Collaborative Testing Services, Inc.

Color & Appearance Testing Program

Summary Report # 169 - 3rd Qtr 2014

ABOUT THE PROGRAM

The Collaborative Reference Program for Color & Appearance is operated and maintained by Collaborative Testing Services, Inc. (CTS), with technical guidance and advice provided by representatives from various instrument manufacturers. The program allows laboratories to compare periodically the performance of their testing with that of other laboratories.

Paint chip samples, which have been custom-made specifically for Collaborative Testing Services by Munsell Color, X-Rite Inc., Grand Rapids, MI, are distributed four times per year to participating laboratories. Gloss participants test two pairs of paint chip samples at different gloss levels, approximately 5-10 units apart. Color & Color Difference participants measure a set of two opaque color paint chips, selected from throughout the full color spectrum, consisting of a nonmetameric match with small color differences. These data are analyzed in two separate tables based on the conditions of measurement used. Laboratories that also participate in the Spectrophotometric analyses measure one of the opaque color chips for % reflectance at 16 wavelengths.

Please refer to each test's 'Key' for definitions of terms used in the tables and graphs and guidelines to interpreting the results. Also shown are notes concerning specific laboratory results, as well as significant findings related to instrument types or other testing variations.

ABOUT CTS

Founded in 1971, CTS is a privately-owned company that specializes in interlaboratory tests for a wide variety of industries, including rubber, plastics, fasteners and metals, containerboard, paper, color, and wine as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality control objectives. Labs from the U.S., as well as more than 80 countries, currently participate in the CTS programs.

If there are any questions on the report or testing program, please contact:

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Key for Color Program Web Summary Report

WebCode — Assigned laboratory identification number (temporary) used to ensure lab confidentiality while permitting a lab to locate its data in the Color Report published on the CTS web site. The Web Code for each analysis can be found in the Performance Analysis Report mailed to each participant.

Lab Mean — The average of the 2 test results obtained by the participant for CIE L*,a*,b* color space values.

Grand Mean — The average of the LAB MEANS for all included participants. Laboratories flagged with an X or an M (see DATA FLAG column) are excluded from the GRAND MEAN.

Between-Lab Standard Deviation — An indication of the precision of measurement between the laboratories. The greater the spread of the LAB MEANS about the GRAND MEAN, the larger the BETWEEN-LAB STANDARD DEVIATION (and vice versa).

Comparative Performance Value — An indication of how well a laboratory's results agree with the other participants. The CPV is a ratio indicating the number of standard deviations from the GRAND MEAN. The closer a laboratory's COMPARATIVE PERFORMANCE VALUE is to zero, the more consistent its results are with the other participants' data (and vice versa). The critical value for each CPV will vary depending on the number of labs participating in a test.

Graphs — For each laboratory, the LAB MEAN for the first sample is plotted against the LAB MEAN for the second sample with each point representing a laboratory. The horizontal and vertical axes are the GRAND MEANS for each sample. For each test there are three plots: L*2 vs L*1, a*2 vs a*1 and b*2 vs b*1. The a* and b* plots are created using absolute values.

Inst Code — A code indicating the manufacturer of the instrument used to perform the test (see separate INSTRUMENT CODE LIST for each test section).

Data Flag — DATA FLAGS are assigned based on the simultaneous analysis of both samples tested. Refer to the following chart for an explanation of each symbol:

DATA FLAG	STATISTICALLY INCLUDED/EXCLUDED	ACTION REQUIRED
*	INCLUDED	**CAUTION** - review testing procedure and monitor future results. Results fall outside 95% ellipse but within a 99% ellipse that is calculated but not drawn.
X	EXCLUDED	**STOP** - immediate review of data and/or testing procedure is required. Results fall outside the 99% ellipse and one or more CPV are greater than critical value. See specific notes following each table for more information on why the data is excluded. It is also possible to have an "X" for individual color coordinate (L*, a* or b*) without overall "X" flag. It means that results fall outside the 99% ellipse for particular coordinate but have no CPV flags. Those results will not require any action.
M	EXCLUDED	**PROCEED** - lab was unable to report data for at least one sample. However, a lab receiving two of more M flags for a test may need to stop and review its testing procedures.

Key for Spectrophotometric Web Summary Report

WebCode — Assigned laboratory identification number (temporary) used to ensure lab confidentiality while permitting a lab to locate its data in the Color Report published on the CTS web site. The Web Code for each analysis can be found in the Performance Analysis Report mailed to each participant.

Grand Mean — The average of the LAB MEANS for all included participants. Laboratories flagged with an X or an M (see DATA FLAG column) are excluded from the GRAND MEAN.

Between-Lab Standard Deviation — An indication of the precision of measurement between the laboratories. The greater the spread of the LAB MEANS about the GRAND MEAN, the larger the BETWEEN-LAB STANDARD DEVIATION (and vice versa).

Inst Code — A code indicating the manufacturer of the instrument used to perform the test (see separate INSTRUMENT CODE LIST for each test section).

Data Flag — DATA FLAGS are assigned based on the simultaneous analysis of both samples tested. Refer to the following chart for an explanation of each symbol:

DATA FLAG	STATISTICALLY INCLUDED/EXCLUDED	ACTION REQUIRED
*	INCLUDED	**CAUTION** - review testing procedure and monitor future results. Results fall outside 95% ellipse but within a 99% ellipse that is calculated but not drawn.
X	EXCLUDED	**STOP** - immediate review of data and/or testing procedure is required. See specific notes following each table for more information on why the data is excluded.

In addition to the DATA FLAG column, it is also possible to have an X on individual wavelength values as follows:

X - The laboratory's mean for that wavelength is greater than a 95% deviation from the GRAND MEAN.

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Key for Color Program (Gloss) Web Summary Report

WebCode — Assigned laboratory identification number (temporary) used to ensure lab confidentiality while permitting a lab to locate its data in the Color Report published on the CTS web site. The Web Code for each analysis can be found in the Performance Analysis Report mailed to each participant.

Lab Mean — The average of the test results obtained by the participant.

Grand Mean — The average of the LAB MEANS for all included participants. Laboratories flagged with an X or an M (see DATA FLAG column) are excluded from the GRAND MEAN.

Difference from Grand Mean — The difference of the LAB MEAN from the GRAND MEAN.

Between-Lab Standard Deviation — An indication of the precision of measurement between the laboratories. The greater the spread of the LAB MEANS about the GRAND MEAN, the larger the BETWEEN-LAB STANDARD DEVIATION (and vice versa).

Comparative Performance Value — An indication of how well a laboratory's results agree with the other participants. The CPV is a ratio indicating the number of standard deviations from the GRAND MEAN. The closer a laboratory's COMPARATIVE PERFORMANCE VALUE is to zero, the more consistent its results are with the other participants' data (and vice versa). The critical value for each CPV will vary depending on the number of labs participating in a test.

Inst Code — A code indicating the manufacturer of the instrument used to perform the test (see separate INSTRUMENT CODE LIST for each test section).

Graphs — For each laboratory, the LAB MEAN for the first sample (x-axis) is plotted against the LAB MEAN for the second sample (y-axis) with each point representing a laboratory. The horizontal and vertical cross-hairs are the GRAND MEANS for each sample. When 20 or more laboratories are in the statistics, an ellipse is also drawn so that 95% of the time a randomly selected laboratory will be included inside the ellipse. Plotted data flags are explained above.

Data Flag — DATA FLAGS are assigned based on the simultaneous analysis of both samples tested. Refer to the following chart for an explanation of each symbol:

DATA FLAG	STATISTICALLY INCLUDED/EXCLUDED	ACTION REQUIRED
*	INCLUDED	**CAUTION** - review testing procedure and monitor future results. Results fall outside 95% ellipse but within a 99% ellipse that is calculated but not drawn.
X	EXCLUDED	**STOP** - immediate review of data and/or testing procedure is required. Results fall outside the 99% ellipse. See specific notes following each table for more information on why the data is excluded.
M	EXCLUDED	**PROCEED** - lab was unable to report data for at least one sample. However, a lab receiving two of more M flags for a test may need to stop and review its testing procedures.

Interlaboratory Testing Program for Color & Appearance

Analysis 408

Color and Color Difference - Paint Chips - 45-0 Geometry Instruments

CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

		CIE L* a* b* Color Values			Color Difference Values				
WebCode	Flag Samples	L*	a*	b*	ΔL*	Δa*	Δb*	ΔE*	InstrCode
2FNJD6	C141	52.80	-26.25	-5.37	1.00	0.15	-0.19	1.03	HW
	C142	53.80	-26.10	-5.56					
2LTKDY	C141	53.07	-26.18	-5.05	0.95	0.15	-0.22	0.98	HK
	C142	54.02	-26.03	-5.27					
33VGA3	C141	52.79	-25.64	-5.35	1.09	0.32	-0.26	1.16	TN
	C142	53.88	-25.32	-5.61					
38UQPB	C141	53.00	-26.06	-5.39	0.92	0.10	-0.14	0.93	HW
	C142	53.92	-25.96	-5.53					
3WPNF8	C141	53.01	-26.67	-4.18	0.93	0.13	-0.17	0.95	XR
	C142	53.93	-26.54	-4.35					
47BA3G	C141	52.87	-26.20	-5.40	0.98	0.22	-0.18	1.02	HW
	C142	53.85	-25.99	-5.58					
4QGYYB	C141	53.02	-26.50	-4.57	0.99	0.14	-0.14	1.00	XU
	C142	54.00	-26.36	-4.70					
684KDA	C141	52.89	-26.22	-5.43	0.94	0.24	-0.15	0.98	HW
	C142	53.83	-25.99	-5.57					
7BZP87	C141	53.37	-26.41	-5.26	0.98	0.27	-0.13	1.02	HW
	C142	54.35	-26.14	-5.39					
7M8F8T	C141	53.19	-26.67	-4.55	0.83	0.03	-0.15	0.84	XZ
	C142	54.02	-26.64	-4.70					
94Q9MB	C141	53.13	-26.22	-5.28	0.91	0.16	-0.07	0.92	HW
	C142	54.04	-26.06	-5.35					
ALLZ7M	C141	53.12	-26.34	-4.72	1.03	-0.02	-0.19	1.04	XO
	C142	54.14	-26.36	-4.91					
CLWMUF	C141	53.14	-26.33	-5.37	0.95	0.18	-0.17	0.98	HW
	C142	54.09	-26.15	-5.54					
CRK8XV	C141	52.82	-26.20	-5.27	0.93	0.10	-0.15	0.95	HW
	C142	53.75	-26.10	-5.42					

Interlaboratory Testing Program for Color & Appearance

Analysis 408

Color and Color Difference - Paint Chips - 45-0 Geometry Instruments

CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

			CIE L* a* b* Color Values			Color Difference Values				
WebCode	Flag	Samples	L*	a*	b*	ΔL*	Δa*	Δb*	ΔE*	InstrCode
E62246		C141	52.86	-26.34	-5.21	0.97	0.19	-0.16	0.99	HW
		C142	53.83	-26.15	-5.36					
HN8FCB		C141	53.65	-26.47	-4.87	0.90	0.18	-0.14	0.92	AE
		C142	54.54	-26.29	-5.00					
HNPJRN		C141	53.05	-26.56	-4.32	0.96	0.13	-0.18	0.98	XU
		C142	54.01	-26.43	-4.50					
JAJWUQ		C141	52.99	-26.38	-4.74	0.99	0.17	-0.20	1.02	XO
		C142	53.97	-26.21	-4.94					
KRYGAU	X	C141	54.04	-25.12	-4.13	1.02	0.24	-0.19	1.06	XN
		C142	55.06	-24.88	-4.31					
LFYCDE		C141	53.17	-26.31	-4.13	0.90	0.09	-0.14	0.91	GH
		C142	54.07	-26.22	-4.27					
M4LAT2		C141	52.78	-26.32	-4.79	0.98	0.21	-0.27	1.04	HK
		C142	53.76	-26.11	-5.06					
M76KNK		C141	53.34	-26.51	-4.71	1.03	0.28	-0.20	1.09	XX
		C142	54.37	-26.23	-4.91					
MCH6XR		C141	53.20	-26.21	-4.22	0.87	0.09	-0.12	0.88	GB
		C142	54.07	-26.12	-4.34					
MVTWVM		C141	53.13	-25.55	-4.75	0.90	0.12	-0.16	0.92	GE
		C142	54.03	-25.44	-4.91					
NAJJDY		C141	53.12	-26.39	-4.89	0.91	0.22	-0.22	0.96	XK
		C142	54.03	-26.17	-5.11					
ND4BLG		C141	53.02	-26.47	-4.68	1.03	0.08	-0.19	1.05	XZ
		C142	54.04	-26.39	-4.87					
PVJ6RV		C141	52.85	-26.17	-5.32	0.93	0.27	-0.15	0.98	HW
		C142	53.78	-25.91	-5.47					
QCL4D6		C141	52.53	-26.80	-4.67	1.02	0.28	-0.18	1.07	HY
		C142	53.55	-26.52	-4.85					

Interlaboratory Testing Program for Color & Appearance

Analysis 408

Color and Color Difference - Paint Chips - 45-0 Geometry Instruments

CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

		CIE L* a* b* Color Values			Color Difference Values				
WebCode	Flag Samples	L*	a*	b*	ΔL*	Δa*	Δb*	ΔE*	InstrCode
RRBLNK	C141	52.89	-26.21	-5.32	0.82	0.13	-0.12	0.84	HW
	C142	53.71	-26.09	-5.43					
T2BFFN	C141	53.10	-26.80	-4.36	0.98	0.26	-0.19	1.03	XV
	C142	54.08	-26.54	-4.55					
TB3RWB	C141	52.64	-26.79	-4.43	1.08	0.24	-0.21	1.12	XZ
	C142	53.72	-26.55	-4.64					
TY9H3A	C141	53.01	-26.68	-4.51	1.00	0.21	-0.16	1.03	XM
	C142	54.01	-26.47	-4.67					
UVMFDG	C141	53.27	-26.63	-4.87	1.10	0.19	-0.04	1.12	XO
	C142	54.37	-26.44	-4.90					
VKHRW4	C141	53.13	-26.90	-4.16	0.93	0.10	-0.17	0.95	GU
	C142	54.06	-26.81	-4.33					
VMM9D8	C141	53.34	-26.63	-4.64	0.92	0.20	-0.15	0.95	GH
	C142	54.25	-26.43	-4.79					
WBMY8A	C141	52.49	-25.41	-6.41	0.96	0.18	-0.19	0.99	GD
	C142	53.44	-25.23	-6.59					
WDYJCD	C141	53.31	-26.40	-4.80	0.94	0.16	-0.10	0.96	AB
	C142	54.25	-26.24	-4.89					
WNWLCZ	C141	52.62	-26.79	-4.65	0.90	0.09	-0.19	0.92	MQ
	C142	53.51	-26.70	-4.84					
Y3QNC6	C141	52.54	-26.26	-5.48	0.97	0.15	-0.16	0.99	MG
	C142	53.51	-26.11	-5.64					
ZAKFM7	C141	52.57	-26.06	-5.58	0.94	0.13	-0.12	0.96	HW
	C142	53.51	-25.93	-5.70					

Interlaboratory Testing Program for Color & Appearance

Analysis 408

Color and Color Difference - Paint Chips - 45-0 Geometry Instruments

CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

Summary Statistics

Samples	L*	a*	b*	ΔL*	Δa*	Δb*	ΔE*
Grand Means							
C141	52.99	-26.32	-4.89				
C142	53.95	-26.16	-5.06	0.96	0.17	-0.16	0.99
Stnd Dev Btwn Labs							
C141	0.26	0.38	0.50				
C142	0.26	0.39	0.50	0.06	0.07	0.04	0.07

Statistics based on 39 of 40 reporting participants

Comments assigned on Data Flags for Test #408

KRYGAU(X) - High L* and a* values.

