

gti



# Color Viewing Systems

For critical color viewing, color communication and assessment

ISO STANDARD VIEWING SYSTEMS

graphiclite®

gti **truelight**  
**truecolor**



# True Light. True Color.

## A Commitment to the ISO Standard and Guaranteed Quality

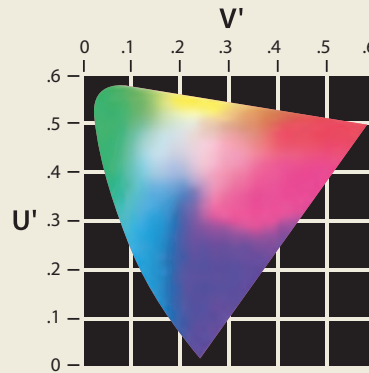
Producing and printing high quality color is a complicated process that demands accuracy and consistency. Far too often, incorrect and inconsistent lighting and viewing conditions result in costly communication problems during the color reproduction process. To combat these problems, the industry has established a set of technical specifications defining tight tolerance D50 viewing conditions.

The international standard is ISO 3664:2009 entitled "Graphic technology and photography—Viewing conditions." The standard specifies light quality, intensity, illuminating-viewing geometry, surround conditions, and evenness. All GTI Graphilite® color viewing systems conform to the ISO 3664:2009 standard.

GTI's color laboratory assures the accuracy and consistency of Graphilite 100 color viewing lamps and all Graphilite products before they are released for shipment. At GTI, we stand behind our products and services while continuing to meet the ever changing needs of our customers. We make no compromises.

### World Leading Critical Color Image Viewing

Due to GTI's commitment to the ISO standard and guaranteed quality, our Graphilite 100 color viewing lamps have developed a reputation for unparalleled excellence. This is mainly a result of their close match to the D50 spectral specifications and thus their tight compliance with ISO 3664 standards.



*Graphilite viewing systems are measured and plotted on this ISO specified CIE diagram—a chart of color space on which any perceivable color can be precisely targeted.*

Unlike high CRI 5000K lamps with irregular spectral output curves, the Graphilite 100 lamp spectral curve is even and smooth and delivers the closest fit to the CIE D50 curve. This tight fit, along with lamp output consistency and range of lamp sizes, is one of the key reasons why GTI viewing products lead the world for critical color image viewing. Quality and performance is further guaranteed by tight manufacturing tolerances in lamp production.

### Superior Color Accuracy

The spectral power distribution of Graphilite 100 lamps is the key to their superior rendition of color. While it is important to meet all of the ISO 3664 parameters to receive the full benefits of the viewing standard, the most important

factor is the spectrum of the light falling on the colored image. The spectral power distributions in Figures 1–3 (below) illustrate how three different lamps, two fluorescent and one LED, attempt to recreate the CIE D50 spectrum. It is clear that each of these lamps would render color differently from each other as well as from the rendition specified by ISO 3664. LED technology is improving at a rapid pace. However, at present, it does not deliver a good enough spectral match to the D50 target to have application in GTI Graphilite viewing systems.

The GTI Graphilite spectrum in Figure 4 (at bottom) delivers color accuracy that is superior to any other lamp on the market.

