INTERPRETATION IC 135-2020-30 OF
ANSI/ASHRAE STANDARD 135-2020 BACnet® -
A Data Communication Protocol for Building
Automation and Control Networks

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Reference: This request for interpretation refers to ANSI/ASHRAE Standard 135-2020, Addendum *ca* and pertains to the Default_Color_Temperature supporting a value of 0 and the value of Present_Value when a Color_Command is received.

Background:

Default_Color_Temperature Property and 0 Value

12.Y.8 Default_Color_Temperature
This property, of type Unsigned, indicates the color temperature in Kelvin to be used for the color temperature output on a device restart.

Writes to Default_Color_Temperature shall be clamped to Min_Pres_Value and Max_Pres_Value as described in 12.Y.4.

12.Y.4 Present_Value
This property, of type Unsigned, shall indicate the target Color Temperature in Kelvin for the color temperature output. The range of values shall be 1000 to 30000 Kelvin. When writing to Present_Value, the algorithm used to determine the closest supported color temperature shall be a local matter.
…
On a device restart, if Default_Color_Temperature property is non-zero, the color temperature output shall be updated to the value of the Default_Color_Temperature. If the Default_Color_Temperature property is zero, the color temperature output shall be updated to the last value of the Present_Value property if this value is preserved. If the Default_Color_Temperature property is zero and the value of the Present_Value property not preserved over a restart, the property In_Progress shall be set to NOT_CONTROLLED until the color temperature output is updated with the current value of Present_Value.
…

Present_Value Property Value While Transitioning

12.Y.5 Tracking_Value
This property, of type Unsigned, indicates the device's actual light output color temperature in Kelvin. If the Color_Command is written with a color operation that affects color temperature, causing Present_Value to be changed over time, or Present_Value is written-to directly, then Tracking_Value shall indicate the calculated

color temperature for the color temperature output from moment to moment while the fade is in progress.

When the value of In_Progress is IDLE, Tracking_Value shall be equal to Present_Value.

When the value of In_Progress is FADE_ACTIVE or RAMP_ACTIVE, Tracking_Value shall indicate the current calculated value of the fade/ramp algorithm. The manner by which the Tracking_Value is calculated in this situation shall be a local matter.

When the value of In_Progress is NOT_CONTROLLED or OTHER, the value of Tracking_Value shall be a local matter

12.Y.4 Present_Value
…
Present_Value may also be affected by writes to the Color_Command property that initiate color commands. These commands may asynchronously affect the color temperature output by establishing a new target for Present_Value and carrying out the requested operation. Transitioning from one color temperature to another is supported by writing a FADE_TO_CCT, RAMP_TO_CCT, STEP_UP_CCT or STEP_DOWN_CCT command to the property Color_Command. The current color temperature is always indicated in the Tracking_Value property. If a color command is currently in progress and the Present_Value is written, the color command shall be halted (see Clause 12.Y.6.1 Halting a Color Command in Progress).
…

The purpose of the Tracking_Value property is to indicate the current color temperature while the Present_Value indicates the target value of the color temperature output after a transition. In Clause 12.Y.5, first paragraph, second sentence, 'Present_Value' should be 'Tracking_Value.

Interpretation #1: The Default_Color_Temperature property shall contain a value of 0 or a value between 1000 to 30000 Kelvin.

Question #1: Is this Interpretation correct?

Answer #1: Yes

Interpretation #2: The value of the Present_Value property shall immediately equal the target-color-temperature parameter of the BACnetColorCommand when a successful Color_Command is written.

Question #2: Is this Interpretation correct?

Answer #2: Yes