



**PRE-BID SUBMITTAL  
APRIL 05, 2021  
EFFINGHAM COUNTY PARK  
SPRINGFIELD, GA  
QL# 21413D1A**



## Submittal Packet

### Table of Contents/Cover Page

<u>Material:</u>	<u>Pages:</u>
Design Layout Drawings	A
Typical Pole Information	B
Wireless Controls	C
Light Level Guarantee Letter	D
Warranty Information	E
References	F
Bill of Material	G
Disconnect Safety Breaker Information	H
Lighting Technical Guide	I

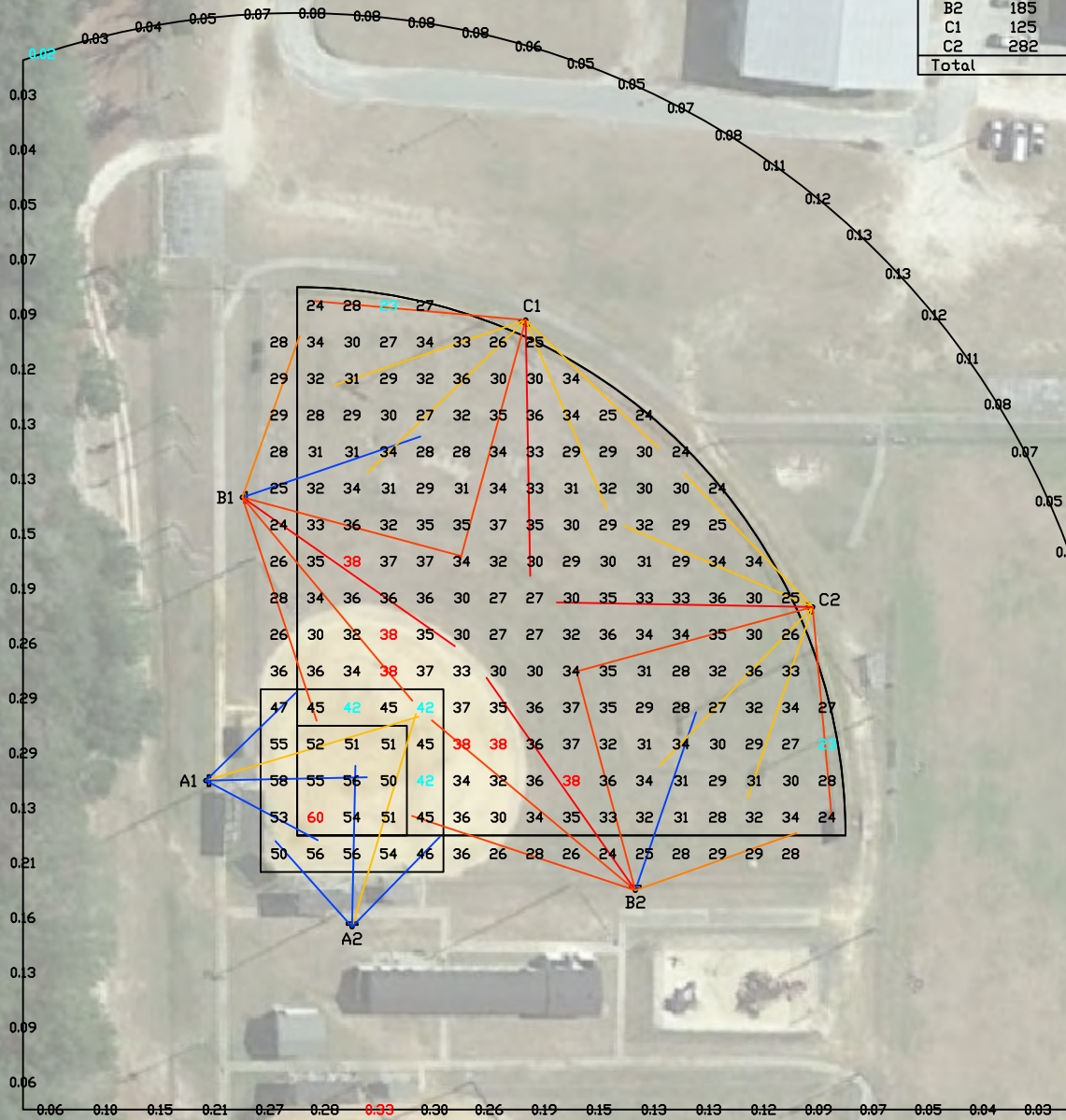


**A**

THIS DESIGN WAS DONE IN ACCORDANCE WITH ILLUMINATING SOCIETY OF NORTH AMERICA STANDARDS

# MAINTAINED

Pole	x-loc	y-loc	height	N2FV	N2-43FN2-43(3)F	N4x3FN43D-44DF	VTotal	kw
A1	-50	30	70ft			1	3	4
A2	30	-50	70ft			1	3	4
B1	-30	185	70ft	1	3	1	1	6
B2	185	-30	70ft	1	3	1	1	6
C1	125	282	70ft	1	2		4	7
C2	282	125	70ft	1	2		4	7
<b>Total</b>				<b>4</b>	<b>10</b>	<b>2</b>	<b>10</b>	<b>8</b>
								<b>34</b>
								<b>44.2</b>



- N43D-44DFV  
GEN 3 FULL
- N4x3FV  
GEN 3 FULL
- N2-43(3)FV  
GEN 3 FULL
- N2-43FV  
GEN 3 FULL
- N2FV  
GEN 3 FULL

300' R Baseball  
208 points (25 infield, 183 outfield) at z=3, sp 20ft by 20ft  
HORIZONTAL FOOTCANDLES

	Outfield	Infield
Average	31	50
Maximum	38	60
Minimum	23	42
Avg/Min	1.36	1.20
Max/Min	1.65	1.43
Coef Var	0.12	0.10
UnifGrad	1.42	1.21

Spill at 150' Offset  
72 points  
HORIZONTAL FOOTCANDLES

Average	0.11
Maximum	0.33
Minimum	0.02
Avg/Min	5.54
Max/Min	16.50
Coef Var	0.68

## Qualite SPORTS LIGHTING, LLC

215 MECHANIC RD HILLSDALE, MI 49242  
PHONE: 517/439-1581 FAX: 517/439-1194  
800/933-9741 WWW.QUALITE.COM

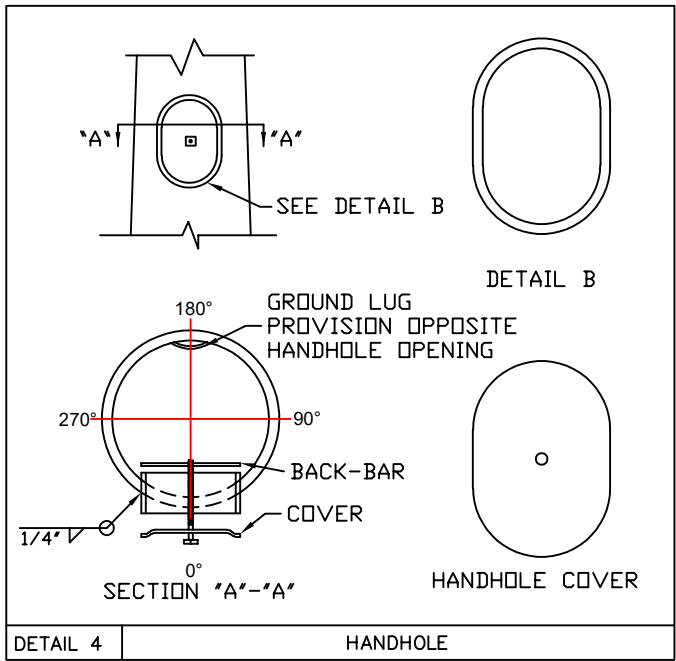
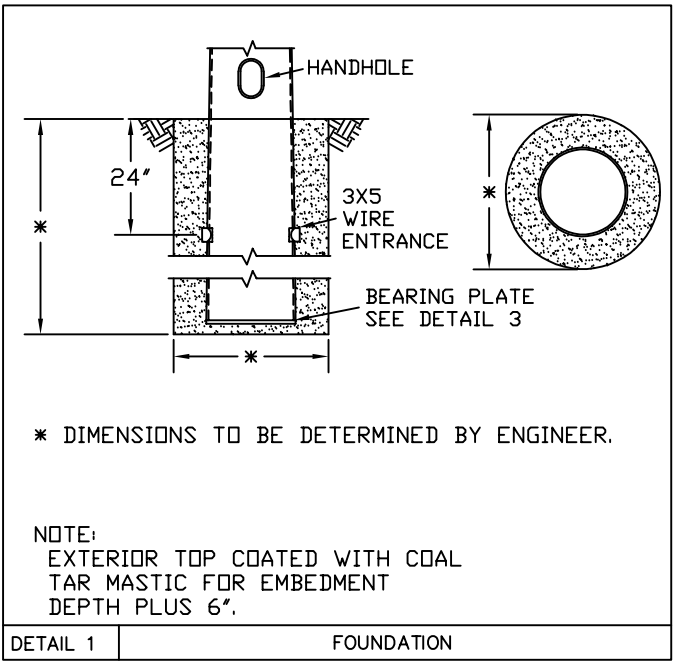
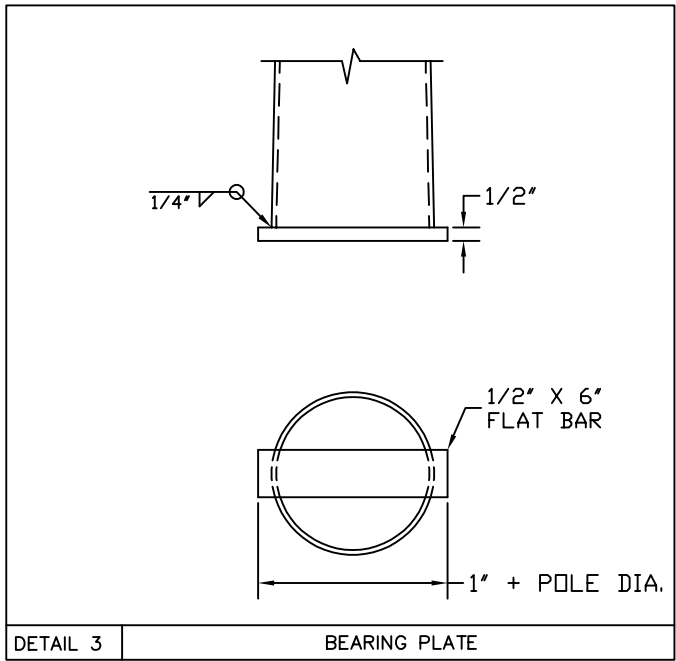
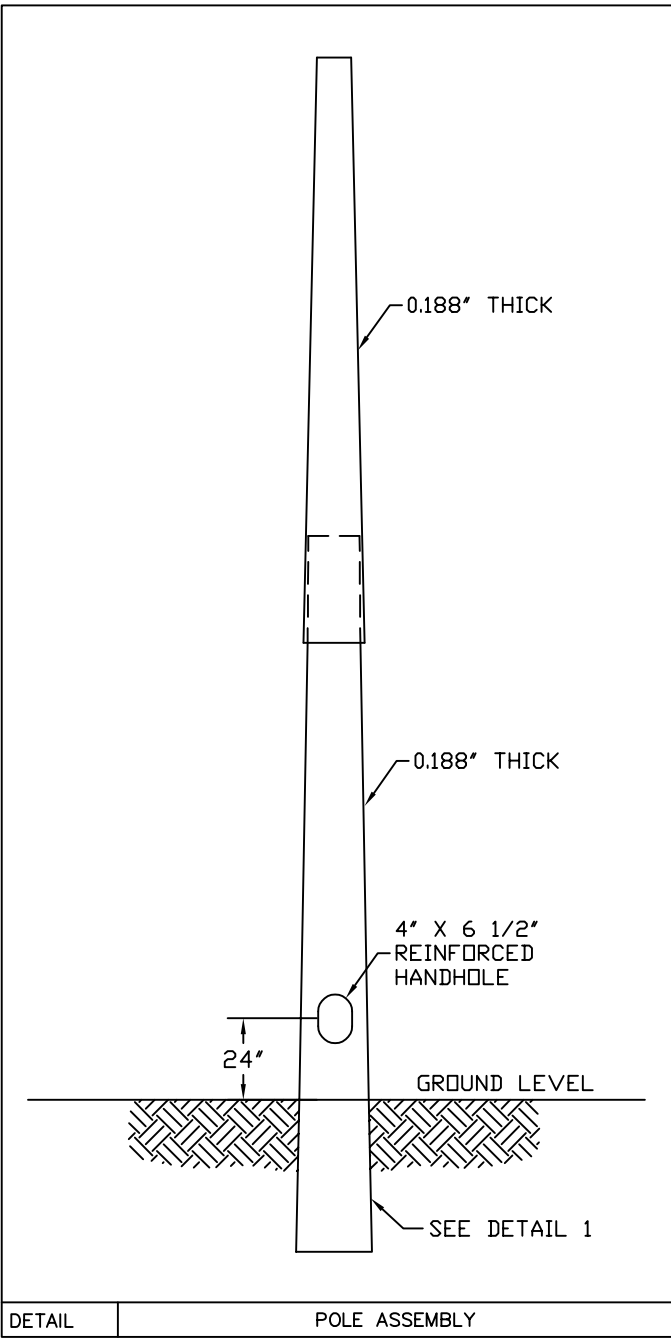
GC-I200W-A	QL-21413DI-A
BASEBALL	
EFFINGHAM COUNTY PARK - SPRINGFIELD, GA	
KS	NTS
4/2/21	1 OF 1

THIS INFORMATION IS CONFIDENTIAL AND PROPRIETARY TO QUALITE SPORTS LIGHTING INC. AND IS NOT TO BE REVEALED OR DISTRIBUTED TO OTHERS WITHOUT THE PERMISSION OF QUALITE SPORTS LIGHTING, INC. OR USED IN ANY MANNER DETRIMENTAL TO THE INTEREST OF QUALITE SPORTS LIGHTING, INC.

