

**Commercial Dynamic Dome Skylights -
Performance Summary**

November 28, 2017

Dynamic Dome Skylights - Air, Water and Structural Performance				Thermal and Optical Performance <small>(valid for all sizes / SHGC and Vt all outer domes clear smooth)</small>					
Product Tested		Description	NAFS-11 Ratings	U-Factor NFRC 100	SHGC NFRC 200	COG VT ASTM E972	Haze ASTM D1003	Luminous Transmittance ASTM D1003	UV Transmittance ASTM E903
Standard Double Domes	5x8 IMA Clear Smooth over Prismatic <small>CD2 6096 1S1N1, CD2 6096 1S1N2 (or smaller)</small>	Max Uplift	30 psf	0.72	Clear: 0.56 White: 0.49	Clear: n.r. White: 0.54	Clear: 100% White: 100%	Clear: 83.3% White: 68.9%	Clear: n.r. White: 6.2%
		Max Download	30 psf						
		Max Water Penetration	6.06 psf (Pass)						
		Max Air Leakage	<0.01 cfm/ft ² (Fixed)						
	5x8 LuxGuard Plus Smooth over Prismatic <small>CD2 6096 2P1C2, CD2 6096 2P1C1, CD2 6096 2P2C1 (or smaller)</small>	Max Uplift	40 psf	0.71	Clear: 0.54 White: 0.46	Clear: n.r. White: 0.51	Clear: 100% White: 100%	Clear: 83.3% White: 61.1%	Clear: n.r. White: 0.3%
		Max Download	30 psf						
		Max Water Penetration	6.06 psf (Pass)						
		Max Air Leakage	<0.01 cfm/ft ² (Fixed)						
	5x8 LuxGuard Smooth over Prismatic <small>CD2 6096 3P1C2, CD2 6096 3P1C1, CD2 6096 3P2C1 (or smaller)</small>	Max Uplift	30 psf	0.72	Clear: 0.55 White: 0.52	Clear: n.r. White: 0.51	Clear: 100% White: 100%	Clear: 83.9% White: 61.9%	Clear: n.r. Clear: n.r.
		Max Download	30 psf						
		Max Water Penetration	6.06 psf (Pass)						
		Max Air Leakage	<0.01 cfm/ft ² (Fixed)						
Double Dome IR Blocker Versions	5x8 IR Blocker over Clear Prismatic <small>CD2 6096 3I2C1 (or smaller)</small>	Max Uplift	30 psf	0.71	0.33	n.r.	100%	36.0%	0.6%
		Max Download	30 psf						
		Max Water Penetration	6.06 psf (Pass)						
		Max Air Leakage	<0.01 cfm/ft ² (Fixed)						
	5x8 IR Blocker over Clear Smooth <small>CD2 6096 3I2P1 (or smaller)</small>	Max Uplift	30 psf	0.70	0.37	n.r.	92.9%	40.7%	0.3%
		Max Download	30 psf						
		Max Water Penetration	6.06 psf (Pass)						
		Max Air Leakage	<0.01 cfm/ft ² (Fixed)						
	5x8 IR Blocker over Aerogel PC Multi-wall <small>CD4 6096 3I2L1 (or smaller)</small>	Max Uplift	30 psf	0.34	0.28	0.29	100.0%	18.6%	0.0%
		Max Download	30 psf						
		Max Water Penetration	6.06 psf (Pass)						
		Max Air Leakage	<0.01 cfm/ft ² (Fixed)						
5x8 IR Blocker over White PC Multi-wall <small>CD4 6096 3I2W2 (or smaller)</small>	Max Uplift	30 psf	0.44	0.30	n.r.	93.4%	24.1%	0.1%	
	Max Download	30 psf							
	Max Water Penetration	6.06 psf (Pass)							
	Max Air Leakage	<0.01 cfm/ft ² (Fixed)							
Other Double Domes	6x6 IMA Clear Smooth over White Smooth <small>CD2 7272 1S1T2 (or smaller)</small>	Max Uplift	50 psf	0.70	0.46	0.54	100%	60.4%	n.r.
		Max Download	30 psf						
		Max Water Penetration	15.04 psf (Pass)						
		Max Air Leakage	0.01 cfm/ft ² (Fixed)						
	5x8 LuxGuard Smooth over Smooth <small>CD2 6096 3P1P2, CD2 6096 3P2P1, CD2 6096 3P1P1 (or smaller)</small>	Max Uplift	60 psf	0.70	Clear: 0.52 White: 0.49	Clear: n.r. White: 0.55	Clear: n.r. White: 100%	Clear: n.r. White: n.r.	Clear: n.r. White: n.r.
		Max Download	30 psf						
		Max Water Penetration	15.04 psf (Pass)						
		Max Air Leakage	<0.01 cfm/ft ² (Fixed)						
	5x8 LuxGuard Smooth over White PC Multi-wall <small>CD4 6096 3P1W2 (or smaller)</small>	Max Uplift	60 psf	0.43	0.49	n.r.	27.0%	63.4%	0.0%
		Max Download	30 psf						
		Max Water Penetration	15.04 psf (Pass)						
		Max Air Leakage	<0.01 cfm/ft ² (Fixed)						
	5x8 LuxGuard Smooth over Aerogel PC Multi-wall <small>CD4 6096 3P1L1 (or smaller)</small>	Max Uplift	60 psf	0.34	0.44	n.r.	100.0%	43.2%	0.0%
		Max Download	30 psf						
		Max Water Penetration	15.04 psf (Pass)						
		Max Air Leakage	<0.01 cfm/ft ² (Fixed)						
	6x6 LuxGuard Smooth over Smooth <small>CD2 7272 3P1P2, CD2 7272 3P2P1, CD2 7272 3P1P1 (or smaller)</small>	Max Uplift	30 psf	0.70	Clear: 0.52 White: 0.49	Clear: n.r. White: 0.55	Clear: n.r. White: 100%	Clear: White:	Clear: White: n.r.
		Max Download	30 psf						
Max Water Penetration		6.06 psf (Pass)							
Max Air Leakage		<0.01 cfm/ft ² (Fixed)							
6x6 Acrylic 0.118" Smooth over 0.118" Smooth <small>CD2 7272 0A_A_</small>	Max Uplift	50 psf	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	
	Max Download	30 psf							
	Max Water Penetration	9.19 psf (Pass)							
	Max Air Leakage	<0.01 cfm/ft ² (Fixed)							
4x8 Acrylic 0.118" Smooth over 0.093" Smooth <small>CD2 4896 0A_A_</small>	Max Uplift	40 psf	(pending)	Clear: n.r. White: n.r. Bronze: n.r.	Clear: n.r. White: n.r. Bronze: n.r.	Clear: 3.0% White: 100% Bronze: 3.3%	Clear: 88.9% White: 54.7% Bronze: 32.7%	Clear: n.r. White: n.r. Bronze: n.r.	
	Max Download	30 psf							
	Max Water Penetration	7.52 psf (Pass)							
	Max Air Leakage	<0.01 cfm/ft ² (Fixed)							
4x4 Acrylic 0.093" Smooth over 0.080" Smooth <small>CD2 4848 0A_A_ (or smaller)</small>	Max Uplift	60 psf	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	
	Max Download	30 psf							
	Max Water Penetration	12.11 psf (Pass)							
	Max Air Leakage	<0.01 cfm/ft ² (Fixed)							

