Hodson Bay

Lighting Report

August 2026

PREPARED FOR

Roscommon County Council

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EXTERNAL LIGHTING REPORT

Draft for Planning / Design Development
Prepared for: Civic
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Contents

1 Introduction

This report has been prepared to describe the proposed external lighting strategy for the development and to demonstrate how the lighting installation has been designed to satisfy the operational, safety, environmental and planning objectives of the project.

The external lighting has been developed to provide safe and accessible movement throughout the site while ensuring that the quantity, distribution and duration of artificial light are appropriate for the intended use of each external area. The design seeks to achieve an appropriate balance between user safety, visual comfort, energy efficiency and the protection of the surrounding environment.

The proposed lighting installation has been designed using LED luminaires supported by verified manufacturer photometric data and has been modelled using recognised lighting calculation software to demonstrate compliance with the relevant lighting standards and project-specific design criteria. Consideration has been given to lighting uniformity, glare control, obtrusive light, energy consumption and the ecological sensitivity of the surrounding environment.

The lighting strategy forms part of the overall public realm design and has been coordinated with the proposed landscape, architectural and civil engineering layouts to provide a consistent and integrated external lighting solution. Luminaire locations, mounting heights and optical distributions have been selected to achieve the required maintained illuminance whilst minimising unnecessary light spill beyond the areas requiring illumination.

In developing the lighting strategy, consideration has also been given to the proximity of ecological habitats located adjacent to the development. Artificial lighting has the potential to influence the behaviour of nocturnal species through changes in light intensity, spectral composition and operating duration. The proposed lighting design therefore incorporates a range of measures intended to reduce potential disturbance to sensitive ecological receptors whilst maintaining an appropriate level of illumination for the safe use of the development.

These measures include the use of warm white 2700 K LED luminaires, precision optical control, shielding where required, careful luminaire orientation and an intelligent lighting control strategy that progressively reduces light output during periods of reduced site activity. Collectively, these measures seek to minimise obtrusive light, reduce sky glow and limit unnecessary illumination of surrounding habitats.

The external lighting has been designed around the principle of providing **the right level of light, in the right location, for the right duration**. Lighting has therefore been limited to those areas where illumination is required to support safe movement, accessibility and operational requirements, avoiding excessive illumination or ornamental lighting that would increase extinction through the lighting management system. This operating philosophy contributes to a reduction in operational energy consumption while also

reducing the duration and intensity of artificial lighting during periods when ecological activity is generally greatest.

Lighting calculations undertaken as part of the design process demonstrate that the proposed installation achieves the project lighting criteria whilst maintaining a minimum overall uniformity (U_0) of 0.40 throughout the principal circulation routes and external spaces. The design has been developed to provide consistent illumination, reduce excessive contrast between illuminated and non-illuminated areas and improve visual comfort for pedestrians, cyclists and other site users.

This report outlines the design standards adopted, the lighting philosophy, ecological considerations, lighting control strategy, performance criteria and environmental mitigation measures incorporated within the proposed external lighting installation. It should be read in conjunction with the external lighting drawings, luminaire schedule, lighting calculations and manufacturer's technical information that collectively form the external lighting design package.

2 Proposed Development

The proposed development comprises a coordinated external lighting installation serving the principal vehicle, pedestrian and public realm areas throughout the site. The lighting design has been developed to provide a safe, accessible and visually comfortable environment for all users whilst supporting the architectural, landscape and environmental objectives of the development.

The lighting installation forms an integral part of the public realm infrastructure and has been coordinated with the proposed civil, architectural and landscape layouts to ensure that luminaires are appropriately located to provide effective illumination without adversely affecting the visual character of the development or surrounding environment.

The external lighting has been designed using high-efficiency LED luminaires incorporating precision optical distributions to direct light only where it is required. Luminaire locations, mounting heights and optical characteristics have been selected to achieve the required lighting performance whilst minimising upward light, glare and unnecessary spill light beyond the development boundary.

The proposed installation has been developed using recognised lighting design software and manufacturer-verified photometric data to demonstrate compliance with the relevant lighting standards and project-specific performance criteria.

2.1 External Lighting Areas

The proposed lighting installation provides illumination to the following external areas:

- Primary pedestrian routes;
- Secondary pedestrian links;
- Shared pedestrian and vehicular surfaces;
- Cycle routes;
- Public open spaces and landscaped areas;
- Car parking and vehicle circulation areas;
- Building entrances and access routes;
- Service and maintenance access areas.

Each area has been individually assessed to determine the appropriate lighting class, maintained illuminance, uniformity and control strategy based upon the anticipated level of activity, operational requirements and surrounding environmental conditions.

The lighting design has been developed to provide clear route definition, good facial recognition and safe movement throughout the development whilst avoiding excessive illumination of areas where lighting is not operationally required.

2.2 Lighting Design Principles

The proposed lighting strategy has been developed around the following design principles:

- Provide safe movement for pedestrians, cyclists and vehicles.
- Maintain appropriate horizontal illuminance for each lighting zone.
- Achieve a minimum maintained overall uniformity (U_0) of 0.40 throughout the principal circulation routes.
- Minimise glare and excessive contrast between illuminated and non-illuminated areas.
- Reduce upward light output and light spill beyond the site boundary.
- Minimise operational energy consumption through intelligent lighting controls.
- Protect adjacent ecological habitats by reducing unnecessary artificial lighting.
- Provide a durable, maintainable and energy-efficient lighting installation.

These principles have been used in the selection of luminaires, mounting heights, optical distributions, lighting controls and operating philosophy adopted throughout the development.

2.3 Ecological Context

The development is located adjacent to areas that may provide habitat, commuting corridors and foraging opportunities for bats, birds and other nocturnal wildlife. The external lighting strategy has therefore been developed with due consideration to the potential effects of artificial lighting on these ecological receptors.

Rather than increasing the overall quantity of lighting, the design seeks to provide the minimum level of illumination necessary to satisfy operational and safety requirements. This has been achieved through careful luminaire selection, precision optical control and the implementation of a site-wide lighting control strategy that progressively reduces light output during periods of lower activity.

All external luminaires have been specified with a correlated Colour temperature of 2700 K, reducing the short wavelength component of the emitted light when compared with higher Colour temperature sources. This approach forms part of the overall strategy to reduce potential disturbance to surrounding habitats whilst maintaining appropriate lighting levels for the safe operation of the development.

2.4 Lighting Control Philosophy

The external lighting installation shall operate using the U23 dimming profile. The lighting management system maintains full lighting output during periods of highest period of activity before progressively reducing illumination as occupancy decreases.

The proposed control strategy is summarised below:

Operating Period	Luminaire Output
Sunset – 20:00	100%
20:00 – 22:00	63%
22:00 – 07:00	36%
After 07:00	Automatic OFF when daylight reaches approximately 18 lux

This operating profile reduces energy consumption, extends luminaire life and limits the duration and intensity of artificial lighting during periods when ecological sensitivity is greatest.

For the road class, the lit the car parks and walkways in line with Table 7 (7.2) of BS EN 12464-2:2024, which is a 10lux average, with 40% uniformity. As the roadway runs alongside the footpath, it has received the same level of lighting which is equivalent to BS EN 13201-2:2015, P2 Class.

2.5 Design Coordination

The external lighting design has been coordinated with the proposed architectural, landscape and civil engineering layouts to ensure that the installation integrates with the overall development.

Where practical, luminaires have been positioned to avoid conflict with trees, planting, street furniture, signage and other site infrastructure while maintaining the required lighting performance. Optical distributions and luminaire orientation have been selected to minimise glare and obtrusive light and to avoid unnecessary illumination of adjacent properties and ecological features.

The proposed installation has also been developed to facilitate future maintenance activities, with consideration given to luminaire accessibility, replacement intervals and operational resilience.

3 External Lighting

The proposed external lighting installation has been developed to provide a safe, functional and sustainable lighting solution that supports the operational requirements of the development while minimising the environmental effects of artificial lighting.

The lighting design has been prepared using recognised lighting design software and manufacturer-verified photometric data. Throughout the design process, consideration has been given to user safety, accessibility, visual comfort, energy efficiency, maintenance requirements and the protection of surrounding ecological habitats.

The lighting strategy has been based upon the principle of providing the **appropriate quantity of light, at the appropriate location, for the appropriate duration**. Rather than maximising illumination levels across the site, the design seeks to provide lighting only where operationally required while limiting unnecessary light spill into adjacent areas.

The proposed installation has been coordinated with the architectural, civil and landscape design to ensure that lighting columns, bollards and building-mounted luminaires integrate with the wider development whilst maintaining the required lighting performance.

The design philosophy incorporates the following principal objectives:

- Provide safe movement for pedestrians, cyclists and vehicles.
- Deliver appropriate maintained illuminance for each external space.
- Maintain a minimum overall uniformity (U_0) of 0.40 throughout principal circulation routes.
- Reduce glare and excessive luminance contrast.
- Minimise upward light output and sky glow.
- Limit spill light beyond the development boundary.
- Protect adjacent ecological habitats through careful lighting design.
- Reduce operational energy consumption using intelligent lighting controls.
- Provide a lighting installation that is durable, maintainable and suitable for long-term operation.

The following sections describe the engineering methodology adopted throughout the external lighting design.

3.1 Design Standards

The proposed lighting installation has been designed in accordance with current industry guidance and recognised lighting standards applicable to external public realm developments.

The principal standards and guidance documents considered during the design include:

- **IS EN 13201** – Road Lighting.
- **BS 5489** – Code of Practice for the Design of Road Lighting.
- **BS EN 12464-2** – Lighting of Outdoor Workplaces.
- **CIBSE Lighting Guide LG6** – The Outdoor Environment.
- **CIE 150** – Guide on the Limitation of the Effects of Obtrusive Light.
- **Institution of Lighting Professionals (ILP)** – Guidance Notes for the Reduction of Obtrusive Light.
- **Bat Conservation Trust / ILP Guidance Note 08/23** – Bats and Artificial Lighting at Night.
- **Technical Guidance Document Part M** – Access and Use.
- Any project-specific Employer's Requirements and local authority lighting specifications, where applicable.

These documents establish the framework for determining the appropriate maintained illuminance, lighting uniformity, glare limitation, accessibility requirements and environmental performance of the proposed installation.

Where different guidance documents provide alternative recommendations, the design has adopted the most appropriate criteria having regard to the intended use of each area, user safety and the surrounding environmental context.

3.2 Design Philosophy

The external lighting strategy has been developed around a performance-based design philosophy that balances operational requirements with environmental responsibility.

The primary purpose of the lighting installation is to facilitate safe movement throughout the development during the hours of darkness. Lighting has therefore been concentrated on pedestrian routes, shared surfaces, vehicle circulation areas, public spaces and access points where illumination is necessary to support safe use.

The design avoids unnecessary illumination of landscaped areas and ecological features that do not require artificial lighting for operational purposes. This approach assists in reducing energy consumption while limiting the extent of artificial lighting within the wider environment.

Lighting calculations have been undertaken using maintained values to ensure that the installation continues to satisfy the required performance throughout the maintenance cycle rather than only upon initial installation.

Where practical, luminaires have been positioned outside primary sight lines to reduce glare whilst maintaining effective illumination of pedestrian and vehicle routes.

Uniform lighting distribution has been prioritised over excessive average illuminance, as consistent lighting conditions provide improved visual comfort and reduce areas of excessive contrast.

The proposed installation has also been designed to facilitate efficient maintenance through the selection of durable luminaires, long-life LED light sources and programmable lighting controls.

3.3 Biodiversity Strategy

The proposed development is located adjacent to areas that may provide habitat, commuting corridors and foraging opportunities for bats, birds and other nocturnal wildlife. The lighting strategy has therefore been developed to minimise the potential effects of artificial lighting on these ecological receptors while maintaining an appropriate level of illumination for the safe operation of the development.

Artificial lighting can influence wildlife through changes in light intensity, spectral distribution and operating duration. The lighting design has therefore sought to minimise these effects by limiting both the quantity of light emitted and the period for which lighting operates at full output.

All external luminaires have been specified with a correlated Colour temperature of 2700 K. Warm white light sources emit a lower proportion of short wavelength (blue) light than higher Colour temperature sources and are generally recognised as a more appropriate choice where lighting is in proximity to ecologically sensitive environments.

The lighting installation has been designed using precision optical distributions that direct light towards the intended task areas while reducing illumination of adjacent vegetation, habitat corridors and boundary features. Rear light shields have been incorporated where required to further reduce spill light beyond the operational areas of the development.

The ecological lighting strategy is further enhanced through the implementation of the U23 lighting control profile, which progressively reduces light output during periods of reduced activity. This approach reduces the duration and intensity of artificial lighting during the hours when many nocturnal species are most active.

Collectively, the use of 2700 K LED luminaires, controlled optical distributions, scheduled dimming and careful luminaire orientation forms an integrated lighting strategy that seeks to minimise potential disturbance to surrounding habitats while providing a safe and accessible environment for development users.

3.4 Lighting Controls

The proposed external lighting installation incorporates an intelligent lighting management system designed to provide illumination only when required whilst reducing operational energy consumption and limiting the environmental effects of artificial lighting.

The lighting control philosophy has been developed to reflect the anticipated pattern of site occupancy throughout the evening and overnight periods. During periods of higher pedestrian and vehicle activity, the lighting installation operates at full design output to provide the required lighting performance. As site activity decreases, luminaire output is progressively reduced through the implementation of the **U23 lighting profile**.

Unlike conventional switching arrangements, the proposed control strategy maintains an appropriate level of illumination throughout the hours of darkness whilst avoiding unnecessary operation at full output when lighting demand is significantly reduced.

U23 Dimming Profile

The external lighting installation shall operate in accordance with the following control profile.

Operating Period	Luminaire Output
Sunset – 20:00	100%
20:00 – 22:00	63%
22:00 – 07:00	36%
After 07:00	Automatic OFF when daylight reaches approximately 18 lux

Where ambient daylight reaches the required illuminance prior to 07:00 hours, the lighting management system shall automatically extinguish the installation through the daylight sensor input. This ensures that artificial lighting is not operated unnecessarily during sunrise conditions.

The staged reduction in lighting output has been selected to provide an appropriate balance between operational safety and environmental protection. Full lighting output is maintained during periods of greatest public activity before progressively reducing the intensity of artificial lighting during the hours when pedestrian movement is significantly lower.

The implementation of the U23 profile provides several operational benefits including:

- Reduced electrical energy consumption.
- Lower annual carbon emissions.
- Increased luminaire and driver life expectancy.

- Reduced maintenance frequency.
- Reduced upward light output during the hours of greatest ecological sensitivity.
- Improved compliance with the environmental objectives of the development.

The lighting calculations presented within this report demonstrate that the installation continues to satisfy the project lighting criteria throughout each stage of the U23 dimming profile.

Time	Output
Sunset–20:00	100%
20:00–22:00	63%
22:00–07:00	36%
After 07:00	Automatic OFF when daylight reaches approximately 18 lux

The U23 profile reduces the duration and intensity of artificial lighting during periods of reduced activity, reducing energy consumption and limiting potential ecological effects while maintaining safe illumination.

3.5 Lighting Classes and Performance Criteria

The external lighting design has been developed to provide lighting levels appropriate to the intended use of each external area. Individual lighting zones have been assessed in accordance with the relevant lighting standards and allocated the appropriate lighting class based upon pedestrian activity, vehicular movement, accessibility requirements and operational risk.

Rather than adopting a single lighting level throughout the development, each area has been individually assessed to ensure that illumination is proportionate to its intended function. This approach assists in reducing unnecessary energy consumption and minimises the extent of artificial lighting across the development.

The principal lighting zones comprise:

- Primary pedestrian routes.
- Secondary pedestrian connections.
- Shared pedestrian and vehicle areas.
- Cycle routes.
- Public realm spaces.
- External parking areas.
- Building entrances.

- Service and maintenance areas.

Maintained horizontal illuminance has been selected to satisfy the requirements of the relevant lighting class while maintaining good visual comfort and clear route definition.

To improve the quality of the illuminated environment, the lighting installation has been designed to achieve a minimum maintained overall uniformity (U_0) of 0.40 across all principal pedestrian circulation routes and public spaces. Maintaining this level of uniformity reduces excessive contrast between illuminated and non-illuminated areas, assists hazard recognition and improves facial recognition between users.

Where accessibility requirements apply, the lighting design has also considered the recommendations contained within Technical Guidance Document Part M and BS 8300 to ensure that routes remain safe and easily navigable during the hours of darkness.

3.6 Lighting Calculations and Performance

Lighting calculations have been undertaken using recognised lighting design software based upon manufacturer-verified photometric data.

The calculation model incorporates the proposed luminaire locations, mounting heights, optical distributions, surface reflectance values and maintenance factors appropriate to the development.

The purpose of the lighting calculations is to demonstrate that the proposed installation satisfies the required maintained illuminance and lighting uniformity throughout the operational life of the installation.

The lighting design has been assessed using maintained lighting values rather than initial lighting values. This approach allows for the gradual reduction in luminaire performance resulting from LED lumen depreciation, environmental conditions and normal maintenance intervals.

Calculation grids have been established in accordance with the relevant lighting standards for each lighting zone, ensuring that average illuminance, minimum illuminance and overall uniformity have been assessed using recognised engineering practice.

The lighting calculations confirm that:

- The required maintained illuminance has been achieved within each lighting zone.
- A minimum maintained overall uniformity (U_0) of **0.40** has been achieved across the principal circulation routes.
- Light distribution remains consistent throughout the development.
- Excessive localised brightness has been avoided.

- Safe pedestrian movement can be maintained throughout the operational periods defined by the U23 lighting profile.

The proposed lighting layout has also been reviewed to ensure that the reduction in luminaire output associated with the U23 profile continues to provide appropriate illumination during periods of reduced site activity. Please see Appendix C for external lighting drawings where the value charts of lux levels expected are indicated.

3.7 Obtrusive Light and Environmental Mitigation

The external lighting strategy has been developed to minimise the effects of obtrusive light on neighbouring properties, public spaces and surrounding ecological habitats.

The lighting design has considered the four principal components of obtrusive light:

- Light spills beyond the site boundary.
- Sky glow.
- Disability and discomfort glare.
- Light intrusion into adjacent properties.

To minimise these effects, the following measures have been incorporated within the design:

- Full cut-off LED luminaires.
- Precision optical distributions selected for each lighting application.
- Rear light shields where required.
- Appropriate mounting heights.
- Minimal luminaire tilt.
- Careful luminaire orientation.
- Controlled luminaire spacing.
- Intelligent dimming through the U23 lighting profile.

Collectively, these measures ensure that light is directed only towards areas requiring illumination, reducing unnecessary upward light and minimising illumination of adjacent vegetation and ecological corridors.

The proposed installation has been developed in accordance with the principles contained within the Institution of Lighting Professionals' *Guidance Notes for the Reduction of Obtrusive Light* and CIE 150.

The implementation of warm white 2700 K luminaires together with reduced overnight operating levels forms an integral part of the environmental mitigation strategy adopted throughout the development.

3.8 Luminaire Selection

The proposed luminaires have been selected to provide a robust, energy-efficient and maintainable lighting installation capable of delivering the required lighting performance throughout the design life of the development.

All luminaires incorporated within the design utilise LED light sources with a correlated Colour temperature of 2700 K. The consistent use of warm white lighting across the development contributes to visual continuity whilst supporting the ecological objectives of the project.

Luminaire selection has been based upon the following criteria:

- Verified photometric performance.
- High optical efficiency.
- Full cut-off light distribution.
- Compatibility with the U23 dimming profile.
- Low maintenance requirements.
- Long service life.
- Appropriate ingress protection (IP) and impact resistance (IK) ratings for the installation environment.
- Availability of rear light shields and specialist optical accessories where required.

Where luminaires are located adjacent to environmentally sensitive areas, optical control has been enhanced using asymmetric distributions and shielding to reduce light spill beyond the operational areas of the development.

The final luminaire schedule identifies the proposed fittings, optical distributions, mounting arrangements, electrical characteristics and control interfaces associated with each lighting zone.

4 Design Assumptions, Energy & Sustainability

4.1 Design Assumptions

The external lighting design has been prepared using recognised lighting design software and manufacturer verified photometric data. The lighting calculations have been developed using a series of engineering assumptions that reflect the anticipated operating conditions and long-term performance of the installation.

Unless otherwise noted, the following assumptions have been adopted throughout the design process.

Luminaire Performance

Lighting calculations have been undertaken using manufacturer-issued photometric files representing the proposed luminaires and optical distributions. All photometric data is based upon certified laboratory testing and is considered representative of the installed lighting performance.

The proposed lighting installation utilises LED luminaires with a Correlated Colour Temperature (CCT) of 2700 K throughout the development.

Maintenance Factor

Lighting calculations have been completed using a maintained lighting approach rather than initial lighting levels.

A maintenance factor has been applied within the lighting calculations to account for:

- LED lumen depreciation
- Driver performance
- Optical contamination
- Environmental conditions
- Planned maintenance intervals

The adopted maintenance factor ensures that the required lighting performance is maintained throughout the operational life of the installation rather than immediately following commissioning.

Surface Reflectance

Surface reflectance values have been selected to represent typical finishes proposed throughout the development.

Where project-specific finishes are unavailable, conservative engineering assumptions have been adopted to avoid overestimating reflected light within the lighting calculations.

Reflectance values will be reviewed during detailed design should material specifications change.

Mounting Heights

Luminaire mounting heights have been selected to achieve an appropriate balance between:

- Lighting uniformity
- Glare control
- Column spacing
- Maintenance access
- Visual appearance
- Environmental impact

Mounting heights have also been coordinated with the architectural and landscape proposals to minimise visual intrusion whilst maintaining the required lighting performance.

Optical Distributions

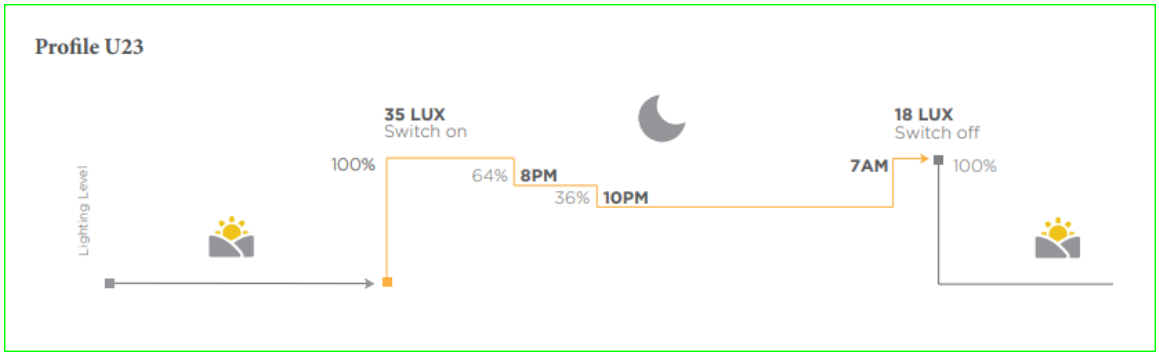
Each luminaire has been selected using the most appropriate optical distribution for its intended application.

The use of application-specific optics enables the lighting to be directed only towards operational areas, reducing unnecessary light spills and improving overall lighting efficiency.

Where luminaires are positioned adjacent to environmentally sensitive areas, rear light shields and asymmetric optical distributions have been incorporated where necessary.

Lighting Controls

The lighting calculations are based upon operation of the **U23 Lighting Profile**.



Time	Output
Sunset – 20:00	100%
20:00 – 22:00	63%
22:00 – 07:00	36%
After 07:00	Automatic OFF when daylight reaches approximately 18 lux

The daylight control strategy assumes that the lighting management system continuously monitors ambient daylight levels and extinguishes the installation when approximately 18 lux has been achieved.

Uniformity

The lighting installation has been designed to achieve a minimum maintained overall uniformity (U_0) of 0.40 across all principal pedestrian routes and public spaces.

Uniformity has been prioritised throughout the design in preference to excessive average illuminance to improve:

- Pedestrian comfort
- hazard recognition
- facial recognition
- accessibility
- visual adaptation

Ecological Design Assumptions

The lighting strategy has been developed on the assumption that surrounding ecological habitats remain sensitive to artificial lighting during the hours of darkness.

Accordingly, the following principles have been adopted throughout the design:

- All luminaires are 2700 K.
- Lighting is limited to operational areas only.
- Upward light output is minimised.
- Precision optics reduce unnecessary spill light.
- U23 scheduled dimming reduces lighting intensity during periods of reduced activity.
- Lighting is extinguished automatically when sufficient natural daylight is available.

Collectively, these measures seek to minimise potential disturbance to bat commuting routes, bird roosting and nesting locations, and other nocturnal wildlife while maintaining a safe environment for users.

4.2 Energy Efficiency

The external lighting installation has been designed to minimise operational energy consumption without compromising the lighting performance required for safe operation of the development.

The combination of high-efficiency LED luminaires and intelligent lighting controls significantly reduces annual energy demand when compared with conventional external lighting installations.

The implementation of the U23 Lighting Profile provides progressive reductions in connected electrical load during periods of reduced occupancy whilst maintaining lighting levels appropriate for the anticipated use of the site.

4.3 Sustainability

The proposed lighting strategy contributes towards the overall sustainability objectives of the development through:

- Reduced operational energy consumption.
- Reduced maintenance requirements.
- Extended luminaire service life.
- Lower carbon emissions.
- Reduced light pollution.
- Reduced ecological impact.
- High-efficiency LED technology.
- Intelligent lighting controls.
- Warm white **2700 K** lighting throughout the development.

The lighting strategy has been developed to balance user safety, operational efficiency and environmental protection whilst supporting the long-term sustainability objectives of the project.

4.4 Design Limitations

The external lighting design presented within this report has been prepared using the architectural, civil engineering and landscape information available at the time of design together with manufacturer-verified photometric data for the proposed luminaires.

The lighting calculations and performance assessments are based upon the design assumptions outlined within this report and should be considered in conjunction with the associated lighting drawings, luminaire schedule and calculation outputs.

The proposed lighting installation has been developed to satisfy the project-specific design criteria, relevant lighting standards and environmental objectives based upon the current site layout. Should the development layout, finished ground levels, landscaping proposals, mounting heights, luminaire locations or luminaire specifications be revised during the detailed design or construction stages, the lighting calculations should be reviewed to confirm continued compliance with the required performance criteria.

Similarly, any significant changes to surrounding land use, adjacent developments or identified ecological constraints may influence the lighting strategy and may require the lighting design to be reassessed.

This report should therefore be read as part of the overall design package and not in isolation. The conclusions presented are dependent upon the implementation of the lighting installation generally in accordance with the accompanying drawings, luminaire schedule, control philosophy and project specifications.

The proposed lighting calculations are based upon manufacturer photometric data current at the time of issue. Where alternative luminaires are proposed during procurement, replacement luminaires shall demonstrate equivalent photometric performance, optical control, Colour temperature, energy efficiency and control compatibility before being incorporated into the design. Any proposed substitutions should be supported by updated lighting calculations demonstrating compliance with the project design criteria.

