

SQCT
Color Management Control System
User Manual

Contents

1 . Introduction.....	4
1.1 Software Description.....	4
1.2 System Requirements.....	5
2. Installing Software.....	5
2.1 Installing SQCT Software.....	5
2.2 Installing USB Driver Manually.....	11
3. Software Operation Instruction.....	18
3.1 Interface Description.....	18
3.2 Connect to PC.....	20
3.2.1 Communication.....	20
3.3 Definition of Job.....	21
3.4 Current Standard and Current Sample.....	21
3.5 Select Record.....	21
3.6 Sort Records.....	22
3.7 Name Rule of Records.....	22
3.8 Save an Open Job.....	23
3.9 Standard.....	23
3.9.1 Auto Naming.....	23
3.9.2 Name Option.....	24
3.9.3 Measure.....	24
3.9.4 Average Measurement.....	25
3.9.5 Rename.....	27
3.9.6 Modify the Number of Material.....	27
3.9.7 Input Standard Manually.....	27
3.9.8 Import from Sample.....	28
3.9.9 Delete.....	29
3.10 Sample.....	29
3.10.1 Auto Naming.....	29
3.10.2 Name Option.....	29
3.10.3 Measure.....	30
3.10.4 Average Measurement.....	31
3.10.5 Rename.....	32
3.10.6 Modify the Number of Material.....	32
3.10.7 Import from Standard.....	32
3.10.8 Delete.....	33
3.11 Setting.....	33
3.11.1 Language Settings.....	33
3.11.2 Tolerance Settings.....	33
3.11.3 Color Space & Formula Settings.....	33

3.11.4 Observer Angle/Illuminants Settings.....	34
3.11.5 Report Settings.....	35
3.11.6 Traffic Signs Measurement.....	36
3.11.7 Other Settings.....	36
3.12 Instrument.....	37
3.12.1 Instrument Status.....	37
3.12.2 White Calibration.....	38
3.12.3 Black Calibration.....	38
3.12.4 Upload Standard to PC.....	38
3.12.5 Upload Sample to PC.....	38
3.12.6 Insert Standard Data to Instrument.....	39
3.13 Window.....	39
3.14 Report.....	39
3.15 Help.....	39
4. Instruction of Traffic Signs Measurement.....	39
4.1 Switch to Traffic Signs Measurement Mode.....	40
4.2 Instruction of Menu.....	41
4.2.1 Add Standard.....	42
4.2.2 Modify Standard.....	44
4.2.3 Delete Standard.....	45
4.2.4 Retroreflective sheeting for traffic control.....	45
4.2.5 Safety Color GB 2893.....	47
4.2.6 Customizing Standard.....	47
4.3 Data Testing.....	48
4.3.1 Process of testing.....	48
4.3.2 An example for how to judge the chromaticity data is in the area of Polygon-Tolerance Standard.....	48

1 . Introduction

1.1 Software Description

SQCT color management control system is specialized for NS808 Traffic Signs Measurement Spectrophotometer. This software is high-tech software integrating colorimetry, modern optoelectronics and computer science. It not only provides professional normalization, standardization and data color management solution for modern enterprises, but provides a dedicated mode for Traffic Signs Measurement.

SQCT software is connected to the spectrophotometer with USB cable. You can operate it through PC. It not only retains the existing functions of the spectrophotometer, but also extends its functions. SQCT software can measure the color, export the report, input the standard, import the standard from sample, set the tolerance, color space & formula, light source etc, calibrate the white and black board, write the white board

data, upload the data and so on. It's a right-hand man of color quality management.

1.2 System Requirements

Windows 2000、 Windows Me、 Windows XP、 Windows Vista、 Windows 7、 Windows8 operating system。

Computer processor speed is more than 500 MHz

Memory is more than 256MB

It's required to at least 10 MB of hard-disk space to Install and run.

2. Installing Software

2.1 Installing SQCT Software

Insert color management control system SQCT installation CD into CD-ROM drive. Copy the SQCT folder from the CD to the computer.

Click setup.exe file in SQCT folder, then it will pop up a window as shown in Figure 1.

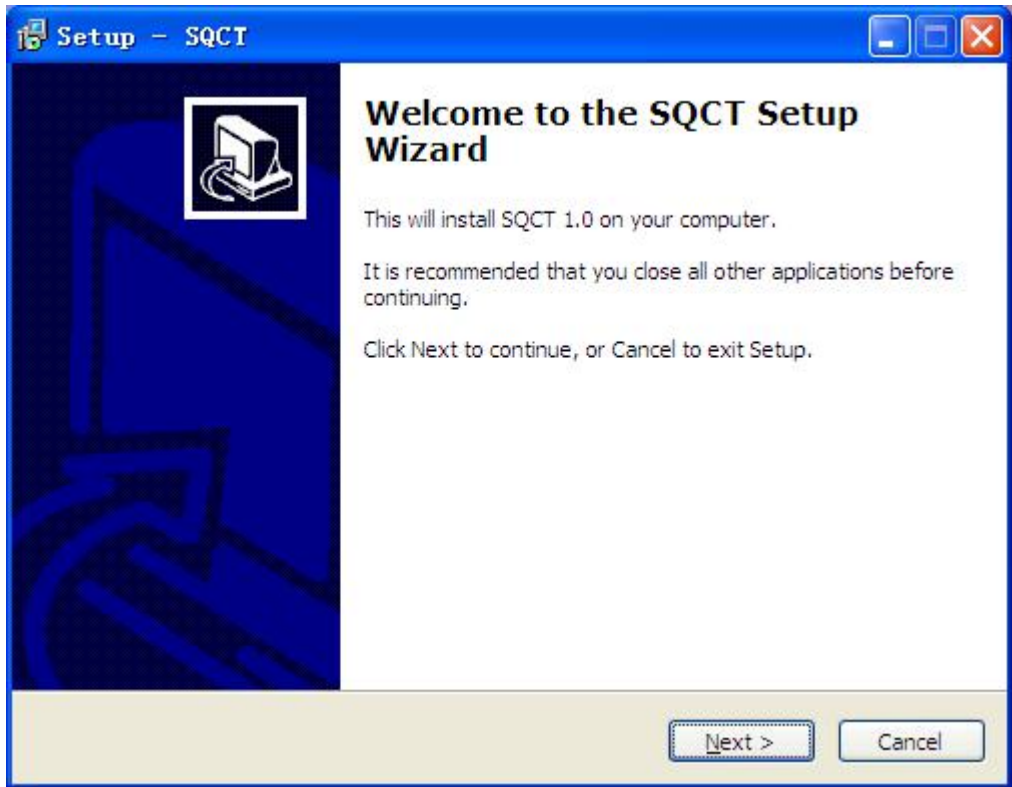


Figure 1

Click "Next", then it will pop up a window as shown in Figure 2.

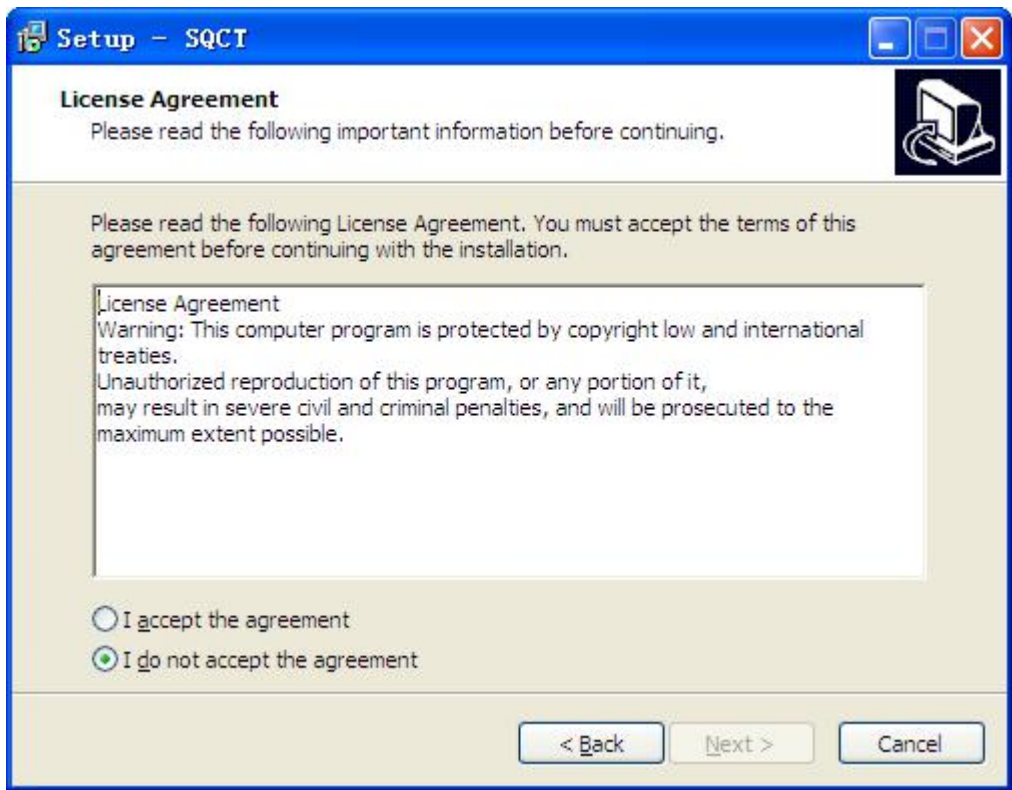


Figure 2

Select “I accept the agreement”, click “Next”, then it will pop up a window as shown in figure 3.

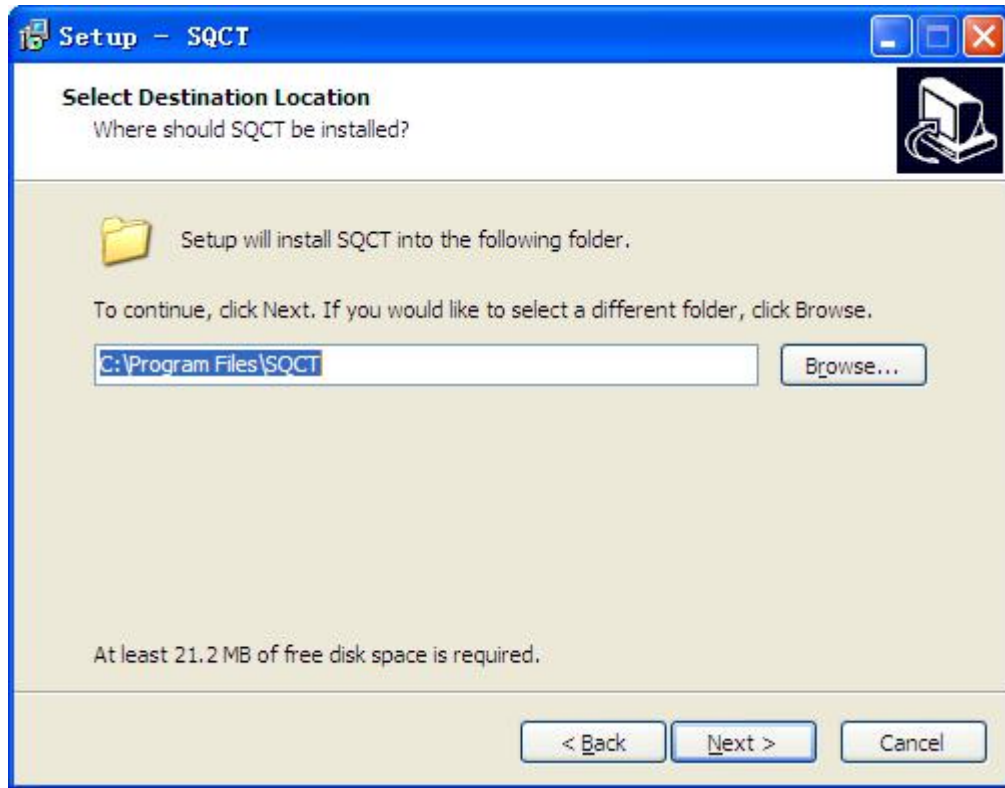


Figure 3

Click “Next”, then it will pop up a window as shown in figure 4.

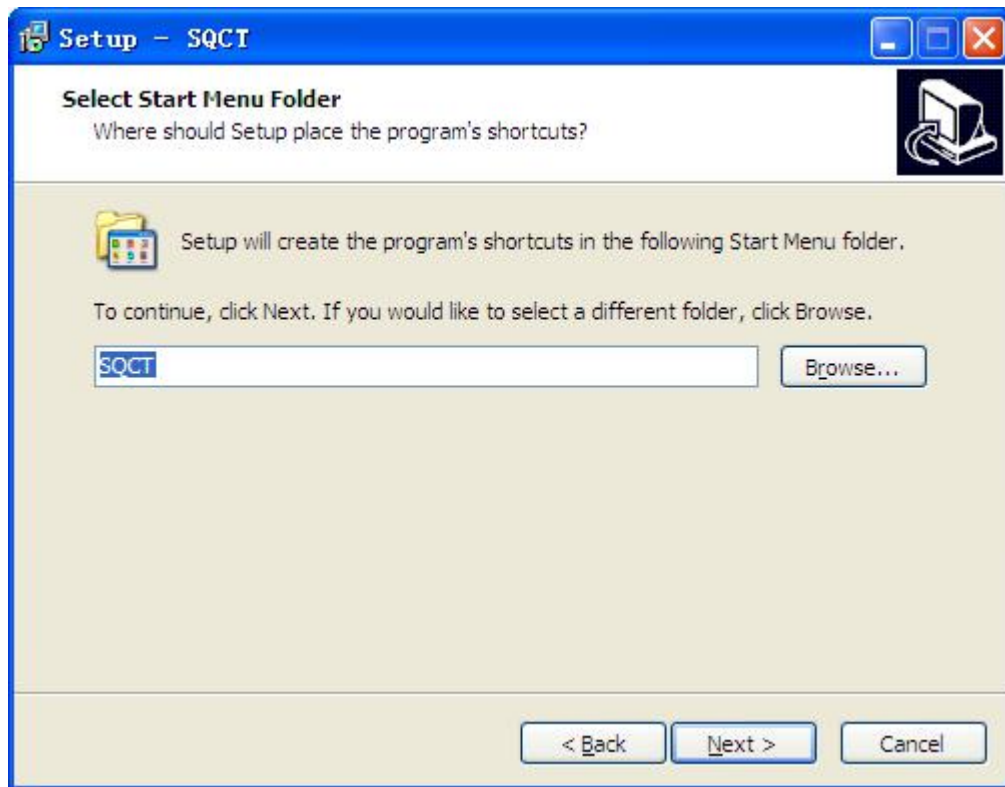


Figure 4

Click “Next”, then it will pop up a window as shown in figure 5.

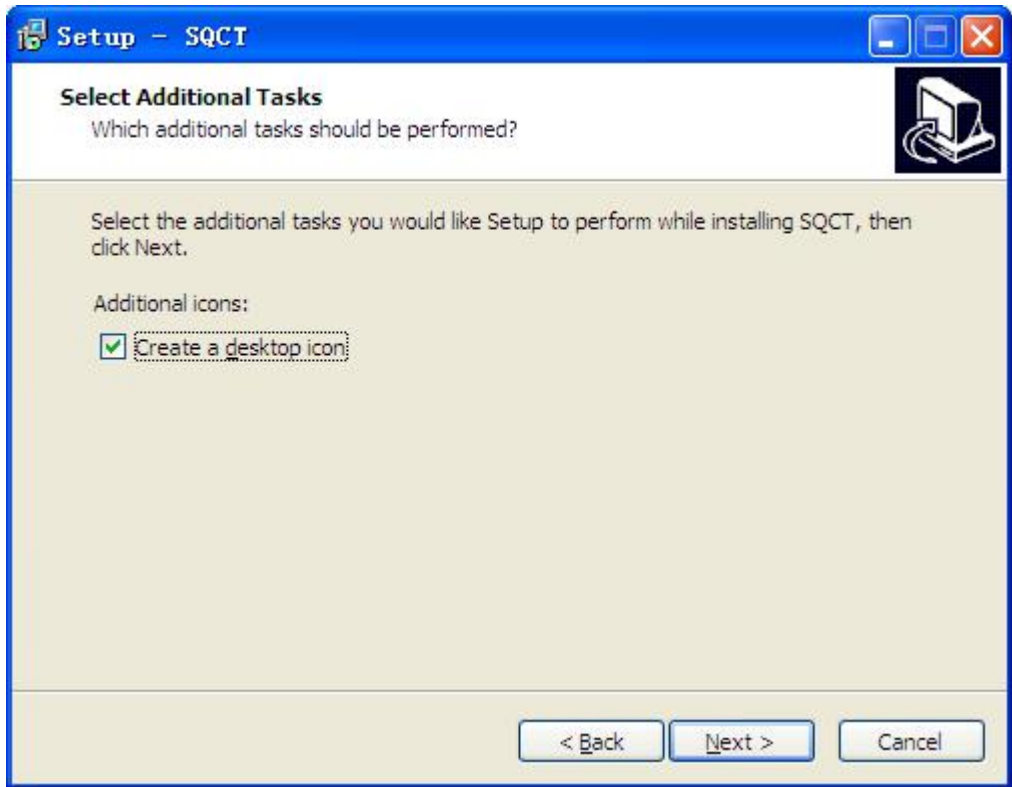


Figure 5

Select “Create a desktop icon”, click “Next” to pop up a window as shown in figure 6.

