



Havells

# Item Code Logic

Lighting	Havells	Application Type	Lamp Source	Product Version	No. Of Lamp	Lamp Wattage	Mounting Type ignitor Type	Ballast Type
L	H	C	C	N 1	3	3 6	1	1 1

- B = Ballast
- C = Commercial
- D = Domestic
- E = Emergency
- F = Flood Light
- G = Control Gear Box
- I = Industrial
- R = Roadway
- S = Sources
- V = Vapour Proof
- W = Well Glass
- Y = Spare Parts

- B = Blended MV
- C = CFL
- F = Fluorescent
- G = HPMV
- H = Tungsten Halogen
- L = GLS
- M = Metal Halide
- S = Sodium Vapour
- T = T5 FTL
- W = Elliptical HID only
- Y = Tubular HID only
- Z = Both E/T HID

- A = MS white painted
- B = Specular finish Al.
- C = Specular finish Al.
- D = CAT II reflector (L2)
- N = Non Category Louvre
- P = Polycarbonate Louvre

- 1 = 1 Lamp
- 2 = 2 Lamp
- 3 = 3 Lamp
- 4 = 4 Lamp

- CFL Lamps**
- 09 = 9W CFL
  - 11 = 11W CFL
  - 13 = 13W CFL
  - 18 = 18W CFL/FPL/FTL
  - 26 = 26W CFL
  - 36 = 36W FPL/FTL
- FTL / T5 Lamps**
- 02 = 20W FTL
  - 04 = 40W FTL
  - 08 = 8W T5 FTL
  - 14 = 14W T5 FTL
  - 21 = 21W T5 FTL
  - 28 = 28W T5 FTL
  - 54 = 54W T5 FTL

- HID Lamps**
- 70 = 70W SV/MH
  - 80 = 80W MV
  - 12 = 125W MV
  - 15 = 150W SV/MH
  - 25 = 250W MV/SV/MH
  - 40 = 400W MV/SV/MH
  - 60 = 600W SV
  - 10 = 1000W SV/MH

- For Commercial Fixture**
- 1 = Armstrong ceiling
  - 2 = Gypsum Board
  - 3 = Recess mounting
  - 4 = Surface mounting
  - 6 = Luxion ceiling
  - 7 = Pendant mounting

- For HID Luminaires**
- A = Short distance Ignitor suitable for SV only
  - B = Long distance Ignitor suitable for SV/MH
  - C = Super Imposed Ignitor
  - D = Short distance Ignitor suitable for SV/MH



































- For Fixture Fitted With Lamp**
- 3 = 2700K
  - 4 = 4000K
  - 5 = 5000K
  - 6 = 6500K

- FTL/ FPL OCB**
- 07 = 230V, 18/20W FTL/FPL OCB
  - 09 = 230V, 36/40W FTL/FPL OCB
  - 11 = 240V, 36/40W FTL/FPL OCB
  - 15 = 240V, 18/20W FTL/FPL OCB
- CFL OCB**
- 17 = 7/9/11W CFL OCB
  - 18 = 13W CFL OCB
  - 20 = 18W CFL OCB
  - 21 = 26W CFL OCB
- Electronic Ballasts**
- 26 = 1X36/40W FTL EB THD<33%
  - 27 = 2X36/40W FTL EB THD<33%
  - 32 = 1X28W T5 FTL EB THD<33%
  - 33 = 2X28W T5 FTL EB THD<33%
  - 28 = 1X36/40W FTL DB THD<10%
  - 29 = 2X36/40W FTL DB THD<10%
  - 50 = 1X28W T5 FTL DB THD<10%
  - 51 = 2X28W T5 FTL DB THD<10%

To Choose from Commercial range mirror optic AS series 36W with multiple variables.

