

TECHNICAL

COMPLIANCE WITH THE WEEE DIRECTIVE



LUMICOM
MEMBER

Responsibility for Waste under the WEEE Directive

The WEEE (Waste Electrical and Electronic Equipment) Directive, which came into force in July 2007, is EC legislation that requires all producers (manufacturers and importers) to take responsibility for treating and recycling their products at the end of their useful life.

The Directive aims to minimise the impact of waste electrical and electronic equipment on the environment by encouraging the design of products whose materials can be recovered, recycled or re-used. It sets targets for the collection, treatment, recycling and recovery of all electronic waste – in the first instance this applies to luminaires and lamps used in the commercial and contract sector (but not at this time residential schemes).

If the waste lighting equipment was installed before August 13, 2005, then the producer who is supplying the replacement products is responsible; if the discarded luminaire was sold on or after August 13, 2005, then the producer who originally supplied it is responsible. If the producer cannot be traced the end-user is responsible.

All producers of non-household lighting equipment should be registered with an approved collective compliance scheme; the main one for luminaires in the UK is Lumicom (www.lumicom.com) – Illuma Lighting is a registered member of Lumicom. The associated collection and disposal body for gas discharge lamps is Recolight (www.recolight.co.uk).

Lumicom has put in place a comprehensive scheme for the collection and disposal of non-household lighting equipment (see Lumicom website for details). As a member of the Lumicom scheme, we do not add a charge, we absorb the cost of WEEE.

At the same time, we will continue to design products which maximise their life, and where possible, are upgradeable as new technologies emerge (e.g. LEDs). Our product development process aims to facilitate the future treatment and recycling of our products with minimum difficulty and effort.

09

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QUALITY

Quality Assurance



All Illuma light fixtures are designed, manufactured and tested under quality assurance standards in accordance with BS EN 9001:2000. They are also designed in accordance with EN 60598. All our products are supported by a 5 year Guarantee.

NQA ISO 9001



Quality systems extend beyond physical product, they underpin every department at Illuma from Production through to Sales. This ensures that high quality standards are maintained and delivered to our customers through Quality Management Systems. Illuma are NQA accredited with ISO 9001:2008.

CE Marking



The CE mark indicates compliance with the requirements of:

- i) The low voltage directive for electrical safety (73/23/EEC as amended by 93/96/EEC).
- ii) The EMC directive for electro-magnetic compatibility (2004/108/EC as amended by 92/31/EEC).

Voltage

All fittings and transformers are supplied primarily for operation on 230V 50Hz circuits.

For alternative electrical specifications contact our Technical Support Department.

& SAFETY

Electrical Protection

EN 60598 : 2008



Class 1: fittings comply with Class 1 (I) earthed electrical requirements (i.e. have functional insulation in all parts, plus an earth termination)



Class 2: fittings comply with Class 2 (II) double insulated electrical requirements (i.e. have complete insulation in all parts, without an earth termination). In the event of an electrical fault, no dangerous voltage can reach touchable metal parts.



Class 3: fittings comply with Class 3 (III) electrical requirements (i.e. where protection against electrical shock relies on supply at safety extra-low voltages (SELV) and in which voltages higher than those of SELV are not generated.

Inflammability of Surface Protection

EN 60598 : 2008

Fittings comply with installation requirements for mounting on normally flammable surfaces.

Radio Suppression

EN 55015, EN 61000 and EN 61547



Fittings comply with radio interference suppression standards and electromagnetic compatibility (EMC) regulations.

IP RATINGS






ingress protection

Under EN 60529, all products are rated for their protection against ingress by water and dust particles or other foreign objects. The rating is expressed as a two-part IP number – for example IP67. The two numbers correspond to their protection level: the first number (between 1 and 6) refers to the level of protection from ingress by dust and other solid objects; the second number (1 to 8) refers to the level of protection from harmful water ingress. The protection levels are defined in the following tables.

First Number (protection level against solid objects)

IP	Defined Protection Level
IP0X	No protection
IP1X	Protects against foreign bodies down to 50mm diameter
IP2X	Protects against foreign bodies down to 12mm in diameter
IP3X	Protects against foreign bodies down to 2.5mm in diameter
IP4X	Protects against foreign bodies down to 1mm in diameter
 IP5X	Protects against harmful dust deposits – dust-proof
 IP6X	Protects against any entry of dust – dust-tight

Second Number (protection level against water)

IP	Defined Protection Level
IPX0	No protection
IPX1	Protects against drops of water falling vertically. Limited ingress permitted.
 IPX2	Protects from drops of water falling up to 15° from the vertical. Limited ingress permitted.
 IPX3	Protects against water sprayed from up to 60° from the vertical – rain proof. Limited ingress.
 IPX4	Protects from water splashed from all directions – splash-proof.
 IPX5	Protects from low-pressure jets of water from all directions – jet-proof.
IPX6	Protects against heavy seas or strong jets of water
 IPX7	Protects against temporary immersion down to 1 metre – water-tight. Not for permanent immersion.
 IPX8	Protects against permanent immersion at specified water depth – pressure water-tight.

Therefore an IP67 luminaire would be protected against the ingress of dust and the effects of temporary water immersion down to 1 metre.

IK RATINGS

impact protection

The 'IK' code, when applied to a luminaire, indicates its degree of protection against harmful mechanical impact. It is similar to the IP rating, in that it consists of the letters IK followed by two digits, which indicate the impact resistance. The digits run from '00' (no protection) up to '10' which offers protection to an impact of 20 Joules, tested using a pendulum hammer. Where a higher impact protection is required, an impact of 50 Joules is usually used, although there is no IK standard which covers this.

A Joule is the unit of work energy devised by the Système Internationale Organisation.

$$1\text{J} = 1\text{N} \times 1\text{m}$$

A Newton is the unit of force that causes an acceleration of 1m/s/s to a mass of 1kg.

