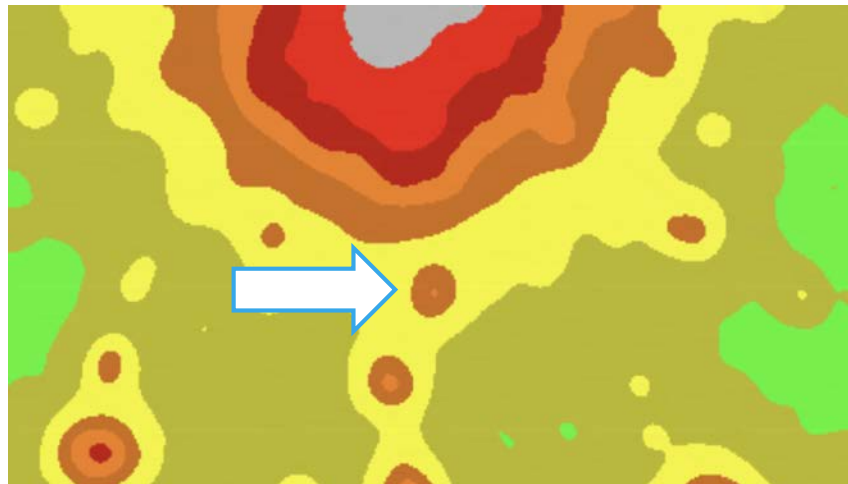

Amending Northfield's Dark Sky Policy

EQC April 11, 2019

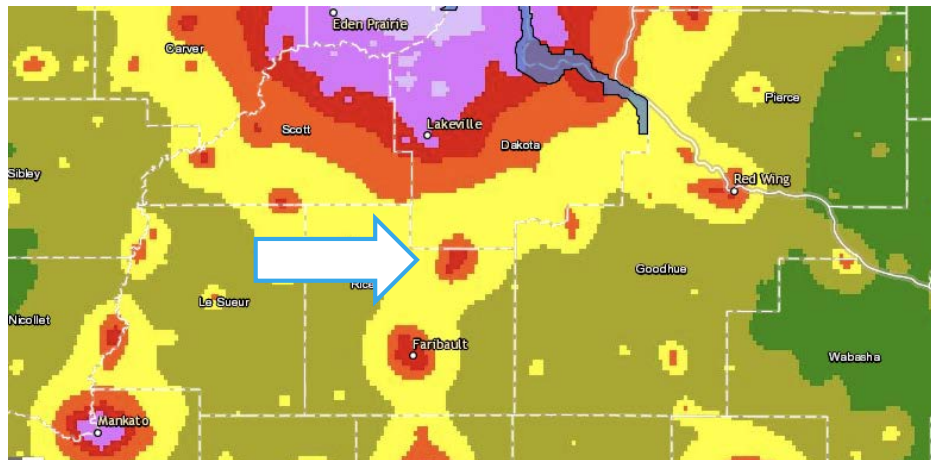
Light pollution in Northfield

2

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



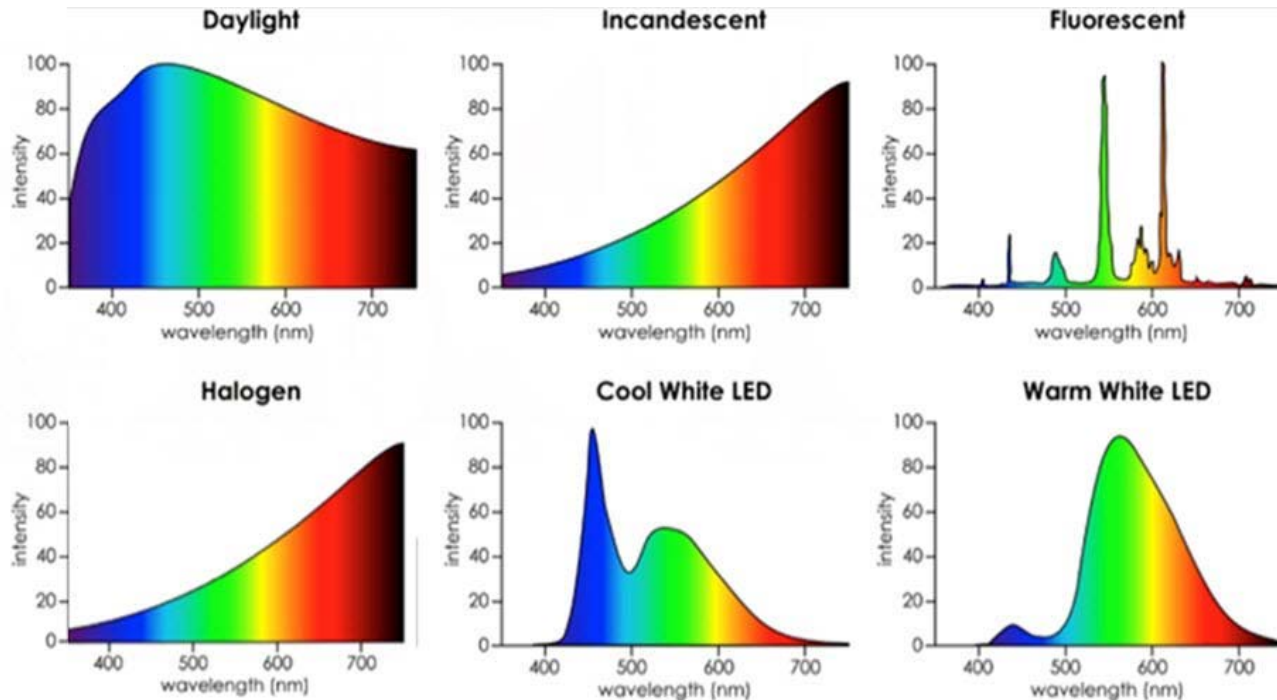
2014: 5.12-10.2x natural sky brightness for about 40% of Northfield



