

Carpark

Installation : LiDL Shawbridge Street, Clitheroe

Project number :
Customer : LiDL
Processed by : HSR / AGG
Date : 09.07.2017

Project description:

Maintenance Factor 0.77

No obstructions are considered in these lighting calculations.

Lighting levels take into account approximated spill light from the stores sales area.

Lighting levels to 15Lux Ave with 25% uniformity.

The nominal values shown in this report are the result of precision calculations, based upon precisely positioned luminaires in a fixed relationship to each other and to the area under examination. In practice the values may vary due to tolerances on luminaires, luminaire positioning, reflection properties and electrical supply.

Lighting Proposal. See attached Appendix A.

The following values are based on exact calculations on calibrated lamps, luminaires and their arrangement. In practice, gradual divergences can occur.

Guarantee claims for luminaire data are excluded.

Relux and the luminaire manufacturers accept no liability for consequential damage and damage which is occasioned to the user or to third parties.

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1 Exterior Carpark

1.1 Description, Exterior Carpark

1.1.1 Luminaire data/Room elements

Product data:

Type No.\Make

| | | | |
|---|----|-------------------------|---|
| | | Philips Lighting | |
| 1 | 4 | Order No. | : !Luminaire Ref: LL-E |
| | | Luminaire name | : WT460C L1300 1xLED23S/840 WB |
| | | Equipment | : 1 x LED23S/840/- 22 W / 2600 lm |
| 2 | 9 | Order No. | : ! |
| | | Luminaire name | : TMS122 1xTL5-35W HFP |
| | | Equipment | : 1 x TL5-35W/840 39 W / 1000 lm |
| 3 | 6 | Order No. | : !Luminaire Ref: LL-CANOPY |
| | | Luminaire name | : BBS490 1xDLED-4000 PG |
| | | Equipment | : 1 x DLED-4000 33.5 W / 2260 lm |
| 4 | 10 | Order No. | : !910770202405 |
| | | Luminaire name | : LumiStreet BGP213 LED49-4S/740 I DX10 7024 D9 48/60 6m Col umn |
| | | Equipment | : 1 x LED-HB 940-11500 lm-4S/740 1 W / 4900 lm |

| No. | Centre point | | | Rotation angle | | | Target coordinates | | |
|---|--------------|-------|-------|----------------|--------|---------|--------------------|--------|--------|
| | X [m] | Y [m] | Z [m] | Z [°] | C0 [°] | C90 [°] | Xa [m] | Ya [m] | Za [m] |
| Philips Lighting WT460C L1300 1xLED23S/840 WB !Luminaire Ref: LL-E | | | | | | | | | |
| 1.1 | 38.72 | 68.66 | 2.66 | 135.83 | 0.00 | -25.00 | 37.83 | 69.53 | 0.00 |
| 1.2 | 43.94 | 74.04 | 2.66 | 135.83 | 0.00 | -25.00 | 43.06 | 74.91 | 0.00 |
| 1.3 | 49.17 | 79.42 | 2.66 | 135.83 | 0.00 | -25.00 | 48.28 | 80.29 | 0.00 |
| 1.4 | 54.40 | 84.80 | 2.66 | 135.83 | 0.00 | -25.00 | 53.51 | 85.67 | 0.00 |
| Philips Lighting TMS122 1xTL5-35W HFP ! | | | | | | | | | |
| 2.1 | 59.03 | 79.46 | 2.96 | 45.80 | 0.00 | 0.00 | 59.03 | 79.46 | 0.00 |
| 2.2 | 60.61 | 77.92 | 2.96 | 45.80 | 0.00 | 0.00 | 60.61 | 77.93 | 0.00 |
| 2.3 | 62.18 | 76.39 | 2.96 | 45.80 | 0.00 | 0.00 | 62.18 | 76.39 | 0.00 |
| 2.4 | 63.76 | 74.86 | 2.96 | 45.80 | 0.00 | 0.00 | 63.76 | 74.86 | 0.00 |
| 2.5 | 65.34 | 73.32 | 2.96 | 45.80 | 0.00 | 0.00 | 65.34 | 73.32 | 0.00 |
| 2.6 | 66.92 | 71.79 | 2.96 | 45.80 | 0.00 | 0.00 | 66.92 | 71.79 | 0.00 |
| 2.7 | 68.49 | 70.26 | 2.96 | 45.80 | 0.00 | 0.00 | 68.49 | 70.26 | 0.00 |
| 2.8 | 70.07 | 68.72 | 2.96 | 45.80 | 0.00 | 0.00 | 70.07 | 68.72 | 0.00 |
| 2.9 | 71.65 | 67.19 | 2.96 | 45.80 | 0.00 | 0.00 | 71.65 | 67.19 | 0.00 |
| Philips Lighting BBS490 1xDLED-4000 PG !Luminaire Ref: LL-CANOPY | | | | | | | | | |
| 4.1 | 62.29 | 83.04 | 3.00 | 0.00 | 0.00 | 0.00 | 62.29 | 83.04 | 0.00 |
| 4.2 | 64.78 | 80.59 | 3.00 | 0.00 | 0.00 | 0.00 | 64.78 | 80.59 | 0.00 |
| 4.3 | 67.28 | 78.13 | 3.00 | 0.00 | 0.00 | 0.00 | 67.28 | 78.13 | 0.00 |
| 4.4 | 69.77 | 75.68 | 3.00 | 0.00 | 0.00 | 0.00 | 69.77 | 75.68 | 0.00 |
| 4.5 | 72.27 | 73.22 | 3.00 | 0.00 | 0.00 | 0.00 | 72.27 | 73.22 | 0.00 |
| 4.6 | 74.76 | 70.77 | 3.00 | 0.00 | 0.00 | 0.00 | 74.76 | 70.76 | 0.00 |
| Philips Lighting LumiStreet BGP213 LED49-4S/740 I DX10 7024 D9 48/60 6m Column !910770202405 | | | | | | | | | |
| 3 | 75.19 | 93.92 | 6.00 | 307.50 | 5.00 | 0.00 | 86.97 | 102.96 | 0.00 |

Philips Lighting, Philips Centre - Guildford Business Park, Guildford Surrey GU2 8XH
 NOT FOR CONSTRUCTION

Object : Carpark
 Installation : LiDL Shawbridge Street, Clitheroe
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1 Exterior Carpark

1.1 Description, Exterior Carpark

1.1.1 Luminaire data/Room elements

| | | | | | | | | | |
|----|-------|--------|------|--------|------|------|-------|--------|------|
| 4 | 73.60 | 92.70 | 6.00 | 127.50 | 5.00 | 0.00 | 61.82 | 83.66 | 0.00 |
| 14 | 79.43 | 114.48 | 6.00 | 127.50 | 5.00 | 0.00 | 67.65 | 105.44 | 0.00 |
| 15 | 93.83 | 96.04 | 6.00 | 127.50 | 5.00 | 0.00 | 82.05 | 87.00 | 0.00 |
| 16 | 89.52 | 77.14 | 6.00 | 39.00 | 5.00 | 0.00 | 80.17 | 88.68 | 0.00 |
| 17 | 48.74 | 97.72 | 6.00 | 244.00 | 5.00 | 0.00 | 62.08 | 91.21 | 0.00 |
| 18 | 56.49 | 113.36 | 6.00 | 244.00 | 5.00 | 0.00 | 69.83 | 106.85 | 0.00 |
| 19 | 67.54 | 126.25 | 6.00 | 244.00 | 5.00 | 0.00 | 80.89 | 119.74 | 0.00 |
| 20 | 13.22 | 10.44 | 6.00 | 315.50 | 5.00 | 0.00 | 23.63 | 21.04 | 0.00 |
| 21 | 11.23 | 26.33 | 6.00 | 226.00 | 5.00 | 0.00 | 21.91 | 16.01 | 0.00 |

