# 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
64170     MS175/C/CP/S/U-DNLYMED     175     Coated     ED17     E26     M152/E <sup>5</sup> 15,000     16,600     12,500     70     3700K     95       64043*     M175/F/CP/S/U-D28     175     Clear     ED28     E39     M152/E <sup>5</sup> 12,000V     14,400V     10,000V     66     4000K     82V       64815     MS175/FS/BU-ONLYED28     Clear     ED28     E39     M136/E <sup>5</sup> 15,000     13,200     65     4200K     85       64044     MS200/PS/BU-ONLYED24     200     Clear     ED28     E39     M136/E <sup>5</sup> 15,000     13,200     65     4200K     95       64047     MS250/PS/BU-ONLY     250     Clear     ED28     E39     M133/0 <sup>5</sup> 15,000     21,000     16,000     70     4000K     84       64047     MS250/PS/BU-ONLYE28     250     Clear     ED28     E39     M153/E <sup>2</sup> 20,000     21,000     15,500     70     3600K     88       64046*     MS250/PS/BU-ONLYE28     250     Clear     ED28				-							-		
64043*     M152/FS/UED28     175     Clear     ED28     E39     M152/F     12,000V     14,400V     10,000V     65     4000K     82V       64815     MS175/FS/BU-ONLY*     175     Clear     ED28     E39     M152/F     15,000     13,000     65     4000K     83       64434     MS200/FS/BU-ONLY*ED28*     200     Clear     ED28     E39     M136/E     15,000     13,000     65     4000K     85       64749     MP250/FS/BU-ONLY     250     Clear     BT28     KX39     M153/P     15,000     21,000     16,000     70     4000K     84       64044*     MS250/FS/BU-ONLYED28     250     Clear     ED28     E39     M153/P     15,000     21,000     15,000     71,000     65     4200K     82       64044*     MS20/PS/BU-ONLYED28     250     Clear     ED28     E39     M153/P     15,000     71,000     65     4200K     82       64044*     MS20/PS/BU-ONLYED28     220     Clear     ED28	-		-			-			1				
0.000H     12.800H     8.300H     73H       64815     MS175/PS/BU-ONLY*     175     Clear     E123.5     E39     M136/E     15.000     17.600     12.800     65     4200K     95       64044     MS200/PS/BU-ONLYET23.5     200     Clear     E123.5     E39     M136/E     15.000     13.000     65     4200K     95       64748     MS200/PS/BU-ONLY     250     Clear     E128     EX39     M130/P     15.000     12.000     16.000     70     4000K     84       64747     MS250//PS/BU-ONLYED28     250     Clear     ED28     E39     M153/P     15.000     17.000     65     4200K     82       64044*     MS250//PS/BU-ONLYED28     250     Clear     ED28     E39     M153/P     10.000     15.000     70     3600K     88       64049*     MS20/PS/BU-HOR/ED28     220     Clear     ED28     E39     M153/P     10.000V     15.000     70     3600K     89       64049*     MS20/PS/BU-HOR/ED28 <td></td>													
E4815     MS175/PS/BU-ONLY*     175     Clear     ED28     E39     M152/E*     15.000     17.500     12.800     65     4000K     100       64837     MS200/PS/BU-ONLY/ED28*     200     Clear     ED28     E39     M136/E*     15.000     19.000     13.300     65     4200K     95       64739     MP250/PS/BU-ONLY     250     Ccated     BT28     EX39     M1530/5*     15.000     21.000     16.000     70     4000K     84       64044*     MS250/PS/BU-ONLY     250     Ccated     BT28     EX39     M1530/5*     15.000     21.000     15.500     70     4000K     84       64046*     MS250/PS/BU-ONLY/ED28     250     Clear     ED28     E39     M153/F*     20.000     21.0001     15.600     70     3600K     88V       64046*     MS250/PS/BU-HOR/ED28     320     Clear     ED28     E39     M153/F*     20.001     19.700H     88H     88H     64391     19.700H     88H     64391     19.700H     894	04045	WIT75/F5/0/LD20	175	Glear	LDZO	L39	WIT52/L-	,	,	,	05	4000K	
E4837     MS200/PS/BU-ONLYTE23.5     200     Clear     FT23.5     E39     M136/E     15.000     19.000     13.300     65     4200K     95       64044*     MS200/PS/BU-ONLYTE28*     200     Clear     BT28     EX39     M133/05*     15.000     19.000     13.300     65     4000K     95       64799     MP250/CPS/BU-ONLY     250     Clear     BT28     EX39     M153/05*     15.000     21.000     16.000     70     4000K     84       64047*     MS250/CPS/BU-ONLYTE28     250     Clear     ED28     E39     M153/25*     20.000     21.500     15.600     70     3600K     88       64046*     MS250/CPS/BU-ONLYTE28     250     Clear     ED28     E39     M154/5*     15.000     21.000V     65     4300K     894       64050*     MS320/PS/BU-IONLY/BT28     320     Clear     ED28     E39     M154/6*     15.000H     19.00V     70     3900K     894     15.000H     19.00V     70     390K     894 <t< td=""><td>6/815</td><td>MS175/PS/BULONI V4</td><td>175</td><td>Clear</td><td>ED28</td><td>E30</td><td>M152/E5</td><td></td><td></td><td></td><td>65</td><td>1000K</td><td></td></t<>	6/815	MS175/PS/BULONI V4	175	Clear	ED28	E30	M152/E5				65	1000K	
