

# ISO色彩標準與色彩管理



台灣愛普生科技股份有限公司

專業影像事業處

處經理 王亮國

## 大綱

- 第一套ISO國家級數位打樣色彩標準介紹
- 色彩管理觀念介紹
- Epson數位打樣解決方案

2

**EPSON**  
EXCEED YOUR VISION

Stylus Pro EPSON ULTRACHROM K3



印刷智庫—印刷工業技術研究中心 - Microsoft Internet Explorer

地址: http://www.pri.org.tw/Main.htm

## 色彩認證

### 【認證緣起】

- 由於出版業者常接到同一公司的彩色廣告檔案，但往往在不同雜誌上出現不同的色彩，或者不同印刷廠印同樣的廣告也都無法印出接近的色彩。唯有推動ISO國際的標準才能讓出版和印刷業者的作業標準化、提昇國際競爭力。因此印刷工業技術研究中心成立ISO色彩標準認證的推動工作。一方面輔導廠商往國際標準路線走，另一方面也促進出版、廣告和印刷業的協同合作。
- 本中心製作一套認證流程，針對數位打樣機、印刷機之色彩能力作認證，採取公開、公正的方式執行此認證服務。主要是以提供印刷產業一致的色彩標準為目標，期使印刷作業流程標準化，提高品質及國際競爭力，並提昇台灣印刷業產值。
- 本中心秉持公平、公正的精神，只要是符合認證之規範標準，即可發與證書。經由認證後的規範管理，需在機構自主管理下方可獲得管制與維持。因此，鼓勵機構應維持此色彩規範，方可維持此證書之效力。

[【認證緣起】](#)
[【認證對象】](#)
[【申請流程】](#)
[【認證費用】](#)
[【申請表】](#)
[【ECI2002色塊】](#)

[【色彩認證通過廠商】](#)

本網頁非經同意不得以任何型式轉載、複製、引用或網路連結！  
如有疑問請E-Mail: [service@pri.org.tw](mailto:service@pri.org.tw)  
This page is modified on 101/8/2006 16:21:12 by P.T.R.L.

