Upgrade to a better white light—Philips High Intensity Discharge lighting solutions.

A new age in outdoor lighting

Lighting plays an important role in transforming the look of an outdoor space. Whether you are looking to create a unique identity for your city, add a sense of safety and security to an outdoor space, or light a local sports stadium, Philips has a solution for you.

Philips MasterColor CDM Elite MW Lamps combine high efficacy with excellent quality white light and long, stable lifetime performance. This lamp is designed with a new socket allowing for more flexible use and enhanced optical efficiency.

Philips Energy Advantage CDM with AllStart Technology is a high-efficiency CDM lighting retrofit solution for existing quartz metal halide systems that provides energy savings without compromising light quality.

MasterColor Elite Ceramic Metal Halide Tubular T6 100W Lamp gives a unique combination of unbeatable light quality and consistent performance over lifetime. This is a compact, energy efficient lamp that provides crisp, sparkling white light.

Current Product	Philips Upgrade Product	Benefit	Page
400W Metal Halide (Quartz Probe Start) (450W System)	MasterColor CDM Elite MW 210W (225W System)	• Approximately 50% in total system energy savings[1] • 20% longer rated average life (24K hours versus 20K hours) • Better CRI and color consistency than standard quartz metal halide	67
175W/250W/440W Metal Halide (Quartz Probe or Pulse Start) Lamp	145W/205W/330W Energy Advantage CDM with AllStart Technology Lamp	• Up to 18% energy savings with a simple lamp change[2] • Longer rated average life[3] • Excellent CRI and color consistency	72
150W MasterColor Ceramic Metal Halide Tubular T6 Lamp	MasterColor Elite Ceramic Metal Halide Tubular T6 Lamp 100W	• Approximately 33% in total system energy savings[4] • 25% longer rated average life (15K hours versus 12K hours) • Excellent lumen maintenance with 90 CRI	66

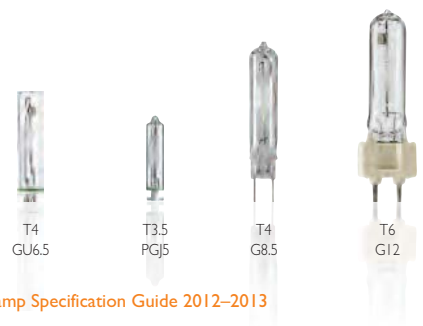
1) 450W - 225W = 225W / 450W = 50%
2) 145W CDM lamp with AllStart Technology compared to 175W QMH, 205W CDM with AllStart Technology compared to 250W QMH, 330W CDM with AllStart Technology compared to 400W QMH
3) 10,000 hours longer in vertical position and 12,500 hours longer in horizontal position for 145W and 205W lamps compared to 175W and 250W standard Probe Start QMH lamps, 4000 hours more for the 330W compared to 400W standard Probe Start QMH lamps.
4) 100W vs. 150W

High Intensity Discharge Lamps

MasterColor Ceramic Metal Halide Lamps

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code Ballast Ref.	Pkg. Qty.‡	Description (401, 407)	LCL (In.)	MOL (In.)	Rated Avg. Life (Hrs.)(351)	Approx. Initial Lumens(352)	Approx. Mean Lumens(353)	CRI	CCT (K)
Mini MasterColor Elite Ceramic Metal Halide Tubular Single-Ended GU6.5 Lamps (391, 392, 396, 397)															
Enclosed luminaires only; lifetime color stability within ±200K															
20	T4	GU6.5	40850-0	★	CDM20/TM/830/ GU6.5 ELITE	C156/E	12	G, Clear, FadeBlock	1⅛	2¼	15,000	1800	1550	85	3000
39	T4	GU6.5	41879-8	★†	CDM35/TM/930/ GU6.5 ELITE	C130/E	12	G, Clear, FadeBlock	1⅛	2¼	15,000	3900	3300	90	3000
50	T4	GU6.5	41880-6	★†	CDM50/TM/930/ GU6.5 ELITE	C193/E	12	G, Clear, FadeBlock	1⅛	2¼	15,000	5200	4400	91	3000
Mini MasterColor Ceramic Metal Halide Tubular Single-Ended T3.5 Lamps (391, 392, 396, 397)															
Enclosed luminaires only; lifetime color stability within ±200K															
22	T3.5	PGJ5	14040-0	★	CDM20/TM/830	C175/E	12	G, Clear, FadeBlock	⅞	1¾	12,000	1650	1155	85	3000
39	T3.5	PGJ5	21139-1	★	CDM35/TM/930	C179/E	12	G, Clear, FadeBlock	⅞	1¾	12,000	3000	2400	90	3000
MasterColor Elite Ceramic Metal Halide Tubular Single-Ended T4 Lamps (391, 392, 396, 397)*															
Enclosed luminaires only; lifetime color stability within ±200K															
20	T4	G8.5	41046-4	★	CDM Elite 20/TC/830	C156/E	12	G, Clear, FadeBlock	2	3 1/32	15,000	1800	1550	85	3000
39	T4	G8.5	40916-9	★	CDM Elite 35/TC/930	C130/E	12	G, Clear, FadeBlock	2	3 1/32	15,000	4000	3500	90	3000
			42079-4	★†	CDM Elite35/TC/942	C130/E	12	G, Clear, FadeBlock	2	3 1/32	15,000	3700	3200	88	4200
50	T4	G8.5	41415-1	★†	CDM Elite 50/TC/930	C193/E	12	G, Clear, FadeBlock	2	3 1/32	15,000	5400	4750	90	3000
70	T4	G8.5	40917-7	★	CDM Elite 70/TC/930	C139/E	12	G, Clear, FadeBlock	2	3 1/32	15,000	7650	6700	90	3000
			41898-7	★†	CDM Elite70/TC/942	C139/E	12	G, Clear, FadeBlock	2	3 1/32	15,000	7400	6500	90	4200
MasterColor Ceramic Metal Halide Tubular Single-Ended T4 Lamps (391, 392, 396, 397)															
Enclosed luminaires only; lifetime color stability within ±200K															
39	T4	G8.5	37372-0	★	CDM35/TC/830	C130/E	12	G, Clear, FadeBlock	2	3 1/32	12,000	3300	2300	81	3000
			20883-5	★	CDM35/TC/842	C130/E	12	G, Clear, FadeBlock	2	3 1/32	12,000	3300	2640	85	4200
70	T4	G8.5	37373-8	★	CDM70/TC/830	C139/E	12	G, Clear, FadeBlock	2	3 1/32	12,000	6400	4500	83	3000
			20885-0	★	CDM/70/TC/942	C139/E	12	G, Clear, FadeBlock	2	3 1/32	12,000	5900	3840	90	4200
MasterColor Elite Ceramic Metal Halide Tubular Single-Ended T6 Lamps (391, 392, 396, 397)															
Enclosed luminaires only; lifetime color stability within ±200K															
20	T6	G12	41047-2	★	CDM Elite 20/T6/830	C156/E	12	G, Clear, FadeBlock	2 7/32	3 15/16	15,000	1800	1550	85	3000
39	T6	G12	40914-4	★	CDM Elite 35/T6/930	C130/E	12	G, Clear, FadeBlock	2 7/32	3 15/16	15,000	4000	3500	90	3000
			42081-0	★†	CDM Elite35/T6/942	C130/E	12	G, Clear, FadeBlock	2 7/32	3 15/16	15,000	3800	3380	88	4200
50	T6	G12	41416-9	★†	CDM Elite 50/T6/930	C193/E	12	G, Clear, FadeBlock	2 7/32	3 15/16	15,000	5400	4750	90	3000
			42144-6	★†	CDM Elite50/T6/942	C193/E	12	G, Clear, FadeBlock	2 7/32	3 15/16	15,000	4900	4300	90	4200
70	T6	G12	40915-1	★	CDM Elite 70/T6/930	C139/E	12	G, Clear, FadeBlock	2 7/32	3 15/16	15,000	7650	6700	90	3000
			41899-5	★†	CDM Elite70/T6/942	C139/E	12	G, Clear, FadeBlock	2 7/32	3 15/16	15,000	7500	6600	90	4200
100	T6	G12	40829-4	★	CDM Elite 100/T6/930	C191/E	12	G, Clear, FadeBlock	2 7/32	4 1/32	15,000	11,000	9680	90	3000
MasterColor Ceramic Metal Halide Tubular Single-Ended T6 Lamps (391, 392, 396, 397)															
Enclosed luminaires only; lifetime color stability within ±200K															
39	T6	G12	22328-9	★	CDM35/T6/830	C130/E	12	G, Clear, FadeBlock	2 7/32	3 15/16	12,000	3300	2600	81	3000
			20886-8	★	CDM35/T6/842	C130/E	12	G, Clear, FadeBlock	2 7/32	3 15/16	12,000	3300	2800	84	4200
70	T6	G12	22337-0	★	CDM70/T6/830	C139/E	12	G, Clear, FadeBlock	2 7/32	3 15/16	12,000	6600	4950	81	3000
			28137-8	★	CDM70/T6/942	C139/E	12	G, Clear, FadeBlock	2 7/32	3 15/16	12,000	6600	4620	92	4200
150	T6	G12	23272-8	★	CDM150/T6/830	C142/E	12	G, Clear, FadeBlock, also ANSI M102	2 7/32	4 1/32	12,000	14,000	9800	85	3000
			37369-6	★	CDM150/T6/942	C142/E	12	G, Clear, FadeBlock, also ANSI M102	2 7/32	4 1/32	12,000	12,700	8900	96	4200

