

UGRA

Display Analysis & Certification Tool

Report

Basics

Date: 2008-10-10 14:52:18
Report-Version: v1.3.1
Monitor-Name: LaCie 730
EDID-Name: LaCie 730
EDID-Serial: H1AK500000
Profile: /Library/ColorSync/Profiles/730 BE i1-6500K-22-120cd.icc
Created: 2008-10-10 14:47
Measurement device: eye-one display 2

Summary

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

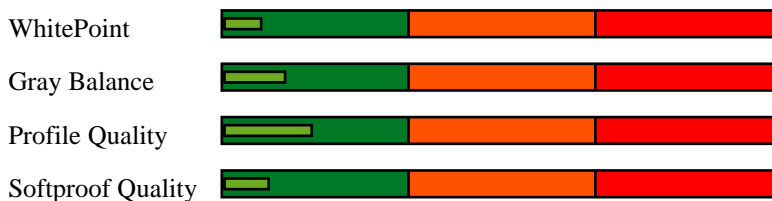
Calibration

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	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 2.0.

XYZ:	114.00 120.19 129.03
XYZ (normalized):	94.84 100.00 107.36
Luminance:	120.2 Cd/m2
Next Temperature:	6428 Kelvin
Assumed Target Whitepoint:	6400 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:	0.2 Cd/m2
Chromaticity:	0.3 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	6218	0.21	1.61	0.30	
5	6303	0.37	2.80	0.38	2.21
10	6380	0.94	7.09	0.92	2.21
15	6466	2.08	13.99	0.63	2.19
20	6415	3.74	20.48	0.10	2.19
25	6443	5.80	26.22	0.25	2.21
30	6434	8.63	32.21	0.18	2.21
35	6436	12.08	37.94	0.34	2.20
40	6420	16.23	43.51	0.29	2.20
45	6398	20.63	48.47	0.47	2.21
50	6426	26.00	53.63	0.59	2.21
55	6420	32.16	58.75	0.56	2.21
60	6424	38.94	63.67	0.36	2.21
65	6460	45.85	68.13	0.40	2.24
70	6473	54.20	72.95	0.29	2.23
75	6454	63.10	77.58	0.25	2.24
80	6461	72.96	82.22	0.24	2.24
85	6451	82.76	86.43	0.17	2.30
90	6450	94.06	90.90	0.29	2.31
95	6452	105.71	95.14	0.49	2.45
100	6428	120.19	100.00	0.00	
Average	6440			0.33	2.24
Range				0.63	
Max				0.63	

