



## Light is attraction

Create inviting displays with  
OSRAM signage, backlighting  
and decorative LED modules

Light is OSRAM

**OSRAM**

# Make a great first impression

Great signage commands your attention and invites you in. Equally important, creating the perfect atmosphere with decorative lighting presents a strong and attractive image for your organization to the public. And remember, you only get one chance to make a great first impression.

We are committed to being your lighting partner, providing the latest in innovative, sustainable lighting products to meet your specific requirements.

So whether you're a sign builder, sign/lighting designer, or business owner, you can depend on OSRAM LED lighting products to help ensure your next sign or decorative lighting project is a great one.



A low-angle, upward-looking photograph of a modern building at night. The building features a large glass facade with a grid of black frames. The interior lights are on, creating a warm glow. The upper part of the building has a copper-colored metallic facade. The OSRAM logo is prominently displayed on the glass facade. The sky is a deep blue.

**OSRAM**

# Versatile light systems from OSRAM

In signage, backlighting and decorative accents, the flexible adaptation of LED modules to objects of various shapes, sizes and materials is a crucial factor. To make them adapt perfectly to any given shape, the LEDs of the BackLED® and BoxLED® modules are placed on flexible chains at regular distances. Our LINEARlight Flex® products offer a flexible, continuous LED module with self-adhesive backing.

OSRAM offers products in a selection of sizes, beam patterns and light outputs that will ensure the right match for a broad range of applications. This increases the ability of sign makers, designers and specifiers to create products and designs that will exceed the exacting demands of their customers and end users.

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## BackLED® Plus

LED chain modules for shallower depth face channel letters

- Featuring Flat-Ray and Square Lens (SQ) optics
- Available in four CCTs and solid colors



## BackLED B

LED chain modules for medium to deep face channel letters

- 120° beam directs light to the face of deep signs
- Available in three different sizes and four CCTs



## BoxLED® Plus

LED chain modules for single and double sided box signs

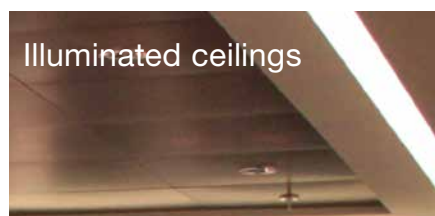
- Featuring Flat-Ray Optics and Click & Play installation
- Simple and efficient accessories available for fluorescent retrofits



## LINEARlight® Flex

Flexible LED strip of white light for indoor use

- Self adhesive backing for easy installation



## LINEARlight Flex Protect

Flexible LED strip of white light for outdoor use

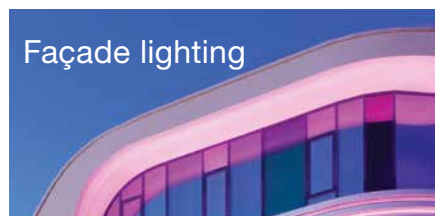
- IP67 rated modules can be field cut



## LINEARlight Flex Colormix

Flexible colormixing LED modules for indoor and outdoor use

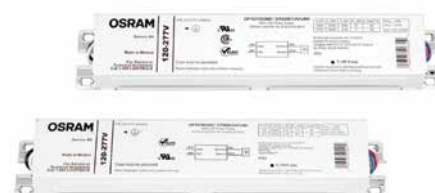
- Individually powered red, green and blue LEDs



## OPTOTRONIC®

## LED Power Supplies

- Constant Voltage with 12Vdc and 24Vdc outputs





# Perfect illumination for any shape installation

OSRAM offers a variety of optic, size, light output, beam pattern and color combinations to meet your signage, backlighting and decorative needs.

## Using LED modules without optics will help to distribute the light further

These LED modules are used whenever the distance between the module and the backlit surface is high, i.e. when the light needs to be directed forward and not spread out towards the sides. The product range includes the BackLED® L B, BackLED M B, and BackLED XS B.



## Flat-Ray Technology from OSRAM is the key to optimized light distribution

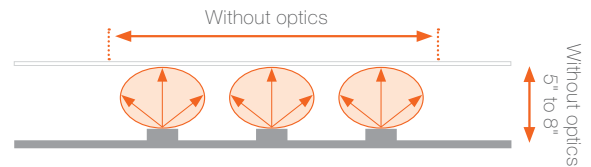
Special optics allow for a homogeneous light distribution at a greater module pitch. Overall, this means you need fewer LEDs for a perfect result. Furthermore, thanks to the wide 155° optical spread the distance between the LED module and the sign face can be reduced. This means even shallow channel letters can be uniformly and brightly lit. Flat-Ray Technology is used with BackLED L Plus, BackLED M Plus, BoxLED® Plus and BoxLED Plus DS.



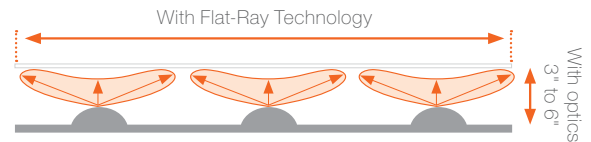
## Uninterrupted light distribution with fewer LED modules: The new square lenses from OSRAM

The patented square lenses from OSRAM provide a light distribution that spreads the light to the sides similar to traditional batwing lenses – but feature a new exclusive square pattern. Due to their quadrant symmetric light distribution, square lenses can be placed optimally to achieve uninterrupted illumination, avoiding the shadows that can occur with round batwing lenses. Moreover, the larger 160° optical spread enables very shallow applications to be illuminated perfectly. Square lenses are now available with BackLED S Plus SQ and BackLED M Plus SQ product lines.