Specification Variables	Ordering Code
Non Category louvres, Normal EM Ballast	LHCCN1336111
Non Category louvres, 6.0W EM Ballast	LHCCN1336113
L1 Category Louvres, 6.0W EM Ballast	LHCCB1336113
L2 Category louvres, HF individual Ballast < 33%	LHCCC1336126
L2 Category louvres, HF individual Ballast < 10%	LHCCC1336128

# Guide to Symbols

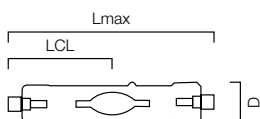
	Wide Beam		Domestic Places
	Symmetric Wide Beam		Schools/ Public Building
	Symmetric Narrow Beam		Stadium
	Updown Lighter		Major Roads
	Assymmetric Wall Washer		Local Roads
	Small Office		Toll Areas
	Auditorium		Retro CFL
	Cini Hall		GLS
	Book Shop		MHDE Lamp
	Departmental Store		MHSET
	Factories		SON T
	Super Market		Elliptical Lamp
	Hotel/ Restaurants		G12
	Shipyards		CFL 4 Pin
	Parks		CFL 2 Pin
	Classical & Modern Building		FTL
	Market Places		Halogen Lamp

# Speciality Lamps



# MH Double Ended Lamps

(MHDE for enclosed luminaires)



Double ended Rx7s cap metal halide lamp with formed body arc tube for 70W / 150W.

## Specification

Low/ medium wattage metal halide lamps with a quartz discharge “uniform” body arc tube containing perfect dose of halides with Kr85 gas to soften the reliable ignition voltage.

“UV-Protected” quartz casing helps to reduce health hazards. Perfectly blown arc tube offers improved thermal stability and colour/ lumen maintenance. Reduced “hot restrike” time helps early restoration of output after voltage interruptions.

Warm-up time @240V, 50Hz, 1-2 min for 70/150W.

Hot restrike time @240V, 50Hz 4-5min for 70/150W.

The lamp requires separate ballast and ignitor.

Recommended to be used in enclosed luminaires.

Exhibit sensitivity to supply voltage. Performance may be hampered if healthy supply (240V±3%) is unavailable for continuous operation.

To avoid colour deviation, ensure that the sealed bulge portion of the lamp is facing up-ward during the operation.

## Burning position



## Applications

- Bill boards
- Showrooms
- Marriage halls
- Small area lighting

Lamp Type	Lmax(mm)	D(mm)	LCL(mm)
70W	118	21	59
150W	136	23	68

Colour options available 4000K & 6000K

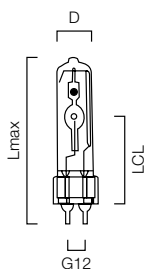
Ordering Code	Lamp Wattage (W)	Cap Base	Lamp Voltage (V)	Lamp Current (A)	Colour Temp (K)	CRI	Lumen*
LHSM23070499	70W	Rx7s	103	0.98	NDL	80	5800
LHSM23070699	70W	Rx7s	103	0.98	CDL	80	5800
LHSM23015499	150W	Rx7s	103	1.80	NDL	85	12000
LHSM23015699	150W	Rx7s	103	1.80	CDL	85	12000

\*Lumen out put after 100 burning hrs.



# MH Single Ended Quartz Tube Lamps

(MHSEQ for enclosed luminaires)



Single ended G-12 base compact metal halide lamp with formed body arc tube for improved light output and enhanced colour stability.

## Specification

Compact low wattage designed lamp allows precise beam control for narrow beam floods for outdoor or optically designed indoor down lighters.

“UV-Protected” quartz casing helps to reduce health hazards. Firm G12 ceramic base ensures firm grip in holder eliminating vibration related problems.

Warm-up time @240V, 50Hz, 1-2 min.

Hot restrike time @240V, 50Hz, 4-5 min.

The lamp requires separate ballast and ignitor.

“Uniform” quartz tube ensures thermal stability and colour/lumen stability. Kr85 additive improves hot restrike performance.

Lamp recommended to be used with enclosed luminaires.

Exhibit sensitivity to supply voltage. Performance may be hampered if healthy supply (240V±3%) is unavailable for continuous operation.

