LIGHTING REALITY AREA CALCULATION

Ref. P24896-LRA-Ph3-MF087

Grid 1 - Northern Access Rd (P5)
Results - Horizontal Illuminance (lux)
Eav= 3.55
Emin= 0.68
Emax= 9.31
Emin/Emax= 0.07
Emin/Eav= 0.19
Emax/Eav= 2.62

Grid 2 - Northern Access Rd (P4)
Results - Horizontal Illuminance (lux)
Eav= 7.67
Emin= 3.20
Emax= 16.59
Emin/Emax= 0.19
Emin/Eav= 0.42
Emax/Eav= 2.16

Grid 3 - Northern Access Rd (P4)
Results - Horizontal Illuminance (lux)
Eav= 5.84
Emin= 1.58
Emax= 13.16
Emin/Emax= 0.12
Emin/Eav= 0.27
Emax/Eav= 2.25

KEY TO LIGHTING SYMBOLS (S38 AREA)

PROPOSED NEW LIGHTING FOR PHASE 3

PROPOSED NEW ADOPTABLE 6m LIGHTING UNIT WITH POST TOP MOUNTED LED LUMINAIRE AT 0° INCLINATION.
LANTERN IS URBIS SCHREDER AXIA 3.1 WITH 16 No WARM WHITE (2700K) LEDs, 52673 OPTIC, 460mA DRIVER AND 3.5klm FLUX,
Ref. AXIA 3.1 C3.5 27K

RL
PROPOSED NEW ADOPTABLE 6m LIGHTING UNIT WITH LED LUMINAIRE FITTED WITH BACK LIGHT LOUVRES, POST TOP MOUNTEDAT 0° INCLINATION.
LANTERN IS URBIS SCHREDER AXIA 3.1 WITH 16 No WARM WHITE (2700K) LEDs, 52673 OPTIC, BACK LIGHT LOUVRES, 460mA DRIVER AND 3.5klm FLUX,
Ref. AXIA 3.1 C3.5 27K BL

PROPOSED NEW ADOPTABLE 5m LIGHTING UNIT WITH POST TOP MOUNTED LED LUMINAIRE AT 0° INCLINATION.
LANTERN IS URBIS SCHREDER AXIA 3.1 WITH 8 No WARM WHITE (2700K) LEDs, 52673 OPTIC, 540mA DRIVER AND 2.01klm FLUX,
Ref. AXIA 3.1 C2.0 27K

RL
PROPOSED NEW ADOPTABLE 5m LIGHTING UNIT WITH LED LUMINAIRE FITTED WITH BACK LIGHT LOUVRES, POST TOP MOUNTEDAT 0° INCLINATION.
LANTERN IS URBIS SCHREDER AXIA 3.1 WITH 8 No WARM WHITE (2700K) LEDs, 52673 OPTIC, BACK LIGHT LOUVRES, 540mA DRIVER AND 2.01klm FLUX,
Ref. AXIA 3.1 C2.0 27K BL

LIGHTING FOR ADJOINING PHASE 2

PROPOSED NEW ADOPTABLE 6m LIGHTING UNIT WITH POST TOP MOUNTED LED LUMINAIRE AT 0° INCLINATION.
LANTERN IS URBIS SCHREDER AXIA 3.1 WITH 16 No WARM WHITE (2700K) LEDs, 52673 OPTIC, 460mA DRIVER AND 3.5klm FLUX,
Ref. AXIA 3.1 C3.5 27K

RL
PROPOSED NEW ADOPTABLE 6m LIGHTING UNIT WITH POST TOP MOUNTED LED LUMINAIRE AT 0° INCLINATION.
LANTERN IS URBIS SCHREDER AXIA 3.1 WITH 16 No WARM WHITE (2700K) LEDs, 52673 OPTIC, BACK LIGHT LOUVRES, 460mA DRIVER AND 3.5klm FLUX,
Ref. AXIA 3.1 C3.5 27K BL