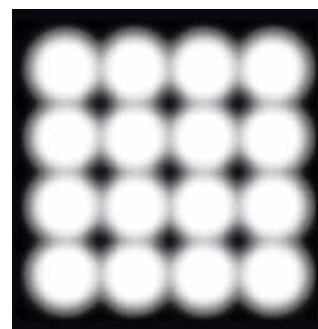
## BackLED B delivers brighter sign faces in deeper channel letters



## Homogeneous light distribution through Flat-Ray Technology

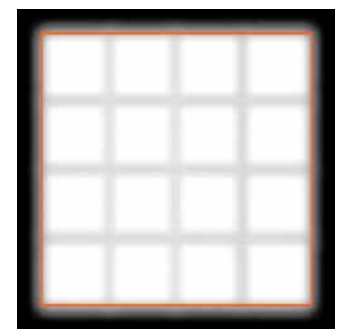


## Batwing lenses with a beam angle of 155°



Formation of shadows with black holes

## Square lenses with a beam angle of 160°




Homogeneous illumination of the sign face with fewer modules

# LED Chain Module Selection Chart

The selection chart below will help you choose the OSRAM LED Chain Module that works best for your signage. OSRAM offers chain modules that fit a variety of signage applications, giving you the flexibility to

customize a sign to fit your needs. You can be confident in whatever you choose because OSRAM signage products are backed by our 5-year product guarantee.

LED Chain Solution		Channel Depth						
		2 in	3 in	4 in	5 in	6 in	7 in	8 in
	BackLED® M Plus SQ		6" stroke	7" stroke	8" stroke			
	BackLED S Plus SQ	4" stroke	5" stroke	6" stroke				
	BackLED L Plus			7-8" stroke	10" stroke			
	BackLED M Plus		5" stroke	6" stroke	7" stroke			
	BackLED L B					7" stroke	8" stroke	10" stroke
	BackLED M B			5" stroke	6" stroke	7" stroke		
	BackLED XS B				6" stroke	7" stroke		
Single Sided Box Signs		Cabinet Depth						
		6 in	7 in	8-9 in	>10 in			
	BoxLED® Plus	12" stroke	14" stroke	16" stroke	Best results may be obtained by mounting the modules in the OSRAM accessory track with 16" spacing and mounting the track approximately 8" from the sign face			
Double Sided Box Signs		12-13 in	14-15 in	16-23 in	>24 in			
	BoxLED Plus DS	12" stroke	14" stroke	16" stroke	Best results may be obtained by spacing the modules closer together in deeper cabinets to maintain light levels on the face			

# Channel lettering

## Individual and significant

LED illuminated text and lettering are more than the representation of a brand or message, they can characterize the image of the whole area. Attention grabbing LED lighting draws in customers and guests, builds brand recognition and can

distinguish the ambiance of the setting. There are virtually no limits to the use of LED channel and profile lettering. Applications are as varied as your imagination and range from gas station canopies to performance halls.

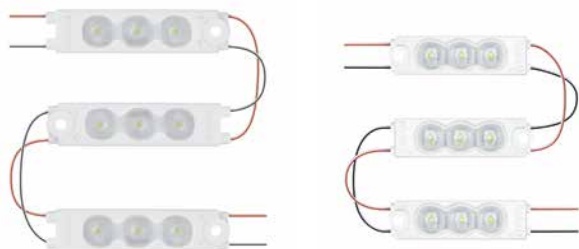




# BackLED® M and S Plus Square Lens



Exclusive OSRAM Optics for unparalleled uniformity in 2" to 5" deep channel letters



## Key Features & Benefits

- Single board cuttable chain of LED modules with flexible connection cables
- The 160° square distribution of the new Square Lens optics deliver a bright, uniform sign face
- Ideal for shallower signs – 2"-5" deep
- Two different sizes and light outputs enable choosing the ideal product for each application
- BackLED M Plus SQ is available in 3000K, 4000K, 6500K and Red
- BackLED S Plus SQ is available in 3000K, 4000K, 6500K, Red, Green and Blue
- Fully integrated heat sink
- IP66 rated to protect against dust, moisture, and condensation in outdoor operation
- Fast accurate installation is simplified through pre-mounted adhesive tape and mounting holes
- Optimal operation on OPTOTRONIC® 12Vdc and 12Vdc dimmable power supplies

## Ordering Information

Item Number	Ordering Abbreviation	Length (ft.)	Number of Modules	Module Pitch (in)	Color Temperature	Voltage (Vdc)	Power per Module(W) <sup>1</sup>	Lumens per Module	Watts/ft	Lumens/ft	LPW	Case Qty.
73774	BA-M-PL-SQ-830	20	40	6	3000K	12	0.75	60	1.5	120	80.0	5
73672	BA-M-PL-SQ-840	20	40	6	4000K	12	0.75	65	1.5	130	86.7	5
73671	BA-M-PL-SQ-865	20	40	6	6500K	12	0.75	65	1.5	130	86.7	5
73849	BA-M-PL-SQ-Red	20	40	6	Red (625nm)	12	0.63	17.7	1.25	35.4	28.3	5
73939	BA-S-PL-SQ-830	37.2	90	4.92	3000K	12	0.38	32.1	0.93	78.3	84.5	5
73940	BA-S-PL-SQ-840	37.2	90	4.92	4000K	12	0.38	34.8	0.93	84.9	91.5	5
73941	BA-S-PL-SQ-865	37.2	90	4.92	6500K	12	0.38	34.8	0.93	84.9	91.5	5
73843	BA-S-PL-SQ-Red	37.2	90	4.92	Red (625nm)	12	0.38	11.4	0.92	27.8	30.3	5
73844	BA-S-PL-SQ-Green	18.7	45	4.92	Green (523nm)	12	0.38	23.8	0.92	58.1	63.4	5
73845	BA-S-PL-SQ-Blue	18.7	45	4.92	Blue (466)	12	0.38	5.6	0.92	13.5	14.9	5

Notes:

1. Nominal ratings at ambient of 25°C.

2. All data is related to the entire module. Data reflects statistical mean values. Actual data may differ depending on variances in the manufacturing process.

