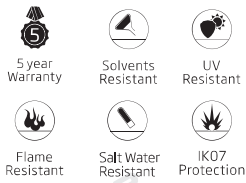


Flexglo™ F23B Monochrome - Colorful Light (Silicone)



Certification Mark	UL	CE	8
Test Standard/Directive	UL2108 Class 2	CE-EMC	IS 10322
Certificate Serial Number	20180801-E360029	SZEM1712012372LMV	R-41128376
Report Reference	E360029-20130322	SZEM171201237201	NO,20190425001

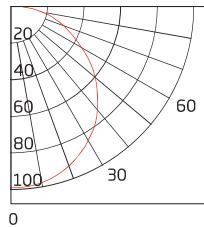
Ambient Working Temperature ≤ 4.5W/m -40 ~65°C / -40 ~149°F	Ambient Installation Temperature ≥ -40°C / -40°F	Storage Temperature -40 ~ 60°C / -40 ~140°F
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Max. Mounting Surface Temperature 85°C /185°F <i>specified in the non-working state of light.</i>	Constant Voltage DC24V
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C-SFR-F23B-VB



C-SFR-F23B-VB-24CV-G-WM-144-4.5W-83.3



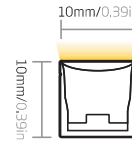
UNIT: cd
-C90/270

AVERAGE BEAM ANGLE (50%): 111,6°

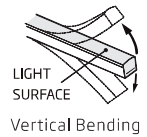
Min. Bending Diameter
100mm/3,94in

Min. Cutting Length
83.3mm/3,28in
12LEDs

Bending-extreme
1174times



Tensile-instantaneous
>40kg.f



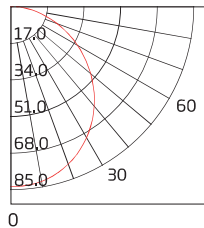
Twist-extreme
6861 times

Warning: Extreme Destructive Tests in laboratory only, and it's forbidden to operate in practice.

C-SFR-F23B-HB



C-SFR-F23B-HB-24CV-G-WM-144-4.5W-83.3



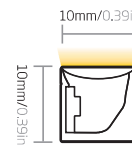
UNIT: cd
-C90/270

AVERAGE BEAM ANGLE (50%): 105,9°

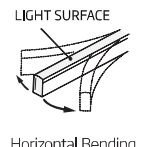
Min. Bending Diameter
100mm/3,94in

Min. Cutting Length
83.3mm/3,28in
12LEDs

Bending-extreme
764 times



Tensile-instantaneous
>40kg.f



Twist-extreme
7878 times

Warning: Extreme Destructive Tests in laboratory only, and it's forbidden to operate in practice.

Note:

- The illuminated light length shall be an integral multiple of min. cutting length.
- The waterproof reliability of the lighting fixture depends on the IP rating of connector, and please make sure connector is properly assembled before installation. The highest IP rating we can achieve is IP67.

Item Code

C	SFR	F23B	VB	24CV	G	WM	144	4.5W	83.3
Company	Material	Product Series	Bending Direction	Voltage & Circuit Type	Color	Base & Lighting Surface	LEDs Qty/m	Power/m	Min. Cutting Length (mm)
Clear	SFR= Silicone Flex Ribbon	F23 B= Monochrome	VB= Vertical Bending HB= Horizontal Bending	DC24V & Constant Voltage	R=Red G=Green B=Blue A=Amber	WM= White & Milky	144	4.5W	83.3

Feature

Flexglo™ F23B Monochrome - Colorful Light (Silicone), thanks to the excellent weatherproof and UV-resistant performance of silicone material, it features a wide ambient working temperature range of -40-55 °C , especially suitable for harsh environment application.

The IP67 Injection-moulded Connector is engineered for outdoor use, owing to its elegant appearance and strong adhesiveness acquired by the liquid silicone injection workmanship.