The implementation of the U23 lighting profile, the specified 2700 K correlated Colour temperature, the adopted minimum maintained overall uniformity ($U_0 = 0.40$) and the environmental mitigation measures described within this report form integral components of the overall lighting strategy. Any modification to these parameters should be reviewed by the lighting designer to ensure that the operational, environmental and planning objectives of the development continue to be satisfied.

The external lighting design should be reviewed following installation and commissioning to confirm that the completed installation has been constructed in accordance with the approved design documentation and that the intended lighting performance has been achieved. Where required by the Client or Planning Authority, post-installation verification may include on-site measurements of illuminance, lighting uniformity and obtrusive light to demonstrate compliance with the approved lighting strategy.

5 Summary and Conclusions

5.1 General

This report has presented the proposed external lighting strategy for development and the engineering principles adopted throughout the design process. The lighting installation has been developed to provide a safe, accessible and energy-efficient environment while minimising the effects of artificial lighting on neighbouring properties and the surrounding environment.

The proposed lighting design has been prepared using recognised lighting design software together with manufacturer-verified photometric data and has been developed in accordance with the relevant industry standards and guidance applicable to external lighting installations.

Throughout the design process, consideration has been given to operational safety, visual comfort, accessibility, energy efficiency, maintenance requirements and environmental protection. The proposed installation has been coordinated with the architectural, civil and landscape layouts to ensure that the lighting integrates with the wider development while delivering the required lighting performance.

5.2 Lighting Performance

The proposed external lighting installation has been designed to provide appropriate maintained illuminance for the intended use of each external area while maintaining a consistent quality of illumination throughout the development.

Lighting calculations demonstrate that the proposed installation satisfies the project lighting criteria and achieves a minimum maintained overall uniformity (U_0) of 0.40 throughout the principal circulation routes and external public spaces. The adoption of this performance criterion assists in reducing excessive contrast, improving visual comfort and supporting the safe movement of pedestrians, cyclists and authorised vehicles.

The lighting strategy has prioritised uniformity and optical control rather than excessive average illuminance, ensuring that illumination is provided only where operationally required.

5.3 Environmental Considerations

Environmental performance has been a key consideration throughout the development of the lighting strategy.

All external luminaires have been specified with a correlated Colour temperature of 2700 K, reducing the proportion of short wavelength light emitted when compared with higher Colour temperature sources. This forms part of the overall environmental lighting strategy intended to reduce potential disturbance to surrounding ecological habitats while maintaining an appropriate level of illumination for users of the development.

The proposed installation incorporates precision optical distributions, full cut-off luminaires and rear light shielding where required to minimise upward light output, glare and unnecessary spill light beyond the operational areas of the site.

The lighting strategy has also been developed to minimise the duration and intensity of artificial lighting during periods of reduced activity through the implementation of the U23 lighting control profile.

5.4 Lighting Controls

The lighting management system incorporates the U23 dimming profile, providing automatic reductions in lighting output throughout the evening and overnight periods.

The proposed operating profile consists of:

Operating Period	Luminaire Output
Sunset – 20:00	100%
20:00 – 22:00	63%
22:00 – 07:00	36%
After 07:00	Automatic OFF when daylight reaches approximately 18 lux

This operating philosophy reduces operational energy demand while maintaining lighting levels appropriate for the anticipated use of the development. The reduction in light output during periods of lower occupancy also contributes to the environmental objectives of the project by limiting unnecessary artificial lighting during the hours when ecological sensitivity is generally greatest.

5.5 Sustainability

The proposed external lighting installation has been designed to provide long-term operational efficiency using high-performance LED luminaires, intelligent lighting controls and carefully selected optical distributions.

The combined use of 2700 K LED luminaires, precision optical control and the U23 lighting profile reduces annual energy consumption, extends luminaire service life and minimises future maintenance requirements while supporting the environmental objectives of the development.

The lighting strategy has therefore been developed to balance operational safety, visual comfort, energy efficiency and environmental protection in accordance with current best practice for external lighting design.

5.6 Compliance Statement

Based upon the lighting calculations, design assumptions and information available at the time of preparation, the proposed external lighting installation has been designed to satisfy the project performance criteria and the applicable guidance documents referenced within this report.

The design demonstrates compliance with the required maintained lighting performance whilst incorporating measures to:

- Provide safe and accessible external illumination.
- Achieve a minimum maintained overall uniformity (U_0) of 0.40.
- Minimise glare and obtrusive light.
- Reduce sky glow and light spill.
- Limit potential impacts on surrounding ecological habitats.
- Reduce operational energy consumption through intelligent lighting controls.
- Support the long-term sustainability objectives of the development.

Any significant revisions to the development layout, lighting equipment, mounting arrangements or project requirements should be reviewed by the lighting designer to ensure continued compliance with the approved lighting strategy.

5.7 Conclusion

The proposed external lighting design provides a coordinated, efficient and environmentally responsible lighting solution that has been specifically developed to meet the operational requirements of the development while minimising unnecessary artificial lighting.

The design incorporates a consistent 2700 K lighting specification throughout the development, a site-wide U23 intelligent dimming profile, precision optical control and a minimum maintained overall uniformity (U_0) of 0.40, providing a balanced lighting solution that supports safe movement, reduces operational energy consumption and minimises potential disturbance to surrounding ecological receptors.

The lighting strategy has been prepared in accordance with recognised engineering principles and current industry guidance and is considered suitable to support the planning, detailed design and construction stages of the project. Subject to the implementation of the lighting installation in accordance with the accompanying drawings, luminaire schedule, control philosophy and design assumptions contained within this report, the proposed scheme will provide a robust, maintainable and sustainable external lighting installation capable of satisfying both the operational and environmental objectives of the development.

Appendix A

Luminaire Drawing Symbols & Legend

All luminaires in this box are mounted on 6m Columns/Poles.

Any of the symbols with a GREEN box sourround shows the 6m mounting heights.

This is being used to clean up the main lighting area for ease of review.

All luminaires in this box are mounted on 4m Columns/Poles.

Any of the symbols with a BLUE box sourround shows the 4m mounting heights.

This is being used to clean up the main lighting area for ease of review.

Schedule

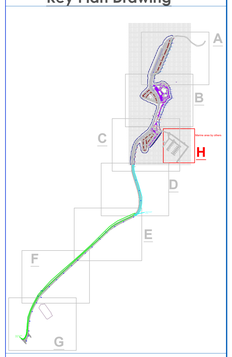
Symbol	Label	Quantity	Catalog Number	Description	Lumens Per Lamp	Wattage
	A1	1	PEB.1.LM102.FWE.BLS	Pebble post top Luminaire - 2700K; Mounted on 6m Column. C/w Back Light Shield	7225	66
	B1	2	PEB.1.LM092.FWE	Pebble post top Luminaire - 2700K; Mounted on 6m Column	8336	57
	C1	6	PEB.1.LM082.FWE.BLS	Pebble post top Luminaire - 2700K; Mounted on 6m Column. C/w Back Light Shield	5531	50
	D1	7	PEB.1.LM072.FWE.BLS	Pebble post top Luminaire - 2700K; Mounted on 6m Column. C/w Back Light Shield	4838	44
	F1	3	PEB.1.LM062.FWE.BLS	Pebble post top Luminaire - 2700K; Mounted on 6m Column. C/w Back Light Shield	4154	38
	G1	5	PEB.1.LM052.FWE	Pebble post top Luminaire - 2700K; Mounted on 6m Column	4645	32
	G2	4	PEB.1.LM052.FWE.BLS	Pebble post top Luminaire - 2700K; Mounted on 6m Column. C/w Back Light Shield	3470	32
	H1	3	PEB.1.LM102.SY	Pebble post top Luminaire - 2700K; Mounted on 6m Column	9728	66
	I1	10	PEB.1.LM082.NR.BLS	Pebble post top Luminaire - 2700K; Mounted on 6m Column. C/w Back Light Shield	5743	50
	J1	5	PEB.1.LM062.SY	Pebble post top Luminaire - 2700K; Mounted on 6m Column	5587	38
	K1	2	PEB.1.LM062.NR	Pebble post top Luminaire - 2700K; Mounted on 6m Column	5576	38
	L1	12	SLI.1.LA042.NR	S-LINE Streetlighting luminaire - 2700K; Mounted on 6m Column	4540	34
	M1-6	2	PEB.1.LM062.NR.BLS	Pebble post top Luminaire - 2700K; Mounted on 6m Column. C/w Back Light Shield	4311	38
	M1-4	9	PEB.1.LM062.NR.BLS	Pebble post top Luminaire - 2700K; Mounted on 4m Column. C/w Back Light Shield	4311	38
	N1	8	PEB.1.LM082.FWE.BLS	Pebble post top Luminaire - 2700K; Mounted on 4m Column. C/w Back Light Shield	5531	50
	O1	24	PEB.1.LM062.FWE.BLS	Pebble post top Luminaire - 2700K; Mounted on 4m Column. C/w Back Light Shield	4154	38
	P1	2	PEB.1.LM062.SY	Pebble post top Luminaire - 2700K; Mounted on 4m Column	5587	38
	Q1	6	PEB.1.LM052.FWE	Pebble post top Luminaire - 2700K; Mounted on 4m Column	4645	32
	QW	1	PEB.1.LM052.FWE	Pebble post top Luminaire - 2700K; Wall mounted at 4m AFFL	4645	32
	R1	7	PEB.1.LM072.NR.BLS	Pebble post top Luminaire - 2700K; Mounted on 4m Column. C/w Back Light Shield	5022	44
	S1	4	PEB.1.LM062.FWE	Pebble post top Luminaire - 2700K; Mounted on 4m Column	5562	38
	SW	4	PEB.1.LM062.FWE	Pebble post top Luminaire - 2700K; Wall mounted at 4m AFFL	5562	38
	TW	12	PEB.1.LM062.NR	Pebble post top Luminaire - 2700K; Wall mounted at 4m AFFL	5576	38
	U1	58	SLI.1.LA042.AY	S-LINE Streetlighting luminaire - 2700K; Mounted on 6m Column	4412	34
	ZW	1	PEB.1.LM072.AY	Pebble post top Luminaire - 2700K; Wall mounted at 4m AFFL	6514	44
	BL	74	Unknown	Generic Square Pedestal/Light Bollard Louvre Lebs/0.7 - 1000mm	400	5

Statistics

Description	Symbol	Avg	Min	Min/Avg
Car Park 1 - 10Lux/0.25Uo	+	15 lux	4 lux	0.27
Car Park 2 - 10Lux/0.25uo	+	15 lux	4 lux	0.27
Car Park 3 - 10Lux/0.25Uo	+	12 lux	6 lux	0.50
Car Park 4 - 10Lux/0.25Uo	+	20 lux	12 lux	0.60
Car Park 5 - 10Lux/0.25Uo	+	16 lux	4 lux	0.25
Car Park 6 - 10Lux/0.25Uo	+	12 lux	7 lux	0.58
Car Park 7 - 10Lux/0.25Uo	+	10 lux	4 lux	0.40
Car Park 8 - 10Lux/0.25Uo	+	20 lux	5 lux	0.25
Car Park 9 - 10Lux/0.25Uo	+	10 lux	4 lux	0.40
Pathway 1	+	16 lux	2 lux	0.13
Pathway 2	+	19 lux	12 lux	0.63
Pathway 3	+	13 lux	10 lux	0.77
Pathway 4	+	5 lux	4 lux	0.80
Pathway 5	+	13 lux	10 lux	0.77
Pathway 6	+	20 lux	15 lux	0.75
Pathway 7	+	10 lux	8 lux	0.80
Pathway 8	+	15 lux	5 lux	0.33
Pathway 9	+	15 lux	9 lux	0.60
Pathway 10	+	10 lux	3 lux	0.30
Pathway 11	+	17 lux	7 lux	0.41
Pathway 12	+	16 lux	5 lux	0.31
Pathway 13	+	10 lux	9 lux	0.90
Pathway 14	+	9 lux	8 lux	0.89
Pathway 15	+	9 lux	7 lux	0.78
Pathway 16	+	7 lux	6 lux	0.86
Pathway 17	+	6 lux	3 lux	0.50
Pathway LHS - 10Lux/0.4Uo	+	13 lux	6 lux	0.46
Pathway RHS - 10Lux/0.4Uo	+	13 lux	6 lux	0.46
Pedestrian Paths 1 - 10Lux/0.4Uo	+	32 lux	13 lux	0.41
Pedestrian Paths 2 - 10Lux/0.4Uo	+	32 lux	13 lux	0.41
Pedestrian/Cycling Path - 10Lux/0.4Uo	+	27 lux	11 lux	0.41
Roadway 1 - 10Lux/0.4Uo	+	15 lux	6 lux	0.40
Roadway 2 - 10Lux/0.4Uo	+	12 lux	5 lux	0.42
SPILL	+	0 lux	0 lux	N/A
Vertical (Trees) 1	+	1 lux	0 lux	0.00
Vertical (Trees) 2	+	3 lux	0 lux	0.00
Vertical (Trees) 3	+	2 lux	0 lux	0.00
Vertical (Trees) 4	+	1 lux	0 lux	0.00
Vertical (Trees) 5	+	1 lux	0 lux	0.00
Vertical (Trees) 6	+	1 lux	0 lux	0.00
Vertical (Trees) 7	+	1 lux	0 lux	0.00
Vertical (Trees) 8	+	2 lux	0 lux	0.00
Vertical (Trees) 9	+	2 lux	0 lux	0.00
Vertical (Trees) 10	+	6 lux	0 lux	0.00
Vertical (Trees) 11	+	2 lux	0 lux	0.00
Vertical (Trees) 12	+	2 lux	0 lux	0.00
Vertical (Trees) 13	+	2 lux	0 lux	0.00
Vertical (Trees) 14	+	2 lux	0 lux	0.00

Notes:

Key Plan Drawing



On Behalf of:

Rialtas na hÉireann
Government of Ireland

Arna chomhchistiú ag an Aontas Eorpach
Co-funded by the European Union

Tionól Reigiúnach Oirthir agus Lár-Tíre
Eastern and Midland Regional Assembly

Fáilte Ireland

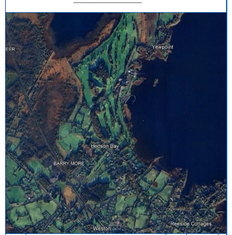
Comhairle Contae Ros Comáin
Roscommon County Council

Waterways Ireland

THE HODSON BAY WATERFRONT PARK PROJECT IS CO-FUNDED BY THE GOVERNMENT OF IRELAND AND THE EUROPEAN UNION THROUGH THE EU JUST TRANSITION FUND

CIVIC

Overview



REV:	DESCRIPTION:	BY:	DATE:
A	For Review	KD	14/08/2026

STATUS: status

Dlight
The old Waterworks,
Knockenduff, Tramore,
Co. Waterford, X91XD4V
051 - 393464
www.dlight.ie

SITE: Hodson Bay - Public Realm

TITLE: Hodson Bay - Legend

SCALE AT A0:	DATE:	DRAWN:	CHECKED:
NTS	20/08/2026	PW	SC

PROJECT NO:	DRAWING NO:	REVISION:
DL2277	SK_A	3

Appendix B

DIALux Lighting Calculations - Marina

Marina Area By Others via Dialux Evo Calculation

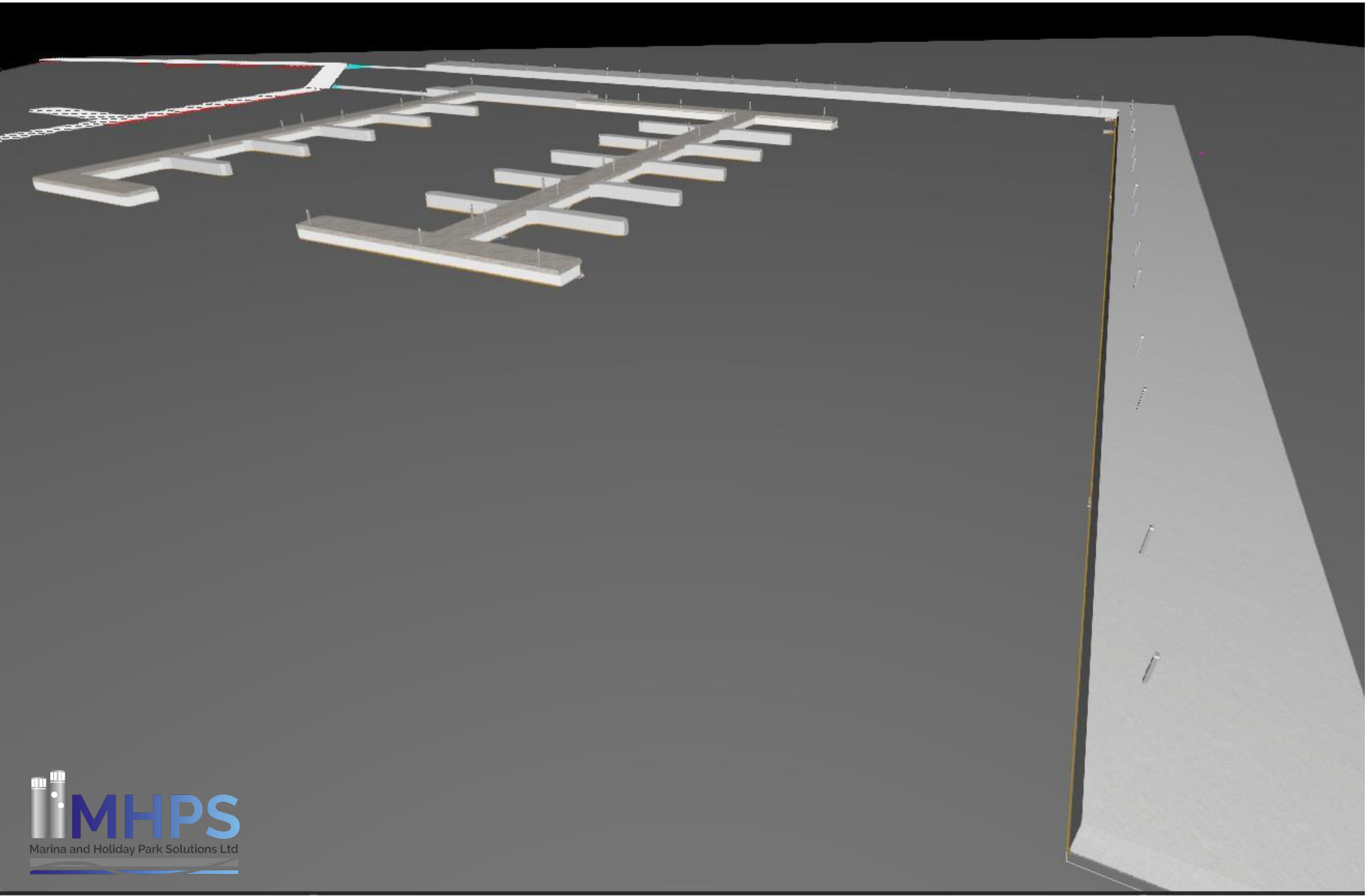
Hodson Bay Marina

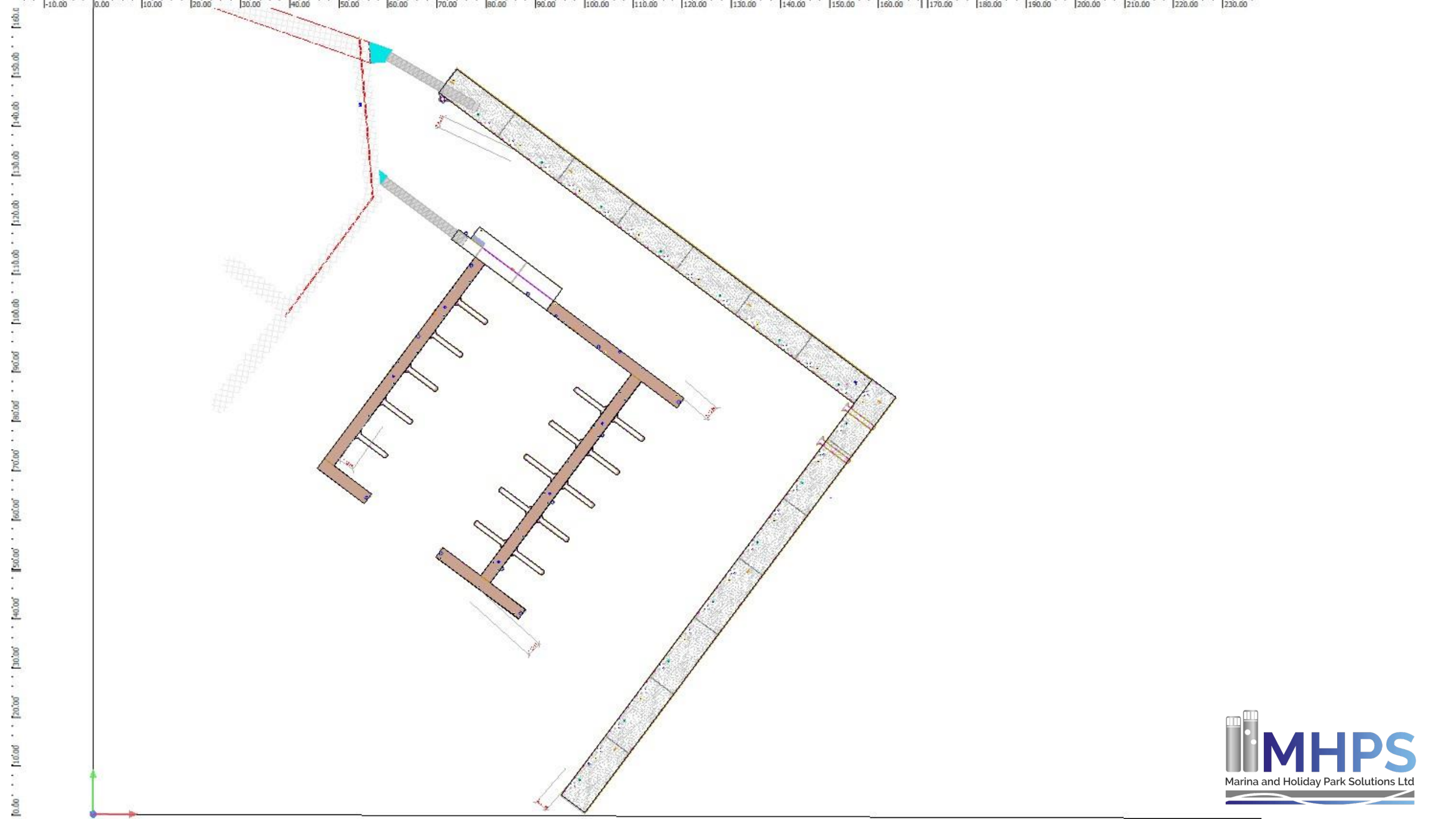
For reference only
Completed by Stuart Baines MHPS Ltd 15/07/26

Generic Square Pedestal / Light Bollard

5W 400Lumen E27

Louvre /0.7


MHPS
Marina and Holiday Park Solutions Ltd



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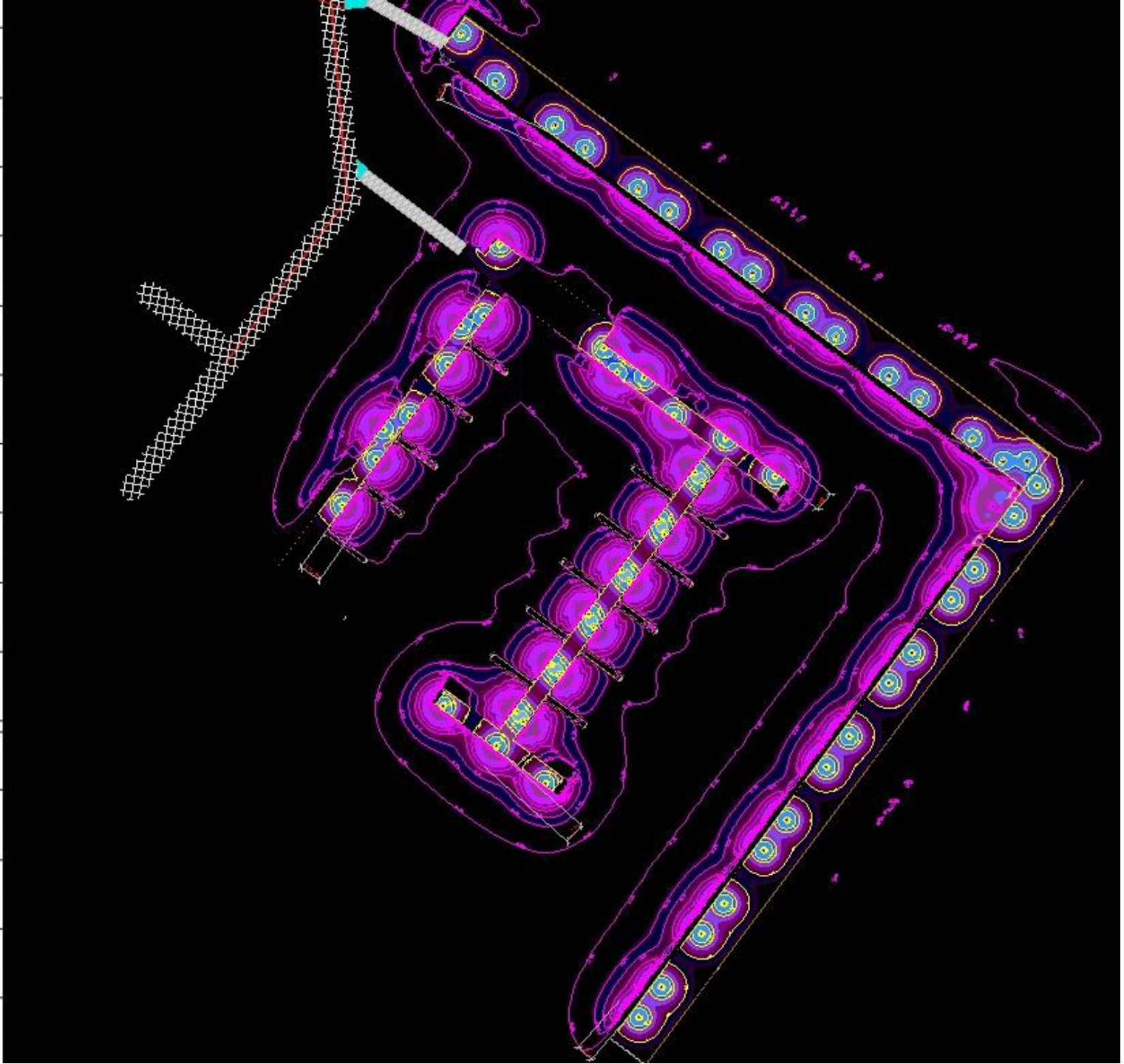
Marina and Holiday Park Solutions Ltd



