

DATE: 2 July 2024
DESIGNER: Ben Tavill
PROJECT No: MMA18562
PROJECT NAME: Coxbridge Farm, Farnham



MMA18562 - Coxbridge Farm, Farnham Private - Proposed Lighting Strategy -
Cyclelink Area Calculation MF1 - R2

Proposed 5m & 6m road lighting columns with post top mounted Philips Luma
Gen2 Micro LED lanterns.

Lighting Class P5 selected in accordance with BS5489-1:2020 Table A.5

Results Required
Eav = 3.00 to 4.50 Lux
Emin = 0.60 Lux
Emin / Eav = 0.20

Base used for this calculation "CB_36_314_001 Planning Layout - 28.06.24"

Outdoor Lighting Report

PREPARED BY: MMA Lighting Consultancy Ltd
99 Old Bath Road
Summer Field House
Charvil
Reading
Berkshire
RG10 9QN
Email: info@mma-consultancy.co.uk
Web: www.mma-consultancy.co.uk

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 | 482866.18 | 146074.84 | 69.00 | 144.00 | 1.50 | 1.50 |
| 2 | Grid 2 | 482641.39 | 146391.96 | 40.50 | 99.00 | 1.50 | 1.50 |
| 3 | Grid 3 | 482687.55 | 146288.58 | 45.00 | 94.50 | 1.50 | 1.50 |
| 4 | Grid 4 | 482753.90 | 146220.96 | 139.50 | 21.00 | 1.50 | 1.50 |

Luminaires

Luminaire A Data

| | |
|----------------------|---|
| Supplier | |
| Type | BGP702 DW50 BL1 |
| Lamp(s) | LED-HB 5,2S 727 |
| LampFlux(klm)/Colour | 4,40 2700/70 |
| File Name | Luma Gen2 Micro_BGP702_DW50 BL1_4400_20LED_5,2S_CLO_L90_727.lgt |
| Maintenance Factor | 1.00 |
| Lum. Int. Class | G3 |
| No. in Project | 4 |

Luminaire B Data

| | |
|----------------------|---|
| Supplier | |
| Type | BGP702 DX10 BL1 |
| Lamp(s) | LED-HB 5,2S 727 |
| LampFlux(klm)/Colour | 4,40 2700/70 |
| File Name | Luma Gen2 Micro_BGP702_DX10 BL1_4400_20LED_5,2S_CLO_L90_727.lgt |
| Maintenance Factor | 1.00 |
| Lum. Int. Class | G3 |
| No. in Project | 2 |

Luminaire D Data

| | |
|----------------------|--|
| Supplier | |
| Type | BGP702 DM12 BL1 |
| Lamp(s) | LED-HB 5,2S 727 |
| LampFlux(klm)/Colour | 1,00 2700/70 |
| File Name | Luma Gen2 Micro_BGP702_DM12 BL1_1000_6LED_5,2S_CLO_L90_727.lgt |
| Maintenance Factor | 1.00 |
| Lum. Int. Class | G3 |
| No. in Project | 18 |