GUARANTEE IS BASED ON PROPER INSTALLATION, MINIMUM INPUT VOLTAGES, MOUNTING HEIGHT +/- 3 FEET, AND POLES PLACED WITHIN 4 FEET OF SPECIFIED LOCATIONS.



**B**



COMPONENT	SPECIFICATION
POLE TOP	ASTM A572 GR. 65
POLE BOTTOM	ASTM A572 GR. 65
MISC. STEEL	ASTM A36

GENERAL NOTES:

1. ALL HARDWARE TO BE GALVANIZED TO ASTM A153.
2. POLE ASSEMBLY TO BE GALVANIZED TO ASTM A123.
3. ALL WELDING TO CONFORM TO AWS D1.1 MOST RECENT EDITION.
4. DESIGN INCORPORATE GUST FACTOR PER REF CODE.
5. REFER TO GENERAL INSTALLATION INSTRUCTIONS PRIOR TO ASSEMBLY.

DETAIL 2 MATERIAL SPECIFICATIONS

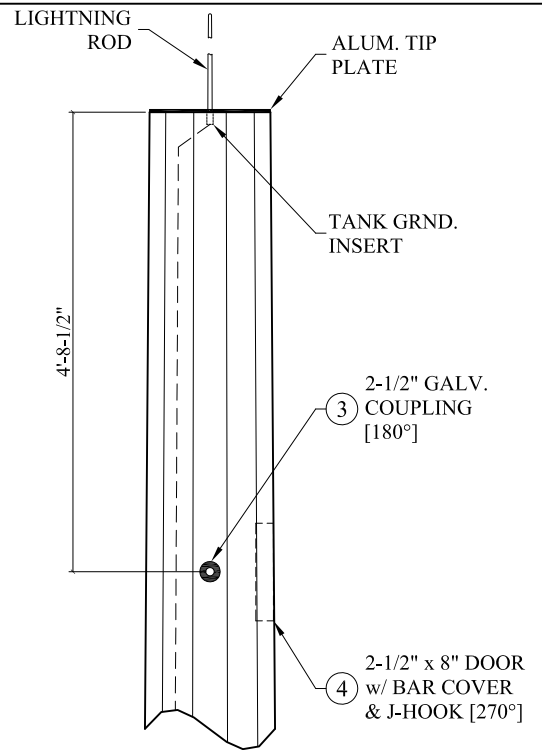
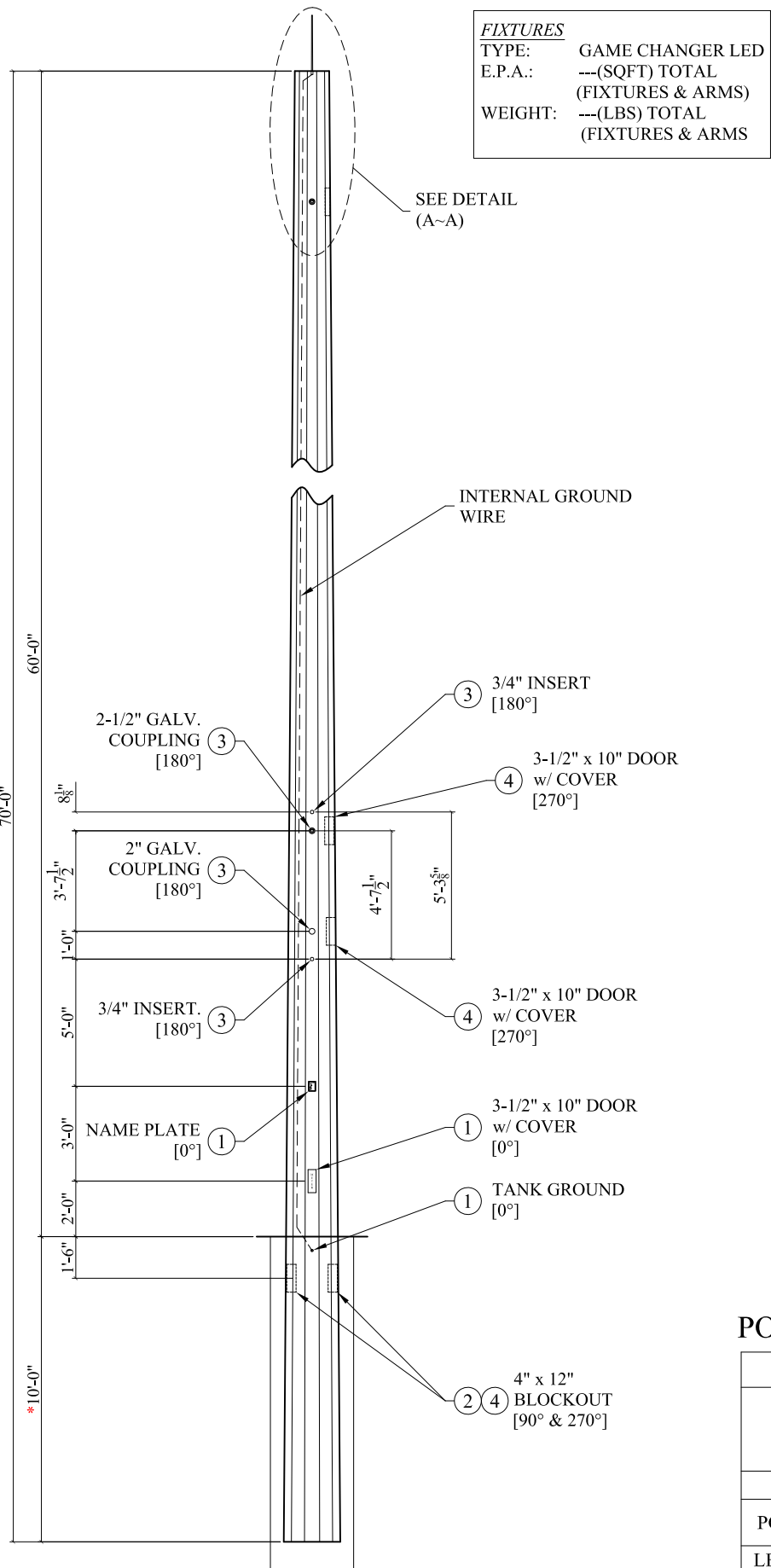


2316 WEAVER ST.  
HALTOM CITY, TX 76117  
METRO (817) 834-5538  
TOLL FREE (866) 724-4527  
FAX (817) 831-6088

DATE: NA	REV.: 00	JOB NO.: N/A	SCALE: NTS
DRAWING NUMBER: TYP DIRECT EMBED		DRAWN BY: DR	
		QUOTE NUMBER: N/A	

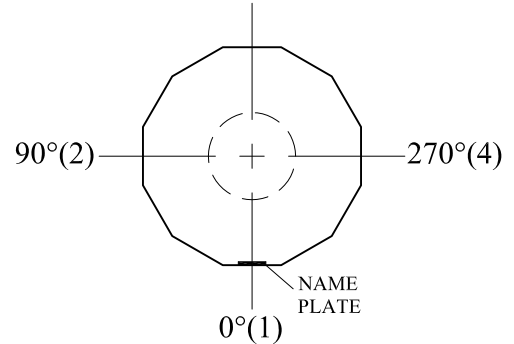
**QUALITE SPORTS LIGHTING  
CONCRETE ENCASED SPORTS LIGHTING POLE**

**FIXTURES**  
 TYPE: GAME CHANGER LED  
 E.P.A.: ---(SQFT) TOTAL  
 (FIXTURES & ARMS)  
 WEIGHT: ---(LBS) TOTAL  
 (FIXTURES & ARMS)



DETAIL (A~A)

**(FIELD SIDE)**  
 180° (3)



**(BACK SIDE)**  
POLE OREINTATION VIEWED FROM POLE TOP

POLE I.D. : ---

**MEYER CONCRETE STRUCTURES**

QUALITE SPORTS LIGHTING  
 TYPICAL 70' SPORTSLIGHTING POLE

QUOTE #	---	CAT#	D8.2 ---
POLE LENGTH	70'-0"	# OF FIXTURES(EPA)	--- (EPA=---
LENGTH A.G.H.	60'-0"	CODE	ASCE 7---
BURIAL DEPTH	*10'-0"	EXPOSURE	---
TIP WIDTH	8.2 in.	RISK CATEGORY	---
BUTT WIDTH	20.8 in.	DESIGN WIND	--- mph
POLE WEIGHT	--- lbs.	POLE SHAPE	Dodecagonal
POLE TAPER	0.18 in./ft.	QUANTITY	---
DRAWN BY	M.D.W.	DATE	10/8/2020

**\*NOTE**  
 MEYER CONCRTE STRUCTURES MAKES NO CLAIMS THE REFERENCED EMBEDMENT DEPTH SHOWN IS SUITABLE FOR SUPPORTING THIS STRUCTURE. IT IS RECOMMENDED THAT A GEOTECHNICAL ENGINEER EVALUATE THE SOILS PRESENT ON SITE TO CONFIRM REQUIRED EMBEDMENT DEPTH AND BACKFILL MATERIAL.

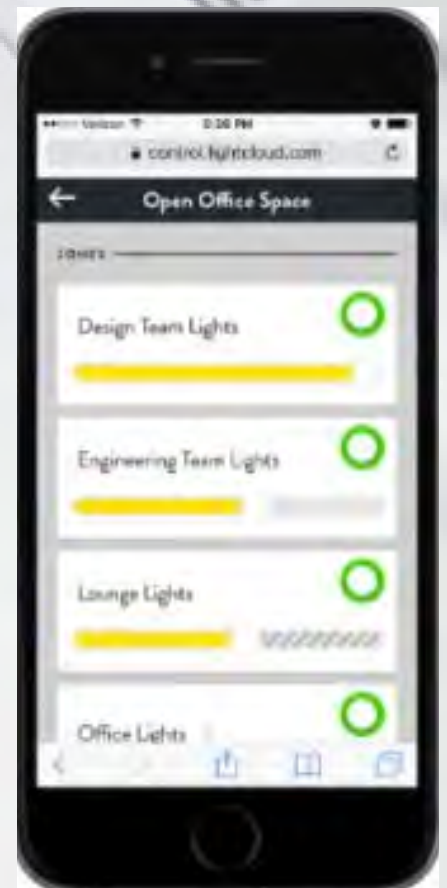


C



# LIGHT at your fingertips

- Centralized scheduling: Adjust schedules easily with the Lightcloud App
- No expertise needed: Controls are completely intuitive
- Energy savings and monitoring: Measures, tracks and reports real and estimated power usage
- Remote control: Make changes anywhere via your phone, tablet or computer
- Access and security: Uses private encrypted connection over secure, wireless mesh network
- Two-Factor authentication: Extra layer of security ensures that you're the only person who can access your account
- Technical support: Both the Qualite and RAB teams are available 24/7 to troubleshoot issues





The Controller is the basic building block of the Lightcloud system. Use it for switching and 0-10V dimming. Deploy it for power management. Or simply use it to extend the range of your Lightcloud mesh network.

