

# LIAS Design Notes

The lighting proposal produced by the Lighting Application Specialist (LIAS) team of Philips

Lighting is based on the limited information supplied and provides an indicative design only,

which does not take into account the elimination of health and safety risks at this stage.

Depending on the level of information received, a number of assumptions may have been applied in order to create an indicative lighting proposal and costing model, according to lighting industry guidelines and incorporating industry best practice methods. These assumptions are documented below and will require confirmation by the Principle Designer (which is not Philips Lighting UK) during the detailed design phase.

## Project Specific Assumptions

- Lighting levels provided, 10lux overall, 20lux silo area and 50lux for moving.
- Column heights at 8m.
- Luminaires to be post top or wall mounted.
- The Luminaire Maintenance Factors have been based on a 6 year cleaning intervals within an E3/E4 Environmental Zone and it is assumed that lamp/luminaire failures will be replaced on a 'spot replacement'.
- Energy consumptions have been based on the luminaire/s having Constant Light Output (CLO) enabled and the quoted wattage/s are the average over 100,000 hours (without dimming).
- The design calculations produced by Philips Lighting UK do not account for the effect obstructions, such as trees, will cause.

**Generic Assumptions (unless specifically informed differently)**

- Philips Lighting UK Proposals are not to be used for installation purposes. It is the responsibility of the Principle Designer and/or Principle Contractor to ensure all Installation and Maintenance can be done in a safe manner, carried out by competent persons, based on their agreed Risk Assessments and Method Statements.
- Philips Lighting UK has not been provided with utility plans showing Buried, Above Ground or Overhead utilities. Therefore all column/luminaire locations are indicative and are subject to review/verification by the Principle Designer.
- Philips Lighting UK has not visited site. Therefore all column/luminaire locations are indicative and are subject to an onsite verification arranged/performed by the Principle Designer.
- Philips Lighting UK has not produced any Private Cable Network electrical calculations or reviewed the DNO network to confirm power supplies to the proposed lighting.
- Philips Lighting UK has not performed any asset condition testing and therefore assumes that any existing lighting columns/wall mounted brackets are structurally capable of supporting the weight & windage of the proposed luminaire/s. This must be verified by the Principle Designer before installation works commence.
- Philips Lighting UK is not supplying the new lighting columns (including brackets etc) and therefore it is the responsibility of the Principle Designers to confirm that all proposed equipment is suitable for the intended locations (eg raise & lower, ground condition, foundation type, saline environment, etc).
- Philips Lighting luminaires will be supplied in their standard colour.

## Luminaire Schedule



Clearflood 3XL1M DX10 @8m  
BP650 725 DX10 LED340/- NO  
lamps): LED340-45/740  
candela (ie: BP650 725 x LED340-45, 740 DX10 led  
1 lamp(s) per luminaire, 34000 initial lumens per lamp  
Maintenance Factor = 0.740, watts per luminaire = 220  
Outreach (from mounting axis to photometric center)= 400 mm  
tilt angle= 5 deg  
mounting height= 8 m  
number locations= 5, number luminaires= 5  
kw all locations= 1.1



Clearflood16KL1M DW10 @6m  
BV#650 725 DW10 LED160m/  
lamps): LED160-45/740  
candelas (lit BV#650 725 x LED160-45 740 DW10,1dr\*  
1 lamp/s) per luminaire, 16000 initial luminaire per lamp  
Maintenance Factor = 0.740, watts per luminaire = 100  
Outreach (from mounting axis to photometric center)= 400 mm  
tilt angle= 5 deg  
mounting height= 8 m  
number locations= 15  
number luminaires= 15  
kw all locations= 1.5



DigiStreet 16KLM DW10 NW @8m



```
lamp(s)= LED-HB SS 740  
candela file DigiSheet Medium BGP762_DW10_16000_80LED_370mA_5S_CLO L90_NW.res  
1 lamp(s) per luminaire, 16000 initial lumens per lamp  
Maintenance Factor = 0.830, watts per luminaire = 88  
Outreach (from mounting axis to photometric center)= 400 mm  
tilt angle= 5 deg  
mounting height= 8 m  
number locations= 7, number luminaires= 7  
lw all locations= 0.6
```

|                  |                                      |
|------------------|--------------------------------------|
| Calculation Area | 22540 points at z=0, sp 1.5m by 1.5m |
| HORIZONTAL LUX   |                                      |
| Average          | 24.6                                 |
| Maximum          | 78.2                                 |
| Minimum          | 5.1                                  |
| Min/Avg(Uo)      | 0.207                                |
| Min/Max          | 0.065                                |
| Coef Var         | 0.523                                |
| Unit/Grad        | 1.47                                 |

Silo Area - 20lux  
178 points at z=0, sp 1.5m by 1.5m  
HORIZONTAL MIX

|             |       |
|-------------|-------|
| Average     | 20.3  |
| Maximum     | 34.5  |
| Minimum     | 10.7  |
| Min/Avg(Uo) | 0.527 |
| Min/Max     | 0.310 |
| Coef Var    | 0.290 |
| UnitGrad    | 1.27  |

|                                    |       |
|------------------------------------|-------|
| Moving Area - 50lux                |       |
| 613 points at z=0, sp 1.5m by 1.5m |       |
| HORIZONTAL LUX                     |       |
| Average                            | 50.4  |
| Maximum                            | 75.4  |
| Minimum                            | 29.0  |
| Min/Avg(Lu)                        | 0.575 |
| Min/Max                            | 0.385 |
| Coef Var                           | 0.210 |
| UnitGrad                           | 1.22  |

## Philips Lighting Contacts

Elliott Hardcastle, Key Account Manager - 07876 853638 - Elliott.Hardcastle@philips.com

| Rev | DSR no.  | Comment          | Date     | LIAS | KAM | Project Number     | Project Name                              |
|-----|----------|------------------|----------|------|-----|--------------------|-------------------------------------------|
| 0   | D-215193 | INITIAL PROPOSAL | 18.10.17 | CBU  | EH  | 0400061921         | Houghton Main TRRC                        |
|     |          |                  |          |      |     | Scale & Sheet Size | Drawing Name                              |
|     |          |                  |          |      |     | NTS @ A3           |                                           |
|     |          |                  |          |      |     | Sheet No           |                                           |
|     |          |                  |          |      |     | DWG 00             | LIAS DESIGN NOTES &<br>LUMINAIRE SCHEDULE |



