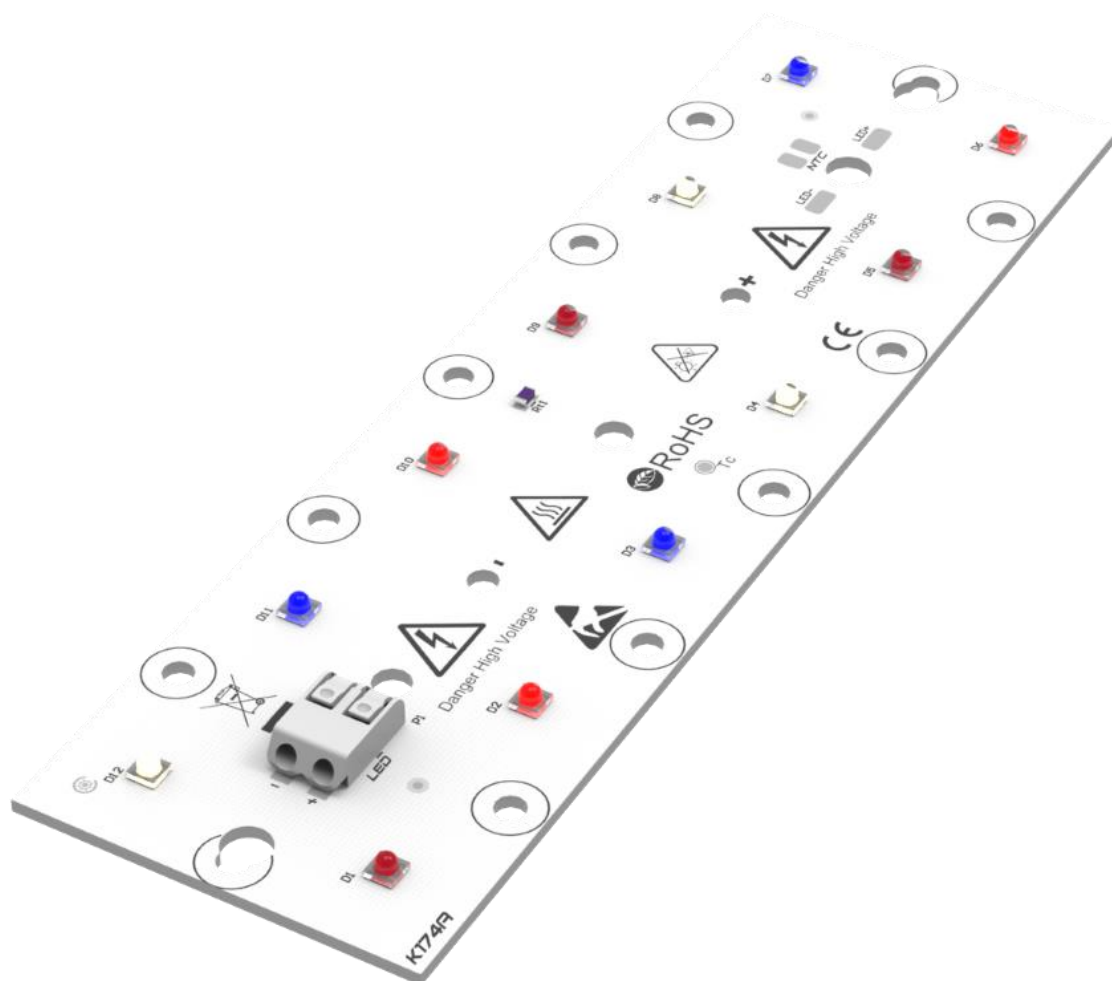


CEZOS

GrowEmity 2x6 - K174



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	λ [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 – K174
Size	145x43,5 mm
Power Supply Type	Constant Current (CC)
Number Of Channels	1
Power Supply Current	Max. 1000 mA
Far Red LED – 3 pcs	OSRAM - GF CSSPM1.24
Red LED – 3 pcs	OSRAM - GH CSSPM1.24
Deep Blue LED – 3 pcs	OSRAM - GD CSSPM1.14
White LED – 3 pcs	OSRAM - GW CSHPM1.PM
Ambient Temperature	0 - 40°C
Material Type / Thickness	MCPCB / 1,5 mm

GROWEMITY 2x6 RFBW - K174

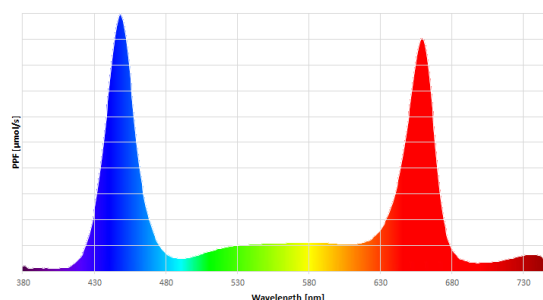
	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [nm] / CCT [K]	Radiant Power [mW] / Luminous Flux [lm]	PPF [$\mu\text{mol/s}$]	PPF/W [$\mu\text{mol/J}$]	Total PPF [$\mu\text{mol/s}$]	Total PPF/W [$\mu\text{mol/J}$]	Article Number
GrowEmity 2x6 RFBW-K174	350	29,0	10,1	RED	657	1275	6,92	3,06	20,33	2,01	LO-145044-RFBW-C1000-K174
				FAR RED	727	795	0,48	0,25			
				DEEP BLUE	455	1905	7,05	2,36			
				WHITE	5000	444	5,88	2,04			
	500	30	15,0	RED	657	1798	9,75	2,89	28,09	1,87	LO-145044-RFBW-C1000-K174
				FAR RED	727	1121	0,68	0,23			
				DEEP BLUE	455	2648	9,80	2,25			
				WHITE	5000	608	7,86	1,84			
	700	31,2	21,7	RED	657	2435	13,21	2,62	36,45	1,68	LO-145044-RFBW-C1000-K174
				FAR RED	727	1518	0,92	0,21			
				DEEP BLUE	455	3277	12,13	1,94			
				WHITE	5000	799	10,20	1,65			
	800	31,6	25,5	RED	657	2780	15,07	2,53	40,74	1,60	LO-145044-RFBW-C1000-K174
				FAR RED	727	1733	1,05	0,21			
				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%.

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.



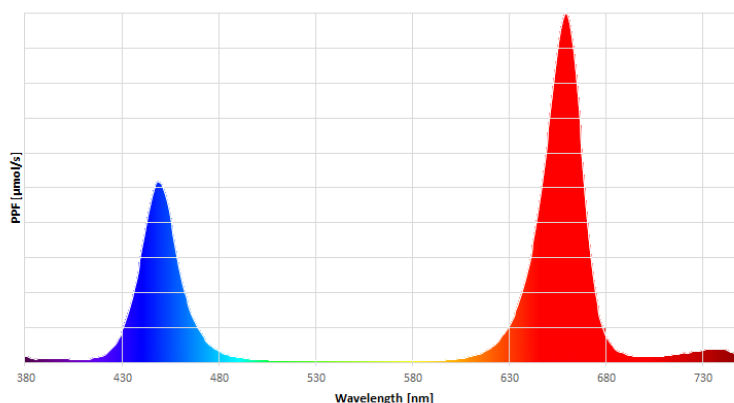
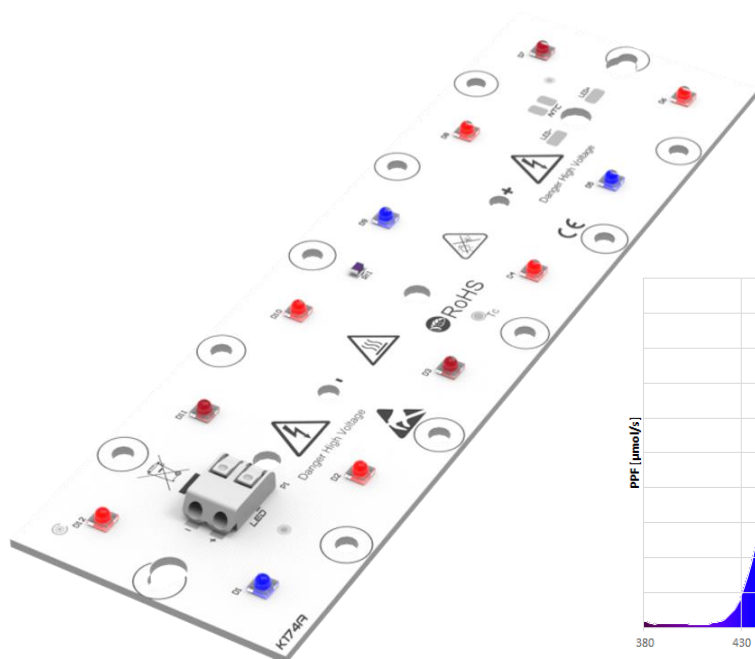
GROWEMITY 2X6 RRFB - K174

Name	GrowEmity 2x6 RRFB – K174
Far Red LED – 3 pcs	OSRAM - GF CSSPM1.24
Red LED – 6 pcs	OSRAM - GH CSSPM1.24
Deep Blue LED – 3 pcs	OSRAM - GD CSSPM1.14

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [nm] / CCT [K]	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-K174	350	27,0	9,5	RED	657	2550	13,83	3,06	21,36	2,26	L0-145044-RRFB-C1000-K174
				FAR RED	727	795	0,48	0,25			
				DEEP BLUE	455	1905	7,05	2,36			
	500	28,1	14,0	RED	657	3596	19,50	2,89	29,98	2,14	L0-145044-RRFB-C1000-K174
				FAR RED	727	1121	0,68	0,23			
				DEEP BLUE	455	2648	9,80	2,25			
	700	29,5	20,7	RED	657	4871	26,42	2,62	39,46	1,91	L0-145044-RRFB-C1000-K174
				FAR RED	727	1518	0,92	0,21			
				DEEP BLUE	455	3277	12,13	1,94			
	800	30,2	24,1	RED	657	5559	30,15	2,53	44,59	1,85	L0-145044-RRFB-C1000-K174
				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 - K174

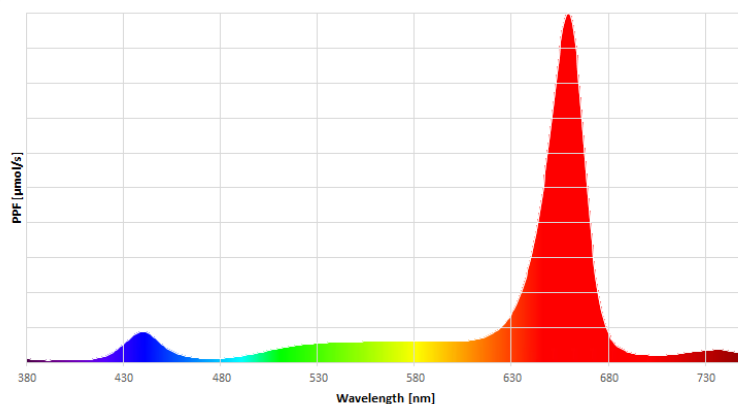
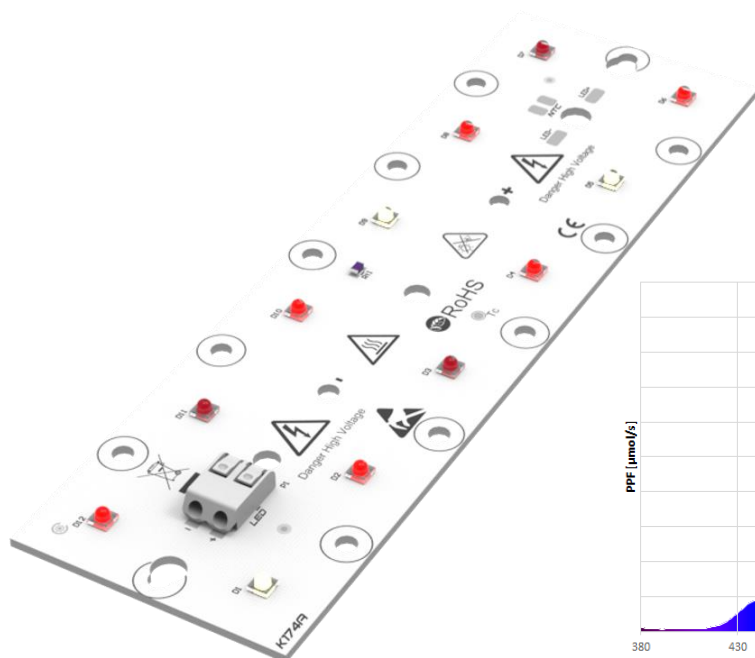
Name	GrowEmity 2x6 RRFW – K174
Far Red LED – 3 pcs	OSRAM - GF CSSPM1.24
Red LED – 6 pcs	OSRAM - GH CSSPM1.24
White LED – 3 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	26,7	9,3	RED	657	2550	13,83	3,06	20,19	2,16	LO-145044-RRFW-C1000-K174
				FAR RED	727	795	0,48	0,25			
				WHITE	5000	444	5,88	2,04			
	500	27,9	14,0	RED	657	3596	19,50	2,89	28,04	2,01	LO-145044-RRFW-C1000-K174
				FAR RED	727	1121	0,68	0,23			
				WHITE	5000	608	7,86	1,84			
	700	29,5	20,6	RED	657	4871	26,42	2,62	37,53	1,82	LO-145044-RRFW-C1000-K174
				FAR RED	727	1518	0,92	0,21			
				WHITE	5000	799	10,20	1,65			
	800	30,2	24,1	RED	657	5559	30,15	2,53	42,42	1,76	LO-145044-RRFW-C1000-K174
				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 - K174

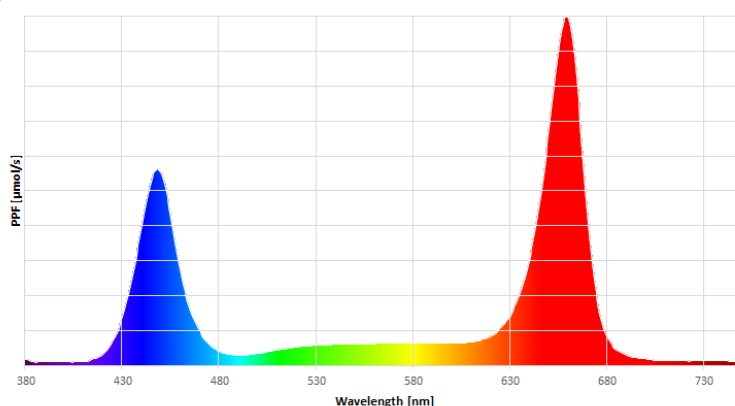
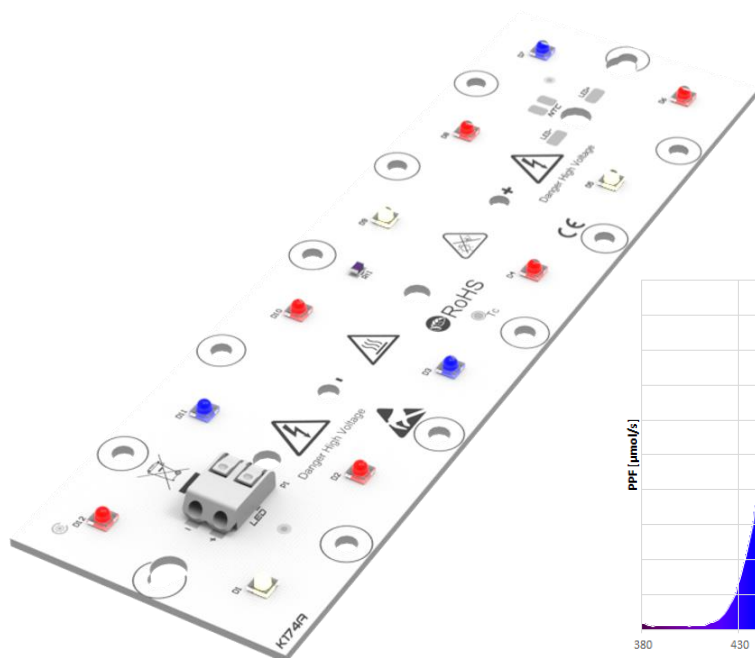
Name	GrowEmity 2x6 RRBW – K174
Red LED – 6 pcs	OSRAM - GH CSSPM1.24
Deep Blue LED – 3 pcs	OSRAM - GD CSSPM1.14
White LED – 3 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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 RRBW-K174	350	29,7	10,4	RED	657	2550	13,83	3,06	26,76	2,57	LO-145044-RRBW-C1000-K174
				DEEP BLUE	455	1905	7,05	2,36			
				WHITE	5000	444	5,88	2,04			
	500	30,8	15,4	RED	657	3596	19,50	2,89	37,16	2,42	LO-145044-RRBW-C1000-K174
				DEEP BLUE	455	2648	9,80	2,25			
				WHITE	5000	608	7,86	1,84			
	700	32,2	22,5	RED	657	4871	26,42	2,62	48,74	2,17	LO-145044-RRBW-C1000-K174
				DEEP BLUE	455	3277	12,13	1,94			
				WHITE	5000	799	10,20	1,65			
	800	32,8	26,2	RED	657	5559	30,15	2,53	54,76	2,09	LO-145044-RRBW-C1000-K174
				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%.



