

CLUSTERLITE®

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CLUSTERLITE® (with integrated ballast)



HC01040i
E27 / 40W

HC01060i
E27 / 60W

HC01080i
E27 / 80W
E40 / 80W

HC01100i
E27 / 100W
E40 / 100W



Amalgam Technology
No Mercury Hazard

CLUSTERLITE® (with power supply)



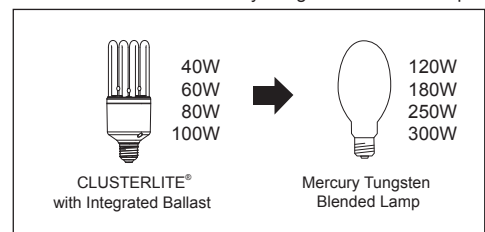
HC01200x
E40 / 200W

The MEGAMAN® CLUSTERLITE® is specifically designed to replace mercury tungsten blended lamps and metal halide lamps used in commercial and industrial areas. The CLUSTERLITE® has phenomenal attributes that include high lumen maintenance, even light distribution, high colour rendering, minimal colour shift and excellent energy-savings.

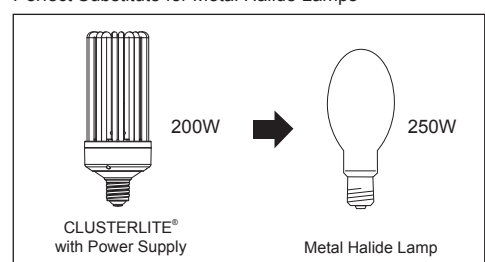
Product Features

- Rated lamp life of 15,000 hours
- Engineered with patented cooling-tube to ensure over 75% maintenance of lumen output throughout operating life
- High colour rendering index up to Ra 84
- Available in any colour temperature from 3000K to 6500K
- Excellent colour uniformity with minimal colour shift of only +/- 100K
- Effective operation in temperatures ranging from -40°C~+80°C
- Universal burning position for base-up, base-down or base-horizontal operation
- Significant energy-savings up to 67%
- Instant restart capability with rapid start-up time
- Cluster-type lamp tube design allows continuous operation on partial failure of lamp tubes
- Available in a wide range of wattages – 40W, 60W, 80W, 100W, and 200W to cater various needs
- Widely applicable for use in both enclosed and open luminaires
- Equipped with lightweight and energy-efficient power supply
- Available in E27 and E40 lamp bases for fitting into various lamp holders

Perfect Substitute for Mercury Tungsten Blended Lamps

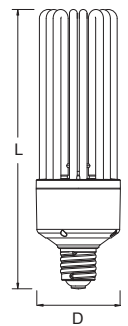


Perfect Substitute for Metal Halide Lamps



Specifications for CLUSTERLITE® with Integrated Ballast

Model No.	HC01040i	HC01060i	HC01080i	HC01100i
Mains Voltage (V)	220~240	220~240	220~240	220~240
Mains Frequency (Hz)	50/60	50/60	50/60	50/60
Lamp Wattage (W)	40	60	80	100
Effective Lifetime (Hrs)#	15000	15000	15000	15000
Initial Lumen Output (lm)	2680	4000	5400	6700
Mean Lumen over Rated Life (lm)†	2135	3187	4302	5338
Luminous Efficacy (lm/W)	67	67	67	67
SDCM	<5	<5	<5	<5
Operating Temperature (°C)	-25~+60	-40~+60	-40~+60	-40~+60
Energy Label Classification	A	B	B	NA
Lamp Base	E27	E27	E27/E40	E27/E40
Max. Run-up Time to Reach 80% Lumen Output at 25°C (s)	150	150	150	150
Colour Rendering (Ra)	84	84	84	84
Colour Temperature (K)	2700K 4000K 6500K	2700K 4000K 6500K	2700K 4000K 6500K	2700K 4000K 6500K
Glass Tube Diameter (mm)	Ø11.0	Ø11.0	Ø10.0	Ø10.0
Glass Tube Shape	5P	5P	2C	2C
Diameter (mm)	63	63	80	80
Length (mm)	166	188	E27: 244/ E40: 256	E27: 267/ E40: 279
Weight (g)	252	285	E27: 553/ E40: 563	E27: 578/ E40: 588
	Integrated Ballast	Integrated Ballast	Integrated Ballast	Integrated Ballast



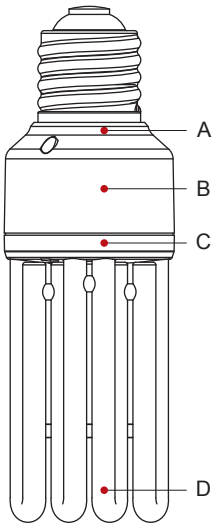
† "Mean Lumen over Rated Life" is the time weighted average of lumen measured throughout the rated life of the lamp
 # Effective Lifetime is measured when the lamp reaches 75% lumen output

