

UGRA

Display Analysis & Certification Tool

Report

Basics

Date: 2007-8-29 12:30:53
Report-Version: v1.2.1
Monitor-Name: LCD2470WNX
EDID-Name: LCD2470WNX
EDID-Serial:
Profile: /Library/ColorSync/Profiles/Monitor_29-8-07_2.icc
Created: 2007-8-29 12:20
Measurement device: eye-one monitor

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	no
Offset/Gravure Paper Type 1/2	yes
Offset on uncoated paper	yes
Newspaper Printing	yes
Layout	yes

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

XYZ: 115.45 120.85 117.54
XYZ (normalized): 95.53 100.00 97.26
Luminance: 120.9 Cd/m2
Next Temperature: 5775 Kelvin
Assumed Target Whitepoint: 5800 Kelvin
Distance to assumed Target Whitepoint: 0.3 deltaE

Blackpoint

Luminance: 0.1 Cd/m2
Chromaticity: 0.5 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	8580	0.08	0.59	0.50	
5	6183	0.61	4.54	0.48	1.82
10	6011	1.72	12.13	0.81	1.86
15	5688	3.70	20.29	0.73	1.86
20	5687	6.63	28.08	0.63	1.82
25	5657	9.43	33.57	0.94	1.84
30	5715	13.24	39.51	0.42	1.84
35	5644	17.60	45.03	0.87	1.85
40	5651	22.41	50.15	0.79	1.85
45	5702	27.51	54.83	0.67	1.86
50	5775	33.76	59.83	0.67	1.85
55	5746	40.06	64.28	0.33	1.85
60	5813	46.94	68.64	0.38	1.85
65	5793	53.95	72.66	0.34	1.88
70	5823	61.70	76.71	0.40	1.88
75	5790	70.20	80.79	0.27	1.89
80	5750	79.53	84.90	0.26	1.88
85	5786	88.22	88.45	0.29	1.93
90	5804	98.60	92.39	0.60	1.95
95	5814	110.36	96.54	0.74	1.81
100	5775	120.85	100.00	0.00	
Average	5759			0.53	1.86
Range				1.68	

Tone values = 87.3%

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: CAT02

RGB	Lab	deltaLab	deltaE
0 0 0	0.6 0.1 -0.5	-0.6 -0.1 0.5	0.8
0 0 128	13.5 38.9 -72.0	0.8 -0.2 -1.3	1.6
0 0 255	29.9 56.5 -109.9	-0.1 2.1 -1.1	2.4
0 128 0	51.1 -55.2 48.9	1.0 -0.0 2.6	2.8
0 128 128	53.1 -38.1 -10.5	1.0 0.0 0.1	1.0
0 170 255	68.6 -27.7 -48.5	0.7 -0.1 1.3	1.5
0 255 0	86.6 -83.3 77.9	0.2 0.0 -0.1	0.2
0 255 170	87.8 -70.0 18.2	0.3 0.3 -1.0	1.0
0 255 255	89.5 -57.2 -16.9	0.2 0.2 0.4	0.5
85 85 85	43.4 -0.1 0.2	0.9 0.2 0.5	1.1
128 0 0	31.5 54.2 42.2	0.7 0.8 4.6	4.8
128 0 128	35.0 60.3 -35.6	0.8 0.3 -1.3	1.6
128 128 0	58.6 -9.5 58.0	0.8 1.0 2.8	3.1
128 128 128	60.2 -0.6 0.8	0.7 0.6 -0.1	1.0
128 128 255	64.2 16.3 -54.7	0.5 0.7 0.7	1.1
128 255 128	90.6 -50.7 40.5	0.3 0.7 -0.3	0.8
170 0 255	49.2 76.7 -77.6	0.3 1.2 -0.1	1.3
170 170 170	74.3 -0.5 0.2	0.9 0.5 0.2	1.0
170 255 0	92.0 -43.4 84.3	0.3 1.2 0.5	1.4
170 255 255	94.7 -25.5 -8.2	0.2 0.9 0.2	0.9
255 0 0	56.4 82.9 70.0	0.1 -0.1 1.6	1.6
255 0 170	59.1 87.4 -19.0	0.3 -0.2 -2.3	2.3
255 0 255	62.2 91.0 -56.1	-0.0 0.4 -0.7	0.8
255 128 128	73.6 44.2 21.4	0.3 -0.3 -0.6	0.8
255 170 0	80.5 21.4 79.9	0.2 -0.2 1.3	1.3
255 170 255	83.9 34.4 -23.1	0.2 -0.0 0.0	0.2
255 255 0	97.5 -13.0 91.6	0.1 -0.0 -0.1	0.1
255 255 170	98.6 -6.6 35.0	0.1 0.1 -1.4	1.4
255 255 255	100.0 0.0 0.0	0.0 0.0 0.0	0.0
170 85 85	53.8 34.3 16.3	0.7 0.4 0.5	1.0
85 170 85	67.3 -39.7 31.3	0.7 0.3 0.6	1.0
85 85 170	46.3 13.3 -42.0	0.9 0.1 -0.2	0.9
85 170 170	68.8 -29.0 -8.4	0.8 0.4 -0.1	0.9
170 85 170	55.8 41.0 -26.6	0.9 0.4 -0.1	1.0
170 170 85	73.1 -7.7 39.7	0.7 0.6 0.9	1.3
Average			1.3
Maximum			4.8

