

## NEWTOWN PODS

Installation : Exterior Lighting

Project number : DN-MR-1121-018

Customer :

Processed by : Andrew Newman

Date : 01.12.2021

Project description:

Maintenance factor 0.80

Please Check The Levels Achieved For Approval

Final lighting levels are to be confirmed using customer risk assessments.

These plots represent specific ASD products under given conditions. Changes to environment, calculation software accuracy and on site measurement mean real installations may differ from these predictions.

This design information constitutes guidance only.

Common design parameters have been used in order to carry out all calculations. If any part of the scheme or subsequent luminaires used within the scheme is deemed to be inappropriate, please contact us in order for re-calculations to be carried out, prior to an order being placed.

Please ensure that this lighting scheme complies with all requirements, and if further details/ calculations are required please contact ASD Lighting.

Final quantities are to be confirmed prior to an order/installation.

The following values are based on precise calculations performed on calibrated lamps and luminaires, and their configurations, whereby gradual, unavoidable deviations can occur in practice. All guarantee claims are excluded for the specified data.

This exclusion of liability applies irrespective of the legal grounds for both damages and consequential damages suffered by users and third parties.

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## Luminaire data

**ASD Lighting PLC, HWD-#27LED0430-M1 Osra... (HWD-#27LED0430-M1)**

### Data sheet

**Manufacturer: ASD Lighting PLC**

**HWD-#27LED0430-M1**

**HWD-#27LED0430-M1 Osram Rev 5**

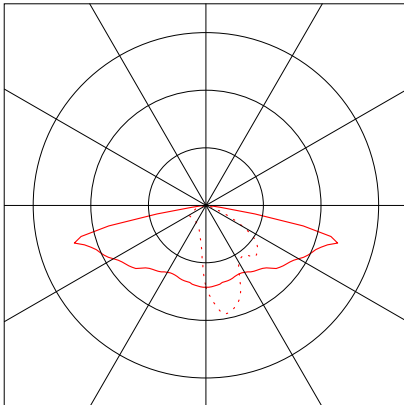
#### Luminaire data

Luminaire efficiency : 100%  
Luminaire efficacy : 79.31 lm/W  
Classification : A30 ↓100.0% ↑0.0%  
CIE Flux Codes : 33 65 93 100 100  
UGR 4H 8H : 30.4 / 13.0  
Power : 5.8 W  
Luminous flux : 460 lm

#### Equipped with

Quantity : 4  
Designation : LED  
Colour : 2700  
Luminous flux : 115 lm  
Colour reproduction : 72

Dimensions : 600 mm x 235 mm x 130 mm



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## Luminaire data

**ASD Lighting PLC, HWD-#27LED850-F0 Osram ... (HWD-#27LED850-F0)**

### Data sheet

**Manufacturer: ASD Lighting PLC**

**HWD-#27LED850-F0**

**HWD-#27LED850-F0 Osram Rev 1**

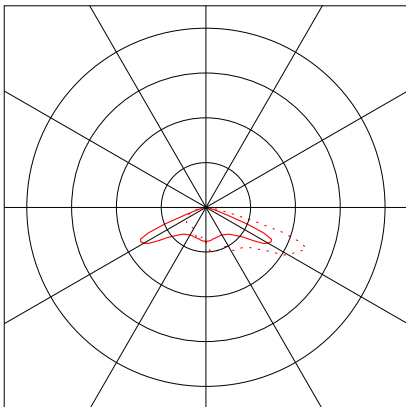
#### Luminaire data

Luminaire efficiency : 100%  
Luminaire efficacy : 87.18 lm/W  
Classification : A20 ↓100.0% ↑0.0%  
CIE Flux Codes : 25 57 96 100 100  
UGR 4H 8H : 27.0 / 19.8  
Power : 14.9 W  
Luminous flux : 1299 lm

#### Equipped with

Quantity : 8  
Designation : LED  
Colour : 2700  
Luminous flux : 162.4 lm  
Colour reproduction : 72

