


Calculation based on ISO 15099

| | | | | | | | |
|---|------------------|------------------------------------|---|----------------------------|---|-------|--------------|
| Product name: | | Cascadia Universal Tilt Slide Door | | Center-of-glass properties | | | |
| ASHRAE/IECC/ DOE North American Climate Zone | South- facing | North, East, West -facing |  Passive House Institute US | | Cardinal E180/ Arg/ E180/ Arg/ i89(#6) (6mm) 44,0mm No Grids | | |
| Climate specific recommendations: | | | Whole-window installed U-value | | Ucog-Value | | |
| | | | W/m2K | BTU/hr.ft2.F | SHGC | W/m2K | BTU/hr.ft2.F |
| 8 | | | 0.81 | 0.14 | 0.487 | 0.653 | 0.115 |
| 7 | | | 0.81 | 0.14 | 0.487 | 0.642 | 0.113 |
| 6 | | | 0.80 | 0.14 | 0.487 | 0.635 | 0.112 |
| 5 | | | 0.80 | 0.14 | 0.487 | 0.634 | 0.112 |
| 4 | | | 0.80 | 0.14 | 0.487 | 0.632 | 0.111 |
| Marine North | | | 0.80 | 0.14 | 0.487 | 0.631 | 0.111 |
| Marine South | | | 0.80 | 0.14 | 0.487 | 0.628 | 0.111 |
| 3 | | | 0.80 | 0.14 | 0.487 | 0.630 | 0.111 |
| 2 West | | | 0.77 | 0.14 | 0.487 | 0.589 | 0.104 |
| 2 East | | | 0.77 | 0.14 | 0.487 | 0.589 | 0.104 |

| | | | | | | | |
|------------------------------------|--------------------------|--------------|------|---------|--------------|------------|-------------|
| Cascadia Universal Tilt Slide Door | | FRAME | | | | Psi-spacer | |
| Cardinal Endur | Horizontal two lite left | Frame height | | U-frame | | Ψ | |
| | | mm | in | W/m2K | BTU/hr.ft2.F | W/mK | BTU/hr.ft.F |
| | left head | 169 | 6.64 | 0.97 | 0.17 | 0.006 | 0.003 |
| | left sill | 169 | 6.64 | 0.89 | 0.16 | 0.006 | 0.003 |
| | left jamb | 146 | 5.74 | 0.93 | 0.16 | 0.006 | 0.004 |
| | right MR | 93 | 3.66 | 0.94 | 0.17 | 0.006 | 0.004 |


| | | | | | | | | |
|------------------------------------|---------------------------|--------------|------|---------|--------------|------------|-------------|-------------|
| Cascadia Universal Tilt Slide Door | | FRAME | | | | Psi-spacer | | Psi-opaque |
| Cardinal Endur | Horizontal two lite right | Frame height | | U-frame | | Ψ | | W/mK |
| | | mm | in | W/m2K | BTU/hr.ft2.F | W/mK | BTU/hr.ft.F | |
| | right head | 81 | 3.20 | 1.26 | 0.22 | 0.001 | 0.000 | 0.129 |
| | right sill | 81 | 3.20 | 1.21 | 0.21 | 0.002 | 0.001 | BTU/hr.ft.F |
| | right jamb | 58 | 2.27 | 1.25 | 0.22 | 0.006 | 0.004 | 0.074 |
| | left MR | 93 | 3.67 | 1.53 | 0.27 | 0.009 | 0.005 | Grade B |

For horizontal slider the right MR is the right jamb for the left segment and the left MR is the left jamb for the right segment

For horizontal slider the right MR is the right jamb for the left segment and the left MR is the left jamb for the right segment

