

### THE FOURTH DIMENSION OF FURNITURE.

LOOX. THE LED LIGHTING SYSTEM.

INCLUDING NEW PRODUCTS AND HÄFELE CONNECT

> Engineered By **Häfele**



# CONTENTS



Mounting strips

Wireless charging station USB charging stations Leads and distributors

Sound systems Lutron wall dimmers Lutron drivers E-series drivers Cable channels Power strips Drill bits Index





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### THE FOURTH DIMENSION OF FURNITURE.

Discover the advantages of the Loox System.



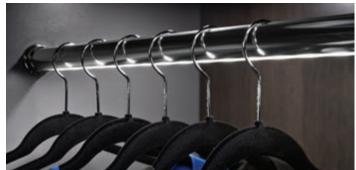
2 LOOX LED 2025/2026 Recess/Surface downlights.



### 20 LOOX LED STRIP LIGHTS

Flexible and silicone strip lights.

30 LOOX LED 2037 Lighted wardrobe tube.





61 LOOX LED 3023 Surface mounted lights.

# A DIALOGUE ABOUT AMBIENCE.

LED light in furniture and furnishings. The effective extension of room light.

Light is a fundamental part of life. One that noticeably affects our well-being. The bright, cool white morning light is very different from the warm glow of candles or light bulbs. Inside, one tries to mimic daylight in an effort to design the room with it. Light in furniture and furnishings blends harmoniously with the lighting of the room adding another layer to the design—a fourth dimension. This way, subtle nuances in the ambience are created and specific areas are separated or accentuated to create a perfectly composed, holistic effect.

Due to their low heat output, relatively small fixture size and long service life, LED lights are ideally suited for this purpose. Light colors, even differently tempered whites, are recreated realistically. With the Loox LED system work areas, presentation areas and living rooms can be illuminated for functional and decorative purposes. Well-being can be influenced in a targeted manner. And it's surprisingly simple.

#### Light—Engineered by Häfele

Häfele combines knowledge of the essence of light with innovation and global engineering expertise to create the highest quality, easiest to use, LED lighting system available.



# A SYSTEM THAT SIMPLIFIES DESIGNING.

Loox. Light ideas that are flexible, easy and reliable.

With the Loox LED system it's easy to develop and plan flexible light ideas. The flexibility is a result of a wide selection of different components ranging from light fixtures to switches. The easy-to-use plug-in system with its clearly marked color coding connects all the elements with a compact driver. Large systems with multiple or different drivers can also be created. All components are globally certified and provide long-term reliability and peace of mind during operation.



LOOX. THE LED LIGHTING SYSTEM.

# PLAN FLEXIBLY.

Loox. The comprehensive kit of light and functions.

With Häfele Loox LED lighting the possibilities are endless. The large number of components in the system allows for a multitude of lighting effects coupled with a variety of installation options. Whether you want integrated lighting in a drawer or cabinet or a combination of mood and functional lighting in the kitchen, Loox gives you the look you've been searching for with long-lasting reliability.

### RECESS MOUNTED LIGHTS AND SURFACE MOUNTED DOWNLIGHTS.



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VI / Loox

### SWITCHES.

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FLEXIBLE LIGHTS.



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LED STRIP LIGHTS.

SURFACE MOUNTED LIGHTS,

# EASY AND QUICK INSTALLATION.

Loox. The intelligent plug and play system with easy to understand color coding.



12 V

350 mA

### PLUG AND PLAY.

DRIVER

LIGHTS

Loox has three power systems for different LED lighting with matching drivers. 12V and 24V (parallel connection) for universal applications range from ambient to functional lighting with different outputs. 350mA (series connection) is for spot lighting with low wattage.

Clear color coding of the plugs with individual design makes the system easy to assemble and install.

PRIMARY PLUG

SWITCH

### COLOR CONSISTENCY – AFTER-MARKET RELIABILITY









OPTIMUM COLOR RENDERING INDEX







ALL COMPONENTS ARE HIGHLY RELIABLE





X / Loox

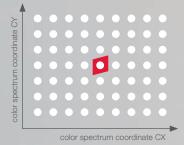
### ENSURING CUSTOMER SATISFACTION.

Loox. Consistently high-quality with certified Häfele standards.

#### Consistent color quality and performance.

An important factor for new technologies is reliability in use. Häfele has set high standards for the selection of materials which are continually tested and certified internationally. Setting a narrow binning standard is one of them. LEDs are tested and sorted for color, luminous flux and forward voltage after production. Häfele selects only the highest quality LEDs for maximum durability, energy efficiency and to ensure aftermarket reliability. Häfele has an extensive list of quality criteria in order to ensure reliable products and long-term customer satisfaction.

#### Häfele Binning



Close selection criteria ensure quality.







### TO SEE, OBSERVE OR WATCH?

Designing with light functions.

In the 1950s, Richard Kelly, a pioneer of lighting design, differentiated between light to see—ambient luminescence, focal glow—the illumination of an object or area and play of brilliants—in which the light itself is the object to observe.

#### Emphasizing room dimensions.

The Loox LED system also makes other, more specific, functions to use light as a design element in casework and cabinetry possible. Task lighting works to illuminate a work area in a kitchen or bathroom countertop. Ambient lighting balances room dimensions and facilitates spatial orientation. The narrow beam of spot lighting is used to highlight interesting objects or features.

The versatility of applications and combinations of lights within the Loox LED system create the opportunity to emphasize the dimensions of rooms and lend an ambience to casework and cabinetry that provides a holistic connection with the room.

### FUNCTIONAL LIGHT



### AMBIENT LIGHT





# INVIGORATING OR RELAXING.

Designing with color temperature.

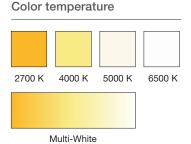
Light with a high blue component has an invigorating effect on the body. Just like the cool fresh light of an early morning. By comparison, strong red- and yellow-colored light has a relaxing effect and evokes a state of rest. Just like the warm glow in the late afternoon or in candlelight.

### Knowledge creates opportunities.

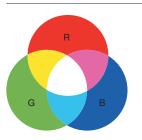
The color of the light, also referred to as color temperature (measured in K = Kelvin), controls our state of well-being. Using Loox LED lights can deploy this effect in a targeted manner. Available in color temperatures ranging from 2700-6500 K, cool white light is ideal for task lighting while ambient lighting for settings should be a warm white light.

The use of multi-white lights integrates open kitchens into the living environment. In the morning, bright and invigorating cool light illuminates the work surface; in the afternoon the light is warmer and in the evening it is dimmed to a warm white for a relaxing ambience. The transition is seamless and remote controlled.

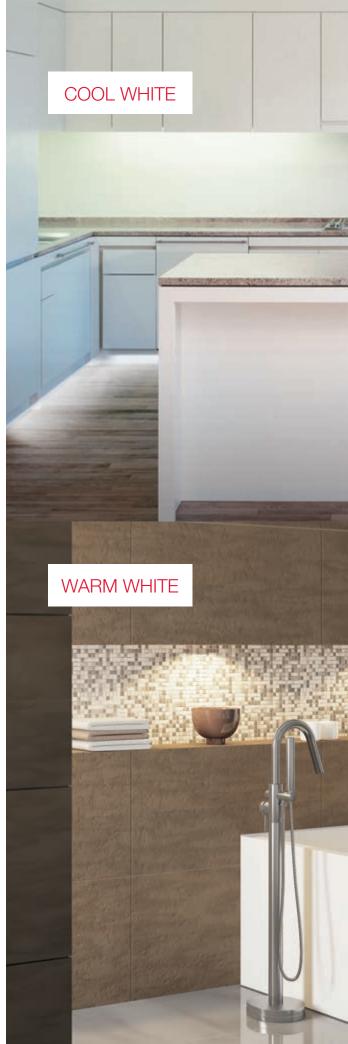
RGB lights can be supplemented to add intense light colors for individually adjustable, decorative effects.



Loox LED lights are available in a wide selection of warm and cool temperatures ranging from 2700-6500 K. Color mixing



Loox RGB and multi-white lights provide added versatility to room lighting designs. Select, and change, light color and intensity at the touch of a button.





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### MULTI-WHITE LIGHT



# TARGETED CONTROL OF LIGHT EFFECTS.

# WITH HÄFELE CONNECT.

### FOR A FESTIVE RECEPTION FOR YOUR GUESTS ...

Häfele Connect is the new system for intelligent and wireless light control.

Create the perfect atmosphere for many different situations with light. The Loox LED system offers optimum solutions for any requirement. With Häfele Connect, you can connect and control all components centrally and design the light effects to suit the occasion.

Control is effortless using a smartphone or tablet. The Häfele Connect app connects itself to the Connect BLE boxes via Bluetooth. It provides a comprehensive range of control options, including control of the light color with RGB lights or adjustment of the color temperature with multi-white lights. Different lights can be grouped together, allowing many scenarios to be stored and time-controlled or called up with a simple touch of the finger. Simple and elegant.



### ... OR A RELAXED EVENING TOGETHER.

Wireless control of different scenarios is incredibly easy with Häfele Connect. The BLE boxes interconnect via Bluetooth and are intuitively controlled using a smartphone or tablet. Different light sources can be grouped together and stored as scenes. Electric fittings can also be actuated and incorporated in scenarios. Thanks to plug and play functionality, the system can also be easily added to existing installations at any time.





# MANY OPTIONS. LOW COST.

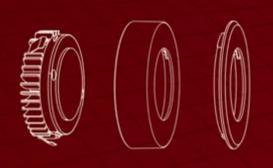
Loox. The LED lighting system. Engineered by Häfele.

The intelligent drivers represent the core of the Loox system. Not only do they provide different numbers of lights with the power that's required, but they're also suitable for the different voltages and frequencies all over the world, recognize different types of switches, can be used for dimming and can be combined in many different ways.



#### SYSTEM

Coordinated components turn Loox into an atmospheric LED system for almost any application. From simple to complex, Häfele's plug and play is flexible, easy-to-install and always reliable.



#### MODULARITY

The lights and switches are cabled to connect to the driver at both sides. This means that a switch can be replaced with a dimmer at a later date without having to install new cable. Cover options give recess mounted lights and surface mounted downlights a different look.



### 12 V 24 V 350 mA

#### LIGHT INTENSITY

12 V system: Primarily used for ambient and mood light. 24 V system: Primarily used for functional light because of the higher light intensity. 350 mA system: Primarily used as a spotlight because of the high light intensity.

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#### CONTROL

Switch and control—suitable for any environment. With different cable-connected switches, adjustable remote controllers and radio switches completely independent of the location, new freedom in casework and cabinetry design.





12 V SYSTEM

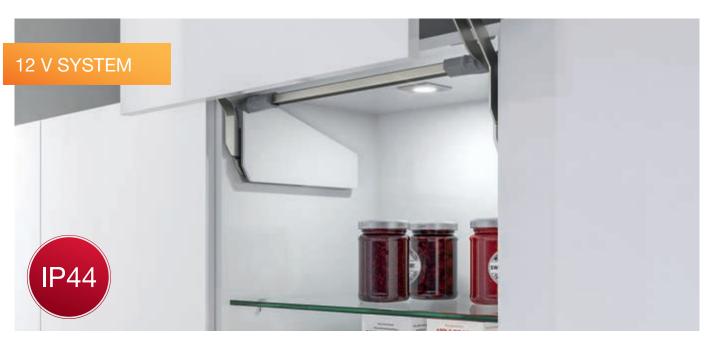
# OVERVIEW

LEDS AND ACCESSORIES - 12 V SYSTEM

LED 2025/2026/2040 DOWNLIGHTS	LED 2020/2047/ 2022/2023 DOWNLIGHTS	LED 2039/2027/2002/ 2050/2051 DOWNLIGHTS	LED 2029/2037/2030 2041/2042 strip lights
			The second state of the second
> pages 2-5	> pages 6-13	> pages 14-19	> pages 20-29
LED 2037 LIGHTED WARDROBE TUBE KITS	LED 2029/2030/2025 LIGHT BAR KITS	LED 2024 FLEXIBLE STRIP LIGHT, PLUG-IN	LED 2010/2016/2012 RGB LIGHTS
	C		
> page 30	> pages 31–35	> pages 36–37	> pages 38-43
LED 2028 TOE KICK LIGHT	LED 2034/2018 FLEXIBLE LIGHTS	LED 2048 MULTI-WHITE LIGHT	LED ADJUSTABLE SHELF SYSTEM
TOE KICK LIGHT	FLEXIBLE LIGHTS	MULTI-WHITE LIGHT	ADJUSTABLE SHELF SYSTEM
TOE KICK LIGHT	FLEXIBLE LIGHTS	MULTI-WHITE LIGHT	ADJUSTABLE SHELF SYSTEM
TOE KICK LIGHT	FLEXIBLE LIGHTS	MULTI-WHITE LIGHT	ADJUSTABLE SHELF SYSTEM

### LED 2025/2026 RECESS/SURFACE MOUNTED LIGHT, MODULAR





- \*CRI 90 lights are Title 24 Compliant
- \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- Compatible with Loox and E-series drivers only
- Degree of Protection: IP44 recess mounted IP20 surface mounted
- Note

Trim rings and leads sold separately.

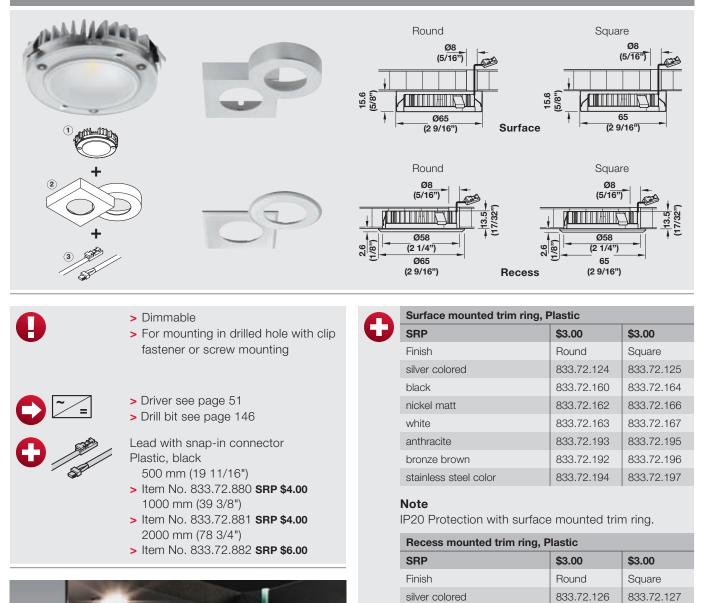
[	LED	2025		LED 2026							
2700 K	3000 K	4000 K	5000 K	2700 K	3000 K	4000 K	5000 K		80°		
2600 lx	2650 lx	2700 lx	2800 lx	1400 lx	1800 lx	1850 lx	1950 lx			250 mm (9 13/16")	
730 lx	750 lx	780 lx	800 lx	400 lx	500 lx	520 lx	550 lx			<mark>500 mm</mark> (19 11/16")	
320 lx	350 lx	345 lx	350 lx	175 lx	225 lx	235 lx	250 lx			750 mm (29 1/2")	
180 lx	185 lx	185 lx	190 lx	100 lx	125 lx	135 lx	140 lx			1000 mm (39 3/8")	

\*JA8-2016-E **( € •** 🕲 us 😂 RoHS 🕪 🕂 1200 • 1244

	LED 2025	LED 2025				LED 2026			
Item No.	833.72.350	833.72.351	833.72.352	833.72.323	833.72.360	833.72.361	833.72.362	833.72.137	
SRP	\$40.00	\$40.00	\$40.00	\$40.00	\$40.00	\$40.00	\$40.00	\$40.00	
Light Color (K)	2700 warm white	3000 warm white	4000 cool white	5000 cool white	2700 warm white	3000 warm white	4000 cool white	5000 cool white	
Drill hole	Ø58 mm (2 <sup>-</sup>	1/4")							
ØxH	61.2 x 13.5 i	mm (2 7/16" x	: 17/32")						
Wattage	3.8				3.0				
LEDs	1 (COB) - ch	p on board			6				
Lumen	270	300	306	345	185	210	221	260	
Lumen per watt	71	78	80	90	62	70	74	87	
CRI	90*			83	90*			83	
Energy Efficiency class	A+								
Weighted energy consumption	4.18				3.30				
Material	Aluminum								
Note Loox Lights and Drivers a	re "Suitable fo	r use within C	loset Storage	Spaces"					



#### LED 2025/2026



black

white

nickel matt

anthricite

bronze brown

stainless steel color



833.72.172

833.72.174

833.72.175

833.72.383

833.72.384

833.72.385

833.72.168

833.72.170

833.72.171

833.72.380

833.72.381

833.72.382

### LED 2040 RECESS/SURFACE MOUNTED LIGHT, MODULAR





- > \*CRI 90 lights are Title 24 Compliant
- \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > A flexible solution for the 35 mm (1 3/8") hole diameter
- Degree of Protection: IP44 recess mounted; IP20 surface mounted

Note

Trim rings and leads sold separately.

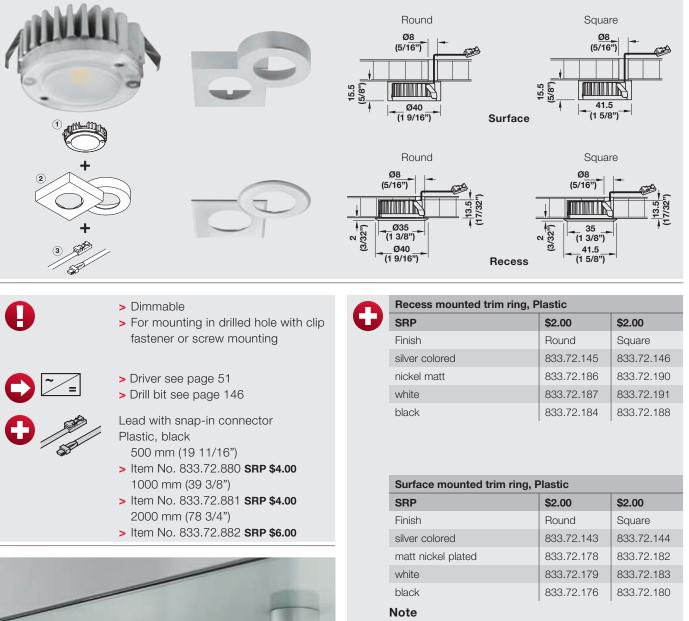
2700 K	3000 K	4000 K	5000 K	90°	
530 lx	660 lx	720 lx	800 lx		250 mm (9 13/16")
135 lx	180 lx	185 lx	220 lx	-	500 mm (19 11/16")
55 lx	80 lx	85 lx	95 lx	-	750 mm (29 1/2")
35 Ix	40 lx	50 lx	55 lx	-	1000 mm (39 3/8")

\*JA8-2016-E **( € •** 🕲 us 😂 RoHS 🕪 🕂 1200 • 1244

Item No.	833.72.370	833.72.371	833.72.372	833.72.333				
SRP	\$18.00	\$18.00	\$18.00	\$18.00				
Light Color (K)	2700 warm white	3000 warm white	4000 cool white	5000 cool white				
Drill hole	Ø35 mm (1 3/8")							
ØxH	38.5 x 13.5 mm (1 9/16" x <sup>-</sup>	17/32")						
Wattage	1.5	1.5						
LEDs	3							
Lumen	75	88	96	110				
Lumen per watt	50	59	64	73				
CRI	90*			83				
Energy Efficiency class	A+							
Weighted energy consumption	1.65							
Material	Aluminum							
Note Loox Lights and Drivers a	re "Suitable for use within C	loset Storage Spaces"						



#### LED 2040



IP20 Protection with surface mounted trim ring.

### LED 2020 RECESS/SURFACE MOUNTED LIGHT



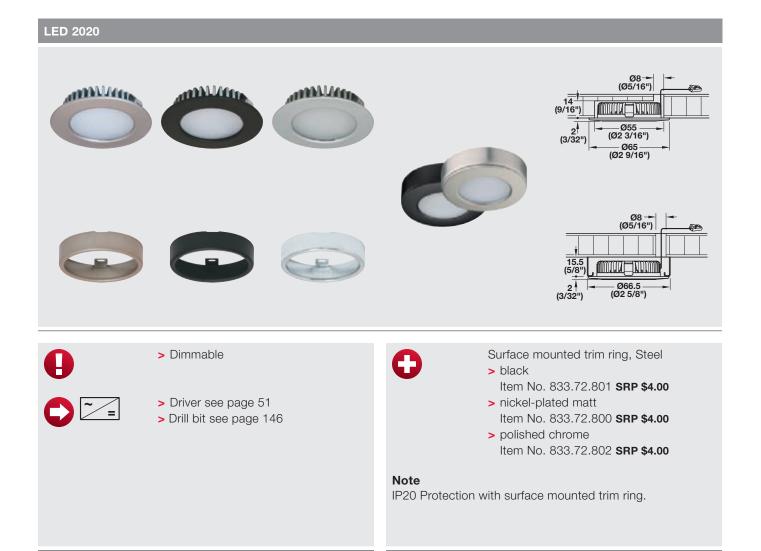


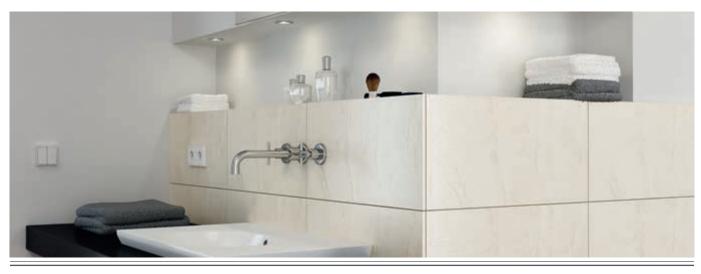
- > Perfect where water spray may be an issue
- > Can be recess or surface mounted
- > Degree of Protection: IP44 recess; IP20 surface

300	) K	4000 K	5000 K	100°	
76	) Ix	860 lx	840 lx		250 mm (9 13/16")
190	) Ix	215 lx	210 lx		500 mm (19 11/16")
8	5 lx	95 lx	95 lx		750 mm (29 1/2")
48	3 Ix	50 lx	50 lx		1000 mm (39 3/8")

Item No.	833.72.280	833.72.281	833.72.282	833.72.283	833.72.284	833.72.285	833.72.286	833.72.287	833.72.288
SRP	\$33.00	\$33.00	\$33.00	\$33.00	\$33.00	\$33.00	\$33.00	\$33.00	\$33.00
Light Color (K)	3000 (warm	white)		4000 (cool v	vhite)		5000 (cool v	vhite)	
Drill hole	Ø55 mm (2 3	3/16")							
ØхН	65 x 14.7 m	m (2 9/16" x 9	9/16")						
Wattage	3.2								
LEDs	6								
Lumen	142			150					
Lumen per watt	44			47					
CRI	83								
Energy Efficiency class	А								
Weighted energy consumption	3.52								
Material	Zinc alloy								
Finish	matt nickel plated	black	chrome colored	matt nickel plated	black	chrome colored	matt nickel plated	black	chrome colored
Supplied with	2 m (78 3/4") lead								
Note Loox Lights and	Drivers are "S	uitable for us	e within Close	et Storage Sp	aces"				







### LED 2047 RECESS/SURFACE MOUNTED LIGHT

0/100%



> \*CRI 90 lights are Title 24 Compliant

 \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products

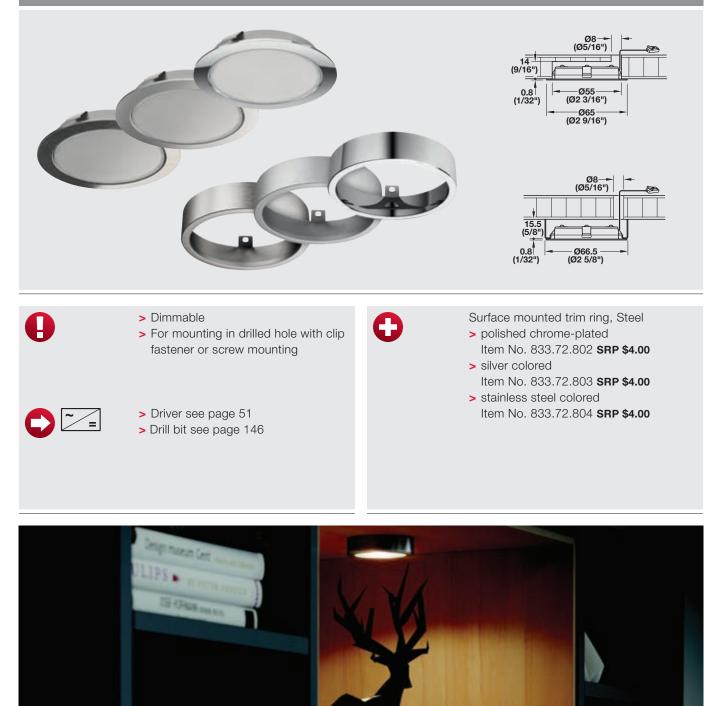
- > With frosted glass cover and steel housing components
- Optional surface mounted housing provides flexibility in installation
- > Degree of Protection: IP20

3000 K	4000 K	5000 K	120°
560 lx	570 lx	670 lx	250 mm (9 13/16")
210 lx	215 lx	245 lx	500 mm (19 11/16")
115 lx	115 lx	135 lx	750 mm (29 1/2")
75 lx	75 lx	90 lx	– 1000 mm (39 3/8")

Item No.	833.72.300	833.72.301	833.72.302	833.72.340	833.72.341	833.72.342	833.72.390	833.72.391	833.72.392
SRP	\$16.00	\$16.00	\$16.00	\$16.00	\$16.00	\$16.00	\$16.00	\$16.00	\$16.00
Light Color (K)	3000 (warm white)	4000 (cool white)	5000 (cool white)	3000 (warm white)	4000 (cool white)	5000 (cool white)	3000 (warm white)	4000 (cool white)	5000 (cool white)
Drill hole	Ø55 mm (2 3	/16")							
ØxH	65 x 12 mm (	2 9/16" x 1/2	2")						
Wattage	3								
LEDs	24								
Lumen	210	216	240	210	216	240	210	216	240
Lumen per watt	70	72	80	70	72	80	70	72	80
CRI	90*		83	90*		83	90*		83
Energy Efficiency class	A+								
Weighted energy consumption	3.30								
Material	Steel								
Finish	polished chrome-plated			silver colored			stainless steel colored		
Supplied with	2 m (78 3/4") lead								
Note Loox Lights and	I Drivers are "S	Suitable for u	se within Clos	et Storage Sp	aces"				



#### LED 2047



### LED 2022 RECESS/SURFACE MOUNTED LIGHT, ROUND





- > Protected from water spray as a recess mounted light
- Can be used as a surface mounted light using optional surface mount rings and wedges
- > Degree of Protection: IP44 recess; IP20 surface

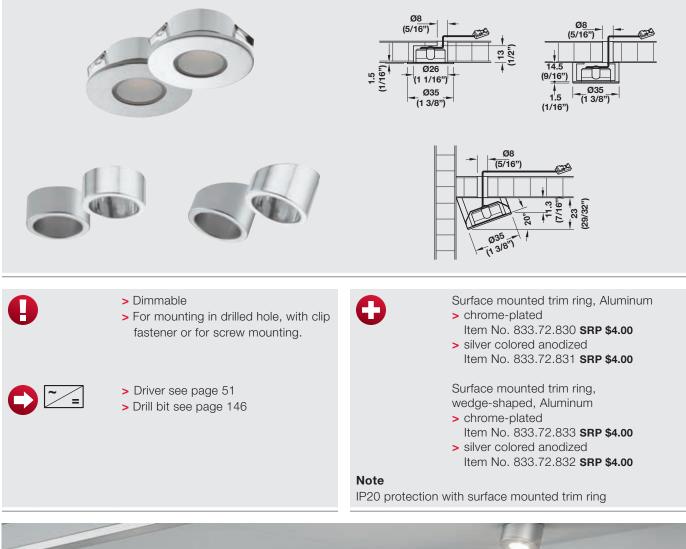
3000 K	4000 K	5000 K	90°	
650 lx	650 lx	650 lx		250 mm (9 13/16")
163 lx	163 lx	163 lx		500 mm (19 11/16")
72 lx	72 lx	72 lx		750 mm (29 1/2")
40 lx	40 lx	40 lx		1000 mm (39 3/8")

Item No.	833.72.040	833.72.043	833.72.041	833.72.044	833.72.042	833.72.045		
SRP	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00		
Light Color (K)	3000 (warm whit	e)	4000 (cool white)	)	5000 (cool white)	5000 (cool white)		
Drill hole	Ø26 mm (1 1/16"	)						
ØxH	35 x 14 mm (1 3	/8" x 9/16")						
Wattage	1.5							
LEDs	3	3						
Lumen	105	105						
Lumen per watt	70							
CRI	82		87		88			
Energy Efficiency class	A+							
Weighted energy consumption	1.65							
Material	Aluminum							
Finish	silver colored anodized	chrome-plated polished	silver colored anodized	chrome-plated polished	silver colored anodized	chrome-plated polished		
Supplied with	2 m (78 3/4") lead							
Note Loox Lights and Drivers are "S	Suitable for use wit	hin Closet Storag	e Spaces"					





#### LED 2022





### LED 2023 RECESS MOUNTED LIGHT, SQUARE





- > Protected from water spray as a recess mounted light
- Can be used as a surface mounted light using optional surface mount rings and wedges
- Degree of Protection: IP44 recess; IP20 surface

3000 K	4000 K	5000 K	90°	
650 lx	650 lx	650 lx		250 mm (9 13/16")
163 lx	163 lx	163 lx		<u>500 mm</u> (19 11/16")
72 lx	72 lx	72 lx		750 mm (29 1/2")
40 lx	40 lx	40 lx		1000 mm (39 3/8")

Item No.	833.72.060	833.72.064	833.72.061	833.72.065	833.72.062	833.72.066
SRP	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00
Light Color (K)	3000 (warm white)		4000 (cool white)		5000 (cool white)	
Drill hole	Ø26 mm (1 1/16")					
L x W x H	30 x 30 x 14 mm (1 3/16" x 1 3/16" x 9/16")					
Wattage	1.5					
LEDs	3					
Lumen	105					
Lumen per watt	70					
CRI	82					
Energy Efficiency class	A+					
Weighted energy consumption	1.65					
Material	Aluminum					
Finish	chrome-plated polished	silver colored anodized	chrome-plated polished	silver colored anodized	chrome-plated polished	silver colored anodized
Supplied with	2 m (78 3/4") lead					
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"						





#### LED 2023



## LED 2039 RECESS MOUNTED LIGHT, ROUND





- The high degree of protection means that the 2039 is even secure against water jets
- The 4 m lead ensures that the driver is installed in a dry location
- > Degree of protection: IP65



Item No.	833.72.091	833.72.092			
SRP	\$38.00	\$38.00			
Light Color (K)	3000 (warm white)				
Drill hole	Ø58 mm (2 1/4")				
ØхН	65 x 16.4 mm (2 9/16'	' x 5/8")			
Wattage	2.5				
LEDs	18				
Lumen	125				
Lumen per watt	50				
CRI	85				
Energy Efficiency class	А				
Weighted energy consumption	2.75				
Material	Zinc alloy				
Finish	nickel-plated matt	chrome-plated			
Supplied with	4 m (157 1/2") lead				
Note Loox Lights and E Closet Storage Sp		use within			



- > Dimmable
- For mounting in drilled hole, with clip fastener
- > Driver see page 51
- > Drill bit see page 146

3000 K	94°	
785 lx	-	250 mm (9 13/16")
196 lx	-	_ 500 mm (19 11/16")
87 lx	-	750 mm (29 1/2")
49 lx	-	1000 mm (39 3/8")





## LED 2027 SURFACE MOUNTED LIGHT, ROUND

0 100%

#### 12 V SYSTEM



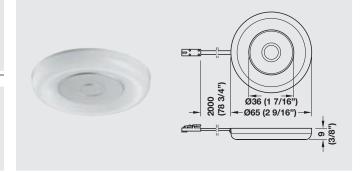
- > This flat surface mounted light can be used extensively
- > The edge is illuminated, without visible diodes, and the hardware is concealed beneath a removable center cover



- > Dimmable
- > For screw mounting

> Driver see page 51

Item No.	833.72.050	833.72.051	833.72.052		
SRP	\$48.00	\$48.00	\$48.00		
Light Color (K)	3000 (warm white)	4000 (cool white)	5000 (cool white)		
ØхН	65 x 9 mm (2 s	9/16" x 3/8")			
Wattage	2.6				
LEDs	27				
Lumen	190	208	218		
Lumen per watt	73	80	84		
CRI	85				
Energy Efficiency class	A+				
Weighted energy consumption	2.86				
Material/Finish	Aluminum, silver colored, Plastic				
Supplied with	2 m (78 3/4") lead mounting hardware				
Note Loox Lights and I Closet Storage Sp		able for use wi	thin		



3000 K	4000 K	5000 K	117°
867 lx	884 lx	918 lx	250 mm (9 13/16")
216 lx	221 lx	229 lx	500 mm (19 11/16")
96 lx	98 lx	102 lx	750 mm (29 1/2")
54 lx	55 lx	57 lx	1000 mm (39 3/8")

## LED 2002 RECESS MOUNTED LIGHT, ROUND





> \*CRI 90 lights are Title 24 Compliant

\*CRI 90 lights offer more vibrant true color rendering than lower CRI products

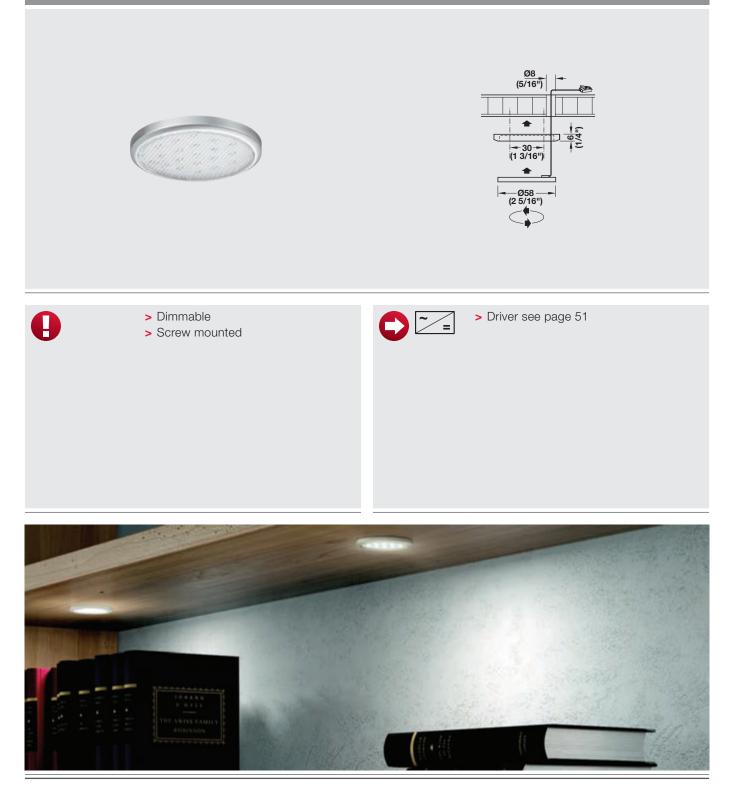
- > Extremely flat design for a recessed look
- It is especially suitable for providing decorative lighting in shelving and display cabinets

3000 K	5000 K	95°	
640 lx	700 lx		250 mm (9 13/16")
160 lx	175 lx		500 mm (19 11/16")
70 lx	80 lx		750 mm (29 1/2")
40 lx	45 lx		1000 mm (39 3/8")

Item No.	833.73.222	833.73.213
SRP	\$23.00	\$23.00
Light Color (K)	3000 (warm white)	5000 (cool white)
ØxH	58 x 6.5 mm (2 5/16" x 1/4")	
Wattage	1.5	
LEDs	19	
Lumen	85	105
Lumen per watt	57	70
CRI	90*	83
Energy Efficiency class	A+	
Weighted energy consumption	1.65	
Material/Finish	Plastic, silver colored	
Supplied with	2 m (78 3/4") lead, mounting hardware	
Note Loox Lights and Drivers are	"Suitable for use within Closet Storage Spaces"	







## LED 2050 SURFACE MOUNTED LIGHT

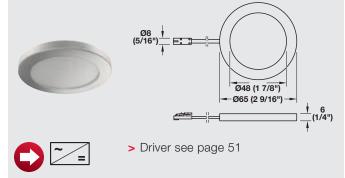
0 100%



- > \*CRI 90 lights are Title 24 Compliant
- \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > Extremely flat design for a recessed mounted look
- Outstanding for decorative illumination in a wide range of furniture applications
- > Degree of Protection: IP20



- > Dimmable
  - > Screw mounted



II	000 74 040	000 74 044			
Item No.	833.74.040	833.74.041			
SRP	\$20.00	\$20.00			
Light Color (K)	3000 (warm white)	4000 (cool white)			
ØxH	65 x 6 mm (2 1/4" x 1/4")				
Wattage	2.5				
LEDs	8				
Lumen	170	180			
Lumen per watt	68	72			
CRI	90*				
Energy Efficiency class	A+				
Weighted energy consumption	2.75				
Material/Finish	Plastic, silver colored				
Supplied with	2 m (78 3/4") lead, mounting hardware				
Note Loox Lights and I Closet Storage Sp		use within			

<mark>3000 K</mark> 4	4000 K	115°
650 lx	700 lx	250 mm (9 13/16")
165 lx	180 lx	500 mm (19 11/16")
75 lx	80 lx	750 mm (29 1/2")
40 lx	45 lx	1000 mm (39 3/8")

\*JA8-2016-E **( € 🚯**us 🄗 RoHS 🕪 IP20 🔂



## LED 2051 SURFACE MOUNTED LIGHT

0 100%

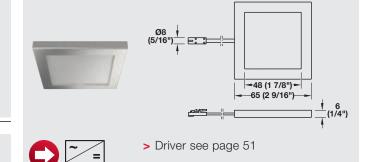


- > \*CRI 90 lights are Title 24 Compliant
- \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > Extremely flat design for a recess mounted look
- Outstanding for decorative illumination in a wide range of furniture applications
- > Degree of Protection: IP20

0

> Dimmable> Screw mounted

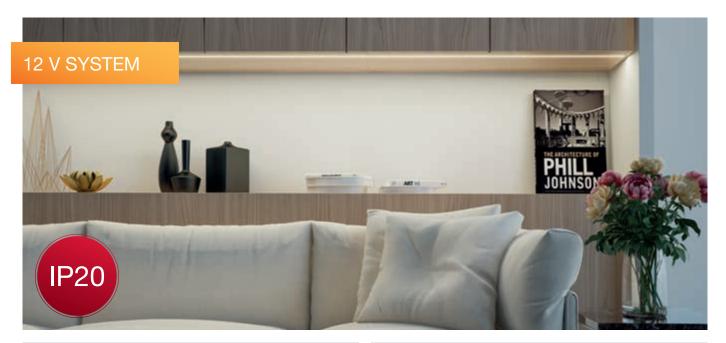
Item No.	833.74.030	833.74.031			
SRP	\$20.00	\$20.00			
Light Color (K)	3000 (warm white)	4000 (cool white)			
L x W x H	65 x 65 x 6 mm (2 9/16" x 2 9/16" x 1/4"				
Wattage	2.5				
LEDs	8				
Lumen	190	200			
Lumen per watt	76	80			
CRI	90*				
Energy Efficiency class	A+				
Weighted energy consumption	2.75				
Material/Finish	Plastic, silver colored				
Supplied with	2 m (78 3/4") lead, mounting hardware				
Note Loox Lights and I Closet Storage Sp		use within			



3000 K	5000 K	115°	
750 lx	800 lx	-	250 mm (9 13/16")
190 lx	210 lx	-	500 mm (19 11/16")
85 lx	90 lx	-	750 mm (29 1/2")
50 lx	50 lx	-	1000 mm (39 3/8")

## LED 2029 FLEXIBLE STRIP LIGHT





- > \*CRI 90 lights are Title 24 Compliant
- \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > Ideal for direct and extremely even illumination of furniture
- > Strip can be shortened every 25 mm (1")
- > Corner connections allow for 90° installations
- > Self-adhesive installation
- > Dimmable



- > Driver see page 51
- > Aluminum profiles see pages 103-109

07001/	0000 1/	1000 14	5000 14	1000	
2700 K	3000 K	4000 K	5000 K	120°	
2054 lx	2090 lx	2215 lx	2275 lx	-	_ 250 mm (9 13/16")
514 lx	522 lx	554 lx	569 lx	-	500 mm (19 11/16")
228 lx	232 lx	246 lx	253 lx	-	750 mm (29 1/2")
128 lx	130 lx	138 lx	142 lx	-	1000 mm (39 3/8")

#### Note

The values above apply to a strip light length of 0.5 m (19 11/16").

