

UNIVERSAL SERIES™

TECHNICAL DATA SHEET

The Universal Series™ offers a patented, high-performance fiberglass solution for window walls, windows and doors, and storefront glazing.

Designed and manufactured in North America, the Universal Series™ features an innovative, commercial-grade fiberglass frame boasting 250% improved thermal performance compared to traditional aluminum windows.

Custom configured and built-to-suit project requirements—and available in virtually any color—the Universal Series™ allows developers and architects to dramatically improve the overall thermal performance of buildings, without sacrificing durability or glazing area.



WHY FIBERGLASS?

Fiberglass is an ideal structural material for window and door frames, which is why Cascadia has used a proprietary, high glass-fiber-to-resin formula for more than a decade.

Nearly 10-times stronger than traditional vinyl/uPVC and 500-times less conductive than aluminum, the Universal Series™ provides the best of both worlds—merging superior thermal and structural performance with durability and award-winning aesthetics.

Designed and manufactured in North America, the Universal Series™ high-performance design translates into lower heating and cooling costs, as well as a more comfortable and resilient building.

- Custom-sizes & configurations built-to-suit project requirements, including inswing & outswing options
- AW, CW, LC & R Performance Class options
- Highest recognized water resistance rating (15 PSF)
- Can withstand extreme temperatures (-40°F through 350°F, and higher) without becoming brittle or soft
- Modelled lifespan of ≈80 years

THERMOSET PULTRUDED FIBERGLASS FRAME

FOAM INSULATION THROUGHOUT FRAME

INTERIOR & EXTERIOR GLASS STOPS AVAILABLE

INTERNALLY FASTENED CORNER SHEER-BLOCK

EUROPEAN MULTI-POINT LOCKING HARDWARE

COMMERCIAL-GRADE DURABILITY



ASK US ABOUT OUR ENVIRONMENTAL PRODUCT DECLARATIONS (EPDs)

FIXED EXTERIOR GLAZED - ARGON 90% / 10% AIR
NFRC THERMAL PERFORMANCE SUMMARY

| LOW-E | CPD | CENTER-OF-GLASS | | | | FENESTRATION | | | | |
|---|----------------------|----------------------------|--------------------------|------|------|----------------------------|--------------------------|------|------|----|
| | | U _g IMPERIAL | U _g METRIC | SHGC | VT | U _w IMPERIAL | U _w METRIC | SHGC | VT | CR |
| STANDARD DOUBLE GLAZED (ONE LOW-E ON SURFACE #2 OR #3 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180 (#3) | CWL-K-25-00081-00001 | 0.26 | 1.47 | 0.64 | 0.77 | 0.26 | 1.48 | 0.54 | 0.64 | 61 |
| 270 | CWL-K-25-00078-00001 | 0.25 | 1.40 | 0.36 | 0.67 | 0.25 | 1.42 | 0.30 | 0.56 | 62 |
| 366 | CWL-K-25-00079-00001 | 0.24 | 1.36 | 0.27 | 0.63 | 0.24 | 1.36 | 0.23 | 0.52 | 63 |
| 340+ | CWL-K-25-00080-00001 | 0.24 | 1.38 | 0.18 | 0.38 | 0.25 | 1.42 | 0.15 | 0.31 | 62 |
| PREMIUM DOUBLE GLAZED (TWO LOW-E ON SURFACES #2 & #4 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/i89 | CWL-K-25-00085-00001 | 0.21 | 1.18 | 0.58 | 0.75 | 0.21 | 1.19 | 0.49 | 0.63 | 49 |
| 270/i89 | CWL-K-25-00082-00001 | 0.20 | 1.13 | 0.35 | 0.66 | 0.21 | 1.19 | 0.29 | 0.55 | 50 |
| 366/i89 | CWL-K-25-00083-00001 | 0.19 | 1.11 | 0.26 | 0.61 | 0.20 | 1.14 | 0.22 | 0.51 | 50 |
| 340+/i89 | CWL-K-25-00084-00001 | 0.20 | 1.12 | 0.17 | 0.37 | 0.21 | 1.19 | 0.15 | 0.31 | 50 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-25-00093-00001 | 0.13 | 0.74 | 0.52 | 0.67 | 0.15 | 0.85 | 0.43 | 0.55 | 76 |
| 270/180 | CWL-K-25-00090-00001 | 0.13 | 0.72 | 0.32 | 0.58 | 0.15 | 0.85 | 0.26 | 0.49 | 76 |
| 366/180 | CWL-K-25-00091-00001 | 0.12 | 0.71 | 0.24 | 0.54 | 0.14 | 0.79 | 0.20 | 0.45 | 77 |
| 340+/180 | CWL-K-25-00092-00001 | 0.13 | 0.71 | 0.15 | 0.33 | 0.14 | 0.79 | 0.13 | 0.27 | 77 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-25-00097-00001 | 0.11 | 0.65 | 0.49 | 0.65 | 0.13 | 0.74 | 0.41 | 0.54 | 63 |
| 270/180/i89 | CWL-K-25-00094-00001 | 0.11 | 0.63 | 0.30 | 0.57 | 0.13 | 0.74 | 0.25 | 0.48 | 64 |
| 366/180/i89 | CWL-K-25-00095-00001 | 0.11 | 0.62 | 0.23 | 0.53 | 0.13 | 0.74 | 0.19 | 0.44 | 64 |
| 340+/180/i89 | CWL-K-25-00096-00001 | 0.11 | 0.63 | 0.15 | 0.32 | 0.13 | 0.74 | 0.12 | 0.27 | 64 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-25-00118-00001 | 0.13 | 0.74 | 0.52 | 0.67 | 0.14 | 0.79 | 0.43 | 0.55 | 78 |
| 270/180 | CWL-K-25-00115-00001 | 0.13 | 0.72 | 0.32 | 0.58 | 0.14 | 0.79 | 0.26 | 0.49 | 78 |
| 366/180 | CWL-K-25-00116-00001 | 0.12 | 0.71 | 0.24 | 0.54 | 0.14 | 0.79 | 0.20 | 0.45 | 78 |
| 340+/180 | CWL-K-25-00117-00001 | 0.13 | 0.71 | 0.15 | 0.33 | 0.14 | 0.79 | 0.13 | 0.27 | 78 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-25-00122-00001 | 0.11 | 0.65 | 0.49 | 0.65 | 0.13 | 0.74 | 0.41 | 0.54 | 65 |
| 270/180/i89 | CWL-K-25-00119-00001 | 0.11 | 0.63 | 0.30 | 0.57 | 0.13 | 0.74 | 0.25 | 0.48 | 65 |
| 366/180/i89 | CWL-K-25-00120-00001 | 0.11 | 0.62 | 0.23 | 0.53 | 0.13 | 0.74 | 0.19 | 0.44 | 65 |
| 340+/180/i89 | CWL-K-25-00121-00001 | 0.11 | 0.63 | 0.15 | 0.32 | 0.13 | 0.74 | 0.12 | 0.27 | 65 |

U-Values calculations: Imperial - Btu/hr · ft² · F / Metric - W / m² · k | Fenestration = Frame, mullion, sash and vision glass
Contact Cascadia for data on additional glass options

FIXED EXTERIOR GLAZED - 100% AIR
NFRC THERMAL PERFORMANCE SUMMARY

| LOW-E | CPD | CENTER-OF-GLASS | | | | FENESTRATION | | | | |
|---|----------------------|----------------------------|--------------------------|------|------|----------------------------|--------------------------|------|------|----|
| | | U _w IMPERIAL | U _w METRIC | SHGC | VT | U _w IMPERIAL | U _w METRIC | SHGC | VT | CR |
| STANDARD DOUBLE GLAZED (ONE LOW-E ON SURFACE #3 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270 | CWL-K-25-00086-00001 | 0.29 | 1.66 | 0.36 | 0.67 | 0.29 | 1.65 | 0.30 | 0.56 | 58 |
| 366 | CWL-K-25-00087-00001 | 0.29 | 1.63 | 0.28 | 0.63 | 0.28 | 1.59 | 0.23 | 0.52 | 59 |
| PREMIUM DOUBLE GLAZED (TWO LOW-E ON SURFACES #2 & #4 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270/i89 | CWL-K-25-00088-00001 | 0.23 | 1.31 | 0.35 | 0.66 | 0.23 | 1.31 | 0.29 | 0.55 | 46 |
| 366/i89 | CWL-K-25-00089-00001 | 0.23 | 1.29 | 0.27 | 0.61 | 0.23 | 1.31 | 0.23 | 0.51 | 46 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-25-00102-00001 | 0.16 | 0.92 | 0.51 | 0.67 | 0.17 | 0.97 | 0.43 | 0.55 | 72 |
| 270/180 | CWL-K-25-00098-00001 | 0.16 | 0.90 | 0.32 | 0.58 | 0.17 | 0.97 | 0.27 | 0.49 | 73 |
| 366/180 | CWL-K-25-00099-00001 | 0.16 | 0.89 | 0.24 | 0.54 | 0.17 | 0.97 | 0.20 | 0.45 | 73 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-25-00147-00001 | 0.14 | 0.80 | 0.48 | 0.65 | 0.15 | 0.85 | 0.41 | 0.54 | 60 |
| 270/180/i89 | CWL-K-25-00100-00001 | 0.14 | 0.78 | 0.30 | 0.57 | 0.15 | 0.85 | 0.25 | 0.48 | 60 |
| 366/180/i89 | CWL-K-25-00101-00001 | 0.14 | 0.77 | 0.23 | 0.53 | 0.15 | 0.85 | 0.20 | 0.44 | 60 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-25-00127-00001 | 0.16 | 0.92 | 0.51 | 0.67 | 0.17 | 0.97 | 0.43 | 0.55 | 74 |
| 270/180 | CWL-K-25-00123-00001 | 0.16 | 0.90 | 0.32 | 0.58 | 0.17 | 0.97 | 0.27 | 0.49 | 74 |
| 366/180 | CWL-K-25-00124-00001 | 0.16 | 0.89 | 0.24 | 0.54 | 0.17 | 0.97 | 0.20 | 0.45 | 74 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-25-00148-00001 | 0.14 | 0.80 | 0.48 | 0.65 | 0.15 | 0.85 | 0.41 | 0.54 | 61 |
| 270/180/i89 | CWL-K-25-00125-00001 | 0.14 | 0.78 | 0.30 | 0.57 | 0.15 | 0.85 | 0.25 | 0.48 | 62 |
| 366/180/i89 | CWL-K-25-00126-00001 | 0.14 | 0.77 | 0.23 | 0.53 | 0.15 | 0.85 | 0.20 | 0.44 | 62 |

U-Values calculations: Imperial - Btu/hr · ft² · F / Metric - W / m² · k | Fenestration = Frame, mullion, sash and vision glass
Contact Cascadia for data on additional glass options

