

# UGRA

## Display Analysis & Certification Tool

### Report

#### Basics

Date: 2009-12-8 16:38:58  
Report-Version: v1.3.1  
Monitor-Name: \\.\DISPLAY1  
EDID-Name: S2433W  
EDID-Serial: 20775089  
Profile: C:/WINDOWS/System32/spool/DRIVERS/COLOR/eizo2433-ugra.icc  
Created: 2009-12-8 16:33  
Measurement device: DTP94-LCD mode

#### Summary

The monitor has passed the certification according to the UGRA DACT specifications.

#### Calibration

White Point	yes
Gray balance	yes
Profile quality	yes

#### Softproofing

MultiColor, HighBody	yes
Offset/Gravure Paper Type 1/2	yes
Offset on uncoated paper	yes
Newspaper Printing	yes
sRGB	yes
AdobeRGB	yes
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:	114.67 119.87 116.78
XYZ (normalized):	95.66 100.00 97.42
Luminance:	119.9 Cd/m2
Next Temperature:	5770 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:	0.1 Cd/m2
Chromaticity:	0.6 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	8817	0.10	0.75	0.59	
5	6063	0.60	4.52	0.40	1.83
10	5711	1.91	13.19	0.63	1.83
15	5956	4.01	21.38	1.08	1.81
20	5749	6.69	28.33	0.44	1.81
25	5665	9.72	34.21	0.48	1.82
30	5825	13.66	40.24	0.35	1.81
35	5826	18.03	45.69	0.85	1.81
40	5777	23.15	51.05	0.58	1.80
45	5758	28.16	55.58	0.45	1.81
50	5820	34.15	60.33	0.76	1.81
55	5754	41.20	65.26	0.74	1.80
60	5807	47.97	69.48	0.29	1.79
65	5769	55.10	73.52	0.44	1.81
70	5797	63.41	77.82	0.49	1.79
75	5839	71.93	81.84	0.63	1.77
80	5786	80.46	85.57	0.93	1.81
85	5834	89.10	89.08	0.73	1.83
90	5821	98.65	92.71	0.52	1.85
95	5783	109.41	96.52	0.47	1.82
100	5770	119.87	100.00	0.00	
Average	5792			0.57	1.81
Range				1.62	
Max				1.08	

Tone values = 97.8%

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	0.8 0.1 -0.6	-0.8 -0.1 0.6	1.0
0 0 128	15.7 38.5 -72.3	0.8 -3.5 1.2	3.8
0 0 255	33.2 53.5 -107.8	-0.0 -0.5 0.3	0.6
0 128 0	49.8 -79.8 51.9	0.1 0.9 1.4	1.7
0 128 128	52.1 -53.5 -14.8	0.4 -0.4 1.3	1.4
0 170 255	67.9 -41.8 -51.3	0.2 -0.2 0.9	0.9
0 255 0	83.8 -119.4 80.6	-0.1 0.1 -0.0	0.2
0 255 170	85.5 -98.4 12.8	0.0 -0.7 1.1	1.3
0 255 255	87.5 -81.3 -21.0	-0.0 -0.3 0.5	0.6
85 85 85	43.8 0.7 0.2	0.2 -0.7 -0.2	0.8
128 0 0	34.9 61.7 50.0	-0.2 0.2 2.4	2.4
128 0 128	38.8 66.8 -33.3	0.1 -1.5 0.0	1.5
128 128 0	58.9 -9.8 63.7	-0.2 1.1 1.4	1.8
128 128 128	60.7 0.3 -0.6	0.0 -0.3 0.6	0.7
128 128 255	65.4 17.0 -54.6	-0.2 -0.3 0.0	0.3
128 255 128	88.9 -65.8 38.0	0.0 -0.8 1.0	1.3
170 0 255	53.9 82.1 -72.7	-0.3 -0.7 -0.1	0.7
170 170 170	75.1 0.2 -0.6	-0.1 -0.2 0.6	0.6
170 255 0	90.7 -54.0 89.8	-0.2 0.7 0.1	0.7
170 255 255	94.1 -32.9 -10.2	-0.3 -0.5 0.2	0.6
255 0 0	61.0 94.0 81.2	-0.2 -0.4 -0.1	0.5
255 0 170	63.8 97.2 -14.6	0.1 -1.1 -0.3	1.1
255 0 255	67.0 98.8 -50.1	-0.0 -0.1 -0.2	0.2
255 128 128	75.9 53.0 24.1	-0.1 0.4 0.1	0.5
255 170 0	81.9 28.1 88.7	-0.3 0.9 0.2	1.0
255 170 255	85.9 40.1 -21.4	-0.3 0.5 -0.2	0.5
255 255 0	97.2 -13.5 98.9	-0.2 0.4 -0.4	0.6
255 255 170	98.6 -6.3 33.9	-0.1 -0.2 0.6	0.6
255 255 255	100.0 0.0 0.0	0.0 0.0 -0.0	0.0
170 85 85	55.8 42.4 19.4	0.1 -0.3 -0.3	0.5
85 170 85	66.2 -52.5 30.7	0.0 0.1 0.0	0.1
85 85 170	47.2 14.9 -43.8	0.3 -1.7 0.8	1.9
85 170 170	68.1 -38.4 -11.8	0.1 -0.8 0.8	1.1
170 85 170	58.3 48.5 -25.5	0.1 -1.0 0.6	1.2
170 170 85	73.3 -7.7 41.6	-0.0 0.5 0.1	0.5
Average			0.9
Maximum			3.8

