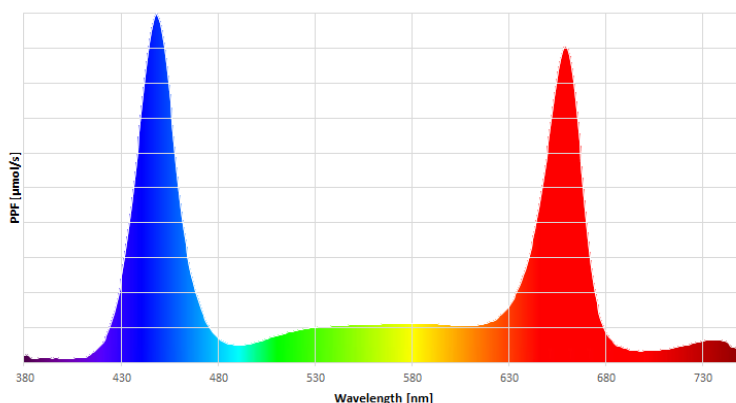
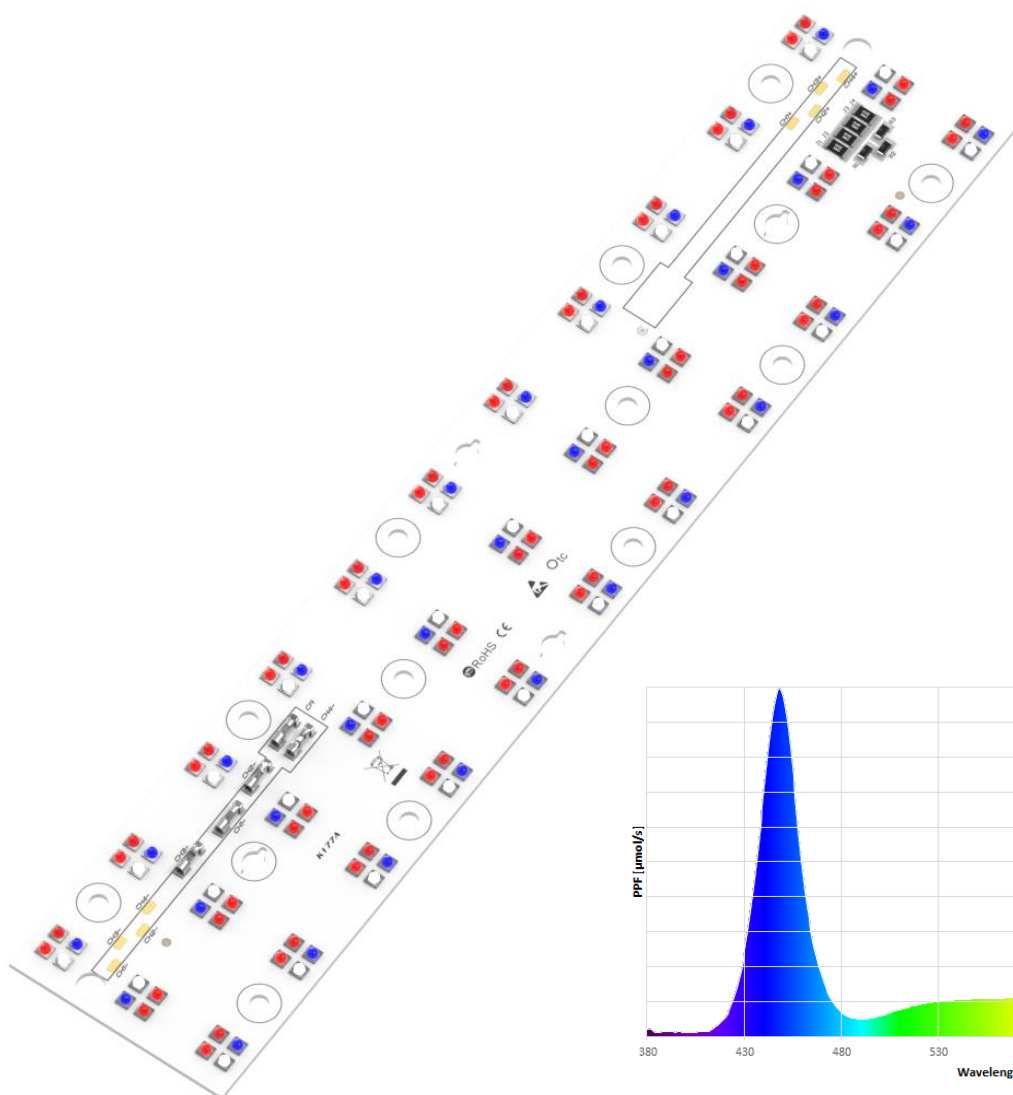


CEZOS

GrowEmity 3x11 - K177



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. LEDs are fully controllable, so it is possible to change the spectrum using different LEDs. This increases efficiency of horticulture and yields. Additionally, LEDs generate more light and less heat than sodium lamp, allow for lighting from side or bottom of plants. LED light sources are used in artificial plantation without daylight, so plants can be breed everywhere.

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

Name	GrowEmity 3x11 – K177
Size	278x53 mm
Power Supply Type	Constant Current (CC)
Number Of Channels	4
Power Supply Current	Max. 1000 mA / channel
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 3x11 RFBW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RFBW - K177	350	71,0	24,8	110,9	RED	657	14025	76,07	3,06	223,58	2,02	LO-278053-RFBW-C1000-K177
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	74,3	37,1	164,2	RED	657	19775	107,25	2,89	308,95	1,88	LO-278053-RFBW-C1000-K177
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	79,2	55,4	240,0	RED	657	26788	145,28	2,62	400,95	1,67	LO-278053-RFBW-C1000-K177
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	81,8	65,5	278,8	RED	657	30575	165,82	2,53	448,10	1,61	LO-278053-RFBW-C1000-K177
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,3	78,7		WHITE	5000	9664	123,42	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%.

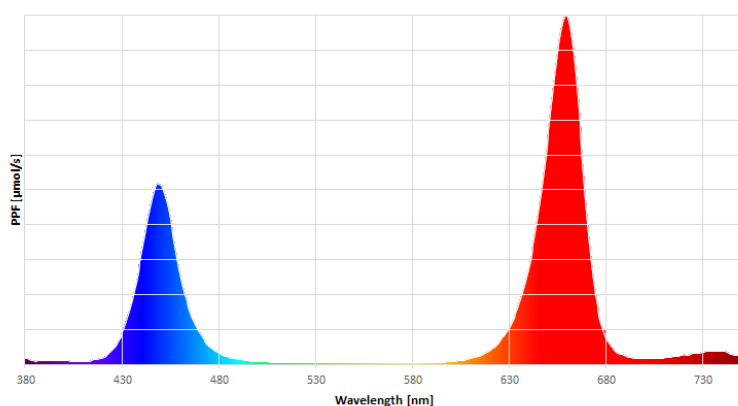
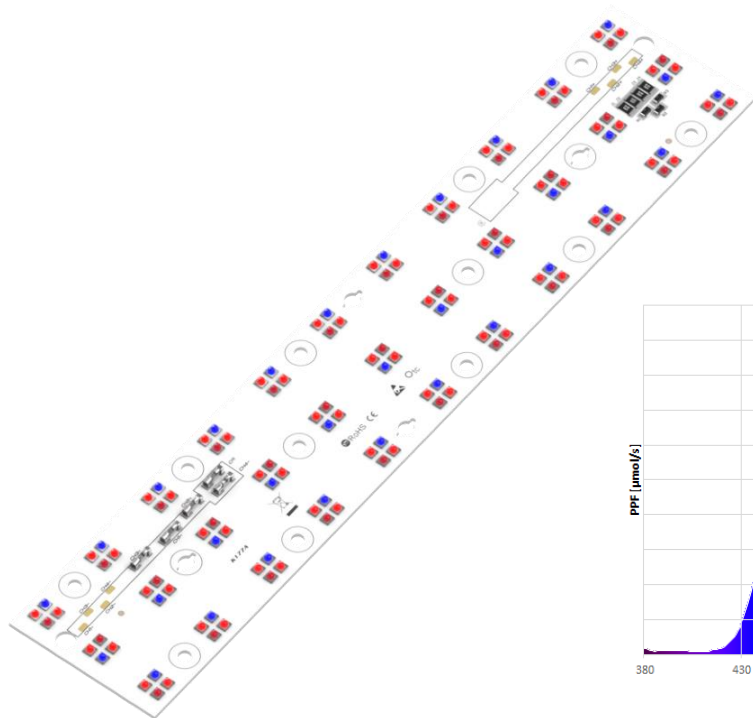
Different type of plants have different requirements for the best growth, so to maximized effect, GrowEmity light sources have many sets of LEDs configuration. Most commands LED types are: red, far red, hyper red, blue, deep blue and white with different colour temperature. Some examples are below.

GROWEMITY 3x11 RRFB - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RRFB - K177	350	71,0	24,8	104,0	RED	657	14025	76,07	3,06	234,96	2,26	LO-278053-RRFB-C1000-K177
		71,0	24,8		RED	657	14025	76,07	3,06			
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
	500	74,3	37,1	154,3	RED	657	19775	107,25	2,89	329,74	2,14	LO-278053-RRFB-C1000-K177
		74,3	37,1		RED	657	19775	107,25	2,89			
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
	700	79,2	55,4	227,3	RED	657	26788	145,28	2,62	434,04	1,91	LO-278053-RRFB-C1000-K177
		79,2	55,4		RED	657	26788	145,28	2,62			
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
	800	81,8	65,5	265,6	RED	657	30575	165,82	2,53	490,50	1,85	LO-278053-RRFB-C1000-K177
		81,8	65,5		RED	657	30575	165,82	2,53			
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		98,7	78,9		DEEP BLUE	455	39815	147,35	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%.



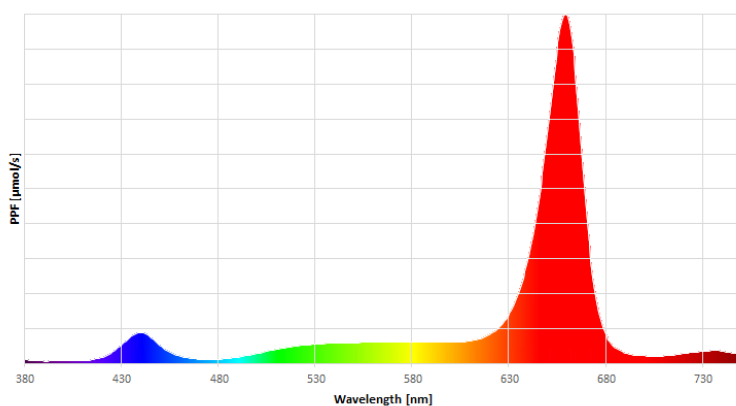
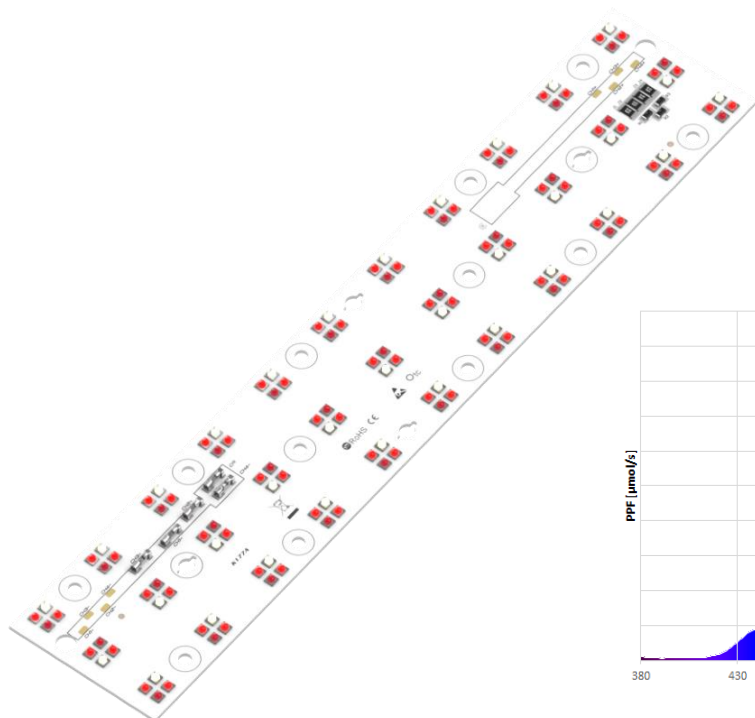
GROWEMITY 3x11 RRFW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RRFW - K177	350	71,0	24,8	102,8	RED	657	14025	76,07	3,06	222,09	2,16	L0-278053-RRFW-C1000-K177
		71,0	24,8		RED	657	14025	76,07	3,06			
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	74,3	37,1	153,5	RED	657	19775	107,25	2,89	308,41	2,01	L0-278053-RRFW-C1000-K177
		74,3	37,1		RED	657	19775	107,25	2,89			
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	79,2	55,4	226,8	RED	657	26788	145,28	2,62	412,85	1,82	L0-278053-RRFW-C1000-K177
		79,2	55,4		RED	657	26788	145,28	2,62			
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	81,8	65,5	265,3	RED	657	30575	165,82	2,53	466,57	1,76	L0-278053-RRFW-C1000-K177
		81,8	65,5		RED	657	30575	165,82	2,53			
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		98,3	78,7		WHITE	5000	9664	123,42	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%.



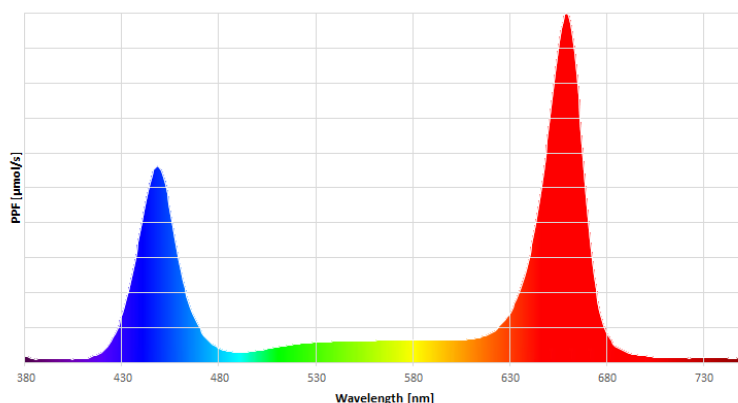
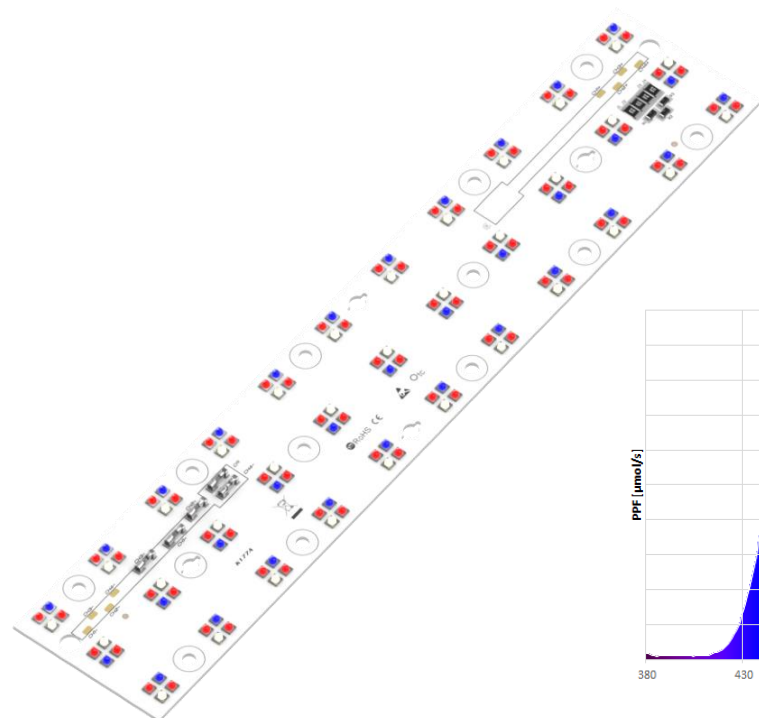
GROWEMITY 3x11 RRBW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Power [W]	Colour	λ [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 3x11 RRBW - K177	350	71,0	24,8	114,3	RED	657	14025	76,07	3,06	294,36	2,57	LO-278053-RRBW-C1000-K177
		71,0	24,8		RED	657	14025	76,07	3,06			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	74,3	37,1	169,1	RED	657	19775	107,25	2,89	408,76	2,42	LO-278053-RRBW-C1000-K177
		74,3	37,1		RED	657	19775	107,25	2,89			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	79,2	55,4	247,6	RED	657	26788	145,28	2,62	536,15	2,17	LO-278053-RRBW-C1000-K177
		79,2	55,4		RED	657	26788	145,28	2,62			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	81,8	65,5	288,6	RED	657	30575	165,82	2,53	602,41	2,09	LO-278053-RRBW-C1000-K177
		81,8	65,5		RED	657	30575	165,82	2,53			
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,3	78,7		WHITE	5000	9664	123,42	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%.

