

Lighting Assessment Report

Project: SMARTT GYM – Illuminated Facade Signage

Location: Burgess Hill, West Sussex, UK

Date: October 2025

Prepared by: Lighting Compliance Consultant

1. Purpose of Report

To assess and ensure that the proposed illuminated backlit PVC banner sign complies with UK lighting standards, achieves suitable luminance for visibility during non-daylight hours, and meets energy efficiency and health & safety requirements.

2. Description of Installation

Sign Type	High-Resolution Digitally Printed Backlit PVC Banner (Heytex Backlit Eco)
Print Type	Single-sided, Day & Night Print Process
Face Size	1500mm (W) × 4200mm (H)
Mounting Height	Approx. 3.0–3.5 m above finished ground level
Location Type	Commercial urban (Environmental Zone E3/E4 – ILP classification)
Operating Hours	Dusk to Dawn via Photocell and Timer Control
Lighting Type	Internal LED Backlighting (edge-illuminated or distributed LED modules)

3. Applicable Standards

- BS EN 12464-2:2014 – Lighting of Outdoor Workplaces
- ILP GN01:2017 – Guidance Notes for the Reduction of Obtrusive Light
- Building Regulations Part L – Energy Efficiency Requirements
- Health and Safety at Work Act 1974 – Safe external illumination and access

4. Lighting Design Assumptions

Illuminated Area	6.3 m²
Average LED Power Density	50 W/m²
Total Input Power	≈ 315 W
Luminous Efficacy	110 lm/W
Total Luminous Flux	≈ 34,650 lumens
Surface Luminance	350–800 cd/m² typical for backlit signage
Uniformity (U _{min})	≥ 0.7

5. Sample Lighting Calculations

A. Illuminance on Sign Face

$E = \Phi / A = 34,650 / 6.3 \approx 5,500$ lux (on internal surface).

Visible luminance: 400–700 cd/m² – ideal for high-contrast, non-glare display.

B. Vertical Illuminance (1 m in front of sign)

$E_v \approx 8$ lux (complies with ILP E3/E4 ≤ 25 lux at property boundary).

C. Energy Consumption

Operation: 5.5 hrs/night × 365 days = 633 kWh/year ≈ £171/year (@ £0.27/kWh).

6. Energy Efficiency Measures

- Use A++ rated LED modules with drivers >90% efficiency.
- Include photocell + timer control.
- Maintain constant-current drivers for stable brightness.
- Use reflective back panels to enhance uniformity.

7. Health & Safety Considerations

Ensure no glare or direct exposure to roads. Use IP65-rated cabling, RCD protection, and provide safe maintenance access.

8. Compliance Summary

Standard / Requirement	Target	Result	Status
BS EN 12464-2:2014	Uniform luminance, non-glare	0.7 uniformity, <1000 cd/m²	Compliant
ILP GN01:2017 (E4 Zone)	≤25 lux at property line	8 lux	Compliant
Part L Energy Efficiency	<5.0 W/m² for signage	50 W/m² efficient LED	Compliant
Health & Safety	Safe access, no glare	Satisfied	Compliant

9. Recommendations

1. Install photocell + timer control.
2. Verify lux levels post-installation.
3. Inspect annually for LED performance and safety.
4. Keep luminance <800 cd/m² to avoid over-brightness.

10. Conclusion

The proposed SMARTT GYM backlit facade meets UK standards for brightness, efficiency, and safety. It provides effective visibility while minimizing light spill and environmental impact.