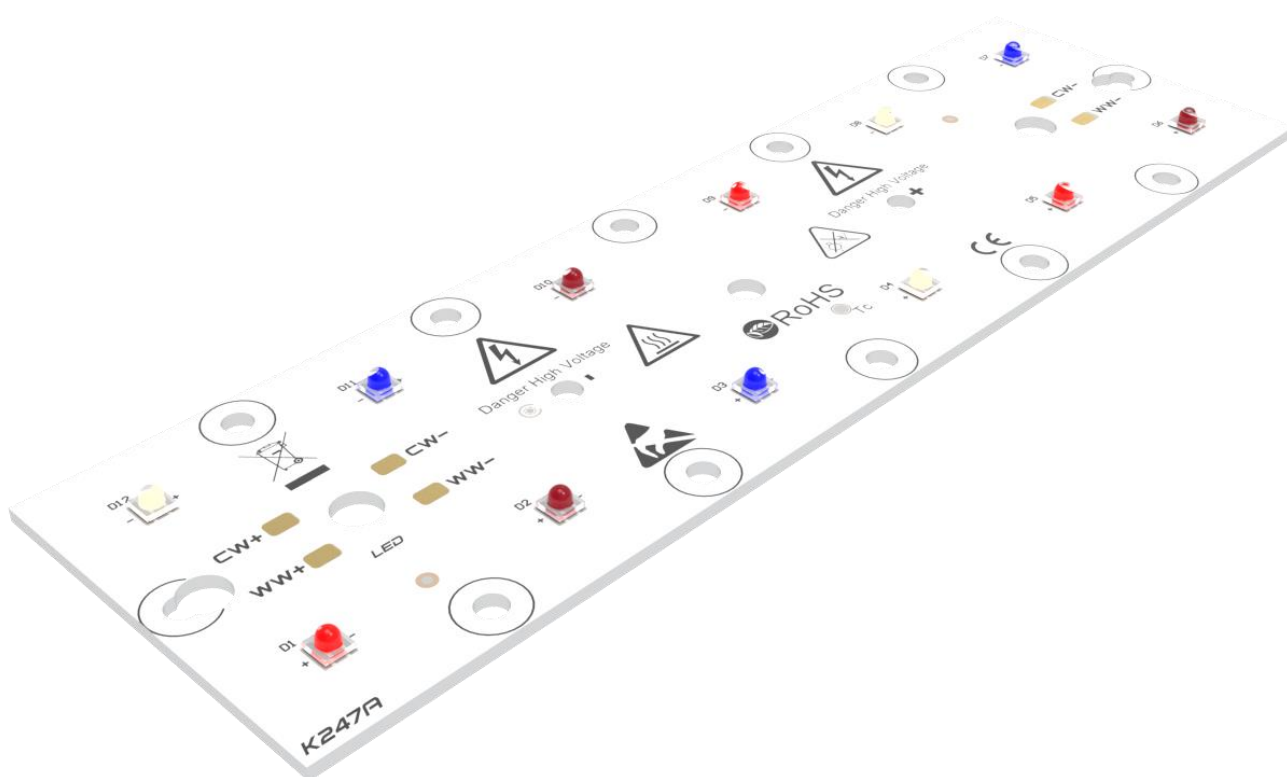


# CEZOS

## *GrowEmity 2x6 - K247*



**LED**  **Light for you**  
powered by OSRAM



**MTx**  
**MechaTronix**

The GrowEmity LED light source allows to accelerate plant growth and increase harvest. It is even possible to regulate plant growth and blooming time. Unlike an artificial light sources, LED light sources have specially matched spectrum for specific plants. Additionally, LEDs generate more light and less heat than sodium lamp, allow for lighting from side of plants. LED light sources are used in artificial plantation without daylight.

**Possibility to choose up to four colors from the following (one set of 3 LEDs).**

Colour	$\lambda$ [nm] / CCT [K]	Input Current [mA]	Forward Voltage [V]	Power [W]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]
RED	625	350	6,3	2,2	247	5,64	2,56
		500	6,6	3,3	349	7,98	2,41
		700	7,0	4,9	483	11,04	2,25
		800	7,2	5,7	546	12,46	2,17
		1000	7,6	7,6	670	15,30	2,02
HYPER RED	657	350	6,5	2,3	1275	6,92	3,06
		500	6,8	3,4	1798	9,75	2,89
		700	7,2	5,0	2435	13,21	2,62
		800	7,4	6,0	2780	15,07	2,53
		1000	7,7	7,7	3347	18,15	2,35
FAR RED	727	350	6,5	2,3	1275	6,92	3,06
		500	5,9	2,9	1121	0,68	0,23
		700	6,2	4,3	1518	0,92	0,21
		800	6,3	5,1	1733	1,05	0,21
		1000	6,7	6,7	2087	1,26	0,19
DEEP BLUE	455	350	8,6	3,0	1905	7,05	2,36
		500	8,7	4,4	2648	9,80	2,25
		700	8,9	6,2	3277	12,13	1,94
		800	9,0	7,2	3620	13,40	1,87
		1000	9,2	9,2	4572	16,92	1,84
BLUE	470	350	8,6	3,0	84	4,86	1,62
		500	8,8	4,4	111	6,42	1,46
		700	9,1	6,4	144	8,31	1,30
		800	9,2	7,3	158	9,14	1,25
		1000	9,5	9,5	187	10,80	1,14
TRUE GREEN	528	350	10,1	3,5	363	3,36	0,95
		500	10,3	5,2	473	4,38	0,85
		700	10,6	7,4	603	5,58	0,75
		800	10,7	8,5	660	6,11	0,72
		1000	11,0	11,0	775	7,17	0,65
AMBER	617	350	6,3	2,2	268	5,91	2,68
		500	6,6	3,3	376	8,31	2,51
		700	7,0	4,9	513	11,34	2,31
		800	7,2	5,7	577	12,74	2,22
		1000	7,6	7,6	704	15,54	2,05
YELLOW	590	350	6,6	2,3	246	2,61	1,13
		500	6,9	3,5	336	3,57	1,03
		700	7,3	5,1	430	4,56	0,89
		800	7,4	5,9	461	4,89	0,83
		1000	7,8	7,8	523	5,55	0,71
WHITE	5000	350	8,3	2,9	444	5,88	2,04
		500	8,6	4,3	608	7,86	1,84
		700	8,9	6,2	799	10,20	1,65
		800	8,9	7,2	879	11,22	1,57
		1000	9,9	9,9	1018	13,00	1,35

Radiant Power for Hyper Red, Far Red, Deep Blue. Luminous flux for rest of colour.

CCT only for White colour.

## CALCULATED PARAMETERS AT $T_J = 25^{\circ}\text{C}$

Name	GrowEmity 2x6 – K247
Size	145x43,5 mm
Power Supply Type	Constant Current (CC)
Number Of Channels	2
Power Supply Current	Max. 1000 mA
Far Red LED	OSRAM - GF CSSPM1.24
Red LED	OSRAM - GH CSSPM1.24
Deep Blue LED	OSRAM - GD CSSPM1.14
White LED	OSRAM - GW CSHPM1.PM
Ambient Temperature	0 - 40°C
Material Type / Thickness	MCPCB / 1,5 mm

## GROWEMITY 2x6 RFBW - K247

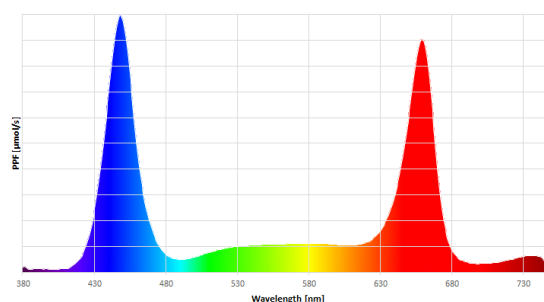
	Input Current [mA]	Forward Voltage [V]	Power [W]	Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RFBW - K247	350	12,0	4,2	10,2	RED	657	1275	6,92	3,06	21,50	2,11	LO-145044-RFBW-C1000-K247
					FAR RED	727	795	0,48	0,25			
		17,1	6,0		DEEP BLUE	455	1905	7,05	2,36			
					WHITE	5000	1905	7,05	2,04			
	500	12,6	6,3	15,0	RED	657	1798	9,75	2,89	30,03	2,00	LO-145044-RFBW-C1000-K247
					FAR RED	727	1121	0,68	0,23			
		17,4	8,7		DEEP BLUE	455	2648	9,80	2,25			
					WHITE	5000	2648	9,80	1,84			
	700	13,4	9,4	21,9	RED	657	2435	13,21	2,62	38,38	1,76	LO-145044-RFBW-C1000-K247
					FAR RED	727	1518	0,92	0,21			
		17,8	12,5		DEEP BLUE	455	3277	12,13	1,94			
					WHITE	5000	3277	12,13	1,65			
	800	13,8	11,0	25,4	RED	657	2780	15,07	2,53	42,91	1,69	LO-145044-RFBW-C1000-K247
					FAR RED	727	1733	1,05	0,21			
		17,9	14,4		DEEP BLUE	455	3620	13,40	1,87			
					WHITE	5000	3620	13,40	1,57			

Parameters were calculated for temperatures  $T_J = 25^{\circ}\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.

Different type of plants have different requirements for the best growth, so to maximized effect, GrowEmity light sources have many sets of LEDs configuration. Most commands LED types are: red, far red, hyper red, blue, deep blue and white with different colour temperature. Some examples are below.

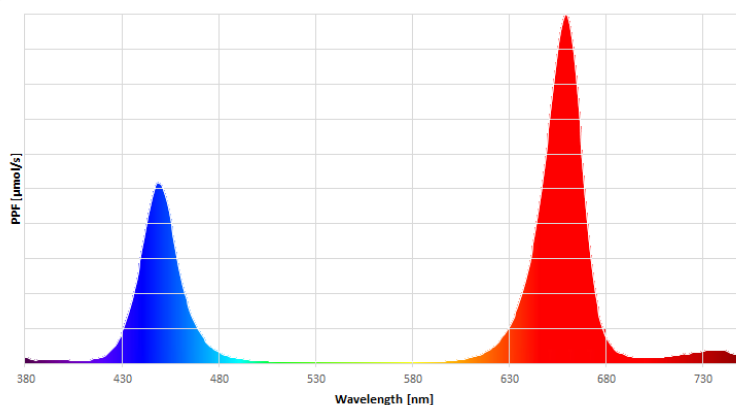
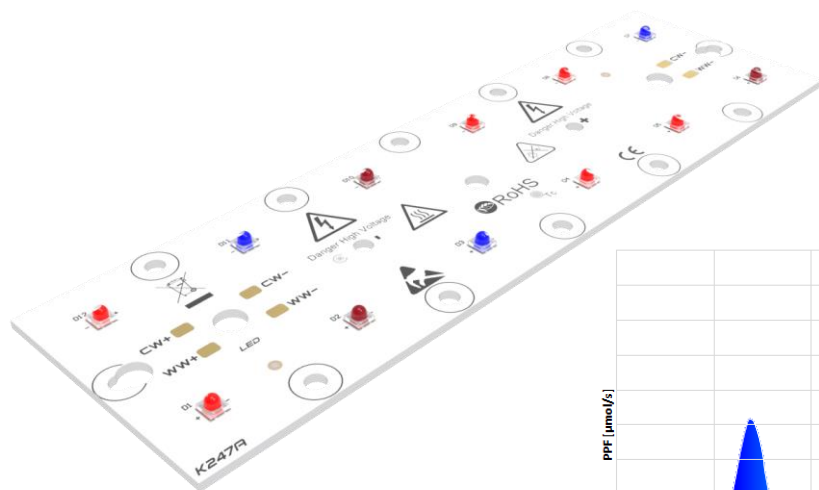


## GROWEMITY 2x6 RRFB - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm]	Radiant Power [mW]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RRFB - K247	350	12,9	4,5	9,5	RED	657	2550	13,83	3,06	21,36	2,26	L0-145044-RRFB-C1000-K247
		14,1	4,9		FAR RED	727	795	0,48	0,25			
					DEEP BLUE	455	1905	7,05	2,36			
	500	13,5	6,8	14,0	RED	657	3596	19,50	2,89	29,98	2,14	L0-145044-RRFB-C1000-K247
		14,6	7,3		FAR RED	727	1121	0,68	0,23			
					DEEP BLUE	455	2648	9,80	2,25			
	700	14,4	10,1	20,7	RED	657	4871	26,42	2,62	39,46	1,91	L0-145044-RRFB-C1000-K247
		15,1	10,6		FAR RED	727	1518	0,92	0,21			
					DEEP BLUE	455	3277	12,13	1,94			
	800	14,9	11,9	24,1	RED	657	5559	30,15	2,53	44,59	1,85	L0-145044-RRFB-C1000-K247
		15,3	12,2		FAR RED	727	1733	1,05	0,21			
					DEEP BLUE	455	3620	13,40	1,87			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Values of these parameters were calculated for default bin and with tolerances of 15%.



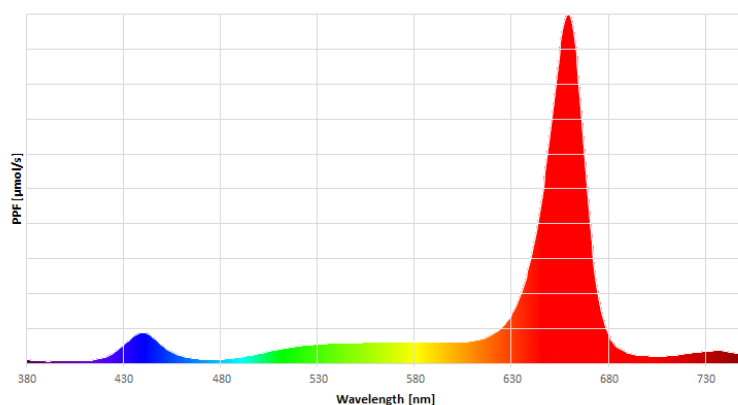
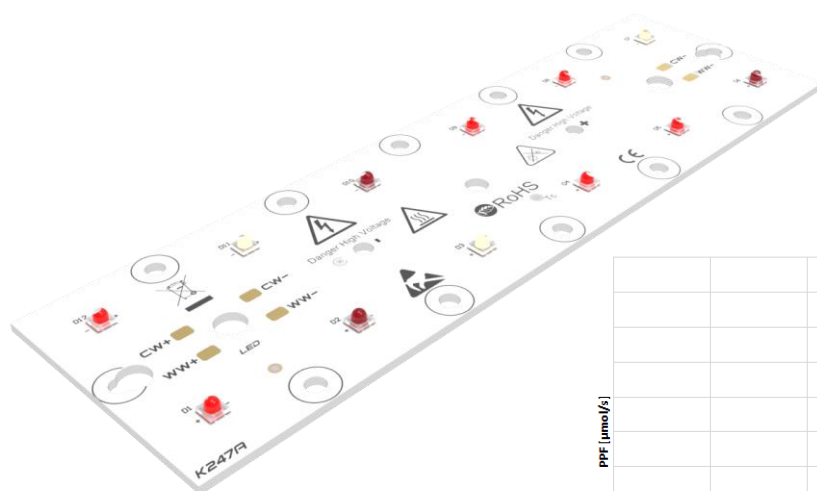
## GROWEMITY 2x6 RRFW - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RRFW - K247	350	12,9	4,5	9,3	RED	657	2550	13,83	3,06	20,19	2,16	LO-145044-RRFW-C1000-K247
		13,8	4,8		FAR RED	727	795	0,48	0,25			
					WHITE	5000	444	5,88	2,04			
	500	13,5	6,8	14,0	RED	657	3596	19,50	2,89	28,04	2,01	LO-145044-RRFW-C1000-K247
		14,4	7,2		FAR RED	727	1121	0,68	0,23			
					WHITE	5000	608	7,86	1,84			
	700	14,4	10,1	20,6	RED	657	4871	26,42	2,62	37,53	1,82	LO-145044-RRFW-C1000-K247
		15,1	10,5		FAR RED	727	1518	0,92	0,21			
					WHITE	5000	799	10,20	1,65			
	800	14,9	11,9	24,1	RED	657	5559	30,15	2,53	42,42	1,76	LO-145044-RRFW-C1000-K247
		15,3	12,2		FAR RED	727	1733	1,05	0,21			
					WHITE	5000	879	11,22	1,57			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.



