aniana Niama			
roject Name			

Type _

LENGTH²

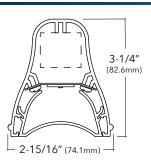
__- Individual Fixture

_ - Continuous Row









MOFFAT M Indoor Linear Luminaire



Key Features

A - Satine Lens

HE - High Efficiency Lens

- 6063-T6 Extruded aluminum housing
- Highly reflective die-formed white painted steel reflector
- Die-cast aluminum end caps
- MOFFAT offered with a 5-year limited warranty that covers LED, driver and fixture
- ETL listed conforming to UL 1598 in US and CSA 250 in Canada
- Approved for dry/damp location
- Maximum fixture weight is 20 lbs per standard 4' fixture
- Rotatable fixture head for asymmetric or general illumination
- Buy American Act compliant

SHIELDING









MOUNTING³

AC__G_ - AC to Grid

AC__JB - AC to J Box



Example Part #: M-A-835HO-26'-AC48G1-U-OL2-1-0-W

M	-	-	-	-	-	-	-	-	-	-	-
	SHIELDING	SOURCE	LENGTH	MOUNTING	VOLTAGE	DRIVER	CIRCUITING	BATTERY & EMERGENCY	FINISH	FIXTURE OPTIONS	CONTROLS

SOURCE1

**27** _ - 2700K

**30** _ - 3000K

WHE - Asymmetric Lens P - Parabolic Louver Shielding pg. 2	35 3500K (available as BIOS) 40 4000K (available as BIOS) TW3 - Tunable White (Blanco 3) CL Custom Lumens CW Custom Watts Output pg. 2-3	Length pg. 3	AC_ST - AC to Structure FL - Flush Mount PH Pendant Hub (specify 12", 18", 24") PHS Pendant Swivel (specify 12", 18", 24") WH Wall Hub (specify 6", 12", 18", 24") Mounting pg. 4		
		-			
VOLTAGE	DRIVER	CIRCUITING	BATTERY & EMERGENCY⁴		
U - Universal (120 thru 277V) 1 - 120V 2 - 277V 3 - 347V Voltage pg. 4	OL2 - Osram (1%, 0-10v, standard) OL3 - Osram 347v (10%, 0-10v) EE1 - eldoLED ECOdrive (1%, 0-10v) ES1 - eldoLED SOLOdrive (0%, 0-10v) LH1- Lutron Hi-lume (1%, EcoSystem) L51- Lutron 5-Series (5%, EcoSystem) PL2 - Advance Xitanium (1%, 0-10v) ND - Non-Dimming Driver pg. 4	1 - Single Circuit M - Multi Circuit E - Emergency (entire fixture) N - Night Light (entire fixture) Circuiting pg. 4	O - None _PLL - Bodine 10W (low profile) _E - Emergency circuit section _N - Night Light circuit section _L - Life Safety circuit section _G - Bodine GTD Battery and Emergency pg. 4-5		

FINISH	FIXTURE OPTIONS⁵	CONTROLS ⁶
W - White S - Metallic Silver BL - Textured Black BR - Bronze GR - Graphite CC - Custom Color Finish pg. 5	CE - Chrome Endcaps CM - Chrome Mounting (includes hub) V - Visor Fixture Options pg. 5	DLMFC - Wattstopper DLM (wired) CLME - Osram CLM (wireless) VRF - Lutron Vive Connected (wireless) Controls pg. 5

When specifying SOURCE the first _ is for specifying either 8 - 80CRI, 9 - 90CRI or B - BIOS. The ending _ are for specifying output, example HO - High Output. When specifying BIOS use B and then specify color temperature, either 3500K or 4000K, and output, example **B35HO** - BIOS 3500K High Output. See output charts for more information. BIOS dynamic available, please contact factory for more information. ²Individual fixtures come in **2'**, **3'**, **4'**, **6'** & **8'** lengths. Continuous rows available in 1' increments, starting at 2' ³Specify AC Cable length, standard AC are 48" & 120"; Specify grid: G1=15/16", G9=9/16", GS=Screw Slot. ⁴Enter quantity for Battery and Emergency, Example 2PL. Both CE and CM options may require longer lead times. Controls can only be used with Single Circuit (1) or Emergency Circuit (E). See Controls chart on page 5 for driver options and more information.

