

Lighting Impact Assessment Proposed Four Padel Tennis Courts

Salisbury Golf Centre, Wilton Road, Salisbury, Wiltshire (SP2 9NY)

This Lighting Impact Assessment (ELIA) has been prepared to support a full planning application for four outdoor padel tennis courts at Salisbury Golf Centre. The assessment has been prepared having regard to the site layout, landscape proposals and the ecological context of the site, which lies on the western edge of the Salisbury urban area.

1.0 Introduction

- 1.1 This report assesses the potential environmental effects of external lighting associated with four proposed padel tennis courts. The purpose of the assessment is to demonstrate that the lighting scheme can be delivered in a manner that provides safe playing conditions while avoiding unacceptable impacts on visual amenity, neighbouring land uses, landscape character and ecology.
- 1.2 The assessment has been informed by the submitted Design and Access Statement, proposed site and landscape plans (Drawing Nos. 0542-02-003 and 0542-02-004), and the Ecology and Biodiversity Net Gain Assessment prepared for the site.



Plan 1 Proposed site layout

2.0 Site Description and Context

- 2.1 Salisbury Golf Centre is an established sports and leisure facility located to the west of Salisbury, with direct access from Wilton Road (A36). The site occupies a transitional location on the edge of the urban area, with residential development and transport infrastructure to the north, a floodlit driving range and all-weather hockey pitch to the east, and a golf course to the south and west.



Plan 2 Location of proposal in relation to nearest dwellings

2.2 The proposed padel courts are positioned just south of Wilton Road and residential areas where there are street and residential lights. The nearest dwelling is 71m from the edge of the proposed courts, south of Wilton Road, with its street lighting, bordered by trees. It is also adjacent to existing golf facilities, including the floodlit driving range and clubhouse, as well as a floodlit all-weather hockey pitch. The courts are set within a managed recreational landscape, screened by existing trees and reinforced by proposed landscaping. The surrounding context is therefore characterised by active floodlit recreational and urban uses rather than a dark, undeveloped rural environment.

3.0 Scope of Assessment

3.1 The assessment considers:

- The proposed lighting equipment and layout.
- Sensitive receptors, including residential properties, users of the golf course and ecological features.
- Potential impacts from light spill, glare and sky glow.
- Compliance with relevant guidance and standards.

- The assessment relates solely to operational lighting associated with the padel courts.

4.0 Relevant Standards and Guidance

4.1 This assessment has been prepared with reference to the following:

CIE 150: Guide on the limitations of the effects of obtrusive light from outdoor lighting installations.

- 4.2 CIE 150, last updated in 2003. is a technical document created by the Commission Internationale de l'Éclairage (CIE).
- 4.3 CIE is an international organisation that sets standards and provides guidelines related to lighting, colour, and vision.
- 4.4 The purpose of CIE 150 is to provide guidance and recommendations on how to minimise the negative impacts of outdoor lighting installations, specifically focusing on obtrusive light.
- 4.5 The guide addresses various aspects related to outdoor lighting, such as fixture design, aiming, and control mechanisms, to mitigate the potential negative consequences of light pollution.

CIE 126: Guidelines for Minimising Sky Glow

- 4.7 CIE 126, last updated in 1997, is a technical document created by the Commission.
- 4.8 The purpose of CIE 126 is to provide guidelines specifically focused on reducing the phenomenon known as "sky glow."

Relevant Lighting Standards

- 4.9 The most appropriate industry recognised standards for outdoor lighting that relate to the application site are:

The Exterior Environment: Lighting Guide 6

- 4.10 The Exterior Environment Lighting Guide 6 was last updated in 2016 and is a comprehensive publication by The Chartered Institution of Building Services Engineers (CIBSE), an organisation in the UK that offers guidance and standards for building services and environmental engineering.

- 4.11 This guide focuses on providing in-depth recommendations and best practices for outdoor lighting design and implementation. It covers various aspects of lighting in exterior spaces such as streets, public areas, parks, and building exteriors.
- 4.12 The guide offers guidance on creating effective and sustainable lighting solutions that enhance safety, security, aesthetics, and functionality in outdoor environments while also considering energy efficiency and minimising light pollution.