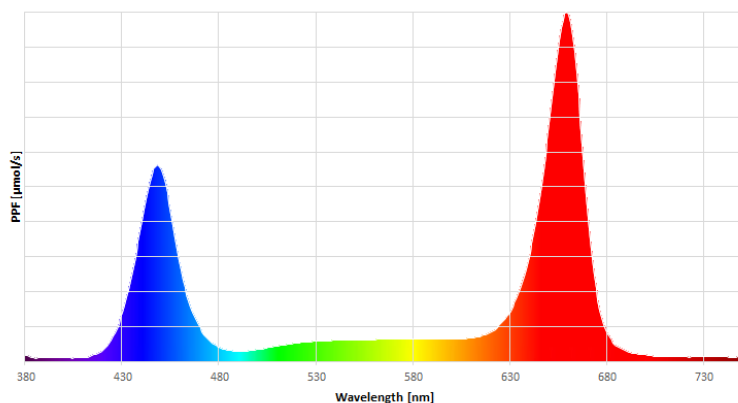
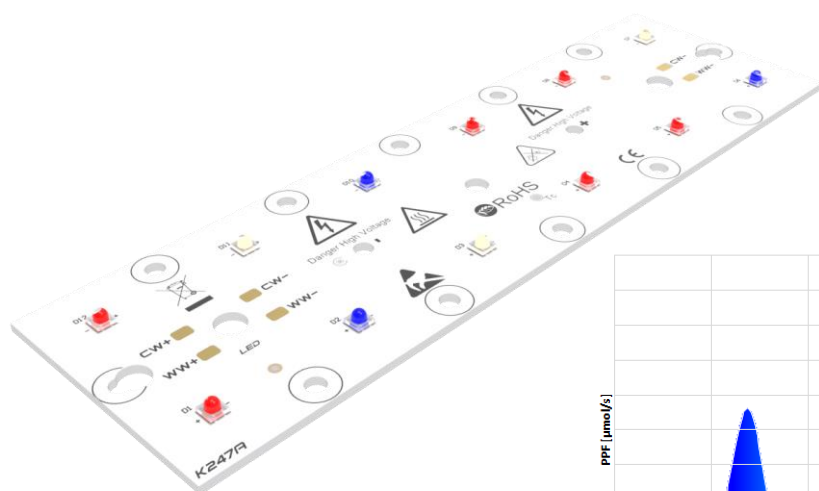
## GROWEMITY 2x6 RRBW - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RRBW - K247	350	12,9	4,5	10,4	RED	657	2550	13,83	3,06	26,76	2,57	LO-145044-RRBW-C1000-K247
		16,8	5,9		DEEP BLUE	455	1905	7,05	2,36			
					WHITE	5000	444	5,88	2,04			
	500	13,5	6,8	15,4	RED	657	3596	19,50	2,89	37,16	2,42	LO-145044-RRBW-C1000-K247
		17,3	8,6		DEEP BLUE	455	2648	9,80	2,25			
					WHITE	5000	608	7,86	1,84			
	700	14,4	10,1	22,5	RED	657	4871	26,42	2,62	48,74	2,17	LO-145044-RRBW-C1000-K247
		17,8	12,4		DEEP BLUE	455	3277	12,13	1,94			
					WHITE	5000	799	10,20	1,65			
	800	14,9	11,9	26,2	RED	657	5559	30,15	2,53	54,76	2,09	LO-145044-RRBW-C1000-K247
		17,9	14,3		DEEP BLUE	455	3620	13,40	1,87			
					WHITE	5000	879	11,22	1,57			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.

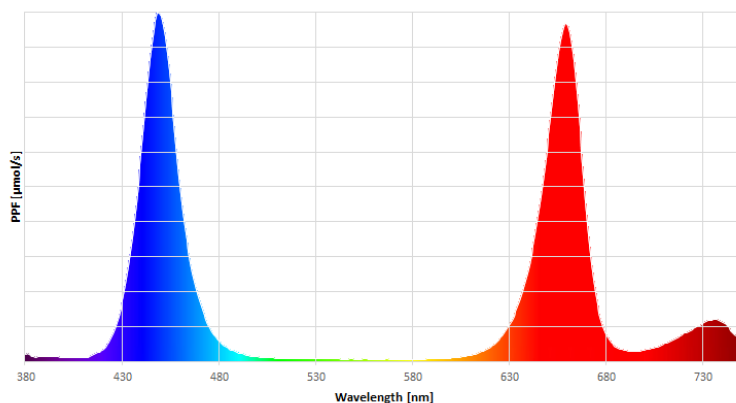
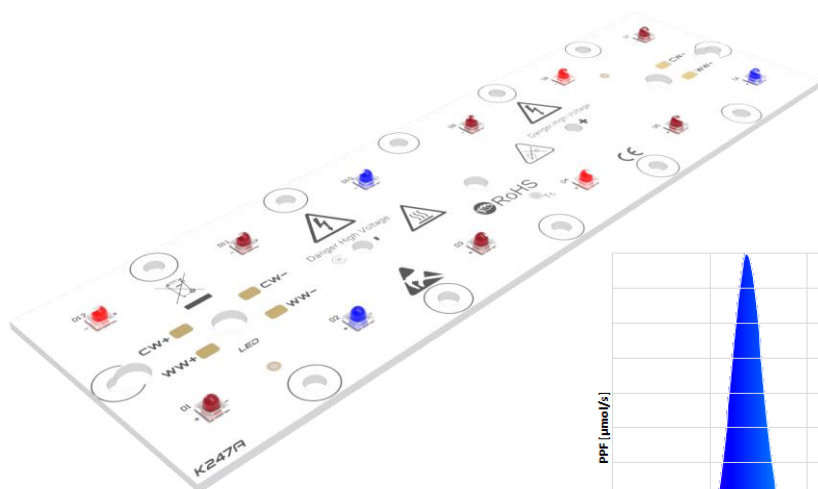


## GROWEMITY 2x6 RFFB - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm]	Radiant Power [mW]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RFFB - K247	350	15,0	5,3	9,1	RED	657	1275	6,92	3,06	14,93	1,63	L0-145044-RFFB-C1000-K247
					DEEP BLUE	455	1905	7,05	2,36			
		11,1	3,9		FAR RED	727	1590	0,96	0,25			
	500	15,5	7,7	13,6	RED	657	1798	9,75	2,89	20,90	1,54	L0-145044-RFFB-C1000-K247
					DEEP BLUE	455	2648	9,80	2,25			
		11,7	5,9		FAR RED	727	2242	1,35	0,23			
	700	16,1	11,3	20,0	RED	657	2435	13,21	2,62	27,17	1,36	L0-145044-RFFB-C1000-K247
					DEEP BLUE	455	3277	12,13	1,94			
		12,4	8,7		FAR RED	727	3037	1,83	0,21			
	800	16,4	13,1	23,3	RED	657	2780	15,07	2,53	30,56	1,31	L0-145044-RFFB-C1000-K247
					DEEP BLUE	455	3620	13,40	1,87			
		12,7	10,1		FAR RED	727	3466	2,09	0,21			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Values of these parameters were calculated for default bin and with tolerances of 15%.



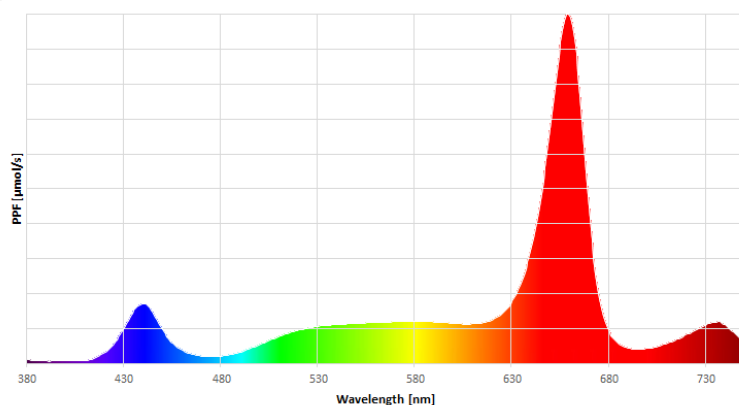
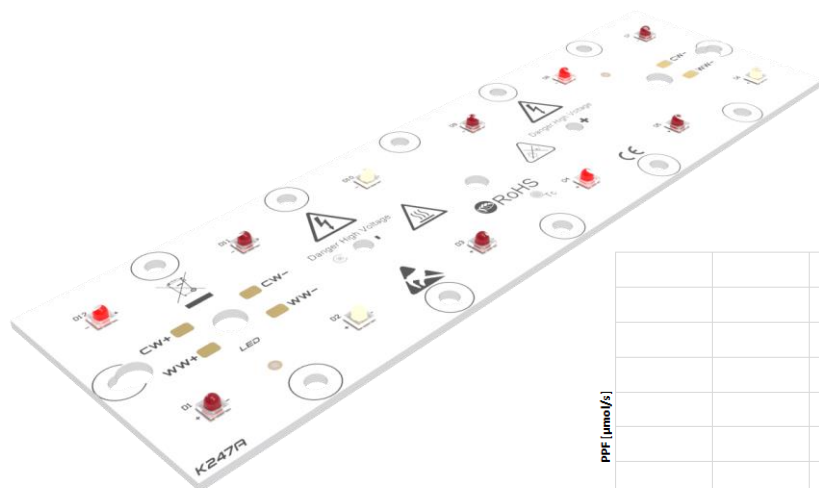
## GROWEMITY 2X6 RFFW - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RFFW - K247	350	14,7	5,1	9,0	RED	657	1275	6,92	3,06	13,76	1,52	LO-145044-RFFW-C1000-K247
					WHITE	5000	444	5,88	2,04			
		11,1	3,9		FAR RED	727	1590	0,96	0,25			
	500	15,3	7,7	13,5	RED	657	1798	9,75	2,89	18,96	1,40	LO-145044-RFFW-C1000-K247
					WHITE	5000	608	7,86	1,84			
		11,7	5,9		FAR RED	727	2242	1,35	0,23			
	700	16,1	11,2	19,9	RED	657	2435	13,21	2,62	25,24	1,27	LO-145044-RFFW-C1000-K247
					WHITE	5000	799	10,20	1,65			
		12,4	8,7		FAR RED	727	3037	1,83	0,21			
	800	16,4	13,1	23,2	RED	657	2780	15,07	2,53	28,39	1,22	LO-145044-RFFW-C1000-K247
					WHITE	5000	879	11,22	1,57			
		12,7	10,1		FAR RED	727	3466	2,09	0,21			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.





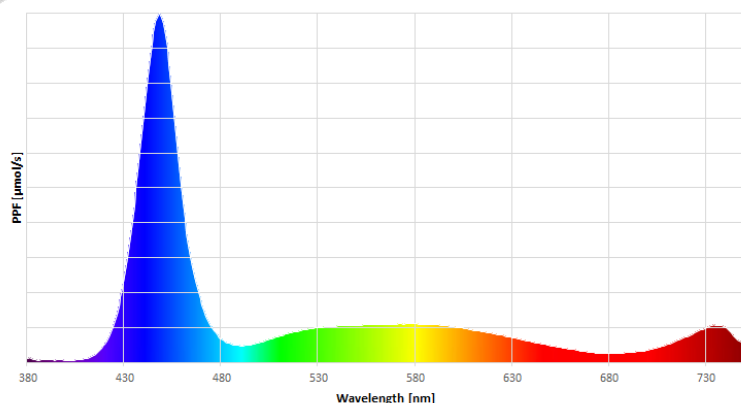
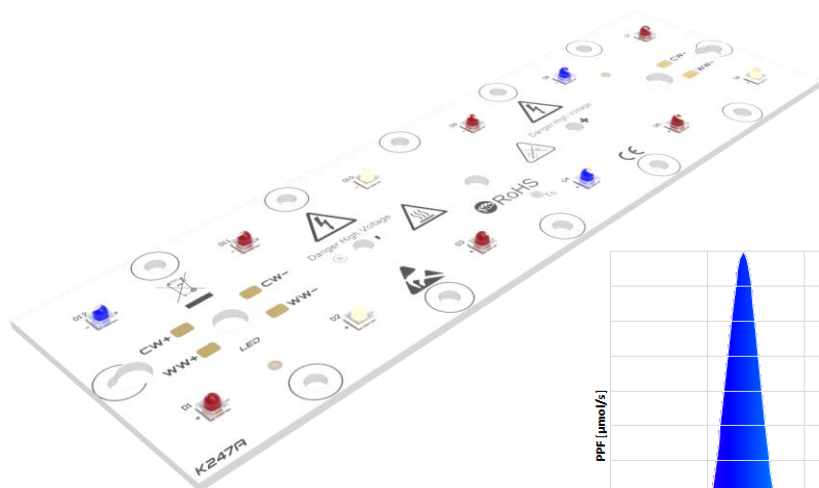
## GROWEMITY 2x6 FFBW - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 FFBW - K247	350	11,1	3,9	9,8	FAR RED	727	1590	0,96	0,25	13,89	1,42	LO-145044-FFBW-C1000-K247
		16,8	5,9		DEEP BLUE	455	1905	7,05	2,36			
					WHITE	5000	444	5,88	2,04			
	500	11,7	5,9	14,5	FAR RED	727	2242	1,35	0,23	19,01	1,31	LO-145044-FFBW-C1000-K247
		17,3	8,6		DEEP BLUE	455	2648	9,80	2,25			
					WHITE	5000	608	7,86	1,84			
	700	12,4	8,7	21,1	FAR RED	727	3037	1,83	0,21	24,16	1,14	LO-145044-FFBW-C1000-K247
		17,8	12,4		DEEP BLUE	455	3277	12,13	1,94			
					WHITE	5000	799	10,20	1,65			
	800	12,7	10,1	24,5	FAR RED	727	3466	2,09	0,21	26,71	1,09	LO-145044-FFBW-C1000-K247
		17,9	14,3		DEEP BLUE	455	3620	13,40	1,87			
					WHITE	5000	879	11,22	1,57			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.

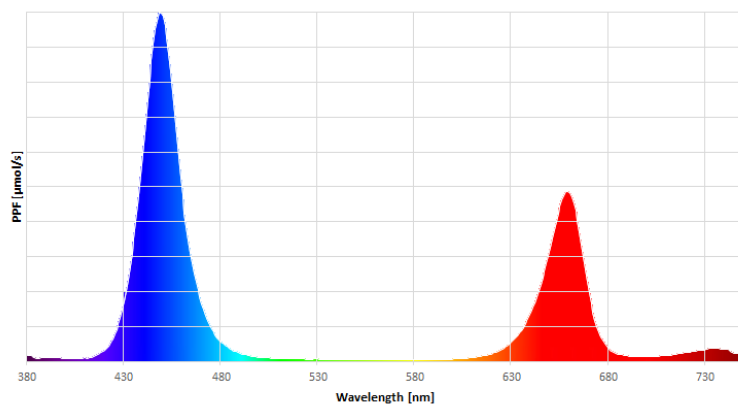
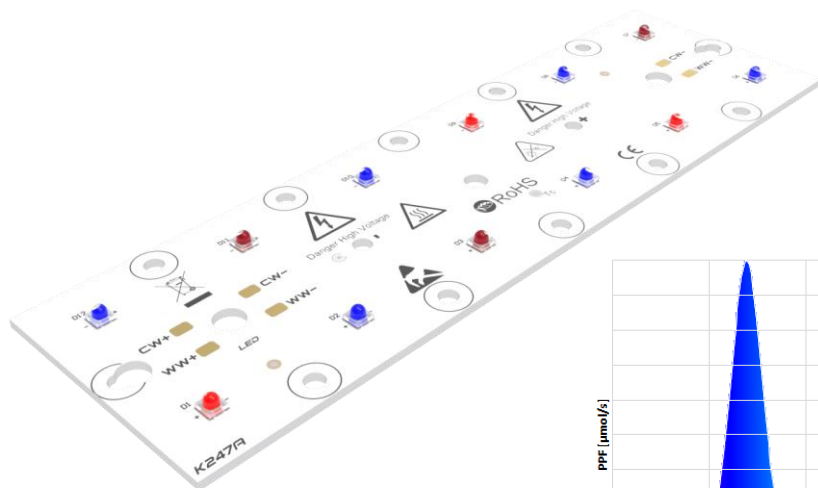


## GROWEMITY 2X6 RFBB - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm]	Radiant Power [mW]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RFBB - K247	350	12,0	4,2	10,2	RED	657	1275	6,92	3,06	21,50	2,11	L0-145044-RFBB-C1000-K247
					FAR RED	727	795	0,48	0,25			
		17,1	6,0		DEEP BLUE	455	3810	14,10	2,36			
	500	12,6	6,3	15,0	RED	657	1798	9,75	2,89	30,03	2,00	L0-145044-RFBB-C1000-K247
					FAR RED	727	1121	0,68	0,23			
		17,4	8,7		DEEP BLUE	455	5296	19,60	2,25			
	700	13,4	9,4	21,9	RED	657	2435	13,21	2,62	38,38	1,76	L0-145044-RFBB-C1000-K247
					FAR RED	727	1518	0,92	0,21			
		17,8	12,5		DEEP BLUE	455	6553	24,25	1,94			
	800	13,8	11,0	25,4	RED	657	2780	15,07	2,53	42,91	1,69	L0-145044-RFBB-C1000-K247
					FAR RED	727	1733	1,05	0,21			
		17,9	14,4		DEEP BLUE	455	7239	26,79	1,87			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Values of these parameters were calculated for default bin and with tolerances of 15%.



