

Mercmaster™ LED Low Profile Luminaires

Standard or with Emergency Battery Backup
Enclosed and Gasketed Fixtures — Hazardous Locations

NEC/CEC: Class I, Division 2, Groups A,B,C,D | Class I, Zone 2, AEx ec IIC | Zone 21, AEx tb IIC | Class I, Zone 2 Ex ec II | Class II, Division 1, Groups E,F,G | Zone 20, Group IIIC | Class II, Division 2, Groups F,G | Class III | Type 3R, 4, 4X | IP66/IP67 | Simultaneous Exposure | Suitable for Use in Wet Locations | Marine Outside Type (Salt Water) ⌘
ATEX: Zone 2 and 21-22 | II 2 D | II 3 GD | IP66 | IK08
IECEX: Zone 2 and 21-22 | Ex ec IIC | Ex op is tb IIC | Ex tc IIC | IP66 | IK08
Notable: American Bureau of Shipping (ABS) Certified | International Dark Sky (IDA) Approved (Standard Model Only)

Applications

- Enclosed and gasketed fixtures suitable for use in:
 - A wide range of industrial, chemical processing and other areas where flammable gases, vapors and combustible dusts are present including simultaneous exposure
 - Marine and wet locations
 - Areas of low clearance, low ceiling heights or where fixture weights must be minimized
- Typical applications include:
 - Walkways/catwalks
 - Stairwells
 - Grain elevators
 - Tunnels
 - Pipe racks
 - Offshore rigs
 - Vessel lighting
 - Cooling towers
 - Processing areas
 - Hydrogen and Biofuels plants
 - LNG (Liquid Natural Gas) plants



MLLED with Clear Globe



MLLED with Prismatic Refractor

Features

- All Models:
 - Compact light weight low profile design is suited for low mounting heights.
 - Three light output levels provide up to 5500 lumens.
- | Standard Mode | HID Equivalent | Model |
|------------------|----------------|--------|
| Nominal Lumens ① | | |
| 3300 | 70-100W | MLLED2 |
| 4400 | 100-150W | MLLED3 |
| 5500 | 150-175W | MLLED4 |
- Choice of color temperature (CCT): 5000K cool white (70 CRI min), 4000K neutral white (80 CRI min), or 3000K warm white (80 CRI min).
 - Seven standard mounting hood designs allow for mounting in any location. Uses same mounting hoods as Mercmaster™ III HID, Mercmaster™ Premium LED and Mercmaster™ Generation 3.
 - Retrofit adapters for Crouse Hinds™ ⋄, Mercmaster™ II HID, and Killark™ ⋄ available. See Mercmaster™ Adapters.
 - Watertight Pendant Hood available to address water ingress into luminaire via conduit.
 - Hinge has high lip for added safety during installation and servicing. Hinge and bolt construction assures 360° compression at all points on fixture housing gasket for positive sealing. Swing away design of captive bolt and nut simplifies servicing.
 - Rugged housing with superior thermal design translates to long luminaire life.
 - Standard 6 kV/3 kA surge protection.
 - Spring-loaded screw-type terminal block can accept 0.14 - 6 mm² (26 - 10 AWG) wire.
 - Heavy duty, high temperature silicone gaskets.
 - Standard NPT threads.
 - Reported L70 is >108,000 hours.
 - Photometric data and electronic drawings available upon request.
 - 5 year standard warranty.

- Standard Model:
 - Customize to the application requirements with four different field replaceable globe options: clear and diffused polycarbonate, clear glass, or prismatic glass refractor.
 - BU and BH Ambient Temperature: -40 °C to +65 °C (-40 °F to +149 °F).
 - Field replaceable globes and LED driver.
- Emergency Battery Backup Model:
 - Provides up to 1450 lumens of illumination for 90 minutes or 800 lumens of illumination for 180 minutes of emergency lighting with clear lens.
 - Functional diagnostic test self-initiates every 14 days after initial start up.
 - Duration test is automatically performed once per year.
 - Green and Red LED lamps indicate charging status and provide fault warning.
 - Simple quick disconnect connector disconnects power between LEDs and battery management module to allow for easy maintenance in hazardous locations.
 - Customize to the application requirements with three different field replaceable globe options: clear and diffused polycarbonate, or clear glass.
 - Ambient Temperature: BU: -20 °C to +55 °C (-4 °F to +131 °F).
 - Field replaceable globes, battery management module (BMM), battery pack and LED driver.

Options

- All Models:
 - Globe guard available, *purchase separately*.
 - Safety cable available, *purchase separately*.
- Standard Model:
 - Refractor guard available, *purchase separately*.
 - All Mercmaster™ luminaires have provision for fusing; add suffix -F at the end of the catalog number.
 - Photocontrols are available and are configured to your operating voltage. Add suffix -1 for 120V, -2 for 208V, -3 for 240V, -4 for 277V.
 - Colored Glass globes available, *purchase separately*: Amber (VPGLGLASSAM), Blue (VPGLGLASSBL), Red (VPGLGLASSRE), Green (VPGLGLASSGR).

① Nominal lumen value for 5000K, clear glass globe Type V Wide. Detailed lumen information is provided in the "Lumen Output (Efficacy)" tables.

⋄ Killark is a registered trademark of Hubbell Incorporated.

⊕ Crouse-Hinds is a registered trademarks of Cooper Crouse-Hinds.

⌘ Use of fuse voids Marine Outside Type (Salt Water) rating.

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Notable: American Bureau of Shipping (ABS) Certified | International Dark Sky (IDA) Approved (Standard Model Only)

Standard Materials

- Mounting hoods and housing: cast copperfree (4/10 of 1% max.) aluminum
- Gaskets: silicone rubber
- All hardware and catch assemblies: stainless steel
- Globe: polycarbonate or glass
- Refractor: heat-resistant prismatic glass
- Globe guard, short refractor guard and safety cable: stainless steel wire
- Reflector: fiberglass reinforced white polyester

Standard Finishes

- Mounting hoods, driver housing and glass refractor guard: gray epoxy powder coat finish, electrostatically applied for complete uniform protection