# Gamut-Volume

These measurements are only informative.

Gamut-Volume	
ISO	99 %
sRGB	98 %
AdobeRGB	96 %
ECI-RGB v1.0	89 %

# 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	55.5 -31.0 -49.4	6.0
66.9 -24.7 -37.1	66.8 -24.3 -37.3	0.5
79.7 -12.5 -21.8	80.1 -13.6 -21.5	1.2
48.0 74.0 -3.0	47.9 74.9 -2.9	0.9
60.8 50.6 -6.7	61.0 50.1 -6.2	0.7
76.4 25.8 -6.9	76.5 25.8 -7.5	0.6
89.0 -5.0 93.0	89.3 -6.8 91.7	2.3
90.3 -4.7 62.6	90.5 -6.2 62.3	1.5
92.2 -3.5 31.1	92.2 -4.0 31.3	0.5
53.1 37.7 28.9	53.1 37.1 29.1	0.7
41.5 22.7 16.8	41.8 22.2 17.1	0.7
31.9 40.0 24.0	32.4 38.9 23.4	1.3
32.5 44.4 -1.8	32.7 44.5 -1.3	0.5
51.3 1.3 44.5	51.7 0.6 43.5	1.2
34.6 -36.4 13.9	34.9 -38.2 14.5	1.9
36.0 -26.2 -20.9	35.7 -26.1 -20.9	0.3
20.9 9.6 -23.6	21.2 8.8 -22.6	1.3
89.0 0.0 -1.8	89.1 -0.8 -1.5	0.9
82.8 0.0 -1.7	82.8 -0.2 -1.8	0.3
69.3 0.0 -1.4	69.3 -0.5 -1.3	0.5
54.1 0.0 -1.0	54.0 0.8 -1.3	0.9
36.6 -0.0 -0.5	36.7 0.5 -0.3	0.5
16.0 0.0 0.0	16.3 -0.2 -0.2	0.5
24.0 22.0 -46.0	23.4 23.6 -46.5	1.8
40.9 17.9 -36.6	40.7 18.9 -36.8	1.0
63.7 10.3 -23.8	63.7 11.1 -24.0	0.8
47.0 68.0 48.0	47.2 68.0 46.9	1.1
58.5 47.1 37.9	58.7 46.6 38.2	0.6
74.2 22.9 21.4	74.4 22.1 20.8	1.0
50.0 -65.0 27.0	50.3 -66.4 26.9	1.4
62.1 -39.8 21.0	62.2 -40.3 20.6	0.6
77.0 -19.1 11.0	77.2 -19.7 10.9	0.7
71.2 18.8 17.3	71.3 18.6 16.8	0.5
71.2 22.2 73.1	71.6 21.1 72.5	1.3
47.7 71.2 16.2	47.9 71.5 16.2	0.3
38.0 55.4 -20.9	38.1 56.2 -20.5	0.9
73.7 -22.8 67.6	74.1 -24.4 66.6	1.9
52.3 -52.3 -20.2	52.1 -49.9 -20.3	2.4
43.3 -17.0 -48.6	43.1 -16.8 -48.9	0.4
95.0 0.0 -2.0	95.1 -0.7 -2.0	0.7
88.5 -0.4 -3.1	88.7 -1.0 -2.7	0.7
82.0 -0.9 -4.1	82.3 -1.7 -3.7	1.0
67.7 -2.0 -4.4	67.7 -1.8 -4.4	0.1
52.2 -2.5 -3.5	52.2 -2.3 -3.5	0.2
37.5 -3.9 -3.1	37.7 -3.9 -3.2	0.2
26.3 -6.8 -3.4	26.3 -7.8 -3.5	1.0
Average		1.0
Gamut-Volume		99 %

