
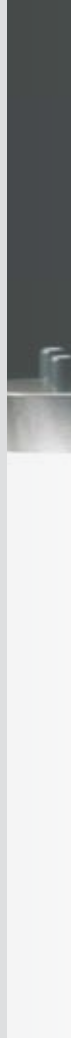




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Dates of the PHASING OUT of some products from the European Union market, due to the entry into force of the following regulations of the European Commission, implementing the eco-design directive 2005/32/EC:

- n. 244/2009 (domestic sector, not directional lamps - NDLS)
- n. 245/2009 (tertiary sector lamps)



PHASE OUT SEPT 1ST, 2009



PHASE OUT APR 13RD, 2010



PHASE OUT SEPT 1ST, 2010



PHASE OUT SEPT 1ST, 2011



PHASE OUT SEPT 1ST, 2012



PHASE OUT SEPT 1ST, 2013



PHASE OUT APR 13RD, 2015



PHASE OUT SEPT 1ST, 2016



PHASE OUT APR 13RD, 2017

INCANDESCENT LAMPS



INCANDESCENT LAMPS

GLS

Ø 55
GLS

NEW GENERATION



12
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Watt	Volt	Lumen	Cap	Dim. (mm) Ø L	Pack	Code
------	------	-------	-----	------------------	------	------

Clear

15	230	100	E27	55 96	100	FLI00040V
25	230	210	E27	55 96	100	FLI01040V
40	230	390	E27	55 96	100	FLI03040V
60	230	660	E27	55 96	100	FLI04040V
75	230	870	E27	55 96	100	FLI05040V
100	230	1250	E27	55 96	100	FLI06040V
150	230	2000	E27	75 142	50	FLI27040V
200	230	2800	E27	75 142	50	FLI28040V

Frosted

40	230	390	E27	55 96	100	FLI03041V
60	230	660	E27	55 96	100	FLI04041V
100	230	1250	E27	55 96	100	FLI06041V
200	230	2000	E27	75 142	50	FLI28041V

Opal

60	230	550	E27	55 96	100	FLI04042V
100	230	1100	E27	55 96	100	FLI06042V

Watt	Volt	Cap	Dim. (mm) Ø L	Pack	Colour	Code
------	------	-----	------------------	------	--------	------

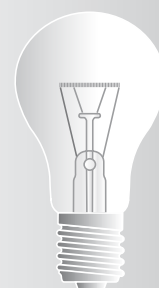
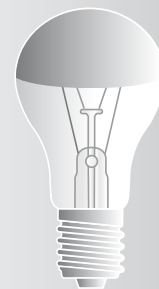
Coloured - Decorative

25	230	E27	60 105	100	red	FLI1104V1
25	230	E27	60 105	100	green	FLI1104V2
25	230	E27	60 105	100	yellow	FLI1104V3
25	230	E27	60 105	100	blue	FLI1104V4
25	230	E27	60 105	100	orange	FLI1104V5
40	230	E27	60 105	100	red	FLI1304V1
40	230	E27	60 105	100	green	FLI1304V2
40	230	E27	60 105	100	yellow	FLI1304V3
40	230	E27	60 105	100	blue	FLI1304V4
40	230	E27	60 105	100	orange	FLI1304V5
60	230	E27	60 105	100	red	FLI1404V1
60	230	E27	60 105	100	green	FLI1404V2
60	230	E27	60 105	100	yellow	FLI1404V3
60	230	E27	60 105	100	blue	FLI1404V4
60	230	E27	60 105	100	orange	FLI1404V5

INCANDESCENT LAMPS

GLS

Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code
				Ø	L		
Blue tinted glass - <i>Decorative</i>							
60	230	-	E27	60	105	100	FLI14045V
100	230	-	E27	60	105	100	FLI16045V
Silver crown							
60	230	-	E27	60	105	100	FLI14043V
100	230	-	E27	60	105	100	FLI16043V
Yellow anti-insects - <i>Special purpose lamp</i>							
60	230	-	E27	60	105	100	FLI14047V
Traction long life - clear - 5 supports - 2500 h - <i>Special purpose lamp</i>							
60	230	-	E27	60	105	100	FLI14040T
100	230	-	E27	60	105	100	FLI16040T
Low voltage - clear							
40	12	-	E27	60	105	100	FLI13440V
60	12	-	E27	60	105	100	FLI14440V
40	24	-	E27	60	105	100	FLI13540V
60	24	-	E27	60	105	100	FLI14540V
100	24	-	E27	60	105	100	FLI16540V
60	48	-	E27	60	105	100	FLI14640V
100	48	-	E27	60	105	100	FLI16640V



INCANDESCENT LAMPS

ROUND LAMP



Watt	Volt	Lumen	Cap	Dim. (mm) Ø	L	Pack	Code
Clear							
25	230	210	E14	45	76	100	FLI31020V
40	230	390	E14	45	76	100	FLI33020V
60	230	660	E14	45	76	100	FLI34020V
Frosted							
25	230	180	E14	45	76	100	FLI31021V
40	230	390	E14	45	76	100	FLI33021V
60	230	660	E14	45	76	100	FLI34021V
Opal							
25	230	170	E14	45	76	100	FLI31022V
40	230	320	E14	45	76	100	FLI33022V
60	230	550	E14	45	76	100	FLI34022V
Blue tinted glass - <i>Decorative</i>							
40	230	-	E14	45	76	100	FLI33025V
Silver crown							
25	230	-	E14	45	76	100	FLI31023V
40	230	-	E14	45	76	100	FLI33023V
Gold crown							
25	230	-	E14	45	76	100	FLI31024V
40	230	-	E14	45	76	100	FLI33024V
Clear							
25	230	210	E27	45	76	100	FLI31040V
40	230	390	E27	45	76	100	FLI33040V
60	230	660	E27	45	76	100	FLI34040V
Frosted							
25	230	180	E27	45	76	100	FLI31041V
40	230	390	E27	45	76	100	FLI33041V
60	230	660	E27	45	76	100	FLI34041V
Opal							
25	230	170	E27	45	76	100	FLI31042V
40	230	320	E27	45	76	100	FLI33042V
60	230	550	E27	45	76	100	FLI34042V

INCANDESCENT LAMPS

CANDLE

Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code	
				Ø	L			
Clear								
25	230	210	E14	35	96	100	FLI41020V	
40	230	390	E14	35	96	100	FLI43020V	
60	230	660	E14	35	96	100	FLI44020V	
Frosted								
25	230	180	E14	35	96	100	FLI41021V	
40	230	390	E14	35	96	100	FLI43021V	
60	230	660	E14	35	96	100	FLI44021V	
Opal								
25	230	170	E14	35	96	100	FLI41022V	
40	230	320	E14	35	96	100	FLI43022V	
60	230	550	E14	35	96	100	FLI44022V	



TWISTED CANDLE







Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code	
				Ø	L			
Clear								
25	230	210	E14	35	96	100	FLI51020V	
40	230	390	E14	35	96	100	FLI53020V	
60	230	660	E14	35	96	100	FLI54020V	
Frosted								
25	230	180	E14	35	96	100	FLI51021V	
40	230	390	E14	35	96	100	FLI53021V	
60	230	660	E14	35	96	100	FLI54021V	



INCANDESCENT LAMPS





FLAME



Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code
				Ø	L		
Clear							
 25	230	210	E14	35	120	25	FLIU1020V
 40	230	390	E14	35	120	25	FLIU3020V
 60	230	660	E14	35	120	25	FLIU4020V
Frosted							
 25	230	180	E14	35	120	25	FLIU1021V
 40	230	390	E14	35	120	25	FLIU3021V
 60	230	660	E14	35	120	25	FLIU4021V











SUPER-D

Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code
				Ø	L		
Opal							
 40	230	320	E27	60	105	100	FLIE3042V
 60	230	550	E27	60	105	100	FLIE4042V
 75	230	750	E27	60	105	100	FLIE5042V
 100	230	1100	E27	60	105	100	FLIE6042V



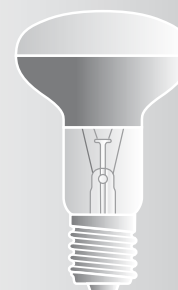
SOFTLIGHT

Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code
				Ø	L		
 25	230	160	E14	45	80	100	FLIF1022V
 40	230	320	E14	45	80	100	FLIF3022V
 25	230	160	E27	45	80	100	FLIF1042V
 40	230	320	E27	45	80	100	FLIF3042V
 40	230	320	E27	60	105	100	FLIG3042V
 60	230	550	E27	60	105	100	FLIG4042V
 75	230	750	E27	60	105	100	FLIG5042V
 100	230	1100	E27	60	105	100	FLIG6042V

INCANDESCENT LAMPS

REFLECTOR

Watt	Volt	Cap	Dim. (mm)		Pack	Colour	Code
			Ø	L			
R39 - Frosted							
30	230	E14	39	65	100	-	FLI72021V
R50 - Frosted							
25	230	E14	50	85	25	-	FLI81021V
40	230	E14	50	85	25	-	FLI83021V
60	230	E14	50	85	25	-	FLI84021V
R50 - Coloured crown - <i>Decorative</i>							
40	230	E14	50	85	25	red	FLI8302V1
40	230	E14	50	85	25	green	FLI8302V2
40	230	E14	50	85	25	yellow	FLI8302V3
40	230	E14	50	85	25	blue	FLI8302V4
R63 - Frosted							
40	230	E27	63	105	25	-	FLI93041V
60	230	E27	63	105	25	-	FLI94041V
R63 - Coloured crown - <i>Decorative</i>							
60	230	E27	63	105	25	red	FLI9404V1
60	230	E27	63	105	25	green	FLI9404V2
60	230	E27	63	105	25	yellow	FLI9404V3
60	230	E27	63	105	25	blue	FLI9404V4
R80 - Frosted							
40	230	E27	80	116	25	-	FLIA3041V
60	230	E27	80	116	25	-	FLIA4041V
75	230	E27	80	116	25	-	FLIA5041V
100	230	E27	80	116	25	-	FLIA6041V
R80 - Coloured crown - <i>Decorative</i>							
60	230	E27	80	116	25	red	FLIA404V1
60	230	E27	80	116	25	green	FLIA404V2
60	230	E27	80	116	25	yellow	FLIA404V3
60	230	E27	80	116	25	blue	FLIA404V4
R95 - Frosted							
100	230	E27	95	140	24	-	FLIB6041V



INCANDESCENT LAMPS

PAR 38



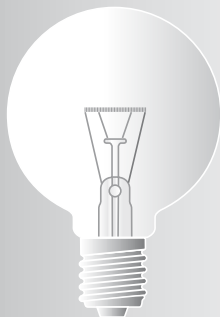
Watt	Volt	Cap	Dim. (mm)		Pack	Colour	Code
			Ø	L			
Flood							
80	230	E27	120	136	20	-	FLICD046A
120	230	E27	120	136	20	-	FLICB046A
Coloured flood - <i>Decorative</i>							
80	230	E27	120	136	20	red	FLICD0461
80	230	E27	120	136	20	green	FLICD0462
80	230	E27	120	136	20	yellow	FLICD0463
80	230	E27	120	136	20	blue	FLICD0464
Spot							
80	230	E27	120	136	20	-	FLICD046B
120	230	E27	120	136	20	-	FLICB046B



GLOBE Ø60



Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code
				Ø	L		
Opal							
40	230	280	E27	60	100	20	FLIH3042V
60	230	510	E27	60	100	20	FLIH4042V



GLOBE Ø80

Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code
				Ø	L		
Clear							
60	230	660	E27	80	120	20	FLIJ4040V
Opal							
40	230	280	E27	80	120	20	FLIJ3042V
60	230	470	E27	80	120	20	FLIJ4042V
100	230	870	E27	80	120	20	FLIJ6042V

INCANDESCENT LAMPS

GLOBE Ø95

Watt	Volt	Lumen	Cap	Dim. (mm) Ø L	Pack	Code
Clear						
60	230	660	E27	95 140	20	FLIK4040V
100	230	1000	E27	95 140	20	FLIK6040V
Opal						
60	230	450	E27	95 140	20	FLIK4042V
100	230	850	E27	95 140	20	FLIK6042V
Silver crown						
60	230	-	E27	95 140	20	FLIK4043V
Side silver-plating						
60	230	-	E27	95 140	20	FLIK4048V
100	230	-	E27	95 140	20	FLIK6048V
Lower silver-plating						
60	230	-	E27	95 140	20	FLIK4049V



GLOBE Ø125

Watt	Volt	Lumen	Cap	Dim. (mm) Ø L	Pack	Code
Clear						
25	230	210	E27	125 180	20	FLIL1040V
40	230	390	E27	125 180	20	FLIL3040V
60	230	660	E27	125 180	20	FLIL4040V
100	230	790	E27	125 180	20	FLIL6040V
Opal						
60	230	360	E27	125 180	20	FLIL4042V
100	230	710	E27	125 180	20	FLIL6042V
150	230	1600	E27	125 180	20	FLIL7042V



INCANDESCENT LAMPS

LITTLE PEAR



Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Colour	Code
				Ø	L			
Clear								
3C	230	50	E14	25	60	25	-	FLIMA020V
15	230	100	E14	25	60	25	-	FLIM0020V
Coloured - Decorative								
3C	230	50	E14	25	60	25	red	FLIMA0201
3C	230	50	E14	25	60	25	green	FLIMA0202
3C	230	50	E14	25	60	25	yellow	FLIMA0203
3C	230	50	E14	25	60	25	blue	FLIMA0204
Frosted internally								
1/2C	230	18	E14	25	63	25	-	FLIM9021V
300°C resistant for ovens - Special purpose lamp								
15	230	80	E14	25	57	25	-	FLIN00200
For refrigerators - Special purpose lamp								
15	230	80	E14	25	57	25	-	FLIN0020R
For refrigerators and 300°C resistant for ovens - Special purpose lamp								
15	230	80	E14	25	57	25	-	FLIN0020P



TUBULAR

Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code
				Ø	L		
Clear							
1/2C	230	18	E14	17	55	25	FLIQ9020V
3C	230	50	E14	17	55	25	FLIQA020V
25	230	210	E14	25	70	25	FLIR1020V
40	230	390	E14	25	70	25	FLIR3020V
300°C resistant for ovens - Special purpose lamp							
40	240-250	280	E14	25	85	100	FLIS31200
For sewing machine - Special purpose lamp							
15	230	80	B15d	17	54	10	FLIQ0060S
15	230	80	B15d	17	57	10	FLIP0060S



All the incandescent lamps for mains voltage can be produced even for 110-130V or 240-250V and/or with B22, B15d, E26, E12 cap.

HALOGEN LAMPS



HALOGEN LAMPS FOR EXTRA LOW VOLTAGE

BIPIN JC

3000 h









Watt	Volt	Lumen	Cap	Dim. (mm) Ø	L	Pack	Code
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Clear

10	6	130	G4	9	33	20	FLH113A0V
5	12	60	G4	9	33	20	FLH104A0V
10	12	130	G4	9	33	20	FLH114A0V
20	12	320	G4	9	33	20	FLH124A0V
35	12	600	G4	9	33	20	FLH144A0V
35	12	600	G6.35	12	44	20	FLH144B0V
50	12	930	G6.35	12	44	20	FLH164B0V
100	12	2500	GY6.35	12	44	20	FLH194C0V

Frosted

 5	12	60	G4	9	33	20	FLH104A1V
 10	12	120	G4	9	33	20	FLH114A1V
 20	12	300	G4	9	33	20	FLH124A1V
 35	12	540	G4	9	33	20	FLH144A1V
 35	12	540	G6.35	12	44	20	FLH144B1V
 50	12	830	G6.35	12	44	20	FLH164B1V



Clear, with horizontal filament

10	24	130	G4	9	33	20	FLH115A0V
20	24	350	G4	9	33	20	FLH125A0V
50	24	900	G6.35	12	44	20	FLH165B0V
100	24	2200	GY6.35	12	44	20	FLH195C0V
150	24	3200	GY6.35	12	44	20	FLH1A5C0V
250	24	5700	GY6.35	12	44	20	FLH1C5C0V



HALOGEN LAMPS FOR EXTRA LOW VOLTAGE

DICHROIC MR8 Ø25 GZ4

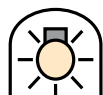
2000 h



Watt Volt Ansi Δ Axis cd γ Diag. Dim. (mm) Pack Code
n. \emptyset L

With safety glass

10	12	-	10°	1200	0,12	P1	25±0,3	35	25	FLHI14I30
10	12	-	26°	170	0,14	P2	25±0,3	35	25	FLHI14I3C
20	12	-	10°	2600	0,26	P1	25±0,3	35	25	FLHI24I30
20	12	-	26°	320	0,27	P2	25±0,3	35	25	FLHI24I3C



DICHROIC MR11 Ø35 GU4

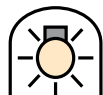
2000 h



Watt Volt Ansi Δ Axis cd γ Diag. Dim. (mm) Pack Code
n. \emptyset L

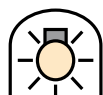
Without safety glass

20	12	FTB	10°	3000	0,30	P1	35	37	25	FLH324EV0
20	12	FTD	30°	600	0,32	P3	35	37	25	FLH324EV4
35	12	FTH	30°	1200	0,60	P3	35	37	25	FLH344EV4

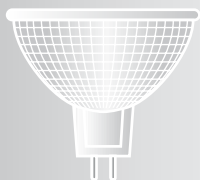


With safety glass

10	12	-	24°	120	0,14	P4	35	37	25	FLH404E32
20	12	FTB	10°	3000	0,30	P1	35	37	25	FLH424E30
20	12	FTD	30°	600	0,29	P3	35	37	25	FLH424E34
35	12	FTH	30°	1200	0,60	P3	35	37	25	FLH444E34



HALOGEN LAMPS FOR EXTRA LOW VOLTAGE



3000 h

DICHROIC
MR16 Ø51 GU5,3

Watt Volt Ansi Δ Axis cd γ Diag. Dim. (mm) Pack Code
n. Ø L

Without safety glass

20	12	ESX	12°	3800	0,32	P6	51	45	20	FLH724FV1
20	12	BAB	36°	500	0,32	P5	51	45	20	FLH724FV5
35	12	FMW	36°	1000	0,15	P26	51	45	20	FLH744FV5
50	12	EXT	12°	9150	0,78	P6	51	45	20	FLH764FV1
50	12	EXZ	24°	3000	0,83	P10	51	45	20	FLH764FV2
50	12	EXN	38°	1600	0,90	P9	51	45	20	FLH764FV6
50	12	FNV	60°	700	0,94	P8	51	45	20	FLH764FV9
75	12	EYF	12°	12000	1,00	P6	51	45	20	FLH784FV1
75	12	EYC	36°	2500	0,38	P26	51	45	20	FLH784FV5



With transparent safety glass

20	12	ESX	12°	3800	0,32	P6	51	45	20	FLH824F31
20	12	BAB	36°	500	0,31	P5	51	45	20	FLH824F35
20	12	NA	60°	300	0,31	P7	51	45	20	FLH824F39
35	12	FMT	12°	6400	0,54	P6	51	45	20	FLH844F31
35	12	FMW	36°	1000	0,57	P9	51	45	20	FLH844F35
35	12	NA	60°	600	0,61	P7	51	45	20	FLH844F39
50	12	EXT	12°	9150	0,78	P6	51	45	20	FLH864F31
50	12	EXZ	24°	3000	0,83	P10	51	45	20	FLH864F32
50	12	EXN	38°	1600	0,91	P9	51	45	20	FLH864F36
50	12	FNV	60°	700	0,95	P8	51	45	20	FLH864F39

With satin safety glass

20	12	BAB flood	500	0,31	P5	51	45	20	FLH824F5A
35	12	FMW flood	1000	0,57	P9	51	45	20	FLH844F5A
50	12	EXN flood	1600	0,91	P9	51	45	20	FLH864F5A

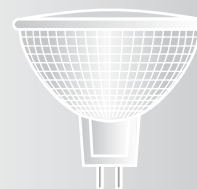


HALOGEN LAMPS FOR EXTRA LOW VOLTAGE

ALUMINIUM REFLECTOR DICHROIC MR16 Ø51 GU5,3

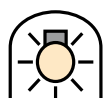
3000 h

Watt Volt Ansi Δ Axis cd γ Diagr. Dim. (mm) Pack Code
n. \emptyset L



With safety glass

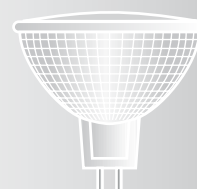
35	12	FMW	36°	730	0,45	P5	51	45	20	FLHB44F35
50	12	EXN	38°	1500	0,85	P9	51	45	20	FLHB64F36



DICHROIC LONG LIFE MR16 Ø51 GU5,3

5000 h

Watt Volt Ansi Δ Axis cd γ Diagr. Dim. (mm) Pack Code
n. \emptyset L

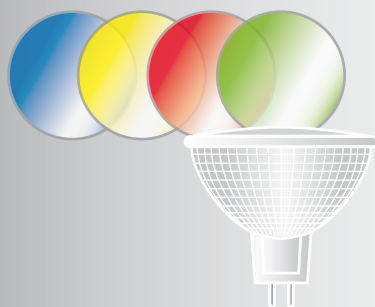


With safety glass

20	12	BAB	36°	460	0,29	P5	51	45	20	FLHC24F35
20	12	NA	60°	300	0,31	P7	51	45	20	FLHC24F39
35	12	FMW	36°	730	0,45	P5	51	45	20	FLHC44F35
50	12	EXT	12°	9150	0,78	P6	51	45	20	FLHC64F31
50	12	EXN	38°	1500	0,86	P9	51	45	20	FLHC64F36
50	12	FNV	60°	700	0,72	P7	51	45	20	FLHC64F39



HALOGEN LAMPS FOR EXTRA LOW VOLTAGE



3000 h

COLOURED GLASS DICHROIC MR16 Ø51 GU5,3

Watt	Volt	Ansi	Δ	Axis cd	γ	Diagr. n.	Dim. (mm) Ø L	Pack	Colour	Code
------	------	------	----------	------------	----------	--------------	------------------	------	--------	------

With coloured safety glass

50	12	EXN	38°	1500	0,85	P9	51 45	20	red	FLH864FE6
50	12	EXN	38°	1500	0,85	P9	51 45	20	green	FLH864FF6
50	12	EXN	38°	1500	0,85	P9	51 45	20	yellow	FLH864FG6
50	12	EXN	38°	1500	0,85	P9	51 45	20	blue	FLH864FH6



3000 h

EXTERNALLY PAINTED DICHROIC MR16 Ø51 GU5,3

Watt	Volt	Ansi	Δ	Axis cd	γ	Diagr. n.	Dim. (mm) Ø L	Pack	Colour	Code
------	------	------	----------	------------	----------	--------------	------------------	------	--------	------

With externally painted reflector and safety glass, aluminized

50	12	EXN	38°	1500	0,85	P9	51 45	20	black	FLHB64FI6
50	12	EXN	38°	1500	0,85	P9	51 45	20	white	FLHB64FL6
50	12	EXN	38°	1500	0,85	P9	51 45	20	gold	FLHB64FM6
50	12	EXN	38°	1500	0,85	P9	51 45	20	satine	FLHB64FN6

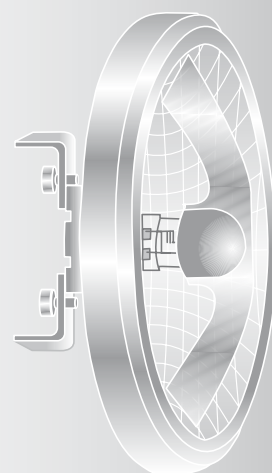
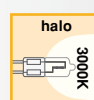
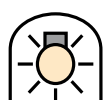
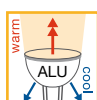


HALOGEN LAMPS FOR EXTRA LOW VOLTAGE

DLU111 ALUMINIUM REFLECTOR G53

2000 h

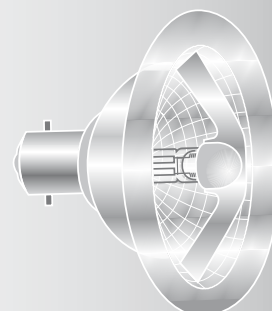
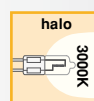
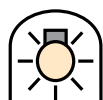
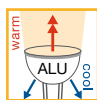
Watt	Volt	Δ	Axis cd	γ	Diagr. n.	Dim. (mm) \emptyset L	Pack	Code
50	12	4°	50000	0,47	P11	111 62	6	FLH564LVD
50	12	8°	20000	0,19	P12	111 62	6	FLH564LVE
50	12	24°	3500	0,51	P13	111 62	6	FLH564LV2
50	12	45°	950	0,45	P14	111 62	6	FLH564LVF
75	12	8°	30000	0,81	P15	111 62	6	FLH584LVE
75	12	24°	5300	0,78	P13	111 62	6	FLH584LV2
75	12	45°	1700	0,81	P14	111 62	6	FLH584LVF



DLU70 ALUMINIUM REFLECTOR BA15d

2000 h

Watt	Volt	Δ	Axis cd	γ	Diagr. n.	Dim. (mm) \emptyset L	Pack	Code
20	12	8°	7700	0,21	P15	70 50	10	FLH924OVE
20	12	24°	900	0,13	P13	70 50	10	FLH924OV2
50	12	8°	12500	0,34	P15	70 50	10	FLH964OVE
50	12	24°	2600	0,38	P13	70 50	10	FLH964OV2



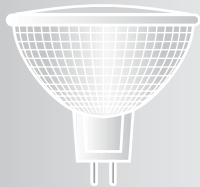
XENON HALOGEN LAMPS



10000 h

BIPIN JC EXTRA LONG LIFE

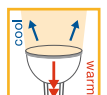
Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code
				Ø	L		
Clear							
10	12	130	G4	9	33	20	FLHT14A0V
20	12	320	G4	9	33	20	FLHT24A0V
35	12	600	GY6.35	12	44	20	FLHT44B0V
50	12	930	GY6.35	12	44	20	FLHT64B0V



