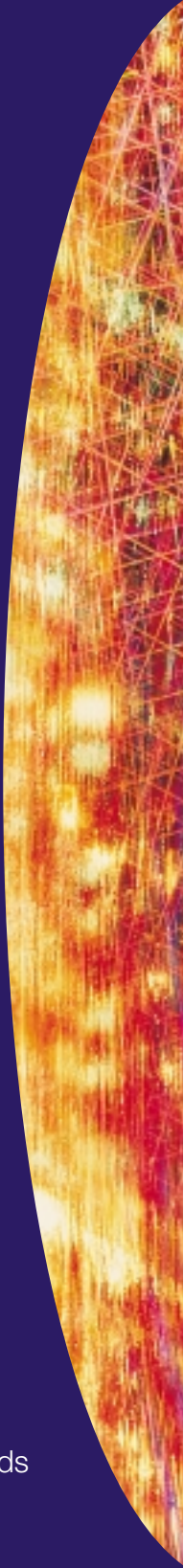
LUXEON

plug and play guide



never before possible lighting solutions from Lumileds

luxeon

What is Luxeon?
Luxeon emitters are the highest flux LEDs in the world, delivering the brightest solid-state lighting solutions available. Luxeon white produces more than 20 lumens per Watt, and Luxeon emitters are 10 to 20 times brighter than standard LEDs, enabling luminous densities of 5 to 20 times higher. Luxeon is an optimum light source.

Lasts longer than any other light source—more than 10 years
Luxeon contains solid-state technology made in Silicon Valley using technology similar to those used in the latest microprocessors. Unlike typical conventional light sources, LEDs do not fail catastrophically; meaning they do not dramatically burn out and cease to function. In many applications Luxeon will last for more than 10 years of operation.

Reduced maintenance costs
Since Luxeon lasts at least 10 times longer than a typical light source, there is no need to replace the light source, thereby reducing or even eliminating ongoing maintenance costs and periodic relamping expenses.

More energy efficient
Be the environmental solution. Luxeon is more energy efficient than incandescent and most halogen light sources, and is fast approaching the efficiency of fluorescents.

Vivid saturated colors—without filters
Luxeon requires no filters to create colored light, resulting in deeper saturated colors without wasted light. Deep reds, greens, blues and other colors can be produced directly from this solid-state source.

Directed light for increased system efficiency
Luxeon light sources are small, directional, pinpoints of light. This size and directionality result in highly controllable optical systems, resulting in no wasted light.

Robust, solid-state lighting
Luxeon power light sources are solid-state devices. There are no moving parts, nothing to break, rupture, shatter, leak or contaminate the environment.

Dynamic color control, white-point tunable
The vivid, saturated colors of Luxeon enable a wide color gamut of saturated static and dynamic lighting effects. From tunable white to a single light capable of digitally producing any color under the rainbow, Luxeon offers new dimensions to the lighting world.

Fully dimmable—without color variation
Luxeon light sources are fully dimmable —over 1,000 times—without sacrificing any characteristics of the light.

No mercury in the source
Unlike most fluorescent sources, Luxeon contains no mercury.

No heat or UV in the light beam
No harmful ultraviolet rays or infrared heat is contained in the Luxeon light beam.

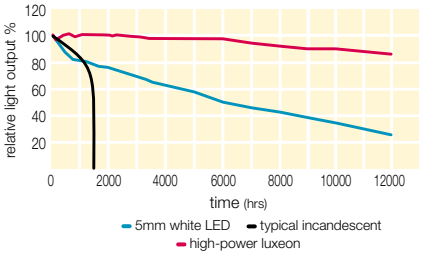
Cold start capable
Luxeon has no ignition problems in cold environments—even down to -40°C.