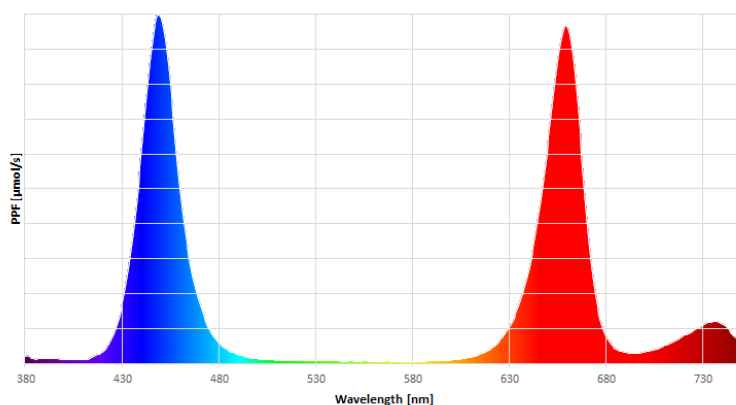
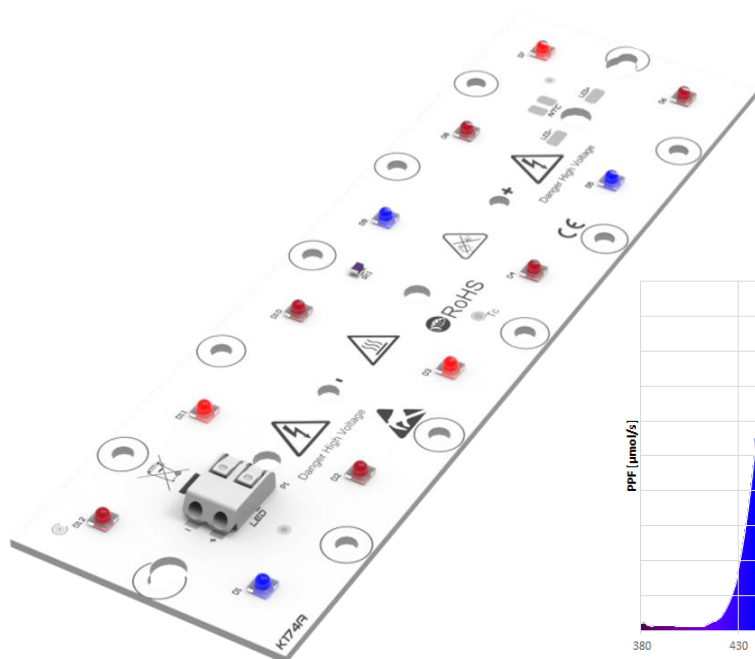
GROWEMITY 2X6 RFFB - K174

Name	GrowEmity 2x6 RFFB – K174
Far Red LED – 6 pcs	OSRAM - GF CSSPM1.24
Red LED – 3 pcs	OSRAM - GH CSSPM1.24
Deep Blue LED – 3 pcs	OSRAM - GD CSSPM1.14

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [nm] / CCT [K]	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-K174	350	26,1	9,1	RED	657	1275	6,92	3,06	14,93	1,63	L0-145044-RFFB-C1000-K174
				FAR RED	727	1590	0,96	0,25			
				DEEP BLUE	455	1905	7,05	2,36			
	500	27,2	13,6	RED	657	1798	9,75	2,89	20,90	1,54	L0-145044-RFFB-C1000-K174
				FAR RED	727	2242	1,35	0,23			
				DEEP BLUE	455	2648	9,80	2,25			
	700	28,5	20,0	RED	657	2435	13,21	2,62	27,17	1,36	RFFB-145044-RFFB-C1000-K174
				FAR RED	727	3037	1,83	0,21			
				DEEP BLUE	455	3277	12,13	1,94			
	800	29,1	23,3	RED	657	2780	15,07	2,53	30,56	1,31	L0-145044-RFFB-C1000-K174
				FAR RED	727	3466	2,09	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 RFFW - K174

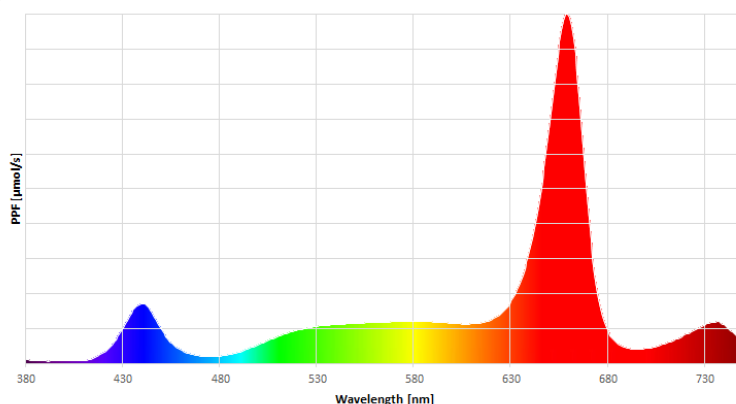
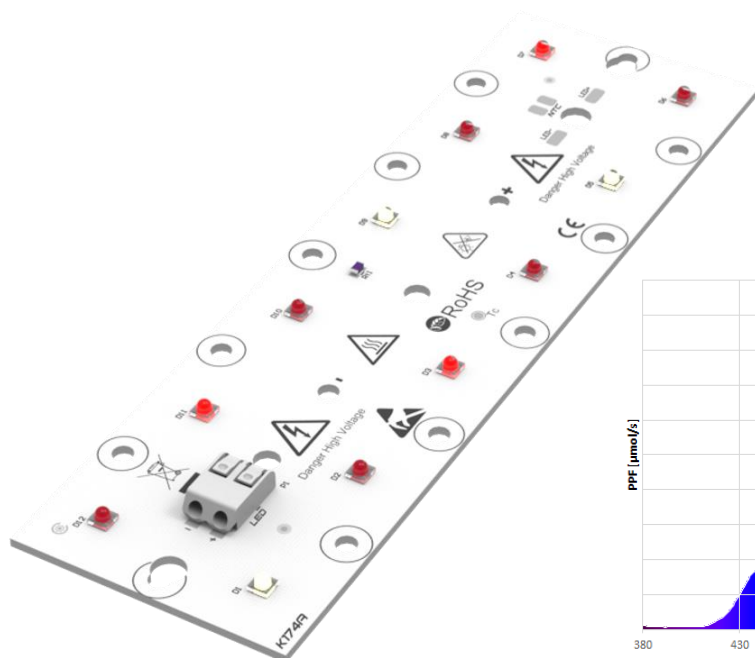
Name	GrowEmity 2x6 RFFW – K174
Far Red LED – 6 pcs	OSRAM - GF CSSPM1.24
Red LED – 3 pcs	OSRAM - GH CSSPM1.24
White LED – 3 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	25,8	9,0	RED	657	1275	6,92	3,06	13,76	1,52	L0-145044-RFFW-C1000-K174
				FAR RED	727	1590	0,96	0,25			
				WHITE	5000	444	5,88	2,04			
	500	27,0	13,5	RED	657	1798	9,75	2,89	18,96	1,40	L0-145044-RFFW-C1000-K174
				FAR RED	727	2242	1,35	0,23			
				WHITE	5000	608	7,86	1,84			
	700	28,5	19,9	RED	657	2435	13,21	2,62	25,24	1,27	L0-145044-RFFW-C1000-K174
				FAR RED	727	3037	1,83	0,21			
				WHITE	5000	799	10,20	1,65			
	800	29,0	23,2	RED	657	2780	15,07	2,53	28,39	1,22	L0-145044-RFFW-C1000-K174
				FAR RED	727	3466	2,09	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 FFBW - K174

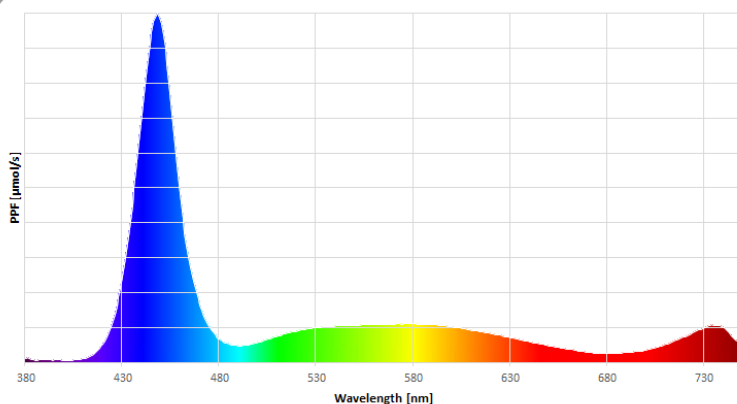
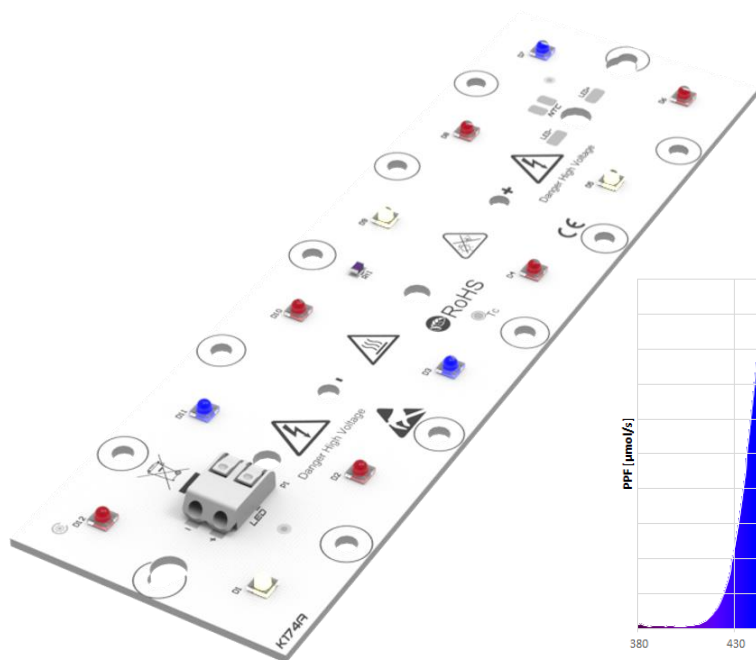
Name	GrowEmity 2x6 FFBW – K174
Far Red LED – 6 pcs	OSRAM - GF CSSPM1.24
Deep Blue LED – 3 pcs	OSRAM - GD CSSPM1.14
White LED – 3 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	27,9	9,8	FAR RED	727	1590	0,96	0,25	13,89	1,42	LO-145044-FFBW-C1000-K174
				DEEP BLUE	455	1905	7,05	2,36			
				WHITE	5000	444	5,88	2,04			
	500	29,0	14,5	FAR RED	727	2242	1,35	0,23	19,01	1,31	LO-145044-FFBW-C1000-K174
				DEEP BLUE	455	2648	9,80	2,25			
				WHITE	5000	608	7,86	1,84			
	700	30,2	21,1	FAR RED	727	3037	1,83	0,21	24,16	1,14	LO-145044-FFBW-C1000-K174
				DEEP BLUE	455	3277	12,13	1,94			
				WHITE	5000	799	10,20	1,65			
	800	30,6	24,5	FAR RED	727	3466	2,09	0,21	26,71	1,09	LO-145044-FFBW-C1000-K174
				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%.



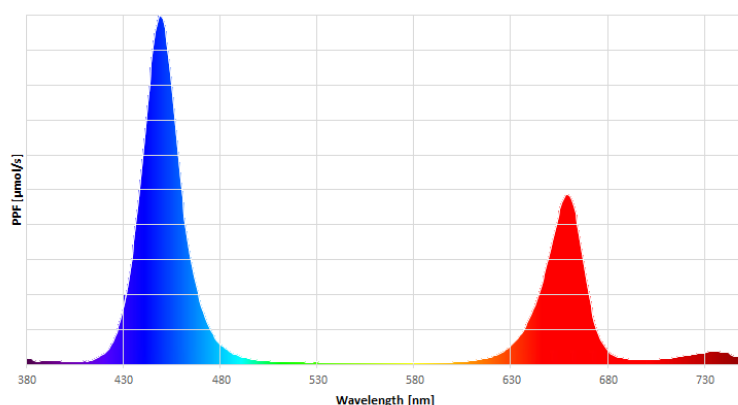
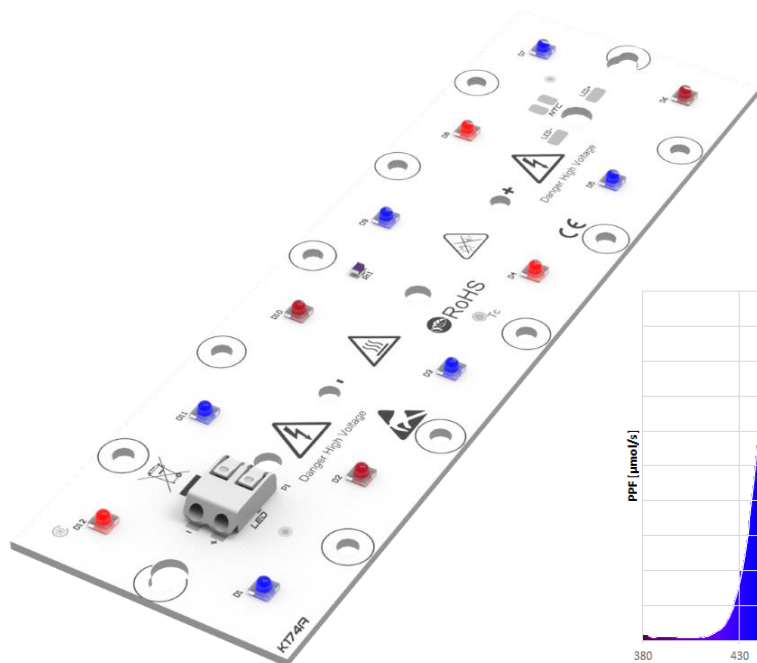
GROWEMITY 2X6 RFBB - K174

Name	GrowEmity 2x6 RFBB – K174
Far Red LED – 3 pcs	OSRAM - GF CSSPM1.24
Red LED – 3 pcs	OSRAM - GH CSSPM1.24
Deep Blue LED – 6 pcs	OSRAM - GD CSSPM1.14

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [nm] / CCT [K]	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-K174	350	29,2	10,2	RED	657	1275	6,92	3,06	21,50	2,11	L0-145044-RFBB-C1000-K174
				FAR RED	727	795	0,48	0,25			
				DEEP BLUE	455	3810	14,10	2,36			
	500	30,1	15,0	RED	657	1798	9,75	2,89	30,03	2,00	L0-145044-RFBB-C1000-K174
				FAR RED	727	1121	0,68	0,23			
				DEEP BLUE	455	5296	19,60	2,25			
	700	31,2	21,8	RED	657	2435	13,21	2,62	38,38	1,76	L0-145044-RFBB-C1000-K174
				FAR RED	727	1518	0,92	0,21			
				DEEP BLUE	455	6553	24,25	1,94			
	800	31,6	25,5	RED	657	2780	15,07	2,53	42,91	1,68	L0-145044-RFBB-C1000-K174
				FAR RED	727	1733	1,05	0,21			
				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 - K174