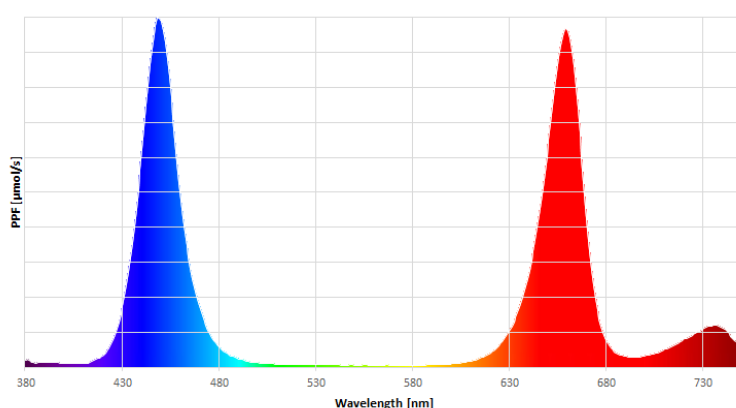
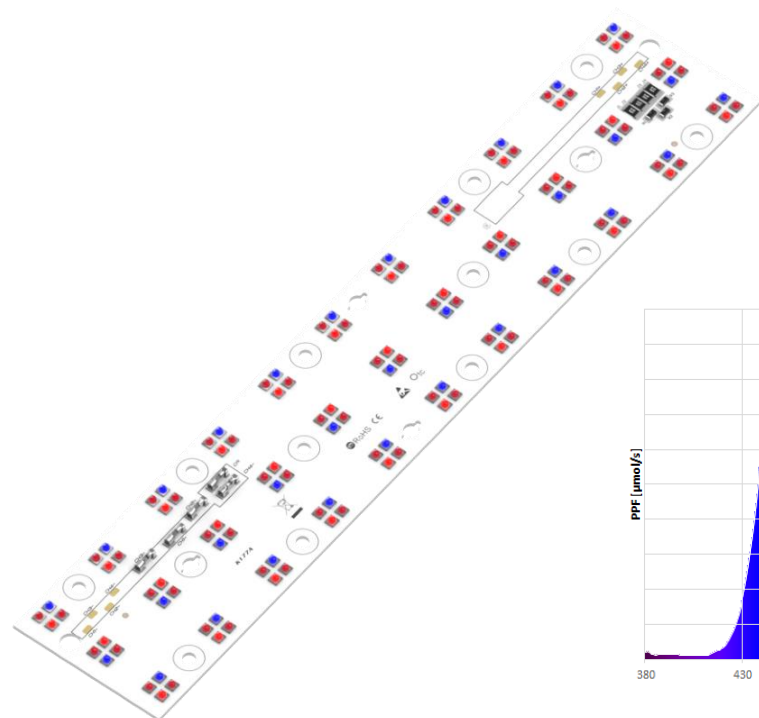


GROWEMITY 3x11 RFFB - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RFFB - K177	350	71,0	24,8	100,485	RED	657	14025	76,07	3,06	164,18	1,63	LO-278053-RFFB-C1000-K177
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
	500	74,3	37,1	149,3	RED	657	19775	107,25	2,89	229,94	1,54	LO-278053-RFFB-C1000-K177
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
	700	79,2	55,4	219,7	RED	657	26788	145,28	2,62	298,84	1,36	LO-278053-RFFB-C1000-K177
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
	800	81,8	65,5	255,8	RED	657	30575	165,82	2,53	336,19	1,31	LO-278053-RFFB-C1000-K177
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		98,7	78,9		DEEP BLUE	455	39815	147,35	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%.



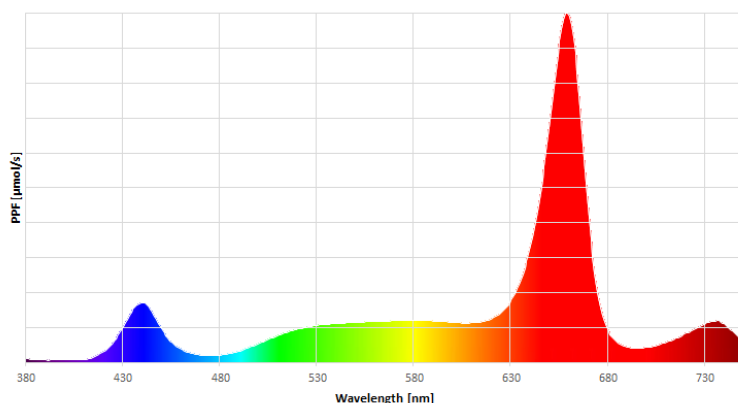
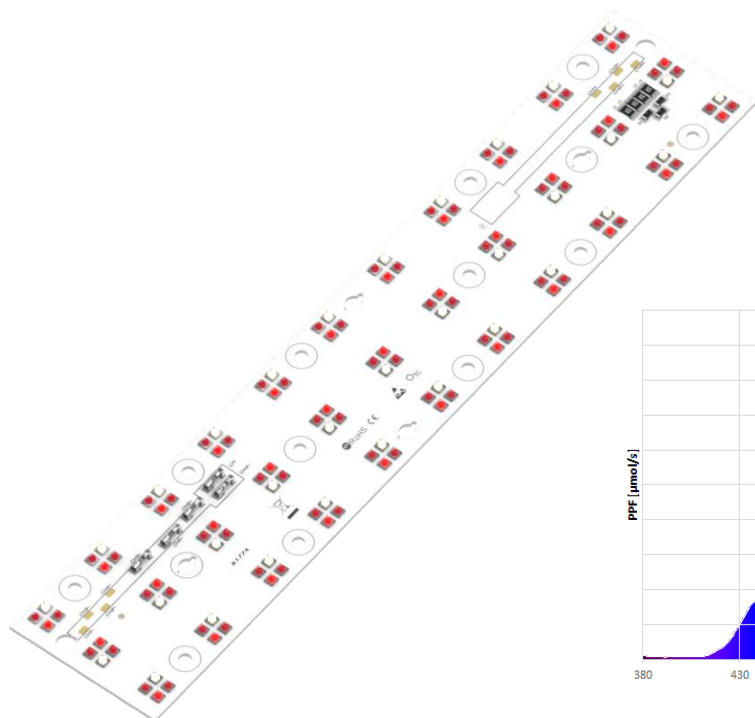
GROWEMITY 3x11 RFFW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RFFW - K177	350	71,0	24,8	99,3	RED	657	14025	76,07	3,06	151,31	1,52	L0-278053-RFFW-C1000-K177
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	74,3	37,1	148,5	RED	657	19775	107,25	2,89	208,60	1,40	L0-278053-RFFW-C1000-K177
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	79,2	55,4	219,2	RED	657	26788	145,28	2,62	277,65	1,27	L0-278053-RFFW-C1000-K177
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	81,8	65,5	255,6	RED	657	30575	165,82	2,53	312,26	1,22	L0-278053-RFFW-C1000-K177
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		98,3	78,7		WHITE	5000	9664	123,42	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%.



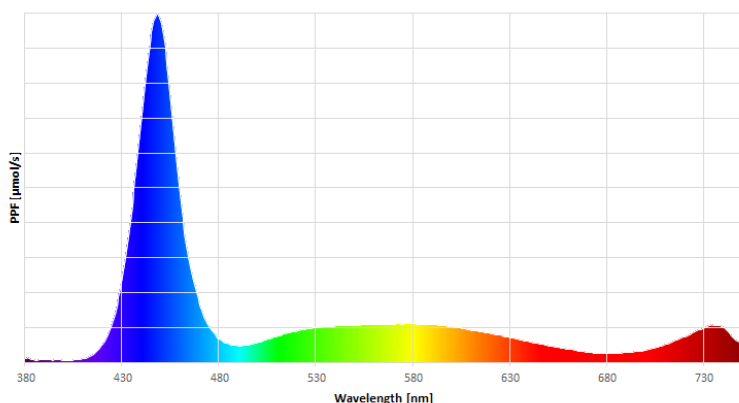
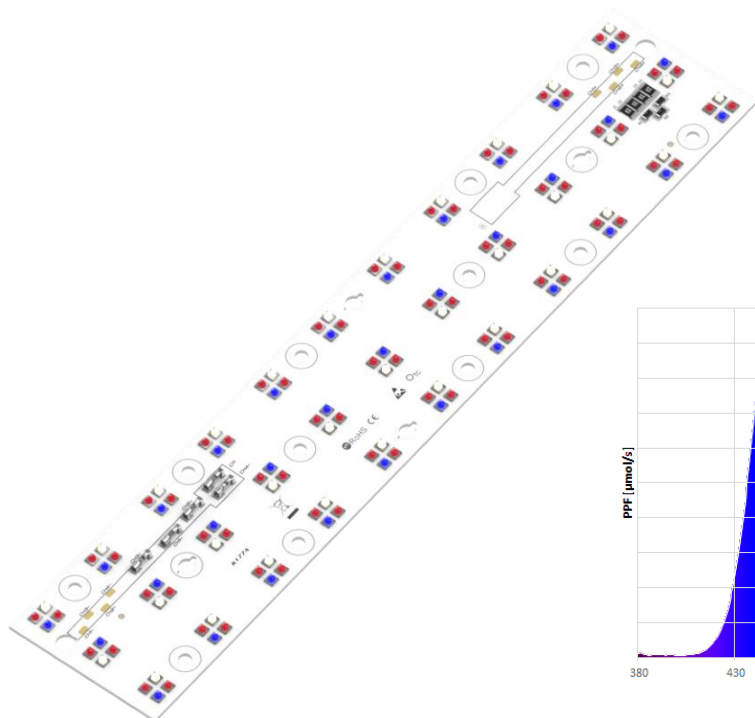
GROWEMITY 3x11 FFBW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 FFBW - K177	350	61,1	21,4	107,4	FAR RED	727	8745	5,28	0,25	152,79	1,42	L0-278053-FFBW-C1000-K177
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	64,4	32,2	159,2	FAR RED	727	12330	7,44	0,23	209,14	1,31	L0-278053-FFBW-C1000-K177
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	68,3	47,8	232,4	FAR RED	727	16703	10,08	0,21	265,76	1,14	L0-278053-FFBW-C1000-K177
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	69,6	55,7	269,0	FAR RED	727	19064	11,51	0,21	293,79	1,09	L0-278053-FFBW-C1000-K177
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,3	78,7		WHITE	5000	9664	123,42	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%.

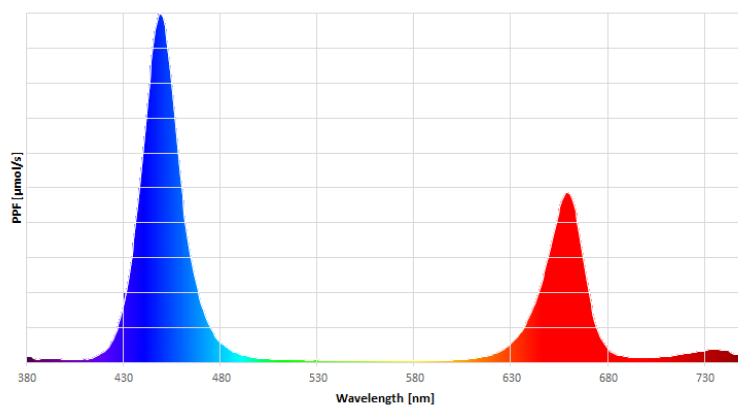
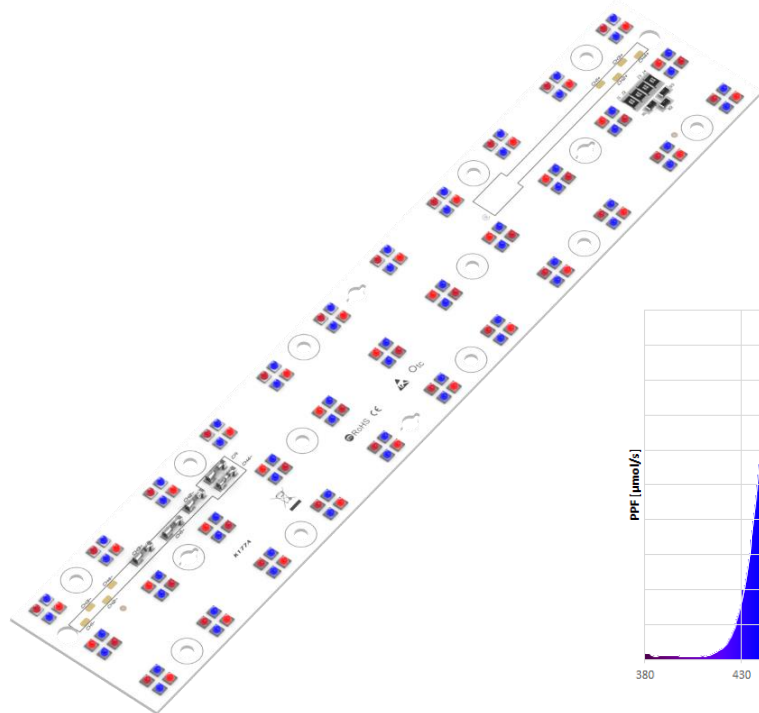


GROWEMITY 3x11 RFBB - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RFBB - K177	350	71,0	24,8	112,0	RED	657	14025	76,07	3,06	236,45	2,11	LO-278053-RFBB-C1000-K177
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
	500	74,3	37,1	165,0	RED	657	19775	107,25	2,89	330,29	2,00	LO-278053-RFBB-C1000-K177
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
	700	79,2	55,4	240,5	RED	657	26788	145,28	2,62	422,14	1,76	LO-278053-RFBB-C1000-K177
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
	800	81,8	65,5	279,0	RED	657	30575	165,82	2,53	472,02	1,69	LO-278053-RFBB-C1000-K177
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,7	78,9		DEEP BLUE	455	39815	147,35	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%.



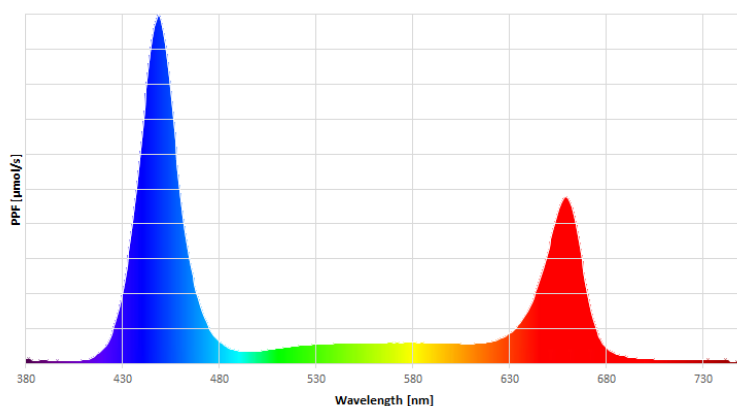
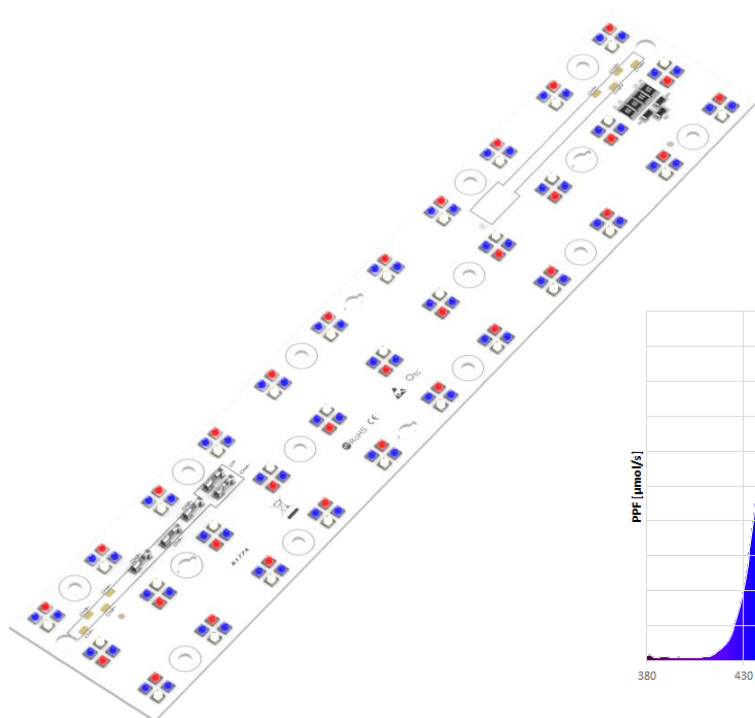
GROWEMITY 3x11 RBBW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RBBW - K177	350	71,0	24,8	122,4	RED	657	14025	76,07	3,06	295,85	2,42	LO-278053-RBBW-C1000-K177
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	74,3	37,1	179,9	RED	657	19775	107,25	2,89	409,30	2,28	LO-278053-RBBW-C1000-K177
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	79,2	55,4	260,8	RED	657	26788	145,28	2,62	524,26	2,01	LO-278053-RBBW-C1000-K177
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	81,8	65,5	302,0	RED	657	30575	165,82	2,53	583,93	1,93	LO-278053-RBBW-C1000-K177
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,3	78,7		WHITE	5000	9664	123,42	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%.