Public Lighting Guide 04: Guidance on Undertaking Environmental Lighting Impact Assessments

- 4.13 Public Lighting Guide 04: Guidance on Undertaking Environmental Lighting Impact Assessments, last updated in 2013, is a publication by The Institution of Lighting Professionals (ILP), an organisation based in the UK that promotes excellence in lighting.

Guidance Notes for the Reduction of Obtrusive Light; GN01/21

- 4.14 Guidance Notes for the Reduction of Obtrusive Light, published by The Institution of Lighting Professionals, last updated in 2021, provides practical guidelines to minimise the negative impacts of outdoor lighting installations on the environment and neighbouring areas.
- 4.15 GN01/21 recommend that the immediate environment be classified systematically as shown in Table 1.
- 4.16 GN01/21 recommends limiting obtrusive light according to the environmental zone in which the lighting would be situated. The stringency depends on the capacity to absorb lighting effects, with zone E0 requiring the strictest level of control and E4 the lowest.

ENVIRONMENTAL ZONE CLASSIFICATION AND PARAMETERS			
Zone	Surrounding	Lighting Environment	Example
E0	Protected	Dark	UNESCO Starlight Reserves, IDA Dark Sky Parks
E1	Natural	Intrinsically dark	National Parks, Areas of Outstanding Natural Beauty
E2	Rural	Low district brightness	Village or relatively dark outer suburban location
E3	Suburban	Medium district brightness	Small town centres or suburban locations
E4	Urban	High district brightness	Town or City centres with high levels of nighttime activity

Table 1

Lighting Levels

- 4.17 The Lawn Tennis Association (LTA) has published a datasheet that details the minimum requirements of lighting levels and lighting uniformity for outdoor padel courts.

LTA Padel Datasheet

- 4.18 The LTA Padel Court Datasheet is a comprehensive guide designed to assist venues in the UK with the planning, construction, and maintenance of padel courts in line with Lawn Tennis Association (LTA) standards.
- 4.19 The datasheet provides guidance on any non-intrusive floodlighting systems to meet minimum lux levels for recreational and competitive use, while minimising light spill and complying with local planning regulations. The proposed lighting has been designed with regard to this guidance.

SELECTION OF LIGHTING CLASS		
Level of Competition	Minimum illumination at ground level	
	Light level (lux)	Minimum uniformity (Emin/Eav)
National and International Competition	500	0.70
Regional competition, school, and recreational use	300	0.50

Table 2

5.0 Environmental Zone Classification

- 5.1 Having regard to the mixed urban and recreational context, the site is considered to fall within an ILP Environmental Zone E3 (Suburban – Medium District Brightness).
- 5.2 Lighting impacts have therefore been assessed against the relevant pre-curfew obtrusive light thresholds for an E3 environment as set out in ILP GN01/21.

6.0 Proposed Lighting Scheme

- 6.1 The application proposes floodlighting of the four courts for the hours of 07:30 to 20:00. This is the same period of operation as exists for the adjacent golf range. The nearby all-weather hockey pitch has longer hours of operation.
- 6.2 The proposed lighting arrangement reflects the approved court layout shown on Drawing No. 0542-02-006. Lighting performance parameters for the proposed lighting are outlined in Table 3.

Lighting Assessment of four proposed padel courts, Salisbury Golf Centre

LUMINAIRE SPECIFICATION	
Location:	Four padel courts
Luminaire model ref:	EL NED 240 TC
Luminaire style:	Padel court LED floodlight
Mounting height:	6m from ground level
Mounting type:	Post top mounted
Luminaire tilt:	0°
Light source:	Cool white (6000k) LED
Lighting classification:	G3 (semi horizontal cut off)

Table 3



Fig 1. Example of proposed floodlighting unit (EL NED 240 TC LED)

6.3 Key elements of the lighting scheme include:

- LED court projectors mounted on columns of approximately 6 metres in height.
- Luminaires positioned internally to the courts to minimise outward light spill.
- Horizontal mounting with no upward tilt.
- Full cut-off optics to control glare and sky glow.

- Average maintained illuminance of approximately 300 lux suitable for recreational padel use.
- Lighting powered and controlled to ensure efficient operation.
- Lighting columns are integrated within the court enclosures and sit below the height of surrounding tree canopies in longer-distance views.