NEC/CEC Certifications and Compliances

- All Models:
 - UL Standard: UL 50E; UL 844; UL 1598; UL 1598A; UL 8750
 - CSA Standard: C22.2 No 0-10; C22.2 No. 94.2-15; C22.2 No. E60598-1:16; C22.2 No. 250.0-08; C22.2 No. 250.13-14
 - ANSI/IEC Standard: 60529
- Standard Model:
 - CSA Standard: C22.2 No. 137-M1981;
 - cCSAus Listed: 164460, Certificate Number: 70134063
- Emergency Battery Backup Model:
 - UL Standard: UL 924
 - CSA Standard: C22.2 No. 137-18
 - cCSAus: 164460, Certificate Number: 70182641

ATEX/IECEX Certifications and Compliances

- Standard Model:
 - Certification Type: Mercmaster™ Low Profile
 - Gas: Zones 2
 - Conforming to ATEX 2014/34/EU: II 3 G
 - Type of Protection: Ex ec IIC T* Gc
 - Temperature Class: T5 to T4
 - Dust: Zones 21 and 22
 - Conforming to ATEX 2014/34/EU: II 2 D
 - Type of Protection: Ex op is tb IIIC T**C Db, Ex tc IIIC T**C Dc
 - Surface Temperature: +66 °C to +88 °C (+151 °F to +190 °F)
 - Ambient Temperature: -40 °C up to +65 °C (-40 °F up to +149 °F)
 - ATEX Certificates:
 - Zone 21: Sira 17ATEX9365X
 - Zone 2, 22: Sira 17ATEX3366X
 - IECEx Certificate: IECEx SIR 17.0085X
 - Index of Protection according EN/IEC 60529: IP66
 - Impact Resistance (shock): IK08
 - Photobiological Safety, IEC 62778 and IEC 62471

ABS Certifications

- Standard Model: 18-HS1714308-PDA
- Emergency Battery Backup Model: 22-2207901-PDA

International Dark-Sky Association

- Standard Model:
 - IDA Dark-Sky Approved when ordering [I]MLLED[A/B/C/D/R/W] xxW[P/D/G]5Bxxx with MMVISOR accessory

DesignLights™ Consortium

- Check DLC QPL for current list of products.

Related Products

- Mercmaster LED Generation 3 Series Luminaires
- Industrial Mercmaster LED Low Profile Luminaires
- Industrial Mercmaster LED Generation 3 Series Luminaires

Mercmaster™ LED Low Profile Luminares

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Illustrated Features — All Models



Driver Housing Assembly: Utilizing non-sparking components avoiding the ignition of gases or vapors that may be present.



Latch Assembly and Hinge: Captive, stainless steel latch assembly (bolt and nut) closes securely while providing resistance to corrosive atmospheres. Swing-away design simplifies wiring and installation. Extra high hinge provides additional protection against accidental driver housing disengagement during installation or maintenance.



Watertight Pendant Hood: Provides protection against water ingress in the conduit utilizing an IP68 cord grip with 3 wire holes 4 mm (0.157") in diameter.



Safety Cable: Safety cable is slipped around the housing through retention points that are casted in. Safety cable has built in loops combined with a locking carabiner to allow for a quick and secure installation.

Heatsink: Reliable heat transfer via the cast, epoxy powder coat aluminum housing. Provides maximum heat dissipation from the LED assembly to the outside environment.

Electrical Protection: Ground wire provided to bond mounting hood to fixture housing. External Grounding provision for additional safety.

Mounting Hood and Globe Gaskets: Silicone rubber gaskets seal out moisture, dirt and dust. Stays flexible, withstands extreme temperatures. Closure design assures uniform gasket compression.

Terminal Blocks: A seven-point terminal block is provided to facilitate wiring. Terminal block accommodates wire size ranging from 0.14 - 6 mm² (26 - 10 AWG) wire.

Epoxy Finish: Fixture housing, mounting hoods and guards are copperfree aluminum with epoxy powder coat finish.

Illustrated Features — Standard Model



Fuses (optional): Fuses factory installed in luminaire housing.



Photocell (optional): Factory Installed in the Mounting Hood. Available for all fixtures except cone and ceiling mount. Provides continuous ON-OFF dusk-to-dawn control.



Prismatic Refractors: Heat-resistant refractor threads directly into fixture housing and seal against a high-temperature silicone rubber gasket.

Illustrated Features — Emergency Battery Backup Model



Quick Disconnect: Simple quick disconnect connector disconnects power between LEDs and battery management module to allow for easy maintenance.

⚠ Use of fuse voids Marine Outside Type (Salt Water) rating.

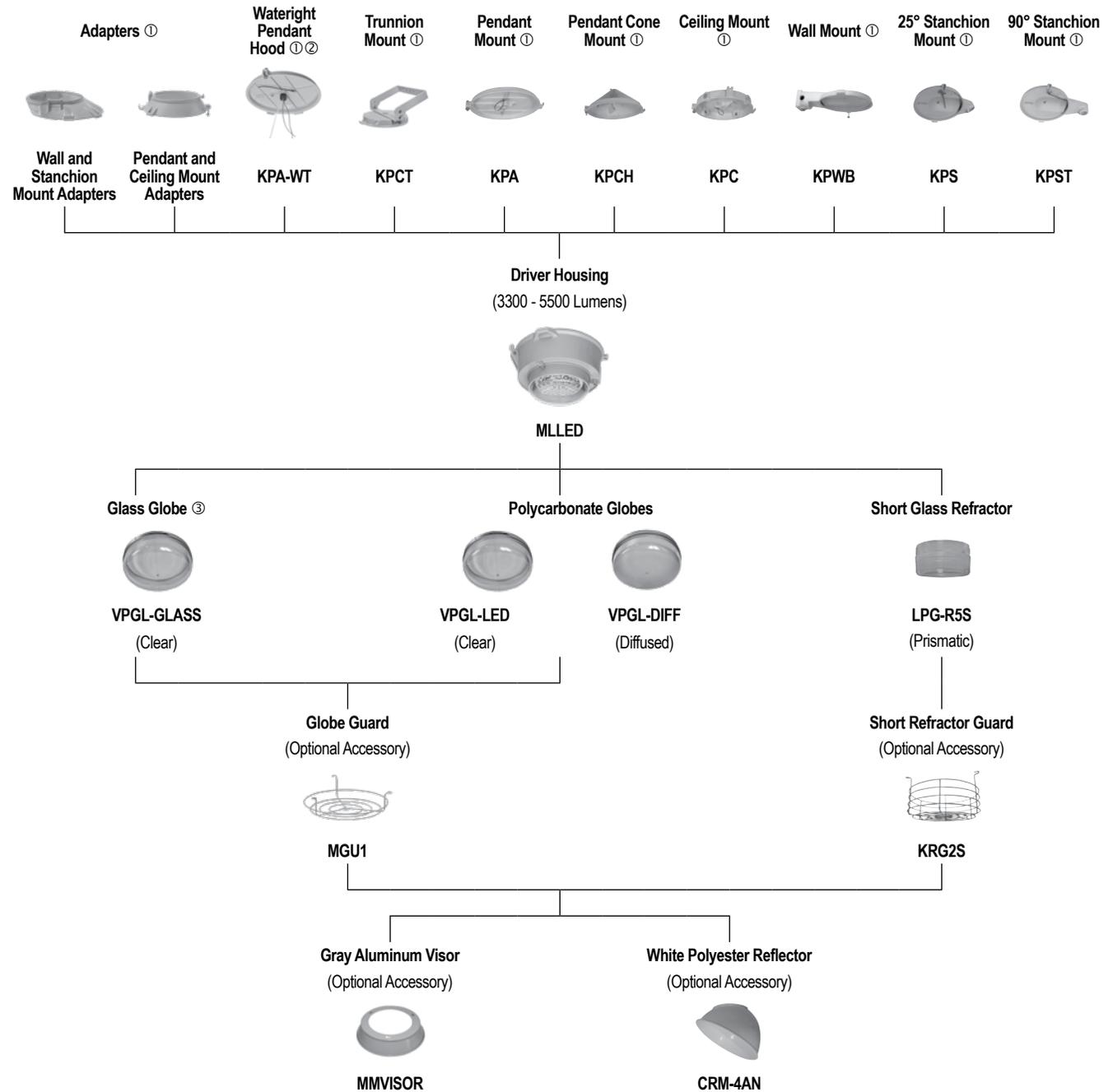
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 Notable: American Bureau of Shipping (ABS) Certified | International Dark Sky (IDA) Approved (Standard Model Only)

