

132nd Square Park

Kirkland,WA

Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
S1-S2	70'	70'	6	TLC-LED-1200	7.02 kW	A
S3-S4	70'	70'	5	TLC-LED-1200	5.85 kW	A
4			22		25.74 kW	

Circuit Summary			
Circuit	Description	Load	Fixture Qty
A		25.74 kW	22

Fixture Type Summary							
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1200	LED 5700K - 75 CRI	1170W	136,000	>81,000	>81,000	>81,000	22

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Blanket Spill	Horizontal	0.19	0	15	0.00		A	22
Soccer	Horizontal Illuminance	32.9	22	38	1.71	1.50	A	22

From Hometown to Professional



We Make It Happen®

EQUIPMENT LIST FOR AREAS SHOWN							
Pole				Luminaires			
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID
2	S1-S2	70'	-	70'	TLC-LED-1200	6	6
2	S3-S4	70'	-	70'	TLC-LED-1200	5	5
4	TOTALS					22	22

132nd Square Park
Kirkland,WA

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

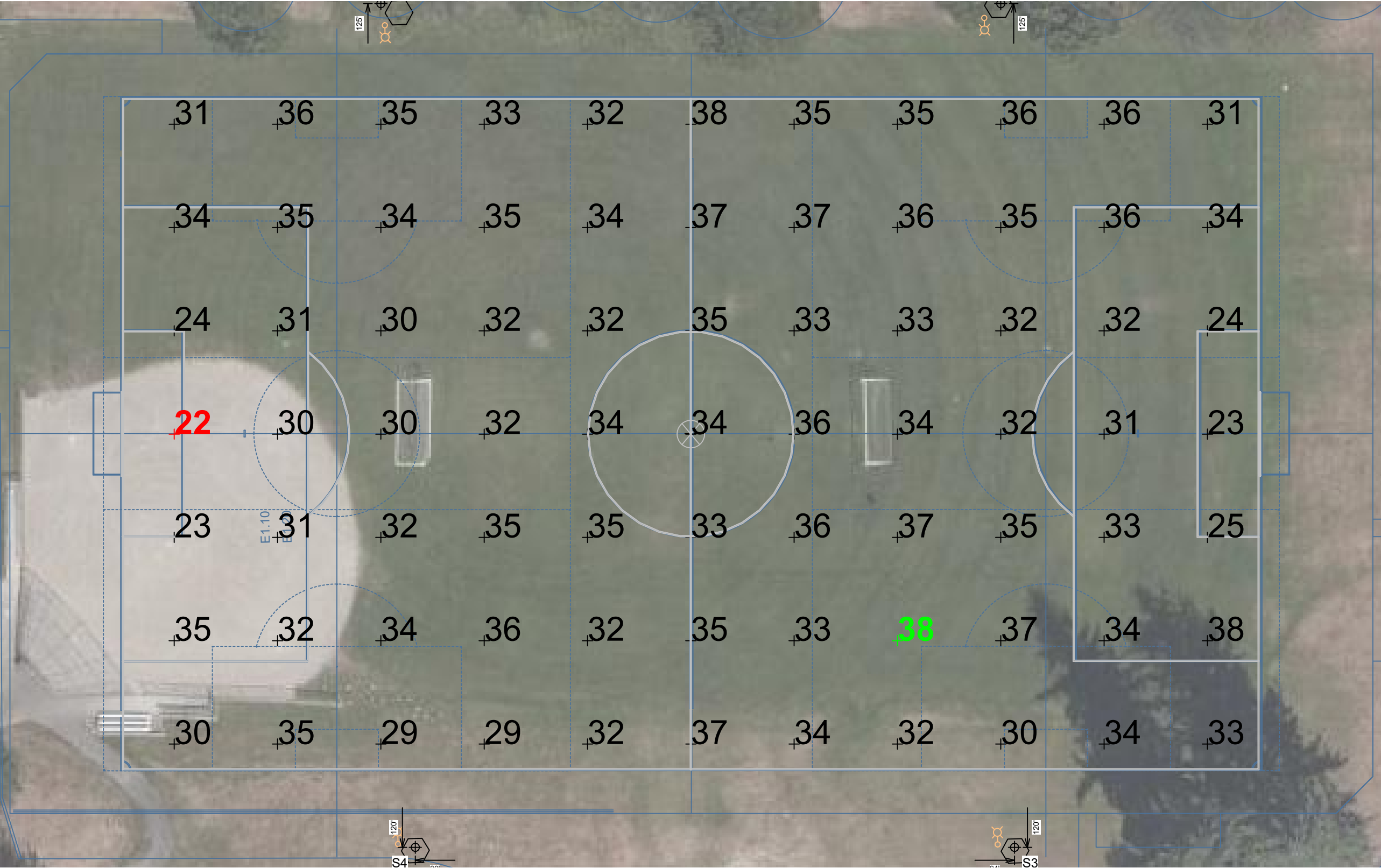
ILLUMINATION SUMMARY			
MAINTAINED HORIZONTAL FOOTCANDLES			
	Entire Grid		
Guaranteed Average:	30		
Scan Average:	32.91		
Maximum:	38		
Minimum:	22		
Avg / Min:	1.47		
Guaranteed Max / Min:	2.5		
Max / Min:	1.71		
UG (adjacent pts):	1.48		
No. of Points:	77		
LUMINAIRE INFORMATION			
Color / CRI:	5700K - 75 CRI		
Luminaire Output:	136,000 lumens		
No. of Luminaires:	22		
Total Load:	25.74 kW		
Lumen Maintenance			
Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1200	>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.

