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Thermal Performance
SERIES 458 Plus FiberWall™ Awning
For Top Thermal Performance and High-Rise Buildings (AW-Rated)

Glass type	Application	LoE Surface	Gas	Centre-of-Glass				Overall Window*				Energy Star	
				R-Value	U-Value	Solar Heat Gain	Visible Light	U-Value (imperial)	U-Value (metric)	Solar Heat Gain	Visible Light	Energy Rating	Energy Star Efficiency
Dual Pane												Pending	
Cardinal LoE-180	High Solar Gain	3	Argon	3.85	0.26	0.68	79%	0.26	1.48	0.41	47%		
Cardinal LoE-272	Mid-Range	2	Argon	4.00	0.25	0.41	72%	0.25	1.42	0.25	43%		
Cardinal LoE-366	Low Solar Gain	2	Argon	4.17	0.24	0.27	65%	0.25	1.42	0.17	38%		
Triple Pane - 1 LoE Coating - High Performance												Pending	
Cardinal LoE-180	High Solar Gain	5	Argon	5.56	0.18	0.61	73%	0.20	1.14	0.36	43%		
Cardinal LoE-272	Mid-Range	2	Argon	5.26	0.19	0.38	66%	0.20	1.14	0.23	39%		
Cardinal LoE-366	Low Solar Gain	2	Argon	5.56	0.18	0.25	59%	0.20	1.14	0.15	35%		
Triple Pane - 2 LoE Coatings - Ultra High Performance												Pending	
Cardinal LoE-180 and 180	High Solar Gain	2 and 5	Argon	7.69	0.13	0.56	70%	0.17	0.97	0.34	41%		
Cardinal LoE-272 and 180	Mid-Range	2 and 5	Argon	7.69	0.13	0.37	63%	0.16	0.91	0.23	37%		
Cardinal LoE-272 and 272	Mid-Range	2 and 5	Argon	7.69	0.13	0.35	58%	0.16	0.91	0.21	34%		
Cardinal LoE-366 and 180	Low Solar Gain	2 and 5	Argon	7.69	0.13	0.24	57%	0.16	0.91	0.15	34%		
Cardinal LoE-366 and 366	Low Solar Gain	2 and 5	Argon	8.33	0.12	0.24	47%	0.16	0.91	0.15	28%		
Quad Pane Thin Glass - 4 LoE Coatings													
LoE-366/180/180/i89	Low Solar Gain	2, 4, 6, 8	Krypton	15.38	0.07	0.21	49%	0.11	0.62	0.13	29%	N/A	N/A



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Performance Values are calculated by certified, 3rd party test labs. Information is gleaned from best available industry sources. The reader is cautioned that test results should be used for comparison purposes only. Results are size and installation dependent. In-service performance can be significantly different from those shown. Product tested indicates design potential. Model size was 1500 mm x 600 mm as required by NFRC.

*Notes: FINAL NFRC AND ENERGY STAR CERTIFICATIONS ARE PENDING AS OF FEBRUARY 2026.

- (1) 2-Pane Cardinal IG unit calculations based on 1" OD. 2 lites of 1/8" (3 mm) glass and 3/4" (19 mm) airspace.
- (2) 3-Pane Cardinal IG unit calculations based on 1 1/2" OD. 3 lites of 1/8" (3 mm) glass and two 9/16" (14 mm) airspaces.
- (3) Calculations for argon filled unit made with 90% Argon/ 10% air.
- (4) NFRC Environmental Conditions used for all values.
- (5) Cardinal Endur warm edge stainless steel spacer used for all values except the Thin Glass Quad (Kodispacer).
- (6) 4mm, 5mm, and 6mm performance values are available in both dual and triple pane by request. 6mm Triples retain superb u-values in a 1 7/8" OD.
- (7) Chart indicating Energy Star Canada efficiency designation:
 - ENERGY STAR Most Efficient 2023
 - ENERGY STAR
 - Not Applicable
- (8) Passive House data available here (Note: Do not compare the above values as they are different standards and glass configurations.)

<https://database.passivehouse.com/en/components/certificate/download/2444/en>

Values updated February 2026.