

# UGRA

## Display Analysis & Certification Tool

### Report

#### Basics

Date: 2009-11-1 14:13:57  
Report-Version: v1.3.1  
Monitor-Name: \\.\DISPLAY1  
EDID-Name:  
EDID-Serial:  
Profile: C:/WINDOWS/System32/spool/DRIVERS/COLOR/aoc\_ugrac.icc  
Created: 2009-11-1 14:08  
Measurement device: DTP94-LCD mode

#### Summary

The monitor has not passed the certification according to the UGRA DACT specifications.

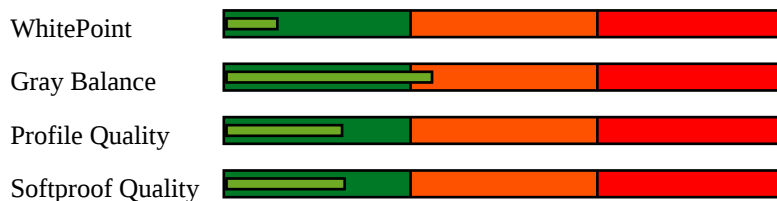
##### Calibration

|                 |     |
|-----------------|-----|
| White Point     | yes |
| Gray balance    | no  |
| Profile quality | yes |

##### Softproofing

|                               |    |
|-------------------------------|----|
| MultiColor, HighBody          | no |
| Offset/Gravure Paper Type 1/2 | no |
| Offset on uncoated paper      | no |
| Newspaper Printing            | no |
| sRGB                          | no |
| AdobeRGB                      | no |
| ECI-RGB                       | no |

##### Diagram



## Whitepoint

The whitepoint should be as close as possible to the black body curve and the calibration target. The maximum allowed distance to the target whitepoint is DeltaE 2.0.

|                                        |                      |
|----------------------------------------|----------------------|
| XYZ:                                   | 113.21 119.02 115.58 |
| XYZ (normalized):                      | 95.12 100.00 97.11   |
| Luminance:                             | 119.0 Cd/m2          |
| Next Temperature:                      | 5809 Kelvin          |
| Assumed Target Whitepoint:             | 5800 Kelvin          |
| Distance to assumed Target Whitepoint: | 0.5 deltaE           |

## Blackpoint

The blackpoint is not defined in ISO 12646. Therefore UDACT does only measure but not assess it.

|               |                  |
|---------------|------------------|
| Luminance:    | 0.2 Cd/m2        |
| Chromaticity: | 3.1 Chroma (Lab) |

## Gray balance

Average and maximum calculation will respect measurements with 1% minimum luminance only. The maximum allowed deviations to comply with this test are an average of DeltaC 1.0 and a range of DeltaC 2.0.

| %       | Kelvin | Cd/m2  | L      | Chroma | Gamma |
|---------|--------|--------|--------|--------|-------|
| 0       | 34097  | 0.21   | 1.59   | 3.13   |       |
| 5       | 7119   | 0.69   | 5.24   | 2.06   | 1.86  |
| 10      | 5756   | 2.08   | 14.10  | 0.40   | 1.83  |
| 15      | 5814   | 4.08   | 21.68  | 0.04   | 1.82  |
| 20      | 5816   | 6.74   | 28.55  | 0.26   | 1.81  |
| 25      | 5848   | 9.54   | 34.02  | 0.83   | 1.83  |
| 30      | 5786   | 13.44  | 40.07  | 0.85   | 1.82  |
| 35      | 5751   | 18.10  | 45.92  | 0.85   | 1.82  |
| 40      | 5801   | 23.01  | 51.07  | 0.09   | 1.80  |
| 45      | 5840   | 27.99  | 55.60  | 0.41   | 1.83  |
| 50      | 5778   | 33.62  | 60.11  | 0.30   | 1.83  |
| 55      | 5776   | 40.52  | 65.00  | 0.35   | 1.81  |
| 60      | 5772   | 47.56  | 69.44  | 0.38   | 1.81  |
| 65      | 5798   | 54.33  | 73.32  | 0.64   | 1.84  |
| 70      | 5814   | 62.05  | 77.36  | 0.13   | 1.83  |
| 75      | 5802   | 70.00  | 81.19  | 0.63   | 1.84  |
| 80      | 5770   | 78.79  | 85.10  | 0.70   | 1.85  |
| 85      | 5810   | 87.66  | 88.76  | 0.11   | 1.88  |
| 90      | 5764   | 97.94  | 92.70  | 0.45   | 1.87  |
| 95      | 5774   | 107.93 | 96.28  | 0.50   | 1.90  |
| 100     | 5809   | 119.02 | 100.00 | 0.00   |       |
|         |        |        |        |        |       |
| Average | 5794   |        |        | 0.42   | 1.84  |
| Range   |        |        |        | 1.67   |       |
| Max     |        |        |        | 0.85   |       |