Layout

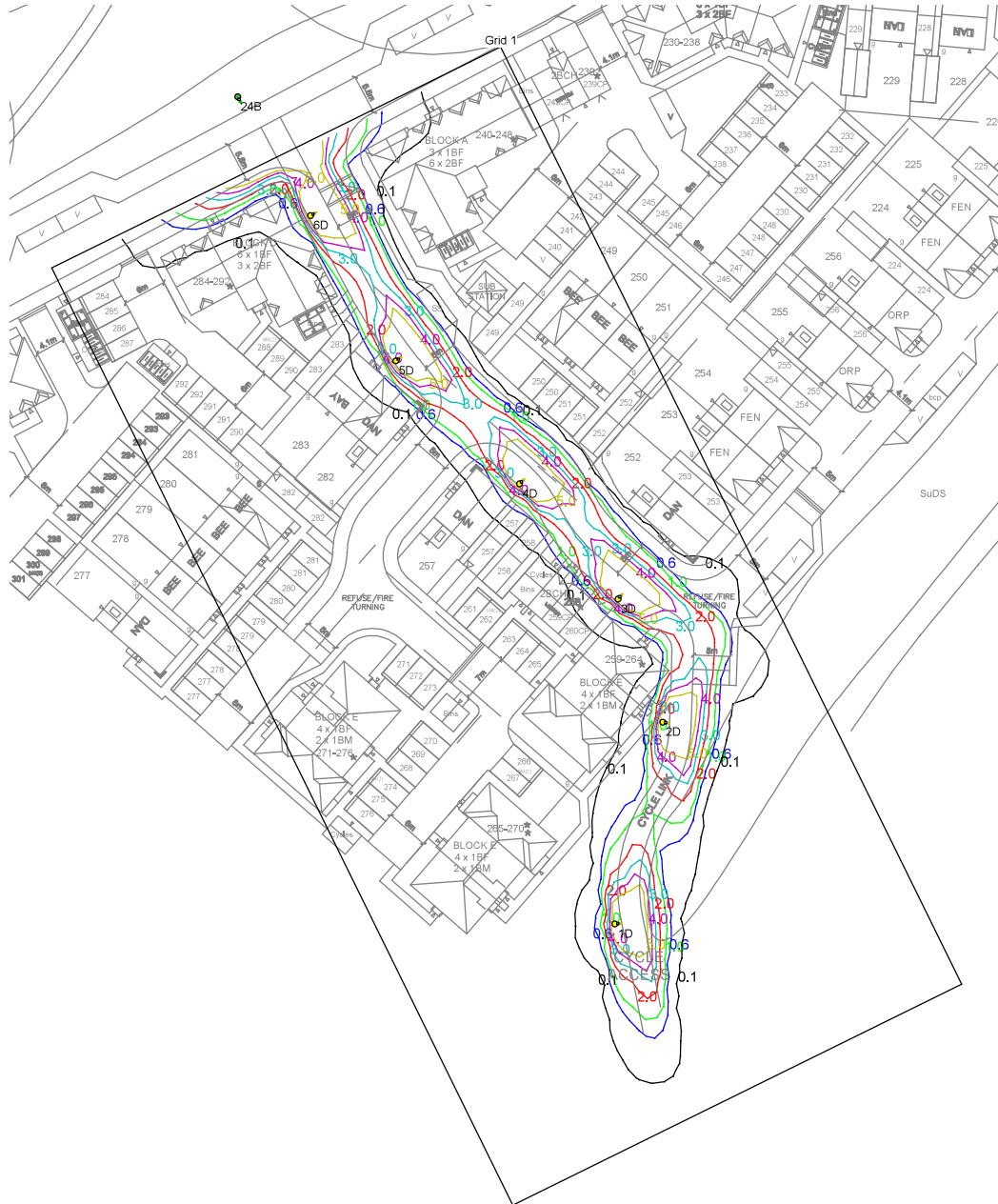
| ID | Type | X | Y | Height | Angle | Tilt | Cant | Out-reach | Target X | Target Y | Target Z |
|----|------|-----------|-----------|--------|--------|------|------|-----------|----------|----------|----------|
| 1 | D | 482880,26 | 146113,60 | 5,00 | 5,00 | 0,00 | 0,00 | 0,40 | | | |
| 2 | D | 482886,85 | 146141,43 | 5,00 | 351,00 | 0,00 | 0,00 | 0,40 | | | |
| 3 | D | 482880,70 | 146158,38 | 5,00 | 51,00 | 0,00 | 0,00 | 0,40 | | | |
| 4 | D | 482867,12 | 146174,26 | 5,00 | 46,00 | 0,00 | 0,00 | 0,40 | | | |
| 5 | D | 482850,07 | 146191,23 | 5,00 | 35,00 | 0,00 | 0,00 | 0,40 | | | |
| 6 | D | 482838,28 | 146211,27 | 5,00 | 29,00 | 0,00 | 0,00 | 0,40 | | | |
| 7 | D | 482675,46 | 146406,20 | 5,00 | 202,00 | 0,00 | 0,00 | 0,40 | | | |

Layout Continued

| ID | Type | X | Y | Height | Angle | Tilt | Cant | Out-reach | Target X | Target Y | Target Z |
|----|------|-----------|-----------|--------|--------|------|------|-----------|----------|----------|----------|
| 8 | D | 482666.17 | 146427.54 | 5.00 | 201.00 | 0.00 | 0.00 | 0.40 | | | |
| 9 | D | 482656.56 | 146449.64 | 5.00 | 202.00 | 0.00 | 0.00 | 0.40 | | | |
| 10 | A | 482720.56 | 146302.49 | 5.00 | 205.00 | 0.00 | 0.00 | 0.40 | | | |
| 11 | D | 482709.69 | 146327.47 | 5.00 | 205.00 | 0.00 | 0.00 | 0.40 | | | |
| 12 | D | 482699.89 | 146350.10 | 5.00 | 203.00 | 0.00 | 0.00 | 0.40 | | | |
| 13 | D | 482690.19 | 146372.31 | 5.00 | 202.00 | 0.00 | 0.00 | 0.40 | | | |
| 14 | D | 482761.10 | 146238.04 | 5.00 | 280.00 | 0.00 | 0.00 | 0.40 | | | |
| 15 | D | 482782.23 | 146244.40 | 5.00 | 296.00 | 0.00 | 0.00 | 0.40 | | | |
| 16 | D | 482803.30 | 146250.57 | 5.00 | 284.00 | 0.00 | 0.00 | 0.40 | | | |
| 17 | D | 482825.48 | 146251.87 | 5.00 | 271.00 | 0.00 | 0.00 | 0.40 | | | |
| 18 | D | 482869.56 | 146255.46 | 5.00 | 286.00 | 0.00 | 0.00 | 0.40 | | | |
| 19 | D | 482848.01 | 146252.48 | 5.00 | 275.00 | 0.00 | 0.00 | 0.40 | | | |
| 21 | A | 482680.90 | 146383.34 | 5.00 | 77.00 | 0.00 | 0.00 | 0.40 | | | |
| 22 | A | 482659.03 | 146396.70 | 5.00 | 272.00 | 0.00 | 0.00 | 0.40 | | | |
| 23 | A | 482744.11 | 146228.18 | 5.00 | 31.00 | 0.00 | 0.00 | 0.40 | | | |
| 24 | B | 482828.27 | 146227.62 | 5.00 | 296.00 | 0.00 | 0.00 | 0.40 | | | |
| 25 | B | 482881.05 | 146252.84 | 5.00 | 299.00 | 0.00 | 0.00 | 0.40 | | | |

