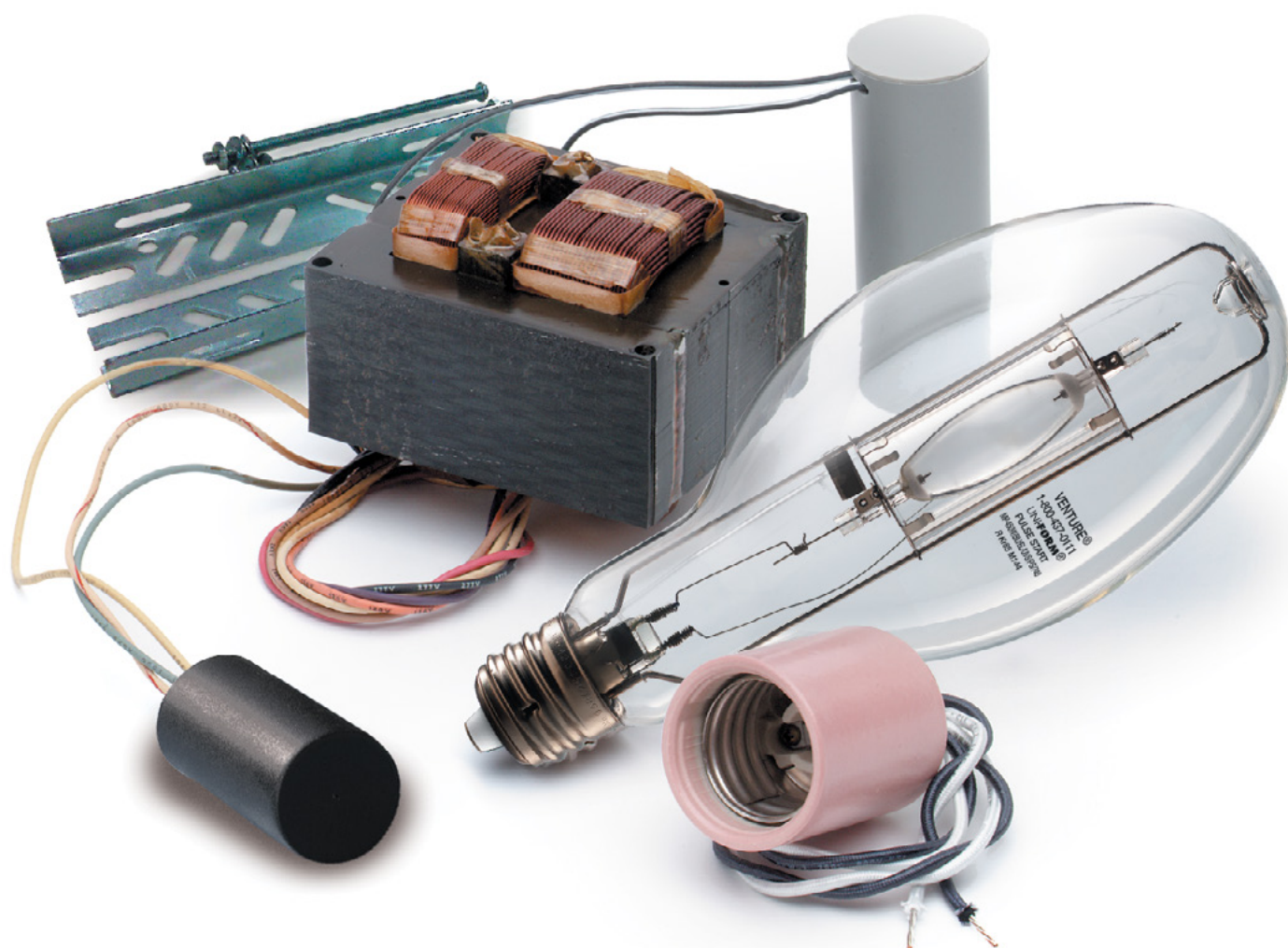




# 2024 HID CATALOG



**Lamps • Ballasts**

# HID METAL HALIDE LAMPS



## Pulse Start and Probe Start Lamps

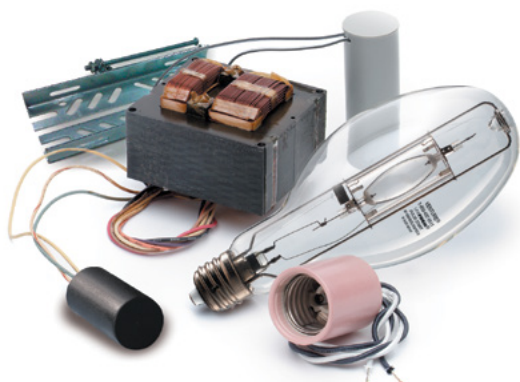
### Open Rated *Pulse Start* Lamps

Order Code	Watts	Product Description	Bulb	Base	Bulb Finish	Operating Position	CCT	ANSI Code	Case Pack
32100	50	MP 50W/U/PS	EDX17	Medium (E26)	Clear	Universal	4000K	M110/O	12
40389	70	MP 70W/U/PS	EDX17	Medium (E26)	Clear	Universal	4000K	M98/O	12
96770		MP 100W/U/PS/3K	EDX17	Medium (E26)	Clear	Universal	3200K	M90/O	12
96267	100	MP 100W/U/PS	EDX17	Medium (E26)	Clear	Universal	4000K	M90/O	12
22145		MP 100W/C/U/ED28/PS/3K	ED28	Mogul (EX39)	Coated	Universal	3200K	M90/O	12
25813	125	MP 125W/V/ED28/PS	ED28	Mogul (EX39)	Clear	V±15°	4000K	M150/O	12
22455		MP 150W/U/PS/740	EDX17	Medium (E26)	Clear	Universal	4000K	M102/O	12
58963	150	MP 150W/U/ED28/PS/740	ED28	Mogul (EX39)	Clear	Universal	4000K	M102/O	12
31928		MP 175W/C/U/PS/737	ED28	Mogul (EX39)	Coated	Universal	3700K	M152/O	12
18717	175	MP 175W/U/PS/740	ED28	Mogul (EX39)	Clear	Universal	4000K	M152/O	12
44872		MP 200W/C/V/PS/732	ED28	Mogul (EX39)	Coated	V±15°	3200K	M136/O	12
22147	200	MP 200W/V/PS/740	ED28	Mogul (EX39)	Clear	V±15°	4000K	M136/O	12
25029		MP 250W/C/U/PS/737	ED28	Mogul (EX39)	Coated	Universal	3700K	M153/O	12
25028	250	MP 250W/U/PS/740	ED28	Mogul (EX39)	Clear	Universal	4000K	M153/O	12
32029		MP 320W/C/U/ED28/PS/737	ED28	Mogul (EX39)	Coated	Universal	3700K	M154/O	12
32028	320	MP 320W/U/ED28/PS/740	ED28	Mogul (EX39)	Clear	Universal	4000K	M154/O	12
32039		MP 320W/C/U/ED37/PS/737	ED37	Mogul (EX39)	Coated	Universal	3700K	M154/O	6
32037		MP 320W/U/ED37/PS/740	ED37	Mogul (EX39)	Clear	Universal	4000K	M154/O	6
51208	350	MP 350W/H75/T15/L/PS/740	T15	Mogul (EX39)	Clear	HOR±75°	4000K	M131/O	12
18692		MP 350W/400W/U/ED28/PS/740	ED28	Mogul (EX39)	Clear	Universal	4000K	M131/O, M155/O	12
51352	350/400	MP 350W/400W/C/U/PS/737	ED37	Mogul (EX39)	Coated	Universal	3700K	M131/O, M155/O	6
23589		MP 350W/400W/U/PS/740	ED37	Mogul (EX39)	Clear	Universal	4000K	M131/O, M155/O	6
73189		MP 400W/H75/T15/L/PS/740	T15	Mogul (EX39)	Clear	HOR±75°	4000K	M155/O	12
45541*	400	MP 400W/C/V/PS/737	ED37	Mogul (EX39)	Coated	V±15°	3700K	M155/O	6
65072	450	MP 450W/BU/PS/740	ED37	Mogul (EX39)	Clear	BU±15°	4000K	M144/O	6
37292	575	MP 575W/U/BT37/PS/740	BT37	Mogul (EX39)	Clear	Universal	4000K	M178/O	6
58953	875	MP 875W/BU/BT37/PS/740	BT37	Mogul (EX39)	Clear	BU±15°	4000K	M166/O	6