FIXED INTERIOR GLAZED - ARGON 90% / 10% AIR
NFRC THERMAL PERFORMANCE SUMMARY

| LOW-E | CPD | CENTER-OF-GLASS | | | | FENESTRATION | | | | |
|---|----------------------|----------------------------|--------------------------|------|------|----------------------------|--------------------------|------|------|----|
| | | U _g IMPERIAL | U _g METRIC | SHGC | VT | U _w IMPERIAL | U _w METRIC | SHGC | VT | CR |
| STANDARD DOUBLE GLAZED (ONE LOW-E ON SURFACE #2 OR #3 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180 (#3) | CWL-K-26-00048-00001 | 0.26 | 1.47 | 0.64 | 0.77 | 0.26 | 1.48 | 0.54 | 0.64 | 61 |
| 270 | CWL-K-26-00045-00001 | 0.25 | 1.40 | 0.36 | 0.67 | 0.25 | 1.42 | 0.30 | 0.56 | 62 |
| 366 | CWL-K-26-00046-00001 | 0.24 | 1.36 | 0.27 | 0.63 | 0.24 | 1.36 | 0.23 | 0.52 | 62 |
| 340+ | CWL-K-26-00047-00001 | 0.24 | 1.38 | 0.18 | 0.38 | 0.25 | 1.42 | 0.15 | 0.31 | 62 |
| PREMIUM DOUBLE GLAZED (TWO LOW-E ON SURFACES #2 & #4 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/i89 | CWL-K-26-00052-00001 | 0.21 | 1.18 | 0.58 | 0.75 | 0.21 | 1.19 | 0.49 | 0.63 | 49 |
| 270/i89 | CWL-K-26-00049-00001 | 0.20 | 1.13 | 0.35 | 0.66 | 0.21 | 1.19 | 0.29 | 0.55 | 50 |
| 366/i89 | CWL-K-26-00050-00001 | 0.19 | 1.11 | 0.26 | 0.61 | 0.20 | 1.14 | 0.22 | 0.51 | 50 |
| 340+/i89 | CWL-K-26-00051-00001 | 0.20 | 1.12 | 0.17 | 0.37 | 0.21 | 1.19 | 0.15 | 0.31 | 50 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-26-00060-00001 | 0.13 | 0.74 | 0.52 | 0.67 | 0.15 | 0.85 | 0.43 | 0.55 | 77 |
| 270/180 | CWL-K-26-00057-00001 | 0.13 | 0.72 | 0.32 | 0.58 | 0.15 | 0.85 | 0.26 | 0.49 | 78 |
| 366/180 | CWL-K-26-00058-00001 | 0.12 | 0.71 | 0.24 | 0.54 | 0.14 | 0.79 | 0.20 | 0.45 | 78 |
| 340+/180 | CWL-K-26-00059-00001 | 0.13 | 0.71 | 0.15 | 0.33 | 0.15 | 0.85 | 0.13 | 0.27 | 78 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-26-00064-00001 | 0.11 | 0.65 | 0.49 | 0.65 | 0.14 | 0.79 | 0.41 | 0.54 | 65 |
| 270/180/i89 | CWL-K-26-00061-00001 | 0.11 | 0.63 | 0.30 | 0.57 | 0.13 | 0.74 | 0.25 | 0.48 | 65 |
| 366/180/i89 | CWL-K-26-00062-00001 | 0.11 | 0.62 | 0.23 | 0.53 | 0.13 | 0.74 | 0.19 | 0.44 | 65 |
| 340+/180/i89 | CWL-K-26-00063-00001 | 0.11 | 0.63 | 0.15 | 0.32 | 0.13 | 0.74 | 0.12 | 0.27 | 65 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-26-00085-00001 | 0.13 | 0.74 | 0.52 | 0.67 | 0.15 | 0.85 | 0.43 | 0.55 | 79 |
| 270/180 | CWL-K-26-00082-00001 | 0.13 | 0.72 | 0.32 | 0.58 | 0.14 | 0.79 | 0.26 | 0.49 | 79 |
| 366/180 | CWL-K-26-00083-00001 | 0.12 | 0.71 | 0.24 | 0.54 | 0.14 | 0.79 | 0.20 | 0.45 | 79 |
| 340+/180 | CWL-K-26-00084-00001 | 0.13 | 0.71 | 0.15 | 0.33 | 0.14 | 0.79 | 0.13 | 0.27 | 79 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-26-00089-00001 | 0.11 | 0.65 | 0.49 | 0.65 | 0.13 | 0.74 | 0.41 | 0.54 | 66 |
| 270/180/i89 | CWL-K-26-00086-00001 | 0.11 | 0.63 | 0.30 | 0.57 | 0.13 | 0.74 | 0.25 | 0.48 | 66 |
| 366/180/i89 | CWL-K-26-00087-00001 | 0.11 | 0.62 | 0.23 | 0.53 | 0.13 | 0.74 | 0.19 | 0.44 | 67 |
| 340+/180/i89 | CWL-K-26-00088-00001 | 0.11 | 0.63 | 0.15 | 0.32 | 0.13 | 0.74 | 0.12 | 0.27 | 66 |

U-Values calculations: Imperial - Btu/hr · ft² · F / Metric - W / m² · k | Fenestration = Frame, mullion, sash and vision glass
Contact Cascadia for data on additional glass options

FIXED INTERIOR GLAZED - 100% AIR
NFRC THERMAL PERFORMANCE SUMMARY

| LOW-E | CPD | CENTER-OF-GLASS | | | | FENESTRATION | | | | |
|---|----------------------|----------------------------|--------------------------|------|------|----------------------------|--------------------------|------|------|----|
| | | U _w IMPERIAL | U _w METRIC | SHGC | VT | U _w IMPERIAL | U _w METRIC | SHGC | VT | CR |
| STANDARD DOUBLE GLAZED (ONE LOW-E ON SURFACE #3 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270 | CWL-K-26-00053-00001 | 0.29 | 1.66 | 0.36 | 0.67 | 0.29 | 1.65 | 0.30 | 0.56 | 58 |
| 366 | CWL-K-26-00054-00001 | 0.29 | 1.63 | 0.28 | 0.63 | 0.28 | 1.59 | 0.23 | 0.52 | 58 |
| PREMIUM DOUBLE GLAZED (TWO LOW-E ON SURFACES #2 & #4 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270/i89 | CWL-K-26-00055-00001 | 0.23 | 1.31 | 0.35 | 0.66 | 0.23 | 1.31 | 0.29 | 0.55 | 46 |
| 366/i89 | CWL-K-26-00056-00001 | 0.23 | 1.29 | 0.27 | 0.61 | 0.23 | 1.31 | 0.22 | 0.51 | 46 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-26-00069-00001 | 0.16 | 0.92 | 0.51 | 0.67 | 0.18 | 1.02 | 0.43 | 0.55 | 73 |
| 270/180 | CWL-K-26-00065-00001 | 0.16 | 0.90 | 0.32 | 0.58 | 0.17 | 0.97 | 0.27 | 0.49 | 74 |
| 366/180 | CWL-K-26-00066-00001 | 0.16 | 0.89 | 0.24 | 0.54 | 0.17 | 0.97 | 0.20 | 0.45 | 74 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-26-00114-00001 | 0.14 | 0.80 | 0.48 | 0.65 | 0.16 | 0.91 | 0.41 | 0.54 | 61 |
| 270/180/i89 | CWL-K-26-00067-00001 | 0.14 | 0.78 | 0.30 | 0.57 | 0.15 | 0.85 | 0.25 | 0.48 | 62 |
| 366/180/i89 | CWL-K-26-00068-00001 | 0.14 | 0.77 | 0.23 | 0.53 | 0.15 | 0.85 | 0.20 | 0.44 | 62 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-26-00094-00001 | 0.16 | 0.92 | 0.51 | 0.67 | 0.17 | 0.97 | 0.43 | 0.55 | 75 |
| 270/180 | CWL-K-26-00090-00001 | 0.16 | 0.90 | 0.32 | 0.58 | 0.17 | 0.97 | 0.27 | 0.49 | 75 |
| 366/180 | CWL-K-26-00091-00001 | 0.16 | 0.89 | 0.24 | 0.54 | 0.17 | 0.97 | 0.20 | 0.45 | 75 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-26-00115-00001 | 0.14 | 0.80 | 0.48 | 0.65 | 0.15 | 0.85 | 0.41 | 0.54 | 62 |
| 270/180/i89 | CWL-K-26-00092-00001 | 0.14 | 0.78 | 0.30 | 0.57 | 0.15 | 0.85 | 0.25 | 0.48 | 63 |
| 366/180/i89 | CWL-K-26-00093-00001 | 0.14 | 0.77 | 0.23 | 0.53 | 0.15 | 0.85 | 0.20 | 0.44 | 63 |

U-Values calculations: Imperial - Btu/hr · ft² · F / Metric - W / m² · k | Fenestration = Frame, mullion, sash and vision glass
Contact Cascadia for data on additional glass options

CASEMENT - ARGON 90% / 10% AIR
NFRC THERMAL PERFORMANCE SUMMARY

| LOW-E | CPD | CENTER-OF-GLASS | | | | FENESTRATION | | | | |
|---|----------------------|----------------------------|--------------------------|------|------|----------------------------|--------------------------|------|------|----|
| | | U _g IMPERIAL | U _g METRIC | SHGC | VT | U _w IMPERIAL | U _w METRIC | SHGC | VT | CR |
| STANDARD DOUBLE GLAZED (ONE LOW-E ON SURFACE #2 OR #3 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180 (#3) | CWL-K-21-00067-00001 | 0.26 | 1.47 | 0.64 | 0.77 | 0.25 | 1.42 | 0.37 | 0.43 | 62 |
| 270 | CWL-K-21-00064-00001 | 0.25 | 1.40 | 0.36 | 0.67 | 0.24 | 1.36 | 0.21 | 0.38 | 63 |
| 366 | CWL-K-21-00065-00001 | 0.24 | 1.36 | 0.27 | 0.63 | 0.24 | 1.36 | 0.16 | 0.35 | 63 |
| 340+ | CWL-K-21-00066-00001 | 0.24 | 1.38 | 0.18 | 0.38 | 0.24 | 1.36 | 0.11 | 0.21 | 63 |
| PREMIUM DOUBLE GLAZED (TWO LOW-E ON SURFACES #2 & #4 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/i89 | CWL-K-21-00071-00001 | 0.21 | 1.18 | 0.58 | 0.75 | 0.22 | 1.25 | 0.33 | 0.42 | 49 |
| 270/i89 | CWL-K-21-00068-00001 | 0.20 | 1.13 | 0.35 | 0.66 | 0.21 | 1.19 | 0.20 | 0.37 | 50 |
| 366/i89 | CWL-K-21-00069-00001 | 0.19 | 1.11 | 0.26 | 0.61 | 0.21 | 1.19 | 0.15 | 0.34 | 50 |
| 340+/i89 | CWL-K-21-00070-00001 | 0.20 | 1.12 | 0.17 | 0.37 | 0.21 | 1.19 | 0.10 | 0.21 | 50 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-21-00079-00001 | 0.13 | 0.74 | 0.52 | 0.67 | 0.17 | 0.97 | 0.29 | 0.37 | 77 |
| 270/180 | CWL-K-21-00076-00001 | 0.13 | 0.72 | 0.32 | 0.58 | 0.17 | 0.97 | 0.18 | 0.33 | 77 |
| 366/180 | CWL-K-21-00077-00001 | 0.12 | 0.71 | 0.24 | 0.54 | 0.17 | 0.97 | 0.14 | 0.30 | 77 |
| 340+/180 | CWL-K-21-00078-00001 | 0.13 | 0.71 | 0.15 | 0.33 | 0.17 | 0.97 | 0.09 | 0.18 | 77 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-21-00083-00001 | 0.11 | 0.65 | 0.49 | 0.65 | 0.16 | 0.91 | 0.28 | 0.36 | 64 |
| 270/180/i89 | CWL-K-21-00080-00001 | 0.11 | 0.63 | 0.30 | 0.57 | 0.16 | 0.91 | 0.18 | 0.32 | 64 |
| 366/180/i89 | CWL-K-21-00081-00001 | 0.11 | 0.62 | 0.23 | 0.53 | 0.16 | 0.91 | 0.14 | 0.30 | 65 |
| 340+/180/i89 | CWL-K-21-00082-00001 | 0.11 | 0.63 | 0.15 | 0.32 | 0.16 | 0.91 | 0.09 | 0.18 | 64 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-21-00104-00001 | 0.13 | 0.74 | 0.52 | 0.67 | 0.17 | 0.97 | 0.29 | 0.37 | 78 |
| 270/180 | CWL-K-21-00101-00001 | 0.13 | 0.72 | 0.32 | 0.58 | 0.16 | 0.91 | 0.18 | 0.33 | 79 |
| 366/180 | CWL-K-21-00102-00001 | 0.12 | 0.71 | 0.24 | 0.54 | 0.16 | 0.91 | 0.14 | 0.30 | 79 |
| 340+/180 | CWL-K-21-00103-00001 | 0.13 | 0.71 | 0.15 | 0.33 | 0.16 | 0.91 | 0.09 | 0.18 | 79 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-21-00108-00001 | 0.11 | 0.65 | 0.49 | 0.65 | 0.16 | 0.91 | 0.28 | 0.36 | 65 |
| 270/180/i89 | CWL-K-21-00105-00001 | 0.11 | 0.63 | 0.30 | 0.57 | 0.15 | 0.85 | 0.18 | 0.32 | 66 |
| 366/180/i89 | CWL-K-21-00106-00001 | 0.11 | 0.62 | 0.23 | 0.53 | 0.15 | 0.85 | 0.14 | 0.30 | 66 |
| 340+/180/i89 | CWL-K-21-00107-00001 | 0.11 | 0.63 | 0.15 | 0.32 | 0.15 | 0.85 | 0.09 | 0.18 | 66 |

U-Values calculations: Imperial - Btu/hr · ft² · F / Metric - W / m² · k | Fenestration = Frame, mullion, sash and vision glass
Contact Cascadia for data on additional glass options

