

**Here is a sample of an Individual Report
sent to participants in the CTS Color &
Appearance Interlaboratory Testing
Program. You can view the Summary Report
of all participants' data on this Web site.**

Laboratory Manager
Company Name
123 Main Street
Any town, Any where 12345

**This is your Performance Analysis Report for the Color & Appearance
Interlaboratory Program Cycle # 143, 1st Q 2008**

For guidance on interpreting this report, please refer to the Report Guide located in the Color & Appearance section of our website www.collaborativetesting.com. If you need assistance with interpreting the statistics and terms used in the report, please reference the [Key to Individual Reports in the Color & Appearance Program](#) that can be found on the reverse of this page. As always, you may contact the Color Program Analyst for assistance with any aspect of the program.

On each "[Performance Analysis Report](#)" there is a WebCode . Use your WebCodes to locate your results in the Summary Report that is now available on our Web site. .
In order to maintain confidentiality, your WebCode will be unique for each analysis and will change with each report.

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Key to Individual Reports in the Color & Appearance Program

- Lab Code** - A permanent laboratory identification number used to maintain information on a confidential basis.
- WebCode** - A temporary assigned laboratory identification number used to ensure lab confidentiality while permitting a lab to locate its data in the Summary Report published on the CTS website www.collaborativetesting.com. The WebCode will be unique for each analysis and cycle.
- Lab Mean** - The average of the test determinations 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.
- 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 (CPV)** - 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. (CPV = [LAB MEAN - GRAND MEAN]/ BETWEEN-LAB STANDARD DEVIATION.) 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).
- Data Flag** - DATA FLAGS are assigned based on the simultaneous analysis of both samples tested. Refer to the following list for an explanation of each symbol:

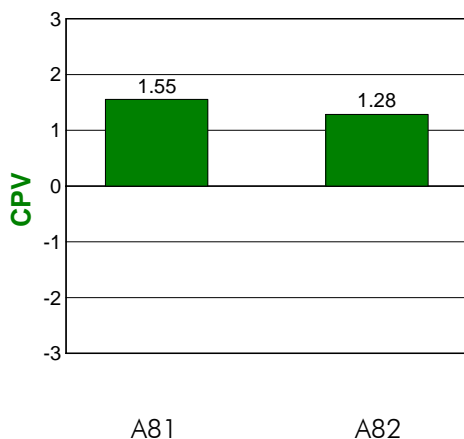
Data Flag	Statistically Included/Excluded	<u>ACTION REQUIRED</u>
*	INCLUDED	CAUTION - review testing procedure and monitor future results. Results fall outside the drawn 95% ellipse but within a 99% ellipse that is calculated but not drawn. Labs flagged with an * do not typically receive a specific note regarding the flag. If this error is repeated in future rounds, however, a lab may need to stop and review its testing procedures. The initial data flag is not cause for alarm.
X	EXCLUDED	STOP - immediate review of data and/or testing procedure is required. Results fall outside the 99% ellipse. See the specific note following the data 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 or more M flags for a test may need to stop and review its testing procedures.

Individually-Highlighted Control Ellipse Plot

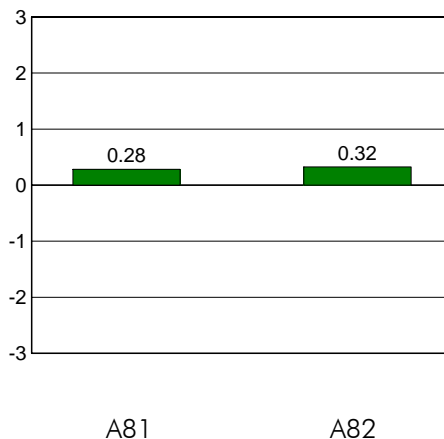
For each laboratory, the LAB MEAN for the second sample (y-axis) is plotted against the LAB MEAN for the first sample (x-axis) with each point representing a laboratory. The horizontal and vertical cross-hairs are the GRAND MEANS for each sample. When 20 or more laboratories are included in the statistics, 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. Labs not receiving a data flag appear as points on the plot.