Item No.	833.73.190	833.73.191	833.73.192	833.73.193	833.73.660	833.73.661	833.73.662	833.73.494	833.73.495	833.73.496	833.73.497
SRP	\$250.00	\$250.00	\$250.00	\$250.00	\$260.00	\$260.00	\$260.00	\$570.00	\$570.00	\$570.00	\$570.00
Light Color (K)	2700 (warm white)	3000 (warm white)	4000 (cool white)	5000 (cool white)	2700 (warm white)	3000 (warm white)	4000 (cool white)	2700 (warm white)	3000 (warm white)	4000 (cool white)	5000 (cool white)
L x W x H	5 m x 10 m	m x 1.3 mm (	196 7/8" x 3/	8" x 1/32")				15 m x 10 n	nm x 1.3 mm	(590 1/2" x 3	3/8" x 1/32")
Wattage	48 (9.6 per i	meter) (3.0 pe	er foot)					144 (9.6 per	meter) (3.0 pe	er foot)	
LEDs	600 (120 per	r meter) (36 pe	er foot)					1800 (120 p	er meter) (36 p	er foot)	
Lumen	4050	4075	4100	4150	4050	4075	4100	12150	12225	12300	12450
Lumen per watt	84	85	85	86	84	85	85	84	85	85	86
CRI	82 90*							82			
Energy Efficiency cla	Energy Efficiency class: A+										
Weighted energy con	nsumption: 10	.56 per meter									
Material/Finish: Plast	ic, white										
Supplied with: 2 m (	78 3/4") lead										
Note Loox Lights an	nd Drivers are	"Suitable for	use within C	loset Storage	e Spaces"						

\*JA8-2016-E **( € 🚯**us 🔗 RoHS 🕪 IP20 🔂



#### i cliticalitisteritati 10 3/8" 15 1.3 Alexandre and Note Consider the width of clip connector when choosing an aluminum profile (see drawing). Max. strip length per lead: 3.6 m (11' 9 1/2") Lead, 3.5 A/20 AWG, with 12 V male plug Max. watts per lead: 42 and clip > 100 mm (4") Corner connector, rigid, max. 3.5 A, Item No. 833.73.778 SRP \$4.00 left and right > 2000 mm(78 3/4") > Item No. 833.73.733 SRP \$2.00 Item No. 833.73.739 SRP \$6.00 Interconnecting lead, 3.5 A/20 AWG, with clip > 50 mm (2") Lead, 3.5 A/20 AWG, with 12 V female Item No. 833.73.767 SRP \$4.00 plug and clip > 500 mm (19 11/16") > 100 mm (4") Item No. 833.73.768 SRP \$4.00 Item No. 833.73.779 SRP \$4.00 > 1000 mm (39 3/8") Clip connector, max. 3.5 A, Item No. 833.73.769 SRP \$4.00 > Item No. 833.73.731 SRP \$2.00 > 2000 mm (78 3/4")

LED 2029



Item No. 833.73.770 SRP \$6.00

## LED 2037 FLEXIBLE STRIP LIGHT

0/100%



- > \*CRI 90 lights are Title 24 Compliant
- \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > Suitable for functional and indirect lighting of furniture
- > Strip can be shortened every 25 mm (1")
- > Corner connections allow for 90° installations
- > Self-adhesive installation
- > Dimmable



> Driver see page 51

> Aluminum profiles see pages 103-109

2700 K	3000 K	4000 K	5000 K	120°	
816 lx	816 lx	901 lx	911 lx	-	250 mm (9 13/16")
204 lx	204 lx	225 lx	228 lx	-	500 mm (19 11/16")
91 lx	91 lx	100 lx	101 lx	-	750 mm (29 1/2")
51 lx	51 lx	56 lx	57 lx	-	1000 mm (39 3/8")

#### Note

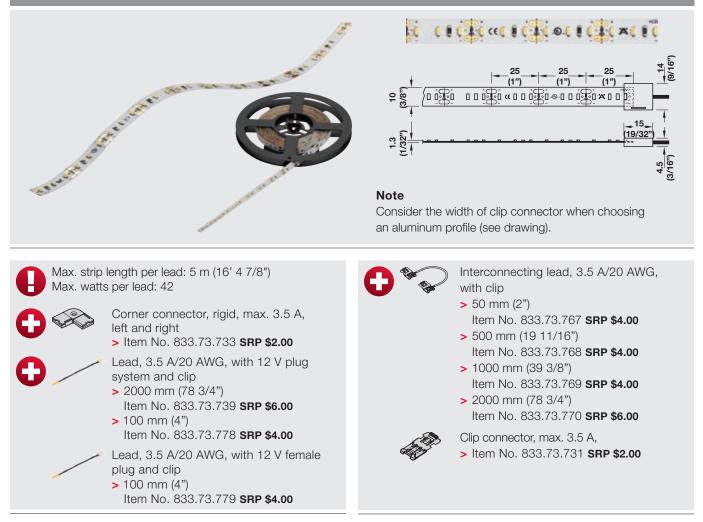
The values above apply to a strip light length of 0.5 m (19 11/16").

Item No.	833.73.513	833.73.510	833.73.511	833.73.512	833.73.680	833.73.681	833.73.682	833.73.514	833.73.515	833.73.516	833.73.517
SRP	\$170.00	\$170.00	\$170.00	\$170.00	\$180.00	\$180.00	\$180.00	\$430.00	\$430.00	\$430.00	\$430.00
Light Color (K) (LED only)	2700 (warm white)	3000 (warm white)	4000 (cool white)	5000 (cool white)	2700 (warm white)	3000 (warm white)	4000 (cool white)	2700 (warm white)	3000 (warm white)	4000 (cool white)	5000 (cool white)
L x W x H	5 m x 10 mr	m x 1.3 mm (	196 7/8" x 3/	8" x 1/32")				15 m x 8 m	m x 2.3 mm (	590 1/2" x 5/	16" x 3/32")
Wattage	20 (4 per me	eter) (1.2 per	foot)					60 (4 per m	eter) (1.2 per	foot)	
LEDs	600 (120 per	meter) (36 pe	er foot)					1800 (120 per meter) (36 per foot)			
Lumen	1600	1600	1700	1800	1600	1600	1700	4800	4800	5100	5400
Lumen per watt	80	80	85	90	80	80	85	80	80	85	90
CRI	82				90*			82			
Energy Efficiency clas	ss: A+										
Weighted energy cor	sumption: 4.4	10 per meter									
Material/Finish: Plasti	Material/Finish: Plastic, white										
Supplied with: 2 m (78 3/4") lead											
Note Loox Lights an	Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"										

\*JA8-2016-E **( € 🚯**us 🔗 RoHS 🕪 IP20 🔂



#### LED 2037





## LED 2030 FLEXIBLE STRIP LIGHT





- > \*CRI 90 lights are Title 24 Compliant
- \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > Silicone encapsulation allows for use without a profile
- > Strip can be shortened every 50 mm (2")
- > The cut strip can be re-used with the appropriate clip and corner connectors
- > Self-adhesive installation
- > Dimmable

#### Note

Silicone cover shifts light output cooler. Test when mixing other strips. Warmer color temperatures may be more suitable.

2700 K	3000 K	4000 K	5000 K	120°	
883 lx	888 lx	892 lx	903 Ix		250 mm (9 13/16")
220 lx	222 lx	223 lx	226 lx	_	500 mm (19 11/16")
98 lx	99 lx	99 lx	100 lx		750 mm (29 1/2")
55 lx	56 lx	56 lx	56 lx	_	1000 mm (39 3/8")



> Driver see page 51

> Aluminum profiles see pages 103-109

Note

The values above apply to a strip light length of 0.5 m (19 11/16").

Item No.	833.73.480		833.73.482							833.73.612	
SRP	\$190.00	\$190.00	\$190.00	\$190.00	\$200.00	\$200.00	\$200.00	\$480.00	\$480.00	\$480.00	\$480.00
Light Color (K) (LED only)	2700 (warm white)	3000 (warm white)	4000 (cool white)	5000 (cool white)	2700 (warm white)	3000 (warm white)	4000 (cool white)	2700 (warm white)	3000 (warm white)	4000 (cool white)	5000 (cool white)
Light Color (K) (in silicone)	3400	4090	6084	10770	3400	4090	6084	3400	4090	6084	107709
L x W x H	5 m x 8 mm	x 2.3 mm (1	96 7/8" x 5/1	6" x 3/32")				15 m x 8 m	m x 2.3 mm (	590 1/2" x 5/	16" x 3/32")
Wattage	24 (4.8 per i	meter) (1.5 pe	er foot)					72 (4.8 per i	meter) (1.5 pe	er foot)	
LEDs	300 (60 per	meter) (18 pe	er foot)					900 (60 per meter) (18 per foot)			
Lumen	1930	1940	1950	1980	1930	1940	1950	5790	5820	5850	5940
Lumen per watt	80	80	81	83	80	80	81	80	80	81	85
CRI	82				90*			82			
Energy Efficiency clas	ss: A+										
Weighted energy cor	nsumption: 5.2	28 per meter									
Material/Finish: Plastic, white											
Supplied with: 2 m (7	78 3/4") lead										
Note Loox Lights an	nd Drivers are	"Suitable for	use within C	loset Storage	e Spaces"						



#### LED 2030 × 50 (2") ۵ 19/32 2.3 . \* . 2 Note Consider the width of clip connector when choosing an aluminum profile (see drawing). Interconnecting lead, 3.5 A/20 AWG, > Max. strip length per lead: 5 m (16' 4 7/8") with clip > Max. watts per lead: 42 > 50 mm (2") Item No. 833.73.771 SRP \$4.00 > 500 mm (19 11/16") Item No. 833.73.772 SRP \$4.00 > 1000 mm (39 3/8") Item No. 833.73.773 SRP \$4.00 > 2000 mm (78 3/4") Item No. 833.73.774 SRP \$4.00 Lead, 3.5 A/20 AWG, with 12 V plug system and clip Clip connector, max. 3.5 A ۲ > 2000 mm (78 3/4") > Item No. 833.73.730 SRP \$2.00 Item No. 833.73.775 SRP \$4.00 > 50 mm (2") Corner connector, rigid, max. 3.5 A, Cat II Item No. 833.73.794 SRP \$3.00 left and right > Item No. 833.73.736 SRP \$2.00 e e

## LED 2041 FLEXIBLE STRIP LIGHT

0/100%



- Ideal for applications with direct illumination
- The light can be shortened every 25 mm (1")
- Dimmable
- Self-adhesive installation with aluminum profile or cooling strip
- Gold-plated contacts and double-layered circuit boards for better connections and heat dissipation
- > Degree of protection: IP20

2700 K	3000 K	4000 K	5000 K	120°	
2500 lx	2500 lx	2500 lx	2750 lx	_	250 mm (9 13/16")
655 lx	655 lx	655 lx	670 lx	-	500 mm (19 11/16")
230 lx	230 lx	230 lx	235 lx	_	_ 750 mm (29 1/2")
135 lx	135 lx	135 lx	135 lx	-	_ 1000 mm (39 3/8")



> Driver see page 51> Aluminum profiles see pages 103-109

#### Note

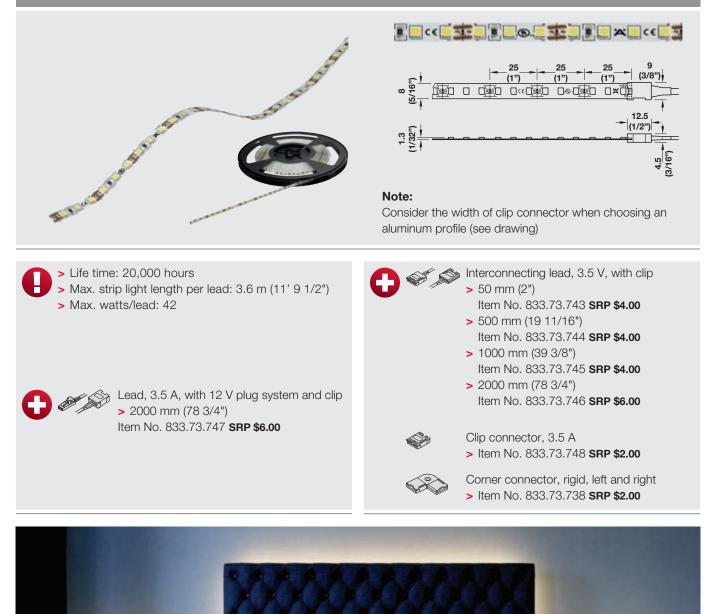
The values apply to a strip light length of 0.5 m (19 11/16").

€ (€ IP20

Item No.	833.74.180	833.74.181	833.74.182	833.74.183		
SRP	\$380.00	\$380.00	\$380.00	\$380.00		
Light Color (K)	2700 (warm white)	3000 (warm white)	4000 (cool white)	5000 (cool white)		
L×W×H	15 m x 8 mm x 1.3 mm (59	90 5/8" x 5/16" x 1/32")				
Wattage	144 (9.6 per meter) (3.0 pe	r foot)				
LEDs	1800 (120 per meter) (36 p	er foot)				
Lumen	13800	3800				
Lumen per watt	95			100		
CRI	83					
Energy Efficiency class	A+					
Weighted energy consumption	10.56 per meter					
Material/Finish	Plastic, white					
Supplied with	2 m (78 3/4") lead					
Note Loox Lights and Drivers a	re "Suitable for use within C	loset Storage Spaces"				



#### LED 2041



## LED 2042 FLEXIBLE STRIP LIGHT





- > Ideal for applications with direct illumination
- > The light can be shortened every 50 mm (2")
- > Dimmable
- Self-adhesive installation with aluminum profile or cooling strip
- Gold-plated contacts and double-layered circuit boards for better connections and heat dissipation

> Driver see page 51

> Aluminum profiles see pages 103-109

> Degree of protection: IP20

2700 K	3000 K	4000 K	5000 K	120°	
1500 lx	1700 lx	1700 lx	1700 lx	-	250 mm (9 13/16")
510 lx	525 lx	525 lx	525 lx	-	500 mm (19 11/16")
155 lx	165 lx	165 lx	165 lx	_	750 mm (29 1/2")
90 lx	95 lx	95 lx	95 lx	-	1000 mm (39 3/8")

#### Note

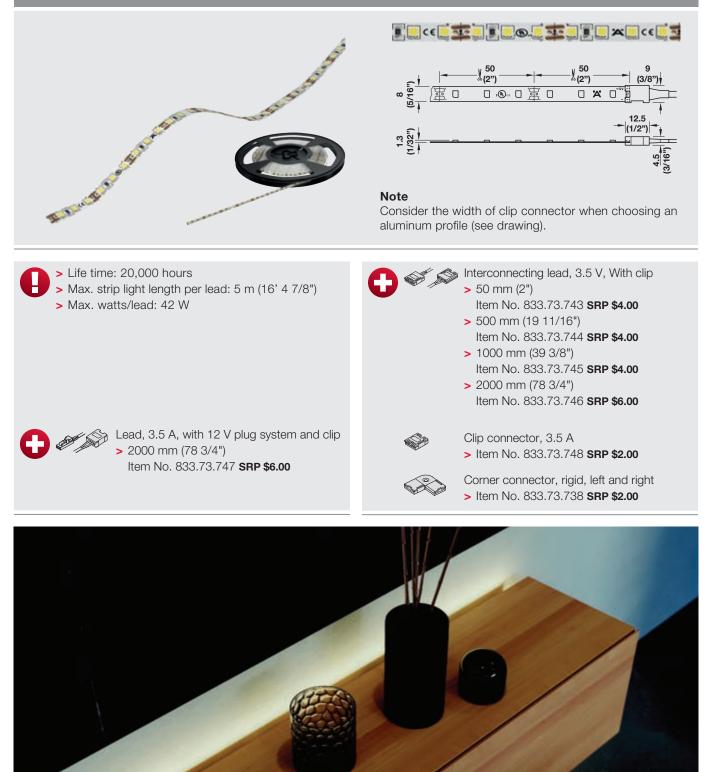
The values apply to a strip light length of 0.5 m (19 11/16")

🕃 🕪 🚯 us RoHS 🔂 ( 🗲 IP20

Item No. 833.74.170 833.74.171 833.74.172 833.74.173 SRP \$260.00 \$260.00 \$260.00 \$260.00 Light Color (K) 2700 (warm white) 3000 (warm white) 4000 (cool white) 5000 (cool white) LxWxH 15 m x 8 mm x 1.3 mm (590 5/8" x 5/16" x 1/32") Wattage 72 (4.8 per meter) (1.5 per foot) LEDs 900 (60 per meter) (18 per foot) Lumen 6915 7200 96 Lumen per watt 100 83 CRI Energy Efficiency class A+ Weighted energy consumption 5.28 per meter Material/Finish Plastic, white Supplied with 2 m (78 3/4") lead Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"

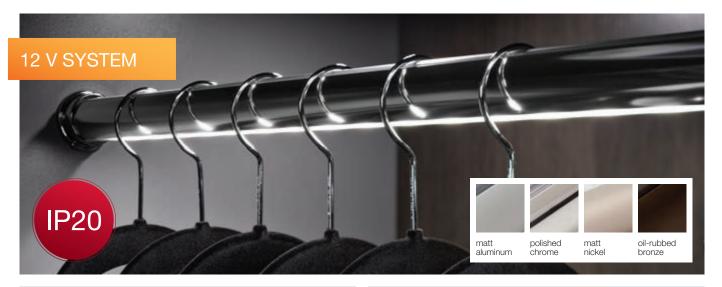


#### LED 2042



## LED 2037 ELITE LIGHTED WARDROBE TUBE KIT

0/100%



- > \*CRI 90 lights are Title 24 Compliant
- \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > A great way to brighten up your closet space
- > 2 color temperatures available
- > 4 finishes to choose from
- > Comes ready to install
- > Tube is cut 6 mm (1/4") shorter than nominal size to allow room for end caps and driver cable exit

#### Note

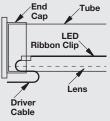
Position cable around and out of tube between lens and end cap or through end cap exit hole.

> Driver see page 51

> Components see page 107

3000 K	4000 K	120°
816 lx	901 lx	250 (9 13/16")
204 lx	225 lx	500 (19 11/16")
91 lx	100 lx	750 (29 1/2")
51 lx	56 lx	1000 (39 3/8")

# 



Matt aluminum	833.71.032	833.71.033	833.71.034	833.71.035	833.71.024	833.71.025	833.71.026	833.71.027
Polished chrome	833.71.064	833.71.065	833.71.066	833.71.067	833.71.056	833.71.057	833.71.058	833.71.059
Matt nickel	830.28.780	830.28.781	830.28.782	830.28.783	830.28.785	830.28.786	830.28.787	830.28.788
Oil-rubbed bronze	833.71.048	833.71.049	833.71.050	833.71.051	833.71.040	833.71.041	833.71.042	833.71.043
SRP	\$46.00	\$54.00	\$62.00	\$70.00	\$46.00	\$54.00	\$62.00	\$70.00
Light Color (K)	3000 (warm w	3000 (warm white) 4000 (cool white)						
Length	18"	24"	30"	36"	18"	24"	30"	36"
Wattage	1.8	2.4	3.1	3.7	1.8	2.4	3.1	3.7
Lumen	146	195	243	292	146	195	243	292
CRI	90*							
Material	Aluminum	Aluminum						
Supplied with	upplied with Tube, lens, Loox 2037 flexible strip light, 2 m (78 3/4") driver cable, 2 end caps							
Note Loox Lights and	d Drivers are "S	uitable for use	within Closet S	torage Spaces	9			

\*JA8-2016-E **( € 🚯**us 🔗 RoHS 🕪 IP20 🔂



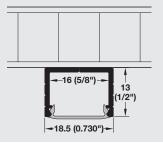
(39 3/8")

## LED 2029

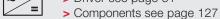
#### SURFACE MOUNTED STRIP LIGHT WITH INLINE DIMMER SWITCH

0 100%





> *CRI 90 lights are Title 24 C	ompliant				
> *CRI 90 lights offer more vit	prant, true color rendering than	3000 K	4000 K	120°	
lower CRI products					250 mm
> Life time: 30,000 hours		2090 lx	2215 lx		(9 13/16")
<ul> <li>Supplied ready to install</li> </ul>					500 mm
> Optimal lengths for installing		522 lx	554 lx	+	(19 11/16")
brighten up your countertop		000 1	0.401		750 mm
> Linkable to other light bars,	refer to page 32	232 lx	246 lx		(29 1/2")
> Driver see	page 51	130 lx	138 lx	_	1000 mm



	0000 (	1-11-2			4000 (	. 11 - X		
Light Color (K)	3000 (warm w	nite)			4000 (cool wh	nite)		
Lumen per watt	85 90*							
CRI Item No.	90° 833.73.530	833.73.532	833.71.213	833.73.534	833.73.550	833.73.552	833.71.218	833.73.554
SRP	\$40.00	\$46.00	\$49.00	\$52.00	\$40.00	\$46.00	\$49.00	\$52.00
Length	6"	9"	12"	15"	6"	9"	12"	15"
Wattage	0.7	1.5	2.4	2.9	0.7	1.5	2.4	2.9
LEDs	9	18	27	36	9	18	27	36
Lumen	62	124	186	249	62	124	186	249
Item No.	833.73.536	833.73.538	833.71.214	833.73.540	833.73.556	833.73.558	833.71.219	833.73.562
SRP	\$56.00	\$60.00	\$64.00	\$68.00	\$56.00	\$60.00	\$64.00	\$68.00
Length	18"	21"	24"	27"	18"	21"	24"	27"
Wattage	3.7	4.4	5.4	5.9	3.7	4.4	5.4	5.9
LEDs	45	54	63	72	45	54	63	72
Lumen	311	373	435	497	311	373	435	497
Item No.	833.71.215	833.73.542	833.71.216	833.73.544	833.71.220	833.73.564	833.71.221	833.73.566
SRP	\$72.00	\$76.00	\$80.00	\$84.00	\$72.00	\$76.00	\$80.00	\$84.00
Length	30"	33"	36"	39"	30"	33"	36"	39"
Wattage	6.8	7.3	8.3	8.8	6.8	7.3	8.3	8.8
LEDs	81	90	99	108	81	90	99	108
Lumen	559	622	683	746	559	622	683	746
Item No.	833.71.217		833.73.546		833.71.222		833.73.568	
SRP	\$87.00		\$90.00		\$87.00		\$90.00	
Length	42"		45"		42"		45"	
Wattage	9.7		10.2		9.7		10.2	
LEDs	117		126		117		126	
Lumen	807		870		807		870	
Material		ar anodized; Len						
Supplied with	2 m (78 3/4") o two-sided mou		n cable with integ	grated switch, 10	0 mm (4") femal	e mini driver cab	le, mounting bra	ckets, Screws,
Note Loox Light	s and Drivers a	re "Suitable for	use within Close	et Storage Spac	es"			



## LED 2029 SURFACE MOUNTED STRIP LIGHT WITH LINKABLE CABLE

0/100%



*CRI 90 lights are Title 24 Compliant
*CPLOQ lights offer more vibrant, true color rend.

- \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > Lifetime: 30,000 hours
- > Supplied ready to install
- Optimal lengths for installing under your wall cabinets to brighten up your countertop workspace
- > Linkable to other light bars, see page 31



> Driver see page 51> Components see page 127

3000 K	4000 K	120°	
2090 lx	2215 lx	-	250 mm (9 13/16")
522 lx	554 lx	_	<mark>500 mm (19 11/16</mark> ")
232 lx	246 lx	_	750 mm (29 1/2")
130 lx	138 lx	_	1000 mm (39 3/8")

Light Color (K)	3000 (warm w	hite)			4000 (cool white)			
Lumen per watt	85							
CRI	90*							
Item No.	833.73.531	833.73.533	833.71.223	833.73.535	833.73.551	833.73.553	833.71.228	833.73.555
SRP	\$24.00	\$30.00	\$33.00	\$36.00	\$24.00	\$30.00	\$33.00	\$36.00
Length	6"	9"	12"	15"	6"	9"	12"	15"
Wattage	1.0	1.7	2.9	3.2	1.0	1.7	2.9	3.2
LEDs	12	21	30	39	12	21	30	39
Lumen	83	145	207	269	83	145	207	269
Item No.	833.73.537	833.73.539	833.71.224	833.73.541	833.73.557	833.73.559	833.71.229	833.73.563
SRP	\$42.00	\$48.00	\$51.00	\$54.00	\$42.00	\$48.00	\$51.00	\$54.00
Length	18"	21"	24"	27"	18"	21"	24"	27"
Wattage	3.9	4.6	5.8	6.1	3.9	4.6	5.8	6.1
LEDs	48	57	66	75	48	57	66	75
Lumen	332	394	455	518	332	394	455	518
Item No.	833.71.225	833.73.543	833.71.226	833.73.545	833.71.230	833.73.565	833.71.231	833.73.567
SRP	\$57.00	\$60.00	\$63.00	\$66.00	\$57.00	\$60.00	\$63.00	\$66.00
Length	30"	33"	36"	39"	30"	33"	36"	39"
Wattage	7.3	7.6	8.8	9.0	7.3	7.6	8.8	9.0
LEDs	84	93	102	111	84	93	102	111
Lumen	580	642	704	767	580	642	704	767
SRP	833.71.227		833.73.547		833.71.232		833.73.569	
Item No.	\$69.00		\$72.00		\$69.00		\$72.00	
Length	42"		45"		42"		45"	
Wattage	10.2		10.5		10.2		10.5	
LEDs	120		129		120		129	
Lumen	828		891		828		891	
Material	Aluminum, clea	ar anodized; Len	ıs: milk					
Supplied with	100 mm (4") m	nale mini driver c	able, 100 mm (4	") female mini dri	iver cable, moun	ting brackets, sc	rews, two-sided	mounting tape
Note Loox Light	ts and Drivers a	re "Suitable for	use within Close	et Storage Spac	es"			

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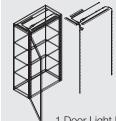
## LED 2030 INTERIOR CABINET LIGHT KITS

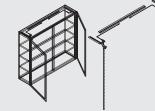


- > \*CRI 90 lights are Title 24 Compliant
- > \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > Surface mounted; easy to install; flexible universal design
- > Ideal for new or existing interior kitchen cabinets
- > Trimmable in 50 mm (2") increments
- > Peel and stick strip lights and wire management channels; screw mounted switch housing



- > Driver see page 51
- > Components see page 127





1 Door Light Kit

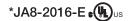
2 Door Light Kit



Item No.	833.73.588	833.73.590	
SRP	\$120.00	\$120.00	
Light Color (K)	warm white	cool white	
L×W×H	960 x 8 x 2.3 mm (38" x 5,	/16" x 3/32")	
Wattage	9.5		
LEDs	114		
Lumen	745	750	
CRI	90*		
Material/Finish	Housing and Switch: Plast Wire Management: Plastic Light: Silicone, white	·	
Supplied with	2 silicone strips, 2 switche 2 switch cables, 2 - 50 mr 2 - 10" and 1- 20" wire ma	n (2") leads with clips	
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"			



Item No.	833.73.589	833.73.591	
SRP	\$110.00	\$110.00	
Light Color (K)	warm white	cool white	
LxWxH	960 x 8 x 2.3 mm (38" x 5	/16" x 3/32")	
Wattage	9.5		
LEDs	114		
Lumen	745	750	
CRI	90*		
Material/Finish	Housing and Switch: Plast Wire Management: Plastic Light: Silicone, white		
Supplied with	2 silicone strips, switch, switch housing, switch cable, splitter cable, 500 mm (19 11/16") lead extension, 2 - 50 mm (2") leads with clip, 2 - 10" and 1- 20" wire management channel		
0	ts and Drivers are "Suitable prage Spaces"	e for use within	



## LED 2030/2025 DRAWER AND PUCK LIGHT KITS



- > \*CRI 90 lights are Title 24 Compliant
- \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > Surface mounted; easy to install; flexible universal design
- > Ideal for new or existing interior kitchen cabinets
- > Trimmable in 50 mm (2") increments
- Peel and stick strips and wire management channels; screw mounted switch housing

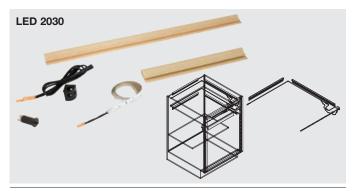


- > \*CRI 90 lights are Title 24 Compliant
- \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > Surface mounted; easy to install; flexible universal design

> Driver see page 51

> Components see page 127

- Ideal for new or existing kitchen interior cabinets or under cabinets
- > Screw mounted
- > Modular



Item No.	833.73.580	833.73.585	
SRP	\$60.00	\$60.00	
Light Color (K)	warm white	cool white	
LxWxH	610 x 8 x 2.3 mm (24" x 5	5/16" x 3/32")	
Wattage	3.0		
LEDs	36		
Lumen	235	236	
CRI	90*		
Material/Finish	Housing and Switch: Plast Wire Management: Plastic Light: Silicone, white		
Supplied with	Silicone strip, switch, switch housing, switch cable 50 mm (2") lead with clip, 1 - 10" and 1- 20" wire management channel		
0	ts and Drivers are "Suitable brage Spaces"	e for use within	



Item No.	833.72.251	833.72.253	833.72.252	833.72.254
SRP	\$40.00	\$40.00	\$40.00	\$40.00
Light Shape	round		square	
Light Color (K)	warm white	cool white	warm white	cool white
ØxH	65 x 15.6 mi	m (2 9/16" x 5	/8")	
Wattage	3.8			
Lumen	280	302	280	302
CRI	90*			
Material/Finish	Trim Ring: Plastic, silver colored Light: Plastic, frosted			
Supplied with	Puck light, trim ring, 2 m (78 3/4") cable			
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"				

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## LED 2030 INTERIOR DOOR BATTERY LIGHT AND CONVERSION KITS

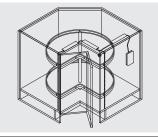




- > \*CRI 90 lights are Title 24 Compliant
- \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > Surface mounted; easy to install; flexible universal design
- > Ideal for new or existing interior kitchen cabinets
- > Trimmable in 50 mm (2") increments
- > Peel and stick strip lights and wire management channels; screw mounted switch housing
- > Battery charge life: Continuous use: 5 hours Normal use with switch: 3 weeks



Item No.	833.71.399	833.71.400
SRP	\$209.00	\$209.00
Light Color (K)	warm white	cool white
LxWxH	813 x 8 x 2.3 mm (32" x 5	/16" x 3/32")
Wattage	8.0	
CRI	90*	
Material/ Finish	Housing and Switch: Plastic, black Wire Management: Plastic, tan, black Ribbon: Silicone, white	
Supplied with	2 silicone strips, switch, switch housing, switch cable, splitter cable, 500 mm (19 11/16") LED extension, 2 - 50 mm (2") leads with clip, battery adapter cable, wall plug charger, 3 - 10" and 2 - 2" wire management channels	
	hts and Drivers are "Suitab torage Spaces"	le for use within



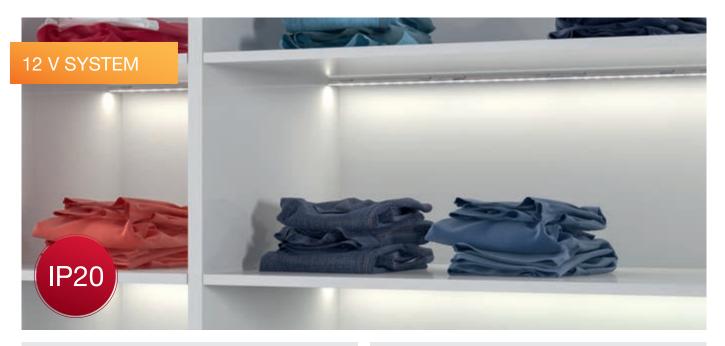




Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"

## LED 2024 BAR STRIP LIGHT, PLUG-IN

0/100%



- > Dimmable
- > Ideal for retrofitting due to two installation options
- > Up to 15 strips can be plugged into each other
- For adhesive tape or screw mounting with the provided mounting brackets

3000 K	4000 K	5000 K	90°
417 lx	429 lx	440 lx	250 mm (9 13/16")
104 lx	107 lx	110 lx	500 mm (19 11/16")
46 lx	48 lx	49 lx	750 mm (29 1/2")
26 lx	27 lx	28 lx	_ 1000 mm (39 3/8")

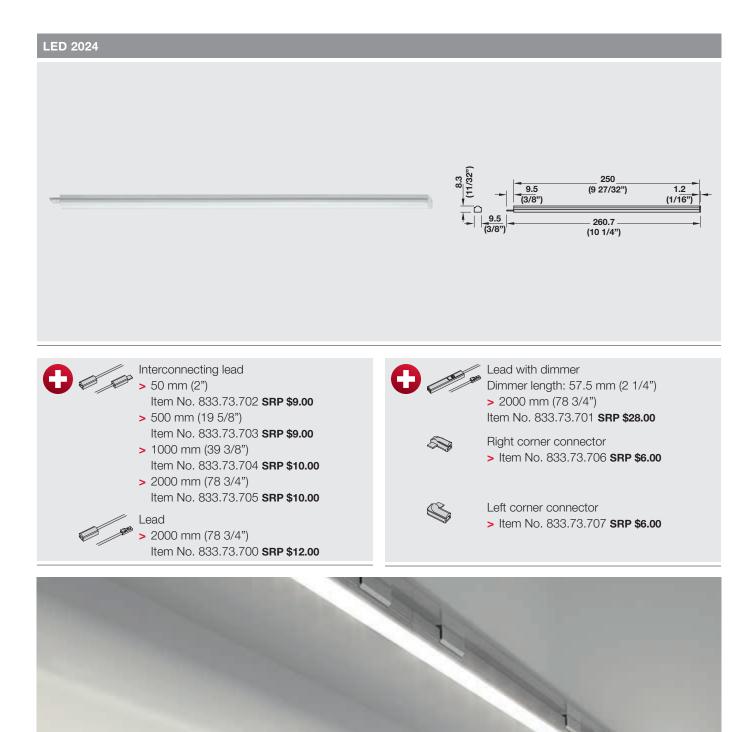


> Driver see page 51> Components see page 127

Item No.	833.73.030	833.73.031	833.73.032	833.73.033	833.73.034
SRP	\$21.00	\$21.00	\$21.00	\$21.00	\$21.00
Light Color (K)	3000 (warm white)	4000 (cool white)	5000 (cool white)	red	blue
LxWxH	260.7 x 9.5 x 8.3 mm	n (10 1/4" x 3/8" x 11/	32")		
Wattage	2.1			2.5	
LEDs	9				
Lumen	112	113	126		
Lumen per watt	53	54	60	50	
CRI	82				
Energy Efficiency class	A++				
Weighted energy consumption	2.31 per meter				
Material/Finish	Plastic, milk/white				
Supplied with	Mounting brackets, t	ape			
Note Loox Lights and Drivers are '	Suitable for use withir	n Closet Storage Space	ces"		



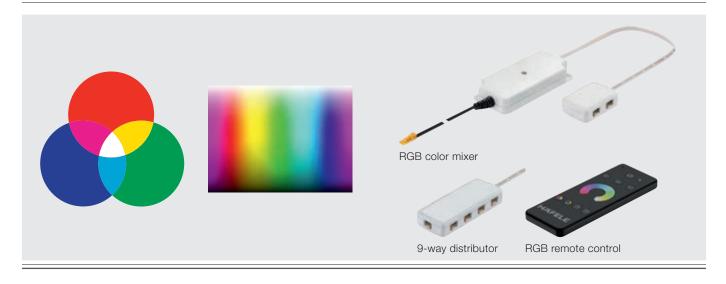




## LED RGB COLOR MIXING



- > RGB is the abbreviation for red, green and blue. With the principle of additive color mixing, almost any color combination can be created from the 3 primary colors.
- > A light with RGB capability has 3 different semiconductor crystals installed in one LED, each radiating one of the primary colors.
- > The 3 primary colors are mixed with RGB, therefore a pure white light color is not possible.
- > A control unit (the RGB color mixer), installed between the Loox driver and the lights is required to make the different color settings.
- > Up to 4 RGB lights can be connected to a color mixer and up to 12 RGB lights with the use of the RGB distributor. The color mixture that is selected applies to all of the connected RGB lights.
- The RGB color mixer is controlled by a remote control, by which the color can be continuously adjusted and changed at any time.
- > RGB lighting can generate attractive color displays, which can be created by the interaction between the selected light and the illuminated furniture.