Specifications for CLUSTERLITE® with Power Supply

Model No.	HC01200x
Mains Voltage (V)	220~240
Mains Frequency (Hz)	50/60
Lamp Wattage (W)	200
Effective Lifetime (Hrs)#	15000
Initial Lumen Output (lm)	14400
Mean Lumen over Rated Life (lm)†	11472
Luminous Efficacy (lm/W)	72
SDCM	<5
Operating Temperature (°C)	-40~+60
Energy Label Classification	NA
Lamp Base	E40
Max. Run-up Time to Reach 80% Lumen Output at 25°C (s)	150
Colour Rendering (Ra)	84
Colour Temperature (K)	2700K 4000K 6500K
Glass Tube Diameter (mm)	Ø8.0
Glass Tube Shape	4U
Diameter (mm)	90
Length (mm)	278
Weight (g)	735
Power Supply	CP010200

† "Mean Lumen over Rated Life" is the time weighted average of lumen measured throughout the rated life of the lamp
 # Effective Lifetime is measured when the lamp reaches 75% lumen output

Maximum Temperature Declaration



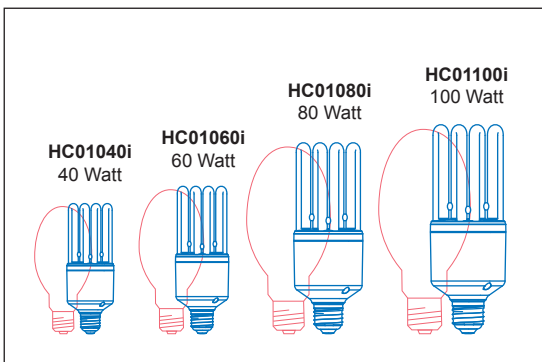
	A	B	C	D
Max.	220°C	220°C	900°C	600°C

Test Conditions

- Lamps in base-up position
- Voltage: 254.4V~ (Rated Voltage x 1.06)
- 25°C ambient temperature, draught free air

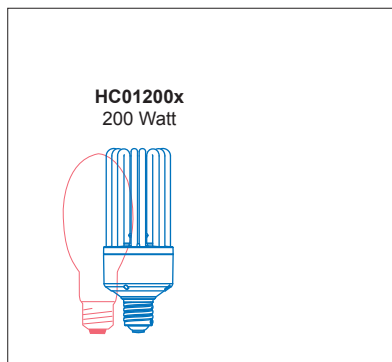
Size Comparison

CLUSTERLITE® Vs. Mercury Tungsten Blended Lamps



Size Comparison

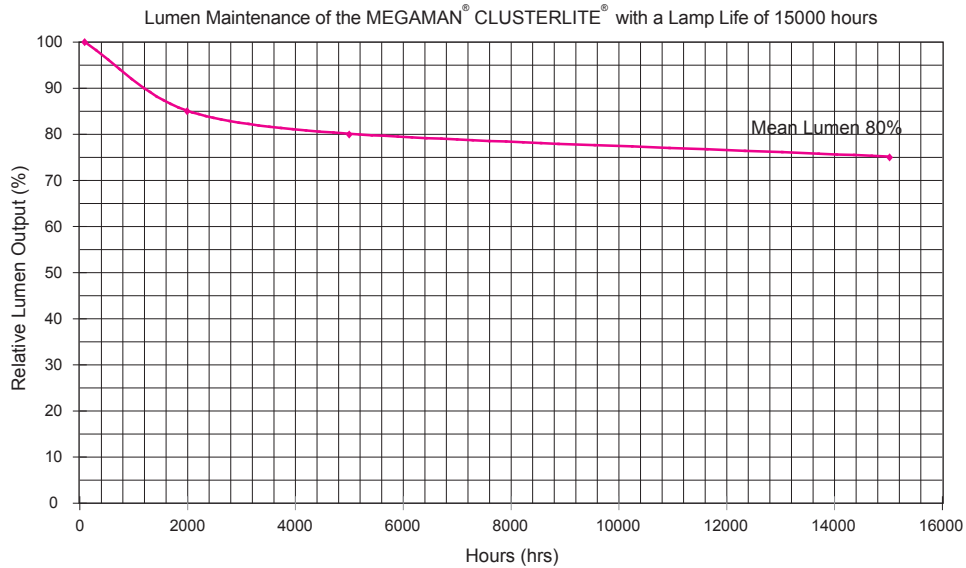
CLUSTERLITE® Vs. Metal Halide Lamps



Applications

- Bus and Train Terminals
- Exhibition Halls
- Gymnasiums
- Showrooms
- Factories
- Warehouses
- Street Lighting
- Shopping Malls
- Billboards

Lumen Maintenance Curve



CLUSTERLITE® with Integrated Ballast		40W HC01040i	60W HC01060i	80W HC01080i	100W HC01100i
Operating Hours (hrs)	Lumen Maintenance (%)	Luminous Flux (lm)			
100	100	2680	4000	5400	6700
2000	88	2385	3520	4752	5296
3000	82	2198	3280	4428	5494
4000	79	2112	3152	4255	5280
6000	78	2080	3104	4190	5199
10000	76	2048	3056	4126	5119
12000	76	2026	3024	4082	5065
15000	75	2010	3000	4050	5025
Mean Lumen (Time Weighted Average)		2135	3187	4302	5338

