



Color & Appearance Testing Program

Summary Report #216 - 2nd Qtr 2026

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<u>Analysis</u>	<u>Analysis Name</u>
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408	Color & Color Difference-45-0, D65/10° Observer
409	Color & Color Difference Sphere, D65/10°Observer
411	Spectrophotometric - Sphere
440	Gloss 60 Degree

About The Color & Appearance 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, Collaborative Testing Services, Inc. (CTS) is a privately - owned company that specializes in interlaboratory tests for a variety of industries including color, rubber, plastics, fasteners and metals, containerboard, paper, agriculture, hemp, and wine, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality assurance objectives. Labs from the U.S., as well as more than 100 countries, currently participate in the CTS programs.

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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 emailed 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:

<u>DATA FLAG</u>	<u>STATISTICALLY INCLUDED/EXCLUDED</u>	<u>ACTION REQUIRED</u>
*	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 emailed 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:

<u>DATA FLAG</u>	<u>STATISTICALLY INCLUDED/EXCLUDED</u>	<u>ACTION REQUIRED</u>
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 a flag on individual wavelength values as follows:

- * The laboratory's mean for that wavelength deviates from the GRAND MEAN by more than two BETWEEN-LAB STANDARD DEVIATIONS.
- X The laboratory's mean for that wavelength deviates from the GRAND MEAN by more than the critical limit determined by a 99.5% confidence interval.

Key for 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 emailed 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:

<u>DATA FLAG</u>	<u>STATISTICALLY INCLUDED/EXCLUDED</u>	<u>ACTION REQUIRED</u>
*	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.



CTS Interlaboratory Testing Program for Color & Appearance Report #216
Analysis 408 2nd Qtr 2026

Color and Color Difference - Paint Chips - 45-0 Geometry Instruments
 CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

WebCode	Flag	Samples	CIE L* a* b* Color Values			Color Difference Values				InstrCode
			L*	a*	b*	ΔL^*	Δa^*	Δb^*	ΔE^*	
2NQZKP		B261	35.98	7.72	-5.85	0.78	0.16	-0.65	1.02	XJ
		B262	36.75	7.88	-6.50					
2TMRQ2	X	B261	36.17	7.03	-5.92	0.73	0.19	-0.64	0.99	GE
		B262	36.90	7.22	-6.56					
48FXZM		B261	33.46	8.43	-5.87	0.55	0.25	-0.71	0.93	XE
		B262	34.01	8.68	-6.57					
4N2L8W		B261	32.83	8.17	-5.77	0.63	0.18	-0.69	0.95	GG
		B262	33.46	8.35	-6.46					
6FRM2R		B261	32.91	8.41	-5.95	0.75	0.27	-0.68	1.05	XP
		B262	33.66	8.68	-6.63					
8FMP7M		B261	33.48	8.25	-6.15	0.60	0.20	-0.69	0.94	XW
		B262	34.08	8.45	-6.84					
8M3H7K		B261	33.54	8.01	-6.06	0.64	0.20	-0.66	0.94	XL
		B262	34.17	8.21	-6.72					
A7QTWG		B261	33.78	8.23	-5.66	0.60	0.23	-0.69	0.95	XU
		B262	34.38	8.46	-6.35					
AZXJWQ		B261	33.12	8.35	-5.81	0.52	0.21	-0.72	0.91	XY
		B262	33.64	8.56	-6.52					
BWCF3Q	X	B261	43.29	6.23	-5.47	1.70 X	0.04 X	-0.48 X	1.76 X	HL
		B262	44.98	6.26	-5.95					
CC3QEL		B261	33.68	8.26	-5.82	0.65	0.19	-0.68	0.96	XU
		B262	34.33	8.45	-6.50					
CYH2RC		B261	33.57	8.40	-5.73	0.65	0.20	-0.68	0.96	HX
		B262	34.22	8.60	-6.41					
DDUWKD		B261	33.47	8.18	-5.95	0.43	0.15	-0.67	0.81 X	XI
		B262	33.90	8.33	-6.62					
E6XF9E		B261	32.94	8.55	-6.04	0.63	0.17	-0.70	0.95	WA
		B262	33.57	8.73	-6.73					
EYCG2E		B261	32.07	8.57	-6.31	0.70	0.19	-0.74	1.03	PR
		B262	32.77	8.75	-7.05					
FEJV39		B261	33.14	8.48	-5.98	0.66	0.20	-0.71	0.99	XM
		B262	33.80	8.68	-6.69					



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Color and Color Difference - Paint Chips - 45-0 Geometry Instruments
 CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

WebCode	Flag	Samples	CIE L* a* b* Color Values			Color Difference Values				InstrCode
			L*	a*	b*	ΔL^*	Δa^*	Δb^*	ΔE^*	
JMDJVF		B261	32.75	8.52	-5.90	0.69	0.20	-0.72	1.02	XS
		B262	33.44	8.72	-6.62					
JMHZTE		B261	34.02	8.47	-5.83	0.76	0.16	-0.66	1.02	HY
		B262	34.78	8.63	-6.49					
MHQZ49		B261	33.81	8.21	-5.80	0.63	0.21	-0.70	0.96	XU
		B262	34.44	8.42	-6.50					
NLREE6		B261	33.49	8.14	-5.82	0.76	0.18	-0.67	1.03	XU
		B262	34.25	8.32	-6.49					
NMNUQ3		B261	33.33	8.76	-5.73	0.64	0.22	-0.70	0.97	HW
		B262	33.97	8.97	-6.43					
PAVJRA		B261	32.62	8.25	-5.87	0.63	0.20	-0.69	0.95	GA
		B262	33.25	8.45	-6.56					
PFWTX3		B261	34.01	8.15	-5.76	0.70	0.24	-0.72	1.03	HM
		B262	34.72	8.39	-6.48					
PX423W		B261	33.65	8.30	-5.60	0.70	0.19	-0.66	0.98	HW
		B262	34.35	8.48	-6.26					
QQGBG2		B261	32.59	8.48	-6.01	0.76	0.21	-0.72	1.07	MT
		B262	33.35	8.70	-6.73					
RXQBZ3		B261	32.10	8.55	-6.27	0.82	0.09 X	-0.68	1.07	BG
		B262	32.92	8.64	-6.95					
TXPXTZ		B261	33.85	8.20	-5.91	0.68	0.20	-0.73	1.02	HK
		B262	34.53	8.40	-6.64					
U4U6XV		B261	33.26	8.37	-5.88	0.47	0.25	-0.77 X	0.93	XO
		B262	33.73	8.63	-6.65					
UX6GCX		B261	33.79	8.11	-5.70	0.55	0.23	-0.72	0.94	XU
		B262	34.35	8.35	-6.42					
VZL9RX		B261	34.33	8.33	-5.71	0.73	0.22	-0.68	1.02	MG
		B262	35.05	8.55	-6.39					
WNCXW		B261	32.91	8.40	-5.96	0.67	0.19	-0.68	0.98	XU
		B262	33.58	8.59	-6.64					
XGZGQY		B261	32.35	8.43	-6.25	0.71	0.16	-0.68	1.00	BG
		B262	33.07	8.59	-6.93					



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WebCode	Flag	Samples	CIE L* a* b* Color Values			Color Difference Values				InstrCode
			L*	a*	b*	ΔL^*	Δa^*	Δb^*	ΔE^*	
YTFGBY		B261	34.13	8.32	-5.62	0.66	0.22	-0.67	0.96	HW
		B262	34.78	8.54	-6.29					
YTGELU		B261	33.02	8.43	-6.04	0.83	0.18	-0.71	1.10	XQ
		B262	33.85	8.61	-6.75					
Z96ZEZ		B261	32.92	8.16	-5.76	0.66	0.19	-0.68	0.96	GG
		B262	33.57	8.35	-6.43					

Summary Statistics								
Samples	L*	a*	b*	ΔL^*	Δa^*	Δb^*	ΔE^*	
Grand Means								
B261	33.44	8.31	-5.89	0.66	0.20	-0.69	0.98	
B262	34.10	8.51	-6.58					
Std Dev Btwn Labs								
B261	0.87	0.19	0.18	0.09	0.03	0.03	0.06	
B262	0.88	0.20	0.18					

Statistics based on 33 of 35 reporting participants

Comments Assigned on Data Flags for Test #408

2TMRQ2(X) - Extreme data for both a* values.