Low voltage DC operation
Luxeon is a current driven solid-state device, operating at voltages as low as 3.5 VDC.

features

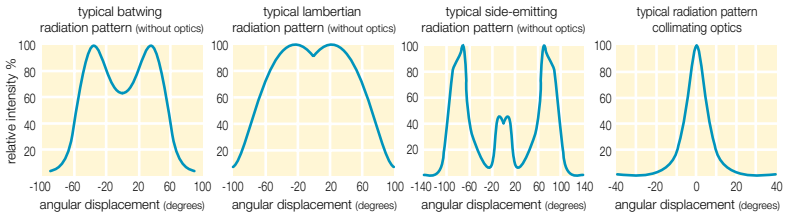
Superior lumen maintenance—by design

Luxeon power light sources contain no epoxy. Epoxy is prone to optical decay over time, resulting in poor lumen maintenance. Luxeon technology delivers superior lumen maintenance compared to other solid-state sources and conventional lighting.



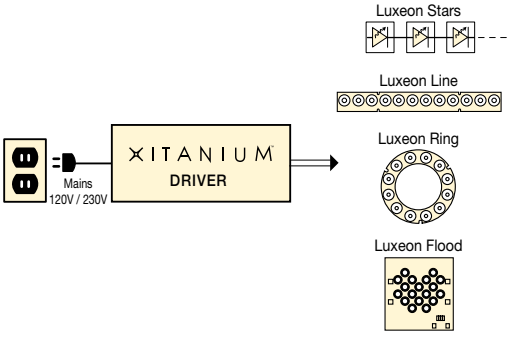
Radiation patterns

Luxeon offers various radiation patterns to meet your design needs.



Drivers for Luxeon

Lumileds has partnered with Philips and Advance Transformer Company to develop long lasting (50K hours), high reliability drivers for Luxeon. These drivers provide a simple, easy-to-use interface between standard mains voltage and the low DC voltage, constant current needed for Luxeon light sources. Other drivers are also available.



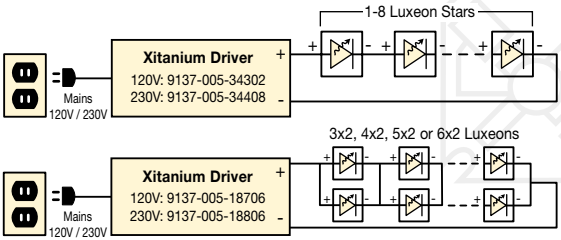
flexible and ultra-compact

luxeon star

Star (batwing, lambertian) | **Star/C** (with connector) | **Star/O** (with optics) | **Star** (side-emitting) | **Star/IDC**

Description

Square and hexagonal shaped Luxeon modules. Provided with a AMP 2 pin connector, IDC connectors, or solder pads for electrical connection. For tight beam control, also available with highly efficient PMMA secondary optics. Available in white, green, cyan, blue, royal blue, red, red-orange and amber.



DRAWINGS ACTUAL SIZE

For Luxeon Star/C: Connector on board AMP type, code 2-179123-2; Mating connector—AMP receptacle housing assembly, code 173977-2. For Luxeon Star/IDC: Connectors on board Zierick Type, code 1245T, accepts #26-18 AWG.