This product features a ultra long lifespan in outdoor application by leveraging other ClearTech™ such as the PinBoost™ technology enhancing physical reliability of light engine, the TwinFlex™ technology improving the conductivity and optimizing heat dissipation performance, the C-Mask™ technology making the light body self-cleaning and anti-UV and enabling consistent illumination.

Electrical Parameter

Category	C-SFR-F23B-VB/HB
Voltage (V)	24
Current (mA/m)	187.5
Power (W/m)	4.5
Circuit Type	CV
LED Type	3015
LEDs Qty/m	144
LEDs Qty/unit	12
Unit/m	12
Min. Cutting Length (mm)	83.3
Min. Cutting Length (in)	3.28

Optical Parameter

Item Code	Finished Product				LED
	Color	Wavelength	Lumen/m	Lumen/ft	Color Tolerance
C-SFR-F23B-VB-24CV-R-WM-144-4.5W-83.3	Red	618-624nm	80lm	24lm	<3nm
C-SFR-F23B-VB-24CV-G-WM-144-4.5W-83.3	Green	522-528nm	220lm	67lm	<3nm
C-SFR-F23B-VB-24CV-B-WM-144-4.5W-83.3	Blue	468-474nm	50lm	15lm	<3nm
C-SFR-F23B-VB-24CV-A-WM-144-4.5W-83.3	Amber	588-594nm	80lm	24lm	<3nm
C-SFR-F23B-HB-24CV-R-WM-144-4.5W-83.3	Red	618-624nm	50lm	15lm	<3nm
C-SFR-F23B-HB-24CV-G-WM-144-4.5W-83.3	Green	522-528nm	200lm	61lm	<3nm
C-SFR-F23B-HB-24CV-B-WM-144-4.5W-83.3	Blue	468-474nm	30lm	9lm	<3nm
C-SFR-F23B-HB-24CV-A-WM-144-4.5W-83.3	Amber	588-594nm	50lm	15lm	<3nm

Max. Running Length



















Input: DC24V

Type	Swivel Connector		Socket Connector		Silicone Injection-moulded Connector	
IP Rating	IP20		IP65		IP67	
Item Code	Single-end Feed	Double-end Feed	Single-end Feed	Double-end Feed	Single-end Feed	Double-end Feed
C-SFR-F23B-4.5W	10m/32.8ft	20m/65.6ft	10m/32.8ft	20m/65.6ft	15m/49.2ft	30m/98.4ft

Note:











- Above conclusion is based on voltage drop testing result of the light with 0.3m (0.98ft) cable only.
- The maximum running length is based on the light in static full loading status.
- Above running length is only the light length excluding lengths of connectors.
- The delivery length might be subject to the maximum packing length.

F23B Connector (Silicone)