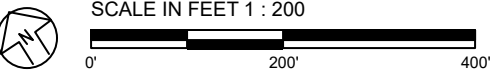
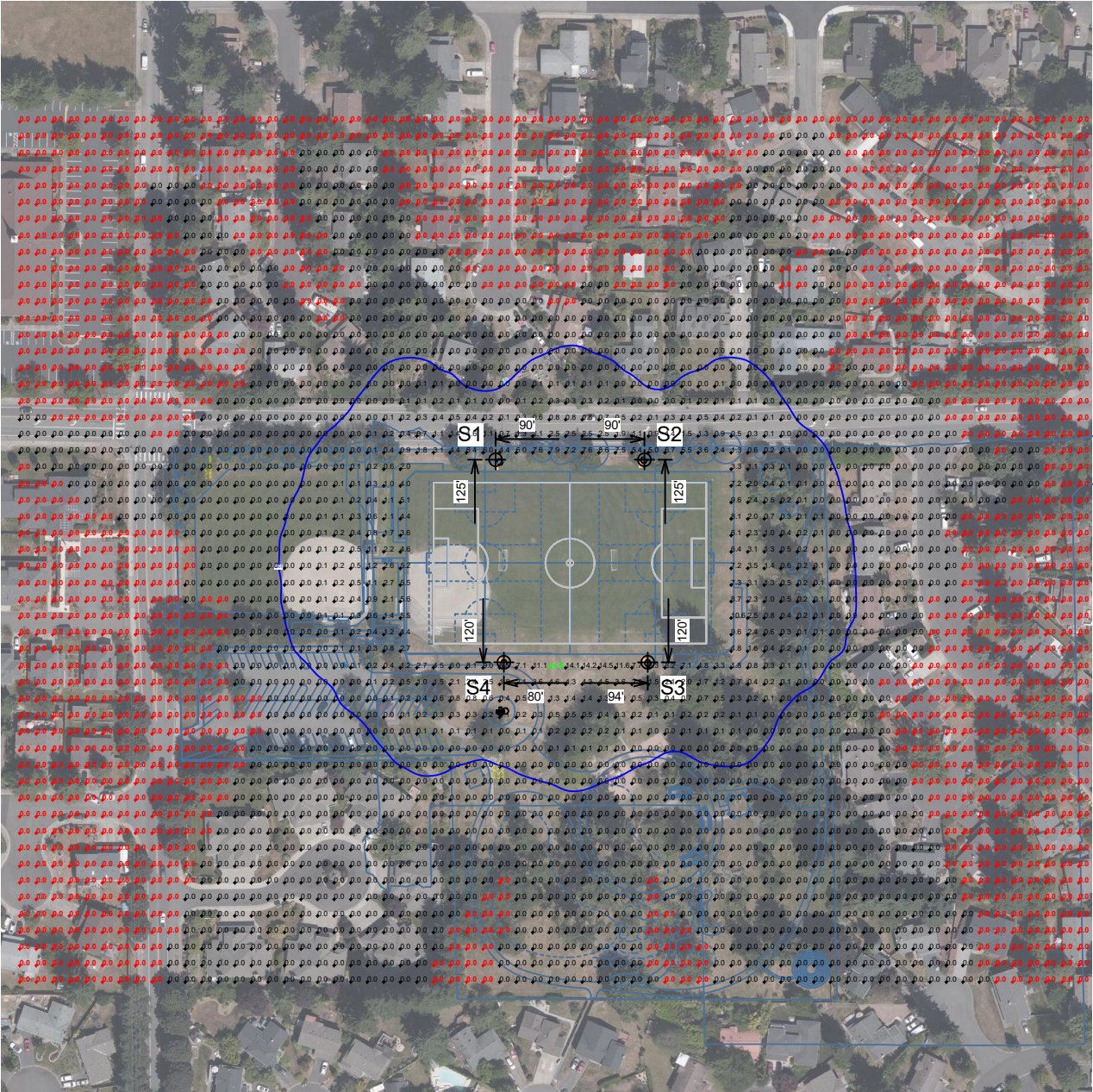
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



