

**DATE:** 24 May 2023  
**DESIGNER:** EDS  
**PROJECT No:** 588  
**PROJECT NAME:** Himley Village S278 & Primary Infrastructure

**LIGHTING  
REALITY**

Main Infrastructure RM - S278 & Primary infrastructure S38

Main road designed to M4  
Junction with new access designed to C3  
5 second stopping distance 133 (60mph limit)

Main access Roads designed to P3  
Side Roads designed to P4

## **Outdoor Lighting Report**

## Layout Report

### General Data

Dimensions in Metres Angles in Degrees

### Calculation Grids

| ID | Grid Name | X         | Y         | X' Length | Y' Length | X' Spacing | Y' Spacing |
|----|-----------|-----------|-----------|-----------|-----------|------------|------------|
| 1  | Grid 1    | 455381.01 | 223088.88 | 122.10    | 52.59     | 1.49       | 1.46       |
| 2  | Grid 2    | 455496.16 | 223047.73 | 55.17     | 48.33     | 1.49       | 1.34       |
| 3  | Grid 3    | 455548.20 | 223029.10 | 242.93    | 40.58     | 1.50       | 1.45       |
| 4  | Grid 4    | 455777.36 | 222947.72 | 55.10     | 43.20     | 1.49       | 1.49       |
| 5  | Grid 5    | 455829.51 | 222929.15 | 305.52    | 40.29     | 1.50       | 1.49       |
| 6  | Grid 6    | 455393.21 | 223135.79 | 181.75    | 306.42    | 1.49       | 1.49       |
| 7  | Grid 7    | 455537.72 | 223409.86 | 211.06    | 166.96    | 1.50       | 1.49       |
| 8  | Grid 8    | 455799.25 | 222979.72 | 42.11     | 188.81    | 1.45       | 1.50       |
| 9  | Grid 9    | 455615.51 | 223220.87 | 204.47    | 42.95     | 1.49       | 1.48       |
| 10 | Grid 10   | 455812.37 | 223159.45 | 307.67    | 62.05     | 1.49       | 1.48       |
| 11 | Grid 11   | 455632.03 | 223261.15 | 160.90    | 108.14    | 1.49       | 1.48       |
| 12 | Grid 12   | 455561.65 | 223067.52 | 242.93    | 19.00     | 1.50       | 1.46       |
| 13 | Grid 13   | 455842.92 | 222967.05 | 305.53    | 19.17     | 1.50       | 1.47       |

### Luminaires



#### Luminaire A Data

|                      |  |
|----------------------|--|
| Supplier             | D W Windsor  |
| Type                 | KIRIUM PRO2 48LED 3k A2 650mA UMSUG 42 0083 0000 100     |
| Lamp(s)              | 48 x 3k LED  |
| Lamp Flux (klm)      | 13.33  |
| File Name            | KIRIUM PRO2 48LED 3k A2 650mA UMSUG 42 0083 0000 100.ies |
| Maintenance Factor   | 0.85   |
| Imax70,80,90(cd/klm) | 637.0, 59.7, 0.0   |
| No. in Project       | 20   |



#### Luminaire B Data

|                      |  |
|----------------------|--|
| Supplier             | D W Windsor  |
| Type                 | KIRIUM PRO1 32LED 3k C2 800mA UMSUG 42 0070 0000 100     |
| Lamp(s)              | 32 x 3k LED  |
| Lamp Flux (klm)      | 10.08  |
| File Name            | KIRIUM PRO1 32LED 3k C2 800mA UMSUG 42 0070 0000 100.ies |
| Maintenance Factor   | 0.85   |
| Imax70,80,90(cd/klm) | 794.0, 43.8, 0.0   |
| No. in Project       | 37   |



#### Luminaire C Data

|                      |  |
|----------------------|--|
| Supplier             | D W Windsor  |
| Type                 | KIRIUM PRO MINI 16LED 3k D4 550mA UMSUG 42 0025 0000 100     |
| Lamp(s)              | 16 x 3k LED  |
| Lamp Flux (klm)      | 3.75   |
| File Name            | KIRIUM PRO MINI 16LED 3k D4 550mA UMSUG 42 0025 0000 100.ies |
| Maintenance Factor   | 0.85   |
| Imax70,80,90(cd/klm) | 588.4, 134.0, 0.0  |
| No. in Project       | 7  |



#### Luminaire D Data

|                      |   |
|----------------------|---|
| Supplier             | D W Windsor   |
| Type                 | KIRIUM PRO MINI 8LED 3k A1 500mA UMSUG 42 0012 0000 100     |
| Lamp(s)              | 8 x 3k LED  |
| Lamp Flux (klm)      | 1.79  |
| File Name            | KIRIUM PRO MINI 8LED 3k A1 500mA UMSUG 42 0012 0000 100.ies |
| Maintenance Factor   | 0.85  |
| Imax70,80,90(cd/klm) | 741.0, 276.2, 0.0   |
| No. in Project       | 14  |