BWCF3Q(X) - Extreme data for both L* & a* values. High b* values for Sample B262. Large Delta L, b & E. Small Delta a

Key to Instrument Codes Reported by Participants

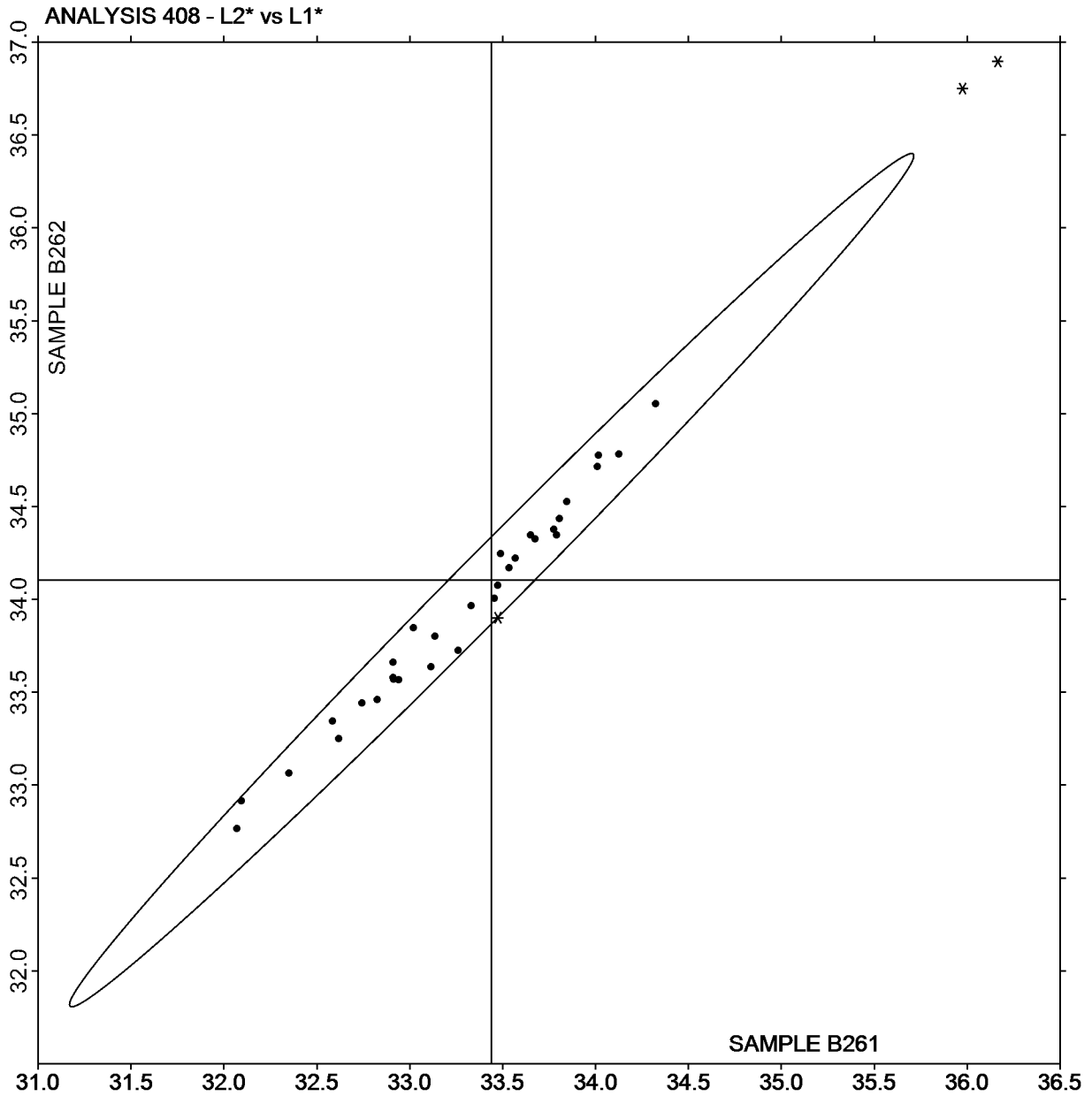
BG BYK Mac i	GA BYK-Gardner
GE BYK-Gardner spectro-guide (45/0)	GG BYK-Gardner spectro2-guide (45/0) gloss
HK Hunter MiniScan XE (45/0)	HL Hunter Agera
HM Hunter MiniScan EZ 4500L	HW Hunter LabScan XE
HX Hunter Color FlexEZ 45/0	HY Hunter Color Flex 45/0
MG Macbeth 1500/PLUS or 2025+ Color Eye	MT Minolta CM-25cG Spectrophotometer
PR PhotoResearch PR730	WA X-Rite MA-5 QC Multi-Angle Spectrophotometer
XE X-Rite eXact Portable Spectrophotometer	XI X-Rite i1 Pro 3
XJ X-Rite Ci7XX0	XL X-Rite i1 iSis 2
XM X-Rite MA58 Multi-Angle Spectrophotometer	XO X-Rite MA68 II Multi-Angle Spectrophotometer
XP X-Rite MA9 Multi-Angle Spectrophotometer	XQ X-Rite Ci6x
XS X-Rite 962 Portable Spectrophotometer	XU X-Rite 964 Portable Spectrophotometer
XW X-Rite	XY X-Rite MA T6 Multi-Angle Spectrophotometer