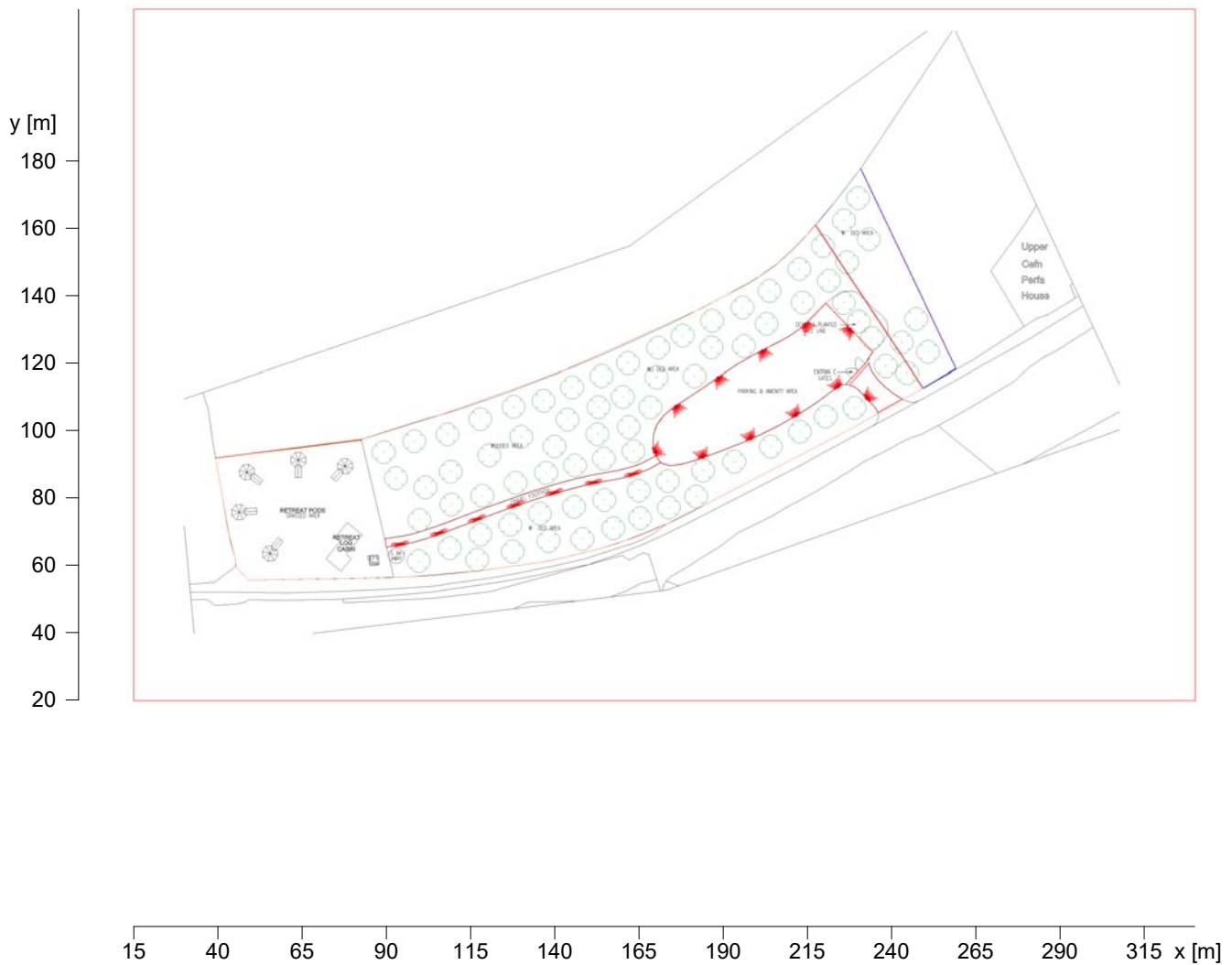
Dimensions : 600 mm x 235 mm x 130 mm



## Exterior 1

### Description, Exterior 1

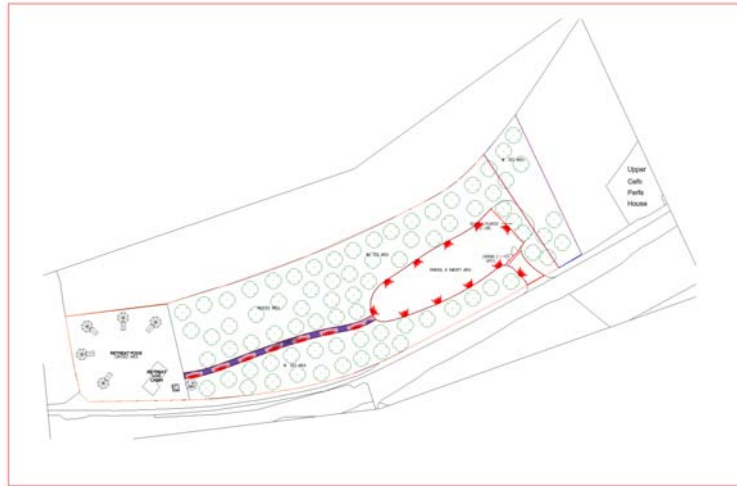
#### Floor plan



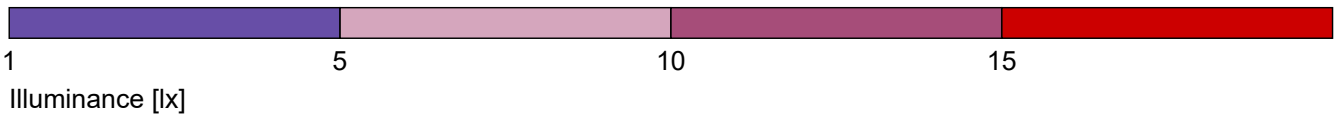
## Exterior 1

### Summary, Exterior 1

#### Result overview, Gravel Footpath



15 40 65 90 115 140 165 190 215 240 265 290 315 x [m]



#### General

|                              |                           |
|------------------------------|---------------------------|
| Calculation algorithm used   | Average indirect fraction |
| Height of evaluation surface | 0.00 m                    |
| Maintenance factor           | 0.80                      |

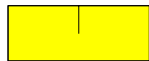
|   |                       |
|---|-----------------------|
| Total luminous flux of all lamps                | 17509 lm              |
| Total power                                     | 204.5 W               |
| Total power per area (64575.00 m <sup>2</sup> ) | 0.00 W/m <sup>2</sup> |
| Upward light ratio (ULR)                        | 0.00                  |


#### Illuminance

|                     |           |               |