CPV chart of Color Data

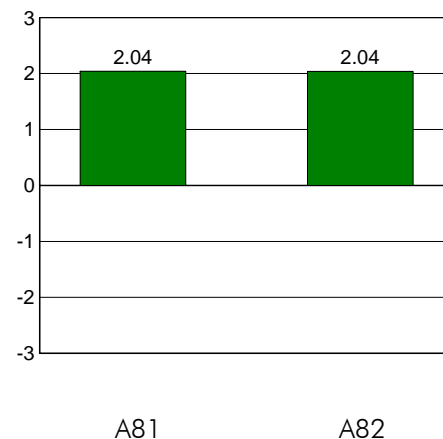
L* values



a* values



b* values



Overall Analysis for Current cycle

WebCode UXEKJS

Sample A81 Main Color A82 Color Difference

Instrument Hunter UltraScan

Data Flags Assigned: None. Your data were consistent with the other laboratories.

Consensus statistics based on of 151 reporting participants

On the following 3 pages of this Report the individually drawn two sample plots show your data (highlighted by a circle) compare to all participants results.

Performance Analysis Report - Current Cycle

Sample report

Lab Code: U**A**

Analysis #409: Color and Color Difference - Paint Chips - Sphere Geometry Instruments

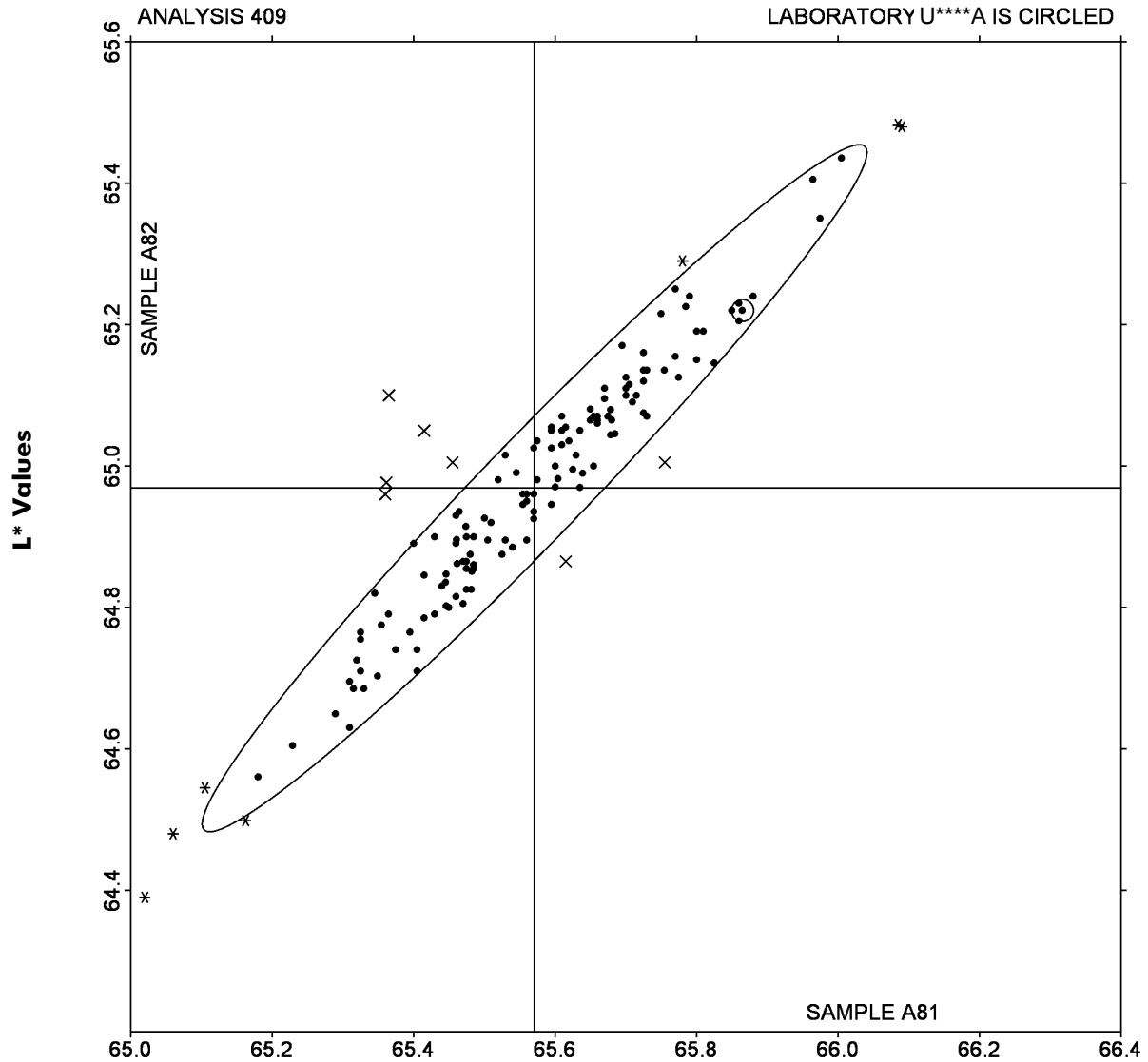
using CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

