

UGRA

Display Analysis & Certification Tool

Report

Basics

Date: 2013-5-13 18:10:35
Report-Version: v1.3.1
Monitor-Name: Philips 220BW
EDID-Name: Philips 220BW
EDID-Serial: DL30917392057
Profile: /Users/Admin/Library/ColorSync/.../13.05.13-5000K-18-120cd_001.icc
Created: 2013-5-13 18:04
Measurement device: eye-one display 2, Rev. 2 | Serial: 984222

Summary

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

Calibration

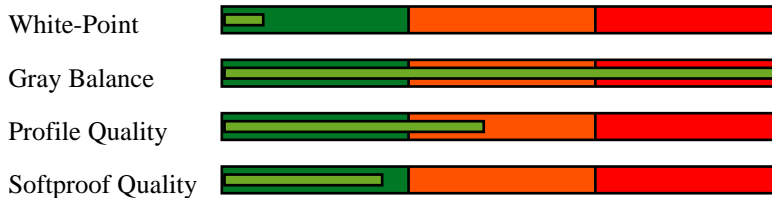
White Point	yes
Gray balance	no
Profile quality	no

Softproofing

Depends on the calibration verification.

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:	131.83 136.62 112.02
XYZ (normalized):	96.49 100.00 82.00
Luminance:	136.6 Cd/m2
Next Temperature:	4974 Kelvin
Assumed Target Whitepoint:	5000.0 Kelvin
Distance to assumed Target Whitepoint:	0.4 DeltaE

Blackpoint

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

Luminance:	0.3 Cd/m2
Chromaticity:	5.1 Chroma (Lab)

Gray balance

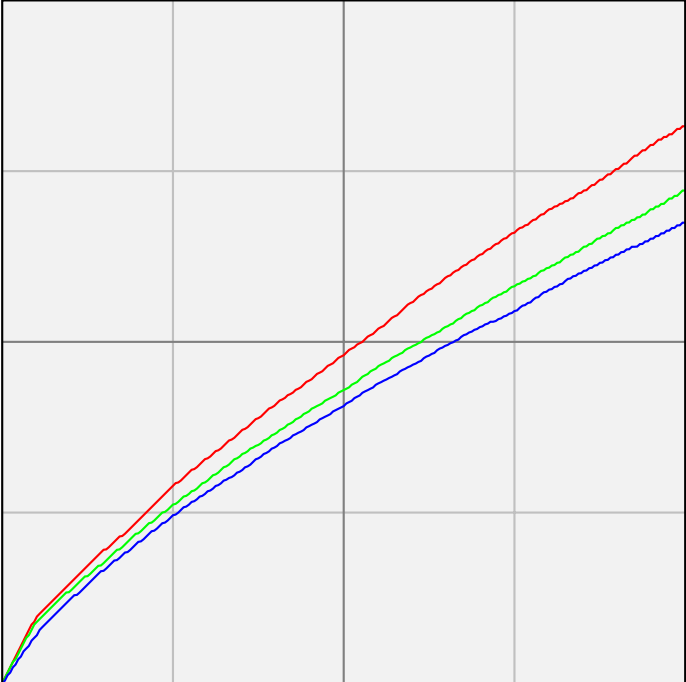
Average and maximum calculation will respect measurements with 1%% minimum luminance only. The L-deviation shows the difference between the profile and measurement value.

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	21600	0.33	2.20	5.13	
5	6086	0.93	6.14	3.48	1.84
10	4795	2.67	15.24	0.80	1.80
15	4871	4.94	22.36	0.87	1.81
20	5070	7.79	28.65	0.63	1.82
25	4916	11.70	35.13	0.36	1.80
30	5007	15.54	40.21	0.69	1.82
35	4866	21.13	46.26	0.98	1.80
40	4921	26.86	51.45	0.44	1.79
45	4935	32.96	56.22	0.43	1.80
50	4957	39.16	60.48	0.25	1.82
55	5070	47.13	65.36	1.49	1.77
60	5019	55.55	69.94	0.46	1.77
65	5026	63.76	73.98	1.15	1.76
70	4962	73.19	78.21	0.18	1.76
75	4950	82.21	81.93	0.38	1.78
80	4969	92.80	85.97	1.29	1.71
85	5034	101.82	89.17	0.76	1.80
90	4997	113.03	92.90	0.58	1.78
95	4963	125.64	96.81	0.22	1.66
100	4974	136.62	100.00	0.00	
Average	4963			0.63	1.78
Max				1.49	
Range				2.44	

Tone values

This tests checks the calibration curves of the graphic card. 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.



Tone values = 70.1%

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.