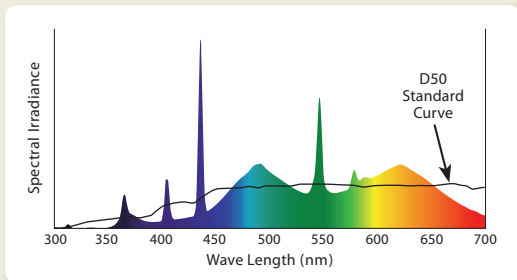


Figure 1. High CRI, 5000K Fluorescent

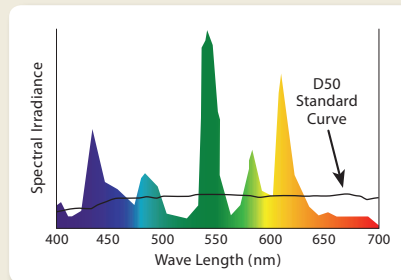


Figure 2. Low CRI, 5000K Fluorescent

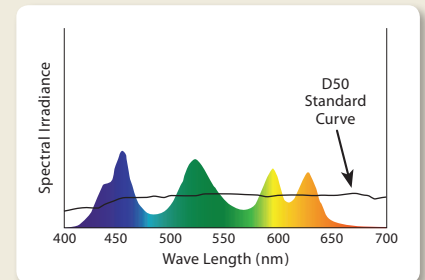


Figure 3. High CRI, Daylight LED

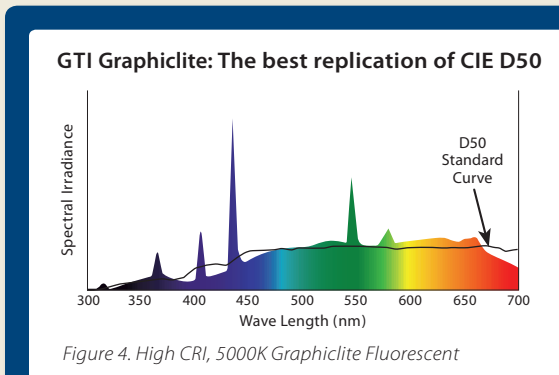


Figure 4. High CRI, 5000K Graphilite Fluorescent



Using a spectroradiometer in GTI's color lab.

# New Features and Tight Controls for Optimized Viewing

GTI's CVX and EVS D50 color viewing stations feature state-of-the-art electronic ballasts combined with Graphiclite T8 fluorescent lamps, producing superior light evenness, excellent rear wall illumination, and enhanced energy efficiency. A built-in print bar and LiteGuard II, which displays lamp warm up, lamp hours, and remaining lamp life are included with both models.

By combining D5000 accuracy and consistency with sturdy construction and attractive design, GTI's CVX and EVS color viewing stations are the perfect choice for prepress studios, agencies, publishers, offices, and production environments.

## CVX Color Viewing Stations

The CVX's symmetrical luminaire directs light through a diffusion lens in a uniform pattern to ensure equal light coverage over the viewing table and back wall. To further enhance viewing, all CVX models include removable side walls. The CVX-3052/FS and CVX-30106/FS viewing stations include a metal table top, a floor stand with shelves (height adjustable at set-up), and casters. CVX viewing stations are also available with two or three light sources.

### CVX Viewing Station Models

Model	CVX-3052	CVX-30106	CVX-3	CVX-4
<b>Viewing Area</b> (D x W)	29" x 52" 74 cm x 132 cm	29" x 106" 74 cm x 269 cm	48" x 64" 122 cm x 163 cm	48" x 130" 122 cm x 330 cm

## EVS Executive Viewing Stations

The EVS's luminaire is positioned parallel to the floor and utilizes an asymmetrical lens design which directs light at an angle ensuring consistent illumination on the work surface and rear wall. This position is also ideal for soft proofing applications and viewing stations equipped with a densitometer or spectrophotometer.

All EVS viewing stations include a metal table top. /FS models include a floor stand with shelves (height adjustable at set-up), and casters. Side walls are optional on EVS models, but recommended. The EVS-2028 is designed for smaller format viewing and is often purchased without a stand for use as a desktop unit.

### EVS Viewing Station Models

Model	EVS-2028	EVS-2540	EVS-3052	EVS-30106	EVS-4052
<b>Viewing Area</b> (D x W)	20" x 28" 51 cm x 71 cm	25" x 40" 64 cm x 102 cm	29" x 52" 74 cm x 132 cm	29" x 106" 74 cm x 269 cm	40" x 52" 102 cm x 132 cm

## CVX and EVS Storage Options

CVX and EVS viewing stations are available with a variety of storage options. Flat file sets consisting of eight drawers (/FD) or two door storage cabinets (/SC) can be used alone or combined with one deep or two shallow file drawers. All GTI viewing stations can be ordered as a countertop unit. See ordering guides.



