



Finance
Purchasing Division
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ADDENDUM NUMBER 8

nCino Sports Park

SP-JMC-0522

June 23, 2022

To all holders of Bid Documents; please be advised to the following:

Bidder is hereby notified that this Addendum shall become a part of the Contract Documents and shall be attached to the Project Manual for the Project.

The following items are intended to revise and clarify the Drawings and the Project Manual.

The bidder shall ensure that his Sub-Bidders are in full receipt of the information contained herein.

Acknowledge receipt of this Addendum in the space provided in the Proposal. Failure to do so will disqualify the Bidder.

ADDENDA ITEMS

PROJECT MANUAL (0) ITEMS
DRAWINGS (0) ITEMS
MISCELLANEOUS (0) ITEM
MISCELLANEOUS RFI's (5) ITEMS

PROJECT MANUAL

- None

MISCELLANEOUS

- None

DRAWINGS

- None

MISCELLANEOUS RFI'S

1. RFI 6 - Please Provide Clarification of the Electrical scope of Work in the Base Bid of the project that involves the sports lighting. Will Musco Lighting be installed by others? Will all conduits be empty with Pull String as stated on the drawings?
Response: Musco Lighting poles will be installed by others. No, several conduits will contain conductors as shown on the drawings for all base bid fields. Alternate fields will be conduit, pull string and handhole only.
2. RFI 7 - In the drawings it states that underground conduits are to be PVC SCH80 and concrete encased. Is SCH40 acceptable in all areas that is concrete encased?
Response – No. SCH80 PVC is specified.
3. RFI 8 - Will the owner be providing the Electric Vehicle Chargers?
Response – No. refer to the electrical legend sheet for the EVC basis of design.
4. RFI 9 - E6.3 Detail 3 is shown for Conduit seals. Where are conduit seals required on the project?
Response – Conduit seals are required at all locations conduits rise above the ground, i.e. all panel locations and device terminations.
5. RFI 10 - Please provide a feeder schedule that includes the conductors sizes from each Musco Lighting Contactor to each Pole.
Response – Wire size is shown on the panel schedules for all of the circuits; wire size is shown in the “W” column. See electrical plans released in addendum #1 and #4, specifically sheet E5.1 released in addendum #4. All sports field lighting starts at a No.10 AWG and increases based on voltage drop from the panel to the lighting fixture/pole. In some cases the voltage drop calculation will require increase to No.8 or No.6 AWG. All sports field lighting will utilize 1-1/4” conduit. All other circuits are listed on the panel schedules or shown on the single-line. Please see attached Musco plans for reference.

All other terms and conditions remain unchanged.

Daryle L. Parker, Purchasing Manager
Purchasing Division
END OF ADDENDUM EIGHT



Control System Summary

Project Specific Notes:

Project Information

Project #: 186241
 Project Name: Cape Fear Regional Park Soccer
 Date: 05/25/21
 Project Engineer: Curt Lamberson
 Sales Representative: Brad Marolf
 Control System Type: Control-Link™ Control and Monitoring System
 Communication Type: PowerLine-ST
 Scan: 186241D
 Document ID: 186241P1V2-0525140847
 Distribution Panel Location or ID: Field 11
 Total # of Distribution Panel Locations for Project: 3
 Design Voltage/Hertz/Phase: 480/60/3
 Control Voltage: 120

Equipment Listing

DESCRIPTION	APPROXIMATE SIZE
1.Control and Monitoring Cabinet	24 X 48
	QTY SIZE (AMPS)
Total Contactors	4 30 AMP
Total Off/On/Auto Switches:	2

Preliminary Plans
 Confirm all Details - voltage,
 # of distribution panels, etc.

Materials Checklist

Contractor/Customer Supplied:

- A dedicated control circuit must be supplied per distribution panel location
 - If the control voltage is NOT available, a control transformer is required
- Electrical distribution panel to provide overcurrent protection for circuits
 - HID rated or D-curve circuit breaker sized per full load amps on Circuit Summary by Zone Chart
- Wiring
 - See chart on page 2 for wiring requirements
 - Equipment grounding conductor and splices must be insulated (per circuit)
 - Lightning ground protection (per pole), if not Musco supplied
- Electrical conduit wireway system
 - Entrance hubs rated NEMA 4, must be die-cast zinc, PVC, or copper-free die-cast aluminum
- Mounting hardware for cabinets
- Breaker lock-on device to prevent unauthorized power interruption to control power and powerline connection (if present)
- Anti-corrosion compound to apply to ends of wire, if necessary

Call Control-Link Central™ operations center at 877/347-3319 to schedule activation of the control system upon completion of the installation.

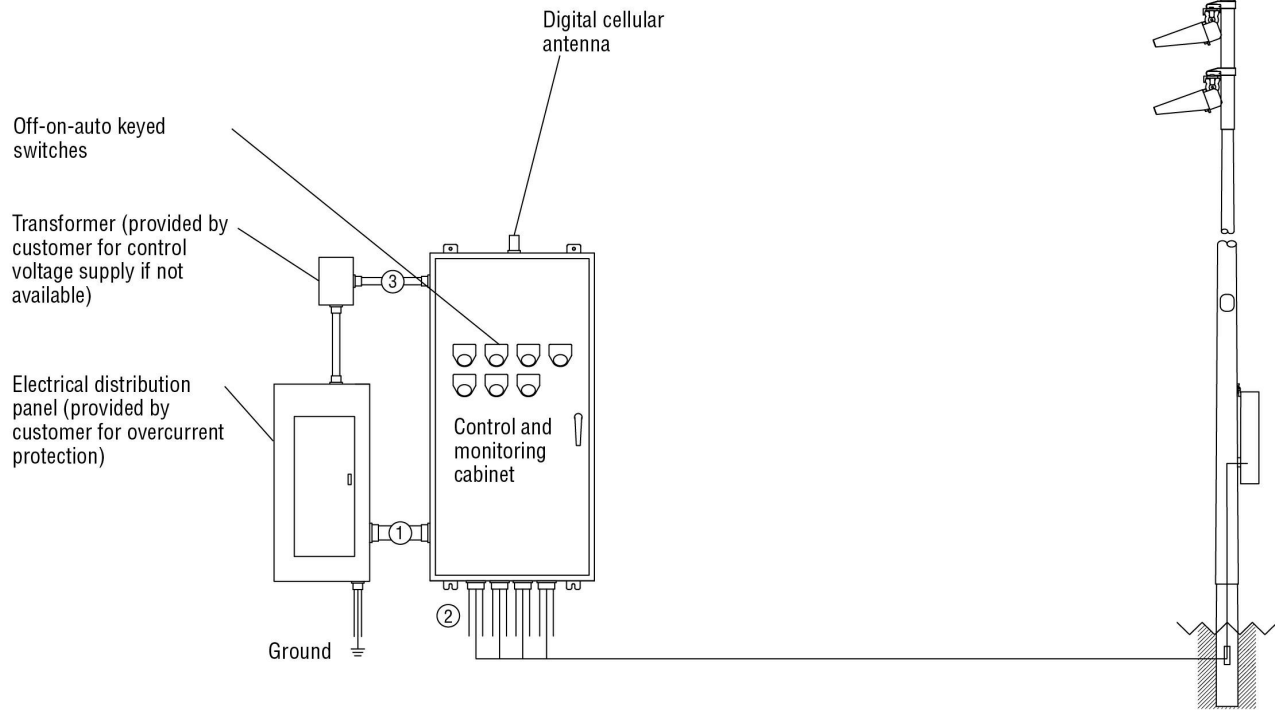
Note: Activation may take up to 1 1/2 hours.

IMPORTANT NOTES

1. Please confirm that the design voltage listed above is accurate for this facility. Design voltage/phase is defined as the voltage/phase being connected and utilized at each lighting pole's electrical components enclosure disconnect. Inaccurate design voltage/phase can result in additional costs and delays. Contact your Musco sales representative to confirm this item.
2. In a 3 phase design, all 3 phases are to be run to each pole. When a 3 phase design is used Musco's single phase luminaires come pre-wired to utilize all 3 phases across the entire facility.
3. One contactor is required for each pole. When a pole has multiple circuits, one contactor is required for each circuit. All contactors are 100% rated for the published continuous load. All contactors are 3 pole.
4. If the lighting system will be fed from more than one distribution location, additional equipment may be required. Contact your Musco sales representative.
5. A single control circuit must be supplied per control system.
6. Size overcurrent devices using the full load amps column of the Circuit Summary By Zone chart- Minimum power factor is 0.9.

NOTE: Refer to Installation Instructions for more details on equipment information and the installation requirements.

Control-Link. Control and Monitoring System



Conduit ID	Description	# of Wires	Wire (AWG)	Conduit (in)	Max. Wire Length (ft)	MUSCO Supplied	Notes
1	Line power to contactors, and equipment grounding conductor	*A	*B	*C	N/A	No	A-E
2	Load power to lighting circuits, and equipment grounding conductor	*A	*B	*C	N/A	No	A-E
3	Control power (dedicated, 20A)	3	12	*C	N/A	No	C,E

* Notes:

- A. See voltage and phasing per the notes on cover page.
- B. Calculate per load and voltage drop.
- C. All conduit diameters should be per code unless otherwise specified to allow for connector size.
- D. Equipment grounding conductor and any splices must be insulated.
- E. Refer to control and monitoring system installation instructions for more details on equipment information and the installation requirements.