RGB	Lab	deltaLab	DeltaE
0 0 0	2.2 0.4 -5.1	-2.2 -0.4 5.1	5.6
0 0 128	16.9 45.1 -81.0	-4.4 -3.4 6.3	8.4
0 0 255	30.4 62.7 -114.5	-3.3 0.4 1.6	3.7
0 128 0	53.5 -59.4 45.6	-1.7 2.3 1.2	3.2
0 128 128	55.0 -40.8 -12.1	-1.6 1.0 0.9	2.1
0 170 255	69.5 -32.2 -44.5	-1.2 2.3 -2.7	3.8
0 255 0	84.4 -84.7 71.0	2.0 -1.5 -0.1	2.6
0 255 170	86.0 -70.6 13.9	1.7 -2.3 1.7	3.3
0 255 255	87.2 -58.4 -16.7	1.7 -1.8 -0.2	2.5
85 85 85	44.5 -0.3 -0.2	-0.5 0.3 0.2	0.6
128 0 0	36.3 55.4 40.5	-3.3 -0.8 2.1	4.0
128 0 128	38.7 62.2 -38.8	-2.8 -1.1 3.0	4.2
128 128 0	59.7 -8.4 53.9	-0.3 -0.0 1.5	1.5
128 128 128	61.1 -0.5 0.1	-0.4 0.5 -0.1	0.7
128 128 255	64.2 16.1 -51.8	-0.4 1.0 -1.7	2.0
128 255 128	89.3 -49.1 36.4	1.4 -2.7 1.0	3.2
170 0 255	51.1 78.8 -74.7	-2.0 0.6 -1.6	2.6
170 170 170	75.4 -0.3 -0.2	-0.5 0.3 0.2	0.6
170 255 0	90.3 -39.6 78.3	2.0 -3.6 -0.8	4.2
170 255 255	94.1 -23.3 -8.5	0.5 -2.6 0.2	2.7
255 0 0	57.8 80.7 67.6	0.2 1.9 -3.2	3.7
255 0 170	59.8 85.8 -22.4	0.4 1.7 3.3	3.8
255 0 255	62.3 90.1 -55.0	0.3 2.3 0.8	2.5
255 128 128	73.4 42.5 20.5	1.0 2.5 -0.2	2.7
255 170 0	80.3 19.6 75.2	1.1 2.6 -1.0	3.0
255 170 255	84.2 31.8 -20.9	-0.1 3.5 -1.2	3.7
255 255 0	96.0 -11.6 86.0	2.0 -1.1 -2.3	3.2
255 255 170	98.3 -6.0 29.9	0.7 -0.5 2.0	2.1
255 255 255	100.0 0.0 0.0	0.0 0.0 -0.0	0.0
170 85 85	55.0 35.8 17.4	-0.2 -0.4 -1.4	1.4
85 170 85	67.8 -42.7 30.7	-0.1 1.9 -1.2	2.2
85 85 170	46.8 14.8 -44.6	-0.4 -1.3 2.5	2.8
85 170 170	69.2 -30.8 -10.0	-0.3 0.9 0.9	1.3
170 85 170	56.8 43.5 -27.3	-0.2 -1.2 1.4	1.8
170 170 85	73.9 -7.6 40.0	-0.1 0.6 -2.1	2.1
Average			2.8
Maximum			8.4

Gamut-Volume

These measurements are only informative.