經濟部工業局印刷研究中心官網

## 願景

- 明年三月 印刷廠ISO也將完成
- 屆時你的廣告提案噴墨輸出，只要將色域管理在ISO scale之下，即可預視到後端印刷的效果

5

EPSON  
EXCEED YOUR VISION

Stylus Pro EPSON ULTRACURSOR K3

Color Matching System  
科技享樂主義

EPSON

K3 Ink 讓你的噴墨樣 = 印刷品

如果你還以為色稿列印無法和4色印刷一樣出色，請仔細比較這兩張圖片！

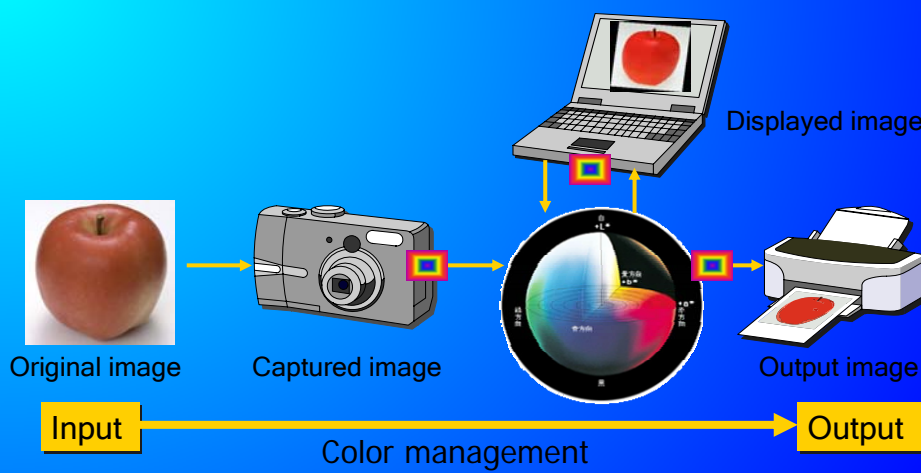
EPSON STYLUS PRO 4000  
4色墨水噴墨印刷機  
• 110/130/140/160/180/200/240/280/300/360/420/480/540/600/660/720/780/840/900/960/1020/1080/1140/1200/1260/1320/1380/1440/1500/1560/1620/1680/1740/1800/1860/1920/1980/2040/2100/2160/2220/2280/2340/2400/2460/2520/2580/2640/2700/2760/2820/2880/2940/3000/3060/3120/3180/3240/3300/3360/3420/3480/3540/3600/3660/3720/3780/3840/3900/3960/4020/4080/4140/4200/4260/4320/4380/4440/4500/4560/4620/4680/4740/4800/4860/4920/4980/5040/5100/5160/5220/5280/5340/5400/5460/5520/5580/5640/5700/5760/5820/5880/5940/6000/6060/6120/6180/6240/6300/6360/6420/6480/6540/6600/6660/6720/6780/6840/6900/6960/7020/7080/7140/7200/7260/7320/7380/7440/7500/7560/7620/7680/7740/7800/7860/7920/7980/8040/8100/8160/8220/8280/8340/8400/8460/8520/8580/8640/8700/8760/8820/8880/8940/9000/9060/9120/9180/9240/9300/9360/9420/9480/9540/9600/9660/9720/9780/9840/9900/9960/10020/10080/10140/10200/10260/10320/10380/10440/10500/10560/10620/10680/10740/10800/10860/10920/10980/11040/11100/11160/11220/11280/11340/11400/11460/11520/11580/11640/11700/11760/11820/11880/11940/12000/12060/12120/12180/12240/12300/12360/12420/12480/12540/12600/12660/12720/12780/12840/12900/12960/13020/13080/13140/13200/13260/13320/13380/13440/13500/13560/13620/13680/13740/13800/13860/13920/13980/14040/14100/14160/14220/14280/14340/14400/14460/14520/14580/14640/14700/14760/14820/14880/14940/15000/15060/15120/15180/15240/15300/15360/15420/15480/15540/15600/15660/15720/15780/15840/15900/15960/16020/16080/16140/16200/16260/16320/16380/16440/16500/16560/16620/16680/16740/16800/16860/16920/16980/17040/17100/17160/17220/17280/17340/17400/17460/17520/17580/17640/17700/17760/17820/17880/17940/18000/18060/18120/18180/18240/18300/18360/18420/18480/18540/18600/18660/18720/18780/18840/18900/18960/19020/19080/19140/19200/19260/19320/19380/19440/19500/19560/19620/19680/19740/19800/19860/19920/19980/20040/20100/20160/20220/20280/20340/20400/20460/20520/20580/20640/20700/20760/20820/20880/20940/21000/21060/21120/21180/21240/21300/21360/21420/21480/21540/21600/21660/21720/21780/21840/21900/21960/22020/22080/22140/22200/22260/22320/22380/22440/22500/22560/22620/22680/22740/22800/22860/22920/22980/23040/23100/23160/23220/23280/23340/23400/23460/23520/23580/23640/23700/23760/23820/23880/23940/24000/24060/24120/24180/24240/24300/24360/24420/24480/24540/24600/24660/24720/24780/24840/24900/24960/25020/25080/25140/25200/25260/25320/25380/25440/25500/25560/25620/25680/25740/25800/25860/25920/25980/26040/26100/26160/26220/26280/26340/26400/26460/26520/26580/26640/26700/26760/26820/26880/26940/27000/27060/27120/27180/27240/27300/27360/27420/27480/27540/27600/27660/27720/27780/27840/27900/27960/28020/28080/28140/28200/28260/28320/28380/28440/28500/28560/28620/28680/28740/28800/28860/28920/28980/29040/29100/29160/29220/29280/29340/29400/29460/29520/29580/29640/29700/29760/29820/29880/29940/30000/30060/30120/30180/30240/30300/30360/30420/30480/30540/30600/30660/30720/30780/30840/30900/30960/31020/31080/31140/31200/31260/31320/31380/31440/31500/31560/31620/31680/31740/31800/31860/31920/31980/32040/32100/32160/32220/32280/32340/32400/32460/32520/32580/32640/32700/32760/32820/32880/32940/33000/33060/33120/33180/33240/33300/33360/33420/33480/33540/33600/33660/33720/33780/33840/33900/33960/34020/34080/34140/34200/34260/34320/34380/34440/34500/34560/34620/34680/34740/34800/34860/34920/34980/35040/35100/35160/35220/35280/35340/35400/35460/35520/35580/35640/35700/35760/35820/35880/35940/36000/36060/36120/36180/36240/36300/36360/36420/36480/36540/36600/36660/36720/36780/36840/36900/36960/37020/37080/37140/37200/37260/37320/37380/37440/37500/37560/37620/37680/37740/37800/37860/37920/37980/38040/38100/38160/38220/38280/38340/38400/38460/38520/38580/38640/38700/38760/38820/38880/38940/39000/39060/39120/39180/39240/39300/39360/39420/39480/39540/39600/39660/39720/39780/39840/39900/39960/40020/40080/40140/40200/40260/40320/40380/40440/40500/40560/40620/40680/40740/40800/40860/40920/40980/41040/41100/41160/41220/41280/41340/41400/41460/41520/41580/41640/41700/41760/41820/41880/41940/42000/42060/42120/42180/42240/42300/42360/42420/42480/42540/42600/42660/42720/42780/42840/42900/42960/43020/43080/43140/43200/43260/43320/43380/43440/43500/43560/43620/43680/43740/43800/43860/43920/43980/44040/44100/44160/44220/44280/44340/44400/44460/44520/44580/44640/44700/44760/44820/44880/44940/45000/45060/45120/45180/45240/45300/45360/45420/45480/45540/45600/45660/45720/45780/45840/45900/45960/46020/46080/46140/46200/46260/46320/46380/46440/46500/46560/46620/46680/46740/46800/46860/46920/46980/47040/47100/47160/47220/47280/47340/47400/47460/47520/47580/47640/47700/47760/47820/47880/47940/48000/48060/48120/48180/48240/48300/48360/48420/48480/48540/48600/48660/48720/48780/48840/48900/48960/49020/49080/49140/49200/49260/49320/49380/49440/49500/49560/49620/49680/49740/49800/49860/49920/49980/50040/50100/50160/50220/50280/50340/50400/50460/50520/50580/50640/50700/50760/50820/50880/50940/51000/51060/51120/51180/51240/51300/51360/51420/51480/51540/51600/51660/51720/51780/51840/51900/51960/52020/52080/52140/52200/52260/52320/52380/52440/52500/52560/52620/52680/52740/52800/52860/52920/52980/53040/53100/53160/53220/53280/53340/53400/53460/53520/53580/53640/53700/53760/53820/53880/53940/54000/54060/54120/54180/54240/54300/54360/54420/54480/54540/54600/54660/54720/54780/54840/54900/54960/55020/55080/55140/55200/55260/55320/55380/55440/55500/55560/55620/55680/55740/55800/55860/55920/55980/56040/56100/56160/56220/56280/56340/56400/56460/56520/56580/56640/56700/56760/56820/56880/56940/57000/57060/57120/57180/57240/57300/57360/57420/57480/57540/57600/57660/57720/57780/57840/57900/57960/58020/58080/58140/58200/58260/58320/58380/58440/58500/58560/58620/58680/58740/58800/58860/58920/58980/59040/59100/59160/59220/59280/59340/59400/59460/59520/59580/59640/59700/59760/59820/59880/59940/60000/60060/60120/