Relation between IK Code and Impact Energy

IK Code	Impact energy in Joules
IK00	-
IK01	0.14
IK02	0.20
IK03	0.35
IK04	0.50
IK05	0.70
IK06	1
IK07	2
IK08	5
IK09	10
IK10	20

STANDARDS &

direct burial luminaires

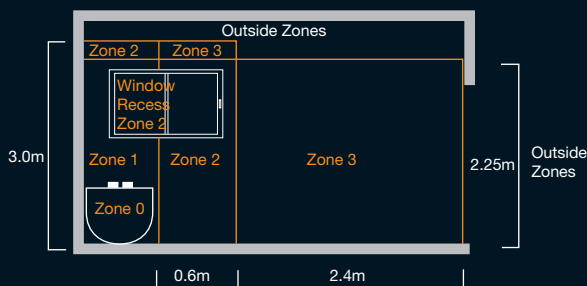
EN60598-2-13:2006 offers various qualified standards which should govern good installation practice for direct burial luminaires – in particular on top temperature limits, protrusion dimensions above ground level and resistance to static loads. These vary according to their function and degree of public accessibility. The following table sets out these recommended standards.

Intended Usage in Public Access	Max Temp in °C	Max Height above ground in mm	Static Load in kg
1. Normally non-accessible areas	Normal Wiring Regulations apply	No specified limit	No specified limit
2. Restricted accessible areas (e.g. pedestrian and cycles only)	100	0-5 (25 for non-pedestrian access)	500
3. All accessible areas (e.g. carriageways, parking etc.)	65 (metal) 80 (glass)	75 (with slope top + chamfer edge)	2000
4. As above but with areas where snow-ploughs and de-icing agents are used	65 (metal) 80 (glass)	0-5 (25 for non-pedestrian access)	2000
5. Special areas with children sensitive to burning (e.g. pools, nurseries etc.)	40	0-5 (25 for non-pedestrian access)	500

REGULATIONS

bathrooms & other wet areas

Areas within bathrooms, showers and other wet areas require particular Ingress Protection (IP) ratings for light fittings, depending on precisely where they are located. The drawing shows the various Zones which are covered.



Zone 0

This is the area inside the bath or shower – fittings used here should be rated **IPX7**.

Zone 1

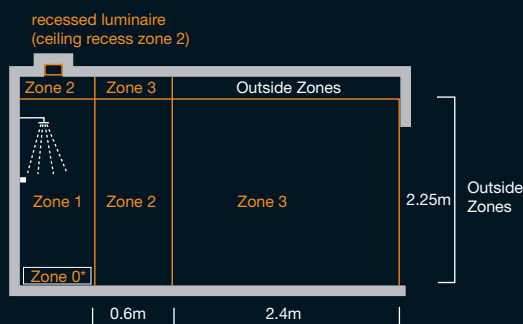
This refers to the area above the bath or shower up to a height of 2.25 metres – fittings here should have a minimum rating of **IPX4**.

Zone 2

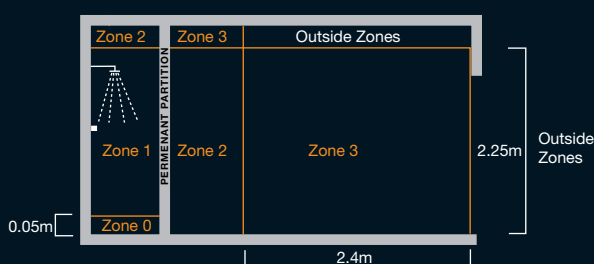
This covers an area 0.6 metres wide, immediately next to, and all around zone 1, plus the area above 2.25 metres over the bath or shower. Wash basins should be treated as Zone 2. The minimum rating here is **IPX4**. Where water jets are likely to be used for cleaning purposes in Zones 1 & 2, the rating is minimum **IPX5**.

Zone 3

This area has no special requirements, unless water jets are likely to be used for cleaning purposes. Equipment installed outside zones 0, 1, 2 & 3 must be suitable for the conditions most likely to prevail at that particular point.



* Zone 1 if space accessible without the use of tools. Under bath spaces, accessible only with the use of a tool are Outside Zones

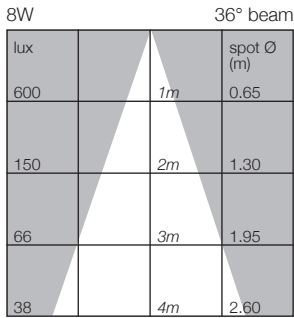


LAMP BEAMS

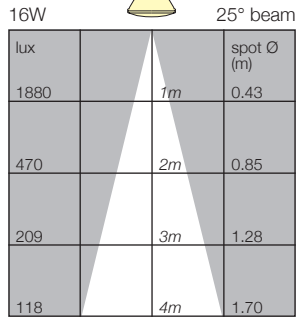
Lux is a measure of illumination on a surface (lumens per square metre) and the values given in the diagrams show the peak intensity at the beam centre at distances of 1, 2, 3 and 4 metres from the lamp.

The beams are drawn at the angle where the intensity is 50% of the intensity at the centre. The lux values in the diagrams are reproduced from lamp manufacturers' data.

