LiteSupport

On-site Audit and Certification Program

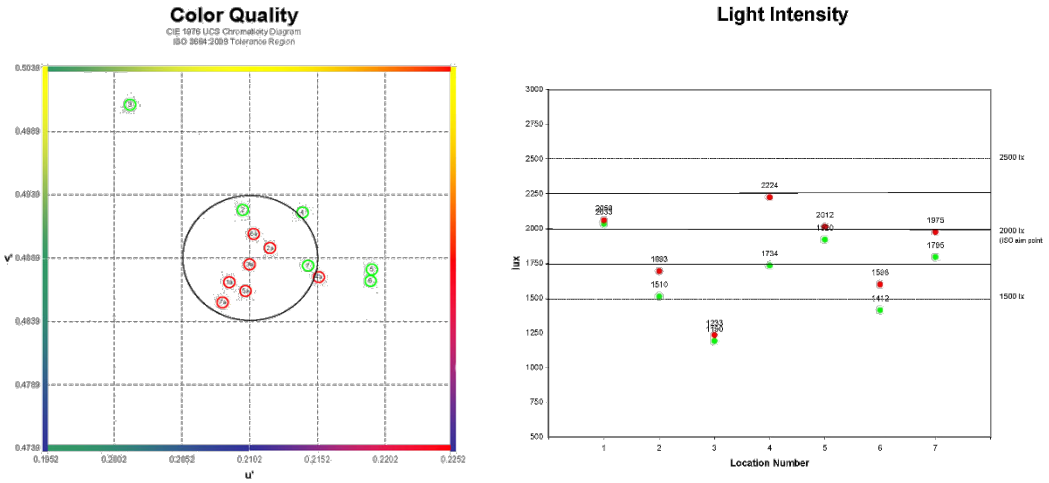
All GTI Color Viewing and Matching Systems are manufactured and installed to published industry standards. To maintain this level of accuracy over time, a maintenance program consisting of relamping, cleaning, and measurement is required. GTI's LiteSupport program makes it easy for you to keep your viewing stations within the standard.

LiteSupport

LiteSupport is an on-site audit and certification program designed to help you maintain your visual inspection systems to industry standards. Audits can take place in a single facility or across multiple locations. Supported standards include ISO 3664:2025, ASTM D1729, SAE J361, and BS-950 Part 2.

During a LiteSupport audit, GTI will measure your viewing stations with a NIST traceable spectroradiometer to determine if they meet the industry standard. We will then work with you to develop a relamping and maintenance program to bring all viewers into specification, and make recommendations for improvements to your viewing locations.

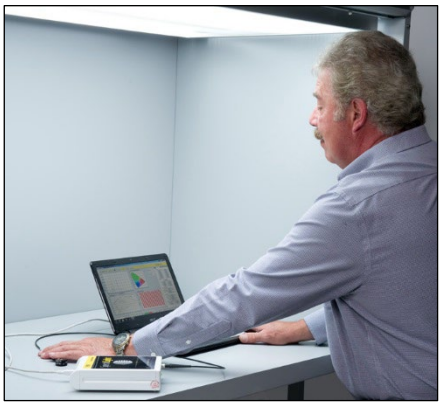
Upon completion of a LiteSupport visit you will receive a Status of Color Viewing Facilities report which verifies viewing area to viewing area compatibility and compliance with the appropriate standard.



The Status of Color Viewing Report verifies compliance to the standard and highlights any problem locations with an easy to read graphical analysis.

Faster, Easier, & Less Expensive

LiteSupport is an affordable service that is easy to implement. Proper maintenance of your viewing stations will help you achieve lower cost and faster customer approvals. Contact us today to receive an estimate to certify your facility.



LiteSupport is an on-site audit and certification program designed to maintain your inspection stations to industry standards.

Standard Features:

- On-site audit and certification program
- Helps maintain compliance to industry standards
- Ensures viewer to viewer and site to site compatibility
- Discount on GTI lamps purchased with LiteSupport
- Status of color viewing report provided
- All measurements taken with a NIST traceable spectroradiometer

GTI lamps are manufactured with a unique blend of fluorescent phosphors that is unequaled by any other lamp in the industry. They produce a true full spectrum white light which renders colors with the highest degree of accuracy and efficiency.

