UGRA
Display Analysis & Certification Tool
Report

Basics

Date:	2017-11-9 20:59:17
Report-Version:	v1.3.1
Monitor-Name:	\\.\DISPLAY1
EDID-Name:	LG HDR 4K
EDID-Serial:	
Profile:	C:/.../LG_HDR_4K-2017-11-09T204955-6500K-22-120cd-trc.icm
Created:	2017-11-9 20:50
Measurement device:	Silver Haze Pro & DTP94 - LCD, Correction: Wide Gamut S-IPS (generic)

Summary

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

Calibration (Assumed Target Whitepoint: 6500.00 Kelvin)

White Point	yes
Gray balance	yes
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

White-Point 

Gray Balance 

Profile Quality 

Softproof Quality 

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:	116.13 121.21 134.19
XYZ (normalized):	95.81 100.00 110.71
xy:	0.3126 0.3262
Luminance:	121.2 Cd/m2
Next Temperature:	6532 Kelvin
Assumed Target Whitepoint:	6500.0 Kelvin
Distance to assumed Target Whitepoint:	1.7 DeltaE-76

Blackpoint

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

Luminance:	0.1 Cd/m2
Chromaticity:	1.0 Chroma (Lab)

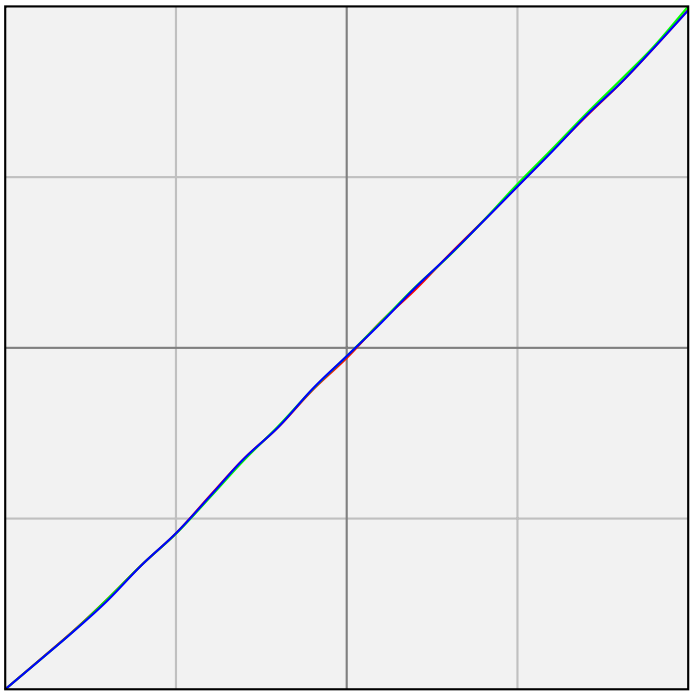
Gray balance

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	16816	0.12	0.91	0.99	
5	8656	0.28	2.12	0.86	2.22
10	6918	0.87	6.51	0.65	2.21
15	6590	1.97	13.38	0.28	2.21
20	6538	3.67	20.16	0.32	2.19
25	6557	5.74	25.97	0.24	2.22
30	6559	8.59	32.01	0.36	2.21
35	6526	12.06	37.75	0.48	2.20
40	6490	16.37	43.52	0.38	2.20
45	6523	20.81	48.47	0.12	2.21
50	6560	26.36	53.76	0.15	2.21
55	6504	32.77	59.01	0.33	2.20
60	6530	39.70	63.96	0.21	2.19
65	6533	46.70	68.41	0.42	2.21
70	6503	54.99	73.14	0.45	2.22
75	6503	64.54	78.02	0.18	2.20
80	6521	74.45	82.61	0.09	2.19
85	6512	84.47	86.84	0.28	2.22
90	6524	95.46	91.13	0.32	2.26
95	6536	107.97	95.61	0.32	2.23
100	6532	121.21	100.00	0.00	
Average	6530			0.27	2.21
Max				0.48	
Range				0.84	

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 = 96.5%

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 Lab values are calculated, based on the measured white point (xy: 0.3126 0.3262).

