



Goodwyn Mills Cawood

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Birmingham, AL 35233

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www.gmcnetwork.com

Mountain Brook Junior High School Athletics

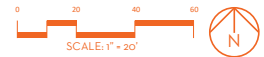
Scope of Project:

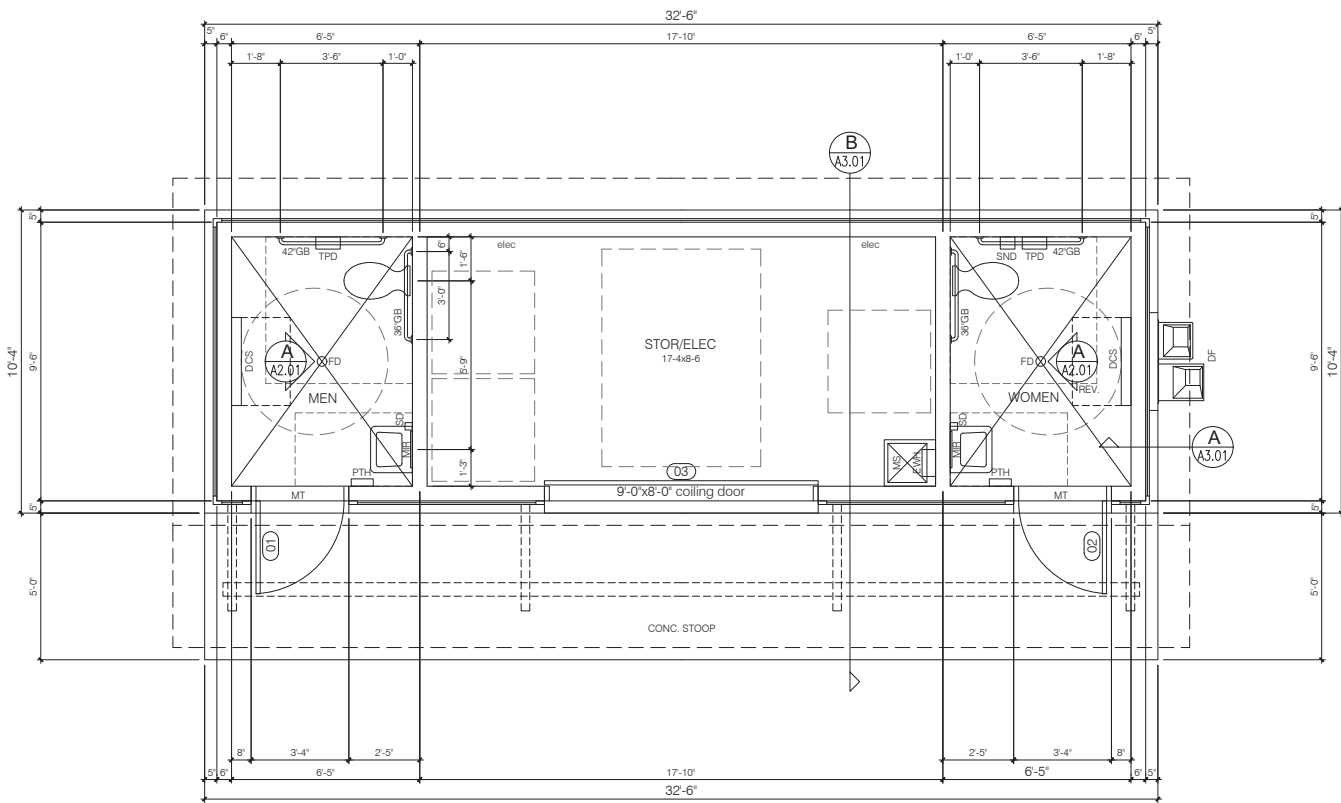
Project to include conversion of existing grass sports field to synthetic turf for multiple sports to include Sports Field Lighting, protective netting and padding. New construction of 4 tennis courts with lighting and new parking lot. A small restroom building to be built on site as well.



MTN. BROOK JUNIOR HIGH SCHOOL ATHLETICS

MOUNTAIN BROOK, ALABAMA





FLOOR PLAN

SCALE: 1/2" = 1'-0"

335 SQ.FT. gross
(outside of brick base)



2660 East Chase Lane, Suite 200
Montgomery, AL 36117
T 334.271.3200
GMCNETWORK.COM

ISSUE / DATE
Preliminary 11/23/2022

MOUNTAIN BROOK JR.
HIGH ATHLETICS
MOUNTAIN BROOK, AL

LBHM220030

FLOOR PLAN

A1.01
Sheet of

DRAWN BY:
CHECKED BY:

Mountain Brook Junior High Tennis And Multi Purpose

Mountain Brook,AL

Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
F1-F4	60'	60'	4	TLC-LED-1200	4.68 kW	A
		60'	1	TLC-LED-900	0.89 kW	A
		16'	2	TLC-BT-575	1.15 kW	A
4			28		26.88 kW	

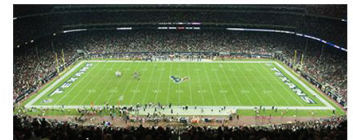
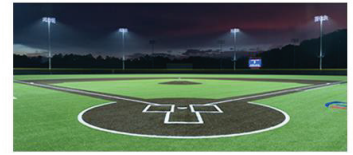
Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Football	26.88 kW	28

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-LED-900	LED 5700K - 75 CRI	890W	89,600	>120,000	>120,000	>120,000	4
TLC-BT-575	LED 5700K - 75 CRI	575W	52,000	>120,000	>120,000	>120,000	8

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Football Spill	Horizontal Illuminance	0	0	0.03	0.00		A	28
Football Spill	Max Candela Metric	180	1.17	1328	1138.64	154.14	A	28
Football Spill	Max Vertical Illuminance Metric	0.01	0	0.06	0.00		A	28
Football	Horizontal Illuminance	34.2	27	42	1.59	1.27	A	28

From Hometown to Professional



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EQUIPMENT LIST FOR AREAS SHOWN

QTY	LOCATION	SIZE	GRADE ELEVATION	Luminaires				OTHER GRIDS	
				MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID		
4	F1-F4	60'		60'	TLC-LED-900	1	1	0	
				15.5'	TLC-BT-575	2	2	0	
				60'	TLC-LED-1200	4	4	0	
4	TOTALS						28	28	0

**Mountain Brook Junior High Tennis And Multi Purpose
Mountain Brook,AL**

GRID SUMMARY	
Name:	Football
Size:	360' x 160'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