### Open Rated *Probe Start* Lamps

Order Code	Watts	Product Description	Bulb	Base	Bulb Finish	Operating Position	CCT	ANSI Code	Case Pack
27564	250	MPI 250W/U	ED28	Mogul (EX39)	Clear	Universal	4000K	M58/O	12
28715	400	MPI 400W/U	ED37	Mogul (EX39)	Clear	Universal	4000K	M59/O	6
62948	1000	MPI 1000W/BU	BT56	Mogul (EX39)	Clear	BU±15°	3500K	M47/O	6

NOTE: \* Available while supplies last



# HID METAL HALIDE LAMPS



## Pulse Start and Probe Start Lamps

### Enclosed Rated *Pulse Start* Lamps

Order Code	Watts	Product Description	Bulb	Base	Bulb Finish	Operating Position	CCT	ANSI Code	Case Pack
52312	50	MH 50W/U/PS	ED17	Medium (E26)	Clear	Universal	4000K	M110/E	12
78138	70	MH 70W/U/PS	ED17	Medium (E26)	Clear	Universal	4000K	M98/E	12
16017		MH 70W/U/ED28/PS	ED28	Mogul (E39)	Clear	Universal	4000K	M98/E	12
27266	100	MH 100W/U/PS	ED17	Medium (E26)	Clear	Universal	4000K	M90/E	12
67868		MH 100W/U/ED28/PS	ED28	Medium (E39)	Clear	Universal	4000K	M90/E	12
99584	150	MH 150W/U/PS/740	ED17	Medium (E26)	Clear	Universal	4000K	M102/E	12
75418		MH 150W/U/ED23.5/PS/740	ED23.5	Mogul (E39)	Clear	Universal	4000K	M102/E	12
13556		MH 150W/U/ED28/PS/740	ED28	Mogul (E39)	Clear	Universal	4000K	M102/E	12
16497	175	MS 175W/BU/MED/PS/740	ED17	Medium (E26)	Clear	BU±15°	4000K	M152/E	12
29145		MH 175W/U/PS/740	ED28	Mogul (E39)	Clear	Universal	4000K	M152/E	12
60811	200	MS 200W/BU/MED/PS/740	ED17	Medium (E26)	Clear	BU±15°	4000K	M136/E	12
57625	250	MS 250W/H75/T15/PS/740	T15	Mogul (E39)	Clear	HOR±75°	4000K	M153/E	12
37517		MH 250W/U/PS/740	ED28	Mogul (E39)	Clear	Universal	4000K	M153/E	12
57626	320	MS 320W/H75/T15/S/PS/740	T15	Mogul (E39)	Clear	HOR±75°	4000K	M154/E	12
79710		MS 320W/H75/T15/L/PS/740	T15	Mogul (E39)	Clear	HOR±75°	4000K	M154/E	12
12718*		MH 320W/U/ED28/PS/740	ED28	Mogul (E39)	Clear	Universal	4000K	M154/E	12
21785		MH 320W/U/ED37/PS/740	ED37	Mogul (E39)	Clear	Universal	4000K	M154/E	6
60258	350	MS 350W/H75/T15/S/PS/740	T15	Mogul (E39)	Clear	HOR±75°	4000K	M131/E	12
93749		MS 350W/H75/T15/L/PS/740	T15	Mogul (E39)	Clear	HOR±75°	4000K	M131/E	12
50268	350/	MH 350W/400W/U/ED28/PS/740	ED28	Mogul (E39)	Clear	Universal	4000K	M131/E, M155/E	12
26189	400	MH 350W/400W/U/PS/740	ED37	Mogul (E39)	Clear	Universal	4000K	M131/E, M155/E	6
60260	400	MS 400W/H75/T15/S/PS/740	T15	Mogul (E39)	Clear	HOR±75°	4000K	M155/E	12
47815*		MH 400W/C/U/ED28/PS/737	ED28	Mogul (E39)	Coated	Universal	3700K	M155/E	12
90195	875	MH 875W/U/BT37/PS/740	BT37	Mogul (E39)	Clear	Universal	4000K	M166/E	6
49111	1000	MS 1000W/HOR/T25/PS/734	T25	Mogul POMB (EP39)	Clear	HOR±45°	3400K	M141/E	6
37999		MH 1000W/U/BT37/PS/740	BT37	Mogul (E39)	Clear	Universal	4000K	M141/E	6
71722*		MS 1000W/BU/BT37/PS/740	BT37	Mogul (E39)	Clear	BU±15°	4000K	M141/E	6
56999		MH 1000W/U/PS/740	BT56	Mogul (E39)	Clear	Universal	4000K	M141/E	6

### Enclosed Rated *Probe Start* Lamps

Order Code	Watts	Product Description	Bulb	Base	Bulb Finish	Operating Position	CCT	ANSI Code	Case Pack
63187	175	MH 175W/C/U/MED	ED17	Medium (E26)	Coated	Universal	3700K	M57/E	12
15556		MH 175W/U/MED	ED17	Medium (E26)	Clear	Universal	4000K	M57/E	12
96627		MH 175W/C/U	ED28	Mogul (E39)	Coated	Universal	3700K	M57/E	12
88791		MH 175W/U	ED28	Mogul (E39)	Clear	Universal	4000K	M57/E	12
33479	250	MH 250W/U/T15	T15	Mogul (E39)	Clear	Universal	4000K	M58/E	12
63052		MH 250W/U	ED28	Mogul (E39)	Clear	Universal	4000K	M58/E	12
55422	400	MH 400W/U/T15	T15	Mogul (E39)	Clear	Universal	4000K	M59/E	12
57540		MH 400W/U/ED28	ED28	Mogul (E39)	Clear	Universal	4000K	M59/E	12
83545		MH 400W/C/U	ED37	Mogul (E39)	Coated	Universal	3700K	M59/E	6
18520		MH 400W/U	ED37	Mogul (E39)	Clear	Universal	4000K	M59/E	6
64648		MS 400W/C/HOR	ED37	Mogul POMB (EP39)	Coated	HOR±45°	3700K	M59/E	6
15332	1000	MH 1000W/U/BT37	BT37	Mogul (E39)	Clear	Universal	4000K	M47/E	6
72051		MH 1000W/U	BT56	Mogul (E39)	Clear	Universal	4000K	M47/E	6