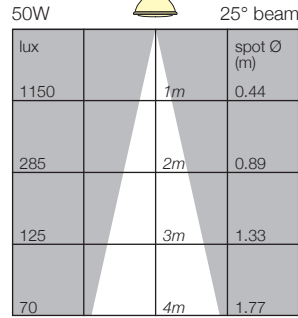
Project LED



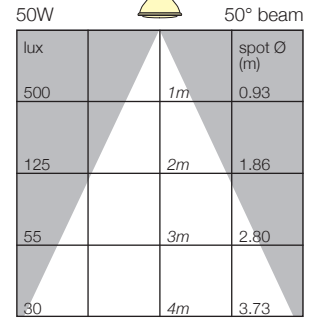
PAR30 LED E27



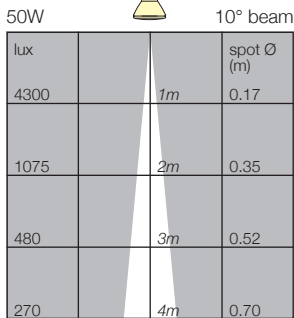
PAR 16 Halogen* GU10



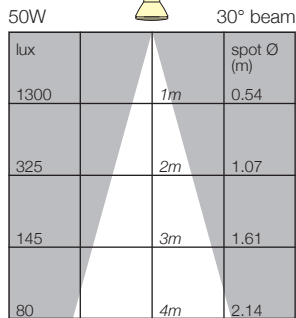
PAR 16 Halogen* GU10



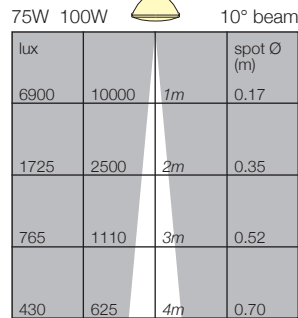
PAR 20 Halogen* E27



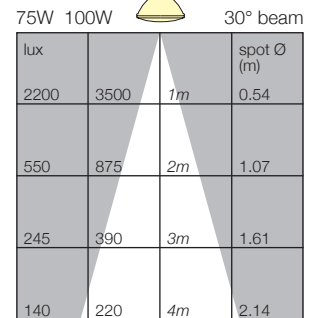
PAR 20 Halogen* E27



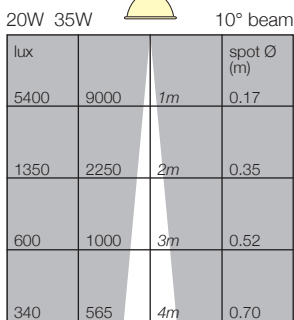
PAR 30 Halogen* E27



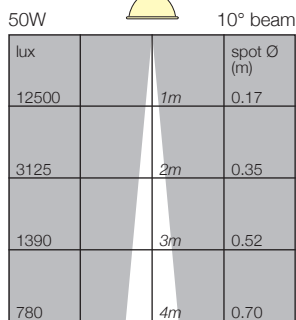
PAR 30 Halogen* E27



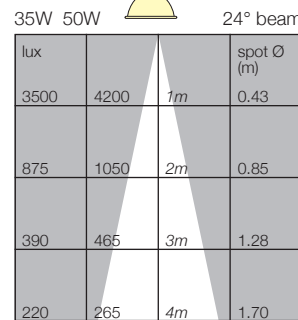
12V Dichroic (MR16) GX5.3



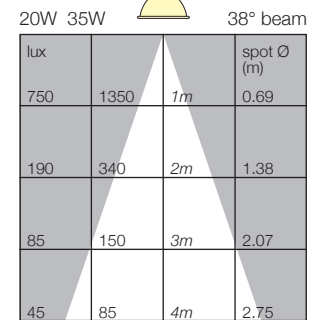
12V Dichroic (MR16) GX5.3



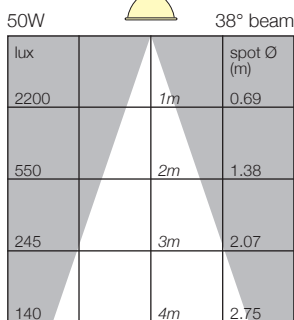
12V Dichroic (MR16) GX5.3



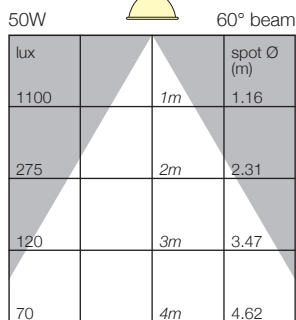
12V Dichroic (MR16) GX5.3



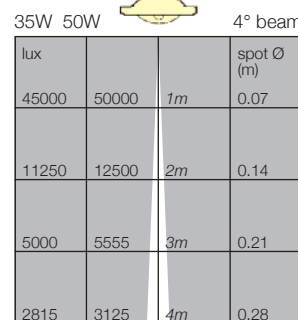
12V Dichroic (MR16) GX5.3



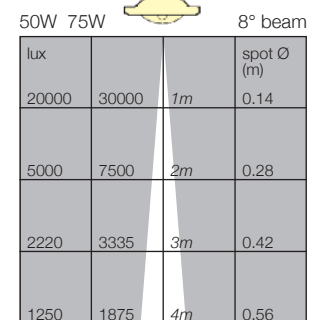
12V Dichroic (MR16) GX5.3



12V Aluminium (AR111) G53



12V Aluminium (AR111) G53



12V Aluminium (AR111) G53

100W 8° beam

lux		spot Ø (m)
48000	1m	0.14
12000	2m	0.28
5335	3m	0.42
3000	4m	0.56

12V Aluminium (AR111) G53

35W 50W 24° beam

lux		spot Ø (m)
2500 3500	1m	0.43
625 875	2m	0.85
280 390	3m	1.28
155 220	4m	1.70

12V Aluminium (AR111) G53

75W 100W 24° beam

lux		spot Ø (m)
5300 8500	1m	0.43
1325 2125	2m	0.85
590 945	3m	1.28
330 530	4m	1.70

12V Aluminium (AR111) G53

75W 100W 45° beam

lux		spot Ø (m)
1700 2800	1m	0.81
425 700	2m	1.61
190 310	3m	2.40
105 175	4m	3.21

CDM-R111 GX8.5

20W 35W 10° beam

lux		spot Ø (m)
20000 35000	1m	0.17
5000 8750	2m	0.35
2222 3888	3m	0.52
1250 2188	4m	0.70

CDM-R111 GX8.5

70W 10° beam

lux		spot Ø (m)
50000	1m	0.17
12500	2m	0.35
5555	3m	0.52
3125	4m	0.70

CDM-R111 GX8.5

35W 70W 24° beam

lux		spot Ø (m)
8500 15000	1m	0.43
2125 3750	2m	0.85
944 1666	3m	1.28
531 938	4m	1.70

CDM-R111 GX8.5

35W 70W 40° beam

lux		spot Ø (m)
4000 9000	1m	0.73
1000 2250	2m	1.46
444 1000	3m	2.19
250 563	4m	2.92

