

Loker Soccer Field

Wayland,MA

Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
S1-S4	70'	70'	6	TLC-LED-1150	6.90 kW	A
4			24		27.60 kW	

Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Soccer	27.6 kW	24

Fixture Type Summary							
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1150	LED 5700K - 75 CRI	1150W	121,000	>81,000	>81,000	>81,000	24

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Property Line	Horizontal	0.01	0	0.46	0.00		A	24
Property Line	Max Candela (by Fixture)	330	0	15109	0.00		A	24
Property Line	Max Vertical Illuminance Metric	0.02	0	0.95	0.00		A	24
Soccer	Horizontal Illuminance	36.6	23	45	1.99	1.59	A	24
Zero Grid	Horizontal	0.04	0	3	0.00		A	24
Zero Grid	Max Candela (by Fixture)	1111	0	72360	0.00		A	24
Zero Grid	Max Vert Illuminance (by Light Bank)	0.06	0	4	0.00		A	24

From Hometown to Professional



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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	S1-S4	70'	-4'	66'	TLC-LED-1150	6	6	0
4	TOTALS					24	24	0

Loker Soccer Field
Wayland,MA

GRID SUMMARY	
Name:	Soccer
Size:	330' x 195'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

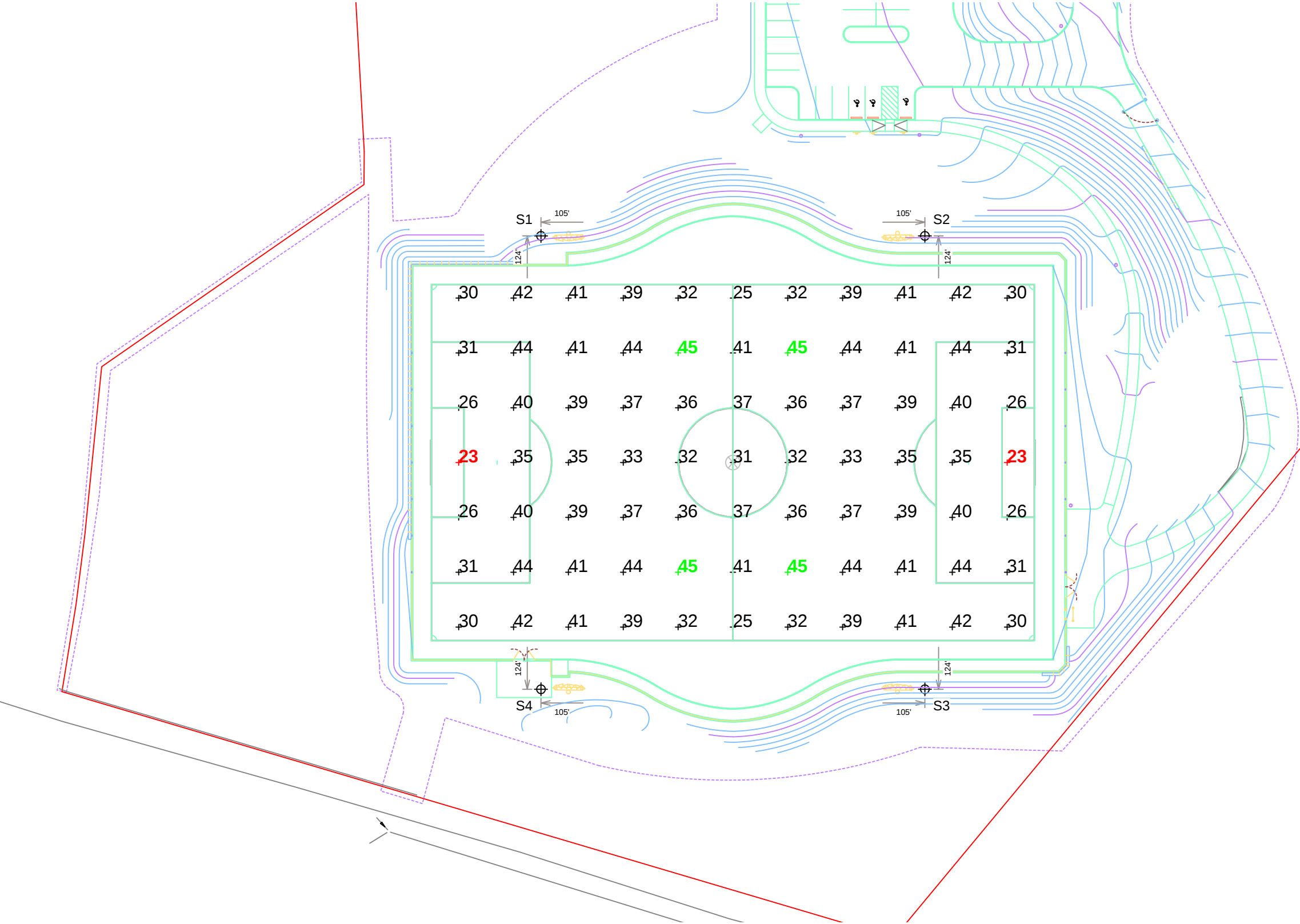
ILLUMINATION SUMMARY			
MAINTAINED HORIZONTAL FOOTCANDLES			
	Entire Grid		
Guaranteed Average:	30		
Scan Average:	36.64		
Maximum:	45		
Minimum:	23		
Avg / Min:	1.61		
Guaranteed Max / Min:	2.5		
Max / Min:	1.99		
UG (adjacent pts):	1.67		
CU:	0.88		
No. of Points:	77		
LUMINAIRE INFORMATION			
Color / CRI:	5700K - 75 CRI		
Luminaire Output:	121,000 lumens		
No. of Luminaires:	24		
Total Load:	27.6 kW		
Lumen Maintenance			
Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1150	>81,000	>81,000	>81,000
Reported per TM-21-11. See luminaire datasheet for details.			

