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INDUSTRIAL & COMMERCIAL BUILDING SERVICES ENGINEERS



MARSHALL

LIGHTING PROPOSAL

FOR THE UPGRADE OF STADIUM LIGHT

AT

**DEWSBURY STADIUM,
DEWSBURY**

DOCUMENT REF: C5912-AFC-96-XX-XX-T-E-9600

DATE: 07/10/2026

REV: 03

Document History

Revision	Revised by	Description
01	CAW	Initial Issue for Review / Draft for Planning
02	CAW	Appendix M – Lighting Control added
03	CAW	LEDTURE Report Updated to Include Light Spill

Project Summary

This proposal presents the indicative design & information for the supply, installation, commissioning and certification of a new sports floodlighting system at Dewsbury Stadium to support the venue's use for professional Rugby League fixtures, including those broadcasted as part of the Super League.

The proposed development involves the complete removal of the existing floodlighting infrastructure, including all luminaires, support columns, associated cabling and ancillary equipment. A new energy-efficient LED floodlighting system will be installed to provide lighting performance that satisfies current television broadcasting requirements, sporting body recommendations and relevant British and European Standards.

The design incorporates:

- Removal of all existing floodlighting columns and fittings.
- Installation of new floodlighting columns at revised positions located adjacent to the corners of the playing surface.
- Installation of replacement floodlighting columns on both the North and South Stands.
- Integration of supplementary stadium mounted (under-canopy) floodlighting.
- New electrical infrastructure, controls and monitoring systems.
- Full photometric design verification and compliance certification.

The proposed solution has been developed in accordance with current legislation, industry best practice and the commercial requirements of modern televised sporting venues.

1. Introduction

1.1 Project Overview

It is intended to upgrade the existing floodlighting installation at Dewsbury Stadium to meet the operational and broadcasting requirements associated with professional Rugby League matches and televised fixtures.

The current lighting infrastructure has reached the end of its operational life and no longer provides the illumination levels, uniformity or energy efficiency demanded by modern sporting and broadcasting standards.

This proposal outlines a complete replacement strategy that delivers a future-proof lighting solution capable of supporting:

- Professional Rugby League fixtures.
- High-definition television broadcasting.
- Spectator comfort and safety.
- Reduced operational and maintenance costs.

- Improved environmental performance and energy efficiency.
-

1.2 Project Objectives

The primary objectives of this project are:

- Achieve lighting levels suitable for televised Super League Rugby League matches.
 - Improve horizontal and vertical illuminance across the playing surface.
 - Minimise glare for players, spectators and television cameras.
 - Enhance uniformity and colour rendering.
 - Reduce energy consumption through the use of LED technology.
 - Improve operational flexibility through intelligent lighting controls.
 - Deliver a compliant and future-ready solution.
-

2. Existing Installation

See Appendix A for existing site plan; this does not include technical details of the existing lighting & electrical distribution systems; these are to be investigated in due course on site to evaluate suitability & additional requirements.

3. Proposed Floodlighting Solution

3.1 Scope of Works

The proposed works include:

Removal Works

- Removal of all existing luminaires.
- Removal of existing floodlighting columns.
- Removal/stripping back of associated electrical installations.
- Disposal and recycling of redundant equipment.

New Installation Works

- See Appendix B for new installation overview/layout.
- Installation of new floodlighting columns at revised corner locations, bases for column to be provided by others (cast in foundation cradles to be free issued by AFC).
- Installation of new floodlighting columns on the North & South Stands, flange mounted on existing fixing plate.

- Installation of supplementary stadium mounted (under-canopy) floodlighting (holes by other required to steel for fixings and 'snorkel' through the roof for cable routes).
 - New power distribution infrastructure.
 - New wireless lighting control system including gateway for remote access/maintenance.
 - Testing, commissioning and certification.
-

3.2 Lighting Arrangement

The proposed arrangement consists of:

Corner Floodlighting Columns

The primary floodlighting solution will comprise strategically positioned columns located around the perimeter of the playing surface. Revised corner locations have been selected to optimise:

- Horizontal illuminance.
- Vertical illuminance.
- Uniformity ratios.
- Camera-facing lighting performance.
- Glare reduction.

North & South Stand Floodlighting

Replacement floodlighting columns will be installed on the North & South Stand to provide dedicated lighting coverage as above.

Supplementary Stadium Mounted (Under-Canopy) Lighting

Additional floodlighting units will be installed beneath the stand structures to improve overall lighting balance across the entire playing field.

4. Compliance & Standards

The proposed system shall be designed in accordance with the latest applicable standards and guidance, including:

British & European Standards

- BS EN 12193: Light and Lighting – Sports Lighting.
- BS 7671 Requirements for Electrical Installations.
- BS EN 60598 Luminaire Safety Standards.
- Electricity at Work Regulations.

Sports Governing Body Requirements

- Rugby Football League (RFL) guidance.
 - Super League broadcasting requirements.
 - Broadcaster-specific lighting criteria where applicable.
-

5. Lighting Design

See Appendix C for Lighting Design report, this includes:

- Lighting output rendered images.
- Luminaire list.
- Calculation Surfaces.
- Whole pitch light scene.

Appendix D shows details of how the pitch grid calculation area has been created within the design.

6. Electrical Infrastructure

Power is to be derived from the existing supplies where possible, with additional supplies installed where required. This is to be developed as the design is built up around the current infrastructure but will include the following.

- System electrical design.
 - Distribution boards and supplies.
 - Bespoke enclosure for controls, drivers & power to be installed locally to floodlights. Main columns to have enclosure mounted to lower section with 2No. enclosure mounted on the canopy of each the North & South Stands with lighting split equally over these.
 - Containment routes (underground duct requirements to be provided by others).
 - Surge protection.
 - Earthing systems.
-

6.2 Lighting Controls

The proposed control system shall provide with a touch screen front end display within the current controls room (location TBC, see Appendix M). This will be commissioned in line with the users' requirements, but as examples, it will be set with the following modes:

- Broadcast Mode.
- Match Mode.

- Training Mode.
- Community Use Mode.

The controls will be connected via a secure gateway to allow remote monitoring/maintenance of the system.

Connection to a stadium PA sound system has been included for to allow music to reactive lighting, details of user connection required (XLR or Bluetooth TBC).

7. Lighting Manufacturer Information

7.1 Manufacturer Overview

LEDture

6 Park View, Langwith, Nottinghamshire, NG20 9DE

<https://www.ledture.com/>

7.2 Product Specification

Lighting details:

- Column mounted floodlights - MBE2400H-J – See Appendix E
- North Stadium mounted floodlights – MBE1440H-J – See Appendix F
- South Stadium mounted floodlights - AAE480H-J – See Appendix G
- Main columns – 18m Column including foundation plate – See Appendix H
- North Stand columns – 4.5m Column – See Appendix I
- South Stand columns – 7.5m Column – See Appendix J

8. Previous Stadium Case Study

Details of similar recent project:

- <https://www.ledture.com/case-studies/warrington-wolves>

9. Testing & Commissioning

Activities to include:

- Electrical testing.
- Aiming verification.

- Light level measurements.
 - Control system testing.
 - Client witnessing.
-

10. Operation & Maintenance

Full O&M's to be provided for the full installation, primary considerations below:

- Typical column lowering layout – See Appendix K.
 - Recommended lowering direction of main columns due to length (removable fence etc required to accommodate column) – See Appendix L.
 - Columns on Stands to lower away from the pitch.
-

Appendices

Appendix A – Site Layout Drawings

Appendix B – Lighting Layout

Appendix C – Lighting Design Report

Appendix D – Pitch Grid Calculation

Appendix E – Floodlight MBE2400H-J Datasheet

Appendix F – Floodlight MBE1440H-J Datasheet

Appendix G – Floodlight AAE480H-J Datasheet

Appendix H – 18M Column Information

Appendix I – 4.5m Column Layout

Appendix J – 4.5m Column Layout

Appendix K – Lowering Layout

Appendix L – Direction of Lowering Layout

Appendix M – Lighting Control

Appendix A – Site Layout Drawings

Width
55m
4m run off
Total = 63m

Rev	Date	Description
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Huddersfield Road
Elland, West Yorkshire
HX5 9BW
TELEPHONE : ELLAND (01422) 371616
FAX No : (01422) 376717
email : mail@bmselland.com

Building Management Services

Huddersfield Giants

FLAIR Stadium
Owl Lane
Dewsbury

Proposed site plan

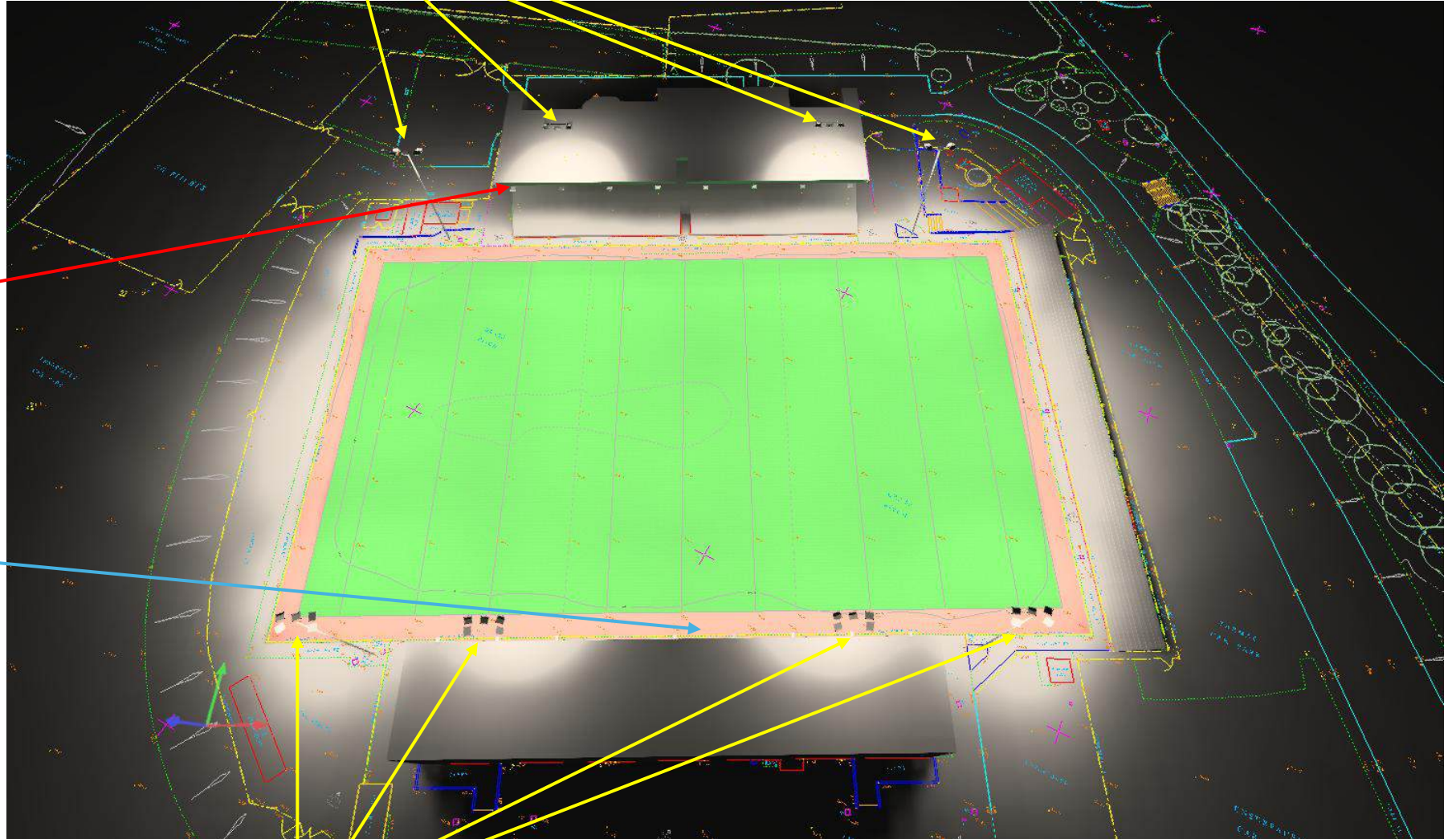
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Status	Planning
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M3310-01

Appendix B – Lighting Layout

Model A – 2400 layouts – Column Mount



Model A – 1400
layouts Stadium
Mount

Model A – 480
layouts Stadium
Mount

Model A – 2400 layouts – Column Mount

Appendix C – Lighting Design Report



DEWSBURY RAMS STADIUM UPGRADE

1200lux x 0.8 Uniformity x 0.60 Min/Max specification

Grid layout is based on 1m IN from the horizontal line and last grid point is half away from the touchline to the deadball line.

Preface

Notes on planning:

The energy consumption quantities do not take into account light scenes and their dimming levels.

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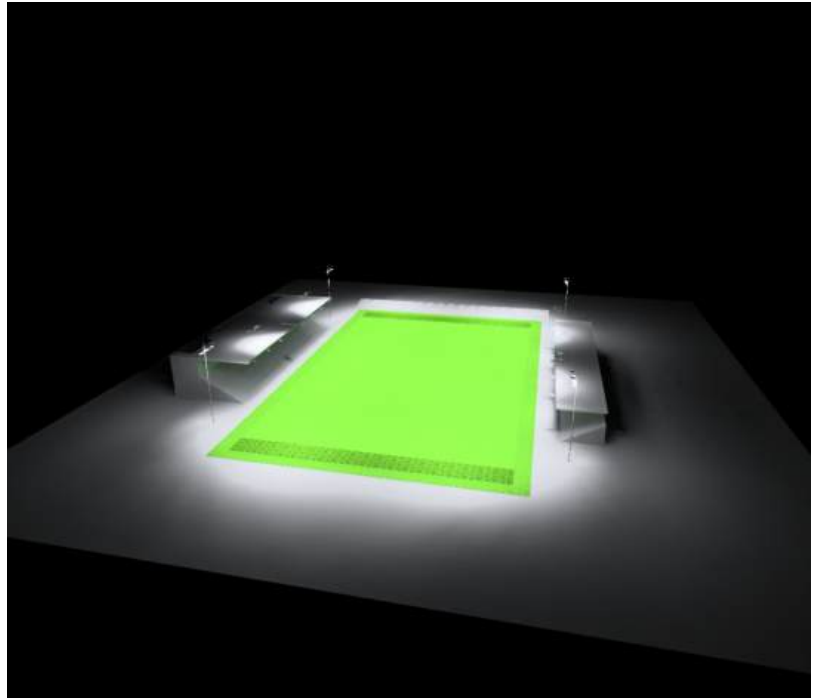
Calculation objects / Light scene 1 8

RUGBY PITCH (WHOLE) / Light scene 1 / Perpendicular illuminance 11

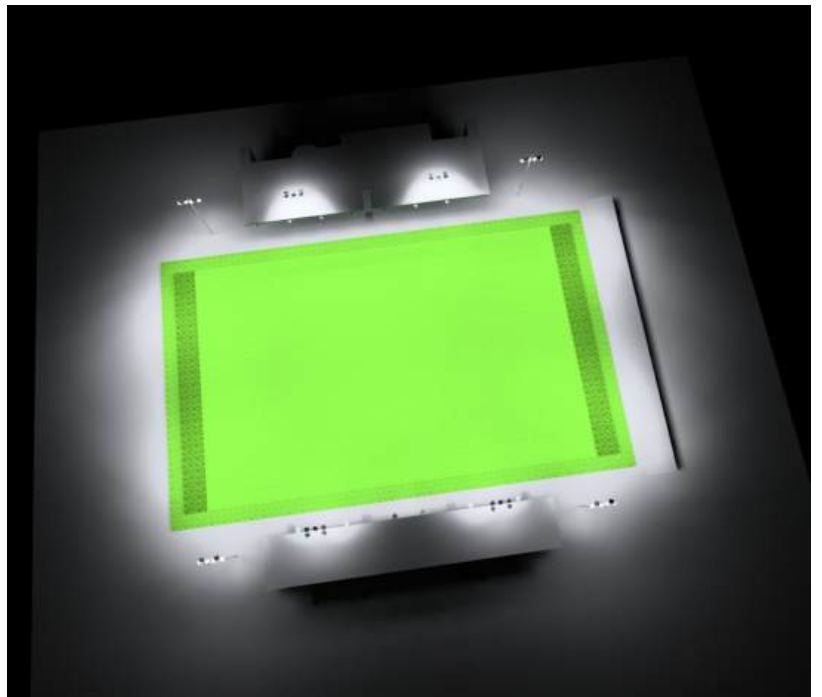
LIGHTING SPILL / Light scene 1 / Perpendicular illuminance 12

Images

Site 1

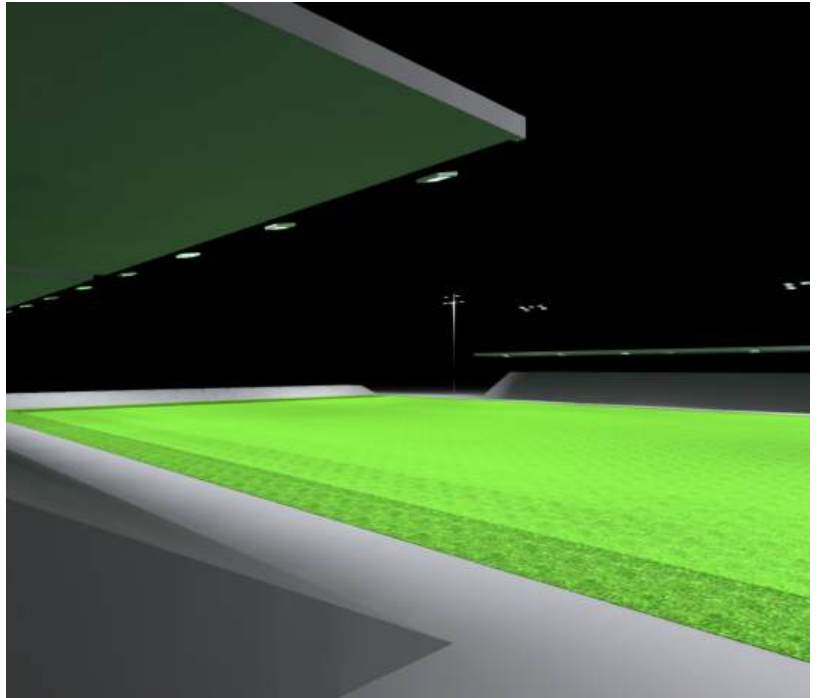


Site 1

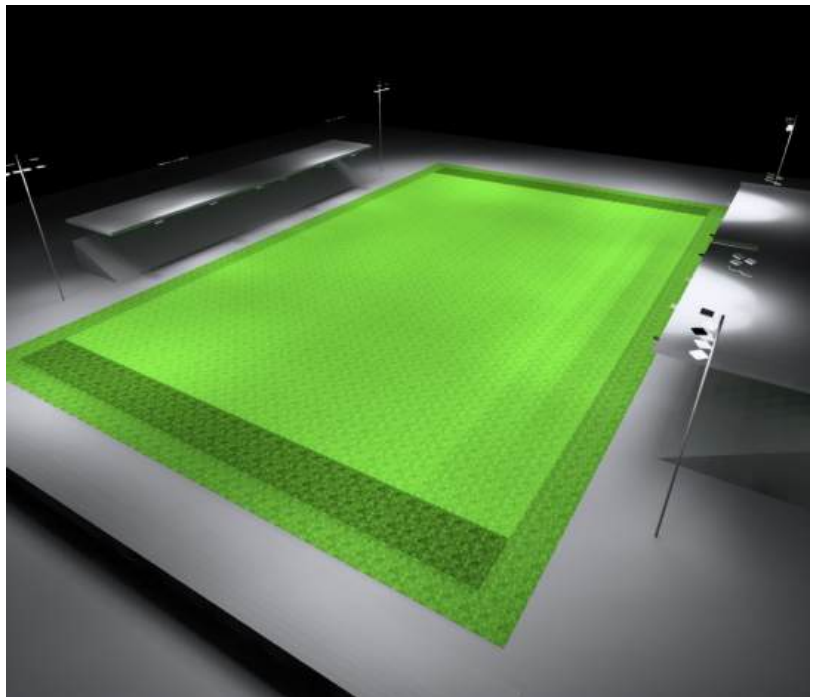


Images

Site 1



Site 1



Site 1

Luminaire list

 Φ_{total}

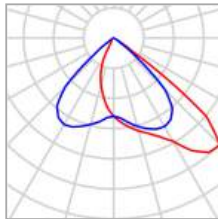
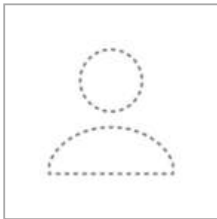
16207172 lm