GU10 CFL GU10

7W 9W 115° beam

lux		spot Ø (m)
62 96	1m	1.57
16 24	2m	3.14
11 18	3m	4.71
8 10	4m	6.28

GU10 CFL GU10

11W 14W 115° beam

lux		spot Ø (m)
110 125	1m	1.57
28 31	2m	3.14
19 22	3m	4.71
13 18	4m	6.28

R63 CFL E27

11W 117° beam

lux		spot Ø (m)
124	1m	1.68
31	2m	3.26
20	3m	4.90
16	4m	6.53

R80 CFL E27

15W 111° beam

lux		spot Ø (m)
227	1m	1.46
57	2m	2.90
35	3m	4.36
21	4m	5.82

PAR30H CFL E27

15W 101° beam

lux		spot Ø (m)
220	1m	1.21
55	2m	2.43
33	3m	3.64
18	4m	4.85

PAR38 CFL E27

20W 110° beam

lux		spot Ø (m)
295	1m	1.43
74	2m	2.86
63	3m	4.28
42	4m	5.71

*Non-dichroic version

LAMP TABLE

Colour Temperature

A descriptive term for the appearance of light expressed in Kelvin.
 Warm Light < 3300K
 Intermediate Light 3300 – 5300K
 Cool Light > 5300K


















Colour Rendering Index (Ra)
















A measure of the light source’s ability to render the colours of objects as similar to those under a reference light source.

Ra	Group
90-100	1A
80-89	1B
70-79	2A
60-69	2B
40-59	3
20-39	4

Typical Application

Where accurate colour rendering is required (Colour matching)
 Where good colour rendering is required (Accurate colour judgements)
 Where moderate to good colour rendering is required
 Where moderate colour rendering is required
 Where colour rendering is of little significance but marked distortion of colour is unacceptable
 Where colour rendering is unimportant

			Lamp Wattage	Lamp Cap	Initial Lumens (IL)	Efficacy lm/W	Lamp Life	Colour Temp. (°K)	Colour Rendering (Ra)
illumaled	ProjectLED		8	–	330	41	50000	3000	80
	PAR30 LED		111	E27	430	42	45000	2700	80
12V Xenon Capsule		Capsule	5	Wedge	33	7	15000	2800	100
			10	Wedge	100	10	20000	2800	100
Incandescent		R80	60	E27	700	12	1000	2700	100
			75	E27	915	12	1000	2700	100
			100	E27	1330	13	1000	2700	100
		PAR 16 (GU10)	50	GU10	525	11	2000	2800	100
		PAR 20	50	E27	630	13	2000	2900	100
		PAR 30	75	E27	1050	14	2500	2900	100
			100	E27	1550	16	2500	2900	100
Ceramic Metal Halide		CDM-T	35	G12	3300	94	9000	3000	83
			70	G12	6600	94	9000	3000	83
			150	G12	14000	93	9000	3000	83
		CDM-TC	20	G8.5	1700	85	6000	3000	81
			35	G8.5	3300	94	9000	3000	84
			70	G8.5	6600	94	9000	3000	84
		CDM-TD	70	Rx7s	6300	90	12000	3000	85
			150	Rx7s-24	13000	87	12000	3000	85
		CDM-Tf	20	GU6.5	1700	85	12000	3000	85
			35	GU6.5	3300	94	12000	3000	85
		CDM-Tm	20	PGJ5	1650	83	8000	3000	85
		CDM-TP	150	PGX12-2	13000	87	6000	3000	85
		CDM-R111	150	PGX12-2	12000	80	6000	4200	95
			20	GX8.5	1700	85	6000	3000	85
			35	GX8.5	3300	94	6000	3000	81
	ES50	70	GX8.5	6600	94	6000	3000	84	
		35	GX10	3300	94	6000	3000	90	
White SON		SDW-TG	100	GX12-1	4900	49	10000	2550	83
LV Tungsten Halogen 12V		MR11	20	GU4	630	32	2000	3100	100
			35	GU4	1000	29	2000	3100	100
		MR16	20	GX/GU5.3	320	16	3000	3000	100
			35	GX/GU5.3	630	18	3000	3000	100
		AR111	50	GX/GU5.3	1000	20	3000	3000	100
			35	G53	600	17	3000	3000	100
			50	G53	930	19	3000	3000	100
			75	G53	1350	18	3000	3000	100
			100	G53	2200	22	3000	3000	100
		Capsule	10	G4	100	10	2000	2900	100
20			G4	260	13	2000	2900	100	

