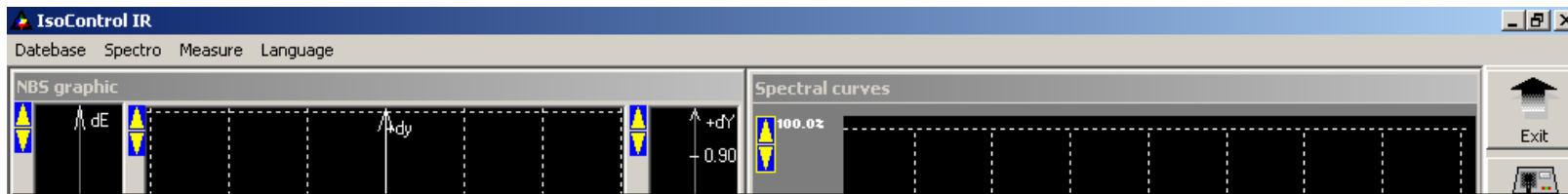


Near IR QC software

This software allows you to check batches versus standard according to NATO recommendations.

- Spectral curve are measured from 400nm to 1200nm.
- Colorimetric differences can be displayed in $L^*a^*b^*$ color space, or Yxy color space using NBS ellipses.
- In both visible and Near IR areas batches spectral curves can be compared to spectral limites using a PASS/FAIL option.



Standard

Standard is defined by 3 sets of values

- Spectral curve of primary standard. This standard is a numerical standard that has been measured on customer's spectro. If you want to use this standard, you must key in its reflectance values (from 400nm to 1200nm every 10nm)
- Spectral curve of secondary standard. This standard has been measured on your spectro.
- Yxy standard. This standard is a theoretical standard, known only by its Yxy values

In addition to these values, you can associate to each standard spectral limites in both visible and near IR areas

ISOControl IR
Datebase Spectro Measure Language

NBS graphic

Spectral curves

Results

Information

Color : CIE Yxy NBS units
Observer : CIE 1931 2°
Illumina
Geomet

Value display
 Difference

Standard measurement

1. To get the standard from file, click on Standard icon

D:\CV\spcwin\ISOQC IR 6.2004.03\Bases\Base IR.mdb Prêt 09:03 Utilisateur : SA

IsoControl IR
Database Spectro Measure Language

NBS graphic

Spectral curves

100.0%

25.0%

0.0%

400nm 500nm 600nm 700nm 800nm 900nm 1000nm 1100nm 1200nm

Return

Load

Standard measurement
1. Select the standard file

File

Stand Names

Spec.Limits

<No template>

SETM
IR
Test_VC
Essai_VC
Essai2
Test_File

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The image shows a screenshot of the IsoControl IR software interface. At the top, there are menu options: Database, Spectro, Measure, and Language. The main window is divided into two primary sections: 'NBS graphic' on the left and 'Spectral curves' on the right. The 'NBS graphic' section displays a grid with numerical values: 0.00, 0.033, 0.066, 0.033, 0.000, 0.033, 0.066, and 0.90. The 'Spectral curves' section shows a graph with a y-axis from 0.0% to 100.0% and an x-axis from 400nm to 1200nm. A white text box with a red border is overlaid on the 'NBS graphic' section, containing the text 'Standard measurement' in red and '1. Select the standard file' in blue. Below this, a 'File' list is visible, containing the items: SETM, IR, Test_VC, Essai_VC, Essai2, and Test_File. A red arrow points from a red starburst containing the number '1' to the 'SETM' item in the file list. To the right of the file list is a 'Spec.Limits' field containing '<No template>'. At the bottom of the window, a status bar shows the file path 'D:\CV\spcwin\ISOQC IR 6.2004.03\Bases\Base IR.mdb', the status 'Prêt', the time '09:05', and the user 'Utilisateur : SA'.

IsoControl IR
Datebase Spectro Measure Language

NBS graphic

Spectral curves

100.0%
75.0%
0.0%

400nm 500nm 600nm 700nm 800nm 900nm 1000nm 1100nm 1200nm

Standard measurement
1. Double-click on the standard to select in the file.