WebCode:AAAAA1

Test Cycle 143 - 1st Q 2008

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Samples	L* Values				dL* Values		
	Lab Mean(CPV)	Grand Mn	Btwn lab SD	Lab Mean(CPV)	Grand Mn	Btwn lab SD	
Main Color	A81 65.87 (1.55)	65.57	0.19				
Color Difference	A82 65.22 (1.28)	64.97	0.20	-0.65 (-0.85)	-0.60	0.05	



Performance Analysis Report - Current Cycle

Sample report

Lab Code: U**A**

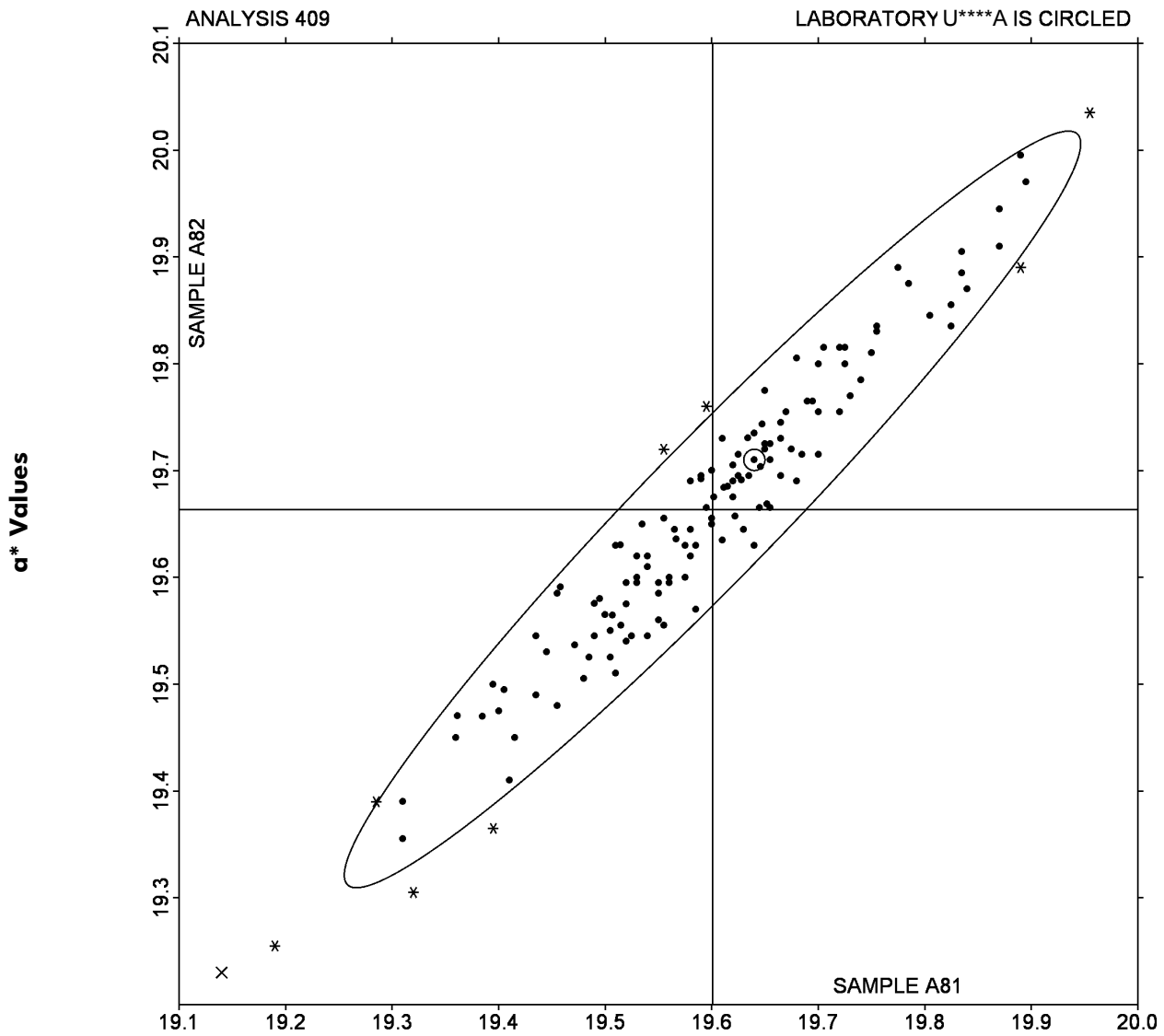
Analysis #409: Color and Color Difference - Paint Chips - Sphere Geometry Instruments

