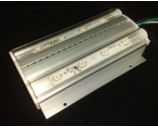
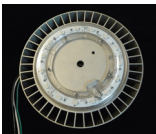
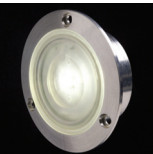




Ex. 1013

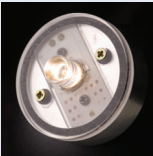


## OptoElectronix Plug-&Play LED Light Engine Products

OptoElectronix™ high-reliability LED Universal Light Engine™, LightBlox™, LightDisc™, and LightStix™ products deliver clean LED light with a very long life at very low power consumption. All products include the LED, optics, power supply, heat management, and drivers in a compact plug-and-play package. All of our products will last a minimum of 50,000 hours and

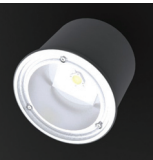
Product	Applications	Light Output	Lens	Power	Light Color	Key Features
LightBlox Rectangular LED Light Engines						4X More Efficient
 <p>2.99" (76 mm) wide x 5.98" (152 mm) long x 1.34 (34mm) high excluding flanges</p>	<b>LightBlox ULE4000A Series</b> <ul style="list-style-type: none"> <li>• ADA-compliant* wall sconces</li> <li>• Wall-washing luminaires</li> <li>• Floodlights</li> <li>• General illumination</li> </ul> <p>* Americans With Disabilities Act-compliant</p>	Cool white: 1000 lumens Warm white: 700 lumens 60-watt bulb equivalent	120-degree rectangular lens	Integrated power supply connects directly to 120V <sub>AC</sub> power	Warm white or cool white light	<ul style="list-style-type: none"> <li>• Triac dimmer compatible</li> <li>• Integrated power supply connects directly to junction box: replace the ballast, sockets, and bulbs with just one part</li> <li>• High light output in a compact package</li> <li>• Proprietary Dynamic Dimming Compensation Control™ circuitry eliminates dimmer flicker</li> <li>• Integrated optics and heat sink</li> <li>• Proprietary Dynamic Thermal Management Control™ circuitry ensures optimal operating temperature</li> <li>• 4X more efficient than incandescent or halogen bulbs</li> <li>• End flanges for easy mounting</li> <li>• Minimum 34-lumen-per-watt efficacy (varies with desired LED color)</li> <li>• Power factor correction (PFC) to 90 percent</li> </ul>
LightDisc High-Output Round LED Light Engines						3X More Efficient
 <p>8.09" (205.4 mm) diameter x 1.44" (36.7 mm) high</p>	<b>LightDisc ULE5000 Series</b> <ul style="list-style-type: none"> <li>• Ceiling fans</li> <li>• Drum lights</li> <li>• Large cylinder lighting</li> <li>• Semi-flush lighting</li> <li>• Rectangular wall sconces</li> <li>• Bollard lighting</li> <li>• Stand-alone bowl lights</li> </ul>	Cool white: 1530 lumens Warm white: 1300 lumens 90-watt bulb equivalent	120-degree floodlight pattern UL94-5VA optical-quality plastic lens for extreme flammability protection	Integrated power supply connects directly to 120V <sub>AC</sub>	Warm white or cool white light	<ul style="list-style-type: none"> <li>• Plug-and-play: Simple three-wire connection to 120V<sub>AC</sub></li> <li>• Triac-compatible dimmer</li> <li>• Proprietary Dynamic Dimming Compensation Control circuitry eliminates dimmer flicker</li> <li>• 50,000-hour life</li> <li>• 3X more energy efficient than incandescent or halogen; consumes only 28 watts of power</li> <li>• Warm white or cool white light</li> <li>• Proprietary Dynamic Thermal Management Control circuitry ensures optimal operating temperature</li> <li>• Power factor correction (PFC) to 80 percent</li> <li>• Integrated heat sink</li> </ul>

