your fields more desirable for games and providing additional revenue potential.

The MuscoVision™ system packages all components you need to capture, produce and distribute a professional-quality video solution. Covered by a 5-year warranty that includes all parts and labor.

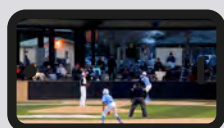
### Capture – Complete system in 5 Easy Pieces™

- Includes camera, structures, and electrical – foundation to poletop
- Factory assembled, wired and tested for reliability – UL Listed
- Saves installation time and assures compatibility

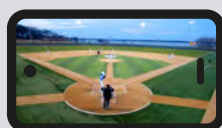


### Produce – Built-in intelligence automates production

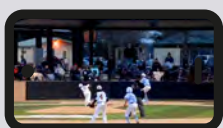
- No on-site staff needed
- Detects game play and starts the high definition video stream
- Knows how each sport is played and selects camera shots based on game action – emulates the sequence and cadence of a national broadcast



Center Field



Backstop



Center Field



Backstop



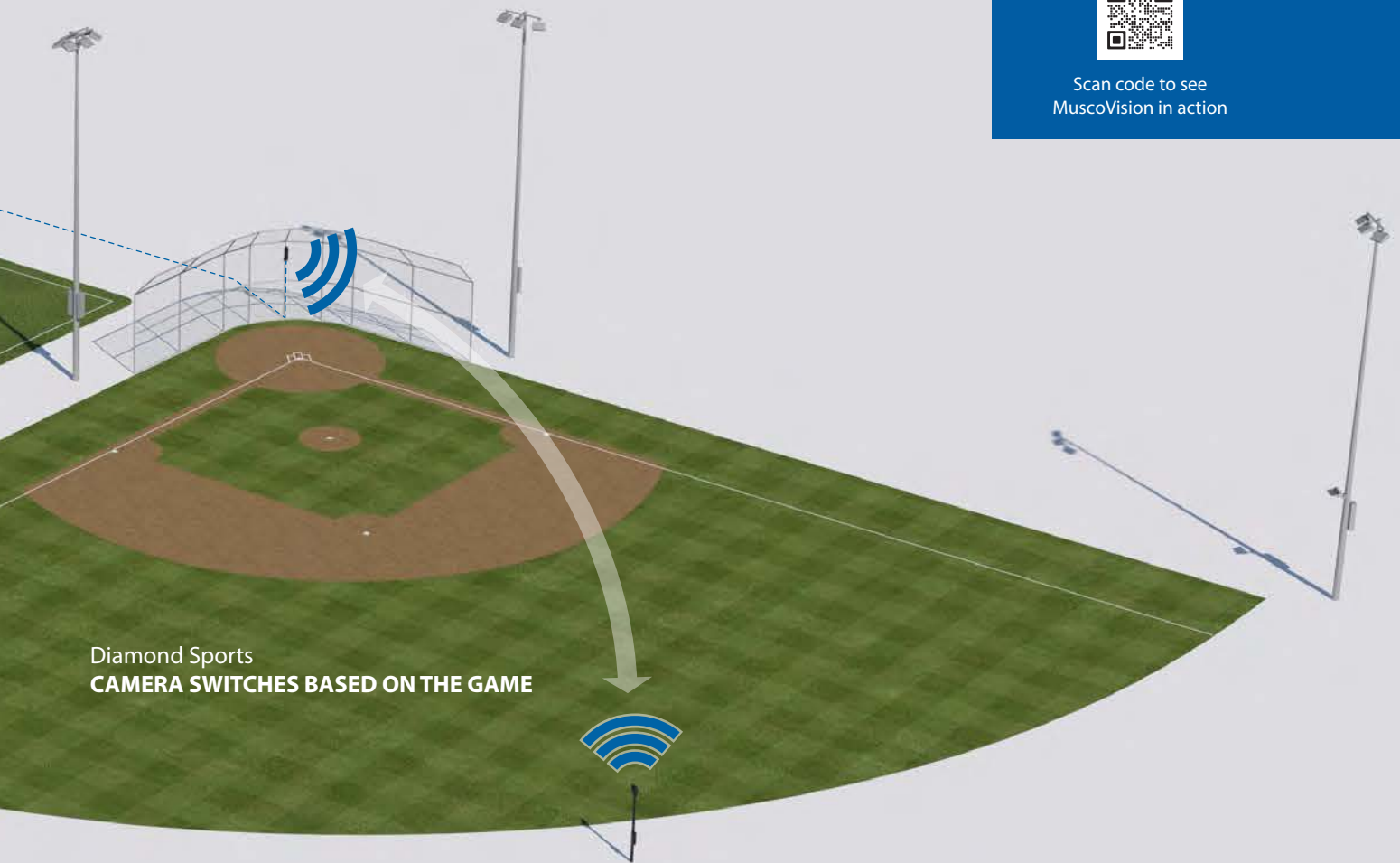
# Hometown sports broadcasting made simple

## Connect – Custom-designed communication system )))

- On-site network designed and supplied by Musco
- Customer provides internet to the site
- Schedule broadcast from anywhere via phone, website or app
- Monitoring and support provided 24/7/365 – always ready to play



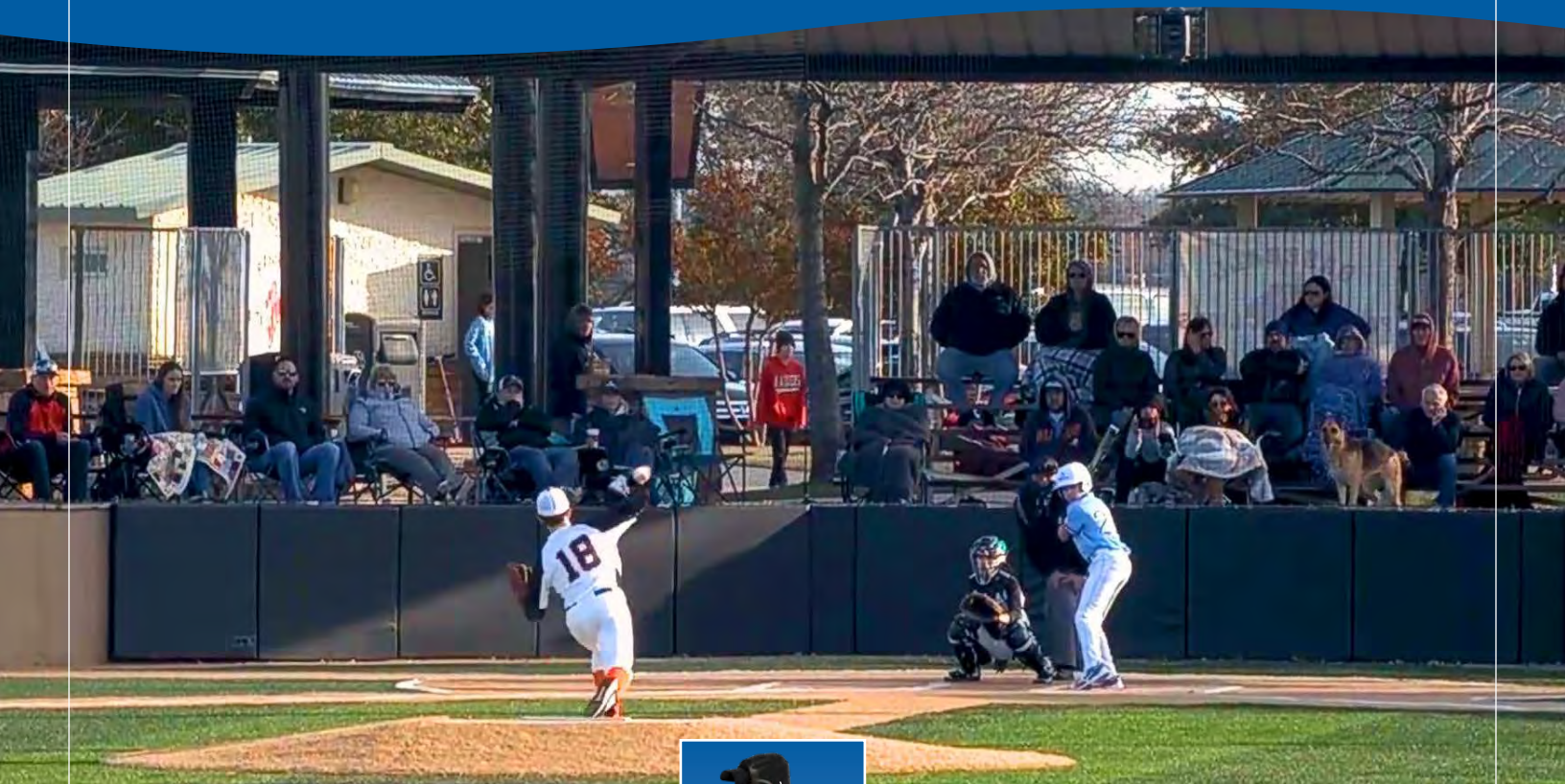
Scan code to see  
MuscoVision in action



Diamond Sports  
CAMERA SWITCHES BASED ON THE GAME

## Distribute – Easy and fun to watch for fans, coaches, players 📱 📺 📺 📺

- Watch and download live and on-demand recorded video via website, app, or Smart TV
- Viewing features include tagging, clipping highlights and sharing via social media
- Flexible subscription options – Musco handles the payment transaction, providing you reports and revenue payments



**MuscoVision™**

**Automated Sports Broadcasting**

Custom designed for your facility, each piece of the system is engineered to work together. This single source approach for camera, structural, electrical, and control components delivers consistent results.