60180/60240/60300/60360/60420/60480/60540/60600/60660/60720/60780/60840/60900/60960/61020/61080/61140/61200/61260/61320/61380/61440/61500/61560/61620/61680/61740/61800/61860/61920/61980/62040/62100/62160/62220/62280/62340/62400/62460/62520/62580/62640/62700/62760/62820/62880/62940/63000/63060/63120/63180/63240/63300/63360/63420/63480/63540/63600/63660/63720/63780/63840/63900/63960/64020/64080/64140/64200/64260/64320/64380/64440/64500/64560/64620/64680/64740/64800/64860/64920/64980/65040/65100/65160/65220/65280/65340/65400/65460/65520/65580/65640/65700/65760/65820/65880/65940/66000/66060/66120/66180/66240/66300/66360/66420/66480/66540/66600/66660/66720/66780/66840/66900/66960/67020/67080/67140/67200/67260/67320/67380/67440/67500/67560/67620/67680/67740/67800/67860/67920/67980/68040/68100/68160/68220/68280/68340/68400/68460/68520/68580/68640/68700/68760/68820/68880/68940/69000/69060/69120/69180/69240/69300/69360/69420/69480/69540/69600/69660/69720/69780/69840/69900/69960/70020/70080/70140/70200/70260/70320/70380/70440/70500/70560/70620/70680/70740/70800/70860/70920/70980/71040/71100/71160/71220/71280/71340/71400/71460/71520/71580/71640/71700/71760/71820/71880/71940/72000/72060/72120/72180/72240/72300/72360/72420/72480/72540/72600/72660/72720/72780/72840/72900/72960/73020/73080/73140/73200/73260/73320/73380/73440/73500/73560/73620/73680/73740/73800/73860/73920/73980/74040/74100/74160/74220/74280/74340/74400/74460/74520/74580/74640/74700/74760/74820/74880/74940/75000/75060/75120/75180/75240/75300/75360/75420/75480/75540/75600/75660/75720/75780/75840/75900/75960/76020/76080/76140/76200/76260/76320/76380/76440/76500/76560/76620/76680/76740/76800/76860/76920/76980/77040/77100/77160/77220/77280/77340/77400/77460/77520/77580/77640/77700/77760/77820/77880/77940/78000/78060/78120/78180/78240/78300/78360/78420/78480/78540/78600/78660/78720/78780/78840/78900/78960/79020/79080/79140/79200/79260/79320/79380/79440/79500/79560/79620/79680/79740/79800/79860/79920/79980/80040/80100/80160/80220/80280/80340/80400/80460/80520/80580/80640/80700/80760/80820/80880/80940/81000/81060/81120/81180/81240/81300/81360/81420/81480/81540/81600/81660/81720/81780/81840/81900/81960/82020/82080/82140/82200/82260/82320/82380/82440/82500/82560/82620/82680/82740/82800/82860/82920/82980/83040/83100/83160/83220/83280/83340/83400/83460/83520/83580/83640/83700/83760/83820/83880/83940/84000/84060/84120/84180/84240/84300/84360/84420/84480/84540/84600/84660/84720/84780/84840/84900/84960/85020/85080/85140/85200/85260/85320/85380/85440/85500/85560/85620/85680/85740/85800/85860/85920/85980/86040/86100/86160/86220/86280/86340/86400/86460/86520/86580/86640/86700/86760/86820/86880/86940/87000/87060/87120/87180/87240/87300/87360/87420/87480/87540/87600/87660/87720/87780/87840/87900/87960/88020/88080/88140/88200/88260/88320/88380/88440/88500/88560/88620/88680/88740/88800/88860/88920/88980/89040/89100/89160/89220/89280/89340/89400/89460/89520/89580/89640/89700/89760/89820/89880/89940/90000/90060/90120/90180/90240/90300/90360/90420/90480/90540/90600/90660/90720/90780/90840/90900/90960/91020/91080/91140/91200/91260/91320/91380/91440/91500/91560/91620/91680/91740/91800/91860/91920/91980/92040/92100/92160/92220/92280/92340/92400/92460/92520/92580/92640/92700/92760/92820/92880/92940/93000/93060/93120/93180/93240/93300/93360/93420/93480/93540/93600/93660/93720/93780/93840/93900/93960/94020/94080/94140/94200/94260/94320/94380/94440/94500/94560/94620/94680/94740/94800/94860/94920/94980/95040/95100/95160/95220/95280/95340/95400/95460/95520/95580/95640/95700/95760/95820/95880/95940/96000/96060/96120/96180/96240/96300/96360/96420/96480/96540/96600/96660/96720/96780/96840/96900/96960/97020/97080/97140/97200/97260/97320/97380/97440/97500/97560/97620/97680/97740/97800/97860/97920/97980/98040/98100/98160/98220/98280/98340/98400/98460/98520/98580/98640/98700/98760/98820/98880/98940/99000/99060/99120/99180/99240/99300/99360/99420/99480/99540/99600/99660/99720/99780/99840/99900/99960/100020/100080/100140/100200/100260/100320/100380/100440/100500/100560/100620/100680/100740/100800/100860/100920/100980/101040/101100/101160/101220/101280/101340/101400/101460/101520/101580/101640/101700/101760/101820/101880/101940/102000/102060/102120/102180/102240/102300/102360/102420/102480/102540/102600/102660/102720/102780/102840/102900/102960/103020/103080/103140/103200/103260/103320/103380/103440/103500/103560/103620/103680/103740/103800/103860/103920/103980/104040/104100/104160/104220/104280/104340/104400/104460/104520/104580/104640/104700/104760/104820/104880/104940/105000/105060/105120/105180/105240/105300/105360/105420/105480/105540/105600/105660/105720/105780/105840/105900/105960/106020/106080/106140/106200/106260/106320/106380/106440/106500/106560/106620/106680/106740/106800/106860/106920/106980/107040/107100/107160/107220/107280/107340/107400/107460/107520/107580/107640/107700/107760/107820/107880/107940/108000/108060/108120/108180/108240/108300/108360/108420/108480/108540/108600/108660/108720/108780/108840/108900/108960/109020/109080/109140/109200/109260/109320/109380/109440/109500/109560/109620/109680/109740/109800/109860/109920/109980/110040/110100/110160/110220/110280/110340/110400/110460/110520/110580/110640/110700/110760/110820/110880/110940/111000/111060/111120/111180/111240/111300/111360/111420/111480/111540/111600/111660/111720/111780/111840/111900/111960/112020/112080/112140/112200/112260/112320/112380/112440/112500/112560/112620/112680/112740/112800/112860/112920/112980/113040/113100/113160/113220/113280/113340/113400/113460/113520/113580/113640/113700/113760/113820/113880/113940/114000/114060/114120/114180/114240/114300/114360/114420/114480/114540/114600/114660/114720/114780/114840/114900/114960/115020/115080/115140/115200/115260/115320/115380/115440/115500/115560/115620/115680/115740/115800/115860/115920/115980/116040/116100/116160/116220/116280/116340/116400/116460/116520/116580/116640/116700/116760/116820/116880/116940/117000/117060/117120/117180/117240/117300/117360/117420/117480/117540/117600/117660/117720/117780/117840/117900/117960/118020/118080/118140/118200/118260/118320/118380/118440/118500/118560/118620/118680/1187

