WHAT IS CLAIMED IS:

1. A method for video coding in a decoder, comprising:

decoding (S1210) prediction information of a current block of a current picture in a coded bitstream, the prediction information indicating a geometric partitioning mode (GPM) for the current block, the current block being partitioned into two partitions in the GPM mode, and each of the partitions being associated with a respective predictor;

determining (S1220) a weighting index for a sample of the current block based on a position of the sample;

calculating (S1230) a weighting factor based on the weighting index of the sample according to an equation that converts the weighting index to the weighting factor; and

reconstructing (S1240) the sample based on the weighting factor and the predictor corresponding to the sample;

wherein the equation including a right shift operation; the calculating comprises:

performing the right shift operation based at least on a sum of the weighting index and an offset value; the offset value is based on a number of bits shifted by the right shift operation, and the number of bits shifted by the right shift operation is based at least on a size of a cosine table used to calculate the weighting index;

clipping a result of the right shift operation to be within a predefined range.

2. The method of claim 1, wherein ~~the calculating comprises:~~the equation including a piecewise constant function having a number of uni-step functions equal to a number of different weighting factor values minus one

~~performing a right shift operation on a sum of the weighting index and an offset value; and~~

~~clipping a result of the right shift operation to be within a predefined range~~.

3. The method of claim ~~2~~1, wherein the right shift operation is based on the weighting index ~~the offset value is based on a number of bits shifted by the right shift operation, and the number of bits shifted by the right shift operation is based on at least one of the weighting index and a size of a cosine table used to calculate the weighting index~~.

4. The method of claim 1, wherein the determining the weighting index comprises:

determining an angle index and a distance index that define a split boundary between the partitions of the current block based on the GPM; and

determining the weighting index for the sample based on the position of the sample, the angle index, and the distance index.

5. The method of claim ~~1~~4, wherein the calculating comprises:

determining a partition index based on the angle index; and

calculating the weighting factor based on the partition index.

6. The method of claim 5, wherein the equation is

$$weight = Clip3\left(0, 8, \left(wIdxL + \left(1 \ll (idx2wShiftBit - 1)\right)\right) \gg idx2wShiftBit\right),$$

wherein

$$wIdxL = \left(1 \ll (idx2wShiftBit + 2)\right) + (partIdx\ ?\ wIdx : -wIdx),$$

where $idx2wShiftBit$ indicates the number of bits shifted by the right shift operation, $weight$ is the weighting factor, $partIdx$ is the partition index, $wIdx$ is the weighting index, and $Clip3()$ is a clipping function.

7. The method of claim 1, wherein the ~~equation is a~~ piecewise constant function ~~that~~ includes an initial value ~~and a plurality of unit step functions~~.

8. The method of claim 7, wherein the initial value is one of a minimum weighting factor value ~~and~~ or a maximum weighting factor value~~, and a number of the plurality of unit step functions is equal to a total number of different weighting factor values minus one~~.

9. An apparatus, comprising processing circuitry configured to:

decode (S1210) prediction information of a current block of a current picture in a coded bitstream, the prediction information indicating a geometric partitioning mode (GPM) for the current block, the current block being partitioned into two partitions in the GPM mode, and each of the partitions being associated with a respective predictor;

determine (S1220) a weighting index for a sample of the current block based on a position of the sample;

calculate (S1230) a weighting factor based on the weighting index of the sample according to an equation that converts the weighting index to the weighting factor; and

reconstruct (S1240) the sample based on the weighting factor and the predictor corresponding to the sample;

wherein the equation including a right shift operation; the processing circuitry configured to:

perform the right shift operation based at least on a sum of the weighting index and an offset value; the offset value is based on a number of bits shifted by the right shift operation,

and the number of bits shifted by the right shift operation is based at least on a size of a cosine table used to calculate the weighting index;

clip a result of the right shift operation to be within a predefined range.

