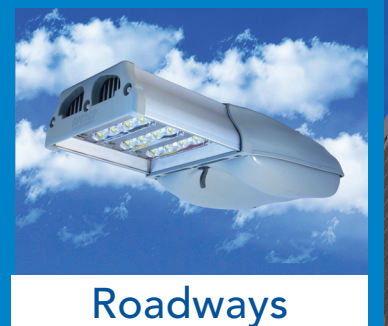


Utility Lighting Products Product Guide

HOWARDTM
LIGHTING PRODUCTS



Visit us online at Howard-Lighting.com or call us at 800.956.3456.

UTILITY LIGHTING PRODUCTS

From lighting the way on residential streets and rural roadways, to improving security and enhancing the overall appearance of industrial and commercial buildings, you can depend on Howard for quality area lighting products. Our easy-mount lighting fixtures are designed and constructed to withstand even the harshest environments, making them suitable for many applications.



lighting for life

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We make ordering easy!

1

Order Direct

Contact the authorized representative that you have purchased from in the past.

2

Order by phone

You can also contact us at 800.956.3456 to discuss your needs and how to place an order.

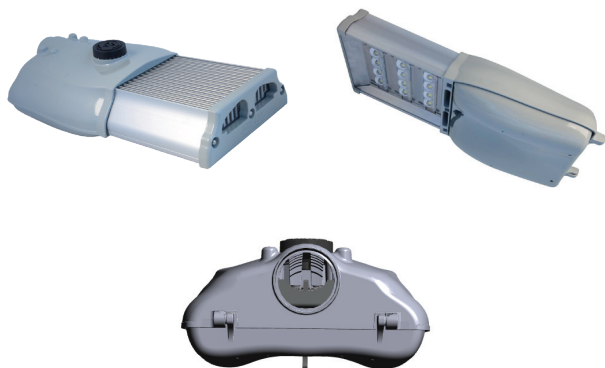
3

Order by fax

Or if you prefer, you can reach us by fax at 601.422.1652.

URL SERIES - LED ROADWAY LIGHTING

(4 LED / 8 LED / 12 LED / 16 LED)



Features:

- Domestically Designed; Assembled in USA
- L_{70} : >60,000 hours (reported)
- L_{70} : 129,000 hours (calculated)
- Up to 68% energy savings
- Heavy Duty Aluminum Die-Cast Housing
- 70 CRI (4000K or 5000K CCT)
- Standard Gray Housing Color
- Operating Temperature: -20°C to 50°C
- Other color options: Black, Bronze, Silver, White, or Unpainted
- Options include:
 - Two Bolt Fitter Clamp
 - Long-Life Photocontrol
 - Dimming Photocontrol
 - Fuse
 - Power Door
 - House Side Lighting Control

Applications:

- Streets and highways
- Parking lots
- Campuses
- Government and public facilities
- Mixed-use developments
- Residential communities
- Retail centers

Effective Projected Area (EPA):

URL04 = 0.65

URL08 = 0.71

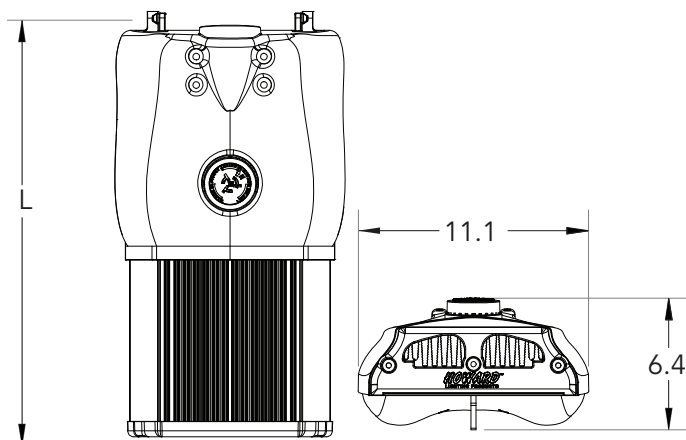
URL12 = 0.76

URL16 = 0.88

Number of LEDs	4	8	12	16
Watts @ 1050mA	55	106	158	208
Watts @ 700mA	35	70	103	135
Dimensions (L) (in.)	16.6	18.6	20.6	24.6

Standard Package Includes:

- *Shorting Cap*
- *Bubble Level*
- *Bird Guard*
- *Extra Surge Protection*
- *Door Safety Tether*



• Specifications are subject to change without notice.

URL SERIES - LED ROADWAY LIGHTING

(4 LED / 8 LED / 12 LED / 16 LED)

Model Family	# LEDs	Optics	Drive Current	CCT	Voltage	Housing Color	PEC Function	Options*
URL	12	3M	70	40	U	GY	L	00000
URL LED Utility Roadway	04 08 12 16	2S: Type II Short 3M: Type III Med.	35: 350mA 53: 525mA 70: 700mA 10: 1050mA	40: 4000K 50: 5000K	U: 120-277v	GY: Gray (Stand) BK: Black BZ: Bronze SL: Silver UP: Unpainted WH: White	L: Long Life Photocell P: Standard Photocell D: Motion Sensing Dimming N: No Controls S: Shorting Cap	00000: No Options A: 2-Bolt Fitter Clamp B: Bubble Level F: Fuse G: Bird Guard P: Power Door V: Extra Surge Protection

* Consult Factory for ordering option configuration.

Sample Ordering Number:
URL 12 3M 70 40 U GY L 00000
 LED Utility Roadway
 12 LEDs
 3M Optics
 700mA
 4000K (70 CRI)
 120-277v
 Gray Housing
 Long Life Photocell
 No Options

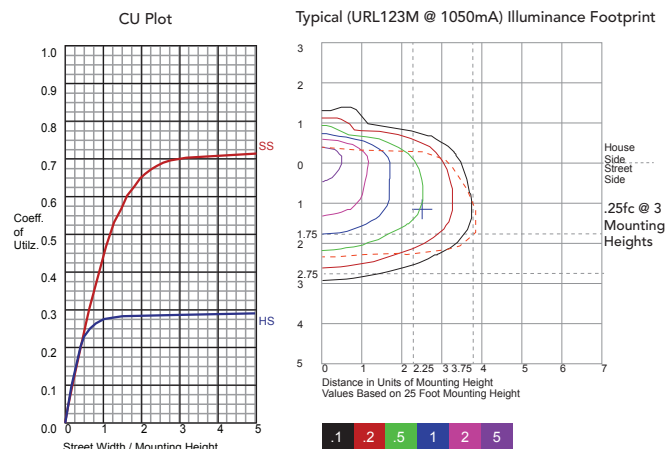
URL Type 3 Medium Product Family at 700mA									
Model		URL043M		URL083M		URL123M		URL163M	
LED Count (Philips Luxeon M)		4		8		12		16	
Input	Voltage (VAC) _{in}	120	277	120	277	120	277	120	277
	Current (A) _{in}	0.31	0.14	0.60	0.26	0.96	0.41	1.28	0.56
	Watts (W) _{in}	35		70		103		135	
	Power Factor	0.95		0.96		0.90		0.90	
	THD	<20%		<20%		<20%		<20%	
Output	Forward Voltage of LED Array	45		90		134		179	
	LED Drive Current mA ¹	700		700		700		700	
	Watts (W) _{out}	31		63		94		125	
	Electrical Efficiency	0.88		0.91		0.91		0.91	
	Luminaire Lumens	3391		6601		9864		13777	
	BUG Rating	B1-U0-G1		B2-U0-G1		B3-U1-G2		B3-U1-G2	
	Luminous Efficacy ($\eta = \text{lm}_{\text{out}} / \text{W}_{\text{in}}$)	97		95		96		102	
	IES Files Available	Yes		Yes		Yes		Yes	
	# Drivers	1		2		1		1	
	# Engines	1		2		3		4	
	Dimensions [WxHxL(inches)]	11.1 x 6.4 x 16.6		11.1 x 6.4 x 18.6		11.1 x 6.4 x 20.6		11.1 x 6.4 x 24.6	
	Weight (lb)	14.4		16		17.6		20.8	

URLxx3M Product Family	
Light Distribution	3M (Type III Medium)
Cutoff Rating	Cutoff
Coeff. of Util.(CU)	71.1% Streetside/28.9% Houseside
CCT	4000K; other colors available (specify)
CRI	≥70 ≥80 available (specify)
Mounting	2 or 4 bolt adjustable @ 1-1/4", 1-1/2", and 2" NPS
Leveling	Integral orthogonal bubbles
Surge Protection	To 10kV
Vibration Rating	To 3G

Driver Code (constant current)	D1E	D2E	D3E
Min. Driver Power Factor (pf)	0.95	0.96	0.90
Min. Driver Efficiency (η_{drv})	0.88	0.91	0.91
THD (Total Harmonic Dist, %)	≤20%	≤20%	≤20%

URL Type 3 Medium Product Family at 1050mA									
Model		URL043M		URL083M		URL123M		URL163M	
LED Count (Philips Luxeon M)		4		8		12		16	
Input	Voltage (VAC) _{in}	120	277	120	277	120	277	120	277
	Current (A) _{in}	0.48	0.21	0.92	0.40	1.46	0.63	1.96	0.85
	Watts (W) _{in}	55		106		158		208	
	Power Factor	0.95		0.96		0.90		0.90	
	THD	<20%		<20%		<20%		<20%	
Output	Forward Voltage of LED Array	46		91		137		182	
	LED Drive Current mA ¹	1050		1050		1050		1050	
	Watts (W) _{out}	48		96		144		192	
	Electrical Efficiency	0.88		0.91		0.91		0.91	
	Luminaire Lumens	4447		8468		12234		16492	
	BUG Rating	B1-U1-G1		B2-U1-G2		B3-U1-G2		B3-U1-G2	
	Luminous Efficacy ($\eta = \text{lm}_{\text{out}} / \text{W}_{\text{in}}$)	81		80		78		79	
	IES Files Available	Yes		Yes		Yes		Yes	
	# Drivers	1		2		1		2	
	# Engines	1		2		3		4	
	Dimensions [WxHxL(inches)]	11.1 x 6.4 x 16.6		11.1 x 6.4 x 18.6		11.1 x 6.4 x 20.6		11.1 x 6.4 x 24.6	
	Weight (lb)	14.4		16		17.6		20.8	

¹ Drive current is customizable allowing for varying light output and power consumption per your needs.



• Specifications are subject to change without notice.

USC3 SERIES - HID ROADWAY LIGHTING

(50 - 250W HPS / 50 - 250W PSMH)



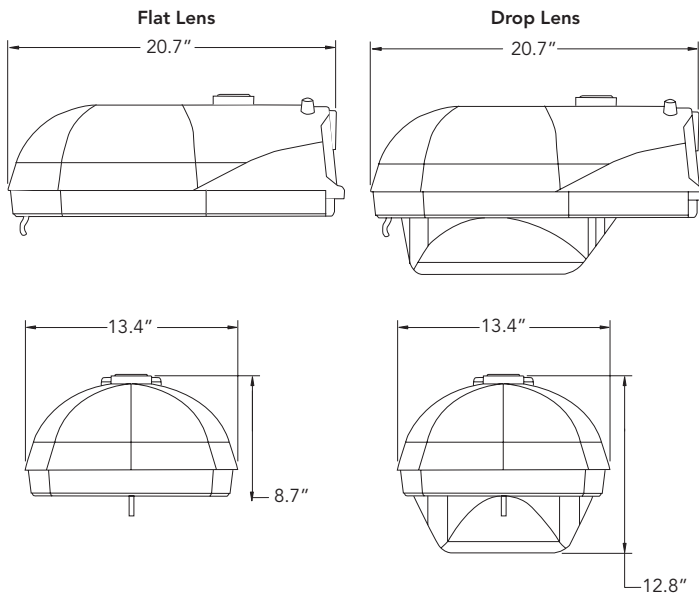
USC3 series is designed for 2 in. fitter to allow 1-1/4" to 2" mast arm without the use of an adaptor.

Applications:

Provides excellent roadway lighting for local roads, residential streets, parking areas, rural roads, and intersections.

Features

- Meets ANSI requirements for Side Mounted-Horizontal Lamp Luminaires, including ANSI C136.2, C136.3, C136.10, C136.14, C136.15, and C136.17.
- Rugged die-cast aluminum housing - is thermally set polyester powder coated for durability with 3 mils nominal paint thickness and corrosion resistant rated 500 hours salt spray endurance.
- Two-bolt mast arm mount provides easy, secure installation and adjustability for arms from 1-1/4" to 2" (1-5/8" to 2-3/8" O.D.) diameter.
- Wildlife shield is standard
- +6°/-3° of leveling adjustment
- Lens Replacement without tools
- Low copper aluminum for use in coastal areas
- Available in IESNA Type II and III light distribution patterns and Full Cutoff version
- Available with acrylic, polycarbonate, or glass refractors
- Available with photocontrol and lamp
- Tested to withstand 3G vibration



Standard Package Includes

- ASA70 Gray Powdercoat Paint Finish
- Tool-less Adjustable Photocontrol Receptacle
- Heavy Duty Terminal Block
- Open Board Ignitor (if required)
- Wildlife Shield

Effective Projected Area (EPA)

with Drop Lens - 1.1 ft² max

with Flat Lens - 0.8 ft² max

HPS: suitable for -40°C to 40°C

MH/PSMH: suitable for -30°C to 40°C

16 AWG 200°C rated internal wiring

Toolless latch door closure standard

USC3 SERIES - HID ROADWAY LIGHTING

(50 - 250W HPS / 50 - 250W PSMH)

Model Family	Lens Option	Lamp Wattage	Lamp Type	Ballast/Input Volts	Options**	Options/ Packaging
USC3	G	05	S	RN02	000	I
	G3: Drop Glass / Type III A3: Drop Acrylic / Type III P2: Drop Polycarb / Type II P3: Drop Polycarb / Type III F3: Flat Glass / Type III	05: 50W 07: 70W 10: 100W 15: 150W 20: 200W 25: 250W	S: High Pressure Sodium M: Metal Halide P: Pulse Start MH D: Dual Arc Tube HPS	0000: Ballast not included RN02: Reactor-normal power factor-120v RH02: Reactor-high power factor-120v RN08: Reactor-normal power factor-277v RH08: Reactor-high power factor-277v XNM1: HX ballast-normal PF-MultiTap (wired 120v) XNM2: HX ballast-normal PF-MultiTap (wired 208v) XNM3: HX ballast-normal PF-MultiTap (wired 240v) XNM4: HX ballast-normal PF-MultiTap (wired 277v) XHM1: HX ballast-high PF-MultiTap (wired 120v) XHM2: HX ballast-high PF-MultiTap (wired 208v) XHM3: HX ballast-high PF-MultiTap (wired 240v) XHM4: HX ballast-high PF-MultiTap (wired 277v) CWM1: CWA ballast-high PF-MultiTap (wired 120v) CWM2: CWA ballast-high PF-MultiTap (wired 208v) CWM3: CWA ballast-high PF-MultiTap (wired 240v) CWM4: CWA ballast-high PF-MultiTap (wired 277v)	000: No special option required V: Surge protection L: Special lamp requirement Z: Special paint request <u>Starter/ignitor options***</u> N: None included E: Encapsulated plug-in starter T: Starter Stopper™ Accessory <u>Photocontrol options</u> S: Shortening cap P: Photoelectric control included****	I: Single X: Special

