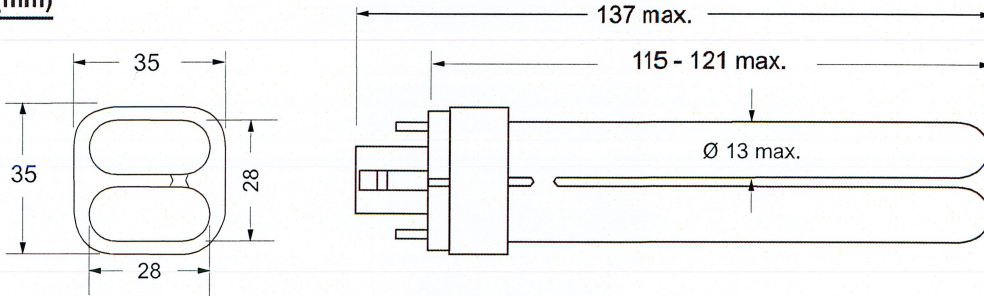




**DIMENSIONS (mm)**



Cap Type : G24q-1 -EN60061-1 sheet -7004-78-2

**ELECTRICAL DATA<sup>1</sup>**

	<u>Nominal Value</u>	<u>Min.</u>	<u>Max.</u>
Frequency	(Hz) : 50/60 Hz		
Lamp Nominal wattage	(W) : 13	11.85	14.15
Lamp Rated Wattage	(W) : 13		
Lamp operating voltage (rms)	(V) : 91	81	101
Lamp current	(mA) : 175		190
Preheat cathode current	(mA) : 210	153	275

**OPERATING CONDITIONS:**

Ballast impedance - single lamp 50Hz	: 13W 1070Ω 220V; 13W 1080Ω 240V
Ballast impedance - single lamp 60Hz	: 13W 1080Ω 220V
Ballast impedance - Twin series 50Hz	: Not possible
Starter	: External
- single lamp 50/60 Hz	: FS-11
- Series Operation 50Hz	: Not Possible
Substitution resistor for both cathodes in Series (Ω):	100
Operating Position	: Unrestricted

	<u>Nominal Value</u>	<u>Min.</u>	<u>Max.</u>
Starting Time (s):			10
Lamp Ambient Temperature (°C):	25	-15	50
Guide Post Temperature (°C):			85

**LAMP LIFE<sup>2</sup>**

Average Electrical life (50% Failure) (h) : 12000

**UV OUTPUT DATA:**

Peak Intensity at 368 nm

UV-A (315 - 400 nm)	: <	1750	μW/cm <sup>2</sup>	at 100 mm
UV-B (280 - 315 nm)	: <	40	μW/cm <sup>2</sup>	at 100 mm
UV-C (260 - 280 nm)	: <	30	μW/cm <sup>2</sup>	at 100 mm

**APPLICATION: UV Irradiation in industrial and commercial applications.**

**Attention:** This UV-A energy source emits UV radiation. Avoid exposure to skin and eyes. Starter and ballast must comply to EN 60155 and EN 60921 respectively, for AC mains frequency. This product must be used with suitable operating equipment and in accordance with the specified data. Lamps comply with the requirements of EN 60901 and EN 61199. Photometric characteristics are not specified as these lamps are not intended for general lighting applications.

<sup>1</sup> Measured according to EN 60901, at 50 Hz, on reference ballast, lamp aged 100h.

<sup>2</sup> Life test according to EN60901.



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**HIGH FREQUENCY OPERATION**

<u>ELECTRICAL DATA</u>	<u>Nominal Value</u>	<u>Min.</u>	<u>Max.</u>
Frequency	(Khz) : >20		
Lamp wattage	(W) : 12.5		
Lamp operating voltage (rms)	(V) : 77	70	84
Lamp operating current (Normal Operation)	(mA) : 165	115	210
Current in any lead to cathodes	(mA) :		240

**CATHODE CHARACTERISTICS**

Test Current	(mA) : 140		
Resistance of each cathode	(Ω) : 50	37.5	62.5

**STARTING REQUIREMENTS WITH CATHODE PREHEATING**

		<u>Min.</u>	<u>Max.</u>
Cathode Preheat energy (J):E = Q + P ts			
Preheat Time ts	(s) :	0.4	3
Energy Q	(J) :	1.0	2
Power P	(W) :	0.7	1.4
Voltage across each cathode	(V) :		11
Preheat testing substitution resistor for each cathode	(Ω) :	30	40
Open Circuit Voltage across lamp t<ts	(V) :		190
Open Circuit Voltage across lamp t>ts (At 10 deg C)	(V) :	380	
Substitution resistor for each cathode for OCV test	(Ω) :	30	90

**HIGH FREQUENCY OPERATION**

		<u>Min.</u>	<u>Max.</u>
Lamp operating current I <sub>D</sub>	(mA) :	15	115
Sum of squares lead currents at I <sub>D</sub> max.	(A <sup>2</sup> ) :	0.035	0.260

	<u>Nominal Value</u>	<u>Min.</u>	<u>Max.</u>
Lamp Ambient Temperature	(°C) : 25	-15	50
Guide Post Temperature	(°C) :		85