CASEMENT - 100% AIR
NFRC THERMAL PERFORMANCE SUMMARY

| LOW-E | CPD | CENTER-OF-GLASS | | | | FENESTRATION | | | | |
|---|----------------------|----------------------------|--------------------------|------|------|----------------------------|--------------------------|------|------|----|
| | | U _w IMPERIAL | U _w METRIC | SHGC | VT | U _w IMPERIAL | U _w METRIC | SHGC | VT | CR |
| STANDARD DOUBLE GLAZED (ONE LOW-E ON SURFACE #3 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270 | CWL-K-21-00072-00001 | 0.29 | 1.66 | 0.36 | 0.67 | 0.27 | 1.53 | 0.21 | 0.38 | 59 |
| 366 | CWL-K-21-00073-00001 | 0.29 | 1.63 | 0.28 | 0.63 | 0.26 | 1.48 | 0.16 | 0.35 | 60 |
| PREMIUM DOUBLE GLAZED (TWO LOW-E ON SURFACES #2 & #4 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270/i89 | CWL-K-21-00074-00001 | 0.23 | 1.31 | 0.35 | 0.66 | 0.23 | 1.31 | 0.20 | 0.37 | 46 |
| 366/i89 | CWL-K-21-00075-00001 | 0.23 | 1.29 | 0.27 | 0.61 | 0.23 | 1.31 | 0.16 | 0.34 | 47 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-21-00088-00001 | 0.16 | 0.92 | 0.51 | 0.67 | 0.19 | 1.08 | 0.29 | 0.37 | 73 |
| 270/180 | CWL-K-21-00084-00001 | 0.16 | 0.90 | 0.32 | 0.58 | 0.19 | 1.08 | 0.18 | 0.33 | 73 |
| 366/180 | CWL-K-21-00085-00001 | 0.16 | 0.89 | 0.24 | 0.54 | 0.18 | 1.02 | 0.14 | 0.30 | 74 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-21-00133-00001 | 0.14 | 0.80 | 0.48 | 0.65 | 0.18 | 1.02 | 0.28 | 0.36 | 60 |
| 270/180/i89 | CWL-K-21-00086-00001 | 0.14 | 0.78 | 0.30 | 0.57 | 0.17 | 0.97 | 0.18 | 0.32 | 61 |
| 366/180/i89 | CWL-K-21-00087-00001 | 0.14 | 0.77 | 0.23 | 0.53 | 0.17 | 0.97 | 0.14 | 0.30 | 61 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-21-00113-00001 | 0.16 | 0.92 | 0.51 | 0.67 | 0.18 | 1.02 | 0.29 | 0.37 | 74 |
| 270/180 | CWL-K-21-00109-00001 | 0.16 | 0.90 | 0.32 | 0.58 | 0.18 | 1.02 | 0.18 | 0.33 | 75 |
| 366/180 | CWL-K-21-00110-00001 | 0.16 | 0.89 | 0.24 | 0.54 | 0.18 | 1.02 | 0.14 | 0.30 | 75 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-21-00134-00001 | 0.14 | 0.80 | 0.48 | 0.65 | 0.17 | 0.97 | 0.28 | 0.36 | 62 |
| 270/180/i89 | CWL-K-21-00111-00001 | 0.14 | 0.78 | 0.30 | 0.57 | 0.17 | 0.97 | 0.18 | 0.32 | 62 |
| 366/180/i89 | CWL-K-21-00112-00001 | 0.14 | 0.77 | 0.23 | 0.53 | 0.17 | 0.97 | 0.14 | 0.30 | 62 |

U-Values calculations: Imperial - Btu/hr · ft² · F / Metric - W / m² · k | Fenestration = Frame, mullion, sash and vision glass
Contact Cascadia for data on additional glass options

AWNING - ARGON 90% / 10% AIR
NFRC THERMAL PERFORMANCE SUMMARY

| LOW-E | CPD | CENTER-OF-GLASS | | | | FENESTRATION | | | | |
|---|----------------------|----------------------------|--------------------------|------|------|----------------------------|--------------------------|------|------|----|
| | | U _g IMPERIAL | U _g METRIC | SHGC | VT | U _w IMPERIAL | U _w METRIC | SHGC | VT | CR |
| STANDARD DOUBLE GLAZED (ONE LOW-E ON SURFACE #2 OR #3 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180 (#3) | CWL-K-22-00067-00001 | 0.26 | 1.47 | 0.64 | 0.77 | 0.25 | 1.42 | 0.37 | 0.43 | 61 |
| 270 | CWL-K-22-00064-00001 | 0.25 | 1.40 | 0.36 | 0.67 | 0.25 | 1.42 | 0.21 | 0.38 | 62 |
| 366 | CWL-K-22-00065-00001 | 0.24 | 1.36 | 0.27 | 0.63 | 0.24 | 1.36 | 0.16 | 0.35 | 62 |
| 340+ | CWL-K-22-00066-00001 | 0.24 | 1.38 | 0.18 | 0.38 | 0.24 | 1.36 | 0.11 | 0.21 | 62 |
| PREMIUM DOUBLE GLAZED (TWO LOW-E ON SURFACES #2 & #4 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/i89 | CWL-K-22-00071-00001 | 0.21 | 1.18 | 0.58 | 0.75 | 0.23 | 1.31 | 0.33 | 0.42 | 48 |
| 270/i89 | CWL-K-22-00068-00001 | 0.20 | 1.13 | 0.35 | 0.66 | 0.22 | 1.25 | 0.20 | 0.37 | 49 |
| 366/i89 | CWL-K-22-00069-00001 | 0.19 | 1.11 | 0.26 | 0.61 | 0.22 | 1.25 | 0.15 | 0.34 | 50 |
| 340+/i89 | CWL-K-22-00070-00001 | 0.20 | 1.12 | 0.17 | 0.37 | 0.22 | 1.25 | 0.10 | 0.21 | 49 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-22-00079-00001 | 0.13 | 0.74 | 0.52 | 0.67 | 0.17 | 0.97 | 0.29 | 0.37 | 76 |
| 270/180 | CWL-K-22-00076-00001 | 0.13 | 0.72 | 0.32 | 0.58 | 0.17 | 0.97 | 0.18 | 0.33 | 77 |
| 366/180 | CWL-K-22-00077-00001 | 0.12 | 0.71 | 0.24 | 0.54 | 0.17 | 0.97 | 0.14 | 0.30 | 77 |
| 340+/180 | CWL-K-22-00078-00001 | 0.13 | 0.71 | 0.15 | 0.33 | 0.17 | 0.97 | 0.09 | 0.18 | 77 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-22-00083-00001 | 0.11 | 0.65 | 0.49 | 0.65 | 0.16 | 0.91 | 0.28 | 0.36 | 63 |
| 270/180/i89 | CWL-K-22-00080-00001 | 0.11 | 0.63 | 0.30 | 0.57 | 0.16 | 0.91 | 0.18 | 0.32 | 63 |
| 366/180/i89 | CWL-K-22-00081-00001 | 0.11 | 0.62 | 0.23 | 0.53 | 0.16 | 0.91 | 0.14 | 0.30 | 64 |
| 340+/180/i89 | CWL-K-22-00082-00001 | 0.11 | 0.63 | 0.15 | 0.32 | 0.16 | 0.91 | 0.09 | 0.18 | 64 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-22-00104-00001 | 0.13 | 0.74 | 0.52 | 0.67 | 0.17 | 0.97 | 0.29 | 0.37 | 77 |
| 270/180 | CWL-K-22-00101-00001 | 0.13 | 0.72 | 0.32 | 0.58 | 0.16 | 0.91 | 0.18 | 0.33 | 78 |
| 366/180 | CWL-K-22-00102-00001 | 0.12 | 0.71 | 0.24 | 0.54 | 0.16 | 0.91 | 0.14 | 0.30 | 78 |
| 340+/180 | CWL-K-22-00103-00001 | 0.13 | 0.71 | 0.15 | 0.33 | 0.16 | 0.91 | 0.09 | 0.18 | 78 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-22-00108-00001 | 0.11 | 0.65 | 0.49 | 0.65 | 0.16 | 0.91 | 0.28 | 0.36 | 64 |
| 270/180/i89 | CWL-K-22-00105-00001 | 0.11 | 0.63 | 0.30 | 0.57 | 0.16 | 0.91 | 0.18 | 0.32 | 65 |
| 366/180/i89 | CWL-K-22-00106-00001 | 0.11 | 0.62 | 0.23 | 0.53 | 0.15 | 0.85 | 0.14 | 0.30 | 65 |
| 340+/180/i89 | CWL-K-22-00107-00001 | 0.11 | 0.63 | 0.15 | 0.32 | 0.16 | 0.91 | 0.09 | 0.18 | 65 |

U-Values calculations: Imperial - Btu/hr · ft² · F / Metric - W / m² · k | Fenestration = Frame, mullion, sash and vision glass
Contact Cascadia for data on additional glass options

AWNING - 100% AIR
NFRC THERMAL PERFORMANCE SUMMARY

| LOW-E | CPD | CENTER-OF-GLASS | | | | FENESTRATION | | | | |
|---|----------------------|----------------------------|--------------------------|------|------|----------------------------|--------------------------|------|------|----|
| | | U _w IMPERIAL | U _w METRIC | SHGC | VT | U _w IMPERIAL | U _w METRIC | SHGC | VT | CR |
| STANDARD DOUBLE GLAZED (ONE LOW-E ON SURFACE #3 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270 | CWL-K-22-00072-00001 | 0.29 | 1.66 | 0.36 | 0.67 | 0.27 | 1.53 | 0.21 | 0.38 | 58 |
| 366 | CWL-K-22-00073-00001 | 0.29 | 1.63 | 0.28 | 0.63 | 0.27 | 1.53 | 0.16 | 0.35 | 58 |
| PREMIUM DOUBLE GLAZED (TWO LOW-E ON SURFACES #2 & #4 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270/i89 | CWL-K-22-00074-00001 | 0.23 | 1.31 | 0.35 | 0.66 | 0.24 | 1.36 | 0.20 | 0.37 | 45 |
| 366/i89 | CWL-K-22-00075-00001 | 0.23 | 1.29 | 0.27 | 0.61 | 0.24 | 1.36 | 0.16 | 0.34 | 45 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-22-00088-00001 | 0.16 | 0.92 | 0.51 | 0.67 | 0.19 | 1.08 | 0.29 | 0.37 | 73 |
| 270/180 | CWL-K-22-00084-00001 | 0.16 | 0.90 | 0.32 | 0.58 | 0.19 | 1.08 | 0.18 | 0.33 | 73 |
| 366/180 | CWL-K-22-00085-00001 | 0.16 | 0.89 | 0.24 | 0.54 | 0.19 | 1.08 | 0.14 | 0.30 | 73 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-22-00133-00001 | 0.14 | 0.80 | 0.48 | 0.65 | 0.18 | 1.02 | 0.28 | 0.36 | 59 |
| 270/180/i89 | CWL-K-22-00086-00001 | 0.14 | 0.78 | 0.30 | 0.57 | 0.18 | 1.02 | 0.18 | 0.32 | 60 |
| 366/180/i89 | CWL-K-22-00087-00001 | 0.14 | 0.77 | 0.23 | 0.53 | 0.17 | 0.97 | 0.14 | 0.30 | 60 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-22-00113-00001 | 0.16 | 0.92 | 0.51 | 0.67 | 0.18 | 1.02 | 0.29 | 0.37 | 74 |
| 270/180 | CWL-K-22-00109-00001 | 0.16 | 0.90 | 0.32 | 0.58 | 0.18 | 1.02 | 0.18 | 0.33 | 74 |
| 366/180 | CWL-K-22-00110-00001 | 0.16 | 0.89 | 0.24 | 0.54 | 0.18 | 1.02 | 0.14 | 0.30 | 75 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-22-00134-00001 | 0.14 | 0.80 | 0.48 | 0.65 | 0.17 | 0.97 | 0.28 | 0.36 | 60 |
| 270/180/i89 | CWL-K-22-00111-00001 | 0.14 | 0.78 | 0.30 | 0.57 | 0.17 | 0.97 | 0.18 | 0.32 | 61 |
| 366/180/i89 | CWL-K-22-00112-00001 | 0.14 | 0.77 | 0.23 | 0.53 | 0.17 | 0.97 | 0.14 | 0.30 | 61 |

U-Values calculations: Imperial - Btu/hr · ft² · F / Metric - W / m² · k | Fenestration = Frame, mullion, sash and vision glass
Contact Cascadia for data on additional glass options