File

Standards

File

SETM
IR
Test_VC
Essai_VC
Essai2
Test_File

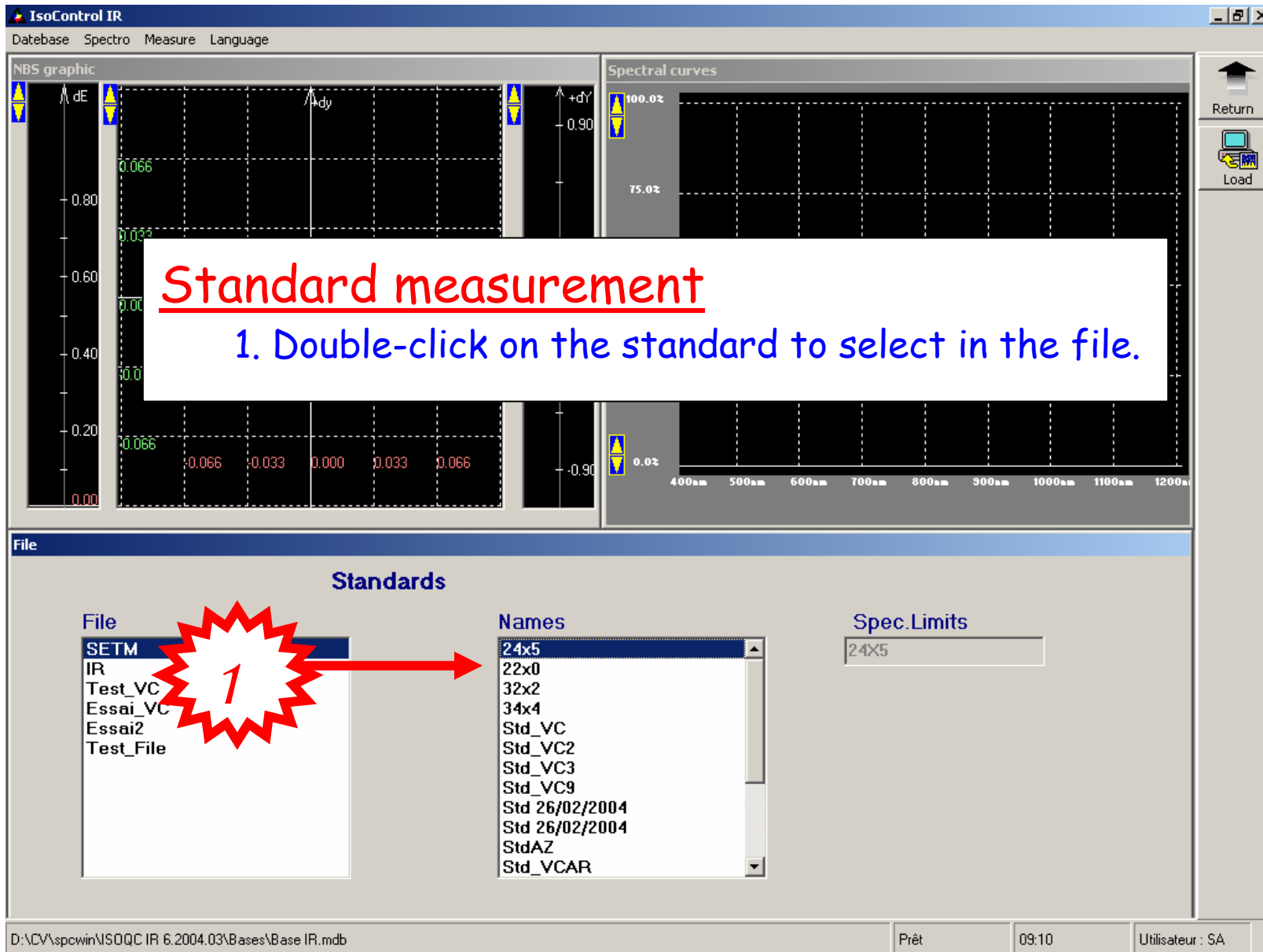
Names

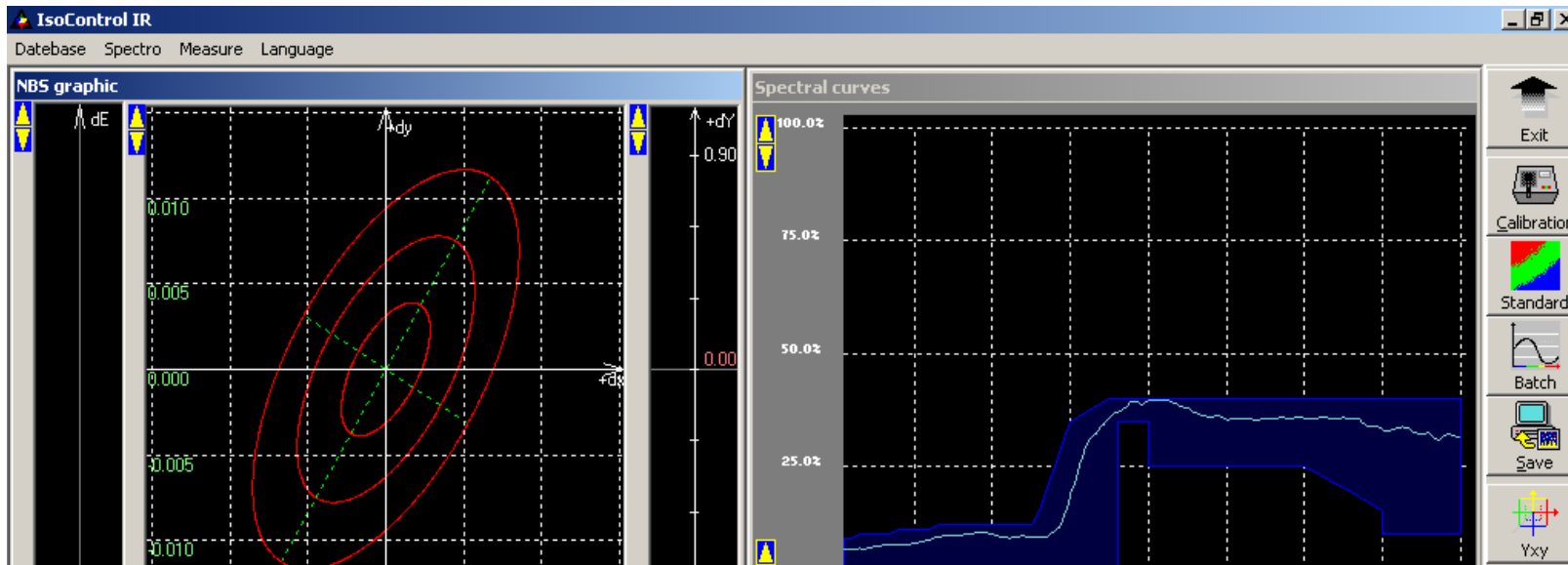
24x5
22x0
32x2
34x4
Std_VC
Std_VC2
Std_VC3
Std_VC9
Std 26/02/2004
Std 26/02/2004
StdAZ
Std_VCAR

Spec.Limits

24X5

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Standard

Standard's colorimetric values, spectral curve and limites are displayed on screen

		Standards	Y	x	y		
<input checked="" type="checkbox"/>	Measurement	24x5	9.55	0.3310	0.3480		
		Batches	dY	dx	dy	dE NBS	
<input checked="" type="checkbox"/>	Measurement						



Reset

IsoControl IR
 Database Spectro Measure Language

Batch measurement by spectro

1. Click on Measurement to measure the batch by spectro

GABARIT 24X

Informa

Color: **24x5** NBS units Large radius : 0.0044 Delta Y : 0.0031
 Observ: 931 2° Small radius : 0.0021
 Illumina: Angle : 59°
 Geometry: 1 unit difference -0.0100

Value display

Difference
 Absolute values

		Standards	Y	x	y		
<input checked="" type="checkbox"/>	Measurement	24x5	9.55	0.3310	0.3480		
		Batches	dY	dx	dy	dE NBS	
<input checked="" type="checkbox"/>	Measurement	24x5 - 2	0.02	0.0002	-0.0002	0.20	OUT of spectral limits
<input type="checkbox"/>	Measurement						

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Batch measurement by file

1. You can also read an existing batch in a file clicking on Batch and then File icons

		Standards	Y	x	y		
<input checked="" type="checkbox"/>	Measurement	24x5	9.55	0.3310	0.3480		
		Batches	dY	dx	dy	dE NBS	
<input checked="" type="checkbox"/>	Measurement	24x5 - 2	0.02	0.0002	-0.0002	0.20	OUT of spectral limits
<input checked="" type="checkbox"/>	Measurement	24x5 - 3	0.03	0.0011	0.0005	0.52	OUT of spectral limits
<input type="checkbox"/>	Measurement						

PASS/FAIL option

1. Batches delta values versus standard are displayed in a table.
2. If the batch is out of spectral limites, the text "OUT of spectral limites" is displayed on a red background.

