



DESIGN AND ACCESS STATEMENT

Installation of a new floodlighting system consisting of four 21m galvanised steel columns and 12 1500 lux LED floodlights.

at

Dodworth Miners Welfare

Dodworth

Barnsley

S75 3RF

April 2024

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DESIGN AND ACCESS STATEMENT

1.0 INTRODUCTION

- 1.1** The Design and Access Statement is submitted in support of a full planning application for new LED directional sports lighting on new columns at Dodworth Miner Welfare. The statement sets out detailed design and access considerations relating to the proposed installation and demonstrates conformity to planning policy covering the relevant information with respect to the issues set out in the National Planning Policy Framework (NPPF) The Design and Access Statement is to be read in conjunction with all the supporting application documents.

2.0 CLUB HISTORY

- 2.1** Dodworth Miners Welfare was founded and constituted on 21 February 1956, under the name Dodworth Miners Welfare Recreation Ground and on grounds leased from Barnsley Metropolitan Borough Council. The charity was re named Dodworth Miners Welfare Scheme on the 5th August 2005. Dodworth Miners Welfare has a proud heritage of multi sports involvement with cricket, boxing, bowling, rugby and both adult and junior football all having successful histories. In addition to these sporting activities the Welfare also hosts a successful Brass Band.
- 2.2** The Charity is led by a Board of Trustees and provides recreational activities and facilities for the Communities of Dodworth and the immediately surrounding areas. The Trustees of the Charity will work in accordance with the guidance given by the Charity Commission on Public Benefit when reviewing current and future aims and objectives to preserve the operations of the Charity. The Trustees are supported by leadership teams from each of the Welfare sections which now include Junior and Senior Football, Junior and Senior Rugby, the Brass Band, Bowling and Boxing.
- 2.3** As with many similar organisations Dodworth Miners Welfare has faced significant challenges since the decline of the mining industry in the 1980's with membership dwindling and use of the welfare facilities declining significantly. Since the early 2000's involvement in both rugby and cricket has declined and these sports are no longer placed on the welfare grounds. The brass band, boxing and bowling activities have remained constant in their popularity over this time period.
- 2.4** The current Trustee's have led the regeneration of Dodworth Miners Welfare over the past 3 years having revitalised the skills set within the Trustee's to adopt a more contemporary, business focussed approach whilst retaining the community spirit of the activities provided. This has led to an increase in membership in existing sections to over 350 individuals, with demand for Junior Football continuing to thrive during this period the reformation of the Senior Football section and a significant growth in both Junior and Senior Rugby membership. This renaissance has also seen increased usage of the miners welfare by community groups including the "Top of Dodworth Bottom" Club which meets weekly to provide socially inclusive activities aimed at preventing social isolation for its over 40 regular attendees.

3.0 PITCH AND LOCATION

3.1 The existing grass pitch is located to the North of the main stand. There are residential areas to the West (Barnsley Road), to the North beyond the training pitch (Dodworth Road), to East (Jermyn Croft) and South (High Street).

3.2 Photo 1: Google maps



4.0 THE PROPOSED DEVELOPMENT AND REASON FOR PROPOSAL

- 4.1 The proposal is to install four 21 metre columns and install twelve of the very latest directional LED floodlights to each column.
- 4.2 Whilst grassroots football and rugby continue to be the fundamental part of the Miner Welfare sporting activities the football senior team have recently reached the required level to step up to Semi Professional level. The senior team are currently competing in the Sheffield County Senior League (Step 7) and being only 1 league away from being able to compete in the FA Cup. Once the club has installed floodlights, they will be able to enter the FA vase and apply for promotion to NCEL divisions. Floodlights are therefore required to be eligible for promotion, and to be able to offer more training sessions, evening games and community engagement at the club's own facility.
- 4.3 This development is part of a program of improvements in facilities.

5.0 LIGHTING SYSTEM DESIGN AND CONSIDERATION

- 5.1 The design has taken account of key material planning considerations:
- Impact of floodlighting upon the character and appearance of the surrounding area.
 - Impact of floodlighting upon neighboring properties.
 - Impact of floodlighting columns to the visual amenity.
- 5.2 The proposal is in accordance with National Planning Policy Framework and the proposed floodlighting solution meets the Institute of Lighting Professionals – Guidance Notes for the Reduction of Obtrusive Light.

The floodlights to be installed at Dodworth Miners Welfare utilise the latest Total Light Control (TLC-LED) technology, as showcased in the brochure (**Addendum A**). The 21 meter galvanised steel poles provide the height to enable the light to be directed downwards on the pitch. This reduces light spill when compared to shorter pole lengths. The luminaire then features multiple sections, including more than 60 different visors and 90 optics, allowing for the configuration to be tailored to the specific needs of the project. This ensures precise light control and optimal performance to meet the highest standards of quality and efficiency for the project.