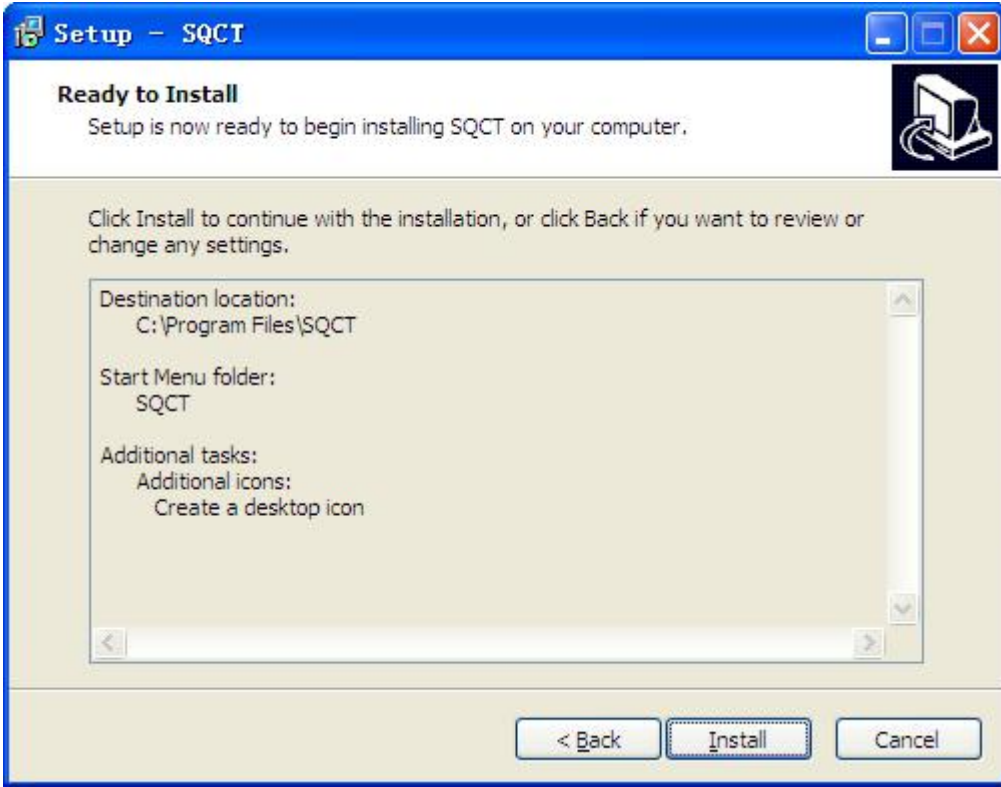
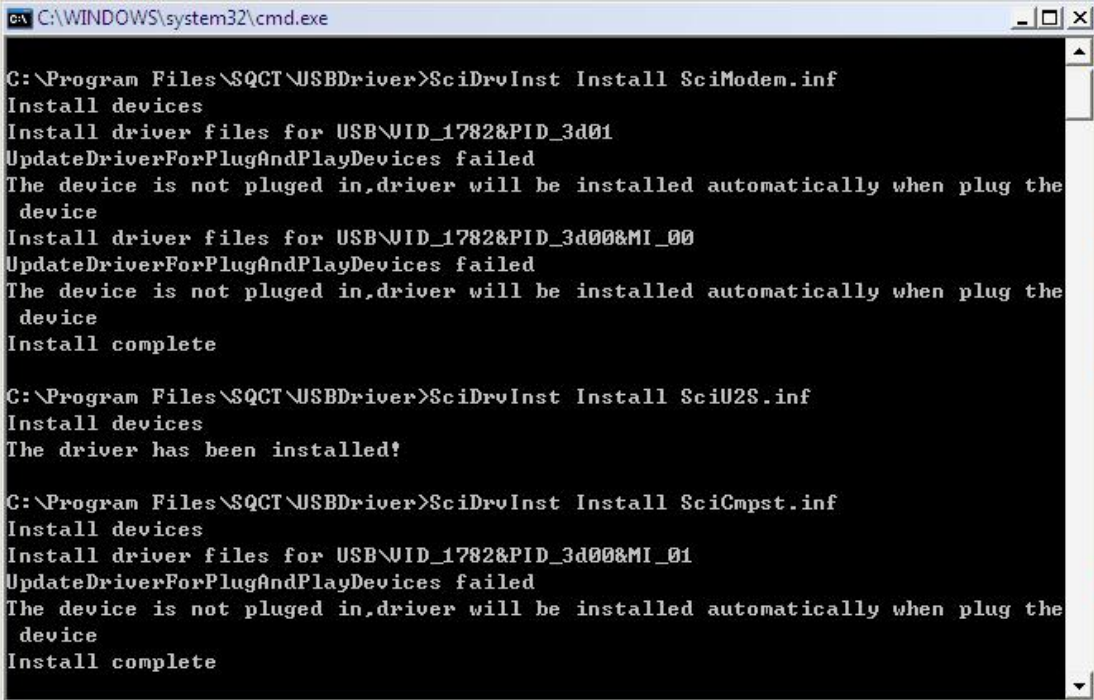


Figure 6

Click “Install”, a progress bar will appear. After finishing the installation, it will pop up a window as shown in figure 7. USB driver will be automatically installed in this progress (Figure 7-1).



```
C:\WINDOWS\system32\cmd.exe

C:\Program Files\SQCT\USBDriver>SciDrvInst Install SciModem.inf
Install devices
Install driver files for USB\VID_1782&PID_3d01
UpdateDriverForPlugAndPlayDevices failed
The device is not plugged in,driver will be installed automatically when plug the
device
Install driver files for USB\VID_1782&PID_3d00&MI_00
UpdateDriverForPlugAndPlayDevices failed
The device is not plugged in,driver will be installed automatically when plug the
device
Install complete

C:\Program Files\SQCT\USBDriver>SciDrvInst Install SciU2S.inf
Install devices
The driver has been installed!

C:\Program Files\SQCT\USBDriver>SciDrvInst Install SciCmpst.inf
Install devices
Install driver files for USB\VID_1782&PID_3d00&MI_01
UpdateDriverForPlugAndPlayDevices failed
The device is not plugged in,driver will be installed automatically when plug the
device
Install complete
```

Figure 7-1

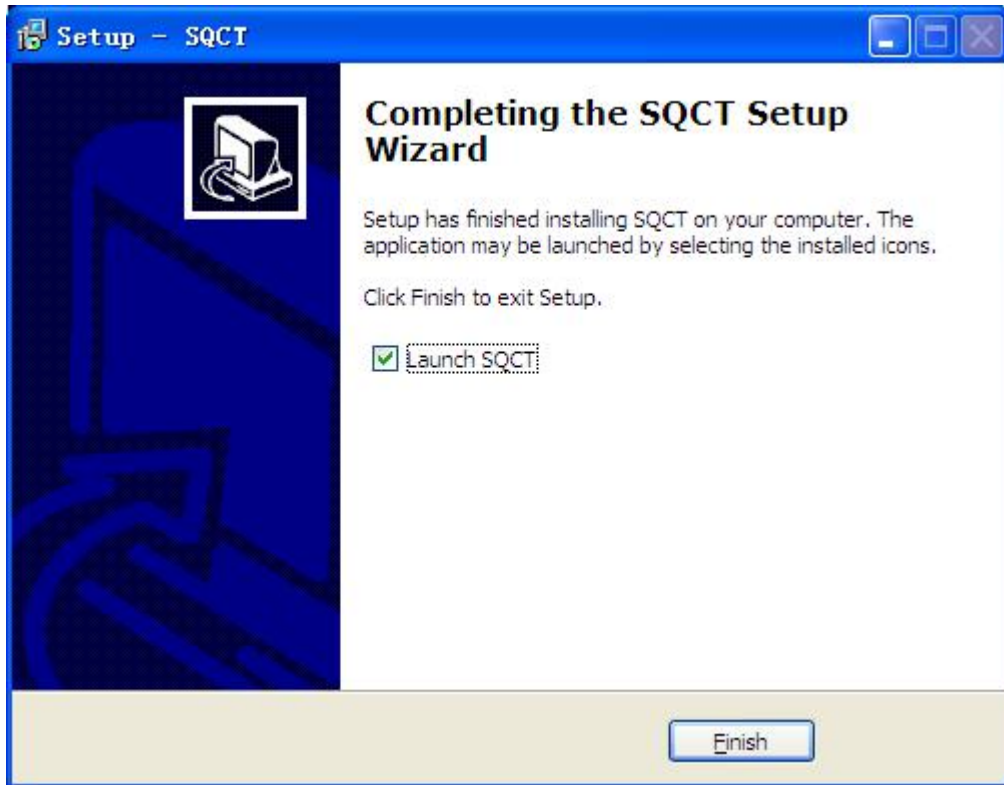


Figure 7

Then SQCT software is installed.

2.2 Installing USB Driver Manually

Generally it's not required to install the USB driver manually, but if we can't find the USB device in the device management of computer after software installation, or there is an error on USB serial port, it has to be installed manually.

If it's a 32-bit operating system, open SQCT/USBDriver folder and click install.bar file; if it's a 64-bit, open SQC8/USBDriver_x64 folder, click DPInst.exe. Then it will install USB driver.

After finishing USB driver installation, use usb cable to connect the spectrophotometer to PC. Power on the spectrophotometer and enter the main menu. Select “Comm” and press “Enter” in the instrument to ensure the instrument is in communication status.

Right click on “My Computer” on the desktop to pop up a window as shown in figure 8.

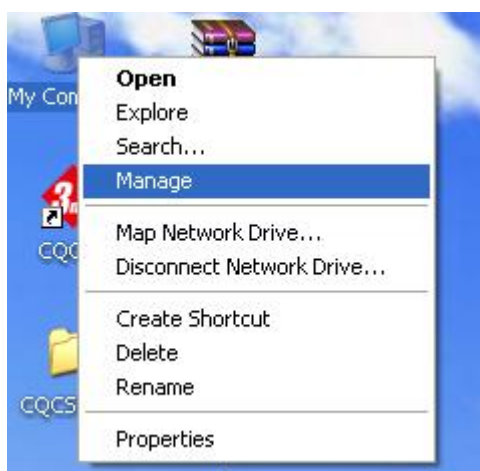


Figure 8

Open “Device Manager”, if the computer displays as shown in Figure 9, it means USB driver is installed successfully.

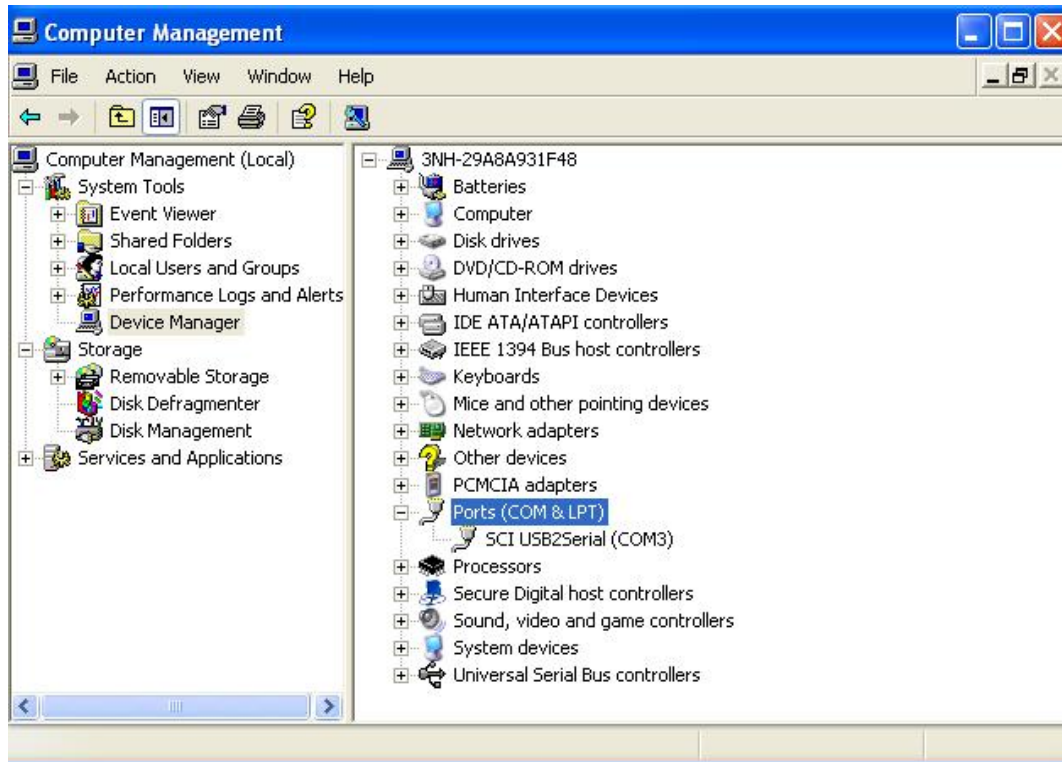


Figure 9

If it's in the window as shown in figure 8, click “Manager” and open “Device Manager”. If the computer displays as shown in figure 10, it means USB driver installation failed. You have to reinstall USB driver.

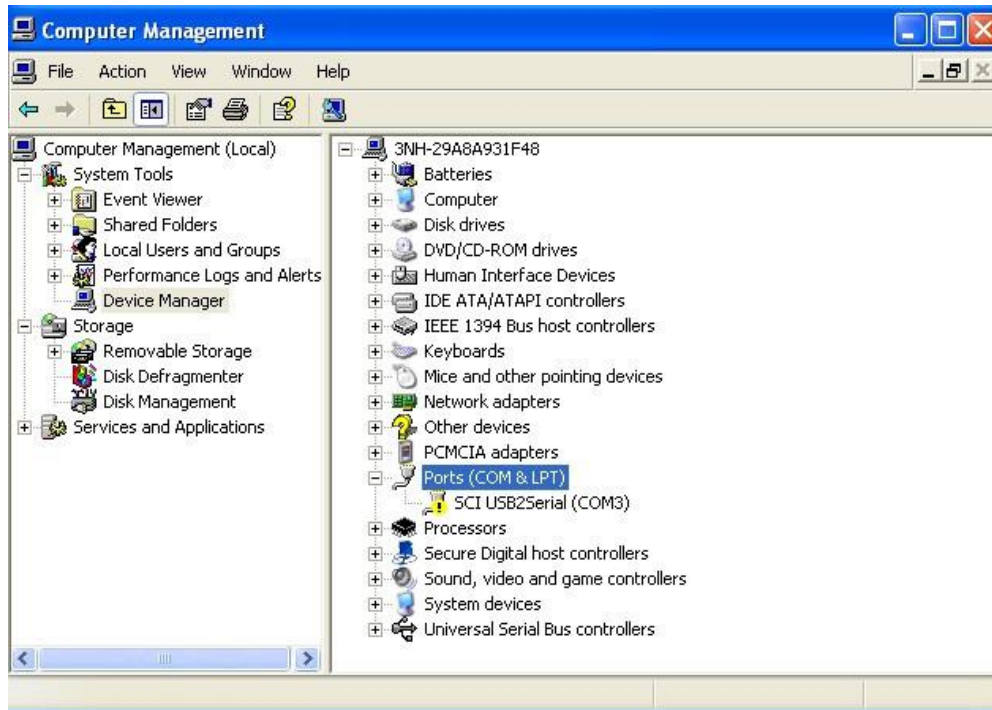


Figure 9

Right click, and then it will pop up a window as shown in figure 11.