IMPORTANT: Control wires (3) must be in separate conduit from line and load power wires (1, 2).



Control System Summary

Cape Fear Regional Park Soccer / 186241 - 186241D
Field 11 - Page 3 of 12

SWITCHING SCHEDULE

Field/Zone Description	Zones
Field 11	1
Parking Lot	2

CONTROL POWER CONSUMPTION	
120V Single Phase	
VA loading of Musco Supplied Equipment	INRUSH: 1553.0
	SEALED: 179.8

CIRCUIT SUMMARY BY ZONE

POLE	CIRCUIT DESCRIPTION	# OF FIXTURES	# OF DRIVERS	*FULL LOAD AMPS	CONTACTOR SIZE (AMPS)	CONTACTOR ID	ZONE
S1,S2	Field 11	12	12	25.6	30	C1	1
S3,S4	Field 11	12	12	25.6	30	C2	1
Parking	Parking Lot	0	0	0.0	30	C3	2
Parking	Parking Lot	0	0	0.0	30	C4	2

*Full Load Amps based on amps per driver.



Control System Summary

Cape Fear Regional Park Soccer / 186241 - 186241D
Field 11 - Page 4 of 12

PANEL SUMMARY						
CABINET #	CONTROL MODULE LOCATION	CONTACTOR ID	CIRCUIT DESCRIPTION	FULL LOAD AMPS	DISTRIBUTION PANEL ID (BY OTHERS)	CIRCUIT BREAKER POSITION (BY OTHERS)
1	1	C1	Pole S1,S2	25.63		
1	1	C2	Pole S3,S4	25.63		
1	1	C3	Pole Parking	0.00		
1	1	C4	Pole Parking	0.00		

ZONE SCHEDULE				
ZONE	SELECTOR SWITCH	ZONE DESCRIPTION	CIRCUIT DESCRIPTION	
			POLE ID	CONTACTOR ID
Zone 1	1	Field 11	S1	C1
			S2	C1
			S3	C2
			S4	C2
Zone 2	2	Parking Lot	Parking	C3
			Parking	C4



Control System Summary

Project Specific Notes:

Project Information

Project #: 186241
 Project Name: Cape Fear Regional Park Soccer
 Date: 05/25/21
 Project Engineer: Curt Lamberson
 Sales Representative: Brad Marolf
 Control System Type: Control-Link™ Control and Monitoring System
 Communication Type: PowerLine-ST
 Scan: 186241D
 Document ID: 186241P1V2-0525140847
 Distribution Panel Location or ID: Field 6-9
 Total # of Distribution Panel Locations for Project: 3
 Design Voltage/Hertz/Phase: 480/60/3
 Control Voltage: 120

Equipment Listing

DESCRIPTION	APPROXIMATE SIZE
1. Control and Monitoring Cabinet	24 X 72
	QTY SIZE (AMPS)
Total Contactors	8 30 AMP
Total Off/On/Auto Switches:	4

Preliminary Plans
 Confirm all Details - voltage,
 # of distribution panels, etc.

Materials Checklist

Contractor/Customer Supplied:

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- Mounting hardware for cabinets
- Breaker lock-on device to prevent unauthorized power interruption to control power and powerline connection (if present)
- Anti-corrosion compound to apply to ends of wire, if necessary

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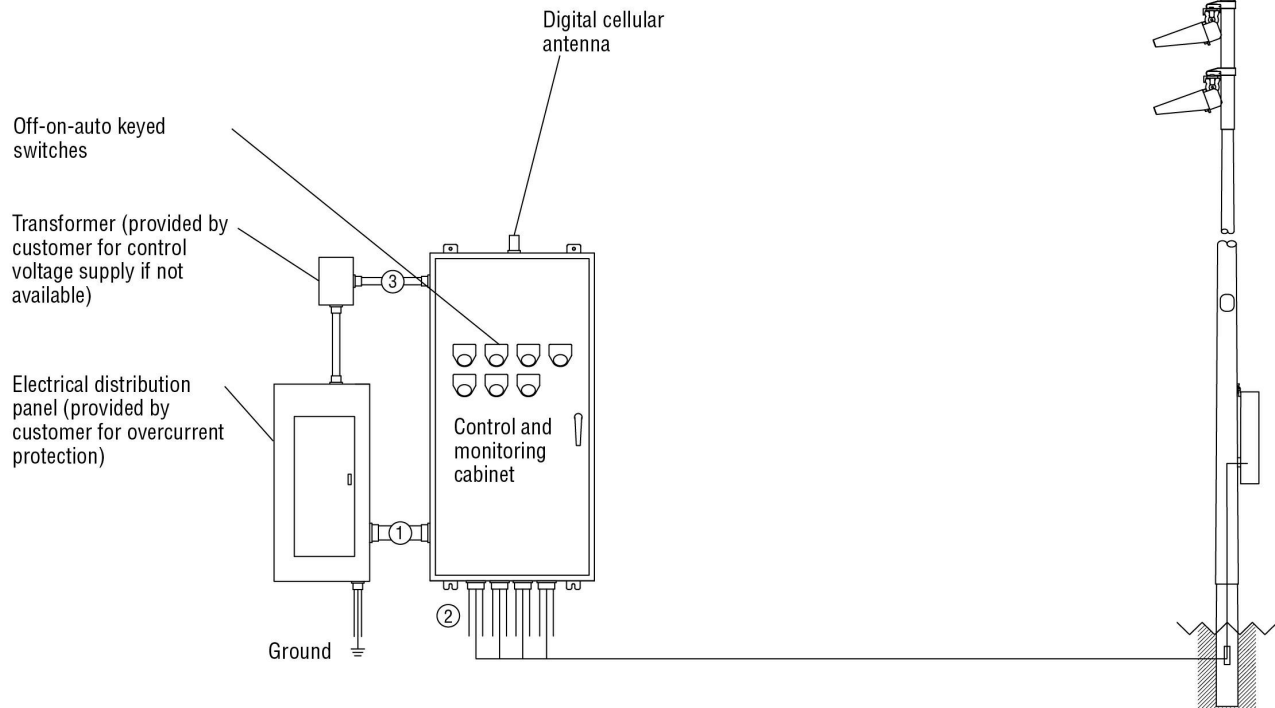
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Control-Link. Control and Monitoring System



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Control System Summary

Cape Fear Regional Park Soccer / 186241 -
Field 6-9 - Page 7 of 12

SWITCHING SCHEDULE

Field/Zone Description	Zones
Field 6	1
Field 7	2
Field 8	3
Field 9	4

CONTROL POWER CONSUMPTION	
120V Single Phase	
VA loading of Musco Supplied Equipment	INRUSH: 2533.0
	SEALED: 283.8

CIRCUIT SUMMARY BY ZONE

POLE	CIRCUIT DESCRIPTION	# OF FIXTURES	# OF DRIVERS	*FULL LOAD AMPS	CONTACTOR SIZE (AMPS)	CONTACTOR ID	ZONE
S10,S9	Field 6	10	5	22.4	30	C1	1
S13,S14	Field 6	10	10	22.4	30	C2	1
S5,S6	Field 7	10	10	22.4	30	C3	2
S10,S9	Field 7	10	5	22.4	30	C4	2
S11,S12	Field 8	10	10	22.4	30	C5	3
S15,S16	Field 8	10	10	22.4	30	C6	3
S7,S8	Field 9	10	10	22.4	30	C7	4
S11,S12	Field 9	10	10	22.4	30	C8	4

*Full Load Amps based on amps per driver.