## LED 2010 RGB LIGHT

• RGB



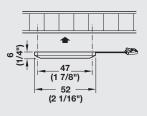
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- Creates design emphasis in a small space with changing colors
- > Colors can be customer selected

#### Note

Dimmed with mixer/remote only.





Item No.	833.73.100
SRP	\$27.00
Light Color (K)	RGB
L x W x H	52 x 52 x 6 mm (2 1/16" x 2 1/16" x 1/4")
Wattage	1.7
LEDs	9
Lumen	15
Lumen per watt	9
Material/Finish	Stainless Steel, matt
Supplied with	2.5 m (98 3/8") lead, mounting material

Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"



Remote control > Item No. 833.74.708 SRP \$40.00

> Driver see page 51

#### Note

Max. 10 color mixers controlled with 1 remote within a radius of 15 m (49').

Color mixer, with 4-way distributor, Max.: 30 W, Power consumption: 0.6 W W x D x H: 90 x 53 x 16 mm (3 9/16" x 2 1/16" x 5/8") > Item No. 833.74.802 **SRP \$60.00** 

#### Note

RGB remote and mixer must be paired for normal operation.



9-way distributor 1000 mm (39 3/8") > Item No. 833.74.741 **SRP \$6.00** 



## LED 2016 RGB STRIP LIGHT WITH 150 LEDS





> Extremely bright light sources with changing colors

Note Dimmed with mixer/remote only.

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Mains lead, with 12 V plug system and clip 2000 mm (78 3/4")

> Item No. 833.74.764 SRP \$6.00 4000 mm (157 1/2")

> Item No. 833.74.745 SRP \$6.00

Interconnecting lead, with clip 50 mm (2")

Item No. 833.74.766 SRP \$4.00 500 mm (19 11/16")

> Item No. 833.74.767 SRP \$4.00 1000 mm (39 3/8")

> Item No. 833.74.779 SRP \$4.00 2000 mm (78 3/4")

> Item No. 833.74.768 SRP \$4.00

Item No.	833.73.450	
SRP	\$200.00	
Light Color (K)	RGB	
L×W×H	5000 x 12 x 2.4 mm (196 7/8" x 1/2" x 1/8")	
Wattage	30 at max. 4.2 m (13' 9 3/8") per meter, 2.16 per foot	
LEDs	150 (30 per meter) (9 per foot)	
Lumen	1050	
Lumen per watt	29	
Material/Finish	Plastic, white	
Supplied with	2 m (78 3/4") lead	
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"		

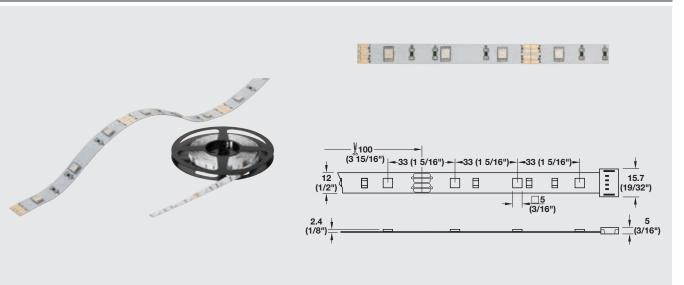
> Driver see page 51

QRGB 12	20°
380 lx	250 mm (9 13/16")
135 lx	500 mm (19 11/16")
60 lx	750 mm (29 1/2")
36 lx	1000 mm (39 3/8")











Clip connector, 2.5A > Item No. 833.74.761 SRP \$4.00

Corner connector, rigid, 2.5A > Item No. 833.74.760 **SRP \$4.00** 



Remote control > Item No. 833.74.708 SRP \$40.00

#### Note

Max. 10 color mixers controlled with 1 remote within a radius of 15 m (49').

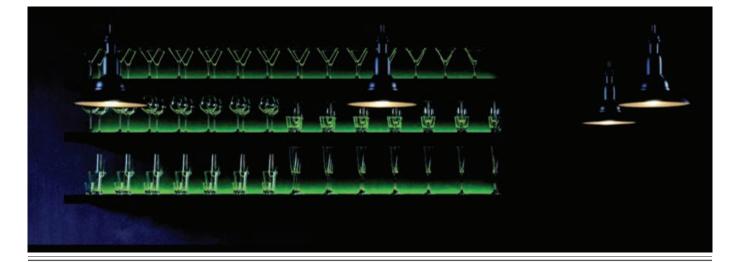


Color mixer, with 4-way distributor, Max.: 30 W, Power consumption: 0.6 W W x D x H: 90 x 53 x 16 mm (3 9/16" x 2 1/16" x 5/8") > Item No. 833.74.802 **SRP \$60.00** 

#### Note

RGB remote and mixer must be paired for normal operation.

9-way distributor 1 m (39 3/8") > Item No. 833.74.741 **SRP \$4.00** 



## LED 2012 RGB FLEXIBLE STRIP LIGHT





- Furniture is put into the right light with individually selectable light colors
- > Can be shortened every 75 mm (3")
- > Ideal for retrofitting
- > Max. 5 m (16' 4 7/8") per lead

#### Note

Self adhesive remnants cannot be reused. Dimmed with mixer/remote only.



> Driver see page 51

Item No.	833.73.320	833.73.322	
SRP	\$40.00	\$240.00	
Light Color (K)	RGB		
Length	300 mm (11 3/4")	2000 mm (78 3/4")	
W×H	10 x 2.5 mm (3/8" x 1/8")		
Wattage	2	12	
LEDs	12	72	
Lumen	36	240	
Lumen per watt	20	20	
Material/Finish	Plastic, white		
Supplied with	2 m (78 3/4") lead		
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"			

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Lead, connection between flexible strip
 lights and color mixer
 2500 mm (98 3/8")
 Item No. 833.74.711 SRP \$6.00

Interconnecting lead, for corner connections 50 mm (2") > Item No. 833.74.710 **SRP \$4.00** 500 mm (19 11/16") > Item No. 833.74.762 **SRP \$4.00** 1000 mm (39 3/8")

> Item No. 833.74.777 SRP \$6.00

RGB	120°
90 lx	250 mm (9 13/16")
30 lx	500 mm (19 11/16")
12 lx	750 mm (29 1/2")
5 lx	1000 mm (39 3/8")





#### LED 2012





### Remote control

> Item No. 833.74.708 SRP \$40.00

#### Note

Max. 10 color mixers controlled with 1 remote within a radius of 15 m (49').

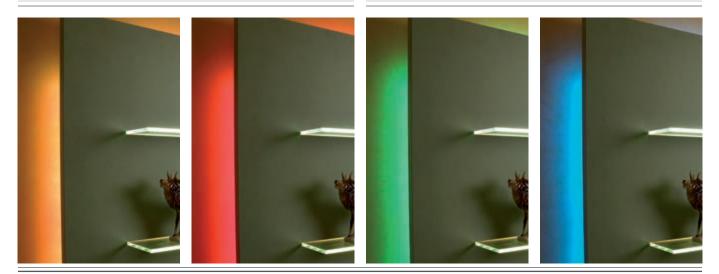


Color mixer, with 4-way distributor, Max.: 30 W, Power consumption: 0.6 W W x D x H: 90 x 53 x 16 mm (3 9/16" x 2 1/16" x 5/8") > Item No. 833.74.802 **SRP \$60.00** 

#### Note

RGB remote and mixer must be paired for normal operation.

9-way distributor 1000 (39 3/8") > Item No. 833.74.741 **SRP \$6.00** 



## LED 2028 SENSOR-CONTROLLED TOE KICK LIGHT





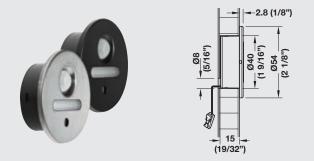
> \*CRI 90 lights are Title 24 Compliant

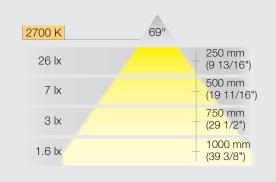
\*CRI 90 lights offer more vibrant, true color rendering than lower CRI products

- > Cannot be dimmed
- > Delay time: approx. 4 min.
- > Motion sensor range: 120° and 2000 mm (78 3/4")

> Driver see page 51> Drill bit see page 146

Item No.	833.73.110	833.73.111	
SRP	\$27.00	\$27.00	
Light Color (K)	2700 (warm white)	)	
Drill hole	Ø40 mm (1 9/16")		
ØxH	54 x 17.3 mm (2 1	/8" x 11/16")	
Wattage	0.34		
LEDs	3		
Lumen	4		
Lumen per watt 12			
CRI	90*		
Energy Efficiency class	nergy Efficiency class A+		
Weighted energy consumption (kWh/1.000 h)	0.37		
Material Stainless Steel			
Finish	brushed steel	matt black	
Supplied with	2 m (78 3/4") lead material, silicone g		
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"			

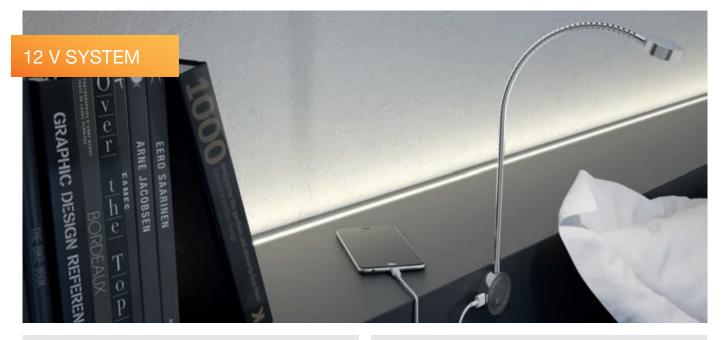








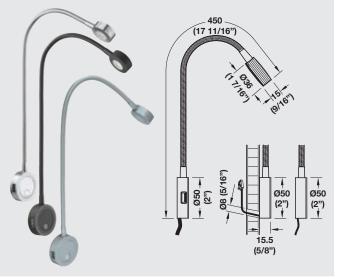
## LED 2034 FLEXIBLE LIGHT WITH USB CHARGING STATION



- > Dimmable with integrated push switch
- > Surface mounted
- > With 2 integrated 5 V / 2 A USB ports

> Driver see page 51

Item No.	833.74.090	833.74.091	833.74.092
SRP	\$60.00	\$60.00	\$60.00
Light Color (K)	4000 cool whit	e	
L x W x H	450 x 50 x 15	.5 mm (17 11/1	6" x 2" x 5/8")
Wattage	17 (1.5 W for I	ight)	
LEDs	3		
Lumen	105		
Lumen per watt	70		
CRI	82		
Energy Efficiency class	A+		
Weighted energy consumption	1.65		
Material	Aluminum		
Finish	chrome- plated	black	silver colored anodized
Supplied with	2 m (78 3/4") lead mounting material		
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"			



4000 K	 90°		
650 lx	_	250 mm (9 13/16")	
163 lx	-	<mark>500 mm (19 11/1</mark> 6")	
72 lx	-	750 mm (29 1/2")	
40 lx	-	1000 mm (39 3/8")	

## LED 2018 FLEXIBLE LIGHT



- > Convenient to re-position
- > Integrated glass lens
- > With integrated rotary switch on light head
- > Surface or recess mounted

 > Not dimmable

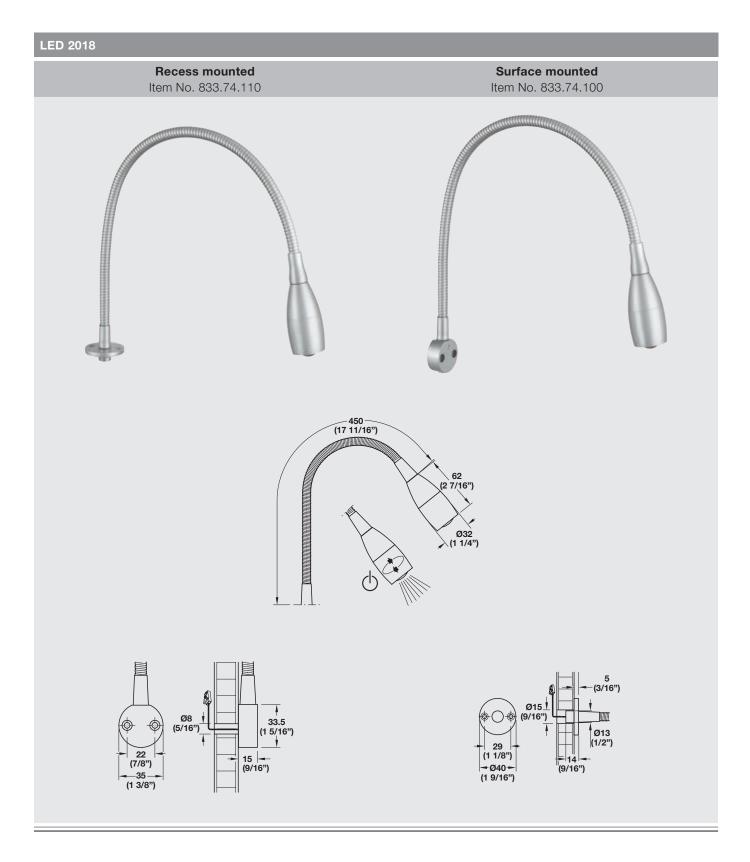
> Driver see page 51

3000 K	69°
1249 lx	250 mm (9 13/16")
312 lx	500 mm (19 11/16")
139 lx	750 mm (29 1/2")
78 lx	1000 mm (39 3/8")

Item No.	833.74.100	833.74.110	
SRP	\$36.00	\$36.00	
Light Color (K)	3000 (warm white)		
Installation	Surface	Recess	
ØxW	545.5 x 32 mm (21 1/2" x 1 1/4")	526 x 32 mm (20 11/16" x 1 1/4")	
Wattage	2		
LEDs	1		
Lumen	89		
Lumen per watt	45		
CRI	81		
Energy Efficiency class	А		
Weighted energy consumption	2.20		
Material/Finish	Aluminum, silver colored anodized		
Supplied with	2 m (78 3/4") lead, mounting material		
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"			







## LED 2048 RECESS/SURFACE MOUNTED LIGHT, MULTI-WHITE

0 100%



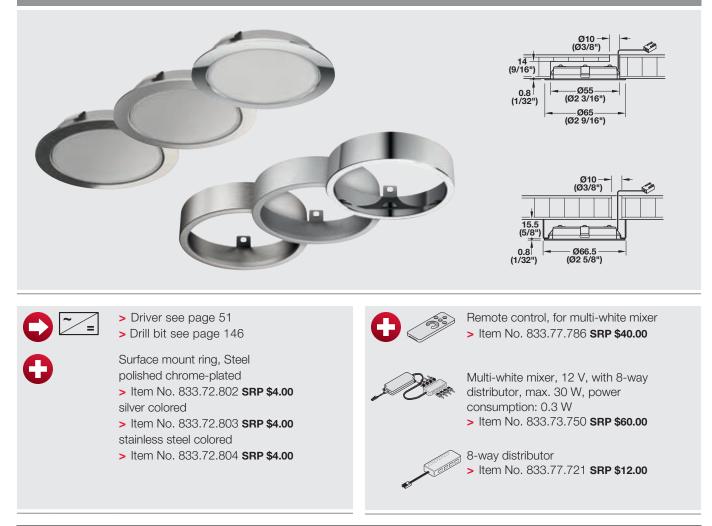
- Light color and brightness can be adjusted for any area of the house via multi white mixer
- Optional surface mounted housing provides flexibility in installation
- > Dimmable via multi-white mixer only
- Multi white mixer can handle up to 30 W;
   Max. 10 multi white mixers with 1-10 remote controls within a radius of 15 m (49')

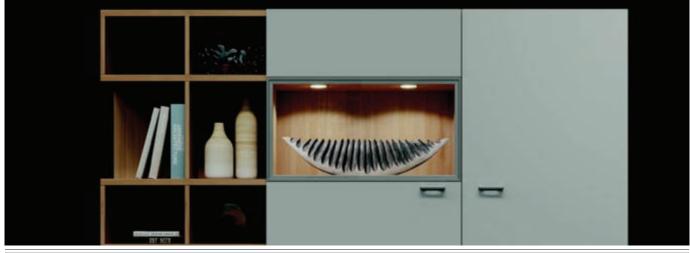
2700 K 5	000 K	120°	
290 lx	345 lx	-	250 mm (9 13/16")
110 lx	130 lx	-	500 mm (19 11/16")
60 lx	70 lx	-	750 mm (29 1/2")
40 lx	45 lx	-	1000 mm (39 3/8")

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Item No.	833.72.310	833.72.311	833.72.400
SRP	\$30.00	\$30.00	\$30.00
Light Color (K)	2700 warm white to 5000 cool white	9	
Drill hole	Ø55 mm (2 3/16")		
ØxH	65 x 12 mm (2 9/16" x 1/2")		
Wattage	3		
LEDs	60		
Lumen	255		
Lumen per watt	85		
CRI	2700 K: 90; 5000 K: 83		
Energy Efficiency class	A+		
Weighted energy consumption (kWh/1.000 h)	3.30		
Material	Steel		
Finish	polished chrome plated	silver colored	stainless steel colored
Supplied with	2 m (78 3/4") lead		
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"			







### LED ADJUSTABLE SHELF LIGHTING SYSTEM

### 12 V SYSTEM

- > For adjustable shelves in furniture
- > Max. 30 W per cabinet
- Shelf lighting can be variably adjusted no change of wiring required
- > The light connects to the plunger contact housing



> Driver see page 51



Plunger contact housing, Plastic, gray

- Loox plug-in contact for 12 VFor mortised insertion or surface
- screw mounting Item No. 833.02.704 **SRP \$24.00**

#### Note

Please order connecting cable for plunger contact housing separately.



Connection cable for plunger contact housing Plastic, black

> 1800 mm (70 7/8")

Item No. 833.02.707 SRP \$16.00 Note

Always insert the shelf with spring contact along the contact strip in order to avoid damage to the contact strip. One required per cabinet to connect to driver



Dual contact strip

- > Self-adhesive> Surface applied
- Plastic

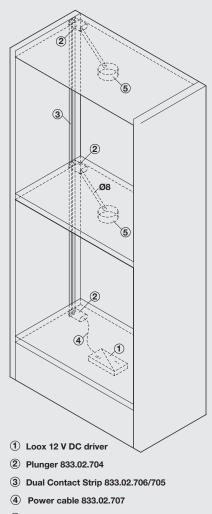
W x L: 18.5 mm x 20 m (3/4" x 65' 7 3/8")

> copper

Item No. 833.02.706 SRP \$280.00 > tin

Item No. 833.02.705 SRP \$310.00 Note

Order 1 plunger contact housing per shelf and 1 for driver connection.



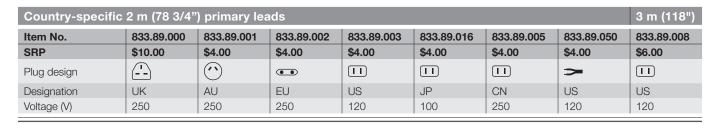
⑤ 12 V DC Loox light



# LOOX LED DRIVER



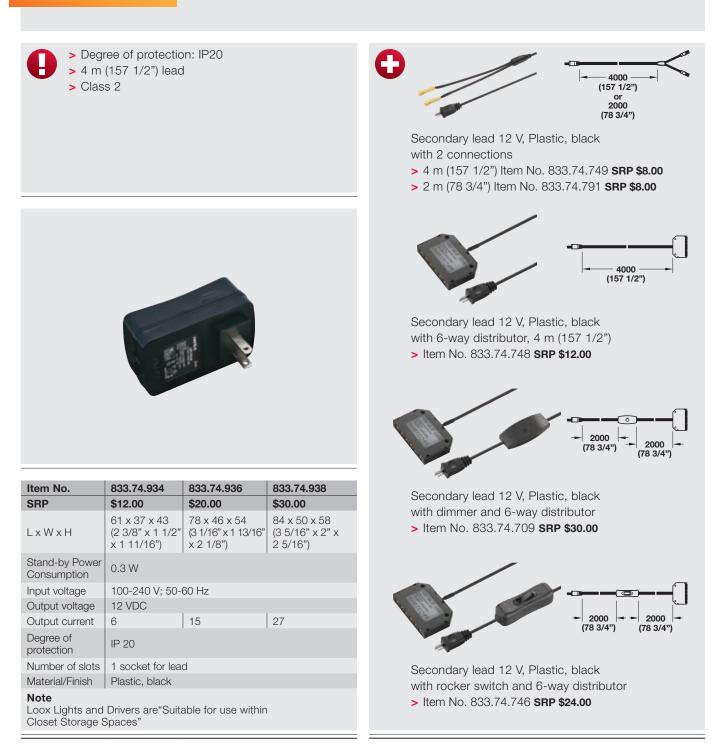
Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"





## LED DRIVER CONSTANT VOLTAGE PLUG-IN DRIVER

### 12 V SYSTEM

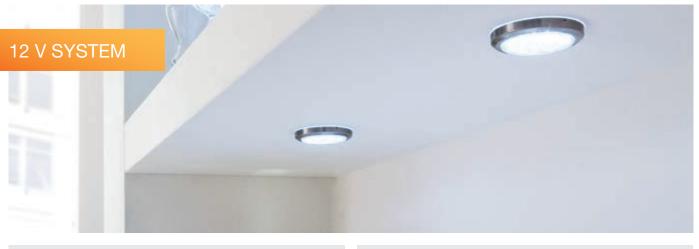






### ROUND PUCK

0/100%



- > High efficiency light output
- > For use with Loox 12 V driver





~
/ =

- > Driver see page 51
- > Drill bit see page 146

3000 K	5000 K	60°	
1020 lx	1200 lx		_ 250 mm (9 13/16")
370 lx	440 lx		500 mm (19 11/16")
210 lx	250 lx	-	750 mm (29 1/2")
120 lx	145 lx	<u></u>	1000 mm (39 3/8")

Item No.	830.64.231	830.64.931	830.64.230	830.64.930	830.64.261	830.64.961	830.64.260	830.64.960
SRP	\$ 56.00	\$ 56.00	\$ 56.00	\$ 56.00	\$ 56.00	\$ 56.00	\$ 56.00	\$ 56.00
Light Color (K)	3000 (warm w	hite)	5000 (cool wh	ite)	3000 (warm w	hite)	5000 (cool wh	ite)
Mounting	Surface: Ø60 i	mm (2 1/4")			Recess: Ø63 r for recessed d	nm (2 1/2") with rilling	Ø58 mm (2 5/1	6")
Wattage	1.3							
LEDs	18							
Lumen	90		95		90		95	
Lumen per watt	76		72		76		72	
CRI	>80							
Material	Thermoplastic							
Finish	chrome	brushed steel	chrome	brushed steel	chrome	brushed steel	chrome	brushed steel
Supplied with	2.5 m (98 3/8'	') cable with Loo	ox plug					

12 (1/2"

Ø58 (2 5/16")





0 100%

12 V SYSTEM				
<ul> <li>&gt; High efficiency light out;</li> <li>&gt; For use with Loox 12 V</li> </ul>		θ	<ul> <li>&gt; Dimmable</li> <li>&gt; For screw m</li> </ul>	ounting
	Surface		<ul> <li>&gt; Driver see pa</li> <li>&gt; Drill bit see pa</li> </ul>	age 51
	9 (3/8") 	3000 K 50	00 K	60°
	Recessed 12 (1/2")	1020 lx 12	200 lx	250 mm (9 13/16")
		370 lx 4	140 lx	500 mm (19 11/16")
	74 0000 68 (27/81) 0000 (2 11/16")	210 lx 2	250 lx	750 mm (29 1/2")
		120 lx -	145 lx	↓ 1000 mm (39 3/8")

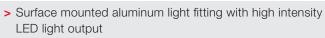
Item No.	830.64.241	830.64.941	830.64.240	830.64.940	830.64.271	830.64.971	830.64.270	830.64.970
SRP	\$56.00	\$56.00	\$56.00	\$56.00	\$56.00	\$56.00	\$56.00	\$56.00
Light Color (K)	3000 (warm w	/hite)	5000 (cool wh	nite)	3000 (warm w	hite)	5000 (cool wh	ite)
Mounting	Surface: 52 x 52 mm (2 1/16" x 2 1/16")			Recess: 74 x 74 mm (2 7/8" x 2 7/8") with Ø68 mm (2 11/16") for drilling			8 mm	
Wattage	1.3							
LEDs	18							
Lumen	90		85		90		85	
Lumen per watt	72		68		72 68			
CRI	>80							
Material	Thermoplastic							
Finish	chrome	brushed steel	chrome	brushed steel	chrome	brushed steel	chrome	brushed steel
Supplied with	2.5 m (98 3/8'	") Cable with Lo	ox plug					



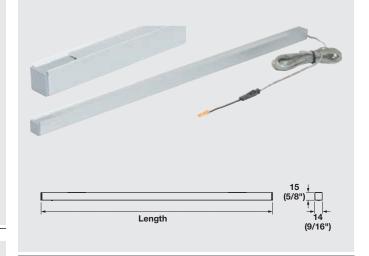




#### 12 V SYSTEM



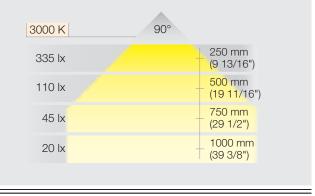
- > Ideal for use inside or under cabinets
- > Invisible mounting with included clips
- > No routing required for installation
- > Diffuser reduces glare
- > For use with Loox 12 V driver





```
> Driver see page 51
```

Item No.	833.01.415	833.01.416	833.01.417	833.01.418	
SRP	\$160.00	\$200.00	\$290.00	\$367.00	
Light Color (K)	3000 (warm	white)			
Length	450 (17 11/16")	600 (23 5/8")	900 (35 7/16")	1200 (47 1/4")	
Wattage	6.8	9.1	14.3	19.1	
LEDs	62	86	132	175	
Lumen	605	828	1282	1736	
Lumen per watt	85				
Material	Housing: Aluminum; Diffuser: Plastic				
Supplied with	3 m (118") ca	able with Loox	plug		





### 12 V SYSTEM





- Recessed aluminum light fitting with high intensity LED light output
- > Ideal for shelving or under cabinet lighting applications
- > Light reflects evenly at 50° on both sides
- > Diffuser reduces glare
- > For use with Loox 12 V driver

> Driver see page 51

Item No.	833.00.981	833.00.982	833.00.983	
SRP	\$160.00	\$230.00	\$300.00	
Light Color (K)	3000 (warm wh	ite)		
Length	500 (19 11/16")	760 (29 15/16")	1000 (39 3/8")	
Wattage	7.5	12	16	
LEDs	71	111	145	
Lumen	685	1077	1433	
Lumen per watt	85			
Material	Housing: Aluminum; Diffuser: Plastic			
Supplied with	3 m (118") cable	with Loox plug		

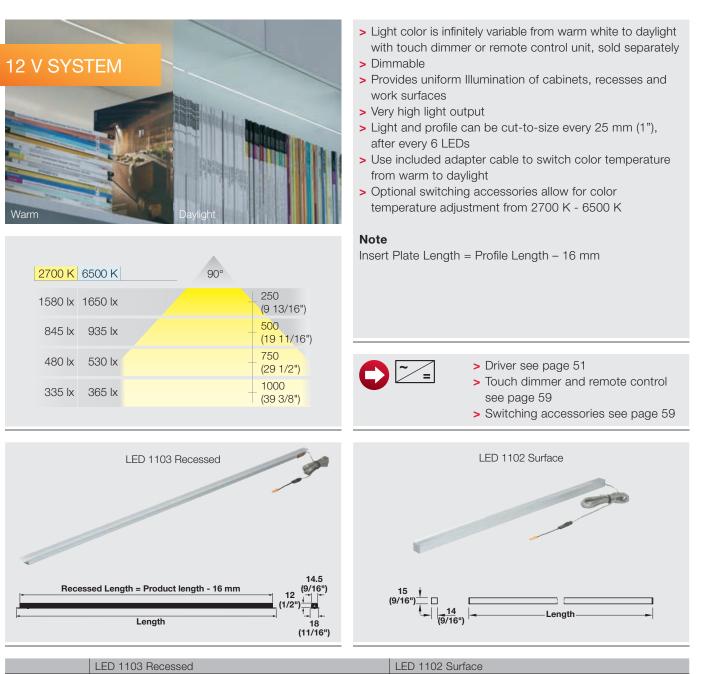
3000 K	100°	
450 lx		250 (9 13/16")
180 lx		500 (19 11/16")
110 lx	-	750 (29 1/2")
65 lx	-	1000 (39 3/8")

#### MULTI-WHITE RECESSED/SURFACE BAR LIGHT



100%

HXFELE



	LED 1103 Recessed		LED 1102 Surface		
Item No.	833.03.071 833.03.070		833.04.081	833.04.080	
SRP	\$414.00	\$304.00	\$314.00	\$442.00	
Light Color (K)	Multi-white: 2700 K warm white – 6500 K daylight				
Length	1500 (59")	1000 (39 3/8")	1500 (59")	1000 (39 3/8")	
Wattage	22.5	14.7	22.5	14.7	
Lumen	1583	1490	1583	1490	
Material/Finish	Aluminum, silver colored anodized				
Supplied with	Lighting profile, 2 - 2 m (78 3/4") driver connecting cables (1 right and 1 left of the strip), 2 end caps, adapter cable		Lighting profile, 2 - 2 m (78 3/ (1 right and 1 left of the strip), 2		

## LUMINOSO LED MULTI-WHITE RECESS MOUNTED LIGHTS, IP20, DIMMABLE



100%

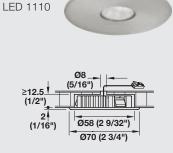
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12 V SYSTEM





L 1



LED 1101 Light Color infinitely variable from warm white to daylight. Extremely high light intensity.

> Recess mounted

LED 1109 Light Color infinitely variable from warm white to daylight. Ideal targeted illumination.

- > 40° pivoting, 360° motion
- > Recess mounted

LED 1110 Light Color infinitely variable from warm white to daylight. Easily exchangeable as the cable plug is located next to the light.

> Recess mounted



- > Driver see page 51
- > Drill bit see page 146

	LED 1101	LED 1109	LED 1110
SRP	\$102.00	\$88.00	\$102.00
Item No.	833.00.610	833.00.630	833.00.680
Light Color (K)	Multi-white: 300	0 K to 6500 K	
Drill hole Ø with clamp	68 mm (2 11/16")	42 mm (1 5/8")	58 mm (2 9/32")
Number LEDs	12	18	18
Wattage (W)	3	2	2.9
Light output (Im)	185	80	225
Material/Finish	Plastic, silver colored Stainless Steel; Body: Zinc die- cast, brushed		
Supplied with	2 m (78 3/4") driver connecting cable, adapter cable, mounting material		

LED 1101	2700 K	6500 K	 50°	
	2059 lx	2235 lx		250 (9 13/16")
	899 lx	744 lx		500 (19 11/16")
	335 lx	360 lx		750 (29 1/2")
	173 lx	186 lx		1000 (39 3/8")

ED 109	2700 K	6500 K	 35°	
	502 lx	697 lx		250 (9 13/16")
	208 lx	251 lx		500 (19 11/16")
	130 lx	162 lx		750 (29 1/2")
	54 lx	63 lx	-	1000 (39 3/8")

LED 45° 1110 2700 K 6500 K 250 2040 lx 2100 lx (9 13/16") 500 702 lx 720 lx (19 11/16") 750 313 lx 321 lx (29 1/2") 1000 192 lx 200 lx (39 3/8")

### HAFELE

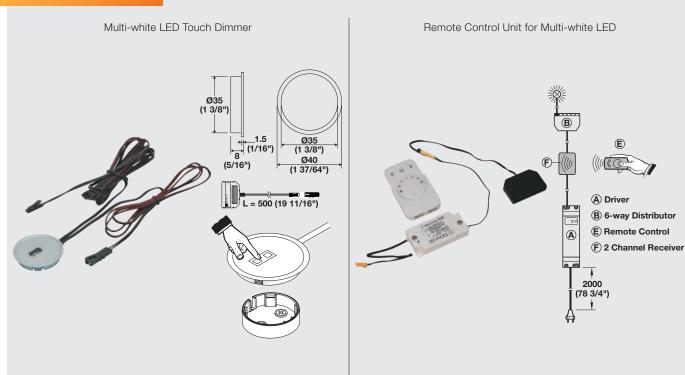


100%

# LUMINOSO LED

MULTI-WHITE - TOUCH DIMMER / AMPLIFIER FOR CONTROL UNIT

12 V SYSTEM



Light Color is infinitely variable from warm white to daylight, dimmable. Memory function when powered off, with surface ring for surface mounting, with 6 ports.

Light Color is infinitely variable from warm white to daylight with 3 dimming levels. Memory function when powered off, with 6 ports.

