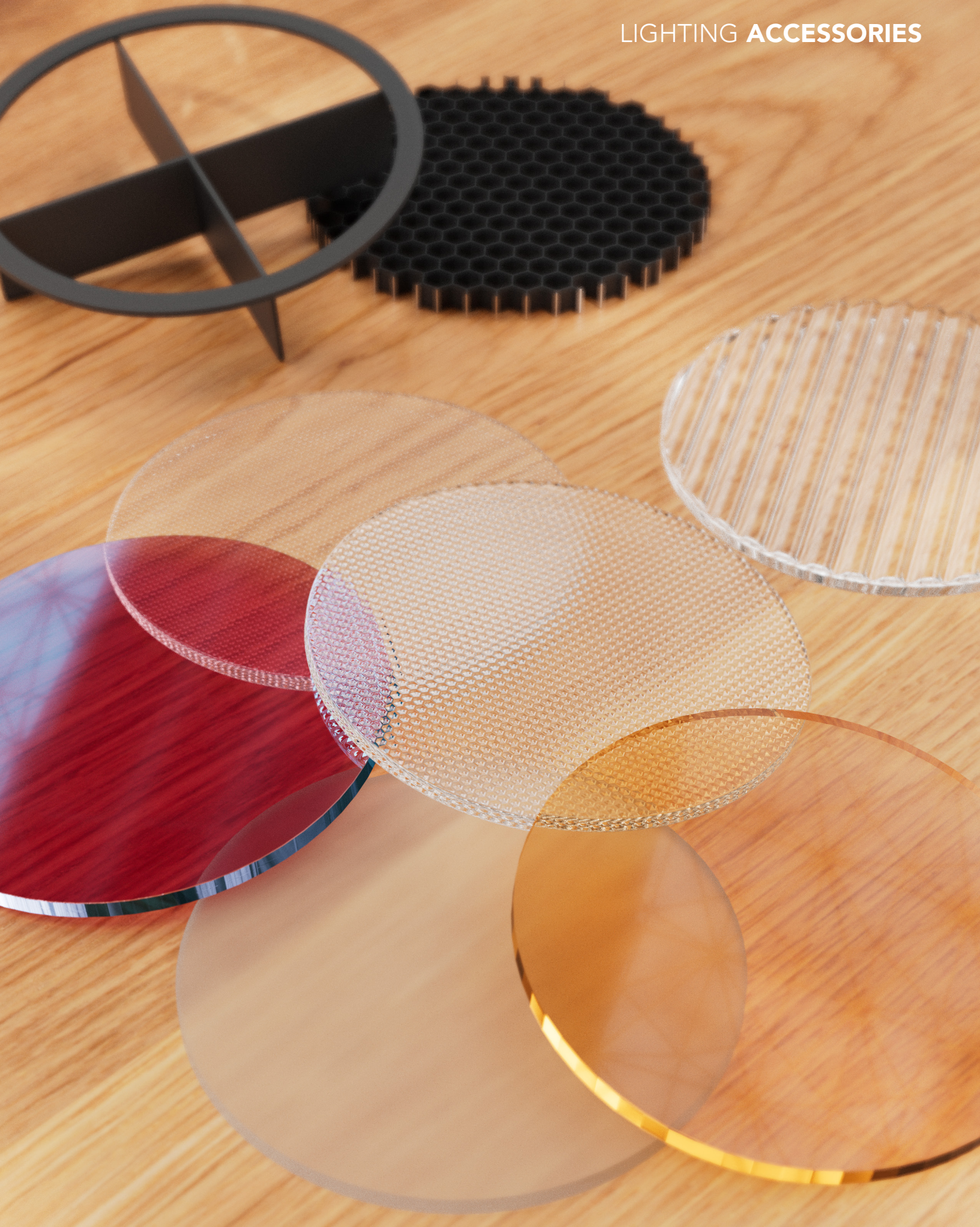


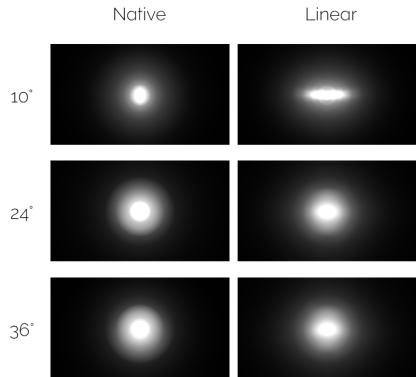
LIGHTING ACCESSORIES



Lighting Accessories

Linear Spread Lenses

Linear spread lenses are asymmetrical beam-elongating lighting accessories made of glass, polycarbonate or film, providing an extra level of control in lighting applications. The most commonly specified beam spread is 10° which achieves the most elongated linear spread.