**Tone values = 93.5%**

Through the calibration of a display tone values can be lost. A display for the printing industry should show at least 95% of the incoming tone values.

# Profile Quality

This test displays and measures RGB values and compares them with the transformation of the profile. The maximum allowed deviations to comply with this test are an average of DeltaE 3.0 and a maximum of DeltaE 6.0.

The assumed chromatic adaptation is: Bradford

| RGB         | Lab              | deltaLab       | deltaE |
|-------------|------------------|----------------|--------|
| 0 0 0       | 1.6 0.4 -3.1     | -1.6 -0.4 3.1  | 3.5    |
| 0 0 128     | 12.8 45.5 -71.5  | 0.4 1.3 -1.3   | 1.9    |
| 0 0 255     | 27.4 70.0 -110.5 | 0.7 0.8 0.4    | 1.1    |
| 0 128 0     | 50.4 -61.5 40.4  | 1.1 0.9 3.2    | 3.5    |
| 0 128 128   | 52.0 -40.3 -13.0 | 1.3 0.7 1.4    | 2.0    |
| 0 170 255   | 67.2 -27.0 -49.5 | 1.1 0.3 2.7    | 2.9    |
| 0 255 0     | 85.2 -91.9 66.0  | 0.9 0.2 -0.1   | 1.0    |
| 0 255 170   | 86.4 -75.5 13.3  | 1.0 0.3 0.6    | 1.2    |
| 0 255 255   | 87.8 -60.0 -19.5 | 1.0 0.0 1.9    | 2.2    |
| 85 85 85    | 44.1 0.4 -0.2    | -0.1 -0.5 0.2  | 0.5    |
| 128 0 0     | 33.4 53.0 41.8   | -0.2 1.0 3.5   | 3.7    |
| 128 0 128   | 36.6 62.0 -31.6  | -0.2 0.5 -2.5  | 2.6    |
| 128 128 0   | 58.9 -11.3 51.3  | 0.3 1.0 2.0    | 2.3    |
| 128 128 128 | 60.4 -0.2 0.2    | 0.3 0.2 -0.2   | 0.4    |
| 128 128 255 | 63.7 20.3 -53.6  | 0.3 0.2 1.2    | 1.2    |
| 128 255 128 | 90.4 -55.0 36.6  | 0.1 0.5 -1.2   | 1.3    |
| 170 0 255   | 49.7 82.7 -72.7  | -0.1 0.2 -1.2  | 1.2    |
| 170 170 170 | 74.9 -0.3 0.3    | 0.1 0.2 -0.3   | 0.4    |
| 170 255 0   | 91.9 -47.7 74.7  | 0.1 0.9 -1.2   | 1.5    |
| 170 255 255 | 94.4 -25.9 -8.9  | 0.1 0.1 0.3    | 0.3    |
| 255 0 0     | 57.9 82.0 72.4   | 0.4 -0.3 -3.7  | 3.7    |
| 255 0 170   | 60.5 89.0 -14.3  | 0.2 -0.8 -2.7  | 2.8    |
| 255 0 255   | 62.9 95.0 -50.5  | 0.2 -0.6 -1.2  | 1.3    |
| 255 128 128 | 74.2 45.2 22.4   | 0.3 -0.6 -1.3  | 1.4    |
| 255 170 0   | 81.1 19.6 73.7   | 0.3 0.9 -0.7   | 1.2    |
| 255 170 255 | 84.1 36.5 -21.5  | 0.2 0.1 0.4    | 0.4    |
| 255 255 0   | 97.6 -16.4 82.9  | 0.2 0.9 -2.2   | 2.4    |
| 255 255 170 | 98.7 -7.8 32.6   | 0.2 0.0 -1.5   | 1.5    |
| 255 255 255 | 100.0 0.0 -0.0   | 0.0 -0.0 -0.0  | 0.0    |
| 170 85 85   | 55.0 35.4 16.9   | -0.1 -0.3 -0.3 | 0.4    |
| 85 170 85   | 67.4 -43.3 27.2  | 0.1 0.4 0.6    | 0.8    |
| 85 85 170   | 46.5 16.2 -41.0  | 0.1 -0.1 -0.3  | 0.4    |
| 85 170 170  | 68.6 -30.3 -9.6  | 0.2 0.5 0.1    | 0.6    |
| 170 85 170  | 56.8 43.9 -24.0  | 0.0 -0.3 -0.7  | 0.8    |
| 170 170 85  | 73.7 -8.8 36.7   | 0.0 0.2 0.2    | 0.3    |
|             |                  |                |        |
| Average     |                  |                | 1.5    |
| Maximum     |                  |                | 3.7    |