**5 Easy Pieces™**

Foundation-to-poletop system

**5. Poletop Camera Assembly**

**4. Wire Harness**

**3. Electrical Components Enclosure**

**2. Pole**

**1. Base**



**We Make It Happen®**

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# Mini-Pitch System™

## Modular Sports Solution



**MUSCO**  
Lighting  
We Make It Happen®

**U.S.**  
SOCCER  
FOUNDATION



***The Mini-Pitch System™  
modular sports solution has  
an innovative, all-in-one design  
to help communities create  
fun and active play spaces by  
revitalizing public areas.***

Created to assist the U.S. Soccer Foundation in providing safer places to play the game, the Mini-Pitch System is ideal for transforming abandoned courts and other underutilized areas into places where children and families can come together in the spirit of teamwork, empowerment, and physical activity. The system supports the Foundation's *It's Everyone's Game* movement to ensure that all children have access to the game and its many benefits.

**Complete**

The mini-pitch comes as a modular system complete with lighting, fencing, goals, benches, ADA-compliant access, and lockable storage.

**Convenient**

Assembly can be done by a three-person crew in approximately 16 hours.

**Customizable**

You'll have options on the size of your pitch and custom signage to ensure it meets your exact needs. Surfacing is handled by another vendor on a project-by-project basis.







***"Since the installation at Santa Fe South, we're seeing kids from different high schools hanging out and playing together almost every night. It's unifying kids using these courts."***

**– Mickey Dollens, Executive Director of the Energy Assist Foundation**

## Complete System

The Mini-Pitch System™ modular sports solution includes lighting, structural, and electrical components designed and engineered to work together for streamlined installation and reliable operation.

- Factory-built, wired, aimed, and tested.
- Fast, trouble-free installation.
- Rugged reliability, designed to be long-lasting in all weather conditions and atop all surfaces.
- 10-year warranty covers all parts and labor.

## TLC for LED® Lighting

Enjoy the benefits of the LED sports lighting technology of choice at venues around the world.

- Custom optics create a more uniform distribution of light for better visibility.
- Patented glare control preserves darkness around your pitch, keeping neighbors happy.
- Instant on/off and energy efficient operation.

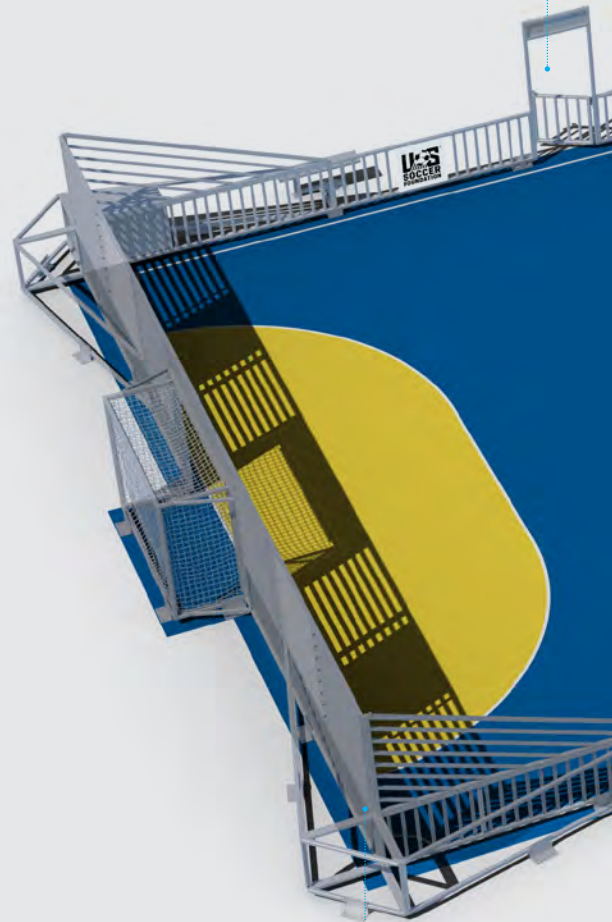
## Control-Link® Service

Your system will be supported by Musco's Control-Link control and monitoring service.

- Manage your lights instantly, from anywhere, with a touch of a smart phone.
- 24/7 support from the Musco Team includes proactive monitoring and scheduling assistance.
- Get a real, live voice on the other end of the phone anytime you call Control-Link Central™ service center.

Lighting control system  
with 24/7 monitoring

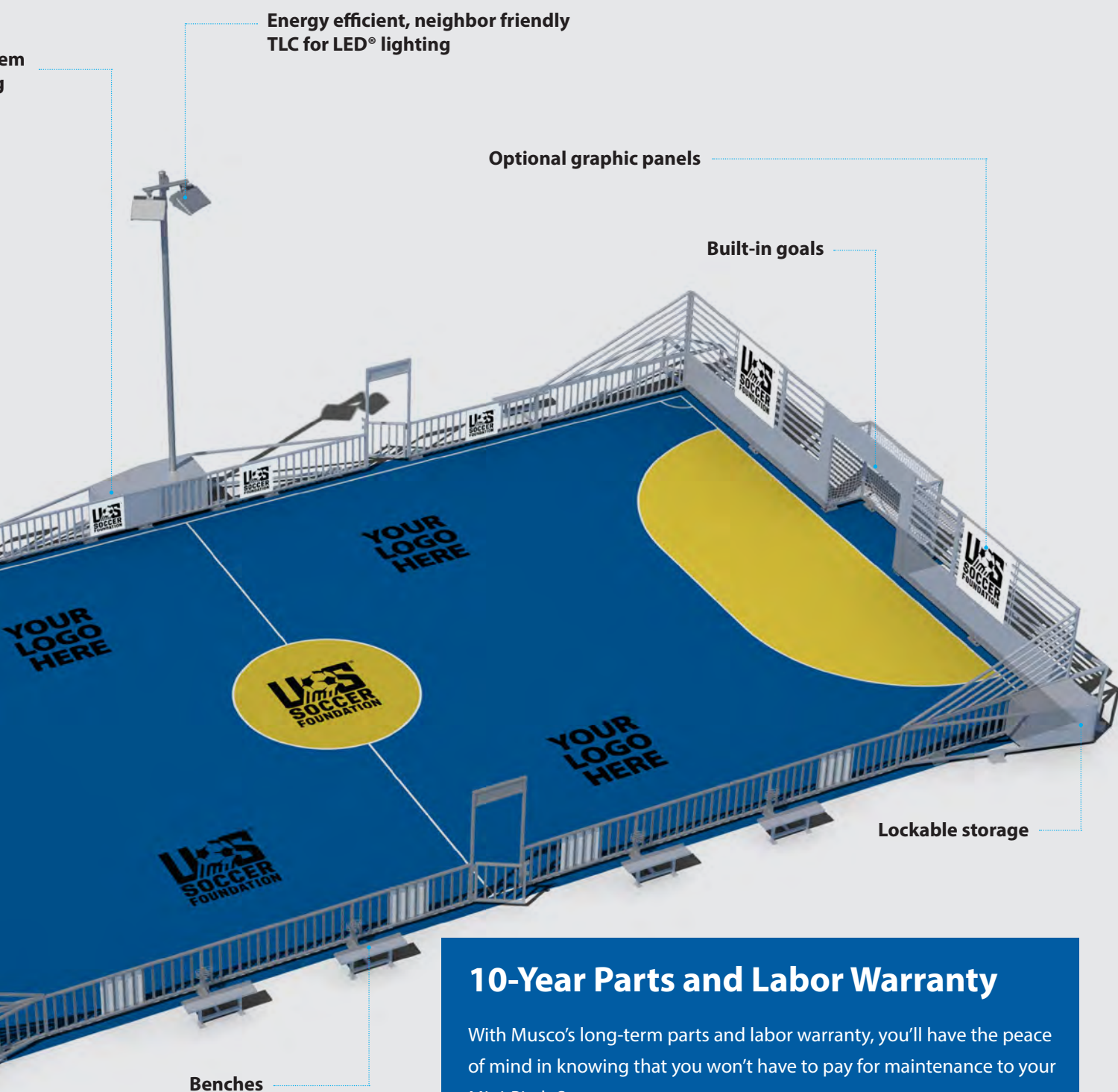
ADA-compliant access



Galvanized  
and structural

Surfaces provided by others, evaluated on a project-by-project basis.





## 10-Year Parts and Labor Warranty

With Musco's long-term parts and labor warranty, you'll have the peace of mind in knowing that you won't have to pay for maintenance to your Mini-Pitch System.

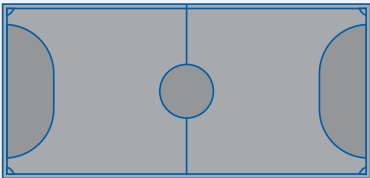
- No maintenance costs for the next decade.
- Every part and all labor covered.
- Supported by Musco's regionally-based technicians.