# What is color management? 何謂色彩管理

EPSON Print Academy

# What is color management?

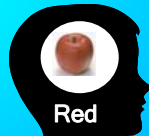
What is color management?



EPSON Print Academy

## Difficulty in color

Expression of color

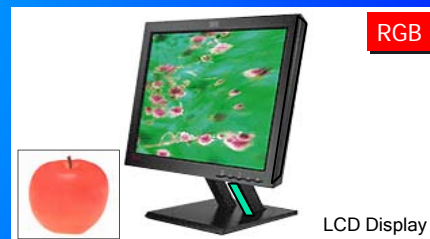


It is hard to exactly describe the color of an apple because individuals perceive colors based on their own vision skills.

EPSON Print Academy

## Dependent color space

Examples of devices



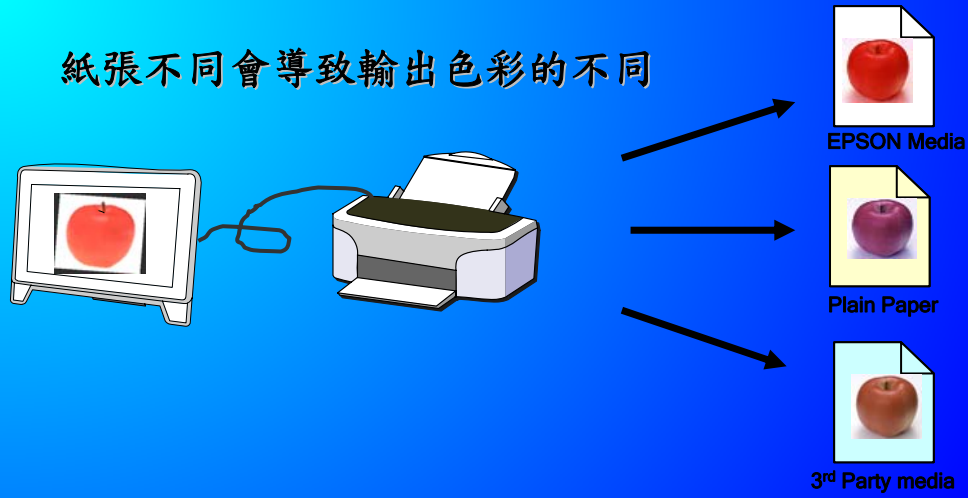
An apple will often appear a bit differently in color, though it's the same.