- 5.3 The proposed lighting system comprises of four 21 meter columns and twelve 1500w directional luminaires delivering 250 lux. (**Addendum A**)

Photo 2 : Exploded view of luminair

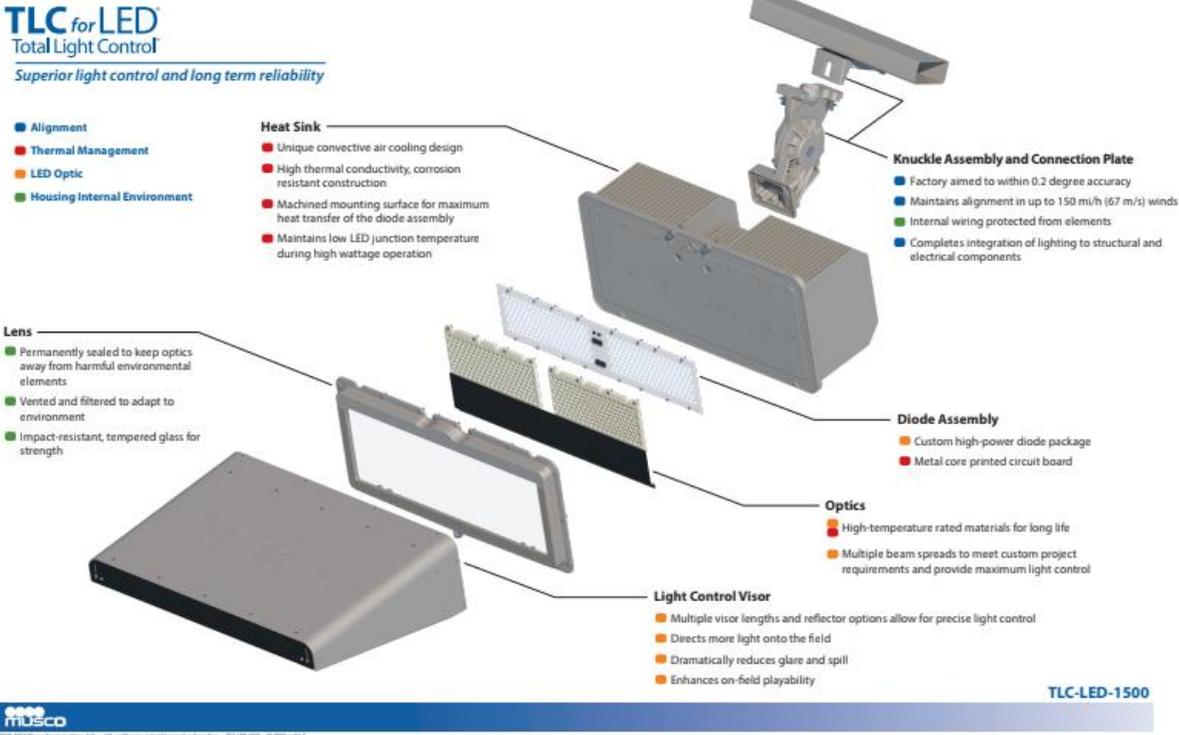


Photo 3 : Examples of how the lighting technology reduces light spill



Photo 4 - Detailed composition of the light system to be installed

Light-Structure System™

5 Easy Pieces™
Complete System from Foundation to Poletop

LED Light Source

TLC for LED
Total Light Control

Poletop Luminaire Assembly

Wire Harness

Electrical Components Enclosure

Galvanised Steel Pole

Precast Concrete Base

Integrated Lightning Ground System

10 YEARS
WARRANTY

All components are designed to work together... factory built, wired, aimed, and tested to assure reliable, trouble-free operation.

Covered by a 10-year product assurance and warranty programme with guaranteed light levels, parts and labour for maintenance, system monitoring, and 24/7 support from our Control-Link Central™ service center.

**For your BUDGET,
for the ENVIRONMENT.**

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Photo 5 – Example of Low Light Spill LED Floodlights in use



5.4 The construction process comprises installing 4 new bases to accommodate the columns and electrical equipment from the main clubhouse building. The proposed finish of the columns will be tubular galvanised with the luminaires being a brushed dark grey finish. (See photo 2 and phot 3)

5.5 **Light Spill Control:** The design ensures that light spill to critical areas, such as property lines and trees with bats, is kept below the maximum threshold of 25 lux. However, to provide additional peace of mind to consultants, customers, and stakeholders, the proposed floodlight scheme has a light spill of below 1- lux in any direction, thereby exceeding regulatory requirements and minimising potential impact on surrounding areas.

Photo 3 demonstrates how the proposed floodlight technology reduces light spill.