And with the 24/7 proactive monitoring of Control-Link, if any issues with your mini-pitch lighting arise we'll probably know before you do.

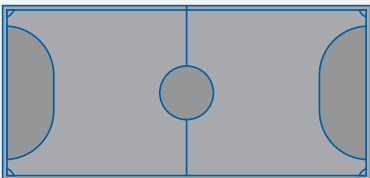
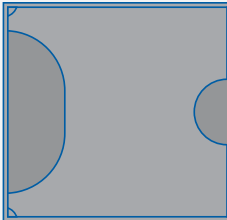
*Separate playing surface warranty is provided by the surface contractor.*

The Mini-Pitch System™ modular sports solution gives

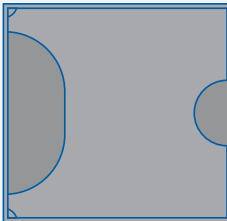
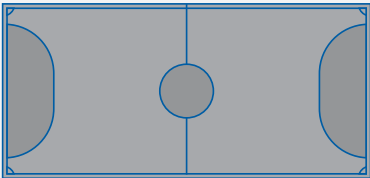
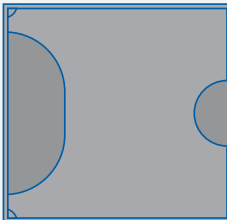
**Size**



40 ft x 84 ft  
12 m x 25 m



76 ft x 84 ft  
23 m x 25 m



Desert West, Phoenix, Arizona, USA

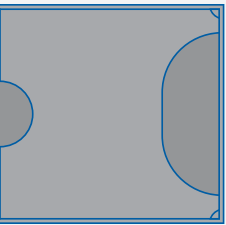


Santa Fe South High School, Oklahoma City, Oklahoma, USA

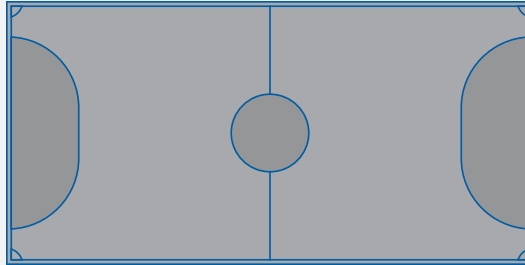


# Your Way

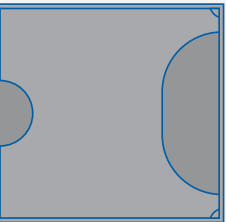
you customization options to meet your exact needs.



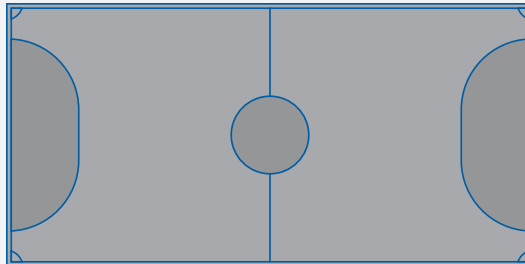
50 ft x 104 ft  
15 m x 31 m



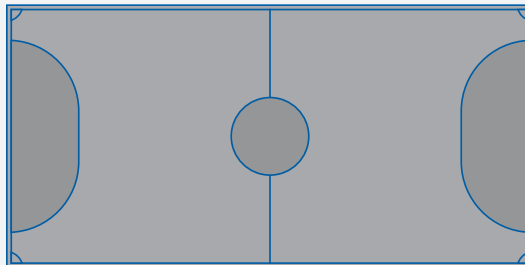
60 ft x 120 ft  
18 m x 36 m



96 ft x 104 ft  
29 m x 32 m



116 ft x 120 ft  
35 m x 36 m



Eakin Elementary School, Columbus, Ohio, USA



Oklahoma State University – Oklahoma City Campus  
Oklahoma City, Oklahoma



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[www.musco.com](http://www.musco.com)  
e-mail: [lighting@musco.com](mailto:lighting@musco.com)



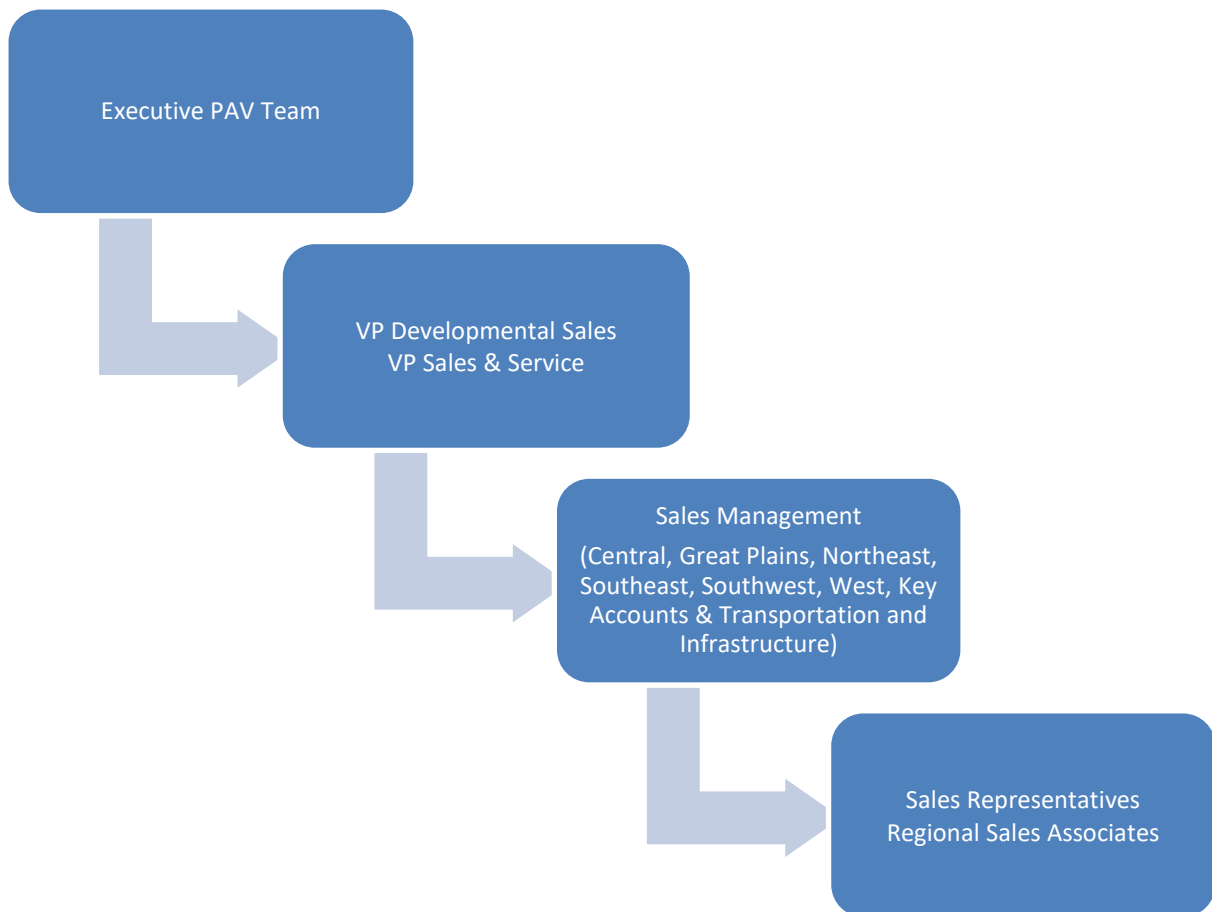
[www.ussoccerfoundation.org](http://www.ussoccerfoundation.org)  
e-mail: [info@ussoccerfoundation.org](mailto:info@ussoccerfoundation.org)

©2019, 2020 Musco Sports Lighting LLC - M-3208-enUS-4  
U.S. and foreign patents issued and pending.

US Soccer Foundation is a registered trademark in the United States to United States Soccer Foundation.