Above: CVX-30106 viewing station shown with two shallow flat file drawers (2F-3052) and two-door storage cabinet (SC-3052) on left; and one deep flat file drawer (1F-3052) and eight shallow flat file drawers (FD-3052) on right

At right: CVX-3052/FS viewing station with floor stand



Above left: EVS-3052 viewing station shown with one deep flat file drawer (1F-3052) and eight shallow flat file drawers (FD-3052)

Above center: EVS-2028/FS viewing station with floor stand

Above right: EVS-2540/FS viewing station with floor stand and two shallow flat file drawers (2F-2540)

At right: EVS-30106 viewing station



# Overhead Luminaires and Vertical Viewing Systems

For areas where a color viewing booth is not practical or to view larger format artwork, a Graphiclite luminaire can provide a cost effective solution to create an ISO 3664:2009 D50 compliant viewing area that fits your requirements.

## Graphiclite Overhead Luminaires

Luminaires are the key component of a viewing system. GTI's overhead Graphiclite luminaires feature an innovative prismatic lens and geometry of design that provides superb light uniformity over a large area. All GTI luminaires utilize Graphiclite 100 color viewing lamps and are engineered to provide precisely balanced D50 output.



Luminaires are available in two styles. The GLE series has a thin profile which is ideal for conference rooms and design studios (available with symmetrical or asymmetrical reflectors). The GLL series is designed for color viewing in

production areas (available with symmetrical reflectors only). Luminaires are configured with single-source D50 lighting as a standard. Dual-source or multi-source luminaires to simulate home and store lighting conditions are available. A wireless remote control is available for all fixtures. For soft proofing applications, a digital dimming feature is available on four foot models.

GTI's GLE (left) and GLL (right) series luminaires, shown with wall brackets, are available in 4 and 5 foot models. GLE luminaires have a front power switch and a power cord which plugs into a standard outlet. GLL luminaires must be hard wired into a switched power circuit. Both models are available with a wireless remote control. Multiple luminaires can be linked to illuminate larger viewing areas.



Bracket mounted GLE-1032PH luminaires with Munsell N8/ neutral gray wall panels

## Vertical Wall Viewing Systems

Luminaires are combined with Munsell N8/ neutral gray metal coated wall panels and mounting brackets to create an ISO 3664:2009 D50 compliant viewing area for large format projects. Wall panels up to four foot by eight foot and Munsell N8/ neutral gray paint for background walls are available. GTI's wall mounting brackets ensure luminaires are positioned correctly and safely.



Above: VPI-52 with 52" x 45" viewing area

Left: VPI-52x/D features a lower luminaire and dimming for soft proofing

## VPI Vertical Print Inspectors

The VPI is a D50 viewing station designed for the visual inspection of large format prints. It provides ISO 3664 compliant viewing conditions in a convenient vertical format. Available in three standard sizes with viewing areas ranging from 40" x 45" to 64" x 45" (102cm x 114cm to 163cm x 114cm).

Options include:

- Digital dimming option for soft proof comparisons available on VPI-40 and VPI-52 models
- Lower light source for better evenness of light on the printed piece
- Height adjustable artwork holder to support 3-dimensional artwork and objects
- Side walls for stricter control of ambient light
- Casters for easy repositioning of unit



# Soft Proofing

Soft proofing systems enhance the digital color management workflow by allowing an optimal intensity match between hard copy artwork and a color monitor. GTI's soft proofing solutions will help you to shorten the production cycle and reduce cost, while improving customer satisfaction.