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.



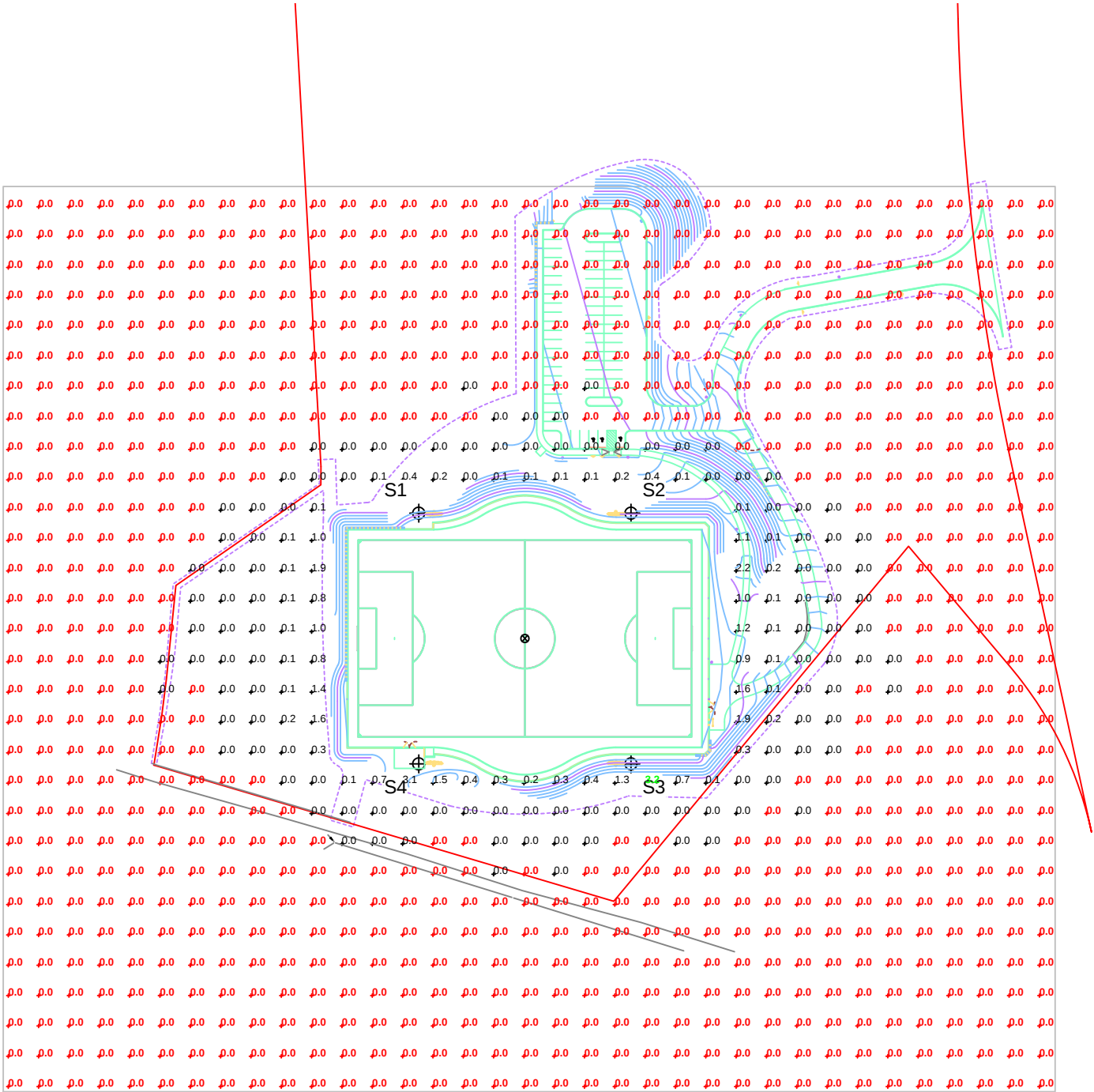
Pole location(s) ⦿ dimensions are relative to 0,0 reference point(s) ⊗



