

# Deemed Savings for Commercial Retrofit Lighting

Regional Technical Forum  
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# Recommendation

- Identify common retrofit measures to deem
- Fixture-for-fixture basis
  - Lamp & ballast system of near equivalent light output
- Use BPA Drop Down Wattage Reduction Tool
  - Identify common measures via “Suggested Replacement”
  - Identify wattage saved from BPA tables
  - Use lexicon of BPA sheets for measure names
  - Add T8 to HPT8 retrofits later
- Use 5<sup>th</sup> Plan interaction factors for savings yield
- Use 5<sup>th</sup> Plan default hours of lighting operation
- Assume 90% diversity factor as baseline
  - 10% of lights are switched off during On period

# Deemed Savings is:

Pre-Post System Wattage Delta

X

Default Hours

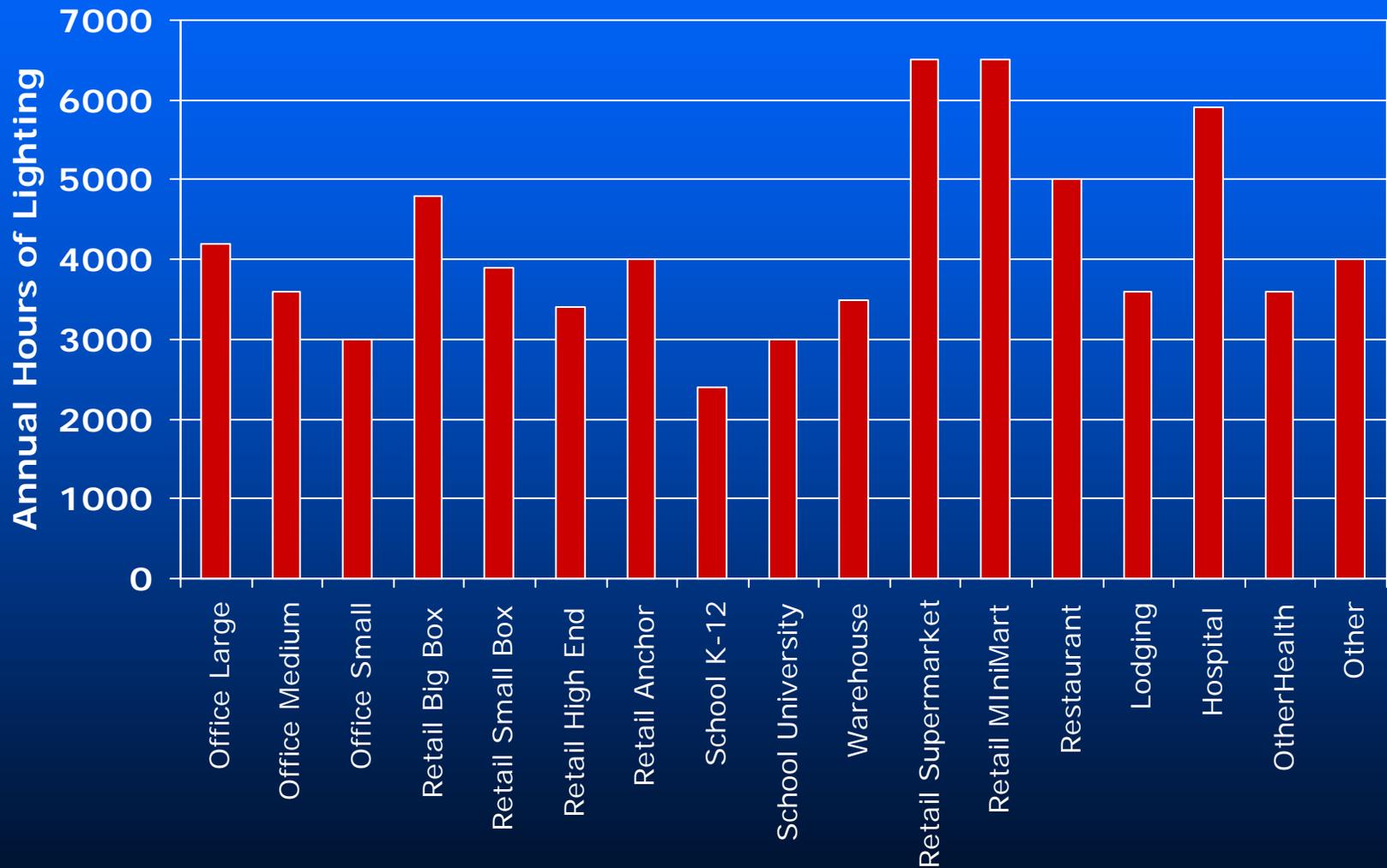
X

Lighting Savings Yield

X

Diversity Factor

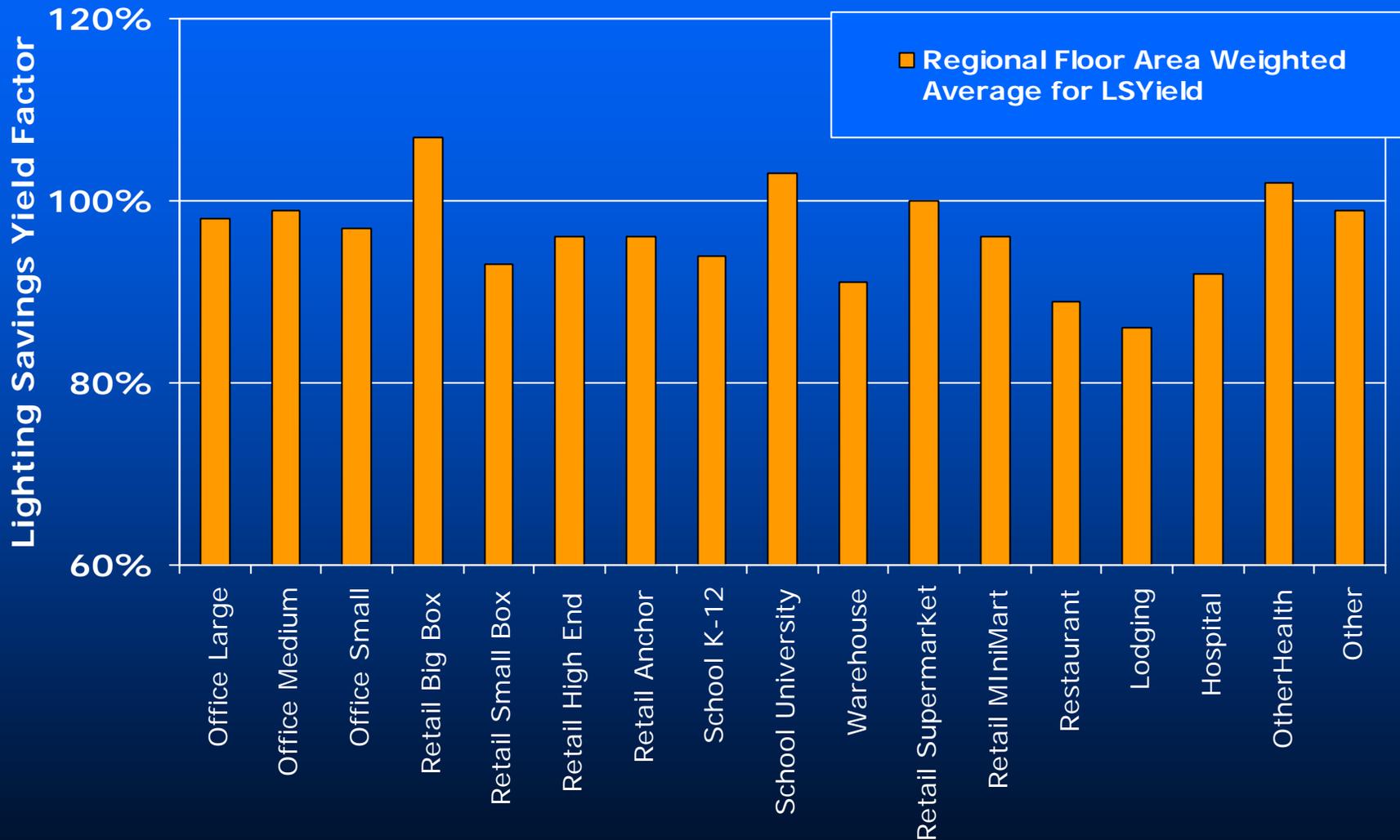