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|---|---|---|--------------|--|--------------------|
| Product name: Cascadia Universal Tilt Slide Door | | Center-of-glass properties | | | |
| ASHRAE/IECC/ DOE North American Climate Zone | South-facing North, East, West -facing |  | | Cardinal E180/ Arg/ E180/ Arg/ i89(#6) (6mm) 44,0mm SDL/no Internal grids < 25.4mm | |
| Climate specific recommendations: | | Whole-window installed U-value | | Ucog-Value | |
| | | W/m2K | BTU/hr.ft2.F | SHGC | W/m2K BTU/hr.ft2.F |
| 8 | | 0.81 | 0.14 | 0.409 | 0.653 0.115 |
| 7 | | 0.81 | 0.14 | 0.409 | 0.642 0.113 |
| 6 | | 0.80 | 0.14 | 0.409 | 0.635 0.112 |
| 5 | | 0.80 | 0.14 | 0.409 | 0.634 0.112 |
| 4 | | 0.80 | 0.14 | 0.409 | 0.632 0.111 |
| Marine North | | 0.80 | 0.14 | 0.409 | 0.631 0.111 |
| Marine South | ✓ | 0.80 | 0.14 | 0.409 | 0.628 0.111 |
| 3 | ✓ | 0.80 | 0.14 | 0.409 | 0.630 0.111 |
| 2 West | | 0.77 | 0.14 | 0.409 | 0.589 0.104 |
| 2 East | | 0.77 | 0.14 | 0.409 | 0.589 0.104 |
| Cascadia Universal Tilt Slide Door | | FRAME | | Psi-spacer | |
| Cardinal Endur | | Frame height | | U-frame | |
| Horizontal two lite left | | mm | in | W/m2K | BTU/hr.ft2.F |
| left head | | 169 | 6.64 | 0.97 | 0.17 |
| left sill | | 169 | 6.64 | 0.89 | 0.16 |
| left jamb | | 146 | 5.74 | 0.93 | 0.16 |
| right MR | | 93 | 3.66 | 0.94 | 0.17 |
| Cascadia Universal Tilt Slide Door | | FRAME | | Psi-spacer | |
| Cardinal Endur | | Frame height | | U-frame | |
| Horizontal two lite right | | mm | in | W/m2K | BTU/hr.ft2.F |
| right head | | 81 | 3.20 | 1.26 | 0.22 |
| right sill | | 81 | 3.20 | 1.21 | 0.21 |
| right jamb | | 58 | 2.27 | 1.25 | 0.22 |
| left MR | | 93 | 3.67 | 1.53 | 0.27 |
| | | | | Psi | |
| | | | | W/mK | BTU/hr.ft.F |
| | | | | 0.006 | 0.003 |
| | | | | 0.006 | 0.003 |
| | | | | 0.006 | 0.004 |
| | | | | 0.006 | 0.004 |
| | | | | 0.001 | 0.000 |
| | | | | 0.002 | 0.001 |
| | | | | 0.006 | 0.004 |
| | | | | 0.009 | 0.005 |
| | | | | Psi-opaque | |
| | | | | W/mK | |
| | | | | 0.129 | |
| | | | | BTU/hr.ft.F | |
| | | | | 0.074 | |
| | | | | Grade B | |

For horizontal slider the right MR is the right jamb for the left segment and the left MR is the left jamb for the right segment

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|---|--|---|--------------|---|--------------------|
| Product name: Cascadia Universal Tilt Slide Door | | Center-of-glass properties | | | |
| ASHRAE/IECC/ DOE North American Climate Zone | North, South- facing East, West -facing |  | | Cardinal E180/ Arg/ E180/ Arg/ i89(#6) (6mm) 44,0mm Internal grids And SDL with Internal grids < 25.4mm maintain 3mm clearance | |
| Climate specific recommendations: | | Whole-window installed U-value | | Ucog-Value | |
| | | W/m2K | BTU/hr.ft2.F | SHGC | W/m2K BTU/hr.ft2.F |
| 8 | | 0.81 | 0.14 | 0.409 | 0.653 0.115 |
| 7 | | 0.81 | 0.14 | 0.409 | 0.642 0.113 |
| 6 | | 0.80 | 0.14 | 0.409 | 0.635 0.112 |
| 5 | | 0.80 | 0.14 | 0.409 | 0.634 0.112 |
| 4 | | 0.80 | 0.14 | 0.409 | 0.632 0.111 |
| Marine North | | 0.80 | 0.14 | 0.409 | 0.631 0.111 |
| Marine South | ✓ | 0.80 | 0.14 | 0.409 | 0.628 0.111 |
| 3 | ✓ | 0.80 | 0.14 | 0.409 | 0.630 0.111 |
| 2 West | | 0.77 | 0.14 | 0.409 | 0.589 0.104 |
| 2 East | | 0.77 | 0.14 | 0.409 | 0.589 0.104 |


