

## LEDSPOTS EVOLVE 50



### NEW MODULAR LED ENGINES FOR MULTIPLE OPTICS CONFIGURATIONS

One of the main characteristics of this LED engines is their flexibility. The modularity of these LED engines allows you to combine different lenses and reflectors in order to get the result you expect.

Moreover, with its easy to fit technology you connect optics or reflectores in a blink of an eye – just click it in.

#### Typical applications for LEDSpots

Integration in luminaires

- Residential lighting
- Retail lighting
- Hospitality lighting



## LED Engines for Evolve 50 and Active PLUS

**LEDSpot engine equipped with LED module, holder, thermal pad, heat sink and leads but without reflector or optics**

### Technical notes

For reflectors PLUS and optics Evolve

Optics fixation: click-in

Heat sink material: aluminium

Lumen maintenance S123/S124:

L90/B10; 50,000 hrs. at 80 °C (350 mA)

Max. operating temperature at  $t_p$  point: 110 °C at 350 mA

Lumen maintenance 7.2/9.2:

L90/B20; 50,000 hrs. at 80 °C (500 mA)

Max. operating temperature at  $t_p$  point: 100 °C at 500 mA

Temperature depends on installation situation and has to be checked by the luminaire manufacturer.

Colour accuracy initially: 2 SDCM (S123/S124)

3 SDCM (7.2/9.2)

Leads: Cu tinned, stranded conductors 0.5 mm<sup>2</sup>,

length: 200 mm, stripped lead ends (with plug on request)

With integrated cord grip

Type	Weight g	Packaging unit (pcs.)
Engine S123/S124 300 mA	100	45
Engine S123/S124 350 mA	120	28
Engine 9.2	100	45
Engine 7.2	80	90
Engine Halo	140	28