Color: Black

Weight: 0.2 lbs



## Technical Specifications

### Listings

#### UL Listing:

Suitable for indoor and outdoor use

#### DLC Listed:

This product is on the Design Lights Consortium (DLC) Qualified Products List and is eligible for rebates from DLC Member Utilities

### Electrical

#### Input Voltage:

120-277 VAC

#### Frequencies:

50/60 Hz

#### Current Draw:

30 mA @ 120VAC  
20 mA @ 277VAC

#### Load Switching Capacity:

120-277VAC: 15A Electronic (LED)  
277VAC: 20A Magnetic/Resistive  
240VAC: 20FLA/60LRA, 2HP  
120VAC: 15A Tungsten, 1HP  
Zero-cross switching for reduced inrush current and improved relay contact life

#### Dimming Driver:

Driver includes dimming control wiring for 0-10V dimming systems. Requires separate 0-10V DC dimming circuit. Can dim as low as 1%. Actual dimming range is defined by driver.

### Construction

#### IP Rating:

Ingress Protection rating of IP66 for dust and water

#### Operating Temperature Range:

-20°C to 40°C

#### Storage Temperature Range:

-40°C to 80°C

#### Maximum Relative Humidity:

85%

#### Mounting:

Junction box for both indoor or outdoor. Lighting panel, trough or fixture.

#### Wire Gauge:

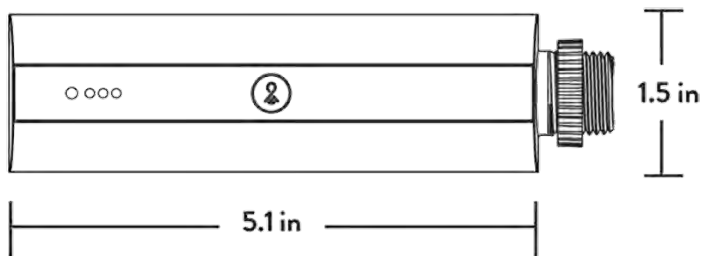
4x6 in 12AWG High-voltage pigtails, stripped  
2x12 in 22AWG Low-voltage pigtails, 300V insulation, stripped

#### Wireless Range

#### Obstructions:

100 feet

## Dimensions



## Features

Easy setup - simply power on, confirm device connectivity and call 844-LIGHTCLOUD

Cylindrical design for easy installation at threaded junction boxes

Cloud-based management - no software to install or maintain

Connects to Lightcloud Gateway and other Lightcloud devices

Connects via a secure, encrypted, and self-healing 2.4 GHz wireless mesh network

Repeater Mode to extend range of wireless mesh network

If power to Controller is lost, notification is shown in the Lightcloud application

If communication is lost, Controller can fall back to a customizable emergency state



The Gateway stores all local site information (energy monitoring, schedules, scenes, and more) and communicates with RAB's servers via private 4G cellular connection, so no internet access is required. This Gateway operates on the Verizon cellular network.

Color: Black

Weight: 1.3 lbs

## Technical Specifications

### Listings

#### UL Listed:

Indoor use only

### Electrical

#### Installation:

All Lightcloud components should be installed by a licensed electrician in accordance with local codes.

#### Input Voltage:

Only use with provided power supply.  
5 VDC +/- 5%  
100-240 VAC

#### Frequencies:

50/60 Hz

### Dimensions

### Electrical Ratings:

0.5A

### Operating Temperature Range:

-30°C to 70°C

### Storage Temperature Range:

-40°C to 85°C

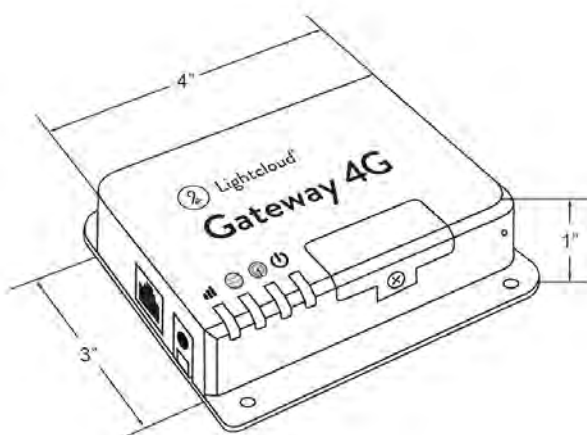
### Construction

Maximum Relative Humidity: 95%

### Buy American Act Compliance:

RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

**Before final placement of Gateway, call Qualite Sports Lighting at 800.933.9741 to confirm signal strength and placement of Gateway**



### Features

- Connects with up to 200 Lightcloud devices
- Communicates with Lightcloud devices via 2.4 GHz wireless mesh network
- Cloud-based management - no software to install or maintain
- Connects to Lightcloud service using secure cellular 4G connection and no internet access is required
- Easy setup - simply power on, confirm a cellular signal and call 844-LIGHTCLOUD

## Lightcloud Takes Security Seriously

We take our users' security and privacy concerns seriously and strive to be transparent about our security infrastructure and practices. We secure our devices and data at every level of communication, from the site to the cloud, with 5 layers of security.



**UL2900-01**  
**LISTED**

THE FIRST NETWORKED  
LIGHTING CONTROL SYSTEM  
LISTED FOR CYBER SECURITY!

## 5 Layers of Security

### Isolation

All Lightcloud data communication is isolated from other networks. Lightcloud isn't affected by compromises to computer networks or dependent on utilizing existing IT infrastructure. Only Lightcloud devices are supported by the Lightcloud network — isolating it from interference and manipulation.

### Encryption

Lightcloud uses end-to-end encryption (E2EE) — data transmission is always encrypted. If data were to be accessed, it wouldn't be readable. That encryption remains whether it's between devices, cellular, or accessed via the web. Your data is always secure.

### Restriction

Access is restricted by site, passwords, two-factor authentication, and user-level permissions. Every network uses its own keys, so a compromise would be isolated to a single location. Password best practices and two-factor authentication ensure individual users' passwords are secure and used only by the intended user. User-level permissions ensure users only have access to the controls they need.

### Prevention

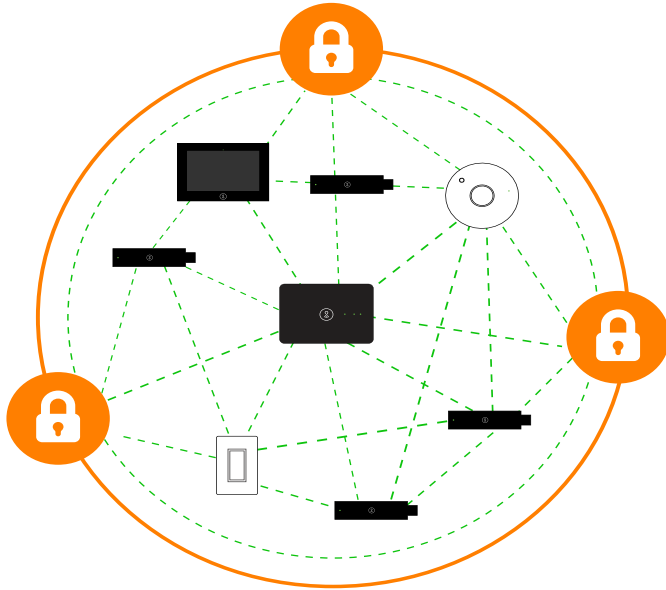
Lightcloud updates go through a rigorous evaluation period in an isolated environment before being released to devices. Evaluations include internal and external audits and penetration tests. This keeps Lightcloud security constantly ahead of any would-be intruders.

### Verification

Working with external agencies to evaluate our security validates our efforts to be the most secure lighting controls system available. Our internal security team is constantly improving our system to exceed security guidelines, keeping us several steps ahead.

**Call Us Anytime: 1 (844) - LIGHTCLOUD**

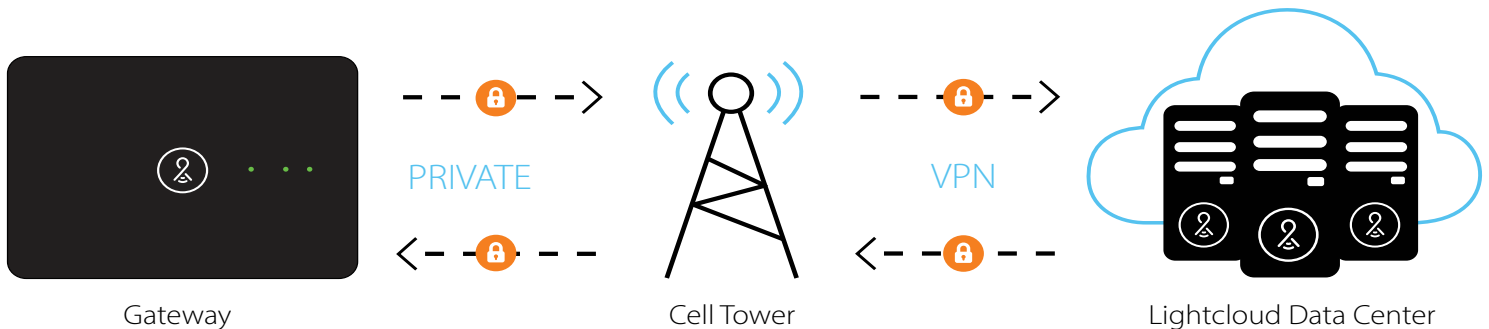
## On-Site Security: Device Communication



- AES 128-Bit Encrypted
- Data Transmission is ALWAYS Encrypted
- No 3rd Party Products on Network

Lightcloud is a networked lighting control system with Devices communicating over a secure wireless mesh network. At the 802.15.4 wireless level, we provide an encrypted and secure joining process that includes unique network keys for every installation and AES 128-bit encrypted network communications. At no time does any data travel unencrypted. Additionally, only products manufactured by RAB can communicate over the Lightcloud network.

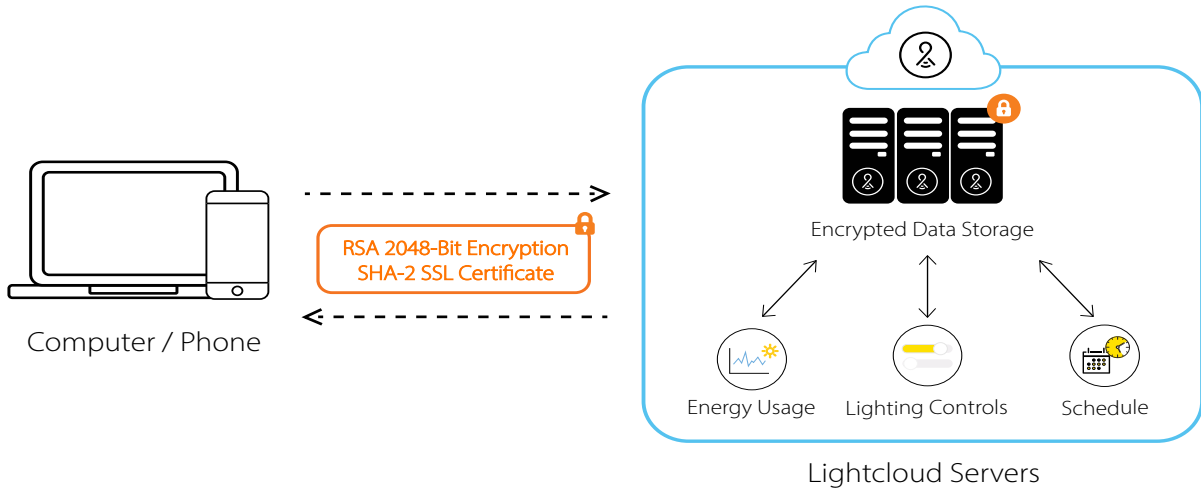
## Uplink: Private Cellular to Cloud



The Gateway communicates to the cloud-based services via dedicated, private 128-bit and 256-bit encrypted cellular connections. Our secure connection operates completely independently from your IT infrastructure. The Gateway provides the communications between the 802.15.4 network and the 3G wireless network. In addition to standard encryption, all data over the cell network travels on a private allocation of cellular addressing over an encrypted VPN (virtual private network) between the Gateways and our private data center.