3. Performance values were taken at steady state. Instant-on measurements may be higher.

## Power Supply Information

Item Number	Ordering Abbreviation	BackLED M Plus SQ White Max. No. of Modules	BackLED M Plus SQ Red Max. No. of Modules	BackLED S Plus SQ (White, Red, Green, Blue) Max. No. of Modules
51604	OT20W/12V/UNV	20	23	40
51632	OT60W/12V/UNV	60	70	121
51633	OT60W/12V/UNV/DIM	60	70	121

## Specifications and Certifications



Listed in the Sign Components Manual (SAM)  
(File# E258264)

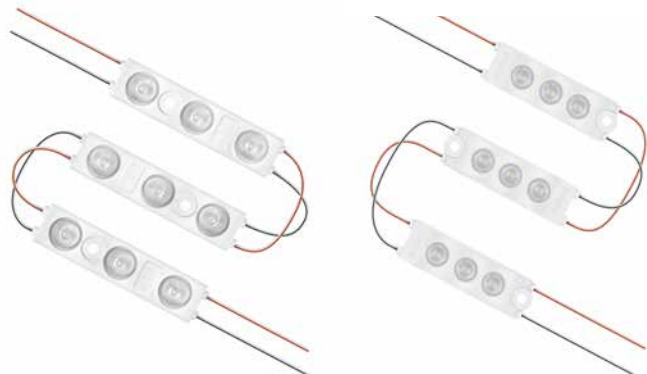


BackLED Plus modules are UL Classified for sign retrofits when paired with our OPTOTRONIC power supplies. (UL File # E311887)



# BackLED® L and M Plus

Featuring Flat-Ray technology for 3" to 6" deep channel letters



## Key Features & Benefits

- Single board cuttable chain of LED modules with flexible connection cables
- The 150° distribution of our Flat-Ray optical lens ensures a bright, uniformly illuminated sign face
- Ideal for shallower signs – 3"-6" deep
- BackLED L Plus is designed for large stroke letters with high brightness requirements
- BackLED M Plus is designed for medium to smaller sized channel letters
- BackLED M Plus is available in either white or red LEDs
- Fully integrated heat sink
- IP66 rated to protect against dust, moisture, and condensation in outdoor operation
- Fast accurate installation is simplified through pre-mounted adhesive tape and mounting holes
- Optimal operation on OPTOTRONIC® 12Vdc and 12Vdc dimmable power supplies

## Ordering Information

Item Number	Ordering Abbreviation	Length (ft.)	Number of Modules	Module Pitch (in)	Color Temperature	Voltage (Vdc)	Power per Module (W) <sup>1</sup>	Lumens per Module	Watts/ft	Lumens/ft	LPW	Case Qty.
73664	BA-L-PL-830	21	32	7.9	3000K	12	1.56	125	2.38	190	80	5
73665	BA-L-PL-840	21	32	7.9	4000K	12	1.56	135	2.38	205	86	5
73744	BA-L-PL-850	21	32	7.9	5000K	12	1.56	137	2.38	209	88	5
71279	BA03LA-W4F-765	21	32	7.9	6500K	12	1.8	127	2.74	195	70	5
71282	BA03MA-W4F-830	20	40	6	3000K	12	0.72	50	1.44	100	69	5
71283	BA03MA-W4F-840	20	40	6	4000K	12	0.72	57	1.44	115	79	5
71284	BA03MA-W4F-765	20	40	6	6500K	12	0.72	68	1.44	135	94	5
71285	BA03MA-R2	20	40	6	625nm	12	0.72	14	1.44	27.5	19	5

Notes:

1. Nominal ratings at ambient of 25°C.

2. All data is related to the entire module. Data reflects statistical mean values. Actual data may differ depending on variances in the manufacturing process.

3. Performance values were taken at steady state. Instant-on measurements may be higher.

## Power Supply Information

Item Number	Ordering Abbreviation	BackLED L Plus Max. No. of Modules	BackLED M Plus Max. No. of Modules
51604	OT20W/12V/UNV	9	22
51632	OT60W/12V/UNV	28	72
51633	OT60W/12V/UNV/DIM	28	72

## Specifications and Certifications



Listed in the Sign Components Manual (SAM)  
(File# E258264)



BackLED Plus modules are UL Classified for sign retrofits when paired with our OPTOTRONIC power supplies. (UL File # E311887)



# BackLED® L B, M B and XS B

Featuring tight 120° light distribution for increased brightness in 5" to 8" signs



## Key Features & Benefits

- Single board cuttable chain of LED modules with flexible connection cables
- The tight 120° beam angle of the BackLED B modules deliver brighter sign faces and outstanding uniformity in deeper channel letters (5-8") when compared to modules with wider beam angles
- Fully integrated heat sink
- IP66 rated to protect against dust, moisture, and condensation in outdoor operation
- Long life: up to 50,000 hours (L<sub>70</sub>) minimizing maintenance frequency so long as max T<sub>A</sub> is below 25°C
- Fast, accurate installation is simplified through pre-mounted adhesive tape and mounting holes
- Backed by a 5 year system warranty when paired with OPTOTRONIC® 12V<sub>DC</sub> and 12V<sub>DC</sub> dimmable power supplies

## Ordering Information

Item Number	Ordering Abbreviation	Length (ft.)	Number of Modules	Module Pitch (in)	Color Temperature	Voltage (V <sub>DC</sub> )	Power per Module(W)	Lumens per Module	Watts /ft	Lumens /ft	LPW	Case Qty.
73667	BA-L-BC-840	23.7	36	7.9	4000K	12	1.25	110	1.9	167	88	5
73745	BA-L-BC-850	23.7	36	7.9	5000K	12	1.25	112	1.9	170	89	5
71923	BB03LA-W4F-770	23.7	36	7.9	7000K	12	1.6	118	2.5	180	72	5
71919	BB03MA-W4F-840	20	40	6	4000K	12	0.75	57	1.5	115	76	5
73746	BA-M-BC-850	20	40	6	5000K	12	0.75	71	1.5	142	95	5
71918	BB03MA-W4F-765	20	40	6	6500K	12	0.75	67	1.5	135	90	5
73569	BA-XS-BC 865	13.3	50	3.1	6500K	12	0.26	20	0.98	76	78	5

