

| Names and colorimetric characteristics of colour difference data sets |             |                                |                                          |                                              |                                                             |                                                             |
|-----------------------------------------------------------------------|-------------|--------------------------------|------------------------------------------|----------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|
| Group                                                                 | Name        | Short name and number of pairs | Mean colour difference $\Delta E^*_{ab}$ | Background Tristimulus value and lightness Y | Background Illuminance and luminance $E [lux]   L [cd/m^2]$ | Background Illuminance and luminance $E [lux]   L [cd/m^2]$ |
| SCD                                                                   | WITT        | WI_0418                        | 1,38                                     | 24,9                                         | 57,0                                                        | 1300                                                        |
|                                                                       | RD-DUPONT   | RD_0312                        | 1,40                                     | 10,8                                         | 39,4                                                        | 2000                                                        |
|                                                                       | LEEDS       | LE_0307                        | 1,6                                      | 18,0                                         | 49,5                                                        | 1005                                                        |
|                                                                       | BFD-P       | BF_2776                        | 3,0                                      | 19,9                                         | 51,8                                                        | 1570                                                        |
|                                                                       | BIGC-S-SG   | SS_0446                        | 3,04                                     | 18,6                                         | 50,3                                                        | 958                                                         |
| TCD                                                                   | WANG-M      | WA_100                         | 0,55                                     | 40,7                                         | 70,0                                                        | 1100                                                        |
|                                                                       | BIGC-T1-SG  | 1S_0890                        | 1,10                                     | 18,6                                         | 50,3                                                        | 958                                                         |
|                                                                       | BIGC-T2-M   | 2M_0399                        | 0,7                                      | 18,6                                         | 50,3                                                        | 1036                                                        |
|                                                                       | BIGC-T2-SG  | 2S_0446                        | 1,1                                      | 18,6                                         | 50,3                                                        | 1036                                                        |
|                                                                       | BIGC-T2-G   | 2G_0379                        | 0,8                                      | 18,6                                         | 50,3                                                        | 1036                                                        |
| VCD                                                                   | RICHTER     | RI_0330                        | 0,90                                     | 17,0                                         | 48,2                                                        | 1108                                                        |
|                                                                       | KITTELMANN  | KI_0392                        | 0,41                                     | 18,4                                         | 50,0                                                        | 1022                                                        |
|                                                                       | AVRAMPOULOS | AV_0132                        | 0,75                                     | 17,0                                         | 48,2                                                        | 1108                                                        |

#### Remarks:

Group SCD = Small Colour Differences  
Group TCD = Threshold Colour Differences  
Group VCD = Very small Colour Differences  
Groups SCD and TCD use the CIE 10 degree observer  
Group VCD uses the CIE 2 degree observer

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| Visual and other characteristics of colour difference data sets |                                                 |                                                                                                             |                                                                                    |                                                                                                                                                             |  |
|-----------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Short Name, number of pairs                                     | Number of observers and replications            | Illuminant or light source                                                                                  | Material properties                                                                | Scaling and comparison method                                                                                                                               |  |
| WI_0418<br>RD_0312<br>LE_0307<br>BF_2776<br>SS_0446             | 10-14<br>50<br>12-15<br>Mean>20<br>9 x 27       | High quality D65<br>CCT = 6100 K<br>D65 (ICS- <i>Texicon</i> )<br>D65 (3 types)<br>D65 ( <i>GretagMb.</i> ) | Gloss Paint<br>Gloss Paint<br>Matt Paint (textile)<br>Grey scale<br>Own grey scale | Own grey scale<br>Anchor pair grey scale <sup>1)</sup><br>Grey scale<br>Own grey scale                                                                      |  |
| WA_100<br>1S_0890<br>2M_0399<br>2S_0446<br>2G_0379              | 21 x 26<br>16 x 3<br>23 x 3<br>23 x 3<br>23 x 3 | D65 ( <i>GretagMb.II</i> )<br>D65 ( <i>GretagMb.II</i> )<br>D65<br>D65<br>D65                               | Gloss Paint<br>Gloss Paint<br>Gloss Paint<br>Gloss Paint<br>Gloss Paint            | fixed Yes/No <sup>2)</sup><br>fixed Yes/No <sup>2)</sup><br>fixed Pass/Fail <sup>3)</sup><br>fixed Pass/Fail <sup>4)</sup><br>fixed Pass/Fail <sup>4)</sup> |  |
| RI_0330<br>KI_0392<br>AV_0132                                   | 7 x 3<br>31<br>4 x 3                            | D65 (258 pairs) <sup>1)</sup><br>High quality D65<br>CCT = 4000 K <sup>2)</sup>                             | light colours<br>photo paper<br>light colours                                      | slider Yes/No <sup>3)</sup><br>slider Yes/No <sup>3)</sup><br>slider Yes/No <sup>3)</sup>                                                                   |  |

#### Remarks:

- 258 pairs are seen in surround D65 and 72 pairs in surround with CCT 4000K.
- large range 0,1<Y<200.
- grey scale and anchor pair.
- Pass/Fail decision of colour difference.
- Yes/No detection of colour difference.