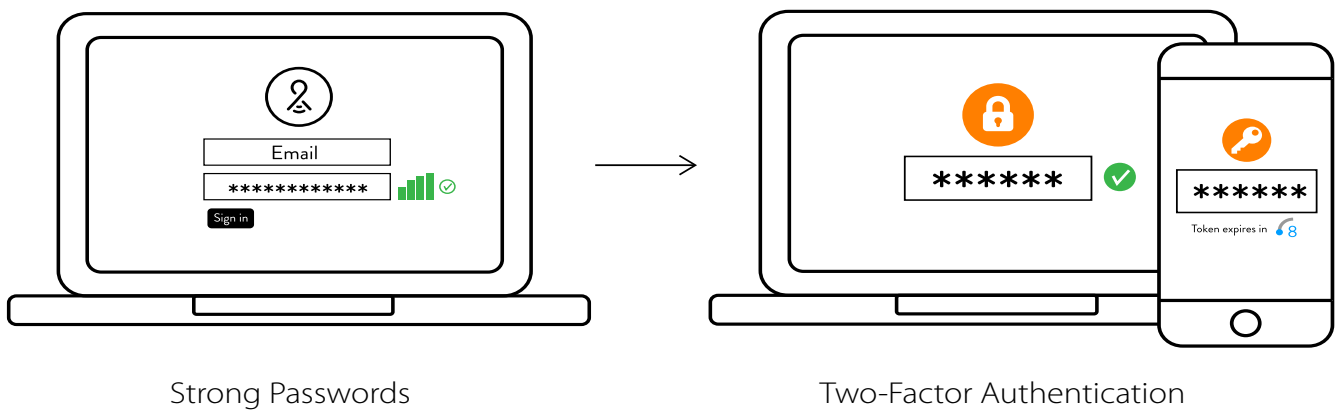
## Cloud Infrastructure: Communication and Storage



We communicate entirely via SSL TLS — including client communications with servers that interface with our backend servers, which protects communications by using both server authentication and data encryption. Our application endpoints use industry-leading RSA 2048-bit encryption and have DigiCert SHA-2 SSL Certificates. Our servers employ a robust physical security program with multiple certifications. The cloud storage method also guarantees information won't be lost, by creating redundancies on servers around the world.

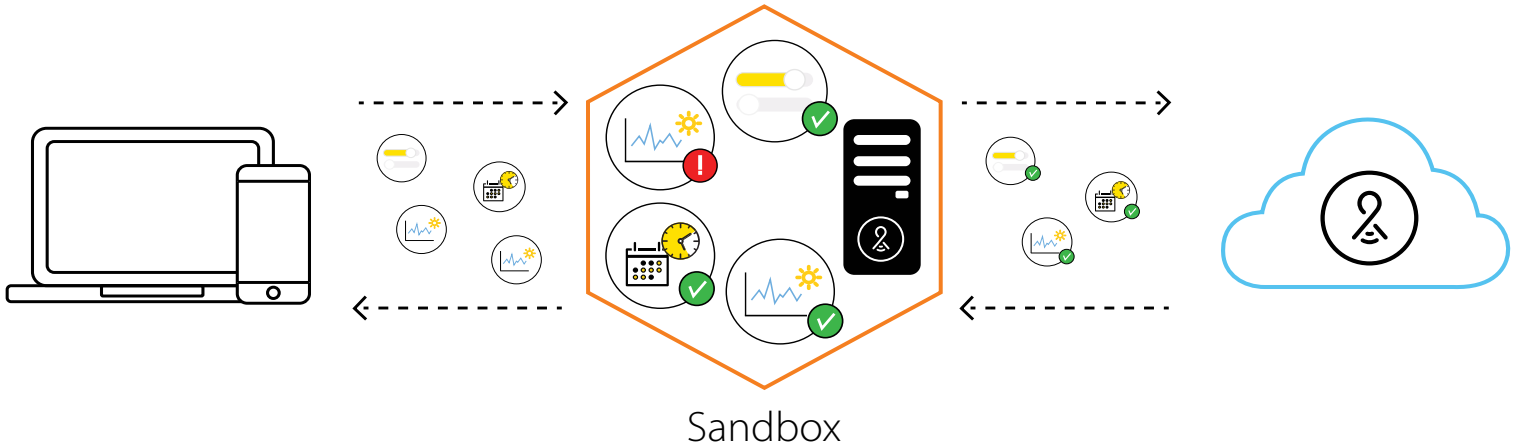
If a Lightcloud Network were compromised, no sensitive user data would be accessible. User data on Lightcloud is limited to email addresses and lighting controls, so sensitive information is safe.

## Access & Control: User-Level Security



Industry-standard password management protocols are employed, including requirements for length and strength. Strong passwords are important and can be layered with two-factor authentication (2FA) for extra protection. This extra layer of protection can be especially important for administrative users such as systems management and support. Finally, user restrictions ensure access is granted for specific controls for each user. Whenever phones and computers are used to control Lightcloud, each adjustment is logged by user, so if a user's account is ever compromised, that user can immediately be removed or their password changed.

 **Testing & Vulnerability Management: Monitoring & Development**



System functionality and design changes are verified in an isolated test “sandbox” environment and subjected to functional and security testing prior to deployment to active production systems. By testing in an isolated environment without live site data, we ensure no data can be compromised while testing. Once security and functionality is verified, changes are rolled out in stages.

### Security Audits

Security is an ever-moving target, so we use both internal and 3rd parties to perform quarterly penetration tests and security audits to verify that we are meeting the strict guidelines we have established. Security audits look at the system's hardware/devices, network/server, and the user interfaces/software. Even with physical access to our hardware, none of our security partners have been able to compromise our system at any level. Our security partners are security experts trusted by Fortune 500 Global Companies including GE, Intel, Microsoft, and Samsung.



## Verification: 3rd-Party Certification

We've designed a very secure ecosystem with layered protection, and two independent agencies — SSL Labs and UL — recognize our security superiority.

THE FIRST  UL2900-01 NETWORKED LIGHTING CONTROL SYSTEM!

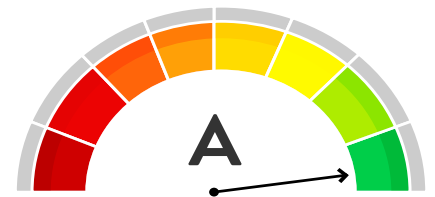
UL created the 2900-01 standard of software cybersecurity for network-connectible products and was published as an ANSI (American National Standards Institute) standard. UL evaluated and tested our devices for vulnerabilities, software weaknesses and malware, including risk management and controls in the architecture and design of the product.

### UL tests performed:

- Scanned for malware on the binaries
- Scanned for vulnerabilities from the NIST National Vulnerability Database (NVD)
- Scanned for weaknesses in the source code and binaries
- Subjected to malformed traffic data
- Evaluated security protocols for access control and authentication, remote connections, software integrity, cryptography, security logs, and decommissioning
- Ran penetration tests to circumvent controls and security, engage the product in denial of service, access and authentic on the product via unauthorized means, attempt to exploit vulnerabilities acceptable in the risk analysis, elevated privilege on the product, man in the middle attacks

After careful evaluation, UL found our Devices and software exceeded or met all of their requirements, and listed our system as the first UL 2900-01 listed networked lighting control system.

SSL Labs verified and approved our SHA-2 SSL Certificate, inspected our encrypted network communication protocol based on protocol, key exchange, and cipher strength, and determined our security to be of the highest rating. We strive to adopt the latest most secure security protocols and procedures to keep customer data and sites safe.



## Applications: Trusted Everywhere

Lightcloud is trusted by airports, civic centers, hospitals, hotels, manufacturers, municipal buildings, retailers, sheriff's offices, stadiums, and many other security-sensitive applications. Lightcloud is securely controlling lights all over the country and is ready for your application.

For more information on current Lightcloud customers, see our Select Sites document. For more information on how Lightcloud can fit into your specific application, give us a call at 1 (844) - LIGHTCLOUD





## Glossary

### AES 128-Bit Encryption

AES is a security standard adopted worldwide and by the US Government. AES is also approved as a cipher for top-secret information at the NSA (National Security Agency). For 128-bit encryption, data is placed in an array, then there are 10 rounds of processing information (substitute, transpose, and mixing of text). 128-Bit encryption has a block and key length of 128 bits.

### Virtual Private Network (VPN)

A VPN is a secure, encrypted tunnel that is only accessible by authorized users. VPNs allow information to be safely transmitted over otherwise insecure networks by encrypting the data. If a network is penetrated, the data can't be read and is displayed as meaningless text.

### SSL TLS

Secure Sockets Layer and Transport Layer Security are cryptographic protocols for secure, private communication over a network from the server to the browser. The symmetric encryption keys are created for each communication and are unique to each connection. The connection can't be interrupted by an attacker in the middle of the connection or viewed by eavesdroppers. The identities of both the server and the user via the access point is known to the connection. Each message sent has an integrity check to ensure data is transmitted securely and properly.

### 2-Factor Authentication (2FA)

2FA is an extra layer of security for your Lightcloud login that ensures that you're the only person who can access your account, even if someone knows your password. Each time you log in on a new device, a unique code will be texted to you. This unique code is required along with your password to log in to your user account. 2FA is generally reserved for account administrators or highly security-sensitive locations.

### User Restrictions

User restrictions limit access to specific lighting controls and management. System administrators can be given complete control over the system. Other users can be given access to all of the scenes and zones or user-specific controls. By restricting access to only the lights users need to access, it's simpler for the users and more secure.

### Sandbox

An isolated testing environment that has no connection to a "live" system is a sandbox. If a sandboxed environment is compromised, it has no effect on the system and no user data can be compromised. By testing in a sandbox, vulnerability and stability can be verified before releasing to customers.

### Penetration Audits

Lightcloud Devices, networks, and user interfaces are tested internally and by 3rd-party security experts to look for potential security oversights.

### Private

A private allocation of AT&T and Verizon third-generation networks dedicated to Lightcloud. Data is encrypted and transmitted via a VPN to the highly secure Lightcloud Cloud.

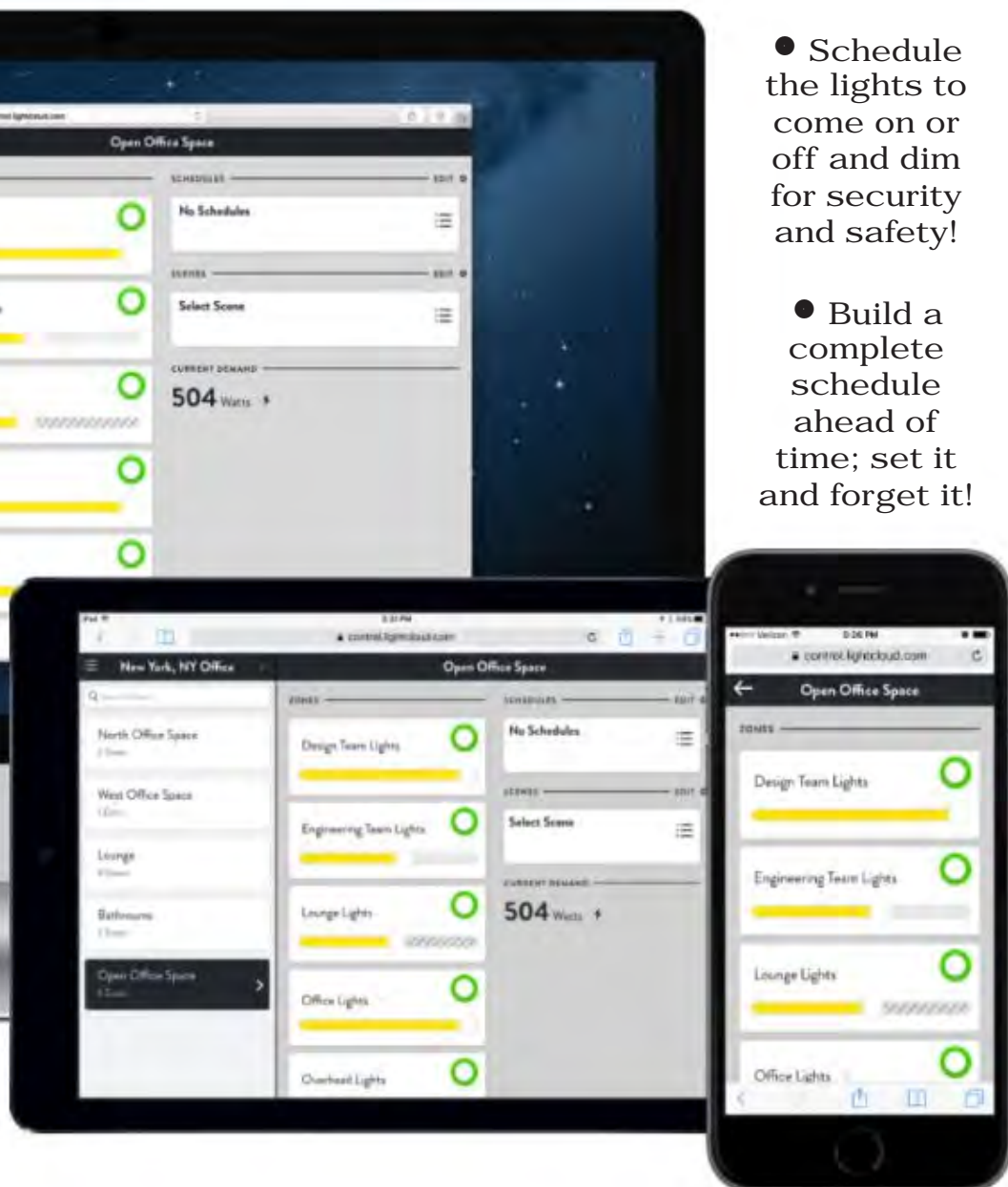
# COMPLETE control at any time!