Family Tree — Mercmaster™ LED Low Profile Series Luminaires — Standard Model



① See Mounting Hood Adapters table for part numbers.

② Certified for cCSAus only.

③ Colored glass globes can be ordered separately, see Accessories and Replacement Parts table for more details.

⚠ Use of fuse voids Marine Outside Type (Salt Water) rating.

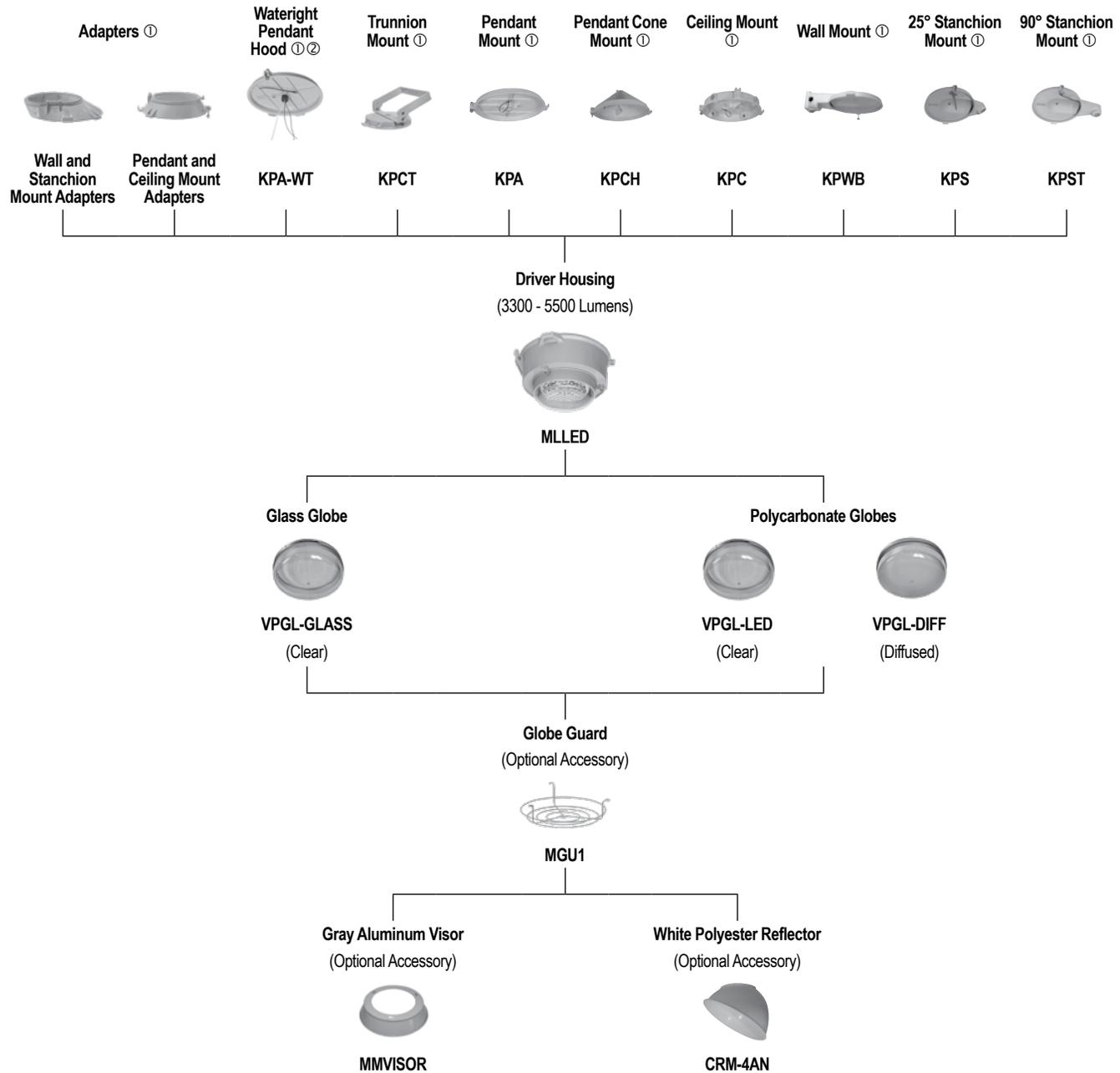
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Family Tree — Mercmaster™ LED Low Profile Series Luminaires — Emergency Battery Backup Model



① See Mounting Hood Adapters table for part numbers.

② Certified for cCSAus only.

⚠ Use of fuse voids Marine Outside Type (Salt Water) rating.

