VELUX America LLC

Stakeholder Comments:

ENERGY STAR® Version 7.0
Residential Windows, Doors, and Skylights
Draft 1 Specification

Issued August 20, 2021

VELUX America LLC has long been a supporter of the ENERGY STAR program for residential windows, doors and skylights (WDS), and we appreciate the constructive opportunity the Environmental Protection Agency (EPA) afforded to comment on version 7.0, draft 1. VELUX America, as the leading residential skylight manufacturer in the US, supports the EPA recommendation to advance the skylight specification as opposed to sunsetting it. We also support the recommendation to simplify the skylight criteria across the US by establishing one set of criteria for the Northern climate zone and a separate set of criteria grouped to include the North-Central, South-Central and Southern climate zones.

VELUX acknowledges that new opportunities exist to improve the skylight criteria. However, we are concerned that the EPA is too ambitious with the proposed degree of improvements and used an arbitrary approach to decide on new levels of improvement. In EPA's Version 7.0 Criteria Analysis Report provided in July 2021, EPA seems to point out that their recommended skylight u-factor criteria of 0.45 is acceptable since it is less stringent that the Canadian ENERGY STAR criteria of 0.40. This is not a valid comparison and VELUX recommends that the EPA not pursue a complimentary skylight criteria that considers Canada. The current Canadian ENERGY STAR program provides a single skylight criteria that covers the entirety of Canada, a much larger area than the Northern US climate zone. The Canadian desire for a single climate zone criteria and the fact that much of Canada experiences significantly colder climatic conditions contributed to a single Canadian u-factor criteria that is much lower than would be expected if southern Canada had a separate criteria. The previous version of Canadian ENERGY STAR criteria for skylights was broken into three zones that ranged from 0.37 in the north most climate zone to 0.46 in the southern most climate zone. As EPA seeks to improve the u-factor in the Northern climate zone to even lower levels, the same incremental improvements of 0.05 used in past ENERGY STAR updates should be replaced by more moderate incremental improvements . VELUX submits that the u-factor requirement for the Northern climate zone should be improved to 0.48 for the Version 7.0 specification which offers the opportunity to improve the Northern climate zone u-factor closer to 0.45 at the next future specification update. VELUX also supports improving the u-factor in the North-Central, South-Central, and Southern climate zones to 0.50.

In addition, VELUX supports maintaining the skylight SHGC criteria of "Any" in the northern climate zone. However, the proposed 0.25 SHGC criteria for the North-Central, South-Central and Southern climate zones are very aggressive, especially for the North-Central which moves from a 0.35 SHGC to a proposed 0.25 SHGC. VELUX recommends maintaining the 0.28 SHGC for the North-Central, South-Central, and Southern climate zones. SHGC can be controlled by using a coating with lower visible light transmittance (Vt), but this also results in less daylight through the skylight. This is counter-intuitive as customers primarily purchase and install skylights to provide natural light into dark spaces. While a lower Vt may be acceptable in southern climate zones with numerous sunny days, a lower Vt is not pleasing to customers in the North-Central climate zone desiring the additional daylight due to limited sunny days. VELUX investigated to determine viable cost competitive coating options from our glass suppliers that provide additional SHGC protection without compromising light transmittance. Our investigation found that the glass suppliers are conducting initial tests with these coatings that offer lower SHGC and maintain customer friendly light transmittance, but they are not prepared to run these products in high volumes within the next twenty four (24) months. A supporting argument for continuing with the 0.28 SHGC in the three southern climate zones is that it is not unprecedented for ENERGY STAR SHGC criteria to remain unchanged over two specification cycles. In fact, the ENERGY STAR SHGC criteria remained unchanged from 2005 until Version 6.0 was launched in January 2015.

In closing, we appreciate EPA's willingness to solicit and consider feedback from ENERGY STAR partners on the proposed specification. VELUX can be in a position to deliver products to the market before January 1, 2023 that meet the alternate criteria that we proposed (see below).

Proposed Skylight Criteria

Climate Zone	U-Factor	SHGC
Northern	≤ 0.48	Any
North-Central	≤ 0.50	≤ 0.28
South-Central		
Southern		

Should a more aggressive skylight criteria be implemented by EPA, it will likely be Jan 1, 2024 before VELUX is in a position to provide significant numbers of skylights meeting the new proposed ENERGY STAR criteria. This delay is due to supply system constraints and delays being experienced throughout the market which adversely impacts product design changes. VELUX believes our recommendations offer a bridge to achieving values that EPA ultimately seeks and provide improvements that simplify the ENERGY STAR skylight program.

We offer to work further with EPA and D&R as they continue the revision process and thank you again for the opportunity to share our insights.

Submitted by John Lawton and Mike Rhoden