

Morino



Morino

DETAILS

The updated Victorian style Morino, designed with decorative arms that lend itself perfectly to any post classic settings. Conceived with a high efficiency heat sink, integrated Utility Fitter and a flat glass lens, the Morino is an efficient high performance fixture with practical tool-free access in all wrapped up in a traditional package that is anything but old-fashioned.

CONSTRUCTION

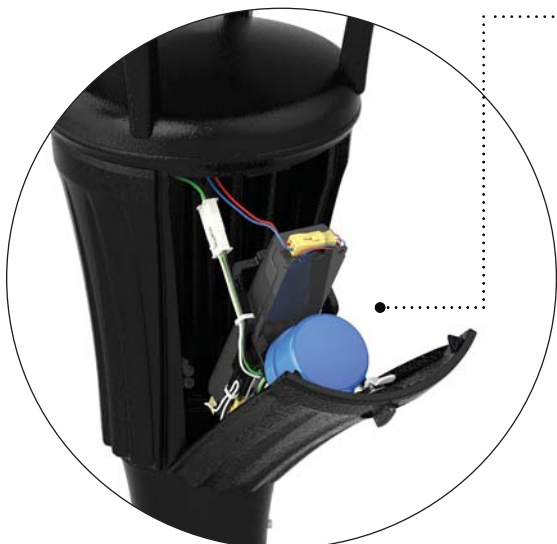
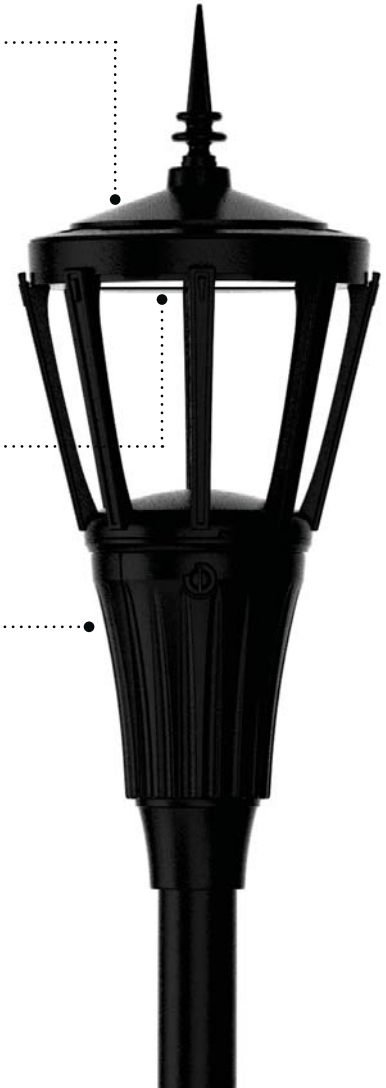
- Heavy spun aluminum hood with finial and a choice of 2 decorative die-cast arm styles encircle a sturdy diecast aluminum housing with integrated driver compartment
 - Certified IP67 optical system
 - Silicone gaskets and stainless steel hardware
- Mounts onto Ø4" O.D. x 3" long tenon with available 2 7/8" O.D. (R28) and 3" O.D. (R30) fitter adaptors.

LED, LENS & OPTICS

- Type 2, 3, 3m (wide), 4 & 5 Roadway optics available
- Optional House-side shield available to cut back light
 - High power LED available in 3000K & 4000K

FINISH

- Available in 10 standard colors
 - Textured (TX) or smooth (SM) finish
 - Optional RAL colors are also available
- Super durable extremely resistant exterior polyester powder coating meets AAMA 2604 requirements (5 years South Florida exposure)
- For added protection a Marine Grade (MG) pre-finish is available to meet ASTM G7, B117, D1654 and D2247 requirements (salt spray, corrosion and humidity resistance)



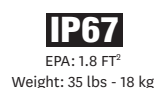
ELECTRICAL

- Dimmable 0-10 volt, high power factor (90%) driver
- 120, 208, 240, 277, 347 OR 480 volts available
- 10 kA Surge protector supplied standard

OPTIONAL

- Programmable driver (PROG)
- 7-Pin ANSI C136.41 receptacle (PTDR) available with shorting cap (PX), photocell (PT) or long-life photocell (PTL)
- Field adjustable 10% increment step-dimming switch (SD)

Contact factory for **WIRELESS CONTROLS** and further details



Galaxy LED ENGINE

The Galaxy Light engine unit is a custom designed, modular system that combines state-of-the-art optics, LEDs and thermal management and is rigorously tested to ensure high performance and long life.



