

APPENDIX M

Lighting Assessment Report

THE CORPORATION OF THE CITY OF OSHAWA

STEVENSON ROAD NORTH

ENVIRONMENTAL ASSESSMENT

LIGHTING ASSESSMENT REPORT

December 2024



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1. INTRODUCTION

The following study has been prepared to estimate the lighting levels and pole locations on Stevenson Road North between Taunton Road West and Conlin Road. Stevenson Road North is functionally designated as an arterial roadway.

2. EXISTING LIGHTING FIXTURES

Based on the site visit and Google Maps, LED light fixtures will be replaced/installed on hydro poles.



3. ASSUMPTIONS

The following assumptions have been made to proceed with the study:

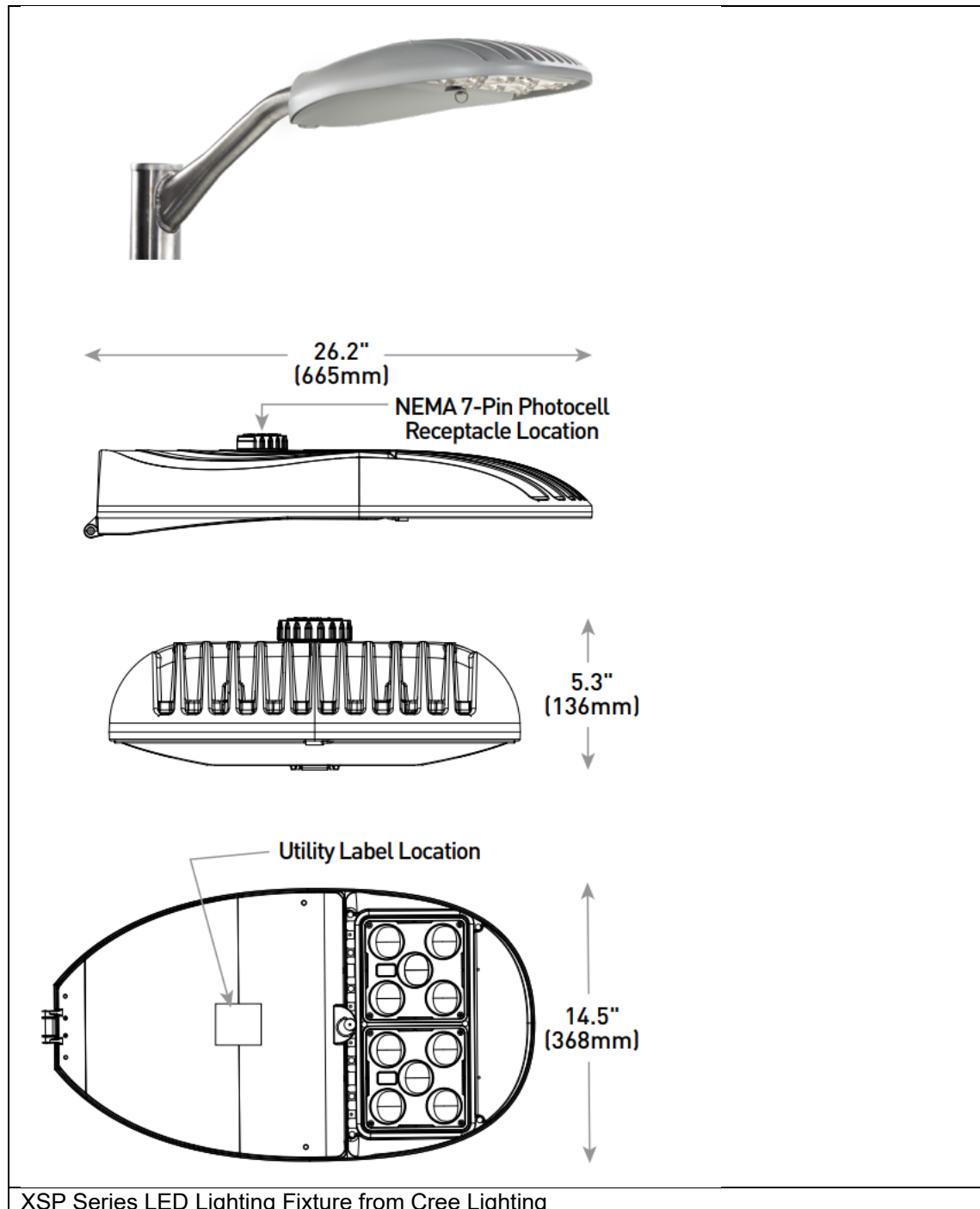
3.1 Mounting Heights & Arm Lengths

Mounting heights on Hydro poles – 10.0m (attachment height 8.8m) and arm length 2.4m

A few Hydro poles need to be relocated to match roadway design and relocated tentative locations were used for illumination analysis.

3.2 Fixture Types

City approved Cree XSP Series LED 95W, 135W and 184W Roadway Lighting fixtures were used for calculation. Changes to City approved lighting fixtures are to be further coordinated as required with the City in subsequent design phases.



3.3 Tilt and Orientation Angles

It was assumed that the tilt angle is 0° i.e. parallel to roadway, and orientation is 0° i.e. perpendicular

to roadway for all the fixtures.

3.4 Light Loss Factor

The total light loss factor used in the model was set as 0.80

3.5 Roadway Surface Classification

Roadway pavement classification is Type 3.

4. LIGHTING MODELING AND ANALYSIS

Based on the information gathered from the site visit and assumptions made, photometric calculations have been performed for the roadway midblock and MUP. The calculation results and photometric layouts are attached in the appendix of this report.

4.1 Roadway Midblock

The midblock roadway configuration is fairly consistent throughout the project limits. Required levels as per RP-8-22 are as follows.

Street Name	Stevenson Rd North from Tauton Road to Conlin Road
Street Classification	Major
Pedestrian Conflict (low/medium/high)	Low
	Requirements As Per City/IES RP-8-22
Ave. Luminance (L_{avg}) (cd/m ²)	≥ 0.6
Ave. Uniformity Ratio (L_{avg}/L_{min})	≤ 3.5
Max. Uniformity Ratio (L_{max}/L_{min})	≤ 6.0
Max. Veiling Luminance (L_{max}/L_{avg})	≤ 0.3
MUP	
Ave. Sidewalk Illuminance (lux)	≥ 2
Ave. Sidewalk Uniformity Ratio (E_{avg}/E_{min})	≤ 10.0

Refer to the Appendix for layouts and specific results for each area.

5. APPENDIX A

- Cut sheets of luminaires used in the model
- Lighting Calculation Drawing (appended with Preliminary Design Drawings)

This document is available upon request.

Please contact Engineering Services at
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