NOTE: \* Available while supplies last



# HID SPECIALIZED METAL HALIDE



## Super Pulse Start Long Life (SPL) Lamps

### Enclosed Rated SPL Lamps

Order Code	Watts	Product Description	Bulb	Base	Bulb Finish	Operating Position	CCT	ANSI Code	Case Pack
21982	100	MHL 100W/U/ED17/PS/740	ED17	Medium (E26)	Clear	Universal	4000K	M90/E	12
46105	150	MHL 150W/U/ED28/PS/740	ED28	Mogul (E39)	Clear	Universal	4000K	M102/E	12
98434	200	MHL 200W/V/ED28/PS/740	ED28	Mogul (E39)	Clear	V±15°	4000K	M136/E	12
46895	250	MHL 250W/V/ED28/PS/740	ED28	Mogul (E39)	Clear	V±15°	4000K	M153/E	12
65413		MHL 250W/H75/ED28/PS/740	ED28	Mogul (E39)	Clear	HOR±75°	4000K	M153/E	12
20116	320	MHL 320W/H75/ED28/PS/740	ED28	Mogul (E39)	Clear	HOR±75°	4000K	M154/E	12
68735	575	MHL 575W/BU/BT37/PS/740	BT37	Mogul (E39)	Clear	BU±15°	4000K	M178/E	6
20897		MHL 575W/H75/BT37/PS/740	BT37	Mogul (E39)	Clear	HOR±75°	4000K	M178/E	6

### Benefits and Features

- 40,000 hours rated life; up to twice the life of most regular Metal Halide products
- Quartz metal halide
- Excellent maintained lumens with up to 114 LPW
- Ultimate retrofit solution
- Cuts maintenance costs nearly in half, while doubling life and lumen maintenance



## Sports Lighting Lamps

### Enclosed Rated Sports Lighting Lamps

Order Code	Watts	Product Description	Bulb	Base	Bulb Finish	Operating Position	CCT	ANSI Code	Case Pack
47503	1000	MS 1000W/HOR/SPORT60	BT56	Mogul POMB (EP39)	Clear	HOR±60°	3400K	M47/E	6
12342	1500	MH 1500W/U/XL	BT56	Mogul (E39)	Clear	Universal	4000K	M48/E	6
18360		MH 1500W/HBU	BT56	Mogul (E39)	Clear	BU±105°	3400K	M48/E	6
82070		MS 1500W/HOR/XP/SPORT60	BT56	Mogul POMB (EP39)	Clear	HOR±60°	3400K	M48/E	6
16419		MS 1650W/HOR/XP/SPORT60	BT56	Mogul POMB (EP39)	Clear	HOR±60°	3200K	M112/E	6

### Benefits and Features

- Brighter - High lumen output
- "Extra Life" lamp available - Venture's MH 1500W/U/XL lamp has a 6000 hour rated life
- Venture's Sports 60 lamps are designed for sports lighting aiming angles
- High lumen output lamps for efficient layout designs
- Good color rendition (65-70 CRI)



## Energy Master Energy Saving Retrofit Lamps

### Open Rated Energy Master Lamps ANSI Code M59/O and M155/O

Order Code	Watts	Product Description	Bulb	Base	Bulb Finish	Operating Position	CCT	Replaces Existing Wattage	Watts Saved	Case Pack
91844	330	MPI 330W/C/BU/EM	ED37	Mogul (EX39)	Coated	BU±15°	3700K	400W	70	6
91834		MPI 330W/BU/EM	ED37	Mogul (EX39)	Clear	BU±15°	4000K	400W	70	6

### Open Rated Energy Master Lamps ANSI Code M59/O and M165/O

Order Code	Watts	Product Description	Bulb	Base	Bulb Finish	Operating Position	CCT	Replaces Existing Wattage	Watts Saved	Case Pack
67293	360	MPI 360W/C/BU/EM	BT37	Mogul (EX39)	Coated	BU±15°	3700K	400W	40	6
38029		MPI 360W/BU/EM	BT37	Mogul (EX39)	Clear	BU±15°	4000K	400W	40	6

### Benefits and Features

- Just change the lamp not the ballast
- Save energy; Up to \$25.50 annually per lamp
- Open rated lamps available in 330W and 360W

### Enclosed Rated Energy Master Lamps ANSI Code M57/E and M107/E

Order Code	Watts	Product Description	Bulb	Base	Bulb Finish	Operating Position	CCT	Replaces Existing Wattage	Watts Saved	Case Pack
44810	150	MH 150W/U/EM	ED17	Medium (E26)	Clear	Universal	4000K	175W	25	12
69559		MH 150W/U/ED28/EM	ED28	Mogul (E39)	Clear	Universal	4000K	175W	25	12





# HID SPECIALIZED METAL HALIDE



## Natural White® PS MH, 5000K, 90+ CRI

### Open Rated Natural White® Lamps

Order Code	Watts	Product Description	Bulb	Base	Bulb Finish	Operating Position	CCT	ANSI Code	Case Pack
19523	250	MP 250W/BU/PS/EM/950	ED28	Mogul (EX39)	Clear	BU±15°	5000K	M153/O	12
95320	320	MP 320W/H75/T15/S/PS/EM/950	T15	Mogul (EX39)	Clear	HOR±75°	5000K	M154/O	12
95321		MP 320W/H75/T15/L/PS/EM/950	T15	Mogul (EX39)	Clear	HOR±75°	5000K	M154/O	12
51628	350	MP 350W/BU/PS/EM/950	ED37	Mogul (EX39)	Clear	BU±15°	5000K	M131/O	6
57129	400	MP 400W/BU/PS/EM/950	ED37	Mogul (EX39)	Clear	BU±15°	5000K	M155/O	6
95575	575	MP 575W/BU/BT37/PS/EM/950	BT37	Mogul (EX39)	Clear	BU±15°	5000K	M178/O	6
24983	775	MP 775W/BU/BT37/PS/950	BT37	Mogul (EX39)	Clear	BU±15°	5000K	M181/O	6
24988		MP 775W/BD/BT37/PS/950	BT37	Mogul (EX39)	Clear	BU±15°	5000K	M181/O	6

### Benefits and Features

- Crisp, bright light with 5000K CCT and 90+ CRI
- 90% maintained lumens (0.90 LLD)
- 14% Perceivable brighter light
- Extreme long life at 26,000 - 40,000 hours

### Enclosed Rated Natural White® Lamps

Order Code	Watts	Product Description	Bulb	Base	Bulb Finish	Operating Position	CCT	ANSI Code	Case Pack
95577	575	MS 575W/H75/BT37/PS/EM/950	BT37	Mogul (E39)	Clear	HOR±75°	5000K	M178/E	6
24999	775	MS 775W/H75/BT37/PS/950	BT37	Mogul (E39)	Clear	HOR±75°	5000K	M181/E	6