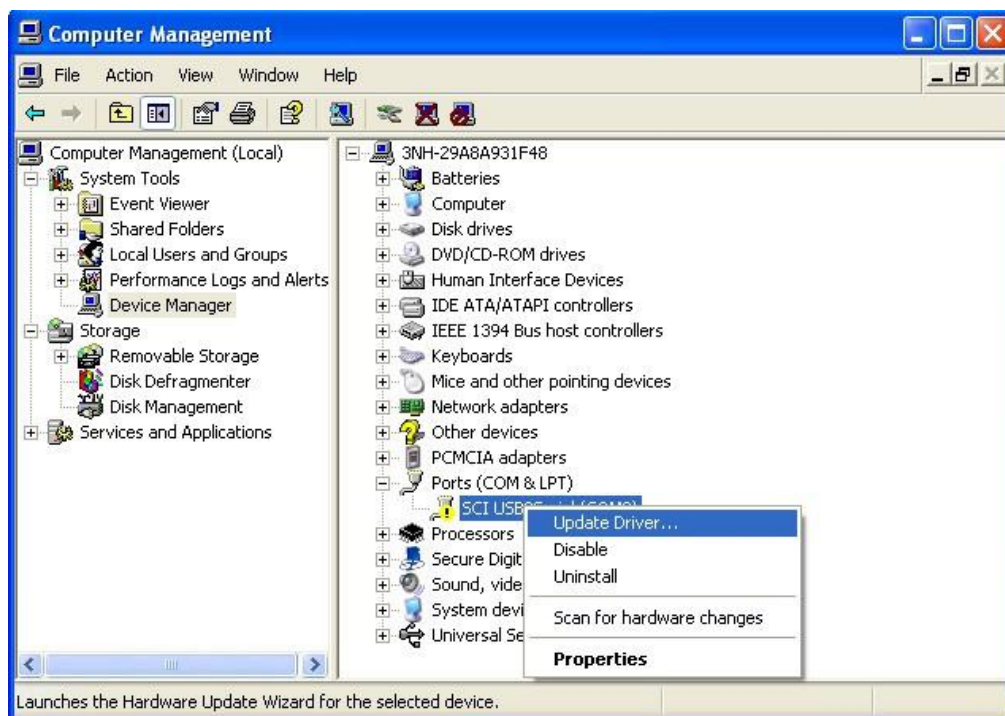


Figure 10

Click “Update Driver...” to pop up a window as shown in figure 12.

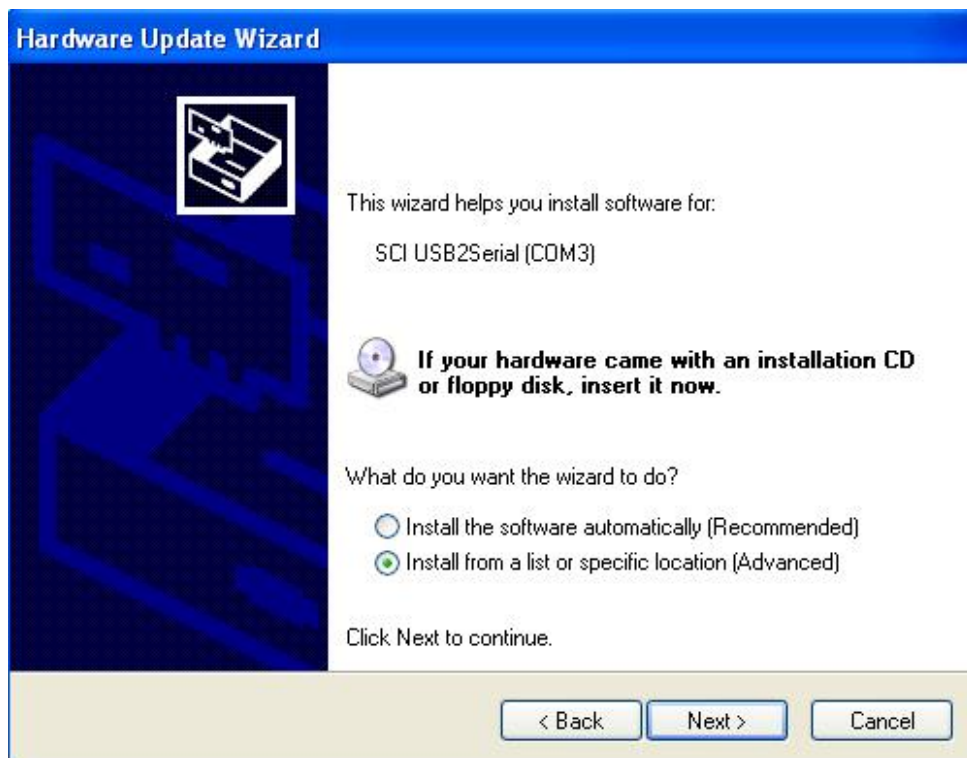


Figure 11

Select “Install from a list or specific location (Advanced)”, click “Next” to pop up a window as shown in figure 13.

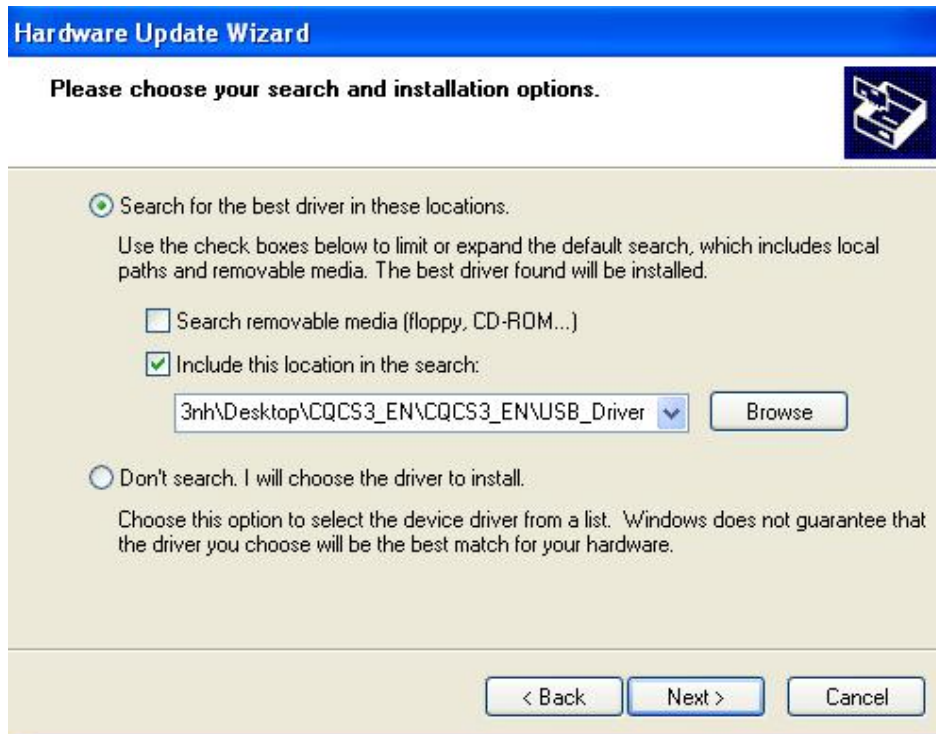


Figure 12

Select “Include this location in the search”, click “Browser” to find USB driver file. Click “Next”, the computer will install it automatically. After completing the installation, it will pop up a window as shown in Figure 14, which means the USB driver is installed successfully.



Figure 13

Then all drivers are installed. Click SQCT icon on the desktop, and you can connect the spectrophotometer to use color management control system.

3. Software Operation Instruction

3.1 Interface Description

Main interface as shown in Figure 15

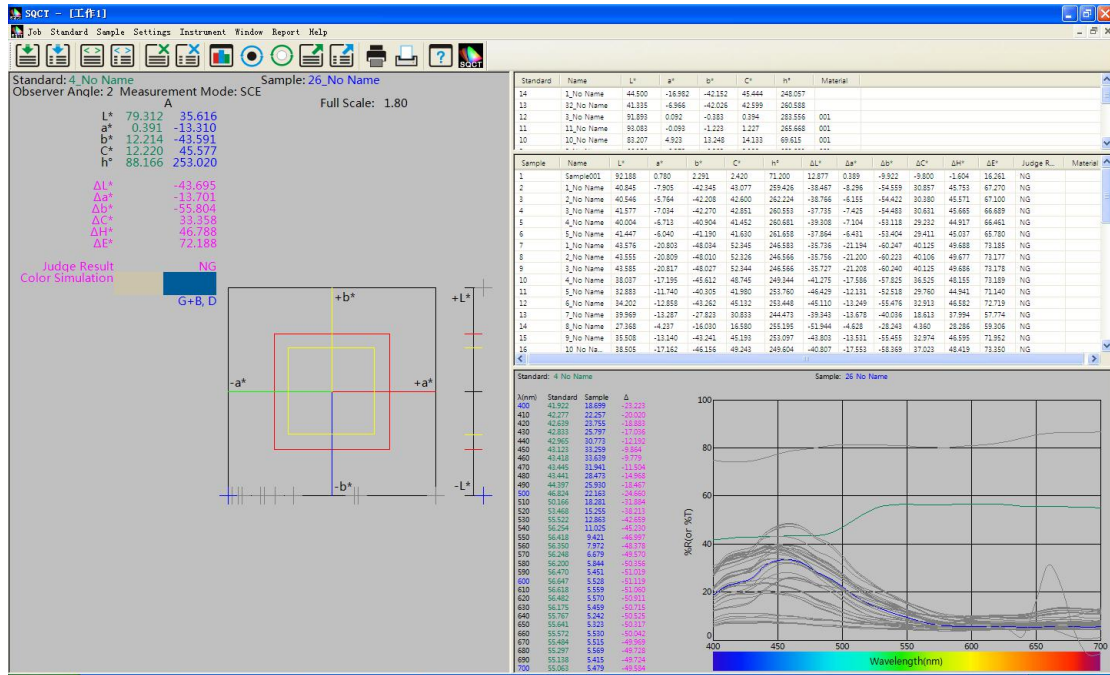


Figure 14

In Figure 15, top is the main menu, left is standard and the current sample chromaticity index data and diagram; the upper right is standard and sample list; the lower right is the reflectance curves of standard and sample.

Toolbar icons are the shortcut icons. From left to right, in turn, they are “Standard Measure”, “Sample Measure”, “Standard Auto-name”, “Sample Auto-name”, “Delete Standard”, “Delete Sample”, “Instrument State”, “Black Calibration”, “White Calibration”, “Upload Standard to PC”, “Upload Sample to PC”, “Printout Color Difference Report”, “User Manual”, “About”.

SQCT software main menu includes: “Job”, “Standard”, “Sample”, “Setting”, “Instrument”, “Window”, “Report”, “and Help”. Here is a brief introduction for the function of each menu:

1. Job: Mainly to realize functions of “New”, “Open”, “Close”, “Save”, “Save As”, “Rename”, “Export Report”, etc. It’s used to new, open and save job and export report, also save many jobs.
2. Standard: Mainly to realize functions of “Measure”, “Auto Naming”, “Name Option”, “Rename”, “Input Standard Manually”, “Export from Sample”. It’s used to measure standard and select automatically naming, name option, input standard manually, and export the sample as standard.
3. Sample: Mainly to realize functions of “Measure”, “Name Option”, “Auto Naming”, “Rename”, “Delete”, “Export from Standard”. It’s used to measure sample and select automatically naming, name option, sample rename, sample delete (delete multiple at a time), and export the standard as sample.
4. Settings: Mainly to realize functions of “Language Settings”, “Tolerance Settings”, “Color space & formula settings”, “Observe/Illuminants Settings”, “Report Settings”, “Other Settings”. It supports English, Chinese Simplified, and Chinese Traditional. You can set color space, color index, observe angle, light, tolerance, report, data accuracy, and display mode etc.

5. Instrument: Mainly to realize functions of “Instrument Status”, “White Calibration”, “Black Calibration”, “Upload Standard to PC”, “Upload Sample to PC”.
6. Window: Mainly to realize functions of “Cascade”, “Tile”. If there are multiple jobs, it can display through tile or cascade.
7. Report: Print color difference report and color difference cumulative report.
8. Help: Check “User Manual”, “About SQCT”

* For more detail information for the above menus, please read the later introduction.

3.2 Connect to PC

3.2.1 Communication

Turn on the spectrophotometer to enter main menu. Select “Comm” and press “Enter” key to start communication. Be sure the instrument is in communication status. Then, start SQC8 software. In order to ensure the stability of the communication, please don’t operate the instrument and press any button when it’s in communication status.

Attention: SQC8 software can only connect with NS808 spectrophotometer, otherwise it will be failed to install.

3.3 Definition of Job

Definition of job is like a project. In the Job, you can save job name, light, observe angle, color space, color index, user information(Chinese and English name and address), tolerance setting, standard and sample data, current sample and standard etc.

3.4 Current Standard and Current Sample

In the left of the main menu, it's the chroma data of current sample and standard. In the bottom right, it's reflectance data. On the top left data list, the sample and standard data of "*" is the current data (as shown on Figure 16). Double click a record of the standard record list or sample record list to set it as the current standard or sample.

Standar...	Name	L*	a*	b*	C*	h*	Material
1	1_No Name	93.455	-0.107	5.524	5.525	91.110	001
2	2_No Name	94.172	-0.431	1.048	1.133	112.380	001
3	3_No Name	91.914	-0.445	1.024	1.116	113.501	001
* 4	4_No Name	79.312	0.391	12.214	12.220	88.166	001
5	5_No Name	69.546	1.084	12.194	12.242	84.921	002
-	-	-	-	-	-	-	-

Sample 1	Name	L*	a*	b*	C*	h*	ΔL^*	Δa^*
1	Sample001	92.188	0.780	2.291	2.420	71.200	12.877	0.389
2	1_No Name	40.845	-7.905	-42.345	43.077	259.426	-38.467	-8.296
3	2_No Name	40.546	-5.764	-42.208	42.600	262.224	-38.766	-6.155
* 4	3_No Name	41.577	-7.034	-42.270	42.851	260.553	-37.735	-7.425
5	4_No Name	40.004	-6.713	-40.904	41.452	260.681	-39.308	-7.104

Figure16

3.5 Select Record

When operate "delete", "Rename", "Import from Standard", "Import from Sample", "Print Report" etc these functions, you have to select the records. The selected record will become dark blue (as shown in Figure

17). You can drag the mouse or use CTRL and SHIFT key with the mouse to select the records.

Standar...	Name	L*	a*	b*	C*	h*	Material
1	1_No Name	93.455	-0.107	5.524	5.525	91.110	001
2	2_No Name	94.172	-0.431	1.048	1.133	112.380	001
3	3_No Name	91.914	-0.445	1.024	1.116	113.501	001
* 4	4_No Name	79.312	0.391	12.214	12.220	88.166	001
5	5_No Name	69.546	1.084	12.194	12.242	84.921	002

Figure17

3.6 Sort Records

Click the head of a standard or sample column to sort according to this column. It will indicate ↑ (ascending), or ↓ (descending).

As shown in figure 18, it's according to L* in descending order.