Type/IP Rating	Bending Direction	Front Connector End	Front Connector Side from Left	Front Connector Side from Right	Front Connector Bottom	Seamless Middle Connector & Power Feed	Middle Connector & Power T-feed	Jumper	End Cap
Swivel Connector IP20	HB	 F23B-HB-SW/FC-01/02-E-0,3m/1m 22AWG*2	N/A	N/A	N/A	N/A	N/A	N/A	 F23-SW/EC
	VB	 F23B-VB-SW/FC-01/02-E-0,3m/1m 22AWG*2	N/A	N/A	N/A	N/A	N/A	N/A	 F23-SW/EC
Socket Connector IP65	HB	 F23B-HB-SO/FC-01/02-E-0,3m/1m/3m/5m 22AWG*2	N/A	N/A	N/A	N/A	N/A	N/A	 F23-SO/EC
	VB	 F23B-VB-SO/FC-01/02-E-0,3m/1m/3m/5m 22AWG*2	N/A	N/A	N/A	N/A	N/A	N/A	 F23-SO/EC
Silicone Injection-moulded Connector IP67	HB	 F23B-HB-SIM/FC-01/02-E-0,3m/1m/3m/5m/10m/15m/20m 22AWG*2	 F23B-HB-SIM/FC-02-SL-0,3m/1m/3m/5m/10m/15m/20m 22AWG*2	 F23B-HB-SIM/FC-01-SR-0,3m/1m/3m/5m/10m/15m/20m 22AWG*2	 F23B-HB-SIM/FC-01/02-B-0,3m/1m/3m/5m/10m/15m/20m 22AWG*2	N/A	 F23B-HB-SIM/MC-PTF-0,3m/1m/3m 22AWG*2	 F23B-HB-SIM/JU-0,3m/1m 22AWG*2	 F23-SIM/EC
	VB	 F23B-VB-SIM/FC-01/02-E-0,3m/1m/3m/5m/10m/15m/20m 22AWG*2	 F23B-VB-SIM/FC-01/02-SL-0,3m/1m/3m/5m/10m/15m/20m 22AWG*2	 F23B-VB-SIM/FC-01/02-SR-0,3m/1m/3m/5m/10m/15m/20m 22AWG*2	 F23B-VB-SIM/FC-01/02-B-0,3m/1m/3m/5m/10m/15m/20m 22AWG*2	N/A	 F23B-VB-SIM/MC-PTF-0,3m/1m/3m 22AWG*2	 F23B-VB-SIM/JU-0,3m/1m 22AWG*2	 F23-SIM/EC

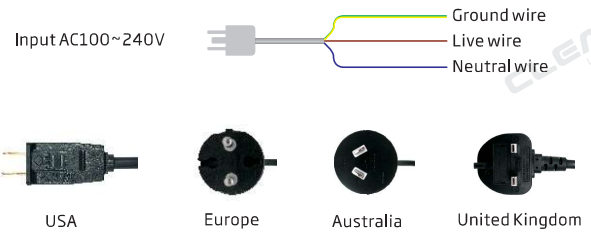


F23 Mounting Profile

Picture	Name/Item Code	Installation Way
	<p>Aluminum Profile F23-A/PL-35/500/1000/2000mm</p>	
	<p>Flange Aluminum Profile F23-FA/PL-35/500/1000/2000mm</p>	
	<p>Serrated Aluminum Profile F23-SA/PL-20/500/1000/2000mm</p>	
	<p>Flange Serrated Aluminum Profile F23-FSA/PL-20/500/1000/2000mm</p>	
	<p>Bendable Serrated Aluminum Profile F23-BSA/PL-500/1000mm Note: only horizontal bending is available</p>	