## Burning position



Universal

## Applications

- Spot lights
- Down lighters
- Window display
- High ceiling light
- Monument lighting

Lamp Type	Lmax(mm)	D(mm)	LCL(mm)
70W	106.0	23	54
150W	106.0	23	54

Colour options available 4000K & 6000K

Ordering Code	Lamp Wattage (W)	Cap Base	Lamp Voltage (V)	Lamp Current (A)	Colour Temp (K)	CRI	Lumen*
LHSM15070699	70W	G 12	103	0.98	CDL	80	5800
LHSM15015699	150W	G 12	103	1.80	CDL	85	12000

\*Lumen out put after 100 hrs. burning in vertical position published. Metal halide lamps in other than vertical position offer lower lumens.



Speciality  
Lamps

# MH Single Ended Elliptical Coated Lamps

(MH SEE for enclosed luminaires)

Single ended elliptical coated E27/ E40 Metal Halide lamp.



## Specification

Encased in hard glass ovoid shell of quality glass discharge tube containing precise dose of (sodium & scandium) metal iodides and ignition facilitating Kr85 mixture.

Lamps need suitable ballast and ignitor for reliable ignition. Lamp must be used in enclosed luminaires.

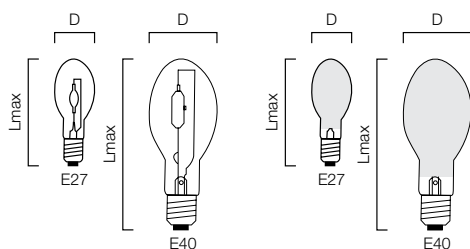
Available in either coated ovoid or clear ovoid shell. Clear elliptical lamps to be used with faceted photometry to avoid dark shadows in 250/400W lamps owing to pinched body ark tube.

Typical Warm-up time @240V, 50Hz, 1-2 min for 70/150W and 2-3 min for 250 / 400W lamps.

Hot restrike time @240V, 50Hz, 4-5 min for 70/150W and 10-15min for 250/400W lamps.

For reliable ignition, select suitable ignitor from range with pulse voltage of 3.0-4.5kV.

Exhibit sensitivity to supply voltage. Performance may be hampered if healthy supply (240V±3%) is unavailable for continuous operation.



## Burning position



Universal

## Applications

- Highbays
- Paint shops
- Atrium lighting
- Airport lounges
- Shopping malls
- Railway terminals

Lamp Type	Lmax(mm)	D(mm)
70W	138.0	55.0
150W	141.0	54.0
250W	221.0	90.0
400W	280.0	119.0

Colour options available 4000K & 6000K

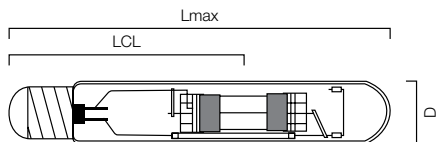
Ordering Code	Lamp Wattage (W)	Cap Base	Lamp Voltage (V)	Lamp Current (A)	Colour Temp (K)	CRI	Lumen*
LHSM01170499	70W	E 27	103	0.98	NDL	80	5600
LHSM01115499	150W	E 27	103	1.80	NDL	85	11500
LHSM02125499	250W	E 40	115	3.00	NDL	85	19500
LHSM02140499	400W	E 40	115	4.45	NDL	85	32000

\*Lumen out put after 100 hrs. burning in vertical position published. Metal halide lamps in other than vertical position offer lower lumens.



# MH Single Ended Tubular Clear Lamps

(MH SET for enclosed luminaires)



Single ended clear tubular E-40 Metal Halide lamp suitable for flood lighting and street lighting application.

## Specification

Encased in hard and clear tubular shell of quartz discharge tube containing precise dose of metal iodide (sodium & scandium) and ignition facilitating Kr85 mixture.

Lamps need suitable ballast and ignitor for reliable ignition. Lamps offer higher lumen output in vertical mounting than in horizontal operating position.

