B. If the height distance is greater than 55 ft then multiply GROSS ROOF AREA by 10 percent (0.10) for the STANDARD ALLOWED SKYLIGHT AREA.

STANDARD ALLOWED SKYLIGHT AREA – The maximum allowed standard skylight area is the product of the previous two numbers.

C. PROPOSED SKYLIGHT AREA – The total area of proposed skylights shown on the plans is entered here.

D. SKYLIGHT RATIO PROPOSED –Calculate the ration by dividing Row c by Row the Actual Gross Roof Area.

E. MAXIMUM ALLOWED SKYLIGHT ROOF RATIO = Maximum Allowed Standard Skylight Area (Row A or B) Divided by Total Gross Exterior Roof Area.

IF THE PROPOSED SKYLIGHT AREA IS GREATER THAN THE STANDARD SKYLIGHT AREA PROCEED TO THE NEXT CALCULATION FOR THE SKYLIGHT AREA ADJUSTMENT. IF NOT GO TO PAGE 3 OF 6.

SKYLIGHT ADJUSTMENT FACTOR

IF F>D, Proceed To Calculation Step 1

Step 1. Calculated the Skylight Adjustment Factor (SAF).

The SKYLIGHT ADJUSTMENT FACTOR is carried to Page 6 OF 6, Window and Skylight Area Adjustment, to calculate the adjusted skylight and roof areas. Upon completion of those calculations, Parts 3 through 5 may be completed.

ENV-3C Page 3 of 6 OVERALL ENVELOPE TDV ENERGY APPROACH

TDV for the Standard Design Building

Check the applicable Occupancy Type and use the Reference Nonresidential Joint Appendix tables accordingly. See Section 3.7, Overall Envelope TDV Energy Approach for further information.

- Nonresidential, See, Table NA5-3
- 24-Hour Use, See, Table NA5-4
- Retail, See, Table NA5-5

A. ASSEMBLY TYPE – Indicate type of assembly for the Envelope (e.g. Wall, Floor, Roof, Window, and Skylight & Door). One assembly type for each row. Demising walls are not to be included in this calculation. This designator should be used consistently throughout the plan set (elevations, finish schedules, etc.) to identify each surface. It should also be consistently used on the other forms in the compliance documentation. Grouping of like assemblies and in the same orientation is allowed; indicate the number of same in column C.

B. ORIENTATION – Orientation (applicable only for walls, doors and windows); for each different coefficient category in Column J, K, and L.

C. NUMBER OF LIKE ASSEMBLY/COMPONENT TYPE – Number of components of the applicable envelope feature of the standard design (wall, floor, roof, glazing/window, skylight, and door). Grouping of like assemblies in the same orientation is allowed; indicate the number of like in Column C.

D. ROOFS OR FLOOR MASS TYPE – For roofs, the categories are attic, light (HC<7) and mass (HC>7). For floors the categories are light and mass. For walls, the categories are light (HC<7), medium mass (7≤HC<15) and heavy mass (HC≥15).

E. EXTERIOR SURFACE AREA – Indicate the exterior surface area of the mass of the assembly type as indicated in Column A.

F. FENESTRATION TYPE – Indicate the type of fenestration type (single, double, low E, and etc…)

Criteria

G. U-factor – From the Standards Table 143-A, Table 143-B or Table 143-C indicate the standard design U-factor in Btu/hr-ft²-°F for the wall, floor, roof, window, skylight and door as appropriate.

H. RSHGC – The relative solar heat gain coefficient for windows and skylights from the Standards Table 143-A, Table 143-B or Table 143-C, as applicable.

I. VT – The visible transmittance, VT, for the standard design shall be calculated as 1.2 times the standard design SHGC, From Column H.

Coefficients For

Note: Descriptions of Coefficients for the TDV Energy of the Standard Design are found in Reference Nonresidential Appendix in Section NA5.2.

J. U-factor $Cs_{u,i}$ – Dependent on the Climate Zone and Occupancy Type the U-factor coefficient's for the wall, floor, roof, windows, skylights and doors respectively are found in Table NA5-3, Table NA5.4, or Table NA5-5 of Section NA5.4.

Note: The index "i" represents a unique combination of occupancy, orientation, and coefficient designator. The coefficient type is determined based on Table NA5-1.

K. SHGC $Cs_{s,i}$ – Dependent on the Climate Zone and Occupancy Type the SHGC coefficient's for the windows, skylights and doors respectively are found in Table NA5-3, Table NA5.4, or Table NA5-5 of Section NA5.4.

Note: The index "i" represents a unique combination of occupancy, orientation, and coefficient designator. The coefficient type is determined based on Table NA5-1.

L. VT $Cs_{t,i}$ – Dependent on the Climate Zone and Occupancy Type the Visible Transmission coefficient's for the windows, skylights and doors respectively are found in Table NA5-3, Table NA5.4, or Table NA5-5 of Section NA5.4.

Note: The index "i" represents a unique combination of occupancy, orientation, and coefficient designator. The coefficient type is determined based on Table NA5-1.

M. TDV Energy – TDV energy of the standard design, for space cooling and heating only. Calculate the TDV Standard Design for each assembly type: TDVStd = Column C x [Column E x ((U-factor$_{Si}$ x C_{Sui}) + (SHGC$_{Si}$ x C_{Ssi}) + (VT$_{Si}$ x C_{Sti}))] for each Envelope Component Type. See Nonresidential Manual Examples in Section 3.7, Overall Envelope TDV Energy Approach.