GE
Lighting

WORLDWIDE PARTNER

DATA SHEET

Kolorlux™

High pressure Mercury lamps
Kolorlux™ Standard 50W, 80W, 125W, 250W and 400W
Kolorlux™ Deluxe 50W, 80W, 125W, 250W and 400W

Product information

Kolorlux™ Mercury vapor lamps are often used due to their relative efficiency. Phosphor coated bulbs offer a better color rendering index than either high or low pressure sodium lamps. Kolorlux™ lamps are available in both standard and deluxe versions with an elliptical coated bulb shape and wattages of 50-400.

Features

Kolorlux™ Mercury lamps offer white light with good color rendering (40-53 Ra). You can depend on these lamps for long term reliability and their modest to low operating costs. Mercury lamps provide intense lighting for a wide range of applications.

Application areas

- Road and Tunnel
- Street and Pedestrian
- Car Park
- Industrial

Compliance with IEC standards

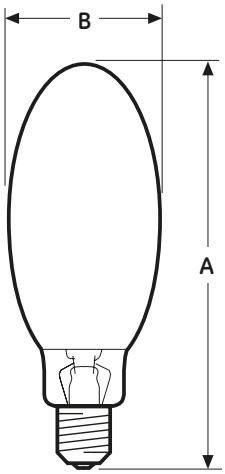
All Kolorlux™ Lamps comply with IEC 60188.

GE imagination at work

Basic data

Product Code	Nominal Wattage [W]	Rated Wattage [W]	Weighted Energy Consumption [kWh/1000 hrs]	Volts [V]	Cap	Product Descripton	Nominal Lumen [lm]	Rated Lumen [lm]	Rated Lamp Efficacy [lm/W]	Energy Efficiency Class [EEC]	Mercury Content [mg]	Rated Average Life [hr]	CCT [K]	Color Rendering Index [Ra]	Ambient Temp. [°C]
Kolorlux™ Mercury Standard															
74171	50	52	57.27	95	E27	H50 E27	1800	2010	39	B	9.0	16000	4000	40	25
74172	80	82	90.73	115	E27	H80 E27	3800	3990	48	B	13.0	20000	4000	45	25
74173	80	82	90.55	115	B22	H80 B22	3800	4070	49	B	13.0	20000	4000	45	25
73736	125	129	141.64	125	E27	H125 E27	6300	6620	51	B	21.0	20000	4000	45	25
77071	125	129	141.64	125	B22	H125 B22	6300	6620	51	B	21.0	20000	4000	45	25
73737	250	251	275.58	130	E40	H250 E40	13000	13620	54	B	41.0	20000	4000	45	25
74174	400	401	441.21	135	E40	H400 E40	22500	25000	62	B	65.0	20000	4000	40	25
Kolorlux™ Mercury Deluxe															
77055	50	52	57.42	95	E27	H50 DX E27	1800	1880	36	B	9.0	16000	3700	52	25
77056	80	83	90.75	115	E27	H80 DX E27	3800	3930	48	B	13.0	20000	3600	53	25
77057	125	127	139.98	125	E27	H125 NDX E27	6500	6520	51	B	21.0	20000	3500	53	25
77058	250	250	275.37	130	E40	H250 NDX E40	13800	13990	56	B	41.0	20000	3400	45	25
77061	400	401	440.99	135	E40	H400 DX E40	24400	25600	64	A	65.0	20000	3400	47	25