E4044*     MS200/PS/BU-ONLYED28*     200     Clear     ED28     E39     M136/E*     15,000     13,500     65     4000K     95       64789     MP250/PS/BU-ONLY     250     Clear     BT28     EX39     M153/0*     15,000     21,000     16,000     70     4000K     84       64/47*     MS250/PS/BU-ONLYED28     250     Coated     BT28     EX39     M153/E*     20,000     21,000     15,000     70     4000K     84       64048*     MS250/PS/BU-ONLYED28     250     Coated     ED28     E39     M153/E*     20,000     21,000V     15,500     70     3600K     86       64048*     MS250/PS/BU-HOR/ED28     250     Coated     ED28     E39     M153/E*     20,000V     30,00V     21,000V     65     3800K     84V       64050*     MS320/PS/BU-HOR/ED28     320     Coated     ED28     E39     M154/E*     20,000V     30,00V     19,00V     70     3900K     84       6439     MP320/350/C/PS/BU-ONLYB128     320 <td></td>													
64789     MP250/PS/BU-ONLY     250     Clear     BT28     EX39     M153/0 <sup>5</sup> 15,000     22,500     17,000     65     4000K     90       64790     MP250/PS/BU-ONLY     250     Cated     BT28     EX39     M153/0 <sup>5</sup> 15,000     21,000     16,000     77,000     65     4200K     84       64047*     MS250/C/PS/BU-ONLYED28     250     Cated     ED28     E39     M153/F <sup>8</sup> 10,000     15,500     70     3600K     88       64048*     MS250/C/PS/BU-HOR/ED28     220     Clear     ED28     E39     M153/F <sup>8</sup> 15,000     11,000H     70     3600K     88       64050*     MS320/PS/BU-HOR/ED28     320     Clear     ED28     E39     M154/F <sup>5</sup> 10,000H     18,000H     19,700H     88     88H       64391     MP320/350/PS/BU-ONLY/BT28     320     Clear     BT28     EX39     M154/0     20,000     28,600     21,000     65     3800K     89       64349     MP320/350/C/PS/BU-ONLY/BT28 320     Ccated													
64790     MP250/C/PS/BU-ONLY     250     Coated     BT28     EX39     MT53/fc <sup>5</sup> 15,000     21,000     16,000     70     4000k     84       64047*     MS250/PS/BU-ONLY/ED28     250     Coated     ED28     E39     MT53/fc <sup>5</sup> 20,000     21,000     15,000     70     4000k     86       64048*     MS250/PS/BU-ONLY/ED28     250     Coated     ED28     E39     MT53/fc <sup>5</sup> 15,000V     21,000V     15,400V     65     3800K     88V       64049*     MS320/PS/BU-HOR/ED28     320     Clear     ED28     E39     MT54/fc <sup>5</sup> 20,000V     30,000V     10,700V     70     3900K     94V       64391     MS320/PS/BU-HOR/ED28     320     Coated     ED28     EX39     MT54/fc <sup>5</sup> 20,000V     30,000V     19,700V     70     3800K     89       64391     MP320/350/PS/BU-ONLY/BT28     320     Clear     BT28     EX39     MT54/fc <sup>5</sup> 20,000     33,600     24,000     65     3800K     89     350     MT31/0 <sup>5</sup>													
64047*     MS250/FS/BU-ONLY/ED28     250     Clear     ED28     E39     M153/E <sup>5</sup> 20,000     21,000     15,500     70     3600K     86       64046*     MS250/C/PS/BU-ONLY/ED28     250     Coated     ED28     E39     M153/E <sup>5</sup> 15,000     21,000     15,400     65     4200K     880V       64046*     MS250/C/PS/BU-HOR/ED28     320     Clear     ED28     E39     M153/E <sup>5</sup> 15,000     21,000V     15,400V     65     3800K     88V       64049*     MS320/PS/BU-HOR/ED28     320     Clear     ED28     E39     M154/E <sup>5</sup> 20,000V     30,000V     10,000H     8400H     88H       64050*     MS320/C/PS/BU-ONLY/BT28     320     Clear     B128     EX39     M154/D <sup>5</sup> 20,000H     18,400H     88H       64349     MP320/350/C/PS/BU-ONLY/BT28     320     Coated     BT28     EX39     M154/D <sup>5</sup> 20,000     27,700     19,000     70     3600K     87       64749     MP320/350/C/PS/BU-ONLY/BT28320     Coated     BT37													