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Order Using Catalog Numbering Guide — Mercmaster™ LED Low Profile Series Luminaires — Standard Model.

<p>MLLED</p> <p>Series Prefix: MLLED - NEC/CEC and IECEx/ ATEX Certified Mercmaster LED Low Profile Series</p>	<p>A</p> <p>Mounting:</p> <p>A - Pendant B - Watertight Pendant ▲ C - Ceiling Ⓢ D - Pendant Cone ▲ Ⓢ R - 90° Stanchion ① S - 25° Stanchion ① T - Trunnion K - Killark™ ✦ Adapter Universal ▲ U - Mercmaster II Adapter, Ceiling or Pendant ▲ Ⓢ V - Mercmaster II Adapter, Stanchion or Wall ▲ Ⓢ W - Wall X - Crouse Hinds™ ✦ Adapter, Ceiling or Pendant ▲ Y - Crouse Hinds™ ✦ Adapter, Stanchion or Wall ▲ Blank - No mounting hood</p>	<p>4</p> <p>Lumen (nominal): ②</p> <p>2 - 3,300 3 - 4,400 4 - 5,500</p>	<p>2</p> <p>Hub Size: ⑦</p> <p>2 - 3/4" NPT 3 - 1" NPT 4 - 1-1/4" NPT stanchion 5 - 1-1/2" NPT stanchion 6 - Metric M20 Blank - No hub if using adapter or ordering driver housing only (no mounting hood)</p>	<p>C</p> <p>Color Temperature:</p> <p>C - Cool, 5000K N - Neutral, 4000K W - Warm, 3000K</p>	<p>P</p> <p>Globe Material: ③</p> <p>P - Clear Polycarbonate Globe D - Diffused Polycarbonate Globe G - Clear Glass Globe J - Glass Prismatic Refractor</p>	<p>5</p> <p>Light Distribution Pattern: 5 - Type V</p>	<p>BU</p> <p>Voltage:</p> <p>BU - 120-277 Vac, 50/60 Hz; 125-300 Vdc BH - 347-480 Vac, 50/60 Hz ▲</p>	<p>E</p> <p>Options: ④</p> <p>F - Fusing Blank - No fusing</p>	<p>1</p> <p>Options:</p> <p>1 - Photocontrol 120V Ⓢ 2 - Photocontrol 208V Ⓢ 3 - Photocontrol 240V Ⓢ 4 - Photocontrol 277V Ⓢ Blank - No Options Chosen</p>
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① 3/4" NPT, 1" NPT and Metric M20 hub entries are not offered in this mounting option.
 ② For lumen output information, see Lumen Output (Efficacy) Table.
 ③ Guards for the refractor and globes are ordered separately. See the Accessories for more information.
 ④ Fusing only permitted for cCSAus rating. Factory installed. Use of fuse voids Marine Outside Type (Salt Water) rating. Fusing is mounted in the driver housing. For retrofit applications, fusing must be removed from the mounting hood and ordered in the luminaire.
 ⑤ Luminaires with photocontrol are not rated IP66/67, Marine Outside Type (Salt Water), or Class II and voids the NEMA ratings on the fixture but remains suitable for use in wet locations. Photocontrol available for 120-277 Vac only.
 ⑥ Ceiling and pendant cone hood mounted luminaires are not designed to use the PCD2 photocontrol. Ceiling mounts can be used with a FS/FD box with a photocontrol. Contact your local sales representative for more information.
 ⑦ Hub size does not apply to luminaires ordered with adapters.
 ▲ Adapters, watertight pendant hood and BH Voltage only certified for cCSAus. Not available for use with photocontrol.
 ✦ Killark is a registered trademark of Hubbell Incorporated.
 ✦ Crouse-Hinds is a registered trademarks of Cooper Crouse-Hinds.
 ⌘ Use of fuse voids Marine Outside Type (Salt Water) rating.

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Order Using Catalog Numbering Guide — Mercmaster™ LED Low Profile Series Luminaires — Emergency Battery Backup Model

<p>MLLED</p> <p>Series Prefix: MLLED - NEC/ CEC Certified Mercmaster LED Low Profile Series</p>	<p>A</p> <p>Mounting:</p> <p>A - Pendant B - Watertight Pendant ▲ C - Ceiling D - Pendant Cone ▲ R - 90° Stanchion ① S - 25° Stanchion ① T - Trunnion K - Killark™ ✦ Adapter Universal ▲ U - Mercmaster II Adapter, Ceiling or Pendant ▲④ V - Mercmaster II Adapter, Stanchion or Wall ▲④ W - Wall X - Crouse Hinds™ ✦ Adapter, Ceiling or Pendant ▲ Y - Crouse Hinds™ ✦ Adapter, Stanchion or Wall ▲ Blank - No mounting hood</p>	<p>4</p> <p>Lumen (nominal): ② 2 - 3,300 3 - 4,400 4 - 5,500</p>	<p>2</p> <p>Hub Size: ④ 2 - 3/4" NPT 3 - 1" NPT 4 - 1-1/4" NPT stanchion 5 - 1-1/2" NPT stanchion 6 - Metric M20 Blank - No hub if using adapter or ordering driver housing only (no mounting hood)</p>	<p>C</p> <p>Color Temperature: C - Cool, 5000K N - Neutral, 4000K W - Warm, 3000K</p>	<p>P</p> <p>Globe Material: ③ P - Clear Polycarbonate Globe D - Diffused Polycarbonate Globe G - Clear Glass Globe</p>	<p>5</p> <p>Light Distribution Pattern: 5 - Type V</p>	<p>BU</p> <p>Voltage: BU - 120-277 Vac, 50/60 Hz</p>	<p>H</p> <p>Emergency: H - 90 Minutes E - 180 Minutes</p>
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① 3/4" NPT, 1" NPT and Metric M20 hub entries are not offered in this mounting option.

② For lumen output information, see Lumen Output (Efficacy) Table.

③ Guard for the globe must be ordered separately. See the Accessories for more information.

④ Hub size does not apply to luminaires ordered with adapters.

▲ Adapters and watertight pendant hood only certified for cCSAus.