- Schedule the lights to come on or off and dim for security and safety!

- Build a complete schedule ahead of time; set it and forget it!

- Manage the schedule from anywhere with your phone, computer, laptop or tablet!

- The first UL2900-01-Listed Networked Lighting Control System!





D

## **Qualite Performance Guarantee**

Thank you for choosing Qualite.

We are pleased to offer our QLED Series Sports Lighting System to light your athletic fields. Our new LED system uses state of the art technology, is completely manufactured in the United States, and adheres to the high quality standard that Qualite has built its reputation on.

The enclosed layout(s) indicate the guaranteed maximum Kilowatt consumption.

Qualite also guarantees the Light levels and uniformities as specified; or per IESNA recommendations if a performance specification was not provided.

As a pre-aimed, pre-wired system, our guarantee requires proper input voltage and installation. We understand that sometimes unforeseen conditions can dictate layout changes, during installation and we guarantee to react and assist as quickly as possible to help ensure great results for the end user. This guarantee must exclude mounting to wooden poles; due to their tendency to twist and change the aiming.

Sincerely,

**The Qualite Sports Lighting Team**



E

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# 25-YEAR TOTAL COVERAGE WARRANTY

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## LED GameChanger™ Lighting System Sports Lighting Application

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Qualite Sports Lighting provides a 25-year “total coverage warranty” to the owner for complete peace of mind at no out-of-pocket cost.

**What this warranty covers:**

Qualite warrants the GameChanger™ LED Lighting System for 25 years from failure.

All fixtures and or components are covered under this warranty for the full 25 years. All necessary labor, parts, wiring, etc. will be replaced or corrected at Qualite’s expense. The use and cost of equipment (cranes, lifts or other heavy construction equipment) is included in this warranty at Qualite’s expense.

**What is covered and included:**

- Total system coverage, lights, poles, drivers, etc.
- All labor
- Lifts, crane or other equipment required for repair
- All parts will be supplied by Qualite at no cost to owner
- Light levels are guaranteed for full 25-year period
- Fixture aiming and mounting is guaranteed.

**What is not covered:**

- Acts of God. (flood, lightning, tornado, etc.)
- Vandalism
- Damage from improper installation
- Non-compliant power conditions

**Conditions of Service:**

- Adequate, pre-determined egress/ingress is required for heavy service equipment
- Safe working environment for crews

**Response Time:**

- Normal non-emergency service work will be scheduled within owner’s requirements
- Emergency service response will occur within a 24-hour period

**Notes:**

This warranty is intended for normal usage for the GameChanger™ Lighting System that would be installed on a grade school, high school sports venue, charter schools, park and recreation, college level or other venue with normal use considerations. Please contact Qualite Sports Lighting for high or extreme use facilities.

\*Warranty terms and conditions available upon request.



**F**





# Q-LED GameChanger™ Project References

- ♦ University of the Ozarks Tennis, Clarksville, AR
- ♦ Technip Spoolbase Pipeyard, Theodore, AL
- ♦ Greers Ferry High School Tennis, Greers Ferry, AR
- ♦ Rogers Stadium Football, Tulsa Public Schools, Tulsa, OK
- ♦ Mead Sportsplex Football, Mead School District, Mead, WA
- ♦ Bainbridge High School Baseball and Softball, Bainbridge, GA
- ♦ Robert’s Field at the Roy Anderson Sports Complex, Big Spring, TX
- ♦ University of Georgia Tifton Conference Center, Tifton, GA
- ♦ Glenmoor Golf Course and Driving Range, South Jordan, UT
- ♦ Warren Central High School Football, Vicksburg, MS
- ♦ Ridgeline High School Football, Soccer, Track and Tennis, Central Valley School District, Liberty Lake, WA
- ♦ Itasca Intermediate School District Baseball and Softball, Itasca, TX
- ♦ 5/3 Bank Stadium Football, Soccer and Lacrosse, Kennesaw State University,



Madison High School  
Rexburg, ID

- Kennesaw, GA
- ♦ Edmond Tennis Center, Intermediate School District #12, Edmond, OK
- ♦ Winchester Gun Club Trap and Skeet Range, North Shore Trap and Skeet, Franksville, WI
- ♦ Spencer High School Baseball, Softball and Football, Columbus, GA
- ♦ The Heritage School Baseball and Softball, Newnan, GA
- ♦ Zuni High School Sports Complex Baseball, Zuni, NM
- ♦ SanTan High School Football Field, Chandler, AZ
- ♦ Nub’s Nob Ski Slope, Harbor Springs, MI
- ♦ LaClarie Field Cricket and Soccer, Gov’t of St. Lucia, Castries, St. Lucia
- ♦ Choiseul Cricket and Soccer Field, Gov’t of St. Lucia, Castries, St. Lucia
- ♦ Charlie Vettiner Park Tennis, City of Louisville, Jeffersonville, KY
- ♦ Tiger Stadium Football and Track, North Allegheny School District, Pittsburgh, PA
- ♦ Blanchet Catholic High School Football, Soccer, Track and Field Events, Salem, OR
- ♦ North Oconee High School, Bogart, GA
- ♦ Vicksburg High School Baseball, Football and Track, Vicksburg, MS
- ♦ Georgia State University Football Stadium, Georgia State University, Atlanta, GA
- ♦ Hughes Springs High School Football, Hughes Springs Intermediate School District, Hughes Springs, TX
- ♦ Rice Consolidated Intermediate School District Softball and Baseball, Altair, TX
- ♦ Panama City Beach Sports Complex, Panama City Beach, FL
- ♦ Oconee Middle School, Watkinsville, GA
- ♦ Rusk Intermediate School District Football Stadium, Rusk, TX





# Q-LED GameChanger™ Project References

- ♦ North Florida  
Educational Institute Football  
Stadium, Jacksonville, FL
- ♦ Nacogdoches High School  
Football Stadium,  
Nacogdoches, TX
- ♦ Trinity High School Football  
Stadium, Camp Hill, PA
- ♦ Georgia Power Coal Field,  
Euharlee, GA
- ♦ Shiloh Football Field, City of  
Fruitland Park, Fruitland Park, FL
- ♦ Kings Meadow Park Basketball  
Courts, Miami-Dade County,  
Miami, FL
- ♦ Silo Public Schools Baseball  
and Softball, Silo, OK
- ♦ Northwest School District  
Football Field, Jackson, MI
- ♦ Hanover-Horton School District  
Football Field, Jackson County  
Schools, Horton, MI
- ♦ Heartwell Golf Course,  
American Golf, Long Beach, FL
- ♦ Franklin Simpson High School  
Football Field, Simpson County  
Board of Education, Franklin, KY
- ♦ Fairplay Park Baseball, Douglas  
County, Douglasville, GA
- ♦ Rose Park Tennis Center, City of  
Abilene, Abilene, TX
- ♦ Weatherford Intermediate  
School District Baseball and  
Softball, Weatherford, TX
- ♦ Sayre School Athletic Complex  
Soccer, Lexington, KY
- ♦ Roy Anderson Sports Complex  
Baseball, City of Big Spring Park  
and Recreation, Big Spring, TX
- ♦ Itasca Intermediate School  
District Baseball and Parking  
Lot, Itasca, TX

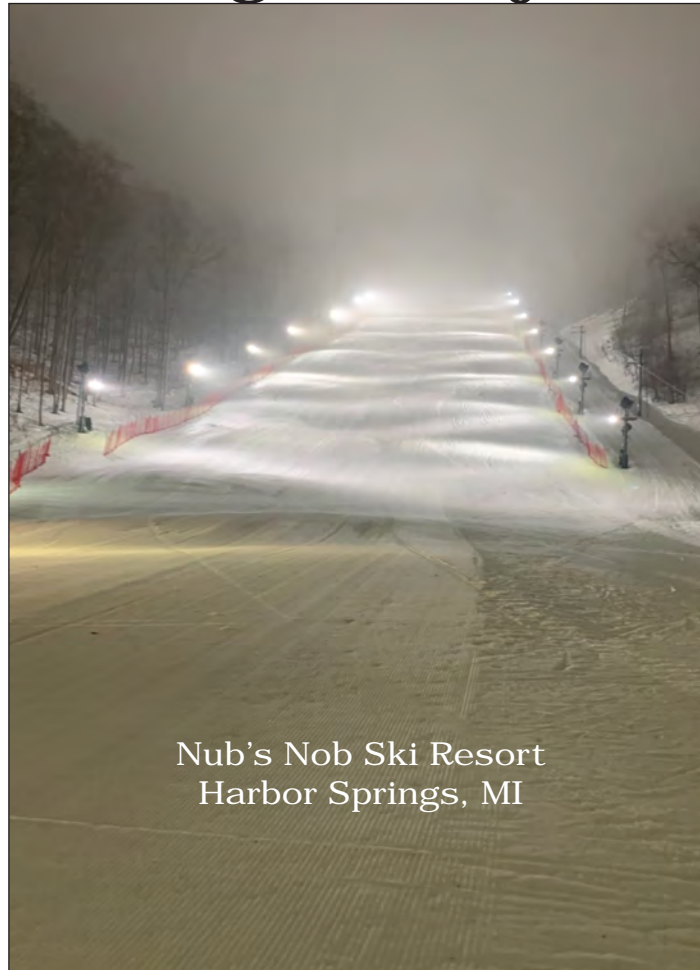


- ♦ Pollock Field Softball,  
Department of the Navy,  
Marine Corps Base MCHB,  
Hawaii
- ♦ Castries Micould Street Soccer,  
Government of St. Lucia,  
Castries, St. Lucia
- ♦ Sir Garfield Sobers Sports  
Complex Skate Park, St.  
Michael, Barbados
- ♦ Job Corp US Forestry Service  
Baseball Field, US Forestry  
Service, White Swan, WA
- ♦ Ft. Simcoe Job Corps Basketball  
Courts and Skate Park, US  
Forestry Service,  
White Swan, WA
- ♦ The Harbor School Soccer,  
Vashon Island Soccer Club,  
Vashon, WA
- ♦ Quincy High School Football  
Stadium, Quincy, WA
- ♦ Kearns High School Baseball  
Park and Facility, Kearns, UT
- ♦ Lassonde Studio Volleyball and  
Basketball, University of Utah –  
Lossonde, Salt Lake City, UT
- ♦ Wink High School Football  
Stadium and Track, Wink-Loving  
Intermediate School District,  
Wink, TX
- ♦ Van Vleck Intermediate School  
District Football Stadium, Van  
Vleck, TX
- ♦ Ingleside Intermediate School  
District Football Stadium,  
Ingleside, TX
- ♦ Drive Time Parking Area, Lot  
and Building, Fort Worth, TX
- ♦ Crowell Intermediate School  
District Football Stadium,  
Crowell, TX
- ♦ Drive Time Car Storage, San  
Antonio, TX
- ♦ LaJoya Intermediate School  
District Baseball, Softball and  
Football Fields, LaJoya, TX
- ♦ Edcouch-Else High School  
Soccer, Edcouch-Else  
Intermediate School District,  
Edcouch, TX
- ♦ Drakes Creek Park Soccer,  
Hendersonville High School  
Soccer Foundation,  
Hendersonville, TN



# Q-LED GameChanger™ Project References

- ♦ Drive Time Parking Area, Morrisville, PA
- ♦ Falcon Plex MultiPurpose Field, Cedar Crest College, Allentown, PA
- ♦ Burns High School Football Field, Harney County School District #3, Burns, OR
- ♦ Capitol Futbol Club Soccer Field, Salem, OR
- ♦ Putnam City West Football Stadium, Putnam City Schools Independent District No. 1, Oklahoma City, OK
- ♦ Regent Prep School MultiPurpose Field, Tulsa, OK
- ♦ St. Mary’s Memorial High School Football Stadium, St. Mary’s, OH
- ♦ South Range High School Football Field and Track, South Range Athletic Boosters, Canfield, OH
- ♦ Eden Community School District Soccer and Track, Eden, NY
- ♦ Stephen R. Gregg Park Softball and Soccer, County of Hudson, Bayonne, NJ
- ♦ Hooker MultiPurpose Field, University of North Carolina at Chapel Hill, Chapel



