



# 6500K Color Matching Lamps

For Critical Color Matching and Inspection



**In order to achieve excellent color rendition, assure tight tolerance to industry standards, and to maintain visual agreement, GTI produces the GTI ColorMatcher brand of lamps. These lamps assure the exceptional performance of GTI's color matching systems.**

## Exceptional Color Rendering Properties

GTI ColorMatcher 6500K lamps provide consistent and accurate D65 color quality. They not only include energy in the visible spectrum, but also in the near UV area of the spectrum to provide a far more accurate simulation of true daylight to observe the effects of fluorescent brighteners.

GTI ColorMatcher 6500K lamps are manufactured with a unique blend of fluorescent phosphors that is unequalled by any other 6500 Kelvin lamp in the industry. GTI lamps produce a true full spectrum white light which renders colors with the highest degree of accuracy and efficiency. When used in GTI color matching systems, the GTI ColorMatcher 6500K lamp produces a minimum system MI rating of B/C based on ISO 23603/CIE S 012/E (formerly CIE publication 51) and results in a Color Rendering Index that exceeds 98, as calculated using CIE Publication 13.3. This is one of the highest CRI ratings in the industry.

## Key Advantages:

- **Conforms to ASTM D1729, SAE J361, ISO 3668, AATCC Procedure #9, and other industry standards**
- **GTI's D65 daylight conforms to the requirements of ISO/CIE international standard ISO 23603:2005(E)/CIE S 012/E:2004, previously known as Publication 51**
- **Superior to other 6500 Kelvin lamps**
- **High CRI (Ra>98)**
- **Full spectrum daylight**
- **Lengths from 15" up to 60"**  
(see product chart on reverse)



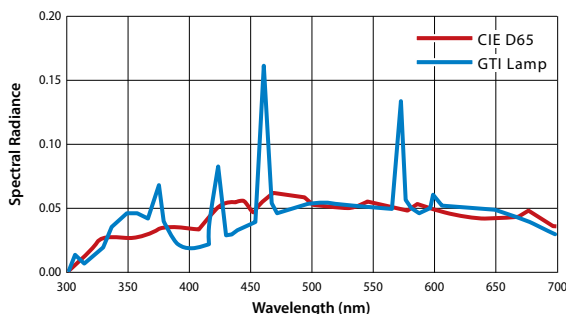
*Verifying conformance with a spectroradiometer.*



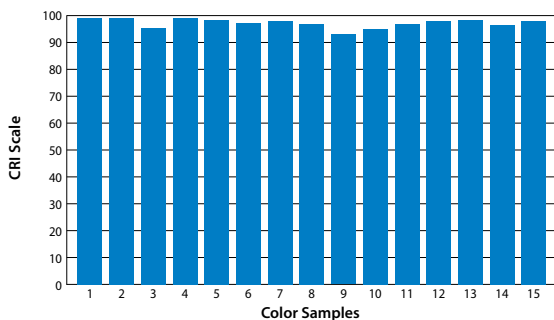
*A properly designed color matching system takes into consideration the output and color quality of the lamps as well as the proper surround (Munsell N7), the reflector, and the diffuser. GTI's line of color matching systems covers a wide range of needs, from desktop systems to color harmony rooms.*

cmlite

## Color Performance Data of GTI ColorMatcher 6500K Lamps



The best color rendition is achieved by having the closest match to the spectral power curve of the industry aimpoint of D65. GTI's ColorMatcher lamps deliver a much closer match to the D65 curve resulting in superior color fidelity and tight compliance to the viewing standard.



Color Rendering Index (CRI) is a quantitative scale that measures the quality of color shown by a light source. The CRI scale ranges from 0 to 100, with higher CRI values being equivalent to better quality color representation. As shown above for the 15 industry standard color samples, GTI's D65 lamps have a CRI above 98, one of the highest in the industry.

### The Right Spectrum = the Greatest Accuracy

CIE Standard 15.2 and ISO 23603/CIE S 012/E standard specify the aim points and allowable tolerance for simulated daylight sources. The CIE tolerance is a radius of 0.015 from the specified aim point (CIE 1976 chromaticity coordinates of  $u'=0.1979$  and  $v'=0.4685$ ). GTI manufactures products to a much higher standard with half the tolerance specified by the CIE, a radius of only 0.0075. Maintaining tight tolerances to the aim point provides a better simulation of daylight and ensures good color communication with a client, within a company, and between locations.

### GTI ColorMatcher 6500K Lamps

| GTI Part Number | Watts | Length       | Diameter   | Packaging*          |
|-----------------|-------|--------------|------------|---------------------|
| F11T8/CM65      | 11    | 15" (38 cm)  | T8 (1")    | 8 or 30 per package |
| F15T8/CM65      | 15    | 18" (46 cm)  | T8 (1")    | 8 or 30 per package |
| F17T8/CM65      | 17    | 24" (61 cm)  | T8 (1")    | 8 or 30 per package |
| F25T8/CM65      | 25    | 36" (91 cm)  | T8 (1")    | 8 or 30 per package |
| F32T8/CM65      | 32    | 48" (122 cm) | T8 (1")    | 8 or 30 per package |
| F40T8/CM65      | 40    | 60" (152 cm) | T8 (1")    | 8 or 24 per package |
| F58T8/CM65      | 58    | 60" (152 cm) | T8 (1")    | 8 or 24 per package |
| F40T12/CM65     | 40    | 48" (122 cm) | T12 (1.5") | 6 or 30 per package |

\* Other quantities are available upon request

GTI ColorMatcher 6500K lamps have a life expectancy of 2500 hours (conformance to ASTM D1729 and other standards).

#### Color Data

|     |        |   |     |          |
|-----|--------|---|-----|----------|
| CCT | 6509   | K | Duv | 0.005403 |
| u   | 0.1958 |   | u'  | 0.1958   |
| v   | 0.3153 |   | v'  | 0.4730   |
| X   | 93.133 |   | x   | 0.3143   |
| Y   | 100    |   | y   | 0.3374   |
| Z   | 103.21 |   | z   | 0.3483   |

#### CRI Data

|    |       |
|----|-------|
| Ra | 98.04 |
| R1 | 99.08 |
| R2 | 98.95 |
| R3 | 95.69 |
| R4 | 99.09 |
| R5 | 98.73 |
| R6 | 97.57 |
| R7 | 98.17 |
| R8 | 97.05 |

#### Total Band Output

|                     |         |                                     |
|---------------------|---------|-------------------------------------|
| Total Irradiance    | 445.993 | $\mu\text{W}/\text{cm}^2$           |
| Selected Irradiance | 0       | $\mu\text{W}/\text{cm}^2$           |
| Total Illuminance   | 1021.08 | lux                                 |
| PAR                 | 15.914  | $\mu\text{mol}/\text{m}^2/\text{s}$ |
| Luminous Intensity  | 1021.08 | cd                                  |

Correlated Color Temperature (CCT) is the expression of energy levels of light sources in Kelvins (K). ASTM D1729 and other industry specifications require a CCT of 6500K, and GTI's D65 lamps meet this requirement. GTI lamps deliver a total illuminance of 1021 in a GTI color matching booth.

#### Color Quality

