



Photo by Jeff MacWright of MacWright Studios

High Intensity Discharge Lighting

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High Intensity Discharge Lighting

High performance,
energy-efficient,
long life lamps

Philips MasterColor® Integrated 25W PAR38

Lamps feature an integrated ballast that fits into existing PAR38 fixtures for instant retrofit. These long lasting lamps consume up to three times less energy compared to PAR38 halogen lamps with comparable light output.

Philips Mini MasterColor Lamps The smallest 20W ceramic metal halide lamp, is visually pleasing and financially rewarding. This easy-to-install system uses up to 66% less energy and lasts three times longer than standard 90W halogen lamps.

Philips MasterColor Ceramic Metal Halide HPS-Retro White™ Lamps are optimized for operation on HPS ballasts and ideal for 24-hour a day, 7-day a week operations.

Philips MasterColor Pulse Start Ceramic Metal Halide Lamps offer improved lumen maintenance, excellent color rendering (90 CRI) and superior color stability over life (within $\pm 200K$) for high bay applications.

Philips Protected Metal Halide "O" Rated Lamps provide safe operation in open fixtures and are ideal for 24-hour a day, 7-day a week operations.

Philips QL Induction Lighting System Lamps are virtually maintenance free with 100,000 hours rated average life and the ability to operate in hot and cold environments.



Photography by Jeff MacWright of MacWright Studio.



Lighting Design by Compact Lighting. Photography by Peter Smith.



Photography courtesy of Boeing.

High Intensity Discharge Lamps

MasterColor® Ceramic Metal Halide

MasterColor® Ceramic Metal Halide Lamps featuring ALTO® Lamp Technology

The latest breakthrough in the field of metal halide technology, MasterColor lamps provide unparalleled uniformity and consistency in lamp-to-lamp color—both initial and throughout life—as well as higher efficacy than any other low-wattage metal halide source available. The secret to MasterColor's unequalled performance is its ceramic discharge tube, which combines the white light and high efficacy of metal halide lamps with the color stability and reliable, long life of polycrystalline alumina (PCA) technology.

- ▶ Excellent color rendition (up to 96 CRI)
- ▶ Superior Color Stability over life of lamp $\pm 200K$ vs. up to $\pm 600K$ for standard metal halide lamps
- ▶ Increased efficacy—up to 93 LPW—results in reduced energy consumption
- ▶ Universal operation—can operate in any position
- ▶ Lamps operate on standard metal halide ballasts offers simple retrofit options
- ▶ FadeBlock™—lamps feature integrated UV blocking medium for reduced fading of photo sensitive materials

ANSI Code:

- E = Enclosed Fixture Rated
- O = Open Fixture Rated;
- S = Open or Enclosed Fixture Rated

Explanation of suffix in ordering code (no suffix = clear):

- /C Coated
- /M Medium Base
- /SP Spot 10°
- /FL Flood 30°
- /MP Protected
- Operating Position—Universal, unless otherwise noted

Descriptive symbols for MasterColor:

- CDM Ceramic Discharge Metal Halide
- MHC Metal Halide Ceramic
- G General Lighting

Philips Mini MasterColor® Tubular Single-Ended T-4 Lamps

Enclosed luminaires only; lifetime color stability within $\pm 200K$

PGJ5 twist and lock base miniaturized low wattage ceramic metal halide lamps; to be operated on Advance e-Vision® RMH-20-E-LF electronic ballast only

FadeBlock UV filtering

No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)



Lamp Watts	Bulb	Product Base	Symbols, Number Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg. Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
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Mini MasterColor Ceramic Metal Halide Tubular Single-Ended BT-5 Lamps

▶ For Warnings, Cautions and Operating Instructions, see page 106

22	BT-5	PGJ5	I4040-0	† ★	CDM20/TM/830	/E	12	G, Clear, FadeBlock (391, 392, 396, 397)	0.87	1 3/4	12,000	1625	1050	83	3000
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NEW!

Lamp Watts	Bulb	Product Base	Symbols, Number Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg. Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
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MasterColor Ceramic Metal Halide Tubular Single-Ended T-4 Lamps

Enclosed luminaires only; lifetime color stability within $\pm 200K$

▶ G8.5 bipin based low wattage ceramic metal halide lamps; operate on specified ANSI compatible electronic ballasts only

▶ FadeBlock UV filtering

▶ No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)

▶ For Warnings, Cautions and Operating Instructions, see page 106

39	T-4	G8.5	37372-0	★	CDM35/TC/830	M130/E	12	G, Clear, FadeBlock (391, 392, 396, 397)	2	3 1/2	9000	3300	2640	81	3000
70	T-4	G8.5	37373-8	★	CDM70/TC/830	M139/E	12	G, Clear, FadeBlock (391, 392, 396, 397)	2	3 1/2	7500	6400	5300	83	3000



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

HID symbols and footnotes located on page 104

High Intensity Discharge Lamps

MasterColor® Ceramic Metal Halide

Lamp			Product	Symbols,	Ordering	ANSI	Pkg.*	Description	LCL	MOL	Rated Avg.	Approximate		CCT	
Watts	Bulb	Base	Number	Footnotes							Code	Code/ Ballast Ref.	Qty.		(Operating Position—Universal, unless otherwise indicated) (401)
MasterColor Ceramic Metal Halide Tubular Single-Ended T-6 Lamps															
Enclosed luminaires only; lifetime color stability within ±200K															
▶ G12 bipin based low wattage ceramic metal halide lamps															
▶ FadeBlock UV filtering															
▶ No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)															
▶ For Warnings, Cautions and Operating Instructions , see page 106															
39	T-6	G12	22328-9	★	CDM35/ T6/830	M130/E	12	G, Clear; FadeBlock (391, 392, 396, 397)	2 7⁄32	3 1⁄16	12,000	3300	2600	81	3000
70	T-6	G12	22337-0	★	CDM70/ T6/830	M139/E	12	G, Clear; FadeBlock (391, 392, 396, 397)	2 7⁄32	3 1⁄16	12,000	6600	4950	81	3000
			28137-8	★	CDM70/ T6/942	M139/E	12	G, Clear; FadeBlock (391, 392, 396, 397)	2 7⁄32	3 1⁄16	12,000	6600	4620	92	4200
150	T-6	G12	23272-8	★	CDM150/ T6/830	M142/E	12	G, Clear; FadeBlock, also ANSI M102 (391, 392, 396, 397)	2 7⁄32	4 1⁄32	12,000	14,000	9800	85	3000
			37369-6	★	CDM150/ T6/942	M142/E	12	G, Clear; FadeBlock, also ANSI M102 (391, 392, 396, 397)	2 7⁄32	4 1⁄32	12,000	12,700	8900	96	4200



MasterColor Ceramic Metal Halide Tubular Double-Ended Lamps

Double-Ended TD-6 & TD-7 Style; enclosed luminaires only; lifetime color stability within ±200K

▶ RX7s single-pin based low wattage ceramic metal halide lamps

▶ FadeBlock™ UV filtering

▶ No shut off required in 24-hour-a-day/7-day-a-week operations
(relamp fixtures at or before the end of rated life)

▶ For **Warnings, Cautions and Operating Instructions**, see page 106

70	TD-6	RX7s	23160-5	★	CDM70/ TD/83	M139/ M85/E	12	G, Clear; FadeBlock, Hor. ± 45° (374, 391, 392, 396)	2 1/4	4 1/16	15,000	6500	5200	82	3000
			37370-4	★	CDM70/ TD/942	M139/ M85/E	12	G, Clear; FadeBlock, Hor. ± 45° (374, 391, 392, 396)	2 1/4	4 1/16	15,000	6000	4500	92	4200
150	TD-7	RX7s	23167-0	★	CDM150/ TD/83	M142/ M102/M81E	12	G, Clear; FadeBlock, Hor. ± 45° (374, 391, 392, 396)	2 1/2	5 1/16	15,000	13,250	11,260	88	3000
			37371-2	★	CDM150/ TD/942	M142/ M102/M81E	12	G, Clear; FadeBlock, Hor. ± 45° (374, 391, 392, 396)	2 1/2	5 1/16	15,000	14,200	12,070	96	4200

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

HID symbols and footnotes located on page 104

High Intensity Discharge Lamps

MasterColor® Ceramic Metal Halide

Philips MasterColor® Integrated PAR Lamps

These lamps may be used in open fixtures; Do not use in totally enclosed recessed fixtures; Lifetime color stability within ±200K

FadeBlock UV filtering

Do not operate with an additional ballast since ballast is integrated in the lamp itself

No shut off required in 24-hour-a-day/7-day-a-week operations

Lamp should not be operated with dimmers

Lamp should be used in dry locations only



Lamp Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	MBCP	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352)		CRI	CCT (K)
											Initial	Mean(353)		
MasterColor Integrated PAR Lamps														
For Warnings, Cautions and Operating Instructions, see page 105														
25	PAR-38	Med.	14477-4	† □ ★	CDM-i25W/830/PAR38/10	6	G, PAR Spot 10° (396, 406)	26,000	5 1/4	10,500	1220	850	87	3000
			14478-2	† □ ★	CDM-i25W/830/PAR38/25	6	G, PAR Flood 25° (396, 406)	5600	5 1/4	10,500	1220	850	87	3000
			14479-0	† □ ★	CDM-i25W/830/PAR38/40	6	G, PAR W. Flood 40° (396, 406)	2100	5 1/4	10,500	1220	850	87	3000

NEW!

Lamp Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg. Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352)		CRI	CCT (K)
												Initial	Mean(353)		
Protected MasterColor Ceramic Metal Halide R111 Lamps															
Open or Enclosed luminaires; lifetime color stability within ±200K															
GX8.5 twist and lock base low wattage ceramic metal halide lamps; operate on specified ANSI compatible electronic ballasts only															
FadeBlock UV filtering															
No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)															
For Warnings, Cautions and Operating Instructions, see page 106															
38	R111	GX8.5	13554-1	† □ ★	CDM-R111/35W/830 10DG	M130/O	6	G, R111, Spot 10°, (391, 392, 396, 397)	35,000	3 3/4	9000	1400	900	81	3000
			13556-6	† □ ★	CDM-R111/35W/830 24DG	M130/O	6	G, R111, N. Flood 24°, (391, 392, 396, 397)	8500	3 3/4	9000	1600	1040	81	3000
			13921-2	† □ ★	CDM-R111/35W/830 40DG	M130/O	6	G, R111, Flood 40°, (391, 392, 396, 397)	4000	3 3/4	9000	1800	1170	81	3000
70	R111	GX8.5	14754-6	† □ ★	CDM-R111/70W/830 10DG	M139/O	6	G, R111, Spot 10°, (391, 392, 396, 397)	50,000	3 3/4	9000	2850	1850	84	3000
			14755-3	† □ ★	CDM-R111/70W/830 24DG	M139/O	6	G, R111, N. Flood 24°, (391, 392, 396, 397)	15,000	3 3/4	9000	2850	1850	84	3000
			14795-8	† □ ★	CDM-R111/70W/830 40DG	M139/O	6	G, R111, Flood 40°, (391, 392, 396, 397)	9000	3 3/4	9000	2850	1850	84	3000

NEW!

Protected MasterColor Ceramic Metal Halide PAR Lamps

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

FadeBlock UV filtering

No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)

For Warnings, Cautions and Operating Instructions, see page 106

Lamp Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg. Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352)		CRI	CCT (K)
												Initial	Mean(353)		
39	PAR-20	Med.	23365-0	★	CDM35/PAR20 /M/SP	M130/O	12	G, PAR WISO Spot 10° (391, 392, 396, 397)	23,000	3 3/4	9000	2000	1300	81	3000
			23364-3	★	CDM35/PAR20 /M/FL	M130/O	12	G, PAR WISO Flood 30° (391, 392, 396, 397)	5000	3 3/4	9000	2000	1300	81	3000
	PAR-30L	Med.	22329-7	★	CDM35/PAR30L /M/SP	M130/O	6	G, PAR WISO Spot 10° (391, 392, 396, 397)	44,000	4 3/4	9000	2200	1430	81	3000
			22330-5	★	CDM35/PAR30L /M/FL	M130/O	6	G, PAR WISO Flood 30° (391, 392, 396, 397)	7400	4 3/4	9000	2200	1430	81	3000

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

HID symbols and footnotes located on page 104

High Intensity Discharge Lamps

MasterColor® Ceramic Metal Halide

Lamp Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg. • Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	MBCP	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
Protected MasterColor Ceramic Metal Halide PAR Lamps, continued															
70	PAR-30L Med.		23224-9	★	CDM70/PAR30L /M/SP	M143/ M98/O	6	G, PAR WISO Spot 10° (391, 392, 396)	68,000	4 ¾	11,000	5000	3050	83	3000
			23221-5	★	CDM70/PAR30L /M/FL	M143/ M98/O	6	G, PAR WISO Flood 40° (391, 392, 396)	10,000	4 ¾	11,000	5000	3050	83	3000
	PAR-38 Med.		22250-5	★	CDM70/PAR38 /SP/3K/ALTO	M143/ M98/O	12	G, PAR WISO Spot 15° (391, 392, 396, 399)	42,000	5 ¾	12,500	4100	2870	85	3000
			22249-7	★	CDM70/PAR38 /FL/3K/ALTO	M143/ M98/O	12	G, PAR WISO Flood 25° (391, 392, 396, 399)	18,000	5 ¾	12,500	4100	2870	85	3000
			28872-0	□★	CDM70/PAR38 /SP/4K/ALTO	M143/ M98/O	12	G, PAR WISO Spot 15° (391, 392, 396, 399)	40,000	5 ¾	12,500	3700	2590	92	4000
			28873-8	□★	CDM70/PAR38 /FL/4K/ALTO	M143/ M98/O	12	G, PAR WISO Flood 25° (391, 392, 396, 399)	15,000	5 ¾	12,500	3700	2590	92	4000
100	PAR-38 Med.		24477-2	★	CDM100/PAR38 /SP/3K/ALTO	M140/ M90/O	12	G, PAR WISO Spot 15° (391, 392, 396, 399)	65,000	5 ¾	12,500	6200	4340	85	3000
			24476-4	★	CDM100/PAR38 /FL/3K/ALTO	M140/ M90/O	12	G, PAR WISO Flood 25° (391, 392, 396, 399)	24,000	5 ¾	12,500	6200	4340	85	3000
			28876-1	□★	CDM100/PAR38 /SP/4K/ALTO	M140/ M90/O	12	G, PAR WISO Spot 15° (391, 392, 396, 399)	52,000	5 ¾	12,500	5700	3990	92	4000
			28878-7	□★	CDM100/PAR38 /FL/4K/ALTO	M140/ M90/O	12	G, PAR WISO Flood 25° (391, 392, 396, 399)	19,000	5 ¾	12,500	5700	3990	92	4000

Lamp Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg. • Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	LCL	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
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Protected MasterColor Ceramic Metal Halide Lamps

ED-17P sleeved arc tube; open or enclosed luminaires; lifetime color stability within ±200K; pulse start

► FadeBlock™ UV filtering

► No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)

► Protective quartz sleeve surrounds the arc tube

► MP designation indicates lamps are suitable for open fixture applications

► For Warnings, Cautions and Operating Instructions, see page 107

50	ED-17P Med.		36891-0	□★	MHC50/U/ MP/3K/ALTO	M148/ M110/O	12	G, Clear, FadeBlock (391, 392, 396, 399)	3 ¾	5 ¾	10,000	4000	2680	85	3000
			36893-6	□★	MHC50/U/ MP/4K/ALTO	M148/ M110/O	12	G, Clear, FadeBlock (391, 392, 396, 399)	3 ¾	5 ¾	20,000	3600	2450	92	4000
70	ED-17P Med.		23366-8	★	MHC70/U/ MP/3K/ALTO	M143/ M98/O	12	G, Clear, FadeBlock (391, 392, 396, 399)	3 ¾	5 ¾	16,000	5900	4365	85	3000
			23367-6	★	MHC70/C/U/ MP/3K/ALTO	M143/ M98/O	12	G, Coated, FadeBlock (391, 392, 396, 399)	—	5 ¾	16,000	5400	3995	85	3000
			36057-8	□★	MHC70/U/ MP/4K/ALTO	M143/ M98/O	12	G, Clear, FadeBlock (391, 392, 396, 399)	3 ¾	5 ¾	20,000	5800	4060	92	4000
			36059-4	□★	MHC70/C/U/ MP/4K/ALTO	M143/ M98/O	12	G, Coated, FadeBlock (391, 392, 396, 399)	—	5 ¾	20,000	5200	3640	92	4000
100	ED-17P Med.		23368-4	★	MHC100/U/ MP/3K/ALTO	M140/ M90/O	12	G, Clear, FadeBlock (391, 392, 396, 399)	3 ¾	5 ¾	16,000	8600	6450	85	3000
			23444-3	★	MHC100/C/U/ MP/3K/ALTO	M140/ M90/O	12	G, Coated, FadeBlock (391, 392, 396, 399)	—	5 ¾	16,000	7900	5925	85	3000
			36060-2	□★	MHC100/U/ MP/4K/ALTO	M140/ M90/O	12	G, Clear, FadeBlock (391, 392, 396, 399)	3 ¾	5 ¾	20,000	8200	6150	92	4000
			36061-0	□★	MHC100/C/U/ MP/4K/ALTO	M140/ M90/O	12	G, Coated, FadeBlock (391, 392, 396, 399)	—	5 ¾	20,000	7500	5625	92	4000
150	ED-17P Med.		13463-5	†★	MHC150/U/ MP/3K/ALTO	M142/ M102/O	12	G, Clear, FadeBlock (391, 392, 396, 399)	3 ¾	5 ¾	16,000	12,900	9545	85	3000
			13464-3	†★	MHC150/C/U/ MP/3K/ALTO	M142/ M102/O	12	G, Coated, FadeBlock (391, 392, 396, 399)	—	5 ¾	16,000	11,900	8805	85	3000
			37724-2	□★	MHC150/U/ MP/4K/ALTO	M142/ M102/O	12	G, Clear, FadeBlock (391, 392, 396, 399)	3 ¾	5 ¾	20,000	12,000	9000	92	4000
			37726-7	□★	MHC150/C/U/ MP/4K/ALTO	M142/ M102/O	12	G, Coated, FadeBlock (391, 392, 396, 399)	—	5 ¾	20,000	11,000	8250	92	4000

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

HID symbols and footnotes located on page 104

■ This product utilizes ALTO® Lamp Technology

High Intensity Discharge Lamps

MasterColor® Ceramic Metal Halide

Lamp Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg. Qty. •	Description (Operating Position—Universal, unless otherwise indicated) (401)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approx. Lumens (352) Initial	Mean(353)	CRI	CCT (K)
MasterColor Ceramic Metal Halide ED-17, ED-28 Lamps															
Enclosed luminaires only; lifetime color stability within ±200K; pulse start															
▶ No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)															
▶ For Warnings, Cautions and Operating Instructions , see page 107															
50	ED-17	Med.	36020-6	□★	MHC50/U/ M/3K/ALTO	M148/ M110/E	12	G, Clear (391, 392, 399)	3 7/8	5 7/8	10,000	4100	2750	85	3000
			36022-2	□★	MHC50/C/U/ M/3K/ALTO	M148/ M110/E	12	G, Coated (391, 392, 399)	—	5 7/8	10,000	3800	2545	85	3000
			36023-0	□★	MHC50/U/ M/4K/ALTO	M148/ M110/E	12	G, Clear (391, 392, 399)	3 7/8	5 7/8	20,000	3750	2550	92	4000
			36024-8	□★	MHC50/C/U/ M/4K/ALTO	M148/ M110/E	12	G, Coated (391, 392, 399)	—	5 7/8	20,000	3600	2450	92	4000
70	ED-17	Med.	20884-3	★	MHC70/U/ M/3K/ALTO	M143/ M98/E	12	G, Clear (391, 392, 399)	3 7/8	5 7/8	16,000	6200	4585	85	3000
			20887-6	★	MHC70/C/U/ M/3K/ALTO	M143/ M98/E	12	G, Coated (391, 392, 399)	—	5 7/8	16,000	5800	4290	85	3000
			28129-5	□★	MHC70/U/ M/4K/ALTO	M143/ M98/E	12	G, Clear (391, 392, 399)	3 7/8	5 7/8	20,000	5900	4130	92	4000
			28133-7	□★	MHC70/C/U/ M/4K/ALTO	M143/ M98/E	12	G, Coated (391, 392, 399)	—	5 7/8	20,000	5500	3850	92	4000
100	ED-17	Med.	20888-4	★	MHC100/U/ M/3K/ALTO	M140/ M90/E	12	G, Clear (391, 392, 399)	3 7/8	5 7/8	16,000	9500	7125	85	3000
			20889-2	★	MHC100/C/U/ M/3K/ALTO	M140/ M90/E	12	G, Coated (391, 392, 399)	—	5 7/8	16,000	8800	6600	85	3000
			28135-2	□★	MHC100/U/ M/4K/ALTO	M140/ M90/E	12	G, Clear (391, 392, 399)	3 7/8	5 7/8	20,000	9000	6750	92	4000
			28136-0	□★	MHC100/C/U/ M/4K/ALTO	M140/ M90/E	12	G, Coated (391, 392, 399)	—	5 7/8	20,000	8400	6300	92	4000
	ED-28	Mog.	36543-7	□★	MHC100/U/ ED28/HR/4K	M140/ M90/E	12	G, Clear (372, 377, 378)	5	8 7/8	10,000	8500	6800	92	4100
150	ED-17	Med.	13022-9	†□★	MHC150/U/ M/3K/ALTO	M142/ M102/E	12	G, Clear (391, 392, 399)	3 1/2	5 7/8	16,000	14,000	10,500	85	3000
			13023-7	†□★	MHC150/C/U/ M/3K/ALTO	M142/ M102/E	12	G, Coated (391, 392, 399)	—	5 7/8	16,000	12,500	9375	85	3000
			37720-0	□★	MHC150/U/ M/4K/ALTO	M142/ M102/E	12	G, Clear (391, 392, 399)	3 7/8	5 7/8	20,000	13,000	9750	92	4000
			37721-8	□★	MHC150/C/U/ M/4K/ALTO	M142/ M102/E	12	G, Coated (391, 392, 399)	—	5 7/8	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 104

□ This product utilizes ALTO® Lamp Technology

High Intensity Discharge Lamps

MasterColor® Ceramic Metal Halide

Lamp	Product	Symbols,	Ordering	ANSI	Pkg.	Description (Operating		Rated Avg.	Approximate				
Watts	Bulb	Base	Number	Footnotes	Code	Code/	Position—Universal, unless	MOL	Life, Hrs.	Lumens, (352)			CCT
						Ballast Ref.	otherwise indicated) (401)	(In.)	(351)	Initial	Mean(353)	CRI	(K)

Protected MasterColor Pulse Start Ceramic Metal Halide Lamps

Satisfies the 2005 NEC for use in open luminaires.*

Open or Enclosed luminaires; lifetime color stability within $\pm 200\text{K}$; V = Vertical Operation $\pm 15^\circ$

- Higher Lumen maintenance and 80% of initial lumens at 8000 hours
- For operation on Metal Halide Pulse Start ballasts
- No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)
- Patented coil design offers protection for open fixture rating
- For Warnings, Cautions and Operating Instructions, see page 107

320	ED-28	EX39	13291-0	† ★	CDM320/V/O/ PS/4K/ALTO	M170/ M132/O	12	G, Clear; Vertical $\pm 15^\circ$ (374, 391, 392, 399)	5	8 1/2	20,000	28,800	23,000	90	4200
			13256-3	† ★	CDM320/C/V/O/ PS/4K/ALTO	M170/ M132/O	12	G, Coated; Vertical $\pm 15^\circ$ (374, 391, 392, 399)	—	8 1/2	20,000	28,000	22,400	90	4200
350	ED-37	EX39	13257-1	† ★	CDM350/V/O/ PS/4K/ALTO	M171/ M131/O	6	G, Clear; Vertical $\pm 15^\circ$ (374, 391, 392, 399)	7	11 1/2	20,000	31,500	25,200	90	4200
			13292-8	† ★	CDM350/C/V/O/ PS/4K/ALTO	M171/ M131/O	6	G, Coated; Vertical $\pm 15^\circ$ (374, 391, 392, 399)	—	11 1/2	20,000	30,600	24,500	90	4200
400	ED-28	EX39	14598-6	† ★	CDM400/V/O/PS 4K/ED28/ALTO	M172/ M155/O	12	G, Clear; Vertical $\pm 15^\circ$ (374, 391, 392, 399)	5	8 1/2	20,000	36,000	28,800	90	4200
	ED-37	EX39	13290-2	† ★	CDM400/V/O/ PS/4K/ALTO	M172/ M155/O	6	G, Clear; Vertical $\pm 15^\circ$ (374, 391, 392, 399)	7	11 1/2	20,000	36,000	28,800	90	4200
			13293-6	† ★	CDM400/C/V/O/ PS/4K/ALTO	M172/ M155/O	6	G, Coated; Vertical $\pm 15^\circ$ (374, 391, 392, 399)	—	11 1/2	20,000	35,000	27,900	90	4200

NEW!

MasterColor Ceramic Metal Halide HPS-Retro White™

Satisfies the 2005 NEC for use in open luminaires.*

ED-18, open or enclosed luminaires; lifetime color stability within $\pm 200\text{K}$

- Replace yellow light with white light with just a simple twist!
- For operation on HPS ballasts; 80% lumen maintenance
- No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)
- Patented coil design offers protection for open fixture rating
- For Warnings, Cautions and Operating Instructions, see page 108

HPS-Retro White™ Lamps Rated for Vertical Operation Only (V = Vertical Operation $\pm 15^\circ$)

250	ED-18	Mog.	13093-0	★	CDM250S50 /O/4K/ALTO	M168/O S50	12	G, Clear; Vertical $\pm 15^\circ$ (374, 399, 404)	5 3/4	9 3/4	20,000	20,750	16,600	85	4000
400	ED-18	Mog.	13094-8	★	CDM400S51 /O/4K/ALTO	M169/O S51	12	G, Clear; Vertical $\pm 15^\circ$ (374, 399, 404)	5 3/4	9 3/4	20,000	34,800	27,840	85	4000

HPS-Retro White™ Lamps Rated for Horizontal Operation Only (HOR = Horizontal Operation $\pm 15^\circ$)

250	ED-18	Mog.	14649-8	★	CDM250S50 /HOR/4K/ALTO	M168 S50	12	G, Clear; Horizontal $\pm 15^\circ$ (374, 399, 404)	5 3/4	9 3/4	15,000	20,750	17,600	85	4000
400	ED-18	Mog.	14650-6	★	CDM400S51 /HOR/4K/ALTO	M169 S51	12	G, Clear; Horizontal $\pm 15^\circ$ (374, 399, 403, 404)	5 3/4	9 3/4	15,000	34,800	29,600	85	4000

NEW!

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

HID symbols and footnotes located on page 104

■ This product utilizes ALTO® Lamp Technology

*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

High Intensity Discharge Lamps

Metal Halide

Metal Halide Lamps

- Upgrade to crisp, white light with Metal Halide
- White light source offers improved color rendition over HPS and all dimmable down to 50%
- For color critical applications always consider Philips MasterColor® Ceramic Metal Halide

Explanation of suffix in ordering code (no suffix = clear, mogul base):

/C Coated
/M Medium Base
/MP Protected

ANSI Code:

E = Enclosed Fixture Rated

O = Open Fixture Rated

S = Open or Enclosed Fixture Rated (If used in open fixtures, operating instructions should be strictly followed)

Descriptive symbols for Metal Halide:

MH Metal Halide
PS Pulse Start
MS High Output Metal Halide
MHT Safety Lifeguard Metal Halide
MP Protected Metal Halide

Operating Position:

/U Universal
/BU Base up $\pm 15^\circ$ unless specified otherwise
/BD Base down $\pm 15^\circ$ unless specified otherwise
/HOR Horizontal

Lamp	Product	Ordering	ANSI	Description	LCL	MOL	Rated Avg.	Approximate					
Watts	Number	Code	Code/	(Operating Position—Universal,	(In.)	(In.)	Life, Hrs.	Lumens, (352)					
Bulb	046677- Footnotes		Ballast Ref.	unless otherwise indicated)			(351)	Initial	Mean(353)	CRI			
Base													

Protected Pulse Start Metal Halide “O” Rated Lamps

Satisfies the 2005 NEC for use in open luminaires.*

Open or enclosed luminaires; pulse start metal halide is designed for operation on only specified ANSI compatible ballasts with metal halide pulse ignitors, offering:

- Quicker start/restrike (2 minute start/5–10 minute restrike vs. 4 minute start/15 minute restrike for standard metal halide lamps)
- No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)
- Longer life (20,000+ hours)
- Improved lumen maintenance (20%) increase
- Increased efficacy (up to 100 LPW)
- For **Warnings, Cautions and Operating Instructions**, see page 109

320	ED-37	EX39	13039-3	■ ★	MP320/	M154/	6	G, Clear; Base Up $\pm 15^\circ$	7	1 1/2	20,000	29,500	20,650	65	3800
		Excl.			BU/PS	M132/O		Pulse Start (372, 374, 391)							
		Mog.	13040-1	■ ★	MP320/C/	M154/	6	Coated, Base Up $\pm 15^\circ$	—	1 1/2	20,000	27,200	19,040	65	3700
					BU/PS	M132/O		Pulse Start (372, 374, 391)							
350	ED-37	EX39	39101-1	■ ★	MP350/	M131/O	6	Clear; Base Up $\pm 15^\circ$	7	1 1/2	20,000	34,000	23,800	64	4000
		Excl.			BU/PS			Pulse Start (372, 374, 391)							
		Mog.	39102-9	■ ★	MP350/C/	M131/O	6	Coated, Base Up $\pm 15^\circ$	—	1 1/2	20,000	31,000	21,700	67	3700
					BU/PS			Pulse Start (372, 374, 391)							
400	ED-37	EX39	13334-8	■ ★	MP400/	M155/M128/	6	G, Clear; Base Up $\pm 15^\circ$	7	1 1/2	20,000	40,000	28,000	65	3800
		Excl.			BU/PS	M135/O		Pulse Start (372, 374, 391)							
		Mog.	13335-5	■ ★	MP400/C/	M155/M128/	6	G, Coated, Base Up $\pm 15^\circ$	—	1 1/2	20,000	36,000	23,400	68	3600
					BU/PS	M135/O		Pulse Start (372, 374, 391)							

Pulse Start Metal Halide Lamps

Enclosed luminaires only unless otherwise noted; base up operation $\pm 15^\circ$ unless otherwise noted.