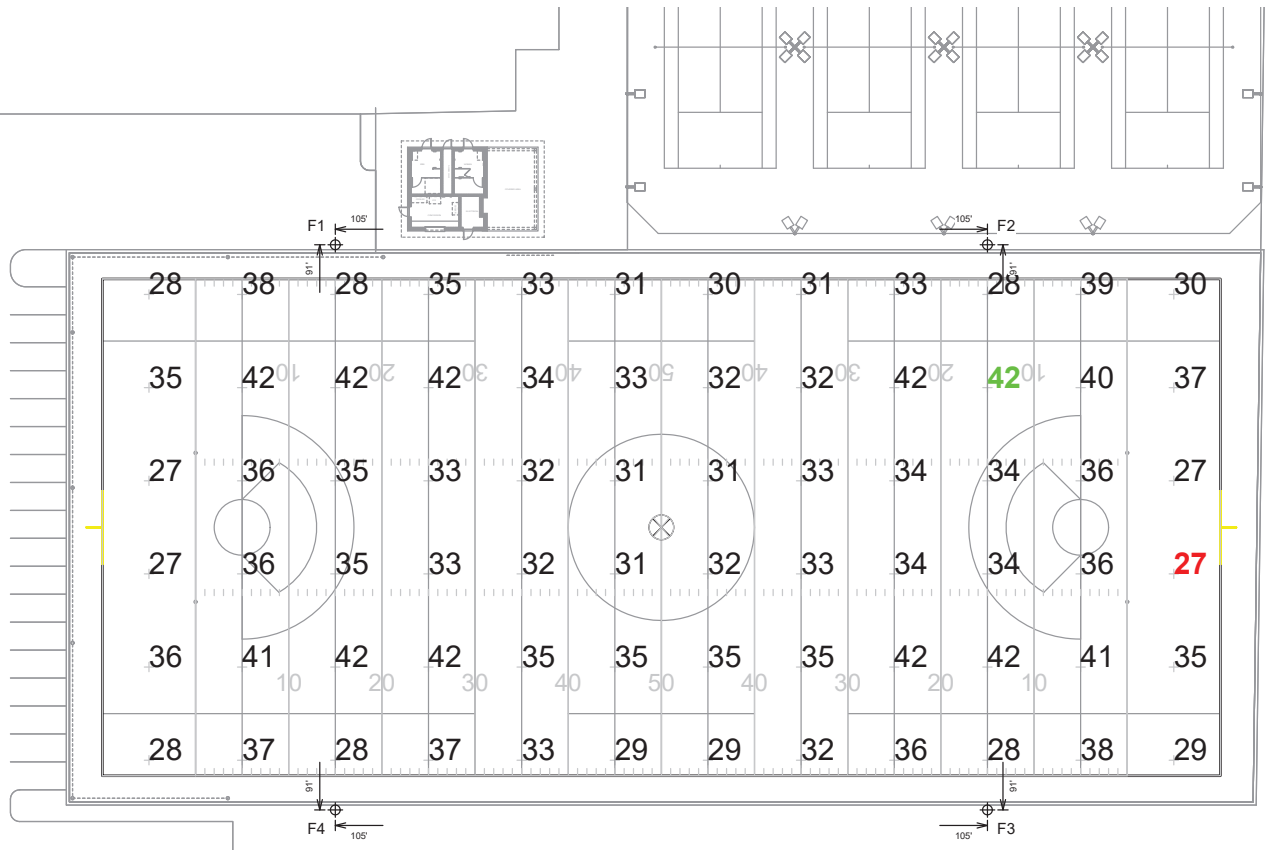
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOT CANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	34.22
Maximum:	42
Minimum:	27
Avg / Min:	1.28
Guaranteed Max / Min:	2.5
Max / Min:	1.59
UG (adjacent pts):	1.50
CU:	0.75
No. of Points:	72
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	28
Total Load:	26.88 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.



ENGINEERED DESIGN By: William Isiminger · File #174791A · 28-Nov-22

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



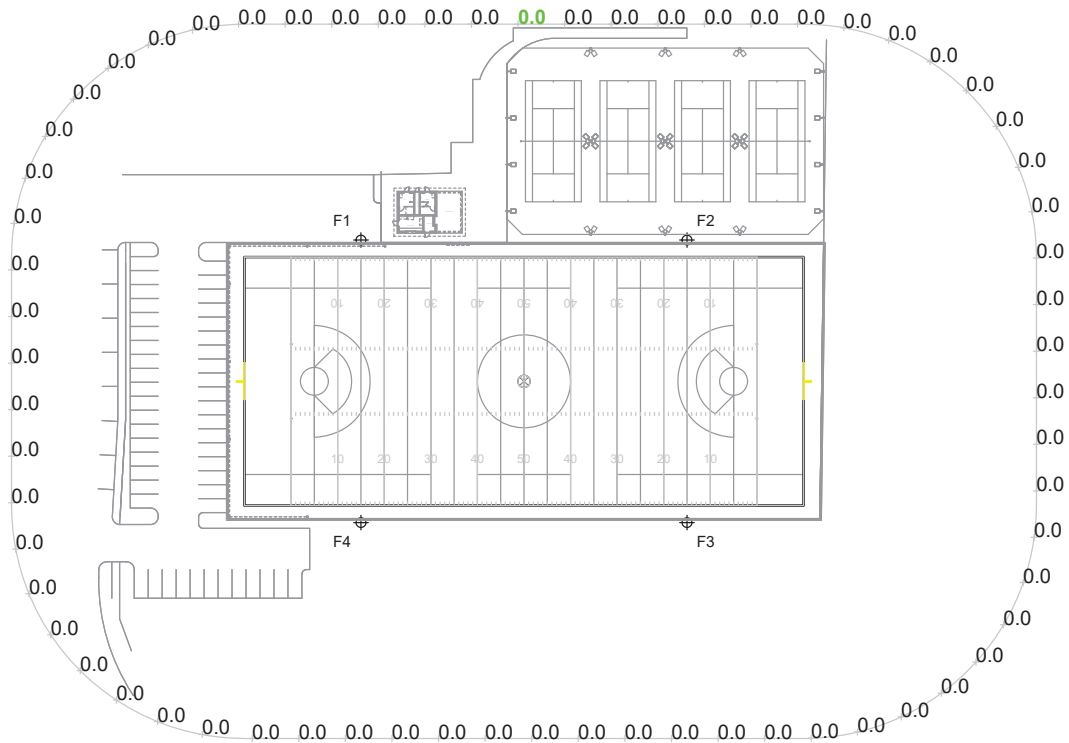
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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

QTY	LOCATION	Pole		Luminaires				
		SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	F1-F4	60'	-	60'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	2	2	0
				60'	TLC-LED-1200	4	4	0
TOTALS						28	28	0



Mountain Brook Junior High Tennis And Multi Purpose Mountain Brook,AL

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

ILLUMINATION SUMMARY	
HORIZONTAL FOOTCANDLES	
	Entire Grid
Scan Average:	0.0025
Maximum:	0.03
Minimum:	0.00
No. of Points:	66

LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	28
Total Load:	26.88 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.



SCALE IN FEET 1 : 80



ENGINEERED DESIGN By: William Isiminger · File #174791A · 28-Nov-22

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

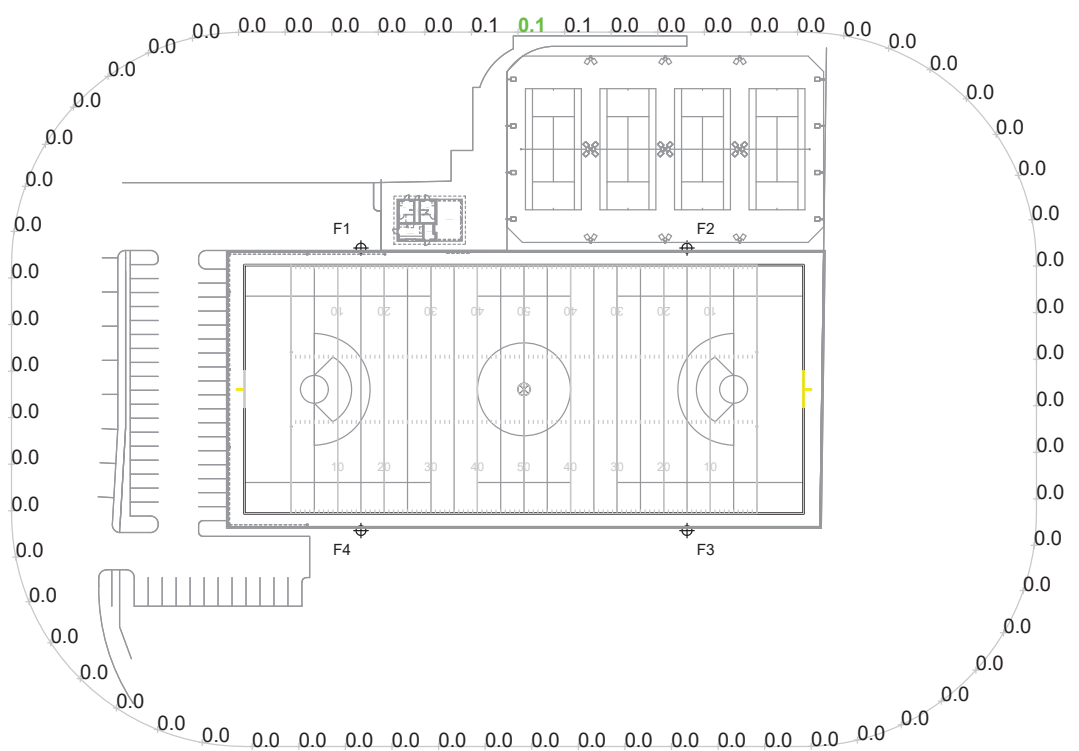


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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
QTY	LOCATION	Pole		Luminaires				
		SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	F1-F4	60'		60'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	2	2	0
				60'	TLC-LED-1200	4	4	0
TOTALS						28	28	0