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EQUIPMENT LIST FOR AREAS SHOWN							
Pole				Luminaires			
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID
2	S1-S2	70'	-	70'	TLC-LED-1200	6	6
2	S3-S4	70'	-	70'	TLC-LED-1200	5	5
4	TOTALS					22	22
						0	



ENGINEERED DESIGN By: • File #201486A • 25-Sep-19

132nd Square Park

Kirkland,WA

GRID SUMMARY	
Name:	Blanket Spill
Size:	330' x 195'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

INITIAL HORIZONTAL FOOTCANDLES

	Entire Grid
Scan Average:	0.19
Maximum:	15
Minimum:	0
Avg / Min:	-
Max / Min:	-
No. of Points:	3217

LUMINAIRE INFORMATION

Color / CRI:	5700K - 75 CRI
Luminaire Output:	136,000 lumens
No. of Luminaires:	22
Total Load:	25.74 kW

Lumen Maintenance

Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1200	>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.

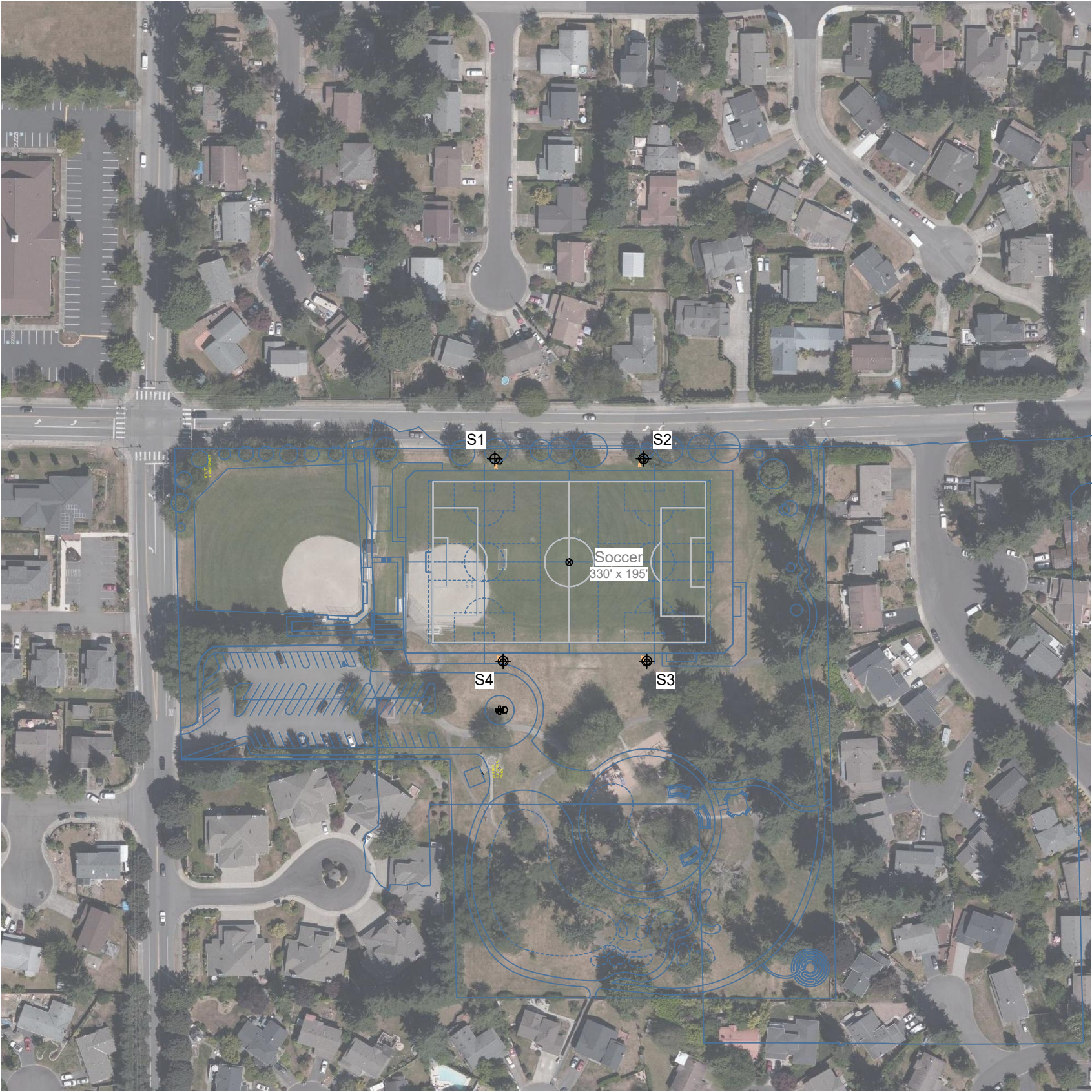
Installation Requirements: Results assume $\pm 3\%$ nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



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ILLUMINATION SUMMARY

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

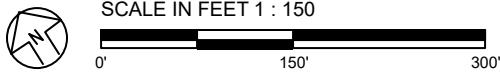


132nd Square Park
Kirkland,WA

EQUIPMENT LAYOUT	
INCLUDES: · Soccer	
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						
Pole				Luminaires		
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE
2	S1-S2	70'	-	70'	TLC-LED-1200	6
2	S3-S4	70'	-	70'	TLC-LED-1200	5
4	TOTALS					22

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-1200		7.0	6.6	6.1	5.2	4.2	3.0