10° Narrow optics has the most dramatic elongating effect on beam. A few applications include linear tabletops, wall grazing, increasing coverage on vertical surfaces and paths of egress.

24° Narrow to medium optics has a more subtle elongating effect, while also softening beam edges. A few applications include artwork, tree up-lighting and oval-shaped furniture.

36° Medium to wide optics have an even more subtle effect, also softening beam edges. Application would include subtly shaping general illumination applications.

With Linear Spread		
	Horizontal Spread	Vertical Spread
10°	13°	60°
24°	37°	50°
36°	37°	51°

Dichroic Filters

Gel filters have a strong history in theatrical application, however dichroic filters have become the preferred method of producing color from a white light source, especially in permanent architectural applications.

Gel filters are very simple to use, are very thin (about 0.003" – 0.09mm). Their color is uniform and independent of the angle/beam of the luminaire's optics. Made out of polycarbonate, polyester or other heat-resistant plastics, gels absorb heat and have the potential of fading quite rapidly.

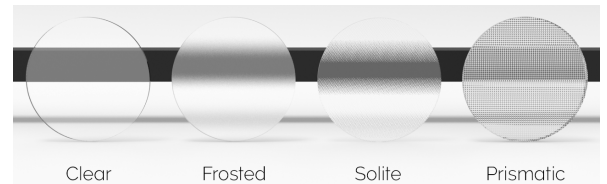
Dichroic filters are made of borosilicate glass, thicker than gel (2-3mm) and have better filtering characteristics than conventional filters. Saturation is superior as the fabrication process allows specific light frequencies to pass. Since dichroic filters reflect frequencies that do not pass, heat is not absorbed for superior longevity.



Diffusing Lenses

Diffusing lenses are symmetrical beam-spreading lighting accessories made of glass, polycarbonate or film, providing an extra level of control in lighting applications. The most common use of diffusing lenses is to increase beam coverage and soften beam fall off.

Nominal Optic	10°	24°	36°	60°
Measured values				
Clear	11° 896 lm	27° 1,211 lm	35° 1,125 lm	54° 1,135 lm
Solite	14° 887 lm	31° 1,203 lm	40° 1,192 lm	55° 1,106 lm
Frosted	31° 803 lm	50° 1,070 lm	55° 1,108 lm	64° 1,022 lm
Prismatic	37° 837 lm	54° 1,151 lm	63° 1,138 lm	66° 1,099 lm



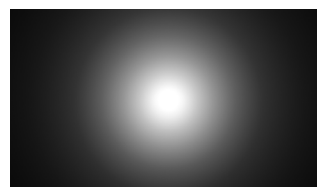
Clear Lens

Clear lenses are furnished standard with fixtures and not considered a spread lens.



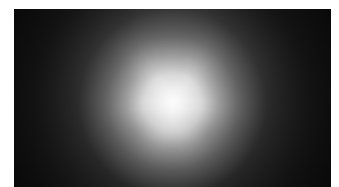
Solite Lens

Or "small pebble," slightly removes beam's punch while softening edges.



Frosted Lens

The Frosted lens softens and creates a uniform gradient effect from beam center to outer edge.

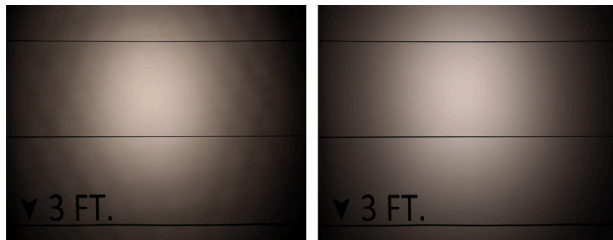
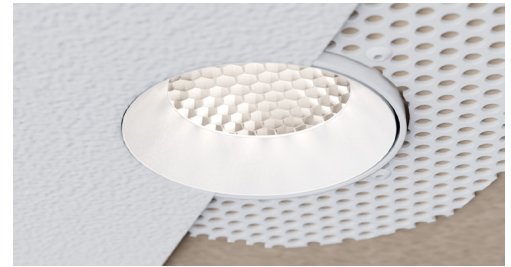


Prismatic Lens

Or "large pebble," offer a widening effect, creating larger beam spreads with soft edges.

