

**DOCUMENT 26 51 13**

**INTERIOR LIGHTING FIXTURES, LAMPS, AND BALLASTS**

***PRODUCT MINIMUM REQUIREMENTS***

Equipment must meet the requirements listed below. Equipment must be installed in a manner that delivers the expected savings while maintaining the appropriate lighting levels.

**Linear Fluorescent Electronic Ballasts**

**Standard output ballasts must have a ballast factor of 0.87 - 0.89.**

Reduced output ballasts must have a ballast factor of 0.77 - 0.78.

Catalog or reference output must have a ballast factor of 0.95 - 1.05.

High output ballasts must have a ballast factor of 1.15 - 1.20.

Linear fluorescent retrofit measures with T8 lamps must have “extra-efficient” ballasts from the following list of manufacturers and brand names:

- Advance Optanium **instant** start

**Linear Fluorescent Lamps**

1. All new 2-foot fluorescent lamps used in fixtures shall be F17T8 (when required).

3. All new 4-foot fluorescent lamps used in fixtures shall be F32T8 (Preferred).

Linear fluorescent lamps must be “premium” quality, meaning that they must have the following characteristics

- A minimum rated life (at 3-hour start rating) of 24,000 hours with instant start ballasts.
- Lamps must have a CRI between 80 and 86.
- Lamps must have color temperature **5000K**
- 4-foot Lamps must have an initial (catalog) lumen output  $\geq$  3000 lumens.
- Lamps must carry a three-year parts warranty.
- Lamps shall be designated as “low mercury content,” with  $<$  6 mg of mercury per 4-foot lamp.

4. Model numbers for the T-8 lamps shall be as follows:

<u>Material</u>	<u>Product</u>
2 foot T-8 Lamps (when required)	Philips F17T8/ADV850/ALTO
3 foot T-8 Lamps (by acceptance only)	Philips F25T8/ADV850/ALTO

4 foot T-8 Lamps (Preferred) Philips Advantage – F32T8/ADV850/ALTO

**New Recessed Troffer Fixture**

New 2' X 4' recessed troffer fixture should feature two lamps Direct/Indirect and be Lithonia model Avante (Model # 2AV-G-S-32-MDR-MVOLT-GEB101S.) Specify fixture with **5000K** lamps (see above). One or three lamp fixtures are acceptable if needed, based on lighting levels required. The County's acceptable desktop light level for workspaces is above 30 Foot-candles (maintained). All new fixtures need to include quick disconnects to meet current NEC codes.

**High Bay Fluorescent Fixtures**

New indoor high bay Fluorescent fixtures should be Precision Fluorescent model OHEE-PC-6-6L32-UL2-HP-PS-M4-C8 or equivalent

New outdoor high bay Fluorescent fixtures should be Precision Fluorescent model GCR-6-6L32-UL2-HP-IS-M4-CA or equivalent

**New Hooded Industrial Fixture**

New 4-foot hooded industrial fixture should be Precision Fluorescent model STI-1-1X4-2L32-UL1-IS-HP-WA or equivalent.

New 8-foot hooded industrial fixture should be Precision Fluorescent model STI-1-1X8-4L32-UL1-IS-HP-PC or equivalent.

**New Strip Fixture for Parking Garages**

New strip fixtures should have a wire cage and be Precision Fluorescent Model STS-2-1X8-4L32-UL1-IS-LP-WG-WA or equivalent.

**New Seal-tite Fixture**

New seal-tite fixture should be Precision Fluorescent model VPT-2-1X8-4L32-UL1-STD-WA or equivalent.

**New Wrap Fixture**

New 2-foot wrap fixtures should be Precision Fluorescent model SWR-2-1X2-2L17-UL1-STD-IS-WA or equivalent.

New 4-foot wrap fixtures should be Precision Fluorescent model SWR-2-1X4-2L32-UL1-LP-IS-WA or equivalent.

New 8-foot wrap should be Precision Fluorescent model STS-2-1X8-4L32-UL1-IS-LP-WG-WA or equivalent

**Strip Kits**

8 foot strip kits should be Precision Fluorescent model UTM-BC-1-1X8-2L32-UL1-HP-IS-WA or equivalent

3 foot strip kits should be Precision Fluorescent model UTM-BC-1-1X3-2L25-UL1-LP-IS-WA or equivalent

**Lenses**

Lenses shall be made from clear prismatic, acrylic material of 0.125" thickness (A12). Wrap-around lenses must be sized and contoured to be similar to factory-supplied lenses in appearance. Flat lenses must be cut evenly and sized properly so they can be installed in a secure manner.

**Reflectors**

Retrofit reflectors and reflector kits must be constructed of steel or aluminum and white powder coat finish with a total reflectivity  $\geq 91\%$ .

**Unacceptable Indoor Fixtures**

U-tube fixtures, two-pin compact fluorescent lamps, 3-foot fluorescent lamps, parabolic lenses, incandescent lamps, HID lamps, and 8' fluorescent lamps are not acceptable in interior spaces at County facilities.