Mercury Tungsten Blended Lamp

Mean Lumen at 40% declared life (2400hrs)	
Wattage (W)	Mean Lumen (lm)
120	1744
180	2616
250	4200
300	5240

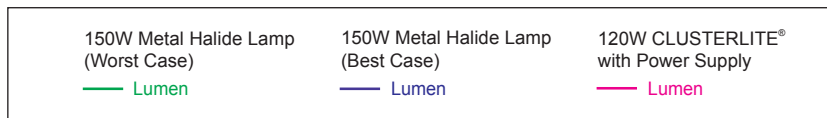
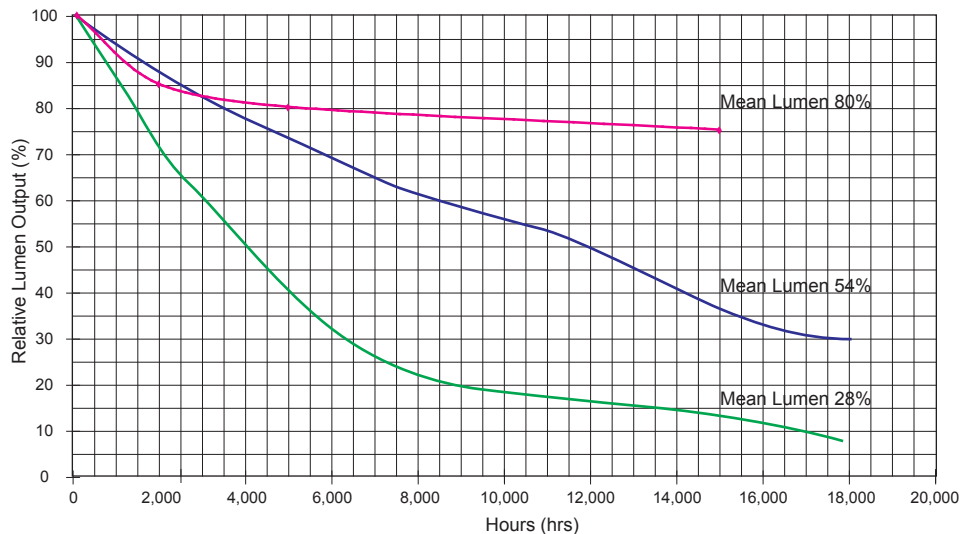
CLUSTERLITE® with Integrated Ballast

Mean Lumen at 40% Declared Life (6000 hrs)	
Wattage (W)	Mean Lumen (lm)
40	2080
60	3104
80	4190
100	5199

* Comparisons are made against reference mercury tungsten blended lamps. Lumen values should also be taken into account when considering replacement for existing lamps in the market.

Lumen Maintenance Comparison

120W CLUSTERLITE® Vs. 150W Metal Halide Lamp



Luminous Flux Comparison : CLUSTERLITE® Vs. Metal Halide Lamps

Metal Halide Lamp	70W	100W	150W	250W	400W
Operating Hours (hrs)					
	Luminous Flux (lm)				
100	4900	8000	12000	17000	27000
2000	3430	5600	8400	11900	18900
3000	2891	4720	7080	10030	15930
4000	2401	3920	5880	8330	13230
6000	1470	2400	3600	5100	8100
8000	980	1600	2400	3400	5400
10000	809	1320	1980	2805	4455
12000	735	1200	1800	2550	4050
15000	613	1000	1500	2125	3375
Mean Lumen (Time Weighted Average)	1321	2223	3334	4723	7502

CLUSTERLITE® with Power Supply	200W HCO1200x
Operating Hours (hrs)	
	Luminous Flux (lm)
100	14400
2000	12672
4000	11808
6000	11347
8000	11174
10000	11002
12000	10886
15000	10800
Mean Lumen (Time Weighted Average)	11472

Metal Halide Lamp

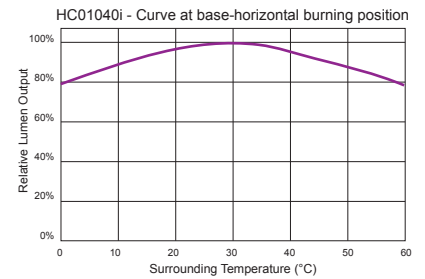
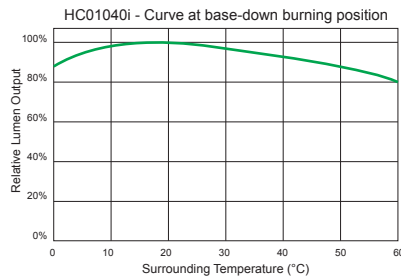
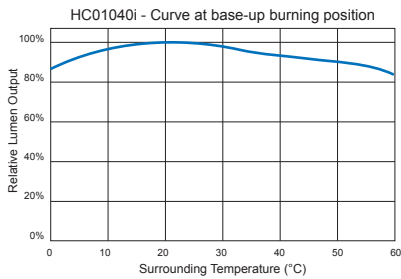
Mean Lumen at 40% declared life (7200hrs)	
Wattage (W)	Mean Lumen (lm)
70	1127
100	1840
150	2760
250	3910
400	6210