Hex Louvers

Hexcel louvers - also "hex louvers," named after the hexagon (6 equal sides) shaped cells that make up the louver is a series of blades or slats arranged to regulate air or light going through. Another name for them is "honeycomb louvers" as their shape looks very much like a honeycomb. The most common use of the hex louver is the reduction of the glare of the light source and luminaire. The use of a hex louver can generate unwanted hexagonal shadows, particularly when luminaire is directed to close, flat and white surfaces. In these cases, the use of a diffusing lens is recommended.



These images display a fixture featuring a hex louver and clear glass on the left, and the same fixture with a solite lens added above the hex louver on the right. Additionally, there is a chart illustrating the decrease in output and reduced beam angles when utilizing a hex louver.

	Without Hex Louver		With Hex Louver		Multiplier	
	Reflector Angle	Lumen Output	Reflector Angle	Lumen Output	Lumens	Angle
10°	11.4	1128.6	11.2	616.2	0.54	0.98
24°	26.7	1211.9	20.3	703.8	0.58	0.76
36°	35.4	1139.1	34.3	619.7	0.54	0.96
60°	54.8	1144.2	45	609.2	0.53	0.75

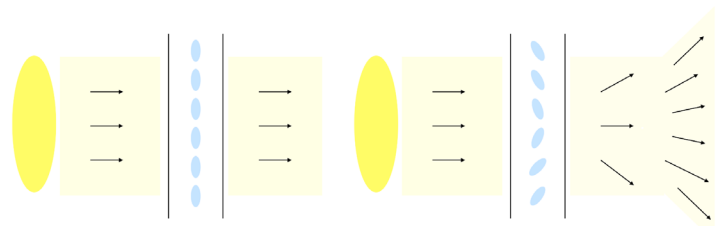
Color Correction Filters

We offer CTO (Color Temperature Orange) and CTB (Color Temperature Blue) color correction dichroic filters allowing one to either warm or cool the Kelvin temperature of a LED source. Although we offer Kelvin-shifting LED sources such as tunable white and warm dim, color correcting filters provide Kelvin flexibility when using standard static white sources. Below is a helpful chart showing Kelvin results based on full, 1/2 and 1/4 correction filters.

Chip Kelvin	1/4 CTO	1/2 CTO	Full CTO	1/4 CTB	1/2 CTB	Full CTB
4000k	3500k	2700k	2300k	4300k	5200k	8000k
3500k	3150k	2477k	2200k	3800k	4400k	6200k
3000k	2750k	2250k	1950k	3250k	3600k	4750k

Beam Shapers

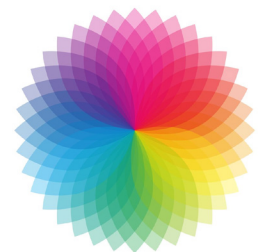
Liquid crystals are elongated molecules that are naturally aligned in the same direction. The beam shaper is composed of two pieces of glass separated by liquid crystals and sealed. When an electric field is applied to the lens, the liquid crystal molecules shift orientation, causing the light to be refocused. It is then possible to shape the light beam by controlling the electrical field and the orientation of the liquid crystal molecules. This means the beam angle is able to fluctuate between the actual reflector's angle (when the lens is clear) to the maximum angle, which is accomplished when the lens is frosted and the light gets diffracted (typically 55° from 10° native optic).



Custom Colors

We offer the highest quality custom powders, including the renowned Tiger Drylac, available on a wide range of fixtures. Our dedicated team powdercoats each luminaire by hand in-house, ensuring meticulous attention to detail.

Powder coating is offered in virtually any color. Color matching has been successfully conducted using samples from reputable brands such as Sherwin-Williams, Benjamin Moore, Farrow and Ball, and many more.