|---------------------|-----------|---------------|
| Average illuminance | Em        | 6.1 lx        |
| Minimum illuminance | Emin      | 2.8 lx        |
| Maximum illuminance | Emax      | 16.1 lx       |
| Uniformity Uo       | Emin/Em   | 1:2.17 (0.46) |
| Diversity Ud        | Emin/Emax | 1:5.7 (0.18)  |

#### Type No.Make

##### ASD Lighting PLC

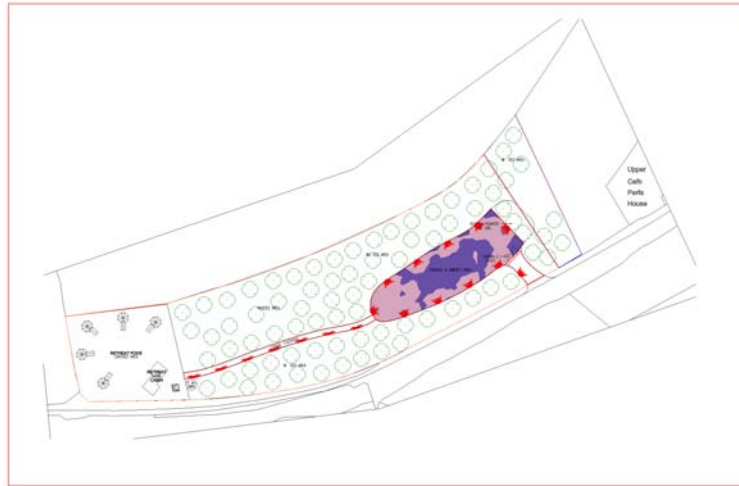
|   |   |                |                                 |
|---|---|----------------|---------------------------------|
| 1   | 7 | Order No.      | : HWD-#27LED0430-M1             |
|  |   | Luminaire name | : HWD-#27LED0430-M1 Osram Rev 5 |
|   |   | Equipment      | : 4 x LED / 115 lm              |

|   |    |                |                                |
|---|----|----------------|--------------------------------|
| 2   | 11 | Order No.      | : HWD-#27LED850-F0             |
|  |    | Luminaire name | : HWD-#27LED850-F0 Osram Rev 1 |
|   |    | Equipment      | : 8 x LED / 162.375 lm         |

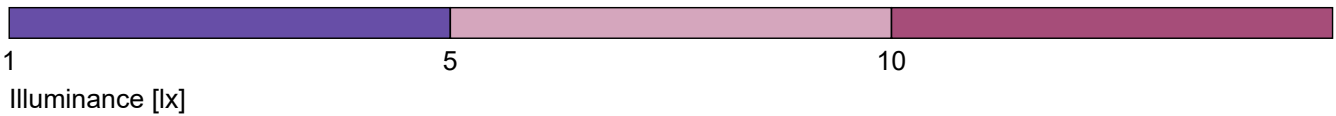
The ULR value has been calculated without obstruction by other objects.