Horizontal Illuminance (lux)

Grid 1

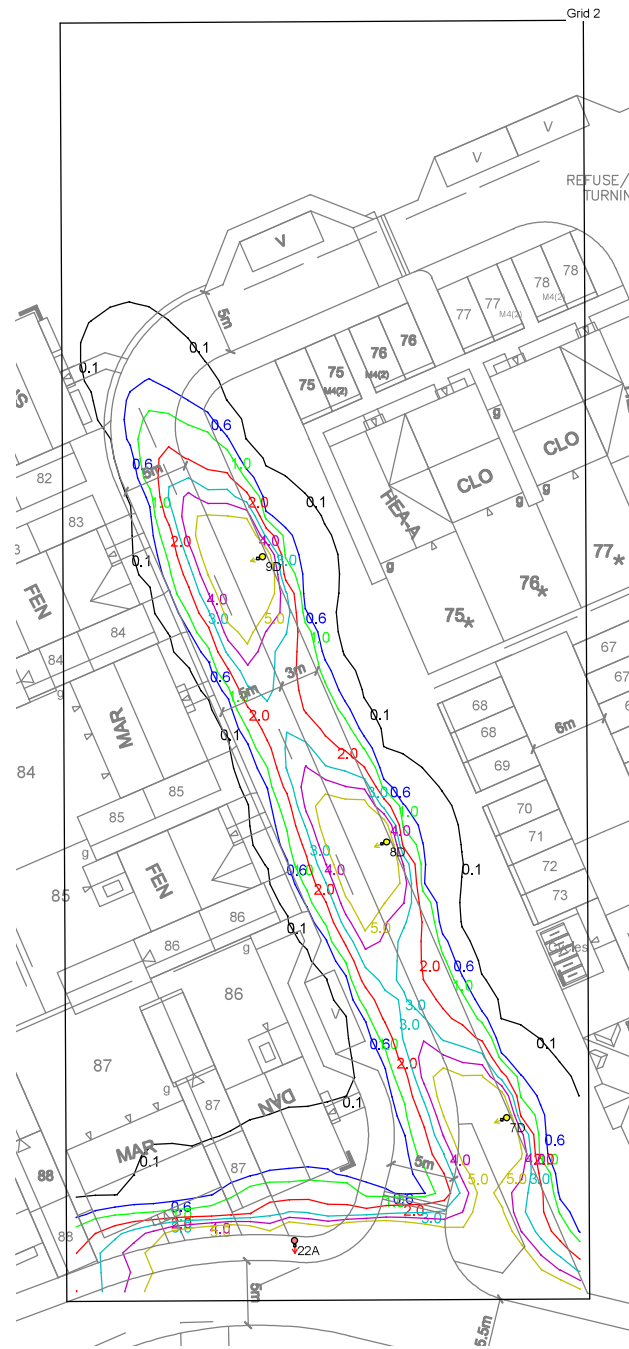


Results

| | |
|-----------|------|
| Eav | 4.11 |
| Emin | 0.84 |
| Emax | 9.09 |
| Emin/Emax | 0.09 |
| Emin/Eav | 0.20 |
| | |

Horizontal Illuminance (lux)