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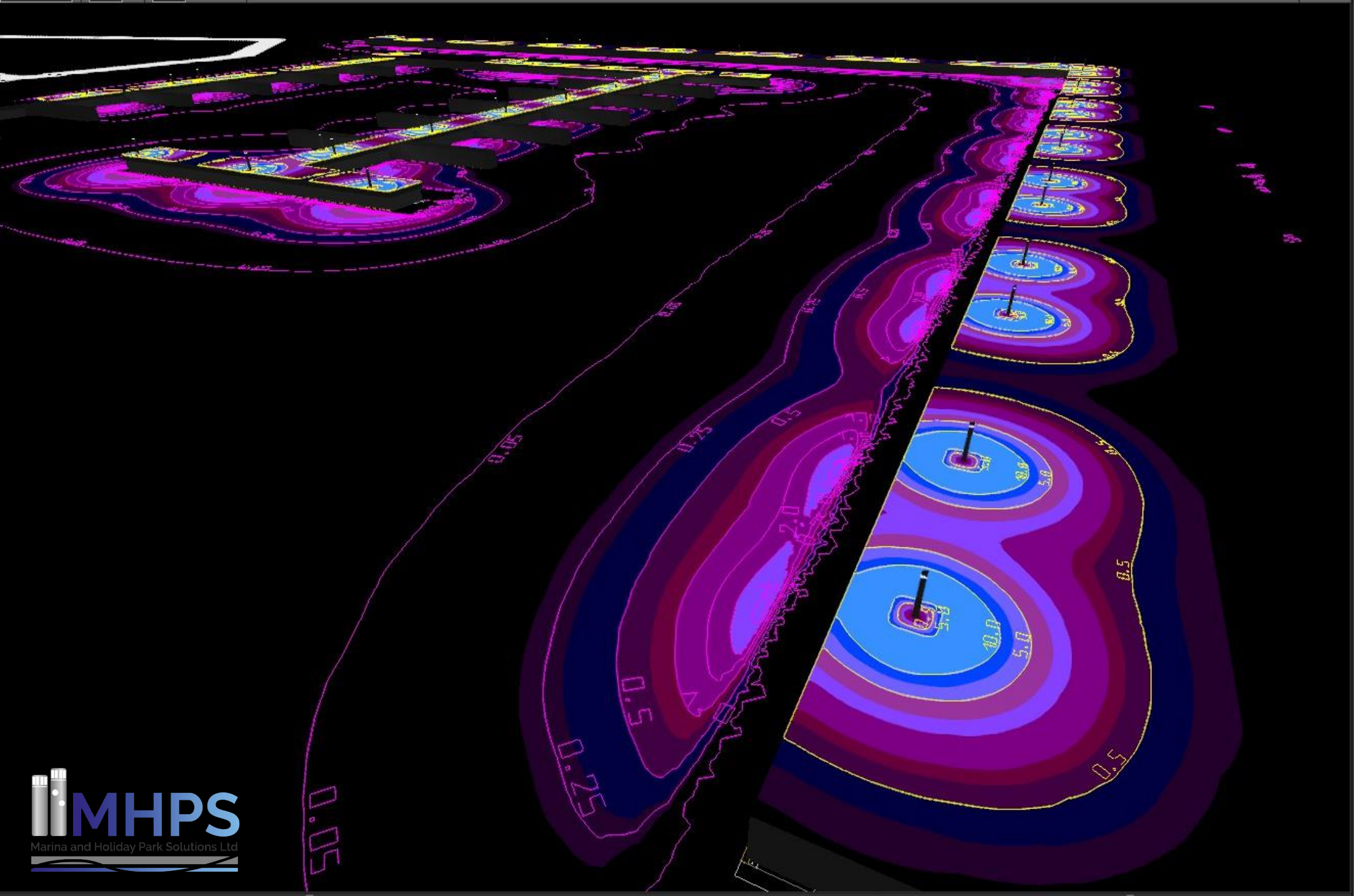
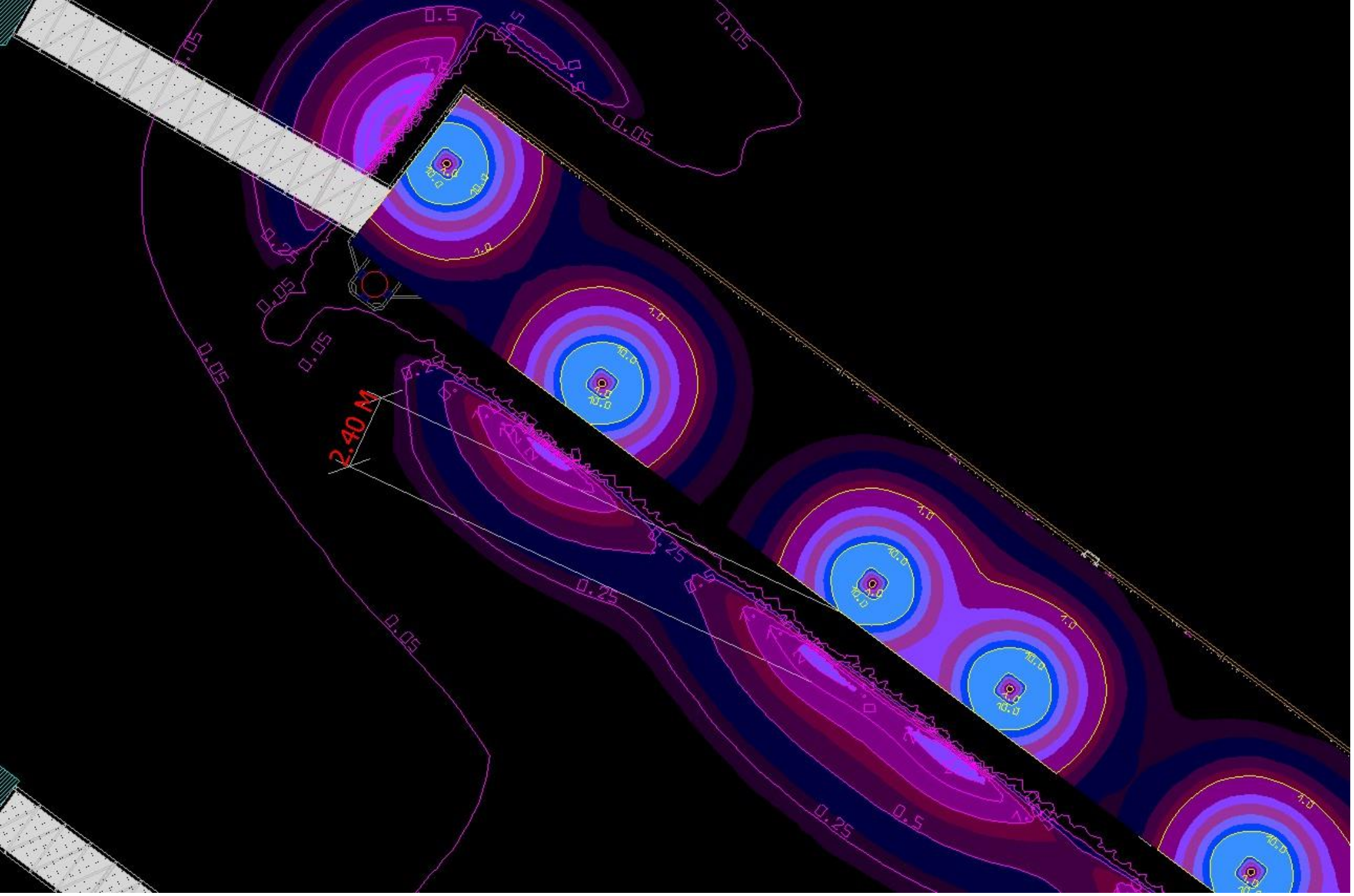
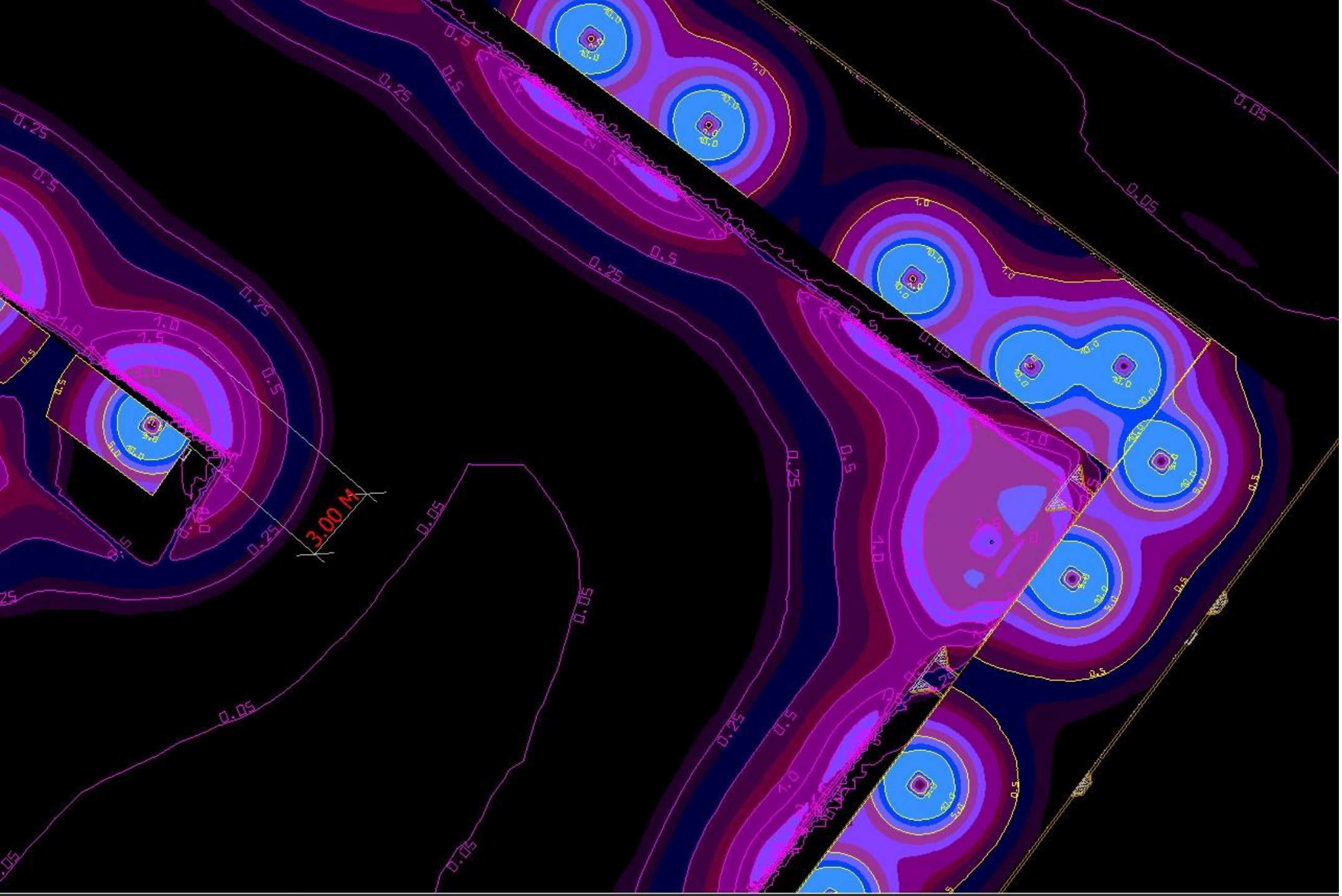
Marina and Holiday Park Solutions Ltd


0.05
0.25
0.5
5.0
MHPS
Marina and Holiday Park Solutions Ltd



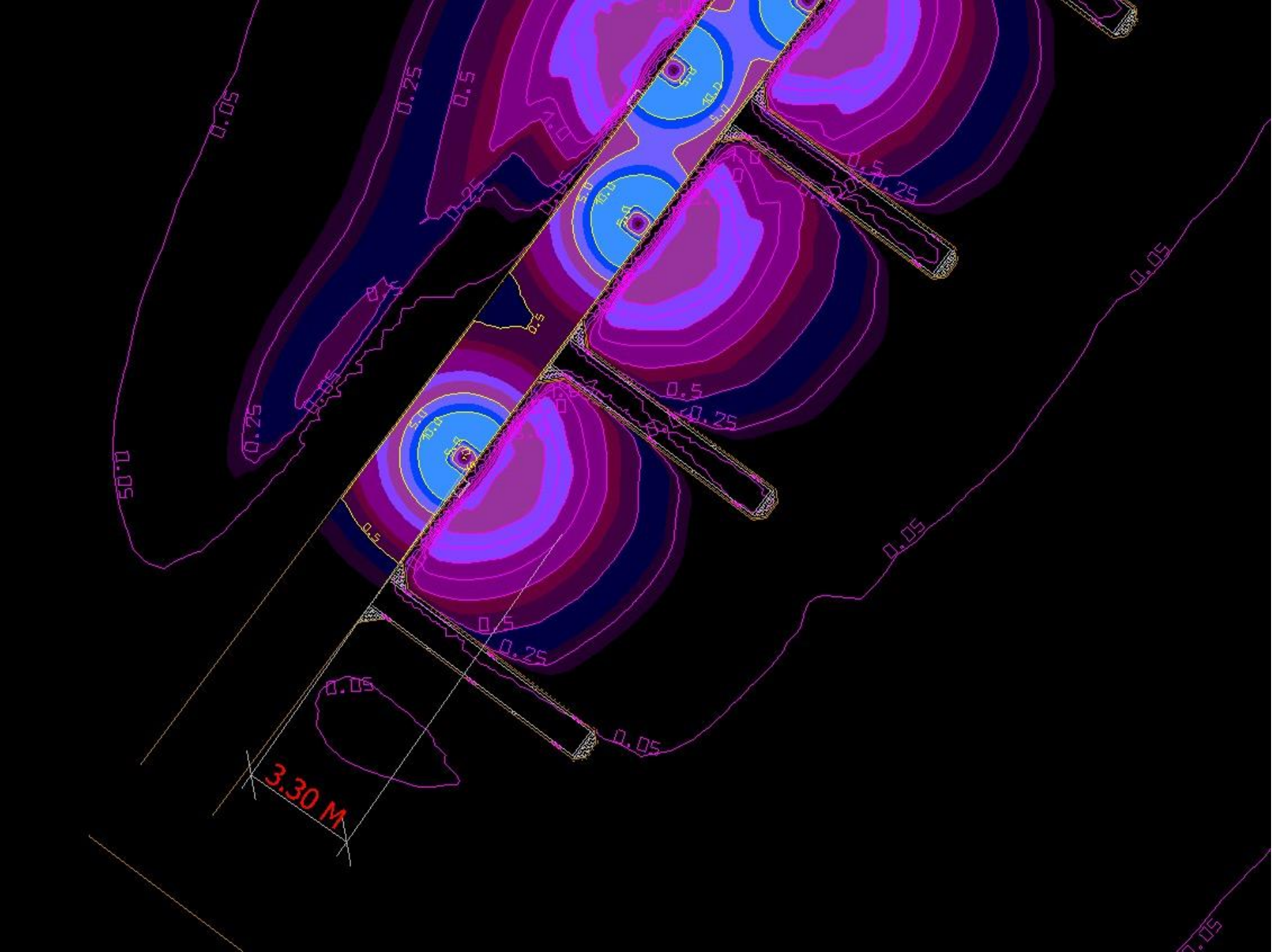
Point in M (Metres) at which 1.0 Lux may be detected)

MHPS
Marina and Holiday Park Solutions Ltd



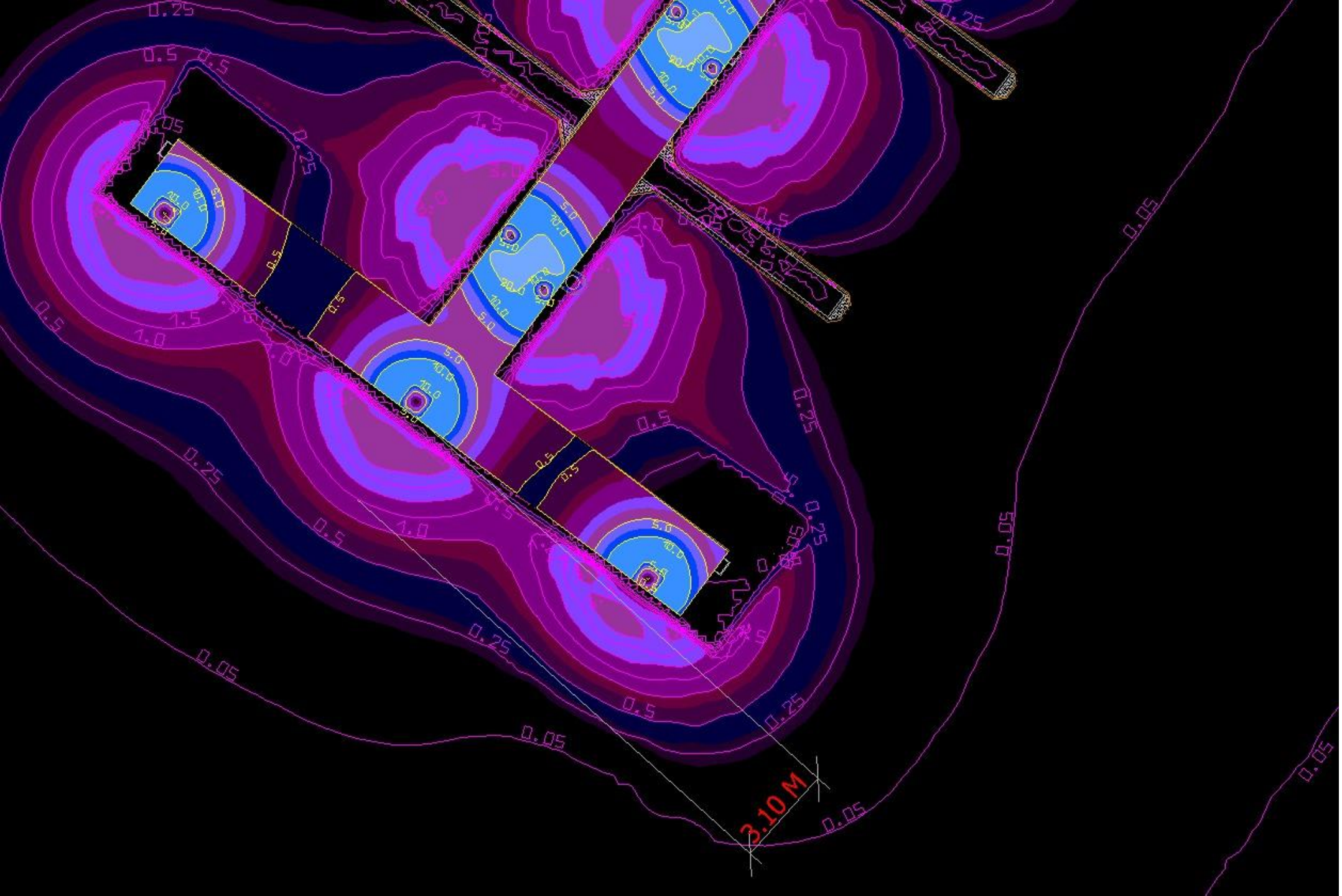
Point in M (Metres) at which 1.0 Lux may be detected)

MHPS
Marina and Holiday Park Solutions Ltd



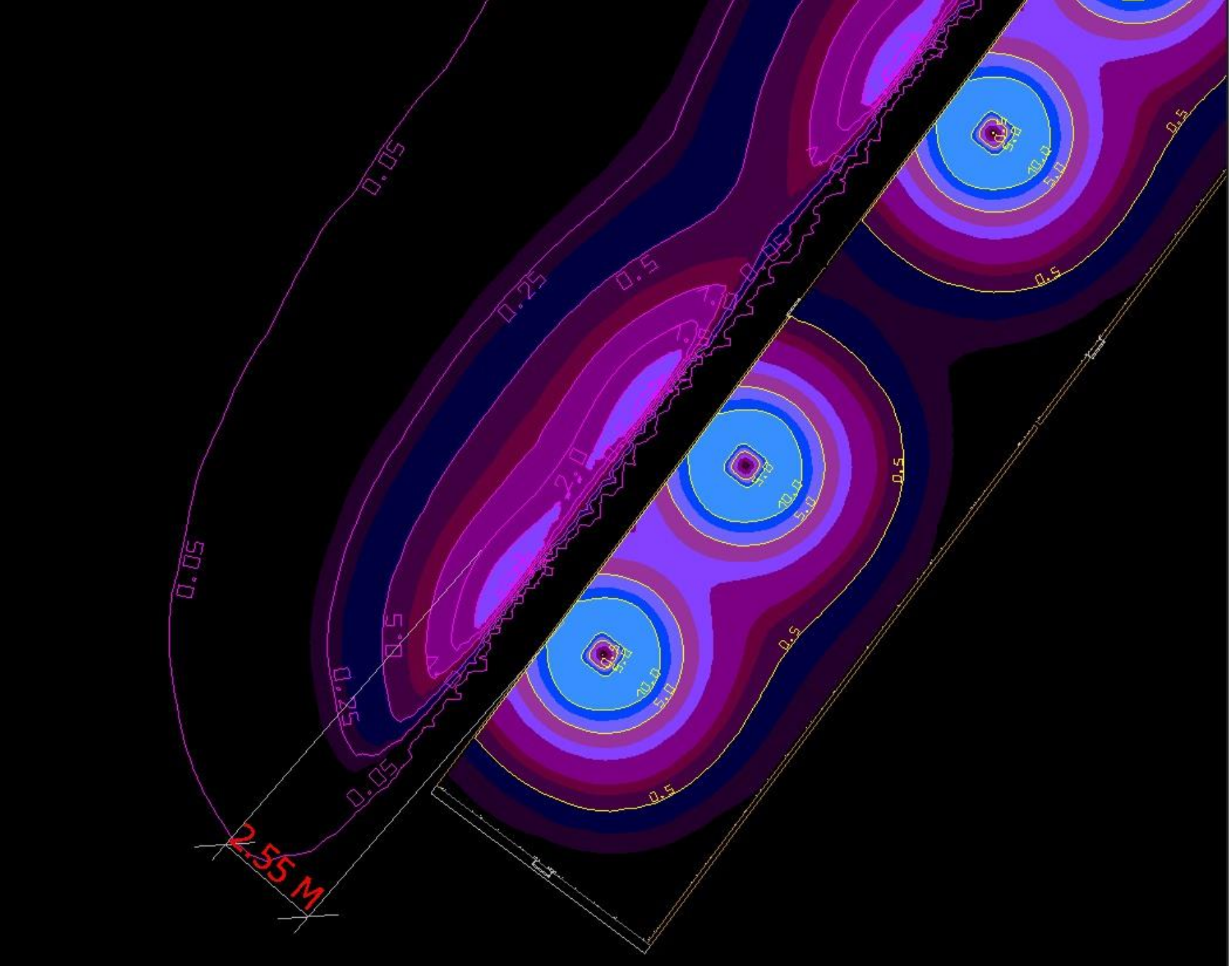
Point in M (Metres) at which 1.0 Lux may be detected)

MHPS
Marina and Holiday Park Solutions Ltd



Point in M (Metres) at which 1.0 Lux may be detected)

MHPS
Marina and Holiday Park Solutions Ltd



Point in M (Metres) at which 1.0 Lux may be detected)

MHPS
Marina and Holiday Park Solutions Ltd

Appendix C

External Lighting Layout Drawings

See external drawing that have been submitted as separate files for ease of review.

Appendix D

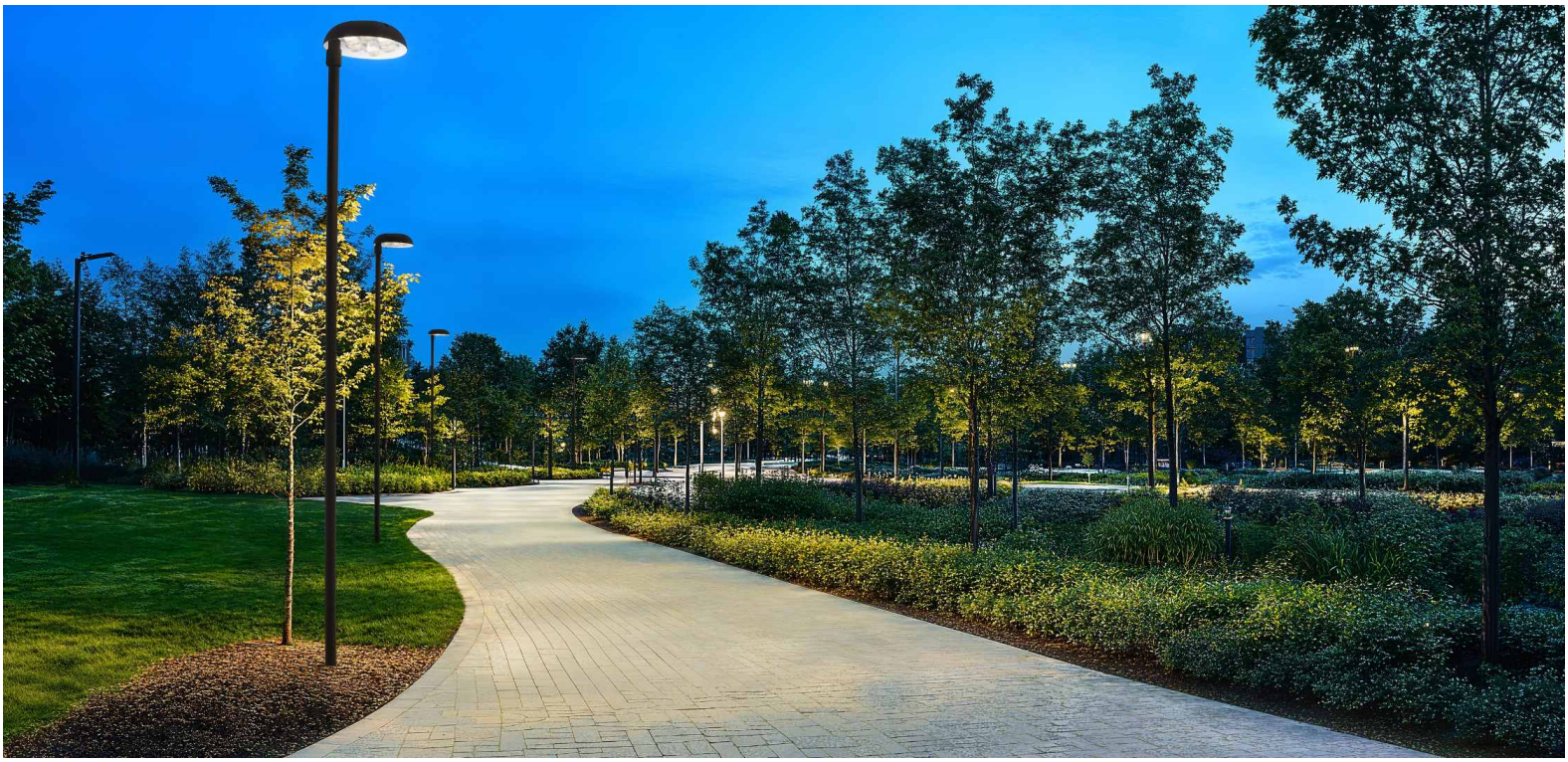
Manufacturer Data Sheets

› **Datasheet - EXTERNAL - PEBBLE**

PEB.1.LM102.FWE.PT1.C7.NIR

MADE IN BRITAIN

Product image may not represent the final configuration stated above.