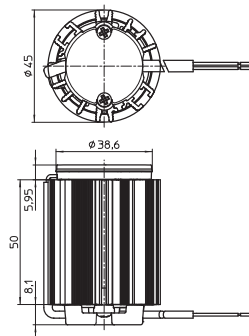


**LEDSpot Engine S123 & S124**

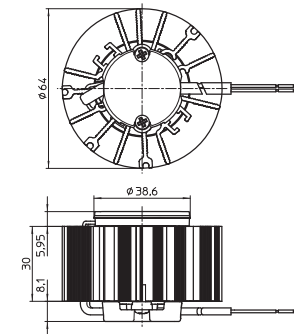


**LEDSpot Engine 7.2 & 9.2**

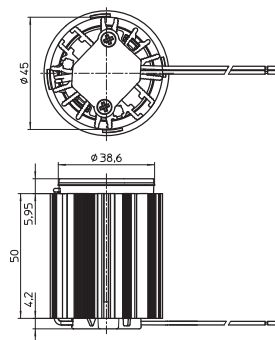
**A – Engine S123/S124**



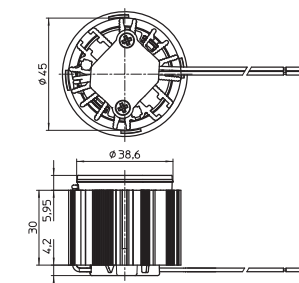
**B – Engine S123/S124**



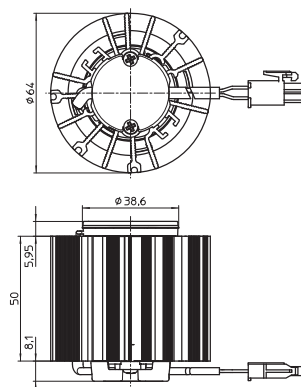
**C – Engine 9.2**



**D – Engine 7.2**



**E – Engine Halo**



The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

## LED Engines for Evolve 50 and Active PLUS

### Electrical characteristics

Type	14 mA		250 mA		300 mA		350 mA		500 mA	
	P <sub>el</sub> (W)	V <sub>f</sub> (V)	P <sub>el</sub> (W)	V <sub>f</sub> (V)	P <sub>el</sub> (W)	V <sub>f</sub> (V)	P <sub>el</sub> (W)	V <sub>f</sub> (V)	P <sub>el</sub> (W)	V <sub>f</sub> (V)
Engine S123	–	–	8.7	34.8	10.6	35.3	12.5	35.8	–	–
Engine S124	–	–	8.4	33.7	10.3	34.2	12.1	34.7	–	–
Engine 9.2	–	–	4.1	16.5	5.0	16.7	6.1	17.3	8.9	17.85
Engine 7.2	–	–	4.1	16.5	5.0	16.7	6.1	17.3	–	–
Engine Halo	0.4	26.9	–	–	–	–	11.3	33.8	–	–

Voltage and power tolerance: ± 10%

### Optical characteristics

at t<sub>p</sub> 70 °C

Type	Ref. No.	Colour	Correlated colour temperature K	Typ. luminous flux and efficiency at				CRI R <sub>a</sub>	Energy efficiency at max. current
				250 mA		300 mA			
				lm	lm/W	lm	lm/W		

#### LEDSpot Engine S123/S124 up to 300 mA – Drawing A

Engine S123 300mA	<b>567043</b>	warm white	2700	890	102	1035	98	95	A+
Engine S124 300mA	<b>567044</b>	warm white	3000	1000	119	1180	115	95	A++
Engine S124 300mA	<b>567045</b>	neutral white	4000	1105	132	1300	126	95	A++

Production tolerance of luminous flux and efficiency: ± 10%

Type	Ref. No.	Colour	Correlated colour temperature K	Typ. luminous flux and efficiency at						CRI R <sub>a</sub>	Energy efficiency at max. current
				250 mA		300 mA		350 mA			
				lm	lm/W	lm	lm/W	lm	lm/W		

#### LEDSpot Engine S123/S124 up to 350 mA – Drawing B

Engine S123 350mA	<b>567051</b>	warm white	2700	890	102	1035	98	1175	94	95	A+
Engine S124 350mA	<b>567052</b>	warm white	3000	1000	119	1180	115	1355	112	95	A+
Engine S124 350mA	<b>567053</b>	neutral white	4000	1105	132	1300	126	1500	124	95	A+

Production tolerance of luminous flux and efficiency: ± 10%

Type	Ref. No.	Colour	Correlated colour temperature K	Typ. luminous flux and efficiency at				CRI R <sub>a</sub>	Energy efficiency at max. current
				350 mA		500 mA			
				lm	lm/W	lm	lm/W		

#### LEDSpot Engine 9.2 – Drawing C

Engine 9.2 500mA	<b>567038</b>	warm white	2700	775	127	1070	120	80	A++
Engine 9.2 500mA	<b>567040</b>	warm white	3000	805	132	1120	126	80	A++
Engine 9.2 500mA	<b>567041</b>	neutral white	4000	835	137	1160	130	80	A++

#### LEDSpot Engine 7.2 – Drawing D

Engine 7.2 350mA	<b>567032</b>	warm white	2700	775	127	–	–	80	A++
Engine 7.2 350mA	<b>567033</b>	warm white	3000	805	132	–	–	80	A++
Engine 7.2 350mA	<b>567034</b>	neutral white	4000	835	137	–	–	80	A++

Production tolerance of luminous flux and efficiency: ± 10%

Type	Ref. No.	Colour	Correlated colour temperature K	Typ. luminous flux and efficiency at				CRI R <sub>a</sub>	Energy efficiency at max. current
				14 mA		350 mA			
				lm	lm/W	lm	lm/W		

#### LEDSpot Engine Halo – Drawing E

Engine Halo 350mA	<b>566659</b>	warm white	3000 → 1800	28	70	1030	91	95	A+
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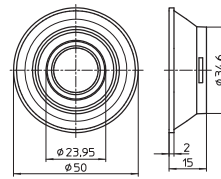
Production tolerance of luminous flux and efficiency: ± 10%