Photo 2 shows an exploded view of the proposed advanced floodlight technology that is to be installed

Photo 4 shows the composition of the complete floodlight system that is to be installed

Addendum A shows the analysis that has been undertaken on Light Spill and Coefficient of Utilization for each property and tree line around the site.

5.6 **Coefficient of Utilisation (CU):** The CU metric analyses the percentage of light that falls on a defined area, in this case, the football pitch. The proposed design achieves a CU value of 0.85 indicating very high efficiency and ensuring that the light from the floodlights is effectively utilised within the playing area. This exceeds the minimum requirements of 0.7 and even surpasses the most challenging standards above 0.8.

6.0 **ENVIRONMENTAL STATUS**

6.1 Reference to The Institute of Lighting Professionals: Guidance Notes for The Reduction of Obtrusive Light GN01:2011. The Guidance Notes categorises five zones ranging from E0 (Protected) to E4 (City Centres). The application falls within E3 Suburban – Medium District Brightness – Small town centres or suburban locations. (See Appendix E)

6.2 The proposed design delivers a scheme that falls within the planning guidance of The Institute of Lighting Professionals, although, additional consideration has been given to the proximity of the neighboring properties when selecting the lighting technology and the

proposed luminaires have advanced optical glare and spill control. The limit of vertical light to windows will not exceed 5 lux.

7.0 VISUAL IMPACT

7.1 It is considered the visual impact of the installation will be minimal with columns located at pitch corners only.

8.0 TIMES OF USE

8.1 The proposed usage of the lighting will be as follows: (winter months)
Monday – Fridays 1800hrs - 2200hrs, Saturdays 1430 – 1830, Sundays 1430 – 1830

9.0 ACCESS AND PARKING

9.1 Access to the facilities will continue to be via the existing main entrance and parking arrangements remain unaltered.

10.0 DRAINAGE

10.1 The works will not impact or change any existing drainage arrangements.

11.0 ECOLOGY

11.1 The primary use of the lighting will be during the winter (November to Easter) and the directional lighting is confined to lighting the playing areas. As the use is outside the season where bats would be foraging, and the level is 250 lux on the playing area a bat survey has not been commissioned.

12.0 NOISE

12.1 The Miners Welfare has been used as a base for numerous sporting activities for many years. The application for lighting will enable participation in a higher standard of football, although, during summer months the facility can already be used at these times. Noise has been considered, although not seen as a nuisance due to the existing use of the facility all year. When the lighting is used it is winter months when windows and doors of the neighbours will likely to be closed. It is also less likely for residents to be in their gardens during dark winter months.

13.0 RECENT PLANNING HISTORY

13.1 Planning permission has not been submitted for the floodlights in the past.

14.0 ASSESSING THE IMPACTS AND BENEFITS

14.1 The national policy framework requires an assessment approach that weighs the extent of the benefits against any environmental impacts. The advantage of this proposed development is that it will deliver a combination of education, social, economic, health and wellbeing benefits, arising from Dodworth Miners Welfare FC playing at a higher league level inspiring the youth section of the club.

Benefits to Dodworth Miners Welfare.

14.2 The improved facilities will benefit the both the football and rugby sections and enable the local community to support a higher level of football played at the Miners Welfare. Benefits include

- Evening use through the winter months.
- Making the club more sustainable by extending the hours of use
- Improved facilities and evening use will bring more revenue to the club.
- Is likely to boost club membership and football supporter numbers in general.

15.0 LIGHTING IMPACT

15.1 The attached lighting design report (Appendix A), provides details of the level of illumination the proposed lighting scheme will produce. The scheme incorporates the latest LED technology to ensure that light spillage beyond the pitch area is kept at an absolute minimum. As demonstrated from the below tables taken from the ILP Guidance to planners and system designers the proposed lighting system is within Zone E3 Suburban – Medium District Brightness – Small town centers or suburban locations.

Zone	Surrounding	Lighting Environment	Examples
E0	Protected	Dark	UNESCO Starlight Reserves, IDA Dark Sky Parks
E1	Natural	Intrinsically dark	National Parks, Areas of Outstanding Natural Beauty etc
E2	Rural	Low district brightness	Village or relatively dark outer suburban locations
E3	Suburban	Medium district brightness	Small town centres or suburban locations
E4	Urban	High district brightness	Town/city centres with high levels of night-time activity

Environmental Zone	Sky Glow ULR [Max %] ⁽¹⁾	Light Intrusion (into Windows) E _v [lux] ⁽²⁾		Luminaire Intensity I [candelas] ⁽³⁾		Building Luminance Pre-curfew ⁽⁴⁾
		Pre-curfew	Post-curfew	Pre-curfew	Post-curfew	Average, L [cd/m ²]
E0	0	0	0	0	0	0
E1	0	2	0 (1*)	2,500	0	0
E2	2.5	5	1	7,500	500	5
E3	5.0	10	2	10,000	1,000	10
E4	15	25	5	25,000	2,500	25