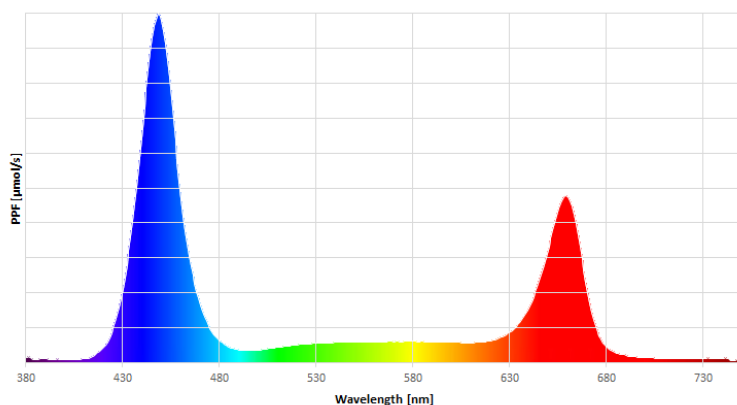
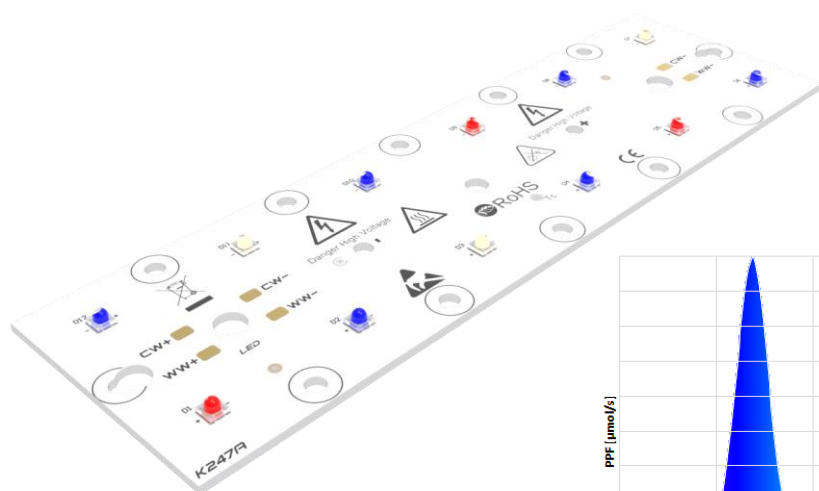
## GROWEMITY 2X6 RBBW - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RBBW - K247	350	14,7	5,1	11,1	RED	657	1275	6,92	3,06	26,90	2,42	LO-145044-RBBW-C1000-K247
					WHITE	5000	444	5,88	2,04			
		17,1	6,0		DEEP BLUE	455	3810	14,10	2,36			
	500	15,3	7,7	16,4	RED	657	1798	9,75	2,89	37,21	2,28	LO-145044-RBBW-C1000-K247
					WHITE	5000	608	7,86	1,84			
		17,4	8,7		DEEP BLUE	455	5296	19,60	2,25			
	700	16,1	11,2	23,7	RED	657	2435	13,21	2,62	47,66	2,01	LO-145044-RBBW-C1000-K247
					WHITE	5000	799	10,20	1,65			
		17,8	12,5		DEEP BLUE	455	6553	24,25	1,94			
	800	16,4	13,1	27,5	RED	657	2780	15,07	2,53	53,08	1,93	LO-145044-RBBW-C1000-K247
					WHITE	5000	879	11,22	1,57			
		17,9	14,4		DEEP BLUE	455	7239	26,79	1,87			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.



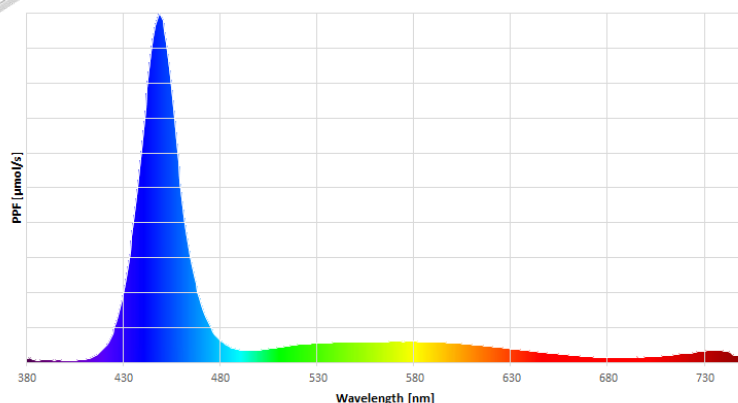
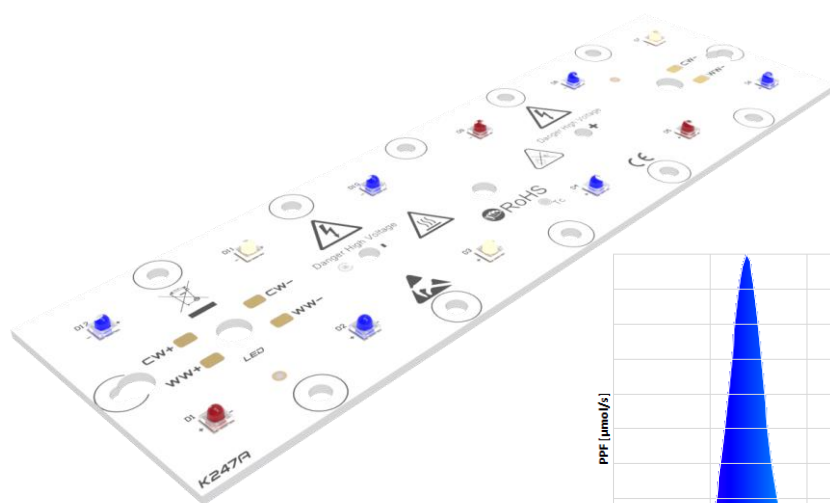
## GROWEMITY 2x6 FBBW - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 FBBW - K247	350	4,8	4,8	10,8	FAR RED	727	795	0,48	0,25	20,46	1,89	LO-145044-FBBW-C1000-K247
					WHITE	5000	444	5,88	2,04			
		6,0	6,0		DEEP BLUE	455	3810	14,10	2,36			
	500	7,2	7,2	15,9	FAR RED	727	1121	0,68	0,23	28,14	1,77	LO-145044-FBBW-C1000-K247
					WHITE	5000	608	7,86	1,84			
		8,7	8,7		DEEP BLUE	455	5296	19,60	2,25			
	700	10,5	10,5	23,0	FAR RED	727	1518	0,92	0,21	35,37	1,54	LO-145044-FBBW-C1000-K247
					WHITE	5000	799	10,20	1,65			
		12,5	12,5		DEEP BLUE	455	6553	24,25	1,94			
	800	12,2	12,2	26,6	FAR RED	727	1733	1,05	0,21	39,06	1,47	LO-145044-FBBW-C1000-K247
					WHITE	5000	879	11,22	1,57			
		14,4	14,4		DEEP BLUE	455	7239	26,79	1,87			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.



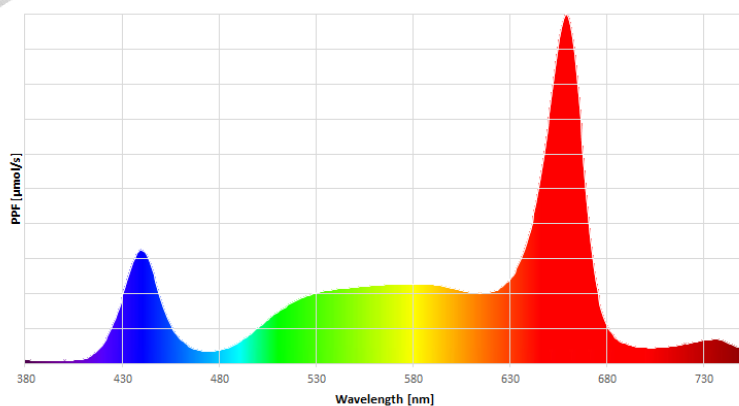
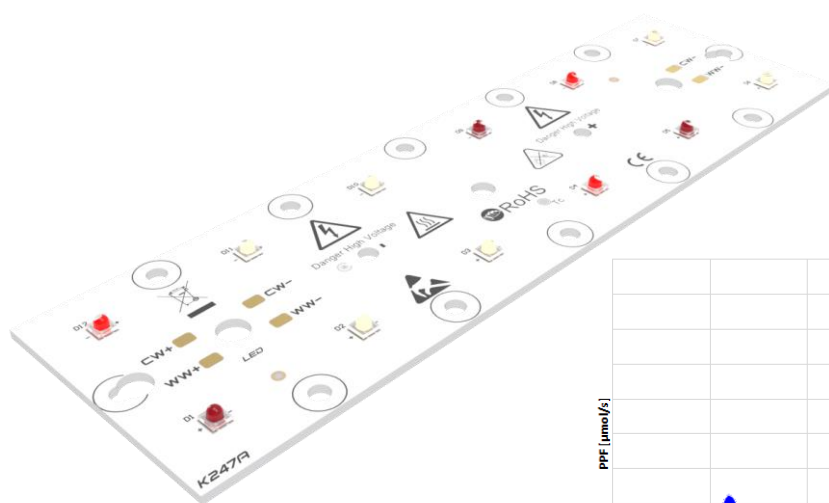
## GROWEMITY 2x6 RFWW - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RFWW - K247	350	12,0	4,2	10,0	RED	657	1275	6,92	3,06	19,16	1,92	LO-145044-RFWW-C1000-K247
					FAR RED	727	795	0,48	0,25			
		16,5	5,8		WHITE	5000	887	11,76	2,04			
	500	12,6	6,3	14,9	RED	657	1798	9,75	2,89	26,15	1,76	LO-145044-RFWW-C1000-K247
					FAR RED	727	1121	0,68	0,23			
		17,1	8,6		WHITE	5000	1216	15,72	1,84			
	700	13,4	9,4	21,8	RED	657	2435	13,21	2,62	34,52	1,59	LO-145044-RFWW-C1000-K247
					FAR RED	727	1518	0,92	0,21			
		17,7	12,4		WHITE	5000	1597	20,40	1,65			
	800	13,8	11,0	25,3	RED	657	2780	15,07	2,53	38,56	1,52	LO-145044-RFWW-C1000-K247
					FAR RED	727	1733	1,05	0,21			
		17,9	14,3		WHITE	5000	1757	22,44	1,57			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.



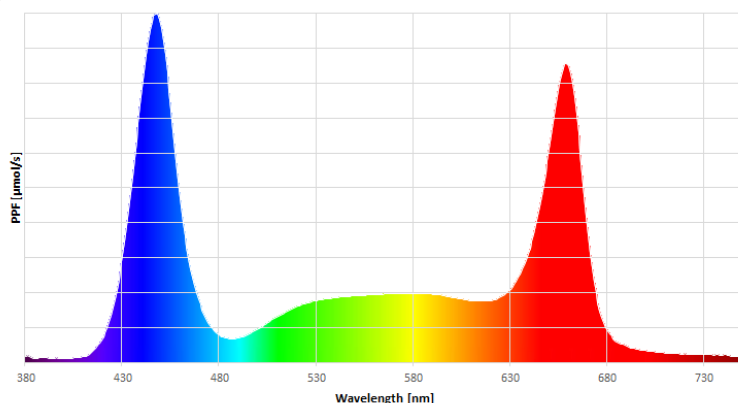
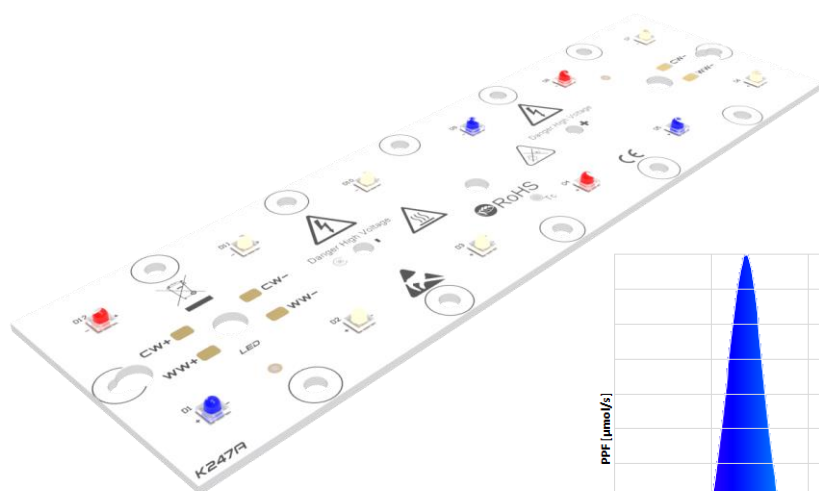
## GROWEMITY 2x6 RBWW - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RBWW - K247	350	15,0	5,3	11,0	RED	657	1275	6,92	3,06	25,73	2,33	LO-145044-RBWW-C1000-K247
					DEEP BLUE	455	1905	7,05	2,36			
		16,5	5,8		WHITE	5000	887	11,76	2,04			
	500	15,5	7,7	16,3	RED	657	1798	9,75	2,89	35,27	2,17	LO-145044-RBWW-C1000-K247
					DEEP BLUE	455	2648	9,80	2,25			
		17,1	8,6		WHITE	5000	1216	15,72	1,84			
	700	16,1	11,3	23,7	RED	657	2435	13,21	2,62	45,73	1,93	LO-145044-RBWW-C1000-K247
					DEEP BLUE	455	3277	12,13	1,94			
		17,7	12,4		WHITE	5000	1597	20,40	1,65			
	800	16,4	13,1	27,4	RED	657	2780	15,07	2,53	50,91	1,86	LO-145044-RBWW-C1000-K247
					DEEP BLUE	455	3620	13,40	1,87			
		17,9	14,3		WHITE	5000	1757	22,44	1,57			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.



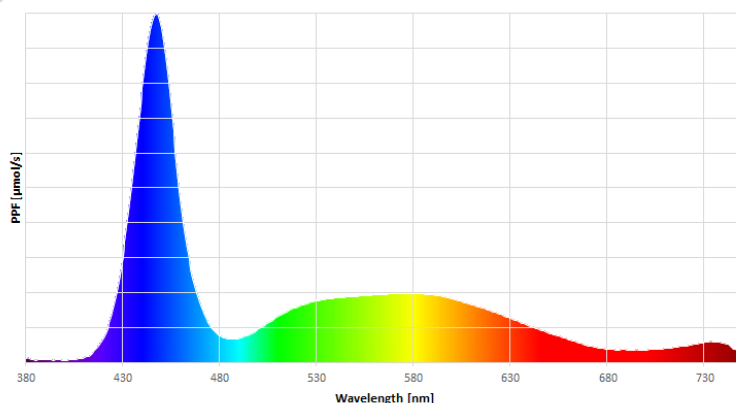
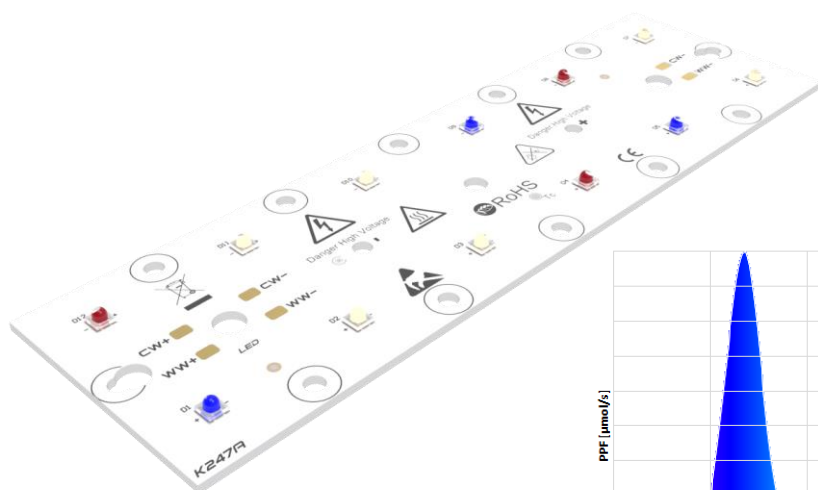
## GROWEMITY 2x6 FBWW - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 FBWW - K247	350	14,1	4,9	10,7	FAR RED	727	795	0,48	0,25	19,29	1,80	LO-145044-FBWW-C1000-K247
					DEEP BLUE	455	1905	7,05	2,36			
		16,5	5,8		WHITE	5000	887	11,76	2,04			
	500	14,6	7,3	15,8	FAR RED	727	1121	0,68	0,23	26,20	1,66	LO-145044-FBWW-C1000-K247
					DEEP BLUE	455	2648	9,80	2,25			
		17,1	8,6		WHITE	5000	1216	15,72	1,84			
	700	15,1	10,6	23,0	FAR RED	727	1518	0,92	0,21	33,44	1,46	LO-145044-FBWW-C1000-K247
					DEEP BLUE	455	3277	12,13	1,94			
		17,7	12,4		WHITE	5000	1597	20,40	1,65			
	800	15,3	12,2	26,5	FAR RED	727	1733	1,05	0,21	36,88	1,39	LO-145044-FBWW-C1000-K247
					DEEP BLUE	455	3620	13,40	1,87			
		17,9	14,3		WHITE	5000	1757	22,44	1,57			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.