Interlaboratory Testing Program for Color & Appearance

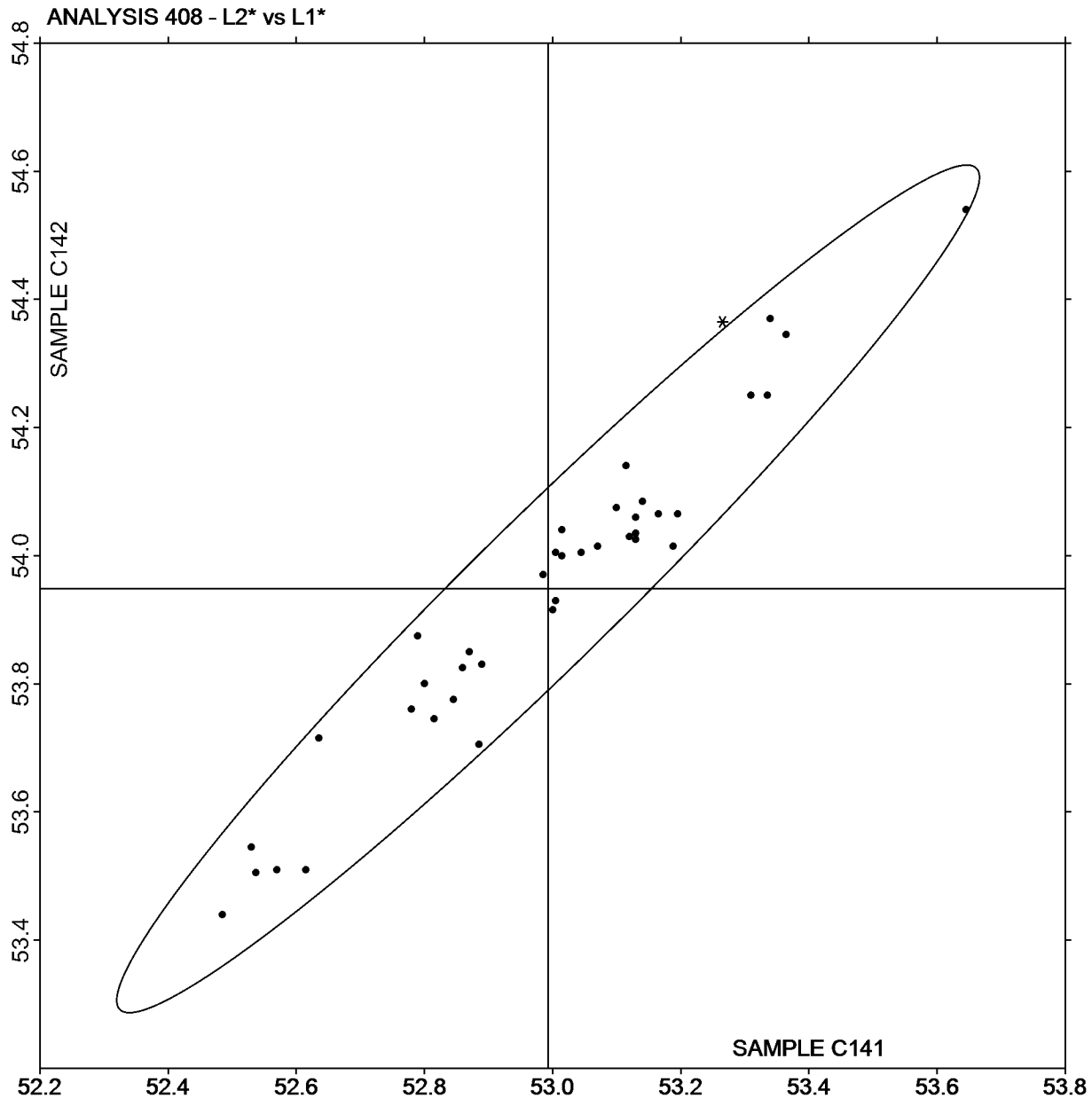
Analysis 408

Color and Color Difference - Paint Chips - 45-0 Geometry Instruments

CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

L2* vs L1*

SAMPLE C141 = 52.99 SAMPLE C142 = 53.95



Interlaboratory Testing Program for Color & Appearance

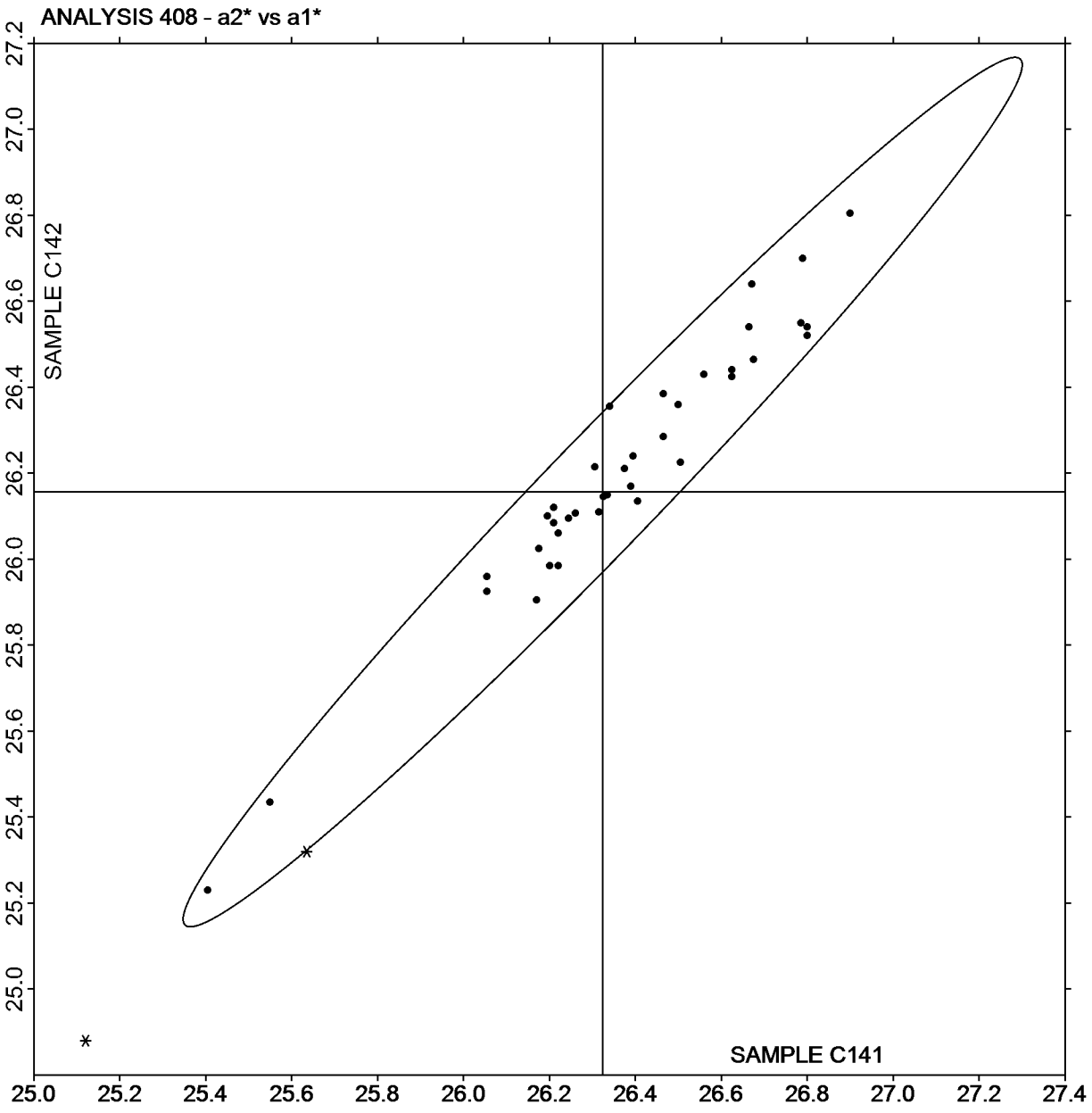
Analysis 408

Color and Color Difference - Paint Chips - 45-0 Geometry Instruments

CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

a2* vs a1*

SAMPLE C141 = -26.32 SAMPLE C142 = -26.16



Interlaboratory Testing Program for Color & Appearance

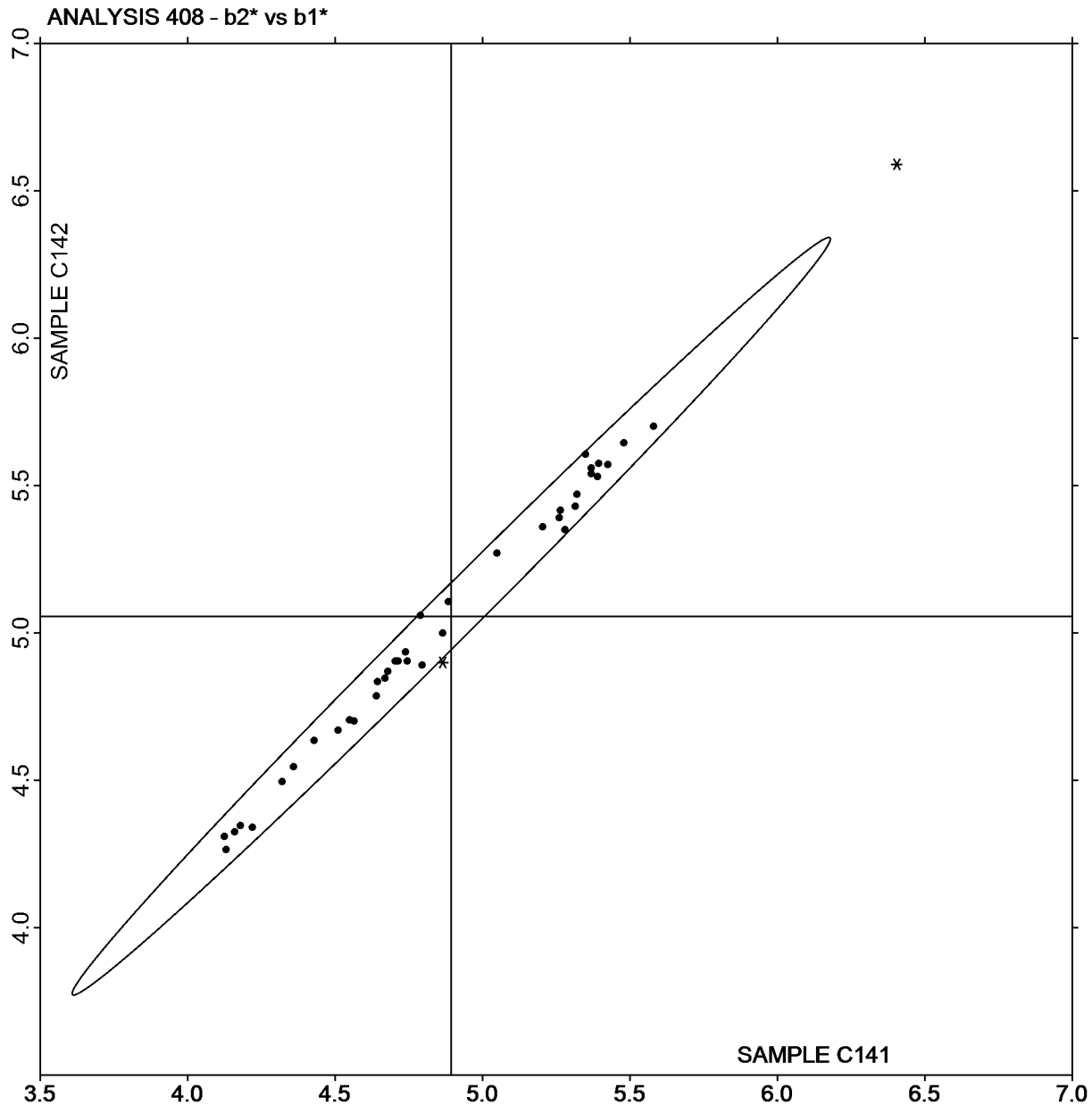
Analysis 408

Color and Color Difference - Paint Chips - 45-0 Geometry Instruments

CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

b2* vs b1*

SAMPLE C141 =-4.89 SAMPLE C142 = -5.06



Plot created using absolute values.