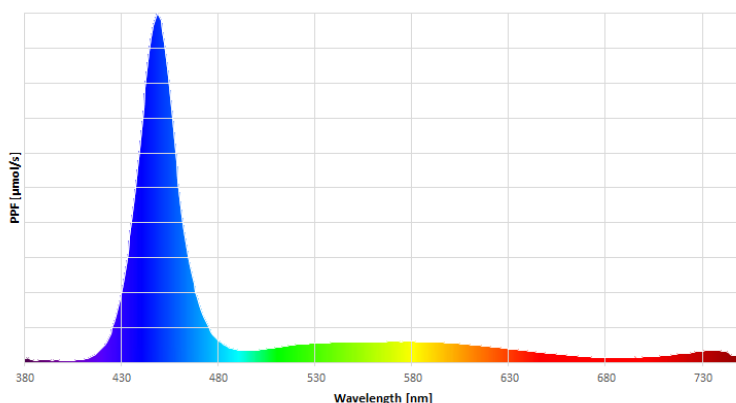
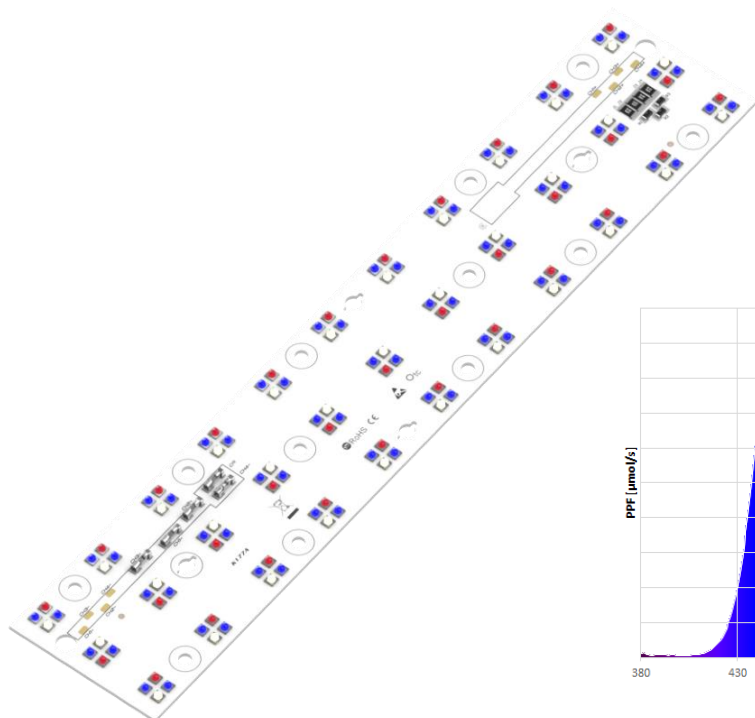
GROWEMITY 3x11 FBBW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 FBBW - K177	350	61,1	21,4	119,0	FAR RED	727	8745	5,28	0,25	225,06	1,89	LO-278053-FBBW-C1000-K177
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	64,4	32,2	174,9	FAR RED	727	12330	7,44	0,23	309,49	1,77	LO-278053-FBBW-C1000-K177
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	68,3	47,8	253,2	FAR RED	727	16703	10,08	0,21	389,06	1,54	LO-278053-FBBW-C1000-K177
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	69,6	55,7	292,2	FAR RED	727	19064	11,51	0,21	429,62	1,47	LO-278053-FBBW-C1000-K177
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,3	78,7		WHITE	5000	9664	123,42	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%.



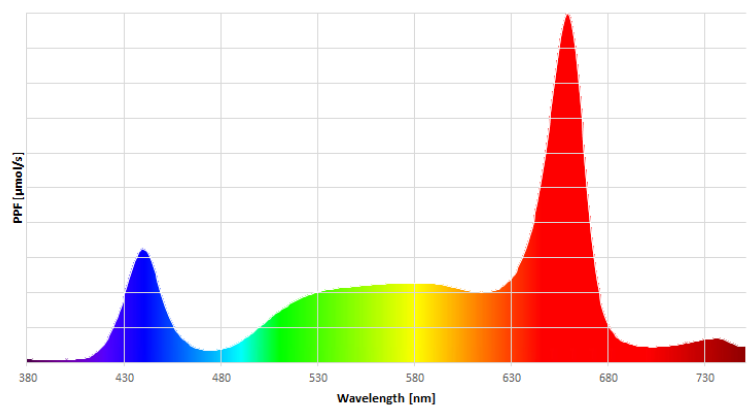
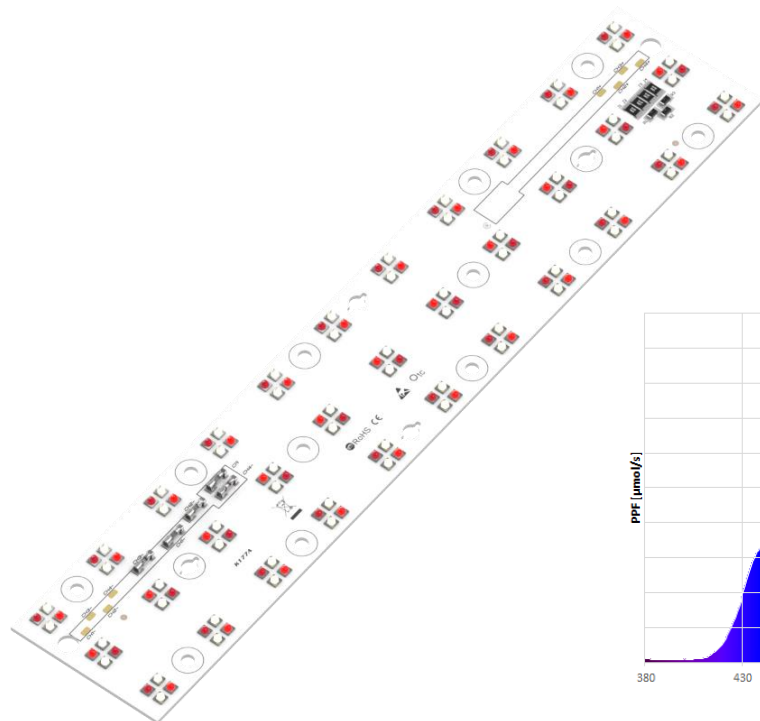
GROWEMITY 3x11 RFWW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RFWW - K177	350	71,0	24,8	109,7	RED	657	14025	76,07	3,06	210,71	1,92	LO-278053-RFWW-C1000-K177
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	74,3	37,1	163,4	RED	657	19775	107,25	2,89	287,62	1,76	LO-278053-RFWW-C1000-K177
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	79,2	55,4	239,5	RED	657	26788	145,28	2,62	379,77	1,59	LO-278053-RFWW-C1000-K177
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	81,8	65,5	278,5	RED	657	30575	165,82	2,53	424,17	1,52	LO-278053-RFWW-C1000-K177
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		98,3	78,7		WHITE	5000	9664	123,42	1,57			
		98,3	78,7		WHITE	5000	9664	123,42	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%.



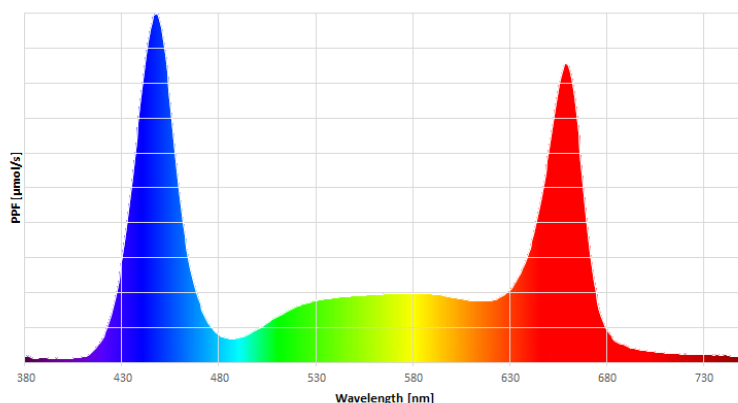
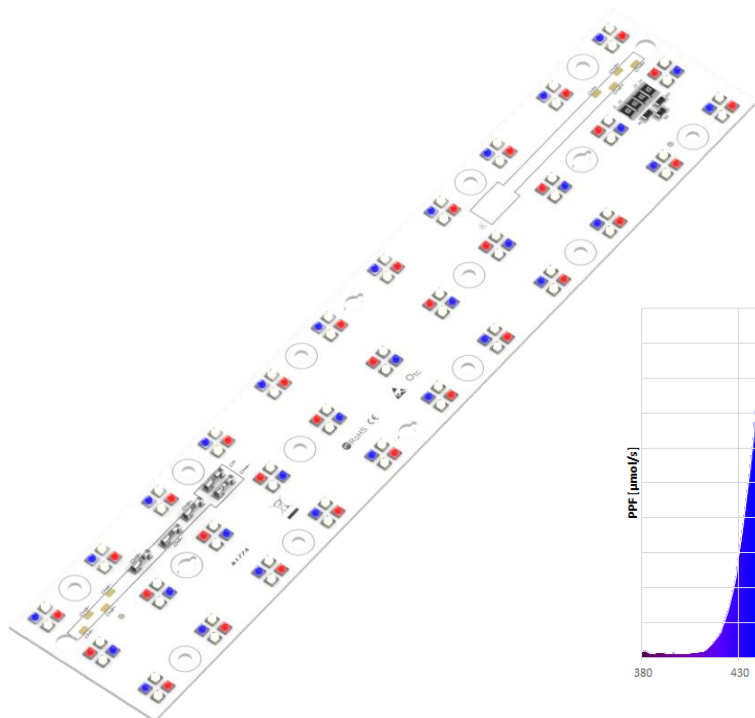
GROWEMITY 3x11 RBWW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RBWW - K177	350	71,0	24,8	121,3	RED	657	14025	76,07	3,06	282,98	2,33	LO-278053-RBWW-C1000-K177
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	74,3	37,1	179,0	RED	657	19775	107,25	2,89	387,97	2,17	LO-278053-RBWW-C1000-K177
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	79,2	55,4	260,3	RED	657	26788	145,28	2,62	503,07	1,93	LO-278053-RBWW-C1000-K177
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	81,8	65,5	301,8	RED	657	30575	165,82	2,53	560,01	1,86	LO-278053-RBWW-C1000-K177
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,3	78,7		WHITE	5000	9664	123,42	1,57			
		98,3	78,7		WHITE	5000	9664	123,42	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%.



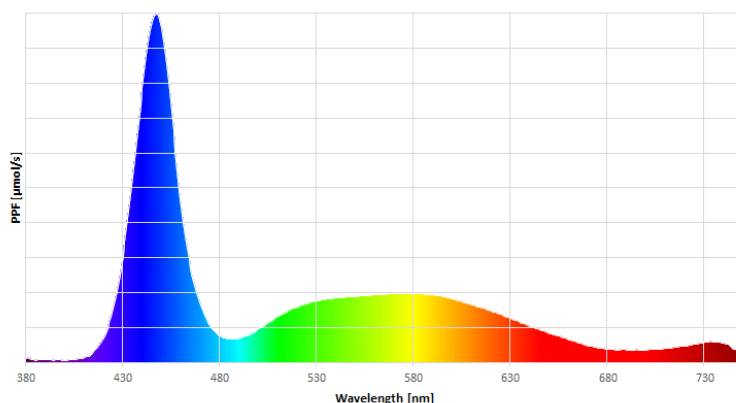
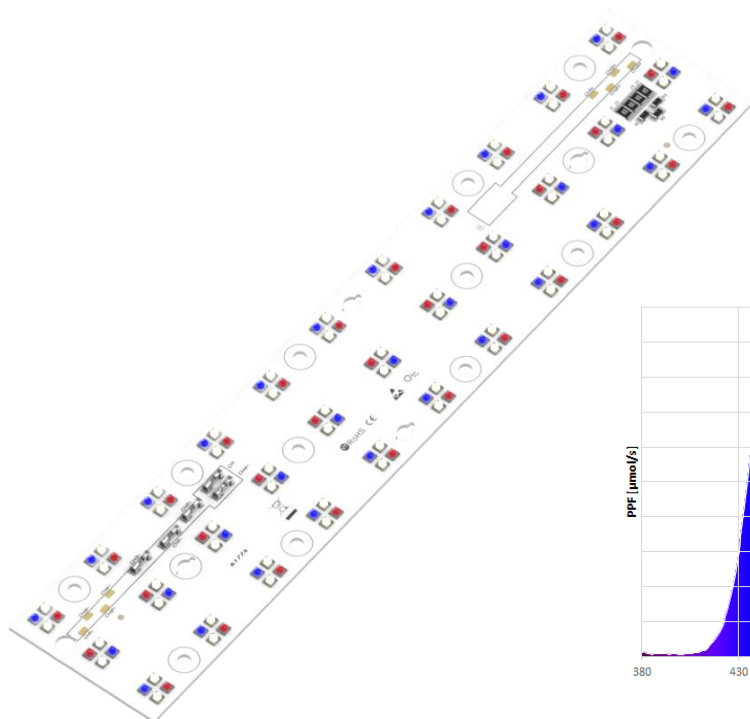
GROWEMITY 3x11 FBWW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 FBWW - K177	350	61,1	21,4	117,8	FAR RED	727	8745	5,28	0,25	212,19	1,80	LO-278053-FBWW-C1000-K177
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	64,4	32,2	174,1	FAR RED	727	12330	7,44	0,23	288,16	1,66	LO-278053-FBWW-C1000-K177
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	68,3	47,8	252,7	FAR RED	727	16703	10,08	0,21	367,87	1,46	LO-278053-FBWW-C1000-K177
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	69,6	55,7	292,0	FAR RED	727	19064	11,51	0,21	405,70	1,39	LO-278053-FBWW-C1000-K177
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,3	78,7		WHITE	5000	9664	123,42	1,57			
		98,3	78,7		WHITE	5000	9664	123,42	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%.

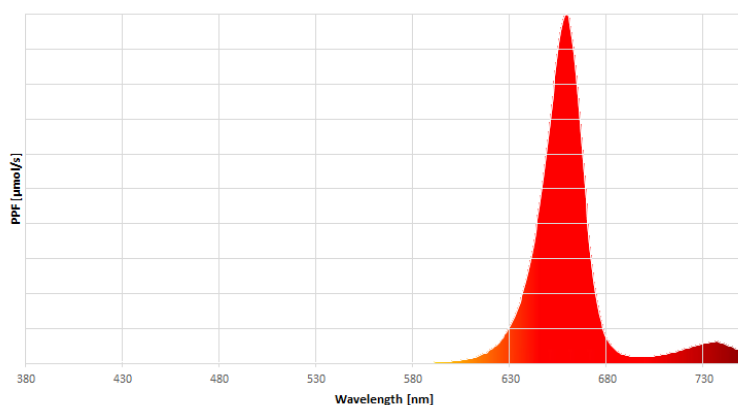
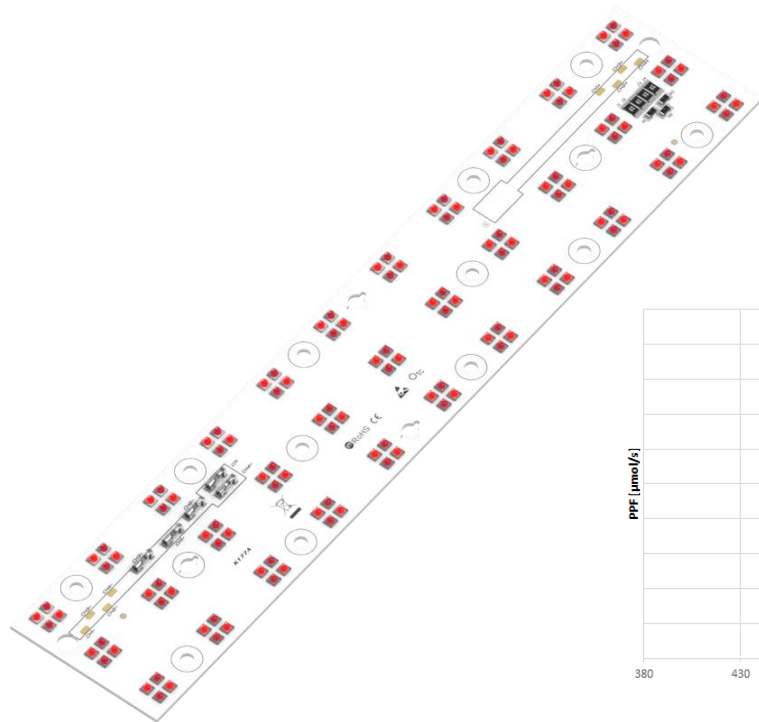


GROWEMITY 3X11 RRFF - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RRFF - K177	350	71,0	24,8	92,4	RED	657	14025	76,07	3,06	162,69	1,76	LO-278053-RRFF-C1000-K177
		71,0	24,8		RED	657	14025	76,07	3,06			
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
	500	74,3	37,1	138,6	RED	657	19775	107,25	2,89	229,39	1,66	LO-278053-RRFF-C1000-K177
		74,3	37,1		RED	657	19775	107,25	2,89			
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
	700	79,2	55,4	206,5	RED	657	26788	145,28	2,62	310,74	1,50	LO-278053-RRFF-C1000-K177
		79,2	55,4		RED	657	26788	145,28	2,62			
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
	800	81,8	65,5	242,4	RED	657	30575	165,82	2,53	354,66	1,46	LO-278053-RRFF-C1000-K177
		81,8	65,5		RED	657	30575	165,82	2,53			
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		69,6	55,7		FAR RED	727	19064	11,51	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%.