> Driver see page 51> Drill bit see page 146



6-way distributor Plastic, black > Item No. 833.74.798 **SRP \$12.00** 

Multi-white 2 channel receiver Plastic, white > Item No. 833.00.617 **SRP \$110.00** 

	Multi-white LED Touch Dimmer	Remote Control Unit for Multi-white LED
SRP	\$82.00	\$154.00
Item No.	833.02.779	833.00.618
Dimensions	Ø x H: 35 x 8 mm (1 3/8" x 5/16")	W x D x H: 60 x 40 x 10 mm (2 3/8" x 1 5/8" x 3/8")
Material	Plastic	
Finish	silver	white
Supplied with	2 m (78 3/4") connecting cables 6-way distributor	6-way distributor with 2 m (78 3/4") cable, remote control
	Max. 30 W per dimmer	Max. 9 receivers can be controlled with remote; Max. 30 W per receiver



### OVERVIEW LEDS AND ACCESSORIES - 24 V SYSTEM

#### 24 V SYSTEM









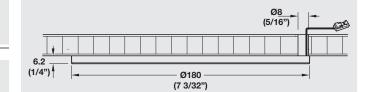
## LED 3023 SURFACE MOUNTED LIGHT

0 100%



- > Simple elegance and homogeneous light output
- Can be used universally with a slimline appearance and round design
- > Extremely flat design allows for a creative application solution
- > Dimmable
- > Screw mounted





Item No.	833.77.130	833.77.131		
SRP	\$60.00	\$60.00		
Light Color (K)	3000 (warm white)	4000 (cool white)		
ØxH	180 x 6.2 mm (7 3/3	32" x 1/4")		
Wattage	4.8			
LEDs	77			
Lumen	362	408		
Lumen per watt	75	85		
CRI	82			
Energy Efficiency class	A++			
Weighted energy consumption	5.50			
Material/Finish	Plastic, silver colored			
Supplied with	2 m (78 3/4") lead mounting material			
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"				

> Driver see page 88

> Components see page 127

3000 K	4000 K	110°	
1874 lx	2273 lx	-	_ 250 (9 13/16")
468 lx	568 lx	-	500 (19 11/16")
208 lx	252 lx	_	750 (29 1/2")
117 lx	142 lx	-	1000 (39 3/8")

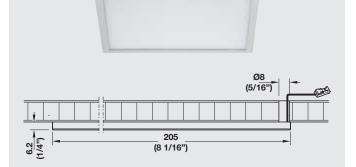


## LED 3025 SURFACE MOUNTED LIGHT



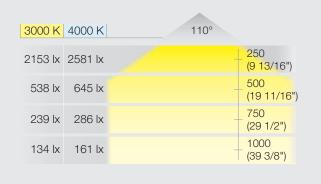


- > Simple elegance and homogeneous light output
- > Square design is an alternative to the classical round light
- Radiates extensive, bright illumination enhancing both living areas and store displays
- > Dimmable
- > Screw mounted



- > Driver see page 88
- > Components see page 127

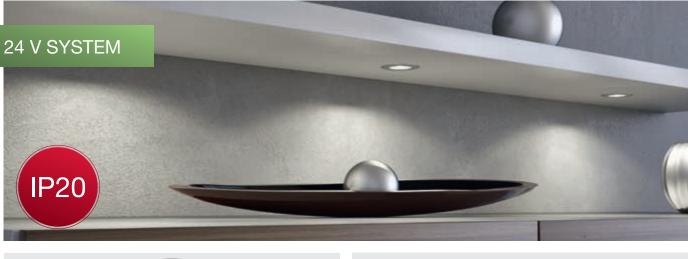
Item No.	833.77.120	833.77.121			
SRP	\$60.00	\$60.00			
Light Color (K)	3000 (warm white)	4000 (cool white)			
LxWxH	205 x 205 x 6.2 mm (8	1/16" x 8 1/16" x 1/4")			
Wattage	5.8				
LEDs	70				
Lumen	430	530			
Lumen per watt	74	91			
CRI	82				
Energy Efficiency class	A++				
Weighted energy consumption	7.15				
Material/Finish	Plastic, silver colored				
Supplied with	2 m (78 3/4") lead, mounting material				
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"					

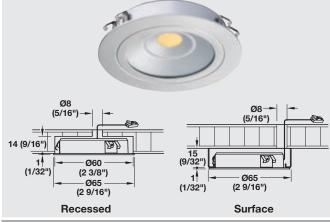




### LED 3010 RECESS/SURFACE MOUNTED LIGHT

0/100%



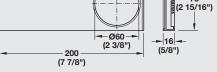


Item No.	833.75.062	833.75.063	833.75.064		
SRP	\$36.00	\$36.00	\$36.00		
Light Color (K)	2700 (warm white)	3000 (warm white)	4000 (cool white)		
Drill hole	Ø60 mm (2 3/	8")			
ØxH	65 x 13 mm (2	2 9/16" x 17/32"	)		
Wattage	3.25				
LEDs	1 (COB)				
Lumen	250	267	271		
Lumen per watt	77	82	83		
CRI	90*				
Energy Efficiency class	A+				
Weighted energy consumption	3.58				
Material/Finish	Aluminum, silver colored anodized				
Supplied with	2 m (78 3/4") lead, clear glass lens, frosted replacement glass lens, mounting hardware				
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"					

- > \*CRI 90 lights are Title 24 Compliant
- \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > Bright, even luminosity
- > 3 installation options
- > Dimmable only with Loox driver



- > Driver see page 88
  > Components see page 127
  > Drill bit and page 140
- > Drill bit see page 146
   Surface mounted ring Ø x H: Ø65 x 15 (2 9/16" x 9/16") Steel, silver colored
   > Item No. 833.77.730 SRP \$ 4.00 Housing, for ring Steel, silver colored
   > Item No. 833.77.731 SRP \$ 10.00



2700 K	3000 K	4000 K	 105°	
1240 lx	1240 lx	1325 lx		250 (9 13/16")
310 lx	310 lx	331 lx	-	<mark>500 (19 11/16</mark> ")
138 lx	138 lx	147 lx	-	750 (29 1/2")
78 lx	78 lx	83 lx	-	1000 (39 3/8")

### LED 3001 RECESS/SURFACE MOUNTED LIGHT





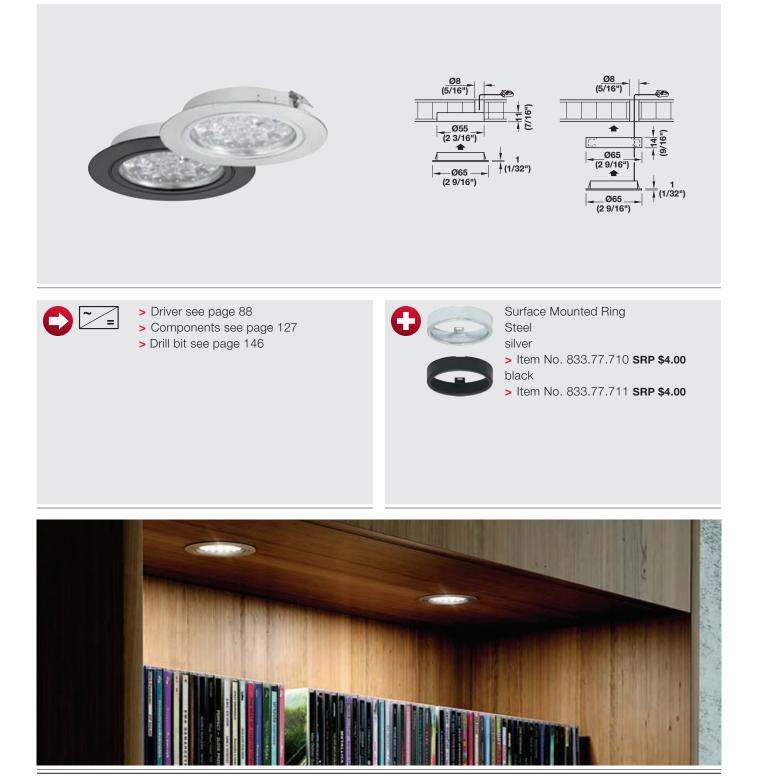
- > \*CRI 90 lights are Title 24 Compliant
- \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > Enhances display cabinets and shelves

2700 K	3000 K	4000 K	5000 K	55°	
3000 lx	3000 lx	2600 lx	2460 lx		250 (9 13/16")
750 lx	750 lx	700 lx	615 lx		500 (19 11/16")
330 lx	330 lx	300 lx	270 lx		750 (29 1/2")
185 lx	185 lx	165 lx	150 lx		1000 (39 3/8")

\*JA8-2016-Е **( Є 🚯**us 🥌 RoHS 🕪 IP20 🔂 🎪

Item No.	833.75.113	833.75.115	833.75.014	833.75.015	833.75.114	833.75.116	833.75.006	833.75.007
SRP	\$36.00	\$36.00	\$36.00	\$36.00	\$36.00	\$36.00	\$34.00	\$34.00
Light Color (K) (LED only)	2700 (warm v	white)	3000 (warm	white)	4000 (cool w	hite)	5000 (cool white)	
ØxH	65 x 11 mm	2 9/16" x 7/16	5")					
Wattage	1.7							
LEDs	24							
Lumen	140				130		115	
Lumen per watt	82				76		68	
CRI	90*						82	
Energy Efficiency class	A+							
Weighted energy consumption	1.87							
Material	Aluminum wit	Aluminum with clear glass						
Finish	silver	black	silver	black	silver	black	silver	black
Supplied with	2 m (78 3/4") lead							
Note Loox Lights and Drivers a	are "Suitable fo	or use within C	Closet Storage	e Spaces"				





### LED 3038 **RECESS/SURFACE MOUNTED LIGHT**





- > \*CRI 90 lights are Title 24 Compliant
- > \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > Provides excellent color rendering and illumination
- > Dimmable
- > Degree of protection: IP20

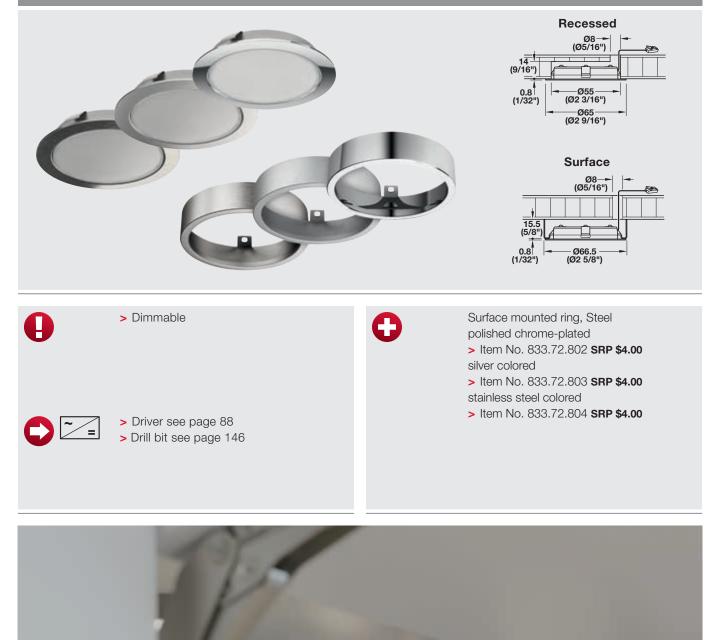
#### Note

For mounting in drilled hole with clip fastener or for SC

screw mounting.									09 0/0 )
Item No.	833.75.140	833.75.141	833.75.142	833.75.120	833.75.121	833.75.122	833.75.150	833.75.151	833.75.152
SRP	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00
Light Color (K)	3000 (warm white)	4000 (cool white)	5000 (cool white)	3000 (warm white)	4000 (cool white)	5000 (cool white)	3000 (warm white)	4000 (cool white)	5000 (cool white)
Drill hole	Ø55 mm (2 3	8/16")							
ØхН	65 x 12 mm	(2 9/16" x 1/2	")						
Wattage	3								
LEDs	24								
Lumen	215	225	245	215	225	245	215	225	245
Lumen per watt	72	75	82	72	75	82	72	75	82
CRI	90*		83	90*		83	90*		83
Energy Efficiency class	A+								
Weighted energy consumption	3.30								
Material	Steel	Steel							
Finish	polished chrome-plated silver colored						stainless stee	el colored	
Supplied with	2 m (78 3/4")	lead							
Note Loox Lights	and Drivers are	e "Suitable for	use within Clos	set Storage Sp	aces"				

3000 K	4000 K	5000 K	120°
580 lx	590 lx	710 lx	250 mm (9 13/16")
220 lx	220 lx	265 lx	500 mm (19 11/16")
115 lx	115 lx	140 lx	750 mm (29 1/2")
75 lx	75 lx	100 lx	1000 mm (39 3/8")





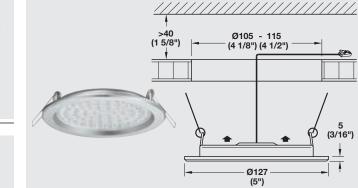
## LED 3002 RECESS MOUNTED LIGHT



- > Primarily for suspended panels
- > Extremely high light intensity

> Cannot be dimmed

 Ideal for wall units, display cabinets, shelving or a lighted valance over a sink



- 0
- > Required ceiling distance of 40 mm (1 5/8")
  > Through hole mounting:
  - Ø105-115 mm (4 1/8"-4 1/2")

Item No.	833.75.032	833.75.021			
SRP	\$90.00	\$90.00			
Light Color (K)	3000 (warm white)	5000 (cool white)			
ØхН	127 x 18 mm (5" x 11/	(16")			
Wattage	4.4				
LEDs	60				
Lumen	293	350			
Lumen per watt	67	80			
CRI	90	83			
Energy Efficiency class	A+				
Weighted energy consumption	4.84				
Material/Finish	Aluminum, silver colored anodized with clear glass				
Supplied with	2 m (78 3/4") lead				
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"					



> Driver see page 88> Components see page 127

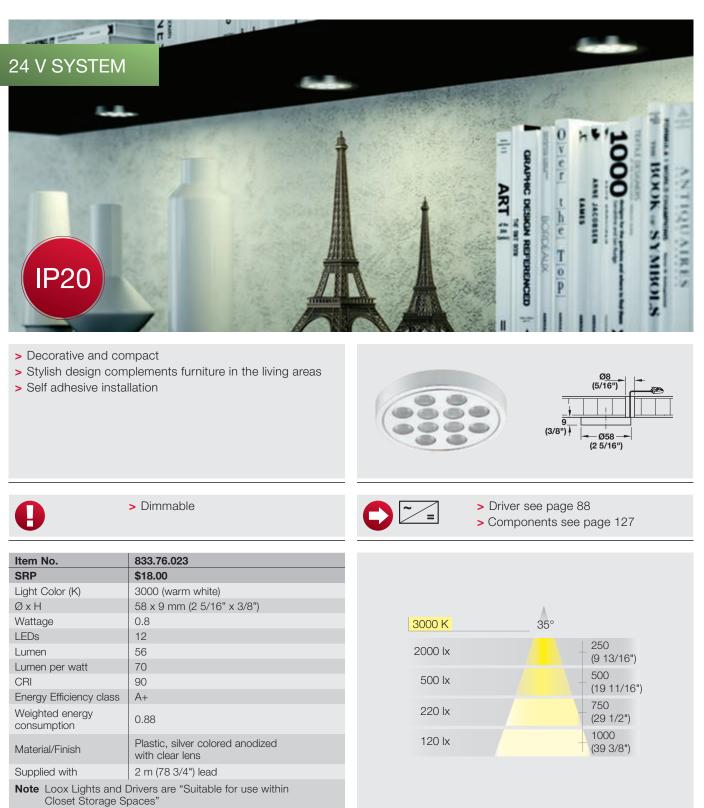
( 🗧 🚯 us 🤶 RoHS 🛞 IP20 🛟 🎄

3000 K	5000 K	50	)°	
3950 lx	4740 lx		250	0 13/16")
985 lx	1180 lx		_ 50	0 ) 11/16")
440 lx	530 lx		75 (29	0 0 1/2")
300 lx	360 lx		10 (39	



# LED 3005 SURFACE MOUNTED LIGHT

0/100%

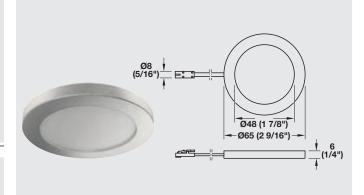


## LED 3035 SURFACE MOUNTED LIGHT

0/100%



- > \*CRI 90 lights are Title 24 Compliant
- \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > Extremely flat design for a recess mounted look
- Outstanding for decorative illumination in a wide range of furniture applications
- > Degree of Protection: IP20



> Dimmable> Screw mounted

Item No.	833.77.190	833.77.191	
SRP	\$20.00	\$20.00	
Light Color (K)	3000 (warm white)	4000 (cool white)	
ØxH	65 x 6 mm (2 9/16" x <sup>-</sup>	1/4")	
Wattage	2.5		
LEDs	8		
Lumen	170	180	
Lumen per watt	68	72	
CRI	90*		
Energy Efficiency class	A+		
Weighted energy consumption	2.75		
Material/Finish	Plastic, silver colored		
Supplied with	2 m (78 3/4") lead, mounting material		
Note Loox Lights and E Closet Storage Sp		use within	



> Driver see page 88> Components see page 127

3000 K	4000 K	115°
650 lx	700 lx	250 mm (9 13/16")
165 lx	180 lx	500 mm (19 11/16")
75 lx	80 lx	750 mm (29 1/2")
40 lx	45 lx	1000 mm (39 3/8")

\*JA8-2016-E **( € 🚯**us 🔗 RoHS 🕪 IP20 🔂



# LED 3036 SURFACE MOUNTED LIGHT





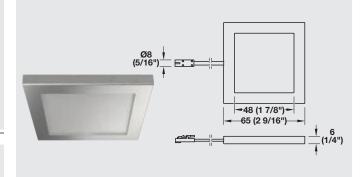
- > \*CRI 90 lights are Title 24 Compliant
- > \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > Extremely flat design for a recess mounted look
- > Outstanding for decorative illumination in a wide range of furniture applications
- > Degree of Protection: IP20

B

> Dimmable >

ounted

Item No.	833.77.180	833.77.181	
SRP	\$20.00	\$20.00	
Light Color (K)	3000 (warm white)	4000 (cool white)	
LxH	65 x 65 mm (2 9/16" x	(29/16")	
Wattage	2.5		
LEDs	8		
Lumen	190	200	
Lumen per watt	76	80	
CRI	90*		
Energy Efficiency class	A+		
Weighted energy consumption	2.75		
Material/Finish	Plastic, silver colored		
Supplied with	2 m (78 3/4") lead, mounting material		
Note Loox Lights and E Closet Storage Sp		use within	





- > Driver see page 88
- > Components see page 127

3000 K	5000 K	115°	
750 lx	800 lx		250 mm (9 13/16")
190 lx	210 lx		500 mm (19 11/16")
85 lx	90 lx		750 mm (29 1/2")
50 lx	50 lx		1000 mm (39 3/8")

### LED 3028 FLEXIBLE STRIP LIGHT, TWO ROWS





#### > Dimmable

- > Can be shortened every 25 mm (1")
- > Installation only with aluminum profile
- > All aluminum profiles are suitable except 833.72.860, 833.72.863, 833.72.864, 833.72.865, 833.74.809, 833.74.814 and 833.74.835
- > Max. strip light length per lead: 3.8 m (12' 5 5/8")
- > Max. watt per lead: 72 W



#### > Driver see page 88

> Aluminum profiles see pages 103 - 105

#### Note

Connecting to a single output of the 90 W driver.

2700 K	3000 K	4000 K	5000 K	120°	
4180 lx	4307 lx	4436 lx	4533 lx	-	250 (9 13/16")
1045 lx	1077 lx	1109 lx	1133 lx	-	500 (19 11/16")
464 lx	478 lx	493 lx	503 lx	-	750 (29 1/2")
261 lx	269 lx	277 lx	283 lx	-	1000 (39 3/8")

#### Note

The chart values apply to a strip light length of 0.5 m (19 11/16").

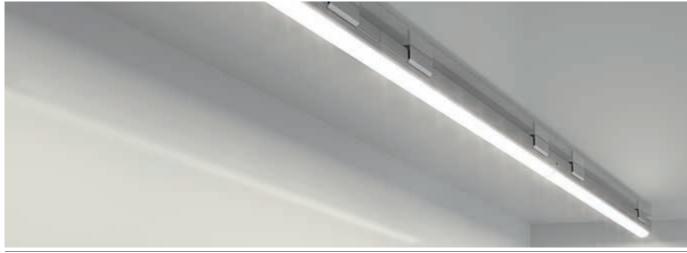
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Item No.	833.77.220	833.77.221	833.77.222	833.77.223		
SRP	\$300.00	\$300.00	\$300.00	\$300.00		
Light Color (K)	2700 (warm white)	3000 (warm white)	4000 (cool white)	5000 (cool white)		
LxWxH	5000 x 12 x 1.3 mm (196 7/8	3" x 1/2" x 1/32")				
Wattage	96 (19.2 per meter) [5.9 per t	foot]				
LEDs	1200 (240 per meter) (72 per	foot)				
Lumen	7700	8090	8110	8140		
Lumen per watt	80	84	84	84		
CRI	82					
Energy Efficiency class	A+					
Weighted energy consumption	21.12					
Material/Finish	Plastic, white					
Supplied with	2 m (78 3/4") lead					
Note Loox Lights and Driv	vers are "Suitable for use with	in Closet Storage Spaces"				









## LED 3015 FLEXIBLE STRIP LIGHT

0/100%



- > \*CRI 90 lights are Title 24 Compliant
- \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > Can be shortened every 50 mm (2")
- > Self adhesive installation
- > High light intensity
- > Max. strip length per lead: 4.8 m (15' 9")
- > Max. watts per lead: 72
- > Dimmable

3000 K	4000 K	6000 K	120°
2960 lx	2960 lx	3000 lx	250 (9 13/16")
732 lx	732 lx	750 lx	<u>500</u> (19 11/16")
325 lx	325 lx	330 lx	750 (29 1/2")
183 lx	183 lx	190 lx	1000 (39 3/8")



> Driver see page 88

> Aluminum profiles see pages 103 - 108

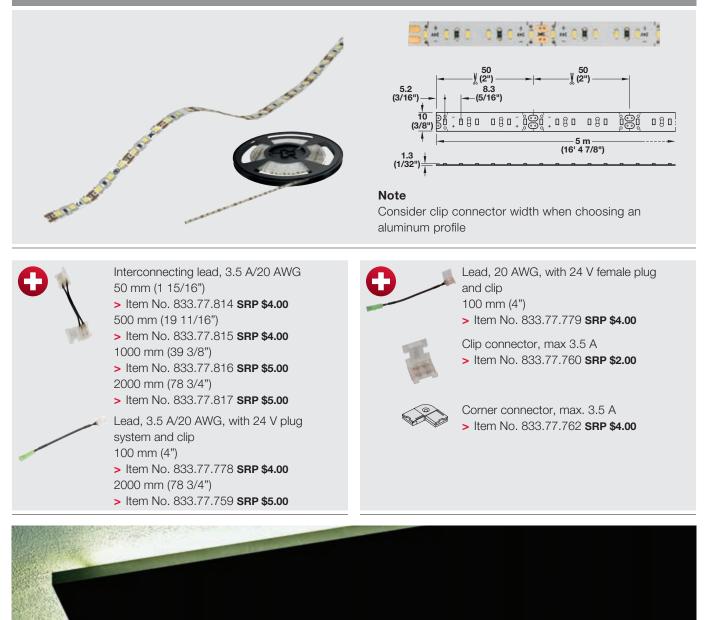
Note

The chart values apply to a strip light length of 0.5 m (19 11/16").

Length	5 m (196 7/8")						15 m (590 1/	2")	
Item No.	833.76.240	833.76.241	833.76.242	833.76.250	833.76.251	833.76.252	833.76.130	833.76.131	833.76.132
SRP	\$250.00	\$250.00	\$250.00	\$260.00	\$260.00	\$260.00	\$750.00	\$750.00	\$750.00
Light Color (K)	3000 (warm white)	4000 (cool white)	6000 (daylight)	2700 (warm white)	3000 (warm white)	4000 (cool white)	3000 (warm white)	4000 (cool white)	6000 (daylight)
WxH	10 x 1.3 mm	(3/8" x 1/32")							
Wattage	75 (15 per me	eter) (4.6 per fo	pot)				225 (15 per n	neter) (4.6 per	foot)
LEDs	600 (120 per	meter) (36 per	foot)				1800 (120 per meter) (36 per foot)		er foot)
Lumen	6825	6825	7100	6825	6825	7100	20475	20475	21300
Lumen per watt	91		95	91		95	91		95
CRI	85	83		90*			85	83	
Energy Efficiency class	A+								
Weighted energy consumption	16.50 per meter								
Material/Finish	Plastic, white								
Supplied with	2 m (78 3/4") lead								
Note Loox Lights a	and Drivers are	e "Suitable for	use within Clos	set Storage Sp	aces"				

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## LED 3030 SILICONE STRIP LIGHT





- > \*CRI 90 lights are Title 24 Compliant
- \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > Ideal for applications with direct illumination
- > The cut silicone strip can be re-used
- > Self-adhesive
- > The light can be shortened every 50 mm (2")
- > Max. strip light length: 5 m (16' 4 7/8")
- > Max. watts per lead: 48
- > Degree of protection: IP20

> Dimmable



#### > Driver see page 88

2700 K	3000 K	4000 K	5000 K	120°	
1500 lx	1500 lx	1500 lx	1500 lx	-	250 (9 13/16")
450 lx	450 lx	450 lx	450 lx	-	500 (19 11/16")
220 lx	220 lx	220 lx	220 lx	-	750 (29 1/2")
130 lx	130 lx	130 lx	130 lx		1000 (39 3/8")

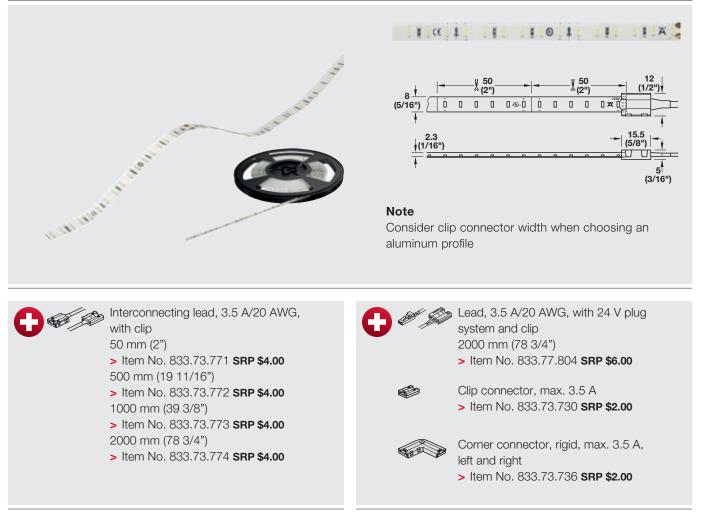
Note

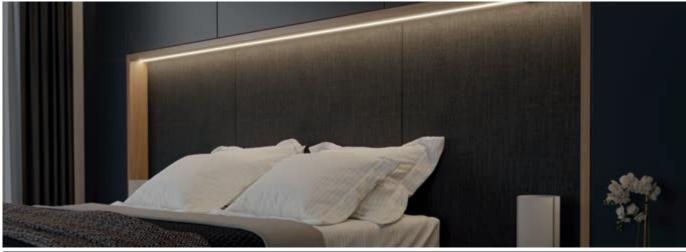
The chart values apply to a strip light length of 0.5 m (19 11/16").

\*JA8-2016-E **( € •** 🚯 us 🔗 RoHS 🛞 IP20 🔂

Item No.	833.76.220	833.76.221	833.76.222	833.76.223	
SRP	\$240.00	\$240.00	\$240.00	\$240.00	
Light Color (K) (LED only)	2700 (warm white)	3000 (warm white)	4000 (cool white)	5000 (cool white)	
Light Color (K) (in Silicone)	3400	4090	6084	10770	
L×W×H	5,000 x 8 x 2.3 mm (196 5/8	" x 5/16" x 1/16")			
Wattage	48 (9.6 per meter) (3.0 per fo	ot)			
LEDs	600 (120 per meter)				
Lumen	4600				
Lumen per watt	95				
CRI	90* 83				
Energy Efficiency class	A+				
Weighted energy consumption	10.56 per meter				
Material/Finish	Plastic, white				
Supplied with	5 meter roll with 2 m (78 3/4") lead				
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"					



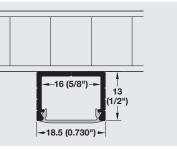




SURFACE MOUNT LED STRIP LIGHT WITH INLINE DIMMER SWITCH

0/100%





- > \*CRI 90 lights are Title 24 Compliant
- CRI 90 lights offer more vibrant, true color rendering than lower CRI product
- > Supplied ready to install
- Optimal lengths for installing under your wall cabinets to brighten up your countertop workspace
- > Linkable to other light bars, see page 79

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	~ /

> Driver see page 88

> Components see page 127

3000 K	4000 K	120°	
2090 lx	2960 lx	-	250 mm (9 13/16")
732 lx	732 lx	-	_ 500 mm (19 11/1 <mark>6")</mark>
325 lx	325 lx	-	_ 750 mm (29 1/2")
183 lx	183 lx	_	_ 1000 mm (39 3/8")

Light Color (K)	3000 (warm white)				4000 (cool white)			
Lumen per watt	91							
CRI Item No.	90* 833.76.150	833.76.152	833.71.233	833.76.154	833.76.170	833.76.172	833.71.238	833.76.174
SRP	<b>\$40.00</b> 6"	<b>\$46.00</b> 9"	<b>\$49.00</b> 12"	<b>\$52.00</b> 15"	<b>\$46.00</b>	<b>\$46.00</b> 9"	<b>\$49.00</b> 12"	<b>\$52.00</b> 15"
Length	U	Ŭ			U	0		
Wattage	1.1	2.3	3.4	4.5	1.1	2.3	3.4	4.5
LEDs	9	18	27	36	9	18	27	36
Lumen	102	205	307	410	102	205	307	410
Item No.	833.76.156	833.76.158	833.71.234	833.76.160	833.76.176	833.76.178	833.71.239	833.76.180
SRP	\$ 56.00	\$ 60.00	\$ 64.00	\$ 68.00	\$ 56.00	\$ 60.00	\$ 64.00	\$ 68.00
Length	18"	21"	24"	27"	18"	21"	24"	27"
Wattage	5.6	6.8	7.9	9.0	5.6	6.8	7.9	9.0
LEDs	45	54	63	72	45	54	63	72
Lumen	512	614	717	819	512	614	717	819
Item No.	833.71.235	833.76.162	833.71.236	833.76.164	833.71.240	833.76.182	833.76.241	833.76.184
SRP	\$ 72.00	\$ 76.00	\$ 80.00	\$ 84.00	\$ 72.00	\$ 76.00	\$ 80.00	\$ 84.00
Length	30"	33"	36"	39"	30"	33"	36"	39"
Wattage	10.1	11.3	12.4	13.5	10.1	11.3	12.4	13.5
LEDs	81	90	99	108	81	90	99	108
Lumen	921	1024	1126	1229	921	1024	1126	1229
Item No.	833.71.237		833.76.166		833.71.242		833.76.186	
SRP	\$ 87.00		\$ 90.00		\$ 87.00		\$ 90.00	
Length	42"		45"		42"		45"	
Wattage	14.8		15.8		14.8		15.8	
LEDs	117		126		117		126	
Lumen	1331	331 1433			1331 1433			
Material	Aluminum, clea	ar anodized; Len	s: milk					
Supplied with	2 m (78 3/4") driver connection cable with integrated switch, 100 mm (4") female mini driver cable, mounting brackets, screws, two-sided mounting tape							
Note Loox Light	s and Drivers a	re "Suitable for u	use within Close	et Storage Spac	es"			



### SURFACE MOUNT LED STRIP LIGHT WITH LINKABLE CABLE

0 100%



- \*CRI 90 lights offer more vibrant, true color rendering than lower CRI products
- > Supplied ready to install
- Optimal lengths for installing under your wall cabinets to brighten up your countertop workspace
- > Linkable to other light bars



> Driver see page 88> Components see page 127

3000 K	4000 K	120°	
2090 lx	2090 Ix		_ 250 mm (9 13/16")
732 lx	732 lx		_ 500 mm (19 11/16")
325 lx	325 lx		_ 750 mm (29 1/2")
183 lx	183 lx	-	_ 1000 mm (39 3/8")

Light Color (K)	3000 (warm white)				4000 (cool white)			
Lumen per watt	85							
CRI	90*							
Item No.	833.76.151	833.76.153	833.71.243	833.76.155	833.76.171	833.76.173	833.71.248	833.76.175
SRP	\$24.00	\$30.00	\$33.00	\$36.00	\$24.00	\$30.00	\$33.00	\$36.00
Length	6"	9"	12"	15"	6"	9"	12"	15"
Wattage	1.5	2.3	3.8	4.6	1.5	2.3	3.8	4.6
LEDs	12	18	30	36	12	18	30	36
Lumen	137	239	341	444	137	239	341	444
Item No.	833.76.157	833.76.159	833.71.244	833.76.161	833.76.177	833.76.179	833.71.249	833.76.181
SRP	\$ 42.00	\$ 48.00	\$ 51.00	\$ 54.00	\$ 42.00	\$ 48.00	\$ 51.00	\$ 54.00
Length	18"	21"	24"	27"	18"	21"	24"	27"
Wattage	6.1	6.9	8.3	9.1	6.1	6.9	8.3	9.1
LEDs	48	54	66	72	48	54	66	72
Lumen	546	648	751	853	546	648	751	853
Item No.	833.71.245	833.76.163	833.71.246	833.76.165	833.71.250	833.76.183	833.71.251	833.76.185
SRP	\$ 57.00	\$ 60.00	\$ 63.00	\$ 66.00	\$ 57.00	\$ 60.00	\$ 63.00	\$ 66.00
Length	30"	33"	36"	39"	30"	33"	36"	39"
Wattage	10.5	11.4	12.8	13.7	10.5	11.4	12.8	13.7
LEDs	84	90	102	108	84	90	102	108
Lumen	956	1058	1160	1263	956	1058	1160	1263
Item No.	833.71.247		833.76.167		833.71.252		833.76.187	
SRP	\$ 69.00		\$ 72.00		\$ 69.00		\$ 72.00	
Length	42"		45"		42"		45"	
Wattage	15.0	15.0 16.0			15.0		16.0	
LEDs	120 126		126		120		126	
Lumen	1365 1467			1365 1467				
Material	Aluminum, clear anodized; Lens: milk							
Supplied with	100 mm (4") male mini driver cable, 100 mm (4") female mini driver cable, mounting brackets, screws, two-sided mounting tape							
Note Loox Light	te Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"							

## LED 3018 FLEXIBLE LIGHT

0/100%



> With integrated touch dimmer on the head of the light

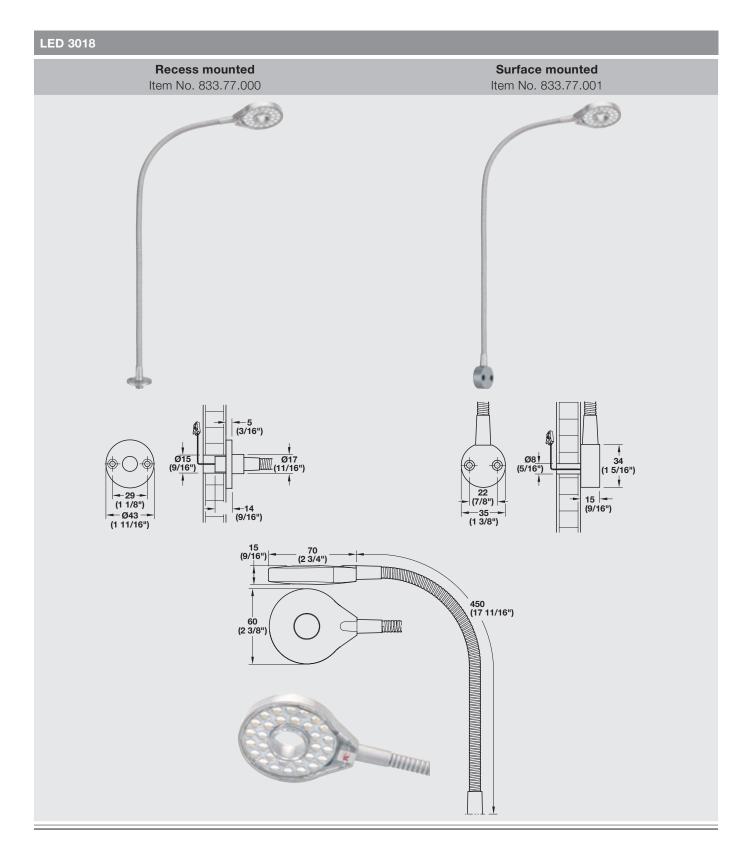
4000 K	 67°	
1807 lx		_ 250 (9 13/16")
452 lx	_	500 (19 11/16")
201 lx	_	<mark>75</mark> 0 (29_1/2")
113 lx	_	1000 (39 3/8")



> Driver see page 88

Item No.	833.77.000	833.77.001		
SRP	\$46.00	\$46.00		
Light Color (K)	4000 (cool white)			
Mounting	Recess	Surface		
ØxL	60 x 520 mm (2 3/8" x 20 1/2")			
Wattage	2.75			
LEDs	30			
Lumen	165			
Lumen per watt	60			
CRI	80			
Energy efficiency class	А			
Weighted energy consumption	3.03			
Material/Finish	Plastic, silver colored			
Supplied with	2 m (78 3/4") lead, mounting material			
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"				





### LED 3039 RECESS/SURFACE MOUNTED LIGHT, MULTI-WHITE

0 100%



- Optional surface mounted housing provides flexibility in installation
- Multi-white mixer can handle up to 60 W; Max. 10 multi-white mixers with 1-10 remote controls within a radius of 15 m (49')
- > Degree of protection: IP20

#### Note

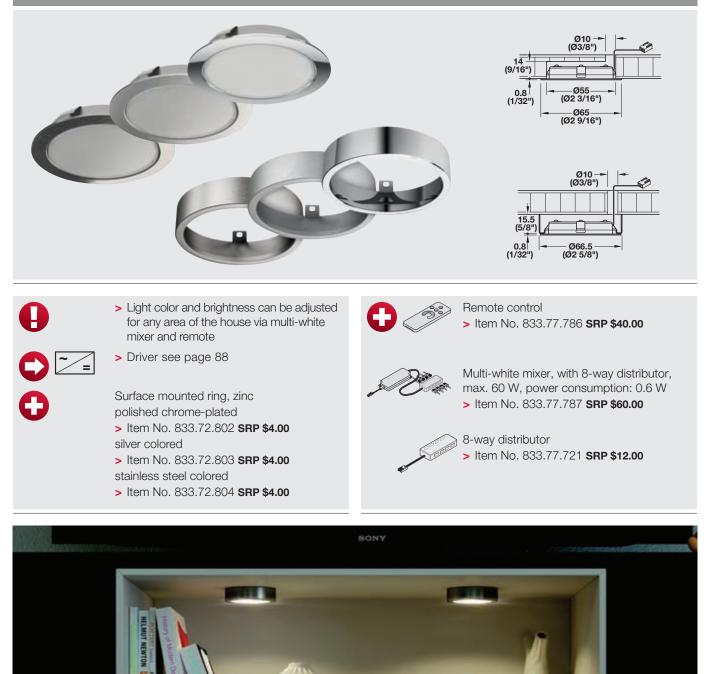
For mounting in drilled hole with clip fastener or for screw mounting.

