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Thermal Performance
SERIES 458 Plus FiberWall™ Casement
For Top Thermal Performance and Medium/High-Rise Buildings (CW-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% | 0.17 | 0.97 | 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 | | | | | | | | | | | | Pending | |
| LoE-366/180/180/i89 | Low Solar Gain | 2, 4, 6, 8 | Krypton | 15.38 | 0.07 | 0.21 | 49% | 0.12 | 0.68 | 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 600 mm x 1500 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