**Mountain Brook Junior High Tennis And Multi Purpose
Mountain Brook,AL**

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

ILLUMINATION SUMMARY	
MAX VERTICAL FOOTCANDLES	
	Entire Grid
Scan Average:	0.0070
Maximum:	0.06
Minimum:	0.00
No. of Points:	66
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	28
Total Load:	26.88 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.



ENGINEERED DESIGN By: William Isiminger · File #174791A · 28-Nov-22

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

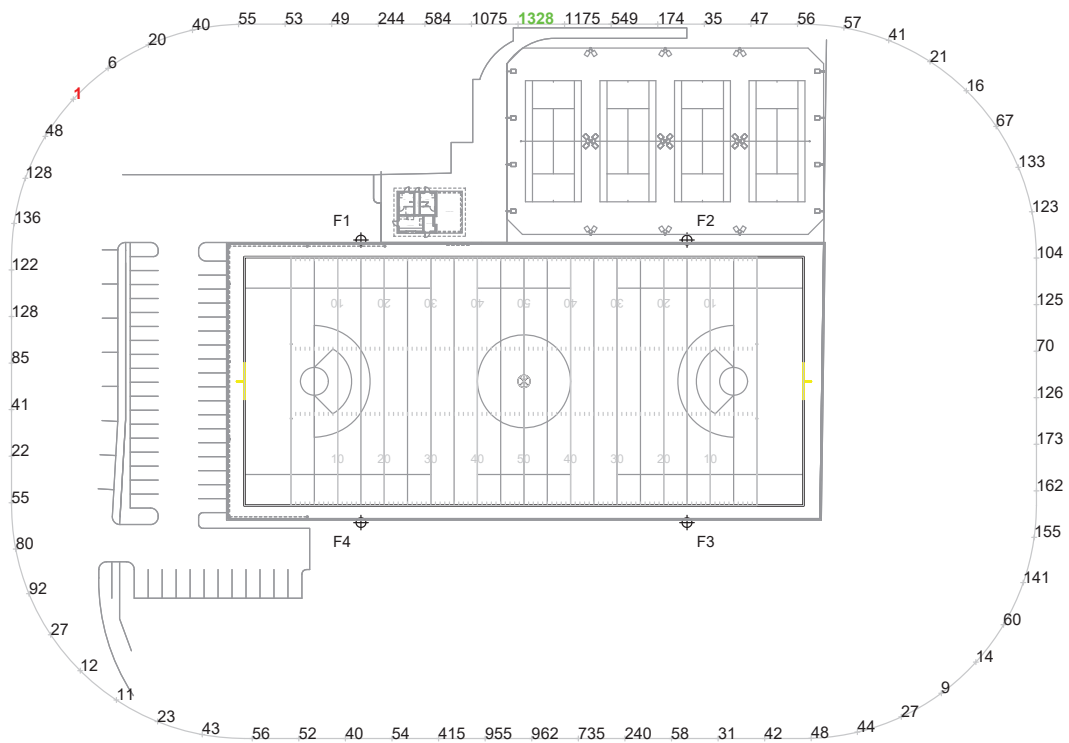


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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

QTY	LOCATION	Pole		Luminaires				
		SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	F1-F4	60'		60'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	2	2	0
				60'	TLC-LED-1200	4	4	0
TOTALS						28	28	0



Mountain Brook Junior High Tennis And Multi Purpose Mountain Brook,AL

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

ILLUMINATION SUMMARY	
CANDELA (PER FIXTURE)	
Entire Grid	180.3470
Scan Average:	180.3470
Maximum:	1327.68
Minimum:	1.17
No. of Points:	66
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	28
Total Load:	26.88 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.



SCALE IN FEET 1 : 80



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



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ILLUMINATION SUMMARY

**Mountain Brook Junior High Tennis And Multi Purpose
Mountain Brook,AL**

EQUIPMENT LAYOUT

INCLUDES:

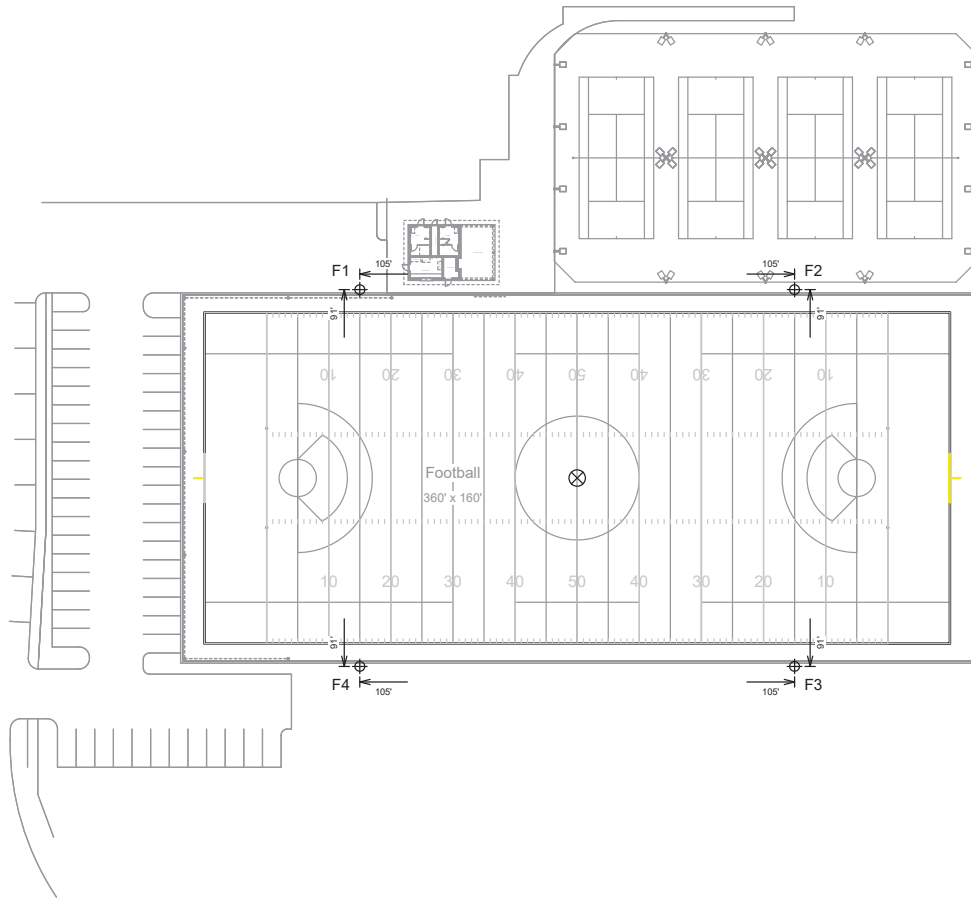
- Football

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.