5000 K	120°	
1800 lx	-	<mark>_250 mm</mark> (9 13/16")
600 lx	-	500 mm (19 11/16")
200 lx	-	750 mm (29 1/2")
110 lx	-	_ 1000 mm (39 3/8")
	1800 lx 600 lx 200 lx	1800 lx     -       600 lx     -       200 lx     -

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Item No.	833.75.130	833.75.131	833.75.160	
SRP	\$24.00	\$24.00	\$24.00	
Light Color (K)	2700 (warm white) to 5000 (cool wh	ite)		
Drill hole	Ø55 mm (2 3/16")			
ØxH	65 x 12 mm (2 9/16" x 1/2")			
Wattage	3			
LEDs	60			
Lumen	258			
Lumen per watt	86			
CRI	2700 K: 90; 5000 K: 83			
Energy Efficiency class	A+			
Weighted energy consumption (kWh/1.000 h)	3.30			
Material	Steel			
Finish	polished chrome-plated	silver colored	stainless steel colored	
Supplied with	2 m (78 3/4") lead			
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"				





0

## LED 3031 SILICONE LIGHT STRIP, MULTI-WHITE

0 100%



- > Silicone encapsulation allows for use without a profile
- Light color and brightness can be adjusted with the multi-white mixer
- > Dimmable via multi-white mixer
- Strips can be shortened every 100 mm (4") and can be re-used
- > Max. strip length: 5 m (16' 4 7/8")

#### > Degree of Protection: IP20

- > The multi-white mixer can handle up to 60 W
- Max. 10 multi-white mixers with 1-10 remote controls within a radius of 15 m (49')



> Driver see page 88

Item No.	833.77.210		
SRP	\$300.00		
Light Color (K)	2700 (warm white) to 5000 (cool white)		
L x W x H	5,000 x 10 x 2.3 mm (196 7/8" x 3/8" x 1/16")		
Wattage	48 (9.6 per meter) (3.0 per foot)		
LEDs	600 (120 per meter) (36 per foot)		
Lumen	4320		
Lumen per watt	90		
CRI	2700 K: 90; 5000 K: 83		
Energy Efficiency class	A+		
Weighted energy consumption	10.56		
Material/Finish	Plastic, white		
Supplied with	2 m (78 3/4") lead		
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"			

2700 K	5000 K	120°	
890 lx	910 lx		250 mm (9 13/16")
240 lx	260 lx		<u>500 mm</u> (19 11/16")
120 lx	125 lx		<u>750 mm</u> (29 1/2")
68 lx	73 lx		1000 mm (39 3/8")

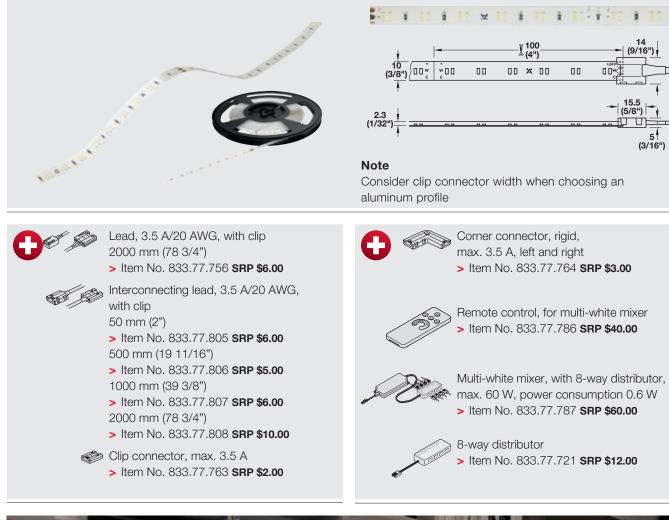
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#### Note

The chart values apply to a strip light length of 0.5 m (19 11/16")



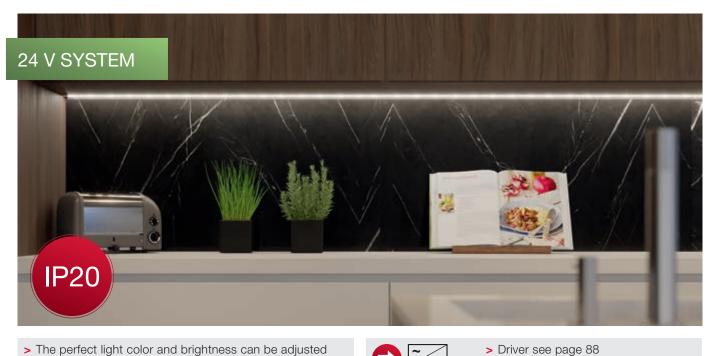
#### LED 3031





### LED 3032 FLEXIBLE STRIP LIGHT, MULTI-WHITE





> The perfect light color and brightness can be adjusted via multi-white mixer



- Multi-white mixer can handle up to 60 W; Max. 10 multi-white mixers with 1-10 remote controls within a radius of 15 m (49')
- > Installation only with aluminum profile
- > Degree of Protection: IP20
- > Max. strip light length: 3.927 m (12' 10 5/8")
- > Max. watts per lead: 65

Item No.	833.77.200	
SRP	\$230.00	
Light Color (K)	2700 (warm white) to 5000 (cool white)	
LxWxH	5,000 x 10 x 1.3 mm (196 5/8" x 3/8" x 1/32")	
Wattage	65 (13 per meter) (4.0 per foot)	
LEDs	840 (2 x 84 per meter) (2 x 26 per foot)	
Lumen	6500	
Lumen per watt	100	
CRI	2700 K: 90; 5000 K: 83	
Energy Efficiency class	A+	
Weighted energy consumption	14.30 per meter	
Material/Finish	Plastic, white	
Supplied with	5 meter roll with 2 m (78 3/4") lead	
<b>Note</b> Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"		

2700 k	< 5000 K	120°	
1750	x 1800 lx		250 mm (9 13/16")
590 I	x 600 lx		500 mm (19 11/16")
195	x 200 lx	-	750 mm (29 1/2")
110	x 110 lx	-	1000 mm (39 3/8")

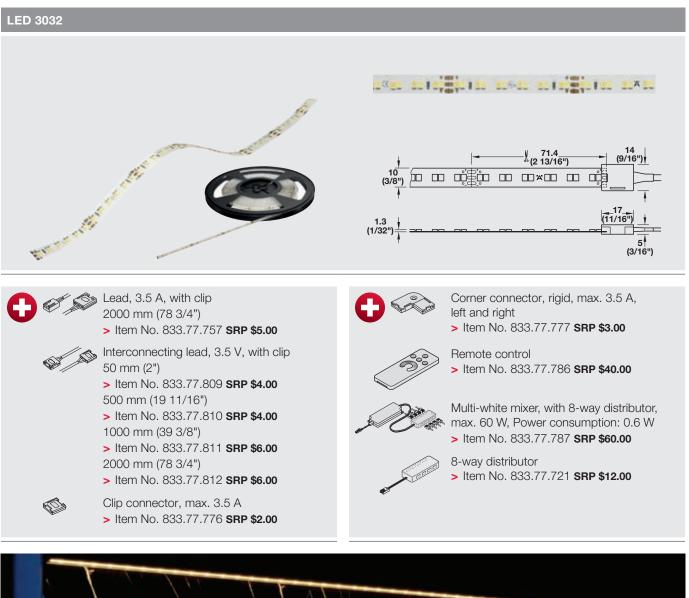
#### Note

The chart values apply to a strip light length of 0.5 m (19 11/16")



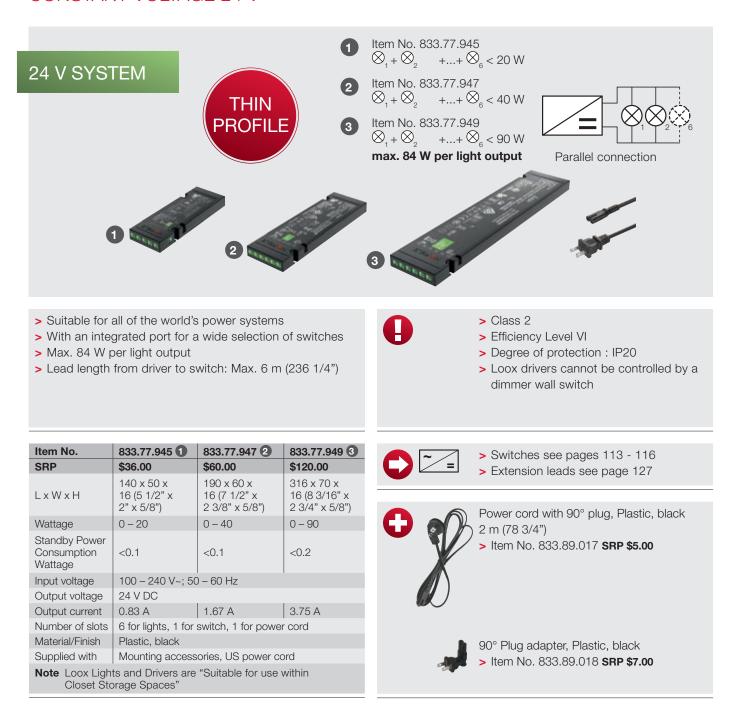
> Aluminum profiles see pages 103 - 109







# LOOX LED DRIVER



Country-specific 2 m (78 3/4") primary leads					3 m (118")			
Item No.	833.89.000	833.89.001	833.89.002	833.89.003	833.89.016	833.89.005	833.89.050	833.89.008
SRP	\$10.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00	\$6.00
Plug design		$\bigcirc$	••				>	
Designation	UK	AU	EU	US	JP	CN	US	US
Voltage (V)	250	250	250	120	100	250	120	120

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## **OVERVIEW**

#### 350 mA SYSTEM AND ACCESSORIES

#### LED 4003

LED 4014

**RECESS MOUNTED LIGHT** 

**RECESS MOUNTED LIGHT** 

# > page 90

#### LED 4004/4005

RECESS/SURFACE MOUNTED DOWNLIGHTS



SURFACE MOUNTED POST LIGHT

LED 4011

LED 4007 RECESS MOUNTED LIGHT



LED 4012

> page 98

**RECESS MOUNTED LIGHT** 

LED 4009

RECESS/SURFACE MOUNTED DOWNLIGHTS

350 mA SYSTEM



350 mA DRIVER CONSTANT VOLTAGE



#### LED 110 V

SURFACE MOUNTED LIGHT

> page 96



#### LED 9004/9005

BATTERY OPERATED LIGHTS

> page 97



**PROFILES** FOR LED FLEXIBLE STRIP LIGHTS

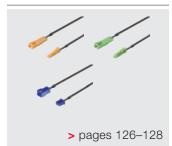


SWITCHES AND **ACCESSORIES** 



LEADS AND DISTRIBUTORS

12 V. 24 V. 350 mA





**ACCESSORIES** 



> pages 129-130

LUTRON DIMMERS AND DRIVERS



> pages 131-141

**ACCESSORIES** 

CABLE CHANNELS AND LEADS



### LOOX LED 4003 RECESS MOUNTED LIGHT, SQUARE





- > Small and flat design easily integrates into furniture designs
- The light spot decoratively illuminates objects and works as an effective sidelight

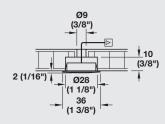


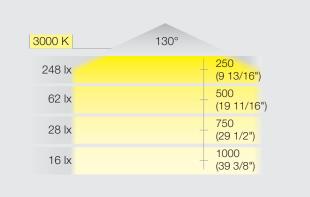


> Dimmable

> Driver see page 99> Drill bit see page 146

Item No.	833.78.040
SRP	\$16.00
Light Color (K)	3000 (warm white)
Drill hole	Ø28 mm (1 1/8")
LxWxH	36 x 36 x 12 mm (1 7/16" x 1 7/16" x 1/2")
Wattage	1
LEDs	1
Lumen	68
Lumen per watt	68
CRI	85
Energy Efficiency class	A+
Weighted energy consumption	1.10
Material/Finish	Plastic, silver colored anodized
Supplied with	2 m (78 3/4") lead, mounting material





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0 100%

## LOOX LED 4004 RECESS MOUNTED LIGHT, ROUND WITH LENS







Recessed

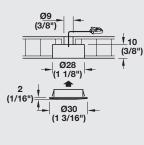
Surface

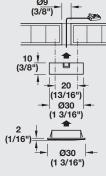
0

> Dimmable

> Driver see page 99> Drill bit see page 146

Item No.	833.78.080
SRP	\$16.00
Light Color (K)	3000 (warm white)
Drill hole	Ø28 mm (1 1/8")
ØxH	30 x 12 mm (1 3/16" x 1/2")
Wattage	1
LEDs	1
Lumen	80
Lumen per watt	80
CRI	80
Energy Efficiency class	A+
Weighted energy consumption	1.10
Material/Finish	Plastic, silver
Supplied with	2 m (78 3/4") lead, surface mount ring





244 lx	0.50
244 IX	250 (9 13/16")
61 lx	<u>500</u> (19 11/16")
27 lx	750 (29 1/2")
16 lx	1000 (39 3/8")

### LOOX LED 4005 RECESS/SURFACE MOUNTED LIGHT, ROUND WITH LENS





- > Can be recess or surface mounted
- > Small and flat design easily integrates into furniture designs
- The light spot decoratively illuminates objects while the integrated lens centers and intensifies the spot





Recessed

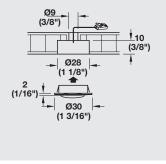


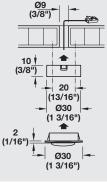




> Driver see page 99> Drill bit see page 146

Item No.	833.78.100
SRP	\$16.00
Light Color (K)	3000 (warm white)
Drill hole	Ø28 mm (1 1/8")
ØхН	30 x 12 mm (1 3/16" x 1/2")
Wattage	1
LEDs	1
Lumen	63
Lumen per watt	63
CRI	80
Energy Efficiency class	A+
Weighted energy consumption	1.10
Material/Finish	Plastic, silver colored anodized
Supplied with	2 m (78 3/4") lead, mounting material







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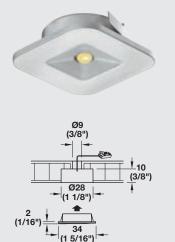


## LOOX LED 4007 RECESS MOUNTED LIGHT, SQUARE, ROUNDED





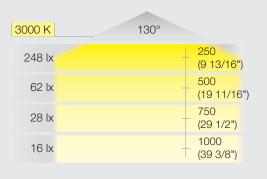
- Small and versatile with flexible alignment and a striking appearance
- > The light spot emphasizes objects in furniture





- > Dimmable
- Driver see page 99Drill bit see page 146

Item No.	833.78.020
SRP	\$16.00
Light Color (K)	3000 (warm white)
Drill hole	Ø28 mm (1 1/8")
L×W×H	34 x 34 x 12 mm (1 5/16" x 1 5/16" x 1/2")
Wattage	1
LEDs	1
Lumen	73
Lumen per watt	73
CRI	83
Energy Efficiency class	A+
Weighted energy consumption	1.10
Material/Finish	Plastic, silver colored anodized
Supplied with	2 m (78 3/4") lead, mounting material





### LED 4009 RECESS/SURFACE MOUNTED LIGHT





- > Generates powerful, direct light
- > Multi-functional for use in a variety of furnishings
- > Three different attachment options are available
- > Recommended as a replacement for Halogen puck lights

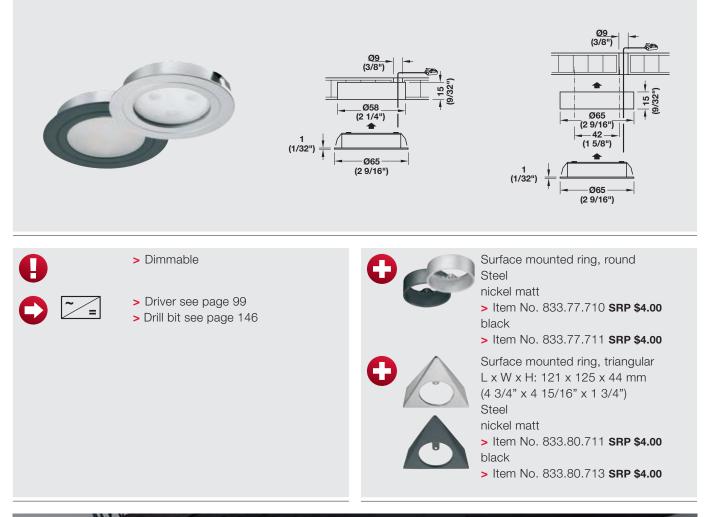
3000 K	6000 K	104°	
763 lx	861 lx		250 (9 13/16")
191 lx	215 lx		500 (19 11/16")
85 lx	96 lx		750 (29 1/2")
48 lx	54 lx		1000 (39 3/8")

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Item No.	833.78.151	833.78.140	833.78.154	833.78.142
SRP	\$25.00	\$25.00	\$25.00	\$25.00
Light Color (K)	6000 (daylight)	3000 (warm white)	6000 (daylight)	3000 (warm white)
Drill hole	Ø58 mm (2 1/4")			
ØхН	65 x 15 mm (2 9/16" x 5/8")			
Wattage	3.85			
LEDs	3			
Lumen	176	160	176	160
Lumen per watt	46	42	46	42
CRI	82			
Energy Efficiency class	A			
Weighted energy consumption	3.30			
Material	Aluminum with clear glass			
Finish	nickel matt black			
Supplied with	2 m (78 3/4") lead			



#### LED 4009





## LED 4014 SPOTLIGHT

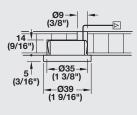
0/100%



> Recess mounted

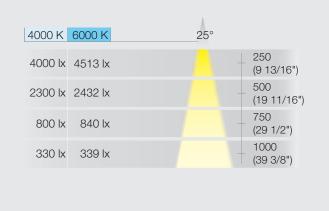
> Small design with high luminosity





- > Dimmable
- > Driver see page 99
- > Drill bit see page 146

Item No.	833.78.060	833.78.061	
SRP	\$36.00	\$36.00	
Light Color (K)	4000 (cool white)	6000 (daylight)	
Drill hole	Ø35 mm (1 3/8")		
ØxL	39 x 20 mm (1 9/16" x	( 13/16")	
Wattage	1		
LEDs	1		
Lumen	89	91	
Lumen per watt	89	91	
CRI	85	83	
Energy Efficiency class	A+		
Weighted energy consumption	1.10		
Material	Aluminum		
Finish	silver colored anodized, brushed		
Supplied with	2 m (78 3/4") lead, mounting material		



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## LED 4011 POST LIGHT

0 100%

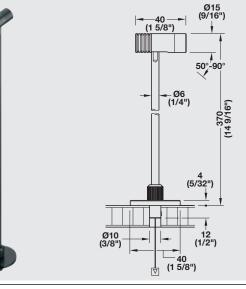


- > Recess mounted
- > Swiveling light head
- > Height adjustable bar can be lowered into cabinet
- > Perfect for presentation purposes

 > Dimmable

> Driver see page 99

Item No.	833.80.000	833.80.001	
SRP	\$60.00	\$60.00	
Light Color (K)	4000 (cool white)	6000 (daylight)	
Drill hole	Ø10 mm (3/8")		
ØxL	6 x 370 mm (1/4" x 14	9/16")	
Wattage	1		
LEDs	1		
Lumen	69	97	
Lumen per watt	69	97	
CRI	80		
Energy Efficiency class	A++		
Weighted energy consumption	1.10		
Material/Finish	Aluminum and Steel, black		
Supplied with	2 m (78 3/4") lead, mounting material		



4000 K	6000 K	13°	
11250 lx	13070 lx		250 (9 13/16")
2810 lx	3270 lx		500 (19 11/16")
1250 lx	1450 lx		750 (29 1/2")
700 lx	820 lx		1000 (39 3/8")



## LED 4012 SPOTLIGHT



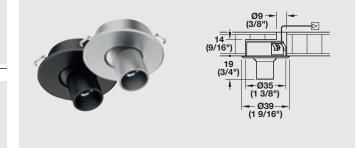


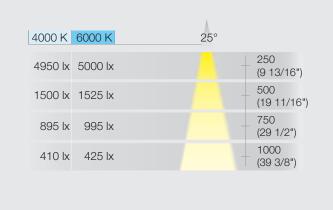
- > Recess mounted
- > Swiveling light head
- > Spotlight with good lumen values
- > Perfect for presentation purposes

> Dimmable

- > Driver see page 99
- > Drill bit see page 146

Item No.	833.78.090	833.78.091	833.78.092	833.78.093
SRP	\$36.00	\$36.00	\$36.00	\$36.00
Light Color (K)	4000 (cool w	hite)	6000 (dayligh	nt)
Drill hole	Ø35 mm (1 3	3/8")		
ØxL	39 x 31 mm	(1 9/16" x 1 1	/4")	
Wattage	1			
LEDs	1			
Lumen	79		90	
Lumen per watt	79		90	
CRI	85		82	
Energy Efficiency class	A+			
Weighted energy consumption	1.10			
Material	Aluminum			
Finish	silver colored anodized	black	silver colored anodized	black
Supplied with	2 m (78 3/4")	lead		





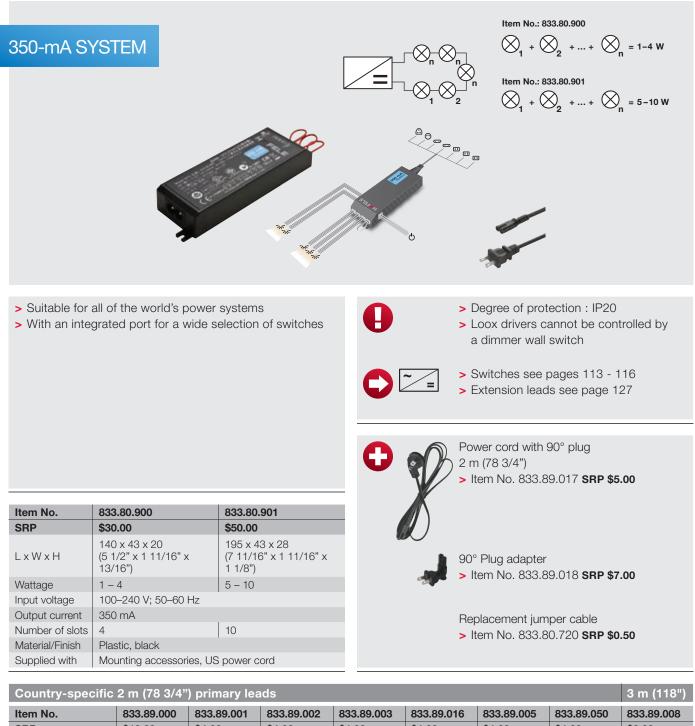
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# LOOX LED DRIVER

#### CONSTANT VOLTAGE 350 mA DRIVER

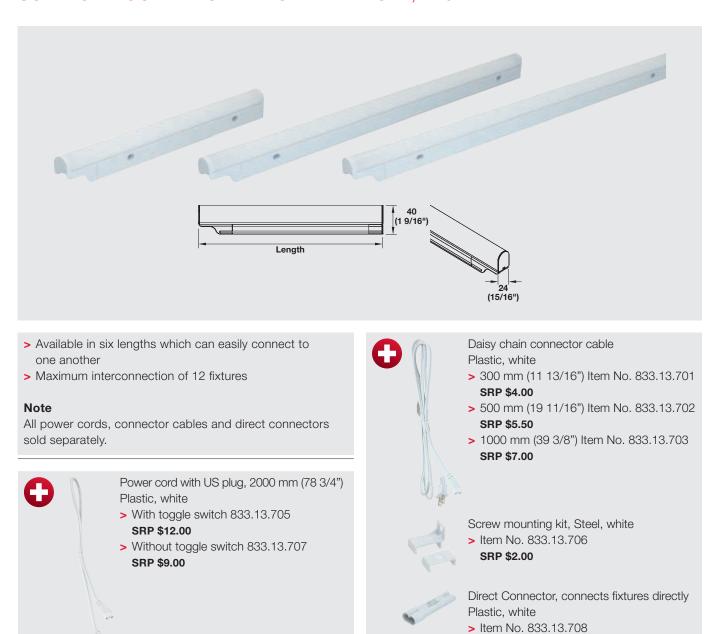




Item No.	833.89.000	833.89.001	833.89.002	833.89.003	833.89.016	833.89.005	833.89.050	833.89.008
SRP	\$10.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00	\$6.00
Plug design	<b>_</b>	$\bigcirc$					>	
Designation	UK	AU	EU	US	JP	CN	US	US
Voltage (V)	250	250	250	120	100	250	120	120

### LED 1819 SURFACE MOUNTED UNDER CABINET LIGHT, 110 V LED





Item No.	833.13.170	833.13.171	833.13.172	833.13.173	833.13.174	833.13.175
SRP	\$59.00	\$68.50	\$70.00	\$85.00	\$98.00	\$114.00
Light Color (K)	4000 (cool white)					
Length	313 (12 5/16")	541 (21 19/64")	573 (22 9/16")	873 (34 3/8")	1173 (46 3/16")	1473 (58")
Wattage	4	7	9	13	18	22
LEDs	26	45	51	76	100	126
Lumen per watt	87					
Material/Finish	Plastic, white					
Supplied with	Mounting clips					

SRP \$2.00



×\*

## LED 9004 BATTERY OPERATED LIGHT WITH SENSOR



- Rectangular, rechargeable, with motion detector and twilight switch – Distance 2 m (78 3/4") / 120°
- > Great for use inside cabinets or closets
- > No power cord allows for ease in positioning
- > With integrated motion detector (120° detection range up to 2 m (78 3/4") and 30 second delay time)
- > Energy saver cuts off light after 30 seconds of no motion
- > Lithium battery for long charge life
- > Two operating modes: Motion: via motion detector

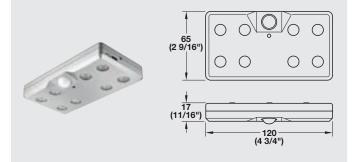
Auto: motion detector active with ambient light of 5 lx

- > Operating time: 8 hours
- > Charging time: 3 to 4 hours

#### Note

|x = |ux.

Item No.	833.87.021			
SRP	\$40.00			
Light Color (K)	4000 (cool white)			
LxWxH	120 x 65 x 17 mm (4 3/4" x 2 9/16" x 11/16")			
Wattage	0.8			
LEDs	8			
Lumen	55			
Lumen per watt	69			
CRI	>90			
Material/Finish	Plastic, silver			
Supplied with0.8 m (31 1/2") micro-USB charging cable mounting plate for screw mounting				
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"				





Note

The lighting device can be recharged using the included micro-USB cable.

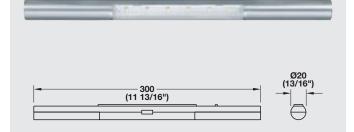
50 lx 750 mm (29 1/2")	4000 K	90°	
95 ix     (19 11/16")       50 ix     750 mm (29 1/2")	270 lx		
50 IX (29 1/2")	95 lx		500 mm (19 11/16")
1000	50 lx		
30 lx + 1000 mm (39 3/8")	30 lx	-	1000 mm (39 3/8")

### LED 9005 BATTERY OPERATED LIGHT WITH SENSOR



- > Elongated, rechargeable, with automatic shut-off
- > Great for use inside cabinets or closets
- > No power cord allows for ease in positioning
- Integrated IR sensor (can be door sensor switch or on/off sensor switch)
- > Lithium battery for long charge life
- > With automatic shut-off
- > Selectable switching function:
  - Door sensor switch (factory setting): Door/drawer open, light on – door closed, light off. Energy-saving mode after 30 seconds: LED flashes 2 to 3 times and then turns off.
  - 2. Sensor switch: Active on/off switching
- > Operating time: 10 hours
- > Charging time: 4 hours

Item No.	833.87.020		
SRP	\$44.00		
Light Color (K)	6500 (daylight)		
ØxL	20 x 300 mm (13/16" x 11 13/16")		
Wattage	0.6		
LEDs	6		
Lumen	51		
Lumen per watt	85		
CRI	82		
Material/Finish	Plastic, silver color lacquered		
Supplied with Light with mounting plate, 0.8 m (31 1/2") micro-USB recharger cable			
Note Loox Lights and Drivers are "Suitable for use within Closet Storage Spaces"			





#### Note

The lighting device can be recharged using the included micro-USB cable.

6500 K 110°	
350 lx	250 (9 13/16")
85 lx	500 (19 11/16")
38 lx	750 (29 1/2")
22 lx	1000 (39 3/8")

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#### HAFELE

## ALUMINUM PROFILES

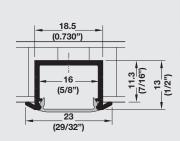
#### SURFACE MOUNTED

Profile cover finishes – different light effects

		<ul> <li>It creates a " uniform inter</li> <li>The light app</li> <li>Frosted cover:</li> <li>The light app</li> </ul>	bears "soft" The surface is frosted bears "velvet-white" and	-directed light with d creates a
Milk	Frosted	sophisticated	d, high-quality impressi	on
Profile for surface mounting	3	_		
		Item No.	833.72.860	833.72.863
		SRP	\$50.00	\$50.00
		Material/Finish	Aluminum, silver colored	1
		Cover	milk	frosted
		L×W×H	2500 x 18.5 x 8.8 (98 3/	8" x 3/4" x 3/8")
	lastic, silver colored, 2 pcs. 833.72.852 0	0	Mounting bracket 4 silver colored, 2 pc Supplied with screw > Item No. 833.74. SRP \$2.00	WS
Note Shallow profiles are not s with LED 3028.	suitable for operation		Mounting bracket, silver colored, 2 pc Supplied with screw > Item No. 833.74 SRP \$2.00	CS. WS
		Item No.	833.72.861	833.72.862
		SRP	\$50.00	\$50.00
		Material/Finish	Aluminum, silver colored	
		Cover	milk	frosted
	16 (5/8") 13 (1/2") 	LxWxH	2500 x 18.5 x 13 (98 3/ł	8" x 3/4" x 1/2")
End cap. P	lastic, silver colored, 2 pcs.		Mounting bracket 4	10°, Stainless Steel,
	833.72.853		silver colored, 2 pc	
SRP \$4.0		•	Supplied with screw > Item No. 833.74 SRP \$2.00	WS
			Mounting bracket, silver colored, 2 pc Supplied with screv > Item No. 833.74 SRP \$2.00	CS. NS

#### Profiles for recess mounting





tem No.	833.72.866	833.72.867		
SRP	\$50.00 \$50.00			
/laterial/Finish	Aluminum, silver colored anodized			
Cover	milk frosted			
x W x H	2500 x 18.5 x 13 (98 3/8" x 3/4" x 1/2")			
Application	For recess mounting, 11.	3 (7/16") deep		



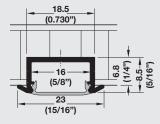
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End cap with cable outlet Plastic, silver colored anodized; 2 pcs. > Item No. 833.72.854 SRP \$4.00





Item No.	833.72.864	833.72.865	
SRP	\$50.00	\$50.00	
Material/Finish	Aluminum, silver colored anodized		
Cover	milk frosted		
LxWxH	2500 x 18.5 x 8.5 (98 3/8" x 3/4" x 5/16")		
Application	For recess mounting, 6.8 (1/4") deep		

#### Note

Shallow profiles are not suitable for operation with LED 3028.



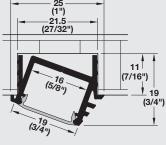
End cap with cable outlet Plastic, silver colored anodized; 2 pcs. > Item No. 833.72.855 SRP \$4.00



#### ANGLED AND RECESS MOUNTED

#### Profiles for angled mounting



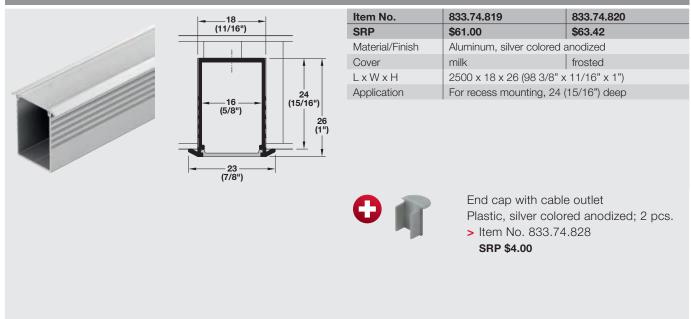


Item No.	833.72.868	833.72.869	
SRP	\$50.00	\$50.00	
Material/Finish	Aluminum, silver colored	anodized	
Cover	milk	frosted	
LxWxH	2500 x 21.5 x 19 (98 3/8" x 27/32" x 3/4")		
Application	For recess mounting		

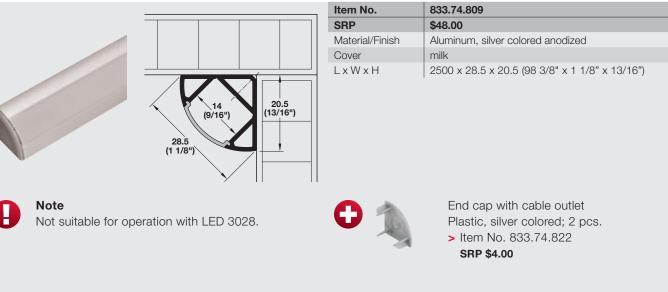


End cap with cable outlet Plastic, silver colored anodized; 2 pcs. > Item No. 833.72.857 SRP \$4.00

#### Profiles for recess mounting



#### Profiles for corner mounting





#### Bracket Plastic, silver colored; 2 pcs.

Item No. 833.74.825
SRP \$4.00

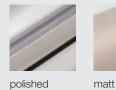
### -1

#### Mounting plate Stainless Steel, silver colored; 2 pcs. > Item No. 833.74.826 SRP \$4.00



#### Wardrobe Tube Finishes







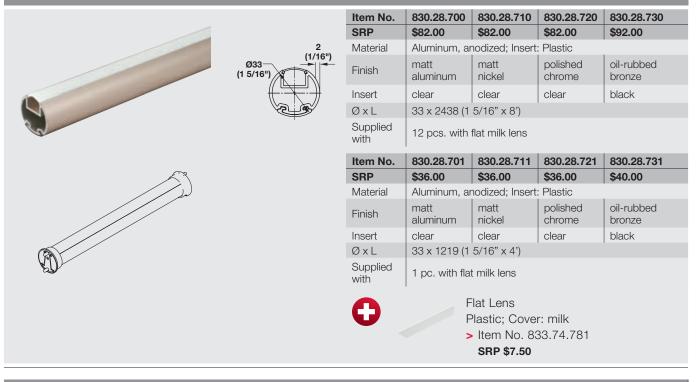
matt aluminum

chrome

nickel

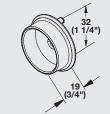
oil-rubbed bronze

#### Wardrobe Tubes



#### Wardrobe Tube Support



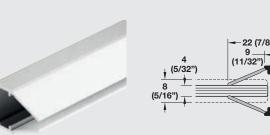


Item No.	803.39.411	803.39.611	803.39.211	803.39.111
SRP	\$6.90	\$6.90	\$6.90	\$6.90
Material	Zinc-plated			
Finish	matt aluminum	matt nickel	polished chrome	oil-rubbed bronze
Diameter	32 (1 1/4")			

- Unique two-part design allows the support to fully surround the tube ends
- Connect the wedge shaped brackets into line bore holes and side supports onto the end of the tube
- > Side supports connect to the wedge shaped brackets
- > With two pins for 5 mm holes
- > 32 mm (1 1/4") spacing with an additional screw hole for side panel mounting

### **ALUMINUM PROFILES PROFILES AND SWITCHES**

### Glass Edge Profile



		Item r
		SRP
-	-22 (7/8")	Materia
	9	Color
(5/32") (1	1/32")	L×W
8	16.)	
/16")		
+	<u> </u>	

Item No.	833.74.733
SRP	\$30.00
Material	Plastic; Cover: milk
Color	silver colored
L x W x H	2000 x 28 x 22 mm (78 3/4" x 1 1/8" x 7/8")

> For glass thickness 4-8 mm (5/32" - 5/16") > Without load bearing function

#### Note

Only for light strips with max. 7.5 W per meter (2.28 W per foot)





#### PROFILES AND SWITCHES

#### Profile for surface mounting





Item No.	833.74.835
SRP	\$48.00
Material	Aluminum; Cover: milk
Color	silver colored anodized
LxWxH	2500 x 18 x 12.5 mm (98 3/8" x 3/4" x 1/2")



Note Not suitable for LED 3028 or LED 3015.

End cap set Plastic ABS, silver colored Supplied with: Mounting screws, 5 sets

Item No. 833.74.877 SRP \$20.00



- Door/drawer sensor 12 V Light: 2029/2037 > Item No. 833.89.110
- SRP \$36.00



Door/drawer sensor 24 V Light: 3015 > Item No. 833.89.111 SRP \$36.00



Mounting bracket Stainless Steel, silver colored > Item No. 833.74.893 SRP \$4.00



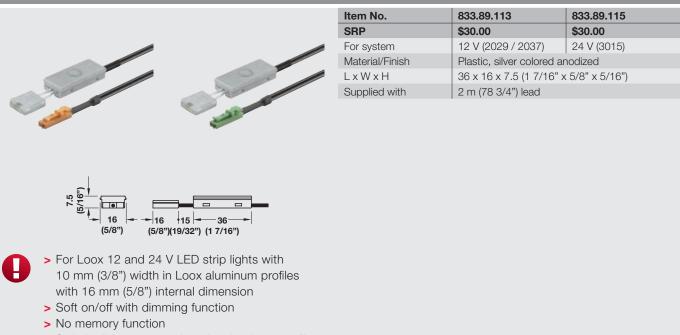
Motion detector 12 V Delay time: 30 sec. Detection range: 0–3000 mm Light: 2029/2037 > Item No. 833.89.088 SRP \$30.00



Motion detector 24 V Delay time: 30 sec. Detection range: 0–3000 mm Light: 3015 > Item No. 833.89.089

SRP \$30.00

#### Dimmer 12 V / 24 V

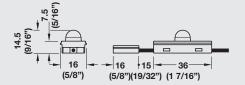


> Switch slides or snaps into the aluminum profile

#### Motion Detector 12 V / 24 V



Item No.	833.89.112	833.89.114
SRP	\$30.00	\$30.00
For system	12 V (2029 / 2037)	24 V (3015)
Material/Finish	Plastic, silver colored an	nodized
LxWxH	36 x 16 x 14.5 (1 7/16"	x 5/8" x 9/16")
Delay time (seconds)	30	
Detection range	0-3000	
Supplied with	2 m (78 3/4") lead	



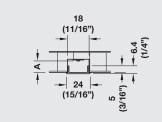
- For Loox 12 and 24 V LED strip lights with 10 mm (3/8") width in Loox aluminum profiles with 16 mm (5/8") internal dimension
- > Automatic on/off
- > Detection range: 0-3000 mm
- > Delay time: 30 sec.
- > Switch slides or snaps into the aluminum profile



## COVERS AND LENSES

#### FOR LED 2029 / 2037/ 2041/ 2042/ 3015/ 3028

#### Lens Cover



Item No.	833.00.733
SRP	\$5.00
Material	Plastic
Cover	milk
Length	2500 (98 3/8")
Application	For recess mounting

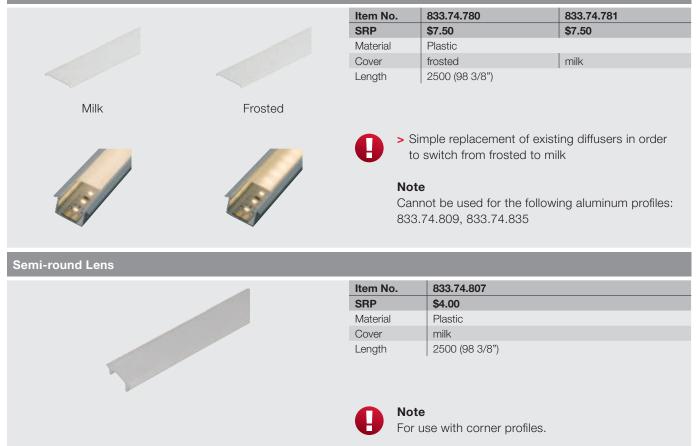
> Only suitable for 12 V LED strip lights> For recess mounting

#### Note

LED 3015 / 3028 must be installed in an aluminum profile for proper heat dissipation. Light strips with 7.5 W per meter (2.28 W per foot) or greater ideally need proper heat dissipation.

	Size A min., so that LED points are not visible		
Diffuser	LED		
	2029 2037		
milk	13 (1/2")		

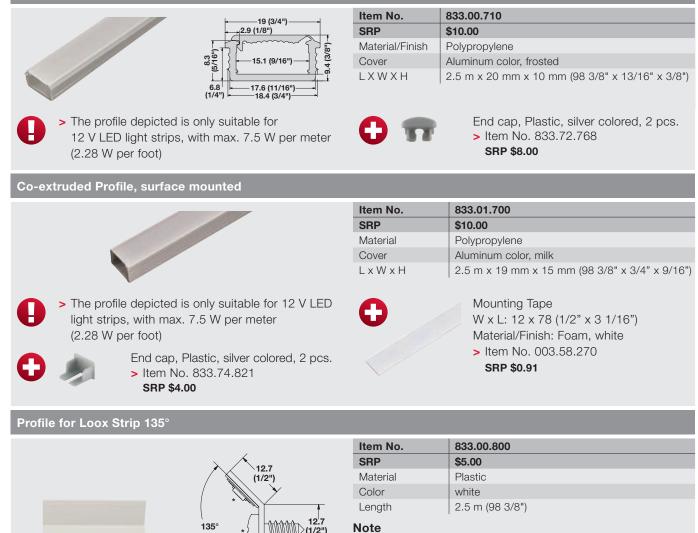
#### **Replacement Lenses**



## MOUNTING STRIPS

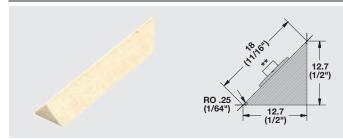
#### FOR LED 2037/ 2042

Profile, recess mounted



1.4 ---(1/16") Loox LED strip and screw shown for application and position only.

**Corner Profile** 



Item No.	833.02.840
SRP	\$10.50
Material/Finish	Solid Poplar Wood, natural
Length	2.5 m (98 3/8")
Application	For surface mounting

#### Note

Loox LED strip shown for application and position only.



