What is claimed is:

1. A method comprising

receiving, by a data encoder, image data to be encoded;

accessing, via the data encoder, a reference data conversion function which determines a mapping between a set of reference digital code values and a set of reference levels based on contrast sensitivity of human vision;

based on the receiving and the accessing, encoding, via the data encoder, the received image data into reference encoded image data; and

outputting, via the data encoder, the reference encoded image data,

wherein:

color component values in the received image data are represented by the set of reference digital code values, the reference digital code values having a bit depth of 10 or 12 bits,

the mapping is based at least in part on a functional model of:

$$\left(\frac{c_1+c_2Y^n}{1+c_3Y^n}\right)^m,$$

and

n, m, c_1, c_2, and c_3 are predetermined values.

2. The method of claim 1, wherein:

$n = \frac{2610}{4096} \times \frac{1}{4} \simeq 0.1593017578125;$

$m = \frac{2523}{4096} \times 128 \simeq 78.84375;$

$c_1 = c_3 - c_2 + 1 = \frac{3424}{4096} \simeq 0.8359375;$

$c_2 = \frac{2413}{4096} \times 32 \simeq 18.8515625;$ and

$c_3 = \frac{2392}{4096} \times 32 \simeq 18.6875.$

3. The method of claim 1, wherein the color component is at least one of R, G and B color components.

4. The method of claim 1, wherein the color component is normalized luminance (Y).

5. The method of claim 1, further comprising a step of mapping, via the data encoder, of a digital code value D in the image data to a normalized value V, wherein $0 \leq V \leq 1$.

6. The method of claim 5, wherein the digital code value D represents a sampled value of a component of the image data comprised in a serial digital interface (SDI) signal.

7. The method of claim 5, wherein the bit depth is 10 bits and the mapping of the digital code value D to the normalized value V is provided by Table 4 of the specification.

8. The method of claim 1, wherein the image data comprises digital code values D which represent sampled values of a component of the image data, the image data being encoded in one of a high-resolution high dynamic range (HDR) image format, a RGB color space associated with the Academy Color Encoding Specification (ACES) standard of the Academy of Motion Picture Arts and Sciences (AMPAS), a P3 color space standard of the Digital Cinema initiative, a Reference Input Medium Metric/Reference Output Medium Metric (RIMM/ROMM) standard, an sRGB color space, or a RGB color space associated with the BT.709 Recommendation standard of the International Telecommunications Union (ITU).

9. A data encoder configured to encode received image data to reference encoded image data, the data encoder comprising:

a receiver unit receiving image data to be encoded;

a mapping unit mapping digital code values in a received image data to reference digital code values in the reference encoded image data based on contrast sensitivity of human vision;

an encoding unit encoding, based on the receiving and mapping, the image data into the reference encoded image data; and

a transmission unit transmitting the reference encoded image data;

wherein the mapping unit maps the digital code values based at least in part on a functional model of:

$$\left(\frac{c_1 + c_2 Y^n}{1 + c_3 Y^n}\right)^m$$

and

n, m, c_1, c_2, and c_3 are predetermined values.

10. The data encoder of claim 9, wherein:

$$n = \frac{2610}{4096} \times \frac{1}{4} \simeq 0.1593017578125;$$

$$m = \frac{2523}{4096} \times 128 \simeq 78.84375;$$

$$c_1 = c_3 - c_2 + 1 = \frac{3424}{4096} \simeq 0.8359375;$$

$$c_2 = \frac{2413}{4096} \times 32 \simeq 18.8515625; \text{ and}$$

$$c_3 = \frac{2392}{4096} \times 32 \simeq 18.6875.$$

11. The data encoder of claim 9, wherein the reference digital code values have a bit depth of 10 or 12 bits and represent color component values in the received image data.

12. The data encoder of claim 11, wherein the color component is at least one of R, G and B color components.

13. The data encoder of claim 11, wherein the color component is normalized luminance (Y).

14. The data encoder of claim 11, wherein the mapping unit is further configured to map a digital code value D in the image data to a normalized value V, wherein $0 \leq V \leq 1$.

15. The data encoder of claim 14, wherein the digital code value D represents a sampled value of a component of the image data comprised in a serial digital interface (SDI) signal.

16. The data encoder of claim 14, wherein the bit depth is 10 bits and the mapping unit maps the digital code D to the normalized value V according to a mapping scheme that is provided by Table 4 of the specification.

17. The data encoder of claim 14, wherein the mapping unit is further configured to exclude at least a lowest three and a highest three reference digital code values from the mapping.

18. The data encoder of claim 17, wherein a relationship between the normalized value V and the digital code value D is provided by the function:

$$V = \frac{D - 4.2^{b-10}}{1015.2^{b-10}}$$

wherein b is a bit depth corresponding to a number of bits used to represent the digital code value.