7.0 Assessment of Lighting Effects

- 7.1 The orientation of the courts, combined with the use of enclosed glass and mesh panels, naturally contains light within the court areas. Existing and proposed landscaping further filters views and light transmission beyond the site.
- 7.2 Predicted light spill beyond the site boundary is minimal and will not result in exceedance of ILP vertical illuminance thresholds at sensitive receptors. No direct views of luminaires are expected from nearby residential areas.

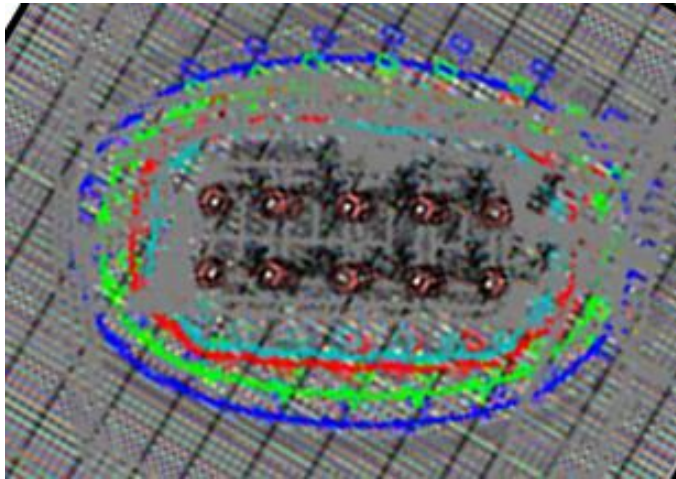


Fig 2. Horizontal Illuminance (lux)

Lighting Assessment of four proposed padel courts, Salisbury Golf Centre

Layout Report

General Data

Dimensions in Metres Angles in Degrees

Calculation Grids

ID	Grid Name	X	Y	X' Length	Y' Length	X' Spacing	Y' Spacing
1	Grid 1: Whole Area	370916.24	434864.25	375.00	375.00	1.50	1.50
2	Grid 2: Padel Court 1	371077.05	434853.25	20.00	10.00	1.00	1.00
3	Grid 3: Padel Court 2	371082.88	434842.35	20.00	10.00	1.00	1.00
4	Grid 4: Padel Court 3	371088.76	434831.21	20.00	10.00	1.00	1.00
5	Grid 5: Padel Court 4	371094.75	434820.35	20.00	10.00	1.00	1.00
6	Grid 6: Vertical Grid 1	371051.03	434906.74	18.00	10.00	1.00	1.00
7	Grid 7: Vertical Grid 2	371133.60	434792.80	10.00	10.00	1.00	1.00