64048*     MS250/C/FS/BU-ONLY/ED28     250     Coated     ED28     E39     M153/E*     20,000     21,500     15,500     70     3600K     88       64046*     M250/U/PS/UED28     250     Clear     ED28     E39     M153/E*     15,000V     15,400V     65     3800K     88V       64049*     MS320/FS/BU-HOR/ED28     320     Clear     ED28     E39     M154/E*     20,000V     30,000V     19,700H     4300K     94V       64050*     MS320/C/FS/BU-HOR/ED28     320     Coated     ED28     E39     M154/E*     20,000V     30,000V     19,700H     70     3900K     94V       64391     MP320/350/FS/BU-ONLY/BT28     320     Coated     BT28     EX39     M154/0     20,000     27,000     65     3800K     86       64349     MP320/350/CPS/BU-ONLY/BT28     320     Coated     BT28     EX39     M131/0*     20,000     27,000     19,000     70     3600K     91       64769     MP350/400/PS/BU-ONLY     350     Clear													
64046*     M250/U/PS/U/ED28     250     Clear     ED28     E39     M153/E <sup>5</sup> 15,000V     21,000V     15,400V     65     3800K     88V       64049*     MS320/PS/BU-H0R/ED28     320     Clear     ED28     E39     M154/E <sup>5</sup> 20,000V     30,000V     21,000V     65     4300K     94V       64050*     MS320/C/PS/BU-H0R/ED28     320     Coated     ED28     E39     M154/E <sup>5</sup> 20,000V     30,000V     19,700V     70     3900K     94V       64391     MP320/350/C/PS/BU-ONLY/BT28     320     Clear     BT28     EX39     M154/0     20,000     28,600     21,000     65     3800K     89       64349     MP320/350/C/PS/BU-ONLY/BT28320     Coated     BT28     EX39     M154/0     20,000     32,000     70     3600K     87       64769     MP350/400/PS/BU-ONLY/BT28320     Coated     BT37     EX39     M131/0 <sup>5</sup> 20,000     32,000     70     3600K     91       64769     MP350/400/C/PS/BU-ONLY     350     Coated					-					,			
12,000H     18,000H     11,000H     76H       64049*     MS320/PS/BU-H0R/ED28     320     Clear     ED28     E39     M154/E <sup>5</sup> 20,000V     30,000V     21,000V     65     4300K     94V       64050*     MS320/C/PS/BU-H0R/ED28     320     Coated     ED28     E39     M154/E <sup>5</sup> 20,000V     30,000V     19,700V     70     3900K     94V       64391     MP320/350/PS/BU-ONLY/BT28     320     Clear     BT28     EX39     M154/C <sup>5</sup> 20,000V     33,500     24,000     65     3600K     89       64349     MP320/350/C/PS/BU-ONLY/BT28320     Coated     BT28     EX39     M154/O     20,000     32,500     24,000     65     3600K     87       64769     MP320/400/PS/BU-ONLY     350     Clear     BT37     EX39     M131/O <sup>5</sup> 20,000     32,000     24,500     65     3700K     94       64770     MP350/400/PS/BU-ONLY     350     Coated     BT37     EX39     M131/O <sup>5</sup> 20,000     32,000     70     3500K <td></td>													
64049*     MS320/PS/BU-HOR/ED28     320     Clear     ED28     E39     M154/E <sup>5</sup> 20,000V     30,000V     21,000V     65     4300K     94V       64050*     MS320/C/PS/BU-HOR/ED28     320     Coated     ED28     E39     M154/E <sup>5</sup> 20,000V     19,700H     88H       64391     MP320/350/PS/BU-ONLY/BT28     320     Clear     BT28     EX39     M154/C     20,000V     18,400H     88H       64349     MP320/350/C/PS/BU-ONLY/BT28320     Coated     BT28     EX39     M154/O     20,000     27,700     19,000     70     3600K     87       64769     MP350/400/PS/BU-ONLY     350     M131/0 <sup>5</sup> 20,000     32,000     24,000     65     3500K     100       64770     MP350/400/PS/BU-ONLY     350     Clear     BT37     EX39     M131/0 <sup>5</sup> 20,000     29,000     29,000     70     3600K     91       64769     MP350/400/PS/BU-ONLY     350     Clear     EX39     M131/0 <sup>5</sup> 20,000     20,000     70     3500K	0-0-0	WI230/0/13/0/ED20	200	olcal	LDZO	LUU	MITOO/L	,	,	,	00	50001	
15,000H     28,000H     19,700H     88H       64050*     MS320/C/PS/BU-HOR/ED28     320     Coated     ED28     E39     M154/E*     20,000V     30,000V     19,700V     70     3900K     94V       64391     MP320/350/PS/BU-ONLY/BT28     320     Clear     BT28     EX39     M154/O     20,000     28,600     21,000     65     3800K     89       64349     MP320/350/C/PS/BU-ONLY/BT28320     Coated     BT28     EX39     M154/O     20,000     23,000     24,000     65     3600K     96       64769     MP350/400/PS/BU-ONLY     350     Clear     BT37     EX39     M1310/b     20,000     32,000     24,500     65     3500K     100       64770     MP350/400/C/PS/BU-ONLY     350     Coated     BT37     EX39     M1310/b     20,000     32,000     23,000     70     3500K     91       64770     MP350/400/C/PS/BU-ONLY     350     Coated     BT37     EX39     M1310/b     20,000     32,000     70     3500K	64040*	MS320/PS/RU_HOR/ED28	320	Clear	ED28	E30	M154/E5	1			65	1300K	