## Musco Sports Lighting, LLC – Organization Chart – USA Sales Teams



**CERTIFICATE OF EMPLOYEE INFORMATION REPORT**  
**RENEWAL**

This is to certify that the contractor listed below has submitted an Employee Information Report pursuant to N.J.A.C. 17:27-1.1 et. seq. and the State Treasurer has approved said report. This approval will remain in effect for the period of **15-OCT-2018** to **15-OCT-2021**

**MUSCO SPORTS LIGHTING, LLC**  
**5146 W. HURLY POND ROAD**  
**FARMINGDALE NJ 07727**



*Elizabeth Maher Muoio*

ELIZABETH MAHER MUOIO  
State Treasurer



**Bidders must provide all the information outlined below**

1. Equalis Group RFP Name:  <u>RFP # COG-2102</u>	2. Proposal Due Date:  <u>September 3, 2020</u>
3. Bidder Name:  <u>Musco Sports Lighting, LLC</u> <i>(legal name of the entity responding to RFP)</i>	4. Bidder Federal Tax ID # or Social Security #:  <u>42-1107452</u>
5. Bidder Corporate Address:  100 1 <sup>st</sup> Ave West PO Box 808 Oskaloosa, IA 52577	6. Bidder Remittance Address <i>(or "same" if same as Item #5):</i>  100 1 <sup>st</sup> Ave West PO Box 808 Oskaloosa, IA 52577

7. Print or type information about the Bidder representative/contact person authorized to answer questions regarding the proposal submitted by your company:

Bidder Representative: Amanda Hudnut  
Representative's Title: Funding Resource Specialist  
Address 1: 100 1<sup>st</sup> Ave West  
Address 2: PO Box 808  
City, State Zip: Oskaloosa, IA 52577  
Phone #: 800-825-6030  
Fax #: 641-672-1996  
E-Mail Address: musco.contracts@musco.com

8. Print or type the name of the Bidder representative authorized to address contractual issues, including the authority to execute a contract on behalf of Bidder, and to whom legal notices regarding contract termination or breach, should be sent (if not the same individual as in #7, provide the following information on each such representative and specify their function):

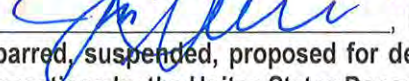
Bidder Representative: James M. Hansen  
Representative's Title: Secretary  
Address 1: 100 1<sup>st</sup> Ave West  
Address 2: PO Box 808  
City, State Zip: Oskaloosa, IA  
Phone #: 800-825-6030  
Fax #: 641-672-1996  
E-Mail Address: musco.contracts@musco.com

9. Is this Bidder an Ohio certified Minority Business Enterprise ("MBE")? Yes ☐ No ☒


If yes, attach a copy of current certification to your proposal as an appendix in the third section of your proposal.

**10. Mandatory Supplier Certifications:**

CCOG may not enter into contracts with any suppliers who have been found to be ineligible for state contracts under specific federal or Ohio statutes or regulations. Bidders responding to any CCOG RFP MUST certify that they are NOT ineligible by signing each of the four statements below. **Failure to provide proper affirming signature on any of these statements will result in a Bidder's proposal being deemed nonresponsive to this RFP.**

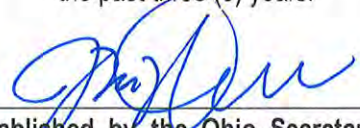
I, , hereby certify and affirm that Musco Sports Lighting, LLC has not been debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in transactions by the United States Department of Labor, the United States Department of Health and Human Services, or any other federal department or agency as set forth in 29 CFR Part 98, or 45 CFR Part 76, or other applicable statutes.

AND


I, , hereby certify and affirm that Musco Sports Lighting, LLC is in compliance with all federal, state, and local laws, rules, and regulations, including but not limited to the Occupational Safety and Health Act and the Ohio Bureau of Employment Services and the following:

- Not penalized or debarred from any public contracts or falsified certified payroll records or any other violation of the Fair Labor Standards Act in the last three (3) years;
- Not found to have violated any worker's compensation law within the last three (3) years;
- Not violated any employee discrimination law within the last three (3) years;
- Not have been found to have committed more than one (1) willful or repeated OSHA violation of a safety standard (as opposed to a record keeping or administrative standard) in the last three (3) years;
- Not have an Experience Modification Rating of greater than 1.5 (a penalty-rated employer) with respect to the Bureau of Workers' Compensation risk assessment rating; and
- Not have failed to file any required tax returns or failed to pay any required taxes to any governmental entity within the past three (3) years.

AND

I, , hereby certify and affirm that Musco Sports Lighting, LLC is not on the list established by the Ohio Secretary of State, pursuant to ORC Section 121.23, which identifies persons and businesses with more than one unfair labor practice contempt of court finding against them.

AND

I, , hereby certify and affirm that Musco Sports Lighting, LLC either is not subject to a finding for recovery under ORC Section 9.24, or has taken appropriate remedial steps required under that statute to resolve any findings for recovery, or otherwise qualifies under that section to enter into contracts with CCOG.

**11. Supplemental Bidder Contract and Equal Employment Opportunity Information:**

- A. Provide data on Bidder employees both nationwide (inclusive of Ohio staff) and the number of Ohio employees:

	<u>Nationwide:</u>	<u>Ohio Offices:</u>
Total Number of Employees:	<u>1127</u>	<u>4</u>
% of those who are Women:	<u>30%</u>	<u>0%</u>
% of those who are Minorities:	<u>9%</u>	<u>0%</u>



- B. If you are selected as the Winning Supplier and this RFP involves the provision of services to Equalis Group Members, will you subcontract any part of the work?

- ☐ NO -or-  
☒ YES, but for less than 50% of the work -or-  
☐ YES, for 50% or more of the work

- C. If any part of your proposal would be performed by any subcontractors, provide the following information on each subcontractor *(additional pages may be added as needed)*:

**Musco has a network of 1800+ contractors nationwide. This information will be provided to Equalis Group Members on a project by project basis.**

Subcontractor Name: Name  
 Street Address 1: Street Address 1  
 Street Address 2: Street Address 2  
 City, State Zip: City, State Zip  
 Work to be Performed: Description of Work

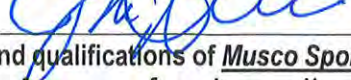
Estimated percentage of total proposal to be performed by subcontractors: \_\_\_\_\_ %  
*(Do NOT show dollar amounts here; show % of WORK sub-contractors will perform/provide). Define the part of the work that will be performed by each subcontractor.*

Subcontractor's employee information *(attach additional pages if needed)*:

	Nationwide:	Ohio Offices:
Total Number of Employees:	_____	_____
% of those who are Women:	_____	_____
% of those who are Minorities:	_____	_____

12. Bidder has reviewed the Model Master Agreement attached to the RFP as Attachment E, and if awarded a contract, ☐ Bidder will not (or) ☒ Bidder will request changes to the standard language and has marked the requested changes and returned the model document with this proposal for consideration by CCOG and Equalis Group, LLC. *(All requested changes to Model Master Agreement contract language are subject to negotiation and CCOG and Equalis Group, LLC approval.)* **Musco Sports Lighting, LLC reserves the right to further negotiation upon award of the contract.**
13. Bidder has reviewed the Model Administration Agreement attached to the RFP as Attachment E, and if awarded a contract, ☐ Bidder will not (or) ☒ Bidder will request changes to the standard language and has marked the requested changes and returned the model document with this proposal for consideration by Equalis Group, LLC. *(All requested changes to Model Administration Agreement contract language are subject to negotiation and Equalis Group, LLC approval.)* **Musco Sports Lighting, LLC reserves the right to further negotiation upon award of the contract.**



14. I , hereby affirm that this proposal accurately represents the capabilities and qualifications of Musco Sports Lighting, LLC, and I hereby affirm that the cost(s) proposed to CCOG for the performance of services and/or provision of goods covered in this proposal in response to this CCOG RFP is a firm fixed price structure as described in the Cost Proposal, inclusive of all incidental as well as primary costs. (Failure to provide the proper affirming signature on this item may result in the disqualification of your proposal.)

**15. Additional Documents:**

CCOG makes every attempt to meet the varying legal requirements of public agencies across the country. The documents included in this section are intended to give our contracts the broadest geographic reach by meeting the procurement requirements of other states outside of Ohio.

**15.1. Lobbying Certification**

Submission of this certification is a prerequisite for making or entering into this transaction and is imposed by Section 1352, Title 31, U.S. Code. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Any person who fails to file the required certification shall be subject to civil penalty of not less than ten thousand dollars (\$10,000) and not more than one hundred thousand dollars (\$100,000) for each such failure.


The undersigned certifies, to the best of his/her knowledge and belief, on behalf of Bidder that:

1. No Federal appropriated funds have been paid or will be paid on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of a Federal contract, the making of a Federal grant, the making of a Federal loan, the entering into a cooperative agreement, and the extension, continuation, renewal, amendment, or modification of a Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract or cooperative agreement, the undersigned shall complete and submit Standard Form LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all covered sub-awards exceeding one hundred thousand dollars (\$100,000) in Federal funds at all appropriate tiers and that all sub-recipients shall certify and disclose accordingly.

  
Signature of Bidder representative

**15.2. Boycott Certification**

Bidder must certify that during the term of any Agreement, it does not boycott Israel and will not boycott Israel. "Boycott" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes.

  
Signature of Bidder representative



### 15.3. Federal Funds Certification Form (EDGAR)

When a participating agency seeks to procure goods and services using funds under a federal grant or contract, specific federal laws, regulations, and requirements may apply in addition to those under state law. This includes, but is not limited to, the procurement standards of the Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards, 2 CFR 200 (sometimes referred to as the "Uniform Guidance" or "EDGAR" requirements). All bidders submitting proposals must complete this Federal Funds Certification Form regarding bidder's willingness and ability to comply with certain requirements which may be applicable to specific participating agency purchases using federal grant funds. This completed form will be made available to Members for their use while considering their purchasing options when using federal grant funds. Members may also require Supplier Partners to enter into ancillary agreements, in addition to the contract's general terms and conditions, to address the member's specific contractual needs, including contract requirements for a procurement using federal grants or contracts.

**For each of the items below, respondent should certify bidder's agreement and ability to comply, where applicable, by having respondents authorized representative complete and initial the applicable lines after each section and sign the acknowledgment at the end of this form.** If a respondent fails to complete any item in this form, CCOG will consider the respondent's response to be that they are unable or unwilling to comply. A negative response to any of the items may, if applicable, impact the ability of a participating agency to purchase from the Supplier Partner using federal funds.