L2* vs L1*

SAMPLE B261 = 33.44

SAMPLE B262 = 34.10



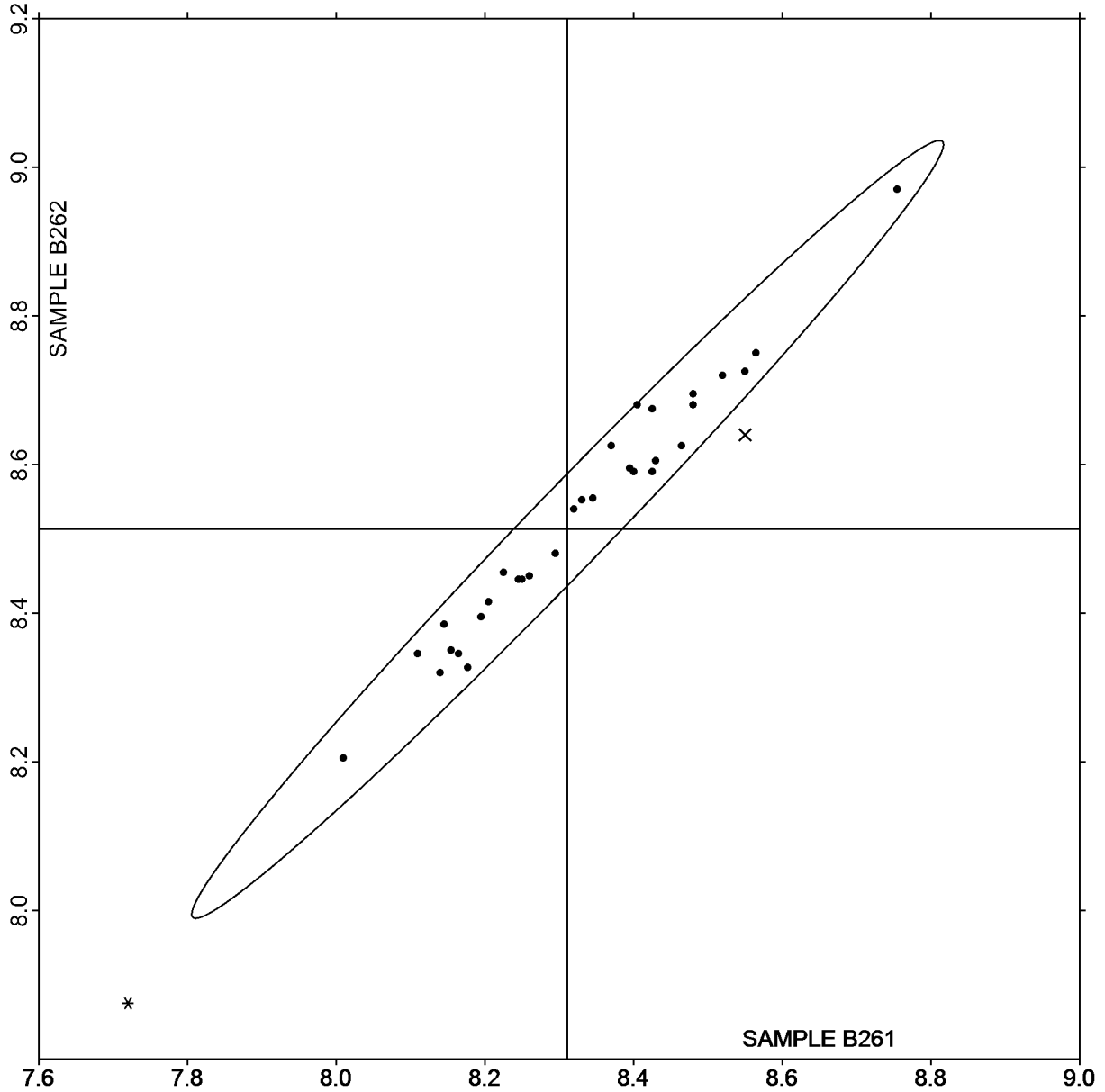


a2* vs a1*

SAMPLE B261 = 8.31

SAMPLE B262 = 8.51

ANALYSIS 408 - a2* vs a1*



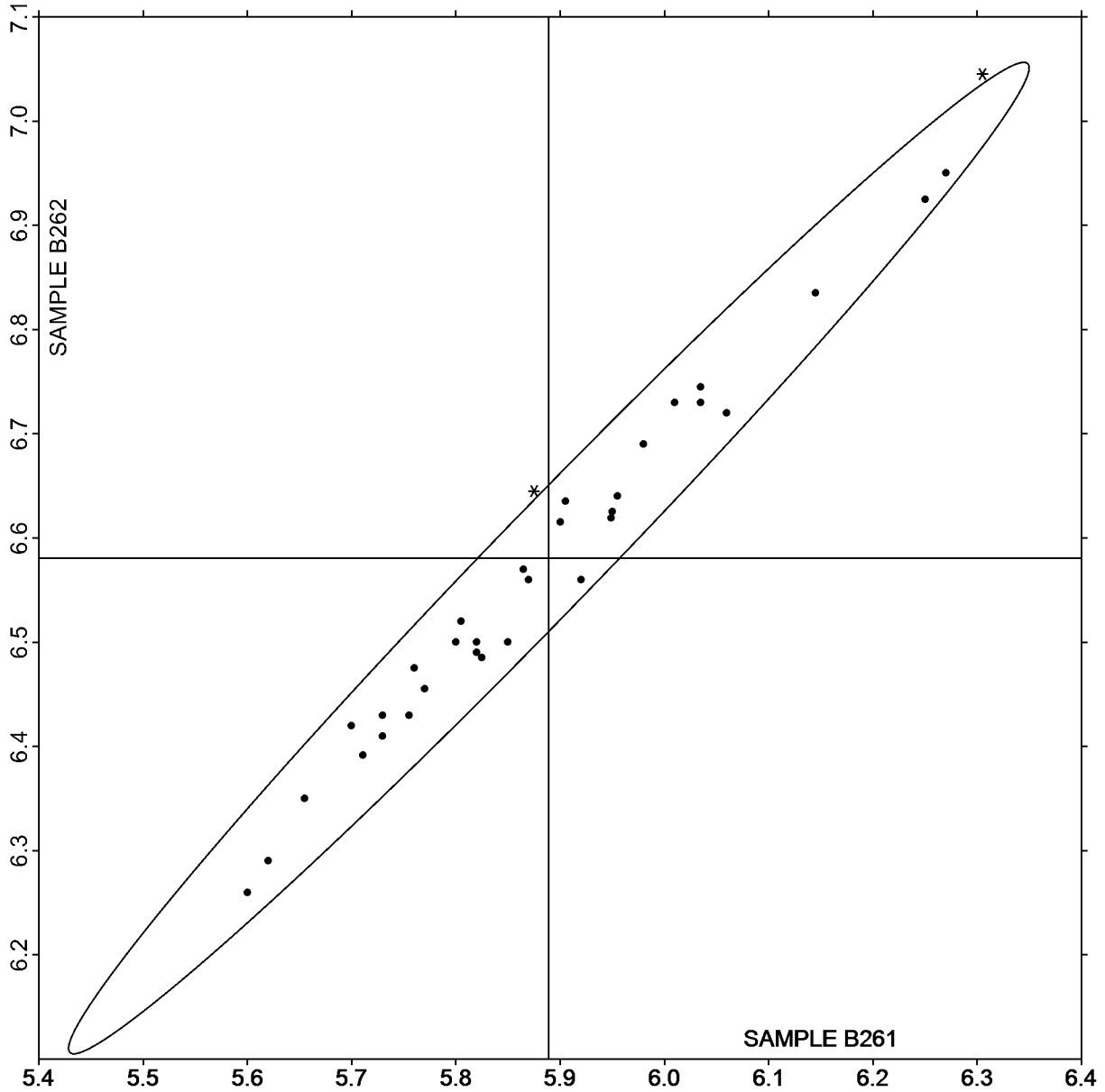


b2* vs b1*

SAMPLE B261 = -5.89

SAMPLE B262 = -6.58

ANALYSIS 408 - b2* vs b1*



Plot created using absolute values.



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WebCode	Flag	Samples	CIE L* a* b* Color Values			Color Difference Values				InstrCode
			L*	a*	b*	ΔL^*	Δa^*	Δb^*	ΔE^*	
2KYKJX		B261	35.96	7.58	-5.77	0.79	0.14	-0.62	1.01	XG
		B262	36.74	7.72	-6.39					
3GCECL		B261	36.08	7.65	-5.88	0.76	0.15	-0.63	1.00	XD
		B262	36.84	7.80	-6.51					
3N8GDY		B261	35.91	7.71	-5.99	0.75	0.14	-0.61	0.98	XH
		B262	36.66	7.85	-6.60					
4U8F2R		B261	36.10	7.68	-5.82	0.74	0.19	-0.66	1.01	AS
		B262	36.85	7.87	-6.47					
6FRM2R		B261	36.66	7.49	-5.64	0.75	0.17	-0.62	0.99	XF
		B262	37.41	7.65	-6.26					
7BDAYJ		B261	36.15	7.68	-5.81	0.79	0.17	-0.62	1.02	AU
		B262	36.94	7.84	-6.43					
7EW2AM		B261	36.66	7.50	-5.73	0.84 X	0.20	-0.64	1.07 X	XC
		B262	37.50	7.70	-6.37					
7QLC8R		B261	36.28	7.52	-5.88	0.74	0.17	-0.63	0.99	AQ
		B262	37.02	7.69	-6.51					
7RHTJN		B261	36.23	7.64	-5.96	0.72	0.19	-0.64	0.98	MT
		B262	36.96	7.83	-6.60					
87W4ZP		B261	35.90	7.67	-5.83	0.79	0.16	-0.63	1.03	XD
		B262	36.69	7.83	-6.47					
8FMMGH		B261	36.33	7.57	-5.68	0.80	0.20	-0.63	1.04	AW
		B262	37.13	7.77	-6.32					
8VB9AN	X	B261	36.22	7.43	-6.10	0.74	0.20	-0.69 X	1.03	HP
		B262	36.96	7.63	-6.79					
9ELA9F		B261	36.02	7.57	-5.74	0.76	0.15	-0.60	0.98	XI
		B262	36.77	7.71	-6.35					
9HKPEH		B261	36.22	7.51	-5.67	0.77	0.18	-0.66	1.03	MP
		B262	36.99	7.69	-6.33					
ADMHMU		B261	36.41	7.53	-5.63	0.79	0.15	-0.60	1.00	AT
		B262	37.20	7.68	-6.23					
AZXJWQ		B261	36.25	7.49	-5.77	0.77	0.13	-0.62	1.00	MP
		B262	37.02	7.62	-6.38					



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WebCode	Flag	Samples	CIE L* a* b* Color Values			Color Difference Values				InstrCode
			L*	a*	b*	ΔL^*	Δa^*	Δb^*	ΔE^*	
BTVYYE		B261	36.35	7.52	-5.64	0.76	0.17	-0.64	1.01	AW
		B262	37.11	7.69	-6.29					
CC3QEL		B261	36.05	7.73	-5.98	0.76	0.19	-0.62	1.00	XE
		B262	36.81	7.91	-6.60					
D2YT8C		B261	35.85	7.73	-5.89	0.75	0.19	-0.64	1.00	XE
		B262	36.60	7.92	-6.53					
D4KR9M		B261	36.47	7.54	-5.93	0.77	0.20	-0.66	1.03	MV
		B262	37.24	7.74	-6.59					
DMJV2B		B261	36.35	7.59	-5.69	0.77	0.17	-0.63	1.01	AP
		B262	37.12	7.76	-6.32					
E3PED8		B261	35.99	7.60	-5.94	0.77	0.19	-0.65	1.02	XD
		B262	36.76	7.78	-6.59					
E6XF9E		B261	36.19	7.44	-5.89	0.77	0.13	-0.63	1.00	HP
		B262	36.96	7.56	-6.52					
EXJHT8		B261	35.94	7.77	-5.96	0.77	0.17	-0.67	1.03	XD
		B262	36.71	7.94	-6.63					
EYCG2E		B261	36.10	7.57	-6.05	0.71	0.14	-0.63	0.96	CA
		B262	36.81	7.70	-6.67					
F6BCEJ		B261	36.30	7.60	-5.80	0.76	0.14	-0.64	1.00	AJ
		B262	37.06	7.74	-6.44					
FD7HXC		B261	36.33	7.48	-5.70	0.77	0.22	-0.65	1.03	AT
		B262	37.10	7.70	-6.35					
FEMEPC		B261	36.69	7.50	-5.70	0.78	0.21	-0.61	1.01	XC
		B262	37.47	7.71	-6.31					
FHLTBF		B261	36.32	7.63	-5.76	0.78	0.16	-0.62	1.01	AT
		B262	37.09	7.79	-6.38					
GA2A78		B261	36.19	7.61	-5.68	0.77	0.16	-0.63	1.01	AT
		B262	36.96	7.77	-6.31					
GAHH6A		B261	36.19	7.62	-5.77	0.77	0.17	-0.62	1.00	AU
		B262	36.96	7.79	-6.39					
GEGKJB		B261	35.84	7.67	-5.82	0.77	0.20	-0.65	1.02	XD
		B262	36.61	7.87	-6.46					



CTS Interlaboratory Testing Program for Color & Appearance **Report #216**
Analysis 409 **2nd Qtr 2026**

Color and Color Difference - Paint Chips - Sphere Geometry Instruments
 CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

WebCode	Flag	Samples	CIE L* a* b* Color Values			Color Difference Values				InstrCode
			L*	a*	b*	ΔL^*	Δa^*	Δb^*	ΔE^*	
JKW3R4		B261	36.05	7.66	-5.86	0.77	0.17	-0.66	1.02	XD
		B262	36.82	7.82	-6.52					
JMDJVF		B261	36.20	7.61	-5.63	0.79	0.10	-0.64	1.03	AJ
		B262	36.99	7.71	-6.27					
JPTTXE		B261	36.32	7.67	-5.73	0.76	0.13	-0.61	0.98	AS
		B262	37.08	7.80	-6.35					
JQXB7H		B261	36.25	7.59	-5.81	0.75	0.16	-0.65	1.01	MU
		B262	37.00	7.75	-6.46					
KKDHKB		B261	36.14	7.63	-5.90	0.74	0.17	-0.63	0.99	MK
		B262	36.88	7.80	-6.53					
LQDG97		B261	35.89	7.74	-5.88	0.75	0.14	-0.64	1.00	XU
		B262	36.65	7.88	-6.52					
MHQZ49		B261	36.08	7.69	-5.94	0.77	0.14	-0.61	0.99	XB
		B262	36.85	7.83	-6.55					
MVNUQ4		B261	35.83	7.66	-5.81	0.75	0.17	-0.65	1.00	XI
		B262	36.58	7.82	-6.46					
N29AU2		B261	36.63	7.51	-5.65	0.77	0.16	-0.64	1.01	XO
		B262	37.40	7.67	-6.28					
NLREE6		B261	36.02	7.61	-5.94	0.76	0.17	-0.63	1.00	XD
		B262	36.77	7.78	-6.58					
NM7L38		B261	36.36	7.58	-5.70	0.76	0.21	-0.66	1.03	AP
		B262	37.12	7.80	-6.36					
NYUWZD		B261	35.86	7.76	-5.79	0.78	0.16	-0.63	1.02	MM
		B262	36.65	7.91	-6.43					
PAVJRA		B261	36.21	7.61	-5.66	0.76	0.13	-0.63	0.99	AU
		B262	36.97	7.75	-6.29					
PUELLA		B261	36.04	7.68	-5.94	0.75	0.14	-0.63	0.99	XD
		B262	36.78	7.81	-6.58					
PYDZ8D		B261	36.09	7.63	-5.83	0.76	0.18	-0.66	1.02	XG
		B262	36.85	7.81	-6.49					
PYWYB3		B261	36.34	7.55	-5.85	0.76	0.15	-0.63	1.00	CA
		B262	37.10	7.70	-6.48					