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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	S1-S4	70'	-4'	66'	TLC-LED-1150	6	6	0
4	TOTALS					24	24	0



Loker Soccer Field

Wayland,MA

GRID SUMMARY	
Name:	Zero Grid
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY			
MAINTAINED HORIZONTAL FOOTCANDLES			
	Entire Grid		
Scan Average:	0.04		
Maximum:	3		
Minimum:	0		
Avg / Min:	-		
Max / Min:	-		
UG (adjacent pts):	2391.19		
CU:	0.01		
No. of Points:	933		
LUMINAIRE INFORMATION			
Color / CRI:	5700K - 75 CRI		
Luminaire Output:	121,000 lumens		
No. of Luminaires:	24		
Total Load:	27.6 kW		
Lumen Maintenance			
Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1150	>81,000	>81,000	>81,000
Reported per TM-21-11. See luminaire datasheet for details.			

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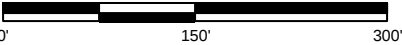
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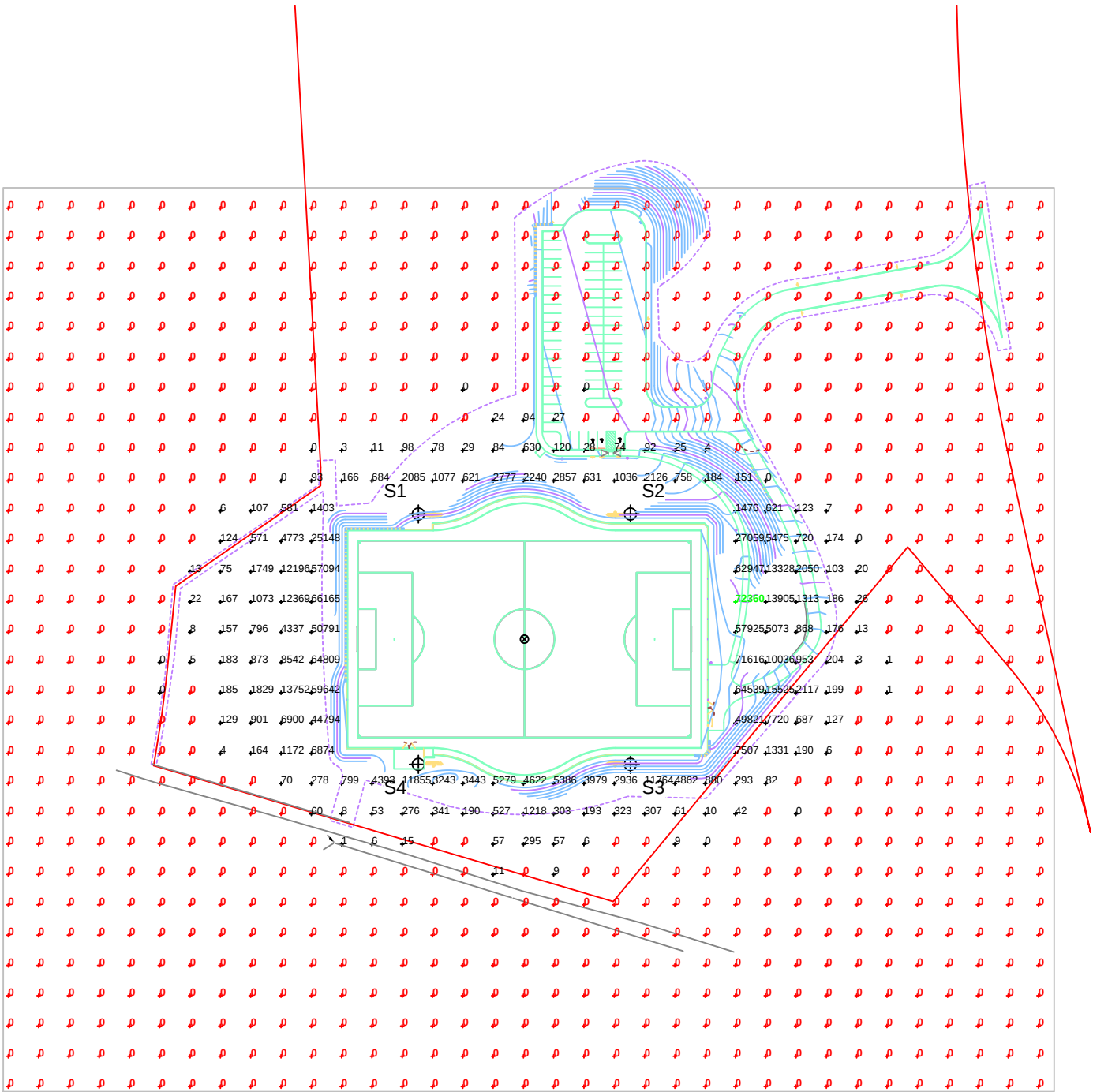
ILLUMINATION SUMMARY