## Power Supply Information

Item Number	Ordering Description	BackLED L B (73667 & 73745) Max. No. of Modules	BackLED L B (71923) Max. No. of Modules	BackLED M B Max. No. of Modules	BackLED XS B Max. No. of Modules
51604	OT20W/12V/UNV	13	11	23	56
51632	OT60W/12V/UNV	41	34	69	168
51633	OT60W/12V/UNV/DIM	41	34	69	168

## Specifications and Certifications



Listed in the Sign Components Manual (SAM)  
(File # E258264)



The BackLED B family of products are UL Classified for sign retrofits when paired with our OPTOTRONIC power supplies.  
(UL File # E311887)





# Box signs

## Informative advertising spaces

Single and double sided box signs are popular advertising spaces for logos and brand names. LED backlit advertising signs and information panels stand out from the surroundings and command attention while providing information to

customers. In addition, box signs can be used in many different light box applications including: bus stops, railroad stations, department stores, movie theaters and airports.



# BoxLED® mounting tracks provide quick, easy and precise installation

Click & Play mounting provides the basis for the efficiency of the entire system



## Time and precision play an important role in light installations

That is why, a quick mounting process, which is optimally supported by mounting tracks from OSRAM, is a proven means to reduce costs.

For BoxLED Plus DS installations, the LED modules are simply snapped into the track – which can then be clipped into tracks mounted at each end of the sign using slip on accessory brackets or they can be attached directly to the structure of the sign box. The tracks feature slots that are spaced at even intervals and can be used to aid in mounting the modules with a uniform pitch. The 400mm spacing between the modules maximizes the flexibility for adjusting the brightness and uniformity of the sign face.

The BoxLED Plus modules that are used in single sided box signs can be mounted directly to the back of the cabinet using the pre-mounted VHB adhesive and mounting holes, or they can be snapped into accessory tracks to allow greater flexibility in positioning the modules in the space. These modules also feature a 400mm spacing between the modules to enable optimized uniformity with the fewest number of modules.

For retrofit solutions, OSRAM offers adapter track and socket accessories that turn the BoxLED Plus and BoxLED Plus DS LED modules into a direct retrofit for T12HO fluorescent lamps. The adapter sockets slide onto the ends of the new adapter track enabling the system to fit directly into R17d sockets. The same track and sockets can be used to retrofit any size T12HO up to F96, minimizing the number of SKUs that are required to be stocked.

## OSRAM BoxLED Plus DS modules installed with accessory mounting track



## OSRAM BoxLED Plus DS with adapter track and socket accessories



## OSRAM BoxLED Plus with adapter track and socket accessories



# BoxLED® Plus



## Key Features & Benefits

- Single sided chain of linear white LED modules
- Utilizes Flat-Ray optical lens technology for uniform illumination of single sided signs
- Single board cuttable for an exact fit in any installation
- Fully integrated heat sink
- IP66 rated to protect against dust, moisture, and condensation in outdoor operation
- Lower sign maintenance costs due to a lifetime of 50,000 hours ( $L_{70}$ ) at a  $T_A$  of 25°C
- Simplified installation is achieved with pre-mounted tape and mounting holes or modules can be snapped into the accessory mounting track for use in both new construction or retrofit applications
- Optimal operation on OPTOTRONIC® 24Vdc and 24Vdc dimmable power supplies
- Accessories available to directly retrofit T12HO fluorescent lamps using existing R17d sockets

## Ordering Information

Item Number	Ordering Abbreviation	Length (ft.)	No. of Modules	Color Temperature	Voltage (Vdc)	Power per Module (W)	Lumens per Module	Watts/ft.	Lumen/ft.	LPW
73519	BX-PL-830	42.8	32	3000K	24	3.12	250	2.4	191	80
73534	BX-PL-840	42.8	32	4000K	24	3.12	270	2.4	206	86
73738	BX-PL-850	42.8	32	5000K	24	3.12	274	2.4	209	88
73535	BX-PL-865	42.8	32	6500K	24	3.12	274	2.4	209	88

## Power Supply Information

Item Number	Ordering Abbreviation	Max. No. of Modules
51598	OT50W/24V/120V/LP	13
51522	OT96W/24V/UNV	26
51520	OT96W/24V/UNV/DIM	26

### Notes:

- These numbers are based on calculated "Maximum Board Wattage" value.
- The listed "Maximum number of modules per power supply" values are only applicable when OPTOTRONIC power supplies are used.

## Specifications and Certifications



Listed in the Sign Components Manual (SAM)  
(File # E258264)



The BoxLED Plus is UL Classified for sign retrofit  
(UL File # E311887)



## Accessories

Item Number	Ordering Abbreviation	Description	Case Quantity
70923	BX-MP VS24	Aluminum Mounting Track, 93.6" long	24 Units <sup>1</sup>
73837	BX-RETRO-ADAPT	Adapter Sockets	30 Units <sup>2</sup>
73839	BX-SS-ADAPT-TRACK	Aluminum Adapter Track, 91.91" long with grooves to fit Adapter sockets (73837)	24 Units <sup>3</sup>

### Notes:

- Mounting tracks are sold in full cases of 24 units only
- Adapter Sockets are sold in full cases of 30 units only
- Adapter tracks are sold in full cases of 24 units only