Pulse start metal halide is designed for operation on only specified ANSI compatible ballasts with metal halide pulse ignitors, offering:

- Quicker start/restrike (2 minute start/4 minute restrike vs. 4 minute start/15 minute restrike for standard metal halide lamps)
- Longer life (15,000–20,000+ hours)
- Improved lumen maintenance (20%) increase
- Increased efficacy (up to 120 LPW); more energy savings
- For **Warnings, Cautions and Operating Instructions**, see page 108

175	ED-28	Mog.	27662-6	■ ★	MS175/	M152/	12	G, Base Up $\pm 15^\circ$, Pulse Start	5	8 3/8	15,000	16,000	11,200	62	3700
					BU/PS	M137/E		(372, 374, 391)							
250	ED-28	Mog.	27661-8	■ ★	MS250/	M153/	12	G, Base Up $\pm 15^\circ$, Pulse Start	5	8 3/8	15,000	23,750	16,625	65	4300
					BU/PS	M138/E		(372, 374, 391)							
320	ED-28	Mog.	38381-0	■ ★	MS320/	M154/	12	G, Clear; Pulse Start	5	8 3/8	20,000	30,000	21,000	62	4100
					U/PS	M132/E		(372, 374, 391)							
			38386-9	■ ★	MS320/	M154/	12	G, Coated, Pulse Start	—	8 3/8	20,000	29,000	16,000	70	3600
					C/U/PS	M132/E		(372, 374, 391)							
350	ED-37	Mog.	38387-7	■ ★	MS350	M131/E	12	G, Clear; Base Up $\pm 15^\circ$,	7	1 1/2	20,000	36,000	25,200	62	4000
					/BU/PS			Pulse Start (372, 374, 391)							
			38388-5	■ ★	MS350/	M131/E	6	G, Coated, Base Up $\pm 15^\circ$,	—	1 1/2	20,000	35,000	24,500	65	3600
					C/BU/PS			Pulse Start (372, 374, 391)							

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

HID symbols and footnotes located on page 104

*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

High Intensity Discharge Lamps

Metal Halide

Lamp Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg. Qty.	Description (Operating Position—Universal, unless otherwise indicated)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
Pulse Start Metal Halide Lamps, continued															
400	ED-37	Mog.	27816-8	■ ★	MS400/ BU/PS	M155/M128/ M135/S	6	G, Clear; Base Up ± 15°; Pulse Start (372, 374, 391)	7	11 ½	20,000	42,600	29,820	62	4100
			28362-2	■ ★	MS400/ C/BU/PS	M155/M128/ M135/S	6	G, Coated; Base Up ± 15°; Pulse Start (372, 374, 391)	—	11 ½	20,000	41,500	29,050	66	3700
400			14475-8	† ■ ★	MS400/ HOR/PS	M155/M135/ M128/E	6	G, Clear; Horizontal; Pulse Start (372, 374, 391)	7	11 ½	15,000	36,800	25,760	62	4300
750	BT-37	Mog.	13540-0	† ■ ★	MS750/BU/ BT37/PS	M149/E	6	G, Clear; Base Up ± 15°; Pulse Start (372, 374, 391)	7	11 ½	16,000	82,000	61,500	65	4000
1000	BT-37	Mog.	36019-8	■ ★	MS1000/BU/ BT37/PS	M141/E	6	G, Clear; Base Up ± 15°; Pulse Start (372, 374, 391)	7	11 ½	15,000	120,000	96,000	65	3700

NEW!

Protected Metal Halide “O” Rated Lamps

Satisfies the 2005 NEC for use in open luminaires.*

- ▶ Protective quartz sleeve surrounds the arc tube
- ▶ No shut off required in 24-hour-a-day/7-day-a-week operations (relamp fixtures at or before the end of rated life)
- ▶ MP designation indicates lamps are suitable for open fixture applications
- ▶ For **Warnings, Cautions and Operating Instructions**, see page 109

175	ED-28	EX39	28119-6	■ ★	MP175/BU	M57/O	12	Base Up ± 15°, Clear (372, 374, 377)	5	8 ¾	10,000	15,000	12,000	65	3800
			Excl. Mog.												
250	ED-28	EX39	28124-6	■ ★	MP250/BU	M58/O	12	Base Up ± 15°, Clear (372, 374, 377)	5	8 ¾	10,000	22,000	16,500	62	3800
			Excl. Mog.												
360	ED-37	EX39	13067-4	■ \$ ★	MP360BU/ EW	M165/ M59/O	6	Base Up ± 15° (372, 374, 377)	7	11 ½	20,000	34,200	23,940	65	4000
			Excl. Mog.												
			13068-2	■ \$ ★	MP360/C/ BU/EW	M165/ M59/O	6	Base Up ± 15°, Coated (372, 374, 377)	—	11 ½	20,000	31,700	20,605	68	3600
400	ED-37	EX39	13332-2	■ ★	MP400/BU	M59/O	6	Base Up ± 15°, Clear (372, 374, 377)	7	11 ½	20,000	38,000	26,600	65	4000
			Excl. Mog.												
			13333-0	■ ★	MP400/C/BU	M59/O	6	Base Up ± 15°, Coated (372, 374, 377)	—	11 ½	20,000	34,500	22,425	67	3700
1000	BT-56	EX39	28118-8	■ ★	MP1000/BU	M47/O	6	Base Up ± 15°, Clear (372, 374, 377)	9 ½	15 ¾	12,000	107,000	75,000	65	3900
			Excl. Mog.												

Safety Lifeguard Metal Halide Lamps Open or enclosed luminaires.

- ▶ For **Warnings, Cautions and Operating Instructions**, see page 111

Safety Lifeguard lamps are designed to reduce the danger of possible injury from shortwave ultraviolet radiation. The lamp will self-extinguish automatically within 15 minutes after the outer envelope is broken by any means, accidental or intentional.

These lamps are particularly suited for use in open luminaires where the outer envelope is vulnerable to breakage and the risk of exposure to ultraviolet

radiation is present. However, the lamp's ability to self-extinguish does not protect against the danger of breakage itself. Accordingly, the users are advised to follow the good lamping practices noted in the Operating Instructions for Metal Halide Lamps.

In case of lamp failure, for safety and to preserve ballast life, turn off electric power and replace lamp promptly.

400	ED-37	Mog.	34598-3	★	MHT400/U	M59PJ- T400/U/S	6	G, S, Clear (364, 372, 377)	7	11 ½	20,000	34,200	27,400	65	4000
			34601-5	★	MHT400/C/U	M59PK- T400/U/S	6	G, S, Coated (364, 372, 377)	—	11 ½	20,000	32,500	25,000	65	3700

Double-Ended Metal Halide Lamps Enclosed luminaires (387).

- ▶ For **Warnings, Cautions and Operating Instructions**, see page 106

70	TD-6	RX7s	30350-3	★	MHN70/ TD/840	M85/F	12	G, Hor. ± 15° (372, 374, 387, 391, 392)	2 ¾	4 1/16	9000	5700	4560	80	4200
150	TD-7	RX7s	30355-2	□ ★	MHN150/ TD/840	M81/F	12	G, Hor. ± 15° (372, 374, 387, 391, 392)	2 1/2	5 1/2	9000	12,900	9675	85	4200
1800	TD	PSFc20-6 Special SFC20-6	31360-1		MHD1800W	—	4	Sports Ltg. Spot Hor. ± 15° (374, 387, 391)	4 ¾	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 104

*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

High Intensity Discharge Lamps

Metal Halide

Lamp Watts	Bulb	Base	Product Number 046677-	Symbols, Footnotes	Ordering Code	ANSI Code/ Ballast Ref.	Pkg. Qty.	Description (Operating Position—Universal, unless otherwise indicated)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352) Initial	Mean(353)	CRI	CCT (K)
Metal Halide Lamps Enclosed luminaires only unless otherwise noted. ► For Warnings, Cautions and Operating Instructions, see page 108															
150	BD-17	Med.	35462-1	★	MH150/U/M	M107/E	12	G, Clear (372, 385, 400)	3 7/8	5 7/8	10,000	12,500	8500	65	3700
			35463-9	★	MH150/C/ U/M	M107/E	12	G, Coated (372, 385, 400)	—	5 7/8	10,000	12,000	7900	65	3400
175	BD-17	Med.	31358-5	★	MH175/U/M	M57/E	12	G, Clear (372, 377, 385, 393)	3 7/8	5 7/8	10,000	13,500	9100	65	4000
			31359-3	★	MH175/C/ U/M	M57/E	12	G, Coated (372, 377, 385)	—	5 7/8	10,000	13,000	8380	65	3700
	ED-28	Mog.	28733-4	★	MH175/U	M57/E	12	G, S, Clear (372, 377, 385, 393)	5	8 7/8	10,000	13,500	8775	65	4000
			28728-4	★	MH175/C/U	M57/E	12	G, S, Coated (372, 374, 377, 385)	—	8 7/8	10,000	13,000	8200	70	3700
			31287-6	★	MH175/ 3K/BU	M57/E	12	G, Base Up ± 15°, Coated (372, 374, 377)	—	8 7/8	10,000	12,000	7560	70	3200
			24725-4	★	MS175/BU	M57/E	12	G, Base Up ± 15° (372, 374, 377)	5	8 7/8	10,000	15,000	9400	65	4000
	PAR-38	Med.	30858-5	▼★	MH175/RFL	M57/E	6	G, Clear, 55° Beam (372, 377)	—	5 1/8	7500	10,000	—	55	3700
250	ED-28	Mog.	27484-5	★	MH250/U	M58/E	12	G, S, Clear (372, 377, 385, 393)	5	8 7/8	10,000	20,500	13,500	65	4000
			29169-0	★	MH250/C/U	M58/E	12	G, S, Coated (372, 377, 385, 393)	—	8 7/8	10,000	19,475	12,500	70	3700
			31137-3	★	MH250/ 3K/BU	M58/E	12	G, Base Up ± 15°, Coated (372, 377, 393)	—	8 7/8	10,000	18,000	11,300	70	3200
360	ED-37	Mog.	39065-8	)\$★	MS360/ BU/EW	M165/ M59/S	6	High Efficacy, Base Up ± 15°, Clear (372, 374, 377)	7	11 1/2	20,000	36,000	24,500	60	4300
			39066-6	)\$★	MS360/C/ BU/EW	M165/ M59/S	6	High Efficacy, Base Up ± 15°, Coated (372, 374, 377)	—	11 1/2	20,000	34,200	22,600	65	4000
400	ED-28	Mog.	27862-2	★	MH400/U /ED28	M59/E	12	G, Clear (372, 377, 385, 393)	5	8 7/8	20,000	36,000	24,000	63	4000
			24673-6	★	MS400/BU /ED28	M59/E	12	G, Clear, Base Up ± 15° (372, 374, 377)	5	8 7/8	20,000	40,000	26,000	62	4100
	ED-37	Mog.	34415-0	)★	MH400/U	M59/S	6	G, S, Clear (372, 377, 385, 393)	7	11 1/2	20,000	36,000	24,000	65	4000
			34416-8	)★	MH400/C/U	M59/S	6	G, S, Coated (372, 377, 385, 393)	—	11 1/2	20,000	34,200	22,300	70	3700
			31285-0	)★	MH400/3K/U	M59/S	6	G, Coated (372, 377, 385)	—	11 1/2	20,000	34,400	22,360	63	3300
			30170-5	)★	MS400/BU	M59/S	6	High Efficacy, Base Up ± 15° Clear (372, 374, 377)	7	11 1/2	20,000	40,000	26,500	65	4000
			30172-1	)★	MS400/C/BU	M59/S	6	High Efficacy, Base Up ± 15° Coated (372, 374, 377)	—	11 1/2	20,000	39,200	27,440	65	3900
			31135-7	)★	MS400/3K/BU	M59/S	6	G, Base Up ± 15°, Coated (372, 374, 377)	—	11 1/2	20,000	36,800	23,920	67	3200
1000	BT-37	Mog.	32150-5	★	MH1000/ U/BT37	M47/E	6	G, Clear (359, 372, 377, 385, 393)	7	11 1/2	10,000	110,000	71,500	65	3700
	BT-56	Mog.	29826-5	)★	MH1000/U	M47/S	6	G, S, Clear (372, 377, 385, 393)	9 1/2	15 3/8	12,000	110,000	71,000	65	3700
			29827-3	)★	MH1000/C/U	M47/S	6	G, S, Coated (372, 377, 385, 393)	—	15 3/8	12,000	104,500	65,800	70	3400
			25093-6	)★	MS1000/BU	M47/S	6	High Efficacy, Base Up ± 15° Clear (372, 374, 377)	9 1/2	15 3/8	10,000	120,000	78,000	65	3700
			25130-6	)★	MS1000/BD	M47/S	6	High Efficacy, Base Down ± 15° Clear (372, 374, 377)	9 1/2	15 3/8	10,000	120,000	78,000	65	3700
			25137-1	)★	MS1000/C/BU	M47/S	6	High Efficacy, Base Up ± 15° Coated (372, 374, 377)	—	15 3/8	10,000	115,000	72,500	70	3400
1500	BT-56	Mog.	13162-3	★	MH1500/U	M48/E	6	G, S, Clear (359, 372, 374, 375, 377, 402)	9 1/2	15 3/8	3000	155,000	124,000	60	3700

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

HID symbols and footnotes located on page 104

High Intensity Discharge Lamps

High Pressure Sodium Lamps

Ceramalux® High Pressure Sodium Lamps

Explanation of suffix in ordering code
(no suffix = clear, mogul base, std. color):

/C	Comfort Color
/D	Diffuse Coated
/LV	Low Volt
/M	Medium Base

► To replace yellow light of HPS with white light with just a simple twist, consider MasterColor® Ceramic Metal Halide HPS-Retro White™ (See Page 95)

Descriptive symbols for
High Pressure Sodium Lamps:

G	General
W	Wide Beam
EW	Econ-o-watt®
S	Street Lighting
VW	Very Wide

Operating Position:
/U Universal

			Product		ANSI	Description		Rated Avg.	Approximate				
Lamp	Number	Symbols,	Ordering	Code/	Pkg.	(Operating Position—Universal,	LCL	MOL	Life, Hrs.	Lumens, (352)	CCT		
Watts	Bulb	Base	046677- Footnotes	Code	Qty.	unless otherwise indicated)	(In.)	(In.)	(351)	Initial	Mean(353)	CRI	(K)

Mini WhiteSON® High Pressure Sodium Lamps

Incandescent color quality

- Excellent color rendering of 83–85 CRI; perfect for applications where red is a prominent color
- Longer white lifetime of 10,000 hours
- GX12-I base compact T-6 high pressure sodium lamps to be operated on Advance e-Vision® IWSN100CLF and IWSN100CBLS electronic ballasts only
- For **Warnings, Cautions and Operating Instructions**, see page 111

100	T-6	GX12-I	13425-4	† □ ★	SDW-TG	S167	12	G, (360, 373, 376)	2 1/5	4 11/32	10,000	4900	4165	83	2550
					100W/T6/825										

White SON® High Pressure Sodium Lamps

Incandescent color quality

- Excellent color rendering of 83–85 CRI; perfect for applications where red is a prominent color
- Small compact source
- Incandescent color appearance of 2700K
- Long life—10,000 hours
- For **Warnings, Cautions and Operating Instructions**, see page 111

50	T-10	PG-12	30229-9	□ ★	SDW-T	S104	12	G (360, 373, 376, 394)	3 3/8	5 3/8	10,000	2300	2070	83	2500
					50W/LV										
	BD-17 Med.		31344-5	■ □ ★	SDW-50W/	S104	12	G (360, 373, 376, 394)	—	5 3/8	10,000	2350	2000	85	2700
					LV/D										
100	T-10	PG-12	30228-1	□ ★	SDW-T	S105	12	G (360, 373, 376, 394)	3 3/8	5 3/8	10,000	5000	4250	83	2550
					100W/LV										
	BD-17 Med.		31346-0	■ □ ★	SDW-100W/	S105	12	G (360, 373, 376, 394)	—	5 3/8	10,000	4900	4170	85	2700
					LV/D										

Ceramalux® Comfort High Pressure Sodium Lamps

Improved color rendering

- Improved color rendition of 65 CRI
- High efficacy
- Warm white color appearance
- Operates on standard HPS ballasts
- For **Warnings, Cautions and Operating Instructions**, see page 112

70	BD-17 Med.		30617-5	★	C70S62/	S62	12	G (360, 373, 376)	3 3/8	5 3/8	15,000	4400	3960	60	2200
					C/M										
100	BD-17 Med.		30635-7	★	C100S54/	S54	12	G (360, 373, 376)	3 3/8	5 3/8	15,000	7800	7020	60	2200
					C/M										
	ED-23 1/2 Mog.		30637-3	★	C100S54/C	S54	12	G (360, 373, 376)	5	7 3/8	15,000	7900	7110	60	2200
150	BD-17 Med.		30647-2	★	C150S55/	S55	12	G (360, 373, 376)	3 3/8	5 3/8	15,000	12,000	10,800	60	2200
					C/M										
	ED-23 1/2 Mog.		30643-1	★	C150S55/C	S55	12	G (360, 373, 376)	5	7 3/8	15,000	12,000	10,800	60	2200
250	ED-18 Mog.		30245-5	★	C250S50/C	S50	12	G (360, 373, 376)	5 3/8	9 3/8	15,000	23,000	20,700	65	2200
400	ED-18 Mog.		30652-2	★	C400S51/C	S51	12	G (360, 373, 376)	5 3/8	9 3/8	15,000	37,500	33,750	65	2200

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

HID symbols and footnotes located on page 104

High Intensity Discharge Lamps

High Pressure Sodium Lamps

Lamp Watts	Bulb	Base	Product		Ordering Code	ANSI Code/ Ballast Ref.	Pkg. • Qty.	Description (Operating Position—Universal, unless otherwise indicated)	LCL (In.)	MOL (In.)	Rated Avg.	Approximate		CCT (K)	
			Number	Symbols, Footnotes							Life, Hrs. (351)	Lumens, (352)	Initial		Mean(353)
Ceramalux® High Pressure Sodium Lamps Featuring ALTO® Lamp Technology															
▶ Low total cost of ownership															
▶ Long life—up to 24,000 hours															
▶ High efficacy up to 140 LPW															
▶ ALTO Lamp Technology passes EPA's TCLP test for non-hazardous waste															
▶ For Warnings, Cautions and Operating Instructions, see page 112															
35	BF-55	Med.	30632-4	★	C35S76/M	S76	12	G (360, 373, 376)	3 7⁄8	5 1⁄8	24,000+	2250	2025	21	2100
			30633-2	★	C35S76/ D/M	S76	12	G (360, 373, 376)	—	5 1⁄8	24,000+	2150	1935	21	2100
50	BF-55	Med.	30336-2	★	C50S68/M	S68	12	G (360, 373, 376)	3 7⁄8	5 1⁄8	24,000+	4000	3600	21	2100
			30337-0	★	C50S68/ D/M	S68	12	G (360, 373, 376)	—	5 1⁄8	24,000+	3800	3420	21	2100
	ED-23½	Mog.	36867-0	★	C50S68/ ALTO	S68	12	G, S (360, 373, 376)	5	7 3⁄4	24,000+	4000	3600	21	2100
			33154-6	★	C50S68/ D/ALTO	S68	12	G, S (360, 373, 376)	—	7 3⁄4	24,000+	3800	3420	21	2100
70	BD-17	Med.	33192-6	★	C70S62/M	S62	12	G (360, 373, 376)	3 7⁄8	5 1⁄8	24,000+	6300	5850	21	2100
			33214-8	★	C70S62/D/M	S62	12	G (360, 373, 376)	—	5 1⁄8	24,000+	5860	5270	21	2100
	ED-23½	Mog.	36869-6	★	C70S62/ ALTO	S62	12	G, S (360, 373, 376)	5	7 3⁄4	24,000+	6500	5670	21	2100
			PAR-38	Med.	30620-9	▼★	C70S62 /RFL	S62	12	G, VW, 50 (360, 373) 125° Beam	—	5 13⁄16	16,000	5000	3960
100	BD-17	Med.	34446-5	★	C100S54/M	S54S	12	G (360, 373, 376)	3 7⁄8	5 1⁄8	24,000+	9500	8550	21	2100
			34448-1	★	C100S54/ D/M	S54S	12	G (360, 373, 376)	—	5 1⁄8	24,000+	8800	7920	21	2100
	ED-23½	Mog.	36872-0	★	C100S54/ ALTO	S54	12	G, S (360, 373, 376)	5	7 3⁄4	24,000+	9400	8460	21	2100
			33227-0	★	C100S54/ D/ALTO	S54	12	G, S (360, 373, 376)	—	7 3⁄4	24,000+	8610	7750	21	2100
150	BD-17	Med.	30347-9	★	C150S55/M	S55	12	G (360, 373, 376)	3 7⁄8	5 1⁄8	24,000+	16,000	14,400	21	2100
			30348-7	★	C150S55/ D/M	S55	12	G (360, 373, 376)	—	5 1⁄8	24,000+	15,000	13,500	21	2100
	ED-23½	Mog.	36874-6	★	C150S55/ ALTO	S55	12	G, S (360, 370, 373, 376)	5	7 3⁄4	24,000+	15,800	14,220	21	2100
			ED-28	Mog.	36876-1	★	C150S56/ ALTO	S56	12	G, S (360, 370, 373, 376)	5	8 15⁄16	24,000+	15,000	13,950
200	ED-18	Mog.	36877-9	★	C200S66/ ALTO	S66MN-200	12	G, S (360, 373, 376)	5 3⁄4	9 3⁄4	24,000+	21,400	19,260	21	2100
225	ED-18	Mog.	32291-7	★	C225S50/ EW	S50	12	EW, G, S (360, 373, 376)	5 3⁄4	9 3⁄4	24,000+	27,300	24,620	21	2100
250	ED-18	Mog.	36879-5	★	C250S50/ ALTO	S50	12	G, S (360, 373, 376)	5 3⁄4	9 3⁄4	24,000+	27,000	24,300	21	2100
360	ED-18	Mog.	32292-5	★	C360S51/ EW	S51	12	EW, G, S (360, 373, 376)	5 3⁄4	9 3⁄4	24,000+	46,000	41,450	21	2100
400	ED-18	Mog.	36881-1	★	C400S51/ ALTO	S51	12	G, S (360, 373, 376)	5 3⁄4	9 3⁄4	24,000+	50,000	45,000	21	2100
600	T-14	Mog.	23982-2	■ ★	C600S106	S106	12	G (360, 373, 376)	6 7⁄8	11 1⁄8	24,000+	90,000	81,000	21	2100
1000	ED-25	Mog.	36883-7	■ ★	C1000S52/ ALTO	S52XB-1000	6	G, S (359, 360, 362, 373, 376)	8 3⁄4	15 1⁄8	24,000	140,000	126,000	21	2100
			ED-37	Mog.	32386-5	■ ★	C1000S52/ ED37	S52	6	G, S (360, 373, 376)	7	11 1⁄2	24,000	125,000	112,000

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

HID symbols and footnotes located on page 104

■ This product utilizes ALTO® Lamp Technology

High Intensity Discharge Lamps

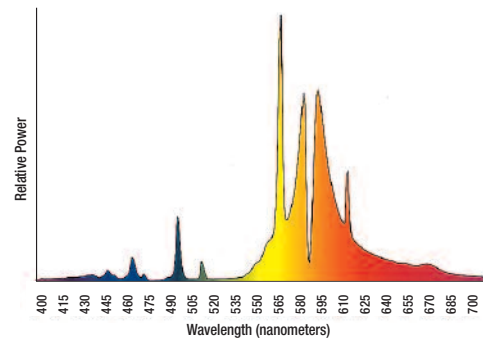
High Pressure Sodium Lamps

Horticulture Lamps—High Pressure Sodium Lamps For Plant Growth

- Ideal for growing vegetables and flowers
- Supplements daylight in greenhouses with "growth-light"
- "Growth-light" output is best measured by PPF—micromol value*

*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.

Representative Spectral Power Distribution



Lamp	Product	ANSI	Description (Operating	Rated Avg.	Approximate	PPF*
Watts	Number Symbols, 046677- Footnotes	Code/ Ballast Ref.	Position—Universal, unless otherwise indicated) (401)	Life, Hrs. (351)	Lumens, (352) Initial Mean(353)	(μmol/ sn) CCT (K)
Bulb	Base	Ordering Code	Pkg. Qty.	LCL (In.)	MOL (In.)	

Agrolite XT High Pressure Sodium Lamps

- 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.



1000	E-25 Mog.	14064-0	† ★	C1000S52 / AGROLITE XT	S52	6	AGRO (359, 360, 362, 373, 376)	8 ¾	15 ¼	15,000	146,000	135,780	1850	2100
430	ED-18 Mog.	31710-7	★	SON AGRO 430W	S145/S51	12	AGRO (360, 373, 389, 396)	5 ¾	9 ¾	16,000	54,000	48,600	670	2100

NEW!

Ceramalux® Instant Restrike High Pressure Sodium Lamps

- Extra arc tube offers light instantly after momentary power interruption and will provide 80% light output within 1–2 minutes
 - For applications where instant restrike is not required, rated average life is 40,000 hours
 - Operates on standard HPS ballasts and auxiliary equipment
- w For Warnings, Cautions and Operating Instructions, see page 112

50	ED-23 ½ Mog.	35467-0	★	C50S68/2	S68	12	G, S (360, 373, 376)	5	7 ¾	24,000+	3800	3450	21	2100
70	ED-23 ½ Mog.	26541-3	★	C70S62/2	S62	12	G, S (360, 373, 376)	5	7 ¾	24,000+	5600	5050	21	2100
100	ED-23 ½ Mog.	26560-3	★	C100S54/2	S54	12	G, S (360, 373, 376)	5	7 ¾	24,000+	9100	8190	21	2100
150	ED-23 ½ Mog.	26561-1	★	C150S55/2	S55	12	G, S (360, 373, 376)	5	7 ¾	24,000+	15,600	14,000	21	2100
250	ED-18 Mog.	37717-6	★	C250S50/2	S50	12	G, S (360, 373, 376)	5 ¾	9 ¾	24,000+	27,500	24,750	21	2100
400	ED-18 Mog.	37688-9	★	C400S51/2	S51	12	G, S (360, 373, 376)	5 ¾	9 ¾	24,000+	49,000	44,000	21	2100
1000	E-25 Mog.	20412-3	★	C1000S52/2	S52	6	G, S (360, 373, 376)	8 ¾	15 ¼	24,000+	140,000	126,000	21	2100

Ceramalux® RetroLux High Pressure Sodium Lamps

For operation on all mercury vapor and metal halide ballasts of similar wattage
Operating position: universal

- 150W retrofits 175 watt mercury vapor or metal halide
 - 220W retrofits 250 watt mercury vapor or metal halide
 - 360W retrofits 400 watt mercury vapor or metal halide
- For Warnings, Cautions and Operating Instructions, see page 112

Lamp	Product	ANSI	Description (Operating Position—Universal, unless otherwise indicated) (401)	Rated Avg.	Approximate	CCT
Watts	Number Symbols, 046677- Footnotes	Code/ Ballast Ref.	Position—Universal, unless otherwise indicated) (401)	Life, Hrs. (351)	Lumens, (352) Initial Mean(353)	(K)
Bulb	Base	Ordering Code	Pkg. Qty.	LCL (In.)	MOL (In.)	

150	BT-28 Mog.	39194-6	★	C150S63/ RetroLux	S63	12	G, S	5 ¾	8 ¾	24,000	15,000	13,500	25	2100
220	BT-28 Mog.	39195-3	★	C220S65/ RetroLux	S65	12	G, S	5 ¾	8 ¾	24,000	25,000	22,500	25	2100
360	BT-37 Mog.	39196-1	★	C360S64/ RetroLux	S64	6	G, S	7 ¾	11 ¼	24,000	45,000	40,500	25	2100

For the most current product information, go to the e-catalog on www.philips.com
HID symbols and footnotes located on page 104

High Intensity Discharge Lamps

Mercury Vapor Lamps

Lamp Watts	Bulb	Base	Product		Ordering Code	ANSI Code/ Ballast Ref.	Pkg. Qty.	Description (Operating Position—Universal, unless otherwise indicated) (401)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352)		CCT (K)
			Number	Symbols, Footnotes								Initial	Mean(353)	

Low Pressure Sodium Lamps—SOX

► For Warnings, Cautions and Operating Instructions, see page 112

18	T-17	D.C. Bay	23404-7	□	SOX-E18	L69	12	Clear Base Up ± 110°	5 1/2	8 1/2	18,000	1800	1620	—	1700
35	T-17	D.C. Bay	32781-7		SOX35	L70	12	Clear Base Up ± 110°	—	12 3/8	18,000	4550	4095	—	1700
55	T-17	D.C. Bay	32151-3		SOX55	L71	12	Clear Base Up ± 110°	9 1/2	16 3/4	18,000	7800	7800	—	1700
90	T-21	D.C. Bay	32152-1		SOX90	L72	12	Clear Hor. ± 20°	—	20 3/4	18,000	14,300	12,155	—	1700
135	T-21	D.C. Bay	32153-9		SOX135	L73	12	Clear Hor. ± 20°	—	30 1/2	18,000	22,600	19,210	—	1700
180	T-21	D.C. Bay	15116-7		SOX180	L74	6	Clear Hor. ± 20°	—	44 1/2	18,000	32,000	22,400	—	1700

Mercury Vapor Lamps

Lifeguard lamps with Weather Duty® bulbs, except as noted. Lamps may be operated in any position.

Explanation of suffix in ordering code

(no suffix = clear, non-phosphor coated):

/DX Deluxe White

/M Medium Base

WARNING: "These lamps can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available." See Safety Lifeguard Mercury Vapor Lamps for those applications where the lamps are to be used in luminaires to light areas where activities are conducted that can result in the outer envelope being broken or punctured and where prolonged exposure of a population confined to the area can occur.