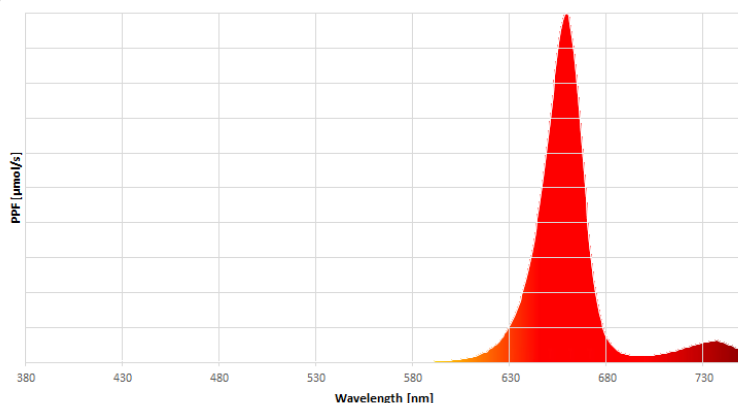
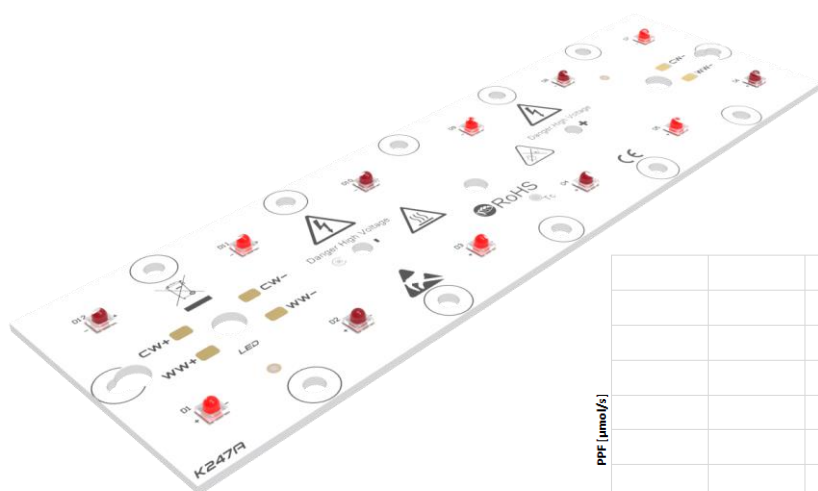


## GROWEMITY 2x6 RRFF - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm]	Radiant Power [mW]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RRFF - K247	350	12,9	4,5	8,4	RED	657	2550	13,83	3,06	14,79	1,76	L0-145044-RRFF-C1000-K247
		11,1	3,9		FAR RED	727	1590	0,96	0,25			
	500	13,5	6,8	12,6	RED	657	3596	19,50	2,89	20,85	1,66	L0-145044-RRFF-C1000-K247
		11,7	5,9		FAR RED	727	2242	1,35	0,23			
	700	14,4	10,1	18,8	RED	657	4871	26,42	2,62	28,25	1,50	L0-145044-RRFF-C1000-K247
		12,4	8,7		FAR RED	727	3037	1,83	0,21			
	800	14,9	11,9	22,0	RED	657	5559	30,15	2,53	32,24	1,46	L0-145044-RRFF-C1000-K247
		12,7	10,1		FAR RED	727	3466	2,09	0,21			

Parameters were calculated for temperatures  $T_j = 25^\circ\text{C}$

Values of these parameters were calculated for default bin and with tolerances of 15%.



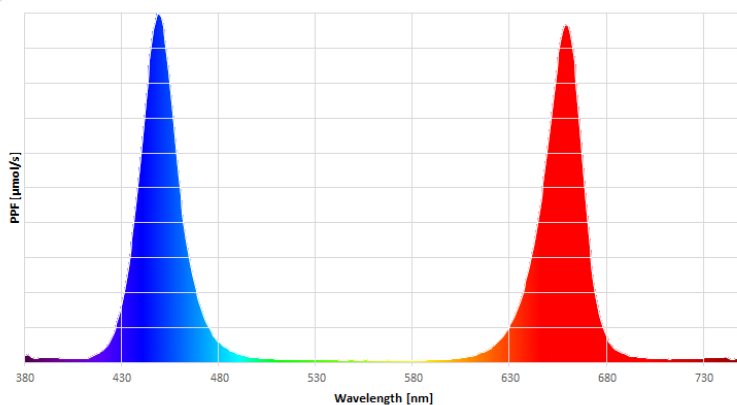
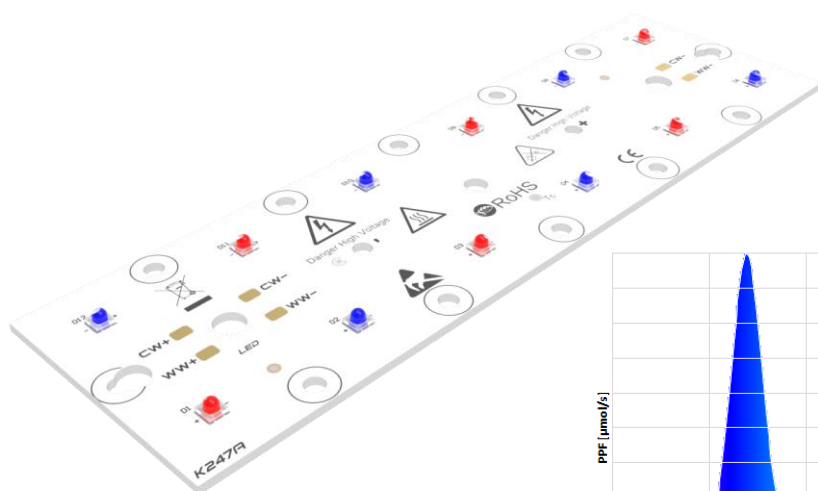


## GROWEMITY 2x6 RRBB - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm]	Radiant Power [mW]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RRBB - K247	350	12,9	4,5	10,5	RED	657	2550	13,83	3,06	27,93	2,66	L0-145044-RRBB-C1000-K247
		17,1	6,0		DEEP BLUE	455	3810	14,10	2,36			
	500	13,5	6,8	15,5	RED	657	3596	19,50	2,89	39,10	2,53	L0-145044-RRBB-C1000-K247
		17,4	8,7		DEEP BLUE	455	5296	19,60	2,25			
	700	14,4	10,1	22,6	RED	657	4871	26,42	2,62	50,67	2,25	L0-145044-RRBB-C1000-K247
		17,8	12,5		DEEP BLUE	455	6553	24,25	1,94			
	800	14,9	11,9	26,3	RED	657	5559	30,15	2,53	56,94	2,17	L0-145044-RRBB-C1000-K247
		17,9	14,4		DEEP BLUE	455	7239	26,79	1,87			

Parameters were calculated for temperatures  $T_j = 25^\circ\text{C}$

Values of these parameters were calculated for default bin and with tolerances of 15%.



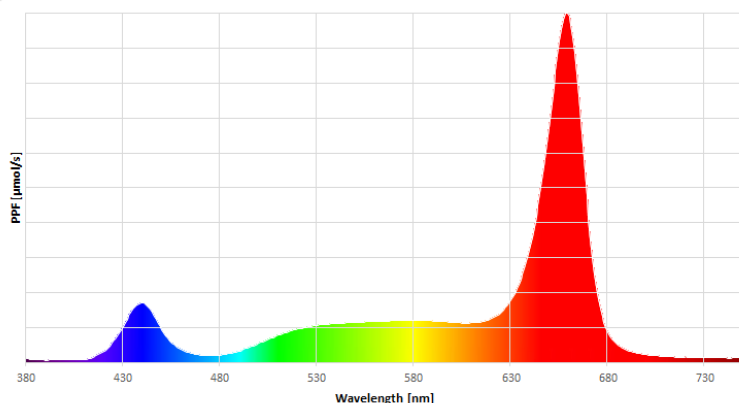
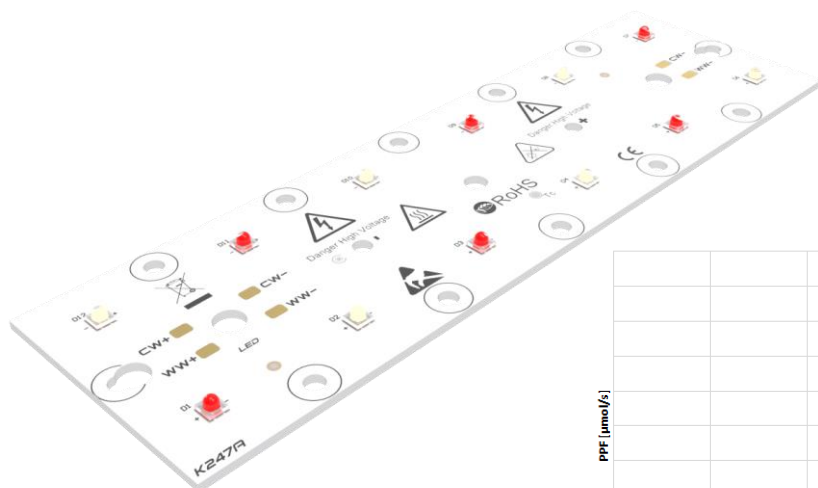
## GROWEMITY 2x6 RRWW - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RRWW - K247	350	12,9	4,5	10,3	RED	657	2550	13,83	3,06	25,59	2,49	LO-145044-RRWW-C1000-K247
		16,5	5,8		WHITE	5000	887	11,76	2,04			
	500	13,5	6,8	15,3	RED	657	3596	19,50	2,89	35,22	2,30	LO-145044-RRWW-C1000-K247
		17,1	8,6		WHITE	5000	1216	15,72	1,84			
	700	14,4	10,1	22,5	RED	657	4871	26,42	2,62	46,82	2,08	LO-145044-RRWW-C1000-K247
		17,7	12,4		WHITE	5000	1597	20,40	1,65			
	800	14,9	11,9	26,2	RED	657	5559	30,15	2,53	52,59	2,01	LO-145044-RRWW-C1000-K247
		17,9	14,3		WHITE	5000	1757	22,44	1,57			

Parameters were calculated for temperatures  $T_j = 25^\circ\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.

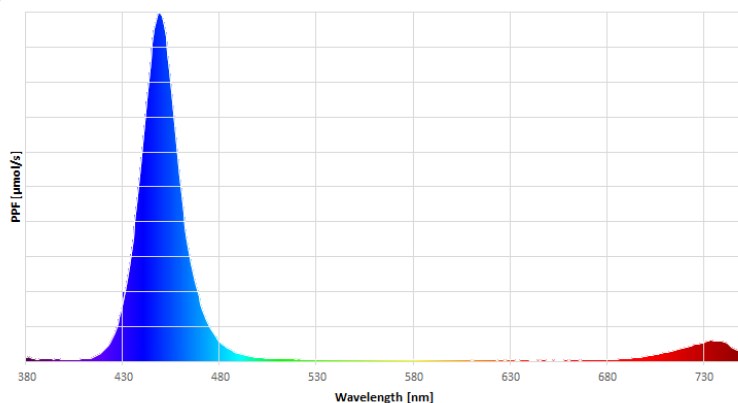
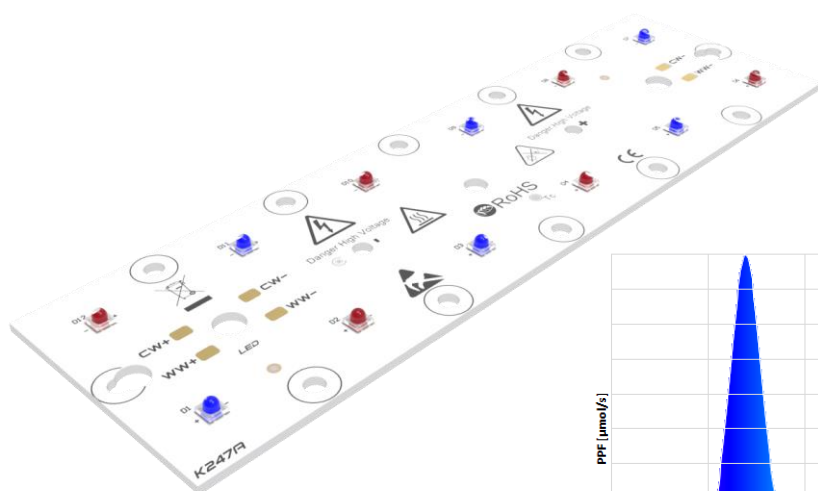


## GROWEMITY 2X6 FFBB - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm]	Radiant Power [mW]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 FFBB - K247	350	11,1	3,9	9,9	FAR RED	727	1590	0,96	0,25	15,06	1,53	LO-145044-FFBB-C1000-K247
		17,1	6,0		DEEP BLUE	455	3810	14,10	2,36			
	500	11,7	5,9	14,6	FAR RED	727	2242	1,35	0,23	20,95	1,44	LO-145044-FFBB-C1000-K247
		17,4	8,7		DEEP BLUE	455	5296	19,60	2,25			
	700	12,4	8,7	21,2	FAR RED	727	3037	1,83	0,21	26,09	1,23	LO-145044-FFBB-C1000-K247
		17,8	12,5		DEEP BLUE	455	6553	24,25	1,94			
	800	12,7	10,1	24,5	FAR RED	727	3466	2,09	0,21	28,88	1,18	LO-145044-FFBB-C1000-K247
		17,9	14,4		DEEP BLUE	455	7239	26,79	1,87			

Parameters were calculated for temperatures  $T_j = 25^\circ\text{C}$

Values of these parameters were calculated for default bin and with tolerances of 15%.



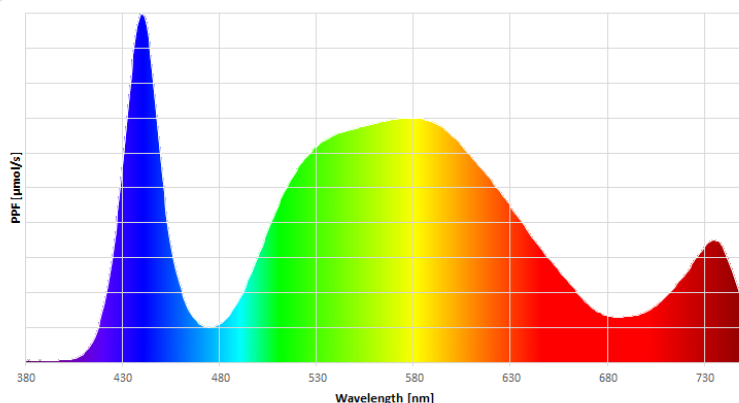
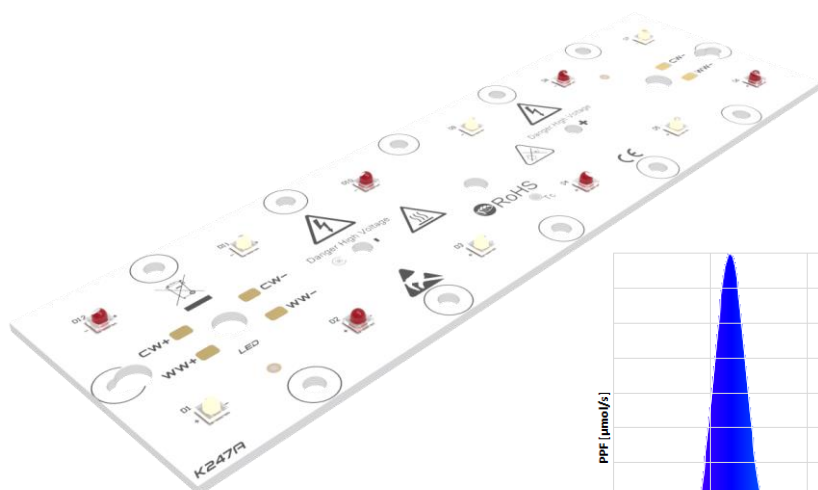
## GROWEMITY 2x6 FFWW - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 FFWW - K247	350	11,1	3,9	9,7	FAR RED	727	1590	0,96	0,25	12,72	1,32	LO-145044-FFWW-C1000-K247
		16,5	5,8		WHITE	5000	887	11,76	2,04			
	500	11,7	5,9	14,4	FAR RED	727	2242	1,35	0,23	17,07	1,19	LO-145044-FFWW-C1000-K247
		17,1	8,6		WHITE	5000	1216	15,72	1,84			
	700	12,4	8,7	21,1	FAR RED	727	3037	1,83	0,21	22,23	1,05	LO-145044-FFWW-C1000-K247
		17,7	12,4		WHITE	5000	1597	20,40	1,65			
	800	12,7	10,1	24,4	FAR RED	727	3466	2,09	0,21	24,53	1,00	LO-145044-FFWW-C1000-K247
		17,9	14,3		WHITE	5000	1757	22,44	1,57			

Parameters were calculated for temperatures  $T_j = 25^\circ\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.