Grid 2

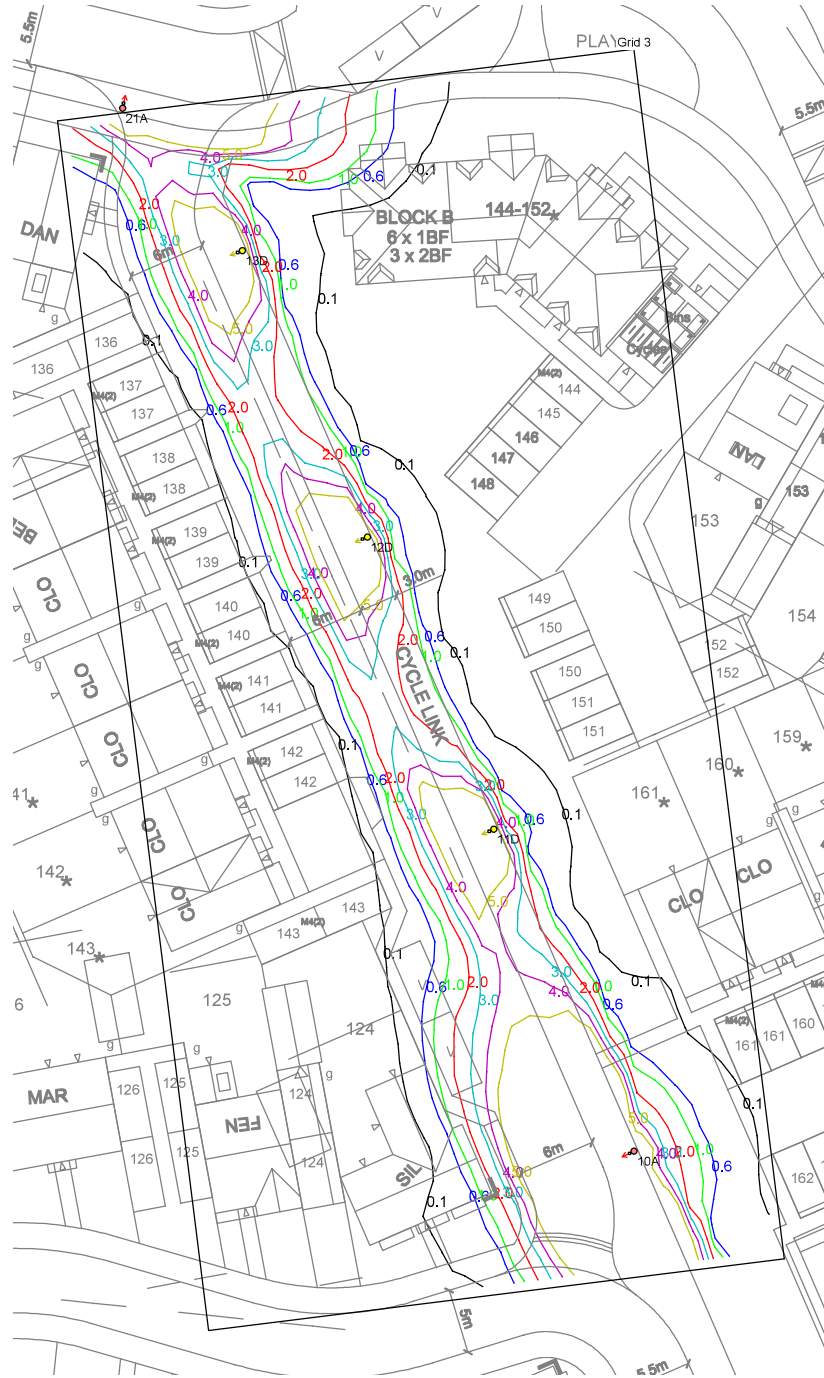


Results

| | |
|-----------|------|
| Eav | 4.22 |
| Emin | 0.88 |
| Emax | 8.72 |
| Emin/Emax | 0.10 |
| Emin/Eav | 0.21 |
| | |

Horizontal Illuminance (lux)

Grid 3

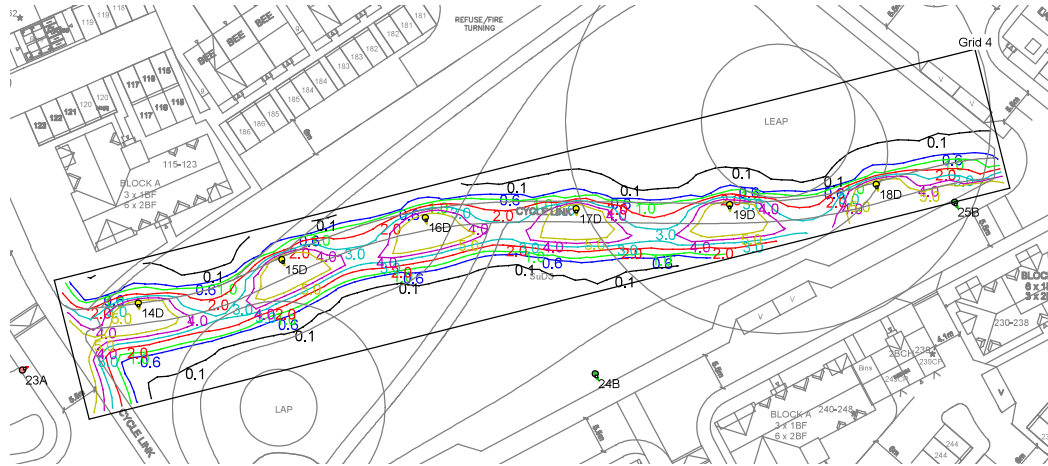


Results

| | |
|-----------|-------|
| Eav | 4.89 |
| Emin | 1.00 |
| Emax | 11.53 |
| Emin/Emax | 0.09 |
| Emin/Eav | 0.20 |
| | |