**Layout**

| ID   | Type | X         | Y         | Height | Angle  | Tilt | Cant | Out-reach | Target X | Target Y | Target Z |
|------|------|-----------|-----------|--------|--------|------|------|-----------|----------|----------|----------|
| 1    | A    | 455413.14 | 223112.30 | 10.00  | 253.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 2    | A    | 455459.57 | 223095.62 | 10.00  | 250.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 3    | A    | 455499.07 | 223082.77 | 10.00  | 252.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 4    | A    | 455528.21 | 223059.59 | 10.00  | 73.00  | 0.00 | 0.00 | 0.50      |          |          |          |
| 5    | A    | 455570.09 | 223060.81 | 10.00  | 250.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 6    | A    | 455530.05 | 223084.09 | 10.00  | 337.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 7    | A    | 455609.51 | 223043.92 | 10.00  | 246.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 8    | A    | 455650.38 | 223027.70 | 10.00  | 249.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 9    | A    | 455691.84 | 223012.93 | 10.00  | 247.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 10   | A    | 455733.04 | 222997.97 | 10.00  | 247.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 11   | A    | 455773.14 | 222983.84 | 10.00  | 250.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 12   | A    | 455813.06 | 222958.25 | 10.00  | 70.00  | 0.00 | 0.00 | 0.50      |          |          |          |
| 13   | A    | 455851.84 | 222958.03 | 10.00  | 250.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 14   | B    | 455812.08 | 222983.80 | 8.00   | 351.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 15   | A    | 455890.46 | 222942.02 | 10.00  | 248.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 16   | A    | 455928.40 | 222928.27 | 10.00  | 250.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 17   | A    | 455967.95 | 222913.86 | 10.00  | 248.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 18   | A    | 456006.99 | 222899.84 | 10.00  | 249.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 19   | A    | 456046.88 | 222885.43 | 10.00  | 245.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 20   | A    | 456080.66 | 222873.06 | 10.00  | 248.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| Ex86 | A    | 456110.81 | 222853.51 | 10.00  | 70.00  | 0.00 | 0.00 | 0.50      |          |          |          |
| 22   | B    | 455539.58 | 223116.39 | 8.00   | 340.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 23   | B    | 455552.64 | 223154.16 | 8.00   | 339.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 24   | B    | 455563.99 | 223187.19 | 8.00   | 339.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 25   | B    | 455575.03 | 223218.39 | 8.00   | 339.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 26   | B    | 455586.70 | 223251.77 | 8.00   | 339.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 27   | B    | 455623.07 | 223282.19 | 8.00   | 159.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 28   | B    | 455620.13 | 223328.05 | 8.00   | 339.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 29   | B    | 455636.85 | 223364.37 | 8.00   | 334.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 30   | B    | 455581.63 | 223302.56 | 8.00   | 67.00  | 0.00 | 0.00 | 0.50      |          |          |          |
| 31   | B    | 455550.85 | 223333.92 | 8.00   | 245.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 32   | B    | 455505.81 | 223334.68 | 8.00   | 67.00  | 0.00 | 0.00 | 0.50      |          |          |          |
| 33   | B    | 455633.45 | 223249.21 | 8.00   | 249.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 34   | B    | 455652.91 | 223399.52 | 8.00   | 336.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 35   | B    | 455676.26 | 223429.41 | 8.00   | 315.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 36   | B    | 455717.54 | 223426.19 | 8.00   | 115.00 | 0.00 | 0.00 | 0.50      |          |          |          |

