

110V LED Luminaires, Performance and Compliance

In recent years, LED lighting has become the dominant light source for all 110V site lighting, whether a project is large or small. The lower maintenance and running costs, greater efficiency, extended life and low initial cost have resulted in a very quick switch away from fluorescent and metal halide light sources to LEDs.

Performance

To help users decide on the best lighting scheme for their site, we have produced a series of generic designs which model the different light levels that can be expected in typical site conditions when using our Flori-67 plug-in lighting systems with LED anti-corrosive fittings. Although every site is different and ever changing, these generic designs help site planners and managers to assess the light levels that can be expected on their projects. In the table below results are compared to the requirements of "BS EN 12464-2: Light and lighting. Lighting of work places. Outdoor work places" (all working areas of a construction site are designated outdoor). As can be seen, when using our 5m spacing lighting strings, an average level in excess of 50 lux can be achieved in open areas and corridors using our 27W LEDs. An average of over 100 lux can be achieved with 37W LEDs in open areas and corridors. We also have generic designs available for our 7m spacing and 10m spacing lighting strings. For the purposes of comparison, we include the results for 58W fluorescent lights, which clearly demonstrate that our 27W LED provides a greater level of illumination for less than half the running cost.

Overleaf there is a further table which details the technical specification of our LED fittings and their compliance with current LVD and EMC Directives.

BS EN 12464-2 Sub-section		Compliance with Light Levels per BS EN 12464-2, Table 5.3					
		Internal "Open" Area			3m Wide Corridor		
		5.3.1	5.3.2	5.3.3	5.3.1	5.3.2	5.3.3
Generic lighting schemes are based on a spacing of 5m, a mounting height of 3m, reflectance levels of 30% for all surfaces, a Maintenance Factor of 0.67 for 58W fluorescents and 0.74 for LEDs.	27W LED, 5m spacing (1 every 25m ² in open areas)	Compliant	Compliant	Non-Compliant (87 lux)	Compliant	Compliant	Non-Compliant (77 lux)
	37W LED, 5m spacing (1 every 25m ² in open areas)	Compliant	Compliant	Compliant	Compliant	Compliant	Compliant
Generic designs have also been produced for fittings at 7m and 10m spacing.	58W Fluorescent, 5m spacing (1 every 25m ² in open areas)	Compliant	Compliant	Non-Compliant (80 lux)	Compliant	Compliant	Non-Compliant (70 lux)

BS EN 12464-2 Clause	Type of area, task or activity	Illuminance, Lux
5.3.1	Clearance , excavation and loading	20
5.3.2	Construction areas, drain pipes mounting, transport, auxiliary and storage tasks	50
5.3.3	Framework element mounting, light reinforcement work, wooden mould and framework mounting, electric piping and cabling	100
5.3.4	Element jointing, demanding electrical, machine and pipe mountings (would typically require local task lighting)	200

Generic lighting schemes are also available for 7m and 10m spacing Flori-67

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Blakley Electrics LED Luminaire Performance and Compliance