For the most current product information, go to the e-catalog on **www.philips.com**
HID symbols and footnotes located on page 82



High Intensity Discharge Lamps

MasterColor Ceramic Metal Halide Lamps

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code Ballast Ref. or MBCP♦	Pkg. Qty.‡	Description (401, 407)	LCL (In.)	MOL (In.)	Rated Avg. Life (Hrs.)(351)	Approx. Initial Lumens(352)	Approx. Mean Lumens(353)	CRI	CCT (K)
MasterColor CDM Elite MW (Medium Watt) Ceramic Metal Halide Tubular Single-Ended T9 Lamps (391, 392, 396, 397)															
Enclosed luminaires only															
210	T9	PGZ18	22062-4	☐★$	CDM EliteMW 210/T9/930/U/E	C183/E	12	G, Clear, Fadeblock	3½	7½	27,000	24,200	21,735	90	3000
			22063-2	☐★$	CDM EliteMW 210/T9/942/U/E	C183/E	12	G, Clear, Fadeblock	3½	7½	30,000	23,100	20,470	90	4200
315	T9	PGZ18	21831-3	☐★$	CDM EliteMW 315/T9/930/U/E	C182/E	12	G, Clear, Fadeblock	3½	7½	30,000	37,800	34,700	90	3000
			22064-0	☐★$	CDM EliteMW 315/T9/942/U/E	C182/E	12	G, Clear, Fadeblock	3½	7½	30,000	36,200	32,600	90	4200
MasterColor CDM Elite MW (Medium Watt) Ceramic Metal Halide Tubular Single-Ended T12 Lamps (391, 392, 396, 397)															
Open or enclosed luminaires; lifetime color stability within ±200K⌘															
210	T12	PGZX18	23806-3	☐★ $	CDM EliteMW 210/T12/930/U/O	C183/O	12	G, Clear, Fadeblock	3½	7½	20,000	23,100	20,700	90	3000
			23808-9	☐★ $	CDM EliteMW 210/T12/942/U/O	C183/O	12	G, Clear, Fadeblock	3½	7½	20,000	22,100	19,900	90	4200
315	T12	PGZX18	23807-1	☐★ $	CDM EliteMW 315/T12/930/U/O	C182/O	12	G, Clear, Fadeblock	3½	7½	20,000	36,200	32,500	90	3000
			23809-7	☐★ $	CDM EliteMW 315/T12/942/U/O	C182/O	12	G, Clear, Fadeblock	3½	7½	20,000	34,700	31,200	90	4200
MasterColor Ceramic Metal Halide Tubular Double-Ended Lamps (374, 391, 392, 396)															
Double-Ended TD6 & TD7 Style; enclosed luminaires only; lifetime color stability within ±200K															
70	TD6	RX7s	23160-5	★	CDM70/TD/830	C139/C85/E	12	G, Clear, FadeBlock, Hor. ± 45°	2¼	4 11/16	15,000	6500	5200	82	3000
150	TD7	RX7s	23167-0	★	CDM150/TD/830	C142/C102/ C81E	12	G, Clear, FadeBlock, Hor. ± 45°	2 13/32	5 7/16	15,000	13,250	11,260	88	3000
MasterColor Integrated PAR Lamps (396, 406)															
These lamps may be used in open fixtures; do not use in totally enclosed recessed fixtures															
25	PAR38	Med.	14477-4	☐★●	CDM-i25W/830/ PAR38/10/ALTO	MBCP = 26,000	6	G, PAR Spot 10°	—	5½	15,000	1450	1015	87	3000
			14478-2	☐★●	CDM-i25W/830/ PAR38/25/ALTO	MBCP = 5600	6	G, PAR Flood 25°	—	5½	15,000	1450	1015	87	3000
			14479-0	☐★●	CDM-i25W/830/ PAR38/40/ALTO	MBCP = 2100	6	G, PAR W. Flood 40°	—	5½	15,000	1450	1015	87	3000

For the most current product information, go to the e-catalog on **www.philips.com**
HID symbols and footnotes located on page 82


T9
PGZ18

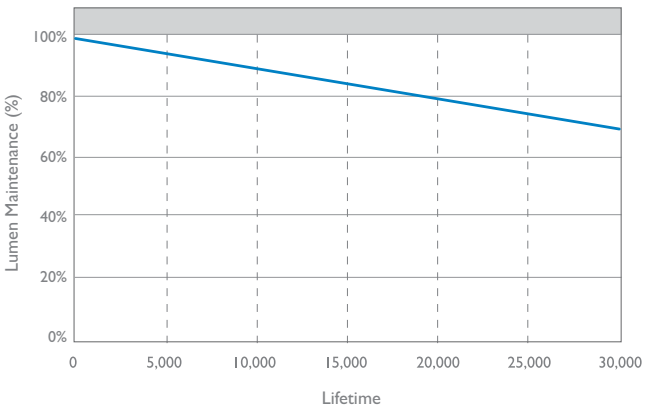

T12
PGZX18


TD
RX7s


PAR38 Integrated
Med.

Maintenance Curve

Philips MasterColor Elite MW 315W Lamps



High Intensity Discharge Lamps

MasterColor Ceramic Metal Halide Lamps

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code Ballast Ref. or MBCP♦	Pkg. Qty.‡	Description (401, 407)	LCL (In.)	MOL (In.)	Rated Avg. Life (Hrs.)(351)	Approx. Initial Lumens(352)	Approx. Mean Lumens(353)	CRI	CCT (K)
Protected MasterColor Ceramic Metal Halide R111 Lamps (391, 392, 396, 397)															
Open or enclosed luminaires; lifetime color stability within ±200K															
22	R111	GX8.5	15297-4	☐★	CDM-R111/20W/830 10DG	C175/O MBCP=20,000	6	G, R111, N. Spot 10°	—	3¾	9000	750	500	85	3000
39	R111	GX8.5	13554-1	☐★	CDM-R111/35W/830 10DG	C130/O MBCP=35,000	6	G, R111, Spot 10°	—	3¾	12,000	1100	720	81	3000
			13556-6	☐★	CDM-R111/35W/830 24DG	C130/O MBCP=8500	6	G, R111, N. Flood 24°	—	3¾	12,000	1350	880	81	3000
			13921-2	☐★	CDM-R111/35W/830 40DG	C130/O MBCP=4000	6	G, R111, Flood 40°	—	3¾	12,000	1350	880	81	3000
70	R111	GX8.5	14754-6	☐★	CDM-R111/70W/830 10DG	C139/O MBCP=50,000	6	G, R111, Spot 10°	—	3¾	12,000	2500	1625	84	3000
			14755-3	☐★	CDM-R111/70W/830 24DG	C139/O MBCP=15,000	6	G, R111, N. Flood 24°	—	3¾	12,000	2850	1850	84	3000
			14795-8	☐★	CDM-R111/70W/830 40DG	C139/O MBCP=9000	6	G, R111, Flood 40°	—	3¾	12,000	2850	1850	84	3000
Protected MasterColor Elite Ceramic Metal Halide MR16 Lamps (391, 392, 396, 397)															
Open or enclosed luminaires; lifetime color stability within ±200K															
20	MR16	GX10	42165-1	★†	CDM-MR16/20W/830/10D ELITE	C156/O MBCP=13,500	12	G, MR16 Spot 10°	—	2⅝	15,000	1050	880	85	3000
			42166-9	★†	CDM-MR16/20W/830/25D ELITE	C156/O MBCP=4500	12	G, MR16 Flood 25°	—	2⅝	15,000	1050	880	85	3000
			42167-7	★†	CDM-MR16/20W/830/40D ELITE	C156/O MBCP=2100	12	G, MR16 W. Flood 40°	—	2⅝	15,000	1050	880	85	3000
39	MR16	GX10	41893-9	★†	CDM-MR16/35W/930/10D ELITE	C130/O MBCP=18,000	12	G, MR16 Spot 10°	—	2⅝	15,000	2400	2200	90	3000
			41894-7	★†	CDM-MR16/35W/930/25D ELITE	C130/O MBCP=8000	12	G, MR16 Flood 25°	—	2⅝	15,000	2400	2200	90	3000
			41895-3	★†	CDM-MR16/35W/930/40D ELITE	C130/O MBCP=3900	12	G, MR16 W. Flood 40°	—	2⅝	15,000	2400	2200	90	3000
50	MR16	GX10	41553-9	★†☐	CDM-MR16/50W/930/25D ELITE	C193/O MBCP=11,500	12	G, MR16 Flood 25°	—	2⅝	12,000	3500	3200	90	3000
			41554-7	★†☐	CDM-MR16/50W/930/40D ELITE	C193/O MBCP=7000	12	G, MR16 W. Flood 40°	—	2⅝	12,000	3500	3200	90	3000

For the most current product information, go to the e-catalog on **www.philips.com**

HID symbols and footnotes located on page 82

R111
GX8.5

MR16
GX10

Protected MasterColor Ceramic Metal Halide PAR Lamps (391, 392, 396)