CLUSTERLITE® with Power Supply

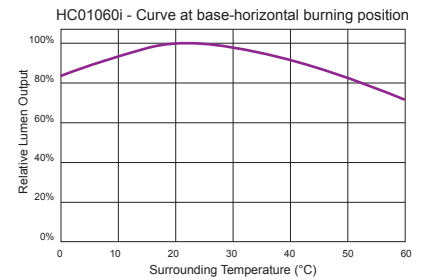
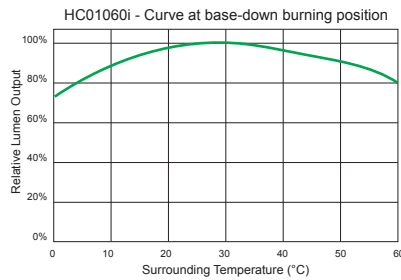
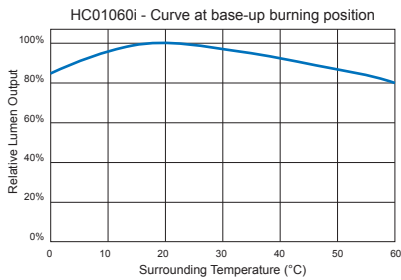
Mean Lumen at 40% declared life (6,000hrs)	
Wattage (W)	Mean Lumen (lm)
200	11347

Relative Lumen Output Vs. Temperature

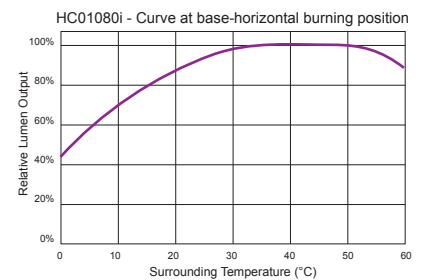
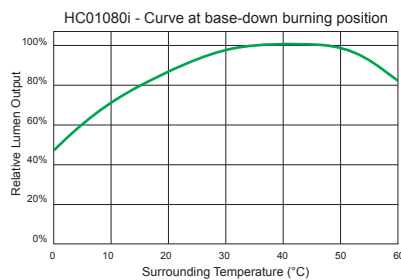
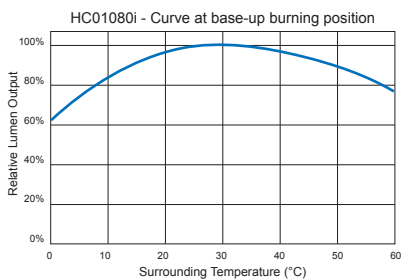
40W CLUSTERLITE® (with Integrated Ballast)



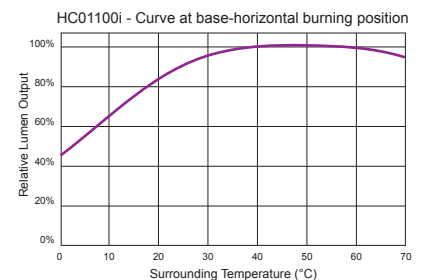
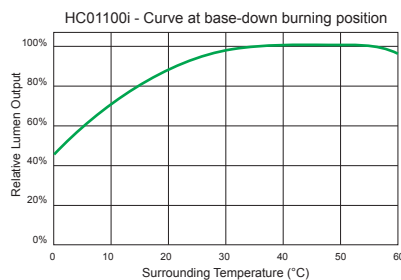
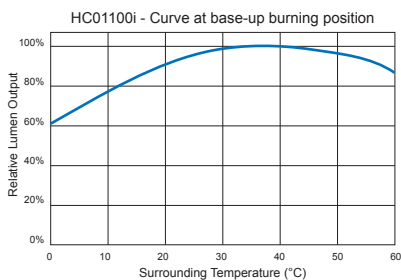
60W CLUSTERLITE® (with Integrated Ballast)



80W CLUSTERLITE® (with Integrated Ballast)

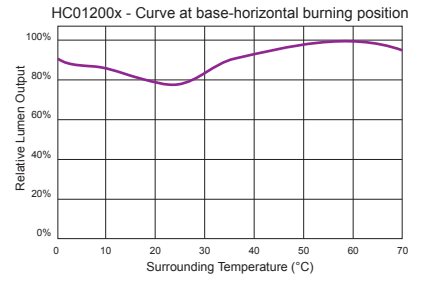
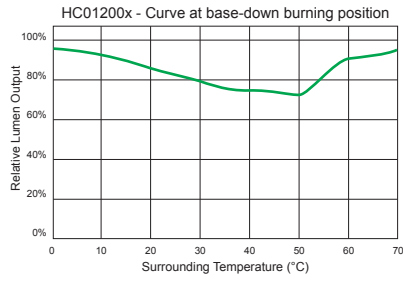
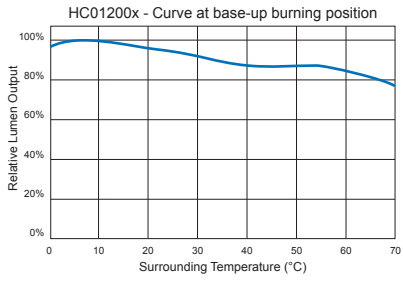