#### MODULAR SWITCHES

		Item No.	833.89.127	
OUCH-FREE	<b>-</b>	SRP	\$32.00	
		Drill hole Ø	12 (1/2")	
		Power consumption	≤0.3 W	
	<u> </u>	Power rating	90 W	
100		Degree of Protection	IP20	
0	(9/ <u>16")</u> ↓ → ↓ → 0.5 (1/32")	Sensor range	0 – 80 mm (0" – 3	1/8")
N. Com	· → ··································	Material/Finish	Plastic, silver color	
	ular switch to Loox driver separately, /off state is stored in memory.			
or Sensor Switch – soft	on/off switching			
		Item No.	833.89.128	
		SRP	\$32.00	
		Drill hole Ø	12 (1/2")	
		Power consumption	≤0.3 W	
	47.3 (1 7/8")	Power rating	90 W	
180	Ø14 (9/16")	Degree of Protection	IP20	
0	(0, <u>10</u> ) -0.5 (1/32")	Sensor range	0 – 100 mm (0" –	4")
		Material/Finish	Plastic, silver color	red
Order lead for mod	dular switch to Loox driver			
separately, see pag	-		_	_
	-	_		
tion Detector – automat	-	Item No.	833.89.129	833.89.148
tion Detector – automat	-	SRP	\$32.00	833.89.148 \$32.00
tion Detector – automat	-	<b>SRP</b> Drill hole Ø	<b>\$32.00</b> 12 (1/2")	
tion Detector – automat	-	<b>SRP</b> Drill hole Ø Power consumption	<b>\$32.00</b> 12 (1/2") ≤0.1 W	
tion Detector – automat	-	SRP Drill hole Ø Power consumption Power rating	<b>\$32.00</b> 12 (1/2") ≤0.1 W 90 W	
tion Detector – automat	tic on/off switching	SRP Drill hole Ø Power consumption Power rating Degree of Protection	\$32.00         12 (1/2")         ≤0.1 W         90 W         IP20	\$32.00
tion Detector – automat	tic on/off switching	SRP Drill hole Ø Power consumption Power rating Degree of Protection Sensor range	\$32.00         12 (1/2")         ≤0.1 W         90 W         IP20         0 - 3000 mm (0" -	\$32.00
otion Detector – automat	tic on/off switching	SRP Drill hole Ø Power consumption Power rating Degree of Protection Sensor range Sensor angle	\$32.00         12 (1/2")         ≤0.1 W         90 W         IP20         0 - 3000 mm (0" - 120°	<b>\$32.00</b>
tion Detector – automat	tic on/off switching	SRPDrill hole ØPower consumptionPower ratingDegree of ProtectionSensor rangeSensor angleDelay time (seconds)	\$32.00         12 (1/2")         ≤0.1 W         90 W         IP20         0 - 3000 mm (0" - 120°         approx. 30	<b>\$32.00</b> - 118")   approx. 320
DUCH-FREE	tic on/off switching 7.3 (2 1/4") - 47.3 (1 7/8") - 47.3 (1	SRP Drill hole Ø Power consumption Power rating Degree of Protection Sensor range Sensor angle	\$32.00         12 (1/2")         ≤0.1 W         90 W         IP20         0 - 3000 mm (0" - 120°	<b>\$32.00</b> - 118")   approx. 320
OUCH-FREE	tic on/off switching 77.3 (2 1/4") - 47.3 (1 7/8") - 47.3 (	SRPDrill hole ØPower consumptionPower ratingDegree of ProtectionSensor rangeSensor angleDelay time (seconds)	\$32.00         12 (1/2")         ≤0.1 W         90 W         IP20         0 - 3000 mm (0" - 120°         approx. 30	<b>\$32.00</b> - 118")   approx. 320
DUCH-FREE	tic on/off switching 77.3 (2 1/4") - 47.3 (1 7/8") - 47.3 (	SRPDrill hole ØPower consumptionPower ratingDegree of ProtectionSensor rangeSensor angleDelay time (seconds)	\$32.00         12 (1/2")         ≤0.1 W         90 W         IP20         0 - 3000 mm (0" - 120°         approx. 30	<b>\$32.00</b> - 118")   approx. 320
tion Detector – automat	tic on/off switching 77.3 (2 1/4") - 47.3 (1 7/8") - 47.3 (	SRP Drill hole Ø Power consumption Power rating Degree of Protection Sensor range Sensor angle Delay time (seconds) Material/Finish	\$32.00         12 (1/2")         ≤0.1 W         90 W         IP20         0 - 3000 mm (0" - 120°         approx. 30         Plastic, silver color	\$32.00 - 118") approx. 320 red
tion Detector – automat	tic on/off switching 77.3 (2 1/4") - 47.3 (1 7/8") - 47.3 (	SRP Drill hole Ø Power consumption Power rating Degree of Protection Sensor range Sensor angle Delay time (seconds) Material/Finish	\$32.00         12 (1/2")         ≤0.1 W         90 W         IP20         0 - 3000 mm (0" -         120°         approx. 30         Plastic, silver color	\$32.00 - 118") approx. 320 red Touch -free
<ul> <li>bition Detector – automat</li> <li>DUCH-FREE</li> <li>&gt; Order lead for mod separately, see page</li> <li>nmer – soft on/off switch</li> <li>DUCH/</li> </ul>	tic on/off switching 77.3 (2 1/4") - 47.3 (1 7/8") - 47.3 (	SRP         Drill hole Ø         Power consumption         Power rating         Degree of Protection         Sensor range         Sensor angle         Delay time (seconds)         Material/Finish	\$32.00         12 (1/2")         ≤0.1 W         90 W         IP20         0 - 3000 mm (0" -         120°         approx. 30         Plastic, silver color         Touch         833.89.058	\$32.00 - 118") approx. 320 red Touch -free 833.89.126
<ul> <li>bition Detector – automat</li> <li>DUCH-FREE</li> <li>&gt; Order lead for mod separately, see pag</li> <li>nmer – soft on/off switch</li> <li>DUCH/ DUCH-FREE</li> </ul>	tic on/off switching $ \begin{array}{c} \hline                                    $	SRP         Drill hole Ø         Power consumption         Power rating         Degree of Protection         Sensor range         Sensor angle         Delay time (seconds)         Material/Finish         Version         Item No.         SRP	\$32.00         12 (1/2")         ≤0.1 W         90 W         IP20         0 - 3000 mm (0" -         120°         approx. 30         Plastic, silver color         Touch         833.89.058         \$32.00	\$32.00 - 118") approx. 320 red Touch -free 833.89.126
DUCH-FREE > Order lead for mod separately, see pag mmer – soft on/off switch DUCH/ DUCH/FREE	tic on/off switching 7.3 (2 1/4") - 47.3 (1 7/8") - 47.3 (1	SRP         Drill hole Ø         Power consumption         Power rating         Degree of Protection         Sensor range         Sensor angle         Delay time (seconds)         Material/Finish	\$32.00         12 (1/2")         ≤0.1 W         90 W         IP20         0 – 3000 mm (0" –         120°         approx. 30         Plastic, silver color         Touch         833.89.058         \$32.00         12 (1/2")	\$32.00 - 118") approx. 320 red Touch -free 833.89.126
DUCH-FREE > Order lead for mod separately, see pag mmer – soft on/off switch DUCH/ DUCH/FREE	tic on/off switching 7.3 (2 1/4") - 47.3 (1 7/8") - 011.8 (17/32") 011.8 (15/3	SRP         Drill hole Ø         Power consumption         Power rating         Degree of Protection         Sensor range         Sensor angle         Delay time (seconds)         Material/Finish         Version         Item No.         SRP         Drill hole Ø         Power consumption	\$32.00         12 (1/2")         ≤0.1 W         90 W         IP20         0 – 3000 mm (0" –         120°         approx. 30         Plastic, silver color         Touch         833.89.058         \$32.00         12 (1/2")         ≤0.3 W	\$32.00 - 118") approx. 320 red Touch -free 833.89.126
DUCH-FREE	tic on/off switching 7.3 (2 1/4") - 47.3 (1 7/8") - 47.3 (1	SRP         Drill hole Ø         Power consumption         Power rating         Degree of Protection         Sensor range         Sensor angle         Delay time (seconds)         Material/Finish         Version         Item No.         SRP         Drill hole Ø         Power consumption         Power rating	\$32.00         12 (1/2")         ≤0.1 W         90 W         IP20         0 – 3000 mm (0" –         120°         approx. 30         Plastic, silver color         Touch         833.89.058         \$32.00         12 (1/2")         ≤0.3 W         90 W	\$32.00 - 118") approx. 320 red Touch -free 833.89.126

#### Capacitive Switch/Dimmer - soft on/off switching

		Item No.	833.89.133
PO=	and the second sec	SRP	\$32.00
-	ı 🤝	Ø x Height	35 x 9 mm (1 3/8" x 3/8")
		Degree of protection	IP20
		Power rating	90 W
		Material/Finish	Plastic, silver colored
This completely invisible operating solution opens up new possibilities in continuously adjustable light control.	(1 3/16")	) (not suita depth of > For screw > Please o	y touch ed installation in wood, glass or stone able for metal materials) at a maximum 30 mm (1 3/16") v recess mounting (drill hole Ø 35 mm (1 3/8") rder lead for modular switch to Loox parately, below

#### **Universal Door Contact Switch**

			Item No.	833.89.143
			SRP	\$16.00
		L x W x H	51.8 x 40 x 14.2 mm (2 1/16" x 1 9/16" x 9/16")	
520	<b>**</b>	*	Degree of protection	IP20
			Material/Finish	Plastic, black
The universal door contact switch is suitable for hinged or single-panel				rder lead for modular switch to Loox parately, below

ł

-24 (1")--

40 (1 9/16")

#### **Door Contact Switch**

sliding doors.



833.89.140

\$6.00

IP20

500 mm

(19 11/16")

Plastic, black

833.89.141

1000 mm

(39 3/8")

\$7.00

833.89.142

2000 mm (78 3/4")

\$8.00

Lead for modular switches

	Item No.
	SRP
	Length
	Degree of protection
	Material/Finish
<b>v</b>	

- 9.8 - 42 (1 5/8") - (3/8")

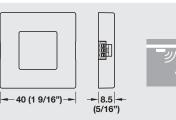
114 / Loox Accessories
------------------------



#### MODULAR SWITCHES

Sensor Switch - touchless, soft on/off switching





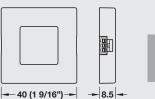
#### Note

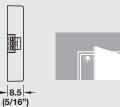
On/off state is stored without the need for power supply (memory function).

Lead with snap-in connector for modular switches, please order separately, see page 114.

Door Sensor Switch - soft on/off switching







	Item No.	833.89.137		
	SRP	\$32.00		
	LxWxH	40 x 40 x 8.5 (1 9/16" x 1 9/16" x 5/16")		
	Power consumption	≤0.3 W		
	Power rating	90 W		
	Degree of Protection	IP20		
	Sensor range	0 – 100 (0 – 4")		
	Material/Finish	Plastic, silver colored		
	Supplied with	Mounting material		

833.89.136

0 - 80 (0 - 3 1/8")

Mounting material

Plastic, silver colored

40 x 40 x 8.5 (1 9/16" x 1 9/16" x 5/16")

\$32.00

≤0.3 W 90 W

> For mounting under cabinet or shelf

IP20



Item No.

L×W×H

Power rating Degree of Protection

Sensor range

Material/Finish

Supplied with

Power consumption

SRP

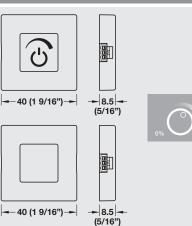
> For mounting under cabinet or shelf

#### Note

Lead with snap-in connector for modular switches, please order separately, see page 114.

Dimmer – soft on/off switching





	Version	Touch	Touch-free	
	Item No.	833.89.134	833.89.135	
	SRP	\$32.00	\$32.00	
	LxWxH	40 x 40 x 8.5 (1 9/16" x 1 9/16" x 5/16")		
	Power consumption	≤0.3 W		
	Power rating	90 W		
	Degree of Protection	IP20		
	Sensor range	0 - 80 (0 - 3 1/8")		
	Material/Finish	Plastic, silver colored		
	Supplied with	Mounting material		



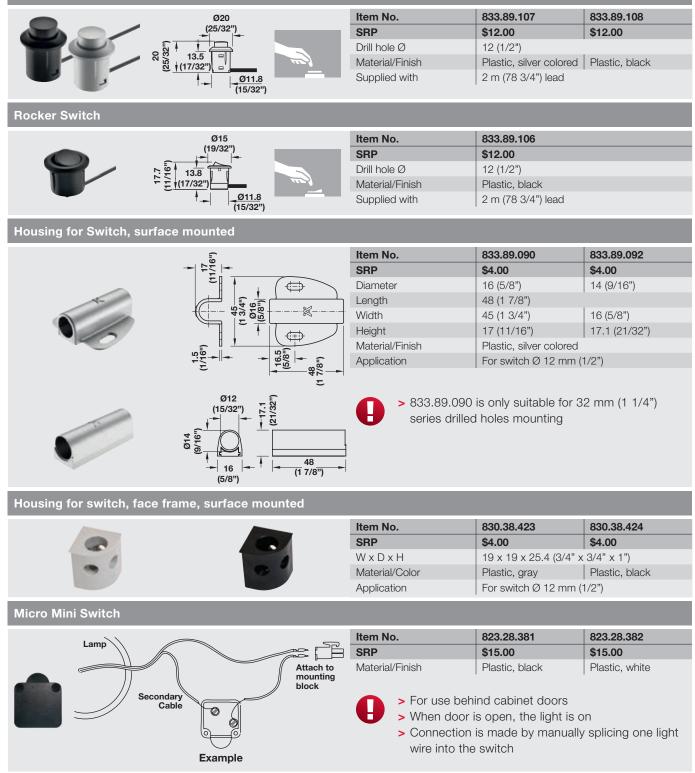
On/off state is stored without the need for power supply (memory function).

Lead with snap-in connector for modular switches, please order separately, see page 114.



> For mounting under cabinet or shelf

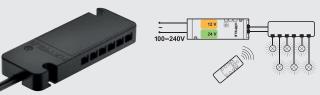
#### **Push Switch**





#### REMOTES

#### **Premium 6-channel Remote Receiver**



- White LED lights can be remote controlled with this system
- Remote system requires at least 1 remote and 6-channel receiver to control lights
- > Three lighting scenes can be stored
- > Remote switches can be added that are compatible with both the 12 V and the 24 V system

**Premium 6-channel Remote** 



Item No.	833.73.741	833.77.785	
SRP	\$70.00	\$70.00	
System	12 V	24 V	
Wattage (W)	60	120	
Max. wattage per slot (W)	30	60	
Number of slots	6 slots for lights, power supply from driver via 2 leads		
Material/Finish	Plastic, black		

- > Max. 10 remote receivers can be combined
- Light state and scene stored in memory and recalled upon start up

#### Note

Not suitable for multi-white or RGB lights.

Item No.	833.89.121		
SRP	\$40.00		
Application	12 V and 24 system		
Material/Finish	Plastic, black		
Supplied with	Replaceable CR2032 lithium battery		

833.89.122

\$40.00

- > For controlling Loox 6-channel remote receivers for white LEDs
- > Soft on/off with dimming function for 6 channels
- > 3 lighting scenes can be stored
- > Max. 10 remote receivers can be controlled within a radius of 15 m (49')

Remote Switch 12 V/24 V, recess mounted



> For controlling all channels or one channel of Loox

> Max. 10 remote receivers can be controlled within

SRP Drill hole Ø x Height Material/Finish Supplied with

Item No.



Housing for surface mounting, round for screw mounting

Replaceable CR2032 lithium battery

40 x 14.4 mm (1 5/8" x 9/16")

Item No. 833.89.123
SRP \$4.00

Plastic, silver colored

Coin Battery, Lithium-ion, CR2032 - for remotes

remote receiver for white LEDs

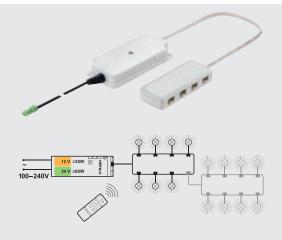
> Soft on/off and dimming

a radius of 15 m (49')



Item No.	002.99.032
SRP	\$4.30

#### Multi-White Control 12 V/24 V



Item No.	833.73.750	833.77.787
SRP	\$60.00	\$60.00
System	12 V	24 V
Wattage	30	60
Power consumption (W)	0.3	0.6
Material/Finish	Plastic, silver colored	

> Radio frequency 2.4 GHz

Remote for Multi-White Control 12 V/24 V



Item No.	833.77.786
SRP	\$40.00
Drill hole Ø x Height	40 x 14.4 (1 5/8" x 9/16")
Material/Finish	Plastic, black
Supplied with	Replaceable CR 2032 button cell lithium battery

- > Exclusively for controlling multi-white lights
- Color control, dimming (with memory function), storage of 3 lighting scenes
- Max. 10 multi-white mixers can be controlled with 1–10 remote controls within a radius of 15 m (49')

8-way distribu Plastic, white

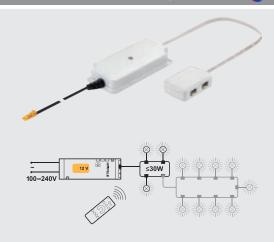
8-way distributor, for multi-white lights Plastic, white

- Item No. 833.77.721
  SRP \$12.00
- > Coin battery see page 117



#### **RGB CONTROL**

#### RGB Color Mixer 12 V, with 4-way distributor 📢 RGB



Item No.	833.74.802
SRP	\$60.00
Wattage	30
Power consumption (W)	0.3
Material/Finish	Plastic, white



> Radio frequency 2.4 GHz

Remote for RGB 12 V



Item No.		833.74.708
SRP		\$40.00
Drill hole (	ð x Height	40 x 14.4 (1 5/8" x 9/16")
Material/F	inish	Plastic, black
Supplied	with	Replaceable CR 2032 button cell lithium battery

- > Exclusively for controlling RGB lights
- Color control, color change, dimming (with memory function), storage of 3 lighting scenes
- Max. 10 color mixers can be controlled with 1–10 remote controls within a radius of 15 m (49')

0 🦛

8-way distributor, for RGB lights Plastic, white

- Item No. 833.74.741
  SRP \$6.00
- > Coin battery see page 117

# HÄFELE CONNECT



- The BLE box (Bluetooth low energy technology ideal protocol for wireless light control) makes it possible to control furniture lighting and electrically operated fittings using the Häfele Connect App
- > A 12 V or 24 V driver supplies power to the BLE box via 2 leads
- A single BLE box or an entire network of BLE boxes is controlled with a Smartphone or tablet
- The App controls the on/off status, brightness (0-100%) and the color temperature (multi-white lights) and the light color (RGB lights)
- > All parameters can be saved as scenes and retrieved at any time
- > Time-controlled alteration of brightness, color temperature, light color

#### Note

The Häfele Connect App is free for Apple IOS® and Android™

#### Versions:

- 4 channel provides on/off switching and dimming of lights (0-100%); order the BLE adapter separately for operating multi-white or RGB lights, refer to next page
- Multi-white provides on/off switching and color temperature adjustment for multi-white lights
- RGB provides on/off switching and color temperature adjustment for RGB lights

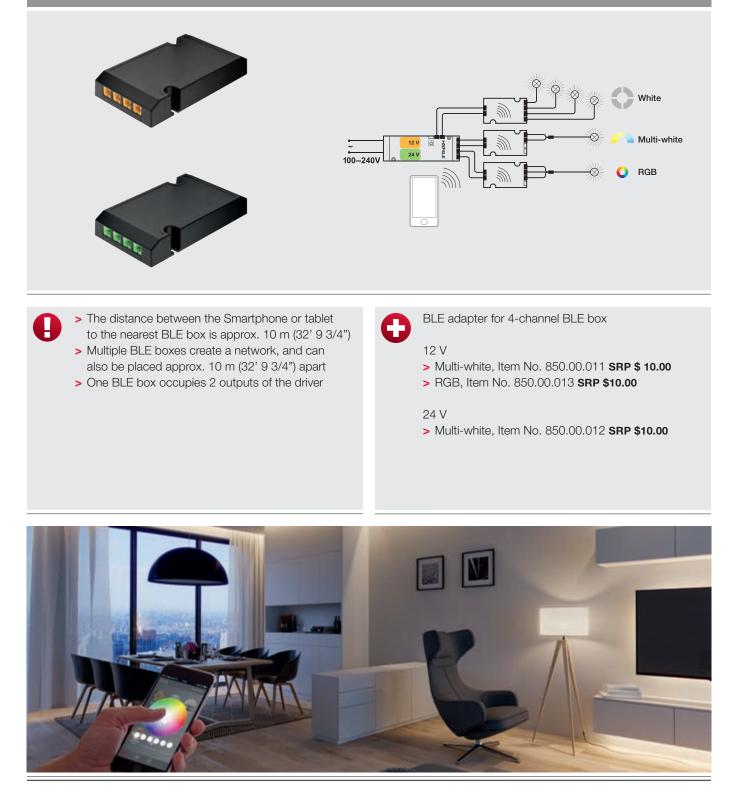
Item No.	850.00.005	850.00.006	850.00.015	850.00.016	850.00.017	850.00.018
SRP	\$100.00	\$100.00	\$110.00	\$110.00	\$110.00	\$110.00
Output current:	2.5 A per output (max. 30 W with 12 V, max. 60 W with 24 V; sum total of all outputs (max. 60 W with 12 V, max. 90 W with 24 V)					
4 channel			Multi-white		RGB	
Version	12 V	24 V	12 V	24V	12 V	24 V
Number of connections	4	4	1	1	1	1
L x W x H:	100 x 57 x 17 (4" x 2 1/4" x 11/16")					
Standby power consumption	<0.5 W	<0.6 W	<0.5 W	<0.6 W	<0.5 W	<0.6 W
Supplied with	300 mm (11 13/16") lead		300 mm (11 13/16") lead multi-white adapter		300 mm (11 13/16") lead RGB adapter	

#### Note

The distance between the Smartphone or tablet to the nearest BLE box is 10 m (32' 9 3/4"). Multiple BLE boxes create a network and can be placed 10 m (32' 9 3/4") apart. One BLE box uses 2 driver outputs.



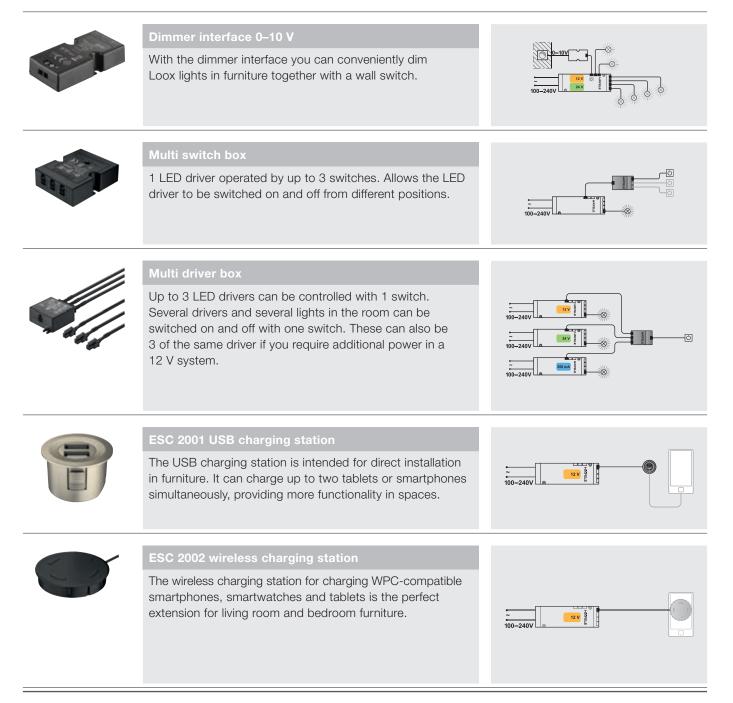
#### BLE Box



## LOOX SYSTEM ACCESSORIES

Based on the plug and play driver, you can customize the system in accordance with your requirements using add-on modules. The flexible and modular components make it possible to have a wide range of applications and solutions, simplify installation or provide useful combinations of different lights and switches.

#### THE MOST IMPORTANT SYSTEM ACCESSORIES

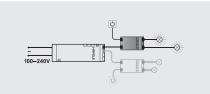






#### 3-way distributor with switching function

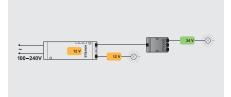
The relevant lights can be operated separately and individually using the 3-way distributor with switching function connected to the output of the light.





#### Converter 24 V to 12 V

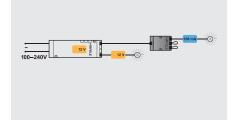
Combine 24 V lights with 12 V lights and operate them using a single 12 V driver.





#### Converter 350 mA to 12 V

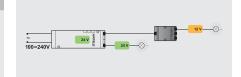
Combine 350 mA lights with 12 V lights and operate them using a single 12 V driver.





#### Converter 12 V to 24 V

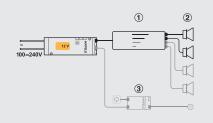
Combine 12 V lights with 24 V lights and operate them using a single 24 V driver.





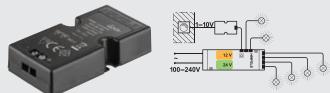
#### Sound system 420 E

You can play music in any room with the sound system 420 E and 2-4 exciter speakers (sound transducers). Cleverly concealed in furniture or behind panels, the sound system creates a pleasing sound everywhere you want it. ① Sound system, @ Exciter speakers, @ 3-way distributor with switching function



## ACCESSORIES SWITCH ACCESSORIES

### Dimmer Interface 0-10V, Modular for 12 V and 24 V System



With the dimmer interface you can conveniently also dim Loox lights in cabinetry together using a wall switch. The modular design makes installation easier.



driver separately > Cannot be combined with multi switch box

> Please order lead for modular switch to Loox

#### **Multi Switch Box**



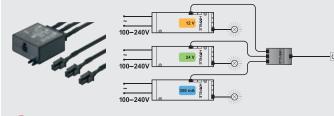
1 LED driver operated by up to 3 switches. Allows the LED driver to be switched on and off from different positions.

- > 2 operating modes can be selected using an integrated toggle switch
  - > Cross circuit: On/off switching at different switches
  - > OR circuit: Switching on with switch 1, 2 or 3. For switching off, all switches that were switched on have to be actuated again
  - > Dimmers and switches with soft on/off cannot be used in combination with multi switch boxes

	Item No.	833.89.066
6	SRP	\$24.00
	L x W x H	55 x 45 x 16 (2 3/16" x 1 3/4" x 5/8")
	Power consumption	≤0.3 W
	Degree of Protection	IP20
	Material/Finish	Plastic, black
	Supplied with	1 m (39 3/8") lead
6	•	Lead for multi switch box, alternative item to the supplied lead > 500 mm (19 5/8") Item No. 833.89.068 <b>SRP \$4.00</b>

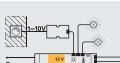
- > 2 m (78 3/4") Item No. 833.89.069 SRP \$6.00
- > Lead length from driver to switch max. 6 m (19' 8 1/4")
- > The drill hole for switch leads is 12 mm (1/2").

**Multi Driver Box** 

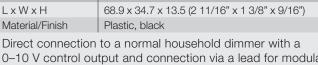


- > Up to 3 LED drivers can be controlled with one switch > Several drivers and several lights in the room can
- be switched on and off with one switch > These can be 3 of the same driver if additional
- power is required in a 12 V or 24 V system
- > Max. 3 x 75 W per multi driver box

	Item No.	833.89.061
	SRP	\$30.00
	L x W x H	50 x 40 x 19 (2" x 1 9/16" x 3/4")
	Material/Finish	Plastic, black
	Supplied with	3 x 1 m (39 3/8") lead
ch	0	Extension Lead for Switches 2 m (78 3/4") > Item No. 833.89.067 <b>SRP \$6.00</b>
	0	Lead for multi driver box, alternative item to the supplied lead 500 mm (19 11/16") > Item No. 833.89.068 <b>SRP \$4.00</b> 2 m (78 3/4") > Item No. 833.89.069 <b>SRP \$6.00</b>







0–10 V control output and connection via a lead for modular switches to the switch input of a Loox driver 12 V or 24 V.



> Drivers see pages 51 and 88 > Leads see page 127

Lead for modular switches

833.89.144

\$32.00

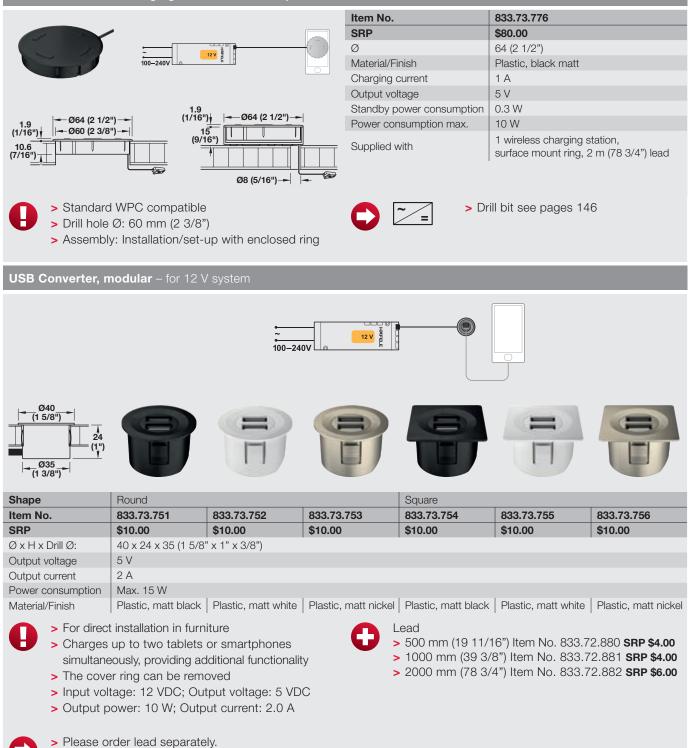
- > 500 mm (19 11/16") Item No. 833.89.140 SRP \$6.00
- > 1000 mm (39 3/8") Item No. 833.89.141 SRP \$7.00
- > 2000 mm (78 3/4") Item No. 833.89.142 SRP \$8.00



# ACCESSORIES

### SWITCH ACCESSORIES

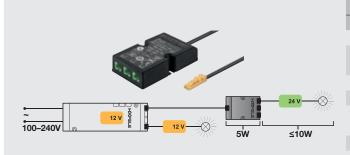
ESC 2002 Wireless charging station - for 12 V system



# COMPONENTS

### LEADS AND DISTRIBUTORS

#### Converter 24 V to 12 V – for connecting 24 V lights to the 12 V system

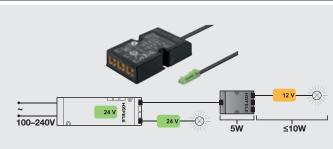


Item No.	833.77.934
SRP	\$20.00
Power consumption	15 W
Standby power consumption	0.3 W
Primary side	DC 12 V
Secondary side	DC 24 V
Number of output ports	3 connections for 24 V lights
LxWxH	61 x 34 x 14.6 (2 3/8" x 1 5/16" x 9/16")
Supplied with	1 m (39 3/8") lead

> Combine 24 V lights with 12 V lights and operate

- them using a single 12 V driver.
- > Max. 10 W per converter.

Converter 12 V to 24 V – for connecting 12 V lights to the 24 V system



	Item No.	833.74.947			
	SRP	\$20.00			
	Power consumption	15 W			
	Standby power consumption	0.3 W			
	Primary side	DC 24 V			
	Secondary side	DC 12 V			
	Number of output ports	3 connections for 12 V lights			
	LxWxH	61 x 34 x 14.6 (2 3/8" x 1 5/16" x 9/16")			
	Supplied with	1 m (39 3/8") lead			

A

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> Max. 10 W per converter.

Converter 350 mA to 12 V - for connecting 350 mA lights to the 12 V system

	· · · · · · · · · · · · · · · · · · ·	
	Item No.	833.80.912
	SRP	\$11.00
	Power consumption	3 W
	Standby power consumption	0.3 W
	Primary side	DC 12 V
	Secondary side	DC 350 mA (min. 1 W, max. 9 W)
	Number of output ports	3 connections for 12 V lights
	LxWxH	61 x 34 x 14.6 (2 3/8" x 1 5/16" x 9/16")
	Supplied with	1 m (39 3/8") lead, 2 pcs. bridge connectors
> Max. 9 W per converter.	•	Replacement Bridge Connector > Item No. 833.80.720 SRP \$0.50



# COMPONENTS

### LEADS AND DISTRIBUTORS

Extension leads, 12 V / 24 V / 350 mA



Length	500 (9 11/16")	1000 (39 3/8")	2000 (78 3/4")
SRP	\$3.00	\$4.00	\$4.00
12 V system	833.73.764	833.73.765	833.73.766
SRP	\$3.00	\$4.00	\$5.00
24 V system	833.77.712	833.77.713	833.77.714
SRP	\$3.10	\$4.50	\$7.00
350 mA system	833.80.704	833.80.705	833.80.706



For extending the connection leads of the LED lights. > Lead length from driver to light max. 6 m (19' 8 1/4'').

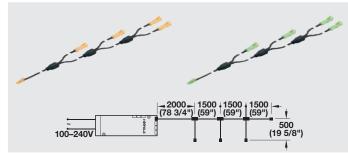


2-way Distributor, 12 V, 1 male, 2 female > 150 mm (5 7/8") Item No. 833.74.799 SRP \$5.00

Extension Lead, 12 V
> 300 mm (11 13/16") Item No. 833.73.782 SRP \$3.00

> 610 mm (24") Item No. 833.73.785 SRP \$3.00

4-way extension lead - convenient extension for additional lights

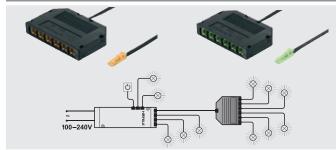


Item No.	833.74.773	833.77.813
SRP	\$20.00	\$18.00
Length	6500 (255 29/32")	
Application	12 V system / 3.5 A	24 V system / 3.5 A
Max. Wattage	42	84
Material/Finish	Plastic, black	



Makes the power distribution for multiple lights easier. > Max. 4 lights per extension can be connected, max. 2 extensions can be coupled.

6-way distributor - for connecting additional lights to one driver

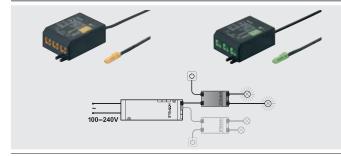


Item No. 833.74.798 833.77.724 SRP \$12.00 \$12.00 Application 12 V system / 3.5 A 24 V system / 3.5 A Max. Wattage 42 84 Material/Finish Plastic, black 58.5 x 34 x 18 (2 1/4" x 1 5/16" x 11/16") L×W×H 2 m (78 3/4") lead Supplied with



With the 6-way distributor, up to 6 additional lights can be operated from one driver port.

3-way distributor - with switching function 12 V / 24 V



Item No.	833.74.751	833.77.723	
SRP	\$12.00	\$12.00	
Application	12 V system / 3.5 A	24 V system / 3.5 A	
Max. Wattage	42	84	
L×W×H	57 x 34 x 18 (2 1/4" x 1 5/1	6" x 11/16")	
Supplied with	200 mm (7 7/8") lead		



Up to 3 lights can be operated separately and individually using the 3-way distributor with switching function connected to the output of the light.

# IN-WALL COMPONENTS

### LEADS

#### Extension leads, 12 V / 24 V

/ /	Length	1 m (39 3/8") 2 m (78 3	/4") 5 m (196 7/8")	) 8 m (314 15/1
	SRP	\$4.00 \$6.00	\$12.00	\$18.00
	12 V system	833.73.790 833.73.	791 833.73.792	833.73.793
	24 V system	833.77.821 833.77.8	822 833.77.823	833.77.824
and the second sec	Material/Finish	Plastic, black		
	For e	xtending the conne	ction leads of t	he LED lights
Lead	Item No.	833.73.788	833.73.78	89
	SRP	\$6.00	\$6.00	
	Clip	8 (5/16") (sil)	10 (3/8")	
	Length	2 m (78 3/4")		
	Material/Finish	Plastic, black		
	Supplied with	12 V male plug and o	clip	
Lead		1	1	
	Item No.	833.77.819	833.77.82	20
	SRP	<b>\$6.00</b> 12 (1/2")	<b>\$6.00</b> 10 (3/8")	
	Clip Length	2 m (78 3/4")	10 (3/8 )	
1 Cl	Material/Finish	Plastic, black		
	Supplied with	24 V male plug and o	qilo	
	For c	onnecting additiona	al lights to one o	driver.
<ul> <li>Cable assemblies designed to be routed behind</li> <li>Pull cables around windows and doors</li> <li>Route power from another room into a kitchen o</li> <li>Each cable is supplied with Loox plug &amp; play con</li> </ul>	r closet			
<ul> <li>In-Wall Wiring Accessories</li> <li>Cable spec:</li> <li>Wire gauge: 20AWG</li> <li>Wire type: CL3R</li> <li>Construction: 2-conductor, stranded copper</li> <li>Rating: Class 2, double insulated</li> </ul>				
Meste the following codes for wire and cohis	logations			

#### Meets the following codes for wire and cable locations

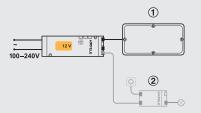
- > NEC article 411 Lighting systems operating at 30 V or less attached to Class 2 power
- > NEC article 411.5 Specific Location Requirements
- > NEC article 725.135 Installation of Class 2 cable



## ACCESSORIES SOUND SYSTEM 105







Item No.	822.65.001	> With integrated exciter speaker (sound transducer)
SRP	\$150.00	> Reception range: max 10 m (32' 9 3/4")
L x W x H	140 x 66 x 25 (5 1/2" x 2 9/16" x 1")	> Screw mounted
Wattage	Amplifier power 5 W	Note
Power consumption	Operation: 7 W, Standby: <0.3 W	Consider the power consumption of 7 W when selecting a driver.
Material/Finish	Plastic, black	> Driver see page 51
Supplied with	2 m (78 3/4") lead	

# ACCESSORIES



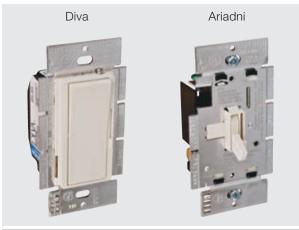


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WALL DIMMING CONTROLS 2 WIRE LOW VOLTAGE (LV)

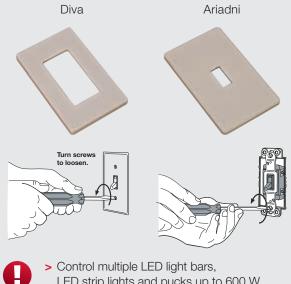
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#### Wall Dimming Controls, 110 - 120 VAC



Diva	820.66.352	820.66.452	820.66.652	820.66.752
SRP	\$159.50	\$159.50	\$159.50	\$159.50
Ariadni	820.66.355	820.66.455	820.66.655	820.66.755
SRP	\$110.00	\$110.00	\$110.00	\$110.00
LxWxH	115 x 57 x 55 (4	4 1/2" x 2 1/4" x 2	2 3/16")	
Wattage	600			
Material	Plastic, Alumini	um		
Color				
	black	light almond	ivory	white
Supplied Mounting screws, wire nuts, installation instructions			ions	

Wall Plates



Diva	820.66.353	820.66.453	820.66.653	820.66.753
SRP	\$12.10	\$12.10	\$12.10	\$12.10
Ariadni	820.66.356	820.66.456	820.66.656	820.66.756
SRP	\$11.55	\$11.55	\$11.55	\$11.55
L×W×H	120 x 70 x 10 (4	4 3/4" x 2 3/4" x 3	3/8")	
Material	Plastic			
Color				
	black	light almond	ivory	white
Supplied with	Mounting screv	vs, cover plate		

- LED strip lights and pucks up to 600 W
- > Great for dining rooms, bedrooms, bathrooms, and kitchens
- > Dimming offers energy savings over standard wall switches
- > Dimming to 1% with smooth, continuous, flicker-free performance
- > Arrives ready to install
- > Input voltage: 110 120 VAC, 60 Hz, 600 VA / 450 W
- > Operate between 32 °F (0 °C) and 104 °F (40 °C)
- > 0% to 90% humidity, non-condensing
- > 12 VDC E-Series drivers see page 137
- > 24 VDC E-Series drivers see page 139
- > Lutron drivers see pages 136, 138, 140, 141

#### Note

For installation by a qualified electrician in accordance with all local and national electrical codes. Use copper conductors only. For indoor use only. Check to see that the driver type and rating are suitable for the application. Compatible with E-series and Lutron Low Voltage Drivers. DO NOT install if product has any visible damage. If moisture or condensation is evident, allow the product to dry completely before installation.



