

MUSCO LIGHTING SUBMITTAL FOR PRODUCTION

PREPARED FOR:

**Louisville Collegiate School Multipurpose**

Lighting Project  
Louisville, KY  
July 6, 2021

Project #157999

*Submitted by:*

**Musco Sports Lighting, LLC**

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Muscatine, Iowa 52761

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# Louisville Collegiate School Multipurpose

Louisville, KY USA

## Lighting System

Pole / Fixture Summary					
Pole ID	Pole Height	Min Height	Fixture Qty	Luminaire Type	Load
F1-F2	70'	70'	3	TLC-LED-1200	3.51 kW
			6	TLC-LED-1500	8.59 kW
F3-F4	80'	80'	3	TLC-LED-1200	3.51 kW
			6	TLC-LED-1500	8.59 kW
4			36		49.36 kW

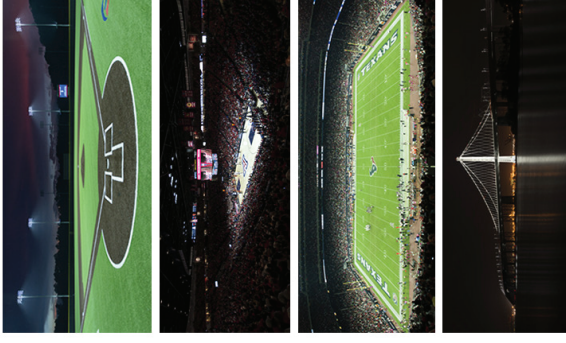
Circuit Summary		
Circuit	Description	Load
A	Soccer	49.36 kW
		36

Fixture Type Summary						
Type	Source	Wattage	Lumens	L90	L60	Quantity
TLC-LED-1200	LED 5700K - 75 CRI	1170W	136,000	>120,000	>120,000	12
TLC-LED-1500	LED 5700K - 75 CRI	1430W	160,000	>120,000	>120,000	24

## Light Level Summary

Calculation Grid Summary									
Grid Name	Calculation Metric	Illumination			Circuits			Fixture Qty	Circuit
		Ave	Min	Max	Ave/Min	Max/Min	Ave/Min		
Bleachers	Horizontal	3.74	1	8	6.45	3.74	A	36	A
NW Spill	Horizontal	0.01	0	0.04	0.00		A	36	A
NW Spill	Max Candela (by Fixture)	478	0	2081	0.00		A	36	A
NW Spill	Max Vertical Illuminance Metric	0.02	0	0.08	0.00		A	36	A
Road Spill	Horizontal	0.03	0	0.26	0.00		A	36	A
Road Spill	Max Candela (by Fixture)	844	0	4912	0.00		A	36	A
Road Spill	Max Vertical Illuminance Metric	0.05	0	0.39	0.00		A	36	A
Soccer	Horizontal Illuminance	54.7	39	65	1.69	1.40	A	36	A
Store Spill	Horizontal	0	0	0	0.00		A	36	A
Store Spill	Max Candela (by Fixture)	0	0	0	0.00		A	36	A
Store Spill	Max Vertical Illuminance Metric	0	0	0	0.00		A	36	A

From Hometown to Professional



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Louisville Collegiate School Multipurpose  
Louisville, KY USA

**GRID SUMMARY**

Name: Soccer  
Size: 360' x 210'  
Spacing: 30.0' x 30.0'  
Height: 3.0' above grade

