

LIGHTNINGCURE® LC-L1V5

UV-LED Spot Light Sources



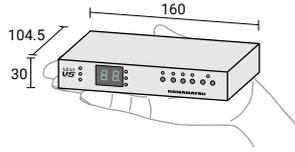
UV-LED spot light source with 4 independently driven heads

NOTE: These UV-LED spot light sources are not compatible with DUV-LED spot light sources and so cannot be used with the L16665-110 LED head unit and the C16659 series controllers.

■ Features

• Compact and lightweight

The palm-sized compact design enables flexible installation and setup even in a small space.



• Low power consumption

Consumes about 1/2 the power of other companies' UV-LED light sources.

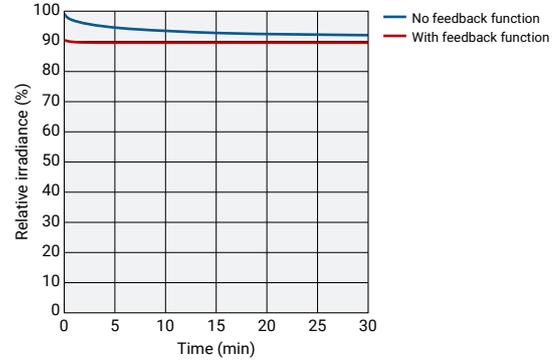
• Supports communication control

Allows batch control with other devices by PC.

• High stability

Our unique feedback function reduces drift at the initial stage of lighting, so that the light output fluctuation is within $\pm 5\%$ from a point immediately after lighting.

Light output stability (Typ.)



■ Specifications

• LED head unit L14310/L14311 series

Parameter	Standard type				Right-angle type		Linear beam type		Unit
	Irradiation area $\phi 3$ mm type	Irradiation area $\phi 6$ mm type	Irradiation area $\phi 8$ mm type	Irradiation area $\phi 12$ mm type	Mid focal length type	Long focal length type	Wide range type	Narrow range type	
	L14310-□10 *1 *2	L14310-□15 *1 *2	L14310-□20 *1 *2	L14310-□00 *2	L14311-□03 *2	L14311-□05 *2	L14311-□02 *2	L14311-□04 *2	
Mounted condenser lens	E11923-010	E11923-015	E11923-020	-	-	-	-	-	-
Focal length	10	15	20	10	10	20	15	10	mm
Irradiation area *3	Approx. $\phi 3$	Approx. $\phi 6$	Approx. $\phi 8$	Approx. $\phi 12$	Approx. $\phi 6$	Approx. $\phi 7$	Approx. 20×6	Approx. 12×4	mm
Wavelength	365 / 385 / 405								nm
UV irradiance *4	14000	6500	4000	1000	4000	3000	1200	3000	mW/cm ²
LED design life *5	20000								h
Cooling method	Not required								-
Operating temperature range	+5 °C to +40 °C								-
Storage temperature range	-10 °C to +60 °C (no freezing)								-
Operating humidity range	20 % to 80 % (no condensation)								-
Storage humidity range	Below 80 % (no condensation)								-
Applicable standards	EMC standards	IEC 61326-1			Emission limits: CISPR 11 Group 1 Class A Immunity requirements: Table 2				-
	Safety standards	IEC 61010-1/A1							

*1: This type number indicates a combination of L14310-□00 LED head unit and E11923 series condenser lens. The focal length and irradiation area can be changed by replacing the E11923 series condenser lens.

*2: The square symbol □ in each type number indicates a suffix that represents the wavelength. 1: 365 nm, 2: 385 nm, 4: 405 nm.

*3: Irradiation area measured at the focal length.

*4: Maximum UV irradiance within the irradiated area measured at the focal length.

*5: Average time required for UV irradiance to reach 70 % of the initial value at an operating temperature of 25 °C.

• Condenser lens E11923 series

Parameter	E11923-010	E11923-015	E11923-020	Unit
Focal length	10	15	20	mm
Irradiation area *6	Approx. $\phi 3$	Approx. $\phi 6$	Approx. $\phi 8$	mm
Operating temperature range	+5 °C to +40 °C			-
Storage temperature range	-10 °C to +60 °C (no freezing)			-
Operating humidity range	20 % to 80 % (no condensation)			-
Storage humidity range	Below 80 % (no condensation)			-

*6: Irradiation area measured at the focal length.