SINGLE LUMINAIRE AMPERAGE DRAW CHART

Ballast Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
	208 180	220 180	240 180	277 180	347 180	380 180	480 180
TLC-LED-1200	7.0	6.6	6.3	5.2	4.2	4.0	3.0
TLC-LED-900	5.3	5.0	4.6	4.0	3.2	2.9	2.3
TLC-87575	3.4	3.2	2.9	2.5	2.0	1.8	1.5



SCALE IN FEET 1 : 60



ENGINEERED DESIGN By: William Isiminger · File #174791A · 28-Nov-22

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



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EQUIPMENT LAYOUT

**Mountain Brook Junior High Tennis And Multi Purpose
Mountain Brook,AL**

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.

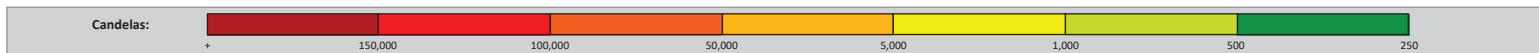
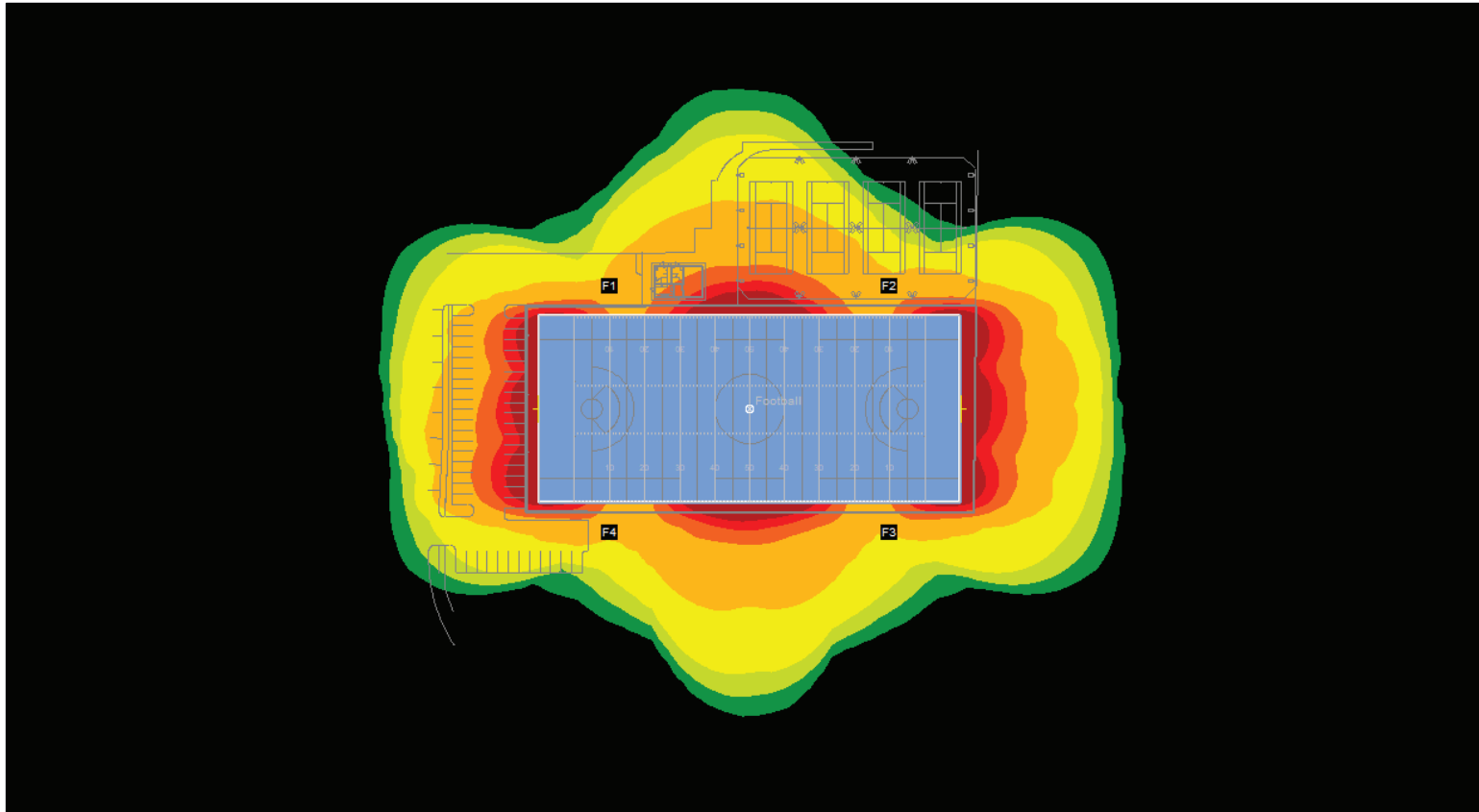
GLARE

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.

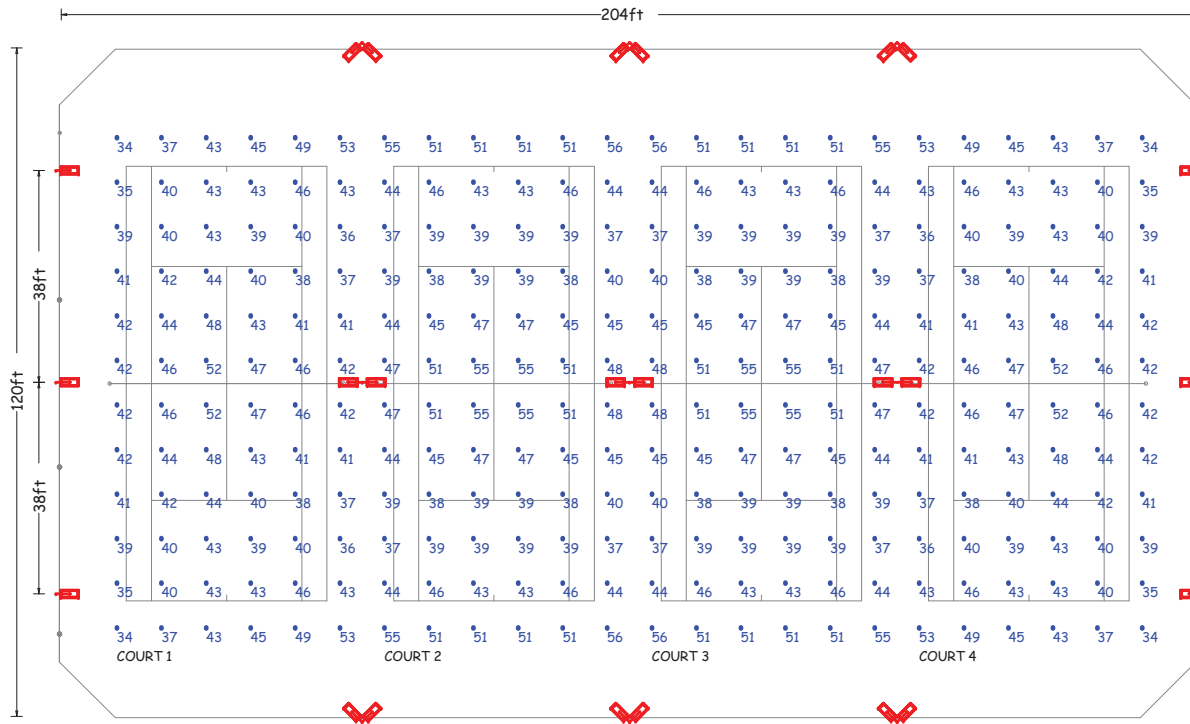
Significant Glare: 25,000 to 75,000 candela
Equivalent to high beam headlights of a car.