PROPOSED NEW ADOPTABLE 5m LIGHTING UNIT WITH POST TOP MOUNTED LED LUMINAIRE AT 0° INCLINATION.
LANTERN IS URBIS SCHREDER AXIA 3.1 WITH 8 No WARM WHITE (2700K) LEDs, 52673 OPTIC, 540mA DRIVER AND 2.01klm FLUX,
Ref. AXIA 3.1 C2.0 27K

SL
PROPOSED NEW ADOPTABLE 5m LIGHTING UNIT WITH POST TOP MOUNTED LED LUMINAIRE AT 0° INCLINATION.
LANTERN IS URBIS SCHREDER AXIA 3.1 WITH 8 No WARM WHITE (2700K) LEDs, 52673 OPTIC, SIDE LIGHT SHIELD FITTED TO SIDE FACING SITE BOUNDARY, 540mA DRIVER AND 2.01klm FLUX,
Ref. AXIA 3.1 C2.0 27K SL

RL
PROPOSED NEW ADOPTABLE 5m LIGHTING UNIT ON FOLD DOWN COLUMN, WITH POST TOP MOUNTED LED LUMINAIRE AT 0° INCLINATION.
LANTERN IS URBIS SCHREDER AXIA 3.1 WITH 8 No WARM WHITE (2700K) LEDs, 52693 OPTIC LEDs, 270mA DRIVER AND 1.08klm FLUX
ARROW ON SYMBOL INDICATES DIRECTION TO LOWER COLUMN FOR MAINTENANCE
Ref. AXIA 3.1 A1.0 27K BL

PROPOSED NEW LIGHTING FOR ADJOINING S278 AREA

EXISTING ADOPTABLE 6m LIGHTING UNIT WITH POST TOP MOUNTED LED LUMINAIRE AT 0° INCLINATION.
LANTERN IS URBIS SCHREDER AXIA 3.1 WITH 16 No WARM WHITE (3000K) LEDs, 52673 OPTIC, 460mA DRIVER AND 3.6klm FLUX,
Ref. AXIA 3.1 C3.6 3K

PROPOSED NEW ADOPTABLE 6m LIGHTING UNIT WITH POST TOP MOUNTED LED LUMINAIRE AT 0° INCLINATION.
LANTERN IS URBIS SCHREDER AXIA 3.1 WITH 16 No WARM WHITE (3000K) LEDs, 52673 OPTIC, 460mA DRIVER AND 3.6klm FLUX,
Ref. AXIA 3.1 C3.6 3K

EXISTING ADOPTABLE 8m LIGHTING UNIT WITH SIDE ENTRY MOUNTED LED LUMINAIRE AT 0° INCLINATION.
LANTERN IS URBIS SCHREDER AXIA 3.2 WITH 32 No WARM WHITE (3000K) LEDs, 528031 OPTIC, 580mA DRIVER AND 8.87klm FLUX,
Ref. AXIA 3.2 D8.8 3K

DESIGN COMMENTARY

This design is based on the lighting Impact assessment undertaken for the developer, Redrow Homes South West, by The Lighting Bee Ltd, for the planning application. (See report number 1038-LB-XX-XX-RP-E-7080-02 revision 0.6 dated 28.08.24).
Ecology reports have been prepared for the site by EAD ecology, and these have identified most of the site boundaries as being ecologically sensitive, with dark zones required. A key plan showing location of these for this phase of the development is included in Appendix B of The Lighting Bee report, but this is also transcribed onto this drawing.
This drawing deals with proposed lighting for the on-site adoptable roads in phase 3 of the development only.
Drawing P24896-S38-30 (Sheet 1 & Sheet 2) shows maintained calculated illuminance
Drawing P24896-S38-31 (Sheet 1 & Sheet 2) shows calculated illuminance with no maintenance factor applied (MF = 1). This shows lighting in its brightest condition, and therefore the worst case for spill light, and is produced for ecological assessment.