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Lumen Output (Efficacy) — Standard Model ①

Model	HID Equivalency	Light Distribution Pattern	CCT (Correlated Color Temperature)	CRI (Color Rendering Index)	Lumen Output	Efficacy (lm/W)	CCT	CRI	Lumen Output	Efficacy (lm/W)	CCT	CRI	Lumen Output	Efficacy (lm/W)
Clear Polycarbonate Globe														
MLLED2	70-100W	Type V	3000K	70	3000	107	4000K	70	3000	107	5000K	70	3200	114
MLLED3	100-150W	Type V	3000K	70	3900	103	4000K	70	4000	105	5000K	70	4200	111
MLLED4	150-175W	Type V	3000K	70	4900	102	4000K	70	5000	104	5000K	70	5300	110
Diffused Polycarbonate Globe														
MLLED2	70-100W	Type V	3000K	70	2900	104	4000K	70	2900	104	5000K	70	3100	111
MLLED3	100-150W	Type V	3000K	70	3800	100	4000K	70	3900	103	5000K	70	4100	108
MLLED4	150-175W	Type V	3000K	70	4800	100	4000K	70	4900	102	5000K	70	5150	107
Clear Glass Globe														
MLLED2	70-100W	Type V	3000K	70	3100	111	4000K	70	3100	111	5000K	70	3300	118
MLLED3	100-150W	Type V	3000K	70	4100	108	4000K	70	4200	111	5000K	70	4400	116
MLLED4	150-175W	Type V	3000K	70	5100	106	4000K	70	5200	108	5000K	70	5500	115
Glass Prismatic Refractor														
MLLED2	70-100W	Type V	3000K	70	2800	100	4000K	70	2800	100	5000K	70	3000	107
MLLED3	100-150W	Type V	3000K	70	3700	97	4000K	70	3800	100	5000K	70	4000	105
MLLED4	150-175W	Type V	3000K	70	4600	96	4000K	70	4650	97	5000K	70	4900	102

① All lumen values are typical (tolerance +/- 10%).

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LED Luminaires | Area / Task | Hazardous Location | NEC / CEC / ATEX / IECEx

Lumen Output (Efficacy) — Emergency Battery Backup Model ①②

Model	HID Equivalency	Light Distribution Pattern	CCT (Correlated Color Temperature)	CRI (Color Rendering Index)	Lumen Output	Efficacy (lm/W)	CCT	CRI	Lumen Output	Efficacy (lm/W)	CCT	CRI	Lumen Output	Efficacy (lm/W)
Clear Polycarbonate Globe — Standard Mode														
MLLED2	70-100W	Type V	3000K	70	3000	91	4000K	70	3200	97	5000K	70	3200	97
MLLED3	100-150W	Type V	3000K	70	3900	98	4000K	70	4200	105	5000K	70	4200	105
MLLED4	150-175W	Type V	3000K	70	4900	100	4000K	70	5000	102	5000K	70	5300	108
Clear Polycarbonate Globe — 90 Minute Emergency Mode														
MLLED2	70-100W	Type V	3000K	70	1150	N/A	4000K	70	1270	N/A	5000K	70	1400	N/A
MLLED3	100-150W	Type V	3000K	70	1150	N/A	4000K	70	1270	N/A	5000K	70	1400	N/A
MLLED4	150-175W	Type V	3000K	70	1150	N/A	4000K	70	1270	N/A	5000K	70	1400	N/A
Diffused Polycarbonate Globe — Standard Mode														
MLLED2	70-100W	Type V	3000K	70	2900	88	4000K	70	3100	94	5000K	70	3100	94
MLLED3	100-150W	Type V	3000K	70	3800	95	4000K	70	3900	98	5000K	70	4100	103
MLLED4	150-175W	Type V	3000K	70	4800	98	4000K	70	4900	100	5000K	70	5150	105
Diffused Polycarbonate Globe — 90 Minute Emergency Mode														
MLLED2	70-100W	Type V	3000K	70	1100	N/A	4000K	70	1200	N/A	5000K	70	1350	N/A
MLLED3	100-150W	Type V	3000K	70	1100	N/A	4000K	70	1200	N/A	5000K	70	1350	N/A
MLLED4	150-175W	Type V	3000K	70	1100	N/A	4000K	70	1200	N/A	5000K	70	1350	N/A
Clear Glass Globe — Standard Mode														
MLLED2	70-100W	Type V	3000K	70	3100	94	4000K	70	3100	94	5000K	70	3300	100
MLLED3	100-150W	Type V	3000K	70	4100	103	4000K	70	4200	105	5000K	70	4400	110
MLLED4	150-175W	Type V	3000K	70	5000	102	4000K	70	5200	106	5000K	70	5500	112
Clear Glass Globe — 90 Minute Emergency Mode														
MLLED2	70-100W	Type V	3000K	70	1200	N/A	4000K	70	1330	N/A	5000K	70	1450	N/A
MLLED3	100-150W	Type V	3000K	70	1200	N/A	4000K	70	1330	N/A	5000K	70	1450	N/A
MLLED4	150-175W	Type V	3000K	70	1200	N/A	4000K	70	1330	N/A	5000K	70	1450	N/A

① All lumen values are typical (tolerance +/-10%). For Lumen Output (Efficacy) of the emergency battery backup model in 180 minute emergency mode, contact your local sales representative.

② 70 minimum.

⌘ Use of fuse voids Marine Outside Type (Salt Water) rating.

Mercmaster™ LED Low Profile Luminaires

Standard

Enclosed and Gasketed Fixtures — Hazardous Locations

NEC/CEC: Class I, Division 2, Groups A,B,C,D | Class I, Zone 2, AEx ec IIC | Zone 21, AEx tb IIIC | Class I, Zone 2 Ex ec II | Class II, Division 1, Groups E,F,G | Zone 20, Group IIIC | Class II, Division 2, Groups F,G | Class III | Type 3R, 4, 4X | IP66/IP67 | Simultaneous Exposure | Suitable for Use in Wet Locations | Marine Outside Type (Salt Water) ⌘
 ATEX: Zone 2 and 21-22 | Ⓢ II 2 D | Ⓢ II 3 GD | IP66 | IK08
 IECEx: Zone 2 and 21-22 | Ex ec IIC | Ex op is tb IIIC | Ex tc IIIC | IP66 | IK08
 Notable: American Bureau of Shipping (ABS) Certified | International Dark Sky (IDA) Approved (Standard Model Only)

Electrical Specifications — Standard Model ①

Model	Voltage	Input Power (Watts)	Input Current (Amps)	Power Factor (PF)	Total Harmonic Distortion (THD)
MLLED2	120 Vac	28	.28	>0.9	< 20%
	277 Vac	28	.13		
	170 Vdc	27	.16	N/A	N/A
	300 Vdc	27	.09		
	347 Vac	30	.10	>0.9	< 20%
	480 Vac	30	.06		
MLLED3	120 Vac	38	.38	>0.9	< 20%
	277 Vac	38	.16		
	170 Vdc	37	.22	N/A	N/A
	300 Vdc	39	.13		
	347 Vac	40	.13	>0.9	< 20%
	480 Vac	40	.08		
MLLED4	120 Vac	48	.48	>0.9	< 20%
	277 Vac	48	.20		
	170 Vdc	49	.29	N/A	N/A
	300 Vdc	48	.16		
	347 Vac	51	.16	>0.9	< 20%
	480 Vac	50	.10		

① All values are typical (tolerance +/-10%).