Interlaboratory Testing Program for Color & Appearance

Analysis 409

Color and Color Difference - Paint Chips - Sphere Geometry Instruments

CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

		CIE L* a* b* Color Values			Color Difference Values				
WebCode	Flag Samples	L*	a*	b*	ΔL*	Δa*	Δb*	ΔE*	InstrCode
23GTDH	C141	53.36	-26.22	-4.93	0.95	0.19	-0.14	0.98	XZ
	C142	54.31	-26.02	-5.07					
2BX8H9	C141	53.34	-26.48	-4.57	0.96	0.19	-0.18	0.99	MU
	C142	54.30	-26.29	-4.75					
2FNJD6	C141	52.97	-26.18	-4.79	0.95	0.07	-0.17	0.97	MI
	C142	53.92	-26.11	-4.96					
2TDH48	C141	53.58	-26.41	-4.62	0.99	0.11	-0.19	1.01	AM
	C142	54.56	-26.31	-4.81					
2XLU8Y	C141	53.23	-26.26	-4.91	0.97	0.16	-0.16	0.99	XI
	C142	54.20	-26.10	-5.06					
2ZC2PB	C141	53.50	-26.33	-4.85	0.85	0.06	-0.12	0.86	AJ
	C142	54.34	-26.27	-4.97					
33VGA3	C141	53.09	-26.89	-4.68	0.97	0.18	-0.24	1.01	CA
	C142	54.06	-26.72	-4.92					
366K7Y	C141	53.63	-26.46	-4.80	0.92	0.09	-0.14	0.93	AO
	C142	54.55	-26.37	-4.93					
49FWH7	C141	53.17	-25.90	-4.84	0.95	0.17	-0.21	0.98	GD
	C142	54.11	-25.73	-5.04					
4ANCMR	C141	53.36	-26.25	-4.74	0.92	0.13	-0.18	0.94	XI
	C142	54.28	-26.12	-4.92					
4QGYYB	C141	53.15	-26.51	-4.82	0.95	0.17	-0.17	0.98	XI
	C142	54.10	-26.34	-4.99					
4QYQC2	C141	53.08	-26.59	-4.65	0.95	0.22	-0.18	0.98	GD
	C142	54.03	-26.37	-4.83					
4RCH3X	C141	53.07	-26.31	-4.93	0.96	0.14	-0.17	0.98	XI
	C142	54.03	-26.17	-5.10					
4UJHHC	C141	53.41	-26.43	-4.87	0.92	0.15	-0.14	0.94	AQ
	C142	54.32	-26.28	-5.01					

Interlaboratory Testing Program for Color & Appearance

Analysis 409

Color and Color Difference - Paint Chips - Sphere Geometry Instruments

CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

			CIE L* a* b* Color Values			Color Difference Values				
WebCode	Flag	Samples	L*	a*	b*	ΔL*	Δa*	Δb*	ΔE*	InstrCode
62CCTF		C141	53.58	-26.58	-4.72	0.95	0.20	-0.13	0.98	AM
		C142	54.53	-26.39	-4.85					
638VW3	X	C141	52.81	-26.96	-6.21	0.98	0.27	-0.17	1.03	MU
		C142	53.79	-26.69	-6.38					
6UEM86		C141	53.59	-26.10	-4.63	0.96	0.05	-0.15	0.97	GF
		C142	54.54	-26.05	-4.77					
7GLL9A	X	C141	54.35	-26.85	-5.12	0.92	0.10	-0.14	0.93	AR
		C142	55.26	-26.75	-5.26					
7HF9PK		C141	53.10	-26.18	-4.80	0.96	0.15	-0.12	0.97	XH
		C142	54.05	-26.03	-4.92					
7MBZVV		C141	53.46	-26.49	-4.73	0.97	0.17	-0.19	1.00	AJ
		C142	54.42	-26.32	-4.91					
7MUW8V		C141	53.61	-26.43	-4.91	0.94	0.16	-0.15	0.96	AO
		C142	54.55	-26.27	-5.06					
7X87NU		C141	53.42	-26.24	-4.72	0.89	0.10	-0.14	0.91	MM
		C142	54.31	-26.14	-4.87					
823FC2	X	C141	55.24	-27.04	-5.20	1.00	0.19	-0.20	1.04	XM
		C142	56.24	-26.86	-5.40					
83HERJ		C141	53.56	-26.54	-4.81	0.97	0.27	-0.21	1.02	AO
		C142	54.53	-26.27	-5.01					
8AHXRU		C141	53.56	-26.75	-4.61	0.97	0.20	-0.21	1.01	AM
		C142	54.53	-26.55	-4.82					
8GJDFG		C141	53.55	-26.50	-4.81	0.93	0.19	-0.17	0.96	XX
		C142	54.48	-26.31	-4.98					
8NHVYY		C141	53.27	-26.42	-4.65	0.93	0.19	-0.16	0.96	AJ
		C142	54.20	-26.24	-4.81					
96JWBX		C141	53.40	-26.18	-4.60	0.95	0.18	-0.16	0.98	MM
		C142	54.35	-26.00	-4.76					

Interlaboratory Testing Program for Color & Appearance

Analysis 409

Color and Color Difference - Paint Chips - Sphere Geometry Instruments

CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

			CIE L* a* b* Color Values			Color Difference Values				
WebCode	Flag	Samples	L*	a*	b*	ΔL*	Δa*	Δb*	ΔE*	InstrCode
97FDNU		C141	53.30	-26.15	-4.84	1.00	0.26	-0.19	1.05	XI
		C142	54.30	-25.90	-5.02					
9AUUWY		C141	53.18	-26.18	-4.96	0.95	0.10	-0.18	0.97	XI
		C142	54.13	-26.08	-5.13					
9ET7W6	X	C141	52.95	-27.52	-6.28	1.02	0.37	-0.20	1.10	CA
		C142	53.97	-27.15	-6.48					
A2DXA4		C141	53.30	-26.29	-4.93	0.96	0.21	-0.17	1.00	XI
		C142	54.26	-26.08	-5.10					
AAVAM6		C141	53.35	-25.92	-4.75	0.91	0.30	-0.18	0.98	MM
		C142	54.26	-25.62	-4.93					
AELG8X		C141	53.52	-26.47	-4.78	0.98	0.26	-0.16	1.03	AM
		C142	54.50	-26.21	-4.94					
AH3782	X	C141	56.08	-26.95	-5.16	1.02	0.27	-0.17	1.06	HW
		C142	57.09	-26.68	-5.33					
AJH7N6		C141	53.45	-26.45	-4.62	0.99	0.20	-0.19	1.02	MU
		C142	54.44	-26.25	-4.81					
AMHGHK		C141	53.20	-26.29	-4.75	0.93	0.15	-0.18	0.96	XI
		C142	54.13	-26.14	-4.93					
B6UM6Z		C141	53.32	-26.25	-4.92	1.02	0.25	-0.23	1.07	XI
		C142	54.34	-26.00	-5.14					
BNKW72		C141	53.07	-26.22	-4.93	1.05	0.34	-0.22	1.12	AJ
		C142	54.12	-25.88	-5.15					
BQX7J9		C141	53.24	-26.11	-4.94	1.03	0.31	-0.18	1.09	HP
		C142	54.27	-25.80	-5.12					
BUTXR6		C141	53.45	-26.24	-4.71	0.98	0.20	-0.17	1.01	MM
		C142	54.43	-26.04	-4.88					
BW3ZJV		C141	53.00	-26.25	-4.88	1.00	0.19	-0.15	1.03	XH
		C142	54.00	-26.06	-5.02					

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CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

			CIE L* a* b* Color Values			Color Difference Values				
WebCode	Flag	Samples	L*	a*	b*	ΔL*	Δa*	Δb*	ΔE*	InstrCode
CECN2L		C141	53.37	-26.48	-4.73	0.94	0.13	-0.16	0.96	MU
		C142	54.31	-26.35	-4.89					
CNLTCQ		C141	53.12	-26.03	-4.77	0.94	0.05	-0.15	0.95	XH
		C142	54.06	-25.99	-4.92					
CYLJXY		C141	53.46	-26.49	-4.77	0.93	0.20	-0.14	0.96	AJ
		C142	54.39	-26.29	-4.91					
DZWKFQ		C141	53.36	-26.25	-4.86	0.96	0.13	-0.17	0.98	MM
		C142	54.32	-26.12	-5.03					
EPLZAZ		C141	53.33	-26.36	-4.97	0.89	0.11	-0.21	0.91	AM
		C142	54.22	-26.25	-5.17					
EVU4HM		C141	53.13	-26.26	-4.83	0.93	0.11	-0.18	0.95	XI
		C142	54.06	-26.15	-5.01					
FNDZVL		C141	53.45	-26.53	-4.73	0.94	0.06	-0.14	0.95	AL
		C142	54.38	-26.47	-4.87					
FW4TZQ		C141	53.33	-26.37	-4.84	1.01	0.26	-0.19	1.05	MK
		C142	54.33	-26.11	-5.02					
G8FHAF		C141	53.35	-26.53	-4.59	0.92	0.09	-0.14	0.93	PE
		C142	54.27	-26.44	-4.73					
G9X8X2		C141	53.40	-26.20	-5.00	0.96	0.08	-0.15	0.97	MM
		C142	54.36	-26.12	-5.15					
GFTAXR		C141	53.46	-26.30	-4.81	0.91	0.09	-0.15	0.93	MM
		C142	54.37	-26.21	-4.96					
GY62ZU		C141	53.26	-26.44	-4.86	1.01	0.20	-0.20	1.05	XI
		C142	54.27	-26.24	-5.06					
H6UQ8P		C141	52.86	-26.17	-4.83	0.97	0.18	-0.17	1.00	MJ
		C142	53.83	-26.00	-5.00					
HNPJRN		C141	53.38	-26.46	-4.67	0.95	0.22	-0.15	0.98	XI
		C142	54.33	-26.25	-4.82					

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CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

			CIE L* a* b* Color Values			Color Difference Values				
WebCode	Flag Samples		L*	a*	b*	ΔL*	Δa*	Δb*	ΔE*	InstrCode
HWCMRA	C141	53.37	-26.48	-4.72	0.93	0.20	-0.16	0.96	AJ
	C142	54.30	-26.29	-4.88					
HXTJGN	C141	52.82	-25.87	-4.79	1.02	0.21	-0.28	1.08	MG
	C142	53.84	-25.66	-5.06					
HY2TAL	C141	53.48	-26.64	-4.82	0.98	0.16	-0.17	1.01	AO
	C142	54.46	-26.48	-4.99					
JAJWUQ	C141	52.82	-26.23	-4.88	1.02	0.11	-0.19	1.04	MI
	C142	53.83	-26.13	-5.07					
JFNTHW	C141	53.00	-26.19	-4.76	1.03	0.24	-0.19	1.08	MK
	C142	54.03	-25.95	-4.95					
JHDZZ9	C141	53.55	-26.55	-4.75	0.99	0.20	-0.19	1.03	AJ
	C142	54.54	-26.36	-4.94					
JMMBYU	C141	53.18	-26.34	-4.92	1.00	0.21	-0.22	1.04	XI
	C142	54.18	-26.13	-5.14					
JNHU3G	C141	53.07	-26.11	-4.92	0.96	0.14	-0.16	0.98	XI
	C142	54.02	-25.98	-5.07					
JX6X4N	C141	53.39	-26.45	-4.75	1.00	0.18	-0.24	1.04	MT
	C142	54.39	-26.27	-4.99					
JYH8EB	C141	53.57	-26.58	-4.74	0.95	0.23	-0.18	0.99	AJ
	C142	54.52	-26.36	-4.91					
KE9Q7H	C141	53.49	-26.33	-4.70	0.89	-0.02	-0.16	0.90	MU
	C142	54.38	-26.35	-4.86					
KET72M	C141	53.41	-26.52	-4.92	1.00	0.16	-0.20	1.03	AM
	C142	54.41	-26.36	-5.11					
KNWM9J	C141	52.84	-26.26	-4.96	0.99	0.13	-0.17	1.01	XM
	C142	53.82	-26.14	-5.12					
KRYGAU	C141	52.89	-26.24	-4.90	0.90	0.11	-0.18	0.92	XO
	C142	53.79	-26.13	-5.07					

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CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

			CIE L* a* b* Color Values			Color Difference Values				
WebCode	Flag	Samples	L*	a*	b*	ΔL*	Δa*	Δb*	ΔE*	InstrCode
KTUZEG		C141	53.41	-26.14	-4.84	0.97	0.19	-0.15	1.00	XI
		C142	54.38	-25.95	-4.99					
KVXVXK	X	C141	53.23	-26.58	-4.20	0.95	0.24	-0.20	1.00	HG
		C142	54.18	-26.34	-4.39					
KXJL2A		C141	53.38	-26.43	-4.81	0.92	0.22	-0.16	0.96	MM
		C142	54.30	-26.21	-4.97					
LDCN2E		C141	53.40	-26.23	-4.72	0.95	0.12	-0.17	0.97	MM
		C142	54.35	-26.11	-4.90					
LELLN4	X	C141	51.76	-25.18	-25.92	-0.02	-0.05	-0.35	0.35	AM
		C142	51.74	-25.22	-26.26					
LFYCDE		C141	53.22	-26.49	-4.54	0.98	0.14	-0.17	1.00	GD
		C142	54.20	-26.35	-4.70					
LJXQZ4		C141	53.47	-26.24	-4.89	0.92	0.18	-0.15	0.94	XI
		C142	54.38	-26.06	-5.04					
MKN8XH		C141	53.23	-26.81	-4.48	0.89	0.11	-0.16	0.91	GD
		C142	54.11	-26.70	-4.64					
MLZNBW	X	C141	52.23	-26.38	-4.58	0.93	0.20	-0.17	0.97	CE
		C142	53.17	-26.18	-4.75					
N2MQ3K		C141	53.24	-26.26	-4.71	0.94	0.15	-0.19	0.97	MM
		C142	54.17	-26.11	-4.90					
N4FEMZ		C141	53.49	-26.58	-4.69	0.97	0.24	-0.20	1.02	AJ
		C142	54.46	-26.34	-4.89					
NAJJDY		C141	53.37	-26.58	-4.84	1.02	0.32	-0.22	1.09	AO
		C142	54.39	-26.26	-5.05					
NBHJJQ		C141	53.31	-26.29	-4.79	0.98	0.21	-0.16	1.01	XH
		C142	54.29	-26.08	-4.95					
NRL4C9		C141	52.93	-26.05	-5.00	1.09	0.06	-0.15	1.10	XO
		C142	54.02	-25.99	-5.15					

