# Amending Northfield's Dark Sky Policy

EQC April 11, 2019

## Light pollution in Northfield

2006: 3.00-5.20x natural sky brightness for over 90% of Northfield



#### **2014:** 5.12-10.2x natural sky brightness for about 40% of Northfield



Light pollution in Northfield is increasing.

### **Blue-Rich Light**

- White light with high amount of blue-spectrum light (>4000 K color temp)
- Similar to daylight





2,200K High Pressure Sodium Lamp



2,700-3,000K Warm White Halogen Incandescent



4,000-4,500K Natural White Metal Halide 5,000-6,000K Day White



7,000-7,500K

Cool White

Image Source: PhotographyPro.com





Sodium lamps have low blue content.



### **Blue-Rich Light**

- Increases glare
- Scatters in atmosphere (contributing to skyglow)
- Suppresses melatonin production
- Confuses nocturnal animals

#### **Current Policy**

- Land Development Code Ch. 34, Article 3.3.4
- Coversonly new developments
- Does not address color temperature

#### Additional concerns

- Appears to apply standards only to major developments
- Doesn't cover street lights
- Doesn't cover spillover from indoor lighting
- "Maximum Illumination Across Property" in Table 3.3-2 is confusing
- Photometric plan requirement is burdensome

#### Goals

- Regulate color temperature
- Cover all sources of light pollution
- Provide clear enforcement mechanisms

Note: I don't have a solution to the burdensome photometric plan problem

### Proposal: Three amendments

- New developments: Amend LDC Ch. 34, Art. 3.3.4:
- Existing buildings: Amend Property Maintenance Code,

Ch.16

• Other sources: Amend Ch. 46: Public Nuisances

#### **New Developments**

- LDC modified to cover all projects & clarify Table 3.3-2
- All outdoor lighting must be less than 3000 K
- Lighting controls required on exterior and interior lights behind glass walls in non-residential districts EXCEPT:
  - Outdoor lighting consisting of one fixture
  - Lighting required for safety
  - Lighting allowed by special use permit
  - 24-hours businesses
- Enforced by Building Inspection Office (and other city depts, depending on the type of development)

#### **Existing Buildings**

• Property Maintenance Code (Ch. 16) amended

• Outdoor lighting must be maintained to conform to standards for new developments

• Enforced by Building Inspection Office

#### **Other Sources**

- Ch. 46 (Public Nuisances) amended
- Define unreasonable interference with public's access to night sky as a public nuisance
- Enforced by City Administrator
- Audits by city staff or designee at least every 10 years