

LED Light Modules



1. LED Light Modules

Manufacturer	Region	Description	Initial Lumens	CRI	CCT (K)	System Input Power (W)	System Efficacy (lm/W)	Input Voltage (V)	B50 L70 Tc Max 65°C	Part Number
Philips Lighting	Worldwide	Fortimo LED SLM 800 11W/830	800	>80	3000	13	62	120 - 277	50k	929000621403
		Fortimo LED SLM 800 10W/835	800	>80	3500	12	67	120 - 277	50k	929000621503
		Fortimo LED SLM 800 10W/840	800	>80	4000	12	67	120 - 277	50k	929000621603
		Fortimo LED SLM 1100 18W/830	1100	>80	3000	20	55	120 - 277	50k	929000611503
		Fortimo LED SLM 1100 18W/835	1100	>80	3500	20	55	120 - 277	50k	929000612703
		Fortimo LED SLM 1100 17W/840	1100	>80	4000	18	61	120 - 277	50k	929000612903
		Fortimo LED SLM 1500 20W/830	1500	>80	3000	22	68	120 - 277	50k	929000621703
		Fortimo LED SLM 1500 20W/835	1500	>80	3500	22	68	120 - 277	50k	929000621803
		Fortimo LED SLM 1500 19W/840	1500	>80	4000	35	71	120 - 277	50k	929000621903
		Fortimo LED SLM 2000 33W/830	2000	>80	3000	35	57	120 - 277	50k	929000611603
		Fortimo LED SLM 2000 33W/835	2000	>80	3500	35	57	120 - 277	50k	929000612803
		Fortimo LED SLM 2000 31W/840	2000	>80	4000	32	63	120 - 277	50k	929000613003
		Fortimo LED SLM 3000 830 (1st Half Q1 2012 in NA)	3000	>80	3000	48	63	120 - 277	50k	929000635703
		Fortimo LED SLM 3000 840 (1st Half Q1 2012 in NA)	3000	>80	4000	43	70	120 - 277	50k	929000635903
Europe, Middle-East, Africa, Asia										

2. Optical Solutions

Manufacturer	Description	Part Number
Alux-Luxar	Fortimo SLM Aluminum Reflector, Round, Spun 24 Facets, Diffuse 2x14°	FLC 1300
	Fortimo SLM Aluminum Reflector, Round, Spun 24 Facets, Diffuse 2x20°	FLC 1600
	Fortimo SLM Aluminum Reflector, Round, 16 Segmented, 2x13.5°	FLC 1400
	Fortimo SLM Aluminum Reflector, Round, 16 Segmented, 2x18.5°	FLC 1700

3. Power Solutions

Driver Module Solutions

Manufacturer	Region	Description	Input Voltage (V)	Dimming*	Wattage (W)	800lm	1100lm	1500lm	2000lm	3000lm	Part Number	
Philips Lighting	North America	Xitanium LED Driver	120-277	0-10V	39	✓	✓	✓	✓		913701213402	
		Xitanium LED Driver	220-240	TD	56	✓	✓	✓	✓		929000465003	
		Xitanium LED Driver	220-240	TD	56	✓	✓	✓	✓		929000465203	
		Xitanium LED Driver	220-240	-	25	✓	✓				929000600203	
		Xitanium LED Driver	220-240	TE	25	✓	✓				929000600303	
		Xitanium LED Driver	220-240	TD	25	✓	✓				929000600403	
	Europe, Middle-East, Africa, Asia	Xitanium LED Driver (without 12V connector)	220-240	TD	25	✓	✓					929000485803
		Xitanium LED Driver	220-240	-	45	✓	✓	✓	✓			929000614503
		Xitanium LED Driver	220-240	TD/TE	50			✓	✓	✓		929000617103
		Xitanium LED Driver	220-240	TD/TE	50			✓	✓	✓		929000617203
		Xitanium LED Driver	220-240	-	50			✓	✓	✓		929000636403
		Xitanium LED Driver	220-240	-	50			✓	✓	✓		929000617403
		Xitanium LED Driver	220-240	-	50			✓	✓	✓		929000636303
		Xitanium LED Driver	220-240	-	50			✓	✓	✓		929000636303

* TD = Touch and Dali, TE = Trailing Edge

4. Thermal Solutions

Manufacturer	Series	Product	Diameter / Length (mm)	Thermal Resistance (°C)	Max Cooling Capacity (W)	Input Voltage (V)	Power Consumption (W)	Part Number
Nuventix Inc.	ZFlow 65	SynJet Cooler	66	-	-	12	0.45 - 0.85	SPARS-CM012-002
		Heat Sink	75	1.41 - 2.33*	21	-	-	HSSLS-CALCL-005
	ZFlow 75	SynJet Cooler	75	-	-	12	0.36 - 0.55	SSLCS-CM012-002
		Heat Sink	75	0.97 - 1.2*	31	-	-	HSLCS-CALCL-001
		Heat Sink	87	0.88 - 1.0*	34	-	-	HSLCS-CALBL-001
		Heat Sink	99	0.8 - 0.97*	38	-	-	HSLCS-CALBL-012
	ZFlow 90	SynJet Cooler	-	-	-	12	0.60 - 0.98	NX200102
		Heat Sink	118	0.5 - 0.6*	60	12	-	NX300101**
All ZFlow Products	Cable Harness	600	-	-	-	-	WALLS-C4600-001	

* Thermal resistance when used with SynJet cooler.