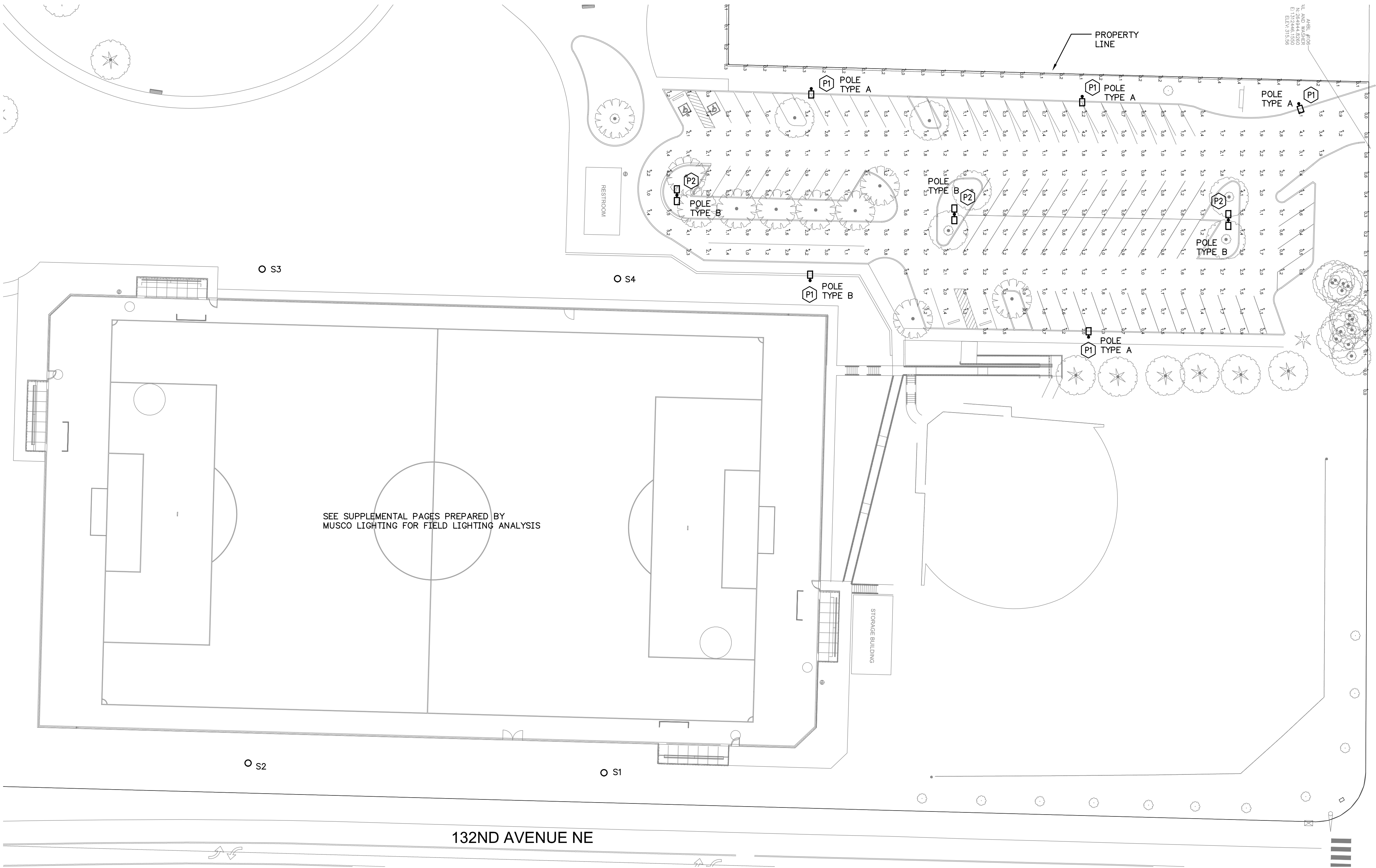


ENGINEERED DESIGN By: • File #201486A • 25-Sep-19

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



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SEE SUPPLEMENTAL PAGES PREPARED BY
MUSCO LIGHTING FOR FIELD LIGHTING ANALYSIS



PARKING AREA FIXTURE

MAXIMUM FIXTURE HEIGHT 20' ABOVE FINISHED GRADE.
FULL CUT-OFF, NEIGHBORHOOD FRIENDLY OPTICS.

LOCATION	AVERAGE	MINIMUM	AVG/MIN
PARKING AREA	1.41	0.3	4.70

**PARKING AREA
PHOTOMETRIC CALC'S (FC)**



PARKING AREA LIGHTING ANALYSIS
SCALE: 1" = 30'