⌘ Use of fuse voids Marine Outside Type (Salt Water) rating.

Mercmaster™ LED Low Profile Luminaires

With Emergency Battery Backup

Enclosed and Gasketed Fixtures — Hazardous Locations

NEC/CEC: Class I, Division 2, Groups A,B,C,D | Class I, Zone 2, AEx ec IIC | Zone 21, AEx tb IIC | Class I, Zone 2 Ex ec II | Class II, Division 1, Groups E,F,G | Zone 20, Group IIIC | Class II, Division 2, Groups F,G | Class III | Type 3R, 4, 4X | IP66/IP67 | Simultaneous Exposure | Suitable for Use in Wet Locations | Marine Outside Type (Salt Water) ⌘
 Note: American Bureau of Shipping (ABS) Certified

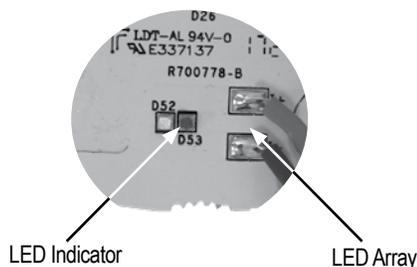
Electrical Specifications — Emergency Model ①

Model	Voltage	Input Power (Watts)	Input Current (Amps)	Power Factor (PF)	Total Harmonic Distortion (THD)
MLLED2	120 Vac	33	.27	>0.9	< 15%
	277 Vac		.13		
MLLED3	120 Vac	40	.33	>0.9	
	277 Vac		.16		
MLLED4	120 Vac	49	.42	>0.9	
	277 Vac		.20		

Automatic Testing System (ATS) — Emergency Battery Backup Model — Functionality

Functional	Full Duration
Starts within 24 to 45 hours after the initial powerup of the module	Starts within 5 to 26 days after the initial power of the module
Occurs every 14 days after the initial aforementioned functional test	Occurs every 364 days after the initial aforementioned functional test
Lasts for 30 seconds	Lasts for the full duration of the rated emergency period

At the completion of functional and full duration tests, LED indicator will display the status of the emergency luminaire when AC is present



LED Signals

Indicator Color	Timing	Description
Green	1 sec ON: 1 sec OFF	Normal charging ok, Battery not yet fully charged, No fault detected, Testing ok
Green	0.25 sec ON: 0.25 sec OFF	Functional / Duration Self-Test on-going
Green	Steady ON	Charging ok, Battery fully charged, No fault detected, Testing ok
Red	1 sec ON: 1 sec OFF	Fault condition. Installation issue. Battery is reverse, not connected or shorted. Functional test failure, full duration test failure
LED Indicators OFF, LED Array ON	LED Indicator Lights (Red and Green) OFF	No AC, Emergency mode ON

① All values are typical (tolerance +/-10%).

⌘ Use of fuse voids Marine Outside Type (Salt Water) rating.

Mercmaster™ LED Low Profile Luminaires

Standard

Enclosed and Gasketed Fixtures — Hazardous Locations

NEC/CEC: Class I, Division 2, Groups A,B,C,D | Class I, Zone 2, AEx ec IIC | Zone 21, AEx tb IIIC | Class I, Zone 2 Ex ec II | Class II, Division 1, Groups E,F,G | Zone 20, Group IIIC | Class II, Division 2, Groups F,G | Class III | Type 3R, 4, 4X | IP66/IP67 | Simultaneous Exposure | Suitable for Use in Wet Locations | Marine Outside Type (Salt Water) ¾
ATEX: Zone 2 and 21-22 | II 2 D | II 3 GD | IP66 | IK08
IECEX: Zone 2 and 21-22 | Ex ec IIC | Ex op is tb IIIC | Ex tc IIIC | IP66 | IK08
Notable: American Bureau of Shipping (ABS) Certified | International Dark Sky (IDA) Approved (Standard Model Only)

NEC/CEC Temperature Codes — Standard Model ①

Model	Ambient Temperature °C (°F)	Supply wire Temperature °C (°F)	Class I, Division 2 Groups A, B, C, D	Class I, Zone 2 Group IIC	Class II, Division 1 Groups E, F, G	Zone 21, Group IIIC	Class I, Division 2 and Class II, Division 1
MLLED2	40 (104)	90 (194)	T5	T5	T6	T6	T5
	55 (131)	90 (194)	T5	T5	T6	T6	T5
	65 (149)	90 (194)	T4A	T4	T6	T6	T4A
MLLED3	40 (104)	90 (194)	T4A	T4	T6	T6	T4A
	55 (131)	90 (194)	T4A	T4	T6	T6	T4A
	65 (149)	90 (194)	T4A	T4	T5	T5	T4A
MLLED4	40 (104)	90 (194)	T4A	T4	T6	T6	T4A
	55 (131)	90 (194)	T4	T4	T6	T5	T4
	65 (149)	90 (194)	T4	T4	T5	T5	T4

ATEX/IECEX Temperature Codes — Standard Model ①

Model	Gas — T Rating			Dust — Surface Temperature		
	Ta= +40 °C (+104 °F)	Ta= +55 °C (+131 °F)	Ta= +65 °C (+149 °F)	Ta= +40 °C (+104 °F)	Ta= +55 °C (+131 °F)	Ta= +65 °C (+149 °F)
MLLED2	T5	T5	T4	T66°C	T79°C	T88°C
MLLED3	T4	T4	T4	T66°C	T79°C	T88°C
MLLED4	T4	T4	T4	T66°C	T79°C	T88°C

NEC/CEC — “T” Numbers Represent the Maximum Internal Temperature or Maximum Surface Temperature ②③

