Horizon Sports Complex Louisville, KY

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From Hometown to Professional

Countries of this depote to the	the subsect of the second of t	The control of the factor of the first production of the polynomial production of the first production	State of the State of San State of Stat			
0	5.75 kW	TLC-LED-1150	-	50'	60	S1-S4
œ	1.15 kW	TLC-LED-1160	1	20'	The state of the s	-
œ	4.60 KW	TLC-LED-1150	4	60'	60'	C3-C4
A	1.15 kW	TLC-LED-1150	-	20'	The first of the formal management and the first first of	And the Control of th
Þ	4.60 kW	TLC-LED-1150	4	60'	90	01-02
O	1.15 kW	TLC-LED-1160		20	The state of the s	Control of the Contro
c	3.45 KW	TLC-LED-1150	3	60'	60	B5-B6, C5
œ	1.15 kW	TLC-LED-11(50	-	20'	COLUMN TOWNS OF THE PROPERTY O	American contract and contract
œ	4.60 kW	TLC-LED-1150	4	70'	70'	84
œ	1.15 **	TLC-LED-1150	1	20"	Color of the Commission of the Color of the	
æ	5.75 kW	TLC-LED-1150	5	70'	operation and a second	And the second section of the section of t
Þ	1.15 KW	TLC-LED-1150	-	20'	ERACO RESPONDANTARIO	man () the () the man () the () the
Þ	5.75 KW	TLC-LED-1150	5	70°	70'	B2
≻	1.15 KW	TLC-LED-1150	-	20"	and the second s	
Þ	4,60 kW	TLC-LED-1150	4	70"	70'	B1
O	2.30 kW	TLC-LED-1150	ю	60'	90	A5-A6
В	1.15 kW	TLC-LED-1150	-	20'		
G 2	2.30 KW	TLC-LED-1150	2	g	60'	A3-A4
Þ	1.15 kW	TLC-LED-1150		20'	and seemed and prescriptions of the seement prescriptions	
Þ	2.30 KW	TLC-LED-1150	2	60'	60	A1-A2
Group	Load	Luminaire Type	FIXTURE City	Might Blike	FOR DESIDE	CORTO

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Š	23.0 kW	Speciel
×.	18.4	Total 3
5 KVV	31.05 kW	Field 2
S KW	31.05 kW	A Field 1
Dito	Sys.	COURT COMPANY OF THE PROPERTY

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 L50
 L50
 L76
 Quantity

 1150W
 121,000
 >51,000
 >51,000
 90

46 2.80 C 16	48.0	Horizontal lituminance	rieid o (Odilieid)
	300		10 10 10 10 10 10 10 10 10 10 10 10 10 1
	34 25	Horizontal Numinance	Field 3 (Infield)
37 2.43 B 27	23.4	Horizontal Illuminance	Field 2 (Outfield)
4	35.4 23	Horizontal Illuminanos	Field 2 (Infield)
36 2.46 A 27	23.8 16	Horizonial Illuminance	Field 1 (Outfield)
1.69 A	31.8	Horizontal Illuminance	Field 7 (infield)
1	Awe	Catculation Matric	AUZEN DIZE

RECEIVED.