## White-Lux Metal Halide Retrofit HPS Lamps

### Open Rated White-Lux Lamps

Order Code	Watts	Product Description	Bulb	Base	Bulb Finish	Operating Position	CCT	ANSI Code	Case Pack
24785	250	MPI 250W/BU/LU	ED28	Mogul (EX39)	Clear	BU±15°	4000K	S50/O	12
10044	400	MPI 400W/BU/LU	ED37	Mogul (EX39)	Clear	BU±15°	4000K	S51/O	6

### Enclosed Rated White-Lux Lamps

Order Code	Watts	Product Description	Bulb	Base	Bulb Finish	Operating Position	CCT	ANSI Code	Case Pack
91051	250	MH 250W/U/LU	ED28	Mogul (E39)	Clear	Universal	4000K	S50/E	12
59441	400	MH 400W/U/LU/ED28	ED28	Mogul (E39)	Clear	Universal	4000K	S51/E	12
52134		MH 400W/U/LU	ED37	Mogul (E39)	Clear	Universal	4000K	S51/E	6

### Benefits and Features

- Replace yellow HPS lamps with white MH lamps
- Just change the lamp not the ballast
- Electrical and photometric compatibility with HPS systems
- Clear and coated outer jacket options



## Double Ended Metal Halide Lamps

### Enclosed Rated Double Ended Lamps

Order Code	Watts	Product Description	Bulb	Base	Bulb Finish	Operating Position	CCT	ANSI Code	Case Pack
16786	70	MH-DE 70W/UVS/3K	T6	RSC (R7s)	Clear	HOR±45°	3000K	M85/E	25
60248		MH-DE 70W/UVS/4K	T6	RSC (R7s)	Clear	HOR±45°	4200K	M85/E	25
11295		MH-DE 150W/UVS/3K	T7	RSC (R7s)	Clear	HOR±45°	3000K	M81/E	25
74756	150	MH-DE 150W/UVS/4K	T7	RSC (R7s)	Clear	HOR±45°	4200K	M81/E	25
29963		MH-DE 150W/UVS/FS/6K	T7	RSC (R7s)	Clear	HOR±45°	6500K	M81/E	25
84727		MH-DE 250W/UVS/3K/FC2	T8	Fc2	Clear	HOR±45°	3000K	M80/E	25
72748	250	MH-DE 250W/UVS/4K/FC2	T8	Fc2	Clear	HOR±45°	4200K	M80/E	25
22417		MBIL S 1000W	T5	RSC (Rx7s)	Frosted	HOR±15°	5200K	M___/F	6
22151		MBIL S 1500W	T7	RSC (Rx7s)	Frosted	HOR±15°	5200K	M133/F	6
22528	1500	MH-DE 1500W/T8/F	T8	Spade Connector	N/A	HOR±15°	4200K	M133/F	2
22132		MBIL S 2000W	T8	Contact Factory	Frosted	HOR±15°	5200K	M134/F	2

### Benefits and Features

- Available in 70W - 250W and 1000W - 2000W
- Low wattage lamps have compact configuration which provides excellent optical control in smaller fixture designs
- High wattage lamps are used for large area floodlighting and sports lighting applications



# HID HIGH PRESSURE SODIUM LAMPS



## High Pressure Sodium Lamps

### Enclosed Rated *High Pressure Sodium Lamps*

Order Code	Watts	Product Description	Bulb	Base	Bulb Finish	Operating Position	CCT	ANSI Code	Case Pack
23002	50	LU50/MED/ECO	E17	Medium (E26)	Clear	Universal	2100K	S68	12
23004	70	LU70/MED/ECO	E17	Medium (E26)	Clear	Universal	2100K	S62	12
23012		LU70/ECO	E23.5	Mogul (E39)	Clear	Universal	2100K	S62	12
23006	100	LU100/MED/ECO	E17	Medium (E26)	Clear	Universal	2100K	S54	12
23007		LU100/D/MED	E17	Medium (E26)	Coated	Universal	2100K	S54	12
23014		LU100/ECO	E23.5	Mogul (E39)	Clear	Universal	2100K	S54	12
23008	150	LU150/55/MED/ECO	E17	Medium (E26)	Clear	Universal	2100K	S55	12
23016		LU150/55/ECO	E23.5	Mogul (E39)	Clear	Universal	2100K	S55	12
23019	250	LU250/ECO	ED18	Mogul (E39)	Clear	Universal	2100K	S50	36
23022	400	LU400/ECO	ED18	Mogul (E39)	Clear	Universal	2100K	S51	36
23025	1000	LU1000/ECO	ED25	Mogul (E39)	Clear	Universal	2100K	S52	12

ED17



E23.5



ED18



E25



# HID BALLASTS



## Metal Halide *Standard and Pulse Start* Ballast Kits

Order Code	Watts	Product Description	Voltage (60Hz)	ANSI Code	Core
V90D5833K	70	70W PSMH QUAD HX	120/208/240/277	M98	3X4
V90D5932K	100	100W PSMH QUAD HX	120/208/240/277	M90	3X4
V90J8811K	125	125W PSMH TRI CWA	120/277/347	M150	3X4
V90D7130K	150	150W PSMH QUAD HX	120/208/240/277	M102	3X4
V90D6112K	175	175W MH QUAD CWA	120/208/240/277	M57	3X4
V90D6215K		250W MH QUAD CWA	120/208/240/277	M58	4X4
V90D8411K	250	250W PSMH QUAD CWA	120/208/240/277	M153	4X4
V90D8412K		250W PSMH QUAD CWA	120/208/240/277	M153	4X4
V90D7413K	320	320W PSMH QUAD CWA	120/208/240/277	M154	4X4
V90D7513K	350	350W PSMH QUAD CWA	120/208/240/277	M131	4X4
V90AM6411K		400W MH QUINT CWA	120/208/240/277/480	M59	4X4
V90J6414K	400	400W MH TRI CWA	120/277/347	M59	4X4
V90AM7610K		400W PSMH QUINT CWA	120/208/240/277/480	M155	4X4
V90D7613K		400W PSMH QUAD CWA	120/208/240/277	M155	4X4
V90J8511K	450	450W PSMH TRI CWA	120/277/347	M144	4X4
V90AM5510K	575	575W PSMH QUINT CWA	120/208/240/277/480	M178	4X4
V90D5510K		575W PSMH QUAD CWA	120/208/240/277	M178	4X4
V90AM6514K	1000	1000W MH QUINT CWA	120/208/240/277/480	M47	4X6
V90AM7810K		1000W PSMH QUINT CWA	120/208/240/277/480	M141	4X6
V90D6612K	1500	1500W MH QUAD CWA	120/208/240/277	M48	4X6

## HPS Ballast Kits

Order Code	Watts	Product Description	Voltage (60Hz)	ANSI Code	Core
V90D1233K	70	70W HPS QUAD HX	120/208/240/277	S62	3X4
V90B1322Ki	100	100W HPS 120 RCTR	120	S54	E&I
V90D1333K		100W HPS QUAD HX	120/208/240/277	S54	3X4
V90D1435K	150	150W HPS QUAD HX	120/208/240/277	S55	3X4
V90AM1710K	250	250W HPS QUINT CWA	120/208/240/277/480	S50	4X4
V90AM1910K	400	400W HPS QUINT CWA	120/208/240/277/480	S51	4X4