| | | | | | |
|--|--------------|-------|---------|--------------|------------------|
| Cascadia Universal Tilt Slide Door | | FRAME | | Psi-spacer | |
| Cardinal Endur Horizontal two lite left | Frame height | | U-frame | | Ψ |
| | mm | in | W/m2K | BTU/hr.ft2.F | W/mK BTU/hr.ft.F |
| left head | 169 | 6.64 | 0.97 | 0.17 | 0.006 0.003 |
| left sill | 169 | 6.64 | 0.89 | 0.16 | 0.006 0.003 |
| left jamb | 146 | 5.74 | 0.93 | 0.16 | 0.006 0.004 |
| right MR | 93 | 3.66 | 0.94 | 0.17 | 0.006 0.004 |

| | | | | | | |
|---|--------------|-------|---------|--------------|------------------|-------------|
| Cascadia Universal Tilt Slide Door | | FRAME | | Psi-spacer | | Psi-opaque |
| Cardinal Endur Horizontal two lite right | Frame height | | U-frame | | Ψ | |
| | mm | in | W/m2K | BTU/hr.ft2.F | W/mK BTU/hr.ft.F | |
| right head | 81 | 3.20 | 1.26 | 0.22 | 0.001 0.000 | 0.129 |
| right sill | 81 | 3.20 | 1.21 | 0.21 | 0.002 0.001 | BTU/hr.ft.F |
| right jamb | 58 | 2.27 | 1.25 | 0.22 | 0.006 0.004 | 0.074 |
| left MR | 93 | 3.67 | 1.53 | 0.27 | 0.009 0.005 | Grade B |

For horizontal slider the right MR is the right jamb for the left segment and the left MR is the left jamb for the right segment

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| Product name: | | Cascadia Universal Tilt Slide Door | | Center-of-glass properties | | | |
| ASHRAE/IECC/ DOE North American Climate Zone | South-facing | North, East, West -facing |  | | Cardinal E180/ Arg/ E180/ Arg/ i89(#6) (6mm) 44,0mm Internal grids And SDL with Internal grids < 25.4mm | | |
| Climate specific recommendations: | | | Whole-window installed U-value | | Ucog-Value | | |
| | | | W/m2K | BTU/hr.ft2.F | SHGC | W/m2K | BTU/hr.ft2.F |
| 8 | | | 0.87 | 0.15 | 0.409 | 0.653 | 0.115 |
| 7 | | | 0.86 | 0.15 | 0.409 | 0.642 | 0.113 |
| 6 | | | 0.86 | 0.15 | 0.409 | 0.635 | 0.112 |
| 5 | | | 0.86 | 0.15 | 0.409 | 0.634 | 0.112 |
| 4 | | | 0.86 | 0.15 | 0.409 | 0.632 | 0.111 |
| Marine North | | | 0.86 | 0.15 | 0.409 | 0.631 | 0.111 |
| Marine South | ☑ | | 0.85 | 0.15 | 0.409 | 0.628 | 0.111 |
| 3 | ☑ | | 0.85 | 0.15 | 0.409 | 0.630 | 0.111 |
| 2 West | | | 0.82 | 0.15 | 0.409 | 0.589 | 0.104 |
| 2 East | | | 0.82 | 0.15 | 0.409 | 0.589 | 0.104 |

| Cascadia Universal Tilt Slide Door Cardinal Endur Horizontal two lite left | FRAME | | | | Psi-spacer | | |
|---|--------------|------|---------|--------------|------------|-------------|-------------|
| | Frame height | | U-frame | | Ψ | | |
| | mm | in | W/m2K | BTU/hr.ft2.F | W/mK | BTU/hr.ft.F | |
| left head | 169 | 6.64 | 0.97 | 0.17 | 0.006 | 0.003 | |
| left sill | 169 | 6.64 | 0.89 | 0.16 | 0.006 | 0.003 | |
| left jamb | 146 | 5.74 | 0.93 | 0.16 | 0.006 | 0.004 | |
| right MR | 93 | 3.66 | 0.94 | 0.17 | 0.006 | 0.004 | |
| | | | | | | | |
| Cascadia Universal Tilt Slide Door Cardinal Endur Horizontal two lite right | FRAME | | | | Psi-spacer | | Psi-opaque |
| | Frame height | | U-frame | | Ψ | | |
| | mm | in | W/m2K | BTU/hr.ft2.F | W/mK | BTU/hr.ft.F | |
| right head | 81 | 3.20 | 1.26 | 0.22 | 0.001 | 0.000 | W/mK |
| right sill | 81 | 3.20 | 1.21 | 0.21 | 0.002 | 0.001 | BTU/hr.ft.F |
| right jamb | 58 | 2.27 | 1.25 | 0.22 | 0.006 | 0.004 | 0.074 |
| left MR | 93 | 3.67 | 1.53 | 0.27 | 0.009 | 0.005 | Grade B |