EPSON Print Academy

## Dependent color space

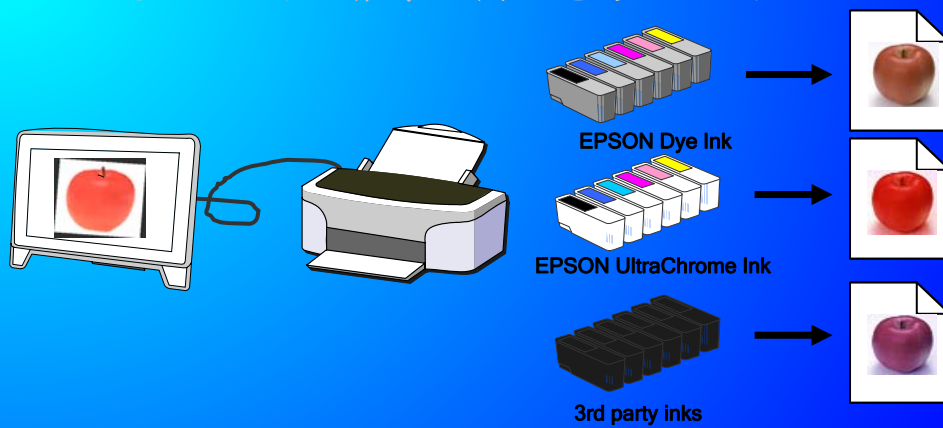
紙張不同會導致輸出色彩的不同



EPSON Print Academy

## Dependent color space

墨水不同也會導致輸出色彩的不同



EPSON Print Academy

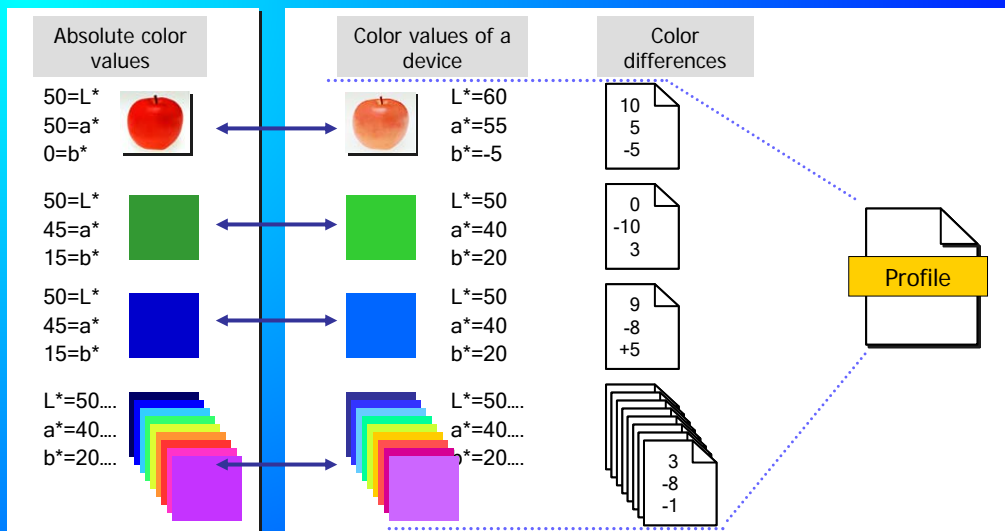
## What is ICC profile?

### ■ ICC Profile

- 一個可以描述紙張、墨水以及印表機色彩特性的參數。

EPSON Print Academy

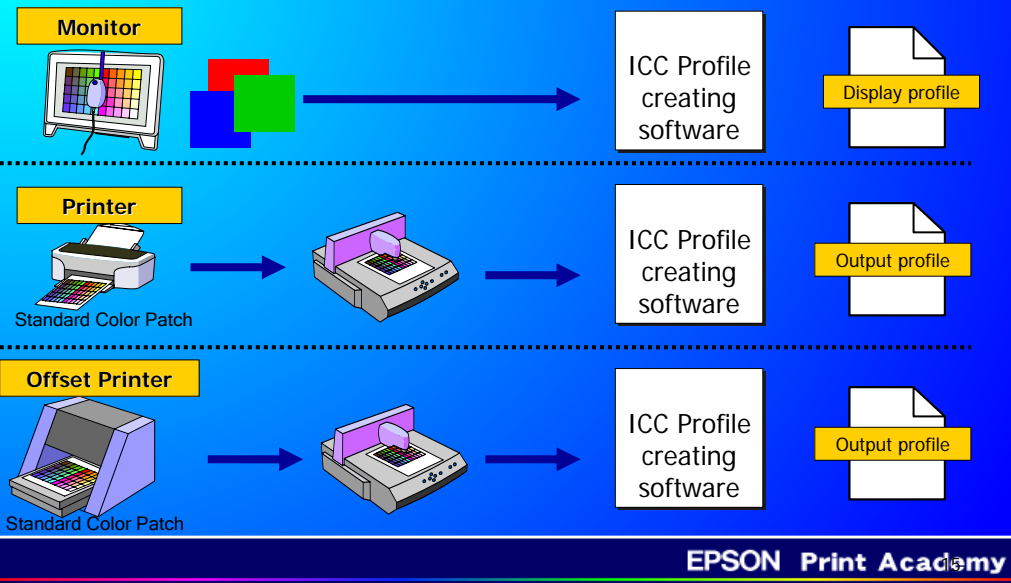
## What is ICC profile?