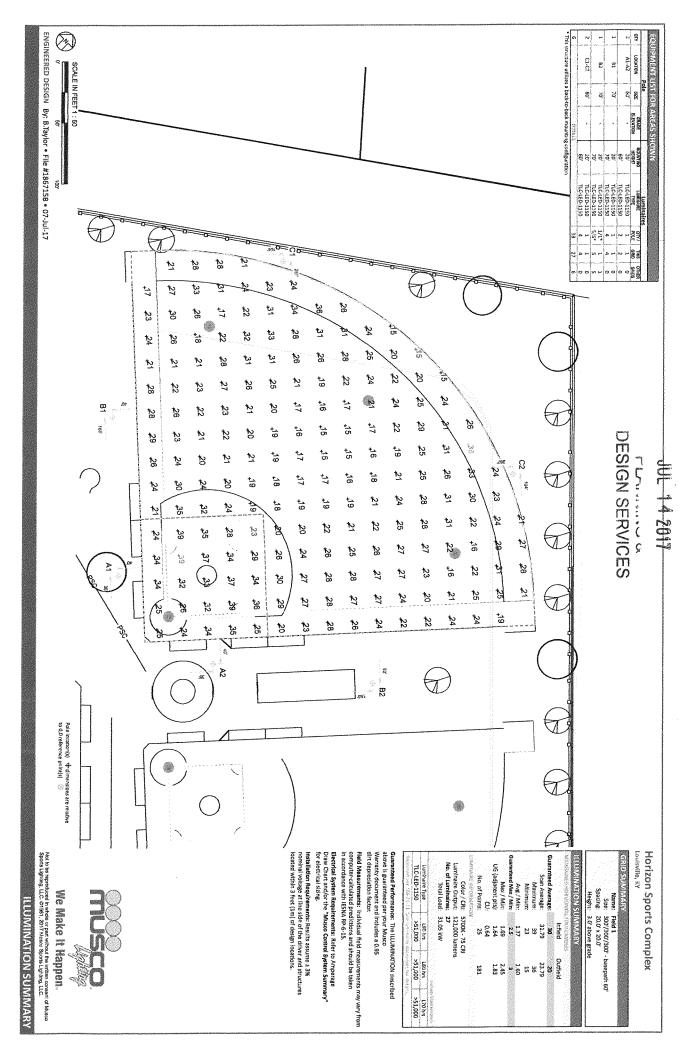
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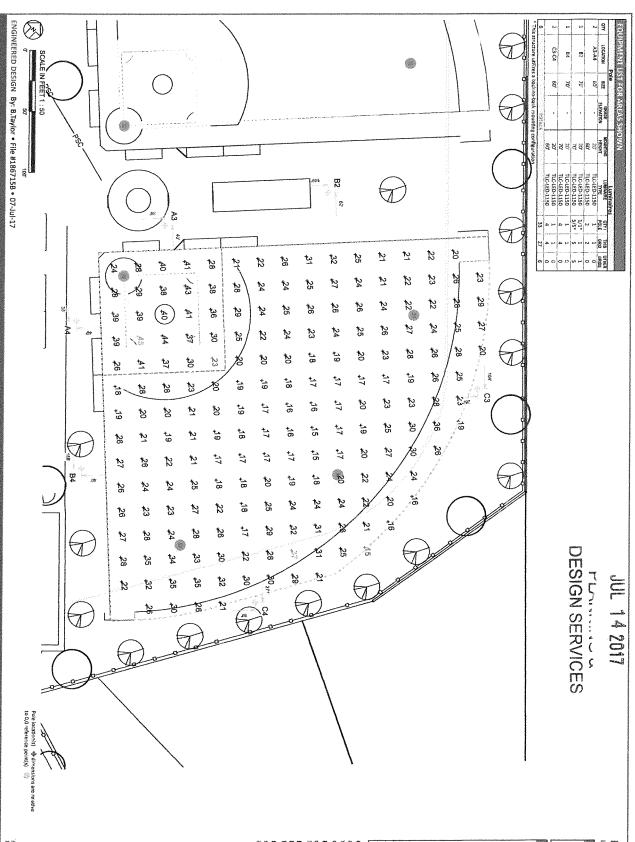
DESIGN SERVICES

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Sports Lighting, LLC. 4:1861, 2017 Musco Sports Lighting, LLC. PROJECT SUMMARY

ENGINEERED DESIGN By: B.Taylor • File #186715B • 07-Jul-17





Horizon Sports Complex Louisville, KY

MISSIN	8
	Name: Size Spacing: Height
RIMINATER	Field 2 Irregular 300' / 300' / 282' 20.0' x 20.0' 3.0' above grade

Mark		ı K	1.56 0.63 25 5700K - 75 C 121,000 lum 27 31.05 kW	
A PROPERATION Control of the contr		ĸ	1.56 0.63 25 5700K - 75 C 121,000 lum 27 31.05 kW	
A PROTECUING STATE OF THE PROT		ъ.	1.56 0.63 25 5700K - 75 C 121,000 lum 27 31.05 kW	
30 30 30 35.35 45 45 33 1.51 1.50 1.50 1.50 1.50 1.50 1.50 1.50		ъ.	1.56 0.63 25 25 5700K - 75 C 121,000 furr 27	UG (adjacent pts): CU: No. of Points: Color / CR: Luminaire Output: No. of Luminaires:
Na Prolitatinas 300 300 35.35 35.35 35.35 35.35 35.35 23 23 1.51 1.51 1.51 1.50 1.56 0.63 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5	# " # # # # # #	к : :	1.56 0.63 25 5700K - 75 C	UG (adjacent pts): CU: No. of Points: Color / CR: Luminaire Output:
ALAPOILLANIAZA Mineld 30 35.35 45 45 45 1.51 1.51 1.5 1.6 0.63 0.63 2.5 5700K - 75 CRI	# " 7 7		1.56 0.63 25 5700K - 75 C	UG (adjacent pts): CU: No. of Points: Color / CR:
30 35.35 45 23 1.51 1.51 1.50 1.56 0.63 0.63		17	0.63 25	UG (adjacent pts): CU: No. of Points:
450 Junited (Infield 30 35.35 45 45 23 1.51 1.56 1.56 1.56 1.56 1.56 1.56 1.56		17:	0.63 25	UG (adjacent pts): CU: No. of Points:
a rocipanta infield 30 35.35 45 23 1.51 1.51 1.50 1.56			0.63	UG (adjacent pts):
A POLICANIAN Infield 30 35.35 45 23 23 1.51 2.5 1.90 1.56			1.56	UG (adjacent pts):
1.51 1.90 1.90 30 35.35 45 23 1.51 1.51 1.51	Ψ.	1.8		
infield 30 35.35 45 23 1.51	w	2.4	1.90	Max / Min:
30 35.35 45 23 1.51		3	2.5	Suaranteed Max / Min
30 35.35 45 23	3	15	1.51	Avg / Min:
Infield 30 35.35 45		15	23	Minimum
infield 30 35.35		37	\$5	Maximum:
Infield 30	ā	23.4	35.35	Scan Average
100		20	30	Suaranteed Average:
MAKETHERED HORIZONDE, FEDICARDIZOS	Ď	Outle	Infield	
			PHANCHES	DROTHOR GREET SIRE