TILT & TURN - ARGON 90% / 10% AIR
NFRC THERMAL PERFORMANCE SUMMARY

| LOW-E | CPD | CENTER-OF-GLASS | | | | FENESTRATION | | | | |
|---|----------------------|----------------------------|--------------------------|------|------|----------------------------|--------------------------|------|------|----|
| | | U _g IMPERIAL | U _g METRIC | SHGC | VT | U _w IMPERIAL | U _w METRIC | SHGC | VT | CR |
| STANDARD DOUBLE GLAZED (ONE LOW-E ON SURFACE #2 OR #3 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180 (#3) | CWL-K-23-00056-00001 | 0.26 | 1.47 | 0.64 | 0.77 | 0.25 | 1.42 | 0.46 | 0.55 | 60 |
| 270 | CWL-K-23-00053-00001 | 0.25 | 1.40 | 0.36 | 0.67 | 0.24 | 1.36 | 0.26 | 0.48 | 61 |
| 366 | CWL-K-23-00054-00001 | 0.24 | 1.36 | 0.27 | 0.63 | 0.24 | 1.36 | 0.20 | 0.45 | 61 |
| 340+ | CWL-K-23-00055-00001 | 0.24 | 1.38 | 0.18 | 0.38 | 0.24 | 1.36 | 0.13 | 0.27 | 61 |
| PREMIUM DOUBLE GLAZED (TWO LOW-E ON SURFACES #2 & #4 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/i89 | CWL-K-23-00060-00001 | 0.21 | 1.18 | 0.58 | 0.75 | 0.21 | 1.19 | 0.42 | 0.53 | 48 |
| 270/i89 | CWL-K-23-00057-00001 | 0.20 | 1.13 | 0.35 | 0.66 | 0.21 | 1.19 | 0.25 | 0.47 | 49 |
| 366/i89 | CWL-K-23-00058-00001 | 0.19 | 1.11 | 0.26 | 0.61 | 0.21 | 1.19 | 0.19 | 0.44 | 50 |
| 340+/i89 | CWL-K-23-00059-00001 | 0.20 | 1.12 | 0.17 | 0.37 | 0.21 | 1.19 | 0.13 | 0.26 | 50 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-23-00068-00001 | 0.13 | 0.74 | 0.52 | 0.67 | 0.15 | 0.85 | 0.37 | 0.47 | 76 |
| 270/180 | CWL-K-23-00065-00001 | 0.13 | 0.72 | 0.32 | 0.58 | 0.15 | 0.85 | 0.23 | 0.42 | 77 |
| 366/180 | CWL-K-23-00066-00001 | 0.12 | 0.71 | 0.24 | 0.54 | 0.15 | 0.85 | 0.17 | 0.39 | 77 |
| 340+/180 | CWL-K-23-00067-00001 | 0.13 | 0.71 | 0.15 | 0.33 | 0.15 | 0.85 | 0.11 | 0.23 | 77 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-23-00072-00001 | 0.11 | 0.65 | 0.49 | 0.65 | 0.14 | 0.79 | 0.35 | 0.46 | 64 |
| 270/180/i89 | CWL-K-23-00069-00001 | 0.11 | 0.63 | 0.30 | 0.57 | 0.14 | 0.79 | 0.22 | 0.41 | 65 |
| 366/180/i89 | CWL-K-23-00070-00001 | 0.11 | 0.62 | 0.23 | 0.53 | 0.14 | 0.79 | 0.17 | 0.38 | 65 |
| 340+/180/i89 | CWL-K-23-00071-00001 | 0.11 | 0.63 | 0.15 | 0.32 | 0.14 | 0.79 | 0.11 | 0.23 | 65 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-23-00093-00001 | 0.13 | 0.74 | 0.52 | 0.67 | 0.15 | 0.85 | 0.37 | 0.47 | 78 |
| 270/180 | CWL-K-23-00090-00001 | 0.13 | 0.72 | 0.32 | 0.58 | 0.15 | 0.85 | 0.23 | 0.42 | 79 |
| 366/180 | CWL-K-23-00091-00001 | 0.12 | 0.71 | 0.24 | 0.54 | 0.15 | 0.85 | 0.17 | 0.39 | 79 |
| 340+/180 | CWL-K-23-00092-00001 | 0.13 | 0.71 | 0.15 | 0.33 | 0.15 | 0.85 | 0.11 | 0.23 | 79 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-23-00097-00001 | 0.11 | 0.65 | 0.49 | 0.65 | 0.14 | 0.79 | 0.35 | 0.46 | 65 |
| 270/180/i89 | CWL-K-23-00094-00001 | 0.11 | 0.63 | 0.30 | 0.57 | 0.14 | 0.79 | 0.22 | 0.41 | 66 |
| 366/180/i89 | CWL-K-23-00095-00001 | 0.11 | 0.62 | 0.23 | 0.53 | 0.13 | 0.74 | 0.17 | 0.38 | 66 |
| 340+/180/i89 | CWL-K-23-00096-00001 | 0.11 | 0.63 | 0.15 | 0.32 | 0.14 | 0.79 | 0.11 | 0.23 | 66 |

U-Values calculations: Imperial - Btu/hr · ft² · F / Metric - W / m² · k | Fenestration = Frame, mullion, sash and vision glass
Contact Cascadia for data on additional glass options

TILT & TURN - 100% AIR
NFRC THERMAL PERFORMANCE SUMMARY

| LOW-E | CPD | CENTER-OF-GLASS | | | | FENESTRATION | | | | |
|---|----------------------|----------------------------|--------------------------|------|------|----------------------------|--------------------------|------|------|----|
| | | U _w IMPERIAL | U _w METRIC | SHGC | VT | U _w IMPERIAL | U _w METRIC | SHGC | VT | CR |
| STANDARD DOUBLE GLAZED (ONE LOW-E ON SURFACE #3 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270 | CWL-K-23-00061-00001 | 0.29 | 1.66 | 0.36 | 0.67 | 0.27 | 1.53 | 0.26 | 0.48 | 57 |
| 366 | CWL-K-23-00062-00001 | 0.29 | 1.63 | 0.28 | 0.63 | 0.27 | 1.53 | 0.20 | 0.45 | 58 |
| PREMIUM DOUBLE GLAZED (TWO LOW-E ON SURFACES #2 & #4 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270/i89 | CWL-K-23-00063-00001 | 0.23 | 1.31 | 0.35 | 0.66 | 0.23 | 1.31 | 0.25 | 0.47 | 46 |
| 366/i89 | CWL-K-23-00064-00001 | 0.23 | 1.29 | 0.27 | 0.61 | 0.23 | 1.31 | 0.19 | 0.44 | 46 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-23-00077-00001 | 0.16 | 0.92 | 0.51 | 0.67 | 0.18 | 1.02 | 0.37 | 0.47 | 73 |
| 270/180 | CWL-K-23-00073-00001 | 0.16 | 0.90 | 0.32 | 0.58 | 0.17 | 0.97 | 0.23 | 0.42 | 73 |
| 366/180 | CWL-K-23-00074-00001 | 0.16 | 0.89 | 0.24 | 0.54 | 0.17 | 0.97 | 0.18 | 0.39 | 74 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-23-00122-00001 | 0.14 | 0.80 | 0.48 | 0.65 | 0.16 | 0.91 | 0.35 | 0.46 | 61 |
| 270/180/i89 | CWL-K-23-00075-00001 | 0.14 | 0.78 | 0.30 | 0.57 | 0.16 | 0.91 | 0.22 | 0.41 | 61 |
| 366/180/i89 | CWL-K-23-00076-00001 | 0.14 | 0.77 | 0.23 | 0.53 | 0.16 | 0.91 | 0.17 | 0.38 | 61 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-23-00102-00001 | 0.16 | 0.92 | 0.51 | 0.67 | 0.17 | 0.97 | 0.37 | 0.47 | 74 |
| 270/180 | CWL-K-23-00098-00001 | 0.16 | 0.90 | 0.32 | 0.58 | 0.17 | 0.97 | 0.23 | 0.42 | 75 |
| 366/180 | CWL-K-23-00099-00001 | 0.16 | 0.89 | 0.24 | 0.54 | 0.17 | 0.97 | 0.18 | 0.39 | 75 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-23-00123-00001 | 0.14 | 0.80 | 0.48 | 0.65 | 0.16 | 0.91 | 0.35 | 0.46 | 62 |
| 270/180/i89 | CWL-K-23-00100-00001 | 0.14 | 0.78 | 0.30 | 0.57 | 0.15 | 0.85 | 0.22 | 0.41 | 62 |
| 366/180/i89 | CWL-K-23-00101-00001 | 0.14 | 0.77 | 0.23 | 0.53 | 0.15 | 0.85 | 0.17 | 0.38 | 63 |

U-Values calculations: Imperial - Btu/hr · ft² · F / Metric - W / m² · k | Fenestration = Frame, mullion, sash and vision glass
Contact Cascadia for data on additional glass options

HOPPER - ARGON 90% / 10% AIR
NFRC THERMAL PERFORMANCE SUMMARY

| LOW-E | CPD | CENTER-OF-GLASS | | | | FENESTRATION | | | | |
|---|----------------------|----------------------------|--------------------------|------|------|----------------------------|--------------------------|------|------|----|
| | | U _g IMPERIAL | U _g METRIC | SHGC | VT | U _w IMPERIAL | U _w METRIC | SHGC | VT | CR |
| STANDARD DOUBLE GLAZED (ONE LOW-E ON SURFACE #2 OR #3 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180 (#3) | CWL-K-24-00051-00001 | 0.26 | 1.47 | 0.64 | 0.77 | 0.25 | 1.42 | 0.37 | 0.43 | 60 |
| 270 | CWL-K-24-00048-00001 | 0.25 | 1.40 | 0.36 | 0.67 | 0.24 | 1.36 | 0.20 | 0.38 | 60 |
| 366 | CWL-K-24-00049-00001 | 0.24 | 1.36 | 0.27 | 0.63 | 0.24 | 1.36 | 0.16 | 0.35 | 61 |
| 340+ | CWL-K-24-00050-00001 | 0.24 | 1.38 | 0.18 | 0.38 | 0.24 | 1.36 | 0.11 | 0.21 | 61 |
| PREMIUM DOUBLE GLAZED (TWO LOW-E ON SURFACES #2 & #4 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/i89 | CWL-K-24-00055-00001 | 0.21 | 1.18 | 0.58 | 0.75 | 0.23 | 1.31 | 0.33 | 0.42 | 48 |
| 270/i89 | CWL-K-24-00052-00001 | 0.20 | 1.13 | 0.35 | 0.66 | 0.22 | 1.25 | 0.20 | 0.37 | 49 |
| 366/i89 | CWL-K-24-00053-00001 | 0.19 | 1.11 | 0.26 | 0.61 | 0.22 | 1.25 | 0.15 | 0.34 | 49 |
| 340+/i89 | CWL-K-24-00054-00001 | 0.20 | 1.12 | 0.17 | 0.37 | 0.22 | 1.25 | 0.10 | 0.21 | 49 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-24-00063-00001 | 0.13 | 0.74 | 0.52 | 0.67 | 0.17 | 0.97 | 0.29 | 0.37 | 76 |
| 270/180 | CWL-K-24-00060-00001 | 0.13 | 0.72 | 0.32 | 0.58 | 0.16 | 0.91 | 0.18 | 0.33 | 77 |
| 366/180 | CWL-K-24-00061-00001 | 0.12 | 0.71 | 0.24 | 0.54 | 0.16 | 0.91 | 0.14 | 0.30 | 77 |
| 340+/180 | CWL-K-24-00062-00001 | 0.13 | 0.71 | 0.15 | 0.33 | 0.16 | 0.91 | 0.09 | 0.18 | 77 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-24-00067-00001 | 0.11 | 0.65 | 0.49 | 0.65 | 0.16 | 0.91 | 0.28 | 0.36 | 63 |
| 270/180/i89 | CWL-K-24-00064-00001 | 0.11 | 0.63 | 0.30 | 0.57 | 0.15 | 0.85 | 0.17 | 0.32 | 64 |
| 366/180/i89 | CWL-K-24-00065-00001 | 0.11 | 0.62 | 0.23 | 0.53 | 0.15 | 0.85 | 0.13 | 0.30 | 64 |
| 340+/180/i89 | CWL-K-24-00066-00001 | 0.11 | 0.63 | 0.15 | 0.32 | 0.15 | 0.85 | 0.09 | 0.18 | 64 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-24-00088-00001 | 0.13 | 0.74 | 0.52 | 0.67 | 0.16 | 0.91 | 0.29 | 0.37 | 77 |
| 270/180 | CWL-K-24-00085-00001 | 0.13 | 0.72 | 0.32 | 0.58 | 0.16 | 0.91 | 0.18 | 0.33 | 78 |
| 366/180 | CWL-K-24-00086-00001 | 0.12 | 0.71 | 0.24 | 0.54 | 0.16 | 0.91 | 0.14 | 0.30 | 78 |
| 340+/180 | CWL-K-24-00087-00001 | 0.13 | 0.71 | 0.15 | 0.33 | 0.16 | 0.91 | 0.09 | 0.18 | 78 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-24-00092-00001 | 0.11 | 0.65 | 0.49 | 0.65 | 0.15 | 0.85 | 0.28 | 0.36 | 65 |
| 270/180/i89 | CWL-K-24-00089-00001 | 0.11 | 0.63 | 0.30 | 0.57 | 0.15 | 0.85 | 0.17 | 0.32 | 65 |
| 366/180/i89 | CWL-K-24-00090-00001 | 0.11 | 0.62 | 0.23 | 0.53 | 0.15 | 0.85 | 0.13 | 0.30 | 65 |
| 340+/180/i89 | CWL-K-24-00091-00001 | 0.11 | 0.63 | 0.15 | 0.32 | 0.15 | 0.85 | 0.09 | 0.18 | 65 |