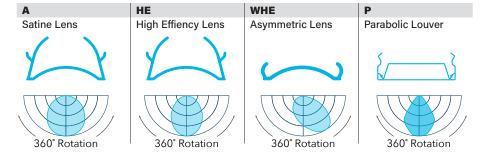


MOFFAT M Indoor Linear Luminaire



Shielding

• The distributions for each shielding option below are shown in a direct orientation. See Mounting for all rotating head options.



CRI, CCT & Output

- Specify either 80 or 90 CRI
- Longer lead-time may apply for 90 CRI. Consult factory

• 80 CRI = R9≥19 and 90 CRI = R9≥61

Custom C	utput- Lui	mens OR \	<i>N</i> attage								
CL	Specify C	RI, CCT and c	lesired lume	ns (i.e. CL8	35950)	Specify lumens between standard offering listed below. Lumens are specified per color t					per color temp
CW		RI, CCT and c				Specify wat	Specify watts between standard offering listed below				
80 CRI											
	Color	Output	Lumens	Shieldin	g						
			per foot	A		HE		WHE		P	
				Satine		High Effi	ciency	Asymme	tric Lens	Parabol	c Louver
				LPW	Watts/ft	LPW	Watts/ft	LPW	Watts/ft	LPW	Watts/ft
830LO	3000K	Low	350	100.0	3.5	110.9	3.2	104.6	3.3	84.6	4.1
830	3000K	Standard	750	105.1	7.1	116.0	6.5	110.1	6.8	85.5	8.8
830HO	3000K	High	1000	107.3	9.3	115.3	8.7	108.9	9.2	86.4	11.6
830VHO	3000K	Very High	1250	105.5	11.9	118.0	10.6	110.7	11.3		N/A
835LO	3500K	Low	350	102.8	3.4	114.0	3.1	107.5	3.3	87.0	4.0
835	3500K	Standard	750	108.1	6.9	118.2	6.3	112.3	6.7	87.6	8.6
835HO	3500K	High	1000	110.4	9.1	118.6	8.4	112.0	8.9	88.9	11.2
835VHO	3500K	Very High	1250	108.6	11.5	121.4	10.3	113.9	11.0		N/A
840LO	4000K	Low	350	104.0	3.4	115.4	3.0	108.8	3.2	86.0	4.1
840	4000K	Standard	750	109.4	6.9	119.6	6.3	113.7	6.6	88.7	8.5
840HO	4000K	High	1000	111.8	8.9	120.1	8.3	113.4	8.8	90.0	11.1
840VHO	4000K	Very High	1250	109.9	11.4	122.9	10.2	115.4	10.8		N/A
90 CRI											
927LO	2700K	Low	350	86.7	4.0	94.1	3.7	88.7	3.9	71.5	4.9
927	2700K	Standard	750	87.6	8.6	97.4	7.7	91.5	8.2	73.5	10.2
927HO	2700K	High	1000	89.1	11.2	99.5	10.0	93.5	10.7		N/A
930LO	3000K	Low	350	87.7	4.0	97.3	3.6	91.7	3.8	73.4	4.8
930	3000K	Standard	750	90.7	8.3	100.9	7.4	94.7	7.9	75.4	9.9
930HO	3000K	High	1000	92.4	10.8	102.2	9.8	96.9	10.3	73.9	13.5
935LO	3500K	Low	350	89.6	3.9	97.5	3.6	93.7	3.7	75.4	4.6
935	3500K	Standard	750	92.4	8.1	103.1	7.3	97.0	7.7	77.1	9.7
935HO	3500K	High	1000	94.5	10.6	104.5	9.6	99.1	10.1	76.5	13.1
940LO	4000K	Low	350	89.0	3.9	96.8	3.6	93.0	3.8	74.5	4.7
940	4000K	Standard	750	91.7	8.2	102.3	7.3	96.1	7.8	76.5	9.8
940HO	4000K	High	1000	93.7	10.7	103.7	9.6	98.3	10.2	75.9	13.2

'LPW and watts/ft based off 48" fixture size.



