

Examining the Hong Kong light pollution issue in 2025

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Introduction

Hong Kong’s vibrant nightscape contributes significantly to light pollution, with night sky brightness 82 times above the International Astronomical Unions dark site standard (So et al.,2014). The voluntary **Charter on External Lighting, launched in 2016 and enhanced in 2023**, aims to mitigate this issue. Despite increased participation, light nuisance complaints rose from 356 in 2022 to 401 in 2023 (EPD, 2024). This study evaluates **the Charter’s effectiveness two years post-revision**.

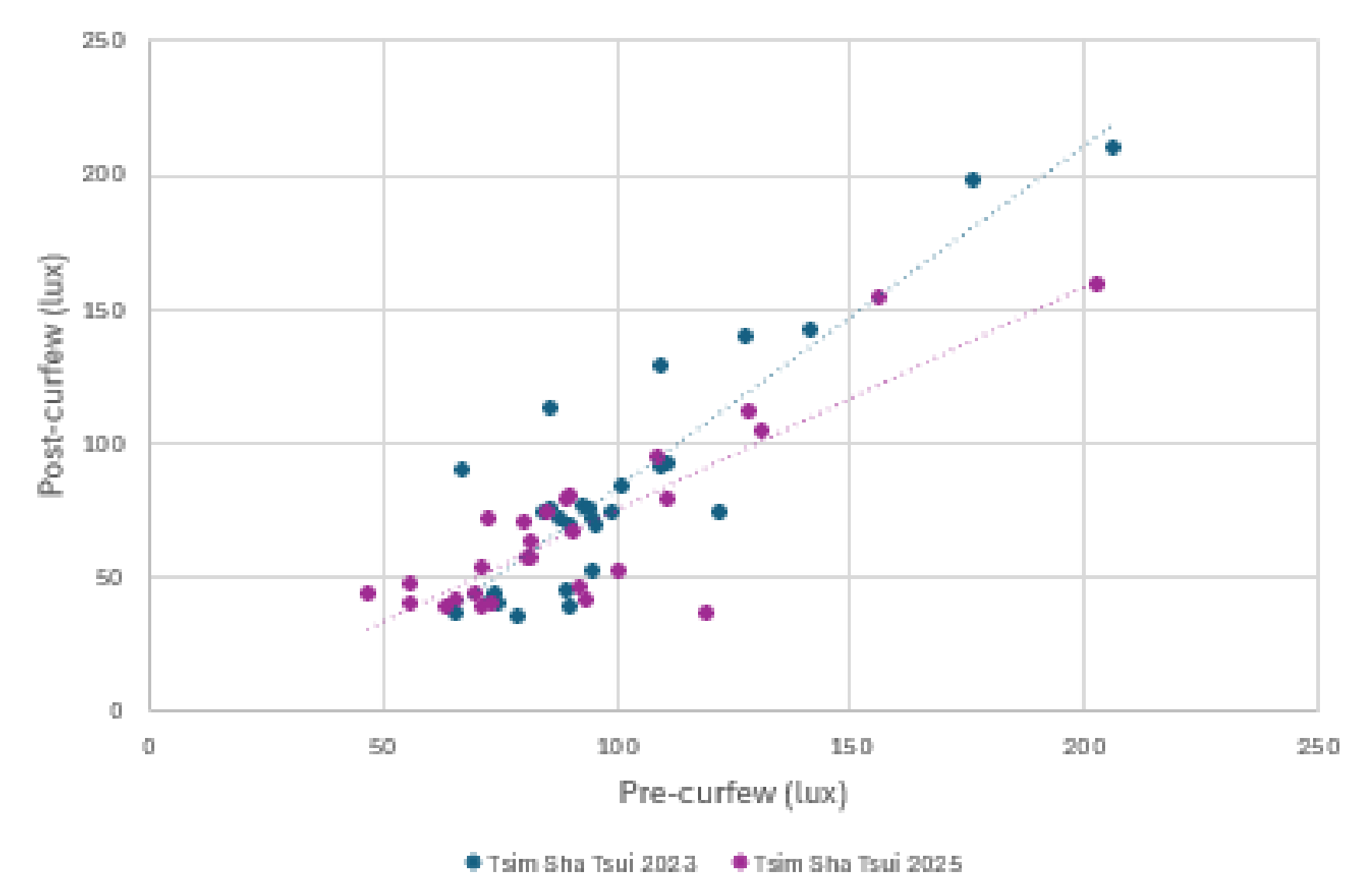
Objectives

- Examine the causes and consequences of light pollution.
- Evaluate the effectiveness of the updated Charter in reducing external lighting.
- Develop evidence-based solutions to control light pollution in Hong Kong.