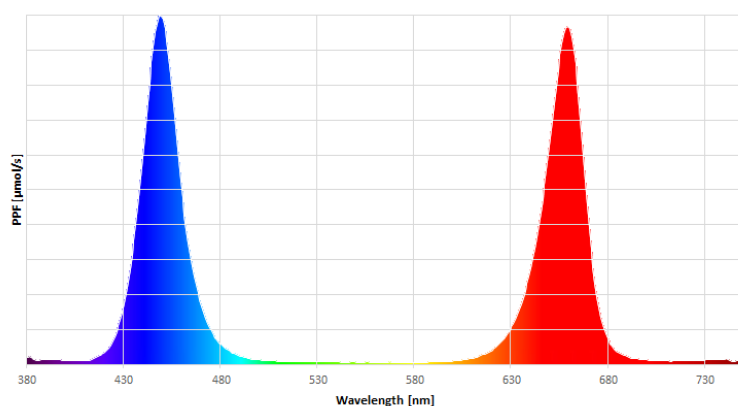
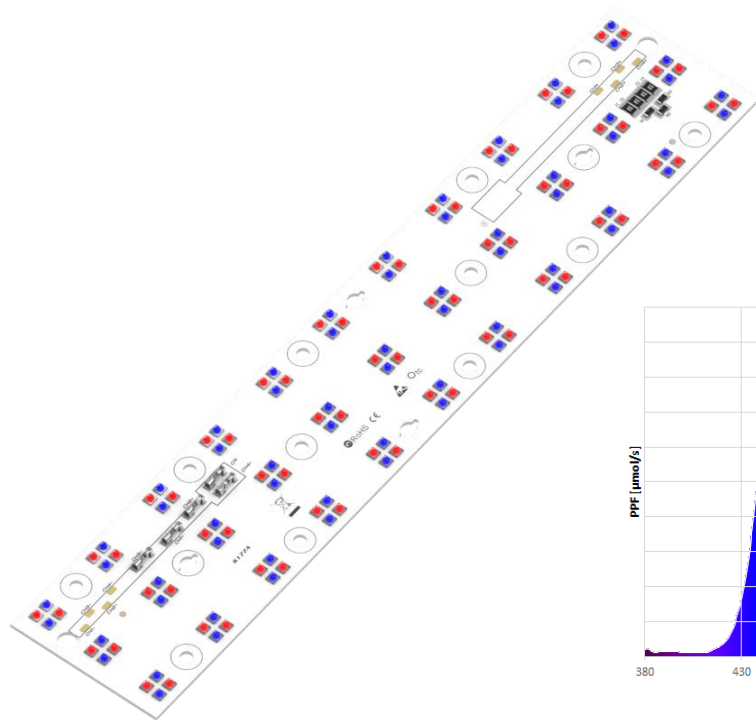


GROWEMITY 3x11 RRBB - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RRBB - K177	350	71,0	24,8	115,5	RED	657	14025	76,07	3,06	307,23	2,66	L0-278053-RRBB-C1000-K177
		71,0	24,8		RED	657	14025	76,07	3,06			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
	500	74,3	37,1	170,0	RED	657	19775	107,25	2,89	430,09	2,53	L0-278053-RRBB-C1000-K177
		74,3	37,1		RED	657	19775	107,25	2,89			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
	700	79,2	55,4	248,1	RED	657	26788	145,28	2,62	557,34	2,25	L0-278053-RRBB-C1000-K177
		79,2	55,4		RED	657	26788	145,28	2,62			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
	800	81,8	65,5	288,8	RED	657	30575	165,82	2,53	626,33	2,17	L0-278053-RRBB-C1000-K177
		81,8	65,5		RED	657	30575	165,82	2,53			
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,7	78,9		DEEP BLUE	455	39815	147,35	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%.



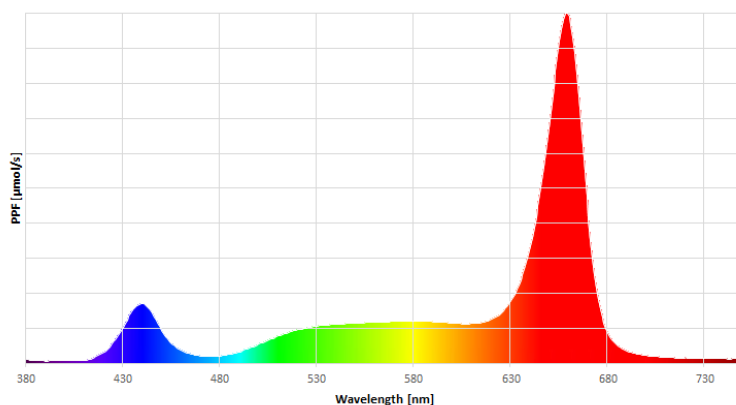
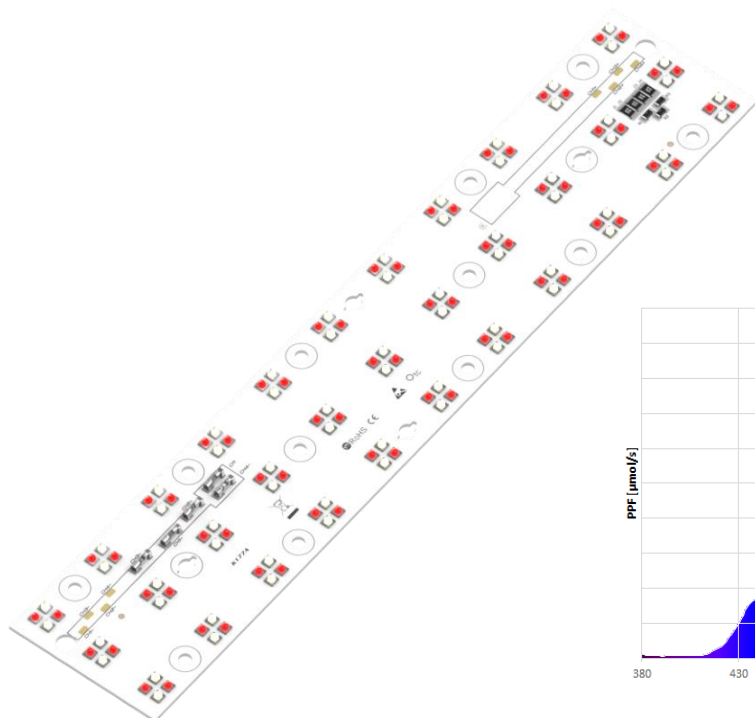
GROWEMITY 3x11 RRWW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RRWW - K177	350	71,0	24,8	113,2	RED	657	14025	76,07	3,06	281,49	2,49	LO-278053-RRWW-C1000-K177
		71,0	24,8		RED	657	14025	76,07	3,06			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	74,3	37,1	168,3	RED	657	19775	107,25	2,89	387,42	2,30	LO-278053-RRWW-C1000-K177
		74,3	37,1		RED	657	19775	107,25	2,89			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	79,2	55,4	247,2	RED	657	26788	145,28	2,62	514,97	2,08	LO-278053-RRWW-C1000-K177
		79,2	55,4		RED	657	26788	145,28	2,62			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	81,8	65,5	288,3	RED	657	30575	165,82	2,53	578,48	2,01	LO-278053-RRWW-C1000-K177
		81,8	65,5		RED	657	30575	165,82	2,53			
		98,3	78,7		WHITE	5000	9664	123,42	1,57			
		98,3	78,7		WHITE	5000	9664	123,42	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%.

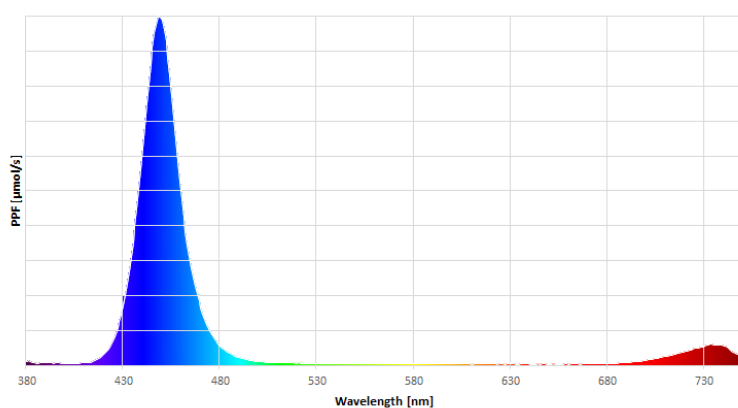
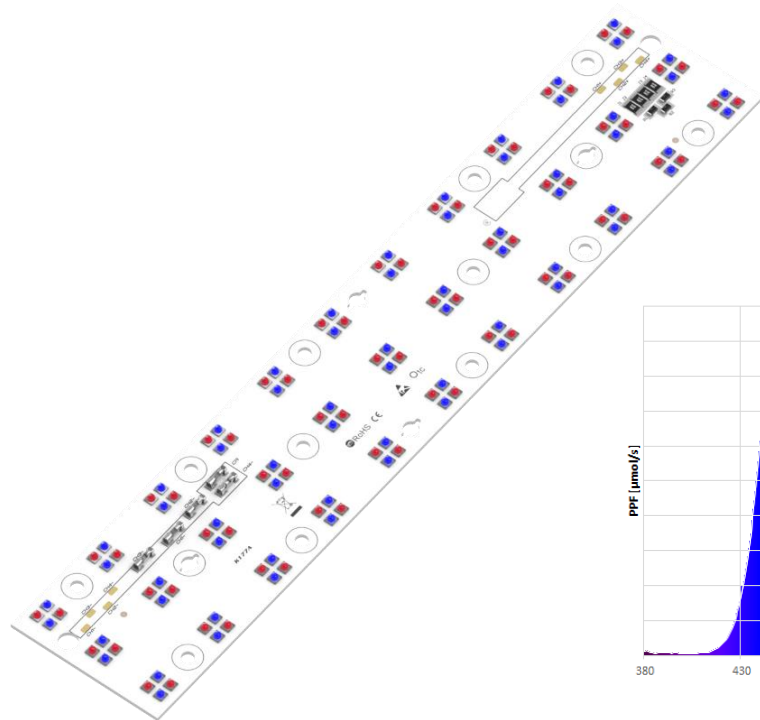


GROWEMITY 3x11 FFBB - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 FFBB - K177	350	61,1	21,4	108,6	FAR RED	727	8745	5,28	0,25	165,66	1,53	LO-278053-FFBB-C1000-K177
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
	500	64,4	32,2	160,1	FAR RED	727	12330	7,44	0,23	230,48	1,44	LO-278053-FFBB-C1000-K177
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
	700	68,3	47,8	232,8	FAR RED	727	16703	10,08	0,21	286,94	1,23	LO-278053-FFBB-C1000-K177
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
	800	69,6	55,7	269,3	FAR RED	727	19064	11,51	0,21	317,71	1,18	LO-278053-FFBB-C1000-K177
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,7	78,9		DEEP BLUE	455	39815	147,35	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%.



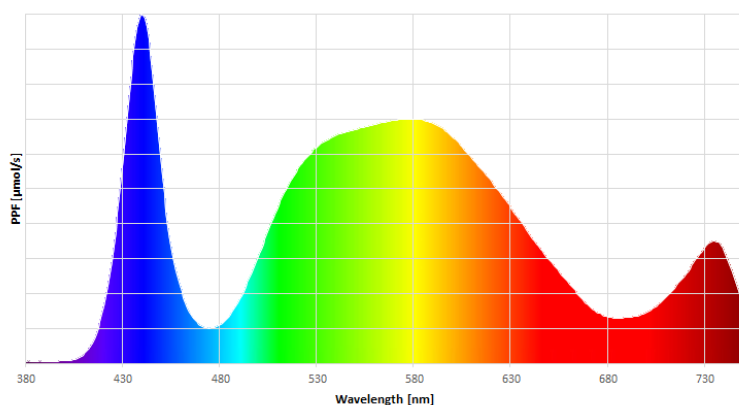
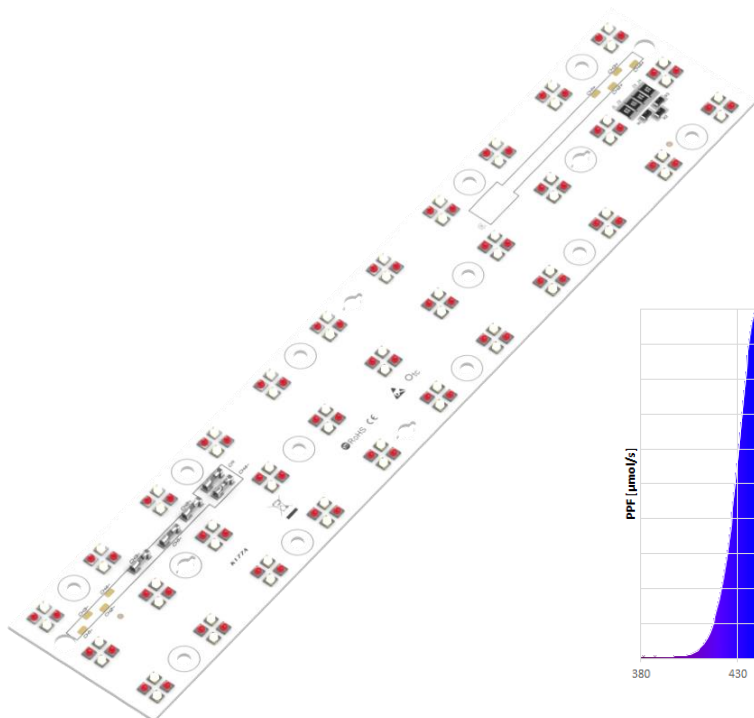
GROWEMITY 3x11 FFWW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 FFWW - K177	350	61,1	21,4	106,3	FAR RED	727	8745	5,28	0,25	297,33	2,80	L0-278053-FFWW-C1000-K177
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	64,4	32,2	158,4	FAR RED	727	12330	7,44	0,23	409,84	2,59	L0-278053-FFWW-C1000-K177
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	68,3	47,8	231,9	FAR RED	727	16703	10,08	0,21	512,36	2,21	L0-278053-FFWW-C1000-K177
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	69,6	55,7	268,8	FAR RED	727	19064	11,51	0,21	565,46	2,10	L0-278053-FFWW-C1000-K177
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		98,3	78,7		WHITE	5000	9664	123,42	1,57			
		98,3	78,7		WHITE	5000	9664	123,42	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%.



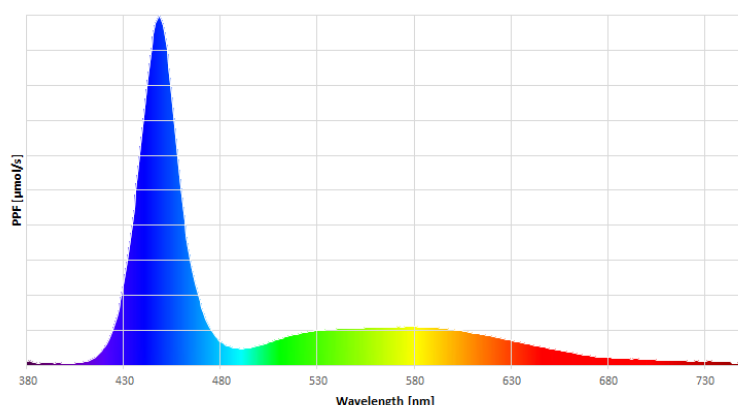
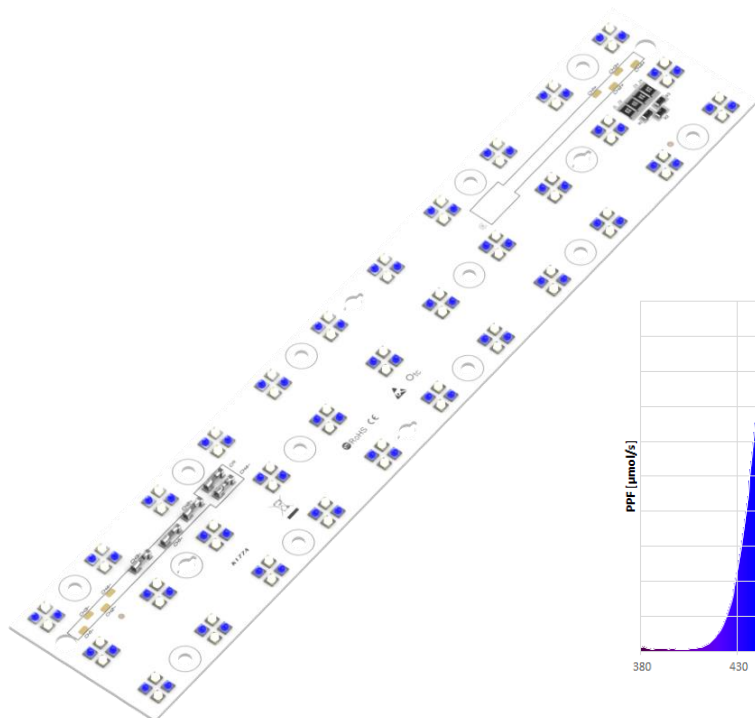
GROWEMITY 3x11 BBWW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 BBWW - K177	350	94,1	32,9	129,4	DEEP BLUE	455	20955	77,55	2,36	284,46	2,20	LO-278053-BBWW-C1000-K177
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	95,7	47,9	189,8	DEEP BLUE	455	29127	107,79	2,25	388,51	2,05	LO-278053-BBWW-C1000-K177
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	98,0	68,6	273,5	DEEP BLUE	455	36043	133,39	1,94	491,17	1,80	LO-278053-BBWW-C1000-K177
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
		97,4	0,0		WHITE	5000	8785	112,20	1,65			
	800	98,7	78,9	315,2	DEEP BLUE	455	39815	147,35	1,87	541,53	1,72	LO-278053-BBWW-C1000-K177
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,3	78,7		WHITE	5000	9664	123,42	1,57			
		98,3	78,7		WHITE	5000	9664	123,42	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%.