Open or enclosed luminaires; lifetime color stability within ±200K

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code Ballast Ref.	Pkg. Qty.‡	Description (401, 407)	LCL (In.)	MOL (In.)	Rated Avg. Life (Hrs.)(351)	Approx. Initial Lumens(352)	Approx. Mean Lumens(353)	CRI	CCT (K)
22	PAR20	Med.	21151-6	★ ●	CDM20/PAR20/ M/SP/3K/ALTO	C156/C175/O MBCP=18,000	12	G, PAR WISO Spot 10° (397)	—	3¼	9000	940	600	81	3000
			21152-4	★ ●	CDM20/PAR20/ M/FL/3K/ALTO	C156/C175/O MBCP=2800	12	G, PAR WISO Flood 30° (397)	—	3¼	9000	980	615	81	3000
	PAR30L	Med.	21149-0	★ ●	CDM20/PAR30L/ M/SP/3K/ALTO	C156/C175/O MBCP=32,000	6	G, PAR WISO Spot 10° (397)	—	4¾	9000	1200	750	81	3000
			21140-9	★ ●	CDM20/PAR30L/ M/FL/3K/ALTO	C156/C175/O MBCP=4625	6	G, PAR WISO Flood 25° (397)	—	4¾	9000	1200	750	81	3000
39	PAR20	Med.	23365-0	★ ●	CDM35/PAR20/ M/SP/3K/ALTO	C130/O MBCP=23,000	12	G, PAR WISO Spot 10° (397)	—	3¼	9000	2000	1300	81	3000
			23364-3	★ ●	CDM35/PAR20/ M/FL/3K/ALTO	C130/O MBCP=5000	12	G, PAR WISO Flood 30° (397)	—	3¼	9000	2000	1300	81	3000
			15140-7	★ ●	CDM35/PAR20/ M/SP/4K/ALTO	C130/O MBCP=21,500	12	G, PAR WISO Spot 10° (397)	—	3¼	6000	1950	1650	92	4000
			15141-5	★ ●	CDM35/PAR20/ M/FL/4K/ALTO	C130/O MBCP=5000	12	G, PAR WISO Flood 30° (397)	—	3¼	6000	1950	1650	92	4000
	PAR30L	Med.	22329-7	★ ●	CDM35/PAR30L/ M/SP/3K/ALTO	C130/O MBCP=44,000	6	G, PAR WISO Spot 10° (397)	—	4¾	11,000	2200	1430	81	3000
			22330-5	★ ●	CDM35/PAR30L/ M/FL/3K/ALTO	C130/O MBCP=9300	6	G, PAR WISO Flood 25° (397)	—	4¾	11,000	2200	1430	81	3000
70	PAR30L	Med.	23224-9	★ ●	CDM70/PAR30L/ M/SP/3K/ALTO	M143/M98/O MBCP=66,000	6	G, PAR WISO Spot 10°	—	4¾	12,000	5000	3050	83	3000
			23221-5	★ ●	CDM70/PAR30L/ M/FL/3K/ALTO	M143/M98/O MBCP=10,000	6	G, PAR WISO Flood 40°	—	4¾	12,000	5000	3050	83	3000
			15142-3	★ ●	CDM70/PAR30L/ M/SP/4K/ALTO	C139/O MBCP=63,000	6	G, PAR WISO Spot 10°	—	4¾	12,000	4300	3010	94	4000
			15143-1	★ ●	CDM70/PAR30L/ M/FL/4K/ALTO	C139/O MBCP=9000	6	G, PAR WISO Flood 40°	—	4¾	12,000	4300	3010	94	4000
	PAR38	Med.	22250-5	★ ●	CDM70/PAR38/ SP/3K/ALTO	M143/M98/O MBCP=42,000	12	G, PAR WISO Spot 15° (399)	—	5⅞	12,500	4100	2870	85	3000
			22249-7	★ ●	CDM70/PAR38/ FL/3K/ALTO	M143/M98/O MBCP=16,000	12	G, PAR WISO Flood 25° (399)	—	5⅞	12,500	4100	2870	85	3000
			28872-0	▢ ★ ●	CDM70/PAR38/ SP/4K/ALTO	M143/M98/O MBCP=40,000	12	G, PAR WISO Spot 15° (399)	—	5⅞	12,500	3700	2590	92	4000
			28873-8	▢ ★ ●	CDM70/PAR38/ FL/4K/ALTO	M143/M98/O MBCP=13,000	12	G, PAR WISO Flood 25° (399)	—	5⅞	12,500	3700	2590	92	4000
100	PAR38	Med.	24477-2	★ ●	CDM100/PAR38/ SP/3K/ALTO	M140/M90/O MBCP=55,000	12	G, PAR WISO Spot 15° (399)	—	5⅞	12,500	6200	4340	85	3000
			24476-4	★ ●	CDM100/PAR38/ FL/3K/ALTO	M140/M90/O MBCP=22,000	12	G, PAR WISO Flood 25° (399)	—	5⅞	12,500	6200	4340	85	3000
			28876-1	▢ ★ ●	CDM100/PAR38/ SP/4K/ALTO	M140/M90/O MBCP=50,000	12	G, PAR WISO Spot 15°(399)	—	5⅞	12,500	5700	3990	92	4000
			28878-7	▢ ★ ●	CDM100/PAR38/ FL/4K/ALTO	M140/M90/O MBCP=19,000	12	G, PAR WISO Flood 25° (399)	—	5⅞	12,500	5700	3990	92	4000

For the most current product information, go to the e-catalog on **www.philips.com**

HID symbols and footnotes located on page 82

PAR20
Med.

PAR30L
Med.

PAR38
Med.

High Intensity Discharge Lamps

MasterColor Ceramic Metal Halide Lamps

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code Ballast Ref.	Pkg. Qty.‡	Description (401, 407)	LCL (In.)	MOL (In.)	Rated Avg. Life (Hrs.)(351)	Approx. Initial Lumens(352)	Approx. Mean Lumens(353)	CRI	CCT (K)
Protected MasterColor Ceramic Metal Halide Lamps (391, 392, 396, 399)															
ED17P sleeved arc tube; open or enclosed luminaires; lifetime color stability within ±200K; pulse start															
50	ED17P	Med.	42368-1	★†	MHC50/U/MP/3K ELITE	M148/M110/O	12	G, Clear, FadeBlock	3⅞	5⅞	16,000	4800	3840	90	3000
			36893-6	★†	MHC50/U/MP/4K/ALTO	M148/M110/O	12	G, Clear, FadeBlock	3⅞	5⅞	20,000	3600	2450	92	4000
70	ED17P	Med.	42370-7	★†	MHC70/U/MP/3K ELITE	M143/M98/O	12	G, Clear, FadeBlock	3⅞	5⅞	16,000	6700	5360	90	3000
			42369-9	★†	MHC70/C/U/MP/3K ELITE	M143/M98/O	12	G, Coated, FadeBlock	—	5⅞	16,000	6100	4880	90	3000
			36057-8	★●	MHC70/U/MP/4K/ALTO	M143/M98/O	12	G, Clear, FadeBlock	3⅞	5⅞	20,000	5800	4060	92	4000
			36059-4	★●	MHC70/C/U/MP/4K/ALTO	M143/M98/O	12	G, Coated, FadeBlock	—	5⅞	20,000	5200	3640	92	4000
100	ED17P	Med.	42367-3	★†	MHC100/U/MP/3K ELITE	M140/M90/O	12	G, Clear, FadeBlock	3⅞	5⅞	16,000	10,000	8000	90	3000
			42371-5	★†	MHC100/C/U/MP/3K ELITE	M140/M90/O	12	G, Coated, FadeBlock	—	5⅞	16,000	9200	7360	90	3000
			36060-2	★●	MHC100/U/MP/4K/ALTO	M140/M90/O	12	G, Clear, FadeBlock	3⅞	5⅞	20,000	8200	6150	92	4000
			36061-0	★●	MHC100/C/U/MP/4K/ALTO	M140/M90/O	12	G, Coated, FadeBlock	—	5⅞	20,000	7500	5625	92	4000
150	ED17P	Med.	13463-5	★●	MHC150/U/MP/3K/ALTO	M142/M102/O	12	G, Clear, FadeBlock	3⅞	5⅞	16,000	12,900	9545	85	3000
			13464-3	★●	MHC150/C/U/MP/3K/ALTO	M142/M102/O	12	G, Coated, FadeBlock	—	5⅞	16,000	11,900	8805	85	3000
			37724-2	★●	MHC150/U/MP/4K/ALTO	M142/M102/O	12	G, Clear, FadeBlock	3⅞	5⅞	20,000	12,000	9000	92	4000
			37726-7	▢★●	MHC150/C/U/MP/4K/ALTO	M142/M102/O	12	G, Coated, FadeBlock	—	5⅞	20,000	11,000	8250	92	4000
MasterColor Ceramic Metal Halide ED17, ED28 Lamps (391, 392, 399)															
Enclosed luminaires only; lifetime color stability within ±200K; pulse start															
50	ED17	Med.	41949-9	★●†	MHC50/U/M/3K ELITE	M148/M110/E	12	G, Clear	3⅞	5⅞	16,000	5500	4400	90	3000
			41950-7	★●†	MHC50/C/U/M/3K ELITE	M148/M110/E	12	G, Coated	—	5⅞	16,000	5200	4160	90	3000
			36023-0	▢★●	MHC50/U/M/4K/ALTO	M148/M110/E	12	G, Clear	3⅞	5⅞	20,000	3750	2550	92	4000
			36024-8	▢★●	MHC50/C/U/M/4K/ALTO	M148/M110/E	12	G, Coated	—	5⅞	20,000	3600	2450	92	4000
70	ED17	Med.	41947-3	★†	MHC70/U/M/3K ELITE	M143/M98/E	12	G, Clear	3⅞	5⅞	16,000	7700	6100	90	3000
			41948-1	★†	MHC70/C/U/M/3K ELITE	M143/M98/E	12	G, Coated	—	5⅞	16,000	7300	5800	90	3000
			28129-5	★●	MHC70/U/M/4K/ALTO	M143/M98/E	12	G, Clear	3⅞	5⅞	20,000	5900	4130	92	4000
			28133-7	★●	MHC70/C/U/M/4K/ALTO	M143/M98/E	12	G, Coated	—	5⅞	20,000	5500	3850	92	4000
100	ED17	Med.	41951-5	★†	MHC100/U/M/3K ELITE	M140/M90/E	12	G, Clear	3⅞	5⅞	16,000	11,000	9350	85	3000
			41952-3	★†	MHC100/C/U/M/3K ELITE	M140/M90/E	12	G, Coated	—	5⅞	16,000	10,200	8670	85	3000
			28135-2	★●	MHC100/U/M/4K/ALTO	M140/M90/E	12	G, Clear	3⅞	5⅞	20,000	9000	6750	92	4000
			28136-0	★●	MHC100/C/U/M/4K/ALTO	M140/M90/E	12	G, Coated	—	5⅞	20,000	8400	6300	92	4000
	ED28	Mog.	36543-7	▢★	MHC100/U/ED28/HR/4K	M140/M90/E	12	G, Clear (372, 377, 378)	5	8⅝	10,000	8500	6800	92	4100
150	ED17	Med.	13022-9	★●	MHC150/U/M/3K/ALTO	M142/M102/E	12	G, Clear	3 1/32	5⅞	16,000	14,000	10,500	85	3000
			13023-7	★●	MHC150/C/U/3K/ALTO	M142/M102/E	12	G, Coated	—	5⅞	16,000	12,500	9375	85	3000
			37720-0	★●	MHC150/U/M/4K/ALTO	M142/M102/E	12	G, Clear	3⅞	5⅞	20,000	13,000	9750	92	4000
			37721-8	★●	MHC150/C/U/M/4K/ALTO	M142/M102/E	12	G, Coated	—	5⅞	20,000	12,000	9000	92	4000