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



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Calculation Summary					
Project: MOUNTAIN BROOK JR HIGH SCHOOL					
Label	CalcType	Avg	Max	Min	Max/Min
COURT 1	Illuminance	42.33	53	34	1.56
COURT 2	Illuminance	45.11	56	37	1.51
COURT 3	Illuminance	45.11	56	37	1.51
COURT 4	Illuminance	42.33	53	34	1.56

The light levels shown are maintained using a .94 light loss factor (LLF). Light loss factors are used to adjust the light output of a luminaire operating in a controlled laboratory environment to the output obtained under actual field conditions. The LLF used in these calculations includes both recoverable and non-recoverable factors. Recoverable factors include luminaire dirt depreciation (LDD). Non-recoverable factors include optical system variations, and depreciation in initial luminaire lumen output. The use of the light loss factor shown requires making certain assumptions about the lighting system, the specific application, and the maintenance of the system over time. Therefore, actual light levels measured in the field may vary from the calculated values, especially in regards to individual location measurements.

Calculations use a LED Maintained Lamp Lumen factor based upon 50,000 hours of life, derived from IES TM21-11, and based upon an In-situ case temperature of 55°C.

Based on the information provided, all dimensions and luminaire Locations shown represent recommended positions. The engineer and / or architect must determine applicability of the layout to existing or future field conditions.

Filename: MOUNTAINBROOK1.A6I
Date:10/20/2022

Luminaire Schedule								
Project: MOUNTAIN BROOK JR HIGH SCHOOL								
Symbol	Qty	Label	Arrangement	Description	LLF	Luminaire Lumens	Luminaire Watts	Total Watts
	6	A	Single	ZNL-60L-CT-50 (ZONE LAR6E) @ 24" MT6. HT.	0.940	60978	448	2688
	3	B	TWIN 180	ZNL-60L-CT-50 (ZONE LAR6E) @ 24" MT6. HT.	0.940	60978	448	2688
	6	C	TWIN 90	ZNL-60L-CT-50 (ZONE LAR6E) @ 24" MT6. HT.	0.940	60978	448	5376



Mountain Brook Jr. High School
Mountain Brook, AL

LSI Industries
10000 Alliance Road
Cincinnati, OH 45242
Voice Number : 513-666-4242





Catalog #: _____ Project: _____

Prepared By: _____ Date: _____ Type: _____

ZONE™ Large (ZNL)

Outdoor Sports Light



IP66 IK08



OVERVIEW

Lumen Range	50,000 - 78,000
Wattage Range	375 - 648
Efficacy Range (LPW)	114 - 146
Weight lbs (kg)	60 (27.2)

QUICK LINKS

[Ordering Guide](#)
[Performance](#)
[Photometrics](#)
[Dimensions](#)

FEATURES & SPECIFICATIONS

Construction

- Rugged die-cast aluminum housing contains factory prewired driver and optical unit. Cast aluminum wiring access door located underneath.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Shipping weight: 68 lbs in carton.

Optical System

- State-of-the-Art one piece silicone optic sheet delivers industry leading optical control with an integrated gasket to provide IP66 rated seal.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in distribution types CT and FT.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 95%.
- Zero uplight.
- Available in 5000K, 4000K, and 3000K color temperatures per ANSI C78.377.
- Minimum CRI of 70
- Integral louver (IL) and integral half louver (IH) options available for enhanced backlight control.

Electrical

- High-performance driver features overvoltage, under-voltage, short-circuit and over temperature protection.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 VAC)

Input 50/60 Hz or optional High Voltage (347-480 VAC).

- L90 Calculated Life: >100k Hours (See Lumen Maintenance on Page 3)
- Total harmonic distortion: <20%
- Operating temperature: 50L and 60L: -40°C to +50°C (-40°F to +122°F). 65L and 78L: -40°C to +40°C (-40°F to +104°F)
- Power factor: >.90
- Input power stays constant over life.
- Field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Driver is fully encased in potting material for moisture resistance and complies with FCC standards. Driver and key electronic components can easily be accessed.

Controls

- Optional integral passive infrared Bluetooth™ programmable motion and photocell sensor. Fixtures operate independently and can be commissioned via iOS or Android configuration app.
- LSI's AirLink wireless control system options allow for programming and group control while reducing energy and maintenance costs and optimizing light quality (see controls section for more details).

Installation

- Designed to mount to square or round poles.
- A single fastener secures the hinged door, underneath the housing and provides quick & easy access to the electrical compartment.

- Included terminal block (accepts up to 12 ga. wire).
- 5' Dimming and Power leads included when Fixed Mounting Studs are ordered.
- Utilizes both B3 and B5 drill patterns for easy fastening of LSI products. (See drawing in poles section)

Warranty

- LSI luminaires carry a 5-year limited warranty. Refer to <https://www.lsicorp.com/resources/terms-conditions-warranty/> for more information.

Listings

- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- IDA compliant; with 3000K color temperature selection.
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet locations.
- IP66 rated Luminaire per IEC 60598-1.
- 3G rated for ANSI C136.31 high vibration applications applications are qualified.
- IK08 rated luminaire per IEC 66262 mechanical impact code.
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
- Patented Silicone Optics (US Patent NO. 10,816,165 B2)



ZONE Large Outdoor Sports Light

ORDERING GUIDE

[Back to Quick Links](#)TYPICAL ORDER EXAMPLE: **ZNL 60L CT UNV 50 ALBCS1 BLK IH**

Prefix	Output	Distribution	Orientation	Voltage	Color Temperature
ZNL - Zone Large	50L - 50,000 lms 60L - 60,000 lms 65L - 65,000 lms 78L - 78,000 lms Custom Lumen Packages ¹	CT - Court Optic FT - Forward Throw	(Blank) - Standard (no rotation) L - Optics rotated left 90° R - Optics rotated right 90°	UNV - Universal Voltage (120-277V) HV - High Voltage (347 - 480V)	50 - 5,000 CCT 40 - 4,000 CCT 30 - 3,000 CCT

Controls	Finish	Options
<p>(Blank) - None</p> <p>Wireless Controls System</p> <p>ALSC - AirLink Synapse Control System</p> <p>ALSCS02 - AirLink Synapse Control System with 12-20' Motion Sensor</p> <p>ALSCS04 - AirLink Synapse Control System with 20-40' Motion Sensor</p> <p>ALSC B - Airlink Synapse Integral Controller and Dynamic Behaviors Drivers</p> <p>ALSC UNV TL7 - Airlink Synapse 7 Pin Twist Lock Controller 120V-277V</p> <p>ALSC HV TL7 - Airlink Synapse 7 Pin Twist Lock Controller 347V-480V</p> <p>ALSSM WIFI-VER-CEL - AirLink Synapse Central Base Station</p> <p>ALS RMT ACCESS - AirLink Synapse Remote Access 12 month subscription</p> <p>ALS DYN SCENE - AirLink Synapse Dynamic Behavior Software</p> <p>ALBCS1 - AirLink Blue Wireless Motion & Photo Sensor Controller (8-24' mounting height)</p> <p>ALBCS2 - AirLink Blue Wireless Motion & Photo Sensor Controller (25-40' mounting height)</p> <p>Stand-Alone Controls</p> <p>EXT - 0-10v Dimming leads extended to housing exterior</p> <p>CR7P - 7 Pin Control Receptacle ANSI C136.41²</p> <p>IMSBT1 - Integral Bluetooth™ Motion and Photocell Sensor max 8-24' mounting height^{3,4}</p> <p>IMSBT2 - Integral Bluetooth Motion and Photocell Sensor max 25-40' mounting height^{3,4}</p>	<p>BRZ - Bronze</p> <p>BLK - Black</p> <p>GPT - Graphite</p> <p>MSV - Metallic Silver</p> <p>PLP - Platinum Plus</p> <p>GRN - Green</p> <p>WHT - White</p>	<p>(Blank) - None</p> <p>IH - Integral Half Louver (Moderate Spill Light Cutoff)</p> <p>IL - Integral Louver (Sharp Spill Light Cutoff)</p> <p>FMS - Fixed Mounting Studs⁵</p>

Accessory Ordering Information⁶

Controls Accessories ⁶	
Description	Order Number
Twist Lock Photocell (120V) for use with CR7P	122514
Twist Lock Photocell (208-277V) for use with CR7P	122515
Twist Lock Photocell (347V) for use with CR7P	122516
Twist Lock Photocell (480V) for use with CR7P	225180
Shorting Cap for use with CR7P ⁷	149328

Fusing Options ⁸	
Description	Order Number
Single Fusing (120V)	See Fusing Accessory Guide
Single Fusing (277V)	
Double Fusing (208V, 240V)	
Double Fusing (480V)	
Double Fusing (347V)	

Shielding Options	
Zone Medium	See Shielding Guide
Zone Large	

¹ Custom lumen and wattage packages available, consult factory. Values are within industry standard tolerances but not DLC listed.