Control System Summary

Cape Fear Regional Park Soccer / 186241 -
Field 6-9 - Page 8 of 12

PANEL SUMMARY						
CABINET #	CONTROL MODULE LOCATION	CONTACTOR ID	CIRCUIT DESCRIPTION	FULL LOAD AMPS	DISTRIBUTION PANEL ID (BY OTHERS)	CIRCUIT BREAKER POSITION (BY OTHERS)
2	2	C1	Pole S10,S9	22.43		
2	2	C2	Pole S13,S14	22.43		
2	2	C3	Pole S5,S6	22.43		
2	2	C4	Pole S10,S9	22.43		
2	2	C5	Pole S11,S12	22.43		
2	2	C6	Pole S15,S16	22.43		
2	2	C7	Pole S7,S8	22.43		
2	2	C8	Pole S11,S12	22.43		

ZONE SCHEDULE				
ZONE	SELECTOR SWITCH	ZONE DESCRIPTION	CIRCUIT DESCRIPTION	
			POLE ID	CONTACTOR ID
Zone 1	1	Field 6	S10	C1
			S9	C1
			S13	C2
			S14	C2
Zone 2	2	Field 7	S5	C3
			S6	C3
			S10	C4
			S9	C4
Zone 3	3	Field 8	S11	C5
			S12	C5
			S15	C6
			S16	C6
Zone 4	4	Field 9	S7	C7
			S8	C7
			S11	C8
			S12	C8



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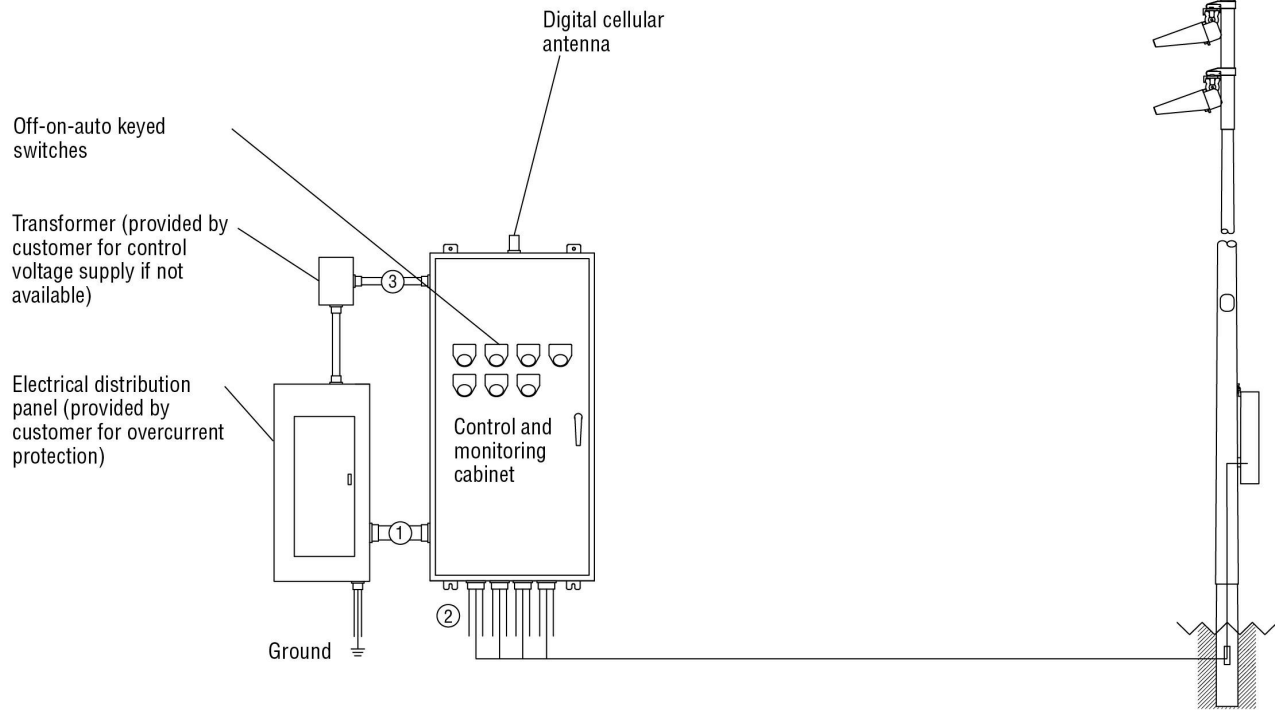
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Control-Link. Control and Monitoring System



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2	Load power to lighting circuits, and equipment grounding conductor	*A	*B	*C	N/A	No	A-E
3	Control power (dedicated, 20A)	3	12	*C	N/A	No	C,E

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Control System Summary

Cape Fear Regional Park Soccer / 186241 -
Field 1-4 - Page 11 of 12

SWITCHING SCHEDULE

Field/Zone Description	Zones
Field 1	1
Field 2	2
Field 3	3
Field 4	4

CONTROL POWER CONSUMPTION	
120V Single Phase	
VA loading of Musco Supplied Equipment	INRUSH: 2533.0
	SEALED: 283.8

CIRCUIT SUMMARY BY ZONE

POLE	CIRCUIT DESCRIPTION	# OF FIXTURES	# OF DRIVERS	*FULL LOAD AMPS	CONTACTOR SIZE (AMPS)	CONTACTOR ID	ZONE
S17,S18	Field 1	10	10	22.4	30	C1	1
S19,S20	Field 1	10	10	22.4	30	C2	1
S19,S20	Field 2	10	10	22.4	30	C3	2
S21,S22	Field 2	10	10	22.4	30	C4	2
S21,S22	Field 3	10	10	22.4	30	C5	3
S23,S24	Field 3	10	10	22.4	30	C6	3
S23,S24	Field 4	10	10	22.4	30	C7	4
S25,S26	Field 4	10	10	22.4	30	C8	4

*Full Load Amps based on amps per driver.



Control System Summary

Cape Fear Regional Park Soccer / 186241 -
Field 1-4 - Page 12 of 12

PANEL SUMMARY						
CABINET #	CONTROL MODULE LOCATION	CONTACTOR ID	CIRCUIT DESCRIPTION	FULL LOAD AMPS	DISTRIBUTION PANEL ID (BY OTHERS)	CIRCUIT BREAKER POSITION (BY OTHERS)
3	3	C1	Pole S17,S18	22.43		
3	3	C2	Pole S19,S20	22.43		
3	3	C3	Pole S19,S20	22.43		
3	3	C4	Pole S21,S22	22.43		
3	3	C5	Pole S21,S22	22.43		
3	3	C6	Pole S23,S24	22.43		
3	3	C7	Pole S23,S24	22.43		
3	3	C8	Pole S25,S26	22.43		

ZONE SCHEDULE				
ZONE	SELECTOR SWITCH	ZONE DESCRIPTION	CIRCUIT DESCRIPTION	
			POLE ID	CONTACTOR ID
Zone 1	1	Field 1	S17	C1
			S18	C1
			S19	C2
			S20	C2
Zone 2	2	Field 2	S19	C3
			S20	C3
			S21	C4
			S22	C4
Zone 3	3	Field 3	S21	C5
			S22	C5
			S23	C6
			S24	C6
Zone 4	4	Field 4	S23	C7
			S24	C7
			S25	C8
			S26	C8

Cape Fear Regional Park Soccer

Wilmington, NC

Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
S1-S4	80'	80'	6	TLC-LED-1500	8.58 kW	I
S5-S6	70'	70'	5	TLC-LED-1500	7.15 kW	F
S7-S8	70'	70'	5	TLC-LED-1500	7.15 kW	H
S9-S10	70'	70'	5	TLC-LED-1500	7.15 kW	F
		70'	5	TLC-LED-1500	7.15 kW	E
S11-S12	70'	70'	5	TLC-LED-1500	7.15 kW	H
		70'	5	TLC-LED-1500	7.15 kW	G
S13-S14	70'	70'	5	TLC-LED-1500	7.15 kW	E
S15-S16	70'	70'	5	TLC-LED-1500	7.15 kW	G
S17-S18	70'	70'	5	TLC-LED-1500	7.15 kW	A
S19-S20	70'	70'	5	TLC-LED-1500	7.15 kW	A
		70'	5	TLC-LED-1500	7.15 kW	B
S21-S22	70'	70'	5	TLC-LED-1500	7.15 kW	C
		70'	5	TLC-LED-1500	7.15 kW	B
S23-S24	70'	70'	5	TLC-LED-1500	7.15 kW	C
		70'	5	TLC-LED-1500	7.15 kW	D
S25-S26	70'	70'	5	TLC-LED-1500	7.15 kW	D
26			184		263.12 kW	

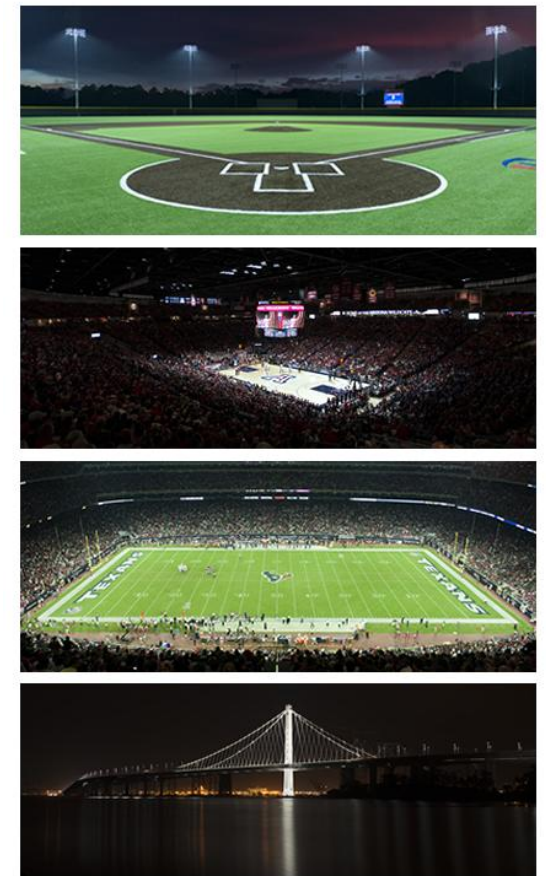
Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Field 1	28.6 kW	20
B	Field 2	28.6 kW	20
C	Field 3	28.6 kW	20
D	Field 4	28.6 kW	20
E	Field 6	28.6 kW	20
F	Field 7	28.6 kW	20
G	Field 8	28.6 kW	20
H	Field 9	28.6 kW	20
I	Field 11	34.32 kW	24

Fixture Type Summary							
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1500	LED 5700K - 75 CRI	1430W	160,000	>120,000	>120,000	>120,000	184

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Field 11	Horizontal Illuminance	30.8	26.1	37.4	1.43	1.18	I	24
Field 1	Horizontal Illuminance	31.1	25.6	37.7	1.47	1.21	A	20
Field 2	Horizontal Illuminance	31	25.9	36.8	1.42	1.20	B	20
Field 3	Horizontal Illuminance	31.6	25.5	38.7	1.52	1.24	C	20
Field 4	Horizontal Illuminance	30.9	25.5	38.2	1.50	1.21	D	20
Field 6	Horizontal Illuminance	30.3	23.6	35.7	1.51	1.29	E	20
Field 7	Horizontal Illuminance	30.6	23.7	35.3	1.49	1.29	F	20
Field 8	Horizontal Illuminance	30.3	23.6	35.7	1.51	1.29	G	20
Field 9	Horizontal Illuminance	30.6	23.7	35.3	1.49	1.29	H	20

From Hometown to Professional



We Make It Happen.

