



LIGHT DIFFUSION FOR INTERIOR LED FIXTURES WITH ENHANCED FLAME RATING

OUTSTANDING PERFORMANCE AND DESIGN FLEXIBILITY

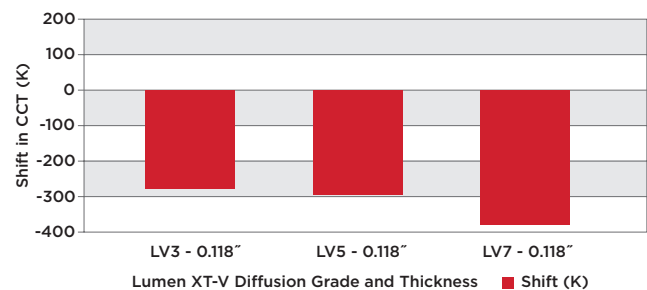
- » Meets 94 V-0, 5VA
- » High light transmission
- » High light diffusion
- » Optimized surface texture
- » Advanced diffuser technology
- » Superior impact strength and toughness
- » Enhanced flame rating
- » Three diffusion levels
- » Design flexibility

DIFFUSION AND TRANSMISSION

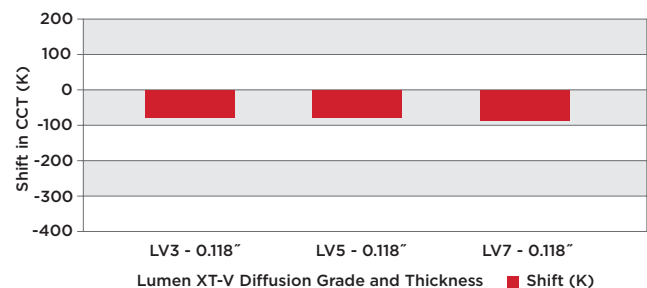
Lumen XT Grade	DIFFUSION (FWHM, degrees) % 0.118" thickness	TRANSMISSION (ASTM D 1003) 0.118" thickness
LV3	53	86
LV5	77	76
LV7	135	62

The graphs below show measured shifts in Correlated Color Temperature (CCT) of light from an LED light fixture with a diffuser sheet vs. the same LED fixture without a diffuser. The LED fixtures' CCT without a diffuser is 3000 K and 6000 K.

Correlated Color Temperature Shift for a 6000 K LED



Correlated Color Temperature Shift for a 3000 K LED



These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use are beyond our control. We recommend that the prospective user determine the suitability of our materials and suggestions before adopting them on a commercial scale.

TUFFAK[®]-Lumen XT-V

POLYCARBONATE SHEET

Typical Properties*

Property	Test Method	Units	Values
PHYSICAL			
Specific Gravity	ASTM D 792	-	1.2
Water Absorption, 24 hrs	ASTM D 570	%	0.15
Poisson's Ratio	ASTM E 132	-	0.38
Light Transmission			
LV3 @ 0.118"	ASTM D 1003	%	86
LV5 @ 0.118"	ASTM D 1003	%	76
LV7 @ 0.118"	ASTM D 1003	%	62
MECHANICAL			
Tensile Strength, Ultimate	ASTM D 638	psi	9,500
Tensile Strength, Yield	ASTM D 638	psi	8,900
Tensile Modulus	ASTM D 638	psi	340,000
Elongation	ASTM D 638	%	100
Flexural Strength	ASTM D 790	psi	14,000
Flexural Modulus	ASTM D 790	psi	370,000
Instrumented Impact @ 0.118"	ASTM D 3763	ft-lbs	48
THERMAL			
Coefficient of Thermal Expansion	ASTM D 696	in/in/°F	3.75 x 10 ⁻⁵
Coefficient of Thermal Conductivity	ASTM C 177	BTU-in/hr-ft ² -°F	1.35
Heat Deflection Temperature @ 264 psi	ASTM D 648	°F	222
Heat Deflection Temperature @ 66 psi	ASTM D 648	°F	244
ELECTRICAL			
Dielectric Constant @10 Hz	ASTM D 150	-	2.9
Dielectric Constant @ 60 Hz	ASTM D 150	-	2.8
Volume Resistivity	ASTM D 257	Ohm-cm	7.5 e 15
Dissipation Factor @ 60 Hz	ASTM D 150	-	0.002
Arc Resistance, Tungsten Electrodes	ASTM D 495	Seconds	125
Dielectric Strength, in air @ 0.118"	ASTM D 149	V/mil	390
FLAMMABILITY			
Flame Class @ 0.118"	UL 94	-	V0, 5VA

*Typical properties are not intended for specification purposes