Tone values = 100.0%

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 0.3 -0.1	-1.6 -0.3 0.1	1.6
0 0 128	12.4 35.8 -68.1	0.2 1.1 -0.8	1.4
0 0 255	31.1 58.3 -114.4	0.2 2.8 0.2	2.8
0 128 0	44.7 -75.4 57.6	0.6 -0.3 2.0	2.1
0 128 128	46.6 -51.5 -13.1	0.8 -0.3 1.9	2.0
0 170 255	64.5 -36.9 -58.8	0.7 1.4 1.5	2.1
0 255 0	85.5 -126.1 100.1	0.1 0.6 -1.3	1.5
0 255 170	86.7 -108.0 24.5	0.3 0.8 0.9	1.2
0 255 255	88.6 -87.6 -19.6	0.3 1.7 0.9	1.9
85 85 85	36.2 0.2 -0.2	-0.4 -0.2 0.2	0.5
128 0 0	28.7 63.1 45.1	-0.1 -0.1 2.7	2.7
128 0 128	32.3 68.1 -33.9	-0.1 -1.2 -1.3	1.8
128 128 0	52.5 -9.7 69.3	-0.2 0.9 1.2	1.5
128 128 128	54.2 0.5 -0.3	-0.2 -0.5 0.3	0.7
128 128 255	59.5 22.8 -66.6	-0.3 0.6 -0.5	0.8
128 255 128	89.2 -81.1 51.9	-0.1 -0.5 1.2	1.4
170 0 255	48.7 88.6 -84.1	0.1 -0.2 -0.2	0.3
170 170 170	70.0 0.0 -0.2	0.2 -0.0 0.2	0.3
170 255 0	90.7 -66.4 108.1	0.0 1.3 -1.4	1.9
170 255 255	93.7 -42.2 -10.7	0.0 0.5 0.1	0.5
255 0 0	57.5 106.6 91.6	0.4 -2.1 1.1	2.5
255 0 170	60.0 109.6 -13.4	0.5 -2.4 -0.8	2.5
255 0 255	63.6 112.4 -58.3	0.3 -1.5 -0.1	1.6
255 128 128	71.2 67.4 28.5	-0.2 0.0 0.1	0.3
255 170 0	78.2 39.3 102.5	-0.0 0.1 -0.6	0.6
255 170 255	82.1 52.1 -28.5	-0.1 0.2 -0.3	0.4
255 255 0	97.3 -15.0 118.7	-0.0 0.4 -1.9	1.9
255 255 170	98.4 -8.1 44.2	0.0 -0.3 0.3	0.4
255 255 255	100.0 0.0 -0.0	0.0 -0.0 0.0	0.0
170 85 85	48.8 50.0 20.8	-0.2 0.3 0.6	0.7
85 170 85	62.0 -60.4 38.2	0.1 -0.4 1.4	1.5
85 85 170	39.9 17.2 -49.5	-0.1 0.2 -0.5	0.6
85 170 170	63.7 -44.6 -11.0	0.2 -0.0 0.3	0.4
170 85 170	51.2 56.3 -30.2	-0.0 0.2 -0.4	0.4
170 170 85	68.6 -8.3 49.1	0.1 -0.0 1.3	1.3
Average			1.3
Maximum			2.8

Gamut-Volume

These measurements are only informative.

Gamut-Volume	
ISO	100 %
sRGB	99 %
AdobeRGB	99 %
ECI-RGB v1.0	93 %

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	54.6 -32.9 -50.5	4.1
66.9 -24.7 -37.1	66.8 -25.0 -37.0	0.2
79.7 -12.5 -21.8	79.6 -13.0 -21.6	0.5
48.0 74.0 -3.0	48.1 74.0 -3.3	0.3
60.8 50.6 -6.7	60.8 50.3 -6.5	0.3
76.4 25.8 -6.9	76.3 25.6 -6.6	0.4
89.0 -5.0 93.0	88.8 -5.0 91.6	1.4
90.3 -4.7 62.6	89.9 -4.3 60.9	1.8
92.2 -3.5 31.1	91.8 -3.0 30.1	1.2
53.1 37.7 28.9	53.4 37.2 28.3	0.9
41.5 22.7 16.8	42.0 23.3 16.4	0.8
31.9 40.0 24.0	32.6 39.2 22.7	1.6
32.5 44.5 -1.8	33.1 44.4 -1.7	0.6
51.3 1.3 44.5	51.6 1.3 43.4	1.2
34.6 -36.4 13.9	34.8 -35.8 12.6	1.4
36.0 -26.2 -20.9	36.2 -26.3 -21.1	0.4
20.9 9.6 -23.6	21.9 9.3 -23.0	1.2
89.0 0.0 -1.9	88.6 0.3 -2.2	0.6
82.8 0.0 -1.7	82.5 -0.3 -2.0	0.5
69.3 0.0 -1.4	69.2 -0.3 -1.5	0.3
54.1 0.0 -1.0	54.3 0.7 -1.4	0.9
36.6 0.0 -0.5	37.2 0.2 -0.2	0.7
16.0 0.0 0.0	17.2 -0.0 -0.0	1.2
24.0 22.0 -46.0	24.6 21.7 -45.3	0.9
40.9 17.9 -36.6	41.2 17.3 -36.3	0.7
63.7 10.3 -23.8	63.5 10.4 -23.7	0.2
47.0 68.0 48.0	47.2 67.9 46.5	1.5
58.5 47.1 37.9	58.6 47.0 36.6	1.3
74.2 22.9 21.4	74.1 22.9 20.9	0.5
50.0 -65.0 27.0	49.9 -64.8 25.3	1.7
62.1 -39.8 21.0	62.1 -39.0 19.9	1.4
77.0 -19.1 11.0	76.7 -18.8 10.7	0.5
71.2 18.9 17.2	71.0 19.1 16.6	0.7
71.2 22.1 73.1	71.1 21.6 71.9	1.3
47.7 71.2 16.2	47.8 71.3 15.8	0.4
38.0 55.4 -20.9	38.3 55.8 -20.6	0.6
73.7 -22.8 67.6	73.5 -22.7 65.9	1.7
52.3 -52.3 -20.1	51.6 -51.1 -21.6	2.0
43.3 -17.0 -48.6	43.2 -18.5 -48.6	1.5
95.0 0.0 -2.0	94.4 0.2 -2.7	1.0
88.5 -0.4 -3.1	88.1 -0.5 -3.5	0.6
82.0 -0.9 -4.1	81.8 -0.8 -4.4	0.4
67.7 -2.0 -4.4	67.5 -1.7 -4.3	0.3
52.2 -2.5 -3.5	52.5 -2.8 -3.8	0.5
37.5 -3.9 -3.1	37.8 -3.8 -3.6	0.6
26.3 -6.8 -3.4	27.2 -6.3 -3.6	1.1
Average		1.0
Gamut-Volume		100 %