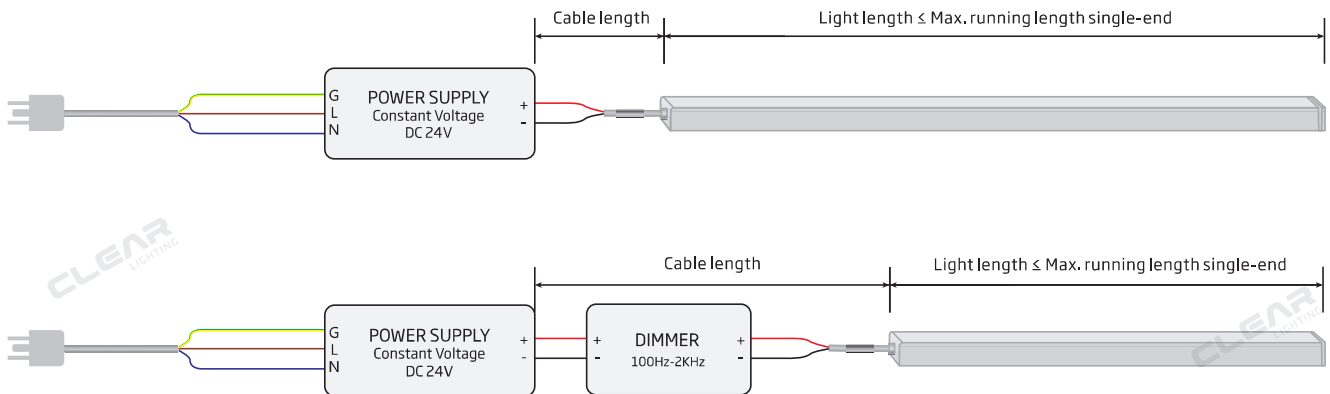
Flexglo™ F23B Wiring Diagram

1. Please use a constant voltage power supply with corresponding output voltage, and rated wattage of the power supply shall be 25% more than the actual power consumption of light to increase its life expectancy;
2. This wiring diagram is using the mains of AC230V with brown and blue wires as an example, and please connect with the corresponding live and neutral wires for other mains electricity;
3. Dimming frequency ranges from 100Hz to 2000Hz, and 500Hz is recommended.



4. Types of standard plugs are optional if power cord is purchased from CLEAR.

Single-end Feed



Light Length:

The length of the longest single light in parallel connection or sum of lights in series connection.

Cable Length:

The length of an electrical cable between power output end and light input end, and the cables for serial interconnection are inclusive.

How to Minimize Voltage Drop

1. Please ensure the cable length is not more than the table "Max. Cable Length" according to light length and its wire gauge.
2. Please ensure the light length is less than the cable "Max. Running Length Single-end Feed".

Max. Running Length Single-end Feed

Input: DC24V

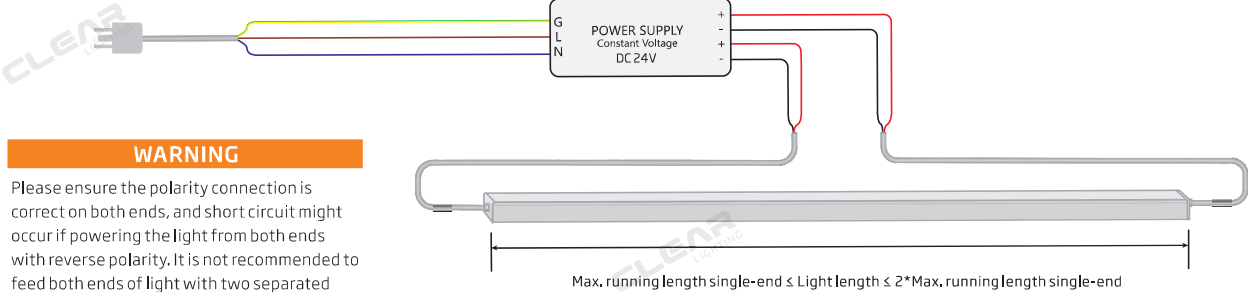
Connector Type	Swivel Connector	Socket Connector	Injection-moulded Connector	Dual Injection-moulded Connector
Wire Gauge	22AWG*2	22AWG*2	22AWG*2	22AWG*2
C-FR-F23B-4.5W	10m/32.8ft	10m/32.8ft	10m/32.8ft	10m/32.8ft
C-SFR-F23B-4.5W	10m/32.8ft	10m/32.8ft	15m/49.2ft	/
C-SFR-F23B-9W	5m/16.4ft	5m/16.4ft	7.5m/24.6ft	/

Note:

1. Above conclusion is based on voltage drop testing result of the light with 0.3m (0.98ft) cable only.
2. The maximum running length is based on the designated light in static full loading status.
3. Above running length is only the light length excluding lengths of connectors.
4. The delivered length might be subject to the maximum packing length.

