

Caiola Baseball Complex

Morrisville, PA

Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
A1-A2	60'	60'	2	TLC-LED-1200	2.34 kW	A
		60'	1	TLC-LED-900	0.89 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
B1-B2	70'	70'	6	TLC-LED-1200	7.02 kW	A
		16'	2	TLC-BT-575	1.15 kW	A
4			24		23.95 kW	

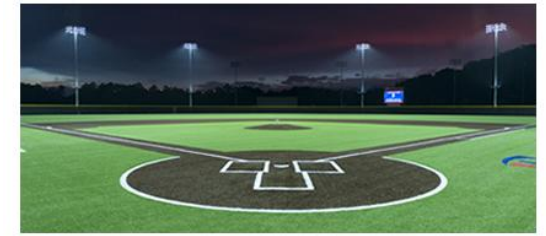
Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Softball	23.95 kW	24

Fixture Type Summary							
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1200	LED 5700K - 75 CRI	1170W	136,000	>120,000	>120,000	>120,000	16
TLC-BT-575	LED 5700K - 75 CRI	575W	52,000	>120,000	>120,000	>120,000	6
TLC-LED-900	LED 5700K - 75 CRI	890W	89,600	>120,000	>120,000	>120,000	2

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Oxford Valled Properties Glare	Max Candela (by Fixture)	10.9	0	80.3	0.00		A	24
Oxford Valled Properties	Horizontal	0	0	0	0.00		A	24
Oxford Valled Properties	Max Vertical Illuminance Metric	0	0	0	0.00		A	24
Oxford Valley Road Glare	Max Candela (by Fixture)	31.6	0.45	118	259.92	70.19	A	24
Oxford Valley Road Spill	Horizontal	0	0	0	0.00		A	24
Oxford Valley Road Spill	Max Vertical Illuminance Metric	0	0	0	0.00		A	24
Softball (Infield)	Horizontal Illuminance	53	40	64	1.61	1.32	A	24
Softball (Outfield)	Horizontal Illuminance	32.1	22	46	2.05	1.46	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
2	A1-A2	60'	-	60'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-1200	2	2	0
2	B1-B2	70'	-	60'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	2	2	0
				70'	TLC-LED-1200	6	6	0
4	TOTALS					24	24	0

Caiola Baseball Complex

Morrisville, PA

GRID SUMMARY	
Name:	Softball
Size:	225'/240'/225' - basepath 60'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

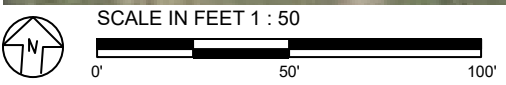
ILLUMINATION SUMMARY		
MAINTAINED HORIZONTAL FOOTCANDLES		
	Infield	Outfield
Guaranteed Average:	50	30
Scan Average:	52.99	32.06
Maximum:	64	46
Minimum:	40	22
Avg / Min:	1.34	1.43
Guaranteed Max / Min:	2	2.5
Max / Min:	1.61	2.05
UG (adjacent pts):	1.34	1.54
CU:	0.70	
No. of Points:	25	102
LUMINAIRE INFORMATION		
Applied Circuits:	A	
No. of Luminaires:	24	
Total Load:	23.95 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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ILLUMINATION SUMMARY