Product Specification

PEB.1.LM102.FWE.PT1.C7.NIR

Holophane Pebble luminaire is a outdoor area light with a low-profile design and patented modular light engine concept. The product is manufactured from die-cast marine grade aluminium and sealed to IP65 with individual prismatic polycarbonate optic pods. The optical pods deliver 'Comfort Optic' solution that combines prismatic control with a soft illuminated surface to deliver balanced light with reduced glare and improved visibility.
Access to driver and electrical terminations is via a detachable housing on top of the luminaire.
This specific SKU includes:
Series 1
• LED light engine producing c.10,000 lm with a nominal 2700°K colour temperature
• Forward throw extra light distribution
• 60/76mm post top mounting only
• Black (RAL9005)

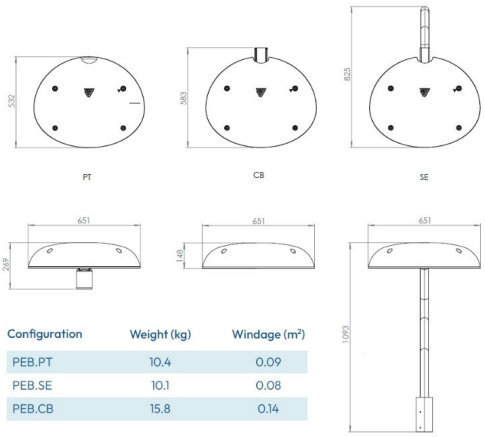
PEBB.6.PT1.HVZ

Holophane tubular base compartment column for use with Pebble luminaires. 6 metre, 60/76mm post top mounting only, For heavy area wind zones (compliant to EN40).
• DO NOT REMOVE THIS RECORD

Performance

Drive Current from Driver:	640mA
Power:	66W
Fitting Current:	0.3A
Fitting Inrush:	46A - 0.25ms
Number of Drivers:	1
1x Driver 1 Inrush:	46A - 0.25ms
Max Drivers per 16A Type B MCB:	11
Max Fittings per 16A Type B MCB:	11
Total Number of LEDs:	288
Minimum Dim Level:	11%
SDCM/MacAdam Ellipse:	3

Dimensions

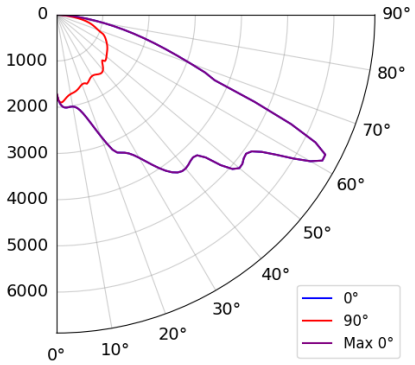


Configuration	Weight (kg)	Windage (m²)
PEB.PT	10.4	0.09
PEB.SE	10.1	0.08
PEB.CB	15.8	0.14

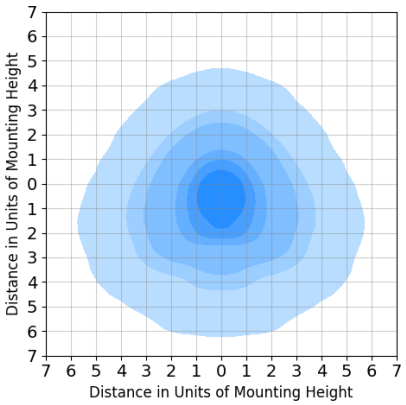
Photometry

IES File

Polar Plot



Isoilluminance Plot



Lumens:	9,690
CCT:	2700K
CRI:	70
IES File:	PEB.1.LM102.FWE
G-Class:	G*2 Imax @ ⊠ 70°: 391 Imax @ ⊠ 80°: 119 Imax @ ⊠ 90°: 0

Colours

Selected Colour

C7 Black (RAL9005)

Custom Colour Available

RAL**** Customer specified colour

*Choosing a custom colour may increase the cost and lead time.

Standard Colours Available

C1 Smooth White (RAL9016)

C4 graphite (RAL7011)

C6 Smooth Grey (RAL7035)

C7 Black (RAL9005)

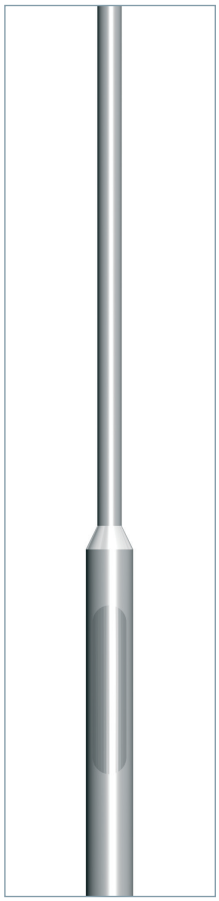
C9 Metallic Silver (RAL9006)

Lumen data is considered to be representative of the configuration shown, and may vary, with a tolerance on flux of +/- 7% (typical of LED manufacturer's data) and luminaire power of +/- 5%.

The specifications of the luminaires represents typical values. All descriptions, illustrations, drawings and specifications in the catalogue, Datasheets and website represent only general particulars of the goods to which they apply and shall not form part of any contract. The company reserves the right to change specifications at its discretion without prior notification or public announcement.

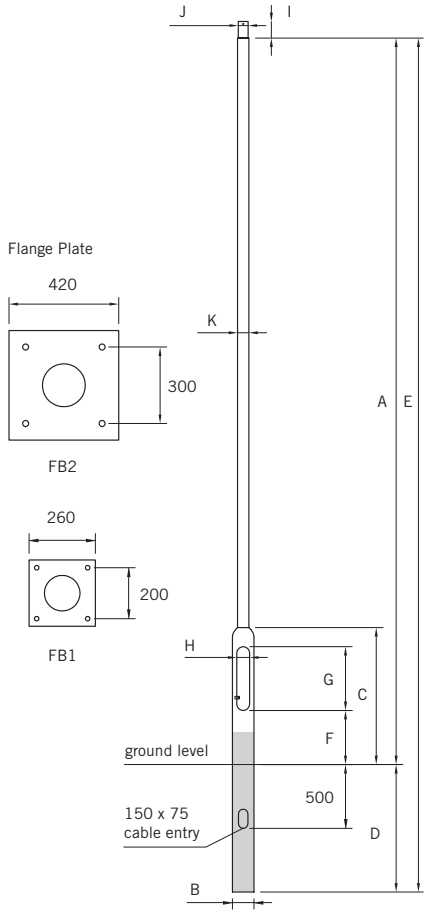
› **Datasheet**

PEBB.6.PT1.HVZ



Holophane products that are suitable

CityMax
Denver Elite pole
D-Series
Factor
Factor small
V-Max



	Nominal Height	Base Diameter*	Base Height	Planting Depth	Overall Length	Door to Ground	Door Opening Length	Door Opening Width	Spigot Length*	Spigot Diameter*	Shaft Diameter*	Weight kg*	Bending Moment (ULS) Nm
description	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**		
2.5m standard duty	2500	140	1075	800	3300	400	500	100	-	-	76	27	2100
3m standard duty	3000	140	1075	800	3800	400	500	100	-	-	76	30	4666
3.5m standard duty	3500	140	1075	800	4300	400	500	100	-	-	76	32	2100
4m standard duty	4000	140	1075	800	4800	400	500	100	-	-	76	34	6484
4.5m standard duty	4500	140	1075	800	5300	400	500	100	-	-	76	37	5108
5m standard duty	5000	140	1075	800	5800	400	500	100	-	-	76	39	6149
5.5m standard duty	5500	140	1075	1000	6500	400	500	100	-	-	76	44	6003
6m standard duty	6000	140	1075	1000	7000	400	500	100	-	-	76	46	5999
6m heavy duty	5700	168	1200	1000	6700	400	600	115	130	76	89	71	10404
8m standard duty	7700	168	1200	1200	8900	400	600	115	130	76	89	89	10072
8m heavy duty	7700	168	1300	1200	9000	500	600	115	250	101	114	107	15699
8m extra heavy duty	7700	194	1300	1200	9000	500	600	115	250	127	140	136	18973
10m standard duty	9700	168	1300	1500	11200	500	600	115	250	101	114	150	18067
10m heavy duty	9700	194	1300	1500	11200	500	600	115	250	127	140	168	23193
10m extra heavy duty	9700	194	1300	1500	11200	500	600	115	250	152	168	220	28317
12m standard duty	11700	194	1300	1700	13400	500	600	115	250	127	140	213	26251
12m heavy duty	11700	194	1300	1700	13400	500	600	115	250	127	168	260	40390

* Exclusion TBC

2.5-6m std Poles	**Flange Plate FB1**	**Bolts**	M18 x 400
8-12m std Poles	**Flange Plate FB2**	**Bolts**	M24 x 820

Flange Plate and Anchor Bolt information will be confirmed at time of order due to the necessity in ensuring the correct plate and Anchor Bolts are supplied.

Column type to be confirmed at time of order as this is based on luminaire weight, windage and geographical location.

stepped steel - CityMax Large only

post top

	Nominal Height	Base Diameter	Base Height	Planting Depth	Overall Length	Door to Ground	Door Opening Length	Door Opening Width	Spigot Length	Spigot Diameter	Shaft Diameter	Weight kg	Bending Moment (ULS) Nm
description	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**		
6m	6000	140	1075	1000	7000	400	500	115	-	-	-	46	5999
8m	7700	168	1300	1200	9000	500	600	115	100	76	114	107	15699
10m	9700	168	1300	1500	11200	500	600	115	100	76	114	150	18067
12m	11700	194	1300	1700	13400	500	600	115	100	76	140	168	26251
15m	14700	194	1200	2000	17000	400	600	115	100	76	168	306	40300

twin head

	Nominal Height	Base Diameter	Base Height	Planting Depth	Overall Length	Door to Ground	Door Opening Length	Door Opening Width	Spigot Length	Spigot Diameter	Shaft Diameter	Weight kg	Bending Moment (ULS) Nm
description	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**		
8m	7400	194	1200	1200	8800	400	600	115	200	127	139.7	125	22610
10m	9400	194	1200	1500	11100	400	600	115	200	152.4	168.3	208	39131
12m	11400	194	2500	1700	13300	1000	600	115	200	152.4	168.3	295	41585

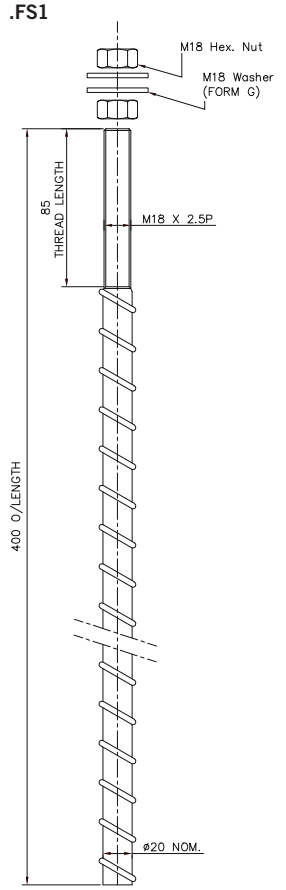
Note: For Terrain Category 2 locations LMZ, HVZ & HEZ

For columns supplied with optional flange base Holophane offers two types of foundation bolts.

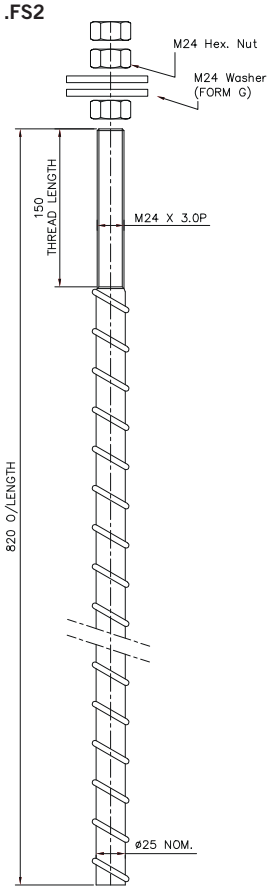
Note: The material used for the bolts is Fe E500 grade steel, with yield strength 500 N/mm2 and minimum UTS 550 N/mm2.

HEL.FS1 M18 Bolts (FS1) x 400 mm long
HEL.FS2 M24 Bolts (FS2) x 820 mm long

.FS1



.FS2

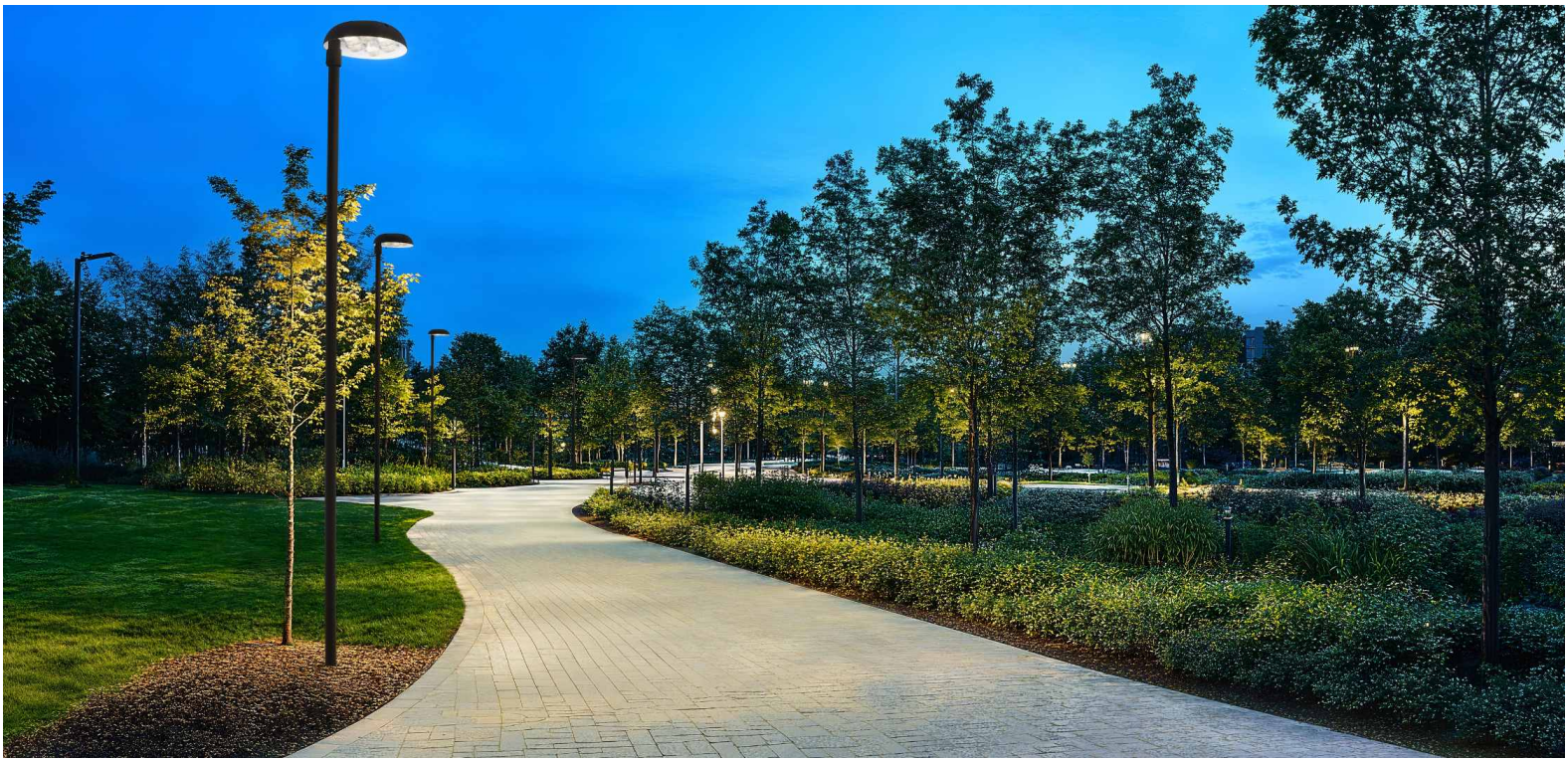


› **Datasheet - EXTERNAL - PEBBLE**

PEB.1.LM092.FWE.PT1.C7.NIR

MADE IN BRITAIN

Product image may not represent the final configuration stated above.



Product Specification

PEB.1.LM092.FWE.PT1.C7.NIR

Holophane Pebble luminaire is a outdoor area light with a low-profile design and patented modular light engine concept. The product is manufactured from die-cast marine grade aluminium and sealed to IP65 with individual prismatic polycarbonate optic pods. The optical pods deliver 'Comfort Optic' solution that combines prismatic control with a soft illuminated surface to deliver balanced light with reduced glare and improved visibility.
Access to driver and electrical terminations is via a detachable housing on top of the luminaire.
This specific SKU includes:
Series 1
• LED light engine producing c.9,000 lm with a nominal 2700°K colour temperature
• Forward throw extra light distribution
• 60/76mm post top mounting only
• Black (RAL9005)

PEBB.6.PT1.HVZ

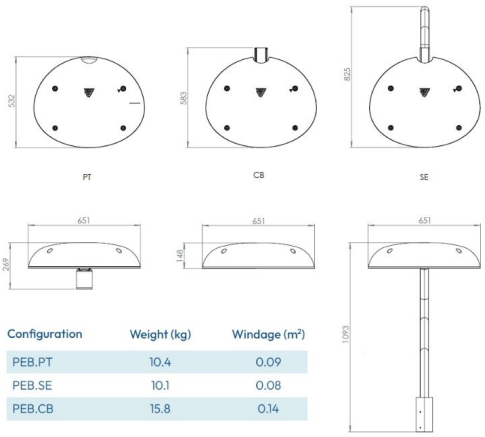
Holophane tubular base compartment column for use with Pebble luminaires. 6 metre, 60/76mm post top mounting only, For heavy area wind zones (compliant to EN40).
• DO NOT REMOVE THIS RECORD

Performance

Drive Current from Driver:	545mA
Power:	57W
Fitting Current:	0.26A
Fitting Inrush:	46A - 0.25ms
Number of Drivers:	1
1x Driver 1 Inrush:	46A - 0.25ms
Max Drivers per 16A Type B MCB:	11
Max Fittings per 16A Type B MCB:	11
Total Number of LEDs:	288
Minimum Dim Level:	13%
SDCM/MacAdam Ellipse:	3

Installation Guide

Dimensions

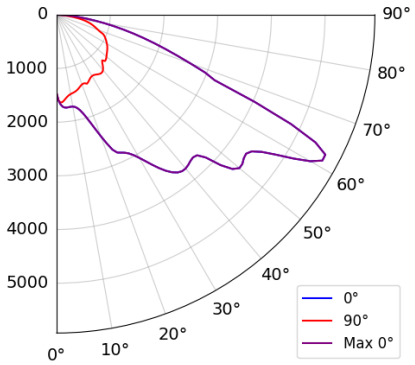


Configuration	Weight (kg)	Windage (m²)
PEB.PT	10.4	0.09
PEB.SE	10.1	0.08
PEB.CB	15.8	0.14

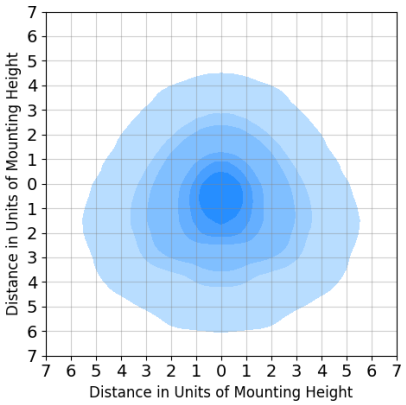
Photometry

IES File

Polar Plot



Isoilluminance Plot



Lumens:	8,342
CCT:	2700K
CRI:	70
IES File:	PEB.1.LM092.FWE
G-Class:	G*2 Imax @ ⊠ 70°: 391 Imax @ ⊠ 80°: 119 Imax @ ⊠ 90°: 0

Colours

Selected Colour

C7 Black (RAL9005)

Custom Colour Available

RAL**** Customer specified colour

*Choosing a custom colour may increase the cost and lead time.

Standard Colours Available

C1 Smooth White (RAL9016)

C4 graphite (RAL7011)

C6 Smooth Grey (RAL7035)

C7 Black (RAL9005)

C9 Metallic Silver (RAL9006)

Lumen data is considered to be representative of the configuration shown, and may vary, with a tolerance on flux of +/- 7% (typical of LED manufacturer's data) and luminaire power of +/- 5%.

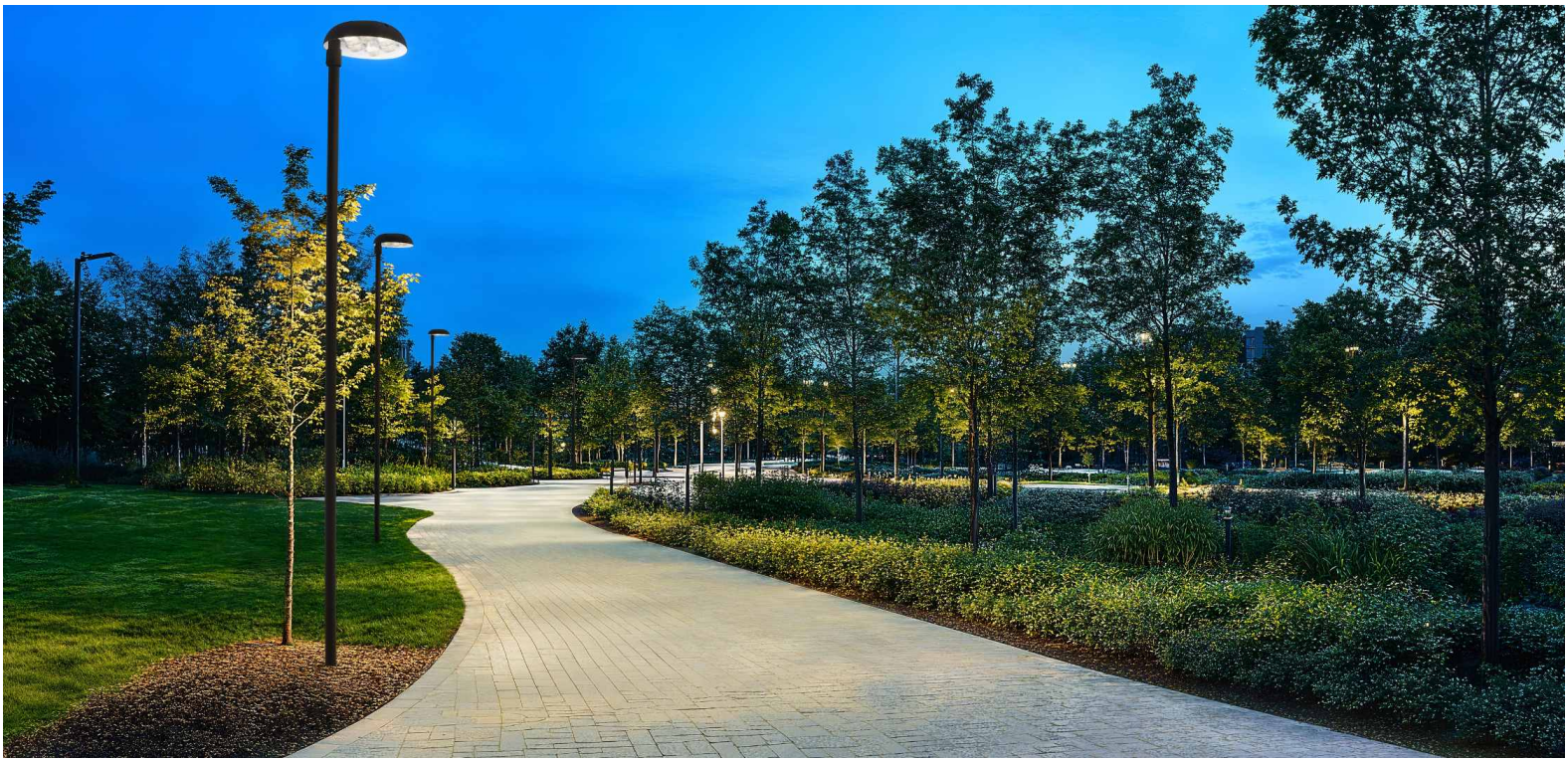
The specifications of the luminaires represents typical values. All descriptions, illustrations, drawings and specifications in the catalogue, Datasheets and website represent only general particulars of the goods to which they apply and shall not form part of any contract. The company reserves the right to change specifications at its discretion without prior notification or public announcement.

› **Datasheet - EXTERNAL - PEBBLE**

PEB.1.LM082.FWE.PT1.C7.NIR

MADE IN BRITAIN

Product image may not represent the final configuration stated above.