# 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	114.67 119.87 116.78	85 85 170	22.74 19.70 52.27
0 0 0	0.10 0.10 0.14	85 170 170	31.79 45.96 56.21
12 12 12	0.57 0.60 0.61	170 85 170	46.43 31.49 53.13
25 25 25	1.81 1.91 1.81	170 170 85	48.32 54.41 20.54
38 38 38	3.76 4.01 3.90	0 129 208	21.08 28.63 75.31
51 51 51	6.37 6.69 6.43	81 158 221	35.23 44.20 85.43
63 63 63	9.33 9.72 9.33	152 193 232	59.97 68.56 95.82
76 76 76	13.01 13.66 13.34	175 18 103	39.18 19.75 21.26
89 89 89	17.09 18.03 17.45	189 89 143	50.92 34.77 39.29
102 102 102	22.04 23.15 22.37	208 155 190	70.15 60.59 67.98
114 114 114	27.04 28.16 27.57	236 221 0	79.67 88.93 10.15
127 127 127	32.77 34.15 33.79	236 225 88	83.41 92.28 25.79
140 140 140	39.24 41.20 39.67	236 230 158	89.43 96.81 54.29
153 153 153	45.80 47.97 46.90	158 82 63	33.90 25.07 10.67
165 165 165	52.57 55.10 53.39	107 67 56	18.02 14.67 8.19
178 178 178	60.44 63.41 61.67	98 34 31	13.67 8.58 3.18
191 191 191	68.55 71.93 70.52	100 30 64	14.99 8.76 9.10
204 204 204	76.54 80.46 77.78	116 103 34	22.39 23.62 5.63
216 216 216	84.84 89.10 87.12	31 77 44	5.40 10.14 5.67
229 229 229	94.11 98.65 96.54	23 76 97	7.33 10.77 19.49
242 242 242	104.38 109.41 106.31	37 34 67	4.59 3.99 9.56
0 0 128	5.70 2.67 29.99	215 216 220	84.87 89.16 89.05
0 0 255	19.89 9.95 104.80	194 195 199	70.78 74.07 74.42
0 128 0	7.43 21.86 3.21	152 153 155	45.44 47.68 47.65
0 128 128	13.15 24.48 33.66	110 110 112	25.39 26.32 26.48
0 170 255	32.29 46.30 110.24	68 68 69	10.81 11.23 11.04
0 255 0	26.35 76.34 10.50	30 30 30	2.48 2.60 2.57
0 255 170	35.96 80.75 61.83	40 31 107	7.13 4.84 21.97
0 255 255	46.17 86.05 115.62	79 67 138	17.35 14.17 35.70
85 85 85	15.83 16.41 15.89	138 129 183	41.51 39.00 61.46
128 0 0	19.96 9.89 0.80	173 31 29	35.43 18.96 3.53
128 0 128	25.82 12.59 30.61	188 87 62	45.05 31.57 10.88
128 128 0	27.35 32.01 3.93	207 152 127	63.25 56.35 35.89
128 128 128	33.22 34.62 34.22	25 125 55	9.54 22.47 9.63
128 128 255	47.54 41.94 108.35	89 152 93	23.78 36.81 21.65
128 255 128	52.14 88.71 42.10	154 188 153	50.97 62.22 48.93
170 0 255	53.58 26.56 105.85	191 146 126	56.01 50.90 34.92
170 170 170	55.61 58.04 57.15	206 144 24	56.69 51.07 6.93
170 255 0	59.46 92.96 11.61	175 26 73	37.74 19.65 12.19
170 255 255	79.93 103.01 116.86	120 27 105	22.32 12.07 21.62
255 0 0	69.24 34.13 2.10	156 180 35	43.06 55.88 9.93
255 0 170	78.42 38.46 51.80	0 127 140	13.90 24.58 38.17
255 0 255	88.51 43.86 106.00	13 90 167	13.45 16.24 50.19
255 128 128	82.08 59.03 35.52	236 237 242	100.47 105.40 105.87
255 170 0	81.48 71.18 7.29	212 215 221	83.87 88.16 89.81
255 170 255	101.51 81.10 111.87	189 193 201	69.08 73.00 75.83
255 255 0	95.16 110.52 12.48	143 149 156	42.52 45.04 47.94
255 255 170	104.88 115.03 63.63	101 107 111	22.81 24.36 25.92
170 85 85	39.37 28.07 16.61	65 72 75	10.85 11.91 12.82
85 170 85	24.84 42.69 19.74	40 50 52	4.93 5.85 6.53