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EQUIPMENT LIST FOR AREAS SHOWN

Pole		Luminaires						
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	S17-S18	70'	0'	70'	TLC-LED-1500	5	5	0
2	S19-S20	70'	0'	70'	TLC-LED-1500	5/5*	5	5
TOTALS						30	20	10

* This structure utilizes a back-to-back mounting configuration

Cape Fear Regional Park Soccer
Wilmington, NC

GRID SUMMARY	
Name:	Field 1
Size:	360' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

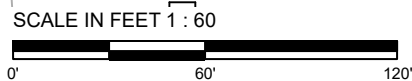
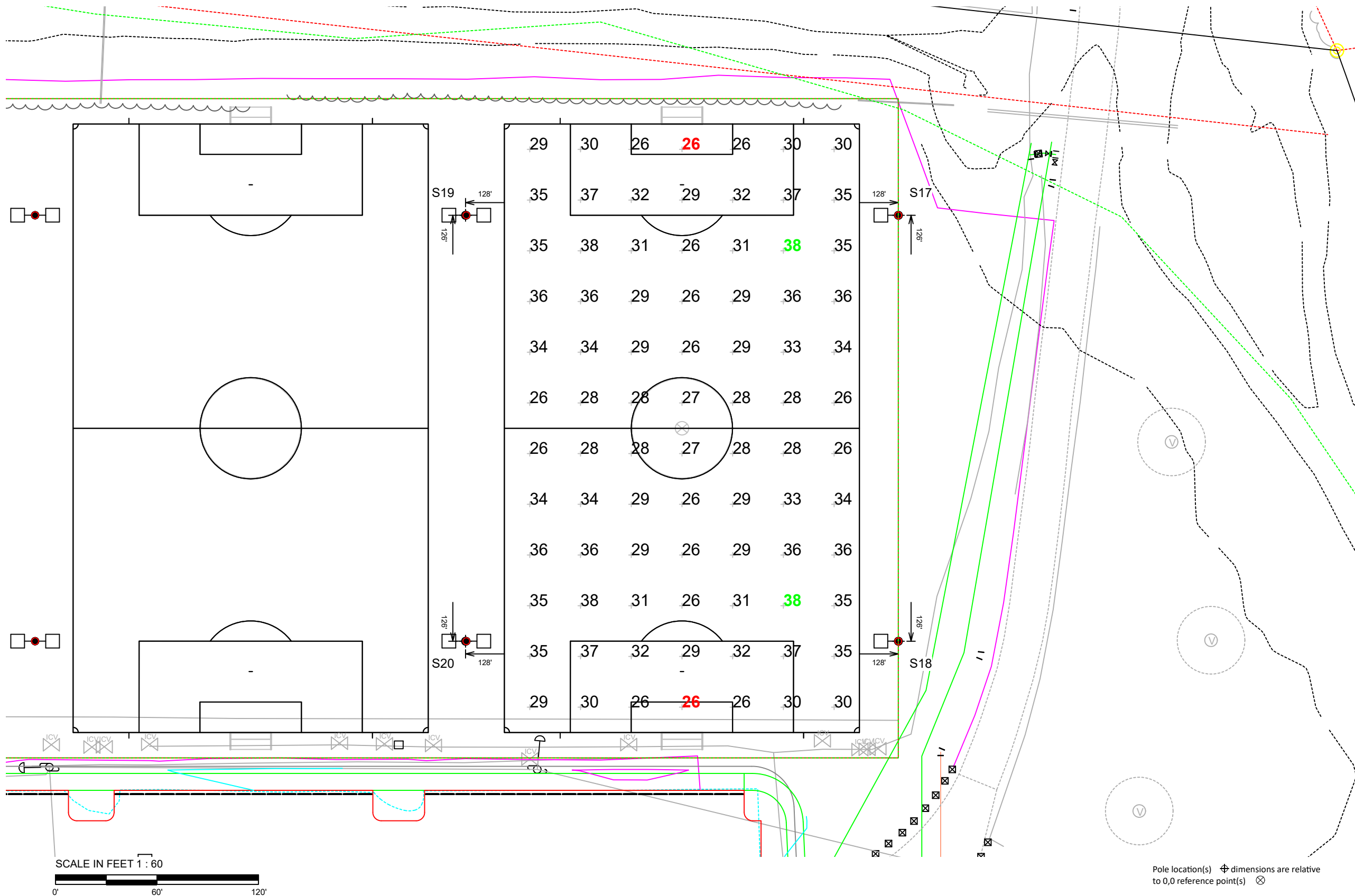
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	31.07
Maximum:	37.7
Minimum:	25.6
Avg / Min:	1.21
Guaranteed Max / Min:	2.5
Max / Min:	1.47
UG (adjacent pts):	1.31
CU:	0.75
CV:	0.13
No. of Points:	84
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	20
Total Load:	28.6 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗



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EQUIPMENT LIST FOR AREAS SHOWN

Pole		Luminaires						
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	S19-S22	70'	.43'	70.43'	TLC-LED-1500	5/5*	5	5
4	TOTALS							
						40	20	20

* This structure utilizes a back-to-back mounting configuration

Cape Fear Regional Park Soccer
Wilmington, NC

GRID SUMMARY	
Name:	Field 2
Size:	360' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

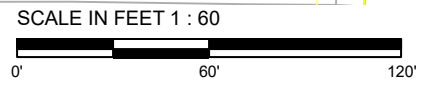
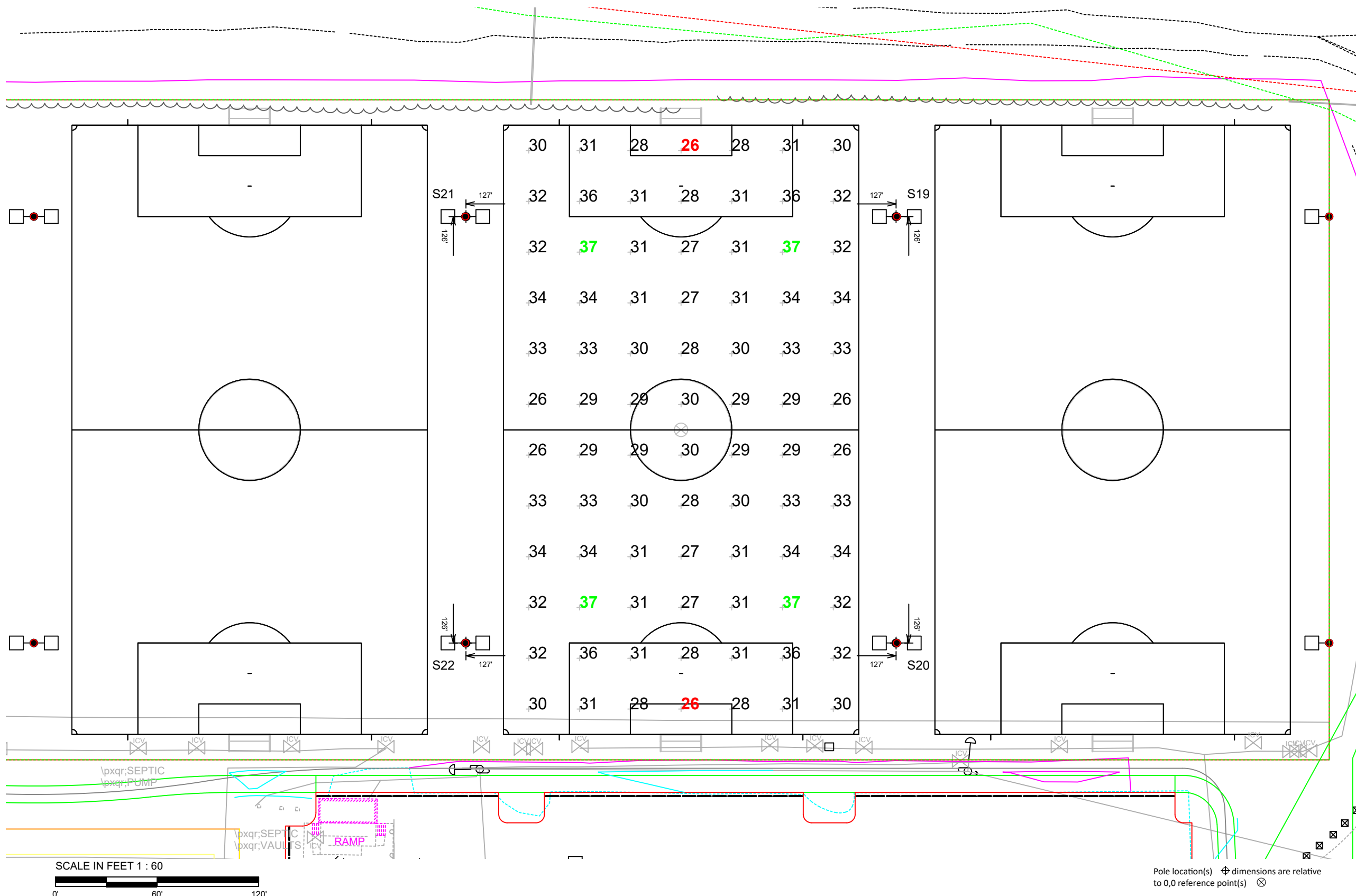
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	31.01
Maximum:	36.8
Minimum:	25.9
Avg / Min:	1.20
Guaranteed Max / Min:	2.5
Max / Min:	1.42
UG (adjacent pts):	1.29
CU:	0.75
CV:	0.09
No. of Points:	84
LUMINAIRE INFORMATION	
Applied Circuits:	B
No. of Luminaires:	20
Total Load:	28.6 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗



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EQUIPMENT LIST FOR AREAS SHOWN

Pole		Luminaires							
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS	
4	S21-S24	70'	.43'	70.43'	TLC-LED-1500	5/5*	5	5	
4	TOTALS							40	20

* This structure utilizes a back-to-back mounting configuration

Cape Fear Regional Park Soccer
Wilmington, NC

GRID SUMMARY	
Name:	Field 3
Size:	360' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

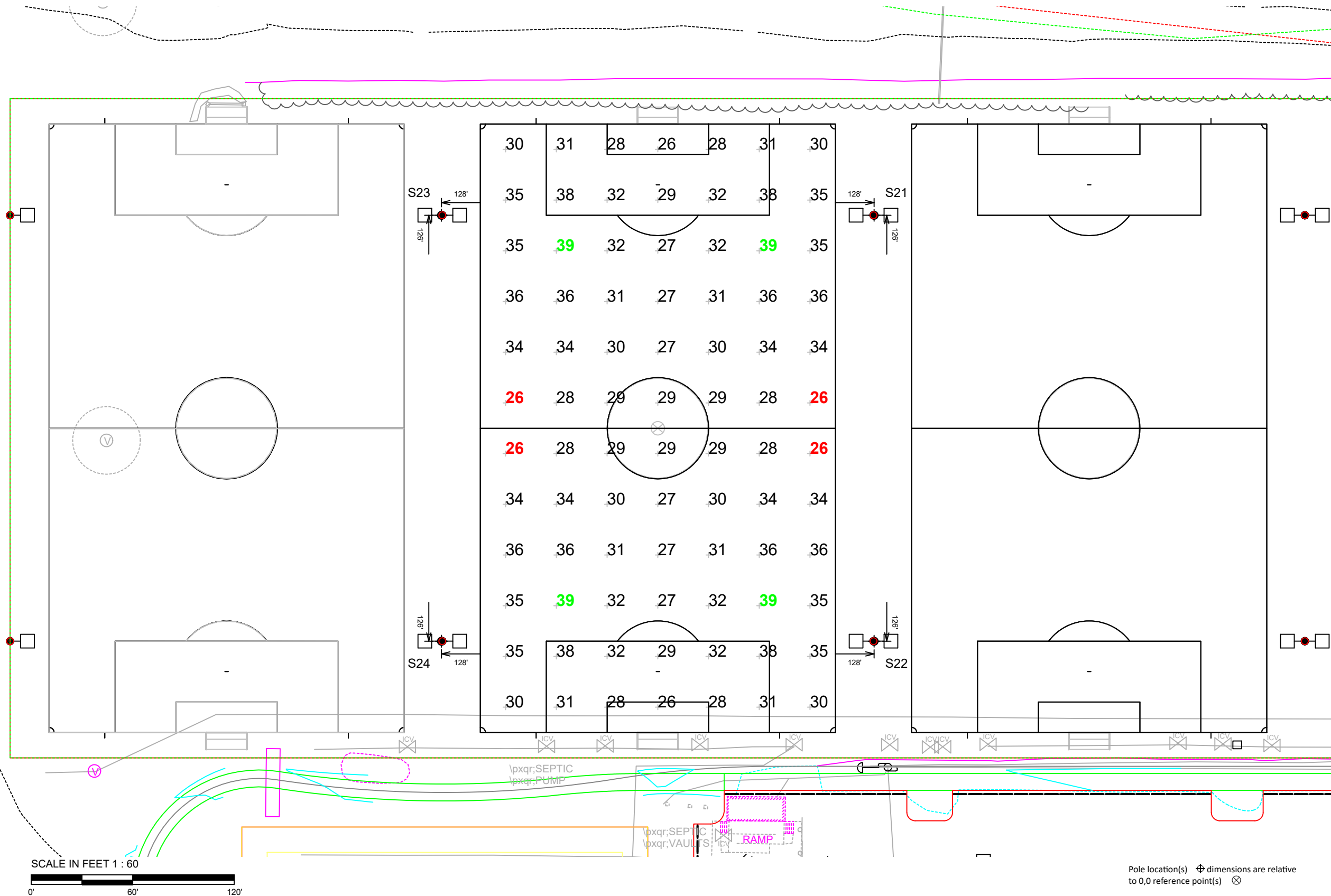
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	31.60
Maximum:	38.7
Minimum:	25.5
Avg / Min:	1.24
Guaranteed Max / Min:	2.5
Max / Min:	1.52
UG (adjacent pts):	1.32
CU:	0.76
CV:	0.12
No. of Points:	84
LUMINAIRE INFORMATION	
Applied Circuits:	C
No. of Luminaires:	20
Total Load:	28.6 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



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Cape Fear Regional Park Soccer Wilmington, NC

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	S23-S24	70'	.43'	70.43'	TLC-LED-1500	5/5*	5	5
2	S25-S26	70'	0'	70'	TLC-LED-1500	5	5	0
TOTALS						30	20	10

* This structure utilizes a back-to-back mounting configuration

GRID SUMMARY	
Name:	Field 4
Size:	360' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

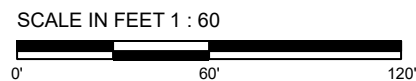
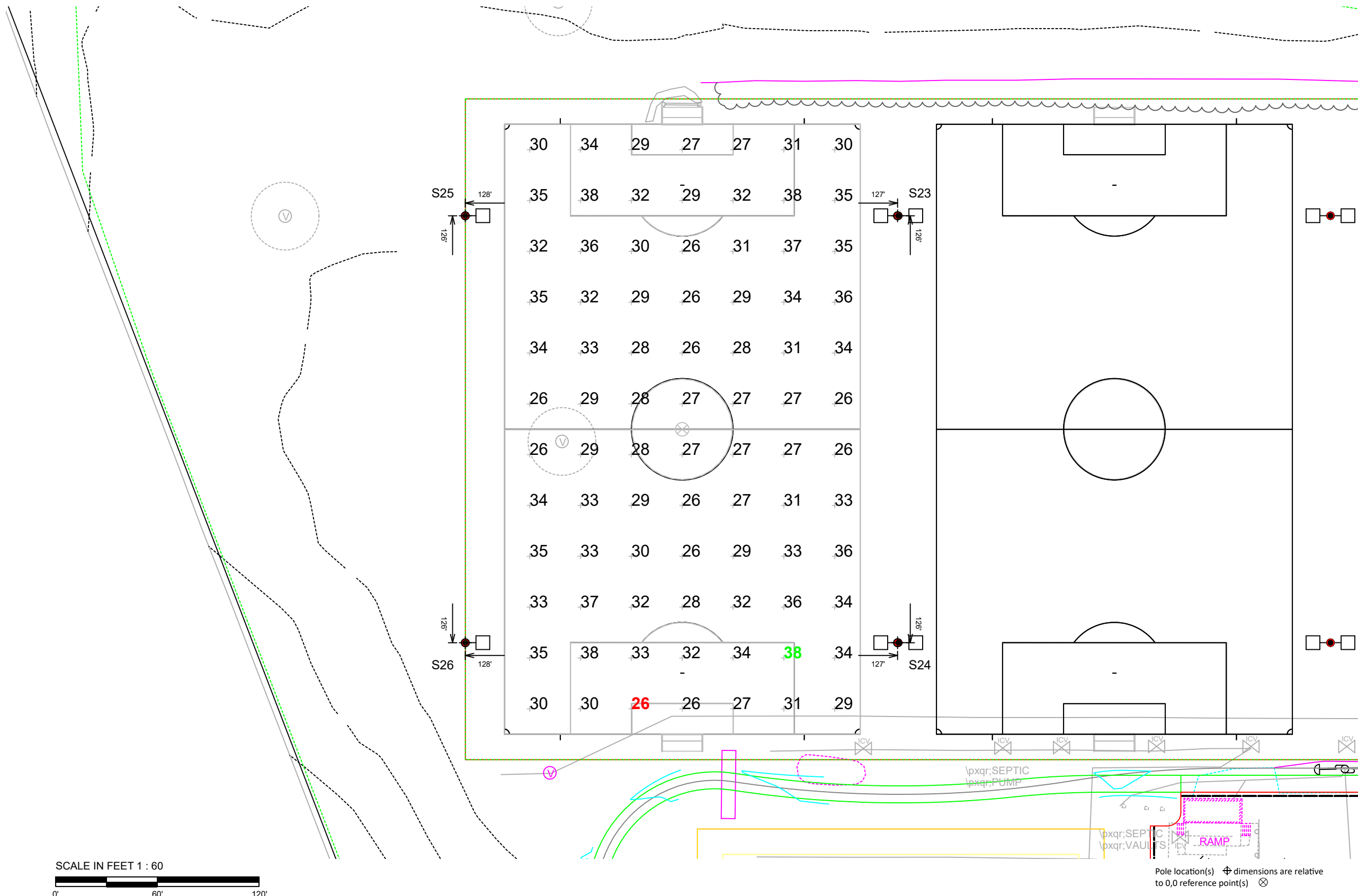
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	30.91
Maximum:	38.2
Minimum:	25.5
Avg / Min:	1.21
Guaranteed Max / Min:	2.5
Max / Min:	1.50
UG (adjacent pts):	1.32
CU:	0.75
CV:	0.12
No. of Points:	84
LUMINAIRE INFORMATION	
Applied Circuits:	D
No. of Luminaires:	20
Total Load:	28.6 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗



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Cape Fear Regional Park Soccer Wilmington, NC

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	S9-S10	70'	-	70'	TLC-LED-1500	5/5*	5	5
2	S13-S14	70'	-	70'	TLC-LED-1500	5	5	0
TOTALS							30	20
4								

* This structure utilizes a back-to-back mounting configuration

GRID SUMMARY	
Name:	Field 6
Size:	360' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

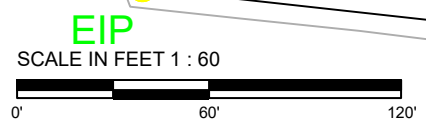
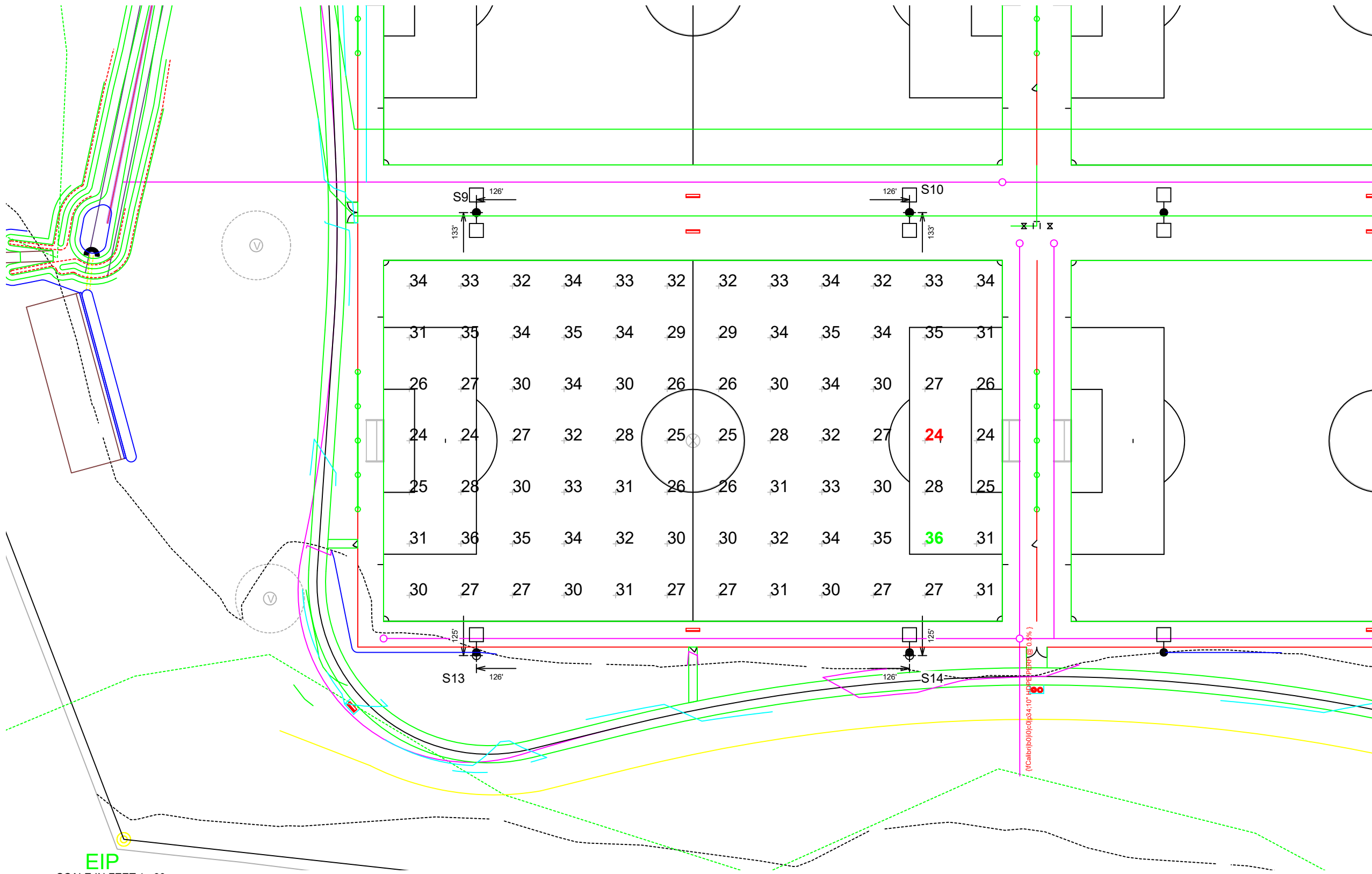
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	30.34
Maximum:	35.7
Minimum:	23.6
Avg / Min:	1.28
Guaranteed Max / Min:	2.5
Max / Min:	1.51
UG (adjacent pts):	1.32
CU:	0.74
CV:	0.11
No. of Points:	84
LUMINAIRE INFORMATION	
Applied Circuits:	E
No. of Luminaires:	20
Total Load:	28.6 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗



EQUIPMENT LIST FOR AREAS SHOWN

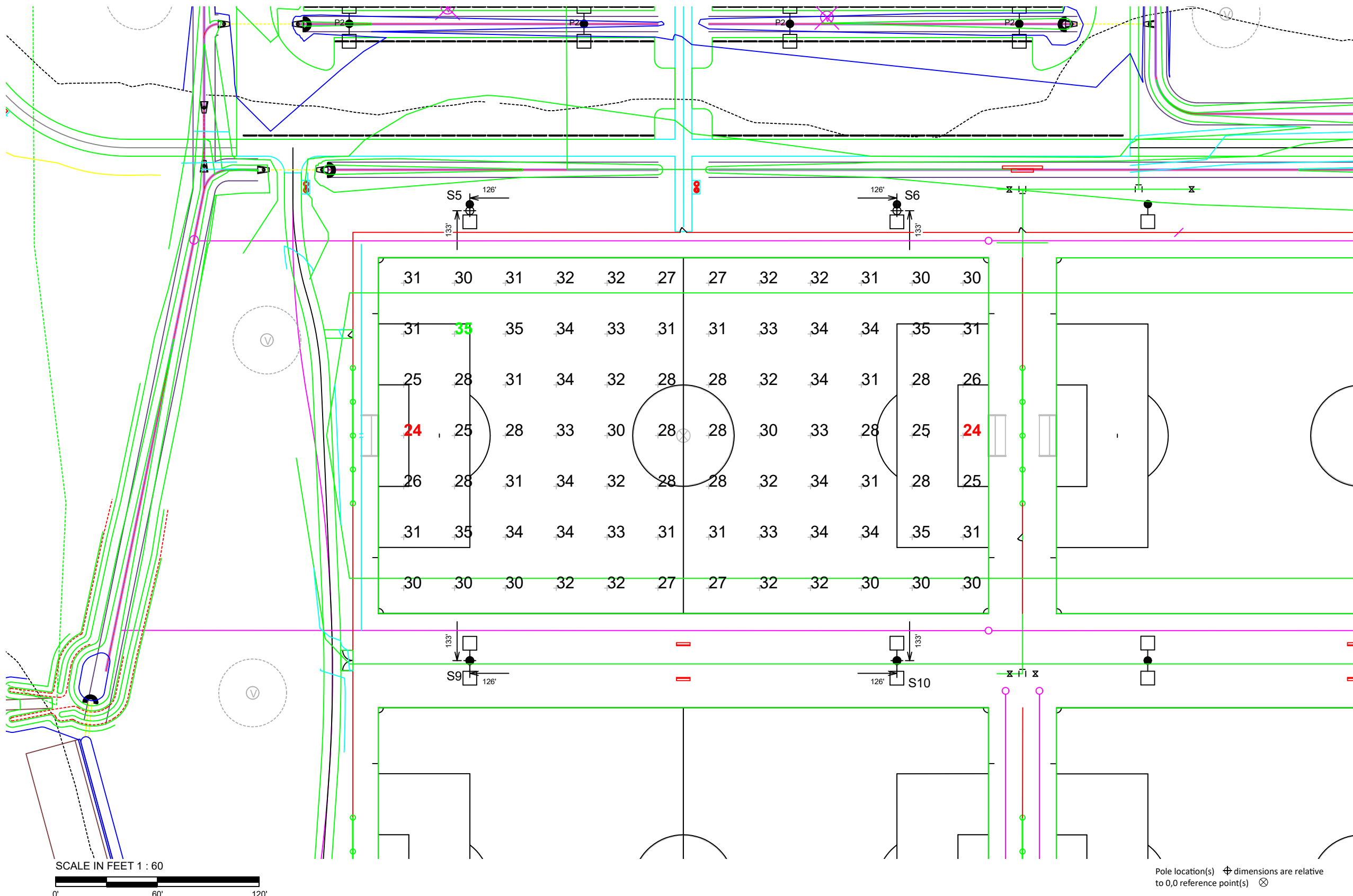
Pole		Luminaires						
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	S5-S6	70'	-	70'	TLC-LED-1500	5	5	0
2	S9-S10	70'	-	70'	TLC-LED-1500	5/5*	5	5
TOTALS						30	20	10

* This structure utilizes a back-to-back mounting configuration

Cape Fear Regional Park Soccer
Wilmington, NC

GRID SUMMARY	
Name:	Field 7
Size:	360' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	30.60
Maximum:	35.3
Minimum:	23.7
Avg / Min:	1.29
Guaranteed Max / Min:	2.5
Max / Min:	1.49
UG (adjacent pts):	1.24
CU:	0.75
CV:	0.10
No. of Points:	84
LUMINAIRE INFORMATION	
Applied Circuits:	F
No. of Luminaires:	20
Total Load:	28.6 kW

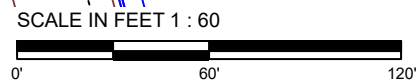


Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗



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EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	S11-S12	70'	-	70'	TLC-LED-1500	5/5*	5	5
2	S15-S16	70'	-	70'	TLC-LED-1500	5	5	0
TOTALS						30	20	10

* This structure utilizes a back-to-back mounting configuration

Cape Fear Regional Park Soccer Wilmington, NC

GRID SUMMARY	
Name:	Field 8
Size:	360' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

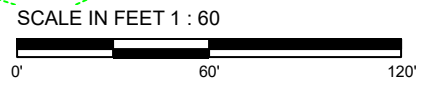
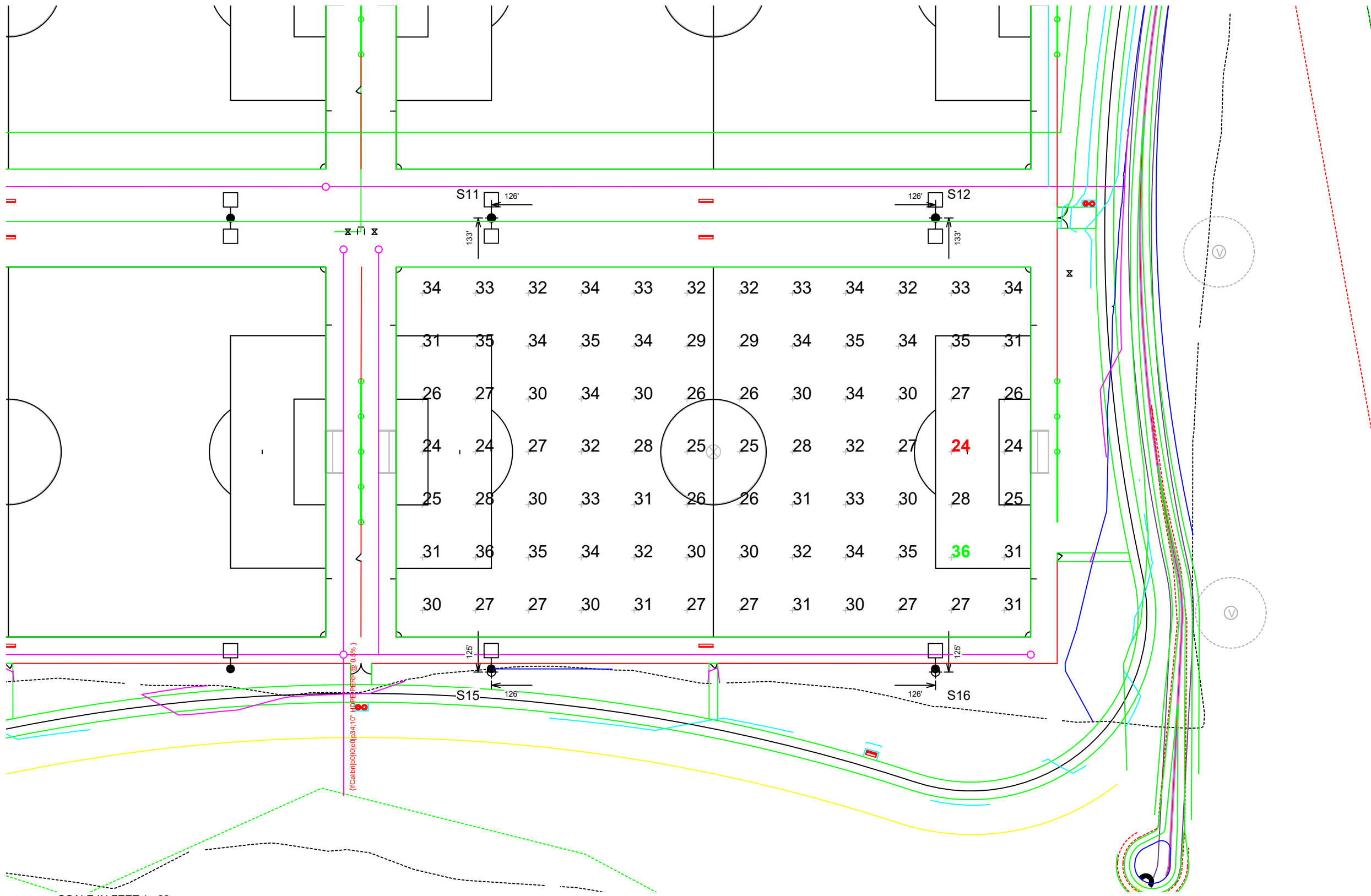
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	30.34
Maximum:	35.7
Minimum:	23.6
Avg / Min:	1.28
Guaranteed Max / Min:	2.5
Max / Min:	1.51
UG (adjacent pts):	1.32
CU:	0.74
CV:	0.11
No. of Points:	84
LUMINAIRE INFORMATION	
Applied Circuits:	G
No. of Luminaires:	20
Total Load:	28.6 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗



EQUIPMENT LIST FOR AREAS SHOWN							
Pole				Luminaires			
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID / OTHER GRIDS
2	S7-S8	70'	-	70'	TLC-LED-1500	5	5 / 0
2	S11-S12	70'	-	70'	TLC-LED-1500	5/5*	5 / 5
TOTALS						30	20 / 10

* This structure utilizes a back-to-back mounting configuration

Cape Fear Regional Park Soccer Wilmington, NC

GRID SUMMARY	
Name:	Field 9
Size:	360' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