Horizontal Illuminance (lux)

Grid 4



Results

| | |
|------------------------------------|------|
| Eav | 4.63 |
| Emin | 0.95 |
| E _{max} | 8.96 |
| E _{min} /E _{max} | 0.11 |
| E _{min} /E _{av} | 0.20 |
| | |

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Outdoor Lighting Report

PREPARED BY: MMA Lighting Consultancy Ltd
99 Old Bath Road
Summer Field House
Charvil
Reading
Berkshire
RG10 9QN
Email: info@mma-consultancy.co.uk
Web: www.mma-consultancy.co.uk

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Luminaires

Luminaire A Data

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| Supplier | |
| Type | BGP702 DW50 BL1 |
| Lamp(s) | LED-HB 5,2S 727 |
| LampFlux(klm)/Colour | 4,40 2700/70 |
| File Name | Luma Gen2 Micro_BGP702_DW50 BL1_4400_20LED_5,2S_CLO_L90_727.lgt |
| Maintenance Factor | 0.76 |
| Lum. Int. Class | G3 |
| No. in Project | 4 |

Luminaire B Data

| | |
|----------------------|---|
| Supplier | |
| Type | BGP702 DX10 BL1 |
| Lamp(s) | LED-HB 5,2S 727 |
| LampFlux(klm)/Colour | 4,40 2700/70 |
| File Name | Luma Gen2 Micro_BGP702_DX10 BL1_4400_20LED_5,2S_CLO_L90_727.lgt |
| Maintenance Factor | 0.76 |
| Lum. Int. Class | G3 |
| No. in Project | 2 |

Luminaire D Data

| | |
|----------------------|--|
| Supplier | |
| Type | BGP702 DM12 BL1 |
| Lamp(s) | LED-HB 5,2S 727 |
| LampFlux(klm)/Colour | 1,00 2700/70 |
| File Name | Luma Gen2 Micro_BGP702_DM12 BL1_1000_6LED_5,2S_CLO_L90_727.lgt |
| Maintenance Factor | 0.76 |
| Lum. Int. Class | G3 |
| No. in Project | 18 |