GTI Graphic Technology, Inc. | 211 Dupont Avenue | Newburgh, NY 12550 | 845-562-7066 | www.gtilite.com

GTI Graphic Technology, Inc.
Color Viewing Facilities Analysis

ABC, Inc.

Introduction

The enclosed *Status of Color Viewing Facilities* report details the results of a visual and instrumental analysis of the color viewing facilities at ABC, Inc. performed by Nick Lena. The report shows overall compliance of each viewing location in relation to the Graphic Arts industry standard* and illustrates the degree of uniformity and consistency among all color viewing areas.

The report contains a cover sheet which lists locations inspected, the equipment in use, measured raw data, and any specific comments relating to the location. Reflection and transmission systems (if applicable) are analyzed and discussed separately, followed by general recommendations. There are graphs that plot the light intensity and color quality for each viewing location versus the aim point and tolerances of the standard. For color quality, each location is plotted at its position in the CIE 1976 UCS color space and indicated by the circled location number.

Measurements were made with an International Light spectroradiometer model ILT-950-CS that was calibrated to an Optronics OL-756 spectroradiometer, serial #16006120. This instrument maintains its NIST traceability by annual calibration to the NIST standard light source 673A/F226. The traceability path is NIST-Optronics OL-756-GTI Graphic Technology, Inc.

***ISO 3664:2009 Viewing Conditions – Graphic Technology and Photography**

Viewing Analysis-Page 2

Reflection viewing:

Measurements were taken of the 5000K light sources of various viewing booths and overhead lighting fixtures before and after re-lamping. Of concern is the very high level of ambient illumination in the plant. This high light level and the color temperature of this general lighting is affecting the light levels and more importantly the color quality of the viewing areas. This fact is further evidenced by the Color Quality graph. Fortunately, regular replacement with new lamps installed and shielding the sides of the booth should help bring everything back into the ISO specified tolerance and reduce the effect of the ambient light. The target for chromaticity is v' =0.4889 and u'= 0.2102 both having a tolerance of =/-0.005.

The illuminance levels were slightly low in several viewing locations. This includes the Ink Room viewing booth, Silk Screen, and Quality Print. This can always be improved with re-lamping as shown in the report. The published allowable light level is 1500Lux to 2500Lux and should be 1750 to 2250. This is probably due to the older fixtures used in these viewing booths and/or the hours of usage.

The E5E series lamps installed meet the new ISO 3664-2009 requirements for UV content. These lamps contain a little more non-harmful ultraviolet energy than the previous lamps. This feature will enhance the presence of Optical Brighteners as found in some press papers and possibly re-cycled paper.

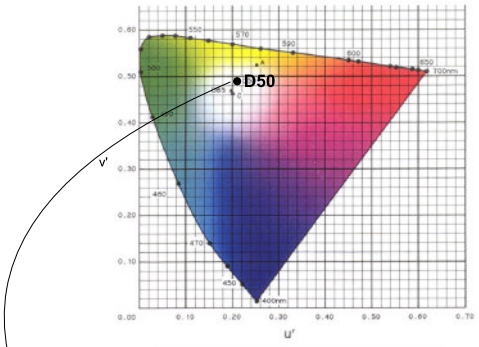
We hope this information helps and thanks for using our LiteSupport services.