10000 h

DICHROIC EXTRA LONG LIFE MR16 Ø51 GU5,3

Watt	Volt	Ansi	△	Axis	cd	γ	Diagr.	Dim. (mm)		Pack	Code
							n.	Ø	L		
With safety glass											
20	12	BAB	36°	500	0,31	P5	51	45	20	20	FLHU24F35
35	12	FMW	36°	1000	0,57	P9	51	45	20	20	FLHU44F35
50	12	EXN	38°	1600	0,91	P9	51	45	20	20	FLHU64F36
50	12	FNV	60°	700	0,72	P7	51	45	20	20	FLHU64F39



XENON HALOGEN LAMPS

DICHROIC PERSISTENT LIGHT EXTRA LONG LIFE - MR16 Ø51 GU5,3

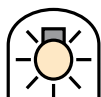
8000 h

Watt Volt Ansi Δ Axis cd γ Diag. Dim. (mm) Pack Code
n. \emptyset L



With safety glass and aluminium reflector

20	12	BAB	36°	500	0,31	P5	51	45	20	FLHI24F35
35	12	FMW	36°	1000	0,62	P5	51	45	20	FLHI44F35
50	12	EXN	38°	1600	0,91	P9	51	45	20	FLHI64F36
50	12	FNV	60°	700	0,72	P7	51	45	20	FLHI64F39

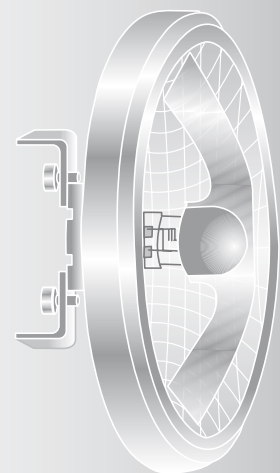
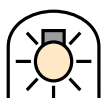


DLU111 ALUMINIUM REFLECTOR EXTRA LONG LIFE - G53

8000 h

Watt Volt Δ Axis cd γ Diag. Dim. (mm) Pack Code
n. \emptyset L

50	12	4°	50000	0,47	P11	111	62	6	FLHV64LVD
50	12	8°	20000	0,19	P12	111	62	6	FLHV64LVE
50	12	24°	3500	0,51	P13	111	62	6	FLHV64LV2
50	12	45°	950	0,45	P14	111	62	6	FLHV64LVF
75	12	8°	30000	0,81	P15	111	62	6	FLHV84LVE
75	12	24°	5300	0,78	P13	111	62	6	FLHV84LV2
75	12	45°	1700	0,81	P14	111	62	6	FLHV84LVF



COOL-WHITE LIGHT HALOGEN LAMPS



3000 h

COOL-WHITE LIGHT BIPIN JC

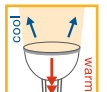
Watt	Volt	Lumen	Cap	Dim. (mm) Ø L	Pack	Code
Clear						
20	12	320	G4	9 33	20	FLH124A4V
50	12	930	G6.35	12 44	20	FLH164B4V



2000 h

COOL-WHITE LIGHT DICHROIC MR11 Ø35 GU4

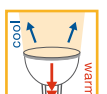
Watt	Volt	Ansi	△	Axis cd	γ	Diagr. n.	Dim. (mm) Ø L	Pack	Code
With safety glass									
20	12	FTD	30°	600	0,29	P3	35 37	25	FLH424E44
35	12	FTH	30°	1200	0,59	P3	35 37	25	FLH444E44



3000 h

COOL-WHITE LIGHT DICHROIC MR16 Ø51 GU5,3

Watt	Volt	Ansi	△	Axis cd	γ	Diagr. n.	Dim. (mm) Ø L	Pack	Code
With safety glass									
20	12	BAB	36°	460	0,29	P5	51 45	20	FLH824F45
35	12	FMW	36°	730	0,45	P5	51 45	20	FLH844F45
50	12	EXN	38°	1500	0,85	P9	51 45	20	FLH864F46
50	12	FNV	60°	700	0,72	P7	51 45	20	FLH864F49



COOL-WHITE LIGHT HALOGEN LAMPS

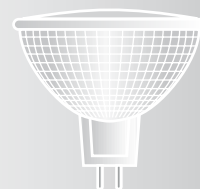
COOL-WHITE LIGHT DICHROIC LONG LIFE MR16 Ø51 GU5,3

5000 h

Watt Volt Ansi Δ Axis cd γ Diagr. Dim. (mm) Pack Code
n. \emptyset L

With safety glass

20	12	BAB	36°	460	0,29	P5	51	45	20	FLHC24F45
35	12	FMW	36°	730	0,45	P5	51	45	20	FLHC44F45
50	12	EXN	38°	1500	0,85	P9	51	45	20	FLHC64F46
50	12	FNV	60°	700	0,72	P7	51	45	20	FLHC64F49



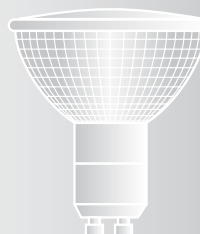
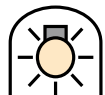
COOL-WHITE LIGHT DICHROIC 230V GU10 - ALUMINIUM REFLECTOR

2000 h

Watt Volt Δ Axis cd γ Diagr. Dim. (mm) Pack Code
n. \emptyset L

With safety glass

20	230	25°	950	0,51	P16	50	52	25	FLHM24843
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DAYLUX DIAMOND GLOW DICHROIC MR16 Ø51 GU5,3

3000 h

Watt Volt Ansi Δ Axis cd γ Diagr. Dim. (mm) Pack Code
n. \emptyset L

With safety glass

20	12	BAB	36°	460	0,29	P5	51	45	20	FLH824F65	NEW
35	12	FMW	36°	730	0,45	P5	51	45	20	FLH844F65	NEW
50	12	EXT	12°	9150	0,78	P6	51	45	20	FLH864F61	NEW
50	12	EXZ	24°	3000	0,83	P10	51	45	20	FLH864F62	NEW
50	12	EXN	38°	1500	0,85	P9	51	45	20	FLH864F66	NEW
50	12	FNV	60°	700	0,72	P7	51	45	20	FLH864F69	NEW



HALOGEN LAMPS FOR EXTRA LOW VOLTAGE



3000 h

BIPIN MARINE

Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code
				Ø	L		
Clear							
10	28	110	G4	9	33	100	FLH118A0V
20	28	240	G4	9	33	100	FLH128A0V



3000 h

DICHROIC MARINE MR16 Ø51 GU5,3

Watt	Volt	Ansi	△	Axis	cd	γ	Diagr.	Dim. (mm)		Pack	Code
							n.	Ø	L		
With honey-comb safety glass											
20	13	BAB	36°	700	0,18	P17	51	45	20	20	FLH829F25
20	25	BAB	36°	600	0,15	P17	51	45	20	20	FLH82AF25
20	28	BAB	36°	550	0,14	P17	51	45	20	20	FLH828F25
With transparent safety glass											
20	25	BAB	36°	1100	0,28	P17	51	45	20	20	FLH82AF35



HALOGEN LAMPS FOR MAINS VOLTAGE

DOUBLE-ENDED TUBULAR J Multispire welded

ECO -30

SAVE UP TO
30%ENERGY

1500 h

Watt	Volt	Lumen	Cap	Dim. (mm) Ø L	Pack	Code
80	230	1380	R7s-15	12 78	25	FLEDK0G0V
120	230	2220	R7s-15	12 78	25	FLEDM0G0V
120	230	2220	R7s-15	12 118	25	FLEWM0G0V
150	230	2900	R7s-15	12 118	25	FLEWA0G0V
230	230	5000	R7s-15	12 118	25	FLEWQ0G0V
400	230	8900	R7s-15	12 118	25	FLEWE0G0V

NEW

NEW

NEW

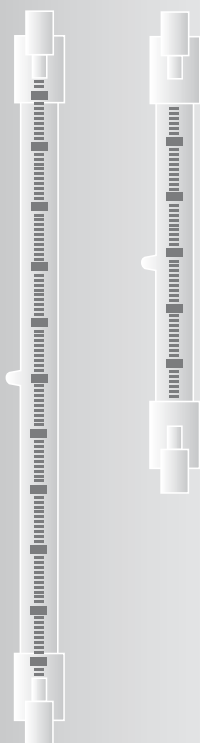
NEW

NEW

NEW



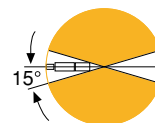
HALOGEN LAMPS FOR MAINS VOLTAGE



2000 h

DOUBLE-ENDED TUBULAR J Standard

	Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code
					Ø	L		
	200	230	2800	R7s-15	12	118	25	FLHEB0G0V
	300	230	4800	R7s-15	12	118	25	FLHED0G0V
	500	230	8900	R7s-15	12	118	25	FLHEF0G0V
	1000	230	20000	R7s-15	12	189	25	FLHFG0G0V
	1500	230	30000	R7s-15	12	254	25	FLHGH0G0V
	2000	230	40000	R7s-15	12	254	25	FLHGI0G0V



2000 h

DOUBLE-ENDED TUBULAR J Multispire welded

	Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code
					Ø	L		
	40	230	400	R7s-15	12	78	25	FLHD50G0V
	60	230	700	R7s-15	12	78	25	FLHD70G0V
	100	230	1400	R7s-15	12	78	25	FLHD90G0V
	150	230	2200	R7s-15	12	78	25	FLHDA0G0V
	200	230	3000	R7s-15	12	78	25	FLHDB0G0V
	250	230	4000	R7s-15	12	78	25	FLHDC0G0V
	100	230	1300	R7s-15	12	118	25	FLHW90G0V
	150	230	1850	R7s-15	12	118	25	FLHWA0G0V
	200	230	2800	R7s-15	12	118	25	FLHWB0G0V
	300	230	4800	R7s-15	12	118	25	FLHWD0G0V
	400	230	6500	R7s-15	12	118	25	FLHWE0G0V
	500	230	8900	R7s-15	12	118	25	FLHWF0G0V



HALOGEN LAMPS FOR MAINS VOLTAGE

PAR 20 ALUMINIUM REFLECTOR

2000 h

Watt	Volt	△	Axis	cd	Cap	γ	Diagr.	Dim. (mm)	Pack	Code
							n.	Ø	L	

With honey-comb safety glass

50	230	flood	1100	E27	0,68	P18	64,5	83	10	FLHH6042A
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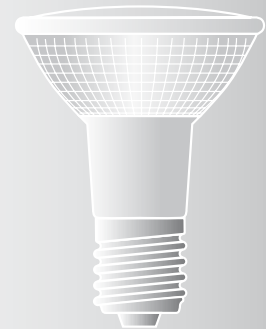
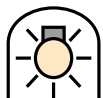
With transparent safety glass

50	230	flood	1100	E27	0,68	P18	64,5	83	10	FLHY6043A
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50	230	spot	4100	E27	0,58	P19	64,5	83	10	FLHY6043B
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With frosted safety glass

50	230	spot	4100	E27	0,58	P19	64,5	83	10	FLHY6041B
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PAR 30 ALUMINIUM REFLECTOR

2000 h

Watt	Volt	△	Axis	cd	Cap	γ	Diagr.	Dim. (mm)	Pack	Code
							n.	Ø	L	

With honey-comb safety glass

75	230	flood	2000	E27	0,87	P20	97	90,5	10	FLHJ8042A
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100	230	flood	3300	E27	1,43	P20	97	90,5	10	FLHJ9042A
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With transparent safety glass

75	230	flood	2000	E27	0,87	P20	97	90,5	10	FLHZ8043A
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75	230	spot	6700	E27	0,93	P21	97	90,5	10	FLHZ8043B
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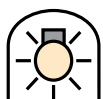
100	230	flood	3300	E27	1,43	P20	97	90,5	10	FLHZ9043A
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100	230	spot	9700	E27	1,35	P21	97	90,5	10	FLHZ9043B
-----	-----	------	------	-----	------	-----	----	------	----	-----------

With frosted safety glass

75	230	spot	6700	E27	0,93	P21	97	90,5	10	FLHZ8041B
----	-----	------	------	-----	------	-----	----	------	----	-----------

100	230	spot	9700	E27	1,35	P21	97	90,5	10	FLHZ9041B
-----	-----	------	------	-----	------	-----	----	------	----	-----------



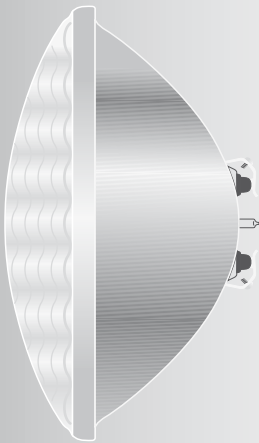
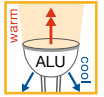
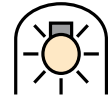
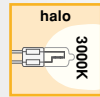
HALOGEN LAMPS FOR MAINS VOLTAGE



2000 h

PAR 38

Watt	Volt	△	Cap	Dim. (mm)		Pack	Code
				Ø	L		
100	230	flood	E27	120	136	20	FLHK9042A
100	230	spot	E27	120	136	20	FLHK9042B



1000 h

PAR 56

Special purpose lamp

Watt	Volt	△	Cap	Dim. (mm)		Pack	Code
				Ø	L		
For underwater use (max. depth: 1.0 meter)*							
300	12	2x35°	screw terminal	177	110	6	FLHQD4Z1A
Disco *							
300	230	20x38°	GX16d	177	127	6	FLHQD0Z1A

* Vacuum bulb, without halogen gas

HALOGEN LAMPS FOR MAINS VOLTAGE

BIPIN G9

ECO -30
SAVE UP TO
30% ENERGY

1500 h

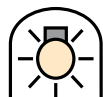


Watt	Volt	Lumen	Life h	Cap	Dim. (mm)		Pack	Code
					Ø	L		
Clear								
28	230	345	1500	G9	13	44	20	FLE1T0D0V
42	230	600	1500	G9	13	44	20	FLE1U0D0V
72	230	1215	1500	G9	13	44	20	FLE1N0D0V

NEW

NEW

NEW



BIPIN G9

1500 h

2000 h

Watt	Volt	Lumen	Life h	Cap	Dim. (mm)		Pack	Code
					Ø	L		
Clear								
25	230	210	1500	G9	14	51	20	FLH130D0V
40	230	425	1500	G9	14	51	20	FLH150D0V
60	230	730	2000	G9	14	54	20	FLH170D0V
75	230	920	2000	G9	14	54	20	FLH180D0V
Frosted								
25	230	180	1500	G9	14	51	20	FLH130D1V
40	230	400	1500	G9	14	51	20	FLH150D1V
60	230	700	2000	G9	14	54	20	FLH170D1V
75	230	880	2000	G9	14	54	20	FLH180D1V

12 S

12 S

11 S

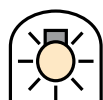
10 S

09 S

09 S

09 S

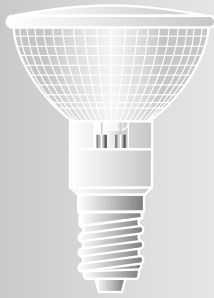
09 S



HALOGEN LAMPS FOR MAINS VOLTAGE

DICHROIC JDR

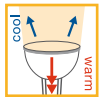
2000 h



Watt	Volt	Δ	Axis cd	Cap	γ	Diagr. n.	Dim. (mm) \emptyset L	Pack	Code
------	------	----------	---------	-----	----------	-----------	----------------------------	------	------

With safety glass

35	230	40°	600	E14	0,32	P22	50 74	25	FLHL40237
50	230	40°	1000	E14	0,55	P22	50 74	25	FLHL60237
75	230	40°	1200	E14	0,86	P23	50 74	25	FLHL80237
35	230	40°	600	E27	0,32	P22	50 75	25	FLHL40437
50	230	40°	1000	E27	0,55	P22	50 75	25	FLHL60437
60	230	40°	1100	E27	0,78	P23	50 75	25	FLHL70437
75	230	40°	1200	E27	0,86	P23	50 75	25	FLHL80437



HALOGEN LAMPS FOR MAINS VOLTAGE

DICHROIC GU10 aluminium reflector

ECO -30
SAVE UP TO 30% ENERGY

1500 h

Watt Volt Δ Axis cd Cap γ Diag. Dim. (mm) Pack Code
n. \emptyset L



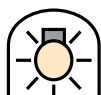
PAR16 - \emptyset 50 - with safety glass										
28	230	25°	510	GU10	0,28	P16	50	52	25	FLEMT0833
28	230	50°	240	GU10	0,38	P24	50	52	25	FLEMT0838
42	230	25°	800	GU10	0,43	P16	50	52	25	FLEMU0833
42	230	50°	330	GU10	0,52	P24	50	52	25	FLEMU0838

NEW

NEW

NEW

NEW

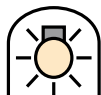
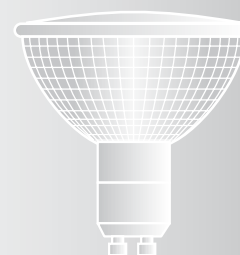
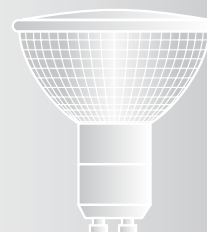


DICHROIC GU10 aluminium reflector

2000 h

Watt Volt Δ Axis cd Cap γ Diag. Dim. (mm) Pack Code
n. \emptyset L

PAR11 - \emptyset 35 - with safety glass										
35	230	30°	300	GU10	0,47	P24	35	50	25	FLHA40834
PAR16 - \emptyset 50 - with safety glass										
20	230	36°	350	GU10	0,22	P5	50	52	25	FLHM20835
35	230	25°	660	GU10	0,36	P16	50	52	25	FLHM40833
35	230	50°	300	GU10	0,47	P24	50	52	25	FLHM40838
50	230	25°	950	GU10	0,51	P16	50	52	25	FLHM60833
50	230	50°	400	GU10	0,63	P24	50	52	25	FLHM60838
PAR20 - \emptyset 64 - with safety glass										
75	230	25°	1800	GU10	0,97	P16	64	62	25	FLHM80833
75	230	50°	600	GU10	0,95	P24	64	62	25	FLHM80838



HALOGEN LAMPS FOR MAINS VOLTAGE



2000 h

DICHROIC GZ10

Watt	Volt	Δ	Axis	cd	Cap	γ	Diagr.	Dim. (mm)	Pack	Code
							n.	\emptyset	L	

With safety glass

35	230	25°	660	GZ10	0,36	P16	50	52	25	FLHN40833
35	230	50°	300	GZ10	0,48	P24	50	52	25	FLHN40838
50	230	25°	950	GZ10	0,51	P16	50	52	25	FLHN60833
50	230	50°	400	GZ10	0,63	P24	50	52	25	FLHN60838



HALOGEN LAMPS FOR MAINS VOLTAGE

GLS **ECO -30** SAVE UP TO 30%ENERGY

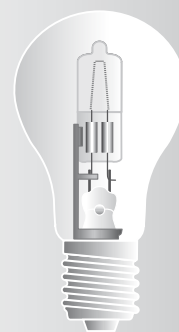
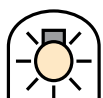
1500 h

Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code
				Ø	L		
28	230	345	E27	55	98	100	FLEQT040V
42	230	600	E27	55	98	100	FLEQU040V
72	230	1200	E27	55	98	100	FLEQN040V

NEW

NEW

NEW



ROUND LAMP **ECO -30** SAVE UP TO 30%ENERGY

1500 h

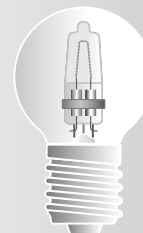
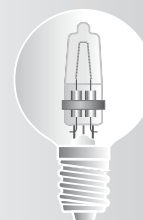
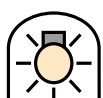
Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code
				Ø	L		
28	230	345	E14	45	79	100	FLE3T020V
42	230	600	E14	45	79	100	FLE3U020V
28	230	345	E27	45	74	100	FLE3T040V
42	230	600	E27	45	74	100	FLE3U040V

NEW

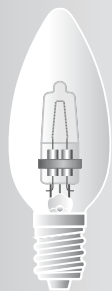
NEW

NEW

NEW



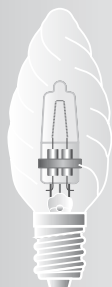
HALOGEN LAMPS FOR MAINS VOLTAGE



1500 h

CANDLE **ECO -30** SAVE UP TO 30%ENERGY

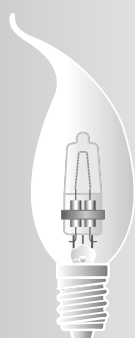
	Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code
					Ø	L		
NEW	28	230	345	E14	35	102	100	FLE6T020V
NEW	42	230	600	E14	35	102	100	FLE6U020V



1500 h

TWISTED CANDLE **ECO -30** SAVE UP TO 30%ENERGY

	Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code
					Ø	L		
NEW	28	230	345	E14	35	95	100	FLEST020V
NEW	42	230	600	E14	35	95	100	FLESU020V



1500 h

FLAME **ECO -30** SAVE UP TO 30%ENERGY

	Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code
					Ø	L		
NEW	28	230	345	E14	35	125	100	FLE7T020V
NEW	42	230	600	E14	35	125	100	FLE7U020V



HALOGEN LAMPS FOR MAINS VOLTAGE

REFLECTOR

ECO -30

SAVE UP TO
30% ENERGY

1500 h

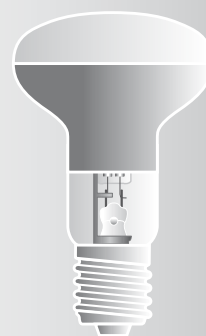
Watt	Volt	Cap	Dim. (mm)		Pack	Code
			Ø	L		
R50						
28	230	E14	50	86	25	FLENT020V
42	230	E14	50	86	25	FLENU020V
R63						
28	230	E27	63	102	25	FLE0T040V
42	230	E27	63	102	25	FLE0U040V

NEW

NEW

NEW

NEW



TUBULAR JTT

2000 h

Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code
				Ø	L		
Clear							
100	230	1600	E27	46	110	25	FLHR9040V
150	230	2550	E27	46	110	25	FLHRA040V
250	230	4200	E27	46	110	25	FLHRC040V
Frosted							
150	230	2100	E27	46	110	25	FLHRA041V
250	230	3600	E27	46	110	25	FLHRC041V



HALOGEN LAMPS FOR MAINS VOLTAGE

TUBULAR JD

2000 h



Watt	Volt	Lumen	Cap	Dim. (mm) Ø L	Pack	Code
------	------	-------	-----	------------------	------	------

Clear

11 S	60	230	780	E14	18	66	25	FLHS7020V
10 S	75	230	1000	E14	18	66	25	FLHS8020V
09 S	100	230	1400	E14	19	75	25	FLHS9020V
09 S	150	230	2500	E14	19	75	25	FLHSA020V
09 S	200	230	3100	E14	19	75	25	FLHSB020V
09 S	250	230	4200	E14	19	75	25	FLHSC020V

Frosted

09 S	75	230	950	E14	18	66	25	FLHS8021V
09 S	100	230	1300	E14	19	75	25	FLHS9021V
09 S	150	230	2400	E14	19	75	25	FLHSA021V
09 S	200	230	3000	E14	19	75	25	FLHSB021V
09 S	250	230	4000	E14	19	75	25	FLHSC021V

Clear

10 S	75	230	1000	B15d	18	66	25	FLHS8060V
09 S	100	230	1400	B15d	18	78	25	FLHS9060V
09 S	150	230	2500	B15d	18	90	25	FLHSA060V
09 S	250	230	4200	B15d	18	90	25	FLHSC060V

Frosted

09 S	40	230	480	B15d	18	66	25	FLHS5061V
09 S	60	230	700	B15d	18	66	25	FLHS7061V
09 S	150	230	2400	B15d	18	90	25	FLHSA061V

Clear

09 S	100	230	1400	E11	19	75	25	FLHS9000V
09 S	150	230	2500	E11	19	75	25	FLHSA000V
09 S	250	230	4200	E11	19	75	25	FLHSC000V

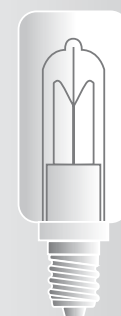
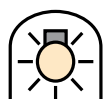


HALOGEN LAMPS FOR MAINS VOLTAGE

TUBULAR JDD DOUBLE GLASS E14

2000 h

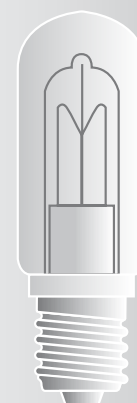
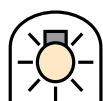
Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code	
Clear								
40	230	450	E14	26	88	25	FLHP5020V	
60	230	770	E14	26	88	25	FLHP7020V	
75	230	900	E14	26	88	25	FLHP8020V	
100	230	1200	E14	26	88	25	FLHP9020V	
150	230	2100	E14	26	88	25	FLHPA020V	
Frosted								
40	230	410	E14	26	88	25	FLHP5021V	
60	230	730	E14	26	88	25	FLHP7021V	
75	230	890	E14	26	88	25	FLHP8021V	
100	230	1190	E14	26	88	25	FLHP9021V	
150	230	2090	E14	26	88	25	FLHPA021V	



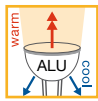
TUBULAR JDD DOUBLE GLASS E27

2000 h

Watt	Volt	Lumen	Cap	Dim. (mm)		Pack	Code	
Clear								
60	230	800	E27	32	90	25	FLHP7040V	
75	230	1000	E27	32	90	25	FLHP8040V	
100	230	1500	E27	32	90	25	FLHP9040V	
150	230	2500	E27	32	109	25	FLHPA040V	
250	230	4200	E27	32	109	25	FLHPC040V	
Frosted								
150	230	2400	E27	32	109	25	FLHPA041V	
250	230	4000	E27	32	109	25	FLHPC041V	

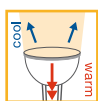


All the halogen lamps for mains voltage can be produced even for 110-130V or 240-250V and/or with B22, B15d, E26, E12 cap.