**ILLUMINATION SUMMARY**

MAINTAINED HORIZONTAL FOOTCANDLES

Entire Grid

Guaranteed Average: 50

Scan Average: 54.70

Maximum: 65

Minimum: 39

Avg / Min: 1.42

Guaranteed Max / Min: 2

Max / Min: 1.69

UG (adjacent pts): 1.35

CU: 0.76

No. of Points: 84

Applied Circuits: A

No. of Luminaires: 36

Total Load: 48.36 kW

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

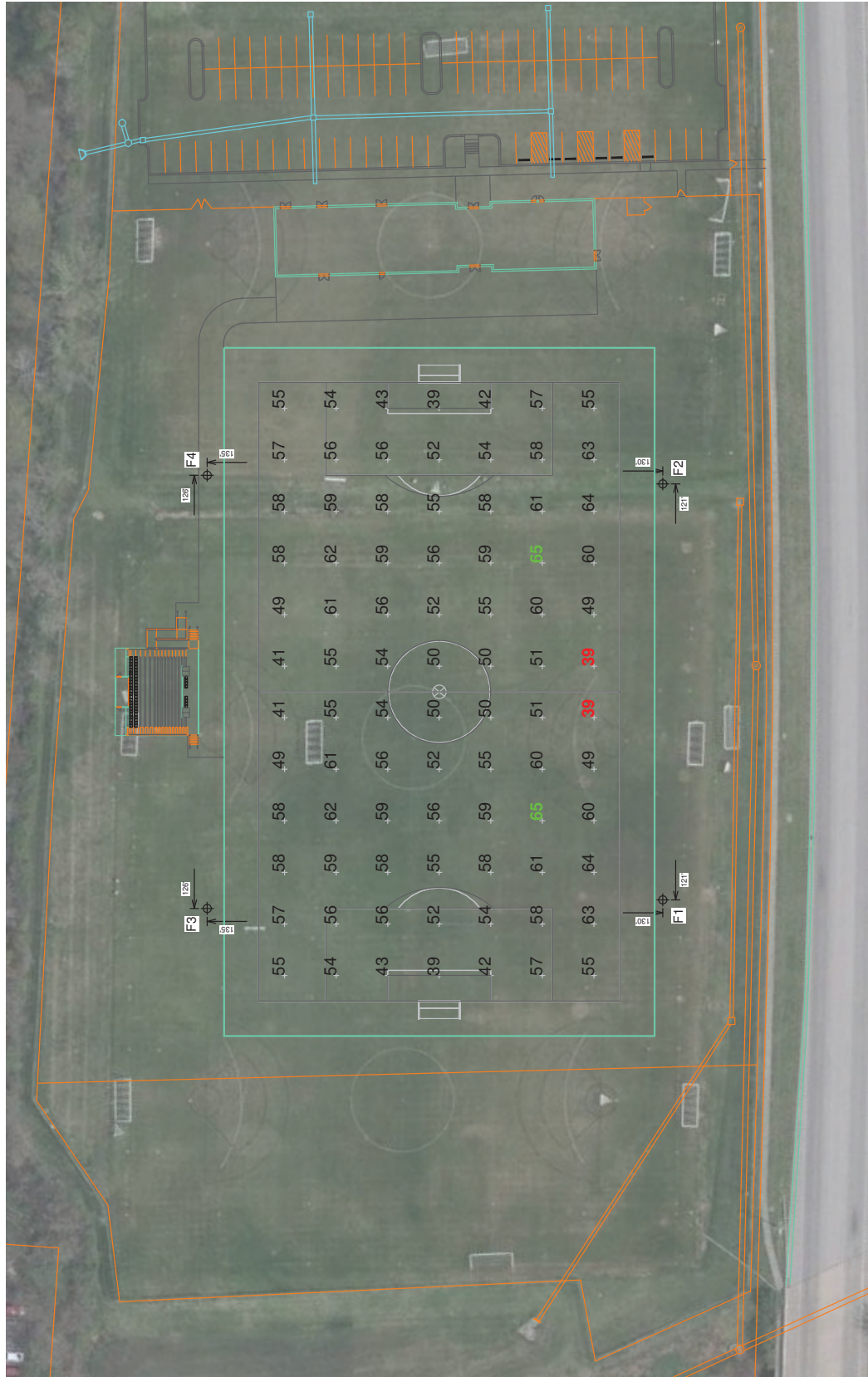
**Field Measurements:** Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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