Dimensions

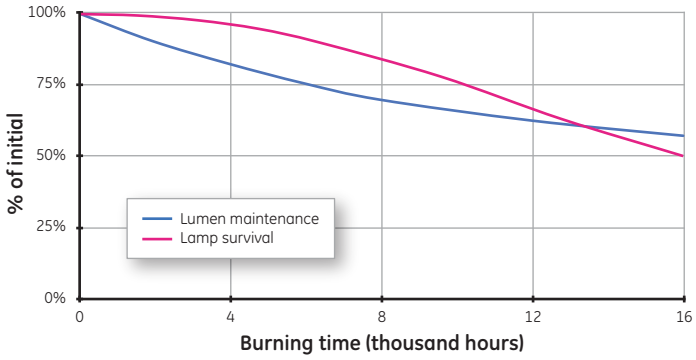


Wattage	A Length [mm]	B Diameter [mm]	Cap	Bulb	Weight [g]	Operating Postition	Minimum Starting Temperature [°C]
Kolorlux™ Mercury Standard							
50	130	55	E27	Soft	53	Universal	-18°C
80	156	70	E27	Soft	63	Universal	-18°C
125	170	75	E27	Soft	83	Universal	-18°C
250	227	90	E40	Hard	160	Universal	-18°C
400	292	120	E40	Hard	230	Universal	-18°C
Kolorlux™ Mercury Deluxe							
50	130	55	E27	Soft	53	Universal	-18°C
80	156	70	E27	Soft	63	Universal	-18°C
125	170	75	E27	Soft	83	Universal	-18°C
250	227	90	E40	Hard	160	Universal	-18°C
400	292	120	E40	Hard	230	Universal	-18°C

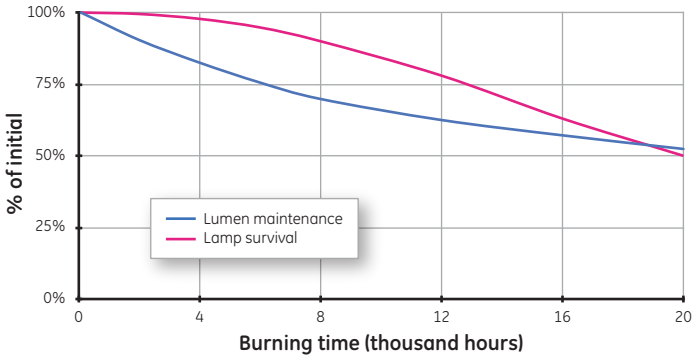
Survival rate and lumen maintenance

The graph shows the survival of representative groups of lamps operated under controlled conditions at 10 hrs/start.Lamp life in service will be affected by a number of parameters, such as mains voltage deviations, switching cycle, luminaire design and control gear. The information given is intended to be a practical guide in determining lamp replacement schedules.

Kolorlux™ 50W



Kolorlux™ 80-400W



Lamp survival (%)

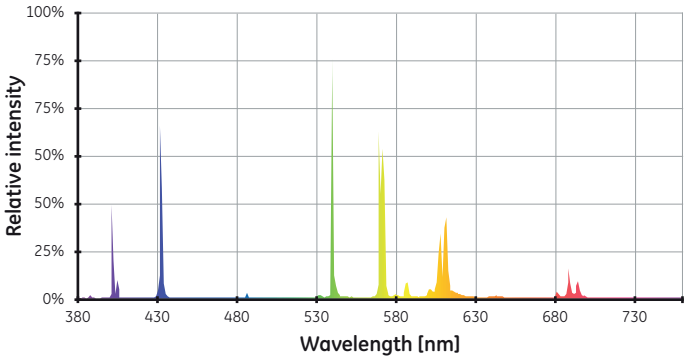
	Burning Time (thousand hours)							
Wattage	**0.1**	**2**	**4**	**6**	**8**	**12**	**16**	**20**
Kolorlux™ Mercury Standard								
50	100	99.3	96.4	91.4	84.8	68.1	49.9	-
80	100	99.5	97.8	94.8	90.0	78.0	63.0	50.0
125	100	99.5	97.8	94.8	90.0	78.0	63.0	50.0
250	100	99.5	97.8	94.8	90.0	78.0	63.0	50.0
400	100	99.5	97.8	94.8	90.0	78.0	63.0	50.0
Kolorlux™ Mercury Deluxe								
50	100	99.3	96.4	91.4	84.8	68.1	49.9	-
80	100	99.5	97.8	94.8	90.0	78.0	63.0	50.0
125	100	99.5	97.8	94.8	90.0	78.0	63.0	50.0
250	100	99.5	97.8	94.8	90.0	78.0	63.0	50.0
400	100	99.5	97.8	94.8	90.0	78.0	63.0	50.0

Lumen output ('000)