**Layout Continued**

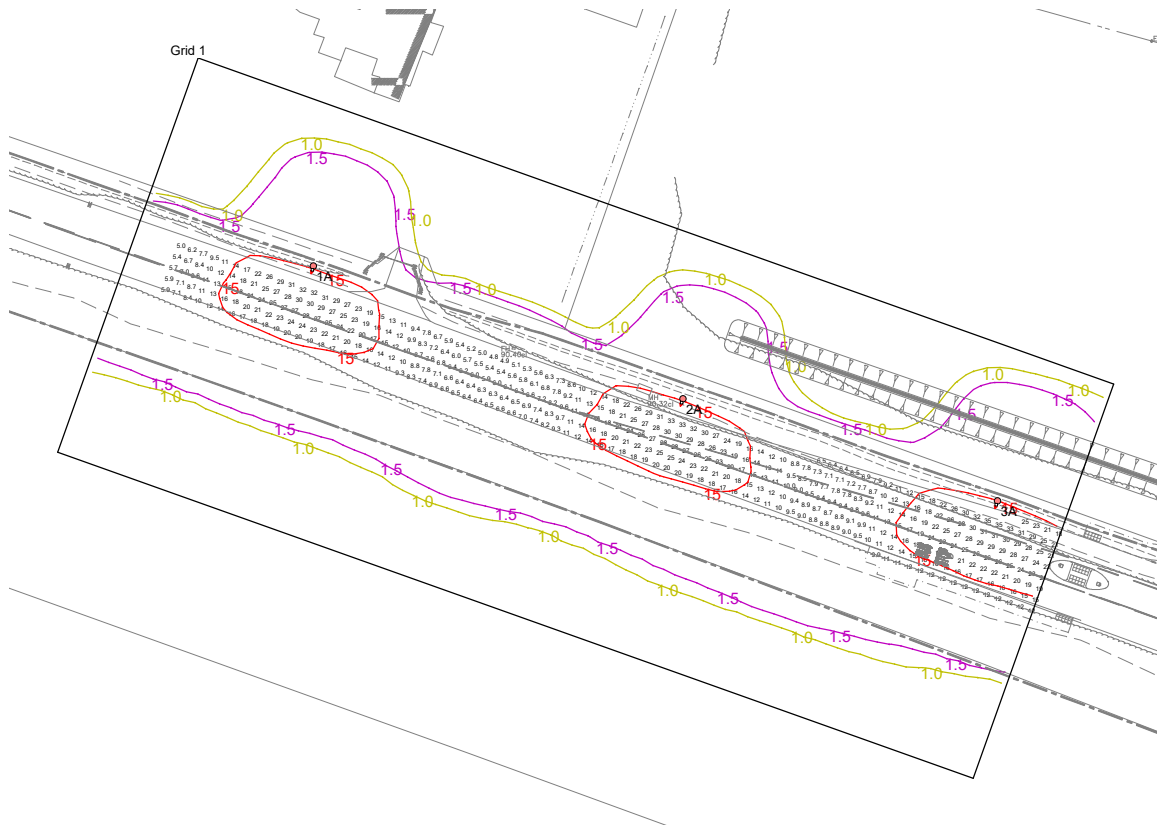
| ID | Type | X         | Y         | Height | Angle  | Tilt | Cant | Out-reach | Target X | Target Y | Target Z |
|----|------|-----------|-----------|--------|--------|------|------|-----------|----------|----------|----------|
| 37 | B    | 455745.29 | 223462.25 | 8.00   | 293.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 38 | B    | 455677.56 | 223454.89 | 8.00   | 44.00  | 0.00 | 0.00 | 0.50      |          |          |          |
| 39 | B    | 455655.47 | 223489.15 | 8.00   | 238.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 40 | B    | 455623.22 | 223509.30 | 8.00   | 232.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 41 | B    | 455669.48 | 223235.66 | 8.00   | 249.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 42 | B    | 455707.95 | 223221.02 | 8.00   | 249.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 43 | B    | 455746.80 | 223206.73 | 8.00   | 249.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 44 | B    | 455778.54 | 223171.89 | 8.00   | 83.00  | 0.00 | 0.00 | 0.50      |          |          |          |
| 45 | B    | 455845.96 | 223186.05 | 8.00   | 265.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 46 | B    | 455811.30 | 223189.76 | 8.00   | 262.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 47 | C    | 455767.17 | 223214.10 | 6.00   | 161.00 | 0.00 | 0.00 | 0.40      |          |          |          |
| 48 | B    | 455821.53 | 223065.04 | 8.00   | 355.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 49 | B    | 455827.78 | 223106.40 | 8.00   | 353.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 50 | B    | 455852.74 | 223146.68 | 8.00   | 177.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 51 | B    | 455816.10 | 223024.70 | 8.00   | 351.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 52 | B    | 455883.42 | 223182.99 | 8.00   | 273.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 53 | B    | 455925.90 | 223181.52 | 8.00   | 264.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 54 | B    | 455966.25 | 223175.52 | 8.00   | 260.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 55 | B    | 456005.51 | 223169.58 | 8.00   | 259.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 56 | B    | 456045.70 | 223163.25 | 8.00   | 255.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 57 | B    | 456081.11 | 223145.96 | 8.00   | 121.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 58 | B    | 456108.50 | 223170.41 | 8.00   | 141.00 | 0.00 | 0.00 | 0.50      |          |          |          |
| 59 | C    | 455778.21 | 223263.13 | 6.00   | 257.00 | 0.00 | 0.00 | 0.40      |          |          |          |
| 60 | C    | 455776.49 | 223240.34 | 6.00   | 166.00 | 0.00 | 0.00 | 0.40      |          |          |          |
| 61 | C    | 455743.20 | 223275.59 | 6.00   | 251.00 | 0.00 | 0.00 | 0.40      |          |          |          |
| 62 | C    | 455703.40 | 223281.23 | 6.00   | 70.00  | 0.00 | 0.00 | 0.40      |          |          |          |
| 63 | C    | 455691.77 | 223293.78 | 6.00   | 332.00 | 0.00 | 0.00 | 0.40      |          |          |          |
| 64 | C    | 455707.13 | 223331.09 | 6.00   | 330.00 | 0.00 | 0.00 | 0.40      |          |          |          |
| 65 | D    | 455567.40 | 223074.80 | 5.00   | 252.00 | 0.00 | 0.00 | 0.40      |          |          |          |
| 66 | D    | 455606.47 | 223061.24 | 5.00   | 252.00 | 0.00 | 0.00 | 0.40      |          |          |          |
| 67 | D    | 455643.62 | 223048.34 | 5.00   | 252.00 | 0.00 | 0.00 | 0.40      |          |          |          |
| 68 | D    | 455682.70 | 223034.45 | 5.00   | 252.00 | 0.00 | 0.00 | 0.40      |          |          |          |
| 69 | D    | 455722.78 | 223019.82 | 5.00   | 252.00 | 0.00 | 0.00 | 0.40      |          |          |          |
| 70 | D    | 455763.53 | 223005.19 | 5.00   | 252.00 | 0.00 | 0.00 | 0.40      |          |          |          |
| 71 | D    | 455795.06 | 222993.90 | 5.00   | 252.00 | 0.00 | 0.00 | 0.40      |          |          |          |
| 72 | D    | 455843.28 | 222976.28 | 5.00   | 252.00 | 0.00 | 0.00 | 0.40      |          |          |          |

