

TORFICHEN WIND FARM EIA REPORT

FIGURE 6.8

TURBINE LIGHTING INTENSITY ZTV TO 20KM WITH VIEWPOINTS

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KEY

- SITE BOUNDARY
- PROPOSED LIT TURBINES
- STUDY AREA 20 KM
- DISTRICT BOUNDARY

L VIA VIEWPOINT

- PHOTOMONTAGE
- WIRELINE

INTENSITY OF TURBINE LIGHT SHOWN IN CANDELA [CD]

VERTICAL ANGLE	2000 CD LIGHT	200 CD LIGHT
3° TO 0°	UP TO 2500 CD	UP TO 250 CD
0° TO -1°	2185 CD TO 982 CD	218 CD TO 98 CD
-1° TO -2°	982 CD TO 413 CD	98 CD TO 41 CD
-2° TO -3°	413 CD TO 217 CD	41 CD TO 21 CD
-3° TO -4°	217 CD TO 172 CD	21 CD TO 17 CD
BELOW -4°	BELOW 172 CD	BELOW 17 CD



SCALE - 1:165,000 @ A3

ENVIRONMENTAL IMPACT ASSESSMENT REPORT 2023

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NOTES

1. A reduced lighting scheme has been agreed with the Civil Aviation Authority (CAA) and it is proposed seven of the 16 turbines (T1, T3, T9, T10, T13, T16 and T18) will be fitted with medium intensity steady state nacelle lights. It has been agreed with the CAA that intermediate tower lights are not required.

2. The visible turbine lights "will be switched on between Evening Civil Twilight and Morning Civil Twilight. Approximately 11 hours per day averaged over the year."

3. Civil Aviation Authority SARG Policy Statement (2017) states "If the horizontal meteorological visibility in all directions from every wind turbine generator in a group is more than 5 km, the intensity for the light positioned as close as practicable to the top of the fixed structure required to be fitted to any generator in the windfarm and displayed may be reduced to not less than 10% of the minimum peak intensity."

4. The lighting intensity for each of the vertical angles shown in the above table has been provided by Contarnex (Light Bulb Manufacturer) and is based on optimal test conditions in a calibration chamber.

5. The perception of theoretical candela intensity does not take account of atmospheric attenuation (reduction in brightness over distance).