Standard	Name	L* 1	a*	b*	C*	h*	Material
9	9_No Name	26.152	-0.979	-2.983	3.139	251.831	001
8	8_No Name	26.859	-1.786	-1.959	2.651	227.645	001
7	7_No Name	28.532	-0.257	0.955	0.989	105.079	001
13	32_No Name	41.335	-6.966	-42.026	42.599	260.588	
14	1_No Name	44.500	-16.982	-42.152	45.444	248.057	

Figure18

3.7 Name Rule of Records

In the measurement, you can use some special characters combination to name it. The valid character combination is as following:

- a. %nn...
- b. %yyyy (YEAR)
- c. %mm (MONTH)
- d. %dd (DATE)
- e. %hh (HOUR)
- f. %ii (MINUTE)

g. %ss (SECOND)

Eg: take name conventions

Sample %nnn %yyyy-%mm-%dd %hh:%ii:%ss as an example, if the largest serial number in sample records list is 21 and date & time is 2014-01-02 03:04:05, the record name will be Sample022 2014-01-02 03:04:05.

3.8 Save an Open Job

“Save” is to save the job setting and standard & sample data to the file, while “Open” is to set up and load data into the job.

3.9 Standard

Standard menu as shown in figure 19.

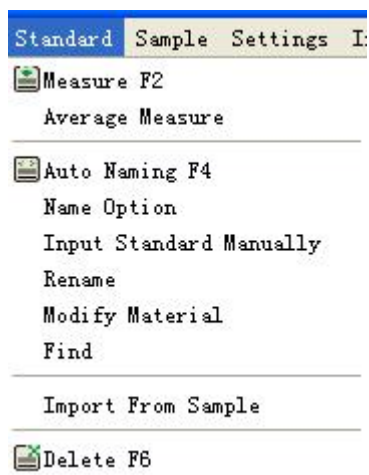


Figure 19

3.9.1 Auto Naming

Select “Standard->Auto Naming”. It will use the rule of name option to name standard when measuring.

3.9.2 Name Option

Set rule for standard auto naming and set auto naming as shown in figure 20.

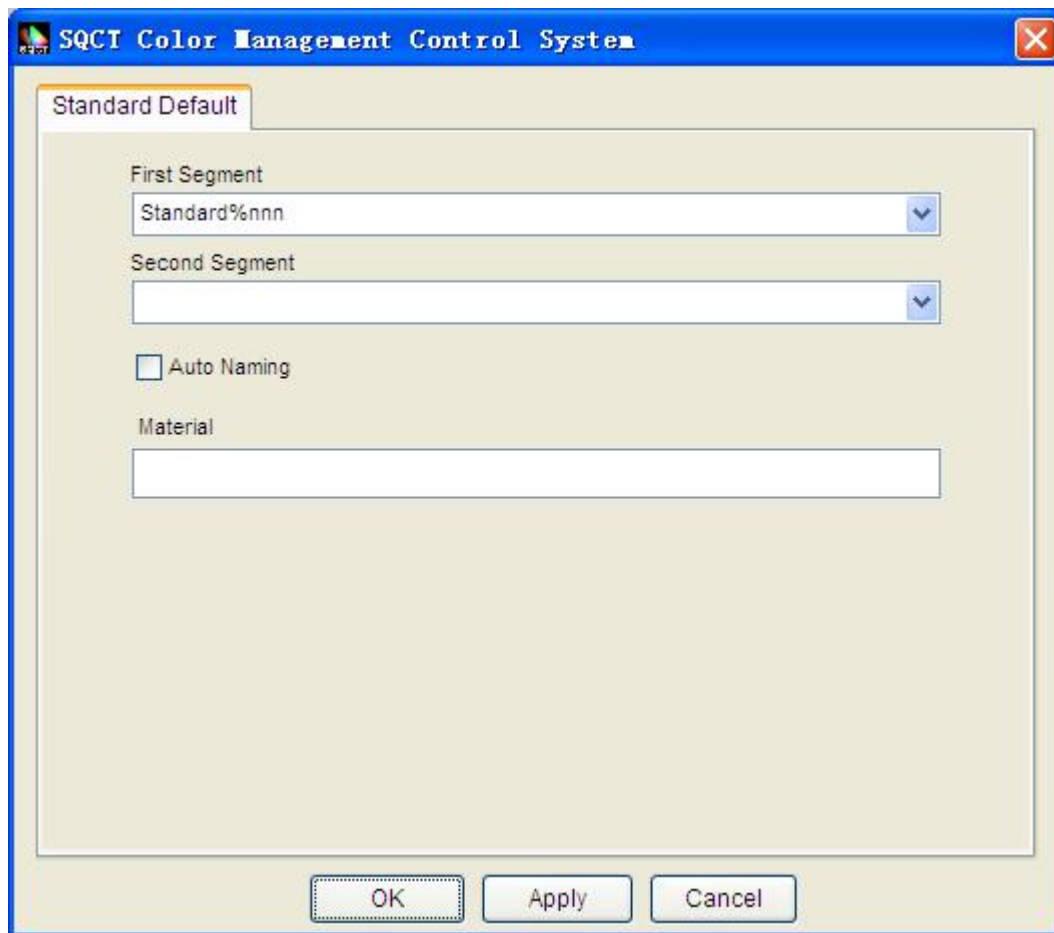


Figure 20

3.9.3 Measure

Select “Standard->Measure”. If you set auto naming, it will use the rule of name option to name standard automatically; if not, it will pop up a window and name it as shown figure 21.

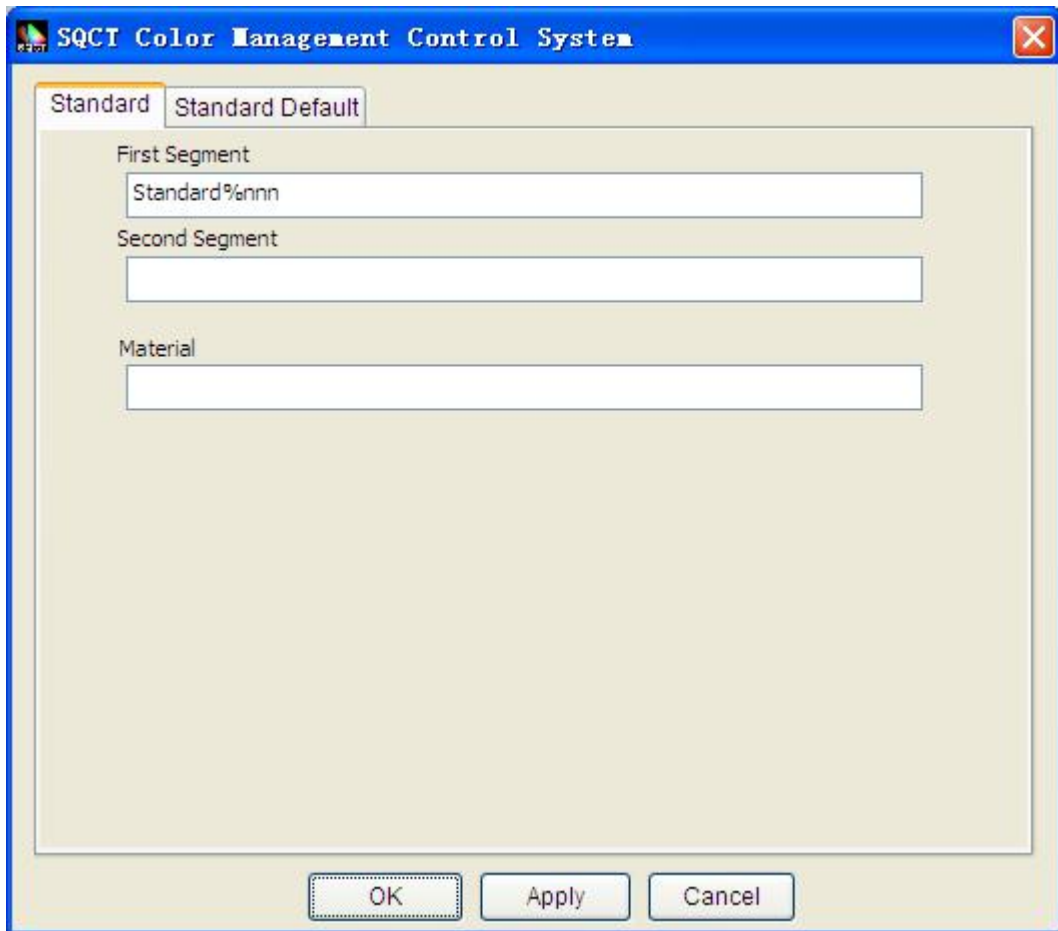


Figure 21

After naming, it will start measurement and display measurement result.

。

3.9.4 Average Measurement

Select “Standard >Average Measure” to open standard average measure , as shown in figure 22 。 Firstly, determine the quantity of measure, then click the button “Measure”. When the current measure finished it will automatically enter the next round measurement. If you set the quantity manual, click the button “Start Average Measure”

(“after that the button will be turn to “Finish Average Measure”), then click the button “Measure”, after finished it, click the button “Finish Average Measure” .

The measure process as shown in figure 23

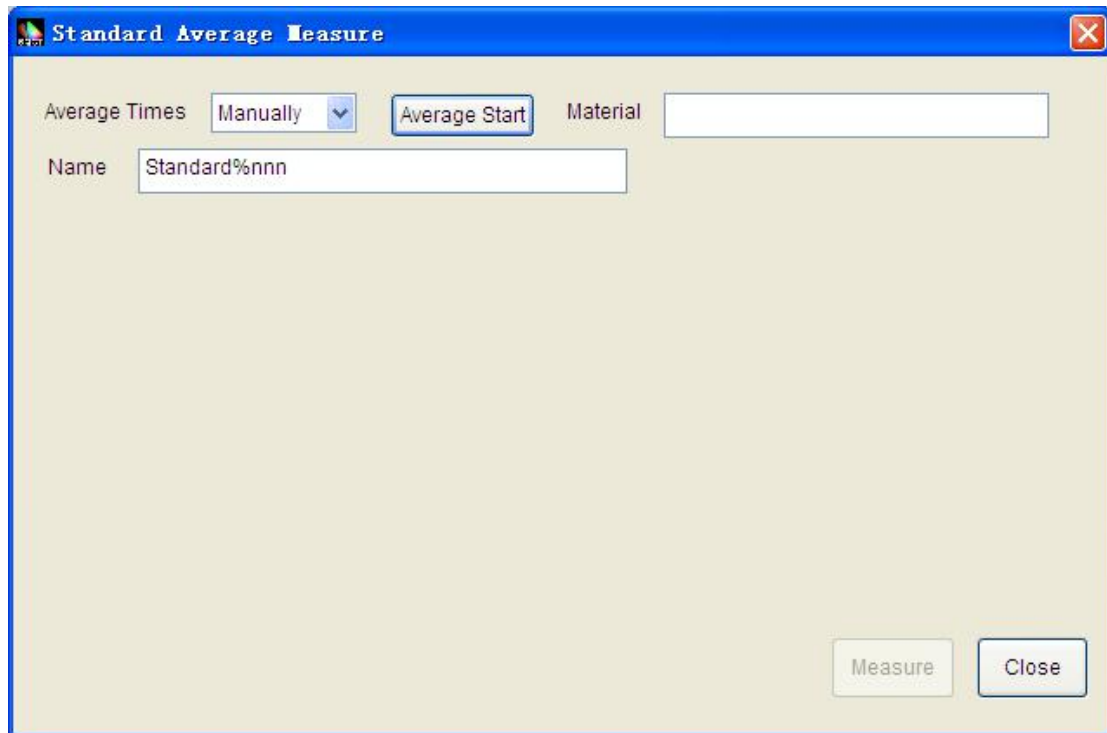


Figure22

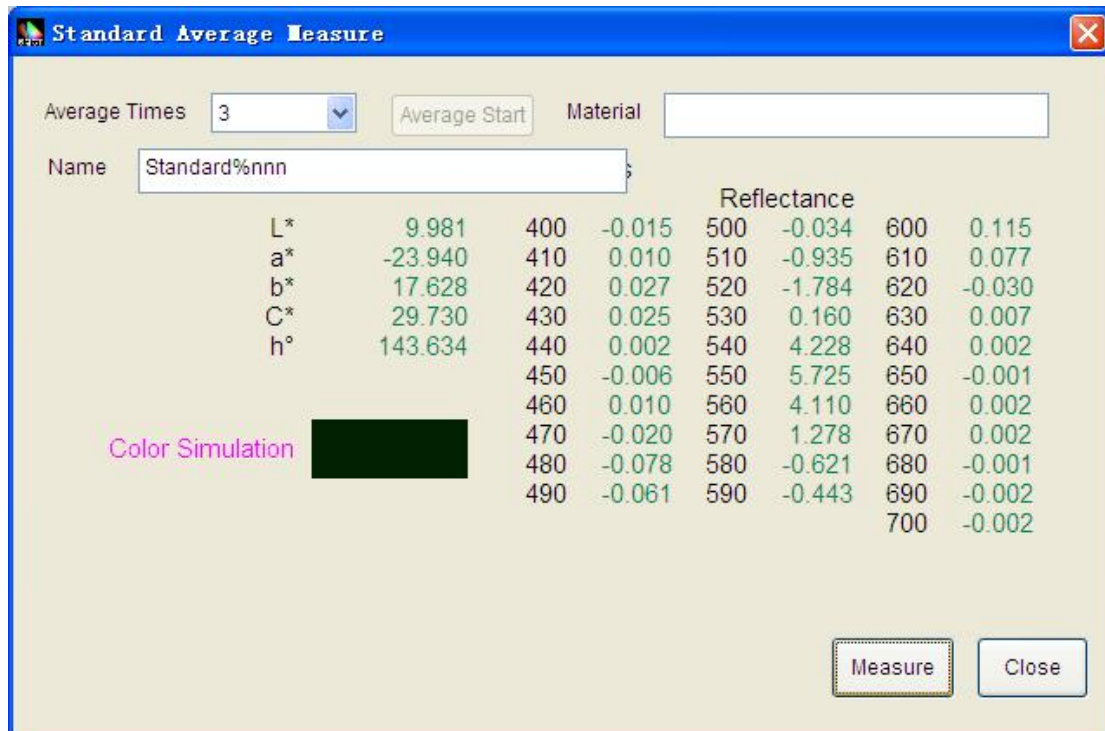


Figure23

3.9.5 Rename

Select the standard on the top right standard list, and then use this submenu to rename it.

3.9.6 Modify the Number of Material

Select the standard on the top right standard list, and then use this submenu to rename it.

3.9.7 Input Standard Manually

Click “Standard->Input Standard Manually”. You can input standard data manually as shown in figure 24. You can input standard through three methods: LAB, XYZ, and reflectance rate.

SQCT Color Management Control System ✖

Current Illuminant: A Observer Angle: 2

Mode Material

Name

Lab

L a b

XYZ

X Y Z

Reflectance

400	<input type="text"/>	500	<input type="text"/>	600	<input type="text"/>	700	<input type="text"/>
410	<input type="text"/>	510	<input type="text"/>	610	<input type="text"/>		
420	<input type="text"/>	520	<input type="text"/>	620	<input type="text"/>		
430	<input type="text"/>	530	<input type="text"/>	630	<input type="text"/>		
440	<input type="text"/>	540	<input type="text"/>	640	<input type="text"/>		
450	<input type="text"/>	550	<input type="text"/>	650	<input type="text"/>		
460	<input type="text"/>	560	<input type="text"/>	660	<input type="text"/>		
470	<input type="text"/>	570	<input type="text"/>	670	<input type="text"/>		
480	<input type="text"/>	580	<input type="text"/>	680	<input type="text"/>		
490	<input type="text"/>	590	<input type="text"/>	690	<input type="text"/>		

Figure 24

3.9.8 Import from Sample

Click “Standard->Import from Sample”. You can import the sample as a standard.

3.9.9 Delete

Click “Standard->Delete”, it will delete the selected standard record. If the deleted records contain the current standard, then the first standard record will become the current standard.

3.10 Sample

Sample menu is shown in figure 25.



Figure 25

3.10.1 Auto Naming

Select “Sample->Auto Naming”. It will use the rule of name option to name sample.

3.10.2 Name Option

Set rule for sample auto naming and set auto naming as shown in figure 26.