The assumed chromatic adaptation is: Bradford

RGB	Lab	deltaLab	DeltaE-76
0 0 0	0.9 -0.0 -1.0	-0.9 0.0 1.0	1.3
0 0 128	13.1 51.3 -75.2	-2.9 2.1 1.7	3.9
0 0 255	29.1 82.6 -119.6	-1.7 5.9 -2.2	6.5
0 128 0	49.0 -69.4 66.4	-3.0 0.2 -1.8	3.5
0 128 128	48.6 -41.7 -10.6	-1.1 -0.8 -0.3	1.4
0 170 255	65.3 -19.1 -58.3	-0.5 -0.6 -0.3	0.8
0 255 0	87.1 -110.4 107.6	-0.3 -4.2 -0.6	4.3
0 255 170	88.3 -91.4 28.3	-0.4 -3.1 -0.6	3.2
0 255 255	89.9 -68.3 -17.6	-0.5 -2.2 -0.4	2.3
85 85 85	35.7 0.5 -0.3	0.1 -0.5 0.3	0.6
128 0 0	30.3 58.7 47.6	-2.1 -2.1 -0.9	3.1
128 0 128	33.3 68.4 -39.7	-2.3 -1.3 1.9	3.3
128 128 0	53.4 -12.3 73.5	-0.7 -0.2 0.8	1.1
128 128 128	54.2 -0.2 -0.0	-0.2 0.2 0.0	0.3
128 128 255	58.7 31.6 -69.3	-0.6 1.6 -0.4	1.7
128 255 128	90.3 -74.0 56.5	-0.3 -2.3 -0.3	2.3
170 0 255	47.0 94.4 -88.9	-0.6 2.8 -0.4	2.9
170 170 170	70.3 0.3 -0.1	-0.1 -0.3 0.1	0.4
170 255 0	91.8 -62.9 114.5	-0.2 -2.0 -0.3	2.0
170 255 255	94.4 -34.2 -10.0	-0.4 -0.9 -0.2	1.1
255 0 0	56.9 93.4 86.7	0.3 0.4 3.1	3.2
255 0 170	59.2 100.3 -17.7	0.1 1.2 0.6	1.3
255 0 255	62.2 109.2 -62.9	-0.2 2.1 0.3	2.1
255 128 128	70.5 58.7 27.2	0.1 0.7 0.6	1.0
255 170 0	78.1 30.3 104.3	0.2 -0.2 1.0	1.1
255 170 255	81.4 50.3 -30.9	-0.2 0.9 0.3	1.0
255 255 0	98.0 -20.0 123.4	-0.1 -0.7 -0.1	0.7
255 255 170	99.0 -11.5 45.9	-0.2 -0.3 0.0	0.4
255 255 255	100.0 0.0 -0.0	0.0 0.0 0.0	0.0
170 85 85	48.1 45.0 20.8	0.2 -0.7 -0.0	0.7
85 170 85	62.7 -55.6 42.7	-0.0 -1.3 -0.8	1.5
85 85 170	39.5 25.0 -53.3	-0.6 -0.2 1.3	1.4
85 170 170	64.3 -36.4 -10.2	-0.2 -0.9 0.0	0.9
170 85 170	50.2 55.8 -33.2	0.1 0.1 0.6	0.7
170 170 85	69.0 -11.2 52.8	0.0 -0.7 -0.6	0.9
Average			1.8
Maximum			6.5

Gamut-Volume

These measurements are only informative.