Gamut-Volume	
Gamut-Volume (ISO)	92 %
sRGB	96 %
AdobeRGB	80 %
ECI-RGB v1.0	71 %

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)	Measurement (Lab)	DeltaE
55.0 -37.0 -50.0	58.8 -23.7 -46.1	14.4
66.9 -24.7 -37.1	67.0 -26.5 -36.7	1.8
79.7 -12.5 -21.8	79.6 -12.5 -21.5	0.3
48.0 74.0 -3.0	50.0 73.2 -3.0	2.1
60.8 50.6 -6.7	60.8 50.8 -8.3	1.6
76.4 25.8 -6.9	76.1 24.6 -6.6	1.3
89.0 -5.0 93.0	87.9 -4.3 79.2	13.9
90.3 -4.7 62.6	89.8 -5.8 66.2	3.8
92.2 -3.5 31.1	91.7 -3.3 30.2	1.0
53.1 37.7 28.9	52.9 38.5 32.2	3.4
41.5 22.7 16.8	41.9 24.1 19.1	2.8
31.9 40.0 24.0	33.0 42.2 27.9	4.7
32.5 44.4 -1.8	33.7 46.9 -0.7	2.9
51.3 1.3 44.5	51.5 2.3 46.6	2.3
34.6 -36.4 13.9	36.3 -39.7 16.4	4.5
36.0 -26.2 -20.9	38.5 -24.1 -22.6	3.8
20.9 9.6 -23.6	21.5 12.7 -27.8	5.2
89.0 0.0 -1.8	89.0 0.0 -2.0	0.2
82.8 0.0 -1.7	82.6 0.4 -1.5	0.5
69.3 0.0 -1.4	69.6 -0.0 -0.7	0.7
54.1 0.0 -1.0	54.7 -0.4 -0.6	0.8
36.6 -0.0 -0.5	36.7 1.4 -1.0	1.5
16.0 0.0 0.0	17.3 2.5 -0.3	2.8
24.0 22.0 -46.0	24.6 26.7 -50.8	6.7
40.9 17.9 -36.6	40.8 20.9 -40.0	4.5
63.7 10.3 -23.8	64.0 9.6 -23.2	1.0
47.0 68.0 48.0	48.1 68.4 53.0	5.1
58.5 47.1 37.9	58.5 47.9 42.9	5.1
74.2 22.9 21.4	73.7 21.0 22.6	2.4
50.0 -65.0 27.0	52.8 -55.6 31.0	10.6
62.1 -39.8 21.0	62.5 -42.0 22.8	2.8
77.0 -19.1 11.0	76.9 -19.2 10.6	0.4
71.2 18.8 17.3	71.2 19.0 18.7	1.4
71.2 22.2 73.1	70.7 21.6 66.8	6.3
47.7 71.2 16.2	49.0 71.1 19.1	3.1
38.0 55.4 -20.9	38.8 57.8 -23.2	3.4
73.7 -22.8 67.6	73.0 -21.8 64.3	3.5
52.3 -52.3 -20.2	55.4 -38.1 -17.7	14.7
43.3 -17.0 -48.6	45.9 -12.4 -48.3	5.3
95.0 0.0 -2.0	94.9 0.2 -1.8	0.3
88.5 -0.4 -3.1	88.7 -0.2 -3.2	0.3
82.0 -0.9 -4.1	81.9 -0.4 -4.6	0.7
67.7 -2.0 -4.4	67.4 -2.0 -5.0	0.6
52.2 -2.5 -3.5	52.9 -2.7 -3.2	0.8

37.5 -3.9 -3.1	37.6 -3.7 -3.2	0.3
26.3 -6.8 -3.4	26.7 -6.7 -4.5	1.2
Average		3.4
Gamut-Volume		92 %

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	131.83 136.62 112.02	85 85 170	24.58 21.72 50.12
0 0 0	0.34 0.33 0.64	85 170 170	40.17 54.16 54.14
12 12 12	0.91 0.93 1.01	170 85 170	48.09 33.77 49.98
25 25 25	2.59 2.67 2.10	170 170 85	57.82 63.57 21.31
38 38 38	4.75 4.94 3.90	0 134 214	28.09 36.59 75.02
51 51 51	7.45 7.79 6.41	58 162 226	38.33 50.04 81.42
63 63 63	11.32 11.70 9.49	143 195 236	67.22 76.38 90.53
76 76 76	15.05 15.54 12.99	195 0 104	48.25 25.15 22.28
89 89 89	20.43 21.13 16.86	205 86 145	58.65 39.62 38.97
102 102 102	26.02 26.86 21.90	218 154 192	78.92 68.29 63.24
114 114 114	31.82 32.96 26.76	238 217 0	92.14 98.29 14.02
127 127 127	37.78 39.16 31.93	237 222 69	96.14 103.54 21.94
140 140 140	45.54 47.13 39.88	236 228 151	103.22 109.29 52.56
153 153 153	53.44 55.55 45.80	170 78 59	39.90 28.69 9.13
165 165 165	61.67 63.76 53.41	114 65 54	21.64 17.01 7.37
178 178 178	70.72 73.19 60.00	108 30 28	17.17 10.30 2.53
191 191 191	79.34 82.21 66.95	110 27 64	18.75 10.72 9.02
204 204 204	90.12 92.80 77.24	118 101 22	26.54 26.88 4.75
216 216 216	97.96 101.82 84.34	9 77 42	6.75 12.52 5.63
229 229 229	109.16 113.03 93.52	0 78 100	9.91 14.20 22.20
242 242 242	121.23 125.64 102.67	38 35 69	5.59 4.62 11.06
0 0 128	6.90 3.13 36.60	215 216 220	97.79 101.33 85.87
0 0 255	19.08 8.73 102.95	194 195 199	81.22 83.94 70.68
0 128 0	14.61 29.38 5.72	152 153 156	52.89 54.82 45.64
0 128 128	19.70 31.36 34.14	110 110 112	29.77 30.97 25.76
0 170 255	40.10 54.67 98.93	68 68 69	12.61 12.82 10.86
0 255 0	44.53 88.70 14.95	30 30 30	3.29 3.23 2.70
0 255 170	53.03 92.89 59.54	43 35 111	8.66 5.86 24.68
0 255 255	60.93 96.30 103.39	83 69 142	19.74 16.00 36.67
85 85 85	18.60 19.34 15.95	140 131 187	47.00 44.86 58.67
128 0 0	23.31 12.49 1.71	192 16 20	43.22 23.06 2.67
128 0 128	27.93 14.34 33.02	204 82 56	52.95 36.16 8.74
128 128 0	33.88 37.98 6.31	217 149 123	71.37 63.12 32.22
128 128 128	38.59 40.17 32.83	0 126 49	14.75 28.49 9.41
128 128 255	49.89 45.08 96.01	69 153 88	27.48 42.38 20.00
128 255 128	69.93 102.18 42.85	145 189 151	58.43 70.15 46.83
170 0 255	52.50 26.39 96.47	199 144 123	64.95 58.03 31.98
170 170 170	64.33 66.82 55.01	217 140 0	65.11 56.99 7.91
170 255 0	77.46 105.26 16.25	195 8 71	45.68 24.01 11.23
170 255 255	96.85 116.76 109.24	133 24 108	26.78 14.38 22.82
255 0 0	66.95 35.21 2.97	149 179 0	50.04 61.80 9.95
255 0 170	74.15 38.19 50.35	0 130 142	20.65 31.83 39.09
255 0 255	82.33 41.94 95.85	0 94 173	17.36 20.75 52.20
255 128 128	82.67 62.62 33.45	236 237 242	115.51 119.53 100.83
255 170 0	86.56 78.10 10.48	212 215 222	96.86 100.50 86.92
255 170 255	105.28 88.18 101.87	188 193 202	79.12 82.24 73.11
255 255 0	110.35 123.03 17.23	142 149 157	48.14 50.75 46.07
255 255 170	121.63 130.73 65.39	100 107 112	26.83 28.59 25.40
170 85 85	42.18 31.37 16.25	64 72 75	12.42 13.51 12.26
85 170 85	34.05 51.46 20.62	38 50 52	5.91 6.84 6.70