#### 15.3.1. Supplier Partner Violation or Breach of Contract Terms

Contracts for more than the simplified acquisition threshold currently set at one hundred fifty thousand dollars (\$150,000), which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 USC 1908, must address administrative, contractual, or legal remedies in instances where Supplier Partners violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

Any contract award will be subject to Terms and Conditions of the Master Agreement, as well as any additional terms and conditions in any purchase order, participating agency ancillary contract, or Member construction contract agreed upon by Supplier Partner and the participating agency which must be consistent with and protect the participating agency at least to the same extent as the CCOG Terms and Conditions.

The remedies under the contract are in addition to any other remedies that may be available under law or in equity. By submitting a proposal, you agree to these Supplier Partner violation and breach of contract terms.

Does Supplier Partner agree?   
(Initials of Authorized Representative)

#### 15.3.2. Termination for Cause or Convenience

When a participating agency expends federal funds, the participating agency reserves the right to immediately terminate any agreement in excess of ten thousand dollars (\$10,000) resulting from this procurement process in the event of a breach or default of the agreement by Offeror in the event Offeror fails to: (1) meet schedules, deadlines, and/or delivery dates within the time specified in the procurement solicitation, contract, and/or a purchase order; (2) make any payments owed; or (3) otherwise perform in accordance with the contract and/or the procurement solicitation. Participating agency also reserves the right to terminate the contract immediately, with written notice to offeror, for convenience, if participating agency believes, in its sole discretion that it is in the best interest of participating agency to do so. Bidder will be compensated for work performed and accepted and goods accepted by participating agency as of the termination date if the contract is terminated for convenience of participating agency. Any award under this procurement process is not exclusive and participating agency reserves the right to purchase goods and services from other offerors when it is in participating agency's best interest.

Does Supplier Partner agree?   
(Initials of Authorized Representative)



### 15.3.3. Equal Employment Opportunity

Except as otherwise provided under 41 CFR Part 60, all participating agency purchases or contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 shall be deemed to include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR Part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

The equal opportunity clause provided under 41 CFR 60-1.4(b) is hereby incorporated by reference. Supplier Partner agrees that such provision applies to any participating agency purchase or contract that meets the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 and Supplier Partner agrees that it shall comply with such provision.

Does Supplier Partner agree?   
(Initials of Authorized Representative)

### 15.3.4. Davis-Bacon Act

When required by Federal program legislation, Supplier Partner agrees that, for all participating agency prime construction contracts/purchases in excess of two thousand dollars (\$2,000), Supplier Partner shall comply with the Davis-Bacon Act (40 USC 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, Supplier Partner is required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determinate made by the Secretary of Labor. In addition, Supplier Partner shall pay wages not less than once a week.

Current prevailing wage determinations issued by the Department of Labor are available at [www.wdol.gov](http://www.wdol.gov). Supplier Partner agrees that, for any purchase to which this requirement applies, the award of the purchase to the Supplier Partner is conditioned upon Supplier Partner's acceptance of the wage determination.

Supplier Partner further agrees that it shall also comply with the Copeland "Anti-Kickback" Act (40 USC 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States". The Act provides that each Supplier Partner or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled.

Does Supplier Partner agree?   
(Initials of Authorized Representative)

### 15.3.5. Contract Work Hours and Safety Standards Act

Where applicable, for all participating agency contracts or purchases in excess of one hundred thousand dollars (\$100,000) that involve the employment of mechanics or laborers, Supplier Partner agrees to comply with 40 USC 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 USC 3702 of the Act, Supplier Partner is required to compute the wages of every mechanic and laborer on the basis of a standard work week of forty (40) hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of forty (40) hours in the work week. The requirements of 40 USC 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

Does Supplier Partner agree?   
(Initials of Authorized Representative)

### 15.3.6. Right to Inventions Made Under a Contract or Agreement



If the participating agency's Federal award meets the definition of "funding agreement" under 37 CFR 401.2(a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance or experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

Supplier Partner agrees to comply with the above requirements when applicable.

Does Supplier Partner agree?   
(Initials of Authorized Representative)

#### **15.3.7. Clean Air Act and Federal Water Pollution Control Act**

Clean Air Act (42 USC 7401-7671q.) and the Federal Water Pollution Control Act (33 USC 1251-1387), as amended – Contracts and subgrants of amounts in excess of one hundred fifty thousand dollars (\$150,000) must contain a provision that requires the non-Federal award to agree to comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act (42 USC 7401-7671q.) and the Federal Water Pollution Control Act, as amended (33 USC 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

When required, Supplier Partner agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act and the Federal Water Pollution Control Act.

Does Supplier Partner agree?   
(Initials of Authorized Representative)

#### **15.3.8. Debarment and Suspension**

Debarment and Suspension (Executive Orders 12549 and 12689) – A contract award (see 2 CFR 180.220) must not be made to parties listed on the government-wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR Part 1966 Comp. p. 189) and 12689 (3 CFR Part 1989 Comp. p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

Supplier Partner certifies that Supplier Partner is not currently listed on the government-wide exclusions in SAM, is not debarred, suspended, or otherwise excluded by agencies or declared ineligible under statutory or regulatory authority other than Executive Order 12549. Supplier Partner further agrees to immediately notify the Cooperative and all Members with pending purchases or seeking to purchase from Supplier Partner if Supplier Partner is later listed on the government-wide exclusions in SAM, or is debarred, suspended, or otherwise excluded by agencies or declared ineligible under statutory or regulatory authority other than Executive Order 12549.

Does Supplier Partner agree?   
(Initials of Authorized Representative)

#### **15.3.9. Byrd Anti-Lobbying Amendment**

Byrd Anti-Lobbying Amendment (31 USC 1352) – Supplier Partners that apply or bid for an award exceeding one hundred thousand dollars (\$100,000) must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 USC 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award. As applicable, Supplier Partner agrees to file all certifications and disclosures required by, and otherwise comply with, the Byrd Anti-Lobbying Amendment (31 USC 1352).



Does Supplier Partner agree?   
(Initials of Authorized Representative)

#### 15.3.10. Procurement of Recovered Materials

For participating agency purchases utilizing Federal funds, Supplier Partner agrees to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act where applicable and provide such information and certifications as a participating agency may require to confirm estimates and otherwise comply. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds ten thousand dollars (\$10,000) or the value of the quantity acquired during the preceding fiscal year exceeded ten thousand dollars (\$10,000); procuring solid waste management services in a manner that maximizes energy and resource recovery, and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

Does Supplier Partner agree?   
(Initials of Authorized Representative)

#### 15.3.11. Profit as a Separate Element of Price

For purchases using federal funds in excess of one hundred fifty thousand dollars (\$150,000), a participating agency may be required to negotiate profit as a separate element of the price. See, 2 CFR 200.323(b). When required by a participating agency, Supplier Partner agrees to provide information and negotiate with the participating agency regarding profit as a separate element of the price for a particular purchase. However, Supplier Partner agrees that the total price, including profit, charged by Supplier Partner to the participating agency shall not exceed the awarded pricing, including any applicable discount, under Supplier Partner's Group Purchasing Agreement.

Does Supplier Partner agree?   
(Initials of Authorized Representative)

#### 15.3.12. General Compliance and Cooperation with Members

In addition to the foregoing specific requirements, Supplier Partner agrees, in accepting any purchase order from a Member, it shall make a good faith effort to work with Members to provide such information and to satisfy such requirements as may apply to a particular participating agency purchase or purchases including, but not limited to, applicable recordkeeping and record retention requirements.

Does Supplier Partner agree?   
(Initials of Authorized Representative)

#### 15.3.13. Applicability to Subcontractors

Offeror agrees that all contracts it awards pursuant to the Contract shall be bound by the foregoing terms and conditions.

Does Supplier Partner agree?   
(Initials of Authorized Representative)



By signature below, I certify that the information in this form is true, complete, and accurate and that I am authorized by my company to make this certification and all consents and agreements contained herein.

**Musco Sports Lighting, LLC**

Bidder Name

  
Signature of Authorized Company Official

**James M. Hansen**

Printed Name

**Secretary**

Title

**8/24/2020**

Date

**16. Required Documents for Supplier Partners Intending to Do Business in New Jersey**

**16.1. Ownership Disclosure Form**

Pursuant to the requirements of P.L. 1999, Chapter 440 effective April 17, 2000 (Local Public Contracts Law), Bidder shall complete the form attached to these specifications listing the persons owning 10 percent (10%) or more of the firm presenting the proposal.