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Product Tested		Description	NAFS-11 Ratings	U-Factor NFRC 100	SHGC NFRC 200	COG VT ASTM E972	Haze ASTM D1003	Luminous Transmittance ASTM D1003	UV Transmittance ASTM E903	
Single Dome	5x8 LuxGuard <small>CD1 6096 4P2, CD1 6072, 4P2, CD1 6060, 4P2, CD1 6096 4P1, CD1 6072 4P1, CD1 6060 4P1</small>	Max Uplift	30 psf	1.13	0.53	White: 0.51	Clear: 0.9%	Clear: 89.3%	n.r.	
		Max Download	30 psf				White: n.r.	White: n.r.	n.r.	
		Max Water Penetration	4.6 psf (Pass)							
		Max Air Leakage	0.1 cfm/ft ² (A3)							
	4x8 LuxGuard <small>CD1 4896 3P2, CD1 4896 3P1 (or smaller)</small>	Max Uplift	40 psf	1.13	0.53	White: 0.51	Clear: 0.4%	Clear: 90.1%	n.r.	
		Max Download	35 psf				White: n.r.	White: n.r.	n.r.	
		Max Water Penetration	6.06 psf (Pass)							
	4x8 SoCal <small>CDS 4896 3P200 or CDS 4848 3P200</small>	Max Uplift	40 psf	1.42	0.61	0.51	100%			
		Max Download	35 psf							
		Max Water Penetration	4.6 psf (Pass)							
		Max Air Leakage	0.05 cfm/ft ² (A3)							
	Triple Domes	5x8 LuxGuard Clear Smooth over Clear Smooth over White Prismatic <small>CD3 6096 3P1P1C2 (or smaller)</small>	Max Uplift	30 psf	0.56	0.43	n.r.	100%	60.60%	0.0%
Max Download			30 psf							
Max Water Penetration			6.06 psf (Pass)							
Max Air Leakage			<0.01 cfm/ft ² (Fixed)							
5x8 LuxGuard Clear Smooth over Clear Smooth over White Smooth <small>CD3 6096 3P1P1P2 (or smaller)</small>		Max Uplift	60 psf	n.r. (est: 0.56)	n.r. (est: 0.45)	n.r.	100%	52.50%	0.0%	
		Max Download	30 psf							
		Max Water Penetration	15.04 psf (Pass)							
		Max Air Leakage	<0.01 cfm/ft ² (Fixed)							
6x6 LuxGuard Clear Smooth over Clear Smooth over White Smooth <small>CD3 7272 3P1P1P2 (or smaller)</small>		Max Uplift	30 psf	n.r. (est: 0.56)	n.r. (est: 0.45)	n.r.	100%	52.50%	0.0%	
		Max Download	30 psf							
		Max Water Penetration	6.06 psf (Pass)							
		Max Air Leakage	<0.01 cfm/ft ² (Fixed)							
5x8 IR Blocker over Clear Smooth over Clear Prismatic <small>CD3 6096 3I2P1C1 (or smaller)</small>		Max Uplift	30 psf	0.57	0.32	n.r.	100%	32.50%	0.00%	
		Max Download	30 psf							
		Max Water Penetration	15.04 psf (Pass)							
		Max Air Leakage	<0.01 cfm/ft ² (Fixed)							
5x8 IR Blocker over Clear Smooth over Clear Smooth <small>CD3 6096 3I2P1P1 (or smaller)</small>	Max Uplift	30 psf	0.57	0.34	n.r.	93.20%	35.50%	0.0%		
	Max Download	30 psf								
	Max Water Penetration	6.06 psf (Pass)								
	Max Air Leakage	<0.01 cfm/ft ² (Fixed)								