U-Values calculations: Imperial - Btu/hr · ft² · F / Metric - W / m² · k | Fenestration = Frame, mullion, sash and vision glass
Contact Cascadia for data on additional glass options

HOPPER - 100% AIR

NFRC THERMAL PERFORMANCE SUMMARY

| LOW-E | CPD | CENTER-OF-GLASS | | | | FENESTRATION | | | | |
|---|----------------------|----------------------------|--------------------------|------|------|----------------------------|--------------------------|------|------|----|
| | | U _w IMPERIAL | U _w METRIC | SHGC | VT | U _w IMPERIAL | U _w METRIC | SHGC | VT | CR |
| STANDARD DOUBLE GLAZED (ONE LOW-E ON SURFACE #3 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270 | CWL-K-24-00056-00001 | 0.29 | 1.66 | 0.36 | 0.67 | 0.27 | 1.53 | 0.21 | 0.38 | 56 |
| 366 | CWL-K-24-00057-00001 | 0.29 | 1.63 | 0.28 | 0.63 | 0.27 | 1.53 | 0.16 | 0.35 | 57 |
| PREMIUM DOUBLE GLAZED (TWO LOW-E ON SURFACES #2 & #4 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270/i89 | CWL-K-24-00058-00001 | 0.23 | 1.31 | 0.35 | 0.66 | 0.24 | 1.36 | 0.20 | 0.37 | 45 |
| 366/i89 | CWL-K-24-00059-00001 | 0.23 | 1.29 | 0.27 | 0.61 | 0.24 | 1.36 | 0.16 | 0.34 | 45 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-24-00072-00001 | 0.16 | 0.92 | 0.51 | 0.67 | 0.18 | 1.02 | 0.29 | 0.37 | 73 |
| 270/180 | CWL-K-24-00068-00001 | 0.16 | 0.90 | 0.32 | 0.58 | 0.18 | 1.02 | 0.18 | 0.33 | 73 |
| 366/180 | CWL-K-24-00069-00001 | 0.16 | 0.89 | 0.24 | 0.54 | 0.18 | 1.02 | 0.14 | 0.30 | 73 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-24-00117-00001 | 0.14 | 0.80 | 0.48 | 0.65 | 0.17 | 0.97 | 0.28 | 0.36 | 60 |
| 270/180/i89 | CWL-K-24-00070-00001 | 0.14 | 0.78 | 0.30 | 0.57 | 0.17 | 0.97 | 0.17 | 0.32 | 60 |
| 366/180/i89 | CWL-K-24-00071-00001 | 0.14 | 0.77 | 0.23 | 0.53 | 0.17 | 0.97 | 0.14 | 0.30 | 61 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-24-00097-00001 | 0.16 | 0.92 | 0.51 | 0.67 | 0.18 | 1.02 | 0.29 | 0.37 | 74 |
| 270/180 | CWL-K-24-00093-00001 | 0.16 | 0.90 | 0.32 | 0.58 | 0.18 | 1.02 | 0.18 | 0.33 | 74 |
| 366/180 | CWL-K-24-00094-00001 | 0.16 | 0.89 | 0.24 | 0.54 | 0.17 | 0.97 | 0.14 | 0.30 | 75 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-24-00118-00001 | 0.14 | 0.80 | 0.48 | 0.65 | 0.17 | 0.97 | 0.28 | 0.36 | 61 |
| 270/180/i89 | CWL-K-24-00095-00001 | 0.14 | 0.78 | 0.30 | 0.57 | 0.17 | 0.97 | 0.17 | 0.32 | 61 |
| 366/180/i89 | CWL-K-24-00096-00001 | 0.14 | 0.77 | 0.23 | 0.53 | 0.16 | 0.91 | 0.14 | 0.30 | 62 |

U-Values calculations: Imperial - Btu/hr · ft² · F / Metric - W / m² · k | Fenestration = Frame, mullion, sash and vision glass
 Contact Cascadia for data on additional glass options

INSWING DOOR - ARGON 90% / 10% AIR
NFRC THERMAL PERFORMANCE SUMMARY

| LOW-E | CPD | CENTER-OF-GLASS | | | | FENESTRATION | | | | |
|---|----------------------|----------------------------|--------------------------|------|------|----------------------------|--------------------------|------|------|----|
| | | U _g IMPERIAL | U _g METRIC | SHGC | VT | U _w IMPERIAL | U _w METRIC | SHGC | VT | CR |
| STANDARD DOUBLE GLAZED (ONE LOW-E ON SURFACE #2 OR #3 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180 (#3) | CWL-K-27-00332-00001 | 0.26 | 1.47 | 0.64 | 0.77 | 0.24 | 1.36 | 0.41 | 0.48 | 61 |
| 270 | CWL-K-27-00329-00001 | 0.25 | 1.40 | 0.36 | 0.67 | 0.23 | 1.31 | 0.23 | 0.42 | 62 |
| 366 | CWL-K-27-00330-00001 | 0.24 | 1.36 | 0.27 | 0.63 | 0.23 | 1.31 | 0.17 | 0.39 | 62 |
| 340+ | CWL-K-27-00331-00001 | 0.24 | 1.38 | 0.18 | 0.38 | 0.23 | 1.31 | 0.12 | 0.24 | 62 |
| PREMIUM DOUBLE GLAZED (TWO LOW-E ON SURFACES #2 & #4 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/i89 | CWL-K-27-00336-00001 | 0.21 | 1.18 | 0.58 | 0.75 | 0.20 | 1.14 | 0.37 | 0.47 | 49 |
| 270/i89 | CWL-K-27-00333-00001 | 0.20 | 1.13 | 0.35 | 0.66 | 0.20 | 1.14 | 0.22 | 0.41 | 50 |
| 366/i89 | CWL-K-27-00334-00001 | 0.19 | 1.11 | 0.26 | 0.61 | 0.19 | 1.08 | 0.17 | 0.39 | 50 |
| 340+/i89 | CWL-K-27-00335-00001 | 0.20 | 1.12 | 0.17 | 0.37 | 0.20 | 1.14 | 0.11 | 0.23 | 50 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-27-00344-00001 | 0.13 | 0.74 | 0.52 | 0.67 | 0.15 | 0.85 | 0.33 | 0.42 | 77 |
| 270/180 | CWL-K-27-00341-00001 | 0.13 | 0.72 | 0.32 | 0.58 | 0.15 | 0.85 | 0.20 | 0.37 | 78 |
| 366/180 | CWL-K-27-00342-00001 | 0.12 | 0.71 | 0.24 | 0.54 | 0.15 | 0.85 | 0.15 | 0.34 | 78 |
| 340+/180 | CWL-K-27-00343-00001 | 0.13 | 0.71 | 0.15 | 0.33 | 0.15 | 0.85 | 0.10 | 0.21 | 78 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-27-00348-00001 | 0.11 | 0.65 | 0.49 | 0.65 | 0.14 | 0.79 | 0.31 | 0.41 | 65 |
| 270/180/i89 | CWL-K-27-00345-00001 | 0.11 | 0.63 | 0.30 | 0.57 | 0.14 | 0.79 | 0.19 | 0.36 | 65 |
| 366/180/i89 | CWL-K-27-00346-00001 | 0.11 | 0.62 | 0.23 | 0.53 | 0.14 | 0.79 | 0.15 | 0.33 | 66 |
| 340+/180/i89 | CWL-K-27-00347-00001 | 0.11 | 0.63 | 0.15 | 0.32 | 0.14 | 0.79 | 0.10 | 0.20 | 65 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-27-00370-00001 | 0.13 | 0.74 | 0.52 | 0.67 | 0.15 | 0.85 | 0.33 | 0.42 | 79 |
| 270/180 | CWL-K-27-00367-00001 | 0.13 | 0.72 | 0.32 | 0.58 | 0.14 | 0.79 | 0.20 | 0.37 | 79 |
| 366/180 | CWL-K-27-00368-00001 | 0.12 | 0.71 | 0.24 | 0.54 | 0.14 | 0.79 | 0.15 | 0.34 | 80 |
| 340+/180 | CWL-K-27-00369-00001 | 0.13 | 0.71 | 0.15 | 0.33 | 0.14 | 0.79 | 0.10 | 0.21 | 80 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-27-00374-00001 | 0.11 | 0.65 | 0.49 | 0.65 | 0.14 | 0.79 | 0.31 | 0.41 | 66 |
| 270/180/i89 | CWL-K-27-00371-00001 | 0.11 | 0.63 | 0.30 | 0.57 | 0.13 | 0.74 | 0.19 | 0.36 | 67 |
| 366/180/i89 | CWL-K-27-00372-00001 | 0.11 | 0.62 | 0.23 | 0.53 | 0.13 | 0.74 | 0.15 | 0.33 | 67 |
| 340+/180/i89 | CWL-K-27-00373-00001 | 0.11 | 0.63 | 0.15 | 0.32 | 0.13 | 0.74 | 0.10 | 0.20 | 67 |

U-Values calculations: Imperial - Btu/hr · ft² · F / Metric - W / m² · k | Fenestration = Frame, mullion, sash and vision glass
Contact Cascadia for data on additional glass options

INSWING DOOR - 100% AIR
NFRC THERMAL PERFORMANCE SUMMARY

| LOW-E | CPD | CENTER-OF-GLASS | | | | FENESTRATION | | | | |
|---|----------------------|----------------------------|--------------------------|------|------|----------------------------|--------------------------|------|------|----|
| | | U _w IMPERIAL | U _w METRIC | SHGC | VT | U _w IMPERIAL | U _w METRIC | SHGC | VT | CR |
| STANDARD DOUBLE GLAZED (ONE LOW-E ON SURFACE #3 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270 | CWL-K-27-00337-00001 | 0.29 | 1.66 | 0.36 | 0.67 | 0.26 | 1.48 | 0.23 | 0.42 | 58 |
| 366 | CWL-K-27-00338-00001 | 0.29 | 1.63 | 0.28 | 0.63 | 0.25 | 1.42 | 0.18 | 0.39 | 58 |
| PREMIUM DOUBLE GLAZED (TWO LOW-E ON SURFACES #2 & #4 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270/i89 | CWL-K-27-00339-00001 | 0.23 | 1.31 | 0.35 | 0.66 | 0.22 | 1.25 | 0.22 | 0.41 | 46 |
| 366/i89 | CWL-K-27-00340-00001 | 0.23 | 1.29 | 0.27 | 0.61 | 0.21 | 1.19 | 0.17 | 0.39 | 46 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-27-00351-00001 | 0.16 | 0.92 | 0.51 | 0.67 | 0.17 | 0.97 | 0.33 | 0.42 | 73 |
| 270/180 | CWL-K-27-00349-00001 | 0.16 | 0.90 | 0.32 | 0.58 | 0.17 | 0.97 | 0.20 | 0.37 | 74 |
| 366/180 | CWL-K-27-00350-00001 | 0.16 | 0.89 | 0.24 | 0.54 | 0.17 | 0.97 | 0.16 | 0.34 | 74 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-27-00780-00001 | 0.14 | 0.80 | 0.49 | 0.65 | 0.15 | 0.85 | 0.31 | 0.41 | 62 |
| 270/180/i89 | CWL-K-27-00352-00001 | 0.14 | 0.78 | 0.30 | 0.57 | 0.15 | 0.85 | 0.19 | 0.36 | 62 |
| 366/180/i89 | CWL-K-27-00353-00001 | 0.14 | 0.77 | 0.23 | 0.53 | 0.15 | 0.85 | 0.15 | 0.33 | 62 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-27-00377-00001 | 0.16 | 0.92 | 0.51 | 0.67 | 0.17 | 0.97 | 0.33 | 0.42 | 75 |
| 270/180 | CWL-K-27-00375-00001 | 0.16 | 0.90 | 0.32 | 0.58 | 0.16 | 0.91 | 0.20 | 0.37 | 75 |
| 366/180 | CWL-K-27-00376-00001 | 0.16 | 0.89 | 0.24 | 0.54 | 0.16 | 0.91 | 0.16 | 0.34 | 75 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-27-00781-00001 | 0.14 | 0.80 | 0.49 | 0.65 | 0.15 | 0.85 | 0.31 | 0.41 | 63 |
| 270/180/i89 | CWL-K-27-00378-00001 | 0.14 | 0.78 | 0.30 | 0.57 | 0.15 | 0.85 | 0.19 | 0.36 | 63 |
| 366/180/i89 | CWL-K-27-00379-00001 | 0.14 | 0.77 | 0.23 | 0.53 | 0.15 | 0.85 | 0.15 | 0.33 | 63 |