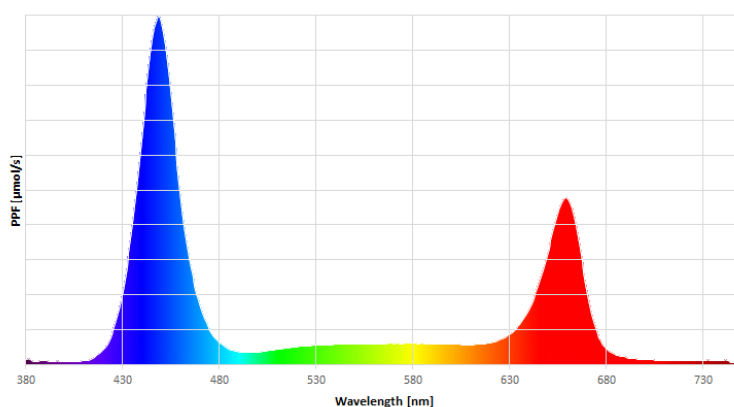
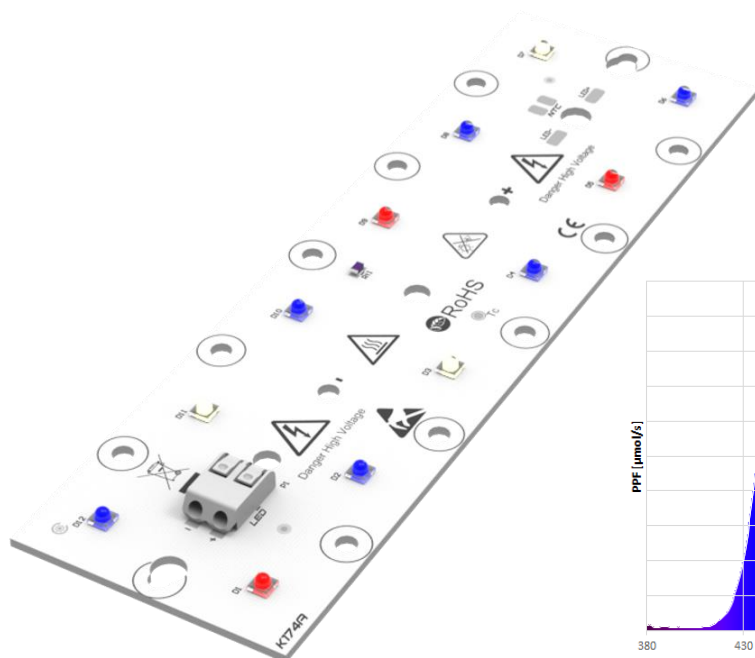
Name	GrowEmity 2x6 – K174
Red LED – 3 pcs	OSRAM - GH CSSPM1.24
Deep Blue LED – 6 pcs	OSRAM - GD CSSPM1.14
White LED – 3 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	31,8	11,1	RED	657	1275	6,92	3,06	26,90	2,42	LO-145044-RBBW-C1000-K174
				DEEP BLUE	455	3810	14,10	2,36			
				WHITE	5000	444	5,88	2,04			
	500	32,7	16,4	RED	657	1798	9,75	2,89	37,21	2,28	LO-145044-RBBW-C1000-K174
				DEEP BLUE	455	5296	19,60	2,25			
				WHITE	5000	608	7,86	1,84			
	700	33,9	23,7	RED	657	2435	13,21	2,62	47,66	2,01	LO-145044-RBBW-C1000-K174
				DEEP BLUE	455	6553	24,25	1,94			
				WHITE	5000	799	10,20	1,65			
	800	34,3	27,5	RED	657	2780	15,07	2,53	53,08	1,93	LO-145044-RBBW-C1000-K174
				DEEP BLUE	455	7239	26,79	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 FBBW - K174

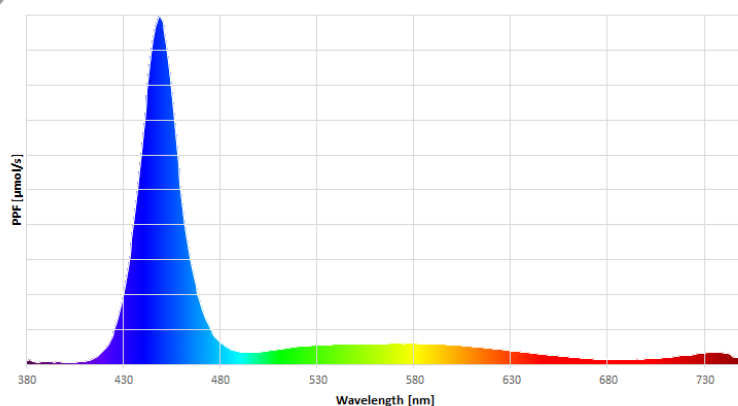
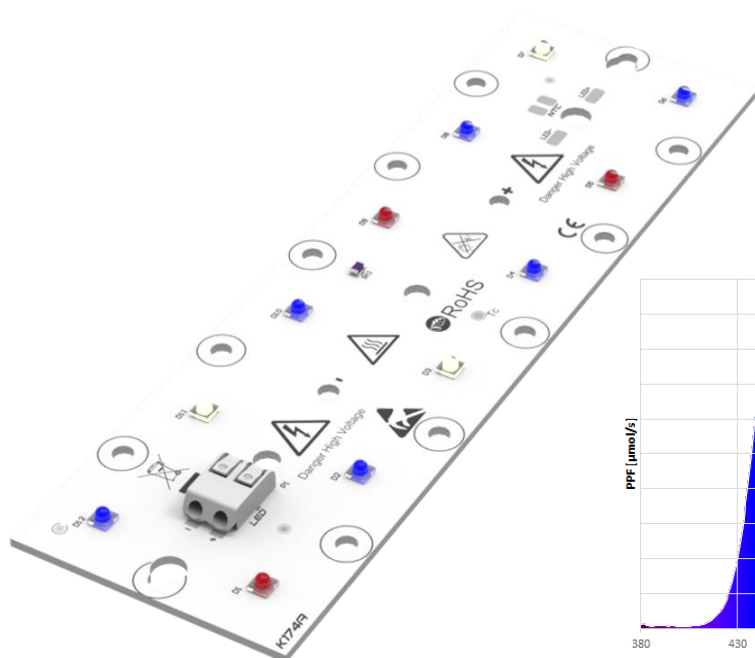
Name	GrowEmity 2x6 FBBW – K174
Far Red LED – 3 pcs	OSRAM - GF CSSPM1.24
Deep Blue LED – 6 pcs	OSRAM - GD CSSPM1.14
White LED – 3 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	30,9	10,8	FAR RED	727	795	0,48	0,25	20,46	1,89	LO-145044-FBBW-C1000-K174
				DEEP BLUE	455	3810	14,10	2,36			
				WHITE	5000	444	5,88	2,04			
	500	31,8	15,9	FAR RED	727	1121	0,68	0,23	28,14	1,77	LO-145044-FBBW-C1000-K174
				DEEP BLUE	455	5296	19,60	2,25			
				WHITE	5000	608	7,86	1,84			
	700	32,9	23,0	FAR RED	727	1518	0,92	0,21	35,37	1,54	LO-145044-FBBW-C1000-K174
				DEEP BLUE	455	6553	24,25	1,94			
				WHITE	5000	799	10,20	1,65			
	800	33,2	26,6	FAR RED	727	1733	1,05	0,21	39,06	1,47	LO-145044-FBBW-C1000-K174
				DEEP BLUE	455	7239	26,79	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 RFWW - K174

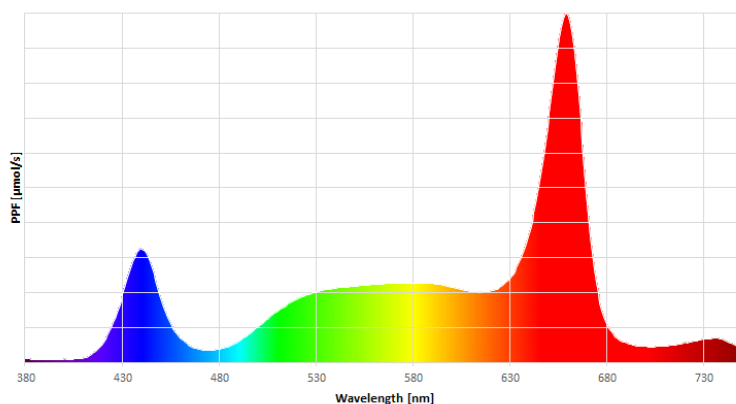
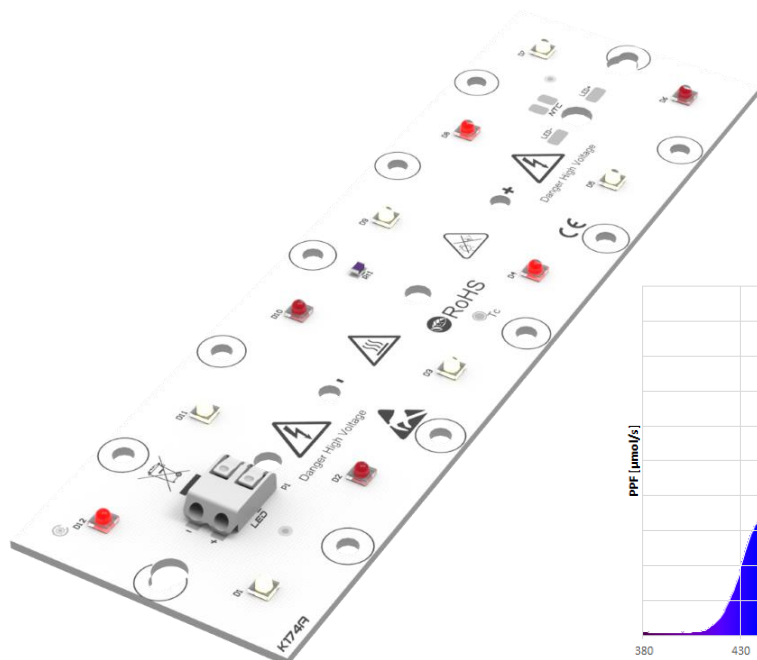
Name	GrowEmity 2x6 RFWW – K174
Far Red LED – 3 pcs	OSRAM - GF CSSPM1.24
Red LED – 3 pcs	OSRAM - GH CSSPM1.24
White LED – 6 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	28,6	10,0	RED	657	1275	6,92	3,06	19,16	1,92	LO-145044-RFWW-C1000-K174
				FAR RED	727	795	0,48	0,25			
				WHITE	5000	887	11,76	2,04			
	500	29,8	15,0	RED	657	1798	9,75	2,89	26,15	1,74	LO-145044-RFWW-C1000-K174
				FAR RED	727	1121	0,68	0,23			
				WHITE	5000	1216	15,72	1,84			
	700	31,1	21,7	RED	657	2435	13,21	2,62	34,52	1,59	LO-145044-RFWW-C1000-K174
				FAR RED	727	1518	0,92	0,21			
				WHITE	5000	1597	20,40	1,65			
	800	31,6	25,4	RED	657	2780	15,07	2,53	38,56	1,52	LO-145044-RFWW-C1000-K174
				FAR RED	727	1733	1,05	0,21			
				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 - K174

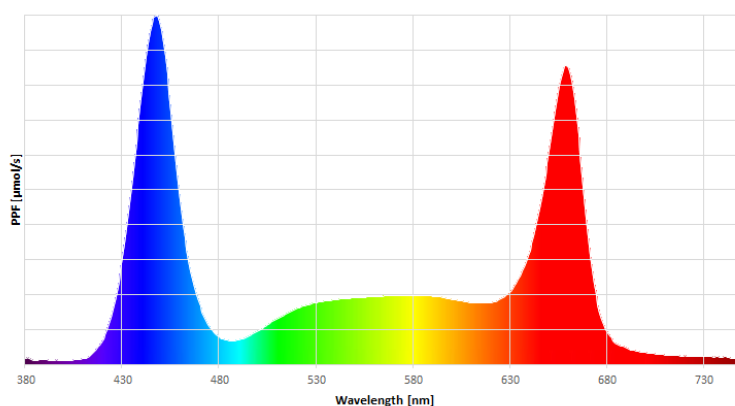
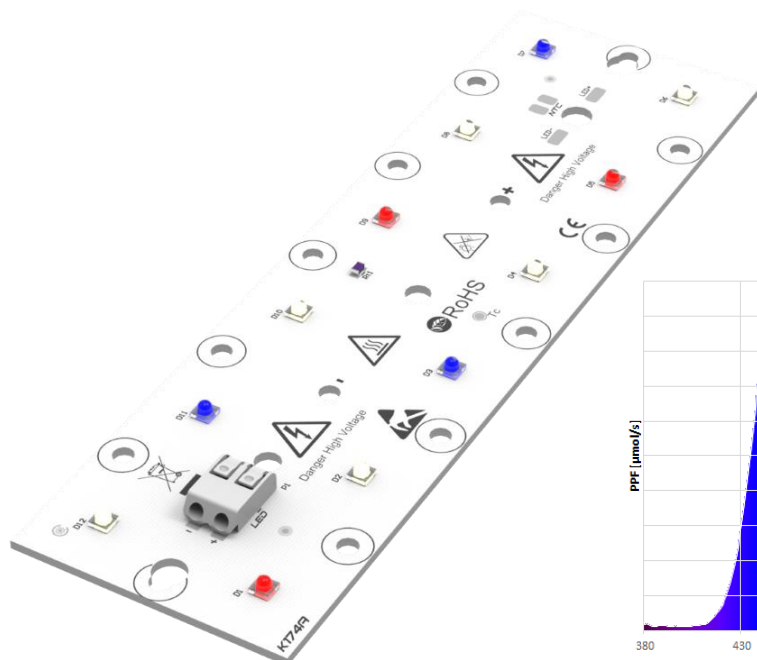
Name	GrowEmity 2x6 RBWW – K174
Red LED – 3 pcs	OSRAM - GH CSSPM1.24
Deep Blue LED – 3 pcs	OSRAM - GD CSSPM1.14
White LED – 6 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	31,6	11,1	RED	657	1275	6,92	3,06	25,73	2,32	LO-145044-RBWW-C1000-K174
				DEEP BLUE	455	1905	7,05	2,36			
				WHITE	5000	887	11,76	2,04			
	500	32,6	16,4	RED	657	1798	9,75	2,89	35,27	2,15	LO-145044-RBWW-C1000-K174
				DEEP BLUE	455	2648	9,80	2,25			
				WHITE	5000	1216	15,72	1,84			
	700	33,8	23,6	RED	657	2435	13,21	2,62	45,73	1,94	LO-145044-RBWW-C1000-K174
				DEEP BLUE	455	3277	12,13	1,94			
				WHITE	5000	1597	20,40	1,65			
	800	34,3	27,5	RED	657	2780	15,07	2,53	50,91	1,85	LO-145044-RBWW-C1000-K174
				DEEP BLUE	455	3620	13,40	1,87			
				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 - K174

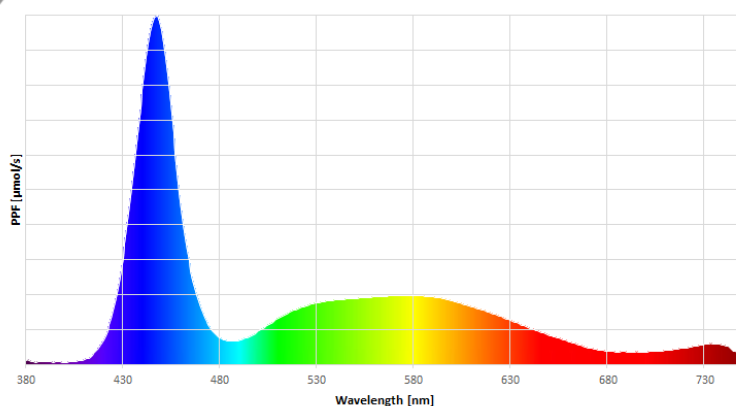
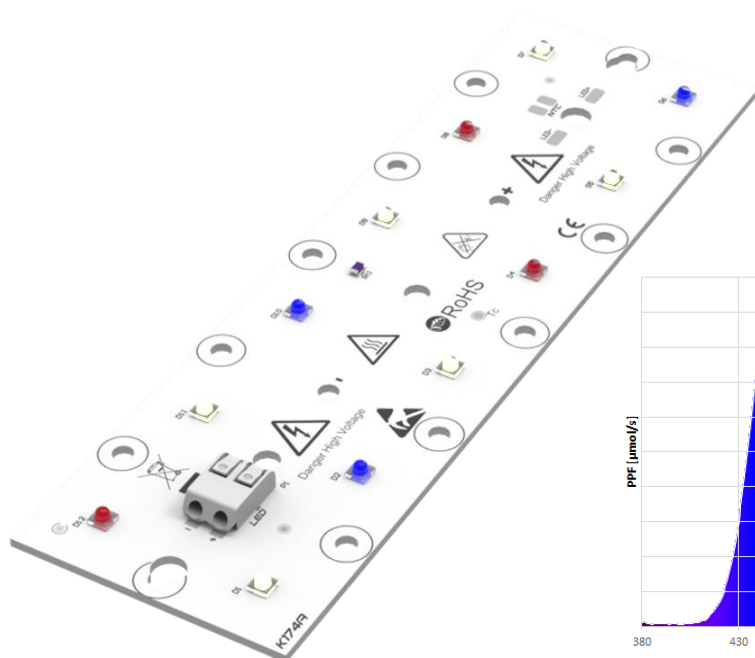
Name	GrowEmity 2x6 FBWW – K174
Far Red LED – 3 pcs	OSRAM - GF CSSPM1.24
Deep Blue LED – 3 pcs	OSRAM - GD CSSPM1.14
White LED – 6 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	30,6	10,7	FAR RED	727	795	0,48	0,25	19,29	1,80	LO-145044-FBWW-C1000-K174
				DEEP BLUE	455	1905	7,05	2,36			
				WHITE	5000	887	11,76	2,04			
	500	31,7	15,8	FAR RED	727	1121	0,68	0,23	26,20	1,66	LO-145044-FBWW-C1000-K174
				DEEP BLUE	455	2648	9,80	2,25			
				WHITE	5000	1216	15,72	1,84			
	700	32,8	23,0	FAR RED	727	1518	0,92	0,21	33,44	1,46	LO-145044-FBWW-C1000-K174
				DEEP BLUE	455	3277	12,13	1,94			
				WHITE	5000	1597	20,40	1,65			
	800	33,2	26,5	FAR RED	727	1733	1,05	0,21	36,88	1,39	LO-145044-FBWW-C1000-K174
				DEEP BLUE	455	3620	13,40	1,87			
				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%.