Methodology

Quantitative:

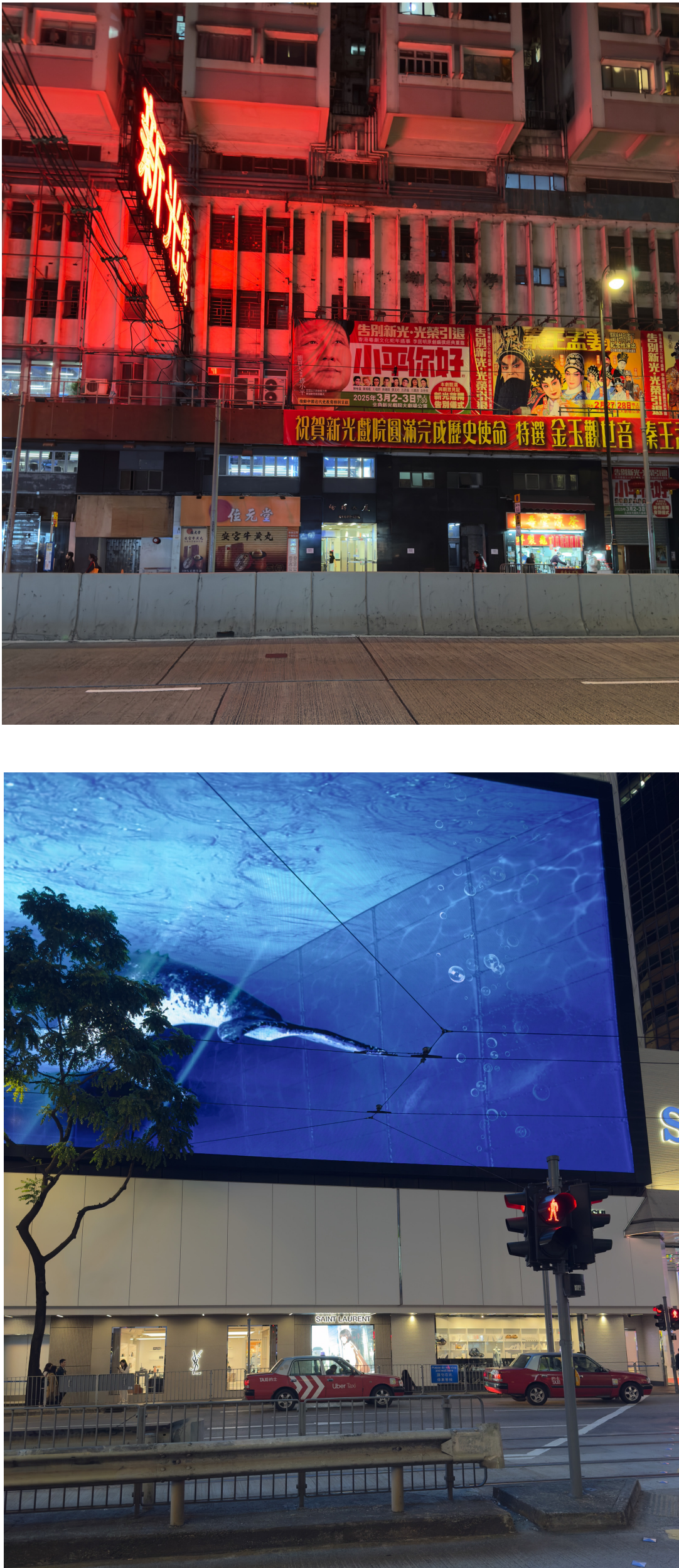
- Measured vertical illuminance at pedestrian level in six districts
- Applied descriptive statistics, linear regression, and chi-square tests to assess illuminance and compliance.
- Comparison with baseline of 2023 and 2025