CTS Interlaboratory Testing Program for Color & Appearance **Report #216**
Analysis 409 **2nd Qtr 2026**

Color and Color Difference - Paint Chips - Sphere Geometry Instruments
 CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

WebCode	Flag	Samples	CIE L* a* b* Color Values			Color Difference Values				InstrCode
			L*	a*	b*	ΔL^*	Δa^*	Δb^*	ΔE^*	
QBL6X7		B261	36.20	7.60	-6.01	0.77	0.15	-0.61	0.99	XD
		B262	36.97	7.75	-6.61					
QGBQTY		B261	35.82	7.72	-5.97	0.76	0.16	-0.67	1.02	XB
		B262	36.58	7.88	-6.64					
QQGBG2		B261	35.90	7.65	-5.96	0.76	0.19	-0.65	1.01	XB
		B262	36.65	7.84	-6.61					
QV9QF9		B261	36.57	7.49	-5.61	0.77	0.18	-0.61	1.00	XF
		B262	37.35	7.67	-6.22					
R2DXL4		B261	36.37	7.51	-5.71	0.79	0.22	-0.68	1.06	AJ
		B262	37.15	7.72	-6.39					
R6DAG4		B261	36.33	7.51	-5.64	0.74	0.13	-0.63	0.98	AJ
		B262	37.07	7.64	-6.27					
T2N9NZ		B261	36.25	7.67	-5.67	0.79	0.17	-0.63	1.02	AS
		B262	37.04	7.84	-6.30					
T4QANX		B261	35.85	7.72	-5.90	0.81	0.15	-0.60	1.02	XD
		B262	36.66	7.87	-6.49					
TMBNGU		B261	35.97	7.65	-5.86	0.73	0.17	-0.64	0.99	XE
		B262	36.71	7.83	-6.50					
U8DYY3		B261	35.99	7.67	-5.85	0.73	0.19	-0.67	1.00	XD
		B262	36.72	7.86	-6.52					
UDF96V		B261	36.62	7.51	-5.59	0.74	0.19	-0.63	0.99	XF
		B262	37.36	7.70	-6.23					
UZBYBT		B261	36.31	7.65	-5.74	0.76	0.15	-0.63	1.00	AU
		B262	37.07	7.80	-6.37					
VB6PFX		B261	36.33	7.60	-5.70	0.77	0.19	-0.66	1.03	AW
		B262	37.10	7.79	-6.36					
VBTVZX		B261	36.22	7.57	-5.83	0.78	0.16	-0.62	1.01	MW
		B262	37.01	7.74	-6.45					
W3CUXU		B261	35.92	7.56	-5.83	0.74	0.17	-0.65	1.00	XG
		B262	36.66	7.73	-6.48					
WFVCZ6		B261	35.94	7.62	-5.93	0.78	0.17	-0.65	1.03	XX
		B262	36.73	7.79	-6.58					



CTS Interlaboratory Testing Program for Color & Appearance **Report #216**
Analysis 409 **2nd Qtr 2026**

Color and Color Difference - Paint Chips - Sphere Geometry Instruments
 CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

WebCode	Flag	Samples	CIE L* a* b* Color Values			Color Difference Values				InstrCode
			L*	a*	b*	ΔL^*	Δa^*	Δb^*	ΔE^*	
WNCXW		B261	36.30	7.62	-5.83	0.74	0.17	-0.64	1.00	XH
		B262	37.04	7.79	-6.47					
X4F2MY		B261	36.35	7.46	-5.76	0.75	0.16	-0.62	0.98	MW
		B262	37.10	7.61	-6.37					
XHGDJY		B261	35.89	7.70	-5.89	0.74	0.17	-0.64	0.99	XB
		B262	36.63	7.88	-6.53					
XT2RCT		B261	36.09	7.58	-6.04	0.79	0.14	-0.64	1.03	HP
		B262	36.88	7.71	-6.68					
XTHZBV		B261	35.86	7.74	-5.86	0.75	0.13	-0.63	1.00	XG
		B262	36.61	7.87	-6.49					
YAGDJW		B261	36.19	7.59	-5.74	0.76	0.18	-0.67	1.02	AS
		B262	36.95	7.77	-6.41					
YCNRQ3		B261	35.84	7.67	-5.79	0.85 X	0.00 X	-0.63	1.06	XD
		B262	36.69	7.67	-6.41					
YEV8YU		B261	35.99	7.69	-5.91	0.76	0.14	-0.63	0.99	XD
		B262	36.75	7.83	-6.53					
YJ7CZU		B261	36.53	7.59	-5.76	0.76	0.15	-0.59	0.97	MV
		B262	37.29	7.74	-6.35					
YKHZBT		B261	36.22	7.54	-5.77	0.75	0.18	-0.66	1.01	MW
		B262	36.97	7.72	-6.43					
YTGELU		B261	36.00	7.65	-5.78	0.74	0.16	-0.63	0.99	XD
		B262	36.74	7.82	-6.42					
YU8LGR		B261	36.36	7.69	-5.71	0.76	0.16	-0.62	0.99	AT
		B262	37.12	7.85	-6.33					
Z7V8ZR		B261	36.18	7.54	-5.78	0.77	0.14	-0.63	1.00	MP
		B262	36.94	7.68	-6.42					
Z96XPV		B261	36.03	7.68	-5.85	0.74	0.16	-0.63	0.99	XD
		B262	36.77	7.84	-6.48					
ZPD3YT		B261	36.52	7.57	-5.70	0.78	0.17	-0.62	1.01	XC
		B262	37.31	7.74	-6.32					
ZRF2DT		B261	36.49	7.63	-5.67	0.71	0.19	-0.66	0.98	AT
		B262	37.20	7.82	-6.32					



CTS Interlaboratory Testing Program for Color & Appearance Report #216
 Analysis 409 2nd Qtr 2026

Color and Color Difference - Paint Chips - Sphere Geometry Instruments
 CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

WebCode	Flag	Samples	CIE L* a* b* Color Values			Color Difference Values				InstrCode
			L*	a*	b*	ΔL^*	Δa^*	Δb^*	ΔE^*	
ZTDDUT	X	B261	36.55	7.56	-5.62	0.42 X	0.09	-0.30 X	0.52 X	XF
		B262	36.97	7.64	-5.92					

Summary Statistics								
Samples	L*	a*	b*	ΔL^*	Δa^*	Δb^*	ΔE^*	
Grand Means								
B261	36.17	7.60	-5.80	0.76	0.16	-0.63	1.01	
B262	36.94	7.77	-6.44					
Std Dev Btw Labs								
B261	0.22	0.08	0.11	0.02	0.03	0.02	0.02	
B262	0.22	0.08	0.12					

Statistics based on 79 of 81 reporting participants

Comments Assigned on Data Flags for Test #409

8VB9AN(X) - Low b* values for Sample B262.

ZTDDUT(X) - High b* values for Sample B262. Large replication difference for L*, a* & b* Sample B262. Small Delta L & E. Large Delta b.