*Desktop:*

## Soft View SOFV-1xiQ

The SOFV-1xiQ is an ISO 3664:2009 D50 compliant desktop soft proofing system. The 1xiQ includes a viewing station with a 19.5" x 24" (50 cm x 61 cm) viewing area and GTI's unique iQ wireless light sensor. The viewing station includes adjustable light shields for upper and lower luminaires to enhance light uniformity, removable side walls for viewing of larger pieces, digital dimming control, and easy access front panel user controls. The iQ sensor measures the brightness level of a monitor. This data is transmitted to the viewing station and used to set the light level of the Soft View to achieve an optimal match to the luminosity of the monitor. The iQ sensor is also used to measure ambient light level and to calibrate the viewer. The SOFV-1xiQ provides accurate calibration and luminance —no wires, computers, or software are required.

## Soft View SOFV-1xi

The SOFV-1xi is also a D50 viewing system, with a 19.5" x 24" (50 cm x 61 cm) viewing area, for soft proofing. It does not include the iQ sensor for automatic calibration. Graphiclite D50 light quality assures consistent, accurate color rendition, and the digital control allows precise luminance matching to the monitor.

*Viewing Stations:*

## EVS/iQ Viewing Stations

Soft proofing capabilities can be combined with a conventional color viewing station to enhance the color management process. By utilizing GTI's iQ sensor technology, soft proofing will become an automated streamlined process that provides repeatable accuracy and superior quality. Single or dual LCD's (up to 30") can be mounted on the rear wall of the viewing station. The iQ models below come complete with digital dimming, iQ sensor system, pull-out keyboard drawer, and vented storage cabinet.

### EVS/iQ Models

Model	EVS-2540/iQ	EVS-3052/iQ	EVS-3552/iQ*	EVS-35106/iQ*
<b>Viewing Area</b> (D x W)	25" x 40" 64 cm x 102 cm	29" x 52" 74 cm x 132 cm	35" x 52" 89 cm x 132 cm	35" x 106" 89 cm x 269 cm

\*Dual LCD's can be mounted on the EVS-3552/iQ and EVS-35106/iQ models

## GLE-532A/iQ Digital Dimming Luminaires

A soft proofing system from GTI guarantees calibration and accurate luminance between a monitor and hard copy artwork with a push of a button. The key component to all large format soft proofing systems is the GLE-532A/iQ digital dimming luminaire and wireless iQ sensor.



At left: Soft View SOFV-1xiQ with iQ sensor. The system matches the lighting in the viewing station to the luminosity of a monitor.

*Pressroom:*

## MCVE/iQ Modular Color Viewing Environment

Ideal for web press consoles, the MCVE/iQ is a custom fit viewing system for soft proofing. It adapts to your press console and provides full and variable intensity lighting plus a sliding single or dual LCD mount that rotates out of the way of the signature panel.



Right: MCVE/iQ system on press console



Above: iQ sensor (shown in use with LCD mounted on EVS-2540/iQ) calibrates light level of the viewing station to match the monitor

Right: EVS-2540/iQ viewing station



GLE-532A/iQ digital dimming luminaire, iQ control module, and iQ sensor

# Color Appearance, Evaluation and Display

## Simultaneous Color Viewer

The Simultaneous Color Viewer is designed to help detect metamerism and test color harmony by allowing a visual comparison of colors under four different light sources. Standard light sources are daylight (D65 or D50), LED (3500K), store light (4100K CWF or TL84), and home light incandescent (CIE A). A UV light allows for the detection of optical brighteners, whitening agents, and fluorescent dyes and pigments.



## GTI ColorMatcher® Series

The GTI ColorMatcher is designed to help you evaluate and communicate color with absolute confidence. Five light sources are available—artificial daylight (D65, D75, or D50), store light (CWF or TL84), home light (incandescent A), an optional source (D50, TL84, TL83, LED, or horizon) and ultraviolet light. Four standard models and a range of options and accessories are available.



