

City of  
**Gainesville**

**2023-527B**

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

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City of Gainesville

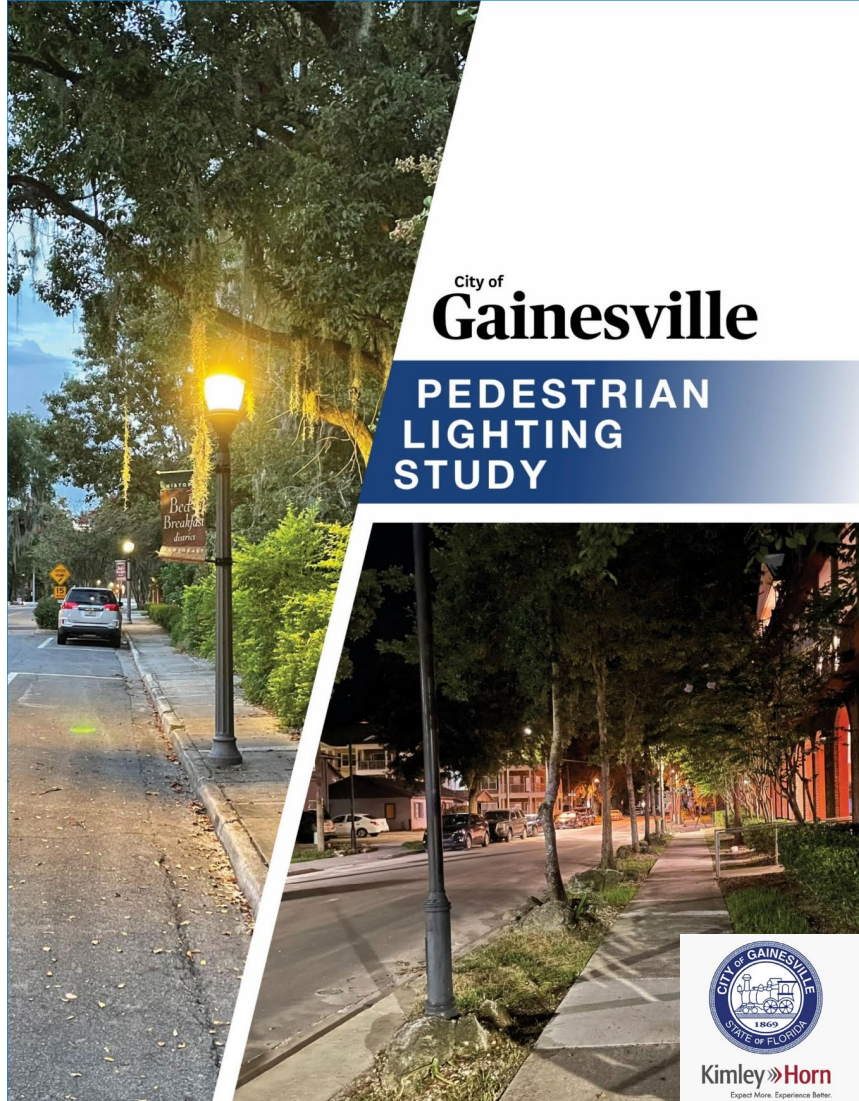
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# Outdoor Lighting Standards Code Revision Timeline

