

**Achromatic colours white for eight illuminants; colour space CIEXYZ; K=25:1**

| Code                   | X <sub>10</sub> | Y <sub>10</sub> | Z <sub>10</sub> | x <sub>10</sub> | y <sub>10</sub> | z <sub>10</sub> | <i>h<sub>xy,10</sub></i> | illuminant |
|------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------------------|------------|
| W <sub>1</sub> 380_770 | 87.38           | 89.99           | 93.61           | 0.3224          | 0.3321          | 0.3454          | 225.8                    | P60        |
| W <sub>1</sub> 380_770 | 87.89           | 89.99           | 85.99           | 0.333           | 0.341           | 0.3258          | 225.6                    | P55        |
| W <sub>1</sub> 380_770 | 88.66           | 89.99           | 77.55           | 0.346           | 0.3512          | 0.3026          | 225.4                    | P50        |
| W <sub>1</sub> 380_770 | 89.82           | 90.0            | 68.22           | 0.3621          | 0.3628          | 0.275           | 225.0                    | P45        |
| W <sub>1</sub> 380_770 | 91.57           | 90.0            | 58.0            | 0.3822          | 0.3756          | 0.2421          | 224.5                    | P40        |
| W <sub>1</sub> 380_770 | 94.24           | 89.99           | 46.94           | 0.4076          | 0.3892          | 0.203           | 223.6                    | P35        |
| W <sub>1</sub> 380_770 | 98.36           | 89.99           | 35.27           | 0.4398          | 0.4024          | 0.1577          | 222.4                    | P30        |
| W <sub>1</sub> 380_770 | 104.88          | 89.99           | 23.52           | 0.4802          | 0.412           | 0.1077          | 220.6                    | P25        |

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**Achromatic colours white for eight illuminants; colour space YAB\_77; K=25:1**

| Code                   | Y <sub>10</sub> | A <sub>10</sub> | B <sub>10</sub> | C <sub>AB,10</sub> | a <sub>10</sub> | b <sub>10</sub> | <i>h<sub>AB,10</sub></i> | illuminant |
|------------------------|-----------------|-----------------|-----------------|--------------------|-----------------|-----------------|--------------------------|------------|
| W <sub>1</sub> 380_770 | 89.99           | 0.0             | 0.0             | 0.01               | 0.9709          | -0.416          | 9.0                      | P60        |
| W <sub>1</sub> 380_770 | 89.99           | 0.0             | 0.0             | 0.01               | 0.9765          | -0.3822         | 358.7                    | P55        |
| W <sub>1</sub> 380_770 | 89.99           | 0.0             | 0.0             | 0.01               | 0.9851          | -0.3446         | 8.5                      | P50        |
| W <sub>1</sub> 380_770 | 90.0            | 0.0             | 0.0             | 0.01               | 0.998           | -0.3032         | 2.9                      | P45        |
| W <sub>1</sub> 380_770 | 90.0            | 0.0             | 0.0             | 0.01               | 1.0175          | -0.2577         | 16.1                     | P40        |
| W <sub>1</sub> 380_770 | 89.99           | 0.0             | 0.0             | 0.01               | 1.0471          | -0.2086         | 0.8                      | P35        |
| W <sub>1</sub> 380_770 | 89.99           | 0.0             | 0.0             | 0.01               | 1.0929          | -0.1567         | 3.4                      | P30        |
| W <sub>1</sub> 380_770 | 89.99           | 0.0             | 0.0             | 0.01               | 1.1654          | -0.1045         | 5.7                      | P25        |

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**Achromatic colours white for eight illuminants; colour space CIELAB; K=25:1**

| Code                   | L* <sub>10</sub> | a* <sub>10</sub> | b* <sub>10</sub> | C* <sub>ab,10</sub> | a* <sub>10</sub> | b* <sub>10</sub> | <i>h<sub>ab,10</sub></i> | illuminant |
|------------------------|------------------|------------------|------------------|---------------------|------------------|------------------|--------------------------|------------|
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.2154           | -0.0861          | 140.3                    | P60        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.2154           | -0.0861          | 348.8                    | P55        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.2154           | -0.0861          | 87.5                     | P50        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.2154           | -0.0861          | 0.0                      | P45        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.2154           | -0.0861          | 157.8                    | P40        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.2154           | -0.0861          | 0.0                      | P35        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.2154           | -0.0861          | 87.5                     | P30        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.2154           | -0.0861          | 157.9                    | P25        |

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**Achromatic colours white for eight illuminants; colour space LABHNU1\_79; K=25:1**

| CodeD65                | L* <sub>10</sub> | a* <sub>10</sub> | b* <sub>10</sub> | C* <sub>ab,10</sub> | a* <sub>10</sub> | b* <sub>10</sub> | <i>h<sub>ab,10</sub></i> | illuminant |
|------------------------|------------------|------------------|------------------|---------------------|------------------|------------------|--------------------------|------------|
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.1313           | -0.0887          | 26.6                     | P60        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.1317           | -0.0865          | 0.0                      | P55        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.1323           | -0.0841          | 18.4                     | P50        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.1332           | -0.0811          | 9.4                      | P45        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.1345           | -0.0777          | 26.6                     | P40        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.1364           | -0.0735          | 14.0                     | P35        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.1395           | -0.0686          | 0.0                      | P30        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.1443           | -0.0628          | 26.6                     | P25        |