Energy Efficient Dynamic Domes		Thermal and Optical Performance <small>(valid for all sizes / SHGC and Vt all outer domes clear smooth)</small>					
		U-Factor NFRC 100	SHGC NFRC 200	COG VT ASTM E972	Haze ASTM D1003	Luminous Transmittance ASTM D1003	UV Transmittance ASTM E903
Double Dome Multiwall Polycarbonate		0.43	0.49	n.r.	27.0%	63.4%	0.0%
Double Dome Lumira		0.34	0.44	0.63	100%	43.2%	0.0%
Double Dome with IR Blocking Outer Dome and Clear Prismatic Inner Dome		0.71	0.33	n.r.	100%	36.0%	0.6%
Double Dome with IR Blocking Outer Dome and Clear Smooth Inner Dome		0.70	0.37	n.r.	92.9%	40.7%	0.3%
Double Dome IR Blocking Outer Dome and Lumira Inner Dome		0.34	0.28	0.32	100%	18.6%	0.0%
Double Dome IR Blocking Outer Dome and Multiwall Polycarbonate Inner Dome		0.44	0.30	n.r.	93%	24.1%	0.1%
Triple Dome with IR Blocking Outer Dome, Clear Smooth Middle Dome and Clear Prismatic Inner Dome		0.57	0.32	n.r.	100%	32.5%	0.0%
Triple Dome with IR Blocking Outer Dome, Clear Smooth Middle Dome and Clear Smooth Inner Dome		0.57	0.34	n.r.	93.1%	35.5%	0.0%

