ISO colour file and loop: file –> print –> scan –> file

use ISO file with 729 (=9x9x9) colours, and with 16 step grey scales:
http://standards.iso.org/iso/9241/306/ed-2/AE49/AE49F0PX_CY8_1.PDF

ISO colour file, and OLM16 method for device output linearization

Literature for input and output linearization
Richter, K., Output Linearisation Method *OLM16* for Displays, Offset, and Printers, see http://color.li.tu-berlin.de/OUTLIN16_01.PDF similar to CIE R8-09:2016 (for CIE members)

ISO file with *rgb** colour data

rgb*

image process
digital –> analog
hardware
colour display
printer or offset
rgb* –> LCh*

image process
digital –> digital
software
ICC Look_Up
table or similar
rgb –> rgb*

input linearization *rgb–>rgb**

rgb

LCh*

visual test: equal relative spacing (Y/N)? use colours in colum *b* to *j*

image process
analog –> digital
hardware
colour scanner,
colour camera
LCh* –> rgb

ISO files with equally spaced color scales:
http://standards.iso.org/iso/9241/306/ed-2/index.html
http://standards.iso.org/iso-iec/15775/ed-2/en/index.html

CET40–3N

Color loop: ISO file -> transfer digital-analog -> transfer analog-digital ->ISO file
Digital ISO-test files with equally spaced *rgb** data can be found with output questions under the ISO links at the bottom right of this image. The output colors should also be equally spaced visually and by colourimetry.

Applications: The digital ISO files are the test charts, for example for output to color displays, color printers, and offset printing. Analog test charts according to ISO/IEC 15775 are used for the tests of colour copiers. The analog test charts AE49 with 1080 colors of ISO 9241-306 are used for the test of color scanners and color cameras, see
https://standards.iso.org/iso/9241/306/ed-2/AE49/AE49.HTM.

Analog test charts can be found in the analog offset paper by *Klaus Richter*
Color, color vision and elementary colors in color information technology, see digital under
http://farbe.li.tu-berlin.de/color/GS15.PDF For 5 more languages see
http://farbe.li.tu-berlin.de/farbe/index.html for the display and/or print output.

Colourimetric output and subsequent input linearization in the color loop leads approximately to he *rgb** data of the digital ISO-test file at the end of the color loop.

A relative elementary color system RECS is available as a digital and analog color atlas. The colours are printed for 20 hues with 5 and 16 step colour series in standard offset printing on fluorescence-free standard offset paper, see http://farbe.li.tu-berlin.de/A/RECS.html