Lighting Class
Spine road - P4, lit with post top mounted LED luminaires on 6m columns in line with the Wiltshire residential lighting specification (P4 requires average illuminance, Eav = 5 - 7.5 lux, Emin = 1 lux)
Spine Road alongside railway and minor roads – P5, lit with post top mounted LED luminaires on 5m columns in line with the Wiltshire residential lighting specification (P5 requires average illuminance, Eav = 3 – 4.5 lux, Emin = 0.6 lux)
Footpath - P5, lit with post top mounted LED luminaires on 4m fold down (mid-hinged) columns (P5 requires average illuminance, Eav = 3 – 4.5 lux, Emin = 0.6 lux)

Maintenance Factor
The site is identified as an E2 zone
MF = fLF x fS x fLM = 0.87, i.e.
fLF - From table C2 in BS5489-1:2020, assuming 72 month cleaning - 0.92
fS – 0.97
fLM – 0.98 for Urbis Axia 3 at 100,000 hours

Lighting Equipment
Luminaires are chosen from the standard “palette” of approved luminaires for Wiltshire Council.
Light Source
In keeping with the strategy identified in the "lighting Impact assessment" report, all on-site lighting is proposed with a "very warm white" LED light source, having a colour corrected temperature (CCT) of 2700K. This has no UV wavelengths in the emitted spectrum and features minimal blue light content, often considered harmful to nocturnal species.

Mitigation for Dark Zones
The adoptable road in this phase is termed "Northern Access Road" and links the spine road through phases 1 & 2 with a new junction with Drynham Road to the north. Much of this section of road runs parallel with a railway line and the lighting stratergy treats the area between the road and railway as a "Dark Zone" for bats. The following mitigation is applied:
Luminaires with a CCT of 2700 K are used throughout the scheme. This is as per the strategy presented at planning
Luminaires are directed away from the dark zone and have backlight shields fitted.
The visitor parking bays on the railway side of the road are not lit to standard.
The Spine Road through Phases 1 & 2 is lit to P4. However, a lower lighting class of P5 is used near the dark zone to minimise the installed lighting. This is as the agreed planning layout.

INSTALLATION NOTES

Luminaires are to be dimmed to the standard Wiltshire residential dimming profile (elexon switch code D19)

Dusk TO 8 PM	100% Output
8 PM TO 11 PM	75% Output
11 PM TO 6 AM	50% Output
6 AM TO Dawn	100% Output

New lighting columns must be mounted in adoptable land
Columns will usually be mounted towards the rear edge of the adoptable footpath.
Columns in roads where there is no seperate footpath will be mounted on a 1m x 1m adoptable pad, constructed to Wiltshire specifications. The column will be 0.8m setback from the kerb edge.

All new lighting columns will have an individual,unmetered electrical supply provided by an approved idno

KEY TO ISOLUX CONTOURS

0.2 LUX
0.5 LUX
1 LUX
2 LUX
5 LUX
10 LUX
20 LUX

GENERAL NOTES

This drawing shows maintained illuminance levels .

This drawing must be printed in colour.

No part of the lighting shown on this drawing should be purchased or constructed until formal Technical Approval has been received from the local authority.

Horizontal Illuminance (lux)

Rev.	DESCRIPTION	DRWN	CHK	DATE
P01	Original for discussion	DPL	SDL	17.6.26

DPL LIGHTING
Grove House | Lutyens Close | Chineham Court |
Basingstoke | Hampshire | RG24 8AG
T 01256 578030 | E enquiries@dpl-lighting.co.uk | W www.dpl-lighting.co.uk

CLIENT/CUSTOMER
REDROW

PROJECT
ELM GROVE, TROWBRIDGE

TITLE
S38 STREET LIGHTING PHASE 3, MF = 1

DRAWN	SCALE	DATE
DPL	1:500 @ A1	17-6-2026

DRAWING NUMBER	ISSUE
P24896-DRG-S38-31 Sht 1	P01

DO NOT SCALE FROM THIS DRAWING

© THIS DRAWING IS THE COPYRIGHT OF DPL LIGHTING LTD
It shall not be used or reproduced in any way without their prior written consent