Structural elements

Virtual measuring surface

| | | | | | | | Rotation angle | |
|------------------|-------|-------|-------|--------|-------|--------|----------------|--------|
| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | L axis | Q axis |
| Exterior Carpark | | | | | | | | |
| m 1 | 46.51 | 93.23 | 0.00 | 66.39 | 65.90 | 333.53 | 0.00 | 0.00 |
| Lorry Bay | | | | | | | | |
| m 2 | 36.35 | 68.63 | 0.00 | 22.44 | 22.18 | 314.49 | 0.00 | 0.00 |
| Staff Carpark | | | | | | | | |
| m 3 | 27.53 | 17.45 | 0.00 | 25.68 | 25.22 | 322.16 | 0.00 | 0.00 |
| Canopy Area | | | | | | | | |
| m 4 | 59.65 | 82.40 | 0.00 | 17.39 | 17.41 | 44.96 | 0.00 | 0.00 |

Others

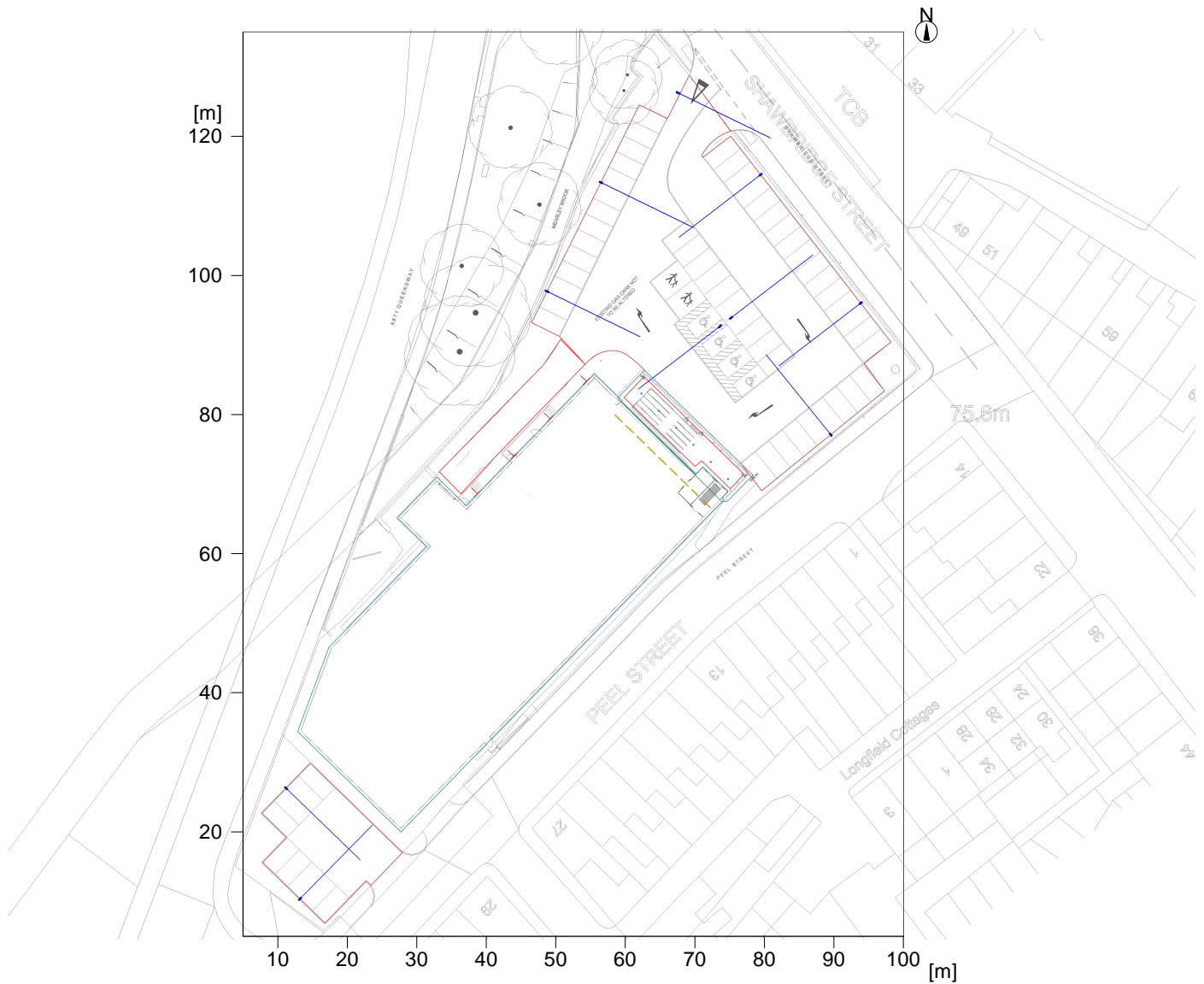
| | | | | | | | Rotation angle | |
|------------|-------|-------|-------|--------|-------|--------|----------------|--------|
| No. | xm[m] | ym[m] | zm[m] | Length | Width | z axis | L axis | Q axis |
| LiDL Store | | | | | | | | |
| A 1 | 27.73 | 20.05 | 0.00 | 70.13 | 70.84 | 315.81 | 0.00 | 0.00 |
| Canopy | | | | | | | | |
| A 2 | 58.84 | 82.38 | 3.00 | 19.76 | 19.30 | 46.17 | 0.00 | 0.00 |

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1.1 Description, Exterior Carpark