** Designed for 3000lm SLM.

5. Connector Solutions

Manufacturer	Region	Description	Part Number
Philips Lighting	North America	Fortimo LED SLM Cable 50cm	442240073981
		Fortimo LED SLM Cable 60cm	929000619203
	Europe, Middle-East, Africa, Asia	Fortimo LED SLM Cable 60cm	929000632903
		Fortimo LED SLM Cable 25cm	929000614703

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LED Application Feature:

Spotlights

Key Market Drivers



"Punch" of Light

- Highest center beam candle power (CBCP)
- Highest lumens per mm2



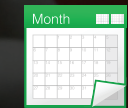
Quality of Light

- Color rendering (>80 CRI)
- Color in application (LUXEON LEDs are tested and measured at 85°C)
- Color consistency of LUXEON A & LUXEON S LEDs will stay within a 3 SDCM ellipse
- Color over angle performance is best in class
- Industry leading reliability and color consistency over time



Efficiency

- Significant energy savings



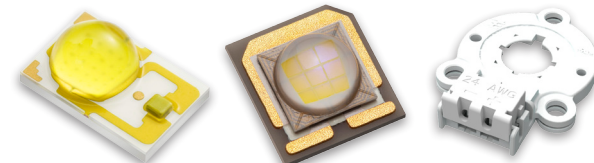
Lifetime

- Between 30,000 and 50,000 hours

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LEDs & System Components



1. High Power LUXEON® LEDs

Manufacturer	Product Family	Nominal CCT (K)	Minimum CRI	Typical CRI	Min Flux (lumens)	Typ Flux (lumens)	Test Forward Current (mA)	Typical Efficacy (lm/W)	Part Number
Philips Lumileds	LUXEON Rebel Illumination Portfolio	ANSI 2700	80	85	70	80	350	76	LXM8-PW27
		ANSI 3000	80	85	75	85	350	81	LXM8-PW30
	LUXEON S**	ANSI 3000	80	85	1175	1300	700	68	LXS8-PW30*
		ANSI 3500	80	85	160	185	700	88	LXW8-PW35
		ANSI 4000	80	85	170	190	700	95	LXW8-PW40
		ANSI 2700	90	95	120	135	700	64	LXW9-PW27
LUXEON Rebel ES	ANSI 3000	90	95	120	145	700	69	LXW9-PW30	
	LUXEON A	2700	80	85	140	160	700	80	LXH8-PW27*
3000		80	85	150	165	700	82	LXH8-PW30*	

* Freedom From Binning, hot tested and color binned at TJ 85°C

**Mounted directly on a heatsink using TE Connectivity Solderless LED Socket, Type LS. Refer to the connector solutions table.

2. Optical Solutions

Manufacturer	Description	Beam Angle (°)	Diameter (mm)	Part Number
Carclo-Optics	20mm Plain Narrow (9°) Beam TIR Optic	9	20	10193*
	20mm Frosted Narrow (12°) Beam TIR Optic	12	20	10194*
Fraen	50mm Narrow (10°) Beam Reflector	10	50	R50-N1-LS1-C**
	50mm Medium (25°) Beam Reflector	25	50	R50-M1-LS1-C**
	50mm Wide (40°) Beam Reflector	40	50	R50-W1-LS1-C**
LEDIL	45mm Narrow (6°) Beam Reflector	6	45	C11773VenlaSVega**
	45mm Medium (14°) Beam Reflector	14	45	C11775VenlaMVega**
	45mm Wide (21°) Beam Reflector	21	45	C11776VenlaWVega**
	45mm Ultra Wide (24°) Beam Reflector	24	45	C11777VenlaWVega**
	21.8mm Spot (18°) Beam Triple Optic	18	21.8	C11601_Satu-S-RE
	35mm Spot (12°) Beam Triple Optic	12	35	C10754_Cute-3-SS-RE
	50mm Spot (12°) Beam Triple Optic	16	50	C11606_Annas-3-S-ES
	35mm Spot (17°) Beam Quad Optic	17	35	C10971_GT4-RE-S
	50mm Spot (12°) Beam Quad Optic	16	50	C11799_Annas-4-S-ES
	40mm Spot (12°) Beam Quad Optic	16	40	C11793_Annas-4-S-ES