Gamut-Volume (ISO)	96 %
sRGB	100 %
AdobeRGB	94 %
ECI-RGB v1.0	86 %

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)	Measurement (Yxy)	DeltaE-76
55.0 -37.0 -50.0	57.5 -23.0 -46.0	0.1995 0.2593	14.8
66.9 -24.7 -37.1	67.1 -24.2 -36.8	0.2284 0.2923	0.6
79.7 -12.5 -21.8	80.0 -12.1 -21.5	0.2871 0.3255	0.5
48.0 74.0 -3.0	48.0 74.9 -4.5	0.5067 0.2557	1.7
60.8 50.6 -6.7	60.8 49.9 -7.7	0.4263 0.2901	1.2
76.4 25.8 -6.9	76.6 25.3 -6.9	0.3744 0.3230	0.5
89.0 -5.0 93.0	88.8 -4.3 94.6	0.4624 0.4936	1.7
90.3 -4.7 62.6	90.2 -4.2 61.9	0.4308 0.4594	0.8
92.2 -3.5 31.1	92.2 -3.1 30.7	0.3895 0.4122	0.6
53.1 37.7 28.9	52.7 37.7 29.3	0.5054 0.3659	0.5
41.5 22.7 16.8	41.8 24.1 17.7	0.4657 0.3661	1.7
31.9 40.0 24.0	32.9 42.8 26.2	0.5694 0.3391	3.8
32.5 44.4 -1.8	33.0 46.4 -1.8	0.4822 0.2756	2.0
51.3 1.3 44.5	51.6 0.7 46.9	0.4524 0.4658	2.5
34.6 -36.4 13.9	35.9 -38.1 16.1	0.2745 0.4988	3.1
36.0 -26.2 -20.9	37.6 -25.6 -21.8	0.2095 0.3090	2.0
20.9 9.6 -23.6	21.5 11.5 -26.8	0.2619 0.2211	3.7
89.0 0.0 -1.8	89.1 0.0 -2.0	0.3424 0.3551	0.1
82.8 0.0 -1.7	83.0 0.1 -1.9	0.3425 0.3550	0.3
69.3 0.0 -1.4	69.5 0.1 -1.4	0.3430 0.3553	0.3
54.1 0.0 -1.0	54.3 0.2 -1.3	0.3427 0.3548	0.4
36.6 -0.0 -0.5	36.8 0.4 -0.3	0.3460 0.3568	0.5
16.0 0.0 0.0	16.5 -0.2 0.1	0.3452 0.3593	0.5
24.0 22.0 -46.0	24.8 24.2 -50.5	0.2149 0.1514	5.1
40.9 17.9 -36.6	41.3 17.9 -38.1	0.2714 0.2280	1.5
63.7 10.3 -23.8	64.0 10.3 -23.7	0.3115 0.2957	0.3
47.0 68.0 48.0	47.1 69.7 50.0	0.6285 0.3287	2.7
58.5 47.1 37.9	58.1 47.0 38.1	0.5309 0.3649	0.4
74.2 22.9 21.4	74.0 22.8 21.0	0.4274 0.3735	0.4
50.0 -65.0 27.0	50.9 -62.8 29.1	0.2556 0.5534	3.2
62.1 -39.8 21.0	62.2 -39.3 21.1	0.3077 0.4630	0.5
77.0 -19.1 11.0	77.2 -18.2 10.9	0.3346 0.3990	0.9
71.2 18.8 17.3	71.1 18.4 16.9	0.4140 0.3718	0.5
71.2 22.2 73.1	71.2 21.8 74.7	0.5083 0.4450	1.7
47.7 71.2 16.2	47.7 72.4 15.5	0.5610 0.2883	1.4
38.0 55.4 -20.9	38.4 57.3 -22.2	0.4207 0.2264	2.3
73.7 -22.8 67.6	73.6 -21.8 68.8	0.4151 0.5127	1.6
52.3 -52.3 -20.2	54.8 -41.4 -18.4	0.2163 0.3472	11.3
43.3 -17.0 -48.6	45.3 -11.9 -46.9	0.1944 0.2314	5.8
95.0 0.0 -2.0	94.8 0.3 -2.6	0.3420 0.3540	0.7
88.5 -0.4 -3.1	88.6 -0.1 -3.1	0.3402 0.3531	0.3
82.0 -0.9 -4.1	82.0 -0.5 -4.5	0.3369 0.3505	0.6
67.7 -2.0 -4.4	67.9 -2.1 -4.1	0.3332 0.3516	0.4
52.2 -2.5 -3.5	52.5 -2.2 -3.5	0.3314 0.3517	0.4
37.5 -3.9 -3.1	37.4 -3.8 -3.7	0.3222 0.3513	0.6