Luminaires

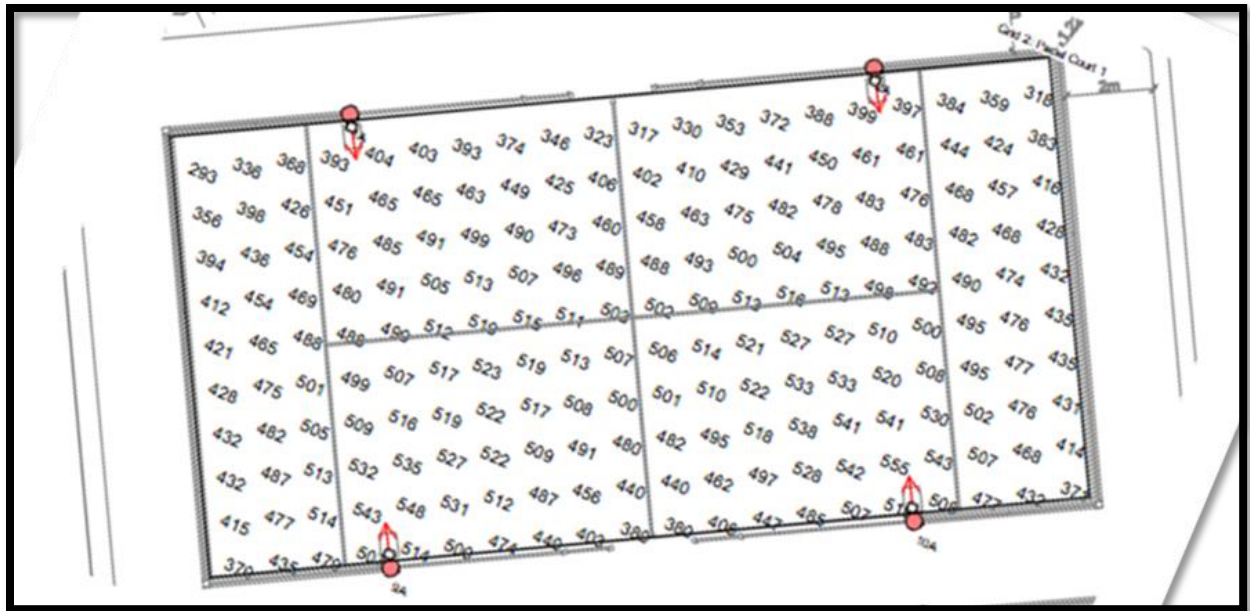
Luminaire A Data

Supplier	Padel Courts
Type	EL-NED-240(TC)
Lamp(s)	LED 9050
Lamp Flux (klm)	3742
File Name	EL-NED-240(TC).IES
Maintenance Factor	1.00
Lum. Int. Class	G3
No. in Project	16

Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	A	371075.89	434864.13	6.00	300.00	0.00	0.00	0.30			
2	A	371086.40	434869.73	6.00	300.00	0.00	0.00	0.30			
3	A	371081.75	434853.15	6.00	300.00	0.00	0.00	0.30			
4	A	371092.25	434858.76	6.00	300.00	0.00	0.00	0.30			
5	A	371087.61	434842.18	6.00	300.00	0.00	0.00	0.30			
6	A	371098.11	434847.78	6.00	300.00	0.00	0.00	0.30			
7	A	371093.47	434831.20	6.00	300.00	0.00	0.00	0.30			
8	A	371103.97	434836.80	6.00	300.00	0.00	0.00	0.30			
9	A	371080.74	434855.04	6.00	119.00	0.00	0.00	0.30			
10	A	371091.24	434860.65	6.00	119.00	0.00	0.00	0.30			
11	A	371086.59	434844.07	6.00	119.00	0.00	0.00	0.30			
12	A	371097.09	434849.68	6.00	119.00	0.00	0.00	0.30			
13	A	371092.45	434833.10	6.00	119.00	0.00	0.00	0.30			
14	A	371102.95	434838.70	6.00	119.00	0.00	0.00	0.30			
ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
15	A	371098.31	434822.13	6.00	119.00	0.00	0.00	0.30			
16	A	371108.81	434827.73	6.00	119.00	0.00	0.00	0.30			