U-Values calculations: Imperial - Btu/hr · ft² · F / Metric - W / m² · k | Fenestration = Frame, mullion, sash and vision glass
Contact Cascadia for data on additional glass options

OUTSWING DOOR - ARGON 90% / 10% AIR
NFRC THERMAL PERFORMANCE SUMMARY

| LOW-E | CPD | CENTER-OF-GLASS | | | | FENESTRATION | | | | |
|---|----------------------|----------------------------|--------------------------|------|------|----------------------------|--------------------------|------|------|----|
| | | U _g IMPERIAL | U _g METRIC | SHGC | VT | U _w IMPERIAL | U _w METRIC | SHGC | VT | CR |
| STANDARD DOUBLE GLAZED (ONE LOW-E ON SURFACE #2 OR #3 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180 (#3) | CWL-K-27-00403-00001 | 0.26 | 1.47 | 0.64 | 0.77 | 0.24 | 1.36 | 0.41 | 0.48 | 62 |
| 270 | CWL-K-27-00400-00001 | 0.25 | 1.40 | 0.36 | 0.67 | 0.23 | 1.31 | 0.23 | 0.42 | 63 |
| 366 | CWL-K-27-00401-00001 | 0.24 | 1.36 | 0.27 | 0.63 | 0.23 | 1.31 | 0.17 | 0.39 | 64 |
| 340+ | CWL-K-27-00402-00001 | 0.24 | 1.38 | 0.18 | 0.38 | 0.23 | 1.31 | 0.12 | 0.24 | 63 |
| PREMIUM DOUBLE GLAZED (TWO LOW-E ON SURFACES #2 & #4 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/i89 | CWL-K-27-00407-00001 | 0.21 | 1.18 | 0.58 | 0.75 | 0.20 | 1.14 | 0.37 | 0.47 | 49 |
| 270/i89 | CWL-K-27-00404-00001 | 0.20 | 1.13 | 0.35 | 0.66 | 0.20 | 1.14 | 0.22 | 0.41 | 50 |
| 366/i89 | CWL-K-27-00405-00001 | 0.19 | 1.11 | 0.26 | 0.61 | 0.20 | 1.14 | 0.17 | 0.38 | 51 |
| 340+/i89 | CWL-K-27-00406-00001 | 0.20 | 1.12 | 0.17 | 0.37 | 0.20 | 1.14 | 0.11 | 0.23 | 50 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-27-00415-00001 | 0.13 | 0.74 | 0.52 | 0.67 | 0.15 | 0.85 | 0.33 | 0.42 | 77 |
| 270/180 | CWL-K-27-00412-00001 | 0.13 | 0.72 | 0.32 | 0.58 | 0.15 | 0.85 | 0.20 | 0.37 | 78 |
| 366/180 | CWL-K-27-00413-00001 | 0.12 | 0.71 | 0.24 | 0.54 | 0.15 | 0.85 | 0.15 | 0.34 | 78 |
| 340+/180 | CWL-K-27-00414-00001 | 0.13 | 0.71 | 0.15 | 0.33 | 0.15 | 0.85 | 0.10 | 0.21 | 78 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-27-00419-00001 | 0.11 | 0.65 | 0.49 | 0.65 | 0.14 | 0.79 | 0.31 | 0.41 | 64 |
| 270/180/i89 | CWL-K-27-00416-00001 | 0.11 | 0.63 | 0.30 | 0.57 | 0.14 | 0.79 | 0.19 | 0.36 | 65 |
| 366/180/i89 | CWL-K-27-00417-00001 | 0.11 | 0.62 | 0.23 | 0.53 | 0.14 | 0.79 | 0.15 | 0.33 | 65 |
| 340+/180/i89 | CWL-K-27-00418-00001 | 0.11 | 0.63 | 0.15 | 0.32 | 0.14 | 0.79 | 0.10 | 0.20 | 65 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-27-00441-00001 | 0.13 | 0.74 | 0.52 | 0.67 | 0.15 | 0.85 | 0.33 | 0.42 | 79 |
| 270/180 | CWL-K-27-00438-00001 | 0.13 | 0.72 | 0.32 | 0.58 | 0.14 | 0.79 | 0.20 | 0.37 | 80 |
| 366/180 | CWL-K-27-00439-00001 | 0.12 | 0.71 | 0.24 | 0.54 | 0.14 | 0.79 | 0.15 | 0.34 | 80 |
| 340+/180 | CWL-K-27-00440-00001 | 0.13 | 0.71 | 0.15 | 0.33 | 0.14 | 0.79 | 0.10 | 0.21 | 80 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-27-00445-00001 | 0.11 | 0.65 | 0.49 | 0.65 | 0.14 | 0.79 | 0.31 | 0.41 | 66 |
| 270/180/i89 | CWL-K-27-00442-00001 | 0.11 | 0.63 | 0.30 | 0.57 | 0.13 | 0.74 | 0.19 | 0.36 | 66 |
| 366/180/i89 | CWL-K-27-00443-00001 | 0.11 | 0.62 | 0.23 | 0.53 | 0.13 | 0.74 | 0.15 | 0.33 | 66 |
| 340+/180/i89 | CWL-K-27-00444-00001 | 0.11 | 0.63 | 0.15 | 0.32 | 0.13 | 0.74 | 0.10 | 0.20 | 66 |

U-Values calculations: Imperial - Btu/hr · ft² · F / Metric - W / m² · k | Fenestration = Frame, mullion, sash and vision glass
Contact Cascadia for data on additional glass options

OUTSWING DOOR - 100% AIR
NFRC THERMAL PERFORMANCE SUMMARY

| LOW-E | CPD | CENTER-OF-GLASS | | | | FENESTRATION | | | | |
|---|----------------------|----------------------------|--------------------------|------|------|----------------------------|--------------------------|------|------|----|
| | | U _w IMPERIAL | U _w METRIC | SHGC | VT | U _w IMPERIAL | U _w METRIC | SHGC | VT | CR |
| STANDARD DOUBLE GLAZED (ONE LOW-E ON SURFACE #3 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270 | CWL-K-27-00408-00001 | 0.29 | 1.66 | 0.36 | 0.67 | 0.26 | 1.48 | 0.23 | 0.42 | 59 |
| 366 | CWL-K-27-00409-00001 | 0.29 | 1.63 | 0.28 | 0.63 | 0.26 | 1.48 | 0.18 | 0.39 | 60 |
| PREMIUM DOUBLE GLAZED (TWO LOW-E ON SURFACES #2 & #4 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270/i89 | CWL-K-27-00410-00001 | 0.23 | 1.31 | 0.35 | 0.66 | 0.22 | 1.25 | 0.22 | 0.41 | 46 |
| 366/i89 | CWL-K-27-00411-00001 | 0.23 | 1.29 | 0.27 | 0.61 | 0.21 | 1.19 | 0.17 | 0.38 | 47 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-27-00422-00001 | 0.16 | 0.92 | 0.51 | 0.67 | 0.17 | 0.97 | 0.33 | 0.42 | 73 |
| 270/180 | CWL-K-27-00420-00001 | 0.16 | 0.90 | 0.32 | 0.58 | 0.17 | 0.97 | 0.20 | 0.37 | 74 |
| 366/180 | CWL-K-27-00421-00001 | 0.16 | 0.89 | 0.24 | 0.54 | 0.17 | 0.97 | 0.16 | 0.34 | 74 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270/180/i89 | CWL-K-27-00423-00001 | 0.14 | 0.78 | 0.30 | 0.57 | 0.15 | 0.85 | 0.19 | 0.36 | 61 |
| 366/180/i89 | CWL-K-27-00424-00001 | 0.14 | 0.77 | 0.23 | 0.53 | 0.15 | 0.85 | 0.15 | 0.33 | 61 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-27-00448-00001 | 0.16 | 0.92 | 0.51 | 0.67 | 0.17 | 0.97 | 0.33 | 0.42 | 75 |
| 270/180 | CWL-K-27-00446-00001 | 0.16 | 0.90 | 0.32 | 0.58 | 0.16 | 0.91 | 0.20 | 0.37 | 75 |
| 366/180 | CWL-K-27-00447-00001 | 0.16 | 0.89 | 0.24 | 0.54 | 0.16 | 0.91 | 0.16 | 0.34 | 76 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 270/180/i89 | CWL-K-27-00449-00001 | 0.14 | 0.78 | 0.30 | 0.57 | 0.15 | 0.85 | 0.19 | 0.36 | 63 |
| 366/180/i89 | CWL-K-27-00450-00001 | 0.14 | 0.77 | 0.23 | 0.53 | 0.15 | 0.85 | 0.15 | 0.33 | 63 |

U-Values calculations: Imperial - Btu/hr · ft² · F / Metric - W / m² · k | Fenestration = Frame, mullion, sash and vision glass
Contact Cascadia for data on additional glass options

SLIDING DOOR - ARGON 90% / 10% AIR
NFRC THERMAL PERFORMANCE SUMMARY

| LOW-E | CPD | CENTER-OF-GLASS | | | | FENESTRATION | | | | |
|---|----------------------|----------------------------|--------------------------|------|------|----------------------------|--------------------------|------|------|----|
| | | U _g IMPERIAL | U _g METRIC | SHGC | VT | U _w IMPERIAL | U _w METRIC | SHGC | VT | CR |
| STANDARD DOUBLE GLAZED (ONE LOW-E ON SURFACE #2 OR #3 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180 (#3) | CWL-K-28-00076-00001 | 0.26 | 1.47 | 0.61 | 0.77 | 0.24 | 1.36 | 0.43 | 0.54 | 59 |
| 270 | CWL-K-28-00073-00001 | 0.25 | 1.40 | 0.36 | 0.67 | 0.23 | 1.31 | 0.25 | 0.48 | 59 |
| 366 | CWL-K-28-00074-00001 | 0.24 | 1.36 | 0.27 | 0.63 | 0.23 | 1.31 | 0.19 | 0.44 | 60 |
| 340+ | CWL-K-28-00075-00001 | 0.24 | 1.38 | 0.18 | 0.38 | 0.23 | 1.31 | 0.13 | 0.27 | 60 |
| PREMIUM DOUBLE GLAZED (TWO LOW-E ON SURFACES #2 & #4 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/i89 | CWL-K-28-00080-00001 | 0.21 | 1.18 | 0.58 | 0.75 | 0.20 | 1.14 | 0.42 | 0.53 | 48 |
| 270/i89 | CWL-K-28-00077-00001 | 0.20 | 1.13 | 0.35 | 0.66 | 0.20 | 1.14 | 0.25 | 0.47 | 49 |
| 366/i89 | CWL-K-28-00078-00001 | 0.19 | 1.11 | 0.26 | 0.61 | 0.19 | 1.08 | 0.19 | 0.43 | 50 |
| 340+/i89 | CWL-K-28-00079-00001 | 0.20 | 1.12 | 0.17 | 0.37 | 0.20 | 1.14 | 0.13 | 0.26 | 49 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-28-00088-00001 | 0.13 | 0.75 | 0.52 | 0.66 | 0.15 | 0.85 | 0.37 | 0.47 | 75 |
| 270/180 | CWL-K-28-00085-00001 | 0.13 | 0.72 | 0.32 | 0.58 | 0.15 | 0.85 | 0.23 | 0.41 | 75 |
| 366/180 | CWL-K-28-00086-00001 | 0.13 | 0.71 | 0.24 | 0.54 | 0.15 | 0.85 | 0.17 | 0.38 | 76 |
| 340+/180 | CWL-K-28-00087-00001 | 0.13 | 0.72 | 0.15 | 0.33 | 0.15 | 0.85 | 0.11 | 0.23 | 76 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-28-00092-00001 | 0.12 | 0.66 | 0.49 | 0.65 | 0.14 | 0.79 | 0.35 | 0.46 | 65 |
| 270/180/i89 | CWL-K-28-00089-00001 | 0.11 | 0.64 | 0.30 | 0.57 | 0.14 | 0.79 | 0.22 | 0.40 | 65 |
| 366/180/i89 | CWL-K-28-00090-00001 | 0.11 | 0.63 | 0.23 | 0.53 | 0.13 | 0.74 | 0.17 | 0.37 | 66 |
| 340+/180/i89 | CWL-K-28-00091-00001 | 0.11 | 0.63 | 0.15 | 0.32 | 0.14 | 0.79 | 0.11 | 0.23 | 65 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-28-00224-00001 | 0.13 | 0.75 | 0.52 | 0.66 | 0.15 | 0.85 | 0.37 | 0.47 | 74 |
| 270/180 | CWL-K-28-00221-00001 | 0.13 | 0.72 | 0.32 | 0.58 | 0.15 | 0.85 | 0.23 | 0.41 | 74 |
| 366/180 | CWL-K-28-00222-00001 | 0.13 | 0.71 | 0.24 | 0.54 | 0.15 | 0.85 | 0.17 | 0.38 | 74 |
| 340+/180 | CWL-K-28-00223-00001 | 0.13 | 0.72 | 0.15 | 0.33 | 0.15 | 0.85 | 0.11 | 0.23 | 74 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-28-00228-00001 | 0.12 | 0.66 | 0.49 | 0.65 | 0.14 | 0.79 | 0.35 | 0.46 | 64 |
| 270/180/i89 | CWL-K-28-00225-00001 | 0.11 | 0.64 | 0.30 | 0.57 | 0.14 | 0.79 | 0.22 | 0.40 | 64 |
| 366/180/i89 | CWL-K-28-00226-00001 | 0.11 | 0.63 | 0.23 | 0.53 | 0.14 | 0.79 | 0.17 | 0.37 | 64 |
| 340+/180/i89 | CWL-K-28-00227-00001 | 0.11 | 0.63 | 0.15 | 0.32 | 0.14 | 0.79 | 0.11 | 0.23 | 64 |