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
55.2 -39.9 -50.7	57.4 -21.7 -45.5	19.1
67.6 -27.1 -36.5	67.1 -27.6 -36.7	0.8
80.8 -13.8 -21.0	80.2 -14.0 -21.6	0.9
47.2 75.9 -3.8	47.4 73.5 -0.9	3.8
60.7 52.2 -7.1	59.9 52.3 -6.6	0.9
77.0 26.2 -7.7	76.3 26.2 -7.5	0.8
89.7 -4.5 94.7	89.4 -3.7 85.0	9.7
91.3 -4.6 63.1	91.0 -4.7 63.1	0.4
93.3 -3.3 30.6	93.2 -3.1 31.2	0.6
53.5 38.4 28.8	52.6 38.5 27.7	1.4
41.4 23.1 16.6	40.6 22.9 15.8	1.2
32.4 40.3 21.9	31.5 40.3 21.1	1.2
32.6 44.6 -1.8	31.8 44.3 -2.0	0.9
51.3 1.9 44.3	50.7 1.0 42.7	1.9
34.0 -40.9 14.5	33.2 -35.6 14.0	5.4
36.2 -30.6 -20.6	35.6 -22.0 -20.1	8.6
21.2 3.4 -23.0	20.3 3.0 -23.1	1.0
89.8 0.3 -3.5	89.1 -0.1 -3.6	0.7
83.6 0.2 -3.7	82.8 0.1 -3.7	0.8
70.2 0.0 -3.7	69.3 -0.7 -4.1	1.2
55.1 0.0 -3.1	54.3 -0.4 -3.2	0.9
37.5 0.1 -2.1	36.7 -0.1 -2.4	0.9
16.9 0.4 -0.4	16.0 0.6 -0.5	0.9
24.4 16.2 -47.1	23.4 16.2 -46.4	1.3
41.2 16.0 -36.5	40.5 16.0 -36.2	0.8
64.6 9.3 -23.6	64.2 8.4 -23.6	1.0
47.3 69.0 45.1	46.7 68.4 44.0	1.4
58.9 47.7 37.0	58.3 47.3 35.9	1.3
75.0 23.2 20.3	74.4 23.1 20.4	0.6
48.6 -67.5 28.0	49.6 -50.3 29.3	17.3
62.5 -41.7 22.4	61.7 -42.0 22.4	0.9
77.9 -19.6 11.3	77.1 -20.4 11.1	1.1
72.0 19.1 16.5	71.6 18.5 16.7	0.8
72.2 22.1 73.2	71.7 22.4 70.9	2.3
47.5 72.3 15.3	47.2 72.0 16.3	1.1
37.5 56.5 -21.1	36.6 56.4 -20.7	1.0
74.1 -22.1 69.3	73.4 -22.7 67.1	2.4
52.3 -55.2 -20.1	53.8 -35.6 -16.7	19.9
43.9 -20.9 -49.8	44.4 -11.3 -47.4	9.9
96.0 0.5 -3.3	95.9 -0.3 -3.2	0.8
89.5 -0.1 -3.7	89.1 -0.2 -3.9	0.5
83.0 -1.1 -4.3	82.2 -1.1 -4.7	0.9
68.6 -2.7 -4.0	67.6 -3.1 -4.6	1.2
53.0 -5.1 -2.3	52.0 -5.7 -2.6	1.2
37.8 -8.1 -0.9	36.9 -7.8 -0.6	1.0
25.9 -13.3 -2.2	25.5 -13.9 -3.2	1.2
Average		2.9
Gamut-Volume		93 %