Nub's Nob Ski Resort  
Harbor Springs, MI

- Hill, NC
- ♦ Pacific High School Football Stadium, Meramec Valley R-III School District, Pacific, MO
- ♦ Boonville City Soccer Fields, City of Boonville, MO
- ♦ Hart High School Football Stadium and Track, Hart Public Schools, Hart, MI
- ♦ Pickering High School Football Field, Vernon Parish School Board, Leesville, LA
- ♦ Great Lawn Louisville Waterfront Park, Louisville Waterfront Development Corporation, Louisville, KY
- ♦ Extreme Skate Park, Louisville Metro Government, Louisville, KY
- ♦ Harrison High School Tennis Courts,

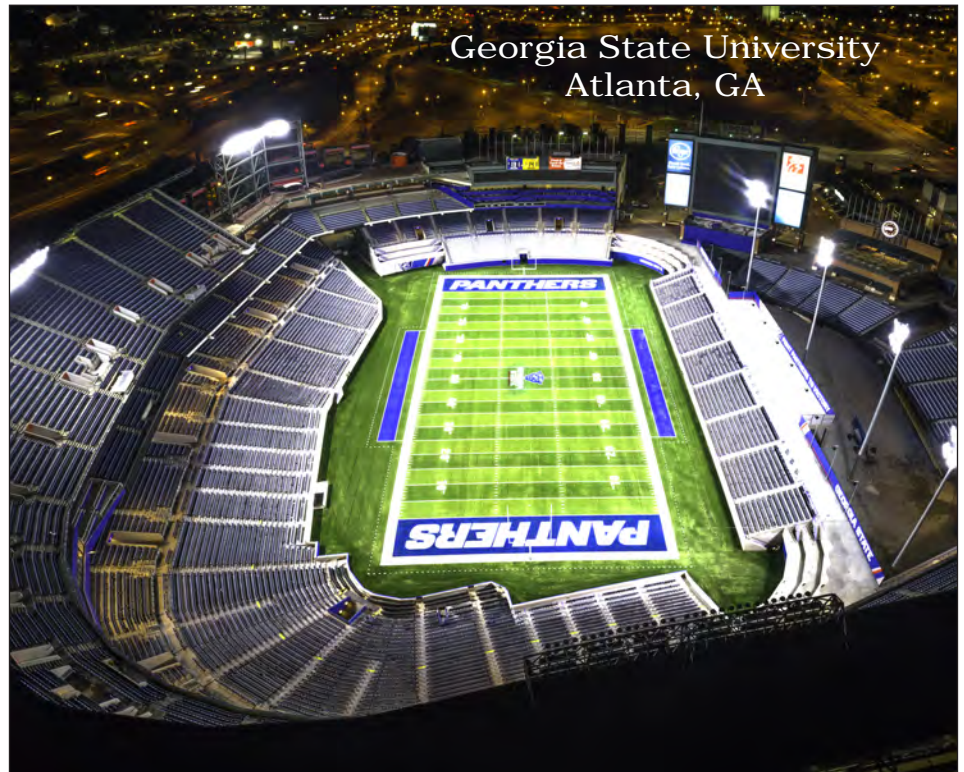
- Tippecanoe School Corporation, West Lafayette, IN
- ♦ Seeger High School Football Stadium and Track, MSD of Warren County, West Lebanon, IN
- ♦ Guerin Catholic High School Soccer Field, Noblesville, IN
- ♦ Ben Davis High School Tennis Courts, Indianapolis, IN
- ♦ Spalding Park Baseball, Champaign Park District, Champaign, IL
- ♦ Rec Fields Football and Softball, University of Illinois – Springfield, Springfield, IL
- ♦ Madison High School Event Stadium Soccer, Madison School District #321, Rexburg, ID
- ♦ Sibley-Ocheyedan Community School District Football Stadium and Track, Sibley, IA
- ♦ Riseley Field Baseball, US Marine Corps Base Hawaii, Kaneohe Bay, HI
- ♦ McDonough High School Football, Track, Baseball and Softball, Henry County Schools, McDonough, GA





# Q-LED GameChanger™ Project References

- ♦ Plant Wansley Coal Field, Georgia Power, Cumming, GA
- ♦ Governor’s Gun Club Skeet and Clay Range, Kennesaw, GA
- ♦ Plant Bowen Coal Plant, Georgia Power, Euharlee, GA
- ♦ Spencer High School Baseball, Softball and Football, Columbus, GA
- ♦ Lake Nona Beach Volleyball, Orlando, FL
- ♦ South Walton Sports Complex Baseball and MultiPurpose Fields, Walton County Board of Commissioners, DeFuniak Springs, FL
- ♦ Tommy Oliver Stadium Football and Track, Bay District Schools, Panama City, FL
- ♦ Mickel Park Baseball, City of Wilton Manors, Wilton Manors, FL
- ♦ Clement Park Baseball, Foothills Park and Recreation District, Littleton, CO
- ♦ McInnis Park Golf Center Driving Range, Tayman Park Golf Group, Inc., San Rafael, CA
- ♦ Bradshaw Christian High School Football Stadium and Track, Sacramento, CA
- ♦ Exeter Sports Field Football and Track, Exeter Public Schools, Exeter, CA
- ♦ San Tan Montessori High School Football Stadium, Gilbert, AZ



Georgia State University  
Atlanta, GA



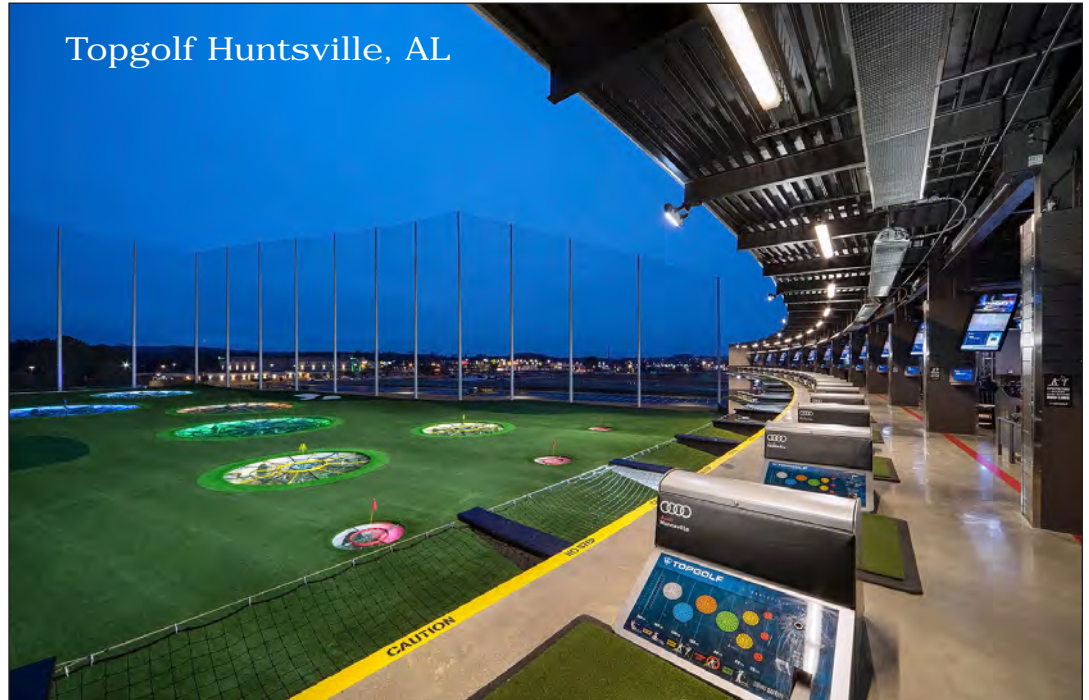
South Walton Sports Complex  
DeFuniak Springs, FL





# Q-LED GameChanger™ Topgolf Locations

- ♦ Fishers, IN
- ♦ Orlando, FL
- ♦ Chattanooga, TN
- ♦ Cincinnati, OH
- ♦ The Colony, TX
- ♦ Jacksonville, FL
- ♦ San Antonio, TX
- ♦ Birmingham, AL
- ♦ Augusta, GA
- ♦ Cleveland, OH
- ♦ Fort Worth, TX
- ♦ Lake Mary, FL
- ♦ Nashville, TN
- ♦ Overland Park, KS
- ♦ Ashburn, VA
- ♦ Albuquerque, NM
- ♦ Miami Gardens, FL
- ♦ Doral, FL
- ♦ El Paso, TX
- ♦ Tucson, AZ
- ♦ Pittsburgh, PA
- ♦ Las Vegas, NV
- ♦ Edison, NJ
- ♦ Dallas, TX
- ♦ Austin, TX
- ♦ Houston, TX
- ♦ Huntsville, AL
- ♦ Alpharetta, GA
- ♦ Tampa, FL
- ♦ Spring, TX
- ♦ Rogers, AR
- ♦ Omaha, NE
- ♦ Gilbert, AZ
- ♦ Scottsdale, AZ
- ♦ Roseville, CA
- ♦ Monterrey, Mexico
- ♦ San Jose, CA
- ♦ Dubai, West Arab Emirates
- ♦ Portland, OR
- ♦ Richmond, VA



- |                       |                    |                       |
|-----------------------|--------------------|-----------------------|
| ♦ Naperville, IL      | ♦ Thornton, CO     | ♦ Baton Rouge, LA     |
| ♦ Atlanta, GA         | ♦ Charlotte, NC    | ♦ Columbus, OH        |
| ♦ Greenville, SC      | ♦ Mt. Laurel, NJ   | ♦ Glendale, AZ        |
| ♦ Schaumburg, IL      | ♦ Myrtle Beach, SC | ♦ Brooklyn Center, MN |
| ♦ National Harbor, MD | ♦ Pharr, TX        | ♦ Salt Lake City, UT  |
| ♦ Germantown, MD      | ♦ Auburn Hills, MI | ♦ Centennial, CO      |



G



4/05/21  
QL#21413D1A

**300'R Baseball Field  
Effingham County Park  
Springfield, GA**

**Qualite Equipment**

**34- luminaires(visored)**-Factory aimed, assembled, and labeled.

**Pole length wire harnesses**-w/quick connects on each end.

**Wireless Controls**

**Disconnect Safety Breakers** – (6).

**Poles** – (6)Makers steel concrete encased or Meyers concrete direct burial.

**Delivery of all equipment to site.**



H

circuit breaker 3VA5 UL frame 125 breaking capacity class S 25kA @ 480V 3-pole, line protection TM230, FTAM, In=30A overload protection In=30A fixed short-circuit protection li=5...10 x In without connection



**Model**

Product brand name	SENTRON
Product designation	Molded-case circuit breaker
Product designation / according to UL file	SEAS
Product version	System protection
Design of the load switch / acc. to UL 489 / Heating, Air Conditioning, and Refrigeration circuit breaker (HACR Type)	Yes
Design of the overcurrent release	TM230
Protective function of the overcurrent release	LI
Number of poles	3

**General technical data**

Rated insulation voltage Ui	800 V
Max. rated operational voltage Ue with AC 50/60Hz	690 V
Max. rated operational voltage Ue with DC	500 V
Power loss [W] / maximum	9.3 W
Active power loss / for rated value of the current / at AC / in hot operating state / per pole	3.1 W
Mechanical service life (switching cycles) / typical	15 000



Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz	8 000
Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz	4 000
Electrical endurance (switching cycles) / at 480 V / at 50/60 Hz	8 000
Electrical endurance (switching cycles) / at 600 V / at 50/60 Hz	4 000
Neutral conductors / upgradeable/retrofitable	No
Ground fault monitoring version	Without
Product function	
• communication function	No
• other measurement function	No

#### Current

Marking / acc. to UL 489 / 100%-rated breaker	No
Max. rated operational current of the frame size	125 A
Rated continuous current Iu	30 A
Operating current	
• at 40 °C	30 A
• at 45 °C	29.4 A
• at 50 °C	28.8 A
• at 55 °C	28.3 A
• at 60 °C	27.7 A
• at 65 °C	27.2 A
• at 70 °C	26.7 A

#### Switching capacity according to IEC 60947

Switching capacity class of the circuit breaker	S
Maximum short-circuit current breaking capacity (Icu)	
• at 240 V	55 kA
• at 415 V	36 kA
• at 690 V	5 kA
Operational short-circuit current breaking capacity (Ics)	
• at 240 V	85 kA
• at 415 V	36 kA
• at 690 V	5 kA
Short-circuit current making capacity (Icm)	
• at 240 V	121 kA
• at 415 V	76 kA
• at 690 V	7.5 kA
Design of short-circuit protection	For switching power values in DC networks, see the 3VA molded case circuit breaker device manual; link to be found under Service & Support in the last chapter