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

WebCode: AAAAA1

Test Cycle 143 - 1st Q 2008

Samples	a* Values			da* Values		
	Lab Mean(CPV)	Grand Mn	Btwn lab SD	Lab Mean(CPV)	Grand Mn	Btwn lab SD
Main Color	A81 19.64 (0.28)	19.60	0.14			
Color Difference	A82 19.71 (0.32)	19.66	0.14	0.07 (0.19)	0.06	0.04



Performance Analysis Report - Current Cycle

Sample report

Lab Code: U2032A

Analysis #409: Color and Color Difference - Paint Chips - Sphere Geometry Instruments

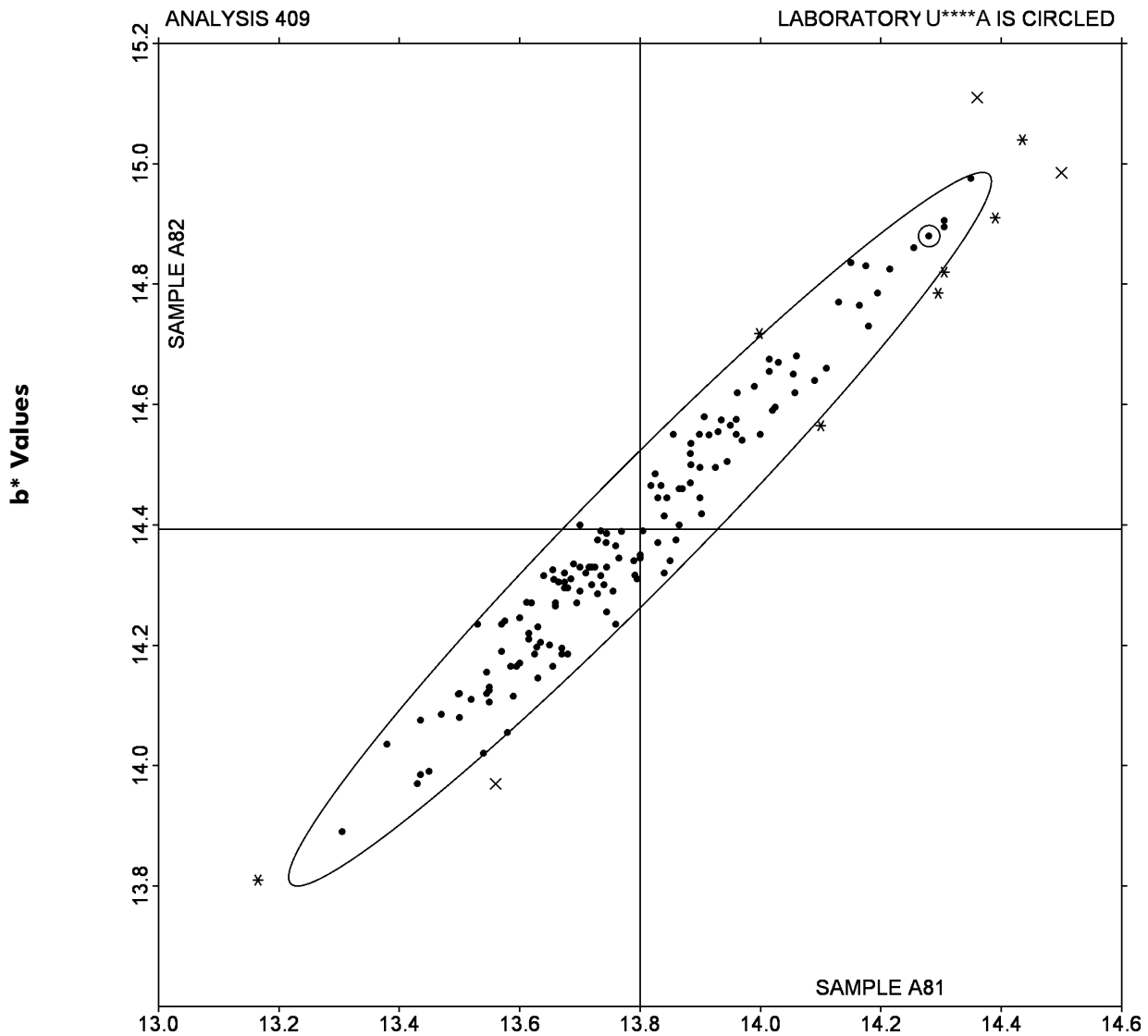
using CIE L*a*b* Color Space - Illuminant D65 - CIE 1964 (10 Degree) Observer

