

simpleLED[®] Solutions Guide

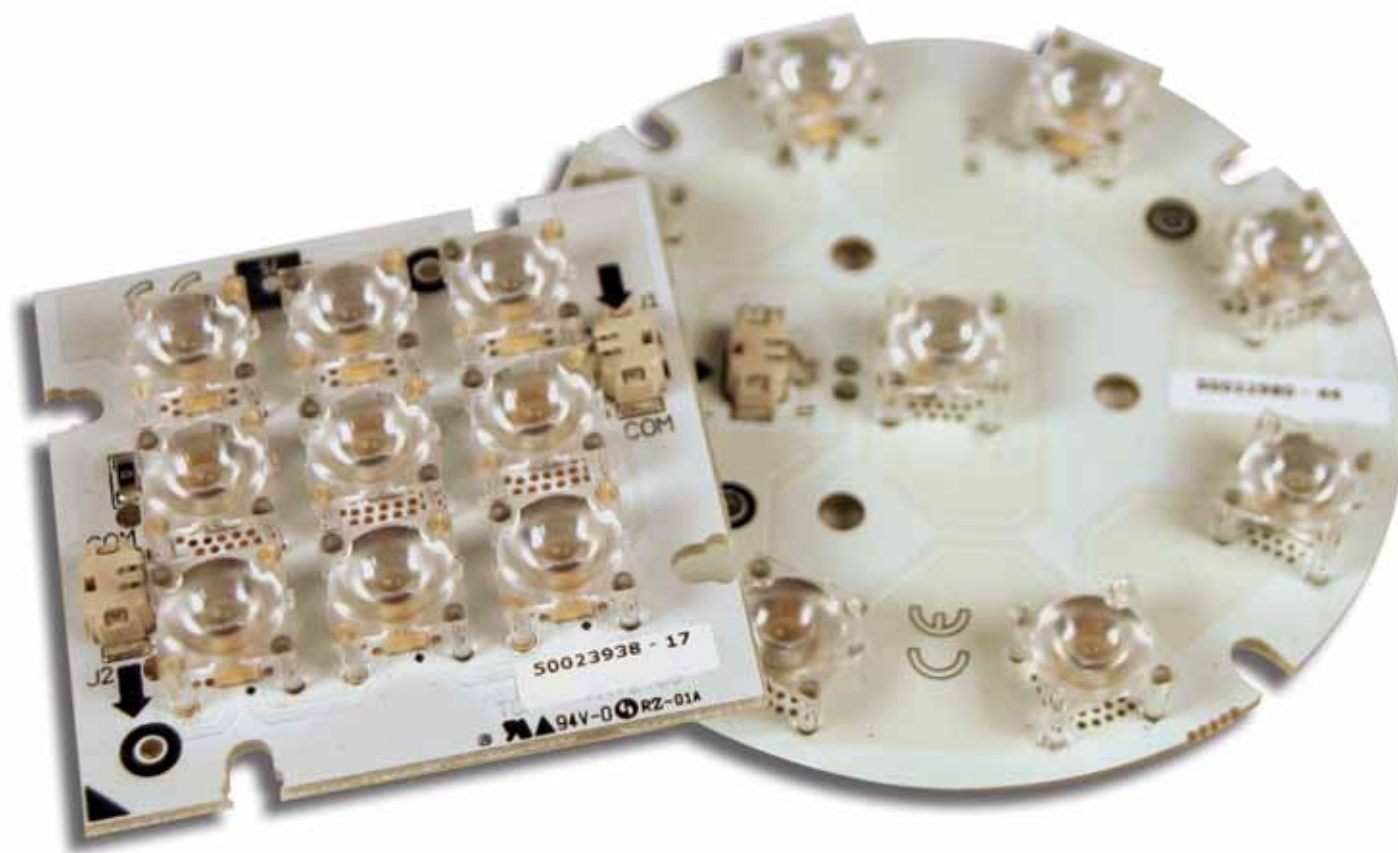


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Important Links

Future Lighting Solutions

<http://www.FutureLightingSolutions.com>

Philips Lumileds

<http://www.PhilipsLumileds.com>

Carclo Optics

<http://www.Carclo-Optics.com>

Harvard Engineering

<http://www.harvardeng.com/>

Inventronics

<http://www.inventronics-co.com/>

Mean Well Drivers

<http://www.MeanWell.com/>

Philips Advance LED Drivers

http://www.Advance.Philips.com/led_pcs

TE Connectivity

<http://www.te.com>

Circular Stocking Guide



RENA Solutions

Series	# LEDs	CCT	Flux (lm) @350mA ¹	Flux (lm) @700mA ¹	Connection Option	Optics	Part Number	LED Series
05711R 45mm Diameter	3	5500K	320-350	560-620	CT-Connector	No Optics	05711R9999960200CXXX	LXML-PWC2 Rebel ES
		4100K	300-330	540-590	CT-Connector	No Optics	05711R7777760200CXXX	LXML-PWN2 Rebel ES
		3000K	240-260	420-450	CT-Connector	No Optics	05711R888880075CXXX	LXM8-PW30 ANSI-Micro Spec
		3000K	240-260	420-450	CT-Connector	Tri-Lens Wide Frosted 35°	05711R888880075CBEH	LXM8-PW30 ANSI-Micro Spec
		3000K	225-235	375-420	CT-Connector	Tri-Lens Wide Frosted 35°	05711R888880066CBEH	LXM3-PW71 ANSI-Spec
		3000K	225-235	375-420	CT-Connector	No Optics	05711R888880066CXXX	LXM3-PW71 ANSI-Spec
05712R 45mm Diameter	6	5500K	620-685	1115-1230	CT-Connector	No Optics	05712R9999960200CXXX	LXML-PWC2 Rebel ES
		4100K	600-670	1070-1185	CT-Connector	No Optics	05712R7777760200CXXX	LXML-PWN2 Rebel ES
		4000K	460-520	800-895	CT-Connector	10mm Wide Frosted 39°	05712R7777780075CAXH	LXM3-PW51 ANSI-Spec
		3500K	460-490	740-840	CT-Connector	No Optics	05712R888880067CXXX	LXM3-PW61 ANSI-Spec
		3500K	460-490	740-840	Solder Pads	No Optics	05712R888880067NXXX	LXM3-PW61 ANSI-Spec
		3000K	460-515	790-895	CT-Connector	No Optics	05712R888880075CXXX	LXM8-PW30 ANSI-Micro Spec
05713R 75mm Diameter	9	5500K	940-1030	1680-1850	CT-Connector	No Optics	05713R9999960200CXXX	LXML-PWC2 Rebel ES
		5500K	850-935	1395-1535	CT-Connector	No Optics	05713R99999XX100CXXX	LXML-PWC1-0100 General Purpose
		4100K	900-990	1610-1780	CT-Connector	No Optics	05713R7777760200CXXX	LXML-PWN2 Rebel ES
		3500K	800-880	1290-1500	CT-Connector	No Optics	05713R888880160CXXX	LXW8-PW35 Rebel ES