For the most current product information, go to the e-catalog on **www.philips.com**

HID symbols and footnotes located on page 82

High Intensity Discharge Lamps

MasterColor Ceramic Metal Halide, CosmoWhite, Energy Advantage Ceramic Metal Halide Lamps

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code Ballast Ref.	Pkg. Qty.‡	Description (401, 407)	LCL (In.)	MOL (In.)	Rated Avg. Life (Hrs.)(351)	Approx. Initial Lumens(352)	Approx. Mean Lumens(353)	CRI	CCT (K)
MasterColor Ceramic Metal Halide Pulse Start ED23.5 Lamps (391, 392, 399)															
Enclosed luminaires only; lifetime color stability within ±200K; pulse start															
70	ED23½	Mog.	15492-2	▢■★●	CDM70/U/PS/4K ALTO	M143/M98/E	12	G, Clear	5	7¾	24,000	5900	4150	85	4000
100	ED23½	Mog.	15493-0	▢■★●	CDM100/U/PS/4K ALTO	M140/M90/E	12	G, Clear	5	7¾	24,000	9000	6750	85	4000
150	ED23½	Mog.	15494-8	▢■★●	CDM150/U/PS/4K ALTO	M142/M102/E	12	G, Clear	5	7¾	24,000	13,000	9100	85	4000
CosmoWhite (391, 392, 396, 397)															
Enclosed luminaires only; lifetime color stability within ±200K (HOR = Horizontal Operation ± 15°)															
45	T6	PGZ12	41889-7	★▢$†	CPO-T WHITE 45W/728	TBD	12	G, Clear, FadeBlock, Horiz. ±15°	2⅛	5½	30,000*	4950	4400	70	2800
60	T6	PGZ12	15731-3	★▢$	CPO-T WHITE 60W/728	C187/E	12	G, Clear, FadeBlock, Horiz. ±15°	2⅛	5½	30,000*	7200	6400	70	2800
			41884-8	★▢$†	CPO-T WHITE 60W/840	C187/E	12	G, Clear, FadeBlock, Horiz. ±15°	2⅛	5½	16,000	7020	6300	80	4000
90	T6	PGZ12	40604-1	★▢$	CPO-T WHITE 90W/728	C188/E	12	G, Clear, FadeBlock, Horiz. ±15°	2⅜	5⅜	30,000*	10,450	8800	70	2800
			41794-9	★▢$†	CPO-T WHITE 90W/840	C188/E	12	G, Clear, FadeBlock, Horiz. ±15°	2⅜	5⅜	15,000	10,350	9625	80	4000
140	T6	PGZ12	15732-1	★▢$	CPO-T WHITE 140W/728	C189/E	12	G, Clear, FadeBlock, Horiz. ±15°	2⅜	5½	30,000*	16,500	14,520	70	2800
			41795-5	★▢$†	CPO-T WHITE 140W/840	C189/E	12	G, Clear, FadeBlock, Horiz. ±15°	2⅜	5½	15,000	16,100	15,130	80	4000
Energy Advantage CDM with AllStart Technology ED17 Lamps (391, 392, 396, 397)															
Enclosed luminaires only; lifetime color stability within ±200K															
145	ED17	Med.	41106-6	★▢$†	CDM145/U/M/4K/ ED17 EA AllStart	C192/E**	12	G, Clear, Fadeblock	3⅞	5⅞	20,000	13,340	10,670	>80	4300
			41320-3	★▢$†	CDM145/C/U/M/4K/ ED17 EA AllStart	C192/E**	12	G, Coated, Fadeblock	—	5⅞	20,000	12,300	9840	>80	4300

For the most current product information, go to the e-catalog on **www.philips.com**

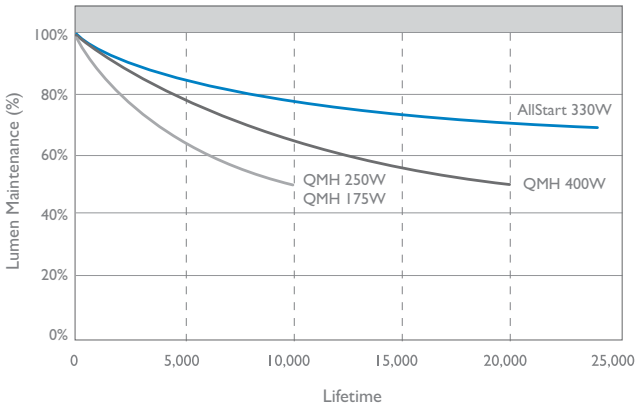
HID symbols and footnotes located on page 82

* 30,000 horizontal application but 20,000 vertical application

** 145W compatible with M57 probe start ballast. Also compatible with M152 pulse start ballasts

Maintenance Curve

Philips Energy Advantage CDM 330W Lamps with AllStart Technology



Energy Advantage Lamp Comparisons

Philips Energy Advantage CDM Lamp with AllStart Technology	Standard Metal Halide Lamp Replacement
145W Energy Advantage CDM Lamp	175W Standard Metal Halide Lamp
205W Energy Advantage CDM Lamp	250W Standard Metal Halide Lamp
260W Energy Advantage CDM Lamp	320W Standard Metal Halide Lamp
330W Energy Advantage CDM Lamp	400W Standard Metal Halide Lamp
860W Energy Advantage CDM Lamp	1000W Standard Metal Halide Lamp