26.3 -6.8 -3.4	26.8 -6.7 -4.2	0.3042 0.3523	1.0
Average			1.9
Gamut-Volume			96 %

Measurement Data

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

RGB	XYZ	Yxy
255 255 255	116.13 121.21 134.19	121.21 0.3126 0.3262
0 0 0	0.12 0.12 0.22	0.12 0.2591 0.2646
12 12 12	0.27 0.28 0.39	0.28 0.2887 0.3006
25 25 25	0.84 0.87 1.02	0.87 0.3071 0.3193
38 38 38	1.87 1.97 2.17	1.97 0.3114 0.3272
51 51 51	3.54 3.67 4.10	3.67 0.3127 0.3247
63 63 63	5.52 5.74 6.40	5.74 0.3123 0.3251
76 76 76	8.26 8.59 9.60	8.59 0.3123 0.3248
89 89 89	11.62 12.06 13.45	12.06 0.3129 0.3248
102 102 102	15.65 16.37 17.96	16.37 0.3131 0.3276
114 114 114	19.96 20.81 23.05	20.81 0.3128 0.3260
127 127 127	25.22 26.36 29.24	26.36 0.3121 0.3261
140 140 140	31.34 32.77 36.04	32.77 0.3130 0.3272
153 153 153	38.10 39.70 44.05	39.70 0.3127 0.3258
165 165 165	44.88 46.70 51.94	46.70 0.3127 0.3254
178 178 178	52.88 54.99 60.97	54.99 0.3132 0.3257
191 191 191	61.90 64.54 71.28	64.54 0.3131 0.3264
204 204 204	71.38 74.45 82.38	74.45 0.3128 0.3262
216 216 216	81.08 84.47 93.53	84.47 0.3130 0.3260
229 229 229	91.64 95.46 105.89	95.46 0.3128 0.3258
242 242 242	103.62 107.97 119.90	107.97 0.3126 0.3257
0 0 128	6.52 2.32 33.29	2.32 0.1548 0.0552
0 0 255	25.33 8.79 130.24	8.79 0.1541 0.0535
0 128 0	8.04 21.29 1.26	21.29 0.2629 0.6959
0 128 128	12.97 21.27 30.44	21.27 0.2006 0.3288
0 170 255	38.21 43.26 131.78	43.26 0.1792 0.2028
0 255 0	31.89 84.84 4.39	84.84 0.2633 0.7004
0 255 170	42.16 88.41 57.35	88.41 0.2243 0.4705
0 255 255	57.11 93.53 134.33	93.53 0.2004 0.3282
85 85 85	10.37 10.75 12.02	10.75 0.3129 0.3244
128 0 0	15.29 7.35 0.45	7.35 0.6623 0.3184
128 0 128	21.31 9.39 32.94	9.39 0.3349 0.1475
128 128 0	20.71 25.61 1.37	25.61 0.4343 0.5369
128 128 128	25.68 26.86 29.76	26.86 0.3120 0.3263
128 128 255	45.38 33.65 131.29	33.65 0.2158 0.1600
128 255 128	50.51 93.02 33.08	93.02 0.2860 0.5267
170 0 255	49.98 20.52 130.73	20.52 0.2484 0.1020
170 170 170	47.95 49.92 55.39	49.92 0.3129 0.3257
170 255 0	56.46 96.57 4.79	96.57 0.3577 0.6119
170 255 255	81.72 105.30 134.71	105.30 0.2540 0.3273
255 0 0	60.13 28.71 1.16	28.71 0.6681 0.3190
255 0 170	70.41 32.27 54.28	32.27 0.4486 0.2056
255 0 255	85.23 37.36 131.04	37.36 0.3360 0.1473
255 128 128	72.55 49.22 30.61	49.22 0.4761 0.3230
255 170 0	72.97 63.17 2.86	63.17 0.5249 0.4545
255 170 255	98.17 71.93 132.79	71.93 0.3241 0.2375
255 255 0	91.77 113.42 5.36	113.42 0.4359 0.5387
255 255 170	102.08 117.02 58.52	117.02 0.3677 0.4215
170 85 85	29.85 19.96 12.15	19.96 0.4818 0.3221
85 170 85	20.35 37.81 13.06	37.81 0.2858 0.5309
85 85 170	18.99 13.83 55.84	13.83 0.2142 0.1560
85 170 170	28.51 40.63 55.06	40.63 0.2296 0.3271
170 85 170	37.72 22.58 54.06	22.58 0.3298 0.1975
170 170 85	39.80 47.10 13.39	47.10 0.3969 0.4696
0 149 211	26.40 31.86 86.81	31.86 0.1820 0.2196