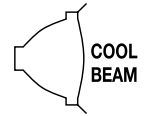
Aluminium reflector

Not cool-beam lamp, all the heat is projected in the same direction of the luminous beam



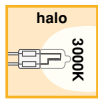
Dichroic reflector

The heat content of the beam incident on the reflector passes through: the lighted object is invested by less heat than in case of aluminium reflector but the lampholder should stand a higher temperature



2800K colour temperature halogen

Warmer halogen colour temperature



3000K colour temperature halogen

Standard halogen colour temperature



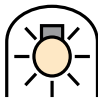
4000K colour temperature halogen

White and brilliant luminous beam



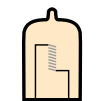
4700K colour temperature halogen

White daylight luminous beam



Self-shielded lamp

*Lamps usable in open luminaries
(no external anti-shattering shield is needed)*



Axial filament

A professional orientation of the luminous beam thanks to the axial (vertical) spiral filament



UV-STOP

UV filtering bulb glass, reducing the specific effective radiant UV power below the limits prescribed by the EN60432-2 standards



Safety glass

Integrated transparent safety glass



Operating position

Horizontal, maximum inclination = 15°

FLUORESCENT LAMPS



COMPACT FLUORESCENT LAMPS

DLU S

10000 h



Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
					Ø	L		

warm light

	7	400	2700	C2	G23	32±2	137±3	50	FLP129N01
	9	605	2700	C2	G23	32±2	167±3	50	FLP149N01
	11	905	2700	C2	G23	32±2	237±3	50	FLP169N01

warm-white light

	7	400	3000	C3	G23	32±2	137±3	50	FLP129N11
	9	605	3000	C3	G23	32±2	167±3	50	FLP149N11
	11	905	3000	C3	G23	32±2	237±3	50	FLP169N11

cool-white light

	7	400	4000	C8	G23	32±2	137±3	50	FLP129N21
	9	605	4000	C8	G23	32±2	167±3	50	FLP149N21
	11	905	4000	C8	G23	32±2	237±3	50	FLP169N21

daylight

	7	375	6000	C17	G23	32±2	137±3	50	FLP129N51
	9	565	6000	C17	G23	32±2	167±3	50	FLP149N51
	11	850	6000	C17	G23	32±2	237±3	50	FLP169N51















- Ra > 80
- 2 pins cap: the starter is endowed

For magnetic ballast only

COMPACT FLUORESCENT LAMPS

DLU D

10000 h

Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm) Ø L	Pack	Code	
warm light								
18	1210	2700	C2	G24d-2	40 153	50	FLP2C9P01	
26	1800	2700	C2	G24d-3	40 167	50	FLP2H9P01	
warm-white light								
10	600	3000	C3	G24d-1	40 110	50	FLP259P11	
13	900	3000	C3	G24d-1	40 138	50	FLP289P11	
18	1210	3000	C3	G24d-2	40 153	50	FLP2C9P11	
26	1800	3000	C3	G24d-3	40 167	50	FLP2H9P11	
cool-white light								
10	600	4000	C8	G24d-1	40 110	50	FLP259P21	
13	900	4000	C8	G24d-1	40 138	50	FLP289P21	
18	1210	4000	C8	G24d-2	40 153	50	FLP2C9P21	
26	1800	4000	C8	G24d-3	40 167	50	FLP2H9P21	
daylight								
10	550	6000	C17	G24d-1	40 110	50	FLP259P51	
13	820	6000	C17	G24d-1	40 138	50	FLP289P51	
18	1100	6000	C17	G24d-2	40 153	50	FLP2C9P51	
26	1620	6000	C17	G24d-3	40 167	50	FLP2H9P51	

- Ra > 80
 - 2 pins cap: the starter is endowed
- For magnetic ballast only



COMPACT FLUORESCENT LAMPS



10000 h

DLU D/E

Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm) Ø L	Pack	Code
warm-white light							
10	600	3000	C3	G24q-1	40 103	50	FLP259Q12
13	900	3000	C3	G24q-1	40 131	50	FLP289Q12
18	1210	3000	C3	G24q-2	40 146	50	FLP2C9Q12
26	1800	3000	C3	G24q-3	40 161	50	FLP2H9Q12
cool-white light							
10	600	4000	C8	G24q-1	40 103	50	FLP259Q22
13	900	4000	C8	G24q-1	40 131	50	FLP289Q22
18	1210	4000	C8	G24q-2	40 146	50	FLP2C9Q22
26	1800	4000	C8	G24q-3	40 161	50	FLP2H9Q22
daylight							
10	600	6000	C17	G24q-1	40 103	50	FLP259Q52
13	820	6000	C17	G24q-1	40 131	50	FLP289Q52
18	1100	6000	C17	G24q-2	40 146	50	FLP2C9Q52
26	1620	6000	C17	G24q-3	40 161	50	FLP2H9Q52

- Ra > 80
- 4 pins cap: the starter is not endowed

Lamp for magnetic ballast and external starter
or for electronic ballast

COMPACT FLUORESCENT LAMPS

DLUT

10000 h

Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
					Ø	L		
warm-white light								
18	1210	3000	C3	GX24d-2	49	123	10	FLP3C9R11
26	1800	3000	C3	GX24d-3	49	138	10	FLP3H9R11
cool-white light								
18	1210	4000	C8	GX24d-2	49	123	10	FLP3C9R21
26	1800	4000	C8	GX24d-3	49	138	10	FLP3H9R21



- Ra > 80
 - 2 pins cap: the starter is endowed
- For magnetic ballast only



DLUT/E

10000 h

Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
					Ø	L		
warm-white light								
18	1210	3000	C3	GX24q-2	49	116	10	FLP3C9S12
26	1800	3000	C3	GX24q-3	49	131	10	FLP3H9S12
32	2400	3000	C3	GX24q-3	49	147	10	FLP3N9S12
42	3200	3000	C3	GX24q-4	49	168	10	FLP3V9S12
cool-white light								
18	1210	4000	C8	GX24q-2	49	116	10	FLP3C9S22
26	1800	4000	C8	GX24q-3	49	131	10	FLP3H9S22
32	2400	4000	C8	GX24q-3	49	147	10	FLP3N9S22
42	3200	4000	C8	GX24q-4	49	168	10	FLP3V9S22

- Ra > 80
- 4 pins cap: the starter is not endowed

Lamp for magnetic ballast and external starter or for electronic ballast



COMPACT FLUORESCENT LAMPS



10000 h

DLU L

Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm) Ø L	Pack	Code
warm-white light							
18	1210	3000	C3	2G11	38 225	10	FLP5C9T11
24	1800	3000	C3	2G11	38 320	10	FLP5I9T11
36	2920	3000	C3	2G11	38 415	10	FLP5R9T11
cool-white light							
18	1210	4000	C8	2G11	38 225	10	FLP5C9T21
24	1800	4000	C8	2G11	38 320	10	FLP5I9T21
36	2920	4000	C8	2G11	38 415	10	FLP5R9T21

- Ra > 80
- 4 pins cap: the starter is not endowed

Lamp for magnetic ballast and external starter
or for electronic ballast



10000 h

DLU L/E

Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm) Ø L	Pack	Code
warm-white light							
40	3500	3000	C3	2G11	38 533	10	FLP5U9T12
55	4800	3000	C3	2G11	38 533	10	FLP5Y9T12
cool-white light							
40	3500	4000	C8	2G11	38 533	10	FLP5U9T22
55	4800	4000	C8	2G11	38 533	10	FLP5Y9T22

- Ra > 80
- 4 pins cap

For electronic ballast only

COMPACT FLUORESCENT LAMPS

DLU 2D

10000 h

Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm)	Pack	Code
warm light							
10	650	2700	C2	GR8	90 x 90	20	FLP459U01
10	650	2700	C2	GR10q	90 x 90	20	FLP459V02
16	1060	2700	C2	GR8	142 x 142	20	FLP4B9U01
16	1060	2700	C2	GR10q	142 x 142	20	FLP4B9V02
21	1345	2700	C2	GR8	142 x 142	20	FLP4E9U01
21	1345	2700	C2	GR10q	142 x 142	20	FLP4E9V02
28	2045	2700	C2	GR8	207 x 207	20	FLP4L9U01
28	2045	2700	C2	GR10q	207 x 207	20	FLP4L9V02
38	2700	2700	C2	GR10q	207 x 207	20	FLP4S9V02
warm-white light							
16	1060	3500	C6	GR8	142 x 142	20	FLP4B9U71
16	1060	3500	C6	GR10q	142 x 142	20	FLP4B9V72
21	1345	3500	C6	GR8	142 x 142	20	FLP4E9U71
21	1345	3500	C6	GR10q	142 x 142	20	FLP4E9V72
28	2045	3500	C6	GR8	207 x 207	20	FLP4L9U71
28	2045	3500	C6	GR10q	207 x 207	20	FLP4L9V72
38	2700	3500	C6	GR10q	207 x 207	20	FLP4S9V72
cool-white light							
10	650	4000	C8	GR8	90 x 90	20	FLP459U21
10	650	4000	C8	GR10q	90 x 90	20	FLP459V22
16	1060	4000	C8	GR8	142 x 142	20	FLP4B9U21
16	1060	4000	C8	GR10q	142 x 142	20	FLP4B9V22
21	1345	4000	C8	GR8	142 x 142	20	FLP4E9U21
21	1345	4000	C8	GR10q	142 x 142	20	FLP4E9V22
28	2045	4000	C8	GR10q	207 x 207	20	FLP4L9V22
38	2700	4000	C8	GR10q	207 x 207	20	FLP4S9V22
daylight							
16	970	6400	C18	GR8	142 x 142	20	FLP4B9U41
16	970	6400	C18	GR10q	142 x 142	20	FLP4B9V42
21	1220	6400	C18	GR8	142 x 142	20	FLP4E9U41
21	1220	6400	C18	GR10q	142 x 142	20	FLP4E9V42

GR8 = 2 pin

GR10q = 4 pin

• Ra > 80



LINEAR STANDARD FLUORESCENT LAMPS

STANDARD T8 tube Ø 26mm



	Watt	Lumen	K	Diagr. n.	Cap	Length (mm)	Pack	Code
warm-white light								
	18	1150	3000	C4	G13	590	25	FLT1CVX1V
	36	2850	3000	C4	G13	1200	25	FLT1RVX1V
	58	4600	3000	C4	G13	1500	25	FLT1KVX1V
cool-white light								
	15	890	4300	C15	G13	438	25	FLT1AVX2V
	18	1150	4300	C15	G13	590	25	FLT1CVX2V
	30	2250	4300	C15	G13	895	25	FLT1MVX2V
	36	2850	4300	C15	G13	1200	25	FLT1RVX2V
	58	4600	4300	C15	G13	1500	25	FLT1KVX2V
daylight								
	15	890	6500	C19	G13	438	25	FLT1AVX8V
	18	1150	6500	C19	G13	590	25	FLT1CVX8V
	30	2250	6500	C19	G13	895	25	FLT1MVX8V
	36	2850	6500	C19	G13	1200	25	FLT1RVX8V
	58	4600	6500	C19	G13	1500	25	FLT1KVX8V

- Ra > 75 (6500K)
- Ra > 65 (4300K)
- Ra > 55 (3000K)

Lamp for magnetic ballast and external starter
or for electronic ballast

LINEAR STANDARD FLUORESCENT LAMPS

MINI T5 tube Ø 16mm

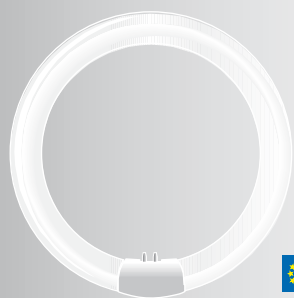


Watt	Lumen	K	Diagr. n.	Cap	Length (mm)	Pack	Code
cool-white light							
6	210	4300	C15	G5	212	10	FLT2QVW2V
8	330	4300	C15	G5	288	10	FLT23VW2V
13	700	4300	C15	G5	517	10	FLT28VW2V
daylight							
6	180	6500	C19	G5	212	10	FLT2QVW8V
8	300	6500	C19	G5	288	10	FLT23VW8V
13	610	6500	C19	G5	517	10	FLT28VW8V

- Ra > 75 (6500K)
- Ra > 65 (4300K)

Lamp for magnetic ballast and external starter
or for electronic ballast




CIRCULAR STANDARD FLUORESCENT LAMPS






STANDARD CIRCULAR T9 tube Ø 29mm

Watt	Lumen	K	Diagr. n.	Cap	External Diam. (mm)	Pack	Code
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cool-white light

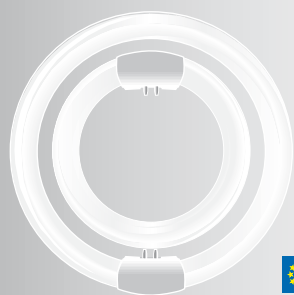
 10 A	22	1000	4300	C15	G10q	208±3	12	FLT5FVY2V
 10 A	32	1800	4300	C15	G10q	298±3	12	FLT5NVY2V
 10 A	40	2300	4300	C15	G10q	400±4	12	FLT5UVY2V

daylight

 10 A	22	900	6500	C19	G10q	208±3	12	FLT5FVY8V
 10 A	32	1700	6500	C19	G10q	298±3	12	FLT5NVY8V
 10 A	40	2200	6500	C19	G10q	400±4	12	FLT5UVY8V

- Ra > 75 (6500K)
- Ra > 65 (4300K)
- 4 pins cap

Lamp for magnetic ballast and external starter
or for electronic ballast



STANDARD CIRCULAR T9 DOUBLE PACK tube Ø 29mm

Watt	Lumen	K	Diagr. n.	Cap	Pack	Code
------	-------	---	--------------	-----	------	------

cool-white light

 10 A	22 + 32	1000 + 1800	4300	C6	G10q	12 + 12	FLT5IVY2V
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daylight

 10 A	22 + 32	900 + 1700	6500	C5	G10q	12 + 12	FLT5IVY8V
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- Ra > 75 (6500K)
- Ra > 65 (4300K)
- 4 pins cap

Lamp for magnetic ballast and external starter
or for electronic ballast

CIRCULAR TRIPHOSPHOR FLUORESCENT LAMPS

TRIPHOSPHOR CIRCULAR T9 tube Ø 29mm

Watt	Lumen	K	Diagr. n.	Cap	External Diam. (mm)	Pack	Code
cool-white light							
22	1145	4000	C8	G10q	208±3	12	FLTLFVY2V
32	2050	4000	C8	G10q	298±3	12	FLTLNVY2V
40	2800	4000	C8	G10q	400±4	12	FLTLUVY2V
daylight							
22	1035	6000	C17	G10q	208±3	12	FLTLFVY8V
32	1845	6000	C17	G10q	298±3	12	FLTLNVY8V
40	2520	6000	C17	G10q	400±4	12	FLTLUVY8V

- Ra > 80
- 4 pins cap

Lamp for magnetic ballast and external starter
or for electronic ballast

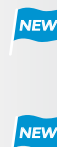
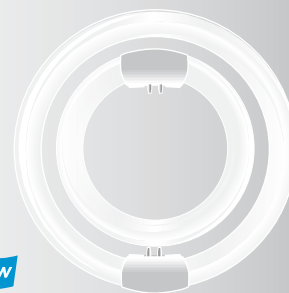


TRIPHOSPHOR CIRCULAR T9 DOUBLE PACK tube Ø 29mm

Watt	Lumen	K	Diagr. n.	Cap	Pack	Code
cool-white light						
22 + 32	1145 + 2050	4000	C8	G10q	12 + 12	FLTLIVY2V
daylight						
22 + 32	1035 + 1845	6000	C17	G10q	12 + 12	FLTLIVY8V

- Ra > 80
- 4 pins cap

Lamp for magnetic ballast and external starter
or for electronic ballast



■ Technical details on triphosphors at page 104

LINEAR TRIPHOSPHOR FLUORESCENT LAMPS

TRIPHOSPHOR T8 tube Ø 26mm



	Watt	Lumen	K	Diagr. n.	Cap	Length (mm)	Pack	Code
warm light								
NEW	15	950	2700	C2	G13	590	25	FLT6AVXBV
	18	1350	2700	C2	G13	590	25	FLT6CVXBV
NEW	30	2400	2700	C2	G13	1200	25	FLT6MVXBV
	36	3350	2700	C2	G13	1200	25	FLT6RVXBV
	58	5220	2700	C2	G13	1500	25	FLT6KVXBV
warm-white light								
NEW	15	950	3000	C3	G13	590	25	FLT6AVX1V
	18	1350	3000	C3	G13	590	25	FLT6CVX1V
NEW	30	2400	3000	C3	G13	1200	25	FLT6MVX1V
	36	3350	3000	C3	G13	1200	25	FLT6RVX1V
	58	5220	3000	C3	G13	1500	25	FLT6KVX1V
cool-white light								
NEW	15	950	4000	C8	G13	590	25	FLT6AVX9V
	18	1350	4000	C8	G13	590	25	FLT6CVX9V
NEW	30	2400	4000	C8	G13	1200	25	FLT6MVX9V
	36	3350	4000	C8	G13	1200	25	FLT6RVX9V
	58	5220	4000	C8	G13	1500	25	FLT6KVX9V
daylight								
NEW	15	860	6000	C17	G13	590	25	FLT6AVXAV
	18	1230	6000	C17	G13	590	25	FLT6CVXAV
NEW	30	2160	6000	C17	G13	1200	25	FLT6MVXAV
	36	3030	6000	C17	G13	1200	25	FLT6RVXAV
	58	4700	6000	C17	G13	1500	25	FLT6KVXAV

- Ra > 80

Lamp for magnetic ballast and external starter
or for electronic ballast

■ Technical details on triphosphors at page 104

LINEAR TRIPHOSPHOR FLUORESCENT LAMPS


TRIPHOSPHOR T5 FH-HE tube Ø 16mm




Watt	Lumen	K	Diagr. n.	Cap	Length (mm)	Pack	Code
warm light							
14	1350	2700	C2	G5	549	25	FLT79VWBV
21	2100	2700	C2	G5	849	25	FLT7EVWBV
28	2900	2700	C2	G5	1149	25	FLT7LVWBV
35	3650	2700	C2	G5	1449	25	FLT7PVWBV
warm-white light							
14	1350	3000	C3	G5	549	25	FLT79VW1V
21	2100	3000	C3	G5	849	25	FLT7EVW1V
28	2900	3000	C3	G5	1149	25	FLT7LVW1V
35	3650	3000	C3	G5	1449	25	FLT7PVW1V
cool-white light							
14	1350	4000	C8	G5	549	25	FLT79VW9V
21	2100	4000	C8	G5	849	25	FLT7EVW9V
28	2900	4000	C8	G5	1149	25	FLT7LVW9V
35	3650	4000	C8	G5	1449	25	FLT7PVW9V
daylight							
14	1300	6000	C17	G5	549	25	FLT79VWAV
21	2000	6000	C17	G5	849	25	FLT7EVWAV
28	2750	6000	C17	G5	1149	25	FLT7LVWAV
35	3500	6000	C17	G5	1449	25	FLT7PVWAV

- Ra > 80

For electronic ballast only

 In comparison with triphosphor T8 tubes, the smaller section of FH-HE allows to design more compact luminaires, with reflectors that better control the light distribution and increase the emitted flux.

 The FH-HE tubes are optimized for closed luminaires: the maximum of their lm/W efficacy is around 35°C instead of 25°C. The hereabove nominal fluxes are referred to $T_{amb} = 35^{\circ}\text{C}$.

■ Technical details on triphosphors at page 104


LINEAR TRIPHOSPHOR FLUORESCENT LAMPS


TRIPHOSPHOR T5 FQ-HO tube Ø 16mm

Watt	Lumen	K	Diagr. n.	Cap	Length (mm)	Pack	Code
warm light							
24	2000	2700	C2	G5	549	25	FLT8HVWBV
39	3500	2700	C2	G5	849	25	FLT8TVWBV
49	4500	2700	C2	G5	1149	25	FLT83VWBV
54	5000	2700	C2	G5	1149	25	FLT8XVWBV
80	7000	2700	C2	G5	1449	25	FLT82VWBV
warm-white light							
24	2000	3000	C3	G5	549	25	FLT8HVW1V
39	3500	3000	C3	G5	849	25	FLT8TVW1V
49	4500	3000	C3	G5	1149	25	FLT83VW1V
54	5000	3000	C3	G5	1149	25	FLT8XVW1V
80	7000	3000	C3	G5	1449	25	FLT82VW1V
cool-white light							
24	2000	4000	C8	G5	549	25	FLT8HVW9V
39	3500	4000	C8	G5	849	25	FLT8TVW9V
49	4500	4000	C8	G5	1149	25	FLT83VW9V
54	5000	4000	C8	G5	1149	25	FLT8XVW9V
80	7000	4000	C8	G5	1449	25	FLT82VW9V
daylight							
24	1800	6000	C17	G5	549	25	FLT8HVWAV
39	3325	6000	C17	G5	849	25	FLT8TVWAV
49	4225	6000	C17	G5	1149	25	FLT83VWAV
54	4750	6000	C17	G5	1149	25	FLT8XVWAV
80	6650	6000	C17	G5	1449	25	FLT82VWAV

- Ra > 80

For electronic ballast only

 In comparison with triphosphor T8 tubes:

- The FQ-HO tubes are optimized for closed luminaires: the maximum of their lm/W luminous efficacy is around 35°C instead of 25°C. The hereabove nominal fluxes are referred to $T_{amb} = 35^{\circ}\text{C}$.
- They have smaller section and shorter lengths together with higher powers  by using FQ-HO tubes it is possible to design more compact luminaires, with reflectors that better control the light distribution and increase the emitted flux.

■ Technical details on triphosphors at page 104

BLACK-LIGHT FLUORESCENT LAMPS

BLACK LIGHT LAMP - DLU S

Special purpose lamp

10000 h

Watt	Wavelength nm	Cap	Dim. (mm) Ø L	Pack	Code
7	360	G23	32±2 137±3	10	FLP129NC1
11	360	G23	32±2 237±3	10	FLP169NC1



- 2 pins cap: the starter is endowed
For magnetic ballast only



BLACK LIGHT LAMP - MINI T5

tube Ø 16mm Special purpose lamp

Watt	Cap	Length (mm)	Wavelength (nm)	Pack	Code
4	G5	136	360	10	FLT20VWCV
6	G5	212	360	10	FLT2QVWCV
8	G5	288	360	10	FLT23VWCV
13	G5	517	360	10	FLT28VWCV

Lamp for magnetic ballast and external starter
or for electronic ballast





DLST-80S

Lamp(s)	Rated Voltage	Dim. (mm)		Pieces	Master	Code
		Ø	L	x packaging	pack	
4...65W	AC 220...240V single	20	37	25	25 x 40	FLLST480S



DLST-22S

Lamp(s)	Rated Voltage	Dim. (mm)		Pieces	Master	Code
		Ø	L	x packaging	pack	
4...22W	AC 110...130V single AC 220...240V series	20	37	25	25 x 40	FLLST422S

Glow-starters with built-in device as protection against electric shock.
VDE quality mark.

Reference standards EN 60155;
European Directive 2006/95 (low voltage).

Internal capacitor in parallel to the internal electrodes to minimize the radiofrequency noises and to maximize the lifetime of the electrodes by absorbing the current peaks.

External case in self-extinguishing polypropylene.