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Misco 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.

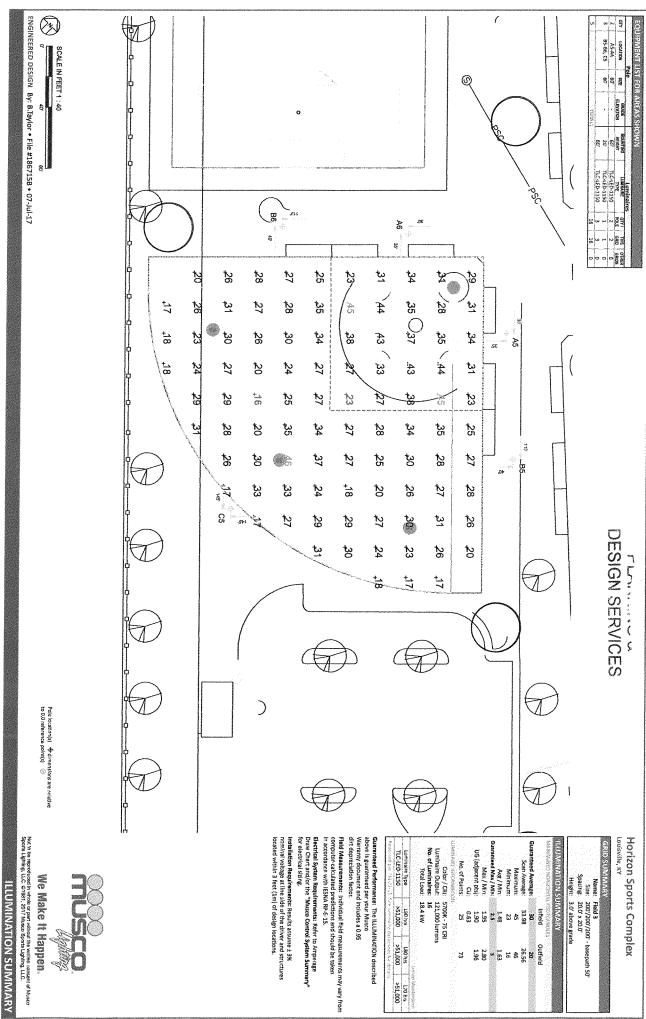
for electrical sizing. Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary"

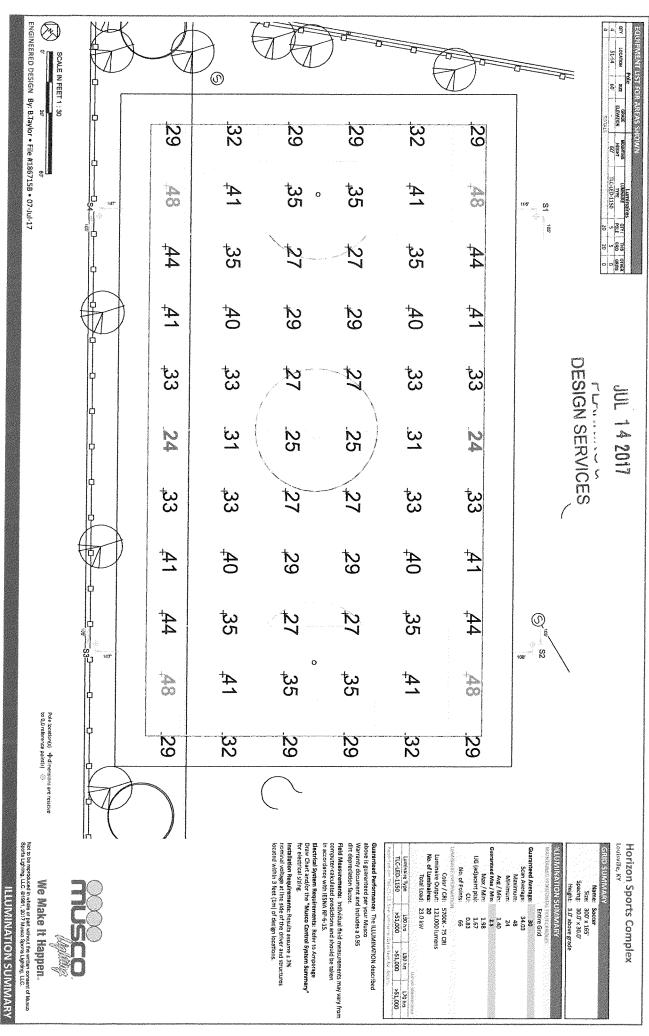
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