Bidder Name: **Musco Sports Lighting, LLC**

Street Address: **100 1<sup>st</sup> Ave West**

City, State Zip: **Oskaloosa, IA 52577**

**Complete as appropriate:**

*I Click or tap here to enter text., certify that I am the sole owner of Click or tap here to enter text., that there are no partners and the business is not incorporated, and the provisions of N.J.S. 52:25-24.2 do not apply.*

**OR:**

*I Click or tap here to enter text., a partner in Click or tap here to enter text., do hereby certify that the following is a list of all individual partners who own a 10 percent (10%) or greater interest therein. I further certify that if one (1) or more of the partners is itself a corporation or partnership, there is also set forth the names and addresses of the stockholders holding 10 percent (10%) or more of that corporation's stock or the individual partners owning 10% or greater interest in that partnership.*

**OR:**

*I **James M. Hansen**, an authorized representative of **Musco Sports Lighting, LLC**, a corporation, do hereby certify that the following is a list of the names and addresses of all stockholders in the corporation who own 10% or more of its stock of any class. I further certify that if one (1) or more of such stockholders is itself a corporation or partnership, that there is also set forth the names and addresses of the stockholders holding 10 percent (10%) or more of the corporation's stock or the individual partners owning a 10 percent (10%) or greater interest in that partnership.*

**(Note: If there are no partners or stockholders owning 10% or more interest, indicate none.)**

NAME	ADDRESS	% INTEREST
Musco Corporation	100 1 <sup>st</sup> Ave West, Oskaloosa, IA 52577	100% of the LLC
Joe P. Crookham Family	815 Woodland Rd, Oskaloosa, IA 52577	More than 10% of Musco Corporation
Myron K. Gordin Family	2556 Merino Ave, Oskaloosa, IA 52577	More than 10% of Musco Corporation

I further certify that the statements and information contained herein, are complete and correct to the best of my knowledge and belief.

 Secretary  
Authorized Signature and Title

8/24/2020  
Date

**16.2. Non-Collusion Affidavit (to be completed and included with each proposal submitted to Members in NJ)**

Bidder Name: Musco Sports Lighting, LLC

Street Address: 100 1<sup>st</sup> Ave West

City, State Zip: Oskaloosa, IA 52577

State of Iowa

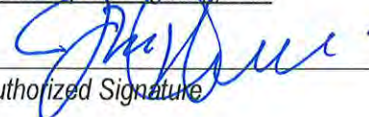
County of Mahaska

I, James M. Hansen of the City of Oskaloosa in the County of Mahaska, State of Iowa of full age, being duly sworn according to law on my oath depose and say that:

*I am the Secretary of the firm of Musco Sports Lighting, LLC, the Bidder making the proposal for the goods, services, or public work specified under the attached proposal, and that I executed the said proposal with full authority to do so; that said respondent has not directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free, competitive bidding in connection with the above proposal, and that all statements contained in said bid proposal and in this affidavit are true and correct, and made with full knowledge that the Customer Name relies upon the truth of the statements contained in said bid proposal and in the statements contained in this affidavit in awarding the contract for the said goods, services, or public work.*

*I further warrant that no person or selling agency has been employed or retained to solicit or secure such contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except bona fide employees or bona fide established commercial or selling agencies maintained by:*

Musco Sports Lighting, LLC

  
Authorized Signature

Secretary

Subscribed and sworn before me

this 24 day of August, 20 20



Iowa

Notary Public of New Jersey

My commission expires 9, 6, 2021



SEAL

16.3. Affirmative Action Affidavit  
(P.L. 1975, C.127)

Bidder Name: Musco Sports Lighting, LLC

Street Address: 100 1<sup>st</sup> Ave West

City, State Zip: Oskaloosa, IA 52577

**Bid Proposal Certification:**

Indicate below your compliance with New Jersey Affirmative Action regulations. Your proposal will be accepted even if you are not in compliance at this time. No contract and/or purchase order may be issued, however, until all Affirmative Action requirements are met.

**Required Affirmative Action Evidence:**

Procurement, Professional & Service Contracts (Exhibit A)

Supplier Partners must submit with proposal:

1. A photocopy of their Federal Letter of Affirmative Action Plan Approval

OR

2. A photocopy of their Certificate of Employee Information Report (Required Bidder Information – Musco Lighting – Section 16.3 – New Jersey Certificate of Employee Information Report)

OR

3. A complete Affirmative Action Employee Information Report (AA302)

**Public Work – Over Fifty Thousand Dollars (\$50,000) Total Project Cost:**

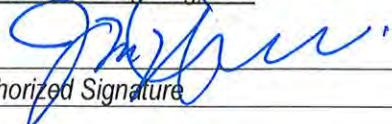
Check One –

☒ No approved Federal or New Jersey Affirmative Action Plan. We will complete Report Form AA201-A upon receipt from the Customer Name, or **This will be provided to the Equalis Member on a project by project basis.**

☐ Approved Federal or New Jersey Plan – certificate enclosed

I further certify that the statements and information contained herein, are complete and correct to the best of my knowledge and belief.

Musco Sports Lighting, LLC

  
Authorized Signature

Secretary

8/24/2020

**P.L. 1995, c. 127 (N.J.A.C. 17:27)**

**MANDATORY AFFIRMATIVE ACTION LANGUAGE**

**PROCUREMENT, PROFESSIONAL & SERVICE CONTRACTS**

During the performance of this contract, the Supplier Partner agrees as follows:

The Supplier Partner or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation. The Supplier Partner will take affirmative action to ensure that such applicants are recruited and employed, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Supplier Partner agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting forth provisions of this non-discrimination clause.

The Supplier Partner or subcontractor, where applicable will, in all solicitations or advertisement for employees placed by or on behalf of the Supplier Partner, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation.

The Supplier Partner or subcontractor, where applicable, will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer advising the labor union or workers' representative of the Supplier Partner's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The Supplier Partner or subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer pursuant to P.L. 1975, c. 127, as amended and supplemented from time to time and the Americans with Disabilities Act.

The Supplier Partner or subcontractor agrees to attempt in good faith to employ minority and female workers trade consistent with the applicable county employment goal prescribed by N.J.A.C. 17:27-5.2 promulgated by the Treasurer pursuant to P.L. 1975, C.127, as amended and supplemented from time to time or in accordance with a binding determination of the applicable county employment goals determined by the Affirmative Action Office pursuant to N.J.A.C. 17:27-5.2 promulgated by the Treasurer pursuant to P.L. 1975, C.127, as amended and supplemented from time to time.

The Supplier Partner or subcontractor agrees to inform in writing appropriate recruitment agencies in the area, including employment agencies, placement bureaus, colleges, universities, labor unions, that it does not discriminate on the basis of age, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation, and that it will discontinue the use of any recruitment agency which engages in direct or indirect discriminatory practices.

The Supplier Partner or subcontractor agrees to revise any of it testing procedures, if necessary, to assure that all personnel testing conforms with the principles of job-related testing, as established by the statutes and court decisions of the state of New Jersey and as established by applicable Federal law and applicable Federal court decisions.

The Supplier Partner or subcontractor agrees to review all procedures relating to transfer, upgrading, downgrading and lay-off to ensure that all such actions are taken without regard to age, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation, and conform with the applicable employment goals, consistent with the statutes and court decisions of the State of New Jersey, and applicable Federal law and applicable Federal court decisions.



The Supplier Partner and its subcontractors shall furnish such reports or other documents to the Affirmative Action Office as may be requested by the office from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Affirmative Action Office for conducting a compliance investigation pursuant to Subchapter 10 of the Administrative Code (NJAC 17:27).



James M. Hansen, Secretary

Signature of Procurement Agent

#### 16.4. Political Contribution Disclosure Form

##### Public Agency Instructions

This page provides guidance to public agencies entering into contracts with business entities that are required to file Political Contribution Disclosure forms with the agency. **It is not intended to be provided to Supplier Partners.** What follows are instructions on the use of form local units can provide to Supplier Partners that are required to disclose political contributions pursuant to N.J.S.A. 19:44A-20.26 (P.L. 2005, c. 271, s.2). Additional information on the process is available in Local Finance Notice 2006-1 ([www.nj.gov/dca/lgs/lfns/lfmenu.shtml](http://www.nj.gov/dca/lgs/lfns/lfmenu.shtml)).

1. The disclosure is required for all contracts in excess of seventeen thousand five hundred dollars (\$17,500) that are **not awarded** pursuant to a "fair and open" process (N.J.S.A. 19:44A-20.7).
2. Due to the potential length of some Supplier Partner submissions, the public agency should consider allowing data to be submitted in electronic form (i.e., spreadsheet, pdf file, etc.). Submissions must be kept with the contract documents or in an appropriate computer file and be available for public access. **The form is worded to accept this alternate submission.** The text should be amended if electronic submission will not be allowed.
3. The submission must be **received from the Supplier Partner** and on file at least ten (10) days prior to award of the contract. Resolutions of award should reflect that the disclosure has been received and is on file.
4. The Supplier Partner must disclose contributions made to candidate and party committees covering a wide range of public agencies, including all public agencies that have elected officials in the county of the public agency, state legislative positions, and various state entities. The Division of Local Government Services recommends that Supplier Partners be provided a list of the affected agencies. This will assist Supplier Partners in determining the campaign and political committees of the officials and candidates affected by the disclosure.
  - a) The Division has prepared model disclosure forms for each county. They can be downloaded from the "County PCD Forms" link on the Pay-to-Play web site at [www.nj.gov/dca/lgs/p2p](http://www.nj.gov/dca/lgs/p2p). They will be updated from time-to-time, as necessary.
  - b) A public agency using these forms **should edit them to properly reflect the correct legislative district(s)**. As the forms are county-based, **they list all legislative districts** in each county. **Districts that do not represent the public agency should be removed from the lists.**
  - c) Some Supplier Partners may find it easier to provide a single list that covers all contributions, regardless of the county. These submissions are appropriate and should be accepted.
  - d) The form may be used "as-is", subject to edits as described herein.
  - e) The "Supplier Partner Instructions" sheet is intended to be provided with the form. It is recommended that the Instructions and the form be printed on the same piece of paper. The form notes that the Instructions are printed on the back of the form; where that is not the case, the text should be edited accordingly.
  - f) The form is a Word document and can be edited to meet local needs, and posted for download on web sites, used as an e-mail attachment, or provided as a printed document.
5. It is recommended that the Supplier Partner also complete a "Stockholder Disclosure Certification." This will assist the local unit in its obligation to ensure that Supplier Partner did not make any prohibited contributions to the committees listed on the Business Entity Disclosure Certification in the twelve (12) months prior to the contract. (See Local Finance Notice 2006-7 for additional information on this obligation) A sample Certification form is part of this



package and the instruction to complete it is included in the Supplier Partner Instructions. **NOTE: This section is not applicable to Boards of Education.**