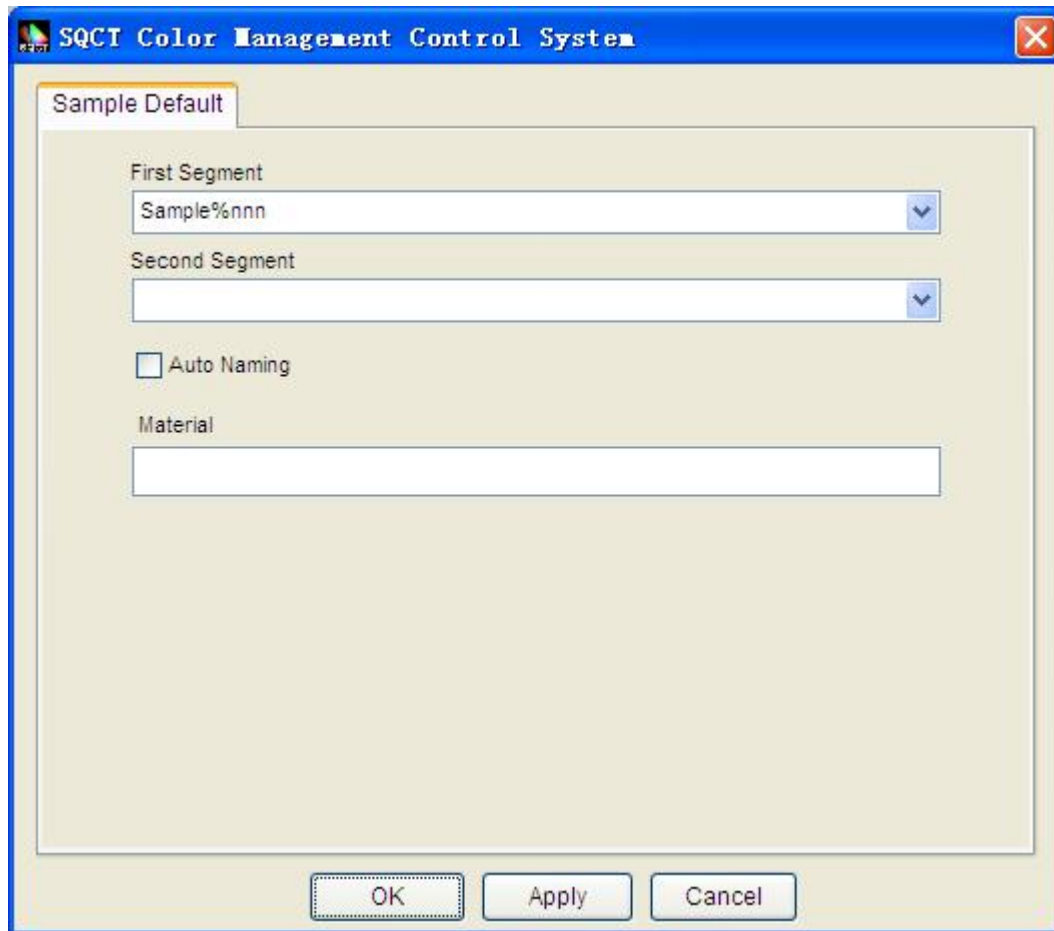


Figure 26

3.10.3 Measure

Select “Sample->Measure”. If you set up auto naming, it will use the rule of name option to name standard automatically; if not, it will pop up a window and name it as shown in figure 27.

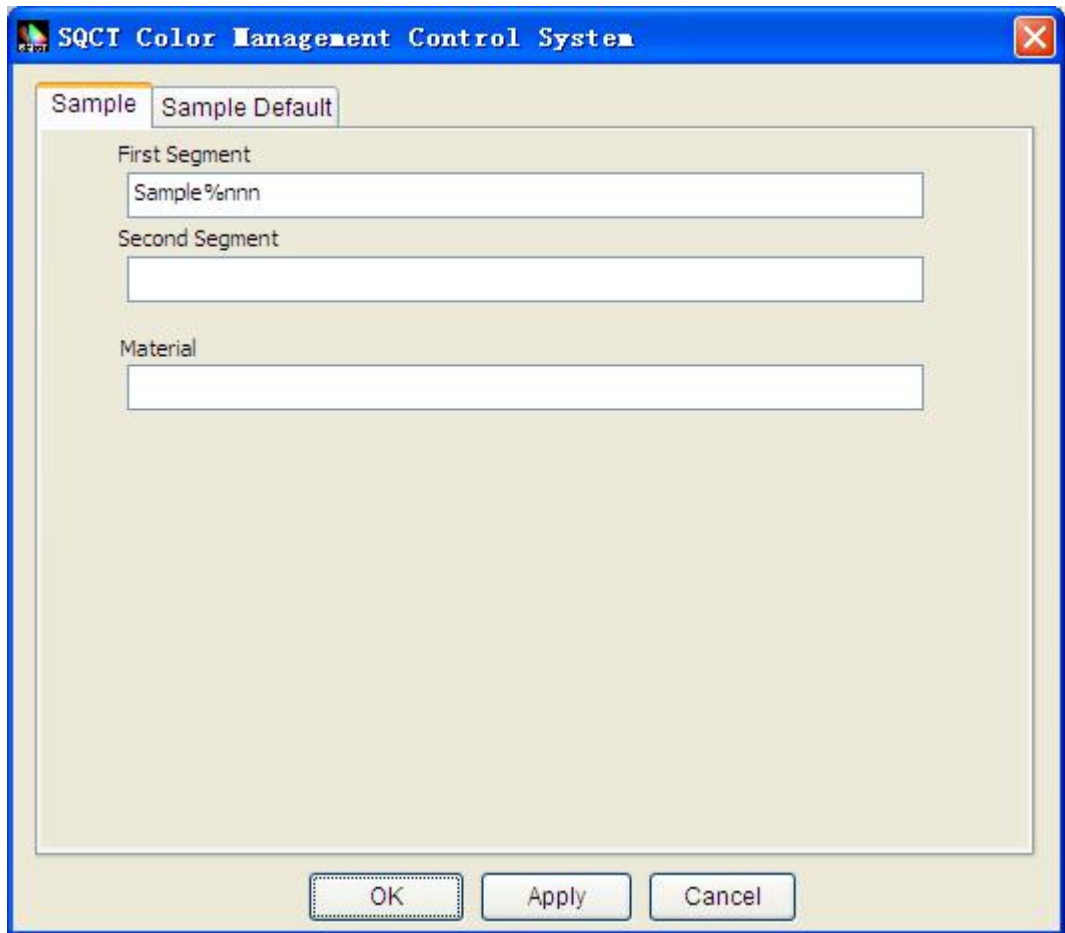


Figure 27

After naming it, it will start measurement and display measurement result.

3.10.4 Average Measurement

Select “Sample >Average Measure” to enter the dialog of average measurement, as shown figure in 28. The detail process about it is similar to standard average measurement.

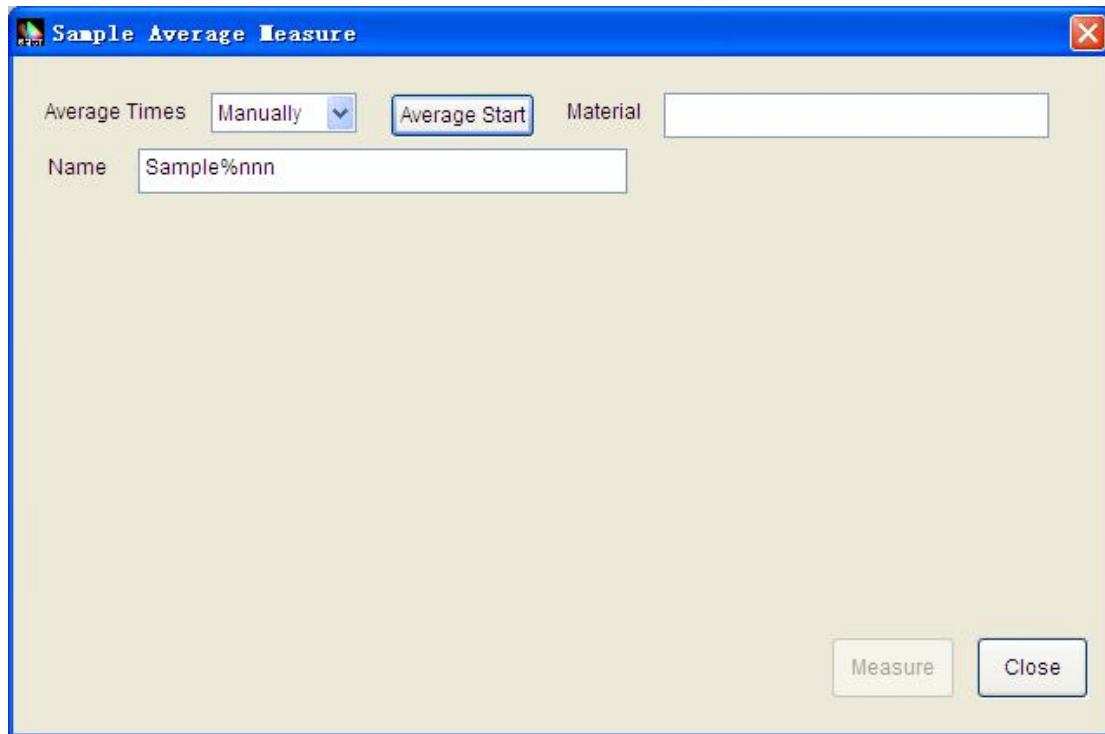


Figure28

3.10.5 Rename

Select the sample from sample list, and use the submenu to rename it.

3.10.6 Modify the Number of Material

Select the standard on the top right standard list, and then use this submenu to rename it.

3.10.7 Import from Standard

Click "Sample->Import from Standard". You can import the standard as sample.

3.10.8 Delete

Click “Sample->Delete”, and select the sample record to delete. If the deleted records include the current sample, the first sample record will be the current sample.

3.11 Setting

Setting menu is shown in figure 29.

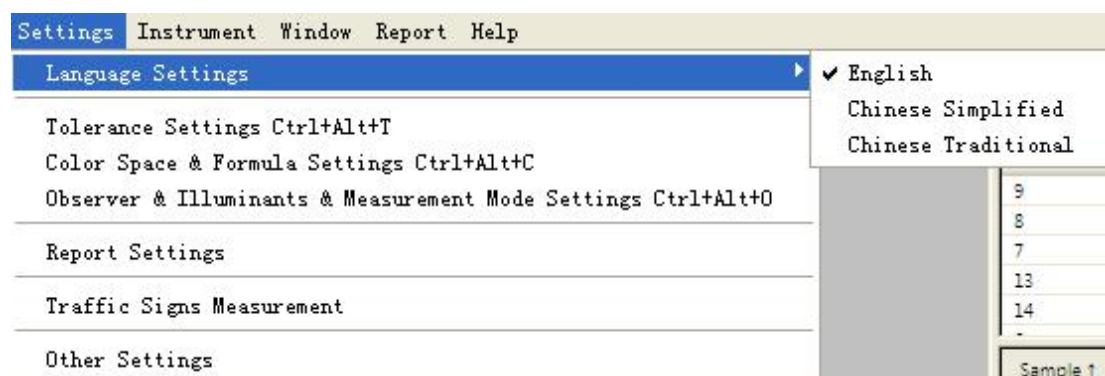


Figure29

3.11.1 Language Settings

Set to dynamically switch the language.

3.11.2 Tolerance Settings

Set the tolerance separately under each light source, and set tolerance coefficient and judgment method.

3.11.3 Color Space & Formula Settings

Click “Setting->Color Space & Formula Settings”. It can set the color space and color index as shown in figure 30.

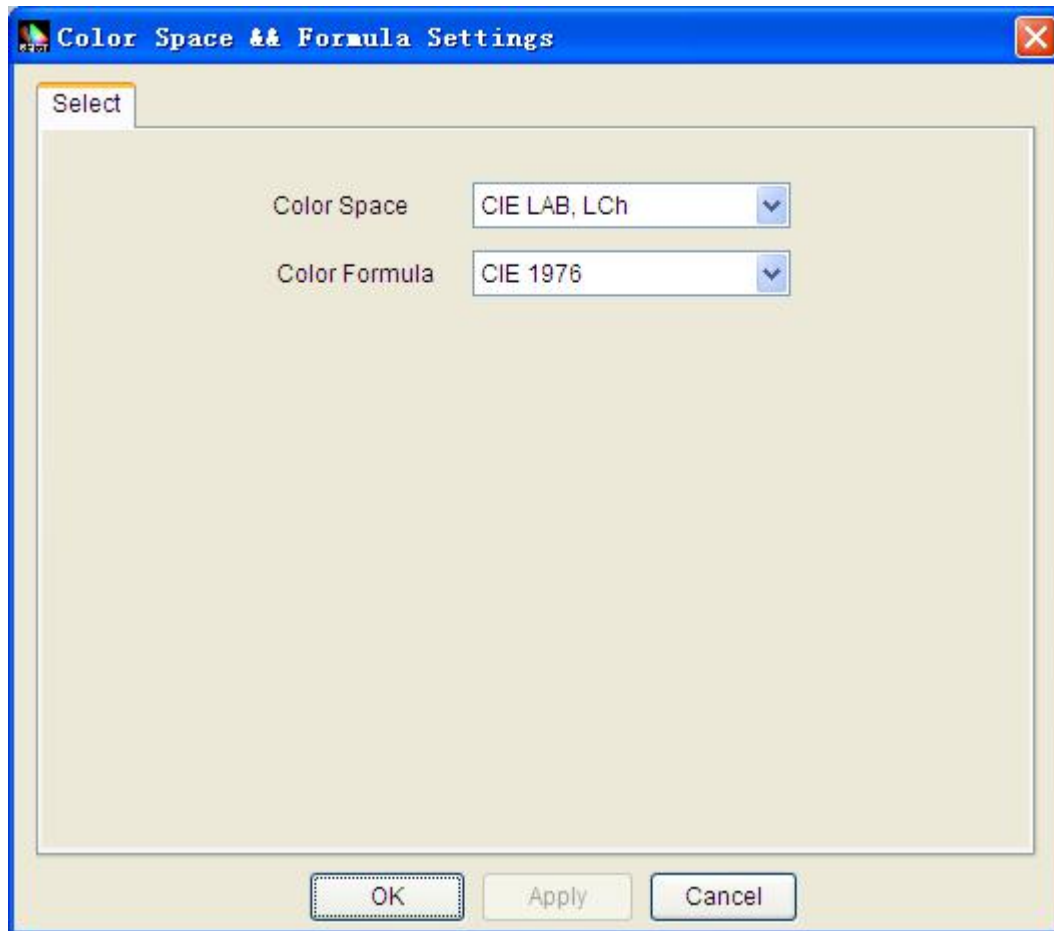


Figure 30

3.11.4 Observer Angle/Illuminants Settings

Click “Setting->Observer /Illuminants Settings”. It can set observe angle and illuminants as shown in figure 31.