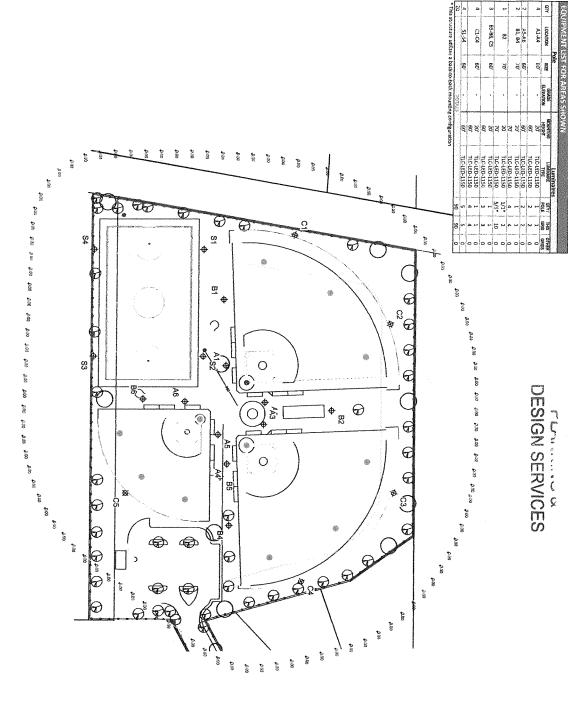
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ILLUMINATION SUMMARY









Horizon Sports Complex Louisville, KY

GRID SUMMARY

Name: 150'Spill/Glare Line

Spacing: 30.0'

Height: 6.0' above grade

Total Load: 103 5 kW	No. of Luminaires:	Luminaire Output:		SCHOOLSESS SECTIONS	No. of Points:	Minimum	Maximum	Scan Average:		STATE OF STREET STATE	S MOLLYWILLIAM ST	
103 5 kW	90	121,000 iumens	Color / CRI: 5700K - 75 CRI		104	0,00	0.00	0.0007	Entire Grid	EFCOTCAMOURS	MMMARY	

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

TLC-LED-1150 >51,000

180 hrs >51,000

2 L70 hrs 2 >51,000

dirt depreciation factor.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" in accordance with IESNA RP-6-15, Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken

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

for electrical sizing.

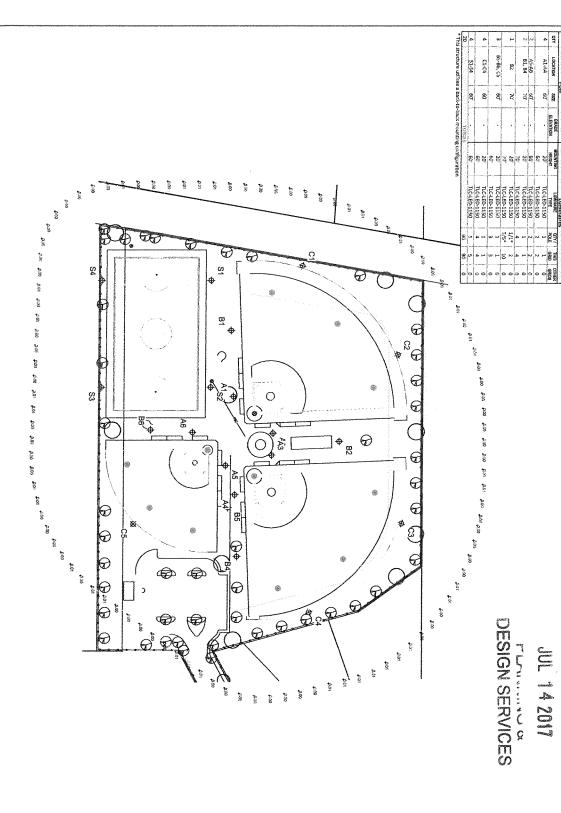
SCALE IN FEET 1: 120

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ILLUMINATION SUMMARY



Horizon Sports Complex Lautsville, KY

MANUAL VOLLYNING Name: 150' Spill/Glare Line Spacing: 30.0' Height: 6.0' above grade