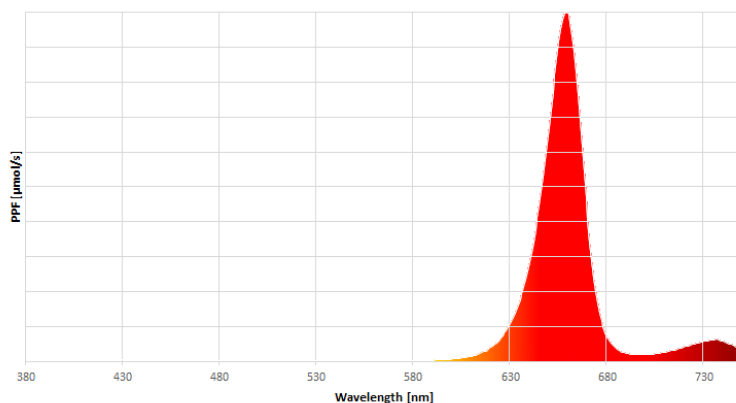
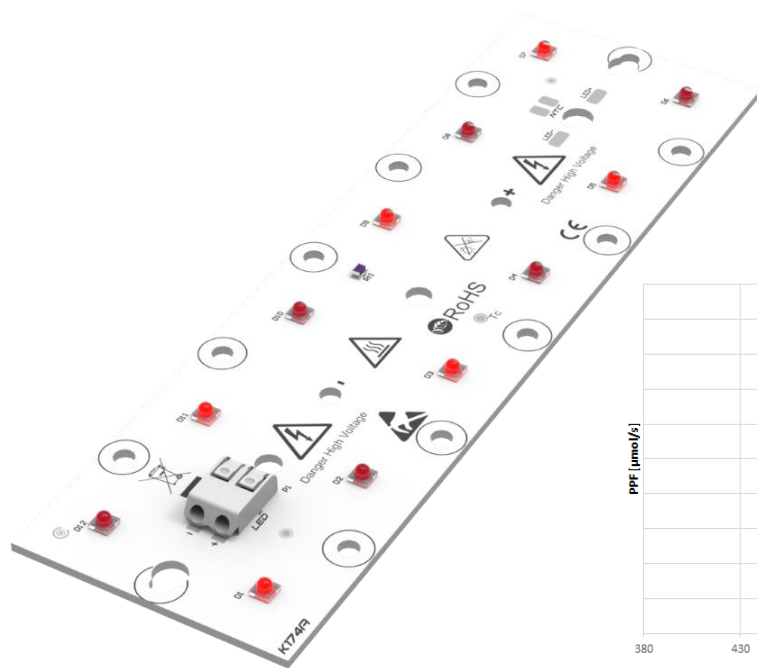
GROWEMITY 2x6 RRFF - K174

Name	GrowEmity 2x6 RRFF – K174
Far Red LED – 6 pcs	OSRAM - GF CSSPM1.24
Red LED – 6 pcs	OSRAM - GH CSSPM1.24

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	24,0	8,4	RED	657	2550	13,83	3,06	14,79	1,76	L0-145044-RRFF-C1000-K174
				FAR RED	727	1590	0,96	0,25			
	500	25,2	12,7	RED	657	3596	19,50	2,89	20,85	1,64	L0-145044-RRFF-C1000-K174
				FAR RED	727	2242	1,35	0,23			
	700	26,8	18,8	RED	657	4871	26,42	2,62	28,25	1,50	L0-145044-RRFF-C1000-K174
				FAR RED	727	3037	1,83	0,21			
	800	27,6	22,0	RED	657	5559	30,15	2,53	32,24	1,47	L0-145044-RRFF-C1000-K174
				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%.



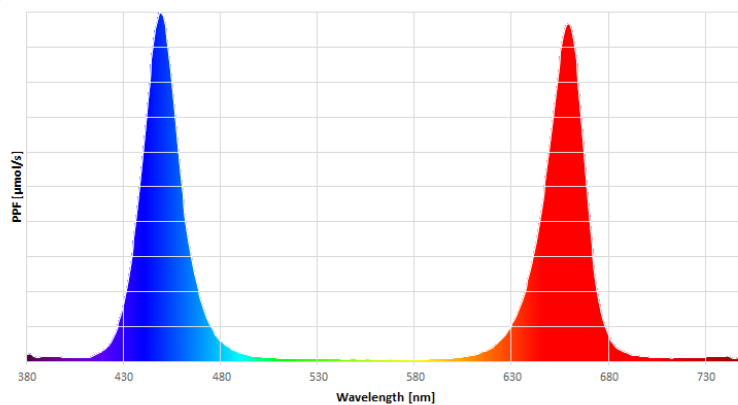
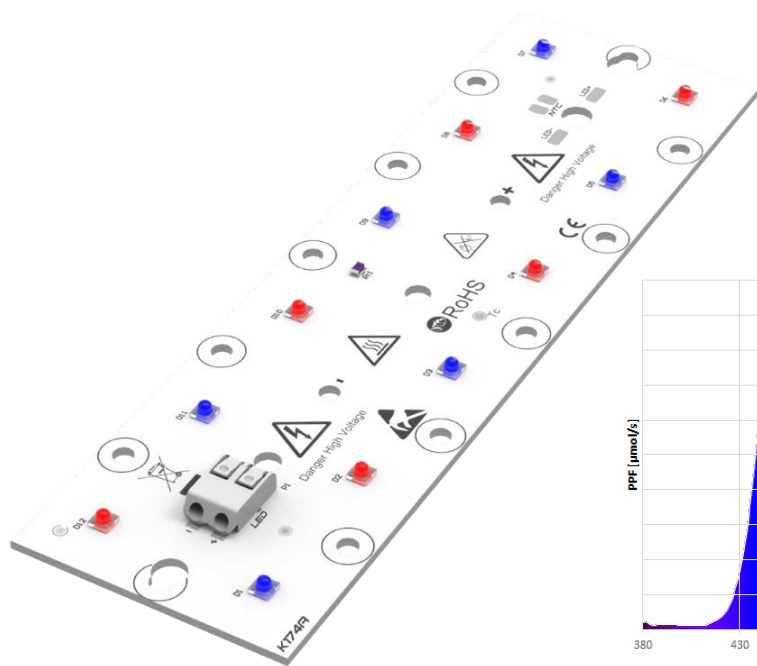
GROWEMITY 2x6 RRBB - K174

Name	GrowEmity 2x6 RRBB – K174
Red LED – 6 pcs	OSRAM - GH CSSPM1.24
Deep Blue LED – 6 pcs	OSRAM - GD CSSPM1.14

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	30,0	10,5	RED	657	2550	13,83	3,06	27,93	2,66	LO-145044-RRBB-C1000-K174
				DEEP BLUE	455	3810	14,10	2,36			
	500	30,9	15,5	RED	657	3596	19,50	2,89	39,10	2,52	LO-145044-RRBB-C1000-K174
				DEEP BLUE	455	5296	19,60	2,25			
	700	32,2	22,6	RED	657	4871	26,42	2,62	50,67	2,24	LO-145044-RRBB-C1000-K174
				DEEP BLUE	455	6553	24,25	1,94			
	800	32,8	26,3	RED	657	5559	30,15	2,53	56,94	2,16	LO-145044-RRBB-C1000-K174
				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 - K174

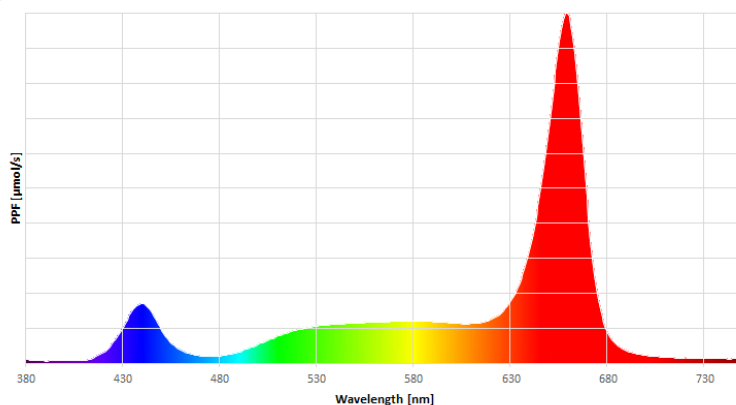
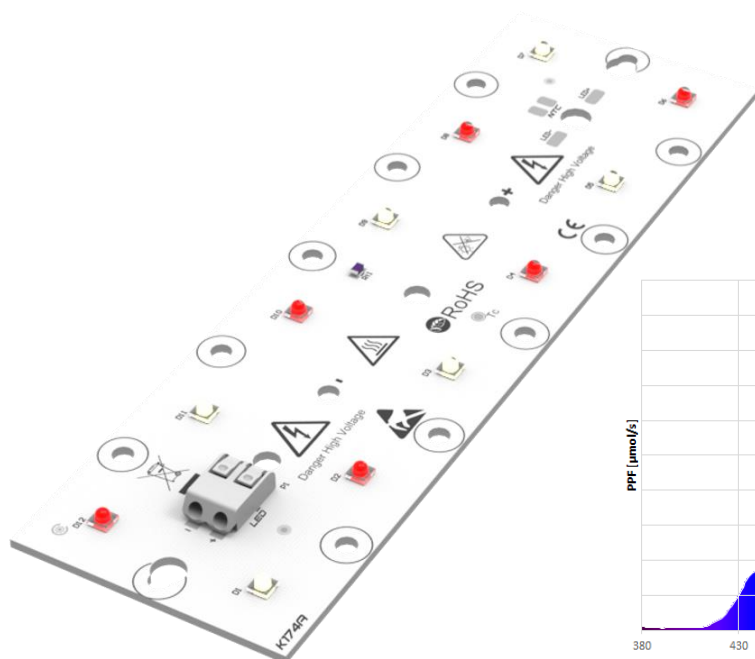
Name	GrowEmity 2x6 RRWW – K174
Red LED – 6 pcs	OSRAM - GH CSSPM1.24
White LED – 6 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	29,4	10,3	RED	657	2550	13,83	3,06	25,59	2,49	LO-145044-RRWW-C1000-K174
				WHITE	5000	887	11,76	2,04			
	500	30,6	15,3	RED	657	3596	19,50	2,89	35,22	2,30	LO-145044-RRWW-C1000-K174
				WHITE	5000	1216	15,72	1,84			
	700	32,1	22,5	RED	657	4871	26,42	2,62	46,82	2,08	LO-145044-RRWW-C1000-K174
				WHITE	5000	1597	20,40	1,65			
	800	32,8	26,2	RED	657	5559	30,15	2,53	52,59	2,01	LO-145044-RRWW-C1000-K174
				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%.



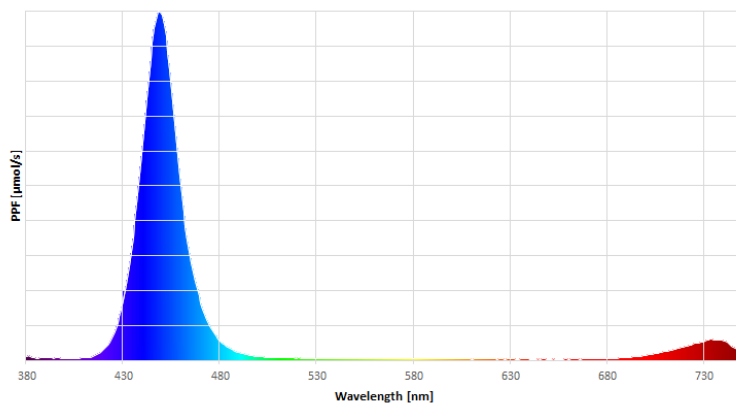
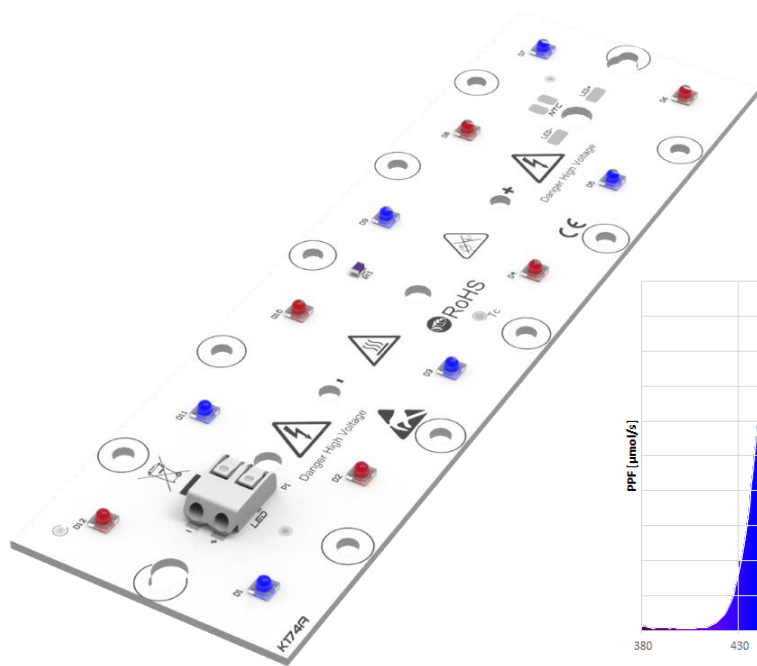
GROWEMITY 2x6 FFBB - K174

Name	GrowEmity 2x6 FFBB – K174
Far Red LED – 6 pcs	OSRAM - GF CSSPM1.24
Deep Blue LED – 6 pcs	OSRAM - GD CSSPM1.14

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	28,2	9,9	FAR RED	727	1590	0,96	0,25	15,06	1,52	L0-145044-FFBB-C1000-K174
				DEEP BLUE	455	3810	14,10	2,36			
	500	29,1	14,6	FAR RED	727	2242	1,35	0,23	20,95	1,44	L0-145044-FFBB-C1000-K174
				DEEP BLUE	455	5296	19,60	2,25			
	700	30,2	21,2	FAR RED	727	3037	1,83	0,21	26,09	1,23	L0-145044-FFBB-C1000-K174
				DEEP BLUE	455	6553	24,25	1,94			
	800	30,6	24,5	FAR RED	727	3466	2,09	0,21	28,88	1,18	L0-145044-FFBB-C1000-K174
				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 - K174

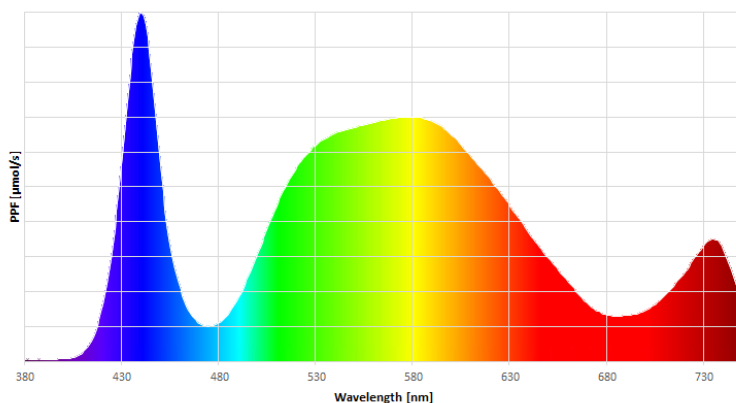
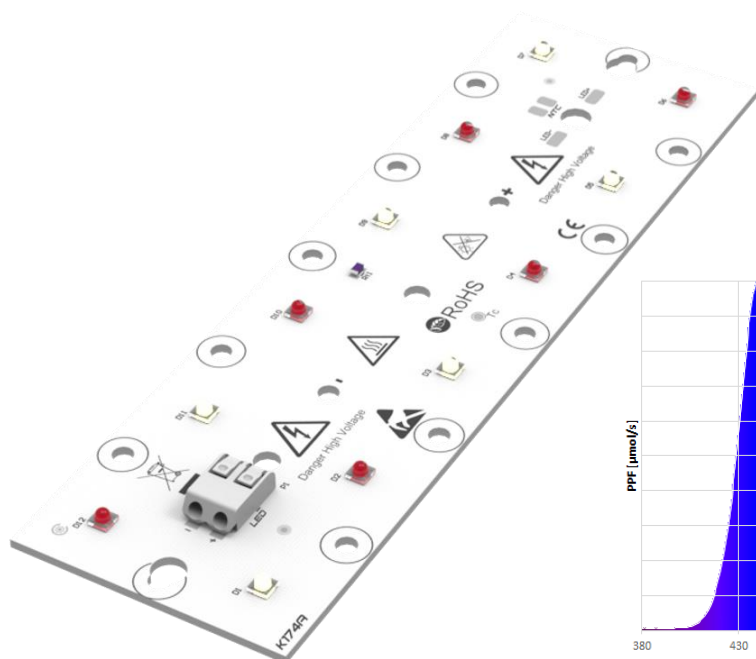
Name	GrowEmity 2x6 FFWW – K174
Far Red LED – 6 pcs	OSRAM - GF CSSPM1.24
White LED – 6 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	27,6	9,7	FAR RED	727	1590	0,96	0,25	12,72	1,32	LO-145044-FFWW-C1000-K174
				WHITE	5000	887	11,76	2,04			
	500	28,8	14,4	FAR RED	727	2242	1,35	0,23	17,07	1,19	LO-145044-FFWW-C1000-K174
				WHITE	5000	1216	15,72	1,84			
	700	30,1	21,1	FAR RED	727	3037	1,83	0,21	22,23	1,05	LO-145044-FFWW-C1000-K174
				WHITE	5000	1597	20,40	1,65			
	800	30,5	24,4	FAR RED	727	3466	2,09	0,21	24,53	1,00	LO-145044-FFWW-C1000-K174
				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 - K174