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WebCode	Flag	Samples	CIE L* a* b* Color Values L*	a*	b*	Color Difference Values ΔL*	Δa*	Δb*	ΔE*	InstrCode
NRYU2J		C141	53.36	-26.37	-4.76	0.87	0.06	-0.11	0.87	GG
		C142	54.22	-26.31	-4.87					
NW2N6F		C141	53.38	-26.35	-4.81	0.97	0.12	-0.17	0.99	HP
		C142	54.34	-26.23	-4.98					
NYJQ7T	X	C141	53.44	-25.80	-5.42	0.93	0.23	-0.15	0.97	HH
		C142	54.37	-25.58	-5.57					
P3GU9Z		C141	53.46	-26.18	-5.01	0.91	0.14	-0.14	0.93	AJ
		C142	54.37	-26.05	-5.15					
P6AHXM		C141	52.86	-26.28	-4.82	0.94	0.18	-0.17	0.97	XH
		C142	53.80	-26.10	-4.99					
PDLGNR		C141	53.34	-26.36	-4.74	0.96	0.18	-0.17	0.99	AJ
		C142	54.30	-26.18	-4.91					
PLRN27		C141	53.35	-26.37	-5.09	0.94	0.13	-0.17	0.96	AJ
		C142	54.29	-26.25	-5.25					
Q6Z7MV		C141	53.35	-26.46	-4.81	0.94	0.16	-0.20	0.97	AQ
		C142	54.29	-26.31	-5.01					
QDUD72		C141	53.06	-26.21	-4.85	0.94	0.17	-0.16	0.96	XO
		C142	53.99	-26.05	-5.01					
QKECZG		C141	53.34	-26.35	-4.72	1.01	0.23	-0.23	1.06	MM
		C142	54.35	-26.12	-4.95					
QKWH4D		C141	53.00	-26.35	-4.53	0.94	0.07	-0.19	0.96	MI
		C142	53.94	-26.28	-4.72					
QRFQJW		C141	53.16	-26.25	-5.12	0.94	0.11	-0.11	0.95	GD
		C142	54.10	-26.14	-5.23					
QUHL6K		C141	52.92	-26.18	-4.79	0.93	0.15	-0.16	0.96	XO
		C142	53.85	-26.03	-4.95					
QZ7CPU		C141	53.44	-26.62	-4.75	0.97	0.24	-0.19	1.02	AJ
		C142	54.41	-26.39	-4.94					

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CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

WebCode	Flag	Samples	CIE L* a* b* Color Values L*	a*	b*	Color Difference Values ΔL*	Δa*	Δb*	ΔE*	InstrCode
RE6BJJ		C141	53.54	-26.48	-4.89	0.96	0.21	-0.19	1.00	AJ
		C142	54.50	-26.27	-5.07					
RJWKK6		C141	53.38	-26.37	-4.83	0.90	0.11	-0.14	0.92	AM
		C142	54.28	-26.27	-4.97					
RRBLNK	X	C141	53.44	-26.11	-5.27	0.88	0.05	-0.07	0.88	HP
		C142	54.32	-26.06	-5.34					
RT82ZG		C141	53.25	-26.26	-4.81	0.95	0.11	-0.16	0.96	XU
		C142	54.19	-26.15	-4.97					
T2BFFN		C141	53.37	-26.25	-4.88	0.95	0.24	-0.16	0.99	MK
		C142	54.32	-26.02	-5.04					
T463DL		C141	53.41	-26.76	-4.55	0.99	0.20	-0.20	1.02	AJ
		C142	54.39	-26.56	-4.75					
TH2GDF		C141	53.50	-26.64	-4.85	1.01	0.23	-0.17	1.04	AO
		C142	54.50	-26.42	-5.02					
TKM8G6		C141	53.46	-26.44	-4.72	1.00	0.15	-0.17	1.03	AM
		C142	54.46	-26.29	-4.89					
U6Q96V		C141	53.53	-26.52	-4.93	0.96	0.24	-0.14	0.99	AM
		C142	54.49	-26.28	-5.07					
UGKPVH		C141	53.50	-26.59	-4.71	0.98	0.25	-0.18	1.02	AR
		C142	54.48	-26.34	-4.88					
UTD6KJ		C141	53.52	-26.71	-4.54	1.05	0.37	-0.21	1.13	AM
		C142	54.57	-26.35	-4.75					
UX7AC3		C141	53.13	-26.36	-4.72	0.93	0.07	-0.18	0.94	XH
		C142	54.06	-26.30	-4.89					
V3HEM3		C141	53.27	-26.11	-4.82	0.93	0.09	-0.15	0.94	HP
		C142	54.20	-26.02	-4.96					
VFNPUP		C141	53.32	-26.28	-4.86	0.98	0.26	-0.18	1.02	MM
		C142	54.29	-26.02	-5.04					

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WebCode	Flag	Samples	CIE L* a* b* Color Values L*	a*	b*	Color Difference Values ΔL*	Δa*	Δb*	ΔE*	InstrCode
VG3Z8V		C141	53.09	-26.58	-4.40	0.97	0.26	-0.19	1.02	GA
		C142	54.06	-26.33	-4.59					
VH9KTB		C141	53.40	-26.19	-4.86	0.92	0.04	-0.14	0.93	AQ
		C142	54.32	-26.15	-5.00					
VLTC6D		C141	53.61	-25.90	-4.93	1.02	0.02	-0.22	1.04	HF
		C142	54.63	-25.88	-5.15					
VMM9D8		C141	53.46	-26.58	-4.69	0.94	0.17	-0.17	0.97	MV
		C142	54.40	-26.41	-4.86					
VU4QQF		C141	53.45	-26.52	-5.04	1.01	0.23	-0.19	1.05	AO
		C142	54.46	-26.30	-5.22					
WHWZTD		C141	53.43	-26.50	-4.73	0.91	0.14	-0.15	0.93	MV
		C142	54.34	-26.36	-4.88					
WQ4XDB		C141	53.44	-26.20	-4.91	0.87	0.06	-0.12	0.88	AJ
		C142	54.31	-26.14	-5.03					
WRZDP8	X	C141	53.38	-25.83	-5.28	0.87	-0.02	-0.11	0.87	HH
		C142	54.24	-25.85	-5.38					
XT66BT		C141	53.33	-26.47	-4.82	0.93	0.16	-0.16	0.96	MV
		C142	54.26	-26.31	-4.98					
XY8EFZ		C141	53.48	-26.56	-4.72	0.97	0.17	-0.17	1.00	AO
		C142	54.45	-26.39	-4.89					
Y2W3F8	X	C141	52.57	-26.16	-4.83	1.02	0.27	-0.23	1.08	XM
		C142	53.59	-25.89	-5.06					
Y4L9XJ		C141	53.39	-26.37	-4.79	0.90	0.13	-0.15	0.92	MM
		C142	54.29	-26.24	-4.94					
Y6UN34	X	C141	52.62	-26.42	-4.89	0.93	0.08	-0.14	0.94	GC
		C142	53.55	-26.34	-5.03					
YH383J		C141	53.25	-26.26	-4.82	0.96	0.19	-0.16	0.99	HP
		C142	54.22	-26.07	-4.98					

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CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

WebCode	Flag	Samples	CIE L* a* b* Color Values L*	a*	b*	Color Difference Values ΔL*	Δa*	Δb*	ΔE*	InstrCode
YL2KL3		C141	53.62	-26.32	-4.64					
		C142	54.60	-26.14	-4.83	0.98	0.18	-0.19	1.01	HW
YV9DY4		C141	53.63	-26.65	-4.80					
		C142	54.57	-26.47	-4.96	0.94	0.19	-0.16	0.97	AJ

Summary Statistics

Samples	L*	a*	b*	ΔL*	Δa*	Δb*	ΔE*
Grand Means							
C141	53.32	-26.37	-4.79				
C142	54.27	-26.21	-4.96	0.96	0.16	-0.17	0.99
Stnd Dev Btwn Labs							
C141	0.20	0.21	0.13				
C142	0.20	0.19	0.13	0.04	0.07	0.03	0.05

Statistics based on 114 of 128 reporting participants

Comments assigned on Data Flags for Test #409

638VW3(X) - Low b* values. Low a* values for Sample C141. Large replication difference for b* for Sample C142.

7GLL9A(X) - Low a* values for Sample C142 and high L* values.

823FC2(X) - Low a* and b* values. High L* values.

9ET7W6(X) - Low a* and b* values. Large replication difference for a* values. Large replication difference for L* and b* values for Sample C142. Large Da value.

AH3782(X) - Low a* values for Sample C141 and Low b* values. High L* values.

KVXVXK(X) - High b* values. Large replication difference for L* for Sample C141 and for a* values for Sample C142.

LELLN4(X) - High a* values. Low L* and b* values. Small DL, Da, Db, and DE values.

MLZNBW(X) - Low L* values. Large replication difference for L* values.

NYJQ7T(X) - Low b* and high a* values.

RRBLNK(X) - Low b* values. Large replication difference for b* for Sample C141. Small Db value.

WRZDP8(X) - Low b* values. Large replication difference for L* values.

Y2W3F8(X) - Low L* values.

Y6UN34(X) - Low L* values.

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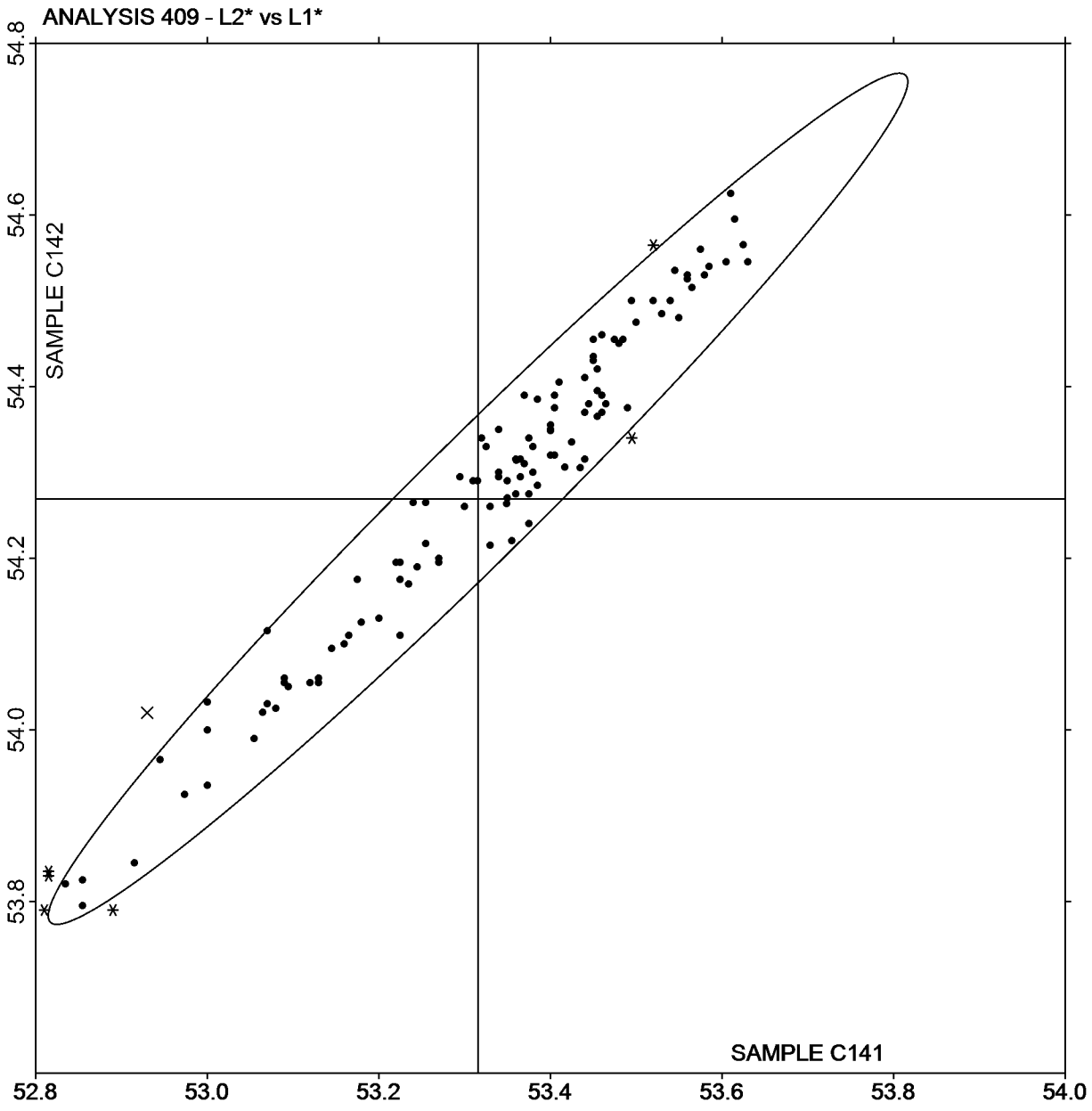
L2* vs L1*