Lamps must be used in enclosed luminaire.

Select reliable ignitor from range with minimum pulse voltage of 3.0-4.5 KV. MV based MH SET lamps if used with low pulse ignitor (800V), hot restrike time shall be 15-20 min. Recommended our LHNW17000B99 series SI for long distance quick hot restrike (12 min) for MV based MH lamp.

Warm-up time of 3-5 min @ 240V, 50Hz

Hot restrike time of SV based lamp 10-15 min @ 240V, 50Hz

Exhibits extra sensitivity to supply voltage. Performance may be hampered if healthy supply (240V±3%) voltage is unavailable for continuous operation.

## Burning position



Universal

## Applications

- Area lighting
- Facade lighting
- Marshalling yards
- Horticulture lighting

Lamp Type	Lmax(mm)	D(mm)	LCL(mm)
70W	173.0	38.0	110.0
150W	172.0	38.0	86.0
250W	250.0	46.0	146.0
400W	281.0	62.0	180.0

Ordering Code	Lamp Wattage (W)	Cap Base	Lamp Voltage (V)	Lamp Current (A)	Colour Temp (K)	CRI	Lumen*
LHSM12070499	70W	E 27	103	1.00	NDL	80	6000
LHSM12015499	150W	E 27	103	1.80	NDL	85	12500
LHSM12025499	250W	E 40	115	3.00	NDL	85	20000
LHSM12025699	250W	E 40	115	3.00	CDL	85	20000
LHSM12140499	400W (BT)	E 40	115	4.45	NDL	85	33000
LHSM12140699	400W (BT)	E 40	115	4.45	CDL	85	33000

\*Lumen out put after 100 hrs. burning in vertical position published. Metal halide lamps in other than vertical position offer lower lumens.



# High Pressure Mercury Vapour Lamps (MM)



Elliptical, internally phosphor coated glass shell, high pressure mercury vapour lamp with 2/3 pin BC/ E27/ E40 cap suitable for 240V, 50 Hz, AC supply.

## Specification

Encased in hard coated ovoid shell of quartz glass discharge tube containing mercury under high pressure.

Quick run-up time of 3-4 min for 80% light output.

Lamps have universal burning position and require a ballast.

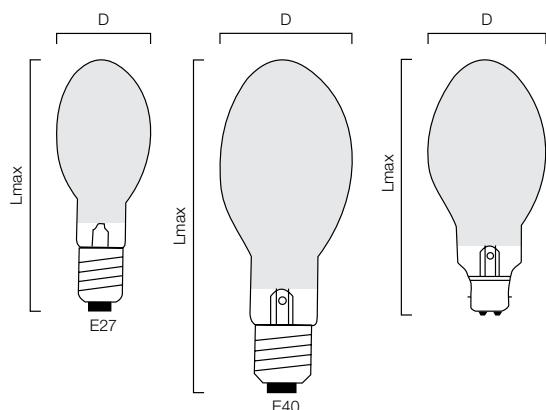
## Burning Position



Universal

## Applications

- Workshops
- Internal roads
- Gardens/Parks



Lamp Type	Lmax(mm)	D(mm)
125W	169.0	76.0
250W	220.0	90.0
400W	283.0	120.0

Ordering Code	Lamp Wattage (W)	Cap Base	Lamp Voltage (V)	Lamp Current (A)	Colour Temp (K)	CRI	Lumen*
LHSG00112099	125W 3 Pin	B 22d3	125	1.15	4000	46	6200
LHSG01112099	125W	E 27	125	1.15	4000	46	6200
LHSG02125099	250W	E 40	135	2.10	4000	40	14200
LHSG02140099	400W	E 40	140	3.25	4000	40	22750

\*Lumen out put after 100 hrs. burning in vertical position published. Metal halide lamps in other than vertical position offer lower lumens.