Product Specification

PEB.1.LM082.FWE.PT1.C7.NIR

Holophane Pebble luminaire is a outdoor area light with a low-profile design and patented modular light engine concept. The product is manufactured from die-cast marine grade aluminium and sealed to IP65 with individual prismatic polycarbonate optic pods. The optical pods deliver 'Comfort Optic' solution that combines prismatic control with a soft illuminated surface to deliver balanced light with reduced glare and improved visibility.
Access to driver and electrical terminations is via a detachable housing on top of the luminaire.
This specific SKU includes:
Series 1
• LED light engine producing c.8,000 lm with a nominal 2700°K colour temperature
• Forward throw extra light distribution
• 60/76mm post top mounting only
• Black (RAL9005)

PEBB.6.PT1.HVZ

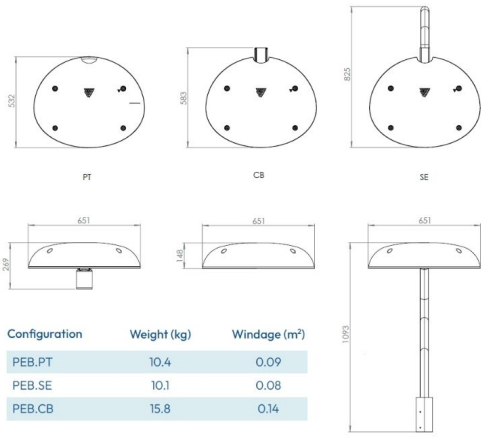
Holophane tubular base compartment column for use with Pebble luminaires. 6 metre, 60/76mm post top mounting only, For heavy area wind zones (compliant to EN40).
• DO NOT REMOVE THIS RECORD

Performance

Drive Current from Driver:	962mA
Power:	50W
Fitting Current:	0.22A
Fitting Inrush:	46A - 0.25ms
Number of Drivers:	1
1x Driver 1 Inrush:	46A - 0.25ms
Max Drivers per 16A Type B MCB:	11
Max Fittings per 16A Type B MCB:	11
Total Number of LEDs:	288
Minimum Dim Level:	7%
SDCM/MacAdam Ellipse:	3

Installation Guide

Dimensions

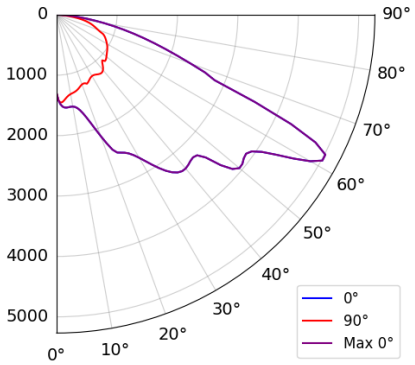


Configuration	Weight (kg)	Windage (m²)
PEB.PT	10.4	0.09
PEB.SE	10.1	0.08
PEB.CB	15.8	0.14

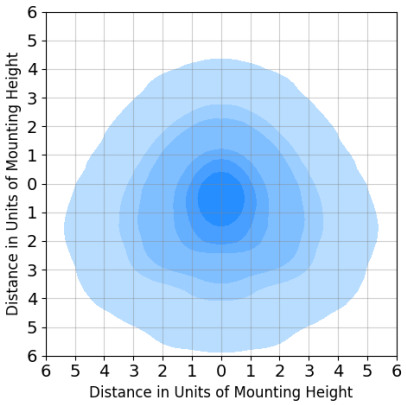
Photometry

IES File

Polar Plot



Isoilluminance Plot



Lumens:	7,413
CCT:	2700K
CRI:	70
IES File:	PEB.1.LM082.FWE
G-Class:	G*2 Imax @ ⊠ 70°: 391 Imax @ ⊠ 80°: 119 Imax @ ⊠ 90°: 0

Colours

Selected Colour

C7 Black (RAL9005)

Custom Colour Available

RAL**** Customer specified colour

*Choosing a custom colour may increase the cost and lead time.

Standard Colours Available

C1 Smooth White (RAL9016)

C4 graphite (RAL7011)

C6 Smooth Grey (RAL7035)

C7 Black (RAL9005)

C9 Metallic Silver (RAL9006)

Lumen data is considered to be representative of the configuration shown, and may vary, with a tolerance on flux of +/- 7% (typical of LED manufacturer's data) and luminaire power of +/- 5%.

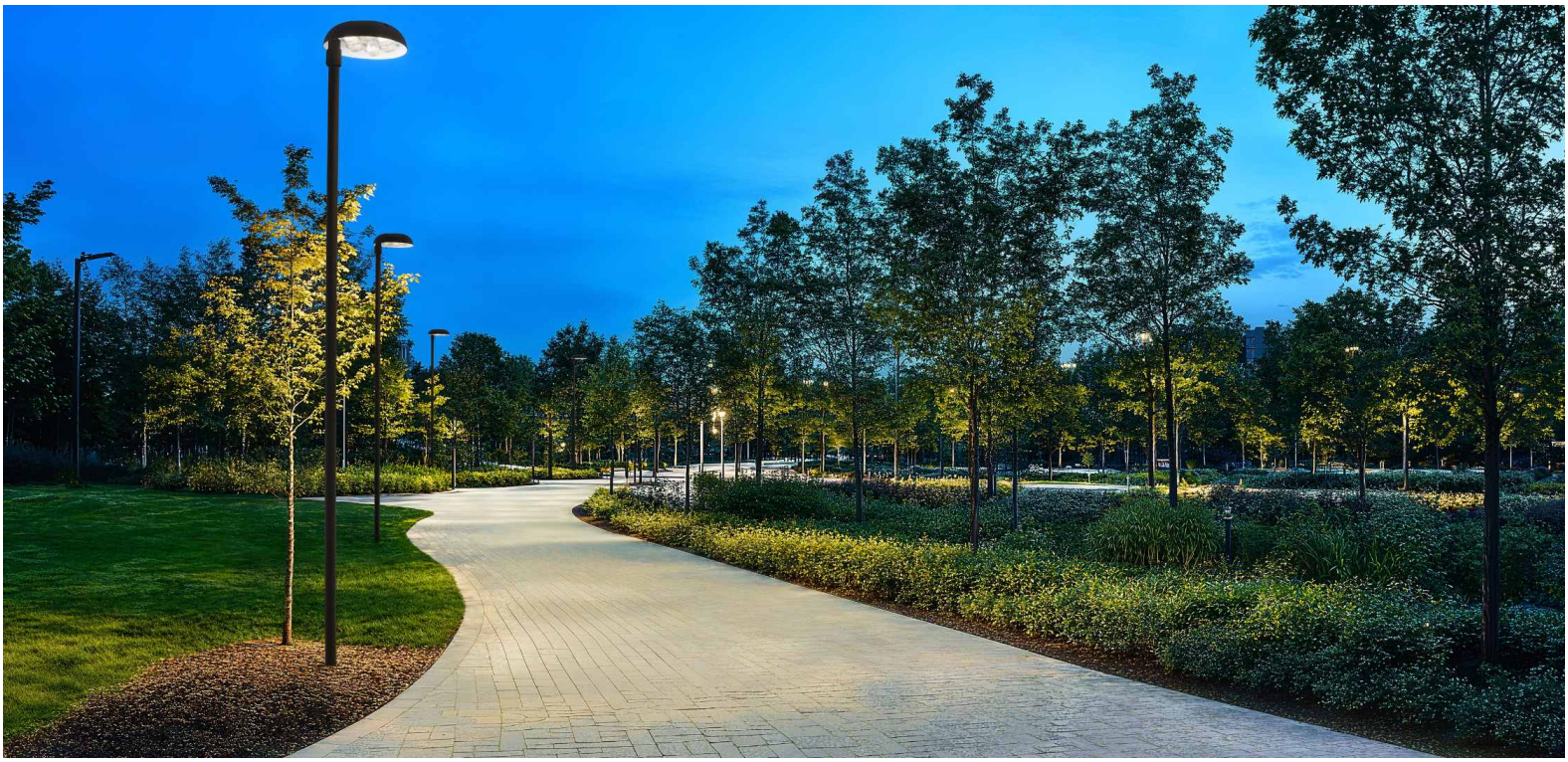
The specifications of the luminaires represents typical values. All descriptions, illustrations, drawings and specifications in the catalogue, Datasheets and website represent only general particulars of the goods to which they apply and shall not form part of any contract. The company reserves the right to change specifications at its discretion without prior notification or public announcement.

› **Datasheet - EXTERNAL - PEBBLE**

PEB.1.LM072.FWE.PT1.C7.NIR

MADE IN BRITAIN

Product image may not represent the final configuration stated above.



Product Specification

PEB.1.LM072.FWE.PT1.C7.NIR

Holophane Pebble luminaire is a outdoor area light with a low-profile design and patented modular light engine concept. The product is manufactured from die-cast marine grade aluminium and sealed to IP65 with individual prismatic polycarbonate optic pods. The optical pods deliver 'Comfort Optic' solution that combines prismatic control with a soft illuminated surface to deliver balanced light with reduced glare and improved visibility.
Access to driver and electrical terminations is via a detachable housing on top of the luminaire.
This specific SKU includes:
Series 1
• LED light engine producing c.7,000 lm with a nominal 2700°K colour temperature
• Forward throw extra light distribution
• 60/76mm post top mounting only
• Black (RAL9005)

PEBB.6.PT1.HVZ

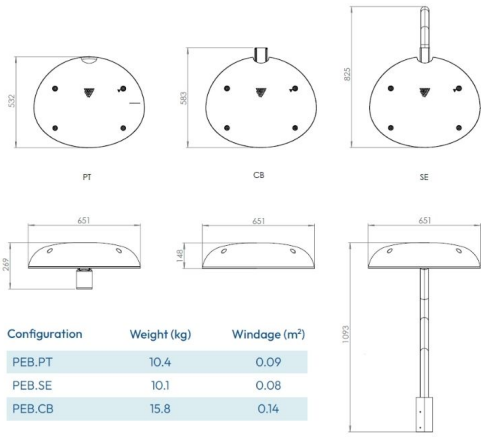
Holophane tubular base compartment column for use with Pebble luminaires. 6 metre, 60/76mm post top mounting only, For heavy area wind zones (compliant to EN40).
• DO NOT REMOVE THIS RECORD

Performance

Drive Current from Driver:	836mA
Power:	44W
Fitting Current:	0.2A
Fitting Inrush:	22A - 0.29ms
Number of Drivers:	1
1x Driver 1 Inrush:	22A - 0.29ms
Max Drivers per 16A Type B MCB:	20
Max Fittings per 16A Type B MCB:	20
Total Number of LEDs:	288
Minimum Dim Level:	8%
SDCM/MacAdam Ellipse:	3

Installation Guide

Dimensions

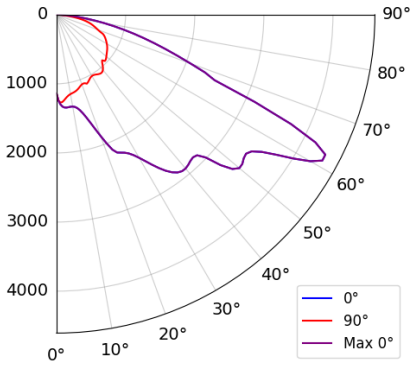


Configuration	Weight (kg)	Windage (m²)
PEB.PT	10.4	0.09
PEB.SE	10.1	0.08
PEB.CB	15.8	0.14

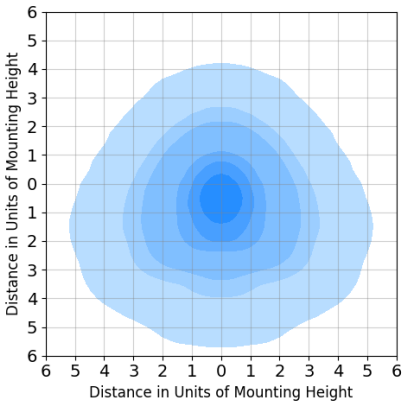
Photometry

IES File

Polar Plot



Isoilluminance Plot



Lumens:	6,483
CCT:	2700K
CRI:	70
IES File:	PEB.1.LM072.FWE
G-Class:	G*2 Imax @ ⊠ 70°: 391 Imax @ ⊠ 80°: 119 Imax @ ⊠ 90°: 0

Colours

Selected Colour

C7 Black (RAL9005)

Custom Colour Available

RAL**** Customer specified colour

*Choosing a custom colour may increase the cost and lead time.

Standard Colours Available

C1 Smooth White (RAL9016)

C4 graphite (RAL7011)

C6 Smooth Grey (RAL7035)

C7 Black (RAL9005)

C9 Metallic Silver (RAL9006)

Lumen data is considered to be representative of the configuration shown, and may vary, with a tolerance on flux of +/- 7% (typical of LED manufacturer's data) and luminaire power of +/- 5%.

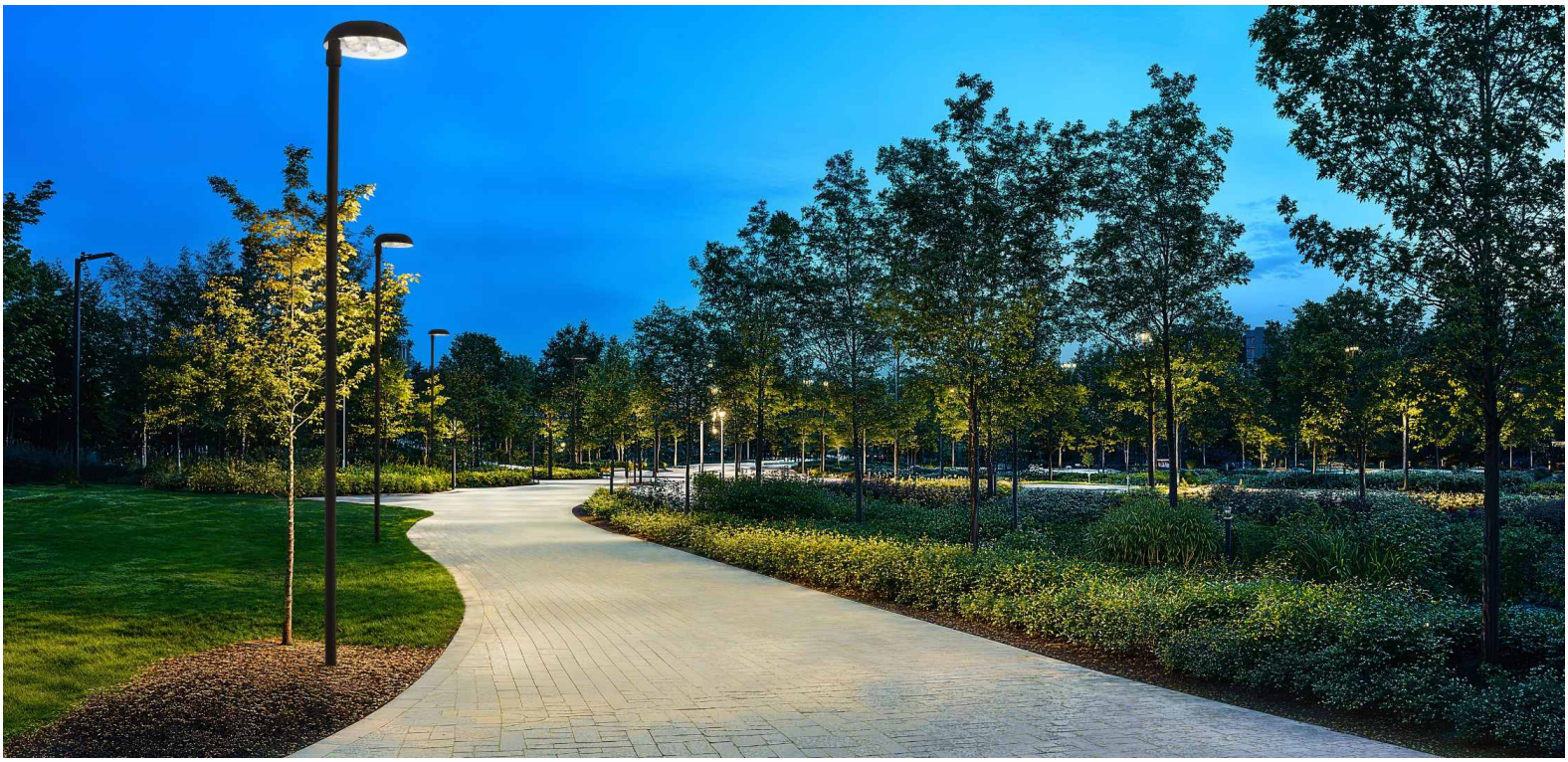
The specifications of the luminaires represents typical values. All descriptions, illustrations, drawings and specifications in the catalogue, Datasheets and website represent only general particulars of the goods to which they apply and shall not form part of any contract. The company reserves the right to change specifications at its discretion without prior notification or public announcement.

› **Datasheet - EXTERNAL - PEBBLE**

PEB.1.LM062.FWE.PT1.C7.NIR

MADE IN BRITAIN

Product image may not represent the final configuration stated above.



Product Specification

PEB.1.LM062.FWE.PT1.C7.NIR

Holophane Pebble luminaire is a outdoor area light with a low-profile design and patented modular light engine concept. The product is manufactured from die-cast marine grade aluminium and sealed to IP65 with individual prismatic polycarbonate optic pods. The optical pods deliver 'Comfort Optic' solution that combines prismatic control with a soft illuminated surface to deliver balanced light with reduced glare and improved visibility.
Access to driver and electrical terminations is via a detachable housing on top of the luminaire.
This specific SKU includes:
Series 1
• LED light engine producing c.6,000 lm with a nominal 2700°K colour temperature
• Forward throw extra light distribution
• 60/76mm post top mounting only
• Black (RAL9005)

PEBB.6.PT1.HVZ

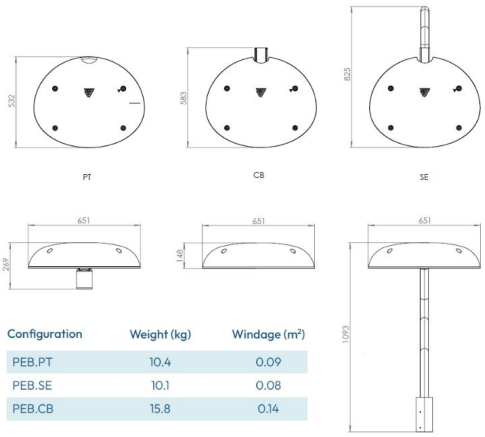
Holophane tubular base compartment column for use with Pebble luminaires. 6 metre, 60/76mm post top mounting only, For heavy area wind zones (compliant to EN40).
• DO NOT REMOVE THIS RECORD

Performance

Drive Current from Driver:	714mA
Power:	38W
Fitting Current:	0.17A
Fitting Inrush:	22A - 0.29ms
Number of Drivers:	1
1x Driver 1 Inrush:	22A - 0.29ms
Max Drivers per 16A Type B MCB:	20
Max Fittings per 16A Type B MCB:	20
Total Number of LEDs:	288
Minimum Dim Level:	10%
SDCM/MacAdam Ellipse:	3

Installation Guide

Dimensions

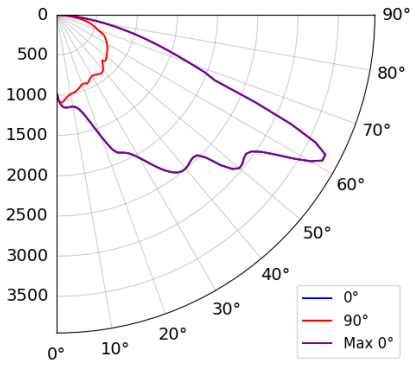


Configuration	Weight (kg)	Windage (m²)
PEB.PT	10.4	0.09
PEB.SE	10.1	0.08
PEB.CB	15.8	0.14

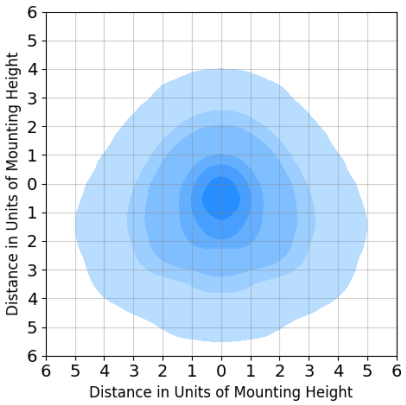
Photometry

IES File

Polar Plot



Isoilluminance Plot



Lumens:	5,566
CCT:	2700K
CRI:	70
IES File:	PEB.1.LM062.FWE
G-Class:	G*2 Imax @ ⊠ 70°: 391 Imax @ ⊠ 80°: 119 Imax @ ⊠ 90°: 0

Colours

Selected Colour

C7 Black (RAL9005)

Custom Colour Available

RAL**** Customer specified colour

*Choosing a custom colour may increase the cost and lead time.

Standard Colours Available

C1 Smooth White (RAL9016)

C4 graphite (RAL7011)

C6 Smooth Grey (RAL7035)

C7 Black (RAL9005)

C9 Metallic Silver (RAL9006)

Lumen data is considered to be representative of the configuration shown, and may vary, with a tolerance on flux of +/- 7% (typical of LED manufacturer's data) and luminaire power of +/- 5%.

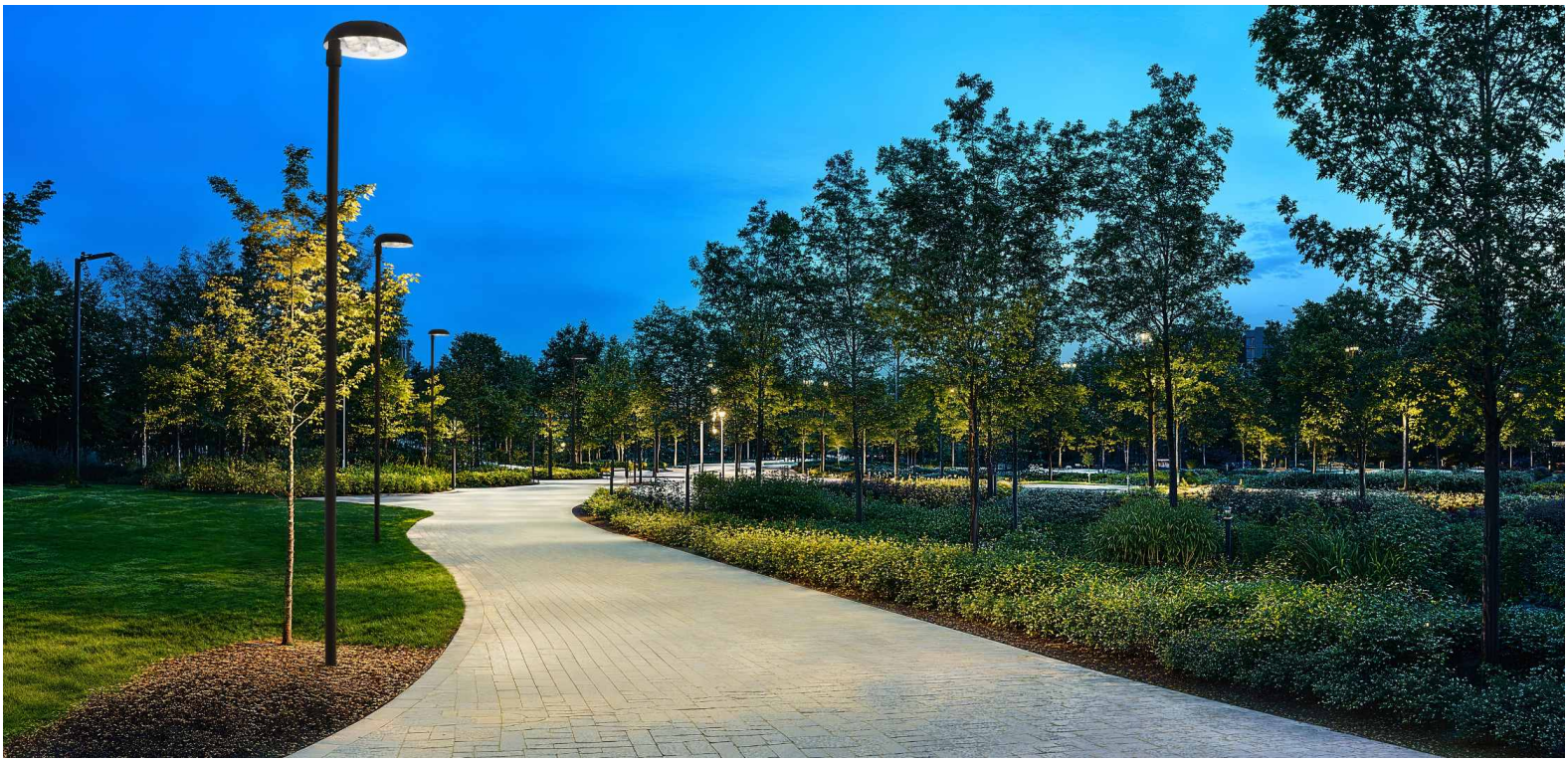
The specifications of the luminaires represents typical values. All descriptions, illustrations, drawings and specifications in the catalogue, Datasheets and website represent only general particulars of the goods to which they apply and shall not form part of any contract. The company reserves the right to change specifications at its discretion without prior notification or public announcement.

› **Datasheet - EXTERNAL - PEBBLE**

PEB.1.LM052.FWE.PT1.C7.NIR

MADE IN BRITAIN

Product image may not represent the final configuration stated above.



Product Specification

PEB.1.LM052.FWE.PT1.C7.NIR

Holophane Pebble luminaire is a outdoor area light with a low-profile design and patented modular light engine concept. The product is manufactured from die-cast marine grade aluminium and sealed to IP65 with individual prismatic polycarbonate optic pods. The optical pods deliver 'Comfort Optic' solution that combines prismatic control with a soft illuminated surface to deliver balanced light with reduced glare and improved visibility.
Access to driver and electrical terminations is via a detachable housing on top of the luminaire.
This specific SKU includes:
Series 1
• LED light engine producing c.5,000 lm with a nominal 2700°K colour temperature
• Forward throw extra light distribution
• 60/76mm post top mounting only
• Black (RAL9005)

PEBB.6.PT1.HVZ

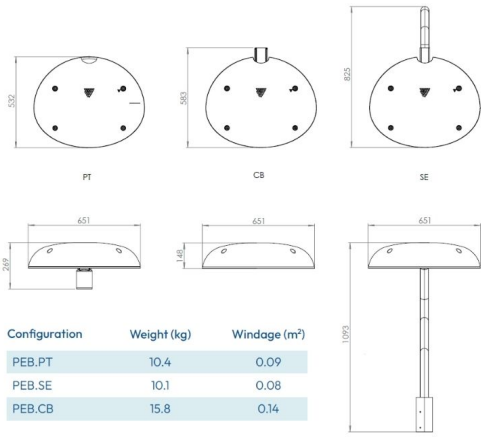
Holophane tubular base compartment column for use with Pebble luminaires. 6 metre, 60/76mm post top mounting only, For heavy area wind zones (compliant to EN40).
• DO NOT REMOVE THIS RECORD

Performance

Drive Current from Driver:	594mA
Power:	32W
Fitting Current:	0.14A
Fitting Inrush:	22A - 0.29ms
Number of Drivers:	1
1x Driver 1 Inrush:	22A - 0.29ms
Max Drivers per 16A Type B MCB:	20
Max Fittings per 16A Type B MCB:	20
Total Number of LEDs:	288
Minimum Dim Level:	12%
SDCM/MacAdam Ellipse:	3

Installation Guide

Dimensions

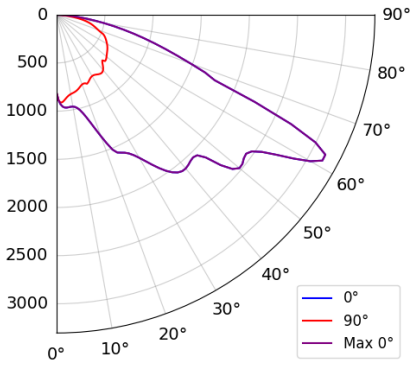


Configuration	Weight (kg)	Windage (m²)
PEB.PT	10.4	0.09
PEB.SE	10.1	0.08
PEB.CB	15.8	0.14

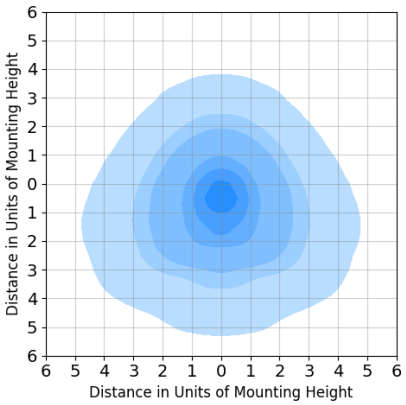
Photometry

IES File

Polar Plot



Isoilluminance Plot



Lumens:	4,648
CCT:	2700K
CRI:	70
IES File:	PEB.1.LM052.FWE
G-Class:	G*2 Imax @ ⊠ 70°: 391 Imax @ ⊠ 80°: 119 Imax @ ⊠ 90°: 0

Colours

Selected Colour

C7 Black (RAL9005)

Custom Colour Available

RAL**** Customer specified colour

*Choosing a custom colour may increase the cost and lead time.