• Controller C14052 series

Parameter	C14052-0-□□ *7	C14052-1-□□ *7	C14052-2-□□ *7	Unit
Input voltage (AC)	100 V to 240 V, single phase 50 Hz / 60 Hz *8			-
Power consumption *9	Max.	25		W
Cooling method	Not required			-
Operating humidity range	+5 °C to +40 °C			-
Storage temperature range	-10 °C to +60 °C (no freezing)			-
Operating humidity range	20 % to 80 % (no condensation)			-
Storage humidity range	Below 80 % (no condensation)			-
External control	Irradiation control, irradiation signal, various error signals			-
Communication control	N/A	Control via USB	Control via RS-232C	-
	-	Irradiation control, irradiation signal, accumulation / display / reset of irradiation time, program setting for auto irradiation, various error signals		-
Applicable standards	EMC standards	IEC 61326-1 Emission limits: CISPR 11 Group 1 Class A Immunity requirements: Table 2		-
	Safety standards	IEC 61010-1/A1		-

*7: The square symbol □ in each type number indicates a suffix that represents the specifications of the AC adapter.

• When no AC adapter supplied, no suffix is added. The user needs to prepare an AC adapter that outputs 12 V DC and 24 W or more.

In that case, EMC and safety testing should be performed by the user.

• When an AC adapter supplied, a suffix is added. A1: For Japan, A2: For U.S., A3: For Europe, A4: For China, A5: UK, A7: Thailand

In the case of C14052-0, the "-0" will be omitted and so the type number will be C14052.

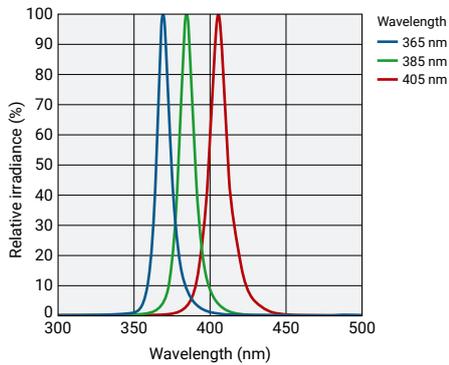
*8: Input voltage to the controller should be 12 V ± 0.5 V DC.

*9: Power consumption when 4 heads are operated.

Product lineup

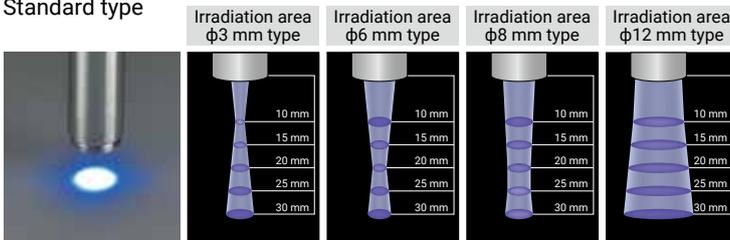
Wavelength

Spectral distribution



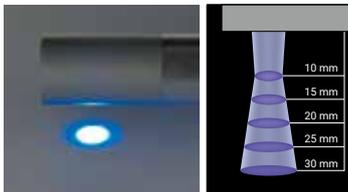
Irradiation beam shape

Standard type



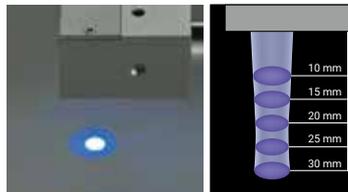
Right-angle type

Mid focal length type



This LED head unit can be mounted in tight spaces, increasing installation flexibility.

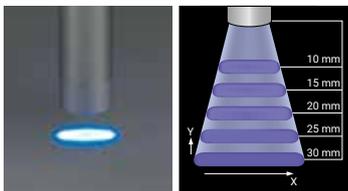
Long focal length type



This type provides a longer focal length than the mid focal length type.

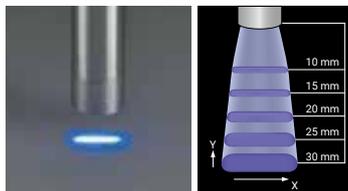
Linear beam type

Wide range type



Emits an elliptical light beam that irradiates a wide area, making it ideal for irradiating odd-shaped workpieces and multiple locations.