100W CLUSTERLITE® (with Integrated Ballast)



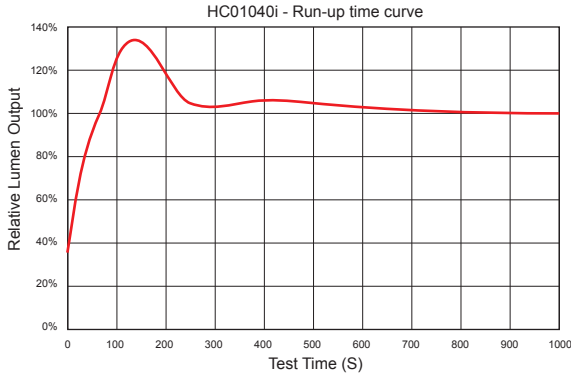
Relative Lumen Output Vs. Temperature

200W CLUSTERLITE® (with Power Supply)



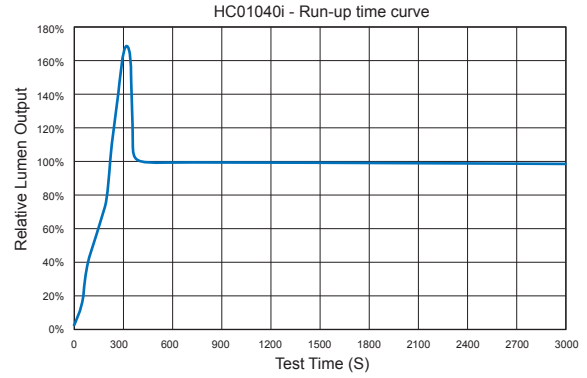
Run-up Time

40W CLUSTERLITE® (with Integrated Ballast)



— Test Conditions:

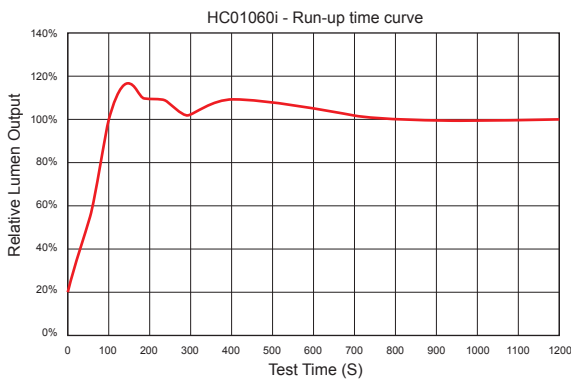
- Ambient temperature: +45°C
- Run-up time: 28 sec. to reach 80% Lumen Output



— Test Conditions:

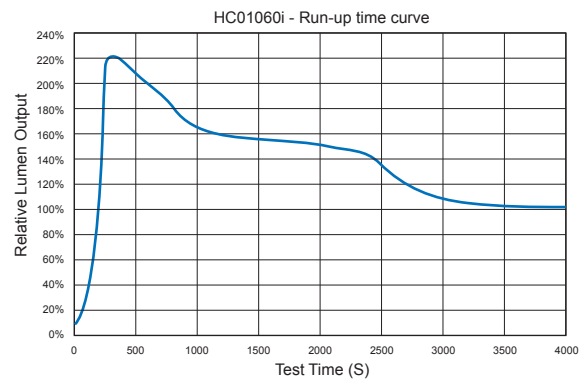
- Ambient temperature: -20°C
- Run-up time: 205 sec. to reach 80% Lumen Output

60W CLUSTERLITE® (with Integrated Ballast)



— Test Conditions:

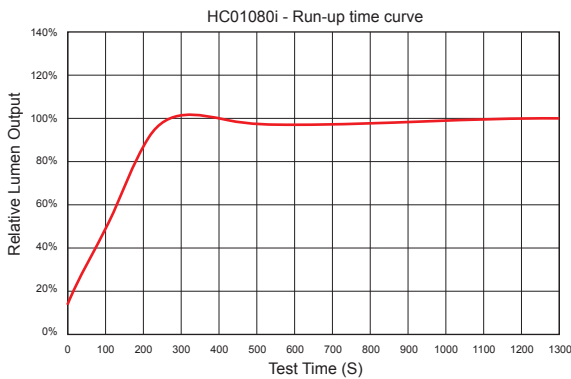
- Ambient temperature: +45°C
- Run-up time: 83 sec. to reach 80% Lumen Output



— Test Conditions:

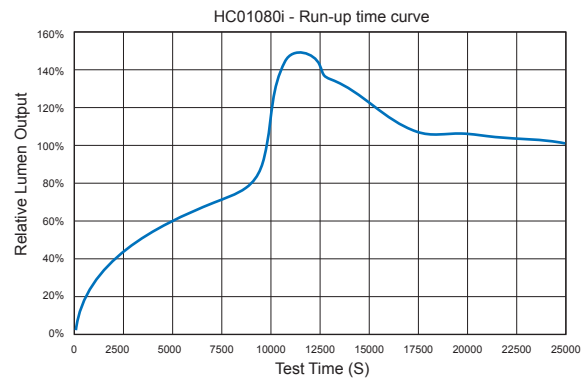
- Ambient temperature: -20°C
- Run-up time: 185 sec. to reach 80% Lumen Output