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## Lenses Evolve 50 for LED Engines

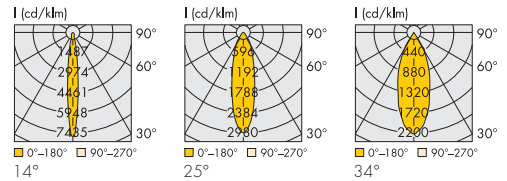
### Technical notes

For click-in fixation on holders Easy  
 Diameter: 50 mm  
 Material: PC  
 Operating temperature: -40 to 110 °C  
 Storage temperature: -40 to 60 °C  
 Packaging units: 30 Pcs.



Ref. No.	For LED modules	Beam angle (°)	Cover	Optical efficiency (%)	Weight g
603672	S124, S123, 9.2, 7.2, Halo*	14	—	87	15
603673	S124, S123, 9.2, 7.2, Halo*	25	—	86	15
603674	S124, S123, 9.2, 7.2, Halo*	34	—	89	15

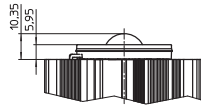
\* In addition with mixing chamber



### \*Mixing Chamber for Halo

Material: PC  
 Fixation: click-in

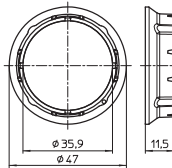
Ref. No.: 604024



### Flange Evolve

To reduce light leakage (optional)  
 Material: PBT, black

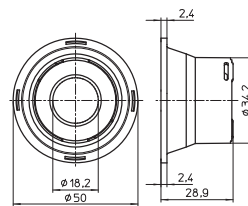
Ref. No.: 603681



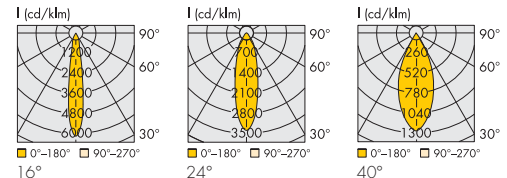
## Reflectors PLUS for LED Engines

### Technical notes

For click-in fixation on holders Easy  
 Diameter: 50 mm  
 Material: PC  
 Operating temperature: -40 to 110 °C  
 Storage temperature: -40 to 60 °C  
 Packaging units: 30 Pcs.



Ref. No.	For LED modules	Beam angle (°)	Cover	Optical efficiency (%)	Weight g
603685	S124, S123, 9.2, 7.2	16	Clear	87	10
603687	S124, S123, 9.2, 7.2	24	Clear	86	10
603689	S124, S123, 9.2, 7.2	40	Clear	85	10
603686	S124, S123, 9.2, 7.2, Halo	19	Frost	86	10
603688	S124, S123, 9.2, 7.2, Halo	26	Frost	85	10
603690	S124, S123, 9.2, 7.2, Halo	42	Frost	84	10



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## Evolve 124/123

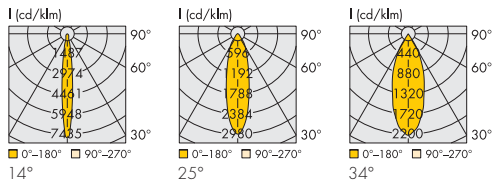
### Technical notes

Lens: Ø 50 mm, heat sink material: aluminium  
 Lumen maintenance: L90/B10; 50,000 hrs. 80 °C (350 mA)  
 Max. operating temperature at  $t_p$  point: 110 °C at 350 mA  
 Temperature depends on installation situation and has to be checked by the luminaire manufacturer.  
 Colour accuracy initially: 2 SDCM  
 Plastic clear cover to protect reflector (opaque cover on request)  
 Leads: Cu tinned, stranded conductors 0.5 mm<sup>2</sup>,  
 length: 200 mm, stripped lead ends (with plug on request)  
 With integrated cord grip  
 Weight: 145/150 g (heat sink Ø 45 mm / Ø 64 mm)  
 Packaging unit: 45/24 pcs. (heat sink Ø 45 mm / Ø 64 mm)