#### Switching capacity according to UL 489

Breaking capacity current	
• at 240 V	65 kA
• at 480 V	25 kA
• at 600 Y/347 V	14 kA

#### Adjustable parameters

Adjustable response value current / I <sub>r</sub> min.	30 A
Adjustable response value current / I <sub>r</sub> max.	30 A
Adjustable response value current / I <sub>i</sub> min.	150 A
Adjustable response value current / I <sub>i</sub> max.	300 A
Ground fault protection / tripping switchable / I <sub>2t</sub> =ON/OFF	No

#### Mechanical Design

Height [in]	5.5 in
Height	140 mm
Width [in]	3 in
Width	76.2 mm
Depth [in]	3 in
Depth	76.5 mm

#### Connections

Arrangement of electrical connectors / for main current circuit	Without connection
Type of electrical connection / for main current circuit	Without

#### Auxiliary circuit

Number of CO contacts / for auxiliary contacts	0
--	---

#### Accessories

Product extension / optional / motor drive	Yes
--	-----

#### Environmental conditions

Protection class IP / on the front	IP40
Ambient temperature	
• during operation / minimum	-25 °C
• during operation / maximum	70 °C
• during storage / minimum	-40 °C
• during storage / maximum	80 °C

#### Certificates

Reference code / acc. to DIN EN 81346-2	Q
Certificate of suitability / as approval for NAVAL (no combat vessels) / Supplement SB	No

## Data sheet

3VA9133-0JB11

wire connector 3 units accessory for: 3VA4/5 125



### Model

Product brand name	SENTRON
Product designation	accessories

### Connections according IEC

IEC-marking / of terminals	1.5-95 CU 4.0-95 AL NNL
Connectable conductor cross-section	
<ul style="list-style-type: none"> <li>• for copper cable / stranded / minimum</li> <li>• for copper cable / stranded / maximum</li> <li>• for aluminum cable / solid / minimum</li> <li>• for aluminum cable / solid / maximum</li> <li>• for aluminum cable / stranded / minimum</li> <li>• for aluminum cable / stranded / maximum</li> </ul>	10 mm <sup>2</sup> 95 mm <sup>2</sup> 10 mm <sup>2</sup> 16 mm <sup>2</sup> 10 mm <sup>2</sup> 95 mm <sup>2</sup>
Wire stripping length	12,2 mm

### Connections according UL

UL-marking / of terminals	TA1.1 CMC 14-3/0 CU7 12-3/0 AL7 UR CSA
Permissible temperature / of connectable conductor / according to UL 486A-486B	75 °C
Connectable conductor cross-section	
<ul style="list-style-type: none"> <li>• for copper cable / stranded / maximum</li> <li>• for copper cable / finely stranded / maximum</li> <li>• for aluminum cable / stranded / minimum</li> <li>• for aluminum cable / stranded / maximum</li> </ul>	3/0 AWG 3/0 AWG 12 AWG 3/0 AWG



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## INTRODUCING THE Q-LED GAMECHANGER SYSTEM

We didn't just set out to design a better LED light, we set out to design a system that would *revolutionize* the sports lighting world.

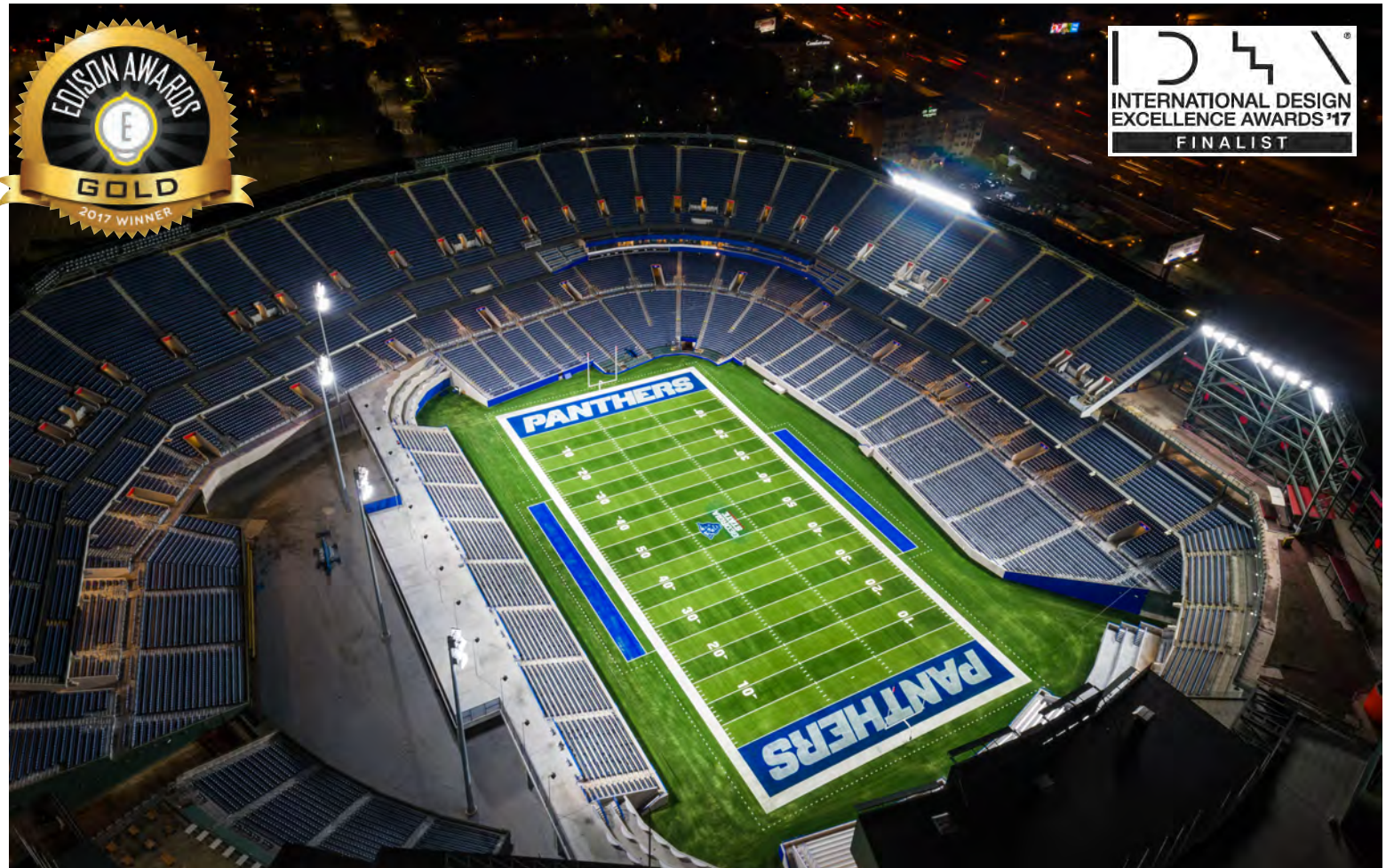
### THE LATEST LED TECHNOLOGY

By combining over 30 years of focused sports lighting experience with the latest LED technology, we have developed a sports lighting system that is a true GameChanger™! Designed for HDTV broadcasting, digital photography and slow-motion recording of fast paced sports lighting venues from professional to recreational levels. With enhanced glare mitigation and specialized beam shapes we are able to paint the playing surface with smooth light and keep your neighbors dark and happy. Backed by the best warranty in sports lighting, guaranteed light levels and Qualite's life-long commitment to customer service.

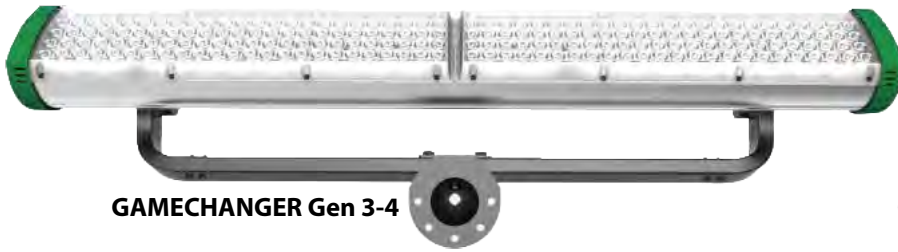


Installation at Exeter Union High School, Exeter, CA.

## Better Lighting, Better Game!







GAMECHANGER Gen 3-4



GAMECHANGER Gen 3-2

GAMECHANGER™ Electrical Detail	GAMECHANGER™ Gen 3-4	GAMECHANGER™ Gen 3-2
Kw Draw	1.295	0.647
*Lumen Output	125,560	62,780
CCT	5,700	5,700
CRI	>80	>80
Weight	39 lbs.	27 lbs.
<b>CURRENT</b>	<i>Amps</i>	<i>Amps</i>
277v	4.67	2.33
240v	5.39	2.69
208v	6.23	3.12
480 1 Ø	2.7	1.35
480 3 Ø	2.34	1.17

\* The specifications listed were obtained under optimal testing conditions. Please note that changes in options, features and conditions may result in slightly different performance specifications among fixtures.

## APPLICATIONS

Outdoor sports fields at all levels, general area lighting

## RATINGS

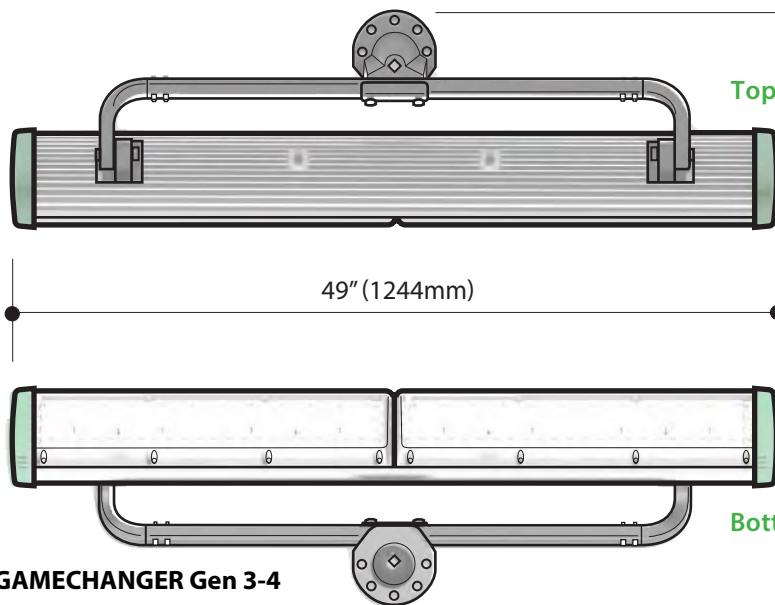
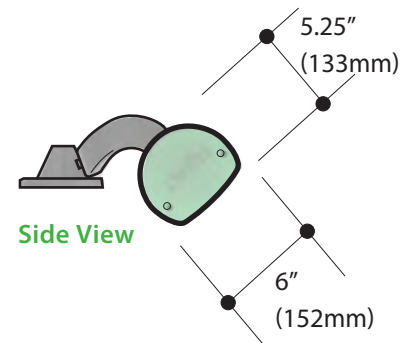
IP66, -40°C to 55°C

## INPUT POWER

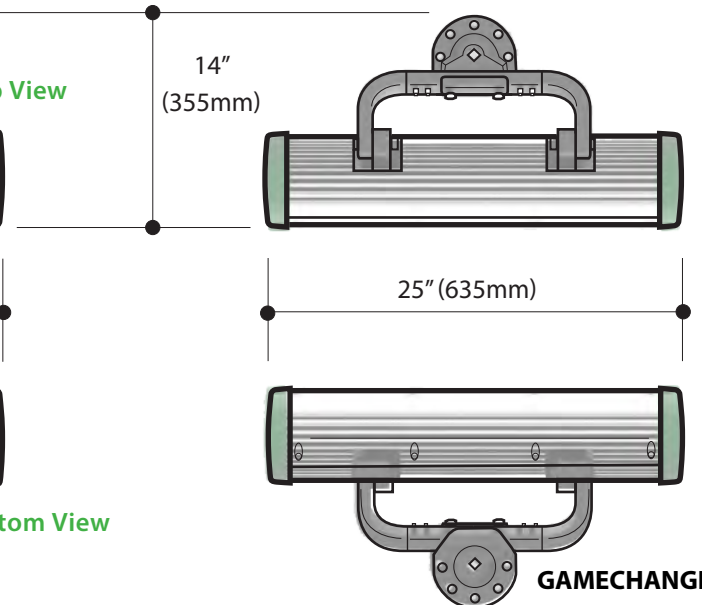
208v - 240v auto sensing  
 277v - 480v auto sensing

## OPTICS/LENS

Various symmetrical and asymmetrical rectangular and round patterns with built in glare control utilizing TIR lens technology. PMMA outer lenses provide long life without yellowing.



