METALARC® PULSE START

High Lumen Maintenance, Reduced Color Shift, Premium Metal Halide Lamps



SYLVANIA METALARC® PULSE START 175, 200, 250, 320, 320/350. 350/400, 400, 750 and 1000 watt lamps provide less color shift, high lumen maintenance and a long life. Their premium performance provides opportunities for higher maintained illumination levels and substantial energy savings. Additional increases in optical efficiency may be gained by fixture designs using compact outer jacket configurations. All high wattage pulse start lamps, 200W-1000W, are lead free.

SYLVANIA METALARC PULSE START lamps combine new metal halide lamp technology with proven ignitor technology. The result is a more transparent arc tube over life yielding less color shift and high lumen maintenance.

Key Features & Benefits

- METALARC PULSE START Lamps
- Excellent lumen maintenance
- Quicker hot restrike*
- Long average rated life

175 Watt PULSE START

- 50% longer life than standard 175 watt
- 21% higher initial lumens and >50% higher mean lumens than standard product
- Available in universal operating position

200 Watt PULSE START

- 20% energy savings over 250 watt lamp
- Available with Compact ET23.5 version for higher luminaire efficiency

250 Watt PULSE START

- 20,000 hour life rating for MS types (doubles the life of standard 250 watt)
- MP type has 50% longer life than standard 250 watt
- Available with PRO-TECH® design for open fixture use
- Available in universal operating position

320 Watt PULSE START

- 100 initial lumens per watt for clear lamps
- May be operated base-up through horizontal
- Compact ED28 size allows higher luminaire efficiency

320/350 Watt PULSE START

- Available in PRO-TECH design for open fixture use
- Lamp can be operated on 320 or 350 watt ballast

350/400 Watt PULSE START

- Incorporates PRO-TECH design for open fixture use
- Lamp can be operated on 350 or 400 watt ballast

400 Watt PULSE START

- 24% higher mean lumens than the M400/U and 16% higher mean lumens than the MS400/BU-ONLY
- Less color shift over lamp life*
- Available with Compact ED28 version for higher luminaire efficiency
- Available in universal operating position

750 Watt PULSE START

- 25% energy savings over standard 1000 watt metal halide
- Compact BT37 outer jacket

1000 Watt PULSE START

 Compact BT37 outer jacket Available in universal operating

*Compared to standard metal halide lamps.

Product Offering

*See Notes Section for more fixture information

Product	Lamp Finish	Fixture Type
M175/PS/U/ED28	Clear	Enclosed fixture only
MS175/PS/BU-ONLY/ED28	Clear & Coated	Enclosed fixture only
MS175/PS/BU-ONLY/MED	Clear & Coated	Enclosed fixture only
MS200/PS/BU-ONLY/ET23.5	Clear	Enclosed fixture only
MS200/PS/BU-ONLY/ED28	Clear & Coated	Enclosed fixture only
MP250/PS/BU-ONLY	Clear & Coated	Open or enclosed
MS250/PS/BU-ONLY/ED28	Clear & Coated	Enclosed fixture only
M250/PS/U/ED28	Clear	Enclosed fixture only
MS320/PS/BU-HOR/ED28	Clear & Coated	Enclosed fixture only

Product Lamp Finish **Fixture Type** MP320/350/PS/BU-ONLY/BT28 Clear & Coated Open or enclosed MP350/400/PS/BU-ONLY Clear & Coated Open or enclosed MS400/PS/BU-ONLY/ED28 Clear Enclosed fixture only MS400/PS/BD-ONLY/ED28 Clear Enclosed fixture only MS400/PS/BU-ONLY/ED37 Clear & Coated Open or enclosed* M400/PS/U//ED28 Clear Enclosed fixture only M400/PS/U/ED37 Clear Enclosed fixture only Enclosed fixture only MS750/PS/BU-HOR/BT37 Clear & Coated M1000/U/PS/BT37 Clear Enclosed fixture only



position

Application Information

Applications

- Ambient lighting: Industrial and Commercial
- Canopy lighting
- Flood lighting
- Parking lots
- Security lighting

Application Notes

Operating orientation: Base-up only or base down only within 15° of vertical. 320W and 750W lamps may be operated base-up through horizontal. M250/PS/U/ED28, M400/PS/U/ ED37, M400/PS/U/ED28 and M1000/U/PS/BT37 may be operated in any operating position.

Socket Information

Lamps operate in standard mogul HID sockets rated to withstand 4000 volt pulses. Exclusionary mogul sockets are recommended for the METALARC PRO-TECH (MP) versions.

Ballast Information

All lamps will operate on ANSI Pulse Start ballasts with ignitors for metal halide lamps as noted in the Ordering and Specification Information section (page 3 of this PIB).

Fixtures

Consult your local fixture agent for available fixtures.

Lamp Comparison

Lamp Type	Initial Lumens	Mean Lumens	Hot Restrike	Average Rated Life (hrs.)
400 Watt PULSE START	42,000	31,000	5 to 7 min.	20,000
MS400/PS/BU-ONLY/ED37				
400 Watt SUPER METALARC	42,000	26,000	7 to 12 min.	20,000
MS400/BU-ONLY/ED37				
400 Watt Standard	36,000	23,500	7 to 12 min.	20,000

24% higher mean lumens than the standard 400 Watt METALARC lamps

• 50% longer average rated life when operated on a 120-hour cycle - average rated life of 30,000 hours

Installed Savings

Lamp Type	Watts	Number of Lamps	Energy Cost per Year	Savings per Year
M400/U/ED37	400	500	\$179,536	\$0
MP350/400/PS/BU-ONLY	350	500	\$156,800	\$22,736

Lowers energy costs

• 5600 hours/year, \$0.14 kWh; 458W per fixture for the 400W lamp, 400W per fixture for the 350W lamp.