Part Number Luxeon Star	Part Number Luxeon Star/C	Part Number Luxeon Star/O	Part Number Luxeon Star/IDC	Color	Dominant Wavelength or Color Temp.	TYP Lumens	Typical Candela (Star/O)	Radiation Pattern
LXHL-MW1C	LXHL-MW1A	LXHL-NW98	LHXL-MW1E	White	5500 K	18	180	Batwing (low dome)
LXHL-MM1C	LXHL-MM1A	LXHL-NM98	LXHL-MM1E	Green	530 nm	25	500	
LXHL-ME1C	LXHL-ME1A	LXHL-NE98	LXHL-ME1E	Cyan	505 nm	30	600	
LXHL-MB1C	LXHL-MB1A	LXHL-NB98	LXHL-MB1E	Blue	470 nm	5	100	
LXHL-MRRC	LXHL-MRRA	LXHL-NRR8	LXHL-MR1E	Royal Blue	455 nm	100 mW	80	
LXHL-MD1C	LXHL-MD1A	LXHL-ND98	LXHL-MD1E	Red	625 nm	25	750	
LXHL-ML1C	LXHL-ML1A	LXHL-NL98	LXHL-ML1E	Amber	590 nm	20	600	
LXHL-MW1D	LXHL-MW1B	N/A	N/A	White	5500 K	18	—	Lambertian (high dome)
LXHL-MM1D	LXHL-MM1B	N/A	N/A	Green	530 nm	25	—	
LXHL-ME1D	LXHL-ME1B	N/A	N/A	Cyan	505 nm	30	—	
LXHL-MB1D	LXHL-MB1B	N/A	N/A	Blue	470 nm	5	—	
LXHL-MRRD	LXHL-MRRB	N/A	N/A	Royal Blue	455 nm	100 mW	—	
LXHL-MD1D	LXHL-MD1B	LXHL-ND94	N/A	Red	625 nm	44	660	
LXHL-MH1D	LXHL-MH1B	LXHL-NH94	N/A	Red-Orange	617 nm	55	825	
LXHL-ML1D	LXHL-ML1B	LXHL-NL94	N/A	Amber	590 nm	36	540	
LXHL-FW1C	N/A	N/A	N/A	White	5500 K	16	—	Side Emitting
LXHL-FM1C	N/A	N/A	N/A	Green	530 nm	23	—	
LXHL-FE1C	N/A	N/A	N/A	Cyan	505 nm	27	—	
LXHL-FB1C	N/A	N/A	N/A	Blue	470 nm	5	—	
LXHL-FR1C	N/A	N/A	N/A	Royal Blue	455 nm	90 mW	—	
LXHL-FD1C	N/A	N/A	N/A	Red	625 nm	40	—	
LXHL-FH1C	N/A	N/A	N/A	Red-Orange	617 nm	50	—	
LXHL-FL1C	N/A	N/A	N/A	Amber	590 nm	32	—	

For more information, please see www.luxeon.com.

extreme luminous output and light density

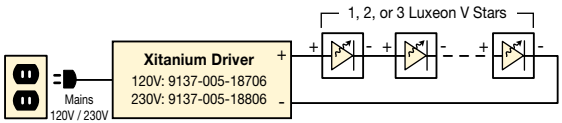
luxeon V star

Star

Star
(side-emitting)

Description

Hexagonal shaped Luxeon modules. 4x more light than standard Luxeon, in a 5 watt package. Provided with solder pads for electrical connection. Available in white, green, cyan, blue, and royal blue. Luxeon V Portable is available in white, and designed for battery-operated applications (1,000 hour life), such as flashlights, "miner" lights, and emergency egress.



DRAWING ACTUAL SIZE

Luxeon V Colors

Part Number	Color	Dominant Wavelength or Color Temp.	TYP Lumens	Radiation Pattern
LXHL-LM5C	Green	530 nm	120	Lambertian (high dome)
LXHL-LE5C	Cyan	505 nm	120	
LXHL-LB5C	Blue	470 nm	30	
LXHL-LR5C	Royal Blue	455 nm	500 mW	
LXHL-FM5C	Green	530 nm	110	Side Emitting
LXHL-FE5C	Cyan	505 nm	110	
LXHL-FB5C	Blue	470 nm	27	
LXHL-FR5C	Royal Blue	455 nm	450 mW	

Luxeon V Portable

Part Number	Color	Dominant Wavelength or Color Temp.	TYP Lumens	Radiation Pattern
LXHL-LW6C	White	5500 K	120	Lambertian
LXHL-FW6C	White	5500 K	110	Side Emitting

Note: Luxeon V Portable is designed and specified to 1,000 hour lifetime. See datasheet (document DS40) for specifics on lumen maintenance.

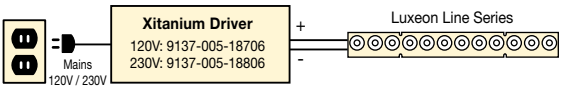
For more information, please see www.luxeon.com.

fitting tight spaces

luxeon line

Description

Linear array of 12 Luxeon light sources. Provided with highly efficient PMMA secondary optics for tight beam control. Two AMP 2 pin connectors provided, enabling daisy chain connection for meters of light. Available in white, green, cyan, blue, red and amber.



