



# Powerful, environmentally- responsible ultra-slim lamps

## T5 Standard

Philips T5 Fluorescent Lamps featuring ALTO® Lamp Technology offer increased energy savings and low toxicity in a slim profile.

### Benefits

- Philips T5 Warranty period – 36 months.
- Sustainable Lighting Solution – low mercury.
- Ultra slim profile allows for flexibility in design.

### Features

- Less mercury combined with energy efficiency and long life reduces the impact on the environment.
- Our green end-caps mean you are using ALTO® environmentally-responsible lamps.
- Only 1.4mg of mercury per lamp.
- Slim profile lamp and ballast.
- Operates on programmed start electronic ballasts only.
- Available in 14, 21, 28, and 35 Watts with 3000, 3500, 4100 color temperatures.

### Application

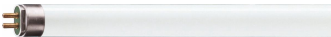
- Ideal for general, decorative and architectural lighting in offices, retail stores, hotels, schools and hospitals.

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Warnings and Safety

- Lamp contains mercury.
- Manage in Accord with Disposal Laws.
- See: [www.lamprecycle.org](http://www.lamprecycle.org) or 1-800-555-0050

Versions



G5, T5

Dimensional drawing

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| Product                                | D (max)  | A (max)    | B (max)     | B (min)     | C (max)     |
|----------------------------------------|----------|------------|-------------|-------------|-------------|
| 14W/830 Min Bipin T5<br>HE ALTO UNP/40 | 11/16 in | 21-5/8 in  | 21-15/16 in | 21-13/16 in | 22-3/16 in  |
| 14W/835 Min Bipin T5<br>HE ALTO UNP/40 | 11/16 in | 21-5/8 in  | 21-15/16 in | 21-13/16 in | 22-3/16 in  |
| 14W/841 Min Bipin T5<br>HE ALTO UNP/40 | 11/16 in | 21-5/8 in  | 21-15/16 in | 21-13/16 in | 22-3/16 in  |
| 28W/830 Min Bipin T5<br>HE ALTO UNP/40 | 11/16 in | 45-1/4 in  | 45-9/16 in  | 45-7/16 in  | 45-13/16 in |
| 28W/835 Min Bipin T5<br>HE ALTO UNP/40 | 11/16 in | 45-1/4 in  | 45-9/16 in  | 45-7/16 in  | 45-13/16 in |
| 28W/841 Min Bipin T5<br>HE ALTO UNP/40 | 11/16 in | 45-1/4 in  | 45-9/16 in  | 45-7/16 in  | 45-13/16 in |
| F21T5/830/ALTO 40PK                    | 11/16 in | 33-7/16 in | 33-3/4 in   | 33-5/8 in   | 34 in       |
| 21W/835 Min Bipin T5<br>HE ALTO UNP/40 | 11/16 in | 33-7/16 in | 33-3/4 in   | 33-5/8 in   | 34 in       |
| F21T5/841/ALTO 40PK                    | 11/16 in | 33-7/16 in | 33-3/4 in   | 33-5/8 in   | 34 in       |
| F35T5/830 40PK                         | 11/16 in | 57-1/16 in | 57-3/8 in   | 57-1/4 in   | 57-5/8 in   |
| F35T5/841 40PK                         | 11/16 in | 57-1/16 in | 57-3/8 in   | 57-1/4 in   | 57-5/8 in   |

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|                                    |                 |
|------------------------------------|-----------------|
| Approval and application           |                 |
| Mercury (Hg) Content (Nom)         | 1.4 mg          |
| Controls and dimming               |                 |
| Dimmable                           | Yes             |
| General information                |                 |
| Cap-Base                           | G5              |
| Life To 50% Failures Preheat (Nom) | 24000 h         |
| LSF Preheat 16000 h Rated          | 97 %            |
| LSF Preheat 20000 h Rated          | 84 %            |
| LSF Preheat 2000 h Rated           | 99 %            |
| LSF Preheat 4000 h Rated           | 99 %            |
| LSF Preheat 6000 h Rated           | 99 %            |
| LSF Preheat 8000 h Rated           | 99 %            |
| System Description                 | High Efficiency |
| Light technical                    |                 |
| Color Rendering Index (Max)        | 85              |
| Color Rendering Index (Min)        | 80              |
| Color Rendering Index (Nom)        | 82              |
| LLMF 12000 h Rated                 | 92 %            |
| LLMF 16000 h Rated                 | 91 %            |
| LLMF 2000 h Rated                  | 96 %            |
| LLMF 20000 h Rated                 | 90 %            |
| LLMF 4000 h Rated                  | 95 %            |
| LLMF 6000 h Rated                  | 94 %            |
| LLMF 8000 h Rated                  | 93 %            |
| Mechanical and housing             |                 |
| Bulb Shape                         | T5              |
| Temperature                        |                 |
| Design Temperature (Nom)           | 95 °F           |