WebCode:AAAAA1

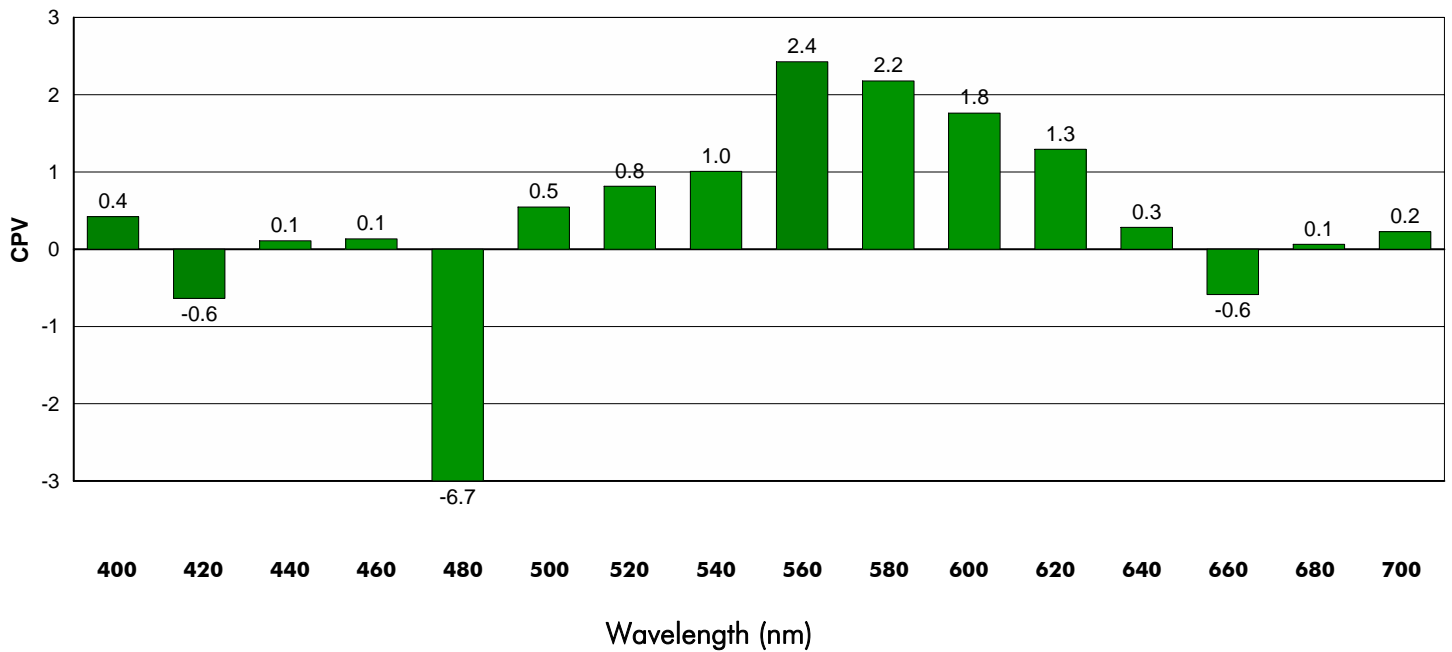
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Samples	b* Values			db* Values		
	Lab Mean(CPV)	Grand Mn	Btwn lab SD	Lab Mean(CPV)	Grand Mn	Btwn lab SD
Main Color	A81 14.28 (2.04)	13.80	0.24			
Color Difference	A82 14.88 (2.04)	14.39	0.24	0.60 (0.10)	0.59	0.05



CPV's of Spectral Data



Overall Analysis for this Cycle

WebCode NVTQFX

Sample A81

Instrument Hunter UltraScan

Data Flag Assigned: None. Your spectral reflectance data were consistent with the other laboratories.