² Control device or shorting cap must be ordered separately. See Accessory Ordering Information.

³ Consult factory for 347-480V.

⁴ IMSBT is field configurable via the LSI app that can be downloaded from your smartphone's native app store.

⁵ For use with ZNL upswept arm only. Please see accessory table for ordering details.

⁶ Accessories are shipped separately and field installed.

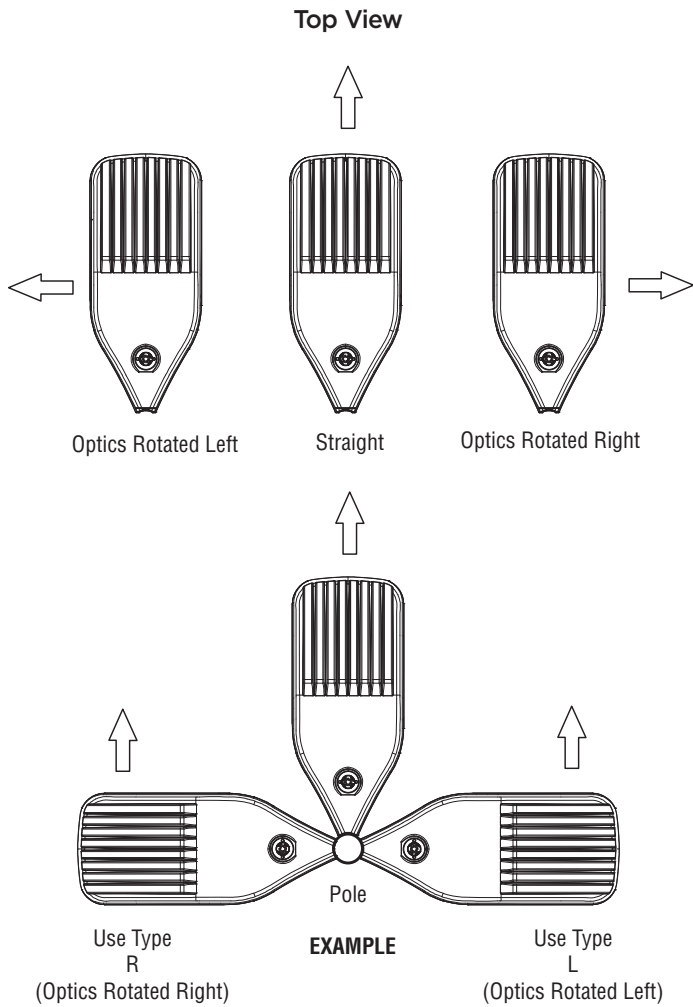
⁷ Fusing must be located in hand hole of pole. See [Fusing Accessory Guide](#) for compatibility.

⁸ "CLR" denotes finish. See Finish options.



ZONE Large Outdoor Sports Light

OPTICS ROTATION



ACCESSORIES/OPTIONS

Integral Louver (IL) and House-Side Shield (IH)

Accessory louver and shield available for improved backlight control without sacrificing street side performance. LSI's Integral Louver (L) and Integral House-Side Shield (IH) options deliver backlight control that significantly reduces spill light behind the poles for applications with pole locations close to adjacent properties. The design maximizes forward reflected light while reducing glare, maintaining the optical distribution selected, and most importantly eliminating light trespass. Both options rotate with the optical distribution.

Luminaire Shown with IMSBT & IL/IH Options



7 Pin Photoelectric Control

7-pin ANSI C136.41-2013 control receptacle option available for twist lock photocontrols or wireless control modules. Control accessories sold separately. Dimming leads from the receptacle will be connected to the driver dimming leads (Consult factory for alternate wiring).

Luminaire Shown with PCR 7P





ZONE Large Outdoor Sports Light

PERFORMANCE

[Back to Quick Links](#)

DELIVERED LUMENS*												
Lumen Package	Distribution	CRI	3000K CCT			4000K CCT			5000K CCT			Wattage
			Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	
50L	CT	70	50680	135	B4-U0-G3	52572	140	B4-U0-G3	54622	146	B4-U0-G3	375
	FT		50082	134	B4-U0-G5	51952	139	B4-U0-G5	53978	144	B4-U0-G5	
60L	CT		57428	128	B4-U0-G3	59446	133	B4-U0-G3	60978	133	B4-U0-G3	448
	FT		56949	127	B4-U0-G5	59083	132	B5-U0-G5	60561	135	B5-U0-G5	
65L	CT		65005	125	B4-U0-G3	67432	130	B5-U0-G3	70062	135	B5-U0-G3	518
	FT		64239	124	B5-U0-G5	66638	129	B5-U0-G5	69237	134	B5-U0-G5	
78L	CT		74805	115	B5-U0-G3	77599	120	B5-U0-G3	80625	124	B5-U0-G3	648
	FT		73925	114	B5-U0-G5	76685	118	B5-U0-G5	79676	123	B5-U0-G5	

*LEDs are frequently updated therefore values are nominal

ELECTRICAL DATA* (AMPS)						
Lumen Package	120V	208V	240V	277V	347V	480V
50L	3.13	1.80	1.56	1.35	1.08	0.78
60L	3.73	2.15	1.87	1.62	1.29	0.93
65L	4.32	2.49	2.16	1.87	1.49	1.08
78L	5.40	3.12	2.70	2.34	1.87	1.35

*Electrical data at 25C (77F). Actual wattage may differ by +/-10%.

RECOMMENDED LUMEN MAINTENANCE ¹⁰					
Ambient Temp	Lumen Multiplier				
C	0 hrs. ¹¹	25K hrs. ¹¹	50K hrs. ¹¹	75K hrs. ¹²	100K hrs. ¹²
0 C - 40 C	100%	100%	97%	94%	92%

PHOTOMETRICS

[Back to Quick Links](#)

Luminaire photometry has been conducted by a NVLAP accredited testing laboratory in accordance with IESNA LM-79-08. As specified by IESNA LM-79-08 the entire luminaire is tested as the source resulting in a luminaire efficiency of 100%.