SAMPLE C141 = 53.32 SAMPLE C142 = 54.27



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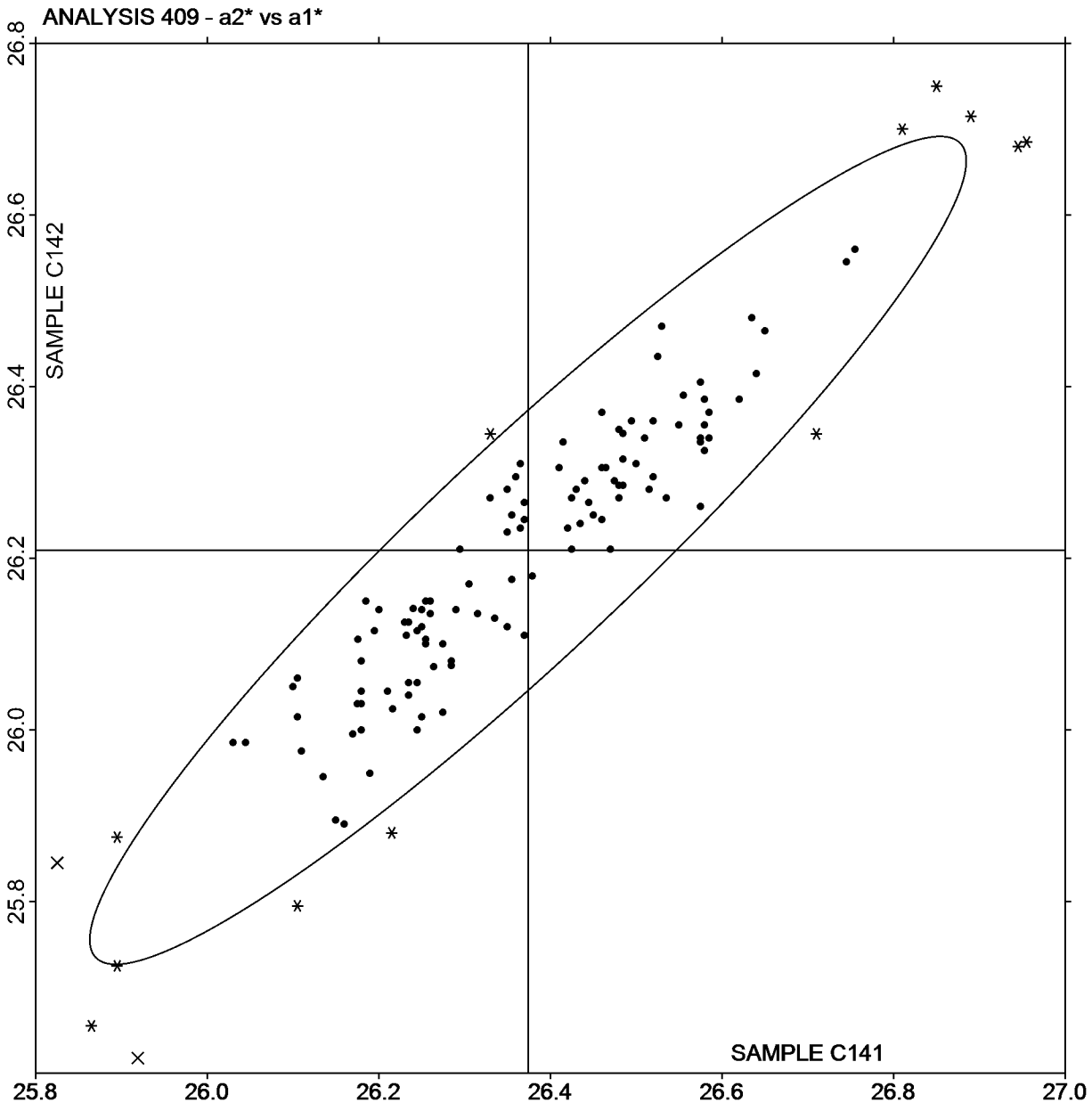
a2* vs a1*

SAMPLE C141 = -26.37 SAMPLE C142 = -26.21



Interlaboratory Testing Program for Color & Appearance

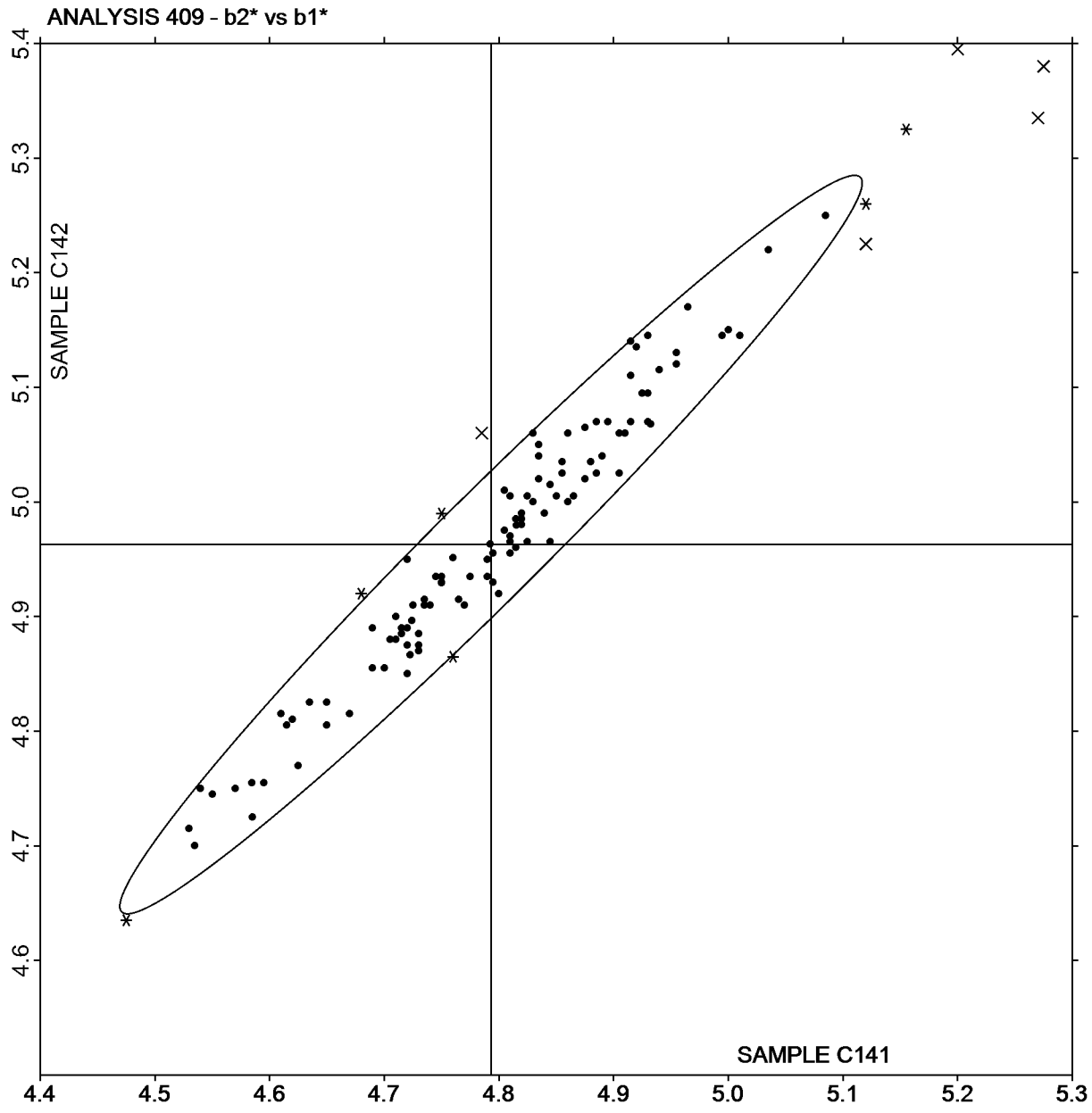
Analysis 409

Color and Color Difference - Paint Chips - Sphere Geometry Instruments

CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

b2* vs b1*

SAMPLE C141 =-4.79 SAMPLE C142 = -4.96



Plot created using absolute values.

Interlaboratory Testing Program for Color & Appearance

Analysis 411

Spectrophotometric - Sphere Geometry Instruments

Reflectance at 16 Selected Wavelengths

Spectrophotometric Reflectance values (as %)at selected wavelengths

Sample C141

WebCode	Data Flag	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	Instr Code
2BX8H9		15.22	18.10	22.62	25.79	26.63	29.22	31.94	28.37	18.90	13.16	10.86	9.91	9.81	10.66	10.55	9.49	MU
2FNJD6		14.60	18.09	22.37	25.48	26.46	28.95	31.37	27.68	18.68	12.98	10.69	9.80	9.71	10.41	10.20	9.18	MI
2TDH48		14.85	18.40	22.81	25.97	26.95	29.42	32.06	28.53	19.33	13.38	11.01	9.94	9.88	10.64	10.43	9.46	AM
2XLU8Y		14.82	18.36	22.72	25.72	26.72	29.29	31.60	27.91	18.95	13.16	10.84	9.90	9.83	10.54	10.24	9.18	XI
2ZC2PB		14.95	18.44	22.90	25.99	26.99	29.36	31.91	28.37	19.15	13.33	11.00	9.99	9.93	10.54	10.44	9.40	AJ
33VGA3		14.61	17.79	22.55	25.53	26.58	29.10	31.88	28.08	18.65	12.85X	10.59	9.60	9.50X	10.34	10.17	9.02	CA
366K7Y		15.11	18.55	22.98	26.08	27.11	29.61	32.17	28.49	19.20	13.37	11.08	10.05	10.01	10.68	10.51	9.38	AO
49FWH7		15.08	18.16	22.43	25.55	26.64	28.76	31.53	27.69	19.28	13.26	11.02	9.82	9.90	10.38	10.30	9.40	GD
4ANCMR		14.88	18.34	22.72	25.82	26.76	29.26	31.71	28.08	19.17	13.30	10.93	9.95	9.89	10.63	10.35	9.28	XI
4QGYYB		14.77	18.20	22.48	25.68	26.64	29.10	31.58	27.90	18.91	13.11	10.68	9.71	9.65	10.38	10.24	9.27	XI
4QYQC2		15.13	17.22X	22.32	25.45	26.55	28.60	32.19	27.38	18.79	13.30	10.50	9.46X	9.73	10.25	10.22	9.43	GD
4RCH3X		14.66	18.22	22.50	25.65	26.65	28.98	31.41	27.76	18.85	13.10	10.69	9.75	9.68	10.38	10.22	9.22	XI
4UJHHC		14.76	18.52	22.83	25.93	26.88	29.39	31.84	28.18	19.19	13.27	10.90	9.85	9.77	10.49	10.36	9.42	AJ
62CCTF		15.15	18.36	22.87	26.08	27.07	29.53	32.11	28.47	19.23	13.35	10.98	9.97	9.91	10.64	10.43	9.46	AM
638VW3		14.80	18.20	22.50	25.85	26.55	29.30	31.80	28.50	19.10	13.05	10.75	9.85	9.70	10.60	10.50	9.40	MU
7GLL9A	X	15.72	19.18X	23.97X	27.07X	28.17X	30.72X	33.26X	29.36X	19.67	13.73X	11.33	10.30X	10.24X	10.93X	10.73X	9.66	AR
7HF9PK		14.80	18.21	22.46	25.59	26.53	28.97	31.38	27.76	18.94	13.14	10.78	9.82	9.75	10.45	10.29	9.26	MM
7MBZVV		16.46X	18.32	22.81	25.86	26.89	29.35	31.88	28.38	19.15	13.27	10.94	9.90	9.85	10.54	10.38	9.44	AJ
7MUW8V		15.05	18.54	23.14	26.14	27.14	29.62	32.16	28.47	19.18	13.33	11.05	10.04	9.99	10.64	10.47	9.37	AO
7X87NU		14.96	18.39	22.77	25.89	26.87	29.38	31.91	28.19	19.17	13.30	10.93	9.94	9.87	10.62	10.57	9.54	MM
823FC2		14.91	18.25	22.67	25.78	26.59	29.14	31.61	27.67	18.73	13.04	10.79	9.81	9.85	10.52	10.38	9.26	XM
83HERJ		14.93	18.39	22.92	26.06	27.03	29.54	32.14	28.45	19.11	13.30	10.99	10.00	9.95	10.60	10.30	9.32	AO
8AHXRU		14.74	18.27	22.78	25.97	27.01	29.53	32.14	28.54	19.19	13.26	10.94	9.97	9.93	10.55	10.39	9.29	AM
8GJDFG		14.92	18.45	22.87	26.10	27.06	29.44	32.03	28.46	19.25	13.32	10.98	9.98	9.88	10.50	10.35	9.39	XX
8NHVYY		14.69	18.11	22.53	25.74	26.70	29.13	31.67	28.14	19.08	13.15	10.81	9.81	9.72	10.42	10.22	9.06	AJ