TABLE OF USE

Code	Rated voltage	LINEAR LAMPS									DLU L	
		W 4	W 10	W 15	W 18	W 22	W 30	W 38	W 36	W 58	W 18	W 36
DLST-80S	AC 220...240V single	■	■	■	■	■	■	■	■	■	■	■
DLST-22S	AC 220...240V series(*) AC 110...130V single	■		■	■	■					■	

(*) In this case the ambient temperature should be higher than 5°C

ELECTRONIC LAMPS



ELECTRONIC FLUORESCENT LAMPS



8000 h

DLU 2U/T3 E14
tube Ø 9-10mm

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
						Ø	L		
warm light									
5	230-240	280	2700	C2	E14	39±1	108±5	10	FLS11020V
cool-white light									
5	230-240	280	4000	C8	E14	39±1	108±5	10	FLS11022V
daylight									
5	230-240	255	6400	C18	E14	39±1	108±5	10	FLS11024V

• Ra > 80

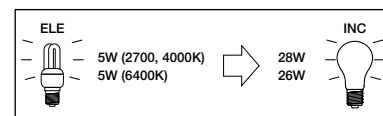


8000 h

DLU 2U/T3 E27
tube Ø 9-10mm

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
						Ø	L		
warm light									
5	230-240	280	2700	C2	E27	39±1	105±5	10	FLS11040V
cool-white light									
5	230-240	280	4000	C8	E27	39±1	105±5	10	FLS11042V
daylight									
5	230-240	255	6400	C18	E27	39±1	105±5	10	FLS11044V

• Ra > 80



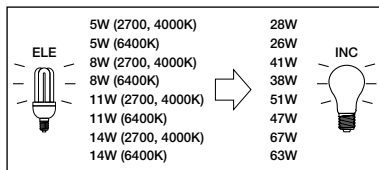
ELECTRONIC FLUORESCENT LAMPS

DLU 3U/T3 E14
tube Ø 9-10mm

8000 h



Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm) Ø	L	Pack	Code
warm light									
5	230-240	280	2700	C2	E14	43±1	103±5	10	FLS31020V
8	230-240	450	2700	C2	E14	44±1	112±5	10	FLS33020V
11	230-240	600	2700	C2	E14	44±1	122±5	10	FLS36020V
14	230-240	850	2700	C2	E14	44±1	132±5	10	FLS39020V
cool-white light									
5	230-240	280	4000	C8	E14	43±1	103±5	10	FLS31022V
8	230-240	450	4000	C8	E14	44±1	112±5	10	FLS33022V
11	230-240	600	4000	C8	E14	44±1	122±5	10	FLS36022V
14	230-240	850	4000	C8	E14	44±1	132±5	10	FLS39022V
daylight									
5	230-240	255	6400	C18	E14	43±1	103±5	10	FLS31024V
8	230-240	410	6400	C18	E14	44±1	112±5	10	FLS33024V
11	230-240	540	6400	C18	E14	44±1	122±5	10	FLS36024V
14	230-240	770	6400	C18	E14	44±1	132±5	10	FLS39024V



• Ra > 80



ELECTRONIC FLUORESCENT LAMPS





8000 h

DLU 3U/T3 E27
tube Ø 9-10mm

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
						Ø	L		
warm light									
5	230-240	280	2700	C2	E27	43±1	100±5	10	FLS31040V
8	230-240	450	2700	C2	E27	44±1	107±5	10	FLS33040V
11	230-240	600	2700	C2	E27	44±1	117±5	10	FLS36040V
14	230-240	850	2700	C2	E27	44±1	127±5	10	FLS39040V
cool-white light									
5	230-240	280	4000	C8	E27	43±1	100±5	10	FLS31042V
8	230-240	450	4000	C8	E27	44±1	107±5	10	FLS33042V
11	230-240	600	4000	C8	E27	44±1	117±5	10	FLS36042V
14	230-240	850	4000	C8	E27	44±1	127±5	10	FLS39042V
daylight									
5	230-240	255	6400	C18	E27	43±1	100±5	10	FLS31044V
8	230-240	410	6400	C18	E27	44±1	107±5	10	FLS33044V
11	230-240	540	6400	C18	E27	44±1	117±5	10	FLS36044V
14	230-240	770	6400	C18	E27	44±1	127±5	10	FLS39044V

- Ra > 80

 ELE	5W (2700, 4000K)	28W	 INC
	5W (6400K)	26W	
	8W (2700, 4000K)	41W	
	8W (6400K)	38W	
	11W (2700, 4000K)	51W	
	11W (6400K)	47W	
	14W (2700, 4000K)	67W	
	14W (6400K)	63W	

CE



ELECTRONIC FLUORESCENT LAMPS

DLU 4U/T3
tube Ø 9-10mm

8000 h



Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
						Ø	L		
warm light									
15	230-240	900	2700	C2	E27	48±1	120±5	10	FLSVA040V
18	230-240	1100	2700	C2	E27	48±1	132±5	10	FLSVC040V
20	230-240	1200	2700	C2	E27	48±1	140±5	10	FLSVD040V
cool-white light									
15	230-240	900	4000	C8	E27	48±1	120±5	10	FLSVA042V
18	230-240	1100	4000	C8	E27	48±1	132±5	10	FLSVC042V
20	230-240	1200	4000	C8	E27	48±1	140±5	10	FLSVD042V
daylight									
15	230-240	810	6400	C18	E27	48±1	120±5	10	FLSVA044V
18	230-240	1010	6400	C18	E27	48±1	132±5	10	FLSVC044V
20	230-240	1160	6400	C18	E27	48±1	140±5	10	FLSVD044V

• Ra > 80

ELE		INC
15W (2700, 4000K)	→	70W
15W (6400K)		65W
18W (2700, 4000K)		83W
18W (6400K)		77W
20W (2700, 4000K)		88W
20W (6400K)		86W



ELECTRONIC FLUORESCENT LAMPS



8000 h

DLU 2U/T4 E14
tube Ø 12mm

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
						Ø	L		
warm light									
5	230-240	250	2700	C2	E14	39±1	110±5	10	FLS21020V
7	230-240	400	2700	C2	E14	39±1	125±5	10	FLS22020V
11	230-240	600	2700	C2	E14	39±1	137±5	10	FLS26020V
cool-white light									
5	230-240	250	4000	C8	E14	39±1	110±5	10	FLS21022V
7	230-240	400	4000	C8	E14	39±1	125±5	10	FLS22022V
11	230-240	600	4000	C8	E14	39±1	137±5	10	FLS26022V
daylight									
5	230-240	225	6400	C18	E14	39±1	110±5	10	FLS21024V
7	230-240	360	6400	C18	E14	39±1	125±5	10	FLS22024V
11	230-240	540	6400	C18	E14	39±1	137±5	10	FLS26024V

• Ra > 80

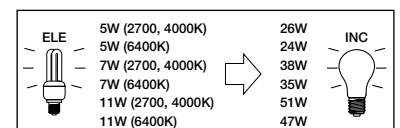


8000 h

DLU 2U/T4 E27
tube Ø 12mm

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
						Ø	L		
warm light									
5	230-240	250	2700	C2	E27	39±1	110±5	10	FLS21040V
7	230-240	400	2700	C2	E27	39±1	125±5	10	FLS22040V
11	230-240	600	2700	C2	E27	39±1	137±5	10	FLS26040V
cool-white light									
5	230-240	250	4000	C8	E27	39±1	110±5	10	FLS21042V
7	230-240	400	4000	C8	E27	39±1	125±5	10	FLS22042V
11	230-240	600	4000	C8	E27	39±1	137±5	10	FLS26042V
daylight									
5	230-240	225	6400	C18	E27	39±1	110±5	10	FLS21044V
7	230-240	360	6400	C18	E27	39±1	125±5	10	FLS22044V
11	230-240	540	6400	C18	E27	39±1	137±5	10	FLS26044V

• Ra > 80



CE



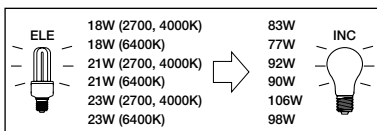
ELECTRONIC FLUORESCENT LAMPS

DLU 3U/T4
tube Ø 12mm

8000 h



Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
						Ø	L		
warm light									
18	230-240	1100	2700	C2	E27	52±1	154±5	10	FLS4C040V
21	230-240	1250	2700	C2	E27	52±1	164±5	10	FLS4E040V
23	230-240	1500	2700	C2	E27	52±1	168±5	10	FLS4G040V
cool-white light									
18	230-240	1100	4000	C8	E27	52±1	154±5	10	FLS4C042V
21	230-240	1250	4000	C8	E27	52±1	164±5	10	FLS4E042V
23	230-240	1500	4000	C8	E27	52±1	168±5	10	FLS4G042V
daylight									
18	230-240	1010	6400	C18	E27	52±1	154±5	10	FLS4C044V
21	230-240	1230	6400	C18	E27	52±1	164±5	10	FLS4E044V
23	230-240	1380	6400	C18	E27	52±1	168±5	10	FLS4G044V



• Ra > 80



ELECTRONIC FLUORESCENT LAMPS



8000 h

PETIT DLU 4U/T4
tube Ø 12mm

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
						Ø	L		
warm light									
15	230-240	900	2700	C2	E27	58±1	105±5	10	FLS5A040V
18	230-240	1100	2700	C2	E27	58±1	115±5	10	FLS5C040V
20	230-240	1200	2700	C2	E27	58±1	125±5	10	FLS5D040V
24	230-240	1500	2700	C2	E27	58±1	135±5	10	FLS5H040V
cool-white light									
15	230-240	900	4000	C8	E27	58±1	105±5	10	FLS5A042V
18	230-240	1100	4000	C8	E27	58±1	115±5	10	FLS5C042V
20	230-240	1200	4000	C8	E27	58±1	125±5	10	FLS5D042V
24	230-240	1500	4000	C8	E27	58±1	135±5	10	FLS5H042V
daylight									
15	230-240	810	6400	C18	E27	58±1	105±5	10	FLS5A044V
18	230-240	1010	6400	C18	E27	58±1	115±5	10	FLS5C044V
20	230-240	1160	6400	C18	E27	58±1	125±5	10	FLS5D044V
24	230-240	1445	6400	C18	E27	58±1	135±5	10	FLS5H044V

- Ra > 80

ELE		→	INC	
15W (2700, 4000K)	70W		65W	
15W (6400K)	83W		77W	
18W (2700, 4000K)	88W		86W	
18W (6400K)	106W		102W	
20W (2700, 4000K)				
20W (6400K)				
24W (2700, 4000K)				
24W (6400K)				

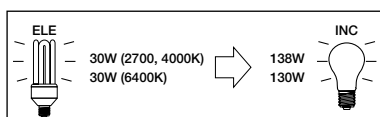


ELECTRONIC FLUORESCENT LAMPS

DLU 4U/T4 HIGH WATTAGE tube Ø 12mm

8000 h

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
						Ø	L		
warm light									
30	230-240	2000	2700	C2	E27	62±1	185±5	10	FLS5M040V
cool-white light									
30	230-240	2000	4000	C8	E27	62±1	185±5	10	FLS5M042V
daylight									
30	230-240	1900	6400	C18	E27	62±1	185±5	10	FLS5M044V



• Ra > 80

For EU market available with Power Factor $\geq 0,95$



CE



■ Technical details at page 105

ELECTRONIC FLUORESCENT LAMPS



8000 h

DLU TWIST/T2.5 E14
tube Ø 7-8mm

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)			Pack	Code
						Ø _S	Ø _G	L		
warm light										
5	230-240	300	2700	C2	E14	40±1	48±1	85±5	10	FLS91020V
8	230-240	500	2700	C2	E14	40±1	48±1	92±5	10	FLS93020V
12	230-240	720	2700	C2	E14	40±1	48±1	99±5	10	FLS97020V
cool-white light										
5	230-240	300	4000	C8	E14	40±1	48±1	85±5	10	FLS91022V
8	230-240	500	4000	C8	E14	40±1	48±1	92±5	10	FLS93022V
12	230-240	720	4000	C8	E14	40±1	48±1	99±5	10	FLS97022V
daylight										
5	230-240	270	6400	C18	E14	40±1	48±1	85±5	10	FLS91024V
8	230-240	450	6400	C18	E14	40±1	48±1	92±5	10	FLS93024V
12	230-240	650	6400	C18	E14	40±1	48±1	99±5	10	FLS97024V

- Ra > 80

ELE	INC
5W (2700, 4000K)	30W
5W (6400K)	28W
8W (2700, 4000K)	45W
8W (6400K)	41W
12W (2700, 4000K)	58W
12W (6400K)	55W

CE



ELECTRONIC FLUORESCENT LAMPS

DLU TWIST/T2.5 E27
tube Ø 7-8mm

8000 h



Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)			Pack	Code
						Ø _S	Ø _G	L		

warm light										
5	230-240	300	2700	C2	E27	40±1	48±1	81±5	10	FLS91040V
8	230-240	500	2700	C2	E27	40±1	48±1	88±5	10	FLS93040V
12	230-240	720	2700	C2	E27	40±1	48±1	93±5	10	FLS97040V
15	230-240	930	2700	C2	E27	40±1	48±1	102±5	10	FLS9A040V
18	230-240	1100	2700	C2	E27	52±1	58±1	93±5	10	FLS9C040V
20	230-240	1200	2700	C2	E27	52±1	58±1	103±5	10	FLS9D040V
23	230-240	1400	2700	C2	E27	52±1	58±1	113±5	10	FLS9G040V

NEW

NEW

NEW

NEW

cool-white light										
5	230-240	300	4000	C8	E27	40±1	48±1	81±5	10	FLS91042V
8	230-240	500	4000	C8	E27	40±1	48±1	88±5	10	FLS93042V
12	230-240	720	4000	C8	E27	40±1	48±1	93±5	10	FLS97042V
15	230-240	930	4000	C8	E27	40±1	48±1	102±5	10	FLS9A042V
18	230-240	1100	4000	C8	E27	52±1	58±1	93±5	10	FLS9C042V
20	230-240	1200	4000	C8	E27	52±1	58±1	103±5	10	FLS9D042V
23	230-240	1400	4000	C8	E27	52±1	58±1	113±5	10	FLS9G042V

NEW

NEW

NEW

NEW

daylight										
5	230-240	270	6400	C18	E27	40±1	48±1	81±5	10	FLS91044V
8	230-240	450	6400	C18	E27	40±1	48±1	88±5	10	FLS93044V
12	230-240	650	6400	C18	E27	40±1	48±1	93±5	10	FLS97044V
15	230-240	840	6400	C18	E27	40±1	48±1	102±5	10	FLS9A044V
18	230-240	1010	6400	C18	E27	52±1	58±1	93±5	10	FLS9C044V
20	230-240	1160	6400	C18	E27	52±1	58±1	103±5	10	FLS9D044V
23	230-240	1375	6400	C18	E27	52±1	58±1	113±5	10	FLS9G044V

NEW

NEW

NEW

NEW

5W (2700, 4000K)	30W
5W (6400K)	28W
8W (2700, 4000K)	45W
8W (6400K)	41W
12W (2700, 4000K)	58W
12W (6400K)	55W
15W (2700, 4000K)	73W
15W (6400K)	67W
18W (2700, 4000K)	83W
18W (6400K)	77W
20W (2700, 4000K)	88W
20W (6400K)	86W
23W (2700, 4000K)	103W
23W (6400K)	98W

ELE → INC

• Ra > 80

CE



ELECTRONIC FLUORESCENT LAMPS





8000 h

DLU TWIST/T3 E14
tube Ø 9-10mm

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)			Pack	Code
						Ø _S	Ø _G	L		
warm light										
7	230-240	380	2700	C2	E14	40±1	41±1	111±5	10	FLSQ2020V
9	230-240	450	2700	C2	E14	40±1	41±1	113±5	10	FLSQ4020V
11	230-240	600	2700	C2	E14	40±1	41±1	115±5	10	FLSQ6020V
13	230-240	750	2700	C2	E14	40±1	41±1	122±5	10	FLSQ8020V
15	230-240	900	2700	C2	E14	40±1	41±1	127±5	10	FLSQA020V
cool-white light										
7	230-240	380	4000	C8	E14	40±1	41±1	111±5	10	FLSQ2022V
9	230-240	450	4000	C8	E14	40±1	41±1	113±5	10	FLSQ4022V
11	230-240	600	4000	C8	E14	40±1	41±1	115±5	10	FLSQ6022V
13	230-240	750	4000	C8	E14	40±1	41±1	122±5	10	FLSQ8022V
15	230-240	900	4000	C8	E14	40±1	41±1	127±5	10	FLSQA022V
daylight										
7	230-240	345	6400	C18	E14	40±1	41±1	111±5	10	FLSQ2024V
9	230-240	405	6400	C18	E14	40±1	41±1	113±5	10	FLSQ4024V
11	230-240	540	6400	C18	E14	40±1	41±1	115±5	10	FLSQ6024V
13	230-240	675	6400	C18	E14	40±1	41±1	122±5	10	FLSQ8024V
15	230-240	810	6400	C18	E14	40±1	41±1	127±5	10	FLSQA024V

• Ra > 80

 E14	7W (2700, 4000K)	36W	 INC
	7W (6400K)	34W	
	9W (2700, 4000K)	42W	
	9W (6400K)	38W	
	11W (2700, 4000K)	51W	
	11W (6400K)	47W	
	13W (2700, 4000K)	60W	
	13W (6400K)	56W	
	15W (2700, 4000K)	70W	
	15W (6400K)	65W	

CE



ELECTRONIC FLUORESCENT LAMPS

DLU TWIST/T3 E27 - LP tube Ø 9-10mm

8000 h



Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)			Pack	Code
						Ø _S	Ø _G	L		
warm light										
7	230-240	380	2700	C2	E27	40±1	41±1	107±5	10	FLSQ2040V
9	230-240	450	2700	C2	E27	40±1	41±1	110±5	10	FLSQ4040V
11	230-240	600	2700	C2	E27	40±1	41±1	113±5	10	FLSQ6040V
13	230-240	750	2700	C2	E27	40±1	41±1	119±5	10	FLSQ8040V
15	230-240	900	2700	C2	E27	40±1	41±1	124±5	10	FLSQA040V
cool-white light										
7	230-240	380	4000	C8	E27	40±1	41±1	107±5	10	FLSQ2042V
9	230-240	450	4000	C8	E27	40±1	41±1	110±5	10	FLSQ4042V
11	230-240	600	4000	C8	E27	40±1	41±1	113±5	10	FLSQ6042V
13	230-240	750	4000	C8	E27	40±1	41±1	119±5	10	FLSQ8042V
15	230-240	900	4000	C8	E27	40±1	41±1	124±5	10	FLSQA042V
daylight										
7	230-240	345	6400	C18	E27	40±1	41±1	107±5	10	FLSQ2044V
9	230-240	405	6400	C18	E27	40±1	41±1	110±5	10	FLSQ4044V
11	230-240	540	6400	C18	E27	40±1	41±1	113±5	10	FLSQ6044V
13	230-240	675	6400	C18	E27	40±1	41±1	119±5	10	FLSQ8044V
15	230-240	810	6400	C18	E27	40±1	41±1	124±5	10	FLSQA044V

ELE	7W (2700, 4000K)	36W
	7W (6400K)	34W
	9W (2700, 4000K)	42W
	9W (6400K)	38W
	11W (2700, 4000K)	51W
	11W (6400K)	47W
	13W (2700, 4000K)	60W
	13W (6400K)	56W
	15W (2700, 4000K)	70W
	15W (6400K)	65W

• Ra > 80



ELECTRONIC FLUORESCENT LAMPS



8000 h

DLU TWIST/T3 E27 - HP
tube Ø 9-10mm

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)			Pack	Code	
						Ø _S	Ø _G	L			
warm light											
18	230-240	1100	2700	C2	E27	48±1	55±1	133±5	10	FLSQC040V	
20	230-240	1200	2700	C2	E27	48±1	55±1	137±5	10	FLSQD040V	
NEW	24	230-240	1550	2700	C2	E27	48±1	60±1	139±5	10	FLSQH040V
cool-white light											
18	230-240	1100	4000	C8	E27	48±1	55±1	133±5	10	FLSQC042V	
20	230-240	1200	4000	C8	E27	48±1	55±1	137±5	10	FLSQD042V	
NEW	24	230-240	1550	4000	C8	E27	48±1	60±1	139±5	10	FLSQH042V
daylight											
18	230-240	1010	6400	C18	E27	48±1	55±1	133±5	10	FLSQC044V	
20	230-240	1160	6400	C18	E27	48±1	55±1	137±5	10	FLSQD044V	
NEW	24	230-240	1450	6400	C18	E27	48±1	60±1	139±5	10	FLSQH044V

• Ra > 80

ELE	INC
18W (2700, 4000K)	83W
18W (6400K)	77W
20W (2700, 4000K)	88W
20W (6400K)	86W
24W (2700, 4000K)	109W
24W (6400K)	103W

CE

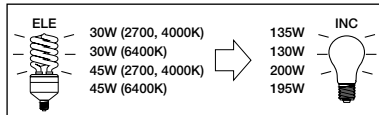


ELECTRONIC FLUORESCENT LAMPS

DLU TWIST HIGH WATTAGE E27 tube Ø : 12mm (30W) or 14,5mm (45W)

12000 h

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)			Pack	Code
						Ø _S	Ø _G	L		
warm light										
30	230-240	2000	2700	C2	E27	62±1	67±1	193±5	10	FLSQM040V
45	230-240	3200	2700	C2	E27	72±1	80±1	245±5	10	FLSOW040B
cool-white light										
30	230-240	2000	4000	C2	E27	62±1	67±1	193±5	10	FLSQM042V
45	230-240	3200	4000	C8	E27	72±1	80±1	245±5	10	FLSOW042B
daylight										
30	230-240	1900	6400	C2	E27	62±1	67±1	193±5	10	FLSQM044V
45	230-240	3080	6400	C18	E27	72±1	80±1	245±5	10	FLSOW044B



• Ra > 80

For EU market available with Power Factor ≥ 0,95

■ Technical details at page 105



ELECTRONIC FLUORESCENT LAMPS





8000 h

DLU SPIRAL/T3 E14
tube Ø 9-10mm

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
						Ø	L		
warm light									
7	230-240	380	2700	C2	E14	48±1	105±3	10	FLSG2020V
9	230-240	420	2700	C2	E14	48±1	105±3	10	FLSG4020V
11	230-240	600	2700	C2	E14	48±1	112±3	10	FLSG6020V
13	230-240	750	2700	C2	E14	48±1	117±3	10	FLSG8020V
cool-white light									
7	230-240	380	4000	C8	E14	48±1	105±3	10	FLSG2022V
9	230-240	420	4000	C8	E14	48±1	105±3	10	FLSG4022V
11	230-240	600	4000	C8	E14	48±1	112±3	10	FLSG6022V
13	230-240	750	4000	C8	E14	48±1	117±3	10	FLSG8022V
daylight									
7	230-240	345	6400	C18	E14	48±1	105±3	10	FLSG2024V
9	230-240	405	6400	C18	E14	48±1	105±3	10	FLSG4024V
11	230-240	540	6400	C18	E14	48±1	112±3	10	FLSG6024V
13	230-240	675	6400	C18	E14	48±1	117±3	10	FLSG8024V

• Ra > 80

 ELE	7W (2700, 4000K)	36W	 INC
	7W (6400K)	34W	
	9W (2700, 4000K)	39W	
	9W (6400K)	37W	
	11W (2700, 4000K)	51W	
	11W (6400K)	47W	
	13W (2700, 4000K)	60W	
	13W (6400K)	56W	

CE



ELECTRONIC FLUORESCENT LAMPS

DLU SPIRAL/T3 E27 tube Ø 9-10mm

8000 h



Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm) Ø L	Pack	Code
warm light								
9	230-240	420	2700	C2	E27	48±1 105±3	10	FLSG4040V
11	230-240	600	2700	C2	E27	48±1 112±3	10	FLSG6040V
13	230-240	750	2700	C2	E27	48±1 117±3	10	FLSG8040V
15	230-240	900	2700	C2	E27	48±1 123±5	10	FLSGA040V
20	230-240	1200	2700	C2	E27	48±1 129±5	10	FLSGD040V
* 24	230-240	1470	2700	C2	E27	60±1 147±5	10	FLSGH040V
cool-white light								
9	230-240	420	4000	C8	E27	48±1 105±3	10	FLSG4042V
11	230-240	600	4000	C8	E27	48±1 112±3	10	FLSG6042V
13	230-240	750	4000	C8	E27	48±1 117±3	10	FLSG8042V
15	230-240	900	4000	C8	E27	48±1 123±5	10	FLSGA042V
20	230-240	1200	4000	C8	E27	48±1 129±5	10	FLSGD042V
* 24	230-240	1470	4000	C8	E27	60±1 147±5	10	FLSGH042V
daylight								
9	230-240	405	6400	C18	E27	48±1 105±3	10	FLSG4044V
11	230-240	540	6400	C18	E27	48±1 112±3	10	FLSG6044V
13	230-240	680	6400	C18	E27	48±1 117±3	10	FLSG8044V
15	230-240	810	6400	C18	E27	48±1 123±5	10	FLSGA044V
20	230-240	1160	6400	C18	E27	48±1 129±5	10	FLSGD044V
* 24	230-240	1445	6400	C18	E27	60±1 147±5	10	FLSGH044V

NEW

NEW

NEW

• Ra > 80

9W (2700, 4000K)	39W
9W (6400K)	37W
11W (2700, 4000K)	51W
11W (6400K)	47W
13W (2700, 4000K)	60W
13W (6400K)	56W
15W (2700, 4000K)	70W
15W (6400K)	65W
20W (2700, 4000K)	88W
20W (6400K)	86W
24W (2700, 4000K)	105W
24W (6400K)	102W

* tube T4 (Ø-12mm)

CE



ELECTRONIC FLUORESCENT LAMPS

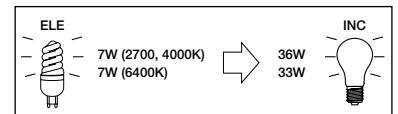


8000 h

DLU G9 SPIRAL/T2.5 tube Ø 7-8mm

	Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)			Pack	Code
							Ø _S	Ø _G	L		
warm light											
NEW	7	230-240	370	2700	C2	G9	32±1	28±1	88±5	10	FLS920D0V
cool-white light											
NEW	7	230-240	370	4000	C8	G9	32±1	28±1	88±5	10	FLS920D2V
daylight											
NEW	7	230-240	330	6400	C18	G9	32±1	28±1	88±5	10	FLS920D4V

- Ra > 80

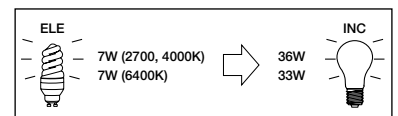


8000 h

DLU GU10 SPIRAL/T2.5 tube Ø 7-8mm

	Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)			Pack	Code
							Ø _S	Ø _G	L		
warm light											
NEW	7	230-240	370	2700	C2	GU10	32±1	28±1	80±5	10	FLS92080V
cool-white light											
NEW	7	230-240	370	4000	C8	GU10	32±1	28±1	80±5	10	FLS92082V
daylight											
NEW	7	230-240	330	6400	C18	GU10	32±1	28±1	80±5	10	FLS92084V

- Ra > 80



CE



ELECTRONIC FLUORESCENT LAMPS

DLU GLS MINISERIES SOLID HG

8000 h

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)			Pack	Code
						∅ _S	∅ _G	L		
warm light										
11	230-240	550	2700	C2	E27	51±1	56±1	113±5	10	FLSW6040V
15	230-240	820	2700	C2	E27	51±1	65±1	140±5	10	FLSXA040V
cool-white light										
11	230-240	550	4000	C8	E27	51±1	56±1	113±5	10	FLSW6042V
15	230-240	820	4000	C8	E27	51±1	65±1	140±5	10	FLSXA042V
daylight										
11	230-240	535	6400	C18	E27	51±1	56±1	113±5	10	FLSW6044V
15	230-240	800	6400	C18	E27	51±1	65±1	140±5	10	FLSXA044V