## Summary, Exterior 1

### Result overview, Parking Amenity



15 40 65 90 115 140 165 190 215 240 265 290 315 x [m]



#### General

|                              |                           |
|------------------------------|---------------------------|
| Calculation algorithm used   | Average indirect fraction |
| Height of evaluation surface | 0.00 m                    |
| Maintenance factor           | 0.80                      |

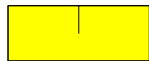
|   |                       |
|---|-----------------------|
| Total luminous flux of all lamps                | 17509 lm              |
| Total power                                     | 204.5 W               |
| Total power per area (64575.00 m <sup>2</sup> ) | 0.00 W/m <sup>2</sup> |
| Upward light ratio (ULR)                        | 0.00                  |


#### Illuminance

|                     |           |               |
|---------------------|-----------|---------------|
| Average illuminance | Em        | 5.7 lx        |
| Minimum illuminance | Emin      | 2.7 lx        |
| Maximum illuminance | Emax      | 14.2 lx       |
| Uniformity Uo       | Emin/Em   | 1:2.14 (0.47) |
| Diversity Ud        | Emin/Emax | 1:5.29 (0.19) |

#### Type No. Make

##### ASD Lighting PLC

|   |   |                |                                 |
|---|---|----------------|---------------------------------|
| 1   | 7 | Order No.      | : HWD-#27LED0430-M1             |
|  |   | Luminaire name | : HWD-#27LED0430-M1 Osram Rev 5 |
|   |   | Equipment      | : 4 x LED / 115 lm              |

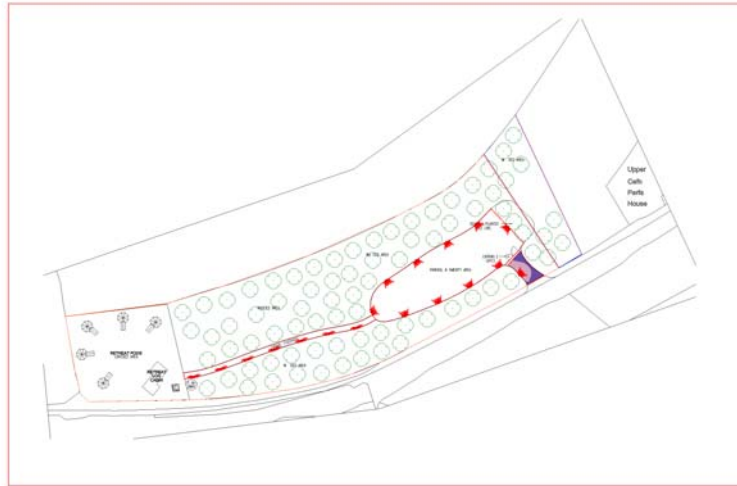
|   |    |                |                                |
|---|----|----------------|--------------------------------|
| 2   | 11 | Order No.      | : HWD-#27LED850-F0             |
|  |    | Luminaire name | : HWD-#27LED850-F0 Osram Rev 1 |
|   |    | Equipment      | : 8 x LED / 162.375 lm         |

The ULR value has been calculated without obstruction by other objects.

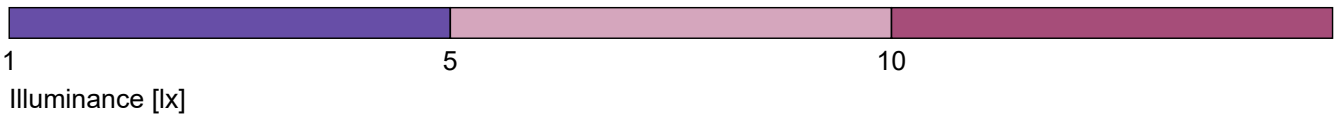
ASD Lighting PLC, Mangham Road, Rotherham. S61 4RJ

## Summary, Exterior 1

### Result overview, Entrance Gates



15 40 65 90 115 140 165 190 215 240 265 290 315 x [m]



#### General

|                              |                           |
|------------------------------|---------------------------|
| Calculation algorithm used   | Average indirect fraction |
| Height of evaluation surface | 0.00 m                    |
| Maintenance factor           | 0.80                      |

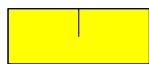
|   |                       |
|---|-----------------------|
| Total luminous flux of all lamps                | 17509 lm              |
| Total power                                     | 204.5 W               |
| Total power per area (64575.00 m <sup>2</sup> ) | 0.00 W/m <sup>2</sup> |
| Upward light ratio (ULR)                        | 0.00                  |


