

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.



PHOTO: Pacific Promenade, Vancouver BC

CASCADIAWINDOWS.COM

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



**ASK US ABOUT OUR
ENVIRONMENTAL PRODUCT
DECLARATIONS (EPDs)**

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

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
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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 / m²K]			
	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 / m²K]	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*M²]	AIR EXFILTRATION [L/s*M²]
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-DASHD	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

	OUTSIDE-OF-FRAME					
FIXED WINDOWS	MIN. WIDTH (IN)	MIN. HEIGHT (IN)	MAX. WIDTH (IN)	MAX. HEIGHT (IN)	PERFORMANCE GRADE	MAX. WEIGHT (LBS)
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