### Electrical characteristics

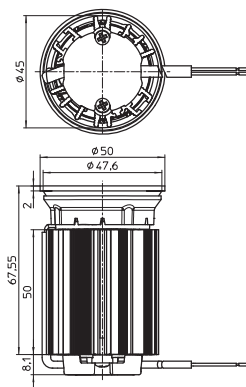
Type	250 mA		300 mA		350 mA	
	$P_{el}$ (W)	$V_f$ (V)	$P_{el}$ (W)	$V_f$ (V)	$P_{el}$ (W)	$V_f$ (V)
S123	8.7	34.8	10.6	35.3	12.5	35.8
S124	8.4	33.7	10.3	34.2	12.1	34.7

Voltage and power tolerance: ± 10%



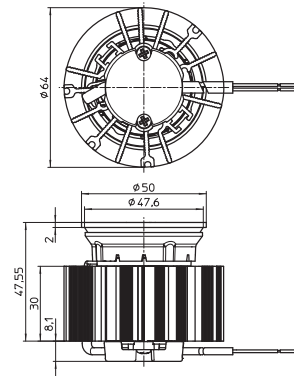
**A – up to 300 mA**

**A – up to 300 mA**



**B – up to 350 mA**

**B – up to 350 mA**



Type	Ref. No.	Colour	Correlated colour temp. K	Typ. luminous flux and efficiency at						Light intensity at max. current Candela	CRI $R_g$	Beam angle °	Energy efficiency at max. current
				250 mA lm	250 mA lm/W	300 mA lm	300 mA lm/W	350 mA lm	350 mA lm/W				
<b>Warm white – 2700 K – Drawing A</b>													
Evolve S123 27K	<b>567101</b>	warm white	2700	785	90	915	86	–	–	6810	95	14	A+
Evolve S123 27K	<b>567102</b>	warm white	2700	775	89	900	85	–	–	2700	95	25	A+
Evolve S123 27K	<b>567103</b>	warm white	2700	800	92	935	88	–	–	2050	95	34	A+
<b>Warm white – 3000 K – Drawing A</b>													
Evolve S124 30K	<b>567104</b>	warm white	3000	885	105	1045	101	–	–	7770	95	14	A+
Evolve S124 30K	<b>567105</b>	warm white	3000	875	104	1030	100	–	–	3070	95	25	A+
Evolve S124 30K	<b>567106</b>	warm white	3000	905	108	1070	104	–	–	2360	95	34	A+
<b>Neutral white – 4000 K – Drawing A</b>													
Evolve S124 40K	<b>567107</b>	neutral white	4000	975	116	1150	112	–	–	8400	95	14	A+
Evolve S124 40K	<b>567108</b>	neutral white	4000	965	115	1135	110	–	–	3340	95	25	A+
Evolve S124 40K	<b>567109</b>	neutral white	4000	1000	119	1175	114	–	–	2550	95	34	A+
<b>Warm white – 2700 K – Drawing B</b>													
Evolve S123 27K	<b>567119</b>	warm white	2700	785	90	915	86	1035	83	7650	95	14	A+
Evolve S123 27K	<b>567120</b>	warm white	2700	775	89	900	85	1025	82	3020	95	25	A+
Evolve S123 27K	<b>567121</b>	warm white	2700	800	92	935	88	1060	85	2320	95	34	A+
<b>Warm white – 3000 K – Drawing B</b>													
Evolve S124 30K	<b>567122</b>	warm white	3000	885	105	1045	101	1195	99	8810	95	14	A+
Evolve S124 30K	<b>567123</b>	warm white	3000	875	104	1030	100	1185	98	3480	95	25	A+
Evolve S124 30K	<b>567124</b>	warm white	3000	905	108	1070	104	1225	101	2680	95	34	A+
<b>Neutral white – 4000 K – Drawing B</b>													
Evolve S124 40K	<b>567125</b>	neutral white	4000	975	116	1150	112	1325	110	9600	95	15	A+
Evolve S124 40K	<b>567126</b>	neutral white	4000	965	115	1135	110	1310	108	3790	95	25	A+
Evolve S124 40K	<b>567128</b>	neutral white	4000	1000	119	1175	114	1355	112	2920	95	34	A+