SCALE IN FEET 1 : 150



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
4	S1-S4	70'	-4'	66'	TLC-LED-1150	6	6	0
4	TOTALS					24	24	0



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GRID SUMMARY	
Name:	Zero Grid
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY			
MAINTAINED CANDELA (PER FIXTURE)			
	Entire Grid		
Scan Average:	1110.90		
Maximum:	72360		
Minimum:	0		
Avg / Min:	-		
Max / Min:	-		
UG (adjacent pts):	6264.35		
CU:	0.01		
No. of Points:	933		
LUMINAIRE INFORMATION			
Color / CRI:	5700K - 75 CRI		
Luminaire Output:	121,000 lumens		
No. of Luminaires:	24		
Total Load:	27.6 kW		
Lumen Maintenance			
Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1150	>81,000	>81,000	>81,000
Reported per TM-21-11. See luminaire datasheet for details.			

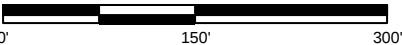
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SCALE IN FEET 1 : 150



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

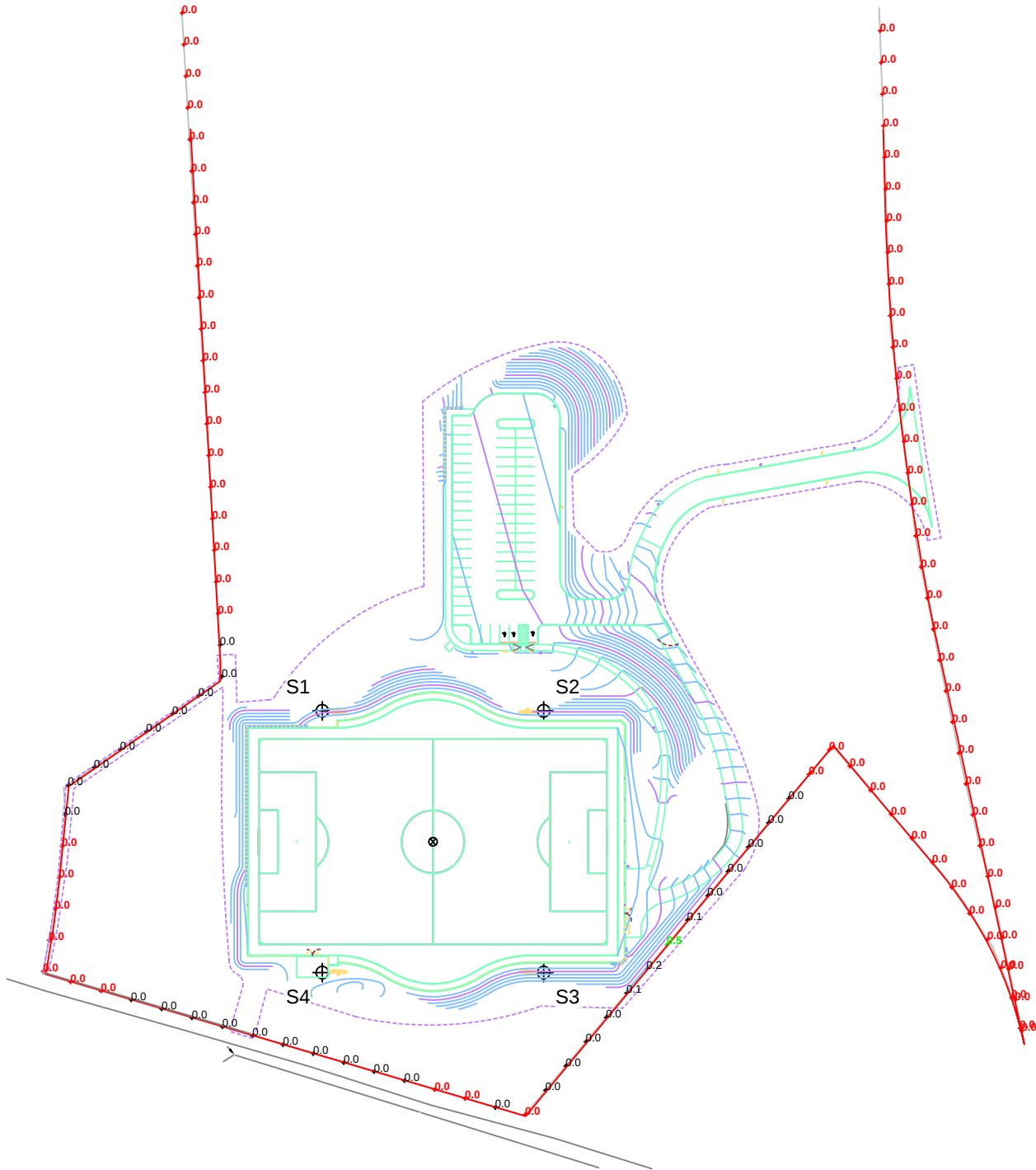


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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	S1-S4	70'	-4'	66'	TLC-LED-1150	6	6	0
4	TOTALS					24	24	0



