Two CIE Reportership Reports appeared since 2009: R1-57:2012 (public) and R8-09:2015 (CIE internal) CIE R1-57:2012, Border between blackish and luminous colours, see

http://web.archive.org/web/20150413002133/http://files.cie.co.at/716 CIE%20R1-57%20Report%20Jul-13%20v.2.pdf CIE R8-09:2015 (CIE internal), Output linearization methods for displays and printers,

with the same technical content of Richter (2016), see http://farbe.li.tu-berlin.de/OUTLIN16\_01.PDF

At the CIE meeting in South Africa, June 2011, CIE Division 1 decided to establish the Reportership CIE R1-57 Border between Luminous and Blackish Colours by Thorstein Seim (Norway)

in response to the resolution 18/2009 of ISO/IEC JTC1/SC28.

In addition CIE Division 8 decided to establish the Reportership

CIE R8-09 Output Linearization Methods for Displays and Printers by Klaus Richter (Germany)

in response to the same resolution 18/2009 of ISO/IEC JTC1/SC28.

Both reports CIE R1-57:2012 ([1] public) and CIE R8-09:2015 ([2] CIE internal) have relations.

[1] http://web.archive.org/web/20150413002133/http://files.cie.co.at/716 CIE%20R1-57%20Report%20Jul-13%20v.2.pdf

[2] with the same technical content from Richter (2016), see http://farbe.li.tu-berlin.de/OUTLIN16 01.PDF

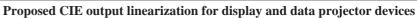
Possible Result: Definition of a device-independent visual RGB\*<sub>e</sub> system as response to the request of SC28.

All surface colours define a hue circle of maximum chroma located within the CIE (x,y) chromaticity diagram. CIELAB chroma  $C^*_{ab}$  and lightness  $L^*$  of this circle as function of hue  $h_{ab}$  serves as reference points of a device-independent visual  $RGB_e^*$  system (compare the reference  $C_{ab}^*$ ,  $L^*$  hue circle of the NCS system).

> gráfico TUB-SS38; ISO resolutions and CIE reports methods for output linearization of colour devices

Proposed CIE output linearization for printers and offset machines Printer or offset company Linearization company: < Measures 1080 user colours and produces PS linarization code realized output options: for user device and paper Company preference (Y/N)? DIN 33872 (CIE?) linearized (Y/N)? Only one option not specified (Y/N)? User printer or offset device For test charts of DIN 33872-1 to -6 see without or with device specific http://farbe.li.tu-berlin.de/A/33872E.html PS linearization code in print output software. Advantages of Output Linearization: - Linear relation between rgb and CIELAB data. User visual test - No loss of visual information for 16 step with output of DIN 33872-X test charts. colour series on different colour devices. Agrees the output with the user wishes (Y/N)? - Grey is printed by black only and not by CMY (complete under colour removal), low cost. If No (N) agreement to the user wishes then: Output of reference test chart with 1080 colours. Continues colour change in output (Y/N)?

SS381-3



Display or data projector company: Linearization company: < Measure 1080 colours of display output realized output options: with no room light reflection and produces One Company preference (Y/N)? 8 PS linarization codes One ISO 9241-306 linearized (Y/N)?

Eigth ISO 9241-306 linearized (Y/N)? Only one option not specified (Y/N)?

If Yes, then linearization possible and decision:

Mail the output to a linearization company.

User display or data projector without or with device specific up to 8 PS linearization codes in display output software.

User visual test for up to 8 room light reflections

with output of ISO 9241-306 test charts. Agrees the output with the user wishes (Y/N)?

If No (N) agreement to the user wishes then: Output of reference test chart with 1080 colours.

Continues colour change in output (Y/N)?

If Yes, then linearization possible and decision:

Ask display or linearization company for help.

entrada: w/rgb/cmyk -> w/rgb/cmyk\_ salida: ningún cambio

for eight room light reflections.

For test charts of ISO 9241–306 see (1,7 and 20MB) http://standards.iso.org/iso/9241/306/ed-2/AE09/AE09F0PX.PDF http://standards.iso.org/iso/9241/306/ed-2/AE27/AE27F0PX.PDF

## Advantages of Output Linearization:

- Linear relation between rgb and CIELAB data.
- No loss of visual information for 16 step colour series on different devices.
- Linearized output of whole display for ergonomic work depending on room light reflections, for solutions see ISO 9241-306.

TUB material: code=rha4ta

TUB matrícula: aplicación para

20210401-SS38/SS38L0NP.PDF /.PS

medida de display output