16.0 SUMMARY AND CONCLUSIONS

- 16.1 This Design and Access Statement has explained the need for the proposed directional lighting and described the many benefits that the development would bring.
- 16.2 The new and improved facilities that the proposed development would bring would not only enable the club to further develop its playing standards it would enable the use of the pitch during the winter months, expanding opportunities for the local community to enjoy the club's success and use of facilities.
- 16.3 The educational, health and significant social and economic benefits arising from this proposed development should be considered alongside the environmental impacts that have been mitigated.
- 16.4 The comprehensive lighting design has shown that careful positioning and design of the new columns and choice of manufacturer will minimise the visual impact both at night and during the day.
- 16.5 The national and local planning policy framework provides support for carefully designed recreational and sporting development of the type proposed by Dodworth Miners Welfare. The proposed development will bring significant social and economic benefits and have no material adverse impacts and is therefore consistent with the policy framework. On this basis, the planning application should be approved.
- 16.6 The future is exciting, for the first time in the football clubs history there is the potential to install floodlights that will improve access to sporting activities for the local community and provide a defined pathway for young children in the local areas to progress from development football, right the way through to professional.

Eric Richardson
Chairman
Dodworth Miners Welfare

Addendum A

Proposed lighting design showing Lux and Light Spill levels and Coefficient of Utilisation (CU) values for each property and tree line around the site.

Contents

1. Lighting Summary
2. Heat Map
3. Lux Levels on the field
4. Glare Rating (must be below 50)
5. Spill light measured horizontally around the pitch
6. Spill light measured vertically around the pitch
7. Spill light measured horizontally to the property line to the west
8. Spill light measured vertically to the property line to the west
9. Spill light measured horizontally to the property line to the southwest
10. Spill light measured vertically to the property line to the southwest
11. Spill light measured horizontally to the property line to the south
12. Spill light measured vertically to the property line to the south
13. Spill light measured horizontally to the southeast
14. Spill light measured vertically to the southeast
15. Spill light measured horizontally to the east
16. Spill light measured vertically to the east
17. Equipment layout

Dodworth Miners Welfare FC PLSF

Dodworth, Yorkshire and Humberside

NOTES: Field dimensions, position, and orientation to be confirmed.
Roof height also to be confirmed

Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
S1-S4	18.0	18.0	3	TLC-LED-1500	4.23 kW	A
4			12		16.92 kW	

Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Football Pitch	16.92 kW	12

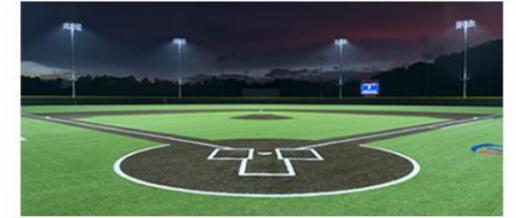
Fixture Type Summary							
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1500	LED 5700K - 75 CRI	1410W	181,000	>120,000	>120,000	>120,000	12

Single Luminaire Amperage Draw Chart						
Driver (.90 min power factor)	Line Amperage Per Luminaire					
Single Phase Voltage	220 (50)	230 (50)	240 (50)	380 (50)	400 (50)	415 (50)
TLC-LED-1500	7.9	7.6	7.3	4.6	4.4	4.2