Descriptive symbols for Mercury Vapor Lamps:

B Black Light
FF Frosted Face
G General Lighting
K Kleen-Beam
RF Reflector Flood
SR Semi Reflector
S Street Lighting
VW Very Wide
W Wide

► For Warnings, Cautions and Operating Instructions, see page 112

Lamp Watts	Bulb	Base	Product		Ordering Code (363)	ANSI Code	Pkg. Qty.	Description	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens, (352)		CCT (K)
			Number	Symbols, Footnotes								Initial	Mean(353)	
50	BD-17 Med.		35664-2	★	H46DL-40-50/DX	H46	12	G, (379, 384)	—	5 1/2	24,000+	1580	1260	45 3200
75	BD-17 Med.		27524-8	★	H43AV-75/DX	H43	12	G, S, (379)	—	5 3/8	24,000+	2800	2250	45 3200
100	A-23 Med.		35658-4	★	H38MP-100/DX	H38	24	G, (379)	—	5 3/8	24,000+	4300	3700	45 3700
	ED-23 1/2 Mog.		33712-1	X ★	H38HT-100	H38	12	G, S, B (355)	5	7 1/2	24,000+	4100	3450	20 7000
			33713-9	★	H38JA-100/DX	H38	12	G, S (379)	—	7 1/2	24,000+	4400	3400	45 3700
	R-40 Med.		31947-5	★	H38BP-100/DX	H38	12	RF, FF, VW (379) 145° Beam	—	7 1/2	24,000+	3300	2300	45 4400
175	ED-28 Mog.		31965-7	★	H39KB-175	H39	12	G, S, B (355)	5	8 3/8	24,000+	7900	7400	20 6800
			24805-4	★	H39KC-175/DX	H39	12	G, S (379)	—	8 3/8	24,000+	7900	7600	45 3700
	R-40 Med.		30105-1	★	H39BP-175/DX	H39	12	RF, FF, VW (379) 105° Beam	—	7 1/2	24,000+	6000	4800	40 4300
250	ED-28 Mog.		31985-5	★	H37KB-250	H37	12	G, S, B (355)	5	8 3/8	24,000+	12,100	10,500	20 6700
			24814-6	★	H37KC-250/DX	H37	12	G, S (379)	—	8 3/8	24,000+	13,000	10,700	45 3700
400	ED-37 Mog.		25205-6	X ★	H33CD-400	H33	6	G, S, B (355)	7	11 1/2	24,000+	21,000	18,900	20 6500
			24842-7	★	H33GL-400/DX	H33	6	G, S (379)	—	11 1/2	24,000+	23,000	19,100	45 3700
	R-60 Mog.		35661-8	★	H33FS-400/DX	H33	6	K, FF, RF (379) 146° Beam	—	10 3/4	24,000+	15,000	12,400	45 3800
1000	BT-56 Mog.		25107-4	★	H36GV-1000	H36	6	G, S (359)	9 1/2	15 3/8	24,000+	57,500	48,400	20 6300
			39707-5	★	H36GW-1000/DX	H36	6	G, S (359, 379)	—	15 3/8	24,000+	63,000	47,500	45 3700

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

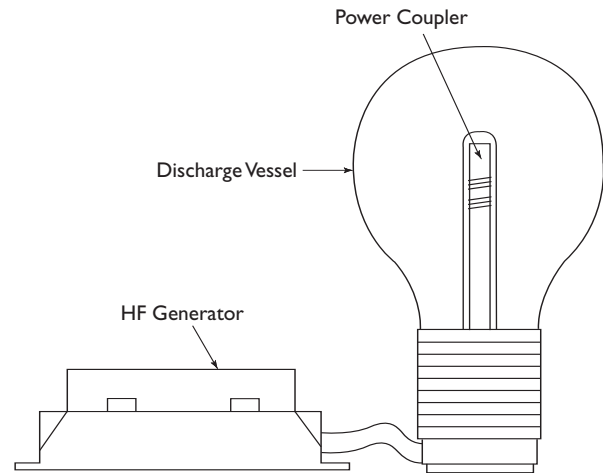
HID symbols and footnotes located on page 104

QL Induction Lighting Systems

QL Induction Lighting is based on a technology which is fundamentally different from that of incandescent lamps or today's conventional gas discharge lamps. Instead of the glowing filaments of incandescent lamps, or the electrodes used in conventional gas discharge lamps, light generation is by means of induction—the transmission of energy via a magnetic field—combined with a gas discharge.

Induced Current In Lamp Bulb (Vessel)

In the QL induction lighting system, the energy source—equivalent to the primary coil of the transformer—is the lamp's induction coil, which is powered by the high-frequency electronics in the HF generator. The secondary coil is represented by the low-pressure gas and metal vapor inside the lamp bulb. The induced current causes the acceleration of charged particles in the metal vapor. These particles collide, resulting in excitation and ionization of the metal vapor atoms and raising the energy level of the free electrons from these atoms to a higher, unstable state. As these excited electrons fall back to their stable, lower-energy state, they emit ultraviolet radiation. This falls on the fluorescent coating inside the lamp bulb, causing light to be emitted.



QL System Components

The QL lamp system consists of three main components (see illustration), each of which can be replaced separately if service is required.

► The **vessel** or **discharge bulb** is a closed glass bulb containing a low-pressure inert gas filling with a small amount of mercury vapor. The walls of the vessel are coated on the inside with a fluorescent powder of any of the modern three-line phosphor types, providing a choice of color temperatures. At present, the colors/830 (3000K) and /840 (4000K) are available. The discharge vessel is fixed to the power coupler by the plastic lamp cap with a click system. These two components normally never need to be disassembled, due to the ultra-long lifetime of the system.

► The **power coupler** transfers energy from the HF generator to the discharge inside the glass bulb, using an antenna that comprises the primary induction coil and its ferrite core. Other parts of the power coupler are a plastic support for the antenna, a 40 cm coaxial connecting cable carrying current from the HF generator and a heat conducting rod with mounting flange. The mounting flange allows the QL lamp system to be mechanically attached to the luminaire and removes waste heat to a heat sink which forms part of the luminaire.

► The **HF generator** produces the 2.65 MHz alternating current supply to the antenna.

Watts	Bulb	Base	Product Number	Symbols, Footnotes	Ordering Code	Pkg. Qty.	Description (Operating Position—Universal, unless otherwise indicated)	LCL (In.)	MOL (In.)	Rated Avg. Life, Hrs. (351)	Approximate Lumens (352)	CRI	CCT (K)
55	P-26	Twist	13542-6	☐	QL55W/GEN 100-120V 6PK	6	55W Generator 120V ◊	—	—	100,000	—	—	—
			13543-4	☐	QL55W/GEN 200-277V 6PK	6	55W Generator 277V ◊◊	—	—	100,000	—	—	—
			13544-2	☐	QL55W/PC TWIST BASE 6PK	6	55W Power Coupler	—	—	100,000	—	—	—
			14736-3	☐	QL55W/827 TWIST BASE	6	55W Lamp 2700K	—	5 ½	100,000	3500	2800	80 2700
			13545-9	☐	QL55W/830 TWIST BASE	6	55W Lamp 3000K	—	5 ½	100,000	3500	2800	80 3000
			13546-7	☐	QL55W/840 TWIST BASE	6	55W Lamp 4000K	—	5 ½	100,000	3500	2800	80 4000
85	P-35	Twist	13547-5	☐	QL85W/GEN 100-120V 6PK	6	85W Generator, 120V ◊	—	—	100,000	—	—	—
			13548-3	☐	QL85W/GEN 200-277V 6PK	6	85W Generator 277V ◊◊	—	—	100,000	—	—	—
			13549-1	☐	QL85W/PC TWIST BASE 6PK	6	85W Power Coupler	—	—	100,000	—	—	—
			14737-1	☐	QL85W/827 TWIST BASE	6	85W Lamp 2700K	—	7 ½	100,000	6000	4800	80 2700
			13550-9	☐	QL85W/830 TWIST BASE	6	85W Lamp 3000K	—	7 ½	100,000	6000	4800	80 3000
			13551-7	☐	QL85W/840 TWIST BASE	6	85W Lamp 4000K	—	7 ½	100,000	6000	4800	80 4000
165	P-41	Twist	14428-7	☐	QL85R/840 TWIST BASE	6	85W Reflector Lamp 4K	—	8 ½	100,000	6000	4800	80 4000
			37799-4	☐	QL165W/GEN 200-277V 6PK	6	165W Generator 277V ◊◊◊	—	—	100,000	—	—	—
			36916-5	☐	QL165W/PC TWIST BASE 6PK	6	165W Power Coupler	—	—	100,000	—	—	—
			36917-3	☐	QL165W/830 TWIST BASE	6	165W Lamp 3000K	—	8 ½	100,000	12,000	9600	80 3000
			36918-1	☐	QL165W/840 TWIST BASE	6	165W Lamp 4000K	—	8 ½	100,000	12,000	9600	80 4000

NEW!

Operating Position: Universal

Power Factor > .9

Total Harmonic Distortion (THD) < 10%

QL System Listings: UL, CSA, FCC Class A

Note: QL System requires all three components to operate (order 3 product numbers)

Vessel maximum diameter: 55W=85mm; 85W=111mm; 165W=131mm

For detailed system operating instructions see QLOEM Guide at www.philips.com > Professional Lighting > Browse Literature > Catalogs/Brochures

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

HID symbols and footnotes located on page 104

High Intensity Discharge Lamps

Footnotes

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

□ Exclusive to Philips Lighting Company

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

) Can be used in open luminaire, only if operated vertically $\pm 15^\circ$.

G = General Lighting

S = Street Lighting

▼ PAR-38 (one piece)

▲ Aluminum base.

■ Nickel plated brass base.

★ Heat resisting glass bulb.

§ Energy Saving Product

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

† New since last printing

ⓔ This Bulb Meets US Federal Minimum Efficiency Standard

(351) Rated average life is the life obtained, on the 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 with a rated average life of 24,000 hours, 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.

(356) Opaque coating on reflecting section of bulb.

(357) Protect bulb from moisture when used in base down position.

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

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

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

(363) These ordering codes generally conform to the designation system of the American National Standards Institute (ANSI).

(364) Rated average life: vertical $\pm 30^\circ$ 20,000 hours; other positions, 15,000 hours.

(365) Supply voltage must be held to ± 10 volts of rated lamp voltage.

(367) Lamps will start down to -10°F .

(368) Supply voltage must be held to ± 5 volts of rated lamp voltage.

(369) Lamps will start down to 0°F .

(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.

(382) Though made of heat-resistant glass, breakage may result if moisture falls on bulb. Use in well ventilated housing.

(383) For indoor and outdoor use: if outdoors, in base down operation, lamp should be protected by a fully enclosed fixture, adequately ventilated. In base up operation, lamp can be used in open face fixture, 40° below horizontal. All fixtures should protect the lamp and wiring from water and corrosive atmospheric gases. The fixture, holder or shield should provide adequate ventilation near the socket and base of the lamp.

(384) For 40W operation use H45 ballast.

Ordering Code	Approx. Lumens	
	Initial	Mean
H46DL-40-50/DX	1140	910

(385) Rated average life: vertical $\pm 15^\circ$. 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.

(390) Where instant restrike is not required, rated lamp life is 40,000+ hours.

(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 $\pm 5\%$ of rated ballast line volts for reactor type and $\pm 10\%$ 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.

(395) Lamp color may change temporarily if the lamp is subjected to excessive vibration or shock.

(396) UV filtered design (FadeBlock™).

(397) Operate only on thermally protected ballasts

(398) Rated average life: vertical operation = 10,000 hours; horizontal = 12,000 hours.

(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.

(403) Not to be used in compact Wall Pack or Flood Light type fixtures. Maximum temperature limit of outer bulb may be exceeded in these applications and can lead to premature lamp failure.

(404) Luminaire photometric distributions may be impacted due to difference in arc length vs. HPS lamp arc length.

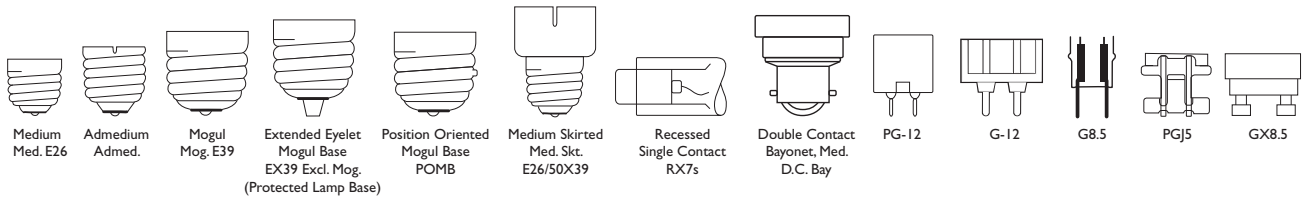
(405) 97% Lumen maintenance at 10% of rated average life. 93% lumen maintenance at 40% of rated average life.

(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.

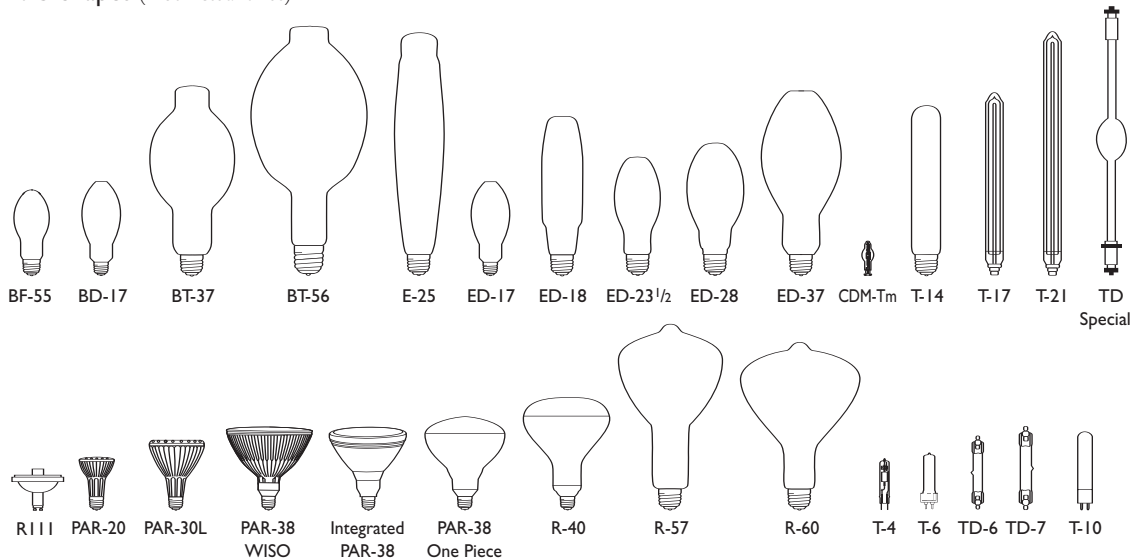
High Intensity Discharge Lamps

Base Types and Bulb Shapes

Base Types (Not Actual Sizes)



Bulb Shapes (Not Actual Sizes)



WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for MasterColor® Integrated PAR 38 Lamps

Warnings, Cautions and Operating Instructions

R “**WARNING:** These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available.” This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR 1040.30 Canada:SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000°C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the

surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

This lamp contains an arc tube with a filling gas containing less than 41 nCi of Kr-85 and is distributed by Philips Lighting Company, a division of Philips Electronics North America Corporation, Somerset, New Jersey, 08875.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING LAMP OPERATING INSTRUCTIONS MUST BE FOLLOWED.

LAMP OPERATING INSTRUCTIONS:

1. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. At high lighting levels or when illuminating light-sensitive materials the use of an extra UV filter is recommended.
3. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
4. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may

require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock, and color appearance may vary between individual lamps.

5. Lamps may require up to 10 minutes to re-light if there is a power interruption.
6. Do not operate with an additional ballast, since a ballast is integrated in the lamp itself.
7. **Do not use in totally enclosed recessed fixtures.**
8. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
9. Lamp should not be used with dimmers.
10. Protect lamp, lamp socket and wiring against moisture, corrosive atmosphere and excessive heat. Lamp should be used in dry locations only.

These lamps may be used in open fixtures.

Hg - LAMP CONTAINS MERCURY
Manage in Accord with Disposal Laws See:
www.lamprecycle.org or 1-800-555-0050

High Intensity Discharge Lamps

Warnings, Cautions and Operating Instructions

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for MasterColor® (Elite) Ceramic Metal Halide Lamps: Single Ended CDM-T G12, CDM-TC G8.5 and CDM-Tm PGJ5 (Universal); Double-Ended CDM-TD RX7 (Horizontal $\pm 45^\circ$, Enclosed Fixtures Only)

Warnings, Cautions and Operating Instructions

R“**WARNING:** These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available.” This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR 1040.30 Canada:SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

Certain lamps that will retain all the glass particles should inner arc-tube rupture occur are commercially available from Philips Lighting Company.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

This lamp contains an arc tube with a filling gas containing Kr-85 and is distributed by Philips Lighting Company, a division of Philips Electronics North America Corporation, Somerset, New Jersey, 08875.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. Use only in fully enclosed fixtures capable of withstanding particles of glass having temperatures up to 1000° C. Lens/diffuser material must be heat resistant. Consult fixture manufacturer regarding the suitability of the fixture for this lamp.
3. Do not operate a fixture with a missing or broken lens/diffuser. At high lighting levels or when illuminating light-sensitive materials the use of an extra UV filter is recommended.
4. Operate lamp only within specified limits of operating position.
5. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock

and potential burn hazards. When inserting a new CDM-Tm lamp, twist the lamp 45° clockwise in the holder to ensure proper electrical and mechanical connection.

6. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
 - A. Operate lamp only within specified limits of operation.
 - B. For total supply load refer to ballast manufacturers electrical data.
- C. Operate CDM-T (G12 base), CDM-TC (G8.5 base) and CDM-Tm (PGJ5 base) lamps only on thermally protected ballasts.**
- D. Operate CDM-TC lamps (G8.5 base) and CDM-Tm (PGJ5 base) only on electronic ballasts.**
7. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
8. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
9. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
10. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock and color appearance may vary between individual lamps.
11. Lamps may require 4 to 8 minutes (10-15 minutes for CDM-Tm) to re-light if there is a power interruption.
12. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Protected MasterColor® Ceramic Metal Halide PAR and CDM-R111 Lamps (Open or Enclosed Fixtures)

Warnings, Cautions and Operating Instructions

R“**WARNING:** These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available.” This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR 1040.30 Canada: SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE. These lamps are designed to retain all the glass particles should an arc tube rupture**

occur. The following operating instructions are recommended to minimize these occurrences.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

This lamp contains an arc tube with a filling gas containing Kr-85 and is distributed by Philips Lighting Company, a division of Philips Electronics North America Corporation, Somerset, New Jersey, 08875.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
3. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
 - A. Operate lamp only within specified limits of operation.

B. For total supply load refer to ballast manufacturers electrical data.

C. Operate 39W PAR-20 and PAR-30L lamps only on thermally protected ballast.

D. Operate CDM-R111 lamp only on approved thermally protected electronic ballast.

4. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
5. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
6. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
7. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock, and color appearance may vary between individual lamps.
8. Lamps may require up to 10 minutes (4-8 minutes for CDM-R111) to re-light if there is a power interruption.
9. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
10. For proper installation and removal, lamp should be handled by the sides of the reflector and not by the aluminum front anti-glare cap.

High Intensity Discharge Lamps

Warnings, Cautions and Operating Instructions

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for MasterColor® Ceramic Metal Halide Lamps ED-17 (Enclosed Fixtures); Protected MasterColor® Ceramic Metal Halide Lamps ED-17P (Open or Enclosed Fixtures)

Warnings, Cautions and Operating Instructions

R“WARNING: These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available.” This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR. 1040.30 Canada:SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

Use ED-17 lamps in enclosed luminaires ONLY that are capable of withstanding particles of glass having temperatures up to 1000° C. ED-17P types are designed to retain all the glass particles should an arc tube rupture occur.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

This lamp contains an arc tube with a filling gas containing Kr-85 and is distributed by Philips Lighting Company, a division of Philips Electronics North America Corporation, Somerset, New Jersey, 08875.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.

3. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer:
 - A. Operate lamp only within specified limits of operation.
 - B. For total supply load refer to ballast manufacturers electrical data.
4. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
5. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
6. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
7. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock and color appearance may vary between individual lamps.
8. Lamps may require 4 to 8 minutes to re-light if there is a power interruption.
9. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Protected MasterColor® Pulse Start Ceramic Metal Halide Lamps ED-37 and ED-38 (Vertical Operation ± 15°, Open or Enclosed Fixtures)

Warnings, Cautions and Operating Instructions

R“WARNING: These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available.” This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR. 1040.30 Canada:SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

These lamps are designed to retain all the glass particles should an arc tube rupture occur. The following operating instructions are recommended to minimize these occurrences.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

This lamp contains an arc tube with a filling gas containing Kr-85 and is distributed by Philips Lighting Company, a division of Philips Electronics North America Corporation, Somerset, New Jersey, 08875.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
3. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer:

- A. Operate lamp only within specified limits of operation.
 - B. For total supply load refer to ballast manufacturers electrical data.
 - C. All Pulse Start mogul based lamps require a socket rated to withstand a 4000 volt pulse.
4. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
 5. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
 6. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
 7. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock, and color appearance may vary between individual lamps.
 8. Lamps may require 10 to 20 minutes to re-light if there is a power interruption.
 9. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
 10. Use this lamp only in fixtures that contain Pulse Start metal halide ballasts and are specifically designed for use with Pulse Start metal halide lamps.

High Intensity Discharge Lamps

Warnings, Cautions and Operating Instructions

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Protected MasterColor® Ceramic Metal Halide HPS-Retro White™ Lamps ED-18 (Vertical Operation $\pm 15^\circ$, Open or Enclosed Fixtures or Horizontal Operation $\pm 15^\circ$)

Warnings, Cautions and Operating Instructions

R“**WARNING:** These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available.” This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR 1040.30 Canada:SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL**

INJURY, PROPERTY DAMAGE, BURNS AND FIRE.

These lamps are designed to retain all the glass particles should an arc tube rupture occur. The following operating instructions are recommended to minimize these occurrences.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

This lamp contains an arc tube with a filling gas containing Kr-85 and is distributed by Philips Lighting Company, a division of Philips Electronics North America Corporation, Somerset, New Jersey, 08875.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.

3. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
 - A. Operate lamp only within specified limits of operation.
 - B. For total supply load refer to ballast manufacturers electrical data.
4. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
5. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
6. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
7. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock and color appearance may vary between individual lamps.
8. Lamps may require 10 to 20 minutes to re-light if there is a power interruption.
9. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Pulse Start Metal Halide Lamps (Base Up Operation $\pm 15^\circ$ Unless Otherwise Noted; Enclosed Fixtures Only Unless Otherwise Noted)

Warnings, Cautions and Operating Instructions

R“**WARNING:** These lamps can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available.” This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR 1040.30 Canada: SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous shortwave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

Certain lamps that will retain all the glass particles should inner arc-tube rupture occur are commercially available from Philips Lighting Company.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. Turn off lamps at least once a week for at least 15 minutes in systems which are operating on a continuous basis (24 hours/day-7days/week). FAILURE TO TURN OFF LAMPS FOR THE MINIMUM RECOMMENDED TIME MAY INCREASE THE POSSIBILITY OF AN INNER ARC-TUBE RUPTURE.
2. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
3. Use only in an enclosed fixture capable of withstanding particles of glass having temperatures up to 1000° C, unless otherwise noted.
4. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.

5. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
 - A. Operate lamp only within specified limits of operation.
 - B. For total supply load refer to ballast manufacturers electrical data.
 - C. All Pulse Start mogul based lamps require a socket rated to withstand a 4,000 volt pulse.
6. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
7. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
8. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
9. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock and color appearance may vary between individual lamps.
10. Lamps may require 2 to 4 minutes to relight if there is a power interruption.
11. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
12. Use this lamp only in fixtures that contain a Pulse Start metal halide ballast and are specifically designed for use with Pulse Start metal halide lamps.

High Intensity Discharge Lamps

Warnings, Cautions and Operating Instructions

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Protected Pulse Start Metal Halide Lamps (Base Up Operation $\pm 15^\circ$ Unless Noted; Open or Enclosed Fixtures)

Warnings, Cautions and Operating Instructions

R“**WARNING:** These lamps can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available.” This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR 1040.30 Canada:SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous shortwave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE,**

BURNS AND FIRE. These lamps are designed to retain all the glass particles should an arc tube rupture occur. The following operating instructions are recommended to minimize these occurrences.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
3. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.

- A. Operate lamp only within specified limits of operation.
- B. For total supply load refer to ballast manufacturers electrical data.
- C. All Pulse Start mogul based lamps require a socket rated to withstand a 4000 volt pulse.
4. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
5. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
6. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
7. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock and color appearance may vary between individual lamps.
8. Lamps may require 2 to 4 minutes to relight if there is a power interruption.
9. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
10. Use this lamp only in fixtures that contain a Pulse Start metal halide ballast and are specifically designed for use with Pulse Start metal halide lamps.

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Protected Metal Halide Lamps (Base Up Operation $\pm 15^\circ$ Unless Noted; Open or Enclosed Fixtures)

Warnings, Cautions and Operating Instructions

R“**WARNING:** These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available.” This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA: 21CFR 1040.30 Canada: SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

These lamps are designed to retain all the glass particles should an arc tube rupture occur.

The following operating instructions are recommended to minimize these occurrences.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
3. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.

- A. Operate lamp only within specified limits of operation.
- B. For total supply load refer to ballast manufacturers electrical data.

4. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.

5. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
6. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
7. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock and color appearance may vary between individual lamps.
8. Lamps may require 10 to 20 minutes to re-light if there is a power interruption.
9. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
10. Do not use this lamp:
 - A. In a fixture that contains a Pulse Start metal halide ballast.
 - B. In a fixture that is specifically designed for use with Pulse Start metal halide lamps. **Operation of these lamps on Pulse Start Metal Halide systems may increase the chance of an outer bulb rupture and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

High Intensity Discharge Lamps

Warnings, Cautions and Operating Instructions

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Standard Metal Halide Lamps (Enclosed Fixtures Only Unless Otherwise Noted)

Warnings, Cautions and Operating Instructions

R^{WARNING:} These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available." This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA: 21 CFR 1040.30 Canada: SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

Certain lamps that will retain all the glass particles should inner arc-tube rupture occur are commercially available from Philips Lighting Company.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. Turn off lamps at least once a week for at least 15 minutes in systems which are operating on a continuous basis (24 hours/day-7 days/week). FAILURE TO TURN OFF LAMPS FOR THE MINIMUM RECOMMENDED TIME MAY INCREASE THE POSSIBILITY OF AN INNER ARC-TUBE RUPTURE.
2. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
3. Use only in an enclosed fixture capable of withstanding particles of glass having temperatures up to 1000° C.
4. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
5. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer:
 - A. Operate lamp only within specified limits of operation.
 - B. For total supply load refer to ballast manufacturers electrical data.

6. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
7. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
8. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
9. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock and color appearance may vary between individual lamps.
10. Lamps may require 10 to 20 minutes to re-light if there is a power interruption.
11. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
12. Do not use this lamp:
 - A. In a fixture that contains a Pulse Start metal halide ballast.
 - B. In a fixture that is specifically designed for use with Pulse Start metal halide lamps. **Operation of these lamps on Pulse Start Metal Halide systems may increase the chance of an outer bulb rupture and pieces of extremely hot glass might be discharged into the surrounding environment.** If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Standard Metal Halide Lamps (Open or Enclosed Fixtures; S Rated Lamps; Open Fixture Use Restricted to Base Up ± 15° [Base Down, BD ± 15°])

Warnings, Cautions and Operating Instructions

R^{WARNING:} These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available." This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA: 21 CFR 1040.30 Canada: SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

Certain lamps that will retain all the glass particles should inner arc-tube rupture occur are commercially available from Philips Lighting Company.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they

fail is not advised and may increase the possibility of inner arc tube rupture.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. Turn off lamps at least once a week for at least 15 minutes in systems which are operating on a continuous basis (24 hours/day-7 days/week). FAILURE TO TURN OFF LAMPS FOR THE MINIMUM RECOMMENDED TIME MAY INCREASE THE POSSIBILITY OF AN INNER ARC-TUBE RUPTURE.
2. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
3. **If operated other than vertical ± 15°, use only in an enclosed fixture capable of withstanding particles of glass having temperatures up to 1000° C.**
4. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
5. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer:
 - A. Operate lamp only within specified limits of operation.
 - B. For total supply load refer to ballast manufacturers electrical data.

6. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
7. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
8. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
9. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock and color appearance may vary between individual lamps.
10. Lamps may require 10 to 20 minutes to re-light if there is a power interruption.
11. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
12. Do not use this lamp:
 - A. In a fixture that contains a Pulse Start metal halide ballast.
 - B. In a fixture that is specifically designed for use with Pulse Start metal halide lamps. **Operation of these lamps on Pulse Start Metal Halide systems may increase the chance of an outer bulb rupture and pieces of extremely hot glass might be discharged into the surrounding environment.** If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

High Intensity Discharge Lamps

Warnings, Cautions and Operating Instructions

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Safety Lifeguard Metal Halide Lamps (Open or Enclosed Fixtures)

Warnings, Cautions and Operating Instructions

T“**WARNING:** This lamp should self extinguish within 15 minutes after outer envelope is broken or punctured. If such damage occurs, turn off and remove lamp to avoid possible injury from hazardous shortwave ultraviolet radiation.” This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21CFR 1040.30 Canada:SOR/DORS/80-381)

This lamp should not be used on dimmers and is not warranted if used on dimming systems.

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000° C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

Certain lamps that will retain all the glass particles should inner arc-tube rupture occur are commercially available from Philips Lighting Company.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING **LAMP OPERATING INSTRUCTIONS** MUST BE FOLLOWED:

LAMP OPERATING INSTRUCTIONS:

1. Turn off lamps at least once a week for at least 15 minutes in systems which are operating on a continuous basis (24 hours/day-7days/week). FAILURE TO TURN OFF LAMPS FOR THE MINIMUM RECOMMENDED TIME MAY INCREASE THE POSSIBILITY OF AN INNER ARC-TUBE RUPTURE.
2. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
3. **If operated other than vertical $\pm 15^\circ$, use only in an enclosed fixture capable of withstanding particles of glass having temperatures up to 1000° C.**
4. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
5. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer:
 - A. Operate lamp only within specified limits of operation.
 - B. For total supply load refer to ballast manufacturers electrical data.
6. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
7. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
8. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
9. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock and color appearance may vary between individual lamps.
10. Lamps may require 10 to 20 minutes to re-light if there is a power interruption.
11. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.
12. Do not use this lamp:
 - A. In a fixture that contains a Pulse Start metal halide ballast.
 - B. In a fixture that is specifically designed for use with Pulse Start metal halide lamps. **Operation of these lamps on Pulse Start Metal Halide systems may increase the chance of an outer bulb rupture and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Mini WhiteSON and White SON High Pressure Sodium Lamps

Warnings, Cautions and Operating Instructions

WARNING: These lamps must be operated in fixtures designed for use with High Pressure Sodium lamps. The fixture wattage rating must match the wattage indicated on the outer glass bulb. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the glass is struck. Operating the lamp improperly may result in **PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

1. If the outer glass bulb is broken, shut off power immediately and remove the lamp after it has cooled.
2. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer:
 - A. Operate lamp only within specified limits of operation.
 - B. For total supply load refer to ballast manufacturers electrical data.
 - C. Operate Mini WhiteSON lamps only on approved electronic ballasts.
3. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
4. Replace the lamp if the outer glass bulb has been scratched, cracked or damaged in any way.
5. If a lamp bulb support is used, be sure to insulate the support electrically so as to avoid possible decomposition of the bulb glass.
6. Do not use this lamp in a fixture which redirects a substantial portion of the energy toward the arc tube and its immediate vicinity, as this may lead to very early lamp failure.
7. Take care in handling and disposing of lamps. If arc tube is broken, avoid skin contact with any of the contents or fragments.
8. The arc tube of this lamp contains sodium and mercury. Dispose of in accordance with federal, state and local requirements.
9. It is possible that the light color will suddenly change. After some time the lamp will regain its old color.
10. In order to prevent damage to the ballast, the lamp should be replaced as quickly as possible at the end of its lifetime (lamp color turns yellow, lamp flickers and fails to start).
11. For Mini WhiteSON lamps, after 10,000 hours of burning the light color will become yellow. The lamp must then be replaced.
12. For WhiteSON lamps, after 7,500 hours of burning the light color will become yellow. The lamp must then be replaced.