Notes: All ballast kits are sold individually boxed and include prewired capacitor & ignitor (when required) plus universal mounting brackets

## Capacitors

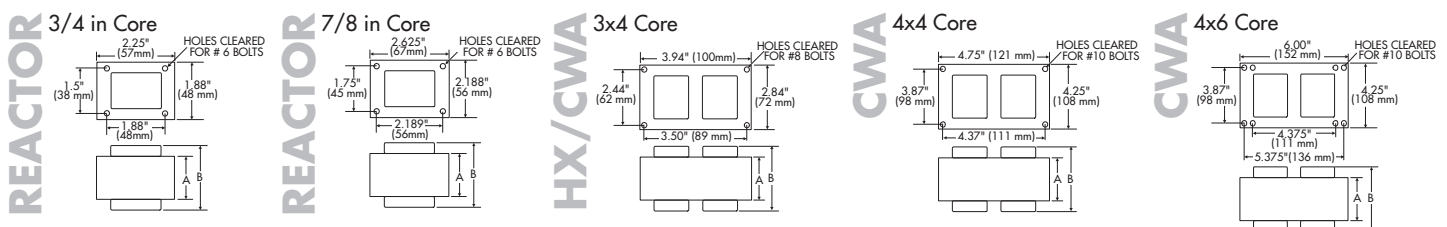
Product Code	Type	Micro-Farads	VAC
ACG033	Dry Film	6	330
ACG310	Dry Film	8	280
ACG279	Dry Film	10	400
ACG321	Dry Film	12	330
ACG277	Dry Film	15	400
ACG301	Dry Film	16	330
ACB3270V	Oil Cap	22	525
ACG247	Dry Film	24	400
ACB2200V	Oil Cap	24	480
ACG278	Dry Film	26	400
ACB2640V	Oil Cap	26	525
ACB2560V	Oil Cap	32	525
ACG255	Dry Film	55	300

## Replacement Ignitors

Product Code	Product Description
BVS004A	35-150W HPS REACTOR
BVS005A	200-430W HPS
BVS006A	35-150W HPS
BVS020	875-1000W HPS/PSMH
BVS032	Low Watt PSMH HX
BVS041	Mid Watt PSMH CWA

## Replacement Sockets

Standard medium and mogul enclosed-rated (E26, E39), open-rated (EX26, EX39), and position oriented mogul (EP39) bases are available. Contact Venture Lighting for more information.



# HID TECHNICAL INFORMATION

## Proper Use of Metal Halide Lamps

### Correct Operation and Warnings For High Intensity Discharge Lamps:

High intensity discharge (HID) lamps require auxiliary equipment (ballasts, capacitors and ignitors) to provide the correct electrical values for starting and operating. This auxiliary equipment shall meet the requirements of all relevant Venture specifications, NEMA/ANSI standards and safety standards. Venture Lighting International is not responsible for poor performance, personal injury, property damage, burns or fire from lamps operating on unapproved auxiliary equipment or from lamps being operated in a manner inconsistent with the lamp design.

Power should always be turned off, and preferably locked out, in accordance with OSHA guidelines whenever installation, removal or maintenance is performed on lighting systems. Safety glasses and gloves should be used when installing or removing HID lamps. Lamps should be installed firmly into appropriate lamp sockets, without over-tightening, to avoid loosening from vibration.

HID lamps and arc tubes operate at extremely high temperatures and may shatter as a result of misapplication, system failure or other factors. Scratches on the outer bulb, direct contact with water or excessive installation pressure can cause lamps to break. Breakage may release extremely hot glass and lamp parts into the surrounding environment and raise the risk of fire, personal injury or property damage. Injury may also be caused by ultraviolet energy from an unjacketed HID lamp. If the outer jacket should break, immediately turn the power off. Do not remove a lamp until it has completely cooled; then replace it with a new Venture Lighting® lamp. In areas susceptible to contamination by flying glass, where flammable materials are present, or where there is a possibility of personal injury, users should seek additional protective measures by using open fixture (Type-O) lamps and enclosed luminaires.

### Luminaire Requirements and Operating Positions

It is imperative that users adhere to specified luminaire and lamp operating positions and requirements. The operation of lamps in positions other than those specified can result in severe reductions in lamp performance, including lamp life, light output and color. Incorrect operating positions can also create the possibility of an early failure.

Refer to each lamp's technical data specification sheet to determine the correct operating position and luminaire requirements. Also, refer to the diagrams on this page to determine allowable operating positions.

### Federal Compliance - Metal Halide Lamps:

Venture Lighting lamps comply with USA Federal Standard 21 CFR 1040.30 and Canada Standard SOR/80-381. The FDA requires the following safety warning statement for all metal halide lamps:

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

Careful adherence to the previously mentioned precautions may not eliminate all possible risks associated with the use of metal halide lamps, but it will reduce the likelihood of personal injury or property damage.

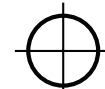
### Warning Notices:

**WARNING:** THESE INSTRUCTIONS MUST BE FOLLOWED TO AVOID POSSIBLE EARLY FAILURE OF THE LAMP. Venture Lighting will not be responsible for poor lamp performance, personal injury, property damage, burns or fire resulting from failure to follow these instructions.

- Operate lamp in the specified burning position with compatible electrical equipment. The ANSI code on the Venture lamp must match the code on the ballast or luminaire. If in doubt, consult with Venture Lighting or the luminaire manufacturer.
- Operate pulse start metal halide lamps with appropriate pulse start metal halide ballasts and lampholders that can withstand a 4000 volt pulse. The substitution of standard probe start (non-pulse start) metal halide lamps will result in poor performance and is not recommended.
- Operate high pressure sodium lamps with appropriate high pressure sodium ballasts and lampholders that can withstand a 4000 volt pulse (except 600W, 750W, and 1000W lamps which require lampholders that can withstand a 5000 volt pulse).
- Electrically insulate any metal bulb supports in the luminaire to avoid decomposition of glass.
- Protect lamp from direct contact with rain, sleet or snow to avoid breakage from thermal shock.
- This is a vacuum-jacketed lamp and may implode if broken; avoid skin contact with broken lamp pieces. Wear safety glasses and gloves when installing or removing high intensity discharge lamps.
- Install lamp firmly, but not forcibly, into the socket to minimize loosening from vibration.
- Do not use excessive force as the glass bulb may break.
- During lamp replacement, turn power off and let lamp cool before removal to avoid potential electrical shock and/or burns.

- Replace bulb if scratched, cracked or damaged.
- If the outer envelope breaks or is punctured and lamp continues to operate, immediately turn power off and remove lamp after it has cooled.