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	114.00 120.19 129.03	85 85 170	17.25 13.91 50.40
0 0 0	0.21 0.21 0.24	85 170 170	25.23 39.54 52.64
12 12 12	0.36 0.37 0.41	170 85 170	38.49 23.31 50.64
25 25 25	0.92 0.94 1.05	170 170 85	39.65 46.09 14.26
38 38 38	1.99 2.08 2.28	0 143 212	20.85 28.08 82.63
51 51 51	3.55 3.74 4.02	102 171 224	35.74 44.67 94.01
63 63 63	5.51 5.80 6.26	168 202 234	59.55 67.86 104.58
76 76 76	8.20 8.63 9.30	187 57 120	38.69 19.70 24.00
89 89 89	11.50 12.08 13.06	199 115 157	50.37 34.47 43.52
102 102 102	15.44 16.23 17.49	216 173 199	69.23 60.27 73.54
114 114 114	19.66 20.63 22.22	239 226 60	77.54 87.44 10.76
127 127 127	24.78 26.00 28.13	239 229 118	81.25 90.50 28.52
140 140 140	30.64 32.16 34.73	239 234 177	87.76 95.78 60.53
153 153 153	37.03 38.94 41.96	172 106 84	33.76 25.24 12.35
165 165 165	43.55 45.85 49.58	125 87 75	18.17 14.79 9.42
178 178 178	51.36 54.20 58.50	116 55 47	13.60 8.60 3.70
191 191 191	59.87 63.10 68.05	118 52 81	15.17 8.95 10.49
204 204 204	69.18 72.96 78.66	133 121 56	21.99 23.49 6.19
216 216 216	78.47 82.76 89.10	46 93 63	5.53 10.15 6.73
229 229 229	89.27 94.06 101.42	38 94 115	7.73 11.22 22.21
242 242 242	100.44 105.71 114.20	53 50 84	4.99 4.28 11.21
0 0 128	4.66 2.08 26.07	222 222 226	83.88 88.12 98.11
0 0 255	21.23 9.55 121.78	204 205 208	69.85 73.72 81.88
0 128 0	5.42 17.30 1.44	167 168 170	45.21 47.73 52.81
0 128 128	10.10 19.25 28.57	128 128 130	25.62 26.78 29.73
0 170 255	31.29 41.80 125.01	87 87 87	11.04 11.60 12.53
0 255 0	25.26 80.74 5.62	44 44 44	2.67 2.82 3.03
0 255 170	33.99 84.31 56.55	57 49 123	7.76 5.38 24.88
0 255 255	46.46 89.89 128.77	98 88 152	17.76 14.68 39.78
85 85 85	10.44 10.98 11.89	154 147 192	41.20 38.97 67.26
128 0 0	14.70 6.52 0.41	185 63 47	34.65 18.66 4.00
128 0 128	19.73 8.64 26.25	198 112 84	44.23 31.19 12.57
128 128 0	20.17 24.45 1.67	215 169 146	62.09 55.63 39.09
128 128 128	25.42 26.65 28.82	40 138 77	9.35 22.17 10.87
128 128 255	42.36 34.30 123.74	108 164 115	23.67 36.78 24.16
128 255 128	45.34 89.84 34.17	169 197 169	49.99 61.37 53.31
170 0 255	49.03 21.61 121.74	201 163 145	54.90 50.29 38.31
170 170 170	46.50 49.00 52.87	213 162 56	54.77 49.99 7.53
170 255 0	52.24 93.12 5.97	187 60 91	36.97 19.33 13.64
170 255 255	74.49 102.74 128.70	137 53 121	22.43 12.21 24.28
255 0 0	66.70 28.97 0.86	170 190 68	41.70 54.76 10.70
255 0 170	75.59 32.76 49.27	0 141 155	13.73 24.37 42.59
255 0 255	88.50 38.64 121.83	29 108 177	13.94 16.68 55.46
255 128 128	77.42 49.79 29.33	239 240 244	98.62 103.71 116.17
255 170 0	76.94 62.75 3.19	219 221 227	82.46 87.04 99.00
255 170 255	98.90 72.48 125.12	200 203 210	68.17 72.07 83.56
255 255 0	91.85 110.61 6.32	159 164 170	42.18 44.97 52.67
255 255 170	101.15 114.40 57.21	119 125 129	23.00 24.85 29.29
170 85 85	31.67 20.38 12.16	83 90 93	10.93 12.05 14.46
85 170 85	18.43 36.62 14.02	57 67 69	5.38 6.25 7.70