# HPSV TwinArc Tubular Lamp

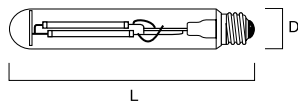
With our unique TwinArc / Double Arc burner concept Havells offers a state of the art and environmental friendly alternative for single burner Sodium lamps.

## Specification

- Instant hot restrike, thanks to double burner concept
- Double life based on double burner concept resulting in less labour cost for lamp replacement
- Can be used on the existing control gear of single burner sodium lamp
- Significantly reduced cost of ownership
- Improved Luminous efficacy

## Applications

- Street lighting
- Road lighting
- Area lighting
- Industrial lighting



Lamp Type	Lmax(mm)	D(mm)
70W	180.0	46.0
150W	207.0	46.0
250W	252.0	46.0
400W	278.0	46.0

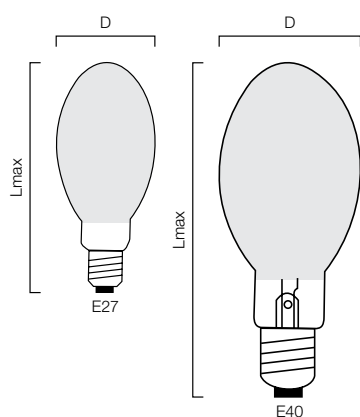
Ordering Code	Lamp Wattage (W)	Cap Base	Lamp Voltage (V)	Lamp Current (A)	Colour Temp (K)	CRI	Lumen*
LHSS21070099	70W	E 27	95	0.98	2000	30	6500
LHSS22015099	150W	E 27	100	1.80	2000	30	15000
LHSS22025099	250W	E 40	100	3.00	2000	30	23000
LHSS22040099	400W	E 40	100	4.45	2000	30	44000

\*Lumen out put after 100 hrs. burning



Speciality  
Lamps

# HPSV Single Ended Elliptical Lamps (SON-E)



Elliptical, coated internally with uniform diffusing powder, high pressure sodium vapour lamp with E27/ E40 cap suitable for 240V, 50 Hz, AC supply.

### Specification

Encased in hard glass ovoid shaped coated shell a polycrystalline translucent aluminium (PCA) discharge tube.

Coated internally with uniform layer of diffusing powder through special process.

PCA tube contains amalgam of mercury and sodium with other inert gas for better starting.

The outer bulb evacuated with getter coat to ensure high light output.

Warm up time @240V, 50Hz, 10-15 min for 80% of light output.

Hot restrike time @240V, 50Hz less than 60 sec.

High luminous efficacy among family of lamps.

Exhibit lower sensitivity towards supply condition.

Offers better visual acuity even at low CRI.

Needs external ballast and ignitor 1.8<p<2.5KV.

### Burning Position



Universal

### Applications

- Foundries
- Facade lighting
- Roadways B1 & B2
- Steel mills/Godowns
- Highbay/industrial lighting

Lamp Type	Lmax(mm)	D(mm)
70W	155.0	70.0
70W (Ign)	152.0	68.0
150W	221.0	90.0
250W	223.0	90.0
400W	290.0	120.0

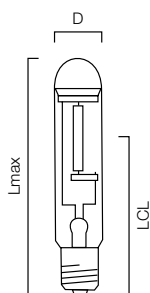
Ordering Code	Lamp Wattage (W)	Cap Base	Lamp Voltage (V)	Lamp Current (A)	Colour Temp (K)	CRI	Lumen*
LHSS01170099	70W	E 27	95	0.98	1950	25	5600
LHSS01170199	70W (Ign)	E 27	95	0.98	1950	25	5600
LHSS02115099	150W	E 40	100	1.80	1950	25	13500
LHSS02125099	250W	E 40	100	3.00	1950	25	25000
LHSS02140099	400W	E 40	100	4.45	1950	25	46000

\*Lumen out put after 100 hrs. burning



# HPSV Single Ended Tubular Lamps

(SON-T)



Tubular shaped, clear high pressure sodium vapour lamp with E27/E40 cap suitable for 240V, 50Hz, AC supply.