High Intensity Discharge Lamps

Warnings, Cautions and Operating Instructions

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Ceramalux® High Pressure Sodium Lamps

Warnings, Cautions and Operating Instructions

WARNING: These lamps must be operated in fixtures designed for use with High Pressure Sodium lamps. The fixture wattage rating must match the wattage indicated on the outer glass bulb. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the glass is struck. Operating the lamp improperly may result in **PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

1. If the outer glass bulb is broken, shut off power immediately and remove the lamp after it has cooled.

2. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
 - A. Operate lamp only within specified limits of operation.
 - B. For total supply load refer to ballast manufacturers electrical data.
3. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
4. Replace the lamp if the outer glass bulb has been scratched, cracked or damaged in any way.
5. If a lamp bulb support is used, be sure to insulate the support electrically so as to avoid possible decomposition of the bulb glass.

6. Do not use this lamp in a fixture which redirects a substantial portion of the energy toward the arc tube and its immediate vicinity, as this may lead to very early lamp failure.
7. Take care in handling and disposing of lamps. If arc tube is broken, avoid skin contact with any of the contents or fragments.
8. The arc tube of this lamp contains sodium and mercury. Dispose of in accordance with federal, state and local requirements.

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Ceramalux® RetroLux High Pressure Sodium Lamps

Warnings, Cautions and Operating Instructions

CAUTION: Electric discharge lamp—Use only with proper circuits and auxiliary equipment designed to produce established electrical values for this lamp. Operating the lamp improperly may result in damage to equipment or personal injury, for which the lamp manufacturer does not assume any responsibility.

If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass. Do not scratch the bulb or subject it to pressure, as it could fail violently. If the outer bulb is broken, turn off the lamp and replace it promptly.

The arc tube of this lamp contains sodium and mercury. Use appropriate care in disposal. Protect lamp base,

socket and wiring against moisture, corrosive atmospheres and excessive heat.

Do not use this lamp in a fixture which redirects a substantial portion of the energy toward the arc tube and its immediate vicinity, as this may lead to very early lamp failure.

NOTICE: For total supply load, add auxiliary (ballast) watts to lamp watts.

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Low Pressure Sodium Lamps—SOX

Warnings, Cautions and Operating Instructions

WARNING: These lamps must be operated in fixtures designed for use with Low Pressure Sodium lamps. The fixture wattage rating must match the wattage indicated on the outer glass bulb. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter.

Operating the lamp improperly and not following operating instructions may result in **PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

1. If the outer glass bulb is broken, shut off power immediately and remove the lamp after it has cooled.
2. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
 - A. Operate lamp only within specified limits of operation.
 - B. For total supply load refer to ballast manufacturers electrical data.
3. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.

4. Replace the lamp if the outer glass bulb has been scratched, cracked or damaged in any way.

5. Take care in handling and disposing of lamps. If arc tube is broken, avoid skin contact with any of the contents or fragments.

6. The arc tube of this lamp contains sodium. Sodium can generate a high degree of heat when exposed to water. Dispose of in accordance with federal, state and local requirements.

WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS for Mercury Vapor Lamps

Warnings, Cautions and Operating Instructions

R“**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. 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.” This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA:21 CFR 1040.30 Canada:SOR/DORS/80-381)

WARNING: The following GOOD LAMP PRACTICES are recommended to reduce the possibility of an arc tube rupture and the associated risk of property damage or personal injury.

1. TURN LAMPS OFF AT LEAST ONCE PER WEEK FOR AT LEAST 15 MINUTES, in systems which are otherwise operating on a continuous basis (24 hours/day-7 days/week).
2. RELAMP FIXTURES AT OR BEFORE END OF RATED LIFE. Allowing such lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
3. OPERATE LAMP WITH PROPER CIRCUITS AND AUXILIARY EQUIPMENT.

CAUTION: Electric discharge lamp—use only with proper circuits and auxiliary equipment designed to produce established electrical values for this lamp. Operating the lamp improperly may result in damage to equipment or personal injury, for which the lamp

manufacturer does not assume any responsibility.

If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass. Do not scratch the bulb or subject it to pressure, as it could fail violently. If the outer bulb is broken, turn off the lamp and replace it promptly.

Do not use this lamp in a fixture which redirects a substantial portion of the energy toward the arc tube and its immediate vicinity, as this may lead to very early lamp failure.

NOTICE: For total supply load, add auxiliary (ballast) watts to lamp watts.

Solid State Lighting

Create the perfect mood with solid state lighting



Philips Aurelle™ Rechargeable LED Candle combines innovative LED technology with a decorative vase to create a safe and distinctive alternative to conventional candles.

- Real candle flicker: warm and soothing candle glow with no heat and no wax mess
- Attractive, frosted glass vase is available in four distinct shapes (round, square, tulip and triangle)
- Rechargeable: no batteries needed; each candle will last approximately 10 hours on a full charge
- Water-resistant and wind-proof light base; great for outdoor use

Philips Aurelle™ LED Deck Lights accentuate and beautify your outdoor living space with light. Each kit contains 10 easy-to-install LED light points, which can be used to highlight your deck's beauty or even add the safety of stair or pathway lighting. Once installed, the Deck Lights simply plug into an existing socket and are operated on a remote control—no hard wiring is necessary.

Each kit contains:

- 10 LED light points (available in blue or white)
- Remote control
- 60' of connection cable
- Cable connectors
- Water-proof junction box
- Detailed installation instructions



Solid State Lighting

Product Number	Symbols, Footnotes	Ordering Code	Pack Type	Output Voltage	Products per SKU	Case Qty.*	Description	MOL (in.)	* Diameter
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Aurelle™ LED Candles

I4589-6	Aurelle LED Candle Round	Single	6V	1	3	1 Candle plus 1 Recharger	4 1/16	2 3/32
I4590-4	Aurelle LED Candle Square	Single	6V	1	3	1 Candle plus 1 Recharger	4 1/16	2 3/16
I4591-2	Aurelle LED Candle Tulip	Single	6V	1	3	1 Candle plus 1 Recharger	4 1/16	3
I4592-0	Aurelle LED Candle Triangle	Single	6V	1	3	1 Candle plus 1 Recharger	4 1/16	3
I4593-8	Aurelle LED Candle Round	Multi	6V	4	3	4 Candles plus 1 Recharger	4 1/16	2 3/32
I4594-6	Aurelle LED Candle Square	Multi	6V	4	3	4 Candles plus 1 Recharger	4 1/16	2 3/16
I4595-2	Aurelle LED Candle Tulip	Multi	6V	4	3	4 Candles plus 1 Recharger	4 1/16	3
I4596-0	Aurelle LED Candle Triangle	Multi	6V	4	3	4 Candles plus 1 Recharger	4 1/16	3
I3665-5	Aurelle LED Candle Round	Professional	6V	10	1	10 Candles plus 1 Charging Tray	4 1/16	2 3/32
I3670-5	Aurelle LED Candle Square	Professional	6V	10	1	10 Candles plus 1 Charging Tray	4 1/16	2 3/16
I3669-7	Aurelle LED Candle Tulip	Professional	6V	10	1	10 Candles plus 1 Charging Tray	4 1/16	3
I3668-9	Aurelle LED Candle Triangle	Professional	6V	10	1	10 Candles plus 1 Charging Tray	4 1/16	3

NEW!

Aurelle Deck Lights

I4647-2 ±	Aurelle Deck Light White	10 Light Points	12V DC	10	1	Sparkling Light Points w/ 60' Cable and Remote Control	—	1 5/16
I4648-0 ±	Aurelle Deck Light Blue	10 Light Points	12V DC	10	1	Sparkling Light Points w/ 60' Cable and Remote Control	—	1 5/16

NEW!

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

± Available Q1, 2006

Bulb Shapes (Not Actual Sizes)

AURELLE LED CANDLE SERIES



Round



Square



Tulip



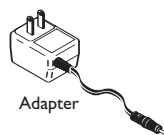
Triangle



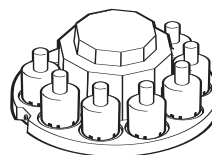
6 Volt Light Engine



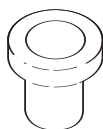
Recharger



Adapter



Professional Pack Charger



Deck Light

Specialty Lighting

Reliable, high quality lamps provide ultimate performance

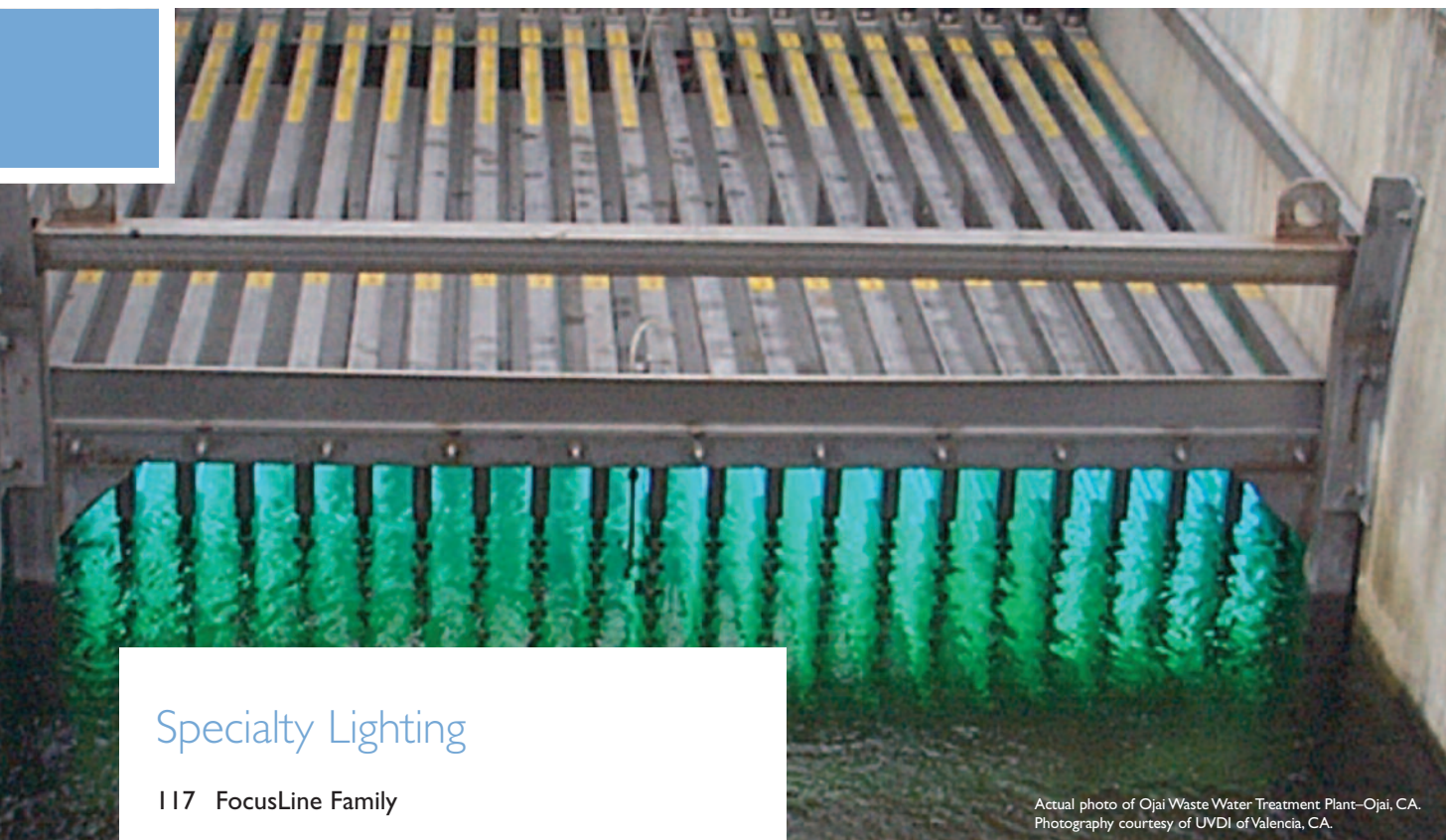
Philips Germicidal T5 Sterilamp featuring ALTO® Lamp Technology uses UV technology, which allows for the emission of UVC energy to disinfect water. The Philips Germicidal T5 Sterilamp is a cost effective and environmentally responsible disinfection alternative to chemical treatment of waste water.

Philips Broadway Ceramic ST™ Lamps feature breakthrough technology that enable the use of smaller fixtures to provide cool, cost effective lighting for studios and theaters. Broadway Ceramic ST Lamps offer excellent color quality, outstanding beam quality, produce four times less heat and require fewer lamp replacements versus halogen stage and studio lamps.

Philips Broadway HPL+ Lamps with P3 technology enables flexible burning positions to ensure accurate aiming and supply of light wherever it is needed. HPL+ lamps are now designed to last longer, making them ideal for theater, studio and event lighting.

† UVC is a band of ultraviolet radiation with wavelengths shorter than 280 nanometers.





Specialty Lighting

- I 17 FocusLine Family
- I 19 FocusLine Base Types and Bulb Shapes
- I 20 Broadway Family
- I 23 Broadway Base Types and Bulb Shapes
- I 24 Specialty Lamps (By Wattage)
- I 24 Black Light Blue Lamps
- I 25 Germicidal Sterilamp® 254nm Lamps
- I 26 Starters
- I 26 Base Types and Bulb Shapes
- I 28 HeLeN Quartz Infrared Heat Lamps
- I 28 Tubular Quartz Infrared Bulb Shapes

Actual photo of Ojai Waste Water Treatment Plant—Ojai, CA.
Photography courtesy of UVDI of Valencia, CA.

Photo/Projection Lamps

ANSI Code	Product Number	Std. Pkg. Qty.	Volts	Avg. Watts Amps.	Bulb	Base	Rated Avg. Life (Hrs.)*	Coil Type	LCL (In.)	LCL (mm)	MOL (In.)	MOL (mm)	Rated Approx. Lumens	Color Temp. (K)	Operating Position	Fig. No.
BRL	31627-3	24	12	50	T-3.5	G6.35	50	C-6	1.18	30	1.73	44	1500	3400	BDTH	13
BVE	23922-8	24	120	625	T-6	GY9.5	75	C-13D	1.75	44.5	3.5	89		3350	BDTH	11
DDL	31509-3	24	20	150	GX5.3	GX5.3	500	CC-6			1.75	44.5		3150	BDTH	25
DDM	23937-6	24	19	80	MR-16	GX5.3	50	CC-6			1.75	44.5		3350	BDTH	25
DDS	31510-1	24	21	80	MR-16	GX5.3	1000	CC-6			1.75	44.5		3125	BDTH	25
DNF	25241-1	24	21	150	MR-16	GX7.9	25	CC-6	6.15	15.88	1.78	45.24		3400	Horiz.	28
DYS/DYV/BHC	31639-8	24	120	600	G-7	GZ9.5	75	CC-6	1.44	36.5	2.5	63.5	17,000	3200	Horiz.	15
EFM	31484-9	50	8	50	MR-16	GZ6.35	50	C-6			1.65	42		3300	BDTH	25
EFN	31502-8	50	12	75	MR-16	GZ6.35	50	C-6			1.65	42		3350	BDTH	25
EFP	31488-0	50	12	100	50 DICH	GZ6.35	50	C-6			1.65	42		3350	BDTH	25
EFR	31490-6	50	15	150	MR-16	GZ6.35	50	C-6			1.65	42		3350	BDTH	25
EHA	31641-4	24	120	500	T-6	GZ9.5	50	C-13D	1.44	36.5	3	76.2	11,000	3250	BDTH	14
EHJ	31758-6	100	24	250	T-4	G6.35	50	C-6F	1.3	33	2.17	55	9400	3400	BD	13
EHJ-5H	14169-7	100	24	250	T-4	G6.35	500	C-6F	1.3	33	2.17	55			BD	13
EHJ-X	23175-3	200	24	250	T-4	G6.35	50	C-6F	1.3	33	2.17	55	10,000	3400	BD	13
EJA	44142-8	24	21	150	MR-16	GX5.3	40	CC-6			1.85	44.5		3350		25
EJL	31508-5	24	24	200	MR-16	GX5.3	50	CC-6			1.85	44.5		3400	BDTH	25
EJM	23942-6	24	21	150	MR-16	GX5.3	40	CC-6			1.75	44.5		3400	BDTH	25
EJV	33744-4	24	21	150	MR-16	GX5.3	40	CC-8			1.75	44.5		3400	BDTH	25
EKE	31592-9	24	21	150	MR-16	GX5.3	200	CC-6			1.75	44.5		3400	BDTH	25
EKZ	23945-9	24	10.8	30	MR-16	GX5.3	200	CC-6			1.75	44.5		3100	BDTH	25
ELC	23103-5	24	24	250	MR-16	GX5.3	50	CC-6			1.75	44.5		3200	BDTH	25
ELC-5	38166-5	24	24	250	MR-16	GX5.3	500	CC-6			1.75	44.5		3200	BDTH	25
ELD	31618-2	24	21	150	MR-16	GX5.3	40	CC-6			1.85	44.5		3350	BDTH	25
ELH	31619-0	24	120	300	MR-16	GY5.3	35	CC-8			1.85	44.5		3350	BDTH	25
ENG	23951-7	24	120	300	MR-16	GY5.3	15	CC-8			1.75	44.5		3450	BDTH	25
ENH	31621-6	24	120	250	50 DICH	GV5.3	175	CC-8			1.75	44.5		3250	BDTH	25
ENX	31927-7	24	82	360	MR-16	GY5.3	75	CC-8			1.75	44.5		3300	BDTH	25
ENX-5	20497-4	24	86	360	MR-16	GY5.3	75	CC-8			1.75	44.5		3300	BDTH	25
ESA/EHD	26126-3	100	6	10	T-2.5	G-4	100	C-6	0.77	19.6	1.18	30	200	3200	ANY	3
ESB	25678-4	100	6	20	T-3	G-4	100	C-6	0.77	19.5	1.22	31	420	3200	ANY	3
ETA	31882-4	24	12	100	T-3.5	PG22d	50	C-6	0.71	18	1.89	48	3200	3400	BDTH	8
EVA	25676-8	100	12	100	T-3.5	GY6.35	1000	C-6F	1.18	30	1.73	44	2500	3200	ANY	7
EVA	25676-8	100	12	100	T-3.5	GY6.35	1000	C-6F	1.18	30	1.73	44	2500	3200	ANY	7
EVC	31884-0	100	24	250	T-5	G6.35	300	C-6F	1.3	33	2.24	57	8400	3200	ANY	13
EVD-X	23177-9	24	36	400	T-6	G6.35	50	C-6F	1.42	36.1	2.36	59.9	16,625	3400	BDTH	13
EVW	25284-1	24	82	250	50 DICH	GX5.3	50	CC-8			1.75	44.45		3300	BD TO 22° UP	25
EXR	25286-6	24	82	300	MR-13	GX5.3	35	CC-8			1.75	44.45		3350	BDTH	27
EXR-5	23967-3	24	86	300	MR-13	GX5.3	15	CC-8			1.75	44.5		3400	BDTH	27
EXW	23971-5	24	82	300	42 DICH	GX5.3	15	CC-8			1.75	44.5		3400	BDTH	27
EXY	20493-3	24	82	250	MR-13	GX5.3	250	CC-8			1.75	44.5		3250	BDTH	27
EYB	14576-3	24	82	360	T-5	G5.3	75	CC-8	1.25	31	2.25	57	10,000	3250	BDTH	6
FCM	33269-2	12	120	1000	T-3	RX7s	300	C-8			4.72	119.9	27,000	3200	Horiz.	20
FCR	26101-6	100	12	100	T-3.5	GY6.35	50	C-6F	1.18	30	1.73	44	3400	3400	BDTH	7
FCS	20607-8	200	24	150	T-4	G6.35	50	C-6F	1.18	30	2	50.8	6000	3400	BDTH	13
FDS/DZE	31655-4	24	24	150	T-4 1/2	GZ9.5	50	C-6F	1.32	33.4	2.25	57	5000	3400	BD	5
FHM	26130-5	100	120	1000	T-3	RX7s	300	C-8			4.72	119.9	26,000	3200	Horiz.	20
FHS	25305-4	24	82	300	MR-13	GX5.3	70	CC-8			1.75	44.45		3300	BDTH	27
FJX	31499-7	50	13.8	30	50 DICH	GX5.3	500	C-8			1.77	44.9		3150		25
FKY	31924-4	24	6	9	MR-11	G3.9	250	C-6			1.65	42			BDTH	26
FLT	23980-6	24	13.8	25	MR-11	GZ4	400	CC-6			1.38	35		3100	Horiz.	23
FLW	20492-5	24	24	300	T-6	GY6.3	50	C-6F	1.3	33	2.17	55	10,450	3400	BD±15°	13
FNT	20463-6	200	24	275	T-6	G6.35	75	C-6F	1.3	33	2.17	55	10,000	3400	BDTH	13
FXL	23030-0	24	82	410	50 DICH	GY5.3	50	CC-8			1.75	44.5		3300	BDTH	25
GDA	38684-7	100	120	500	T 3.5	RX7s	75	CC-8			5.25	133.3	11,000	3200	ANY	19

◆ — SPECIAL ORDER ITEM, Consult Customer Service for minimum order quantities and delivery.

◆ — Lamps to be discontinued after inventory is depleted. Please check with customer service for availability.

◆ — Not shown.

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.

Unless otherwise noted all dimensions are in inches. To convert inches to millimeters multiply by 25.4001.

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

Photo/Projection Lamps, continued

ANSI Code	Product Number	Std. Pkg. Qty.	Volts	Avg. Watts Amps.	Bulb	Base	Rated Avg. Life (Hrs.)*	Coil Type	LCL (In.)	LCL (mm)	MOL (In.)	MOL (mm)	Rated Approx. Lumens	Color Temp. (K)	Operating Position	Fig. No.
JCR 15V, 150W	24923-5	24	15	150	MR-16	GZ6.35	500	C-8			1.65	42			BDTH	25
5761	25713-9	100	6	30	T-3.5	G4	100	C-6F	0.77	19.6	1.22	31	765	3200	ANY	16
5972	31333-8	100	6	10	T-3	G4	200		0.95	24	1.5	38	150	3000	ANY	4
6605	25684-2	100	6	10	T-3	G4	2000	C-6	0.77	19.5	1.22	30	150	2700	ANY	3
6981P	13420-5	10	115	750	T-6	G 9.5	300	Biplane	2 3/8	60.5	4.09	104	20500	3200	ANY	
6982P	13421-3	10	230	800	T-6	G 9.5	300	Biplane	2 3/8	60.5	4.09	104	20000	3200	ANY	
7010	25702-2	10	120	300	T-6	GX6.35	150	C-6	1.28				7500	3200	ANY	
13117	37614-5	50	17	150	MR-16	GX5.3	1000	CC-6			1.85	47		3200	ANY	25
13139	33545-5	50	12	75	MR-16	GX5.3	1000	C-8			1.65	42			BD±105°	25
13165	44295-4	50	14	35	35 DICH	GZ4	50				1.5	38			BD±130°	25
13288	22146-5	50	13.8	85	MR-16	GX5.3	1000	C-8			1.81	46			BDTH	25
13298	35436-5	230	10	52	35 DICH	GZ4	20	CC-8			1.77	44.9			Horiz.±40°	26
13347W	31453-4	100	6	15	T-6	BA15d	100	C-6F	1.75	44.5	2.13	54.1	210		Horiz.	❖
13477R	31349-4	150	220	800	T-3.5	RX7s	150				4.72	120	21,600	3200		22
13528	31504-4	360	6	15	35 DICH	GZ4	500	C-6			1.5	38			BD±105°	26
♦ 13529	31507-7	360	6	9	MR-11	GZ4	250	C-6			1.5	38			BD±105°	26
13865	26423-4	50	12	75	MR-11	G5.3	50				1.57	40			BD±105°	23
14553	26391-3	230	10	52	MR-11	GZ4	20				1.57	40			BD±105°	26
64514	14168-9	720	120	300	T-6	GX 6.35	75	SPECIAL					7700	3400	ANY	

♦ — SPECIAL ORDER ITEM, Consult Customer Service for minimum order quantities and delivery.

D — Lamps to be discontinued after inventory is depleted. Please check with customer service for availability.

❖ — Not shown.

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.

Unless otherwise noted all dimensions are in inches. To convert inches to millimeters multiply by 25.4001.

Cross Reference List of IEC and ANSI Base Designations

IEC	ANSI	IEC	ANSI	IEC	ANSI	IEC	ANSI
E10/12	Miniature Screw	G13	Medium Bipin	G17t	3-Pin Prefocus	GY9.5	Prefocus Two-Pin
E12/15	Candelabra Screw	G20	Mogul Bipin	G17q	4-Pin Prefocus		(Higher Wattage)
E17/20	Intermediate Screw	R17d	Recessed D.C.	GX17q	4-Pin Prefocus (Low-Volt)	GZ9.5	Prefocus Two-Pin
E26s	Medium Screw S.C.	BA15s	Candelabra Bayonet S.C.	G5.3	Miniature Two-Pin	G22	Medium Bipost
E26d	Medium Screw D.C.	BA15d	Candelabra Bayonet D.C.	G6.35	Glass Two-Pin	G38	Mogul Bipost
E39	Mogul Screw	P28S	Medium Prefocus	GY6.35	Glass Two-Pin	R7s	Recessed S.C.
Fa8	Single-Pin	P40s	Mogul Prefocus	G9.5	Medium Two-Pin	GY5.3	Two-Pin Reflector (Low-Volt)
G5	Miniature Bipin					GY5.3	Two-Pin Reflector

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

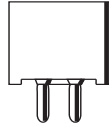
Base Types (Not Actual Sizes)



PG22-6.35
DIN: 4975 I
iec: 7004-48



RX7s
DIN: 49750
IEC: 7004-92
ANSI: Recessed
single contact base
C81.61-1990
sheet I-770-I



G5.3
IEC: 7004-73-2
ANSI: Miniature
2-pin
C81.61-1990
sheet I-20-I



BA 15s
DIN: 49720
IEC: 7004-11A
ANSI: Single contact
candelabra
bayonet base
C81.61-1990
sheet I-20-I



BA15d
DIN: 49720
IEC: 7004-11A
ANSI: Candelabra
bayonet base
double contact
C81.61-1990
sheet I-20-I



GX17q
GX17q
G17q
DIN: 49665
IEC: 7004-45
ANSI: Four-pin
prefocus base
C81.61-1990
sheet I-440-I



B15d
DIN: 4972 I
IEC: 7004-11



B22d/22
IEC: 7004-10



G3.9
ANSI:
C81.61-1990
sheet I-300-I



G4
IEC: 7004-72



GX5.3
(Round pin)
IEC: 7004-73
ANSI:
C61.61-1990
sheet I-321-I



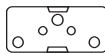
G6.35
GX6.35
GY6.35
IEC: 7004-59
ANSI: C81.61-1990
sheet I-340-I



GZ6.35
DIN: 49754
IEC: 7004-59A



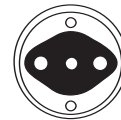
GZ4
IEC: 7004-67



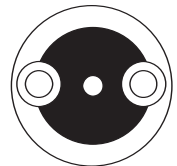
GX9.5
DIN: 49638
IEC: 7004-70A



GY9.5
IEC: 7004-70B
ANSI: C81.61-1990
sheet I-369-I



G22
IEC: 7004-75
ANSI: Medium
bipost
C81.61-1990
sheet I-466-I



G38
IEC: 7004-76
ANSI: Mogul
bipost
C81.61-1990
sheet I-519-I

Bulb Shapes (Not Actual Sizes)