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| Climate specific recommendations: | | Whole-window installed U-value | | Ucog-Value | |
| | | W/m2K | BTU/hr.ft2.F | SHGC | W/m2K BTU/hr.ft2.F |
| 8 | | 0.81 | 0.14 | 0.335 | 0.653 0.115 |
| 7 | | 0.81 | 0.14 | 0.335 | 0.642 0.113 |
| 6 | | 0.80 | 0.14 | 0.335 | 0.635 0.112 |
| 5 | | 0.80 | 0.14 | 0.335 | 0.634 0.112 |
| 4 | | 0.80 | 0.14 | 0.335 | 0.632 0.111 |
| Marine North | ✓ | 0.80 | 0.14 | 0.335 | 0.631 0.111 |
| Marine South | ✓ | 0.80 | 0.14 | 0.335 | 0.628 0.111 |
| 3 | ✓ | 0.80 | 0.14 | 0.335 | 0.630 0.111 |
| 2 West | | 0.77 | 0.14 | 0.335 | 0.589 0.104 |
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| Cascadia Universal Tilt Slide Door | | FRAME | | Psi-spacer | |
|------------------------------------|--|--------------|------|------------|--------------|
| Cardinal Endur | | Frame height | | U-frame | |
| Horizontal two lite left | | mm | in | W/m2K | BTU/hr.ft2.F |
| left head | | 169 | 6.64 | 0.97 | 0.17 |
| left sill | | 169 | 6.64 | 0.89 | 0.16 |
| left jamb | | 146 | 5.74 | 0.93 | 0.16 |
| right MR | | 93 | 3.66 | 0.94 | 0.17 |
| Cascadia Universal Tilt Slide Door | | FRAME | | Psi-spacer | |
| Cardinal Endur | | Frame height | | U-frame | |
| Horizontal two lite right | | mm | in | W/m2K | BTU/hr.ft2.F |
| right head | | 81 | 3.20 | 1.26 | 0.22 |
| right sill | | 81 | 3.20 | 1.21 | 0.21 |
| right jamb | | 58 | 2.27 | 1.25 | 0.22 |
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| 7 | | 0.81 | 0.14 | 0.335 | 0.642 0.113 |
| 6 | | 0.80 | 0.14 | 0.335 | 0.635 0.112 |
| 5 | | 0.80 | 0.14 | 0.335 | 0.634 0.112 |
| 4 | | 0.80 | 0.14 | 0.335 | 0.632 0.111 |
| Marine North | <input checked="" type="checkbox"/> | 0.80 | 0.14 | 0.335 | 0.631 0.111 |
| Marine South | <input checked="" type="checkbox"/> | 0.80 | 0.14 | 0.335 | 0.628 0.111 |
| 3 | <input checked="" type="checkbox"/> | 0.80 | 0.14 | 0.335 | 0.630 0.111 |
| 2 West | | 0.77 | 0.14 | 0.335 | 0.589 0.104 |
| 2 East | | 0.77 | 0.14 | 0.335 | 0.589 0.104 |

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|------------------------------------|--|--------------|------|------------|--------------|
| Cardinal Endur | | Frame height | | U-frame | |
| Horizontal two lite left | | mm | in | W/m2K | BTU/hr.ft2.F |
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| Cascadia Universal Tilt Slide Door | | FRAME | | Psi-spacer | |
| Cardinal Endur | | Frame height | | U-frame | |
| Horizontal two lite left | | mm | in | W/m2K | BTU/hr.ft2.F |
| left head | | 169 | 6.64 | 0.97 | 0.17 |
| left sill | | 169 | 6.64 | 0.89 | 0.16 |
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| Cascadia Universal Tilt Slide Door | | FRAME | | Psi-spacer | |
| Cardinal Endur | | Frame height | | U-frame | |
| Horizontal two lite right | | mm | in | W/m2K | BTU/hr.ft2.F |
| right head | | 81 | 3.20 | 1.26 | 0.22 |
| right sill | | 81 | 3.20 | 1.21 | 0.21 |
| right jamb | | 58 | 2.27 | 1.25 | 0.22 |
| left MR | | 93 | 3.67 | 1.53 | 0.27 |
| | | | | Psi-opaque | |
| | | | | W/mK | BTU/hr.ft.F |
| | | | | 0.129 | 0.074 |
| | | | | Grade B | |

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