U-Values calculations: Imperial - Btu/hr · ft² · F / Metric - W / m² · k | Fenestration = Frame, mullion, sash and vision glass
Contact Cascadia for data on additional glass options

SLIDING DOOR - 100% AIR
NFRC THERMAL PERFORMANCE SUMMARY

| LOW-E | CPD | CENTER-OF-GLASS | | | | FENESTRATION | | | | |
|---|----------------------|----------------------------|--------------------------|------|------|----------------------------|--------------------------|------|------|----|
| | | U _w IMPERIAL | U _w METRIC | SHGC | VT | U _w IMPERIAL | U _w METRIC | SHGC | VT | CR |
| STANDARD DOUBLE GLAZED (ONE LOW-E ON SURFACE #3 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270 | CWL-K-28-00081-00001 | 0.29 | 1.65 | 0.36 | 0.67 | 0.26 | 1.48 | 0.26 | 0.48 | 56 |
| 366 | CWL-K-28-00082-00001 | 0.29 | 1.63 | 0.28 | 0.63 | 0.26 | 1.48 | 0.20 | 0.44 | 56 |
| PREMIUM DOUBLE GLAZED (TWO LOW-E ON SURFACES #2 & #4 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 270/i89 | CWL-K-28-00083-00001 | 0.23 | 1.31 | 0.35 | 0.66 | 0.22 | 1.25 | 0.25 | 0.47 | 46 |
| 366/i89 | CWL-K-28-00084-00001 | 0.23 | 1.29 | 0.27 | 0.61 | 0.22 | 1.25 | 0.19 | 0.43 | 46 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-28-00095-00001 | 0.16 | 0.93 | 0.52 | 0.66 | 0.17 | 0.97 | 0.37 | 0.47 | 72 |
| 270/180 | CWL-K-28-00093-00001 | 0.16 | 0.91 | 0.32 | 0.58 | 0.17 | 0.97 | 0.23 | 0.41 | 72 |
| 366/180 | CWL-K-28-00094-00001 | 0.16 | 0.90 | 0.24 | 0.54 | 0.17 | 0.97 | 0.17 | 0.38 | 72 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / STAINLESS STEEL SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-28-00097-00001 | 0.14 | 0.80 | 0.49 | 0.65 | 0.16 | 0.91 | 0.35 | 0.46 | 61 |
| 270/180/i89 | CWL-K-28-00096-00001 | 0.14 | 0.78 | 0.30 | 0.57 | 0.15 | 0.85 | 0.22 | 0.40 | 62 |
| 366/180/i89 | CWL-K-28-00098-00001 | 0.14 | 0.78 | 0.23 | 0.53 | 0.15 | 0.85 | 0.17 | 0.37 | 62 |
| STANDARD TRIPLE GLAZED (TWO LOW-E ON SURFACES #2 & #5 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180 | CWL-K-28-00231-00001 | 0.16 | 0.93 | 0.52 | 0.66 | 0.17 | 0.97 | 0.37 | 0.47 | 71 |
| 270/180 | CWL-K-28-00229-00001 | 0.16 | 0.91 | 0.32 | 0.58 | 0.17 | 0.97 | 0.23 | 0.41 | 71 |
| 366/180 | CWL-K-28-00230-00001 | 0.16 | 0.90 | 0.24 | 0.54 | 0.17 | 0.97 | 0.17 | 0.38 | 71 |
| PREMIUM TRIPLE GLAZED (THREE LOW-E ON SURFACES #2, #4 & #6 / TRISEAL SUPER SPACER) | | | | | | | | | | |
| 180/180/i89 | CWL-K-28-00233-00001 | 0.14 | 0.80 | 0.49 | 0.65 | 0.16 | 0.91 | 0.35 | 0.46 | 60 |
| 270/180/i89 | CWL-K-28-00232-00001 | 0.14 | 0.78 | 0.30 | 0.57 | 0.16 | 0.91 | 0.22 | 0.40 | 61 |
| 366/180/i89 | CWL-K-28-00234-00001 | 0.14 | 0.78 | 0.23 | 0.53 | 0.15 | 0.85 | 0.17 | 0.37 | 61 |

U-Values calculations: Imperial - Btu/hr · ft² · F / Metric - W / m² · k | Fenestration = Frame, mullion, sash and vision glass
Contact Cascadia for data on additional glass options



INTERNATIONAL PASSIVE HOUSE INSTITUTE (PHI)

THERMAL PERFORMANCE SUMMARY

| LOW-E OPTIONS | CENTER-OF-GLASS DATA PER EN 673 | | | U _w (U-VALUE OF WINDOW) PER EN ISO 10077 [W / m ² K] | | | |
|-------------------|---------------------------------|---------|-------|--|--------------|--------------|--------------|
| | U _g | G-VALUE | VT | INSWING WINDOW | FIXED WINDOW | INSWING DOOR | SLIDING DOOR |
| Calibration Panel | 0.700 | | | 0.805 | 0.773 | 0.780 | 0.756 |
| 180/180 | 0.646 | 0.557 | 0.690 | 0.766 | 0.728 | 0.748 | 0.717 |
| 270/180 | 0.610 | 0.353 | 0.606 | 0.742 | 0.699 | 0.725 | 0.692 |
| 366/180 | 0.591 | 0.271 | 0.564 | 0.729 | 0.684 | 0.713 | 0.678 |
| 340+/180 | 0.601 | 0.171 | 0.339 | 0.735 | 0.691 | 0.719 | 0.684 |
| 180/180/i89 | 0.604 | 0.531 | 0.675 | 0.736 | 0.693 | 0.720 | 0.686 |
| 270/180/i89 | 0.572 | 0.341 | 0.592 | 0.715 | 0.667 | 0.700 | 0.664 |
| 366/180/i89 | 0.556 | 0.262 | 0.551 | 0.704 | 0.654 | 0.689 | 0.652 |
| 340+/180/i89 | 0.565 | 0.165 | 0.331 | 0.709 | 0.660 | 0.694 | 0.657 |

Modeled Size: Windows 1230W x 1480H | Swing Door 1100W x 2200H | Sliding Door 2400W x 2500H

Spacer: SuperSpacer® TriSeal™ by Edgetech

Glass: 4mm-16mm-4mm-16mm-4mm



INTERNATIONAL PASSIVE HOUSE INSTITUTE (PHI)

FRAME DATA

| | | WIDTH [MM] | U-VALUES [W / m ² K] | Psi VALUES [W / mK] |
|-----------------------|--------------|------------|---------------------------------|---------------------|
| INSWING WINDOW | | 105 | 0.88 | 0.021 |
| FIXED WINDOW | | 58 | 0.81 | 0.020 |
| INSWING DOOR | Sides & Head | 132 | 0.79 | 0.022 |
| | Sill | 146 | 0.86 | 0.022 |
| SLIDING DOOR | Bottom Sash | 168 | 0.74 | 0.021 |
| | Bottom Fixed | 81 | 0.74 | 0.022 |
| | Side Fixed | 58 | 0.81 | 0.020 |
| | Side Sash | 158 | 0.73 | 0.020 |
| | Top Sash | 168 | 0.79 | 0.021 |
| | Top Fixed | 81 | 0.76 | 0.023 |
| | Mullion | 202 | 0.74 | 0.020 |

Modeled Size: Windows 1230W x 1480H | Swing Door 1100W x 2200H | Sliding Door 2400W x 2500H

Spacer: SuperSpacer® TriSeal™ by Edgetech



INTERNATIONAL PASSIVE HOUSE INSTITUTE (PHI)

ADDITIONAL CENTER-OF-GLASS DATA - 5/14.5/5/14.5/5

| LOW-E OPTIONS | CENTER-OF-GLASS DATA PER EN 673 | | |
|-------------------|---------------------------------|---------|-------|
| | U _g | G-VALUE | VT |
| Calibration Panel | 0.700 | | |
| 180/180 | 0.689 | 0.547 | 0.680 |
| 270/180 | 0.653 | 0.349 | 0.598 |
| 366/180 | 0.635 | 0.269 | 0.556 |
| 340+/180 | 0.645 | 0.171 | 0.335 |
| 180/180/i89 | 0.641 | 0.521 | 0.664 |
| 270/180/i89 | 0.611 | 0.337 | 0.583 |
| 366/180/i89 | 0.595 | 0.260 | 0.542 |
| 340+/180/i89 | 0.604 | 0.164 | 0.326 |

Spacer: SuperSpacer® TriSeal™ by Edgetech

Glass: 5mm-14.5mm-5mm-14.5mm-5mm

INTERNATIONAL PASSIVE HOUSE INSTITUTE (PHI)

ADDITIONAL CENTER-OF-GLASS DATA - 6/13/6/13/6



| LOW-E OPTIONS | CENTER-OF-GLASS DATA PER EN 673 | | |
|-------------------|---------------------------------|---------|-------|
| | U _g | G-VALUE | VT |
| Calibration Panel | 0.700 | | |
| 180/180 | 0.740 | 0.529 | 0.666 |
| 270/180 | 0.706 | 0.343 | 0.585 |
| 366/180 | 0.688 | 0.267 | 0.544 |
| 340+/180 | 0.698 | 0.170 | 0.327 |
| 180/180/i89 | 0.686 | 0.503 | 0.651 |
| 270/180/i89 | 0.656 | 0.330 | 0.572 |
| 366/180/i89 | 0.641 | 0.258 | 0.532 |
| 340+/180/i89 | 0.650 | 0.164 | 0.320 |

Spacer: SuperSpacer® TriSeal™ by Edgetech

Glass: 6mm-13mm-6mm-13mm-6mm

PASSIVE HOUSE INSTITUTE US [PHIUS - ISO 15099] - WINDOWS

PASSIVE HOUSE INSTITUTE US (PHIUS)

PHIUS ISO 15099



| LOW-E OPTIONS | CENTER-OF-GLASS DATA | | | UW (U-VALUE OF WINDOW) [W / m²K] | | | | | | | |
|---------------|----------------------|---------|-------|----------------------------------|----------------|------------------|----------------|----------------------------|----------------|------------------------------|----------------|
| | U _g | G-VALUE | VT | FIXED EXT GLAZED | | FIXED INT GLAZED | | OUTSWING: CASEMENT, AWNING | | INSWING: TILT & TURN, HOPPER | |
| | | | | U _w | U _f | U _w | U _f | U _w | U _f | U _w | U _f |
| 180/180 | 0.128 | 0.514 | 0.690 | 0.16 | 0.18 | 0.16 | 0.19 | 0.17 | 0.19 | 0.16 | 0.18 |
| 366/180 | 0.120 | 0.239 | 0.563 | 0.15 | 0.17 | 0.15 | 0.19 | 0.16 | 0.19 | 0.16 | 0.18 |
| 180/180/i89 | 0.111 | 0.487 | 0.675 | 0.14 | 0.20 | 0.15 | 0.22 | 0.16 | 0.20 | 0.15 | 0.20 |
| 366/180/i89 | 0.105 | 0.230 | 0.550 | 0.14 | 0.20 | 0.14 | 0.22 | 0.15 | 0.20 | 0.15 | 0.20 |

Spacer: Stainless Steel Endur Spacer by Cardinal

Zones: Values for climate zone4, zone Marine North, and/or zone Marine South. Request full PHIUS certificates for PSI values, additional performance data, and climate zone recommendations.