Color / CRI: 5700K - 75 CRI Luminaire Output: 121,000 lumens No. of Luminaires: 90 Total Load: 103.5 kW TLC-LED-1150 >51,000 >51,000 >51,000 Scan Average:
Maximum:
Minimum:
No. of Points: Entire Grid 0.0039 0.02 0.00 10.00

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

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

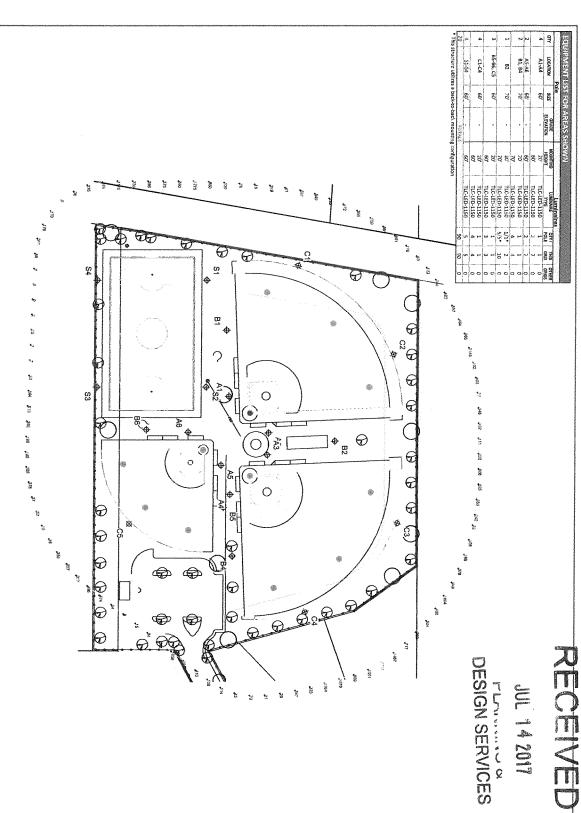
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SCALE IN FEET 1: 120

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Horizon Sports Complex Louisville, KY

AUPONIMENS GIVE

ARMININS MOUNTAINS Name: 150' Spill/Glare Line Spacing: 30.0' Height: 6.0' above grade

Color / CRI: 5700K - 75 CRI Luminaire Cutput: 121,000 lumens No. of Luminaires: 90 Total Load: 103.5 kW Luminate Type 190 hrs L80 hrs 170 hrs TLC-LED-1150 >51,000 >51,000 >51,000 Entire Grid
Scan Average: 394.2464
Maximum: 1731.49
Minimum: 0.00
No. of Paints: 104 Minimum
No. of Points

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

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

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

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

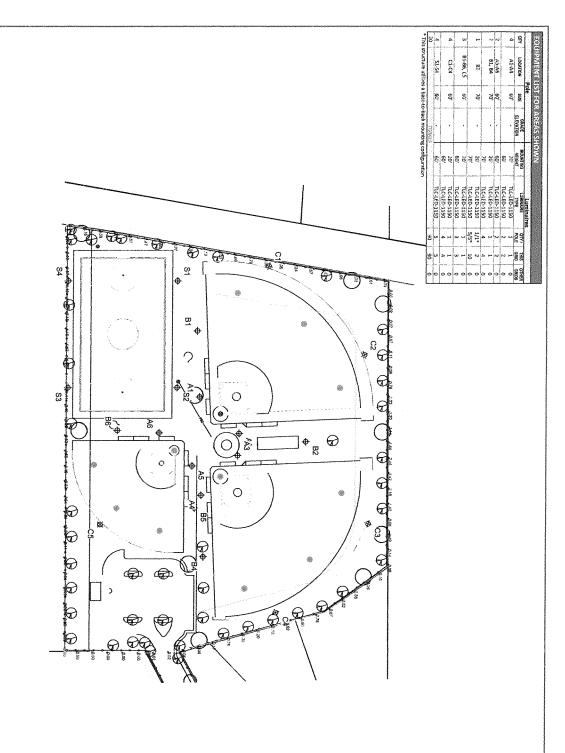
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ILLUMINATION SUIMMARY



