ASHRAE Standard 140 Weather Drivers Test Suite – Field Trial #1

Questionnaire

Software Name: California Simulation Engine (CSE)

Implementing Organization: The CSE Authors

1. Which weather file format was used in the simulation?

TMY3

EPW

CLM

JSON

Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What algorithms are used for titled surface radiation calculation?

Isotropic Sky Model

Hay and Davies Model

Reindl Model

Perez Model (1988 coefficients)

Perez Model (1999 coefficients)

Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What algorithms are used for calculating the sky temperatures?

Clark - Allen

Martin - Berdahl

Brunt

Carmona

Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What technique is used to interpolate values for sub-hourly timesteps?

Linear interpolation between hourly values provided in weather file. The interpolated values are applied at the end of each sub-hourly timestep.

1. Is there other data from the weather file that your software uses that isn’t tested in this test suite? Is so, please list those values.

No.

1. Are there other values calculated from the weather file data that aren’t tested by this test suite? Is so, please list those values.

Outdoor air enthalpy

Outdoor air moist density

Outdoor air dry density

Solar position angles (azimuth, altitude)

Ground temperature

Mains water temperature

1. Any other comments on the test suite?

Provided WeatherDriversResultsSubmittal.xlsx should have two more empty rows between rows 937-958 for hourly outputs of "Diffuse Radiation on E Azimuth and 30° from H Slope (Wh/m2)". This has 22 rows, where all other hourly outputs have 24 rows.

It would also help to use an example of subhourly time of day reporting in Section 6.x.1.3. It was assumed for the 6-minute subhourly timesteps used to report instantaneous outputs, the time of day should be set to increments of 0.1 hours. Using this, the test specification could read “If the output value is an instantaneous value at a specific time, report the time for the value at the specific time (for example, if the dry bulb temperature is 15 C at the end of the 15-minute timestep from 6 to 6:15 the output value is 15 C at 6:15).”