Note: specifications subject to change

*Consult factory for availability

**Consult factory for option codes for combinations of accessories

***Open style plug-in starter included as standard option

****P-control suitable for specified input voltage only

Ballast Availability

Ballast/Input Volts	50	70	100	150	150/100V	200	250
RN02 HPS Reactor-normal power factor-120v	Y ²	Y	Y	Y			
RH02 HPS Reactor-high power factor-120v	Y ²	Y	Y	Y			
RN08 MH Reactor-normal power factor-277v	Y ²	Y ²	Y ²	Y ²			
RH08 MH Reactor-high power factor-277v	Y ²	Y ²	Y ²	Y ²			
XNM1 HPS HX ballast-normal PF-MultiTap (wired 120v)	Y ²	Y ²	Y ²	Y	Y ¹		
XNM2 HPS HX ballast-normal PF-MultiTap (wired 208v)	Y ²	Y ²	Y ²	Y	Y ¹		
XNM3 HPS HX ballast-normal PF-MultiTap (wired 240v)	Y ²	Y ²	Y ²	Y	Y ¹		
XNM4 HPS HX ballast-normal PF-MultiTap (wired 277v)	Y ²	Y ²	Y ²	Y	Y ¹		
XNM1 MH HX ballast-normal PF-MultiTap (wired 120v)	Y ²	Y ²	Y	Y			
XNM2 MH HX ballast-normal PF-MultiTap (wired 208v)		Y ²	Y	Y			
XNM3 MH HX ballast-normal PF-MultiTap (wired 240v)		Y ²	Y	Y			
XNM4 MH HX ballast-normal PF-MultiTap (wired 277v)	Y ²	Y ²	Y	Y			
XHM1 HPS HX ballast-high PF-MultiTap (wired 120v)	Y ²	Y ²	Y ²	Y	Y ¹		
XHM2 HPS HX ballast-high PF-MultiTap (wired 208v)	Y ²	Y ²	Y ²	Y	Y ¹		
XHM3 HPS HX ballast-high PF-MultiTap (wired 240v)	Y ²	Y ²	Y ²	Y	Y ¹		
XHM1 MH HX ballast-high PF-MultiTap (wired 120v)	Y ²	Y ²	Y	Y			
XHM2 MH HX ballast-high PF-MultiTap (wired 208v)		Y ²	Y	Y			
XHM3 MH HX ballast-high PF-MultiTap (wired 240v)		Y ²	Y	Y			
XHM4 MH HX ballast-high PF-MultiTap (wired 277v)		Y ²	Y	Y			
CWM1 HPS CWA ballast-high PF-MultiTap (wired 120v)						Y	Y
CWM2 HPS CWA ballast-high PF-MultiTap (wired 208v)						Y	Y
CWM3 HPS CWA ballast-high PF-MultiTap (wired 240v)						Y	Y
CWM4 HPS CWA ballast-high PF-MultiTap (wired 277v)						Y	Y
CWM1 PSMH CWA ballast-high PF-MultiTap (wired 120v)							Y
CWM2 PSMH CWA ballast-high PF-MultiTap (wired 208v)							Y
CWM3 PSMH CWA ballast-high PF-MultiTap (wired 240v)							Y
CWM4 PSMH CWA ballast-high PF-MultiTap (wired 277v)							Y

Y	Available
Y ¹	For S56 150W 100V HPS Lamp
Y ²	Not a stock item - consult Customer Service for leadtime
	Not planned for release

*CWM1-CWM4 MH CWA (250W M58) is available as "Export Only"

Sample Ordering Number: USC3 G 2 15 S RN02 000 I 000

Reserved for factory use

• Specifications are subject to change without notice.

ULF SERIES - LED LARGE FLOODLIGHT

(98W - 40 LEDs; 196W - 80 LEDs)



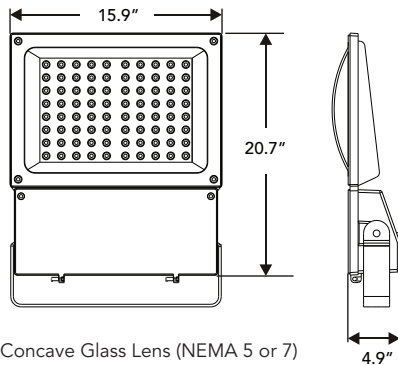
ULF is a powerful energy conserving floodlight. Relamping once every 12-15 years, instead of every 6 months makes this an attractive fixture for new construction and retrofit lighting upgrades. Perfect for hard to service locations. Rugged die cast design ensures LED's operate at optimum temperature for long life. Sealed to the environment for long reliable service life.

Features

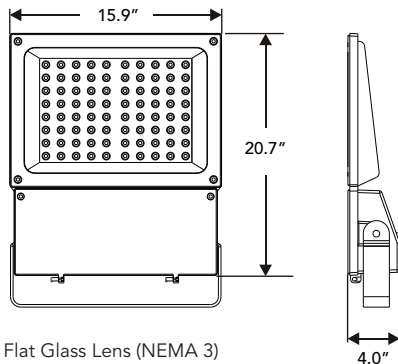
- Die-cast housing
- Bronze UV resistant powder coat finish
- UL listed/CUL listed
- Highest quality long life LEDs
- Low Tj for long life, low lumen depreciation
- LED power: 40 LEDs - 98 watts
80 LEDs - 196 watts
- Rated Life: 50,000 hours
- Lumens per watt- approx. 50
- Low starting temp -30°
- Color temperature - 4700K
- IC current controlled LED circuits
- Current: 700 mA
- 3 year warranty

Applications

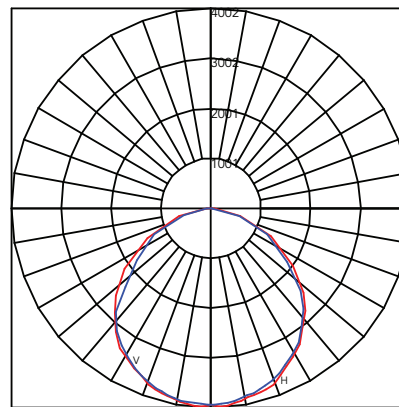
- Outdoor lighting
- Parking lots
- Street lights
- Billboards
- Area lights
- Hotels
- Parks
- Warehouses
- Entry-ways



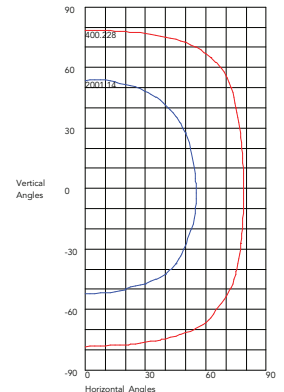
Concave Glass Lens (NEMA 5 or 7)



Flat Glass Lens (NEMA 3)



Maximum Candela = 4002.28 Located At Horizontal Angle=3, Vertical Angle =-5
H - Horizontal Axial Candela (Blue Line)
V - Vertical Axial Candela (Red Line)



Maximum Candela = 4002.28 Located At Horizontal Angle=3, Vertical Angle =-5
50% Maximum Candela = 2001.14
10% Maximum Candela = 400.228

• Specifications are subject to change without notice.

ULF SERIES - LED LARGE FLOODLIGHT

(98W - 40 LEDs / 196W - 80 LEDs)

Model Family	Mounting	Lens	Distribution	CCT	LED Power	Input Volts	Options	Paint Option	Packaging
ULF	W	F	3	47	80LED	MV	00	B	I
ULF	W: Wrap Around Yoke M: Mini Yoke S: Slip Fitter	F: Flat Glass	3: NEMA3	47: 4700K	40LED: 98W/40LEDs 80LED: 196W/80LEDs	MV: 120-277v	00: No Options	B: Bronze G: Grey ¹	I: Individual X: Special
		C: Concave Glass	5: NEMA5 7: NEMA7						

(1) Bronze is standard color. Grey is available, but may result in longer lead time.

Sample Model Ordering Number:

ULF W F 3 47 80LED MV 00 B I
Utility Large Floodlight
With Wrap Around Yoke
Flat Glass and NEMA 3 optics
80 LEDs - 196 watts
Multi-volt
No Options
Bronze Housing
Individual Packaging



Allen Head Screws
1/4" x 20T x 1/2" SUS



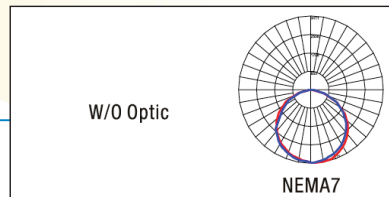
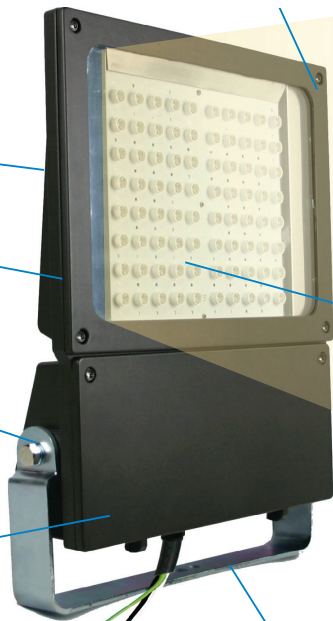
An Integrated Cooling Fin
efficiently releases heat in order
to maintain the long life of the
LEDs and LED Driver.

Die-cast
aluminum
frame



Protractor for exact
angle measure

Heavy Duty
Die-cast
Aluminum housing



Large Wrap Around U-bracket
Adjustable aiming over 180° arc

Other Mounting Options



Driver, power cord, 4ft.



Specially designed hinged cover
for easy installation access



Mini Yoke Mount
Adjustable aiming over 180° arc



Slip Fitter
Join adjust over 180° arc

• Specifications are subject to change without notice.

UCF SERIES - HID COMPACT FLOODLIGHT

(35 - 400W HPS / 100 - 250W PSMH / 175 - 400W MH)



Applications

Provides excellent area lighting for commercial retail areas, parking, recreation areas, industrial security, building facades, or signage.

Features

- Meets ANSI requirements for Flood Luminaires, including ANSI C136.2, C136.3, C136.10, C136.15, and C136.32. Die-cast aluminum housing with multiple mounting options
- IP-66 rating is standard
- Low copper aluminum for use in coastal areas
- Available in IESNA Type 7x6 and 5x3 distribution patterns
- Available with photocontrol and lamp
- Available with glare and vandal shields

Standard Package Includes

- Gray Paint Finish
- Photocontrol Receptacle
- Terminal Block
- Open Board Ignitor (if required)
- Latch and 3' SO Cord

Effective Projected Area (EPA)

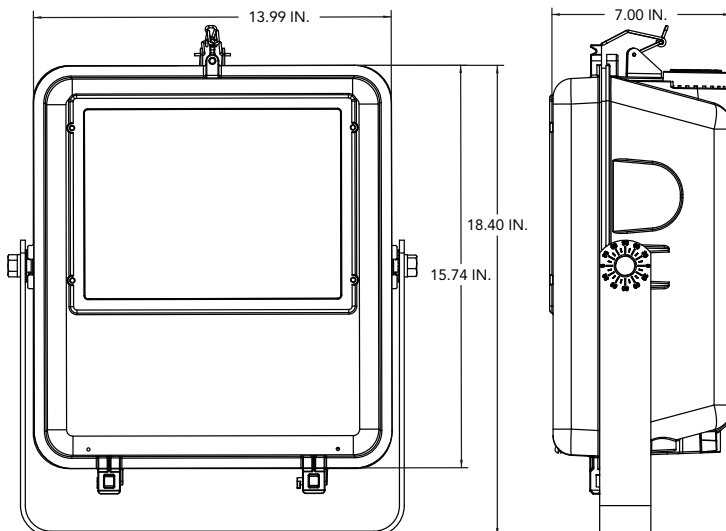
1.5 ft² max

HPS: suitable for -40°C to 40°C

MH/PSMH: suitable for -30°C to 40°C

16 AWG 200°C rated internal wiring

Toolless latch door closure standard



• Specifications are subject to change without notice.