Your Data for this Cycle

Spectrophotometric Reflectance values (as %) and CPV's at selected wavelengths

	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700
Lab Mean	21.75	24.57	25.61	25.82	24.06	25.86	26.66	27.77	31.78	41.85	52.13	55.86	56.80	58.00	60.52	63.51
CPV	0.42	-0.64	0.11	0.13	-6.67 X	0.55	0.82	1.01	2.43 *	2.18 *	1.76	1.29	0.28	-0.59	0.06	0.23

Summary Statistics

Grand Mean	21.57	24.69	25.59	25.79	25.50	25.77	26.53	27.60	31.01	40.93	51.45	55.47	56.72	58.18	60.50	63.41
STD	0.42	0.20	0.18	0.17	0.22	0.17	0.16	0.17	0.32	0.42	0.39	0.30	0.27	0.31	0.33	0.42

Consensus statistics based on 126 of 132 reporting participants

Performance Analysis Report - Current Cycle

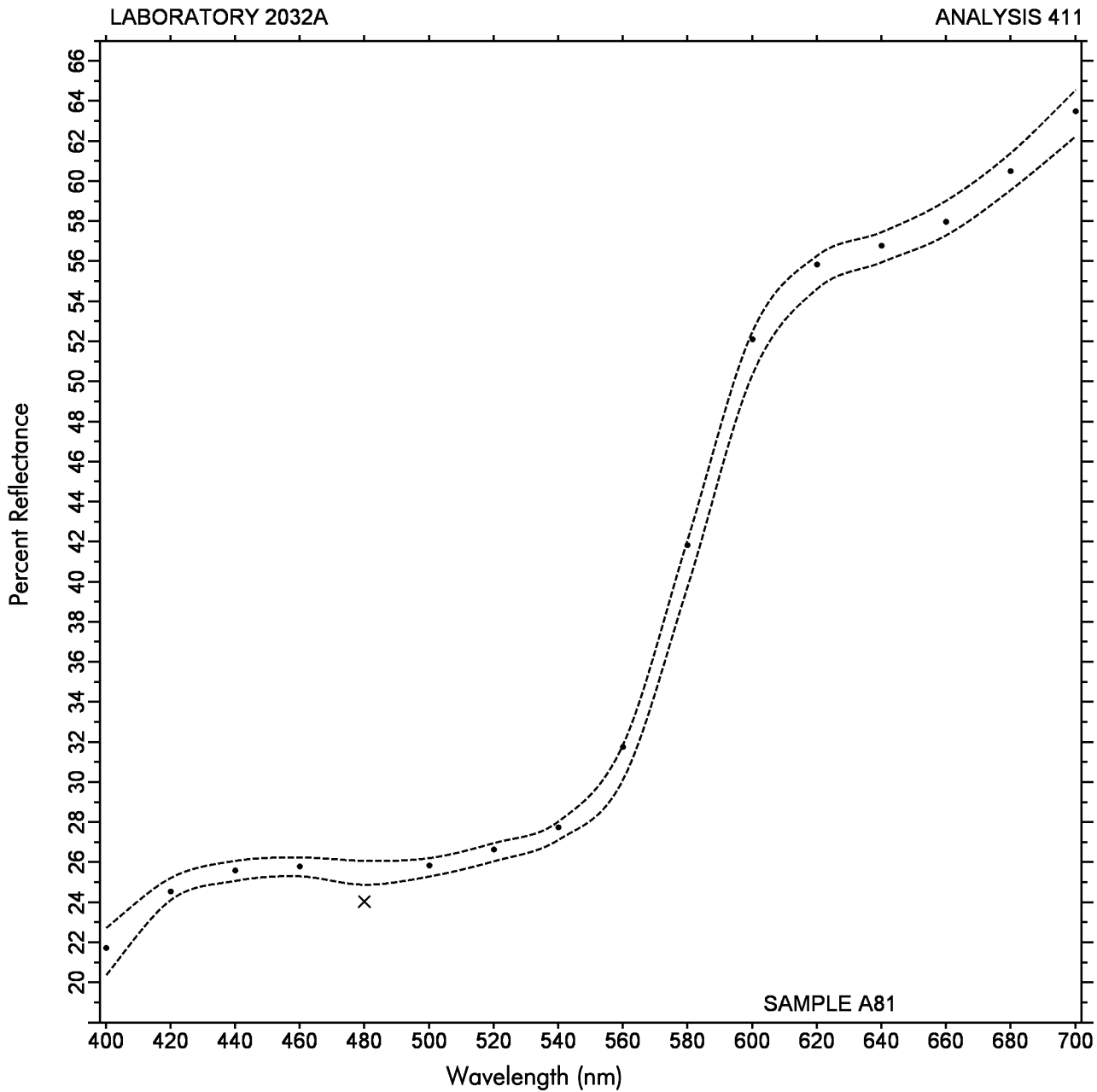
Analysis #411: Spectrophotometric - Sphere Geometry Instruments