### Specification

Encased in hard glass tubular shaped clear shell, a polycrystalline translucent aluminium PCA discharge tube.

PCA tube contains amalgam of mercury and sodium with other inert gas for better starting.

Low number of weld construction (7 nos) ensure enhanced life & very few failures.

Warm up time @240V, 50Hz, 10-15 min for 80% of light output.

Hot restrike time @240V, 50Hz less than 60 sec.

High luminous efficacy among family of lamps.

Exhibit lower sensitivity towards supply condition.

Offers better visual acuity even at low CRI.

Needs external ballast and ignitor  $1.8 < P < 2.5$  kV.

### Burning Position



Universal

### Applications

- Area lighting
- Apron lighting
- Security lighting
- Monument lighting
- Street/ flyover/ junction lighting

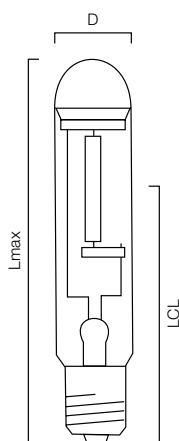
Lamp Type	Lmax(mm)	D(mm)	LCL(mm)
70W	148.0	38.0	96.0
150W	203.0	46.0	132.0
250W	250.0	46.0	158.0
400W	280.0	46.0	175.0

Ordering Code	Lamp Wattage (W)	Cap Base	Lamp Voltage (V)	Lamp Current (A)	Colour Temp (K)	CRI	Lumen*
LHSS11070099	70W	E 27	95	0.98	1950	25	6500
LHSS12015099	150W	E 40	100	1.80	1950	25	15000
LHSS12025099	250W	E 40	100	3.00	1950	25	27000
LHSS12040099	400W	E 40	100	4.45	1950	25	47500

\*Lumen out put after 100 hrs. burning.



# HPSV Superlux-T Lamps (SON-SLT)



Tubular shaped, clear high pressure sodium vapour lamp with E40 cap suitable for 240V, 50Hz, AC supply.

## Specification

Encased in hard glass tubular shaped clear shell, a polycrystalline translucent aluminium discharge tube.

PCA tube contains amalgam of mercury and sodium with other inert gas for better starting.

Low number of weld construction (7 nos) ensure enhanced life & very few failures.

Warm up time @240V, 50Hz, 10-15 min for 80% of light output.

Hot restrike time @240V, 50Hz less than 60 sec.

Highest luminous efficacy (128-132 lm/watt) among HPS family of lamps.

Exhibit lower sensitivity towards supply condition.

Offers better visual acuity even at low CRI

Needs external ballast and ignitor 1.8<P<2.5 kV.

## Burning Position



## Applications

- Area lighting
- Apron lighting
- Security lighting
- Monument lighting
- Street/ flyover/ junction lighting

Lamp Type	Lmax(mm)	D(mm)	LCL(mm)
250W	251.0	46.0	158.0
400W	281.0	46.0	175.0

Ordering Code	Lamp Wattage (W)	Cap Base	Lamp Voltage (V)	Lamp Current (A)	Colour Temp (K)	CRI	Lumen*
LHSS12025299	250W	E 40	100	3.00	1950	25	32000
LHSS12040299	400W	E 40	105	4.45	1950	25	53000

\*Lumen out put after 100 hrs. burning



# T5 Fluorescent Lamp



Fluorescent lamp with dia 16mm having high efficiency (HE) and high output (HO) with high colour rendering index, longer life and much lower mercury dose.