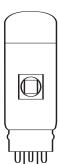


Fig. 1



Fig. 2



Fig. 3

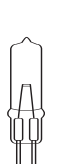


Fig. 4

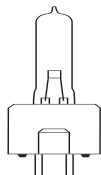


Fig. 5

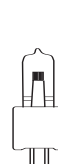


Fig. 6



Fig. 7



Fig. 8



Fig. 9



Fig. 10



Fig. 11

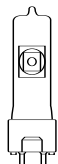


Fig. 12



Fig. 13



Fig. 14



Fig. 15



Fig. 16



Fig. 17



Fig. 18

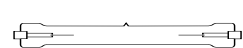


Fig. 19



Fig. 20

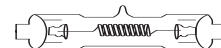


Fig. 21



Fig. 22



Fig. 23



Fig. 24



Fig. 25



Fig. 26



Fig. 27

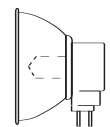


Fig. 28

Stage/Studio/TV Lamps

ANSI Code	Product Number	Watts	Description	Volts	Base	MOL (In.)	LL (In.)	LCL (In.)	Mean Lumens	Rated Avg. Life (Hrs.)*	Filament	Color Temp. (K)	Envelope Finish
BTL	31891-5	500		120	Med. Pf.	4 1/2		2.18	11,000	500	C-13D	3050	Clear
BTN	20481-8	750		120	Med. Pf.	4 1/2		2 3/8	17,600	500	C-13D	3050	Clear
BTP	30514-4	750	750T7Q/4CL/2P	120	Med. Pf.	4 1/2		2.38	21,000	200	C-13D	3200	Clear
BTR	30533-4	1000	1000T7Q/4CL/2P	120	Med. Pf.	4 1/2		2 3/8	28,500	250	C-13D	3200	Clear
CYV	31892-3	1000		120	Mog. Bipost	7 3/4		5	28,500	200	C-13D	3200	Clear
CYX	31893-1	2000		120	Mog. Bipost	8 1/2		5	59,000	300	C-13D	3200	Clear
DWT	38295-2	1000	1000T6Q/CL	120	RX7s	5 3/8	I		23,400	2000	CC-8	3000	Clear
DXW	31219-9	1000	1000T5Q/CL	120	RX7s	3 3/4			28,000	150	CC-8	3200	Clear
DYS/DYV/BHC	31639-8	600		120	2-Pin Pf.	2 1/2		1 3/8	17,000	75	CC-6	3200	Clear
EGE	39069-0	500		120	Med. Pf.	5 1/2		3 1/2	10,450	2000	CC-8	3000	Clear
EGG	39067-4	750		120	Med. Pf.	6		3 1/2	15,000	2000	CC-8	3000	Clear
EGJ	39068-2	1000		120	Med. Pf.	6		3 1/2	27,500	400	CC-8	3200	Clear
EGR	22563-1	750		120	Med. Bipost	5 1/2		2 1/2	21,000	150	C-13D	3200	Clear
EGT	31896-4	1000		120	Med. Bipost	5 1/2		2 1/2	28,500	250	C-13D	3200	Clear
EHD	26971-2	500	500Q/CL	120	Med. 2-Pin	3 3/8		2 3/8	10,600	2000	CC-8	3000	Clear
EHG	26972-0	750	750Q/CL	120	Med. 2-Pin	4 1/4		2 3/8	15,000	2000	CC-8	3000	Clear
EHT	37857-0	250	250Q/CL	120	Mini-Can	3 1/2		1 3/8	5000	2000	CC-8	3000	Clear
ESN	30759-5	100	100Q/CL	120	Mini-Can	2 3/4		1 3/8	1900	1000	CC-2V	3000	Clear
ESS	31584-6	250	250Q/CL/DC	120	D.C. Bay	3		1 3/8	5000	2000	CC-8	3000	Clear
ETC	26676-7	150	150QCL/DC	120	D.C. Bay	2 3/8		1 1/2	2800	200	CC-8	2900	Clear
ETF	29850-5	150	150Q/DC	120	D.C. Bay	2 3/8		1 1/2	2700	2000	CC-8	2900	Frosted
ETG	34754-2	150	150Q/CL	120	Mini-Can	3		1 1/2	2800	2000	CC-8	2900	Clear
ETG	34754-2	150	150Q/CL	120	Mini-Can	3		1 1/2	2800	2000	CC-8	2900	Clear
ETH	29856-2	150	150Q	120	Mini-Can	3		1 1/2	2700	2000	C-8	2900	Frosted
EVR	38079-0	500	500Q/CL	120	Mini-Can	3 3/4		2	10,000	2000	CC-8	3000	Clear
FAL	23976-4	420	420T6QCL	120	RX7s	2.63			11,000	75	CC-8	3200	Clear
FCL	20010-5	500	500T3Q/CL	120	RX7s	4 1/8			10,500	2600	C-8	3000	Clear
FCM	33269-2	1000	1000T3Q/CL	120	RX7s	4 1/8		2 1/2	28,000	300	C-8	3200	Clear
FEL	26979-5	1000	1000Q/CL	120	Med. 2-Pin	4		2 3/8	27,500	300	CC-8	3200	Clear
FER/EHS	31240-5	1000	1000T6Q/4CL	120	RX7s	5 3/8			27,500	500	CC-8	3200	Clear
FER/EHS	31240-5	1000	1000T6Q/4CL	120	RX7s	5 3/8			27,500	500	CC-8	3200	Clear
FEV	13925-3	200	200Q/CL/DC	120	D.C. Bay	2 1/2		1 3/8	5500	50	CC-2V	3200	Clear
FEY	13926-1	2000	2000T8Q/CL	120	RX7s	5 3/8			57,000	400	CC-8	3200	Clear
FFM	44235-0	420	420T6Q/CL	120	RX7s	3 3/8			11,000	75	CC-8	3200	Clear
FFN	34350-9	1000	1000PAR64QVNSP	120	Ext. Mog. End	6			400,000	800		3200	Clear
FFP	34351-7	1000	1000PAR64QNSP	120	Ext. Mog. End	6			330,000	800		3200	Clear
FFR	34352-5	1000	1000PAR64QMFL	120	Ext. Mog. End	6			125,000	800		3200	Clear
FFS	34353-3	1000	1000PAR64QWFL	120	Ext. Mog. End	6			40,000	800		3200	Clear
FFT	39070-8	1000	1000T4Q	120	RX7s	6 3/8		2.56	27,000	300	C-8	3200	Clear
FHM	26130-5	1000	1000T3Q	120	RX7s	4 1/8			27,300	400	C-8	3200	Frosted
FLK	24861-7	575		115	G9.5	4		2 3/8	16,500	300	CC-8	3200	Clear
FRK	39168-0	650	6638P	120	GY 9.5	1 3/8			17,500	200	C-13D	3200	Clear
GAC	23667-9	1000	6995I/BP 120V 1000W	120	2-Pin Pf.	3 3/4		1.8	27,000	250	C-13D	3200	Clear
GCX	258590	500	6986P (JPD 120-500C-BP)	120	GY 9.5	1 3/8			13,200	120	CC-6	3200	Clear
GKV	36372-1	575	6986P	230	G9.5	4 1/2		2 3/8	15,000	400	C-13D	3200	Clear
GLA	29432-2	575	6992P	115	G9.5	3.97		2 3/8	13,000	1500	C-13D	3100	Clear
GLB	36373-9	575	6999P	230	G9.5	4.33		2 3/8	13,000	1500	C-13D	3100	Clear
GLC	28739-1	575	6989P	115	G9.5	3.97		2 3/8	15,500	400	C-13D	3200	Clear
HPL575	39170-6	575	7007	115	Special	4		2 3/8	16,520	300	4-C8	3250	Clear
HPL575LL	39167-2	575	7007 LL	115	Special	4		2 3/8	12,360	2000	4-C8	3050	Clear
HPL750	39171-4	750	7008	115	Special	4		2 3/8	21,900	300	4-C8	3250	Clear
	22886-6	250	250Q/CL	130	Mini-Can	3 1/2		1 3/8	5000	2000	CC-8	3000	Clear
6980Z	38296-0	1200	6980Z	80	G 22			2 1/2	37,500	300	C-13D	3300	Clear
6981P	13420-5	750	6981P	115	G 9.5	4		2 3/8	20,500	300	C-13D	3200	Clear

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.

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

Stage/Studio/TV Lamps, continued

6982P	13421-3	800	6982P	120	G 9.5	4	2 3/8	20,000	300	C-13D	3200	Clear
7002Y	382978	1000	7002Y (V*L 1000)	115	G22	5 1/2	2 1/2	29,000	250	Biplane	3200	Clear
7010	25702-2	300	7010	120	GX6.35	2 1 1/32	1 9/32	7500	150	M	3200	Clear

High Volt SSTV Halogen Lamps

ANSI Code	Product Number	Watts	Description	Volts	Base	MOL (In.)	LL (In.)	LCL (In.)	Initial Lumens	Rated Avg. Life (Hrs.)*	Filament ²	Color Temp. (K)	Burning Position	Std. Pkg. Qty.	LIF	Monoplane Equivalent LIF
Single-Ended																
FSL	25813-7	300	6872P	230	GY9.5	3 1/2		1 1/2	7800	180	M Shape	3200	ANY	10	CP/81	
GCV/GVH	25796-4	500	6820P	230	GY9.5	3 1/2		1 1/2	11,000	360	Biplane	3000	BDTH	10	T/25	T/18
FRH	25806-1	500	6873P	230	GY9.5	3 1/2		1 1/2	13,500	180	M Shape	3200	ANY	10	CP/82	
—	14104-4	500	7389	230	GY 9.5	3		1 1/2	14,000	75	Biplane	3200	BDTH	10	A1/224	
HPL 575 (230)	14564-9	575	7007	230	SPECIAL	4		2 1/2	14,900	400	SPECIAL	3200	ANY	10		
HPL 575LL (230)	14565-6	575	7007	230	SPECIAL	4		2 1/2	11,780	1500	SPECIAL	3100	ANY	10		
GKV	36372-1	600	6986P	230	G 9.5	4		2 1/2	15,000	300	Biplane	3200	ANY	10		
GLB	36373-9	600	6991P	230	G 9.5	4		2 1/2	13,000	1500	Biplane	3100	ANY	10		
—	14103-6	650	6998P	230	GX 9.5	4 1/2		2 1/2	13,000	750	Biplane	3000	ANY	10	T 21	
GCK/GCT	25794-9	650	6823P	230	GY9.5	3 1/2		1 1/2	14,500	600	Biplane	3050	BDTH	10	T/27	T/26
FKH	25820-2	650	6993Z	230	G22	5 1/2		2 1/2	16,500	120	Biplane	3200	BDTH	10	CP/68	CP/39
HPL 750 (230)	14566-4	750	7008	230	SPECIAL	4		2 1/2	20,650	300	SPECIAL	3200	ANY	10		
—	13421-3	800	6982P	230	G 9.5	4 1/2		2 1/2	20,000	300	Biplane	3200	ANY	10		
FEP	14107-7	1000	6983P	230	G 9.5	4		2 1/2	26,000	250	Biplane	3200	ANY	10	CP/77	
FVA	14108-5	1000	6995P	230	GX9.5	4 1/2		2 1/2	25,000	240	Biplane	3200	BDTH	10	CP/70	CP/24
FKD	25803-8	1000	6996C	230	P28s	5		2 1/2	21,000	900	Biplane	3050	BDTH	10	T/20	T/14
VL 1000	13041-9	1000	7002Y	230	G 22	5 1/2		2 1/2	29,000	250	Biplane	3200	ANY	10		
FKJ	14247-1	1000	6995Z	230	G 22	5 1/2		2 1/2	25,000	240	Biplane	3200	ANY	10	T/20	
FWP	25804-6	1000	6996P	230	GX 9.5	4		2 1/2	21,000	750	Biplane	3050	ANY	10	T/19	
FWS	14105-1	1200	6897P	230	GX 9.5	4 1/2		2 1/2	27,600	400	Biplane	3000	ANY	10	T/29	
—	14106-9	2500	6894Y	230	G 22	6 1/2		3 1/2	67,500	350	Biplane	3200	ANY	10	CP/91	
—	29093-2	5000	6963Z	230	G38	11		6 1/2	132,500	400	Biplane	3200	ANY	1	CP/85	CP/29
Double-Ended																
—	36417-4	500	PF821 R	230	RX7s	5.31	3		11,000	75	CC-8	3200	Horiz ±15°	10		
—	25841-8	625	7775R/16	230	R 7s	7 1/2	4 1/2		16,250	150	CC-8	3200	Horiz ±15°	10	P2/10	
EME¹	31349-4	800	13477 R	230	RX7s	4 1/2	2 1/2		24,000	150	C-8	3200	Horiz ±15°	10	P2/11	
—	27085-0	1000	13704R	230	R7s	3 1/2	1 1/2		26,500	120	C-8	3200	Any	10	P 2/35	
—	27072-8	1000	7786R	230	R7s	4 1/2	2 1/2		27,000	300	C-8	3200	Horiz ±15°			

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.

1) These lamp types must be operated with a separate rapid acting High Breaking-Capacity fuse, either 415V AC or 500V DC working in accordance with the supply in use as per end of table.

2) C.C. = coiled coil, S.C. = single coil

MSR Lamps Single-Ended Gas Discharge

Description	Product Number	Watts	Lamp Voltage	Lamp Current (Amps)	Initial Lumens	Rated Avg. Life (Hrs.)*	Arc Length (mm)	CRI	Color Temp. (K)	Base
Hot Restrike¹										
MSR 125 HR	35468-8	125	80	1.6	9400	200	4		6000	GZX9.5
MSR 200 HR	32466-5	200	70	3.3	15,000	200	5	92	6000	GZY9.5
MSR 400 HR	20477-6	400	70	6.9	32,000	750	6	95	6000	GZZ9.5
MSR 575 HR	31160-5	575	95	6.95	49,000	2000	7	95	6000	G 22
MSR 1200 HR	30270-3	1200	100	13.8	110,000	1000	10	95	6000	G 38
MSR 1200 HR/C	36041-2	1200	100	13.8	110,000	1000	10	95	6000	Special
MSR 2500 HR	30265-3	2500	115	25.6	240,000	500	14	95	6000	G 38
MSR 4000 HR	33579-4	4000	200	24	380,000	500	20	95	6000	G 38
MSR 6000 HR	36042-0	6000	125	55	570,000	500	24	95	6000	GY 38
MSR 12,000 HR	39071-6	12,000	160	86	1,200,000	300	30	95	6000	GY 38
Standard										
MSR 400	30268-7	400	70	6.9	32,000	1000	6	92	5900	GX 9.5
MSR 575/2	24528-2	575	95	6.95	49,000	1000	7	80	7200	GX 9.5
MSR700/2	28723-5	700	72	11	55,000	1000	8	80	7200	G 22/28x42
MSR 1200	30266-1	1200	100	13.8	110,000	800	10	95	5900	G 22/30x53
MSR 1200/2	28695-5	1200	90	13.8	110,000	800	10	85	7200	G 22/30x53
Short Arc										
MSR 400 SA	35365-6	400	54	8.4	30,000	750	3	92	5500	GY 9.5
MSR 700 SA	28718-5	700	72	11	45,000	750	4	80	5600	GY 9.5
MSR 1200 SA	29135-1	1200	100	13.8	96,000	750	7	80	5600	GY 22
MSR 2000 SA	38281-2	2000		20	155,000	750	7	80	6000	GY 22

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.

1) Lamps must be used in fixtures designed for hot restrike.

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

MSR SA/DE Gold (Double-Ended) Lamps

Description	Product Number	Watts	Lamp Voltage	Lamp Current (Amps)	Initial Lumens	Rated Avg. Life (Hrs.)*	Arc Length (mm)	CRI	Color Temp. (K)	Base	MOL (mm)
MSR 400 SA/DE GOLD	13617-6	400		8.4	27,000	1000	3	70	7500	SFC 10-4	135
MSR 700 SA/DE GOLD	13701-8	700	70	10.2	59,000	1000	4	80	6500	SFC 10-4	135
MSR 1200 SA/DE GOLD	13986-5	1200	100	13.6	110,000	1000	7	85	6000	SFC 10-4	135

MSD Lamps

Description	Product Number	Watts	Lamp Voltage	Lamp Current (Amps)	Initial Lumens	Rated Avg. Life (Hrs.)*	Arc Length (mm)	CRI	Color Temp. (K)	Base
MSD 200	34592-6	200	70	3.4	13,500	2000 ¹	5	80	6000	GY 9.5
MSD 250	29152-6	250	90	3	17,000	3000	5	77	6700	GY 9.5
MSD 250/2	27721-0	250	90	3	17,000	3000	5	65	8500	GY 9.5
MSD 575	27479-5	575	95	6.95	45,000	3000	8	75	6000	GX 9.5
MSD 575 HR	39168-9	575	95	6.95	46,000	2000	8	75	6000	G 22
MSD 700	35364-9	700	72	11	55,000	3000	10	75	6000	G 22
MSD 1200	29134-4	1200	115	13.8	92,000	3000	14	95	6000	G 22

MHD Lamps

MHD 200	20985-8	200	63	4.5	12,500	2000	4.5	75	6600	Special Prefocus
MHD 1800	31360-1	1800	120	17.3	155,000	4000		92	5600	SFC20-6

Sealed Beam

ANSI Code	Product Number	Watts	Description	Volts	Base	Diameter		MOL		Lumens	Rated Avg. Life (Hrs.)*	Color Temp. (K)	Burning Position	Beam Shape
						(In.)	(mm)	(In.)	(mm)					
—	35619-6	500	500PAR56Q/NSP	120	Mog. End	7	179	5	127	88,000	4000	2950	Universal	Narrow Spot
—	35621-2	500	500PAR56Q/MFL	120	Mog. End	7	179	5	127	43,000	4000	2950	Universal	Med. Flood
—	35620-4	500	500PAR56Q/WFL	120	Mog. End	7	179	5	127	22,500	4000	2950	Universal	Wide Flood
—	27555-2	1000	1000PAR64Q/NSP	120	Ext. Mog. End	8	204	6	150	200,000	4000	3000	Universal	Narrow Spot
—	27556-0	1000	1000PAR64Q/MFL	120	Ext. Mog. End	8	204	6	150	80,000	4000	3000	Universal	Med. Flood
—	27558-6	1000	1000PAR64Q/WFL	120	Ext. Mog. End	8	204	6	150	31,000	4000	3000	Universal	Wide Flood
FFN	34350-9	1000	1000PAR64QVNSP	120	Ext. Mog. End	8	204	6	150	400,000	800	3200	Universal	Very Nar. Spot
FFP	34351-7	1000	1000PAR64QNSP	120	Ext. Mog. End	8	204	6	150	330,000	800	3200	Universal	Narrow Spot
FFR	34352-5	1000	1000PAR64QMFL	120	Ext. Mog. End	8	204	6	150	125,000	800	3200	Universal	Medium Flood
FFS	34353-3	1000	1000PAR64QWFL	120	Ext. Mog. End	8	204	6	150	40,000	800	3200	Universal	Wide Flood

MasterColor® CDM/SA (Short Arc)

ANSI Code	Product Number	Watts	Description	Volts	Base	MOL (In.)	LL (In.)	LCL (In.)	Mean Lumens	Rated Avg. Life (Hrs.)*	CRI	Color Temp. (K)	Arc Gap (mm)
—	36039-6	150	CDM150SA/942	207	G12	5 7/8	—	2 1/4	12,900	6000	96	4200	6
—	38278-8	150	CDM-SA/R150/942	207	Special	5 3/4	—	—		6000	96	4200	6
—	14248-9	150	CDM-R 150/832	207	Special	5 3/4				6000	85	3200	6

Micro Power Light (MPXL)

Product Number	Description	Type	Wattage	Life	Lumens	Color Temperature (K)	CRI	Burning Position	MOL (In.)
14442-8	MPXL DL35 24PK	DL35	35	5000	3600	6500	90	Horizontal ±10°	3
14417-0	MPXL DL50	DL50	50	3000	5300	3900	75	Horizontal ±10°	3
14443-6	MPXL RP50	RP50	35	5000		3900	75	Horizontal ±10°	2.6
13474-2	MPXL DUV	DUV	35	500	—	—	—	Horizontal ±10°	3

MSI Lamps

Product Number	Description	Watts	Lamp Current (Amps)	Initial Lumens	Rated Avg. Life (Hrs.)*	Arc Length (mm)	Color Temperature (K)	MOL (mm)	Base	Burning Position
39072-4	MSI 575W	575	6.95	49,000	1000	7	5600	136	SFC10-4	Any
13091-4 Replaced by	MSI 1200W/S MSR 1200SA/DE GOLD	1200	13.2	110,000	750	7	6000	136	SFC10-4	Any
39073-2	MSI 1200W	1200	13.8	110,000	1000	10	5600	220	SFC15.5-6	Any
16244-6	MSI 1800W	1800	17.5	155,000	2000	25	5600	240	SFC18.5-6	Horiz. ± 15°
39074-0	MSI 2500W	2500	25.6	240,000	600	20	5600	355	SFA21-12	Horiz. ± 30°
39075-7	MSI 4000W	4000	24	410,000	600	34	6000	405	SFA21-12	Horiz. ± 15°
39076-5	MSI 6000W	6000	55	570,000	400	22	6000	450	S25.5X60	Horiz. ± 15°
39165-6	MSI 12000W	12000	82	1,100,000	300	32	6000	470	S25.5X60	Horiz. ± 15°

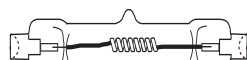
* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.

¹) Vertical burning position life is 750 hours.

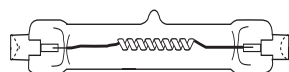
For the most current product information, go to the e-catalog on www.philips.com

Bulb Shapes and Base Types (Not Actual Sizes)

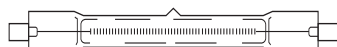
Double-Ended Tungsten Halogen Lamps
3 1/8, 3 3/4, 4 3/8, 4 11/16, 5 5/8 and 6 5/8 MOL
RX7s Base



DWY, DWZ, DXN, DXW, FBY

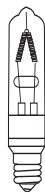


DWT, FER/EHS, FEY

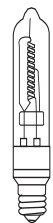


EHM, EHZ, EJG, FCL, FCM, FFT, FHM

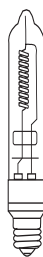
Mini-Can Base Single-Ended
Tungsten Halogen Lamps



ESN
ETH

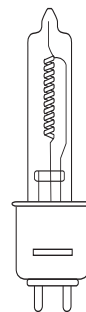


EHT
250Q/CL



EVR

Medium Two-Pin
Tungsten Halogen Lamps (G9.5)

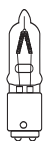


EHD
500Q/CL

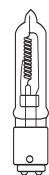


EHG
FEL

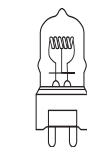
Double Contact Bayonet Bases (BA 15d)
Tungsten Halogen-Miniature Two-Pin Base (G5.3)
Tungsten Halogen-Two-Pin Prefocus Base (GZ 9.5)



FEV
150/DC

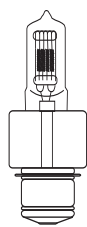


ESS
500Q/CL/DC

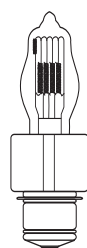


DYS/DYV/BHC
(GZ9.5)

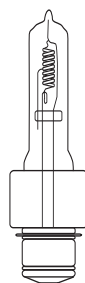
Medium Prefocus Lamps With 23/16" L.C.L. (P28s)
Medium Prefocus Lamps With 3 1/2" L.C.L. (P28s)



BTL

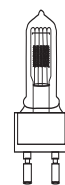


BTP
BTR

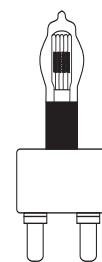


EGE, EGF,
EGG, EGJ

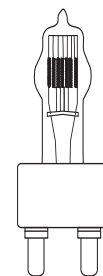
Medium Bipost Lamps With 2 1/2" L.C.L. (G 22)
Mogul Bipost Lamps With 5" And 6 1/2" L.C.L. (G 38)



EGR
EGT

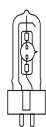


CYV

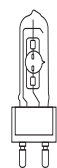


CYX
FKK (5" LCL)

MSR Lamps
(Medium Source Rare Earth Lamps)



MSR 400



MSR 700

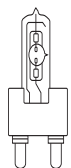


MSR 1200

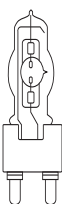
MSR/HR Lamps (Medium Source Rare Earth
Lamps Hot Restrike Version)



MSR
575/HR

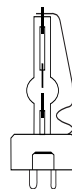


MSR
1200/HR



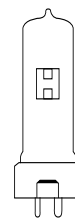
MSR
2500/HR

MSR Short
Arc Lamps



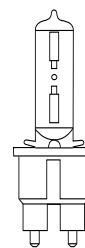
MSR
400W SA

MSD Lamps



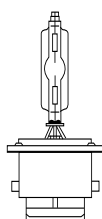
MSD
200W/2

MHD Lamps

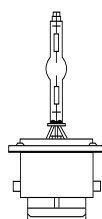


MHD
200

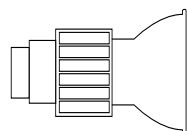
Micro Power Light (MPXL)



MPXL DL-35W
MPXL DL-50W



DUV-35W



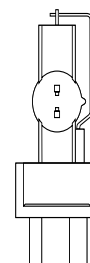
MPXL RP50

Click Below To Order

Interlight Specialty Bulbs
1-800-743-0005
www.interlight.biz



MSR 400 SA/MSR 700 SA



MSR 1200 SA/MSR 2000 SA

Short Arc Lamps

Product Number	Description	Nominal Watts	Volts	Lumens	Base	LCL (In.)	MOL (In.)	Fig. No.
31644-8	★SAH250B D.C. Operation Only ¹	250	42	10,000	Med. Pf.	2.8	6	—

¹) Should be operated on a control circuit which supplies direct current to the lamp.

★ Heat resisting glass bulb.

Medium Pressure Metal Halide Lamps

Product Number	Description	Nominal Wattage	Lamp Voltage	Nominal Length (mm)	Diameter (mm)	Fig. No.
44431-5	HPM 10/B	400	125	112	17	1-S
30832-0	HPM 12	460	120	98	21	2-S
44440-6	HPM 13	1000	125	147	27	1-S
30831-2	HPM 15	1950	240	203	32	2-S
30829-6	HPM 17	2000	243	175	27	2-S
30828-8	HPM 19	2000	200	179	27	2-S
30827-0	HPM 20	2900	350	236	27	1-S
44439-8	HPM 20C	2900	350	210	27	2-S
44448-9	HPA 400S	400	125	118	18	3-S

Low Pressure Pulsed Xenon Discharge Lamps

Product Number	Description	Nominal Wattage	Lamp Voltage	Maximum Length (mm)	Width or Diameter (mm)	Fig. No.
30750-4	XOP 7 O/F	750	52	241	16.2	8-S
30749-6	XOP 15 O/F	1500	105	395	16.2	8-S

Fluorescent Lamps with Super Actinic Radiation—Medium BiPin Base

Product Number	Description	Nominal Wattage	Nominal Current (Amps)	Bulb	Nominal Length (mm)	(In.)	Fig. No.
29747-3	TLD 15W/03	15	0.34	T8	452	18	10-S
30800-7	TL20W/03	20	0.37	T12	604	24	9-S
30805-6	TLDK30W/03	30	0.81	T8	452	18	10-S
30807-2	TLK40W/03	40	0.86	T12	604	24	9-S
30801-5	TL40W/03	40	0.86	T12	1214	48	9-S
30808-0	TL140W/03	140	1.46	T12	1514	60	9-S

Fluorescent Lamps with Actinic Radiation

Product Number	Description	Nominal Wattage	Nominal Current (Amps)	Bulb	Nominal Length (mm)	(In.)	Fig. No.
30812-2	TLK40W/05 ²	40	0.86	T12	604	24	9-S

²) No longer available after June 2006.

Black Light Blue Lamps These lamps are not intended and should not be used for therapeutic or diagnostic purposes.

Product Number	Ordering Code	Nominal Lamp Watts	Description	Nominal Length (In.)	Bulb	Base	Rated Average Life (Hrs.)*	UVA Watts	Fig. No.
36017-2	F4T5/BLB	4	Black Light-Integral Filter	6	T5	Min. Bipin	6000	0.5	11-S
35841-6	F6T5/BLB	6	Black Light-Integral Filter	9	T5	Min. Bipin	7500	0.9	11-S
11065-0	F8T5/BLB	8	Black Light-Integral Filter	12	T5	Min. Bipin	7500	1.2	11-S
20678-9	PL9W/08	9	Black Light-Integral Filter	6 ½	PL-S	G23	10,000	1.7	16-S
39223-3	F15T8/BLB, 6 pack	15	Black Light-Integral Filter	18	T8	Med. Bipin	7500	3.1	10-S
29271-4	F15T8/BLB	15	Black Light-Integral Filter	18	T8	Med. Bipin	7500	3.1	10-S
39224-1	F20T12/BLB, 6 pack	20	Black Light-Integral Filter	24	T12	Med. Bipin	9000	3.7	9-S
39151-6	F20T12/BLB	20	Black Light-Integral Filter	24	T12	Med. Bipin	9000	3.7	9-S
26271-7	F30T8/BLB	30	Black Light-Integral Filter	36	T8	Med. Bipin	7500	6	10-S
39225-8	F40BLB, 6 pack	40	Black Light-Integral Filter	48	T12	Med. Bipin	20,000	9	9-S
39053-4	F40BLB	40	Black Light-Integral Filter	48	T12	Med. Bipin	20,000	9	9-S

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.

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

Special Blue (Therapeutic) Lamps T12 Bipin

Product Number	Ordering Code	Nominal Lamp Watts	Description	Nominal Length (In.)	Rated Average Life (Hrs.)*	Approx. Initial Avg. Lumens	Design Lumens
31745-3	F20T12/BB	20	Special Blue	24	9000	192	154
20189-7	F40/BB	40	Special Blue	48	20,000	468	360

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.

NOTE: Black Light and Special Blue Lamps are not designed for general illumination.

WARNING: Ultraviolet Radiation

Wear protective eyewear in occupational situations and in close proximity to these lamps. Failure to may result in severe burns and long-term injury to the eyes.

Certain medications and chemicals may increase your sensitivity to ultraviolet radiation. Consult your physician. These lamps can be harmful to skin and eyes in situations where people are exposed for extended periods of time. Unshielded lamps should be installed at least 40 inches from people.

UVA 365nm Peak Lamps For graphic arts, lacquer curing and insect trap applications

Product Number	Ordering Code	Nominal Lamp Watts	Description	Nominal Length (In.)	Bulb	Base	Rated Average Life (Hrs.)*	UVA Watts	Fig. No.
31006-0	PL-S 9W/10	9	UVA Lamp	6 1/2	PL-S	G23	2000	1.9	16-S
13036-9	F15TB/BL	15	Black Light	18	TB	Min. Bipin	5000	3.1	10-S
13034-4	PL-L 18W/10	18	UVA Lamp	9	PL-L	2G11	5000	3.4	15-S
39152-4	F20BL	20	Black Light	24	T12	Med. Bipin	5000	3.7	9-S
24675-1	TLK 40W/10R	40	UVA Reflector Lamp	24	T12	Med. Bipin	3000	7.4	9-S
39153-2	F40BL	40	Black Light	48	T12	Med. Bipin	9000	9.0	9-S
26169-3	TL 60W/10R	60	UVA Reflector Lamp	48	T12	Med. Bipin	1000	15.8	9-S
26885-4	TL 80W/10R	80	UVA Reflector Lamp	60	T12	Med. Bipin	1000	20.5	9-S
24694-2	TL 100W/10R	100	UVA Reflector Lamp	70	T12	Med. Bipin	1000	26.6	9-S
24607-6	TL 140W/10R	140	UVA Reflector Lamp	60	T12	Med. Bipin	1000	37.0	9-S
24697-5	TL 176D38/10	140	UVA Lamp	70	T12	Med. Bipin	1000	38.2	9-S
24698-3	TL 176D38/10R	140	UVA Reflector Lamp	70	T12	Med. Bipin	1000	31.7	9-S

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.