Indoor Linear Luminaire

Source: BIOS1

- CRI >84, R9 >90
- Spectrum focused lighting for circadian stimulus
- High EML or M/P ratio: .8 for 3500K, .9 for 4000K

- COI: >3.0
- Available for use with most Driver or Control options

Custom Output - Lumens OR Wattage

CLB	Specify CRI, CCT and desired lumens (i.e. CL835500)	Specify lumens between standard offering listed below. Lumens are specified per color temp
CWB	Specify CRI, CCT and desired wattage (i.e. CW9407)	Specify watts between standard offering listed below

BIOS

	Color	Lumens	Shielding ¹				
		per foot	Α	_	HE		
			Satine	Satine		ciency	
			LPW	Watts/ft	LPW	Watts/ft	
B35LO	3500K	350	64.3	5.4	71.7	4.9	
B35	3500K	750	62.4	12.0	70.3	10.7	
В35НО	3500K	1000	N.	/A	66.1	15.1	
B40LO	4000K	350	65.8	5.3	72.6	4.8	
B40	4000K	750	63.2	11.9	71.2	10.5	
В40НО	4000K	1000	N/A		67.0	14.9	

Source: Blanco31

- CRI >90, R9 >92
- 3 Channel tunable white for precise black body curve CCT
- Allows for high color consistency between fixtures

- Self-commissioning with Wattstopper DLM integrated controls
- Requires Control Ordering Code **B3LM** (pg. 6) Requires Driver Ordering Code **EC2** (pg. 4)

Blanco 3 Tunable White (TW3)

		Range	Shielding ¹					
			A			HE		
			Satine	Satine			ciency	
		2700-	Lumens/ft	LPW	Watts/ft	Lumens/ft	LPW	Watts/ft
1	TW3	6500K	665	79	8.5	736	87	8.5

¹I PW and watts/ft based off 48" fixture size.

Length

· All individual units cannot be joined

The AC, PH and WH mounting options have a 1-3/8" hub on each side of the fixture, the FL mounting option had 1/2" hub at each end of the fixture, see installation instuctions for more details and chart.



Specifications and dimensions subject to change without notice. Specification sheets that appear on pinnacle-ltg.com are the most recent version and supersede all other previously printed or electronic versions.

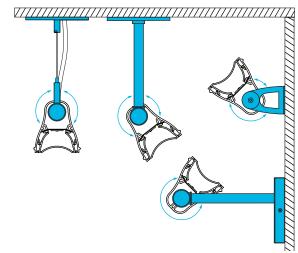
Designed in Denver, CO • USA | pinnacle-ltg.com | O: 303-322-5570 F: 303-322-5568

Mounting

- Specify cable length in ordering code (AC48G1)
- Standard 48" adjustable cable. Specify up to 350" Pendant lengths are 12", 18", and 24"
- Wall Hub lengths are 6", 12", 18", and 24"
- End caps and standard white power cord attached at factory Aircraft Cable supplied with 5" (127mm) power and
- - 2" (51mm) non-power canopies
- Canopies, hubs, and pendants match fixture finish, power cords are white, grey, or black depending on fixture finish. See Finish section for additional details
- Approved for dry/damp location unless otherwise noted

ACG1	Adjustable AC to 1" (15/16") T-Bar (15° rotating head)
ACG9	Adjustable AC to 9/16" T-Bar (15° rotating head)
ACGS	Adjustable AC to Screw Slot T-Bar (15° rotating head)
ACJB	Adjustable AC to Junction Box (15° rotating head)
ACST	Adjustable AC to Structure (15° rotating head)
FL	Flush Mount (360° rotating head)
PH	Pendant Hub (360° rotating head)
PHS	Pendant Hub Swivel (Hub swivels 23°, 360° rotating head)
WH	Wall Hub (360° rotating head)
AC5G_	5" (127mm) Non-Power Canopy
AC5JB	5" (127mm) Non-Power Canopy
SQG_	5" (127mm) Square Canopy
SQJB	5" (127mm) Square Canopy

- Refer to installation instructions during installation at the job site
- Maximum fixture weight is 20 lbs. per 4' fixture Fixture head rotation provides asymmetric output,
- The AC, PH and WH mounting options have a 1-3/8" hub on each side of the fixture, the FL mounting option has 1/2" hub at each end of the fixture, see installation instuctions for more details and chart.
- When using AC mount fixture head shouldnt be rotated more then 15°, anything past that will cause fixture to not hang straight



Voltage

Some MOFFAT configurations will not accommodate all voltage options; consult with factory