## Specification

- Low pressure mercury vapour lamp with tubular 16mm (T5) dia envelop.
- Internally coated with triphospher layer for high efficacy.
- Designed for operation with only high frequency electronic ballast due to high lamp voltage; 50Hz electromagnetic ballast will not facilitate operation.
- High efficacy over 102 lm/ watt.
- Maximum lumen output reached at approx. 35°C in free burning position with HF ballast.
- High lumen output & maintenance (92%). Can be ignited from -15°C to +50°C.
- Low striation even at low temperature compared with T8/T12 lamps.
- Service life with warm start ballast enhanced upto 15000 BH.
- Low dimensions of source facilitates miniaturization, lamp cap 'G5'.
- High CRI of 85.
- Small tube diameter of 16mm also leads to an increase in the efficiency of luminaires.
- Available in two colours 2700K & 6500K.

## Burning Position



## Applications

- Cove lights
- Homes/ societies
- Commercial areas
- Emergency circuits
- Modern work spaces
- Hotels/ school/ libraries

Lamp Type	Lmax(mm)	l(mm)
8W	289.0	303.0
14W	563.0	549.0
21W	863.0	849.0
28W	1163.0	1149.0
54W	1163.0	1149.0

Ordering Code	Lamp Wattage (W)	Cap Base	Lamp Voltage (V)	Lamp Current (A)	Colour Temp (K)	CRI	Lumen*
LHST26108699	8W	G 5	56	0.145	6500	85	340
LHST26114399	14W	G 5	86	0.165	2700	85	1350
LHST26114699	14W	G 5	86	0.165	6500	85	1250
LHST27114399	14W	G 5	86	0.165	2700	85	1150
LHST27114699	14W	G 5	86	0.165	6500	85	1100
LHST26121399	21W	G 5	126	0.165	2700	85	2100
LHST26121699	21W	G 5	126	0.165	6500	85	1950
LHST26128499	28W	G 5	170	0.170	4000	85	2700
LHST26128699	28W	G 5	170	0.170	6500	85	2650
LHST27128399	28W	G 5	170	0.170	2700	85	2600
LHST27128699	28W	G 5	170	0.170	6500	85	2400
HO							
LHST26124699	24W	G 5	75	0.300	6500	85	1850
LHST27124699	24W	G 5	75	0.300	6500	85	1500
LHST27154399	54W	G 5	120	0.455	2700	85	4300
LHST27154699	54W	G 5	120	0.455	6500	85	4100

\*Lumen output at 25 C after 100 hrs. burning.



# Halogen Lamp



Miniaturised double ended linear halogen lamp.

## Specification

Double ended quartz glass clear linear shaped envelope containing self supported single coiled filament with Rx7s caps for firm electrical contact.

CRI of almost 100 with CCT 2900K.

Requires no external ballast. Operates on 230/240V mains directly.

Ideal for emergency circuits due to instant ignition.

Current/voltage dimming possibilities for ambience creation.

Operation in vertical mounting reduces the life of lamp.

Lamp casing not to be touched with bare hand while lamp in operation.

Immediate ignition, crisp natural daylight output with dimming possibilities and better light control.

## Burning Position



## Applications

- Bill board
- Flood lighting
- General purpose
- Pendal decoration
- Homes/ Family functions

Lamp Type	Lmax(mm)
150W TH	78.0
500W TH	118.0
1000W TH	190.0

Ordering Code	Lamp Wattage (W)	Cap Base	Lamp Voltage (V)	Lamp Current (A)	Colour Temp (K)	CRI	Lumen
LHSH10015099	150W	Rx7s	230	0.65	2900	100	2850
LHSH10050099	500W	Rx7s	230/240	2.08	2900	100	9000
LHSH10010099	1000W	Rx7s	240	4.17	2900	100	22000



# CFL Retrofit

Retrofit range available in 5W to 85W.