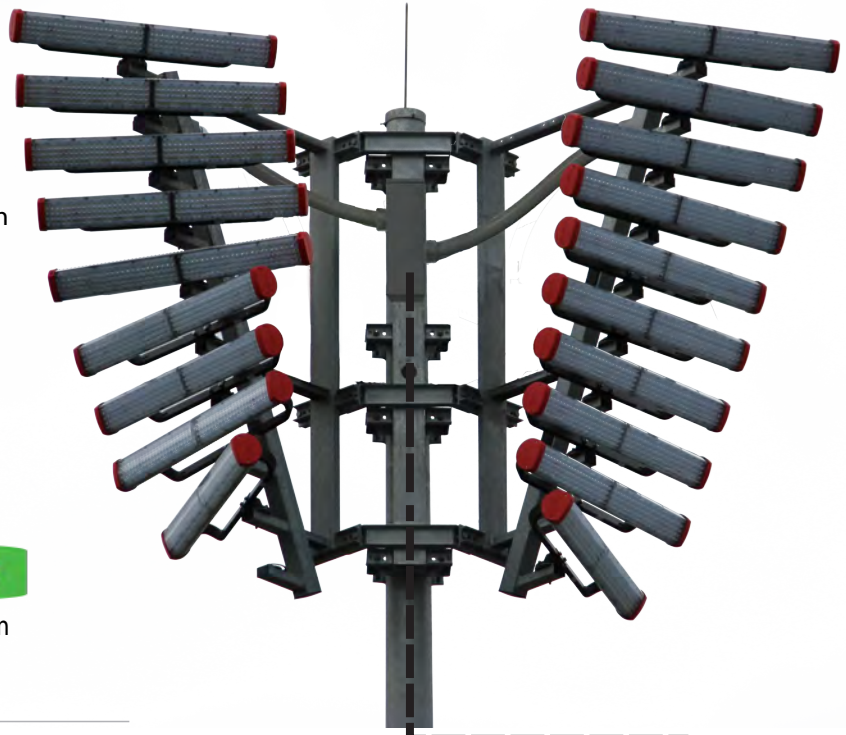
GAMECHANGER Gen 3-4



GAMECHANGER 3-2

## BASIC ASSEMBLY CONFIGURATION:

Pre-wired, Pre-aimed, and Pre-assembled light stanchion



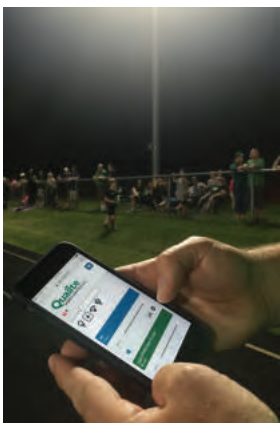
## THE GAMECHANGER LIGHTING SYSTEM

Pre-aimed, pre-wired and **FULLY ASSEMBLED** light racks for unequaled ease of assembly with guaranteed performance.

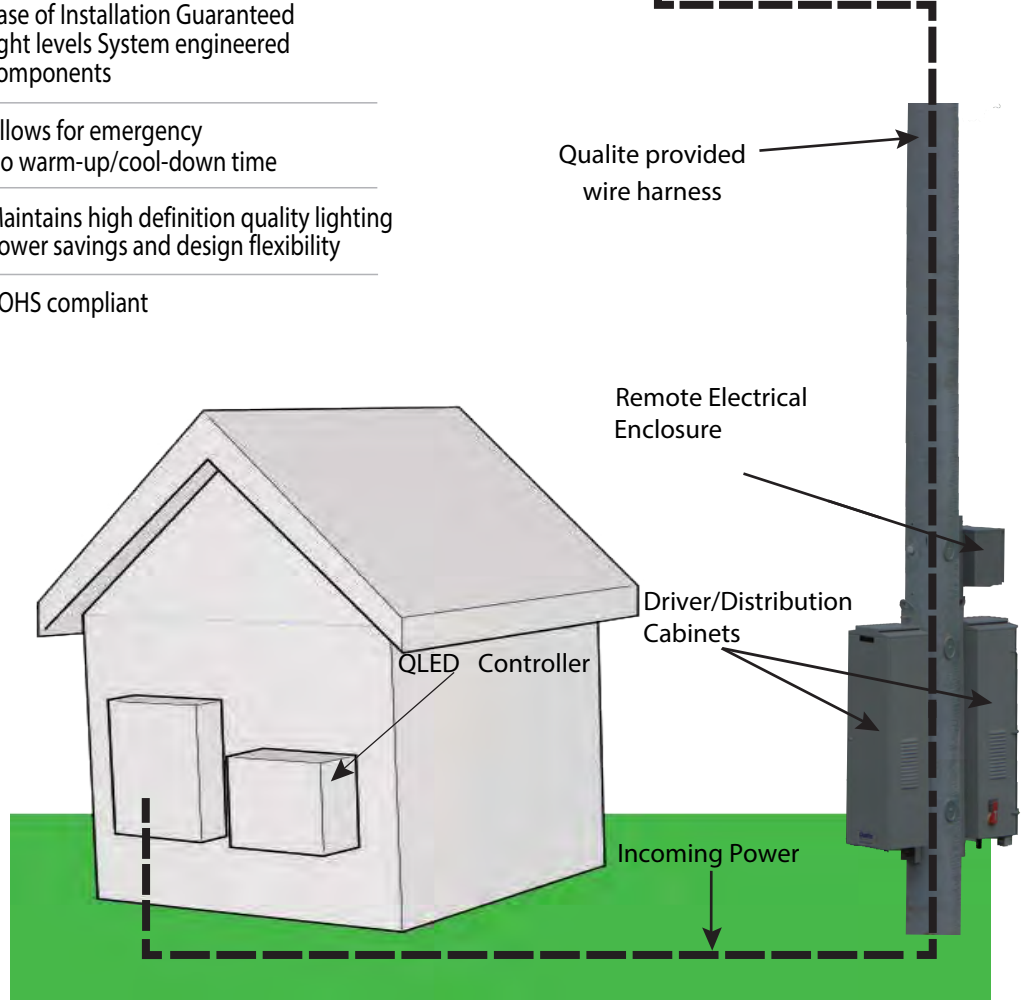
### FEATURES

### SYSTEM BENEFITS

High Efficiency LED	Lower power consumption
High CCT & CRI	Low Lumen depreciation
	5700K / 80CRI Min
Pre-wired and Pre-aimed System	Ease of Installation Guaranteed
	light levels System engineered components
Instant On/Off	Allows for emergency
	No warm-up/cool-down time
Color Consistency	Maintains high definition quality lighting
Dimmable	Power savings and design flexibility
Environmentally Safe	ROHS compliant



GameChanger™ System being controlled from a smart phone via an app. GameChanger™ can be programmed remotely from any wireless device or laptop providing the ultimate connectivity and control. See the QLED controls brochure for more information.



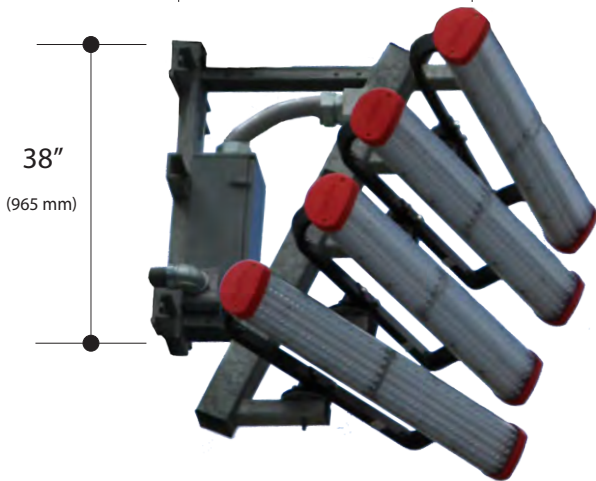


### 4F ASSEMBLY



58.8"

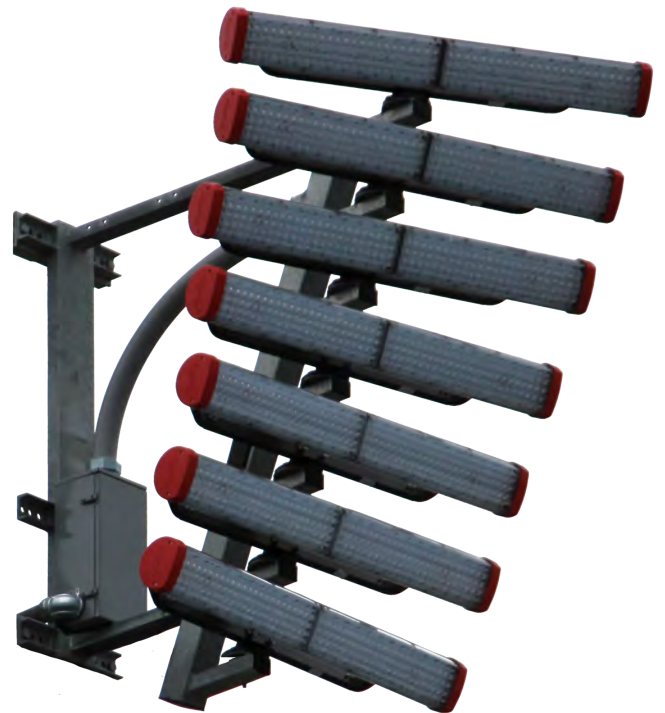
(1493 mm)



Weight - approximately 296lbs **4F Side View**



### 7F ASSEMBLY



58.8"

(1493 mm)



**7F Side View**

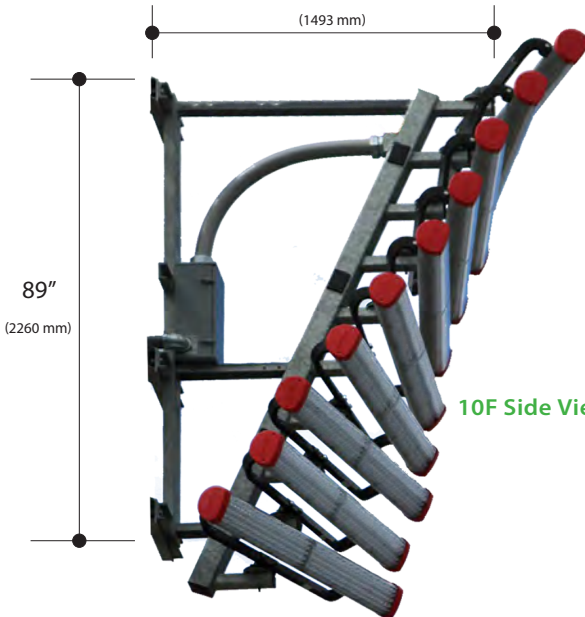
Weight - approximately 430lbs



## 10F ASSEMBLY



58.8"  
(1493 mm)



10F Side View

Weight - approximately 770lbs

## Stanchion Assembly Details:

- Designed to meet AASHTO 150mph and Florida Building Code.
- Galvanized to ASTM A123/A123M standards.
- For use on new or retrofit.
- Fully Assembled and inspected prior to shipment.



Installation at Northwest High School, Jackson, MI.



Installation at Madison High School, Rexburg, ID.

## RELIABILITY

Unlike legacy bulb-based systems, Q-LED™ System contains no parts to wear out or replace so you can be sure your lighting is maintenance-free for thousands of hours. Q-LED™ System is weather-proof and can handle the elements.

## INTEGRATED CONTROLS

For the greatest control, Q-LED™ System interfaces with the Qualite wireless control system to offer the ultimate fan experience. With dimming, scheduling and many other functions, the customization possibilities are endless.

## BEST WARRANTY IN THE BUSINESS

Qualite not only warranties our product, but we also guarantee the light levels, for the life of the system! We have the best standard warranty in the industry and can create a custom warranty to meet the customers needs.

## Patent Pending

*Shown with optional external visor for extreme spill and glare control.*



## ABOUT QUALITE

Qualite has been the sports lighting partner for high schools, colleges, parks and recreation departments, and minor and major league sport franchises for over 30 years. In addition, Qualite has partnered with a leading LED fixture manufacturer to provide the highest quality LED technology to sports facilities, including the host stadium to the 2015 Super Bowl, The University of Phoenix in Glendale, AZ.



Phone: (800) 933-9741  
Fax: (517) 439-1194  
<http://www.Qualite.com/>