* Compatible with LUXEON Rebel ES

** Compatible with LUXEON S

3. Power Solutions

Driver Module Solutions

Manufacturer	Region	Power (W)	V _{in} (Vac)	V _{out} (Vdc)	I _{out} (mA)	0 - 10 V	DALI	Part Number
Harvard Engineering	Worldwide	33	95-277	9-48	350-700			CL700S-UNI-C
Inventronics	Worldwide	25	90-305	12-36	700	✓		EUC-025S070DS
Mean Well	Worldwide	33.6	90-264	9-48	700			LPC-35-700
		39	120-277	25-56	200-700	✓		913701213402
Philips Lighting	North America	17	120	2.8-24	700			LED120A0700C24F
		3.5	120-240	2.4-12	350			LEDUNIA0350C12F
	Europe, Middle-East, Africa, Asia	15-30	220-240	18-36	300-1000		✓	929000600403
		36	220-240	25-36	300-700			929000600203
		17	207-264	5.6-24.6	700			913700615982

IC Solutions

Manufacturer	V _{in} (Vac)	V _{out} typ (Vdc)	I _{out} typ (mA)	TRIAC Dimmable	Part Number
Marvell	85-277	100	1200		88EM8081

4. Connector Solutions

Manufacturer	Description	Part number
TE Connectivity	Solderless LED socket, type LS without optic latches	2154235-1
	Solderless LED socket, type LS with optic latches	2154235-2

LED Light Engines



1. Light Engine Solutions

Manufacturer	Diameter (mm)	LEDs	Lumen Output @ 350mA (lm)	Lumen Output @ 700mA (lm)	CCT (K)	CRI	Optics	Part Number
General Luminaire	34	3	250	420	3000	80	-	GLV92C34341/CN-LB03S30L
	50	7	550	1000	3000	80	-	GLV92C50501/CN-LB07S30L
	63	9	750	1300	3000	80	-	GLV92C63631/CN-LB09S30L
	76	12	1000	1700	3000	80	-	GLV92C76761/CN-LB12S30L
RENA	45	3	250	400	3000	80	-	05711R888880075CXXX
	45	3	250	400	3000	80	35° Trilens	05711R888880075CBEH
	45	6	475	840	3000	80	-	05712R888880075CXXX
	75	9	750	1200	3000	80	-	05713R888880075CXXX

2. Optical Solutions

Manufacturer	Description	Beam Angle (°)	Diameter (mm)	Optical Holder	Part Number
	RENA 05711 series	12	20	10289 (50mm)	10194
	RENA 05711 series	19	20	10289 (50mm)	10195
Carclo-Optics	RENA 05711 series	35	20	10289 (50mm)	10196
	RENA 05711-712-713 series	18	10	n/a	10412
	RENA 05711-712-713 series	21	10	n/a	10413
	RENA 05711-712-713 series	43	10	n/a	10414

NOTE: For GL, optics available when ordered pre-mounted from factory. See data sheet for more details. Minimum order required.

3. Power Solutions

Driver Module Solutions

Manufacturer	Region	Number of LEDs per light engine	Power (W)	V _{in} (VAC)	V _{out} Max (Vdc)	I _{out} (mA)	Part Number
Harvard Engineering	Europe, Middle-East, Africa, Asia	12	17	230	48	350	CL350-240-56V-C
		7, 9, 12	33	230	48	700	CL700-240-C
Mean Well	Worldwide	12	17	120	48	350	LPC-20-350
		9-12	34	120	48	700	LPC-35-700
Philips Lighting	Worldwide	3	4	120	12	350	LEDUNIA0350C12F
		3	8	120	12	700	LEDUNIA0700C12F
	North America	7-9	12	120	33	350	LED120A0350C33F
		7	20	120	28	700	LED120A0700C28FO
	Europe, Middle-East, Africa, Asia	7-9	12	230	33	350	913700615882

4. Thermal Solutions

Manufacturer	Description	Part Number
Aavid Thermalloy	79930 Series 9.52°C/W Thermal Resistance 45.72 x 6.98 mm Heat Sink	799303B01799G
	64635 Series 4.68°C/W Thermal Resistance 46.89 x 16.33 mm Heat Sink	646353B01799G
	73925 Series 1.45°C/W Thermal Resistance 73.25 x 25.4 mm Heat Sink	739253B02886G
	61215 Series 4.54°C/W Thermal Resistance 41.4 x 7.62 mm Heat Sink	612153B01846G
Khatod Optoelectronic	79000 Series 1.6°C/W Thermal Resistance 66.55 x 68.58 mm Heat Sink	790003B02618G
	KHS Series 10.3°C/W Thermal Resistance 50 mm Diameter Heat Sink	KHS500

5. Connector Solutions

Manufacturer	Length (mm)	Description	Part Number	Compatible with
TE Connectivity	150	2 Position 150 mm Single Ended Mini CT Lead Assembly Black and Red Wires	1969341-2	RENA light engine
	300	2 Position 300mm Single Ended Mini CT Lead Assembly Black and Red Wires	1969341-3	RENA light engine
	150	CT to Mini CT Cable Assembly 24 AWG 150mm White Cable	1969328-5	RENA light engine

* GL light engines have on board TE Connectivity poke-in connectors.