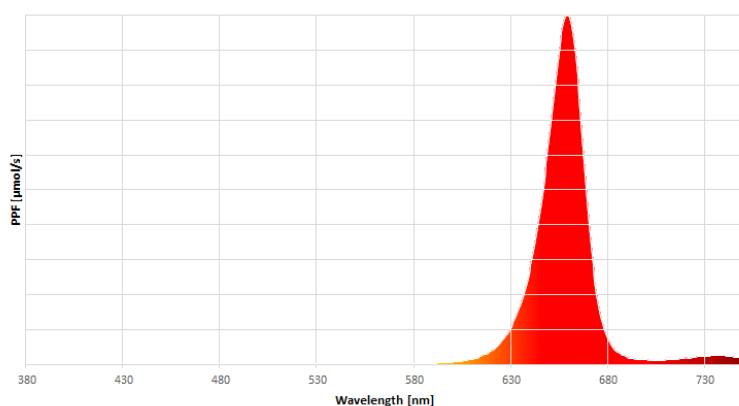
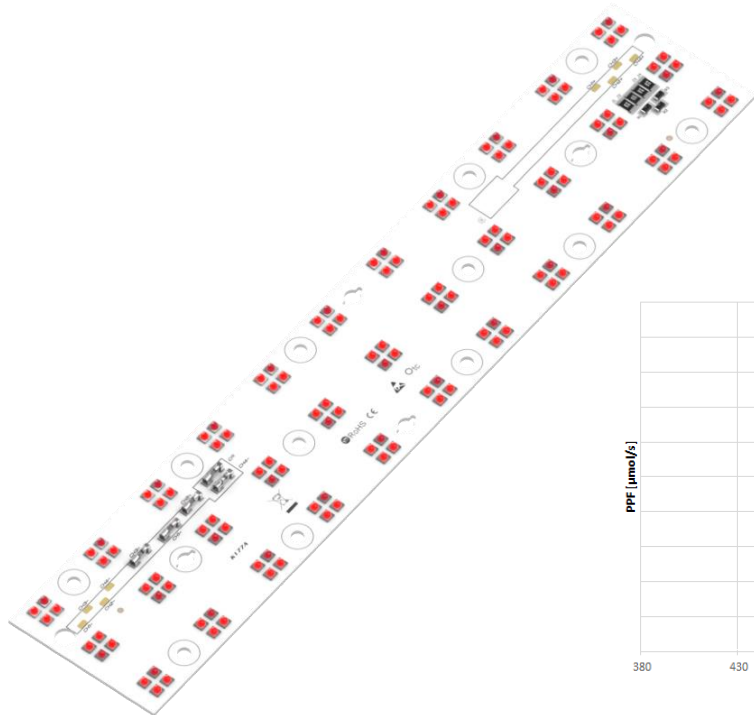


GROWEMITY 3x11 RRRF - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RRRF - K177	350	71,0	24,8	95,9	RED	657	14025	76,07	3,06	233,48	2,44	LO-278053-RRRF-C1000-K177
		71,0	24,8		RED	657	14025	76,07	3,06			
		71,0	24,8		RED	657	14025	76,07	3,06			
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
	500	74,3	37,1	143,6	RED	657	19775	107,25	2,89	329,20	2,29	LO-278053-RRRF-C1000-K177
		74,3	37,1		RED	657	19775	107,25	2,89			
		74,3	37,1		RED	657	19775	107,25	2,89			
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
	700	79,2	55,4	214,1	RED	657	26788	145,28	2,62	445,94	2,08	LO-278053-RRRF-C1000-K177
		79,2	55,4		RED	657	26788	145,28	2,62			
		79,2	55,4		RED	657	26788	145,28	2,62			
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
	800	81,8	65,5	252,1	RED	657	30575	165,82	2,53	508,98	2,02	LO-278053-RRRF-C1000-K177
		81,8	65,5		RED	657	30575	165,82	2,53			
		81,8	65,5		RED	657	30575	165,82	2,53			
		69,6	55,7		FAR RED	727	19064	11,51	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%.

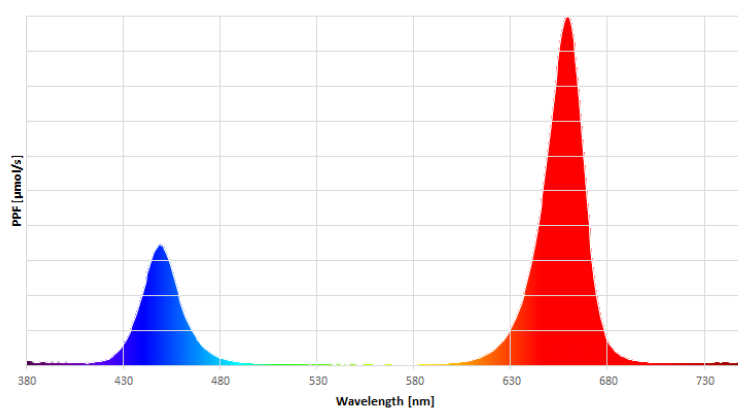
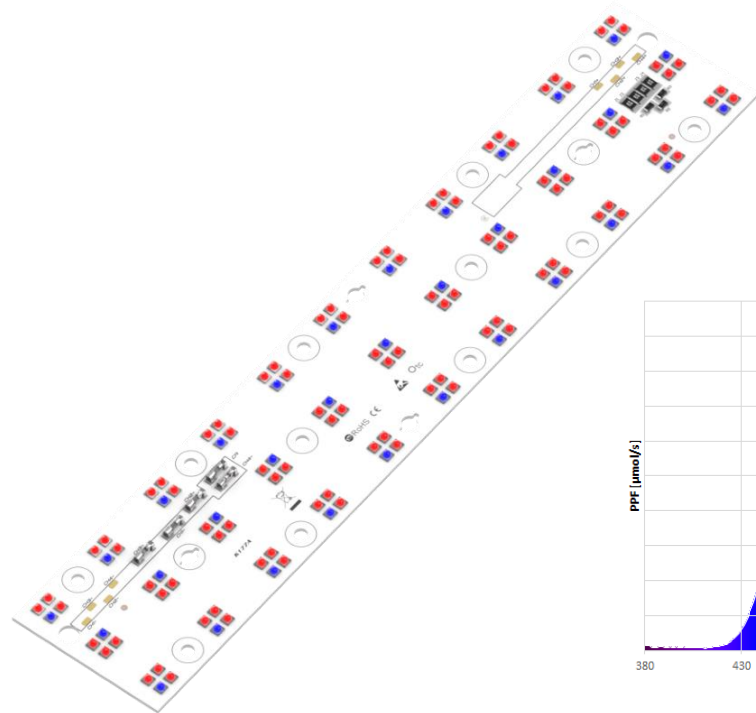


GROWEMITY 3x11 RRRB - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RRRB - K177	350	71,0	24,8	107,4	RED	657	14025	76,07	3,06	305,75	2,85	L0-278053-RRRB-C1000-K177
		71,0	24,8		RED	657	14025	76,07	3,06			
		71,0	24,8		RED	657	14025	76,07	3,06			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
	500	74,3	37,1	159,2	RED	657	19775	107,25	2,89	429,55	2,70	L0-278053-RRRB-C1000-K177
		74,3	37,1		RED	657	19775	107,25	2,89			
		74,3	37,1		RED	657	19775	107,25	2,89			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
	700	79,2	55,4	234,9	RED	657	26788	145,28	2,62	569,24	2,42	L0-278053-RRRB-C1000-K177
		79,2	55,4		RED	657	26788	145,28	2,62			
		79,2	55,4		RED	657	26788	145,28	2,62			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
	800	81,8	65,5	275,4	RED	657	30575	165,82	2,53	644,81	2,34	L0-278053-RRRB-C1000-K177
		81,8	65,5		RED	657	30575	165,82	2,53			
		81,8	65,5		RED	657	30575	165,82	2,53			
		98,7	78,9		DEEP BLUE	455	39815	147,35	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%.



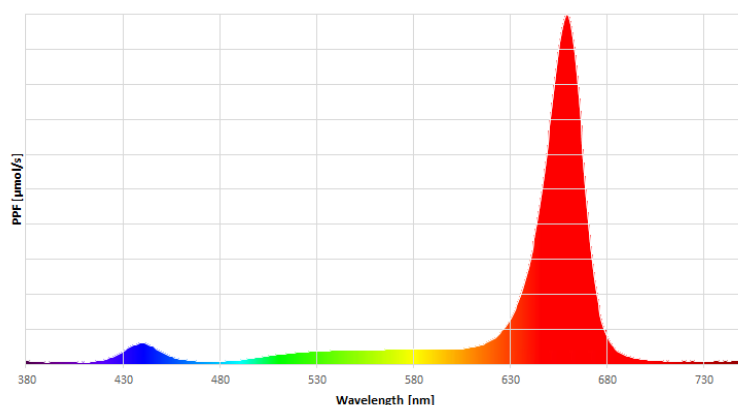
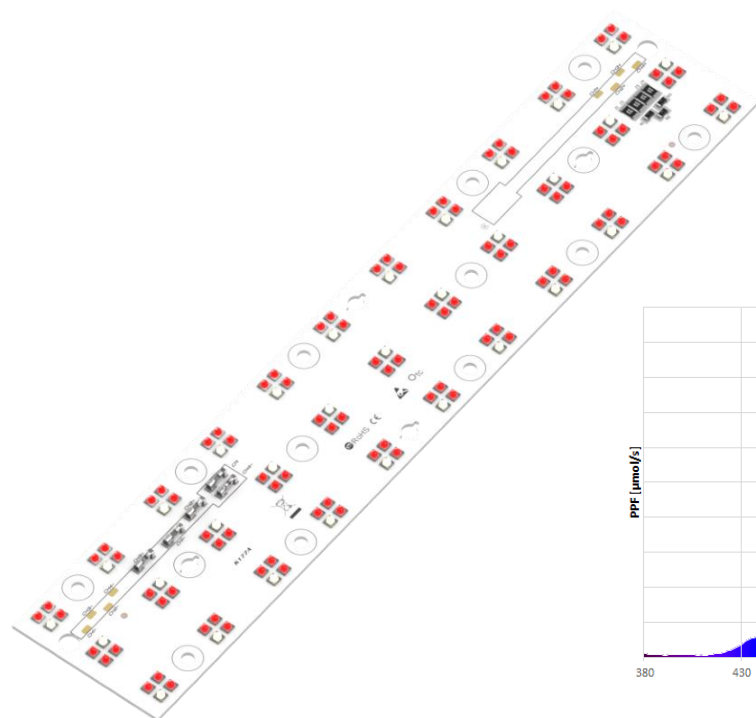
GROWEMITY 3x11 RRRW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RRRW - K177	350	71,0	24,8	106,3	RED	657	14025	76,07	3,06	297,33	2,80	LO-278053-RRRW-C1000-K177
		71,0	24,8		RED	657	14025	76,07	3,06			
		71,0	24,8		RED	657	14025	76,07	3,06			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	74,3	37,1	158,4	RED	657	19775	107,25	2,89	409,84	2,59	LO-278053-RRRW-C1000-K177
		74,3	37,1		RED	657	19775	107,25	2,89			
		74,3	37,1		RED	657	19775	107,25	2,89			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	79,2	55,4	234,5	RED	657	26788	145,28	2,62	512,36	2,19	LO-278053-RRRW-C1000-K177
		79,2	55,4		RED	657	26788	145,28	2,62			
		79,2	55,4		RED	657	26788	145,28	2,62			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	81,8	65,5	275,1	RED	657	30575	165,82	2,53	565,46	2,06	LO-278053-RRRW-C1000-K177
		81,8	65,5		RED	657	30575	165,82	2,53			
		81,8	65,5		RED	657	30575	165,82	2,53			
		98,3	78,7		WHITE	5000	9664	123,42	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%.

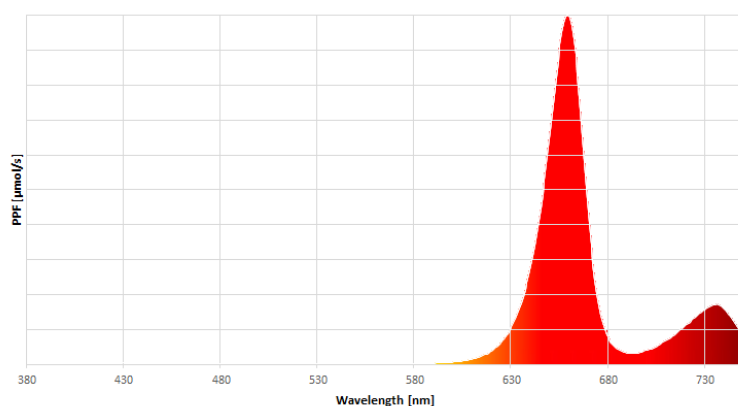
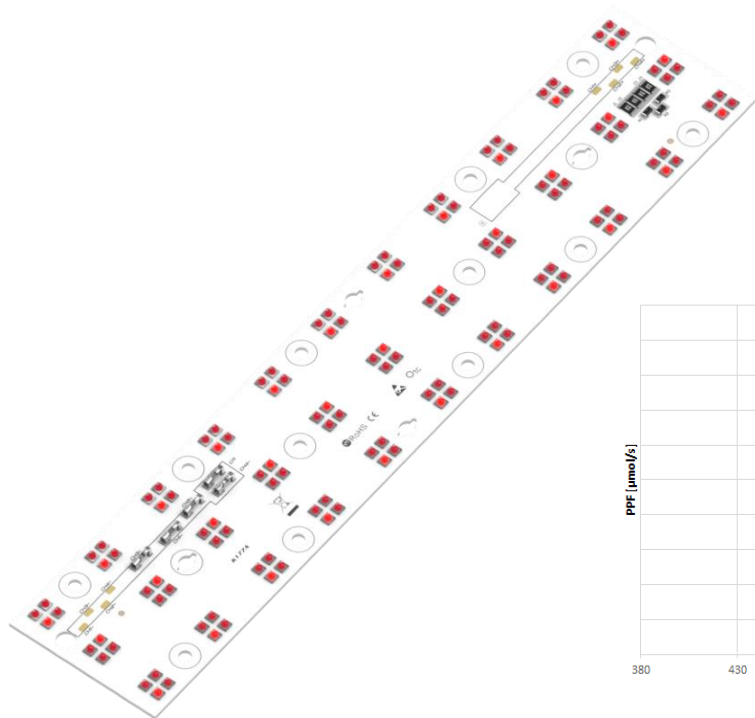


GROWEMITY 3X11 RFFF - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RFFF - K177	350	71,0	24,8	88,9	RED	657	14025	76,07	3,06	91,91	1,03	LO-278053-RFFF-C1000-K177
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
	500	74,3	37,1	133,7	RED	657	19775	107,25	2,89	129,59	0,97	LO-278053-RFFF-C1000-K177
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
	700	79,2	55,4	198,9	RED	657	26788	145,28	2,62	175,54	0,88	LO-278053-RFFF-C1000-K177
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
	800	81,8	65,5	232,6	RED	657	30575	165,82	2,53	200,35	0,86	LO-278053-RFFF-C1000-K177
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		69,6	55,7		FAR RED	727	19064	11,51	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%.