### **C. 271 POLITICAL CONTRIBUTION DISCLOSURE FORM**

#### **Supplier Partner Instructions**

Supplier Partners receiving contracts from a public agency that are NOT awarded pursuant to a "fair and open" process (defined at N.J.S.A. 19:44A-20.7) are subject to the provisions of P.L. 2005, c. 271, s.2 (N.J.S.A. 19:44A-20.26). This law provides that ten (10) days prior to the award of such a contract, the Supplier Partner shall disclose contributions to:

- 1) any State, county, or municipal committee of a political party,
- 2) any legislative leadership committee<sup>1</sup>,
- 3) any continuing political committee (a.k.a., political action committee),
- 4) any candidate committee of a candidate for, or holder of, an elective office:
  - a) of the public entity awarding the contract,
  - b) of that county in which that public entity is located,
  - c) of another public entity within that county,
  - d) or of a legislative district in which that public entity is located or, when the public entity is a county, of any legislative district which includes all or part of the county. The disclosure must list reportable contributions to any of the committees that exceed three hundred dollars (\$300) per election cycle that were made during the twelve (12) months prior to award of the contract. See N.J.S.A. 19:44A-8 and 19:44A-16 for more details on reportable contributions.

N.J.S.A. 19:44A-20.26 itemizes the parties from whom contributions must be disclosed when a business entity is not a natural person. This includes the following:

- 1) individuals with an "interest" ownership or control of more than ten percent (10%) of the profits or assets of a business entity or 10% of the stock in the case of a business entity that is a corporation for profit,
- 2) all principals, partners, officers, or directors of the business entity or their spouses,
- 3) any subsidiaries directly or indirectly controlled by the business entity,
- 4) IRS Code Section 527 New Jersey based organizations, directly or indirectly controlled by the business entity and filing as continuing political committees, (PACs). When the business entity is a natural person, "a contribution by that person's spouse or child, residing therewith, shall be deemed to be a contribution by the business entity." [N.J.S.A. 19:44A-20.26(b)] The contributor must be listed on the disclosure. Any business entity that fails to comply with the disclosure provisions shall be subject to a fine imposed by ELEC in an amount to be determined by the Commission which may be based upon the amount that the business entity failed to report. The enclosed list of agencies is provided to assist the Supplier Partner in identifying those public agencies whose elected official and/or candidate campaign committees are affected by the disclosure requirement. It is the Supplier Partner's responsibility to identify the specific committees to which contributions may have been made and need to be disclosed. The disclosed information may exceed the minimum requirement. The enclosed form, a content-consistent facsimile, or an electronic data file containing the required details (along with a signed cover sheet) may be used as the Supplier Partner's submission and is disclosable to the public under the Open Public Records Act. The Supplier Partner must also complete the attached Stockholder Disclosure Certification. This will assist the agency in meeting its obligations under the law.

**NOTE: This section does not apply to Board of Education contracts.**

<sup>1</sup> N.J.S.A. 19:44A-3(s): "The term "legislative leadership committee" means a committee established, authorized to be established, or designated by the President of the Senate, the Minority Leader of the Senate, the Speaker of the General Assembly or the Minority Leader of the General Assembly pursuant to section 16 of P.L.1993, c.65 (C.19:44A-10.1) for the purpose of receiving contributions and making expenditures."

### **C. 271 POLITICAL CONTRIBUTION DISCLOSURE FORM**

Required Pursuant to N.J.S.A. 19:44A-20.26





Contributor Name	Recipient Name	Date	\$Amount
Contributor Name	Recipient Name	Date	\$Amount
Contributor Name	Recipient Name	Date	\$Amount
Contributor Name	Recipient Name	Date	\$Amount
Contributor Name	Recipient Name	Date	\$Amount
Contributor Name	Recipient Name	Date	\$Amount
Contributor Name	Recipient Name	Date	\$Amount
Contributor Name	Recipient Name	Date	\$Amount
Contributor Name	Recipient Name	Date	\$Amount
Contributor Name	Recipient Name	Date	\$Amount
Contributor Name	Recipient Name	Date	\$Amount
Contributor Name	Recipient Name	Date	\$Amount
Contributor Name	Recipient Name	Date	\$Amount
Contributor Name	Recipient Name	Date	\$Amount
Contributor Name	Recipient Name	Date	\$Amount

☐ Check here if the information is continued on subsequent page(s)

**List of Agencies with Elected Officials Required for Political Contribution Disclosure**

**N.J.S.A. 19:44A-20.26**

**County Name:**

State: Governor, and Legislative Leadership Committees

Legislative District #s:

State Senator and two members of the General Assembly per district.

County:

Freeholders

County Clerk

Sheriff

{County Executive}

Surrogate

Municipalities (Mayor and members of governing body, regardless of title):

**USERS SHOULD CREATE THEIR OWN FORM, OR DOWNLOAD FROM [WWW.NJ.GOV/DCA/LGS/P2P](http://WWW.NJ.GOV/DCA/LGS/P2P) A COUNTY-BASED, CUSTOMIZABLE FORM.**

**16.5. Stockholder Disclosure Form**

**Name of Business:**

☐ I certify that the list below contains the names and home addresses of all stockholders holding ten percent (10%) or more of the issued and outstanding stock of the undersigned.

OR

☐ I certify that no one stockholder owns ten percent (10%) or more of the issued and outstanding stock of the undersigned.

**Check the box that represents the type of business organization:**

☐ Partnership

☐ Corporation

☐ Sole Proprietorship

☐ Limited Partnership

☐ Limited Liability Corporation

☐ Limited Liability Partnership

☐ Subchapter S Corporation

Sign and notarize the form below, and, if necessary, complete the stockholder list below.

Stockholders:



Name: Click or tap here to enter text	Name: Stockholder Name
Home Address:	Home Address: Home Address
Name: Stockholder Name	Name: Stockholder Name
Home Address: Home Address	Home Address: Home Address
Name: Stockholder Name	Name: Stockholder Name
Home Address: Home Address	Home Address: Home Address
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Subscribed and sworn before me this ____ day of _____, 2__.</p> <p>(Notary Public)</p> <p>My Commission expires:</p> </div> <div style="width: 45%; border-top: 1px solid black; padding-top: 5px;"> <p>(Affiant)</p> <p>(Print name &amp; title of affiant)</p> <p>(Corporate Seal)</p> </div> </div>	

## 17. Required Documents for Supplier Partners Intending to Do Business in Arizona

### 17.1. Arizona Supplier Partner Requirements

AZ Compliance with Federal and state requirements. Supplier Partner agrees when working on any federally assisted projects with more than two thousand dollars (\$2,000.00) in labor costs, to comply with all federal and state requirements, as well as Equal Opportunity Employment requirements and all other federal and state laws, statutes, etc. Supplier Partner agrees to post wage rates at the work site and submit a copy of their payroll to the member for their files. Supplier Partner must retain records for three years to allow the federal grantor agency access to these records, upon demand. Supplier Partner also agrees to comply with the Arizona Executive Order 75-5, as amended by Executive Order 99-4.

When working on contracts funded with Federal Grant monies, Supplier Partner additionally agrees to comply with the administrative requirements for grants, and cooperative agreements to state, local and federally recognized Indian Tribal Governments.

AZ Compliance with workforce requirements. Pursuant to ARS 41-4401, Supplier Partner and subcontractor(s) warrant their compliance with all federal and state immigration laws and regulations that relate to their employees, and compliance with ARS 23-214 subsection A, which states, "...every employer, after hiring an employee, shall verify the employment eligibility of the employee through the E-Verify program".

CCOG reserves the right to cancel or suspend the use of any contract for violations of immigration laws and regulations. CCOG and its members reserve the right to inspect the papers of any Supplier Partner or subcontract employee who works under this contract to ensure compliance with the warranty above.