Information

Color : CIE Yxy NBS units Large radius : 0.0031 Delta Y : 0.0031
Observer : CIE 1931 2° Small radius : 0.0021
Illuminant : C Angle : 59°
Geometry : d/8° 1 unit difference -0.0100

Value

Divergence
 Absolute values

		Standards	Y	x	y		
<input checked="" type="checkbox"/>	Measurement	24x5	9.55	0.3310	0.3480		
		Batches	dY	dx	dy	dE NBS	
<input checked="" type="checkbox"/>	Measurement	24x5 - 2	0.02	0.0002	-0.0002	0.20	OUT of spectral limites
<input checked="" type="checkbox"/>	Measurement	24x5 - 3	0.03	0.0011	0.0005	0.52	OUT of spectral limites
<input type="checkbox"/>	Measurement						

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3 different standards

- Delta values can be calculated versus primary standard, secondary standard or Yxy values. Click on this icon to define which values of this standard to use to calculate the delta values.

GABARIT 24x5

Information

Color : CIE Yxy NBS units Large radius : 0.0044 Delta Y : 0.0031
 Observer : CIE 1931 2° Small radius : 0.0021
 Illuminant : C Angle : 59°
 Geometry : d/8° 1 unit difference -0.0100

Value display

Difference
 Absolute values

		Standards	Y	x	y		
<input checked="" type="checkbox"/>	Measurement	24x5	9.42	0.3322	0.3495		
		Batches	dY	dx	dy	dE NBS	
<input checked="" type="checkbox"/>	Measurement	24x5 - 2	0.15	-0.0010	-0.0018	0.84	DUT of spectral limits
<input checked="" type="checkbox"/>	Measurement	24x5 - 3	0.16	-0.0001	-0.0010	0.75	DUT of spectral limits
<input type="checkbox"/>	Measurement						

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Color space

1. You can select a different illuminant or color scale for the delta values calculation. To do so, click on Other icon.

The screenshot displays the GABARIT 24x5 software interface. At the top, there are two plots: a color space plot on the left and a spectral power distribution plot on the right. The color space plot shows a grid with red and green contours and a pink square labeled '2'. The spectral plot shows two curves (red and blue) over a wavelength range from 400nm to 1200nm.

Below the plots is the 'GABARIT 24x5' information panel. It includes a 'Value display' section with radio buttons for 'Difference' (selected) and 'Absolute values'. A red starburst with the number '1' is positioned over the 'Other' icon in the right-hand toolbar, with a red arrow pointing to it.

	Standards	Y	x	y		
✓	Measurement 24x5	9.55	0.3310	0.3480		
	Batches	dY	dx	dy	dE NBS	
✓	Measurement 24x5 - 2	0.02	0.0002	-0.0002	0.20	OUT of spectral limits
✓	Measurement 24x5 - 3	0.03	0.0011	0.0005	0.52	OUT of spectral limits
☐	Measurement					

At the bottom of the window, the status bar shows the file path: D:\CV\spcwin\ISOQC IR 6.2004.03\Bases\Base IR.mdb, the status 'Prêt', the time '09:38', and the user 'Utilisateur : SA'.

IsoControl IR
 Database Spectro Measure Language

NBS graphic

Spectral curves

Color scale and illuminant settings

1. Click on software parameter icon

GABARIT 24x5

Information

Color :	CIE Yxy NBS units	Large radius :	0.0044	Delta Y :	0.0031
Observer :	CIE 1931 2°	Small radius :	0.0021		
Illuminant :	C	Angle :	59°		
Geometry :	d/8°	1 unit difference	-0.0100		

Value display

Difference

Absolute values

		Standards	Y	x	y		
✓	Measurement	24x5	9.55	0.3310	0.3480		
		Batches	dY	dx	dy	dE NBS	
✓	Measurement	24x5 - 2	0.02	0.0002	-0.0002	0.20	OUT of spectral limits
✓	Measurement	24x5 - 3	0.03	0.0011	0.0005	0.52	OUT of spectral limits
☐	Measurement						

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 Prêt
09:38
Utilisateur : SA