82 175 223	37.28 45.53 98.29	45.53 0.2058 0.2514
161 204 234	62.03 69.33 109.90	69.33 0.2571 0.2874
195 50 119	39.51 19.90 25.70	19.90 0.4642 0.2338
205 113 157	51.03 34.81 46.41	34.81 0.3859 0.2632
219 173 199	70.97 61.43 77.68	61.43 0.3378 0.2924
245 221 66	78.85 87.93 9.90	87.93 0.4463 0.4977
244 226 120	83.07 91.81 29.14	91.81 0.4072 0.4500
242 232 178	90.13 97.62 63.03	97.62 0.3594 0.3893
178 102 84	33.45 24.70 11.91	24.70 0.4775 0.3525
129 85 75	18.42 14.76 9.24	14.76 0.4343 0.3479
122 51 47	14.59 8.81 3.32	8.81 0.5461 0.3298
123 50 81	15.65 8.96 10.87	8.96 0.4411 0.2526
136 119 58	22.07 23.60 5.47	23.60 0.4316 0.4615
39 93 63	5.82 10.86 6.50	10.86 0.2509 0.4685
7 96 114	8.74 12.21 25.01	12.21 0.1902 0.2657
51 51 84	5.19 4.20 12.90	4.20 0.2327 0.1883
221 223 226	86.45 90.11 103.01	90.11 0.3092 0.3223
204 205 208	72.29 75.30 86.11	75.30 0.3093 0.3222
167 168 170	46.69 48.62 55.39	48.62 0.3098 0.3226
128 128 130	25.89 26.94 30.81	26.94 0.3095 0.3221
87 87 87	11.02 11.43 12.78	11.43 0.3128 0.3245
44 44 44	2.55 2.67 2.95	2.67 0.3122 0.3270
51 54 122	8.53 5.60 29.84	5.60 0.1939 0.1273
95 91 151	18.45 14.93 43.20	14.93 0.2409 0.1949
153 149 192	42.83 40.11 71.15	40.11 0.2779 0.2603
194 52 47	35.53 18.76 3.50	18.76 0.6148 0.3247
206 107 84	44.06 30.88 12.13	30.88 0.5061 0.3547
220 166 146	63.00 56.07 40.49	56.07 0.3948 0.3514
0 138 78	10.35 23.31 10.50	23.31 0.2343 0.5280
102 164 115	24.14 37.19 24.42	37.19 0.2815 0.4338
167 197 170	51.97 62.79 56.07	62.79 0.3042 0.3676
205 161 145	55.74 50.92 39.69	50.92 0.3808 0.3480
221 157 60	55.57 50.37 6.92	50.37 0.4924 0.4463
195 51 91	37.70 19.44 14.27	19.44 0.5279 0.2722
142 53 120	23.26 12.40 26.37	12.40 0.3750 0.1999
172 187 72	42.69 55.21 9.99	55.21 0.3957 0.5117
0 144 155	18.21 28.10 46.60	28.10 0.1960 0.3024
0 113 176	17.00 18.61 59.94	18.61 0.1779 0.1948
239 240 244	101.77 105.83 121.92	105.83 0.3089 0.3212
219 222 227	85.41 89.03 103.75	89.03 0.3070 0.3200
199 203 210	70.24 73.31 87.68	73.31 0.3038 0.3171
158 165 170	43.45 45.97 55.23	45.97 0.3004 0.3178
119 125 129	23.54 25.03 30.22	25.03 0.2987 0.3177
82 90 93	10.87 11.86 14.74	11.86 0.2901 0.3164
55 67 69	5.31 6.12 7.97	6.12 0.2736 0.3156