# Default Lighting Hours



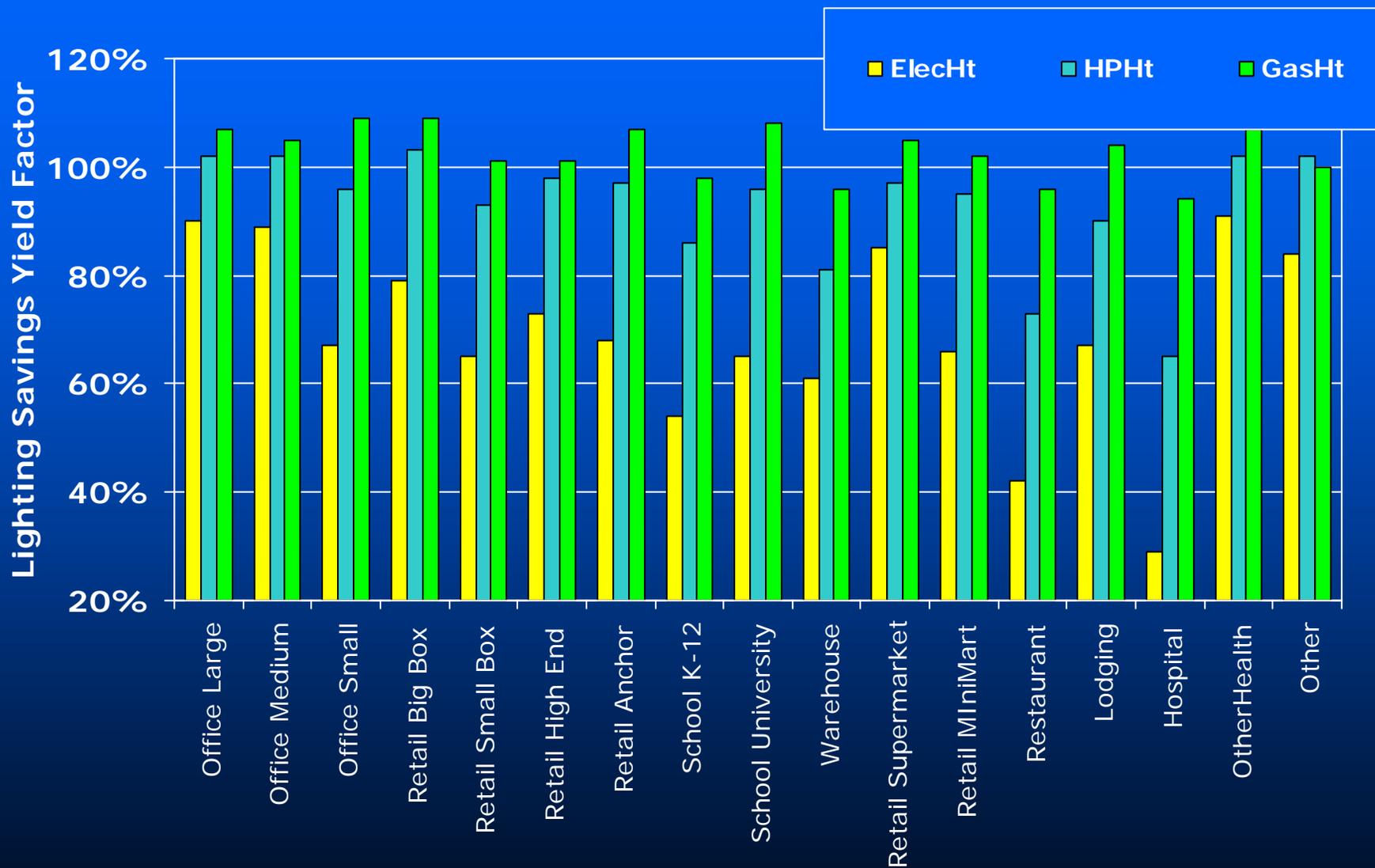
# Lighting Savings Yield

- Fixture level system savings adjusted for interaction of heating and cooling
- Yield is fraction of fixture level savings net of interactions
- 5<sup>th</sup> Plan values
  - Maximum 112%: Small office, gas heat, with cooling
  - Minimum 28%: Hospital, electric heat
  - 95%: The regional average weighted by building type, heating fuel and presence of cooling for pre-2002 stock