Light Level Summary

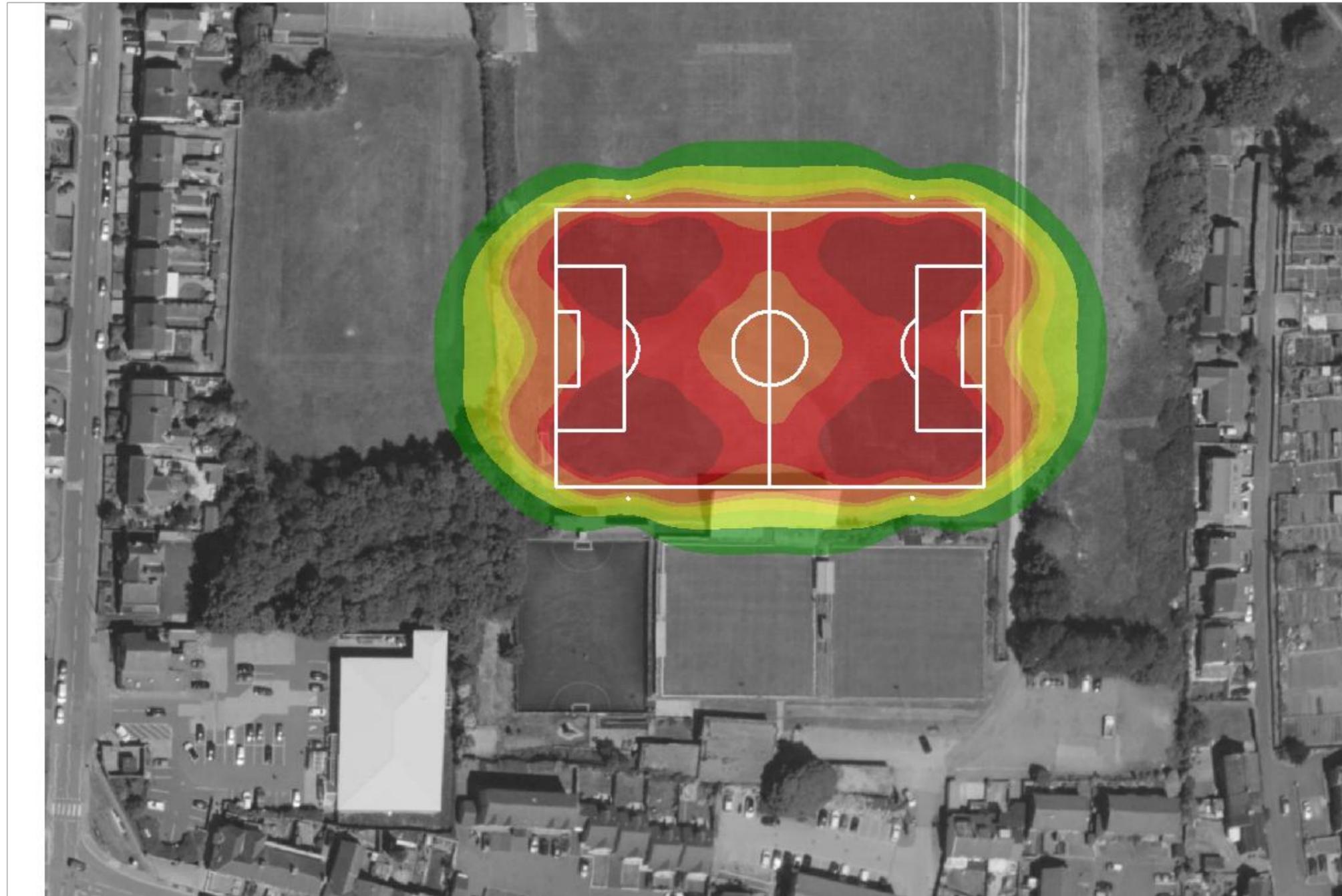
Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Min/Max	Min/Ave		
50m Spill	Horizontal Illuminance	11.1	0	143	0.00	0.00	A	12
50m Spill	Max Vert Illuminance (by Light Bank)	21	0	282	0.00	0.00	A	12
Football Pitch	Glare Rating	37.8	26	43	0.62	0.69	A	12
Football Pitch	Horizontal Illuminance	251	154	445	0.35	0.61	A	12
Home LTW 1	Horizontal	0	0	0	0.00		A	12
Home LTW 1	Max Vertical Illuminance Metric	0	0	0	0.00	0.00	A	12
Home LTW 2	Horizontal	0	0	0	0.00		A	12
Home LTW 2	Max Vertical Illuminance Metric	0	0	0	0.00	0.00	A	12
Home LTW 3	Horizontal	0	0	0	0.00		A	12
Home LTW 3	Max Vertical Illuminance Metric	0	0	0	0.00	0.00	A	12
Home LTW 4	Horizontal	0	0	0	0.00		A	12
Home LTW 4	Max Vertical Illuminance Metric	0	0	0	0.00	0.00	A	12
Home LTW 5	Horizontal	0.04	0	0.07	0.00	0.00	A	12
Home LTW 5	Max Vertical Illuminance Metric	0.22	0	0.42	0.00	0.00	A	12

From Hometown to Professional



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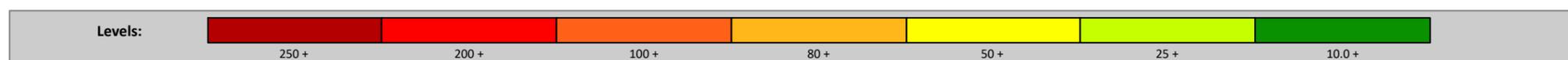


Shaded Plots

Plots are provided to demonstrate the lighting coverage of a particular layout or system.

This may be provided to illustrate the control of light and how effective a system is at minimizing spill-related issues while maintaining quality of light.

This is only an illustration and should be used with complete point-by-point calculation results.