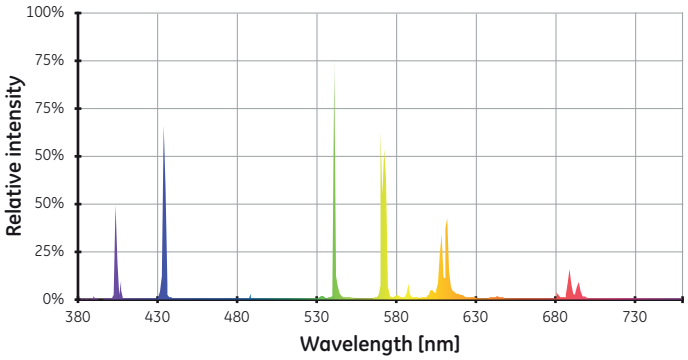
	Burning Time (thousand hours)							
Wattage	**0.1**	**2**	**4**	**6**	**8**	**12**	**16**	**20**
Kolorlux™ Mercury Standard								
50	1.80	1.63	1.49	1.36	1.26	1.12	1.03	-
80	3.80	3.44	3.14	2.87	2.65	2.37	2.17	1.99
125	6.30	5.70	5.20	4.76	4.40	3.94	3.60	3.30
250	13.0	11.76	10.73	9.83	9.08	8.12	7.43	6.81
400	22.5	20.36	18.57	17.01	15.71	14.06	12.86	11.79
Kolorlux™ Mercury Deluxe								
50	1.80	1.63	1.49	1.36	1.26	1.12	1.03	-
80	3.80	3.44	3.14	2.87	2.65	2.37	2.17	1.99
125	6.30	5.97	5.45	4.99	4.61	4.12	3.77	3.46
250	13.0	12.49	11.39	10.43	9.64	8.62	7.89	7.23
400	24.4	22.08	20.14	18.44	17.04	15.25	13.94	12.78

Spectral power distribution

Kolorlux™ Standard



Kolorlux™ Deluxe



Photometric data

Wattage	100 Hours Lumens	Colour Temperature [K]	CRI [Ra]	DIN5035 Classification
Kolorlux™ Mercury Standard				
50	1,800	4,000	45	3
80	3,800	4,000	45	3
125	6,300	4,000	45	3
250	13,000	4,000	45	3
400	22,500	4,000	40	3
Kolorlux™ Mercury Deluxe				
50	1,800	3,700	53	3
80	3,800	3,600	53	3
125	6,500	3,500	53	3
250	13,800	3,400	50	3
400	24,400	3,400	47	3

Electrical data

Data is based on a nominal lamp operating on a nominal choke (reactor) ballast with power factor correction. Supply power is based on a typical commercially available ballast.

Wattage	Volts ±15 [V]	Current [A]	Power [W]	Current Crest Factor
50	95*	0.61	50	1.8
80	115	0.8	80	1.8
125	125	1.15	125	1.8
250	130	2.13	250	1.8
400	135	3.25	400	1.8

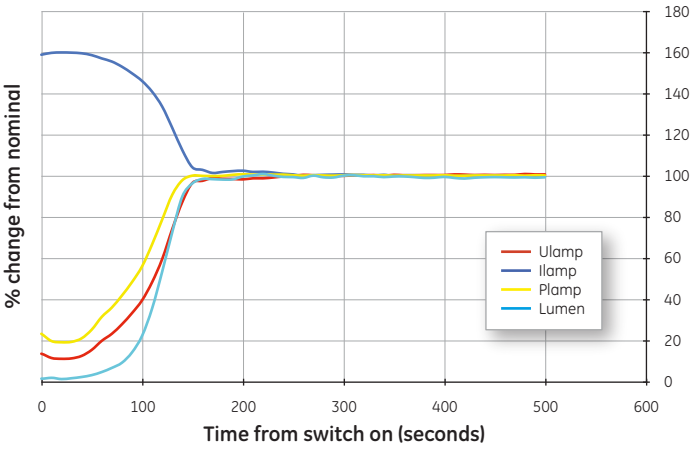
* +/- 10V

Run-up characteristics

Time for the light output to reach 90% of the final value is determined by supply voltage and ballast design. Typical values are:

Wattage	50	80	125	250	400
Run-up [mins]	6	5	5	5	5

Typical run-up characteristics



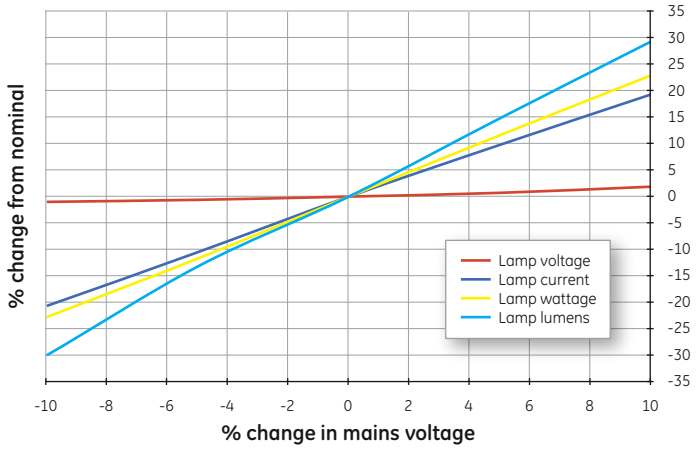
Hot re-strike time

All ratings re-strike within 4-7 minutes following a short interruption in the supply. Actual re-strike time is determined by cooling rate of the lamp.

Supply voltage

Lamps are suitable for supplies in the range 220V to 250V50/60Hz for appropriately rated series choke (reactor) ballasts. Supplies outside this range require a transformer (conventional, high reactance or CWA) to ensure correct lamp operation. Lamps start and operate at 10% below the rated supply voltage when the correct control gear is used. However in order to maximise lamp survival, lumen maintenance and colour uniformity the supply voltage and ballast design voltage should be within ±3%. Supply variations of ±5% are permissible for short periods only.

Effect of supply voltage variation



Operating Note

All Kolorlux™ Mercury lamps may be operated in enclosed luminaires or open rated luminaries in accordance with the applicable safety precautions.

Guidance for luminaire manufacturers

Lamp operating temperature limits

Wattage	Maximum Cap Temperature
50-125W	210°C
250-400W	250°C

Wattage	Maximum Bulb Temperature
50-125W	300°C
250-400W	400°C

Control gear

To achieve correct lamp starting, performance and life, it is important that lamp and control gear are compatible and suitably rated for the supply voltage at the luminaire.

Ballasts

Lamps are fully compatible with ballasts manufactured for high pressure mercury lamps to IEC60188. Ballasts should comply with specifications IEC60262.

Ballast thermal protection

Use of ballasts incorporating thermal cut-out is not a specific requirement but is a good optional safety measure for the installation.

Ballast voltage adjustment

Series choke (reactor) ballasts incorporating additional tappings at ±10V of the rated supply voltage are recommended. Alternatively a single additional tapping 10V above the rated supply voltage will ensure lamps are not overloaded due to excessive supply voltage.

PFC capacitors for choke (reactor) circuits

Power Factor Correction is advisable in order to minimise supply current and electricity costs. For 220-250V supplies 250V±10% rated capacitors are recommended as follows:

Wattage	50	80	125	250	400
PFC Capacitor [µF]	6	8	8	13	20

Caution

The following instruction must be complied with to help avoid possible shattering and early failure of the lamp. General Electric Company will not be responsible for poor lamp performance, personal injury or property damage resulting from failure to follow these instructions.

Mercury lamps are constructed of an outer bulb with an internal arc tube made of quartz. The arc tube operates under high pressure at very high temperatures as high as approximately 1100 °C. The arc tube and outer bulb may unexpectedly rupture due to external factors such as a system failure or misapplication.

- Lamp may be operated in any position.
- Lamp must only be operated with compatible electrical equipment in the types of fixtures prescribed in the applicable specification bulletin. When used, fixture lens/diffuser material must be able to contain fragments of hot quartz or glass (up to 1100 °C). If in doubt, contact your fixture manufacturer.
- Electrically insulate any metal to glass support in fixture to avoid decomposition of the glass.
- Protect lamps from direct contact with liquids (such as rain, sleet or snow) to avoid breakage from thermal shock.
- Screw lamp firmly but not forcibly into the socket to minimize loosening due to vibration. Do not use excessive force as the glass bulb may break.
- Do not scratch glass bulb because it may break during installation or later during lamp operation.
- Turn power off and let lamp cool before removal to avoid potential burn and electric shock hazard during lamp replacement.
- Relamp fixtures at or before the end of rated life. Beyond rated life, light output diminishes while energy consumption increases.
- Do not store combustible materials near or below operating lamp.

Lamp operating characteristics

This is a discharge lamp and requires some time to restart and come to full brightness after a power interruption. For total load, add auxiliary watts to lamp watts.

Warning

This lamp can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation if outer envelope of the lamp is broken or punctured and the arc tube continues to operate. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used.

• If outer envelope breaks or is punctured and lamp continues to operate, immediately turn power off and remove lamp after it has cooled.