Layout

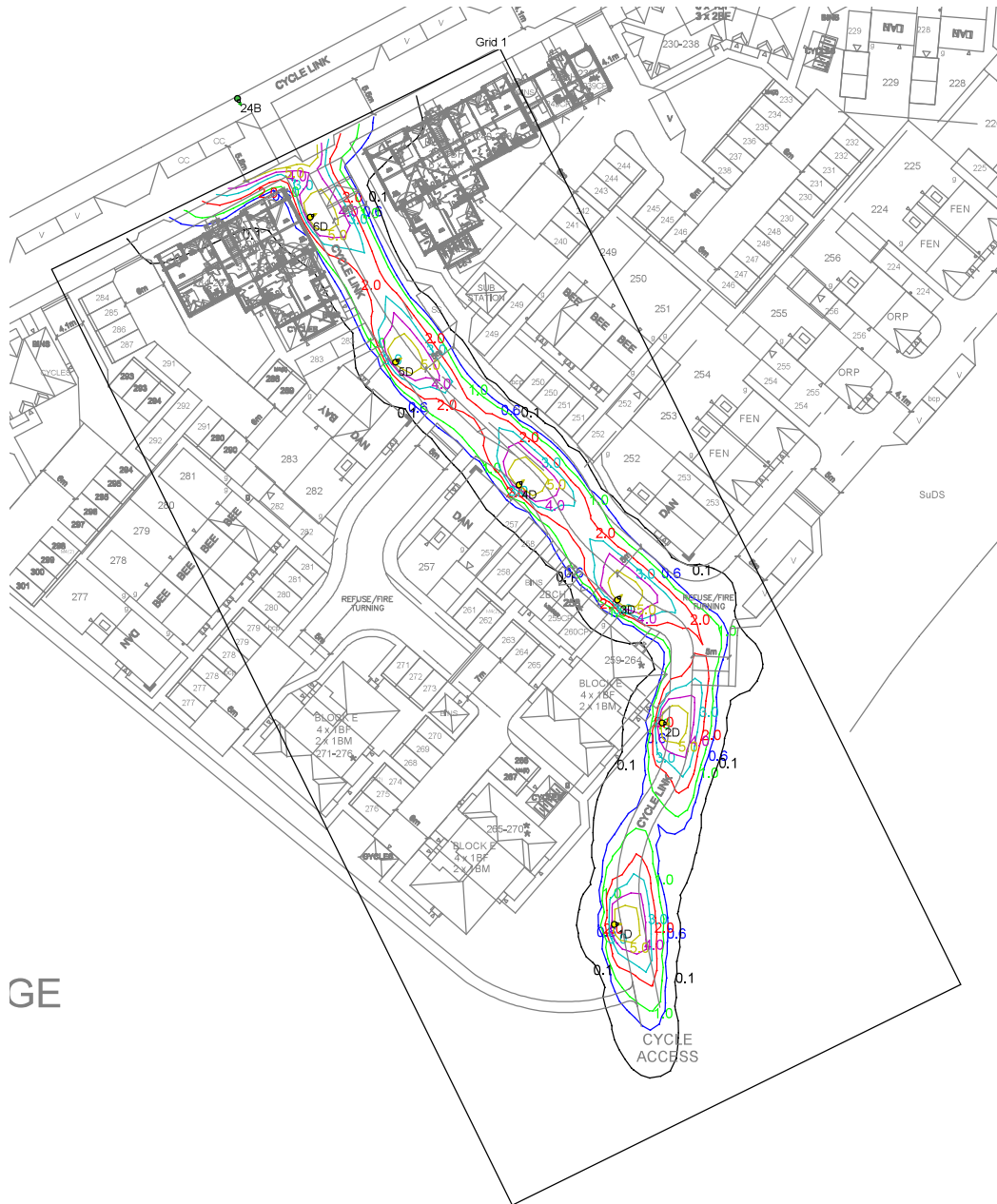
| ID | Type | X | Y | Height | Angle | Tilt | Cant | Out-reach | Target X | Target Y | Target Z |
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| 2 | D | 482886,85 | 146141,43 | 5,00 | 351,00 | 0,00 | 0,00 | 0,40 | | | |
| 3 | D | 482880,70 | 146158,38 | 5,00 | 51,00 | 0,00 | 0,00 | 0,40 | | | |
| 4 | D | 482867,12 | 146174,26 | 5,00 | 46,00 | 0,00 | 0,00 | 0,40 | | | |
| 5 | D | 482850,07 | 146191,23 | 5,00 | 35,00 | 0,00 | 0,00 | 0,40 | | | |
| 6 | D | 482838,28 | 146211,27 | 5,00 | 29,00 | 0,00 | 0,00 | 0,40 | | | |
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Layout Continued

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| 9 | D | 482656.56 | 146449.64 | 5.00 | 202.00 | 0.00 | 0.00 | 0.40 | | | |
| 10 | A | 482720.56 | 146302.49 | 5.00 | 205.00 | 0.00 | 0.00 | 0.40 | | | |
| 11 | D | 482709.69 | 146327.47 | 5.00 | 205.00 | 0.00 | 0.00 | 0.40 | | | |
| 12 | D | 482699.89 | 146350.10 | 5.00 | 203.00 | 0.00 | 0.00 | 0.40 | | | |
| 13 | D | 482690.19 | 146372.31 | 5.00 | 202.00 | 0.00 | 0.00 | 0.40 | | | |
| 14 | D | 482761.10 | 146238.04 | 5.00 | 280.00 | 0.00 | 0.00 | 0.40 | | | |
| 15 | D | 482782.23 | 146244.40 | 5.00 | 296.00 | 0.00 | 0.00 | 0.40 | | | |
| 16 | D | 482803.30 | 146250.57 | 5.00 | 284.00 | 0.00 | 0.00 | 0.40 | | | |
| 17 | D | 482825.48 | 146251.87 | 5.00 | 271.00 | 0.00 | 0.00 | 0.40 | | | |
| 18 | D | 482869.56 | 146255.46 | 5.00 | 286.00 | 0.00 | 0.00 | 0.40 | | | |
| 19 | D | 482848.01 | 146252.48 | 5.00 | 275.00 | 0.00 | 0.00 | 0.40 | | | |
| 21 | A | 482680.90 | 146383.34 | 5.00 | 77.00 | 0.00 | 0.00 | 0.40 | | | |
| 22 | A | 482659.03 | 146396.70 | 5.00 | 272.00 | 0.00 | 0.00 | 0.40 | | | |
| 23 | A | 482744.11 | 146228.18 | 5.00 | 31.00 | 0.00 | 0.00 | 0.40 | | | |
| 24 | B | 482828.27 | 146227.62 | 5.00 | 296.00 | 0.00 | 0.00 | 0.40 | | | |
| 25 | B | 482881.05 | 146252.84 | 5.00 | 299.00 | 0.00 | 0.00 | 0.40 | | | |