Plot based on maintained horizontal lux at the ground level.



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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
4	S1-S4	18m	-	18m	TLC-LED-1500	3	3	0
4	TOTALS					12	12	0

Dodworth Miners Welfare FC PLSF
Dodworth, Yorkshire and Humberside

GRID SUMMARY	
Name:	Football Pitch
Size:	105.0m x 68.0m
Spacing:	10.0m x 9.0m
Height:	1.0m above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL LUX	
	Entire Grid
Guaranteed Average:	250
Scan Average:	251.31
Maximum:	445
Minimum:	154
Guaranteed Min / Avg:	0.6
Min / Avg:	0.61
Min / Max:	0.35
UG (adjacent pts):	2.01
CU:	0.88
No. of Points:	88
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	12
Total Load:	16.92 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.



NOTES: Field dimensions, position, and orientation to be confirmed. Roof height also to be confirmed



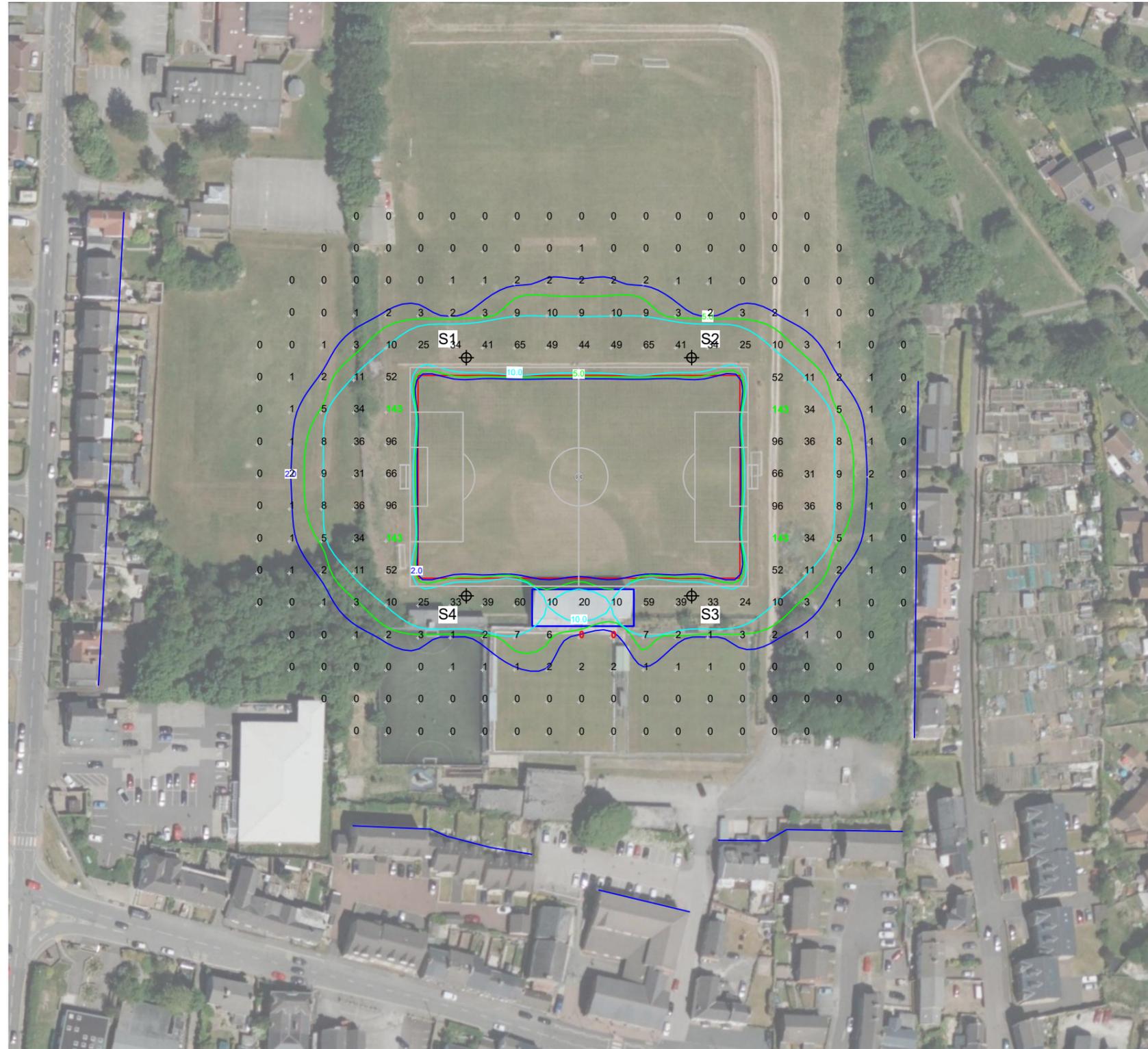
Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗



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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	
4	S1-S4	18m	-	18m	TLC-LED-1500	3	3	0	
4	TOTALS						12	12	0



Dodworth Miners Welfare FC PLSF

Dodworth, Yorkshire and Humberside

GRID SUMMARY	
Name:	50m Spill
Size:	105.0m x 68.0m
Spacing:	10.0m x 10.0m
Height:	1.0m above grade

ILLUMINATION SUMMARY	
HORIZONTAL LUX	
Scan Average:	11.1217
Maximum:	142.80
Minimum:	0.00
CU:	0.12
No. of Points:	252
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	12
Total Load:	16.92 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.