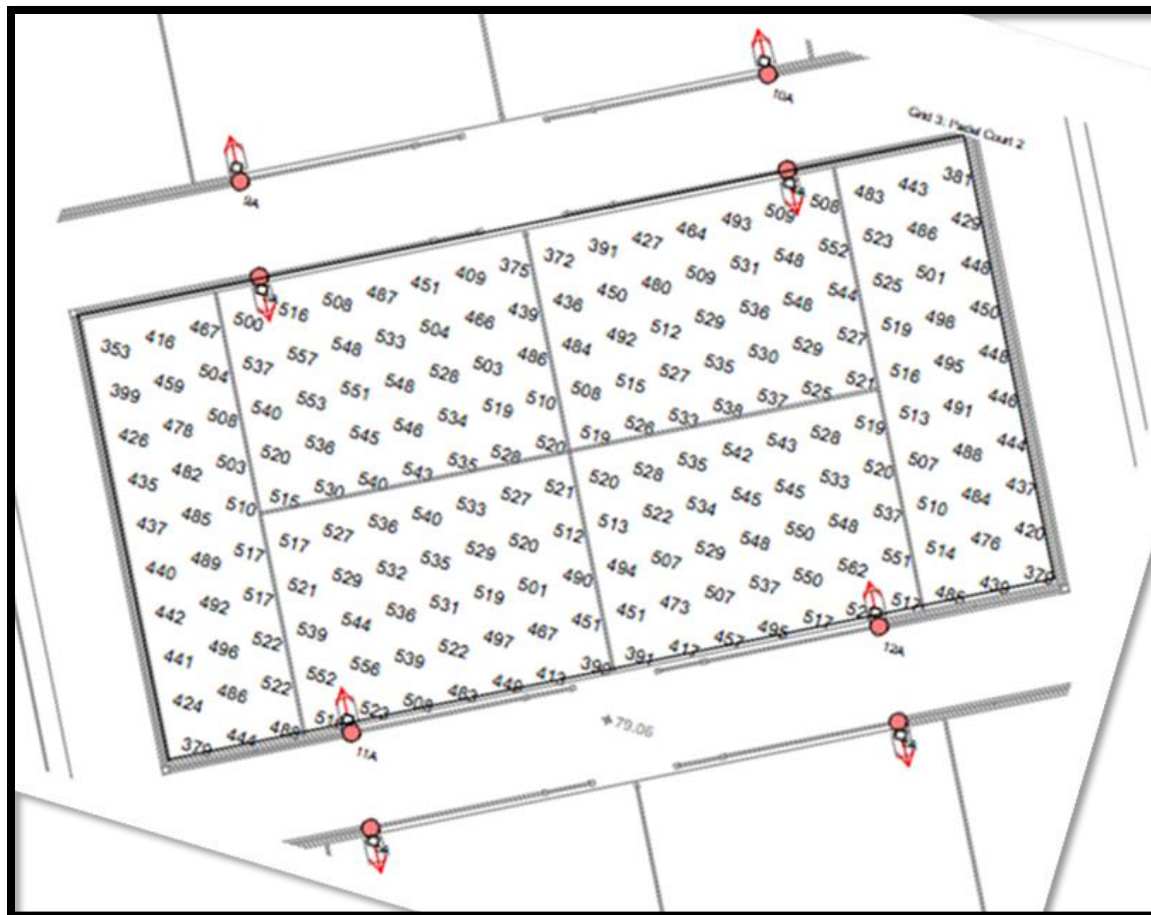
Lighting Assessment of four proposed padel courts, Salisbury Golf Centre



Results

Eav	468.60
Emin	293.05
E _{max}	555.03
E _{min} /E _{max}	0.53
E _{min} /E _{av}	0.63