			Lamp Wattage	Lamp Cap	Initial Lumens (lL)	Efficacy lm/W	Lamp Life	Colour Temp. (°K)	Colour Rendering (Ra)			
Compact Fluorescent		GU10	7	GU10	150	21	15000	2700	84			
			7	GU10	150	21	15000	4000	82			
			9	GU10	190	21	15000	2700	84			
			9	GU10	190	21	15000	4000	82			
			11	GU10	210	19	15000	2700	84			
			11	GU10	210	19	15000	4000	82			
			14	GU10	300	21	15000	2700	82			
			14	GU10	300	21	15000	4000	82			
				R63	11	E27	363	33	15000	2700	82	
					11	E27	363	33	15000	4000	82	
					R80	15	E27	495	33	15000	2700	82
						15	E27	495	33	15000	4000	82
				PAR30H	15	E27	495	33	15000	2700	82	
					15	E27	495	33	15000	4000	82	
		PAR38	20	E27	800	40	10000	2700	82			
			20	E27	800	40	10000	4000	82			
		TC-SEL	7	2G7	400	57	10000	2700	85			
			7	2G7	400	57	10000	4000	85			
			9	2G7	600	67	10000	2700	85			
			9	2G7	600	67	10000	4000	85			
			11	2G7	900	82	10000	2700	85			
			11	2G7	900	82	10000	4000	85			
				TC-DEL	10	G24d-1	600	60	10000	2700/3000/3500/4000	85	
	13	G24d-1			900	69	10000	2700/3000/3500/4000	85			
	18	G24d-2			1200	67	10000	2700/3000/3500/4000	85			
	26	G24d-3			1800	69	10000	2700/3000/3500/4000	85			
		TC-TEL	18	GX4d-2	1200	67	10000	2700/3000/3500/4000	85			
			26	GX4d-3	1800	69	10000	2700/3000/3500/4000	85			
			32	GX4d-3	2400	75	10000	2700/3000/3500/4000	85			
			42	GX4d-4	3200	76	10000	2700/3000/3500/4000	85			
		TC-L	18	2G11	1200	67	10000	2700/3000/3500/4000/6000	85			
			24	2G11	1800	75	10000	2700/3000/3500/4000/6000	85			
			36	2G11	2900	81	10000	2700/3000/3500/4000/6000	85			
			40	2G11	3500	88	10000	2700/3000/3500/4000/6000	85			
			55	2G11	4800	87	10000	2700/3000/3500/4000/6000	85			
		TC-F	36	2G10	2800	78	10000	2700/3000/4000	85			
			TC-DD	16	GR8	1050	66	10000	2700/3000/6000	82		
	16			GR10q	1050	66	10000	2700/3000/4000	82			
	28			GR10q	2250	80	15000	2700/3000/4000	82			
				38	GR10q	3000	79	15000	2700/3000/4000	82		
	T5 Fluorescent		T5C	22	2GX13	1800	81	12000	3000	85		
				22	2GX13	1800	81	12000	4000	85		
			T5 HO	24	G5	1700	71	20000	2700/3000/4000	85		
				24	G5	1570	66	20000	6000	85		
				39	G5	3220	83	20000	2700/3000/4000	85		
39				G5	2990	77	20000	6000	85			
49				G5	4165	85	20000	2700/3000/4000	85			
49				G5	3950	81	20000	6000	85			
54				G5	4450	83	20000	2700/3000/4000	85			
54				G5	4050	75	20000	6000	85			
80				G5	6150	77	20000	2700/3000/4000	85			
80				G5	5700	71	20000	6000	85			
				T5 HE	14	G5	1230	88	20000	2700/3000/4000	85	
		14	G5		1140	82	20000	6000	85			
		21	G5		1910	91	20000	2700/3000/4000	85			
		21	G5		1775	85	20000	6000	85			
		28	G5		2640	94	20000	2700/3000/4000	85			
		28	G5		2460	88	20000	6000	85			
		35	G5		3300	94	20000	2700/3000/4000	85			
		35	G5		3095	89	20000	6000	85			
		T5	6	G5	280	47	10000	3000/3500	53			
			6	G5	280	47	10000	4300	64			
			6	G5	240	40	10000	6500	76			
	8		G5	400	50	10000	3000/3500	53				
	8		G5	400	50	10000	4300	64				
	8		G5	340	43	10000	6500	76				
	13		G5	880	68	10000	3000/3500	53				
	13		G5	880	68	10000	4300	64				
	13		G5	750	58	10000	6500	75				

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Low voltage means higher current than a mains voltage circuit, so it is important that the conductor size of the cable between the fitting and the transformer is correct.

The table below will help you choose the cable size required.

1. Calculate the total wattage of the lamps to be supplied by the cable.
2. Find the corresponding value in the Watts column.
3. Read across until the distance in metres is equal to or greater than the cable run.
4. Read up the column to see what cable size is required.

WATTS	CABLE SIZE IN mm ²				
	1.5	2.5	4.0	6.0	10.0
20	8.6m	14.1m	21.8m	33.8m	57.1m
40	4.3m	7.1m	10.9m	16.9m	28.6m
50	3.4m	5.6m	8.7m	13.5m	22.7m
60	2.9m	4.7m	7.3m	11.3m	19.0m
80	2.1m	3.5m	5.4m	8.4m	14.3m
100	1.7m	2.8m	4.4m	6.8m	11.4m
120	1.4m	2.3m	3.6m	5.6m	9.5m
140	1.2m	2.0m	3.1m	4.8m	8.2m
150	1.1m	1.9m	2.9m	4.5m	7.6m
200	0.9m	1.4m	2.2m	3.4m	5.7m
250	-	1.1m	1.7m	2.7m	4.6m
300	-	-	1.4m	2.2m	3.8m

Illuma Lighting

Conditions of Sale

A division of Searchlight Electric Ltd

1 Interpretation

1.1 In these conditions:

- 'Buyer' means the person, firm or company who purchases goods from the company
- 'Company' means Illuma Lighting, a division of Searchlight Electric Ltd, Sills Road, Willow Farm Business Park, Castle Donington DE74 2US
- 'Contract' means the contract between the Buyer and the Company for the sale and purchase of goods
- 'Goods' means the goods (including any installment of the goods or any parts for them) which the company is to supply in accordance with these Conditions.

1.2 Any reference in these Conditions to any provision of a statute shall be construed as a reference to that provision as amended, re-enacted or extended at the relevant time.

1.3 The headings in these conditions are for convenience only and shall not affect their interpretation.

2 Basis of Sale

2.1 The Company shall sell and the Buyer shall purchase the Goods in accordance with these conditions, which shall govern the Contract to the exclusion of any other terms and conditions which the Buyer purports to apply under any purchase order, confirmation of order, specification or other document.

2.2 No variation to these Conditions shall be binding unless agreed in writing by a director of the Company.

2.3 The Company's employees or agents are not authorised to make any representations concerning the Goods unless confirmed in writing by a director of the Company. In entering into the Contract the Buyer acknowledges that it does not rely on any representations which are not so confirmed.

2.4 Any typographical, clerical or other error or omission in any sales literature, quotation, price list, acceptance of offer, invoice or other document or information issued by the Company shall be subject to correction without liability on the part of the Company.

2.5 Goods supplied may vary in detail from illustrations, drawings, measurements and descriptions set out in the Company's sales literature, which are approximate and for guidance only and will not form part of the contract. Colour finishes will be maintained as accurately as possible but matching cannot be guaranteed. All terminology used in the Company's sales literature is, subject to these Conditions, that as understood by general usage in the trade.

3 Orders

3.1 No order submitted by the buyer shall be deemed to be accepted by the Company unless and until confirmed in writing by the Company's authorised representative or (if earlier) the Company delivers the Goods to the Buyer.

3.2 The Buyer shall be responsible to the Company for ensuring the accuracy of the terms of any order submitted by the Buyer, and for giving the Company any necessary information relating to the Goods within a sufficient time to enable the Company to perform the Contract in accordance with its terms.