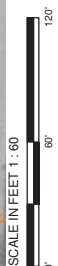
**Installation Requirements:** Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

**EQUIPMENT LIST FOR AREAS SHOWN**

CITY	LOCATION	Pole Size	GARAGE ELEVATION	MOUNTING HEIGHT	Luminaires			TOTALS
					LUMINAIRE	QTY / POLE	THIS GRID / OTHER GRIDS	
2	F1-F2	70'	-	70'	TLC-LED-1500	3	3	0
2	F3-F4	80'	-	80'	TLC-LED-1500	6	6	0
4					TLC-LED-1200	36	36	0



Pole location(s) ⊕ dimensions are relative to 0.0 reference point(s) ⊗



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**ILLUMINATION SUMMARY**

Louisville Collegiate School Multipurpose  
Louisville, KY USA

EQUIPMENT LIST FOR AREAS SHOWN

CITY	Pole LOCATION	Pole SIZE	GARAGE ELEVATION	MOUNTING HEIGHT	Luminaires			
					LUMINAIRE TYPE	QTY / POLE	THIS GRID / OTHER GRIDS	
2	F1-F2	70'	-	70'	TLC-LED-1500	3	3	0
2	F3-F4	80'	-	80'	TLC-LED-1500	6	6	0
4					TLC-LED-1200	3	3	0
TOTALS						36	36	0

GRID SUMMARY

Name: Bleachers  
Spacing: 10.0' x 10.0'

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOT CANDLES

Entire Grid

Scan Average: 3.74

Maximum: 8

Minimum: 1

Avg / Min: 2.99

Max / Min: 6.45

UG (adjacent pts): 1.63

CU: 0.00

No. of Points: 25

LUMINAIRE INFORMATION

Applied Circuits: A

No. of Luminaires: 36

Total Load: 48.36 kW

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**Electrical System Requirements:** Refer to Ampereage 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)  $\Phi$  dimensions are relative to 0.0 reference point(s)  $\otimes$

SCALE IN FEET 1 : 20  
0' 20' 40'



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ILLUMINATION SUMMARY

Louisville Collegiate School Multipurpose  
Louisville, KY USA

**GRID SUMMARY**

Name: Store Spill  
Spacing: 30.0'  
Height: 3.0' above grade

**ILLUMINATION SUMMARY**

HORIZONTAL FOOTCANDLES

Scan Average: 0.0000  
Maximum: 0.00  
Minimum: 0.00  
No. of Points: 20

LUMINAIRE INFORMATION

Applied Circuits: A  
No. of Luminaires: 36  
Total Load: 48.36 kW

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**EQUIPMENT LIST FOR AREAS SHOWN**

CITY	LOCATION	Pole Size	GARAGE ELEVATION	MOUNTING HEIGHT	Luminaires		
					LUMINAIRE	QTY / POLE	THIS GRID / OTHER GRID
2	F3-F2	70'	-	TLC-LED-1500	3	3	0
2	F3-F4	80'	-	TLC-LED-1500	6	6	0
4				TLC-LED-1200	3	3	0
TOTALS					36	36	0



Pole location(s) Ⓢ dimensions are relative to 0.0 reference point(s) ⊗

SCALE IN FEET 1 : 100  
0' 100' 200'  
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**ILLUMINATION SUMMARY**

Louisville Collegiate School Multipurpose  
Louisville, KY USA

**GRID SUMMARY**

Name: Store Spill  
Spacing: 30.0'  
Height: 3.0' above grade

**ILLUMINATION SUMMARY**

MAX VERTICAL FOOTCANDLES

Entire Grid  
Scan Average: 0.0000  
Maximum: 0.00  
Minimum: 0.00  
No. of Points: 20  
LUMINAIRE INFORMATION  
Applied Circuits: A  
No. of Luminaires: 36  
Total Load: 48.36 kW