Product	Applications	Bulb Equivalent	Lens	Power	Light Color	Key Features
Compact Flush-Mount Round LED Universal Light Engines						5X More Ef
 <p>2.35" (60 mm) diameter x 0.85" (22 mm) deep</p>	<b>ULE21VW-F-25 Series</b> <b>ULE21VW-F-38 Series</b> <b>ULE21VW-F-45 Series</b> <b>ULE21VW-F-60 Series</b> <ul style="list-style-type: none"> <li>Commercial refrigerator and freezer lighting</li> <li>Retail display lighting</li> <li>Under-counter lights</li> <li>Vending machines</li> <li>Range hoods</li> <li>Vanity lights</li> <li>Desk lights</li> <li>Workshop lights</li> <li>Emergency exit lights</li> <li>Landscape lighting</li> <li>Low-watt MR16 replacement</li> </ul>	<b>ULE21VW-F-25</b> 170 lumens; 25-watt bulb equivalent  <b>ULE21VW-F-38</b> 300 lumens; 38-watt bulb equivalent  <b>ULE21VW-F-45</b> 495 lumens; 45-watt bulb equivalent  <b>ULE21VW-F-60</b> 615 lumens; 60-watt bulb equivalent	180-degree wide flood pattern	<b>ULE21VW-F-25 and -38:</b> Integrated power supply connects directly to 12V <sub>AC</sub> or 12V <sub>DC</sub>  <b>ULE21VW-F-45 and -60:</b> Integrated power supply connects directly to 24V <sub>AC</sub> or 24V <sub>DC</sub>	Warm white or cool white light	<ul style="list-style-type: none"> <li>High light output in compact housing</li> <li>Flange for flush mounting</li> <li>Three-point screw-in mounting—ideal for recessed applications</li> <li>Brushed aluminum finish</li> <li>Housing designed for optimal thermal management</li> <li>IP66 (ingress protection) rating: dust tight and protected against powerful water jets</li> <li>Low power consumption:                ULE21VW-F-25 consumes only 3.6 watts of power                ULE21VW-F-38 consumes only 6.1 watts of power                ULE21VW-F-45 consumes only 8.9 watts of power                ULE21VW-F-60 consumes only 10.7 watts of power             </li> <li>Proprietary Dynamic Thermal Management Control™ circuitry ensures optimal operating temperature</li> </ul>
 <p><b>ULE3000</b></p>  <p><b>ULE 3200</b></p> <p>2.17" (55 mm) diameter x 1.49" (37.86 mm) deep</p>	<b>ULE3000 Series and ULE3200 Series</b> <ul style="list-style-type: none"> <li>Recreational vehicle lighting</li> <li>Aircraft lighting</li> <li>Cabinet lighting</li> <li>Display case lighting</li> </ul> <p>Diffuser option provides moisture protection for:</p> <ul style="list-style-type: none"> <li>Refrigeration lighting</li> <li>Cooler lighting</li> <li>Boat and marina lighting</li> <li>Bath lighting</li> <li>Landscape lighting</li> </ul>	65 lumens; 8-watt bulb equivalent	7.5-degree spot lens	<b>ULE3000</b> Electrical connection directly to the LED  <b>ULE3200</b> Integrated power supply connects directly to 12V <sub>AC</sub> or 12V <sub>DC</sub>	Warm white or cool white light	<ul style="list-style-type: none"> <li>Ideal for flush mounting</li> <li>3000 Series: Electrical input is directly to the LED—the designer can choose the LED drivers</li> <li>3200 Series: integrated power supply for 12V<sub>AC</sub> and 12V<sub>DC</sub> operation</li> <li>Aluminum housing provides optimal thermal management</li> <li>Optional flat, multifaceted diffuser is attached with a strong adhesive that provides protection from moisture</li> <li>Customization is available: diffusers, color filters, or polarizers</li> <li>UL-recognized component in the U.S. and Canada</li> </ul>

**Availability:** To purchase or for further information, please contact our corporate office, [sales@optoelectronix.com](mailto:sales@optoelectronix.com) or (408) 437-9455; our distributor, Nu Horizons Electronics, [www.nu-horizons.com](http://www.nu-horizons.com); or one of our local sales representatives, listed at [www.optoelectronix.com](http://www.optoelectronix.com). Complete data sheets are available at [www.optoelectronix.com](http://www.optoelectronix.com).