# Gamut-Volume

These measurements are only informative.

| Gamut-Volume |      |
|--------------|------|
| ISO          | 90 % |
| sRGB         | 96 % |
| AdobeRGB     | 82 % |
| ECI-RGB v1.0 | 72 % |

# ISO-Gamut

This test displays and measures Lab values and compares them with the reference. The maximum allowed deviations to comply with this test are an average of DeltaE 4.0 and a minimum Gamut volume of 90% for ISOcoated.

| Reference        | Lab              | deltaLab |
|------------------|------------------|----------|
| 55.0 -37.0 -50.0 | 56.4 -20.1 -47.6 | 17.2     |
| 66.9 -24.7 -37.1 | 66.3 -25.5 -38.3 | 1.5      |
| 79.7 -12.5 -21.8 | 79.3 -12.3 -22.4 | 0.8      |
| 48.0 74.0 -3.0   | 48.6 73.4 0.1    | 3.3      |
| 60.8 50.6 -6.7   | 60.9 50.6 -5.2   | 1.5      |
| 76.4 25.8 -6.9   | 76.3 26.2 -7.0   | 0.5      |
| 89.0 -5.0 93.0   | 88.9 -4.1 76.6   | 16.4     |
| 90.3 -4.7 62.6   | 90.3 -4.9 64.0   | 1.4      |
| 92.2 -3.5 31.1   | 92.1 -3.4 32.3   | 1.1      |
| 53.1 37.7 28.9   | 53.1 38.3 28.9   | 0.6      |
| 41.5 22.7 16.8   | 41.4 23.5 16.4   | 0.9      |
| 31.9 40.0 24.0   | 32.6 39.9 24.3   | 0.8      |
| 32.5 44.5 -1.8   | 33.1 44.2 -0.5   | 1.4      |
| 51.3 1.3 44.5    | 51.3 1.4 43.6    | 1.0      |
| 34.6 -36.4 13.9  | 34.1 -36.9 12.2  | 1.7      |
| 36.0 -26.2 -20.9 | 35.7 -23.3 -21.4 | 2.9      |
| 20.9 9.6 -23.6   | 21.3 9.8 -23.6   | 0.5      |
| 89.0 0.0 -1.9    | 88.6 0.2 -1.7    | 0.5      |
| 82.8 0.0 -1.7    | 82.4 0.6 -2.3    | 1.0      |
| 69.3 0.0 -1.4    | 69.3 0.1 -1.1    | 0.3      |
| 54.1 0.0 -1.0    | 53.9 0.2 -0.9    | 0.3      |
| 36.6 0.0 -0.5    | 36.4 0.6 -1.1    | 0.9      |
| 16.0 0.0 0.0     | 17.0 0.5 0.1     | 1.1      |
| 24.0 22.0 -46.0  | 24.0 21.3 -45.1  | 1.2      |
| 40.9 17.9 -36.6  | 40.4 18.3 -36.1  | 0.8      |
| 63.7 10.3 -23.8  | 63.3 10.6 -23.9  | 0.5      |
| 47.0 68.0 48.0   | 47.1 67.8 49.3   | 1.3      |
| 58.5 47.1 37.9   | 58.5 47.8 38.5   | 0.9      |
| 74.2 22.9 21.4   | 74.0 23.3 21.7   | 0.6      |
| 50.0 -65.0 27.0  | 49.7 -56.8 26.2  | 8.3      |
| 62.1 -39.8 21.0  | 61.7 -39.9 20.4  | 0.8      |
| 77.0 -19.1 11.0  | 76.4 -18.2 10.7  | 1.0      |
| 71.2 18.9 17.3   | 71.2 18.9 17.8   | 0.5      |
| 71.2 22.1 73.1   | 70.9 21.7 65.7   | 7.4      |
| 47.7 71.2 16.2   | 48.0 71.4 18.1   | 1.9      |
| 38.0 55.4 -20.9  | 38.5 55.1 -19.1  | 1.9      |
| 73.7 -22.8 67.6  | 73.5 -23.3 61.4  | 6.2      |
| 52.3 -52.3 -20.1 | 53.0 -37.5 -18.7 | 14.9     |
| 43.3 -17.0 -48.6 | 43.8 -10.3 -47.2 | 6.9      |
| 95.0 0.0 -2.0    | 94.8 0.3 -1.8    | 0.4      |
| 88.5 -0.4 -3.1   | 88.1 -0.3 -3.2   | 0.5      |
| 82.0 -0.9 -4.1   | 81.2 0.2 -5.0    | 1.6      |
| 67.7 -2.0 -4.4   | 67.5 -1.8 -3.9   | 0.6      |
| 52.2 -2.5 -3.5   | 52.0 -2.8 -3.6   | 0.4      |
| 37.5 -3.9 -3.1   | 37.3 -2.9 -3.3   | 1.0      |
| 26.3 -6.8 -3.4   | 26.3 -6.6 -3.7   | 0.4      |
|                  |                  |          |
| Average          |                  | 2.6      |
| Gamut-Volume     |                  | 90 %     |