64050*     MS320/C/PS/BU-HOR/ED28     320     Coated     ED28     E39     M154/E <sup>5</sup> 20,000V     30,000V     19,700V     70     3900K     94V       64391     MP320/350/PS/BU-ONLY/BT28     320     Clear     BT28     EX39     M154/0     20,000     28,600     21,000     65     3600K     96       64349     MP320/350/C/PS/BU-ONLY/BT28320     Coated     BT28     EX39     M154/0     20,000     32,500     24,000     65     3600K     96       64769     MP320/350/C/PS/BU-ONLY     350     Clear     BT37     EX39     M131/0 <sup>5</sup> 20,000     32,000     22,000     70     3600K     91       64769     MP350/400/PS/BU-ONLY     350     Clear     BT37     EX39     M131/0 <sup>5</sup> 20,000     32,000     24,500     65     3500K     100       64770     MP350/400/PS/BU-ONLY     350     Coated     BT37     EX39     M131/0 <sup>5</sup> 20,000     32,000     70     3300K     98       64055*     MS400/PS/BU-ONLY/ED28     400<	04043	W3320/13/D0-11011/ED20	520	Glean	LDZO	L09	WI104/L				05	43000	
64391     MP320/350/PS/BU-ONLY/BT28     320     Clear     BT28     EX39     M154/0     20,000     28,000H     18,400H     88H       64349     MP320/350/C/PS/BU-ONLY/BT28 320     Coated     BT28     EX39     M154/0     20,000     27,700     19,000     65     3600K     89       64769     MP320/350/C/PS/BU-ONLY/BT28320     Coated     BT28     EX39     M154/0     20,000     27,700     19,000     70     3600K     87       64769     MP350/400/PS/BU-ONLY     350     Clear     BT37     EX39     M131/0 <sup>5</sup> 20,000     32,000     24,500     65     3500K     91       64770     MP350/400/C/PS/BU-ONLY     350     Coated     BT37     EX39     M131/0 <sup>5</sup> 20,000     32,000     23,000     70     3500K     91       64052*     MS400/PS/BU-ONLY/ED28     400     Clear     ED28     E39     M155/2     20,000     32,500     65     4100K     100       64055*     MS400/PS/BU-ONLY/ED28     400     Clear     ED37 <td< td=""><td>6/050*</td><td>MS320/C/PS/BULHOB/ED28</td><td>320</td><td>Costed</td><td>ED28</td><td>E30</td><td>M154/F5</td><td></td><td></td><td></td><td>70</td><td>3000K</td><td></td></td<>	6/050*	MS320/C/PS/BULHOB/ED28	320	Costed	ED28	E30	M154/F5				70	3000K	
64391     MP320/350/PS/BU-ONLY/BT28     320     Clear     BT28     EX39     M154/0     20,000     28,600     21,000     65     3800K     89       64349     MP320/350/C/PS/BU-ONLY/BT28320     Coated     BT28     EX39     M154/0     20,000     33,500     24,000     65     3600K     96       64769     MP320/350/C/PS/BU-ONLY     350     Clear     BT37     EX39     M131/0 <sup>5</sup> 20,000     32,000     22,000     65     3700K     94       64770     MP350/400/C/PS/BU-ONLY     350     Clear     BT37     EX39     M131/0 <sup>5</sup> 20,000     33,000     24,500     65     3700K     94       64770     MP350/400/C/PS/BU-ONLY     350     Coated     BT37     EX39     M155/0     20,000     32,000     23,000     70     3500K     91       64055*     MS400/PS/BU-ONLY/ED28     400     Clear     ED28     E39     M155/E     20,000     40,000     32,500     65     4100K     100       64055*     MS400/PS/BU-ONLY/ED37	04030	M0320/0/10/00 101/2020	520	obalcu	LDZO	LUU	WI104/L	- ,	/	-,	10	00000	
350     M131/0 <sup>5</sup> 20,000     33,500     24,000     65     3600K     96       64349     MP320/350/C/PS/BU-ONLY/BT28320     Coated     BT28     EX39     M154/0     20,000     27,700     19,000     70     3600K     87       64769     MP350/400/PS/BU-ONLY     350     Clear     BT37     EX39     M131/0 <sup>5</sup> 20,000     32,000     24,500     65     3500K     100       64770     MP350/400/C/PS/BU-ONLY     350     Coated     BT37     EX39     M131/0 <sup>5</sup> 20,000     32,000     24,500     65     3500K     100       64770     MP350/400/C/PS/BU-ONLY     350     Coated     BT37     EX39     M131/0 <sup>5</sup> 20,000     32,000     70     3500K     91       64052*     MS400/PS/BU-ONLY/ED28     400     Clear     ED28     E39     M155/E     20,000     32,500     65     4100K     100       64055*     MS400/PS/BU-ONLY/ED28     400     Clear     ED28     E39     M155/E     20,000     35,700     105	6/301	MP320/350/PS/BULONI V/BT28	320	Clear	BT28	EX30	M154/0				65	3800K	