Uniformity

The uniformity test shows the luminance (in %) and the color deviation (in Delta C*) from the centre to the 8 measuring points around it. 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.

Results of the white measurements:

Absolute Luminance	127.25 Cd/m2	122.89 Cd/m2	114.55 Cd/m2
Luminance to Centre	107 %	104 %	97 %
Lab-Chroma to Centre	2.76	1.13	1.53
Absolute Luminance	128.21 Cd/m2	118.55 Cd/m2	112.30 Cd/m2
Luminance to Centre	108 %	100 %	95 %
Lab-Chroma to Centre	2.64	0.00	1.05
Absolute Luminance	119.95 Cd/m2	113.18 Cd/m2	113.69 Cd/m2
Luminance to Centre	101 %	95 %	96 %
Lab-Chroma to Centre	2.70	3.87	3.00

Results of the gray measurements:

Absolute Luminance	28.22 Cd/m2	26.83 Cd/m2	24.86 Cd/m2
Luminance to Centre	108 %	103 %	95 %
Lab-Chroma to Centre	2.97	1.87	1.88
Absolute Luminance	28.24 Cd/m2	26.09 Cd/m2	24.07 Cd/m2
Luminance to Centre	108 %	100 %	92 %
Lab-Chroma to Centre	2.72	0.56	1.79
Absolute Luminance	25.39 Cd/m2	23.29 Cd/m2	23.57 Cd/m2
Luminance to Centre	97 %	89 %	90 %
Lab-Chroma to Centre	1.90	1.91	1.31

Results of the dark measurements:

Absolute Luminance	6.34 Cd/m2	5.98 Cd/m2	5.64 Cd/m2
Luminance to Centre	112 %	106 %	100 %
Lab-Chroma to Centre	1.79	1.57	1.27
Absolute Luminance	6.12 Cd/m2	5.66 Cd/m2	5.21 Cd/m2
Luminance to Centre	108 %	100 %	92 %
Lab-Chroma to Centre	1.38	0.67	1.21
Absolute Luminance	5.26 Cd/m2	4.74 Cd/m2	4.82 Cd/m2
Luminance to Centre	93 %	84 %	85 %
Lab-Chroma to Centre	0.73	0.97	0.46

Summary:

	Average	Max
Luminance Deviation	6%	16%
Chroma Deviation	2	4