ZNL-60L-CT-40

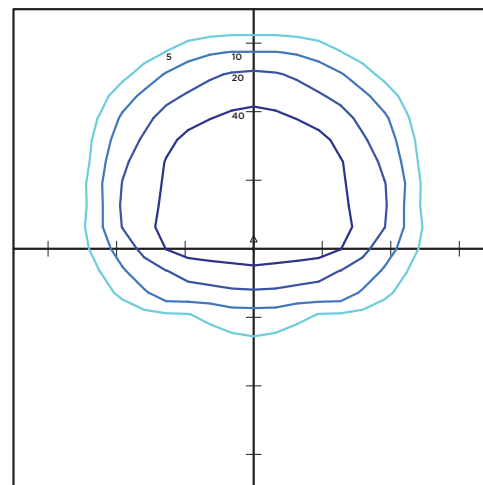
LUMINAIRE DATA

Type 3 Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	67,432
Watts	518
Efficacy	130
IES Type	Type III - Very Short
BUG Rating	B5-U0-G3

Zonal Lumen Summary

Zone	Lumens	%Luminaire
Low (0-30)°	13837	9%
Medium (30-60)°	44654	43%
High (60-80)°	8162	48%
Very High (80-90)°	779	1%
Uplight (90-180)°	0	0%
Total Flux	67432	100%

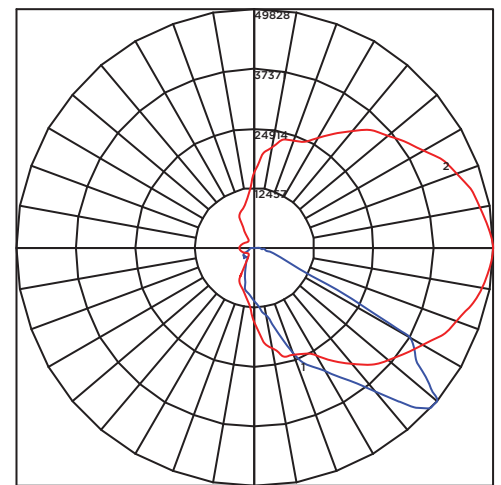
ISO FOOTCANDLE



15' Mounting Height/10' Grid Spacing

■ 40 FC ■ 20 FC ■ 10 FC ■ 5 FC

POLAR CURVE



¹⁰ Lumen maintenance values at 25°C are calculated per TM-21 based on LM-80 data and in-situ luminaire testing.

¹¹ In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip.

¹² In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times NA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip.





ZONE Large Outdoor Sports Light

PHOTOMETRICS

ZNL-65L-FT-40

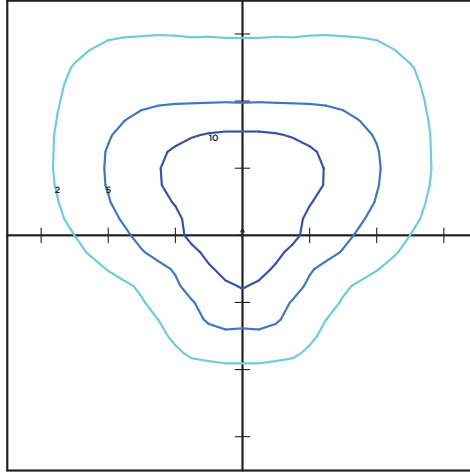
LUMINAIRE DATA

Type CT-IL Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	66,638
Watts	518
Efficacy	129
IES Type	Type IV - Short
BUG Rating	B5-U0-G5

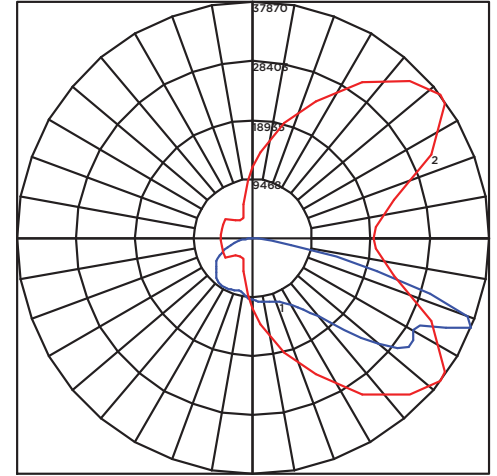
Zonal Lumen Summary

Zone	Lumens	%Luminaire
Low (0-30)°	8542	13%
Medium (30-60)°	33055	50%
High (60-80)°	23973	36%
Very High (80-90)°	1069	2%
Uplight (90-180)°	0	0%
Total Flux	66638	100%

ISO FOOTCANDLE



POLAR CURVE



25' Mounting Height/20' Grid Spacing

20 FC
 10 FC
 5 FC
 2 FC



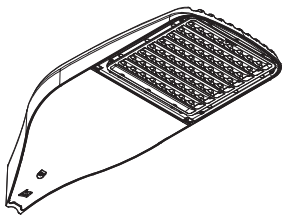
ZONE Large Outdoor Sports Light

ACCESSORIES/OPTIONS

Integral Louver (IL) and House-Side Shield (IH)

Accessory louver and shield available for improved backlight control without sacrificing street side performance. LSI's Integral Louver (IL) and Integral House-Side Shield (IH) options deliver backlight control that significantly reduces spill light behind the poles for applications with pole locations close to adjacent properties. The design maximizes forward-reflected light while reducing glare, maintaining the optical distribution selected, and most importantly eliminating light trespass. Both options rotate with the optical distribution.

Luminaire Shown with Integral Louver (IL)



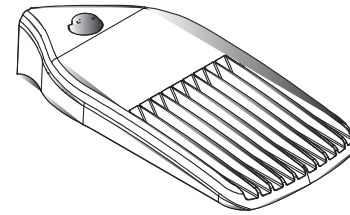
Luminaire Shown with IMSBT Option



7 Pin Photoelectric Control

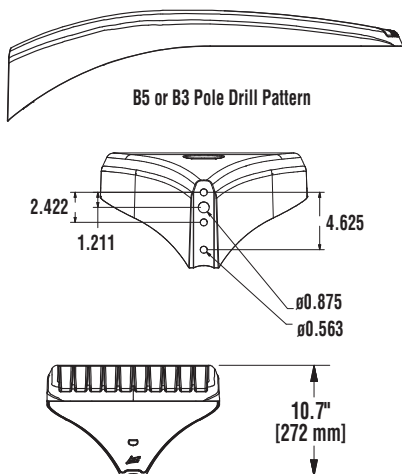
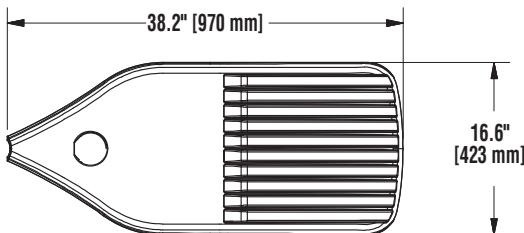
7-pin ANSI C136.41-2013 control receptacle option available for twist lock photocontrols or wireless control modules. Control accessories sold separately. Dimming leads from the receptacle will be connected to the driver dimming leads (Consult factory for alternate wiring).

Luminaire Shown with PCR 7P



PRODUCT DIMENSIONS

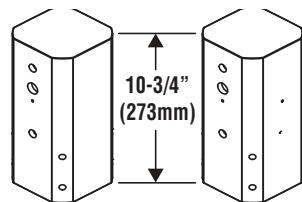
[Back to Quick Links](#)



LUMINAIRE EPA CHART - ZNL				
Tilt Degree		0°	30°	45°
	Single	0.8	2.2	2.9
	D180°	1.6	2.2	2.9
	D90°	1.2	3.0	3.7
Tilt Degree		0°	30°	45°
	T90°	2.0	3.8	4.5
	TN120°	2.0	5.0	6.0
	Q90°	2.0	3.8	4.5

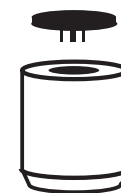
BRACKETS

BKA-NM-*-CLR: Tenon Mount Fitter



Single/D-180
(Drilled 2 Sides) D90/T90/Q90
(Drilled 4 Sides)
For flat surface brackets

BRKT-4ESF-*-CLR: Pole Top Hub



S - Single
D180 - Double
D70 - Double
D90 - Double
Q90 - Quad
Q90 - Quad

Fits over 4" OD pole or tenon



ZONE Large Outdoor Sports Light

CONTROLS

Integral Bluetooth™ Motion and Photocell Sensor (IMSBT)

Slim low profile sensor provides multi-level control based on motion and/or daylight. Sensor controls 0-10 VDC LED drivers and is rated for cold and wet locations (-30° C to 70° C). Two unique PIR lenses are available and used based on fixture mounting height. All control parameters are adjustable via an iOS or Android App capable of storing and transmitting sensor profiles.