64349     MP320/350/C/PS/BU-ONLY/BT28320     Coated 350     BT28 350     EX39 M154/0     M154/0 20,000     27,700     19,000     70     3600K     87       64769     MP350/400/PS/BU-ONLY     350     Clear     BT37     EX39     M131/0 <sup>5</sup> 20,000     32,000     22,000     70     3600K     91       64769     MP350/400/PS/BU-ONLY     350     Clear     BT37     EX39     M131/0 <sup>5</sup> 20,000     32,000     23,000     70     3600K     91       64770     MP350/400/C/PS/BU-ONLY     350     Coated     BT37     EX39     M131/0 <sup>5</sup> 20,000     32,000     70     3500K     91       64052*     MS400/PS/BU-ONLY/ED28     400     Clear     ED28     E39     M155/C     20,000     32,500     65     4100K     100       64055*     MS400/PS/BU-ONLY/ED28     400     Clear     ED28     E39     M155/S     30,000'     42,000     31,000'     65     4100K     100       64055*     MS400/PS/BU-ONLY/ED37     400     Clear	04001	WI 520/550/1 5/60 0NEI/6120	520		DIZO	LX00							
350     M131/0 <sup>5</sup> 20,000     32,000     22,000     70     3600K     91       64769     MP350/400/PS/BU-ONLY     350     Clear     BT37     EX39     M131/0 <sup>5</sup> 20,000     33,000     24,500     65     3700K     94       64770     MP350/400/C/PS/BU-ONLY     350     Coated     BT37     EX39     M155/0     20,000     40,000     29,500     65     3500K     100       64770     MP350/400/C/PS/BU-ONLY/ED28     400     Clear     ED28     E39     M155/0     20,000     39,000     28,000     70     3300K     98       64052*     MS400/PS/BU-ONLY/ED28     400     Clear     ED28     E39     M155/E     20,000     40,000     32,500     65     4100K     100       64053*     MS400/PS/BU-ONLY/ED28     400     Clear     ED37     E39     M155/S     30,000'     42,000     31,000'     65     4000K     105       64056*     MS400/C/PS/BU-ONLY/ED37     400     Coated     ED37     E39     M155/S	64349	MP320/350/C/PS/BU-ONLY/BT2	8320		BT28	EX30							
64769     MP350/400/PS/BU-ONLY     350     Clear 400     BT37     EX39     M131/05     20,000     33,000     24,500     65     3700K     94       64770     MP350/400/C/PS/BU-ONLY     350     Coated     BT37     EX39     M131/05     20,000     40,000     29,500     65     3500K     100       64770     MP350/400/C/PS/BU-ONLY     350     Coated     BT37     EX39     M131/05     20,000     32,000     70     3500K     91       64052*     MS400/PS/BU-ONLY/ED28     400     Clear     ED28     E39     M155/E     20,000     40,000     32,500     65     4100K     100       64055*     MS400/PS/BU-ONLY/ED37     400     Clear     ED37     E39     M155/S     30,000'     42,000     35,700     105       64056*     MS400/C/PS/BU-ONLY/ED37     400     Coated     ED37     E39     M155/S     30,000'     42,000     35,700     105       64051*     M400/PS/U/ED28     400     Clear     ED28     E39     M15	0-0-0		0020		DIZO	LX00		,	,	,			
400     M155/0     20,000     40,000     29,500     65     3500K     100       64770     MP350/400/C/PS/BU-ONLY     350     Coated     BT37     EX39     M131/0 <sup>5</sup> 20,000     32,000     23,000     70     3500K     91       64052*     MS400/PS/BU-ONLY/ED28     400     Clear     ED28     E39     M155/C     20,000     32,000     32,000     70     3300K     98       64053*     MS400/PS/BD-ONLY/ED28     400     Clear     ED28     E39     M155/C     20,000     40,000     32,500     65     4100K     100       64055*     MS400/PS/BD-ONLY/ED28     400     Clear     ED37     E39     M155/S     30,000'     42,000     31,000'     65     4000K     105       64056*     MS400/C/PS/BU-ONLY/ED37     400     Coated     ED37     E39     M155/S     30,000'     42,000     35,700     105       64051*     M400/PS/U/ED37     400     Clear     ED37     E39     M155/E     20,000V     36,000V	64769	MP350/400/PS/BU-0NLY	350		BT37	EX30							