		3000K	730-770	1260-1340	CT-Connector	No Optics	05713R888880075CXXX	LXM8-PW30 ANSI-Micro Spec
		3000K	600-680	1145-1265	CT-Connector	No Optics	05713R888880066CXXX	LXM3-PW71 ANSI-Spec

General Luminaire Solutions

Series	# LEDs	CCT	Flux (lm) @350mA ¹	Flux (lm) @700mA ¹	Connection Option	Optics	Part Number	LED Series
34mm Diameter	3	5500K	320-350	560-620	Poke-In	No Optics	GLV92C34341/CN-LG03W00T	LXML-PWC2 Rebel ES
		4000K	300-330	540-590	Poke-In	No Optics	GLV92C34341/CN-LG03D40T	LXML-PWN2 Rebel ES
		3000K	240-260	420-450	Poke-In	No Optics	GLV92C34341/CN-LB03S30L	LXM8-PW30 ANSI-Micro Spec
50mm Diameter	7	5500K	730-810	1300-1440	Poke-In	No Optics	GLV92C50501/CN-LG07W00T	LXML-PWC2 Rebel ES
		4000K	700-780	1250-1380	Poke-In	No Optics	GLV92C50501/CN-LG07D40T	LXML-PWN2 Rebel ES
		3000K	570-600	980-1040	Poke-In	No Optics	GLV92C50501/CN-LB07S30L	LXH8-PW30 LUXEON A
63mm Diameter	9	5500K	940-1030	1680-1850	Poke-In	No Optics	GLV92C63631/CN-LG09W00T	LXML-PWC2 Rebel ES
		4000K	900-990	1610-1780	Poke-In	No Optics	GLV92C63631/CN-LG09D40T	LXML-PWN2 Rebel ES
		3000K	730-770	1260-1340	Poke-In	No Optics	GLV92C63631/CN-LB09S30L	LXH8-PW30 LUXEON A
76mm Diameter	12	5500K	1250-1380	2500-2770	Poke-In	No Optics	GLV92C76761/CN-LG12W00T	LXML-PWC2 Rebel ES
		4000K	1200-1330	2240-2470	Poke-In	No Optics	GLV92C76761/CN-LG12D40T	LXML-PWN2 Rebel ES
		3000K	970-1030	1680-1790	Poke-In	No Optics	GLV92C76761/CN-LB12S30L	LXM8-PW30 ANSI-Micro Spec
95mm Diameter	18	5500K	1880-2070	3350-3700	Poke-In	No Optics	GLV92C95951/CN-LG18W00T	LXML-PWC2 Rebel ES
		4000K	1800-2000	3210-3550	Poke-In	No Optics	GLV92C95951/CN-LG18D40T	LXML-PWN2 Rebel ES
		3000K	1460-1550	2530-2680	Poke-In	No Optics	GLV92C95951/CN-LB18S30L	LXM8-PW30 ANSI-Micro Spec
120mm Diameter	24	5500K	2480-2740	4460-4930	Poke-In	No Optics	GLV92CC0C01/CN-LG24W00T	LXML-PWC2 Rebel ES
		4000K	2370-2630	4270-4730	Poke-In	No Optics	GLV92CC0C01/CN-LG24D40T	LXML-PWN2 Rebel ES
		3000K	1940-2060	3360-3570	Poke-In	No Optics	GLV92CC0C01/CN-LB24S30L	LXM8-PW30 ANSI-Micro Spec

1. Light Output calculated based on Tj=85°C through our proprietary Usable Light Tool. Does not include optical losses.
For more information on simpleLED go to: www.FutureLightingSolutions.com/simpleLED