Loker Soccer Field

Wayland,MA

GRID SUMMARY	
Name:	Property Line
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY			
MAINTAINED HORIZONTAL FOOTCANDLES			
		Entire Grid	
Scan Average:	0.0085		
Maximum:	0.46		
Minimum:	0.00		
No. of Points:	109		
LUMINAIRE INFORMATION			
Color / CRI:	5700K - 75 CRI		
Luminaire Output:	121,000 lumens		
No. of Luminaires:	24		
Total Load:	27.6 kW		
Lumen Maintenance			
Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1150	>81,000	>81,000	>81,000
Reported per TM-21-11. See luminaire datasheet for details.			

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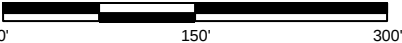
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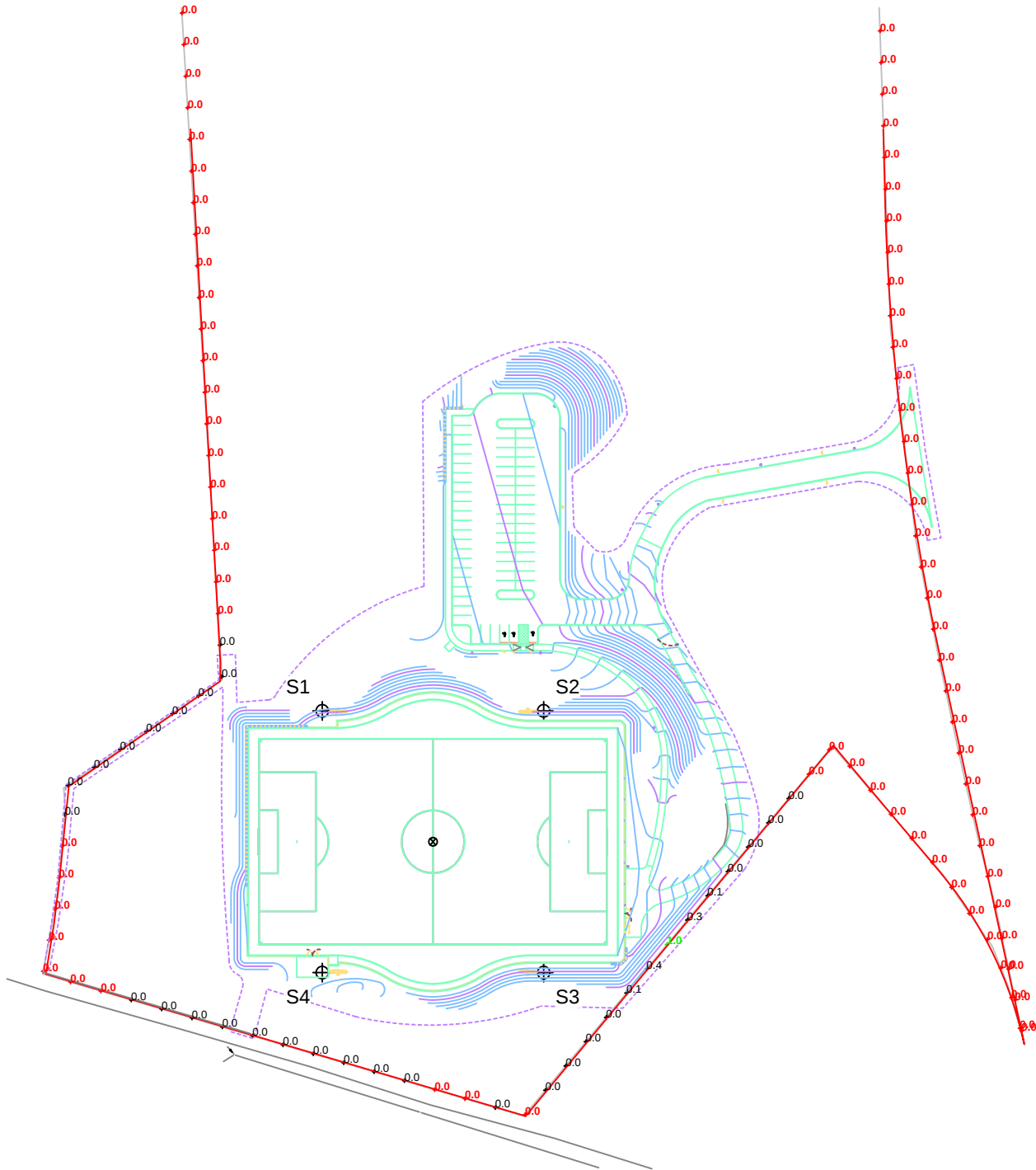
ILLUMINATION SUMMARY