64770     MP350/400/C/PS/BU-ONLY     350 400     Coated 400     BT37     EX39     M131/0 <sup>5</sup> M155/0     20,000     32,000     23,000     70     3500K     91       64052*     MS400/PS/BU-ONLY/ED28     400     Clear     ED28     E39     M155/E     20,000     39,000     32,500     65     4100K     100       64053*     MS400/PS/BD-ONLY/ED28     400     Clear     ED28     E39     M155/E     20,000     40,000     32,500     65     4100K     100       64055*     MS400/PS/BU-ONLY/ED37     400     Clear     ED37     E39     M155/S     30,000'     42,000     31,000'     65     4000K     105       64056*     MS400/PS/BU-ONLY/ED37     400     Coated     ED37     E39     M155/S     30,000'     42,000     35,700     105       64051*     M400/PS/U/ED28     400     Clear     ED28     E39     M155/E     20,000V     36,000V     25,500V     65     4000K     90V       64054*     M400/PS/U/ED37     400	04700		000		DIOI	LNUU							
400     M155/0     20,000     39,000     28,000     70     3300K     98       64052*     MS400/PS/BU-ONLY/ED28     400     Clear     ED28     E39     M155/E     20,000     40,000     32,500     65     4100K     100       64053*     MS400/PS/BD-ONLY/ED28     400     Clear     ED28     E39     M155/E     20,000     40,000     32,500     65     4100K     100       64055*     MS400/PS/BU-ONLY/ED37     400     Clear     ED37     E39     M155/S     30,000'     42,000     31,000'     65     4000K     105       64056*     MS400/C/PS/BU-ONLY/ED37     400     Coated     ED37     E39     M155/S     30,000'     42,000     35,700     105       64056*     MS400/PS/U/ED28     400     Clear     ED28     E39     M155/S     20,000V     36,000V     25,500V     65     4000K     90V       64054*     M400/PS/U/ED37     400     Clear     ED37     E39     M155/E     20,000V     36,000V     25	64770	MP350/400/C/PS/BU-ONLY	350		BT37	EX39							
64052*     MS400/PS/BU-ONLY/ED28     400     Clear     ED28     E39     M155/E     20,000     40,000     32,500     65     4100K     100       64053*     MS400/PS/BD-ONLY/ED28     400     Clear     ED28     E39     M155/E     20,000     40,000     32,500     65     4100K     100       64055*     MS400/PS/BU-ONLY/ED37     400     Clear     ED37     E39     M155/S     30,000'     42,000     31,000'     65     4000K     105       64056*     MS400/C/PS/BU-ONLY/ED37     400     Coated     ED37     E39     M155/S     30,000'     42,000     35,700     105       64056*     MS400/PS/U/ED28     400     Clear     ED28     E39     M155/E     20,000V     36,000V     25,500V     65     4000K     90V       64054*     M400/PS/U/ED37     400     Clear     ED37     E39     M155/E     20,000V     36,000V     25,500V     65     4000K     90V       64787     MS750/PS/BU-HOR/BT37     750     Clear	01110			ooutou	DIOI	EXOU		,	,	,			
64053*     MS400/PS/BD-ONLY/ED28     400     Clear     ED28     E39     M155/E     20,000     40,000     32,500     65     4100K     100       64055*     MS400/PS/BU-ONLY/ED37     400     Clear     ED37     E39     M155/S     30,000'     42,000     31,000'     65     4000K     105       64056*     MS400/C/PS/BU-ONLY/ED37     400     Coated     ED37     E39     M155/S     30,000'     42,000     35,700     105       64056*     MS400/C/PS/BU-ONLY/ED37     400     Clear     ED28     E39     M155/S     30,000'     42,000     35,700     105       64051*     M400/PS/U/ED28     400     Clear     ED28     E39     M155/E     20,000V     36,000V     25,500V     65     4000K     90V       64054*     M400/PS/U/ED37     400     Clear     ED37     E39     M155/E     20,000V     36,000V     25,500V     65     4000K     90V       64787     MS750/PS/BU-HOR/BT37     750     Clear     BT37     E39 <td>64052*</td> <td>MS400/PS/BU-0NLY/ED28</td> <td></td> <td>Clear</td> <td>FD28</td> <td>E39</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	64052*	MS400/PS/BU-0NLY/ED28		Clear	FD28	E39							
64055*     MS400/PS/BU-ONLY/ED37     400     Clear     ED37     E39     M155/S     30,000'     42,000     31,000'     65     4000K     105       64056*     MS400/C/PS/BU-ONLY/ED37     400     Coated     ED37     E39     M155/S     30,000'     42,000     31,000'     65     4000K     105       64056*     MS400/C/PS/BU-ONLY/ED37     400     Coated     ED37     E39     M155/S     30,000'     42,000     29,000'     70     3600K     105       64051*     M400/PS/U/ED28     400     Clear     ED28     E39     M155/E     20,000V     36,000V     25,500V     65     4000K     90V       64054*     M400/PS/U/ED37     400     Clear     ED37     E39     M155/E     20,000V     36,000V     25,500V     65     4000K     90V       64054*     M400/PS/U/ED37     400     Clear     ED37     E39     M155/E     20,000V     36,000V     22,400H     78H       64787     MS750/PS/BU-HOR/BT37     750     Clear													