Product	Applications	Bulb Equivalent	Lens	Power	Light Color	Key Features
Compact Round LED Universal Light Engines						5X More Efficient
 <p>1.57" (40 mm) diameter x 0.91" (23.18 mm) deep</p>	<b>ULE2210A/2211A</b> <ul style="list-style-type: none"> <li>• Landscape lighting</li> <li>• Safety &amp; security lighting</li> <li>• Vehicle lighting</li> <li>• General-purpose lighting</li> </ul>	60 lumens; 8-watt bulb equivalent	Lamp	Integrated power supply connects directly to 12V <sub>AC</sub> or 12V <sub>DC</sub>	Warm white or cool white light	<ul style="list-style-type: none"> <li>• Integrated optics and lamp lens for cylinder lighting</li> <li>• Integrated aluminum heat spreader and heat sink ensure extended life</li> <li>• Threads directly into industry-standard 1/8" IPS light fixtures for optimal heat sinking</li> <li>• UL-recognized component in the U.S. and Canada</li> </ul>
 <p>1.57" (40 mm) diameter x 0.89" (22.6 mm) deep</p>	<b>ULE2260A/2261A</b> <ul style="list-style-type: none"> <li>• Landscape lighting</li> <li>• Safety &amp; security lighting</li> <li>• Vehicle lighting</li> <li>• General-purpose lighting</li> </ul>	60 lumens; 8-watt bulb equivalent	Dome	Integrated power supply connects directly to 12V <sub>AC</sub> or 12V <sub>DC</sub>	Warm white or cool white light	<ul style="list-style-type: none"> <li>• Integrated optics with dome lens</li> <li>• Integrated aluminum heat spreader and heat sink ensure extended life</li> <li>• Threads directly into industry-standard 1/8" IPS light fixtures for optimal heat sinking</li> <li>• UL-recognized component in the U.S. and Canada</li> </ul>
LightStix Linear LED Light Engines						5X More Efficient
 <p>24" (609.6 mm) long x 1.18" (30 mm) wide x 0.87" (22 mm) deep</p>	<b>LightStix ULE8000 Series</b> <ul style="list-style-type: none"> <li>• Low-watt T5 florescent replacement</li> <li>• Display cases</li> <li>• Retail display lighting</li> <li>• Vending machine lighting</li> <li>• Under-counter lights</li> <li>• Beverage dispenser lighting</li> <li>• Lighted signs</li> <li>• Desk lights</li> <li>• Emergency exit lights</li> </ul>	100 lumens per foot  T5 florescent bulb equivalent	180-degree linear light pattern	Integrated power supply connects directly to 12V <sub>AC</sub> or 12V <sub>DC</sub>	Warm white or cool white light	<ul style="list-style-type: none"> <li>• 100 lumens (10 LEDs) per foot</li> <li>• End-to-end connections</li> <li>• 200 lumens light output in compact housing</li> <li>• 5X more efficient than incandescent or halogen</li> <li>• Flange for easy mounting</li> <li>• Brushed aluminum finish</li> <li>• Negligible hot-spotting</li> <li>• Housing designed for optimal thermal management</li> <li>• Proprietary Dynamic Thermal Management Control circuitry ensures optimal operating temperature</li> </ul>

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Product	Applications	Bulb Equivalent	Lens	Power	Light Color	Key Features
Waterproof LED Light Engines for Landscape Lighting						5X More E
 <p>1.97" (50 mm) diameter x 1.56" (39.5 mm) deep</p>	<b>ULE7000 Series</b> <ul style="list-style-type: none"> <li>• Landscape bullet lights</li> <li>• Landscape floodlights</li> <li>• Underwater lighting</li> </ul>	150 to 600 lumens  MR16 diameter  25-, 38-, and 45-watt bulb equivalents		1- and 2-LED versions: Connects directly to 12V <sub>AC</sub>  3-LED version: Connects directly to 24V <sub>AC</sub>	Warm white or cool white light	<ul style="list-style-type: none"> <li>• IP67 rating: safe to use under water to a depth of one meter</li> <li>• 50,000-hour life with OptoElectronix-designed VersaSink heat-sink sleeve</li> <li>• Dynamic Thermal Management™ circuitry for intelligent thermal protection</li> <li>• MR16 size-compatible</li> </ul>

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