CIE 1976 UCS Chromaticity Diagram

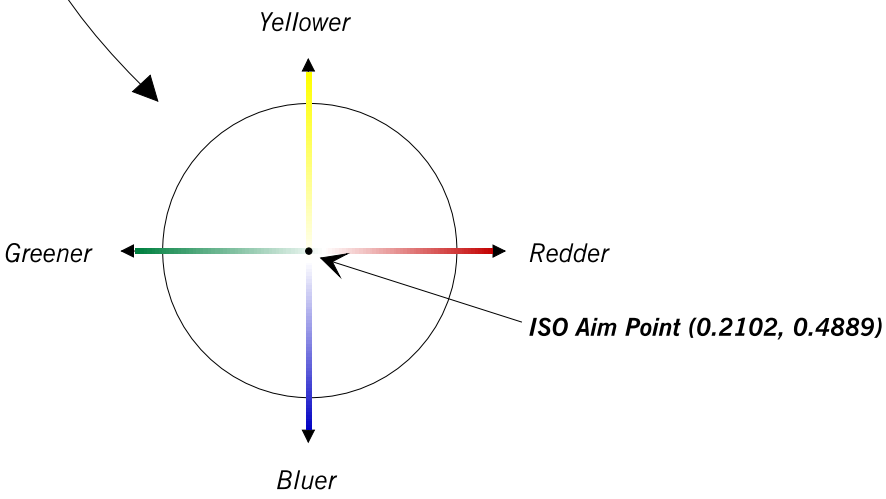
ISO Tolerance Region Enlarged

The following diagrams are designed to accompany a GTI Status of Color Viewing Facilities report. The CIE 1976 UCS diagram is the color system that ISO* uses to specify the chromaticity aim point and tolerance of the graphic arts viewing standard. It is important to note that the specifications of the standard include Correlated Color Temperature of 5000K, chromaticity of CIE Illuminant D(50), a spectral power distribution approximating CIE Illuminant D(50), and a CIE General Color Rendering Index of at least 90.

The plotted position of a viewing location on the CIE 1976 UCS color space is an indication of the color appearance that the light source is emitting, not an indication of its color rendering characteristics.



CIE 1976 UCS



*ISO 3664:2009 Graphic technology and photography - Viewing conditions

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Status of Color Viewing Facilities

ABC, Inc.