“T” #	T1	350	325	T2	T2A	T2B	T2C	T2D	T3	T3A	T3B	T3C	T4	T4A	T5	T6
Temp. Range °C (°F)	+351 to +450 (+664 to +842)	+326 to +350 (+619 to +662)	+301 to +325 (+574 to +617)	+281 to +300 (+538 to +572)	+261 to +280 (+502 to +536)	+231 to +260 (+448 to +500)	+216 to +230 (+421 to +446)	+201 to +215 (+394 to +419)	+181 to +200 (+358 to +392)	+166 to +180 (+331 to +356)	+161 to +165 (+322 to +329)	+136 to +160 (+277 to +320)	+121 to +135 (+250 to +275)	+101 to +120 (+214 to +248)	+86 to +100 (+187 to +212)	+85 (+185)

ATEX/IECEX — “T” Numbers Represent the Maximum Internal Temperature or Maximum Surface Temperature

“T” #	T1	T2	T3	T4	T5	T6
Temp. Range °C (°F)	+301 to +450 (+547 to +842)	+201 to +300 (+394 to +572)	+136 to +200 (+277 to +392)	+101 to +135 (+214 to +275)	+86 to +100 (+187 to +212)	+85 (+185)

① Ambient Temperature Range: -40 °C to +65 °C (-40 °F to +149 °F).

② T numbers represent the maximum internal temperature for Class I, Division 2 and Class I, Zone 2 locations designated by the NEC.

③ T numbers represent the maximum surface temperature under a dust blanket for Class II, Division 1 and Class I, Zone 2 as designated by the NEC or Zone 2 (Gas) and 22 (Dust) locations as designated by the IEC.

Mercmaster™ LED Low Profile Luminaires

With Emergency Battery Backup

Enclosed and Gasketed Fixtures — Hazardous Locations

NEC/CEC: Class I, Division 2, Groups A,B,C,D | Class I, Zone 2, AEx ec IIC | Zone 21, AEx tb IIIC | Class I, Zone 2 Ex ec II | Class II, Division 1, Groups E,F,G | Zone 20, Group IIIC | Class II, Division 2, Groups F,G | Class III | Type 3R, 4, 4X | IP66/IP67 | Simultaneous Exposure | Suitable for Use in Wet Locations | Marine Outside Type (Salt Water) ¾
 Notable: American Bureau of Shipping (ABS) Certified

LED Luminaires | Area / Task | Hazardous Location | NEC / CEC / ATEX / IECEx

NEC/CEC Temperature Codes — Emergency Battery Backup Model ①

Model	Ambient Temperature °C (°F)	Supply wire Temperature °C (°F)	Class I, Division 2 Groups A, B, C, D	Class I, Zone 2 Group IIC	Class II, Division 1 Groups E, F, G	Zone 21, Group IIIC	Class I, Division 2 and Class II, Division 1
MLLED2	40 (104)	90 (194)	T5	T5	T6	T6	T4A
	55 (131)	90 (194)	T5	T5	T6	T6	T4A
MLLED3	40 (104)	90 (194)	T5	T5	T6	T6	T5
	55 (131)	90 (194)	T5	T5	T6	T6	T5
MLLED4	40 (104)	90 (194)	T4A	T4	T6	T6	T4A
	55 (131)	90 (194)	T4A	T4	T6	T6	T4A

NEC/CEC — “T” Numbers Represent the Maximum Internal Temperature or Maximum Surface Temperature ① ②

“T” #	T1	350	325	T2	T2A	T2B	T2C	T2D	T3	T3A	T3B	T3C	T4	T4A	T5	T6
Temp. Range °C (°F)	+351 to +450 (+664 to +842)	+326 to +350 (+619 to +662)	+301 to +325 (+574 to +617)	+281 to +300 (+538 to +572)	+261 to +280 (+502 to +536)	+231 to +260 (+448 to +500)	+216 to +230 (+421 to +446)	+201 to +215 (+394 to +419)	+181 to +200 (+358 to +392)	+166 to +180 (+331 to +356)	+161 to +165 (+322 to +329)	+136 to +160 (+277 to +320)	+121 to +135 (+250 to +275)	+101 to +120 (+214 to +248)	+86 to +100 (+187 to +212)	+85 (+185)

① Ambient Temperature Range: -20 °C to +65 °C (-4 °F to +149 °F).

② T numbers represent the maximum internal temperature for Class I, Division 2 and Class I, Zone 2 locations designated by the NEC.

③ T numbers represent the maximum surface temperature under a dust blanket for Class II, Division 1 and Class I, Zone 2 as designated by the NEC or Zone 2 (Gas) and 22 (Dust) locations as designated by the IEC.

Mercmaster™ LED Low Profile Luminaires

Standard or with Emergency Battery Backup
 Enclosed and Gasketed Fixtures — Hazardous Locations

NEC/CEC: Class I, Division 2, Groups A,B,C,D | Class I, Zone 2, AEx ec IIC | Zone 21, AEx tb IIC | Class I, Zone 2 Ex ec II | Class II, Division 1, Groups E,F,G | Zone 20, Group IIIC | Class II, Division 2, Groups F,G | Class III | Type 3R, 4, 4X | IP66/IP67 | Simultaneous Exposure | Suitable for Use in Wet Locations | Marine Outside Type (Salt Water) ⚠
 ATEX: Zone 2 and 21-22 | II 2 D | II 3 GD | IP66 | IK08
 IECEx: Zone 2 and 21-22 | Ex ec IIC | Ex op is tb IIIC | Ex tc IIIC | IP66 | IK08
 Notable: American Bureau of Shipping (ABS) Certified | International Dark Sky (IDA) Approved (Standard Model Only)