UCF SERIES - HID COMPACT FLOODLIGHT

(35 - 400W HPS / 100 - 250W PSMH / 175 - 400W MH)

Model Family	Mounting Options	Reflector	Lamp Wattage	Lamp Type	Ballast/Input Volts	Options**	Paint Options	Options/ Packaging
UCF	W	H	05	S	RN02	000	G	I
	W: Wrap-Around Yoke M: Mini Yoke T: Swivel Tenon O: No bracket	H: 7x7 Horiz. Lamp N: 5x3 Horiz. Lamp*	03: 35W 05: 50W 07: 70W 10: 100W 15: 150W 17: 175W 20: 200W 25: 250W 31: 310W 40: 400W	S: High Pressure Sodium M: Metal Halide P: Pulse Start MH	0000: Ballast not included RN02: Reactor-normal power factor-120v RH02: Reactor-high power factor-120v RH08: Reactor-normal power factor-277v RH08: Reactor-high power factor-277v XNM1: HX ballast-normal PF-MultiTap (wired 120v) XNM2: HX ballast-normal PF-MultiTap (wired 208v) XNM3: HX ballast-normal PF-MultiTap (wired 240v) XNM4: HX ballast-normal PF-MultiTap (wired 277v) XHM1: HX ballast-high PF-MultiTap (wired 120v) XHM2: HX ballast-high PF-MultiTap (wired 208v) XHM3: HX ballast-high PF-MultiTap (wired 240v) XHM4: HX ballast-high PF-MultiTap (wired 277v) CWM1: CWA ballast-high PF-MultiTap (wired 120v) CWM2: CWA ballast-high PF-MultiTap (wired 208v) CWM3: CWA ballast-high PF-MultiTap (wired 240v) CWM4: CWA ballast-high PF-MultiTap (wired 277v) CI#: CWI ballast	000: No special option required L: Special lamp requirement C: Special power cord (3-ft. cord standard) F: Fuse options V: Surge protection D: Screw door closure Starter/ignitor options*** N: None included E: Encapsulated plug-in starter Photocontrol options S: Shortening cap P: Photoelectric control included****	G: Grey B: Bronze	I: Single X: Special

Note: specifications subject to change

*Consult factory for availability

**Consult factory for option codes for combinations of accessories

***Open style plug-in starter included as standard option

****P-control suitable for specified input voltage only

Ballast Availability

Ballast/Input Volts	50	70	100	150	150/100V	200	250	310	400
RN02 Reactor-normal power factor-120v	Y	Y	Y	Y					
RH02 Reactor-high power factor-120v	Y	Y	Y	Y					
RN08 MH Reactor-normal power factor-277v	Y ²	Y ²	Y ²	Y ²					
RH08 MH Reactor-high power factor-277v	Y ²	Y ²	Y ²	Y ²					
XNM1 HPS HX ballast-normal PF-MultiTap (wired 120v)	Y ²	Y ²	Y	Y	Y ¹				
XNM2 HPS HX ballast-normal PF-MultiTap (wired 208v)	Y ²	Y ²	Y	Y	Y ¹				
XNM3 HPS HX ballast-normal PF-MultiTap (wired 240v)	Y ²	Y ²	Y	Y	Y ¹				
XNM4 HPS HX ballast-normal PF-MultiTap (wired 277v)	Y ²	Y ²	Y	Y	Y ¹				
XHM1 HPS HX ballast-high PF-MultiTap (wired 120v)	Y ²	Y ²	Y	Y	Y ¹				
XHM2 HPS HX ballast-high PF-MultiTap (wired 208v)	Y ²	Y ²	Y	Y	Y ¹				
XHM3 HPS HX ballast-high PF-MultiTap (wired 240v)	Y ²	Y ²	Y	Y	Y ¹				
XHM4 HPS HX ballast-high PF-MultiTap (wired 277v)	Y ²	Y ²	Y	Y	Y ¹				
XNM1 MH HX ballast-normal PF-MultiTap (wired 120v)	Y	Y	Y	Y					
XNM2 MH HX ballast-normal PF-MultiTap (wired 208v)		Y	Y	Y					
XNM3 MH HX ballast-normal PF-MultiTap (wired 240v)	Y	Y	Y	Y					
XNM4 MH HX ballast-normal PF-MultiTap (wired 277v)	Y	Y	Y	Y					
XHM1 MH HX ballast-high PF-MultiTap (wired 120v)	Y	Y	Y	Y					
XHM2 MH HX ballast-high PF-MultiTap (wired 208v)		Y	Y	Y					
XHM3 MH HX ballast-high PF-MultiTap (wired 240v)	Y	Y	Y	Y					
XHM4 MH HX ballast-high PF-MultiTap (wired 277v)	Y	Y	Y	Y					
CWM1 HPS CWA ballast-high PF-MultiTap (wired 120v)						Y	Y	Y	Y
CWM2 HPS CWA ballast-high PF-MultiTap (wired 208v)						Y	Y	Y	Y
CWM3 HPS CWA ballast-high PF-MultiTap (wired 240v)						Y	Y	Y	Y
CWM4 HPS CWA ballast-high PF-MultiTap (wired 277v)						Y	Y	Y	Y
CWM1 MH CWA ballast-high PF-MultiTap (wired 120v)							Y		Y
CWM2 MH CWA ballast-high PF-MultiTap (wired 208v)							Y		Y
CWM3 MH CWA ballast-high PF-MultiTap (wired 240v)							Y		Y
CWM4 MH CWA ballast-high PF-MultiTap (wired 277v)							Y		Y

Y	Available
Y ¹	For S56 150W 100V HPS Lamp
Y ²	Not a stock item - consult Customer Service for leadtime
	Not planned for release

*CWM1-CWM4 MH CWA (250W M58, 400W M59) is available as "Export Only"

Sample Ordering Number: UCF W H 05 S RN02 000 G X I 0000

Reserved for factory use

• Specifications are subject to change without notice.

UMF SERIES - HID MEDIUM FLOODLIGHT

(400W HPS / 1000W PSMH / 400 - 1000W MH)



Applications

Provides excellent area lighting for commercial retail areas, parking, recreation areas, industrial security, building facades, or signage.

Features

- Meets ANSI requirements for Flood Luminaires, including ANSI C136.2, C136.3, C136.10, C136.15, and C136.32.
- Rugged die-cast aluminum housing with multiple mounting options- is thermally set polyester powder-coated for durability with 3 mils nominal paint thickness and corrosion resistant rated 500 hour salt spray endurance
- IP-66 rating is standard
- Photocontrol receptacle is adjustable without tools
- Low copper aluminum for use in coastal areas
- Anodized aluminum reflector provides uniform lighting distribution available in IESNA Type 7x6 distribution patterns
- Available with photocontrol and lamp
- Available with glare and vandal shields
- E39 mogul base socket standard
- NEMA wattage label, terminal block, and NEMA photocontrol receptacle are standard
- 5 year warranty

Standard Package Includes

- ASA70 Gray Powdercoat Paint Finish
- Tool-less Adjustable Photocontrol Receptacle
- Heavy Duty Terminal Block
- Open Board Ignitor (if required)
- Latch and 3' SO Cord

UMF SERIES - HID MEDIUM FLOODLIGHT

(400W HPS / 1000W PSMH / 400 - 1000W MH)

Model Family	Mounting Options	Paint Finish	Lamp Wattage	Lamp Type	Ballast/Input Volts	Options ²	Options/ Packaging
UMF1	W	G	40	S	CWM4	00	I
UMF1: Shallow Door (400w max) UMF3: Deep Door (400w max, true VBU) UMF4: Deep Door (1000w max, true VBU)	W: Wrap-Around Yoke M: Mini Yoke O: No bracket	G: Grey B: Bronze	40: 400W X1: 1000w ¹	S: High Pressure Sodium M: Metal Halide P: Pulse Start MH	0000: Ballast not included CWM1: CWA ballast-high PF-MultiTap (wired 120v) CWM2: CWA ballast-high PF-MultiTap (wired 208v) CWM3: CWA ballast-high PF-MultiTap (wired 240v) CWM4: CWA ballast-high PF-MultiTap (wired 277v)	00: No special option required <u>Starter/ignitor options³</u> N: None included E: Encapsulated plug-in starter <u>Photocontrol options</u> S: Shortening cap P: Photoelectric control included ⁴ L: Special lamp requirement C: Special power cord (3-ft. cord standard) F: Fuse options V: Surge protection D: Screw door closure	I: Single X: Special

Footnotes:

1. If ordering 1000w configuration, only BT37 or ED37 (not BT56) can be used. Deep door required with this configuration. 1000w not available in High Pressure Sodium.
2. Consult factory for option codes for combinations of accessories.
3. Open style plug-in starter included as standard.
4. P-control suitable for specified input voltage only.

Ballast Availability

Ballast/Input Volts		400	1000
CWM1	HPS CWA ballast-high PF-MultiTap (wired 120v)	Y	Y
CWM2	HPS CWA ballast-high PF-MultiTap (wired 208v)	Y	Y
CWM3	HPS CWA ballast-high PF-MultiTap (wired 240v)	Y	Y
CWM4	HPS CWA ballast-high PF-MultiTap (wired 277v)	Y	Y
CWM1	MH CWA ballast-high PF-MultiTap (wired 120v)	Y	Y
CWM2	MH CWA ballast-high PF-MultiTap (wired 208v)	Y	Y
CWM3	MH CWA ballast-high PF-MultiTap (wired 240v)	Y	Y
CWM4	MH CWA ballast-high PF-MultiTap (wired 277v)	Y	Y

Y	Available
Y ¹	For S56 150W 100V HPS Lamp
Y ²	Not a stock item - consult Customer Service for leadtime
	Not planned for release

*CWM1-CWM4 MH CWA (250W M58, 400W M59) is available as "Export Only"

Sample Ordering Number: UMF W G 40 S CWM4 00 I 0000

Reserved for factory use

• Specifications are subject to change without notice.

UNH SERIES - HID NEMA HEAD

(35 - 150W HPS / 50 - 150W MH)



Applications

Provides excellent security lighting for residential areas, storage facilities, loading areas, or rural roadways.

Features

- Meets ANSI requirements for Metal Heads and Optical Assemblies, including ANSI C136.2, C136.6, C136.9, and C136.10.
- Die-cast aluminum housing with integral slipfitter
- Mounts easily on 1½" NPS arm (adaptor available for 2" NPS arm)
- Optics attach to head without tools
- ±3° of leveling adjustment
- Low copper aluminum for use in coastal areas
- Available in package with arm, bolt kit, optics, photocontrol, and lamp
- Available in acrylic or polycarbonate refractors
- Available in IESNA Type II, III and V light distribution patterns
- Full cutoff version available

Standard Package Includes

- NEMA compliant DTD head with prewired ballast, open starter (if required), and PEC receptacle
- Latch-style aluminum reflector with pre-assembled acrylic Type V refractor
- 24" long, 1½" dia. alum. mast arm with welded brackets
- NEMA compliant mounting hardware
- Cable: (2)-60" long 14 AWG

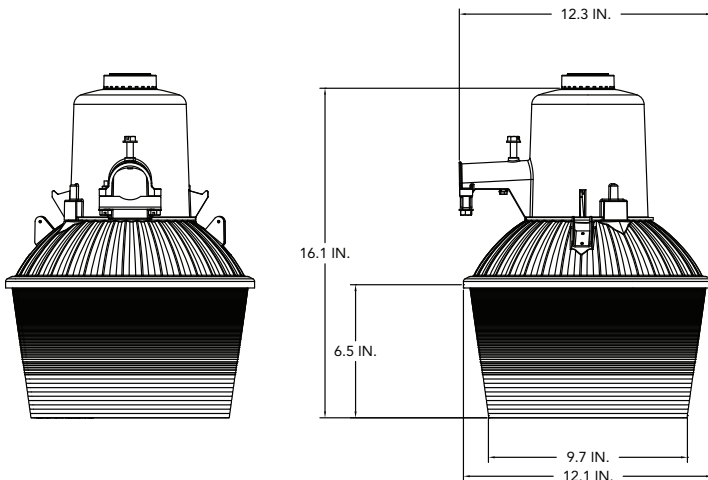
Effective Projected Area (EPA)

1.0 ft² max

HPS: suitable for -40°C to 40°C

MH: suitable for -30°C to 40°C

16 AWG 200°C rated internal wiring



UNH SERIES - HID NEMA HEAD

(35 - 150W HPS / 50 - 150W MH)

Model Family	Lamp Wattage	Lamp Type	Lamp Bulb	Ballast/Input Volts	Light Distribution/Optics	Options**	Options/Packaging
UNH	05	S	0	RN02	5A	000	H
	03: 35W 05: 50W 07: 70W 10: 100W 15: 150W	S: High Pressure Sodium M: Metal Halide	0: Lamp not included 1: Clear bulb 2: Coated bulb 3: Dual arc tube HPS clear bulb	0000: Ballast not included RN02: Reactor-normal power factor-120v RH02: Reactor-high power factor-120v RN08: Reactor-normal power factor-277v RH08: Reactor-high power factor-277v XNM1: HX ballast-normal PF-MultiTap (wired 120v) XNM2: HX ballast-normal PF-MultiTap (wired 208v) XNM3: HX ballast-normal PF-MultiTap (wired 240v) XNM4: HX ballast-normal PF-MultiTap (wired 277v)	5A: Type V Acrylic 5F: Type V Cutoff 4A: Type IV Acrylic 3A: Type III Acrylic 2A: Type II Acrylic 0N: None Distribution Explanation 5: Type V 2: Type II* 3: Type III* 4: Type IV* 0: None Optics Explanation A: Open acrylic P: Open polycarb* F: Full cutoff N: None	000: No special option required A: 2" mast arm adaptor V: Line surge protector <u>Mounting arm options</u> 1: 18" aluminum 2: 24" aluminum 3: 30" aluminum G2: 24" galvanized G3: 30" galvanized <u>Starter/ignitor options***</u> N: None included E: Encapsulated plug-in starter <u>Leadwires</u> 7: (2)-30" long 14AWG 8: (2)-60" long 14AWG ###: Non-std leadwires; see table <u>Photocontrol options</u> S: Shortening cap P: Photoelectric control included****	H: Single head P: Head with optics K: Head, optics, and arm S: Special const. X: Special pkg.

Note: specifications subject to change

*Consult factory for availability

**Consult factory for option codes for combinations of accessories

***Open style plug-in starter included as standard option

Ballast Availability

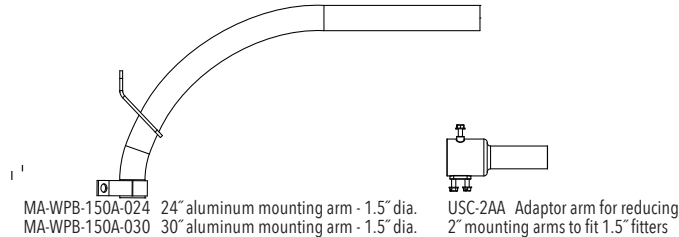
Ballast/Input Volts	50	70	100	150	150/100V
RN02 Reactor-normal power factor-120v	Y ²	Y	Y	Y	
RN08 MH Reactor-normal power factor-277v	Y ²	Y ²	Y ²	Y ²	
XNM1 HPS HX ballast-normal PF-MultiTap (wired 120v)	Y ²	Y ²	Y ²	Y ²	Y ¹
XNM2 HPS HX ballast-normal PF-MultiTap (wired 208v)	Y ²	Y ²	Y ²	Y ²	Y ¹
XNM3 HPS HX ballast-normal PF-MultiTap (wired 240v)	Y ²	Y ²	Y ²	Y ²	Y ¹
XNM4 HPS HX ballast-normal PF-MultiTap (wired 277v)	Y ²	Y ²	Y ²	Y ²	Y ¹
XNM1 MH HX ballast-normal PF-MultiTap (wired 120v)	Y ²	Y ²	Y	Y	
XNM2 MH HX ballast-normal PF-MultiTap (wired 208v)		Y ²	Y	Y	
XNM3 MH HX ballast-normal PF-MultiTap (wired 240v)		Y ²	Y	Y	
XNM4 MH HX ballast-normal PF-MultiTap (wired 277v)	Y ²	Y ²	Y	Y	

Y	Available
Y ¹	For S56 150W 100V HPS Lamp
Y ²	Not a stock item - consult Customer Service for leadtime
	Not planned for release

Custom Leadwire Table

#	#	#
C = Wire included (NotConnected)	1 = 30in 4 = 4ft 5 = 5ft	A = #14 CU Solid Bk-W B = #14 CU Solid Bk-Bk C = #14 CU Solid Bk-Bk-W
D = Wire included (Prewired to Term. Block)	6 = 6ft 8 = 8ft 9 = Spcl	D = #12 CU Solid Bk-W E = #12 CU Solid Bk-Bk F = #12 CU Solid Bk-Bk-W G = #12 CU Stranded Bk-W H = #12 CU Stranded Bk-Bk J = #12 CU Stranded Bk-Bk-W K = #10 CU Solid Bk-W L = #10 CU Solid Bk-Bk M = #10 CU Solid Bk-Bk-W N = #10 CU Stranded Bk-W Q = #10 CU Stranded Bk-Bk R = #10 CU Stranded Bk-Bk-W

Available Accessories



Sample Ordering Number: UNH 05 S 0 RN02 5 A 000 H I 00

Reserved for factory use

• Specifications are subject to change without notice.

