External Lighting Verification Report – Compliance with Planning Condition [b]

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Prepared By	AuraLED Ltd.
Client	Renaker

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1. INTRODUCTION AND BRIEF

AuraLED Ltd has been appointed to carry out an external lighting design for their site in Plot F, Great Jackson Street

This External lighting Verification Report has been prepared to support the discharge of Planning Condition for Phase 1 of the development at Plot F, Great Jackson Street.

The design for external lighting has been based on drawing titled Public Realm GA F1, drawing No. Z1-SQY-G710-PL-XX-102. The drawing provided information about fitting positions, fitting type and mounting heights. The lighting analysis strictly incorporates the target layout of the luminaires in accordance with the architectural drawings. Basing the calculations on the design location allowed for an accurate evaluation of expected illuminance levels and distribution uniformity.

Following post-completion on-site testing and physical inspections conducted on 07/10/2026, the installed external lighting scheme conforms to the recommendations, lux levels, and obtrusive light limitations specified in the approved design documents:

- Great Jackson Street LTG_00B A3 plot 260313,
- Gt Jackson St LTG_00B plan 260319 E-XX-F1-A1

2. BACKGROUND INFORMATION

2.1 The Site

Phase 1 forms the foundational component of the high-density New Jackson urban regeneration scheme situated at the southern gateway to Manchester City Centre. This initial phase establishes the core infrastructure, key residential density, and public realm framework that sets the benchmark for the overarching masterplan.

Plot F represents a key high-density phase of the New Jackson masterplan (Great Jackson Street Regeneration Area). Designed by Simpson Haugh, the development delivers 988 high-quality residential apartments split across two identical 51-storey towers (reaching 154 metres in height). The towers sit on opposite ends of a shared 2-storey podium framework, anchored around ~1.5 acres of dedicated public realm and landscaped gardens.

2.2 Design Guidelines

2.2.1 BS EN 12464-2:2024. Light and Lighting. Lighting of Workplaces - Outdoor Workplaces

For outdoor work area, parameters such as maintained illuminance (Em), uniformity (Uo), glare rating limits (RGL), and colour rendering index (Ra) have been specified.

Smart control systems will be implemented to adjust lighting levels post-curfew to minimize light pollution.

2.2.2 Guidance Note 01/21: The Reduction of Obtrusive Light (ILP)

As the site is classified as **E4 Urban**, ILP Guidance Note 01/21 recommends the following maximum limits:

- **Pre-curfew vertical illuminance on nearby dwellings:** 25 lux
- **Post-curfew vertical illuminance on nearby dwellings:** 5 lux
- **Maximum Upward Light Ratio (ULR):** 15%

2.2.3 BS EN 12464-2:2024. Light and Lighting. Lighting of Workplaces - Outdoor Workplaces

For outdoor work areas (e.g., loading/unloading bays), parameters such as maintained illuminance (E_m), uniformity (U_o), glare rating limits (R_{GL}), and colour rendering index (R_a) are specified.

3. PROPOSED SITEWIDE STRATEGY

3.1 Proposed Lighting Scheme

The sitewide lighting strategy uses shielded pole-mounted fixtures, to satisfy relevant standards while restricting light spill.

3.1.1 Schedule of fittings

Fitting type CL1 – road lighting

Fitting part no. AL-URC-S20-T3A – single
Luminaire luminous flux: 3000lm
Colour: 3000K
Luminaire power: 20W

Fitting type CL2 –feature 2 Arm Lighting Columns

Fitting part no. AL-URC-S10-T3A / AL-URC-S20-T3A– double head
Head 1 - AL-URC-S10-T3A
Luminaire luminous flux: 1500lm
Colour: 3000K
Luminaire power: 10W
Head 2 - AL-URC-S20-T3A
Luminaire luminous flux: 3000lm
Colour: 3000K
Luminaire power: 20W