EPSON Print Academy

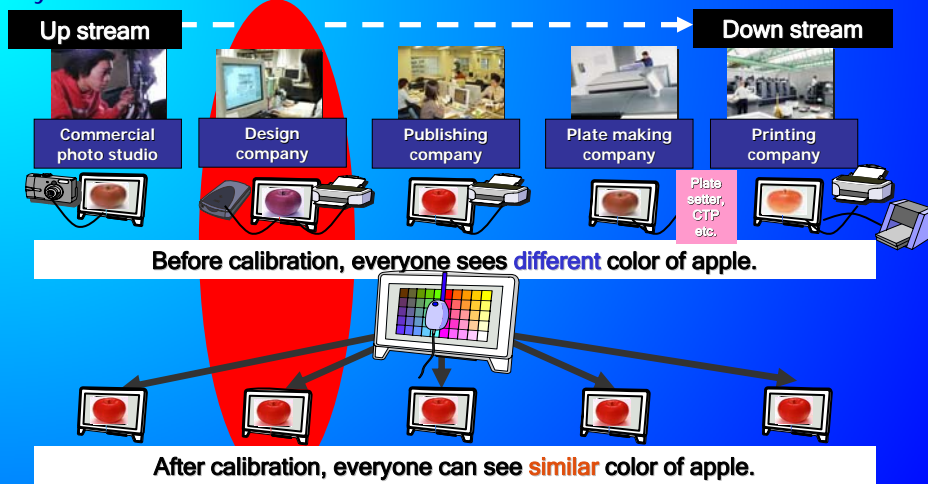
# What is ICC profile?

How to create profiles / Type of profiles:



# Importance to keep consistency of device

Why is monitor calibration needed?



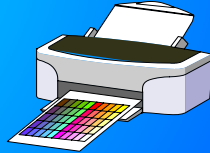
More than **90%** of designers does not calibrate monitor in Japan.

EPSON Print Academy

## Importance to keep consistency of device

Printer calibration

- EPSON 印表機校色免費!