Interlaboratory Testing Program for Color & Appearance

Analysis 411

Spectrophotometric - Sphere Geometry Instruments

Reflectance at 16 Selected Wavelengths

Spectrophotometric Reflectance values (as %)at selected wavelengths

WebCode	Data Flag	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	Instr Code
Sample C141																		
96JWBX		14.99	18.34	22.65	25.83	26.74	29.18	31.74	28.26	19.27	13.35	10.92	9.91	9.84	10.57	10.45	9.36	MM
97FDNU		14.99	18.42	22.77	25.79	26.77	29.25	31.71	28.08	19.09	13.22	10.88	9.87	9.84	10.59	10.36	9.35	XI
9AUUWY		14.72	18.24	22.69	25.75	26.74	29.21	31.62	27.79	18.86	13.14	10.81	9.91	9.92	10.60	10.30	9.28	XI
9ET7W6		14.96	18.20	22.86	26.00	26.92	29.57	32.36	28.53	19.01	13.17	10.89	9.87	9.80	10.63	10.45	9.32	CA
A2DXA4		14.97	18.43	22.78	25.84	26.84	29.34	31.77	27.95	19.01	13.22	10.85	9.90	9.92	10.66	10.29	9.27	XI
AAVAM6		14.94	18.43	22.74	25.82	26.77	29.21	31.64	27.99	19.23	13.39	10.96	9.99	9.89	10.59	10.45	9.44	MM
AELG8X		16.16	17.80	21.47X	26.01	27.42	29.43	32.01	28.42	19.11	13.31	10.99	10.00	9.92	10.61	10.46	9.41	AM
AH3782	X	19.02X	20.72X	25.80X	29.01X	30.13X	32.99X	35.74X	31.47X	21.39X	14.89X	12.32X	11.26X	11.17X	12.29X	12.03X	10.88X	HW
AJH7N6		14.91	18.33	22.67	25.93	26.83	29.34	32.02	28.36	19.18	13.27	10.91	9.90	9.82	10.59	10.48	9.37	MU
AMHGHK		14.83	18.17	22.53	25.67	26.65	29.18	31.61	27.88	18.91	13.15	10.83	9.90	9.87	10.58	10.29	9.20	XI
B6UM6Z		15.01	18.47	22.82	25.85	26.83	29.37	31.81	28.07	19.04	13.23	10.85	9.87	9.81	10.51	10.28	9.30	XI
BNKW72		16.73X	18.17	22.52	25.69	26.61	29.00	31.51	27.72	18.72	13.08	10.78	9.80	9.78	10.48	10.29	9.30	AJ
BQX7J9		15.33	18.38	22.82	25.80	26.69	29.24	31.68	27.91	19.00	13.21	10.84	9.84	9.64	10.63	10.26	9.30	HP
BUTXR6		15.06	18.40	22.80	25.91	26.88	29.35	31.90	28.29	19.22	13.34	10.94	9.97	9.90	10.65	10.47	9.36	MM
BW3ZJV		14.69	18.15	22.44	25.54	26.47	28.93	31.45	27.67	18.64	13.03	10.70	9.79	9.77	10.52	10.20	9.12	XH
CECN2L		14.77	18.34	22.67	25.95	26.77	29.30	32.10	28.29	18.98	13.11	10.90	9.90	9.85	10.64	10.54	9.37	MV
CNLTCQ		14.89	18.23	22.47	25.59	26.55	28.93	31.38	27.73	18.98	13.19	10.84	9.89	9.86	10.52	10.34	9.31	XH
CYLJXY		14.75	18.38	22.76	25.89	26.92	29.33	31.85	28.38	19.12	13.25	10.95	9.95	9.88	10.51	10.39	9.31	AM
DTPG3X		14.79	18.34	22.60	25.60	26.60	29.16	31.54	27.58	18.65	13.01	10.71	9.78	9.81	10.47	10.27	9.19	XO
DZWKFQ		15.02	18.40	22.84	25.83	26.86	29.35	31.82	28.06	19.08	13.31	10.93	9.93	9.89	10.63	10.46	9.38	MM
EPLZAZ		14.99	18.44	22.90	25.86	26.82	29.39	31.87	28.05	18.98	13.18	10.89	9.89	9.83	10.62	10.45	9.47	AM
EVU4HM		14.76	18.28	22.53	25.60	26.60	29.05	31.46	27.83	18.93	13.18	10.77	9.78	9.72	10.50	10.25	9.17	XI
FNDZVL		14.85	18.33	22.78	25.91	26.93	29.45	31.93	28.26	19.17	13.29	10.90	9.91	9.83	10.55	10.43	9.16	AL
FW4TZQ		14.90	18.31	22.80	25.81	26.78	29.31	31.77	28.08	19.04	13.24	10.85	9.87	9.82	10.57	10.40	9.30	MM
G8FHAF		14.88	18.05	22.63	25.74	26.66	29.23	32.01	28.27	18.89	13.14	10.88	9.90	9.81	10.62	10.48	9.34	PE

Interlaboratory Testing Program for Color & Appearance

Analysis 411

Spectrophotometric - Sphere Geometry Instruments

Reflectance at 16 Selected Wavelengths

Spectrophotometric Reflectance values (as %)at selected wavelengths

WebCode	Data Flag	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	Instr Code
Sample C141																		
G9X8X2		15.14	18.51	22.98	25.97	26.94	29.45	31.91	28.09	19.02	13.31	10.94	9.99	9.95	10.70	10.49	9.37	MM
GFTAXR		15.02	18.46	22.93	25.93	26.89	29.42	31.90	28.22	19.21	13.36	10.96	9.97	9.90	10.65	10.51	9.42	MM
GY62ZU		14.97	18.34	22.69	25.75	26.75	29.28	31.70	27.98	19.00	13.18	10.80	9.81	9.76	10.50	10.17	9.14	XI
H6UQ8P		15.64	18.22	22.16	25.39	26.38	28.79	31.13	27.41	18.69	13.01	10.65	9.65	9.60	10.26	10.14	9.16	MJ
HNPJRN		14.66	18.27	22.64	25.84	26.82	29.36	31.82	28.14	19.12	13.27	10.91	9.88	9.85	10.59	10.28	9.29	XI
HWCMR		14.72	18.29	22.66	25.86	26.81	29.27	31.77	28.20	19.17	13.25	10.88	9.83	9.76	10.51	10.40	9.34	AJ
HXTJGN		14.78	17.94	22.39	25.25	26.19	28.69	31.13	27.35	18.54	12.98	10.74	9.78	9.72	10.49	10.28	9.31	XX
HY2TAL		14.93	18.36	22.85	25.96	26.97	29.55	32.06	28.36	18.96	13.24	10.90	9.94	9.88	10.52	10.45	9.30	AO
JAJWUQ		14.53	18.00	22.32	25.29	26.33	28.75	31.15	27.46	18.59	12.89	10.62	9.66	9.62	10.36	10.12	9.09	MI
JFNTHW		14.53	18.04	22.37	25.49	26.45	28.96	31.43	27.68	18.74	13.03	10.71	9.76	9.76	10.44	10.22	9.14	MI
JHDZZ9		14.90	18.49	22.89	26.06	27.12	29.50	32.12	28.50	19.12	13.29	10.95	9.91	9.83	10.49	10.32	9.29	AJ
JMMBYU		14.88	18.27	22.66	25.70	26.71	29.17	31.62	27.86	18.88	13.13	10.74	9.82	9.79	10.53	10.27	9.19	XI
JNHU3G		14.76	18.28	22.52	25.58	26.57	28.93	31.39	27.71	18.83	13.09	10.80	9.81	9.78	10.51	10.24	9.25	XI
JX6X4N		14.75	18.29	22.82	25.92	26.82	29.34	31.94	28.29	19.11	13.20	10.87	9.84	9.77	10.55	10.41	9.31	MT
JYH8EB		15.01	18.42	22.89	26.00	27.04	29.56	32.12	28.45	19.18	13.32	10.98	9.99	9.94	10.54	10.43	9.36	AJ
KE9Q7H		15.37	18.35	22.83	26.04	26.89	29.41	32.12	28.40	19.15	13.25	11.00	10.00	9.96	10.74	10.62	9.49	MU
KNWM9J		15.30	18.31	23.00	25.85	26.86	29.43	31.70	27.68	18.67	13.02	10.77	9.87	9.81	10.84	10.67	9.70X	HW
KRYGAU		14.45	17.97	22.47	25.40	26.35	28.96	31.38	27.47	18.42	12.87	10.63	9.67	9.71	10.40	10.24	9.16	XO
KTUZEG		14.95	18.44	22.82	25.92	26.91	29.36	31.80	28.07	19.14	13.33	11.00	10.02	10.00	10.73	10.41	9.38	XI
KVXVXK		15.93	18.01	22.11	25.35	26.51	28.83	31.64	28.30	19.26	13.18	10.78	9.64	9.56	10.26	10.23	9.17	HG
KXJL2A		14.93	18.34	22.79	25.88	26.83	29.36	31.88	28.16	19.10	13.27	10.87	9.90	9.83	10.59	10.42	9.33	MM
LDCN2E		14.88	18.32	22.77	25.87	26.85	29.36	31.87	28.20	19.15	13.31	10.89	9.94	9.88	10.62	10.47	9.35	MM
LELLN4	X	19.86X	27.32X	35.02X	40.03X	40.28X	38.61X	32.01	21.58X	12.80X	8.87X	7.55X	6.92X	6.84X	7.13X	7.05X	6.55X	AM
LFYCDE		15.14	17.50X	22.28	25.46	26.71	28.51X	32.20	27.99	18.95	13.34	10.90	9.76	9.69	10.37	10.25	9.48	GD
LJXQZ4		14.98	18.56	22.93	25.99	26.94	29.46	32.01	28.26	19.03	13.33	10.96	10.07	10.10	10.79	10.47	9.43	XI

Interlaboratory Testing Program for Color & Appearance

Analysis 411

Spectrophotometric - Sphere Geometry Instruments

Reflectance at 16 Selected Wavelengths

Spectrophotometric Reflectance values (as %)at selected wavelengths

WebCode	Data Flag	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	Instr Code
Sample C141																		
MKN8XH		18.87X	17.39X	22.41	25.59	26.67	29.51	31.15	27.99	19.02	13.27	10.60	9.61	9.77	10.25	10.26	9.42	GD
MLZNBW	X	14.07	17.18X	21.53X	24.55X	25.47X	27.94X	30.61X	27.01X	18.00	12.41X	10.25	9.31X	9.22X	9.98X	9.79X	8.52X	CE
N2MQ3K		14.80	18.21	22.60	25.68	26.67	29.20	31.63	27.99	19.06	13.21	10.80	9.83	9.77	10.49	10.35	9.28	MM
N4FEMZ		14.90	18.34	22.77	25.89	26.95	29.38	31.95	28.44	19.09	13.29	10.95	9.93	9.87	10.51	10.33	9.30	AJ
NAJJDY		14.79	18.32	22.76	25.87	26.87	29.26	31.82	28.31	19.03	13.14	10.84	9.86	9.83	10.41	10.35	9.27	AO
NRL4C9		14.86	18.25	22.61	25.57	26.69	29.04	31.64	27.58	18.65	13.02	10.78	9.78	9.78	10.49	10.30	9.22	XO
NRYU2J		15.18	18.37	22.63	25.95	26.89	29.38	31.92	28.14	19.02	13.26	10.89	9.90	9.85	10.59	10.43	9.31	GG
NW2N6F		15.25	18.37	22.84	25.92	26.82	29.36	32.02	28.09	19.04	13.29	10.92	9.87	9.82	10.49	10.31	9.19	HP
NYJQ7T		15.50	18.69	23.54	26.15	27.14	29.74	32.20	27.97	18.85	13.36	11.00	10.11	10.01	11.14X	10.81X	9.82X	HH
P6AHXM		14.46	17.97	22.22	25.36	26.34	28.79	31.20	27.49	18.55	12.92	10.61	9.73	9.66	10.38	10.06	9.01	XH
PDLGNR		14.74	18.23	22.71	25.79	26.78	29.16	31.77	28.16	18.99	13.23	15.89X	9.94	9.88	10.58	10.40	9.31	AJ
PLRN27		14.85	18.61	22.98	25.93	26.92	29.43	31.90	28.09	18.95	13.19	10.87	9.88	9.83	10.48	10.33	9.33	AJ
Q6Z7MV		14.78	18.24	22.75	25.84	26.85	29.29	31.81	28.16	19.00	13.20	10.88	9.90	9.85	10.46	10.29	9.28	AQ
QDUD72		14.61	18.20	22.45	25.67	26.59	29.13	31.64	27.72	18.63	13.06	10.76	9.78	9.79	10.49	10.33	9.20	XO
QKECZG		14.87	18.27	22.69	25.82	26.77	29.32	31.82	28.16	19.10	13.22	10.84	9.86	9.81	10.57	10.40	9.29	XX
QKWH4D		14.24	17.89	22.14	25.38	26.36	28.85	31.36	27.68	18.83	13.08	10.71	9.77	9.70	10.46	10.24	9.27	MI
QUHL6K		14.64	18.08	22.19	25.43	26.39	28.90	31.39	27.48	18.72	12.92	10.70	9.67	9.65	10.34	10.22	9.13	XO
QZ7CPU		14.81	18.24	22.77	25.92	26.91	29.45	31.96	28.33	19.01	13.21	10.92	9.91	9.85	10.47	10.24	9.22	AJ
RE6BJJ		15.05	18.47	23.00	26.06	27.06	29.57	32.13	28.40	19.08	13.30	10.98	10.01	9.94	10.61	10.39	9.36	AJ
RJWKK6		14.92	18.38	22.82	25.89	26.88	29.30	31.81	28.16	19.05	13.26	10.93	9.90	9.83	10.58	10.42	9.44	AM
RRBLNK		15.08	18.60	23.34	26.10	27.08	29.69	32.18	27.98	18.89	13.29	11.02	9.95	9.90	10.70	10.36	9.31	HP
RT82ZG		15.28	18.41	22.75	25.66	26.83	29.22	31.72	27.93	18.87	13.27	10.80	9.84	9.81	10.53	10.33	9.24	XU
T2BFFN		15.11	18.35	22.91	25.85	26.82	29.40	31.96	28.12	19.02	13.24	10.89	9.91	9.86	10.64	10.45	9.34	MK
T463DL		15.08	17.98	22.64	25.79	26.83	29.37	32.02	28.29	19.04	13.19	10.87	9.86	9.81	10.55	10.40	9.28	AJ
TH2GDF		14.96	18.40	22.79	26.07	27.04	29.52	32.04	28.37	19.11	13.26	10.89	9.93	9.84	10.47	10.37	9.32	AO