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	115.45 120.85 117.54	85 85 170	21.62 19.08 48.96
0 0 0	0.08 0.08 0.11	85 170 170	35.59 47.41 54.27
12 12 12	0.57 0.61 0.62	170 85 170	40.30 28.79 49.93
25 25 25	1.65 1.72 1.76	170 170 85	48.25 54.36 21.81
38 38 38	3.51 3.70 3.49	0 133 212	25.13 31.26 74.67
51 51 51	6.32 6.63 6.30	43 164 224	34.78 45.03 85.48
63 63 63	9.13 9.43 9.19	141 198 236	60.37 69.30 96.60
76 76 76	12.71 13.24 12.85	198 0 104	38.20 19.46 19.65
89 89 89	16.83 17.60 16.70	210 83 145	50.46 33.75 38.26
102 102 102	21.46 22.41 21.37	222 155 195	70.50 60.79 67.87
114 114 114	26.26 27.51 26.32	243 220 0	82.18 89.75 13.53
127 127 127	32.09 33.76 32.52	242 226 82	85.72 93.94 26.47
140 140 140	38.24 40.06 38.69	241 233 160	93.11 100.27 57.03
153 153 153	44.71 46.94 45.73	175 79 64	33.94 24.72 10.97
165 165 165	51.41 53.95 52.39	114 64 56	17.30 13.90 8.04
178 178 178	58.83 61.70 60.36	110 31 34	13.36 8.16 3.32
191 191 191	66.93 70.20 68.22	111 27 65	14.42 8.38 8.83
204 204 204	76.00 79.53 77.00	118 101 30	21.67 22.78 5.61
216 216 216	84.36 88.22 86.15	0 76 41	5.02 9.24 5.26
229 229 229	93.84 98.60 95.74	0 79 99	7.75 10.79 19.05
242 242 242	104.96 110.36 107.21	30 37 68	3.92 3.78 9.23
0 0 128	4.97 2.26 27.09	217 218 227	86.13 90.08 92.85
0 0 255	18.00 8.55 99.08	195 197 206	71.66 74.84 77.54
0 128 0	11.42 23.31 4.43	152 155 163	45.81 48.13 50.81
0 128 128	16.52 25.74 31.99	110 112 119	25.68 26.94 28.32
0 170 255	37.42 47.79 107.65	68 69 74	10.83 11.33 11.90
0 255 0	41.09 83.17 14.44	31 31 32	2.46 2.55 2.54
0 255 170	49.47 86.84 61.22	33 37 112	6.46 4.92 21.86
0 255 255	59.22 91.52 115.20	80 69 141	16.74 14.16 34.90
85 85 85	15.48 16.23 15.68	140 133 188	41.62 40.14 62.14
128 0 0	15.70 8.11 0.95	197 18 32	35.23 18.72 3.95
128 0 128	20.76 10.39 27.71	209 83 63	45.10 31.38 11.61
128 128 0	27.29 31.85 5.27	222 151 130	64.16 56.79 36.52
128 128 128	32.57 34.30 32.79	0 121 47	11.31 21.78 8.67
128 128 255	45.81 40.68 105.28	60 154 89	22.91 36.29 20.43
128 255 128	62.07 93.64 43.48	144 192 154	50.77 62.41 49.01
170 0 255	44.54 22.21 100.70	203 146 129	56.74 51.69 35.61
170 170 170	54.19 56.95 55.13	223 143 10	57.88 51.65 7.77
170 255 0	67.31 96.83 15.77	199 7 74	37.26 19.22 11.72
170 255 255	85.76 105.40 115.89	134 20 106	21.12 11.27 20.31
255 0 0	55.67 28.70 2.53	150 180 17	42.73 54.83 9.80
255 0 170	64.10 32.52 47.95	0 129 141	17.69 26.53 37.71
255 0 255	73.95 37.35 101.91	0 95 174	15.38 17.52 51.03
255 128 128	72.65 55.11 34.64	239 240 249	103.54 108.48 110.73
255 170 0	75.41 68.81 9.72	215 218 227	85.91 89.96 93.21
255 170 255	93.55 77.27 109.34	190 196 206	69.75 73.46 77.40
255 255 0	96.97 112.16 16.89	142 152 159	42.29 45.33 48.31
255 255 170	105.45 116.00 63.36	96 109 112	22.00 24.37 25.30
170 85 85	34.35 26.09 16.59	58 74 72	9.90 11.49 11.37
85 170 85	29.56 44.66 20.89	28 51 50	4.20 5.57 6.14

Uniformity

This informative-only test shows the luminance (in %) and color deviations (in DeltaC) on the entire screen area based on 9 measurements.

Region	Cd/m2	%	Chroma
1	115.95	93%	0.33
2	126.72	101%	0.56
3	138.00	110%	0.25
4	119.69	96%	0.50
5	125.04	100%	0.00
6	130.41	104%	1.11
7	108.25	87%	0.55
8	114.24	91%	0.37
9	120.41	96%	1.17

	Av	Max
Luminance Deviation	6%	13%
Chroma Deviation	1	1