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**EQUIPMENT LIST FOR AREAS SHOWN**

CITY	LOCATION	Pole Size	GARAGE ELEVATION	MOUNTING HEIGHT	Luminaires		
					LUMINAIRE	QTY / POLE	THIS GRID / OTHER GRIDS
2	F3-F2	70'	-	TLC-LED-1500	3	3	0
2	F3-F4	80'	-	TLC-LED-1500	6	6	0
4	TOTALS			TLC-LED-1200	36	36	0



Pole location(s) Ⓢ dimensions are relative to 0.0 reference point(s) ⊗

SCALE IN FEET 1 : 100  
0' 100' 200'

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**ILLUMINATION SUMMARY**

Louisville Collegiate School Multipurpose  
Louisville, KY USA

GRID SUMMARY	
Name:	Store Spill
Spacing:	30.0'
Height:	3.0' above grade

**ILLUMINATION SUMMARY**

CANDELA (PER FIXTURE)	
Scan Average:	0.0000
Maximum:	0.00
Minimum:	0.00
No. of Points:	20

LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	36
Total Load:	48.36 kW

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**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**

CITY	LOCATION	Pole Size	GARAGE ELEVATION	MOUNTING HEIGHT	LUMINAIRE	Luminaires		
						QTY / POLE	THIS GRID	OTHER GRIDS
2	F1-F2	70'	-	70'	TLC-LED-1500	3	3	0
2	F3-F4	80'	-	80'	TLC-LED-1200	6	6	0
4	TOTALS					36	36	0



SCALE IN FEET 1 : 100  
0' 100' 200'

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Pole location(s) Ⓢ dimensions are relative to 0.0 reference point(s) Ⓢ



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**ILLUMINATION SUMMARY**

Louisville Collegiate School Multipurpose  
Louisville, KY USA

**GRID SUMMARY**

Name: Road Spill  
Spacing: 30.0'  
Height: 3.0' above grade

**ILLUMINATION SUMMARY**

HORIZONTAL FOOTCANDLES

Scan Average: 0.0347  
Maximum: 0.31  
Minimum: 0.00  
No. of Points: 49

LUMINAIRE INFORMATION

Applied Circuits: A  
No. of luminaires: 36  
Total Load: 48.36 kW

**Guaranteed Performance:** The ILLUMINATION described above is guaranteed per your Musco Warranty document.

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**EQUIPMENT LIST FOR AREAS SHOWN**

QTY	LOCATION	Pole Size	GARBE ELEVATION	MOUNTING HEIGHT	Luminaires		
					LUMINAIRE	QTY / POLE	THIS GRID / OTHER GRIDS
2	F1-F2	70'	-	70'	3	3	0
2	F3-F4	80'	-	80'	3	3	0
TOTALS					36	36	0



Pole location(s) Ⓢ dimensions are relative to 0.0 reference point(s) ⊗

SCALE IN FEET 1 : 120



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**ILLUMINATION SUMMARY**





Louisville Collegiate School Multipurpose  
Louisville, KY USA

**GRID SUMMARY**

Name: Road Spill  
Spacing: 30.0'  
Height: 3.0' above grade

**ILLUMINATION SUMMARY**

CANDELA (PER FIXTURE)  
Entire Grid  
Scan Average: 1012.4194  
Maximum: 5893.81  
Minimum: 0.00  
No. of Points: 49  
LUMINAIRE INFORMATION  
Applied Circuits: A  
No. of luminaires: 36  
Total Load: 48.36 kW

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**EQUIPMENT LIST FOR AREAS SHOWN**

CITY	LOCATION	Pole Size	GARAGE ELEVATION	MOUNTING HEIGHT	Luminaires			
					LUMINAIRE	QTY / POLE	THIS GRID / OTHER GRIDS	
2	F1-F2	70'	-	70'	TLC-LED-1500	3	3	0
2	F3-F4	80'	-	80'	TLC-LED-1500	3	3	0
4	TOTALS					36	36	0