Connector on board AMP type, code 2-179123-2; Mating connector—AMP receptacle housing assembly, code 173977-2.

Part Number	Color	Dominant Wavelength or Color Temp.	TYP Lumens
LXHL-NW99	White	5500 K	185
LXHL-NM99	Green	530 nm	255
LXHL-NE99	Cyan	505 nm	300
LXHL-NB99	Blue	470 nm	50
LXHL-ND95	Red	625 nm	450
LXHL-NL95	Amber	590 nm	370

For more information, please see www.luxeon.com.

DRAWING ACTUAL SIZE

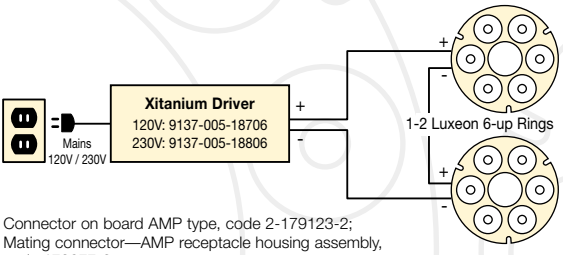
decorative plug and play

luxeon ring

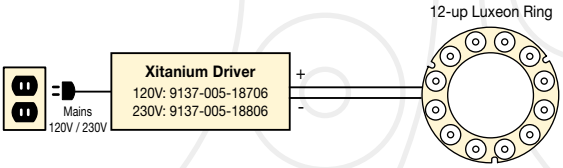
Description

Circular arrays of 6 or 12 Luxeon light sources, that can either be used separately or in combination. Provided with highly efficient PMMA secondary optics for tight beam control. AMP 2 pin connector provided for easy electrical connection. Available in white, green, cyan, blue, red and amber.

DRAWINGS ACTUAL SIZE



Connector on board AMP type, code 2-179123-2;
Mating connector—AMP receptacle housing assembly, code 173977-2.



Part Number	Color	Dominant Wavelength or Color Temp.	TYP Lumens	Configuration
LXHL-NW97	White	5500 K	90	Ring 6-Up
LXHL-NM97	Green	530 nm	130	
LXHL-NE97	Cyan	505 nm	150	
LXHL-NB97	Blue	470 nm	25	
LXHL-ND93	Red	625 nm	225	
LXHL-NL93	Amber	590 nm	185	
LXHL-NW96	White	5500 K	185	Ring 12-Up
LXHL-NM96	Green	530 nm	255	
LXHL-NE96	Cyan	505 nm	300	
LXHL-NB96	Blue	470 nm	50	
LXHL-ND92	Red	625 nm	450	
LXHL-NL92	Amber	590 nm	370	

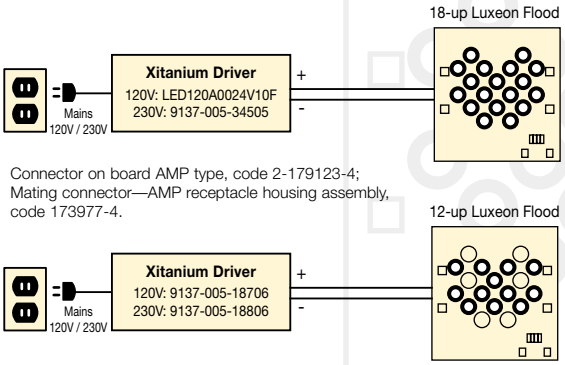
For more information, please see www.luxeon.com.

maximum effect

luxeon flood

Description

Rectangular array of 12 or 18 densely packed Luxeon light sources. AMP connector provided for easy electrical connection. Available in white, green, cyan, blue, red and amber.