SCALE IN FEET 1 : 150

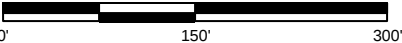


Pole location(s) $\oplus$ dimensions are relative to 0,0 reference point(s) $\otimes$

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	S1-S4	70'	-4'	66'	TLC-LED-1150	6	6	0
4	TOTALS					24	24	0



SCALE IN FEET 1 : 150



Loker Soccer Field

Wayland,MA

GRID SUMMARY	
Name:	Property Line
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY			
MAINTAINED MAX VERTICAL FOOTCANDLES			
	Entire Grid		
Scan Average:	0.0172		
Maximum:	0.95		
Minimum:	0.00		
No. of Points:	109		
LUMINAIRE INFORMATION			
Color / CRI:	5700K - 75 CRI		
Luminaire Output:	121,000 lumens		
No. of Luminaires:	24		
Total Load:	27.6 kW		
Lumen Maintenance			
Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1150	>81,000	>81,000	>81,000
Reported per TM-21-11. See luminaire datasheet for details.			

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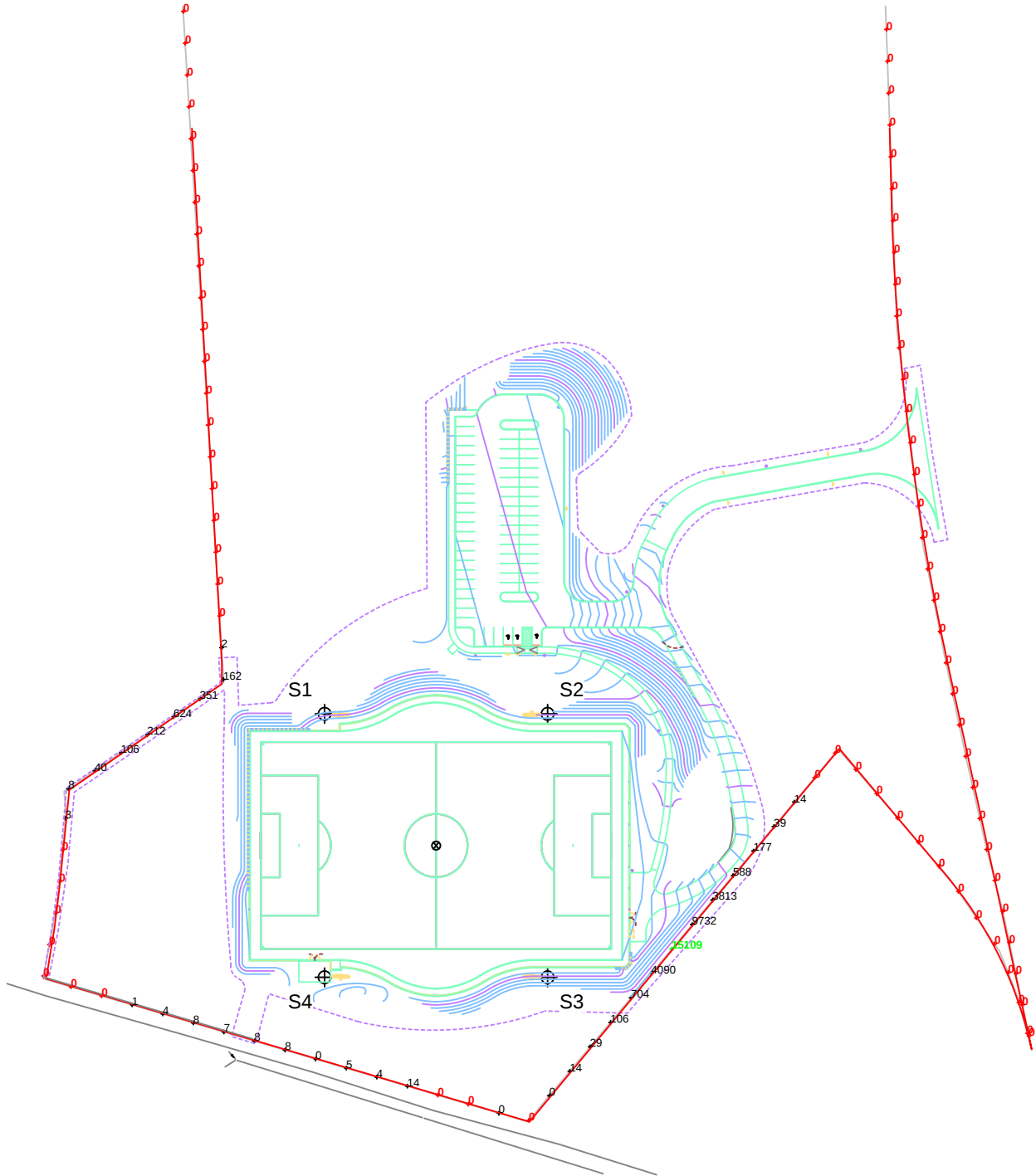
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Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	S1-S4	70'	-4'	66'	TLC-LED-1150	6	6	0
4	TOTALS					24	24	0



Loker Soccer Field

Wayland,MA

GRID SUMMARY	
Name:	Property Line
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY			
MAINTAINED CANDELA (PER FIXTURE)			
	Entire Grid		
Scan Average:	330.0715		
Maximum:	15108.77		
Minimum:	0.00		
No. of Points:	109		
LUMINAIRE INFORMATION			
Color / CRI:	5700K - 75 CRI		
Luminaire Output:	121,000 lumens		
No. of Luminaires:	24		
Total Load:	27.6 kW		
Lumen Maintenance			
Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1150	>81,000	>81,000	>81,000
Reported per TM-21-11. See luminaire datasheet for details.			