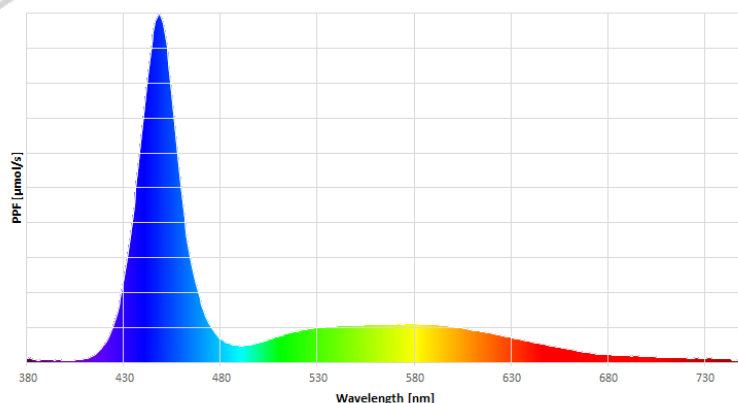
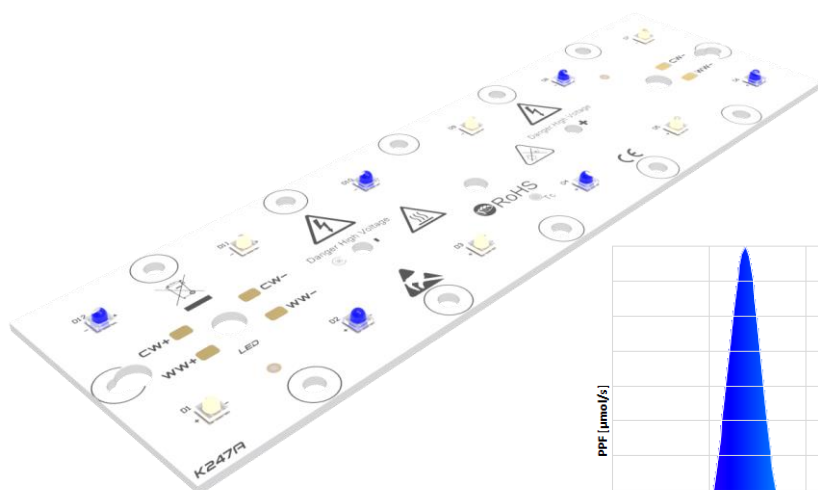
## GROWEMITY 2x6 BBWW - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 BBWW - K247	350	17,1	6,0	11,8	DEEP BLUE	455	3810	14,10	2,36	25,86	2,20	LO-145044-BBWW-C1000-K247
		16,5	5,8		WHITE	5000	887	11,76	2,04			
	500	17,4	8,7	17,3	DEEP BLUE	455	5296	19,60	2,25	35,32	2,05	LO-145044-BBWW-C1000-K247
		17,1	8,6		WHITE	5000	1216	15,72	1,84			
	700	17,8	12,5	24,9	DEEP BLUE	455	6553	24,25	1,94	44,65	1,80	LO-145044-BBWW-C1000-K247
		17,7	12,4		WHITE	5000	1597	20,40	1,65			
	800	17,9	14,4	28,7	DEEP BLUE	455	7239	26,79	1,87	49,23	1,72	LO-145044-BBWW-C1000-K247
		17,9	14,3		WHITE	5000	1757	22,44	1,57			

Parameters were calculated for temperatures  $T_j = 25^\circ\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.

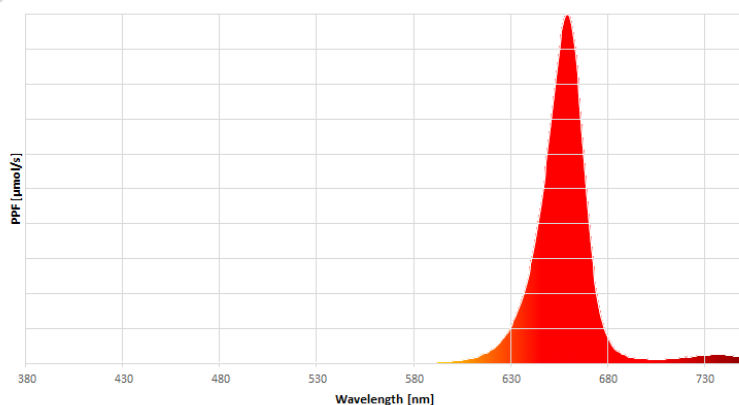
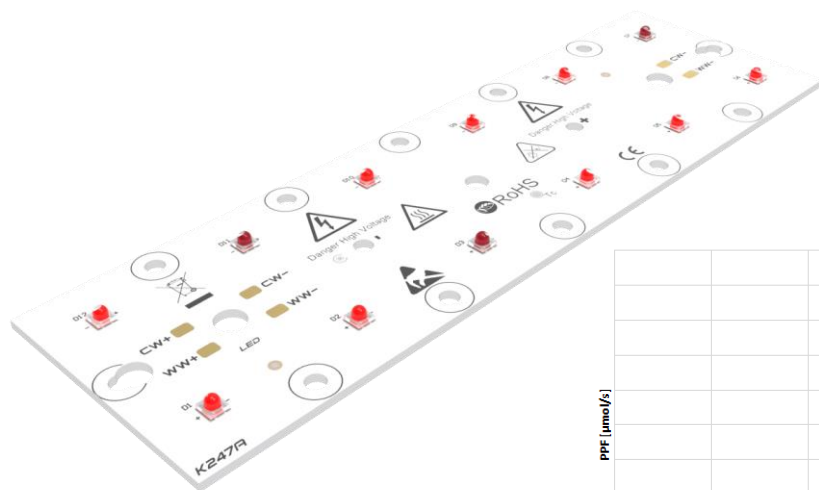


## GROWEMITY 2x6 RRRF - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm]	Radiant Power [mW]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RRRF - K247	350	12,9	4,5	8,7	RED	657	2550	13,83	3,06	21,23	2,44	L0-145044-RRRF-C1000-K247
		12,0	4,2		RED	657	1275	6,92	3,06			
					FAR RED	727	795	0,48	0,25			
	500	13,5	6,8	13,1	RED	657	3596	19,50	2,89	29,93	2,29	L0-145044-RRRF-C1000-K247
		12,6	6,3		RED	657	1798	9,75	2,89			
					FAR RED	727	1121	0,68	0,23			
	700	14,4	10,1	19,5	RED	657	4871	26,42	2,62	40,54	2,08	L0-145044-RRRF-C1000-K247
		13,4	9,4		RED	657	2435	13,21	2,62			
					FAR RED	727	1518	0,92	0,21			
	800	14,9	11,9	22,9	RED	657	5559	30,15	2,53	46,27	2,02	L0-145044-RRRF-C1000-K247
		13,8	11,0		RED	657	2780	15,07	2,53			
					FAR RED	727	1733	1,05	0,21			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Values of these parameters were calculated for default bin and with tolerances of 15%.

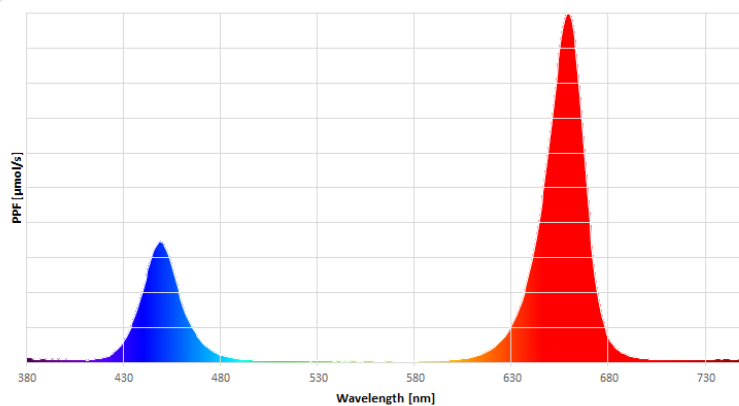
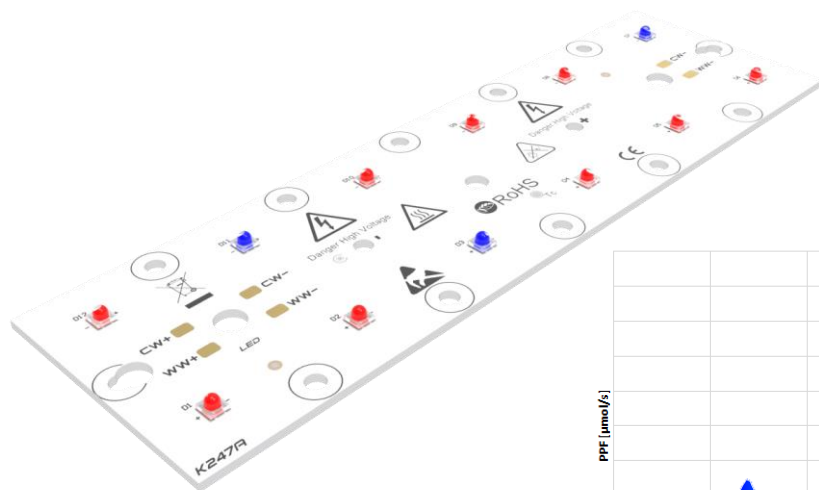


## GROWEMITY 2x6 RRRB - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm]	Radiant Power [mW]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RRRB - K247	350	12,9	4,5	9,8	RED	657	2550	13,83	3,06	27,80	2,85	L0-145044-RRRB-C1000-K247
		15,0	5,3		RED	657	1275	6,92	3,06			
					DEEP BLUE	455	1905	7,05	2,36			
	500	13,5	6,8	14,5	RED	657	3596	19,50	2,89	39,05	2,70	L0-145044-RRRB-C1000-K247
		15,5	7,7		RED	657	1798	9,75	2,89			
					DEEP BLUE	455	2648	9,80	2,25			
	700	14,4	10,1	21,4	RED	657	4871	26,42	2,62	51,75	2,42	L0-145044-RRRB-C1000-K247
		16,1	11,3		RED	657	2435	13,21	2,62			
					DEEP BLUE	455	3277	12,13	1,94			
	800	14,9	11,9	25,0	RED	657	5559	30,15	2,53	58,62	2,34	L0-145044-RRRB-C1000-K247
		16,4	13,1		RED	657	2780	15,07	2,53			
					DEEP BLUE	455	3620	13,40	1,87			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Values of these parameters were calculated for default bin and with tolerances of 15%.



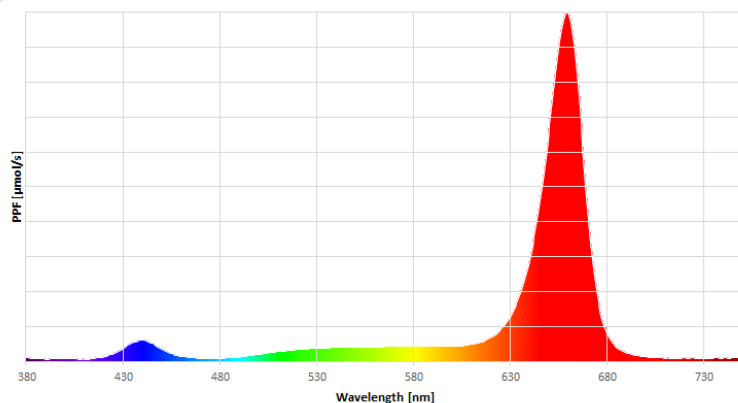
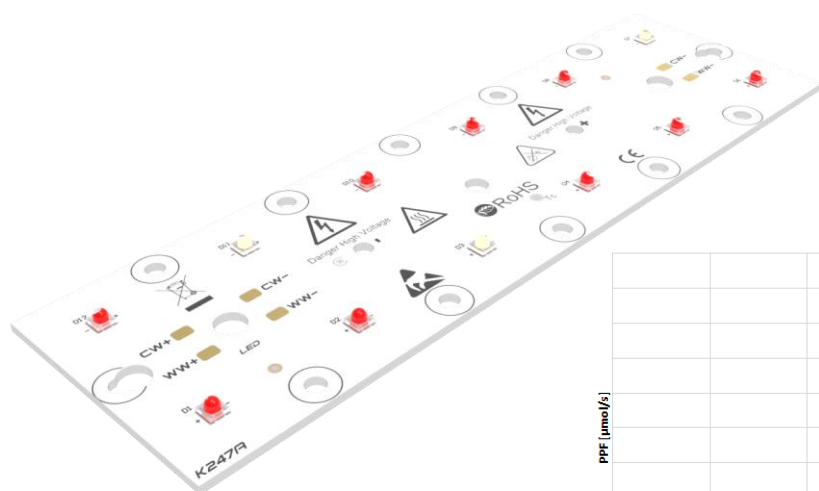
## GROWEMITY 2x6 RRRW - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RRRW - K247	350	12,9	4,5	9,7	RED	657	2550	13,83	3,06	26,63	2,76	LO-145044-RRRW-C1000-K247
		14,7	5,1		RED	657	1275	6,92	3,06			
					WHITE	5000	444	5,88	2,04			
	500	13,5	6,8	14,4	RED	657	3596	19,50	2,89	37,11	2,58	LO-145044-RRRW-C1000-K247
		15,3	7,7		RED	657	1798	9,75	2,89			
					WHITE	5000	608	7,86	1,84			
	700	14,4	10,1	21,3	RED	657	4871	26,42	2,62	49,82	2,34	LO-145044-RRRW-C1000-K247
		16,1	11,2		RED	657	2435	13,21	2,62			
					WHITE	5000	799	10,20	1,65			
	800	14,9	11,9	25,0	RED	657	5559	30,15	2,53	56,44	2,26	LO-145044-RRRW-C1000-K247
		16,4	13,1		RED	657	2780	15,07	2,53			
					WHITE	5000	879	11,22	1,57			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.



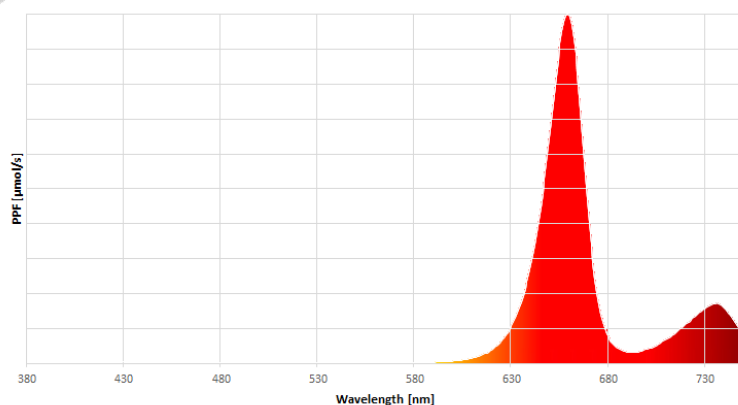
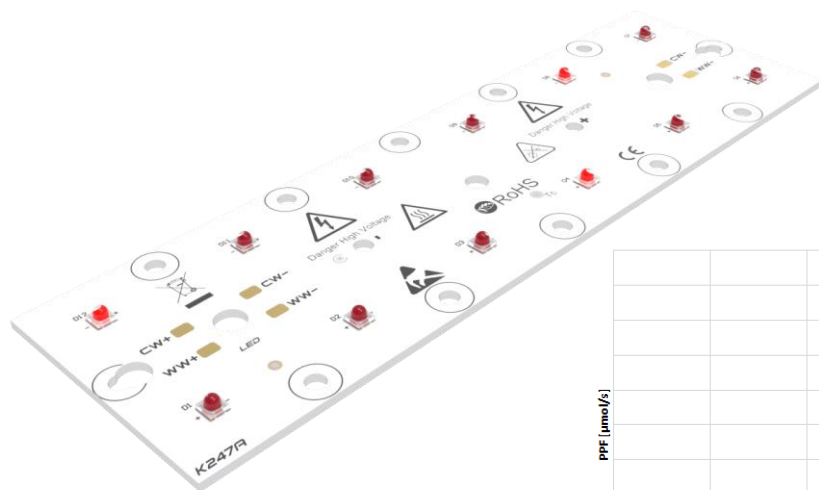


## GROWEMITY 2x6 RFFF - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm]	Radiant Power [mW]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RFFF - K247	350	12,0	4,2	8,1	RED	657	1275	6,92	3,06	8,36	1,03	L0-145044-RFFF-C1000-K247
					FAR RED	727	795	0,48	0,25			
		11,1	3,9		FAR RED	727	1590	0,96	0,25			
	500	12,6	6,3	12,2	RED	657	1798	9,75	2,89	11,78	0,97	L0-145044-RFFF-C1000-K247
					FAR RED	727	1121	0,68	0,23			
		11,7	5,9		FAR RED	727	2242	1,35	0,23			
	700	13,4	9,4	18,1	RED	657	2435	13,21	2,62	15,96	0,88	L0-145044-RFFF-C1000-K247
					FAR RED	727	1518	0,92	0,21			
		12,4	8,7		FAR RED	727	3037	1,83	0,21			
	800	13,8	11,0	21,1	RED	657	2780	15,07	2,53	18,21	0,86	L0-145044-RFFF-C1000-K247
					FAR RED	727	1733	1,05	0,21			
		12,7	10,1		FAR RED	727	3466	2,09	0,21			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Values of these parameters were calculated for default bin and with tolerances of 15%.