#### Illuminance

|                           |           |               |
|---------------------------|-----------|---------------|
| Average illuminance       | Em        | 5.5 lx        |
| Minimum illuminance       | Emin      | 2.2 lx        |
| Maximum illuminance       | Emax      | 13 lx         |
| Uniformity U <sub>o</sub> | Emin/Em   | 1:2.44 (0.41) |
| Diversity U <sub>d</sub>  | Emin/Emax | 1:5.8 (0.17)  |

#### Type No. Make

##### ASD Lighting PLC

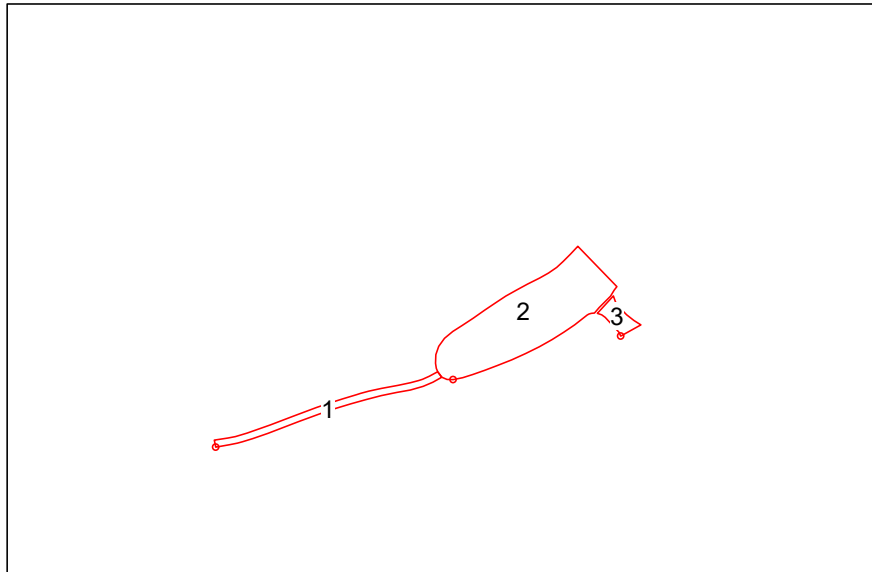
|   |   |                |                                 |
|---|---|----------------|---------------------------------|
| 1   | 7 | Order No.      | : HWD-#27LED0430-M1             |
|  |   | Luminaire name | : HWD-#27LED0430-M1 Osram Rev 5 |
|   |   | Equipment      | : 4 x LED / 115 lm              |

|   |    |                |                                |
|---|----|----------------|--------------------------------|
| 2   | 11 | Order No.      | : HWD-#27LED850-F0             |
|  |    | Luminaire name | : HWD-#27LED850-F0 Osram Rev 1 |
|   |    | Equipment      | : 8 x LED / 162.375 lm         |

The ULR value has been calculated without obstruction by other objects.

