

City of
Gainesville

2023-527B

**Lighting Standard Updates
Land Development Code, Sec. 30-6.12.**

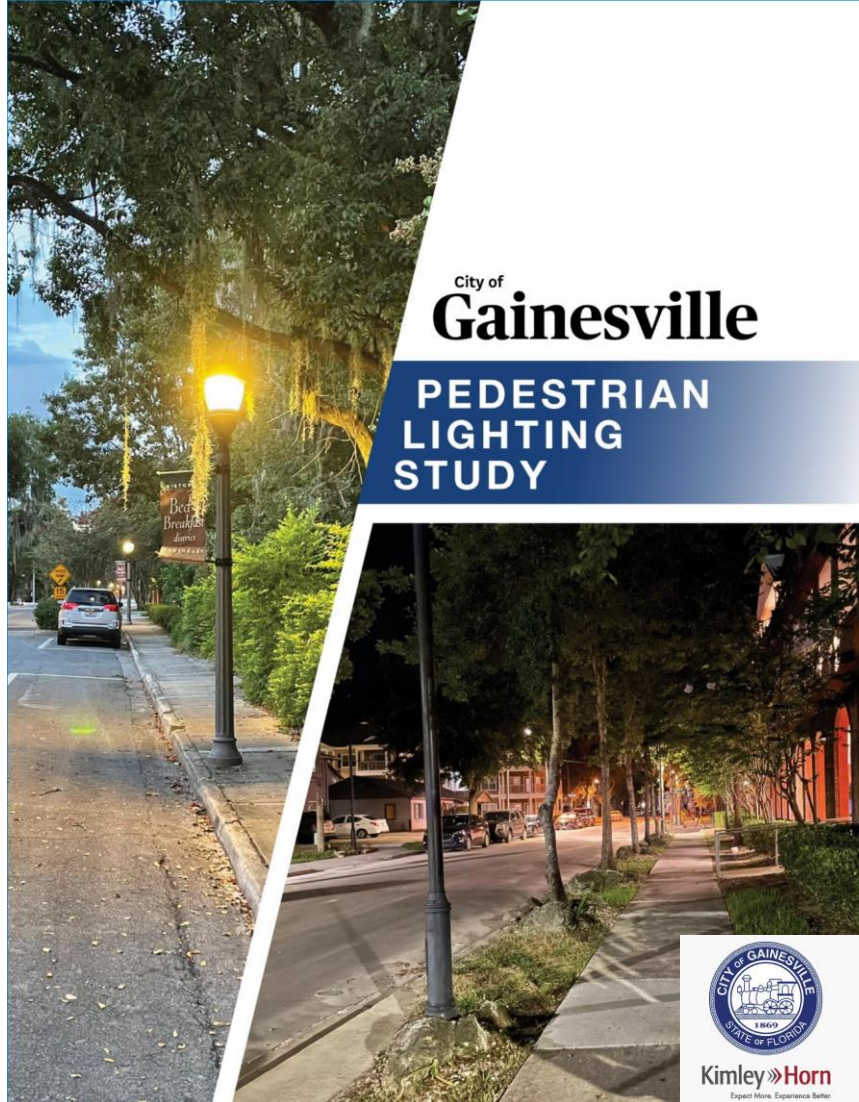
Chase Knight, PhD, PE
Supervising Engineer, Public Works Department
City of Gainesville

**A Great Place to Live &
Experience.**

Outdoor Lighting Standards Code Revision Timeline

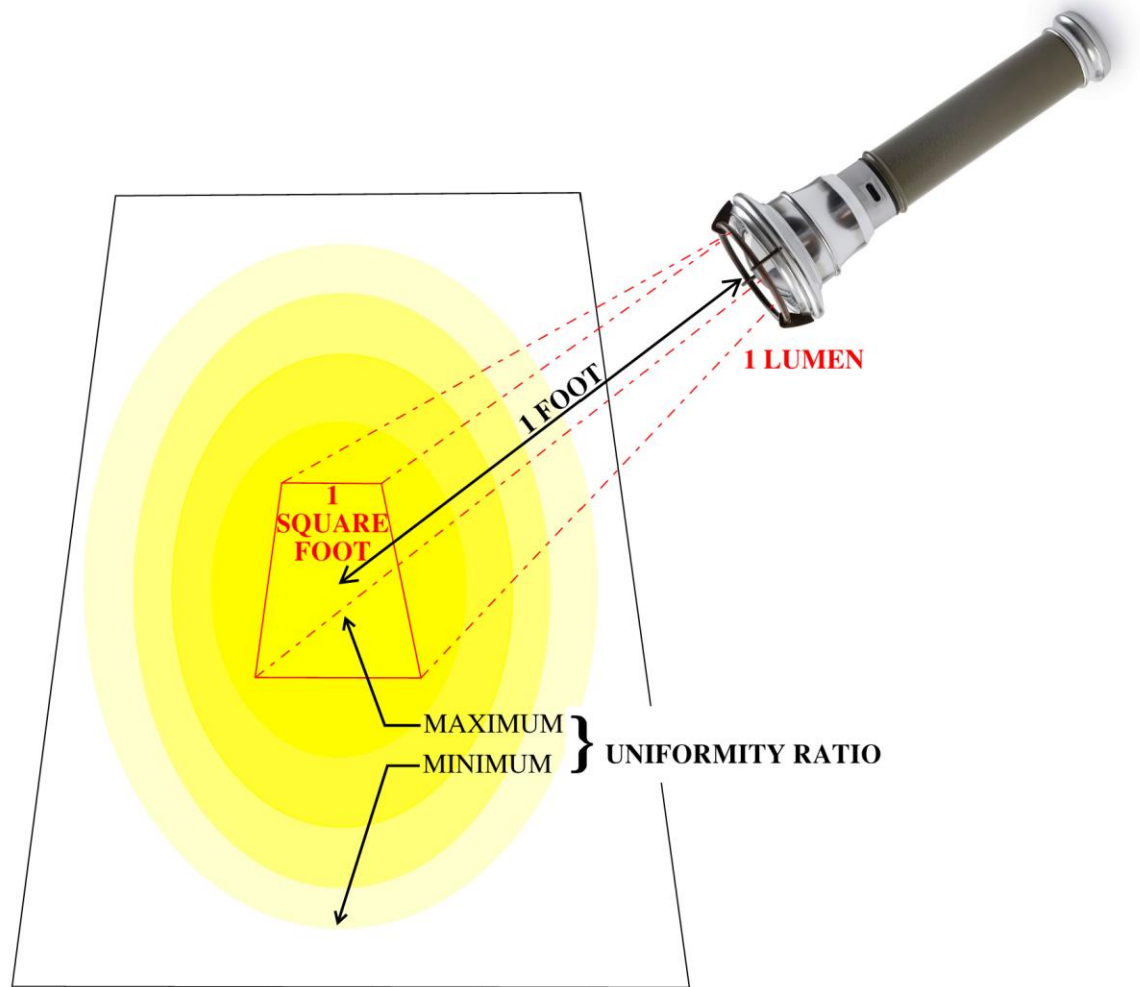
- **Phase I:**
 - 2022-566 Petition LD22-000089: Add pedestrian lighting standards based on FDOT requirements
 - Hire Consultant to perform lighting study with City-specific considerations and provide lighting recommendations to Staff
- **Phase II:**
 - Staff provide recommendations on refining outdoor lighting standards based on Consultant's report
 - Staff recommendations approved by Plan Board on 5/25/23