using Reflectance at 16 Selected Wavelengths

WebCode: BBBB1

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The Individual Spectral Reflectance Plot - The plot above shows your data at the 16 specified wavelengths and the consensus data as dashed lines. The Grand Mean for reflectance at each wavelength is not shown, instead the distance between the two curves represents the range of acceptable Lab Means at each wavelength. Data falling outside the range is plotted as an X on the plot.

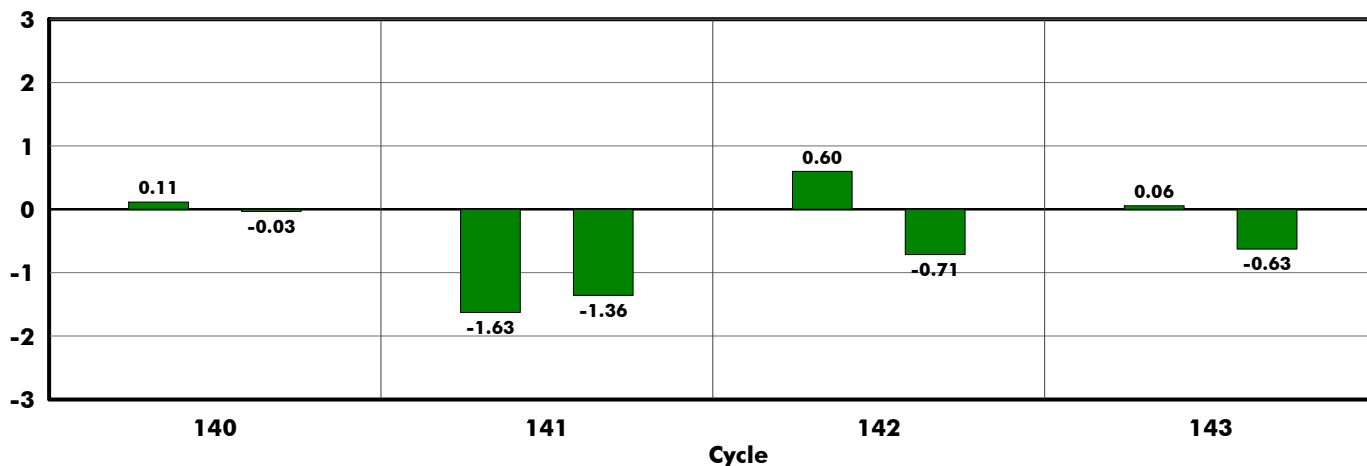
Users are cautioned that the upper and lower limit lines are interpolated between the 16 wavelengths and do not represent actual spectrophotometric curves.

Analysis #440: 60 Degree Gloss

using ASTM Method D 523 (data in units of Gloss Units)

Test Cycle - 143

CPV Historical Chart of CPV Results



A maximum of 4 test cycles are printed on this page . If there are fewer sets of bars than the maximum and the laboratory was enrolled for all cycles, then one of the following situations occurred: lab did not submit data for a particular test/testing cycle or the data sheets were received late.

WebCode	Test Cycle	Sample Code	Lab Mean	Grand Mean	Between Lab Std Dev	CPV	Data Flag (if assigned)
JF713A	140	F71	29.03	28.923	0.889	0.11	89 of 89 labs included
		F72	39.68	39.708	1.033	-0.03	
U8BQ48	141	G71	26.50	27.651	0.707	-1.63	87 of 92 labs included
		G72	34.00	35.157	0.851	-1.36	
RT4A4F	142	H71	37.73	37.348	0.629	0.60	82 of 91 labs included
		H72	48.05	48.749	0.978	-0.71	
X3C8PP	143	E81	56.00	55.951	0.872	0.06	72 of 79 labs included
		E82	64.45	65.041	0.939	-0.63	

Data Flag Assigned: None. Your data were consistent with the other laboratories.