Standard Colours Available

C1 Smooth White (RAL9016)

C4 graphite (RAL7011)

C6 Smooth Grey (RAL7035)

C7 Black (RAL9005)

C9 Metallic Silver (RAL9006)

Lumen data is considered to be representative of the configuration shown, and may vary, with a tolerance on flux of +/- 7% (typical of LED manufacturer's data) and luminaire power of +/- 5%.

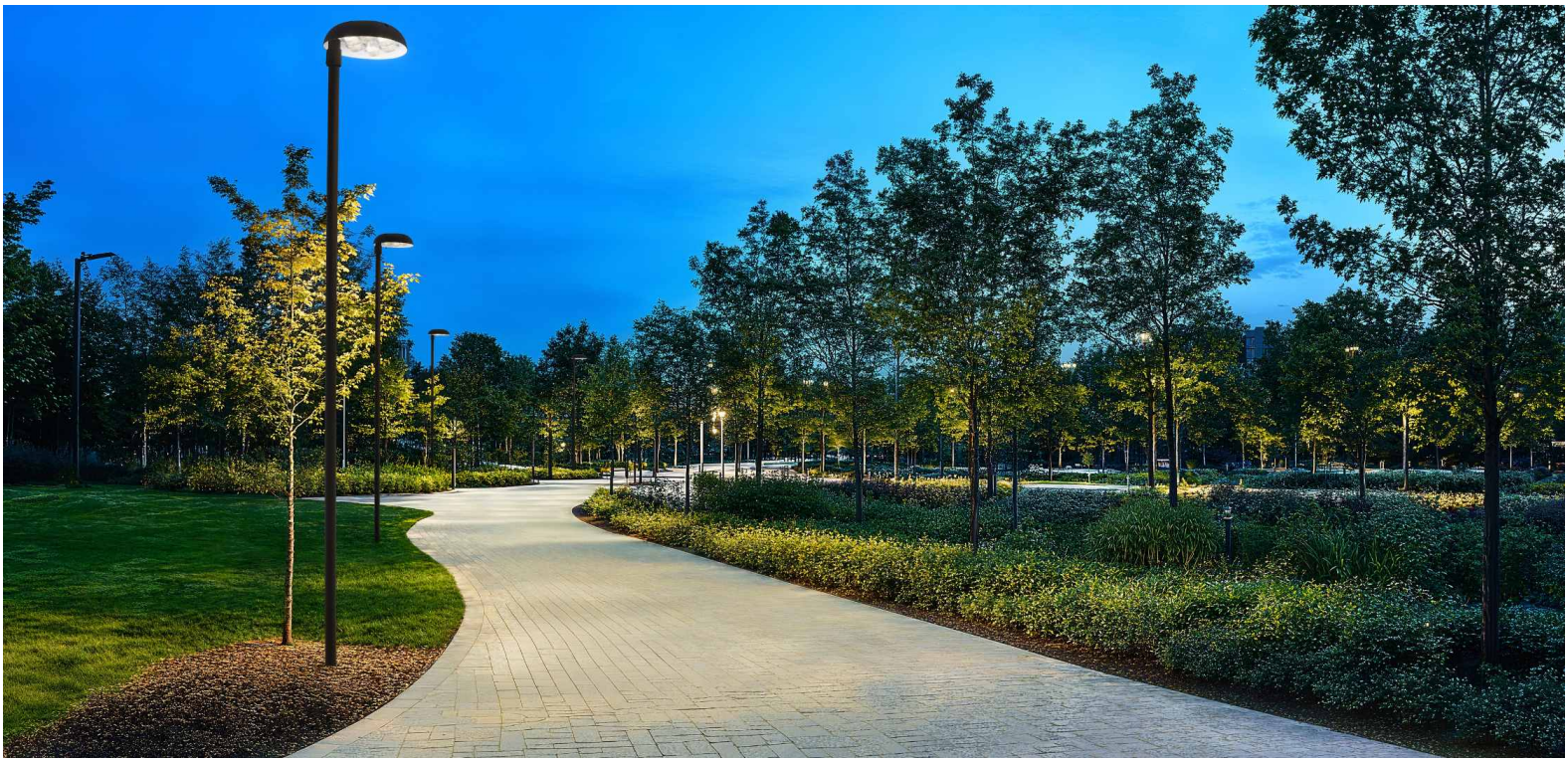
The specifications of the luminaires represents typical values. All descriptions, illustrations, drawings and specifications in the catalogue, Datasheets and website represent only general particulars of the goods to which they apply and shall not form part of any contract. The company reserves the right to change specifications at its discretion without prior notification or public announcement.

› **Datasheet - EXTERNAL - PEBBLE**

PEB.1.LM102.SY.PT1.C7.NIR

MADE IN BRITAIN

Product image may not represent the final configuration stated above.



Product Specification

PEB.1.LM102.SY.PT1.C7.NIR

Holophane Pebble luminaire is a outdoor area light with a low-profile design and patented modular light engine concept. The product is manufactured from die-cast marine grade aluminium and sealed to IP65 with individual prismatic polycarbonate optic pods. The optical pods deliver 'Comfort Optic' solution that combines prismatic control with a soft illuminated surface to deliver balanced light with reduced glare and improved visibility.
Access to driver and electrical terminations is via a detachable housing on top of the luminaire.
This specific SKU includes:
Series 1
• LED light engine producing c.10,000 lm with a nominal 2700°K colour temperature
• A symmetrical light distribution
• 60/76mm post top mounting only
• Black (RAL9005)

PEBB.6.PT1.HVZ

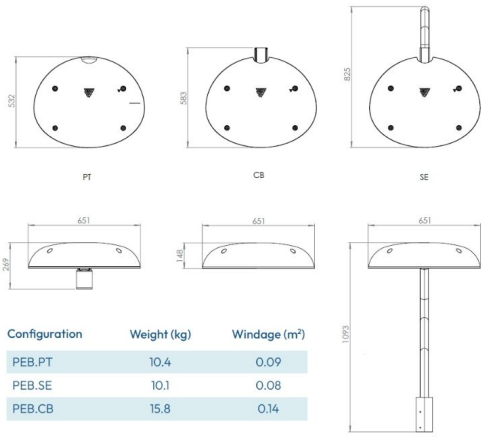
Holophane tubular base compartment column for use with Pebble luminaires. 6 metre, 60/76mm post top mounting only, For heavy area wind zones (compliant to EN40).
• DO NOT REMOVE THIS RECORD

Performance

Drive Current from Driver:	640mA
Power:	66W
Fitting Current:	0.3A
Fitting Inrush:	46A - 0.25ms
Number of Drivers:	1
1x Driver 1 Inrush:	46A - 0.25ms
Max Drivers per 16A Type B MCB:	11
Max Fittings per 16A Type B MCB:	11
Total Number of LEDs:	288
Minimum Dim Level:	11%
SDCM/MacAdam Ellipse:	3

Installation Guide

Dimensions

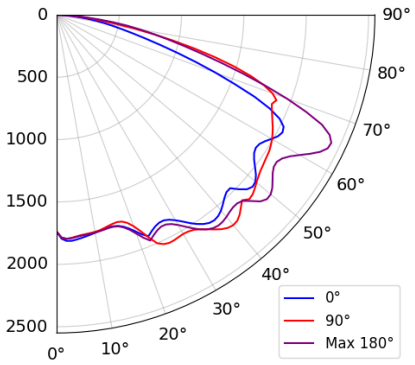


Configuration	Weight (kg)	Windage (m²)
PEB.PT	10.4	0.09
PEB.SE	10.1	0.08
PEB.CB	15.8	0.14

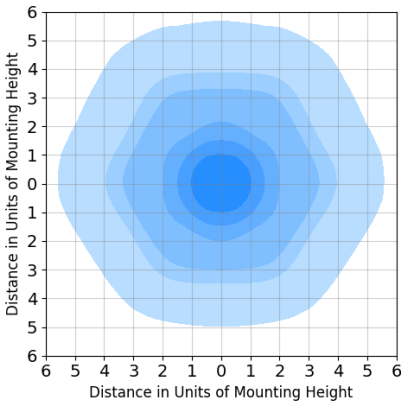
Photometry

IES File

Polar Plot



Isoilluminance Plot



Lumens:	9,731
CCT:	2700K
CRI:	70
IES File:	PEB.1.LM102.SY
G-Class:	G*6 Imax @ ⊠ 70°: 222 Imax @ ⊠ 80°: 80 Imax @ ⊠ 90°: 0

Colours

Selected Colour

C7 Black (RAL9005)

Custom Colour Available

RAL**** Customer specified colour

*Choosing a custom colour may increase the cost and lead time.

Standard Colours Available

C1 Smooth White (RAL9016)

C4 graphite (RAL7011)

C6 Smooth Grey (RAL7035)

C7 Black (RAL9005)

C9 Metallic Silver (RAL9006)

Lumen data is considered to be representative of the configuration shown, and may vary, with a tolerance on flux of +/- 7% (typical of LED manufacturer's data) and luminaire power of +/- 5%.

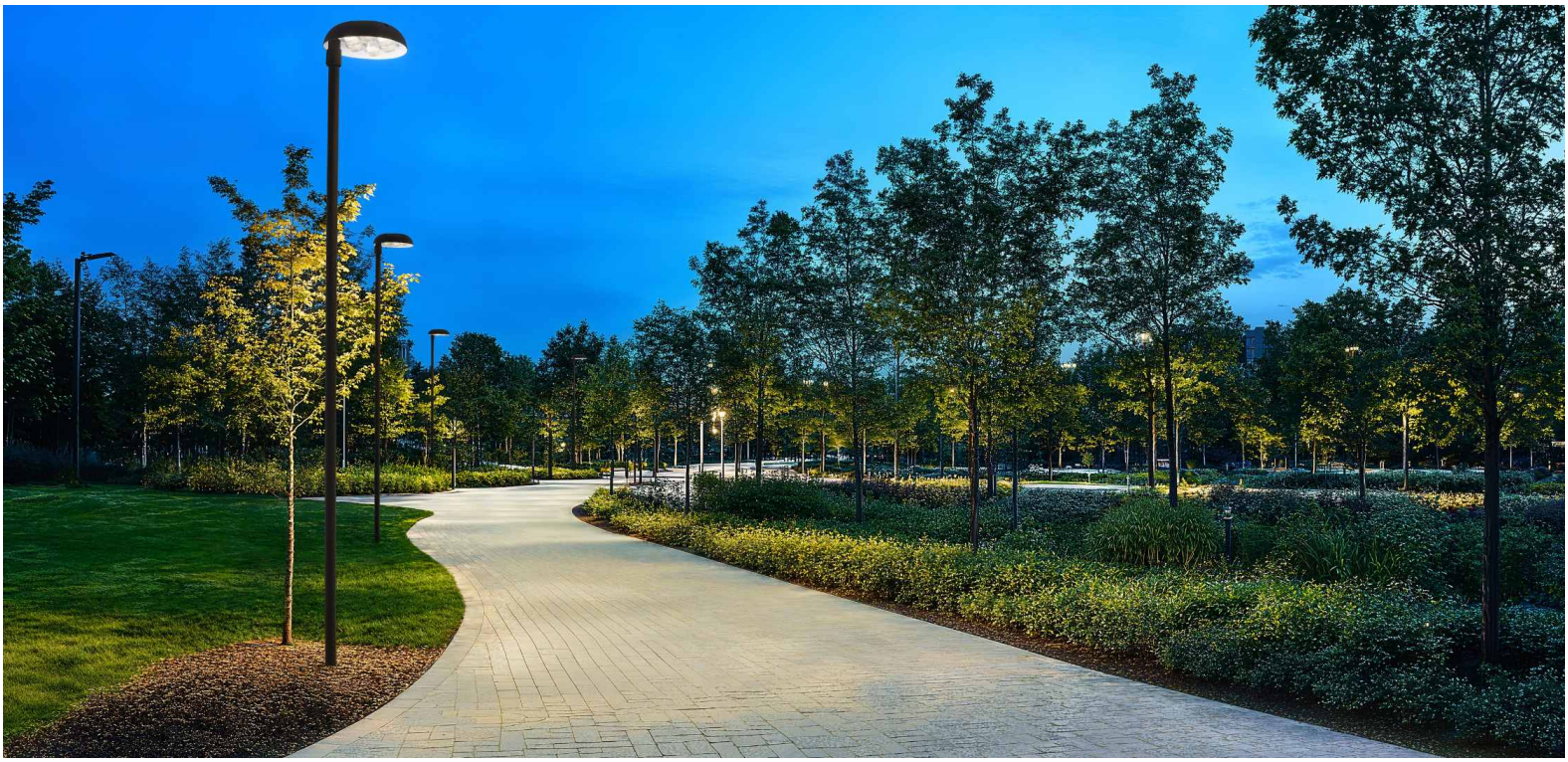
The specifications of the luminaires represents typical values. All descriptions, illustrations, drawings and specifications in the catalogue, Datasheets and website represent only general particulars of the goods to which they apply and shall not form part of any contract. The company reserves the right to change specifications at its discretion without prior notification or public announcement.

› **Datasheet - EXTERNAL - PEBBLE**

PEB.1.LM082.NR.PT1.C7.NIR

MADE IN BRITAIN

Product image may not represent the final configuration stated above.



Product Specification

PEB.1.LM082.NR.PT1.C7.NIR

Holophane Pebble luminaire is a outdoor area light with a low-profile design and patented modular light engine concept. The product is manufactured from die-cast marine grade aluminium and sealed to IP65 with individual prismatic polycarbonate optic pods. The optical pods deliver 'Comfort Optic' solution that combines prismatic control with a soft illuminated surface to deliver balanced light with reduced glare and improved visibility.
Access to driver and electrical terminations is via a detachable housing on top of the luminaire.
This specific SKU includes:
Series 1
• LED light engine producing c.8,000 lm with a nominal 2700°K colour temperature
• Long and Narrow light distribution
• 60/76mm post top mounting only
• Black (RAL9005)

PEBB.6.PT1.HVZ

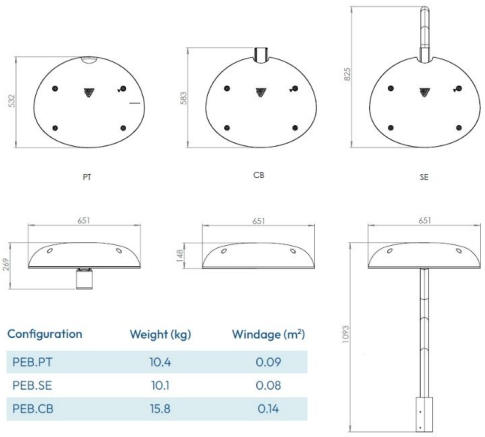
Holophane tubular base compartment column for use with Pebble luminaires. 6 metre, 60/76mm post top mounting only, For heavy area wind zones (compliant to EN40).
• DO NOT REMOVE THIS RECORD

Performance

Drive Current from Driver:	962mA
Power:	50W
Fitting Current:	0.22A
Fitting Inrush:	46A - 0.25ms
Number of Drivers:	1
1x Driver 1 Inrush:	46A - 0.25ms
Max Drivers per 16A Type B MCB:	11
Max Fittings per 16A Type B MCB:	11
Total Number of LEDs:	288
Minimum Dim Level:	7%
SDCM/MacAdam Ellipse:	3

Installation Guide

Dimensions

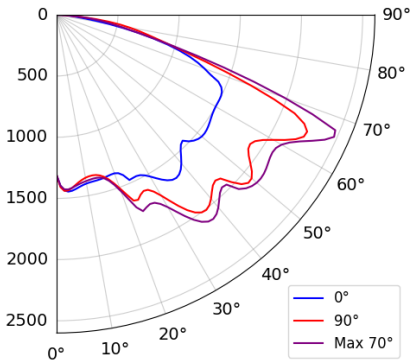


Configuration	Weight (kg)	Windage (m²)
PEB.PT	10.4	0.09
PEB.SE	10.1	0.08
PEB.CB	15.8	0.14

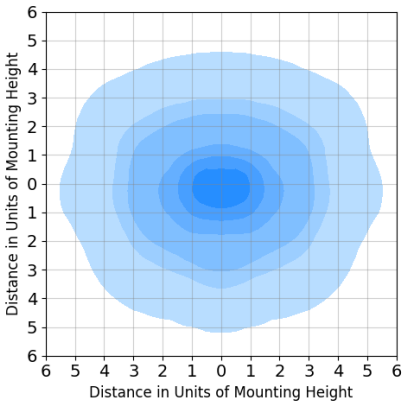
Photometry

IES File

Polar Plot



Isoilluminance Plot



Lumens:	7,434
CCT:	2700K
CRI:	70
IES File:	PEB.1.LM082.NR
G-Class:	G*6 Imax @ ⊠ 70°: 267 Imax @ ⊠ 80°: 84 Imax @ ⊠ 90°: 0

Colours

Selected Colour

C7 Black (RAL9005)

Custom Colour Available

RAL**** Customer specified colour

*Choosing a custom colour may increase the cost and lead time.

Standard Colours Available

C1 Smooth White (RAL9016)

C4 graphite (RAL7011)

C6 Smooth Grey (RAL7035)

C7 Black (RAL9005)

C9 Metallic Silver (RAL9006)

Lumen data is considered to be representative of the configuration shown, and may vary, with a tolerance on flux of +/- 7% (typical of LED manufacturer's data) and luminaire power of +/- 5%.

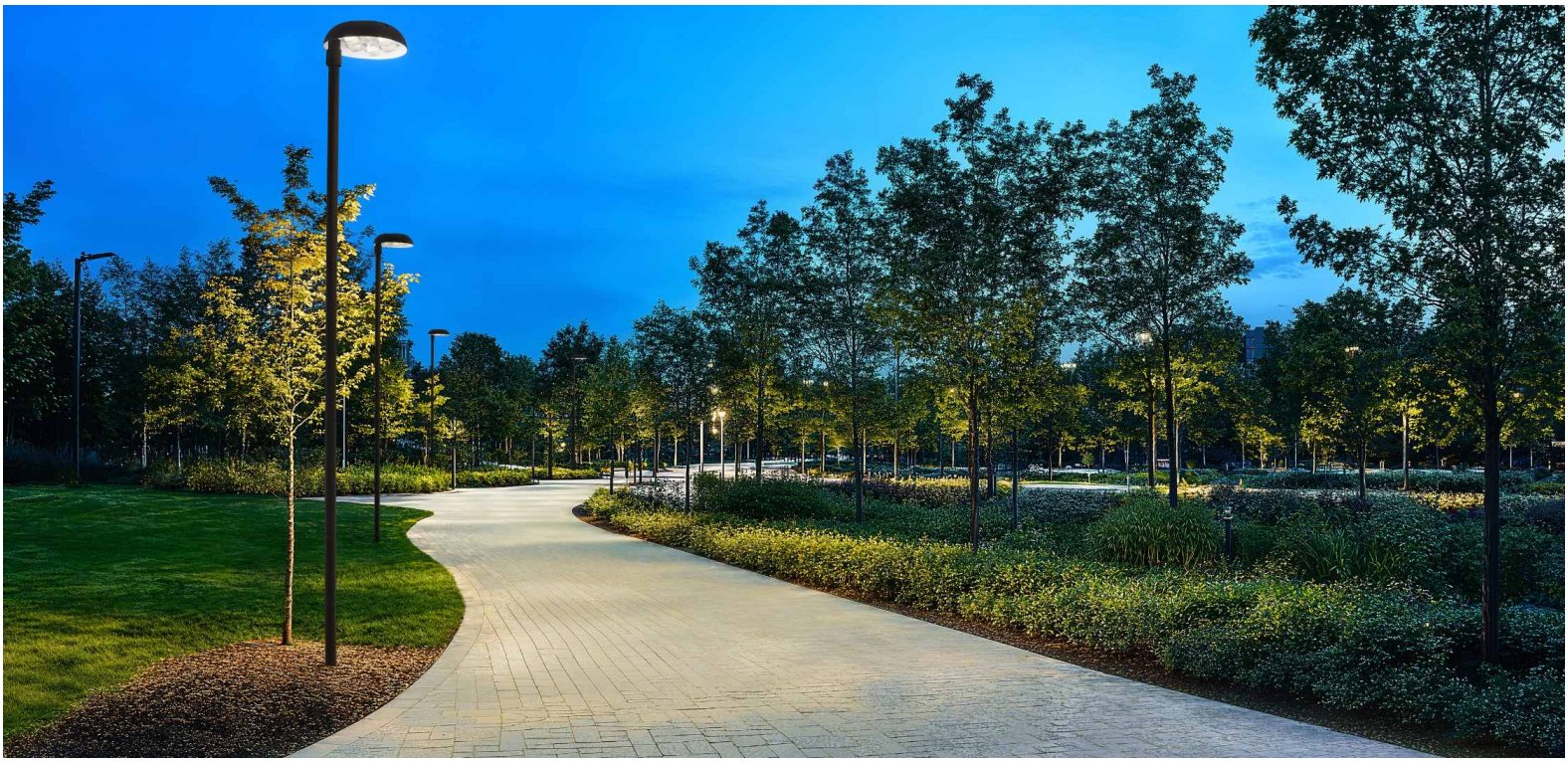
The specifications of the luminaires represents typical values. All descriptions, illustrations, drawings and specifications in the catalogue, Datasheets and website represent only general particulars of the goods to which they apply and shall not form part of any contract. The company reserves the right to change specifications at its discretion without prior notification or public announcement.

› **Datasheet - EXTERNAL - PEBBLE**

PEB.1.LM062.SY.PT1.C7.NIR

MADE IN BRITAIN

Product image may not represent the final configuration stated above.



Product Specification

PEB.1.LM062.SY.PT1.C7.NIR

Holophane Pebble luminaire is a outdoor area light with a low-profile design and patented modular light engine concept. The product is manufactured from die-cast marine grade aluminium and sealed to IP65 with individual prismatic polycarbonate optic pods. The optical pods deliver 'Comfort Optic' solution that combines prismatic control with a soft illuminated surface to deliver balanced light with reduced glare and improved visibility.
Access to driver and electrical terminations is via a detachable housing on top of the luminaire.
This specific SKU includes:
Series 1
• LED light engine producing c.6,000 lm with a nominal 2700°K colour temperature
• A symmetrical light distribution
• 60/76mm post top mounting only
• Black (RAL9005)

PEBB.6.PT1.HVZ

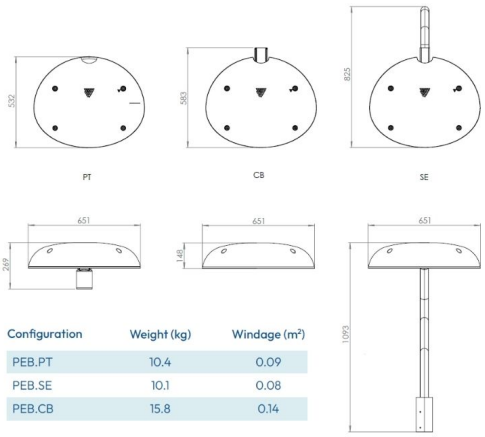
Holophane tubular base compartment column for use with Pebble luminaires. 6 metre, 60/76mm post top mounting only, For heavy area wind zones (compliant to EN40).
• DO NOT REMOVE THIS RECORD

Performance

Drive Current from Driver:	714mA
Power:	38W
Fitting Current:	0.17A
Fitting Inrush:	22A - 0.29ms
Number of Drivers:	1
1x Driver 1 Inrush:	22A - 0.29ms
Max Drivers per 16A Type B MCB:	20
Max Fittings per 16A Type B MCB:	20
Total Number of LEDs:	288
Minimum Dim Level:	10%
SDCM/MacAdam Ellipse:	3

Installation Guide

Dimensions

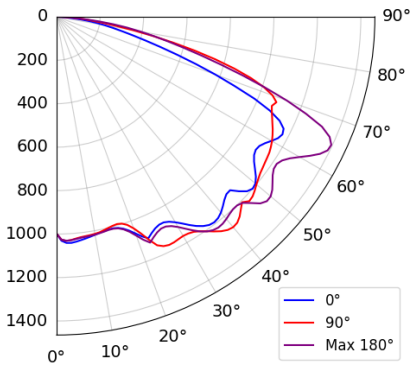


Configuration	Weight (kg)	Windage (m²)
PEB.PT	10.4	0.09
PEB.SE	10.1	0.08
PEB.CB	15.8	0.14

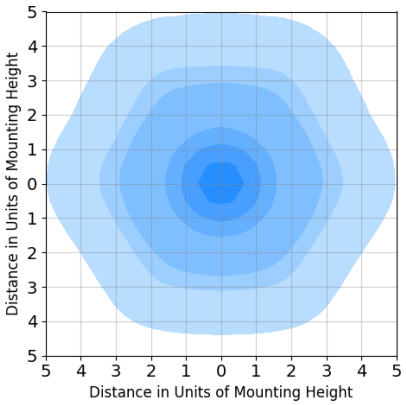
Photometry

IES File

Polar Plot



Isoilluminance Plot



Lumens:	5,589
CCT:	2700K
CRI:	70
IES File:	PEB.1.LM062.SY
G-Class:	G*6 Imax @ ⊠ 70°: 222 Imax @ ⊠ 80°: 80 Imax @ ⊠ 90°: 0

Colours

Selected Colour

C7 Black (RAL9005)

Custom Colour Available

RAL**** Customer specified colour

*Choosing a custom colour may increase the cost and lead time.

Standard Colours Available

C1 Smooth White (RAL9016)

C4 graphite (RAL7011)

C6 Smooth Grey (RAL7035)

C7 Black (RAL9005)

C9 Metallic Silver (RAL9006)

Lumen data is considered to be representative of the configuration shown, and may vary, with a tolerance on flux of +/- 7% (typical of LED manufacturer's data) and luminaire power of +/- 5%.