• Ra > 80



DLU GLS

8000 h

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)			Pack	Code
						∅ _S	∅ _G	L		
warm light										
11	230-240	550	2700	C2	E27	41±1	68±1	139±5	10	FLSD6040V
15	230-240	820	2700	C2	E27	51±1	68±1	141±5	10	FLSDA040V
20	230-240	1180	2700	C2	E27	51±1	68±1	177±5	10	FLSDD040V
cool-white light										
11	230-240	550	4000	C8	E27	41±1	68±1	139±5	10	FLSD6042V
15	230-240	820	4000	C8	E27	51±1	68±1	141±5	10	FLSDA042V
20	230-240	1180	4000	C8	E27	51±1	68±1	177±5	10	FLSDD042V
daylight										
11	230-240	535	6400	C18	E27	41±1	68±1	139±5	10	FLSD6044V
15	230-240	800	6400	C18	E27	51±1	68±1	141±5	10	FLSDA044V
20	230-240	1155	6400	C18	E27	51±1	68±1	177±5	10	FLSDD044V

• Ra > 80



ELE	INC
11W (2700, 4000K)	48W
11W (6400K)	46W
15W (2700, 4000K)	66W
15W (6400K)	64W
20W (2700, 4000K)	88W
20W (6400K)	86W



ELECTRONIC FLUORESCENT LAMPS



8000 h

DLU CANDLE MINISERIES SOLID HG

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
						Ø	L		
warm light									
5	230-240	200	2700	C2	E14	37±1	105±5	10	FLST1020V
7	230-240	295	2700	C2	E14	37±1	105±5	10	FLST2020V
cool-white light									
5	230-240	200	4000	C8	E14	37±1	105±5	10	FLST1022V
7	230-240	295	4000	C8	E14	37±1	105±5	10	FLST2022V

- Ra > 80

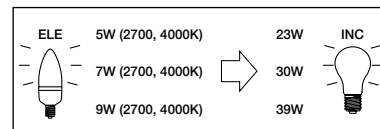


8000 h

DLU CANDLE

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
						Ø	L		
warm light									
5	230-240	200	2700	C2	E14	41±1	121±5	10	FLSB1020V
7	230-240	295	2700	C2	E14	41±1	128±5	10	FLSB2020V
9	230-240	420	2700	C2	E14	41±1	140±5	10	FLSB4020V
cool-white light									
5	230-240	200	4000	C8	E14	41±1	121±5	10	FLSB1022V
7	230-240	295	4000	C8	E14	41±1	128±5	10	FLSB2022V
9	230-240	420	4000	C8	E14	41±1	140±5	10	FLSB4022V

- Ra > 80



ELECTRONIC FLUORESCENT LAMPS

DLU ROUND MINISERIES SOLID HG

8000 h



Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm) Ø L		Pack	Code
warm light									
5	230-240	200	2700	C2	E14	45±1	95±5	10	FLS71020V
5	230-240	200	2700	C2	E27	45±1	95±5	10	FLS71040V
7	230-240	295	2700	C2	E14	45±1	95±5	10	FLS72020V
7	230-240	295	2700	C2	E27	45±1	95±5	10	FLS72040V
cool-white light									
5	230-240	200	4000	C8	E14	45±1	95±5	10	FLS71022V
5	230-240	200	4000	C8	E27	45±1	95±5	10	FLS71042V
7	230-240	295	4000	C8	E14	45±1	95±5	10	FLS72022V
7	230-240	295	4000	C8	E27	45±1	95±5	10	FLS72042V

• Ra > 80

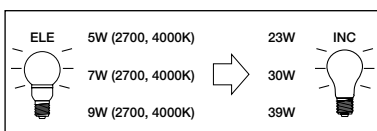
DLU ROUND

8000 h



Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm) Ø L		Pack	Code
warm light									
5	230-240	200	2700	C2	E14	61±1	112±5	10	FLS81020V
5	230-240	200	2700	C2	E27	61±1	108±5	10	FLS81040V
7	230-240	295	2700	C2	E14	61±1	112±5	10	FLS82020V
7	230-240	295	2700	C2	E27	61±1	108±5	10	FLS82040V
9	230-240	420	2700	C2	E14	61±1	112±5	10	FLS84020V
9	230-240	420	2700	C2	E27	61±1	108±5	10	FLS84040V
cool-white light									
5	230-240	200	4000	C8	E14	61±1	112±5	10	FLS81022V
5	230-240	200	4000	C8	E27	61±1	108±5	10	FLS81042V
7	230-240	295	4000	C8	E14	61±1	112±5	10	FLS82022V
7	230-240	295	4000	C8	E27	61±1	108±5	10	FLS82042V
9	230-240	420	4000	C8	E14	61±1	112±5	10	FLS84022V
9	230-240	420	4000	C8	E27	61±1	108±5	10	FLS84042V

• Ra > 80



ELECTRONIC FLUORESCENT LAMPS



8000 h

DLU SOFTLIGHT MINISERIES T45 SOLID HG

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm) Ø L	Pack	Code
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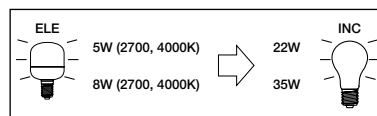
warm light

NEW	5	230-240	190	2700	C2	E14	45±1 75±5	10	FLSU1020V
NEW	5	230-240	190	2700	C2	E27	45±1 75±5	10	FLSU1040V
NEW	8	230-240	360	2700	C2	E14	45±1 75±5	10	FLSU3020V
NEW	8	230-240	360	2700	C2	E27	45±1 75±5	10	FLSU3040V

cool-white light

NEW	5	230-240	190	4000	C8	E14	45±1 75±5	10	FLSU1022V
NEW	5	230-240	190	4000	C8	E27	45±1 75±5	10	FLSU1042V
NEW	8	230-240	360	4000	C8	E14	45±1 75±5	10	FLSU3022V
NEW	8	230-240	360	4000	C8	E27	45±1 75±5	10	FLSU3042V

- Ra > 80



8000 h

DLU SOFTLIGHT MINISERIES T55 SOLID HG

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm) Ø L	Pack	Code
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warm light

NEW	5	230-240	190	2700	C2	E27	55±1 105±5	10	FLS01040V
NEW	8	230-240	400	2700	C2	E27	55±1 105±5	10	FLS03040V
NEW	12	230-240	620	2700	C2	E27	55±1 105±5	10	FLS07040V

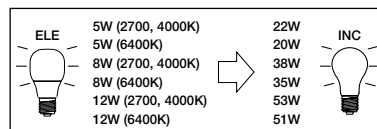
cool-white light

NEW	5	230-240	190	4000	C8	E27	55±1 105±5	10	FLS01042V
NEW	8	230-240	400	4000	C8	E27	55±1 105±5	10	FLS03042V
NEW	12	230-240	620	4000	C8	E27	55±1 105±5	10	FLS07042V

daylight

NEW	5	230-240	180	6400	C18	E27	55±1 105±5	10	FLS01044V
NEW	8	230-240	360	6400	C18	E27	55±1 105±5	10	FLS03044V
NEW	12	230-240	600	6400	C18	E27	55±1 105±5	10	FLS07044V

- Ra > 80

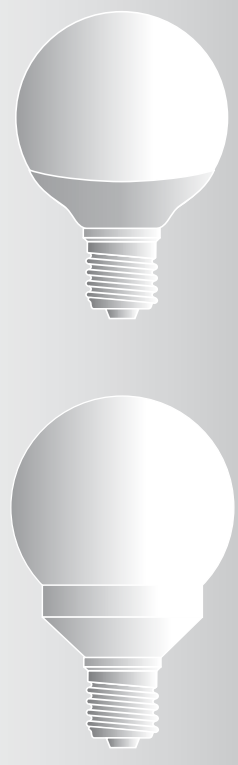


ELECTRONIC FLUORESCENT LAMPS

DLU GLOBE MINISERIES SOLID HG

8000 h

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm) Ø L	Pack	Code
warm light								
8	230-240	380	2700	C2	E27	79±1 108±5	10	FLSY3040V
12	230-240	620	2700	C2	E27	79±1 108±5	10	FLSY7040V
14	230-240	800	2700	C2	E27	79±1 108±5	10	FLSY9040V
16	230-240	910	2700	C2	E27	90±1 108±5	10	FLSYB040V
20	230-240	1180	2700	C2	E27	98±1 146±5	10	FLSYD040V
24	230-240	1480	2700	C2	E27	98±1 146±5	10	FLSYH040V
cool-white light								
8	230-240	380	4000	C8	E27	79±1 108±5	10	FLSY3042V
12	230-240	620	4000	C8	E27	79±1 108±5	10	FLSY7042V
14	230-240	800	4000	C8	E27	79±1 108±5	10	FLSY9042V
16	230-240	910	4000	C8	E27	90±1 108±5	10	FLSYB042V
20	230-240	1180	4000	C8	E27	98±1 146±5	10	FLSYD042V
24	230-240	1480	4000	C8	E27	98±1 146±5	10	FLSYH042V
daylight								
16	230-240	870	6400	C18	E27	90±1 108±5	10	FLSYB044V
20	230-240	1155	6400	C18	E27	98±1 146±5	10	FLSYD044V
24	230-240	1445	6400	C18	E27	98±1 146±5	10	FLSYH044V



8W (2700, 4000K)	37W
12W (2700, 4000K)	53W
14W (2700, 4000K)	64W
16W (2700, 4000K)	71W
16W (6400K)	68W
20W (2700, 4000K)	88W
20W (6400K)	86W
24W (2700, 4000K)	105W
24W (6400K)	103W

• Ra > 80



ELECTRONIC FLUORESCENT LAMPS

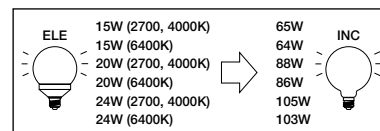


8000 h

DLU GLOBE
Ø 100/120mm

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
						Ø	L		
warm light									
15	230-240	820	2700	C2	E27	100±1	160±5	10	FLSAA040V
20	230-240	1180	2700	C2	E27	110±1	182±5	10	FLSAD040V
24	230-240	1480	2700	C2	E27	120±1	192±5	10	FLSAH040V
cool-white light									
15	230-240	820	4000	C8	E27	100±1	160±5	10	FLSAA042V
20	230-240	1180	4000	C8	E27	110±1	182±5	10	FLSAD042V
24	230-240	1480	4000	C8	E27	120±1	192±5	10	FLSAH042V
daylight									
15	230-240	800	6400	C18	E27	100±1	160±5	10	FLSAA044V
20	230-240	1155	6400	C18	E27	110±1	182±5	10	FLSAD044V
24	230-240	1445	6400	C18	E27	120±1	192±5	10	FLSAH044V

- Ra > 80




CE



ELECTRONIC FLUORESCENT LAMPS

DLU REFLECTOR

8000 h

Watt	Volt	 Axis cd	K	Diagr. n.	Cap	Dim. (mm) Ø L	Pack	Code
warm light								
5	230-240	170°	60	2700	C2	E27 63±1 110±5	10	FLSL1040V
11	230-240	170°	130	2700	C2	E27 80±1 140±5	10	FLSL6040V
15	230-240	170°	170	2700	C2	E27 95±1 150±5	10	FLSLA040V
cool-white light								
5	230-240	170°	60	4000	C8	E27 63±1 110±5	10	FLSL1042V
11	230-240	170°	130	4000	C8	E27 80±1 140±5	10	FLSL6042V
15	230-240	170°	170	4000	C8	E27 95±1 150±5	10	FLSLA042V

• Ra > 80

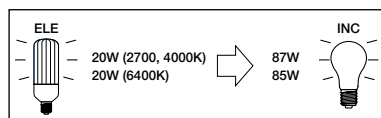


DLU SL

8000 h

Watt	Volt	Lumen	K	Diagr. n.	Cap	Dim. (mm) Ø L	Pack	Code
warm light								
20	230-240	1180	2700	C2	E27	64±1 169±5	10	FLSED040V
cool-white light								
20	230-240	1180	4000	C8	E27	64±1 169±5	10	FLSED042V
daylight								
20	230-240	1155	6400	C18	E27	64±1 169±5	10	FLSED044V

• Ra > 80



ELECTRONIC FLUORESCENT LAMPS



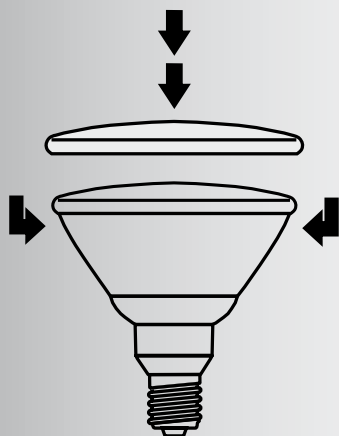
8000 h

DLU PAR 38

Watt	Volt	△	Axis cd	K	Diagr. n.	Cap	Dim. (mm) Ø L	Pack	Code
warm light									
20	230-240	140°	300	2700	C2	E27	120 136	20	FLSJD0401
cool-white light									
20	230-240	140°	300	4000	C8	E27	120 136	20	FLSJD0421
daylight									
20	230-240	140°	300	6400	C18	E27	120 136	20	FLSJD0441

- Ra > 80

DLU PAR 38 COLOURED COVERS



	Colour	Pack	Code
	red	6	FLSJD0402
	green	6	FLSJD0405
	yellow	6	FLSJD0403
	blue	6	FLSJD0404

 The FLSJD0421 (4000K) is the suggested PAR38 model to optimize the colour effect obtainable by any frontal cover.



ELECTRONIC FLUORESCENT LAMPS

DLU FRISBEE

8000 h

Watt	Volt	Δ	Axis cd	K	Cap	Dim. (mm)		Pack	Code
						\emptyset	L		
warm light									
7	230-240	170°	80	2700	GX53	75	25	10	FLSP20M0V
9	230-240	170°	105	2700	GX53	75	25	10	FLSP40M0V
cool-white light									
7	230-240	170°	80	4000	GX53	75	25	10	FLSP20M2V
9	230-240	170°	105	4000	GX53	75	25	10	FLSP40M2V

• Ra > 80

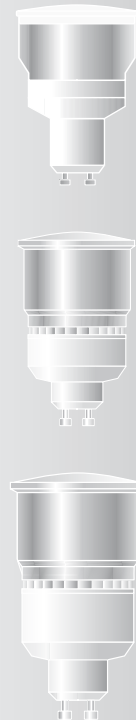


DLU GU10

8000 h

Watt	Volt	Δ	Axis cd	K	Diagr. n.	Dim. (mm)		Pack	Code
						\emptyset	L		
warm light									
7	230-240	130°	100	2700	C2	50±1	74±5	10	FLSK2080V
9	230-240	130°	125	2700	C2	50±1	79±5	10	FLSK4080V <i>new design</i>
11	230-240	130°	150	2700	C2	50±1	79±5	10	FLSK6080V <i>new design</i>
13	230-240	100°	200	2700	C2	50±1	89±5	10	FLSK8080V NEW
cool-white light									
7	230-240	130°	100	4000	C8	50±1	74±5	10	FLSK2082V
9	230-240	130°	125	4000	C8	50±1	79±5	10	FLSK4082V <i>new design</i>
11	230-240	130°	150	4000	C8	50±1	79±5	10	FLSK6082V <i>new design</i>
13	230-240	100°	200	4000	C8	50±1	89±5	10	FLSK8082V NEW

• Ra > 80

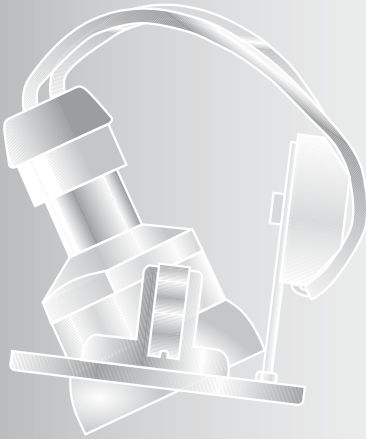


ELECTRONIC LAMPS

8000 h

GU10 DOWNLIGHT SAVING SET frontal ring in chrome finish

Watt	Volt	Δ	Axis cd	K	Diagr. n.	Dim. (mm) outer \emptyset L	Pack	Code
warm light								
7	230-240	130°	100	2700	C2	80 93	6	FLSK2080C
cool-white light								
7	230-240	130°	100	4000	C8	80 93	6	FLSK2082C



8000 h

GU10 DOWNLIGHT SAVING SET frontal ring in white finish

Watt	Volt	Δ	Axis cd	K	Diagr. n.	Dim. (mm) outer \emptyset L	Pack	Code
warm light								
7	230-240	130°	100	2700	C2	80 93	6	FLSK2080W
cool-white light								
7	230-240	130°	100	4000	C8	80 93	6	FLSK2082W

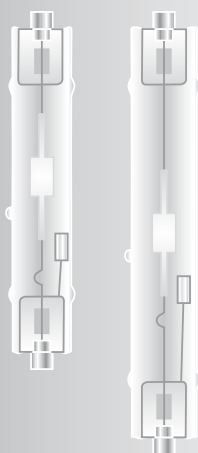
All the electronic fluorescent lamps for mains voltage can be produced even for 110-130V or 240-250V and/or with B22, B15d, E26, E12 cap.

DISCHARGE LAMPS



METAL HALIDE LAMPS

Ceramic Burner HCLI-TS



Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
					Ø	L		

70	5000	3000/WDL	C20	RX7s	23	121	10	FLDS0VH1V
150	11500	3000/WDL	C20	RX7s	26	138	10	FLDS5VH1V
70	5000	4200/NDL	C21	RX7s	23	121	10	FLDS0VH9V
150	11500	4200/NDL	C21	RX7s	26	138	10	FLDS5VH9V

- Ra > 80 (3000K), Ra > 90 (4200K)



Quartz Burner HDLI-TS

Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
					Ø	L		

70	5500	3000/WDL	C5	RX7s	23	121	10	FLD10VH1V
150	12000	3000/WDL	C5	RX7s	26	138	10	FLD15VH1V
70	5500	4200/NDL	C12	RX7s	23	121	10	FLD10VH9V
150	12000	4200/NDL	C12	RX7s	26	138	10	FLD15VH9V

- Ra > 65



METAL HALIDE LAMPS

Ceramic Burner HCLI-T

Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
					Ø	L		
70	6000	3000/WDL	C20	G12	20	100	10	FLDT0VK1V
150	12000	3000/WDL	C20	G12	20	110	10	FLDT5VK1V
70	6000	4200/NDL	C21	G12	20	100	10	FLDT0VK9V
150	12000	4200/NDL	C21	G12	20	110	10	FLDT5VK9V

• Ra > 80 (3000K), Ra > 90 (4200K)



Quartz Burner HDLI-T G12

Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
					Ø	L		
70	5000	3000/WDL	C5	G12	25	100	12	FLD20VK1V
150	12000	3000/WDL	C5	G12	25	110	12	FLD25VK1V
70	5000	4200/NDL	C12	G12	25	100	12	FLD20VK9V
150	12000	4200/NDL	C12	G12	25	110	12	FLD25VK9V

• Ra > 65

☀ UV-STOP quartz: limits the specific effective radiant UV power below 100mW/klm



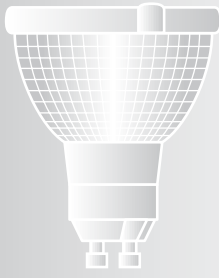
Quartz Burner HDLI-T E40

Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
					Ø	L		
250	20000	4200/NDL	C12	E40	46	257	12	FLD28V59V
400	32000	4200/NDL	C12	E40	46	277	12	FLD2AV59V
250	20000	5200/D	C16	E40	46	257	12	FLD28V5AV
400	32000	5200/D	C16	E40	62	277	12	FLD2AV5AV

• Ra > 65



METAL HALIDE LAMPS



5000 h

HDLI-GX MR16 discharge spot

Watt	Δ	Axis cd	K	γ	Diagr. n.	Cap	Dim. (mm) \emptyset L	Pack	Code
35	2x19°	4000	3000/WDL	2,3	P9 - C5	GX10	51±1 81±1,5	20	FLDXFVI1V
35	2x19°	4000	4200/WDL	2,3	P9 - C12	GX10	51±1 81±1,5	20	FLDXFVI9V

- Ra > 70



METAL HALIDE LAMPS

HDLI-E/C

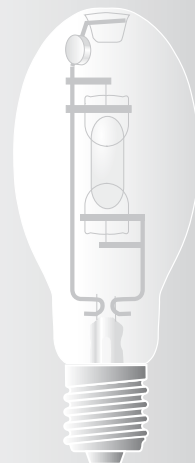
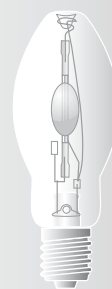
Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
					Ø	L		
70	5000	3000/WDL	C5	E27	58	145	12	FLD30V41V
100	7800	3000/WDL	C5	E27	58	145	12	FLD32V41V
70	5000	4200/NDL	C12	E27	58	145	12	FLD30V49V
100	7800	4200/NDL	C12	E27	58	145	12	FLD32V49V
150	12500	4200/NDL	C12	E27	58	145	12	FLD35V49V
250	20500	4200/NDL	C12	E40	91	227	12	FLD38V49V
400	36000	4200/NDL	C12	E40	120	290	12	FLD3AV49V

• Ra > 65

HDLI-E/P

Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
					Ø	L		
70	4750	3000/WDL	C5	E27	55	140	12	FLD40V41V
100	7450	3000/WDL	C5	E27	55	140	12	FLD42V41V
70	4750	3900/NDL	C7	E27	55	140	12	FLD40V49V
100	7450	3900/NDL	C7	E27	55	140	12	FLD42V4EV
150	11850	3900/NDL	C7	E27	55	140	12	FLD45V4EV
250	19450	3900/NDL	C7	E40	91	227	12	FLD48V4EV
400	34200	3900/NDL	C7	E40	120	290	12	FLD4AV4EV
250	19450	5200/D	C16	E40	91	227	12	FLD48V4AV
400	34200	5200/D	C16	E40	120	290	12	FLD4AV4AV

• Ra > 65



MERCURY VAPOUR AND BLENDED LIGHT LAMPS

HDLM - MERCURY VAPOUR



Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
					Ø	L		
80	3200	4100	C11	E27	70±3	160±5	12	FLD51048V
125	5400	4100	C11	E27	75±3	170±5	12	FLD54048V
250	12000	4100	C11	E40	90±3	220±5	12	FLD58058V
400	19000	4100	C11	E40	120±3	280±5	12	FLD5A058V

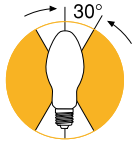
- Ra > 35



MERCURY VAPOUR AND BLENDED LIGHT LAMPS

HDLW - BLENDED LIGHT

Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
					Ø	L		
160	3000	4100	C11	E27	74±3	171±5	12	FLD66048V
250	5300	4100	C11	E40	89±3	220±5	12	FLD68058V

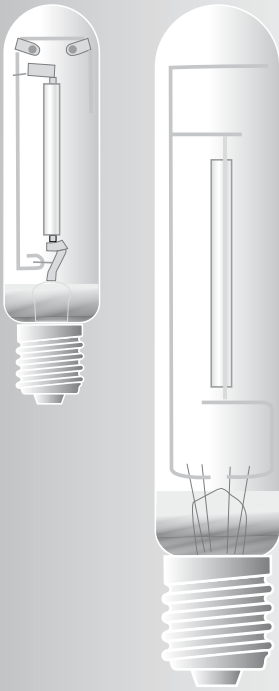


• Ra > 45



HIGH PRESSURE SODIUM LAMPS

HDLS - HIGH PRESSURE SODIUM




Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
					Ø	L		
70	6500	2000	C1	E27	38	154	20	FLD70V45V
100	9200	2000	C1	E27	39	175	20	FLD72V45V
100	9200	2000	C1	E40	39±1	175±5	20	FLD72V55V
150	15000	2000	C1	E40	46±1	211±5	12	FLD75V55V
250	27500	2000	C1	E40	46±1	255±5	12	FLD78V55V
400	48000	2000	C1	E40	46±1	275±5	12	FLD7AV55V
600	80000	2000	C1	E40	46±1	280±5	6	FLD7EV55V

- Ra > 20

HDLS - HIGH PRESSURE SODIUM HIGH PERFORMANCE

Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
					Ø	L		
NEW 70	7350	2000	C1	E27	38	154	20	FLD00V45V
NEW 100	10500	2000	C1	E27	39	175	20	FLD02V45V
100	10500	2000	C1	E40	39±1	175±5	20	FLD02V55V
150	17850	2000	C1	E40	46±1	211±5	12	FLD05V55V
250	34650	2000	C1	E40	46±1	255±5	12	FLD08V55V
NEW 400	55000	2000	C1	E40	46±1	275±5	12	FLD0AV55V
600	94500	2000	C1	E40	46±1	280±5	6	FLD0EV55V

- Ra > 20

 Use recommended with dedicated control gear for high pressure sodium lamps (not-retrofit models)



HIGH PRESSURE SODIUM LAMPS

HDLS - HIGH PRESSURE SODIUM

Watt	Lumen	K	Diagr. n.	Cap	Dim. (mm)		Pack	Code
					Ø	L		
70	5800	2000	C1	E27	70	165	20	FLD80V45V
70/i*	5800	2000	C1	E27	70	165	20	FLD90V45V
100	9200	2000	C1	E27	70	165	20	FLD82V45V
100	9200	2000	C1	E40	70	165	20	FLD82V55V
150	13500	2000	C1	E40	91	217	12	FLD85V55V
250	26000	2000	C1	E40	91	217	12	FLD88V55V
400	46000	2000	C1	E40	122	275	12	FLD8AV55V

• Ra > 20

* Built-in ignitor



 Use recommended with dedicated control gear for high pressure sodium lamps (not-retrofit models)