Key to Instrument Codes Reported by Participants

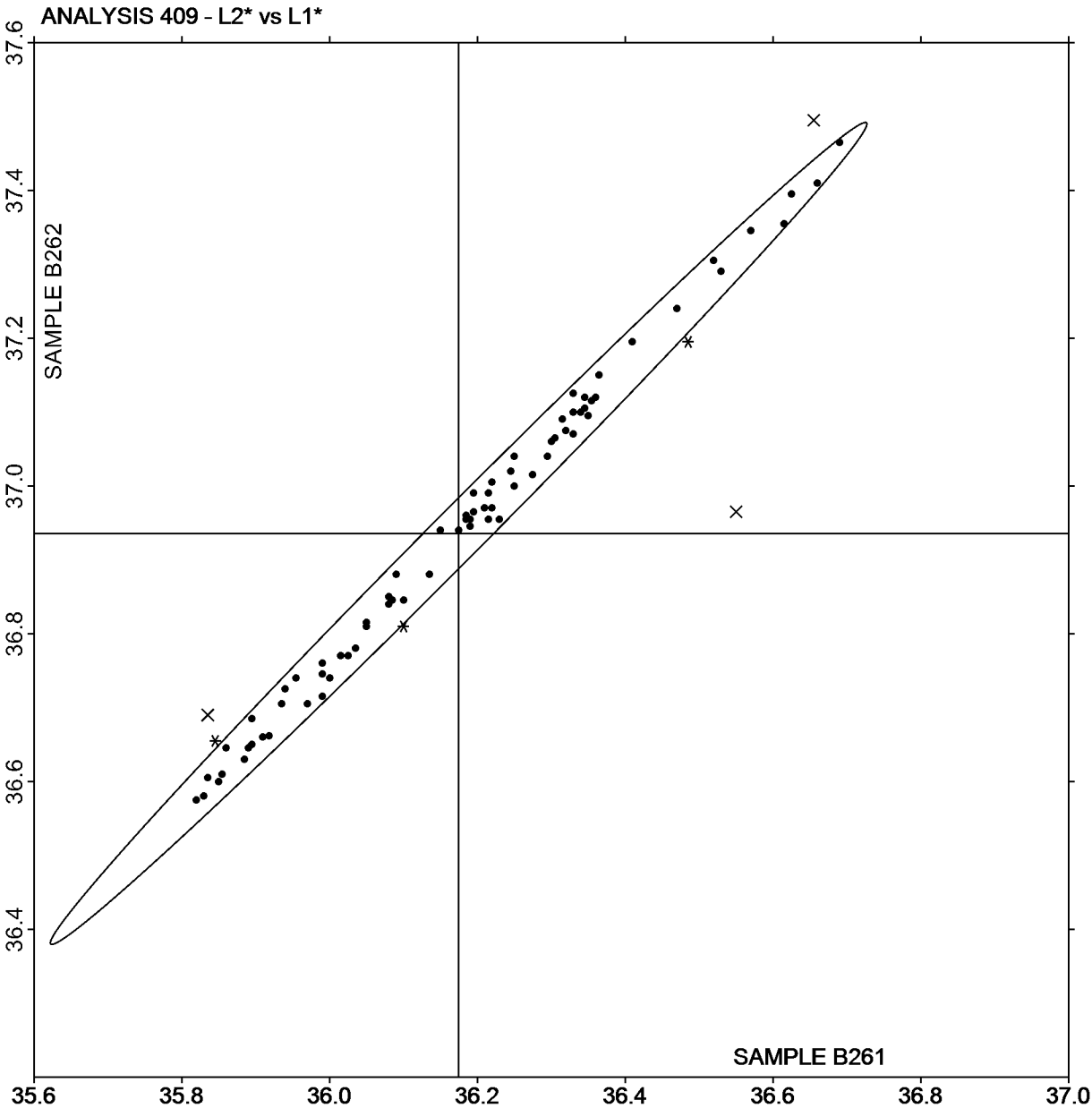
AJ	Datacolor 600	AP	Datacolor 750
AQ	Datacolor 600x	AS	Datacolor 800
AT	Datacolor 850	AU	Datacolor 1000
AW	Datacolor 1050	CA	Cary 5000
HP	Hunter UltraScan PRO	MK	Macbeth Color-Eye 7000
MM	Macbeth Color-Eye 7000a	MP	Minolta CM-36dG
MT	Minolta CM-2600d	MU	Minolta
MV	Minolta CM-3000d Spectrophotometer	MW	Minolta CM 3700a Spectrophotometer
XB	X-Rite Ci7000 Series Benchtop Spectrophotometer	XC	X-Rite Ci4200 Benchtop Spectrophotometer
XD	X-Rite Ci7800 Benchtop Spectrophotometer	XE	X-Rite Ci7600 Benchtop Spectrophotometer
XF	X-Rite Ci6x Portable Spectrophotometer	XG	X-Rite Ci7860 Benchtop Spectrophotometer
XH	X-Rite Color i5 Benchtop Spectrophotometer	XI	X-Rite Color i7 Benchtop Spectrophotometer
XO	X-Rite SP64 Portable Sphere Spectrophotometer	XU	X-Rite Color Premier 8200 Spectrophotometer
XX	Instrument make/model not specified by lab		



L2* vs L1*

SAMPLE B261 = 36.17

SAMPLE B262 = 36.94



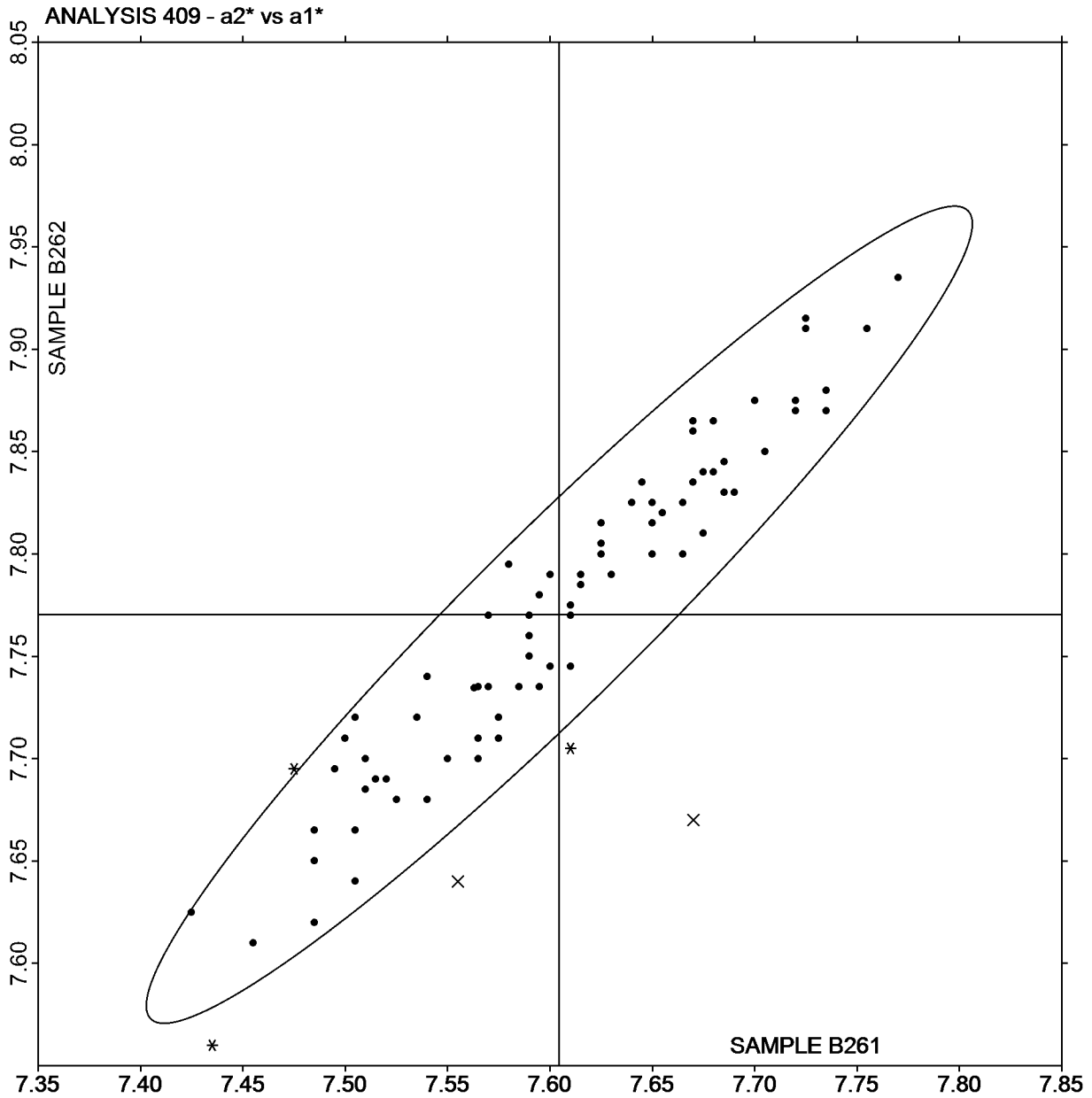


D₁ D₂ D₃ D₄

a2* vs a1*

SAMPLE B261 = 7.60

SAMPLE B262 = 7.77

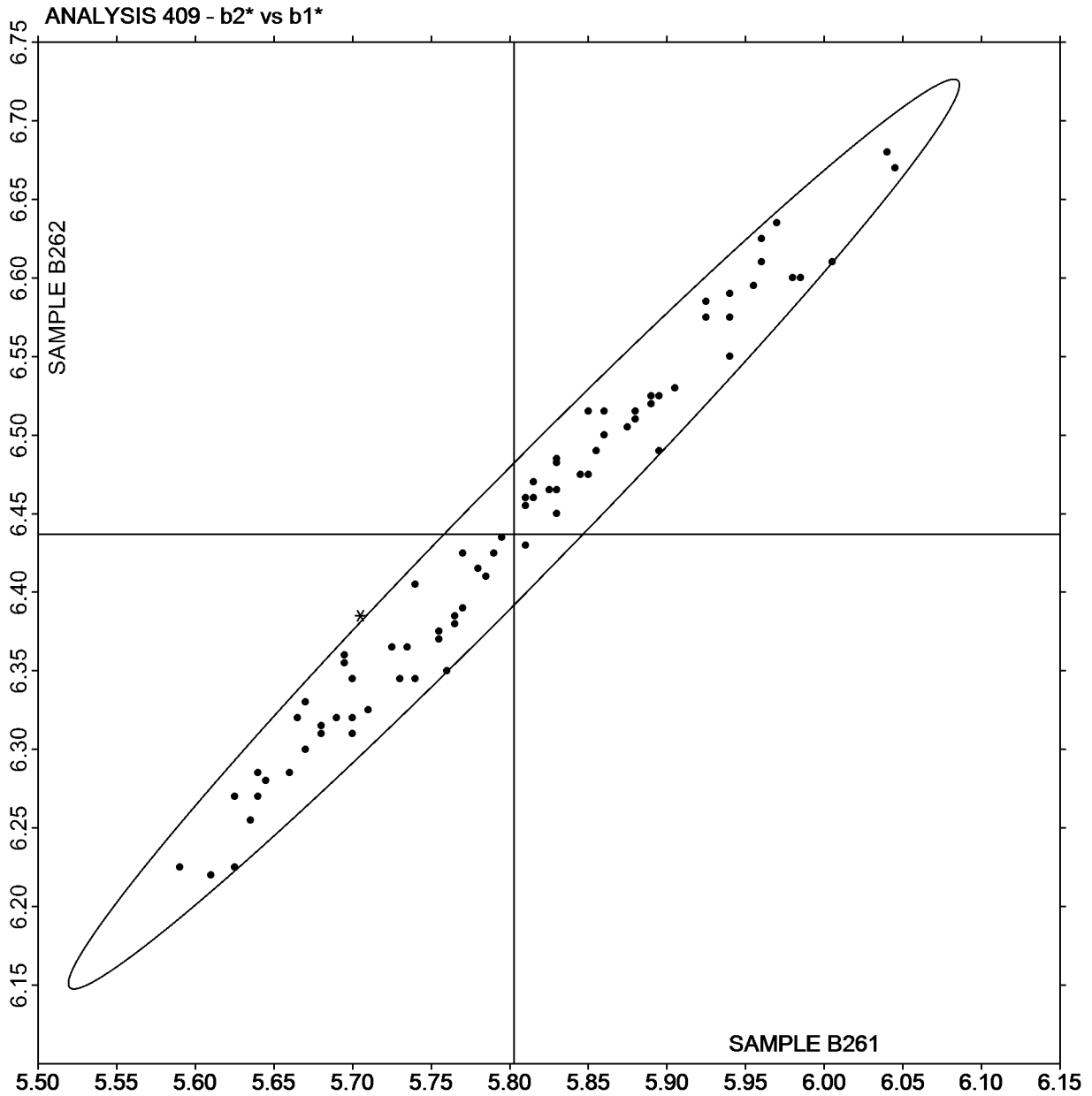




b2* vs b1*

SAMPLE B261 = -5.80

SAMPLE B262 = -6.44



Plot created using absolute values.