 P_{total}

114025.0 W

Luminous efficacy

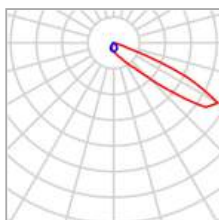
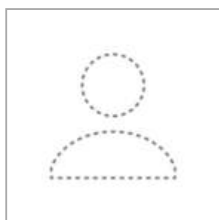
142.1 lm/W



pcs.	6	P	441.9 W
Manufacturer		Φ_{Lamp}	59141 lm
Article name	AAD480-T4VSB-50K-3535A-V1-SPC	$\Phi_{\text{Luminaire}}$	59160 lm
Fitting	1x 5000K-3535A-V1	η	100.03 %
		Luminous efficacy	133.9 lm/W
		CCT	5470 K
		CRI	86

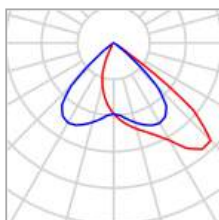
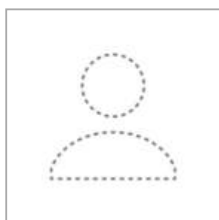
Site 1

Luminaire list



pcs.	44
Manufacturer	
Article name	ABD2400L4-T4VWSA5-50K-3535T4P
Fitting	1x 5000K 3535T4P

P	2289.8 W
Φ_{Lamp}	330870 lm
$\Phi_{\text{Luminaire}}$	330995 lm
η	100.04 %
Luminous efficacy	144.6 lm/W
CCT	5470 K
CRI	86

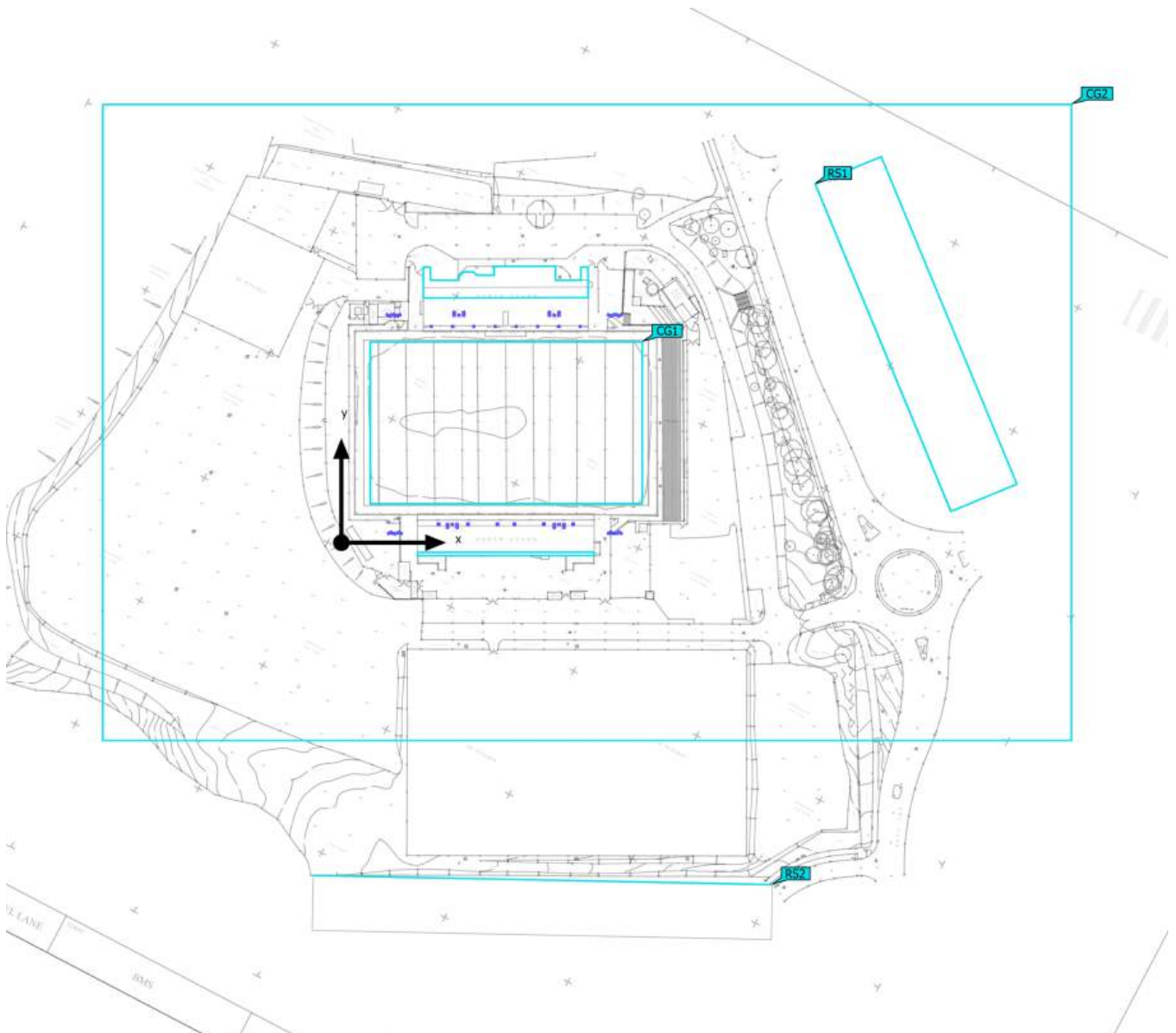


pcs.	8
Manufacturer	
Article name	ABE1440-T4VSB-50K-3535A-V1-SPC
Fitting	1x 5000K 3535A-V1

P	1327.8 W
Φ_{Lamp}	160990 lm
$\Phi_{\text{Luminaire}}$	161054 lm
η	100.04 %
Luminous efficacy	121.3 lm/W
CCT	5470 K
CRI	86

Site 1 (Light scene 1)

Calculation objects



Site 1 (Light scene 1)

Calculation objects

Surface result objects

Properties	Ø	min	max	U _o (g ₁)	g ₂	Index
EASTERN DWELLINGS (OWL LANE) Perpendicular illuminance (adaptive) Height: 0.00 m	4.74 lx	2.49 lx	6.12 lx	0.53	0.41	RS1
EASTERN DWELLINGS (OWL LANE) Luminance Height: 0.00 m	0.30 cd/m ²	0.16 cd/m ²	0.39 cd/m ²	0.53	0.41	RS1
SOUTH DWELLINGS Perpendicular illuminance (adaptive) Height: 0.00 m	3.84 lx	2.77 lx	4.90 lx	0.72	0.57	RS2
SOUTH DWELLINGS Luminance Height: 0.00 m	0.24 cd/m ²	0.18 cd/m ²	0.31 cd/m ²	0.75	0.58	RS2

Calculation surfaces

Properties	Ē	E _{min}	E _{max}	U _o (g ₁)	g ₂	Index
RUGBY PITCH (WHOLE) Perpendicular illuminance Height: 0.00 m	1262 lx	1005 lx	1656 lx	0.80	0.61	CG1
RUGBY PITCH (WHOLE) Vertical illuminance Rotation: 0.0°, Height: 1.50 m	502 lx	52.1 lx	1023 lx	0.10	0.051	CG1
RUGBY PITCH (WHOLE) Vertical illuminance Rotation: 90.0°, Height: 1.50 m	1157 lx	166 lx	2511 lx	0.14	0.066	CG1
RUGBY PITCH (WHOLE) Camera-orientated illuminance NORTH WEST, Camera position: (-11.782 m, 3.472 m, 1.500 m), Height: 1.50 m	730 lx	159 lx	2199 lx	0.22	0.072	CG1
RUGBY PITCH (WHOLE) Camera-orientated illuminance NORTH EAST, Camera position: (98.219 m, 3.472 m, 1.500 m), Height: 1.50 m	715 lx	196 lx	1732 lx	0.27	0.11	CG1

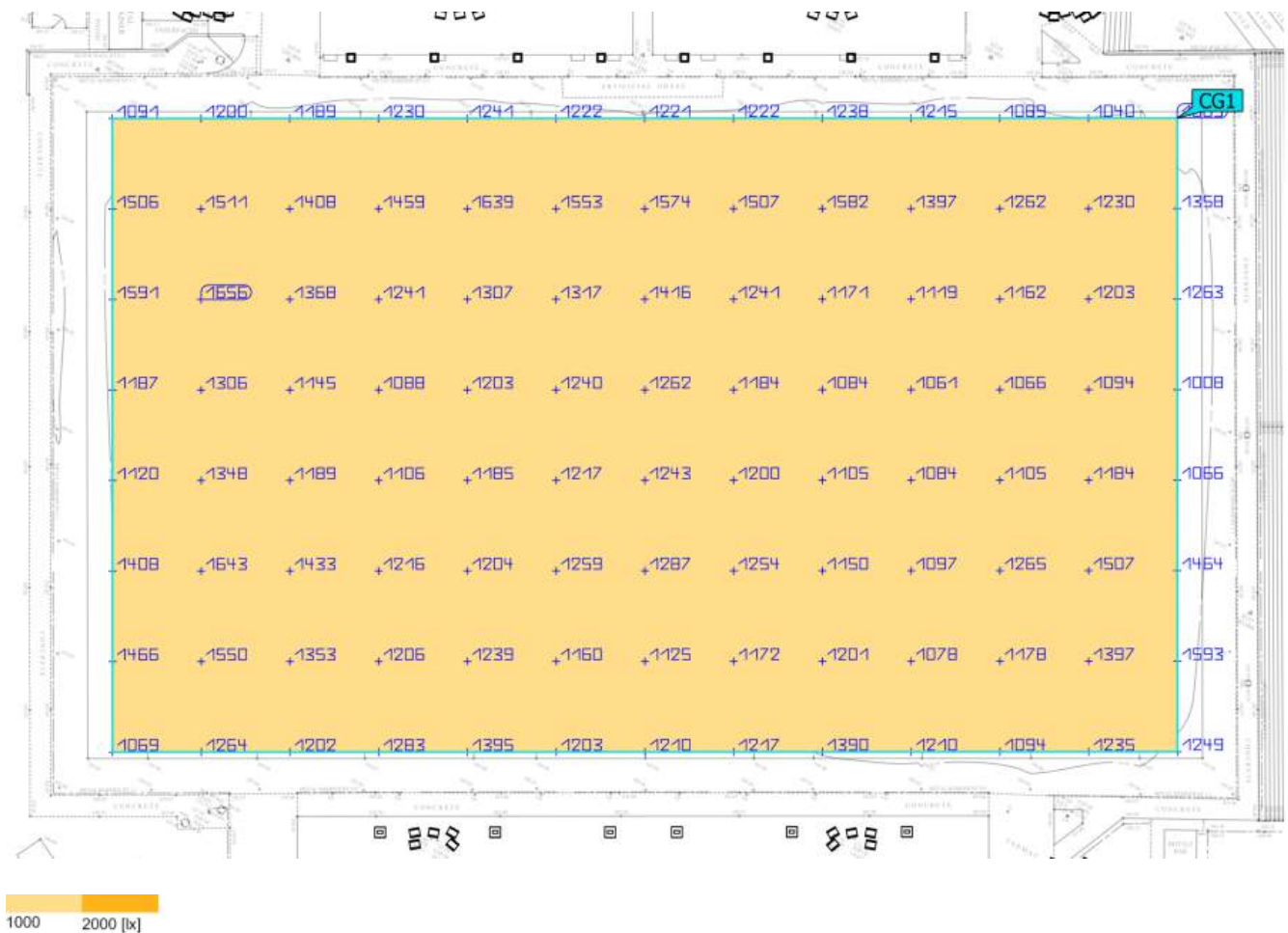
Site 1 (Light scene 1)

Calculation objects

RUGBY PITCH (WHOLE) Camera-orientated illuminance SOUTH EAST, Camera position: (98.219 m, -63.561 m, 1.500 m), Height: 1.500 m	685 lx	146 lx	1938 lx	0.21	0.075	CG1
RUGBY PITCH (WHOLE) Camera-orientated illuminance SOUTH WEST, Camera position: (-11.840 m, -63.515 m, 1.500 m), Height: 1.500 m	714 lx	176 lx	2193 lx	0.25	0.080	CG1
RUGBY PITCH (WHOLE) Vertical illuminance Rotation: 270.0°, Height: 1.500 m	1095 lx	149 lx	2740 lx	0.14	0.054	CG1
RUGBY PITCH (WHOLE) Vertical illuminance Rotation: 180.0°, Height: 1.500 m	515 lx	35.0 lx	1211 lx	0.068	0.029	CG1
LIGHTING SPILL Perpendicular illuminance Height: 0.00 m	93.6 lx	0.00 lx	2152 lx	0.00	0.00	CG2

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

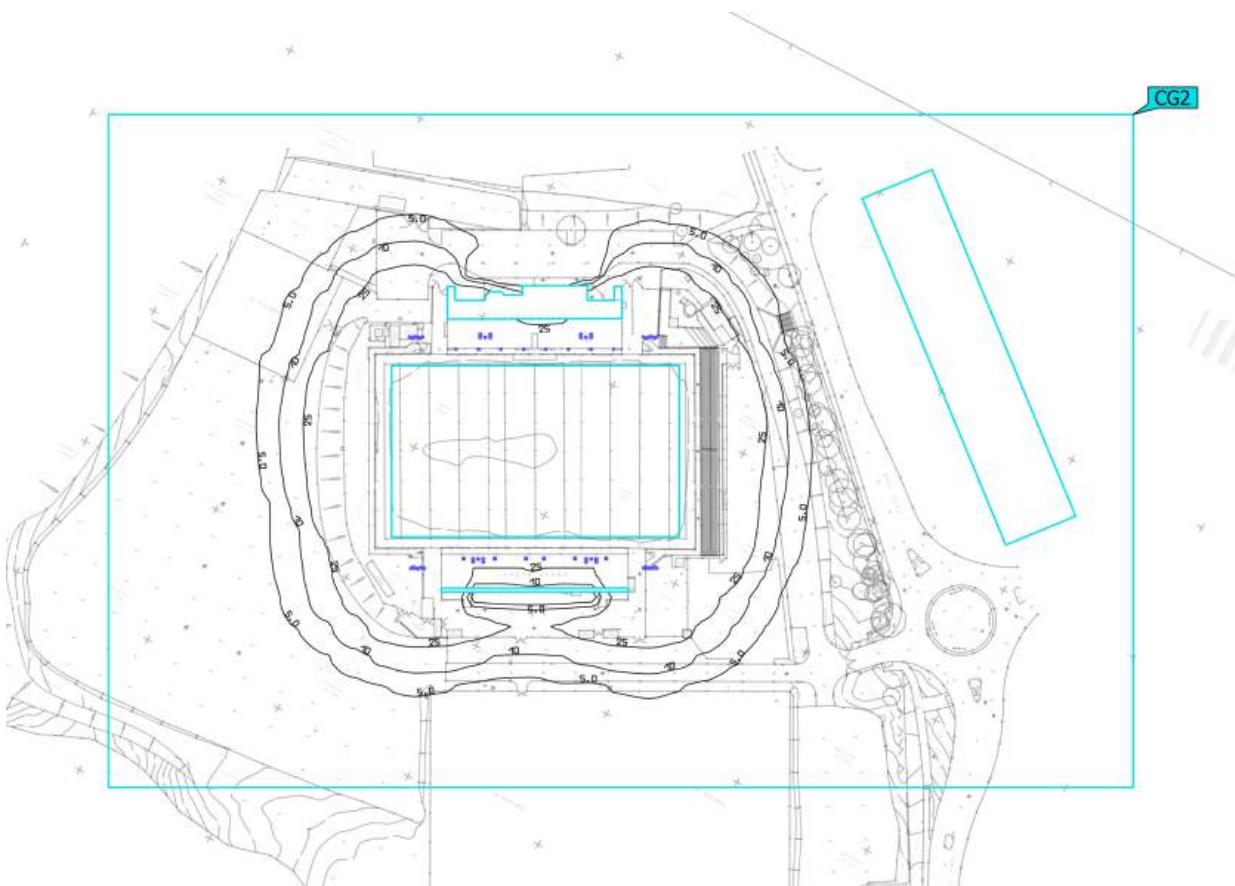
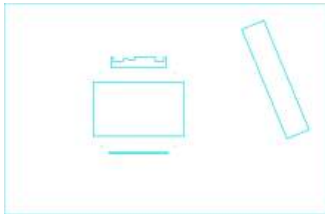
Site 1 (Light scene 1)

RUGBY PITCH (WHOLE)

Properties	$\bar{E}$	$E_{\min}$	$E_{\max}$	$U_o (g_1)$	g_2	Index
RUGBY PITCH (WHOLE) Perpendicular illuminance Height: 0.00 m	1262 lx	1005 lx	1656 lx	0.80	0.61	CG1

Utilisation profile: DIALux presetting (5.1.4-Standard (outdoor transportation area))

Site 1 (Light scene 1)

LIGHTING SPILL

Properties	$\bar{E}$	E_{min}	E_{max}	$U_o (g_1)$	g_2	Index
LIGHTING SPILL Perpendicular illuminance Height: 0.00 m	93.6 lx	0.00 lx	2152 lx	0.00	0.00	CG2