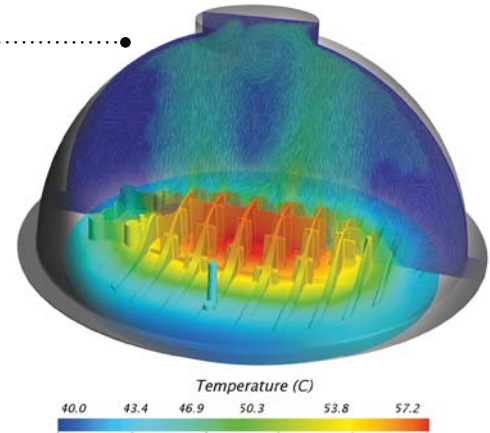
ROBUST DESIGN

- Sealed IP67
- Modular aluminum LED board with acrylic optic
- Die cast aluminum alloy heat sink with thermal interface
- Heat sink designed and tested for optimal thermal management performance in all weather from
- 40C/-40F to 50C/ 122F
- High Power LEDs with thermal and electric protection for stability and protects it from electrical surge.

Computational Fluid Dynamics simulation

PERFORMANCE DRIVEN

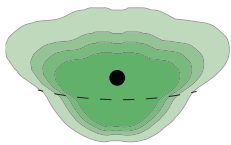
- Modular design allows the GALAXY wattages ranging from 20 to 120W
- Equivalent to 50-250W HID with 60% energy saving
- GALAXY engines are tested & designed for a lifespan of over 100,000 hours
- Tested according to LM79 standard by recognize NVLAP independent laboratories



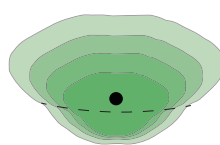
IES Distribution types

Cyclone Lighting offers optically engineered performance systems based on a series of acrylic injection molded lens of IES Roadway distribution types giving you the performance of a cobra head in a sleek decorative fixture.

