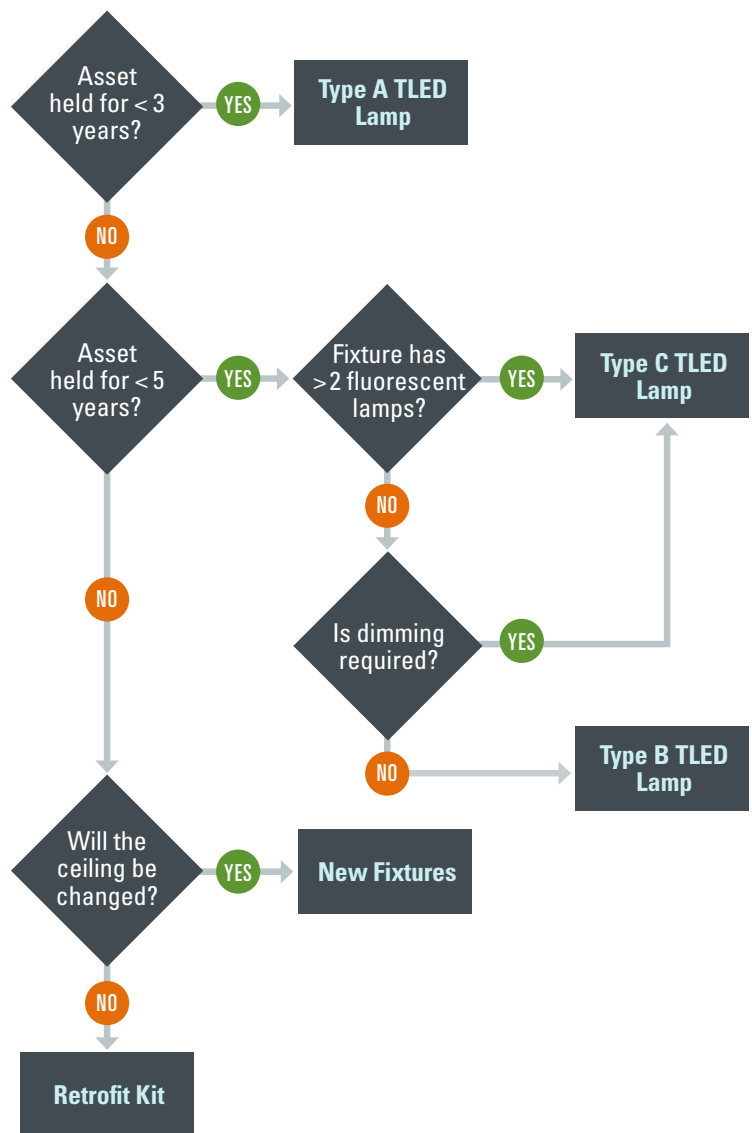# LED LIGHTING AND CONTROLS

Guidance for Federal agencies to select the most cost-effective and energy-efficient lighting systems available
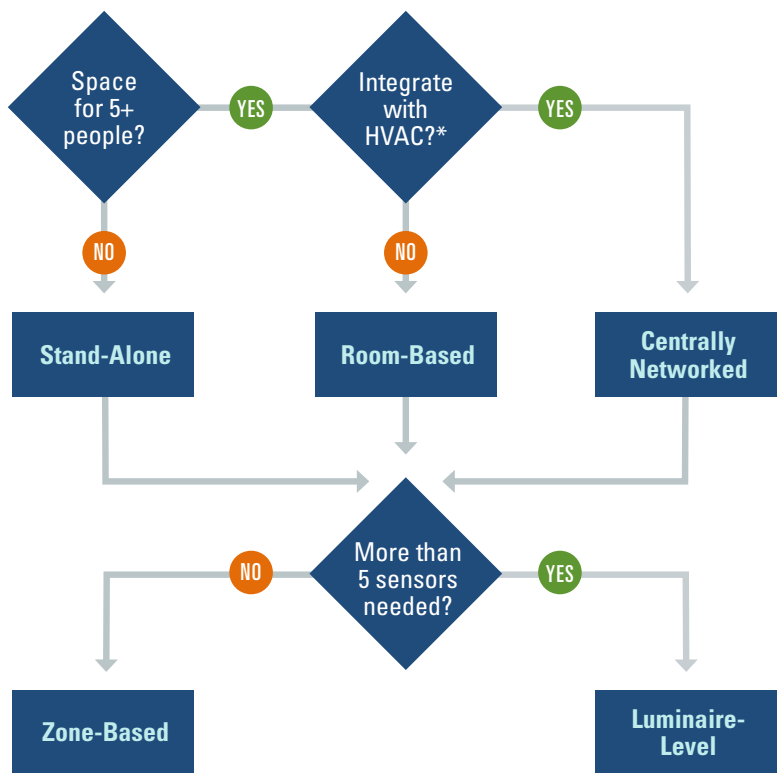
Use the guide as a roadmap and reference to select the best lighting system for your facility

The guide includes flowcharts that illustrate LED and control options with the best return on investment. It provides deployment guidance and implementation considerations and offers best practices and lessons learned from past GPG evaluations.

Decision Flowchart for Retrofitting Linear LED Lighting

- Asset held for < 3 years? → YES → Type A TLED Lamp
- NO ↓
- Asset held for < 5 years? → YES → Fixture has >2 fluorescent lamps? → YES → Type C TLED Lamp
- Fixture has >2 fluorescent lamps? → NO → Is dimming required? → YES → Type C TLED Lamp
- Is dimming required? → NO → Type B TLED Lamp
- Asset held for < 5 years? → NO → Will the ceiling be changed? → YES → New Fixtures
- Will the ceiling be changed? → NO → Retrofit Kit

Decision Flowchart for Lighting Controls

- Space for 5+ people? → YES → Integrate with HVAC?* → YES → Centrally Networked
- Space for 5+ people? → NO → Stand-Alone
- Integrate with HVAC?* → NO → Room-Based
- More than 5 sensors needed? → NO → Zone-Based
- More than 5 sensors needed? → YES → Luminaire-Level

*Heating, ventilation, and air conditioning (HVAC) integration is recommended for buildings over 50k ft²; consider for buildings over 25k ft²

Follow 8 steps to streamline your lighting control design

1. Review Energy Code Requirements
2. Assess Need for Enhanced Capabilities
3. Design Lighting Zones
4. Select a System Architecture
5. Determine Sensor and Controller Location
6. Configure Control Wiring
7. Identify Communication Protocols
8. Plan for Retro- and Re-Commissioning

GSA

LED LIGHTING AND CONTROLS GUIDANCE
FOR FEDERAL BUILDINGS

2023

DOWNLOAD THE 50-PAGE GUIDE ↓