CTS Interlaboratory Testing Program for Color & Appearance Analysis 411

**Report #216
2nd Qtr 2026**

Spectrophotometric - Sphere Geometry Instruments
Reflectance at 16 Selected Wavelengths

WebCode	Data Flag	Spectrophotometric Reflectance values (as %) at selected wavelengths																Instr Code
		400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	
Sample B261																		
2KYKJX		11.13	11.49	11.21	10.78	10.12	9.06	8.09	7.71	7.99	9.05	10.68	10.33	11.03	13.85	15.97	16.64	XG
3GCECL		11.27	11.63	11.34	10.89	10.22	9.14	8.16	7.75	8.03	9.09	10.80	10.39	11.11	14.04	16.13	16.82	XD
3N8GDX		11.15	11.58	11.28	10.83	10.17	9.04	8.04	7.66	7.94	9.00	10.76	10.29	10.88	13.83	15.93	16.57	XH
4U8F2R		11.28	11.58	11.34	10.89	10.25	9.15	8.14	7.79	8.07	9.08	10.89	10.46	11.06	14.01	16.35	16.61	AS
6FRM2R		11.56	11.88*	11.59*	11.17*	10.48	9.42*	8.43*	8.06*	8.35*	9.44*	11.08	10.68	11.42*	14.25	16.35	17.13	XF
7BDAYJ		11.37	11.64	11.35	10.91	10.23	9.16	8.18	7.84	8.09	9.12	10.87	10.52	11.14	14.01	16.51	16.83	AU
7QLC8R		11.22	11.70	11.42	11.03	10.35	9.26	8.26	7.88	8.18	9.16	10.88	10.54	11.11	14.05	16.25	16.89	AQ
7RHTJN		11.33	11.68	11.48	11.05	10.32	9.22	8.26	7.83	8.06	9.17	10.89	10.53	11.11	14.08	16.23	17.02	MT
87W4ZP		11.11	11.48	11.21	10.76	10.10	9.03	8.06	7.67	7.96	9.04	10.69	10.28	11.00	13.85	16.00	16.69	XD
8FMMGH		11.37	11.69	11.42	10.95	10.34	9.26	8.26	7.92	8.18	9.23	11.01	10.58	11.19	14.21	16.68	16.63	AW
8VB9AN		11.41	11.70	11.51	11.08	10.38	9.25	8.24	7.85	8.08	9.05	10.84	10.54	10.71X	14.02	16.20	16.80	HP
9ELA9F		11.19	11.57	11.21	10.80	10.11	9.14	8.15	7.75	7.99	9.13	10.69	10.33	11.13	13.85	15.85	16.48	XI
9HKPEH		11.26	11.58	11.33	10.91	10.28	9.18	8.23	7.83	8.12	9.16	10.95	10.46	11.01	13.98	16.12	16.89	MP
ADMHMU		11.51	11.73	11.45	10.96	10.36	9.29	8.30	7.97	8.20	9.27	11.03	10.66	11.25	14.10	16.47	16.85	AT
AZXJWQ		11.29	11.64	11.38	10.95	10.30	9.22	8.26	7.85	8.12	9.14	10.96	10.49	11.00	13.97	16.12	16.89	MP
BTVYYE		11.44	11.66	11.38	10.99	10.32	9.28	8.28	7.92	8.19	9.22	10.97	10.66	11.17	14.09	16.60	16.65	AW
CC3QEL		11.29	11.64	11.36	10.90	10.23	9.11	8.13	7.73	8.03	9.09	10.83	10.35	11.02	13.99	16.08	16.63	XE
D2YT8C		11.12	11.47	11.22	10.76	10.08	9.00	8.04	7.65	7.94	9.00	10.69	10.23	11.00	13.90	15.98	16.62	XE
D4KR9M		11.50	11.92*	11.55	11.14	10.49*	9.38	8.39	7.94	8.21	9.26	11.09	10.63	11.13	14.17	16.36	17.10	MV
E3PED8		11.23	11.60	11.31	10.86	10.18	9.11	8.11	7.72	8.00	9.07	10.69	10.30	11.07	13.91	15.95	16.61	XD
E6XF9E		11.39	11.68	11.44	10.98	10.31	9.26	8.27	7.82	8.14	9.05	10.87	10.49	10.93	13.86	16.13	16.87	HP
EXJHT8		11.18	11.56	11.27	10.83	10.14	9.06	8.07	7.68	7.97	9.04	10.72	10.32	11.04	13.97	16.06	16.73	XD



CTS Interlaboratory Testing Program for Color & Appearance Analysis 411

**Report #216
2nd Qtr 2026**

Spectrophotometric - Sphere Geometry Instruments
Reflectance at 16 Selected Wavelengths

WebCode	Data Flag	Spectrophotometric Reflectance values (as %) at selected wavelengths																Instr Code
		400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	
Sample B261																		
EYCG2E		11.22	11.57	11.35	10.96	10.30	9.15	8.17	7.77	8.05	9.05	10.88	10.37	10.92	13.91	16.11	16.84	CA
F6BCEJ		11.40	11.74	11.44	10.97	10.34	9.26	8.25	7.91	8.16	9.18	10.94	10.57	11.15	14.10	16.46	16.75	AJ
FD7HXC		11.38	11.74	11.41	10.95	10.33	9.27	8.27	7.91	8.17	9.21	10.97	10.58	11.11	14.13	16.46	16.73	AT
FEMEPC		11.70*	11.96*	11.64*	11.18*	10.50*	9.43*	8.47*	8.08*	8.38*	9.45*	11.12	10.71	11.42*	14.27	16.36	17.09	XC
FHLTBF		11.45	11.71	11.42	10.98	10.33	9.24	8.23	7.92	8.17	9.20	10.98	10.63	11.18	14.28	16.67	16.68	AT
GA2A78		11.25	11.60	11.32	10.86	10.26	9.18	8.19	7.86	8.10	9.11	10.89	10.53	11.14	14.12	16.34	16.69	AT
GAHH6A		11.29	11.61	11.36	10.93	10.27	9.19	8.22	7.83	8.10	9.12	10.88	10.57	11.14	14.08	16.42	16.64	AU
GEGKJB		11.06	11.41	11.15	10.73	10.08	9.01	8.03	7.64	7.92	8.98	10.67	10.26	10.95	13.90	16.02	16.68	XD
JKW3R4		11.23	11.59	11.31	10.87	10.20	9.12	8.14	7.75	8.03	9.10	10.78	10.35	11.13	14.00	15.95	16.58	XD
JPTTXE		11.35	11.69	11.38	11.01	10.31	9.24	8.24	7.91	8.18	9.20	10.97	10.69	11.22	14.17	16.51	16.73	AS
JQXB7H		11.28	11.67	11.39	10.99	10.34	9.23	8.23	7.82	8.13	9.18	10.95	10.51	11.06	13.97	16.28	16.99	MV
KKDHKB		11.20	11.64	11.38	10.93	10.27	9.18	8.19	7.80	8.07	9.11	10.82	10.46	11.10	13.99	16.12	16.84	MK
LQDG97		11.16	11.50	11.22	10.79	10.11	9.04	8.03	7.67	7.96	9.01	10.72	10.29	11.00	13.90	15.98	16.55	XU
MHQZ49		11.28	11.65	11.37	10.91	10.23	9.16	8.13	7.77	8.04	9.14	10.82	10.39	11.03	13.96	16.02	16.65	XB
MVNUQ4		11.06	11.42	11.14	10.75	10.08	9.00	8.02	7.62	7.91	8.97	10.67	10.26	10.95	13.89	16.01	16.67	XI
N29AU2		11.50	11.88*	11.57	11.15*	10.47	9.40	8.40	8.03	8.33*	9.44*	11.07	10.65	11.42*	14.29	16.39	17.18*	XO
NLREE6		11.20	11.61	11.32	10.88	10.24	9.12	8.12	7.72	8.00	9.04	10.78	10.35	10.97	13.87	16.03	16.69	XD
NM7L38		11.44	11.70	11.42	10.97	10.35	9.26	8.29	7.92	8.19	9.25	11.03	10.57	11.16	14.16	16.55	16.70	AP
NYUWZD		11.02	11.42	11.16	10.74	10.09	9.01	8.03	7.65	7.92	9.00	10.69	10.31	11.04	14.02	16.12	16.78	MM
PUELLA		11.23	11.60	11.32	10.89	10.20	9.11	8.13	7.73	8.01	9.10	10.77	10.33	11.06	13.98	16.01	16.69	XD
PYDZ8D		11.26	11.60	11.32	10.88	10.21	9.12	8.15	7.76	8.04	9.13	10.78	10.36	11.12	14.03	16.08	16.74	XG
PYWYB3		11.41	11.73	11.47	11.05	10.41	9.28	8.28	7.88	8.16	9.19	11.05	10.52	11.07	14.12	16.34	17.07	CA