NOTES: Field dimensions, position, and orientation to be confirmed. Roof height also to be confirmed



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	
4	S1-S4	18m	-	18m	TLC-LED-1500	3	3	0	
4	TOTALS						12	12	0



Dodworth Miners Welfare FC PLSF

Dodworth, Yorkshire and Humberside

GRID SUMMARY	
Name:	50m Spill
Size:	105.0m x 68.0m
Spacing:	10.0m x 10.0m
Height:	1.0m above grade

ILLUMINATION SUMMARY	
MAX VERTICAL LUX	
Scan Average:	21.0416
Maximum:	281.75
Minimum:	0.00
CU:	0.12
No. of Points:	252
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	12
Total Load:	16.92 kW

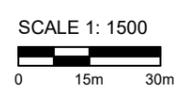
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Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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.

NOTES: Field dimensions, position, and orientation to be confirmed. Roof height also to be confirmed



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
4	S1-S4	18m	-	18m	TLC-LED-1500	3	3	0
4	TOTALS					12	12	0



Dodworth Miners Welfare FC PLSF
Dodworth, Yorkshire and Humberside

GRID SUMMARY	
Name:	Home LTW 1
Spacing:	10.0m
Height:	1.5m above grade

ILLUMINATION SUMMARY	
HORIZONTAL LUX	
Scan Average:	0.0000
Maximum:	0.00
Minimum:	0.00
No. of Points:	15
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	12
Total Load:	16.92 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.

NOTES: Field dimensions, position, and orientation to be confirmed. Roof height also to be confirmed



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	
4	S1-S4	18m	-	18m	TLC-LED-1500	3	3	0	
4	TOTALS						12	12	0



Dodworth Miners Welfare FC PLSF
Dodworth, Yorkshire and Humberside

GRID SUMMARY	
Name:	Home LTW 1
Spacing:	10.0m
Height:	1.5m above grade

ILLUMINATION SUMMARY	
MAX VERTICAL LUX	
Entire Grid	
Scan Average:	0.0006
Maximum:	0.00
Minimum:	0.00
No. of Points:	15
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	12
Total Load:	16.92 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.

NOTES: Field dimensions, position, and orientation to be confirmed. Roof height also to be confirmed



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
4	S1-S4	18m	-	18m	TLC-LED-1500	3	3
4	TOTALS					12	12
							0



Dodworth Miners Welfare FC PLSF

Dodworth, Yorkshire and Humberside

GRID SUMMARY	
Name:	Home LTW 2
Spacing:	10.0m
Height:	3.0m above grade

ILLUMINATION SUMMARY	
HORIZONTAL LUX	
Scan Average:	0.0000
Maximum:	0.00
Minimum:	0.00
No. of Points:	6
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	12
Total Load:	16.92 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.

NOTES: Field dimensions, position, and orientation to be confirmed. Roof height also to be confirmed



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
4	S1-S4	18m	-	18m	TLC-LED-1500	3	3	0
4	TOTALS					12	12	0



Dodworth Miners Welfare FC PLSF

Dodworth, Yorkshire and Humberside

GRID SUMMARY	
Name:	Home LTW 2
Spacing:	10.0m
Height:	3.0m above grade

ILLUMINATION SUMMARY	
MAX VERTICAL LUX	
Scan Average:	Entire Grid 0.0000
Maximum:	0.00
Minimum:	0.00
No. of Points:	6
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	12
Total Load:	16.92 kW

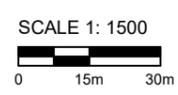
Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document.

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.

NOTES: Field dimensions, position, and orientation to be confirmed. Roof height also to be confirmed



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
4	S1-S4	18m	-	18m	TLC-LED-1500	3	3	0
4	TOTALS					12	12	0



Dodworth Miners Welfare FC PLSF
Dodworth, Yorkshire and Humberside

GRID SUMMARY	
Name:	Home LTW 3
Spacing:	10.0m
Height:	1.0m above grade

ILLUMINATION SUMMARY	
HORIZONTAL LUX	
Scan Average:	Entire Grid 0.0000
Maximum:	0.00
Minimum:	0.00
No. of Points:	3
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	12
Total Load:	16.92 kW

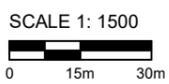
Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document.