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1-001130-L0

BE680-7N

1-001130-L0

BE681-7N

TUB-test chart BE68; Achromatic colorimetric data; K=25:1

colour spaces CIEXYZ, YAB\_77, CIELAB, LABHNU1\_79; 16 illuminants; 10 degree observer

input: w/rgb/cmyk -&gt; rgb

**Achromatic colours white for eight illuminants; colour space CIEXYZ; K=25:1**

| Code                   | X <sub>10</sub> | Y <sub>10</sub> | Z <sub>10</sub> | x <sub>10</sub> | y <sub>10</sub> | z <sub>10</sub> | <i>h<sub>xy,10</sub></i> | illuminant |
|------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------------------|------------|
| W <sub>1</sub> 380_770 | 85.33           | 90.0            | 96.6            | 0.3137          | 0.3309          | 0.3552          | 226.5                    | D65        |
| W <sub>1</sub> 380_770 | 87.05           | 90.0            | 73.27           | 0.3477          | 0.3595          | 0.2927          | 225.9                    | D50        |
| W <sub>1</sub> 380_770 | 89.82           | 90.0            | 68.22           | 0.3621          | 0.3628          | 0.275           | 225.0                    | P45        |
| W <sub>1</sub> 380_770 | 100.03          | 89.99           | 31.67           | 0.4511          | 0.4059          | 0.1428          | 221.9                    | A00        |
| W <sub>1</sub> 380_770 | 89.99           | 89.99           | 90.0            | 0.3333          | 0.3333          | 0.3333          | 225.0                    | E00        |
| W <sub>1</sub> 380_770 | 87.55           | 90.0            | 104.53          | 0.3103          | 0.319           | 0.3705          | 225.7                    | C00        |
| W <sub>1</sub> 380_770 | 92.13           | 89.99           | 73.12           | 0.3609          | 0.3525          | 0.2864          | 224.3                    | P00        |
| W <sub>1</sub> 380_770 | 87.88           | 90.0            | 106.58          | 0.3089          | 0.3163          | 0.3746          | 225.6                    | Q00        |

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**Achromatic colours white for eight illuminants; colour space YAB\_77; K=25:1**

| Code                   | Y <sub>10</sub> | A <sub>10</sub> | B <sub>10</sub> | C <sub>AB,10</sub> | a <sub>10</sub> | b <sub>10</sub> | <i>h<sub>AB,10</sub></i> | illuminant |
|------------------------|-----------------|-----------------|-----------------|--------------------|-----------------|-----------------|--------------------------|------------|
| W <sub>1</sub> 380_770 | 90.0            | 0.0             | 0.0             | 0.01               | 0.9481          | -0.4293         | 0.0                      | D65        |
| W <sub>1</sub> 380_770 | 90.0            | 0.0             | 0.0             | 0.01               | 0.9672          | -0.3256         | 51.0                     | D50        |
| W <sub>1</sub> 380_770 | 90.0            | 0.0             | 0.0             | 0.01               | 0.998           | -0.3032         | 2.9                      | P45        |
| W <sub>1</sub> 380_770 | 89.99           | 0.0             | 0.0             | 0.01               | 1.1115          | -0.1407         | 1.9                      | A00        |
| W <sub>1</sub> 380_770 | 89.99           | 0.0             | 0.0             | 0.01               | 0.9999          | -0.4            | 14.8                     | E00        |
| W <sub>1</sub> 380_770 | 90.0            | 0.0             | 0.0             | 0.01               | 0.9728          | -0.4645         | 11.8                     | C00        |
| W <sub>1</sub> 380_770 | 89.99           | 0.0             | 0.0             | 0.01               | 1.0237          | -0.325          | 4.1                      | P00        |
| W <sub>1</sub> 380_770 | 90.0            | 0.0             | 0.0             | 0.01               | 0.9764          | -0.4736         | 357.9                    | Q00        |

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**Achromatic colours white for eight illuminants; colour space CIELAB; K=25:1**

| Code                   | L* <sub>10</sub> | a* <sub>10</sub> | b* <sub>10</sub> | C* <sub>ab,10</sub> | a* <sub>10</sub> | b* <sub>10</sub> | <i>h<sub>ab,10</sub></i> | illuminant |
|------------------------|------------------|------------------|------------------|---------------------|------------------|------------------|--------------------------|------------|
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.2154           | -0.0861          | 338.8                    | D65        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.2154           | -0.0861          | 158.0                    | D50        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.2154           | -0.0861          | 0.0                      | P45        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.2154           | -0.0861          | 157.5                    | A00        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.2154           | -0.0861          | 174.2                    | E00        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.2154           | -0.0861          | 87.5                     | C00        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.2154           | -0.0861          | 11.1                     | P00        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.2154           | -0.0861          | 354.3                    | Q00        |

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**Achromatic colours white for eight illuminants; colour space LABHNU1\_79; K=25:1**

| CodeD65                | L* <sub>10</sub> | a* <sub>10</sub> | b* <sub>10</sub> | C* <sub>ab,10</sub> | a* <sub>10</sub> | b* <sub>10</sub> | <i>h<sub>ab,10</sub></i> | illuminant |
|------------------------|------------------|------------------|------------------|---------------------|------------------|------------------|--------------------------|------------|
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.1298           | -0.0895          | 0.0                      | D65        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.1311           | -0.0827          | 143.1                    | D50        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.1332           | -0.0811          | 9.4                      | P45        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.1407           | -0.0669          | 14.0                     | A00        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.1333           | -0.0877          | 153.5                    | E00        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.1315           | -0.0915          | 9.4                      | C00        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.1349           | -0.0827          | 9.4                      | P00        |
| W <sub>1</sub> 380_770 | 96.0             | 0.0              | 0.0              | 0.0                 | 0.1317           | -0.0921          | 355.2                    | Q00        |

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