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2nd Qtr 2026**

Spectrophotometric - Sphere Geometry Instruments
Reflectance at 16 Selected Wavelengths

WebCode	Data Flag	Spectrophotometric Reflectance values (as %) at selected wavelengths																Instr Code
		400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	
Sample B261																		
QBL6X7		11.42	11.75	11.45	11.00	10.31	9.22	8.23	7.83	8.10	9.16	10.82	10.45	11.14	13.99	16.10	16.75	XD
QGBQTY		11.60	11.51	11.21	10.75	10.07	9.01	8.03	7.63	7.91	8.96	10.63	10.26	10.98	13.81	15.90	16.57	XB
QQGBG2		11.13	11.54	11.25	10.80	10.17	9.06	8.07	7.67	7.94	8.97	10.76	10.25	10.86	13.83	15.91	16.48	XB
QV9QF9	X	12.00X	12.23X	11.92X	11.45X	10.75X	9.62X	8.60X	8.20X	8.49X	9.60X	11.28X	10.86*	11.64X	14.53X	16.63	17.43X	XF
R2DXL4		11.41	11.75	11.41	11.03	10.39	9.31	8.30	7.95	8.23	9.23	10.98	10.70	11.19	14.14	16.37	16.78	AJ
R6DAG4		11.14	11.68	11.43	10.93	10.26	9.19	8.27	7.99	8.17	9.24	10.78	10.64	11.40*	14.02	16.03	16.48	AJ
T2N9NZ		11.30	11.58	11.34	10.95	10.27	9.19	8.23	7.86	8.13	9.23	10.88	10.55	11.23	14.15	16.30	16.81	AS
T4QANX		11.57	11.49	11.20	10.76	10.08	9.00	8.03	7.63	7.92	8.98	10.67	10.26	11.00	13.92	15.99	16.64	XD
VB6PFX		11.36	11.70	11.40	10.98	10.32	9.26	8.26	7.91	8.19	9.19	10.97	10.61	11.21	14.09	16.45	16.66	AW
VBTVZX		11.20	11.70	11.40	11.00	10.30	9.25	8.20	7.80	8.10	9.10	10.95	10.50	11.05	13.95	16.25	16.95	MW
W3CUXU		11.11	11.50	11.23	10.78	10.12	9.03	8.07	7.70	7.97	9.02	10.65	10.30	11.02	13.82	15.88	16.53	XD
WFVCZ6		11.12	11.53	11.27	10.82	10.19	9.09	8.11	7.70	7.97	8.99	10.76	10.33	10.92	13.78	15.91	16.58	XX
XHGDJY		11.14	11.52	11.23	10.78	10.10	9.02	8.04	7.64	7.93	9.02	10.70	10.27	10.97	13.91	15.98	16.68	XB
YAGDJW		11.31	11.64	11.35	10.91	10.23	9.20	8.19	7.86	8.13	9.13	10.85	10.60	11.14	13.98	16.42	16.66	AS
YCNRQ3		11.00	11.44	11.15	10.71	10.06	9.00	8.04	7.65	7.92	8.98	10.62	10.25	11.00	13.85	15.87	16.56	XD
YEV8YU		11.25	11.58	11.29	10.84	10.17	9.09	8.11	7.71	8.00	9.09	10.74	10.29	11.08	14.05	16.07	16.74	XD
YJ7CZU		11.45	11.80	11.56	11.14	10.49	9.36	8.33	7.97	8.27	9.36	11.11	10.62	11.26	14.24	16.47	17.19*	MV
YKHZBT		11.18	11.66	11.36	10.95	10.31	9.24	8.23	7.82	8.10	9.14	10.91	10.54	11.02	13.92	16.22	16.92	MW
YTGELU		11.13	11.50	11.24	10.83	10.16	9.08	8.11	7.70	7.99	9.07	10.75	10.33	11.10	14.10	16.11	16.74	XD
YU8LGR		11.64*	11.76	11.43	11.00	10.33	9.24	8.25	7.93	8.23	9.24	11.02	10.61	11.29	14.28	16.69	17.03	AT
Z7V8ZR		11.12	11.61	11.35	10.92	10.28	9.20	8.22	7.80	8.08	9.11	10.94	10.48	10.99	13.95	16.14	16.92	MP
Z96XPV		11.22	11.58	11.29	10.84	10.18	9.09	8.11	7.72	8.00	9.08	10.77	10.35	11.10	14.01	16.08	16.72	XD



CTS Interlaboratory Testing Program for Color & Appearance Analysis 411

**Report #216
2nd Qtr 2026**

Spectrophotometric - Sphere Geometry Instruments
Reflectance at 16 Selected Wavelengths

WebCode	Data Flag	Spectrophotometric Reflectance values (as %) at selected wavelengths															Instr Code	
		400	420	440	460	480	500	520	540	560	580	600	620	640	660	680		700
Sample B261																		
ZPD3YT		11.54	11.84	11.54	11.08	10.40	9.33	8.37	7.99	8.29	9.38*	11.02	10.61	11.37*	14.22	16.32	17.15*	XC
ZRF2DT		11.51	11.76	11.49	11.07	10.42	9.34	8.34	7.98	8.26	9.30	11.08	10.76	11.25	14.36*	17.05X	17.06	AT

Summary Statistics

	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700
Grand Means	11.29	11.63	11.35	10.92	10.26	9.18	8.19	7.81	8.08	9.13	10.86	10.46	11.09	14.02	16.21	16.77
SD Btwn Labs	0.16	0.12	0.11	0.12	0.12	0.11	0.11	0.12	0.12	0.12	0.14	0.15	0.14	0.14	0.25	0.18

QV9QF9 (X) - High % reflectance data for almost all wavelengths. Large replication difference for all wavelengths.

Key to Instrument Codes Reported by Participants

AJ Datacolor 600	AP Datacolor 750	AQ Datacolor 600x
AS Datacolor 800	AT Datacolor 850	AU Datacolor 1000
AW Datacolor 1050	CA Cary 5000	HP Hunter UltraScan PRO
MK Macbeth Color-Eye 7000	MM Macbeth Color-Eye 7000a	MP Minolta CM-36dG
MT Minolta CM-2600d	MV Minolta CM-3000d Spectrophotometer	MW Minolta CM 3700a Spectrophotometer
XB X-Rite Ci7000 Series Benchtop Spectrophotometer	XC X-Rite Ci4200 Benchtop Spectrophotometer	XD X-Rite Ci7800 Benchtop Spectrophotometer
XE X-Rite Ci7600 Benchtop Spectrophotometer	XF X-Rite Ci6x Portable Spectrophotometer	XG X-Rite Ci7860 Benchtop Spectrophotometer
XH X-Rite Color i5 Benchtop Spectrophotometer	XI X-Rite Color i7 Benchtop Spectrophotometer	XO X-Rite SP64 Portable Sphere Spectrophotometer
XU X-Rite Color Premier 8200 Spectrophotometer	XX Instrument make/model not specified by lab	



Interlaboratory Testing Program for Color & Appearance

Report #216
2nd Qtr 2026

Analysis 440

60 Degree Gloss - Paint Chips

ASTM Method D 523

WebCode	Data Flag	Sample F261			Sample F262			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
26ZRMU		37.28	0.95	1.35	46.80	1.07	1.44	GK
2C22UM		36.50	0.18	0.25	45.25	-0.48	-0.65	GL
2TMRQ2		37.43	1.10	1.56	46.78	1.04	1.41	GL
3GCECL	*	34.48	-1.85	-2.61	44.98	-0.76	-1.02	GK
3N8GDX		36.05	-0.27	-0.38	45.80	0.07	0.09	GL
4N2L8W		36.08	-0.25	-0.35	45.13	-0.61	-0.82	GD
6FRM2R		37.00	0.68	0.96	45.63	-0.11	-0.14	GL
827UQQ		36.30	-0.02	-0.03	45.05	-0.68	-0.92	GL
8FMP7M		36.83	0.50	0.71	47.25	1.52	2.05	GN
8H44JV		36.03	-0.30	-0.42	45.43	-0.31	-0.41	PA
9ELA9F		36.51	0.18	0.26	45.76	0.03	0.04	GL
A3RFBD		35.85	-0.47	-0.67	45.68	-0.06	-0.08	GN
A7QTWG		36.65	0.33	0.47	46.08	0.34	0.46	GL
AB64AL		35.68	-0.65	-0.91	44.50	-1.23	-1.66	XX
AZXJWQ		36.68	0.35	0.50	46.18	0.44	0.60	RQ
CC3QEL		36.13	-0.20	-0.28	45.83	0.09	0.12	GL
E6XF9E		35.73	-0.60	-0.84	45.50	-0.23	-0.31	EN
EH3P4F		36.03	-0.30	-0.42	44.63	-1.11	-1.49	GK
EYCG2E		35.58	-0.75	-1.05	44.95	-0.78	-1.05	GL
FEJV39		36.05	-0.27	-0.38	45.40	-0.33	-0.45	GL
GAHH6A		37.65	1.33	1.88	46.55	0.82	1.10	GL
GM4UGJ		36.10	-0.22	-0.31	44.73	-1.01	-1.36	GN
GNZATF		35.90	-0.42	-0.59	45.18	-0.56	-0.75	GL
JMDJVF		37.53	1.20	1.70	47.05	1.32	1.78	GL
JQXB7H		35.78	-0.55	-0.77	45.28	-0.46	-0.62	GL
LQDG97	X	38.78	2.45	3.47	45.20	-0.53	-0.72	RC
MHQZ49		36.38	0.05	0.08	45.73	-0.01	-0.01	GL
MVNUQ4		35.78	-0.55	-0.77	44.58	-1.16	-1.56	GL
N29AU2	X	44.55	8.23	11.64	53.55	7.82	10.54	RA
N6R4V9		36.45	0.13	0.18	45.88	0.14	0.19	RC
NE88R7		36.83	0.50	0.71	46.28	0.54	0.73	MW
NJGKA6		37.18	0.85	1.21	46.38	0.64	0.87	GN
NLREE6		36.38	0.05	0.08	46.13	0.39	0.53	GL