Div SR Aria SR L x Mat

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WALL DIMMING CONTROLS 2 WIRE FORWARD PHASE (CL)

0 100%

#### Diva and Ariadni Wall Dimmer





Ariadni

Diva	820.66.351	820.66.451	820.66.651	820.66.751	
SRP	\$82.50	\$82.50	\$82.50	\$82.50	
Ariadni	820.66.354	820.66.454	820.66.654	820.66.754	
SRP	\$66.00	\$66.00	\$66.00	\$66.00	
LxWxH	115 x 57 x 55 (4	4 1/2" x 2 1/4" x 2	2 3/16")		
Wattage	150				
Material	Plastic, Alumini	um			
Color					
	black	light almond	ivory	white	
Supplied with	Mounting screws, wire nuts, installation instructions				

#### Diva and Ariadni Wall Plate

Diva	Ariadni _
to loosen.	
LED strip lights c > Great for dining r	

va	820.66.353	820.66.453	820.66.653	820.66.753
P	\$12.10	\$12.10	\$12.10	\$12.10
iadni	820.66.356	820.66.456	820.66.656	820.66.756
P	\$11.55	\$11.55	\$11.55	\$11.55
WxH	120 x 70 x 10 (4	4 3/4" x 2 3/4" x 3	3/8")	
aterial	Plastic			
lor				
	black	light almond	ivory	white
pplied h	Mounting screv	vs, cover plate		

- Great for dining rooms, bedrooms, bathrooms, closets and kitchens
- Dimming offers energy savings over standard wall switches
- Dimming to 1% with smooth, continuous, flicker-free performance
- > Arrives ready to install
- > Input voltage: 110 120 VAC, 60 Hz
- > Operate between 32 °F (0 °C) and 104 °F (40 °C)
- > 0% to 90% humidity, non-condensing
- > 12 VDC E-Series drivers see page 137
- > 24 VDC E-Series drivers see page 139
- > Lutron drivers see pages 136, 138, 140, 141

#### Note

For installation by a qualified electrician in accordance with all local and national electrical codes. Use copper conductors only. For indoor use only. Check to see that the driver type and rating are suitable for the application. **Compatible with E-series and Lutron Low Voltage Drivers**. DO NOT install if product has any visible damage. If moisture or condensation is evident, allow the product to dry completely before installation.





WALL DIMMING CONTROLS 2-CONDUCTOR SIGNAL WIRE (0-10 V)

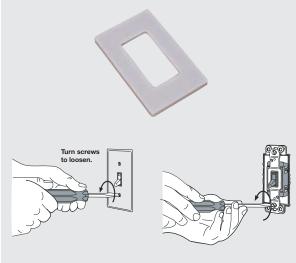
0 100%

#### **Diva Wall Dimmer**



Item No.	820.66.350	820.66.450	820.66.650	820.66.750
SRP	\$217.80	\$217.80	\$217.80	\$217.80
L×W×H	115 x 57 x 55 (4	4 1/2" x 2 1/4" x 2	2 3/16")	
Wattage	250			
Material	Plastic, Aluminum			
Color				
	black	light almond	ivory	white
Supplied with	Mounting screv	vs, wire nuts, ins	tallation instructi	ons

Diva Wall Plate



Diva	820.66.353	820.66.453	820.66.653	820.66.753
SRP	\$12.10	\$12.10	\$12.10	\$12.10
L×W×H	120 x 70 x 10 (4	4 3/4" x 2 3/4" x 3	3/8")	
Material	Plastic			
Color				
	black	light almond	ivory	white
Supplied with	Mounting screv	vs, cover plate		

- Great for dining rooms, bedrooms, bathrooms, closets and kitchens
- Dimming offers energy savings over standard wall switches
- Dimming to 1% with smooth, continuous, flicker-free performance
- > Arrives ready to install
- Works with Loox Dimmer Interface Module and Loox Driver to offer secondary side dimming
- > Operate between 32 °F (0 °C) and 104 °F (40 °C)
- > 0% to 90% humidity, non-condensing
- > 12 VDC Loox drivers see page 51
- > 24 VDC Loox drivers see page 88
- > Loox dimmer Interface see page 124
- > Leads see page 124

#### Note

For installation by a qualified electrician in accordance with all local and national electrical codes. Separate signal wires required to connect 0-10 V dimmer to Loox Dimmer Interface. Use copper conductors only. For indoor use only. Check to see that the driver type and rating are suitable for the application. **Compatible with Loox Driver and Loox Dimmer Interface Module.** DO NOT install if product has any visible damage. If moisture or condensation is evident, allow the product to dry completely before installation.

Diva

820.66.353

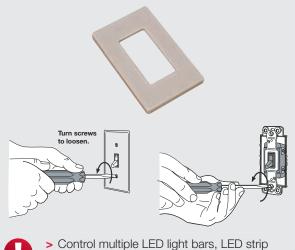
### WALL DIMMING CONTROLS 2 WIRE CASÉTA PRO

#### **Diva Wall Dimmer**



Item No.	820.66.300	820.66.400	820.66.410	820.66.780		
SRP	\$242.00	\$242.00	\$242.00	\$242.00		
LxWxH	115 x 57 x 55 (4	4 1/2" x 2 1/4" x 2	2 3/16")			
Wattage	250	250				
Material	Plastic, Aluminum					
Color						
	black	light almond	ivory	white		
Supplied with	Mounting screv	vs, wire nuts, ins	tallation instructi	ons		

#### **Diva Wall Plate**



SRP \$12.10 \$12.10 \$12.10 \$12.10 120 x 70 x 10 (4 3/4" x 2 3/4" x 3/8") L×W×H Material Plastic Color black light almond white ivory Supplied Mounting screws, cover plate with

820.66.453

820.66.653

820.66.753

- Control multiple LED light bars, LED strip lights and pucks up to 250 W
- Great for dining rooms, bedrooms, bathrooms, closets and kitchens
- Dimming to 1% offers energy savings over standard wall switches
- > Single pole/multi-location
- > 250 W dimmable LED/CFL
- > 1000 W incandescent/halogen; 1000 VA MLV
- > Neutral optional
- **>** 434 MHz
- > Works with Remote and Gateway for multiple Control locations
- > Operate between 32 °F (0 °C) and 104 °F (40 °C)
- > 0% to 90% humidity, non-condensing
- > 12 VDC E-Series drivers see page 137
- > 24 VDC E-Series drivers see page 139
- > Lutron drivers see pages 136, 138, 140, 141

#### Note

For installation by a qualified electrician in accordance with all local and national electrical codes. Use copper conductors only. For indoor use only. Check to see that the driver type and rating are suitable for the application. **Compatible with E-series and Lutron Low Voltage Drivers**. DO NOT install if product has any visible damage. If moisture or condensation is evident, allow the product to dry completely before installation.





### CASÉTA WALL DIMMER

**Remote Control for Caséta Wall Dimmer** 



	Item No.	825.73.774	825.73.771	825.73.772	825.73.770
10. 10	SRP	\$46.20	\$46.20	\$46.20	\$46.20
	WxHxD	67 X 33 X 8 (2 5	67 X 33 X 8 (2 5/8" x 1 5/16" x 5/16")		
	Material	Plastic	_		
	Color				
> Dimming control					
> 4-button with raise/lower and light icon engraving		black	light almond	ivory	white
<ul> <li>&gt; 434 MHz</li> </ul>	Supplied with	CR2032 battery	/		
<ul> <li>Deix seletitional vanastas ta vasia vuoli elimenaav.</li> </ul>					

- > 434 MHz > Pair additional remotes to main wall dimmer
- for added dimming control locations
- > 3 V- 10 mA
- > Uses single CR 2032 battery



	Diva	820.66.353	820.66.453	820.66.653	820.66.753	
	SRP	\$12.10	\$12.10	\$12.10	\$12.10	
	LxWxH	120 x 70 x 10 (	4 3/4" x 2 3/4" x	3/8")		
	Material	Material Plastic				
	Color					
Turn screws		black	light almond	ivory	white	
to loosen.	Supplied with	Mounting scree	ws, cover plate			
Gateway smart bridge for Caséta Pro, 5 V W x H x D: 70 x 70 x 30 mm (2 3/4" x 2 3/4" x 1 3/16") Plastic > Item No. 830.69.887 SRP \$374.00 Supplied With 120 V - 5 V, 300 mA Power supply	of a wall W x Plas	Inting bracket for remote control surface. H x D: 95 x 35 x tic, clear em No. 825.73.	over an existing : 10 mm (3 3/4" :	g wall box or d x 1 3/8" x 3/8")		
<ul> <li>Enables control of lights, shades, and temperature using the Lutron App</li> <li>Compatible with Caséta® Wireless dimmers and switches, Serena® battery-powered shades, Lutron Wireless Thermostat, Nest Learning Thermostat, and select Honeywell® Wi-Fi thermostats</li> <li>Easy to install; just plugs into your Wi-Fi router</li> <li>Uses Clear Connect® wireless technology— no callbacks</li> </ul>	+ > W Si > C yo > A si > S	fon App for Sn forks in conjunct mart Bridge PR ontrol individual bu're away from dd scenes to con ngle touch chedule scenes ownload for free	tion with the Ca O lights, shades, home ontrol multiple li	and thermosta ghts and shad and shades a	ts—even when es with a utomatically	



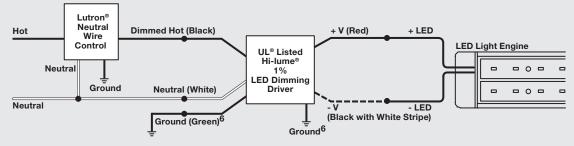
## LUTRON DIMMING LED DRIVER

#### 12 V Driver



Item No.	833.02.961
SRP	\$264.00
Wattage	40
Input voltage	110 - 120 VAC
Output Voltage	12 VDC
WxHxD	124 x 100 x 68 (4 7/8" x 4" x 2 5/8")
Supplied with	Driver, double gang box, wire nuts, instructions

**Controls Requiring a Neutral Wire** 



- A
- Control multiple LED light bars, LED strip lights and pucks up to 40 W
- > 10 W minimum load
- Remote mount driver up to 40 ft. away from LED source for 12 V option
- Provided on a junction box for easy installation and wire termination
- Dimming to 1% with smooth, continuous, flicker-free performance
- > Class 2 protection device
- > Arrives ready to install
- > Operate between 32 °F (0 °C) and 104 °F (40 °C).
- > 0% to 90% humidity, non-condensing
- Hi-lume 1% LED dimming drivers offer a filtered, regulated power source that works well with LED solid state lights
- 3 wire eco-systems driver solutions are available upon request

#### Note

For installation by a qualified electrician in accordance with all local and national electrical codes. For indoor use and copper conductors only. Check to see that the driver type and rating are suitable for the application. **Compatible with CL Dimmers and other Lutron Dimmers and Systems.** DO NOT install if product has any visible damage. If moisture or condensation is evident, allow the product to dry completely before installation.

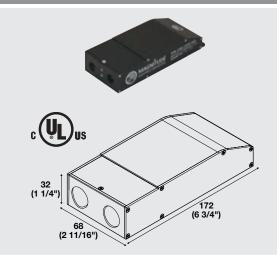




# HARDWIRED DRIVER

### 12 V

#### **Dimmable E-series Driver**



833.02.964	833.02.963	833.02.962		
\$140.00	\$140.00	\$160.00		
Aluminum, black				
172 x 69 x 32 (6	3/4" x 2 11/16" x 1	1/4")		
20 W	40 W	60 W		
1.67 A	3.33 A	5 A		
<ul> <li>Output Voltage: 12 VDC</li> <li>Input Voltage: 120 V 60 Hz</li> <li>Degree of protection: Nema 3R enclosure type</li> <li>Hard wired by licensed electrician only</li> <li>Dimmable with any standard MLV/CL (Triac) Forward Phase Dimmer Switch</li> <li>Class 2 low voltage power supply</li> <li>8 W min load</li> </ul>				
	\$140.00 Aluminum, black 172 x 69 x 32 (6 20 W 1.67 A It Voltage: 12 VD Voltage: 120 V 6 e of protection: I wired by licensed able with any sta rd Phase Dimme 2 low voltage po	\$140.00\$140.00Aluminum, black172 x 69 x 32 (6 3/4" x 2 11/16" x -20 W40 W1.67 A3.33 Aatt Voltage: 12 VDCVoltage: 120 V 60 Hze of protection: Nema 3R encloswired by licensed electrician onlyable with any standard MLV/CL (urd Phase Dimmer Switch2 low voltage power supply		

Distribution Block, with 6 ports

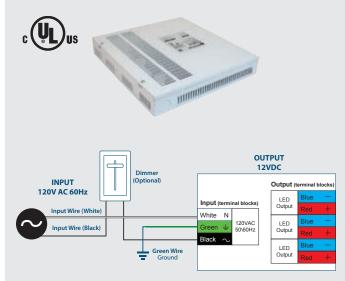


Item No.	833.02.748
SRP	\$12.00
Material/Finish	Plastic, black
Supplied With	Mounting hardware



- > 6-way distribution block with bare wire ends> 20 AWG cable
- Add to any hardwired dimmable driver to turn output into modular connectors to Loox lights
- > Wires are marked for polarity

High Output Dimmable LED Driver



	Item No.	833.02.927
	SRP	\$420.00
	L x W x H	279.4 x 304.8 x 54 (11" x 12" x 2.13")
	Output voltage	12 VDC
	Input voltage	120 V 60 Hz
	Max. Load	180 W
	Output current	15 A
	Degree of Protection	Nema 3R enclosure type
	Material/Finish	Steel, white

- > 3 x 60 W independent output circuits
- Hard wired by licensed electrician only
- Dimmable with any standard MLV/CL/Incandescent (Triac) Forward Phase Dimmer Switch
- > Class 2 low voltage power supply
- > Auto-reset protection for short circuits and over-voltage
- > Easy installation using terminal blocks
- > 8 W min per circuit

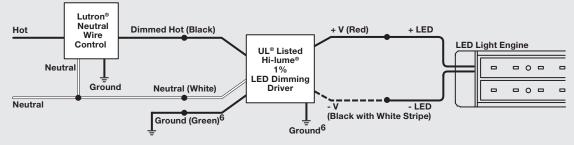
## LUTRON DIMMING LED DRIVER

#### 24 V Driver



Item No.	833.05.905
SRP	\$264.00
Wattage	40
Input voltage	110 - 120 VAC
Output Voltage	24 VDC
WxHxD	124 x 100 x 68 (4 7/8" x 4" x 2 5/8")
Supplied with	Driver, double gang box, wire nuts, instructions

**Controls Requiring a Neutral Wire** 



- A
- Control multiple LED light bars, LED strip lights and pucks up to 40 W
- > 10 W minimum load
- Remote mount driver up to 40 ft. away from LED source for 24 V option
- Provided on a junction box for easy installation and wire termination
- Dimming to 1% with smooth, continuous, flicker-free performance
- > Class 2 protection device
- > Arrives ready to install
- > Operate between 32 °F (0 °C) and 104 °F (40 °C).
- > 0% to 90% humidity, non-condensing
- Hi-lume 1% LED dimming drivers offer a filtered, regulated power source that works well with LED solid state lights
- > 24 VDC 96 W driver available upon request

#### Note

For installation by a qualified electrician in accordance with all local and national electrical codes. For indoor use and copper conductors only. Check to see that the driver type and rating are suitable for the application. **Compatible with CL Dimmers and other Lutron Dimmers and Systems.** DO NOT install if product has any visible damage. If moisture or condensation is evident, allow the product to dry completely before installation.

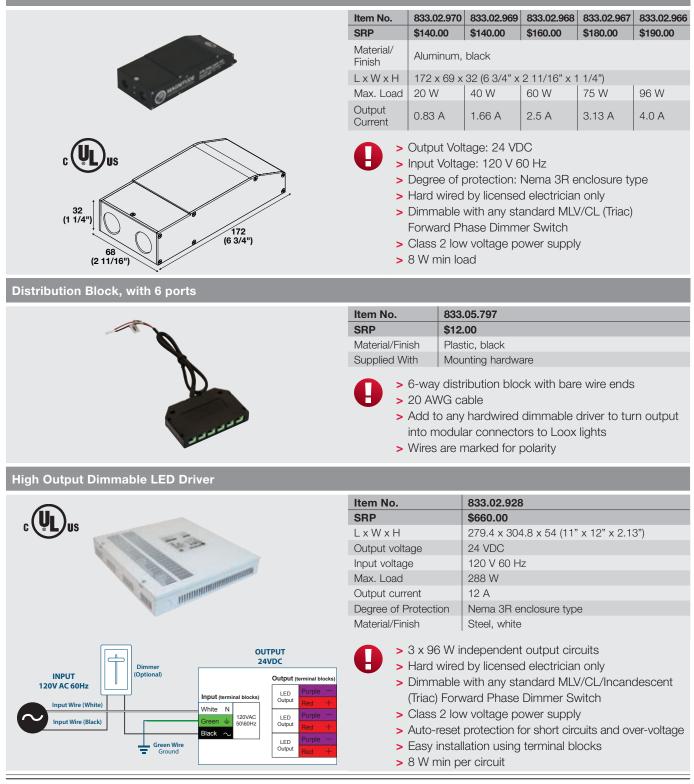




# HARDWIRED DRIVER

### 24 V

Dimmable	E-series	Driver



# LUTRON

#### **EcoSystem 3-wire Driver**



	12 V	24 V				
Item No.	833.02.965	833.02.929				
SRP	\$264.00	\$473.00				
Mounting	Surface	Surface				
Output voltage	12 VDC, 2-40 W	24 VDC, 2-96 W				
Input voltage	120-277 VAC, 50-60 Hz, 1A	120-277 VAC, 50-60 Hz				
Dimming	100%-1%	100%-0.1%				
Material/Finish	Steel, white	Steel, white				
Supplied with	Wire connection, mou	Wire connection, mounting hardware, instructions				



 Control methods: Ecosystem smart digital control, 3-wire control
 Soft-on, fade-to-black dimming technology

- Solt-off, lade-to-black dimining technology (Ecosystem control only) Rated lifetime: 50,000 hours at 40° C (104° F) ambient temperature
- Compliance: UL Listed for United States and Canada, NOM certified, FCC part 15 for residential and commercial applications, NEMA 410, RoHS
- > Control lights wirelessly from multiple locations
- Allows the freedom for multiple dimmer placements within a room
- Add cabinet light controls right alongside existing rooms controls
- > Smooth, flicker-free dimming from 100% down to 1%
- > Provides immunity to electrical noise that can cause flicker at low noise levels
- > Integrates into a planned or existing EcoSystem<sup>®</sup> or Vive<sup>™</sup> lighting control solution
- > Control terminals protect from miswiring up to 277V
- > Remote mount up to 100' from the light source
- Non-volatile memory restores all settings after power failure
- Precision microprocessor control and integral thermal management deliver energy savings and extended product life (rated 50,000 hours)
- > 100% performance tested at factory

#### Note

Drivers and receivers must be installed by licensed electrician and are subject to applicable national, state and local electrical codes. Use in conjunction with wireless receiver (sold separately). Controlled by wireless remote (sold separately).



- > Wireless receiver see page 141
- > Wireless remote see page 135





## LUTRON LED DRIVER

#### Wireless Receiver, required



Item No.	833.01.818
SRP	\$130.00
Output voltage	120 VAC
Mounting	Surface/threaded
Material/Finish	Plastic, white



> Controls up to 3 Eco-system drivers

- > Uses Lutron Clear Connect® RF technology
- Designed to give a linear response to changes in viewed light level
- 2 wire connection between optional sensor and control module – the wires are interchangeable to eliminate miswiring
- Programmed rapid start design ensures full rated lamp life
- Lamps turn on to any dimmed level without flashing to full brightness
- > End-of-lamp-life protection circuitry ensures safe operation
- > Ultra-quiet operation
- > Non-volatile memory restores all ballast settings after power failure
- > 100% performance tested at factory

#### Note

Drivers and receivers must be installed by licensed electrician and are subject to applicable national, state and local electrical codes.

# ACCESSORIES

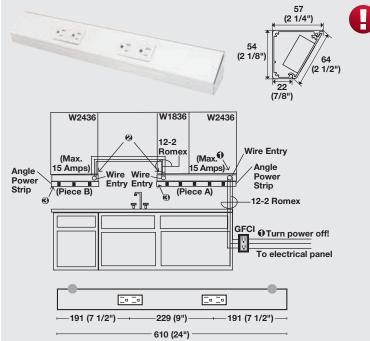
#### **Cable Channel**





# POWER STRIPS

#### Task Angle Power Strip, TR Series



= Knock-out (all knock-outs are 1 1/2" from end)

- > Avoid cutting receptacles into your backsplash
- > 15 amp receptacles standard
- > Tamper-resistant receptacles meet 2008 NEC
- > Easy installation; surface mount with screws
- Power source MUST be a 20 amp branch circuit protected by a GFCI at the panel or GFCI prior to the connection at APS
- Use knockout holes for 120 V wire entrance; use supplied Romex connectors for 120 V electrical connections
- Use supplied tool to carefully pry open for wiring (using other devices may damage the metal cover)
- Firmly insert plug straight into receptacle, applying equal pressure to both blades at the same time; gently rock plug, if needed

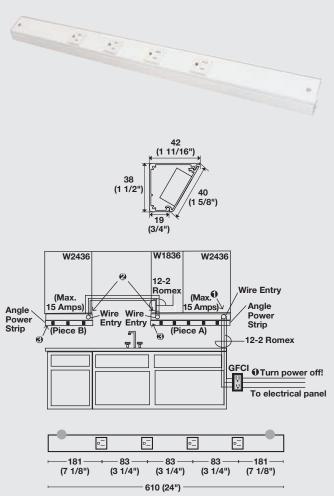
#### Note

All wiring must meet NEC<sup>®</sup> and local codes and must be installed by a licensed electrician. Field cutting voids warranty.

Item No.	822.81.160	822.81.360	822.81.660	822.81.760	822.81.161	822.81.361	822.81.661	822.81.761
SRP	\$136.24	\$136.24	\$136.24	\$136.24	\$143.26	\$143.26	\$143.26	\$143.26
Length	9"				12"			
Receptacles/color	1, black	1, black	1, gray	1, white	1, black	1, black	1, gray	1, white
Material/Finish	Aluminum, bronze	Aluminum, black	Aluminum, satin nickel	Aluminum, white	Aluminum, bronze	Aluminum, black	Aluminum, satin nickel	Aluminum, white
Item No.	822.81.162	822.81.362	822.81.662	822.81.762	822.81.163	822.81.363	822.81.663	822.81.763
SRP	\$170.64	\$170.64	\$170.64	\$170.64	\$186.70	\$186.70	\$186.70	\$186.70
Length	18"				24"			
Receptacles/color	2, black	2, black	2, gray	2, white	2, black	2, black	2, gray	2, white
Material/Finish	Aluminum, bronze	Aluminum, black	Aluminum, satin nickel	Aluminum, white	Aluminum, bronze	Aluminum, black	Aluminum, satin nickel	Aluminum, white
Item No.	822.81.164	822.81.364	822.81.664	822.81.764	822.81.165	822.81.365	822.81.665	822.81.765
SRP	\$201.62	\$201.62	\$201.62	\$201.62	\$216.54	\$216.54	\$216.54	\$216.54
Length	30"				36"			
Receptacles/color	2, black	2, black	2, gray	2, white	2, black	2, black	2, gray	2, white
Material/Finish	Aluminum, bronze	Aluminum, black	Aluminum, satin nickel	Aluminum, white	Aluminum, bronze	Aluminum, black	Aluminum, satin nickel	Aluminum, white
Item No.	822.81.166	822.81.366	822.81.666	822.81.766	822.81.167	822.81.367	822.81.667	822.81.767
SRP	\$249.90	\$249.90	\$249.90	\$249.90	\$264.82	\$264.82	\$264.82	\$264.82
Length	42"				48"			
Receptacles/color	3, black	3, black	3, gray	3, white	3, black	3, black	3, gray	3, white
Material/Finish	Aluminum, bronze	Aluminum, black	Aluminum, satin nickel	Aluminum, white	Aluminum, bronze	Aluminum, black	Aluminum, satin nickel	Aluminum, white
Item No.	822.81.168	822.81.368	822.81.668	822.81.768	822.81.169	822.81.369	822.81.669	822.81.769
SRP	\$309.26	\$309.26	\$309.26	\$309.26	\$335.28	\$335.28	\$335.28	\$335.28
_ength	60"				72"			
Receptacles/color	4, black	4, black	4, gray	4, white	4, black	4, black	4, gray	4, white
Material/Finish	Aluminum, bronze	Aluminum, black	Aluminum, satin nickel	Aluminum, white	Aluminum, bronze	Aluminum, black	Aluminum, satin nickel	Aluminum, white
Supplied with	1 set: wall and	hors and screws,	Romex knock out	grommet, knock p	olug, opening tool,	mounting instruct	ions	

# POWER STRIPS

#### Task Angle Power Strip, APT Series



= Knock-out (all knock-outs are 1 1/2" from end)

- > Avoid cutting receptacles into your backsplash
- > 15 amp receptacles standard
- > Tamper-resistant receptacles meet 2008 NEC
- > Easy installation; surface mount with screws
- > Power source MUST be a 20 amp branch circuit protected by a GFCI at the panel or GFCI prior to the connection at APS
- Use knockout holes for 120V wire entrance; use supplied Romex connectors for 120V electrical connections
- Use supplied tool to carefully pry open for wiring (using other devices may damage the metal cover)
- Firmly insert plug straight into receptacle, applying equal pressure to both blades at the same time; gently rock plug, if needed

#### Note

All wiring must meet NEC<sup>®</sup> and local codes and must be installed by a licensed electrician. Field cutting voids warranty.



## POWER STRIPS

#### Task Angle Power Strip, APT Series

Item No.	822.81.170	822.81.180	822.81.370	822.81.380	822.81.670	822.81.680	822.81.770	822.81.780
SRP	\$171.50	\$171.50	\$171.50	\$171.50	\$171.50	\$171.50	\$171.50	\$171.50
Length	9"							
Wire Entry Side	right	left	right	left	right	left	right	left
Receptacles/color	2, black	2, black	2, black	2, black	2, gray	2, gray	2, white	2, white
Material/Finish	Aluminum, bronze	Aluminum, bronze	Aluminum, black	Aluminum, black	Aluminum, satin nickel	Aluminum, satin nickel	Aluminum, white	Aluminum, white
Item No.	822.81.171	822.81.181	822.81.371	822.81.381	822.81.671	822.81.681	822.81.771	822.81.781
SRP	\$176.46	\$176.46	\$176.46	\$176.46	\$176.46	\$176.46	\$176.46	\$176.46
Length	12"							
Wire Entry Side	left	right	left	right	left	right	left	right
Receptacles/color	2, black	2, black	2, black	2, black	2, gray	2, gray	2, white	2, white
Material	Aluminum							
Finish	bronze	bronze	black	black	satin nickel	satin nickel	white	white
Item No.	822.81.172	822.81.182	822.81.372	822.81.382	822.81.672	822.81.682	822.81.772	822.81.782
SRP	\$192.98	\$192.98	\$192.98	\$192.98	\$192.98	\$192.98	\$192.98	\$192.98
Length	18"							
Wire Entry Side	left	right	left	right	left	right	left	right
Receptacles/color	3, black	3, black	3, black	3, black	3, gray	3, gray	3, white	3, white
Material/Finish	Aluminum, bronze	Aluminum, bronze	Aluminum, black	Aluminum, black	Aluminum, satin nickel	Aluminum, satin nickel	Aluminum, white	Aluminum, white
Supplied with	1 set: wall anc	hors and screws, I	Romex knock out	grommet, knock p	olug, opening tool,	mounting instruct	ions	
Item No.	822.81.173	822.81.373	822.81.673	822.81.773	822.81.174	822.81.374	822.81.674	822.81.774
SRP	\$224.80	\$224.80	\$224.80	\$224.80	\$234.78	\$234.78	\$234.78	\$234.78
Length	24"				30"			
Receptacles/color	4, black	4, black	4, gray	4, white	4, black	4, black	4, gray	4, white
Material/Finish	Aluminum, bronze	Aluminum, black	Aluminum, satin nickel	Aluminum, white	Aluminum, bronze	Aluminum, black	Aluminum, satin nickel	Aluminum, white
Item No.	822.81.175	822.81.375	822.81.675	822.81.775	822.81.176	822.81.376	822.81.676	822.81.776
SRP	\$261.14	\$261.14	\$261.14	\$261.14	\$289.68	\$289.68	\$289.68	\$289.68
Length	36"				42"			
Receptacles/color	4, black	4, black	4, gray	4, white	5, black	5, black	5, gray	5, white
Material/Finish	Aluminum, bronze	Aluminum, black	Aluminum, satin nickel	Aluminum, white	Aluminum, bronze	Aluminum, black	Aluminum, satin nickel	Aluminum, white
Item No.	822.81.177	822.81.377	822.81.677	822.81.777	822.81.178	822.81.378	822.81.678	822.81.778
SRP	\$303.48	\$303.48	\$303.48	\$303.48	\$374.36	\$374.36	\$374.36	\$374.36
Length	48"				60"			
Receptacles/color	5, black	5, black	5, gray	5, white	7, black	7, black	7, gray	7, white
Material/Finish	Aluminum, bronze	Aluminum, black	Aluminum, satin nickel	Aluminum, white	Aluminum, bronze	Aluminum, black	Aluminum, satin nickel	Aluminum, white
Item No.	822.81.179	822.81.379	822.81.679	822.81.779				
SRP	\$416.70	\$416.70	\$416.70	\$416.70				
Length	72"							
Receptacles/color	8, black	8, black	8, gray	8, white				
Material/Finish	Aluminum, bronze	Aluminum, black	Aluminum, satin nickel	Aluminum, white				

# ACCESSORIES

#### Machine Boring Bit - RH

	Item No.	001.08.004	001.08.012	001.08.006	001.06.865
	SRP	\$46.01	\$53.71	\$51.34	\$67.13
A	Material	Carbide			
	Dimensions	Ø 26 x 70 (1" x 2 3/4")	Ø 28 x 70 (1 1/8" x 2 3/4")	Ø 35 x 70 (1 3/8" x 2 3/4")	Ø 40 x 57 (1 5/8" x 2 1/4")

### Machine Boring Bit - with Center Spur - RH



Item No.	001.07.513	001.07.522	001.08.040	001.08.016
SRP	\$139.32	\$141.91	\$160.37	\$171.26
Material	Carbide			
Dimensions	Ø 55 x 57 (2 3/16" x 2 1/4")	Ø 58 x 57 (2 5/16" x 2 1/4")	60 x 57 x 10 (2 3/8" x 2 1/4" x 3/8")	68 x 70 x 10 (2 11/16" x 2 3/4" x 3/8")

#### **Drilling Jig for Puck Light**



Item No.	001.35.052
SRP	\$838.32

#### Drill Bit for Puck Light, with stop



Item No.	001.35.053
SRP	\$149.66
Material	M2 HSS Steel
ØXL	3/8" x 18"
Supplied with	Hex key

> High grade steel material for increased drill life

#### > Allows for deeper wire holes

#### Forstner Bit Assembly, for Puck Light



Item No.	001.35.054	001.35.055
SRP	\$105.58	\$105.58
Material	HSS Steel	
Ø	2 1/8"	2 1/4"
Supplied with	Adjustable depth stop cell	ar box kov

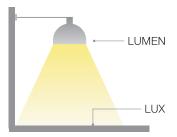
Supplied with Adjustable depth stop, collar, hex key



- > Superior Austrian quality
- High grade steel material with patented wave cutting edge
- > Patented cutting edge drills 10x faster than standard bits
- > Modified low-profile brad point tip for flat bottom hole



# LIGHT MEASUREMENTS



### LUMEN

Lumen is the unit of measurement used to indicate the volume or amount of light emitted by a lamp. Lumen is measured at the lamp's source. Think of lumen as the "showerhead" that showers light down onto a surface.



### REFLECTIONS

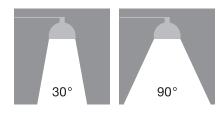
Light reacts differently to various materials, finishes, colors and tones

- > It is absorbed by dark materials
- > It is reflected by light materials
- > Surfaces that are smooth and shiny reflect more light than rough, dull surfaces

3000 K	4000 K	80°	
2236 lx	2257 lx		- 10"
759 lx	764 l <mark>x</mark>	_	- 20"
248 lx	250 lx	_	- 30"
139 lx	141 lx	-	- 40"

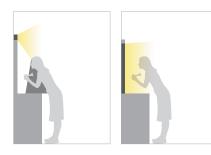
### I UX

Lux is the measurement of light intensity taken at the surface being illuminated. If Lumen is the showerhead, Lux is where the water lands on the shower floor. 1 Lux is defined as 1 square meter of light emitted by a standard wax candle placed 1 meter from an illuminated surface.



### **BEAM ANGLE**

The beam angle is the measurement of the cone of light that is emitted from a lamp. It is measured from its furthest edges where the light falls to 50% of the maximum intensity from the center. The center is commonly referred to as Nadir.



### WORKING WITH SHINY SURFACES

> Place under cabinet lights at the front edge of the cabinet to minimize glare from high-gloss countertops and backsplashes

#### Shadows

- > Cubbies, alcoves and other dark cavities will benefit from ribbon and puck lighting
- > Use medium intensity light to avoid creating harsh shadows
- > For mirrors, use vertical recessed lighting to create a functional wash of light that avoids creating heavy shadows

### COLOR RENDERING INDEX (CRI)

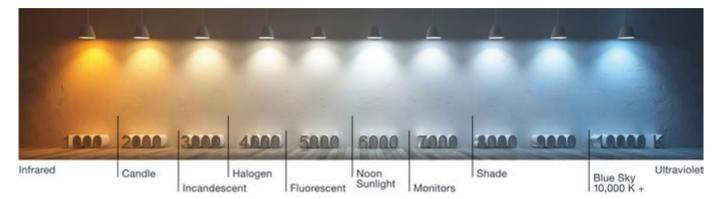
An LED's CRI number refers to its ability to accurately render colors in the way they are meant to be seen. A higher number indicates a better quality of light that more closely resembles natural sunlight. Higher CRI ratings reflect a dramatic improvement in the quality of LED lighting. Varying the CRI can affect how objects, spaces and people appear to the eye. Above is an visual approximation of how different CRI ratings may render color: > A high CRI offers the most realistic looking lighting

- > Lighting in bathrooms or around mirrors requires more realistic facial tones, and calls for lighting with a high CRI
- > A high or low CRI will produce a significant color difference on surrounding surfaces

# COLOR TEMPERATURE

Light color is used to establish character or mood in an environment. The color the light produces is called the color temperature and is expressed in degrees Kelvin (K).

- > The lower the Kelvin rating, the warmer the light color, light with more red tones is at a lower color temperature, and is described as warm
- > The higher the Kelvin rating, the cooler the light color, pure white light is at a higher color temperature, and is described as cool



Color Temperature	Color	Attributes	Applications
2700 K	Warm White	Comfortable, cozy, soft, relaxing-compare to an incandescent light bulb	Bedrooms, living rooms, dining rooms, restaurants
3000 K	Bright Warm White	Inconspicuous, homey, casual, slightly brighter than Warm White, comparable to a halogen	Living rooms, restaurants, hotels, outdoor lighting
4000 K	Cool White	Bright, friendly, inviting, natural	Typically for kitchens, bathrooms and home offices
5000 K	Cool White	Bright and airy	Product displays and graphics
6500 K	Daylight White	Close to daylight, good color rendering, higher proportion of blue, neutral	Retail and jewelry stores

#### RULE OF THUMB FOR CHOOSING COLOR TEMPERATURE

Choose temperature to complement materials. A warm color temperature works well with wood finishes, while cool color temperatures are best for white, metallic, glazed or painted finishes. Color temperature can highlight and enhance a cabinet's finish by adding depth and brilliance. The wrong color temperature can flatten or distort the finish or color.

#### COMMIT TO A SINGLE COLOR TEMPERATURE WITHIN A ROOM

Choose either warm or cool colors; mixing lighting colors will create an incongruous look. For example, if you choose cool light for a tall cabinet, then choose cool color lights in drawers and base cabinets as well.