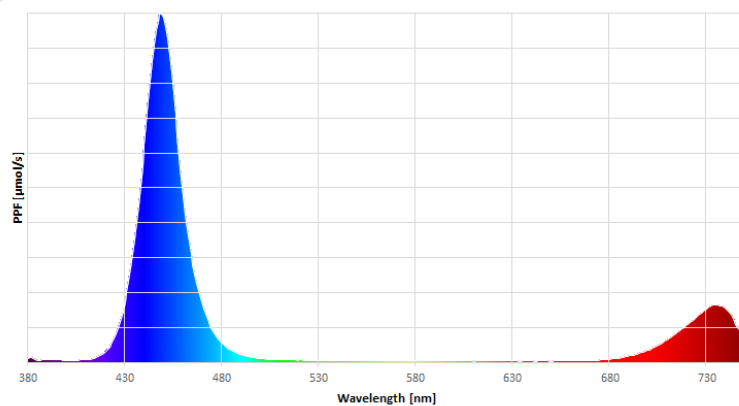
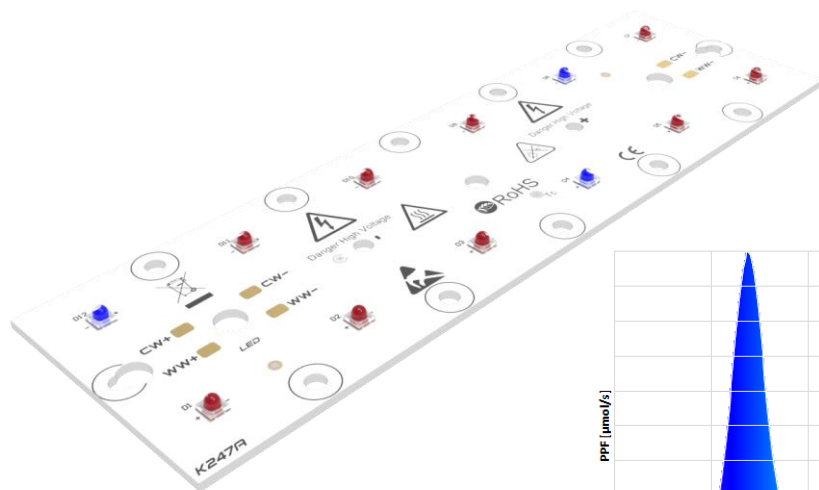


## GROWEMITY 2x6 FFFB - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm]	Radiant Power [mW]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 FFFB - K247	350	11,1	3,9	8,8	FAR RED	727	1590	0,96	0,25	8,49	0,96	L0-145044-FFFB-C1000-K247
		14,1	4,9		FAR RED	727	795	0,48	0,25			
					DEEP BLUE	455	1905	7,05	2,36			
	500	11,7	5,9	13,1	FAR RED	727	2242	1,35	0,23	11,83	0,90	L0-145044-FFFB-C1000-K247
		14,6	7,3		FAR RED	727	1121	0,68	0,23			
					DEEP BLUE	455	2648	9,80	2,25			
	700	12,4	8,7	19,3	FAR RED	727	3037	1,83	0,21	14,88	0,77	L0-145044-FFFB-C1000-K247
		15,1	10,6		FAR RED	727	1518	0,92	0,21			
					DEEP BLUE	455	3277	12,13	1,94			
	800	12,7	10,1	22,4	FAR RED	727	3466	2,09	0,21	16,53	0,74	L0-145044-FFFB-C1000-K247
		15,3	12,2		FAR RED	727	1733	1,05	0,21			
					DEEP BLUE	455	3620	13,40	1,87			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Values of these parameters were calculated for default bin and with tolerances of 15%.



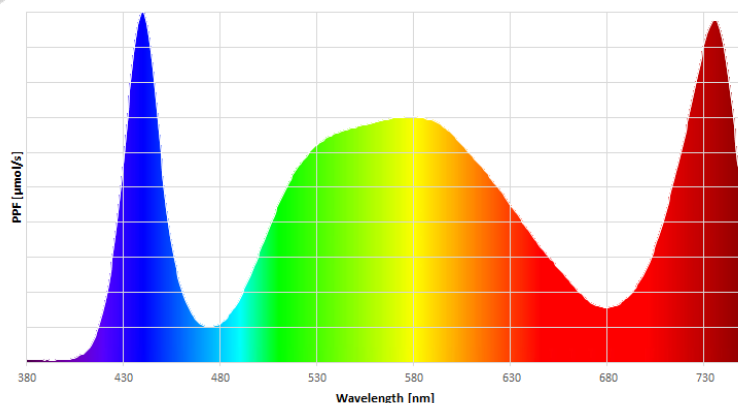
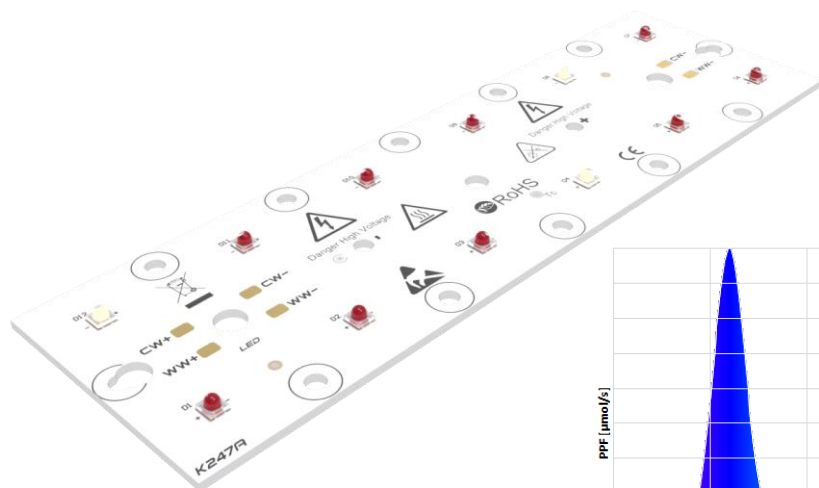
## GROWEMITY 2x6 FFFW - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 FFFW - K247	350	11,1	3,9	5,8	FAR RED	727	1590	0,96	0,25	7,32	1,26	L0-145044-FFFW-C1000-K247
		13,8	1,9		FAR RED	727	795	0,48	0,25			
					WHITE	5000	444	5,88	2,04			
	500	11,7	5,9	8,8	FAR RED	727	2242	1,35	0,23	9,89	1,13	L0-145044-FFFW-C1000-K247
		14,4	2,9		FAR RED	727	1121	0,68	0,23			
					WHITE	5000	608	7,86	1,84			
	700	12,4	8,7	13,0	FAR RED	727	3037	1,83	0,21	12,95	0,99	L0-145044-FFFW-C1000-K247
		15,1	4,3		FAR RED	727	1518	0,92	0,21			
					WHITE	5000	799	10,20	1,65			
	800	12,7	10,1	15,2	FAR RED	727	3466	2,09	0,21	14,36	0,95	L0-145044-FFFW-C1000-K247
		15,3	5,1		FAR RED	727	1733	1,05	0,21			
					WHITE	5000	879	11,22	1,57			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.

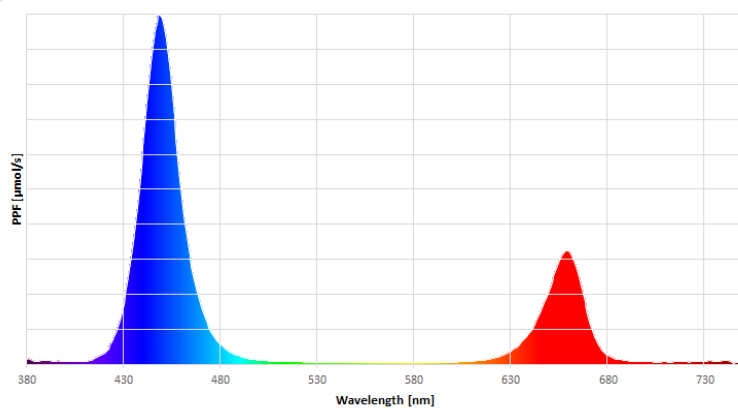
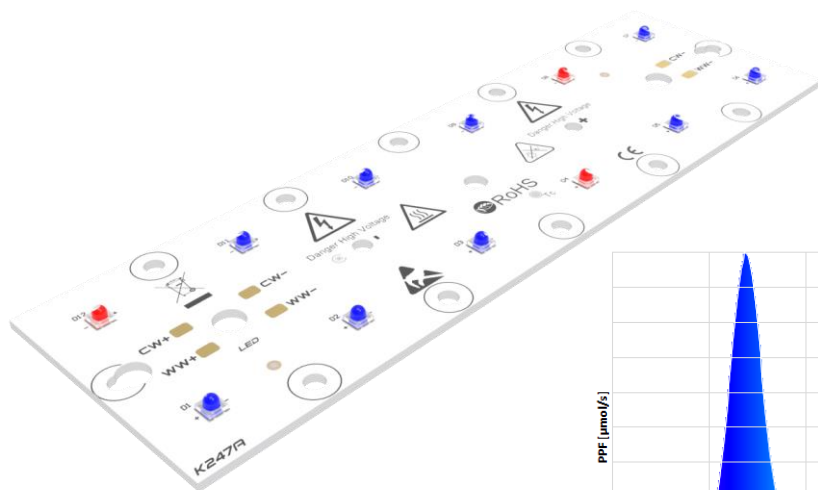


## GROWEMITY 2x6 RBBB - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm]	Radiant Power [mW]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RBBB - K247	350	15,0	5,3	11,2	RED	657	1275	6,92	3,06	28,07	2,50	L0-145044-RBBB-C1000-K247
					DEEP BLUE	455	1905	7,05	2,36			
		17,1	6,0		DEEP BLUE	455	3810	14,10	2,36			
	500	15,5	7,7	16,4	RED	657	1798	9,75	2,89	39,15	2,38	L0-145044-RBBB-C1000-K247
					DEEP BLUE	455	2648	9,80	2,25			
		17,4	8,7		DEEP BLUE	455	5296	19,60	2,25			
	700	16,1	11,3	23,8	RED	657	2435	13,21	2,62	49,59	2,09	L0-145044-RBBB-C1000-K247
					DEEP BLUE	455	3277	12,13	1,94			
		17,8	12,5		DEEP BLUE	455	6553	24,25	1,94			
	800	16,4	13,1	27,5	RED	657	2780	15,07	2,53	55,26	2,01	L0-145044-RBBB-C1000-K247
					DEEP BLUE	455	3620	13,40	1,87			
		17,9	14,4		DEEP BLUE	455	7239	26,79	1,87			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Values of these parameters were calculated for default bin and with tolerances of 15%.

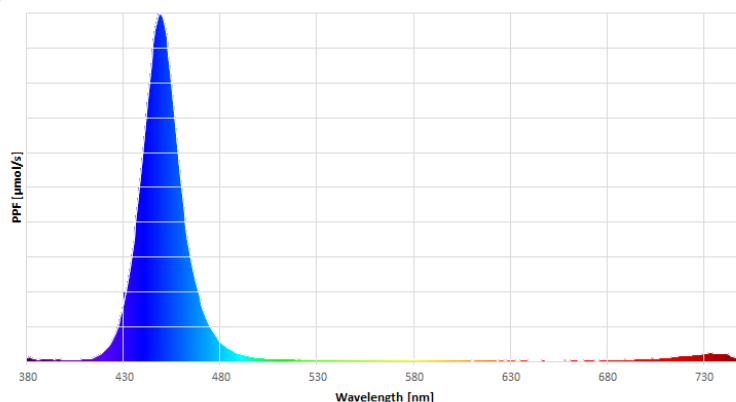
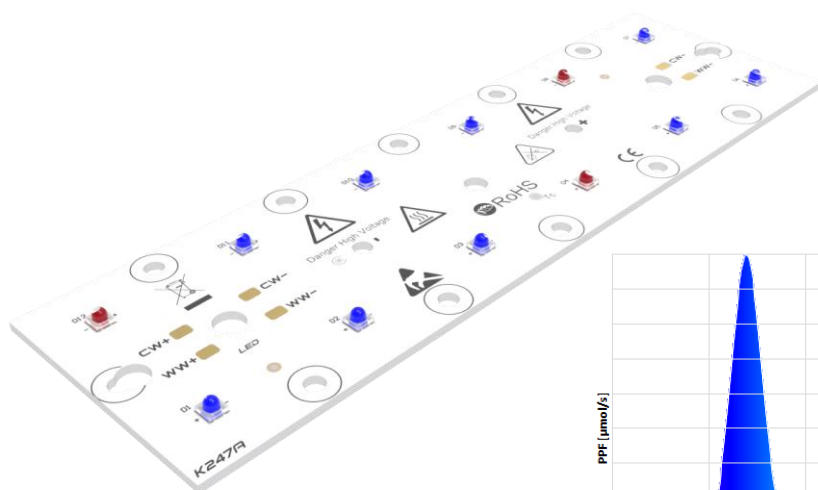


## GROWEMITY 2x6 FB8B - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm]	Radiant Power [mW]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 FB8B - K247	350	14,1	4,9	10,9	FAR RED	727	795	0,48	0,25	21,63	1,98	LO-145044-FB8B-C1000-K247
					DEEP BLUE	455	1905	7,05	2,36			
		17,1	6,0		DEEP BLUE	455	3810	14,10	2,36			
	500	14,6	7,3	16,0	FAR RED	727	1121	0,68	0,23	30,08	1,88	LO-145044-FB8B-C1000-K247
					DEEP BLUE	455	2648	9,80	2,25			
		17,4	8,7		DEEP BLUE	455	5296	19,60	2,25			
	700	15,1	10,6	23,1	FAR RED	727	1518	0,92	0,21	37,29	1,62	LO-145044-FB8B-C1000-K247
					DEEP BLUE	455	3277	12,13	1,94			
		17,8	12,5		DEEP BLUE	455	6553	24,25	1,94			
	800	15,3	12,2	26,6	FAR RED	727	1733	1,05	0,21	41,23	1,55	LO-145044-FB8B-C1000-K247
					DEEP BLUE	455	3620	13,40	1,87			
		17,9	14,4		DEEP BLUE	455	7239	26,79	1,87			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Values of these parameters were calculated for default bin and with tolerances of 15%.



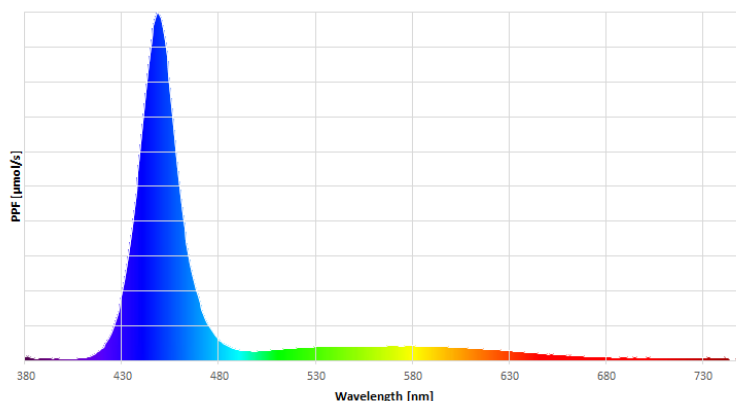
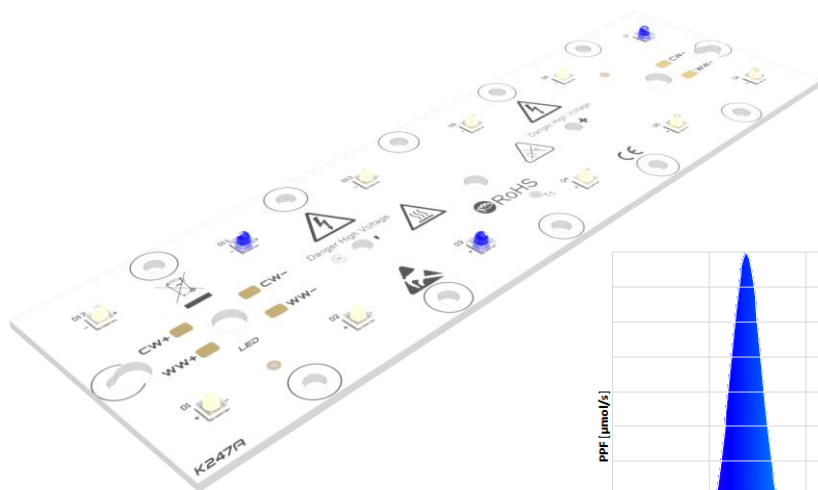
## GROWEMITY 2x6 BBBW - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 BBBW - K247	350	17,1	6,0	11,9	DEEP BLUE	455	3810	14,10	2,36	27,03	2,28	LO-145044-BBBW-C1000-K247
		16,8	5,9		DEEP BLUE	455	1905	7,05	2,36			
					WHITE	5000	444	5,88	2,04			
	500	17,4	8,7	17,3	DEEP BLUE	455	5296	19,60	2,25	37,26	2,15	LO-145044-BBBW-C1000-K247
		17,3	8,6		DEEP BLUE	455	2648	9,80	2,25			
					WHITE	5000	608	7,86	1,84			
	700	17,8	12,5	24,9	DEEP BLUE	455	6553	24,25	1,94	46,58	1,87	LO-145044-BBBW-C1000-K247
		17,8	12,4		DEEP BLUE	455	3277	12,13	1,94			
					WHITE	5000	799	10,20	1,65			
	800	17,9	14,4	28,7	DEEP BLUE	455	7239	26,79	1,87	51,41	1,79	LO-145044-BBBW-C1000-K247
		17,9	14,3		DEEP BLUE	455	3620	13,40	1,87			
					WHITE	5000	879	11,22	1,57			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.