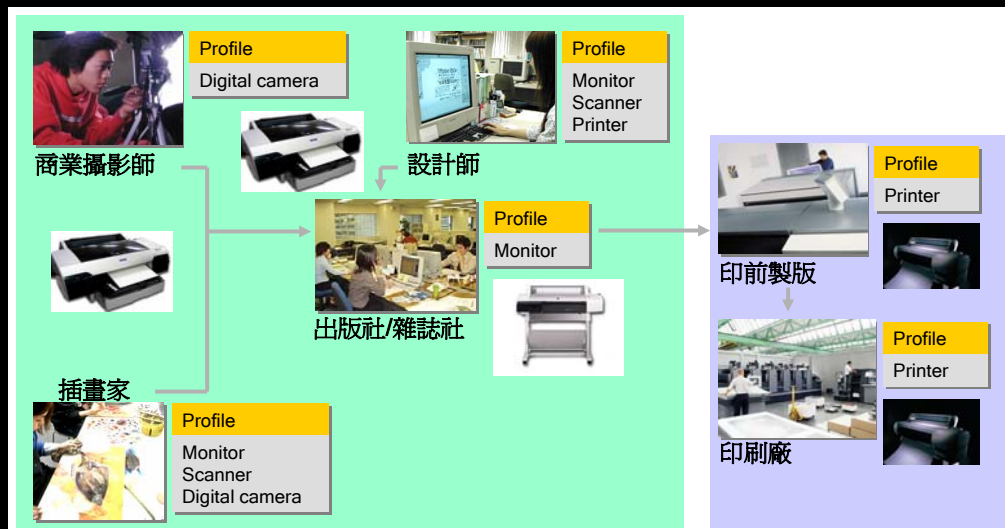


<Reasons>

- 不同印表機的色差遠低於其它品牌印表機的色差。
- 不需要更換印字頭。

EPSON Print Academy

## ISO遠距打樣概念



EPSON®

EPSON ULTRACHROME  
K3 INK

## EPSON STYLUS PRO 3850

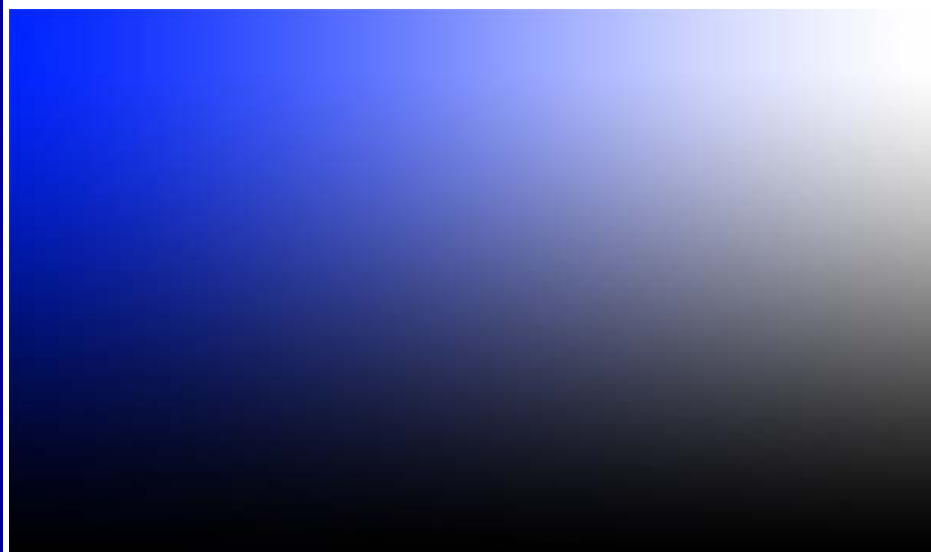
### Key Features

- 絕佳的 Epson UltraChromeK3™ 列印品質
- 體積最小最輕的A2+ 印表機
- 大容量墨卡匣
- 支援列印尺寸：從 4" x6" 到 A2+ size
- 提供中用量客戶最佳主機與耗材成本



### 現階段K3產品線

EPSON  
EXCEED YOUR VISION



EPSON®

EPSON ULTRACHROME  
K3™

## Differences of Three Printers

**EPSON**  
EXCEED YOUR VISION



### SP-3850

- 最小的A2+印表機
- 80ml大容量墨匣
- 獨特有個性的外型設計
- 支援A2+到4"x6"printing (無邊界)

### SP-4800

- 超大容量墨匣
- 支援捲筒紙
- 支援A2+printing
- 高使用壽命



### SP-R2400

- 機器體積小
- 低購置成本
- 有設計感的外型
- 支援A2+到4"x6"printing (無邊界)



**EPSON**

EPSON ULTRACHROME  
**K3**

## Image Processing Technology

- With three levels of black inks, shadow part is developed precisely
- Crucially low color twist
  - Silky smooth gradation
  - Provided by stable shadow gradation

Each separated images from the original

Bk Lk LLk



UltraChrome



UltraChromeK3

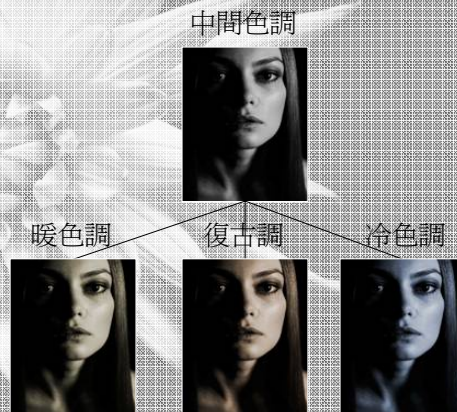


**EPSON**  
EXCEED YOUR VISION

**Stylus Pro** EPSON ULTRACHROME  
**K3**

## 高品質的黑白照片列印

- 黑色濃密度值：
  - High D-max 2.3\*
- 操作簡易的驅動程式
  - 選用“高品質黑白影像”模式
  - 預設四種黑白調模式，使用者可進一步微調。



\* With Epson Premium Glossy Photo Paper  
Epson Evaluation

**EPSON**  
EXCEED YOUR VISION

Stylus Pro **EPSON ULTRACHROME K3**

## 不同光源下色彩的一致性

*Metamerism image : Under the various light source*

- Example of photo display (鹵素燈下)



EpsonUltraChromeK3 ink 在不同光源皆可提供穩定的色彩

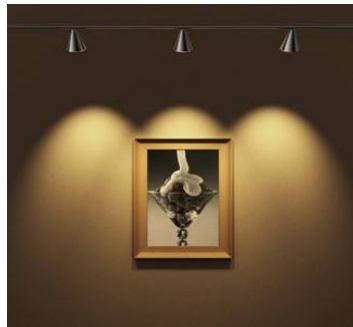
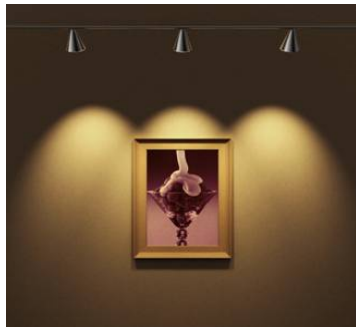
24