Specification Data

Catalog #	Туре
Project	
Project Comments	
Prepared by	

Ordering Information

Number Abbreviation Watts Finish Built Base Code Life (trs.) Lumens Lumens CRI Temp (LPW) 64171 MS175/CPS/BU-ONLY/MED 175 Cleart ED17 E26 M152/E1 15,000 15,000 12,800 65 4000K 100 64170 MS175/CPS/BU-ONLY/MED 175 Cleart ED28 E39 M152/E1 15,000 12,800 65 4000K 820 64434 M175/PS/BU-ONLY 175 Cleart ED28 E39 M156/E1 15,000 12,800 66 4000K 820 64434 MS200/PS/BU-ONLY 250 Cleart ET28 EX39 M153/O1 15,000 22,500 17,000 66 4000K 84 64447 MS20/PS/BU-ONLY 250 Cleart ED28 E39 M153/O1 15,000 21,000 15,000 70 4000K 84 64447 MS20/PS/BU-ONLYED28 250 Cleart ED28	Item	Ordering	Wette	Finish	Duth	Dees	ANSI2	Average Rated	Initial	Mean	0.01	Color	Lamp Efficacy
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*64043 formerly 64319, 64044 formerly 64838, 64046 formerly 64320, 64047 formerly 64578, 64048 formerly 64617, 64049 formerly 64507, 64050 formerly 64646, 64051 formerly 64188, 64052 formerly 64189, 64053 formerly 64191, 64054 formerly 64321, 64055 formerly 64525, 64056 formerly 64527

Notes:

1. Based on 10 hrs/start operating cycle. On 120 hrs/start, life rating increases from 20,000 to 30,000 hours and mean lumen point is at 12,000 hrs.

2. For lamps with 2 ANSI codes, the first is the new ANSI code and the second is the original code.

3. When operated on ballasts having a sustaining voltage less than 310V, lamp life may be significantly reduced.

4. Contact your local SYLVANIA sales representative for availability.

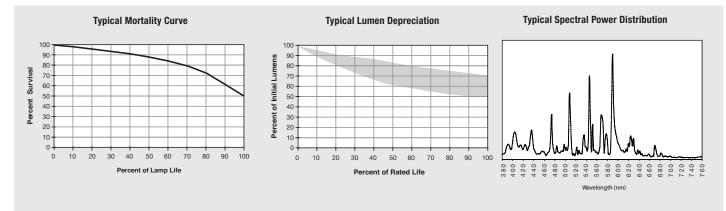
5. When operated on ballasts having a sustaining voltage less than 270V, lamp life may be significantly reduced.

6. For lamp wattages of 360W and greater, it is recommended that lampholders with nickel-plated copper alloy center contacts (with spring) should be used rather than electrical contacts made of stainless steel. E = Lamps classified as E-type are to be used ONLY in suitably enclosed luminaires. See lamp warning.

O = Lamps classified as O-type, comply with ANSI standard C78.389 for containment testing and may be used in open luminaires. See lamp warning.
S = When operated within 15 degrees of vertical, this lamp may be operated in an open luminaire provided the installation is not near people or flammable or combustible material, otherwise it must be operated in a suitably enclosed luminaire. See lamp warning.

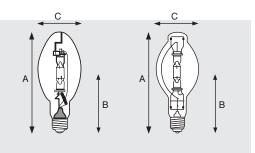
Ordering Guide								
MS	320	1	_	1	PS	1	BU-ONLY	
M = METALARC	Wattage:		Finish:		PULSE		BU-ONLY = Base up only	
Metal Halide	175, 200, 250,		= Clear		START		U = Universal	
S = SUPER high output	320, 320/350,		C = Coated				BD-ONLY = Base down only	
P = METALARC PRO-TECH®	350/400, 400,						BU-HOR = Base up - Horizontal	
open fixture rated	750 or 1000 watts							

Technical Information



Lamp Dimensions

Ordering	(A)	(B)	(C)
Abbreviation	MOL	LCL	Bulb Diameter
ED17	5"	3"	2-1/8"
ET23.5	6-29/32"	4-1/2"	2-15/16"
BT28/ED28	8-5/16"	5"	3-1/2"
BT37/ED37	11-1/2"	7"	4-5/8"



Sample Specification

400 Watt: Lamp(s) shall be (a) 400W METALARC[®] PULSE START lamp(s) exhibiting initial lumens of 42,000 with a 74% mean lumen maintenance and capable of operating on a M155/M135 ballast. Lamp construction shall include a lead-free welded base with a maximum temperature of 250°C.

Safety Information

WARNING! THESE LAMPS CAN CAUSE SERIOUS SKIN BURN AND EYE INFLAMMATION FROM SHORT-WAVE ULTRAVIOLET RADIATION IF THE OUTER ENVELOPE (GLASS BULB) OF THE LAMP IS BROKEN OR PUNCTURED. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Lamps that will automatically extinguish when the outer envelope is punctured or broken are commercially available from SYLVANIA Products Inc. THESE LAMPS CONFORM TO FEDERAL STANDARD 21 CFR 1040.30 in the U.S. AND SOR/80-381 in Canada.

LEDVANCE LLC 200 Ballardvale Street Wilmington, MA 01887 USA Phone 1-800-LIGHTBULB (1-800-544-4828) www.sylvania.com

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