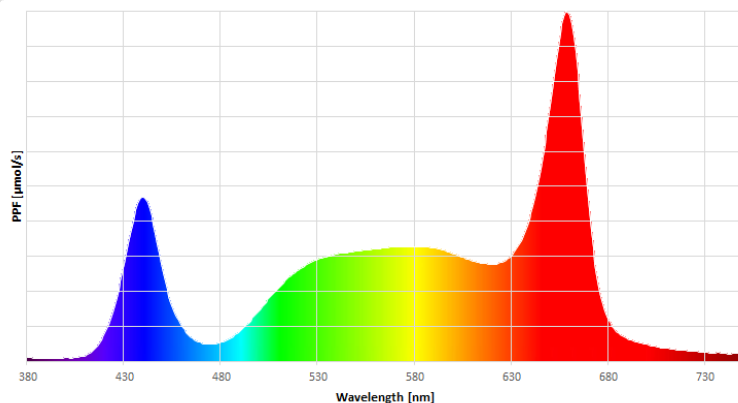
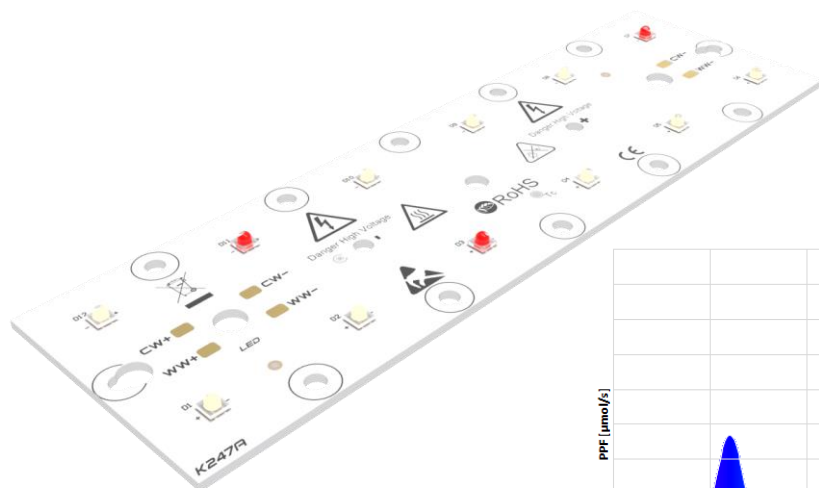
## GROWEMITY 2x6 RWW - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RWW - K247	350	14,7	5,1	10,9	RED	657	1275	6,92	3,06	24,56	2,25	LO-145044-RWW-C1000-K247
					WHITE	5000	444	5,88	2,04			
		16,5	5,8		WHITE	5000	887	11,76	2,04			
	500	15,3	7,7	16,2	RED	657	1798	9,75	2,89	33,33	2,06	LO-145044-RWW-C1000-K247
					WHITE	5000	608	7,86	1,84			
		17,1	8,6		WHITE	5000	1216	15,72	1,84			
	700	16,1	11,2	23,6	RED	657	2435	13,21	2,62	43,81	1,85	LO-145044-RWW-C1000-K247
					WHITE	5000	799	10,20	1,65			
		17,7	12,4		WHITE	5000	1597	20,40	1,65			
	800	16,4	13,1	27,4	RED	657	2780	15,07	2,53	48,73	1,78	LO-145044-RWW-C1000-K247
					WHITE	5000	879	11,22	1,57			
		17,9	14,3		WHITE	5000	1757	22,44	1,57			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.



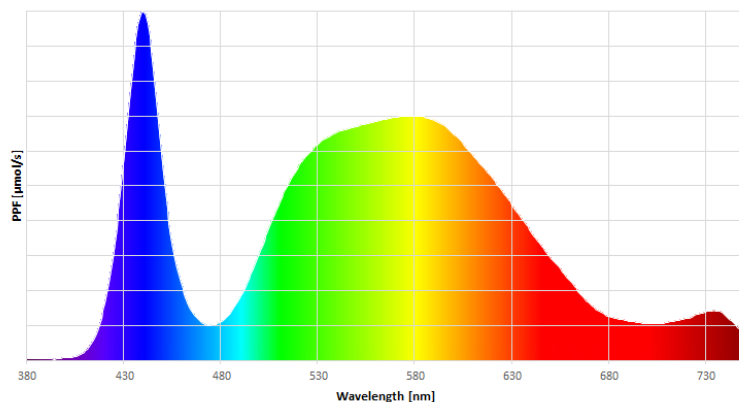
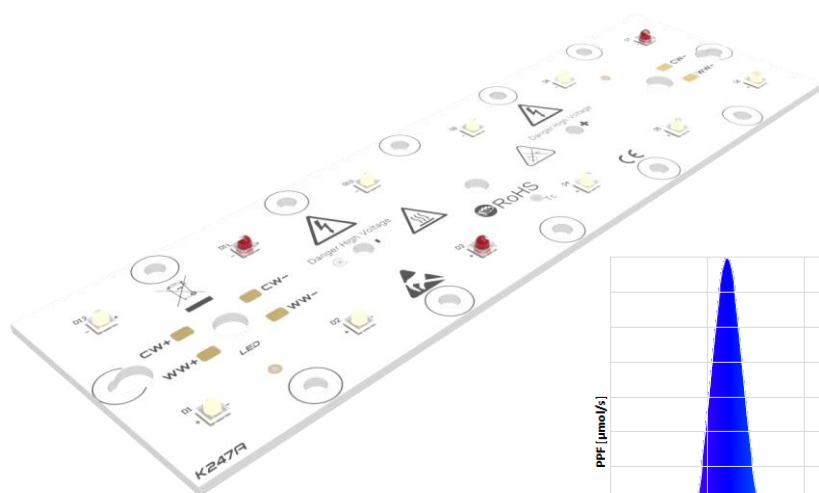
## GROWEMITY 2x6 FWWW - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 FWWW - K247	350	13,8	4,8	10,6	FAR RED	727	795	0,48	0,25	18,12	1,71	LO-145044-FWWW-C1000-K247
					WHITE	5000	444	5,88	2,04			
		16,5	5,8		WHITE	5000	887	11,76	2,04			
	500	14,4	7,2	15,8	FAR RED	727	1121	0,68	0,23	24,26	1,54	LO-145044-FWWW-C1000-K247
					WHITE	5000	608	7,86	1,84			
		17,1	8,6		WHITE	5000	1216	15,72	1,84			
	700	15,1	10,5	22,9	FAR RED	727	1518	0,92	0,21	31,52	1,37	LO-145044-FWWW-C1000-K247
					WHITE	5000	799	10,20	1,65			
		17,7	12,4		WHITE	5000	1597	20,40	1,65			
	800	15,3	12,2	26,5	FAR RED	727	1733	1,05	0,21	34,71	1,31	LO-145044-FWWW-C1000-K247
					WHITE	5000	879	11,22	1,57			
		17,9	14,3		WHITE	5000	1757	22,44	1,57			

Parameters were calculated for temperatures  $T_j = 25^\circ\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.





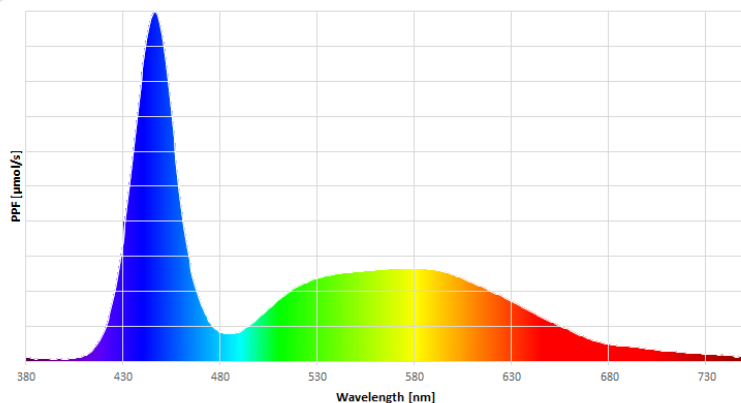
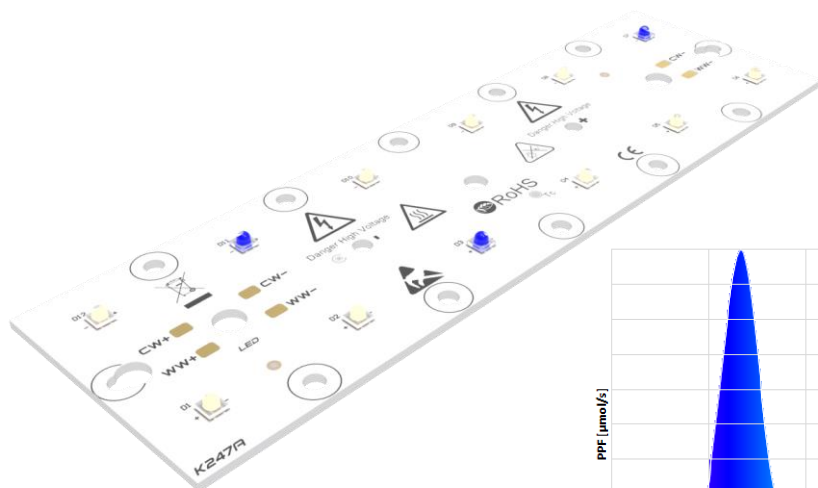
## GROWEMITY 2x6 BWWW - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 BWWW - K247	350	16,8	5,9	11,7	DEEP BLUE	455	1905	7,05	2,36	24,69	2,12	LO-145044-BWWW-C1000-K247
					WHITE	5000	444	5,88	2,04			
		16,5	5,8		WHITE	5000	887	11,76	2,04			
	500	17,3	8,6	17,2	DEEP BLUE	455	2648	9,80	2,25	33,38	1,94	LO-145044-BWWW-C1000-K247
					WHITE	5000	608	7,86	1,84			
		17,1	8,6		WHITE	5000	1216	15,72	1,84			
	700	17,8	12,4	24,8	DEEP BLUE	455	3277	12,13	1,94	42,73	1,72	LO-145044-BWWW-C1000-K247
					WHITE	5000	799	10,20	1,65			
		17,7	12,4		WHITE	5000	1597	20,40	1,65			
	800	17,9	14,3	28,6	DEEP BLUE	455	3620	13,40	1,87	47,06	1,64	LO-145044-BWWW-C1000-K247
					WHITE	5000	879	11,22	1,57			
		17,9	14,3		WHITE	5000	1757	22,44	1,57			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Radiant power and wavelength for color LEDs; Luminous flux and color temperature for white LEDs.

Values of these parameters were calculated for default bin and with tolerances of 15%.

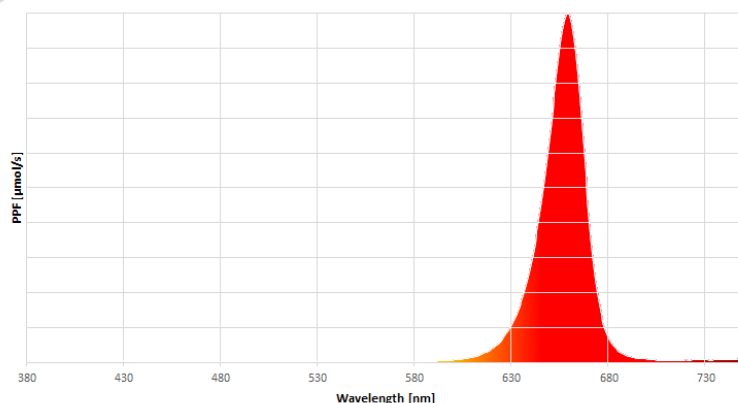
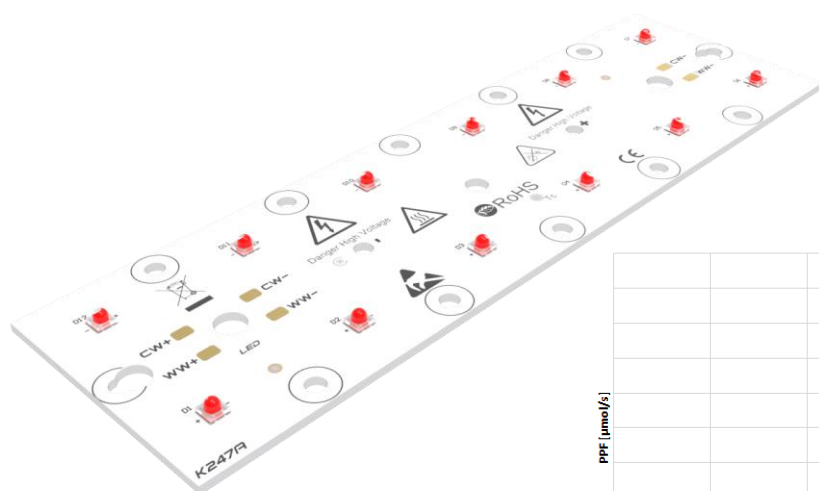


## GROWEMITY 2x6 RRRR - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm]	Radiant Power [mW]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 RRRR - K247	350	12,9	4,5	9,0	RED	657	2550	13,83	3,06	27,66	3,06	L0-145044-RRRR-C1000-K247
		12,9	4,5		RED	657	2550	13,83	3,06			
	500	13,5	6,8	13,5	RED	657	3596	19,50	2,89	39,00	2,89	L0-145044-RRRR-C1000-K247
		13,5	6,8		RED	657	3596	19,50	2,89			
	700	14,4	10,1	20,2	RED	657	4871	26,42	2,62	52,83	2,62	L0-145044-RRRR-C1000-K247
		14,4	10,1		RED	657	4871	26,42	2,62			
	800	14,9	11,9	23,8	RED	657	5559	30,15	2,53	60,30	2,53	L0-145044-RRRR-C1000-K247
		14,9	11,9		RED	657	5559	30,15	2,53			

Parameters were calculated for temperatures  $T_j = 25^\circ\text{C}$

Values of these parameters were calculated for default bin and with tolerances of 15%.

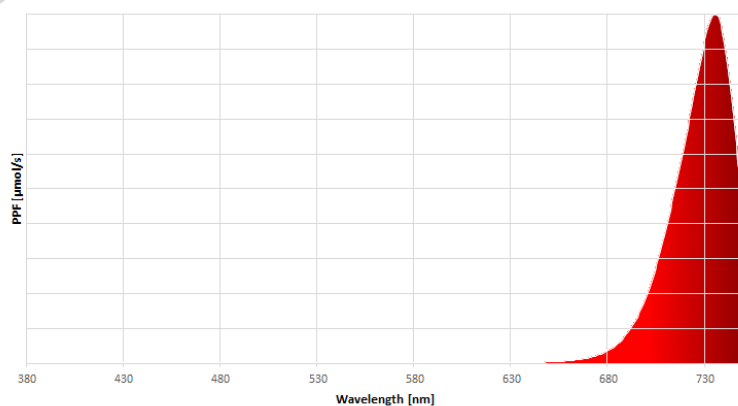
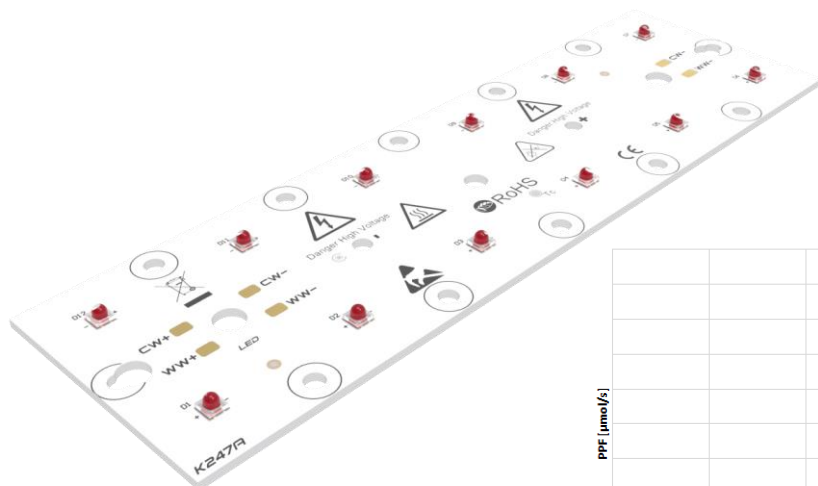


## GROWEMITY 2X6 FFFF - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm]	Radiant Power [mW]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 FFFF - K247	350	11,1	3,9	7,8	FAR RED	727	1590	0,96	0,25	1,92	0,25	L0-145044-FFFF-C1000-K247
		11,1	3,9		FAR RED	727	1590	0,96	0,25			
	500	11,7	5,9	11,7	FAR RED	727	2242	1,35	0,23	2,71	0,23	L0-145044-FFFF-C1000-K247
		11,7	5,9		FAR RED	727	2242	1,35	0,23			
	700	12,4	8,7	17,4	FAR RED	727	3037	1,83	0,21	3,67	0,21	L0-145044-FFFF-C1000-K247
		12,4	8,7		FAR RED	727	3037	1,83	0,21			
	800	12,7	10,1	20,3	FAR RED	727	3466	2,09	0,21	4,19	0,21	L0-145044-FFFF-C1000-K247
		12,7	10,1		FAR RED	727	3466	2,09	0,21			

Parameters were calculated for temperatures  $T_J = 25^\circ\text{C}$

Values of these parameters were calculated for default bin and with tolerances of 15%.