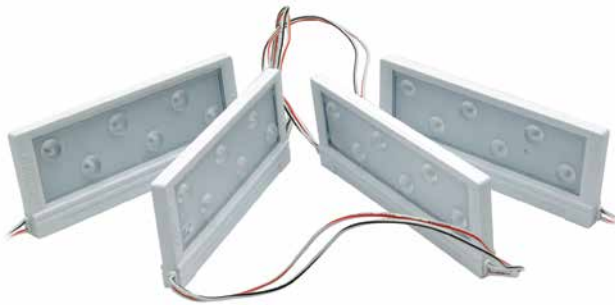
73837 & 73839



BoxLED Plus modules mounted in Adapter Track with Adapter sockets



# BoxLED® Plus DS



## Key Features & Benefits

- Chain of double sided linear white LED modules ideally designed to replace fluorescent tubes in new or retrofitted double faced box signs
- Utilizes Flat-Ray optical lens technology for uniform illumination of both sides of double sided signs
- Single board cuttable
- Fully integrated heat sink
- IP66 rated to protect against dust, moisture, and condensation in outdoor operation
- Lower sign maintenance costs due to a lifetime of 50,000 hours ( $L_{70}$ ) at a  $T_A$  of 25°C
- Fast and easy installation with a click-and-play mounting track and bracket accessory system – eliminating the need to drill and screw modules to the track
- Backed by a five year warranty when paired with OPTOTRONIC® 24Vdc and 24Vdc dimmable power supplies
- Energy efficient alternative to fluorescent lamps in new or retrofit applications
- Accessories available to directly retrofit T12HO fluorescent lamps using existing R17d sockets

## Ordering Information

Item Number	Ordering Abbreviation	Length (ft)	No. of Modules	Module Pitch (in)	Color Temperature (CCT)	Voltage (V <sub>DC</sub> )	Power per Module (W)	Lumens per Module	Watts/ft	Lumens/ft	LPW
73737	BX-DS-PL-850	21	16	15.7	5000K	24	6.2	555	4.8	423	89
73502	BX-DS-PL-865	21	16	15.7	6500K	24	6.24	555	4.8	423	89

Note:  
Data is related to entire unit measured at steady state. Data reflects statistical mean values. Actual data may differ depending on variances in the manufacturing process.

## Power Supply Information

Item Number	Ordering Abbreviation	Max. No. of Modules
51598	OT50W/24V/120V/LP	6
51522	OT96W/24V/UNV	13
51520	OT96W/24V/UNV/DIM	13

Notes:  
1. These numbers are based on calculated "Maximum Board Wattage" value.  
2. The listed "Maximum number of modules per power supply" values are only applicable when OPTOTRONIC power supplies are used.

## Specifications and Certifications



Listed in the Sign Components Manual (SAM)  
(File # E258264)



The BoxLED Plus DS is UL Classified for sign retrofit  
(UL File # E311887)



## Accessories



71921 & 71922      73837 & 73838

Item Number	Ordering Abbreviation	Description	Case Quantity
71921	BX-DS-MP	Aluminum Mounting Track 79" long with holes for Mounting Brackets (71922)	24 Units <sup>1</sup>
71922	BX-DS-MB	Mounting Brackets (Set of Left and Right)	30 Units <sup>2</sup>
73837	BX-RETRO-ADAPT	Adapter Sockets	30 Units <sup>3</sup>
73838	BX-DS-ADAPT-TRACK	Aluminum Adapter Track, 91.91" long with grooves to fit Adapter sockets (73837)	24 Units <sup>4</sup>

Notes:  
1. Mounting tracks are sold in full cases of 24 units only  
2. Mounting brackets are sold in full cases of 30 units only. Each case of 30 contains 15 left brackets and 15 right brackets.  
3. Adapter Sockets are sold in full cases of 30 units only  
4. Adapter Tracks are sold in full cases of 24 units only



BoxLED Plus DS modules mounted in Adapter Track with Adapter sockets

BoxLED Plus DS modules mounted in Mounting Track with Mounting Brackets

# Decorative backlighting and accent lighting

Make a difference with light

LINEARlight Flex® LED modules create the desired lighting atmosphere in a building, set decorative accents or highlight products. The bendable and cuttable LINEARlight Flex LED modules are easy to adjust and blend harmoniously into the architecture. They will help to draw attention to a company sign, upgrade handrails and guide customers to the right products. When integrated into the architecture, they highlight the façade, create decorative light lines or provide indirect cove lighting.



# LINEARlight Flex®

Flexible indoor white light LED modules



## Key Features & Benefits

- Flexible circuit board with self adhesive backing allows for easy installation into straight runs or curved surfaces with a radius as tight as 0.78in
- Modules can be field cut to achieve a customized fit
- Dimmable by pulse width modulation, a method that maintains consistent color and controls lumen output
- 120° Beam angle
- Long life: up to 50,000 hours (L<sub>70</sub>) minimizing maintenance frequency
- The provided light has uniform brightness along the entire length of the module
- Entire reel can be powered from a single feed
- Mercury free, no UV or IR emissions
- Available in three different light outputs—Power, Short Pitch and Advanced

## Ordering Information

Item Number	Ordering Abbreviation	Family	Module Length (feet)	No. of LEDs	Power (W)	Input Voltage (Vdc)	Current Draw (Amps)	Color Temperature	Lumens (lm)	Lumens per foot	Watts per foot	LPW
71329	L68LFE/24V/827/PF	Power	9.8	120	68	24	2.8	2700K	4792	489	6.9	70.5
71328	L68LFE/24V/830/PF	Power	9.8	120	68	24	2.8	3000K	5168	525	6.9	76.0
71327	L68LFE/24V/840/PF	Power	9.8	120	68	24	2.8	4000K	5544	566	6.9	81.5
71388	L58LFE/24V/840/SP	Short Pitch	19.7	720	58	24	2.4	4000K	5076	258	2.9	88
71389	L58LFE/24V/830/SP	Short Pitch	19.7	720	58	24	2.4	3000K	4680	238	2.9	81
71390	L58LFE/24V/827/SP	Short Pitch	19.7	720	58	24	2.4	2700K	4680	238	2.9	81
71308	L48LFE/24V/840/ADV/G3/A	Advanced	32.8	600	48	24	2.0	4000K	4230	129	1.5	88
71309	L48LFE/24V/830/ADV/G3/A	Advanced	32.8	600	48	24	2.0	3000K	3900	119	1.5	81
71310	L48LFE/24V/827/ADV/G3/A	Advanced	32.8	600	48	24	2.0	2700K	3900	119	1.5	81

Notes:

1. All lumen and wattage values are typical values.

2. All data is related to the entire module. Data reflects statistical mean values. Actual data may differ depending on variances in the manufacturing process.