| January  | February   | March  |
|--|--|--|
| M T W T F S S<br>1 2 3 4 5 6 7<br>8 9 10 11 12 13 14<br>15 16 17 18 19 20 21<br>22 23 24 25 26 27 28<br>29 30 31 | M T W T F S S<br>1 2 3 4<br>5 6 7 8 9 10 11<br>12 13 14 15 16 17 18<br>19 20 21 22 23 24 25<br>26 27 28          | M T W T F S S<br>1 2 3 4<br>5 6 7 8 9 10 11<br>12 13 14 15 16 17 18<br>19 20 21 22 23 24 25<br>26 27 28 29 30 31 |
| April  | May  | June   |
| M T W T F S S<br>1<br>2 3 4 5 6 7 8<br>9 10 11 12 13 14 15<br>16 17 18 19 20 21 22<br>23 24 25 26 27 28 29       | M T W T F S S<br>1 2 3 4 5 6<br>7 8 9 10 11 12 13<br>14 15 16 17 18 19 20<br>21 22 23 24 25 26 27<br>28 29 30 31 | M T W T F S S<br>1 2 3<br>4 5 6 7 8 9 10<br>11 12 13 14 15 16 17<br>18 19 20 21 22 23 24<br>25 26 27 28 29 30    |
| July   | August   | September  |
| M T W T F S S<br>1<br>2 3 4 5 6 7 8<br>9 10 11 12 13 14 15<br>16 17 18 19 20 21 22<br>23 24 25 26 27 28 29       | M T W T F S S<br>1 2 3 4 5<br>6 7 8 9 10 11 12<br>13 14 15 16 17 18 19<br>20 21 22 23 24 25 26<br>27 28 29 30 31 | M T W T F S S<br>1 2<br>3 4 5 6 7 8 9<br>10 11 12 13 14 15 16<br>17 18 19 20 21 22 23<br>24 25 26 27 28 29 30    |
| October  | November   | December   |
| M T W T F S S<br>1 2 3 4 5 6 7<br>8 9 10 11 12 13 14<br>15 16 17 18 19 20 21<br>22 23 24 25 26 27 28<br>29 30 31 | M T W T F S S<br>1 2 3 4<br>5 6 7 8 9 10 11<br>12 13 14 15 16 17 18<br>19 20 21 22 23 24 25<br>26 27 28 29 30    | M T W T F S S<br>1 2<br>3 4 5 6 7 8 9<br>10 11 12 13 14 15 16<br>17 18 19 20 21 22 23<br>24 25 26 27 28 29 30    |

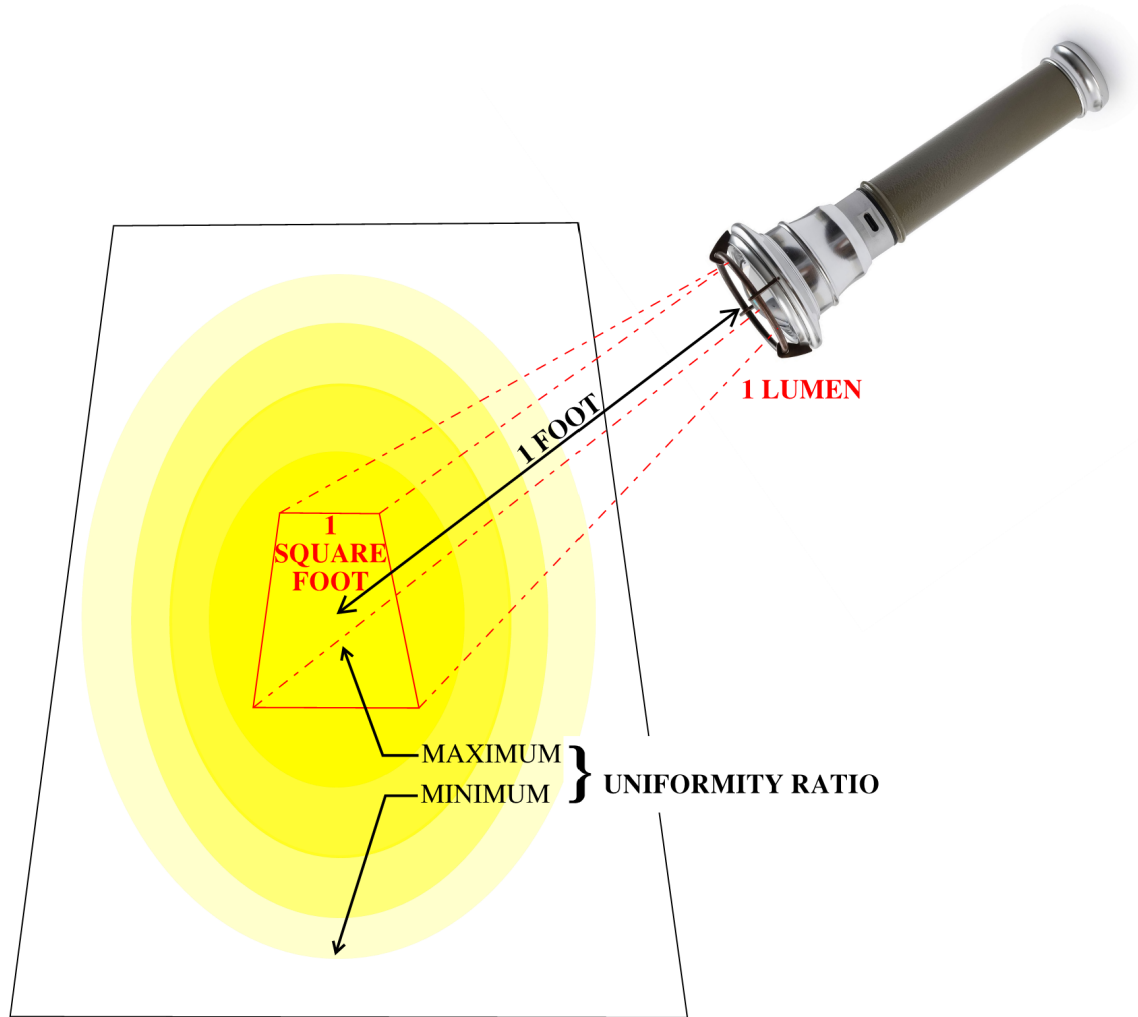
- **Phase I:**
  - 2022-566 Petition LD22-000089: Add pedestrian lighting standards based on FDOT requirements
  - Hire Consultant to perform lighting study with City-specific considerations and provide lighting recommendations to Staff
- **Phase II:**
  - Staff provide recommendations on refining outdoor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