Click the link below to learn more details about IMSBT.

<https://www.lsicorp.com/wp-content/uploads/documents/products/imsbt-specsheet.pdf>

AirLink Wireless Lighting Controller (ALSC)

The AirLink integrated controller is a California Title 24 compliant lighting controller that provides real-time light monitoring and control with utility-grade power monitoring. It includes a 24V sensor input and power supply to connect a sensor into the outdoor AirLink wireless lighting system. The wireless integrated controller is compatible with this fixture. It also includes the ability to add Dynamic Behaviors and save scenes for specific sporting events.

Click the link below to learn more details about AirLink.

<https://www.lsicorp.com/wp-content/uploads/documents/products/airlink-outdoor-specsheet.pdf>

AirLink Blue (ALBCS 1 & 2)

Wireless Bluetooth Mesh Outdoor Lighting Control System that provides energy savings, code compliance and enhanced safety/security for parking lots and parking garages. Three key components; Bluetooth wireless radio/sensor controller, Time Keeper and an iOS App. Capable of grouping multiple fixtures and sensors as well as scheduling time-based events by zone. Radio/Sensor Controller is factory integrated into Area/Site, Wall Mounted, Parking Garage and Canopy luminaires.

Click the link below to learn more details about AirLink Blue.

<https://www.lsicorp.com/product/airlink-blue/>

POLES & BRACKETS

LSI offers a full line of poles and mounting accessories to complete your lighting assembly. Aluminum and steel in both square and round shafts. In addition, LSI offers round tapered, fluted and hinge based poles. Designed and engineered for durability and protected with our oven baked DuraGrip Protection System. Also available with our DuraGrip+ Protection system for unmatched corrosion resistance and an extended warranty. American made in our Ohio facility with industry leading lead times.

Click the link below to learn more details about poles & brackets.

<https://www.lsicorp.com/products/poles-brackets/>



BKA UMB CLR

The 3G rated UMB allows for seamless integration of LSI luminaires onto existing/ retrofit or new construction poles. The UMB was designed for square or round (tapered or straight) poles with two mounting hole spacings between 3.5" - 5".



BKS PQM15 CLR

The Pole Quick Mount Bracket allows for preset 15° uptilt of LSI luminaires for greater throw of light and increased vertical illumination as well as fast installation onto poles with LSI's 3" or 5" bolt pattern.



BKA ASF CLR

The adjustable Slip Fitter is a 3G rated rugged die cast aluminum adapter to mount LSI luminaires onto a onto a 2" iron pipe , 2 3/8 OD tenon. The Adjustable Slip Fitter can be rotated 180° allowing for tilting LSI luminaires up to 45° and 90° when using a vertical tenon.



BKS PQMH CLR

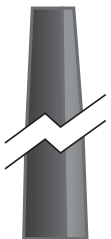
The Pole Quick Mount Bracket allows for lightning fast installation of LSI luminaires onto existing and new construction poles with LSI's B3 or B5 standard pole bolt patterns.



Square Pole
14'-39'



Round Pole
10'-30'



Tapered Pole
20'-39'



2400 6th Avenue S, Suite 200
Birmingham, AL 35233
T 205.879.4462
GMCNETWORK.COM

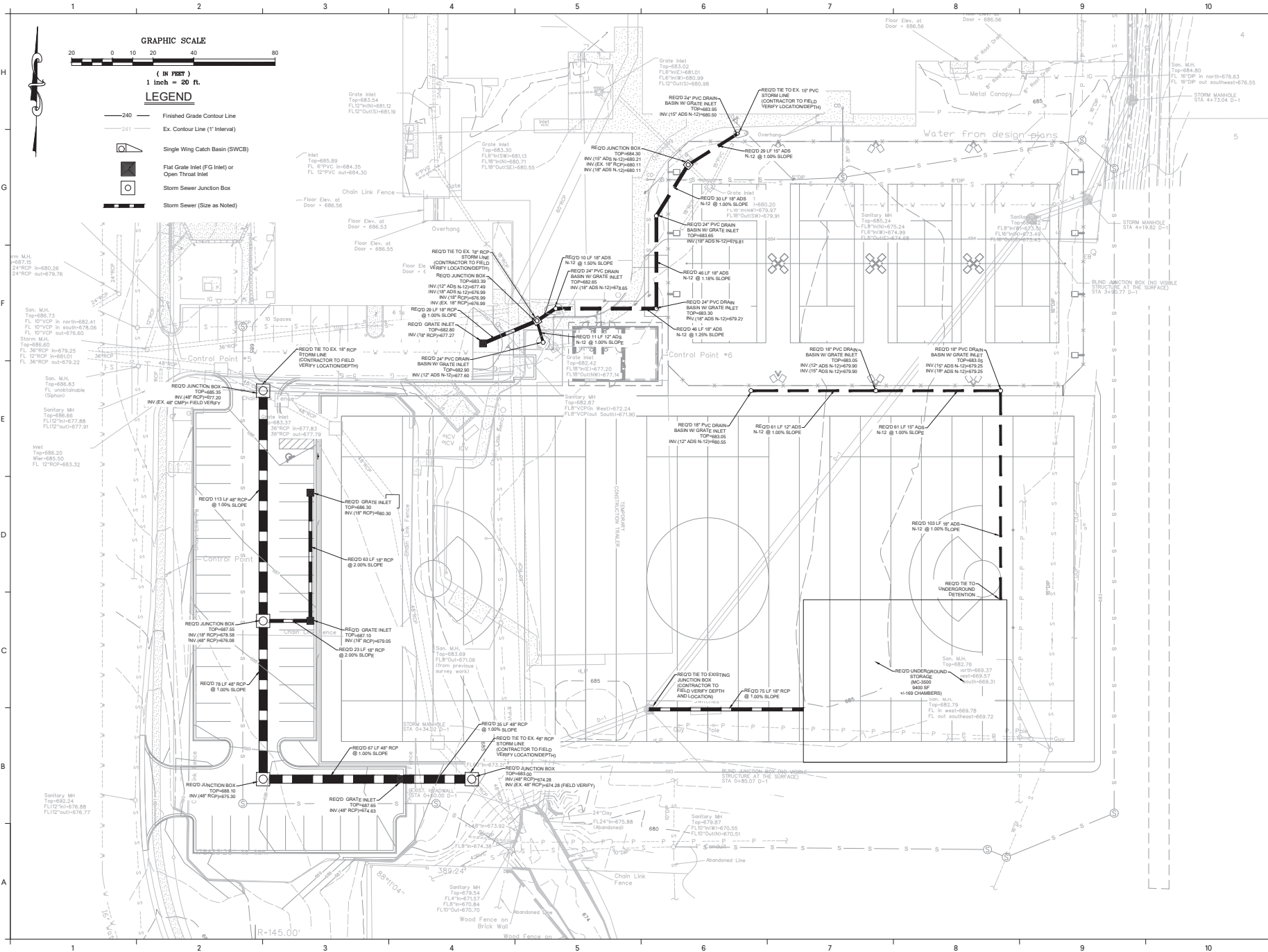
ISSUE DATE	DOSET
10/27/22	

MOUNTAIN BROOK JR.
HIGH ATHLETICS
MOUNTAIN BROOK, AL

CBHM220085

DRAINAGE PLAN

C4.0
Sheet of



GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

LEGEND

- 240 — Finished Grade Contour Line
- 241 — Ex. Contour Line (1' Interval)
- Single Wing Catch Basin (SWCB)
- Flat Grate Inlet (FG Inlet) or Open Trench Inlet
- Storm Sewer Junction Box
- Storm Sewer (Size as Noted)

DRAWN/PLT: N:\bim\p\cbhm\p\mountain_brook_jr_high_athletics\cbhm220085.dwg
PLOT DATE: 01/27/23 10:01 AM