DTDU SERIES - LED DUSK-TO-DAWN

(35 or 48W LED)



Applications

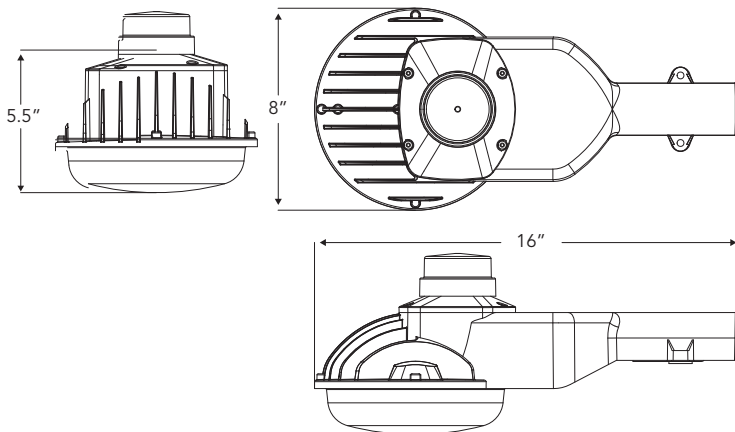
Provides excellent security lighting for residential areas, storage facilities, loading areas, or rural roadways.

Features

- High-powered LEDs
- 35W replaces existing 70W HID fixtures
- 48W replaces existing 100W HID fixtures
- Tool less entry
- Easy Installation
- Hardware Included
- Listings: UL and cUL Listed for outdoor applications
- Luminaire complies with IESNA LM79 and LM80 standards

Installation

- Install direct-to-wall or post
- Use with mounting arm (optional)
- Utility mounting arm: 1.25" diameter (1.625" O.D.)
- Mounting hardware included



Visit www.lightingfacts.com
for a list of qualified products.

• Specifications are subject to change without notice.

Specifications

Housing

- Heavy-duty, die-cast aluminum housing
- Gray powder coat finish
- PEC receptacle, shorting cap provided
- Stainless steel latch springs
- Wire tether

Lens

- UV-stabilized acrylic prismatic refractor

LEDs/LED Driver

- Energy Efficient
- LED: 35 Watts / 3,047 Lumens / 87 Lm/W
48 Watts / 4,500 Lumens / 94 Lm/W
- 4100K / 80 CRI
- 50,000 Hour Life
- Input voltage: 120-277v 50/60 Hz

Operating Temperature

- -25°C(-13°F) - 35°C(95°F)

Surge Protection

- 10kV surge protection (standard)

Photocell

- Long-life Photocell (optional)

IES Classification

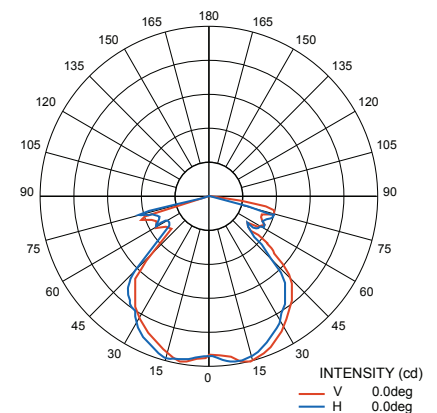
- Type 5 VS

BUG Rating

- B1-U2-G1

Warranty

- 5-Year Warranty



DTDU SERIES - LED DUSK-TO-DAWN

(35 or 48W LED)

Model Family		Watts	Driver		CCT		Voltage		Options*
DTDU	-	35	LED	-	41	-	MV	-	000
Dusk-to-Dawn Utility		35: 35 Watts 48: 48 Watts	LED: LED Driver		41: 4100K		MV: 120-277v		Blank: No Options L: Long-Life Photocell(multi-volt) Mounting Arms 2: 24" Aluminum Mounting Arm 3: 30" Aluminum Mounting Arm Leadwires 7: (2)-30" long 14 AWG 8: (2)-60" long 14 AWG ###: Non-std leadwires; see table

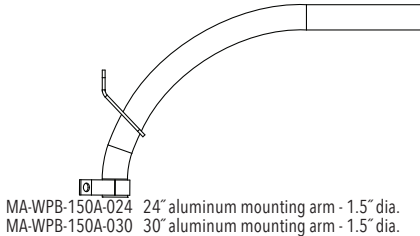
* Consult Factory for ordering option configuration.

Model #	Watts	Lumens	CCT	Lm/W	Recommended Replacement
DTDU35LED41MV	35	3,047	4100K	87	70W HID
DTDU48LED41MV	48	4,500	4100K	94	100W HID

Custom Leadwire Table

#	#	#
C = Wire included (Not Connected)	1 = 30in 4 = 4ft 5 = 5ft	A = #14 CU Solid Bk-W B = #14 CU Solid Bk-Bk C = #14 CU Solid Bk-Bk-W
D = Wire included (Prewired to Term. Block)	6 = 6ft 8 = 8ft 9 = Spcl	D = #12 CU Solid Bk-W E = #12 CU Solid Bk-Bk F = #12 CU Solid Bk-Bk-W G = #12 CU Stranded Bk-W H = #12 CU Stranded Bk-Bk J = #12 CU Stranded Bk-Bk-W K = #10 CU Solid Bk-W L = #10 CU Solid Bk-Bk M = #10 CU Solid Bk-Bk-W N = #10 CU Stranded Bk-W Q = #10 CU Stranded Bk-Bk R = #10 CU Stranded Bk-Bk-W

Available Accessories



Sample Ordering Number:

DTDU-35LED-41-MV-000

LED Dusk-to-Dawn - Utility Grade

With Acrylic Prismatic Refractor

LED: 35 Watts

4100K

120-277 volts

No Options

• Specifications are subject to change without notice.

LMC & LSC SERIES - LED CANOPY

(Small - 42W, Medium - 85 W)



Parking areas
Covered walkways
Entrances

Underpasses
Loading docks
Recreation areas

LSC and LMC LED Small and Medium Canopies are designed to replace up to 150W metal halide fixtures. The long LED life and great color rendering make this fixture attractive for new or retrofit projects.

Features

- Energy saving compared to HID systems
- Replaces up to 150W metal halide
- Exceptional color rendering
- Energy saving compared to fluorescent systems
- Long LED life
- System designed, manufactured, tested and approved by Howard Industries in Mendenhall, Mississippi.
- Compliant with safety and performance standards.

Specifications

- Rugged and durable aluminum housing
- Dark bronze polyester powder coat finish
- 50,000 hours maintenance-free operations to L70
- 5000K color (67 CRI)
- Minimum starting temperature: -40°F
- Suitable for use up to 40°C (104°F) ambient temps
- Polycarbonate refractor lens
- Mounts flush to standard J-box, surface mount conduit, or 1/2" conduit entry on top for pendant mount using NPT threaded pipe
- Slots provided on top for mounting over a 4" square or octagonal J-box
- Maximum pendant length is 12" (supplied by others)
- Listings: UL and cUL Listed for wet locations
RoHS Compliant
- Warranty: 5 Years

ORDERING INFORMATION

Catalog #	Lumens	Input Watts	Lm/W	CCT/CRI	Suggested HID Replacement
LMC75NMV000I	7,274	85	88	5000K/67CRI	100-150W MH
LSC32NMV000I	3,112	42	79	5000K/67CRI	70W MH



5 Year
Warranty

Visit www.designlights.org
for the Qualified Products List

• Specifications are subject to change without notice.

VL SERIES - LED VERSALITE WALLPACK & FLOODLIGHT

(20W & 30W LED)



Wall Mount:
Loading Docks
Entrances
Parking Areas
Perimeter
Underpasses

Flood Applications:
Signage
Building Facade
Displays
Security Lighting

Versalite VL Series Wallpack offers great energy savings compared to HID systems. This fixture can be wall mounted as a wallpack, or it can be adapted to a flood fixture with the use of a Knuckle or Yoke Flood kit (sold separately).

Adaptable to Flood:
(Sold Separately)



Knuckle



Yoke

Features

- Energy Saving compared to HID systems
- System Efficacy: 88 Lm/W (20W)
94 Lm/W (30W)
- Long LED Life
- System Tested and Approved by Howard Industries in Mendenhall, Mississippi.
- Compliant with safety and performance standards.

Specifications

- Die-Cast Housing
- Bonze polyester powder coat finish
- 102,000 hours maintenance-free operation to L70
- Minimum starting temperature: -20°C
- Suitable for use up to 40°C ambient temperatures
- Wall mount for wallpacks
- Use of Knuckle or Yoke for Flood lighting (sold separately)
- Warranty: 5 years
- Listings: UL and cUL Listed for wet locations.
RoHS compliant

ORDERING INFORMATION

UPC Code	Catalog #	Lumens	Input Watts	Lm/W	CCT/CRI	Volts
01844	VL20	1874	21 Watts	87.99	5000K; CRI 75	120-277
01845	VL30	2688	29 Watts	93.71	5000K; CRI 72	120-277

Field Installed Option - Flood Kits

UPC Code	Catalog #	Description
01846	VLFD-KNC	Versalite Flood - Knuckle Mount
01847	VLFD-YOKE	Versalite Flood - Yoke Mount



Visit www.designlights.org
for the Qualified Products List

• Specifications are subject to change without notice.

MCWP SERIES - LED MEDIUM CUTOFF WALLPACK

(40W LED)



Specifications

Housing

One-piece die-cast aluminum housing and hinged, removable die-cast aluminum door. One-piece silicone gasket seals the optical chamber. Housing has a textured bronze finish.

Electrical

LED driver and electrical components are mounted to the die-cast housing for optimal heat sinking and operating efficiency. Four (Top, Sides, and Back) ½" threaded conduit entry points allow for thru-branch wiring.

LED Driver

UL Recognized integral LED electronic driver is Class 2 rated for 120-277V, 50-60 Hz.

LEDs

The LED system delivers, on average, 70% lumen maintenance (L70) at 50,000 hours of operation at a forward current of 1000mA. High quality, long-life LEDs deliver up to 4,201 lumens.

CRI/CCT

70 CRI; 5000K

Optical

Highly reflectance anodized aluminum reflector provides high efficiency illumination. Optical assembly includes impact resistant borosilicate refractive glass.

Minimum Starting Temperature

-35°C

Certifications

UL Listed for Wet Locations.
DesignLights Consortium qualified
BUG Rating: See Lumen Output Chart

Warranty

5- Year Warranty

ORDERING INFORMATION

UPC Code	Catalog #	CCT	Input Watts	Output Watts	Volts
08110	MCWP-5040-LED-MV	5000K	48 Watts	40 watts	120-277

Lumen Output

Nominal Wattage	CCT	System Watts	5000K				
			Lumens	B	U	G	LPW
40W LED	5000K	48W	4201	1	3	2	88

Lumen values are based on photometric data performed in accordance with IESNA LM-79-08. You may obtain IES files from our website or by contacting the Howard Lighting factory.

Cross Reference Chart and Information Chart

HID Source	HID (Input Watts)	LED Replacement (Output Watts)	LED Replacement (Input Watts)	Energy Savings (Watts)	Energy Savings (Percentage)	LED Output Lumens
100 watt HPS***	128	40	48	80	63%	4201
100 watt PSMH***	129	40	48	84	65%	4201
150 watt HPS***	188	55	48	128	68%	4201
150 watt PSMH***	186	55	48	126	68%	4201

* 120v Reactor Ballast

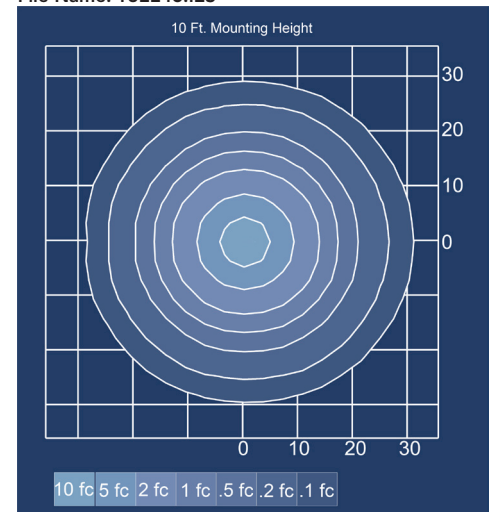
** 120v on Dual Tap Ballast

*** 120v on Quad Tap Ballast

MWP-5040-LED-MV

40W LED

File Name: T32246.IES



Testing done in accordance with LM079-08.
Maximum intensity (Candlepower): 1,439.6 Cd.
Luminaire Output: 4,201 Lumens



**5 Year
Warranty**

Visit www.designlights.org

for the Qualified Products List

• Specifications are subject to change without notice.

HOWARD
LIGHTING PRODUCTS

MWP SERIES - LED MEDIUM WALLPACK

(28W, 40W & 50W LED)



Specifications

Housing

One-piece die-cast aluminum housing and hinged, removable die-cast aluminum door. One-piece silicone gasket seals the optical chamber. Housing has a textured bronze finish.

Electrical

LED driver and electrical components are mounted to the die-cast housing for optimal heat sinking and operating efficiency. Four (Top, Sides, and Back) 1/2" threaded conduit entry points allow for thru-branch wiring.

LED Driver

UL recognized integral LED electronic driver is Class 2 rated for 120-277V, 50-60 Hz.

LEDs

The LED system delivers, on average, 70% lumen maintenance (L70) at

50,000 hours of operation at a forward current of 1000mA. High quality, long-life LEDs deliver up to 3,580 Lumens*.

CRI/CCT

70 CRI; 5000K

Optical

Highly reflectance white diffusing anodized aluminum reflector provide high efficiency illumination. Optical assemblies include impact resistant borosilicate refractive glass.