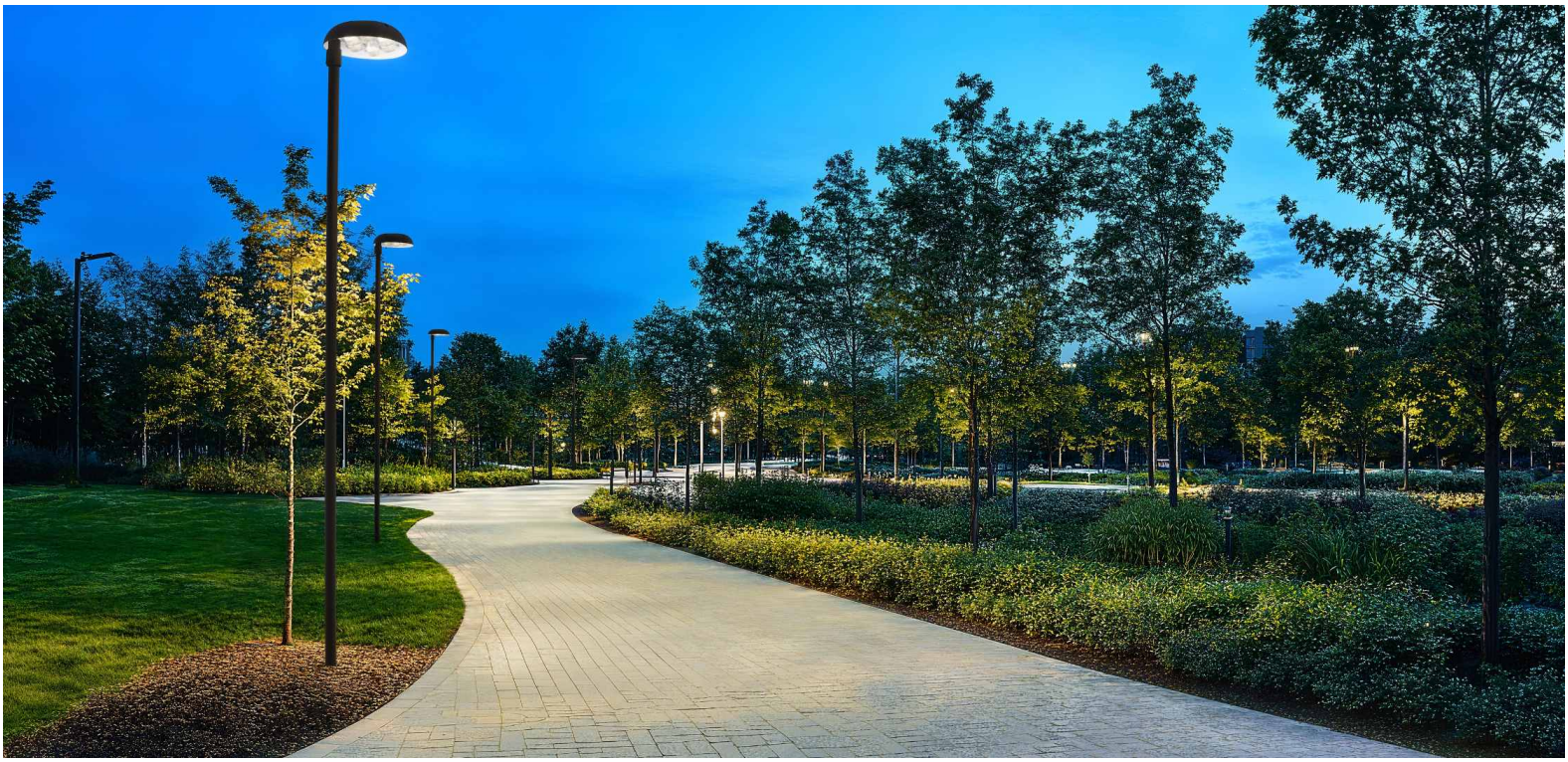
The specifications of the luminaires represents typical values. All descriptions, illustrations, drawings and specifications in the catalogue, Datasheets and website represent only general particulars of the goods to which they apply and shall not form part of any contract. The company reserves the right to change specifications at its discretion without prior notification or public announcement.

› **Datasheet - EXTERNAL - PEBBLE**

PEB.1.LM062.NR.PT1.C7.NIR

MADE IN BRITAIN

Product image may not represent the final configuration stated above.



Product Specification

PEB.1.LM062.NR.PT1.C7.NIR

Holophane Pebble luminaire is a outdoor area light with a low-profile design and patented modular light engine concept. The product is manufactured from die-cast marine grade aluminium and sealed to IP65 with individual prismatic polycarbonate optic pods. The optical pods deliver 'Comfort Optic' solution that combines prismatic control with a soft illuminated surface to deliver balanced light with reduced glare and improved visibility.
Access to driver and electrical terminations is via a detachable housing on top of the luminaire.
This specific SKU includes:
Series 1
• LED light engine producing c.6,000 lm with a nominal 2700°K colour temperature
• Long and Narrow light distribution
• 60/76mm post top mounting only
• Black (RAL9005)

PEBB.6.PT1.HVZ

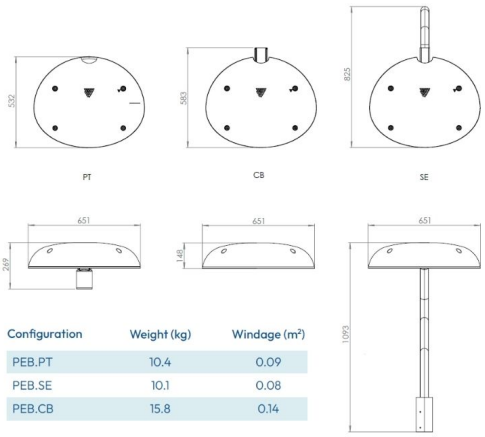
Holophane tubular base compartment column for use with Pebble luminaires. 6 metre, 60/76mm post top mounting only, For heavy area wind zones (compliant to EN40).
• DO NOT REMOVE THIS RECORD

Performance

Drive Current from Driver:	714mA
Power:	38W
Fitting Current:	0.17A
Fitting Inrush:	22A - 0.29ms
Number of Drivers:	1
1x Driver 1 Inrush:	22A - 0.29ms
Max Drivers per 16A Type B MCB:	20
Max Fittings per 16A Type B MCB:	20
Total Number of LEDs:	288
Minimum Dim Level:	10%
SDCM/MacAdam Ellipse:	3

Installation Guide

Dimensions

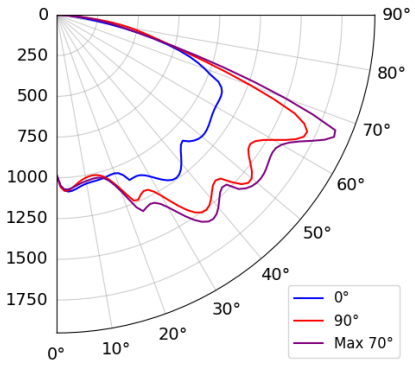


Configuration	Weight (kg)	Windage (m²)
PEB.PT	10.4	0.09
PEB.SE	10.1	0.08
PEB.CB	15.8	0.14

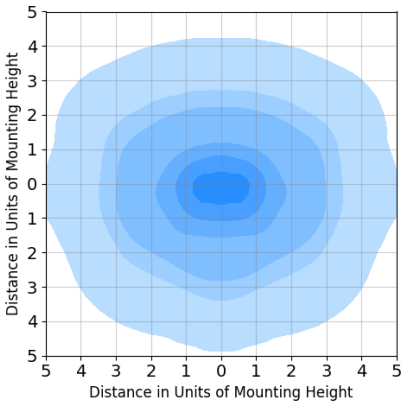
Photometry

IES File

Polar Plot



Isoilluminance Plot



Lumens:	5,581
CCT:	2700K
CRI:	70
IES File:	PEB.1.LM062.NR
G-Class:	G*6 Imax @ ⊠ 70°: 267 Imax @ ⊠ 80°: 84 Imax @ ⊠ 90°: 0

Colours

Selected Colour

C7 Black (RAL9005)

Custom Colour Available

RAL**** Customer specified colour

*Choosing a custom colour may increase the cost and lead time.

Standard Colours Available

C1 Smooth White (RAL9016)

C4 graphite (RAL7011)

C6 Smooth Grey (RAL7035)

C7 Black (RAL9005)

C9 Metallic Silver (RAL9006)

Lumen data is considered to be representative of the configuration shown, and may vary, with a tolerance on flux of +/- 7% (typical of LED manufacturer's data) and luminaire power of +/- 5%.

The specifications of the luminaires represents typical values. All descriptions, illustrations, drawings and specifications in the catalogue, Datasheets and website represent only general particulars of the goods to which they apply and shall not form part of any contract. The company reserves the right to change specifications at its discretion without prior notification or public announcement.

› **Datasheet - ROADWAY - SLI**

SLI.NCPA.1.LA042.NR.PT1.C7.F140.NIR

Product image may not represent the final configuration stated above.

This is a bespoke product configuration. The performance data, dimensions and photometry included on this Datasheet are for a standard configured product only and may differ to the specification outlined below.

Product Specification

SLI.NCPA.1.LA042.NR.PT1.C7.F140.NIR

Holophane S-Line luminaire. Die cast aluminium ((EN AC-44100)(AL.Si12)) body and hinged door for access to electrical termination via single point M5 stainless steel. Luminaire sealed to IP66. Suitable for either post mounting or side entry (please specify) with ability to adjust onsite by -10° to +10° tilt. International Dark-Sky Association Approved (colour temperatures 3000K or warmer are approved under the IDA).
This specific SKU includes:

• Series 1
• LED light engine producing c.4,000 lm with a nominal 2700°K colour temperature
• Long and Narrow light distribution
• 60/76mm post top mounting only
• Black (RAL9005)

SLIB.6.PT76.HVZ

Holophane tubular base compartment column for use with Line Luminaires. 6 metre, 76mm post top mounting, For heavy area wind zones (compliant to EN40).
• Direct embedment

Performance

Power:	34W
Fitting Current:	0.15A
Optical Risk Group:	1
Energy Class:	B

4Kg$_2$

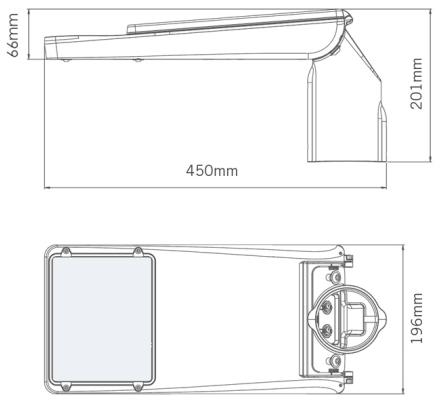
0.0297M

42 0034 0000 100*

Installation Guide

*Generic UMSUG code based on product wattage and some or all of product family being included within Elexon data base.

Dimensions



CIBSE TM66 - CEAM Rating

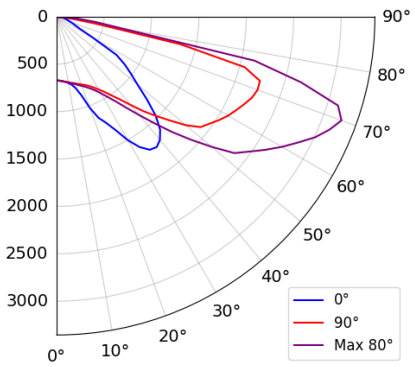
2.5 to 4.0	1.5 to 2.5	0.5 to 1.5	0 to 0.5
Excellent circularity	Definite/ substantial progress to circularity	Some circular economy functionality	Very poor circular economy performance

Assured Score

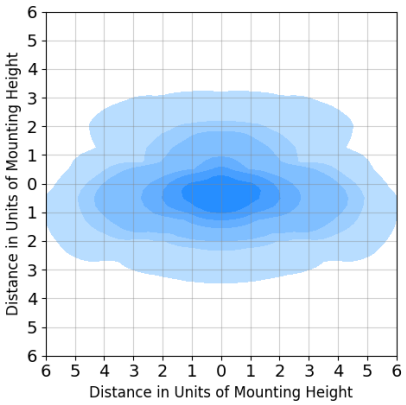
Photometry

IES File

Polar Plot



Isoilluminance Plot



Lumens:	4,540
CCT:	2700K
CRI:	70
IES File:	SLI.1.LA042.NR
G-Class:	G*2 Imax @ ⊠ 70°: 704 Imax @ ⊠ 80°: 149 Imax @ ⊠ 90°: 0

Colour Temperatures Available;

3000K

4000K

Colours

Selected Colour

C7 Black (RAL9005)

Custom Colour Available

RAL**** Customer specified colour

*Choosing a custom colour may increase the cost and lead time.

Standard Colours Available

C1 Smooth White (RAL9016)

C4 graphite (RAL7011)

C6 Smooth Grey (RAL7035)

C7 Black (RAL9005)

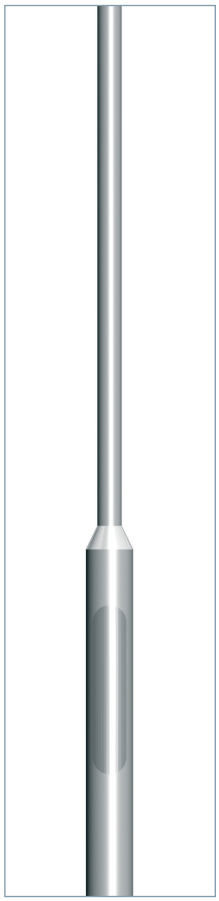
C9 Metallic Silver (RAL9006)

Lumen data is considered to be representative of the configuration shown, and may vary, with a tolerance on flux of +/- 7% (typical of LED manufacturer's data) and luminaire power of +/- 5%.

The specifications of the luminaires represents typical values. All descriptions, illustrations, drawings and specifications in the catalogue, Datasheets and website represent only general particulars of the goods to which they apply and shall not form part of any contract. The company reserves the right to change specifications at its discretion without prior notification or public announcement.

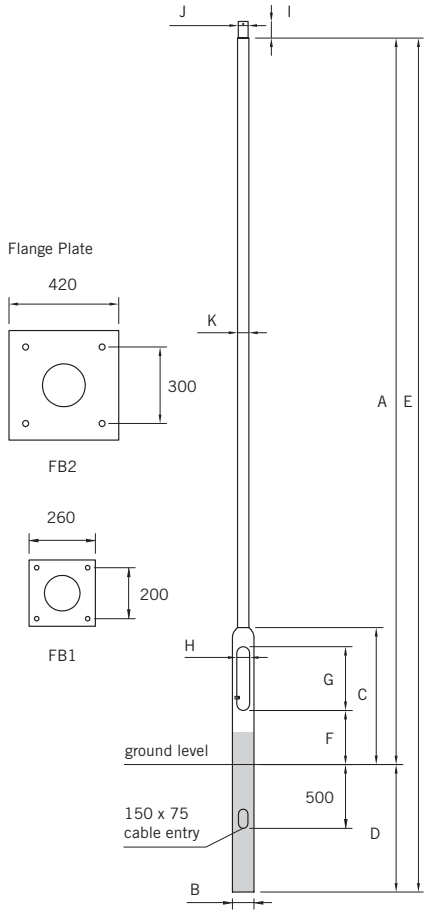
› **Datasheet**

SLIB.6.PT76.HVZ



Holophane products that are suitable

CityMax
Denver Elite pole
D-Series
Factor
Factor small
V-Max



	Nominal Height	Base Diameter*	Base Height	Planting Depth	Overall Length	Door to Ground	Door Opening Length	Door Opening Width	Spigot Length*	Spigot Diameter*	Shaft Diameter*	Weight kg*	Bending Moment (ULS) Nm
description	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**		
2.5m standard duty	2500	140	1075	800	3300	400	500	100	-	-	76	27	2100
3m standard duty	3000	140	1075	800	3800	400	500	100	-	-	76	30	4666
3.5m standard duty	3500	140	1075	800	4300	400	500	100	-	-	76	32	2100
4m standard duty	4000	140	1075	800	4800	400	500	100	-	-	76	34	6484
4.5m standard duty	4500	140	1075	800	5300	400	500	100	-	-	76	37	5108
5m standard duty	5000	140	1075	800	5800	400	500	100	-	-	76	39	6149
5.5m standard duty	5500	140	1075	1000	6500	400	500	100	-	-	76	44	6003
6m standard duty	6000	140	1075	1000	7000	400	500	100	-	-	76	46	5999
6m heavy duty	5700	168	1200	1000	6700	400	600	115	130	76	89	71	10404
8m standard duty	7700	168	1200	1200	8900	400	600	115	130	76	89	89	10072
8m heavy duty	7700	168	1300	1200	9000	500	600	115	250	101	114	107	15699
8m extra heavy duty	7700	194	1300	1200	9000	500	600	115	250	127	140	136	18973
10m standard duty	9700	168	1300	1500	11200	500	600	115	250	101	114	150	18067
10m heavy duty	9700	194	1300	1500	11200	500	600	115	250	127	140	168	23193
10m extra heavy duty	9700	194	1300	1500	11200	500	600	115	250	152	168	220	28317
12m standard duty	11700	194	1300	1700	13400	500	600	115	250	127	140	213	26251
12m heavy duty	11700	194	1300	1700	13400	500	600	115	250	127	168	260	40390

* Exclusion TBC

2.5-6m std Poles	**Flange Plate FB1**	**Bolts**	M18 x 400
8-12m std Poles	**Flange Plate FB2**	**Bolts**	M24 x 820

Flange Plate and Anchor Bolt information will be confirmed at time of order due to the necessity in ensuring the correct plate and Anchor Bolts are supplied.

Column type to be confirmed at time of order as this is based on luminaire weight, windage and geographical location.

stepped steel - CityMax Large only

post top

	Nominal Height	Base Diameter	Base Height	Planting Depth	Overall Length	Door to Ground	Door Opening Length	Door Opening Width	Spigot Length	Spigot Diameter	Shaft Diameter	Weight kg	Bending Moment (ULS) Nm
description	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**		
6m	6000	140	1075	1000	7000	400	500	115	-	-	-	46	5999
8m	7700	168	1300	1200	9000	500	600	115	100	76	114	107	15699
10m	9700	168	1300	1500	11200	500	600	115	100	76	114	150	18067
12m	11700	194	1300	1700	13400	500	600	115	100	76	140	168	26251
15m	14700	194	1200	2000	17000	400	600	115	100	76	168	306	40300

twin head

	Nominal Height	Base Diameter	Base Height	Planting Depth	Overall Length	Door to Ground	Door Opening Length	Door Opening Width	Spigot Length	Spigot Diameter	Shaft Diameter	Weight kg	Bending Moment (ULS) Nm
description	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**		
8m	7400	194	1200	1200	8800	400	600	115	200	127	139.7	125	22610
10m	9400	194	1200	1500	11100	400	600	115	200	152.4	168.3	208	39131
12m	11400	194	2500	1700	13300	1000	600	115	200	152.4	168.3	295	41585

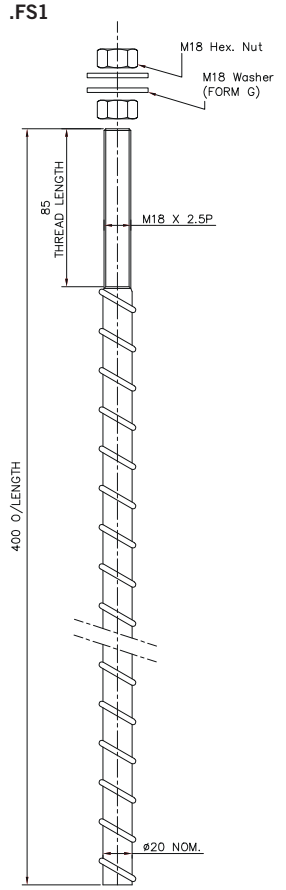
Note: For Terrain Category 2 locations LMZ, HVZ & HEZ

For columns supplied with optional flange base Holophane offers two types of foundation bolts.

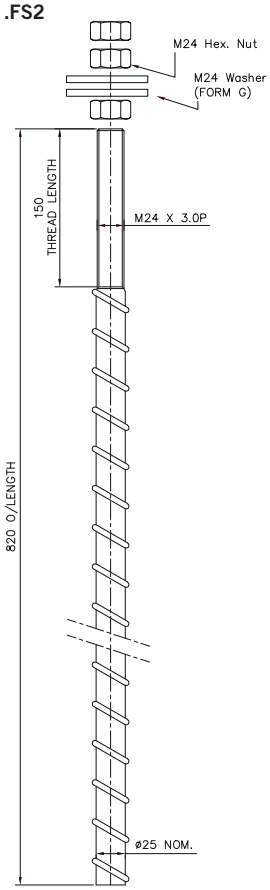
Note: The material used for the bolts is Fe E500 grade steel, with yield strength 500 N/mm2 and minimum UTS 550 N/mm2.

HEL.FS1 M18 Bolts (FS1) x 400 mm long
HEL.FS2 M24 Bolts (FS2) x 820 mm long

.FS1

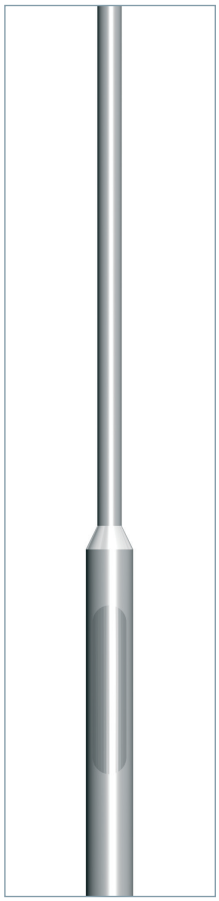


.FS2



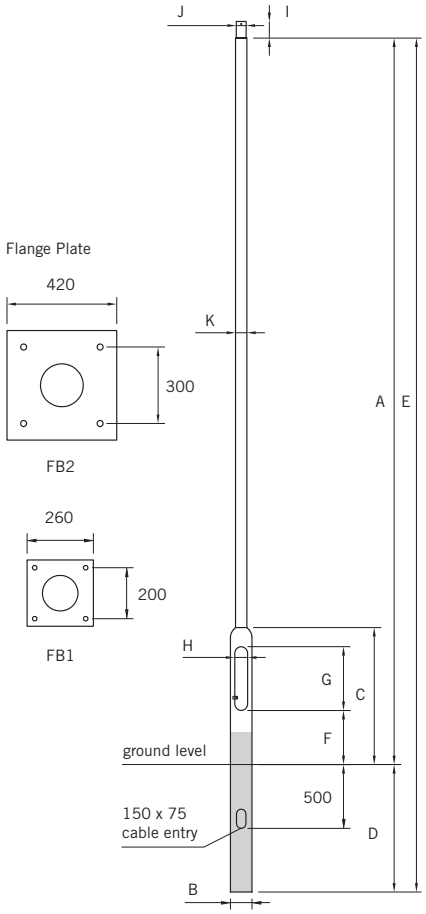
› **Datasheet**

PEBB.4.PT1.HVZ



Holophane products that are suitable

CityMax
Denver Elite pole
D-Series
Factor
Factor small
V-Max



	Nominal Height	Base Diameter*	Base Height	Planting Depth	Overall Length	Door to Ground	Door Opening Length	Door Opening Width	Spigot Length*	Spigot Diameter*	Shaft Diameter*	Weight kg*	Bending Moment (ULS) Nm
description	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**		
2.5m standard duty	2500	140	1075	800	3300	400	500	100	-	-	76	27	2100
3m standard duty	3000	140	1075	800	3800	400	500	100	-	-	76	30	4666
3.5m standard duty	3500	140	1075	800	4300	400	500	100	-	-	76	32	2100
4m standard duty	4000	140	1075	800	4800	400	500	100	-	-	76	34	6484
4.5m standard duty	4500	140	1075	800	5300	400	500	100	-	-	76	37	5108
5m standard duty	5000	140	1075	800	5800	400	500	100	-	-	76	39	6149
5.5m standard duty	5500	140	1075	1000	6500	400	500	100	-	-	76	44	6003
6m standard duty	6000	140	1075	1000	7000	400	500	100	-	-	76	46	5999
6m heavy duty	5700	168	1200	1000	6700	400	600	115	130	76	89	71	10404
8m standard duty	7700	168	1200	1200	8900	400	600	115	130	76	89	89	10072
8m heavy duty	7700	168	1300	1200	9000	500	600	115	250	101	114	107	15699
8m extra heavy duty	7700	194	1300	1200	9000	500	600	115	250	127	140	136	18973
10m standard duty	9700	168	1300	1500	11200	500	600	115	250	101	114	150	18067
10m heavy duty	9700	194	1300	1500	11200	500	600	115	250	127	140	168	23193
10m extra heavy duty	9700	194	1300	1500	11200	500	600	115	250	152	168	220	28317
12m standard duty	11700	194	1300	1700	13400	500	600	115	250	127	140	213	26251
12m heavy duty	11700	194	1300	1700	13400	500	600	115	250	127	168	260	40390

* Exclusion TBC

2.5-6m std Poles	**Flange Plate FB1**	**Bolts**	M18 x 400
8-12m std Poles	**Flange Plate FB2**	**Bolts**	M24 x 820

Flange Plate and Anchor Bolt information will be confirmed at time of order due to the necessity in ensuring the correct plate and Anchor Bolts are supplied.

Column type to be confirmed at time of order as this is based on luminaire weight, windage and geographical location.

stepped steel - CityMax Large only

post top

	Nominal Height	Base Diameter	Base Height	Planting Depth	Overall Length	Door to Ground	Door Opening Length	Door Opening Width	Spigot Length	Spigot Diameter	Shaft Diameter	Weight kg	Bending Moment (ULS) Nm
description	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**		
6m	6000	140	1075	1000	7000	400	500	115	-	-	-	46	5999
8m	7700	168	1300	1200	9000	500	600	115	100	76	114	107	15699
10m	9700	168	1300	1500	11200	500	600	115	100	76	114	150	18067
12m	11700	194	1300	1700	13400	500	600	115	100	76	140	168	26251
15m	14700	194	1200	2000	17000	400	600	115	100	76	168	306	40300

twin head

	Nominal Height	Base Diameter	Base Height	Planting Depth	Overall Length	Door to Ground	Door Opening Length	Door Opening Width	Spigot Length	Spigot Diameter	Shaft Diameter	Weight kg	Bending Moment (ULS) Nm
description	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**		
8m	7400	194	1200	1200	8800	400	600	115	200	127	139.7	125	22610
10m	9400	194	1200	1500	11100	400	600	115	200	152.4	168.3	208	39131
12m	11400	194	2500	1700	13300	1000	600	115	200	152.4	168.3	295	41585

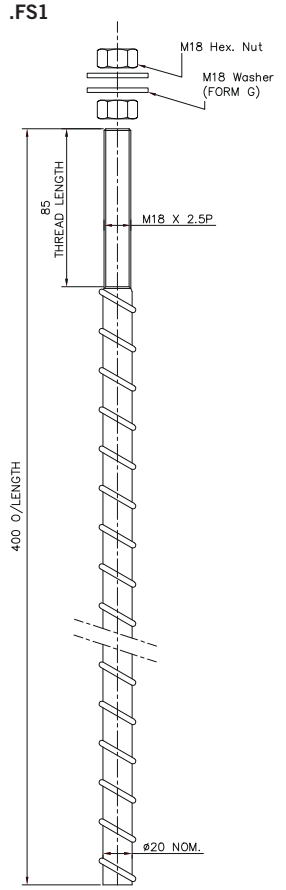
Note: For Terrain Category 2 locations LMZ, HVZ & HEZ

For columns supplied with optional flange base Holophane offers two types of foundation bolts.