Dynamic Dome Curb Mount Skylights - Wind-Borne Debris Performance			
HVHZ	Product Tested	Performance Test	Coverage Description
	5x8 LuxGuard Plus	TAS 202	HVHZ (AWS)
		TAS 201 & 203 (Impact and Cycling)	HVHZ (Missile D)
		ASTM E1886 / ASTM E1996	Non-HVHZ

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Dynamic Dome Skylight - Material Testing		
	Product Description	Tested Result
Smoke Density ASTM D2843	IMA	Smoke Density Rating - 32.1
	LuxGuard Plus Clear	Max Smoke Density - 61.3 Smoke Density Rating - 48.5
	LuxGuard Plus White	Max Smoke Density - 70.7 Smoke Density Rating - 59.6
	LuxGuard Clear	Max Smoke Density - 61.3 Smoke Density Rating - 48.5
	LuxGuard White	Max Smoke Density - 70.7 Smoke Density Rating - 59.6
Self-Ignition Temp ASTM D1929	IMA	830° F
	LuxGuard Plus Clear & White	1030° F
	LuxGuard Clear & White	1030° F
Rate of Burn ASTM D635	IMA	CC2
	LuxGuard Plus Clear & White	CC1
	LuxGuard Clear & White	CC1
Hail	LuxGuard & LuxGuard Plus	No Damage with 2" or 4"

Dynamic Dome Skylight - Other Testing		
	Product Description	Tested Result
Class B Burning Brand	IMA Single & Double Domes 5x10 & 6x6 (or smaller)	No penetration & No Ignition
	5x8 LuxGuard Plus Smooth over Prismatic	No penetration & No Ignition
OSHA / CalOSHA Fall Resistance	IMA Single & Double Domes 5x10 & 6x6 (or smaller)	Passed at 900 lbs
	LuxGuard Plus 5x10 (or smaller)	Passed at 1100 lbs
	LuxGuard Plus 6x6 (or smaller)	Passed at 1622 lbs
	LuxGuard 5x10 (or smaller)	Passed at 900 lbs
	LuxGuard 6x6 (or smaller)	Passed at 1500 lbs
	SoCal 4x8 and 4x4 6x6 CAE Screen Over Double Dome 0.118 Acrylic	Passed at 2500 lbs Passed at 1500 lbs

FM Approvals		
Skylight	FM Test	Test Results
5 x 8 LuxGuard, 5x8 LuxGuard Plus <small>(or smaller) GDJ/CE2: xxxx 2P1C2, xxxx 2P2C1, xxxx 2P1C1 xxxx 3P1C2, xxxx 3P2C1, xxxx 3P1C1</small>	Spread of Flame from Exterior Ignition Source	Class A at 5 in 12 Slope
	Hail Resistance	Severe Hail in 2.0 Inch Diameter Ice Balls
	Hail Resistance	105 psf