Minimum Starting Temperature
-30°C

Certifications

UL Listed for Wet Locations.
BUG Rating: See Lumen Output Chart

Warranty

5- Year Warranty

ORDERING INFORMATION

UPC Code	Catalog #	CCT	Input Watts	Output Watts	Volts
08000	MWP-5055-LED-MV	5000K	64 Watts	55 watts	120-277
08001	MWP-5040-LED-MV	5000K	49 Watts	40 watts	120-277
08002	MWP-5028-LED-MV	5000K	33 Watts	28 watts	120-277

Lumen Output

Nominal Wattage	CCT	System Watts	5000K				
			Lumens	B	U	G	LPW
55W LED	5000K	64W	3576	1	3	2	55.5
28W LED	5000K	33W	1718	1	2	1	52.2

Lumen values are based on photometric data performed in accordance with IESNA LM-79-08. You may obtain IES files from our website or by contacting the Howard Lighting factory.

Cross Reference Chart and Information Chart

HID Source	HID (Input Watts)	LED Replacement (Output Watts)	LED Replacement (Input Watts)	Energy Savings (Watts)	Energy Savings (Percentage)	LED Output Lumens
70 watt HPS*	91	28	33	58	64%	1718
70 watt PSMH*	92	28	32	59	64%	1718
100 watt HPS*	128	40	49	79	62%	2769
100 watt PSMH*	129	40	49	80	62%	2769
150 watt HPS*	188	55	64	124	66%	3576
150 watt PSMH*	186	55	64	122	66%	3576

* 120v on Quad Tap Ballast

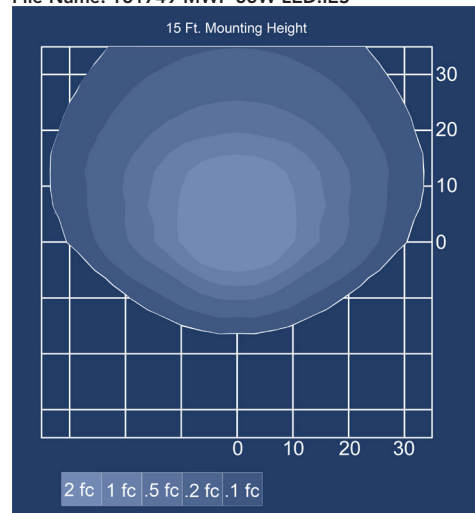


**5 Year
Warranty**

MWP-5055-LED-MV

55W LED (28 LEDs)

File Name: T31749 MWP 55W LED.IES



Testing done in accordance with LM079-08.
Maximum intensity (Candlepower): 1,773 CD
Luminaire Output: 3,287 Lumens

• Specifications are subject to change without notice.

MLWP SERIES - MEDIUM LED WALLPACK

(30-80W LED)

Available
September
2014



Applications

Ideal for parking facilities, entry ways, perimeter/pathway lighting or underpasses.

Features

- Energy Saving
- Comparable up to 250W HID using 80W LED
- 50,000 hour LED lifespan for maintenance-free operation
- Covers footprint of traditional wallpacks

Specifications

Housing

- Aluminum die-cast housing and lens frame
- Durable polyester powder coat finish
- Bronze housing

Lens

- Polycarbonate prismatic lens

LED

- 30-80W
- Color temp: 5000K
- CRI: 80
- Min. Starting Temperature: -30°
- 50,000 Hour Life at LM70
- Input voltage: 120-277V 50/60 Hz

Mounting

- 1/2" tapped top, side (2), and rear knockouts for 1/2" conduit or junction box.

Certifications

- UL/cUL Listed; suitable for wet locations

Warranty

- 5-Year Warranty

ORDERING INFORMATION

UPC Code	Catalog #	Lumens	Input Watts	Voltage	CCT/CRI	Suggested HID Replacement
08173	MLWP-5030-MV	1971	30	120-277	5000K/80CRI	70W HID
08174	MLWP-5040-MV	2624	40	120-277	5000K/80CRI	100W HID
08175	MLWP-5050-MV	3550	50	120-277	5000K/80CRI	150W HID
08176	MLWP-5080-MV	4880	80	120-277	5000K/80CRI	200-250W HID



5 Year
Warranty

• Specifications are subject to change without notice.

MINILWPP SERIES - MINI LED WALLPACK

(20W LED)

Available
September
2014



Applications

Ideal for commercial and residential outdoor applications - warehouses, entryways, perimeter, security, shopping centers, schools, and apartments.

Features

- Energy Saving
- Comparable up to 70W HID using 20W LED
- 50,000 hour LED lifespan for maintenance-free operation

Specifications

Housing

- Bronze die-cast housing
- Aluminum die-cast heat fins for optimal thermal management

Lens

- Polycarbonate prismatic lens

LED

- 1,205 Lumens, 20W
- 61 Lm/W
- Color temp: 5000K
- CRI: 85+
- Min. Starting Temperature: -30°
- L70 Lifespan: 50,000+ hours
- Operates at 120V with Photocell (included standard) 120 - 277V without photocell

Mounting

- Mounts to a standard 4" electrical box

Certifications

- UL/cUL Listed; suitable for wet locations

Warranty

- 5-Year Warranty

ORDERING INFORMATION

UPC Code	Catalog #	Lumen Output	Input Wattage	CCT	Comparable	Volts
08179	MINILWPP20-120	1205	20	5000K	70W HID	120-277



5 Year
Warranty

• Specifications are subject to change without notice.

FLL SERIES - LED FLOODLIGHTS

(FLL7B: 650 Lumens / FLL15: 1400 Lumens / FLL30: 2400 Lumens)



Applications

Ideal for security, building facades, displays and signs.

Features

- Energy Saving
- 50,000 hour LED lifespan for maintenance-free operation
- Heat dissipating fins for optimized thermal management.
- Available in white housing

Specifications

Housing

- Low-copper, aluminum die-cast housing and lens frame.
- Heat dissipating fins for optimized thermal management.
- Durable polyester powder coat finish

Lens/Refractor

- Tempered glass lens, thermal shock and impact resistant.

LEDs

- Color temp: Neutral White (4100K)
- CRI: 80
- Min. starting temperature: -30°C
- 50,000 Hour Life
- Input voltage: 120-277v 50/60 Hz

Mounting

- 1/2" NPS aluminum die-cast swivel arm fits to standard junction box.
- Side bolt at arm knuckles allows for optics aiming.

Certifications

- UL/CUL Listed, suitable for wet locations

Warranty

- 3-Year Warranty

ORDERING INFORMATION

UPC Code	Catalog #	Lumen Output	Input Wattage	CCT	Comparable	Volts	Housing Color
08127	FLL7B	650	9	4100K	50W Halogen	120-277	Bronze
01834	FLL7B-W	650	9	4100K	50W Halogen	120-277	White
01828	FLL15	1400	20	4100K	100W Halogen	120-277	Bronze
01835	FLL15-W	1400	20	4100K	100W Halogen	120-277	White
01829	FLL30	2400	27	4100K	250W Halogen	120-277	Bronze
01836	FLL30-W	2400	27	4100K	250W Halogen	120-277	White



**3 Year
Warranty**

• Specifications are subject to change without notice.

SLF SERIES - SMALL LED FLOOD

(40W LED)



Applications

Ideal for security, building facades, displays and signs.

Features

- Energy Saving
- Comparable to 100W HID using less energy.
- 100,000+ hour LED lifespan for maintenance-free operation

Specifications

Housing

- Aluminum die-cast housing and lens frame.
- Durable polyester powder coat finish
- Black housing

Lens

- Tempered glass lens, thermal shock and impact resistant.

LED

- 40 Watts
- 3,375 Lumen Output
- 84 Lm/W
- Color temp: 4000K
- CRI: 74
- L70 Lifespan: 100,000+ hours
- Min. Starting Temperature: -30°
- Input voltage: 120-277V 50/60 Hz

Mounting

- 1/2" NPS aluminum die-cast swivel arm fits to standard junction box.
- Side bolt at arm knuckles allows for optics aiming.

Certifications

- UL/cUL Listed; suitable for wet locations

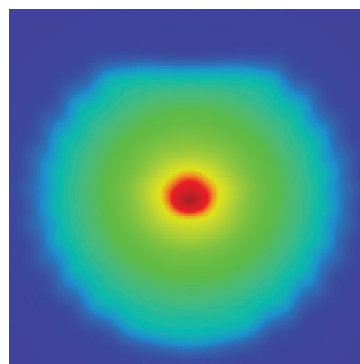
Warranty

- 5-Year Warranty

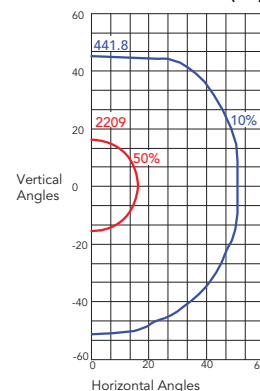
ORDERING INFORMATION

UPC Code	Catalog #	Lumen Output	Input Wattage	CCT	Comparable	Volts
08171	SLF-40-40-MV	3375	40	4000K	100W HID	120-277

Luminous Intensity Plot (cd)



Iso-candela Plot (cd)



5 Year
Warranty

Visit www.designlights.org
for the Qualified Products List

• Specifications are subject to change without notice.

HLED SERIES - LED LINEAR HIGHBAY

(Up to 230W/24K Lumens)



Warehouse
Manufacturing
Facility
Gymnasium

Cafeteria
Auditorium
Commercial and
Industrial Buildings

HLED series highbay LED fixture offers quality lighting and excellent energy savings compared to linear fluorescent and HID highbay fixtures. This fixture offers multiple options to meet any need.

Features

- Energy saving compared to HID systems and fluorescent systems
- Exceptional color rendering
- High system efficacy up to 111 Lm/W
- Long LED life
- System designed, manufactured, tested and approved by Howard Industries in Mendenhall, Mississippi.
- Compliant with safety and performance standards.

Specifications

- Full body construction (white finish)
- Access plate on back of the fixture for quick and easy wiring
- Easy access to lens through end of fixture
- LED's available in 4000k and 5000k with CRI 85
- Up to 79% lumen maintenance at 60,000 hours
- Driver standard with 0-10v dimming
- Wide distribution reflector
- Listings: UL and cUL, for damp locations. RoHS compliant and luminaire complies with IESNA LM-79 and LM-80.
- Suitable for ambient temperatures from -40°C to 50°C (-40°F to 122°F)*.
- *HLED20 series suitable for ambient temp. Up to 45°C(113°F)
- Warranty: 5 years

ORDERING INFORMATION

Catalog #*	Lumens	Input Watts	Lm/W	CCT/CRI	Suggested Fluorescent Replacement	Suggested HID Replacement	TM-21 Lumen Maintenance** (60,000 hours)
HLED08W4KDMV00000I	8,389	76	111	4000K/85CRI	3-Lamp T8	175/150	>79%
HLED11W4KDMV00000I	11,205	104	108	4000K/85CRI	4-Lamp T8	250	>79%
HLED12W4KDMV00000I	12,299	113	109	4000K/85CRI	4-Lamp T8	250	>78%
HLED20W4KDMV00000I	20,586	191	108	4000K/85CRI	4-Lamp T5HO; 6-Lamp T8	400	>75%
HLED24W4KDMV00000I	24,597	227	109	4000K/85CRI	6-Lamp T5HO; 8-Lamp T8	400	>76%
HLED08W5KDMV00000I	8,190	77	107	5000K/85CRI	3-Lamp T8	175/150	>79%
HLED11W5KDMV00000I	10,939	105	104	5000K/85CRI	4-Lamp T8	250	>79%
HLED12W5KDMV00000I	12,007	115	105	5000K/85CRI	4-Lamp T8	250	>78%
HLED20W5KDMV00000I	20,098	194	104	5000K/85CRI	4-Lamp T5HO; 6-Lamp T8	400	>75%
HLED24W5KDMV00000I	24,014	230	105	5000K/85CRI	6-Lamp T5HO; 8-Lamp T8	400	>76%

*Other configurations are available

**Tested at 25°C ambient



**5 Year
Warranty**

Visit www.designlights.org
for the Qualified Products List

• Specifications are subject to change without notice.

- Available options:
 - Occupancy Sensor
 - Occupancy Sensor with Photocell
 - Wireguard
 - Clear, Frosted, and Prismatic Acrylic Lens
 - HV (High Voltage option) 347-480v
 - Emergency ballast 700 lumens

HOWARD
LIGHTING PRODUCTS

VHL2 SERIES - LED VAPORPROOF HIGHBAY

(Up to 285W/26K Lumens)



Entrance Lighting
Car Washes
Public Access
Parking Structures

Beverage Industry
Food Processing
Construction Sites
Industrial Lighting

VHL2 series vaporproof highbay is engineered for performance down to the smallest detail. It is fully gasketed to provide total protection from dust and moisture penetration. It withstands corrosion, splashing water, hose-directed water, damage from external ice formation, and temporary submersion.

Features

- Resists abuse
- Durable construction
- Exceptional color rendering
- Energy saving compared to fluorescent systems
- Long LED life
- System designed, manufactured, tested and approved by Howard Industries in Mendenhall, Mississippi.
- Compliant with safety and performance standards.

Specifications

- LED life: 63,000 hours L70
- 4000K, 5000K, or 5700K colors (85 CRI)
- Minimum starting temperature: -40°C
- One-piece fiberglass upper body
- Rugged and corrosion resistant
- 5VA Flammability Rating
- Pressure wash up to 1500 PSI
- Closed cell polyester gasket
- Diffuser is injection molded for maximum strength and precise detail
- Shipped fully wired with driver

ORDERING INFORMATION

Catalog # ¹	# LEDs # Engines	Input Watts	Output Lumens	CCT ²	Equivalent
VHLF57624740U00I000	576 12	285	26318	4000K	6 x F54T5HO 400w Metal Halide
VHLF57619340U00I000		224	22562	4000K	
VHLF57616240U00I000		190	19604	4000K	
VHLF38413040U00I000	384 8	151	14840	4000K	4 x F54T5HO 6 x F32T8 250w Metal Halide
VHLF28808240U00I000	288 6	95	9915	4000K	4 x F32T8 175w Metal Halide 150w Metal Halide

1. The model numbers are basic. They include a Frosted Lens (suggested for LEDs) and no factory installed options. Consult our specification sheet for model construction.
2. The CCT of these fixtures is 4000K. Other colors are available with some restrictions and lead times. See spec sheet.
3. If all stainless steel exterior hardware is required, used Options S & V.