3.3 No order which has been accepted by the Company may be cancelled by the Buyer except with the agreement in writing of the Company and on terms that the Buyer shall indemnify the Company in full against all loss (including, without limitation, loss of profit), costs (including the cost of all labour and materials used), damages, charges and expenses incurred by the Company as a result of such cancellation.

3.4 No Goods may be returned to the Company without the Company's prior written consent and must be returned in their original packaging to ensure no damage is sustained during transit. The Buyer shall be liable for the cost of returning the Goods and for any damage to the Goods prior to receipt by the Company of such returned goods.

4 Price Of Goods

4.1 Unless otherwise agreed by the Company, the price of the Goods shall be the price listed in the Company's published price list current at the date of despatch of the Goods. All prices quoted by the company's sales representatives shall be subject to verification by the Company's Head Office.

4.2 Unless otherwise agreed in writing between the Buyer and the Company, all prices are given by the Company on an ex-works basis, and where the Company agrees to deliver the Goods otherwise than at the Company's premises, the Buyer shall be liable to pay the Company's charges for transport and packaging.

4.3 Carriage and packaging shall be free for delivery within the UK mainland on orders over £200 nett. Where the order is under £200 nett of VAT, small order charge of £15 will be payable in full by the Buyer.

4.4 The price of the Goods is exclusive of any applicable value added tax, which the Buyer shall be additionally liable to pay to the Company.

5 Terms of Payment

5.1 The Buyer shall pay the price of the Goods (together with any applicable VAT) before the end of the month following the date of the Company's invoice, and the Company shall be entitled to recover the price, notwithstanding that delivery may not yet have taken place and the property in the Goods has not passed to the Buyer.

5.2 The time of payment of the price of the Goods shall be of the essence of the contract.

5.3 No payment shall be deemed to have been received until the Company has received cleared funds.

5.4 All payments payable to the Company under the Contract (whether or not then due and payable) shall become due immediately upon termination of the Contract notwithstanding any other provision.

5.5 The Buyer shall make all payments due under the Contract without any deduction whether by way of set-off, counterclaim, discount, abatement or otherwise, unless the Buyer has a valid court order requiring an amount equal to such deduction to be paid by the Company to the Buyer.

5.6 If the Buyer fails to make any payment on the due date then, without prejudice to any other right or remedy available to the Company, the Company shall be entitled to:

5.6.1 cancel the Contract or suspend further deliveries to the Buyer;

5.6.2 appropriate any payment made by the Buyer to such of the Goods (or the goods supplied under any other contract between the Buyer and the Company), as the Company may think fit (not withstanding any purported appropriation by the Buyer);

5.6.3 charge the Buyer interest (both before and after any judgement) on the amount unpaid, at a rate of 1.5 per cent per annum above the base lending rate from time to time of Barclays Bank plc accruing on a daily basis from the date due for payment until payment in full is made or claim interest from the Buyer under Late Payment of Commercial Debts (Interest) Act 1998; and

5.6.4 recover from the Buyer the price of the goods delivered to the Buyer notwithstanding that payment for such goods has not yet become due.

5.7 All costs, charges and expenses incurred by the Company in recovering any debt due by the Buyer shall be paid by the Buyer on a full indemnity basis.

6 Delivery

6.1 Delivery of the Goods shall be made, either by the Buyer collecting the Goods at the Company's premises at any time after the Company has notified the Buyer that the Goods are ready for collection or, if some other place of delivery is agreed by the Company, by the Company delivering the Goods to that place.

6.2 Any dates quoted for delivery of the Goods are approximate only. Time for delivery shall not be of the essence of the Contract.

6.3 Where the Goods are to be delivered in installments, each delivery shall constitute a separate contract and failure by the Company to deliver one or more of the installments in accordance with these Conditions or any claim by the Buyer in respect of any one or more installments shall not entitle the Buyer to treat the Contract as whole as repudiated.

6.4 If the Buyer fails to take delivery of the Goods or fails to give the Company adequate delivery instructions at the time stated for delivery then, without prejudice to any other right or remedy available to the Company, the Company may:

6.4.1 store the Goods until actual delivery and charge the Buyer for all related costs and expenses (including, without limitation, storage and insurance); or

6.4.2 sell the Goods at the best price readily obtainable and charge the Buyer for any shortfall below the price under the Contract

6.5 If the Goods are not checked by the Buyer on receipt, they must be signed for "Unexamined".

7 Risk and Property

7.1 Risk of damage to or loss of the Goods shall pass to the Buyer:

7.1.1 in the case of Goods to be delivered otherwise than at the Company's premises, at the time of delivery or, if the Buyer wrongfully fails to take delivery of the Goods, the time when the Company tenders delivery of the Goods

7.2 Notwithstanding delivery and the passing of risk in the Goods, or any other provision of these Conditions, the property in the Goods shall not pass to the Buyer until the Company has received in cash or cleared funds all sums due to it in respect of:

7.2.1 the Goods, and

7.2.2 all other goods agreed to be sold by the Company to the Buyer for which payment is then due.

- 7.3 Until such time as the property in the Goods passes to the Buyer, the Buyer shall:
- 7.3.1 hold the Goods as the Company's fiduciary agent and bailee;
- 7.3.2 keep the Goods separate from those of the Buyer and Third parties;
- 7.3.3 keep the Goods properly stored, protected and insured and identified as the Company's property
- 7.4 Until such time as the property in the Goods passes to the Buyer (and provided the Goods are still in existence and have not been resold), the Company shall be entitled at any time to require the Buyer to deliver up to the Company and, if the Buyer fails to do so forthwith, to enter upon any premises of the Buyer or any third party where the Goods are stored and repossess the Goods.