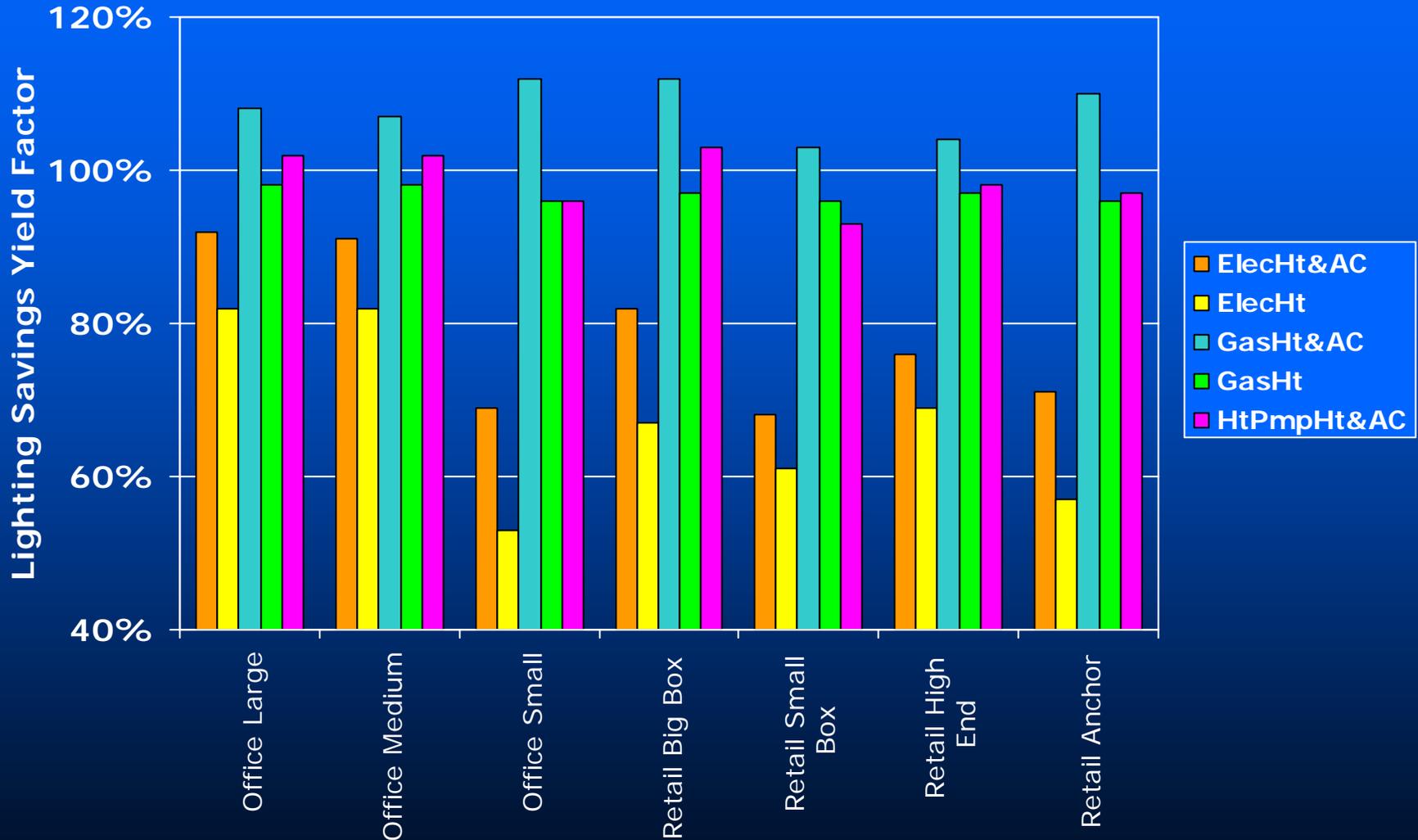
# Default Lighting Savings Yield Factors