Visit www.designlights.org
for the Qualified Products List

Latches



White Secure Locking
Plastic Latch*
12 per fixture
(Standard)

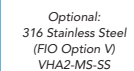


316 Stainless Steel Latch*
(FIO: Option S)

Mounting Strap



Zinc Plated (Standard)
VHA2-MS-ZP
4 per fixture



Optional:
316 Stainless Steel
(FIO Option V)
VHA2-MS-SS

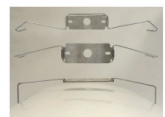
Mounting Options



V-hook
316 Stainless Steel
2 per fixture (Standard)



Rigid Mounting Beam (Optional)
2 per fixture required
Zinc Plated VHA2-MB-ZP
316 Stainless Steel VHA2-MB-SS



Flexible Ceiling Mount
VHA1-CM
316 Stainless Steel
2 per fixture

• Specifications are subject to change without notice.

VSL4 SERIES - LED 4 Ft. VAPORPROOF STRIP

(Up to 73W/7K Lumens)



Entrance Lighting
Car Washes
Public Access
Parking Structures

Beverage Industry
Food Processing
Construction Sites
Industrial Lighting

VSL4 series 4' LED vaporproof strip fixture is gasketed to provide dust and moisture resistant illumination. It withstands corrosion, splashing water, hose-directed water, damage from external ice formation, and temporary submersion. This fixture includes a special design for an LED array that throws a wide beam of light, as well as, offers protection within a sealed, vaporproof housing.

Features

- High corrosion resistance
- Low dirt depreciation
- Easy maintenance
- Resists abuse
- Durable construction
- Exceptional color rendering
- Energy saving compared to fluorescent systems
- Long LED life
- System designed, manufactured, tested and approved by Howard Industries in Mendenhall, Mississippi.
- Compliant with safety and performance standards.

Specifications

- LED life: 89,000 hours L70
- 4000K or 5000K colors (85CRI)
- Minimum starting temperature: -30°C
- One-piece fiberglass upper body, unpainted natural white color; no seams to crack, break, or leak; is rugged and corrosion resistant
- Reinforced fiberglass body is rugged and corrosion resistant
- Clear polycarbonate latches (8) standard
- White polyethylene molded end plugs for use as knockouts
- Closed cell polyester gasket
- Acrylic, Polycarbonate, Deep Clear Acrylic, or Deep Frosted Acrylic Lens Options
- Shipped fully wired with 0-10V LED dimming driver

ORDERING INFORMATION

Catalog # ¹	# LEDs	# Engines	Input Watts	Output Lumens	CCT	Equivalent
VSL4F19206640U00000I	192	4	73	7442	4000K	3 x F54T5HO
VSL4F19203140U00000I	192	4	39	4061	4000K	2 x F32T8
Garage Application Vaporproof Strip						
VSL4F19206640U00G00I	192	4	73	7115	4000K	3 x F54T5HO
VSL4F19203140U00G00I	192	4	39	3878	4000K	2 x F32T8

1. The model numbers are basic. They include a Frosted Lens (suggested for LEDs) and no factory installed options. Consult our specification sheet for model construction and other options.



5 Year
Warranty

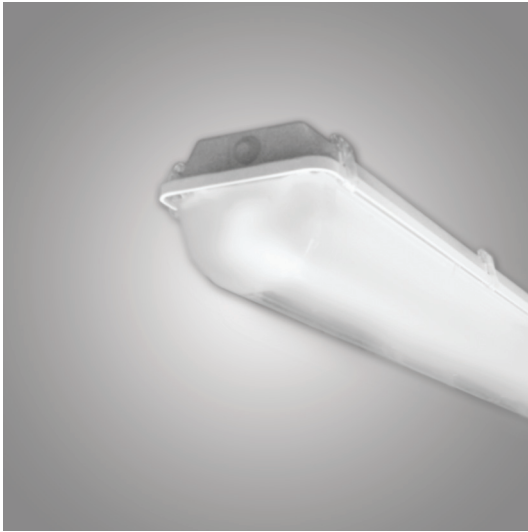
Visit www.designlights.org
for the Qualified Products List

• Specifications are subject to change without notice.

HOWARD
LIGHTING PRODUCTS

VSL8 SERIES - LED VAPORPROOF STRIP

(Up to 140W/14K Lumens)



Entrance Lighting Beverage Industry
Car Washes Food Processing
Public Access Construction Sites
Parking Structures Industrial Lighting

VSL8 series 8' LED vaporproof strip fixture is gasketed to provide dust and moisture resistant illumination. It withstands corrosion, splashing water, hose-directed water, damage from external ice formation, and temporary submersion.

Features

- High corrosion resistance
- Low dirt depreciation
- Easy maintenance
- Resists abuse
- Durable construction
- Exceptional color rendering
- Energy saving compared to fluorescent systems
- Long LED life
- System designed, manufactured, tested and approved by Howard Industries in Mendenhall, Mississippi.
- Compliant with safety and performance standards.

Specifications

- LED life: 89,000 hours L70
- 4000K or 5000K colors (85CRI)
- Minimum starting temperature: -30°C
- One-piece fiberglass upper body, unpainted natural white color; no seams to crack, break, or leak; is rugged and corrosion resistant
- Reinforced fiberglass body is rugged and corrosion resistant
- Clear polycarbonate latches standard
- White polyethylene molded end plugs for use as knockouts
- Closed cell polyester gasket
- Acrylic, Polycarbonate, Deep Clear Acrylic, or Deep Frosted Acrylic Lens Options
- Shipped fully wired with 0-10V LED dimming driver

ORDERING INFORMATION

Catalog # ¹	# LEDs	# Engines	Input Watts	Output Lumens	CCT	Equivalent
VSL8F38414040U00000I	384	8	140	14000	4000K	6 x F54T5HO
VSL4F28805640U00000I	192	6	56	5600	4000K	4 x F32T8

¹ The model numbers are basic. They include a Frosted Lens (suggested for LEDs) and no factory installed options. Consult our specification sheet for model construction and other options.



• Specifications are subject to change without notice.

LED T8 LINEAR LAMPS

Direct Replacement F32T8: snap in, turn on!



The Linear LED T8 also incorporates environmentally friendly passive components for a more reliable, longer lasting product with no UV light and no mercury. Using half the energy of a traditional linear T8, the lamp provides instant brightness, producing a 110° beam that spreads illumination uniformly, without hot spots or glare. Linear LED T8 lamps are especially well suited for difficult applications including refrigerator/freezer cases, or high-vibration, hard to reach locations. They are perfect for general lighting, merchandise displays, offices or anywhere building managers want environmentally friendly LED lighting.

Features

- Direct replacement – works with existing fluorescent T8 lamp fixtures and instant start ballasts
- Low energy usage
- Environmentally friendly: no mercury, no UV or infrared light
- Low lumen depreciation -- maintains brightness over its 50,000 hour rated life
- Minimum heat emission, reducing load on building cooling systems.
- No flickering
- ETL tested to comply with OSHA safety standards

Auto-adjusts to the corresponding
Ballast Factor

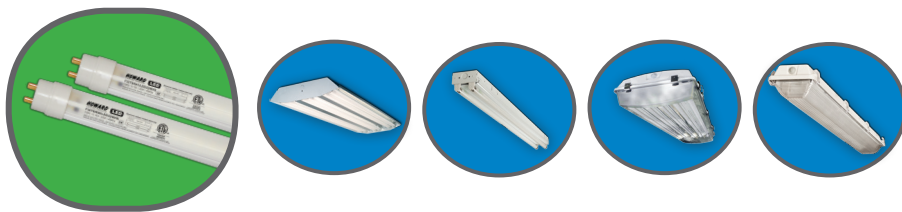
- 19w (Low Ballast Factor)
- 22w (Standard Ballast Factor)
- 26w (High Ballast Factor)

Colors Available

- 4100, 5000

UPC Code	Catalog #	Description
62008	F32T8/841/LED/22W/IS	4 Ft. Linear T8 LED Lamp, 80+ CRI, 4100K
62009	F32T8/850/LED/22W/IS	4 Ft. Linear T8 LED Lamp, 80+ CRI, 5000K

LED T8 LINEAR LAMPS - RETROFIT SOLUTION



Howard's Direct Replacement LED T8 lamp does not require an electrical re-wiring to install. Because the LED T8's work with electronic fluorescent instant start ballasts, they are independent of the ballast operating voltage which can be 120v, 277v, or 347v. This makes switching to LEDs as simple as changing a light bulb (no rewiring or special handling required).



**5 Year
Warranty**

Visit www.designlights.org
for the Qualified Products List

• Specifications are subject to change without notice.

SL SERIES - HID SPORTS LIGHTER

(400-100W HPS / 1000-1500W MH / 400-1000 PSMH)



Great for illuminating sporting areas or any external environment requiring bright light

Applications

- Great for illuminating sporting areas or any external environment requiring bright light

Features include

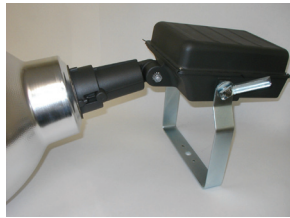
- Die cast aluminum housing with bronze finish is suitable for yoke mount or cross arm mounting.
- Suitable for Wet locations.
- Die cast aluminum socket housing with vertical aiming scale.
- Anodized aluminum reflectors for Type 3, 4, or 5 distribution.
- Optical chamber is sealed to inhibit contaminants.
- UL Listed porcelain mogul socket (1500W, 600V, 5kv pulse rated).
- Suitable for -30C MH / -40C HPS.
- Max weight (1500W) 49 lbs.
- EPA: 2.2 sq. ft. (Type 5-19")
2.5 sq.ft. (Type 4 or 5)
2.9 sq. ft. (Type 3)

ORDERING INFORMATION

UPC Code	Catalog #	Wattage	Ballast Type	Voltage	Reflector	Mounting Configuration
06511	SL1000M1M4AY90C0F0	1000	Metal Halide	Multi-tap 277v Pre-Wired	NEMA5 19" Reflector Screw Closure	Yoke Mount Ready SLYM Sold Separately
00482	SL1500M1M4CY9C0F0	1500	Metal Halide	Multi-tap 277v Pre-Wired	NEMA5 19" Reflector Screw Closure	Yoke Mount Ready SLYM Sold Separately
00501	SLYM	Steel Yoke Mount				
00535	SLILB	Internal Lamp Brace				



Bottom view with Factory Installed Option Extended Bolt (B)



Side View with Field Installed Yoke



• Specifications are subject to change without notice.

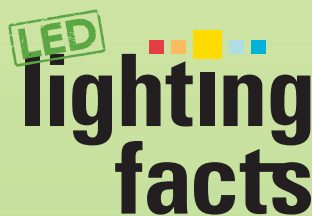
ENERGY EFFICIENT LED LIGHTING PRODUCTS

As technology and energy requirements advance, LED products are more popular and more in demand. With these new products, also come organizations that measure and verify products are meeting their specifications. Therefore, we work to ensure our products meet specifications required by:

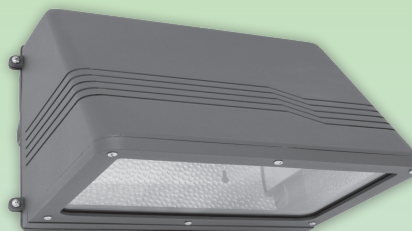
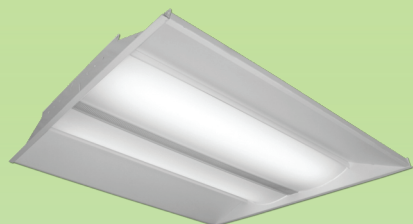
- DesignLights Consortium® (www.designlights.org)
- LED Lighting Facts® (www.lightingfacts.com)
 - A current qualified products list can be downloaded at each of these organizations' websites.



Visit www.designlights.org
for the Qualified Products List

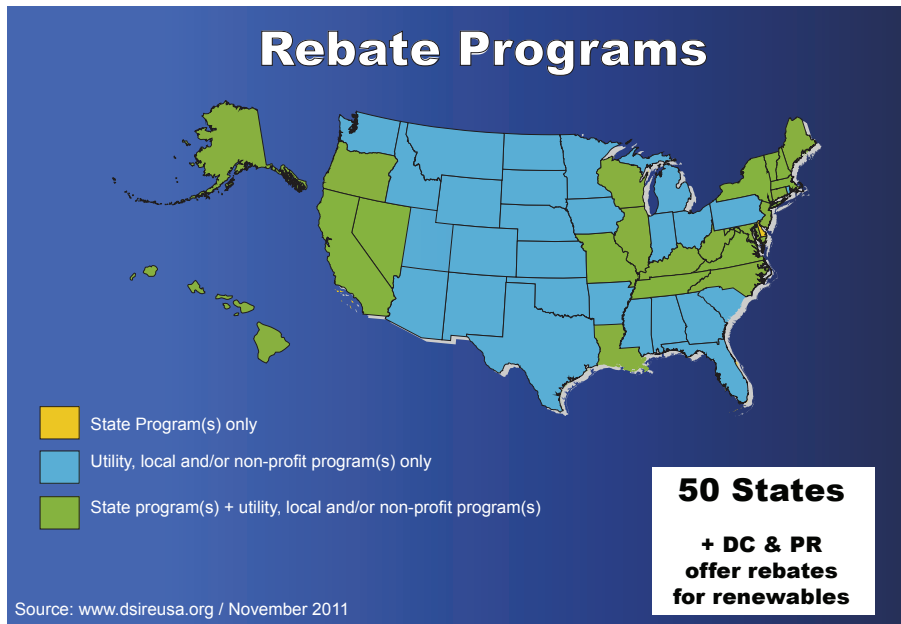


LED Product Partner
Visit LightingFacts.com for a list of qualified products



Rebates are offered by various states and utility companies. You can receive a rebate per unit installed, plus additional savings throughout the year from energy savings.

Howard wants all of our customers to have opportunities to find out more about what their states offer. We are constantly expanding our product offering and updating it, to ensure you have access to products that will meet rebate requirements.



LED Products we offer:

- LED T8 Lamps
- LED Highbays
- LED Vaporproof Highbays
- LED Vaporproof Strips
- LED Lay-in Troffers
- LED Stairwell Strips
- LED Canopies
- LED Area Lighters
- LED Floods
- LED Dusk-to-Dawn
- LED Wallpacks
- LED Utility/Roadway Lighting
- LED Exit Signs
- LED Emergency Lights
- LED Exit/Emergency Combo Units
- And more...

With a push towards energy efficiency various utilities and government organizations offer rebates to its customers when they switch to energy efficient products. Many of our products meet these standards and would qualify for these products. Below you will find a list of websites that offer databases for each state.