High Intensity Discharge Lamps

Energy Advantage Ceramic Metal Halide Lamps

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code Ballast Ref.	Pkg. Qty.‡	Description (401, 407)	LCL (In.)	MOL (In.)	Rated Avg. Life (Hrs.)(351)	Approx. Initial Lumens(352)	Approx. Mean Lumens(353)	CRI	CCT (K)
Energy Advantage CDM with AllStart Technology (391, 392, 396, 397)⌘															
Open or enclosed luminaires; lifetime color stability within ±200K															
145	ED28	EX39 Excl. Mog.	41107-4	★ ▢ $	CDM145/U/O/4K/ ED28 EA AllStart	C192/O[1]	12	G, Clear, Fadeblock	5	8 5/16	20,000	13,775	11,020	87	4000
			41319-5	★ ▢ $	CDM145/C/U/O/4K/ ED28 EA AllStart	C192/O[1]	12	G, Coated, Fadeblock	—	8 5/16	20,000	12,615	10,090	87	4000
205	ED28	EX39 Excl. Mog.	23256-1	★ ▢ $	CDM205/U/O/4K EA AllStart	C184/O[2]	12	G, Clear, Fadeblock	5	8 5/16	20,000	19,500	15,600	85	4100
			23692-7	★ ▢ $	CDM205/C/U/O/4K EA AllStart	C184/O[2]	12	G, Coated, Fadeblock	—	8 5/16	20,000	18,000	14,400	85	4100
260	ED28	EX39 Excl. Mog.	41937-4	★ ▢ $ †	CDM260/U/O/4K EA AllStart	C195/O[4]	12	G, Clear, Fadeblock	5	8 5/16	20,000	27,000	21,600	90	4000
			41936-6	★ ▢ $ †	CDM260/C/U/O/4K EA AllStart	C195/O[4]	12	G, Coated, Fadeblock	—	8 5/16	20,000	25,300	20,300	90	4000
330	ED28	EX39 Excl. Mog.	41105-8	★ ▢ $	CDM330/U/O/4K/ED28 EA AllStart	C185/O[3]	12	G, Clear, Fadeblock	5	8 5/16	20,000	33,000	26,400	90	4000
	ED37	EX39 Excl. Mog.	23259-5	★ ▢ $	CDM330/U/O/4K EA AllStart	C185/O[3]	6	G, Clear, Fadeblock	7	11 1/2	24,000	33,000	24,750	90	4000
			23693-5	★ ▢ $	CDM330/C/U/O/4K EA AllStart	C185/O[3]	6	G, Coated, Fadeblock	—	11 1/2	24,000	31,000	23,250	90	4000
Open or enclosed luminaires; lifetime color stability within ±200K; (V = Vertical Operation ±15°)															
860	BT37	EX39 Excl. Mog.	42178-4	★ ▢ $ †	CDM860/V/O/4K/BT37 EA AllStart	C194/O[5]	6	G, Clear, Fadeblock	7	11 1/2	20,000	82,000	65,000	92	3700
	BT56	EX39 Excl. Mog.	42179-2	★ ▢ $ †	CDM860/V/O/4K/BT56 EA AllStart	C194/O[5]	6	G, Clear, Fadeblock	9 1/2	15 3/8	20,000	82,000	65,000	92	3700
Energy Advantage CDM Long Life Lamp with AllStart Technology (391, 392, 396, 397)															
Open or enclosed luminaires; lifetime color stability within ±200K; (V = Vertical Operation ±15°)															
330	ED37	EX39 Excl. Mog.	42177-6	★ ▢ $ †	CDM330/V/O/4K/LL EA AllStart	C185/O[4]	6	G, Clear, Fadeblock	7	11 1/2	36,000	32,950	23,100	90	4000

1) 145W compatible with M57 probe start ballast. Also compatible with M152 pulse start ballasts
2) 205W compatible with M58 probe start ballast. Also compatible with M138 and M153 pulse start ballasts
3) 330W compatible with M59 probe start ballast. Also compatible with M128, M135, M155, and M172 pulse start ballasts
4) 260W compatible with M154 and M132 pulse start ballasts
5) 860W compatible with M47 probe start ballast. Also compatible with M141 pulse start ballast

For the most current product information, go to the e-catalog on **www.philips.com**

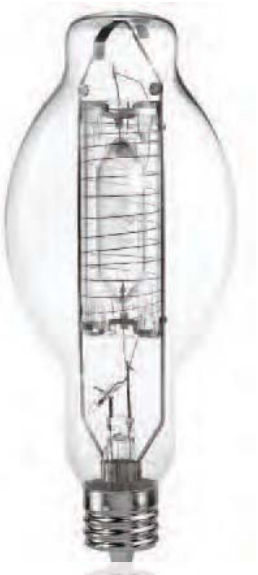
HID symbols and footnotes located on page 82

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code Ballast Ref.	Pkg. Qty.‡	Description (401, 407)	LCL (In.)	MOL (In.)	Rated Avg. Life (Hrs.)(351)	Approx. Initial Lumens(352)	Approx. Mean Lumens(353)	CRI	CCT (K)
Protected Pulse Start Metal Halide "O" Rated Lamps (372, 374, 391)															
Open or enclosed luminaires; pulse start metal halide is designed for operation on only specified ANSI compatible ballasts with metal halide pulse ignitors⌘															
175	ED28	EX39 Excl.Mog.	20755-5	■★	MP175/BU/PS	M152/ M137/O	12	G, Clear, Base Up ± 15° Pulse Start	5	8⅝	14,000	16,000	11,200	62	3500
250	ED28	EX39 Excl.Mog.	20756-3	■★	MP250/BU/PS	M153/ M138/O	12	G, Clear, Base Up ± 15° Pulse Start	5	8⅝	14,000	23,000	16,100	62	3800
320	ED37	EX39. Excl.Mog.	13039-3	■★	MP320/BU/PS	M154/ M132/O	6	G, Clear, Base Up ± 15° Pulse Start	7	11½	20,000	29,500	20,650	65	3800
			13040-1	■★	MP320/C/BU/PS	M154/ M132/O	6	G, Coated Base Up ± 15° Pulse Start	—	11½	20,000	27,200	19,040	65	3700
350	ED37	EX39 Excl.Mog.	39101-1	■★	MP350/BU/PS	M131/O	6	G, Clear, Base Up ± 15° Pulse Start	7	11½	20,000	34,000	23,800	64	4000
400	ED37	EX39 Excl.Mog.	13334-8	■★	MP400/BU/PS	M155/M128/ M135/O	6	G, Clear, Base Up ± 15° Pulse Start	7	11½	20,000	40,000	28,000	65	3800
			13335-5	■★	MP400/C/BU/PS	M155/M128/ M135/O	6	G, Coated Base Up ± 15° Pulse Start	—	11½	20,000	36,000	23,400	68	3600
750	BT37	EX39 Excl.Mog.	20757-1	■★	MP750/BU/PS	M149/O	6	G, Clear, Base Up ± 15° Pulse Start	7	11½	12,000	70,000	49,000	70	3800

For the most current product information, go to the e-catalog on **www.philips.com**
HID symbols and footnotes located on page 82


ED28
EX-39


ED37
EX-39


BT37
EX-39

High Intensity Discharge Lamps

Metal Halide Lamps

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code Ballast Ref.	Pkg. Qty.‡	Description (401, 407)	LCL (In.)	MOL (In.)	Rated Avg. Life (Hrs.)(351)	Approx. Initial Lumens(352)	Approx. Mean Lumens(353)	CRI	CCT (K)
Pulse Start Metal Halide Lamps (372, 374, 391)															
Enclosed luminaires only unless otherwise noted; base up operation ± 15° unless otherwise noted.															
Pulse start metal halide is designed for operation on only specified ANSI compatible ballasts with metal halide pulse ignitors.															
175	ED17	Med.	23249-6	■★	MS175/M/BU/PS	M152/M137/E	12	G, Base Up ±15°, Pulse Start	3⅞	5⅞	15,000	17,500	12,250	68	4000
	ED28	Mog.	27662-6	■★	MS175/BU/PS	M152/M137/E	12	G, Base Up ±15°, Pulse Start	5	8⅝	15,000	16,000	11,200	62	3700
			20751-4	▢■★	MS175/HOR/PS	M152/M137/E	12	G, Clear, Horizontal, Pulse Start	5	8⅝	11,500	12,800	8960	62	4200
200	ED28	Mog.	23250-4		MS200/BU/PS	M136/E	12	G, Base Up ±15°, Pulse Start	5	8⅝	15,000	21,000	14,700	68	4000
250	ED28	Mog.	27661-8	■★	MS250/BU/PS	M153/M138/E	12	G, Base Up ± 15°, Pulse Start	5	8⅝	15,000	23,750	16,625	65	4300
			23280-1	▢■★	MS250/U/PS	M153/M138/E	12	G, Clear, Universal, Pulse Start (385)	5	8⅝	12,000	22,000	15,400	62	3800
320	ED28	Mog.	38381-0	■★	MS320/U/PS	M154/M132/E	12	G, Clear, Pulse Start (385)	5	8⅝	20,000	30,000	21,000	62	4100
350	ED37	Mog.	38387-7	■★	MS350/BU/PS	M131/E	6	G, Clear, Base Up ± 15°, Pulse Start	7	11½	20,000	36,000	25,200	62	4000
400	ED28	Mog.	23252-0		MS400/BU/ED28/PS	M155/M128/ M135/E	12	G, Base Up ±15°, Pulse Start	5	8⅝	20,000	44,000	30,800	68	4000
			23253-8		MS400/HOR/ED28/PS	M155/M128/ M135/E	12	G, Clear, Horizontal, Pulse Start	5	8⅝	20,000	40,000	28,000	68	4000
	ED37	Mog.	23283-5	■★	MS400/U/PS	M155/M135/ M128/E	6	G, Clear, Universal, Pulse Start (385)	7	11½	15,000	40,000	28,000	62	3800
750	BT37	Mog.	13540-0	■★	MS750/BU/BT37/PS	M149/E	6	G, Clear, Base Up ± 15°, Pulse Start	7	11½	16,000	82,000	61,500	65	4000
			20754-8	▢■★	MS750/HOR/BT37/PS	M149/E	6	G, Clear, Horizontal, Pulse Start	7	11½	12,000	68,000	47,600	65	4000
1000	BT37	Mog.	36019-8	■★	MS1000/BU/BT37/PS	M141/E	6	G, Clear, Base Up ± 15°, Pulse Start	7	11½	15,000	120,000	96,000	65	3700

For the most current product information, go to the e-catalog on **www.philips.com**