**EPSON**

**EPSON ULTRACHROME K3**

## 不同光源下色彩的一致性

### Example of photo display (鎢絲燈下)



EpsonUltraChromeK3 ink 在不同光源皆可提供穩定的色彩

25

EPSON

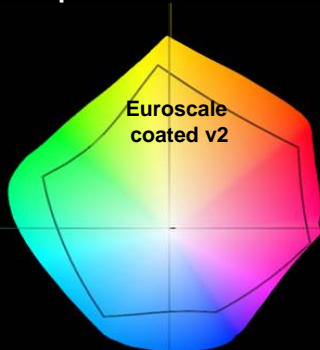
EPSON ULTRACHROME  
K3

## 寬廣的色域表現

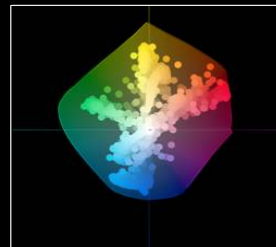
- Epson UltraChromeK3™ 墨水能含括所有印刷色域

• [D:\Drecovery\My Documents\06~07 new product\K3 ink 介紹\VIDEO\\_TS\VIDEO\\_TS.VOB](D:\Drecovery\My Documents\06~07 new product\K3 ink 介紹\VIDEO_TS\VIDEO_TS.VOB)

### Epson UltraChromeK3 gamut



Media:  
Premium Glossy Photo Paper



EPSON  
EXCEED YOUR VISION

Stylus Pro

EPSON ULTRACHROME  
K3

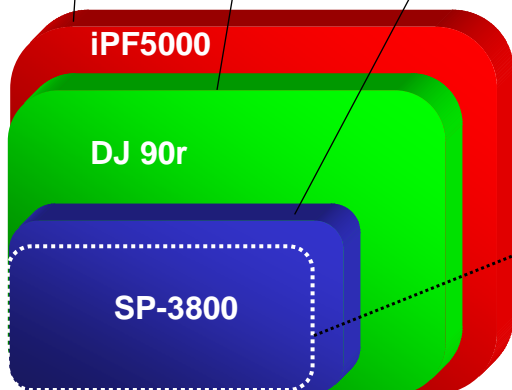
## 體積最小的 A2+ 印表機 -1-

### Weight

45kg

19.5kg

19.8kg



支援A2+尺寸輸出，但是  
只比A3+印表機寬7cm

SP-R2400

桌上型印表機

27

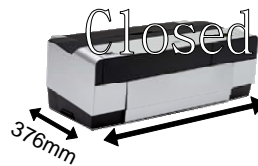
EPSON  
EXCEED YOUR VISION

Stylus Pro EPSON ULTRACHROME K3

## 體積小

### • 桌上型A2+印表機

- 體積小
- 個性化外型設計
- 重量輕



Weight:

18.5kg (without ink)

19.8kg (with inks)

28

EPSON

EPSON ULTRACHROME K3

## 大容量的墨水匣

- 80ml大容量墨匣卻與A3+印表機外型大小差不多
- 低耗材成本
- 不需要時常更換墨水

關鍵技術：  
不將墨水匣至於噴頭以及機器兩側



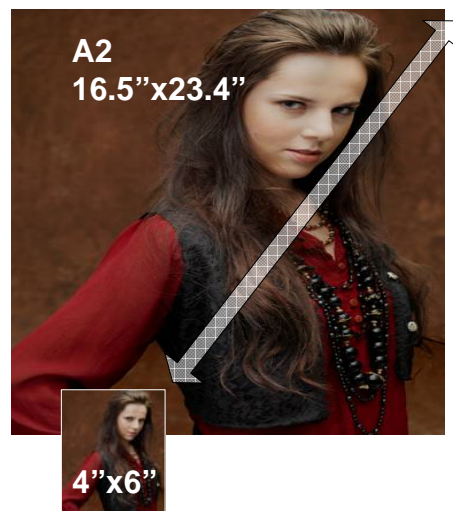
29

EPSON®

EPSON ULTRACHROME  
K3 ink

## 多樣化列印尺寸

- 4" x6" to A2 print available
- 皆可支援無邊界列印
- 光面、模造、再生以及藝術紙皆可適用



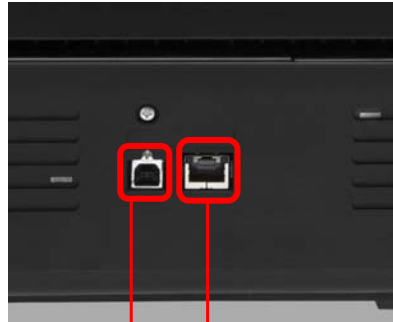
30

EPSON®

EPSON ULTRACHROME  
K3 ink

## 網路卡為標準配備

- 內建網路卡，可以輕鬆跟他人分享印表機
  - No needs for switching the connection for shared by group
- Freerer printer layout
  - Direct connection by USB is not essential



USB 2.0 port      On board Ethernet card      31

EPSON®

EPSON ULTRACHROME  
K3<sub>INK</sub>

## EPSON Proof concept



EPSON®

EPSON ULTRACHROME  
K3<sub>INK</sub>

## Epson ISO數位打樣套餐組

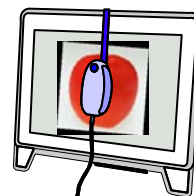


### SP-3850

- 最小的A2+印表機
- 80ml大容量墨匣
- 獨特有個性的外型設計
- 支援A2+到4" x6" printing (無邊界)

**NT\$43,800未稅**

### ColorVision 螢幕校色器



### ISO特銅、雪銅打樣紙

- A3+各20張
- 搭配紙張特別設定符合ISO的 ICC Profile.



33

EPSON

EPSON ULTRACHROME  
K3 INK

EPSON ULTRACHROME  
K3 INK

Bring you to the  
Next Level



體驗數位噴墨新領域