# Measurement Data

This table lists all RGB measurements. The XYZ values represent the values from the measurement device.

| RGB         | XYZ                  | RGB         | XYZ                 |
|-------------|----------------------|-------------|---------------------|
| 255 255 255 | 113.21 119.02 115.58 | 85 85 170   | 21.91 18.82 47.62   |
| 0 0 0       | 0.22 0.21 0.43       | 85 170 170  | 34.33 46.52 54.30   |
| 12 12 12    | 0.66 0.69 0.82       | 170 85 170  | 41.82 29.35 48.48   |
| 25 25 25    | 1.97 2.08 1.98       | 170 170 85  | 48.06 54.84 23.58   |
| 38 38 38    | 3.88 4.08 3.97       | 0 135 214   | 23.99 29.47 74.22   |
| 51 51 51    | 6.43 6.74 6.59       | 49 163 227  | 33.72 43.04 84.56   |
| 63 63 63    | 9.14 9.54 9.47       | 141 196 236 | 58.33 66.43 94.12   |
| 76 76 76    | 12.90 13.44 13.22    | 193 0 106   | 39.18 20.20 20.05   |
| 89 89 89    | 17.13 18.10 17.21    | 203 86 146  | 50.39 34.41 37.96   |
| 102 102 102 | 21.91 23.01 22.34    | 217 154 193 | 69.05 59.73 66.28   |
| 114 114 114 | 26.52 27.99 27.14    | 244 216 0   | 79.42 87.39 16.06   |
| 127 127 127 | 32.07 33.62 32.62    | 242 221 64  | 82.44 90.96 24.21   |
| 140 140 140 | 38.52 40.52 39.06    | 239 228 150 | 88.50 96.05 52.72   |
| 153 153 153 | 45.23 47.56 45.83    | 171 77 60   | 33.78 24.79 10.61   |
| 165 165 165 | 51.50 54.33 52.29    | 114 64 54   | 17.79 14.29 8.13    |
| 178 178 178 | 58.97 62.05 60.20    | 108 29 29   | 13.78 8.58 3.05     |
| 191 191 191 | 66.84 70.00 68.38    | 109 26 65   | 15.05 8.89 8.96     |
| 204 204 204 | 75.31 78.79 76.62    | 120 100 19  | 21.91 23.06 5.42    |
| 216 216 216 | 83.43 87.66 85.22    | 15 77 41    | 5.17 9.65 5.86      |
| 229 229 229 | 93.34 97.94 94.60    | 0 79 100    | 7.51 10.68 19.51    |
| 242 242 242 | 102.98 107.93 104.68 | 36 35 70    | 4.68 4.01 9.85      |
| 0 0 128     | 5.10 2.01 25.79      | 215 216 220 | 83.18 87.28 87.15   |
| 0 0 255     | 17.85 6.93 92.48     | 194 195 199 | 69.42 72.59 73.39   |