80W CLUSTERLITE® (with Integrated Ballast)



— Test Conditions:

- Ambient temperature: +45°C
- Run-up time: 188 sec. to reach 80% Lumen Output

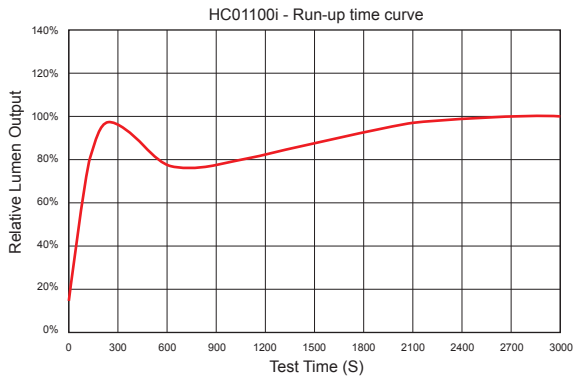


— Test Conditions:

- Ambient temperature: -20°C
- Run-up time: 9355 sec. to reach 80% Lumen Output

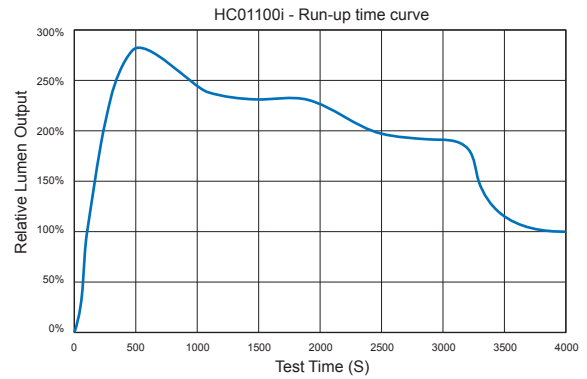
Run-up Time

100W CLUSTERLITE® (with Integrated Ballast)



— Test Conditions:

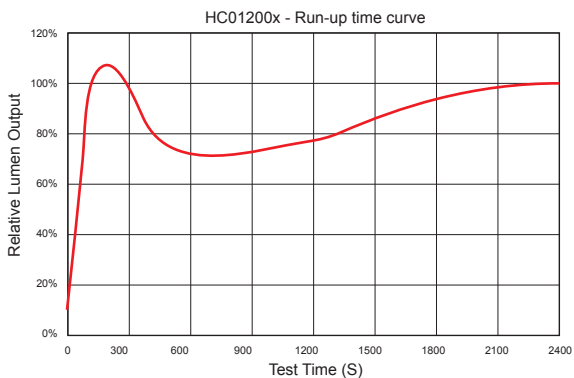
- Ambient temperature: +45°C
- Run-up time: 132 sec. to reach 80% Lumen Output



— Test Conditions:

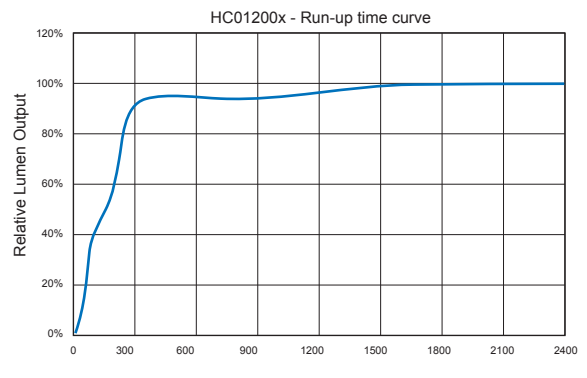
- Ambient temperature: -20°C
- Run-up time: 60 sec. to reach 80% Lumen Output

200W CLUSTERLITE® (with Power Supply)



— Test Conditions:

- Ambient temperature: +45°C
- Run-up time: 72 sec. to reach 80% Lumen Output



— Test Conditions:

- Ambient temperature: -20°C
- Run-up time: 249 sec. to reach 80% Lumen Output

Power Supply for CLUSTERLITE®

Specifications

Model No.	CP010200
Mains Voltage (V)	220~240
Voltage Range (V)	180~260
Mains Frequency (Hz)	50/60
Nominal Wattage Output (W)	200
System Wattage Output (W)	220
Max. Working Voltage (U-out) [V]	400
Output Frequency (kHz)	40~42
Current Rated (mA)	1020
Power Factor (λ)	0.98
Ta (°C)	-40~+60
Tc (°C)	85
IP Protection	IP20
Energy Efficiency Index	A2
Protection Class	II
Life Hour with Max. Failure Level of 50% (at ta Max.) (h)	50000
Extension Wire (m)	18AWGX
Fixing Bracket for Screws	M4
Weight (g)	710
Dimensions (L x W x H) (mm)	175 x 103 x 59
Housing Material	Polycarbonate

Industry Standards

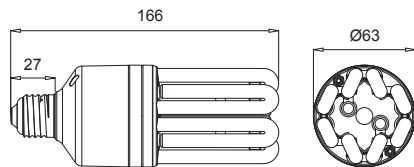
Europe	
Safety	EN61347-2-3
Immunity	EN61547
Performance	EN60969
	EN60929
Radio Interference	EN55015
Line Current Harmonics	EN61000-3-2