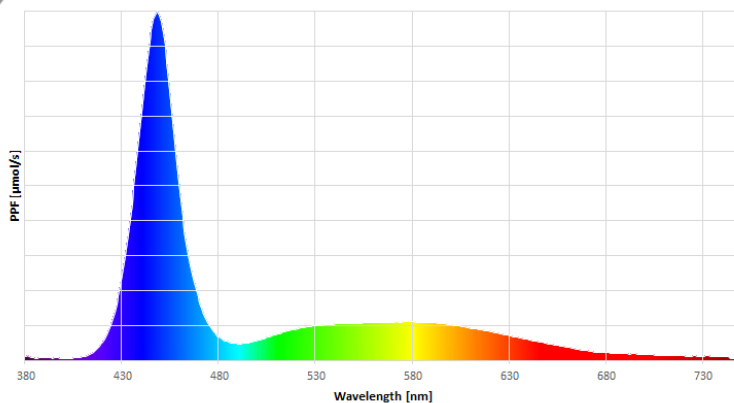
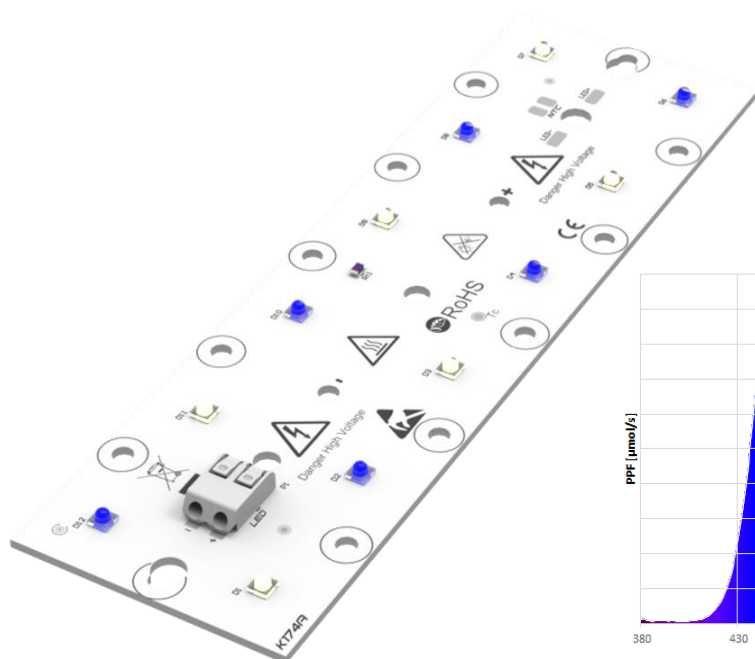
Name	GrowEmity 2x6 BBWW – K174
Deep Blue LED – 6 pcs	OSRAM - GD CSSPM1.14
White LED – 6 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	33,6	11,8	DEEP BLUE	455	3810	14,10	2,36	25,86	2,20	LO-145044-BBWW-C1000-K174
				WHITE	5000	887	11,76	2,04			
	500	34,5	17,3	DEEP BLUE	455	5296	19,6	2,25	35,32	2,05	LO-145044-BBWW-C1000-K174
				WHITE	5000	1216	15,72	1,84			
	700	35,5	24,9	DEEP BLUE	455	6553	24,25	1,94	44,65	1,80	LO-145044-BBWW-C1000-K174
				WHITE	5000	1597	20,4	1,65			
	800	35,8	28,7	DEEP BLUE	455	7239	26,8	1,87	49,23	1,72	LO-145044-BBWW-C1000-K174
				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%.



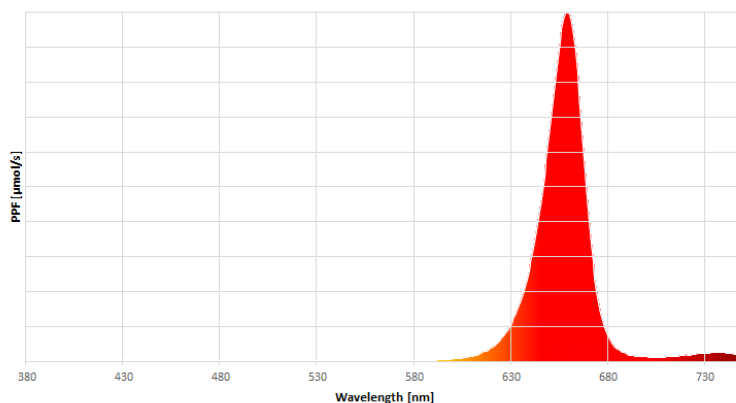
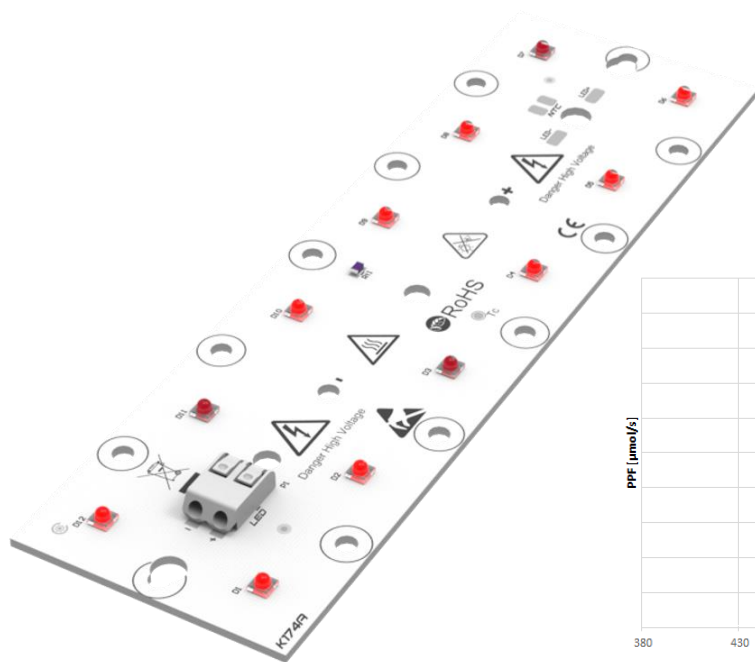
GROWEMITY 2x6 RRRF - K174

Name	GrowEmity 2x6 RRRF – K174
Far Red LED – 3 pcs	OSRAM - GF CSSPM1.24
Red LED – 9 pcs	OSRAM - GH CSSPM1.24

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	24,9	8,7	RED	657	3825	20,75	3,06	21,23	2,44	L0-145044-RRRF-C1000-K174
				FAR RED	727	795	0,48	0,25			
	500	26,1	13,1	RED	657	5393	29,25	2,89	29,93	2,29	L0-145044-RRRF-C1000-K174
				FAR RED	727	1121	0,68	0,23			
	700	27,8	19,5	RED	657	7306	39,62	2,62	40,54	2,08	L0-145044-RRRF-C1000-K174
				FAR RED	727	1518	0,92	0,21			
	800	28,7	22,9	RED	657	8339	45,22	2,53	46,27	2,02	L0-145044-RRRF-C1000-K174
				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%.



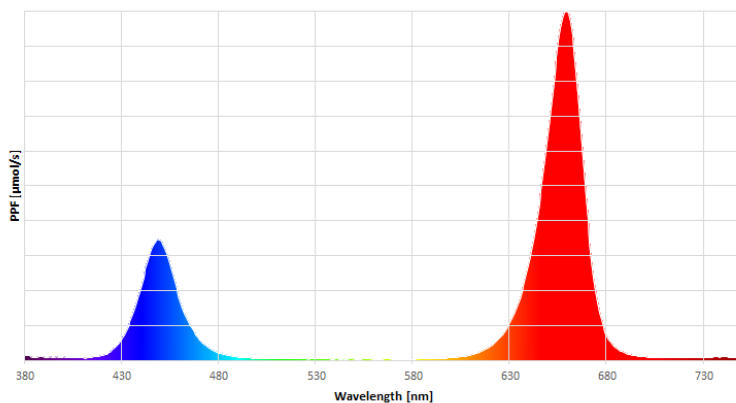
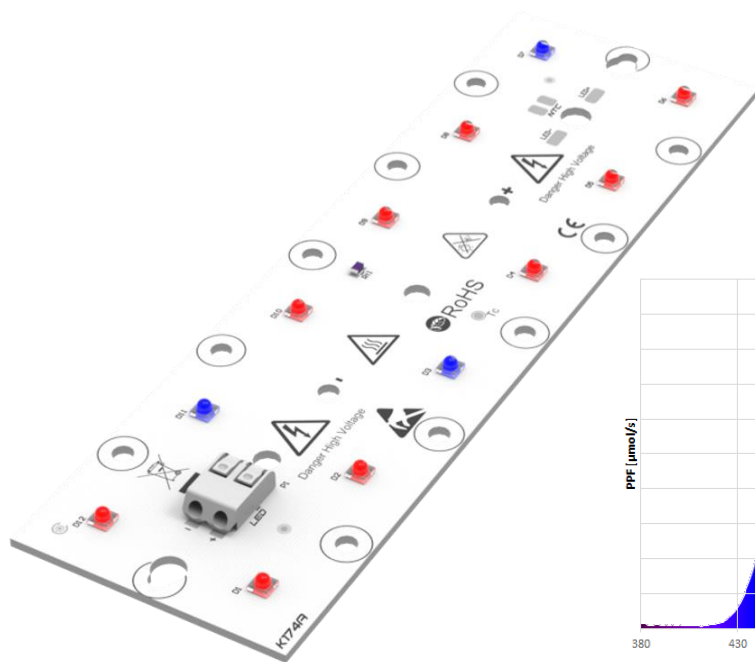
GROWEMITY 2x6 RRRB - K174

Name	GrowEmity 2x6 RRRB – K174
Red LED – 9 pcs	OSRAM - GH CSSPM1.24
Deep Blue LED – 3 pcs	OSRAM - GD CSSPM1.14

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	27,9	9,8	RED	657	3825	20,75	3,06	27,80	2,85	L0-145044-RRRB-C1000-K174
				DEEP BLUE	455	1905	7,05	2,36			
	500	29,0	14,5	RED	657	5393	29,25	2,89	39,05	2,70	L0-145044-RRRB-C1000-K174
				DEEP BLUE	455	2648	9,80	2,25			
	700	30,5	21,4	RED	657	7306	39,62	2,62	51,75	2,42	L0-145044-RRRB-C1000-K174
				DEEP BLUE	455	3277	12,13	1,94			
	800	31,3	25,0	RED	657	8339	45,22	2,53	58,62	2,34	L0-145044-RRRB-C1000-K174
				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 - K174

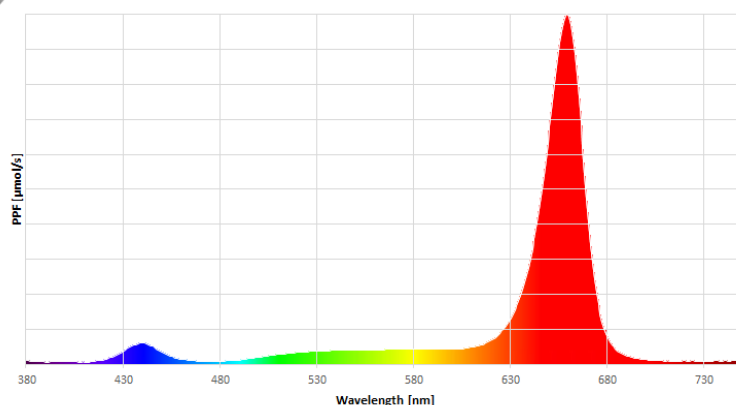
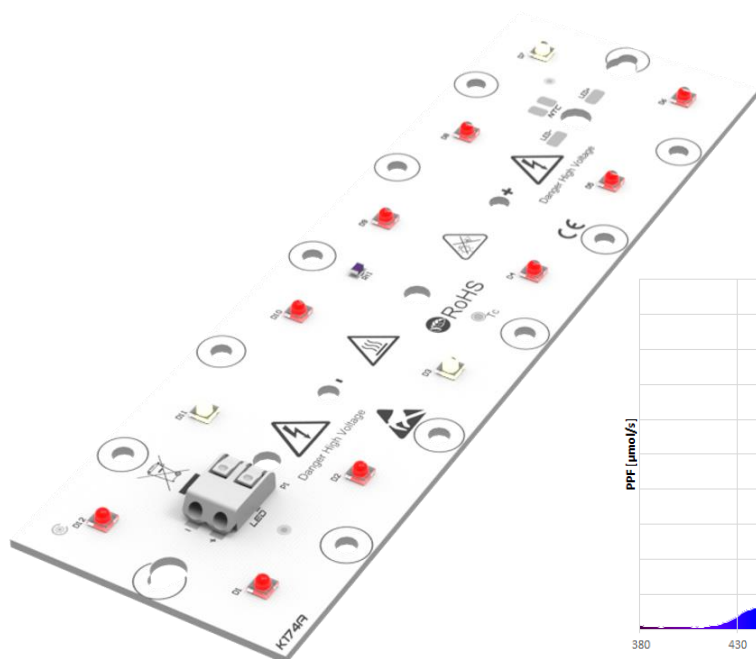
Name	GrowEmity 2x6 RRRW – K174
Red LED – 9 pcs	OSRAM - GH CSSPM1.24
White LED – 3 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	27,6	9,7	RED	657	3825	20,75	3,06	26,63	2,76	LO-145044-RRRW-C1000-K174
				WHITE	5000	444	5,88	2,04			
	500	28,8	14,4	RED	657	5393	29,25	2,89	37,11	2,58	LO-145044-RRRW-C1000-K174
				WHITE	5000	608	7,86	1,84			
	700	30,5	21,3	RED	657	7306	39,62	2,62	49,82	2,34	LO-145044-RRRW-C1000-K174
				WHITE	5000	799	10,20	1,65			
	800	31,3	25,0	RED	657	8339	45,22	2,53	56,44	2,26	LO-145044-RRRW-C1000-K174
				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%.