NOMENCLATURE COMPARATION

	DLU	GENERAL ELECTRIC	OSRAM	PHILIPS	SYLVANIA
Metal Halide Lamps Clear tubular double end	HDLI-TS 70W/WDL RX7s	ARC70/UVC/TD/730	HQI-TS 70/WDL RX7s	MHW-TD PRO 70W	HSI-TD 70W/WDL RX7s
	HDLI-TS 70W/NDL RX7s	ARC70/UVC/TD/743	HQI-TS 70/NDL RX7s	MHN-TD PRO 70W	HSI-TD 70W/NDL RX7s
	HDLI-TS 150W/WDL RX7s	ARC150/UVC/TD/730	HQI-TS 150/WDL RX7s	MHW-TD PRO 150W	HSI-TD 150W/WDL RX7s
	HDLI-TS 150W/NDL RX7s	ARC150/UVC/TD/743	HQI-TS 150/NDL RX7s	MHN-TD PRO 150W	HSI-TD 150W/NDL RX7s
Clear tubular double end CERAMIC burner	HCLI-TS 70W/WDL RX7s	CMH70/TD/UVC/U/830	HCI-TS 70/WDL RX7s	CDM-TD 70W/830	CMI-TD 70W/WDL UVS
	HCLI-TS 70W/NDL RX7s	CMH70/TD/UVC/U/942	HCI-TS 70/NDL RX7s	CDM-TD 70W/942	CMI-TD 70W/NDL UVS
	HCLI-TS 150W/WDL RX7s	CMH150/TD/UVC/U/830	HCI-TS 150/WDL RX7s	CDM-TD 150W/830	CMI-TD 150W/WDL USV
	HCLI-TS 150W/NDL RX7s	CMH150/TD/UVC/U/942	HCI-TS 150/NDL RX7s	CDM-TD 150W/942	CMI-TD 150W/NDL USV
Clear tubular G12	HDLI-T 70W/WDL	ARC70/T/U/730	HQI-T 70/WDL	MHN-T 70W/830	HSI-T 70W/WDL
	HDLI-T 70W/NDL	ARC70/T/U/842	HQI-T 70/NDL	MHN-T 70W/942	HSI-T 70W/NDL
	HDLI-T 150W/WDL	ARC150/T/U/830	HQI-T 150/WDL	MHN-T 150W/830	HSI-T 150W/WDL
	HDLI-T 150W/NDL	ARC150/T/U/843	HQI-T 150/NDL	MHN-T 150W/942	HSI-T150W/NDL
Clear tubular G12 CERAMIC burner	HCLI-T 70W/WDL	CMH70/T/UVC/U/830/G12	HCI-T 70/WDL	CDM-T 70W/830	CMI-TC 70W/WDL USV
	HCLI-T 70W/NDL	CMH70/T/UVC/U/942/G12	HCI-T 70/NDL	CDM-T 70W/942	CMI-TC 70W/NDL USV
	HCLI-T 150W/WDL	CMH150/T/UVC/U/830/G12	HCI-T 150/WDL	CDM-T 150W/830	CMI-TC 150W/WDL USV
	HCLI-T 150W/NDL	CMH150/T/UVC/U/942/G12	HCI-T 150/NDL	CDM-T 150W/942	CMI-TC 150W/NDL USV
Clear tubular	HDLI-T 250W 5200K E40	ARC250/T/960	HQI-T 250/D	-	-
	HDLI-T 400W 5200K E40	ARC400/T/960	HQI-BT 400/D	-	-
	HDLI-T 250W/NDL E40	-	HQI-T 250W/N/SI	HPI-T 250 PLUS	HSI THX 250W
	HDLI-T 400W/NDL E40	KRC400/T/960	HQI-T 400W/N/SI	HPI-T 400 PLUS	HSI THX 400W
Clear ellipsoidal	HDLI-E/C 70W/WDL E27	-	HQI-E 70/WDL	-	HSI-MP 70W 3K
	HDLI-E/C 70W/NDL E27	CMH70/E/830*	HQI-E 70/NDL	-	HSI-MP 70W 4K
	HDLI-E/C 100W/WDL E27	-	HQI-E 100/WDL	-	HSI-MP 100W 3K
	HDLI-E/C 100W/NDL E27	CMH100/E/830*	HQI-E 100/NDL	-	HSI-MP 100W 4K
	HDLI-E/C 150W/NDL E27	-	HQI-E 150/NDL	-	HSI-MP 150W 4K
	HDLI-E/C 250W/NDL E40	-	-	-	HSI-HX 250W CL E40
	HDLI-E/C 400W/NDL E40	KRC400/D/645 E40	-	-	HSI-HX 400W CL E40
Coated ellipsoidal	HDLI-E/P 70W/WDL E27	-	HCI-E/P 70/WDL*	-	HSI-MP 70W 3K
	HDLI-E/P 70W/NDL E27	CMH70/E/U/830*	HCI-E/P 70/NDL*	-	HSI-MP 70W 4K
	HDLI-E/P 100W/WDL E27	-	HCI-E/P 100/WDL*	-	HSI-MP 100W 3K
	HDLI-E/P 100W/NDL E27	CMH100/E/U/830*	-	-	HSI-MP 100W 4K
	HDLI-E/P 150W/NDL E27	-	HQI-E/P 150/NDL	-	HSI-MP 150W 4K
	HDLI-E/P 250W/NDL E40	CMH250/E/U/830 E40*	HQI-E 250/N/SI E40	MASTER HPI PLUS 250 E40	HSI-HX 250W CO 4K
	HDLI-E/P 400W/NDL E40	KRC400/D/960 E40	HQI-E 400/N/SI E40	MASTER HPI PLUS 400 E40	HSI-HX 400W CO 4K
	HDLI-E/P 250W/D 5200K	ARC250/D/960 E40	HQI-E 250/D	MASTER HPI PLUS 250 E40	-
	HDLI-E/P 400W/D 5200K	-	HQI-E 400/D	MASTER HPI PLUS 400 E40	-
Mercury Vapour Coated ellipsoidal	HDLM 80W E27	H80 E27	HQL 80W E27	HPL-N 80W E27	HSL-BW 80W
	HDLM 125W E27	H125 E27	HQL 125W E27	HPL-N 125W E27	HSL-BW 125W
	HDLM 250W E40	H250 E40	HQL 250W E40	HPL-N 250W E40	HSL-BW 250W
	HDLM 400W E40	H400 E40	HQL 400W E40	HPL-N 400W E40	HSL-BW 400W
Blended Light Coated ellipsoidal	HDWL 160W 230V E27	ML 230-240V 160W E27	HWL 160W 225V E27	ML 160W E27 225-235V	HSB-BW 160W 230V E27
	HDWL 250W 230V E40	ML 230-240V 250W E40	HWL 250W 225V E40	ML 250W E40 225-235V	HSB-BW 250W 230V E40

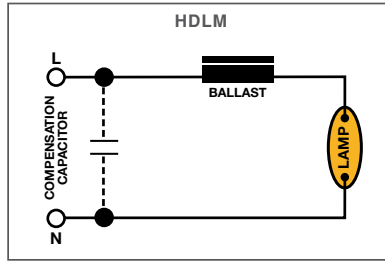
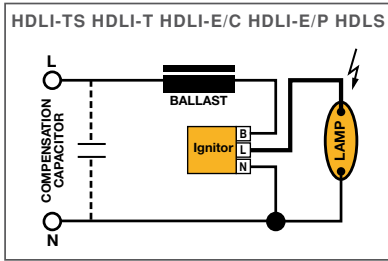
*ceramic burner

DISCHARGE LAMPS

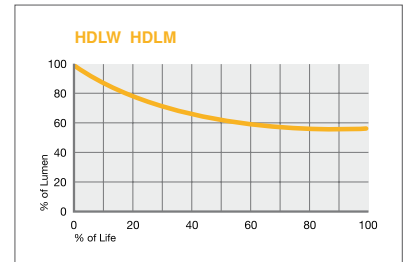
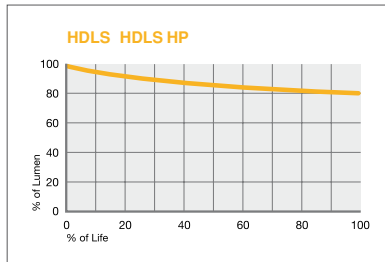
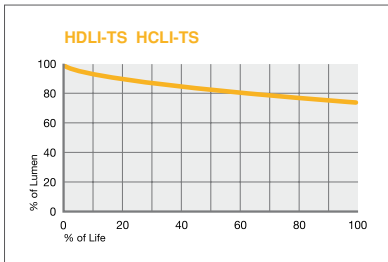
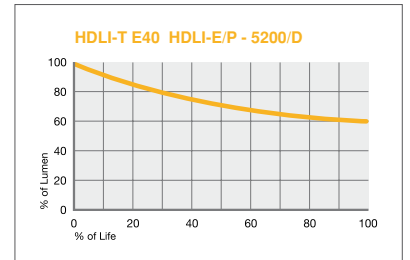
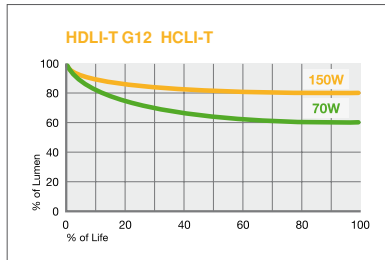
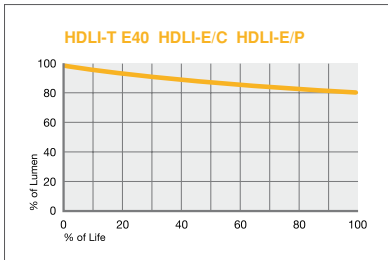
NOMENCLATURE COMPARATION

	DLU	GENERAL ELECTRIC	OSRAM	PHILIPS	SYLVANIA
High Pressure Sodium Lamps Clear tubular	HDLS 70W T E27	LU70/90/T E27	NAV-T 70 E27	SON-T 70W E27	SHP-T E27
	HDLS 100W T E27	-	-	-	-
	HDLS 100W T E40	LU100/100/T E40	NAV-T 100 E40	SON-T 100W E40	SHP-T 100W E40
	HDLS 150W T E40	LU150/150/T E40	NAV-T 150 E40	SON-T 150W E40	SHP-T 150W E40
	HDLS 250W T E40	LU250/T E40	NAV-T 250 E40	SON-T 250W E40	SHP-T 250W E40
	HDLS 400W T E40	LU400/T E40	NAV-T 400 E40	SON-T 400W E40	SHP-T 400W E40
	HDLS 600W T E40	LU600/T E40	NAV-T 600 E40	-	-
Clear tubular High Performance	HDLS/HP 70W T E27	LU70/90/HO/T/E27	NAV-T 70 SUPER E27	SON-T PLUS 70W E27	SHP-TS 70W E27
	HDLS/HP 100W T E27	LU100/100/HO/T/E27	NAV-T 100 SUPER E27	SON-T PLUS 100W E27	-
	HDLS/HP 100W T E40	LU100/100/HO/T/E40	NAV-T 100 SUPER E40	SON-T PLUS 100W E40	SHP-TS 100W E40
	HDLS/HP 150W T E40	LU150/100/HO/T/E40	NAV-T 150 SUPER E40	SON-T PLUS 150W E40	SHP-TS 150W E40
	HDLS/HP 250W T E40	LU250/HO/T/E40	NAV-T 250 SUPER E40	SON-T PLUS 250W E40	SHP-TS 250W E40
	HDLS/HP 400W T E40	LU400/HO/T/E40	NAV-T 400 SUPER E40	SON-T PLUS 400W E40	SHP-TS 400W E40
	HDLS/HP 600W T E40	LU600/HO/T/E40	NAV-T 600 SUPER E40	SON-T PLUS 600W E40	SHP-TS 600W E40
Coated ellipsoidal	HDLS 70W E E27	LU70/90/D E27	NAV-E 70 E27	SON PRO 70W E27	SHP 70W E27
	HDLS 70W E E27/I	LU70/90/D/I E27	NAV-E 70/I E27	SON PRO 70W I E27	SHP 70W/CO-I E27
	HDLS 100W E E27	LU100/100/D E27	NAV-E 100 E27	-	SHP 100W E27
	HDLS 100W E E40	LU100/100/D E40	NAV-E 100 E40	-	-
	HDLS 150W E E40	LU150/100/D E40	NAV-E 150 E40	SON PRO 150W E40	SHP 150W E40
	HDLS 250W E E40	LU250/D E40	NAV-E 250 E40	SON PRO 250W E40	SHP 250W E40
	HDLS 400W E E40	LU400/D E40	NAV-E 400 E40	SON PRO 400W E40	SHP 400W E40

SINGLE CIRCUIT WIRING



FLUX DECAY CURVES



ELECTRONIC TRANSFORMERS



ELECTRONIC TRANSFORMERS

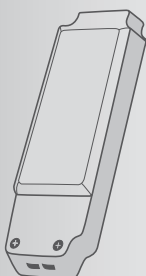


DIMMABLE ELECTRONIC TRANSFORMERS for extra low voltage halogen lamps, 12V~ (SELV) output, supply voltage 220-240V~, 50/60Hz



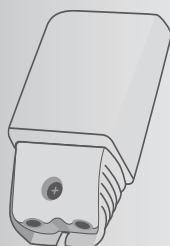
20-60W

Ref.	P _{out}	I _{out}	t _a	t _c	Dim. (mm)	Pack	Code
ET60A	20-60 watt	0,27 A	40°C	75°C	32x107x22h	25	DET10020



35-105W

Ref.	P _{out}	I _{out}	t _a	t _c	Dim. (mm)	Pack	Code
ET105A	35-105 watt	0,48 A	40°C	75°C	37x125x28h	25	DET50063



35-105W

Ref.	P _{out}	I _{out}	t _a	t _c	Dim. (mm)	Pack	Code
ET105G	35-105 watt	0,48 A	40°C	75°C	48x110x33h	25	DETC0063

CHARACTERISTICS

- SELV equivalent
- IP20 independent transformer
- Class II double insulation
- Max 10mm cable peel-off
- Thermal protection against overload and short-circuit on the secondary (self-resetting electronic breaker); the thermal cut-out is triggered to prevent the enclosure temperature from exceeding 100°C. The overload and short-circuit protection is triggered to keep the output power within the correct limits
- Soft-start: the output voltage increases slowly so optimizing the lifetime of the filament
- Adjustable by trailing-edge phase cutting dimmers (IGBT) for inductive loads
- Suitable for installation in furniture where the temperature of the transformer support Cap does not exceed 100°C (matching VDE 0710-14 standards)
- Suitable for installation on normally flammable surfaces
- No external phasing capacitor needed ($\lambda = 0,98$)
- Output voltage under load = 11,5V_{ac}
- Power loss < 3W





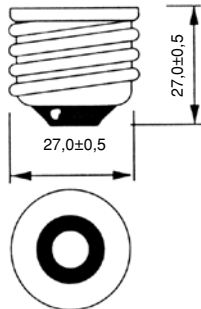
TECHNICAL
DETAILS

LAMP CAPS

EN 60061-1

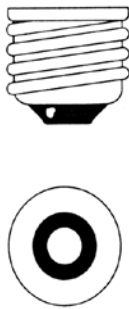
E27

7004-21-9



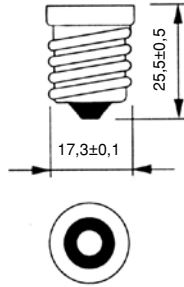
E26

7004-21A-2



E14

7004-23-6



E12

7004-28-2



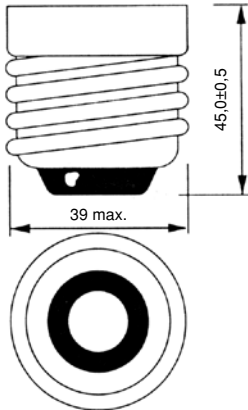
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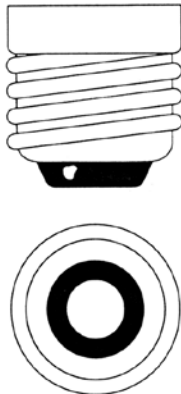
E40

7004-24-6



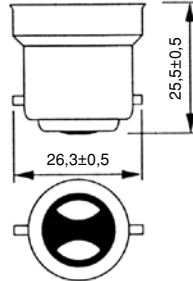
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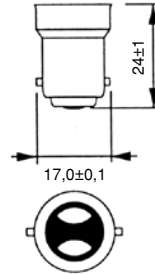
B22d

7004-10-7



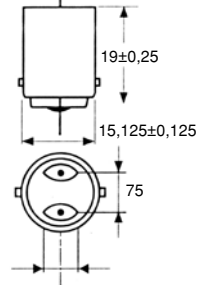
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7004-11-6



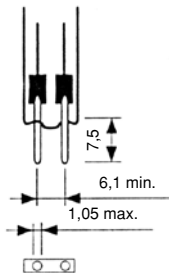
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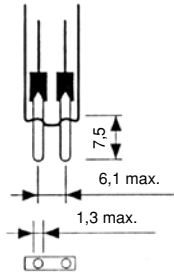
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7004-59-6



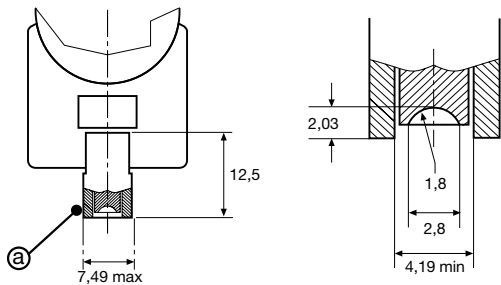
GY6.35

7004-59-6



R7s

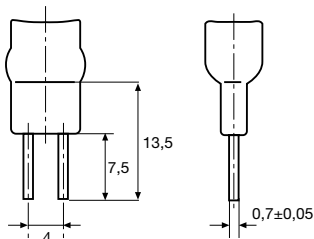
7004-92-3



Ⓐ

G4

7004-72-3



RX7s

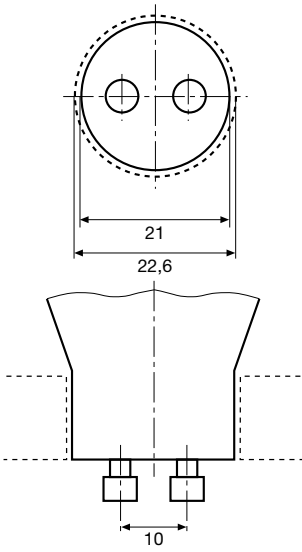
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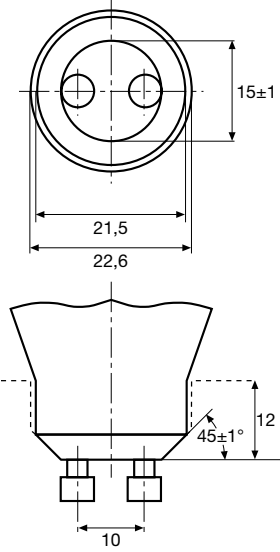
LAMP CAPS

EN 60061-1

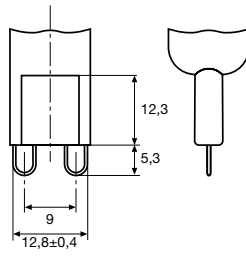
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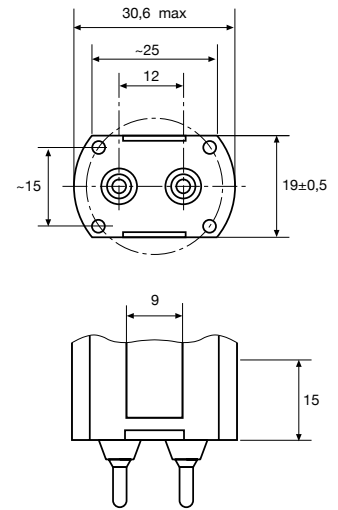
GU10
7004-121-1



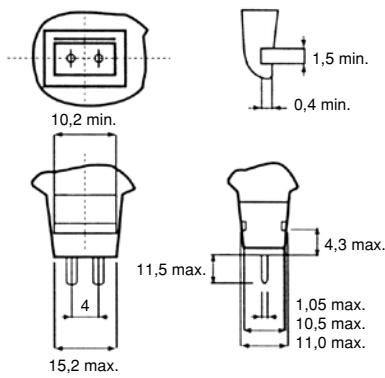
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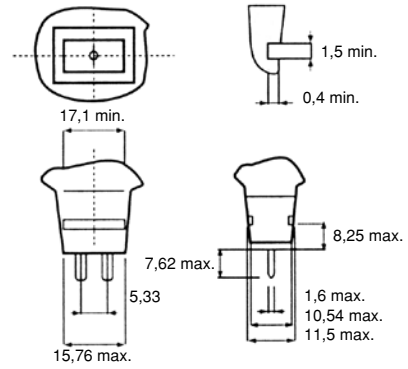
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7004-63-2



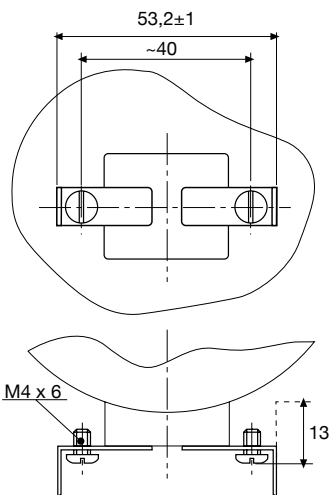
GZ4 / GU4
7004-67-3 7004-108-2



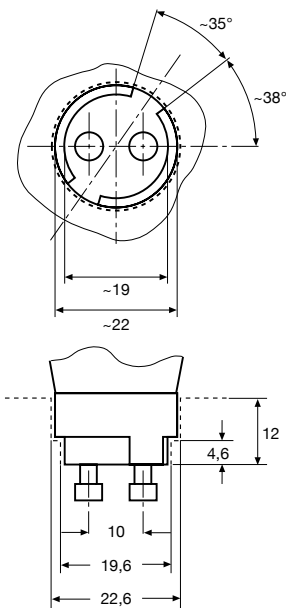
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7004-73A-2 7004-109-2



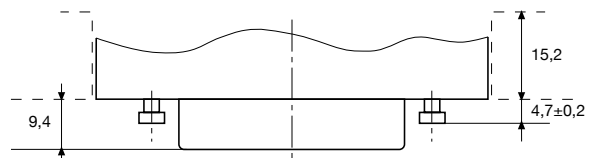
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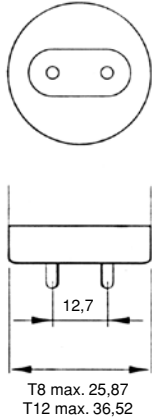
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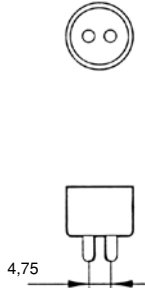
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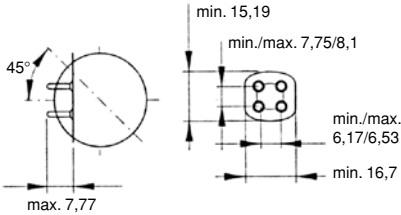
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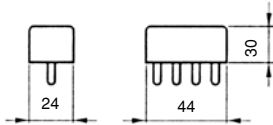
G5
7004-52-5



G10q
7004-54-3

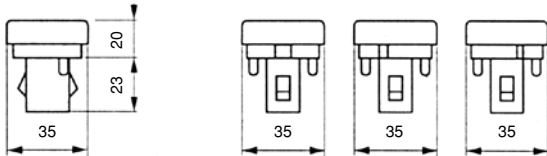


2G11
7004-82-1



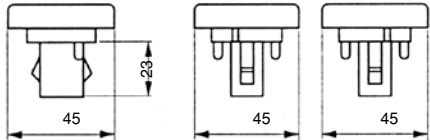
G24
7004-78-5

d-1 d-2 d-3



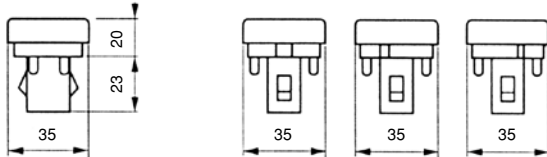
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d-2 d-3



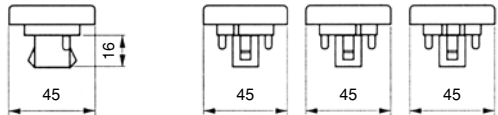
G24
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q-1 q-2 q-3