Part No.	Description	Pre-Wired Assemblies Using Luminaire		Consumption	Lumen Output	Colour Temperature	LED Life Expectancy	Colour Rendering Index (Ra)	% Output in Emergency Mode	Power Factor	LDT/IES Files	Directive Compliance													
		Part No.	Range									BS EN 62471	BS EN 60598	BS EN 62493	BS EN 62031	BS EN 61347	BS EN 61000	BS EN 61547	BS EN 55015	RED Directive 2014/53/EU	ETSI EN 301	ETSI EN 300			
S060912H	Anti-corrosive LED luminaire, 27W, 110V	S060916H S060920H S060922H	Flori-67/3P Flori-67/4P Tasklite Tee Box	27W	3064 lumens	5000K	30000 hours	81%	N/A	0.99	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A	
S061085	i-Site 30W	S061093 S061094 S061095	Flori-67/3P Tasklite Tee Box Tasklite Tee Box	30W	3000 lumens	5000K	30000 hours	81%	N/A	0.97	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
S060913H	Anti-corrosive LED luminaire, 27W, 110V c/w 3 hour maintained battery back-up	S060921H S060922H S060923H	Flori-67/4P Flori-67/4P Tasklite Tee Box	27W	3064 lumens	5000K	30000 hours	75%	14%	0.99	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A
S061086F	i-Site 30W c/w Emer.	S061094F S061095F	Flori-67/3P Tasklite Tee Box	30W	3000 lumens	5000K	30000 hours	81%	14%	0.97	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
S060914H	Anti-corrosive LED luminaire, 37W, 110V	S060923H S060924H S060925H	Flori-67/4P Flori-67/4P Tasklite Tee Box	37W	4500 lumens	5000K	30000 hours	80%	N/A	0.99	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
S061087	i-Site 44W	S061095 S061096	Flori-67/3P Tasklite Tee Box	44W	4500 lumens	5000K	30000 hours	81%	N/A	0.99	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
S060915H	Anti-corrosive LED luminaire, 37W, 110V c/w 3 hour maintained battery back-up	S060924H S060925H S060926H	Flori-67/4P Flori-67/4P Tasklite Tee Box	37W	4500 lumens	5000K	30000 hours	80%	10%	0.99	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
S061088F	i-Site 44W c/w Emer	S061096F S061097F	Flori-67/3P Tasklite Tee Box	44W	4500 lumens	5000K	30000 hours	80%	10%	0.97	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
S060948E	Floodlight, LED, 50W, 110V	S060988E S060989E	Flori-67/3P c/w 16A plug lead	50W	4500 lumens	6000K	30000 hours	81%	N/A	0.87	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
S060949E	Floodlight, LED, 70W, 110V	S060989E S060990E	Flori-67/3P c/w 16A plug lead	70W	6300 lumens	6000K	30000 hours	81%	N/A	0.87	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
S060950E	Floodlight, LED, 100W, 110V	S060990E S060991E	Flori-67/3P c/w 16A plug lead	100W	9000 lumens	6000K	30000 hours	80%	N/A	0.99	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
S060935E	Floodlight, LED, 150W, 110V	S060936E S060937E	Flori-67/3P c/w photocell	150W	13500 lumens	6000K	30000 hours	80%	N/A	0.99	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
S061010E	Floodlight, LED, 200W, 110V	S061077 S061078	As above + photocell c/w 16A plug lead	200W	18000 lumens	6000K	30000 hours	81%	N/A	0.99	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
S061055E	Floodlight, LED, 300W, 110V	S061057E S061058E	Flori-67/3P As above + photocell	300W	27000 lumens	6000K	30000 hours	81%	N/A	0.99	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
S020465	Bulkhead, Clear, LED, 6W, 110V	S060904 S061062D	Flori-67/3P Pre-wired c/w bracket	6W	790 lumens	4000K	30000 hours	81%	N/A	0.99	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
S020466	Bulkhead, Red, LED, 6W, 110V	S060905 S061063D	Flori-67/3P Pre-wired c/w bracket	6W	180 lumens	#N/A	30000 hours	N/A	N/A	0.8	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
S061079	FES/110/LED/222/16A	N/A	Hi-Lite Festoon	10 x 5W	4000 lumens	6000K	30000 hours	75%	N/A	0.85	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
S061080	FES/110/LED/502/16A	N/A	Hi-Lite Festoon	20 x 5W	8000 lumens	6000K	30000 hours	75%	N/A	0.85	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
S060981D	Twin Spot LED	N/A	Non Maintained Emergency Luminaire Only	2 x 5W	900 lumens	6400K	30000 hours	70%	100%	0.8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
S061181	LineLite, 5 metre	N/A	LineLite Ropelight	70W	7500 lumens	6400K	30000 hours	89%	N/A	0.93	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
S061182	LineLite, 10 metre	N/A	LineLite Ropelight	140W	15000 lumens	6400K	30000 hours	89%	N/A	0.93	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A

Red Bulkheads are a Special Purpose luminaire and are not used for general illumination.