Lamp Wattage	Ordering Code	Lumen Output (Lm)		Length (L) (mm)	Base/Dia. (mm)
		6500K	2700K		
<b>Retrofit Dwarf</b>					
5W (DU)	PHHD*#005	220	240	110	45
7W (DU)	LHLCABDB6007	300	320	124	45
8W (TU)	PHHT*#008	400	440	110	45
11W (TU)	PHHT*#011	565	605	122	45
14W (TU)	PHHT*#014	720	775	142	45
<b>Retrofit Normal</b>					
11W (DU)	PHHD*#011	565	605	142	48
15W (DU)	PHHD*#015	810	900	170	48
15W (TU)	PHHT*#015	810	900	142	52
20W (TU)	PHHT*#020	1120	1200	165	52
23W (TU)	PHHT*#023	1400	1500	175	52
27W (TU)	PHFT*#027	1680	1800	175	52
15W (TU)G-24 <sup>§</sup>	PHCT*#015	810	900	142	52
<b>Retrofit Spiral</b>					
9W (SP)	PHHO*#009	450	470	124	46
15W (SP)	PHHO*#015	850	875	142	48
20W (SP)	PHHO*#020	1120	1200	146	58
23W (SP)	PHHR*#020	1380	1450	150	58
27W (SP) <sup>§</sup>	PHFR*#027	1680	1800	164	60
35W (SP) <sup>§</sup>	PHFR*#035	2200	2350	164	60
45W (SP) <sup>§</sup>	PHFR*#045	3000	3200	195	84
65W (SP) <sup>§</sup>	PHFR*#065	3800	4000	228	84
85W (SP) <sup>§</sup>	PHFR*#085	4600	4850	264	106
100W (SP) <sup>§</sup>	PHFR*#100	5200	5500	278	106
9W (G-24) <sup>§</sup>	PHHO*02009	450	470	116	45
15W (G-24) <sup>§</sup>	PHCR*02015	850	900	124	45
<b>Retrofit Higher Range<sup>§</sup></b>					
33W (TU)	PHFT*#033	2000	2100	202	62
35W (FU)	PHFF*#035	2100	2200	205	64
45W (FU)	PHFF*#045	3000	3200	235	75
65W (FU)	PHFF*#065	4200	4400	288	89
85W (FU)	PHFF*#085	5000	5250	325	89

\* = C for Cool Daylight (6500K), W for Warm White (2700K) or D for Cool White (4000K)

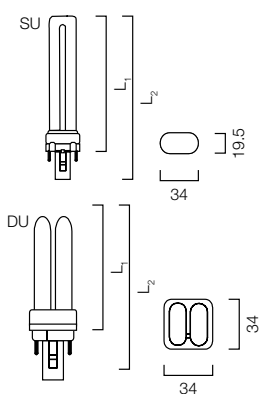
# = 14 for E-14, 27 for E-27 or 22 for B-22 base

<sup>§</sup> Not RoHS Compliant



# CFL Non-Retrofit

Non-retrofit range available in 5W to 36W.



Lamp Wattage	Ordering Code	Lumen Output (Lm)			Length (L) (mm)	Lamp Base	
		6500K	4000K	2700K		2 Pin	4Pin
CFL Non Retrofit							
5W (SU)	PHCS*#005	240	250	250	108	G23	2G7
7W (SU)	PHCS*#007	375	400	400	137	G23	2G7
9W (SU)	PHCS*#009	565	600	600	167	G23	2G7
11W (SU)	PHCS*#011	850	900	900	237	G23	2G7
10W (DU)	PHCD*#010	565	600	600	112	G24-d <sub>1</sub>	G24q <sub>1</sub>
13W (DU)	PHCD*#013	850	900	900	138	G24-d <sub>1</sub>	G24q <sub>1</sub>
18W (DU)	PHCD*#018	1130	1200	1200	158	G24-d <sub>2</sub>	G24q <sub>2</sub>
26W (DU)	PHCD*#026	1680	1800	1800	176	G24-d <sub>3</sub>	G24q <sub>3</sub>
FP-L <sup>§</sup>							
18W FP-L	PHCS*04018	1130	1200	1200	200		2G11
36W FP-L	PHCS*04036	2800	2900	2900	415		2G11

\* = C for Cool Daylight (6500K), W for Warm White (2700K) or D for Cool White (4000K)  
 # = 02 for 2 Pin or 04 for 4 Pin  
 § Not RoHS Compliant