## Summary, Exterior 1

### Result overview, Group 1



#### Horizontal illuminance

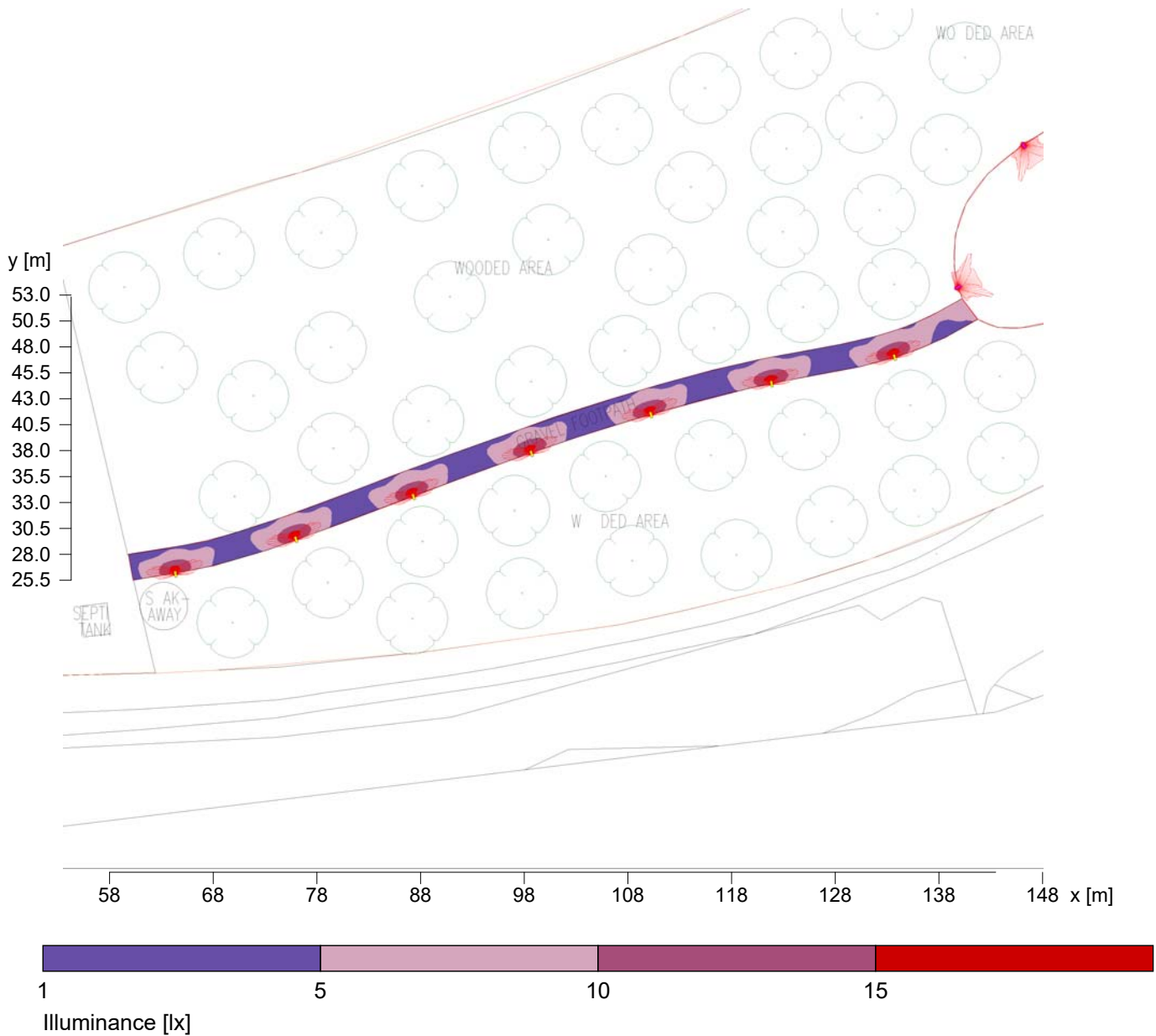
| No.            | Measuring surface | Grid     | Em            | Emin          | Emax           | Uo          | Ud          |
|----------------|-------------------|----------|---------------|---------------|----------------|-------------|-------------|
| 1.1            | Gravel Footpath   | 197 x 31 | 6.1 lx        | 2.8 lx        | 16.1 lx        | 0.46        | 0.18        |
| 1.2            | Parking Amenity   | 18 x 10  | 5.7 lx        | 2.7 lx        | 14.2 lx        | 0.47        | 0.19        |
| 1.3            | Entrance Gates    | 9 x 11   | 5.5 lx        | 2.2 lx        | 13 lx          | 0.41        | 0.17        |
| <b>Summary</b> |                   |          | <b>5.8 lx</b> | <b>2.2 lx</b> | <b>16.1 lx</b> | <b>0.39</b> | <b>0.14</b> |