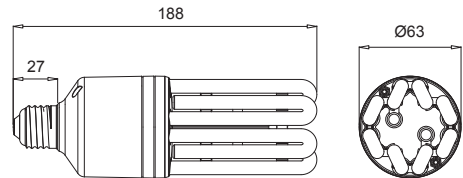
Line Drawings for CLUSTERLITE® Lamp

CLUSTERLITE® with Integrated Ballast

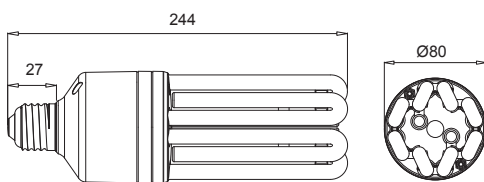
HC01040i / E27



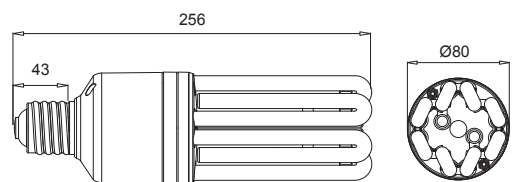
HC01060i / E27



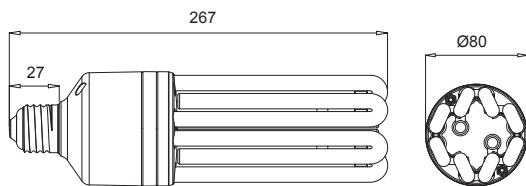
HC01080i / E27



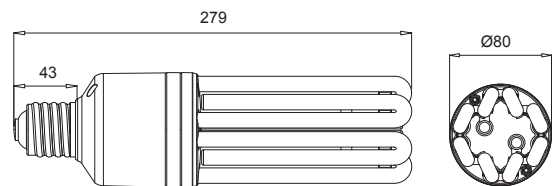
HC01080i / E40



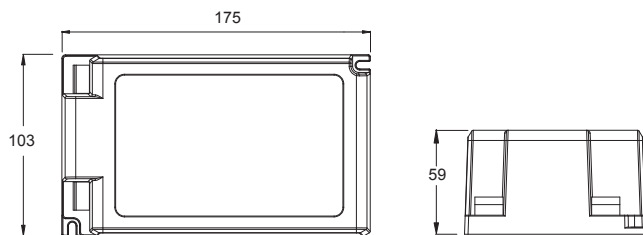
HC01100i / E27



HC01100i / E40



CP010200 (for HC01200x)

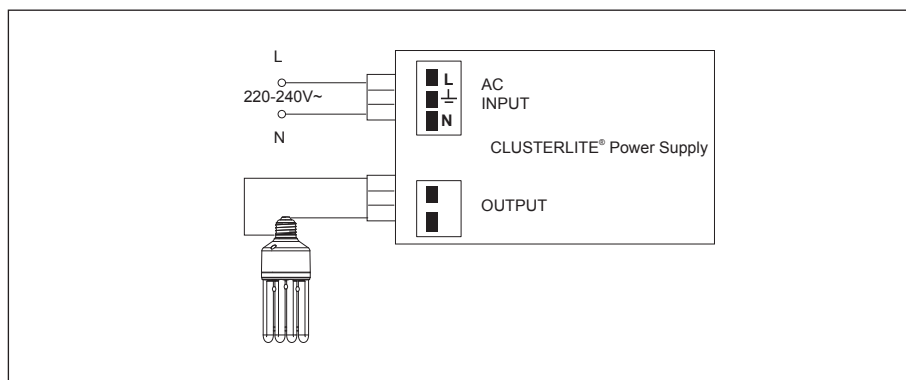


* Measurements in mm

*Measurements in mm

Wiring Diagram for CLUSTERLITE® with Power Supply

CLUSTERLITE® Model	HC01200x
CLUSTERLITE® Power Supply Model	CP010200



Remarks:

- All tests are performed at ambient temperature of +45°C for enclosed fixtures with appointed CLUSTERLITE® power supply under standardised laboratory conditions
- Lumen output and lux may vary at different colour temperatures
- The CLUSTERLITE® series with power supply is categorised as "Other Lamps" as defined by RoHS directives
- The CLUSTERLITE® series is designed for commercial and industrial use only
- The above information is subject to changes without prior notice
- Please read the instructions manual carefully before installation

CLUSTERLITE® GLOBE



Amalgam Technology
No Mercury Hazard



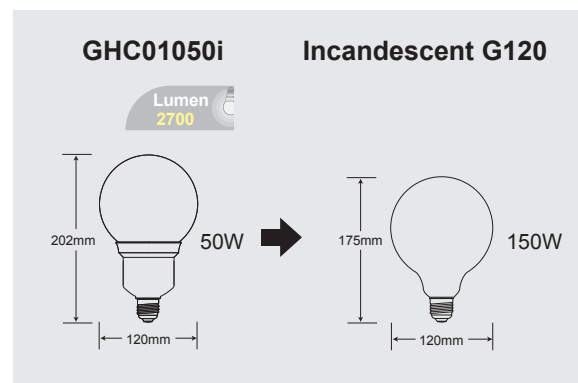
GHC01050i
E27 / 50W

The MEGAMAN® CLUSTERLITE® GLOBE is specifically designed to replace the 250W Incandescent Globe. This glass-covered high-wattage CFL features an exceptionally long lamp life with extraordinary energy-savings while producing phenomenal light output.