Pole location(s) ⊗ dimensions are relative to 0.0 reference point(s)



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**ILLUMINATION SUMMARY**

Louisville Collegiate School Multipurpose  
Louisville, KY USA

GRID SUMMARY	
Name:	NW Spill
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

HORIZONTAL FOOTCANDLES	
Scan Average:	0.0074
Maximum:	0.05
Minimum:	0.00
No. of Points:	41

LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	36
Total Load:	48.36 kW

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EQUIPMENT LIST FOR AREAS SHOWN

QTY	LOCATION	Pole Size	GARAGE ELEVATION	MOUNTING HEIGHT	Luminaires			
					LUMINAIRE	QTY / POLE	THIS GRID / OTHER GRIDS	
2	F1-F2	70'	-	70'	TLC-LED-1500	3	3	0
2	F3-F4	80'	-	80'	TLC-LED-1500	3	3	0
4	TOTALS					36	36	0



Pole location(s) ⊕ dimensions are relative to 0.0 reference point(s) ⊗



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ILLUMINATION SUMMARY

Louisville Collegiate School Multipurpose  
Louisville, KY USA

GRID SUMMARY	
Name:	NW Spill
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAX VERTICAL FOOTCANDLES	
Scan Average:	0.0183
Maximum:	0.09
Minimum:	0.00
No. of Points:	41

LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of luminaires:	36
Total Load:	48.36 kW

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EQUIPMENT LIST FOR AREAS SHOWN

QTY	LOCATION	Pole Size	GARAGE ELEVATION	MOUNTING HEIGHT	Luminaires		
					LUMINAIRE	QTY / POLE	THIS GRID / OTHER GRIDS
2	F1-F2	70'	-	70'	3	3	0
2	F3-F4	80'	-	80'	3	3	0
TOTALS					36	36	0



Pole location(s) ⊕ dimensions are relative to 0.0 reference point(s) ⊗



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ILLUMINATION SUMMARY

Louisville Collegiate School Multipurpose  
Louisville, KY USA

GRID SUMMARY	
Name:	NW Spill
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

CANDELA (PER FIXTURE)	
Scan Average:	573.2336
Maximum:	2497.01
Minimum:	0.00
No. of Points:	41

LUMINAIRE INFORMATION	
Entire Grid	
Applied Circuits:	A
No. of luminaires:	36
Total Load:	48.36 kW

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EQUIPMENT LIST FOR AREAS SHOWN						
QTY	LOCATION	Pole Size	MOUNTING HEIGHT	Luminaires		
				LUMINAIRE	QTY / POLE	THIS / OTHER GRID
2	F1-F2	70'	70'	TLC-LED-1500	3	3
0				TLC-LED-1200	0	0
2	F3-F4	80'	80'	TLC-LED-1500	3	3
0				TLC-LED-1200	0	0
TOTALS					36	36
4					0	0



Pole location(s) X dimensions are relative to 0.0 reference point(s) X



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ILLUMINATION SUMMARY

Louisville Collegiate School Multipurpose  
Louisville, KY USA

**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**

QTY	LOCATION	SIZE	GRADE ELEVATION	WORKING ELEVATION	LUMINAIRE	QTY/ POLE
2	F1-F2	70'	-	70'	TLC-LED-1500	6
2	F3-F4	80'	-	80'	TLC-LED-1200	3
					TLC-LED-1500	6
					TLC-LED-1200	3
<b>TOTALS</b>						<b>36</b>

**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)
Single Phase Voltage	7.0	6.6	6.1	5.2	4.2	3.0
TLC-LED-1200	8.5	8.1	7.4	6.4	5.1	4.7
TLC-LED-1500						



Pole location(s) ⊗ dimensions are relative to 0.0 reference point(s) ⊗



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**EQUIPMENT LAYOUT**