

McDonalds Merthyr Tydfil (Heads of Valley)

Lighting Impact Assessment Report

Car Park & Drive-Thru External Lighting

Associated Reference Documents:

Institute of Lighting Professionals Guidance Note 01/21

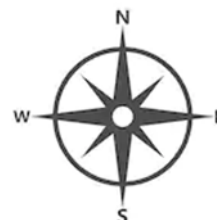
Signify Drawing 6445159/Rev 2

Signify Lighting Application Specialist Design Notes & Luminaire Schedule

22nd December 2025

Site Location

The site comprises of approximately 0.39 hectares of unoccupied land. It is located within the area of the Penygarrnddu Industrial Estate regarded as part of the Asda Retail Park. The centre of Merthyr Tydfil is approximately 3km to the west. The northern and western boundaries abut the car park areas of Lidl. The eastern boundary abuts a service road which provides access from the A465, Heads of Valley Road, to a number of retail sites including the proposed McDonald's site.



Scope of Report and Lighting Design Principles

The report specifically addresses two lighting design considerations requested by the Planning Division of Merthyr Tydfil County Borough Council, namely:

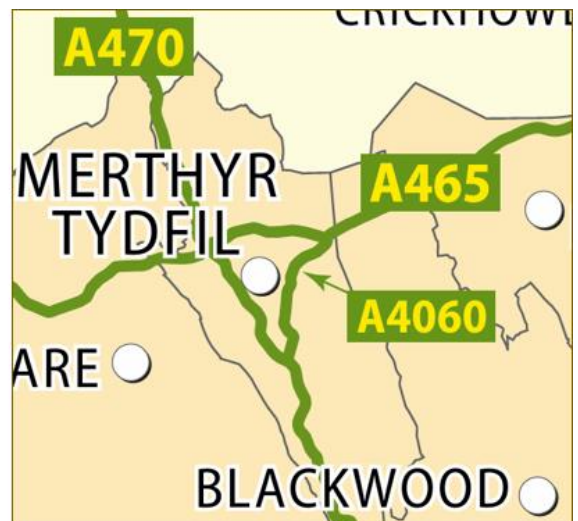
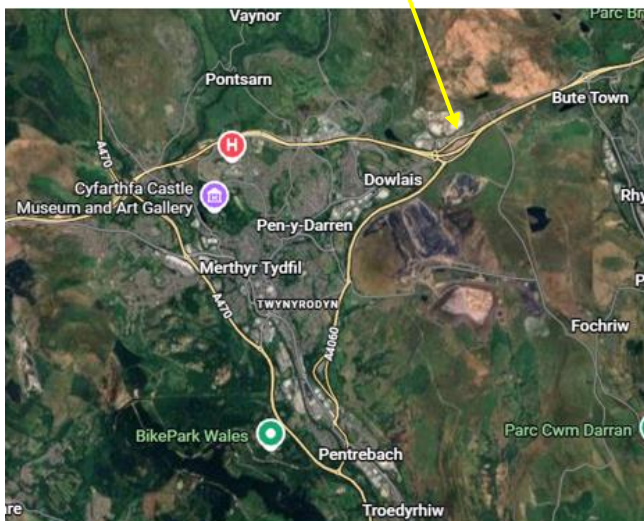
1. *There is insufficient information on the preliminary lighting submission to be able to assess what impact this development will have on the strategic road network. The lighting designer must assess and ensure any light source from the development, does not have an adverse impact on the Strategic road network. Luminance levels shall align with the current edition of “Guidance note for the reduction of obtrusive light” from the Institution of Lighting Professionals.*
2. *The applicant shall also consider the environmental requirements of the lighting of the Dark Skies and Bannau Brycheiniog (Brecon) National Park as appropriate.*

Strategic Road Network Lighting Impact

The southern site boundary is 44m from the eastern slip road to the A465 which is designated part of the Welsh Government’s Strategic Road Network. For the purposes of the lighting impact assessment, we will consider the slip road as part of the A465



Strategic Road Network Extract



The A465 eastern slip road is separated from the main carriageways running east and west by a man-made embankment. There is no line of site between the main carriageways of the A465 and the lighting proposed for the McDonald's site.



The Signify lighting design uses a combination of LED luminaires set at a 0° tilt on 6m columns and 1.1m high asymmetric LED bollards that illuminate the footpath in the south east corner of the site. The 0.5 lux (moonlight) ground level contour stops short of the A465 slip road. The luminaires to the southern boundary incorporate BL2 back light louvres which prevent any line of sight from the small service road or the A465 slip road.



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Table 5 (CIE 150 table 4): Maximum values of Threshold Increment and viewing direction in the path of travel

Light technical parameter	Road classification ¹			
	No road lighting	M6 / M5	M4 / M3	M2 / M1
Veiling luminance ² (L _v)	0.037 cd/m ²	0.23 cd/m ²	0.40 cd/m ²	0.84 cd/m ²
Threshold Increment	15% based on adaption luminance of 0.1 cd/m ²	15% based on adaption luminance of 1.0 cd/m ²	15% based on adaption luminance of 2.0 cd/m ²	15% based on adaption luminance of 5 cd/m ²

The lighting impact assessment concludes that the conditions of Table 5 are met. There are no visible luminaires from either the strategic or local road networks.

Night Sky Preservation

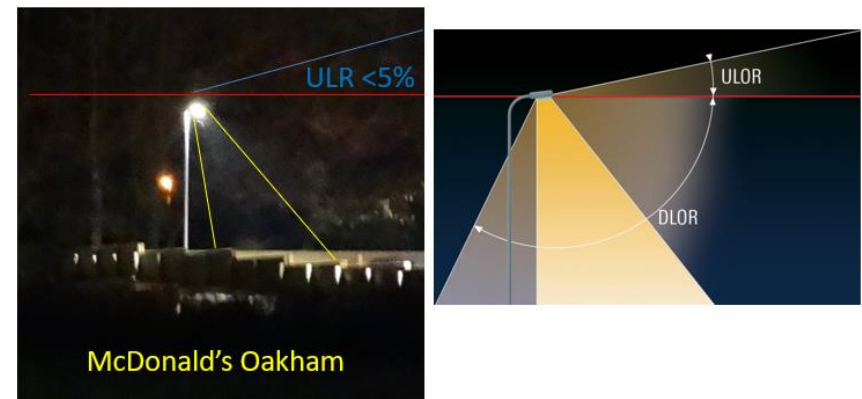
The Signify lighting design for the car park and drive-thru lane has followed the principles of the ILP Guidance Notes based upon the site being in an E3 Environmental Zone.

ILP Guidance Note 01/21

Table 6 (CIE 150 table 5): Maximum values of upward light ratio (ULR) of luminaires

Light technical parameter	Environmental zones				
	E0	E1	E2	E3	E4
Upward light ratio (ULR) / %	0	0	2.5	5	15

The Signify luminaire heads are set at 90° to the vertical. There is no upward light on an individual luminaire basis. All emitted light is directed downwards. The E3 requirement of the ULR ratio being under 5% is met.



Bruce Robinson
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