HID symbols and footnotes located on page 82

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code Ballast Ref.	Pkg. Qty.‡	Description (401, 407)	LCL (In.)	MOL (In.)	Rated Avg. Life (Hrs.)(351)	Approx. Initial Lumens(352)	Approx. Mean Lumens(353)	CRI	CCT (K)
Protected Metal Halide "O" Rated Lamps (372, 374, 377)※															
Open or enclosed luminaires															
175	ED28	EX39 Excl.Mog.	28119-6	■★	MP175/BU	M57/O	12	G, Clear, Base Up ±15°	5	8⅝	10,000	15,000	12,000	65	3800
250	ED28	EX39 Excl.Mog.	28124-6	■★	MP250/BU	M58/O	12	G, Clear, Base Up ±15°	5	8⅝	10,000	22,000	16,500	62	3800
360	ED37	EX39	13067-4	■★ $	MP360BU/EW	M165/M59/O	6	G, Clear, Base Up ±15°	7	11½	20,000	34,200	23,940	65	4000
		Excl.Mog.	13068-2	■★ $	MP360/C/BU/EW	M165/M59/O	6	G, Coated, Base Up ±15°	—	11½	20,000	31,700	20,605	68	360
400	ED37	EX39	13332-2	■★	MP400/BU	M59/O	6	G, Clear, Base Up ±15°	7	11½	20,000	38,000	26,600	65	4000
		Excl.Mog.	13333-0	■★	MP400/C/BU	M59/O	6	G, Coated, Base Up ±15°	—	11½	20,000	34,500	22,425	67	3700
1000	BT56	EX39 Excl.Mog.	28118-8	■★	MP1000/BU	M47/O	6	G, Clear, Base Up ±15°	9½	15⅜	12,000	107,000	75,000	65	3900
Double-Ended Metal Halide Lamps (374, 387, 393)															
Enclosed luminaires (387)															
1800	TD Special	PSFc20-6/ SFc20-6	31360-1		MHD1800W	—	4	Sports Ltg. Spot Horizontal ± 15°	4¼	14	4500	150,000	—	92	5600

For the most current product information, go to the e-catalog on **www.philips.com**
HID symbols and footnotes located on page 82

High Intensity Discharge Lamps

Metal Halide Lamps, MasterColor Ceramic Metal Halide Lamps

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code Ballast Ref.	Pkg. Qty.‡	Description (401, 407)	LCL (In.)	MOL (In.)	Rated Avg. Life (Hrs.)(351)	Approx. Initial Lumens(352)	Approx. Mean Lumens(353)	CRI	CCT (K)
Metal Halide Lamps (372)															
Enclosed luminaires only															
150	BD17	Med.	35462-1	★	MH150/U/M	M107/E	12	G, Clear (385, 400)	3 7/16	5 7/16	10,000	12,500	8500	65	3700
			35463-9	★	MH150/C/U/M	M107/E	12	G, Coated (385, 400)	—	5 7/16	10,000	12,000	7900	65	3400
175	BD17	Med.	31358-5	★	MH175/U/M	M57/E	12	G, Clear (377, 385, 393)	3 7/16	5 7/16	10,000	13,500	9100	65	4000
			31359-3	★	MH175/C/U/M	M57/E	12	G, Coated (377, 385)	—	5 7/16	10,000	13,000	8380	65	3700
	ED28	Mog.	28733-4	★	MH175/U	M57/E	12	G, S, Clear (377, 385, 393)	5	8 3/16	10,000	13,500	8775	65	4000
			28728-4	★	MH175/C/U	M57/E	12	G, S, Coated (374, 377, 385)	—	8 3/16	10,000	13,000	8200	70	3700
250	ED28	Mog.	27484-5	★	MH250/U	M58/E	12	G, S, Clear (377, 385, 393)	5	8 3/16	10,000	20,500	13,500	65	4000
			29169-0	★	MH250/C/U	M58/E	12	G, S, Coated (377, 385, 393)	—	8 3/16	10,000	19,475	12,500	70	3700
400	ED28	Mog.	27862-2	★	MH400/U/ED28	M59/E	12	G, Clear (377, 385, 393)	5	8 3/16	20,000	36,000	24,000	63	4000
	ED37	Mog.	27449-8	)★	MH400/U	M59/E	6	G, S, Clear (377, 385, 393)	7	11 1/2	20,000	39,000	25,350	65	3900
			41520-8	)★	MH400/C/U	M59/E	6	G, S, Coated (377, 385, 393)	—	11 1/2	20,000	38,000	22,800	65	3600
1000	BT37	Mog.	32150-5	★	MH1000/U/BT37	M47/E	6	G, Clear (359, 377, 385, 393)	7	11 1/2	10,000	110,000	71,500	65	3700
	BT56	Mog.	41522-4	)★	MH1000/U	M47/E	6	G, S, Clear (377, 385, 393)	9 1/2	15 3/8	12,000	114,000	79,800	65	3900
			41523-2	)★	MH1000/C/U	M47/E	6	G, S, Coated (377, 385, 393)	—	15 3/8,	12,000	110,000	77,000	65	3500
1500	BT56	Mog.	13162-3	★	MH1500/U	M48/E	6	G, S, Clear (359, 374, 375, 377, 402)	9 1/2	15 3/8	6000	172,000	137,600	60	4000
MasterColor CDM Warm Ceramic Metal Halide Tubular Single-Ended T6 Lamps (391, 392, 396, 397)															
Enclosed luminaires only; lifetime color stability within ±200K															
70	T6	G12	42169-3	★†	CDM-T Warm 70W/925	C139/E	12	G, Clear, FadeBlock	2 1/32	3 13/16	15,000	6500	5650	92	2600
MasterColor CDM Fresh Ceramic Metal Halide Tubular Single-Ended T6 Lamps (391, 392, 396, 397)															
Enclosed luminaires only; lifetime color stability within ±200K															
70	T6	G12	41901-0	★†	CDM-T FRESH 70W/740	C139/E	12	G, Clear, FadeBlock	2 1/32	3 13/16	15,000	6000	5000	70	4000

For the most current product information, go to the e-catalog on **www.philips.com**

HID symbols and footnotes located on page 82

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code Ballast Ref.	Pkg. Qty.‡	Description (401, 407)	LCL (In.)	MOL (In.)	Rated Avg. Life (Hrs.)(351)	Approx. Initial Lumens(352)	Approx. Mean Lumens(353)	CRI	CCT (K)
Mini White SON High Pressure Sodium Lamps (360, 376)															
Incandescent color quality, GX12-1 base compact high pressure sodium lamps to be operated on Advance eVision IWSN100CLF and IWSN100CBLS electronic ballast only															
100	T6	GX12-1	13425-4	▢★	SDW-TG 100W/T6/825	S167	12	G	2⅛	4 11/32	10,000	4900	4165	83	2550
White SON High Pressure Sodium Lamps (360, 373, 376, 394)															
Incandescent color quality															
100	T10	PG12	30228-1	▢★	SDW-T 100W/LV	S105	12	G	3⅜	5⅛	10,000	5000	4250	83	2550
Ceramalux High Pressure Sodium Lamps (360, 373)															
Featuring ALTO Lamp Technology															
35	BD17	Med.	40979-7	★	C35S76/M	S76	12	G (376)	3⅜	5⅛	24,000+	2250	2025	21	2100
50	BD17	Med.	40980-5	★	C50S68/M	S68	12	G (376)	3⅜	5⅛	24,000+	4000	3600	21	2100
	ED23½	Mog.	36867-0	★●	C50S68/ALTO	S68	12	G, S (376)	5	7¾	24,000+	4000	3600	21	2100
70	BD17	Med.	33192-6	★	C70S62/M	S62	12	G (376)	3⅜	5⅛	24,000+	6300	5850	21	2100
			33214-8	★	C70S62/D/M	S62	12	G (376)	—	5⅛	24,000+	5860	5270	21	2100
	ED23½	Mog.	36869-6	★●	C70S62/ALTO	S62	12	G, S (376)	5	7¾	24,000+	6500	5670	21	2100
100	BD17	Med.	34446-5	★	C100S54/M	S54S	12	G (376)	3½	5⅛	24,000+	9500	8550	21	2100
			34448-1	★	C100S54/D/M	S54S	12	G (376)	—	5⅛	24,000+	8800	7920	21	2100
	ED23½	Mog.	36872-0	★●	C100S54/ALTO	S54	12	G, S (376)	5	7¾	24,000+	9400	8460	21	2100
			33227-0	★●	C100S54/D/ALTO	S54	12	G, S (376)	—	7¾	24,000+	8610	7750	21	2100
150	BD17	Med.	30347-9	★	C150S55/M	S55	12	G (376)	3½	5⅛	24,000+	16,000	14,400	21	2100
			30348-7	★	C150S55/D/M	S55	12	G (376)	—	5⅛	24,000+	15,000	13,500	21	2100
	ED23½	Mog.	36874-6	★●	C150S55/ALTO	S55	12	G, S (370, 376)	5	7¾	24,000+	15,800	14,220	21	2100
	ED28	Mog.	36876-1	★●	C150S56/ALTO	S56	12	G, S (370, 376)	5	8 15/16	24,000+	15,000	13,950	21	2100
200	ED18	Mog.	36877-9	★●	C200S66/ALTO	S66MN-200	12	G, S (376)	5¾	9¾	24,000+	21,400	19,260	21	2100
250	ED18	Mog.	36879-5	★●	C250S50/ALTO	S50	12	G, S (376)	5¾	9¾	24,000+	27,000	24,300	21	2100
400	ED18	Mog.	36881-1	★●	C400S51/ALTO	S51	12	G, S (376)	5¾	9¾	24,000+	50,000	45,000	21	2100
600	T14	Mog.	23982-2	■★	C600S106	S106	12	G (376)	6⅞	11⅛	24,000+	90,000	81,000	21	2100
1000	ED25	Mog.	36883-7	■★●	C1000S52/ALTO	S52XB-1000	6	G, S (359, 362, 376)	8¾	15 1/16	24,000	140,000	126,000	21	2100
	ED37	Mog.	32386-5	■★	C1000S52/ED37	S52	6	G, S (376)	7	11½	24,000	125,000	112,000	21	2100