ACOUSTIC PERFORMANCE - FENESTRATION

ASTM E90

| TEST NO. | GLAZING | STC | OITC |
|--|--|-----|------|
| FIXED WINDOW - DOUBLE GLAZED | | | |
| H4963.01-303 11-RO | 6mm Ann. / 14.5mm Air / 4mm Ann. | 34 | 28 |
| TL9781 | 6mm Ann. / 19.5mm Air / 6mm Ann. | 33 | 26 |
| TL9782 | 6mm Ann. / 18mm Air / 6Lam. (0.8mm PVB) | 37 | 30 |
| TL9783 | 6mm Ann. / 13mm Air / 10Lam. (2.3mm Acoustic PVB) | 40 | 33 |
| FIXED WINDOW - TRIPLE GLAZED | | | |
| TL9784 | 6mm Temp. / 14.5mm Air / 4mm Temp. / 14mm Air / 6mm Temp. | 35 | 26 |
| TL9785 | 6mm Temp. / 14.5mm Air / 4mm Temp. / 12mm Air / 6Lam (0.8mm PVB) | 39 | 31 |
| TL9786 | 6mm Temp. / 12mm Air / 4mm Temp. / 11mm Air / 10Lam (2.3mm Acoustic PVB) | 42 | 34 |
| OPERABLE WINDOW - DOUBLE GLAZED | | | |
| H4964.01-303-11-RO | 6mm Ann. / 16mm Air / 4mm Ann. | 35 | 28 |
| TL9775A | 6mm Ann. / 19.5mm Air / 6mm Ann. | 33 | 26 |
| TL9776 | 6mm Ann. / 17.5mm Air / 6Lam. (0.8mm PVB) | 38 | 29 |
| TL9777 | 6mm Ann. / 13.5mm Air / 10Lam. (2.3mm Acoustic PVB) | 41 | 33 |
| OPERABLE WINDOW - TRIPLE GLAZED | | | |
| TL9778 | 6mm Temp. / 14.5mm Air / 4mm Temp. / 14.5mm Air / 6mm Temp. | 37 | 29 |
| TL9779 | 6mm Temp. / 14.5mm Air / 4mm Temp. / 12mm Air / 6Lam (0.8mm PVB) | 40 | 32 |
| TL9780 | 6mm Temp. / 12mm Air / 4mm Temp. / 11mm Air / 10Lam (2.3mm Acoustic PVB) | 42 | 35 |
| DOOR - DOUBLE GLAZED | | | |
| TL9787 | 6mm Ann. / 20.5mm Air / 6mm Ann. | 34 | 27 |
| TL9788 | 6mm Ann. / 17.5mm Air / 6Lam. (0.8mm PVB) | 38 | 31 |
| TL9789 | 6mm Ann. / 12.5mm Air / 10Lam. (2.3mm Acoustic PVB) | 40 | 34 |
| DOOR - TRIPLE GLAZED | | | |
| TL9790 | 6mm Temp. / 14mm Air / 4mm Temp. / 15mm Air / 6mm Temp. | 37 | 29 |
| TL9791 | 6mm Temp. / 13.5mm Air / 4mm Temp. / 12.5mm Air / 6Lam (0.8mm PVB) | 40 | 31 |
| TL9792 | 6mm Temp. / 12mm Air / 4mm Temp. / 11mm Air / 10Lam (2.3mm Acoustic PVB) | 42 | 34 |

TESTED CONFIGURATIONS

Fixed Window = Picture Window (47.75" x 59.75"), **Operable Window** = Tilt & Turn (47.75" x 59.75"), **Door** = XO Tilt & Slide Door (71.75" x 77.75")

Contact Cascadia for data on additional glass details.

ACOUSTIC PERFORMANCE - CENTER-OF-GLASS

ASTM E90

| | GLAZING | SAMPLE SIZE | STC | OITC |
|--|--------------------|-----------------|-----|------|
| GLASS-ONLY (CALCULATED VALUES) 1" IGU NOMINAL | Double 6/6 | Center-of-glass | 35 | 28 |
| GLASS-ONLY (CALCULATED VALUES) 1" IGU NOMINAL | Double 6Lami/6 | Center-of-glass | 38 | 31 |
| GLASS-ONLY (CALCULATED VALUES) 1" IGU NOMINAL | Double 6Lami/6Lami | Center-of-glass | 40 | 34 |
| GLASS-ONLY (CALCULATED VALUES) 1.25" IGU NOMINAL | Double 6/6 | Center-of-glass | 38 | 31 |
| GLASS-ONLY (CALCULATED VALUES) 1.25" IGU NOMINAL | Double 6Lami/6 | Center-of-glass | 39 | 32 |
| GLASS-ONLY (CALCULATED VALUES) 1.25" IGU NOMINAL | Double 6Lami/6Lami | Center-of-glass | 41 | 35 |
| GLASS-ONLY (CALCULATED VALUES) 1.70" IGU NOMINAL | Triple 6/4/6 | Center-of-glass | 39 | 31 |
| GLASS-ONLY (CALCULATED VALUES) 1.70" IGU NOMINAL | Triple 6Lami/4/6 | Center-of-glass | 41 | 34 |
| GLASS-ONLY (CALCULATED VALUES) 1.70" IGU NOMINAL | Triple 4/4/4 | Center-of-glass | 36 | 28 |

NOTE:

Glass-only calculated values for STC and OITC represent approximate values.

Contact Cascadia for data on additional glass details.

NAFS KEY PERFORMANCE DATA
WINDOWS & DOORS



| TYPE | | TESTED SIZE | DESIGN WIND PRESSURE PSF (PA) | WATER INFILTRATION PSF (PA) | NAFS DESIGNATORS | AIR INFILTRATION [L/s*M ²] | AIR EXFILTRATION [L/s*M ²] |
|------------------|-------------------|-------------|-------------------------------|-----------------------------|------------------|--|--|
| OUTSWING | CASEMENT | 36" x 60" | 60 (2880) | 15 (730) | AW-PG60-C | 0.01 | 0.06 |
| | CASEMENT | 36" x 84" | 45 (2160) | 15 (730) | CW-PG45-C | 0.06 | 0.02 |
| | AWNING | 60" X 36" | 60 (2880) | 15 (730) | AW-PG60-AP | 0.05 | 0.29 |
| | AWNING | 84" x 36" | 60 (2880) | 15 (730) | CW-PG60-AP | 0.00 | 0.00 |
| | AWNING | 48" x 84" | 55 (2640) | 15 (730) | CW-PG55-AP | 0.01 | 0.01 |
| | AWNING | 76" x 60" | 35 (1680) | 15 (730) | CW-PG35-AP | 0.00 | 0.00 |
| INSWING | TILT & TURN | 48" x 72" | 80 (3840) | 15 (730) | CW-PG80-DAW | 0.00 | 0.01 |
| | TILT & TURN | 60" x 99" | 45 (2160) | 15 (730) | LC-PG45-DAW | 0.00 | 0.00 |
| | HOPPER | 84" x 36" | 85 (4080) | 15 (730) | CW-PG85-AP | 0.07 | 0.06 |
| | HOPPER | 76" x 60" | 60 (2880) | 15 (730) | CW-PG60-AP | 0.11 | 0.13 |
| FIXED | FIXED | 76" x 120" | 60 (2880) | 15 (730) | AW-PG60-FW | 0.01 | 0.01 |
| | FIXED | 144" x 60" | 100 (4800) | 15 (730) | CW-PG100-FW | 0.00 | 0.00 |
| | FIXED | 102" x 84" | 95 (4320) | 15 (730) | CW-PG95-FW | 0.00 | 0.00 |
| DOORS | OUTSWING (SINGLE) | 60" x 120" | 40 (1920) | 15 (730) | CW-PG40-SHD | 0.21 | 0.18 |
| | OUTSWING (DOUBLE) | 96" x 108" | 20 (960) | 15 (730) | R-PG20-SHD | 0.21 | 0.18 |
| | INSWING (SINGLE) | 60" x 120" | 45 (2160) | 15 (730) | R-PG45-SHD | 0.09 | 0.03 |
| | INSWING (DOUBLE) | 96" x 108" | 35 (1680) | 15 (730) | R-PG35-SHD | 0.02 | 0.02 |
| | SLIDING (SINGLE) | 96" x 96" | 45 (2160) | 15 (730) | CW-PG45-SD | 0.05 | 0.07 |
| | SLIDING (DOUBLE) | 240" x 108" | 20 (960) | 15 (730) | R-PG20-SD | 0.01 | 0.02 |
| | SLIDING (DOUBLE) | 198" x 96" | 30 (1440) | 15 (730) | CW-PG30-SD | 0.00 | 0.00 |
| | SLIDING (SINGLE) | 81" x 101" | 65 (3120) | 15 (720) | CW-PG65-SD | 0.00 | 0.00 |
| SLIDING (SINGLE) | 84" x 84" | 75 (3600) | 15 (720) | R-PG75-SD | 0.00 | 0.00 | |

NOTE: Dimensions above indicate NAFS performance tested sizes which may exceed common size limits available. For minimum/maximum sizes available, please consult Cascadia's Vent Size Charts.

Air Infiltration and Exfiltration tests the overall assembly at 75 Pa. All windows meet and surpass the US and Canadian air leakage performance requirements for A3/Fixed

GLASS WEIGHTS

LBS / SQ FT

| GLASS THICKNESS | GLASS WEIGHTS (LBS/SQ FT) | | |
|-----------------|---------------------------|---------------|---------------|
| | MONOLITHIC | DOUBLE GLAZED | TRIPLE GLAZED |
| 3.9 mm | 2.18 | 4.36 | 6.54 |
| 4.7 mm | 2.605 | 5.21 | 7.815 |
| 5.7 mm | 3.155 | 6.31 | 9.465 |

AVAILABLE WINDOW & DOOR SIZES

| FIXED WINDOWS | OUTSIDE-OF-FRAME | | | | PERFORMANCE GRADE | MAX. WEIGHT (LBS) |
|---------------|------------------|------------------|-----------------|------------------|-------------------|-------------------|
| | MIN. WIDTH (IN) | MIN. HEIGHT (IN) | MAX. WIDTH (IN) | MAX. HEIGHT (IN) | | |
| Fixed Glazing | 6 | 9 | 84 | 102 | PG 95 | 400 |
| Fixed Glazing | 6 | 9 | 60 | 144 | PG 100 | 400 |
| Fixed Glazing | 6 | 9 | 76 | 120 | PG 60 | 400 |

NOTE: Dimensions can be rotated 90 degrees

| OPERABLE WINDOWS | | | | | | |
|-----------------------|-------|--------|----|----|--|-----|
| Casement (outswing) | 18.75 | 22.625 | 36 | 72 | PG 60 | 220 |
| Awning (outswing) | 20 | 22.625 | 55 | 47 | PG 55 | 176 |
| Tilt & Turn (inswing) | 24 | 30 | 60 | 99 | PG 80 up to 48"x72" / PG 45 at larger sizes | 286 |
| Hopper (inswing) | 24 | 24 | 55 | 47 | PG 60 | 176 |

| SWING DOORS | | | | | | |
|------------------------|------------------|----|------------------|-----|-------|----------|
| Single door (outswing) | 24 | 60 | 60 | 120 | PG 40 | 220 |
| Single door (inswing) | 24 | 60 | 58 | 105 | PG 45 | 220 |
| Double door (outswing) | 48 (24/panel) | 60 | 96 (48/panel) | 108 | PG 20 | 220/sash |
| Double door (outswing) | 48 (24/panel) | 60 | 80 (40/panel) | 87 | PG 40 | 220/sash |
| Double door (inswing) | 48 (24/panel) | 60 | 94 (47/panel) | 105 | PG 35 | 220/sash |

| SLIDING DOORS | | | | | | |
|----------------------------|-------------------|----|-------------------|-----|-------|----------|
| Sliding single door (XO) | 54 (27/panel) | 60 | 96 (48/panel) | 96 | PG 45 | 220/sash |
| Sliding single door (XO) | 54 (27/panel) | 60 | 118 (59/panel) | 105 | PG 20 | 220/sash |
| Sliding single door (OXO) | 81 (27/panel) | 60 | 144 (48/panel) | 96 | PG 30 | 220/sash |
| Sliding single door (OXO) | 81 (27/panel) | 60 | 177 (59/panel) | 105 | PG 20 | 220/sash |
| Sliding double door (OXXO) | 108 (27/panel) | 60 | 192 (48/panel) | 96 | PG 30 | 220/sash |
| Sliding double door (OXXO) | 108 (27/panel) | 60 | 236 (59/panel) | 105 | PG 20 | 220/sash |

NOTE: Double door sizes shown include operable and fixed portions