1.1.2 Floor plan



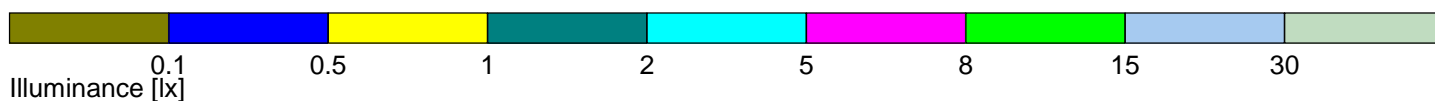
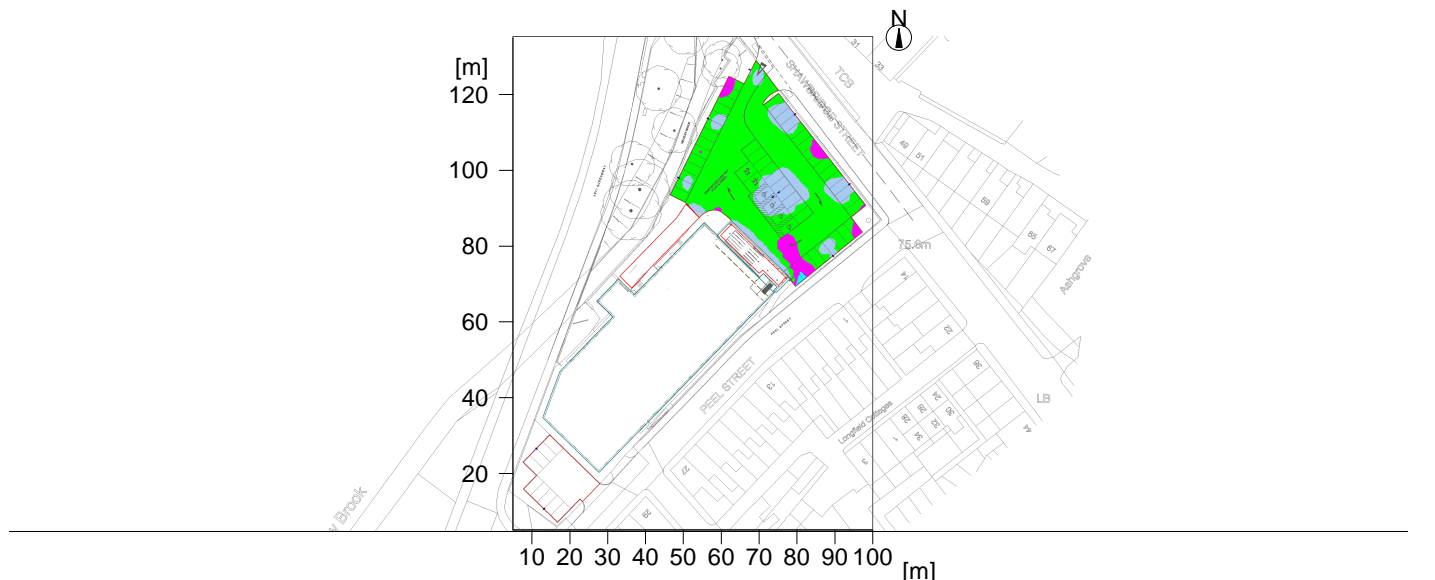
Object : Carpark
 Installation : LiDL Shawbridge Street, Clitheroe
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1 Exterior Carpark

1.2 Summary, Exterior Carpark

1.2.1 Result overview, Exterior Carpark



General

| | |
|------------------------------------|---------------------------|
| Calculation algorithm used | Average indirect fraction |
| Height of evaluation surface | 0.00 m |
| Maintenance factor | 0.77 |
| Total luminous flux of all lamps | 81960 lm |
| Total power | 650 W |
| Total power per area (12350.00 m²) | 0.05 W/m² |
| Upward light ratio (ULR) | 0.03 |

Illuminance

| | | |
|---------------------|-----------|---------------|
| Average illuminance | Eav | 12.4 lx |
| Minimum illuminance | Emin | 4.8 lx |
| Maximum illuminance | Emax | 33.1 lx |
| Uniformity Uo | Emin/Em | 1:2.56 (0.39) |
| Diversity Ud | Emin/Emax | 1:6.87 (0.15) |

Type No.Make

| | | | |
|-------------------------|---|----------------|-----------------------------------|
| Philips Lighting | | | |
| 1 | 4 | Order No. | : !Luminaire Ref: LL-E |
| | | Luminaire name | : WT460C L1300 1xLED23S/840 WB |
| | | Equipment | : 1 x LED23S/840/- 22 W / 2600 lm |
| 2 | 9 | Order No. | : ! |
| | | Luminaire name | : TMS122 1xTL5-35W HFP |
| | | Equipment | : 1 x TL5-35W/840 39 W / 1000 lm |

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



Object : Carpark
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1 Exterior Carpark

1.2 Summary, Exterior Carpark

1.2.1 Result overview, Exterior Carpark

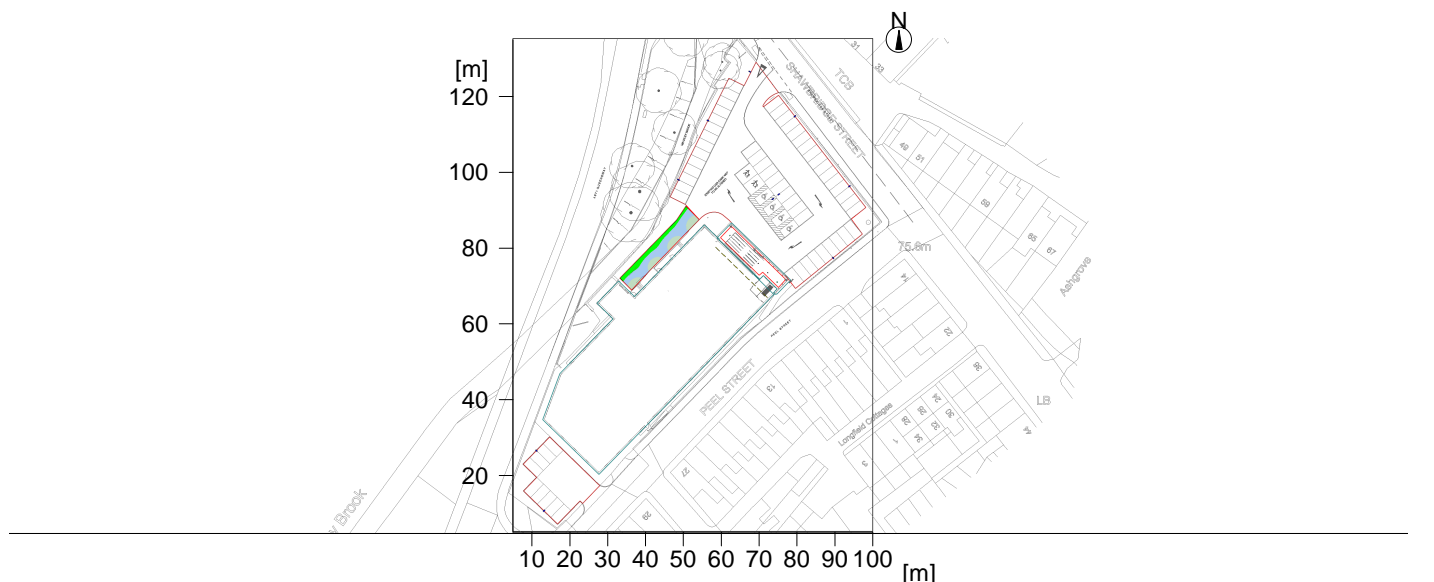
| | | | |
|---|---|----------------|---|
| 3 | 6 | Order No. | : !Luminaire Ref: LL-CANOPY |
| |  | Luminaire name | : BBS490 1xDLED-4000 PG |
| | | Equipment | : 1 x DLED-4000 33.5 W / 2260 lm |
| 4 | 10 | Order No. | : !910770202405 |
| |  | Luminaire name | : LumiStreet BGP213 LED49-4S/740 I DX10 7024 D9 48/60 6m Col umn |
| | | Equipment | : 1 x LED-HB 940-11500 lm-4S/740 1 W / 4900 lm |

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1.2 Summary, Exterior Carpark

1.2.2 Result overview, Lorry Bay



General

| | |
|------------------------------------|---------------------------|
| Calculation algorithm used | Average indirect fraction |
| Height of evaluation surface | 0.00 m |
| Maintenance factor | 0.77 |
| Total luminous flux of all lamps | 81960 lm |
| Total power | 650 W |
| Total power per area (12350.00 m²) | 0.05 W/m² |
| Upward light ratio (ULR) | 0.03 |