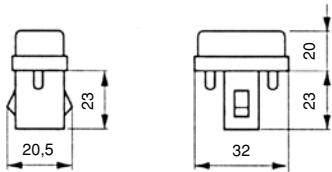


GX24
7004-78-5

q-2 q-3 q-4



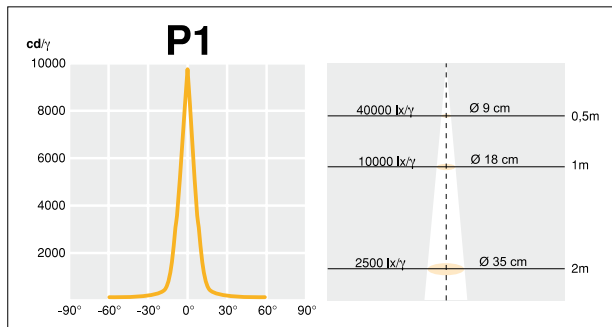
G23
7004-69-1



PHOTOMETRIC DIAGRAMS OF DIRECTIONAL LAMPS

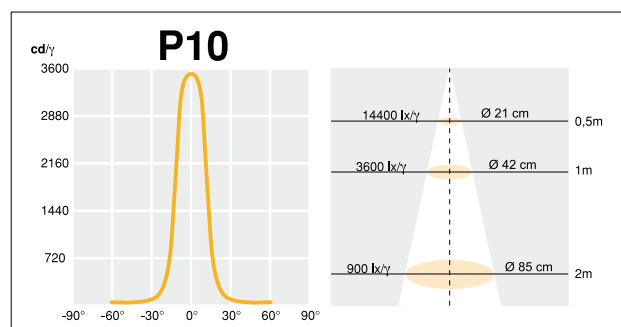
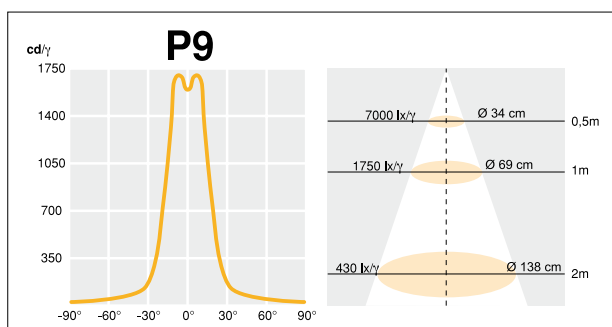
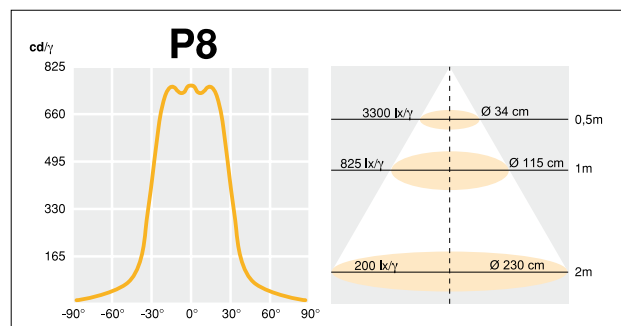
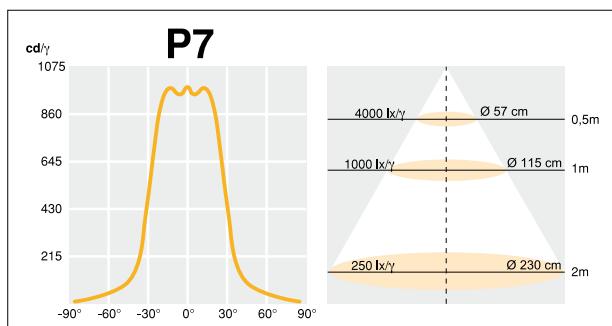
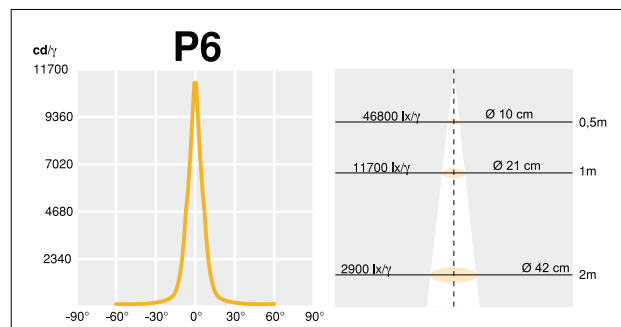
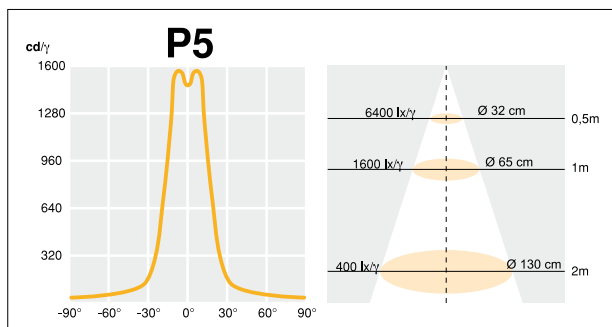
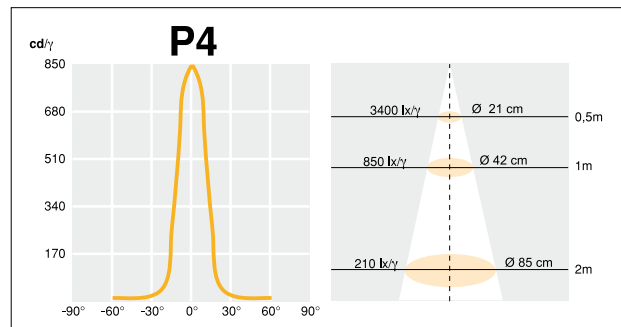
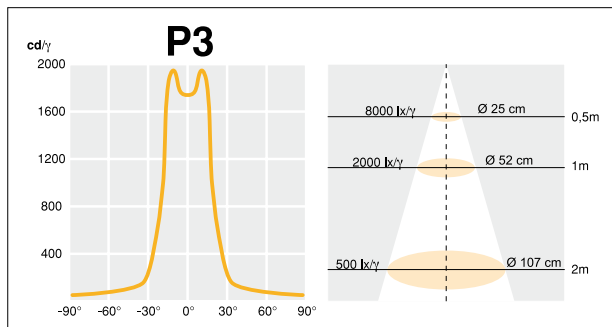
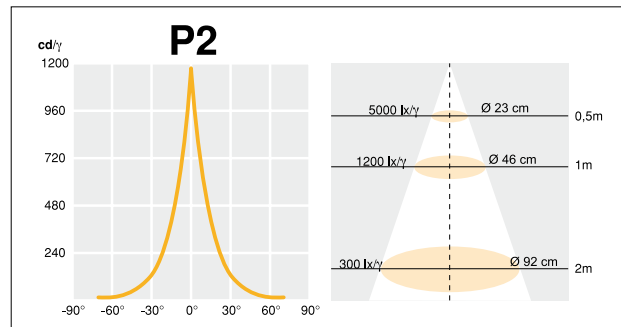
SPATIAL DISTRIBUTION OF LUMINOUS INTENSITY

LUMINANCE ON PARALLEL PLANES INSIDE THE OPTICAL BEAM



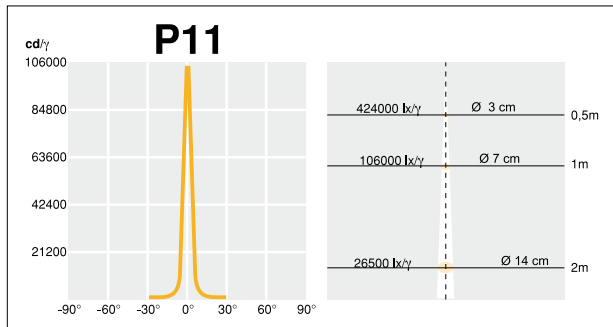
SPATIAL DISTRIBUTION OF LUMINOUS INTENSITY

LUMINANCE ON PARALLEL PLANES INSIDE THE OPTICAL BEAM

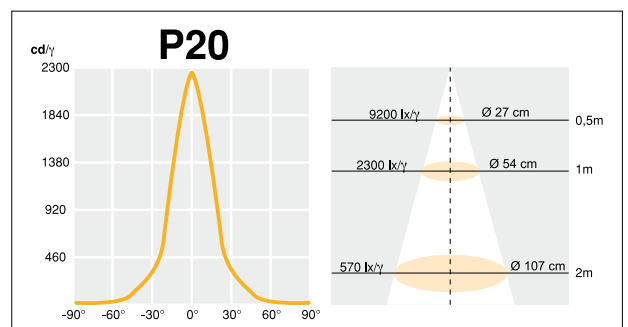
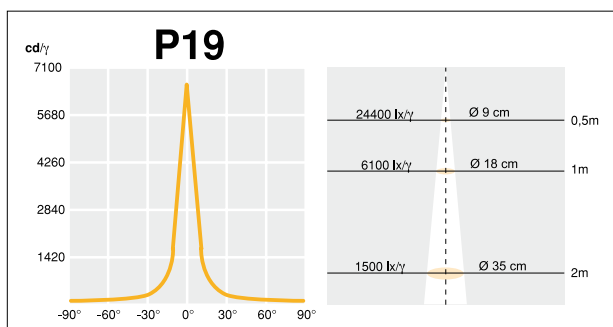
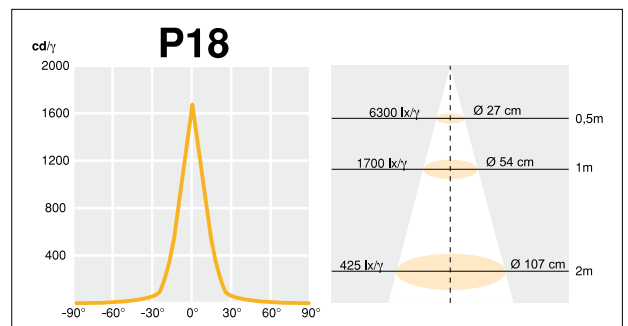
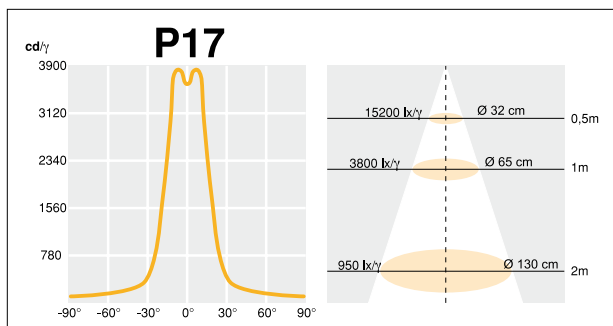
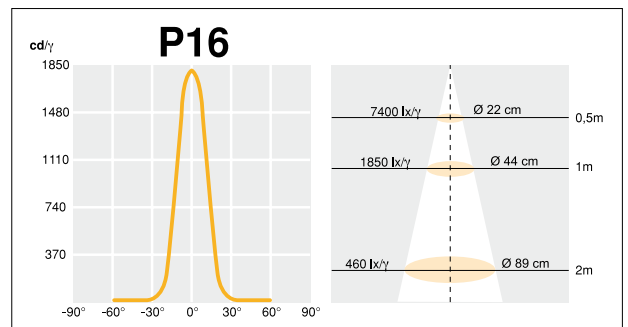
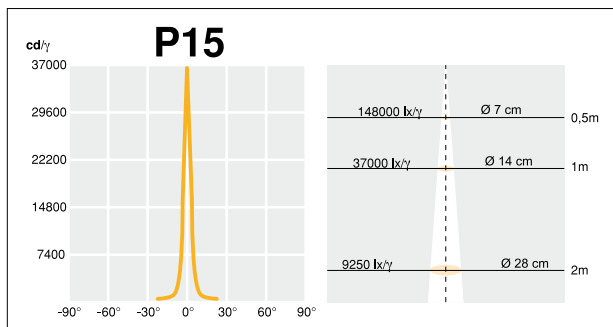
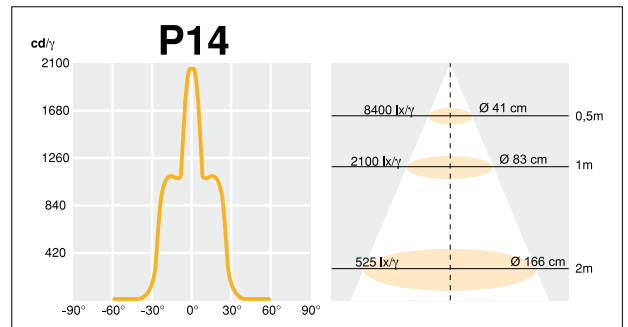
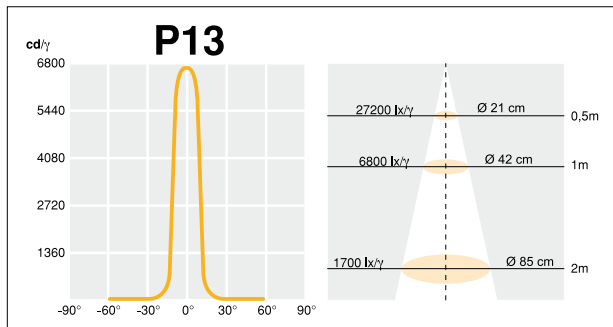
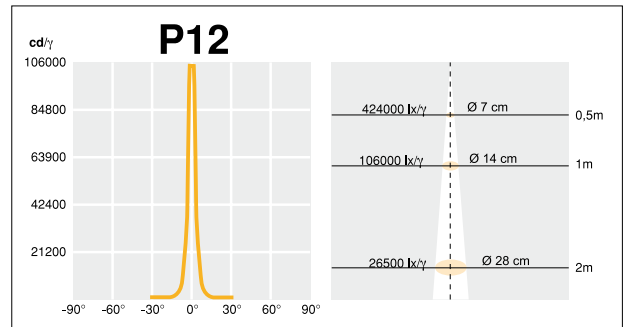


PHOTOMETRIC DIAGRAMS OF DIRECTIONAL LAMPS

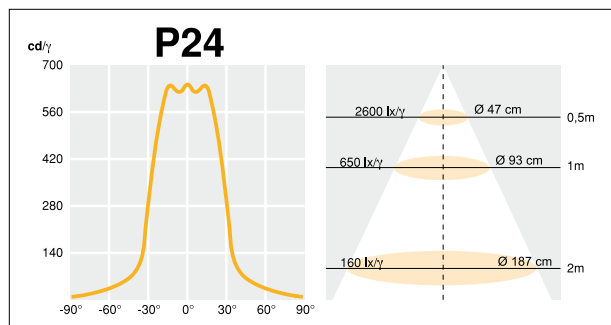
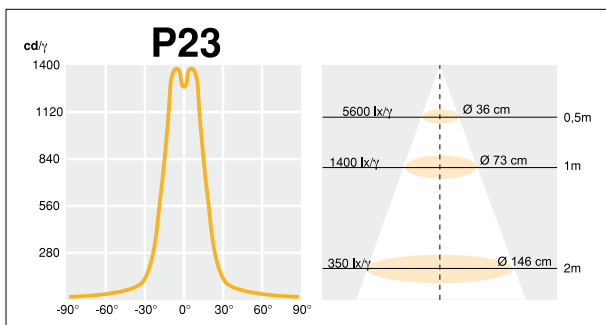
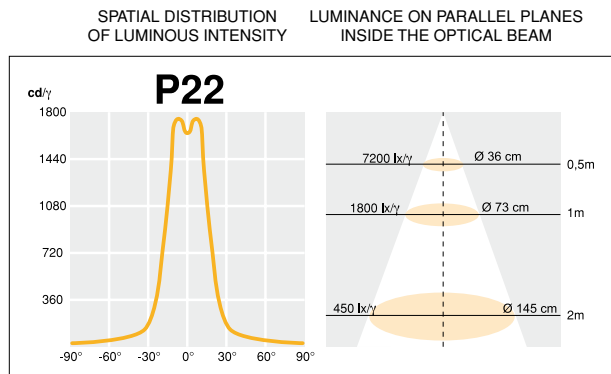
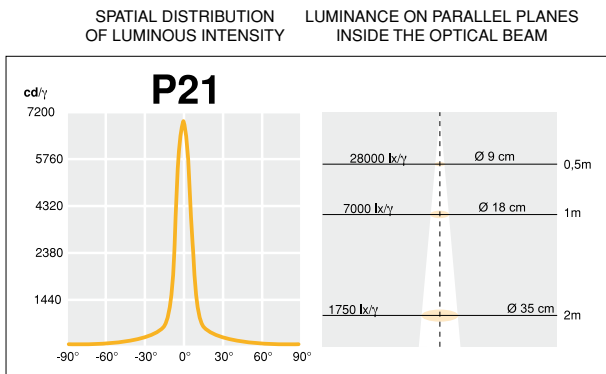
SPATIAL DISTRIBUTION OF LUMINOUS INTENSITY LUMINANCE ON PARALLEL PLANES INSIDE THE OPTICAL BEAM



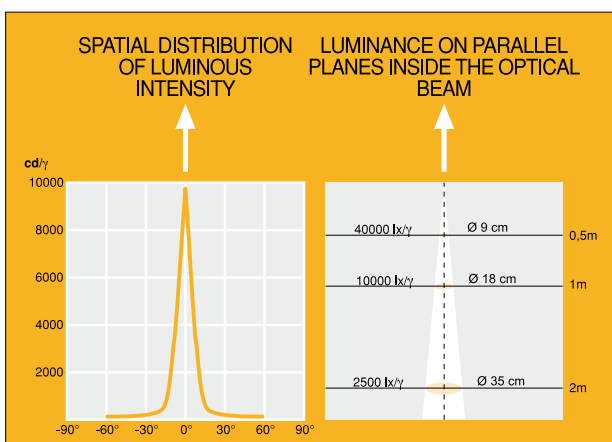
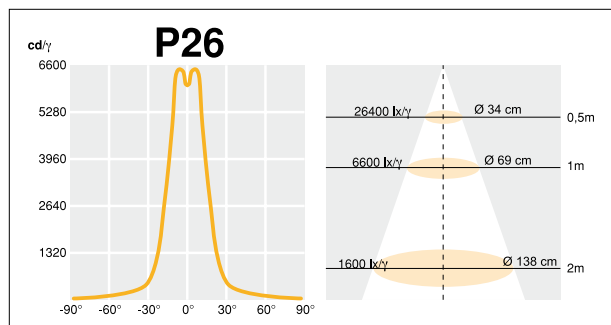
SPATIAL DISTRIBUTION OF LUMINOUS INTENSITY LUMINANCE ON PARALLEL PLANES INSIDE THE OPTICAL BEAM



PHOTOMETRIC DIAGRAMS OF DIRECTIONAL LAMPS



Tolerance
on photometrical data:
± 10%



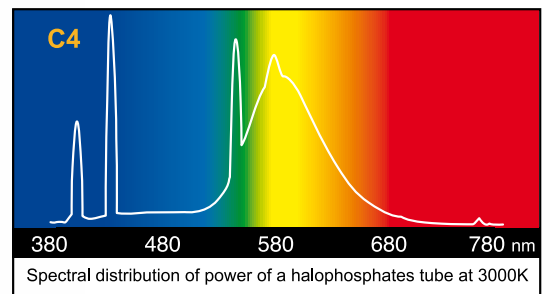
Reflector lamps with the same geometries of filament and reflector are differentiated just by the absorbed power, i.e. by the total amount of their lumen output. In these cases the photometric curve, the optical beam and spot, the luminance distributions have always the same shape. We have normalized these diagrams in cd/γ and lux/γ to avoid repetitions and reduce their number.

In order to obtain the absolute (approximated) values in candles or in luxes, multiply the values on the diagrams by the “ γ ” factor of the considered lamp.

PHOSPHORS AND TRIPHOSPHORS

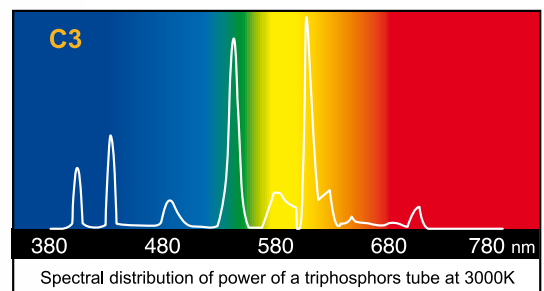
The phosphors covering the internal wall of a fluorescent tube have the fundamental task to convert the UV radiation given by the internal discharge into visible light.

The first level of quality (STANDARD TUBES) is given by the use of halo-phosphates, like the halogen Calcium phosphate $\text{Ca}_{10}(\text{PO}_4)_6(\text{F},\text{Cl})$, doped with Antimony or Manganese in small variable quantities to activate the emission of light at different wavelengths,



so changing the colour temperature.

A higher level of quality is given by the triphosphors. A fundamental law of colorimetry states that any colour is obtainable by an additive mixture of quantities of three fundamental colours, typically RED (610nm), GREEN (545nm) and BLUE (450nm). The chemical elements, or their ions, belonging to the “rare earths” family can be used to make phosphors and activators able to emit visible light concentrated around the



wavelengths of the RGB primary colours, so obtaining a significant optimization of the colorimetric performance. For instance a narrow band of emission around green is obtained by activating the Lanthanum phosphate (LaPO_4) with the Terbium ion Tb^{3+} , while a narrow band of emission around blue is obtainable by activating the same Lanthanum phosphate with the Cerium ion Ce^{3+} . Then a narrow band around red is obtainable by activating the Yttrium Oxide (Y_2O_3) by Europium or its ion Eu^{3+} .

The spectral distribution of power of a triphosphor tube is characterized by three narrow bands of emissions around the three fundamental stimuli.

A TRIPHOSPHOR TUBE OFFERS GREAT OPTIMIZATIONS OF PERFORMANCES IN COMPARISON WITH AN EQUIVALENT STANDARD TUBE

- Higher Colour Rendering Index ($R_a > 85$) ▶ The degree of fidelity of the colours of the lighted objects is increased
- Higher lm/W efficiency (even higher than 90) ▶ The same lighting levels are obtained with less power consumption so increasing the saving of energy
- Better flux decay: after 5.000 hours of operation, a triphosphor tube gives out typically about 10% more flux than the equivalent standard tube ▶ longer useful lifetime for all cases of scheduled maintenance, when the substitution of tubes is prescribed as soon as the lighting levels drop below a certain threshold

INTEGRATED FLUORESCENT LAMPS

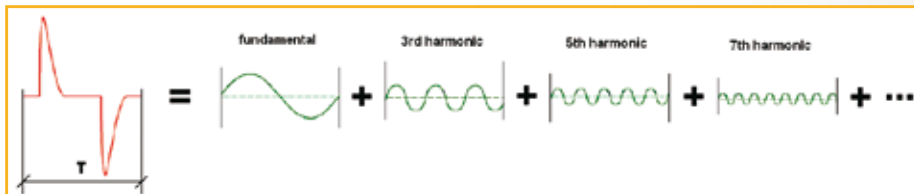
ADVANTAGES OF HIGH POWER FLUORESCENT LAMPS

MATCHING THE EUROPEAN STANDARDS EN 55015, EN 61000-3-2, EN 61000-3-3, EN 61547

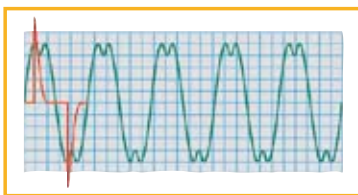
IDEAL TO REPLACE DISCHARGE LAMPS

- ➔ Compact
- ➔ No emission of dangerous UV rays
- ➔ Available in 3 colour temperatures
- ➔ Immediate switch on
- ➔ Energy saving
- ➔ No external control gear
- ➔ PF > 0,95 guarantees the reduction of harmonics of current below the limits recommended by EN 61000-3-2 European Standards

In RED the typical shape of the current of an electronic CFL with low power factor. This impulsive but periodical current can be decomposed in the summing up of infinite sinusoidal components named harmonics of current.



An impulsive current can introduce distortion to the mains voltage (green line below), and this can influence the behaviour of other devices connected to the same line or even damage them.



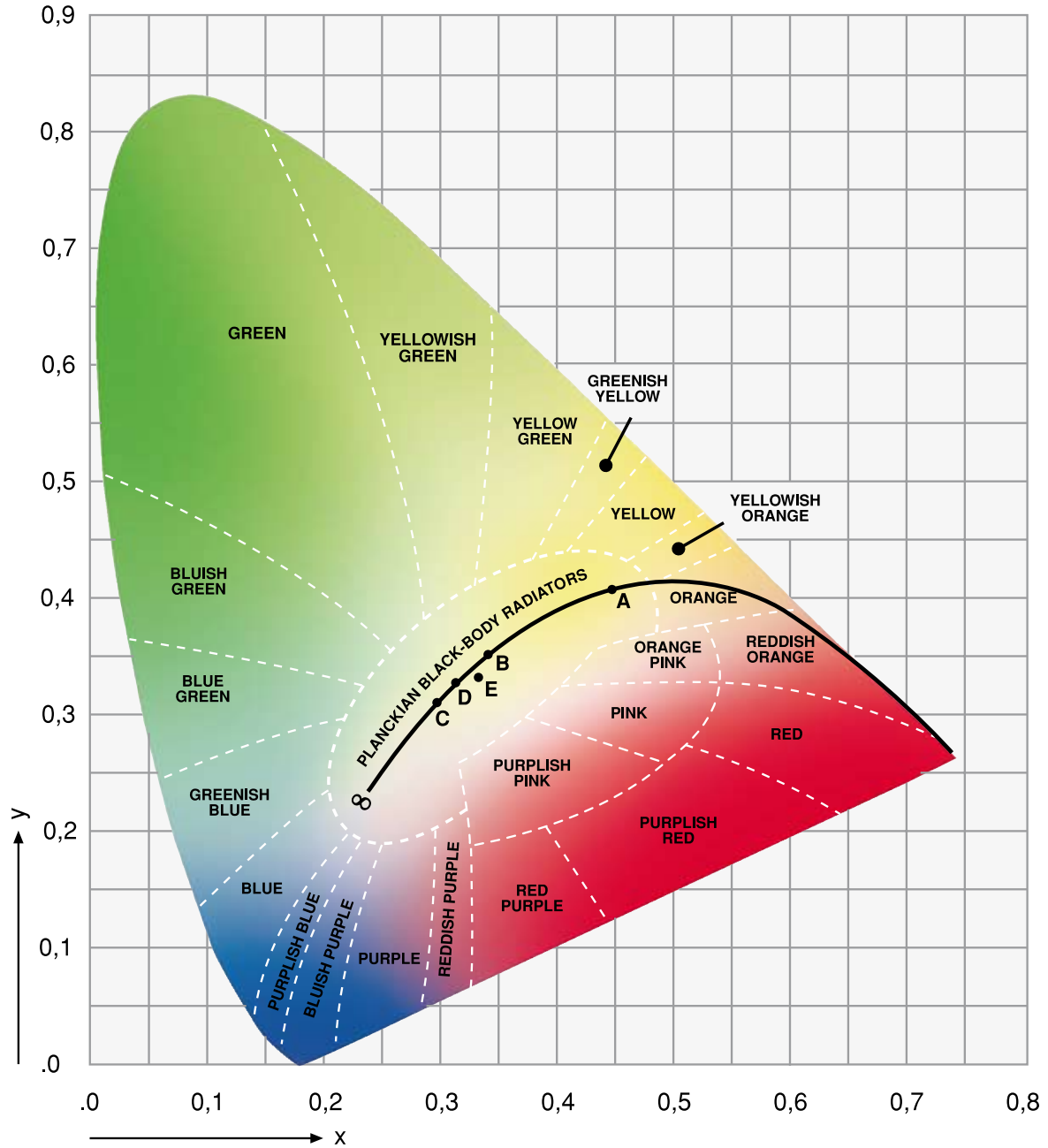
The effect is enhanced if the lamp power is high: the European standards EN61000-3-2 state limits for each order of harmonics of current and they are very strict if the absorbed power exceeds 25W.