Fixture Unit — Driver Housing and Globe or Refractor

						Catalog Number			
	Lumen Level	LED Wattage	HID Light Level Equivalent	NEMA Type	Voltage	Polycarbonate Globe	Polycarbonate Diffused Globe	Clear Glass Globe	Glass Prismatic Refractor
Driver Housing — Standard Model									
	3000K	28	70-100W	Type V	120-277 Vac	MLLED2WP5BU	MLLED2WD5BU	MLLED2WG5BU	MLLED2WJ5BU
	4000K	38	100-150W	Type V	120-277 Vac	MLLED3NP5BU	MLLED3ND5BU	MLLED3NG5BU	MLLED3NJ5BU
	5000K	48	150-175W	Type V	120-277 Vac	MLLED4CP5BU	MLLED4CD5BU	MLLED4CG5BU	MLLED4CJ5BU
	3000K	28	70-100W	Type V	347-480 Vac	MLLED2WP5BH	MLLED2WD5BH	MLLED2WG5BH	MLLED2WJ5BH
	4000K	38	100-150W	Type V	347-480 Vac	MLLED3NP5BH	MLLED3ND5BH	MLLED3NG5BH	MLLED3NJ5BH
	5000K	48	150-175W	Type V	347-480 Vac	MLLED4CP5BH	MLLED4CD5BH	MLLED4CG5BH	MLLED4CJ5BH
Driver Housing — Emergency Battery Backup Model — 90 Minute									
	3000K	28	70-100W	Type V	120-277 Vac	MLLED2WP5BUH	MLLED2WD5BUH	MLLED2WG5BUH	—
	4000K	38	100-150W	Type V	120-277 Vac	MLLED3NP5BUH	MLLED3ND5BUH	MLLED3NG5BUH	—
	5000K	48	150-175W	Type V	120-277 Vac	MLLED4CP5BUH	MLLED4CD5BUH	MLLED4CG5BUH	—
Driver Housing — Emergency Battery Backup Model — 180 Minute									
	3000K	28	70-100W	Type V	120-277 Vac	MLLED2WP5BUE	MLLED2WD5BUE	MLLED2WG5BUE	—
	4000K	38	100-150W	Type V	120-277 Vac	MLLED3NP5BUE	MLLED3ND5BUE	MLLED3NG5BUE	—
	5000K	48	150-175W	Type V	120-277 Vac	MLLED4CP5BUE	MLLED4CD5BUE	MLLED4CG5BUE	—

Mounting Hoods — All Models

Hub Size	Weight in kg (lbs)	Catalog Number	Hub Size	Weight in kg (lbs)	Catalog Number		
Pendant — One Hub, Rigid Mounting			Ceiling — Five Hubs, Four Close-Up Plugs				
		3/4" NPT	KPA-75		3/4	KPC-75	
		1" NPT	KPA-100		1	1.4 (3.0)	KPC-100
		M20	KPA-M20		M20		KPC-M20
Pendant Cone — One Hub, Rigid Mounting			Wall — Five Hubs, Four Close-Up Plugs				
		3/4" NPT	KPCH-75		3/4	KPWB-75	
		1" NPT	KPCH-100		1	1.8 (4.0)	KPWB-100
		M20	KPCH-M20		M20		KPWB-M20
Watertight Pendant Hood — One Hub, Rigid Mounting			25° Stanchion — One Hub				
		3/4" NPT	KPA-75-WT		1-1/4" NPT	KPS-125	
		1" NPT	KPA-100-WT		1-1/2" NPT	1.5 (3.3)	KPS-150
		M20	KPA-WT-M20				
Trunnion — Five Hubs, Four Close-Up Plugs			90° Stanchion — One Hub				
		3/4" NPT	KPCT-75		1-1/4" NPT	KPST-125	
		1" NPT	KPCT-100		1-1/2" NPT	1.7 (3.8)	KPST-150
		M20	KPCT-M20				

⚠ Use of fuse voids Marine Outside Type (Salt Water) rating.

Mercmaster™ LED Low Profile Luminaires

Standard or with Emergency Battery Backup
Enclosed and Gasketed Fixtures — Hazardous Locations

NEC/CEC: Class I, Division 2, Groups A,B,C,D | Class I, Zone 2, AEx ec IIC | Zone 21, AEx tb IIIC | Class I, Zone 2 Ex ec II | Class II, Division 1, Groups E,F,G | Zone 20, Group IIIC | Class II, Division 2, Groups F,G | Class III | Type 3R, 4, 4X | IP66/IP67 | Simultaneous Exposure | Suitable for Use in Wet Locations | Marine Outside Type (Salt Water) ⚠
ATEX: Zone 2 and 21-22 | II 2 D | II 3 GD | IP66 | IK08
IECEX: Zone 2 and 21-22 | Ex ec IIC | Ex op is tb IIIC | Ex tc IIIC | IP66 | IK08
Notable: American Bureau of Shipping (ABS) Certified | International Dark Sky (IDA) Approved (Standard Model Only)

Accessories and Replacement Parts — All Models

	Description	Weight in kg (lbs)	Catalog Number
Globes			
	Clear Globe — Polycarbonate	0.2 (0.5)	VPGL-LED
	Diffused Globe — Polycarbonate	0.2 (0.5)	VPGL-DIFF
	Clear Globe — Glass	0.8 (1.7)	VPGL-GLASS
Guard			
	Globe Guard — Stainless Steel	0.2 (0.4)	MGU1
Safety Cable			
	Safety Cable — Stainless Steel	0.2 (0.4)	LEDSC
Visor			
	Electrostatically applied gray epoxy powder coat finish on Aluminum Visor	0.4 (0.9)	MMVISOR
Reflector			
	30° Angle White Polyester Reflectors	1.3 (2.7)	CMR-4AN

Mounting Hood Adapters — All Models ①

	Manufacturer	Installed Mounting Hood	Weight in kg (lbs)	Appleton Adapter Catalog Number
	Crouse-Hinds™ Champ® †	Pendant: APM2/3 Ceiling: CM2/3 Flexible Pendant: HPM2	0.9 (2.00)	MMADCHVS
	Appleton™ Mercmaster™ II	Pendant: LPA75/100 Ceiling: LPC75/100	0.9 (2.00)	MMADIIS
	Crouse-Hinds™ Champ® †	Wall: TWM2/3 25° Angle Stanchion: JM5 90° Angle Stanchion: PM5	0.9 (2.00)	MMADCHVA
	Appleton™ Mercmaster™ II	Wall: LPWB75, LPWB100 25° Angle Stanchion: LPS125, LPS150	0.9 (2.00)	MMADIIA
	Killark™ ‡	Ceiling: VMX2B, VMX3B, VMX6B, VMX7B, VMX9B Pendant: VMA2B, VMA3B Stanchion: VMD4B, VMD5B, VMS4B, VMS5B Wall: VMB2B, VMB3B Pendant Cone: VMC2B, VMC3B	1.0 (2.3)	MMADKVA

① Adapters are cCSAus rated only.

‡ Killark is a registered trademark of Hubbell Incorporated.

† Crouse-Hinds and Champ are a registered trademarks of Cooper Crouse-Hinds.

⚠ Use of fuse voids Marine Outside Type (Salt Water) rating.