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ILLUMINATION SUMMARY

Loker Soccer Field
Wayland,MA

EQUIPMENT LAYOUT

INCLUDES:

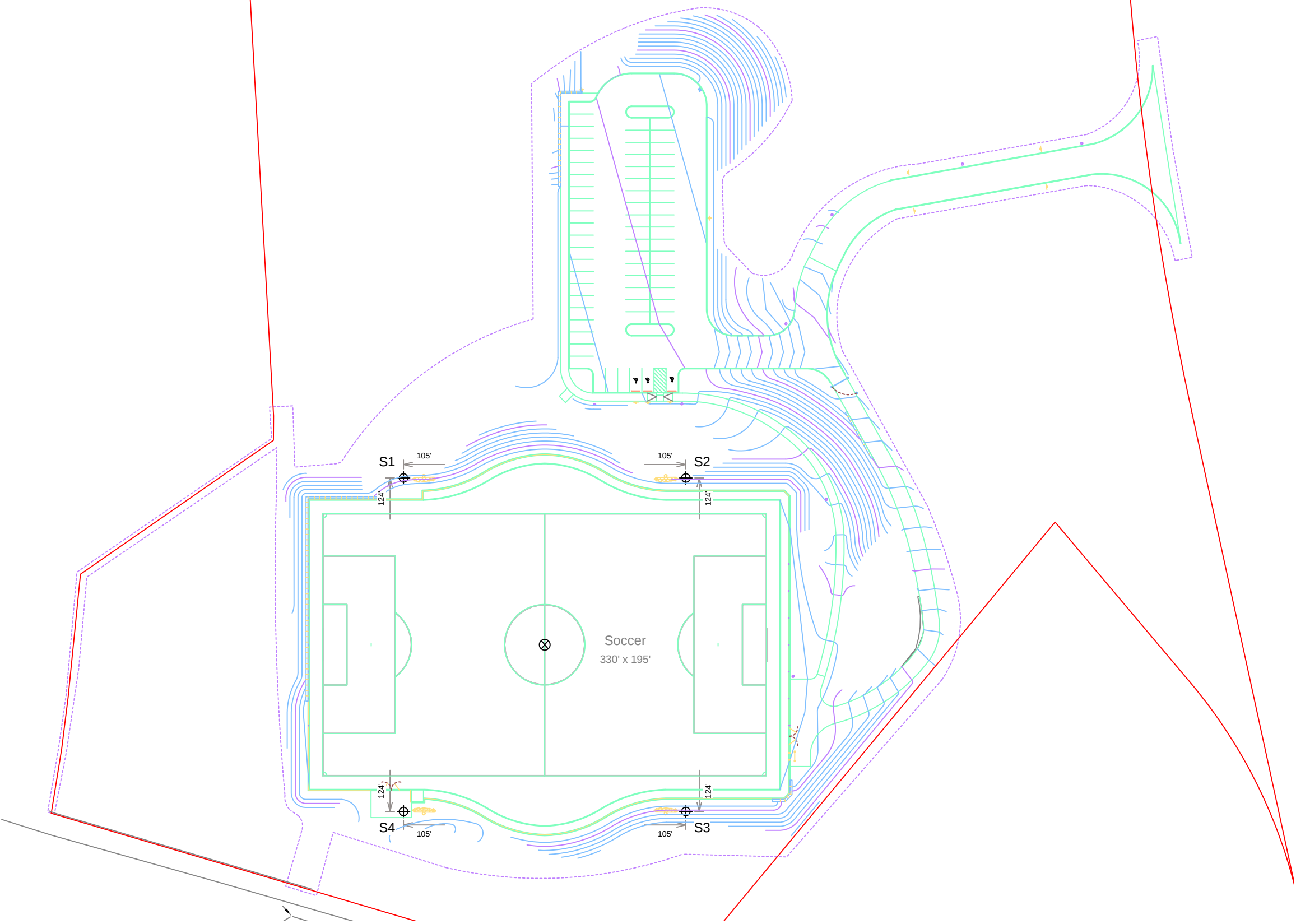
- Soccer

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EQUIPMENT LIST FOR AREAS SHOWN						
Pole				Luminaires		
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE
4	S1-S4	70'	-4'	66'	TLC-LED-1150	6
4	TOTALS					24