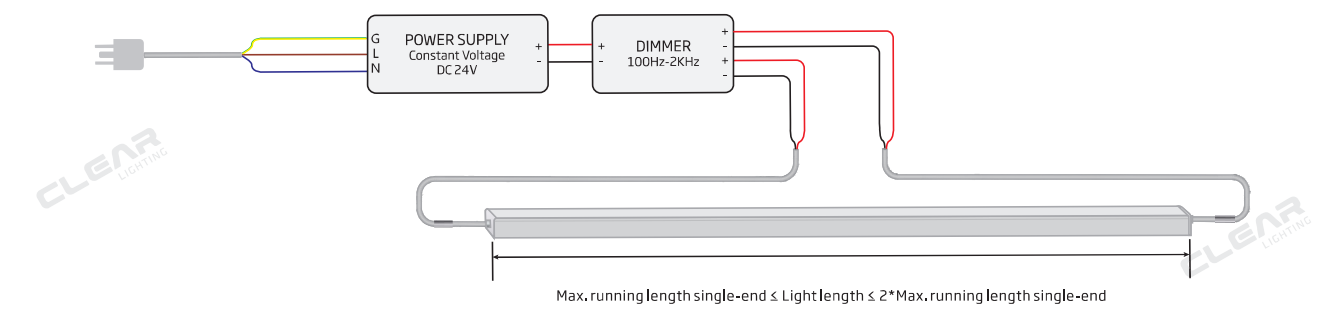
Double-end Feed

The following wiring diagram with double-end feed to run length that is longer than max. running length for single-end feed but less than twice the value.



WARNING

Please ensure the polarity connection is correct on both ends, and short circuit might occur if powering the light from both ends with reverse polarity. It is not recommended to feed both ends of light with two separated power supplies, which would lead to overloading and overheating problem if either power supply is failed.



Light Length:

The length of the longest single light in parallel connection or sum of lights in series connection.

Cable Length:

The length of an electrical cable between power output end and light input end, and the cables for serial interconnection are inclusive.

How to Minimize Voltage Drop

1. It is optimal to position the power supply in the middle of a single light or multiple lines in daisy chain to keep the equivalent cable length on both ends for double-end feed.
2. Please ensure the cable length is not more than the table "Max. Cable Length" according to the half of light length and its wire gauge.
3. Please ensure the light length is less than the table "Max. Running Length Double-end Feed".

Max. Running Length Double-end Feed

Input: DC24V

Connector Type	Swivel Connector	Socket Connector	Injection-moulded Connector	Dual Injection-moulded Connector
Wire Gauge	22AWG*2	22AWG*2	22AWG*2	22AWG*2
C-FR-F23B-4.5W	20m/65.6ft	20m/65.6ft	20m/65.6ft	20m/65.6ft
C-SFR-F23B-4.5W	20m/65.6ft	20m/65.6ft	30m/98.4ft	/
C-SFR-F23B-9W	10m/32.8ft	10m/32.8ft	15m/49.2ft	/

Note:

1. Above conclusion is based on voltage drop testing result of the light with 0.3m (0.98ft) cable only.
2. The maximum running length is based on the designated light in static full loading status.
3. Above running length is only the light length excluding lengths of connectors.
4. The delivered length might be subject to the maximum packing length.

F23B Max. Cable Length (PVC)

Input: DC24V

Item Code	Light Length (m)	Cable Length									
		0.32 mm ² 22AWG		0.52 mm ² 20AWG		0.81 mm ² 18AWG		1.32 mm ² 16AWG		2.07 mm ² 14AWG	
		m	ft	m	ft	m	ft	m	ft	m	ft
C-FR-F23B-4.5W	1	101.5	332.9	164.9	541.0	256.9	842.8	418.6	1373.4	656.4	2153.7
	2	50.9	166.9	82.7	271.2	128.8	422.4	209.8	688.4	329.1	1079.6
	3	32.7	107.4	53.2	174.6	82.9	272.0	135.1	443.2	211.8	695.0
	4	23.7	77.8	38.5	126.4	60.0	196.9	97.8	320.8	153.3	503.1
	5	18.3	59.9	29.7	97.3	46.2	151.6	75.3	247.1	118.1	387.5
	6	14.6	48.0	23.8	78.0	37.0	121.4	60.3	197.9	94.6	310.4
	7	11.4	37.3	18.5	60.6	28.8	94.5	46.9	153.9	73.6	241.4
	8	9.6	31.4	15.6	51.1	24.2	79.5	39.5	129.6	62.0	203.3
	9	7.6	25.0	12.4	40.7	19.3	63.3	31.5	103.2	49.3	161.8
	10	6.0	19.8	9.8	32.2	15.3	50.2	24.9	81.8	39.1	128.3