Production tolerance of luminous flux and efficiency: ± 10%

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## Evolve 9.2 & 7.2

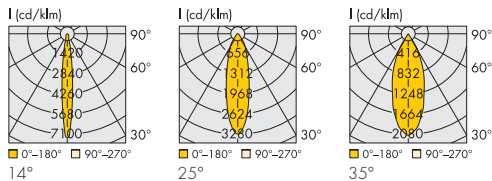
### Technical notes

Lens: Ø 50 mm, heat sink material: aluminium  
 Lumen maintenance: L90/B20; 50,000 hrs. 80 °C (500 mA)  
 Max. operating temperature at  $t_p$  point: 100 °C at 500 mA  
 Temperature depends on installation situation and has to be checked by the luminaire manufacturer.  
 Colour accuracy initially: 3 SDCM  
 Plastic clear cover to protect reflector (opaque cover on request)  
 Leads: Cu tinned, stranded conductors 0.5 mm<sup>2</sup>,  
 length: 200 mm, stripped lead ends (with plug on request)  
 With integrated cord grip  
 Weight: 145/95 g (Evolve 9.2/7.2)  
 Packaging unit: 45 pcs.

### Electrical characteristics

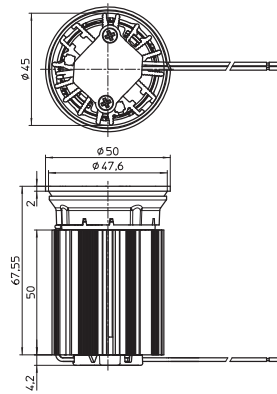
Type	350 mA		500 mA	
	$P_{el}$ [W]	$V_f$ [V]	$P_{el}$ [W]	$V_f$ [V]
9.2	6.1	17.3	8.9	17.85
7.2	6.1	17.3	—	—