Product Features:

- Replaces Incandescent G120
- Saves 80% more energy
- Produced with silicone protection for extra safety
- Lamp life of 15,000 hours

Line Drawings for CLUSTERLITE® GLOBE

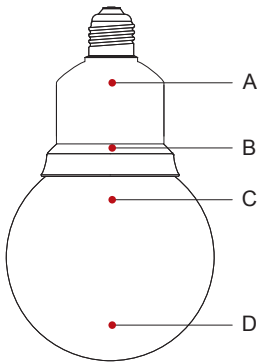


Specifications

Model No.	GHC01050i
Mains Voltage (V)	220~240
Mains Frequency (Hz)	50/60
Lamp Wattage (W)	50
Rated Lamp Life (Hrs)	15000
Initial Lumen Output (lm)	2700
Luminous Efficacy (lm/W)	54
SDCM	<5
Operating Temperature (°C)	-40 ~ +60
Energy Label Classification	B
Lamp Base	E27
Max. Run-up Time to Reach 80% Lumen Output at 25°C (s)	150
Colour Rendering (Ra)	82
Colour Temperature (K)	2700K 4000K 6500K
Glass Tube Diameter (mm)	8
Glass Tube Shape	2C
Diameter (mm)	120
Length (mm)	202
Weight (g)	410

Integrated Ballast

Maximum Temperature Declaration



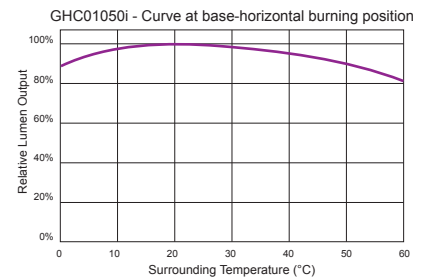
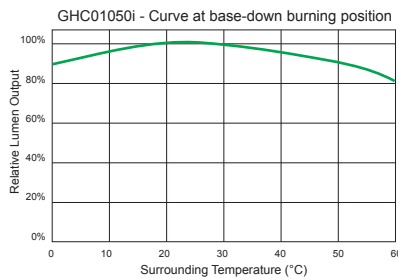
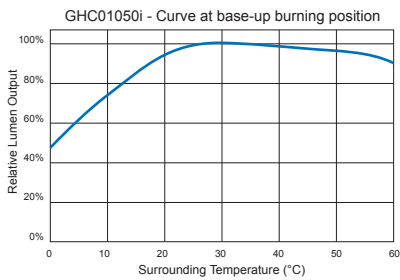
	A	B	C	D
Max.	155°C	155°C	600°C	600°C

Test Conditions

- Lamps in base-up position
- Voltage: 254.4V~ (Rated Voltage x 1.06)
- 25°C ambient temperature, draught free air

Relative Lumen Output Vs. Temperature

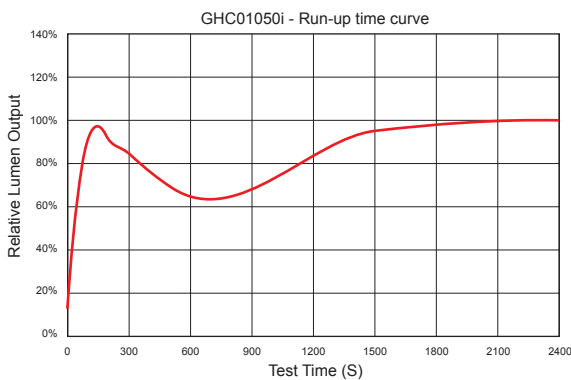
50W CLUSTERLITE® GLOBE (with Integrated Ballast)



Optimum temperature performance: +45°C

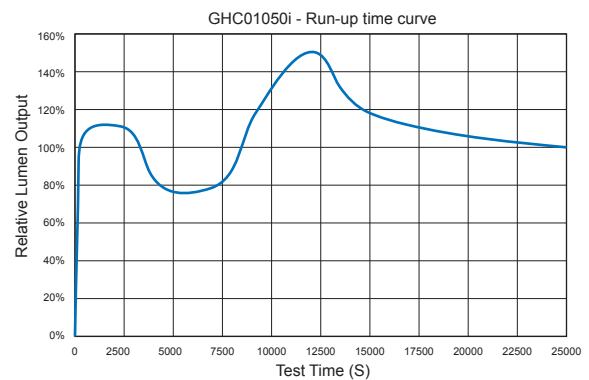
Run-up Time

50W CLUSTERLITE® GLOBE (with Integrated Ballast)



— Test Conditions:

- Ambient temperature: +45°C
- Run-up time: 81 sec. to reach 80% Lumen Output



— Test Conditions:

- Ambient temperature: -20°C
- Run-up time: 305 sec. to reach 80% Lumen Output