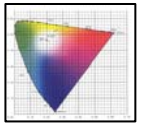
Reflection Viewing Facilities -

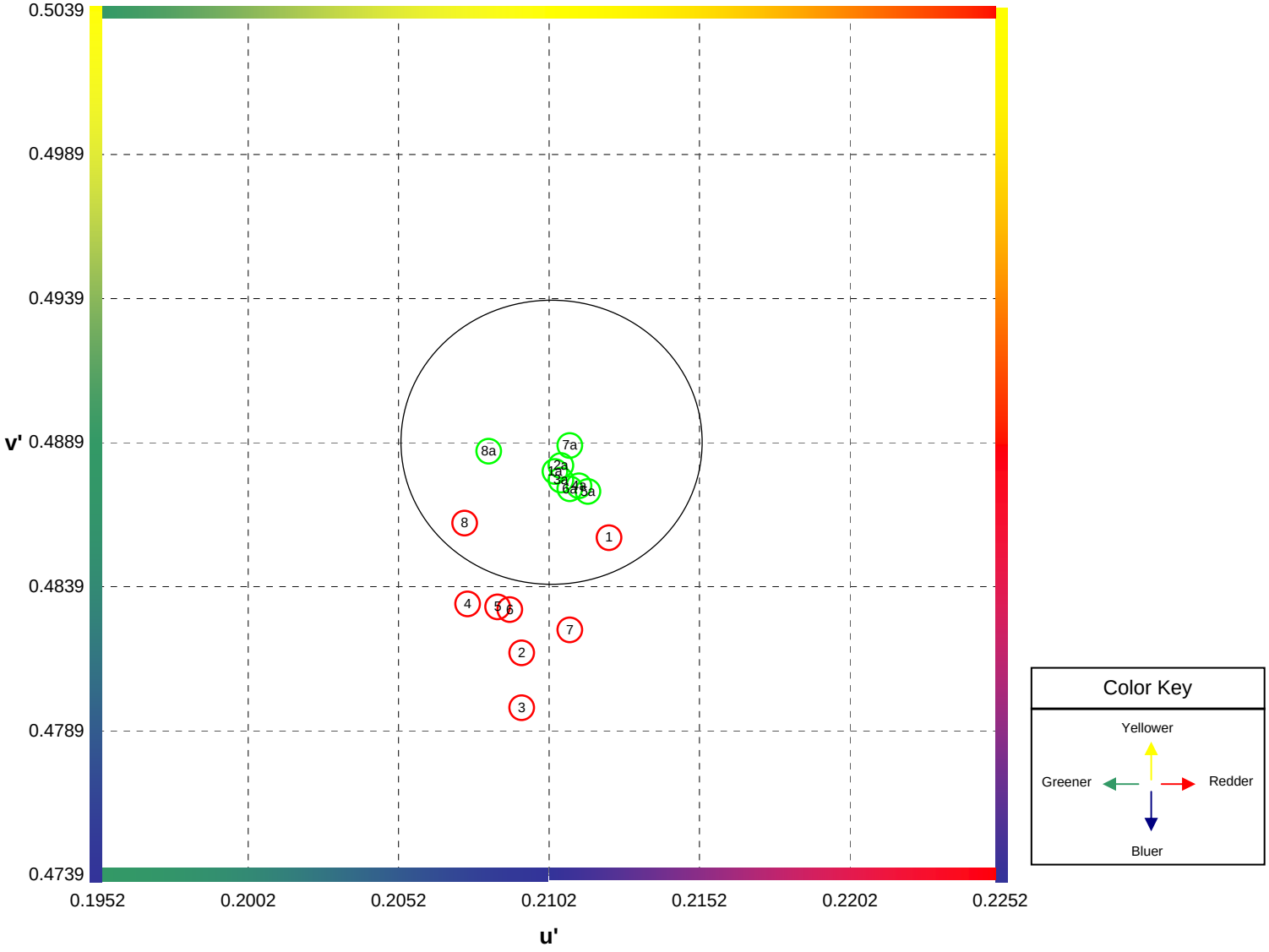
Location #	Description	Measured at:	Equipment	Bulb Type	Intensity chromaticity values lux	u'	v'	Comments
				ISO 3664* STANDARD AIMPOINT:	**2000**	**0.2102**	**0.4889**	
1	Silk Screen		CVS-1	Graphiclite Code F4E	1043	0.2122	0.4856	Before relamping
2	Quality Finish		EVS-1	Graphiclite Code F4E	1428	0.2093	0.4816	Before relamping
3	Quality Print		EVS-1	Graphiclite Code F4E	1222	0.2093	0.4797	Before relamping
4	Press 1001		Waldman Console	Graphiclite Code F4E	1477	0.2075	0.4833	Before relamping
5	Press 1007		Just Console	Graphiclite Code F4E	1573	0.2085	0.4832	Before relamping
6	Press 1006		Just Console	Graphiclite Code F4E	1535	0.2089	0.4831	Before relamping
7	Ink Room		CVX-1	Graphiclite Code F4E	1275	0.2109	0.4824	Before relamping
8	Customer Viewing		Just Color Pro	Graphiclite Code H3E	1397	0.2074	0.4861	Before relamping
1a	Silk Screen		CVS-1	Graphiclite Code E5E	1688	0.2104	0.4879	After relamping
2a	Quality Finish		EVS-1	Graphiclite Code E5E	1817	0.2106	0.4881	After relamping
3a	Quality Print		EVS-1	Graphiclite Code E5E	1847	0.2106	0.4876	After relamping
4a	Press 1001		Waldman Console	Graphiclite Code E5E	1872	0.2112	0.4874	After relamping
5a	Press 1007		Just Console	Graphiclite Code E5E	1861	0.2115	0.4872	After relamping
6a	Press 1006		Just Console	Graphiclite Code E5E	1920	0.2109	0.4873	After relamping
7a	Ink Room		CVX-1	Graphiclite Code E5E	1773	0.2109	0.4888	After relamping
8a	Customer Viewing		Just Color Pro	Graphiclite Code E5E	1834	0.2082	0.4886	After relamping