**Layout Continued**

| ID | Type | X         | Y         | Height | Angle  | Tilt | Cant | Out-reach | Target X | Target Y | Target Z |
|----|------|-----------|-----------|--------|--------|------|------|-----------|----------|----------|----------|
| 73 | D    | 455876.42 | 222964.33 | 5.00   | 252.00 | 0.00 | 0.00 | 0.40      |          |          |          |
| 74 | D    | 455916.67 | 222949.99 | 5.00   | 252.00 | 0.00 | 0.00 | 0.40      |          |          |          |
| 75 | D    | 455956.37 | 222935.55 | 5.00   | 252.00 | 0.00 | 0.00 | 0.40      |          |          |          |
| 76 | D    | 455995.29 | 222921.65 | 5.00   | 252.00 | 0.00 | 0.00 | 0.40      |          |          |          |
| 77 | D    | 456036.04 | 222907.50 | 5.00   | 252.00 | 0.00 | 0.00 | 0.40      |          |          |          |
| 78 | D    | 456076.55 | 222893.34 | 5.00   | 252.00 | 0.00 | 0.00 | 0.40      |          |          |          |

## Horizontal Illuminance (lux)

Grid 1

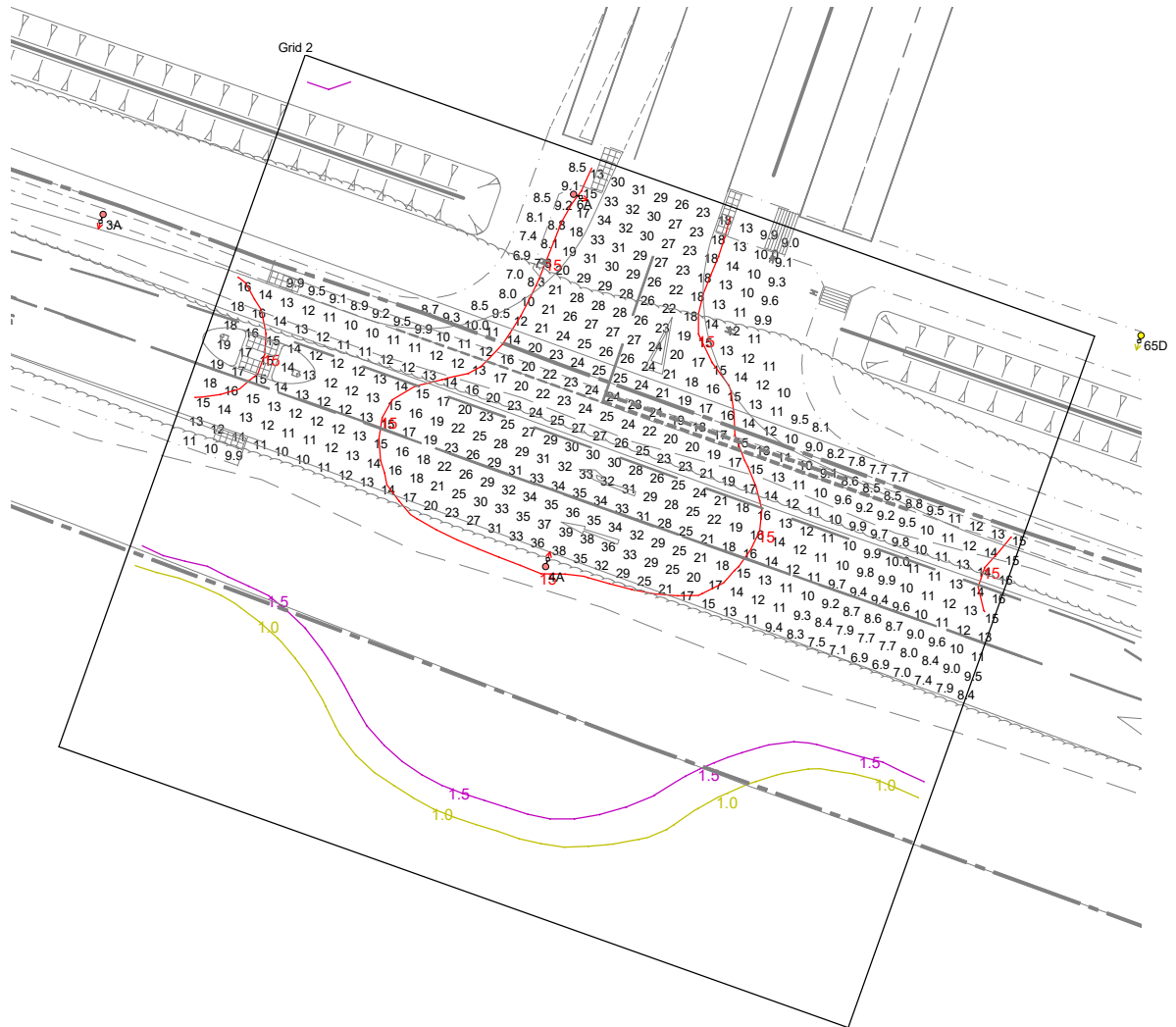


### Results

|           |       |
|-----------|-------|
| Eav       | 15.83 |
| Emin      | 4.83  |
| Emax      | 34.73 |
| Emin/Emax | 0.14  |
| Emin/Eav  | 0.31  |
|           |       |

## Horizontal Illuminance (lux)

Grid 2

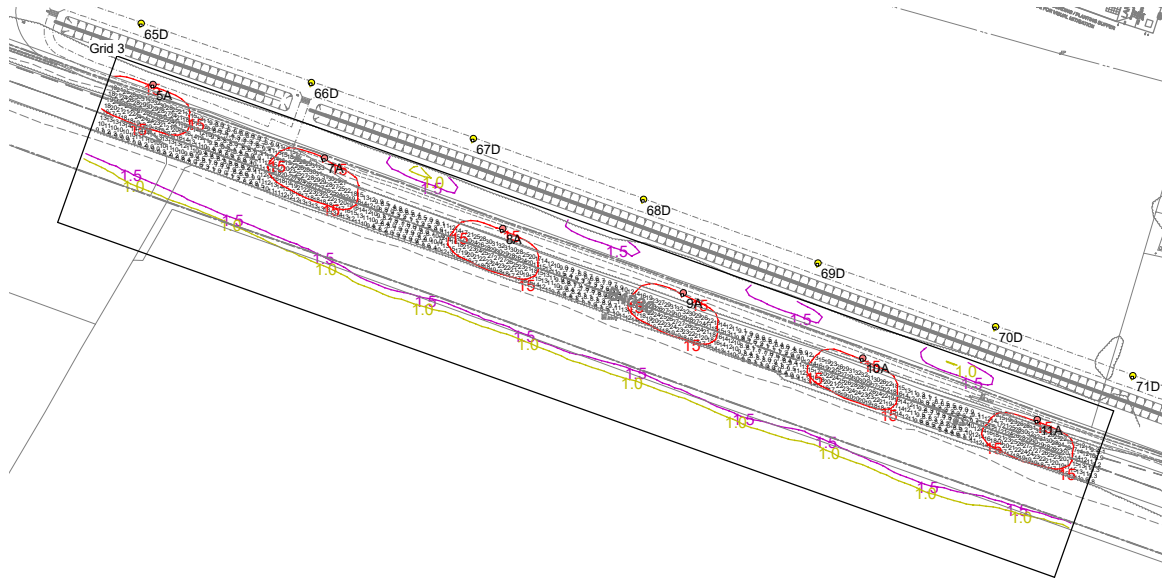


### Results

|           |       |
|-----------|-------|
| Eav       | 17.36 |
| Emin      | 6.89  |
| Emax      | 38.54 |
| Emin/Emax | 0.18  |
| Emin/Eav  | 0.40  |
|           |       |