Lighting Study Considerations



- Model & analyze lighting using representative typical sections based on Transect Zones and types of Development
- Determine lighting levels achievable with:
 - Available GRU fixtures; and
 - The City's tree requirements
- Recommended lighting levels are being lowered due to constraints and cost of fixtures to provide higher levels
- Staff planners and engineers involved in the development review process will be receiving training on photometric review

Lighting Terminology



1 LUMEN/SQUARE FOOT = 1 FOOT-CANDLE

- **Illuminance:** density of light on surface
- **Footcandle (fc):** unit of illuminance
 - Higher value = more dense lighting
- **Uniformity Ratios:** average/minimum and maximum/minimum illuminance
 - Lower value = more uniform lighting

Example Analysis: Urban Typical Section

- U4 to DT Transects
- Mixed-use and commercial
- High pedestrian activity
- Dining areas and/or building entrances in Private Zone



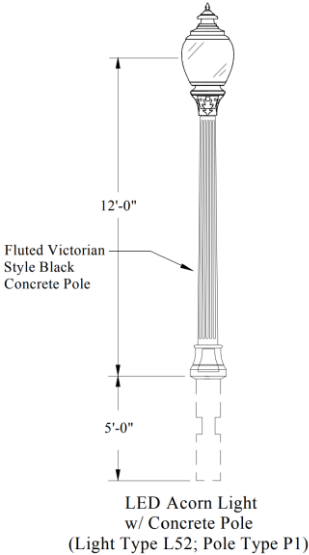
Example Analysis:

Urban Typical Section

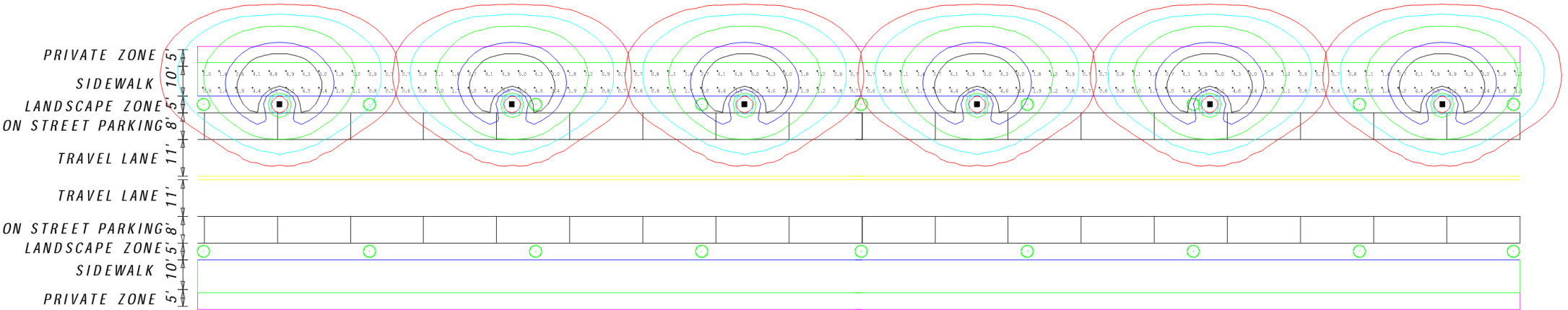
Calculation Summary

Acorn Pedestrian Light - 70' Spacing

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
N_Sidewalk	Illuminance	Fc	2.34	5.0	0.6	3.90	8.33



URBAN AREA TYPICAL SECTION



Recommended Lighting Levels

Transect / Development Type	Pedestrian Lighting Criteria			Roadway Lighting Criteria		
	Average (fc)	Avg/Min	Max/Min	Average (fc)	Avg/Min	Max/Min
U1 to U3 & Residential	1.0	6:1 or less	N/A*	0.4	6:1 or less	N/A*
U4 to DT & Mixed-use or Commercial	2.0	4:1 or less	10:1 or less	1.2	3:1 or less	N/A*

*No Max/Min limitation = less restriction on maximum distance between poles

Thank You.