For the most current product information, go to the e-catalog on **www.philips.com**
HID symbols and footnotes located on page 82

High Intensity Discharge Lamps

High Pressure Sodium Lamps

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code Ballast Ref.	Pkg. Qty.‡	Description (401, 407)	LCL (In.)	MOL (In.)	Rated Avg. Life (Hrs.)(351)	Approx. Initial Lumens(352)	Approx. Mean Lumens(353)	CRI	CCT (K)
Ceramalux High Pressure Sodium Non-Cycling Lamps (360, 373, 376)															
Featuring ALTO Lamp Technology															
70	ED23½	Mog.	14739-7	★ ●	C70S62/ALTO NC HPS	S62	12	G, S	5	7¾	30,000	6300	5670	21	2100
100	ED23½	Mog.	14740-5	★ ●	C100S54/ALTO NC HPS	S54	12	G, S	5	7¾	30,000	10,000	9000	21	2100
150	ED23½	Mog.	14741-3	★ ●	C150S55/ALTO NC HPS	S55	12	G, S	5	7¾	30,000	16,000	14,400	21	2100
200	ED18	Mog.	15725-5	★ ●	C200S66/ALTO NC HPS	S66	12	G, S	5¾	9¾	30,000	22,000	19,800	21	2100
250	ED18	Mog.	14742-1	★ ●	C250S50/ALTO NC HPS	S50	12	G, S	5¾	9¾	30,000	28,500	25,650	21	2100
400	ED18	Mog.	14743-9	★ ●	C400S51/ALTO NC HPS	S51	12	G, S	5¾	9¾	30,000	50,000	45,000	21	2100
1000	ED25	Mog.	15726-3	★ ●	C1000S52/ALTO NC HPS	S52	6	G, S	8¾	15⅛	30,000	130,000	117,000	21	2100
Ceramalux High Pressure Sodium Instant Restrike Lamps (360, 373, 376)															
50	ED23½	Mog.	35467-0	■★	C50S68/2	S68	12	G, S	5	7¾	24,000+	3800	3450	21	2100
70	ED23½	Mog.	26541-3	■★	C70S62/2	S62	12	G, S	5	7¾	24,000+	5600	5050	21	2100
100	ED23½	Mog.	26560-3	■★	C100S54/2	S54	12	G, S	5	7¾	24,000+	9100	8190	21	2100
150	ED23½	Mog.	26561-1	■★	C150S55/2	S55	12	G, S	5	7¾	24,000+	15,600	14,000	21	2100
250	ED18	Mog.	37717-6	■★	C250S50/2	S50	12	G, S	5¾	9¾	24,000+	27,500	24,750	21	2100
400	ED18	Mog.	37688-9	■★	C400S51/2	S51	12	G, S	5¾	9¾	24,000+	49,000	44,000	21	2100
1000	ED25	Mog.	20412-3	■★	C1000S52/2	S52	6	G, S	8¾	15⅛	24,000+	140,000	126,000	21	2100

For the most current product information, go to the e-catalog on **www.philips.com**

HID symbols and footnotes located on page 82

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code Ballast Ref. or MBCP♦	Pkg. Qty.‡	Description (401, 407)	LCL (In.)	MOL (In.)	Rated Avg. Life (Hrs.)(351)	Approx. Initial Lumens(352)	Approx. Mean Lumens(353)	CRI	CCT (K)
High Pressure Sodium—Horticulture Lamps (360, 373)															
• Enhanced spectrum Xtreme grow lamp • Offers 22% more micromols**															
• Excellent lumen maintenance at 97% (405) • Features ALTO Lamp Technology, environmentally responsible lamps															
Note: Best practice suggests grow lamps to be replaced at maximum 40% of their rated average life in order to maintain same level of growth-light on plants over time															
400	T15	Mog.	40487-1	★†	SON-T PIA Grn Pw/400W	S51	12	AGRO (359, 362, 376)	6⅞	11⅛	24,000	58,500	52,650	725	2100
430	ED18	Mog.	31710-7	★	SON AGRO 430W	S145/S51	12	AGRO (389, 396)	5¾	9¾	16,000	54,000	48,600	670	2100
600	T15	Mog.	40488-9	★†	SON-T PIA Grn Pw/600W/230V	S106	12	AGRO (359, 362, 376)	6⅞	11⅛	16,000	88,500	84,100	1150	2100
			40489-7	★†	SON-T PIA Grn Pw/600W/347V	S106	12	AGRO (359, 362, 376)	6⅞	11⅛	16,000	88,000	83,600	1150	2100
			40490-5	★†	SON-T PIA Grn Pw/600W/480V	S106	12	AGRO (359, 362, 376)	6⅞	11⅛	16,000	88,000	83,600	1150	2100
1000	ED25	Mog.	14064-0	■★	C1000S52/AGROLITE XT	S52	6	AGRO (359, 362, 376)	8¾	15¹⁄₁₆	15,000	146,000	135,780	1850	2100

For the most current product information, go to the e-catalog on **www.philips.com**
HID symbols and footnotes located on page 82

** The micromol value expresses the amount of light particles (photons) between 400 and 700 nm that are sent out by a light source (=Photosynthetic Photon Flux) per second. The amount that the plant absorbs determines the rate of photosynthesis and as a result the rate of plant growth. Therefore, the micromol value is also called "growth-light." In general, an increase of 22% in growth-light means an increase of 22% in plant growth

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code Ballast Ref.	Pkg. Qty.‡	Description (401, 407)	LCL (In.)	MOL (In.)	Rated Avg. Life (Hrs.)(351)	Approx. Initial Lumens(352)	Approx. Mean Lumens(353)	CRI	CCT (K)
Low Pressure Sodium Lamps—SOX															
18	T17	D.C. Bay	23404-7	⍁	SOX-E18	L69	12	Clear Base Up ± 110°	5½	8½	18,000	1800	1530	—	1700
35	T17	D.C. Bay	32781-7		SOX35	L70	12	Clear Base Up ± 110°	—	12⅜	18,000	4550	3870	—	1700
55	T17	D.C. Bay	32151-3		SOX55	L71	12	Clear Base Up ± 110°	9½	16¾	18,000	7800	6630	—	1700
90	T21	D.C. Bay	32152-1		SOX90	L72	12	Clear Horizontal ± 20°	—	20¾	18,000	14,300	12,155	—	1700
135	T21	D.C. Bay	32153-9		SOX135	L73	12	Clear Horizontal ± 20°	—	30½	18,000	22,600	19,210	—	1700
180	T21	D.C. Bay	15116-7		SOX180	L74	6	Clear Horizontal ± 20°	—	44⅛	18,000	32,000	22,400	—	1700

For the most current product information, go to the e-catalog on **www.philips.com**
HID symbols and footnotes located on page 82

High Intensity Discharge Lamps

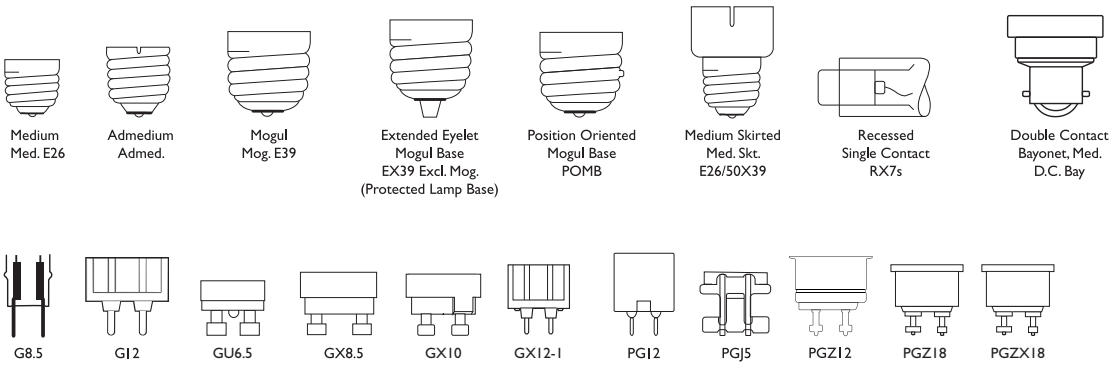
Mercury Vapor Lamps

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code Ballast Ref.	Pkg. Qty.‡	Description (401, 407)	LCL (In.)	MOL (In.)	Rated Avg. Life (Hrs.)(351)	Approx. Initial Lumens(352)	Approx. Mean Lumens(353)	CRI	CCT (K)
Mercury Vapor Lamps															
100	A23	Med.	35658-4	★	H38MP-100/DX	H38	24	G (379)	—	5⅞	24,000+	4300	3700	45	3700
	ED23½	Mog.	33713-9	★	H38JA-100/DX	H38	12	G, S (379)	—	7½	24,000+	4400	3400	45	3700
175	ED28	Mog.	31965-7	★	H39KB-175	H39	12	G, S (355)	5	8⅝	24,000+	7900	7400	20	6800
	ED28	Mog.	24805-4	★	H39KC-175/DX	H39	12	G, S (379)	—	8⅝	24,000+	7900	7600	45	3700
250	ED28	Mog.	31985-5	★	H37KB-250	H37	12	G, S (355)	5	8⅝	24,000+	12,100	10,500	20	6700
	ED28	Mog.	24814-6	★	H37KC-250/DX	H37	12	G, S (379)	—	8⅝	24,000+	13,000	10,700	45	3700
400	ED37	Mog.	24842-7	★	H33GL-400/DX	H33	6	G, S (379)	—	11½	24,000+	23,000	19,100	45	3700
1000	BT56	Mog.	39707-5	★	H36GW-1000/DX	H36	6	G, S (359, 379)	—	15⅜	24,000+	59,000	54,000	45	3600