Linear Stocking Guide



RENA Solutions

Series	# LEDs	CCT	Flux @350mA ¹	Flux @700mA ¹	Connector	Optics	Part Number	LED Series
05700R 50x25mm	1	4000K	75-90	135-150	CT-Connector	20mm Wide Frosted 35°	05700R777780075CBBH	LXM3-PW51 ANSI-Spec
05704R 75x30mm	3	5500K	320-350	560-620	CT-Connector	No Optics	05704R999960200CXXX	LXML-PWC2 Rebel ES
		5500K	280-310	460-510	CT-Connector	No Optics	05704R9999XX100CXXX	LXML-PWC1-0100 General Purpose
		4000K	225-260	395-445	CT-Connector	10mm Medium Plain 18°	05704R777780075CAXE	LXM3-PW51 ANSI-Spec
		3000K	240-260	420-450	CT-Connector	No Optics	05704R888880075CXXX	LXM8-PW30 ANSI-Micro Spec
		3000K	225-235	375-420	CT-Connector	20mm Medium Frosted 19°	05704R888880066CBBF	LXM3-PW71 ANSI-Spec
		3000K	225-235	375-420	CT-Connector	No Optics	05704R888880066CXXX	LXM3-PW71 ANSI-Spec
		2700K	200-230	350-400	CT-Connector	No Optics	05704R888880070CXXX	LXM8-PW27 ANSI-Micro Spec
05701R 150x25mm	3	4000K	225-260	395-445	CT-Connector	10mm Medium Plain 18°	05701R777780075CAXE	LXM3-PW51 ANSI-Spec
		3500K	215-245	370-420	CT-Connector	20mm Wide Frosted 35°	05701R888880067CBBH	LXM3-PW61 ANSI-Spec
		3000K	240-260	420-450	CT-Connector	No Optics	05701R888880075CXXX	LXM8-PW30 ANSI-Micro Spec
		2700K	200-230	350-400	CT-Connector	No Optics	05701R888880070CXXX	LXM8-PW27 ANSI-Micro Spec
05705R 150x30mm	6	5500K	620-685	1115-1230	CT-Connector	No Optics	05705R999960200CXXX	LXML-PWC2 Rebel ES
		4100K	600-670	1070-1185	CT-Connector	No Optics	05705R777760200CXXX	LXML-PWN2 Rebel ES
		4000K	460-520	800-895	CT-Connector	No Optics	05705R777780075CXXX	LXM3-PW51 ANSI-Spec
		4000K	460-520	800-895	CT-Connector	10mm Medium Plain 18°	05705R777780075CAXE	LXM3-PW51 ANSI-Spec
		3500K	480-560	855-995	CT-Connector	No Optics	05705R888880160CXXX	LXW8-PW35 Rebel ES
		3500K	460-490	740-840	CT-Connector	10mm Medium Frosted 22°	05705R888880067CAXF	LXM3-PW61 ANSI-Spec
		3000K	800-860	1350-1480	CT-Connector	No Optics	05705R888880150CXXX	LXH8-PW30 LUXEON A
05702R 300x25mm	6	5500K	620-685	1115-1230	CT-Connector	No Optics	05702R999960200CXXX	LXML-PWC2 Rebel ES
		4100K	600-670	1070-1185	CT-Connector	No Optics	05702R777760200CXXX	LXML-PWN2 Rebel ES
		4000K	510-570	915-1030	CT-Connector	No Optics	05702R777780170CXXX	LXW8-PW40 Rebel ES
		3000K	460-515	790-895	CT-Connector	No Optics	05702R888880075CXXX	LXM8-PW30 ANSI-Micro Spec
		3000K	400-460	690-790	CT-Connector	No Optics	05702R888880066CXXX	LXM3-PW71 ANSI-Spec
		2700K	400-460	690-790	CT-Connector	No Optics	05702R888880070CXXX	LXM8-PW27 ANSI-Micro Spec

General Luminaire Solutions

Series	# LEDs	CCT	Flux @350mA ¹	Flux @700mA ¹	Connector	Optics	Part Number	LED Series
74 x 15mm	3	5500K	320-350	560-620	Poke-In	No Optics	GLV91R74151/CN-LG03W00T	LXML-PWC2 Rebel ES
		4000K	300-330	540-590	Poke-In	No Optics	GLV91R74151/CN-LG03D40T	LXML-PWN2 Rebel ES
		3000K	240-260	420-450	Poke-In	No Optics	GLV91R74151/CN-LB03S30L	LXM8-PW30 ANSI-Micro Spec
142 x 15mm	4	5500K	420-460	740-820	Poke-In	No Optics	GLV91RE2151/CN-LG04W00T	LXML-PWC2 Rebel ES
		4000K	400-440	710-790	Poke-In	No Optics	GLV91RE2151/CN-LG04D40T	LXML-PWN2 Rebel ES
		3000K	320-350	560-600	Poke-In	No Optics	GLV91RE2151/CN-LB04S30L	LXM8-PW30 ANSI-Micro Spec
284 x 15mm	4	5500K	420-460	740-820	Poke-In	No Optics	GLV91RS4151/CN-LG04W00T	LXML-PWC2 Rebel ES
		4000K	400-440	710-790	Poke-In	No Optics	GLV91RS4151/CN-LG04D40T	LXML-PWN2 Rebel ES
		3000K	320-350	560-600	Poke-In	No Optics	GLV91RS4151/CN-LB04S30L	LXM8-PW30 ANSI-Micro Spec
284 x 17mm	48	5000K	N/A	1350	20cm Leads	No Optics	GLV91RS4171/20-SB48S50A	Mid-Power LED
		4000K	N/A	1300	20cm Leads	No Optics	GLV91RS4171/20-SB48S40A	Mid-Power LED
		3000K	N/A	1250	20cm Leads	No Optics	GLV91RS4171/20-SB48S30A	Mid-Power LED

1. Light Output calculated based on Tj=85°C through our proprietary Usable Light Tool. Does not include optical losses.
For more information on simpleLED go to: www.FutureLightingSolutions.com/simpleLED