Color Quality

CIE 1976 UCS Chromaticity Diagram
ISO 3664:2009 Tolerance Region

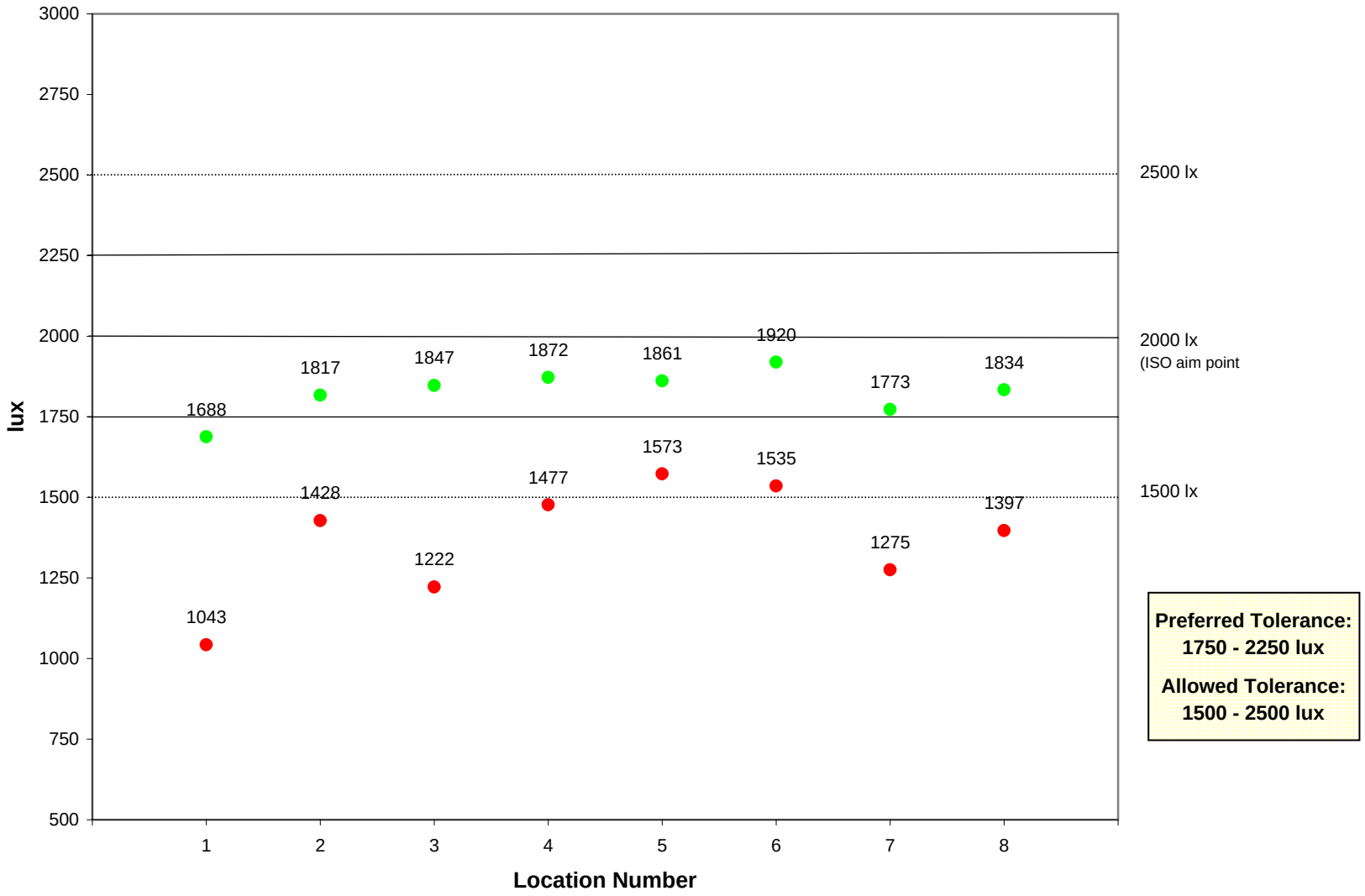
Reflection Viewing



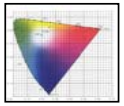


Light Intensity

Reflection Viewing



LiteSupport - Attachment A Critical Color Viewing Systems Inventory



Interested in LiteSupport?

Please complete & return this form to GTI and we will be happy to provide a price quote!

Date: _____

Company Name: _____

Address: _____

_____

Contact: _____

Tel: _____

Fax: _____

E-Mail: _____

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Location (i.e. Art & Design, Prepress, Production)	Viewing Booths/Stations				Overhead Luminaires			
	# of Units	Model	# of Lamps	Type of Lamp (i.e. F32T8/GL50, 48")	# of Units	Model	# of Lamps	Type of Lamp (i.e. F32T8/GL50, 48")

For GTI Use:

Total Units: _____

Total Lamps: F40/T8 (60") _____ F32/T8 (48") _____ F25/T8 (36") _____ F17/T8 (24") _____ F15/T8 (18") _____ F11/T8 (15") _____ Other/T8 _____

Total Lamps: F40/T12 (48") _____ F20/T12 (24") _____ F14/T12 (15") _____ Other/T12 _____