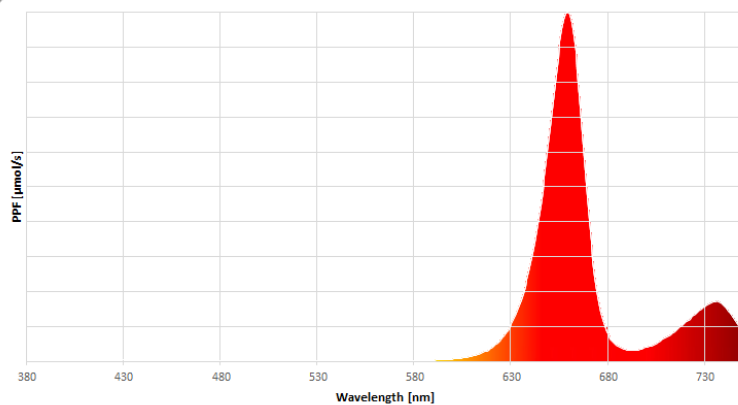
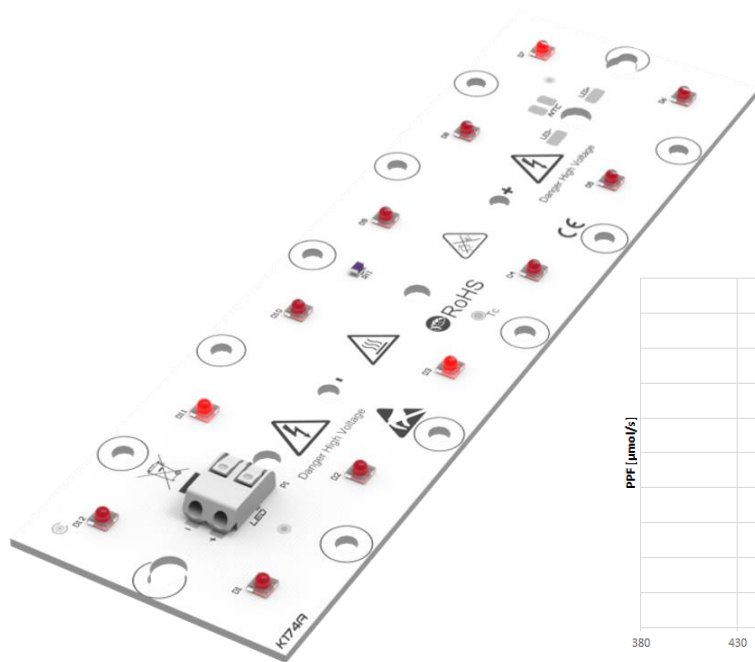
GROWEMITY 2x6 RFFF - K174

Name	GrowEmity 2x6 RFFF – K174
Far Red LED – 9 pcs	OSRAM - GF CSSPM1.24
Red LED – 3 pcs	OSRAM - GH CSSPM1.24

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	23,1	8,1	RED	657	1275	6,92	3,06	8,36	1,03	L0-145044-RFFF-C1000-K174
				FAR RED	727	2385	1,44	0,25			
	500	24,3	12,2	RED	657	1798	9,75	2,89	11,78	0,97	L0-145044-RFFF-C1000-K174
				FAR RED	727	3363	2,03	0,23			
	700	25,8	18,1	RED	657	2435	13,21	2,62	15,96	0,88	L0-145044-RFFF-C1000-K174
				FAR RED	727	4555	2,75	0,21			
	800	26,4	21,1	RED	657	2780	15,07	2,53	18,21	0,86	L0-145044-RFFF-C1000-K174
				FAR RED	727	5199	3,14	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%.



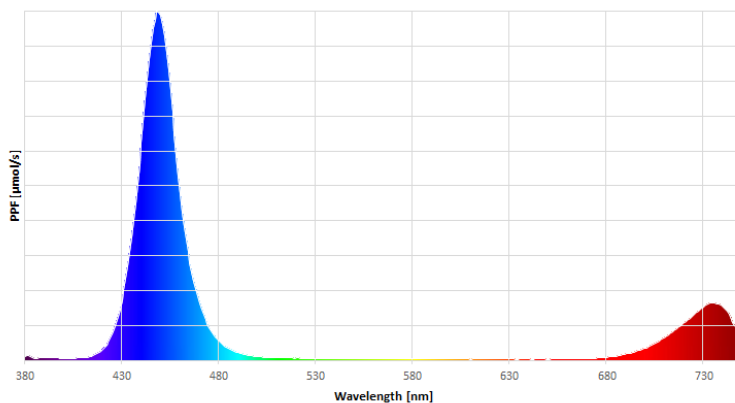
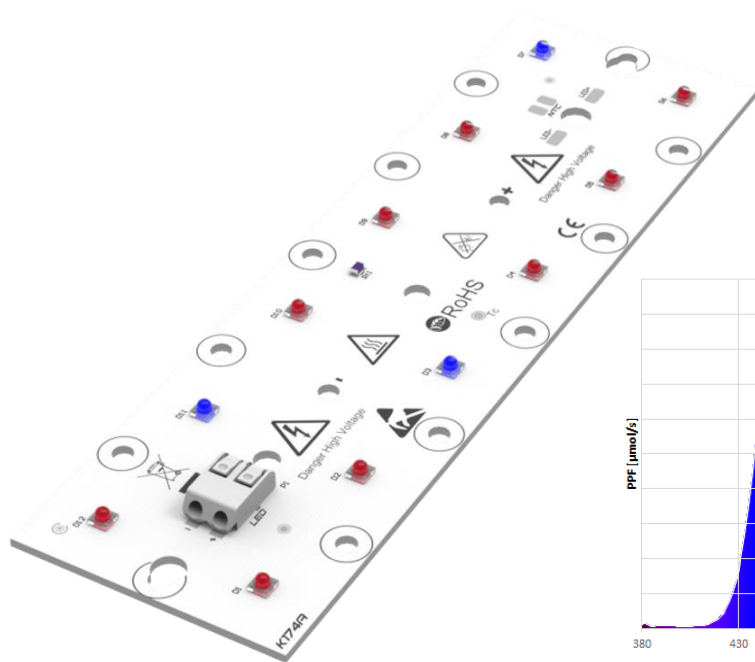
GROWEMITY 2x6 FFFB - K174

Name	GrowEmity 2x6 FFFB – K174
Far Red LED – 9 pcs	OSRAM - GF CSSPM1.24
Deep Blue LED – 3 pcs	OSRAM - GD CSSPM1.14

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	25,2	8,8	FAR RED	727	2385	1,44	0,25	8,49	0,96	L0-145044-FFFB-C1000-K174
				DEEP BLUE	455	1905	7,05	2,36			
	500	26,3	13,1	FAR RED	727	3363	2,03	0,23	11,83	0,90	L0-145044-FFFB-C1000-K174
				DEEP BLUE	455	2648	9,80	2,25			
	700	27,5	19,3	FAR RED	727	4555	2,75	0,21	14,88	0,77	L0-145044-FFFB-C1000-K174
				DEEP BLUE	455	3277	12,13	1,94			
	800	28,0	22,4	FAR RED	727	5199	3,14	0,21	16,53	0,74	L0-145044-FFFB-C1000-K174
				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 - K174

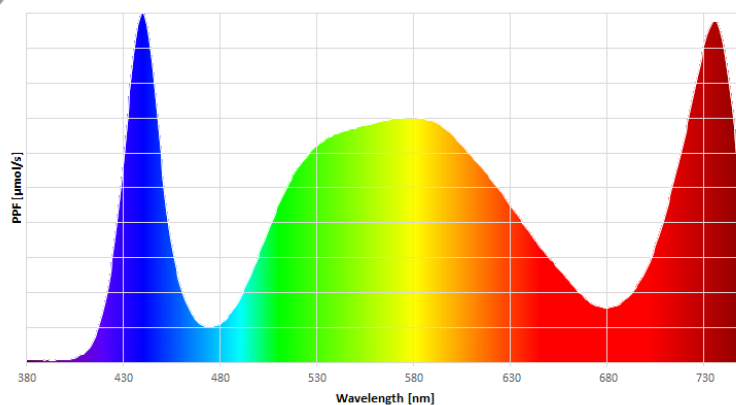
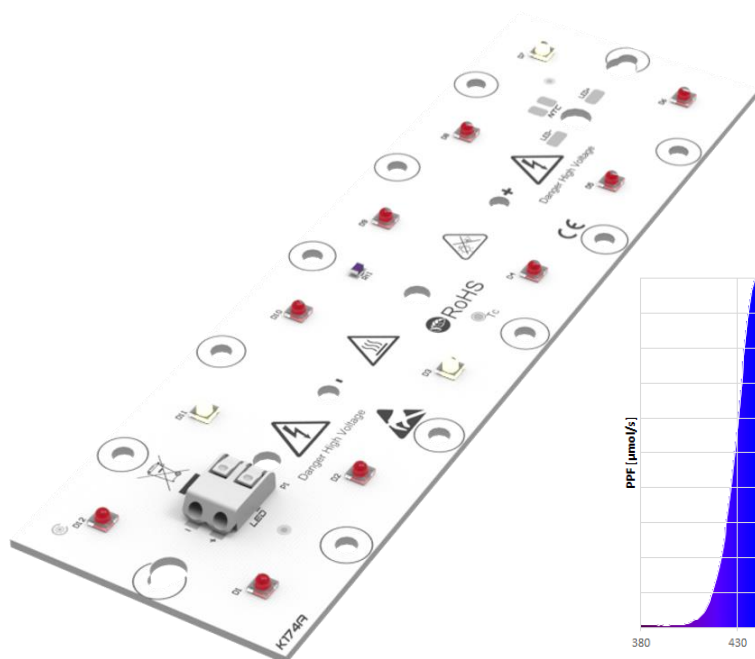
Name	GrowEmity 2x6 FFFW – K174
Far Red LED – 9 pcs	OSRAM - GF CSSPM1.24
White LED – 3 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	24,9	8,7	FAR RED	727	2385	1,44	0,25	7,32	0,84	LO-145044-FFFW-C1000-K174
				WHITE	5000	444	5,88	2,04			
	500	26,1	13,1	FAR RED	727	3363	2,03	0,23	9,89	0,76	LO-145044-FFFW-C1000-K174
				WHITE	5000	608	7,86	1,84			
	700	27,5	19,2	FAR RED	727	4555	2,75	0,21	12,95	0,67	LO-145044-FFFW-C1000-K174
				WHITE	5000	799	10,20	1,65			
	800	27,9	22,3	FAR RED	727	5199	3,14	0,21	14,36	0,64	LO-145044-FFFW-C1000-K174
				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%.



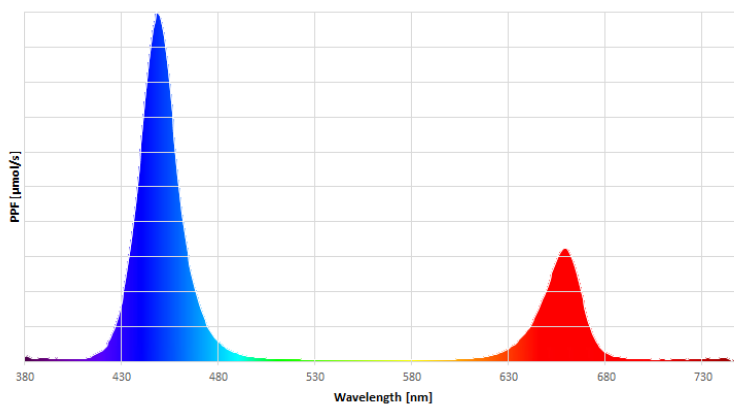
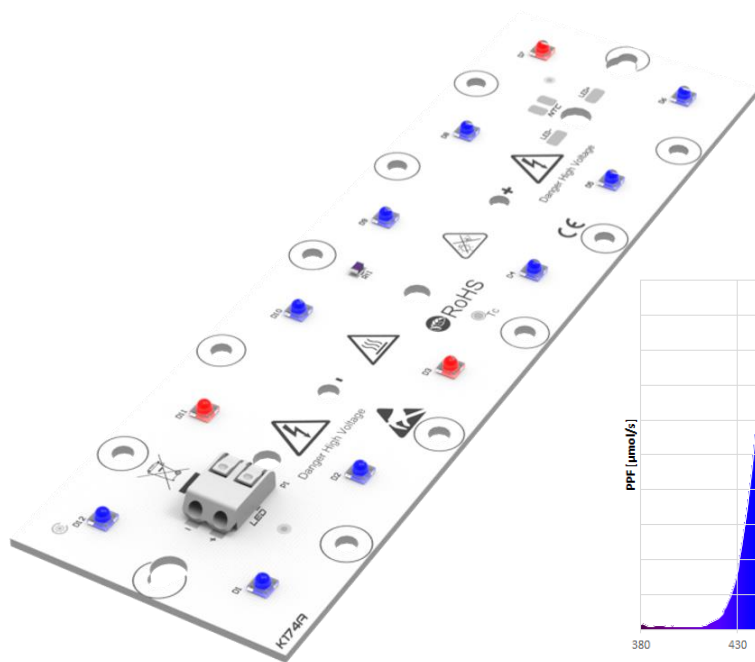
GROWEMITY 2x6 RBBB - K174

Name	GrowEmity 2x6 RBBB – K174
Red LED – 3 pcs	OSRAM - GH CSSPM1.24
Deep Blue LED – 9 pcs	OSRAM - GD CSSPM1.14

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	32,1	11,2	RED	657	1275	6,92	3,06	28,07	2,50	L0-145044-RBBB-C1000-K174
				DEEP BLUE	455	5715	21,15	2,36			
	500	32,9	16,4	RED	657	1798	9,75	2,89	39,15	2,38	L0-145044-RBBB-C1000-K174
				DEEP BLUE	455	7944	29,40	2,25			
	700	33,9	23,8	RED	657	2435	13,21	2,62	49,59	2,09	L0-145044-RBBB-C1000-K174
				DEEP BLUE	455	9830	36,38	1,94			
	800	34,4	27,5	RED	657	2780	15,07	2,53	55,26	2,01	L0-145044-RBBB-C1000-K174
				DEEP BLUE	455	10859	40,19	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%.



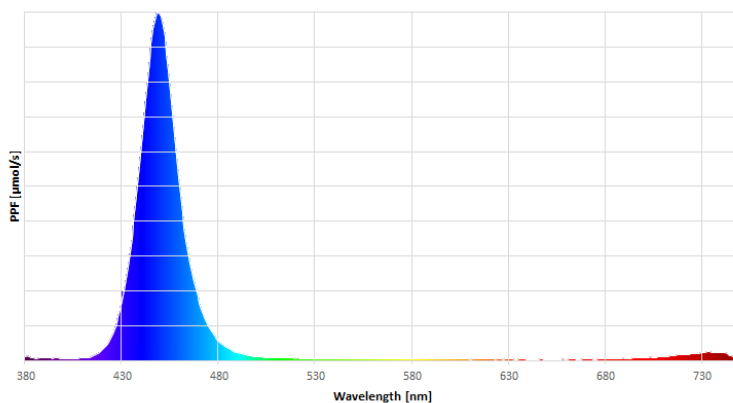
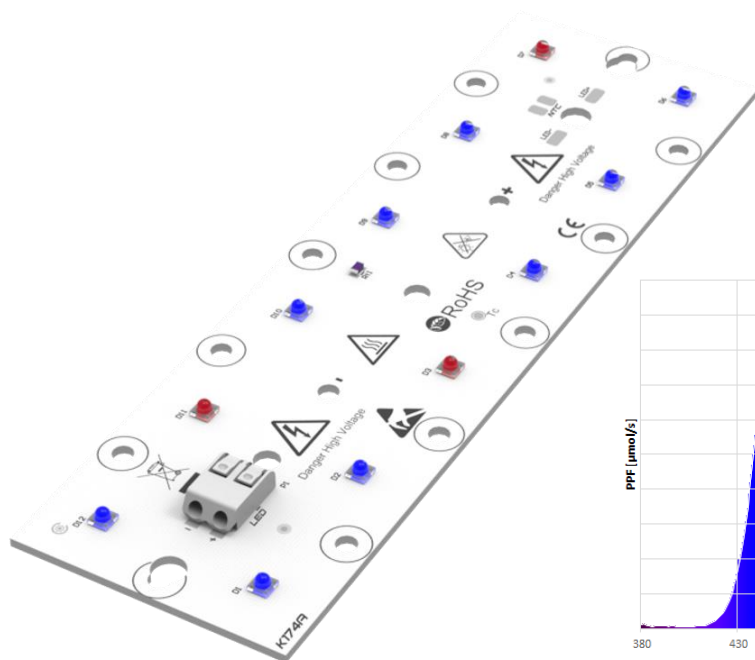
GROWEMITY 2X6 FBBB - K174

Name	GrowEmity 2x6 FBBB – K174
Far Red LED – 3 pcs	OSRAM - GF CSSPM1.24
Deep Blue LED – 9 pcs	OSRAM - GD CSSPM1.14

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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 FBBB-K174	350	31,2	10,9	FAR RED	727	795	0,48	0,25	21,63	1,98	L0-145044-FBBB-C1000-K174
				DEEP BLUE	455	5715	21,15	2,36			
	500	32,0	16,0	FAR RED	727	1121	0,68	0,23	30,08	1,88	L0-145044-FBBB-C1000-K174
				DEEP BLUE	455	7944	29,40	2,25			
	700	32,9	23,1	FAR RED	727	1518	0,92	0,21	37,29	1,62	L0-145044-FBBB-C1000-K174
				DEEP BLUE	455	9830	36,38	1,94			
	800	33,2	26,6	FAR RED	727	1733	1,05	0,21	41,23	1,55	L0-145044-FBBB-C1000-K174
				DEEP BLUE	455	10859	40,19	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 - K174