Square Stocking Guide



RENA Solutions

Series	# LEDs	CCT	Flux @ 350mA ¹	Flux @ 700mA ¹	Connector	Optics	Part Number	LED Series
05707R 50x50mm	4	4100K	400-440	710-790	CT-Connector	No Optics	05707R777760200CXXX	LXML-PWN2 Rebel ES
		3000K	320-350	560-600	CT-Connector	No Optics	05707R888880075CXXX	LXM8-PW30 ANSI-Micro Spec
		3000K	270-305	465-535	CT-Connector	10mm Wide Frosted 39°	05707R888880066CAXH	LXM3-PW71 ANSI-Spec
05703R 75x75mm	4	4000K	305-345	525-590	CT-Connector	20mm Wide Frosted 35°	05703R777780075CBBF	LXM3-PW51 ANSI-Spec
05708R 50x50mm	9	4100K	900-990	1610-1780	CT-Connector	No Optics	05708R777760200CXXX	LXML-PWN2 Rebel ES
		3000K	730-770	1260-1340	CT-Connector	No Optics	05708R888880075CXXX	LXM8-PW30 ANSI-Micro Spec
		3000K	600-680	1145-1265	CT-Connector	10mm Medium Frosted 22°	05708R888880067CAXF	LXM3-PW71 ANSI-Spec
05706R 75x75mm	9	5500K	940-1030	1680-1850	CT-Connector	No Optics	05706R999960200CXXX	LXML-PWC2 Rebel ES
		4100K	900-990	1610-1780	CT-Connector	No Optics	05706R777760200CXXX	LXML-PWN2 Rebel ES
		3500K	685- 710	1035-1190	CT-Connector	No Optics	05706R888880067CXXX	LXM3-PW61 ANSI-Spec
		3000K	730-770	1260-1340	CT-Connector	No Optics	05706R888880075CXXX	LXM8-PW30 ANSI-Micro Spec

1. Light Output measured at ambient 25°C in an open air environment with optimized heatsink.
Please refer to simpleLED Light Output and Thermal Guide for off-the-shelf heatsink part numbers. Does not include optical losses.
For more information on simpleLED go to: www.FutureLightingSolutions.com/simpleLED

RENA Cable Assembly Guide



Circular Solutions

LIGHT ENGINE FORM FACTOR				DRIVER TYPE	CONNECTIVITY OPTIONS (PART #)	
LED COUNT	SIZE (mm)	SERIES #	BOARD CONNECTOR		DRIVER TO LIGHT ENGINE	LIGHT ENGINE TO LIGHT ENGINE
3	45	05711R	mini-CT	LED Driver with Leads or LED Driver with CT Connector	1969341-2 (150mm)* 1969341-3 (300mm)* (mini-CT single end)	N/A
6	45	05712R	mini-CT	LED Driver with Leads or LED Driver with CT Connector	1969328-5 (150mm) (CT to mini-CT)	N/A
9	75	05713R	mini-CT	LED Driver with Leads or LED Driver with CT Connector	1969328-5 (150mm) (CT to mini-CT)	N/A

Linear Solutions

LIGHT ENGINE FORM FACTOR				DRIVER TYPE	CONNECTIVITY OPTIONS (PART #)	
LED COUNT	SIZE (mm)	SERIES #	BOARD CONNECTOR		DRIVER TO LIGHT ENGINE	LIGHT ENGINE TO LIGHT ENGINE
1	50 x 25	05700R	CT	LED Driver with Leads	1969336-3 (300mm)* (CT single end)	1969343-5 (150mm) 1969343-6 (300mm) (CT to CT) (White Cables)
3	75 x 30	05704R	CT	LED Driver with Leads	1969336-3 (300mm)* (CT single end)	1969343-5 (150mm) 1969343-6 (300mm) (CT to CT) (White Cables)
3	150 x 25	05701R	CT	LED Driver with CT Connector	1969343-5 (150mm) 1969343-6 (300mm) (CT to CT)	1969343-5 (150mm) 1969343-6 (300mm) (CT to CT) (White Cables)
6	150 x 30	05705R	CT	LED Driver with CT Connector	1969343-5 (150mm) 1969343-6 (300mm) (CT to CT)	1969343-5 (150mm) 1969343-6 (300mm) (CT to CT) (White Cables)
6	300 x 25	05702R	CT	LED Driver with CT Connector	1969343-5 (150mm) 1969343-6 (300mm) (CT to CT)	1969343-5 (150mm) 1969343-6 (300mm) (CT to CT) (White Cables)

Square Solutions

LIGHT ENGINE FORM FACTOR				DRIVER TYPE	CONNECTIVITY OPTIONS (PART #)	
LED COUNT	SIZE (mm)	SERIES #	BOARD CONNECTOR		DRIVER TO LIGHT ENGINE	LIGHT ENGINE TO LIGHT ENGINE
4	50 x 50	05707R	mini-CT	LED Driver with Leads	1969341-2 (150mm)* 1969341-3 (300mm)* (mini-CT single end) 1969328-5 (150mm) (CT to mini-CT)	1969342-4 (50mm) (mini CT to Mini CT cable) (White Cable)
9	50 x 50	05708R	mini-CT	LED Driver with CT Connector	1969341-2 (150mm)* 1969341-3 (300mm)* (mini-CT single end) 1969328-5 (150mm) (CT to mini-CT)	1969342-4 (50mm) (mini CT to Mini CT cable) (White Cable)
4	75 x 75	05703R	CT	LED Driver with Leads	1969336-3 (300mm)* (CT single end) 1969343-5 (150mm) 1969343-6 (300mm) (CT to CT)	1969343-5 (150mm) 1969343-6 (300mm) (CT to CT) (White Cables)
9	75 x 75	05706R	CT	LED Driver with CT Connector	1969336-3 (300mm)* (CT single end) 1969343-5 (150mm) 1969343-6 (300mm) (CT to CT)	1969343-5 (150mm) 1969343-6 (300mm) (CT to CT) (White Cables)

* Splicing Wire connector (WAGO #222-412/K194-4045-L2)

Recommended to couple leads from an LED driver with leads from a cable assembly from the Light engine

