[0096] FIG. 2B1 is an enlarged view of a subsection of the CLC-based CLD panel assembly shown in FIG. 2B;

[0097] FIG. 2B2 is a cross-sectional schematic diagram showing in greater detail the quasi-collimating (i.e. condensing) film layer disposed between the light diffusive layer (for ensuring uniform spatial light intensity across the LCD panel) and the broad-band CLC-based reflective polarizer employed in the LCD panel assembly of FIG. 2;

[0098] FIG. 3A1 is a schematic representation of an exploded, cross-sectional view of an exemplary pixel structure within the LCD panel of FIG. 2, wherein the spatial-intensity modulating elements of the LCD panel are realized using circular-type polarization rotating elements, and the pixel driver signals provided thereto are selected to produce "bright" output levels at each of the RGB subpixels of the exemplary pixel structure;

[0099] FIG. 3A2 is a schematic representation of an exploded, cross-sectional view of an exemplary pixel structure within the second particular embodiment of the LCD panel of FIGS. 2, wherein the spatial-intensity modulating elements of the LCD panel are realized using circular-type polarization rotating elements, and the pixel driver signals provided thereto are selected to produce "dark" output levels at each of the RGB subpixels of the exemplary pixel structure;

[0100] FIG. 3B is a schematic representation graphically illustrating ideal reflection characteristics for the broad-band circularly polarizing (LHCP) reflective panel of the LCD panel of FIGS. 3A1 and 3A2, indicating how such a broad-band circularly polarizing panel responds to incident illuminating having circular polarization state LHCP;

[0101] FIG. 3C is a schematic representation graphically illustrating ideal reflection characteristics for the broad-band circularly polarizing (RHCP) reflective panel of the LCD panel of FIGS. 3A1 and 3A2, indicating how such a broad-band circularly polarizing panel responds to incident illuminating having circular polarization state RHCP;

[0102] FIG. 3D is a schematic representation graphically illustrating ideal reflection characteristics for the pass-band circularly polarizing (RHCP) reflective filter element associated with each "blue" subpixel of the LCD panel of FIGS. 3A1 and 3A2, indicating how such a non-absorbing spectral filter element responds to incident broad-band illumination having circular polarization state RHCP;

[0103] FIG. 3E is a schematic representation graphically illustrating ideal reflection characteristics for the pass-band circularly polarizing (RHCP) reflective filter element associated with each "green" subpixel of the LCD panel of FIGS. 3A1 and 3A2, indicating how such a non-absorbing spectral filter element responds to incident broad-band illumination having circular polarization state RHCP;

[0104] FIG. 3F is a schematic representation graphically illustrating ideal reflection characteristics for the pass-band circularly polarizing (RHCP) reflective filter element associated with each "red" subpixel of the LCD panel of FIGS. 3A1 and 3A2, indicating how such a non-absorbing spectral filter element responds to incident broad-band illumination having circular polarization state RHCP;

[0105] FIG. 4 is a cross-sectional schematic diagram of a super-wide-angle CLC-based reflective broadband polarizer employed in the LCD panel assembly of FIG. 2, shown comprising a CLC-based broadband polarizer with multiple compensation layers for the reflected light.

[0106] FIG. 4A is the transmittance characteristics for left handed and right handed circularly polarized (LHCP) and (RHCP) light incident upon and transmitted through super-wide-angle CLC-based reflective broadband polarizer employed in the LCD panel assembly of FIG. 2, at an angle of 0 degrees off the normal thereto;

[0107] FIG. 4B is the transmittance characteristics for left handed and right handed circularly polarized (LHCP) and (RHCP) light incident upon and transmitted through super-wide-angle CLC-based reflective broadband polarizer employed in the LCD panel assembly of FIG. 2, at an angle of 30 degrees off the normal thereto;

[0108] FIG. 4C is the transmittance characteristics for left handed and right handed circularly polarized (LHCP) and (RHCP) light incident upon and transmitted through super-wide-angle CLC-based reflective broadband polarizer employed in the LCD panel assembly of FIG. 2, at an angle of 50 degrees off the normal thereto;

[0109] FIG. 4D is the transmittance characteristics for left handed and right handed circularly polarized (LHCP) and (RHCP) light incident upon and transmitted through super-wide-angle CLC-based reflective broadband polarizer employed in the LCD panel assembly of FIG. 2, at an angle of 70 degrees off the normal thereto;

[0110] FIG. 4E is a schematic representation plotting the extinction ratio of the super-wide-angle CLC-based reflective broadband polarizer used in the LCD panel assembly of FIG. 2, as a function of the film thickness thereof;

[0111] FIG. 4F is a schematic representation plotting the color temperature characteristics of the super-wide-angle CLC-based reflective broadband polarizer used in the LCD panel assembly of FIG. 2, as a function of the angle of incidence, for different film thicknesses and $\Delta n=0.15$;

[0112] FIG. 4G is a schematic representation plotting the color temperature characteristics of the super-wide-angle CLC-based reflective broadband polarizer used in the LCD panel assembly of FIG. 2, as a function of the angle of incidence, for different film thicknesses and $\Delta n=0.20$;

[0113] FIG. 5 is a schematic representation of the a first illustrative embodiment of a two-layer CLC-based spectral filtering structure employed in the LCD panel assembly shown in FIG. 2;

[0114] FIG. 5A is an enlarged view of the two-layer CLC-based spectral filtering structure schematically depicted in FIG. 5;

[0115] FIG. 5B1 is a schematic cross-sectional diagram of the two-layer CLC-based spectral filtering structure of the first illustrative embodiments of the present invention, wherein each blue subpixel structure therein is realized by a green-band reflecting region in the first CLC layer and a red band reflecting region in the second CLC layer, wherein each green subpixel structure therein is realized by a blue band reflecting region in the first CLC layer and a red band reflecting region in the second CLC layer, wherein each red subpixel structure therein is realized by a blue band reflecting region in the first CLC layer and a green-band reflecting