## Horizontal Illuminance (lux)

Grid 3



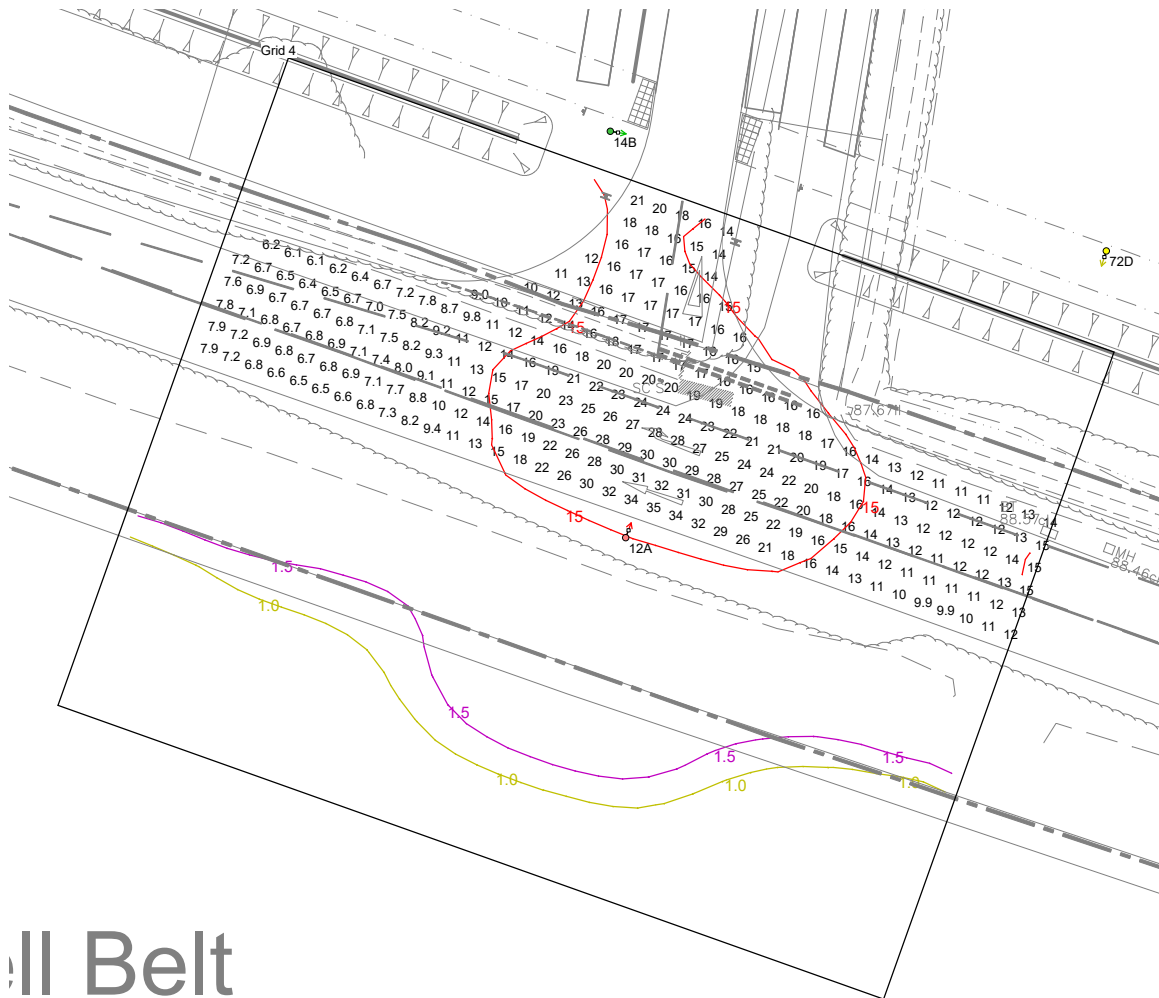
### Results

|                                    |       |
|------------------------------------|-------|
| Eav                                | 15.53 |
| Emin                               | 6.40  |
| E <sub>max</sub>                   | 33.38 |
| E <sub>min</sub> /E <sub>max</sub> | 0.19  |
| E <sub>min</sub> /E <sub>av</sub>  | 0.41  |
|                                    |       |