LED Driver Guide*



Driver Options @ 350mA

120 Vac		
LEDs**	Part Number	Description
1	LEDUNIA0350C12F	120-240 Vac Philips Lighting 12 V 4 W
2	LEDUNIA0350C12F	120-240 Vac Philips Lighting 12 V 4 W
3	LEDUNIA0350C12F	120-240 Vac Philips Lighting 12 V 4 W
4	LED120A0350C33F	120 Vac Philips Lighting 33 V 12 W
5	LED120A0350C33F	120 Vac Philips Lighting 33 V 12 W
6	LED120A0350C33F	120 Vac Philips Lighting 33 V 12 W
7	LED120A0350C33F	120 Vac Philips Lighting 33 V 12 W
8	LED120A0350C33F	120 Vac Philips Lighting 33 V 12 W
9	LED120A0350C33F	120 Vac Philips Lighting 33 V 12 W
10	LPC-20-350	90-264 Vac Mean Well 48 V 17 W
11	LPC-20-350	90-264 Vac Mean Well 48 V 17 W
12	LPC-20-350	90-264 Vac Mean Well 48 V 17 W
13	LPC-20-350	90-264 Vac Mean Well 48 V 17 W
14	LPC-20-350	90-264 Vac Mean Well 48 V 17 W
18	EUC-025S035DS	90-305 Vac Inventronics 72 V 25 W
24	EUC-040S035DS	90-305 Vac Inventronics 114 V 40 W

230 Vac		
LEDs**	Part Number	Description
1	LEDUNIA0350C12F	120-240 Vac Philips Lighting 12 V 4 W
2	LEDUNIA0350C12F	120-240 Vac Philips Lighting 12 V 4 W
3	LEDUNIA0350C12F	120-240 Vac Philips Lighting 12 V 4 W
4	913700615882	230 Vac Philips Lighting 33 V 12 W
5	913700615882	230 Vac Philips Lighting 33 V 12 W
6	913700615882	230 Vac Philips Lighting 33 V 12 W
7	913700615882	230 Vac Philips Lighting 33 V 12 W
8	913700615882	230 Vac Philips Lighting 33 V 12 W
9	913700615882	230 Vac Philips Lighting 33 V 12 W
10	CL350-240-56V	230 Vac Harvard Engineering 48 V 17 W
11	CL350-240-56V	230 Vac Harvard Engineering 48 V 17 W
12	CL350-240-56V	230 Vac Harvard Engineering 48 V 17 W
13	CL350-240-56V	230 Vac Harvard Engineering 48 V 17 W
14	CL350-240-56V	230 Vac Harvard Engineering 48 V 17 W
18	EUC-025S035DS	90-305 Vac Inventronics 72 V 25 W
24	EUC-040S035DS	90-305 Vac Inventronics 114 V 40 W

Driver Options @ 700mA

120 Vac		
LEDs**	Part Number	Description
1	LEDUNIA0700C12F	120-230 Vac Philips Lighting 12 V 8 W
2	LEDUNIA0700C12F	120-230 Vac Philips Lighting 12 V 8 W
3	LEDUNIA0700C12F	120-230 Vac Philips Lighting 12 V 8 W
4	LED120A0700C24F	120 Vac Philips Lighting 24 V 17 W
5	LED120A0700C24F	120 Vac Philips Lighting 24 V 17 W
6	LED120A0700C24F	120 Vac Philips Lighting 24 V 17 W
7	LED120A0700C28FO	120 Vac Philips Lighting 28 V 20 W
8	LPC-35-700	90-264 Vac Mean Well 48 V 34 W
9	LPC-35-700	90-264 Vac Mean Well 48 V 34 W
10	LPC-35-700	90-264 Vac Mean Well 48 V 34 W
11	LPC-35-700	90-264 Vac Mean Well 48 V 34 W
12	LPC-35-700	90-264 Vac Mean Well 48 V 34 W
13	913701213402	120-277 Vac Philips (Fortimo) 56 V 39 W
14	913701213402	120-277 Vac Philips (Fortimo) 56 V 39 W
18	EUC-050S070DT	90-305 Vac Inventronics 72 V 50 W
24	EUC-075S070DT	90-305 Vac Inventronics 108 V 75 W

230 Vac		
LEDs**	Part Number	Description
1	LEDUNIA0700C12F	120-230 Vac Philips Lighting 12 V 8 W
2	LEDUNIA0700C12F	120-230 Vac Philips Lighting 12 V 8 W
3	LEDUNIA0700C12F	120-230 Vac Philips Lighting 12 V 8 W
4	913700615982	230 Vac Philips Lighting 24 V 17 W
5	913700615982	230 Vac Philips Lighting 24 V 17 W
6	913700615982	230 Vac Philips Lighting 24 V 17 W
7	CL700-240	230 Vac Harvard Engineering 48 V 33 W
8	CL700-240	230 Vac Harvard Engineering 48 V 33 W
9	CL700-240	230 Vac Harvard Engineering 48 V 33 W
10	CL700-240	230 Vac Harvard Engineering 48 V 33 W
11	CL700-240	230 Vac Harvard Engineering 48 V 33 W
12	CL700-240	230 Vac Harvard Engineering 48 V 33 W
13	CL700-240	230 Vac Harvard Engineering 48 V 33 W
14	RSLD035-14	120-277 Vac ROAL 49 V 34 W
18	EUC-050S070DT	90-305 Vac Inventronics 72 V 50 W
24	EUC-075S070DT	90-305 Vac Inventronics 108 V 75 W

* Specifications may change at any time. Only for suggestion. More options available. Contact Future Lighting Solutions for more information.