10. The apparatus of claim 9, wherein the equation including a piecewise constant function having a number of uni-step functions equal to a number of different weighting factor values minus one ~~the processing circuitry is further configured to:~~

~~perform a right shift operation on a sum of the weighting index and an offset value; and~~

~~clip a result of the right shift operation to be within a predefined range~~.

11. The apparatus of claim ~~10~~9, wherein the right shift operation is based on the weighting index ~~the offset value is based on a number of bits shifted by the right shift operation, and the number of bits shifted by the right shift operation is based on at least one of the weighting index and a size of a cosine table used to calculate the weighting index~~.

12. The apparatus of claim 9, wherein the processing circuitry is further configured to:

determine an angle index and a distance index that define a split boundary between the partitions of the current block based on the GPM; and

determine the weighting index for the sample based on the position of the sample, the angle index, and the distance index.

13. The apparatus of claim ~~9~~12, wherein the processing circuitry is further configured to:

determine a partition index based on the angle index; and

calculate the weighting factor based on the partition index.

14. The apparatus of claim 13, wherein the equation is

$$weight = Clip3\left(0, 8, \left(wIdxL + \left(1 \ll (idx2wShiftBit - 1)\right)\right) \gg idx2wShiftBit\right),$$

wherein

$$wIdxL = \left(1 \ll (idx2wShiftBit + 2)\right) + (partIdx\ ?\ wIdx : -wIdx),$$

where $idx2wShiftBit$ indicates the number of bits shifted by the right shift operation, $weight$ is the weighting factor, $partIdx$ is the partition index, $wIdx$ is the weighting index, and $Clip3()$ is a clip function.

15. The apparatus of claim 9, wherein the ~~equation is a~~ piecewise constant function ~~that~~ includes an initial value ~~and a plurality of unit-step functions~~.

16. The apparatus of claim 15, wherein the initial value is one of a minimum weighting factor value ~~and~~ or a maximum weighting factor value~~, and a number of the plurality of unit-step functions is equal to a total number of different weighting factor values minus one~~.

17. A non-transitory computer-readable storage medium storing a program executable by at least one processor to perform:

decoding (S1210) prediction information of a current block of a current picture in a coded bitstream, the prediction information indicating a geometric partitioning mode (GPM) for the current block, the current block being partitioned into two partitions in the GPM mode, and each of the partitions being associated with a respective predictor;

determining ~~-~~(S1220) a weighting index for a sample of the current block based on a position of the sample;

calculating (S1230) a weighting factor based on the weighting index of the sample according to an equation that converts the weighting index to the weighting factor; and

reconstructing (S1240) the sample based on the weighting factor and the predictor corresponding to the sample;

wherein the equation including a right shift operation; the calculating comprises:

performing the right shift operation based at least on a sum of the weighting index and an offset value; the offset value is based on a number of bits shifted by the right shift operation~~-~~, and the number of bits shifted by the right shift operation is based at least on a size of a cosine table used to calculate the weighting index;

clipping a result of the right shift operation to be within a predefined range.

18. The non-transitory computer-readable storage medium of claim 17, wherein the calculating comprises: the equation including a piecewise constant function having a number of uni-step functions equal to a number of different weighting factor values minus one

~~performing a right shift operation on a sum of the weighting index and an offset value; and~~

~~clipping a result of the right shift operation to be within a predefined range~~.

19. The non-transitory computer-readable storage medium of claim ~~18~~17, wherein the right shift operation is based on the weighting index ~~the offset value is based on a number of bits shifted by the right shift operation, and the number of bits shifted by the right shift operation is based on at least one of the weighting index and a size of a cosine table used to calculate the weighting index~~.

20. The non-transitory computer-readable storage medium of claim 17, wherein the determining the weighting index comprises:

determining an angle index and a distance index that define a split boundary between the partitions of the current block based on the GPM; and

determining the weighting index for the sample based on the position of the sample, the angle index, and the distance index.