U	Universal
1	120 volt
2	277 volt
3	347 volt

Driver

- For more driver options see Pinnacle Resource Guide
- Standard Driver Option = OL2
- Driver Lifetime: 50,000 hours at 25°C ambient operating conditions
- Some MOFFAT configurations will not accommodate all driver options; consult with factory

Osram Optotronic 1%, 0-10v
Osram Optotronic 347v 10%, 0-10v, requires 347v option
Osram Optronic 1%, 0-10v, AUX
eldoLED ECOdrive 1%, 0-10v Logarithmic
eldoLED ECOdrive 1%, for nLight Air Wireless
eldoLED SOLOdrive 0%, 0-10v Logarithmic
eldoLED SOLOdrive 0%, for nLight Air Wireless
Constant Voltage LED driver, 120v or 277v required
Lutron Hi-lume Soft-on, Fade-to-black 1%, EcoSystem, LDE1
Lutron 5-Series 5%, EcoSystem, LDE5
Advance Xitanium 1% , 0-10v
Advance Xitanium SR, 5%
Non-Dimming

How to specify Circuiting, Battery and Emergency



- Select fixture circuiting from options below
- Some MOFFAT configurations will not accommodate all circuiting options, consult with factory

Circuiting

1	Single Circuit
M	Multi Circuit
E	Emergency Circuit only
N	Night Light Circuit only



- Battery and emergency section options are available in addition to fixture circuit
- Select battery and emergency section options below; factory shop drawing required
- Some MOFFAT configurations will not accommodate all circuiting options, consult with factory

Battery and/or Emergency If Required

No battery or specific emergency section required





- Select battery section type if required, indicate total QTY. Example 2PL
- 90 minute battery runtime; test button can be integral or remote to fixture
- For more battery options available, see Pinnacle Resource Guide

0	No battery
_ PLL	Bodine 10w Integral Lithium Self Testing (low profile)

Emergency

- Select emergency section type if required, indicate total QTY. Example 1E
- Combine battery and emergency section ordering codes if both options are selected

	_E	Emergency circuit section
Ī	_N	Night Light circuit section
I	_L	Life Safety circuit section NO THROUGH WIRE
	G	Bodine GTD, Generator Transfer Device section

Battery OR Emergency Ordering Examples

- Single circuit, 10w Integral Battery
- Emergency only, 10w Integral Battery
- Single circuit, GTD required

Ordering Code: 1-1PL Ordering Code: E-1PL

Ordering Code: 1-1G

Combination Section Ordering Examples

For Approximate Battery Lumen Output

• 92.3 (LPW) x 10 (watts) = 923 battery lumen output

• Single circuit, (1) 10w battery, (1) emergency section Ordering Code: 1-1PL1E

• Multiply battery wattage X fixture LPW shown on Lumen Table

- Multi circuit, (2) 10w battery, (2) emergency sections Ordering Code: M-2PL2E
- Single circuit, (1) night light section Ordering Code: 1-1N

Finish

- Standard powder-coat textured white, metallic silver, textured black, graphite or bronze painted finish; consult factory for chip of standard paint finishes
- Selecting a fixture finish other than white may impact lumen output; consult factory for more information

W	White (white cord/white canopy)
S	Metallic Silver (grey cord/silver canopy)
BL	Textured Black (black cord/black canopy)
BR	Bronze (white cord/bronze canopy)
GR	Graphite (white cord/graphite canopy)
CC	Custom Color (white cord/color match canopy)

Specify finish options for mounting hardware (endcaps, hubs, and pendants) in fixture options section

Fixture Options

- Additional options to enhance the fixture and finish of the product
- CM option includes both Hub and Pendant (NOT ENDCAP). May require longer lead time.