Caiola Baseball Complex

Morrisville, PA

EQUIPMENT LAYOUT

INCLUDES:
· Softball

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

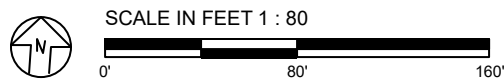
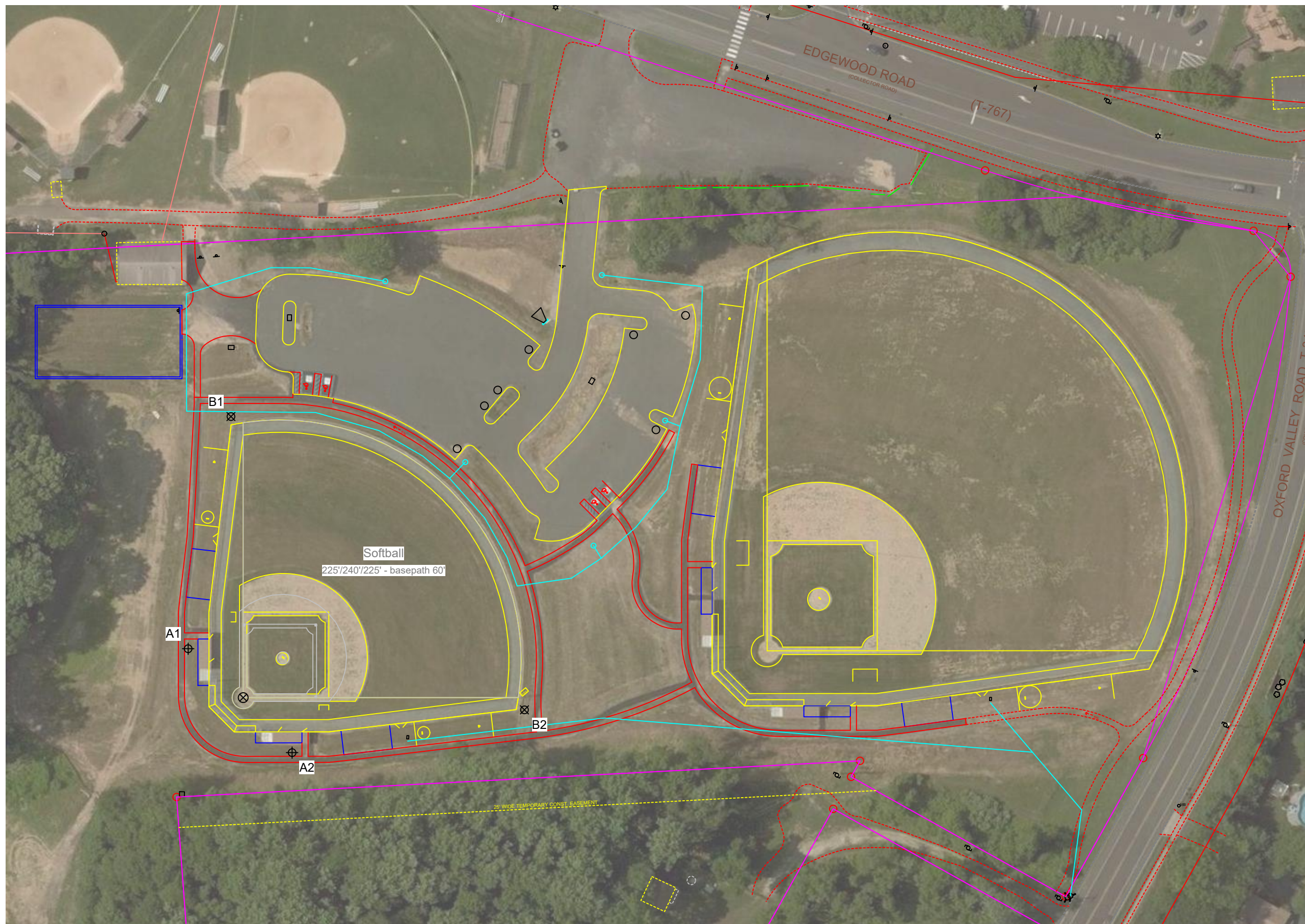
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

EQUIPMENT LIST FOR AREAS SHOWN

QTY	LOCATION	Pole		Luminaires		
		SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE
2	A1-A2	60'	-	60'	TLC-LED-900	1
				15.5'	TLC-BT-575	1
				60'	TLC-LED-1200	2
2	B1-B2	70'	-	15.5'	TLC-BT-575	2
				70'	TLC-LED-1200	6
				TOTALS		

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)	380 (60)	480 (60)
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-1200	7.0	6.6	6.1	5.2	4.2	4.0	3.0
TLC-BT-575	3.4	3.2	2.9	2.5	2.0	1.8	1.5
TLC-LED-900	5.3	5.0	4.6	4.0	3.2	2.9	2.3



ENGINEERED DESIGN By: Matt Sullivan · File #179022A · 18-Jul-22

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	A1-A2	60'	-	60'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-1200	2	2	0
2	B1-B2	70'	-	60'	TLC-BT-575	2	2	0
				15.5'	TLC-LED-1200	2	2	0
				70'	TLC-LED-1200	6	6	0
4	TOTALS					24	24	0

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Morrisville, PA

GRID SUMMARY

Name: Oxford Valley Road Spill
 Spacing: 30.0'
 Height: 12.0' above grade

ILLUMINATION SUMMARY

HORIZONTAL FOOTCANDLES

Entire Grid
 Scan Average: 0.0000
 Maximum: 0.00
 Minimum: 0.00
 No. of Points: 26

LUMINAIRE INFORMATION

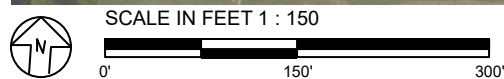
Applied Circuits: A
 No. of Luminaires: 24
 Total Load: 23.95 kW

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

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.