Color space and illuminant settings

- Select the color scale, illuminant and observer
- Click on Confirm

Information

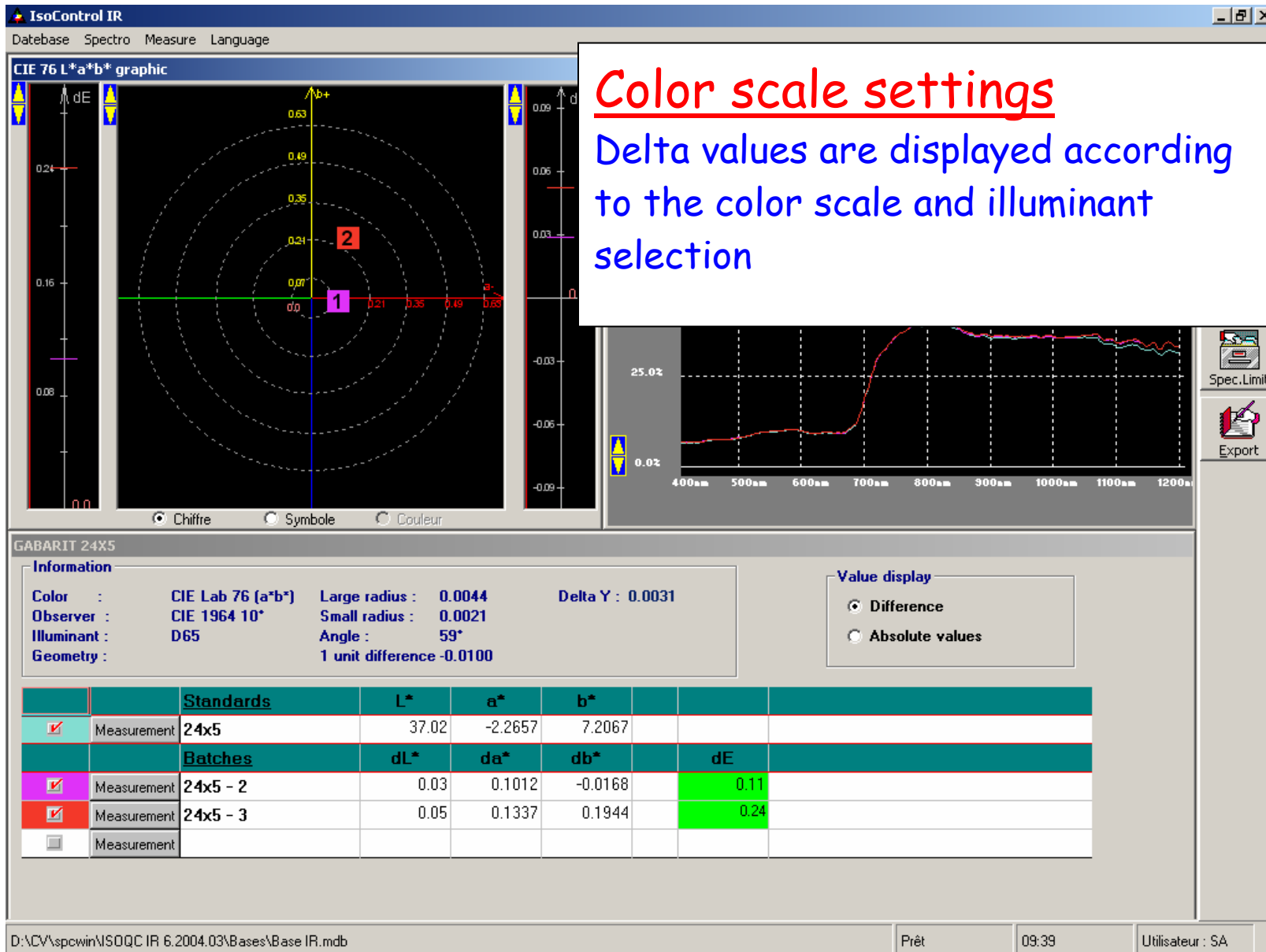
Color : CIE Yxy NBS units Large radi
 Observer : CIE 1931 2° Small radi
 Illuminant : C Angle :
 Geometry : d/8° 1 unit diffe