3. Beam angle = 120°

## Power Supply Information

### Max. Number of Modules and Max. Length per Power Supply

	OT20 (51804)	OT50 (51598)	OT96 (51520, 51522, 51626)
Power	4c = 1.9'	12c = 5.9'	23c (1.5r) = 11.3'
Short Pitch	38c = 6.2'	90c = 14.8'	174c = 28.5' (1.5r)
Advanced	38c = 12.47'	90c = 29.7'	173c = 57.1' (1.7r)

Notes:

1. In the above chart, "c" = coupon, "r" = reel

2. A coupon is the Smallest Electrical Unit (SEU) independent sub-section of the module.

3. The module is designed to work with Constant Voltage power supplies only. Reference the Power Supply PIB # ECS050 for product specific information.

4. To accurately determine the maximum LED load for the application refer to "Remote Mounting Distances" Application Note (LED126).

5. Parallel runs may be required to achieve the numbers listed above.

## Accessories



Item Number	Ordering Abbreviation	Description	Length (inches)	Case Qty.	Min. Order Qty.
<b>Track Accessories</b>					
72356	LAC-T/STS/7FT	6.9' aluminium track	83	40	1
72357	LAC-M/STS/CLIP	Optional mounting bracket for track	1.1	280	35
72360	LAC-T/STS-COV/C/7FT	6.9' clear cover for track	83	40	1
72358	LAC-T/STS-COV/D/7FT	6.9' diffused cover for track	83	40	1
72359	LAC-S/STS/ENDCAP	End cap used only with 72358	0.8	160	20
72361	LAC-T/STS-COV/SP/7FT	6.9' diffused cover specifically designed for short pitch product	83	40	1
<b>Indoor Accessories</b>					
71428	LAC-C/TP/TERMCAP	Termination Cap	-	200	10
72671	LF-CONN FLEX SC	Board to board connector piece	0.35	250	25
72947*	LF-WIRE-30 FLEX SC	30mm connector wire	1.1	10,000	100
72948*	LF-WIRE-150 FLEX SC	150mm connector wire	5.9	5000	50
72946	LF-2PIN FLEX SC	Input connector	20	250	10

\*Use with 72671



# LINEARlight Flex® Protect

Flexible outdoor white light LED modules



## Key Features & Benefits

- Flexible encapsulated circuit board with self adhesive backing allows for easy installation into straight runs or curved surfaces with a radius as tight as 1.9 in (50mm)
- IP67 rated for outdoor use, but can also be used indoors
- Modules can be field cut at designated cut points to achieve a customized fit
- Each module reel comes with a pre-installed IP67 input connector
- 120° Beam angle
- Dimmable by pulse width modulation (PWM), a method that maintains consistent color and controls lumen output
- Long life: up to 50,000 (L<sub>70</sub>) minimizing maintenance frequency
- Entire reel can be powered from a single feed
- Mercury free, no UV or IR emissions
- Available in two different light outputs—Power and Advanced

## Ordering Information

Item Number	Ordering Abbreviation	Family	Module Length (feet)	No. of LEDs	Power (W)	Input Voltage (Voc)	Current Draw (Amps)	Color Temperature	Lumens (lm)	Lumens per foot	Watts per foot	LPW
72596	LF06P2-W4F-830-P	Power	16.7	120	96	24	4	3000K	6375	382	5.7	66
72597	LF06P2-W4F-840-P	Power	16.7	120	96	24	4	4000K	7140	428	5.7	74
72615	LF06A-W3F-830-P	Advanced	32.8	495	50	24	2	3000K	3500	107	1.5	70
72616	LF06A-W3F-840-P	Advanced	32.8	495	50	24	2	4000K	3900	119	1.5	78

Note: All lumen and wattage values are typical values.

## Power Supply Information

	OT20 (51804)	OT50 (51598)	OT96 (51520, 51522, 51626)
Advanced	36c = 11.82'	86c = 28.3'	166c = 54.2' (1.7r)
Power	6c = 3.0'	11c = 5.6'	29c = 14.6'

## Accessories



Item Number	Ordering Abbreviation	Description	Length (inches)	Case Qty.	Min. Order Qty.
<b>Track Accessories</b>					
72356	LAC-T/STS/7FT	6.9' aluminium track	83	40	1
72357	LAC-M/STS/CLIP	Optional mounting bracket for track	1.1	280	35
72360	LAC-T/STS-COV/C/7FT	6.9' clear cover for track	83	40	1
72358	LAC-T/STS-COV/D/7FT	6.9' diffused cover for track	83	40	1
72359	LAC-S/STS/ENDCAP	End cap used only with 72358	0.8	160	20
<b>Protect Accessories</b>					
72667	LF/ENDCAP/IP67/LP	Used to seal Protect product end when cut	—	100	10
72668	LF/2CONN/IP67/LP	Board to board connector	7	50	5
72669*	LF/2PIN/IP67/LP	Input connector	20	50	5
72363	LF-CLIP-FIXTURE	Optional flexible mounting bracket	—	500	50

\*Every Protect module reel comes with one pre-wired input connector and install guide.