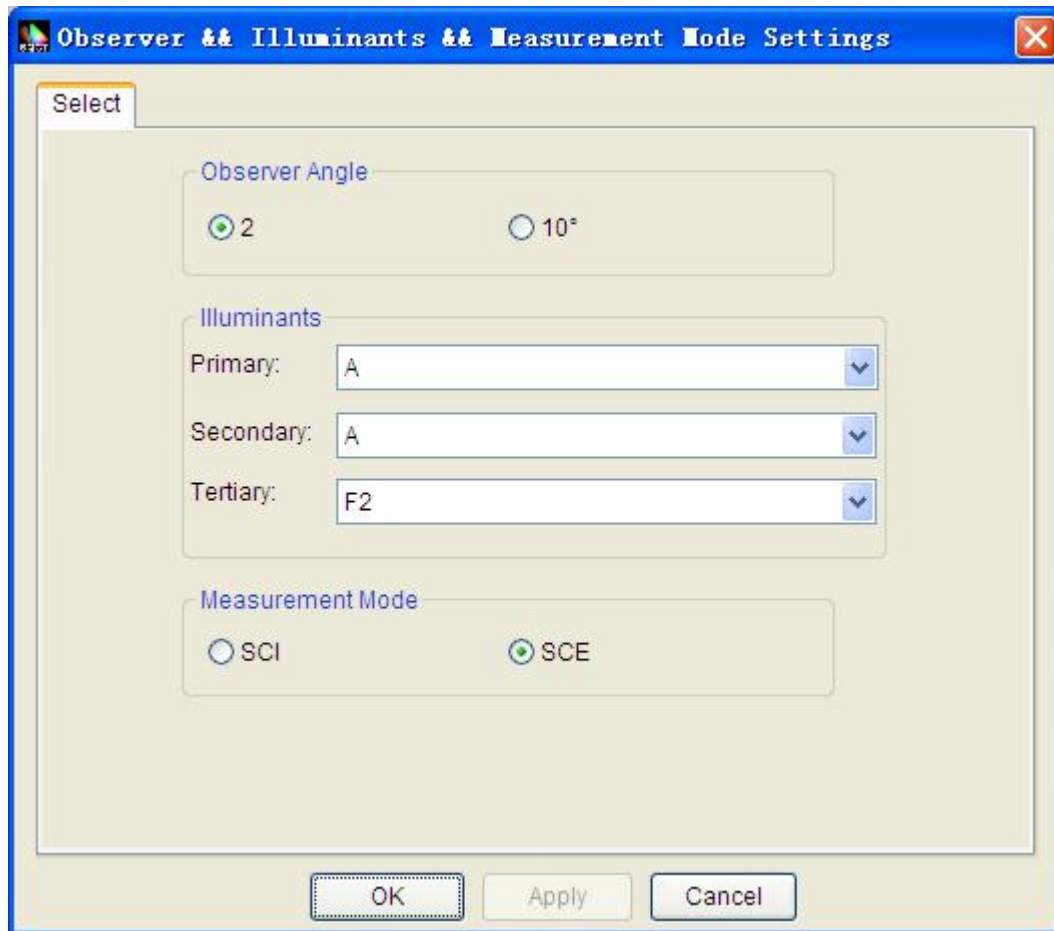


Figure 31

3.11.5 Report Settings

Click “Setting->Report Settings”. You can set the user profile and select whether print reflectivity in color diff cumulative report or not, as shown in Figure 32.

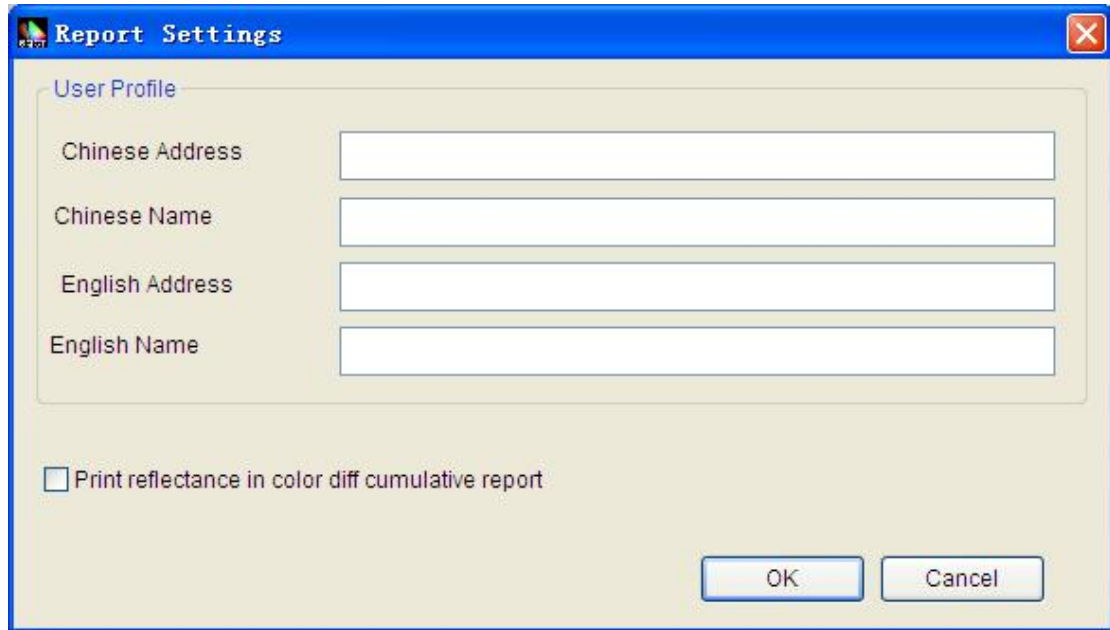


Figure 32

3.11.6 Traffic Signs Measurement

Click “Setting-> Traffic Signs Measurement”, you can convert Normal measure mode to and from dedicated Traffic Signs measure mode. Just adding a tick(✓) in front of the selected mode.

Chapter IV will introduce the detail operation process of it.

3.11.7 Other Settings

Click “Setting->Other Settings”. You can set data accuracy, display mode and select if save changes automatically when exit or not as shown in Figure 33

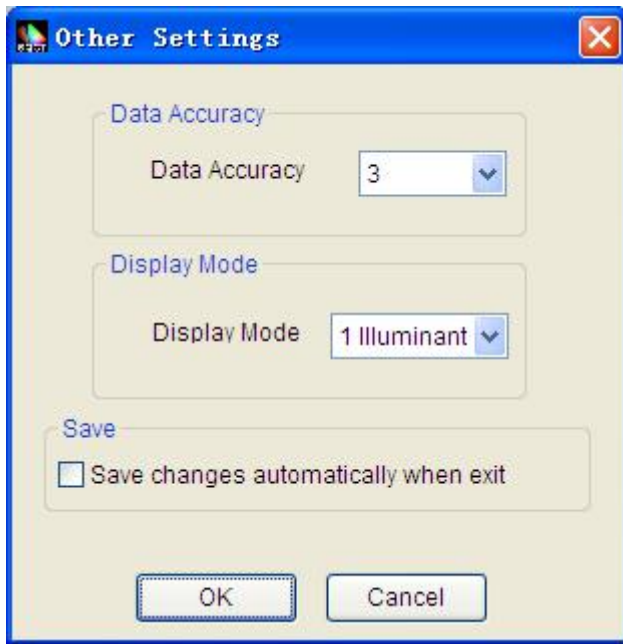


Figure 33

3.12 Instrument

Instrument menu is shown in figure 34.

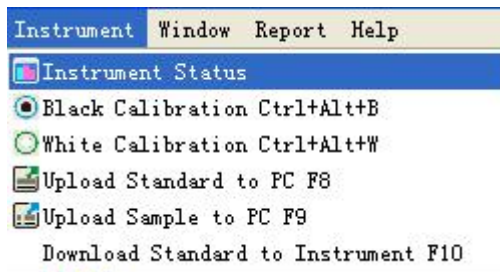


Figure 34

3.12.1 Instrument Status

Click “Instrument->Instrument Status”. It can check the instrument status and connect the instrument as shown in figure 35.

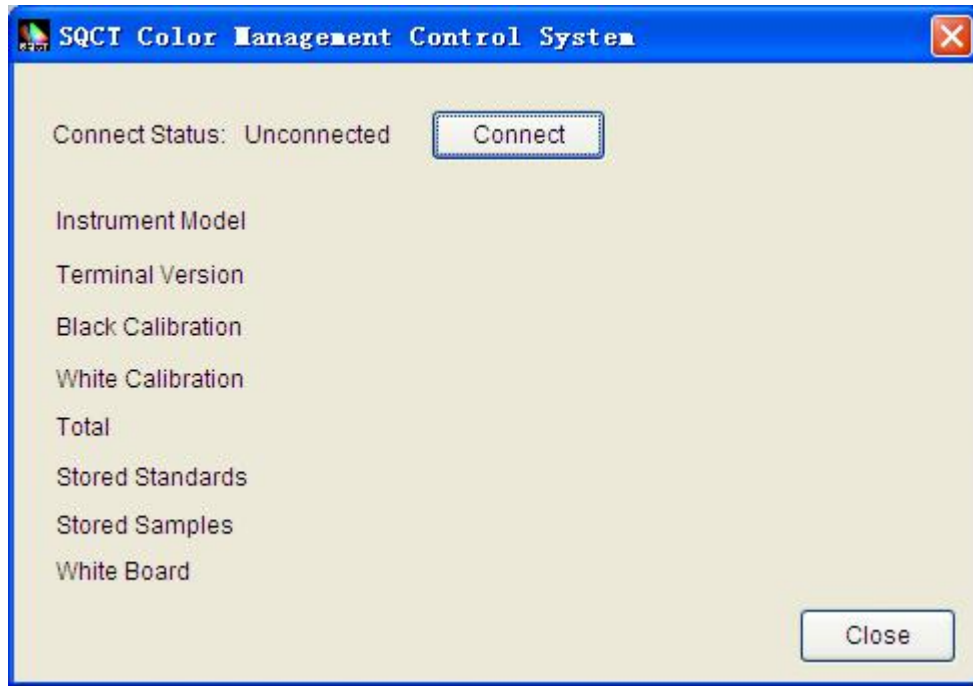


Figure 35

3.13.2 White Calibration

Click “Instrument->White Calibration” to perform white calibration.

3.12.3 Black Calibration

Click “Instrument->Black Calibration” to perform black calibration.

3.12.4 Upload Standard to PC

Click “Instrument->Upload Standard to PC”. Input the starting standard and upload it to PC.

3.12.5 Upload Sample to PC

Click “Instrument->Upload Sample to PC”. Select the corresponding standard number of this sample, input starting sample and sample count, and then upload the sample data to PC.

3.12.6 Insert Standard Data to Instrument

Click “Instrument-> Insert Standard Data to Instrument”, then the selected data will be inserted to instrument.

3.13 Window

Select “Tile” or “Cascade” to display multiple jobs.

3.14 Report

In this menu, you can print the color difference report and color difference cumulative report, or save the report as Word file (it's required to install office).

3.15 Help

Click “Help->User Manual” to open SQCT color management control system software user manual.

Click “Help->About SQCT” to check SQCT color management control system version and company name.

4. Instruction of Traffic Signs Measurement

SQCT software is specialized for NS808 Traffic Signs Measurement Spectrophotometer, by this way we can measure traffic signs . In this pattern, predefined standard color area's related standard, such as : “GB 2893 Safety Color”, “GB/T 18833 Retroreflective Sheeting for Traffic Control” etc, and luminance factor. In order to judge whether the sample

data can meet the chromaticity requirements. (Standard color area is a polygon area made by multiple chromaticity coordinates points) . What's more, you also can define and modify standard color area and luminance factor by yourself.

4.1 Switch to Traffic Signs Measurement Mode

Click “Setting->Traffic Signs Measurement”. There will be a tick (✓) in front of the option box when you've successfully select the mode. Click again, it will be turn to normal measure mode.

Figure 36-1 is the initial interface and figure 36-2 is the measuring process interface.

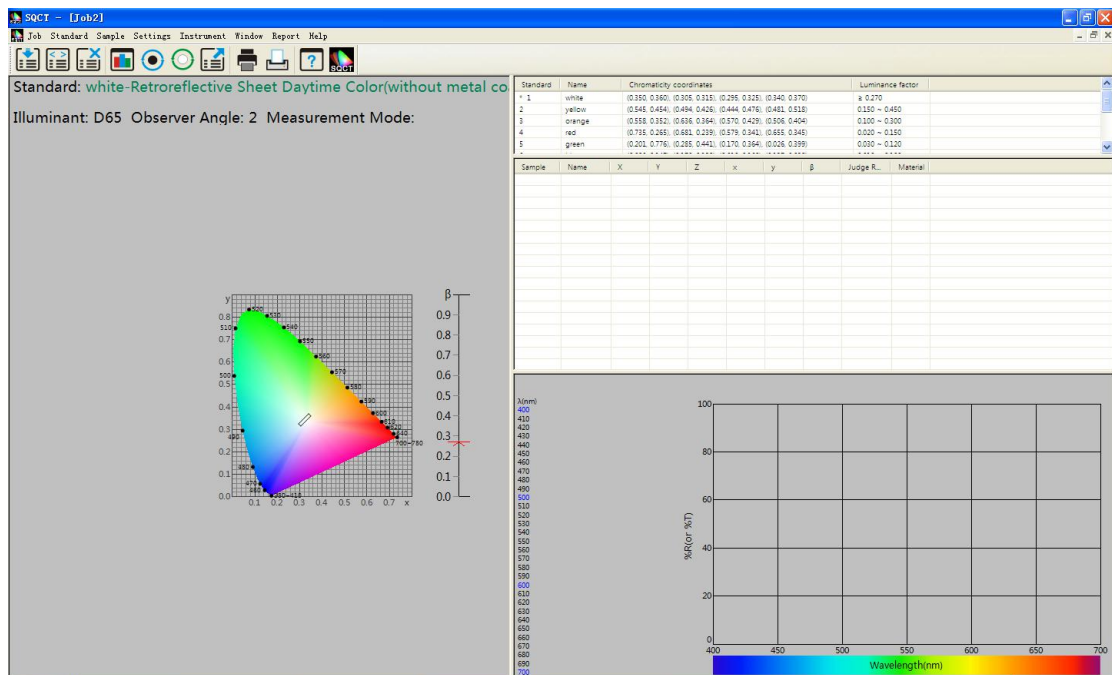


Figure36-1

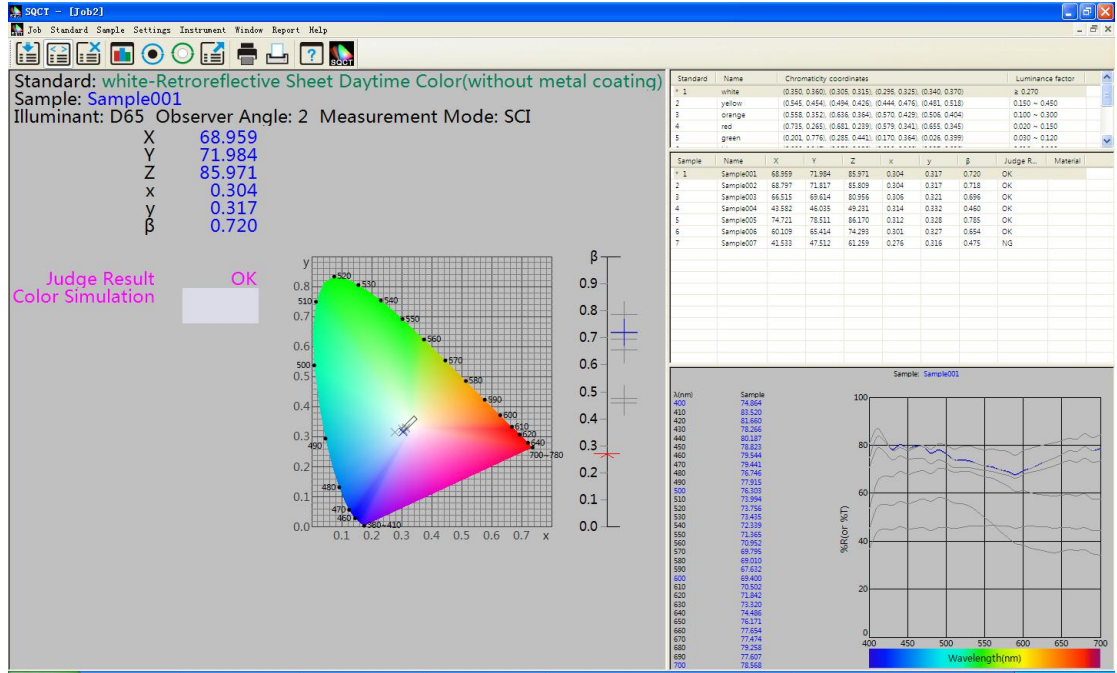


Figure36-2

4.2 Instruction of Menu

Under the condition of traffic signs Measure, partial function of menu will not available, standard menu and toolbar will change, as shown in figure 37-1 and figure 37-2.