## Exterior 1

### Calculation results, Exterior 1

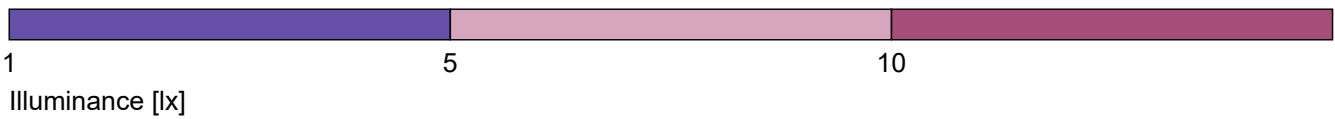
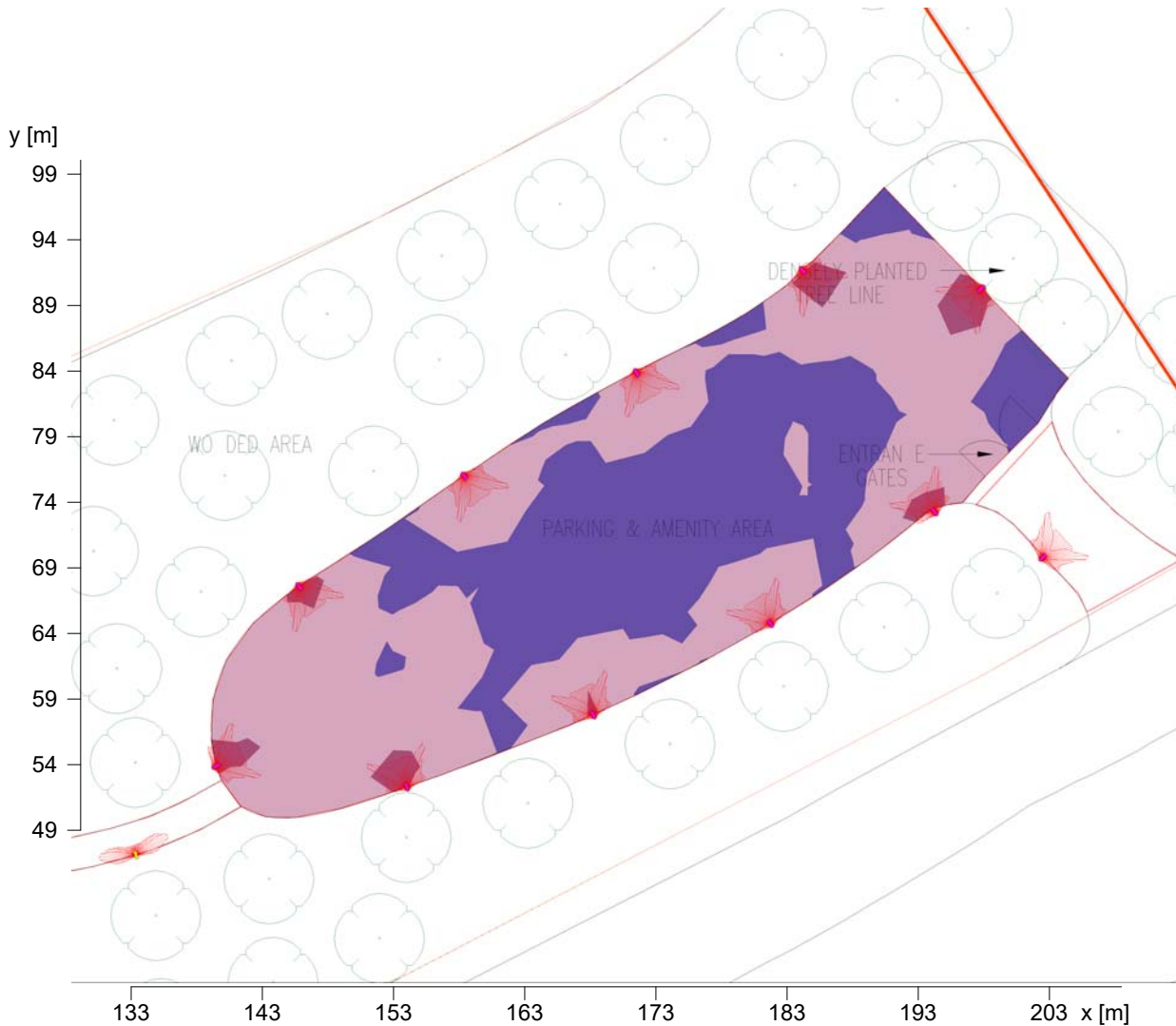
#### Pseudo colours, Gravel Footpath (E)



|                        |           |                   |
|------------------------|-----------|-------------------|
| Height reference plane |           | : 0.00 m          |
| Average illuminance    | Em        | : 6.1 lx          |
| Minimum illuminance    | Emin      | : 2.8 lx          |
| Maximum illuminance    | Emax      | : 16.1 lx         |
| Uniformity Uo          | Emin/Em   | : 1 : 2.17 (0.46) |
| Diversity Ud           | Emin/Emax | : 1 : 5.70 (0.18) |