Part Number	Color	Dominant Wavelength or Color Temp.	Lumens	LED Count	Radiation Pattern
LXHL-MWCA	White	5500 K	215	12	Batwing (low dome)
LXHL-MMCA	Green	530 nm	300		
LXHL-MECA	Cyan	505 nm	360		
LXHL-MBCA	Blue	470 nm	60		
LXHL-MDCA	Red	625 nm	300		
LXHL-MLCA	Amber	590 nm	240		
LXHL-MWJA	White	5500 K	325	18	
LXHL-MMJA	Green	530 nm	450		
LXHL-MEJA	Cyan	505 nm	540		
LXHL-MBJA	Blue	470 nm	90		
LXHL-MDJA	Red	625 nm	450		
LXHL-MLJA	Amber	590 nm	360		
LXHL-MDCB	Red	625 nm	525	12	Lambertian (high dome)
LXHL-MLCB	Amber	590 nm	430		
LXHL-MDJB	Red	625 nm	790	18	
LXHL-MLJB	Amber	590 nm	650		

For more information, please see www.luxeon.com.

luxeon emitter

Description

The power of Luxeon in its most basic form. Design and build your own Luxeon light source to your specifications. Standard Luxeon emitters available in white, green, cyan, blue, royal blue, red, red-orange and amber. Luxeon V emitters available in white, green, cyan, blue, and royal blue.

DRAWINGS ACTUAL SIZE

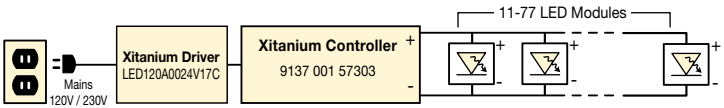
Part Number	Color	Dominant Wavelength or Color Temp.	TYP Lumens	Radiation Pattern
Luxeon Emitter ○ ● ● ● ● ● ● ●				
LXHL-BW01	White	5500 K	18	Batwing (low dome)
LXHL-BM01	Green	530 nm	25	
LXHL-BE01	Cyan	505 nm	30	
LXHL-BB01	Blue	470 nm	5	
LXHL-BR02	Royal blue	455 nm	100 mW	
LXHL-BD01	Red	625 nm	25	
LXHL-BL01	Amber	590 nm	20	
LXHL-PW01	White	5500 K	18	Lambertian (high dome)
LXHL-PM01	Green	530 nm	25	
LXHL-PE01	Cyan	505 nm	30	
LXHL-PB01	Blue	470 nm	5	
LXHL-PR03	Royal Blue	455 nm	100 mW	
LXHL-PD01	Red	625 nm	44	
LXHL-PH01	Red-Orange	617 nm	55	
LXHL-PL01	Amber	590 nm	36	
LXHL-DW01	White	5500 K	16	Side Emitting
LXHL-DM01	Green	530 nm	23	
LXHL-DE01	Cyan	505 nm	27	
LXHL-DB01	Blue	470 nm	5	
LXHL-DR01	Royal Blue	455 nm	90 mW	
LXHL-DD01	Red	625 nm	40	
LXHL-DH01	Red-Orange	617 nm	50	
LXHL-DL01	Amber	590 nm	32	
Luxeon V Emitter ● ● ● ●				
LXHL-PM02	Green	530 nm	120	Lambertian (high dome)
LXHL-PE02	Cyan	505 nm	120	
LXHL-PB02	Blue	470 nm	30	
LXHL-PR02	Royal Blue	455 nm	500 mW	
LXHL-DM02	Green	530 nm	110	Side Emitting
LXHL-DE02	Cyan	505 nm	110	
LXHL-DB02	Blue	470 nm	27	
LXHL-DR02	Royal Blue	455 nm	450 mW	
Luxeon V Portable ○				
LXHL-PW03	White	5500 K	120	Lambertian
LXHL-DW03	White	5500 K	110	Side Emitting

Note: Luxeon V Portable White Emitters are designed and specified to 1,000 hour lifetime. See datasheet (document DS40) for specifics on lumen maintenance. For more information, please see www.luxeon.com.

superflux IDC

Description

Rectangular shaped SuperFlux LED modules. Each module is equipped with an insulation displacement connector (IDC) that permits solderless connections using insulated wire. Available in white, green, cyan, blue, red, red-orange, and amber colors.