Standards						
<input checked="" type="checkbox"/>	Measurement	24x5				
Batches			dY	dx	dy	dE NBS
<input checked="" type="checkbox"/>	Measurement	24x5 - 2	0.02	0.0002	-0.0002	0.20
<input checked="" type="checkbox"/>	Measurement	24x5 - 3	0.03	0.0011	0.0005	0.52
<input type="checkbox"/>	Measurement					

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DUT of spectral limits

DUT of spectral limits



IsoControl IR
 Database Spectro Measure Language

CIE 76 L*a*b* graphic Spectral curves

Standard creation

1. To create a new standard, click on Other then standard management

Exit
 Calibration
 Standard
 Batch
 Save
 Yxy
 Graphic
 Text
 Other
 Reset
 Reset

GABARIT 24x5

Information

Color : CIE Lab 76 (a*b*) Large radius : 0.0044 Delta Y : 0.0031
 Observer : CIE 1964 10° Small radius : 0.0021
 Illuminant : D65 Angle : 59°
 Geometry : 1 unit difference -0.0100

Value display
 Difference
 Absolute values

		Standards	L*	a*	b*		
<input checked="" type="checkbox"/>	Measurement	24x5	37.02	-2.2657	7.2067		
		Batches	dL*	da*	db*		dE
<input checked="" type="checkbox"/>	Measurement	24x5 - 2	0.03	0.1012	-0.0168		0.11
<input checked="" type="checkbox"/>	Measurement	24x5 - 3	0.05	0.1337	0.1944		0.24
<input type="checkbox"/>	Measurement						

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Standard management

File: SETM Description:
 Name: 24x5
 Code: 24x5

Spectral limits: SETM
 <Aucun gabarit>
 22X0
 24X5
 30X0
 32X2
 36X0
 TVC

	Minimum	Yxy	Maximum	Gloss	60°	80°
Y	0.00	9.55	0.00		0	0
x	0.0000	0.3310	0.0000	Min	0	0
y	0.0000	0.3480	0.0000	Max	0	0
Y tolerance	3		Tolerance		3	

Reflectances		Primary standard			Secondary standard						
400	6.66	540	9.62	680	12.73	820	39.23	950	35.48	1080	33.98
410	6.58	550	9.74	690	18.31	830	38.35	960	35.83	1090	33.07
420	6.68	560	9.84	700	23.62	840	37.74	970	35.43	1100	32.96

Standard creation

To create a new standard you must input

1. Theoretical Yxy values
2. Primary standard reflectance curve (by keyboard)
3. Secondary standard curve by spectro or keyboard
4. Select a spectral limit among the existing ones

IsoControl IR - [Spectral limits management]
 Database Spectro Measure Language

File **SETM** Name: 24X5

File

- SETM
- IR

- 22X0
- 24X5**
- 30X0
- 32X2
- 36X0
- TVC

	Max curve		Min curve			Max curve		Min curve			Max curve		Min curve	
	Refl	Refl2	Refl	Refl2		Refl	Refl2	Refl	Refl2		Refl	Refl2	Refl	Refl2
400	9.00				670	20.00				940	40.00			
410	9.00				680	25.00				950	40.00			
420	9.00				690	30.00				960	40.00			
430	10.00				700	35.00				970	40.00	25.00		
440	10.00				710	36.00				980	40.00	25.00		
450	10.00				720	37.00				990	40.00	25.00		
460	10.00				730	38.00				1000	40.00	25.00		
470	10.00				740	39.00				1010	40.00	24.00		
480	11.00				750	40.00				1020	40.00	23.00		
490	11.00				760	40.00	0.00	35.00		1030	40.00	22.00		
500	11.00				770	40.00	35.00			1040	40.00	21.00		
510	11.00				780	40.00	35.00			1050	40.00	20.00		
520	11.00				790	40.00	35.00			1060	40.00	19.00		
530	12.00				800	40.00	35.00	25.00		1070	40.00	18.00		
540	12.00				810	40.00	25.00			1080	40.00	17.00		
550	12.00				820	40.00	25.00			1090	40.00	16.00		
560	12.00				830	40.00	25.00			1100	40.00	15.00	10.00	
570	12.00				840	40.00	25.00			1110	40.00	10.00		
640	12.00				910	40.00	25.00			1180	40.00	10.00		
650	12.00				920	40.00	25.00			1190	40.00	10.00		
660	15.00				930	40.00	25.00			1200	40.00	10.00		

Return

New

Change

Delete

Spectral limit creation

1. Click on New to add a new spectral limit

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