Voltage and power tolerance:  $\pm 10\%$



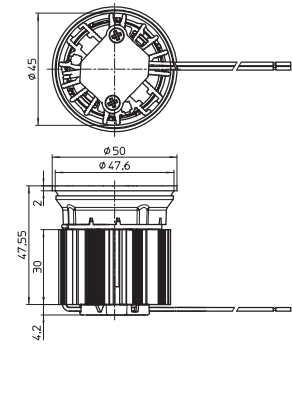
Evolve 9.2

A – Evolve 9.2



Evolve 7.2

B – Evolve 7.2



Type	Ref. No.	Colour	Correlated colour temp. K	Typ. luminous flux and efficiency at				Light intensity at max. current Candela	CRI $R_a$	Beam angle °	Energy efficiency at max. current
				350 mA		500 mA					
				lm	lm/W	lm	lm/W				
<b>Warm white – 2700 K – Drawing A</b>											
Evolve 9.2 27K	<b>567138</b>	warm white	2700	685	112	950	107	6810	80	14	A+
Evolve 9.2 27K	<b>567139</b>	warm white	2700	675	111	940	106	3070	80	25	A+
Evolve 9.2 27K	<b>567140</b>	warm white	2700	700	115	970	109	2020	80	35	A+
<b>Warm white – 3000 K – Drawing A</b>											
Evolve 9.2 30K	<b>567141</b>	warm white	3000	710	116	990	111	7100	80	14	A++
Evolve 9.2 30K	<b>567142</b>	warm white	3000	705	116	975	110	3200	80	25	A++
Evolve 9.2 30K	<b>567143</b>	warm white	3000	725	119	1010	114	2100	80	35	A++
<b>Neutral white – 4000 K – Drawing A</b>											
Evolve 9.2 27K	<b>567144</b>	neutral white	4000	740	121	1025	115	7390	80	14	A++
Evolve 9.2 30K	<b>567145</b>	neutral white	4000	730	120	1015	114	3330	80	25	A++
Evolve 9.2 40K	<b>567146</b>	neutral white	4000	760	125	1050	118	2190	80	35	A++
<b>Warm white – 2700 K – Drawing B</b>											
Evolve 7.2 27K	<b>567129</b>	warm white	2700	685	112	—	—	5000	80	14	A++
Evolve 7.2 27K	<b>567130</b>	warm white	2700	675	111	—	—	2200	80	25	A++
Evolve 7.2 27K	<b>567131</b>	warm white	2700	700	115	—	—	1500	80	35	A++
<b>Warm white – 3000 K – Drawing B</b>											
Evolve 7.2 30K	<b>567132</b>	warm white	3000	710	116	—	—	5200	80	14	A++
Evolve 7.2 30K	<b>567133</b>	warm white	3000	705	116	—	—	2300	80	25	A++
Evolve 7.2 30K	<b>567134</b>	warm white	3000	725	119	—	—	1550	80	35	A++
<b>Neutral white – 4000 K – Drawing B</b>											
Evolve 7.2 40K	<b>567135</b>	neutral white	4000	740	121	—	—	5400	80	14	A++
Evolve 7.2 40K	<b>567136</b>	neutral white	4000	730	120	—	—	2400	80	25	A++
Evolve 7.2 40K	<b>567137</b>	neutral white	4000	760	125	—	—	1610	80	35	A++

Production tolerance of luminous flux and efficiency:  $\pm 10\%$

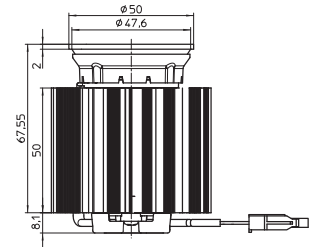
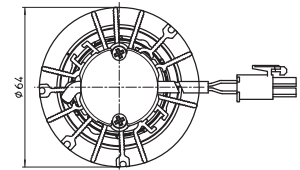
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## Evolve Halo

### Dim to warm

#### Technical notes

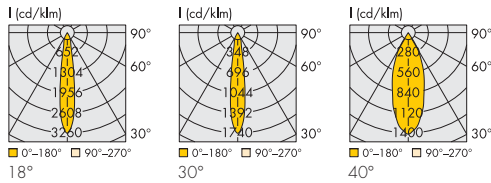
Lens: Ø 50 mm  
 Heat sink material: aluminium  
 Lumen maintenance: L90/B10; 50,000 hrs. 80 °C (350 mA)  
 Max. operating temperature at  $t_p$  point: 100 °C at 350 mA  
 Temperature depends on installation situation and has to be checked by the luminaire manufacturer.  
 Colour accuracy initially: 3 SDCM  
 Leads: Cu tinned, stranded conductors 0.5 mm<sup>2</sup>, length: 200 mm, with plug  
 With integrated cord grip  
 Weight: 160 g  
 Packaging unit: 28 pcs.



#### Electrical characteristics

Type	14 mA		350 mA	
	P <sub>el</sub> [W]	V <sub>f</sub> [V]	P <sub>el</sub> [W]	V <sub>f</sub> [V]
Evolve HALO	0.4	26.9	11.3	33.8