Horizontal Illuminance (lux)

Grid 1

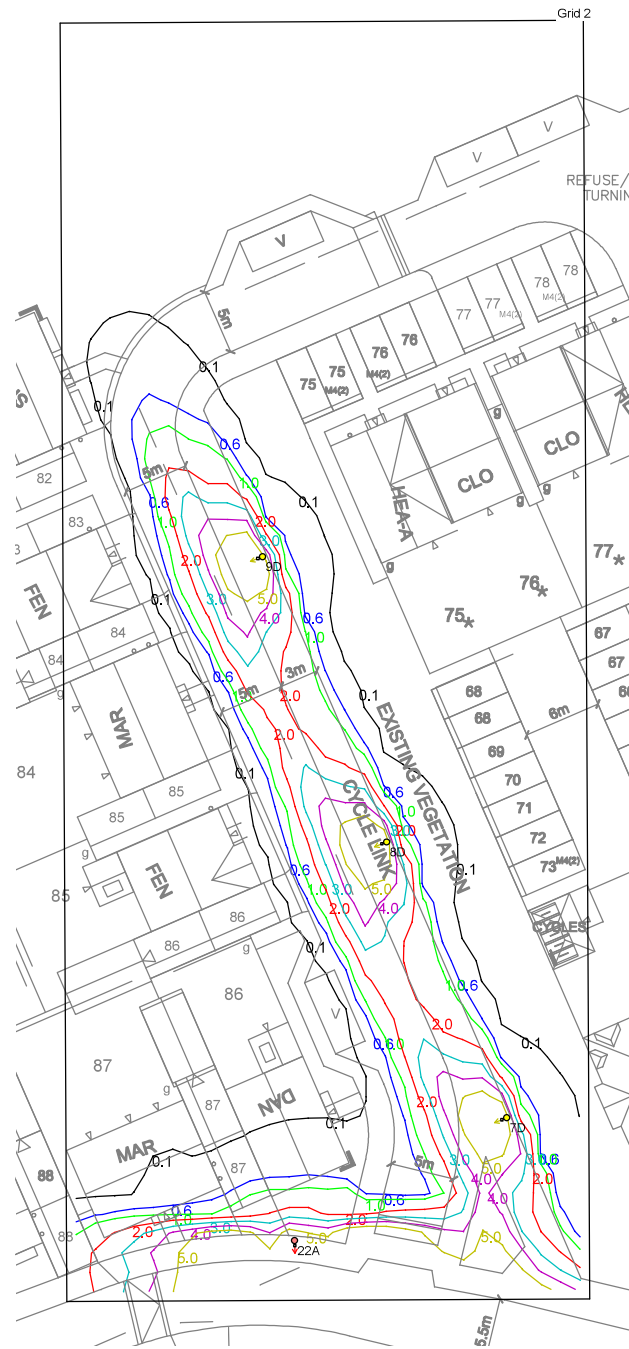


Results

| | |
|-----------|------|
| Eav | 3.12 |
| Emin | 0.64 |
| Emax | 6.91 |
| Emin/Emax | 0.09 |
| Emin/Eav | 0.20 |
| | |

Horizontal Illuminance (lux)