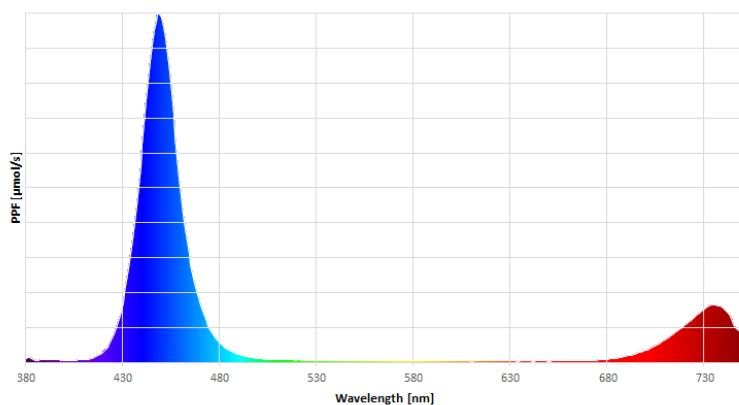
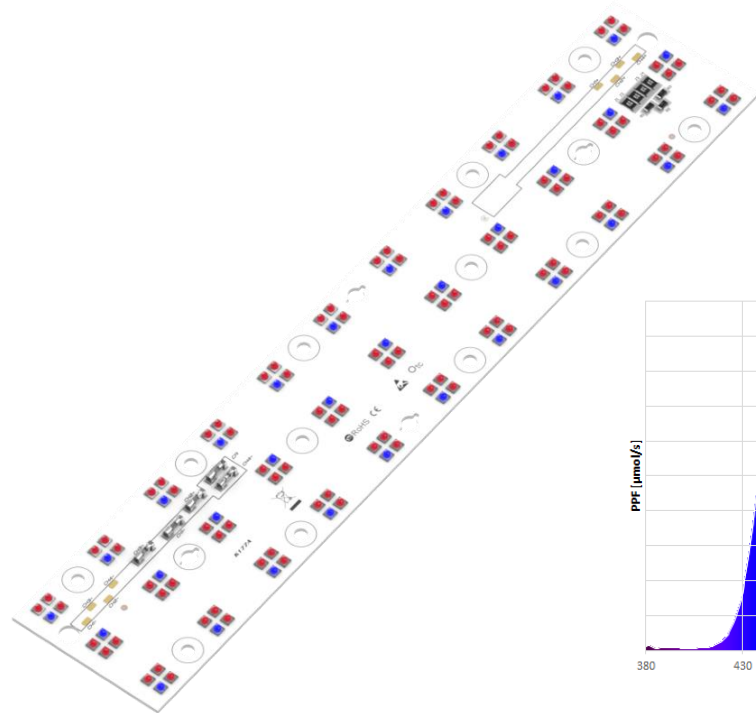


GROWEMITY 3x11 FFFB - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 FFFB - K177	350	61,1	21,4	97,0	FAR RED	727	8745	5,28	0,25	93,39	0,96	LO-278053-FFFB-C1000-K177
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
	500	64,4	32,2	144,4	FAR RED	727	12330	7,44	0,23	130,13	0,90	LO-278053-FFFB-C1000-K177
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
	700	68,3	47,8	212,1	FAR RED	727	16703	10,08	0,21	163,64	0,77	LO-278053-FFFB-C1000-K177
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
	800	69,6	55,7	246,0	FAR RED	727	19064	11,51	0,21	181,88	0,74	LO-278053-FFFB-C1000-K177
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		98,7	78,9		DEEP BLUE	455	39815	147,35	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%.



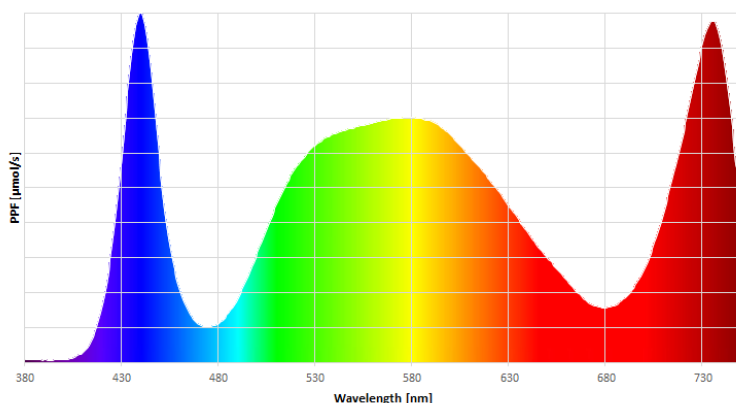
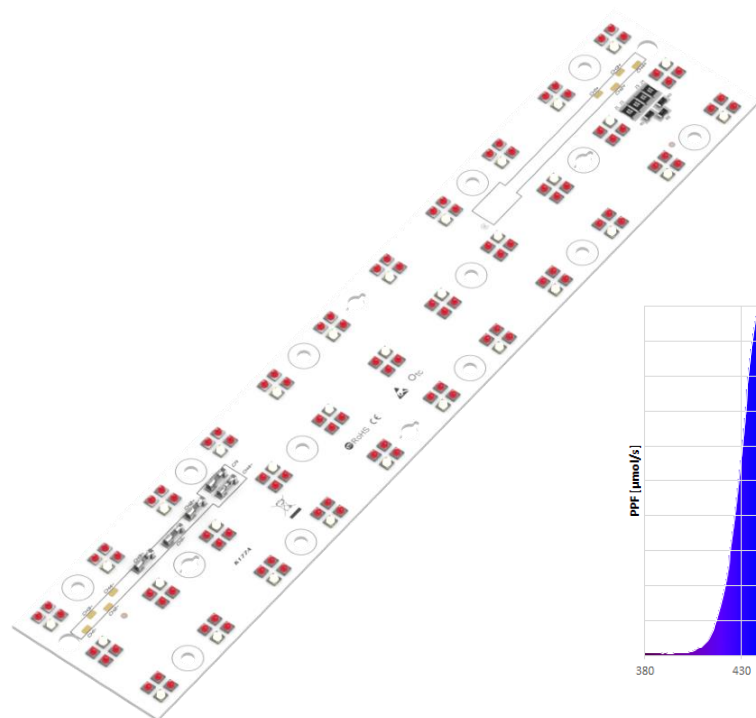
GROWEMITY 3x11 FFFW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 FFFW - K177	350	61,1	21,4	95,9	FAR RED	727	8745	5,28	0,25	80,52	0,84	L0-278053-FFFW-C1000-K177
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	64,4	32,2	143,6	FAR RED	727	12330	7,44	0,23	108,79	0,76	L0-278053-FFFW-C1000-K177
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	68,3	47,8	211,6	FAR RED	727	16703	10,08	0,21	142,45	0,67	L0-278053-FFFW-C1000-K177
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	69,6	55,7	245,8	FAR RED	727	19064	11,51	0,21	157,95	0,64	L0-278053-FFFW-C1000-K177
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		98,3	78,7		WHITE	5000	9664	123,42	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%.

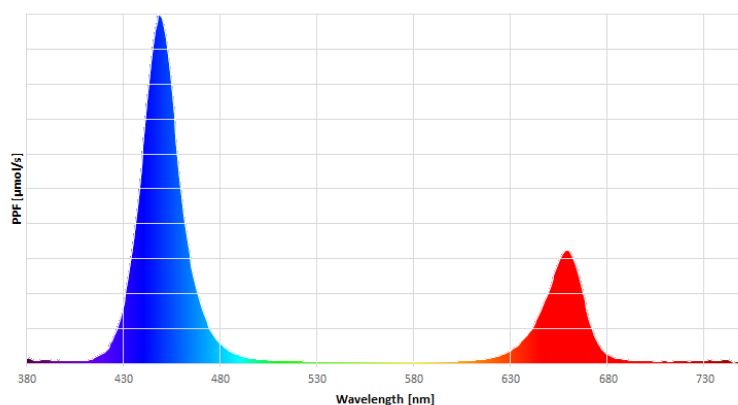
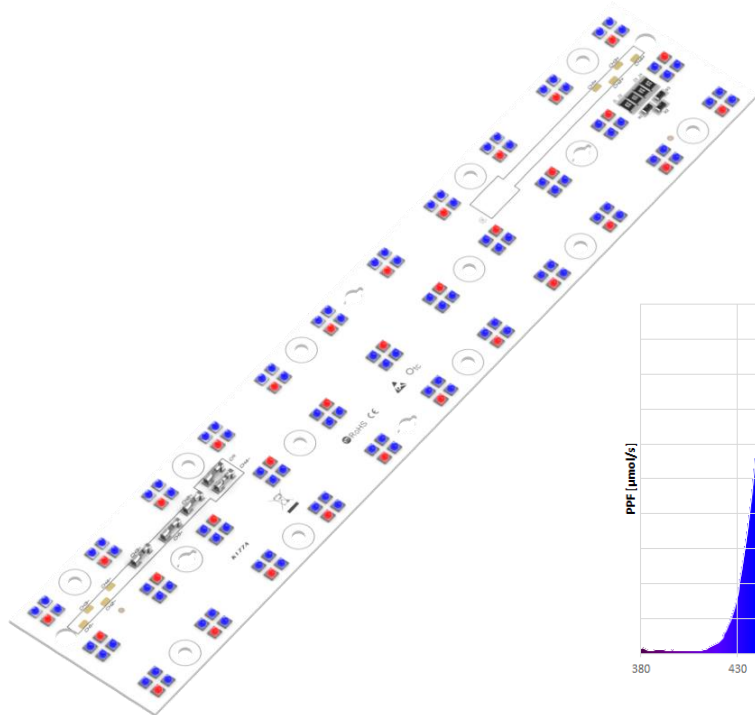


GROWEMITY 3x11 RBBB - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RBBB - K177	350	71,0	24,8	123,6	RED	657	14025	76,07	3,06	308,72	2,50	L0-278053-RBBB-C1000-K177
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
	500	74,3	37,1	180,7	RED	657	19775	107,25	2,89	430,64	2,38	L0-278053-RBBB-C1000-K177
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
	700	79,2	55,4	261,3	RED	657	26788	145,28	2,62	545,44	2,09	L0-278053-RBBB-C1000-K177
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
	800	81,8	65,5	302,3	RED	657	30575	165,82	2,53	607,86	2,01	L0-278053-RBBB-C1000-K177
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,7	78,9		DEEP BLUE	455	39815	147,35	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%.

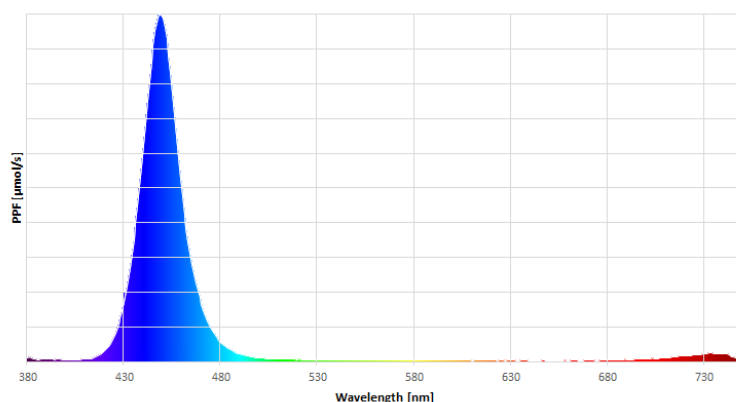
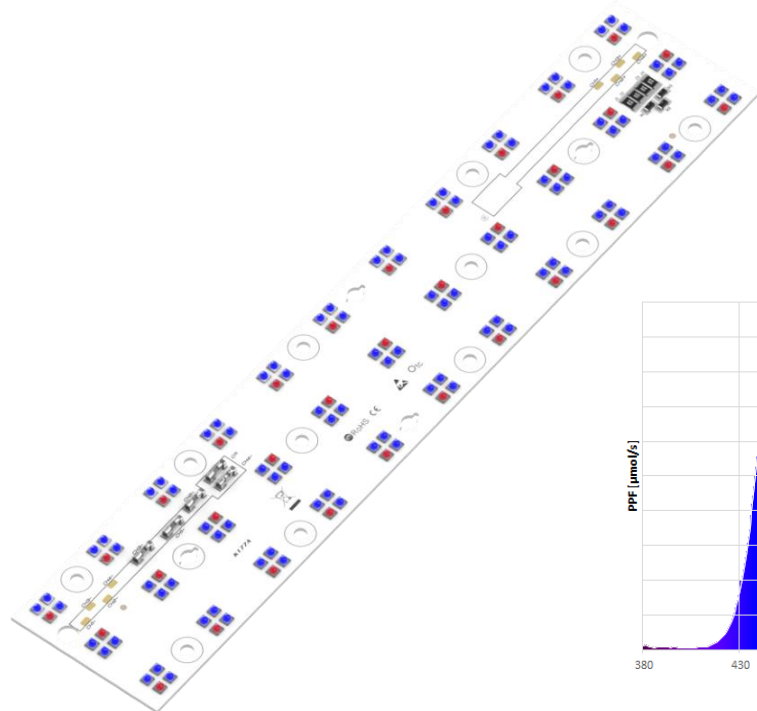


GROWEMITY 3x11 FB8B - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 FB8B - K177	350	61,1	21,4	120,1	FAR RED	727	8745	5,28	0,25	237,93	1,98	LO-278053-FB8B-C1000-K177
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
	500	64,4	32,2	175,7	FAR RED	727	12330	7,44	0,23	330,83	1,88	LO-278053-FB8B-C1000-K177
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
	700	68,3	47,8	253,6	FAR RED	727	16703	10,08	0,21	410,24	1,62	LO-278053-FB8B-C1000-K177
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
	800	69,6	55,7	292,5	FAR RED	727	19064	11,51	0,21	453,55	1,55	LO-278053-FB8B-C1000-K177
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,7	78,9		DEEP BLUE	455	39815	147,35	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%.



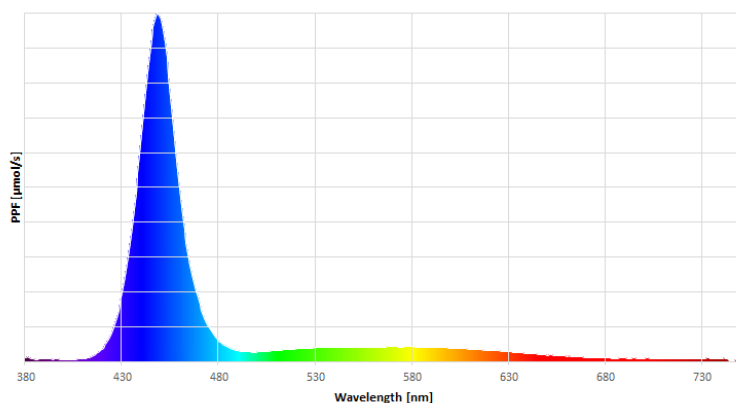
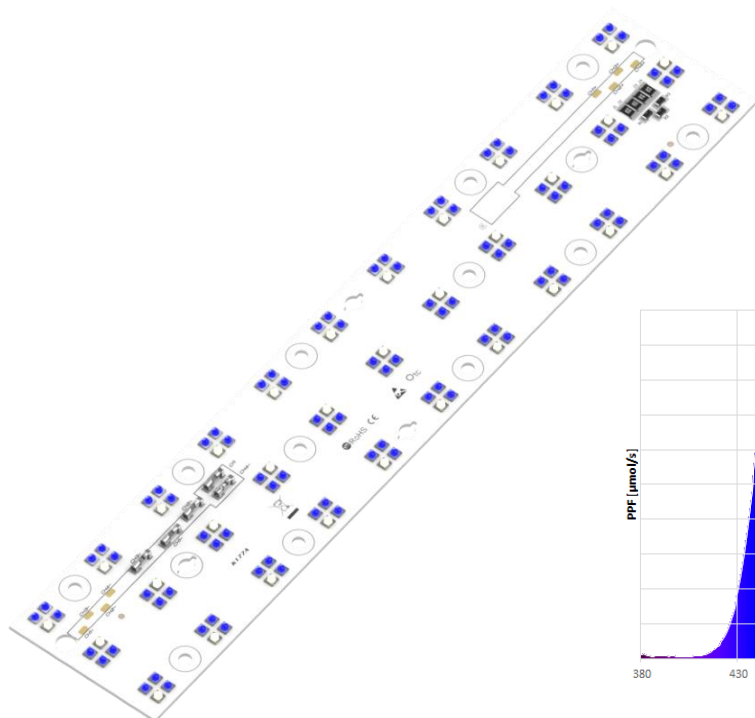
GROWEMITY 3x11 BBBW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 BBBW - K177	350	94,1	32,9	130,5	DEEP BLUE	455	20955	77,55	2,36	297,33	2,28	LO-278053-BBBW-C1000-K177
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	95,7	47,9	190,6	DEEP BLUE	455	29127	107,79	2,25	409,84	2,15	LO-278053-BBBW-C1000-K177
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	98,0	68,6	274,0	DEEP BLUE	455	36043	133,39	1,94	512,36	1,87	LO-278053-BBBW-C1000-K177
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	98,7	78,9	315,5	DEEP BLUE	455	39815	147,35	1,87	565,46	1,79	LO-278053-BBBW-C1000-K177
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,3	78,7		WHITE	5000	9664	123,42	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%.