Operating Position : Unrestricted

**LAMP LIFE<sup>2</sup>**

Average Electrical life (50% Failure) (h) : 12000

**UV OUTPUT DATA:**

Peak Intensity at 368 nm

UV-A	(315 - 400 nm)	: <	1750	μW/cm <sup>2</sup>	at 100 mm
UV-B	(280 - 315 nm)	: <	40	μW/cm <sup>2</sup>	at 100 mm
UV-C	(260 - 280 nm)	: <	30	μW/cm <sup>2</sup>	at 100 mm

**APPLICATION: UV Irradiation in industrial and commercial applications.**

**Attention:**

This UV-A energy source emits UV radiation. Avoid exposure to skin and eyes. This product must be used with suitable operating equipment and in accordance with the specified data. HF Ballast must comply to EN60929. This product must be used with suitable operating equipment and in accordance with the specified data. If the lamps are operated at High Frequency (HF) the UV Irradiation depends on the type of ballast used. For increased lamp life at HF operation and dimming operation refer to published data of ballast manufacturer. Lamps comply with the requirements of EN 60901 and EN 61199. Photometric characteristics are not specified as these lamps are not intended for general lighting applications. <sup>1</sup> Measured according to EN 60901, at 50 Hz, on reference ballast, lamp aged 100h. <sup>2</sup> Life test according to EN60901.



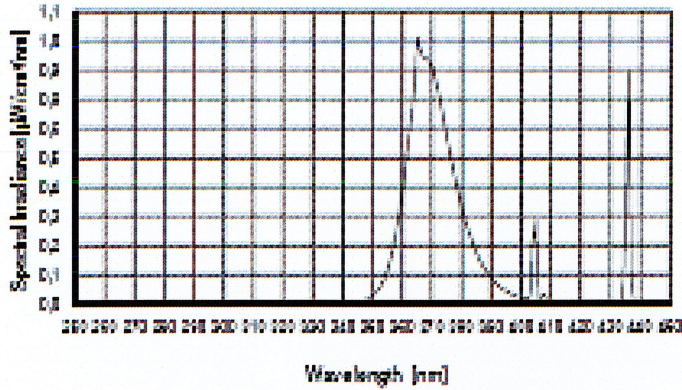
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LXL 13WDU G24 BL 369 Neemrana E6540 Gr. : A 4 0 h

**A) Spectral Irradiance vs. Wavelength**



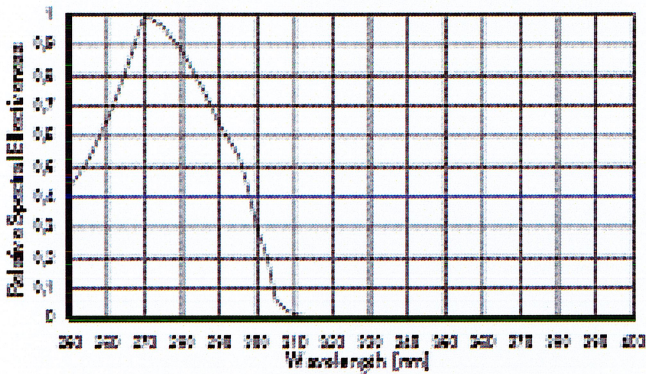
Spectral Irradiance  
@ 1m distance

UVA = 18,4 µW/cm²  
 UVB = 0,02 µW/cm²  
 UVB/UVA = 0,12 %  
 Wavelength range acc. to CIE  
 UVA : 315 - 400 nm  
 UVB : 280 - 315 nm

Lamp parameter:  
 Voltage 88,4 V  
 Current 0,173 A  
 Power 12,1 W

**B) UV Action Curve vs. Wavelength**

Proposed by the British Committee for Standardisation (BSI) (1997) (see below)

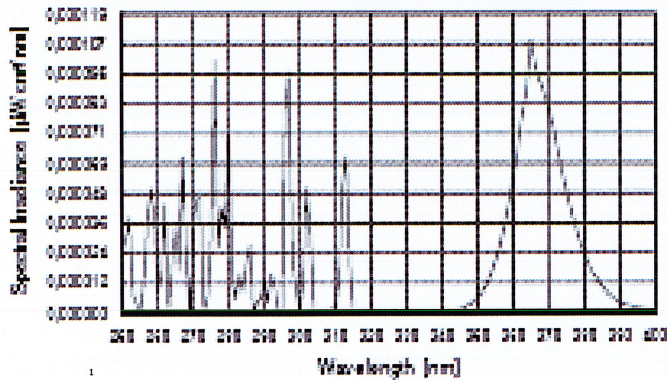


Acc. to EN 60335-2-59 : 1997  
 CLC/TC61(GB)579

**Total Effective Irradiance @ 1m distance**  
 Max. 1 mW/m²

**C) Total Effective Irradiance vs. Wavelength**

= A) x B)



**Total Effective Irradiance @ 1m distance**  
 0,032 mW/m²

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 Wakefield Road  
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Actual Measured "UV Irradiance" Limited External communication

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