** Total # of LEDs in series used in the system. Including multiple LED boards connected together.

Refer to Philips Lumileds AB32 for electrical isolation considerations

For more information on simpleLED go to: www.FutureLightingSolutions.com/simpleLED

Driver Options for General Luminaire Linear Mid-Power Light Engines @ 700mA

Series part #: GLV91RS4171/20-SB48xxxx

120 Vac		
# of Boards	Part Number	Description
1	LPC-20-700	90-264 Vac Mean Well 30 V 21W
1	LED120A0700C24F	120 Vac Philips Lighting 24 V 17 W
1	LED120A0700C28FO	120 Vac Philips Lighting 28 V 20 W
1	RLDD015L-700	90-135 Vac ROAL 24 V 17 W
1	EUC-025S070DS	90-305 Vac Inventronics 36 V 25 W
2	LPC-35-700	90-264 Vac Mean Well 48V 34 W
2	CL700S-UNI	95-277 Vac Harvard Engineering 48 V 33 W
2	913701213402	120-277 Vac Philips Lighting 56 V 39 W
2	EUC-050S070DT	90-305 Vac Inventronics 54 V 40 W
3	EUC-050S070DT	90-305 Vac Inventronics 54 V 40 W
4	LEDINTA700C140F3O	120-277 Vac Philips Lighting 140 V 100 W
4	EUC-075S070DT	90-305 Vac Inventronics 108 V 75 W

230 Vac		
# of Boards	Part Number	Description
1	LPC-20-700	90-264 Vac Mean Well 30 V 21W
1	RLDD015H-700	176 - 265 Vac ROAL 24 V 17 W
1	EUC-025S070DS	90-305 Vac Inventronics 36 V 25 W
2	LPC-35-700	90-264 Vac Mean Well 48 V 34 W
2	CL700S-240	95-277 Vac Harvard Engineering 48 V 33 W
2	EUC-050S070DT	90-305 Vac Inventronics 54 V 40 W
3	EUC-050S070DT	90-305 Vac Inventronics 54 V 40 W
4	EUC-075S070DT	90-305 Vac Inventronics 108 V 75 W

* Specifications may change at any time. Only for suggestion. More options available. Contact Future Lighting Solutions for more information. For more information on simpleLED go to: www.FutureLightingSolutions.com/simpleLED

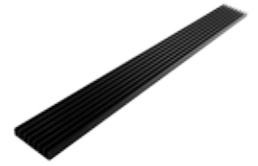
Optics Guide



Manufacturer	Size	Beam Angle	Description	Part Number	Requires Holder	Compatible Boards	
Carclo-Optics	20mm Diameter Lens	9°	Plain Tight	10193	✓	RENA 05700 Linear 1 05701 Linear 3 05702 Linear 6 05704 Linear 3 05705 Linear 6 05703 Square 4 05708 Square 9	
		12°	Frosted Narrow	10194	✓		
		19°	Rippled Medium	10208	✓		
		19°	Medium Frosted	10195	✓		
		24°	Rippled Wide	10209	✓		
		35°	Wide Frosted	10196	✓		
		45 x 9.5°	Elliptical	10197	✓		
		9 x 45°	Elliptical Orthogonal	10198	✓		
		100°	Bubble Downlight	10628			
		120°	Bubble 120	10403			
	130°	Bubble 130	10406				
	180°	Bubble Hemispherical	10620				
	20mm Diameter Lens Holders	-	Black Holder	10235			
		-	White Holder	10236			
		-	Clear Holder	10237			
		-	50mm Triple White Holder	10289		05711 Circular 3	
		-	50mm Triple Black Holder	10309			
	10mm Diameter Lens	18°	Narrow	10412		All RENA Light Engines	
27°		Medium Frosted	10413				
44°		Wide Frosted	10414				
46 x 19°		Elliptical	10415				
General Luminaire	13.5mm Diameter Lens*	18°/22°	Spot	GLVA1BS01H		All GL Light Engines	
		25°/27°	Narrow	GLVA1BN01H			
		37°/43°	Flood	GLVA1BF01H			
		52°/55°	Wide	GLVA1BW01H			
	50mm Diameter 7-LED Lens*	20°/22°	Spot	GLVA1BS07Y50		✓	GLV92C50501 Series
		25°/27°	Narrow	GLVA1BN07Y50		✓	
		37°/TBD	Flood	GLVA1BF07Y50		✓	
		52°/55°	Wide	GLVA1BW07Y50		✓	
		-	7-LED Diffuser	GLVA1DF50		✓	
		-	7-LED Optic Holder	GLVA10000X50			

* LUXEON Rebel / LUXEON Rebel ES

Thermal Guide



Circular Solutions

Manufacturer	Part Number	Length (mm)	Width (mm)	Height (mm)	Thermal Resistance (°C/W)	simpleLED Series	Drive Current (mA)
General Luminaire	GLVA2C50501A35	50	50	35	5.70	GLV92C50501 Circular 7	350
	GLVA2C50501K35	50	50	35	5.70		350
	GLVA2C50501A50	50	50	50	4.40		420
	GLVA2C50501K50	50	50	50	4.40		420
	GLVA2C50501A80	50	50	80	3.30		510
	GLVA2C50501K80	50	50	80	3.30		510
Khatod	KHS500	45	45	15	10.30	05711R Circular 3	350