## Horizontal Illuminance (lux)

Grid 4

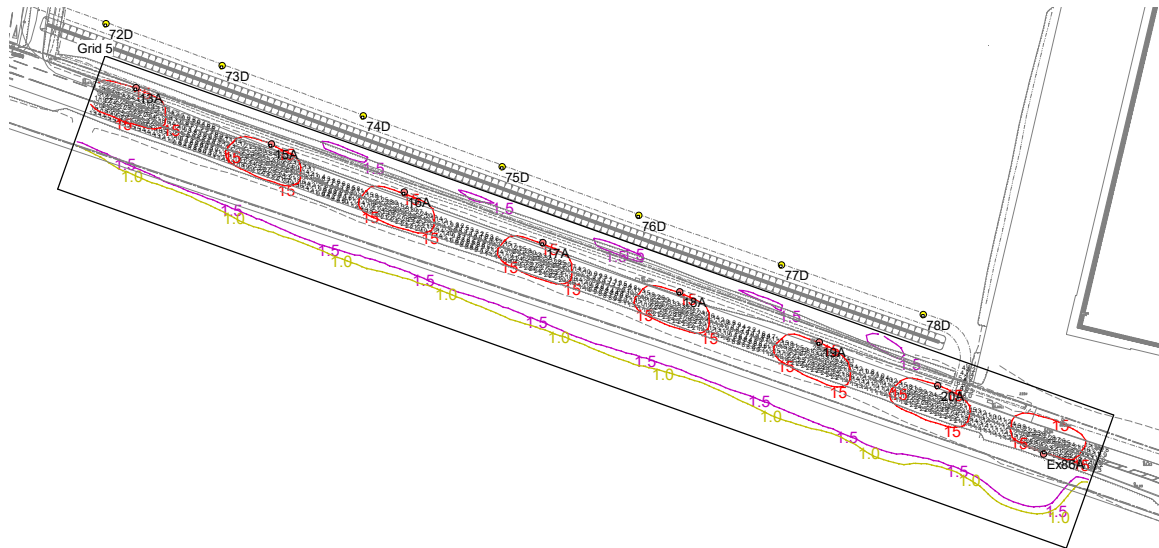


### Results

|           |       |
|-----------|-------|
| Eav       | 15.39 |
| Emin      | 6.11  |
| Emax      | 34.65 |
| Emin/Emax | 0.18  |
| Emin/Eav  | 0.40  |
|           |       |

## Horizontal Illuminance (lux)

Grid 5



### Results

|                                    |       |
|------------------------------------|-------|
| Eav                                | 17.58 |
| Emin                               | 4.23  |
| E <sub>max</sub>                   | 35.27 |
| E <sub>min</sub> /E <sub>max</sub> | 0.12  |
| E <sub>min</sub> /E <sub>av</sub>  | 0.24  |
|                                    |       |

# Horizontal Illuminance (lux)

Grid 6



## Results

|                       |         |
|-----------------------|---------|
| Eav                   | 7.72    |
| Emin                  | 1.67    |
| E <sub>max</sub>      | 29.05   |
| Emin/E <sub>max</sub> | 0.06    |
| Fmin/F <sub>av</sub>  | 11 0.22 |

## Horizontal Illuminance (lux)

Grid 7



### Results

|           |       |
|-----------|-------|
| Eav       | 7.77  |
| Emin      | 1.70  |
| Emax      | 26.61 |
| Emin/Emax | 0.06  |
| Emin/Eav  | 0.22  |
|           |       |



## Horizontal Illuminance (lux)

Grid 8



## Horizontal Illuminance (lux)

Grid 9



### Results

|                                    |       |
|------------------------------------|-------|
| Eav                                | 7.67  |
| Emin                               | 1.90  |
| E <sub>max</sub>                   | 26.88 |
| E <sub>min</sub> /E <sub>max</sub> | 0.07  |
| E <sub>min</sub> /E <sub>av</sub>  | 0.25  |
|                                    |       |

## Horizontal Illuminance (lux)

Grid 10



### Results

|                                    |       |
|------------------------------------|-------|
| Eav                                | 7.60  |
| Emin                               | 1.65  |
| E <sub>max</sub>                   | 26.78 |
| E <sub>min</sub> /E <sub>max</sub> | 0.06  |
| E <sub>min</sub> /E <sub>av</sub>  | 0.22  |
|                                    |       |