### Positions of Operation



Universal  
Any Position



Vertical  $\pm 15^\circ$



HOR  $\pm 15^\circ$   
Horizontal



HOR  $\pm 45^\circ$   
Horizontal



HOR  $\pm 60^\circ$   
Horizontal



H  $\pm 75^\circ$   
Horizontal



BU  $\pm 15^\circ$   
Base Up



BU  $\pm 90^\circ$   
Base Up



BU  $\pm 105^\circ$   
Base Up





# HID TECHNICAL INFORMATION

## End-of-Life and Reduction of Risk

At end-of-life, the vast majority of metal halide lamps will simply fail by not reigniting. On rare occasions, metal halide lamps may fail in a violent manner. The possibility of this type of failure is significantly reduced by group re-lamping at or before the rated end of life (see Group Re-lamping). In any application where enclosed rated (Type-E) lamps are operated continuously (24 hours per day, seven days per week), the lamps should always be turned off for a period of at least 15 minutes each week; this precaution can reduce the possibility of violent failures. This procedure is not required with Venture's open rated (ANSI Type-O) shrouded lamps. These lamps are easily identified by the prefix "MP," "MPI," "MPL," "MPE," "MPSE" or "MPC" in the lamp description code.

## Starting and Restarting Characteristics

Venture's Uni-Form® pulse start metal halide lamps start at an ambient temperature of -40°C (-40°F) or higher. Full light output does not occur immediately when power is applied to any metal halide lamp; after starting, there is a time delay of at least three to six minutes before lamps reach full light output.

After lamps have started, a power interruption of 1/4 cycle (1/240th of a second) or more may cause the lamps to extinguish. Several minutes are required before an arc can be re-established by the ballast and full light output achieved. The exact time is dependent on a number of

factors including lamp wattage, ballast and ignitor characteristics, ambient temperature, fixture dimensions and supply voltage.

The time needed to establish full light output can be as short as three minutes and as long as 15 to 20 minutes. Venture's exclusive Uni-Form formed-body arc tube provides warm-up and hot re-strike in up to 60% less time than standard probe start metal halide lamps.

## Lamp Life

Lamp life is an important consideration when purchasing a new, retrofit or replacement lamp. Two very different and distinct terms describe life: "rated life" and "economic life."

### Rated Life

Rated life for metal halide lamps is a value of lamp life expectancy based on laboratory and field tests of representative lamps, operating on approved ballasts, with a burn cycle of at least 10 hours per start. The lamp life is determined when 50% of metal halide lamps initially installed are still operating

### Operating Position

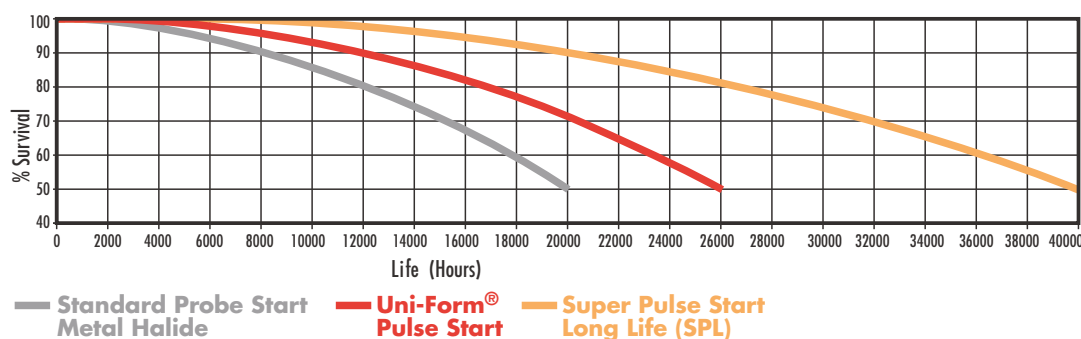
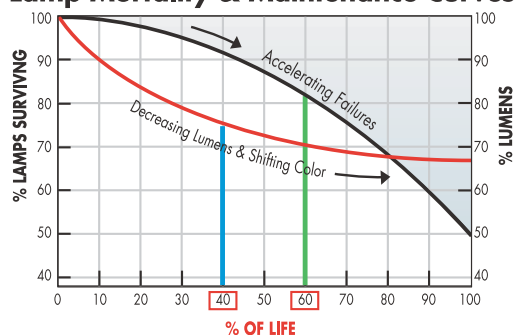
Various operating conditions affect lamp life. One key factor is operating position. Position-oriented lamps (designed to operate in one specific position) are tested and rated based on that designated position; operating these lamps in any other position can dramatically shorten life, reduce lumen output and cause color shift. Lamps designated universal can be operated in any position, however, life expectancy and lumen output are sacrificed in certain positions;

published "rated life" for universal lamps is based on operation in the vertical position, "rated life" for universal lamps operated horizontally is 75% of the published rating.

### Economic Life

Economic life refers to the hours of operation during which a lamp is designed to provide optimum light output and color quality as well as lowest replacement cost. Economic life describes actual lamp life better than rated life because rated life does not account for the lumen depreciation and color shift that occur as lamps age. The economic life of lamps is generally 60% to 75% of the lamp rated life. Though economic life is important when considering a lighting system, lamp data tables show rated life because they provide a comparison with other lamp manufacturers' ratings.

## Lamp Mortality & Maintenance Curves



# HID TECHNICAL INFORMATION

## Group Relamping Effective Lighting Management

Group re-lamping offers significant savings in time and labor costs over spot replacing single failed lamps. Regularly scheduled maintenance based on economic lamp life keeps a lighting system functioning at its maximum.

This provides:

### 1) Optimum Light Output:

Light levels are at peak performance when a lighting installation is new. Many standard probe start metal halide lamps decrease to as low as 25% of initial light output by the end of rated life. A number of factors may accelerate this reduction in efficacy (lumens per watt). Group re-lamping at economic life keeps the light levels from dropping significantly; it also provides an opportunity to remove dirt accumulation in the luminaire. Cleaning during group re-lamping saves time and helps maintain optimum light levels. A cleaner, well-lit environment increases safety and security, contributes to higher worker productivity and creates a better impression for visitors.

### 2) Aesthetic Quality:

The quality of light changes over economic life; most of this shift occurs in the last 25% of rated life. This causes old lamps to appear blue or pink, especially when compared to new lamps. All the lamps in an area will generally change color together. However, lamps that are spot replaced will look noticeably different than those around them.

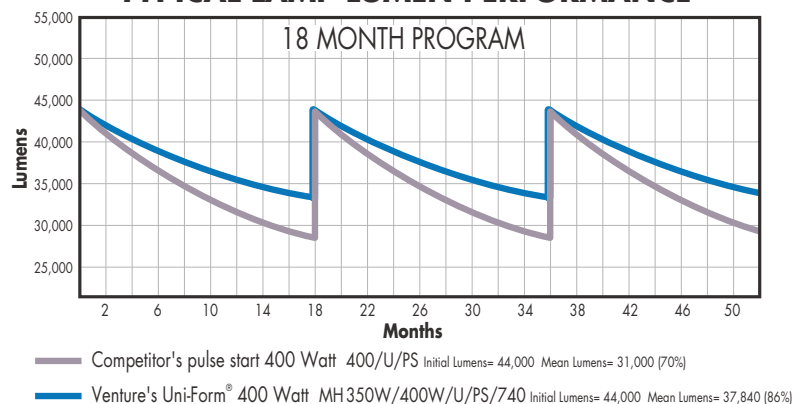
### 3) Optimum Energy Efficiency:

While the light output of a metal halide lamp decreases over the life span, the lamp will still consume the same (or sometimes more) electricity. Since energy is the largest cost of lighting, group re-lamping prevents almost half of the energy from being wasted by under-performing lamps. For example, a 400 watt lamp may consume \$800 of electricity over its rated life. After 60% of rated life, about \$320 is wasted on lamps providing less than mean lumens. Spot re-lamping wastes energy dollars; the cost of a new lamp and the labor to install it as part of group re-lamping is generally less than 5% of the total energy cost.