Interlaboratory Testing Program for Color & Appearance

Analysis 411

Spectrophotometric - Sphere Geometry Instruments

Reflectance at 16 Selected Wavelengths

Spectrophotometric Reflectance values (as %)at selected wavelengths

WebCode	Data Flag	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	Instr Code
Sample C141																		
TKM8G6		14.75	18.46	22.77	25.95	26.96	29.36	31.95	28.25	19.15	13.32	10.95	9.94	9.85	10.50	10.39	9.46	AM
U6Q96V		15.05	18.59	22.91	26.16	27.13	29.58	32.05	28.35	19.16	13.32	10.95	9.92	9.83	10.35	10.31	9.29	AM
UTD6KJ		14.82	18.18	22.64	25.90	26.91	29.41	32.07	28.48	19.20	13.27	10.95	9.94	9.87	10.49	10.38	9.30	AM
UX7AC3		14.70	18.12	22.43	25.59	26.64	29.08	31.55	27.78	18.94	13.13	10.76	9.80	9.78	10.52	10.32	9.23	XH
V3HEM3		15.13	18.33	22.80	25.76	26.66	29.20	31.67	27.99	19.02	13.32	10.91	9.82	9.77	10.61	10.36	9.26	HP
VFNPUP		14.92	18.37	22.79	25.78	26.79	29.29	31.76	28.02	19.05	13.25	10.87	9.90	9.84	10.57	10.40	9.35	MM
VG3Z8V		14.73	17.83	21.12X	25.96	25.75X	28.87	31.22	27.72	19.09	13.36	10.63	9.58	9.68	10.17	10.19	9.18	GA
VH9KTB		14.94	18.41	22.93	25.96	26.96	29.37	31.87	28.15	19.08	13.28	10.94	9.94	9.87	10.58	10.44	9.40	AQ
VLTC6D		15.24	18.75	23.14	26.15	27.19	29.54	32.00	28.32	19.36	13.47	11.12	10.15	10.01	10.76	10.75X	9.77X	HF
VMM9D8		14.78	18.27	22.80	25.96	26.84	29.49	32.20	28.37	19.05	13.18	10.89	9.93	9.87	10.66	10.54	9.34	MV
VU4QQF		14.99	18.46	23.07	26.04	27.06	29.52	32.05	28.28	19.00	13.21	10.87	9.93	9.89	10.52	10.34	9.32	AO
WHWZT		15.46	18.34	22.75	25.95	26.77	29.30	32.07	28.46	19.01	13.15	10.86	9.90	9.81	10.65	10.50	9.37	MV
WQ4XDB		15.05	18.48	22.97	25.99	26.88	29.30	31.79	28.29	19.11	13.30	11.02	10.00	9.93	10.56	10.36	9.40	AJ
WRZDP8		15.54	18.66	23.38	25.97	27.04	29.44	32.05	27.95	18.94	13.31	10.96	10.01	9.95	11.04X	10.77X	9.66	HH
XT66BT		14.90	18.29	22.85	25.91	26.72	29.28	31.98	28.33	23.92X	13.10	10.83	9.86	9.78	10.60	10.47	9.35	MV
XY8EFZ		14.82	18.40	22.90	25.92	26.95	29.39	31.98	28.40	19.09	13.31	10.98	9.96	9.92	10.72	10.46	9.33	AO
Y2W3F8		14.27	17.86	22.06	25.13X	26.05X	28.59	30.96X	27.19X	18.34	12.76X	10.54	9.57	9.58	10.28	10.15	9.05	XM
Y4L9XJ		14.85	18.34	22.78	25.86	26.82	29.34	31.85	28.15	19.11	13.28	10.90	9.92	9.87	10.63	10.44	9.33	MM
YH383J		15.43	18.31	22.70	25.76	26.69	29.18	31.72	28.02	18.94	13.22	10.85	9.80	9.64	10.55	10.25	9.24	HP

Interlaboratory Testing Program for Color & Appearance

Analysis 411

Spectrophotometric - Sphere Geometry Instruments

Reflectance at 16 Selected Wavelengths

Summary Statistics

Grand Means															
15.00	18.27	22.68	25.80	26.77	29.26	31.79	28.07	19.04	13.20	10.90	9.87	9.82	10.54	10.37	9.32
Stnd Dev Btwn Labs															
0.51	0.24	0.31	0.21	0.24	0.25	0.28	0.31	0.50	0.13	0.48	0.11	0.10	0.14	0.13	0.13

Comments assigned on Data Flags for Test #411

7GLL9A (X) - High % reflectance data for most wavelengths.

AH3782 (X) - High % reflectance data at all wavelengths.

LELLN4 (X) - High and low % reflectance data at various wavelengths.

MLZNBW (X) - Low % reflectance data for most wavelengths.

Interlaboratory Testing Program for Color & Appearance

Analysis 440

60 Degree Gloss - Paint Chips

ASTM Method D 523

		Sample G141			Sample G142			
WebCode	Data Flag	Lab Mean	Difference from Grand Mean	Comparative Performance Value	Lab Mean	Difference from Grand Mean	Comparative Performance Value	Instr Code
2FNJD6		25.85	-0.52	-0.92	36.03	-0.31	-0.53	GK
2LTKDY		25.78	-0.60	-1.05	35.50	-0.84	-1.42	GK
33VGA3		26.98	0.60	1.06	36.73	0.39	0.66	GL
3ZRLV7		26.03	-0.35	-0.61	36.35	0.01	0.02	GK
4QGYYB		26.95	0.58	1.02	36.83	0.49	0.82	GL
4QYQC2		26.08	-0.30	-0.52	35.88	-0.46	-0.78	GB
4RCH3X		25.90	-0.47	-0.83	35.88	-0.46	-0.78	MH
64JPGA		25.55	-0.82	-1.45	35.93	-0.41	-0.70	GK
6UEM86		26.18	-0.20	-0.35	36.15	-0.19	-0.32	GL
6YAEHM		27.55	1.18	2.08	37.25	0.91	1.54	GL
9AUUWY		25.75	-0.62	-1.09	35.79	-0.55	-0.93	GL
A2DXA4		26.25	-0.12	-0.22	35.95	-0.39	-0.66	GL
AH3782		26.43	0.05	0.09	36.70	0.36	0.61	GL
ALLZ7M		25.48	-0.90	-1.58	35.58	-0.76	-1.29	GL
AW3TUW		26.78	0.40	0.71	36.68	0.34	0.57	GK
AXH827		25.93	-0.45	-0.79	36.08	-0.26	-0.44	GK
BNKW72		26.35	-0.02	-0.04	36.38	0.04	0.06	GK
BW3ZJV		26.15	-0.22	-0.39	36.18	-0.16	-0.28	GK
CECN2L		26.48	0.10	0.18	36.10	-0.24	-0.40	GL
CNLTCQ		26.23	-0.15	-0.26	36.03	-0.31	-0.53	GL
DCRU3Z		25.65	-0.72	-1.28	35.50	-0.84	-1.42	GN
DPTPWL		26.33	-0.05	-0.08	36.45	0.11	0.19	GN
DTPG3X	X	24.36	-2.02	-3.56	33.59	-2.75	-4.65	MR
DZWKFQ		26.15	-0.22	-0.39	35.98	-0.36	-0.61	RA
FKB3JT		25.85	-0.52	-0.92	35.98	-0.36	-0.61	GK
FNDZVL		26.05	-0.32	-0.57	35.78	-0.56	-0.95	GL
GCACA2		26.65	0.28	0.49	36.18	-0.16	-0.28	GL
GUVXUR		26.43	0.05	0.09	36.45	0.11	0.19	GL
HNPJRN		26.28	-0.10	-0.17	36.15	-0.19	-0.32	GN
HWCMRA		25.78	-0.60	-1.05	35.73	-0.61	-1.04	MW
JAJWUQ		25.83	-0.55	-0.97	35.70	-0.64	-1.08	GL
JFNTHW		26.48	0.10	0.18	36.23	-0.11	-0.19	GL
JNHU3G		26.43	0.05	0.09	36.38	0.04	0.06	GL
JWT2WY		26.18	-0.20	-0.35	35.83	-0.51	-0.87	GN
KE9Q7H		27.68	1.30	2.30	37.50	1.16	1.97	GL
KET72M		27.13	0.75	1.33	36.98	0.64	1.08	PC
KNWM9J		25.78	-0.60	-1.05	35.60	-0.74	-1.25	GK
KRYGAU		25.85	-0.52	-0.92	35.55	-0.79	-1.33	GL
KTUZEG		27.10	0.73	1.29	37.00	0.66	1.12	GL
LDCN2E	*	27.55	1.18	2.08	37.90	1.56	2.64	GL
LELLN4		26.33	-0.05	-0.08	35.90	-0.44	-0.74	GK
LFYCDE		25.85	-0.52	-0.92	36.23	-0.11	-0.19	GN
M4LAT2		26.33	-0.05	-0.08	36.58	0.24	0.40	GL
M76KNK		27.35	0.98	1.73	37.65	1.31	2.22	GK
MCH6XR	X	25.18	-1.20	-2.11	33.95	-2.39	-4.04	GB

Interlaboratory Testing Program for Color & Appearance

Analysis 440

60 Degree Gloss - Paint Chips

ASTM Method D 523

WebCode	Data Flag	Sample G141 Lab Mean	Sample G141 Difference from Grand Mean	Sample G141 Comparative Performance Value	Sample G142 Lab Mean	Sample G142 Difference from Grand Mean	Sample G142 Comparative Performance Value	Instr Code
MKN8XH		26.35	-0.02	-0.04	36.03	-0.31	-0.53	GB
N4FEMZ		26.40	0.03	0.05	36.50	0.16	0.27	GK
NAJJDY		25.63	-0.75	-1.32	36.03	-0.31	-0.53	GQ
NW2N6F		26.18	-0.20	-0.35	36.03	-0.31	-0.53	GL
P3GU9Z	X	25.05	-1.32	-2.33	34.45	-1.89	-3.20	GL
P67ZRC	X	30.48	4.10	7.24	35.95	-0.39	-0.66	GX
P6AHXM		26.00	-0.37	-0.66	36.00	-0.34	-0.57	GL
Q2ZWGZ		25.55	-0.82	-1.45	35.50	-0.84	-1.42	PA
QDUD72		26.50	0.13	0.23	36.58	0.24	0.40	GN
QKECZG		26.70	0.33	0.58	36.63	0.29	0.49	GL
QRFQJW	X	24.95	-1.42	-2.51	34.08	-2.26	-3.83	GB
QUHL6K		27.25	0.88	1.55	37.28	0.94	1.59	GK
QZ7CPU		27.48	1.10	1.95	37.33	0.99	1.67	MW
RAC7QE		25.78	-0.60	-1.05	35.73	-0.61	-1.04	XX
RDRXEM		25.90	-0.47	-0.83	36.10	-0.24	-0.40	GL
RE6BJJ		25.60	-0.77	-1.36	36.00	-0.34	-0.57	XX
T463DL		26.18	-0.20	-0.35	36.10	-0.24	-0.40	GN
TB3RWB		26.88	0.50	0.89	36.93	0.59	0.99	GL
TY9H3A		26.40	0.03	0.05	36.03	-0.31	-0.53	GL
TZHP4H		26.93	0.55	0.98	37.08	0.74	1.25	GL
UGKPVH		26.60	0.23	0.40	36.28	-0.06	-0.11	GN
VG3Z8V		25.83	-0.55	-0.97	35.98	-0.36	-0.61	GK
VWTZ2G		26.58	0.20	0.36	36.40	0.06	0.11	GL
WBMY8A		26.80	0.43	0.76	37.28	0.94	1.59	GK
WFYWTB		26.80	0.43	0.76	37.15	0.81	1.37	GL
WHWZTD	*	26.53	0.15	0.27	35.73	-0.61	-1.04	RA
WNVP7B		26.55	0.18	0.31	36.55	0.21	0.36	GL
Y2W3F8	*	28.00	1.63	2.87	37.98	1.64	2.77	HA
YL2KL3		26.45	0.08	0.14	36.80	0.46	0.78	GL
Z97TD4		26.10	-0.27	-0.48	36.08	-0.26	-0.44	GN
ZDG2GU		26.93	0.55	0.98	36.85	0.51	0.87	GK

Summary Statistics

	Sample G141		Sample G142	
Grand Means	26.37	Gloss Units	36.34	Gloss Units
Stnd Dev Btwn Labs	0.57	Gloss Units	0.59	Gloss Units

Statistics based on 71 of 76 reporting participants

Interlaboratory Testing Program for Color & Appearance

Analysis 440

60 Degree Gloss - Paint Chips

ASTM Method D 523

Comments on assigned Data Flags for Test #440

DTPG3X(X) - Data for both samples are low. Also Inconsistent in testing within Sample G142.

MCH6XR(X) - Inconsistent in testing between samples, data for Sample G142 are low.

P3GU9Z(X) - Inconsistent in testing between samples, data for Sample G142 are low.

P67ZRC(X) - Inconsistent in testing between samples, data for Sample G141 are high. Also Inconsistent in testing within Sample G141.

QRFQJW(X) - Inconsistent in testing between samples, data for Sample G142 are low.