## Color Rendition Demonstrator

The Color Rendition Demonstrator is a three-compartment viewer that demonstrates the color rendition of three varied light sources—fluorescent cool-white “store light”, 6500K fluorescent “daylight”, and incandescent “home light.” The Color Rendition Demonstrator



allows you to easily educate your clients and vendors on how color is affected by different light sources. Each compartment has a viewing area of 11" x 9.5" x 7.5" (28cm x 24cm x 19cm).

## Transparency Viewers

These sleek, smartly-styled viewers are precisely balanced to provide strict compliance with the ISO Graphic Technology and Photography standard. Each viewer is individually tested, guaranteeing standard compliance. Viewers are available with viewing areas ranging from 10" x 18" to 47" x 56" (25 cm x 46 cm to 119 cm x 142 cm). All models can be ordered with the optional LiteGuard II.



## GTI MiniMatcher® Series

The GTI MiniMatcher is ideal for the viewing of cosmetics, coatings, consumer goods, ink, packaging, fashion, and more. The MM-1e and MM-2e provide three standard light sources: artificial daylight (D65 or D50), store light (CWF or TL84), and home light (incandescent A). Ultraviolet (UVA BLB) is available as an option. The MM-4e includes two additional standard light sources: ultraviolet (UVA BLB), and your choice of D50, D65, TL84, TL83, or LED.

### MiniMatcher® Models

Model	MM-1e	MM-2e	MM-4e
Viewing Area (H x W x D)	14.25" x 24" x 13.25" 36 cm x 61 cm x 34 cm	13" x 18" x 10" 33 cm x 46 cm x 25 cm	14.25" x 24" x 16" 36 cm x 61 cm x 41 cm



## Neutral Gray Paint

Standard Gray Neutral 8 is a water-reducible vinyl latex for use in color viewing areas which require Munsell N8/ gray surround as specified by ISO 3664:2009. Available in gallons or pints.



## Print Bar

A custom extrusion featuring a unique chrome grip which enables quick and easy engagement and disengagement of artwork.

Available in standard (24", 36", or 52") or custom lengths to fit your every need with either foam adhesive or magnetic back.

These are an ideal display device for retail environments, galleries, studios, educational facilities, and building lobbies.



## GTI LiteSupport and Consultative Lighting Services

GTI offers consultative services which include measurement and analysis of each D5000 color viewing area in your facility. A "Status of Color Viewing Facilities" report verifies interviewer agreement and compliance with ISO standards, a necessary document for ISO 9000 facilities.

# Desktop Color Viewing

## PDV Professional Desktop Viewers

The stylish and compact Graphiclite PDV Professional Desktop Viewer series assures the right results at the right price by utilizing multi-voltage electronic ballasts and Graphiclite 100 T8 lamps. PDV viewers are the industry choice for D50 controlled viewing of color prints. All models fold for easy set-up, storage, and transport.

Key features include:

- Standard D50 ISO compliance
- Dimming option for soft proofing
- Tighter control with optional side walls
- Optional lower luminaire for critical applications



PDV desktop viewers offer optional side walls (shown at left) for higher control of viewing.

### PDV Professional Desktop Models

Model	PDV-1e	PDV-2e	PDV-3e	PDV-2020e
Viewing Area (H x W)	11.7" x 16.3" 30 cm x 41 cm	13" x 19.3" 33 cm x 49 cm	16.5" x 25.3" 42 cm x 64 cm	23.5" x 25.3" 60 cm x 64 cm

## GRAPHICLITE® 100 LAMPS

# The Right Light

GTI Graphiclite 100 lamps are designed specifically for use in critical color viewing stations. The lamps are manufactured with a unique blend of fluorescent phosphors and produce a true full spectrum white light which renders colors with the highest degree of accuracy and efficiency. In a GTI viewing station, a Graphiclite lamp produces a color rendering index (CRI) approaching 95.