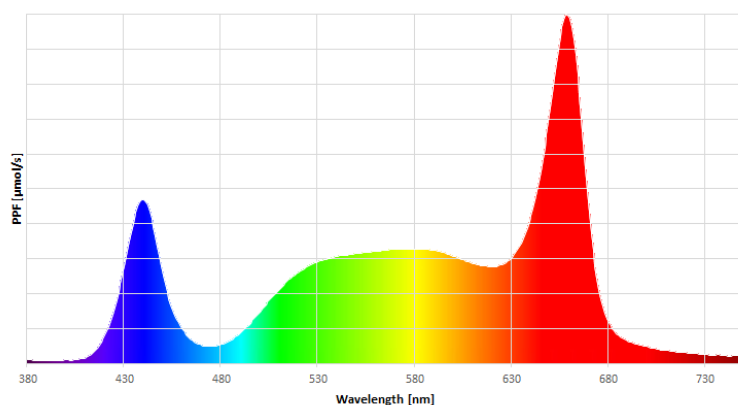
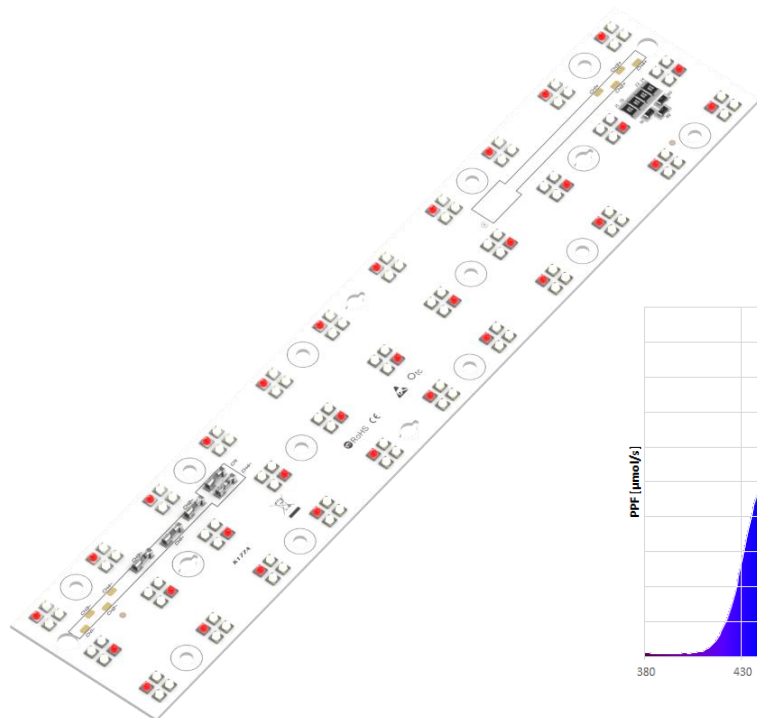
GROWEMITY 3x11 RWWW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RWWW - K177	350	71,0	24,8	120,1	RED	657	14025	76,07	3,06	270,11	2,25	LO-278053-RWWW-C1000-K177
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	74,3	37,1	178,2	RED	657	19775	107,25	2,89	366,63	2,06	LO-278053-RWWW-C1000-K177
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	79,2	55,4	259,9	RED	657	26788	145,28	2,62	481,88	1,85	LO-278053-RWWW-C1000-K177
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	81,8	65,5	301,5	RED	657	30575	165,82	2,53	536,08	1,78	LO-278053-RWWW-C1000-K177
		98,3	78,7		WHITE	5000	9664	123,42	1,57			
		98,3	78,7		WHITE	5000	9664	123,42	1,57			
		98,3	78,7		WHITE	5000	9664	123,42	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%.



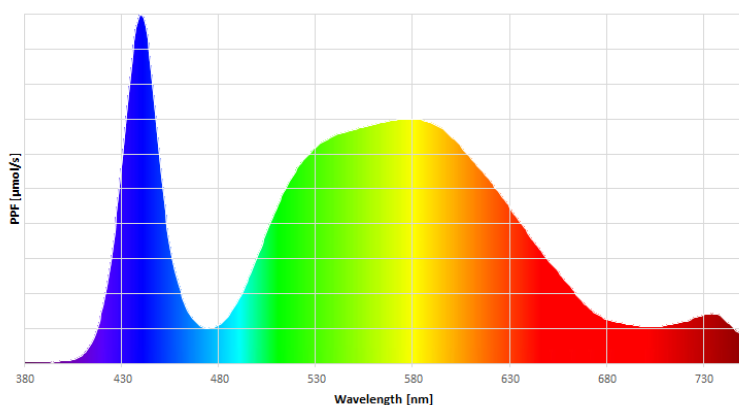
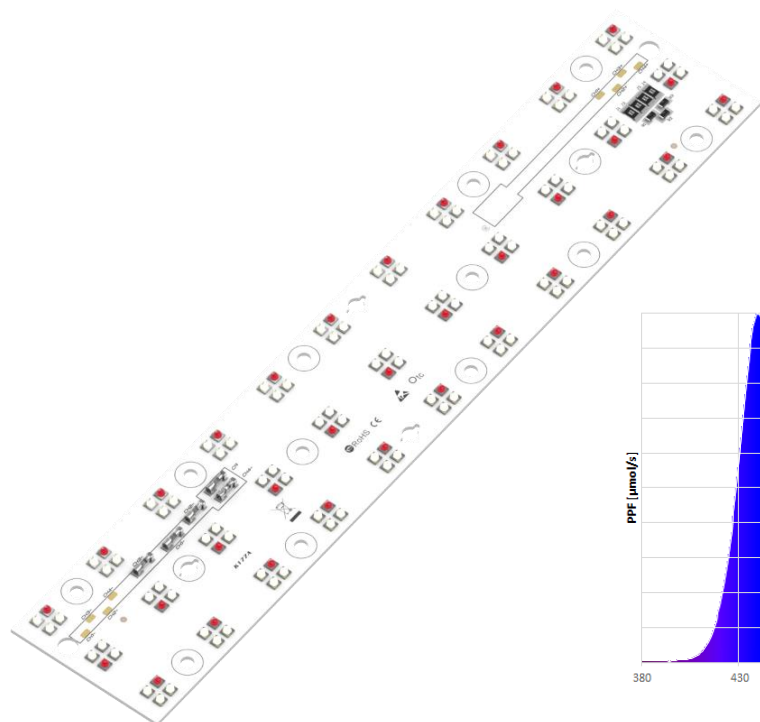
GROWEMITY 3x11 FWWW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 FWWW - K177	350	61,1	21,4	116,7	FAR RED	727	8745	5,28	0,25	199,32	1,71	LO-278053-FWWW-C1000-K177
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	64,4	32,2	173,3	FAR RED	727	12330	7,44	0,23	266,82	1,54	LO-278053-FWWW-C1000-K177
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	68,3	47,8	252,3	FAR RED	727	16703	10,08	0,21	346,68	1,37	LO-278053-FWWW-C1000-K177
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	69,6	55,7	291,7	FAR RED	727	19064	11,51	0,21	381,77	1,31	LO-278053-FWWW-C1000-K177
		98,3	78,7		WHITE	5000	9664	123,42	1,57			
		98,3	78,7		WHITE	5000	9664	123,42	1,57			
		98,3	78,7		WHITE	5000	9664	123,42	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%.



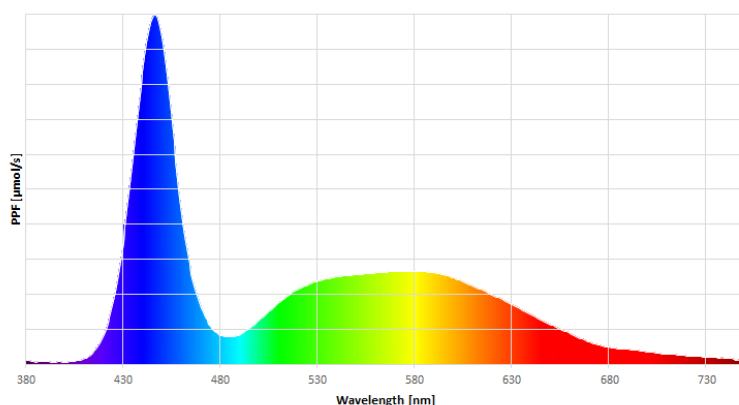
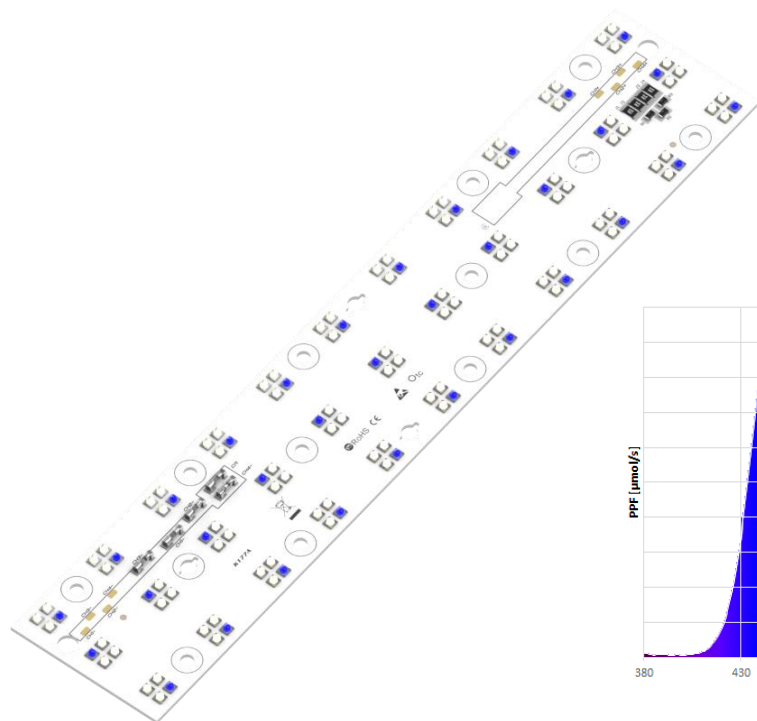
GROWEMITY 3x11 BWWW - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 BWWW - K177	350	94,1	32,9	128,2	DEEP BLUE	455	20955	77,55	2,36	271,59	2,12	LO-278053-BWWW-C1000-K177
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	95,7	47,9	188,9	DEEP BLUE	455	29127	107,79	2,25	367,17	1,94	LO-278053-BWWW-C1000-K177
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	98,0	68,6	273,0	DEEP BLUE	455	36043	133,39	1,94	469,99	1,72	LO-278053-BWWW-C1000-K177
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	98,7	78,9	315,0	DEEP BLUE	455	39815	147,35	1,87	517,61	1,64	LO-278053-BWWW-C1000-K177
		98,3	78,7		WHITE	5000	9664	123,42	1,57			
		98,3	78,7		WHITE	5000	9664	123,42	1,57			
		98,3	78,7		WHITE	5000	9664	123,42	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%.

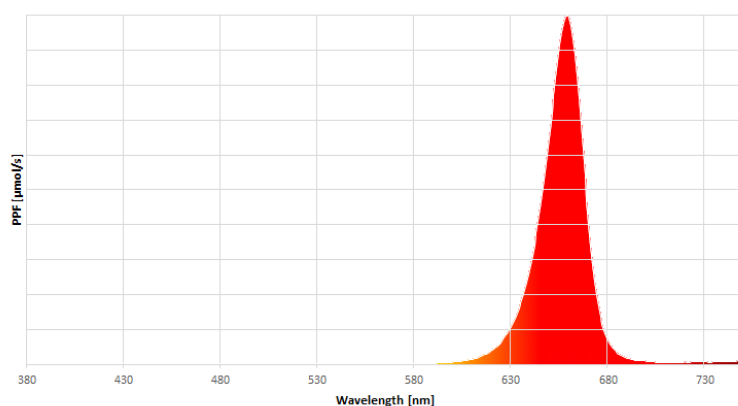
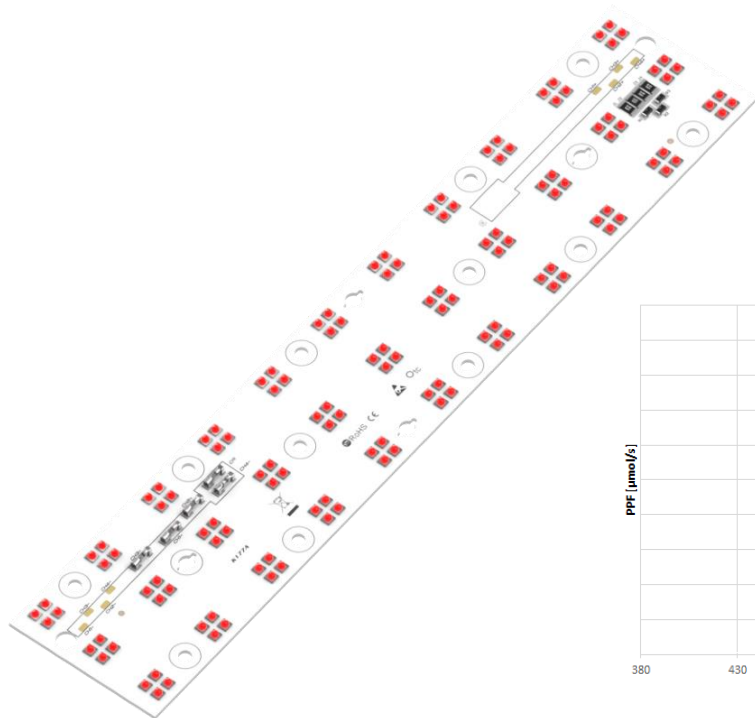


GROWEMITY 3x11 RRRR - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 RRRR - K177	350	71,0	24,8	99,3	RED	657	14025	76,07	3,06	304,26	3,06	L0-278053-RRRR-C1000-K177
		71,0	24,8		RED	657	14025	76,07	3,06			
		71,0	24,8		RED	657	14025	76,07	3,06			
		71,0	24,8		RED	657	14025	76,07	3,06			
	500	74,3	37,1	148,5	RED	657	19775	107,25	2,89	429,01	2,89	L0-278053-RRRR-C1000-K177
		74,3	37,1		RED	657	19775	107,25	2,89			
		74,3	37,1		RED	657	19775	107,25	2,89			
		74,3	37,1		RED	657	19775	107,25	2,89			
	700	79,2	55,4	221,8	RED	657	26788	145,28	2,62	581,14	2,62	L0-278053-RRRR-C1000-K177
		79,2	55,4		RED	657	26788	145,28	2,62			
		79,2	55,4		RED	657	26788	145,28	2,62			
		79,2	55,4		RED	657	26788	145,28	2,62			
	800	81,8	65,5	261,9	RED	657	30575	165,82	2,53	663,29	2,53	L0-278053-RRRR-C1000-K177
		81,8	65,5		RED	657	30575	165,82	2,53			
		81,8	65,5		RED	657	30575	165,82	2,53			
		81,8	65,5		RED	657	30575	165,82	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%.

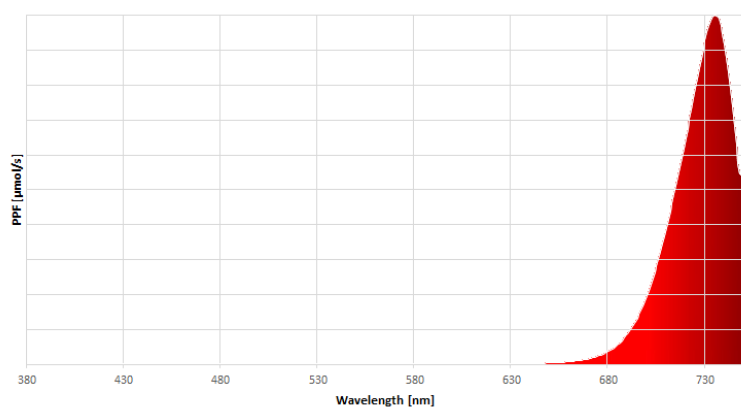
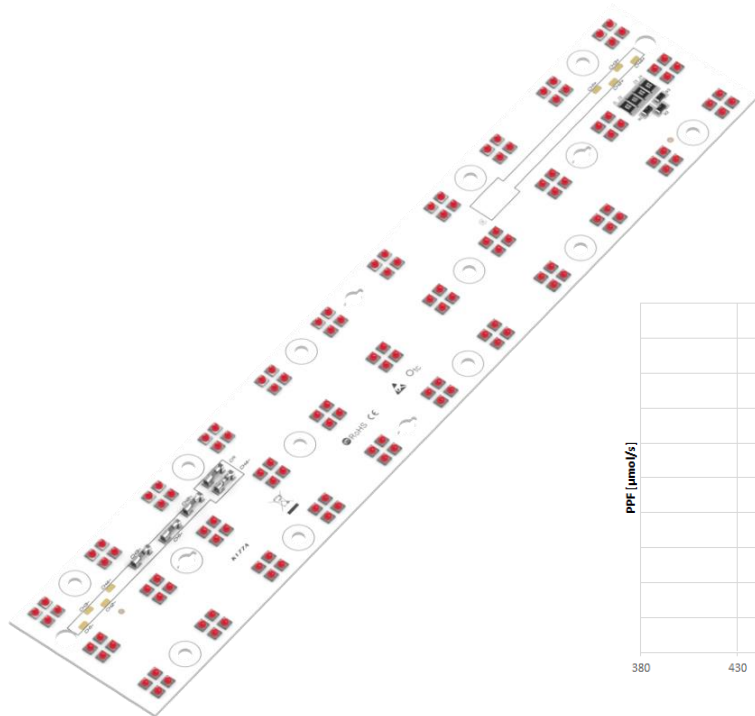


GROWEMITY 3X11 FFFF- K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 FFFF - K177	350	61,1	21,4	85,5	FAR RED	727	8745	5,28	0,25	21,12	0,25	L0-278053-FFFF-C1000-K177
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
		61,1	21,4		FAR RED	727	8745	5,28	0,25			
	500	64,4	32,2	128,7	FAR RED	727	12330	7,44	0,23	29,78	0,23	L0-278053-FFFF-C1000-K177
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
		64,4	32,2		FAR RED	727	12330	7,44	0,23			
	700	68,3	47,8	191,3	FAR RED	727	16703	10,08	0,21	40,34	0,21	L0-278053-FFFF-C1000-K177
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
		68,3	47,8		FAR RED	727	16703	10,08	0,21			
	800	69,6	55,7	222,8	FAR RED	727	19064	11,51	0,21	46,04	0,21	L0-278053-FFFF-C1000-K177
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		69,6	55,7		FAR RED	727	19064	11,51	0,21			
		69,6	55,7		FAR RED	727	19064	11,51	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%.