Performance Analysis Report - Current Cycle

Sample report

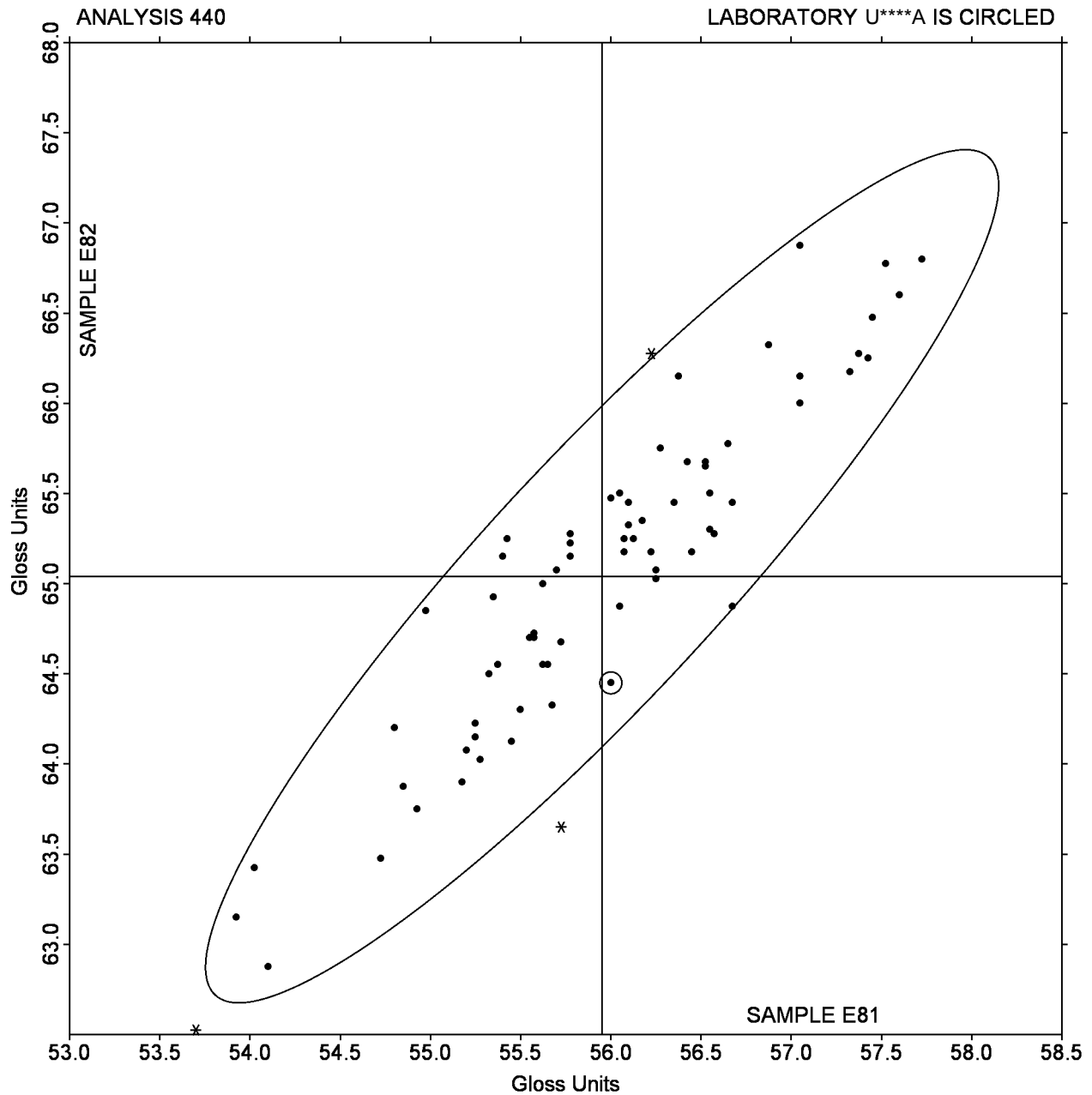
Lab Code: U**A**

Analysis #440: 60 Degree Gloss

using ASTM Method D 523 (data in units of Gloss Units)

WebCode CCCCC1

Test Cycle 143 - 1st Q 2008



WebCode	Data Flag	Sample E81			Sample E82		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV

X3C8PP		56.00	0.05	0.06	64.45	-0.59	-0.63
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Consensus Results (all laboratories)

Grand Means	55.951 Gloss Units	65.041 Gloss Units
Btwn Lab Standard Deviation	0,872 Gloss Units	0,939 Gloss Units
<i>Consensus statistics based on 72 of 79 reporting participants</i>		