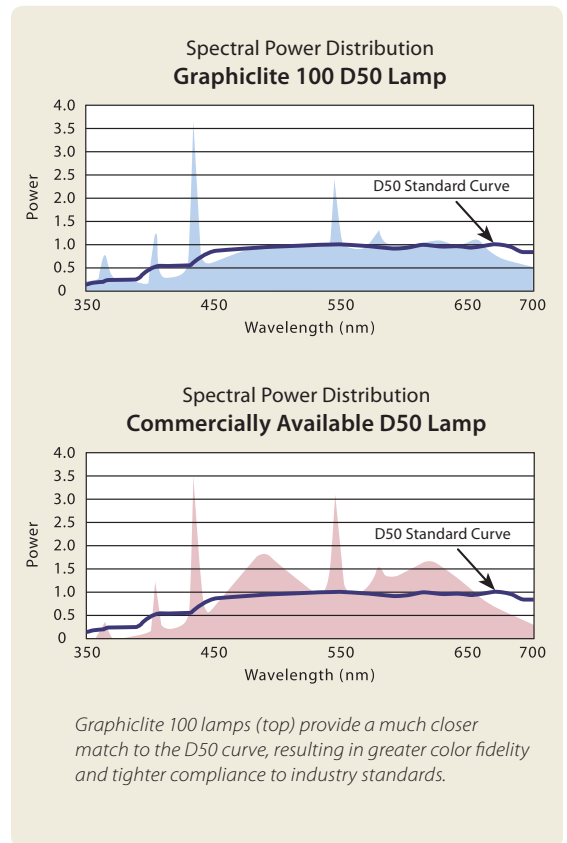


Viewing systems include a reflector, diffuser, the booth structure, geometry of illumination, and Graphiclite 100 lamps. A change in this system's formulation can create a slight color cast that will impact color assessment resulting in a viewing environment that is not ISO compliant. To maintain an ISO 3664:2009 compliant viewing system, use only Graphiclite 100 lamps and relamp regularly. The graphs at right depict the spectral power distribution of two fluorescent 5000K lamps compared with D50. The one on the top, Graphiclite 100, delivers a much closer match to the D50 curve and, therefore, delivers much greater color fidelity and tighter compliance to the ISO 3664:2009 viewing standard.

### When to Relamp

A fluorescent lamp's color output and intensity changes over time. To maintain consistent and accurate viewing conditions, viewing stations should be relamped after every 2,500 hours of use.

GTI Graphiclite viewing stations should be relamped only with Graphiclite 100 color viewing lamps. Relamp kits are available for all Graphiclite viewing products. Visit [www.gtilite.com](http://www.gtilite.com) for details.



### LiteGuard

LiteGuard II tells when the viewing system is ready to use, the lamp hours used, the lamp hours remaining before replacement, and when relamping is required. LiteGuard II is standard with many GTI viewing products and is available as an option on many others.





# gti



**GTI Graphic Technology, Inc.** is the leading manufacturer of tight tolerance D50 lighting systems for critical color viewing, color communication, and color matching assessment. The company services the graphic arts and photographic markets. GTI also services many industrial and consumer segments including the ink, plastic, paint, colorant, automotive, fashion, textile, food, and retail markets.

Since 1975, GTI has been designing and manufacturing Graphiclite® Color Viewing Systems, CMLite Color Matching Booths, QELite Quality Engineering Systems, and a range of proprietary color viewing lamps in its 30,000 square foot headquarters in Newburgh, NY. An in-house spectroradiometric laboratory and 100 percent measurement and verification production process guarantees that precision and accuracy is built into all products. The company also has offices in the United Kingdom and Germany. GTI's products are available worldwide.

GTI actively participates in numerous industrial and professional organizations and enthusiastically promotes education, research, and technology.

***"We pride ourselves as users of best practices technology. By doing so, we deliver the best images at a cost-effective price point. The CVX viewing station is a cornerstone of our workflow. It is vital for matching the contrast and color of our printed output to the original artwork and textiles that we photograph."***

—Don Tuttle Photography, Emeryville, CA

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Fluorescent lamps contain mercury.