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SCALE IN FEET 1: 120

Horizon Sports Complex

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	Spacing		
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>51,000	>51,000	>51,000	TLC-LED-1150
54 071	LBG nrs	190 hrs	Luminaine Type
rain Statemen	100		Constitute and Constitute of C
		103.5 kW	Total Load:
		90	No. of Luminaires:
	25	121,000 lumens	Luminaire Output:
	_	5700K - 75 CRI	Color / CRI:
		2	CONTRACTOR SELECTION
		91	No. of Points:
		0.00	Minimum
		11.68	Maximum
		1,8435	Scan Average
	Service Section Constitution	Entire Grid	
		SET SOCIAL CHARGES	CONTRACTOR CONTRACTOR SANDER
		MINIMA	SAMOLANIANT

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

out depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15. for electrical sizing. Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary"

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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ILLUMINATION SUMIMARY

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DESIGN SERVICES Th.

LOCATION A1-A4

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110-118-1130 110-118-1130 110-118-1130 110-118-1130 110-118-1130 110-118-1130 110-118-1130

Horizon Sports Complex Louisville, KY

								7.0
The state of the s	TLC-LED-1150	Luminale Type	Total Load: 103,5 kW	Luminaire Output: No. of Luminaires	No. of Peints	Scan Average: Maximum:	TANGET AND THE STATE OF THE STA	GRID SUMMARY Name: Spilly Spacing: 30.0' Height: 6.0's
12,000	-	190 575 180 575	103.5 kW	Loior / CHI: 5700K - 75 CHI paire Output: 121,000 lumens Luminaires: 90	91	2.9292 15.35	UMMARY Entre Grid	NARY Name: Spill/Glare Property Line spacing: 30.0' Height: 6.0' above grade

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

ሀ/0 ክs >51,000

dirt depreciation factor.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" in accordance with IESNA RP-6-15. Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken

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.

D 000 0 ū 3 Company of the same with the company ₽1 ♦ 7 S 0 → BZ Ð Ø 0 **6** 0 Ð O 99

Pole location(s) 中 dimensions are relative to 0,0 reference point(s) ②

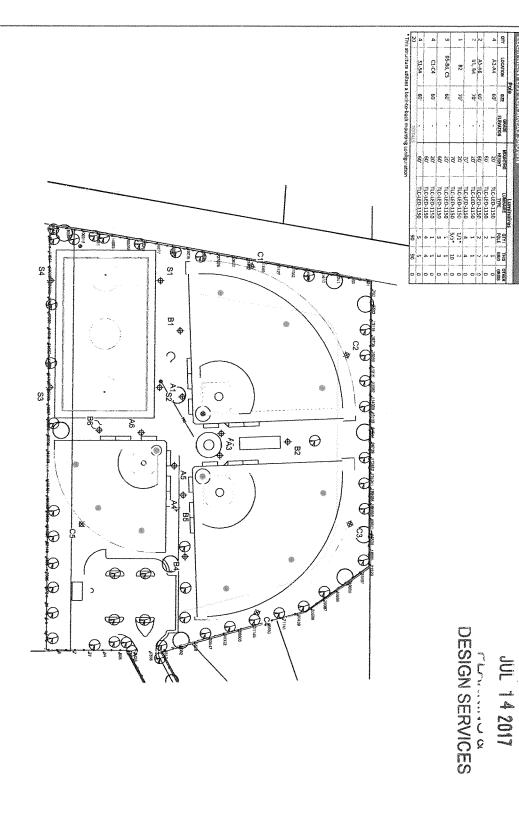
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SCALE IN FEET 1:120

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To Make It Happen

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Horizon Sports Complex Louisville, KY

GRUD SUMMINIARY Name: Splil/Glare Property Une Spacing: 30.0' Height: 6.0' above grade

ABVININES MOLENIUME

Color / CRI: 5700K - 75 CRI Luminaire Output: 121,000 lumens No. of Luminaires: 90 Total Load: 103.5 kW Scan Average: 48989.7578

Maximum: 729772.20

Minimum: 0.92

No. of Points: 91 Lummains Type 199 hrs 180 hrs 170 hrs TLC-LED-1150 >51,000 >51,000 >51,000

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-G-15.

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

SCALE IN FEET 1: 120

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ILLUVIINATION SUMMARY

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DESIGN SERVICES

Horizon Sports Complex Louisville, KY

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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.