8 Warranties and Liabilities

- 8.1 Subject to the other provisions of these Conditions, the Company warrants that the Goods will upon delivery be of satisfactory quality within the meaning of the Sale of Goods Act 1994. Any Illuma product found to be faulty in materials or workmanship within 5 years* of manufacture will be repaired or replaced without charge at the Company's option. Illuma's obligation under this Warranty shall not extend beyond the original cost of the product and accordingly any consequential damages arising out of product defects are expressly excluded. This Warranty shall not apply to products that have been badly stored or incorrectly installed, or to products which have been altered or repaired outside Illuma's factory. *This Warranty will only apply to products where quality branded lamps have been used.
- 8.2 The above warranty does not extend to Goods or parts of the materials not manufactured by the Company, in respect of which the Company shall endeavour to transfer to the Buyer the benefit of any warranty or guarantee given by the manufacturer to the Company.
- 8.2.1 The Company will not assume responsibility for corrosion or any other resulting damage to the Goods where they are installed in areas in which fertilizers or salt are present, either in the air or in the soil, or where Goods are installed near to chemical plants, etc with emissions of heavily polluted air.
- 8.3 Any claim by the Buyer which is based on any defect in the quality or condition of the Goods or a shortage of Goods shall (whether or not delivery is refused by the Buyer) be notified to the Company and (if the defect is a result of damage or loss in transit) the carrier of the Goods within three days from the date of delivery or (where the defect or failure was not apparent on reasonable inspection) within a reasonable time after discovery of the defect or failure. If delivery is not refused, and the Buyer does not notify the Company accordingly, the Buyer shall not be entitled to reject the Goods and the Company shall have no liability for such defect or failure, and the Buyer shall be bound to pay the price as if the Goods had been delivered in accordance with the Contract.
- 8.4 The Company shall not be liable for a breach of warranty in clause 8.1 if the defect arises because the Buyer failed to follow the Company's oral or written instructions as to the storage, installation, use or maintenance of the Goods or (if there are none) good trade practice or if the Buyer alters or repairs the Goods or makes any further use of the Goods without written consent of the Company

- 8.5 Where any valid claim in respect of any of the Goods which is based on any defect in the quality or condition of the Goods is notified to the Company in accordance with these conditions, the Company shall be entitled to replace the Goods (or the part in question) free of charge or refund to the Buyer the price of the Goods (or a proportionate part of the price), but the Company shall have no further liability to the Buyer.
- 8.6 The Company shall not be liable for non-delivery of Goods unless written notice is given to the Company within ten days of the Company's invoice. Any liability of the Company for non-delivery of Goods shall be limited to replacing the Goods within a reasonable time or issuing a credit note at the pro-rata Contract rate against the invoice raised for such Goods.
- 8.7 All warranties, conditions or other terms implied by statute or common law (save for the conditions implied by Section 12 of the Sale of Goods Act 1979) are excluded to the fullest extent permitted by law
- 8.8 Nothing in these Conditions excludes or limits the liability of the Company for death or personal injury caused by the Company's negligence or fraudulent representation.
- 8.9 Subject to conditions 8.7 and 8.8:
- 8.9.1 the Company's total liability in contract, tort (including negligence or breach of statutory duty), misrepresentation, restitution or otherwise, arising in conjunction with performance or contemplated performance of the Contract shall be limited to the price of the Goods; and
- 8.9.2 the Company shall not be liable to the Buyer for any indirect or consequential loss or damage (whether for loss of profit, loss of business, depreciation of goodwill or otherwise), costs, expenses or other claims for consequential compensation whatsoever (howsoever caused) which arise out of or in connection with the Contract.
- 8.10 The Company shall not be liable to the Buyer or be deemed to be in breach of the Contract by reason of any delay in performing, or any failure to perform, any of the Company's obligations in relation to the Goods, if the delay or failure was due to any cause beyond the Company's reasonable control including, but without prejudice to the generality of the foregoing, acts of God, governmental actions, war or national emergency, acts of terrorism, protests, riot, civil commotion, fire, explosion, flood, epidemic, strikes, lock-outs or other industrial actions or trade disputes (whether involving employees of the Company or a third party), difficulties in obtaining raw materials, labour, fuel, parts or machinery, power failure or breakdown in machinery.
- 8.10.1 the Buyer makes any voluntary arrangement with its creditors or (being an individual or firm) becomes bankrupt or (being a company) becomes subject to an administration order or goes into liquidation (otherwise than for the purpose of amalgamation or reconstruction); or
- 8.10.2 an encumbrancer takes possession, or a receiver is appointed, of any property or assets of the Buyer; or
- 8.10.3 the Buyer ceases, or threatens to cease, to carry on business; or
- 8.10.4 the Company reasonably apprehends that any of the events mentioned above is about to occur in relation to the Buyer and notifies the Buyer accordingly.

- 8.10.5 If this clause applies then, without prejudice to any other right or remedy available to the Company, the Company shall be entitled to cancel the contract without any liability to the Buyer, and if the Goods have been delivered but not paid for the price shall become immediately due and payable notwithstanding any previous agreement or arrangement to the contrary.

9 Insolvency of Buyer

- 9.1 This clause applies if:
- 9.1.1 the Buyer makes any voluntary arrangement with its creditors or (being an individual or firm) becomes bankrupt or (being a company) becomes subject to an administration order or goes into liquidation (otherwise than for the purpose of amalgamation or reconstruction); or
- 9.1.2 an encumbrancer takes possession, or a receiver is appointed, of any property or assets of the Buyer; or
- 9.1.3 the Buyer ceases, or threatens to cease, to carry on business; or
- 9.1.4 the Company reasonably apprehends that any of the events mentioned above is about to occur in relation to the Buyer and notifies the Buyer accordingly.
- 9.2 If this clause applies then, without prejudice to any other right or remedy available to the Company, the Company shall be entitled to cancel the contract without any liability to the Buyer, and if the Goods have been delivered but not paid for the price shall become immediately due and payable notwithstanding any previous agreement or arrangement to the contrary.

10 Export Terms

- 10.1 Where the Goods are supplied for export from the United Kingdom, the conditions of this clause 10 shall (subject to any special terms agreed in writing between the Buyer and the Company) apply notwithstanding any other provisions of these conditions.
- 10.2 The Buyer shall be responsible for complying with any legislation or regulations governing the importation of the Goods into the country of destination and for the payment of any duties thereon. Payment of all amounts due to the Company shall be made as agreed in writing by the Buyer and the Company before delivery and in the absence of such agreement, payment shall be made pro-forma.