Illuminance

| | | |
|---------------------|-----------|---------------|
| Average illuminance | Eav | 24.2 lx |
| Minimum illuminance | Emin | 8 lx |
| Maximum illuminance | Emax | 66.1 lx |
| Uniformity Uo | Emin/Em | 1:3.02 (0.33) |
| Diversity Ud | Emin/Emax | 1:8.27 (0.12) |

Type No.Make

| | | | |
|-------------------------|---|----------------|-----------------------------------|
| Philips Lighting | | | |
| 1 | 4 | Order No. | : !Luminaire Ref: LL-E |
| | | Luminaire name | : WT460C L1300 1xLED23S/840 WB |
| | | Equipment | : 1 x LED23S/840/- 22 W / 2600 lm |
| 2 | 9 | Order No. | : ! |
| | | Luminaire name | : TMS122 1xTL5-35W HFP |
| | | Equipment | : 1 x TL5-35W/840 39 W / 1000 lm |



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

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1.2 Summary, Exterior Carpark

1.2.2 Result overview, Lorry Bay

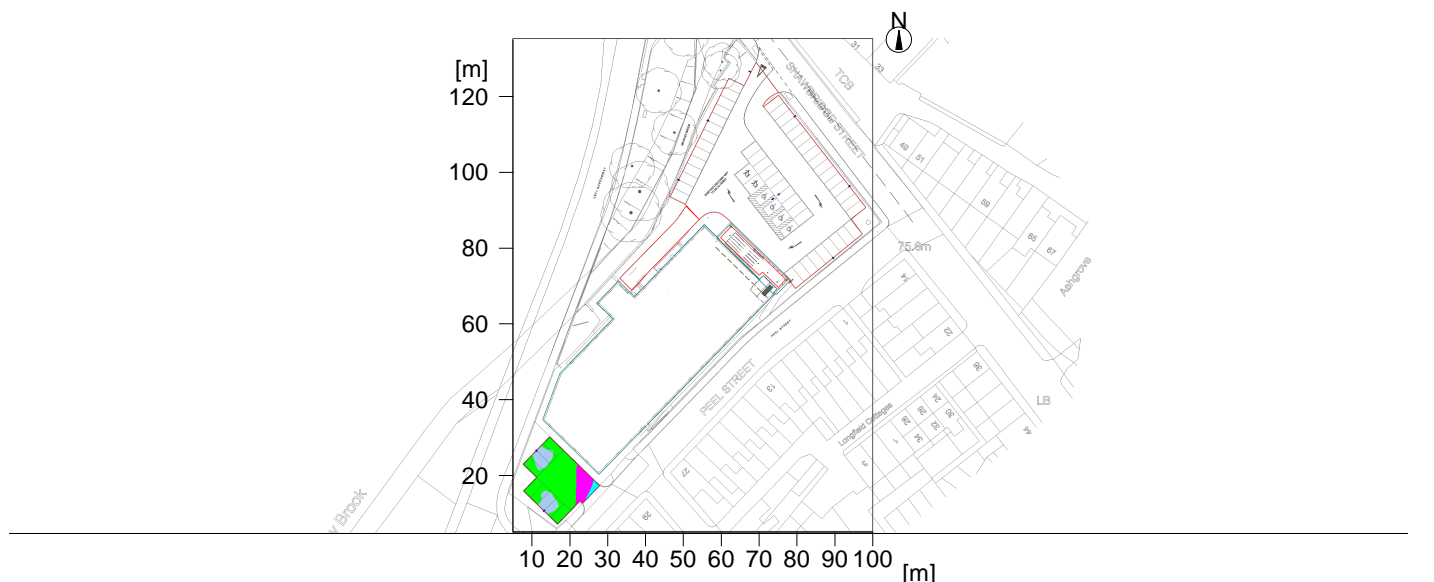
| | | | |
|---|----|----------------|---|
| 3 | 6 | Order No. | : !Luminaire Ref: LL-CANOPY |
|  | | Luminaire name | : BBS490 1xDLED-4000 PG |
| | | Equipment | : 1 x DLED-4000 33.5 W / 2260 lm |
| 4 | 10 | Order No. | : !910770202405 |
|  | | Luminaire name | : LumiStreet BGP213 LED49-4S/740 I DX10 7024 D9 48/60 6m Col umn |
| | | Equipment | : 1 x LED-HB 940-11500 lm-4S/740 1 W / 4900 lm |

Object : Carpark
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1.2 Summary, Exterior Carpark

1.2.3 Result overview, Staff Carpark



General

| | |
|------------------------------------|---------------------------|
| Calculation algorithm used | Average indirect fraction |
| Height of evaluation surface | 0.00 m |
| Maintenance factor | 0.77 |
| Total luminous flux of all lamps | 81960 lm |
| Total power | 650 W |
| Total power per area (12350.00 m²) | 0.05 W/m² |
| Upward light ratio (ULR) | 0.03 |

Illuminance

| | | |
|---------------------|-----------|---------------|
| Average illuminance | Eav | 11.7 lx |
| Minimum illuminance | Emin | 4.1 lx |
| Maximum illuminance | Emax | 16.8 lx |
| Uniformity Uo | Emin/Em | 1:2.86 (0.35) |
| Diversity Ud | Emin/Emax | 1:4.09 (0.24) |

Type No.Make

| | | | |
|-------------------------|---|----------------|-----------------------------------|
| Philips Lighting | | | |
| 1 | 4 | Order No. | : !Luminaire Ref: LL-E |
| | | Luminaire name | : WT460C L1300 1xLED23S/840 WB |
| | | Equipment | : 1 x LED23S/840/- 22 W / 2600 lm |
| 2 | 9 | Order No. | : ! |
| | | Luminaire name | : TMS122 1xTL5-35W HFP |
| | | Equipment | : 1 x TL5-35W/840 39 W / 1000 lm |



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

Object : Carpark
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1.2 Summary, Exterior Carpark

1.2.3 Result overview, Staff Carpark

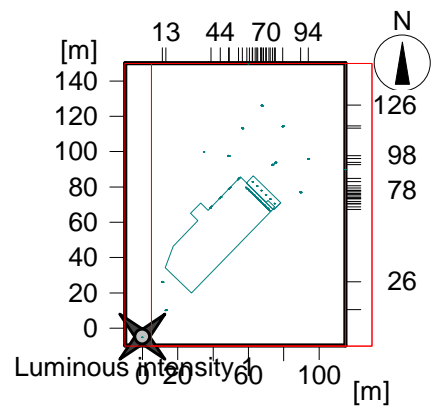
| | | | |
|---|---|----------------|---|
| 3 | 6 | Order No. | : !Luminaire Ref: LL-CANOPY |
| |  | Luminaire name | : BBS490 1xDLED-4000 PG |
| | | Equipment | : 1 x DLED-4000 33.5 W / 2260 lm |
| 4 | 10 | Order No. | : !910770202405 |
| |  | Luminaire name | : LumiStreet BGP213 LED49-4S/740 I DX10 7024 D9 48/60 6m Col umn |
| | | Equipment | : 1 x LED-HB 940-11500 lm-4S/740 1 W / 4900 lm |



