IEC 61747-6-2
(1st edition – 2011)

Liquid crystal display devices –
Part 6-2: Measuring methods for liquid crystal display modules – Reflective type

CORRIGENDUM 1

Figures 11 and 12

Replace existing Figures 11 and 12 by the following new figures:

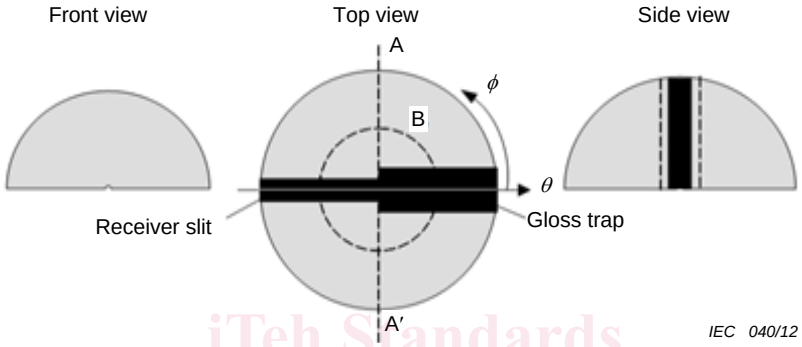

Figure 11– Hemispherical illumination with gloss-trap (GT) opposite to receiver inclination

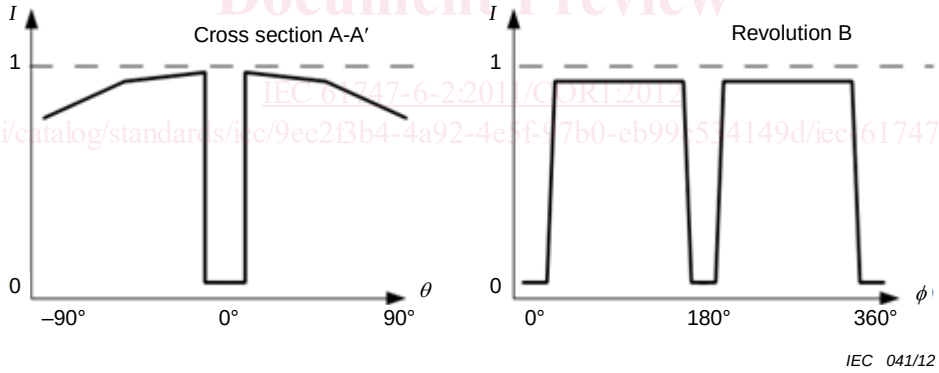

Figure 12a – Measured luminance as function of θ **Figure 12b – Measured luminance as function of ϕ**

Figure 12 – Normalized illuminance at the location of the measuring spot

5.1.3 Measuring method

Replace existing items a) to d) by the following new items, so as to include the procedure for determining the WWS reflectance:

a) Select one of the standard measuring systems.

b) Place the WWS at the position where the DUT will be placed for subsequent measurement and measure Rw'(λ).

c) Place the DUT at the correct measuring position.

d) Supply the signals to the device so that the contrast ratio is maximised to the full WHITE conditions. Then measure the DUT at position p_0 (the centre of the active area of the display) to obtain tristimulus values; X_{on}, Y_{on}, Z_{on}.

e) Supply the signals to the device to the full BLACK conditions. Then measure the reflectance R_0 at position p_0 to obtain tristimulus values; X_{off}, Y_{off}, Z_{off}.

f) Determine reflectance of the full WHITE; R_{on} as Y_{on}, and reflectance of the full BLACK; R_{off} as Y_{off}.

5.4.3 Measuring method

Replace existing items a) to d) by the following new items, so as to include the procedure for determining the WWS reflectance:

a) Place the WWS at the position where the DUT will be placed for subsequent measurement and measure X_{wws}, Y_{wws}, Z_{wws}. Use the measurement data for calibration of the LMD, or for subsequent correction of the measured data.

b) Position the DUT at position p_0 (the centre of the active area of the display) and supply the maximum value of the colour input-signals of the primaries R (red), G (green) and B (blue) simultaneously to the device. Next, maximise the contrast ratio at this value of the input primaries. Then measure the DUT to obtain tristimulus values; X_{on}, Y_{on}, Z_{on}.

c) Place the DUT and supply the signals to the device to the full BLACK conditions. Then measure the position p_0 to obtain tristimulus values; X_{off}, Y_{off}, Z_{off}.

d) Supply the signals of any intermediate (grey) states, if required. Then for n intermediate states measure the position p_0 to obtain tristimulus values X_{g1}.. X_{gn}; Y_{g1}.. Y_{gn}; Z_{g1}..Z_{gn}.

e) Finally separately supply the maximum R-data input-signal to the device, with data input of the complimentary primaries set to minimum or zero, and measure the red colour tristimulus values; X_R, Y_R, Z_R.

f) In the same way measure the green and blue colour tristimulus values; X_G, Y_G, Z_G, and X_B, Y_B, Z_B respectively.

5.5.4 Evaluation and representation

Replace Equation (22) by the following new equation:

$$R(ED\text{-}i) = R(\text{std}) \times L\text{-}i\ (\text{DUT}) / L(\text{std}) \quad (22)$$

5.6.4 Evaluation and representation

Replace Equation (23) by the following new equation:

$$R\lambda\ (ED\text{-}i) = R\lambda\ (\text{std}) \times L\lambda\text{-}i\ (\text{DUT}) / L\lambda\ (\text{std}) \quad (23)$$

Replace Equation (24) by the following new equation:

$$R_{X/Y/Z}(ED\text{-}i) = R_{X/Y/Z}(\text{std}) \times L_{X/Y/Z}\text{-i}\ (\text{DUT}) / L_{X/Y/Z}(\text{std}) \quad (24)$$