# LINEARlight Flex® Colormix

Flexible indoor and outdoor colormixing LED module



## Key Features & Benefits

- Flexible circuit board with self-adhesive backing allows for easy installation in complex contours
- Low profile module enables mounting in compact spaces
- Each Multi LED contains an individually powered red, green and blue chip; this unique method of colormixing achieves excellent color consistency and uniformity
- Modules can be field cut every 5 LEDs to achieve a customized fit
- 120° Beam angle
- LEDs are closely spaced to minimize hot spots in shallow installations
- Dimmable by pulse width modulation, a method that maintains consistent lumen output and color
- Available in two versions:
  - Advanced: indoor and higher lumens
  - Protect: encapsulated IP67 rated for outdoor use

## Ordering Information

Item Number	Ordering Abbreviation	Family	Module Length	No. of LEDs	Power (W)	Voltage (Voc)	Current (Amps)	Wavelength	Initial Lumens	Watts/ft.
72618	LF05CA2-RGB3	Advanced	13.1 ft.	200	72	24	3		1883	5.5
	Red Channel				28.8		1.2	625nm	645	2.2
	Green Channel				22.0		0.9	525nm	1025	1.7
	Blue Channel				19.2		0.8	465nm	213	1.5
71398	L72LFE/24V/RGB3/LF05/CAP	Protect	13.1 ft	200	72	24	3		1740	5.5
	Red Channel				26.7		1.1	625nm	447	2.0
	Green Channel				37.9		1.6	525nm	1170	2.9
	Blue Channel				7.5		0.3	467nm	90	0.6

Note: All data is related to entire module measured at Tc point of 25°C. Data reflects statistical mean values. Actual data may differ depending on variances in the manufacturing process. End users need to take into account the lumen depreciation as the temperature rises with various thermal management solutions installed.

## Power Supply Information

	Max. feet	# of parallel branches required	Max. feet per branch	Max. SEU's per branch
OT 50W (51598)	9.1	1	9.1	28
OT 96W (51520, 51522, 51626)	17.5	2	13.1;4.4	40;13

## Accessories



Item Number	Ordering Abbreviation	Description	Length (inches)	Case Qty.	Min. Order Qty.
<b>Track Accessories</b>					
72356	LAC-T/STS/7FT	6.9' aluminium track	83	40	1
72357	LAC-M/STS/CLIP	Optional mounting bracket for track	1.1	280	35
72360	LAC-T/STS-COV/C/7FT	6.9' clear cover for track	83	40	1
72358	LAC-T/STS-COV/D/7FT	6.9' diffused cover for track	83	40	1
72359	LAC-S/STS/ENDCAP	End cap used only with 72358	0.8	160	20
<b>Colormix Indoor - 72618</b>					
72670	LF-4PIN FLEX SC	Input connector	20	250	10
72671	LF-CONN FLEX SC	Board to board connector piece	0.35	250	10
72947*	LF-WIRE-30 FLEX SC	30mm connector wire	1.1	10,000	100
72948*	LF-WIRE-150 FLEX SC	150mm connector wire	5.9	5000	
<b>Colormix Protect - 71398</b>					
72362	LAC-C/IP67/ENDCAP	IP67 end cap	-	100	10
72363	LF-CLIP-FIXTURE	Optional flexible mounting bracket	-	500	50
72365**	LAC-C/IP67/IC/4P/20IN	Input connector	20	50	5
72366	LAC-C/IP67/BB/4P/7IN	Board to board connector	7	50	5

\*Use with 72671

\*\*Each LINEARlight FLEX Protect product comes with one pre-wired input connector.

Note: For more information on installation see installation instructions with product.

# OPTOTRONIC® LED power supplies

Dependable, powerful, and customized solutions

All OSRAM OPTOTRONIC power supplies and controls meet the highest industry standards for robust performance, reliability and peace of mind. We stand behind them with over 10 years of experience powering LED systems across the globe.

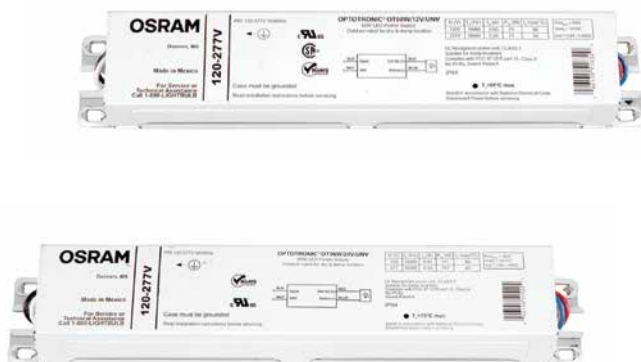
Constant Voltage LED power supplies are designed to be used with constant voltage type LED modules that employ an integrated current regulation on the LED board. Constant voltage based LED systems are ideal for signage, backlighting and decorative applications, where flexibility is an important feature.





# OPTOTRONIC®

## Constant Voltage LED power supplies



### Key Features & Benefits

- Damp-rated designs available for use in outdoor applications
- Wide input voltage range: 120-277V<sub>AC</sub> (select models)
- Broad ambient temperature range for use in extreme application conditions
- Electronically stabilized output voltage with low line ripple
- Integrated dimming (select models)
- Short circuit, overload and overheat protection for sustained performance
- High power factor and efficiency
- Enclosures for variety of applications and fixture designs
- UL Class 2 output for safe operation
- Exceptional line and load regulation