CE	Chrome Endcaps
CM	Chrome Mounting (includes hub)
V	Visor

Cannot combine Visor with DLMFC or CLME contol options



Controls

- Pinnacle Lighting offers easy to specify network control solutions that connect to an intelligent centralized system to maximize lighting energy efficiencies or integral sensors for individual fixture control
- Pinnacle Lighting fixtures ship technology ready; commissioning by others
- Controls can only be used with Single Circuit (1) or Emergency Circuit (E)
- Contact factory for any non-standard configurations for layout, placement, or EM options
- One drop/sensor per run typical, contact factory for more information

	Solution	Components	Network/Sensor	Connection	Required Drivers	Limitations
DLMFC	Legrand Wattstopper DLM	LMFC-011	Digital Light Management (DLM)	Wired, one RJ45 port	Any 0-10v	None
CLME	Osram CLM	ZBHA-CLM-DIM	Encelium	Wireless	OL5	None
VRF	Lutron Vive Connected	DFCSJ-OEM-RF	Vive	Wireless	OD1, PR1	Not available with 347 volt

Controls: Tunable White

- Pinnacle Lighting offers easy to specify tunable white solutions for integrated building control or standalone controls
- Pinnacle Lighting fixtures ship technology ready; commissioning by others
- Controls can only be used with Single Circuit (1) or Emergency Circuit (E),
- Contact factory for any non-standard configurations for layout or placement

	Solution	Components	Network/Sensor	Connection	RQD Drivers	RQD LED	RQD Controls	Limitations
B3LM	Legrand Wattstopper Blanco 3	BLM3-DLM	Digital Lighting Management (DLM)	Wired, one RJ45 port	EC2	TW3	B3LM	Not available with 347 volt

Photometrics

Satine Lens

Test # ITL91825 Catalog # M-HE-840VHO-4 Lumens 5312 lm Watts 43.1 W Efficacy 123 LPW

Candela Distribution

Horizontal Angle

2264 2264

2249 2248 2244 2241

2209

2138 2117 2106

2044 | 2010 | 1993 | 1965

1922 1884

1786 1742

1636 | 1593 | 1548 | 1494

1475

1306 | 1270 | 1218 | 1158 | 1130

1137

968 942 886

801

638 622

480 469

331 327 278 257 251

198 189 165 154 151

89 77 70 65 64

22.5

2198 2191 2183

1434

1105 1052 991 967

778

45

2264 2264

1856

1710 1659 1638

1384 1323 1298

725

571 515

419 373

67.5 90

2088 2075

828 804

668

2264

2239

2179

1948

1818 1796

1465

645

494

363

5

Angle

0

10

15

20

25

35

40

45

50

55

60

65

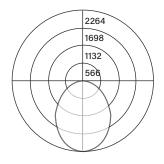
70

75

80

85

90



Luminance Data (cd/sq.m)

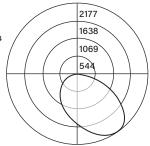
Angle In	Average	Average	Average
Degrees	0-Deg	45-Deg	90-Deg
45	25653	22492	20410
55	23396	19631	17277
65	20862	16437	13612
75	17550	11936	10062
85	13557	6287	4984

Asymmetric Lens

Efficacy

Test # ITL93165 Catalog # MF-WHE-840VHO-4 Lumens 4808 lm Watts 41.2 W

117 LPW



Candela Distribution

Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	1622	1622	1622	1622	1622
5	1755	1756	1750	1742	1727
10	1885	1881	1872	1856	1827
15	2005	2000	1988	1960	1916
20	2103	2093	2083	2044	1987
25	2161	2153	2138	2094	2029
30	2176	2165	2148	2102	2032
35	2128	2118	2103	2055	1985
40	2017	2009	1994	1951	1886
45	1842	1837	1825	1793	1739
50	1629	1620	1616	1590	1548
55	1378	1375	1369	1361	1328
60	1113	1116	1111	1115	1091
65	850	850	849	862	851
70	558	563	573	594	617
75	256	263	278	319	363
80	88	89	93	102	131
85	30	31	31	32	35
90	0	1	1	2	2

Luminance Data (cd/sq.m)

Angle In	Average	Average	Average
Degrees	0-Deg	45-Deg	90-Deg
45	35248	34922	20226
55	32508	32295	18778
65	27214	27182	16841
75	13384	14534	13697
85	4657	4813	7762

Fixture tested in direct orientation. Fixture head is rotatable for asymmetric aiming as needed. For all available IES files, please visit our website at pinnacle-ltg.com. Photometry testing in accordance to IESNA-LM-79-08 at an NVLAP accredited testing laboratory. Testing conducted at 25°C ambient conditions

Approvals & Certifications

Construction: 6063-T6 Extruded aluminum housing. Fixtures can be joined to create continuous runs. Standard high reflectance die-formed reflector.