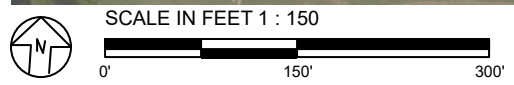
Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗



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Pole			Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	60'	-	60'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-1200	2	2	0
2	B1-B2	70'	-	60'	TLC-BT-575	2	2	0
				15.5'	TLC-LED-1200	2	2	0
				70'	TLC-LED-1200	6	6	0
4	TOTALS					24	24	0



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

Caiola Baseball Complex

Morrisville, PA

GRID SUMMARY	
Name:	Oxford Valley Road Spill
Spacing:	30.0'
Height:	12.0' above grade

ILLUMINATION SUMMARY	
MAX VERTICAL FOOTCANDLES	
Scan Average:	Entire Grid 0.0000
Maximum:	0.00
Minimum:	0.00
No. of Points:	26
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	24
Total Load:	23.95 kW

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

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

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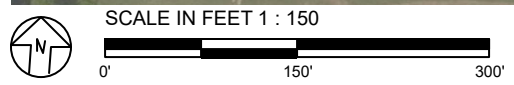
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Pole			Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	60'	-	60'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-1200	2	2	0
2	B1-B2	70'	-	60'	TLC-BT-575	2	2	0
				15.5'	TLC-LED-1200	2	2	0
				70'	TLC-LED-1200	6	6	0
4	TOTALS					24	24	0



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

ENGINEERED DESIGN By: Matt Sullivan · File #179022A · 18-Jul-22

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Morrisville, PA

GRID SUMMARY	
Name:	Oxford Valley Road Glare
Spacing:	30.0'
Height:	15.0' above grade

ILLUMINATION SUMMARY	
CANDELA (PER FIXTURE)	
Scan Average:	Entire Grid 31.5865
Maximum:	117.61
Minimum:	0.45
No. of Points:	26
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	24
Total Load:	23.95 kW

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

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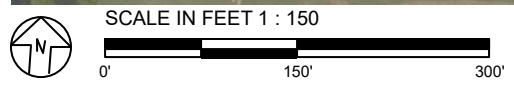


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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole			Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	60'	-	60'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-1200	2	2	0
2	B1-B2	70'	-	60'	TLC-BT-575	2	2	0
				15.5'	TLC-LED-1200	2	2	0
				70'	TLC-LED-1200	6	6	0
4	TOTALS					24	24	0



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

Caiola Baseball Complex

Morrisville, PA

GRID SUMMARY	
Name:	Oxford Valled Properties
Spacing:	30.0'
Height:	10.0' above grade

ILLUMINATION SUMMARY	
HORIZONTAL FOOTCANDLES	
Scan Average:	Entire Grid 0.0000
Maximum:	0.00
Minimum:	0.00
No. of Points:	32
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	24
Total Load:	23.95 kW

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

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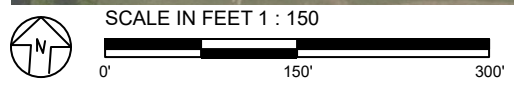
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Pole			Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	60'	-	60'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-1200	2	2	0
2	B1-B2	70'	-	60'	TLC-BT-575	2	2	0
				15.5'	TLC-LED-1200	2	2	0
				70'	TLC-LED-1200	6	6	0
4	TOTALS					24	24	0



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

Caiola Baseball Complex

Morrisville, PA

GRID SUMMARY	
Name:	Oxford Valled Properties
Spacing:	30.0'
Height:	10.0' above grade

ILLUMINATION SUMMARY	
MAX VERTICAL FOOTCANDLES	
Scan Average:	Entire Grid 0.0000
Maximum:	0.00
Minimum:	0.00
No. of Points:	32
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	24
Total Load:	23.95 kW

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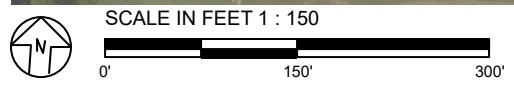
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Pole			Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
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				15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-1200	2	2	0
2	B1-B2	70'	-	60'	TLC-BT-575	2	2	0
				15.5'	TLC-LED-1200	2	2	0
				70'	TLC-LED-1200	6	6	0
4	TOTALS					24	24	0



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

Caiola Baseball Complex

Morrisville, PA

GRID SUMMARY	
Name:	Oxford Valled Properties Glare
Spacing:	30.0'
Height:	13.0' above grade

ILLUMINATION SUMMARY	
CANDELA (PER FIXTURE)	
Scan Average:	Entire Grid 10.8734
Maximum:	80.26
Minimum:	0.00
No. of Points:	32
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	24
Total Load:	23.95 kW

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Morrisville, PA

GLARE IMPACT

Summary

Map indicates the maximum candela an observer would see when facing the brightest light source from any direction.