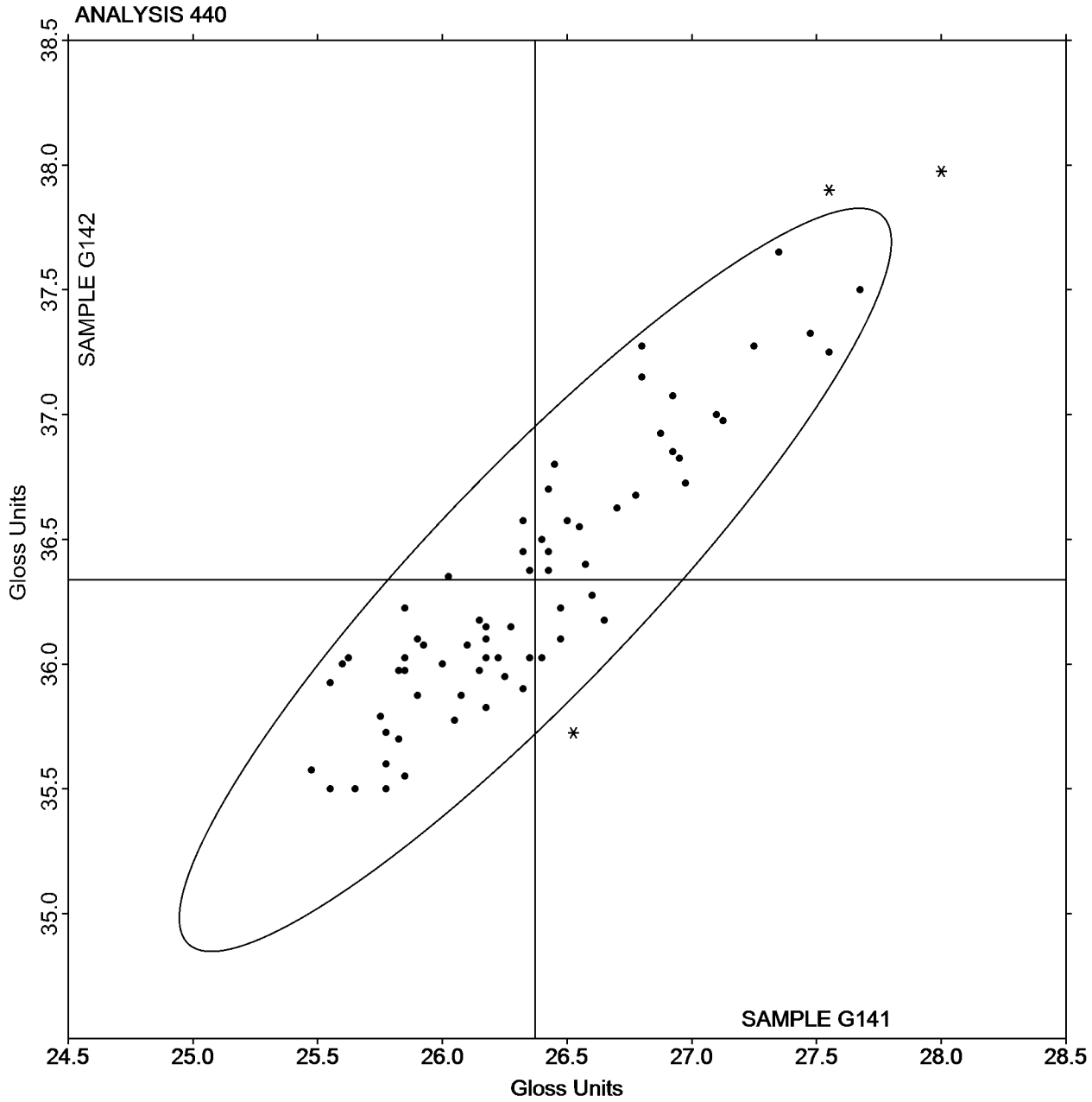
Interlaboratory Testing Program for Color & Appearance

Analysis 440

60 Degree Gloss - Paint Chips

ASTM Method D 523

SAMPLE G141 = 26.37 Gloss Units SAMPLE G142 = 36.34 Gloss Units



Interlaboratory Testing Program for Color & Appearance

Analysis 442

85 Degree Gloss - Paint Chips

ASTM Method D 523

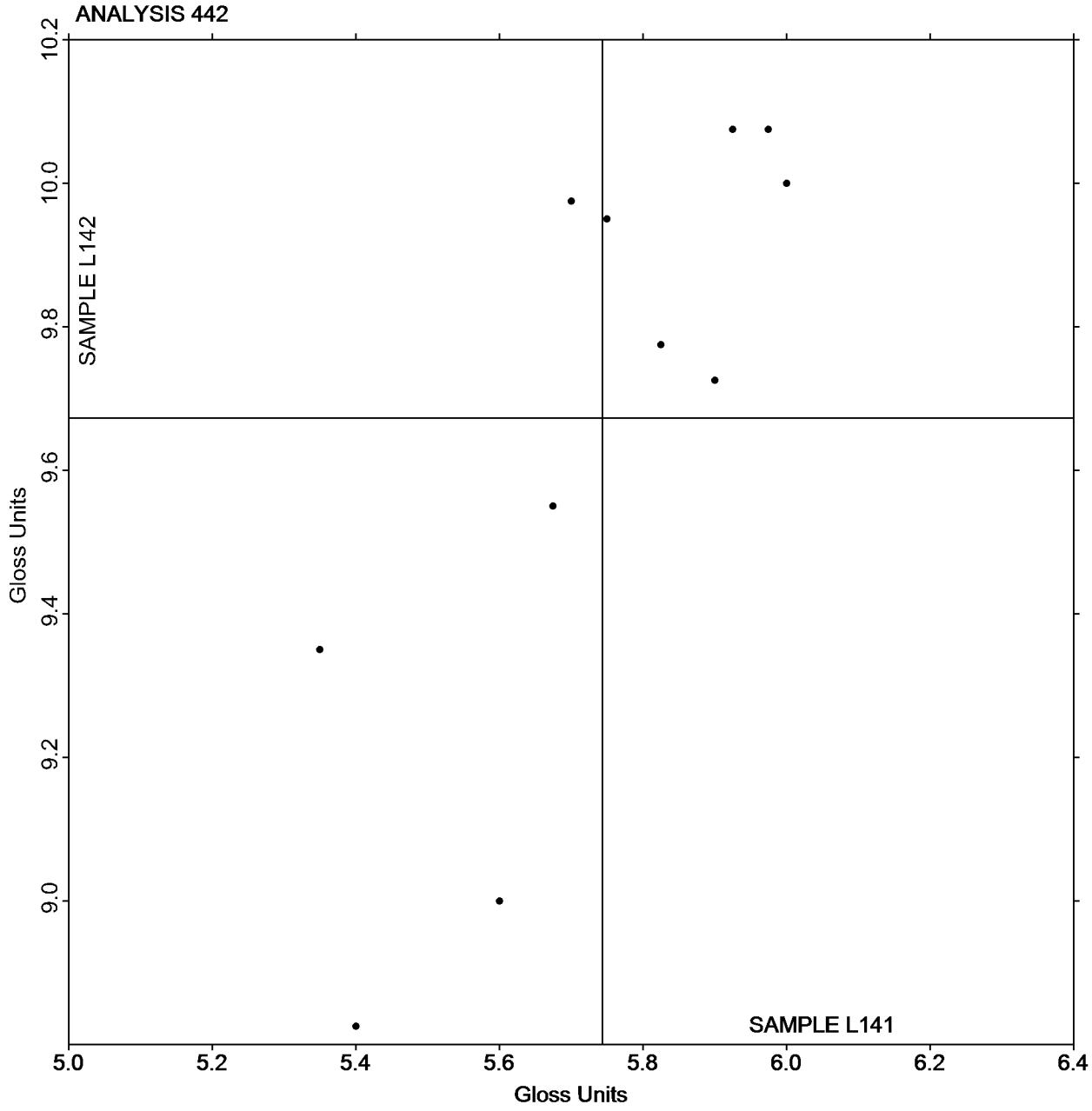
WebCode	Data Flag	Sample L141 Lab Mean	Sample L141 Difference from Grand Mean	Sample L141 Comparative Performance Value	Sample L142 Lab Mean	Sample L142 Difference from Grand Mean	Sample L142 Comparative Performance Value	Instr Code
33VGA3		5.60	-0.14	-0.68	9.00	-0.67	-1.61	GL
4QGYYB		5.70	-0.04	-0.21	9.98	0.30	0.72	GL
A2DXA4		5.68	-0.07	-0.33	9.55	-0.12	-0.29	GL
CECN2L		5.93	0.18	0.86	10.08	0.40	0.96	GL
HNPJRN		5.90	0.16	0.74	9.73	0.05	0.12	GL
JNHU3G		5.35	-0.39	-1.87	9.35	-0.32	-0.77	GL
KE9Q7H		5.98	0.23	1.10	10.08	0.40	0.96	GL
LFYCDE		5.40	-0.34	-1.63	8.83	-0.85	-2.03	GN
NRL4C9		5.83	0.08	0.38	9.78	0.10	0.24	GN
P6AHXM		6.00	0.26	1.21	10.00	0.33	0.78	GL
QDUD72		5.75	0.01	0.03	9.95	0.28	0.66	GN
QKECZG		5.83	0.08	0.38	9.78	0.10	0.24	GL

Summary Statistics

	Sample L141		Sample L142	
Grand Means	5.74	Gloss Units	9.67	Gloss Units
Stnd Dev Btwn Labs	0.21	Gloss Units	0.42	Gloss Units

Statistics based on 12 of 12 reporting participants

SAMPLE L141 = 5.74 Gloss Units SAMPLE L142 = 9.67 Gloss Units



Instrument Code List - Report# 169

Instrument information as provided by laboratories

Analysis	Analysis Name
440	Gloss 60 Degree (Paint Chips)

Instrument code and descript

GB	BYK Gardner Spectro - Guide Sphere Gloss
GK	BYK-Gardner micro-gloss (60)
GL	BYK-Gardner micro-TRI-gloss
GN	BYK-Gardner new micro-TRI-gloss
GQ	BYK-Gardner haze-gloss
GX	BYK-Gardner (model not specified)
HA	Horiba 60 Degree Glossmeter
MH	X-Rite/Macbeth Color-Eye XTH
MR	Macbeth Novo-Gloss (20/60/85)
MW	Minolta Multi-Gloss 268
PA	Photovolt micto-TRI-gloss G3
PC	Picogloss 503 Erichson
RA	Rhopoint Novo-Gloss Glossmeter
XX	Instrument make/model not specified by lab

442	Gloss 85 Degree (Paint Chips)

Instrument code and descript

GL	BYK-Gardner micro-TRI-gloss
GN	BYK-Gardner new micro-TRI-gloss

Instrument Code List - Report# 169

Instrument information as provided by laboratories

Analysis Analysis Name

408 Color & Color Difference (Paint Chips) - 45-0

Instrument code and descript

AB	Data Color
AE	ACS Chroma-Sensor CS-3
GB	BYK-Gardner spectro-guide sphere gloss
GD	BYK-Gardner The Color Machine
GE	BYK-Gardner spectro-guide (45/0)
GH	BYK-Gardner Color-View
GU	Gretag Spectrolino Spectrophotometer
HK	Hunter MiniScan XE (45/0)
HW	Hunter LabScan XE
HY	Hunter Color Flex 45/0
MG	Macbeth 1500/PLUS or 2025+ Color Eye
MQ	Minolta CM-503c Spectrophotometer
TN	Topcon SR-1 Spectroradiometer
XK	X-Rite MA100 Multi-Angle SpectroPhotometer
XM	X-Rite MA58 Multi-Angle SpectroPhotometer
XN	X-Rite MA68 Multi-Angle SpectroPhotometer
XO	X-Rite MA68 II Multi-Angle SpectroPhotometer
XR	X-Rite 968 Portable SpectroPhotometer
XU	X-Rite 964 Portable SpectroPhotometer
XV	X-Rite 939 SpectroDensitometer
XX	Instrument make/model not specified by lab
XZ	X-Rite

409 Color & Color Difference (Paint Chips) Sphere

Instrument code and descript

AJ	ACS-Datacolor 600
AL	ACS-Datacolor Intl. Dataflash 100
AM	ACS-Datacolor 600 Plus
AO	ACS-Datacolor 650X
AQ	ACS-Datacolor 600X
AR	Datacolor 400
CA	Cary 5000
CE	Cary 500
GA	BYK Gardner Color-Guide Gloss
GC	BYK-Gardner color-sphere
GD	BYK-Gardner spectro-guide sphere
GF	BYK-Gardner The Color Sphere (TCS)
GG	BYK-Gardner TCS II
HF	Hunter ColorFlex Diffuse
HG	Hunter ColorQUEST
HH	Hunter ColorQUEST XE
HP	Hunter UltraScan PRO
HW	Hunter UltraScan XE
MG	Macbeth 2180 Color Eye
MI	Macbeth Color i 5
MJ	Macbeth Color-Eye 3000
MK	Macbeth Color-Eye 7000
MM	Macbeth Color-Eye 7000a
MT	Minolta CM-2600d
MU	Minolta
MV	Minolta CM-3000d Series Spectrophotometer
PE	Perkin Elmer Spectrophotometer
XH	X-Rite Color i5
XI	X-Rite Color i7
XM	X-Rite SP62 Portable Sphere Spectrophotometer
XO	X-Rite SP64 Portable Sphere Spectrophotometer
XU	X-Rite Color Premier 8200 Spectrophotometer
XX	Instrument make/model not specified by lab
XZ	X-Rite

Instrument Code List - Report# 169

Instrument information as provided by laboratories

Analysis	Analysis Name
411	Spectrophotometric (Paint Chips) - Sphere

Instrument code and descript

AJ	ACS-Datacolor 600
AL	ACS-Datacolor Intl. Dataflash 100
AM	ACS-Datacolor 600 Plus
AO	ACS-Datacolor 650
AQ	ACS-Datacolor 600X
AR	Datacolor 400
CA	Cary 5000
CE	Cary 500
GA	BYK Gardner Color - Guide Gloss
GD	BYK-Gardner spectro-guide sphere
GG	BYK-Gardner TCS II
HF	Hunter ColorFlex Diffuse
HG	Hunter ColorQUEST
HH	Hunter ColorQUEST XE
HP	Hunter UltraScan PRO
HW	Hunter UltraScan XE
MI	Macbeth Color i5
MJ	Macbeth Color-Eye 3000 Spectrophotometer
MK	Macbeth Color-Eye 7000 Spectrophotometer
MM	Macbeth Color-Eye 7000a
MT	Minolta CM-2600d
MU	Minolta
MV	Minolta CM-3000d Series Spectrophotometer
PE	Perkin Elmer Spectrophotometer
XH	X-Rite Color i5
XI	X-Rite Color i7
XM	X-Rite SP62
XO	X-Rite SP64
XU	X-RiteColor Premier 8200 Spectrophotometer
XX	Instrument make/model not specified by lab