Linear Solutions

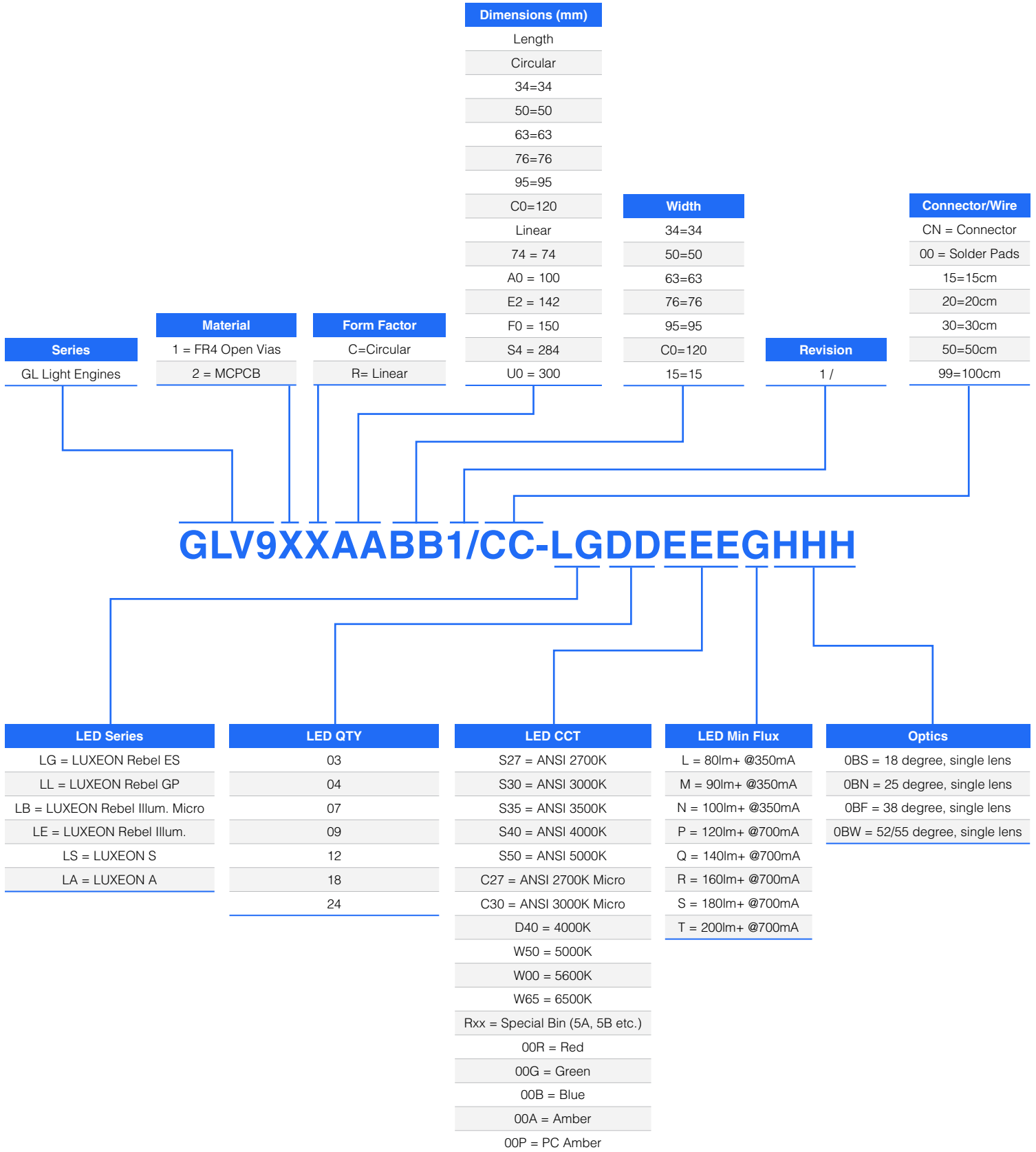
Manufacturer	Part Number	Length (mm)	Width (mm)	Height (mm)	Thermal Resistance (°C/W)	simpleLED Series	Drive Current (mA)
Aavid Thermalloy	615203B01969G	50	50	11.4	20.72	05700R Linear 1	350
	700353B02953G	75	27.9	8.9	11.28	05704R Linear 3 GLV91R74151 Linear 3	350
	619953B05906G	150	18.9	6.1	10.16	05701R Linear 3 GLV91RE2151 Linear 4	350
	700353B05906G	150	27.9	8.9	7.98	05705R Linear 6	350
	634553B11811G	300	30.1	6.6	6.98	05702R Linear 6 GLV91RS4151 Linear 4	350
	676053B01969G	50	24	15	10.80	05700R Linear 1	700
	625603B05906G	150	25.4	31.8	4.78	05701R Linear 3 GLV91RE2151 Linear 4	700
	652453B05906G	150	32	41.9	3.16	05705R Linear 6	700
	652453B11811G	300	32	41.9	2.23	05702R Linear 6 GLV91RS4151 Linear 4	700
	652453B02953G	75	32	41.9	4.47	05704R Linear 3 GLV91R74151 Linear 3	700