Operating and electrical

| Order Code | Full Product Name   | Lamp Current (Nom) | Power (Nom) |
|------------|---------------------|--------------------|-------------|
| 230771     | F14T5/830/ALTO 40PK | 0.165 A            | 14.0 W      |
| 230797     | F14T5/835/ALTO 40PK | 0.165 A            | 14.0 W      |
| 230805     | F14T5/841/ALTO 40PK | 0.165 A            | 14.0 W      |
| 230847     | F28T5/830 ALTO 40PK | 0.170 A            | 27.9 W      |
| 230854     | F28T5/835 ALTO 40PK | 0.170 A            | 27.9 W      |
| 230862     | F28T5/841 ALTO 40PK | 0.170 A            | 27.9 W      |
| 230813     | F21T5/830/ALTO 40PK | 0.165 A            | 21 W        |
| 230821     | F21T5/835/ALTO 40PK | 0.165 A            | 20.6 W      |
| 230839     | F21T5/841/ALTO 40PK | 0.165 A            | 20.6 W      |
| 230888     | F35T5/830 40PK      | 0.175 A            | 35.5 W      |
| 230953     | F35T5/841 40PK      | 0.175 A            | 35.5 W      |

Light technical (1/2)

| Order Code | Full Product Name   | Color Code | Color Designation | Correlated Color Temperature (Nom) | Luminous Efficacy (@ Max Lumen, Rated) (Nom) |
|------------|---------------------|------------|-------------------|------------------------------------|----------------------------------------------|
| 230771     | F14T5/830/ALTO 40PK | 830        | Warm White (WW)   | 3000 K                             | 99 lm/W                                      |
| 230797     | F14T5/835/ALTO 40PK | 835        | White (WH)        | 3500 K                             | 99 lm/W                                      |
| 230805     | F14T5/841/ALTO 40PK | 841        | Cool White (CW)   | 4100 K                             | 99 lm/W                                      |
| 230847     | F28T5/830 ALTO 40PK | 830        | Warm White (WW)   | 3000 K                             | 104 lm/W                                     |
| 230854     | F28T5/835 ALTO 40PK | 835        | White (WH)        | 3500 K                             | 104 lm/W                                     |
| 230862     | F28T5/841 ALTO 40PK | 841        | Cool White (CW)   | 4100 K                             | 104 lm/W                                     |

| Order Code | Full Product Name   | Color Code | Color Designation | Correlated Color Temperature (Nom) | Luminous Efficacy (@ Max Lumen, Rated) (Nom) |
|------------|---------------------|------------|-------------------|------------------------------------|----------------------------------------------|
| 230813     | F21T5/830/ALTO 40PK | 830        | Warm White (WW)   | 3000 K                             | 101 lm/W                                     |
| 230821     | F21T5/835/ALTO 40PK | 835        | White (WH)        | 3500 K                             | 101 lm/W                                     |
| 230839     | F21T5/841/ALTO 40PK | 841        | Cool White (CW)   | 4100 K                             | 101 lm/W                                     |
| 230888     | F35T5/830 40PK      | 830        | Warm White (WW)   | 3000 K                             | 105 lm/W                                     |
| 230953     | F35T5/841 40PK      | 841        | Cool White (CW)   | 4100 K                             | 105 lm/W                                     |

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## Light technical (2/2)

| Order Code | Full Product Name   | Luminous Efficacy (rated) (Nom) | Luminous Flux (Nom) | Luminous Flux (Rated) (Nom) |
|------------|---------------------|---------------------------------|---------------------|-----------------------------|
| 230771     | F14T5/830/ALTO 40PK | 86 lm/W                         | 1350 lm             | 1200 lm                     |
| 230797     | F14T5/835/ALTO 40PK | 86 lm/W                         | 1350 lm             | 1200 lm                     |
| 230805     | F14T5/841/ALTO 40PK | 86 lm/W                         | 1350 lm             | 1200 lm                     |
| 230847     | F28T5/830 ALTO 40PK | 96 lm/W                         | 2900 lm             | 2675 lm                     |
| 230854     | F28T5/835 ALTO 40PK | 96 lm/W                         | 2900 lm             | 2675 lm                     |

| Order Code | Full Product Name   | Luminous Efficacy (rated) (Nom) | Luminous Flux (Nom) | Luminous Flux (Rated) (Nom) |
|------------|---------------------|---------------------------------|---------------------|-----------------------------|
| 230862     | F28T5/841 ALTO 40PK | 96 lm/W                         | 2900 lm             | 2675 lm                     |
| 230813     | F21T5/830/ALTO 40PK | 90 lm/W                         | 2100 lm             | 1850 lm                     |
| 230821     | F21T5/835/ALTO 40PK | 90 lm/W                         | 2100 lm             | 1850 lm                     |
| 230839     | F21T5/841/ALTO 40PK | 90 lm/W                         | 2100 lm             | 1850 lm                     |
| 230888     | F35T5/830 40PK      | 94 lm/W                         | 3650 lm             | 3325 lm                     |
| 230953     | F35T5/841 40PK      | 94 lm/W                         | 3650 lm             | 3325 lm                     |