Narrow range type



This type emits a narrower light beam with higher intensity than the wide range type.

NOTE: The center of the external dimensions of the LED head unit may not coincide with the center of the irradiated light. Adjust the installation position as needed.

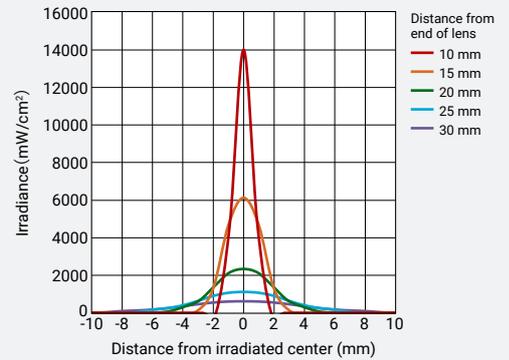
The shape of the irradiated light varies depending on the irradiation distance, for example, becomes close to a square.

The irradiance distribution is a typical value. There are individual differences in the irradiance distribution between LED head units due to variations in the emission intensity of LED elements.

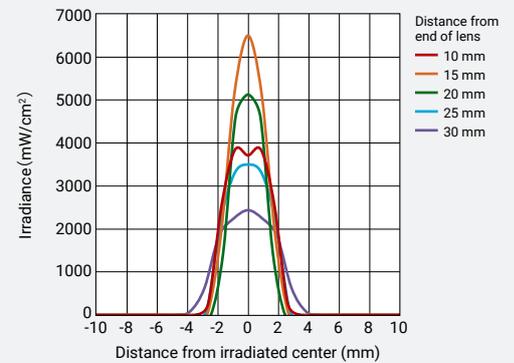
Irradiance distribution (Typ. 365 nm)

Standard type

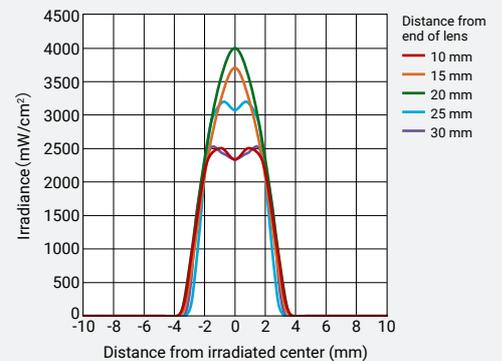
Irradiation area ϕ 3 mm type



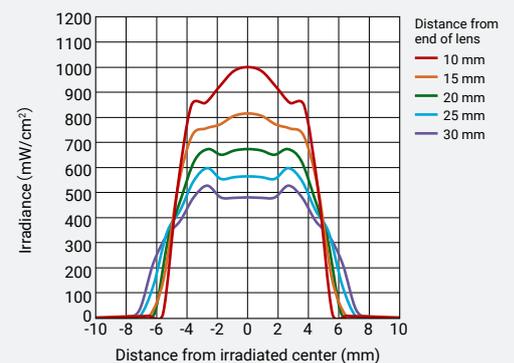
Irradiation area ϕ 6 mm type



Irradiation area ϕ 8 mm type



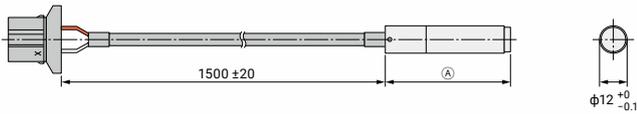
Irradiation area ϕ 12 mm type



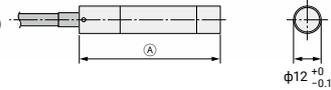
■ Dimensional outlines (Unit: mm)

• LED head unit L14310/L14311 series

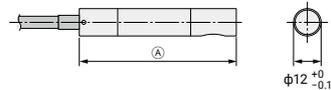
Standard type (Irradiation area $\phi 12$ mm type)



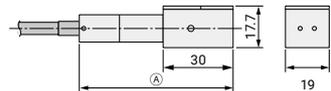
Standard type
(Irradiation area $\phi 3$ mm / $\phi 6$ mm / $\phi 8$ mm type)
Linear beam type
(Wide range type and narrow range type)