8 a * * 8	150	TIC-1ED-1150		8 8 9 8			LSSGOB	4 Ct-Cd USS80B - 997 TIC-UED-1 4 Ct-Cd USS80B - 997 TIC-UED-1 6 S1.54 - 907 TIC-UED-1 70 S1.54 - 907 TIC-UED-1	26 4
1/1+	150	TLC-LED-1150 TLC-LED-1150 TLC-LED-1150	12222	20 20 20			LSS70C	82 B2 B4	u 14 6
2 10 1	150	TC-LED-1150 TC-LED-1150	777	8 8 8			T22604	A5-A6	4 (54)
3104		LUMINAIRE		HEIGHT	H 00	GRADE	CLASS	3 *1	9

7.0 6.6 6.1 3.2 4.2 3.8 3.0

600 0 S4 ত্ ŝ 9 68 9 ŝ 8 S3 0 A6 0 (SEE P. 0 85 0 \$ C 8 0 8 -90° 0 0 00

Pole location(s) 中 dimensions are relative to 0,0 reference point(s) ②

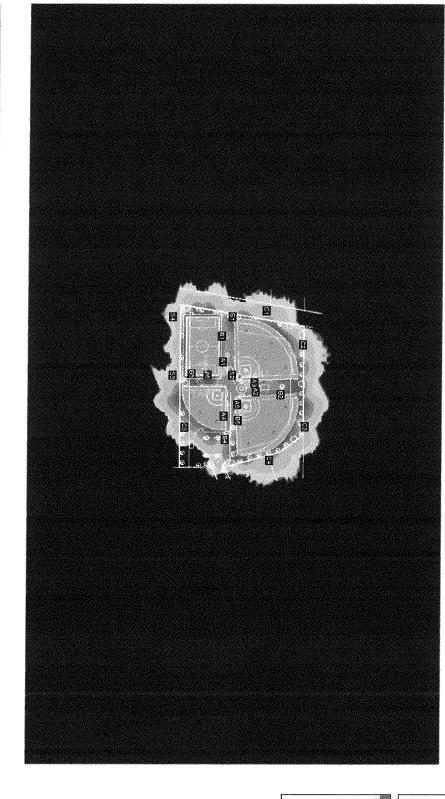
SCALE IN FEET 1:100

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111-14-2017

DESIGN SERVICES



Horizon Sports Complex

Chydlyll Bratis

A well-designed lighting system controls light to provide maximum useful on-field lilumination with minimal destructive off-site glare. Map indicates the maximum candela an observer would see when facing the brightest light source from any direction.

SIARE

High Glare: 150,000 or more candela Should only occur on or very near the it 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 condela Equivalent to 100W incandescent light bulb.

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Candelas

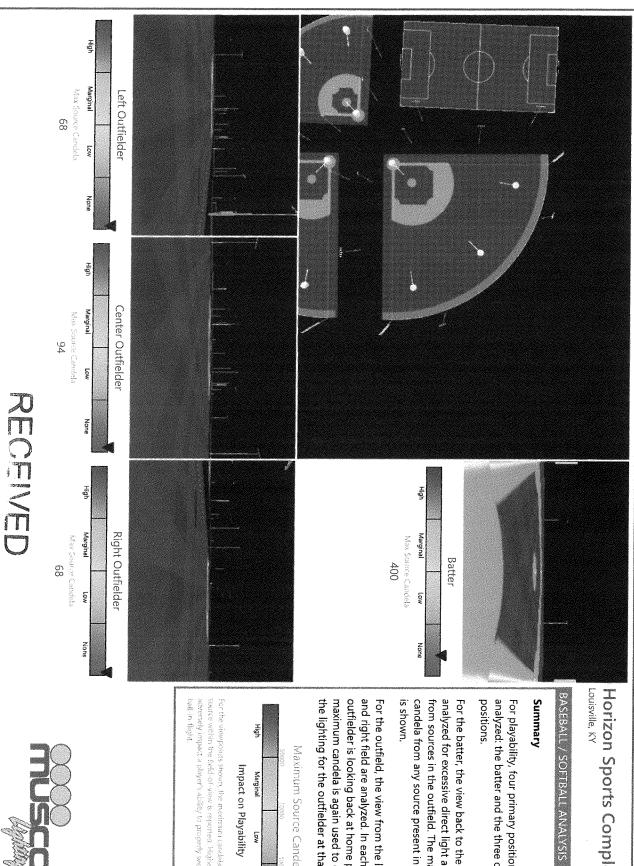
50,000

5,000

1,000

750

ENVIRONIMENTAL GLARE IMPACT



Horizon Sports Complex

Louisville, KY

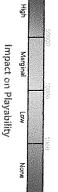
Summary

positions. analyzed: the batter and the three outfield For playability, four primary positions are

candela from any source present in their view from sources in the outfield. The maximum analyzed for excessive direct light and glare For the batter, the view back to the pitcher is

the lighting for the outfielder at that position maximum candela is again used to evaluate outfielder is looking back at home plate. The and right field are analyzed. In each case, the For the outfield, the view from the left, center,