2 Exterior Carpark Spill Light

2.1 Calculation results, Exterior Carpark Spill Light

2.1.1 Luminous intensity: Luminous intensity 1



Measuring point for luminous intensity: Luminous intensity 1
Position : x = 0.00 m, y = -5.00 m, z = 1.50 m

Output criteria:

2. Only the first 10 luminaires will be listed.

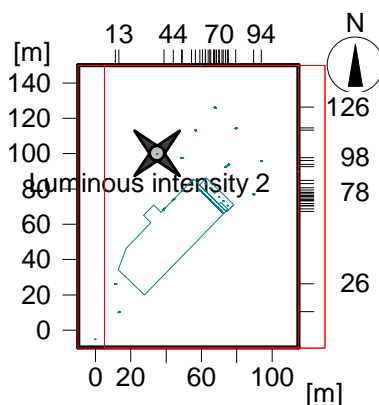
| No. | Luminaire | Position | | | Lumin. intensity |
|-----|--|----------|-------|------|------------------|
| | | x[m] | y[m] | z[m] | |
| 1 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 1.23 | 26.33 | 6.00 | 0.167 |
| 2 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 3.22 | 10.44 | 6.00 | 0.010 |

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2.1 Calculation results, Exterior Carpark Spill Light

2.1.2 Luminous intensity: Luminous intensity 2



Measuring point for luminous intensity: Luminous intensity 2

Position : x = 35.00 m, y = 100.00 m, z = 1.50 m

Output criteria:

2. Only the first 10 luminaires will be listed.

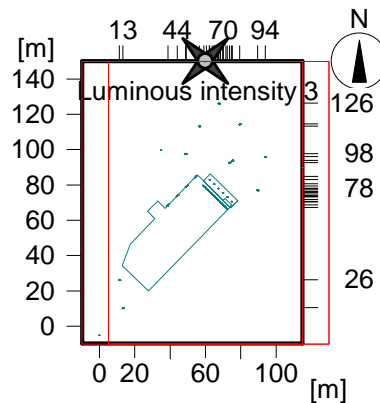
| No. | Luminaire | Position | | | Lumin. intensity | |
|-----|--|----------|--------|------|------------------|--|
| | | x[m] | y[m] | z[m] | I[kcd] | |
| 1 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 53.60 | 92.70 | 6.00 | 0.140 | |
| 2 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 59.43 | 114.48 | 6.00 | 0.089 | |
| 3 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 59.52 | 77.14 | 6.00 | 0.062 | |
| 4 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 58.74 | 97.72 | 6.00 | 0.060 | |
| 5 | WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E | 43.94 | 74.04 | 2.66 | 0.060 | |
| 6 | WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E | 49.17 | 79.42 | 2.66 | 0.059 | |
| 7 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 53.83 | 96.04 | 6.00 | 0.059 | |
| 8 | WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E | 54.40 | 84.80 | 2.66 | 0.058 | |
| 9 | WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E | 38.72 | 68.66 | 2.66 | 0.044 | |
| 10 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 55.19 | 93.92 | 6.00 | 0.001 | |

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2.1 Calculation results, Exterior Carpark Spill Light

2.1.3 Luminous intensity: Luminous intensity 3



Measuring point for luminous intensity: Luminous intensity 3

Position : x = 60.00 m, y = 150.00 m, z = 1.50 m

Output criteria:

2. Only the first 10 luminaires will be listed.

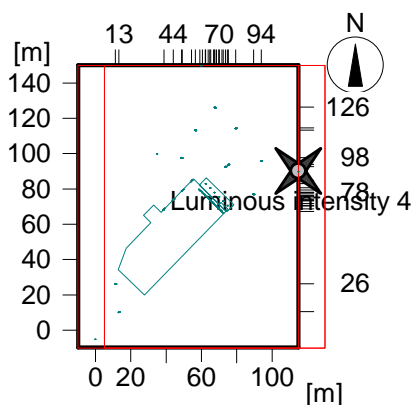
| No. | Luminaire | Position | | | Lumin. intensity |
|-----|--|----------|--------|------|------------------|
| | | x[m] | y[m] | z[m] | |
| 1 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 59.52 | 77.14 | 6.00 | 0.055 |
| 2 | WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E | 54.40 | 84.80 | 2.66 | 0.026 |
| 3 | WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E | 49.17 | 79.42 | 2.66 | 0.022 |
| 4 | WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E | 43.94 | 74.04 | 2.66 | 0.018 |
| 5 | WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E | 38.72 | 68.66 | 2.66 | 0.016 |
| 6 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 55.19 | 93.92 | 6.00 | 0.014 |
| 7 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 59.43 | 114.48 | 6.00 | 0.004 |
| 8 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 56.49 | 113.36 | 6.00 | 0.003 |
| 9 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 53.83 | 96.04 | 6.00 | 0.002 |
| 10 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 48.74 | 97.72 | 6.00 | 0.001 |

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2.1 Calculation results, Exterior Carpark Spill Light

2.1.4 Luminous intensity: Luminous intensity 4



Measuring point for luminous intensity: Luminous intensity 4

Position : x = 115.00 m, y = 90.00 m, z = 1.50 m

Output criteria:

2. Only the first 10 luminaires will be listed.

| No. | Luminaire | Position | | | Lumin. intensity | |
|-----|--|----------|--------|------|------------------|--|
| | | x[m] | y[m] | z[m] | I[kcd] | |
| 1 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 75.19 | 93.92 | 6.00 | 0.116 | |
| 2 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 67.54 | 126.25 | 6.00 | 0.068 | |
| 3 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 56.49 | 113.36 | 6.00 | 0.065 | |
| 4 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 48.74 | 97.72 | 6.00 | 0.064 | |
| 5 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 53.83 | 96.04 | 6.00 | 0.033 | |
| 6 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 59.52 | 77.14 | 6.00 | 0.015 | |
| 7 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 79.43 | 114.48 | 6.00 | 0.002 | |
| 8 | LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405 | 73.60 | 92.70 | 6.00 | 0.002 | |