Database of State Incentives for Renewables and Efficiency

DSIRE is a comprehensive source of information on state, local, utility and federal incentives and policies that promote renewable energy and energy efficiency. Established in 1995 and funded by the U.S. Department of Energy, DSIRE is an ongoing project of the N.C. Solar Center and the Interstate Renewable Energy Council.
Website: www.dsireusa.org

SpiraxSarco (Database)

State & Utility Energy Efficiency Incentive Programs & Rebates
Website: www.spiraxsarco.com

Howard Lighting Products has several lines that meet standards for energy efficiency rebates when you switch from lighting systems that require more energy.

• Specifications are subject to change without notice.

HIGH INTENSITY DISCHARGE LAMPS

(HPS / MH / PSMH / MV)

HID Lamps

Howard's best-in-class HID lamps have a long life, high efficiency, and are engineered for performance. Available in different wattages and sizes, our High Pressure Sodium, Metal Halide, and Pulse Start lamps are certain to satisfy your lighting needs.

For More Information

and a complete list of our lamp offering, please refer to www.HowardLightingProducts.com



Watts	Howard Catalog #	UPC #	Bulb	Base	ANSI	Burning Position	Lumens Initial (lm)	Lumens Mean (lm)	MOL (in)	LCL (in)	Avg. Life (hours)	Color Temp (K)	CRI	Lamp Finish	Pkg. Qty
High Pressure Sodium															
50	LU50	799385-01180	ED23.5	MOG	S68	Universal	4000	3600	7.75	5	24000+	2100	22	Clear	12
70	LU70	799385-01184	ED23.5	MOG	S62	Universal	6300	5500	7.75	5	24000+	2100	22	Clear	12
70	LU70/SBY	799385-02188	ED23.5	MOG	S62	Universal	6050	4950	7.75	5	40000	2100	22	Clear	12
100	LU100	799385-01188	ED23.5	MOG	S54	Universal	9500	8550	7.75	5	24000+	2100	22	Clear	12
100	LU100/SBY	799385-02189	ED23.5	MOG	S54	Universal	9500	7600	7.75	5	40000	2100	22	Clear	12
100	LU100/NC	799385-05185	ED23.5	MOG	S54	Universal	10,500	n/a	7.76	5	20000+	2000	22	Clear	12
150	LU150/55	799385-01192	ED23.5	MOG	S55	Universal	16000	14400	7.75	5	24000+	2100	22	Clear	12
150	LU150/55/SBY	799385-02190	ED23.5	MOG	S55	Universal	15700	12100	7.75	5	40000	2100	22	Clear	12
150	LU150/55/NC	799385-05186	ED23.5	MOG	S55	Universal	16500	n/a	7.76	5	24000+	2000	22	Clear	12
150	LU150/100	799385-01194	ED28	MOG	S56	Universal	15000	13500	8.31	5	24000+	2100	22	Clear	12
200	LU200	799385-01195	ET18	MOG	S66	Universal	22000	19800	9.65	5.7	24000+	2100	22	Clear	24
200	LU200/SBY	799385-02190	ET18	MOG	S66	Universal	21500	18000	9.65	5.7	40000	2100	22	Clear	24
250	LU250	799385-01196	ET18	MOG	S50	Universal	28000	27000	9.65	5.7	24000+	2100	22	Clear	24
250	LU250/SBY	799385-02193	ET18	MOG	S50	Universal	27500	23200	9.65	5.7	40000	2100	22	Clear	24
250	LU250/NC	799385-05187	ED18	MOG	S50	Universal	32000	n/a	9.75	5.75	24000+	2000	22	Clear	24
310	LU310	799385-01198	ET18	MOG	S67	Universal	37000	33300	9.65	5.7	24000+	2100	22	Clear	24
400	LU400	799385-01199	ET18	MOG	S51	Universal	51000	45000	9.65	5.7	24000+	2100	22	Clear	24
400	LU400/SBY	799385-02194	ET18	MOG	S51	Universal	47500	40000	9.65	5.7	40000	2100	22	Clear	24
400	LU400/NC	799385-05188	ED18	MOG	S51	Universal	53500	53500	9.75	5.75	24000+	2000	22	Clear	24
1000	LU1000	799385-01201	ET25	MOG	S52	Universal	140000	126000	15.06	8.75	24000+	2100	22	Clear	12
1000	LU1000/SBY	799385-02194	ET25	MOG	S52	Universal	140000	126000	15.06	8.75	40000	2100	22	Clear	12
Metal Halide ¹															
150	MH150/U	799385-03911	ED38	MOG	M102/E	Universal	12000	10000	8.31	5	10000V 7500H	4200	65	Clear	12
175	MH175/U	799385-01112	ED28	MOG	M57/E	Universal	16000	12800	8.31	5	10000	4200	65	Clear	12
250	MH250/U	799385-01114	ED28	MOG	M58/E	Universal	20500	17000	8.31	5	10000	4200	60	Clear	12
400	MH400/U/ED28	799385-01122	ED28	MOG	M59/E	Universal	36000	23500	8.31	5	10000	4200	60	Clear	12
400	MH400/U	799385-01119	ED37	MOG	M59/E	Universal	38000	25000	11.5	7	20000	4200	65	Clear	12
1000	MH1000/U	799385-01126	BT56	MOG	M47.E	Universal	110000	86000	15.38	9.5	15000	4200	60	Clear	12
175	MP175/BU	799385-01930	BT28	MOG (EX39)	M57/O	Base Up	14400	10200	8.31	5	10000	4200	65	Clear	12
250	MP250/BU	799385-01117	BT28	MOG (EX39)	M58/O	Base Up	23000	17000	8.31	5	15000V 10000H	4200	70	Clear	12
400	MP400/BU	799385-01124	BT37	MOG (EX39)	M59/O	Base Up	40000	26000	11.5	7	15000V 10000H	4200	70	Clear	12

• Specifications are subject to change without notice.

HIGH INTENSITY DISCHARGE LAMPS

(HPS / MH / PSMH / MV)



Watts	Howard Catalog #	UPC #	Bulb	Base	ANSI	Burning Position	Lumens Initial (lm)	Lumens Mean (lm)	MOL (in)	LCL (in)	Avg. Life (hours)	Color Temp (K)	CRI	Lamp Finish	Pkg. Qty
Pulse Start ¹															
200	MH200/BU/ED28/PS	799385-02685	ED28	MOG	M136/E	Base Up	21000	16800	8.31	5	15000	4200	60	Clear	12
250	MH250/BU/ED28/PS	799385-02689	ED28	MOG	M138/E	Base Up	25000	20000	8.31	5	15000	4200	70	Clear	12
320	MH320/BU/ED28/PS	799385-02693	ED28	MOG	M154/E	Base Up	34000	27200	8.31	5	15000	4200	70	Clear	12
320	MH320/U/ED28/PS	799385-03873	ED28	MOG	M154/E	Universal	31000	26666	8.31	5	20000	4000	65	Clear	12
350	MH350/BU/ED28/PS	799385-02697	ED28	MOG	M131/E	Base Up	37000	29600	8.31	5	20000	4200	70	Clear	12
400	MH400/BU/ED37/PS	799385-02701	ED37	MOG	M135/E	Base Up	44000	35200	11.5	7	20000	4200	70	Clear	12
400	MH400/HOR/ED28/PS	799385-03847	ED28	MOG	M135/E	Base Up	40000	32000	8.31	5	20000	4000	65	Clear	12
750	MH750/BU/BT37/PS	799385-01932	BT37	MOG	M149/E	Base Up	80000	60000	11.5	7	16000	4000	60	Clear	12
1000	MH1000/BU/ED37/PS	799385-01128	ED37	MOG	M141/E	Base Up	110000	77000	11.5	7	8000	4200	60	Clear	6
200	MP200/BU/ED28/PS	799385-02687	ED28	MOG (EX39)	M136/O	Base Up	20000	16000	8.31	5	15000	4200	60	Clear	12
250	MP250/BU/ED28/PS	799385-02691	ED28	MOG (EX39)	M138/O	Base Up	23800	19000	8.31	5	15000	4200	70	Clear	12
320	MP320/BU/ED28/PS	799385-02695	ED28	MOG (EX39)	M132/O	Base Up	32300	25800	8.31	5	20000+	4200	70	Clear	12
350	MP350/BU/ED28/PS	799385-02699	ED28	MOG (EX39)	M131/O	Base Up	35200	28200	8.31	5	20000+	4200	70	Clear	12
400	MP400/BU/ED37/PS	799385-02703	ED37	MOG (EX39)	M135/O	Base Up	42000	33600	11.5	7	20000+	4200	70	Clear	12
Mercury Vapor ¹															
100	H38AV-100/DX	799385-01152	ED17	MED	H38	Universal	4000	2600	5.43	3.5	6000+	3900	50	Coated	12
100	H38JA-100/DX	799385-01153	ED23.5	MOG	H38	Universal	4000	2600	7.5	5	10000+	3900	50	Coated	12
175	H39KC-175/DX	799385-01154	ED28	MOG	H39	Universal	7800	6800	8.25	5	10000+	3900	50	Coated	12
175	H39KB-175	799385-01155	ED28	MOG	H39	Universal	7800	6800	8.25	5	10000+	4500	20	Clear	12
250	H37KC-250/DX	799385-01156	ED28	MOG	H37	Universal	11200	8400	8.25	5	10000+	3900	50	Coated	12
250	H37KB-250	799385-01157	ED28	MOG	H37	Universal	11200	8400	8.25	5	10000+	4500	20	Clear	12
400	H33GL-400/DX	799385-01158	ED37	MOG	H33	Universal	22600	14400	11.31	7	10000+	3900	50	Coated	12
400	H33CD-400	799385-01159	ED37	MOG	H33	Universal	22600	14400	11.31	7	10000+	4500	20	Clear	12
1000	H36GW-1000/DX	799385-01160	BT56	MOG	H36	Universal	58000	29000	15.38	9.5	10000+	3900	50	Coated	6

¹ WARNING: This lamp can cause serious skin burn and eye inflammation from short-wave 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.

• Specifications are subject to change without notice.

High Intensity Discharge Lamp Cross Reference

(HPS / MH / PSMH / MV)

Watts	Howard Catalog #	GE	Philips	EYE	Sylvania
High Pressure Sodium					
50	LU50	LU50	C50S68/ALTO	LU50	LU50/ECO
70	LU70	LU70	C70S62/ALTO	LU70	LU70/ECO
70	LU70/SBY	LU70/SBY/XL	C70S62/2	N/A	LU70/SBY
100	LU100	LU100/ECO	C100S54/ALTO	LU100	LU100/ECO
100	LU100/SBY	LU100/SBY/XL	C100S54/2	N/A	LU100/SBY
100	LU100/NC	LU100/ECO/NC	C100S54/ALTO NC	N/A	LU100/PLUS/ECO
150	LU150/55	LU150/55/ECO	C150S55/ALTO	LU150/55	LU150/55/ECO
150	LU150/55/SBY	LU150/55/SBY/XL	C150S55/2	N/A	LU150/55/SBY
150	LU150/55/NC	LU150/55/ECO/NC	C150S55/ALSO NC	N/A	LU150/55/PLUS/ECO
150	LU150/100	LU150/100	C150S56	N/A	LU150/100
200	LU200	LU200/ECO	C200S66/ALTO	N/A	LU200/ECO
200	LU200/SBY	LU200/SBY/XL	C200S66/ALTO NC	N/A	LU200/SBY
250	LU250	LU250/ECO	C250S50/ALTO	LU250	LU250/ECO
250	LU250/SBY	LU250/SBY/XL	C250S50/2	N/A	LU250/SBY
250	LU250/NC	LU250/ECO/NC	C250S50/ALTO NC	N/A	LU250/PLUS/ECO
310	LU310	LU310	C310S67	LU310/EN	LU310/ECO
400	LU400	LU400/ECO	C400S51/ALTO	LU400	LU400/ECO
400	LU400/SBY	LU400/SBY/XL	C400S51/2	N/A	LU400/SBY
400	LU400/NC	LU400/ECO/NC	C400S51/ALTO NC	N/A	LU400/PLUS/ECO
1000	LU1000	LU1000	C1000S52	N/A	LU1000
1000	LU1000/SBY	LU1000/SBY	C1000S52/2	N/A	LU1000/SBY
Metal Halide					
150	MH150/U	MVP150/U/WM	MH150W/635 E26 BD17 U	MP150/U/3K	N/A
175	MH175/U	MVR175/U	MH175/U	M175X/U	M175/U
175	MP175/BU	MPR175/VBU/O	MP175/BU	N/A	MP175/BU-ONLY
250	MH250/U	MVR250/U	MH250/U	M250X/U	M250/U
250	MP250/BU	MPR250/VBU/O	MP250/BU	N/A	MP250/BU-ONLY
400	MH400/U	MVR400/U	MH400/U	M400X/U	M400/U
400	MH400/U/ED28	MVR400/U/ED28	MH400/U/ED28	N/A	M400/U/BT28
400	MP400/BU	MPR400/VBU/O	MP400/BU	N/A	MP400/BU-ONLY
1000	MH1000/U	MVR1000/U	MH1000/U	M1000BX/U	M1000/U
Pulse Start Metal Halide					
200	MH200/BU/ED/PS	N/A	N/A	N/A	MS200/PS/BU-ONLY/BT28
200	MP200/BU/ED28/PS	N/A	N/A	N/A	N/A
250	MH250/BU/ED28/PS	MVR250/VBU/PA	MS250/BU/PS	M250/BU/PS	MS250/PS/BU-ONLY
250	MP250/BU/ED28/PS	N/A	N/A	MP250/BU/PS	MP250/PS/BU-ONLY
320	MH320/BU/ED28/PS	MVR320/VBU/HO/PA	MS320/U/PS	M320X/U/PS	MS320/PS/BU-ONLY
320	MH320/U/ED28/PS	N/A	383810 PSMH 320W	N/A	N/A
320	MP320/BU/ED28/PS	MPR320/VBU/XHO/PA	MP320/BU/PS	N/A	MP320/350/PS/BU-ONLY/BT28
350	MH350/BU/ED28/PS	MVR350/VBU/PA	MS350/BU/PS	M350X/U/PS	N/A
350	MP350/BU/ED28/PS	MPR350/VBU/PA	MP350/BU/PS	N/A	MP350/400/PS/BU-ONLY
400	MH400/BU/ED37/PS	MVR400/VBU/HO/PA	MS400/BU/PS	M400X/U/PS	MS400/PS/BU-ONLY
400	MP400/BU/ED37PS	MPR400/VBU/XHO/PA	MP400/BU/PS	MP/400/BU/PS	MP350/400/PS/BU-ONLY
400	MH400/HOR/ED28/PS	MVR400/HOR/ED28/PA	MS400/HOR/PS	N/A	N/A
750	MH750/BU/BT37/PS	MVR750/VBU/PA	MS750/BU/BT37/PS	M750/BU-HOR/PS/BT37	N/A
Mercury Vapor					
100	H38AV-100/DX	HR100DX38/MED	N/A	HF100PD/MED	H38AV-100/DX
100	H38JA-100/DX	HR100DX38	H38JA-100/DX	HF100PD	H38JA-100/DX
175	H39KC-175/DX	HR175DX39	H39KC-175/DX	HF175PD	H39KC-175/DX
175	H39KB-175	HR175A39	H39KB-175	H175	H39KB-175
250	H37KC-250/DX	HR250DX37	H37KC-250/DX	HF250PD	H37KC-250/DX
250	H37KB-250	HR250A37	H37KB-250	H250	H37KB-250
400	H33GL-400/DX	HR400DX33	H33GL-400/DX	HF400PD	H33GL-400/DX
400	H33CD-400	HR400A33	H33CD-400	H400	H33CD-400
1000	H36GW-1000/DX	HR1000DX36	H36GW-1000/DX	HF1000BPD	H36GW-1000/DX

• Specifications are subject to change without notice.