Shielding: Coextruded snap-in acrylic lens with diffuse face and highly reflective sides.

Mounting: Adjustable aircraft cable, pendant mount, wall mount, and flush mounts available. Fixture head roation provides asymmetric output. When using AC mount fixture head shouldnt be rotated more then 15°, anything past that will cause fixture to not hang straight. Refer to installation instructions for appropriate ceiling detail. Maximum fixture weight is 20 lbs. per 4' fixture.

White LED: 25°C test environment. Lumen output/wattage has a margin of +/- 5%. All luminaire configurations tested in accordance with IES LM-79. Diodes tested in accordance with IES LM-80. Lifetime calculated using IES TM-21. Minimum lifetime greater than 60,000 hours. Lifetime Projection: L70 lifetime − 146,500 hours and L90 lifetime − 45,000 hours. MacAdam 3-Step Ellipses. For all available IES files, please visit our website at pinnacle-ltg.com. Four lumen packages available. Low (LO), Standard, High (HO), and Very High (VHO). Custom outputs are available. Specify custom lumens or watts between standard offering listed on CRI, CCT & Output page. 80 CRI is available for 3000K, 3500K, and 4000K. 90 CRI is available for 2700K, 3000K, 3500K, and 4000K. 80 CRI = R9≥19 and 90 CRI = R9≥61. Fixture performance and photometric data based on 4′ configuration. Published lumen or wattage data based on OL1 configuration.

BIOS LED: Spectrum focused lighting for circadian stimulus. EML or M/P ratio: .8 for 3500K, .9 for 4000K. COI >3.0. Not all lumen packages available. Three lumen packages available. Low (LO), Standard, and High (HO). Custom outputs are available. Specify custom lumens or watts between standard offering listed on CRI, CCT & Output page.

Tunable White LED: Blanco 3; 3 Channel tunable white for precise black body curve CCT. Self-commissioning with Wattstopper DLM integrated controls. Custom lumen output and color temperature configurations require use of controls.

Voltage: Universal (U), 120 volt (1), 277 volt (2) and 347 volt (3) options available. Must specify OL3 in Driver section when 347 volt (3) is selected. Some MOFFAT configurations will not accommodate all voltage options; consult with factory.

Driver: Standard Driver Option is Osram 0-10V, 1% = OL2. Electronic driver, Power factor is >0.9 with a THD <20%. Driver Lifetime: 50,000 hours at 25°C ambient operating

conditions. Ambient operating range: -4F/-20C to 122F/50C For more driver options, see Pinnacle Resource Guide. Some MOFFAT configurations will not accommodate all driver options.

Circuiting: Select from single circuit (1), Multi circuit (M), Emergency circuit (E), Night Light circuit (N) or Life Safety (L). For emergency circuiting situations that require no through wire or circuit separation, Life Safety Circuit should be selected. This will provide a separate power feed and only the Life Safety Circuit in that section. Some MOFFAT configurations will not accommodate all circuiting options; consult with factory.

Battery & Emergency: Select battery or emergency options if required. If battery or emergency option is not required, enter 0. Battery duration is 90 minutes as standard. Test button can be integral or remote to fixture. For more Battery options, see Pinnacle Resource Guide.

Finish: Standard powder-coat textured white, metallic silver, textured black, graphite or bronze painted finish, consult factory for chip of standard paint finishes. Canopies, hubs, and pendants painted white unless specified differently in the options section of the part number. Contact factory for additional custom color and finish options.

Controls: DLMFC: DLM utilizes wired network connections for digital control through switching and dimming with 0-10v LED drivers. NLTAIR: nLight Air rIO module provides wireless control using eldoLED LED drivers. CLME: ENCELIUM CLM provides wireless control using the Osram LED driver. VRF: Lutron Vive module provides wireless control using DEXAL or SR LED drivers. B3LM: DLM digital control of Intensity and CCT for tunable white.

Labels: ETL listed conforming to UL1598 abd CSA 250. Approved for dry/damp location unless otherwise noted.

Approved for dry/damp location unless otherwise noted.

Fixture Weight: Maximum fixture weight is 20 lbs (per 4' fixture).

Buy American Act Compliant

Warranty: MOFFAT LED offered with a 5-year limited warranty. Covers LED, driver and fixture.