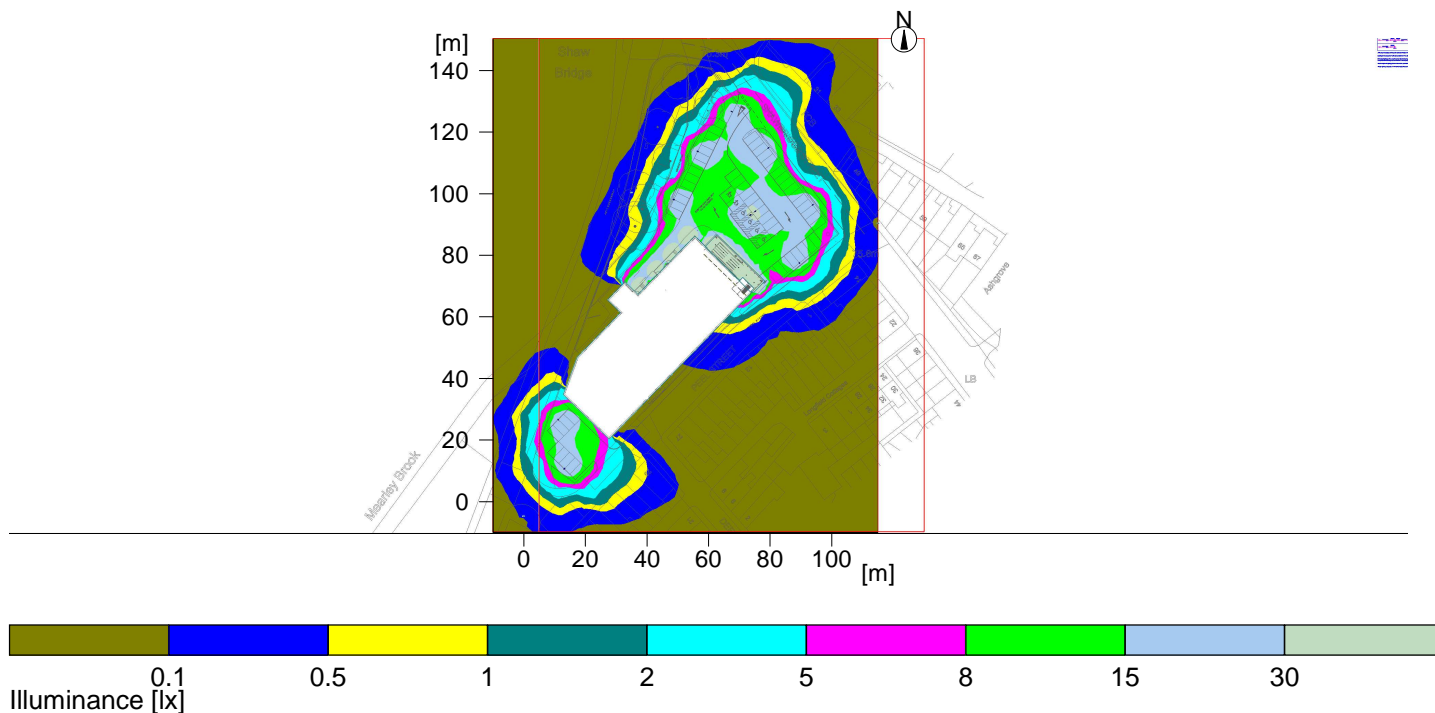
Object : Carpark
 Installation : LiDL Shawbridge Street, Clitheroe
 Project number :
 Date : 09.07.2017



2 Exterior Carpark Spill Light

2.2 Summary, Exterior Carpark Spill Light

2.2.1 Result overview, Horizontal Spill Light 0M



General

| | |
|---|--|
| Calculation algorithm used | Average indirect fraction |
| Height of evaluation surface | 0.00 m |
| Maintenance factor | 1.00 |
| Total luminous flux of all lamps | 81960 lm |
| Total power | 650 W |
| Total power per area (20000.00 m ²) | 0.03 W/m ² (0.96 W/m ² /100lx) |
| Upward light ratio (ULR) | 0.03 |

Illuminance

| | | |
|---------------------------|-----------|--------------|
| Average illuminance | Eav | 3 lx |
| Minimum illuminance | Emin | 0 lx |
| Maximum illuminance | Emax | 139 lx |
| Uniformity U _o | Emin/Em | 1:2890 (0) |
| Diversity U _d | Emin/Emax | 1:119000 (0) |

Type No.\Make

| | |
|---|---|
| Philips Lighting | |
| 1 | 4 |
| Order No. : !Luminaire Ref: LL-E | |
| Luminaire name : WT460C L1300 1xLED23S/840 WB | |
| Equipment : 1 x LED23S/840/- 22 W / 2600 lm | |
| 2 | 9 |
| Order No. : ! | |
| Luminaire name : TMS122 1xTL5-35W HFP | |
| Equipment : 1 x TL5-35W/840 39 W / 1000 lm | |

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



Object : Carpark
Installation : LiDL Shawbridge Street, Clitheroe
Project number :
Date : 09.07.2017



2 Exterior Carpark Spill Light

2.2 Summary, Exterior Carpark Spill Light

2.2.1 Result overview, Horizontal Spill Light 0M

| | | | |
|---|---|----------------|---|
| 3 | 6 | Order No. | : !Luminaire Ref: LL-CANOPY |
| |  | Luminaire name | : BBS490 1xDLED-4000 PG |
| | | Equipment | : 1 x DLED-4000 33.5 W / 2260 lm |
| 4 | 10 | Order No. | : !910770202405 |
| |  | Luminaire name | : LumiStreet BGP213 LED49-4S/740 I DX10 7024 D9 48/60 6m Col umn |
| | | Equipment | : 1 x LED-HB 940-11500 lm-4S/740 1 W / 4900 lm |

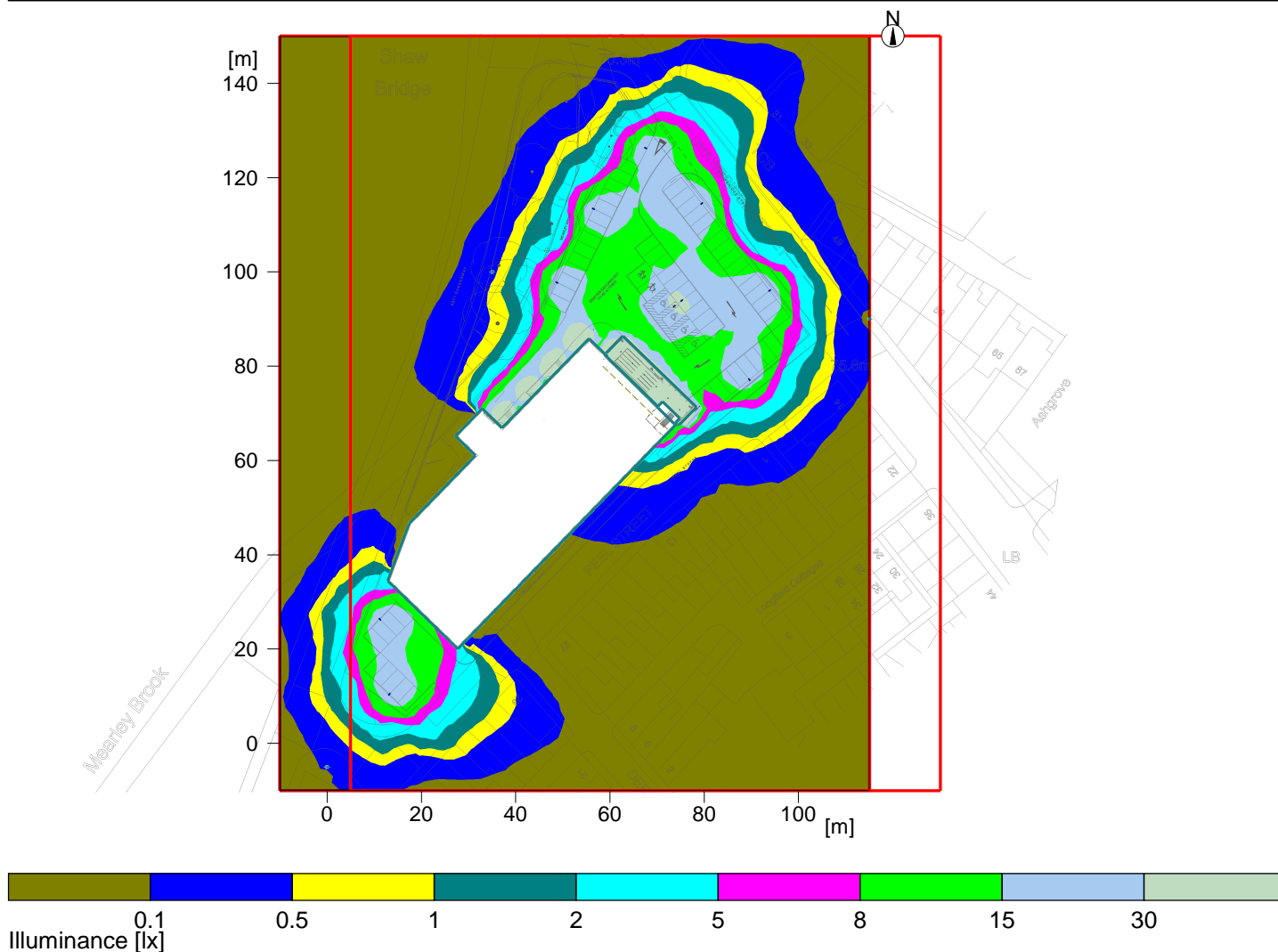
Object : Carpark
Installation : LiDL Shawbridge Street, Clitheroe
Project number :
Date : 09.07.2017