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



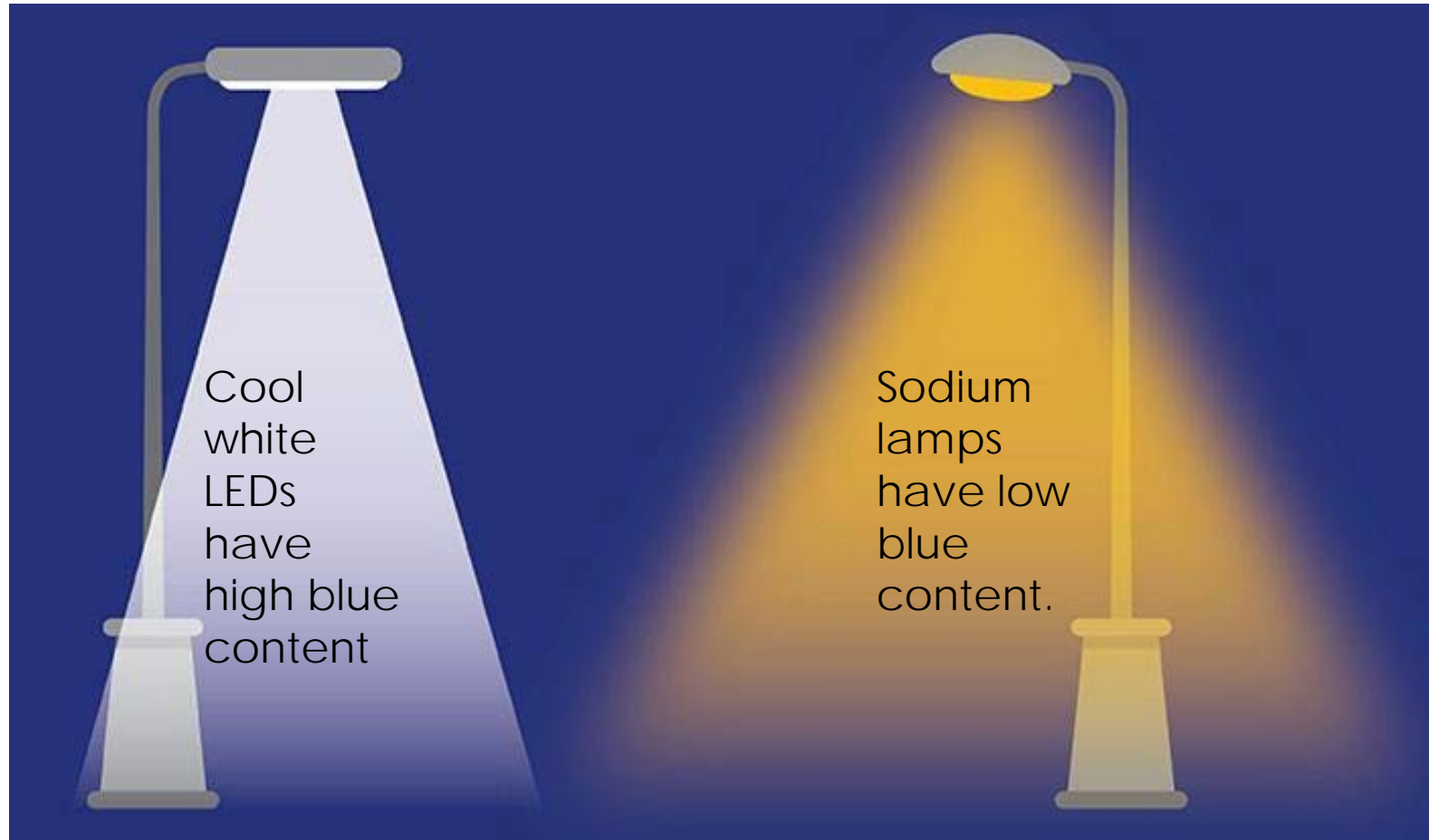
4,000-4,500K
Natural White
Metal Halide



5,000-6,000K
Day White



7,000-7,500K
Cool White





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
 - Covers only 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
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