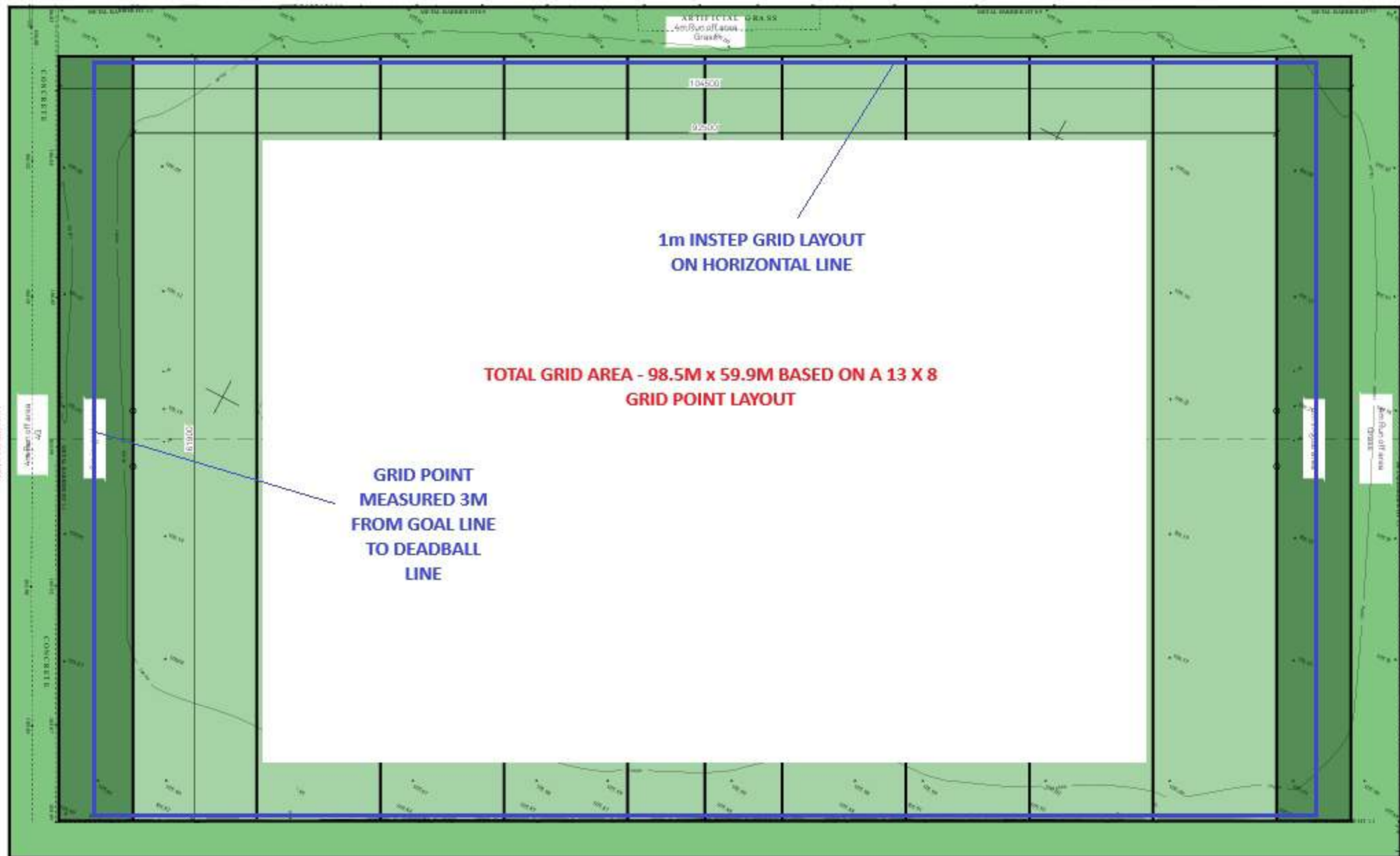
Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

Appendix D – Pitch Grid Calculation

1m INSTEP GRID LAYOUT
ON HORIZONTAL LINE

TOTAL GRID AREA - 98.5M x 59.9M BASED ON A 13 X 8
GRID POINT LAYOUT

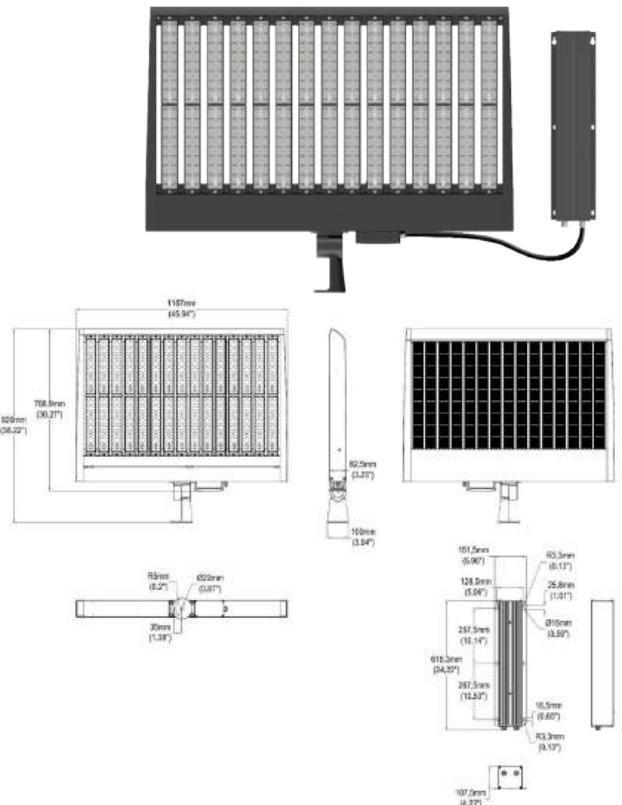
GRID POINT
MEASURED 3M
FROM GOAL LINE
TO DEADBALL
LINE



Appendix E – Floodlight MBE2400H-J Datasheet

SPECIFICATION OF MODEL A LED FLOOD LIGHT MBE2400L-J

Model No.:	MBE2400L
LED Lamps Protective:	TVS on PCB for LED lamps overvoltage and overcurrent protected
Nominal Power:	2400W, lower wattage optional
LED Qty's in Each Module:	36pcs
Total Qty's of LED Modules:	15pcs
LED Modules Power:	160W
LED Forward Current:	1400mA
Initial Lumens Output:	336000lm
Lumen Efficacy to Fixture:	140lm/W
CRI:	>70, optional CRI 80, CRI 90
CCT:	5000K, optional 3000K, 4000K etc
Color Tolerance:	5 SDCM
Photobiological Class:	Group 0 - no risk
Light Distribution:	T4MB
Input Voltage:	AC 277~480V
Frequency:	50/60Hz
Power Supply Efficacy:	≥90%
Power Factor(PF):	>0.95
THD(Total Harmonic Loss):	<15%
Electro Insulation Class:	Class I
IP(Ingress Protection):	IP66
IK(Impact Test):	IK10
L70B10 Lifetime(hrs):	>200,000hrs
Dimmable&Controller:	Non dimming, optional 0-10V, Dali or DMX etc
Working Condition:	Temp.: -40°C~50°C, Humidity: 10%~90%
Lamp size	
L*W*H (mm/in):	920(36.22)*1167(45.94)*100(3.94)
Lamp Packing size	
L*W*H (mm/in):	960(37.80)*1260(49.61)*160(6.30)
Lamp N.W.(kg/lb):	27.6 / 60.9
Lamp G.W.(kg/lb):	31.7 / 69.9
External Power Pack size	
L*W*H (mm/in):	616(24.25)*152(5.98)*108(4.25)
External Power Pack Packing size L*W*H (mm/in):	660(25.98)*205(8.07)*170(6.69)
External Power Pack N.W.(kg/lb):	10.5 / 23.2
External Power Pack G.W.(kg/lb):	11.0 / 24.3

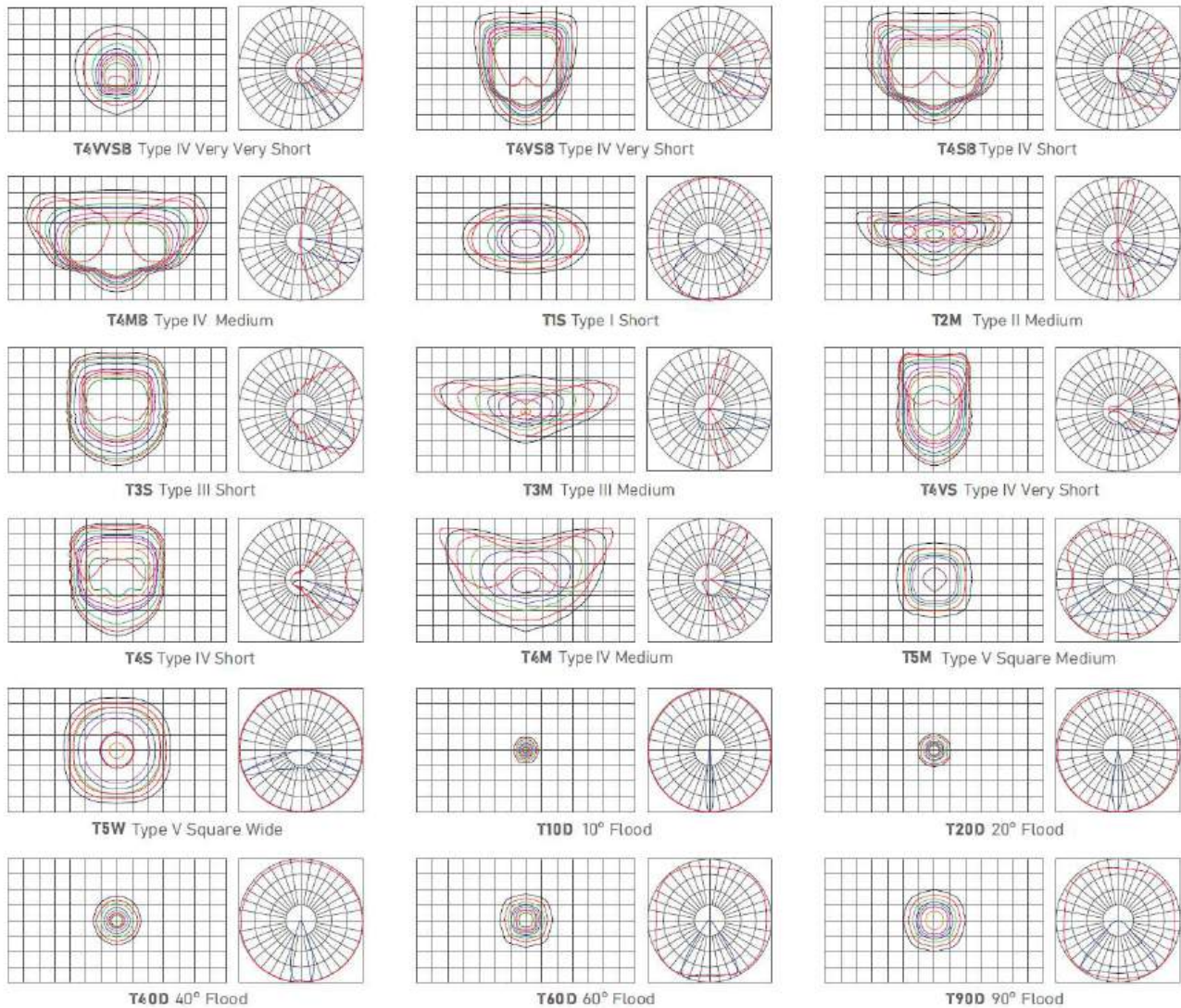


Luminaire Lens:	High Transmittance Anti UV PC lens for Secondary Light Distribution	Advantage	
Luminaire Color:	Black, optional Grey, Bronze, White or Green etc	Warranty:	10 years or 50,000hrs free of Maintenance
Housing&Modules:	Extrusion Aluminum for LED Modules and housing, Die-cast Aluminum for end caps	Energy Saving&Green Lighting:	Up to 70% compared to traditional HPS Lighting and MH.
Electrical:	External Power Pack with led drivers inside, for ease of maintenance.	Solid-State:	High-Vibration and Salt Spray Resistant, Housing finished in super durable powder coat paint, corrosion resistant polyester powder painted 100µm thickness.
Built-in Accessories:	Molex terminal&Wago connector and 20KA/40KV SPD are built-in luminaire	Heat Dissipation:	Interlocking housing and heat sink provides scalability with superior structural rigidity.
Sensor:	Optional Photocell or Microwave Motion Sensor	Environment Friendly:	Without Harmful Materials of Lead and Mercury Halogen.
Emergency:	Optional	ROI(Return On Investment):	Soonest in payback for its 70% energy saved and 10years/50,000hrs free of maintenance
Mounting Method:	J type mounting bracket on pole or wall etc flat surface	Humens centered Design to Installation &Maintenance:	Stoppers in all the fixed screws to avoid drop- off, wires to be connected/disconnected via Wago connectors

Offer Text

LED flood light for sports fields, parking lot, roadway, tollgate, platform, plaza, gas station and building etc. J type mounting bracket on pole or wall etc flat surface. With special lens optic particularly designed for area lighting applications, with asymmetric optics, T4MB. Luminaire luminous flux around 336000 lm, connected load 2400 W or lower, maximum luminous efficiency of luminaire 140 lm/W. Light colour natural white, correlated colour temperature (CCT) 5000 K, general colour rendering index (CRI) Ra > 70. Colour locus tolerance (initial MacAdam) not over 5 SDCM. Mean rated service life L70 (tq 25 °C) = 200000H. Modular design light body, heat sinks of extruded aluminum, end caps of die-cast aluminium. Optic lens of polycarbonate. Housing finished in super durable powder coat paint, corrosion resistant polyester powder painted 100µm thickness. Meets 5000 hours salt spray certification per ASTM Standard B117. Safety class (EN 61140 / UL1598): I, protection rating (EN 60598): IP66, impact resistance level in accordance with IEC 62262: IK10. G.W. weight: 42.7kg / 94.2lb. Electrical block with 2 electronic control gear units. Order unit consists of a luminaire housing and external control gear unit. Surge voltage resistance 20KA/40KV. The luminaire complies with the fundamental requirements of applicable EU and UL regulations and product safety legislation and bears the CE & ENEC and UL/cUL symbol.

Available Optics



Applications

Sports fields, Parking lot, Roadway, Tollgate, Platform, Plaza, Gas station and Building etc.



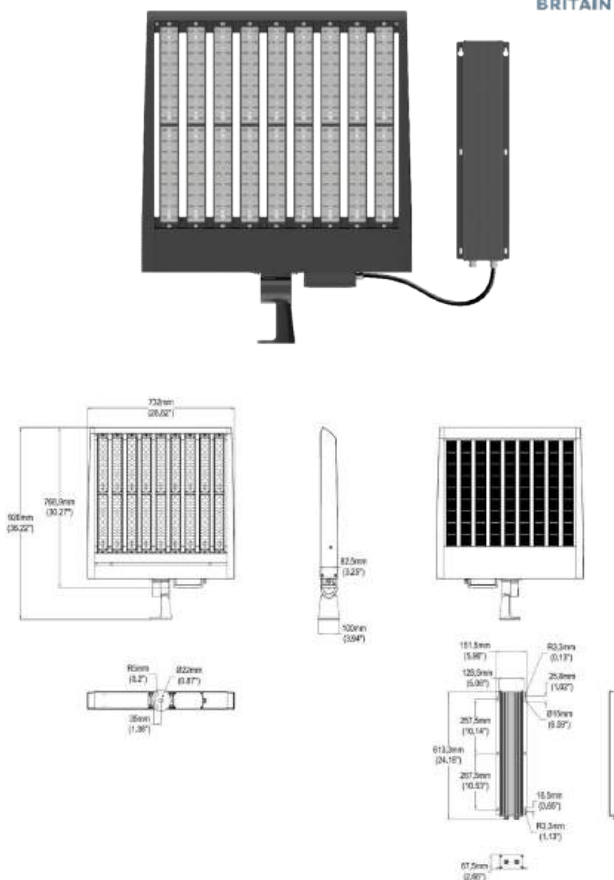
Specification is subject to change without notice.

Appendix F – Floodlight MBE1440H-J Datasheet

SPECIFICATION OF MODEL A LED FLOOD LIGHT MBE1440H-J



Model No.:	MBE1440H
LED Lamps Protective:	TVS on PCB for LED lamps overvoltage and overcurrent protected
Nominal Power:	1440W, lower wattage optional
LED Qtys in Each Module:	36pcs
Total Qtys of LED Modules:	8pcs
LED Modules Power:	160W
LED Forward Current:	1400mA
Initial Lumens Output:	201600lm
Lumen Efficacy to Fixture:	140lm/W
CRI:	>70, optional CRI 80, CRI 90
CCT:	5000K, optional 3000K, 4000K etc
Color Tolerance:	5 SDCM
Photobiological Class:	Group 0 - no risk
Light Distribution:	T4MB
Input Voltage:	AC 277~480V
Frequency:	50/60Hz
Power Supply Efficacy:	≥90%
Power Factor(PF):	>0.95
THD(Total Harmonic Loss):	<15%
Electro Insulation Class:	Class I
IP(Ingress Protection):	IP66
IK(Impact Test):	IK10
L70 Lifetime(hrs):	>200,000hrs
Dimmable&Controller:	Non dimming, optional 0-10V, Dali or DMX etc
Working Condition:	Temp.: -40°C~50°C, Humidity: 10%~90%
Lamp size	
L*W*H (mm/in):	920(36.22)*732(28.82)*100(3.94)
Lamp Packing size	
L*W*H (mm/in):	960(37.80)*825(32.48)*160(6.30)
Lamp N.W.(kg/lb):	18.2 / 40.1
Lamp G.W.(kg/lb):	21.2 / 46.8
External Power Pack size	
L*W*H (mm/in):	614(24.17)*152(5.98)*68(2.68)
External Power Pack Packing size	
L*W*H (mm/in):	660(25.98)*205(8.07)*130(5.12)
External Power Pack	
N.W.(kg/lb):	6.7 / 14.8
External Power Pack	
G.W.(kg/lb):	7.1 / 15.7

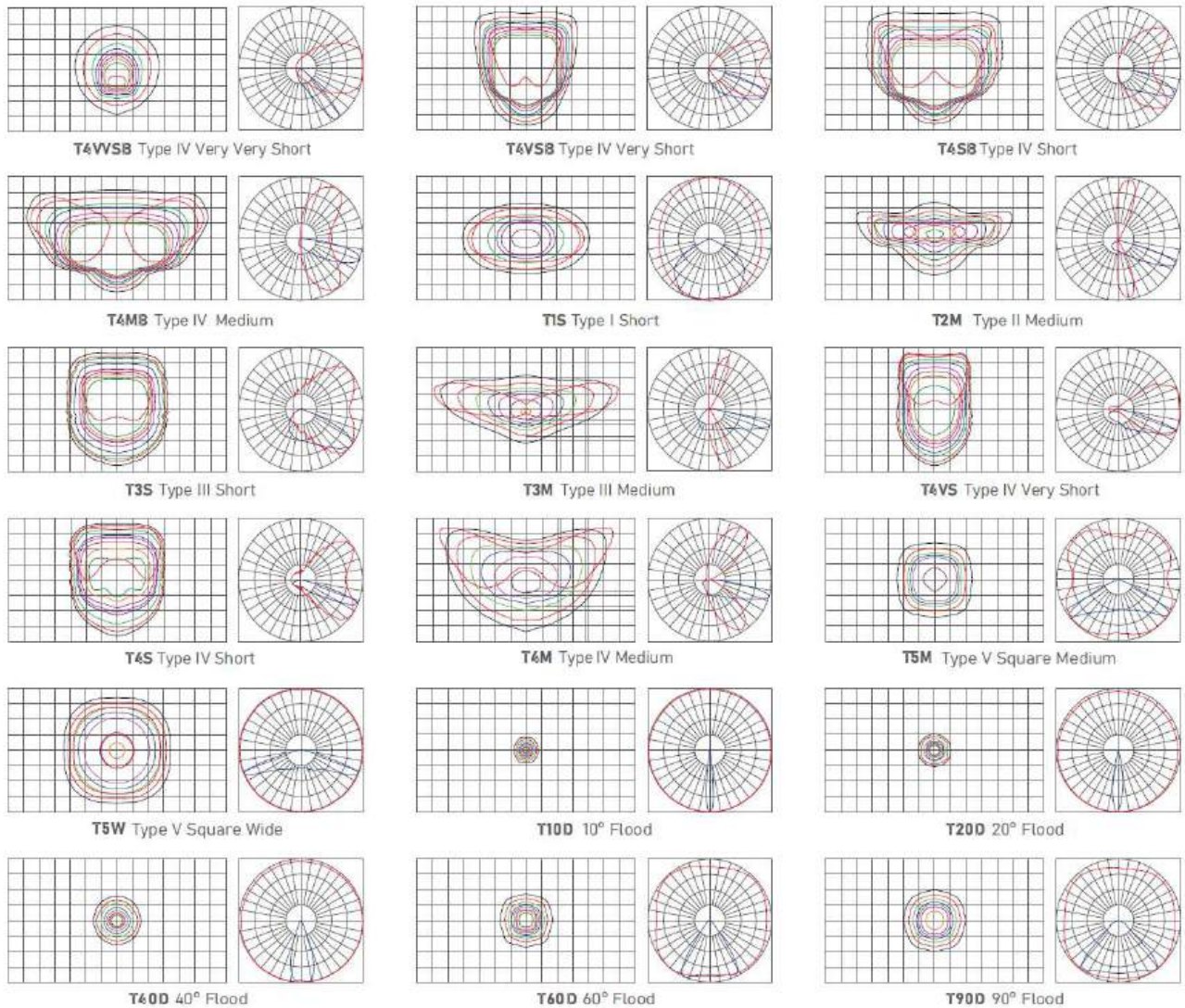


Luminaire Lens:	High Transmittance Anti UV PC lens for Secondary Light Distribution	Advantage	
Luminaire Color:	Black, optional Grey, Bronze, White or Green etc	Warranty:	10 years or 50,000hrs free of Maintenance
Housing&Modules:	Extrusion Aluminum for LED Modules and housing, Die-cast Aluminum for end caps	Energy Saving&Green Lighting:	Up to 70% compared to traditional HPS Lighting and MH.
Electrical:	External Power Pack with led driver inside, for ease of maintenance.	Solid-State:	High-Vibration and Salt Spray Resistant, Housing finished in super durable powder coat paint, corrosion resistant polyester powder painted 100µm thickness.
Built-in Accessories:	Molex terminal&Wago connector and 20KA/40KV SPD are built-in luminaire	Heat Dissipation:	Interlocking housing and heat sink provides scalability with superior structural rigidity.
Sensor:	Optional Photocell or Microwave Motion Sensor	Environment Friendly:	Without Harmful Materials of Lead and Mercury Halogen.
Emergency:	Optional	ROI(Return On Investment):	Soonest in payback for its 70% energy saved and 10years/50,000hrs free of maintenance
Mounting Method:	J type mounting bracket on pole or wall etc flat surface	Humen centered Design to Installation &Maintenance:	Stoppers in all the fixed screws to avoid drop- off, wires to be connected/disconnected via Wago connectors