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| Name of data set, data file folder in internet, reference for the data set |                                                    |                                                                                |                                                                                                                                    |
|----------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Short Name, number of pairs                                                | data file folder in internet ABCD <sup>1) 2)</sup> | line range of CIE XYZ data of pairs in internet file ABCD0-7R.PS <sup>3)</sup> | Publication reference for the data set Author(s) and publication year                                                              |
| WI_0418<br>RD_0312<br>LE_0307<br>BF_2776<br>SS_0446                        | UE94<br>UE95<br>UE96<br>UE97<br>UE98               | 0268 to 0700<br>0268 to 0592<br>0268 to 0587<br>0268 to 3105<br>0238 to 0663   | WITT, K. (1999)<br>BERNS, R. S. et al. (1991)<br>KIM, D. H. et al. (1997)<br>LUO, M. R. et al. (1986)<br>HUANG, M. et al. (2012)   |
| WA_100<br>1S_0890<br>2M_0399<br>2S_0446<br>2G_0379                         | VE71<br>VE72<br>VE73<br>VE74<br>VE75               | 0238 to 0345<br>0238 to 1135<br>0238 to 0644<br>0238 to 0691<br>0238 to 0624   | WANG, H. et al. (2012)<br>HUANG, M. et al. (2012)<br>HUANG, M. et al. (2010)<br>HUANG, M. et al. (2010)<br>HUANG, M. et al. (2010) |
| RI_0330<br>KI_0392<br>AV_0132                                              | UE91<br>UE92<br>UE93                               | 0268 to 0610<br>0268 to 0673<br>0268 to 0408                                   | RICHTER, K. (1985)<br>KITTELMANN, P. (2010)<br>AVRAMPOULOS, D. (1987)                                                              |

#### Remarks:

- Two servers allow the download of the data sets with the CIE XYZ data:  
<http://130.149.60.45/~farbmatrik/ABCD/>  
<http://farbe.li.tu-berlin.de/ABCD/>
- Data files are given in the formats: .TXT (text), .PS/.EPS (PostScript), and .PDF
- For only the CIE XYZ data of all sample pairs download the file ABCD0-7T.TXT  
Use for download for example: <http://130.149.60.45/~farbmatrik/UE94/UE940-7T.TXT>

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| Name of data set, data file folder in internet, reference for the data set |                                                    |                                                                                |                                                                                                                                    |
|----------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Short Name, number of pairs                                                | data file folder in internet ABCD <sup>1) 2)</sup> | line range of CIE XYZ data of pairs in internet file ABCD0-7R.PS <sup>3)</sup> | Publication reference for the data set Author(s) and publication year                                                              |
| WI_0418<br>RD_0312<br>LE_0307<br>BF_2776<br>SS_0446                        | WE94<br>WE95<br>WE96<br>WE97<br>WE98               | 0238 to 0663<br>0238 to 0557<br>0238 to 0552<br>0238 to 3021<br>0238 to 0663   | WITT, K. (1999)<br>BERNS, R. S. et al. (1991)<br>KIM, D. H. et al. (1997)<br>LUO, M. R. et al. (1986)<br>HUANG, M. et al. (2012)   |
| WA_100<br>1S_0890<br>2M_0399<br>2S_0446<br>2G_0379                         | WE71<br>WE72<br>WE73<br>WE74<br>WE75               | 0238 to 0345<br>0238 to 1135<br>0238 to 0644<br>0238 to 0691<br>0238 to 0624   | WANG, H. et al. (2012)<br>HUANG, M. et al. (2012)<br>HUANG, M. et al. (2010)<br>HUANG, M. et al. (2010)<br>HUANG, M. et al. (2010) |
| RI_0330<br>KI_0392<br>AV_0132                                              | WE91<br>WE92<br>WE93                               | 0238 to 575<br>0238 to 0637<br>0238 to 0377                                    | RICHTER, K. (1985)<br>KITTELMANN, P. (2010)<br>AVRAMPOULOS, D. (1987)                                                              |

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