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.

NOTES: Field dimensions, position, and orientation to be confirmed. Roof height also to be confirmed



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
4	S1-S4	18m	-	18m	TLC-LED-1500	3	3	0
4	TOTALS					12	12	0



Dodworth Miners Welfare FC PLSF
Dodworth, Yorkshire and Humberside

GRID SUMMARY	
Name:	Home LTW 3
Spacing:	10.0m
Height:	1.0m above grade

ILLUMINATION SUMMARY	
MAX VERTICAL LUX	
Entire Grid	
Scan Average:	0.0012
Maximum:	0.00
Minimum:	0.00
No. of Points:	3
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	12
Total Load:	16.92 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.

NOTES: Field dimensions, position, and orientation to be confirmed. Roof height also to be confirmed



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
4	S1-S4	18m	-	18m	TLC-LED-1500	3	3
4	TOTALS					12	12
							0



NOTES: Field dimensions, position, and orientation to be confirmed. Roof height also to be confirmed

SCALE 1: 1500
 0 15m 30m

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

Dodworth Miners Welfare FC PLSF

Dodworth, Yorkshire and Humberside

GRID SUMMARY	
Name:	Home LTW 4
Spacing:	10.0m
Height:	1.0m above grade

ILLUMINATION SUMMARY	
HORIZONTAL LUX	
Scan Average:	0.0000
Maximum:	0.00
Minimum:	0.00
No. of Points:	6
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	12
Total Load:	16.92 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.



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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
4	S1-S4	18m	-	18m	TLC-LED-1500	3	3
4	TOTALS					12	12
							0



NOTES: Field dimensions, position, and orientation to be confirmed. Roof height also to be confirmed

SCALE 1: 1500
 0 15m 30m

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

Dodworth Miners Welfare FC PLSF

Dodworth, Yorkshire and Humberside

GRID SUMMARY	
Name:	Home LTW 4
Spacing:	10.0m
Height:	1.0m above grade

ILLUMINATION SUMMARY	
MAX VERTICAL LUX	
Scan Average:	Entire Grid 0.0004
Maximum:	0.00
Minimum:	0.00
No. of Points:	6
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	12
Total Load:	16.92 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.



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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
4	S1-S4	18m	-	18m	TLC-LED-1500	3	3	0
4	TOTALS					12	12	0



Dodworth Miners Welfare FC PLSF
Dodworth, Yorkshire and Humberside

GRID SUMMARY	
Name:	Home LTW 5
Spacing:	10.0m
Height:	1.0m above grade

ILLUMINATION SUMMARY	
HORIZONTAL LUX	
Scan Average:	Entire Grid 0.0368
Maximum:	0.07
Minimum:	0.00
No. of Points:	12
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	12
Total Load:	16.92 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.

NOTES: Field dimensions, position, and orientation to be confirmed. Roof height also to be confirmed



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
4	S1-S4	18m	-	18m	TLC-LED-1500	3	3	0
4	TOTALS					12	12	0



Dodworth Miners Welfare FC PLSF
Dodworth, Yorkshire and Humberside

GRID SUMMARY	
Name:	Home LTW 5
Spacing:	10.0m
Height:	1.0m above grade

ILLUMINATION SUMMARY	
MAX VERTICAL LUX	
Entire Grid	
Scan Average:	0.2242
Maximum:	0.42
Minimum:	0.00
No. of Points:	12
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	12
Total Load:	16.92 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.

NOTES: Field dimensions, position, and orientation to be confirmed. Roof height also to be confirmed



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



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NOTES: Field dimensions, position, and orientation to be confirmed. Roof height also to be confirmed



Dodworth Miners Welfare FC PLSF

Dodworth, Yorkshire and Humberside

EQUIPMENT LAYOUT

INCLUDES:
 · Football Pitch

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.

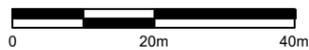
EQUIPMENT LIST FOR AREAS SHOWN

QTY	LOCATION	SIZE	GRADE ELEVATION	Luminaires		QTY / POLE
				MOUNTING HEIGHT	LUMINAIRE TYPE	
4	S1-S4	18m	-	18m	TLC-LED-1500	3
4	TOTALS					12

SINGLE LUMINAIRE AMPERAGE DRAW CHART

Driver (.90 min power factor)	Line Amperage Per Luminaire (max draw)					
	220 (50)	230 (50)	240 (50)	380 (50)	400 (50)	415 (50)
TLC-LED-1500	7.9	7.6	7.3	4.6	4.4	4.2

SCALE 1: 1000



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



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