SINGLE LUMINAIRE AMPERAGE DRAW CHART							
Ballast Specifications (.90 min power factor)		Line Amperage Per Luminaire (max draw)					
Single Phase Voltage		208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	480 (60)
TLC-LED-1150		6.8	6.5	5.9	5.1	4.1	3.0



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Wayland, MA

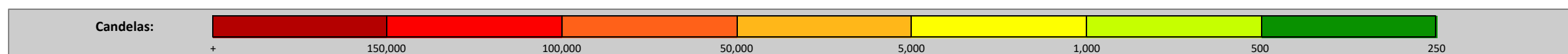
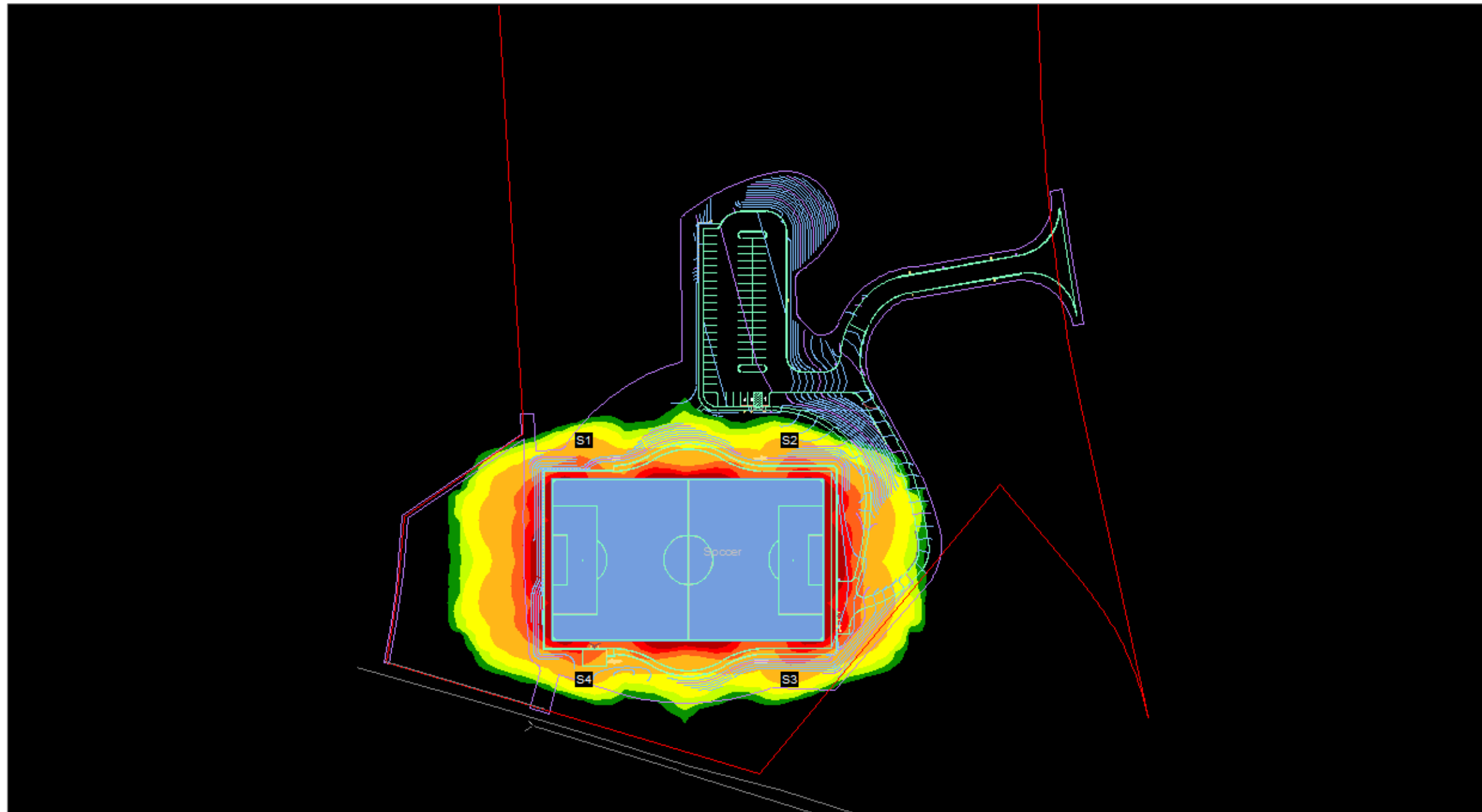
Summary

A well-designed lighting system controls light to provide maximum useful on-field illumination with minimal destructive off-site glare.

Candela Levels

Should only occur on or very near the lit area where the light source is in direct view. Care must be taken to minimize high glare zones.

Minimal to No Glare: 500 or less candela
Equivalent to 100W incandescent light bulb.



ENGINEERED DESIGN By: Markie Roake • File #191248AR1 • 21-Jan-19

ENVIRONMENTAL GLARE IMPACT