HIGH INTENSITY DISCHARGE LAMP CROSS REFERENCE

(HPS / MH / PSMH / MV)

SCOTOPIC/PHOTOPIC MULTIPLIER METHOD*									
HID Fixture Info				LED drive current = 350mA @25°C			LED drive current = 500mA @25°C		
HID Lamp	Lamp Mean Lumens	Visually Effective Lumens Exiting Fixture (Mean)**	System Input Watts	LED Equivalent Input Wattage	Visually Effective Lumens Exiting Fixture**	Energy Savings	LED Equivalent Input Wattage	Visually Effective Lumens Exiting Fixture**	Energy Savings
70W PSMH	4,400	4,589	85	36	4,538	58%	40	4,554	53%
100W PSMH	5,800	6,049	129	48	6,050	63%	53	6,034	59%
150W PSMH	10,000	10,430	186	83	10,462	55%	92	10,474	51%
175W MH	10,800	11,264	210	89	11,218	58%	99	11,271	53%
200W PSMH	16,800	17,522	234	139	17,520	41%	154	17,533	34%
250W MH	17,000	17,731	292	141	17,772	52%	156	17,760	47%
250W PSMH	19,000	19,817	288	157	19,789	45%	174	19,810	40%
320W PSMH	21,000	21,903	364	174	21,932	52%	192	21,859	47%
350W PSMH	27,000	28,161	400	223	28,108	44%	247	28,120	38%
400W MH	23,500	24,511	460	194	24,453	58%	215	24,477	53%
400W PSMH	31,000	32,333	456	257	32,394	44%	284	32,333	38%
70W HPS	5,350	2,322	91	18	2,269	80%	20	2,277	78%
100W HPS	8,550	3,711	129	29	3,655	78%	33	3,757	74%
150W HPS	14,400	6,250	185	50	6,302	73%	55	6,262	70%
250W HPS	27,000	11,718	295	93	11,722	68%	103	11,726	65%
400W HPS	45,000	19,530	464	155	19,537	67%	172	19,582	63%

PHOTOPIC METHOD									
HID Fixture Info				LED drive current = 350mA @25°C			LED drive current = 500mA @25°C		
HID Lamp	Lamp Mean Lumens	Lumens Exiting Fixture (mean)**	System Watts	LED Equivalent Input Wattage	Lumens Exiting Fixture	Energy Savings	LED Equivalent Input Wattage	Lumens Exiting Fixture	Energy Savings
70W PSMH	4,400	3,080	85	52	3,063	39%	58	3,248	32%
100W PSMH	5,800	4,060	129	69	4,064	47%	76	4,256	41%
150W PSMH	10,000	7,000	186	119	7,009	36%	132	7,392	29%
175W MH	10,800	7,560	210	128	7,539	39%	142	7,952	32%
200W PSMH	16,800	11,760	234	200	11,780	15%	221	12,376	6%
250W MH	17,000	11,900	292	202	11,898	31%	224	12,544	23%
250W PSMH	19,000	13,300	288	226	13,311	22%	250	14,000	13%
320W PSMH	21,000	14,700	364	250	14,725	31%	276	15,456	24%
350W PSMH	27,000	18,900	400	321	18,907	20%	355	19,880	11%
400W MH	23,500	16,450	460	279	16,433	39%	309	17,304	33%
400W PSMH	31,000	21,700	456	368	21,675	19%	408	22,848	11%
70W HPS	5,350	3,745	91	64	3,770	30%	70	3,920	23%
100W HPS	8,550	5,985	129	102	6,008	21%	113	6,328	12%
150W HPS	14,400	10,080	185	171	10,072	8%	189	10,584	-2%
250W HPS	27,000	18,900	295	321	18,907	-9%	355	19,880	-20%
400W HPS	45,000	31,500	464	535	31,512	-15%	592	33,152	-28%

*Scotopic refers to visual perception in low light , photopic refers to color perception in normal light . The ratio of Scotopic light vs. Photopic light is called the S/P ratio. This ratio determines the apparent visual brightness of a light source. Higher S/P ratios appear brighter to the human eye. See: "Energy Efficiency Consequences of Scotopic Sensitivity", Dr. Sam Berman, Journal of the IES, Vol 21 No.1, Dec. 1992

"The Coming Revolution in Lighting Practice", Dr. Sam Berman, <http://www.lightenergysource.com/ScotopicTechnical.htm>

**Scotopic/Photopic ratios used: MH/PSMH = 1.49, HPS = 0.62, LED (6500K) = 2.14. HID fixtures assumed to be 70% optically efficient., actual efficiency will vary. Mean lumens of 95% used for LED.

The HI Lighting Calculator is provided to assist users in making lighting decisions based on various assumptions, factors, and methods. Efforts have been made to ensure accurate assumptions in developing this tool, however, HOWARD INDUSTRIES DOES NOT WARRANT OR GUARANTEE, EITHER EXPRESS OR IMPLIED, THAT THE RESULTS OBTAINED HEREIN WILL BE OBTAINABLE UNDER ACTUAL USE CONDITIONS. HOWARD INDUSTRIES IS NOT RESPONSIBLE FOR ANY LOSS RESULTING FROM THE USE OF THIS TOOL.

• Specifications are subject to change without notice.

TERMS AND CONDITIONS OF SALES

1. General
 - a. All orders are subject to acceptance by Howard Industries, Inc. – Lighting Products Division (hereinafter “Howard Lighting”).
 - b. Specifications are subject to change without notice. Contact Howard Lighting for verification.
 - c. Howard Lighting assumes no responsibility for the improper selection, installation, use, and/or maintenance of its products.
 - d. The terms and conditions set forth herein are in lieu of any and all other terms and conditions expressed or implied including the warranties of merchantability and fitness for a particular purpose. In no case shall Howard Lighting or Howard Industries, Inc. be obligated or liable for any indirect, consequential, or incidental damages for breach of these or any other terms and conditions expressed or implied whatsoever.
2. Terms
 - a. Purchaser understands that payments due per terms on page one of this document.
 - b. Purchaser understands an interest charge of 1.5% per month will be added on any past due balances.
3. Pricing

Unless noted otherwise in writing by Howard Lighting:

 - a. All pricing and quotes are based on US dollars.
 - b. Pricing is subject to change without notice.
 - c. The applicable taxes will be added to invoices.
 - d. Written quotes will be honored for thirty (30) calendar days given all fixtures are released for shipment within sixty (60) calendar days from the quote date.
 - e. Shipments requested after a quote expires may be subject to a price increase.
 - i. Exceptions may be made when specific ship dates are noted on the original quote.
 - ii. Pricing is subject to change if any accessory, option, or other condition is changed from the original quote.
4. Minimum Billing

Howard Lighting's minimum billing amount is \$100 (US).
5. Freight Allowance
 - a. Howard Lighting provides a freight allowance for orders totaling \$1000 (US) net given the full order is being shipped via normal freight to the same address in any of the contiguous 48 states in the US. Additional freight charges will be added as applicable to shipments to Alaska, Hawaii, and outside the US. For oversized products and those subject to damage that require special shipping, the minimum freight allowance is \$1000 (US) net. These model families include:
 - ELFL (Extral Large Floods)
 - SL (Sports Lighter)
 - HAX (Highbay HID)
 - IHAX (Inline Highbay HID)
 - LAX (Low Bay HID)
 - ILAX (Inline Lowbay HID)
 - VSA8 (8' Vaporproof Fluorescent Strip)
 - FSA8 (8' Fluorescent Strip)
 - FSB8 (8' Fluorescent Strip)
 - HFC7 (8' Highbay Fluorescent)
 - HFE7 (8' Highbay Fluorescent)
 - USC3 (Utility Small Cobrahead)
 - URL (Utility Roadway LED)
 - b. Partial shipments and shipments made to more than one location that include any of the model numbers noted in Section 5a, regardless of quantity, will be subject to a \$100 freight charge. Partial shipments and shipments made to more than one location that do not include a model noted in Section 5a will be subject to standard freight policy. Partial shipments and shipments made to more than one location must each total \$1000 (US) net to earn a freight allowance. Howard Lighting may make partial shipments at its own discretion, billing each shipment as it is made, but with freight terms applicable to the complete order.
 - c. Orders of less than \$1000 (US) net that include one of the models noted in Section 5a will be shipped as directed by the purchaser either freight collect or prepaid with a \$100 freight charge being added to the invoice. Any orders less than \$1000 (US) net and not including any models in Section 5a will have the standard freight policy applied.
 - d. For air or premium freight requests on orders over \$1000 (US) net, Howard Lighting will add the air or premium freight charges less the normally-incurred freight charges to the invoice.
 - e. Unless noted otherwise in writing by Howard Lighting, all published prices and quotes are F.O.B. shipping point..
 - f. To qualify for this freight allowance, Howard Lighting reserves the right to select the shipment's point of origin, method of transportation, and routing. Pre-paid freight allowance only applies to orders shipped within the continental United States.
6. Freight Claims

Purchaser understands and agrees to report claims for damage, shortage, or errors in material as follows:

 - a. Claims for damage and/or shortage caused by shipping must be made by the consignee to the carrier within ten (10) calendar days of delivery.
 - i. All items in question must be kept in their original cartons and at the original delivery point for inspection by carrier (upon request).
 - ii. If notified, Howard Lighting will assist purchaser as possible with claim.
 - b. Claims involving shortages or errors in material believed to be caused by Howard Lighting will not be considered unless noted on the delivery receipt and reported to Howard Lighting within ten (10) calendar days of delivery.
7. Returned Goods Policy
 - a. Howard Lighting will not accept any returned products without prior written authorization from Howard Lighting.
 - b. Return request must be made to Howard Lighting within 90 days of original shipment.
 - c. Purchaser agrees to prepay all transportation charges on all returned products.
 - d. Credit will be issued at the prices in effect at the time of shipment or at the time of the return – whichever is lower – provided the products are in a saleable condition, are current models, and are listed in the published price sheet in effect at the time of the return.
 - e. Purchaser understands that all non-stock, special, custom, or modified versions of normal factory-stock items are not returnable.
 - f. If Howard Lighting accepts the returned merchandise and credits the purchaser's account, the purchaser agrees to pay a minimum restocking fee of 25% plus the original freight cost. These amounts will be deducted from the credit to cover the cost of handling and inspection.
 - g. Howard Lighting will not issue account credits when the value of the items to be returned is less than \$50 (US).
 - h. Returns from any one-job order will be limited to no more than 10% of the original job order's value.
 - i. Orders for stocked products may be cancelled without any cancellation charges provided Howard Lighting receives a written cancellation request prior to shipment.
 - j. Order cancellations for custom products are subject to cancellation charges based on the costs incurred and commitments made by Howard Lighting up to and including the date the written cancellation notification was received.
 - k. Returned product must be in unopened original factory cartons, in re-saleable condition, non-obsolete product, and have been shipped or sold directly by Howard Lighting Products.
8. Hold For Release Orders

Orders received as “hold for release” or “will advise” are not processed for manufacture until a written release is received and the order has been priced.
9. Claims

Refunds, repairs, or replacement will be at the sole discretion of Howard Lighting. Reimbursement for any field labor and/or service charges must be pre approved in writing by Howard Lighting. Refer to our product warranty for more information.

• Specifications are subject to change without notice.



Howard Corporate Headquarters

Howard Industries' corporate headquarters and computer and medical cart manufacturing facilities are nestled within the 504-acre Howard Technology Park.

Building highlights:

- 60,000 sq ft of office space
- 72,000 sq ft of manufacturing space
- 3,200 sq ft bridge way connecting offices to manufacturing facility

Power Solutions



Howard Power Solutions, originally known as Howard Industries, was founded in 1968 by Billy W. Howard, Sr. Over the past four decades, this company has grown to be the nation's leading manufacturer of distribution transformers, with over 7 million transformers in service throughout the United States and abroad. Located in Laurel, MS, this facility has 2 million square feet, making it the largest transformer plant in the world. Our newest transformer division, Howard Substation Transformers, located near corporate headquarters, began manufacturing operations in April 2005 producing power transformers with higher KVA and voltage ratings.

Technology Solutions



Our new Corporate Headquarters is also home to our technology division, Howard Technology Solutions, and its medical division, Howard Medical. These 2 divisions bring to market cutting-edge, high-quality technology and medical equipment. Whether selling Howard-manufactured products such as desktops, notebooks, servers, and medical carts or partnering with other industry-leading companies to provide over 190,000 products, one can be sure when you buy from Howard, the needed equipment is available at affordable prices.

Lighting Products



Howard Lighting Products markets a vast portfolio including electronic fluorescent ballasts, magnetic HID ballasts, as well as T5/T8 and compact fluorescent lamps, HID lamps and halogen lamps; as well as a full line of HID, linear fluorescent, LED, and Induction fixtures. This division continually updates their product lines to meet the ever-changing demands of the market.

Transportation



Howard Transportation, a wholly-owned subsidiary of Howard Industries, Inc., operates a full-load, long-haul, flat-bed common carrier truck line and brokerage firm that transports commodities and industrial goods throughout the continental United States. Initially started to transport Howard Power Solutions' raw materials and finished products, this division today consists of over 200 trucks with regional terminal facilities also located in West Virginia and North Carolina.

HOWARDTM
LIGHTING PRODUCTS



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