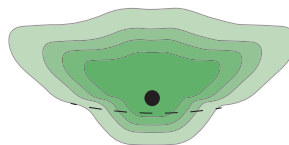
Type 2



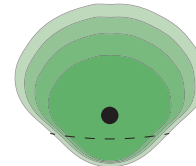
Type 3



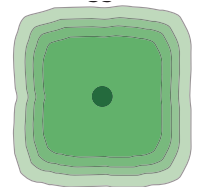
Type 3M



Type 4



Type 5



--- Indicates House Side Shield impact on photometrics



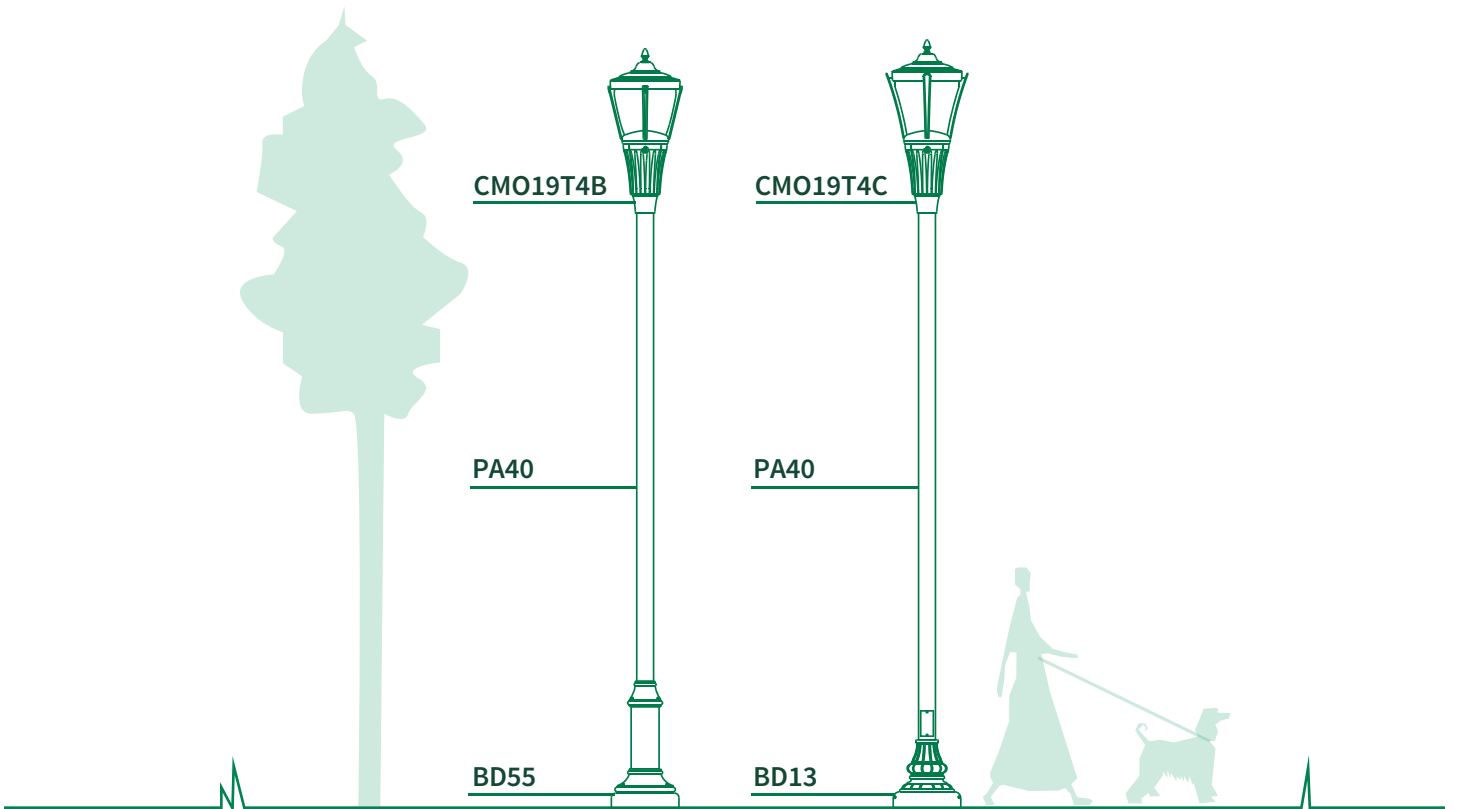
House Side Shield option

The HOUSE SIDE SHIELD (HS) give you a better back control for those LEED projects where light spill or light trespass are critical. This options can be added post installation.

Please consult website for latest IES files

Luminaire

SCALE GUIDE



Post Top

CMO19T4A/CMO19T4B/CMO19T4C

Ordering Template

MODEL	LENS	DIST.	WATT	CCT	VOLT	FITTER	OPTIONS	COLOR	TEXTURE	OP.FIN.
COM19T4A	FGC	2	20W	3K	120	NONE	NONE	BK	TX	MG
COM19T4B	FGF	3	40W	4K	208	R28	PT ¹	MT	SM ²	
COM19T4C		3M	60W		240	R30	PTL ¹	DG		
		4	80W		277		PTDR ¹	MA		
		5	100W		347		PX ¹	SI ²		
		2HS	120W		480		PROG	BZ		
		3HS	140W				SD	BG		
		3MHS						GM		
		4HS						PG		
								WH		

¹ONLY ONE OF THESE OPTION CAN BE CHOSEN

ORDERING CODE



References

LENS

FGC	FLAT GLASS CLEAR
FGF	FLAT GLASS FROSTED

DISTRIBUTION

HS	INTERNAL HOUSE SHIELD
----	-----------------------

SEE PHOTOMETRIC PAGE FOR DETAILS

CCT

3K	3000K
4K	4000K

WATT

SEE PHOTOMETRIC PAGE FOR LUMEN OUTPUT

FITTER

NONE	FITS 4" O.D. X 3" LONG TENON
R28	REDUCER 4" O.D. TO 2 7/8" O.D. X 3" LONG TENON
R30	REDUCER 4" O.D. TO 3" O.D. X 3" LONG TENON