2 Exterior Carpark Spill Light

2.3 Calculation results, Exterior Carpark Spill Light

2.3.1 Pseudo colours, Horizontal Spill Light 0M (E)



Height of the reference plane

Average illuminance
Minimum illuminance
Maximum illuminance
Uniformity U_0
Diversity U_d

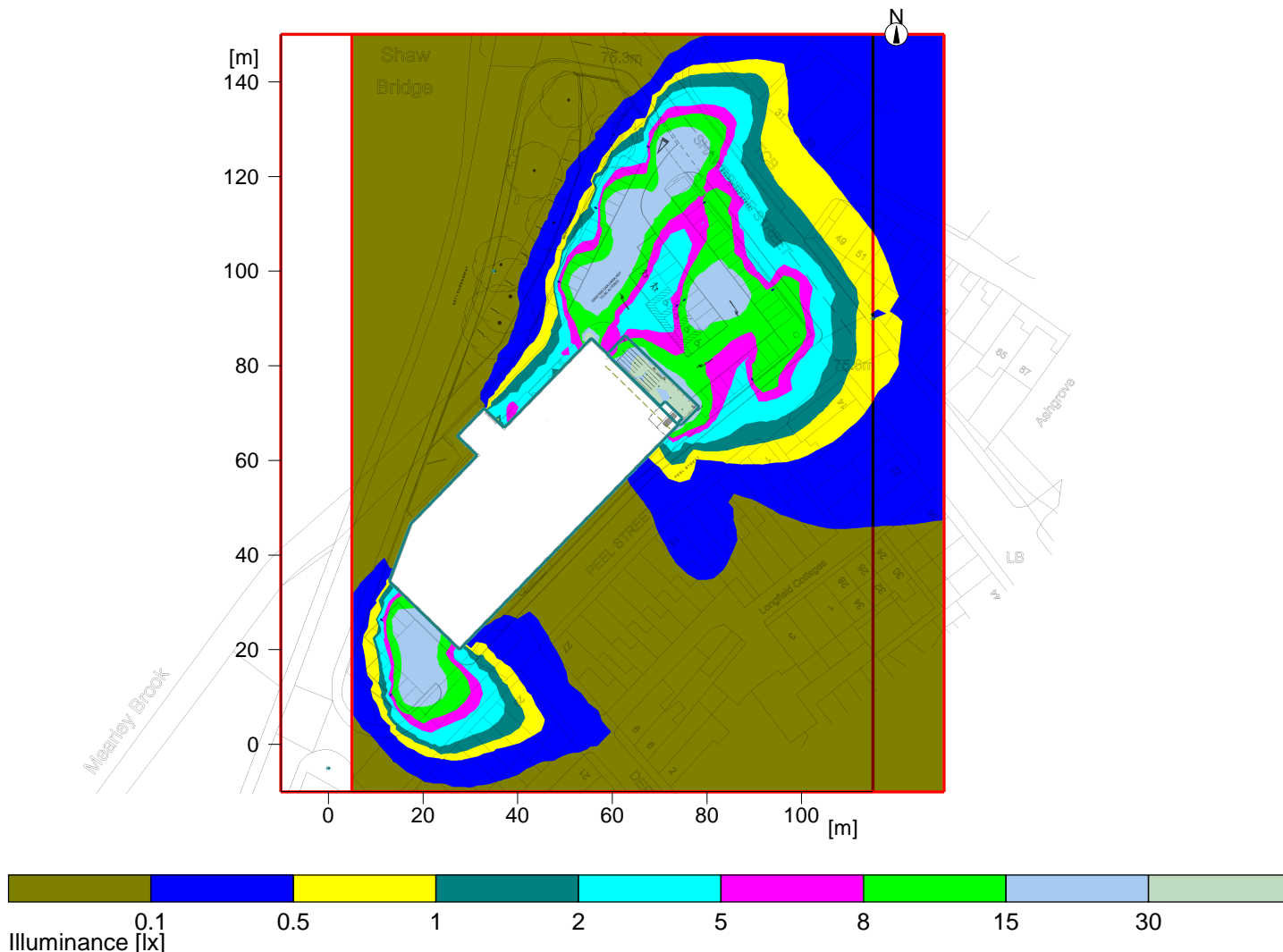
Eav : 0.00 m
Emin : 3 lx
Emax : 139 lx
Emin/Eav : 1 : 2888.26 (0.00)
Emin/Emax : 1 : 118561.98 (0.00)

Object : Carpark
 Installation : LiDL Shawbridge Street, Clitheroe
 Project number :
 Date : 09.07.2017