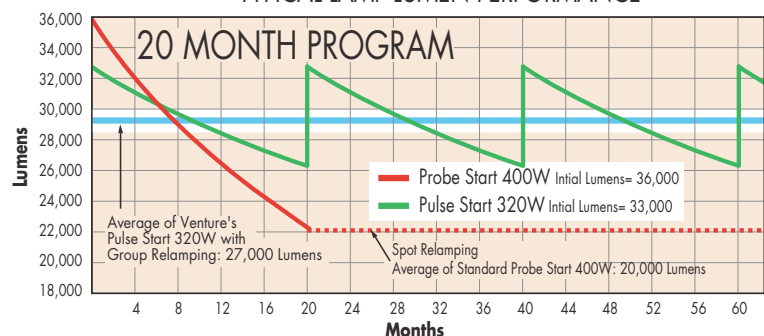
### 4) Cost Effective Replacement:

Group re-lamping, as a planned maintenance program, reduces labor costs and interference with facility operations. Spot re-lamping often takes an employee away from regular duties to replace a single burned out lamp; this inconvenience grows as lamp failures increase towards the end of rated life. Group re-lamping eliminates workday disruptions, allowing re-lamping to take place during normal shutdown periods. Also, group re-lamping at economic life is a practical way to sustain workers' visual acuity with a bright workplace environment.

## MAINTENANCE PROGRAM TYPICAL LAMP LUMEN PERFORMANCE



## MAINTENANCE PROGRAM TYPICAL LAMP LUMEN PERFORMANCE



# HID TECHNICAL INFORMATION

## Group Relamping

### Effective Lighting Management

Group re-lamping offers significant savings in time and labor costs over spot replacing single failed lamps.

### Open Rated Lamps

Open luminaires offer significant advantages over enclosed luminaires. They do not require cover lenses which reduce light output and accumulate dirt. In addition, enclosed luminaires make lamp replacements more difficult. For safety, open luminaires need open rated (ANSI Type-O) metal halide lamps.

To reduce the risk of liability, lighting specifiers need to be aware of the criteria for a true open rating and what the Type-S or Type-O designations indicate about lamp construction.

### ANSI Lamp Designations

The American National Standards Institute (ANSI) currently classifies metal halide lamps with three possible ratings: Type-O, Type-S and Type-E.

**Type-O** open fixture rated lamps characteristics:

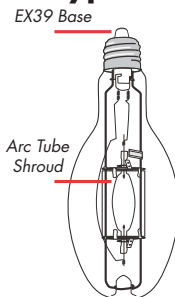
1. There is a shroud around the arc tube, which helps prevent damage to the outer bulb in the event of an arc tube rupture.
2. The base is open fixture rated, such as an EX39 mogul base or narrow neck bulb with a medium base, both of which require special exclusionary sockets.
3. They pass the ANSI C78.389 lamp containment test, where arc tubes are forcibly ruptured and must be contained within the outer jacket.

All "MP," "MPI," "MPL," "MPE," "MPSE" and "MPC" lamps produced by Venture Lighting meet the requirements to be rated Type-O and can be used with confidence.

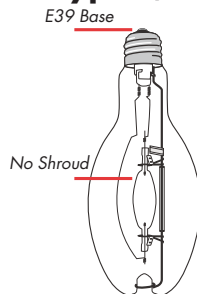
**Type-S** lamps do not include internal protection against failure. These lamps are not permitted in new open luminaires, according to UL1598 and the NEC.

**Type-E** lamps are rated for use only in enclosed luminaires.

#### Type-O



#### Type-E, S



In September 2010, UL1598 became effective with requirements for open metal halide luminaires and Type-O lamps. These requirements are the same as those in the 2005 National Electrical Code (NEC) published by the National Fire Protection Agency (NFPA).

NEC section 410.73(F)(5) states that "Luminaires (fixtures) that use a metal halide lamp other than a thick-glass parabolic reflector lamp (PAR) shall be provided with a containment barrier that encloses the lamp, or shall be provided with a physical means that only allows the use of a lamp that is Type-O."

Open luminaires require sockets that only accept Type-O lamps (pink EX39 mogul sockets or E26 narrow neck medium sockets) in order to prevent accidental use of Type-S or Type-E lamps.

### We Build Lighting Systems With Safety in Mind!

For over 20 years, Venture has been leading the way by producing metal halide lamps that contain protective shrouds. Venture Lighting provides the industry's widest selection of lamps that meet ANSI C78.389 testing requirements for a rating of Type-O. Venture is building lighting systems with the safety of you and your customers in mind.

### Venture's Open Rated Lamp Benefits

Venture's MP, MPI, MPL, MPE, MPSE and MPC lamps:

- Meet requirements of the UL1598 and the National Electric Code
- Meet ANSI criteria for a Type-O rating
- No luminaire lens required, delivering more light - Lumen loss with a lens is up to 16%
- Can be operated continuously; no shut off required
- Contain shrouds with most wattages
- Operate in open or enclosed luminaires



Ruptured arc tube contained within the intact outer jacket of a Venture MP lamp



#### Footnotes:

1. NEMA white paper: LSD 71-2020
2. FMGlobal Property Loss Prevention Data Sheets, 5-21, Rev. May 2001.



# WARRANTY INFORMATION

## LED Lamps and Retrofit Kits Warranty Information

This Venture Lighting product is warranted for the period of 5 years, as specified, from the date of purchase against defects in material and workmanship. The determination of whether the product is defective shall be made by Venture Lighting.

This limited warranty shall only apply if the Venture Lighting product has been installed and operated (i) in

LED Product Type	Rated Life	Warranty Period	Usage
LED T8 Lamps	50,000 hrs	5 years	12 hrs/day annually
LED Retrofit Lamps	50,000 hrs	5 years	12 hrs/day annually
LED Downlight Kits	35,000 hrs	5 years	12 hrs/day annually

compliance with the specifications and guidelines set forth herein, on the product label and packaging, and on the Venture Lighting website, (ii) in accordance with the National Electric Code (NEC), the Standards for Safety of Underwriters' Laboratory, Inc. (UL), the Standards for the American National Standards Association (ANSI), or in Canada, with the standards of the Canadian Standards Association (CSA), and (iii) in lighting equipment designed and approved for the application and in environmental conditions within the normal specified operating range of the product.

This limited warranty does not apply to loss or damage to the product caused by: negligence; abuse; misuse; mishandling; improper installation, storage, or maintenance; damage due to fire or acts of God; vandalism; civil disturbances; power surges; improper power supply; electrical current fluctuations; corrosive environment installations; induced vibration; harmonic oscillation or resonance associated with the movement of air currents around the product; alteration; accident; failure to follow installation, operating, maintenance or environmental instructions.