Offer Text

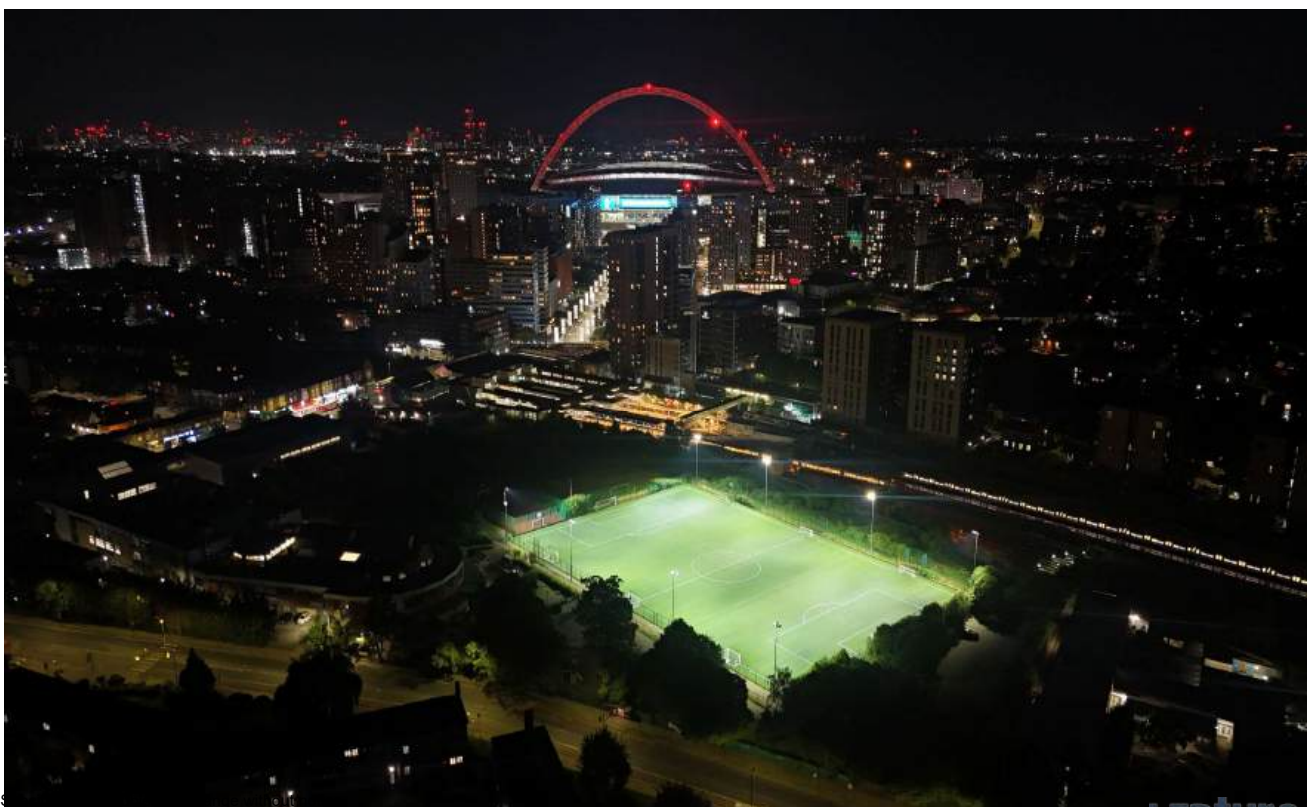
LED flood light for sports fields, parking lot, roadway, tollgate, platform, plaza, gas station and building etc. J type mounting bracket on pole or wall etc flat surface. With special lens optic particularly designed for area lighting applications, with asymmetric optics, T4MB. Luminaire luminous flux around 201600 lm, connected load 1440 W or lower, maximum luminous efficiency of luminaire 140 lm/W. Light colour natural white, correlated colour temperature (CCT) 5000 K, general colour rendering index (CRI) Ra > 70. Colour locus tolerance (initial MacAdam) not over 5 SDCM. Mean rated service life L70 (tq 25 °C) = 200000H. Modular design light body, heat sinks of extruded aluminum, end caps of die-cast aluminium. Optic lens of polycarbonate. Housing finished in super durable powder coat paint, corrosion resistant polyester powder painted 100µm thickness. Meets 5000 hours salt spray certification per ASTM Standard B117. Safety class (EN 61140 / UL1598): I, protection rating (EN 60598): IP66, impact resistance level in accordance with IEC 62262: IK10. G.W. weight: 28.9kg / 63.7lb. Electrical block with 1 electronic control gear unit. Order unit consists of a luminaire housing and external control gear unit. Surge voltage resistance 20KA/40KV. The luminaire complies with the fundamental requirements of applicable EU and UL regulations and product safety legislation and bears the CE & ENEC and UL/cUL symbol.

Available Optics



Applications

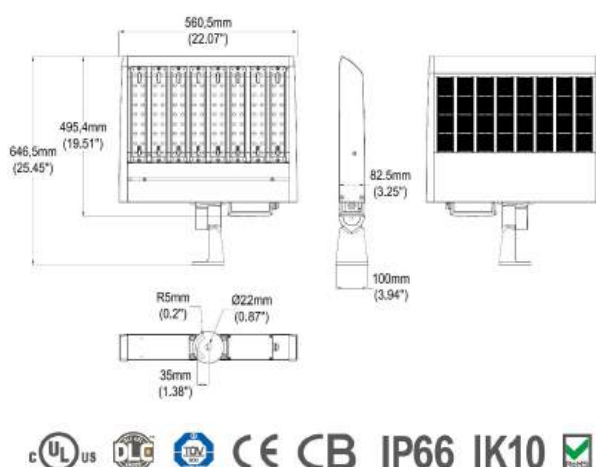
Sports fields, Parking lot, Roadway, Tollgate, Platform, Plaza, Gas station and Building etc.



Appendix G – Floodlight AAE480H-J Datasheet

SPECIFICATION OF MODEL A LED FLOOD LIGHT AAD480H-J


Model No.:	AAD480H
LED Lamps Protective:	TVS on PCB for LED lamps overvoltage and overcurrent protected
Nominal Power:	480W, lower wattage optional
LED Qty's in Each Module:	18pcs
Total Qty's of LED Modules:	8pcs
LED Modules Power:	60W
LED Forward Current:	1050mA
Initial Lumens Output:	67200lm
Lumen Efficacy to Fixture:	140lm/W
CRI:	>70, optional CRI 80, CRI 90
CCT:	5000K, optional 3000K, 4000K etc
Color Tolerance:	5 SDCM
Photobiological Class:	Group 0 - no risk
Light Distribution:	T4M
Input Voltage:	AC 277~480V
Frequency:	50/60Hz
Power Supply Efficacy:	≥90%
Power Factor(PF):	>0.95
THD(Total Harmonic Loss):	<15%
Electro Insulation Class:	Class I
IP(Ingress Protection):	IP66
IK(Impact Test):	IK10
L70 Lifetime(hrs):	>200,000hrs
Dimmable&Controller:	Non dimming, optional 0-10V, Dali or DMX etc
Working Condition:	Temp.: -40°C~50°C, Humidity: 10%~90%
Lamp size	
L*W*H (mm/in):	647(25.47)*561(22.09)*100(3.94)
Lamp Packing size	
L*W*H (mm/in):	685(26.97)*660(25.98)*160(6.30)
Lamp N.W.(kg/lb):	13.1 / 28.9
Lamp G.W.(kg/lb):	14.9 / 32.9

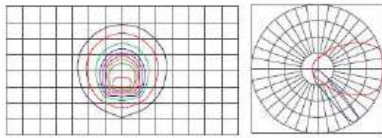


Luminaire Lens:	High Transmittance Anti UV PC lens for Secondary Light Distribution	Advantage	
Luminaire Color:	Black, optional Grey, Bronze, White or Green etc	Warranty:	10 years or 50,000hrs free of Maintenance
Housing&Modules:	Extrusion Aluminum for LED Modules and housing, Die-cast Aluminum for end caps	Energy Saving&Green Lighting:	Up to 70% compared to traditional HPS Lighting and MH.
Electrical:	LED driver can be mounted to removable tray assembly, for ease of maintenance.	Solid-State:	High-Vibration and Salt Spray Resistant, Housing finished in super durable powder coat paint, corrosion resistant polyester powder painted 100µm thickness.
Built-in Accessories:	Molex terminal&Wago connector and 20KA/40KV SPD are built-in luminaire	Heat Dissipation:	Interlocking housing and heat sink provides scalability with superior structural rigidity.
Sensor:	Optional Photocell or Microwave Motion Sensor	Environment Friendly:	Without Harmful Materials of Lead and Mercury Halogen.
Emergency:	Optional	ROI(Return On Investment):	Soonest in payback for its 70% energy saved and 10years/50,000hrs free of maintenance
Mounting Method:	J type mounting bracket on pole or wall etc flat surface	Humen centered Design to Installation &Maintenance:	Stoppers in all the fixed screws to avoid drop- off, wires to be connected/disconnected via Wago connectors

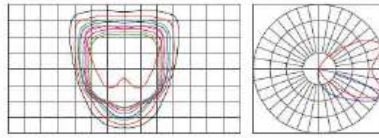
Offer Text

LED flood light for sports fields, parking lot, roadway, tollgate, platform, plaza, gas station and building etc. J type mounting bracket on pole or wall etc flat surface. With special lens optic particularly designed for area lighting applications, with asymmetric optics, T4M. Luminaire luminous flux around 67200 lm, connected load 480 W or lower, maximum luminous efficiency of luminaire 140 lm/W. Light colour natural white, correlated colour temperature (CCT) 5000 K, general colour rendering index (CRI) Ra > 70. Colour locus tolerance (initial MacAdam) not over 5 SDCM. Mean rated service life L70 (tq 25 °C) = 200000H. Modular design light body, heat sinks of extruded aluminum, end caps of die-cast aluminium. Optic lens of polycarbonate. Housing finished in super durable powder coat paint, corrosion resistant polyester powder painted 100µm thickness. Meets 5000 hours salt spray certification per ASTM Standard B117. Safety class (EN 61140 / UL1598): I, protection rating (EN 60598): IP66, impact resistance level in accordance with IEC 62262: IK10. G.W. weight: 15.9kg / 35.1lb. Electrical block with 1 electronic control gear unit. Order unit consists of a luminaire housing and internal control gear unit. Surge voltage resistance 20KA/40KV. The luminaire complies with the fundamental requirements of applicable EU and UL regulations and product safety legislation and bears the CE & ENEC and UL/cUL symbol.