2.3 Calculation results, Exterior Carpark Spill Light

2.3.2 Pseudo colours, Vertical Spill Light 1.5M (Ev, West (270°))



Vertical illuminance
 Height of the reference plane

from direction

Average illuminance

Minimum illuminance

Maximum illuminance

Uniformity U_0

Diversity U_d

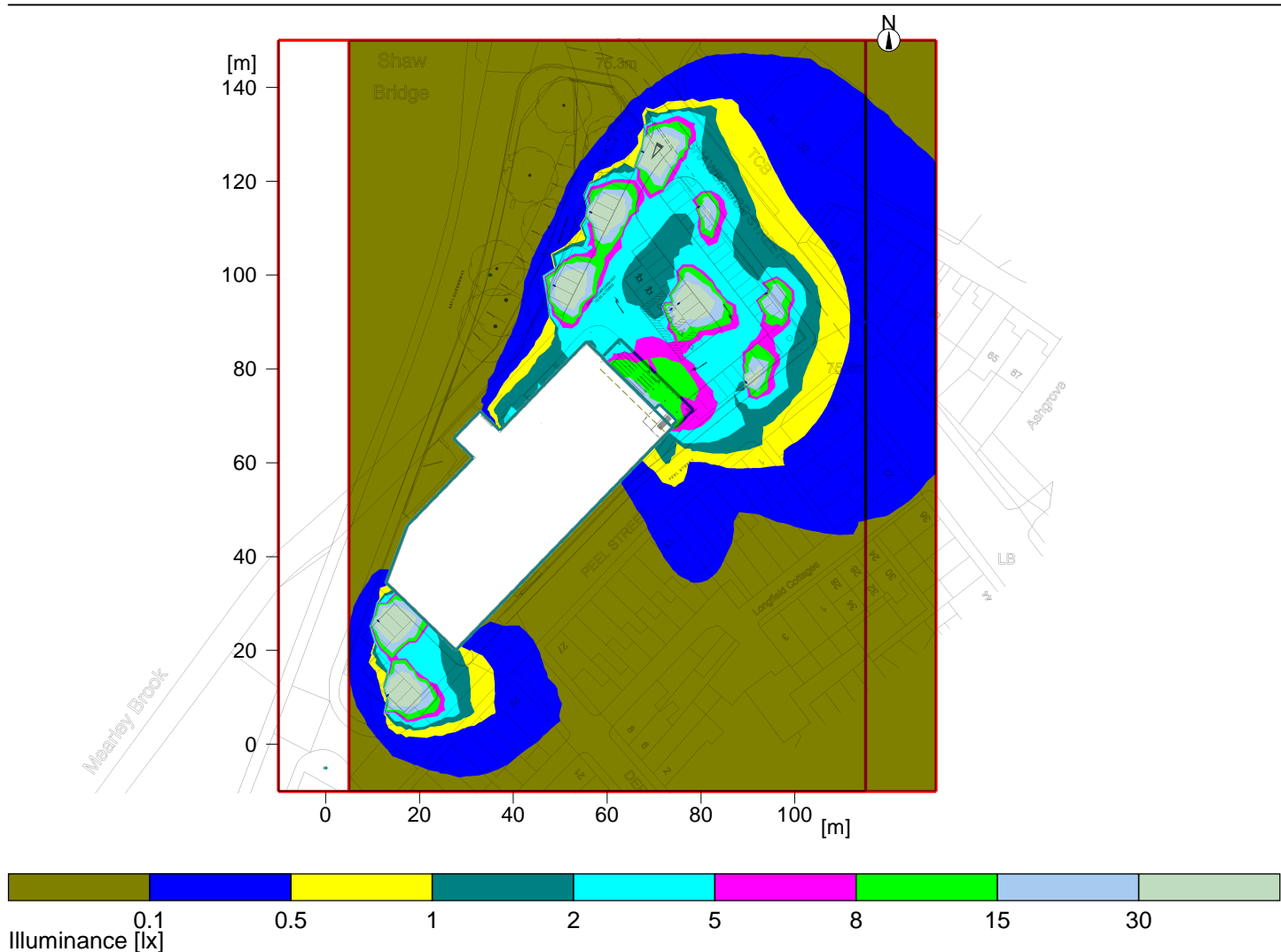
: 1.50 m
 : West (270°)
 Eav : 2 lx
 Emin : 0 lx
 Emax : 137 lx
 Emin/Eav : ---
 Emin/Emax : ---

Object : Carpark
 Installation : LiDL Shawbridge Street, Clitheroe
 Project number :
 Date : 09.07.2017



2.3 Calculation results, Exterior Carpark Spill Light

2.3.3 Pseudo colours, Vertical Spill Light 4M (Ev, West (270°))



Vertical illuminance
 Height of the reference plane

from direction
 Average illuminance
 Minimum illuminance
 Maximum illuminance
 Uniformity U_o
 Diversity U_d

: 4.00 m
 : West (270°)
 E_{av} : 1.9 lx
 E_{min} : 0 lx
 E_{max} : 91 lx
 E_{min}/E_{av} : ---
 E_{min}/E_{max} : ---

Philips Lighting

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Lighting Proposal Terms and Conditions of Use

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General Statement

The proposal has been provided in order to demonstrate how Philips lighting products could be arranged in order to facilitate the requirements particular to the relevant project, and is therefore only a suggested lighting design.

This information is provided subject to the following limitations:

- Philips has not undertaken any risk assessment for this design. Philips will not be held liable for any risk associated with the implementation of the design.
- Philips may not have had physical access to the site of the project to verify the information which has been provided and the proposal is therefore based solely on information provided by the customer to Philips. The customer is therefore responsible for ensuring that the proposal can be safely implemented in compliance with any laws and regulations.

Accordingly, the information contained in the proposal does not constitute a design for the purposes of the Construction, Design and Management Regulations 2007 and Philips does not accept or assume the role of designer.

The nominal values described in the proposal are likely to have been as a result of precision calculations, based upon precisely positioned luminaires in a fixed relationship to each other and to the area under examination which is usually considered to be a flat surface with no solid obstructions. In practice the values may vary due to a number of tolerances including; positions of lamps, luminaires, gear/drivers, ambient temperature, electrical supply behaviours, road camber, surface reflections, obstructions, and the precise positioning and angle of the luminaires for example.

The proposal should be considered as guidance only and must not be used in place of the final principal or construction drawings. Philips recommends that in the event that this proposal is taken forward as the preferred solution, that the calculations and arrangements are first scrutinised, verified and approved by a suitably qualified designer before being transposed onto the relevant working drawings as appropriate.



Installation and Maintenance Notes

- 1) The proposal must be read in conjunction with all other relevant project drawings and specifications.
- 2) Do not scale from the proposal. If in doubt please request further information.
- 3) The proposal may show lighting layout information, but should not be used for installation purposes or construction drawings. Please refer to the official contractor's working drawings which should also include additional information such as electrical connections, other illuminated equipment, and site specific hazards and other safety considerations.
- 4) All relevant laws and regulations must be fully complied with including the undertaking of any required site risk assessments before installation commences.
- 5) The proposal is based upon customer supplied information and it should be assumed that no survey on site has been carried out by Philips. Utility information such as underground and over ground cables and gas pipes etc. will need to be checked on site by the appropriate person/organisation before any excavation works or installation of lighting equipment.
- 6) The proposal may contain symbols which indicate the proposed locations of the lighting equipment. For further information please refer to the luminaire schedules and details.
- 7) Locations and orientation of all equipment must be confirmed with the client prior to installation. Exact orientation of luminaires may need to be finalised during final focusing. Please refer to the Philips lighting solutions drawings and specifications for details of electrical engineering associated with lighting works.
- 8) The customer shall ensure that all proposed lighting equipment is suitable for the particular environmental conditions prevalent at the proposed location.
- 9) All lighting equipment must be supplied with adequate means for protection during transport to site and any subsequent storage prior to installation.
- 10) For lighting on structures such as bridges, tunnels, buildings, canopies, furniture or water features for example, please refer to the relevant drawings and details.
- 11) For details of all luminaires please refer to the Philips lighting solutions luminaire schedule.
- 12) For cable routes, driver locations and any electrical works associated with the lighting installation please refer to the contractor's installation drawings and documentation.
- 13) The lighting installation requires a variety of luminaire types to achieve the desired effects. Information has been provided on the proposal as general guidance and outline of good practice. For more specific recommendations please refer to manufacturer's details for application, operation, handling cleaning and disposal instructions.
- 14) Installation and maintenance of lighting equipment installed at any height above ground requires specific precautions to be taken. Access arrangements should be in strict accordance with the projects access report, method statement and health and safety guidelines.
- 15) All fixtures must be electrically isolated prior to any testing or maintenance.
- 16) Luminaries may need to be powered up for focusing during the hours of darkness, and in which case they must be specified as being fully enclosed and earthed, or operated at extra low voltage.
- 17) Certain lighting fixtures need to be protected from thermal damage caused by over heating by means of thermal cut-out or similar device. Please refer to the relevant documentation.