### Specifications and Certifications



### Ordering Information

Item Number	Ordering Abbreviation	Nominal Input Voltage (V)	Nominal Input Current (A)	Power Factor	Nominal Input Power (W)	Output Voltage* (Vdc)	Output Power Range (W)	Max. Line Ripple (V)	UL File #	Location Rating			
12V LED Power Supplies													
51604	OT20W/12V/UNV	120 277	0.27 0.17	> 0.9	25	12	0.1-20	±1.0	E320395	Damp			
51632	OT60W/12V/UNV	120 277	0.60 0.26	0.99	71	12	1-60	±1.0	E320395 E258264	Damp			
24V LED Power Supplies													
51804	OT20W/24V/UNV	120 277	0.27 0.17	> 0.9	25	24	0.1-20	±1.0	E320395	Damp			
51598	OT50W/24V/120V/LP	120	0.47	0.99	56	24	0.9-50	±0.2	E248522	Dry			
51522	OT96W/24V/UNV	120 277	0.97 0.39	0.9	107	24	1-96	±1.0	E320395	Damp			
51626	OT96W/24V/UNV/JBX	120 277	0.91 0.39	0.99	108	24	0.8-96	±1.0	E320395 UL Listed	Wet**			
Item Number	Ordering Abbreviation	Nominal Input Voltage (V)	Nominal Input Current (A)	Power Factor	Nominal Input Power (W)	Output Voltage* (Vdc)	Output Power Range (W)	Max. Line Ripple (V)	Dimming Mode	Dimming Control	Dimming Range	UL File #	Location Rating
51633	OT60W/12V/UNV/DIM	120 277	0.60 0.26	0.99	71	12	1-60	±1.0	PWM	0-10Vdc	10-100%	E320395 E258264	Damp
51520	OT96W/24V/UNV/DIM	120 277	0.97 0.39	0.9	107	24	1-96	±1.0	PWM	0-10Vdc	10-100%	E320395	Damp

\*Output Voltage Tolerance ±5%

\*\*Use wiring rated and marked PLTC, CL3R, and "sun resistant"

Note:

1. All power supplies can be remotely mounted up to 32 feet. Although it is possible to exceed the remote mounting distance, the installer and/or end user must take precautions to prevent and/or test the effects of EMI (electromagnetic interference).

# Warranty

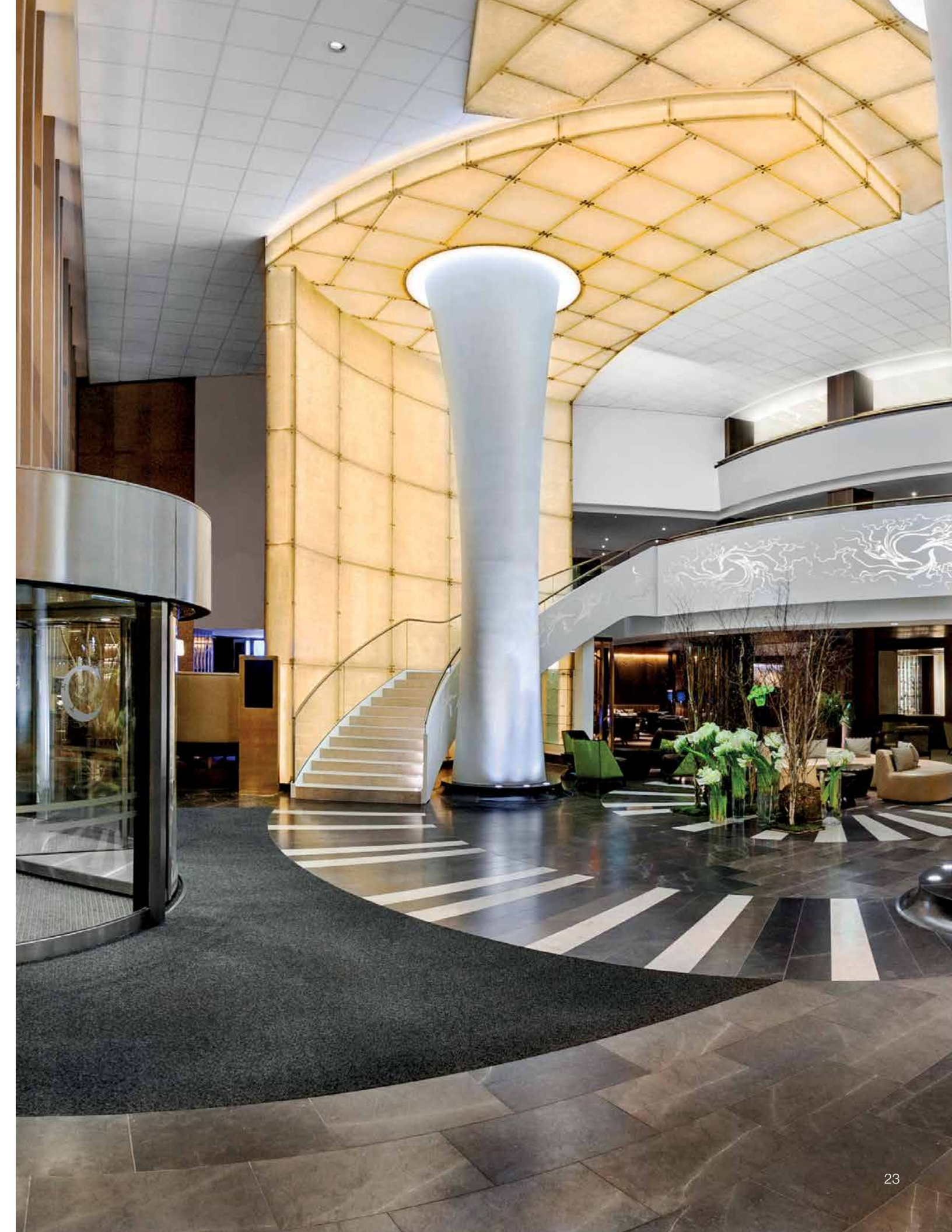
The most comprehensive LED lighting system warranty

OSRAM is committed to producing the highest quality products. We offers an industry leading five-year warranty on LED Modules, OPTOTRONIC® power supplies and/or

control interfaces when installed in a compatible and suitable LED system. For more detailed information, please visit [www.osram-america.com/warranty](http://www.osram-america.com/warranty).







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