*
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***
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\* Good \*\* Better \*\*\* Best

#### INTERIORS LIGHTING RECOMMENDATIONS

Area	Lux	Color Temperature					
Kitchen, dining area	300-500	2700-4000 K					
Retail, jewelry stores	300-500	4000-6500 K					
Bedroom, living room	200-300	2700-4000 K					
Bathroom	200-300	3000-4000 K					
Storage	100	4000 – 5000 K					
Orientation lighting, hallway, closet	10-50	2700-4000 K					

QUICK SELECT

Luminosity	Definition	Light Color	Kelvin
Task	500 lux/500 mm	Warm White	<3400 K
Accent/Functional	151 lux-499 lux/500 mm	Cool White	3400-5900 K
Orientation (Night Light)	<150 lux/500 mm	Daylight	>5900 K
		Multi-White	2700-6500 K



### FAQ QUESTIONS AND ANSWERS

#### GLOSSARY

#### LED

A light-emitting diode (LED) is a semi-conductor element that emits light when electricity passes through it. This semi-conductor element consists of a crystal that is attached to a metal holder, and both are encapsulated in protective plastic. LEDs are mostly based on inorganic, non-carbon materials.

#### OLED

Organic light-emitting diodes (OLEDs) are based upon organic (carbonic) materials. OLEDs are manufactured in thin layers and therefore provide a diffuse light source. The OLED technology is becoming more frequently used in display applications (mobile phones and PDA screens).

#### Service life of an LED

Up to 30,000 hours.

#### Infrared radiation from LEDs

LEDs do not emit infrared radiation like incandescent bulbs do.

#### Heat generation of LEDs

All light sources produce heat, even LEDs. However, they do not become very hot, especially if the LEDs and lights are fitted with "heat sinks", which help reduce heat.

#### Test of service life in accordance with the LM-80 standard?

Häfele tests Loox LED flexible strip lights in accordance with the LM-80 standard. LM-80 is a standardized testing method, which allows products to bear the EPA's (Environmental Protection Agency) Energy Star. The test is a manufacturer-independent comparison of LEDs. During the test the luminous flux (Lumen maintenance) and the service life of an LED are tested at three different temperatures (113, 131, and 149 °F) for 6,000 hours.

#### LEDs and food

Since LEDs do not emit UV radiation, they are a better option for supermarkets, restaurants and kitchen lighting. UV radiation reduces the nutrient content in foods, while all other light sources, including natural and artificial emit UV radiation. In addition LEDs do not emit heat which keeps foods fresher longer.

#### Lead in Loox products

Loox products by Häfele are lead-free and adhere to the RoHS guidelines.

#### TECHNICAL QUESTIONS ABOUT LOOX

#### Can the 12 V/24 V lights be dimmed at the primary side?

Yes, this is possible with the dimmable magnetic drivers or electronic low voltage drivers controlled by wall dimmers.

#### What has a major effect on the service life of drivers and LEDs?

An ambient temperature and/or input voltage that is too high.

#### How long can the lead of an LED light / LED flexible strip light be?

6 meters (20'), with a longer lead the resistance drops and the specified light intensity cannot be guaranteed.

#### What is the service life of the drivers?

Approximately 30,000 hours at an ambient temperature of 113 °F.

#### Can the multi switch box, the multi driver box and the 3-way distributor with switching function be connected in series multiple times?

No, because the signals would not be transmitted properly.

#### With what output tolerance should drivers and LED lights be calculated?

#### ±10 percent

#### What binning (color deviation) do Loox LED lights have?

Avg. ±150 Kelvin - single bin, 3 step

#### Can 12 V and 350 mA lights be used together?

Yes, please use our corresponding converter. (see page 126)

# QUESTIONS AND ANSWERS

#### TECHNICAL QUESTIONS ABOUT LOOX

#### Which ambient variables can lead to problems when using the door sensor switch?

High-gloss front panels and sliding doors. For a better solution, please use a motion detector.

#### Is it possible to control multiple color mixers with a single remote control?

Yes, different color mixers can be managed on a single remote control

#### Is the dimmer setting saved if the power fails?

The dimmer setting is saved for RGB/multi-white mixers, the touch free dimmer switch and the multi-channel remote receiver for white lights. The setting is not saved for the Loox touch dimmer.

#### For how many Amps are the normal commercial LED plug systems and AWG-22 leads suitable?

#### 2.5 Amps

#### What is the maximum Wattage that I can connect to an AWG-20 lead and plug?

With 12 V systems this is 12 V x 3.5 A = 42 W. With 24 V systems this is 24 V x 3.5 A = 84 W

#### What is AWG 20?

AWG stands for American Wire Gauge. It is the coding for wire diameters in electrical leads that are mainly used in North America. This identifies the cross-section of wires in electrical leads that consist of strands of wire.

#### Can your lights be operated using multiple switches?

Yes, please use the multi switch box to do this. Up to three switches can be connected to the multi switch box. The dimmer does not work with the multi switch box. (see page 124)

#### What is the difference between the different LED flexible strip lights?

LED 2012, 2030, 3030 and 3031 flexible strip lights are encased in silicone, so profiles are not required for installation. These LED flexible strip lights can be directly installed into a groove or attached to a surface. LED 2029, 2037, 2016, 2041, 2042, 3032, 3015, 3028 flexible strip lights do not have silicone and it is advisable to use aluminum profiles for installation and heat management.

#### What influence does the type of glass edge have on the lighting effect that is generated?

The lighting effect varies depending on the type of glass shelf. Glass edge with satin finish = even light line (diffused glow) Clear glass edge = point light (hot spots)

#### Can I simply cut LED flexible strip lights to length?

Yes, LED flexible strip lights can be shortened at the mark with the scissor symbol. Please note the following differences when doing this: LED 2012 flexible strip lights can be shortened but not re-attached. LED 2029, 2030, 2037, 3015, 3028, 3030, 3031, 3032 flexible strip lights can be shortened or extended as much as required, since the connection between the strips and the connection to the driver is made using clip connectors. Example of LED 3015 flexible strip lights: Cut off, fit clip connector and press on - finished.









Lead with clip connector

#### Why do the lights have to be plugged in first before connecting the primary plug?

If the driver is connected to the power first, electrical power is output at the secondary side, which leads to overvoltage which damages the lights if they are connected. This is especially true with the 350 mA system.

#### Can Loox lights be used in vehicles, for example?

Yes, but an upstream voltage stabilizer must always be installed, since voltage fluctuations occur in on-board power supplies and voltage peaks (even slight overvoltage). This can reduce the service life of the lights considerably or cause damage.

#### How can I compare the output of an LED light with a halogen light?

Use the light cone to compare the values at 500 mm (19 11/16"). A 20 W halogen light features approx. 600 lx at 500 mm.



## FAQ QUESTIONS AND ANSWERS

#### TROUBLESHOOTING

#### Why does the light flash at regular intervals when it is switched off?

This is caused by leakage current in the electrical installation which is charging the capacitor in the driver until it briefly gives off the power at regular intervals to discharge itself resulting in brief flashing of the light. Solution: Check the entire installation.

#### Why does my LED light flash?

Flashing is a sign of underloading or overloading. Use a driver with higher power or reduce the consumption.

#### What may be the cause if an RGB LED flexible strip light is only displaying individual colors?

The clip connector has been connected incorrectly or the strip has been connected to the wrong end or to the driver.

#### Why is the door sensor switch not operating correctly?

When sliding doors are being used, the door sensor switch cannot record the rapid movement and the movement of the door properly. Dark surfaces (e.g. jet black) have poor reflection, therefore the optical sensor may fail to detect the door panel. Solution: Use motion detectors.

#### What are the differences between the output of the different Loox LED flexible strip lights?

	LED 2029	LED 2030	LED 2037	LED 2041	LED 2042	LED 2016			
Wattage W/ft.	3/ft.	1.5/ft.	1.2/ft.	3/ft.	1.5/ft.	2.16/ft.			
Number of LED/m (LED/ft.)	120 (36)	60 (18)	120 (36)	120 (36)	60 (18)	30 (9)			
Lumen per Watt	85	81	80	96	100	34			
Lux @ 500 mm (19 11/16")	522	222	204	655	525	135			
max. length m (ft.) per lead	3.6 (11' 9-3/4")	5 (16' 4-7/8")	5 (16' 4-7/8")	3.6 (11'-9 3/4")	5 (16' 4-7/8")	4.2 (13' 9-3/8")			

	LED 2012	LED 3015	LED 3028	LED 3030	LED 3031	LED 3032
Wattage W/ft.	1.8/ft.	4.6/ft.	5.9/ft.	3/ft.	3/ft.	4/ft.
Number of LED/m (LED/ft.)	36 (11)	120 (36)	240 (72)	120 (36)	120 (36)	2x84 (2 x 26)
Lumen per Watt	11	91	84	96	90	100
Lux @ 500 mm (19 11/16")	30	732	1077	450	240	590
max. length m (ft.) per lead	5 (16' 4-7/8")	4.8 (15' 9")	3.8 (12' 5-5/8")	5 (16' 4-7/8")	5 (16' 4-7/8")	5 (16' 4-7/8")

# SYMBOLS AND TERMS

TEST SYMBOLS AND DEFINITION OF TECHNICAL TERMS

	Technical	Control Board		Protection class 3
¢ US	Underwrit	ers Laboratories (CAN/USA)	CE	European Safety Standard
F©	Federal C	ommunications Certified	IP20	Only for use in dry locations
RoHS	Restrictior	n of Hazardous Substances	IP44	Protected against solid foreign objects Ø1 mm and larger and splash water
N13851 A/12586EA	Australian	Communications Authority	IP65	Protected from water jets by a nozzle 6.3 mm (1/4") from any angle
PS		Bafety Electrical Appliance rial Safety Law (for Japan)		IP44 after installation
CQC	China Qua	ality Certification		IP65 after installation
	Electrical	Testing Labs (CAN/USA)	Water Tolerant	Water Tolerant
	TISI – Tha	i Industrial Standards Institute		Lights to be used indoors only. Not to be used outdoors!
R36733	BSMI (for	Taiwan)	<u>8 8 8 7/1111</u>	Do not use components that impede thermal radiation
	Korea Cer	rtification Mark		Multi-white
SELV	Protective	extra-low voltage	0% 0100%	Dimmable
MM	Furniture i	installation symbol	<sup>*</sup>	Motion detector
F		or directly mounting to inflammable surfaces	<b>O</b> RGB	RGB light
	Protection	n class 2	*JA8-2016-E	Title 24 High Efficiency Lighting
Technical terms				
Energy Efficiency	Category	The energy efficiency category provides informa Lamps and lights are categorized in classes E t	ation about the relevant o A++. LED lights achie	energy consumption. eve the highest classes A to A++.
Weight Energy Cor	nsumption	The weighted energy consumption shows the e 1,000 hours of use.	energy consumption in l	kilowatt hours in relation to



# LED LIGHTING TECHNOLOGY

LEDs (Light Emitting Diodes) can vary the properties of the light that is generated, and generate almost the entire color spectrum. Unlike normal light bulbs and halogen lamps, LEDs generate little heat. They use less energy and have a long service life.

### **ADVANTAGES**

#### Long lasting

> LED lights have an extremely long service life of up to 25 years or more than 30,000 hours.

#### Insensitive

 LEDs have an extremely small and robust design.
 This makes handling easier during furniture construction and transportation.

#### Low heat generation

LED lights generate very little heat, because of their low power consumption, making LED lighting systems particularly suitable for displays.

#### Energy-saving

LED lights use an impressive 90 percent less power than conventional light bulbs! This means that they can be used to incorporate modern lighting schemes in furniture, and still stay in line with the energy saving trend.

#### Powerful

> Modern LED lights are bright and have a saturated light color. They achieve full brightness as soon as they are switched on. LED furniture lighting produces a lasting effect at the push of a button.

#### Rich in variants

LED lights are available in different colors, and can also be designed as color changing lights. This allows the light color to be coordinated with furniture contents, such as displays, in the best possible way.

### THE LOOX LIGHTING TECHNOLOGY The Loox LED technology incorporates different power

systems. A system is decided on by choosing the driver or by choosing a particular light. The choice of system is an important decision, because the driver that is selected can only be combined with lights from the same system.



#### An array of choices in the 12 V system

The LED lights are voltage-controlled and connected in parallel in the 12 V system. The slots on the driver can be freely allocated. 12 V lights are presently the most extensive.



#### Powerful 24 V system

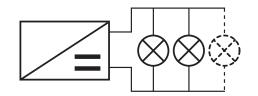
Technically speaking, the 24 V system is identical to the 12 V system, but has a considerably higher power level. 24 V lights are used when extremely bright lights are required.



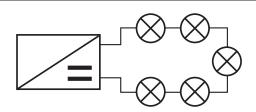
#### Spotlights in the 350 mA system

The LED lights in the 350 mA system are currentcontrolled and connected in series. This means that each slot has to be either occupied or must have a bridge. 350 mA lights provide extremely strong light output and are particularly suitable for spotlighting.

### DRIVER ELECTRICAL CIRCUITS



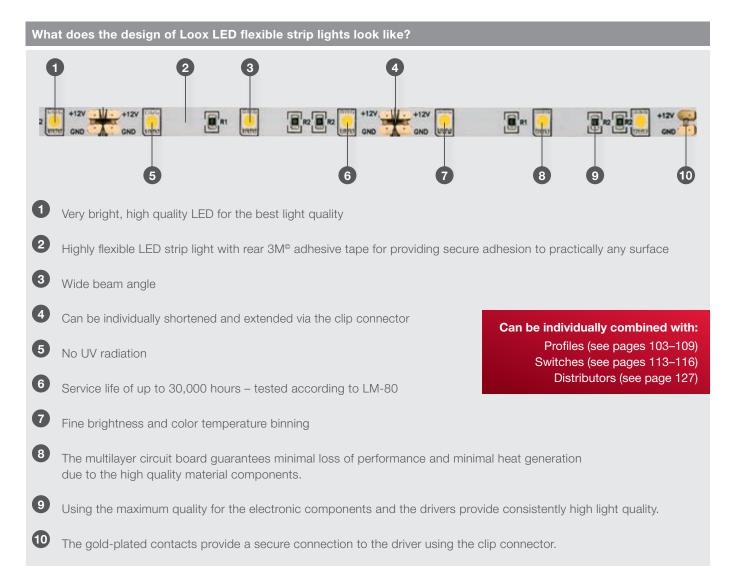
Parallel connection for 12 V and 24 V systems



Series connection for 350 mA system

# LED FLEXIBLE STRIP LIGHT

### QUALITY FEATURES





TEST THE LOOX PLANNING SERVICE www.hafele.com

154 / Additional Information



# LED STRIP LIGHTS

### ACCEPTABLE STRIP LIGHT LENGTHS WITH THE USE OF 3.5 A COMPONENTS

LED strip lights and LED silicone strip lights can be connected to several driver outputs. The table shows the maximum acceptable strip light length at an individual output or at all outputs of a driver as a whole.



> Only valid if components (leads and interconnecting leads, mixers, aluminium profile switches, radio receivers, BLE box) with current carrying capacity of 3.5 A are used.

> If one of the following components with a lower current carrying capacity of 2.5 A is used, the **strip light length** is reduced based on wattage below:

	Current carrying capacity
Aluminium profile switches, mixers	
12 V system, max. 30 W	2.5 A
24 V system, max. 60 W	2.5 A
6 Channel - Premium remote receiver	
12 V system, max. 60 W (max. 30 W per slot)	2.5 A
24 V system, max. 90 W (max. 60 W per slot)	2.5 A
BLE box	
12 V system, max. 60 W (max. 30 W per slot)	2.5 A
24 V system, max. 90 W (max. 60 W per slot)	2.5 A

> If the load of the driver is  $\geq$ 80%, the sum total of leads to the lights may not exceed 6 m.







# LOOX LED STRIP LIGHTS

ACCEPTABLE STRIP LIGHT LENGTHS WITH THE USE OF 3.5 A COMPONENTS

12 V System	LED	Number of LEDs/m (LED/ft.)	Wattage W/m (W/ft.)	Section length mm (inches)	Wattage of driver W	Item No. driver	Length per output m (ft.)	Length at all outputs total m (ft.)
					20	833.74.960	1,800 (5' 10 7/8")	1,800 (5' 10 7/8")
	LED 2029 LED 2041	120 (36)	9.6 (3.0)	25 (1")	40	833.74.962	3,600 (11' 9 3/4")	3,600 (11' 9 3/4")
			. ,		60	833.74.964	3,600 (11' 9 3/4")	5,500 (18' 1/2")
					20	833.74.960	3,600 (11' 9 3/4")	3,600 (11' 9 3/4")
	LED 2042 LED 2030	60 (18)	4.8 (1.5)	50 (2")	40	833.74.962	5,000 (16' 4 7/8")	7,200 (23' 7 1/2")
		· · ·			60	833.74.964	5,000 (16' 4 7/8")	11,000 (36' 1 1/8")
					20	833.74.960	4,400 (14' 5 1/4")	4,400 (14' 5 1/4")
LED 2037	120 (36)	4 (1.2)	25 (1")	40	833.74.962	5,000 (16' 4 7/8")	8,600 (25' 2 5/8")	
				60	833.74.964	5,000 (16' 4 7/8")	13,300 (43' 7 5/8")	

24 V System	LED	Number of LEDs/m (LED/ft.)	Wattage W/m (W/ft.)	Section length mm (inches)	Wattage of driver W	ltem No. driver	Length per output m (ft.)	Length at all outputs total m (ft.)
					20	833.77.945	1,200 (3' 11 1/4")	1,200 (3' 11 1/4")
	LED 3015	120 (36)	15 (4.6)	50 (2")	40	833.77.947	2,400 (7' 10 1/2")	2,400 (7' 10 1/2")
			( - /		90	833.77.949	4,800 (15' 9")	5,400 (17' 8 5/8")
					20	833.77.945	900 (2' 11 3/8")	900 (2' 11 3/8")
	LED 3028	240 (72)	19.2 (5.9)	25 (1")	40	833.77.947	1,850 (6' 7/8")	1,850 (6' 7/8")
		× /	, ,		90	833.77.949	3,800 (12' 5 5/8")	4,200 (13' 9 3/8")
					20	833.77.945	1,850 (6' 7/8")	1,850 (6' 7/8")
	LED 3030	120 (36)	9.6 (3.0)		40	833.77.947	3,750 (12' 3 5/8")	3,750 (12' 3 5/8")
			, , , , , , , , , , , , , , , , , , ,		90	833.77.949	5,000 (16' 4 7/8")	8,500 (27' 10 5/8")
					20	833.77.945	1,800 (5' 10 7/8")	1,800 (5' 10 7/8")
	LED 3031 *	120 (36)	9.6 (3.0)	100 (4")	40	833.77.947	3,700 (12' 1 5/8")	3,700 (12' 1 5/8")
					90	833.77.949	5,000 (16' 4 7/8")	8,500 ** (27' 10 5/8")
					20	833.77.945	1,357 (4' 5 3/8")	1,357 (4' 5 3/8")
	LED 3032 *	* 2 x 84 (2 x 26)	13 (4.0)	71.4 (2 13/16")	40	833.77.947	2,785 (9' 1 5/8")	2,785 (9' 1 5/8")
	(2 / 20)		( )	90	833.77.949	3,927 (12' 10 5/8")	6,283 ** (20' 7 3/8")	

\* current limited to 2.5 A by multi-white mixer

\*\* at least 2 multi-white mixers are required



# LED STRIP LIGHTS

### VISIBILITY OF LED POINTS

Profile cover finishes - different light effects



#### Visibility of LED points

The surface of the diffusers is decisive for the lighting effect of an LED strip light. Frosted covers only absorb a little light – the LED points remain visible.

Milk covers absorb more light. Depending on the distance between the LED strip light and a milk diffuser, homogeneous lighting can be created with certain aluminum profiles and LED strip lights from 90 LEDs/m. This is particularly pleasing when you have a direct view of the profile, or if completely homogeneous indirect lighting is required.

In order to achieve the specified life time of LED strip lights with output of ≥7 W/m, the LED strip light should only be used on a cooling strip or in an aluminum profile.

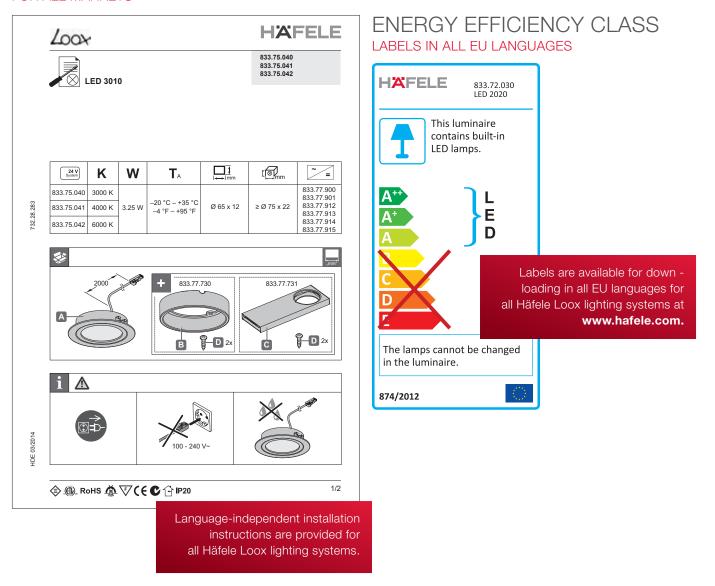
		_								
LED Flexible Ribbon			LED 2016	LED 2029	LED 2037	LED 2041	LED 2042	LED 3015	LED 3028	LED 3032
Profiles for surface mounting										
Height 8.5 mm* (5/16")		Milk	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	×	$\checkmark$
Height 13 mm* (1/2")		Milk	$\checkmark$	-	-	-	$\checkmark$	-	-	-
Profiles for recess mounting										
Height 8.5 mm* (5/16")		Milk	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	×	$\checkmark$
Height 13 mm* (1/2")		Milk	$\checkmark$	-	-	-	$\checkmark$	-	-	$\checkmark$
Height 26 mm* (1")		Milk	_	-	-	-	$\checkmark$	-	-	-
Angled profiles										
Depth 11 mm (7/16")	17	Milk	$\checkmark$	-	-	-	$\checkmark$	-	-	$\checkmark$
Corner profile										
20 x 20 mm (13/16" x 13/16")	$\square$	Milk	~	-	-	-	$\checkmark$	-	-	-
Drawer profile										
Height 12.5 mm* (1/2")		Milk	$\checkmark$	-	-	-	$\checkmark$	_	×	$\checkmark$
				Minir	num depth (	dim. A, so tł	nat LED poir	nts are not v	isible	
Diffuser										
Depth A (mm)	<u> </u>	Milk	26 mm (1")	10.5 mm (7/16")	10.5 mm (7/16")	10.5 mm (7/16")	13 mm (1/2")		×	
*Profile height without diffuser	✓ LED po	ints visible	e – LED	points not v	isible 🗴	unsuitable				

### VIDEO GUIDES LANGUAGE NEUTRAL FOR ALL MARKETS

Language-independent videos are available for the Loox radio remote controls and other selected products at **www.hafele.com** next to the item.



### INSTALLATION INSTRUCTIONS LANGUAGE NEUTRAL FOR ALL MARKETS





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001.35.054         .446         822.81.163         .143         822.81.669         .145         830.28721         .107         833.02.706         .50           001.35.054         .146         822.81.165         .145         830.28.721         .107         833.02.746         .157           002.99.032         .117         822.81.166         .143         822.81.671         .145         830.28.70         .076         833.02.749         .59           003.36.25         .117         822.81.167         .143         822.81.674         .145         830.28.70         .08         .083.02.292         .137           903.39.411         .107         822.81.171         .143         822.81.675         .145         830.28.783         .08         333.02.929         .139           803.39.411         .107         822.81.171         .145         822.81.679         .145         830.28.768         .08         333.02.963         .137           820.63.61         .138         822.81.171         .145         822.81.679         .145         830.29.766         .08         .330.2.963         .137           820.63.61         .138         822.81.171         .145         822.81.679         .145         830.2.963         .137	001.08.040	146	822.81.161 143	822.81.667 143	830.28.710 107	833.02.704 50
001.35.054         .146         822.81.164         .143         822.81.670         .145         830.28.720         .107         833.02.747         .50           001.35.055         .146         822.81.166         .143         822.81.672         .145         830.28.730         .107         833.02.743         .50           002.90.32         .117         822.81.166         .143         822.81.673         .145         830.28.780         .30         83.02.240         .112           803.39.11         .07         822.81.164         .143         822.81.676         .145         830.28.783         .08         833.02.926         .139           803.39.611         .07         822.81.771         .145         830.28.785         .30         833.02.961         .136           820.65.300         .13         822.81.172         .145         830.28.765         .30         833.02.961         .136           820.66.365         .133         822.81.172         .145         830.28.768         .30         833.02.964         .137           820.66.365         .131         822.81.174         .145         820.82.878         .30         833.02.964         .137           820.66.365         .131         822.81.174         .46 <td>001.35.052</td> <td>146</td> <td>822.81.162 143</td> <td>822.81.668 143</td> <td>830.28.711 107</td> <td>833.02.705 50</td>	001.35.052	146	822.81.162 143	822.81.668 143	830.28.711 107	833.02.705 50
001.35.055         .146         822.81.165         .143         822.81.671         .145         830.28.730         .107         833.02.748         .137           000.568.270         .112         822.81.166         .143         822.81.671         .145         830.28.730         .107         833.02.740         .112           803.39.111         .107         822.81.168         .143         822.81.674         .145         830.28.781         .30         833.02.927         .137           803.39.211         .107         822.81.171         .146         832.28.783         .30         833.02.928         .199           903.39.611         .107         822.81.172         .146         832.28.785         .30         833.02.961         .136           820.66.50         .138         822.81.173         .146         822.81.679         .145         830.28.767         .30         833.02.964         .137           820.66.55         .131         822.81.175         .146         822.81.670         .145         830.38.424         .116         833.02.967         .139           820.66.55         .131         822.82.81.776         .145         830.42.421         .168         .167         .143         830.64.231         .583.30.2.967	001.35.053	146	822.81.163 143	822.81.669 143	830.28.720 107	833.02.706 50
002.98.032         117         822.81.166         .143         822.81.672         .145         830.28.731         .07         833.02.779        59           003.58.270         .112         822.81.167         .143         822.81.671         .145         830.28.780        30         833.02.840        112           803.39.11         107         822.81.167         .145         830.28.782        30         833.02.929        139           803.39.411         107         822.81.170         .145         830.28.785        30         833.02.961        139           803.39.611         70         822.81.171         .145         830.28.786        30         833.02.961        136           820.66.350         .133         822.81.173         .145         830.28.787        30         833.02.964        137           820.66.351         .131         822.81.176         .145         830.38.424        16         833.02.964        137           820.66.355         .131         822.81.176        45         822.81.682        44         830.64.200        53         833.02.967        139           820.66.355         .131         822.81.177        45         822	001.35.054	146	822.81.164 143	822.81.670 145	830.28.721 107	833.02.707 50
003.68.270         112         822.81.167         .143         822.81.673         .145         830.28.780         .30         833.02.840         .112           803.39.111         107         822.81.168         .143         822.81.675         .145         830.28.781         .30         833.02.929         .139           803.39.411         107         822.81.170         .145         822.81.676         .145         830.28.783         .30         833.02.929         .140           820.68.30         .134         822.81.171         .145         832.28.786         .30         833.02.963         .137           820.66.350         .138         822.81.173         .145         822.81.679         .145         830.28.787         .30         833.02.963         .137           820.66.351         .132         822.81.174         .145         822.81.681         .145         830.28.787         .30         833.02.964         .137           820.66.353         .131         822.81.176         .145         822.81.61         .145         830.8424         .116         833.02.966         .139           820.66.355         .131         822.81.176         .143         830.64240         .54         833.02.969         .139 <tr< td=""><td>001.35.055</td><td> 146</td><td>822.81.165 143</td><td>822.81.671 145</td><td>830.28.730 107</td><td>833.02.748 137</td></tr<>	001.35.055	146	822.81.165 143	822.81.671 145	830.28.730 107	833.02.748 137
903.39.111       107       822.81.168       .143       822.81.674       .145       830.28.781       .30       833.02.927       .137         903.39.211       107       822.81.169       .143       822.81.675       .145       830.28.782       .30       833.02.928       .139         903.39.11       107       822.81.171       .145       822.81.677       .145       830.28.785       .30       833.02.962       .137         820.66.300       .134       822.81.172       .145       822.81.679       .145       830.28.786       .30       833.02.963       .137         820.66.351       .128       82.81.175       .145       822.81.671       .145       830.82.878       .30       833.02.965       .140         820.66.352       .131       82.81.175       .145       822.81.680       .145       830.84.241       .168       830.2.966       .139	002.99.032	117	822.81.166 143	822.81.672 145	830.28.731 107	833.02.779
803.39.211         107         822.81.169         143         822.81.675         145         830.28.782         30         833.02.929         140           803.39.411         107         822.81.170         145         822.81.676         145         830.28.783         30         833.02.929         140           803.39.611         107         822.81.171         145         822.81.676         145         830.28.785         30         833.02.961         133           820.66.500         133         822.81.174         145         822.81.679         145         830.28.787         30         833.02.964         137           820.66.351         131         622.81.176         145         822.81.681         145         830.82.424         168         833.02.966         139	003.58.270	112	822.81.167 143	822.81.673 145	830.28.780	833.02.840 112
803.39.411         107         822.81.170         .145         822.81.676         .145         830.28.783         .30         833.02.929         .140           803.39.611         .07         822.81.171         .145         822.81.678         .145         830.28.785         .30         833.02.962         .136           820.66.350         .133         822.81.173         .145         822.81.679         .146         830.28.787         .30         833.02.963         .137           820.66.351         .132         822.81.175         .145         822.81.680         .145         830.28.788         .00         833.02.966         .137           820.66.351         .131         822.81.176         .145         822.81.760         .143         830.64.230         .53         833.02.966         .139	803.39.111	107	822.81.168 143	822.81.674 145	830.28.781	833.02.927 137
903.39.611       107       822.81.171       1.45       822.81.677       .145       830.28.785       .30       833.02.961       .136         820.66.300       .133       822.81.173       .145       822.81.679       .145       830.28.786       .30       833.02.964       .137         820.66.351       .133       822.81.173       .145       822.81.679       .145       830.28.786       .30       833.02.964       .137         820.66.352       .131       822.81.175       .145       822.81.681       .145       830.38.423       .16       833.02.966       .139         820.66.354       .131       822.81.178       .145       822.81.761       .148       830.64.230       .53       833.02.966       .139         820.66.356       .131       822.81.178       .145       822.81.761       .143       830.64.240       .44       833.02.969       .139         820.66.356       .131       822.81.174       .145       822.81.761       .143       830.64.240       .54       833.02.969       .139         820.66.400       .134       822.81.176       .143       830.64.260       .53       833.03.070       .57         820.66.451       .131       822.81.81       .145 <td>803.39.211</td> <td> 107</td> <td>822.81.169 143</td> <td>822.81.675 145</td> <td>830.28.782</td> <td>833.02.928 139</td>	803.39.211	107	822.81.169 143	822.81.675 145	830.28.782	833.02.928 139
820.66.300			822.81.170 145	822.81.676 145	830.28.783	
820.66.350       133       822.81.173       145       822.81.679       145       830.28.787       30       833.02.964       137         820.66.351       132       822.81.174       145       822.81.860       145       830.38.423       116       833.02.964       137         820.66.352       131       822.81.176       145       822.81.820       145       830.84.23       116       833.02.966       139         1.33       134       132       822.81.177       145       822.81.761       143       830.64.231       53       833.02.968       139         820.66.356       131       322.81.178       145       822.81.762       143       830.64.241       54       833.02.968       139         820.66.356       131       322.81.171       145       822.81.762       143       830.64.261       53       833.02.970       139         820.66.366       133       822.81.181       145       822.81.766       143       830.64.261       53       833.03.070       57         820.66.451       133       822.81.361       143       822.81.766       143       830.64.271       54       833.04.081       57         820.66.452       131       822.81.361 <td>803.39.611</td> <td> 107</td> <td>822.81.171 145</td> <td>822.81.677 145</td> <td>830.28.785</td> <td>833.02.961 136</td>	803.39.611	107	822.81.171 145	822.81.677 145	830.28.785	833.02.961 136
820.66.351       132       822.81.174       145       822.81.680       145       830.28.788       30       833.02.964       137         820.66.352       131       822.81.175       145       822.81.681       145       830.84.23       116       833.02.966       149         820.66.353       131       132       822.81.176       145       822.81.761       143       830.64.230       58       833.02.967       139         820.66.354       132       822.81.178       145       822.81.762       143       830.64.240       54       833.02.967       139         820.66.356       131       822.81.178       145       822.81.762       143       830.64.261       54       833.02.969       139         820.66.356       131       822.81.181       145       822.81.765       143       830.64.261       58       833.00.701       57         820.66.450       133       822.81.360       143       822.81.765       143       830.64.260       58       833.04.081       57         820.66.451       131       822.81.361       143       822.81.765       143       830.64.930       53       83.04.081       57         820.66.452       131       822.81.361<	820.66.300	134		822.81.678 145		833.02.962 137
820.66.352       131       822.81.175	820.66.350	133	822.81.173 145	822.81.679 145	830.28.787	
820.86.353       .131, 132,       822.81.176	820.66.351	132	822.81.174 145	822.81.680 145	830.28.788	833.02.964 137
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			822.81.175 145	822.81.681 145	830.38.423 116	
820.66.354       132       822.81.178       145       822.81.761       143       830.64.231       53       833.02.968       139         820.66.355       131       822.81.179       145       822.81.762       143       830.64.240       54       833.02.969       139         820.66.356       131       122       822.81.181       145       822.81.762       143       830.64.240       53       833.03.070       57         820.66.400       134       822.81.182       145       822.81.765       143       830.64.261       53       833.03.071       57         820.66.410       133       822.81.360       143       822.81.766       143       830.64.270       54       833.04.080       57         820.66.451       133       822.81.361       143       822.81.767       143       830.64.930       53       833.05.057       139         820.66.452       131       822.81.364       143       822.81.769       143       830.64.930       53       833.05.057       138      133.134,135       822.81.364       143       822.81.771       145       830.64.941       54       833.15.170       100         820.66.455       131       822.81.366       143       <	820.66.353 131	, 132,				
820.66.355       131       822.81.179       145       822.81.762       143       830.64.240       54       833.02.969       139         820.66.356       131       132       822.81.180       145       822.81.763       143       830.64.241       54       833.02.970       139         820.66.400       134       822.81.181       145       822.81.764       143       830.64.260       53       833.03.070       57         820.66.450       133       822.81.361       143       822.81.767       143       830.64.271       64       83.04.080       57         820.66.452       131       822.81.361       143       822.81.767       143       830.64.930       53       833.04.081       57         820.66.453       131       822.81.361       143       822.81.769       143       830.64.931       53       833.05.905       138		4, 135	822.81.177 145	822.81.760 143	830.64.230 53	833.02.967 139
820.66.356	820.66.354	132			830.64.231	833.02.968 139
820.66.400       134       822.81.181       145       822.81.764       143       830.64.260       53       833.03.070       57         820.66.410       134       822.81.182       145       822.81.765       143       830.64.261       53       833.03.071       57         820.66.450       133       822.81.360       143       822.81.767       143       830.64.270       54       833.04.080       57         820.66.451       132       822.81.361       143       822.81.767       143       830.64.271       54       833.05.095       139         820.66.452       131       822.81.362       143       822.81.769       143       830.64.930       53       833.05.797       139         820.66.454       132       822.81.364       143       822.81.771       145       830.64.940       54       833.13.170       100         820.66.455       131       822.81.366       143       822.81.773       145       830.64.961       53       833.13.171       100         820.66.456       131, 132       822.81.367       143       822.81.775       145       830.64.971       54       833.13.173       100         820.66.651       133       822.81.377 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td></t<>						
820.66.410       134       822.81.182       145       822.81.765       143       830.64.261       53       833.03.071       57         820.66.450       133       822.81.360       143       822.81.766       143       830.64.270       54       833.04.080       57         820.66.451       132       822.81.361       143       822.81.767       143       830.64.271       54       833.04.081       57         820.66.452       131       822.81.362       143       822.81.768       143       830.64.931       53       833.05.905       138		,				
820.66.450       133       822.81.360       143       822.81.766       143       830.64.270       54       833.04.080       57         820.66.451       132       822.81.361       143       822.81.767       143       830.64.271       54       833.04.081       57         820.66.452       131       822.81.362       143       822.81.769       143       830.64.930       53       833.05.905       138         820.66.453       131, 132       822.81.364       143       822.81.769       143       830.64.931       53       833.05.905       138						
820.66.451       .132       822.81.361       .143       822.81.767       .143       830.64.271       .54       833.04.081       .57         820.66.452       .131       822.81.362       .143       822.81.768       .143       830.64.930       .53       833.05.995       .139         820.66.453       .131, 132       822.81.363       .143       822.81.769       .143       830.64.931       .583.05.905       .138						
820.66.452131822.81.362143822.81.768143830.64.93053833.05.797139820.66.453131,132822.81.363143822.81.769143830.64.93153833.05.905138133,134,135822.81.364143822.81.770145830.64.94054833.13.170100820.66.454132822.81.365143822.81.771145830.64.94054833.13.171100820.66.456131822.81.366143822.81.772145830.64.96053833.13.172100820.66.650133822.81.367143822.81.773145830.64.96153833.13.174100820.66.651132822.81.368143822.81.775145830.64.97154833.13.175100820.66.652131822.81.370145822.81.776145830.061058833.13.701100820.66.654131822.81.371145822.81.777145830.061759833.13.702100820.66.654131822.81.371145822.81.778145833.00.61759833.13.702100820.66.655131822.81.371145822.81.779145833.00.61858833.13.707100820.66.656131822.81.377145822.81.781145833.00.61858833.13.707100820.66.750133822.81.377145822.81.782 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td></t<>						
820.66.453131, 132,       822.81.363143       822.81.769143       830.64.93153       833.05.905188        133, 134, 135       822.81.364143       822.81.770145       830.64.94054       833.13.170100         820.66.454132       822.81.365143       822.81.771145       830.64.94154       833.13.171100         820.66.455131       822.81.366143       822.81.772       145       830.64.96053       833.13.172100         820.66.650131       822.81.367143       822.81.773       145       830.64.96153       833.13.174100         820.66.651132       822.81.368       143       822.81.775       145       830.64.970       54       833.13.174       100         820.66.652131       822.81.370       145       822.81.775       145       830.64.971       54       833.13.175       100         820.66.653       131       822.81.370       145       822.81.775       145       830.610       58       833.13.70       100         820.66.654       132       822.81.371       145       822.81.777       145       830.0617       59       833.13.70       100        133, 134, 135       822.81.371       145       822.81.777       145       833.06.630						
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