## Calculation results, Exterior 1

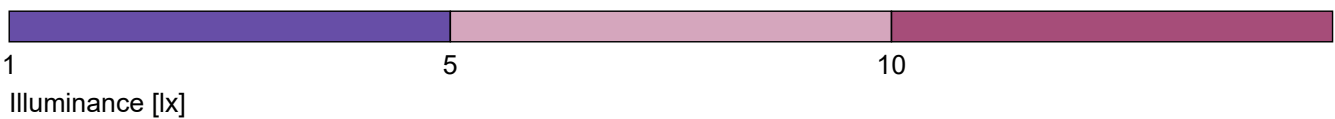
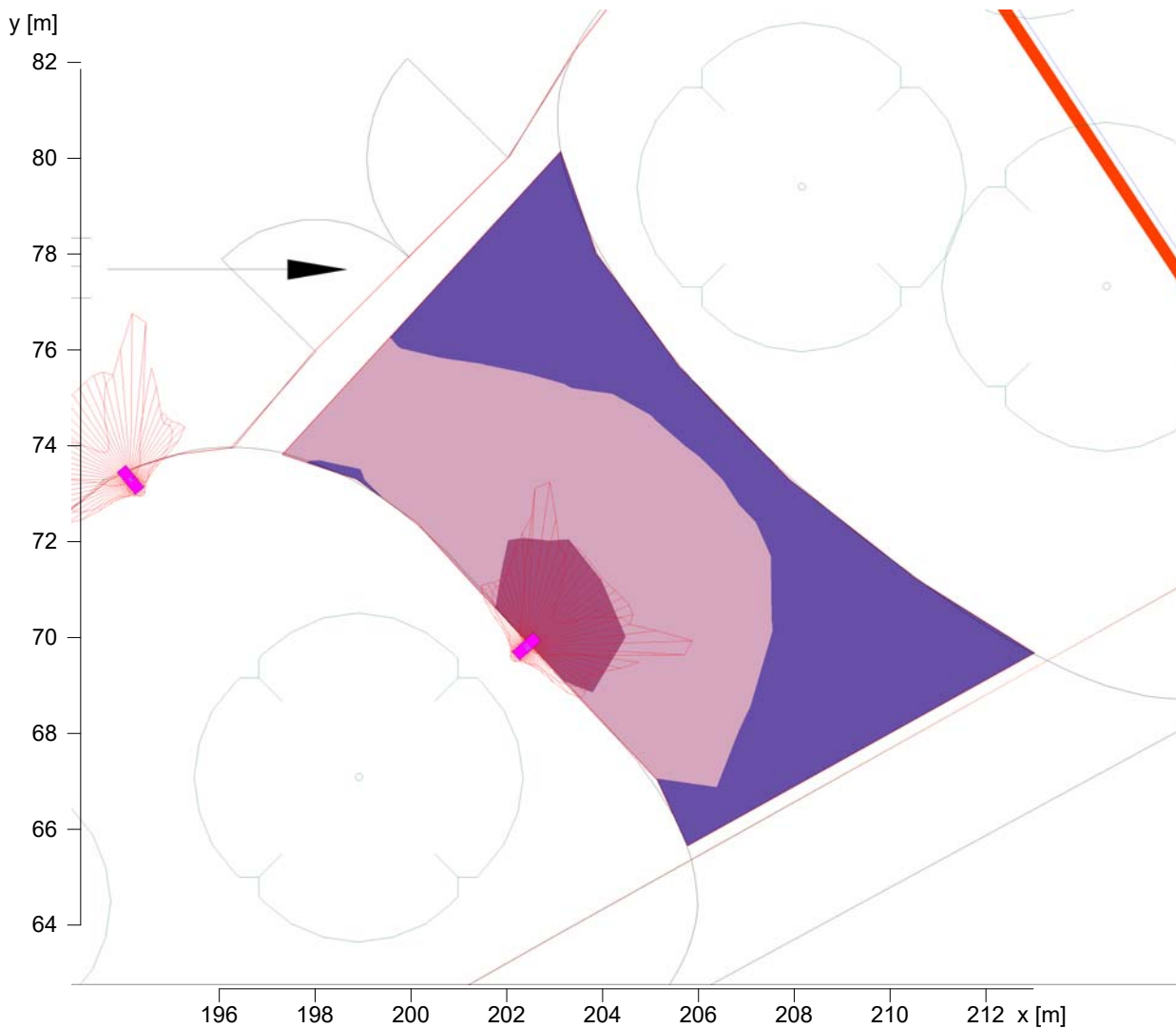
### Pseudo colours, Parking Amenity (E)



|                        |           |                   |
|------------------------|-----------|-------------------|
| Height reference plane |           | : 0.00 m          |
| Average illuminance    | Em        | : 5.7 lx          |
| Minimum illuminance    | Emin      | : 2.7 lx          |
| Maximum illuminance    | Emax      | : 14.2 lx         |
| Uniformity Uo          | Emin/Em   | : 1 : 2.14 (0.47) |
| Diversity Ud           | Emin/Emax | : 1 : 5.29 (0.19) |

### Calculation results, Exterior 1

#### Pseudo colours, Entrance Gates (E)



|                        |           |                   |
|------------------------|-----------|-------------------|
| Height reference plane |           | : 0.00 m          |
| Average illuminance    | Em        | : 5.5 lx          |
| Minimum illuminance    | Emin      | : 2.2 lx          |
| Maximum illuminance    | Emax      | : 13 lx           |
| Uniformity Uo          | Emin/Em   | : 1 : 2.44 (0.41) |
| Diversity Ud           | Emin/Emax | : 1 : 5.80 (0.17) |