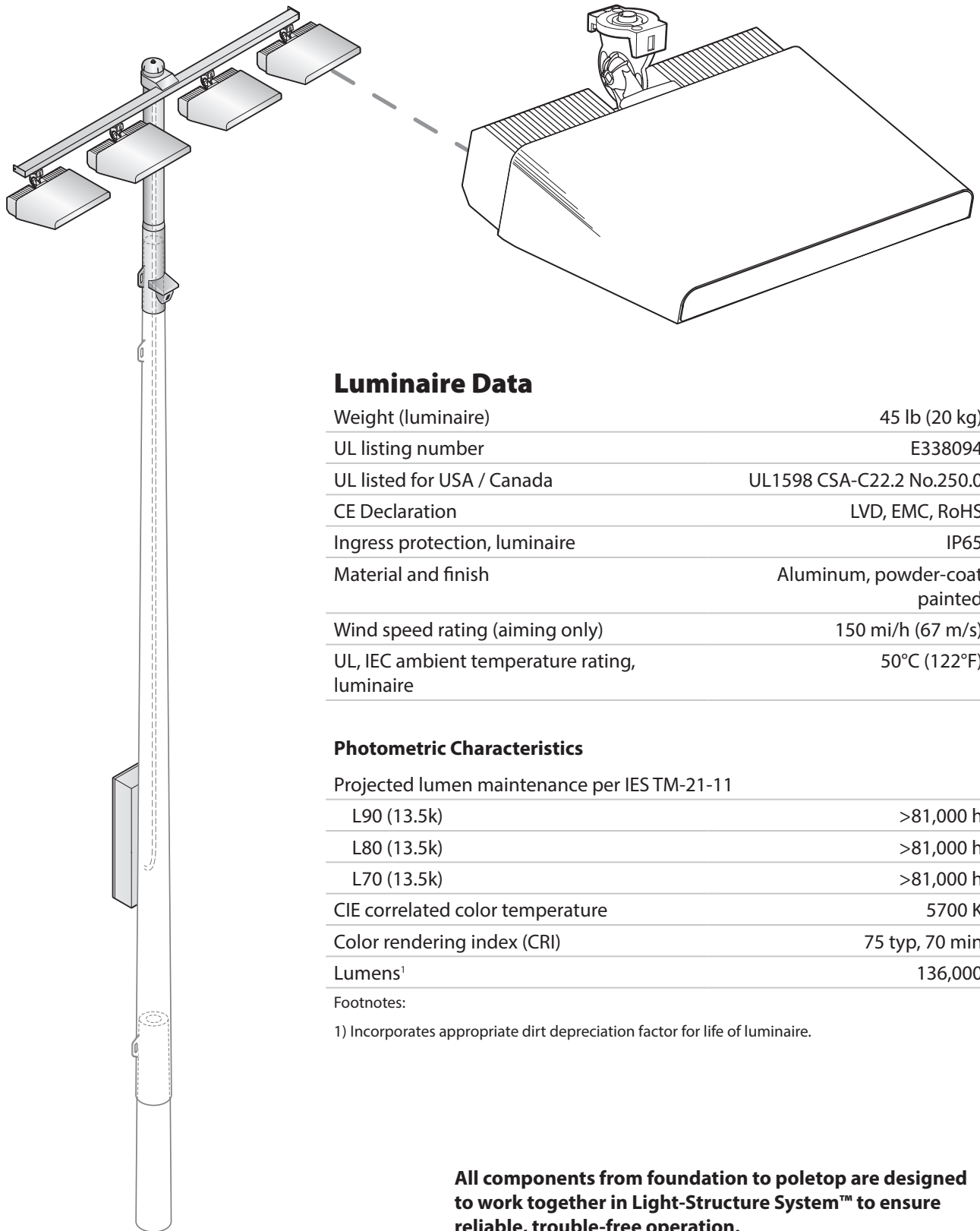

LIGHT FIXTURE SCHEDULE									
TYPE	DESCRIPTION	MANUFACTURER		QTY.	LIGHT SOURCE			INPUT WATTS	NOTES
		NAME	CATALOG NUMBER		TYPE	*/LUMENS	CCT (K)		
P1	SINGLE HEAD (TYPE 4)	KIM LIGHTING	1SA SAR4 P35 40L 4K 208 BL DF NFO	1	LED	4844	4000	46	1,2,3
P2	DOUBLE HEAD (TYPE 4)	KIM LIGHTING	2SB SAR4 P70 40L 4K 208 BL DF NFO	2	LED	16296	4000	186	1,2,3
POLE TYPE A	5" X 16" SQUARE STEEL NON-TAPERED	KIM LIGHTING	PRA16-5188	1	N/A	N/A	N/A	N/A	1,2,3
POLE TYPE B	5" X 19.5" SQUARE STEEL NON-TAPERED	KIM LIGHTING	PRA20-5188	1	N/A	N/A	N/A	N/A	1,2,3
NOTES: * DL = DELIVERED LUMENS, IL = INITIAL LUMENS, (#) WHERE SHOWN IN FIXTURE TYPE AND CATALOG NUMBER = REFER TO PLANS AND MEASURE FOR FIXTURE LENGTHS. 1. ALTERNATE MANUFACTURER MUST MEET DESIGN INTENT OF THE PROJECT INCLUDING MINIMUM LIGHT LEVELS. 2. COORDINATE FINISH COLORS WITH ARCHITECT. 3. COORDINATE MOUNTING TYPE AND APPLICATION PRIOR TO ORDER.									