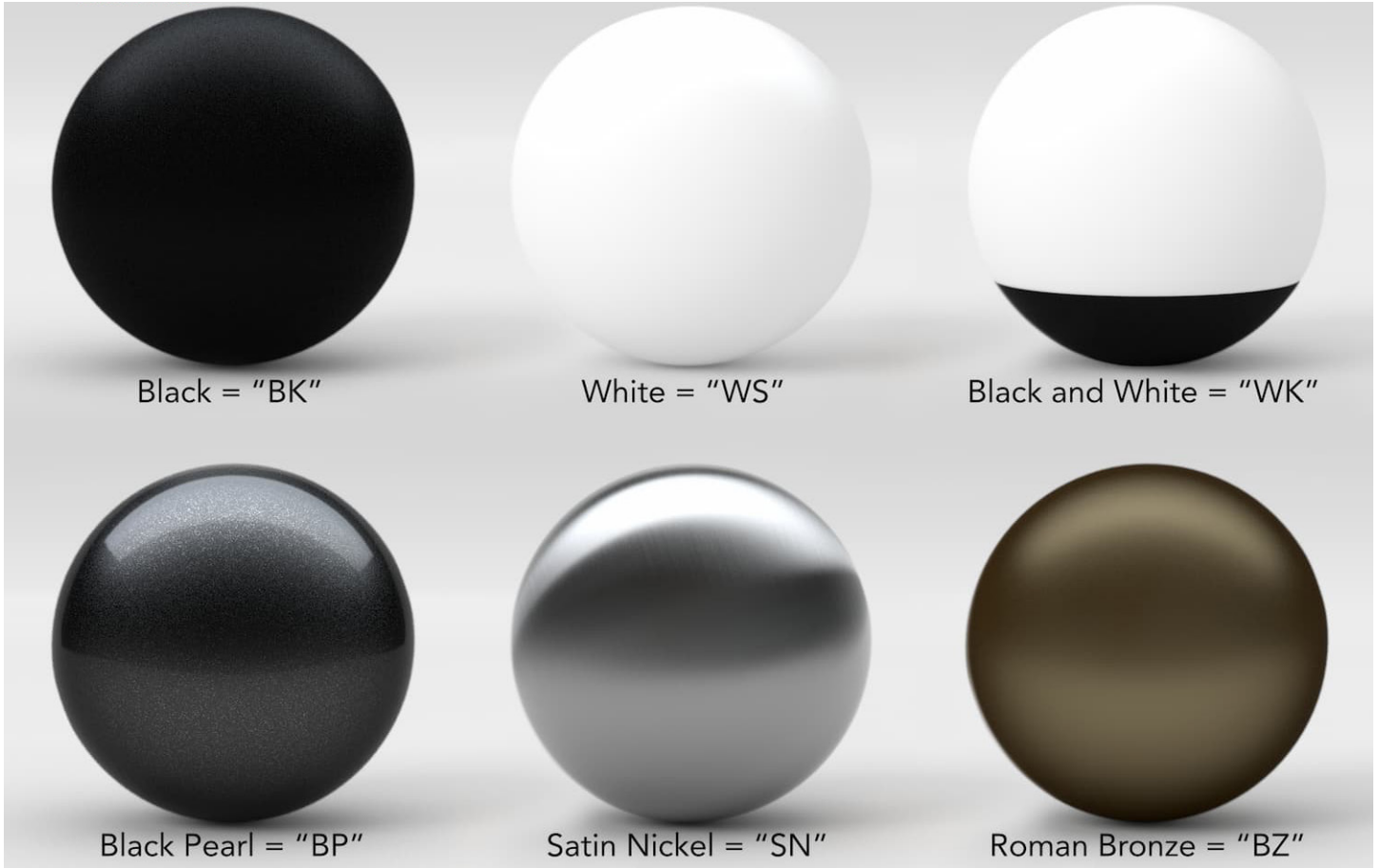


Lighting Accessories

Standard Colors

We offer 6 high quality standard powder coat finishes on a wide range of Zaniboni Lighting fixtures. Our dedicated team powdercoats each luminaire by hand in-house, ensuring meticulous attention to detail for an excellent finish.

Powder coatings do not contain toxic heavy metals, are free of solvents and therefore do not release VOCs (volatile organic compounds) during coating or curing. This is also reflected in the CO2 footprint, where powder coatings have the lowest values of all available coating solutions. This means that, unlike solvent-based wet coatings, powder coatings are environmentally friendly and offer the highest quality as well as outstanding performance.





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