



SPECIFICATION SHEET

Customer:

Product: 11601320

Model: 2.4 x 224 | 0.2650/0.2680

Specifications

1. Available Range. The specifications available to CCFL unit listed on page 1.
2. Product Construction.

| Item No. | Name | Requirements | Remark |
|----------|--------------------|---|-------------|
| 1 | Dimension | Lamp Shape: Straight | Naked lamp |
| | | Dia: $\Phi 2.4 \pm 0.1\text{mm}$ | |
| | | Glass tube length: $224 \pm 1.0\text{mm}$ | |
| 2 | Glass tube | Hard material glass tube | |
| 3 | Fluorescent powder | Three primary colors phosphor | |
| 4 | Electrode | Kovar | |
| 5 | Gas | 80 Torr | Ne+Ar(95:5) |

3. Primary Characteristics.
 - 3.1. Requests of Specifications

| Item No. | Name | Code | Unit | Specification | Remark |
|----------|------------------------------|------|-------------------|------------------------|----------------------|
| 1 | Lamp Voltage (Reference) | VL | Vrms | $500 \pm 10\%$ | KD12300 inverter 12V |
| 2 | Lamp Current | IL | MArms | $5.0 \pm 0.5\text{mA}$ | |
| 3 | Starting Voltage (Reference) | Vs | Vrms | $950 \pm 10\%$ | KD12300 6mA 25°C |
| 4 | Surface Brightness | B | Cd/m ² | $32000 \pm 10\%$ | KD12300 6mA 25°C |
| 5 | Color Coordinates | x | | 0.2650 ± 0.010 | CIE 1931 |
| | | y | | 0.2680 ± 0.010 | |
| 6 | Peak Spectrum (Reference) | | Nm | Red | 611 |
| | | | | Green | 544 |
| | | | | Blue | 435 |
| 7 | Stable Time of Illumination | Ts | min | 3min | |

3.2. Test Conditions

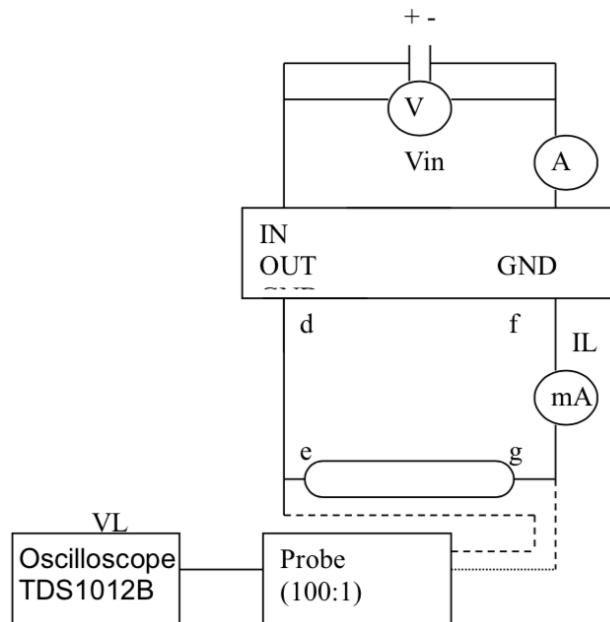
- 3.2.1. Lamp should be placed in horizontal position, under required testing current, and undergo normal lighting for more than 3 minutes, then conduct the electrical and optical properties tests
- 3.2.2. Temperature of Test Environment = $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$
- 3.2.3. Relative Humidity of Test Environment = $65\% \pm 20\%$, under no wind state.

3.3. Test Apparatus

| Test Items | Test Apparatus |
|----------------------------------|---|
| Lamp Voltage | Oscilloscope (Tektronix TDS1012B 100:1) |
| Lamp Current | Multimeter (Fluke 8086 A) |
| Surface Brightness | Colorimeter (Topcon BM-7) |
| Color and Color Temp Coordinates | Colorimeter (Topcon BM-7) |

3.4. Test Methods

- 3.4.1. CCFL unit under complete voltage control; the test circuit as shown in the Diagram below.
 - 3.4.1.1. LV output end connected to negative of $0\text{V} \sim 12\text{V}$ input
 - 3.4.1.2. The connection wire length is $100 \sim 300\text{mm}$
 - 3.4.1.3. Test circuit wires parallel distance should be longer than 100mm in order to avoid possible interference which could affect measurement accuracy
 - 3.4.1.4. When testing current disconnect VL test equipment
 - 3.4.1.5. When testing voltage disconnect IL test equipment
 - 3.4.1.6. During testing, place CCFL unit on shelf with black background in a non-reflective environment



- 3.4.2. Brightness Measurement (naked lamp only), the Colorimeter should be kept a distance of 500 +/- 10mm from the lamp vertical axis and test black perspective at 0.1 degrees.
- 3.4.3. NOTE: testing done with difference test equipment and under different test conditions may result in measurement differences.