Square Solutions

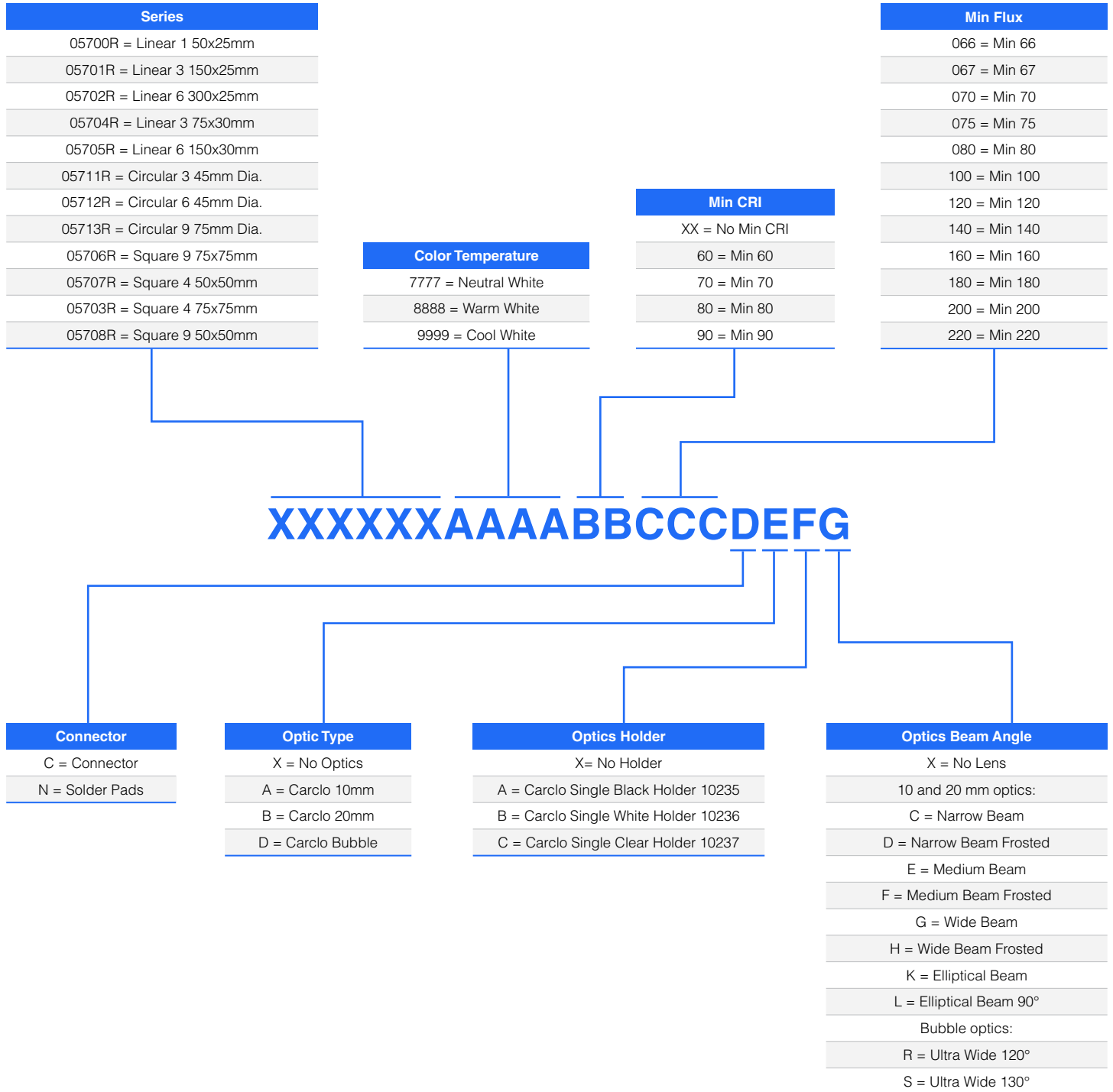
Manufacturer	Part Number	Length (mm)	Width (mm)	Height (mm)	Thermal Resistance (°C/W)	simpleLED Series	Drive Current (mA)
Aavid Thermalloy	799303B01799G	45.7	45.7	7	12.29	05711R Circular 3	350
	792003B01299G	33	33	12.24	12.24	05707R Square 4	350
	609553B02681G	68.1	68.1	10.2	6.21	05703R Square 4 05706R Square 9	350
	646353B01799G	45.7	45.7	16.3	6.04	05712R Circular 6	350
	612153B01846G	46.9	46.9	31.9	5.79	05711R Circular 3	700
	631353B02098G	53.3	53.3	44.4	3.38	05707R Square 4	700
	790003B02618G	66.5	66.5	68.6	1.71	05712R Circular 6	700
	739253B02886G	73.3	73.3	25.4	1.48	05703R Square 4 05706R Square 9 05708R Square 9 05713R Circular 9	700

Part Number Builder for Light Engines

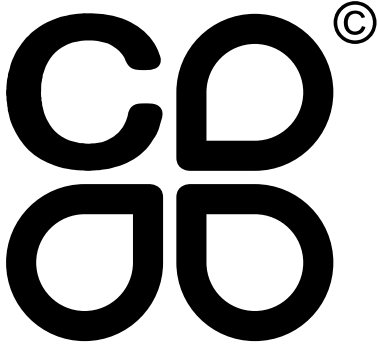
General Luminaire



RENA



Philips LED Licensing Agreement



Future Lighting Solutions offers a basic light engine marked with the Clover trademark as a qualified component under the Philips LED Licensing Program.

The Clover trademark is a registered trademark of Royal Philips Electronics N.V.

1. How it works today

Philips introduced a patent licensing program for branded LED-based luminaires used in the general illumination, architectural, entertainment and theatrical markets. If you are a manufacturer of luminaires for one of these end markets and use one of the following technologies, then you may need to enter into a license agreement with Philips.

The technologies covered by the Philips LED Licensing Program include:

Single Color Luminaires

Tunable White Luminaires

Color Changing Luminaires

The royalties due under Philips' LED Licensing Program vary based on the technology used and are calculated as a percentage of the value of a finished branded luminaire covered by a patent in the licensing program, and that is made or sold in a country where such patent is granted (see Figure 1 for the rate breakdown by technology).

Figure 1. Royalty Breakdown:

% Royalty	Technologies
3%	Single Color Luminaires (fixed color temperature white or color)
4%	Tunable White Luminaires (color temperature controllable)
5%	Color Changing Luminaires



2. Philips LED Licensing Program

It's possible to qualify for a 0% royalty payment license if you meet the following conditions:

- I. Luminaire maker must be a licensee of Philips' LED Licensing Program
- II. Luminaires include only "qualified components".
These "qualified components" are defined as:
- III. LED light-engines and
- IV. LED drivers; and
- V. Components, if any, for controlling the light output of the LEDs used in the luminaires
- VI. "Qualified components" all bear a trademark of a "qualified supplier"

3. How to Obtain a Philips LED License Agreement

For details about the Philips LED Licensing Program requirements, please contact Philips Intellectual Property & Standards (IP&S) via www.ip.philips.com/licensing/led or info.LEDlicensing@philips.com.

For more information about Clover, please refer to www.ip.philips.com/licensing/clover.

After a general introduction to the program, Philips IP&S and the luminaire maker will:

- I. Enter into a NDA
(This protects the product information and ensures that the luminaire maker's information is not shared outside Philips IP&S)
- II. Work with luminaire makers to assess their products
- III. Conclude / issue patent license agreement

In Conclusion:

You can now use a basic light engine from the simpleLED program, marked with the Clover trademark as a qualified component under the Philips LED Licensing Program to help qualify your finished luminaire for a 0% royalty license.

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