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

GLARE

Candela Levels

High Glare: 150,000 or more candela

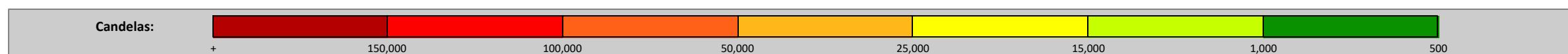
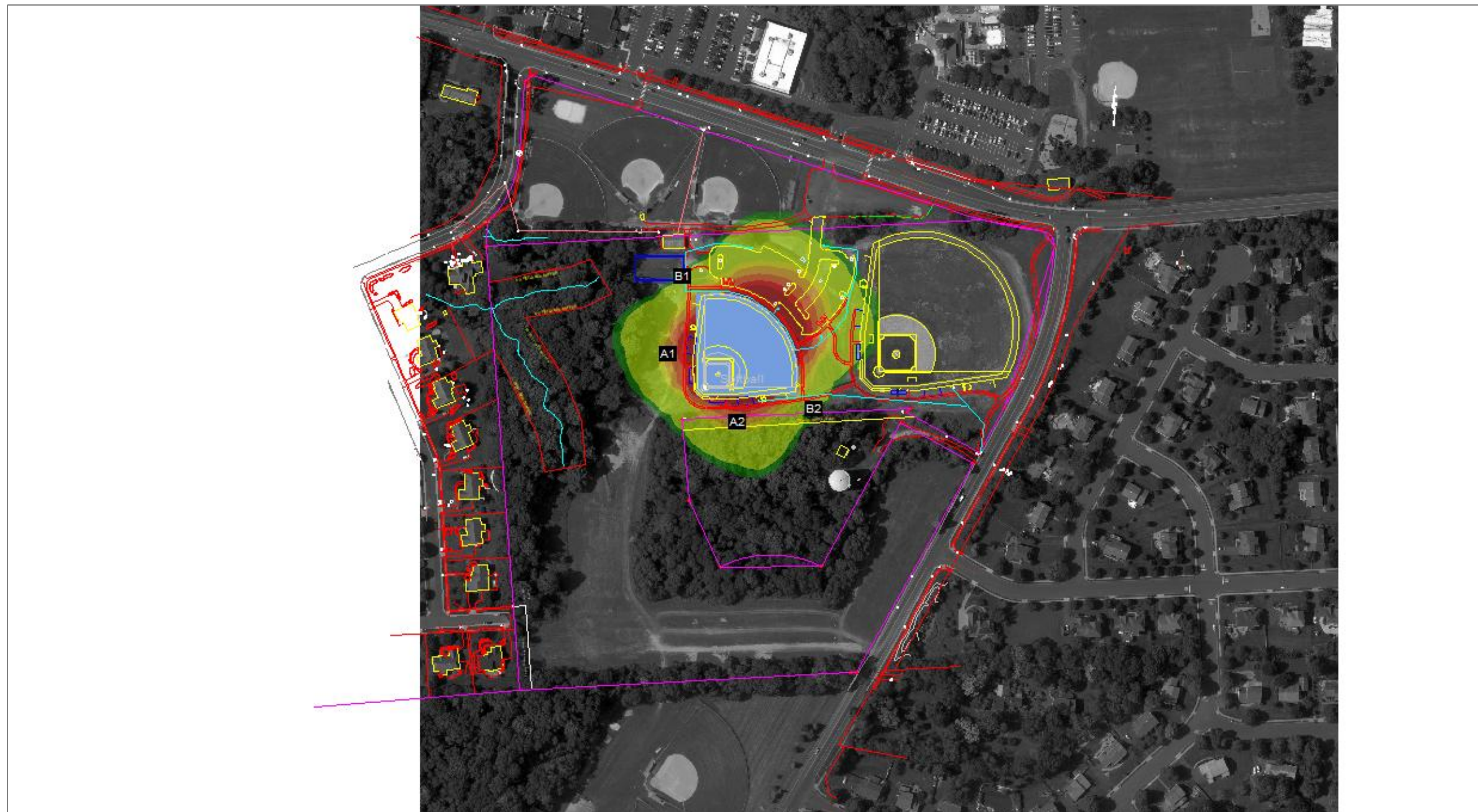
Should only occur on or very near the lit area where the light source is in direct view. Care must be taken to minimize high glare zones.

Significant Glare: 25,000 to 75,000 candela

Equivalent to high beam headlights of a car.

Minimal to No Glare: 500 or less candela

Equivalent to 100W incandescent light bulb.



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