DWG. NO. **E0.00**

FILE	ENGR.	REVIEW	SCALE	DATE	
				1/31/2020	
NO.	REVISION		BY	REVIEW	DATE



Luminaire and Driver – TLC-LED-1200



Luminaire Data

Weight (luminaire)	45 lb (20 kg)
UL listing number	E338094
UL listed for USA / Canada	UL1598 CSA-C22.2 No.250.0
CE Declaration	LVD, EMC, RoHS
Ingress protection, luminaire	IP65
Material and finish	Aluminum, powder-coat painted
Wind speed rating (aiming only)	150 mi/h (67 m/s)
UL, IEC ambient temperature rating, luminaire	50°C (122°F)

Photometric Characteristics

Projected lumen maintenance per IES TM-21-11

L90 (13.5k)	>81,000 h
L80 (13.5k)	>81,000 h
L70 (13.5k)	>81,000 h
CIE correlated color temperature	5700 K
Color rendering index (CRI)	75 typ, 70 min
Lumens ¹	136,000

Footnotes:

1) Incorporates appropriate dirt depreciation factor for life of luminaire.

All components from foundation to poletop are designed to work together in Light-Structure System™ to ensure reliable, trouble-free operation.

Luminaire and Driver – TLC-LED-1200

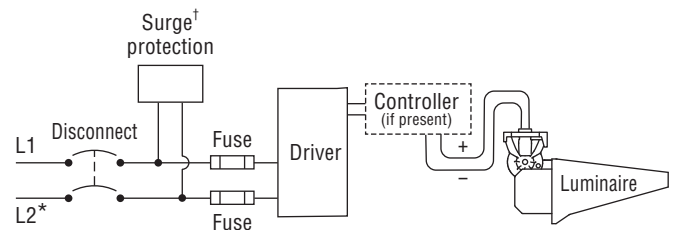
Driver Data

Electrical Data

Rated wattage¹

Per driver	1170 W
Per luminaire	1170 W
Number of luminaires per driver	1
Starting (inrush) current	<40 A, 256 μ s
Fuse rating	15 A
UL, IEC ambient temperature rating, electrical components enclosure	50°C (122°F)
Ingress protection, electrical components enclosure	IP54
Efficiency	95%
Dimming mode	optional
Range, energy consumption	14 – 100%
Range, light output	19 – 100%

Typical Wiring



* If L2 (com) is neutral then not switched or fused.

† Not present if indoor installation.

	200 Vac 50/60 Hz	208 Vac 60 Hz	220 Vac 50/60 Hz	230 Vac 50 Hz	240 Vac 50/60 Hz	277 Vac 60 Hz	347 Vac 60 Hz	380 Vac 50/60 Hz	400 Vac 50 Hz	415 Vac 50 Hz	480 Vac 60 Hz
Max operating current per luminaire ²	7.26 A	6.98 A	6.60 A	6.31 A	6.05 A	5.24 A	4.18 A	3.82 A	3.63 A	3.50 A	3.03 A

Footnotes:

- 1) Rated wattage is the power consumption, including driver efficiency losses, at stabilized operation in 25°C ambient temperature environment.
- 2) Operating current includes allowance for 0.90 minimum power factor, operating temperature, and LED light source manufacturing tolerances.

Notes

1. Use thermal magnetic HID-rated or D-curve circuit breakers.
2. See *Musco Control System Summary* for circuit information.