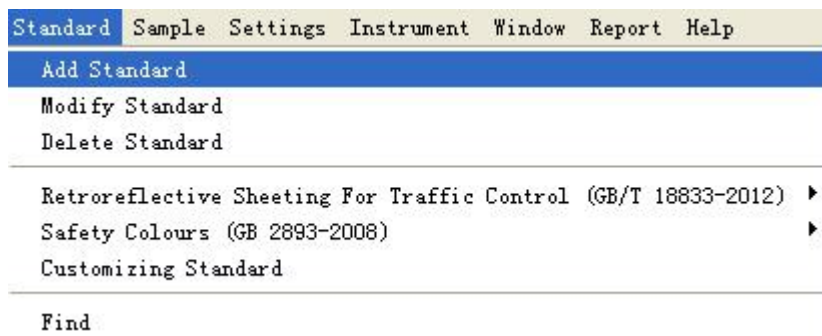


Figure37-1



Figure37-2

4.2.1 Add Standard

During the testing of traffic signs, the standard usually is an area which named “Polygon-Tolerance Standard”. It means add the vertices of the polygon area in clockwise or counter-clockwise order. (The number of vertices of the polygon area cannot be less than three), and the software will automatically connect the vertices according to the input sequence, then forming Polygon-Tolerance Standard.

As shown in figure 38, input the standard name in position 1, select light source(defaults to D65 light) in position 2, select observer angle in position 3, input luminance factors in position 4(Except from fluorescence material, normal reflective sample’s luminance factor (β) is $0 < \beta < 1$), Input chromaticity coordinate points in position 5, then click the button “ add vertices”, and the points will be show in the standard color gamut frame, repeat the above steps, input all the chromaticity coordinate points successively. If you input a wrong value, modify it by double-click the coordinate points in position 9, or select the wrong value and click button “delete vertex ” to delete it. After you’ve input all value, click the button “add” in position 8, then the working of set up “Polygon-Tolerance Standard” finished. Its parameter will be display on the upper right of the standard list.

As shown in figure 38, 39-1, 39-2, set up an “ABCD Polygon-Tolerance Standard” named “green”.

Attention:

Please make sure that add the vertices of the polygon area in clockwise or counter-clockwise order.

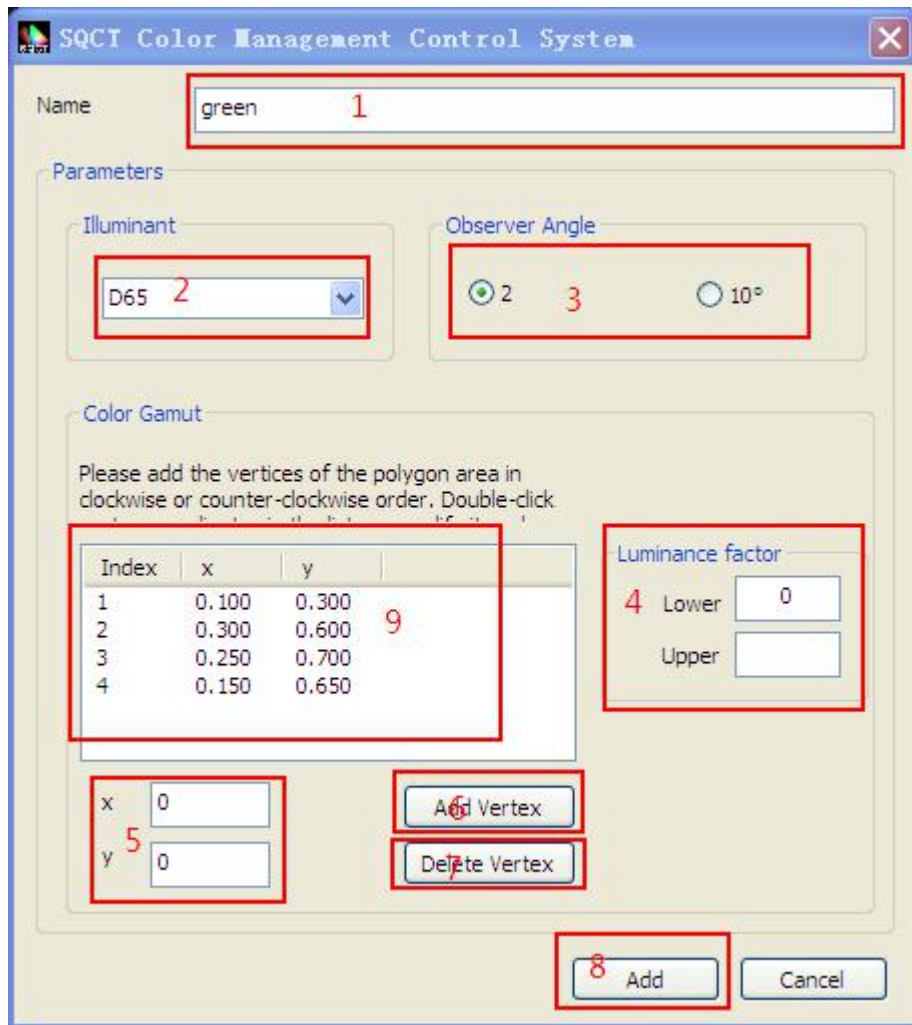


Figure38

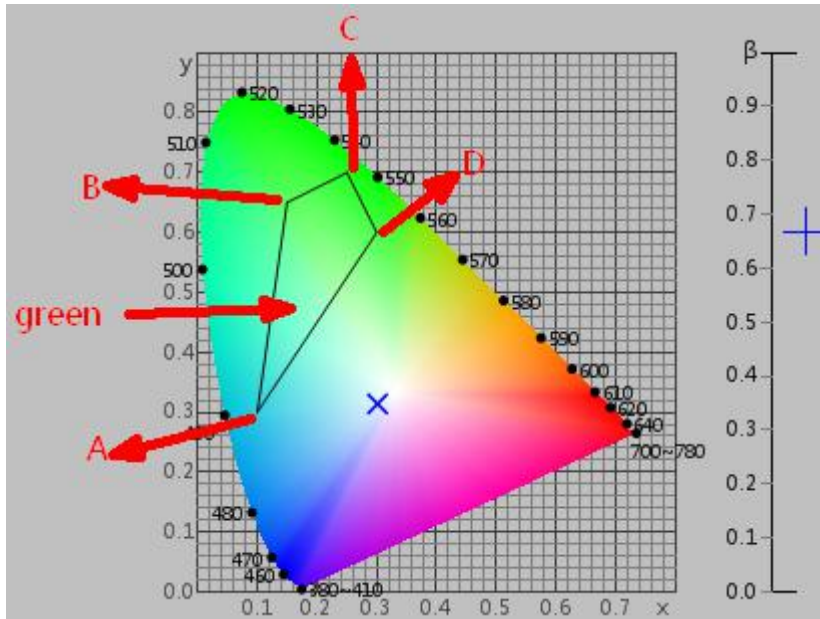


Figure39-1

Standard	Name	Chromaticity coordinates	Luminance factor
* 1	green	(0.100, 0.300), (0.300, 0.600), (0.250, 0.700), (0.150, 0.650)	≥ 0

Figure39-2

4.2.2 Modify Standard

As shown in figure 40, modify the established Polygon-Tolerance Standard “green”. Firstly, select it, then you can modify “standard name”, “light Source”, “observer angle”, “luminance factor”, “chromaticity coordinates” , then click the button “ok”, then the modify will be take effect.

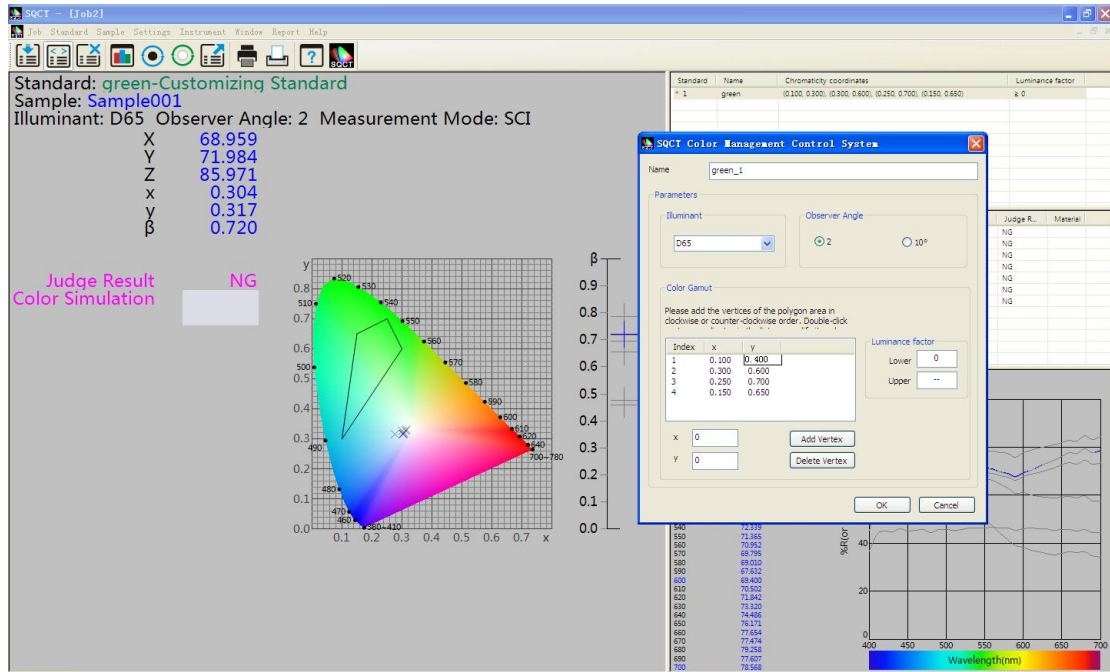


Figure40

4.2.3 Delete Standard

If there have one or more standard is useless in the standard area, first select it then click “delete standard”, then it will execute.

4.2.4 Retroreflective sheeting for traffic control

Nowadays, GB/T 18833 is the most frequently used standard of domestic traffic signs, SQCT software have include all the standard chromaticity coordinates in it, so you can select the needed standard by yourself.

Suppose we need set the color orange in GB/T 18833's Daytime Color (without metal coating) as Polygon-Tolerance Standard(the color orange is in GB/T 18833 standard's Table 8 line 6), we just need to click

“Standard-> Retroreflective sheeting for traffic control->Daytime Color” successively. As shown in figure 41 and figure 42, the area S1 is the point of Chromaticity coordinates for orange, the area S2 is the Polygon-Tolerance Standard.

Based on the GB/T 18833 Retroreflective sheeting for traffic control standard, we also can add a series of other operation, for example: “add standard”, “modify standard”, “delete standard” etc. In that way, we can adjust “GB/T 18833 Retroreflective sheeting standard” into our needed Polygon-Tolerance Standard. The modified standard will be added in it after we saved the current working file. When we open it again, those standards will be automatically loaded. If we select the standard in the menu again, it will revert to the predefined value.



Figure 41

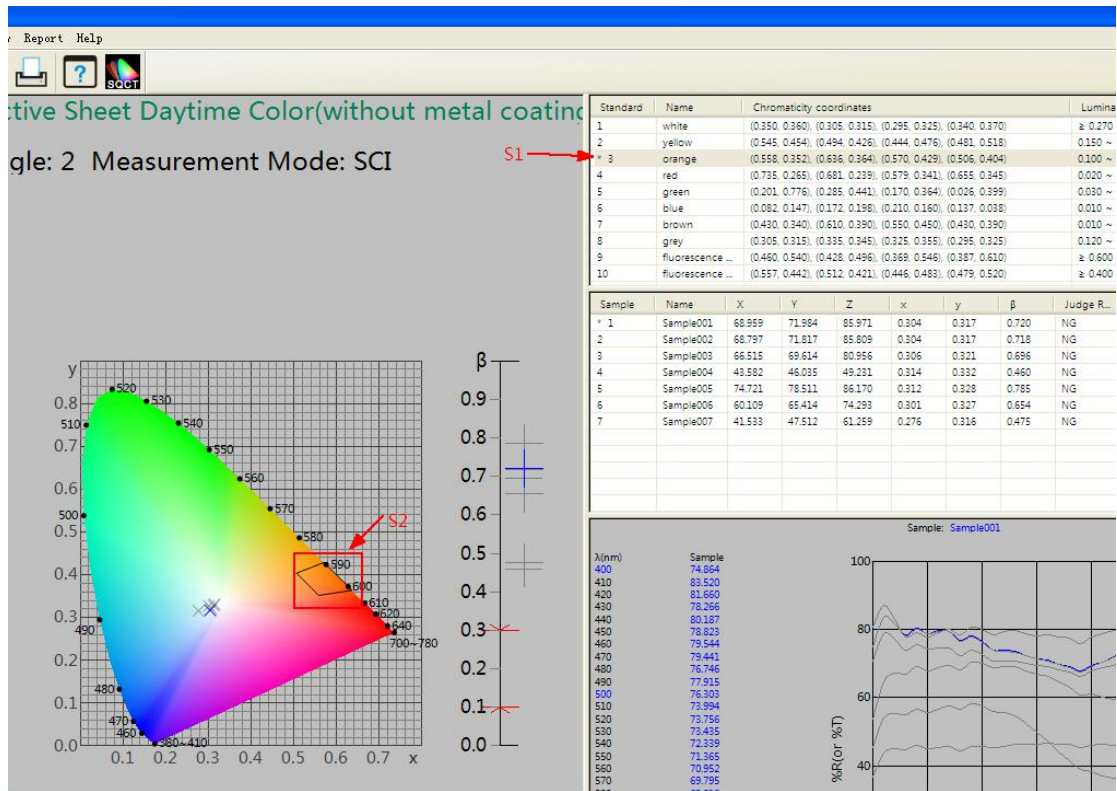


Figure 42

4.2.5 Safety Color GB 2893

In viewing of the usually used GB2893 domestic traffic signs standard, SQCT software also have include the standard chromaticity coordinates of it, so customer can select the needed standard by themselves. The operation ways is similar to “Retroreflective sheeting for traffic control GB/T 18833”

4.2.6 Customizing Standard

If both the “GB/T 18833 Retroreflective sheeting for traffic control” and “safety color GB 2893” can’t meet your need, we can use “Customizing Standard”

As shown in figure 43, click “standard-> Customizing Standard” the active area will be clear out, then you can set up the needed Polygon-Tolerance Standard by yourself.

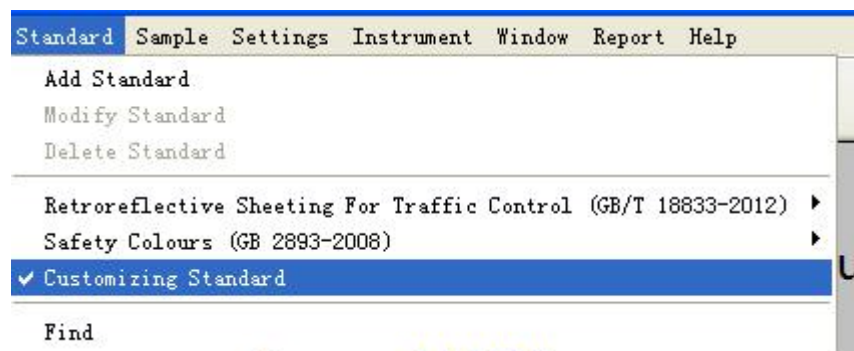


Figure43

4.3 Data Testing

4.3.1 Process of testing

Firstly, set up a Polygon-Tolerance Standard after we have do the white and black calibration; Secondly, test the sample, check whether the data of sample is in the polygon area of or not; Thirdly, print or export the testing data for next time use.

4.3.2 An example for how to judge the chromaticity data is in the area of Polygon-Tolerance Standard

For example:

Judge whether a blue sample is in the field of “GB/T 18833-2012 Road Traffic Reflective Film Daytime Color (without metal coating)’s blue area. Please following the below steps, measure and judge will be finished in turn.

① Set up a Polygon-Tolerance Standard

The data in GB/T 18833-2012 Road Traffic Reflective Film Daytime Color have been input into SQCT software, you can select it from menu, as shown in figure 44, click “standard-> GB/T 18833 Road Traffic Reflective Film Daytime Color->Daytime Color (without metal coating) .