The warranty terms contained herein shall be the sole and exclusive remedy of the purchaser of Venture Lighting products and state Venture Lighting's entire liability and obligation to such purchaser. NO WARRANTY OF FITNESS FOR ANY SPECIFIC OR PARTICULAR PURPOSE IS MADE OR IS TO BE IMPLIED. NO OTHER WARRANTIES APPLY.

If the product is defective, this product will be repaired or replaced, at Venture Lighting's option. This warranty is expressly limited to the repair or replacement of the product. This warranty gives the customer specific legal rights, which vary from state to state and province to province. No distributor, salesperson, dealer, retailer or other representative has the authority to change or modify this warranty, either orally or in writing, in any respect.

WARRANTY IS VOID IF PRODUCT IS NOT USED FOR THE PURPOSE FOR WHICH THIS PRODUCT IS DESIGNED.

## LED Fixtures Warranty Information

This Venture Lighting product is warranted for the period of 5 years, as specified, from the date of purchase against defects in material and workmanship. The determination of whether the product is defective shall be made by Venture Lighting. A Venture Lighting product will not be considered defective under this warranty solely because a small number of separate LED components fail to operate (i.e. provide light) when the number of such failed components is less than 10% of the total number of light emitting components which are part of the product.

This limited warranty shall only apply if the Venture

Lighting product has been installed and operated (i) in compliance with the specifications and guidelines set forth herein, on the product label and packaging, and on the Venture Lighting website, (ii) in accordance with the National Electric Code (NEC), the Standards for Safety of Underwriters' Laboratory, Inc. (UL), the Standards for the American National Standards Association (ANSI), or in Canada, with the standards of the Canadian Standards Association (CSA), and (iii) in lighting equipment designed and approved for the application and in environmental conditions within the normal specified operating range of the product.

This limited warranty does not apply to loss or damage to the product caused by: negligence; abuse; misuse; mishandling; improper installation, storage, or maintenance; damage due to fire or acts

of God; vandalism; civil disturbances; power surges; improper power supply; electrical current fluctuations; corrosive environment installations; induced vibration; harmonic oscillation or resonance associated with the movement of air currents around the product; alteration; accident; failure to follow installation, operating, maintenance or environmental instructions.

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If the product is defective, this product will be repaired or replaced, at Venture Lighting's option. This warranty is expressly limited to the repair or replacement of the product. This warranty gives the customer specific legal rights, which vary from state to state and province to province. No distributor, salesperson, dealer, retailer or other representative has the authority to change or modify this warranty, either orally or in writing, in any respect. WARRANTY IS VOID IF PRODUCT IS NOT USED FOR THE PURPOSE FOR WHICH THIS PRODUCT IS DESIGNED.

## Poles Warranty Information

See Venture Lighting's website for pole warranty information

## HID Lamp Warranty Information

1. Upon receipt and/or initial installation by the customer, Venture Lighting International will replace any lamp determined to be defective in materials, workmanship, or proper operating parameters.

2. Venture Lighting will replace any lamp that fails within one year from the purchase date (based on 5000 hrs./yr. operation) when the failure is determined to be lamp related (applies to lamps with life ratings of greater than 7500 hrs.).

3. During economic life, Venture Lighting will supply replacement lamps for failed lamps in excess of the failure rate projected by life expectancy curves, when the lamps are operated correctly and in accordance with the guidelines outlined in this technical guide.

All performance ratings are based on lamp testing at rated watts, under controlled conditions, using primary AC electrical circuits with the highest quality auxiliary equipment. The performance of any lamp may vary somewhat under typical service conditions. All lamp specifications and ratings are subject to change without notice.

## Limited Warranty on HID Ballasts

Venture® ballast products are warrantied free from manufacturing and workmanship defects for a period of two years from the date of shipment. During this period, Venture will, at its option, repair or replace ballast products which prove to be defective or out of specification. This warranty is granted by Venture only to the original purchaser or first end-user of such ballast products.

HID Product Type	Warranty Period	This warranty is conditional upon installation, maintenance and operation in accordance with Venture's
Lamps	One Year	
All SPL Lamps	Two Years	
Magnetic Ballasts	Two Years	

instructions and specifications set forth in the purchase order or contract at the time of order and in accordance with the standards of The National Electric Code (NEC), Underwriters' Laboratory, Inc. (UL) and the American National Standards Institute (ANSI) and, in Canada, with the standards of the Canadian Standards Association (CSA). Damage by misuse or abnormal conditions of storage, installation, maintenance or operation, including, but not limited to, excessive temperatures or evidence of partial or complete disassembly beyond normal maintenance or expansion procedure void this warranty in its entirety. The conditions of any tests performed concerning any ballast product claimed to be defective in accordance with the terms of this warranty shall be mutually agreed upon in writing between the original purchaser or first end-user and Venture and Venture may be represented at any such test.

No implied statutory warranty of merchantability or fitness for a particular purpose shall apply beyond the afore-mentioned warranty period. This warranty excludes other warranties, expressed or implied and is the exclusive remedy of the claimant. Venture shall not be liable for any special, indirect or consequential damages. Venture's liability on any claim of any kind, nature or description arising out of, resulting from or concerning any aspect of this warranty agreement or from the product or services furnished hereunder shall not exceed the price of the specific ballast or ballasts which give rise to the claim. For warranty service or repair, the buyer shall prepay all shipping charges to Venture and Venture shall pay shipping charges to return the repaired or replaced item to the buyer. However, the buyer shall pay all shipping charges, duties and taxes for products returned to Venture from a country other than that of the United States of America.

## HID Product replacement/liability limits

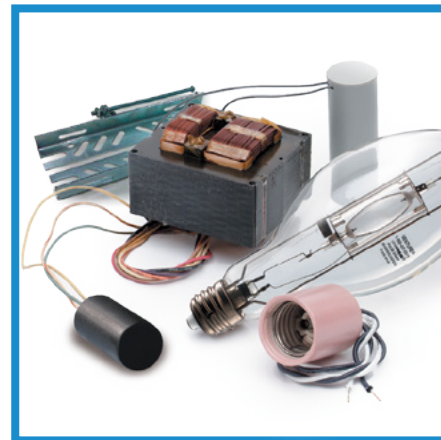
The foregoing warranty shall be the sole and exclusive remedy of the purchaser and Venture's sole and exclusive remedy to the purchaser. NO WARRANTY OF FITNESS FOR ANY SPECIFIC OR PARTICULAR PURPOSE IS MADE OR IS TO BE IMPLIED. NO OTHER WARRANTY APPLIES. Venture will not, under any circumstance, whether as a result of breach of contract, warranty tort or otherwise, be liable for any costs or damages, including lost profits or revenues, incidental, special or consequential damages.

Some states or provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state and province to province. No distributor, salesperson, dealer, retailer or other representative has the authority to change or modify this warranty, either orally or in writing, in any respect.



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**(800) 451-2606**

6675 Parkland Blvd., Suite 100

Solon, Ohio 44139 USA

E-mail: [Venture\\_Lighting@VentureLighting.com](mailto:Venture_Lighting@VentureLighting.com)

**VentureLighting.com**