OPTIONS

NONE	NONE
PT	PHOTOCELL W/7-PIN RECEPTACLE (ANSI C136.41)
PTL	LONG LIFE PHOTOCELL W/7-PIN RECEPTACLE (ANSI C136.41)
PTDR*	7-PIN RECEPTACLE (ANSI C136.41)
PX	SHORTING CAP W/7-PIN RECEPTACLE (ANSI C136.41)
PROG*	PROGAMMABLE DRIVER
SD	FIELD ADJUSTABLE 10% INCREMENT STEP-DIMMING SWITCH

*CONTACT FACTORY FOR WIRELESS APPLICATIONS AND FOR MORE DETAILS

COLOR

BK	BLACK RAL9005
MT	METALLIC GRAPHITE TEXTURED ONLY (PROPRIETARY FORMULA)
DG	DARK GREEN RAL6012
MA	MARINE BLUE RAL5013
SI ²	METALLIC SILVER RAL9006 (SMOOTH ONLY)
BZ	DARK BRONZE RAL8019
BG	BURGUNDY RAL3005
GM	MOSS GREEN RAL6005
PG	PALE GREY RAL7040
WH	WHITE RAL9003

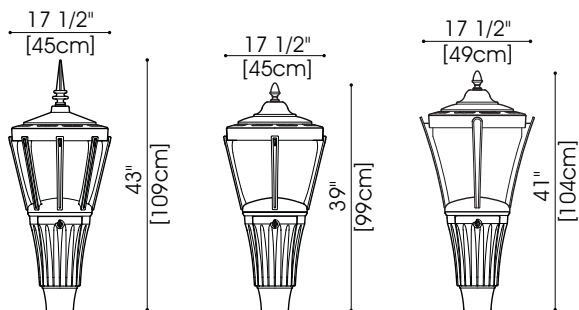
TEXTURE

TX	TEXTURED
SM ²	SMOOTH (METALLIC SILVER RAL9006 ONLY)

OP.FIN. (OPTIONAL FINISH)

MG	MARINE GRADE PRE-FINISH
----	-------------------------

Luminaire



CMO19T4A

CMO19T4B

CMO19T4C

Photometry

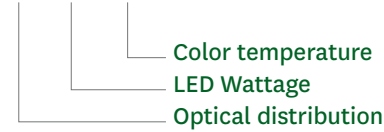
CMO19T4A / CMO19T4B / CMO19T4C



SOURCE: LED 4000K ± 150K, 70 CRI minimum¹
 WATERPROOF RATING: IP67 optical system
 MAINTENANCE: Tool free utility series fitter
 Dark Sky friendly optical system
 Data based on luminaire using FGC (Flat glass clear)

LED code definition:

2 - 20W - 4K



Type 2

LED CODE	LUMEN OUTPUT	EFFICACY (LM/W)	WATTAGE LED	WATTAGE SYSTEM ²	LED CURRENT (mA)	BUG RATING	HID EQUIVALENCY ³
2-20W-4K	2339	106	20	22	350	B1-U1-G1	50W
2-40W-4K	4288	95	40	45	700	B1-U2-G1	70W
2-60W-4K	6498	97	60	67	700	B1-U2-G1	100W
2-80W-4K	8577	95	80	90	700	B1-U2-G1	150W
2-100W-4K	10786	96	100	112	700	B2-U2-G2	200W
2-120W-4K	12995	96	120	135	700	B2-U2-G2	250W
2-140W-4K	14944	95	140	158	700	B2-U2-G2	250W

Type 3

LED CODE	LUMEN OUTPUT	EFFICACY (LM/W)	WATTAGE LED	WATTAGE SYSTEM ²	LED CURRENT (mA)	BUG RATING	HID EQUIVALENCY ³
3-20W-4K	2304	105	20	22	350	B1-U1-G1	50W
3-40W-4K	4225	94	40	45	700	B1-U2-G1	70W
3-60W-4K	6401	96	60	67	700	B1-U2-G1	100W
3-80W-4K	8449	94	80	90	700	B2-U2-G2	150W
3-100W-4K	10626	95	100	112	700	B2-U2-G2	200W
3-120W-4K	12802	95	120	135	700	B2-U2-G2	250W
3-140W-4K	14722	93	140	158	700	B2-U2-G2	250W