Double-click the blue in the standard area, figure 45 is the diagram of S3’s data, set it as the current standard, the blue Polygon-Tolerance Standard (the blue is a certain area in the GB/T 18833-2012 Road Traffic Reflective Film Daytime Color) is shown in S4 area.

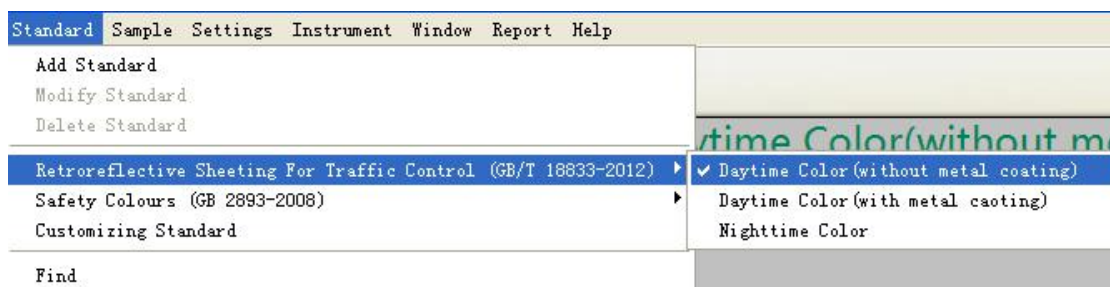


Figure 44

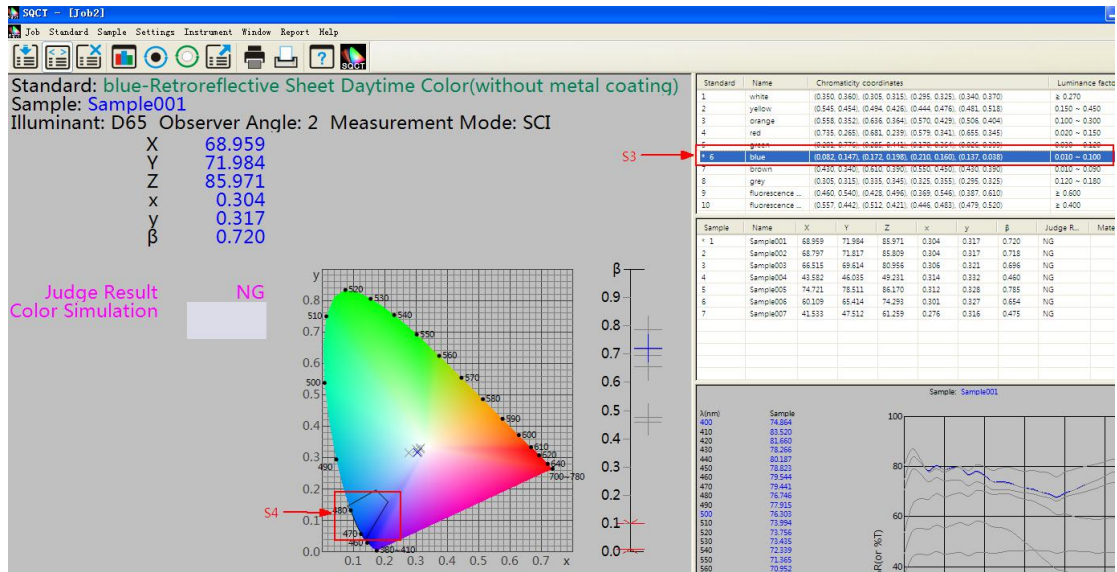


Figure 45

② Using NS808 Spectrophotometer for Sample Testing

As shown in figure 46, put the sample into the caliber of NS808 Spectrophotometer tightly; click the button “sample test”. It may need about 1.5 seconds finish the test. In figure 46 , S5 represent the test data , S7 is the position of data in the diagram of Chromaticity coordinates, S6 is the simulation and the judge result.

At the same time, click “sample-> rename/ delete” for the operation of sample rename and delete.

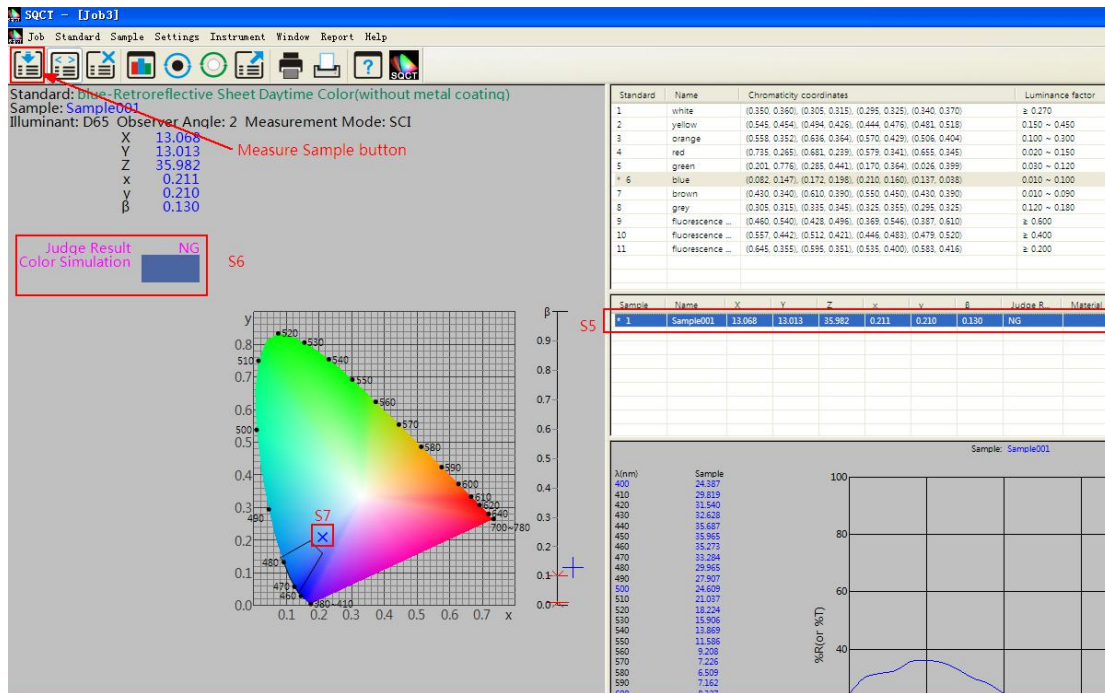


Figure46

③ Thirdly, Sample Test Data Processing

For the sample test result, you can print the menu to generate test report. Select the needed sample and standard, click “report-> color difference->print/print to word” or “report-> color difference cumulative->print/print to word”, then the result will be printing out , as shown in figure 47 and figure 48.

You can also export the test result by Excel form. Select the needed sample and standard, click “file-> export data” , export the test result in csv format then open it by the way of EXCEL for the data processing. As shown in figure 49.

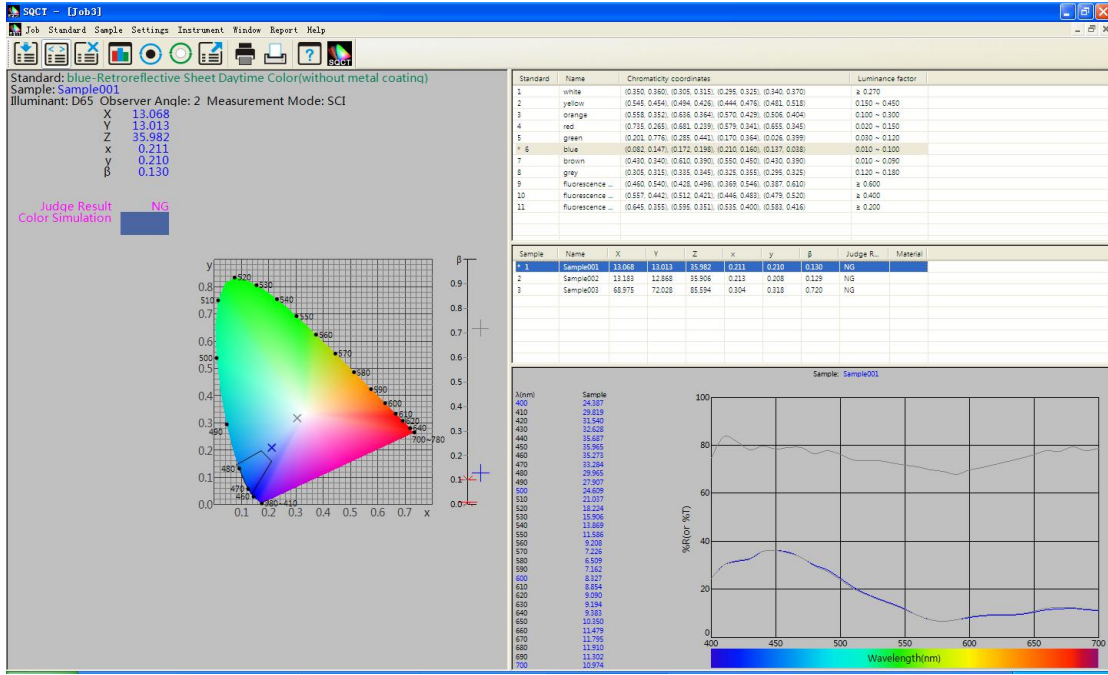
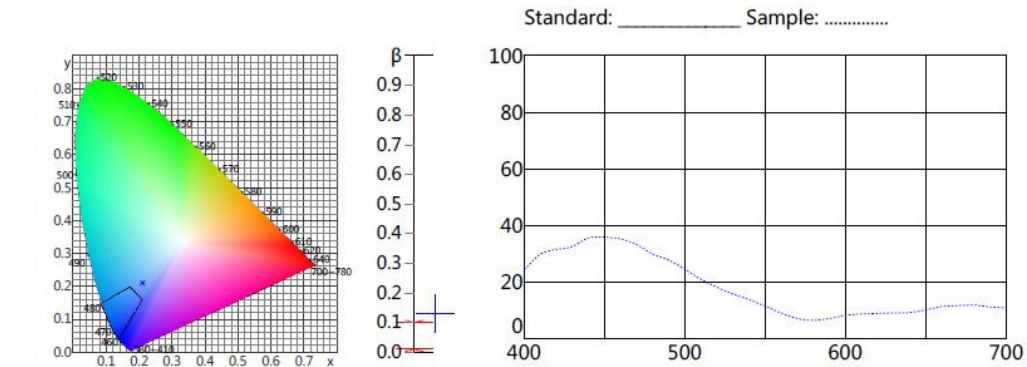


Figure 15

2015/08/26 15:29:29

Illuminant: D65 Observer Angle: 2 Color Space: CIE XYZ



Color Gamut: blue

	Chromaticity coordinates				Luminance factor
x	0.082	0.172	0.210	0.137	0.010 ~ 0.100
y	0.147	0.198	0.160	0.038	

Sample: Sample001

Illuminant	X	Y	Z	x	y	β	J. Result
D65	13.068	13.013	35.982	0.211	0.210	0.130	NG

Instrument:

Test:

Audit:

Figure 16

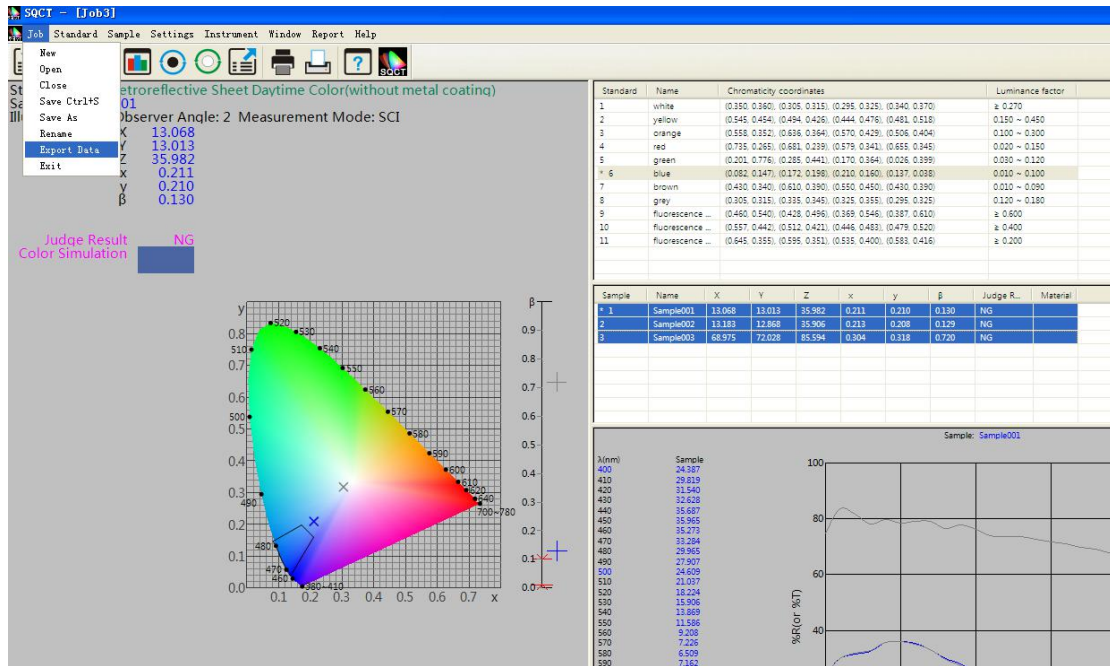


Figure 17

④ Save Test Data.

For the test result, you can save it. The current test data and configuration file is saved in engineering form for later recall.

Click “file-> save/ save as”, the current data and configuration file is saved in “*.job” form for later recall. As shown in figure 50.

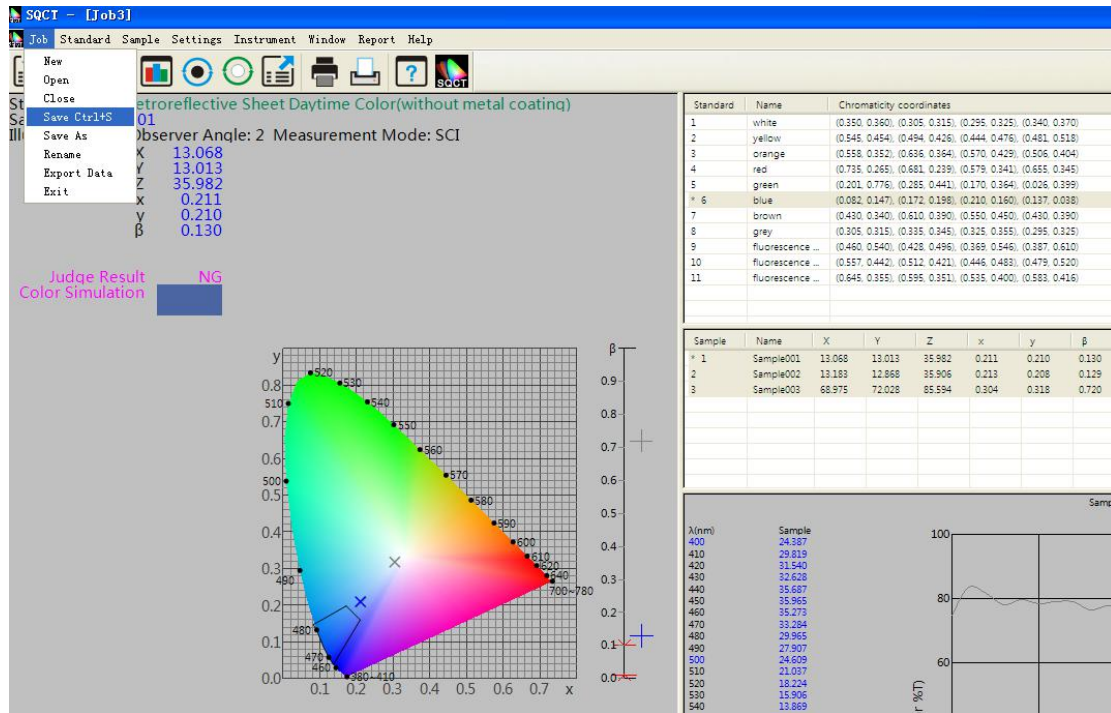


Figure 50