Qualitative Analysis:

- To surveyed in six districts

District	Measured Point
Sham Shui Po (E3)	26
Kwun Tong (E3)	22
North Point (E3)	24
Tsim Sha Tsui (E4)	28
Causeway Bay (E4)	34
Mong Kok (E4)	40



Findings

- The Charter boosted the pre- to post-curfew illuminance reduction from 34% in 2023 to 45.4% in 2025. However, despite this improvement, **no zones** in the study met the Guidance Note's specified requirements.

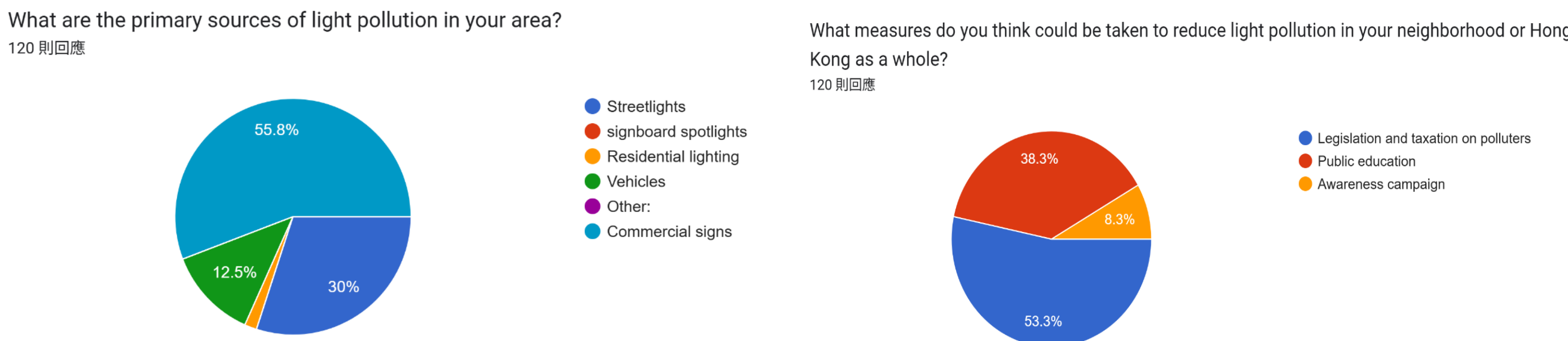
Comparisons in the measured vertical illuminance for each district 2025

Vertical illuminance (lux)	Pre-curfew	Post-curfew	Diff.
Recommended for E3 zones	10	2	-80%
Sham Shui Po (E3)	27.1	14.8	-45%
Kwun Tong (E3)	27.2	14.4	-47%
North Point (E3)	28.6	15.9	-44%
Recommended for E4 zones	25	5	-80%
Tsim Sha Tsui (E4)	84.5	69.5	-18%
Causeway Bay (E4)	75.6	19.9	-74%
Mong Kok (E4)	54.1	39.9	-26%

Comparisons of overall average vertical illuminance

	2025		2023	
Total	Pre-curfew	Post-curfew	Pre-curfew	Post-curfew
Mean	53.33	29.11	59.1	39.3
SD	35.2	25.92	31.7	26.9
CV	0.66	0.89	0.54	0.68

- Most participants identified excessive commercial lighting, particularly **signboard spotlights**, as the primary source of light pollution, followed by **streetlights**.
- The study recommends stricter regulations, education, and awareness campaigns to reduce illuminance.



Conclusion

The Charter has reduced illuminance, but **no district met** recommended standards. Weak enforcement and low public awareness limit effectiveness. Recommendations include:

- ✓ **Mandatory legislation** (Penalties for non-compliance)
- ✓ **Public education campaigns**
- ✓ **Use of shielded fixtures and warmer-toned LEDs**
- ✓ **Low-illuminance urban planning**