## Horizontal Illuminance (lux)

Grid 11



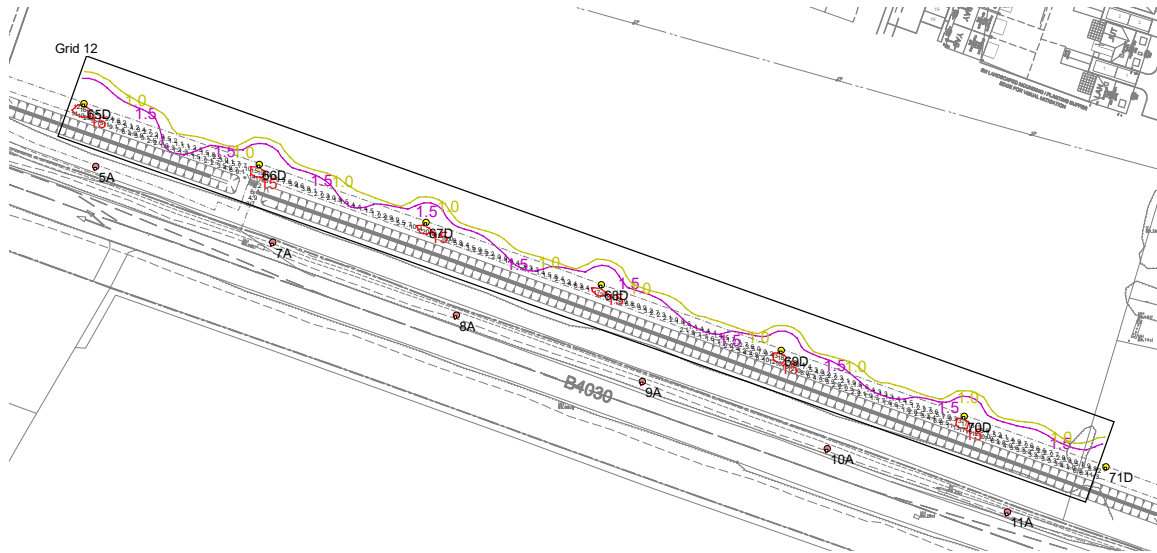
### Results

|           |       |
|-----------|-------|
| Eav       | 6.22  |
| Emin      | 1.09  |
| Emax      | 16.74 |
| Emin/Emax | 0.06  |
| Emin/Eav  | 0.17  |
|           |       |



## Horizontal Illuminance (lux)

Grid 12

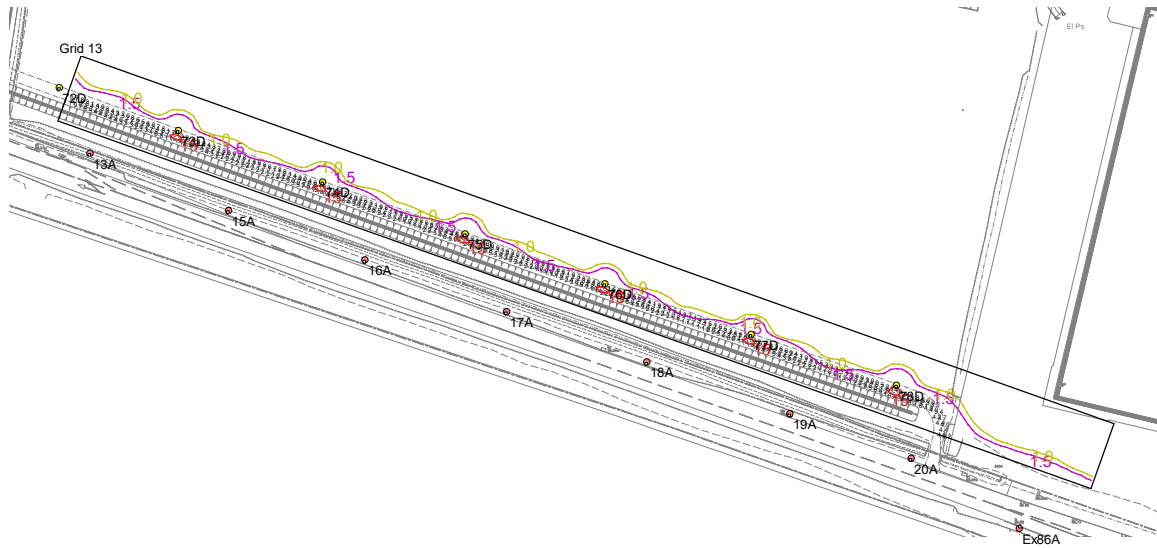


### Results

|                                    |       |
|------------------------------------|-------|
| Eav                                | 5.74  |
| Emin                               | 1.12  |
| E <sub>max</sub>                   | 20.46 |
| E <sub>min</sub> /E <sub>max</sub> | 0.05  |
| E <sub>min</sub> /E <sub>av</sub>  | 0.19  |
|                                    |       |

## Horizontal Illuminance (lux)

Grid 13



### Results

|                                    |       |
|------------------------------------|-------|
| Eav                                | 5.03  |
| Emin                               | 1.30  |
| E <sub>max</sub>                   | 20.59 |
| E <sub>min</sub> /E <sub>max</sub> | 0.06  |
| E <sub>min</sub> /E <sub>av</sub>  | 0.26  |
|                                    |       |