Type 3M

LED CODE	LUMEN OUTPUT	EFFICACY (LM/W)	WATTAGE LED	WATTAGE SYSTEM ²	LED CURRENT (mA)	BUG RATING	HID EQUIVALENCY ³
3M-20W-4K	2053	93	20	22	350	B1-U1-G1	50W
3M-40W-4K	3764	84	40	45	700	B1-U1-G2	70W
3M-60W-4K	5702	85	60	67	700	B1-U1-G2	100W
3M-80W-4K	7527	84	80	90	700	B1-U2-G2	150W
3M-100W-4K	9466	85	100	112	700	B2-U2-G3	200W
3M-120W-4K	11405	84	120	135	700	B2-U2-G3	250W
3M-140W-4K	13115	83	140	158	700	B2-U2-G3	250W

¹IES-TM-21 Calculated L70 is over 363 000 hours.

IES-TM-21 Reported more than 54 000 hours.

²System wattage includes the LED and the Driver.

³Equivalency should always be verified by photometric layout.

*4000K used for testing, 3000K photometrics is available on website.

Note: Due to rapid and continuous advances in LED technology, LED luminaire data is subject to change without notice and at the discretion of Cyclone Lighting. Cyclone Lighting reserves the right to substitute materials or change the manufacturing process of its products without prior notification. See the latest results and updates on our website at www.cyclonelight.com

Photometry

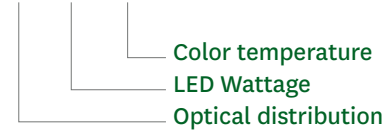
CM019T4A / CM019T4B / CM019T4C



SOURCE: LED 4000K ± 150K, 70 CRI minimum¹
 WATERPROOF RATING: IP67 optical system
 MAINTENANCE: Tool free utility series fitter
 Dark Sky friendly optical system
 Data based on luminaire using FGC (Flat glass clear)

LED code definition:

2 - 20W - 4K



Type 4

LED CODE	LUMEN OUTPUT	EFFICACY (LM/W)	WATTAGE LED	WATTAGE SYSTEM ²	LED CURRENT (mA)	BUG RATING	HID EQUIVALENCY ³
4-20W-4K	2317	105	20	22	350	B1-U1-G1	50W
4-40W-4K	4247	94	40	45	700	B1-U2-G1	70W
4-60W-4K	6435	96	60	67	700	B1-U2-G2	100W
4-80W-4K	8494	94	80	90	700	B1-U2-G2	150W
4-100W-4K	10682	95	100	112	700	B2-U2-G2	200W
4-120W-4K	12870	95	120	135	700	B2-U2-G2	250W
4-140W-4K	14801	94	140	158	700	B2-U2-G3	250W

Type 5

LED CODE	LUMEN OUTPUT	EFFICACY (LM/W)	WATTAGE LED	WATTAGE SYSTEM ²	LED CURRENT (mA)	BUG RATING	HID EQUIVALENCY ³
5-20W-4K	2412	110	20	22	350	B1-U1-G1	50W
5-40W-4K	4421	98	40	45	700	B2-U2-G1	70W
5-60W-4K	6699	100	60	67	700	B3-U2-G1	100W
5-80W-4K	8842	98	80	90	700	B3-U2-G1	150W
5-100W-4K	11120	99	100	112	700	B3-U2-G2	200W
5-120W-4K	13398	99	120	135	700	B4-U2-G2	250W
5-140W-4K	15407	98	140	158	700	B4-U2-G2	250W

¹IES-TM-21 Calculated L70 is over 363 000 hours.

IES-TM-21 Reported more than 54 000 hours.

²System wattage includes the LED and the Driver.

³Equivalency should always be verified by photometric layout.

*4000K used for testing, 3000K photometrics is available on website.

Note: Due to rapid and continuous advances in LED technology, LED luminaire data is subject to change without notice and at the discretion of Cyclone Lighting. Cyclone Lighting reserves the right to substitute materials or change the manufacturing process of its products without prior notification. See the latest results and updates on our website at www.cyclonelight.com