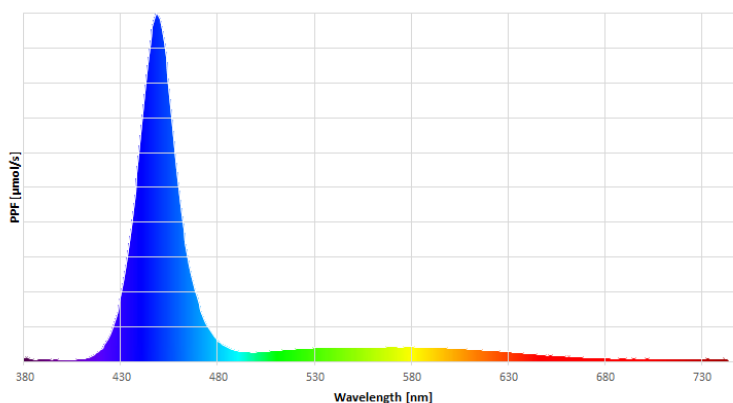
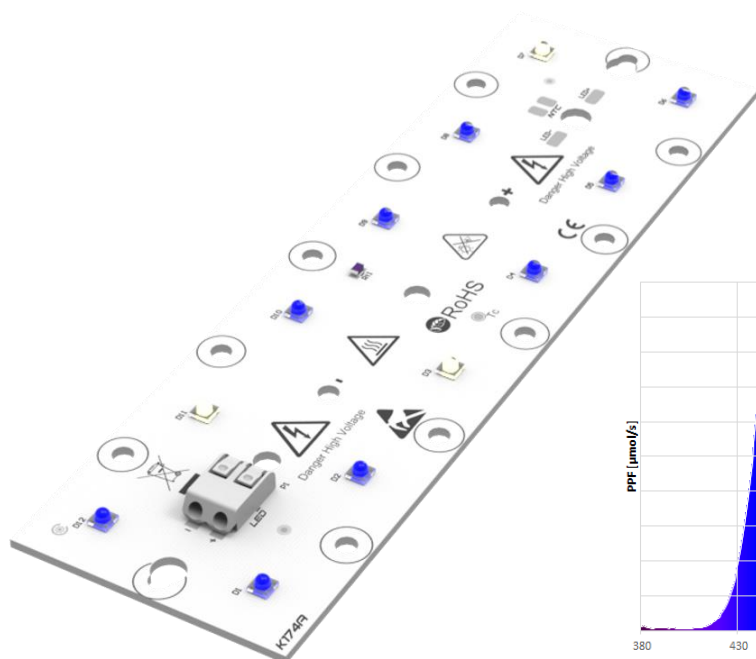
Name	GrowEmity 2x6 BBBW – K174
Deep Blue LED – 9 pcs	OSRAM - GD CSSPM1.14
White LED – 3 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	33,9	11,9	DEEP BLUE	455	5715	21,15	2,36	27,03	2,28	LO-145044-BBBW-C1000-K174
				WHITE	5000	444	5,88	2,04			
	500	34,7	17,3	DEEP BLUE	455	7944	29,4	2,25	37,26	2,15	LO-145044-BBBW-C1000-K174
				WHITE	5000	608	7,86	1,84			
	700	35,6	24,9	DEEP BLUE	455	9830	36,38	1,94	46,58	1,87	LO-145044-BBBW-C1000-K174
				WHITE	5000	799	10,2	1,65			
	800	35,9	28,7	DEEP BLUE	455	10859	40,2	1,87	51,41	1,79	LO-145044-BBBW-C1000-K174
				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 RWWW - K174

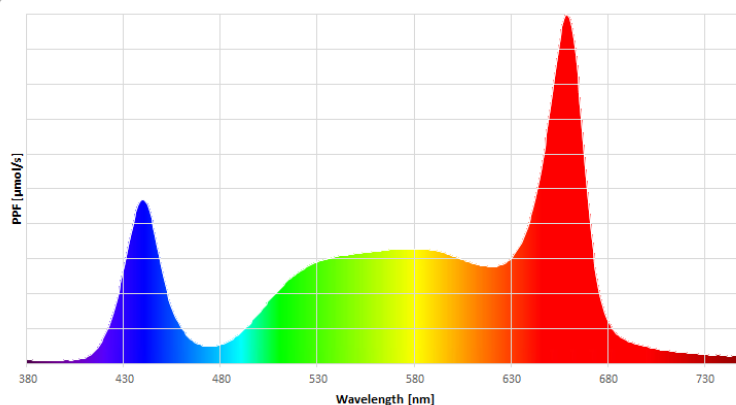
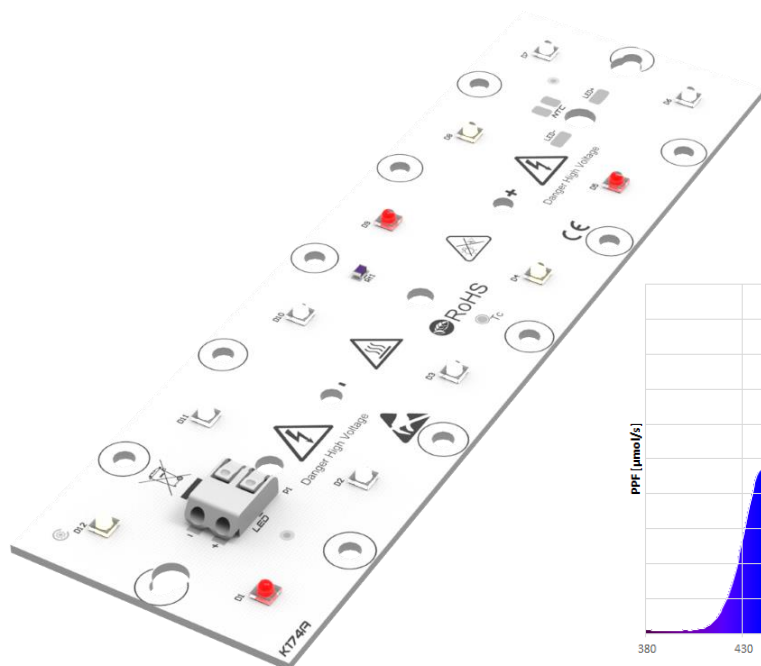
Name	GrowEmity 2x6 RWWW – K174
Red LED – 3 pcs	OSRAM - GH CSSPM1.24
White LED – 9 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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 RWWW-K174	350	31,3	11,0	RED	657	1275	6,92	3,06	24,56	2,23	LO-145044-RWWW-C1000-K174
				WHITE	5000	1331	17,64	2,04			
	500	32,5	16,2	RED	657	1798	9,75	2,89	33,33	2,06	LO-145044-RWWW-C1000-K174
				WHITE	5000	1824	23,58	1,84			
	700	33,8	23,6	RED	657	2435	13,21	2,62	43,81	1,86	LO-145044-RWWW-C1000-K174
				WHITE	5000	2396	30,60	1,65			
	800	34,2	27,5	RED	657	2780	15,07	2,53	48,73	1,77	LO-145044-RWWW-C1000-K174
				WHITE	5000	2636	33,66	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 - K174

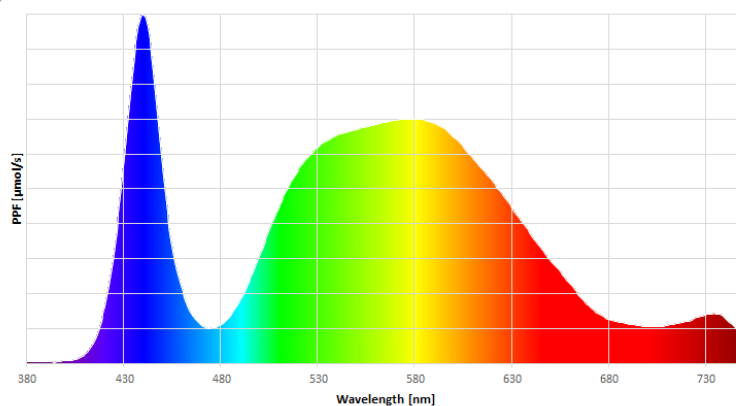
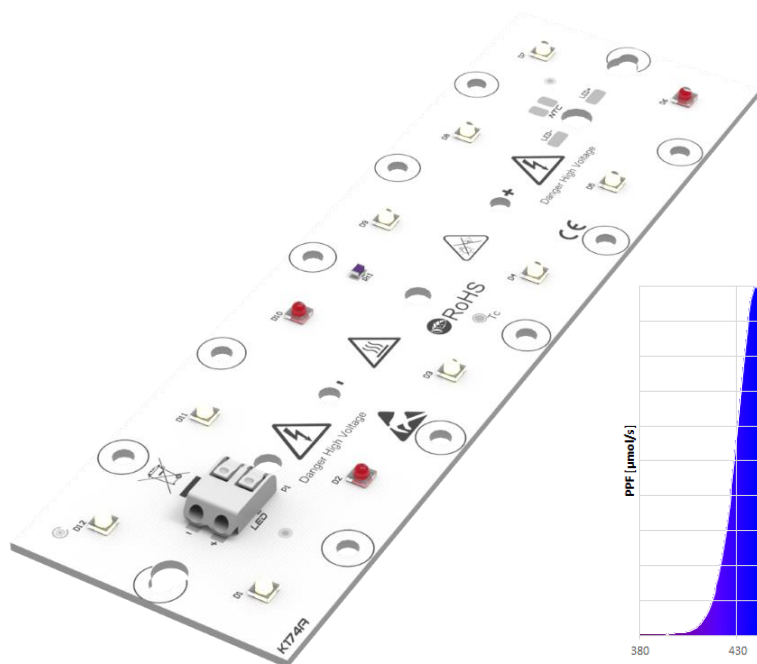
Name	GrowEmity 2x6 FWWW – K174
Far Red LED – 3 pcs	OSRAM - GF CSSPM1.24
White LED – 9 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	30,4	10,6	FAR RED	727	795	0,48	0,25	18,12	1,71	LO-145044-FWWW-C1000-K174
				WHITE	5000	1331	17,64	2,04			
	500	31,6	15,7	FAR RED	727	1121	0,68	0,23	24,26	1,55	LO-145044-FWWW-C1000-K174
				WHITE	5000	1824	23,58	1,84			
	700	32,8	22,9	FAR RED	727	1518	0,92	0,21	31,52	1,38	LO-145044-FWWW-C1000-K174
				WHITE	5000	2396	30,60	1,65			
	800	33,1	26,6	FAR RED	727	1733	1,05	0,21	34,71	1,30	LO-145044-FWWW-C1000-K174
				WHITE	5000	2636	33,66	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 - K174

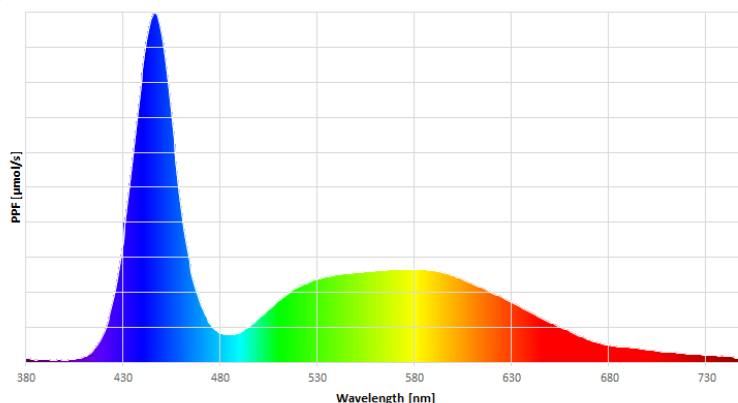
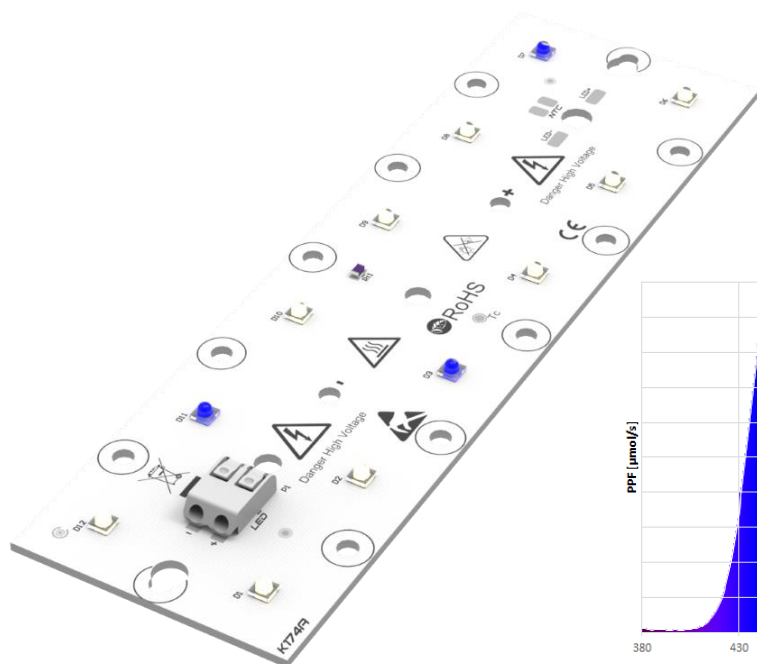
Name	GrowEmity 2x6 BWWW – K174
Deep Blue LED – 3 pcs	OSRAM - GD CSSPM1.14
White LED – 9 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [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-K174	350	33,4	11,7	DEEP BLUE	455	1905	7,05	2,36	24,69	2,11	LO-145044-BWWW-C1000-K174
				WHITE	5000	1331	17,64	2,04			
	500	34,4	17,2	DEEP BLUE	455	2648	9,80	2,25	33,38	1,94	LO-145044-BWWW-C1000-K174
				WHITE	5000	1824	23,58	1,84			
	700	35,5	24,8	DEEP BLUE	455	3277	12,13	1,94	42,73	1,72	LO-145044-BWWW-C1000-K174
				WHITE	5000	2396	30,60	1,65			
	800	35,8	28,7	DEEP BLUE	455	3620	13,40	1,87	47,06	1,64	LO-145044-BWWW-C1000-K174
				WHITE	5000	2636	33,66	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%.



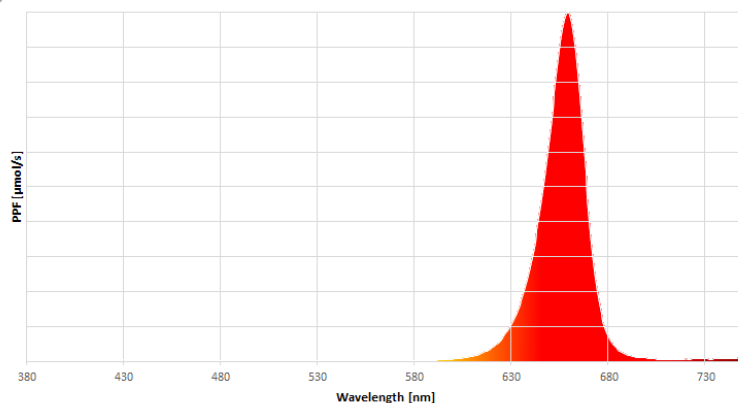
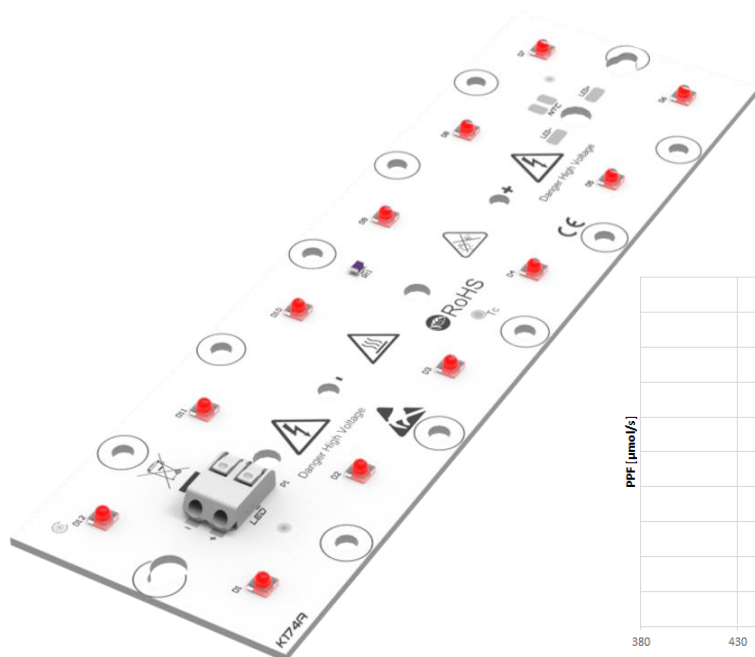
GROWEMITY 2x6 RRRR - K174

Name	GrowEmity 2x6 RRRR – K174
Red LED – 12 pcs	OSRAM - GH CSSPM1.24

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [nm]	Radiant Power [mW]	PPF [$\mu\text{mol/s}$]	PPF/W [$\mu\text{mol/J}$]	Article Number
GrowEmity 2x6 RRRR-K174	350	25,8	9,0	RED	657	5100	27,66	3,06	LO-145044-RRRR-C1000-K174
	500	27	13,5	RED	657	7191	39,00	2,89	LO-145044-RRRR-C1000-K174
	700	28,8	20,2	RED	657	9741	52,83	2,62	LO-145044-RRRR-C1000-K174
	800	29,8	23,8	RED	657	11118	60,30	2,53	LO-145044-RRRR-C1000-K174

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%.