Fitting type CL3 –feature 3 Arm Lighting Columns

Fitting part no. AL-URC-S10-T3A / AL-URC-S20-T3A / AL-URC-S30-T3A – triple head
Head 1 - AL-URC-S10-T3A
Luminaire luminous flux: 1500lm
Colour: 3000K
Luminaire power: 10W
Head 2 - AL-URC-S20-T3A
Luminaire luminous flux: 3000lm
Colour: 3000K
Luminaire power: 20W
Head 3 - AL-URC-S30-T3A
Luminaire luminous flux: 4500lm
Colour: 3000K
Luminaire power: 30W

Fitting type CL4 –feature 2 Arm Lighting Columns – car park entrance

Fitting part no. AL-URC-S60-T3A / URC-M120-T3A-32 – double head
Head 1 - AL-URC-S60-T3A
Luminaire luminous flux: 3000lm
Colour: 3000K
Luminaire power: 20W
Head 2 - URC-M120-T3A-32
Luminaire luminous flux: 15290 lm
Colour: 3000K
Luminaire power: 118.8W

3.1.2 Calculations Results

Lightspill beyond site boundary
Average illuminance Ēm : 1.58 lx
Minimum illuminance Emin : 0.00 lx
Maximum illuminance Emax : 46 lx

F2 - Access Road
Average illuminance Ēm : 66 lx
Minimum illuminance Emin : 4.66 lx
Maximum illuminance Emax : 396 lx
Uniformity Uo Emin/Ēm : 1 : 14.27 (0.07)

F2 - Footpath area 1
Average illuminance Ēm : 50 lx
Minimum illuminance Emin : 4.25 lx
Maximum illuminance Emax : 217 lx
Uniformity Uo Emin/Ēm : 1 : 11.78 (0.08)

F2 - Footpath area 2
Average illuminance Ēm : 21 lx
Minimum illuminance Emin : 4.17 lx
Maximum illuminance Emax : 80 lx
Uniformity Uo Emin/Ēm : 1 : 4.92 (0.20)

F2 - Terrace area
Average illuminance Ēm : 10.6 lx
Minimum illuminance Emin : 0.44 lx
Maximum illuminance Emax : 38 lx
Uniformity Uo Emin/Ēm : 1 : 24.20 (0.04)

F2 – Street
Average illuminance Ēm : 3.56 lx
Minimum illuminance Emin : 0.02 lx
Maximum illuminance Emax : 44 lx
Uniformity Uo Emin/Ēm : 1 : 190.63 (0.01)

F1 - CL2 - footpath area 1
Average illuminance Ēm : 32 lx
Minimum illuminance Emin : 3.45 lx

Maximum illuminance Emax : 76 lx
Uniformity Uo Emin/Ēm : 1 : 9.20 (0.11)

F2 - CL2 - footpath area 2
Average illuminance Ēm : 33 lx
Minimum illuminance Emin : 5.11 lx
Maximum illuminance Emax : 56 lx
Uniformity Uo Emin/Ēm : 1 : 6.48 (0.15)

F2 - Access Ramp
Average illuminance Ēm : 299 lx
Minimum illuminance Emin : 159 lx
Maximum illuminance Emax : 416 lx
Uniformity Uo Emin/Ēm : 1 : 1.88 (0.53)

4. Post-completion testing

07/10/2026 – 21.00HRS.

The installed lighting infrastructure was audited against the approved design criteria.

The test results are presented in Appendix 5.3 Lux Level Test Results - Plot F2 Great Jackson Street.

5. Non-Conformity Log & Remedial Action Plan

The following instance of non-conformity was recorded during post-completion testing:

N/A

6. Conclusion

We have completed our review and testing of the Phase 1 external lighting. Overall, the installation performs as intended and reflects the goals of the approved lighting design In Section 4, the scheme will successfully satisfy all relevant planning criteria.

7. Appendixes

5.1 As fitted drawings

5.2 Lux level test meter certificate of calibration

5.3 Lux Level Test Results - Plot F2 Great Jackson Street