Voltage and power tolerance: ± 10%



Type	Ref. No.	Colour	Correlated colour temp. K	Typ. luminous flux and colour temperature at				Light intensity at max. current Candela	CRI R <sub>a</sub>	Beam angle °	Energy efficiency at max. current
				14 mA		350 mA					
				lm	K	lm	K				
<b>Evolve HALO – Warm white</b>											
Evolve HALO	<b>567187</b>	warm white	3000 → 1800	25	1800	920	3000	3000	95	18	A+
Evolve HALO	<b>567188</b>	warm white	3000 → 1800	25	1800	920	3000	1600	95	30	A+
Evolve HALO	<b>566832</b>	warm white	3000 → 1800	25	1800	920	3000	1300	95	40	A+

Production tolerance of luminous flux: ± 10%

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## LED Drivers

You will find more information about our LED drivers on our website: [www.vossloh-schwabe.com](http://www.vossloh-schwabe.com)

Capacity range W	Output current DC mA	Output voltage DC V	Ref. No.	Version	Current setting	Dimming	Max. service life time		Dimensions (LxWxH) mm	For type		
							hrs.	at t <sub>c</sub> °C		7.2	9.2	S123/S124
<b>250 mA</b>												
4.25–10.0	250	17–40	<b>186463</b>	EasyLine	Terminals	–	50,000	65	103.6x67.4x31			x
5.0–10.0	250	20–40*	<b>186710</b>	EasyLine	–	Phase cutting	50,000	65*	115x45x25			x
5.0–10.0	250	20–40*	<b>186708</b>	EasyLine	–	–	50,000	65*	115x45x25			x
6.25–10.75	250	25–43	<b>186650</b>	ComfortLine	LEDSet	–	100,000	70	97x43x30			x
6.25–10.75	250	25–43	<b>186664</b>	ComfortLine	LEDSet	–	100,000	70	97x43x30			x
6.75–12.0	250	27–48	<b>186449</b>	EasyLine	–	Phase cutting	50,000	60	122.8x45x19			x
<b>300 mA</b>												
7.5–12.9	300	25–43	<b>186650</b>	ComfortLine	LEDSet	–	100,000	70	97x43x30			x
7.5–12.9	300	25–43	<b>186664</b>	ComfortLine	LEDSet	–	100,000	70	97x43x30			x
6.0–12.0	300	20–40*	<b>186711</b>	EasyLine	–	Phase cutting	50,000	65*	115x45x25			x
6.0–12.0	300	20–40*	<b>186709</b>	EasyLine	–	–	50,000	65*	115x45x25			x
<b>350 mA</b>												
6.3–19.95	350	18–57	<b>186431</b>	EasyLine	–	–	50,000	65	122.8x45x19			x
2.95–12.6	350	8.4–36	<b>186341</b>	EasyLine	–	–	50,000	65	122.8x45x19	x	x	x
5.95–14.0	350	17–40	<b>186463</b>	EasyLine	Terminals	–	50,000	65	103.6x67.4x31			x
8.75–15.05	350	25–43	<b>186650</b>	ComfortLine	LEDSet	–	100,000	70	97x43x30			x
8.75–15.05	350	25–43	<b>186664</b>	ComfortLine	LEDSet	–	100,000	70	97x43x30			x
10.5–15.05	350	30–43	<b>186591</b>	EasyLine	–	–	30,000	65	115x45x25			x
5.6–19.95	350	16–57	<b>186431</b>	EasyLine	–	–			122.8x45x19	x	x	x
5.25–16.1	350	15–46	<b>186719</b>	EasyLine	–	–	50,000	70	97.1x42x6x30.3	x	x	x
5.25–16.1	350	15–46	<b>186720</b>	EasyLine	–	–	50,000	70	146.5x43.7x30	x	x	x
4.9–11.9	350	14–34	<b>186465</b>	PrimeLine	LEDSet	DALI	100,000	65	103.6x67.4x31	x	x	
10.5–18.55	350	30–53	<b>186503</b>	PrimeLine	LEDSet	DALI	100,000	65	123.4x79x4x32.6			x
0.7–11.2	350	2–32	<b>186679</b>	ComfortLine	–	–	50,000	70	128x37x28	x	x	
1.05–8.75	350	3–25	<b>186519</b>	ComfortLine	–	–	50,000	80	65x30.7x21.5	x	x	
11.5–18.2	350	32–52	<b>186415</b>	EasyLine	–	Phase cutting	50,000	70	153x41.4x32			x
7.0–19.95	350	20–57	<b>186581</b>	ComfortLine	Terminals	1–10 V	50,000	80	103.6x67.4x31			x
<b>400 mA</b>												
10.0–17.2	400	25–43	<b>186650</b>	ComfortLine	LEDSet	–	100,000	70	97x43x30			on request
10.0–17.2	400	25–43	<b>186664</b>	ComfortLine	LEDSet	–	100,000	70	97x43x30			on request
10.0–17.2	400	25–43	<b>186651</b>	ComfortLine	LEDSet	–	100,000	70	97x43x30			on request
<b>500 mA</b>												
4.0–15.0	500	8–30	<b>186349</b>	EasyLine	–	–	50,000	65	122.8x45x19		x	
2.0–12.0	500	4–24	<b>186508</b>	EasyLine	–	–	50,000	60	122.8x45x19		x	
7.5–23.0	500	15–46	<b>186721</b>	EasyLine	–	–	50,000	70	97.1x42x6x30.3		x	
7.5–23.0	500	15–46	<b>186722</b>	EasyLine	–	–	50,000	70	146.5x43.7x30		x	
7.0–17.0	500	14–34	<b>186573</b>	PrimeLine	Programmable	DALI	100,000	65	103.6x67.4x31		x	
1.0–16.0	500	2–32	<b>186680</b>	ComfortLine	–	–	50,000	70	128x37x28		x	
6.5–10	500	13–20	<b>186448</b>	EasyLine	–	Phase cutting	50,000	60	122.8x45x19		x	