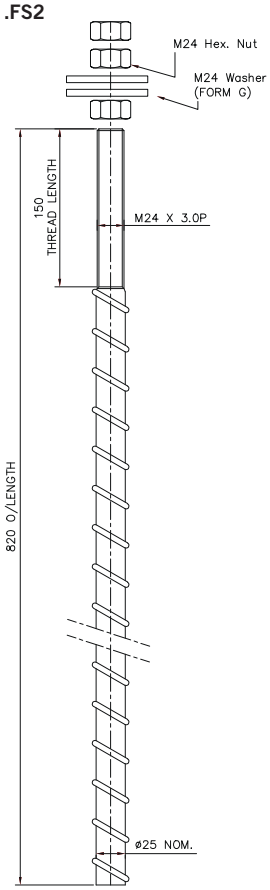
Note: The material used for the bolts is Fe E500 grade steel, with yield strength 500 N/mm2 and minimum UTS 550 N/mm2.

HEL.FS1 M18 Bolts (FS1) x 400 mm long
HEL.FS2 M24 Bolts (FS2) x 820 mm long

.FS1



.FS2

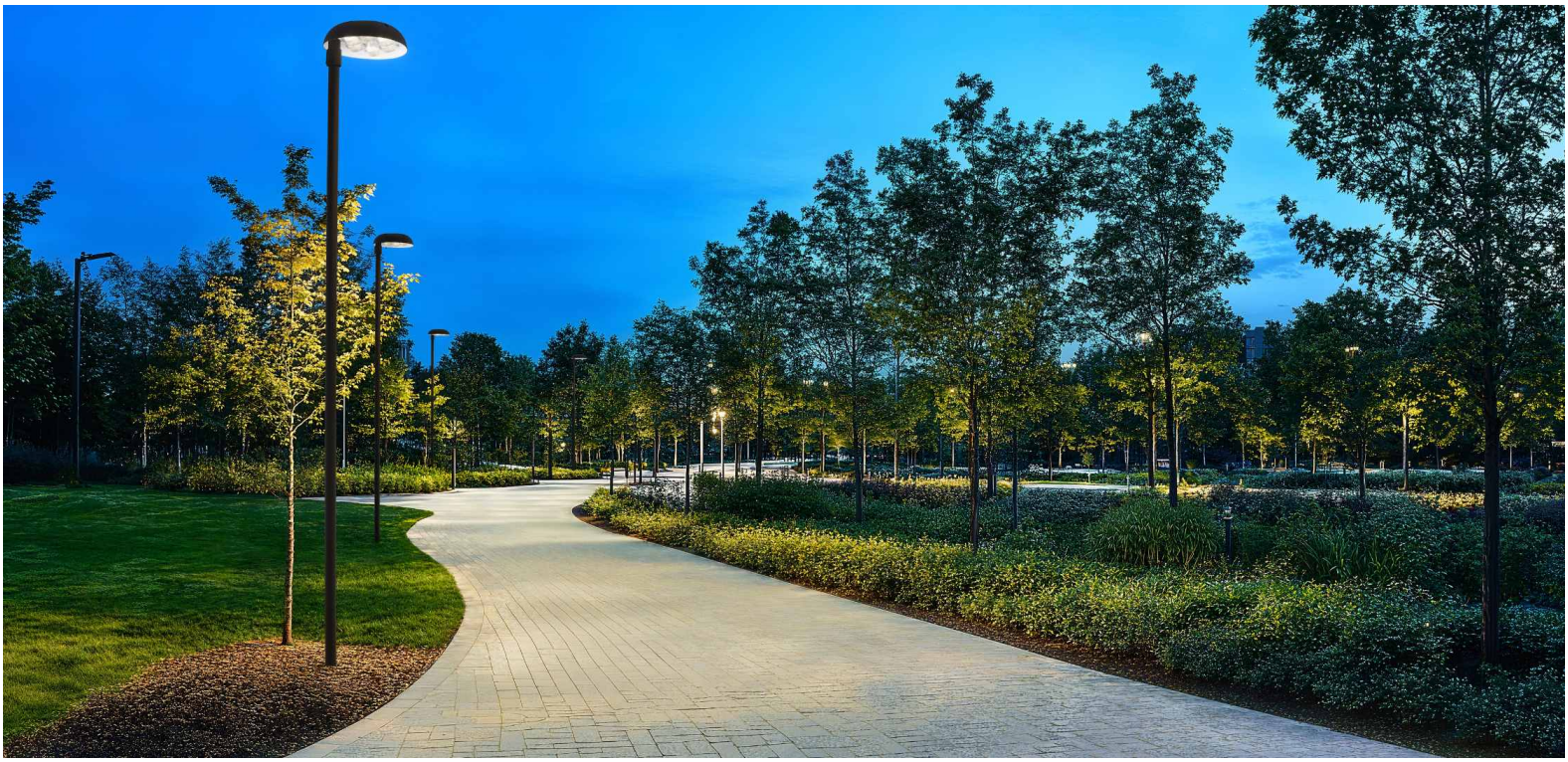


› **Datasheet - EXTERNAL - PEBBLE**

PEB.1.LM072.NR.PT1.C7.NIR

MADE IN BRITAIN

Product image may not represent the final configuration stated above.



Product Specification

PEB.1.LM072.NR.PT1.C7.NIR

Holophane Pebble luminaire is a outdoor area light with a low-profile design and patented modular light engine concept. The product is manufactured from die-cast marine grade aluminium and sealed to IP65 with individual prismatic polycarbonate optic pods. The optical pods deliver 'Comfort Optic' solution that combines prismatic control with a soft illuminated surface to deliver balanced light with reduced glare and improved visibility.
Access to driver and electrical terminations is via a detachable housing on top of the luminaire.
This specific SKU includes:
Series 1
• LED light engine producing c.7,000 lm with a nominal 2700°K colour temperature
• Long and Narrow light distribution
• 60/76mm post top mounting only
• Black (RAL9005)

PEBB.4.PT1.HVZ

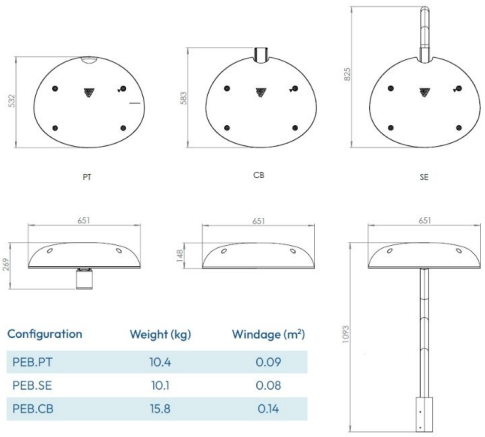
Holophane tubular base compartment column for use with Pebble luminaires. 4 metre, 60/76mm post top mounting only, For heavy area wind zones (compliant to EN40).
• DO NOT REMOVE THIS RECORD

Performance

Drive Current from Driver:	836mA
Power:	44W
Fitting Current:	0.2A
Fitting Inrush:	22A - 0.29ms
Number of Drivers:	1
1x Driver 1 Inrush:	22A - 0.29ms
Max Drivers per 16A Type B MCB:	20
Max Fittings per 16A Type B MCB:	20
Total Number of LEDs:	288
Minimum Dim Level:	8%
SDCM/MacAdam Ellipse:	3

Installation Guide

Dimensions

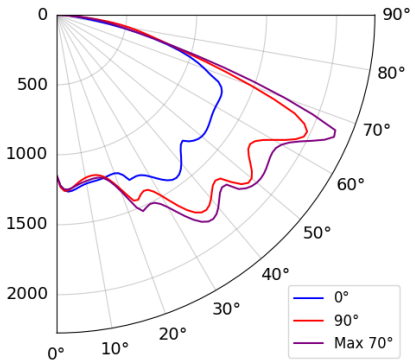


Configuration	Weight (kg)	Windage (m²)
PEB.PT	10.4	0.09
PEB.SE	10.1	0.08
PEB.CB	15.8	0.14

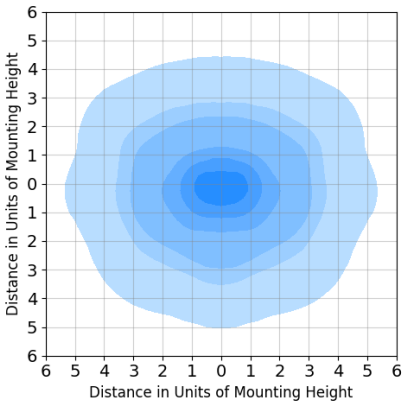
Photometry

IES File

Polar Plot



Isoilluminance Plot



Lumens:	6,502
CCT:	2700K
CRI:	70
IES File:	PEB.1.LM072.NR
G-Class:	G*6 Imax @ ⊠ 70°: 267 Imax @ ⊠ 80°: 84 Imax @ ⊠ 90°: 0

Colours

Selected Colour

C7 Black (RAL9005)

Custom Colour Available

RAL**** Customer specified colour

*Choosing a custom colour may increase the cost and lead time.

Standard Colours Available

C1 Smooth White (RAL9016)

C4 graphite (RAL7011)

C6 Smooth Grey (RAL7035)

C7 Black (RAL9005)

C9 Metallic Silver (RAL9006)

Lumen data is considered to be representative of the configuration shown, and may vary, with a tolerance on flux of +/- 7% (typical of LED manufacturer's data) and luminaire power of +/- 5%.

The specifications of the luminaires represents typical values. All descriptions, illustrations, drawings and specifications in the catalogue, Datasheets and website represent only general particulars of the goods to which they apply and shall not form part of any contract. The company reserves the right to change specifications at its discretion without prior notification or public announcement.

› **Datasheet - ROADWAY - SLI**

SLI.NCPA.1.LA042.AY.PT1.C7.F140.NIR

MADE IN BRITAIN

ida DARK SKY APPROVED by the International Dark-Sky Association darksky.org

Product image may not represent the final configuration stated above.

This is a bespoke product configuration. The performance data, dimensions and photometry included on this Datasheet are for a standard configured product only and may differ to the specification outlined below.

Product Specification

Holophane S-Line luminaire. Die cast aluminium ((EN AC-44100)(AL.Si12)) body and hinged door for access to electrical termination via single point M5 stainless steel. Luminaire sealed to IP66. Suitable for either post mounting or side entry (please specify) with ability to adjust onsite by -10° to +10° tilt. International Dark-Sky Association Approved (colour temperatures 3000K or warmer are approved under the IDA).
This specific SKU includes:

- Series 1
- Asymmetric light distribution
- 60/76mm post top mounting only
- Black (RAL9005)

Performance

Power:	34W
Fitting Current:	0.15A
Optical Risk Group:	1
Energy Class:	B

4Kg

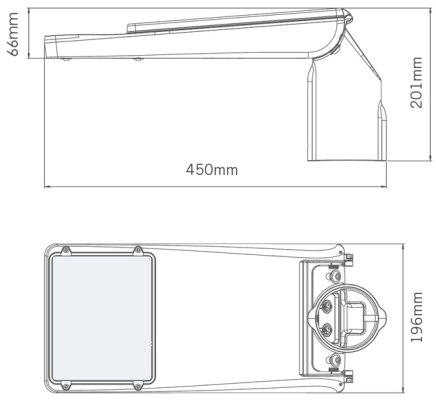
0.0297M

UMSUG 42 0034 0000 100*

Installation Guide

*Generic UMSUG code based on product wattage and some or all of product family being included within Elexon data base.

Dimensions



CIBSE TM66 - CEAM Rating

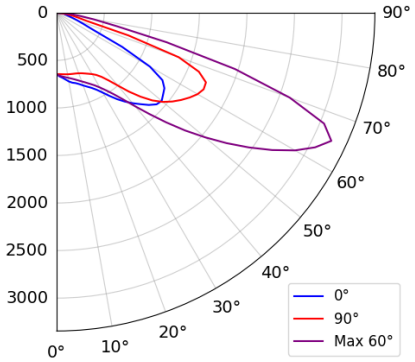
2.5 to 4.0	1.5 to 2.5	0.5 to 1.5	0 to 0.5
Excellent circularity	Definite/ substantial progress to circularity	Some circular economy functionality	Very poor circular economy performance

Assured Score

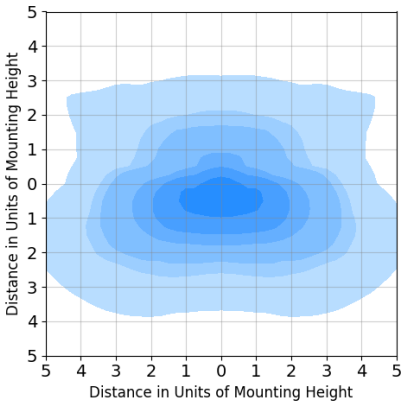
Photometry

IES File

Polar Plot



Isoilluminance Plot



Lumens:	4,412
CCT:	2700K
CRI:	70
IES File:	SLI.1.LA042.AY
G-Class:	G*2 Imax @ ⊠ 70°: 652 Imax @ ⊠ 80°: 116 Imax @ ⊠ 90°: 0

Colour Temperatures Available;

3000K

4000K

Colours

Selected Colour

C7 Black (RAL9005)

Custom Colour Available

RAL**** Customer specified colour

*Choosing a custom colour may increase the cost and lead time.

Standard Colours Available

C1 Smooth White (RAL9016)

C4 graphite (RAL7011)

C6 Smooth Grey (RAL7035)

C7 Black (RAL9005)

C9 Metallic Silver (RAL9006)

Lumen data is considered to be representative of the configuration shown, and may vary, with a tolerance on flux of +/- 7% (typical of LED manufacturer's data) and luminaire power of +/- 5%.

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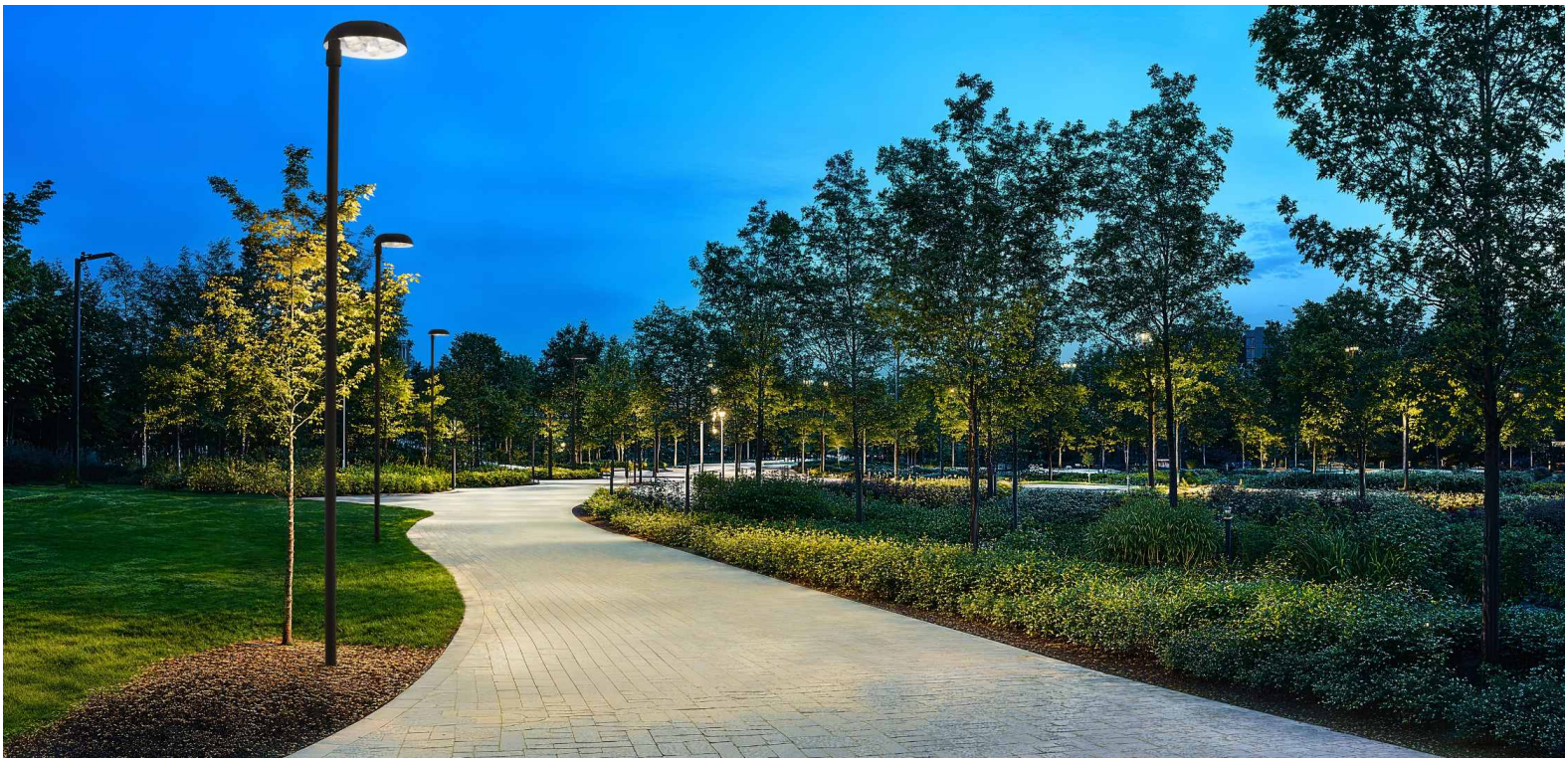
› **Datasheet - EXTERNAL - PEBBLE**

PEB.1.LM072.AY.PT1.C7.NIR

MADE IN BRITAIN

Product image may not represent the final configuration stated above.



Product Specification

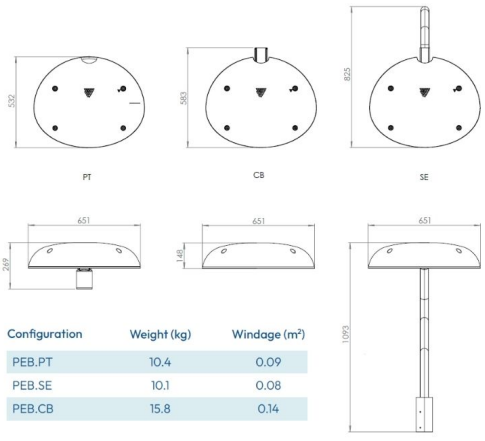
Holophane Pebble luminaire is a outdoor area light with a low-profile design and patented modular light engine concept. The product is manufactured from die-cast marine grade aluminium and sealed to IP65 with individual prismatic polycarbonate optic pods. The optical pods deliver 'Comfort Optic' solution that combines prismatic control with a soft illuminated surface to deliver balanced light with reduced glare and improved visibility.
Access to driver and electrical terminations is via a detachable housing on top of the luminaire.
This specific SKU includes:
Series 1
• LED light engine producing c.7,000 lm with a nominal 2700°K colour temperature
• Asymmetric light distribution
• 60/76mm post top mounting only
• Black (RAL9005)

Performance

Drive Current from Driver:	836mA
Power:	44W
Fitting Current:	0.2A
Fitting Inrush:	22A - 0.29ms
Number of Drivers:	1
1x Driver 1 Inrush:	22A - 0.29ms
Max Drivers per 16A Type B MCB:	20
Max Fittings per 16A Type B MCB:	20
Total Number of LEDs:	288
Minimum Dim Level:	8%
SDCM/MacAdam Ellipse:	3

Installation Guide

Dimensions

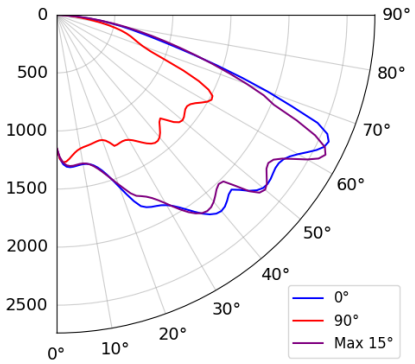


Configuration	Weight (kg)	Windage (m²)
PEB.PT	10.4	0.09
PEB.SE	10.1	0.08
PEB.CB	15.8	0.14

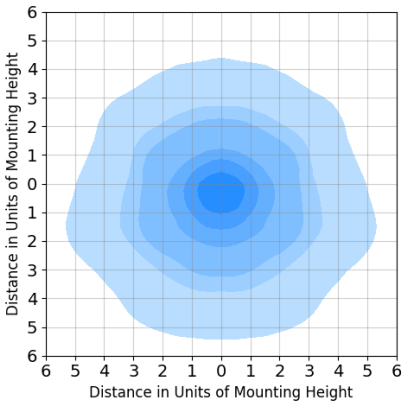
Photometry

IES File

Polar Plot



Isoilluminance Plot



Lumens:	6,519
CCT:	2700K
CRI:	70
IES File:	PEB.1.LM072.AY
G-Class:	G*6 Imax @ ⊠ 70°: 297 Imax @ ⊠ 80°: 99 Imax @ ⊠ 90°: 0

Colours

Selected Colour

C7 Black (RAL9005)

Custom Colour Available

RAL**** Customer specified colour

*Choosing a custom colour may increase the cost and lead time.

Standard Colours Available

C1 Smooth White (RAL9016)

C4 graphite (RAL7011)

C6 Smooth Grey (RAL7035)

C7 Black (RAL9005)

C9 Metallic Silver (RAL9006)

Lumen data is considered to be representative of the configuration shown, and may vary, with a tolerance on flux of +/- 7% (typical of LED manufacturer's data) and luminaire power of +/- 5%.

Summary P752-2995 - Hodson Bay Waterfront Park (NI)

Line No.	Item Ref	Quantity	Catalogue
LUMINAIRE, COLUMN AND BRACKET PACKAGE			
10	A1	1	PEB.1.LM102.FWE.PT1.C7.NIR
11	A1	1	PEBB.6.PT1.HVZ
LUMINAIRE, COLUMN AND BRACKET PACKAGE			
20	B1	2	PEB.1.LM092.FWE.PT1.C7.NIR
21	B1	2	PEBB.6.PT1.HVZ
LUMINAIRE, COLUMN AND BRACKET PACKAGE			
30	C1	6	PEB.1.LM082.FWE.PT1.C7.NIR
31	C1	6	PEBB.6.PT1.HVZ
LUMINAIRE, COLUMN AND BRACKET PACKAGE			
40	D1	7	PEB.1.LM072.FWE.PT1.C7.NIR
41	D1	7	PEBB.6.PT1.HVZ
LUMINAIRE, COLUMN AND BRACKET PACKAGE			
50	F1	3	PEB.1.LM062.FWE.PT1.C7.NIR
51	F1	3	PEBB.6.PT1.HVZ
LUMINAIRE, COLUMN AND BRACKET PACKAGE			
60	G1	5	PEB.1.LM052.FWE.PT1.C7.NIR
61	G1	5	PEBB.6.PT1.HVZ
LUMINAIRE, COLUMN AND BRACKET PACKAGE			
70	G2	4	PEB.1.LM052.FWE.PT1.C7.NIR
71	G2	4	PEBB.6.PT1.HVZ
LUMINAIRE, COLUMN AND BRACKET PACKAGE			
80	H1	3	PEB.1.LM102.SY.PT1.C7.NIR
81	H1	3	PEBB.6.PT1.HVZ
LUMINAIRE, COLUMN AND BRACKET PACKAGE			
90	I1	10	PEB.1.LM082.NR.PT1.C7.NIR
91	I1	10	PEBB.6.PT1.HVZ
LUMINAIRE, COLUMN AND BRACKET PACKAGE			
100	J1	5	PEB.1.LM062.SY.PT1.C7.NIR
101	J1	5	PEBB.6.PT1.HVZ
LUMINAIRE, COLUMN AND BRACKET PACKAGE			
110	K1	2	PEB.1.LM062.NR.PT1.C7.NIR
111	K1	2	PEBB.6.PT1.HVZ
LUMINAIRE, COLUMN AND BRACKET PACKAGE			
130	L1	19	SLI.NCPA.1.LA042.NR.PT1.C7.F140.NIR
131	L1	19	SLIB.6.PT76.HVZ
LUMINAIRE, COLUMN AND BRACKET PACKAGE			
140	M1-4	8	PEB.1.LM062.NR.PT1.C7.NIR
141	M1-4	8	PEBB.4.PT1.HVZ
LUMINAIRE, COLUMN AND BRACKET PACKAGE			

150	M1-6	2	PEB.1.LM062.NR.PT1.C7.NIR
151	M1-6	2	PEBB.6.PT1.HVZ

LUMINAIRE, COLUMN AND BRACKET PACKAGE

160	N1	8	PEB.1.LM082.FWE.PT1.C7.NIR
161	N1	8	PEBB.4.PT1.HVZ

LUMINAIRE, COLUMN AND BRACKET PACKAGE

170	O1	28	PEB.1.LM062.FWE.PT1.C7.NIR
171	O1	28	PEBB.4.PT1.HVZ

LUMINAIRE, COLUMN AND BRACKET PACKAGE

180	P1	5	PEB.1.LM062.SY.PT1.C7.NIR
181	P1	5	PEBB.4.PT1.HVZ

LUMINAIRE, COLUMN AND BRACKET PACKAGE

190	Q1	6	PEB.1.LM052.FWE.PT1.C7.NIR
191	Q1	6	PEBB.4.PT1.HVZ

LUMINAIRE, COLUMN AND BRACKET PACKAGE

200	R1	7	PEB.1.LM072.NR.PT1.C7.NIR
201	R1	7	PEBB.4.PT1.HVZ

LUMINAIRE, COLUMN AND BRACKET PACKAGE

210	S1	4	PEB.1.LM062.FWE.PT1.C7.NIR
211	S1	4	PEBB.4.PT1.HVZ

LUMINAIRE, COLUMN AND BRACKET PACKAGE

220	T1	7	PEB.1.LM062.NR.PT1.C7.NIR
221	T1	7	PEBB.4.PT1.HVZ

LUMINAIRE, COLUMN AND BRACKET PACKAGE

230	U1	58	SLI.NCPA.1.LA042.AY.PT1.C7.F140.NIR
231	U1	58	PEBB.6.PT1.HVZ

LUMINAIRE, COLUMN AND BRACKET PACKAGE

240	ZW	#	PEB.1.LM072.AY.PT1.C7.NIR
241	ZW	#	Wall Brackets

ACCESSORY

230	BLS	142	PEB.BLS