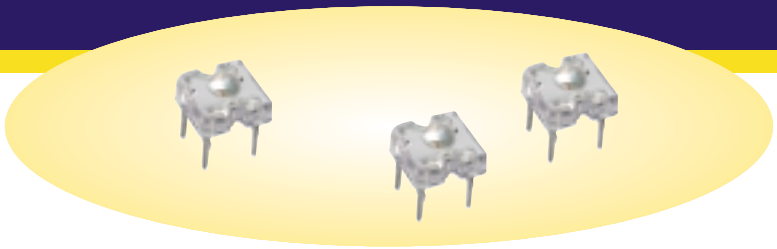


Part Number	Color	Dominant Wavelength or Color Temp.	Lumens	Candela	Viewing Angle (deg.)	Description
HLCR-MS00-RA0F4	Red	630 nm	3.0	1.8	70	IDC LED module
HLCR-MS00-HA0F4	Red-Orange	620 nm	3.8	2.3	70	IDC LED module
HLCR-MS00-AA0F4	Amber	594 nm	1.5	0.9	70	IDC LED module
HLCR-MS00-BA0F4	Blue	470 nm	2.0	1.8	90	IDC LED module
HLCR-MS00-CA0F4	Cyan	505 nm	5.0	4.5	90	IDC LED module
HLCR-MS00-GA0F4	Green	525 nm	4.5	4.1	90	IDC LED module
HLCR-MC00-0000						IDC connector module
HLCR-DS00-RD0F4	Red	630 nm	3.0	1.8	70	IDC (60 ft. reel of 360 modules on wire)
HLCR-DS00-HD0F4	Red-Orange	620 nm	3.8	2.3	70	IDC (60 ft. reel of 360 modules on wire)
HLCR-DS00-AD0F4	Amber	594 nm	1.5	0.9	70	IDC (60 ft. reel of 360 modules on wire)
HLCR-DS00-BD0F4	Blue	470 nm	2.0	1.8	90	IDC (60 ft. reel of 360 modules on wire)
HLCR-DS00-CD0F4	Cyan	505 nm	5.0	4.5	90	IDC (60 ft. reel of 360 modules on wire)
HLCR-DS00-GD0F4	Green	525 nm	4.5	4.1	90	IDC (60 ft. reel of 360 modules on wire)

For more information, please see www.lumileds.com.

DRAWING ACTUAL SIZE

superflux LED



Description

Square shaped, 4-pin, through-hole LEDs. Available in green, cyan, blue, red, red-orange, and amber colors and with multiple viewing angles for all design needs.

DRAWINGS ACTUAL SIZE

Part Number	Color	Dominant Wavelength	Lumens	Candela	Viewing Angle (deg.)
HPWN-MG00	Green	525 nm	4.5	4.1	90
HPWN-MC00	Cyan	505 nm	5.0	4.5	90
HPWN-MB00	Blue	470 nm	2.0	1.8	90
HPWT-RD00	Red	630 nm	3.0	3.8	25 x 68
HPWT-MD00	Red	630 nm	3.0	1.8	70
HPWT-DD00	Red	630 nm	3.0	4.5	40
HPWT-BD00	Red	630 nm	3.0	6.0	30
HPWT-RH00	Red-Orange	620 nm	3.8	4.8	25 x 68
HPWT-MH00	Red-Orange	620 nm	3.8	2.3	70
HPWT-DH00	Red-Orange	620 nm	3.8	5.7	40
HPWT-BH00	Red-Orange	620 nm	3.8	7.6	30
HPWT-RL00	Amber	594 nm	1.5	1.9	25 x 68
HPWT-ML00	Amber	594 nm	1.5	0.9	70
HPWT-DL00	Amber	594 nm	1.5	2.3	40
HPWT-BL00	Amber	594 nm	1.5	3.0	30

For more information, please see www.lumileds.com.

LUMILEDS

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