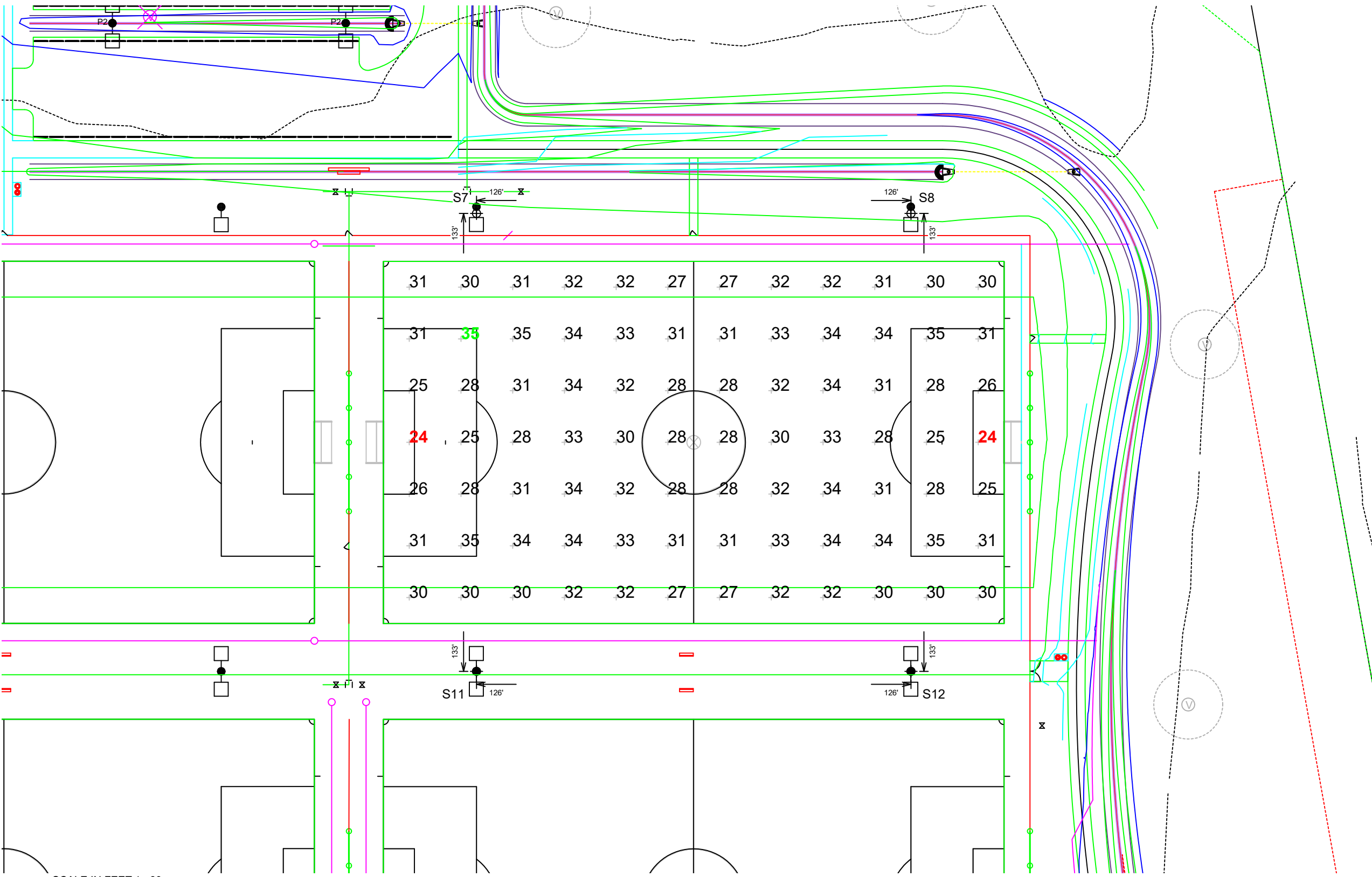
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	30.60
Maximum:	35.3
Minimum:	23.7
Avg / Min:	1.29
Guaranteed Max / Min:	2.5
Max / Min:	1.49
UG (adjacent pts):	1.24
CU:	0.75
CV:	0.10
No. of Points:	84
LUMINAIRE INFORMATION	
Applied Circuits:	H
No. of Luminaires:	20
Total Load:	28.6 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

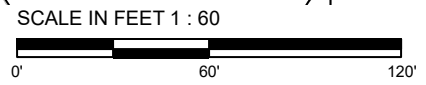
Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



31	30	31	32	32	27	27	32	32	31	30	30
31	33	35	34	33	31	31	33	34	34	35	31
25	28	31	34	32	28	28	32	34	31	28	26
24	25	28	33	30	28	28	30	33	28	25	24
26	28	31	34	32	28	28	32	34	31	28	25
31	35	34	34	33	31	31	33	34	34	35	31
30	30	30	32	32	27	27	32	32	30	30	30



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗



Cape Fear Regional Park Soccer Wilmington, NC

EQUIPMENT LAYOUT

INCLUDES:

- Field 1
- Field 11
- Field 2
- Field 3
- Field 4
- Field 6
- Field 7
- Field 8
- Field 9

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

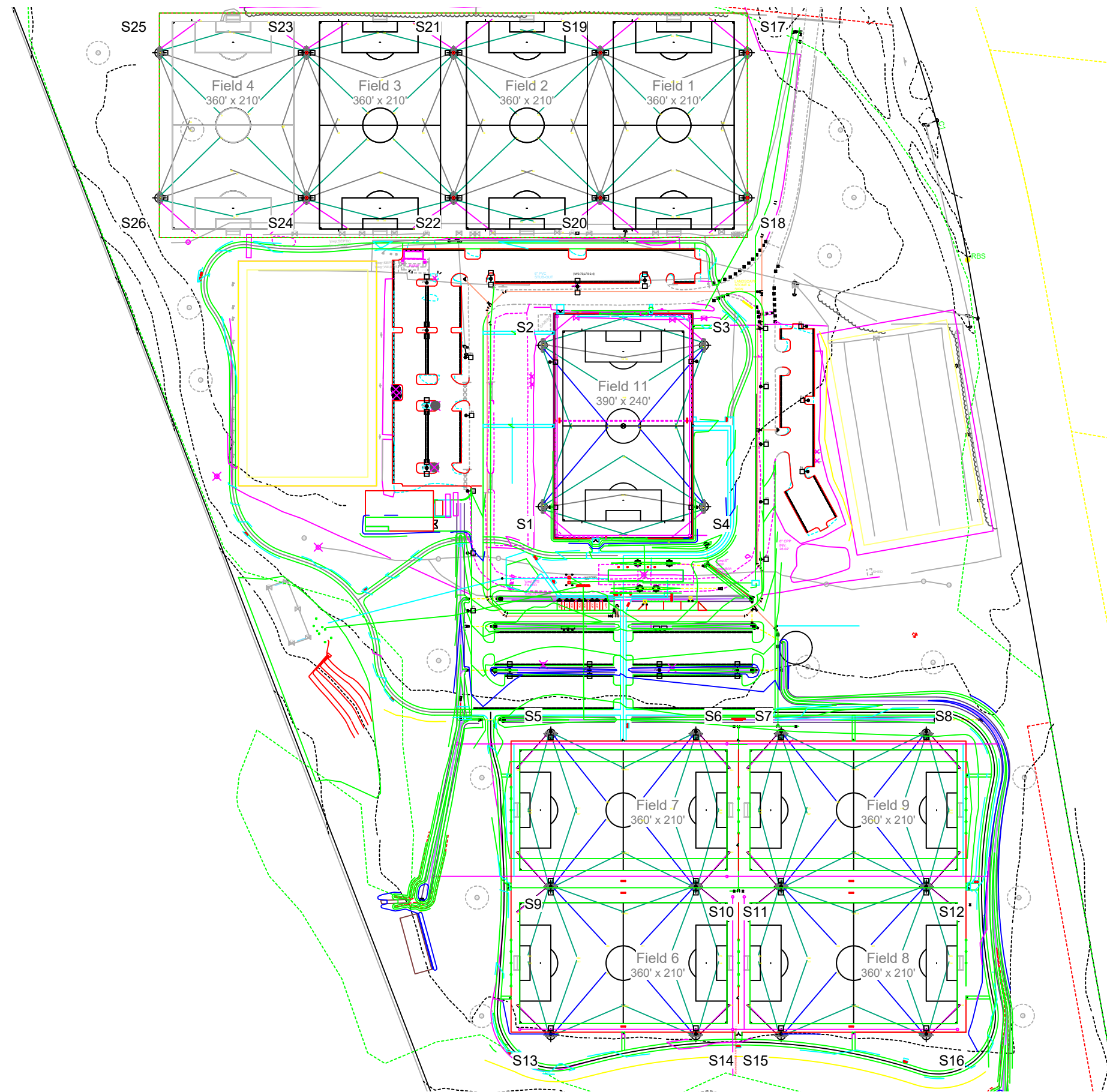
EQUIPMENT LIST FOR AREAS SHOWN

QTY	LOCATION	Pole		Luminaires		QTY / POLE
		CLASS	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	
4	S1-S4	LSS80C	-	80'	TLC-LED-1500	6
4	S9-S12	LSS70E	-	70'	TLC-LED-1500	5/5*
8	S13-S16 S5-S8	LSS70D	-	70'	TLC-LED-1500	5
4	S17-S18 S25-S26	LSS70D	0'	70'	TLC-LED-1500	5
2	S19-S20	LSS70E	0'	70'	TLC-LED-1500	5/5*
4	S21-S24	LSS70E	.43'	70.43'	TLC-LED-1500	5/5*
26	TOTALS					184

* This structure utilizes a back-to-back mounting configuration

SINGLE LUMINAIRE AMPERAGE DRAW CHART

Ballast Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)					
	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	480 (60)
TLC-LED-1500	8.5	8.1	7.4	6.4	5.1	4.7



SCALE IN FEET 1 : 200



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗



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