Interlaboratory Testing Program for Color & Appearance

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2nd Qtr 2026

Analysis 440

60 Degree Gloss - Paint Chips

ASTM Method D 523

WebCode	Data Flag	Sample F261			Sample F262			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
NYUWZD	*	36.05	-0.27	-0.38	46.83	1.09	1.47	GL
NZDQ TZ		36.35	0.03	0.04	45.98	0.24	0.33	GL
PAVJRA	*	34.75	-1.57	-2.22	45.23	-0.51	-0.68	GK
PVWLU6		36.15	-0.17	-0.24	45.45	-0.28	-0.38	GK
PX423W		37.00	0.68	0.96	46.15	0.42	0.56	GL
PYDZ8D		35.45	-0.87	-1.23	45.03	-0.71	-0.95	GL
QQGBG2		36.28	-0.05	-0.06	46.78	1.04	1.41	ZA
QV9QF9		36.30	-0.02	-0.03	44.98	-0.76	-1.02	GN
R2DXL4		37.18	0.85	1.21	46.40	0.67	0.90	NH
R6DAG4		37.00	0.68	0.96	46.30	0.57	0.77	GL
RXQBZ3		37.58	1.25	1.77	46.18	0.44	0.60	GL
T2N9NZ		36.60	0.28	0.40	45.55	-0.18	-0.25	GK
TMBNGU		36.63	0.30	0.43	45.90	0.17	0.23	GL
U4U6XV		36.28	-0.05	-0.06	46.43	0.69	0.93	GL
U8DYY3		36.30	-0.02	-0.03	45.50	-0.23	-0.31	GL
UX6GCX		35.78	-0.55	-0.77	45.80	0.07	0.09	EN
UZBYBT		35.08	-1.25	-1.76	44.35	-1.38	-1.86	EN
VB6PFX		36.20	-0.12	-0.17	45.93	0.19	0.26	GL
VBTVZX		36.60	0.28	0.40	45.58	-0.16	-0.21	GK
VZ646T		35.03	-1.30	-1.83	44.23	-1.51	-2.03	GL
WJDTVW		35.75	-0.57	-0.81	44.93	-0.81	-1.09	ST
WNCXVW	*	38.13	1.80	2.55	47.03	1.29	1.74	GL
X4F2MY		35.70	-0.62	-0.88	45.23	-0.51	-0.68	GN
XKK932		36.13	-0.20	-0.28	45.33	-0.41	-0.55	GL
XT2RCT		35.90	-0.42	-0.59	45.33	-0.41	-0.55	GL
XTHZBV		37.37	1.05	1.49	46.62	0.88	1.19	GL
YAGDJW		36.20	-0.12	-0.17	45.88	0.14	0.19	GK
YCNRQ3		36.48	0.15	0.22	45.68	-0.06	-0.08	GL
YKHZBT		37.15	0.83	1.17	46.55	0.82	1.10	GN
YTGELU		37.15	0.83	1.17	46.58	0.84	1.14	GN
Z7V8ZR		36.08	-0.25	-0.35	46.70	0.97	1.30	MX
Z96XPV		36.48	0.15	0.22	46.65	0.92	1.24	GL



Interlaboratory Testing Program for Color & Appearance

Report #216
2nd Qtr 2026

Analysis 440

60 Degree Gloss - Paint Chips

ASTM Method D 523

WebCode	Data Flag	Sample F261			Sample F262			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
Z96ZEZ		35.58	-0.75	-1.05	44.58	-1.16	-1.56	GK
ZTDDUT		35.48	-0.85	-1.20	44.75	-0.98	-1.32	GN

Summary Statistics

Grand Means

36.32 Gloss Units

45.73 Gloss Units

Std Dev Btwn Labs

0.71 Gloss Units

0.74 Gloss Units

Statistics based on 65 of 67 reporting participants

Comments on Assigned Data Flags for Test #440

LQDG97(X) - High data for Sample F261. Inconsistent within the determinations for Sample F262.

N29AU2(X) - Extreme data.

Key to Instrument Codes Reported by Participants

EN	Elcometer 480	GD	BYK Gardner Spectro2Guide 45/0
GK	BYK-Gardner micro-gloss (60)	GL	BYK-Gardner micro-TRI-gloss
GN	BYK-Gardner new micro-TRI-gloss	MW	Minolta Multi-Gloss 268
MX	Minolta Multi-Gloss 268 Plus	NH	3nh NHG268 Multi-angle Precise Gloss Meter
PA	Photovolt micro-TRI-gloss G3	RA	Rhopoint Novo-Gloss Glossmeter
RC	Novo-Gloss Trio 20/60/85 Glossmeter	RQ	Rhopoint IQ Goniophotometer 20/60/85°
ST	Sheen Tri-Glossmaster	XX	Instrument make/model not specified by lab
ZA	Zehntner ZGM Series		



Interlaboratory Testing Program for Color & Appearance

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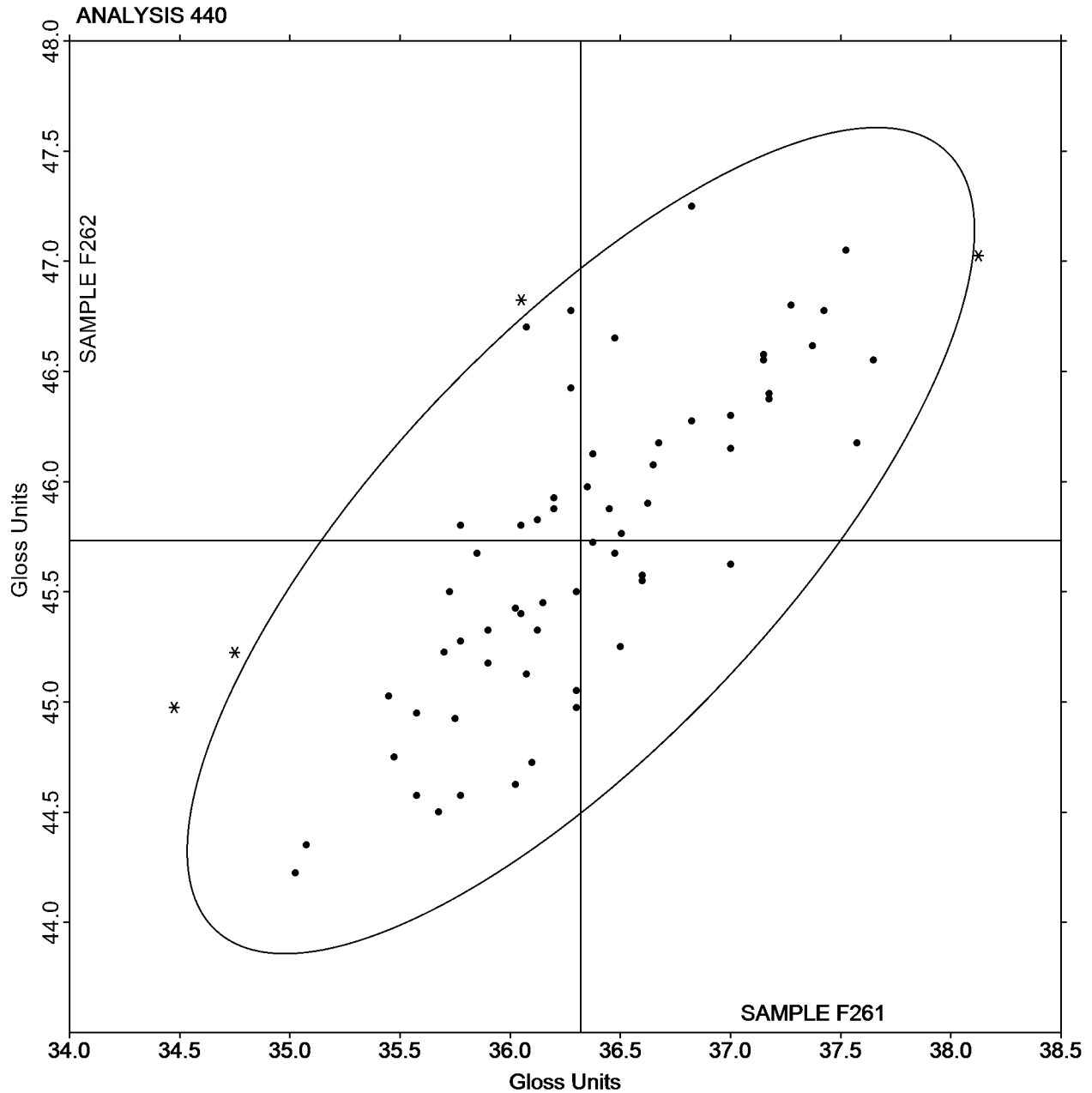
Analysis 440

60 Degree Gloss - Paint Chips

ASTM Method D 523

SAMPLE F261 = 36.32 Gloss Units

SAMPLE F262 = 45.73 Gloss Units



-End of Report-