11 General

- 11.1 Any notice required or permitted to be given by either party to the other under these Conditions shall be in writing addressed to that other party at its registered office or principle place of business or such other address as may at the relevant time have been notified pursuant to this provision to the party giving notice.
- 11.2 No waiver by the Company of any breach of the Contract by the Buyer shall be considered as a waiver of any subsequent breach of the same or any other provision.
- 11.3 If any provision of these Conditions is held by any competent authority to be invalid or unenforceable in whole or in part the validity of the other provisions of these conditions and the remainder of the provision in question shall not be affected.
- 11.4 A person who is not a party to the Contract shall have no right to enforce any term of the Contract by virtue of the Contract (Rights of third Parties) Act 1999.
- 11.5 The Contract shall be governed by the laws of England, and the Buyer agrees to submit to the exclusive jurisdiction of the English courts.

206124/UH	158	D638/LED/L	93	DB3TC4261/EL	146	DFDS2X24070/C/EL/L	79
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440902	160	D64TC1369S/EL	110	DB3TD4281/EL	146	DFDS4035F55/C/EL/L	81
440902/EM	160	D64TC1861S/EL	120	DB4TD4281/EL	147	DFDS4070/C/EL/L	79
611105	162	D64TC1869S/EL	110	DB4TD4281/EL/E	147	DFDS4070F55/C/EL/L	81
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701004/OP/EM	164	D85186/EL	112	DDF10616	126	DFL20736WW/EL	70
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701103/OP/EM	164	D86181/EL	122	DF1610736WW/EL	127	DFL2112WW	66
D010312NW	84	D86185/EL	112	DF182X	127	DFL2130NW	66
D010312WW	84	D86186/EL	112	DFA1	69	DFL2130WW	66
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D020312WW	84	D86265/EL	112	DFA3	72	DFL3112NW	66
D030312NW	84	D86266/EL	112	DFA4	74	DFL3112WW	66
D030312WW	84	D87261/EL	122	DFAD1035/C/EL/L24	69	DFL3130NW	66
D040312NW	84	D87361/EL	122	DFAD1070/C/EL/L24	69	DFL3130WW	66
D040312WW	84	D87365/EL	113	DFAD2035/C/EL/L24	70	DFL40736WW	74
D1000736WW/EL	86	D87366/EL	113	DFAD2070/C/EL/L24	71	DHQ50201/C/EL/L	104
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D100X/G10	86	D87526/EL	113	DFAD4035/C/EL/L24	74	DHQ50204/C/EL/L	105
D1010	86	D88360/EL	116	DFAD4070/C/EL/L24	75	DHQ50205/C/EL/L	105
D1010/G10	86	D88361/EL	116	DFADR1035/C/EL/L24	68	DHQ60351/C/EL/L	106
D1020	88	D88362/EL	116	DFADR1070/C/EL/L24	68	DHQ60352/C/EL/L	106
D1025	88	D88363/EL	116	DFAR1	68	DHQ60353/C/EL/L	106
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D1800736WW/EL	125	D88526/EL	117	DFD2150/C/EL/L	71	DHQAS150/C/EL/L	103
D180X	124	D88527/EL	117	DFD3035/C/EL/L	73	DHQMF020/C/EL/L	100
D1810736WW/EL	125	D9852840/EL	116	DFD3070/C/EL/L	73	DHQMF035/C/EL/L	101
D181X	124	D9852841/EL	116	DFD3150/C/EL/L	73	DHQMF070/C/EL/L	101
D2250736WW/EL	89	D9852842/EL	116	DFD4035/C/EL/L	75	DHQMS020/C/EL/L	100
D225X	88	D9852843/EL	116	DFD4070/C/EL/L	75	DHQMS035/C/EL/L	100
D226X	98	D9852844/EL	116	DFD4150/C/EL/L	75	DHQMS070/C/EL/L	101
D251X	88	D9852845/EL/E	117	DFDDFD4035/C/EL/L	76	DHQMS70356/C/EL/L	108
D253X	90	D9852846/EL	117	DFDDFD4070/C/EL/L	76	DHQMS70706/C/EL/L	108
D255X	90	D9852847/EL	117	DFDDFD4150/C/EL/L	76	DHQMS71506/C/EL/L	108
D2570736WW/EL	91	DA3TC4181/EL	144	DFDR1035/C/EL/L	68	DL3TC4181/EL	150
D257X	90	DA3TC4261/EL	144	DFDR1070/C/EL/L	68	DL3TC4261/EL	150
D2580736WW/EL	91	DA3TD4161/EL	144	DFDR1150/C/EL/L	68	DL3TD4161/EL	150
D258X	90	DA3TD4281/EL	144	DFDS2035/C/EL/L	78	DL3TD4281/EL	150
D330	92	DA4TD4281/EL	145	DFDS2035F55/C/EL/L	81	DL4TC4361/EL	150
D330/LED/L	93	DA4TD4281/EL/E	145	DFDS2070/C/EL/L	78	DL4TC4521/EL	150
D637	92	DA4TD4381/EL	145	DFDS2070F55/C/EL/L	81	DL4TD4281/EL	150
D637/LED/L	93	DA4TD4381/EL/NI	145	DFDS2150/C/EL/L	79	DL4TD4281/EL/E	151
D638	92	DB3TC4181/EL	146	DFDS2X24035/C/EL/L	79	DL4TD4381/EL	150

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DL4TD4381/EL/RE/NI	151	DZ3CT235/EL	118	LDW108S	174	LVTE150	218
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DM1T5D42/EL/L	186	DZ3TF235/EL	118	LDW35S	174	LVTE60	218
DM1T5D48/EL/L	186	DZ3TT226/EL	118	LDW56S	174	MP0315NW	142
DM1T5D72/EL/L	186	E1M	203	LDW70S	174	MP0315WW	142
DM1T5P28/EL/L	188	E1N	203	LED21BL120	138	MPDPROG	214
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DM1T5S72/EL/L	192	E3M/D	202	LED2FLUSH	138	PSL12350	46, 66, 140, 218
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