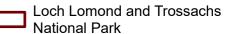




Key

- **Proposed Turbines**
- Viewpoint
- Wireline Only Viewpoint
 - Site Boundary
- 5km Radii
- 20km Detailed LVIA Study Area



Intensity of Turbine light, shown in Candelas (cd)

| Vertical Angle | Turbine Lighting Intensity | |
|----------------|----------------------------|----------------|
| | 2000cd Scenario | 200cd Scenario |
| 0° to 2° | 2200/2500cd | 220/250cd |
| 0° to -1° | 2200cd to 980cd | 220cd to 98cd |
| -1° to -2° | 980cd to 420cd | 98cd to 42cd |
| -2° to -3° | 420cd to 220cd | 42cd to 22cd |
| -3° to -4° | 220cd to 170cd | 22cd to 17cd |
| Below -4° | <170cd | <17cd |

- Notes
 1. The lighting intensity for each of the vertical angles shown is derived from information provided by the Aviation Consultant for the Proposed Development, which in turn is based on data provided by CEL a manufacturer of aviation warning lights.

 2. Reduced intensity turbine lighting (200cd)
- based on 'Air Navigation Order 2016 (CAP393) Article 223 (8)' which allows the 2000cd turbine light to be 'reduced to not less than 10% of the minimum peak intensity specified ' i.e. 200cd 'if visibility in all directions from every wind turbine generator in a group is more than 5km '.
- 3. Perception of theoretical candela intensity does not take account of distance .
- 4. ZTV calculations do not take into account surface features such as forestry or buildings.
- ZTV calculations for turbine lighting intensity are based on visible aviation lighting mounted on
- 6. The ZTV calculates the degree of vertical angle from the study area shown to each of the
- Proposed Development turbines.
 7. ZTV calculations represent a worst case situation where predicted lighting intensity may be as a result of only one turbine in the layout.



Figure 5.2.3

Hub Lighting Intensity ZTV (reduced aviation lighting scheme)

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