# Lighting Study Considerations



- Model & analyze lighting using representative typical sections based on Transect Zones
- Determine lighting levels achievable with:
  - Available GRU fixtures; and
  - The City's tree requirements

# 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

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

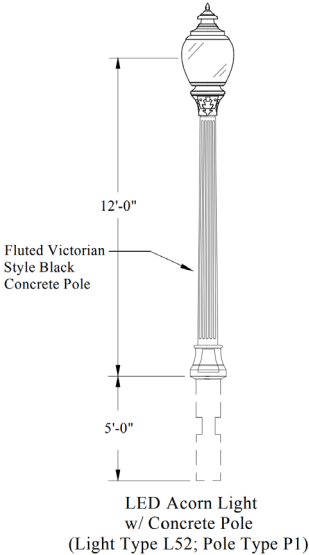




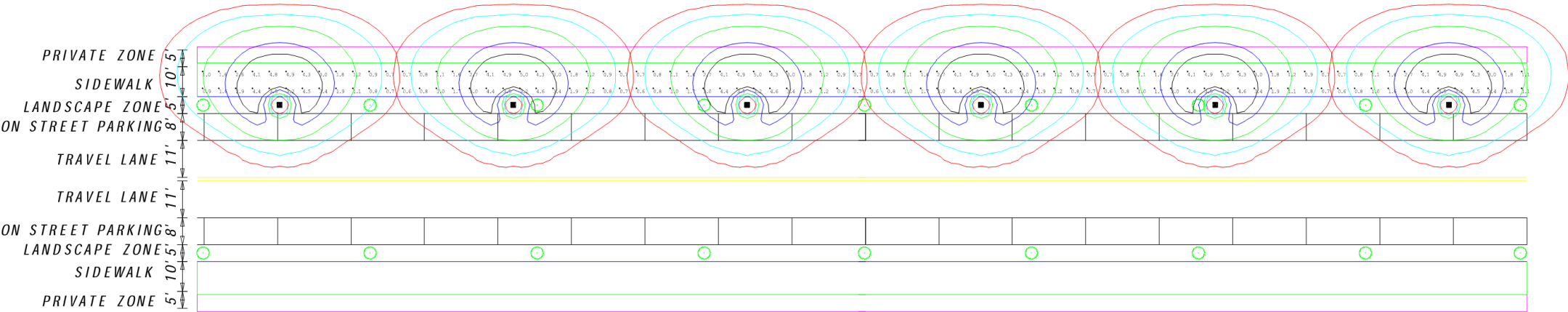
# Example Analysis: Urban Typical

## 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 | Pedestrian Lighting Criteria |             |              | Roadway Lighting Criteria |             |         |
|----------|------------------------------|-------------|--------------|---------------------------|-------------|---------|
|          | Average<br>(fc)              | Avg/Min     | Max/Min      | Average<br>(fc)           | Avg/Min     | Max/Min |
| U1 to U3 | 1.0                          | 6:1 or less | N/A*         | 0.4                       | 6:1 or less | N/A*    |
| U4 to DT | 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.