20,000     42,000     35,700     105       64056*     MS400/C/PS/BU-ONLY/ED37     400     Coated     ED37     E39     M155/S     30,000'     42,000     29,000'     70     3600K     105       64051*     M400/PS/U/ED28     400     Clear     ED28     E39     M155/E     20,000     36,000V     25,500V     65     4000K     90V       64054*     M400/PS/U/ED37     400     Clear     ED37     E39     M155/E     20,000V     36,000V     25,500V     65     4000K     90V       64054*     M400/PS/U/ED37     400     Clear     ED37     E39     M155/E     20,000V     36,000V     25,500V     65     4000K     90V       64787     MS750/PS/BU-HOR/BT37     750     Clear     BT37     E39     M149/E <sup>3</sup> 20,000V     78,000V     67,000V     65     4000K     91H       64822     MS750/C/PS/BU-HOR/BT37     750     Coated     BT37     E39     M149/E <sup>3</sup> 20,000V     75,000V     65,000H     910V													
64056*     MS400/C/PS/BU-ONLY/ED37     400     Coated     ED37     E39     M155/S     30,000'     42,000     29,000'     70     3600K     105       64051*     M400/PS/U/ED28     400     Clear     ED28     E39     M155/E     20,000     36,000V     25,500V     65     4000K     90V       64054*     M400/PS/U/ED37     400     Clear     ED37     E39     M155/E     20,000V     36,000V     25,500V     65     4000K     90V       64054*     M400/PS/U/ED37     400     Clear     ED37     E39     M155/E     20,000V     36,000V     25,500V     65     4000K     90V       64787     MS750/PS/BU-HOR/BT37     750     Clear     BT37     E39     M149/E <sup>3</sup> 20,000V     78,000V     65,000H     91H       64822     MS750/C/PS/BU-HOR/BT37     750     Coated     BT37     E39     M149/E <sup>3</sup> 20,000V     75,000V     65,000H     91H       64351     M1000/U/PS/BT37     1000     Clear     BT37     E39	01000		100	oloui	LDOI	LOO	11100/0	,	,		00	100011	
20,000     42,000     35,700     105       64051*     M400/PS/U/ED28     400     Clear     ED28     E39     M155/E     20,000V     36,000V     25,500V     65     4000K     90V       64054*     M400/PS/U/ED37     400     Clear     ED37     E39     M155/E     20,000V     36,000V     25,500V     65     4000K     90V       64787     MS750/PS/BU-HOR/BT37     750     Clear     BT37     E39     M149/E3     20,000V     78,000V     65,000H     91H       64822     MS750/C/PS/BU-HOR/BT37     750     Coated     BT37     E39     M149/E3     20,000V     75,000V     63,000H     91H       64351     M1000/U/PS/BT37     1000     Clear     BT37     E39     M149/E3     20,000V     75,000V     63,000H     87H       64351     M1000/U/PS/BT37     1000     Clear     BT37     E39     M141/E     15,000V     110,000V     96,000V     65     3800K     110V	64056*	MS400/C/PS/BU-ONLY/ED37	400	Coated	FD37	F39	M155/S				70	3600K	
64051*     M400/PS/U/ED28     400     Clear     ED28     E39     M155/E     20,000V     36,000V     25,500V     65     4000K     90V       64051*     M400/PS/U/ED37     400     Clear     ED37     E39     M155/E     20,000V     36,000V     25,500V     65     4000K     90V       64054*     M400/PS/U/ED37     400     Clear     ED37     E39     M155/E     20,000V     36,000V     25,500V     65     4000K     90V       64787     MS750/PS/BU-HOR/BT37     750     Clear     BT37     E39     M149/E3     20,000V     78,000V     67,000V     65     4000K     104V       9,000H     68,000H     56,000H     91H     91H     9,000H     68,000H     56,000H     91H       64822     MS750/C/PS/BU-HOR/BT37     750     Coated     BT37     E39     M149/E3     20,000V     75,000V     63,000H     50,000H     87H       64351     M1000/U/PS/BT37     1000     Clear     BT37     E39     M141/E     15	04000	MOTOR OF OF OF OF ONE IN EDOT	400	ooutou	LDOI	LUU	100/0				10	00001	
64054*     M400/PS/U/ED37     400     Clear     ED37     E39     M155/E     20,000V     36,000V     25,500V     65     4000K     90V       64787     MS750/PS/BU-HOR/BT37     750     Clear     BT37     E39     M149/E <sup>3</sup> 20,000V     78,000V     67,000V     65     4000K     104V       64787     MS750/PS/BU-HOR/BT37     750     Clear     BT37     E39     M149/E <sup>3</sup> 20,000V     78,000V     67,000V     65     4000K     104V       64822     MS750/C/PS/BU-HOR/BT37     750     Coated     BT37     E39     M149/E <sup>3</sup> 20,000V     75,000V     63,000V     70     3700K     100V       64351     M1000/U/PS/BT37     1000     Clear     BT37     E39     M141/E     15,000V     110,000V     96,000V     65     3800K     110V	64051*	M400/PS/U/ED28	400	Clear	FD28	E39	M155/F				65	4000K	