If the absorbed power is higher than 25W, the unique way to guarantee the matching of the EN61000-3-2 is to make a lamp with PF > 0,95: it means that the lamp current is almost fully composed by the fundamental harmonic, i.e. it is almost sinusoidal and no distortion is introduced to the mains voltage.

SPECTRAL ANALYSIS AND COLORIMETRY

C.I.E. 1931 CHROMATICITY DIAGRAM

DLU refer to the recommendations by the C.I.E. (“Commission Internationale de l’Eclairage”), the International Commission on Illumination based in Wien, the most important world-wide independent organization on all matters relating to the science and art of light and lighting, colour and vision, and image technology. The C.I.E. has been recognized by ISO as an international standardization body on these subjects.

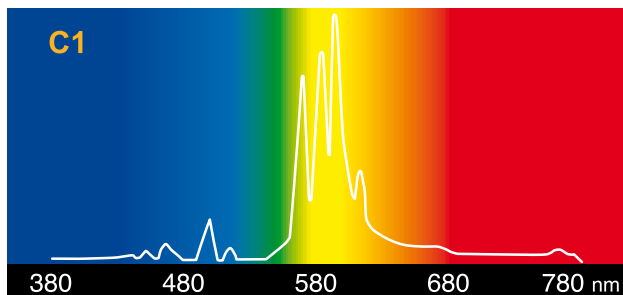


The points (x, y) on the C.I.E. 1931 diagram are named “chromaticity coordinates” and together with the Correlated Colour Temperature compose the colorimetric synthesis of a Spectral Power Distribution. (x, y) and Tc should be considered together in order to qualify the colour of any light visible to the human eye.

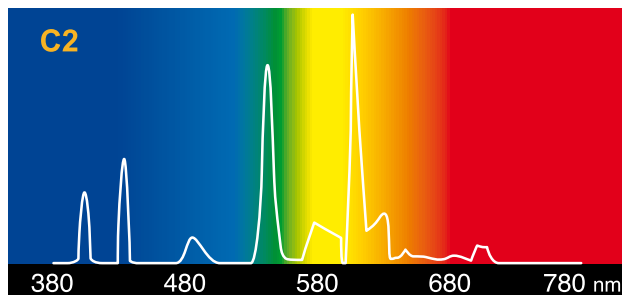
POINT	x	y	Tc	Description
A	0.4476	0.4074	2856K	Synthesis of the CIE Standard Illuminant A which represents the typical, domestic, tungsten-filament lighting: its Spectral Power Distribution is used in all applications of colorimetry involving the use of incandescent lighting.
B	0.3484	0.3516	4874K	Synthesis of the CIE Standard Illuminant B, approximation of generic noon sunlight
E	0.3333	0.3333	-	Equal Energy point, achromatic light
D	0.3127	0.3290	6500K	Synthesis of the CIE Standard Illuminant D65, simulator of natural daylight, roughly corresponding to a mid-day sunlight in Western/Northern Europe
C	0.3101	0.3162	6744K	Approximation of generic average daylight

SPECTRAL ANALYSIS AND COLORIMETRY

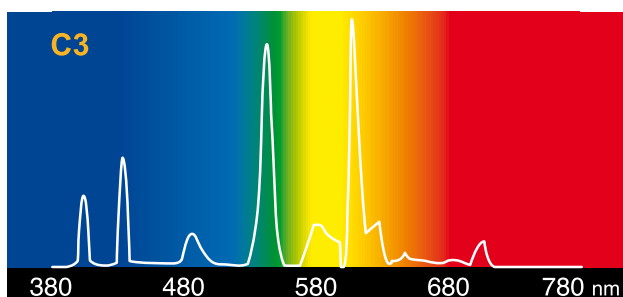
The following diagrams show the Spectral Power Distributions in the visible range (380 ÷ 780 nm) of all our fluorescent and discharge lamps.



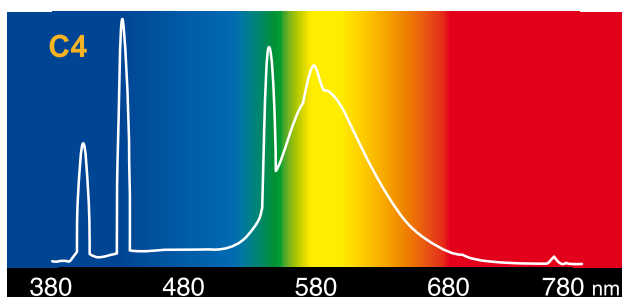
Spectral Distribution	x	y	Tc (K)	R _A
C1	0,53	0,43	2000	30



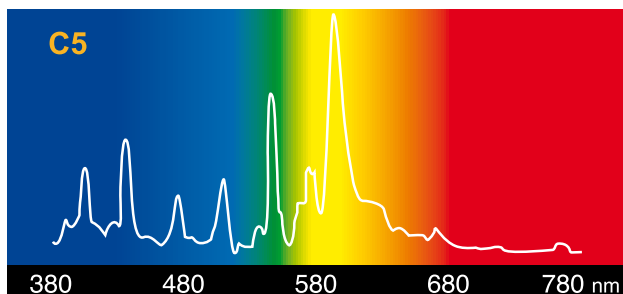
Spectral Distribution	x	y	Tc (K)	R _A
C2	0,46	0,42	2700	85



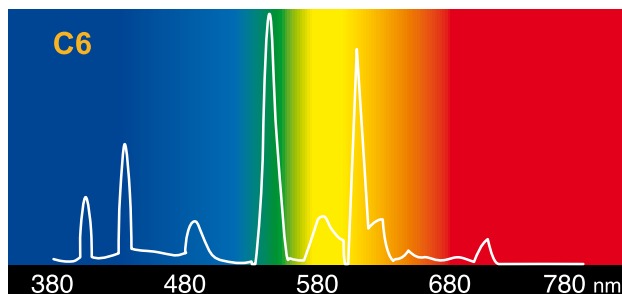
Spectral Distribution	x	y	Tc (K)	R _A
C3	0,43	0,40	3000	85



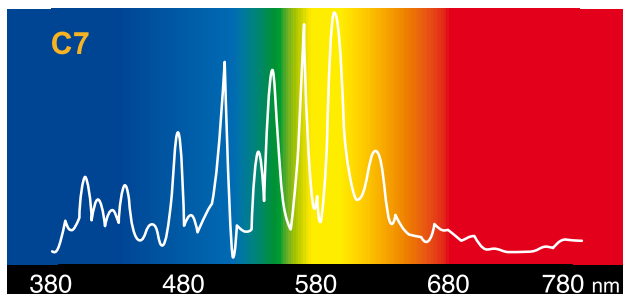
Spectral Distribution	x	y	Tc (K)	R _A
C4	0,42	0,40	3000	75



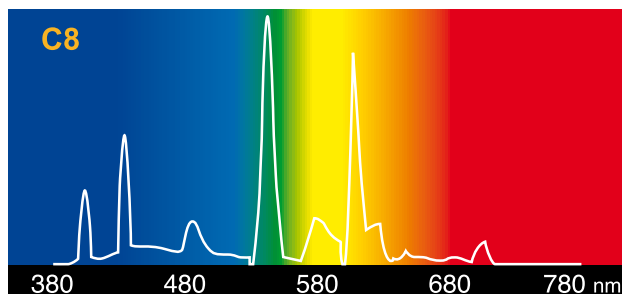
Spectral Distribution	x	y	Tc (K)	R _A
C5	0,43	0,40	3000	65



Spectral Distribution	x	y	Tc (K)	R _A
C6	0,41	0,40	3500	85

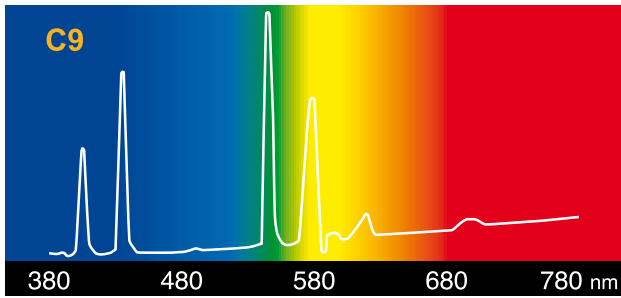


Spectral Distribution	x	y	Tc (K)	R _A
C7	0,39	0,40	3900	75

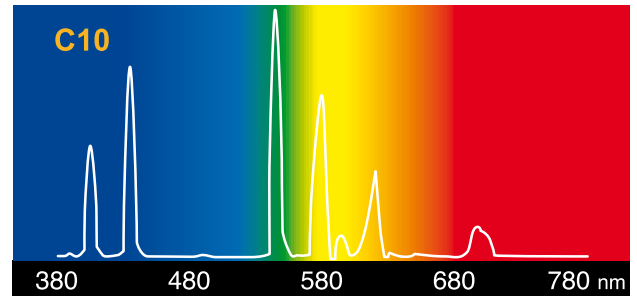


Spectral Distribution	x	y	Tc (K)	R _A
C8	0,38	0,38	4000	85

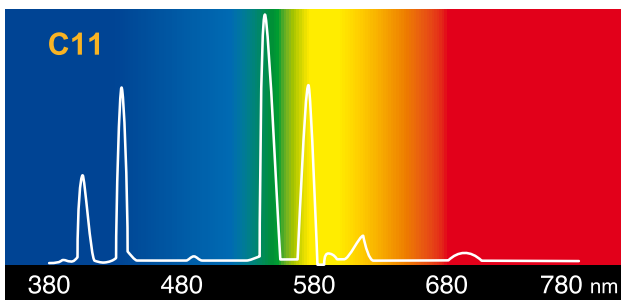
SPECTRAL ANALYSIS AND COLORIMETRY



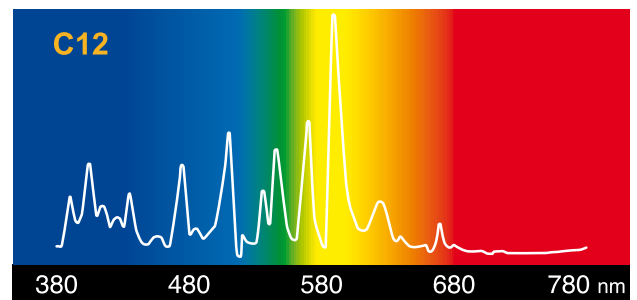
Spectral Distribution	x	y	Tc (K)	R _A
C9	0,40	0,39	4100	60



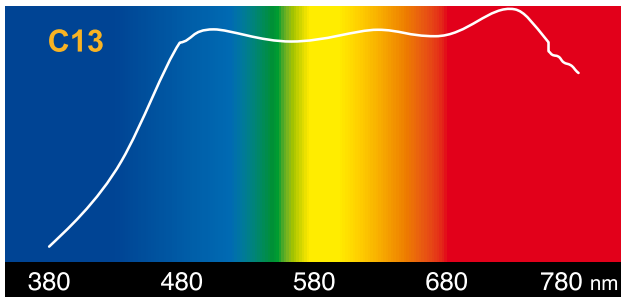
Spectral Distribution	x	y	Tc (K)	R _A
C10	0,39	0,39	4100	45



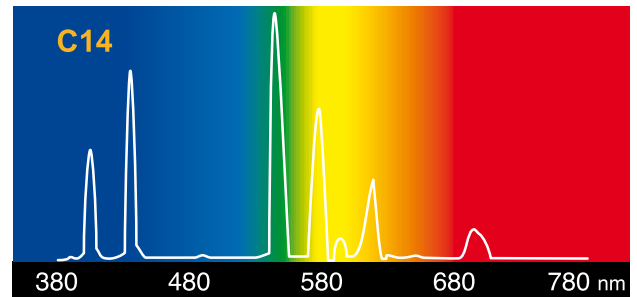
Spectral Distribution	x	y	Tc (K)	R _A
C11	0,38	0,37	4100	45



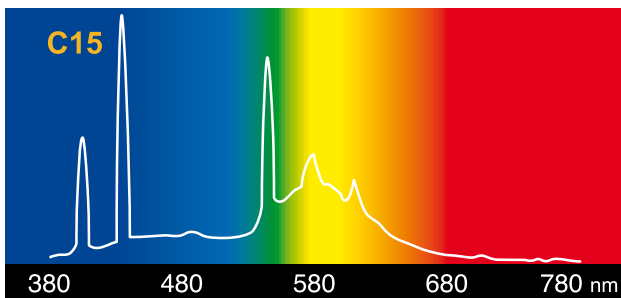
Spectral Distribution	x	y	Tc (K)	R _A
C12	0,37	0,37	4200	65



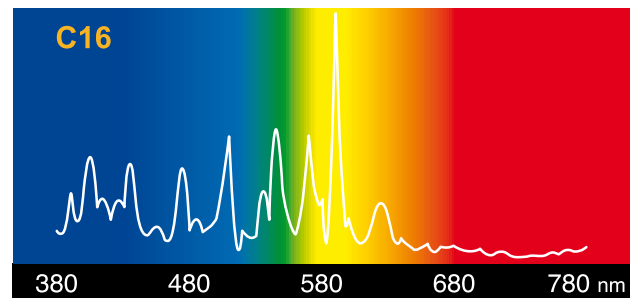
Spectral Distribution	x	y	Tc (K)	R _A
C13	0,37	0,37	4200	100



Spectral Distribution	x	y	Tc (K)	R _A
C14	0,37	0,38	4250	45

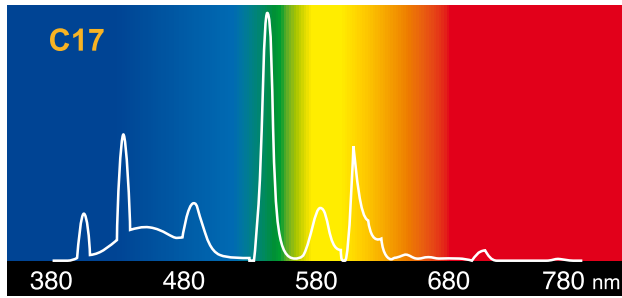


Spectral Distribution	X	Y	Tc (K)	R _A
C15	0,37	0,38	4300	65

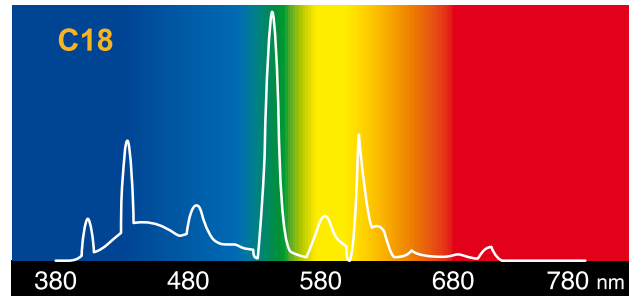


Spectral Distribution	x	y	Tc (K)	R _A
C16	0,34	0,34	5200	70

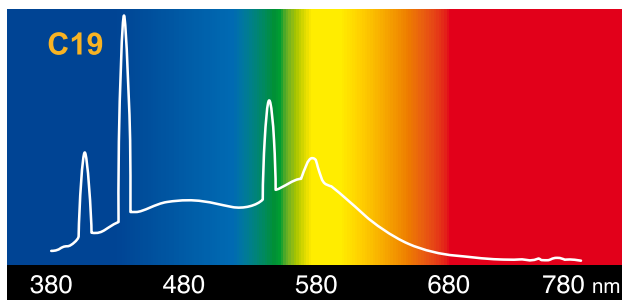
SPECTRAL ANALYSIS AND COLORIMETRY



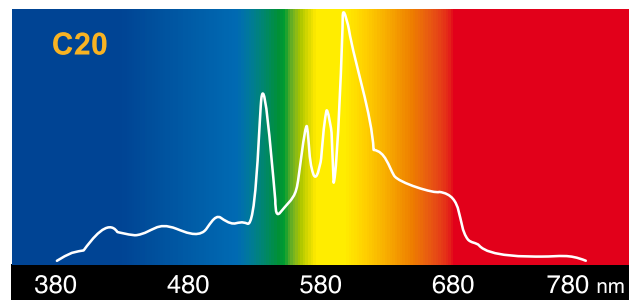
Spectral Distribution	x	y	Tc (K)	R _A
C17	0,32	0,33	6000	85



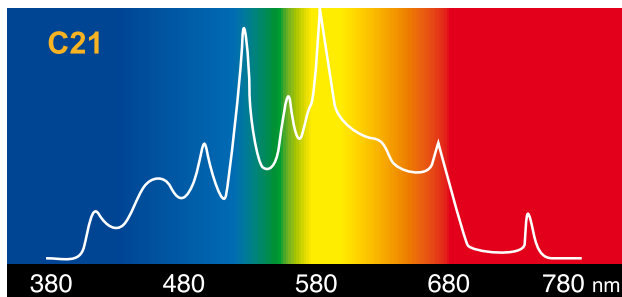
Spectral Distribution	x	y	Tc (K)	R _A
C18	0,32	0,33	6400	80



Spectral Distribution	X	Y	Tc (K)	R _A
C19	0,31	0,34	6100	75












Spectral Distribution	X	Y	Tc (K)	R _A
C20	0,45	0,41	3000	82



Spectral Distribution	X	Y	Tc (K)	R _A
C21	0,37	0,37	4200	92

TONALITY OF LIGHT RECOMMENDED FOR VARIOUS LIGHTING USES

Range of uses		Warm / Warm-white tonality	Cool-white tonality	Daylight tonality
In homes				
Dining room, living room				
Bedroom				
Kitchen, bathroom				
Cellar, workshop				
Outdoor lighting				
Streets				
Pedestrian walks				
Parks				
Squares				
Meeting places				
Restaurants, taverns				
Beerhouses, pubs				
Hotels, pensions				
Agri-tourism				
Industries, Craftsmen, Commerce				
Electronics				
Textile industry, dental mechanics				
Graphic & colour control industries				
Warehouses, shipping				
Public buildings				
Show rooms, exhibition centers				
Poly-sport complexes				
Art galleries				
Theaters, concert halls, museums				
School buildings & lecture halls				
University lecture rooms				
Nursery schools				
Libraries				
Reading rooms				
Hospitals, medical centers				
Hospital rooms				
Diagnostics and therapy				
Waiting rooms				
Photo-therapy				
Shop				
Foodstuffs, textiles & leather goods				
Photography, jewelers, florists				
Bakers, butchers, cosmetics				
Supermarkets, commercial centers				
Cabinets, frozen-goods counters				
Offices and studios				
Offices, studios				
Meeting rooms				
Hallways				
Executive offices				

SPECTRAL ANALYSIS AND COLORIMETRY

COLOUR TEMPERATURE COMPARISON TABLE

T _c (K)	Tonality	800 series Triphosphor Ra ≥ 85	600 series Standard Ra ≥ 65	700 series Ra ≥ 75
2700K	warm light	827	-	-
3000K	warm-white light	830	30	730
3500K	warm-white light	835	35	735
4000 / 4100K	cool-white light	840	-	740/741
4300K	cool-white light	-	33	-
5000K	TrueLite	850	-	750
6000K	daylight	860	-	760
6400K	daylight	864	-	-
6100 / 6500K	daylight	-	54	765

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DETC0063	96	FLE3U020V	33	FLH744FV5	16	FLHI1413C	15	FLHSC021V	36
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FLSDA040V	73	FLSQ2024V	66	FLSYB040V	77	FLT7PVW9V	51		
FLSDA042V	73	FLSQ2040V	67	FLSYB042V	77	FLT7PVWAV	51		
FLSDA044V	73	FLSQ2042V	67	FLSYB044V	77	FLT7PVWBV	51		
FLSDD040V	73	FLSQ2044V	67	FLSYD040V	77	FLT82VW1V	52		
FLSDD042V	73	FLSQ4020V	66	FLSYD042V	77	FLT82VW9V	52		
FLSDD044V	73	FLSQ4022V	66	FLSYD044V	77	FLT82VWAV	52		
FLSED040V	79	FLSQ4024V	66	FLSYH040V	77	FLT82VWBV	52		
FLSED042V	79	FLSQ4040V	67	FLSYH042V	77	FLT83VW1V	52		
FLSED044V	79	FLSQ4042V	67	FLSYH044V	77	FLT83VW9V	52		
FLSG2020V	70	FLSQ4044V	67	FLT1AVX2V	46	FLT83VWAV	52		
FLSG2022V	70	FLSQ6020V	66	FLT1AVX8V	46	FLT83VWBV	52		
FLSG2024V	70	FLSQ6022V	66	FLT1CVX1V	46	FLT8HVW1V	52		
FLSG4020V	70	FLSQ6024V	66	FLT1CVX2V	46	FLT8HVW9V	52		
FLSG4022V	70	FLSQ6040V	67	FLT1CVX8V	46	FLT8HVWAV	52		
FLSG4024V	70	FLSQ6042V	67	FLT1KVX1V	46	FLT8HVWBV	52		
FLSG4040V	71	FLSQ6044V	67	FLT1KVX2V	46	FLT8TVW1V	52		
FLSG4042V	71	FLSQ8020V	66	FLT1KVX8V	46	FLT8TVW9V	52		
FLSG4044V	71	FLSQ8022V	66	FLT1MVX2V	46	FLT8TVWAV	52		
FLSG6020V	70	FLSQ8024V	66	FLT1MVX8V	46	FLT8TVWBV	52		
FLSG6022V	70	FLSQ8040V	67	FLT1RVX1V	46	FLT8XVW1V	52		
FLSG6024V	70	FLSQ8042V	67	FLT1RVX2V	46	FLT8XVW9V	52		
FLSG6040V	71	FLSQ8044V	67	FLT1RVX8V	46	FLT8XVWAV	52		
FLSG6042V	71	FLSQA020V	66	FLT20VWCV	53	FLT8XVWBV	52		
FLSG6044V	71	FLSQA022V	66	FLT23VW2V	47	FLTLFVY2V	49		
FLSG8020V	70	FLSQA024V	66	FLT23VW8V	47	FLTLFVY8V	49		
FLSG8022V	70	FLSQA040V	67	FLT23VWCV	53	FLTLIVY2V	49		
FLSG8024V	70	FLSQA042V	67	FLT28VW2V	47	FLTLIVY8V	49		
FLSG8040V	71	FLSQA044V	67	FLT28VW8V	47	FLTLNVY2V	49		
FLSG8042V	71	FLSQC040V	68	FLT28VWCV	53	FLTLNVY8V	49		
FLSG8044V	71	FLSQC042V	68	FLT2QVW2V	47	FLTLUVY2V	49		
FLSGA040V	71	FLSQC044V	68	FLT2QVW8V	47	FLTLUVY8V	49		
FLSGA042V	71	FLSQD040V	68	FLT2QVWCV	53				
FLSGA044V	71	FLSQD042V	68	FLT5FVY2V	48				
FLSGD040V	71	FLSQD044V	68	FLT5FVY8V	48				
FLSGD042V	71	FLSQH040V	68	FLT5IVY2V	48				
FLSGD044V	71	FLSQH042V	68	FLT5IVY8V	48				
FLSGH040V	71	FLSQH044V	68	FLT5NVY2V	48				
FLSGH042V	71	FLSQM040V	69	FLT5NVY8V	48				
FLSGH044V	71	FLSQM042V	69	FLT5UVY2V	48				
FLSJD0401	80	FLSQM044V	69	FLT5UVY8V	48				
FLSJD0402	80	FLST1020V	74	FLT6AVX1V	50				
FLSJD0403	80	FLST1022V	74	FLT6AVX9V	50				
FLSJD0404	80	FLST2020V	74	FLT6AVXAV	50				
FLSJD0405	80	FLST2022V	74	FLT6AVXBV	50				
FLSJD0421	80	FLSU1020V	76	FLT6CVX1V	50				
FLSJD0441	80	FLSU1022V	76	FLT6CVX9V	50				
FLSK2080C	82	FLSU1040V	76	FLT6CVXAV	50				
FLSK2080V	81	FLSU1042V	76	FLT6CVXBV	50				
FLSK2080W	82	FLSU3020V	76	FLT6KVX1V	50				
FLSK2082C	82	FLSU3022V	76	FLT6KVX9V	50				
FLSK2082V	81	FLSU3040V	76	FLT6KVXAV	50				
FLSK2082W	82	FLSU3042V	76	FLT6KVXBV	50				
FLSK4080V	81	FLSVA040V	59	FLT6MVX1V	50				
FLSK4082V	81	FLSVA042V	59	FLT6MVX9V	50				
FLSK6080V	81	FLSVA044V	59	FLT6MVXAV	50				
FLSK6082V	81	FLSVC040V	59	FLT6MVXBV	50				
FLSK8080V	81	FLSVC042V	59	FLT6RVX1V	50				
FLSK8082V	81	FLSVC044V	59	FLT6RVX9V	50				
FLSL1040V	79	FLSVD040V	59	FLT6RVXAV	50				
FLSL1042V	79	FLSVD042V	59	FLT6RVXBV	50				
FLSL6040V	79	FLSVD044V	59	FLT79VW1V	51				
FLSL6042V	79	FLSW6040V	73	FLT79VW9V	51				