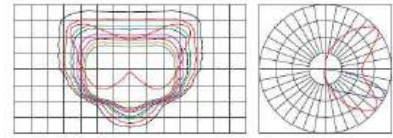
Available Optics



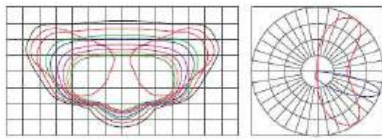
T4VWSB Type IV Very Very Short



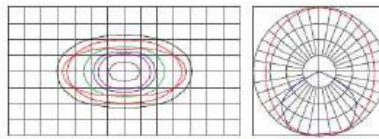
T4VS8 Type IV Very Short



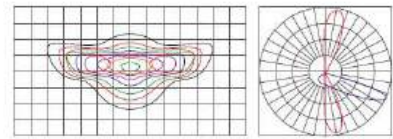
T4S8 Type IV Short



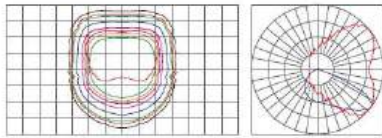
T4M8 Type IV Medium



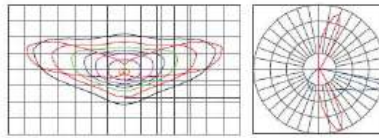
T1S Type I Short



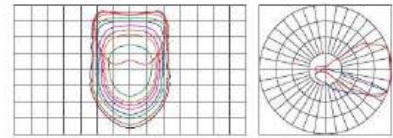
T2M Type II Medium



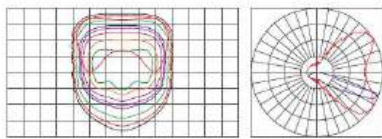
T3S Type III Short



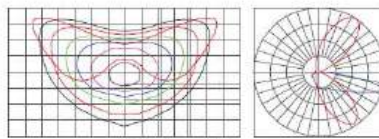
T3M Type III Medium



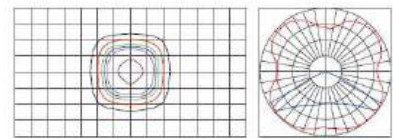
T4VS Type IV Very Short



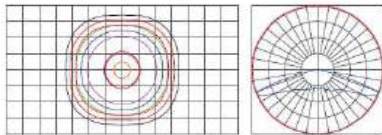
T4S Type IV Short



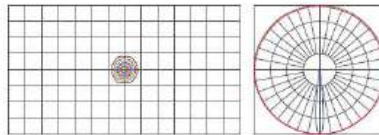
T4M Type IV Medium



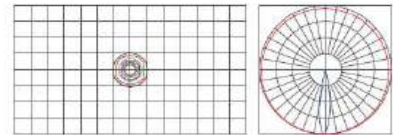
T5M Type V Square Medium



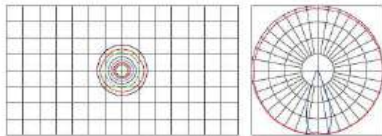
T5W Type V Square Wide



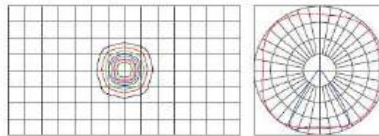
T10D 10° Flood



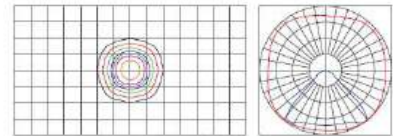
T20D 20° Flood



T40D 40° Flood



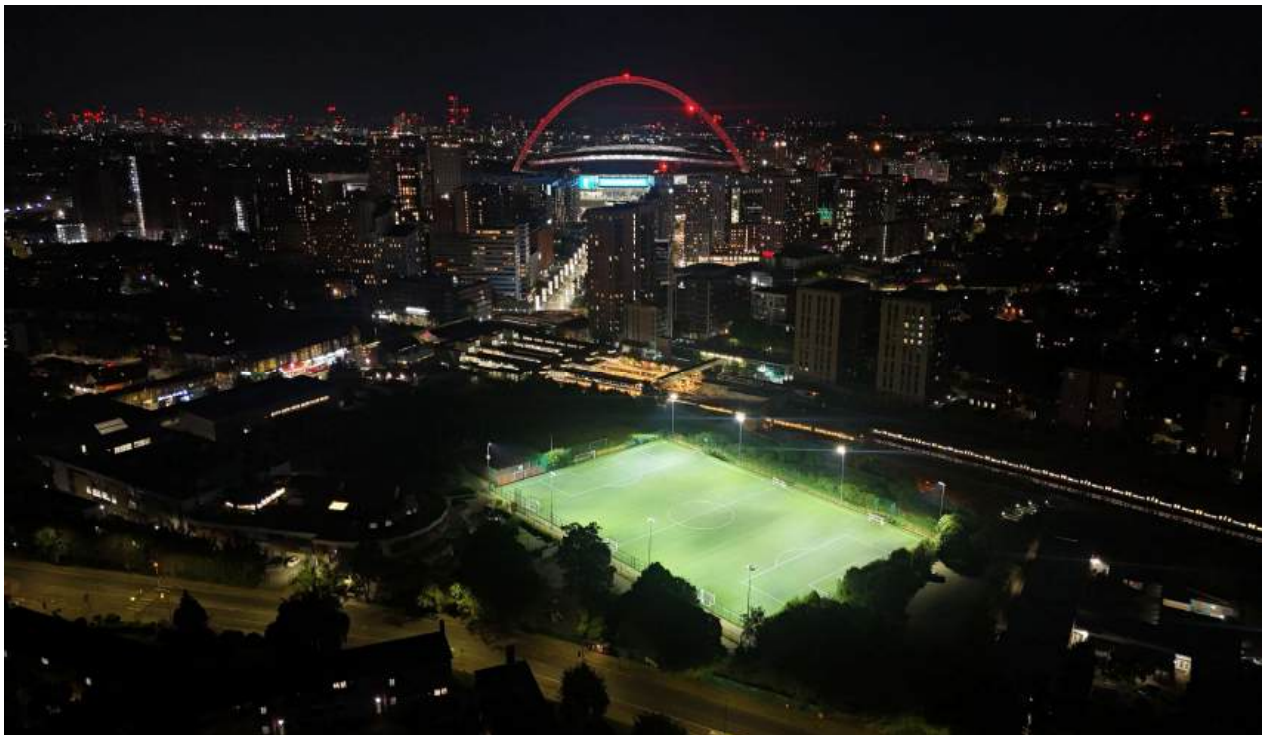
T60D 60° Flood



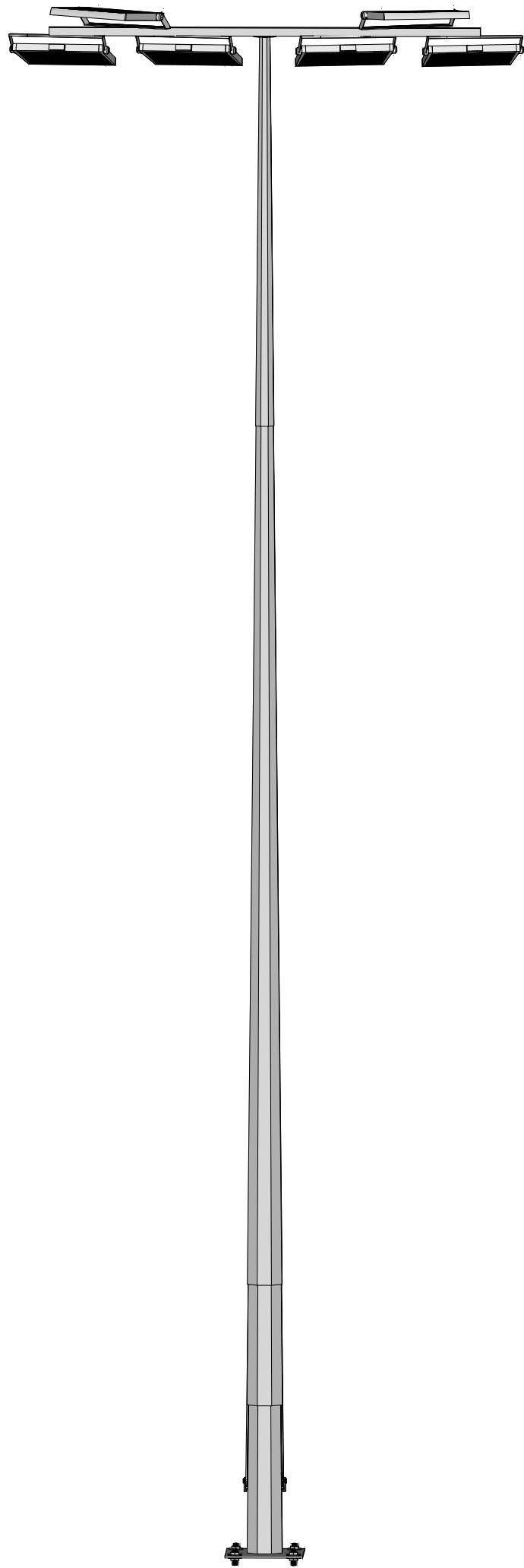
T90D 90° Flood

Applications

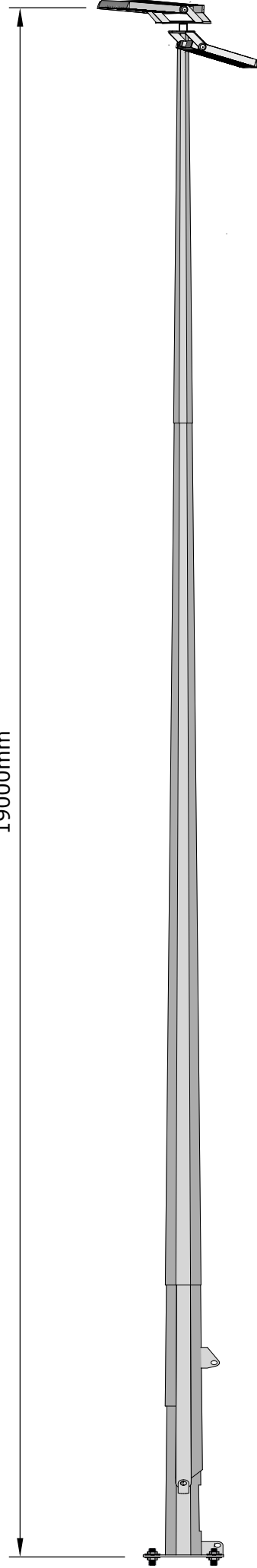
Sports fields, Parking lot, Roadway, Tollgate, Platform, Plaza, Gas station and Building etc.



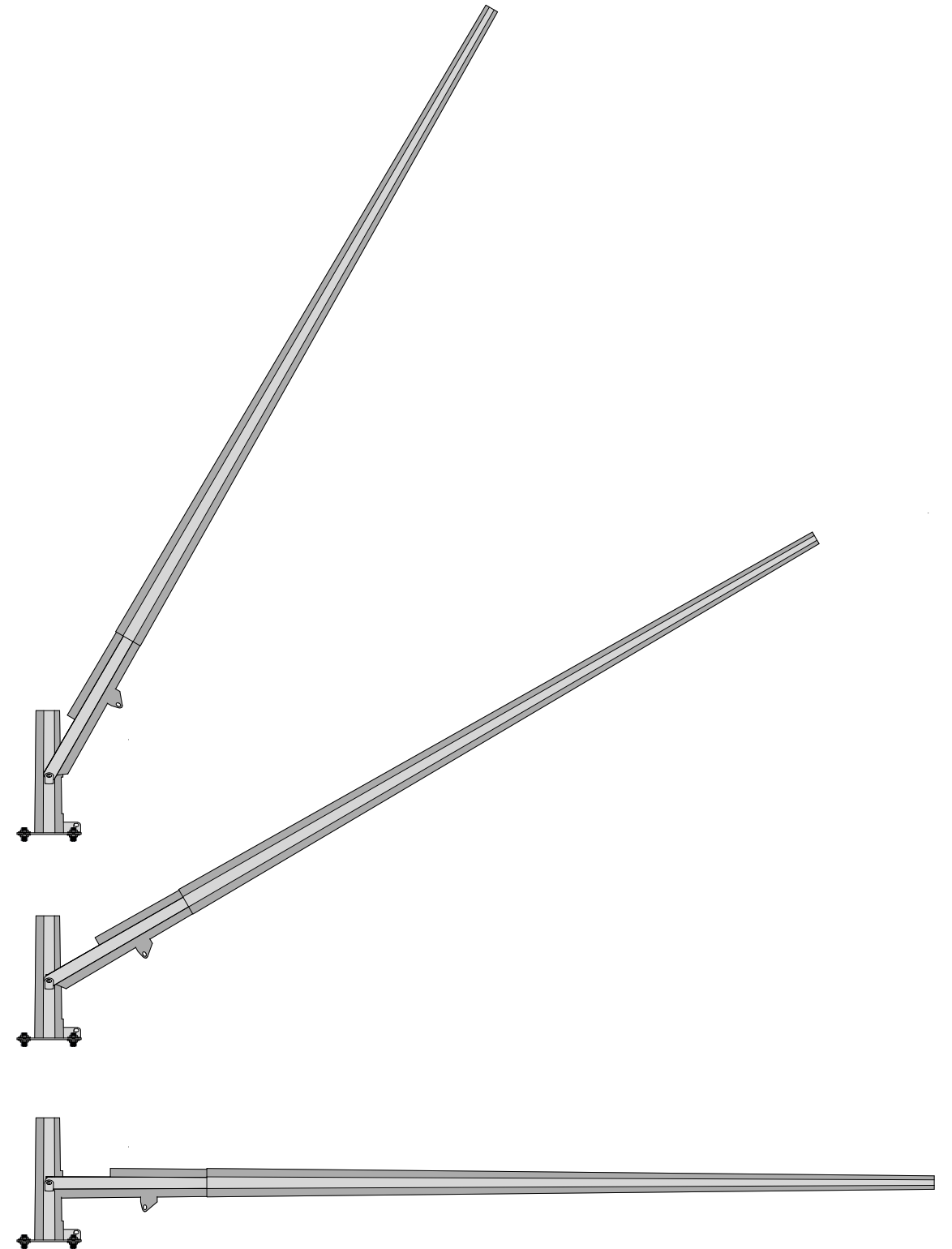
Appendix H – 18M Column Information



19000mm



DEWSBURY STADIUM - RAISE AND LOWER POLE SETUP



Client Internal use
Project LED330 ~ 18m
Contract No 18M WITH BRACKET EXT

Details

18m Heavy Duty Octagonal Mast

EN40 [Return=25 yrs, f =1.00, Terrain Cat=I, Alt=60m, Wind Speed=22.5m/s]

Sheet no 1 / 02

Rev

By

Date

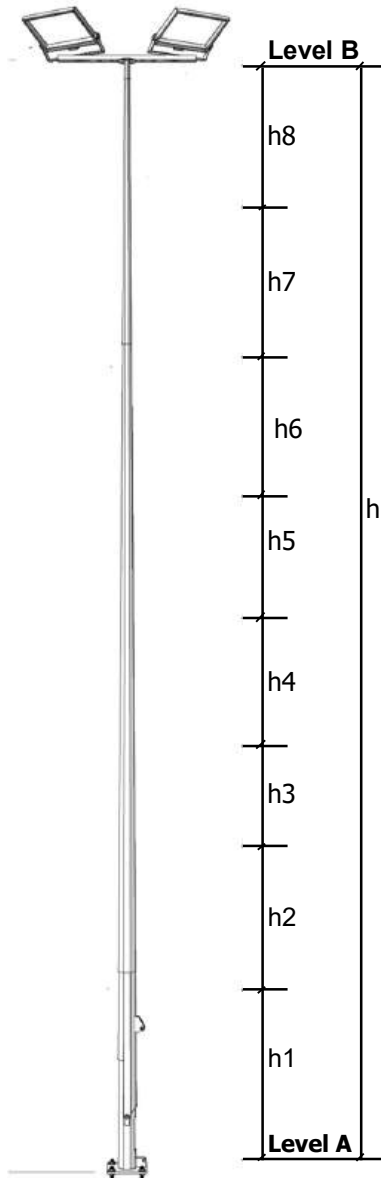
ON

10-08-2026

COLUMN REF / TYPE : 18m HYDRAULIC OCTAGONAL LIGHTING MAST

Actual Height To Floodlight **18.00 m**

Drawing no : 1234



Octagonal Sections (tapering)

Item	Across Flat (mm)	Base Thickness (mm)	f_y (N/mm ²)
Shaft	Level 'A'	8.0	355
	Level 'B'		
Taper (mm/m per side)	6.1		

Sections (non-tapering)

Item	Across Flat (mm)	Thickness (mm)	f_y (N/mm ²)
Floodlight bracket :	80.0	3.0	355

Dimensions

Total height	h	18000	mm
Section lengths	- base section	h1	3100
	- section 2	h2	2129
	- section 3	h3	2129
	- section 4	h4	2129
	- section 5	h5	2129
	- section 6	h6	2129
	- section 7	h7	2129
	- section 8	h8	2129

Select upper floodlight model and quantity

Floodlight Offset From Mast Centre Line	250	mm
Select Floodlight Model	Quantity	Tilt Angle From Horizontal
MBE 2400		15

Select lower floodlight model and quantity

Floodlight Offset From Mast Centre Line	250	mm
Select Floodlight Model	Quantity	Tilt Angle From Horizontal
MBE 2400	0	15

Floodlights and brackets

Item	Height above GL (mm)	Offset from Column C/L ± (mm)	Effective Wind Area (m ²)	Total Mass (kg)	Shape Coefficient
Bracket details	18000	125	0.320	70.0	1.00
Upper floodlight details	18150	250			1.00
Lower floodlight details	17800	250			1.00
Add extra attachments	19000	250	1.024	173.4	1.00

COLUMN REF / TYPE : 18m HYDRAULIC OCTAGONAL LIGHTING MAST
(cont'd)

RESULTS - SUMMARY

EN 40 CHECKS

Strength

Item	Unity Check	
Shaft		
- at GL	0.24	PASS
- section 1	0.37	PASS
- section 2	0.37	PASS
- section 3	0.36	PASS
- section 4	0.35	PASS
- section 5	0.42	PASS
- section 6	0.39	PASS
- section 7	0.31	PASS
	N/A	

Deflection

Direction	Unity Check	
Horizontal	0.46	PASS

EN40 Foundation

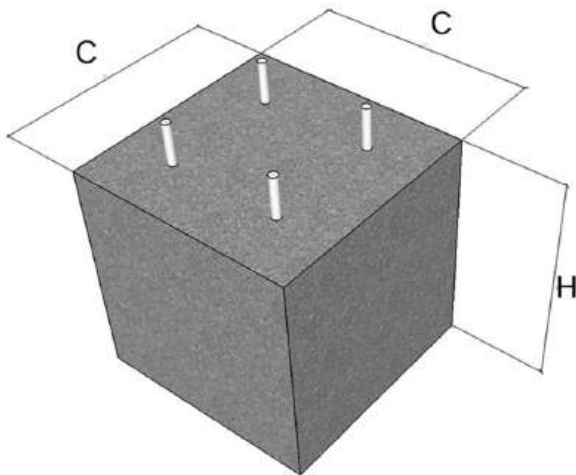
Wind Loads

	Unfactored	
Moment at GL	58.74	kNm
Shear at GL	4.49	kN
Self Weight (column & attachments)	12.34	kN

Foundation Loads When

Mast is Horizontal

	Unfactored	
Moment at GL	94.41	kNm



NORSA CALCULATED FOUNDATION BLOCK

Minimum Ground Bearing Pressure	C mm	H mm	Stability coefficient
50 kN/m ²	3300	1000	1.02
75 kN/m ²	2800	1000	1.05
100 kN/m ²	2600	1000	1.02
150 kN/m ²	2450	1000	1.01
200 kN/m ²	2400	1000	1.02

STABILITY COEFFICIENT MUST BE > OR = 1.0

	Client	Internal use	Sheet no	1 / 01
	Project	LED330 ~ 18m	Rev	
	Contract No	18M WITH BRACKET EXT	By	ON
	Details		Date	10-08-2026
Authorised user : O Newman Ledture		Rel : 3.2 EN40 [Return=25 yrs, f =1.00, Terrain Cat=I, Alt=60m, Wind Speed=22.5m/s]		

DESIGN SUMMARY

Octagonal Tapering Section Steel Lighting Column

Codes : EN 40 (no fatigue)

Wind Loading

Location

DEWSBURY

Column mounted on a structure ?

N

General

Mean Return Period	25	yrs
Topography factor f	1.00	
Terrain Category	I	

Site-Specific Wind

☒

Site altitude	60	m
Basic wind speed v _{b,map}	22.5	
(fig NA.1, BS EN 1991-1-4)		

Rationalised Wind Factor

☐

EN 40 Parameters

Partial Load Factors

Class	γ _f (wind)	γ _f (DL)
B	1.2	1.2

Partial Material Factor

Item	Material	γ _m	E _{mod} (N/mm ²)	G _{mod} (N/mm ²)
Main Column	Steel (e>15%)	1.05	210000	81000
Bracket Arm	Steel (e>15%)	1.05	210000	81000

Deflection Coefficient

0.07

WIND LOADING TO EN 40-3-1

A) Site-specific method

Basic wind speed	$V_{b,map}$	22.5	m/s
Site altitude	A	60	m
Altitude factor	C_{alt}	1.06	
Altitude adjusted wind speed	$V_{b,0}$	23.9	m/s
Mean return period		25	yrs
Probability factor	C_s	0.96	
Air density	ρ	1.226	kg/m ³
Ref wind pressure	$q_{(10)}$	321	N/m ²

B) Rationalised method

Category		N/A	
Wind load factor (basic)	R_{wf}	N/A	
Mean return period		N/A	yrs
Probability factor	C_s	N/A	
Correction for return period		N/A	
Wind load factor (corrected)	R_{wf}'	N/A	

Column size factor	δ	0.82	
Dynamic factor	freq	0.58	Hz
	T	1.73	sec
	β	1.72	
Topography factor	f	1.00	
Terrain category	I		
	k_r	0.17	
	z_o	0.01	
	z_{min}	2	
(*) Height above ground	z	18.00	m
(*)	$C_{r(z)}$	1.27	
(*) Exposure coefficient	$C_{e(z)}$	3.14	
(*) Characteristic wind pressure	$q(z)$	1.421	kN/m ²

(*) max - for info only

					(A)	(B)
Item		Ht to cen z (m)	$C_{r(z)}$	$C_{e(z)}$	$q(z)$ kN/m ²	$q(z)$ kN/m ²
Shaft	- at base	1.550	0.90	1.88	0.852	N/A
	- section 2	4.164	1.03	2.27	1.028	N/A
	- section 3	6.293	1.10	2.50	1.133	N/A
	- section 4	8.421	1.15	2.67	1.210	N/A
	- section 5	10.550	1.18	2.81	1.271	N/A
	- section 6	12.679	1.21	2.92	1.322	N/A
	- section 7	14.807	1.24	3.02	1.365	N/A
	- section 8	16.936	1.26	3.10	1.404	N/A
		18.000	1.27	3.14	1.421	N/A
Floodlight bracket		18.000	1.27	3.14	1.421	N/A
Upper floodlight		18.150	1.28	3.15	1.423	N/A
Lower floodlight		17.800	1.27	3.13	1.418	N/A
Extra attachment		19.000	1.28	3.17	1.437	N/A
						N/A
						N/A

Client Internal use
Project LED330 ~ 18m
Contract No 18M WITH BRACKET EXT

Details

18m Heavy Duty Octagonal Mast

EN40 [Return=25 yrs, f =1.00, Terrain Cat=I, Alt=60m, Wind Speed=22.5m/s]

Sheet no 1 / 05

Rev

By

Date

ON

10-08-2026

CHECK TO EN 40-3-3

Sections

Item		Length (mm)	Across Flats (mm)			t (mm)	f_y (N/mm ²)	d (mm)
			bott	avg	top			avg
Shaft	- at base	3100	330.0	311.1	292.1	8.0	355	295.1
	- section 2	2129	292.1	279.1	266.1	5.0	355	269.1
	- section 3	2129	266.1	253.1	240.1	5.0	355	243.1
	- section 4	2129	240.1	227.1	214.1	5.0	355	217.1
	- section 5	2129	214.1	201.1	188.0	5.0	355	191.1
	- section 6	2129	188.0	175.0	162.0	4.0	355	167.0
	- section 7	2129	162.0	149.0	136.0	4.0	355	141.0
	- section 8	2129	136.0	123.0	110.0	4.0	355	115.0
Floodlight bracket			80.0			3.0	355	74.0

Wind & Dead Loading

Item		Ht to centr. (mm)	Area (m ²)	q(z) kN/m ²	R _e	c	Wind Force (kN)	Dead Load (kN)	Offset from Col C/L(mm)
Shaft	- at base	1550	0.964	0.852	6.74	0.55	0.448	1.818	
	- section 2	4164	0.622	1.028	6.64	0.54	0.348	0.706	
	- section 3	6293	0.566	1.133	6.33	0.54	0.346	0.639	
	- section 4	8421	0.511	1.210	5.86	0.53	0.328	0.572	
	- section 5	10550	0.456	1.271	5.32	0.52	0.302	0.505	
	- section 6	12679	0.400	1.322	4.73	0.51	0.271	0.352	
	- section 7	14807	0.345	1.365	4.09	0.50	0.236	0.299	
	- section 8	16936	0.290	1.404	3.42	0.70	0.285	0.245	
		18000		1.421	2.24	1.12			
Floodlight bracket		18000	0.320	1.421	N/A	1.0	0.455		125
Upper floodlight		18150		1.423		1.0			250
Lower floodlight		17800		1.418		1.0			250
Extra attachment		19000	1.024	1.437		1.0	1.471	1.701	250

Bending Moments

Class	γ_f (wind)	γ_f (DL)
B	1.2	1.2

Item					Unfactored			Factored		
		Height above GL (mm)	DL Mom (kNm)	Wind Mom (kNm)	Moment		Tors (kNm)	Moment		Tors (kNm)
					M _{DL} (kNm)	M _W (kNm)		M _{DL} (kNm)	M _W (kNm)	
Shaft	- at GL		0.43	58.73	0.43	58.73	0.42	0.52	70.48	0.51
	- section 1	3100	0.43	45.42	0.43	45.42	0.42	0.52	54.50	0.51
	- section 2	5229	0.43	37.12	0.43	37.12	0.42	0.52	44.54	0.51
	- section 3	7357	0.43	29.56	0.43	29.56	0.42	0.52	35.47	0.51
	- section 4	9486	0.43	22.72	0.43	22.72	0.42	0.52	27.26	0.51
	- section 5	11614	0.43	16.55	0.43	16.55	0.42	0.52	19.86	0.51
	- section 6	13743	0.43	10.99	0.43	10.99	0.42	0.52	13.18	0.51
	- section 7	15871	0.43	5.97	0.43	5.97	0.42	0.52	7.16	0.51
Floodlight bracket		18000		0.06		0.06			0.07	

