

Note: All values calculated using Window 5.2. (See <http://windows.lbl.gov/software/window/window.html> and <http://windows.lbl.gov/materials/igdb/> for more information on glass optical data and the Windows 5.2 program.) Emittance of ordinary low-e is 0.20.

Solar Heat Gain Coefficient – (SHGC). The amount of solar radiation that enters a building as heat. The lower the number, the better the glazing is at preventing solar gain.

Fading Transmission – The portion of energy transmitted in a spectral region from 300 to 700 nanometers. This region includes all of the ultraviolet energy and most of the visible spectrum, and will give the best representation of relative fading rates. The lower the number, the better the glass is for reducing fading potential of carpets and interior furnishings.

U-Factor – This represents the heat flow rate through a window expressed in BTU/hr/ft²/°F, using winter weather conditions of 0°F outside and 70°F inside. The smaller the number, the better the window system is at reducing heat loss.

Cardinal actively supports and participates in The National Fenestration Rating Council (NFRC). Windows with LoE²-270 that are rated and certified by the NFRC can comply with Energy Star™ requirements for all climates in the country.

(See <http://www.energystar.gov/products/windows/> for more information on the Energy Star windows program.)

GLASS PERFORMANCE

PRODUCT	VISIBLE LIGHT TRANSMITTANCE %	SOLAR HEAT GAIN COEFFICIENT	WINTER U-FACTOR (AIR/ARGON)	UV	FADING TRANSMISSION
Single-pane, clear	90%	.86	1.04/---	.71	.84
Double-pane, clear	81%	.76	.48/--	.56	.74
Ordinary low-e	75%	.72	.35/.31	.44	.63
LoE³-366	66%	.27	.29/.24	.05	.43



Cardinal CG

775 Prairie Center Drive
Eden Prairie MN 55344
cardinalcorp.com



ULTIMATE PERFORMANCE GLASS



Cardinal Coated Glass

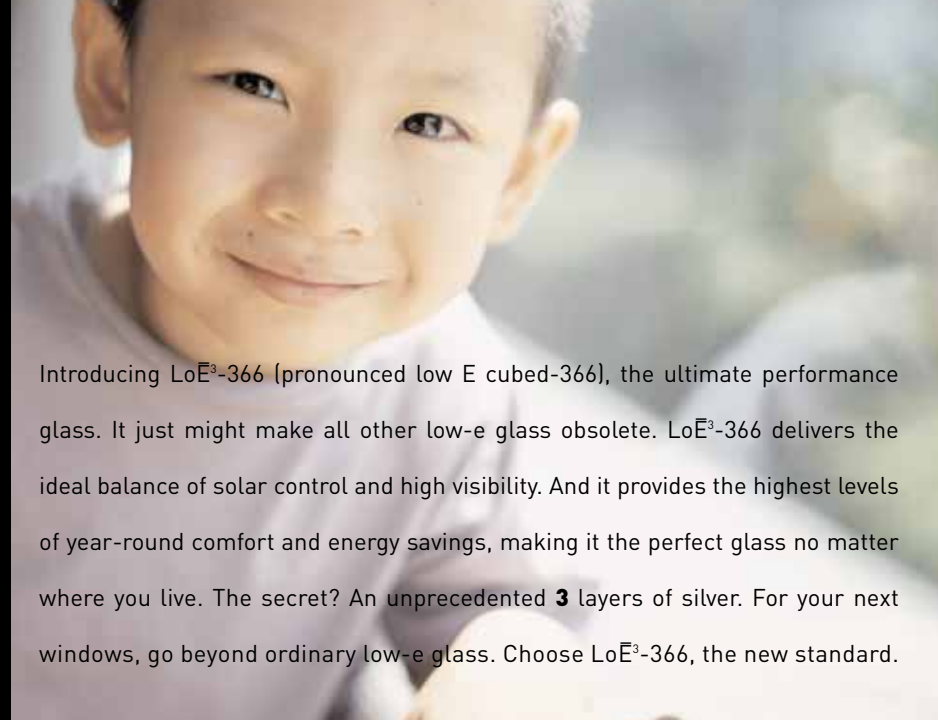
Superior glass products
for residential windows and doors



ULTIMATE PERFORMANCE GLASS

Introducing the new standard.

Introducing LoE³-366 (pronounced low E cubed-366), the ultimate performance glass. It just might make all other low-e glass obsolete. LoE³-366 delivers the ideal balance of solar control and high visibility. And it provides the highest levels of year-round comfort and energy savings, making it the perfect glass no matter where you live. The secret? An unprecedented **3** layers of silver. For your next windows, go beyond ordinary low-e glass. Choose LoE³-366, the new standard.



Beats the
heat.

When the temperature soars, ordinary window glass just can't handle the heat. And tinted glass spoils the view. Cardinal LoE³-366, however, has been specially formulated to reject the sun's heat without affecting the view. It lets more light in and keeps more heat out. So your home stays cool and comfortable. Our patented LoE³-366 coating provides the ultimate in performance and clarity of all our low-e products.

What's more, LoE³-366 provides the ultimate in fading protection as well. It blocks 95% of the sun's damaging ultraviolet rays (a leading cause of fading), so it will help your furniture, carpets, curtains and wall coverings stay beautiful for years to come.

Keeps the
view.



90° outside

75° inside



Cardinal LoE³-366
reduces window heat
gain by 64% compared
to ordinary glass.

During cold weather, the insulating effect of your windows has a direct impact on how your rooms feel. Typically, 75% of the exposed surface of a window is glass, and the temperature of the room-side of the glass directly affects the air temperature in the room. The better insulated the window glass, the warmer your room will be.

In fact, the Efficient Windows Collaborative (www.efficientwindows.org) suggests that when glass surface temperature falls below 52°F, there is a risk of thermal discomfort. To maintain the best comfort during the winter, select a glass product that produces surface temperatures that will stay above this point during the coldest outdoor conditions.

It's the perfect cold remedy, too.



Inside Glass and Outside Temperatures

The table below compares the room-side center-glass temperatures of four different glass types against different winter conditions.

	-20°F
Single-pane	4°
Double-pane clear	35°
Ordinary low-e	50°
LoE³-366	52°

The superior insulating capability of Cardinal LoE³-366 is a key factor in the construction of comfortable windows in cold climates. The dramatic comfort improvement from windows with warm glass surfaces also means that the humidity of the indoor air can be controlled and managed properly. Proper humidity levels (not too much, not too little) will improve comfort and promote a healthier living environment.



Three layers of silver make the clear difference.

For years, Cardinal LoE² has been setting the standard for energy-efficient glass. Top-of-the-line residential window and

door manufacturers all rely on our high quality. Our patented, state-of-the-art sputter coating processes are unmatched by any other glass manufacturer.

Now we've raised the bar. LoE³-366 adds a third layer of silver coating. Result: a clear coating that blocks even more solar

gain, reflects heat and lets the light stream in. All with a minimum of exterior reflectance. And no heavy bronze or smoke-colored tints to darken your home. LoE³-366 actually outperforms the tinted glass often used in warm climates.

LoE³-366 can be purchased in hurricane-resistant laminated glass, in a variety of custom shapes and sizes.

To learn more about LoE³-366 and other Cardinal glass products, ask your contractor or architect, or visit our website at www.cardinalcorp.com.

% Transmission vs. Wavelength