| 0 128 0     | 9.97 22.39 5.73      | 152 153 156 | 45.11 47.36 46.98   |
| 0 128 128   | 15.03 24.24 31.94    | 110 110 112 | 24.84 26.04 25.89   |
| 0 170 255   | 34.98 44.65 103.89   | 68 68 69    | 10.52 10.96 11.05   |
| 0 255 0     | 35.79 79.17 17.90    | 30 30 30    | 2.62 2.73 2.63      |
| 0 255 170   | 44.37 82.36 62.56    | 37 36 112   | 7.06 5.02 21.54     |
| 0 255 255   | 53.95 86.09 112.79   | 78 70 143   | 16.79 13.86 34.42   |
| 85 85 85    | 15.85 16.57 16.19    | 137 131 188 | 40.36 38.25 60.13   |
| 128 0 0     | 16.63 8.93 1.20      | 191 12 24   | 34.82 18.67 3.09    |
| 128 0 128   | 22.05 11.01 26.55    | 204 80 57   | 44.57 30.98 10.51   |
| 128 128 0   | 26.75 31.91 6.70     | 218 148 124 | 62.16 55.13 34.25   |
| 128 128 128 | 32.30 34.03 32.88    | 0 125 45    | 10.29 21.66 9.40    |
| 128 128 255 | 45.42 39.11 101.00   | 74 152 86   | 23.05 35.89 21.09   |
| 128 255 128 | 58.62 91.87 45.36    | 148 188 150 | 49.52 60.22 47.32   |
| 170 0 255   | 46.22 21.93 93.57    | 200 143 124 | 55.22 50.32 33.70   |
| 170 170 170 | 54.30 57.20 55.27    | 219 138 0   | 55.07 49.53 8.51    |
| 170 255 0   | 64.09 95.63 19.46    | 193 3 74    | 37.37 19.53 11.41   |
| 170 255 255 | 83.18 103.04 114.19  | 131 25 109  | 22.23 12.25 21.03   |
| 255 0 0     | 56.93 29.94 2.47     | 154 178 0   | 41.97 54.35 11.32   |
| 255 0 170   | 66.31 33.59 45.39    | 0 130 142   | 16.39 25.29 37.68   |
| 255 0 255   | 75.76 37.29 94.34    | 0 96 173    | 14.79 16.70 49.27   |
| 255 128 128 | 73.19 55.44 34.19    | 235 237 242 | 98.87 103.68 103.56 |
| 255 170 0   | 74.25 68.98 11.68    | 211 215 222 | 81.85 86.10 88.15   |
| 255 170 255 | 93.52 76.49 106.03   | 188 193 202 | 66.86 70.07 74.25   |
| 255 255 0   | 93.45 111.06 20.35   | 142 150 157 | 41.80 44.51 46.76   |
| 255 255 170 | 103.11 114.79 64.90  | 99 107 112  | 22.26 24.03 25.53   |
| 170 85 85   | 35.64 27.03 17.01    | 64 72 75    | 10.60 11.54 12.42   |
| 85 170 85   | 28.20 44.24 22.70    | 38 50 52    | 4.97 5.81 6.52      |