Section Capacities

Type	Main Col	Brkt arm
$\gamma_m =$	1.05	1.05
$E \text{ (N/mm}^2\text{)} =$	210000	210000

Item		A/F (mm)	t (mm)	f_y (N/mm ²)	R (mm)	ϵ	ϕ_1	ϕ_2	Z_p (cm ³)	M_{ux}/M_{uy} (kNm)	T_u (kNm)
Shaft	- at Base	330.0	8.0	355	161.0	0.827	0.988	1.000	895.8	299.32	220.29
	- section 2	292.1	5.0	355	143.6	1.180	0.873	1.000	445.1	148.73	109.46
	- section 3	266.1	5.0	355	130.5	1.074	0.902	1.000	368.1	123.00	90.52
	- section 4	240.1	5.0	355	117.5	0.967	0.936	1.000	298.4	99.71	73.38
	- section 5	214.1	5.0	355	104.5	0.860	0.975	1.000	236.0	78.86	58.04
	- section 6	188.0	4.0	355	92.0	0.946	0.943	1.000	146.3	48.89	35.98
	- section 7	162.0	4.0	355	79.0	0.812	0.995	1.000	107.9	36.05	26.53
	- section 8	136.0	4.0	355	66.0	0.678	1.000	1.000	75.3	25.16	18.51
Floodlight bracket		80.0	3.0	355	38.5	0.528	1.000	1.000	17.8	6.01	4.72

LEDture powerful lights Authorised user : O.Newman Lecture Rel : 3.2	Client	Internal use	Sheet no	1 / 07
	Project	LED330 ~ 18m	Rev	
	Contract No	18M WITH BRACKET EXT	By	ON
	Details	18m Heavy Duty Octagonal Mast	Date	10-08-2026
EN40 [Return=25 yrs, f =1.00, Terrain Cat=I, Alt=60m, Wind Speed=22.5m/s]				

Capacity checks

Capacity checks		Factored							
Item		Moment		Torsion	M _{ux}	M _{uy}	T _u	Unity Check	
		M _{DL} (kNm)	M _W (kNm)						
Shaft	- at GL	0.52	70.48	0.51	299.32	299.32	220.29	0.24	PASS
	- section 1	0.52	54.50	0.51	148.73	148.73	109.46	0.37	PASS
	- section 2	0.52	44.54	0.51	123.00	123.00	90.52	0.37	PASS
	- section 3	0.52	35.47	0.51	99.71	99.71	73.38	0.36	PASS
	- section 4	0.52	27.26	0.51	78.86	78.86	58.04	0.35	PASS
	- section 5	0.52	19.86	0.51	48.89	48.89	35.98	0.42	PASS
	- section 6	0.52	13.18	0.51	36.05	36.05	26.53	0.39	PASS
	- section 7	0.52	7.16	0.51	25.16	25.16	18.51	0.31	PASS
Floodlight bracket			0.07		6.01	6.01	4.72		

Deflection

Deflection Coefficient	0.07
------------------------	------

Direction	Allowed (mm)	Actual (mm)	
Horizontal	1260	585	PASS

Dynamic foundation loading due to wind

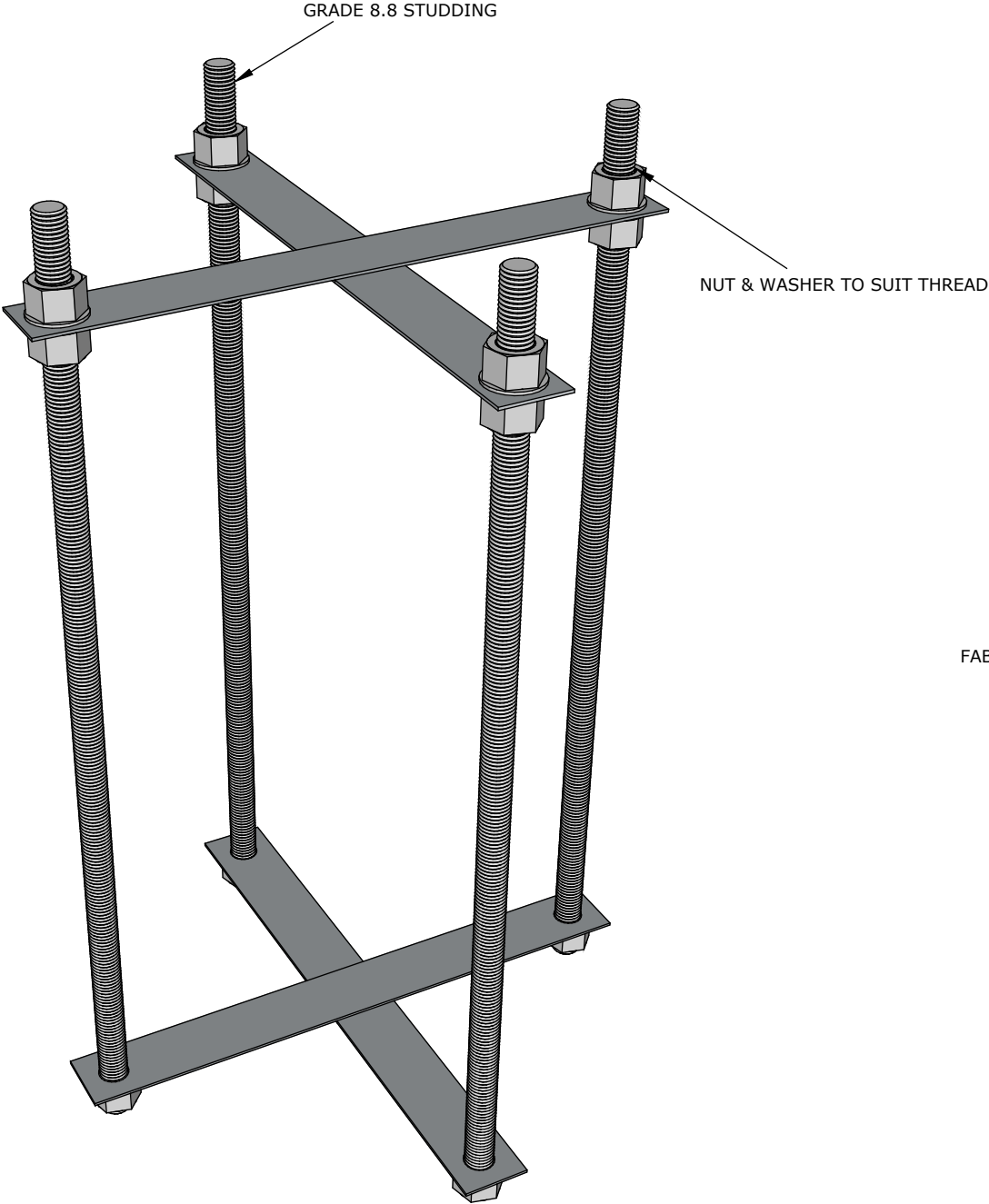
	Unfactored	
Moment at GL =	58.74	kNm
Shear at GL =	4.49	kN
O/turning Moment =	58.74	kNm

Factor of Safety=	1.50
-------------------	------

Foundation loading when mast horizontal

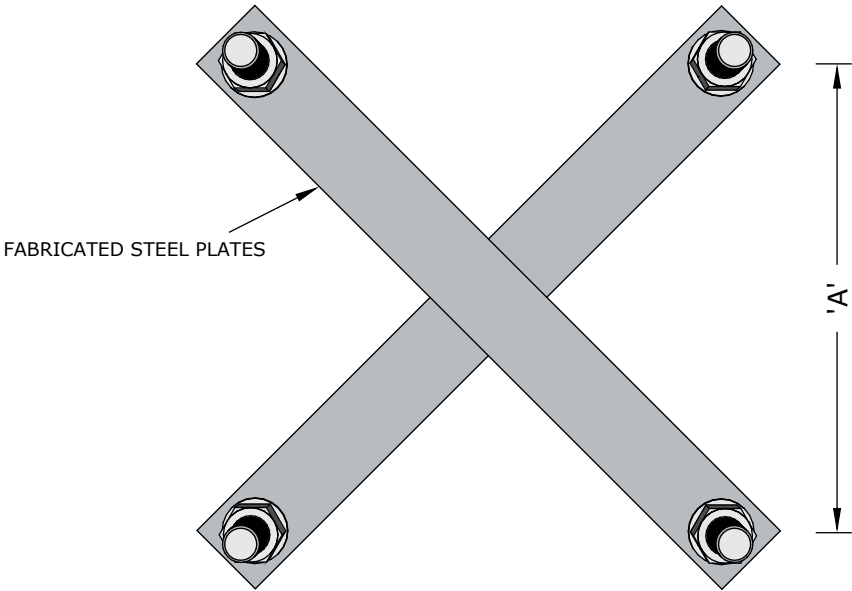
	Unfactored	
Moment at GL =	94.41	kNm
Axial =	12.34	kN

Factor of Safety=	1.50
-------------------	------



THREAD SIZE	'A' WIDTH	CODE
24mm	300mm	LED-FCK24-300
30mm	400mm	LED-FCK30-400
30mm	460mm	LED-FCK30-460
34mm	500mm	LED-FCK34-500

STANDARD LENGTH: 1200mm STUDDING



	DWG No: LED-FDCKIT-2022	
	By: O.R.NEWMAN	
	Date: 11/03/2022	
	Customer: STANDARD PRODUCT	
Description: FOUNDATION CRADLE KIT OPTIONS		

BASEPLATE CHECK TO EN 40 & BS 5400-3 (4-BOLTS, SQUARE CRS ONLY)

Design Loads

Moment $M_R = 82.2$ kNm (incl $\gamma_f = 1.4$)

Shear $F_R = 6.3$ kN (incl $\gamma_f = 1.4$)

Bolts

Size

M 30
 $A_{et} = 561$ mm²

(Gr 8.8)

Baseplate

Thickness $t = 35$ mm

Grade S355J0

$\sigma_f = 345$ N/mm²

O/all size $c = 610$ mm

Bolt crs $a = 460$ mm

Column

Diameter

D 330 mm
 $\sigma_s = 355$ N/mm²

Weld

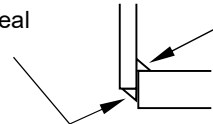
Weld leg

$t_w = 12$ mm

k factor

1.0

internal seal



external
structural weld

FOUNDATION DESIGN LOADS (planted & flanged columns)

EN 40

$M_{fd} = 58.7$ kNm

$F_{fd} = 4.5$ kN

FLANGE PLATE

$R = 161.0$ mm

Design moments

$M_{u-u} = 27.6$ kNm

$M_{v-v} = 34.0$ kNm

Capacity (u-u)

$M_p = 33.1$ kNm > 27.6 **PASS**

Capacity (v-v)

$M_p = 37.6$ kNm > 34.0 **PASS**

Bearing stress (u-u)

$= 2.8$ N/mm² < 20 **PASS** (check based on typical bedding mortar)

(v-v) $= 4.0$ N/mm³ < 20 **PASS** (check based on typical bedding mortar)

BOLTS

Design tension

$F_t = 151.7$ kN

$\sigma = 270.4$ N/mm²

Allowable

$\sigma_t = 560$ N/mm²

Design shear

$F_q = 1.9$ kN

$\tau = 3.4$ N/mm²

Allowable

$\sigma_q = 640$ N/mm²

$[(\sigma/\sigma_t)^2 + 2(\tau/\sigma_q)^2]^{1/2} = 0.48$ < $1/(1.3 \times 1.0) = 0.77$ **PASS**

WELD

Applied stress

$\tau_1 = 120.2$ N/mm²

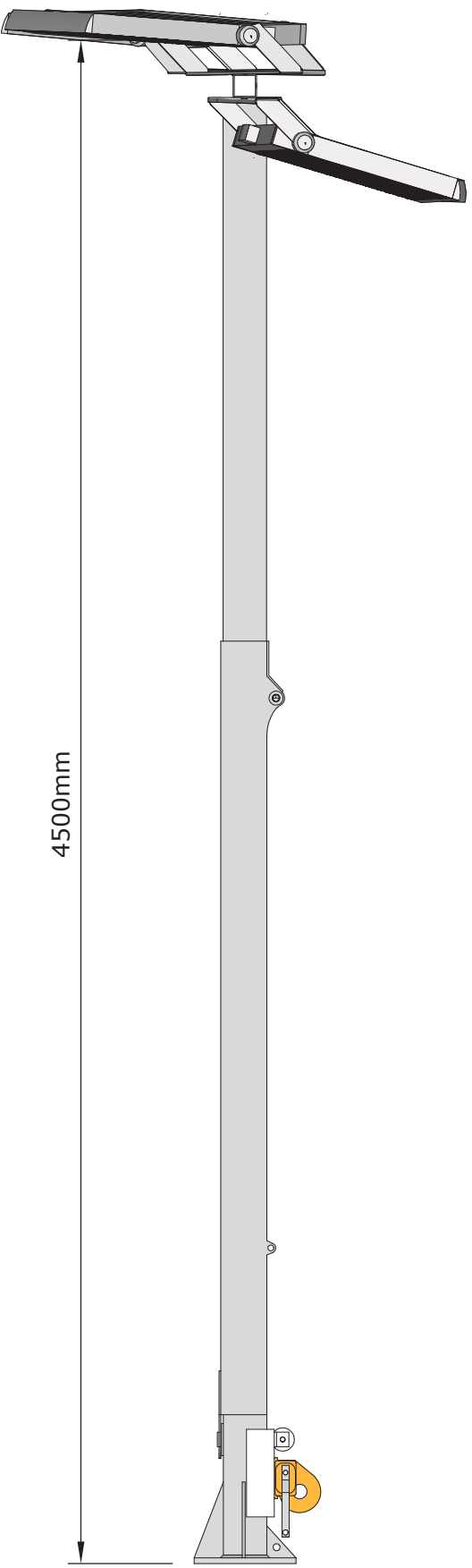
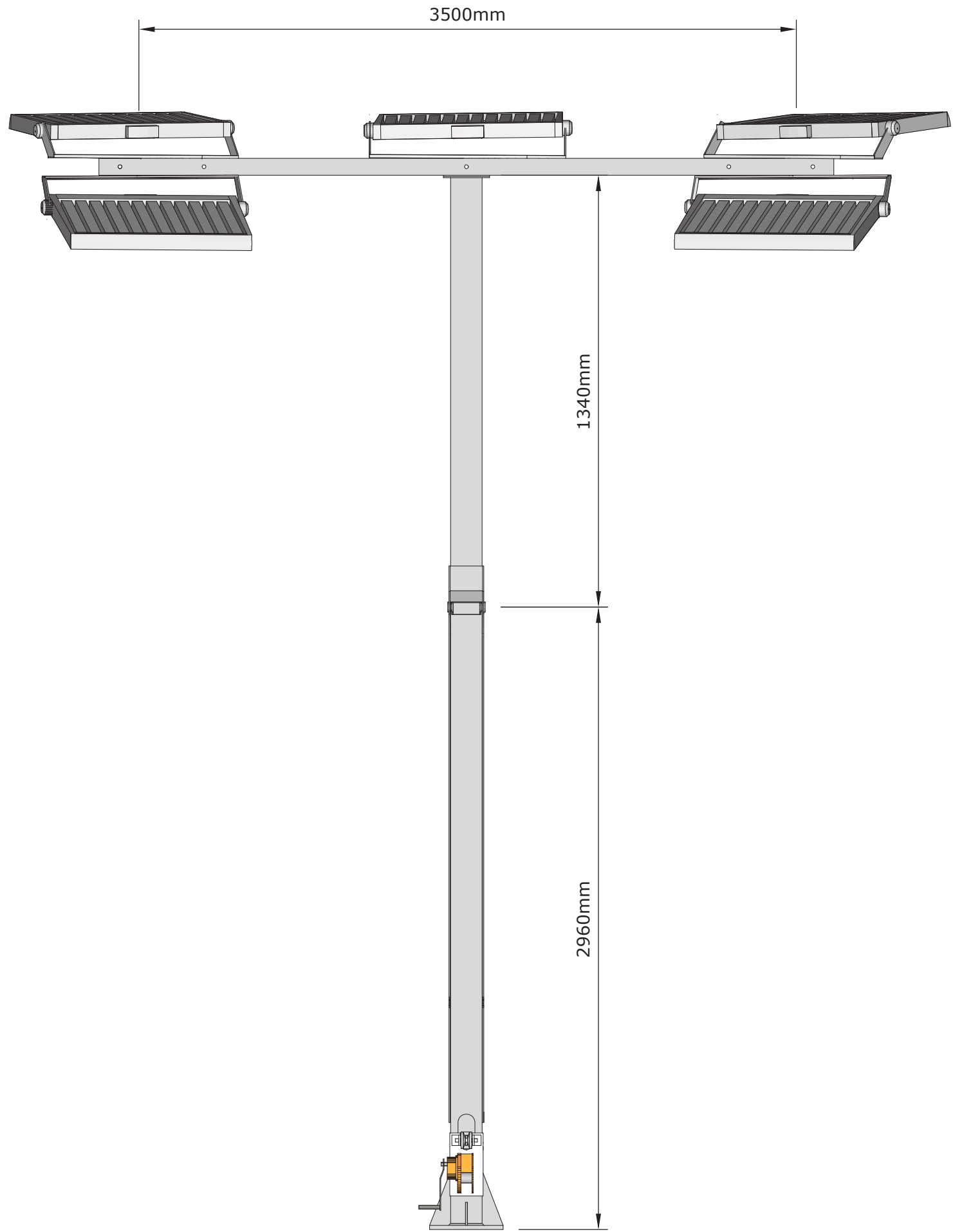
Applied stress