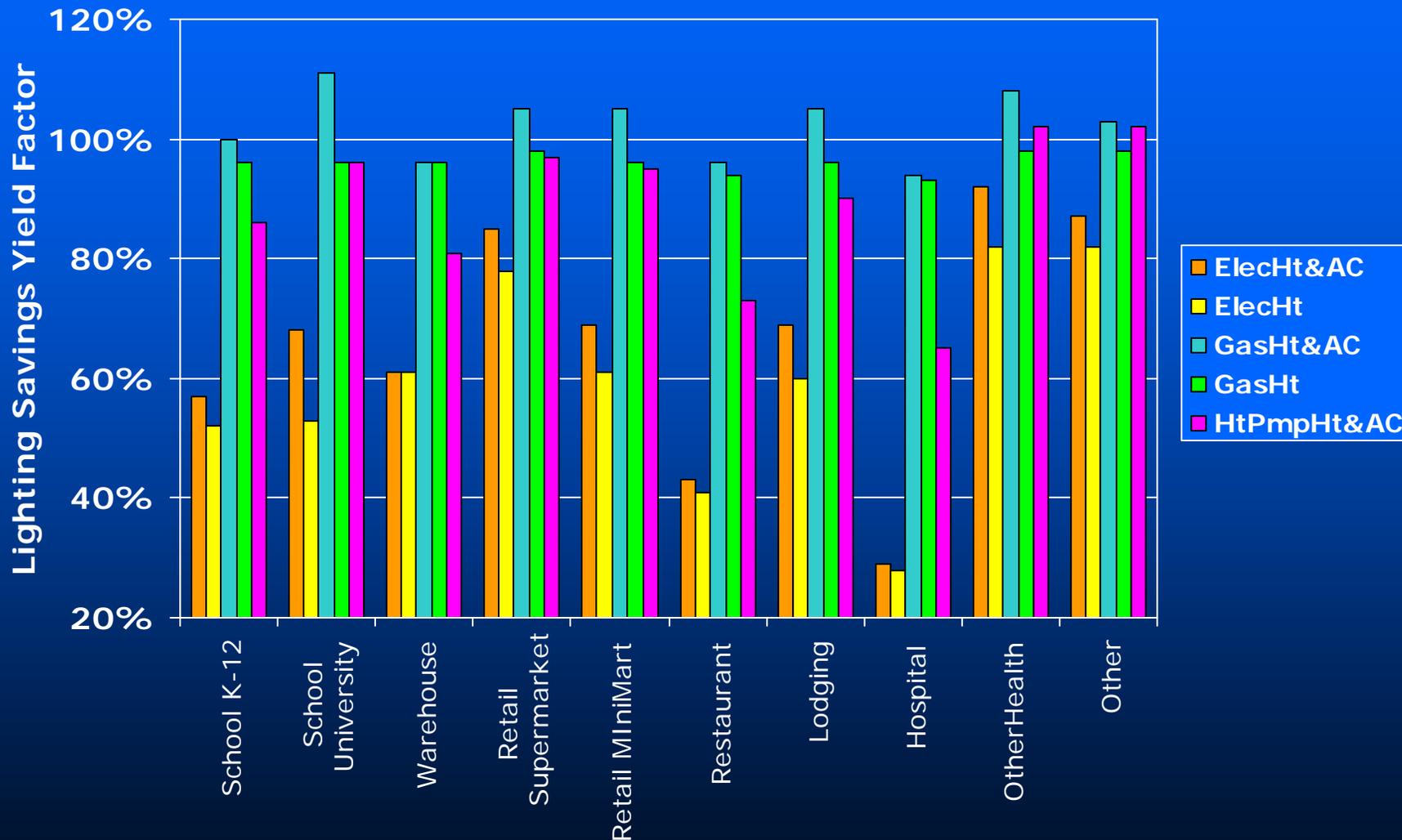
# Default Lighting Savings Yield Factors