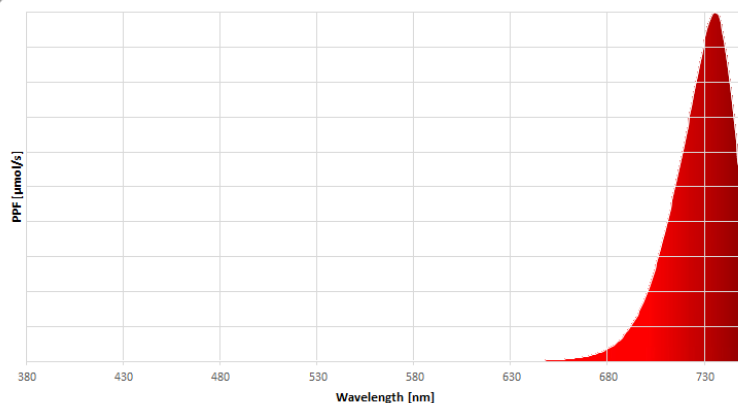
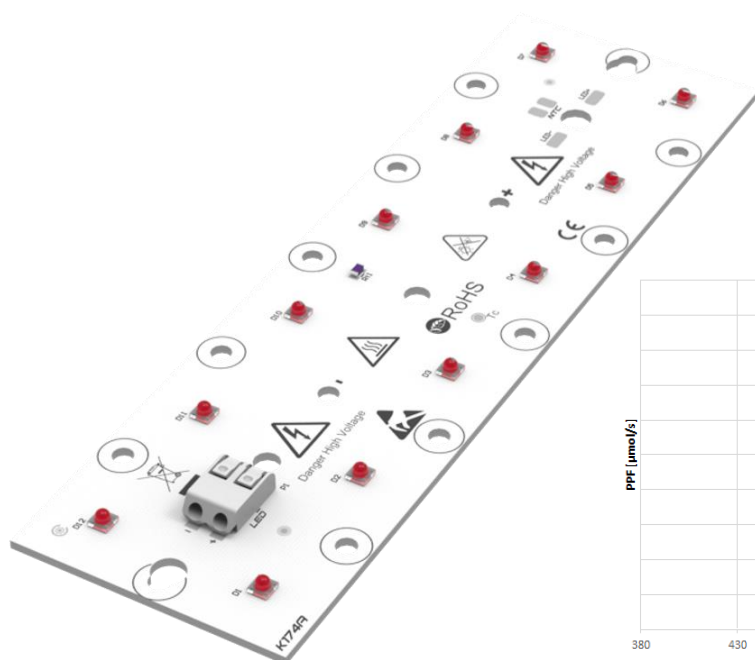
GROWEMITY 2x6 FFFF- K174

Name	GrowEmity 2x6 FFFF – K174
Far Red LED – 12 pcs	OSRAM - GF CSSPM1.24

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [nm]	Radiant Power [mW]	PPF [$\mu\text{mol/s}$]	PPF/W [$\mu\text{mol/J}$]	Article Number
GrowEmity 2x6 FFFF-K174	350	22,2	7,8	FAR RED	727	3180	1,92	0,25	L0-145044-FFFF-C1000-K174
	500	23,4	11,7	FAR RED	727	4484	2,71	0,23	L0-145044-FFFF-C1000-K174
	700	24,8	17,4	FAR RED	727	6074	3,67	0,21	L0-145044-FFFF-C1000-K174
	800	25,3	20,3	FAR RED	727	6932	4,19	0,21	L0-145044-FFFF-C1000-K174

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%.



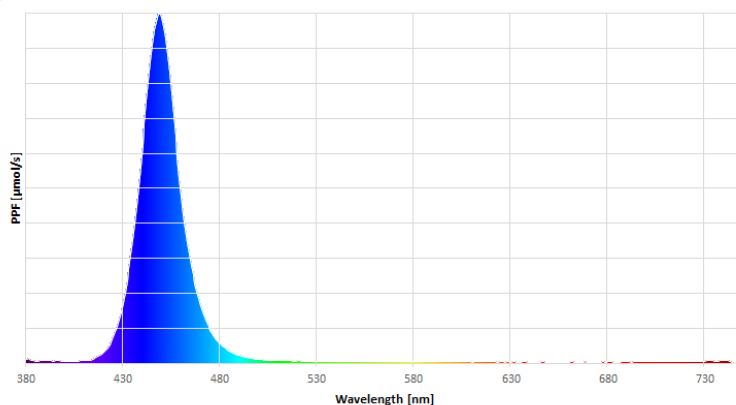
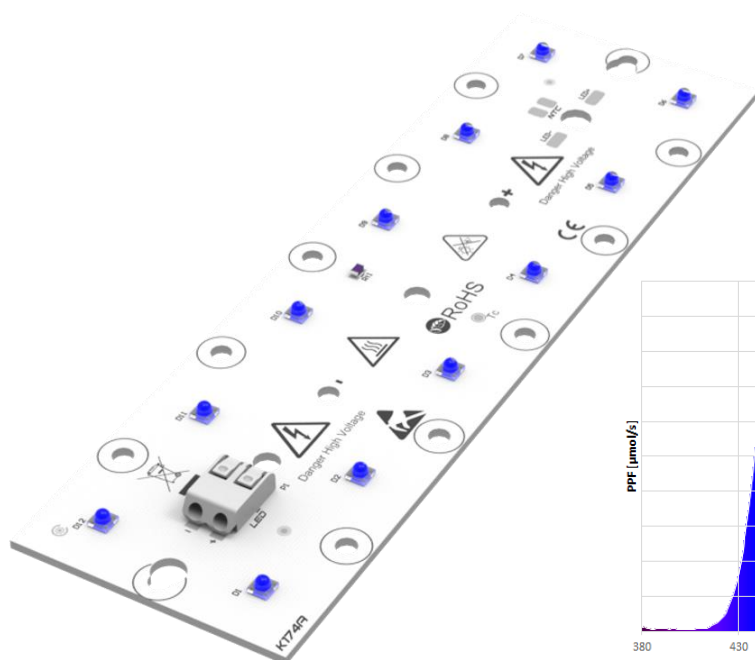
GROWEMITY 2x6 BBBB - K174

Name	GrowEmity 2x6 BBBB – K174
Deep Blue LED – 12 pcs	OSRAM - GD CSSPM1.14

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	λ [nm]	Radiant Power [mW]	PPF [$\mu\text{mol/s}$]	PPF/W [$\mu\text{mol/J}$]	Article Number
GrowEmity 2x6 BBBB-K174	350	34,2	12	DEEP BLUE	455	7620	28,20	2,36	LO-145044-BBBB-C1000-K174
	500	34,8	17,4	DEEP BLUE	455	10592	39,20	2,25	LO-145044-BBBB-C1000-K174
	700	35,6	24,9	DEEP BLUE	455	13106	48,50	1,94	LO-145044-BBBB-C1000-K174
	800	35,9	28,7	DEEP BLUE	455	14478	53,58	1,87	LO-145044-BBBB-C1000-K174

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%.



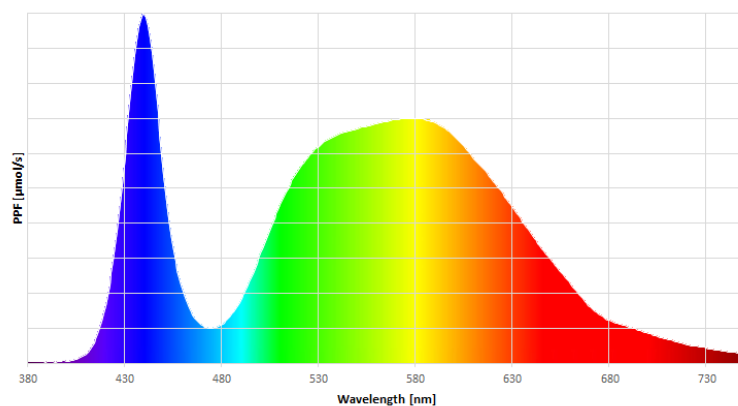
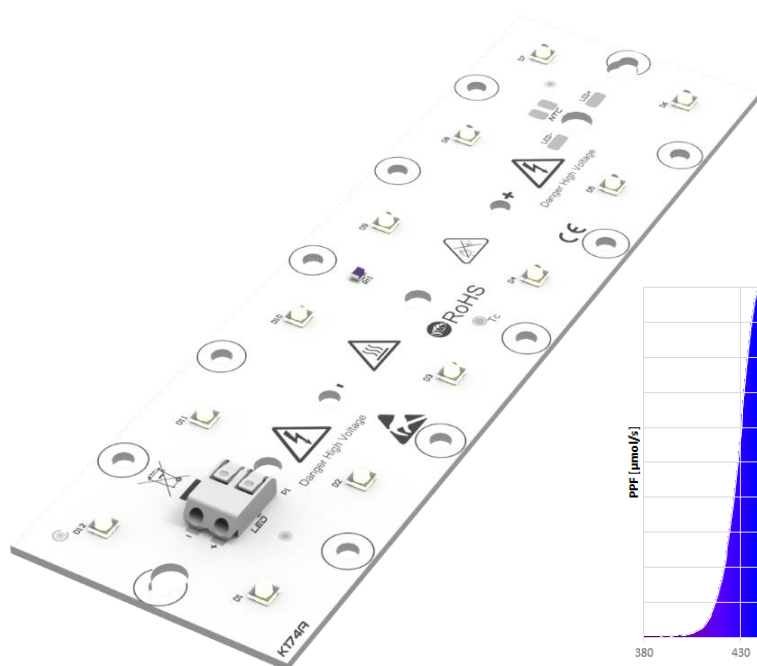
GROWEMITY 2x6 MONO - K174

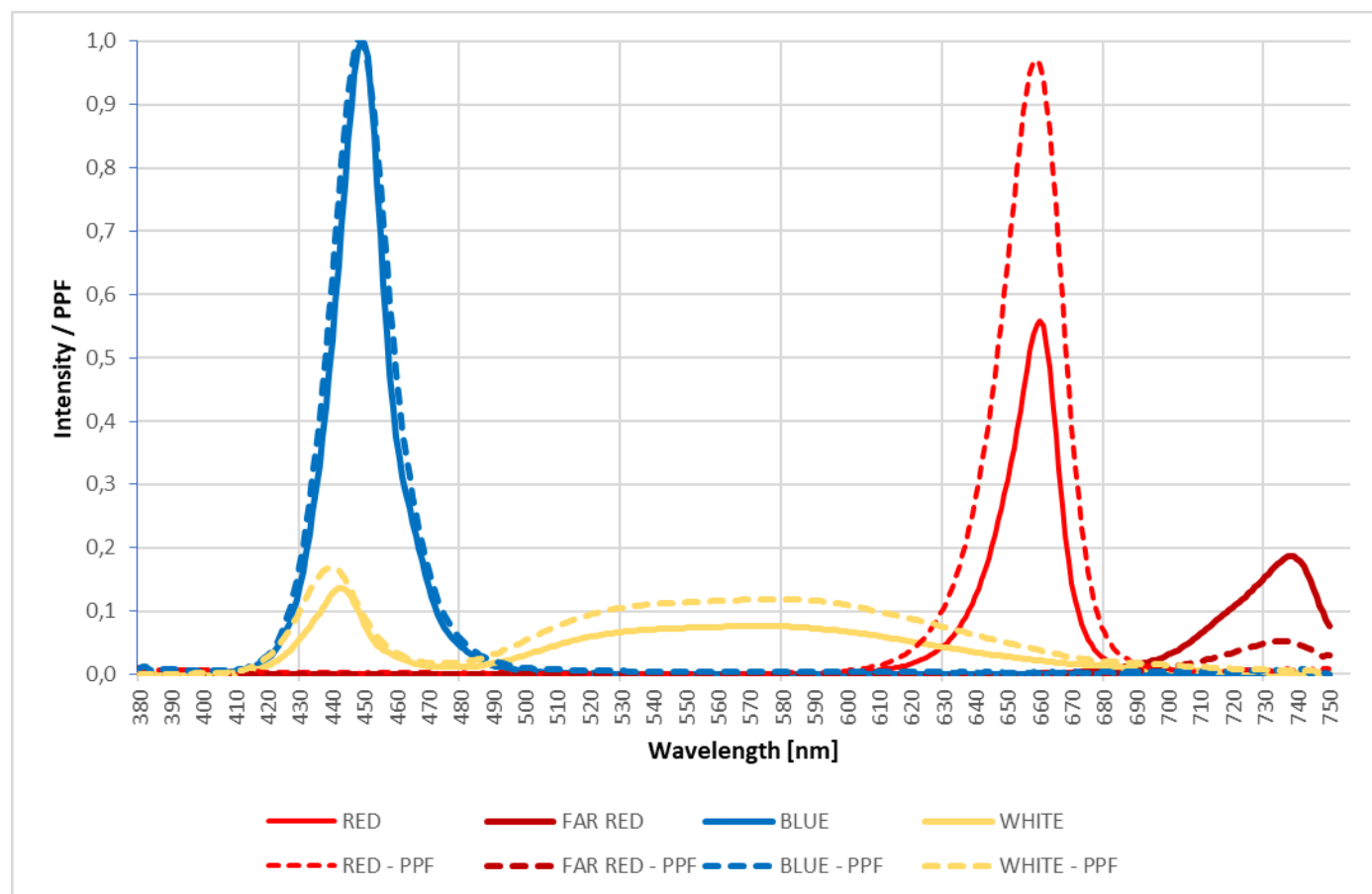
Name	GrowEmity 2x6 MONO – K174
White LED – 12 pcs	OSRAM - GW CSHPM1.PM

	Input Current [mA]	Forward Voltage [V]	Power [W]	Colour	CCT [K]	Luminous Flux [lm]	PPF [μmol/s]	PPF/W [μmol/J]	Article Number
Grow Emity 2x6 MONO-K174	350	33,0	11,6	WHITE	5000	1775	23,52	2,04	L0-145044-MONO-C1300-K174
	500	34,2	17,1	WHITE	5000	2431	31,44	1,84	L0-145044-MONO-C1300-K174
	700	35,4	24,8	WHITE	5000	3195	40,80	1,65	L0-145044-MONO-C1300-K174
	800	35,8	28,6	WHITE	5000	3514	44,88	1,57	L0-145044-MONO-C1300-K174

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 – K174 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

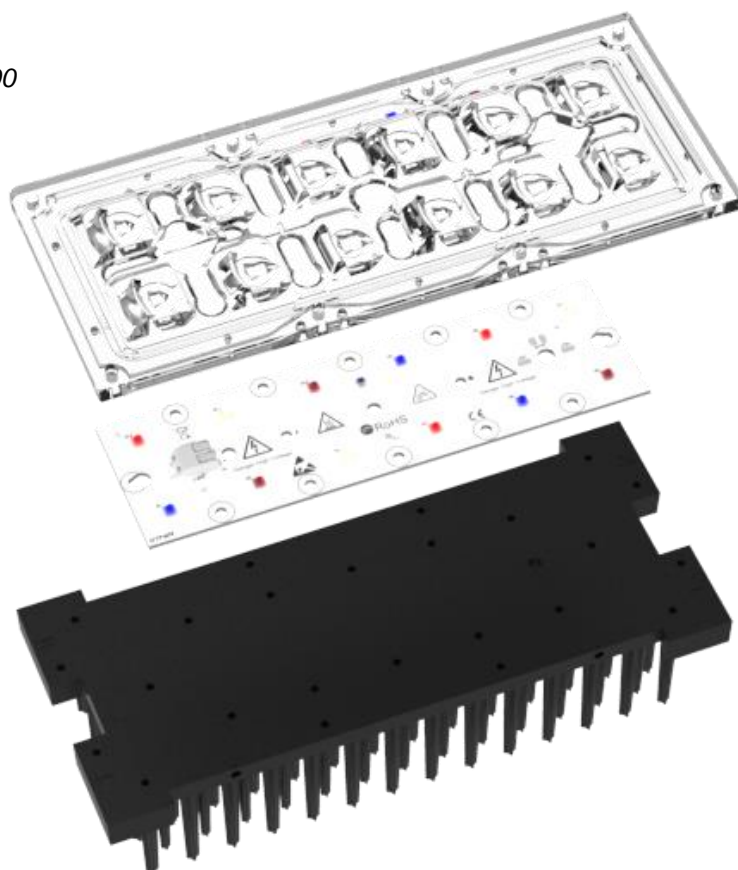
CS15020_STRADA-IP-2X6-VSM

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.

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Subject to errors and technical changes.