Please ensure you choose the correct LED driver for the module in question and that the respective output parameters (current, voltage, wattage) are correct.

\* preliminary

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

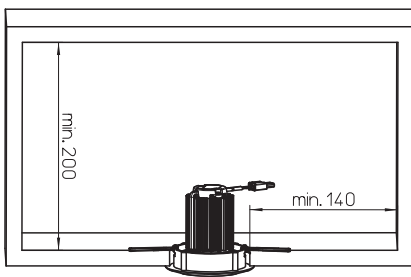


## LEDSpot Evolve – Installation Instruction

### General safety information

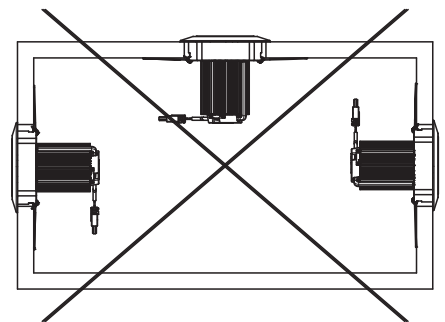
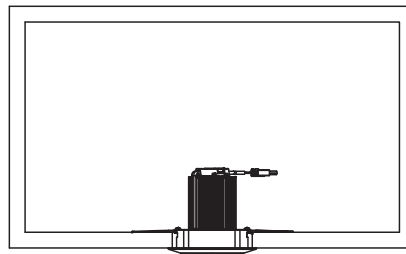
- VS product may only be installed and commissioned by authorised and fully qualified staff.
- These instructions must be carefully read before installing and commissioning the system, as this is the only way to ensure safe and correct handling.
- An external constant-current driver is required.
- Before any work is carried out on the equipment, it must be disconnected from the mains.
- All valid safety and accident-prevention regulations must be observed.
- The products should never be inexpertly opened. Repairs may only be undertaken by the manufacturer.

### Built-in



### Correct position

OK



### Product Guarantee

- 5 years
- The conditions for the Product Guarantee of the Vossloh-Schwabe Group shall apply as published on our homepage ([www.vossloh-schwabe.com](http://www.vossloh-schwabe.com)). We will be happy to send you these conditions upon request.

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