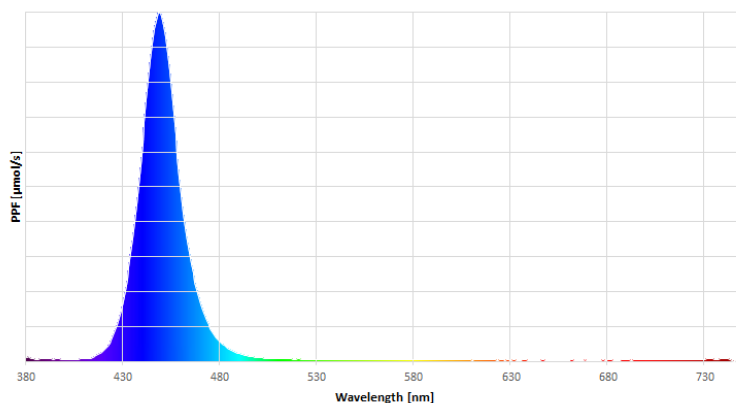
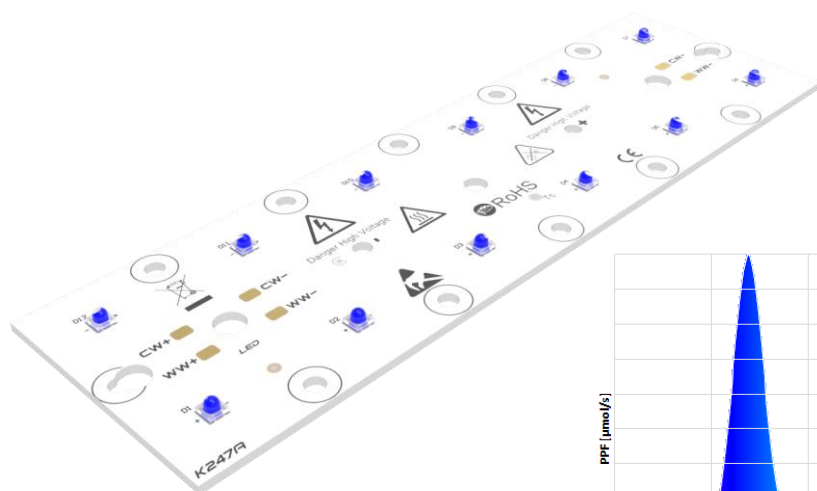


## GROWEMITY 2x6 BBBB - K247

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	$\lambda$ [nm]	Radiant Power [mW]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 BBBB - K247	350	17,1	6,0	12,0	DEEP BLUE	455	3810	14,10	2,36	28,20	2,36	L0-145044-BBBB-C1000-K247
		17,1	6,0		DEEP BLUE	455	3810	14,10	2,36			
	500	17,4	8,7	17,4	DEEP BLUE	455	5296	19,60	2,25	39,20	2,25	L0-145044-BBBB-C1000-K247
		17,4	8,7		DEEP BLUE	455	5296	19,60	2,25			
	700	17,8	12,5	24,9	DEEP BLUE	455	6553	24,25	1,94	48,50	1,94	L0-145044-BBBB-C1000-K247
		17,8	12,5		DEEP BLUE	455	6553	24,25	1,94			
	800	17,9	14,4	28,7	DEEP BLUE	455	7239	26,79	1,87	53,58	1,87	L0-145044-BBBB-C1000-K247
		17,9	14,4		DEEP BLUE	455	7239	26,79	1,87			

Parameters were calculated for temperatures  $T_j = 25^\circ\text{C}$

Values of these parameters were calculated for default bin and with tolerances of 15%.

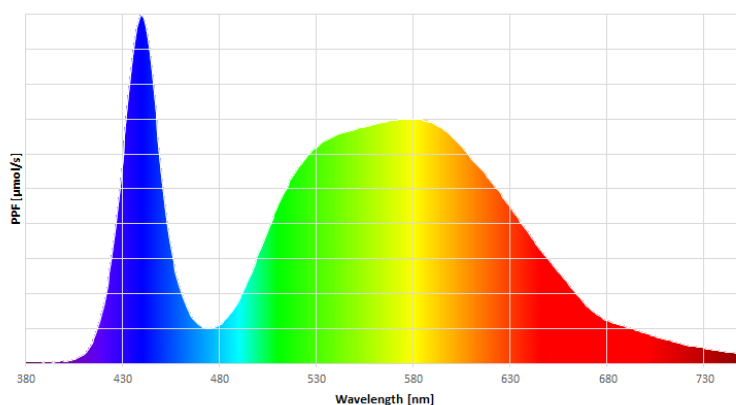
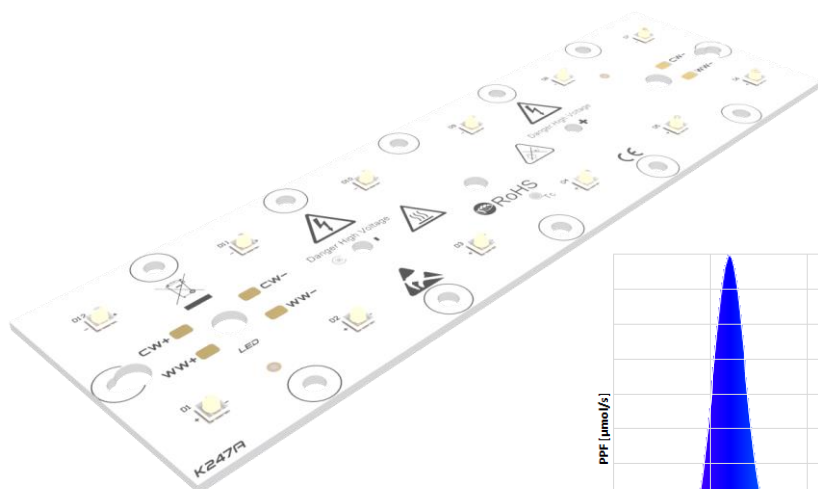


## GROWEMITY 2x6 MONO - K247

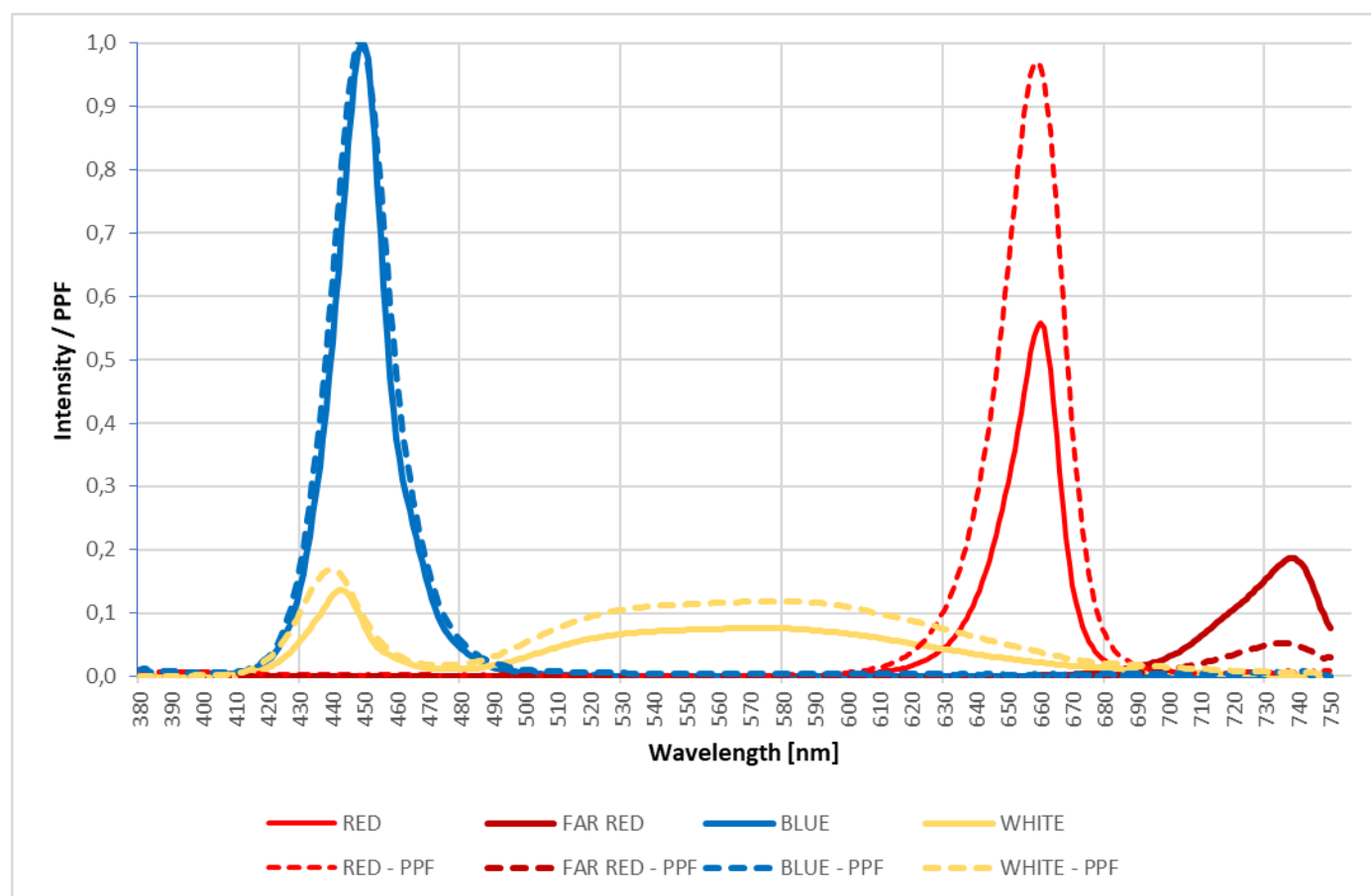
	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	CCT [K]	Luminous Flux [lm]	PPF [ $\mu\text{mol/s}$ ]	PPF/W [ $\mu\text{mol/J}$ ]	Total PPF [ $\mu\text{mol/s}$ ]	Total PPF/W [ $\mu\text{mol/J}$ ]	Article Number
GrowEmity 2x6 MONO - K247	350	16,5	5,8	11,6	WHITE	5000	887	11,76	2,04	23,52	2,04	LO-145044-MONO-C1000-K247
		16,5	5,8		WHITE	5000	887	11,76	2,04			
	500	17,1	8,6	17,1	WHITE	5000	1216	15,72	1,84	31,44	1,84	LO-145044-MONO-C1000-K247
		17,1	8,6		WHITE	5000	1216	15,72	1,84			
	700	17,7	12,4	24,8	WHITE	5000	1597	20,40	1,65	40,80	1,65	LO-145044-MONO-C1000-K247
		17,7	12,4		WHITE	5000	1597	20,40	1,65			
	800	17,9	14,3	28,6	WHITE	5000	1757	22,44	1,57	44,88	1,57	LO-145044-MONO-C1000-K247
		17,9	14,3		WHITE	5000	1757	22,44	1,57			

Parameters were calculated for temperatures  $T_j = 25^\circ\text{C}$

Values of these parameters were calculated for default bin and with tolerances of 15%.



## SPECTRUM OF LEDs



Spectrum graph of the red, far red, blue and white LEDs at 350 mA current. Spectrum can be changed by choosing LEDs and power output.

GrowEmity modules can be ordered as ready unit with heat-sink and optic. Couple of units can be mounted together, to create the GrowEmity light source with the same or different type of LEDs configuration. It ensures better efficiency and flexibility of GrowEmity lighting system. For the GrowEmity 2x6 – K247 are recommended:

- **COMPATIBLE HEAT-SINK :**

*COOLBLOCK LX-01 2X6 MechaTronix*

*COOLBLOCK LX-02 2X6 MechaTronix*

- **COMPATIBLE OPTIC :**

*CS12862\_STRADA-IP-2X6-DWC*

*CS14055\_STRADA-IP-2X6-T2*

*CS14130\_HB-IP-2X6-W*

*CS14143\_STRADA-IP-2X6-T3*

*CS14144\_STRADA-IP-2X6-ME*

*CS14145\_STRADA-IP-2X6-DWC-90*

*CS14263\_HB-IP-2X6-WWW*

*CS14597\_HB-IP-2X6-O*

*CS14891\_HB-IP-2X6-M*

*CS14895\_HB-IP-2X6-RS*

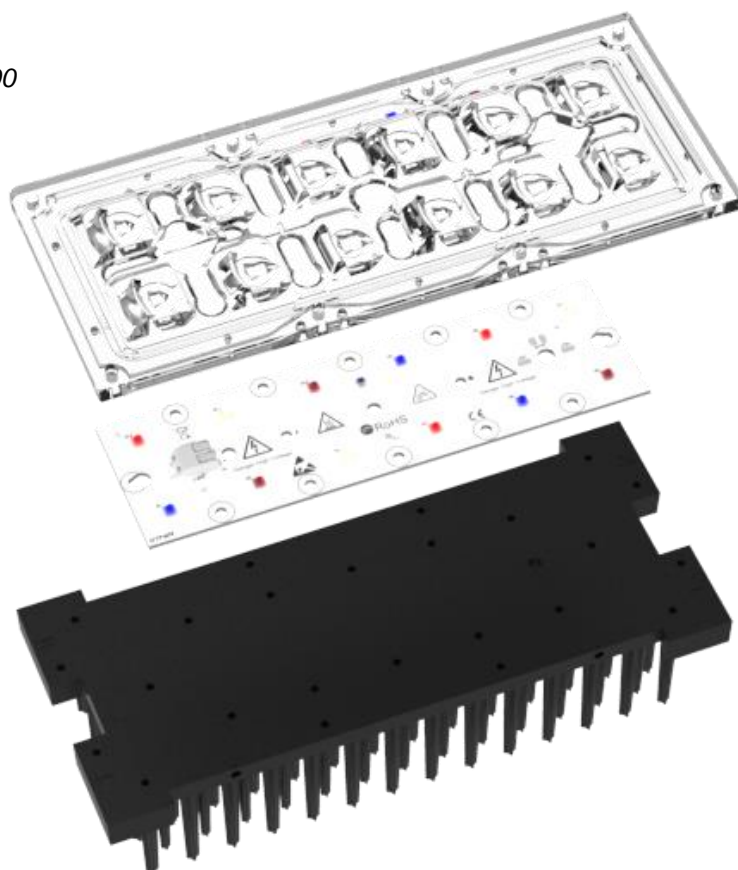
*CS15020\_STRADA-IP-2X6-VSM*

*CS15158\_STRADA-IP-2X6-T4-B*

*CS15362\_STRADA-IP-2X6-T3-B*

*CS15363\_STRADA-IP-2X6-T2-B*

*CS15418\_STRADA-IP-2X6-SCL*



Almost half of the input power is converted to heat, which means that GrowEmity light sources must be mounted to a heat-sink with thermal tape for better heat dissipation.

**COOLING**

GrowEmity light source isn't self-cooling and additional heat-sink is required. The lifetime of the light source depends on the operating temperature and used LEDs. The temperature should be measured in the middle of the board. The temperature can be measured with thermocouple or simple temperature probe. Lifetime of LEDs decreases with the rise of temperature and luminous intensity in higher temperatures may be lower than nominal. Construction of the lamp or any place of installation should ensure correct heat dissipation from LED light sources. Overheat can damage or destroy some elements or entire LED light source. Never use overheated light source again as it may be damaged and can cause losses or even fire. We are not responsible for any loss, or damage resulting from overheating! Guarantee become void in such cases.

**SAFETY**

LED light source can change light intensity, but even dimmed LEDs generate high-intensity light. Looking into LEDs beam is unhealthy and may cause irreversible injury to eye's retina. Never look into the beam without protection glasses with an appropriate filter. Additionally, they may change LEDs light intensity almost immediately. If people are photosensitive, LEDs light may be a trigger to epileptic seizures and alter the perception, especially when light change very fast.

LED light source can work on high power supply current, so never touch components and wires of LED light source when power supply is on.



**PROTECTION MEASURES AGAINST DAMAGE**

LED light sources are delicate, even small mechanical stress may damage them. Such stresses should be avoided. If it is impossible, it should be kept to the minimum. Mechanical stresses such as pressure, bending, breaking, drilling, etc. may cause irreversible damage. Damaged LED light source aren't suitable for use.

Electrostatic Discharge (ESD) is a serious threat to electronics devices. The human body can accumulate very high electrostatic charge which can decrease the lifetime of electronics significantly and in worst cases may destroy electronic components. To avoid damages use of electrostatic protection is required. It is needed to follow ESD precautions during manipulation of these devices. Do not touch electronic components directly to avoid damages. Observe the official regulations for electrical devices (like DIN, VDE, EN). It is necessary to isolate components like controllers, LED light sources, power supply, wires etc. from any metal parts which can conduct electrostatic charges or cause a short circuit. LED light source aren't equipped with short circuit protection. During a short circuit, very high current is flowing from a power supply and can destroy it, causing risk of fire. Electronics must not be modified. Any modification causes loss of guarantee. The electric wiring/connection must comply with all current and valid national requirements, be constructed by a certified electrical tradesman, and comply with all the requirements set forth in this manual. We are not responsible for any loss, or damage resulting from electrostatic voltage discharge and a short circuit caused by inappropriate handling or wrong construction of the lamp! Guarantee become void in such cases.

Additionally LED light source can be damaged by some chemical substances. Depends on elements the damage may be different. It is important not to use chemical substances like acids, organic acids, sulphur, alkalis, organic solvents, mineral oils, vegetable oils and synthetic oils, etc. We are not responsible for any loss, or damage resulting from improper use of LED light source! Guarantee become void in such cases.

Do not operate LED light source when they aren't working properly. If LED light source are working incorrectly, turn off a power supply. Damaged LED light source may cause electric shock or short circuit.

**CONTACT**

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Subject to errors and technical changes.