AZ Supplier Partner Employee Work Eligibility. By entering into this contract, Supplier Partner agrees and warrants compliance with A.R.S. 41-4401, A.R.S. 23-214, the Federal Immigration and Nationality Act (FINA), and all other Federal

immigration laws and regulations. CCOG and/or Equalis Group members may request verification of compliance from any Supplier Partner or subcontractor performing work under this contract. CCOG and Equalis Group members reserve the right to confirm compliance. In the event that CCOG or Equalis Group members suspect or find that any Supplier Partner or subcontractor is not in compliance, CCOG may pursue any and all remedies allowed by law, including but not limited to suspension of work, termination of contract, suspension and/or debarment of the Supplier Partner. All cost associated with any legal action will be the responsibility of the Supplier Partner.

**AZ Non-Compliance.** All federally assisted contracts to members that exceed ten thousand dollars (\$10,000.00) may be terminated by the federal grantee for noncompliance by Supplier Partner. In projects that are not federally funded, respondent must agree to meet any federal, state or local requirements as necessary. In addition, if compliance with the federal regulations increases the contract costs beyond the agreed on costs in this solicitation, the additional costs may only apply to the portion of the work paid by the federal grantee.

**Registered Sex Offender Restrictions (Arizona).** For work to be performed at an Arizona school, Supplier Partner agrees that no employee or employee of a subcontractor who has been adjudicated to be a registered sex offender will perform work at any time when students are present, or reasonably expected to be present. Supplier Partner agrees that a violation of this condition shall be considered a material breach and may result in the cancellation of the purchase order at the Equalis Group member's discretion. Supplier Partner must identify any additional costs associated with compliance to this term. If no costs are specified, compliance with this term will be provided at no additional charge.

**Offshore Performance of Work Prohibited.** Due to security and identity protection concerns, direct services under this contract shall be performed within the borders of the United States.

**Terrorism Country Divestments.** In accordance with A.R.S. 35-392, CCOG and Equalis Group members are prohibited from purchasing from a company that is in violation of the Export Administration Act. By entering into the contract, Supplier Partner warrants compliance with the Export Administration Act.

The undersigned hereby accepts and agrees to comply with all statutory compliance and notice requirements listed in this document.



Signature of Authorized Representative

8/24/2020



# Request for Taxpayer Identification Number and Certification

Give Form to the  
requester. Do not  
send to the IRS.

Go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9) for instructions and the latest information.

Print or type.  
See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank. <b>Musco Corporation</b>	
2 Business name/disregarded entity name, if different from above <b>Musco Sports Lighting, LLC</b>	
3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only <b>one</b> of the following seven boxes. <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input checked="" type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ _____ <b>Note:</b> Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is <b>not</b> disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner. <input type="checkbox"/> Other (see instructions) ▶ _____	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <small>(Applies to accounts maintained outside the U.S.)</small>
5 Address (number, street, and apt. or suite no.) See instructions. <b>100 1st Ave West, PO Box 808</b>	Requester's name and address (optional)
6 City, state, and ZIP code <b>Oskaloosa, IA 52577</b>	
7 List account number(s) here (optional)	

## Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

**Note:** If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number									
or									
Employer identification number									
4	2		1	1	0	7	4	5	2

## Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

**Certification instructions.** You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

<b>Sign Here</b>	Signature of U.S. person ▶	Date ▶ <b>8/24/2020</b>
------------------	----------------------------	-------------------------

## General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

**Future developments.** For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9).

## Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting*, later, for further information.

**Note:** If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

**Definition of a U.S. person.** For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

**Special rules for partnerships.** Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States.

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

**Foreign person.** If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Pub. 515, *Withholding of Tax on Nonresident Aliens and Foreign Entities*).

**Nonresident alien who becomes a resident alien.** Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items.

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

**Example.** Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

## Backup Withholding

**What is backup withholding?** Persons making certain payments to you must under certain conditions withhold and pay to the IRS 24% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

**Payments you receive will be subject to backup withholding if:**

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the instructions for Part II for details),
3. The IRS tells the requester that you furnished an incorrect TIN,
4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or
5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code*, later, and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships*, earlier.

## What is FATCA Reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code*, later, and the Instructions for the Requester of Form W-9 for more information.

## Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

## Penalties

**Failure to furnish TIN.** If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

**Civil penalty for false information with respect to withholding.** If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.



**Criminal penalty for falsifying information.** Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

**Misuse of TINs.** If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

## Specific Instructions

### Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account (other than an account maintained by a foreign financial institution (FFI)), list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9. If you are providing Form W-9 to an FFI to document a joint account, each holder of the account that is a U.S. person must provide a Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

**Note: ITIN applicant:** Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C corporation, or S corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

### Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

### Line 3

Check the appropriate box on line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box on line 3.

IF the entity/person on line 1 is a(n) . . .	THEN check the box for . . .
• Corporation	Corporation
• Individual	Individual/sole proprietor or single-member LLC
• Sole proprietorship, or	
• Single-member limited liability company (LLC) owned by an individual and disregarded for U.S. federal tax purposes.	
• LLC treated as a partnership for U.S. federal tax purposes,	Limited liability company and enter the appropriate tax classification. (P= Partnership; C= C corporation; or S= S corporation)
• LLC that has filed Form 8832 or 2553 to be taxed as a corporation, or	
• LLC that is disregarded as an entity separate from its owner but the owner is another LLC that is not disregarded for U.S. federal tax purposes.	
• Partnership	Partnership
• Trust/estate	Trust/estate

### Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space on line 4 any code(s) that may apply to you.

#### Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 <sup>1</sup>	Generally, exempt payees 1 through 5 <sup>2</sup>
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

<sup>1</sup> See Form 1099-MISC, Miscellaneous Income, and its instructions.

<sup>2</sup> However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

**Exemption from FATCA reporting code.** The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a)

J—A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

**Note:** You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

## Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns. If this address differs from the one the requester already has on file, write NEW at the top. If a new address is provided, there is still a chance the old address will be used until the payor changes your address in their records.

## Line 6

Enter your city, state, and ZIP code.

## Part I. Taxpayer Identification Number (TIN)

**Enter your TIN in the appropriate box.** If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN.

If you are a single-member LLC that is disregarded as an entity separate from its owner, enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

**Note:** See *What Name and Number To Give the Requester*, later, for further clarification of name and TIN combinations.

**How to get a TIN.** If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at [www.SSA.gov](http://www.SSA.gov). You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at [www.irs.gov/Businesses](http://www.irs.gov/Businesses) and clicking on Employer Identification Number (EIN) under Starting a Business. Go to [www.irs.gov/Forms](http://www.irs.gov/Forms) to view, download, or print Form W-7 and/or Form SS-4. Or, you can go to [www.irs.gov/OrderForms](http://www.irs.gov/OrderForms) to place an order and have Form W-7 and/or SS-4 mailed to you within 10 business days.

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

**Note:** Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

**Caution:** A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

## Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if item 1, 4, or 5 below indicates otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code*, earlier.

**Signature requirements.** Complete the certification as indicated in items 1 through 5 below.



**1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.** You must give your correct TIN, but you do not have to sign the certification.

**2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983.** You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

**3. Real estate transactions.** You must sign the certification. You may cross out item 2 of the certification.

**4. Other payments.** You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

**5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), ABLE accounts (under section 529A), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions.** You must give your correct TIN, but you do not have to sign the certification.

## What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account) other than an account maintained by an FFI	The actual owner of the account or, if combined funds, the first individual on the account <sup>1</sup>
3. Two or more U.S. persons (joint account maintained by an FFI)	Each holder of the account
4. Custodial account of a minor (Uniform Gift to Minors Act)	The minor <sup>2</sup>
5. a. The usual revocable savings trust (grantor is also trustee)	The grantor-trustee <sup>1</sup>
b. So-called trust account that is not a legal or valid trust under state law	The actual owner <sup>1</sup>
6. Sole proprietorship or disregarded entity owned by an individual	The owner <sup>3</sup>
7. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor <sup>*</sup>
For this type of account:	Give name and EIN of:
8. Disregarded entity not owned by an individual	The owner
9. A valid trust, estate, or pension trust	Legal entity <sup>4</sup>
10. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
11. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
12. Partnership or multi-member LLC	The partnership
13. A broker or registered nominee	The broker or nominee

For this type of account:	Give name and EIN of:
14. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
15. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

<sup>1</sup> List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

<sup>2</sup> Circle the minor's name and furnish the minor's SSN.

<sup>3</sup> You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

<sup>4</sup> List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships*, earlier.

**\*Note:** The grantor also must provide a Form W-9 to trustee of trust.

**Note:** If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

## Secure Your Tax Records From Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Pub. 5027, Identity Theft Information for Taxpayers.

Victims of identity theft who are experiencing economic harm or a systemic problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

### Protect yourself from suspicious emails or phishing schemes.

Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to [phishing@irs.gov](mailto:phishing@irs.gov). You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at [spam@uce.gov](mailto:spam@uce.gov) or report them at [www.ftc.gov/complaint](http://www.ftc.gov/complaint). You can contact the FTC at [www.ftc.gov/idtheft](http://www.ftc.gov/idtheft) or 877-IDTHEFT (877-438-4338). If you have been the victim of identity theft, see [www.IdentityTheft.gov](http://www.IdentityTheft.gov) and Pub. 5027.

Visit [www.irs.gov/IdentityTheft](http://www.irs.gov/IdentityTheft) to learn more about identity theft and how to reduce your risk.

## Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.