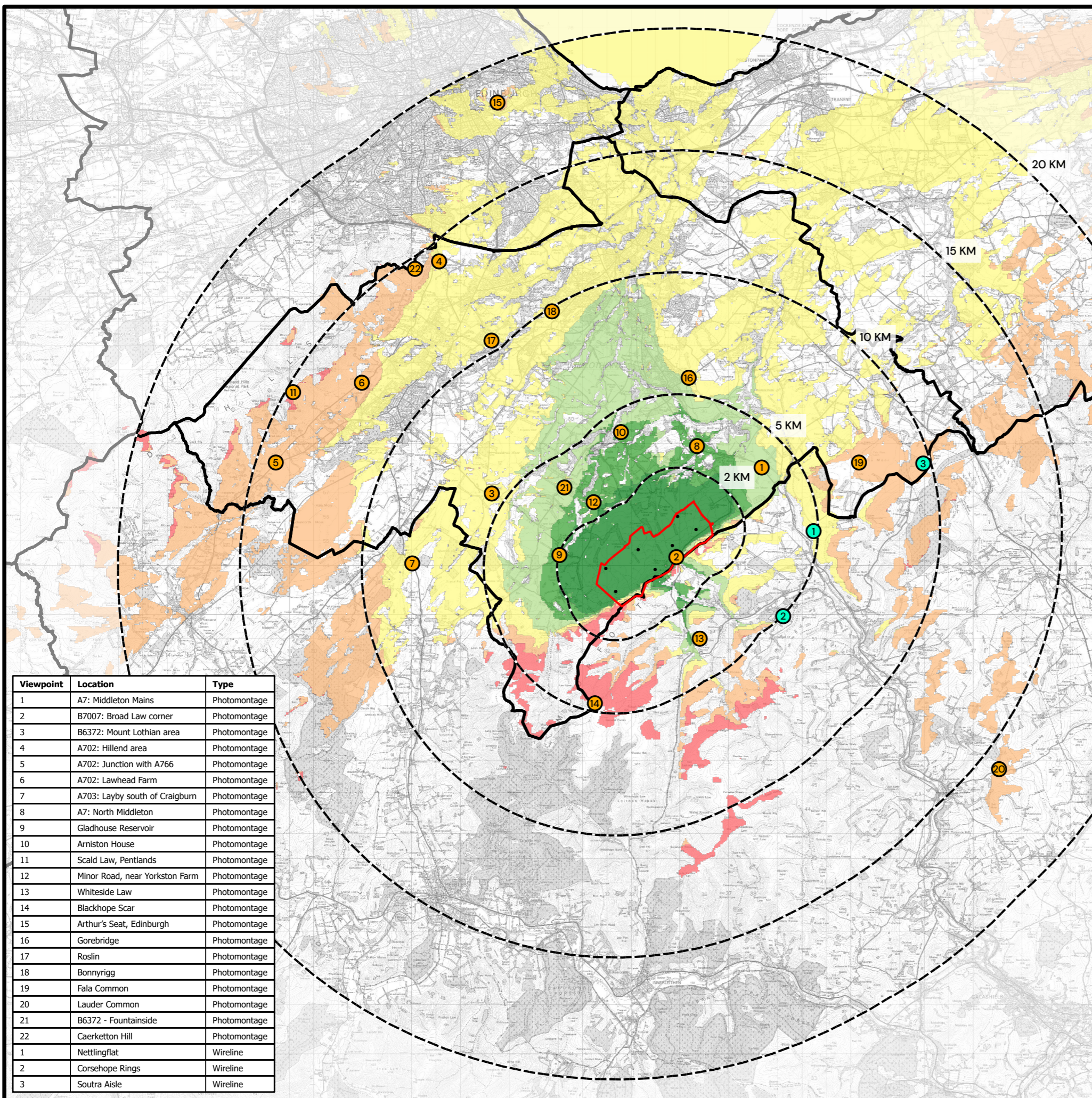
6. The ZTV does not take account of surface features such as buildings or forestry.

7. The ZTV has been produced using OS Terrain 50 height data and calculates the difference in vertical angle between the turbine lights and the study area.

8. The ZTV represents a reasonable worst case and the theoretical lighting intensity illustrated may be the result of a single turbine within the group.

9. Actual visibility is likely to be less than predicted due to a range of other factors considered in Appendix 7.9 of the LVIA which include the darkness adaptation of individual receptors and weather obscuration.

Further technical information can be found in Appendix 6.7 Night-time Lighting Assessment Methodology.



Viewpoint	Location	Type
1	A7: Middleton Mains	Photomontage
2	B7007: Broad Law corner	Photomontage
3	B6372: Mount Lothian area	Photomontage
4	A702: Hillend area	Photomontage
5	A702: Junction with A766	Photomontage
6	A702: Lawhead Farm	Photomontage
7	A703: Layby south of Craigburn	Photomontage
8	A7: North Middleton	Photomontage
9	Gladhouse Reservoir	Photomontage
10	Arniston House	Photomontage
11	Scald Law, Pentlands	Photomontage
12	Minor Road, near Yorkston Farm	Photomontage
13	Whiteside Law	Photomontage
14	Blackhope Scar	Photomontage
15	Arthur's Seat, Edinburgh	Photomontage
16	Gorebridge	Photomontage
17	Roslin	Photomontage
18	Bonnyrigg	Photomontage
19	Fala Common	Photomontage
20	Lauder Common	Photomontage
21	B6372 - Fountainside	Photomontage
22	Caerketton Hill	Photomontage
1	Nettlingflat	Wireline
2	Corsehope Rings	Wireline
3	Soutra Aisle	Wireline