Germicidal Sterilamp® 254nm Lamps

Product Number	Description	Lamp Wattage ¹	UV-C Watts ²	Bulb	Base	Rated Average Life (Hrs) ³	Nominal Length (In.)	Fig. No.
Hot Cathode								
36371-3	TUV4T5	4	0.9	T5	Min. Bipin	6000	6	12-S
24485-5	TUV6T5	6	1.5	T5	G5	8000	9	12-S
29930-5	TUV8T5	8	2.1	T5	Min. Bipin	8000	12 ⁴	12-S
30864-3	TUV15T8	15	4.7	T8	Med. Bipin	8000	18 ⁴	12-S
29268-0	TUV25T8	25	7	T8	Med. Bipin	8000	18 ⁴	12-S
36016-4	TUV30T8	30	11.2	T8	Med. Bipin	8000	36 ⁴	12-S
26269-1	TUV36W	36	15.3	T8	Med. Bipin	8000	48 ⁴	12-S
29090-8	TUV75WHO	75	26	T12	Med. Bipin	8000	48 ⁴	12-S
23596-0	TUV115W	115	38.8	T12	Med. Bipin	5000	48 ⁴	12-S
Twin Tube PL-S/PL-L Hot Cathode								
38186-3	TUV PL-S 5W	5	1	PL-S	G23	8000	4	16-S
32512-6	PL-S9W/TUV	9	2.4	PL-S	G23	9000	6 1/2	16-S
21064-1	PL-L18W/TUV	18	5.5	PL-L	2G11	9000	8 1/8	15-S
13726-5	PL-L35W/TUV	35	11	PL-L	2G11	9000	8 1/8	15-S
26585-0	PL-L36W/TUV	36	12	PL-L	2G11	9000	16 1/8	15-S
29464-5	PL-L55W/TUV	55	17	PL-L	2G11	9000	22 1/2	15-S
13035-1	PL-L60W/TUV	60	18	PL-L	2G11	9000	16 1/8	15-S
13725-7	PL-L95W/TUV	95	32	PL-L	2G11	9000	22 1/2	15-S
Slimline T5								
38542-7	TUV 11W	11	2.2	T5	4-Pin	8000	10	14-S
38541-9	TUV 16W	16	3.9	T5	4-Pin	8000	13	14-S
13341-3	TUV 25W	16	7.2	T5	4-Pin	8000	20	14-S
29267-2	TUV36T5/SP	39 ⁵	15	T5	Single Pin	9000	34	13-S
36209-5	TUV36T5 4P SE	39 ⁵	15	T5	4-Pin	9000	34	14-S
29269-8	TUV64T5/SP	75	31	T5	Single Pin	9000	62	13-S
38303-4	TUV64T5 4P SE	75	31	T5	4-Pin	9000	62	14-S
36217-8	TUV64T5 4P SE	75	31	T5	4-Pin	9000	62	14-S
13389-2	TUV36T5 HO 4P SE	75	25	T5	4-Pin	9000	34	14-S
39200-1	TUV64T5 HO 4P SE	145	48	T5	4-Pin	9000	62	14-S

1) Wattages shown are for operation from a transformer or ballast, currently standard, under specified test conditions.

2) 100 Hour 3) Rated average life when burned at 8 hours per start and under IES/ANSI test conditions. 4) Approximate overall length including two standard lamp holders.

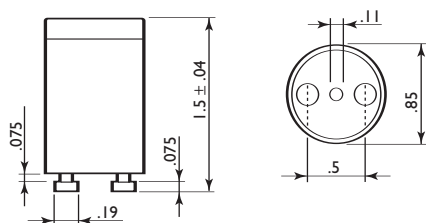
5) Wattage shown is for lamp operating current of 420 ma. Wattage will vary at other operating currents as follows: 120 ma. — 17 watts; 200 ma. — 25 watts; 300 ma. — 32 watts.

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

Starters

Product Number	Description	Circuit	Standard Package Quantity	Fluorescent Lamps
33118-1	S10 STARTER 25PK	Single 220-240V	25	4-85W
13367-2	Cleo Power Starter	Single 220-240V	500	100/180W

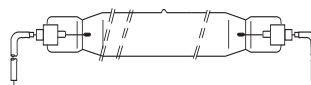
For the most current product information, go to the e-catalog on www.philips.com



Specialty Bulb Shapes (Not Actual Sizes)



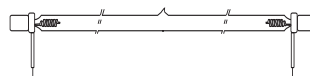
HPM 10/B, 13, 19, 20
Fig. 1-S



HPM 12, 14, 15, 17, 19, 20C,
Fig. 2-S



HPA 400S
Fig. 3-S



XOP 7, 15, 25, O/F
Fig. 8-S



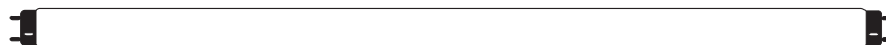
T12 Medium Bipin
Figure 9-S



T8 Medium Bipin
Figure 10-S



T5 Miniature Bipin
Figure 11-S



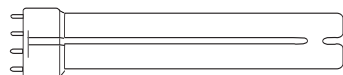
Hot Cathode Sterilamp
Figure 12-S



Cold Cathode and Slimline Sterilamp
Figure 13-S



Slimline Sterilamp
Figure 14-S



PL-L
Figure 15-S



PL-S
Figure 16-S

Quartz Infrared Heat Lamps

Watts	Product Number	Description	Volts	Bulb	Base	Pkg. Qty.	Finish	Filament	LL		MOL		Rated Avg. Life (Hrs.)*	Diam. (mm)	W/cm	Color Temp. (K)	Burning Position	Fig. No.
200	36043-8	13912R	230	T-3	RX7s	10	Clear	C-8	4.7	120	7.4	189	5000	11	16.7	2300	Universal	2
375	20997-3	375T3/7	120	T-3	RX7s	10	Trans.	C-8	5	127	8.6	217.6	5000	11	29.5	2450	Universal	2
500	21651-5	500T3	120	T-3	U	10	Trans.	C-8	5	127	8.8	223.8	5000	11	39.4	2450	Horiz. ±15°	6
	20994-0	500T3/7	120	T-3	RX7s	10	Trans.	C-8	5	127	8.6	217.6	5000	11	39.4	2450	Horiz. ±15°	2
	31203-3	13169X	120	T-3	X	10	Clear	C-8	5.6	142	9.5	241	5000	11	35.2	2450	Horiz. ±15°	3
	31207-4	13169Y	120	T-3	Y	10	Clear	C-8	5.6	142	8.6	218	5000	11	30.3	2450	Horiz. ±15°	7
	31205-8	13169X/98¹	120	T-3	X	10	Reflector	C-8	5.6	142	9.5	241	5000	11	35.2	2450	Horiz. ±15°	3
800	21680-4	800T3	120	T-3	U	10	Trans.	C-8	8	203	12	303	5000	11	39.4	2450	Horiz. ±15°	6
1000	20995-7	1000T3	240	T-3	U	10	Trans.	C-8	10	254	13.8	350.8	5000	11	39.4	2450	Horiz. ±15°	6
	21000-5	1000T3/CL	240	T-3	U	10	Clear	C-8	10	254	13.8	350.8	5000	11	39.4	2450	Horiz. ±15°	6
	31213-2	13195X	235	T-3	X	10	Clear	C-8	10.7	272	14.6	370	5000	11	36.8	2450	Horiz. ±15°	3
	31225-6	13195Y	235	T-3	Y	10	Clear	C-8	10.7	272	13.7	348	5000	11	36.8	2450	Horiz. ±15°	7
	31267-8	13713Z/98¹	235	T-3	Z	10	Reflector	C-8	10.7	272	14	357.5	5000	11	36.8	2450	Horiz. ±15°	4
	31260-3	13713X	235	T-3	X	10	Clear	C-8	10.7	272	14.6	370	5000	11	36.8	2450	Horiz. ±15°	3
	31216-5	13195X/98¹	235	T-3	X	10	Reflector	C-8	10.7	272	14.1	360	5000	11	36.8	2450	Horiz. ±15°	3
	29105-4	6990P	120	T6	G9.5	10	Clear	CC-8	1.375	60.3	4	101	300	20		2450	Universal	9
	29107-0	6990P Long Life	120	T6	G9.5	10	Clear	CC-8	1.375	60.3	4	101	450	20		3100	Universal	9
1200	28853-0	13561Y/00	144	T-3	Y	10	Clear	C-8	6.1	155	9	228	5000	11	77.4	2450	Horiz. ±15°	1
	27063-7	13561Y/98¹	144	T-3	Y	10	Reflector	C-8	6.1	155	9	228	5000	11	77.4	2400	Horiz. ±15°	1
1600	21676-2	1600T3	208	T-3	U	10	Trans.	C-8	16	406	19.8	503	5000	11	39.4	2450	Horiz. ±15°	6
	20996-5	1600T3	240	T-3	U	10	Trans.	C-8	16	406	19.8	503	5000	11	39.4	2450	Horiz. ±15°	6
	21590-5	1600T3	277	T-3	U	10	Trans.	C-8	16	406	19.8	503	5000	11	39.4	2450	Horiz. ±15°	6
	21003-9	1600T3/7	240	T-3	RX7s	10	Trans.	C-8	16	406	19.6	498.5	5000	11	39.4	2450	Horiz. ±15°	2
	21678-8	1600T3/CL	240	T-3	U	10	Clear	C-8	16	406	19.8	503	5000	11	39.4	2450	Horiz. ±15°	6
	28875-3	13568Y/00	144	T-3	Y	10	Clear	C-8	6.1	155	9	228	5000	11	103.2	2450	Horiz. ±15°	1
	27062-9	13568Y/98^{1,2}	144	T-3	Y	10	Reflector	C-8	6.1	155	9	228	5000	11	103.2	2500	Horiz. ±15°	1
	28378-8	1600T3/CL	277	T-3	U	10	Clear	C-8	16	406	19.8	503	5000	11	39.4	2500	Horiz. ±15°	6
2000	31198-5	13168X	235	T-3	X	10	Clear	C-8	11.1	282	14.6	370	5000	11	71.4	2450	Horiz. ±15°	3
	31200-9	13168Z/98¹	235	T-3	Z	10	Reflector	C-8	11	280	14	357.5	5000	11	71.4	2450	Horiz. ±15°	4
	21169-8	13213Y/00	235	T-3	Y	10	Clear	C-8	11	280	14	357.5	5000	11	71.4	2450	Horiz. ±15°	1
	31252-0	13245X/98¹	400	T-3	X	10	Reflector	C-8	16.2	410	20	508	5000	11	48.8	2450	Horiz. ±15°	3
	31269-4	13765X	400	T-3	X	10	Clear	C-8	16.2	410	20	508	5000	11	48.8	2450	Horiz. ±15°	3
	26665-0	14103Z/98¹	235	T-3	SK15	10	Reflector	C-8	11	280	14.1	360	5000	11	71.4	2450	Horiz. ±15°	5
	21592-1	2000T3/ICL/HT	240	T-3	U	10	Clear	C-8	10	254	12	303	5000	11	78.8	2500	Horiz. ±15°	6
	21648-1	2000T3/ICL	240	T-3	U	10	Clear	C-8	10	254	12	303	5000	11	78.8	2450	Universal	6
	36855-5	13765X/98	400	T-3	X	10	Reflector	C-8	16.1	410	20	508	5000	11	48.8	2450	Universal	3
	35703-8	13168V	240	T-3	V	10	Clear	C-8	11	280	13.8	350	5000	11	71.4	2450	Horiz. ±15°	8
2500	37811-7	13213Z/98	235	T-3	Z	10	Reflector	C-8	11	280	14.1	358	5000	11	71.1	2450	Horiz. ±15°	4
	20998-1	2500T3	480	T-3	U		Trans.	C-8	25	635	28.8	731	5000	11	39.4	2450	Horiz. ±15°	6
	21689-5	2500T3/7	480	T-3	RX7s	10	Trans.	C-8	25	635	28.7	730	5000	11	39.4	2450	Horiz. ±15°	2
	23874-1	2500T3/CL	480	T-3	U	10	Clear	C-8	25	635	28.8	731	5000	11	39.4	2450	Horiz. ±15°	6
	28217-8	14120R	480	T-3	RX7s	10	Clear	C-8	25	635	28.7	728	5000	11	39.4	2450	Horiz. ±15°	2
3000	31244-7	13230X	400	T-3	X	10	Clear	C-8	27.6	700	31.4	798	5000	11	42.9	2450	Universal	3
	23648-9	13230X/98¹	400	T-3	X	10	Reflector	C-8	27.6	700	31.4	798	5000	11	42.9	2450	Horiz. ±15°	3
3200	25435-9	3200T3/CL	240	T-3	U	10	Clear	C-8	32.1	815	41.8	1062	5000	11	39.3	2450	Horiz. ±15°	6
3800	22128-3	3800T3	575	T-3	U	6	Trans.	C-8	38	965	41.8	1062	5000	11	39.4	2450	Horiz. ±15°	6
	22127-5	3800T3/CL	570	T-3	U	6	Clear	C-8	38	965	41.8	1062	5000	11	39.4	2450	Horiz. ±15°	6
	22129-1	3800T3/CL/UB	575	T-3	U	6	Clear	C-8	38	965	41.8	1062	5000	11	39.4	2450	Vertical	6
5000	36845-6	5000T3/ICL/HT	600	T-3	U	6	Clear	C-8	25.1	638	28.8	731	5000	11	78.4	2450	Horiz. ±15°	6
6000	29114-6	13170V	480	T-3	V	10	Clear	C-8	11.2	284	13.8	350	5000	11	211.3	2450	Horiz. ±15°	8
	29123-7	13138V	480	T-3	V	10	Clear	C-8	9.3	236	12	303	5000	11	194.7	3000	Horiz. ±15°	8
6850	29170-8	14118V	480	T-3	V	10	Clear	C-8	9.52	242	11.9	303	1000	11	28.3	3000	Horiz. ±15°	8

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.

1) Lamps have white reflective coating on bulb

2) Lamps have fork terminals

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

HeLeN Quartz Infrared Heat Lamps

Infrared HeLeN glare reduction lamps have a gold coating which reduces visible glare and raises the infrared output when compared to existing zone ruby sleeve heating lamps. These lamps feature a substantially lower visible glare level than either ruby and neutral density zone heating lamps. They have a narrower diameter and better color rendering than ruby sleeve lamps

Watts	Product Number	Description	Volts	Bulb	Base	Pkg. Qty.	Finish	Filament	LL		MOL		Rated Avg. Life*	Diam. (mm)	W/cm	Color Temp. (K)	Burning Position	Fig. No.
500	28836-5	I5018U	120	T-3	U	10	HeLeN	C-8	5	127	8.8	223.8	5000	11	39.4	N/A	Horiz±15°	6
1000	36516-3	I5024Z	120	T-3	SK15	10	HeLeN	C-8	11	280	14.1	360	5000	11	35.7	N/A	Horiz±15°	5
	28050-3	I5007Z	235	T-3	SK15	10	HeLeN	C-8	11	280	14.1	360	7000	11	35.7	N/A	Horiz±15°	5
	38175-6	I5019U	235	T-3	U	10	HeLeN	C-8	10.7	272	13.7	347	7000	11	36.8	N/A	Horiz±15°	6
	28925-6	I5019Z	235	T-3	SK15	10	HeLeN	C-8	11	280	14.1	360	7000	11	35.7	N/A	Horiz±15°	5
3000	249615	I5012U	235	T-3	U	10	HeLeN	C-8	16.3	413	19.9	504	5000	11	72.6	N/A	Universal	6

* Rated Average Life is the length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.

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

Tubular Quartz Infrared Bulb Shapes (Not Actual Sizes)

Tubular quartz infrared heat lamps are designed for service other than illumination. Unless otherwise noted,

1. Tubular quartz heat lamps should not be used in equipment where the seal temperatures exceed 350° F.
2. Operating position is HORIZONTAL.
3. RX7s Base = Recessed Single Contact



Fig. 1 (Y Base)
Leads Are Approximately 6"



Fig. 2 (RX7s Base)

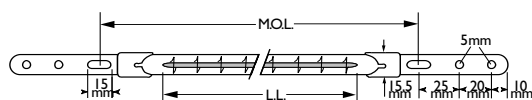


Fig. 3 (X Base)

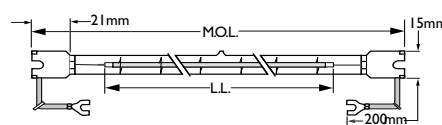


Fig. 4 (Z Base)

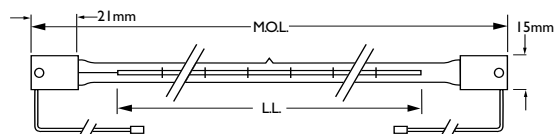


Fig. 5 (SK15 Base)
I3844Z/98—Lead is 15.7", I4103Z/98—Lead is 9"

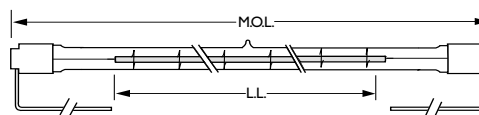


Fig. 6 (U Base)
Leads Are Approximately 6"

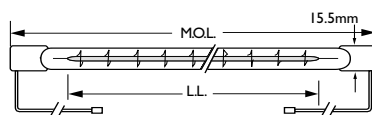


Fig. 7 (Y Base)
I3169Y—Lead is 6.3", I3195Y—Lead is 7.8"

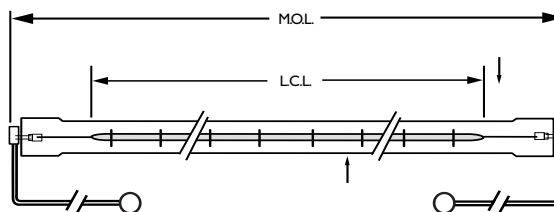


Figure 8 (Y Base)
I3136V, I3170V, I3138V, I4118V lead is 1.5"
I3168V leads are 4.7" and 5.5"

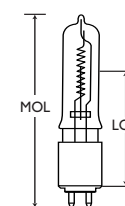


Fig. 9 (G9.5 Base)

Accent Lighting

Concentrated light on a subject which highlights it and causes it to stand out from its surrounding. Depending on degree of drama desired, accent light should minimally be 10x the general light or ambient light.

Accommodation

The involuntary muscular process by which the eye changes focus from one distance to another.

Adaptation

The involuntary process by which the visual system changes its sensitivity, depending on the luminances prevailing in the visual field. The process involves both the iris and the light sensitive cells of the retina.

ALTO® Lamp Technology

Philips ALTO® Lamp Technology is widely recognized as a leading low-mercury solution for fluorescent lighting. This technology uses capsule dosing to precisely control the amount of mercury in each ALTO lamp. Long-life ALTO lamps further reduce the need to replace lamps and, as a result, decrease the amount of mercury used over life of any lighting installation.

Ballast

The ballast is an electrical device that performs two basic functions: 1) provides the starting voltage and 2) limits the current to sustain lamp operation.

Ballast types for fluorescent lamps:

Instant Start: Instant start electronic ballasts are the most popular type of electronic ballast today because they provide maximum energy savings and they start lamps without delay or flashing. Since they do not provide lamp electrode heating, instant start ballasts consume less energy than comparable rapid start, program rapid start or programmed start ballasts. As a result, they provide the most energy efficient solution to fluorescent lamp ballasting. The instant start ballast uses 1.5 to 2 watts less energy per lamp than the rapid start alternative.

Instant-start electronic ballasts provide a high initial voltage (typically 600V for F32T8 lamps) to start the lamp. This high voltage is required to initiate discharge between the unheated electrodes of the lamp. However, the cold electrodes of lamps operated by an instant start ballast may deteriorate more quickly than the warmed electrodes of lamps operated by a rapid start, program rapid start or programmed start ballast. Lamps operated by instant start ballasts will typically withstand 10–15K switch cycles. Instant start ballasts are typically wired in *parallel*. This means that if one lamp fails, the other lamps in the circuit will remain lit.

Rapid Start: Rapid start ballasts have a separate set of windings which provide a low voltage (approx. 3.5 volts) to the electrodes for one second prior to lamp ignition. A starting voltage somewhat lower than that of instant ballast (typically 450–550V for F32T8 lamps) is applied, striking an electrical arc inside the lamp. Most rapid start electronic ballasts continue to heat the electrode even after the lamp has started, which results in a power loss of 1.5 to 2 watts per lamp. Lamps operated by a rapid start electronic ballast will typically withstand 15–20K switch cycles. Rapid start ballasts are typically wired in *series*. This means

that if one lamp fails, all other lamps in the circuit will extinguish.

Programmed Start: Programmed start (PS) electronic ballasts provide maximum lamp life in frequent starting conditions (up to 50,000 starts). PS ballasts use a custom integrated circuit (IC) which monitors lamp and ballast conditions to ensure optimal system lighting performance. Life Program rapid start ballasts, PS ballasts also precisely heat the lamp cathodes. However, PS ballasts heat the lamp cathodes to 700° C prior to lamp ignition. This puts the least amount of stress on the lamp electrodes, resulting in maximum lamp life regardless of the number of lamp starts. Programmed start ballasts are typically wired in *series*.

Ballast types for HID lamps:

Reactor: Single coil, very efficient, but poor voltage regulation to the lamp.

Constant Wattage Autotransformer (CWA): Employing two coils, the ballast is less efficient than reactor types, but have better voltage regulation. Most popular type in use.

Magnetically Regulated (Mag Reg) or Regulated Lag (Reg Lag): Three coils make for very effective voltage regulation but also not very efficient.

Electronic: Allows for both high efficiency and the best voltage regulation.

Beam Angle

The beam angle defines the light pattern around the beam's central axis for which the luminous intensity is half that of the maximum luminous intensity.

Candela (cd) (Luminous Intensity)

The intensity base unit for light. Intensity is the luminous flux emitted from a point per unit solid angle into a particular direction, regardless of distance.

Candlepower (cp)

Luminous intensity expressed in candelas.

Color Rendering Index (CRI)

A method for describing the effect of a light source on the color appearance of objects, compared to a reference source of the same color temperature (CCT). The highest CRI attainable is 100. Originally based on an eight standardized color comparisons, it was later extended to fourteen colors.

Color Temperature or Correlated**Color Temperature (CCT)**

The color temperature of a light emitter refers to the temperature to which one would have to heat a "blackbody" source (Planckian radiator) to produce light of similar overall appearance or chromaticity. A low color temperature implies warmer color (more yellow/red) light while high color temperature implies a cooler light (more blue). The standard unit for color temperature measurement is expressed in Kelvin (K).

Field Angle

The field angle defines the light pattern around the beam's central axis for which the luminous intensity is 10% that of the maximum luminous intensity.

Footcandle

The unit of measure for the density of light on a surface unique to the USA. One footcandle is equal to one lumen per foot (lm/ft²). One footcandle = 10.674 lux.

General Lighting (Ambient Lighting)

Lighting designed to deliver a predominately uniform level of light throughout an area.

Glare

Glare is an interference with visual perception caused by an uncomfortably bright light source or reflection within one's field of view; a form of visual noise. In its simplest form, glare (unwanted light) is a consequence of the human eye to adapt to different light levels. In the case of glare, the eye adapts to the high level of the glare source, which makes it difficult to perceive details in the now too dark work area.

Direct Glare: Glare resulting from high luminances in the visual environment that are directly visible from a viewers position; such as an insufficiently shielded luminaire.

Reflected Glare or Veiling Reflection: A reflection of incident light that partially or totally obscures the details to be seen on a surface by reducing the contrast.

Discomfort Glare: Glare which is distracting or uncomfortable (subjective), which interferes with the perception of visual information, but which does not significantly reduce visual performance.

Disability Glare: The effect of light which significantly reduces visual performance and perception; such as car high beams in your face on a dark country road.

Illuminance

The total density of visible light—from all directions—illuminating, falling on or incident to, a surface. Standard unit of measure for illuminance is LUX (lx) which is lumens per square meter (lm/m²). See [Footcandle](#).

Initial vs. Mean Lumens

The measured luminous output of a new light source versus the output at 40% of lamp life.

Inverse Square Law

This law says that the measured flux density from a light source decreases along any line from the source. It falls off in proportion to the square of the relative distance traversed. Thus the illuminance measurement 2 feet from the light source will be 1/4 of the measurement 1 foot from the source—not 1/2.

Kelvin

The Kelvin unit is the basis of all temperature measurement. In lighting, Kelvin is the unit of measure for Color Temperature used to indicate the overall color of the light produced from a source. See [Color Temperature](#).

Kilowatt Hour (kWh)

The measure of electrical energy from which electricity billing is determined. For example, at the rate of \$0.10 per kWh, a 100 watt lamp operating for 2000 hours will cost \$20.00 (100 x 2000 / 1000 = 200 kWh x .10 = \$20.00)

Light

Radiant energy that stimulates the sense of sight. The "visible" part of the electromagnetic spectrum from 380–770 nm. Light is the energy which allows us to see.

Additional Information

Glossary and Technical Descriptions

Lumen (lm)

SI unit of luminous flux. Photometrically, it is the luminous flux emitted within a unit solid angle (lsr) by a point source having a uniform luminous intensity of 1 cd.—or—The SI unit for measuring the flux of light being produced by a light source or received by a surface.

Luminaire (light fixture)

A complete lighting unit which consists of lamp(s), ballast(s)—if applicable—as well as mechanism for light distribution, lamp protection and alignment and connection to power.

Luminaire Efficacy

The ratio of luminous flux emitted by the fixture to that emitted by the lamp(s) within the fixture. Expressed as a percentage.

Luminance (The physical measure of brightness)

Luminance is the amount of visible light leaving a point on a surface in a given direction. The light leaving the surface can be due to reflection, transmission and/or emission. Standard unit of luminance is candela per square meter (cd/m²).

Luminous Efficacy

The expression of efficiency in converting power (watts) into light (lumens). Expressed as lumens per watt or l/w.

Luminous Exitance

Refers to the total amount of visible light leaving a surface in all directions. Unit for luminous exitance is lumens per square meter (lm/m²)

Photometry

Photometry is the science of measuring visible light in units that are weighted according to the sensitivity of the human eye known as the Visual Wavelength (Vλ) factor. Photometric theory does not address how we perceive colors.

Radiometry

Radiometry is the science of quantifying the phenomena of electromagnetic radiation. In our context, we are interested in light, the limited range of electromagnetic radiation that is visible to the human eye, sometimes extended to the areas of infrared and ultraviolet.

Rated Average Life

The length of operation (in hours) at which point an average of 50% of a large sample of lamps will still be operational and 50% will not.

Task Lighting

Lighting designed for a specific visible operation which requires higher light levels; most often characterized by proximity to that task.

Voltage

A measure of electromotive force or simply said, the pressure of electricity. This is analogous to pressure in a water line. In this catalog, voltage refers to supply voltage required by the lamp (incandescent) or operating voltage required by the arc tube (discharge lamps).

Watt

Unit used to measure electric power consumed by a lamp or any electrical device.

TECHNICAL DESCRIPTIONS

Lamp Listing Sequence

Lamps are listed in wattage sequence except for special groupings such as Street Lighting, Tungsten Halogen, High Intensity and Silicone Coated Lamps.

Ordering Code

The complete information shown in the ordering code column together with the voltage, if applicable, should be used when placing orders. In a number of instances a lamp type may be available in different kinds of packaging such as 2 or 4 lamp wrappers. Some small lamp types which are generally multiple packed on a platform with an overwrap are also packaged as a blister-carded item for the retail market. Each of these items is shown as a separate listing. To identify them, additional information is included with the ordering code. The following examples illustrate this:

Ordering Code	BC-7T7/W 12/2
Pkg. Qty.*	12cds
Explanation	Carded pack—2 lamps per card. The number shown under "Pkg. Qty" is the number of cards per min. shipping case.
Ordering Code	60T/SW 12/4
Pkg. Qty.	48
Explanation	12-4 lamp wrappers = 48 lamps per min. shipping case.
Ordering Code	50/150T/W/L/TP 96/1
Pkg. Qty.	96
Explanation	96-1 lamp wrappers = 96 lamps per min. shipping case.

* Quantity shown is minimum shipping container. Refer to Net Price Schedule for number of lamps required for qualification as a standard case.

Voltage

Lamps listed are available only in the voltage shown. Lamps listed in range voltages such as 115–125 or 230–250 are intended for use on circuits normally varying within these voltage limits and are designed for an average voltage suitable for operation on such circuits. Lamps intended for operation in range voltages have a design volt center as follows, unless otherwise noted by a footnote:

Range Voltage	Design Voltage
115–125	120
120–125	120
120–130	125
125–130	130
230–250	240

Class of Lamp

Incandescent lamps are classified as type B or type C. The type B lamp is one in which the filament operates in a vacuum. The type C lamp is one in which the filament operates in an atmosphere of inert gas. For gas-filled lamps which can be operated in any position the lumen maintenance is best when lamps are operated base up. For the vacuum type lamps which have no restrictions on operating position the lumen maintenance is the same in all operating positions.

Lamp Dimensions

Bulb designations consist of a letter or letters to indicate shape and a number to indicate the approximate diameter in eighths of an inch.

Maximum Overall Length (MOL)

Maximum Overall Length is measured from the top of the bulb to bottom of the base.

Nominal Length

A measurement of fluorescent lamp length based on the length of the lamp plus the proper allowance for standard lamp holders.

Light Center Length (LCL)

Light Center Length is the distance from a reference point on a lamp base (usually the eyelet) to the center of the light source. For high intensity discharge lamps, it is the distance from the center of the filament or center of the arc to the point shown below for the base indicated.

All Screw Bases: Bottom base contact

Medium and Mogul Prefocus: Top of base pin

Medium Bipost: Bottom of bulb

Bayonet Candelabra and Medium

Bayonet: Top of base pins

SC or DC Prefocus: Plane of locating bosses of prefocusing collar

Mini-Can: Intersection of 45° taper with max. diameter of base

Inches to Metric Conversion

To calculate the metric equivalent of inches in millimeters (mm) use the following formula: inches x 25.4001 = millimeters

Operating Position

Lamps may be operated in any position unless otherwise indicated.

Base Pin Position for Bayonet Candelabra-Based Lamps

When lamps are based with a bayonet candelabra base, the plane of the base pins will be approximately at right angles to the plane of the filament, unless otherwise indicated.

SC or DC Prefocus Based Lamps

The plane containing the base axis and the major locking eyelet which is the eyelet equidistant from the two other eyelets, will be at right angles to the plane of the filament or lead wires unless otherwise indicated. The letter (A) shown in the Base column after SC or DC Pref. based lamps indicates that the distance from the bottom of base contact or contacts to the bottom of the collar is .406". In the case of DC Pref. based lamps, the letter (A) also indicates that the plane containing the base axis and contacts is at right angles to the plane containing the base axis and the major locking eyelet.

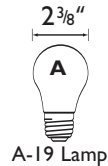
MEASURING LAMPS

Measuring Incandescent, Halogen, CFL and HID Lamps

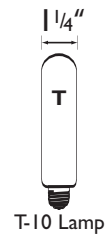
Letters designate the shape of the glass bulb and numbers indicate the diameter of the bulb in eighths of an inch.

For example:

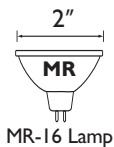
"A-19" indicates a standard bulb having a diameter of $\frac{1}{8}$ " or $2\frac{3}{8}$ inches.



"T-10" indicates a tubular shaped having a diameter of $\frac{1}{8}$ " or $1\frac{1}{4}$ inches.



"MR-16" indicates mini reflector having a diameter of $\frac{1}{8}$ " or 2 inches.

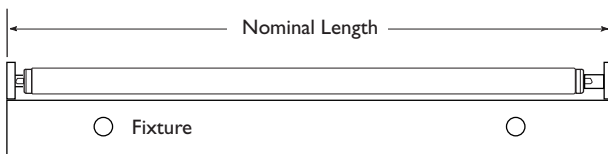


"ED-37" indicates a large HID bulb having a diameter of $\frac{3}{8}$ " or $4\frac{5}{8}$ inches.