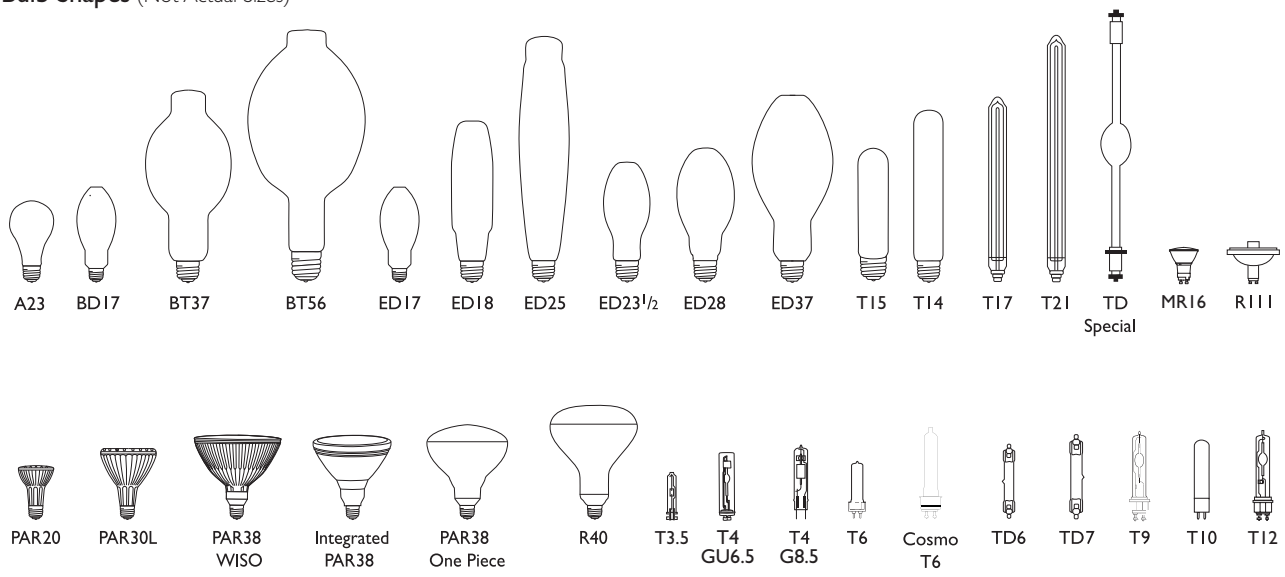
Descriptive symbols for Mercury Vapor Lamps:
G—General Lighting
S—Street Lighting

For the most current product information, go to the e-catalog on **www.philips.com**
HID symbols and footnotes located on page 82

Base Types (Not Actual Sizes)



Bulb Shapes (Not Actual Sizes)



High Intensity Discharge Lamps

Symbols and Footnotes

For the most current product information, go to the e-catalog on www.philips.com

□ Exclusive to Philips Lighting Company

■ Nickel plated brass base

$ Energy Saving Product

▲ Aluminum base

★ Heat resisting glass bulb

♦ Maximum Beam Candlepower

❩ Can be used in open luminaire, only if operated vertically ± 15°

● This lamp is better for the environment because of its reduced mercury content. All Philips ALTO lamps give you end-of-life options which can simplify and reduce your lamp disposal costs depending on your state and local regulations

✖ Orders will be shipped until inventory is depleted; no longer manufactured

Ⓔ This Bulb Meets US Federal Minimum Efficiency Standard

† New since last printing

◇ Designed for instant start operation.

‡ Quantity shown is minimum shipping container—refer to Net Price Schedule for number of lamps to qualify as a standard case

G = General Lighting

S = Street Lighting

▼ PAR38 (one piece)

⌘ Satisfies the 2005 NEC for use in open luminaries. The 2005 NEC states that luminaires that use a metal halide lamp shall be provided with either a containment barrier that encloses the lamp (historically referred to as an enclosed luminaire) or shall be provided with a means, typically a special lampholder, that will only accept ANSI Type-O metal halide lamp. (Exception—this requirement will not apply to open luminaires with thick-glass parabolic reflector PAR lamps.) For more information regarding use of Type-O, S, and E metal halide systems, please refer to the NEMA white paper on this subject that is freely available at www.nema.org

(351) Rated average life is the life obtained, on average, from large representative groups of lamps in laboratory tests under controlled conditions at 10 or more operating hours per start. It is based on survival of at least 50% of the lamps, and allows for individual lamps or groups of lamps to vary considerably from the average. For HPS lamps, life is based on survival of 67% of the lamps

(352) Measured at 100 hrs. life. Approximate lumen values listed are for vertical operation of the lamp.

(353) Approximate lumen output at 40% of lamp rated average life.

(355) Separate filter is required for black light application.

(359) Electrically insulated support for bulb may be required, especially in horizontal and nearly horizontal operating positions.

(360) Follow fixture manufacturer' recommendations regarding proximity of ballast to bulb.

(362) This lamp should be shielded from moisture to prevent breakage.

(370) C150S55 and C150S56 lamps are not electrically interchangeable. Different ballasts are required for the proper operation of each lamp type. ANSI type S55 ballast is for the 55-volt (normal) lamp and the ANSI type S56 ballast is for the 100 volt (nominal) lamp.

(372) Color characteristics may vary somewhat from one lamp type to another. Time should be allowed for the lamp to stabilize in color when it is turned on for the first time or if for any reason its operating position is changed. This may require several hours' operation, with more than one start. Lamp color and output may change temporarily if the lamp is subjected to excess vibration or shock. Lamp color characteristics may change after long accumulate operating time.

(373) Fixtures should be designed so that sockets and wiring withstand starting pulse up to 5000 volts for 1000 watts and WHITE SON types and 4000 volts for other sizes.

(374) Performance may not be satisfactory unless operated within specified operating positions.

(375) If specified operating position is base up or base down to horizontal, this permits 15° beyond the horizontal.

(376) For use in fixtures which do not redirect a substantial portion of the energy toward the arc tube; otherwise very early failure is anticipated.

(377) Requires a ballast specified or approved for Philips metal halide lamps, or one that is designed to operate all popular brands of metal halide lamps. 1000W types will operate from H36 conventional lag type ballast for Mercury Vapor lamps at ambient temperatures of 50°F or higher. 1000W types must not be operated at 1500W.

(378) Requires auxiliary 10KV pulse ignitor for instant restrike.

(379) It is a characteristic of phosphor-coated vapor lamps to require a few hundred hours of operation to gradually reach normal characteristic color. New lamps may have a slight pink appearance during this initial operating period.

(385) Rated average life: vertical ±15°. Other positions 75% of vertical life.

(387) This lamp can cause serious skin burns and eye inflammation from shortwave ultraviolet radiation and must be fully enclosed in a fixture with an appropriate UV filter. To protect against possible risk of property damage or personal injury due to an arc tube rupture, the fixture enclosure must be capable of withstanding particles of glass having temperatures up to 1000°C. **DO NOT USE THIS LAMP IF THE UV FILTER IS MISSING.**

(389) Operates at rated output on ANSI 430W S145 SON AGRO ballasts.

(391) Requires a ballast specified or approved for Philips Metal Halide lamp or one designed to the indicated ANSI Standard. A pulse ignitor is required. Sockets and wiring must withstand starting pulse.

(392) Supply volts must be ±5% of rated ballast line volts for reactor type and ±10% for CWA or electronic ballasts.

(393) Vertical lumens. Horizontal lumens 6%–10% lower.

(394) To maintain color consistency within 250K, group relamp at 7500 hours.

(396) UV filtered design (FadeBlock).

(397) Operate only on thermally protected ballasts.

(399) This product utilizes ALTO Lamp Technology. ALTO products pass the US EPA's Toxicity Characteristic Leaching Procedure (TCLP) for non-hazardous waste status.

(400) Energy-saver retrofit for 175W, M107 ballast.

(401) MasterColor Metal Halide Lamps are not recommended for use on dimmers and are not warranted if used on dimmer systems.

(402) Primarily used for sports-lighting applications. Life, initial and mean lumens are for horizontal operation. In vertical position and at 10 or more hours per start, lamp life is extended to 6000 hours, initial lumens are 170,000 and mean lumens are 136,000.

(405) 97% Lumen maintenance at 10% of rated average life. 93% lumen maintenance at 40% of rated average life.

(406) CAUTION: Beware of inadvertent circuit overload in new construction. Because of power factor of 0.57 in the ballast of the lamp, the lamp uses 0.36 amps.

(407) Operating Position is Universal, unless otherwise indicated. See Warnings, Cautions and Operating Instructions for further information.