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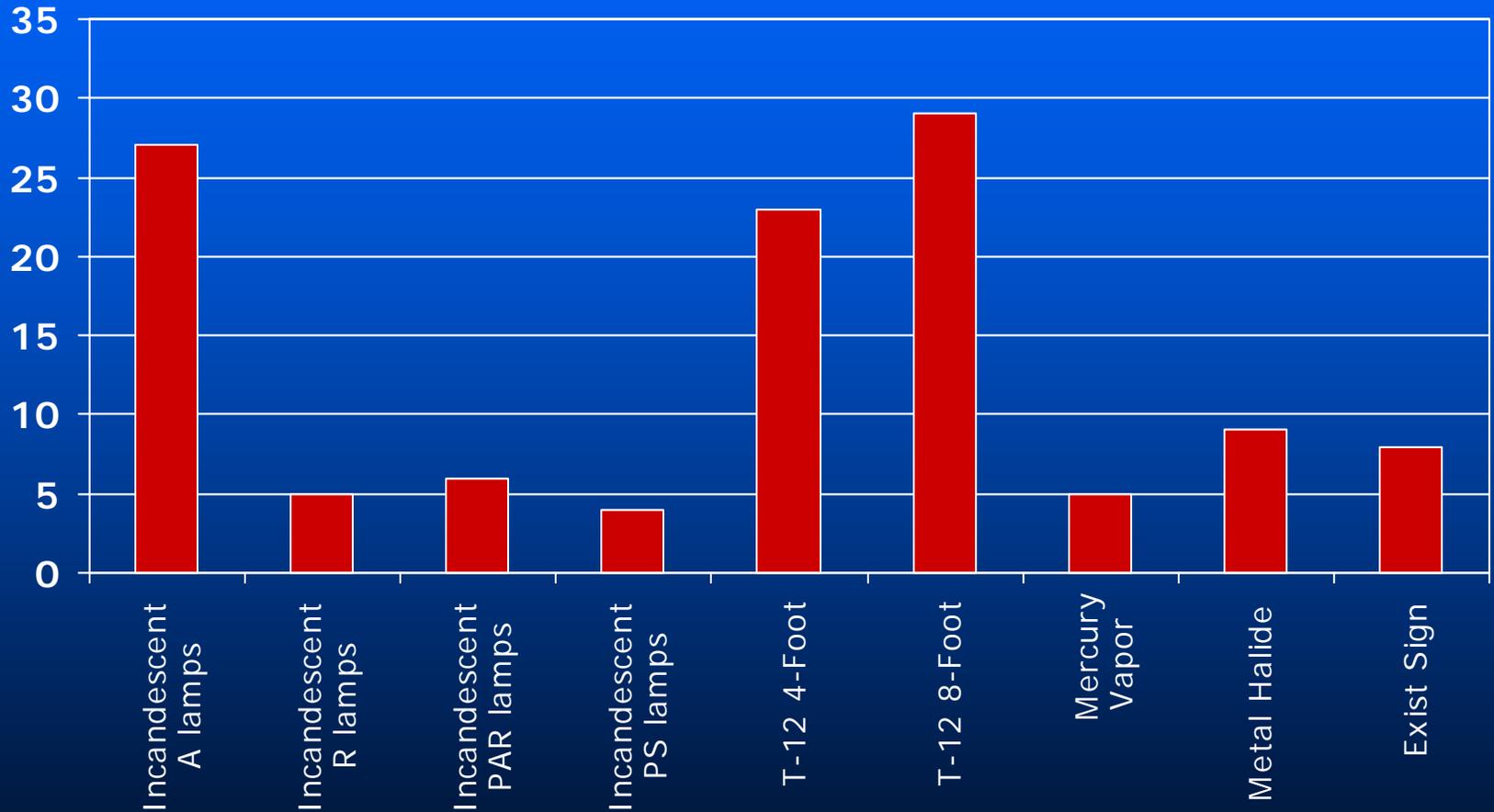
# Default Lighting Savings Yield Factors



# Number of Retrofit Fixture Measures to Deem

- Number of combinations is unmanageable unless we limit to “common” systems
- Propose to use BPA list from Drop Down Wattage Reduction calculator to limit list
- “Existing Lamp/Ballast” systems that have a “Suggested Retrofit”
- Add series of measures to replace standard T8 with High Performance T8

# Existing System Lamp/Ballast Combo with “Suggested Retrofits”: n=116



# Review Common Systems

- [Link](#) to BPA Sheet
- Eligible common systems can be amended

# Calculation

- Wattage Reduction \* Default Hours \* Diversity Factor \* Lighting Savings Yield
- Number of deemed retrofit permutations
  - 120 measures (including 3 new standard T8)
  - 2040 by building type
  - 6120 by building & space heat type
  - 10200 by building, space heat, and cooling type

# Next Steps

- Build and populate measure list
- Address existing measures on list
  - Clean up lexicon
  - Remove duds (ballast only)
  - Remove standard T8 as measure by 2006?