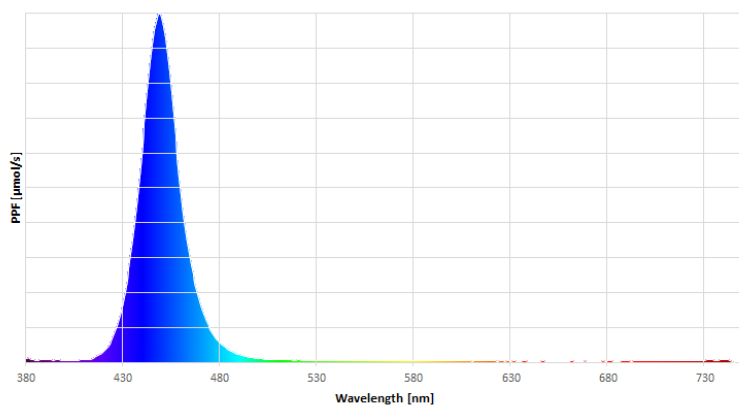
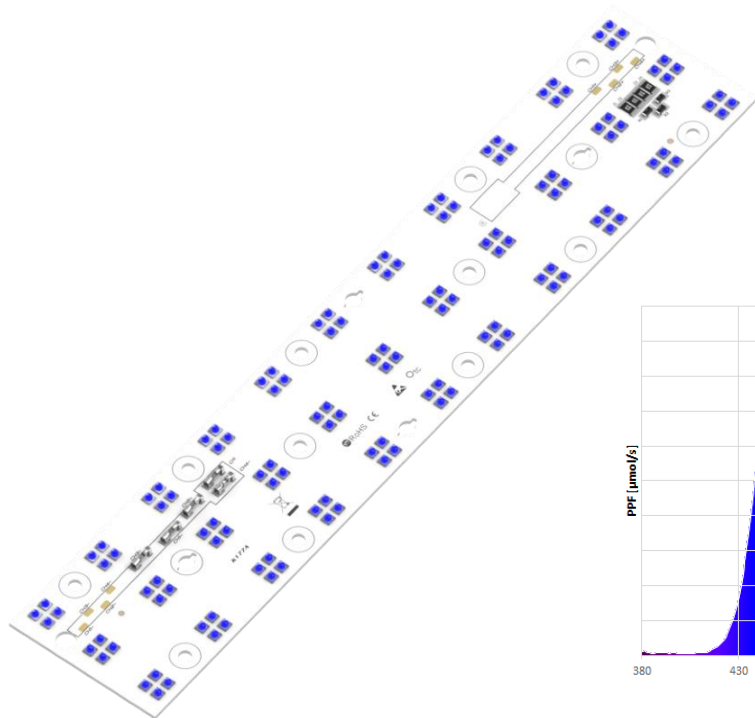


GROWEMITY 3x11 BBBB - K177

	Input Current [mA]	Forward Voltage [V]	Power [W]	Total 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 3x11 BBBB - K177	350	94,1	32,9	131,7	DEEP BLUE	455	20955	77,55	2,36	310,20	2,36	L0-278053-BBBB-C1000-K177
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
		94,1	32,9		DEEP BLUE	455	20955	77,55	2,36			
	500	95,7	47,9	191,4	DEEP BLUE	455	29127	107,79	2,25	431,18	2,25	L0-278053-BBBB-C1000-K177
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
		95,7	47,9		DEEP BLUE	455	29127	107,79	2,25			
	700	98,0	68,6	274,4	DEEP BLUE	455	36043	133,39	1,94	533,54	1,94	L0-278053-BBBB-C1000-K177
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
		98,0	68,6		DEEP BLUE	455	36043	133,39	1,94			
	800	98,7	78,9	315,7	DEEP BLUE	455	39815	147,35	1,87	589,38	1,87	L0-278053-BBBB-C1000-K177
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,7	78,9		DEEP BLUE	455	39815	147,35	1,87			
		98,7	78,9		DEEP BLUE	455	39815	147,35	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%.

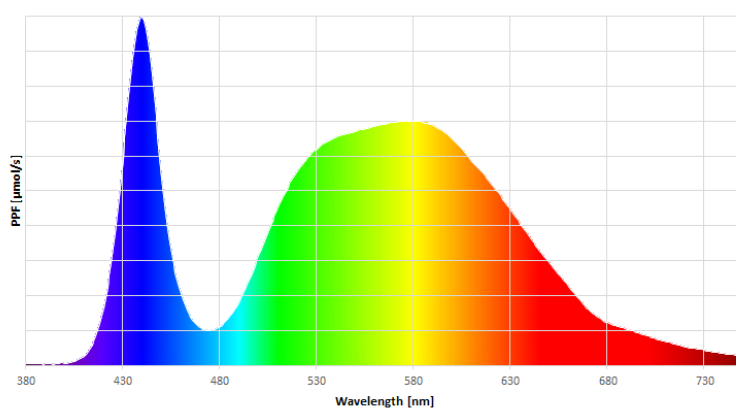
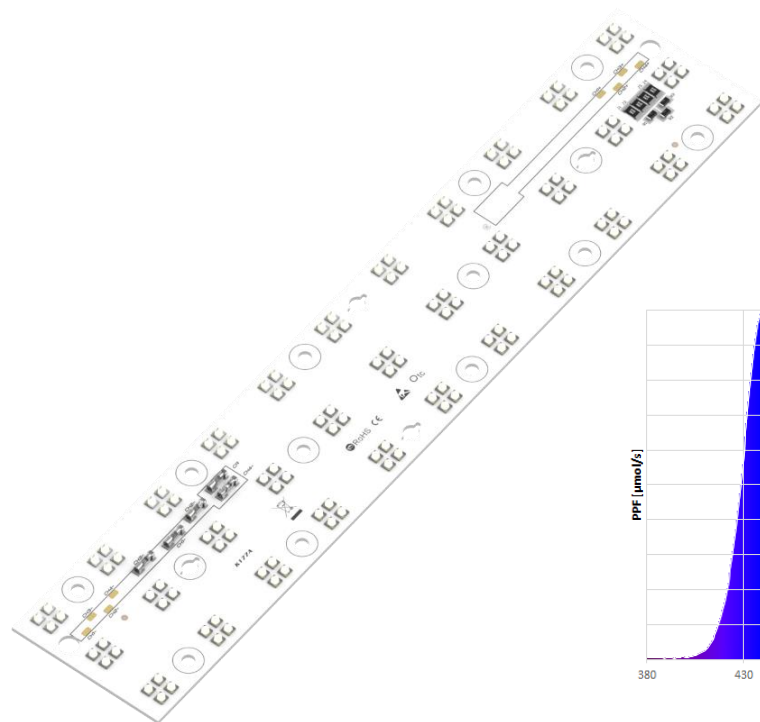


GROWEMITY 3x11 MONO - K177

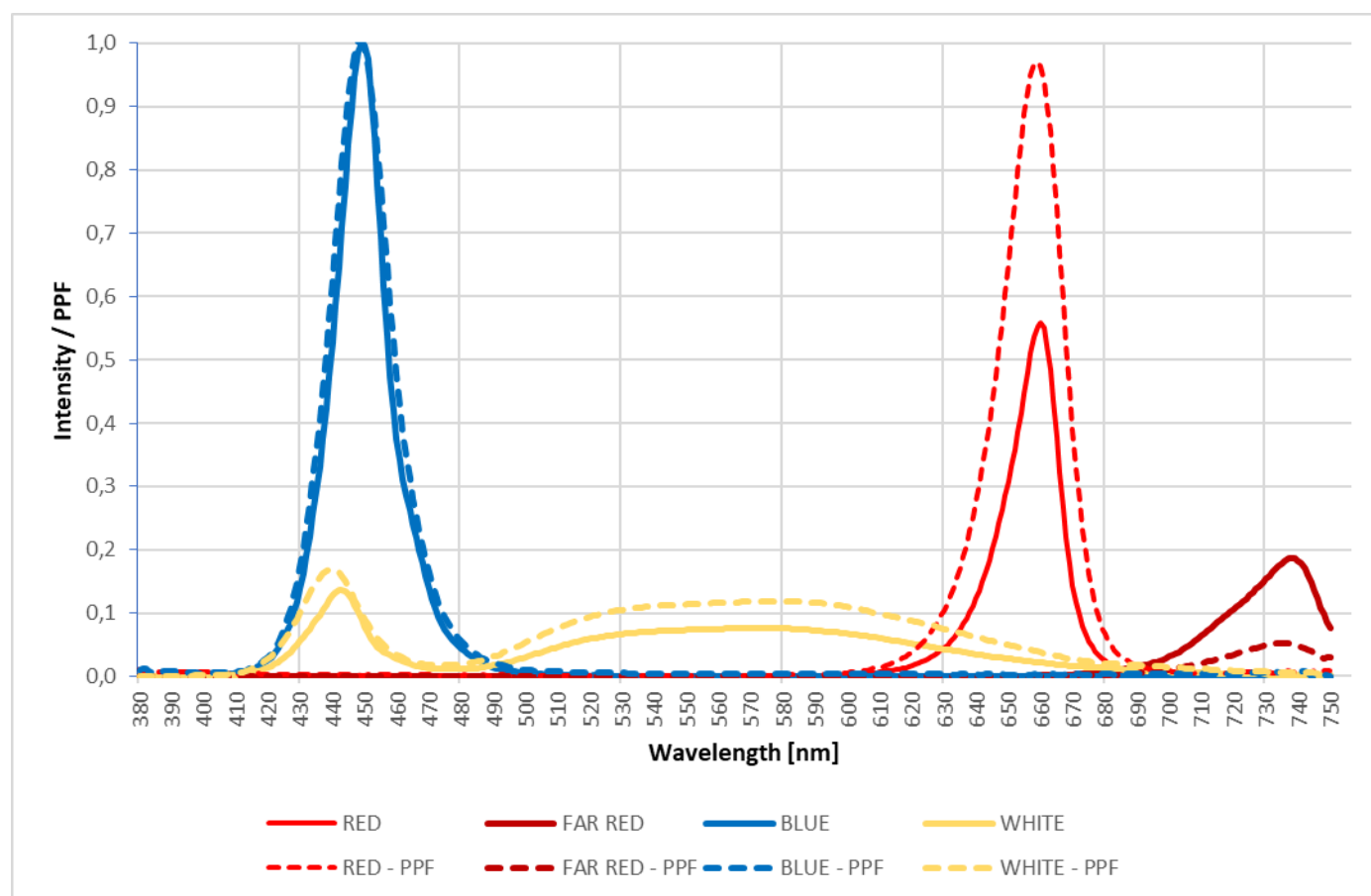
	Input Current [mA]	Forward Voltage [V]	Power [W]	Total Power [W]	Colour	CCT [K]	Luminous Flux [lm]	PPF [$\mu\text{mol/s}$]	PPF/W [$\mu\text{mol/J}$]	Total PPF [$\mu\text{mol/s}$]	Total PPF/W [$\mu\text{mol/J}$]	Article Number
GrowEmity 3x11 MONO - K177	350	90,8	31,8	127,1	WHITE	5000	4881	64,68	2,04	258,72	2,04	L0-278053-MONO-C1000-K177
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
		90,8	31,8		WHITE	5000	4881	64,68	2,04			
	500	94,1	47,0	188,1	WHITE	5000	6687	86,46	1,84	345,84	1,84	L0-278053-MONO-C1000-K177
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
		94,1	47,0		WHITE	5000	6687	86,46	1,84			
	700	97,4	68,1	272,6	WHITE	5000	8785	112,20	1,65	448,80	1,65	L0-278053-MONO-C1000-K177
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
		97,4	68,1		WHITE	5000	8785	112,20	1,65			
	800	98,3	78,7	314,7	WHITE	5000	9664	123,42	1,57	493,68	1,57	L0-278053-MONO-C1000-K177
		98,3	78,7		WHITE	5000	9664	123,42	1,57			
		98,3	78,7		WHITE	5000	9664	123,42	1,57			
		98,3	78,7		WHITE	5000	9664	123,42	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%.



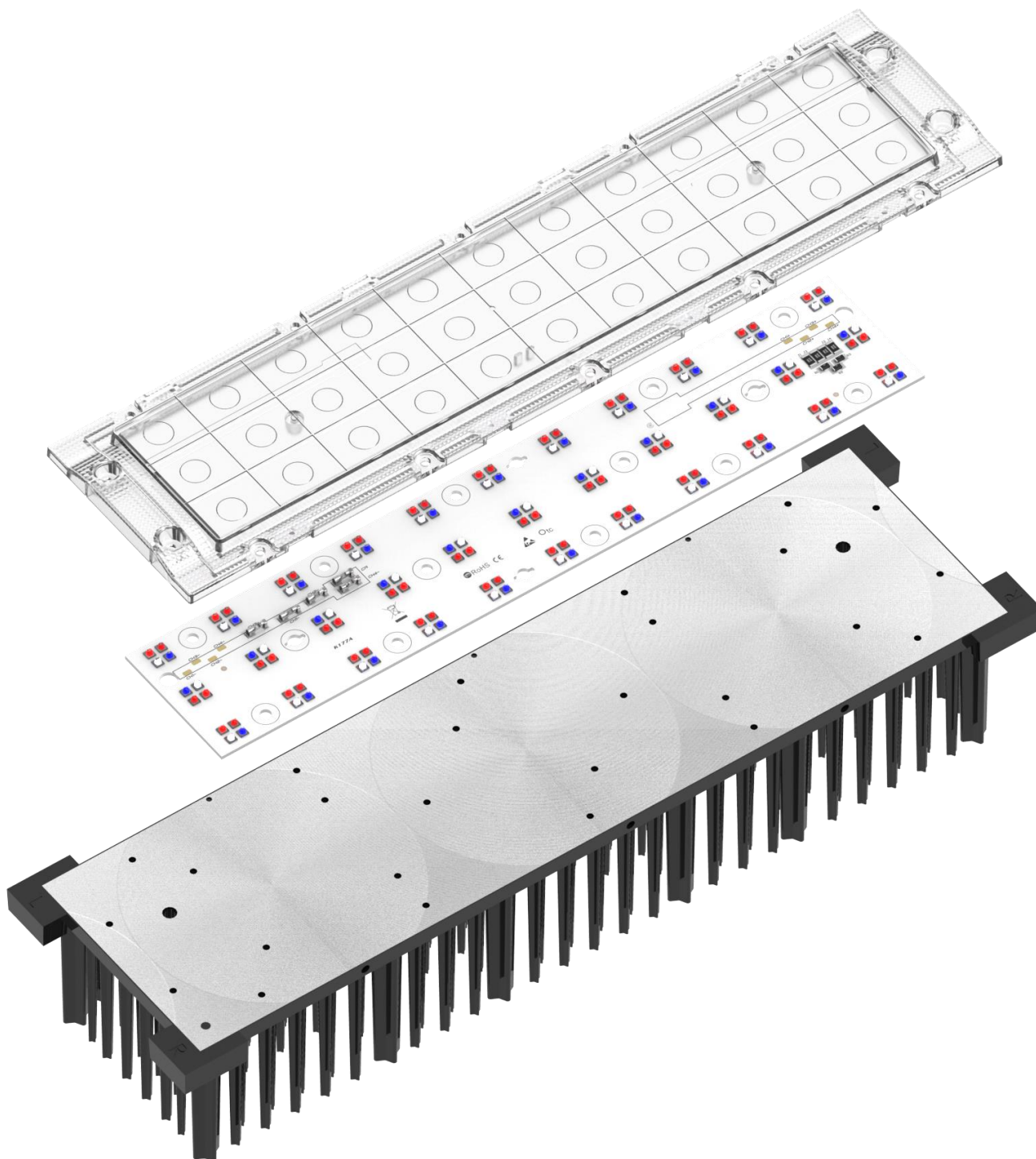
SPECTRUM OF LEDs



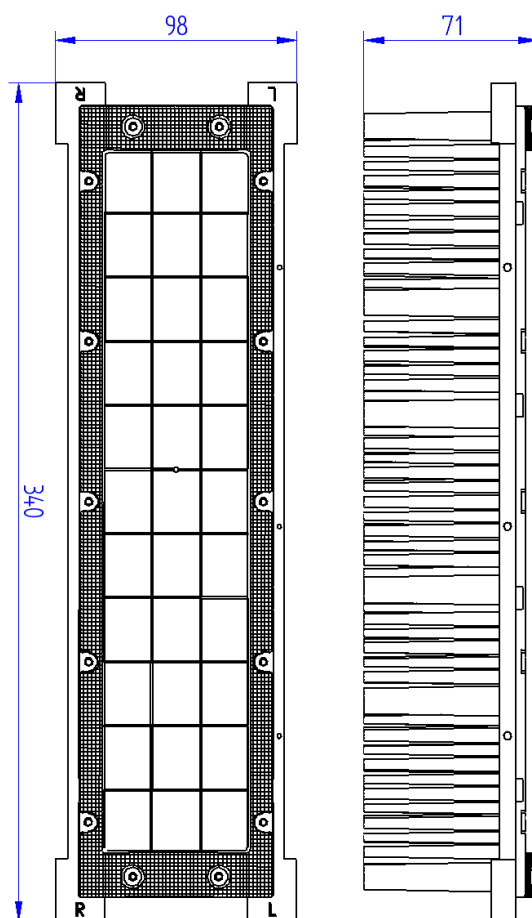
Spectrum graph of the red, far red, blue and white LEDs at 350 mA current. Spectrum can be changed by choosing LEDs and power output.

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 3x11 – K177 are recommended:

- **COMPATIBLE HEAT-SINK** – COOLBLOCK® HC-01-3x11 MechaTronix
- **COMPATIBLE OPTIC** – FLORENCE-3R-IP LEDiL



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.

SIZE

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.