Uniformity

The uniformity test shows the luminance (in %) and the color deviation (in Delta C*) from the centre point of comparison to the surrounding measuring points. The maximum deviation for the luminance may be 10%. The average value and the chroma deviations are only informative. This test is not taken in consideration for the UDACT certification.

	Average	Max
Luminance Deviation	5%	11%
Chroma Deviation	1	3

Results of the white measurements:

Absolute Luminance	126.54 Cd/m2	131.01 Cd/m2	129.70 Cd/m2
Luminance to Centre	89 %	92 %	91 %
Lab-Chroma to Centre	2.03	1.73	1.78
Absolute Luminance	135.97 Cd/m2	142.89 Cd/m2	136.53 Cd/m2
Luminance to Centre	95 %	100 %	96 %
Lab-Chroma to Centre	0.59	0.00	0.54
Absolute Luminance	133.67 Cd/m2	136.77 Cd/m2	130.81 Cd/m2
Luminance to Centre	94 %	96 %	92 %
Lab-Chroma to Centre	1.68	1.87	1.13

Results of the gray measurements:

Absolute Luminance	37.98 Cd/m ²	39.28 Cd/m ²	38.49 Cd/m ²
Luminance to Centre	90 %	93 %	91 %
Lab-Chroma to Centre	0.62	0.77	2.70
Absolute Luminance	40.91 Cd/m ²	42.19 Cd/m ²	41.08 Cd/m ²
Luminance to Centre	97 %	100 %	97 %
Lab-Chroma to Centre	0.70	0.71	0.70
Absolute Luminance	40.93 Cd/m ²	41.56 Cd/m ²	40.32 Cd/m ²
Luminance to Centre	97 %	99 %	96 %
Lab-Chroma to Centre	1.26	2.06	2.67

Results of the dark measurements:

Absolute Luminance	11.12 Cd/m ²	11.68 Cd/m ²	11.46 Cd/m ²
Luminance to Centre	89 %	94 %	92 %
Lab-Chroma to Centre	0.66	0.68	1.79
Absolute Luminance	12.09 Cd/m ²	12.45 Cd/m ²	12.42 Cd/m ²
Luminance to Centre	97 %	100 %	100 %
Lab-Chroma to Centre	0.77	0.33	0.54
Absolute Luminance	12.26 Cd/m ²	12.52 Cd/m ²	12.34 Cd/m ²
Luminance to Centre	98 %	101 %	99 %
Lab-Chroma to Centre	0.72	1.36	1.86