Fig 3 Padel Court 1



Results

Eav	498.88
Emin	352.74
Emax	562.06
Emin/Emax	0.63
Emin/Eav	0.71

Fig 4 Padel Court 2



Results

Eav	498.97
Emin	358.09
E _{max}	558.85
Emin/E _{max}	0.64
Emin/Eav	0.72

Fig 5 Padel Court 3



Results

Eav	468.94
Emin	299.12
E _{max}	555.49
Emin/E _{max}	0.54
Emin/Eav	0.64

Fig 6 Padel Court 4

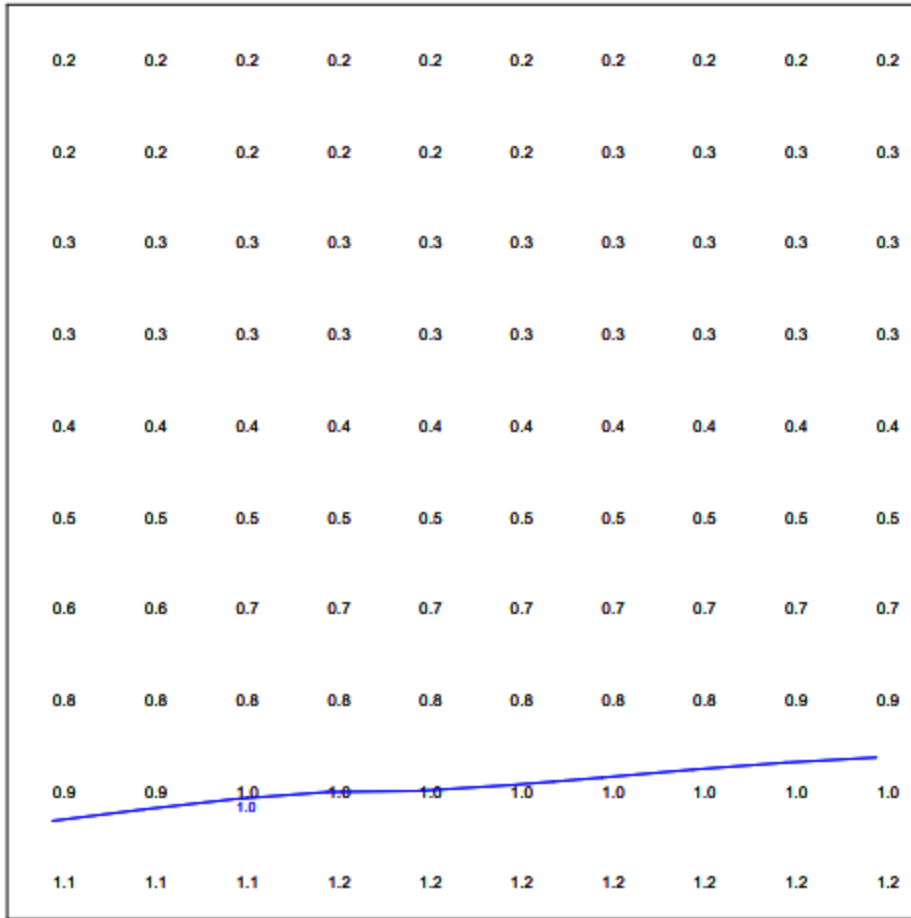
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.6	0.6	0.6	0.6
0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

Results

Eav	0.45
Emin	0.19
E _{max}	0.92
Emin/E _{max}	0.20
Emin/Eav	0.42

Table 1 Vertical Grid 1

Lighting Assessment of four proposed padel courts, Salisbury Golf Centre



Results

Eav	0.57
Emin	0.22
E _{max}	1.24
Emin/E _{max}	0.18
Emin/Eav	0.40

Table 2 Vertical Grid 2

- 7.3 Given the site's location within an established floodlit sports facility, and adjacent to the urban area, with residential and streetlights, the lighting represents a modest and proportionate addition consistent with the existing night-time character of the area.

8.0 Ecology and Biodiversity Considerations

- 8.1 The Ecology and Biodiversity Net Gain Assessment confirms that bats are likely to use the wider site for foraging and commuting, particularly along tree lines and vegetated corridors.
- 8.2 The lighting strategy has therefore been designed to avoid illumination of boundary vegetation and retained trees. Directional luminaires, low mounting heights and controlled lighting zones ensure that light spill into ecological corridors is avoided.
- 8.3 The proposals accord with best practice guidance for bats and artificial lighting and will not result in adverse ecological effects.

9.0 Mitigation and Control Measures

- 9.1 The following mitigation measures are integral to the scheme.
 - i. Directional LED luminaires with full cut-off optics will be used.
 - ii. The scheme will use fixed mounting angles to prevent upward or outward light spill.
 - iii. Timers will be used to restrict lighting to approved hours of operation.
 - iv. All luminaries will lack UV elements when manufactured. Metal halide, compact fluorescent sources will not be used.
 - v. LED luminaires only will be used due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
 - vi. A warm white light source (2700 Kelvin or lower) will be adopted to reduce blue light component.
 - vii. Light sources will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).
 - viii. Internal luminaires will be recessed only (as opposed to using a pendant fitting) where installed in proximity to windows to reduce glare and light spill.
 - ix. Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, will be used.

- x. Luminaires must always be mounted horizontally, with no light output above 90° and/or no upward tilt.
- xi. External security lighting will be set on motion sensors and set to a 1-minute (or less) timers.

10.0 Conclusions

- 10.1 This Environmental Lighting Impact Assessment demonstrates that the proposed lighting scheme for the four padel tennis courts at Salisbury Golf Centre is appropriate to the site's edge-of-urban context and established recreational character.
- 10.2 The lighting will provide safe and effective illumination for players while avoiding unacceptable impacts on visual amenity, neighbouring uses and biodiversity. The scheme complies with ILP GN01/21, BS EN 12193:2018 and relevant planning policy and is considered suitable to support the proposed development.