$\tau_2 = 0.7$ N/mm²

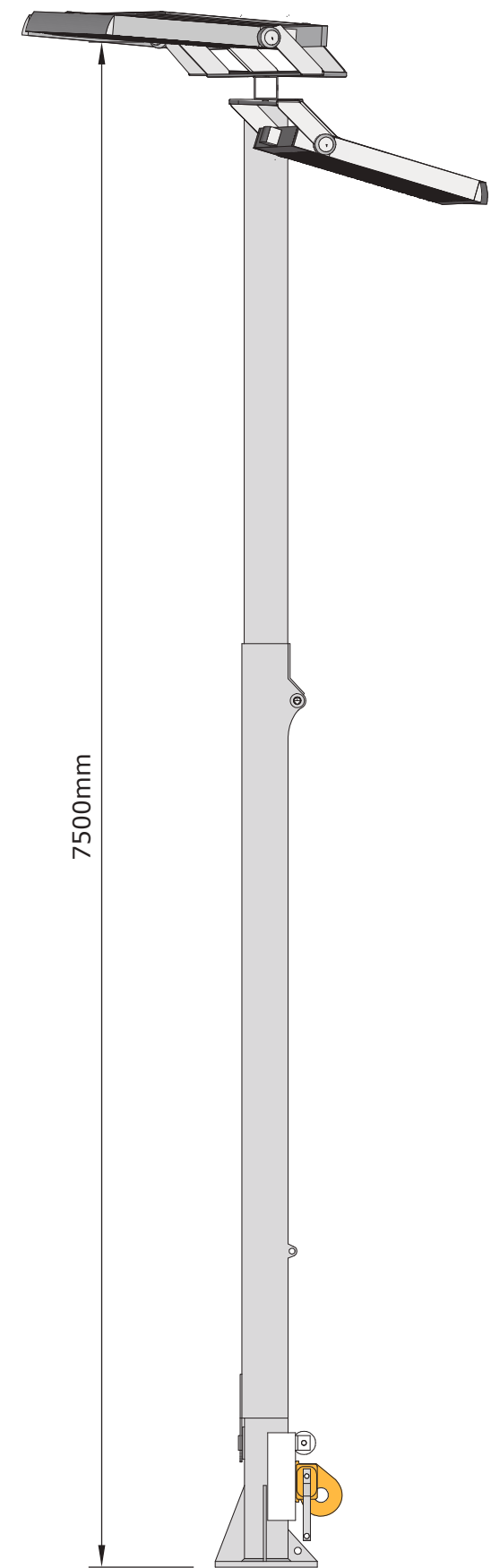
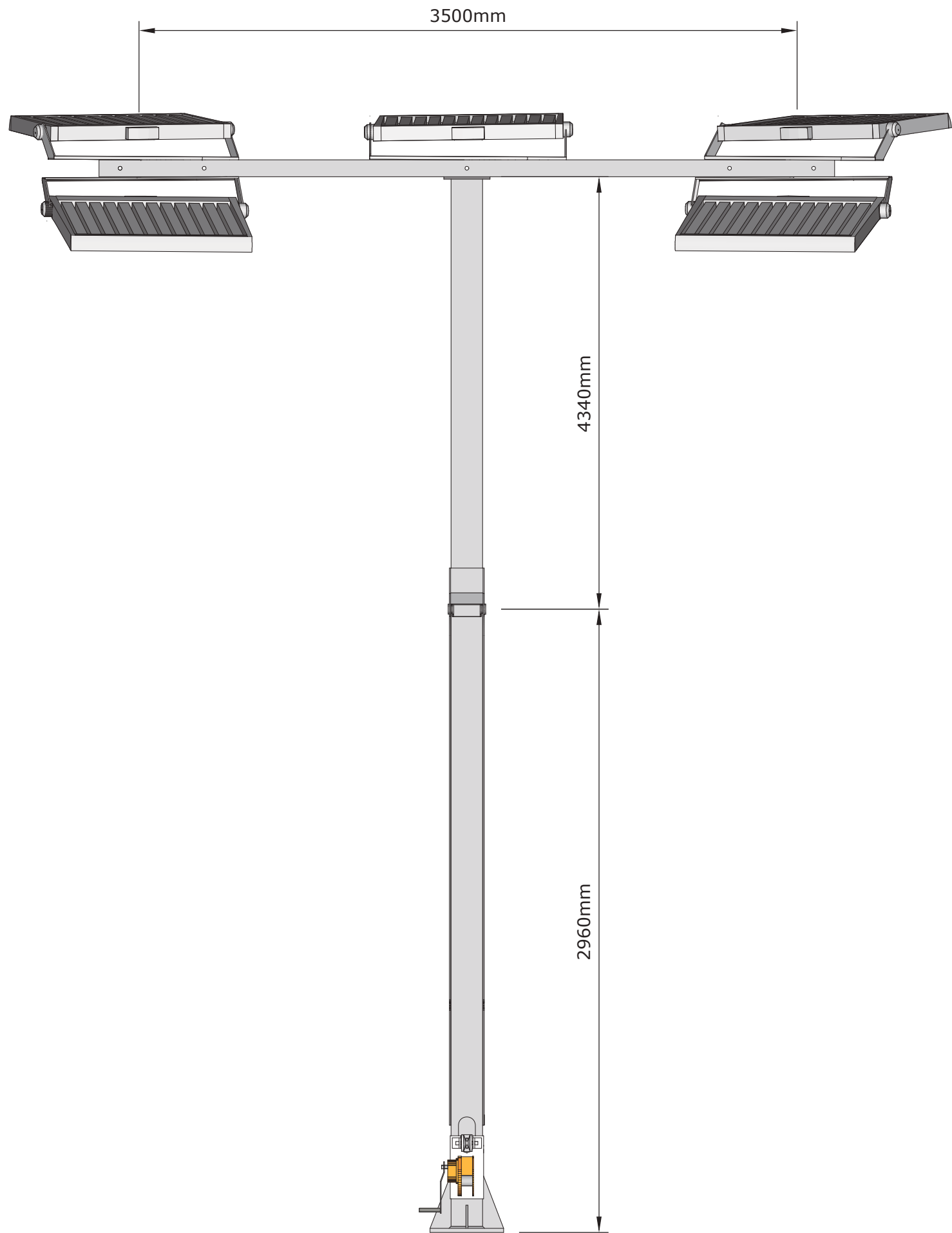
Resultant

$\tau_R = 120.2$ N/mm² < Allowable $\tau_D = 192.5$ N/mm² **PASS**

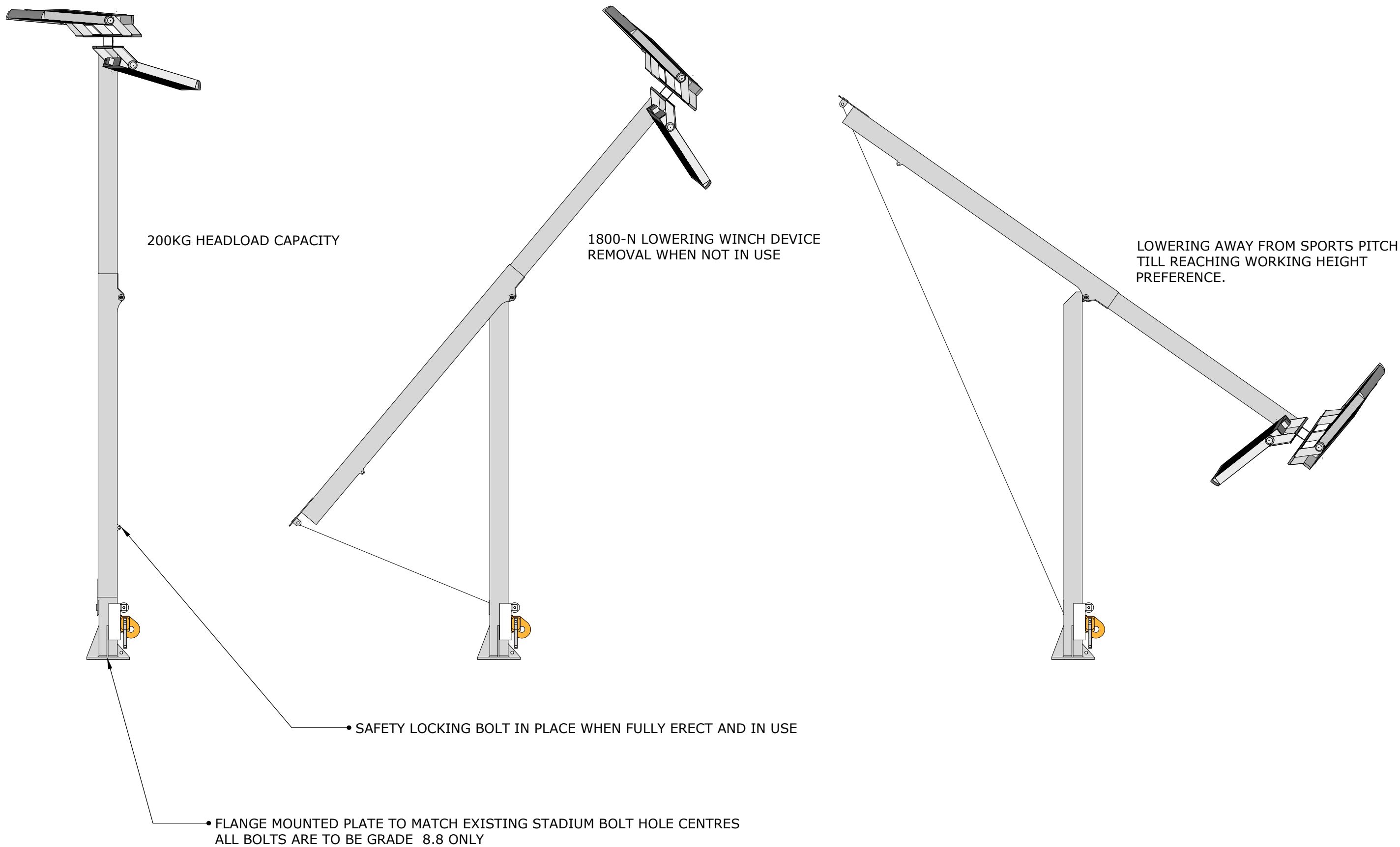
Appendix I – 4.5m Column Layout



Appendix J – 4.5m Column Layout

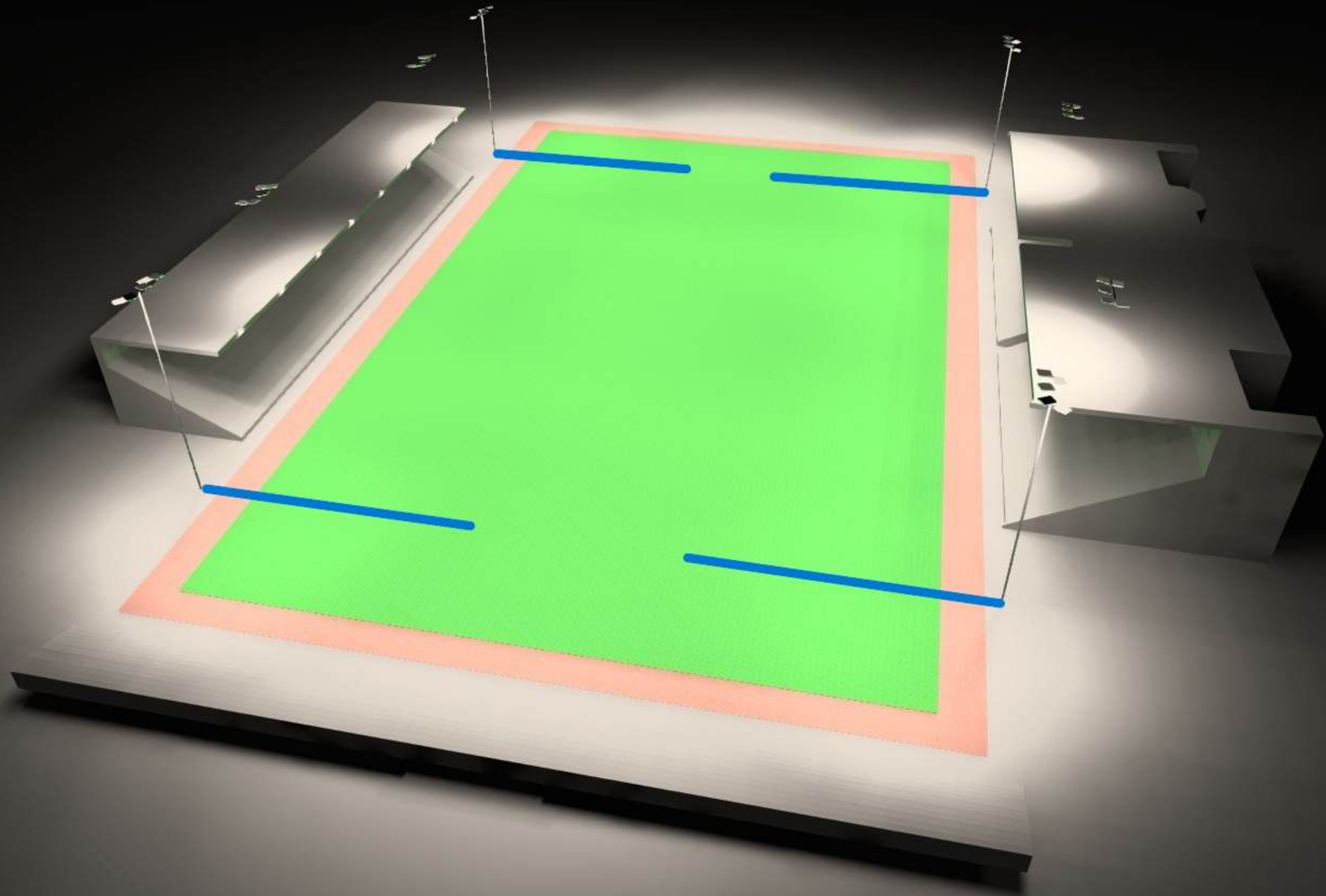


Appendix K – Lowering Layout



Appendix L – Direction of Lowering Layout

RECOMMENDED TO LOWER POLES INTO PITCH FOR EASE OF MAINTENANCE AND INSTALLATION IN GENERAL. PROVIDE REMOVABLE FENCE PANELS TO ALLOW FULL LOWERING OPERATION.



Appendix M – Lighting Control

LEDture

Wireless Dimming System

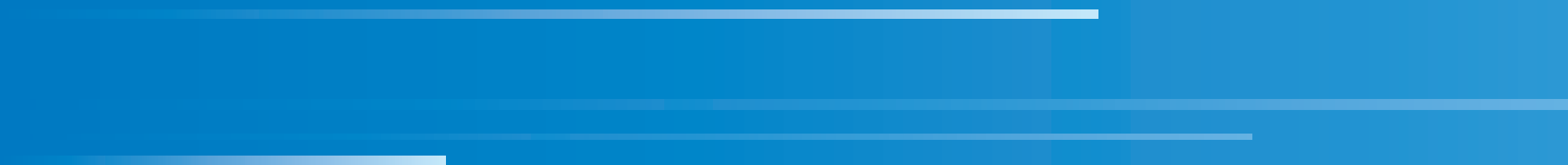
LEDture

Ledture Inc.
401 Traders Blvd, #9, Mississauga, Ontario L4Z 2H8, Canada

Ledture Inc.
1220 W. Alameda Dr, # 121, Tempe, Arizona 85282, USA

Ledture Limited
Unit at Wicketts Farm, Doddington Lane, Claypole, Lincs NG23 5AT, UK

www.ledture.com



POWERFUL LIGHTS



WIRELESS DIMMING SYSTEM

The Wireless Dimming System, hereinafter referred to as WDS, can achieve different lighting brightness and lighting scenes in the field, for soccer fields, baseball fields, tennis courts and basketball courts etc sports fields, as well as other outdoor areas that need to have lighting changes.

WDS is to control the light output of lighting fixtures wirelessly through the Lora communication protocol, it can achieve the on/off and brightness adjustment of one fixture, several fixtures or all lighting fixtures in the field through the Group Function, providing various possibilities to change the brightness of the field.

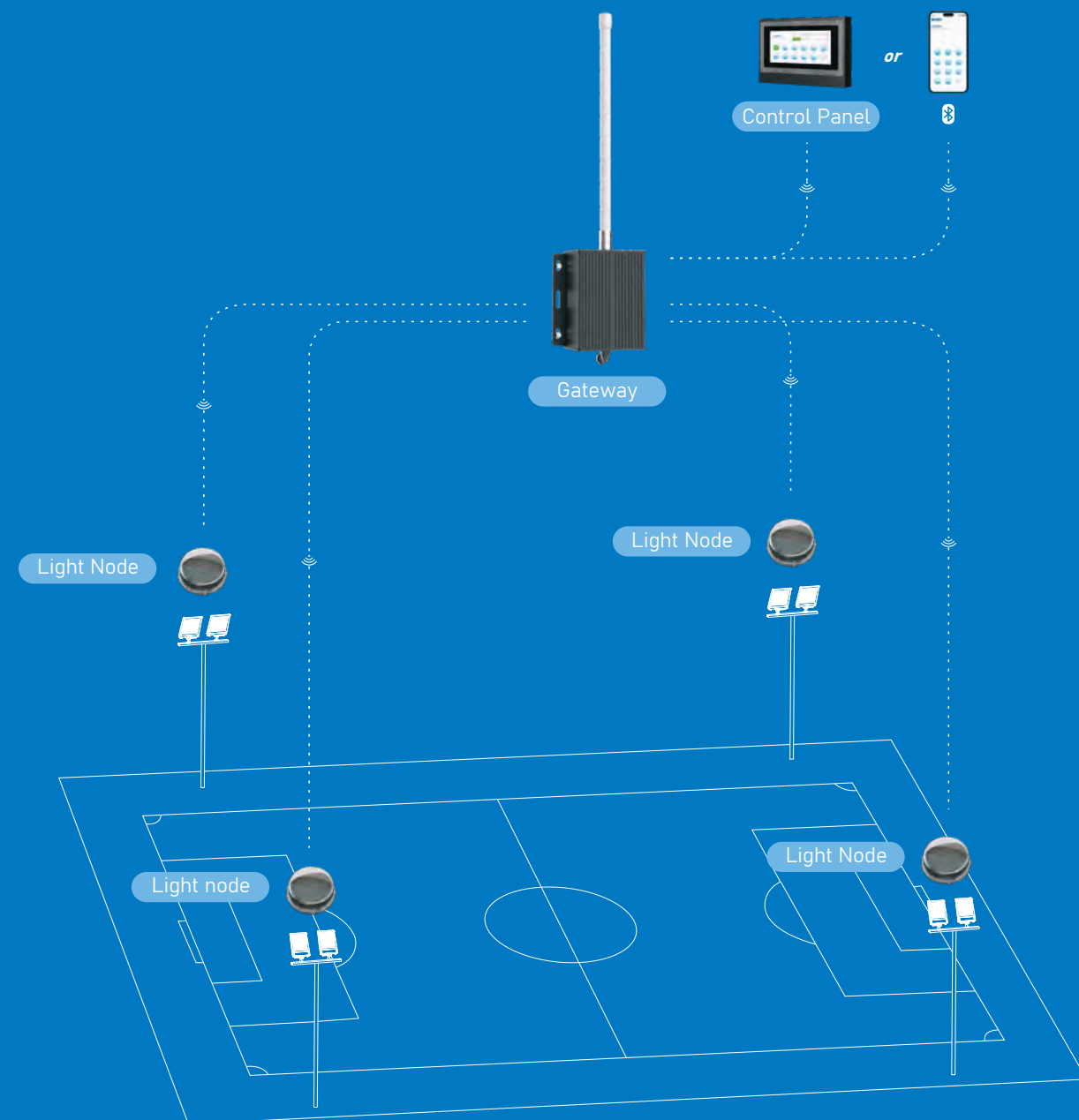
The WDS control range can be up to 2KM, in the absence of signal blocking, can meet the requirements of most lighting applications. The wireless control can be achieved through the wired control panel, or by the APP in bluetooth connected mobile phone, Pad etc devices.

ABOUT WDS

WIRELESS DIMMING UNITS

WIRELESS DIMMING UNITS

The WDS is to control lighting fixtures through Lora, the system includes three main units: a Control Panel, a wireless Gateway and a corresponding number of Light Nodes.



Control Panel

Installation: Indoor
Working Voltage: 100-277VAC 50/60Hz
Lines: 3M long power cable for AC input, with suitable plug
Function: Touch the panel to change the fielding lighting program, can change the settings at anytime.



Mobile Device

Function: Run the WDS App to change the fielding lighting program, can change the settings at anytime.



Gateway

Installation: Outdoor, on pole or building wall, height $\geq$ 3M
Power: $\leq$ 4.8W
Working Voltage: 12VDC
Transmitting Power: 20dB $\pm$ 1dB
Frequency: EU868, US915, AS923 etc
IP Rating: IP66
Suggested Communication Distance: $\leq$ 2KM
Suggested Connected Node Quantity: $\leq$ 200PCS
Lines: 10M long cable for power and signal from Control Panel, both ends with waterproof connectors. The default length is 10 meters, other length can be customized, maximum 100 meters.
Function: Wirelessly transit the signal from Control Panel to each Light Node, to achieve the light changing.



Light Node

Installation: Outdoor, one for each light fixture, height $\geq$ 3M
Power: $\leq$ 0.5W
Working Voltage: 12-24VDC
Dimming: 0-10VDC
Transmitting Power: 20dB $\pm$ 1dB
Frequency: EU868, US915, AS923 etc
IP Rating: IP66
Lines: Powered by led driver dimming wires via Zhaga Book 18 socket
Function: Receive control signal from Gateway, send to led driver for light dimming.