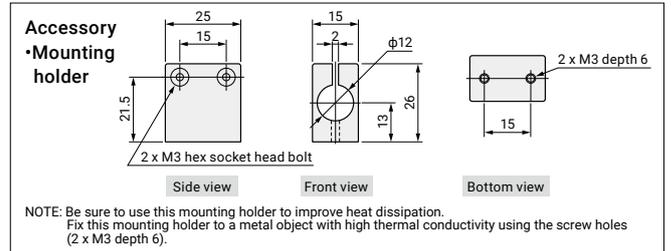
Right-angle type (Mid focal length type)



Right-angle type (Long focal length type)

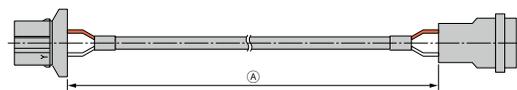


Type	Type No.	Dimension Δ (mm)	Weight (g)
Standard type	Irradiation area $\phi 3$ mm type	L14310-□10	60
	Irradiation area $\phi 6$ mm type	L14310-□15	60
	Irradiation area $\phi 8$ mm type	L14310-□20	60
	Irradiation area $\phi 12$ mm type	L14310-□00	54
Right-angle type	Mid focal length type	L14311-□03	69
	Long focal length type	L14311-□05	66.5
Linear beam type	Wide range type	L14311-□02	56
	Narrow range type	L14311-□04	60



• LED head unit extension cables A14978 series

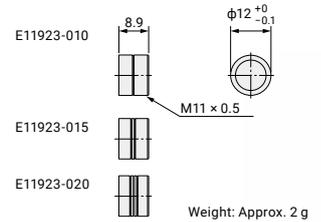
The A14978 series extension cables allow you to extend the cable length of an LED head unit as needed.



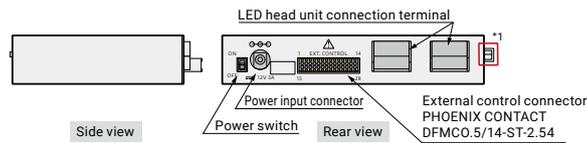
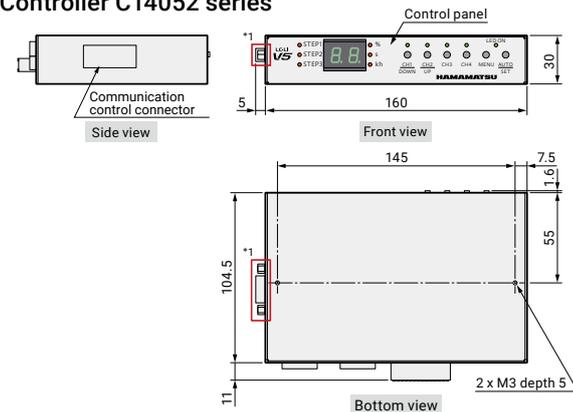
Type No.	Dimension Δ (mm)	Weight (g)
A14978-300	3000	Approx. 400
A14978-500	5000	Approx. 660
A14978-700	7000	Approx. 920

NOTE: Ensure that the total length of the LED head unit extension cables is less than 15 m.
Up to 3 extension cables can be connected.

• Condenser lens E11923 series



• Controller C14052 series



*1: This is the protruding part of the communication control connector for RS-232C communication control.
(There is no protruding part for no communication control and USB communication control.)

Weight: Approx. 300 g

External control connector connection

Pin No.	Signal	Pin No.	Signal		
1	EMGKY	15	EMGKY		
2	LED head unit 1	16	LED head unit 3		
3		Irradiation signal		17	Irradiation signal
4		Irradiation end signal in auto irradiation		18	Irradiation end signal in auto irradiation
5		Error signal		19	Error signal
6		Irradiation start signal in auto irradiation		20	Irradiation start signal in auto irradiation
7	Irradiation control signal in manual irradiation	21	Irradiation control signal in manual irradiation		
7	GND.	21	GND.		
8	LED head unit 2	22	LED head unit 4		
9		Irradiation signal		23	Irradiation signal
10		Irradiation end signal in auto irradiation		24	Irradiation end signal in auto irradiation
11		Error signal		25	Error signal
12		Irradiation start signal in auto irradiation		26	Irradiation start signal in auto irradiation
13	Irradiation control signal in manual irradiation	27	Irradiation control signal in manual irradiation		
13	GND.	27	GND.		
14	Output voltage (+5 V)	28	GND.		

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