64054*     M400/PS/U/ED37     400     Clear     ED37     E39     M155/E     20,000V     36,000V     25,500V     65     4000K     90V       64787     MS750/PS/BU-HOR/BT37     750     Clear     BT37     E39     M149/E <sup>3</sup> 20,000V     78,000V     67,000V     65     4000K     104V       64822     MS750/C/PS/BU-HOR/BT37     750     Coated     BT37     E39     M149/E <sup>3</sup> 20,000V     75,000V     63,000V     70     3700K     100V       64351     M1000/U/PS/BT37     1000     Clear     BT37     E39     M141/E     15,000V     70,000V     65     3800K     110V	01001	MITOON OF CHEBEO	100	oloui	LDLO	LOO	MITOO/L	,	'		00	100011	
64787     MS750/PS/BU-HOR/BT37     750     Clear     BT37     E39     M149/E <sup>3</sup> 20,000V     78,000V     67,000V     65     4000K     104V     91H       64822     MS750/C/PS/BU-HOR/BT37     750     Coated     BT37     E39     M149/E <sup>3</sup> 20,000V     78,000V     67,000V     65     4000K     104V     91H       64822     MS750/C/PS/BU-HOR/BT37     750     Coated     BT37     E39     M149/E <sup>3</sup> 20,000V     75,000V     63,000V     70     3700K     100V       64351     M1000/U/PS/BT37     1000     Clear     BT37     E39     M141/E     15,000V     110,000V     96,000V     65     3800K     110V	64054*	M400/PS/U/ED37	400	Clear	FD37	F39	M155/F				65	4000K	
64787     MS750/PS/BU-HOR/BT37     750     Clear     BT37     E39     M149/E <sup>3</sup> 20,000V     78,000V     67,000V     65     4000K     104V     91H       64822     MS750/C/PS/BU-HOR/BT37     750     Coated     BT37     E39     M149/E <sup>3</sup> 20,000V     78,000V     67,000V     65     4000K     104V     91H       64822     MS750/C/PS/BU-HOR/BT37     750     Coated     BT37     E39     M149/E <sup>3</sup> 20,000V     75,000V     63,000V     70     3700K     100V       64351     M1000/U/PS/BT37     1000     Clear     BT37     E39     M141/E     15,000V     110,000V     96,000V     65     3800K     110V	01001		100	oloui	LDOI	LOO	MITOO/L				00	100011	
9,000H     68,000H     56,000H     91H       64822     MS750/C/PS/BU-HOR/BT37     750     Coated     BT37     E39     M149/E <sup>3</sup> 20,000V     75,000V     63,000V     70     3700K     100V       64351     M1000/U/PS/BT37     1000     Clear     BT37     E39     M141/E     15,000V     110,000V     96,000V     65     3800K     110V	64787	MS750/PS/BU-H0B/BT37	750	Clear	BT37	E39	M149/F3		. ,		65	4000K	-
64822     MS750/C/PS/BU-HOR/BT37     750     Coated     BT37     E39     M149/E <sup>3</sup> 20,000V     75,000V     63,000V     70     3700K     100V       64351     M1000/U/PS/BT37     1000     Clear     BT37     E39     M141/E     15,000V     110,000V     96,000V     65     3800K     110V	5 11 01			01041	2101	200		,	,		00	100010	
9,000H     65,000H     53,000H     87H       64351     M1000/U/PS/BT37     1000     Clear     BT37     E39     M141/E     15,000V     110,000V     96,000V     65     3800K     110V	64822	MS750/C/PS/BU-HOR/BT37	750	Coated	BT37	E39	M149/F3	,			70	3700K	
64351 M1000/U/PS/BT37 1000 Clear BT37 E39 M141/E 15,000V 110,000V 96,000V 65 3800K 110V	JIOLL			000100	2101	200		- ,	- ,	,		0/001	
	64351	M1000/U/PS/BT37	1000	Clear	BT37	E39	M141/F		,		65	3800K	
9.000H 107.800H 86.300H 108H	5.00.			0.04	2.0.	200		9.000H	107.800H	86,300H		000011	108H

\*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.

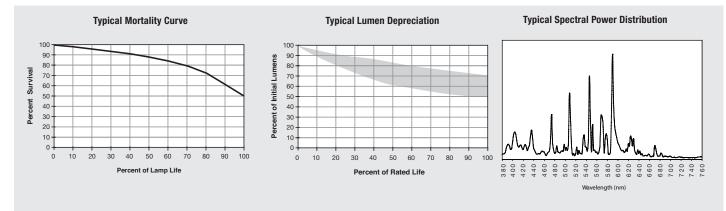
5. When operated on ballasts having a sustaining voltage less than 270V, lamp life may be significantly reduced.

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.

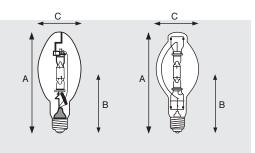
Ordering Guide								
MS	320	1	_	1	PS	1	BU-ONLY	
M = METALARC	Wattage:		Finish:		PULSE		BU-ONLY = Base up only	
Metal Halide	175, 200, 250,		= Clear		START		U = Universal	
S = SUPER high output	320, 320/350,		C = Coated				BD-ONLY = Base down only	
P = METALARC PRO-TECH®	350/400, 400,						BU-HOR =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

SYLVANIA and LEDVANCE are registered trademarks. All other trademarks are those of their respective owners. Product Licensee of Trademark SYLVANIA in General Lighting. Specifications subject to change without notice.



🕂 /sylvania