WIRELESS DIMMING SCENE

1 Gateway 2 Control Panel or Mobile Device 3 Light Node

Interface:
select Day Mode or Night Mode

DAY



NIGHT



Dim part of the fixtures to different brightness levels in field, 0%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90% or 100%

PART



HALF



Dim all the fixtures to different brightness levels in field, 0%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90% or 100%

100%



30%

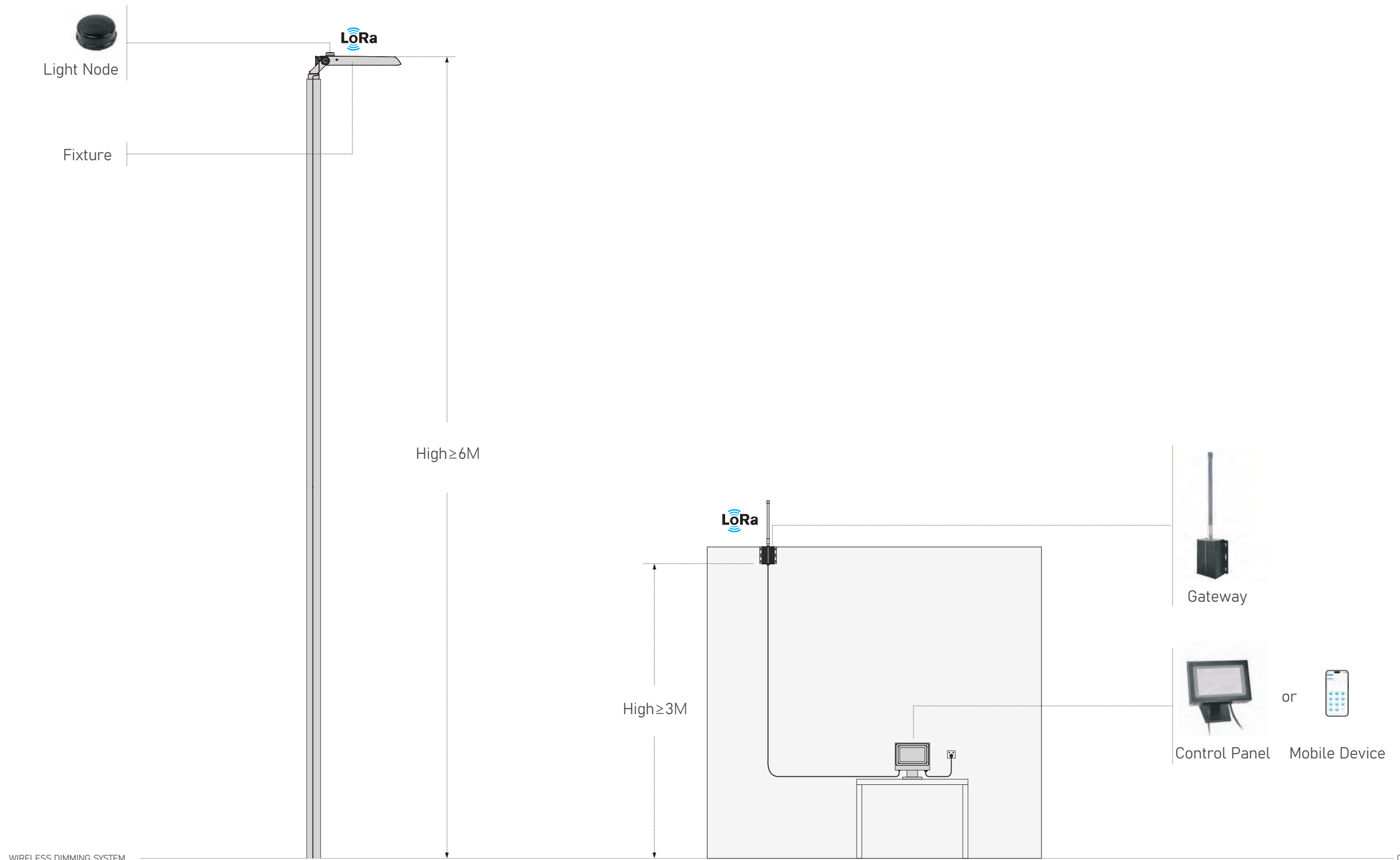




WDS INSTRUCTION

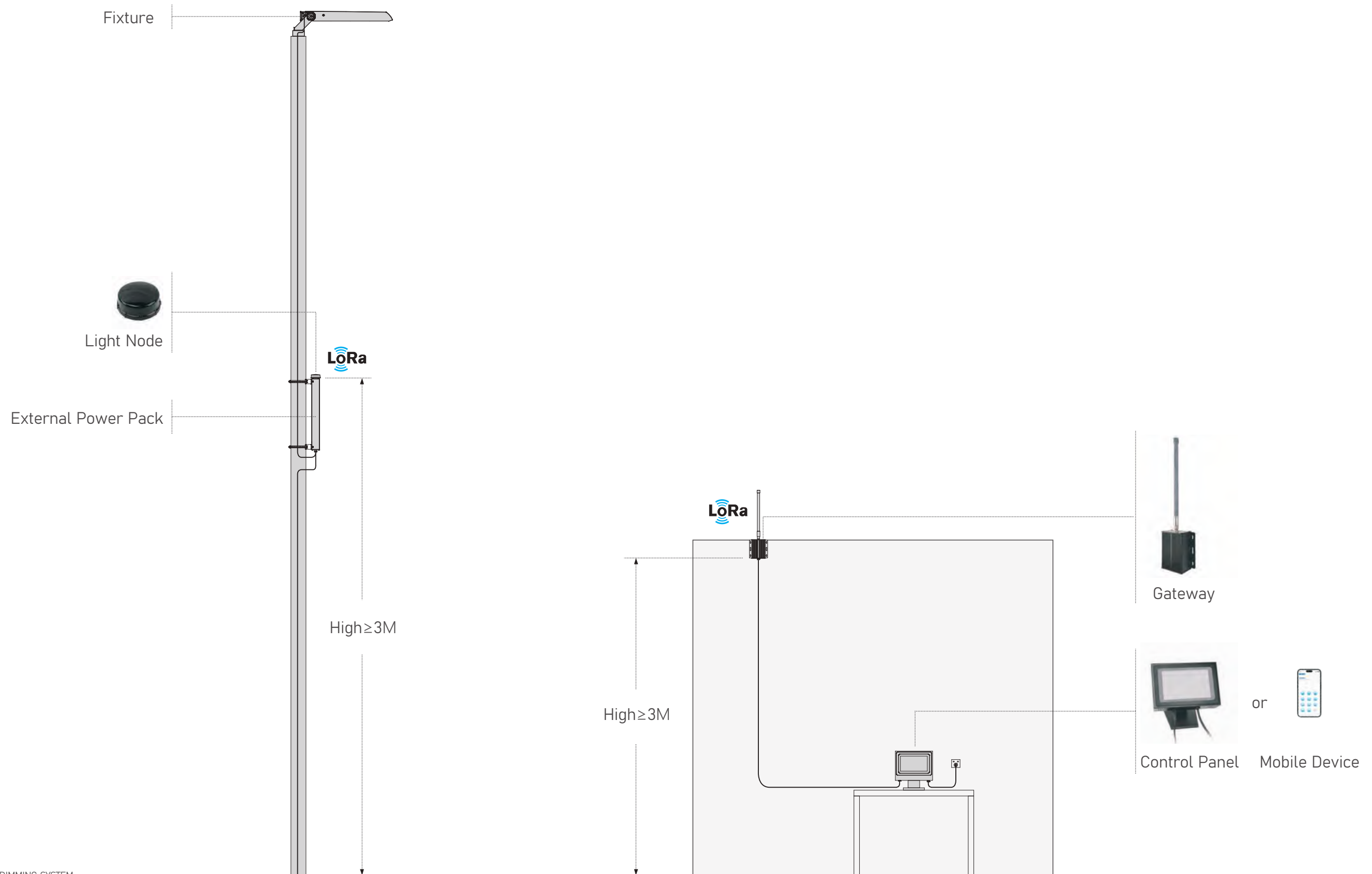
WIRELESS DIMMING SYSTEM

Option 1.



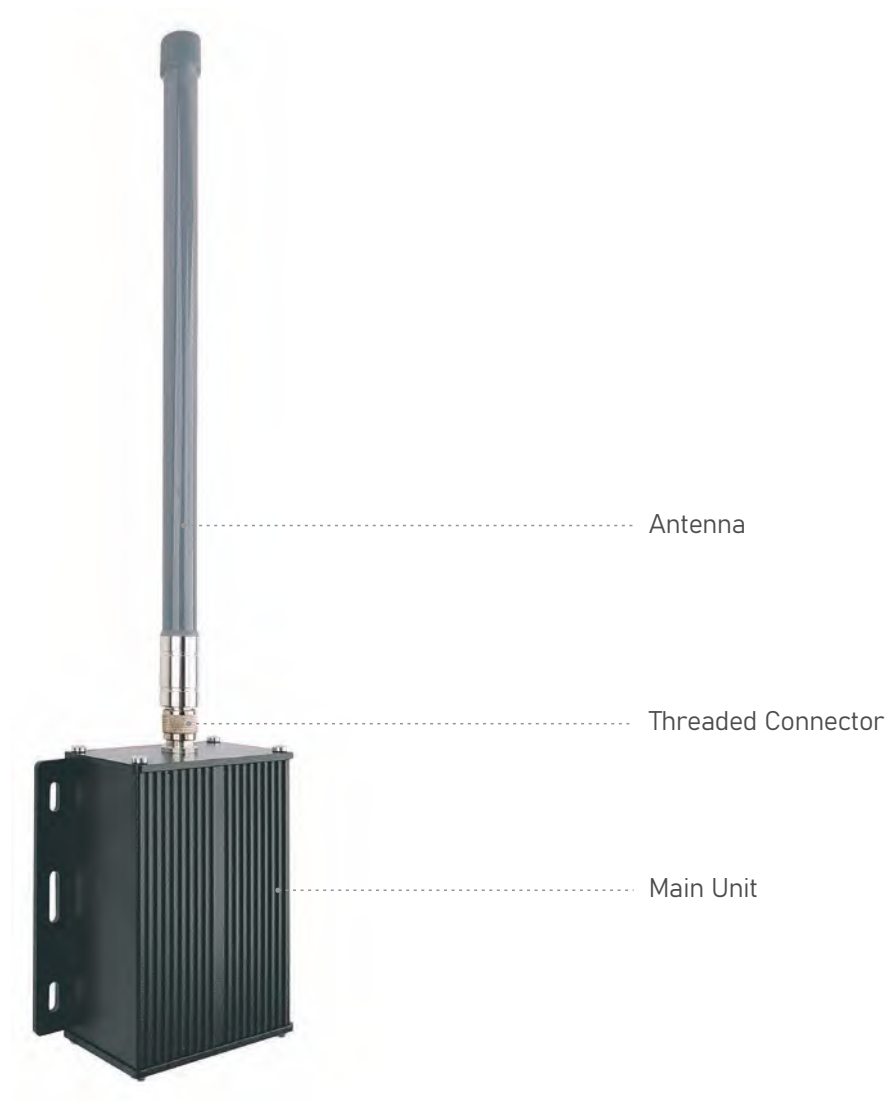
WIRELESS DIMMING SYSTEM

Option 2.



Gateway Instruction

Product description



Product parameter

Installation	Outdoor, on pole or building wall, height≥3M
Power	≤4.8W
Working Voltage	12VDC
Transmitting Power	20dB ± 1dB
Frequency	EU868, US915, AS923 etc
IP Rating	IP66
Suggested Communication Distance	≤2KM
Suggested Connected Node Quantity	≤200PCS
Lines	10M long cable for power and signal from Control Panel, both ends with waterproof connectors. The default length is 10 meters, other length can be customized, maximum 100 meters.
Function	Wirelessly transit the signal from Control Panel to each Light Node, to achieve the light changing.

Product Installation



Wall Mounting

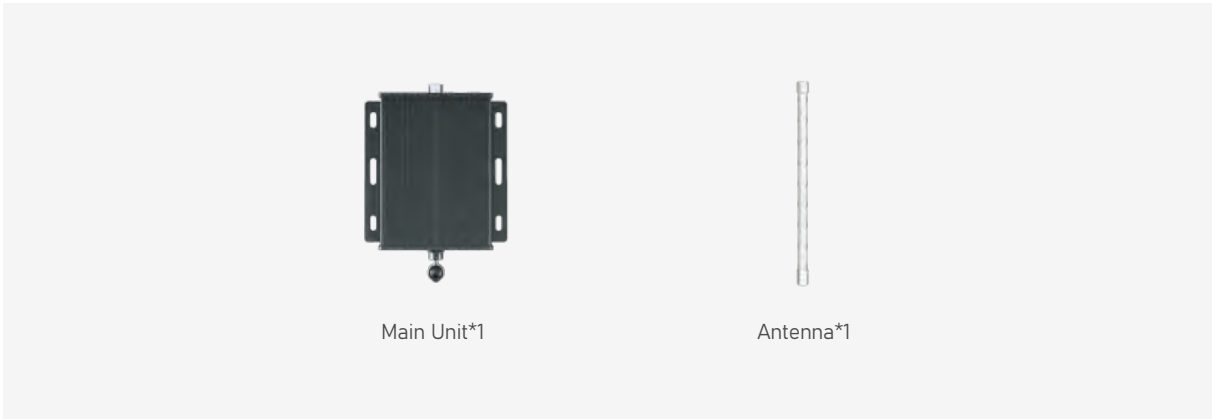
STEP 1: Drill four screw holes on the mounting surface.
STEP 2: Fix the Gateway with 4 screws.



Pole Mounting

STEP 1: Put 2pcs U-Clamp on the pole.
STEP 2: Fix the Gateway with 4 screws to the clamps.

Product List



Light Node Instruction

Product description



Product parameter

Installation	Outdoor, one for each light fixture, height≥3M
Power	≤0.5W
Working Voltage	12-24VDC
Dimming	0-10VDC
Transmitting Power	20dB ± 1dB
Frequency	EU868, US915, AS923 etc
IP Rating	IP66
Lines	Powered by led driver dimming wires via Zhaga Book 18 socket
Function	Receive control signal from Gateway, send to led driver for light dimming

Product Installation



STEP: Install each Light Node to the Zhaga socket on the luminaire back side, insert properly and screw tightly.

Product List



Control Panel Instruction

Product description



Product parameter

Installation	Indoor
Working Voltage	100-277VAC 50/60Hz
Lines	3M long power cable for AC input, with suitable plug
Function	Touch the panel to change the fielding lighting program, can change the settings at anytime.

Product installation



Desk Mounting

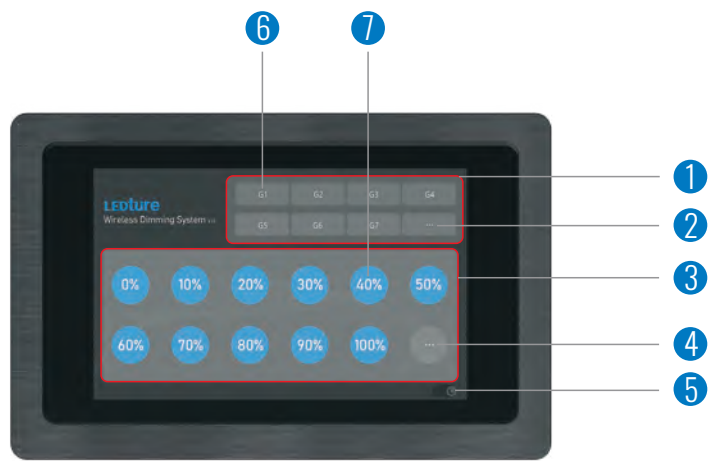


Wall Mounting

Product List



Interface Introduction



- 1 Group Board**
Group the fixtures in field, each group can be with independent dimming control, 7 groups maximum

2 Group Editing Entrance
Group Name can be editable

3 Dimming Board
Dim the fixtures to different brightness levels in field, 0%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90% or 100%
- 4 Dimming Board Editing Entrance**
Add or delete light nodes inside each group, add or reduce light fixtures accordingly

5 Day and Night Mode
Change the interface to Day mode or Night mode

6 Group Name

7 Dimming Touch Button

Edit the Group

- Add Group



- 1 Touch the button in the Group Board.
- 2 Enter the Group Editing interface, touch click G1 on the left. Turns green, then it's selected.
- 3 Enter a new group name in the input box on the right, e.g. Football.
- 4 Touch DONE to confirm.
- 5 Touch on top left corner, back to the main interface. The new group name shows in the Group Board.

Note: Group name must not exceed 12 characters.

- Edit Group Name

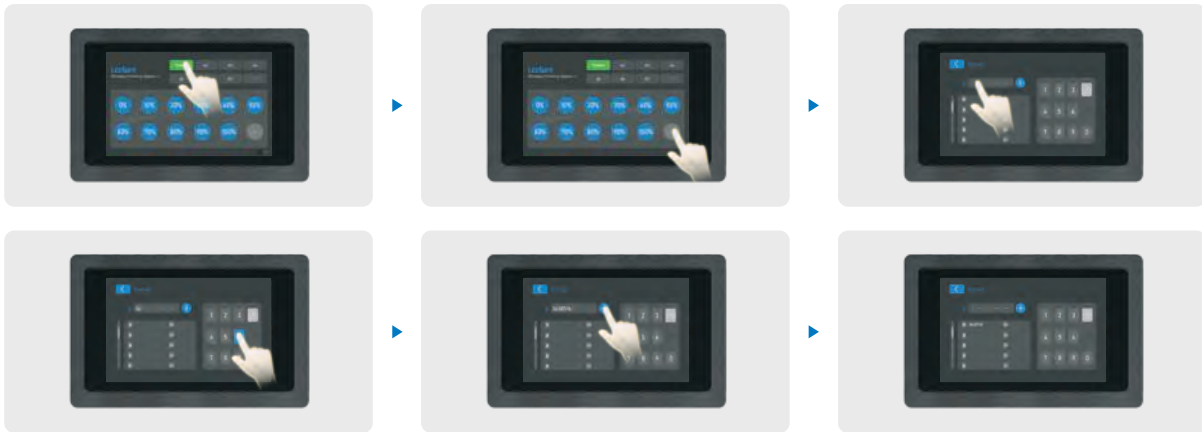


- 1 Touch the button in the Group Board.
- 2 Touch to select the group name, put the cursor to the location for modification.
- 3 Edit the existing group name or enter a new group name in the input box on the right.
- 4 Touch DONE to confirm.
- 5 Touch on top left corner, back to the main interface. The edited group name shows in the Group Board.

Note: Group name must not exceed 12 characters.

Edit Fixtures in Group

- Add new light node



- 1 Touch to select the group name in the Group Board.
- 2 Touch the button on bottom right corner, Dimming Board Editing Entrance.
- 3 Touch the input box after ID.
- 4 Enter the 8-digit ID number of light node.
- 5 Touch the button after number input completed. The newly added ID number is on the top of the Node Number Board.

Note: Node ID number is with 8digits. Check the ID number to be correct if a warning box is displayed.

• Delete a light node



- 1 Touch the button  after the ID number that needs to be deleted.
- 2 Touch click the button  in the pull-out menu and complete the deletion.

Dimming



- 1 Touch to select the group for dimming in the Group Board of main interface.
- 2 Touch to select the needed dimming level in the Dimming Board, 0%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90% or 100%

Fault Analysis



- ▶ ID number board, the light node is offline when shows grey, need to check its working status.

Warning Box



- ▶ Check if a duplicate node number has been entered.



- ▶ Check if the entered node number is less than 8 digits.



- ▶ Check if the entered node number is already 8 digits long.



- ▶ Check if the entered group name exceeds 12 digits.