

PENTRON® ECOLOGIC®

T5 Linear Fluorescent Lamps



PENTRON ECOLOGIC T5 lamps offer a high quality lighting solution for linear fluorescent applications where luminaire design flexibility is important. These lamps are available in 2, 3, 4 and 5-foot lengths and offer a wide range of color temperatures: 3000K, 3500K, 4100K, 5000K and 6500K. When paired with an OSRAM QUICKTRONIC® T5 ballast, these systems are covered by the comprehensive QUICK 60+® system warranty.

Application Information

Applications

- Cove and valance
- Direct/indirect luminaires
- Façade luminaires
- Low profile surface mount
- Shallow recessed fixtures
- Showcase
- Signage

Key Features & Benefits

- High Performance T5 lamps
 - Up to 104 LPW
 - 95% lumen maintenance
 - Peak lumen output at 35°C (95°F)
 - Dimmable
 - Ideal for occupancy sensor applications
- Up to 36,000 hours lamp life
- TCLP and RoHS compliant
- Lead free glass
- Greater luminaire design flexibility
- Nominal 2', 3', 4' and 5'
- QUICK 60+ system warranty offered when paired with OSRAM QUICKTRONIC T5 electronic ballast



ECOLOGIC® is a comprehensive program focused on addressing environmental issues at all stages of lamp life.

Product Offering

| Ordering Abbreviation | Wattage | Color Temperature |
|-----------------------|---------|-----------------------------------|
| FP14/800/ECO | 14 | 3000K, 3500K, 4100K, 6500K |
| FP21/800/ECO | 21 | 3000K, 3500K, 4100K, 6500K |
| FP28/800/ECO | 28 | 3000K, 3500K, 4100K, 5000K, 6500K |
| FP35/800/ECO | 35 | 3000K, 3500K, 4100K |

Application Notes

1. PENTRON ECO lamps are about 2" shorter than T8 & T12 Bi-Pin lamps.
2. Miniature Bi-Pin bases will not install into T8 & T12 sockets.
3. Miniature Bi-Pin bases require UL Listed 600 Volt rated sockets.
4. Requires high frequency programmed rapid start electronic ballasts for T5s equipped with end-of-life sensing circuit.
5. PENTRON ECO operates at same current for uniform color and brightness between nominal 2', 3', 4', and 5' lengths.
6. Apply thermal factor in calculations for use in exterior or unheated applications.



Specification Data

| | |
|------------------|------|
| Catalog # | Type |
| Project/Job | |
| SYLVANIA Lamp | |
| SYLVANIA Ballast | |
| Prepared by | |

Ordering Information

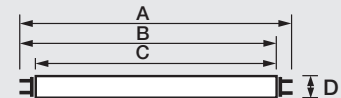
| Item Number | Ordering Abbreviation | Base | Watts | Nom. Length (in.) | Initial Lumens @25°C | Mean Lumens @25°C | Initial Lumens @35°C | Mean Lumens @35°C | Programmed Rapid Start 3 hrs/start | Programmed Rapid Start 12 hrs/start | CCT | CRI |
|-------------|-----------------------|------------------|-------|-------------------|----------------------|-------------------|----------------------|-------------------|------------------------------------|-------------------------------------|-------|-----|
| 20907 | FP14/830/ECO | Miniature Bi-Pin | 14 | 24 | 1200 | 1140 | 1350 | 1285 | 25,000 | 28,000 | 3000K | 85 |
| 20908 | FP14/835/ECO | Miniature Bi-Pin | 14 | 24 | 1200 | 1140 | 1350 | 1285 | 25,000 | 28,000 | 3500K | 85 |
| 20914 | FP14/841/ECO | Miniature Bi-Pin | 14 | 24 | 1200 | 1140 | 1350 | 1285 | 25,000 | 28,000 | 4100K | 85 |
| 20988 | FP14/865/ECO | Miniature Bi-Pin | 14 | 24 | 1100 | 1045 | 1300 | 1235 | 25,000 | 28,000 | 6500K | 85 |
| 20919 | FP21/830/ECO | Miniature Bi-Pin | 21 | 36 | 1900 | 1805 | 2100 | 1995 | 25,000 | 28,000 | 3000K | 85 |
| 20921 | FP21/835/ECO | Miniature Bi-Pin | 21 | 36 | 1900 | 1805 | 2100 | 1995 | 25,000 | 28,000 | 3500K | 85 |
| 20924 | FP21/841/ECO | Miniature Bi-Pin | 21 | 36 | 1900 | 1805 | 2100 | 1995 | 25,000 | 28,000 | 4100K | 85 |
| 20989 | FP21/865/ECO | Miniature Bi-Pin | 21 | 36 | 1750 | 1665 | 2000 | 1900 | 25,000 | 28,000 | 6500K | 85 |
| 20868 | FP28/830/ECO | Miniature Bi-Pin | 28 | 48 | 2600 | 2470 | 2900 | 2755 | 30,000 | 36,000 | 3000K | 85 |
| 20901 | FP28/835/ECO | Miniature Bi-Pin | 28 | 48 | 2600 | 2470 | 2900 | 2755 | 30,000 | 36,000 | 3500K | 85 |
| 20902 | FP28/841/ECO | Miniature Bi-Pin | 28 | 48 | 2600 | 2470 | 2900 | 2755 | 30,000 | 36,000 | 4100K | 85 |
| 22203 | FP28/850/ECO | Miniature Bi-Pin | 28 | 48 | 2545 | 2420 | 2840 | 2700 | 30,000 | 36,000 | 5000K | 85 |
| 20990 | FP28/865/ECO | Miniature Bi-Pin | 28 | 48 | 2400 | 2280 | 2750 | 2615 | 30,000 | 36,000 | 6500K | 85 |
| 20925 | FP35/830/ECO | Miniature Bi-Pin | 35 | 60 | 3300 | 3135 | 3650 | 3470 | 25,000 | 28,000 | 3000K | 85 |
| 20926 | FP35/835/ECO | Miniature Bi-Pin | 35 | 60 | 3300 | 3135 | 3650 | 3470 | 25,000 | 28,000 | 3500K | 85 |
| 20927 | FP35/841/ECO | Miniature Bi-Pin | 35 | 60 | 3300 | 3135 | 3650 | 3470 | 25,000 | 28,000 | 4100K | 85 |