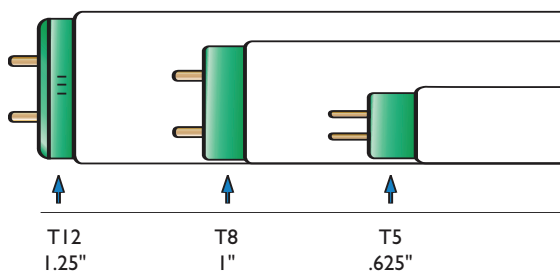


Measuring Fluorescent Lamps

To determine the length of a fluorescent lamp, you do not measure the bulb. The Nominal Length of the bulb is the measurement from back of socket to back of socket on the fixture.



To determine the type of lamp you need, measure the endcap and use the illustration below as a guide.



UNDERSTANDING ORDERING CODES

Typical ordering codes can be understood with the examples below:

Incandescent ordering code: BC15BA9C/CL/LL

- BC = Blister Carded Package
- 15 = Wattage
- BA9 = Lamp Type
- C = Candelabra Base (Blank = Medium)
- CL = Clear (W = White, etc.)
- LL = Long Life (Blank = Standard)

Halogen ordering code: 45PAR38/HAL/SP10

- 45 = Lamp Wattage
- PAR38 = Lamp Type
- Hal = Halogen
- SP = Spot Lamp
- 10 = Beam Spread in Degrees

CFL ordering code: PL-C 13W/827/4P/ALTO

- PL-C = Lamp Type
- 13W = Lamp Wattage
- 827 = Lamp Color
- 4P = Base has 4-Pins
- ALTO = Low Mercury Content

Fluorescent ordering code: F32T8/ADV841/ALTO

- F = Fluorescent
- 32 = Nominal Lamp Wattage
- T8 = 1" Diameter Tube
- ADV = Advantage
- 841 = CRI of 80+ and Color Temp. of 4100K
- ALTO = Low Mercury Content

HID ordering code: MS320/C/U/PS

- MS = High Output Art Tune
- 320 = Lamp Wattage
- C = Coated
- U = Universal Burning Position
- PS = Pulse Start

Additional Information

Incandescent Cross Reference Guide

Philips	GE	OSI
BC4C7	4C7 CARD 2	4C7/BL/2PK
BC4C7/W	4C7/W CD 2	4C7/W/BL/2PK
10C7	10C7 TRAY	10C7/CL
10S11N	10S11N	10S11N/CL
10S11N/IF	10S11N/F	10S11N/IF
BC15BA9C/CL/LL	15CAC/F-CD/2-12	15B10/BL/2PK
15BA9C/4M	—	15B10C/DL/BL
BC15T10	15T10	15T10/CL
20T61/2DC/IF	20T61/2DC/F	20T61/2DC/IF
20T61/2/F	20T61/2/F	20T61/2/I
25A/RS	25A/RS	25A/RS
BC25BA9-1/2/CL/LL	—	25B10/DL/BL
BC25BA9C/CL/LL	25CAC-CD/2-120	25B10C/BL/2PK
25G16-1/2C/4M	25GC 12PK	25G161/2C
25G25/CL/LL	25G25	25G25
25G40/4M	25G40	25G40
25S11/2C	25S11/5C	25S11C/P
BC25T10	25T10	25T10
30/100A/W	30/100	30/100A21/W/RP
30A15	30A15-130	30A15
30R20	30R20-120	30R20
BC40A15/FAN/CL/LL	40A15/CF CD2	40A15/CL/FAN
40A/TF	40A15/CF/STG CD2	40A15/SL
40A	40A 48PK	40A
40A-34A/EW	40A/34WM	40A/34/SS
40A-34A/99/EW	40A/34/WMP/99	40A/34/SS/XL
BC40BA9-1/2/CL/LL	40CAM CD/2	40B10/BL/2PK
BC40BA9C/CL/LL	40CAC-CD/2-120	40B10C/BL/2PK
40BA-91/2/4M	—	40B10/DL/BL/2PK
40B101/2/4M	—	40B10C/DL/BL
BC40B9-1/2/F/LL	40CAM/F CD/2	40B10/W/BL/2PK
BC40F15/CL/LL	40FM/L	40F/CL
BC40G16-1/2C/CL/LL	40GC-12PK-120	40G161/2C
BC40G16-1/2C/W/LL	40GC/W/CD/2	40G161/2C/w/bl
40G25/CL/LL	40G25/L	40G25
40G25/W/LL	40G25/W/L/24	40G25/DLSW/RP
40G40/CL/LL	40G40/CL	40G40
40G40/W/LL	40G40/W	40G40/W
BC40S11/N TP	40S11N/1 CARD	40S11N/BL
40S11N/IF	40S11N/1/F	40S11N/CF
BC40T10/IF	40T10/F	40T10/IF
50/150A/W	50/150 12PK	50/150A21/W/RP
50/150A/DL	50/150 12PK	50/150/PS25
50A/RS/TF	50A/RS/CVG 24PK	50A/RS/SL
60A	60A	60A
60A-52A/EW	60A/52WM	60A/52/SS
60A19/B	60A21/B	60A/CB
60A19/G	60A21/G	60A/CG
60A/CL	60A/CL 24PK	60A/CL
60A/D	60A/D	60A/D
60A/WL	60A/W/LL-24PK-120	60A/DLSW/2PK/RP
60A/AGRO	60A/PL 6PK	60A/GRO
60A/TF	60A/CVG 24PK	60A/SL
60A/W/TP	60A/W 48PK	60A/W/4RP
60A/Y	60A/Y 24PK	60A/Y/RP
K60A19/TS/EW	69A21/60WM/TS	60A19/TS/8M/SS
K60A19/TS/EW	—	60A21/TS
BC60BA9-1/2C/LL	60CAM CD/2	60B10/BL/2PK
BC60BA9C/CL/LL	60CAC CD/2 6PK	60B10C/BL/2PK
60BA9-1/2/4M	—	60B10/DL/BL/2PK
60BA9C/4M	—	60B10C/DL/BL/2PK
BC60BA9-1/2/F/LL	—	60B10C/F/BL/2PK
BC60BA9C/F/LL	60CAM/F CD/2	60B10/W/BL/2PK
BC60F15/CL/LL	—	60F/BL
60G25/CL/LL	60G25 6PK 120V	60G25/RP
60G25/W/LL	—	60G25/DLSW/RP

Philips	GE	OSI
60G40/CL/LL	60G40 6PK	60G40/RP
60G40/W/LL	60G40/W 6PK	60G40/W
60K19/DL	—	60K19/DR
60T10/64/IF	60T10/F 24PK	60T10/CF
65BR30/FL/LL55	65BR30/FL/LL 6PK	65BR30/DL/FL/RP
65BR30/FL55	—	65BR30/FL
65BR30/FL55	75R30/FL/65WM	65BR30/FL/SS
65BR30/SP20/LL	65R30/SP/LL 6PK	65BR30/SP/RP
65BR30/SP20	75R30/SP/65WM	65BR30/SP/SS
75A	75A	75A
75A/CL	75A/CL 24PK	75A/CL
75A/RS/VS	75A/RS	75A19/RS
75A/RH/TF	75A/RT 6PK	75A21/RS/SL
75A/RH/TF	75A/RS/CVG 24PK	75A21/SL/RP
75A-67A/EW	75A/67WM	75A/67/SS
75A-67A/99/EW 120	75A/67WMP/99	75A/67/SS/XL
75BR30/B	75R30/B	75BR30/B/FL/RP
75BR30/AGRO	75R30/PL/1 6PK	75BR30/GRO/FL/RP
75BR30/PK	75R30/PK	75BR30/PK/FL/RP
75ER30	75ER30	75ER30
75K19/DL	—	75K19/DR
75R20/LL	75R20 6PK	75R20/RP
75BR30/FL/TF	—	75R30/FL/SL
K90A19/TS/EW	100A21/90WM/TS 12	90A19/TS/8M/SS
100A/1SBIF	100A21/1SBIF 60 PK	100A21/1SB/IF
100A	100A	100A
100A/W	—	100A/DLSW/2PK/RP
100A/CL/RS/VS	100A/RS 12PK	100A19/RS
100A21	100A21	100A21
100A/RS/TF	100A/RS/CVG	100A21/RS/SL
100A/RS/VS	100A23/VS 24PK	100A21/V/S
100A-90A/EW	100A/90WM	100A/90/SS
100-90A/99EW	100A/90WMP/98	100A/90/SS/XL
100A/CL	100A/CL 24PK	100A/CL
120BR/FL60	100R/FL-120	100BR/FL
100G40/CL/LL	100G40	100G40
100G40/W/LL	100G40/W/L	100G40/W
120BR/FL60	120R40/FL/MI-6PK	120BR/FL
120BR/SP20	120R40/SP/MI-6PK	120BR/SP
120ER40	120ER40	120ER40
125R40/I	125R40	125BR40
150A	150A	150A21
150A-135A/EW	150A/135WM	150A21/135/SS
150A/99	150Q21/99/IF	150A21/99/XL
150A/CL	150A/CL 12PK	150A21/CL
150BR/AGRO	150R40/PL-1 6PK	150BR/GRO
150G40/W/LL	150G40/W	150G40/W/RP
200A (A23)	200A 12PK	200A21
200/99	200/99	200CL/99/XL
200/IF	200/IF	200PS/IF
200/99IF	200/99IF	200PS/IF/99/XL
250R40/I	250R40/I	250BR40
K250PAR38/FL	—	250KBR38/FL
K250PAR38/SP	—	250KR38/SP
300R/FL/1	300R/FL	300BR/FL
300M/99IF	300M/99/IF	300M/99/IF/XL
300M	300M	300M/CL
300PAR56/MFL	300PAR56/MFL	300PAR56/MFL
300PAR56/NSP	300PAR56/NSP	300PAR56/NSP
300PAR56/WFL	300PAR56/WFL	300PAR56/WFL
300/99IF	300/99IF	300PS35/99/IF/XL

Philips	GE	OSI
BC60BT15/HAL/CL	60BTT/CL	60BT15/HAL/CL
BC60BT15/HAL/W	60BTT/SW	60BT15/HAL/W
BC75BT15/HAL/W	75BTT/SW	75BT15/HAL/W
BC100BT15/HAL/W	100BTT/SW	100BT15/HAL/W
BC150BT15/HAL/W	150BTT/SW	150BT15/HAL/W
BC25CP19/HAL/CL	—	—
BC25F10-1/2C/HAL/CL	—	—
BC25F10-1/2/HAL/CL	—	—
BC25F15/HAL/CL	—	—
BC40CP19/HAL/CL	—	—
BC40F10-1/2C/HAL/CL	—	—
BC40F10-1/2/HAL/CL	—	—
BC40F15/HAL/CL	—	—
BC60CP19/HAL/CL	—	—
BC60F10-1/2C/HAL/CL	—	—
BC60F10-1/2/HAL/CL	—	—
BC60F15/HAL/POST TOP	—	—
60BR30/HAL/SP	—	—
60BR30/HAL/FL	—	—
60BR40/HAL/FL	—	—
45PAR16/HAL/SP10	—	—
45PAR16/HAL/FL27	—	—
60PAR16/HAL/SP10	60PAR16/H/NSP10	60PAR16/CAP/NSP10
60PAR16/HAL/FL27	60PAR16/H/NFL30	60PAR16/CAP/NFL30
50PAR20/HAL/SP10	50PAR20/H/NSP10	50PAR20/CAP/NSP10
50PAR20/HAL/FL25	50PAR20/H/FL25	50PAR20/HAL/SPL/NFL30
50PAR30L/HAL/SP10	50PAR30L/H/SP10	50PAR30L/CAP/SPL/NSP9
50PAR30L/HAL/WSP16	—	—
50PAR30L/HAL/FL25	—	50PAR30L/CAP/SPL/NFL25
50PAR30L/HAL/WFL40	50PAR30L/H/FL40	50PAR30L/CAP/SPL/WFL50
75PAR30L/HAL/SP10	75PAR30L/H/SP10	75PAR30L/CAP/SPL/NSP9
75PAR30L/HAL/WSP16	—	—
75PAR30L/HAL/FL25	75PAR30L/H/FL25	75PAR30L/CAP/SPL/NFL25
75PAR30L/HAL/WFL40	75PAR30L/H/WFL	75PAR30L/CAP/SPL/WFL50
50PAR30S/HAL/SP10	50PAR30/H/SP10	50PAR30/CAP/SPL/NSP9
50PAR30S/HAL/FL25	50PAR30/H/NFL25	50PAR30/CAP/SPL/NFL25
50PAR30S/HAL/WFL40	50PAR30/H/FL35	50PAR30/CAP/SPL/FL40
60PAR30S/HAL/NSP10	60PAR30/H/NSP9	60PAR30/CAP/SPL/NSP9
60PAR30S/HAL/FL25	60PAR30/H/FL25	60PAR30/CAP/SPL/NFL25
60PAR30S/HAL/WFL40	60PAR30/H/FL35	60PAR30/CAP/SPL/FL40
75PAR30S/HAL/NSP10	75PAR30/H/SP10	75PAR30/CAP/SPL/NSP9
75PAR30S/HAL/FL25	75PAR30/H/FL25	75PAR30/CAP/SPL/NFL25
75PAR30S/HAL/WFL40	75PAR30/H/WFL35	75PAR30/CAP/SPL/FL40
*40PAR30S/IRC/HAL/SP10	—	—
*40PAR30S/IRC/HAL/FL25	—	—
*40PAR30S/IRC/HAL/WFL40	—	—
45PAR30S/IRC/HAL/SP10	45PAR30/HIR/SP9XL	—
45PAR30S/IRC/HAL/FL25	45PAR30/HIR/FL25X	—
45PAR30S/IRC/HAL/WFL40	45PAR30/HIR/FL35X	—
50PAR30S/IRC/HAL/SP10	50PAR30/HIR/SP9	50PAR30/CAP/IR/NSP9
50PAR30S/IRC/HAL/FL25	50PAR30/HIR/FL25	50PAR30/CAP/IR/NFL25
50PAR30S/IRC/HAL/WFL40	50PAR30/HIR/FL35	50PAR30/CAP/IR/FL40
50PAR36Q/VNSP5	50PAR36/H/SP5	50PAR36/CAP/NSP6
45PAR38/HAL/SP10	45PAR/H/SP10	45PAR/CAP/SPL/SP9
45PAR38/HAL/FL25	45PAR/H/FL25	45PAR/CAP/SPL/FL30
60PAR38/HAL/SP10	60PAR/H/SP10	60PAR/CAP/SPL/SP9
60PAR38/HAL/FL25	60PAR/H/FL25	60PAR/CAP/SPL/FL25
75PAR38/HAL/NSP8	—	—
75PAR38/HAL/SP10	75PAR/H/SP9	75PAR/CAP/SPL/SP9
75PAR38/HAL/FL25	75PAR/H/FL25	75PAR/CAP/SPL/FL30
90PAR38/HAL/SP10	90PAR/H/SP10	90PAR/CAP/SPL/SP9
90PAR38/HAL/FL25	90PAR/H/FL25	90PAR/CAP/SPL/FL30
90PAR38/HAL/WFL40	90PAR/H/WFL	90PAR/CAP/SPL/WFL50
*40PAR38/IRC/HAL/SP10	45PAR/HIR/R/SP10	—
*40PAR38/IRC/HAL/FL25	45PAR/HIR/R/FL25	—
*40PAR38/IRC/HAL/WFL40	—	—
50/45PAR38/IRC/HAL/SP10	45PAR/HIR/SP12SX	—
50/45PAR38/IRC/HAL/FL25	—	—
50/45PAR38/IRC/HAL/WFL40	45PAR/HIR/FL40SX	—
50PAR38/IRC/SP10	50PAR/HIR/S/SP10 & 55PAR/HIR/R/SP10	50PAR/CAP/IR/SP9
50PAR38/IRC/FL25	50PAR/HIR/S/FL25 & 55PAR/HIR/R/FL25	50PAR/CAP/IR/NFL25
50PAR38/IRC/WFL40	—	—
60/55PAR38/IRC/SP10	55PAR/HIR/SP12XL	53PAR38/CAP/IR/XP/SP9
60/55PAR38/IRC/FL25	—	53PAR38/CAP/IR/XP/FL30
60/55PAR38/IRC/WFL40	55PAR/HIR/FL40XL	—
60PAR38/IRC/SP10	60PAR/HIR/S/SP10	60PAR/CAP/IR/SP9
60PAR38/IRC/FL25	60PAR/HIR/S/FL30	60PAR/CAP/IR/NFL25
60PAR38/IRC/WFL40	60PAR/HIR/FL40	—

Philips	GE	OSI
70PAR38/IRC/HAL/SP10	70PAR38/HIR/SP10 & 80PAR38/HIR/SP10	80PAR38/CAP/IR/SP10
70PAR38/IRC/HAL/FL25	70PAR38/HIR/FL25 & 80PAR38/HIR/FL25	80PAR38/CAP/IR/FL25
70PAR38/IRC/HAL/WFL40	—	—
100/90PAR38/IRC/HAL/SP10	90PAR/HIR/SP12XL	—
100/90PAR38/IRC/HAL/FL25	—	—
100/90PAR38/IRC/HAL/WFL40	90PAR/HIR/FL40XL	—
100PAR38/IRC/SP10	100PAR/HIR/SP10	100PAR/CAP/IR/SP10
100PAR38/IRC/FL25	100PAR/HIR/FL25	100PAR/CAP/IR/NFL25
100PAR38/IRC/WFL40	100PAR/HIR/FL40	100PAR/CAP/IR/FL40
20MRC11/SP10	Q20MR11/SP15	—
20MRC11/FL35	Q20MR11/NFL30	20MR11/FL35
20MR16/SP10	Q20MR16/SP	20MR16/NSP8
20MR16/FL36	Q20MR16/FL	20MR16/FL40
35MR16/SP10	—	35MR16/NSP8
35MR16/FL36	—	35MR16/FL40
50MR16/SP10	Q50MR16/SP	50MR16/NSP12
50MR16/NFL24	—	50MR16/NFL25
50MR16/FL36	Q50MR16/FL	50MR16/FL40
20MRC16/SP10	Q20MR16/CG15	20MR16/T/NSP10
20MRC16/FL36	Q20MR16/CG40	20MR16/T/FL40
35MRC16/SP10	Q35MR16/CG12	35MR16/T/NSP10
35MRC16/NFL24	Q35MR16/CG20	35MR16/T/NSP25
35MRC16/FL36	Q35MR16/CG40	35MR16/T/FL40
50MRC16/SP10	—	50MR16/T/NSP10
50MRC16/SP15	Q50MR16/CG15	—
50MRC16/NFL24	Q50MR16/CG25	50MR16/T/NFL25
50MRC16/FL36	Q50MR16/CG40	50MR16/T/FL40
75MR16/SP10	Q71MR16/C/NSP15	65MR16/T/NSP10
75MR16/FL36	Q71MR16/C/FL40	65MR16/T/FL40
20MRC16/IRC/SP8	—	20MR16/IR/SP10/C
20MRC16/IRC/FL36	—	20MR16/IR/FL40/C
30MRC16/IRC/SP8	—	—
30MRC16/IRC/NFL24	—	—
30MRC16/IRC/FL36	—	—
35MRC16/IRC/SP8	Q37MR16/HIR/CG10	37MR16/IR/SP10/C
35MRC16/IRC/NFL24	Q37MR16/HIR/CG25	37MR16/IR/NFL25/C
35MRC16/IRC/FL36	Q37MR16/HIR/CG40	37MR16/IR/FL40/C
35MRC16/IRC/WFL60	—	37MR16/IR/WFL60/C
45MRC16/IRC/SP8	Q50MR16/HIR/CG10	50MR16/IR/SP10/C
45MRC16/IRC/NFL24	Q50MR16/HIR/CG25	50MR16/IR/NFL25/C
45MRC16/IRC/FL36	Q50MR16/HIR/CG40	50MR16/IR/FL40/C
45MRC16/IRC/WFL60	—	50MR16/IR/WFL60/C
50MRC16/NFL24/A	—	50MR16/B/NFL25
50MRC16/FL40/A	—	50MR16/B/FL35
50Q/CL	—	—
75Q/CL	Q75CL/MC	75Q/CL
100Q/CL	Q100CL/MC	100Q/CL/MC
100Q/CL/DC	Q100CL/DC	100Q/CL/DC
150Q/CL	Q150CL/MC	150Q/CL/MC
150Q	Q150MC	150Q/MC
150Q/CL/DC	Q150CL/DC	150Q/CL/DC
150Q/DC	Q150DC	150Q/DC
250Q/CL	Q250CL/MC	250Q/CL/MC
250Q/CL/DC	Q250CL/DC	250Q/CL/DC
500Q/CL	—	500Q/MC
500Q/CL	—	—
750Q/CL	—	—
100T3Q/CL	Q100T3/CL	100T3Q/S/CL
150T3Q/CL	Q150T3/CL	150T3Q/S/CL
150T3Q/CL LONG	Q150T3/117/CL	—
250T3Q/CL	Q250T3/CL	—
300T3Q/P/CL EHM	Q300T3/CL	300T3Q/CL
500T3Q/P/CL	Q500T3/CL	500T3Q/CL
1000T3Q/P/CL 240V	Q1000T3/CL 240V	1000T3Q/CL 240V
1500T3Q/P/CL 240V	Q1500T3/CL 240V	1500T3Q/CL 240V
1500T3Q/P/CL 277V	Q1500T3/CL 277V	1500T3Q/CL 277V
10W/T3/12V	Q10T3/CL	10T3Q/CL
20W/T3/12V	Q20T3/CL	20T3Q/CL
35W/T4/12V	Q35T3/CL	35T4Q/CL
50W/T4/12V	Q50T4/CL	50T4Q/CL
75W/T4/12V	Q75T4/CL	75T4Q/CL
ALU111MM 50W G53 12V 8D	—	50ARI11/SP8
ALU111MM 50W G53 12V 24D	—	50ARI11/FL25
ALU111MM 75W G53 12V 8D	—	75ARI11/SP8
ALU111MM 75W G53 12V 24D	—	75ARI11/FL25
ALU111MM 75W G53 12V 45D	—	75ARI11/WFL45
BC25TWISTLINE GU10/FL25	Q20GU10/FL/CD	—
BC35TWISTLINE GU10/FL25	Q35GU10/FL/CD	—
BC50TWISTLINE GU10/NFL25	Q50GU10/FL/CD	50PAR16/CAP/GU10/FL40

Additional Information

Compact Fluorescent Cross Reference Guide

	Philips	Generic Description	GE	OSI
PL-S	PL-S 5W/827	CFT5W/G23/827	F5BX/SPX27	CF5DS/827
	PL-S 7W/827	CFT7W/G23/827	F7BX/SPX27	CF7DS/827
	PL-S 7W/835	CFT7W/G23/835	F7BX/SPX35	CF7DS/835
	PL-S 7W/841	CFT7W/G23/841	F7BX/SPX41	CF7DS/841
	PL-S 7W/850	CFT7W/G23/850	F7BX/SPX50	CF7DS/850
	PL-S 9W/827	CFT9W/G23/827	F9BX/SPX27	CF9DS/827
	PL-S 9W/835	CFT9W/G23/835	F9BX/SPX35	CF9DS/835
	PL-S 9W/841	CFT9W/G23/841	F9BX/SPX41	CF9DS/841
	PL-S 9W/850	CFT9W/G23/850	F9BX/SPX50	CF9DS/850
	PL-S 13W/827	CFT13W/GX23/827	F13BX/SPX27	CF13DS/827
	PL-S 13W/830	CFT13W/GX23/830	F13BX/SPX30	CF13DS/830
	PL-S 13W/835	CFT13W/GX23/835	F13BX/SPX35	CF13DS/835
	PL-S 13W/841	CFT13W/GX23/841	F13BX/SPX41	CF13DS/841
	PL-S 13W/850	CFT13W/GX23/850	F13BX/SPX50	CF13DS/850
PL-C 2-PIN	PL-C 13W/827/USA/ALTO	CFQ13W/GX23/827	F13DBX23T4/SPX27	CF13DD/827
	PL-C 13W/830/USA/ALTO	CFQ13W/GX23/830	F13DBX23T4/SPX30	CF13DD/830
	PL-C 13W/835/USA/ALTO	CFQ13W/GX23/835	F13DBX23T4/SPX35	CF13DD/835
	PL-C 13W/841/USA/ALTO	CFQ13W/GX23/841	F13DBX23T4/SPX41	CF13DD/841
	PL-C 13W/827/ALTO	CFQ13W/G24d/827	F13DBXT4/SPX27	—
	PL-C 13W/830/ALTO	CFQ13W/G24d/830	F13DBXT4/SPX30	—
	PL-C 18W/827/ALTO	CFQ18W/G24d/827	F18DBXT4/SPX27	CF18DD/827
	PL-C 18W/830/ALTO	CFQ18W/G24d/830	F18DBXT4/SPX30	CF18DD/830
	PL-C 18W/835/ALTO	CFQ18W/G24d/835	F18DBXT4/SPX35	CF18DD/835
	PL-C 18W/841/ALTO	CFQ18W/G24d/841	F18DBXT4/SPX41	CF18DD/841
	PL-C 26W/827/ALTO	CFQ26W/G24d/827	F26DBXT4/SPX27	CF26DD/827
	PL-C 26W/830/ALTO	CFQ26W/G24d/830	F26DBXT4/SPX30	CF26DD/830
	PL-C 26W/835/ALTO	CFQ26W/G24d/835	F26DBXT4/SPX35	CF26DD/835
	PL-C 26W/841/ALTO	CFQ26W/G24d/841	F26DBXT4/SPX41	CF26DD/841
PL-C 2-PIN 15MM	PL-C 15MM/22W/827	CFQ20W/GX32d/827	—	—
	PL-C 15MM/28W/827	CFQ27W/GX32d/827	—	—
PL-C 4-PIN	PL-C 13W/827/4P/ALTO	CFQ13W/G24q/827	F13DBX/SPX27/4P	CF13DD/E/827
	PL-C 13W/830/4P/ALTO	CFQ13W/G24q/830	F13DBX/SPX30/4P	CF13DD/E/830
	PL-C 13W/835/4P/ALTO	CFQ13W/G24q/835	F13DBX/SPX35/4P	CF13DD/E/835
	PL-C 13W/841/4P/ALTO	CFQ13W/G24q/841	F13DBX/SPX41/4P	CF13DD/E/841
	PL-C 18W/827/4P/ALTO	CFQ18W/G24q/827	F18DBX/SPX27/4P	CF18DD/E/827
	PL-C 18W/830/4P/ALTO	CFQ18W/G24q/830	F18DBX/SPX30/4P	CF18DD/E/830
	PL-C 18W/835/4P/ALTO	CFQ18W/G24q/835	F18DBX/SPX35/4P	CF18DD/E/835
	PL-C 18W/841/4P/ALTO	CFQ18W/G24q/841	F18DBX/SPX41/4P	CF18DD/E/841
	PL-C 26W/827/4P/ALTO	CFQ26W/G24q/827	F26DBX/SPX27/4P	CF26DD/E/827
	PL-C 26W/830/4P/ALTO	CFQ26W/G24q/830	F26DBX/SPX30/4P	CF26DD/E/830
	PL-C 26W/835/4P/ALTO	CFQ26W/G24q/835	F26DBX/SPX35/4P	CF26DD/E/835
	PL-C 26W/841/4P/ALTO	CFQ26W/G24q/841	F26DBX/SPX41/4P	CF26DD/E/841
PL-L	PL-L 18W/830	FT18W/2G11/830	F18BX/SPX30	FT18DL/830
	PL-L 18W/835	FT18W/2G11/835	F18BX/SPX35	FT18DL/835
	PL-L 18W/841	FT18W/2G11/841	F18BX/SPX41	FT18DL/841
	PL-L 18W/830	FT18W/2G11/RS/830	F18BX/SPX30/RS	FT18DL/830/RS
	PL-L 18W/835	FT18W/2G11/RS/835	F18BX/SPX35/RS	FT18DL/835/RS
	PL-L 18W/841	FT18W/2G11/RS/841	F18BX/SPX41/RS	FT18DL/841/RS
	PL-L 24W/830	FT24W/2G11/830	F27/24BX/SPX30	FT24DL/830
	PL-L 24W/835	FT24W/2G11/835	F27/24BX/SPX35	FT24DL/835
	PL-L 24W/841	FT24W/2G11/841	F27/24BX/SPX41	FT24DL/841
	PL-L 36W/830	FT36W/2G11/830	F39/36BX/SPX30	FT36DL/830
	PL-L 36W/835	FT36W/2G11/835	F39/36BX/SPX35	FT36DL/835
	PL-L 36W/841	FT36W/2G11/841	F39/36BX/SPX41	FT36DL/841
	PL-L 40W/830/RS/IS	FT40W/2G11/RS/830	F40/30BX/SPX30	FT40DL/830/RS
	PL-L 40W/835/RS/IS	FT40W/2G11/RS/835	F40/30BX/SPX35	FT40DL/835/RS
	PL-L 40W/841/RS/IS	FT40W/2G11/RS/841	F40/30BX/SPX41	FT40DL/841/RS
	PL-L 50W/830/RS	FT50W/2G11/RS/830	F50BX/SPX30/RS	—
	PL-L 50W/835/RS	FT50W/2G11/RS/835	F50BX/SPX35/RS	—
	PL-L 50W/841/RS	FT50W/2G11/RS/841	F50BX/SPX41/RS	—
	PL-L 80W/830	FT80W/2G11/830	—	FT80DL/830
	PL-L 80W/835	FT80W/2G11/835	—	FT80DL/835
	PL-L 80W/841	FT80W/2G11/841	—	FT80DL/841
PL-T 4-PIN	PL-T 18W/827/4P/ALTO	CFTR18W/GX24q/827	F18TBX/SPX27/A/4P	CF18DT/E/IN/827
	PL-T 18W/830/4P/ALTO	CFTR18W/GX24q/830	F18TBX/SPX30/A/4P	CF18DT/E/IN/830
	PL-T 18W/835/4P/ALTO	CFTR18W/GX24q/835	F18TBX/SPX35/A/4P	CF18DT/E/IN/835

Compact Fluorescent (Continued), Fluorescent Cross Reference Guide

	Philips	Generic Description	GE	OSI
PL-T 4-PIN, cont.	PL-T 18W/841/4P/ALTO	CFTR18W/GX24q/841	F18TBX/SPX41/A/4P	CF18DT/E/IN/841
	PL-T 26W/827/4P/ALTO	CFTR26W/GX24q/827	F26TBX/SPX27/A/4P	CF26DT/E/IN/827
	PL-T 26W/830/4P/ALTO	CFTR26W/GX24q/830	F26TBX/SPX30/A/4P	CF26DT/E/IN/830
	PL-T 26W/835/4P/ALTO	CFTR26W/GX24q/835	F26TBX/SPX35/A/4P	CF26DT/E/IN/835
	PL-T 26W/841/4P/ALTO	CFTR26W/GX24q/841	F26TBX/SPX41/A/4P	CF26DT/E/IN/841
	PL-T 32W/827/4P/ALTO	CFTR32W/GX24q/827	F32TBX/SPX27/A/4P	CF32DT/E/IN/827
	PL-T 32W/830/4P/ALTO	CFTR32W/GX24q/830	F32TBX/SPX30/A/4P	CF32DT/E/IN/830
	PL-T 32W/835/4P/ALTO	CFTR32W/GX24q/835	F32TBX/SPX35/A/4P	CF32DT/E/IN/835
	PL-T 32W/841/4P/ALTO	CFTR32W/GX24q/841	F32TBX/SPX41/A/4P	CF32DT/E/IN/841
	PL-T 42W/827/4P/ALTO	CFTR42W/GX24q/827	F42TBX/SPX27/A/4P	CF42DT/E/IN/827
	PL-T 42W/830/4P/ALTO	CFTR42W/GX24q/830	F42TBX/SPX30/A/4P	CF42DT/E/IN/830
	PL-T 42W/835/4P/ALTO	CFTR42W/GX24q/835	F42TBX/SPX35/A/4P	CF42DT/E/IN/835
	PL-T 42W/841/4P/ALTO	CFTR42W/GX24q/841	F42TBX/SPX41/A/4P	CF42DT/E/IN/841
	PL-T 42W/827/4P/ALTO	CFTR42W/GX24q/827	F42QBX/SPX27/A/4P	CF42DT/E/IN/827
	PL-T 42W/830/4P/ALTO	CFTR42W/GX24q/830	F42QBX/SPX30/A/4P	CF42DT/E/IN/830
	PL-T 42W/835/4P/ALTO	CFTR42W/GX24q/835	F42QBX/SPX35/A/4P	CF42DT/E/IN/835
	PL-T 42W/841/4P/ALTO	CFTR42W/GX24q/841	F42QBX/SPX41/A/4P	CF42DT/E/IN/841

Ordering Code Cross Reference Guide: Although certain fluorescent lamp types listed by Philips, General Electric and Sylvania have different ordering codes, they are physically and electrically interchangeable. For your convenience, we are listing a direct type comparison between manufacturers. In the Econ-o-watt® line only Philips makes an F40/EV-PH lamp for preheat installations.