Grid 2

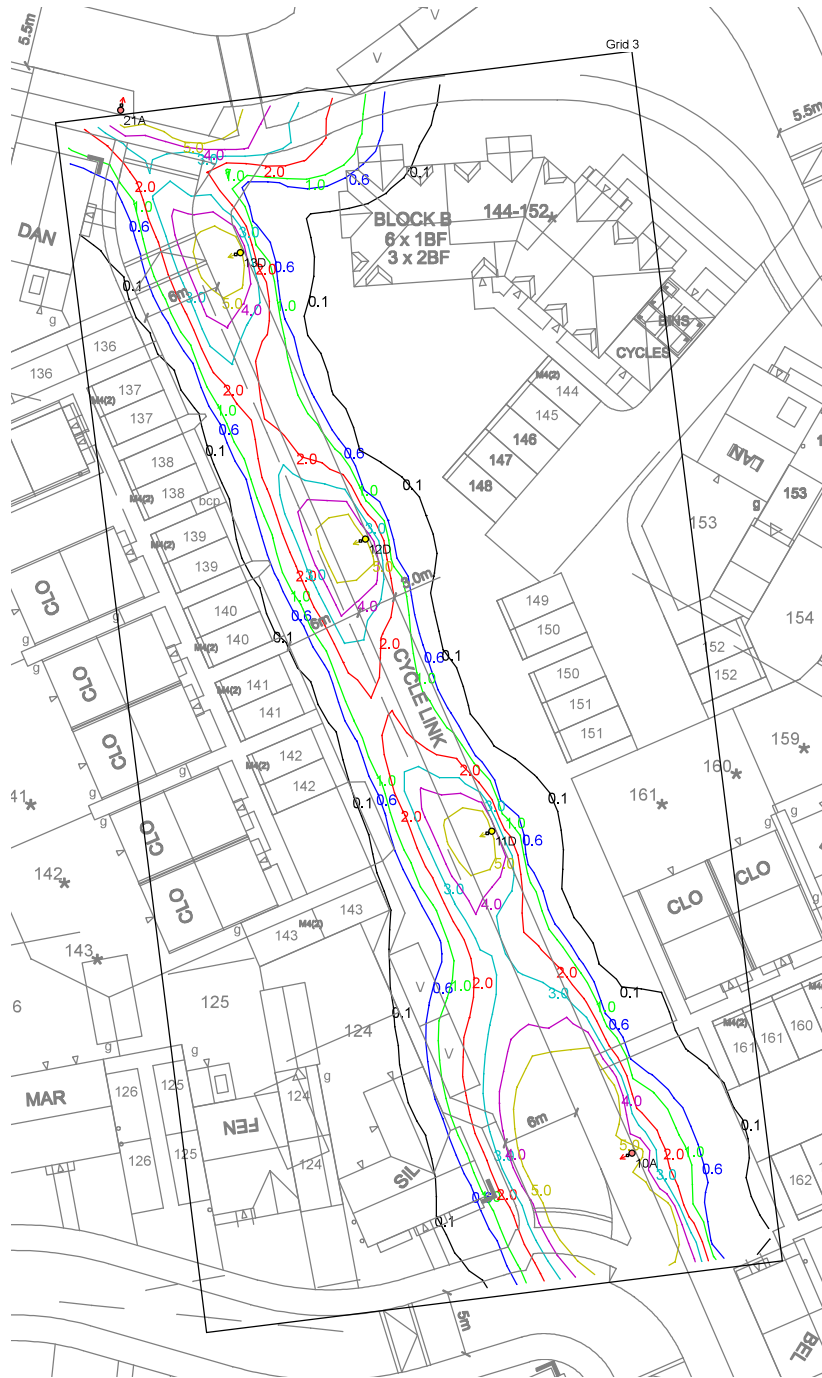


Results

| | |
|-----------|------|
| Eav | 3.21 |
| Emin | 0.67 |
| Emax | 6.62 |
| Emin/Emax | 0.10 |
| Emin/Eav | 0.21 |
| | |

Horizontal Illuminance (lux)

Grid 3

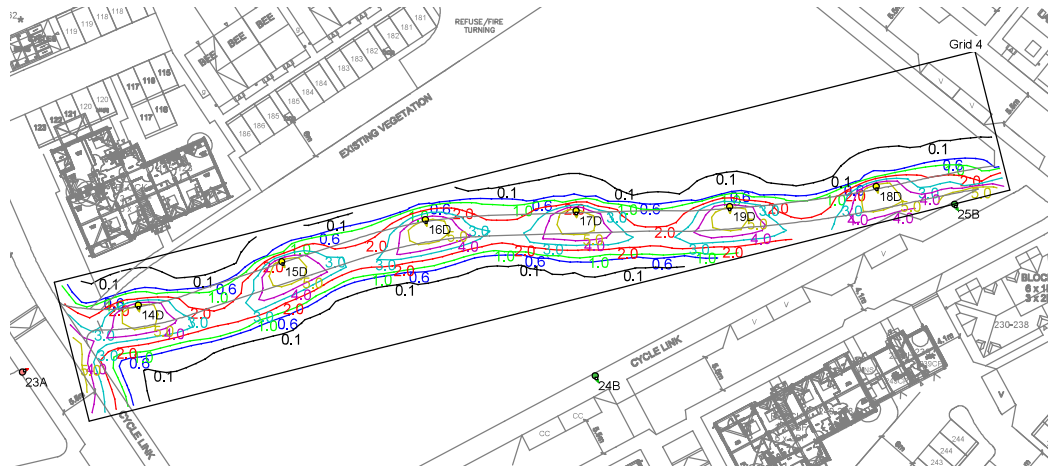


Results

| | |
|-----------|------|
| Eav | 3.72 |
| Emin | 0.76 |
| Emax | 8.77 |
| Emin/Emax | 0.09 |
| Emin/Eav | 0.20 |
| | |

Horizontal Illuminance (lux)

Grid 4



Results

| | |
|-----------|------|
| Eav | 3.52 |
| Emin | 0.72 |
| Emax | 6.81 |
| Emin/Emax | 0.11 |
| Emin/Eav | 0.20 |
| | |