F23B Max. Cable Length (Silicone)

Input: DC24V

Item Code	Light Length (m)	Cable Length									
		0.32 mm ² 22AWG		0.52 mm ² 20AWG		0.81 mm ² 18AWG		1.32 mm ² 16AWG		2.07 mm ² 14AWG	
		m	ft	m	ft	m	ft	m	ft	m	ft
C-SFR-F23B-4.5W	1	114.8	376.7	186.6	612.1	290.6	953.5	473.6	1553.9	742.7	2436.8
	2	57.4	188.3	93.3	306.1	145.3	476.8	236.8	776.9	371.4	1218.4
	3	36.3	119.2	59.0	193.7	92.0	301.7	149.9	491.7	235.0	771.1
	4	27.5	90.3	44.7	146.7	69.6	228.4	113.5	372.3	177.9	583.8
	5	19.8	65.0	32.2	105.6	50.1	164.5	81.7	268.0	128.1	420.3
	6	17.1	56.0	27.7	91.0	43.2	141.8	70.4	231.0	110.4	362.3
	7	14.4	47.4	23.5	77.0	36.5	119.9	59.5	195.4	93.4	306.3
	8	11.7	38.4	19.0	62.4	29.6	97.1	48.2	158.3	75.7	248.2
	9	9.7	31.9	15.8	51.8	24.6	80.7	40.1	131.6	62.9	206.3
	10	8.6	28.1	13.9	45.7	21.7	71.2	35.4	116.0	55.5	182.0
	11	6.8	22.2	11.0	36.0	17.1	56.1	27.9	91.4	43.7	143.3
	12	6.0	19.6	9.7	31.9	15.1	49.7	24.7	80.9	38.7	126.9
	13	4.9	16.0	7.9	26.0	12.3	40.5	20.1	66.0	31.5	103.5
	14	4.2	13.7	6.8	22.2	10.5	34.6	17.2	56.4	27.0	88.4
	15	3.2	10.5	5.2	17.0	8.1	26.5	13.2	43.2	20.7	67.8
C-SFR-F23B-9W	1	57.4	188.3	93.3	306.1	145.3	476.8	236.8	776.9	371.4	1218.4
	2	28.7	94.2	46.6	153.0	72.7	238.4	118.4	388.5	185.7	609.2
	3	18.2	59.6	29.5	96.8	46.0	150.9	74.9	245.8	117.5	385.5
	4	13.8	45.1	22.4	73.3	34.8	114.2	56.7	186.1	89.0	291.9
	5	9.9	32.5	16.1	52.8	25.1	82.2	40.8	134.0	64.1	210.2
	6	8.5	28.0	13.9	45.5	21.6	70.9	35.2	115.5	55.2	181.1
	7	7.2	23.7	11.7	38.5	18.3	59.9	29.8	97.7	46.7	153.2
7.5	5.8	19.2	9.5	31.2	14.8	48.6	24.1	79.1	37.8	124.1	

Note:

1. Please check the wire gauge of your connector in the table "Max. Running Length".

E.g.,

Single-end feed, C-FR-F23B-4.5W, 5m light length with 22AWG wire, max. cable length should refer to the corresponding value 18.3m for 5m light length;

Double-end feed, C-FR-F23B-4.5W, 10m light length with 22AWG wire, max. cable length of each end should refer to the corresponding value 18.3m for half of light length 5m;

2. The above cable lengths are calculated based on 10% allowable voltage drop maximum.