	Philips	GE	OSI
SILHOUETTE	F28T5/841/ALTO	STARCOAT F28W/T5/841	PENTRON FP28/841/ECO
	F54T5/841/HO/ALTO	F54W/T5/842	FP54/841/HO/ECO
	F15T8/CW/24/ALTO	F24T8/CW/4	F18T8/CW/K/24
	F16T8/CW/26	F26T8/CW/4	F18T8/CW/K/26
	F17T8/CW/28	F28T8/CW/4	F18T8/CW/K/28
	F18T8/CW/30	F30T8/CW/4	F18T8/CW/K/30
	F20T12/CW/ALTO (6 Pack)	F20T12/CW (6 Pack)	F20T12/CW/6
	F25T12/CW	F25T12/CW/33	F25T12/CW/33
	F30T12/CW/RS/EW/ALTO	F30T12/CW/RS/WM	F30T12/CW/RS/SS
TL 70	F17T8/TL741/ALTO	Trimline F17T8/SP41/RS	Octron FO17/741
	F25T8/TL741/ALTO	F25T8/SP41/RS	FO25/741
	F32T8/TL741/ALTO	F32T8/SP41/RS	FO32/741
	F40T8/TL741/ALTO	F40T8/SP41/RS	FO40/741
	F96T8/TL741/ALTO	F96T8/SP41	FO96T8/741
	FB32T8/TL741/ALTO	F32T8/SP41/U/6	FB032/741/6
TL 80	F17T8/TL841/ALTO	F17T8/SPX41	FO17/841
	F25T8/TL841/ALTO	F25T8/SPX41	FO25/841
	F32T8/TL841/ALTO	F32T8/SPX41	FO32/841
	F40T8/TL841/ALTO	F40T8/SPX41	FO40/841
	F96T8/TL841/ALTO	F96T8/SPX41	FO96/841
	FB32T8/TL841/ALTO	F32T8/SPX41/U/6	FBO32/841/6
Long Life	F17T8/TL841/PLUS/ALTO	XL EXTRA-LIFE F17T8/XL/SPX41/ECO	XP FO17/841/XP/ECO
	F25T8/TL841/PLUS/ALTO	F25T8/XL/SPX41/ECO	FO25/841/XP/ECO
	F32T8/TL841/PLUS/ALTO	F32T8/XL/SPX41/ECO	FO32/841/XP/ECO
Energy Savings	F32T8/ADV841/EW/ALTO 30 Watt	WATT-MISER F32T8/XL/SP41/WM/ECO	SS FO30/841/XP/SS/ECO
	F32T8/ADV841/EW/ALTO 28 Watt	ULTRAMAX F28T8/XL/SP41/WM/ECO	FO28/841/XP/SS/ECO
	F32T8/ADV841/XEW/ALTO 25 Watt	NA	NA
	F40CW/RS/EW/ALTO	F40CW/RS/WM	F40CW/RS/SS
	F40LW/RS/EW/ALTO	F40LW/RS/WM	F40LW/RS/SS
	F40T12/841/ALTO	F40/SP41	F40/D41
	F40T12/ADV41/ALTO	F40/SPX41	F40/D841
	F96T12/CW/EW/ALTO	F96T12/CW/WM	F96T12/CW/SS
	F96T12/CW/HO/EW/ALTO	F96T12/CW/HO/WM	F96T12/CW/HO/SS
	F96T12/CW/HO-O/ALTO	F96T12/CW/HO/CT	F96T12/CW/HO/COLD TEMP
	F96T12/CW/VHO/EW/ALTO	F96PG17/CW/WM	F96T12/CW/VHO/SS
	FB40CW/6/EW/ALTO	F40CW/U/6/WM	FB40CW/6/SS
	F48T12/CW/VHO	F48T12/CW/I500	F48T12/CW/VHO
	F72T12/CW/VHO	F72T12/CW/I500	F72T12/CW/VHO
	F96T12/CW/VHO	F96T12/CW/I500	F96T12/CW/VHO
	F48T12/CW/VHO-O	F48T12/CW/I500/O	F48T12/CW/VHO/LT
	F60T12/CW/VHO-O	F60T10/CW	—
	F72T12/CW/VHO-O	F72T12/CW/I500/O	F72T12/CW/VHO/LT
	F96T12/CW/VHO-O	F96T12/CW/I500/O	F96T12/CW/VHO/LT

Additional Information

Fluorescent Cross Reference Guide

Color Cross Reference Guide

Philips	GE	OSI
SPEC 30 or 730	SP 30	D 30
SPEC 35 or 735	SP 35	D 35
SPEC 41 or 741	SP 41	D 41
Ultralume 27 or 27U	Designer 800 SPX 27	27K
30U or 830	SPX 30	D 830
35U or 835	SPX 35	D 835
41U or 841	SPX 41	D 841
C50	C50	DSGN50

Light Source Color Chart

Fluorescent Color	Color Abbreviation	Atmosphere	Light Output (%) In 4' Lamp	CCT	CRI	Lighted Appearance CIE Color Coordinates	
						X	Y
Cool White	CW	Cool	100	4100K	62	0.380	0.380
Deluxe Cool White	CWX	Cool	72	4100K	89	0.376	0.367
Daylight	D	Cool Daylight	85	6500K	79	0.313	0.337
Daylight Deluxe	DX	Cool Daylight	76	6500K	84	0.314	0.341
Lite White	LW	Cool	104	4200K	51	0.376	0.386
Natural	N	Neutral	69	3700K	90	0.384	0.357
3000K, SPEC30	SPEC30	Warm	105	3000K	70	0.444	0.409
3500K, SPEC35	SPEC35	Neutral	105	3500K	73	0.410	0.395
4100K, SPEC41	SPEC41	Cool	105	4100K	70	0.382	0.385
Advantage T12 30	ADV30	Warm	118	3000K	82	0.444	0.409
Advantage T12 35	ADV35	Neutral	118	3500K	82	0.410	0.395
Advantage T12 41	ADV41	Cool	118	4100K	82	0.382	0.385
Advantage T12 50	ADV50	Daylight	118	5000K	82	0.346	0.360
Warm White	WW	Warm	102	3000K	53	0.440	0.403
Colortone 50	C50	Daylight	72	5000K	92	0.345	0.359
Colortone 75	C75	Daylight Plus	66	7500K	95	0.299	0.316
3000K, Ultralume	30U	Warm	108	3000K	85	0.444	0.409
3500K, Ultralume	35U	Neutral	108	3500K	85	0.413	0.395
4100K, Ultralume	41U	Cool	108	4100K	85	0.382	0.385
5000K, Ultralume	50U	Daylight	93	5000K	85	0.346	0.356
3000K, TL 70	TL730	Warm	93	3000K	78	0.439	0.402
3500K, TL 70	TL735	Neutral	93	3500K	78	0.410	0.395
4100K, TL 70	TL741	Cool	93	4100K	78	0.382	0.385
5000K, TL 70	TL750	Daylight	90	5000K	76	0.346	0.356
3000K, TL 80	TL830	Warm	98	3000K	86	0.439	0.402
3500K, TL 80	TL835	Neutral	98	3500K	86	0.410	0.395
4100K, TL 80	TL841	Cool	98	4100K	86	0.382	0.385
5000K, TL 80	TL850	Daylight	97	5000K	86	0.346	0.356
3000K, TL 90	TL930	Warm	66	3000K	95	0.438	0.399
5000K, TL 90	TL950	Daylight	66	5000K	98	0.344	0.355
Advantage T8 830	ADV830	Warm	105	3000K	86	0.444	0.409
Advantage T8 835	ADV835	Neutral	105	3500K	86	0.410	0.395
Advantage T8 841	ADV841	Cool	105	4100K	86	0.382	0.385
Advantage T8 850	ADV850	Daylight	105	5000K	86	0.346	0.360

Residential Applications Light Source Color Chart

Fluorescent Color	Light Output Atmosphere	Light Output (%) In 4' Lamp	CCT	CRI	Lighted Appearance CIE Color Coordinates	
					X	Y
Homelight Cool White Plus®	Cool	105	4100K	62-70	0.382	0.385
Homelight Natural Sunshine®	Daylight	72	5000K	92	0.345	0.359
Homelight Soft White®	Warm	108	3000K	85	0.444	0.409

Correlated Color Temperature, CCT, describes the apparent color, or chromaticity, of a light source. Fluorescent light sources of 3000K, for example, Warm White or 3000K Ultralume, have a warm chromaticity, while 5000K lamps such as Colortone® 50 or 5000K Ultralume have a higher blue content and are considered to be cooler in color.

Color Rendering Index, CRI, is a relative value that indicates the color rendering quality of illumination provided by a light source. The higher the index number, the better the quality of illumination. While one lamp may have the same apparent color in CCT as another, its ability to render colors properly may be more or less than another light source. For example, Warm White 3000K 53 CRI lamps will not render colors of objects in an illuminated space as well as 3000K Ultralume 85 CRI lamps.

Both CCT and CRI should be cited together when properly describing light source color attributes.

Additional Information

High Intensity Discharge Cross Reference Guide

Metal Halide Ordering Code Cross Reference Guide

Philips	GE	OSI	Venture	ANSI
<i>Metal Halide</i>	<i>Multi-Vapor</i>	<i>Metalarc</i>		
CDM35/T6/830	CMH39/T/U/830/G12	MC39T6/U/G12/830	N/C	M130/E
CDM35/TC/830	CMH39/TC/U/830/G8.5	N/C	N/C	M130/E
CDM35/PAR20/M/SP(10°)	CMH39/PAR20/830/SP10(10°)	MCP39PAR20/U/830/SP(10°)	N/C	M130/O
CDM35/PAR20/M/FL(30°)	CMH39/PAR20/830/FL25(25°)	MCP39PAR20/U/830/FL(30°)	N/C	M130/O
CDM35/PAR30L/M/SP(10°)	CMH39PAR30L/SP10(10°)	MCP39PAR30L/U/830/SP(10°)	N/C	M130/O
CDM35/PAR30L/M/FL(30°)	CMH39PAR30L/FL25(25°)	MCP39PAR30L/U/830/FL(30°)	N/C	M130/O
MHC50/U/M/3K	N/C	N/C	N/C	M148/M110/E
MHC50/C/U/M/3K	N/C	N/C	N/C	M148/M110/E
MHC50/U/M/4K	N/C	N/C	N/C	M148/M110/E
MHC50/C/U/M/4K	N/C	N/C	N/C	M148/M110/E
MHC50/U/MP/3K	N/C	N/C	N/C	M148/M110/O
MHC50/U/MP/4K	N/C	N/C	N/C	M148/M110/O
CDM70/T6/830	CMH70/T/U/830/G12	MC70T6/U/G12/830	N/C	M98/M139/E
CDM70/T6/942	CMH70/T/U/942/G12	N/C	N/C	M98/M139/E
CDM70/TD/830	CMH70/TD/830/RX7S	N/C	N/C	M85/M139/E
CDM70/TD/942	CMH70/TD/942/RX7S	N/C	N/C	M85/M139/E
CDM70/TC/830	CMH70/TC/U/830/G8.5	N/C	N/C	M139/E
MHN70/TD/840	ARC70/TD/942/R7S	N/C	N/C	M85/E
CDM70/PAR30L/M/SP(10°)	CMH70/U/PAR30L/15(15°)	MCP70PAR30L/U/830/SP(12°)		M98/M143/O
CDM70/PAR30L/M/FL(40°)	CMH70/U/PAR30L/40(40°)	MCP70PAR30L/U/830/FL(30°)		M98/M143/O
CDM70/PAR38/SP/3K(15°)	N/C	MCP70PAR38/U/830/SP(15°)	N/C	M98/M143/O
CDM70/PAR38/FL/3K(25°)	N/C	MCP70PAR38/U/830/FL(25°)	N/C	M98/M143/O
CDM70/PAR38/SP/4K(15°)	N/C	N/C	N/C	M98/M143/O
CDM70/PAR38/FL/4K(25°)	N/C	N/C	N/C	M98/M143/O
MHC70/U/M/3K	CMH70/U/830/MED	N/C	N/C	M98/M143/E
MHC70/C/U/M/3K	CMH70/C/U/830/MED	N/C	N/C	M98/M143/E
MHC70/U/M/4K	N/C	N/C	N/C	M98/M143/E
MHC70/C/U/M/4K	N/C	N/C	N/C	M98/M143/E
MHC70/U/MP/3K	CMH70/U/830/MED/O	MPD70/U/MED/830	N/C	M98/M143/O
MHC70/C/U/MP/3K	CMH70/C/U/830/MED/O	N/C	N/C	M98/M143/O
MHC70/U/MP/4K	N/C	N/C	N/C	M98/M143/O
MHC70/C/U/MP/4K	N/C	N/C	N/C	M98/M143/O
CDM100/PAR38/SP/3K(15°)	N/C	MCP100PAR38/U/830/SP(15°)	N/C	M90/M140/O
CDM100/PAR38/FL/3K(25°)	N/C	MCP100PAR38/U/830/FL(25°)	N/C	M90/M140/O
CDM100/PAR38/SP/4K(15°)	N/C	N/C	N/C	M90/M140/O
CDM100/PAR38/FL/4K(25°)	N/C	N/C	N/C	M90/M140/O
MHC100/U/M/3K	CMH100/U/830/MED	N/C	N/C	M90/M140/E
MHC100/C/U/M/3K	CMH100/C/U/830/MED	N/C	N/C	M90/M140/E
MHC100/U/M/4K	N/C	N/C	N/C	M90/M140/E
MHC100/C/U/M/4K	N/C	N/C	N/C	M90/M140/E
MHC100/U/MP/3K	CMH100/U/830/MED/O	MPD100/U/MED/830	N/C	M90/M140/O
MHC100/C/U/MP/3K	CMH100/C/U/830/MED/O	MCP100/U/MED/830	N/C	M90/M140/O
MHC100/U/MP/4K	N/C	MPD100/C/U/MED/830	N/C	M90/M140/O
MHC100/C/U/MP/4K	N/C	MPD100/U/MED/840	N/C	M90/M140/O
CDM150/T6/830	N/C	MC150T6/U/G12/830	N/C	M142/E
CDM150/T6/942	N/C	N/C	N/C	M142/E
CDM150/TD/830	N/C	N/C	N/C	M142/E
CDM150/TD/942	N/C	N/C	N/C	M142/E
MHN150/TD/840	ARC150/TD/742/R7S	N/C	N/C	M81/E
MH150/U/M	N/C	N/C	MH150W/U/EM	M107/E
MH150/C/U/M	N/C	N/C	MH150W/C/U/EM	M107/E
MHC150/U/M/3K	N/C	N/C	N/C	M102/M142/E
MHC150/C/U/M/3K	N/C	N/C	N/C	M102/M142/E
MHC150/U/M/4K	N/C	N/C	N/C	M102/M142/E
MHC150/C/U/M/4K	N/C	N/C	N/C	M102/M142/E
MHC150/U/MP/3K	N/C	MCP150/U/MED/830	N/C	M102/M142/O
MHC150/C/U/MP/3K	N/C	MCP150/C/U/MED/830	N/C	M102/M142/O
MHC150/U/MP/4K	N/C	N/C	N/C	M102/M142/O
MHC150/C/U/MP/4K	N/C	N/C	N/C	M102/M142/O
MS175/BU/PS	N/C	N/C	MS175W/BU/PS	M137/M152/E
MP175/BU	N/C	MP175/BU-ONLY	N/C	M57/O
MH175/RFL(65°)	MVR175/PAR38FL/1(50°)	N/C	N/C	M57/E
MH175/U/M	MVR175/U/MED	M175/U/MED	MH175W/U/MED	M57/E
MH175/C/U/M	MVR175/C/U/MED	M175/C/U/MED	MH175W/C/U/MED	M57/E
MH175/U	MVR175/U	N/C	MH175W/U	M57/E
MH175/C/U	MVR175/C/U	N/C	MH175W/C/U	M57/E
MH175/3K/BU	N/C	M175/3K/BU-ONLY	N/C	M57/E
MS175/BU	N/C	N/C	MS175W/BU	M57/E
MS250/BU/PS	N/C	MS250/PS/BU-ONLY	MH250W/HBU/PS	M138/M153/E
MP250/BU	N/C	MP250/BU-ONLY	N/C	M58/O
MH250/U	MVR250/U	M250/U	MH250W/U	M58/E
MH250/C/U	MVR250/C/U	M250/C/U	MH250W/C/U	M58/E
MH250/3K/BU	N/C	M250/3K/BU-ONLY	MS250W/BU/3K	M58/E
CDM250S50/V/O/4K	MVR250/C/VBU/R	N/C	MS250W/C/BU/LU	M168/O
MS320/U/PS	N/C	MS320/PS/BU-ONLY	N/C	M132/M154/E
MS320/C/U/PS	N/C	MS320/C/PS/BU-ONLY	N/C	M132/M154/E
MS320/U/PS	N/C	N/C	MH320W/U/ED28/PS	M132/M154/E
MS320/C/U/PS	N/C	N/C	MH320W/C/U/ED28/PS	M132/M154/E

Additional Information

High Intensity Discharge Cross Reference Guide

Metal Halide Ordering Code Cross Reference Guide, continued

Philips	GE	OSI	Venture	ANSI
MP320/BU/PS	MPR320/VBU/XHO/PA	N/C	N/C	M132/M154/O
MP320/C/BU/PS	MPR320/C/VBU/XHO/PA	N/C	N/C	M132/M154/O
MS350/BU/PS	N/C	N/C	N/C	M131/E
MS350/C/BU/PS	N/C	N/C	N/C	M131/E
MP350/BU/PS	N/C	N/C	MP350W/V/UVS/PS	M131/O
MP350/C/BU/PS	N/C	N/C	MP350W/C/V/UVS/PS	M131/O
MS360/BU/EVW	MVR360/VBU/WM/HO	MS360/SS/BU-HOR	MS360W/BU/EM	M59/M165/S
MS360/C/BU/EVW	MVR360/C/VBU/WM/HO	MS360/C/SS/BU-HOR	MS360W/C/BU/EM	M59/M165/S
MP360/BU/EVW	MPR360/VBU/WM/O	MSP360/SS/BU-ONLY	N/C	M59/M165/O
MP360/C/BU/EVW	N/C	MSP360/C/SS/BU-ONLY	MPI360W/C/BU/EM	M59/M165/O
CDM400S51/V/O/4K	N/C	N/C	N/C	M169/O
MS400/BU/PS	N/C	MS400/PS/BU-ONLY	MS400W/BU/PS	M135/M155/S
MS400/C/BU/PS	N/C	MS400/C/PS/BU-ONLY	MS400W/C/BU/PS	M135/M155/S
MP400/BU	N/C	MP400/BU-ONLY	MPI400W/BU	M59/O
MP400/C/BU	N/C	MP400/C/BU-ONLY	MPI400W/C/BU	M59/O
MH400/U/ED28	MVR400/U/ED28	M400/U/BT-28	MH400W/U/ED28	M59/E
MS400/BU/ED28	MVR400/VBU/BT28	MS400/BU-ONLY/BT-28	MS400W/BU/ED28	M59/E
MS400/HOR	MVR400/HOR/MOG	MS400/HOR/BT-28	N/C	M59/E
MS400/C/HOR	MVR400/C/HOR/MOG	MS400/C/HOR/BT-28	N/C	M59/E
MH400/U	MVR400/U	M400/U	MH400W/U	M59/S
MH400/C/U	MVR400/C/U	M400/C/U	MH400W/C/U	M59/S
MH400/3K/U	MVR400/SP30/U	N/C	N/C	M59/S
MS400/BU	MVR400/VBU	MS400/BU-ONLY	MS400W/BU	M59/S
MS400/C/BU	MVR400/C/VBU	MS400/C/BU-ONLY	MS400W/C/BU	M59/S
MS400/3K/BU	N/C	MS400/3K/BU-ONLY	MS400W/BU/3K	M59/S
MP400/BU/PS	N/C	N/C	N/C	M135/M155/O
MP400/C/BU/PS	N/C	N/C	N/C	M135/M155/O
MHT400/U	MVT400/VBU	MT400/BU-ONLY	N/C	M59/S
MHT400/C/U	MVT400/C/VBU	MT400/C/BU-ONLY	N/C	M59/S
CDM400S51/V/O/4K	MVR400/C/VBU/R	N/C	N/C	M169/O
MS1000/BU/BT37/PS	N/C	N/C	N/C	M141/E
MP1000/BU	N/C	N/C	N/C	M47/O
MH1000/U/BT37	N/C	M1000/U/BT-37	N/C	M47/E
MH1000/U	MVR1000/U	M1000/U	MH1000W/U	M47/S
MH1000/C/U	MVR1000/C/U	M1000/C/U	MH1000W/C/U	M47/S
MS1000/BU	MVR1000/VBU	MS1000/BU-ONLY	MS1000W/BU	M47/S
MS1000/BD	N/C	MS1000/BD-ONLY	MS1000W/BD	M47/S
MS1000/C/BU	MVR1000/C/VBU	MS1000/C/BU-ONLY	MS1000W/C/BU	M47/S
MHT1000/U	N/C	MT1000/BU-ONLY	N/C	M47/S
MH1500/U	MVR1500/HBU	M1500/BU-HOR	MH1500W/HBU	M48/E
MH1500/U	MVR1500/HBD	M1500/BD	MH1500W/HBD	M48/E
MHD1800V	N/C	N/C	N/C	N/A
MHD1800/HV	N/C	N/C	N/C	N/A

Ceramalux® High Pressure Sodium Ordering Code Cross Reference Guide

Philips	GE	OSI	ANSI
Ceramalux	Lucalox	Lumalux	
C35S76/M	LU35/MED	LU35/MED	S76
C35S76/D/M	LU35/D/MED	LU35/D/MED	S76
C50S68/M	LU50/MED	LU50/MED	S68
C50S68/D/M	LU50/D/MED	LU50/D/MED	S68
C50S68/ALTO	N/C LU50	LU50/ECO	S68
C50S68/D/ALTO	N/C	N/C	S68
C70S62/M	LU70/MED	LU70/MED	S62
C70S62/D/M	LU70/D/MED	LU70/D/MED	S62
C70S62/ALTO	N/C LU70	LU70/ECO	S62
C70S62/D/ALTO	N/C LU70/D	N/C LU70/D	S62
C70S62/RFL	N/C	N/C	S62
C100S54/M	LU100/MED	LU100/MED	S54
C100S54/D/M	LU100/D/MED	LU100/D/MED	S54
C100S54/ALTO	N/C LU100	LU100/ECO	S54
C100S54/D/ALTO	N/C LU100/D	N/C LU100/D	S54
C150S55/M	LU150/MED	LU150/55/MED	S55
C150S55/D/M	LU150/D/MED	LU150/55/D/MED	S55
C150S55/ALTO	N/C LU150	LU150/55/ECO	S55
C150S55/D/ALTO	N/C LU150/D	N/C LU150/55/D	S55
C150S56/ALTO	N/C LU150/100 (ED28)	N/C LU150/100	S56
C200S66/ALTO	N/C LU200	LU200/ECO	S66
C225S50/EVW	N/C	N/C	S50
C250S50/ALTO	N/C	LU250/ECO	S50
C250S50/D/ALTO	N/C	N/C	S50VC-250
C250S50/S N/C	LU250/S	N/C	S50
C310S67	LU310	N/C LU310/ECO	S67
C360S51/EVW	N/C	N/C	S51
C400S51/ALTO	N/C	LU400/ECO	S51
C400S51/D/ALTO	N/C	N/C	S51VWB-400
C600S106	LU600/T	LU600/SUPER	S106
C1000S52/ED37	N/C	N/C	S52
C1000S52/ALTO	LU1000/ECO	N/C LU1000	S52

Additional Information

High Intensity Discharge Cross Reference Guide

Ceramalux® Comfort High Pressure Sodium Ordering Code Cross Reference Guide

Philips	GE	OSI	ANSI
<i>Ceramalux</i>	<i>Lucalox</i>	<i>Lumalux</i>	
C70S62/C/M	LU70/DX/MED	N/C	S62LG-70/C
C70S62/C/D/M	N/C	N/C	S62LH-70/C
C70S62/C	N/C	N/C	S62ME-70/C
C100S54/C/M	N/C	N/C	S54SG-100/C
C100S54/C	N/C	N/C	S54SB-100/C
C100S54/C/D	N/C	N/C	S54MC-100/C
C150S55/C/M	LU150/DX/MED	N/C	S55RN-150/C
C150S55/C/D/M	N/C	N/C	S55RP-150/C
C150S55/C	LU150/55/DX	N/C	S55SC-150/C
C250S50/C	LU250/DX	N/C	S50VA-250/C
C400S51/C	LU400/DX	N/C	S51WF-400/C

Ceramalux® RetroLux High Pressure Sodium Ordering Code Cross Reference Guide

Philips	GE	OSI	ANSI
<i>RetroLux</i>	<i>E-Z Lux</i>	<i>Unalux</i>	
C150S63/RetroLux	LUH150/EZ	ULX150	S63
C220S65/RetroLux	LUH215/EZ	ULX215	S65
C360S64/RetroLux	LUH360/EZ	ULX360	S64

Mercury Vapor Ordering Code Cross Reference Guide

Philips	GE	OSI	ANSI
H46DL-40-50/DX	HR40/50DX45-46	H45/46DL-40/50/DX	H45/46
H43AV-75/DX	HR75DX43	H43AV-75/DX	H43
H38MP-100/DX	HR100DX38/A23	H38AV-100/DX	H38
H38HT-100	HR100A38	H38HT-100	H38
H38JA-100/DX	HR100DX38	H38JA-100/DX	H38
H38JA-T100/DX	HT100DX38 N/C	H38JA-T100/DX	H38
H38BP-100/DX	HR100RDXFL38	H38BP-100/DX	H38
H44GS-100 N/C	HR100PSP44 N/C	H44GS-100	H44
H44GS-100/M N/C	N/C	H44GS-100/MDSK	H44
H39KB-175	HR175A39	H39KB-175	H39
H39KC-175/DX	HR175DX39	H39KC-175/DX	H39
H39KC-T175/DX	HT175DX39	H39KC-T175/DX	H39
H39BM-175	HR175RFL39	N/C	H39
H39BP-175/DX	HR175RDXFL39	H39BP-175/DX	H39
H37KB-250	HR250A37	H37KB-250	H37
H37KC-250/DX	HR250DX37	H37KC-250/DX	H37
H37KC-T250/DX	HT250DX37 N/C	H37KC-T250/DX	H37
H33CD-400	HR400A33	H33CD-400	H33
H33GL-400/DX	HR400DX33	H33GL-400/DX	H33
H33GL-T400/DX	HT400DX33	H33GL-T400/DX	H33
H33DN-400/DX	HR400RDX33	N/C	H33
H33FS-400/DX	HR400RDXFL33	N/C	H33
H35ND-700/DX	HR700DX35	N/C	H35
H34GW-1000/DX	HR1000DX34	H34GW-1000/DX	H34
H36GV-1000	HR1000A36	H36GV-1000	H36
H36GW-1000/DX	HR1000DX36	H36GW-1000/DX	H36
H36GW-T1000/DX	HT1000DX36 N/C	H36GW-T1000/DX	H36

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Atlanta, GA	975 Cobb Place Blvd, NW, Suite 215, Kennesaw, GA 30144-4802	(678) 581-1600	(678) 581-1658
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Guelph, ON		(519) 489-0646	(416) 915-6185
Halifax, NS		(902) 455-9009	(902) 455-9009
Gatineau, PQ		(819) 682-0215	(613) 321-3422
Québec, PQ		(418) 831-1710	(418) 836-3146
Montréal, PQ		(514) 956-2109	(514) 956-2108
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Edmonton, AB		(780) 459-3353	(780) 459-3080
Calgary, AB		(403) 995-9557	(403) 995-9558
Burnaby, BC		(604) 272-3095	(604) 272-3531

Export, Business Group—Sales Offices and Lamp Technical Information, Export Sales

City	Address	Telephone No.	Fax No.
Somerset, NJ	200 Franklin Square Drive, P.O. Box 6800, Somerset, NJ 08875-6800	(732) 563-3033	(732) 563-3155

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Somerset, NJ	200 Franklin Square Drive, P.O. Box 6800, Somerset, NJ 08875-6800		
	Industrial Commercial	1(800) 937-5483	1(800) 635-3818
	Consumer	1(800) 805-2517	1(800) 808-4899
	OEM	1(800) 832-2852	1(800) 937-8989
	Special Lighting	1(800) 437-2205	1(800) 616-0435
	TradeLink SM (www.tradelink.philips.com)	1(800) 238-0483	

Customer Service Department/Order Entry Locations—Canada

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			1(800) 668-9020
	TradeLink SM (www.tradelink.philips.com)	1(800) 387-5393	
		1(800) 668-9009	

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