Ordering Guide

| FP | 14 | / | 8 | 30 | / | ECO® |
|-------------|-------------|---|------------|------------------------|---|-----------|
| Fluorescent | Wattage | | 8 = 85 CRI | Color Temperature | | ECOLOGIC® |
| PENTRON® | 14, 21, 28 | | | 30 = 3000K, 35 = 3500K | | |
| T5 | or 35 watts | | | 41 = 4100K, 50 = 5000K | | |
| | | | | 65 = 6500K | | |

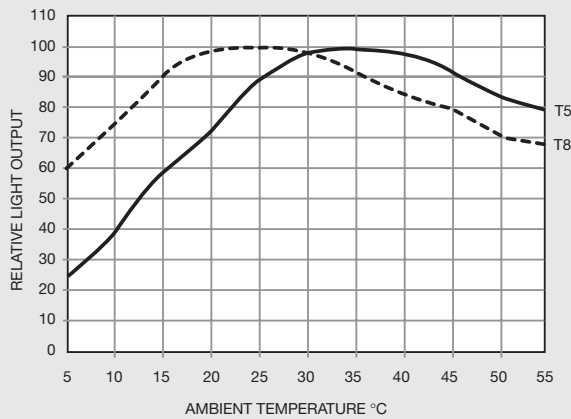
Lamp Dimensions

| Ordering Abbreviation | (A) Max. Overall Length mm (in.) | (B) Base Face to Opposite Pin mm (in.) | (C) Base Face to Base Face mm (in.) | (D) Max. Outside Diameter mm (in.) |
|-----------------------|-------------------------------------|---|--|---------------------------------------|
| FP14 | 563.2 (22.17) | 553.7 - 556.1 (21.80 - 21.89) | 547.1 - 549.0 (21.54 - 21.61) | 17.0 (0.67) |
| FP21 | 863.2 (33.89) | 853.7 - 856.1 (33.61 - 33.70) | 847.1 - 849.0 (33.35 - 33.43) | 17.0 (0.67) |
| FP28 | 1163.2 (45.80) | 1153.7 - 1156.1 (45.42 - 45.52) | 1147.1 - 1149.0 (45.16 - 45.24) | 17.0 (0.67) |
| FP35 | 1463.2 (57.61) | 1453.7 - 1456.1 (57.23 - 57.33) | 1447.1 - 1449.0 (56.97 - 57.05) | 17.0 (0.67) |

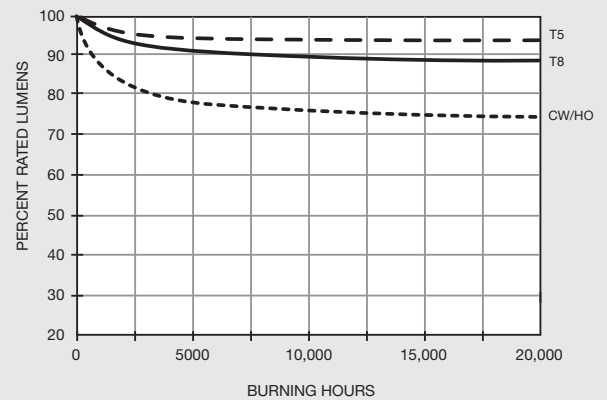


Technical Information

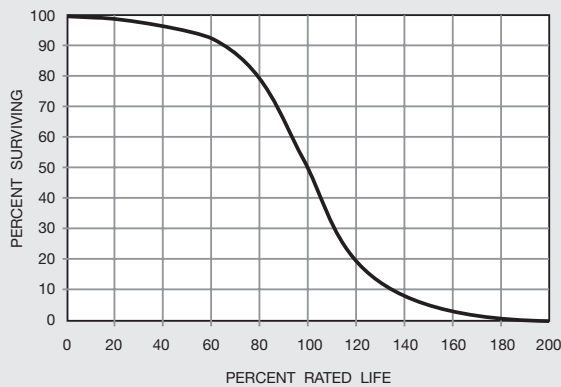
Lumen Output vs. Temperature T8/T5



Fluorescent Lamp Lumen Maintenance



Typical Fluorescent Lamp Mortality



Related Literature

For optimum system performance and warranty pair with QUICKTRONIC® electronic ballast systems:

OSRAM Ballast Technology Applications & Specification Guide (Literature Code: ECS-SPECGUIDE2015)

QUICK 60+® System Warranty (Literature Code: ECS140)

Sample Specification

Lamps shall be PENTRON® ECO® T5 lamps having miniature bi-pin bases and minimum of 95% lumen maintenance. Lamps shall have a correlated color temperature of (3000K, 3500K, 4100K, 5000K & 6500K) and a Color Rendering Index of 85. The PENTRON ECO T5 lamps shall be operated on universal OSRAM QUICKTRONIC® PS ballasts having a primary voltage of (120V, 277V) with complete system warranty covering lamps and ballasts.

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