Maximum Source Candela



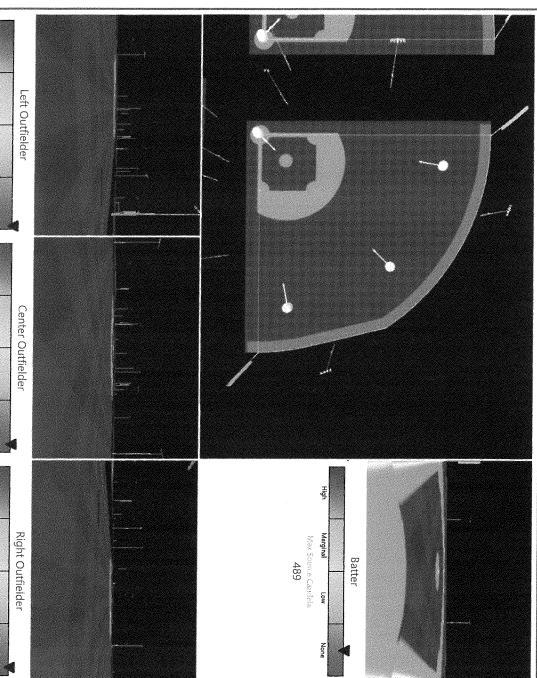
For the viewpoints shown, the maximum candels from any source within the field-of-view is reported. Higher values can Saff-in-flight adversely impact a player's ability to properly see a pitch or a

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DESIGN SERVICES

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BASEBALL SOFTBALL PLAYABILITY



Horizon Sports Complex

Louisville, KY

Summary

BASEBALL / SOFTBALL ANALYSIS

analyzed: the batter and the three outfield positions. For playability, four primary positions are

candela from any source present in their view from sources in the outfield. The maximum analyzed for excessive direct light and glare For the batter, the view back to the pitcher is

outfielder is looking back at home plate. The and right field are analyzed. In each case, the the lighting for the outfielder at that position. maximum candela is again used to evaluate For the outfield, the view from the left, center,

Maximum Source Candela



ball-in-flight source within the field-of-view is reported. Higher values can adversely impact a player's ability to properly see a plots or a for the viewpoints shown, the maximum candela iron any

RECTE SETU

DEGIGIN SERVICE

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High

Marginal

MOT

None

Marginal

₩Q.

None

Marginal

Low

None

Max Source Candela

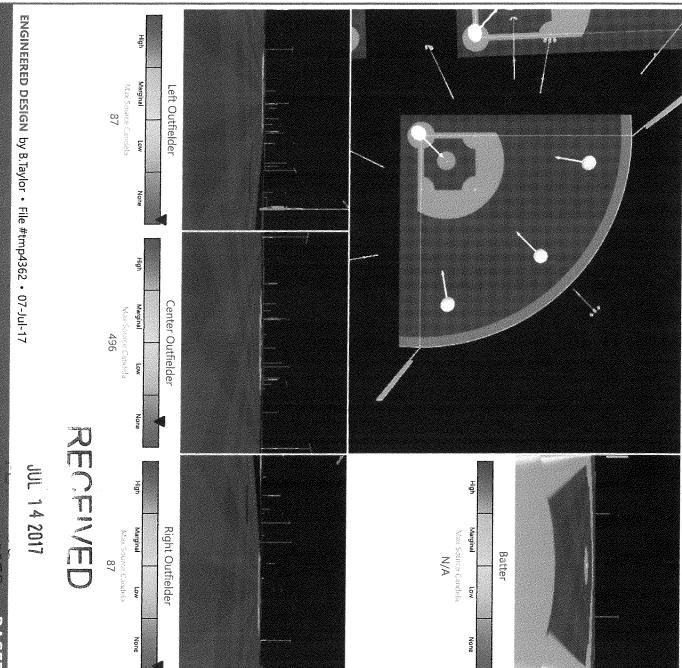
Max Source Carriela 158

Max Source Cardela



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BASEBALL SOFTBALL PLAYABILITY



Horizon Sports Complex

BASEBALL / SOFTBALL ANALYSIS

Summary

For playability, four primary positions are analyzed: the batter and the three outfield positions.

For the batter, the view back to the pitcher is analyzed for excessive direct light and glare from sources in the outfield. The maximum candela from any source present in their view is shown.

For the outfield, the view from the left, center and right field are analyzed. In each case, the outfielder is looking back at home plate. The maximum candela is again used to evaluate the lighting for the outfielder at that position.



Marginal Low None Impact on Playability

High

For the viewpoints shown, the maximum cateleta from any source within the field-of-view is reported. Higher values can adversely impact a player's ability to property see a patch or a ball-in-flight.

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BASEBALL / SOFTBALL PLAYABILITY