

W L

SYSTEM
SOLUTIONS

MICROLINEA™ SERIES 5
WET LOCATION LED

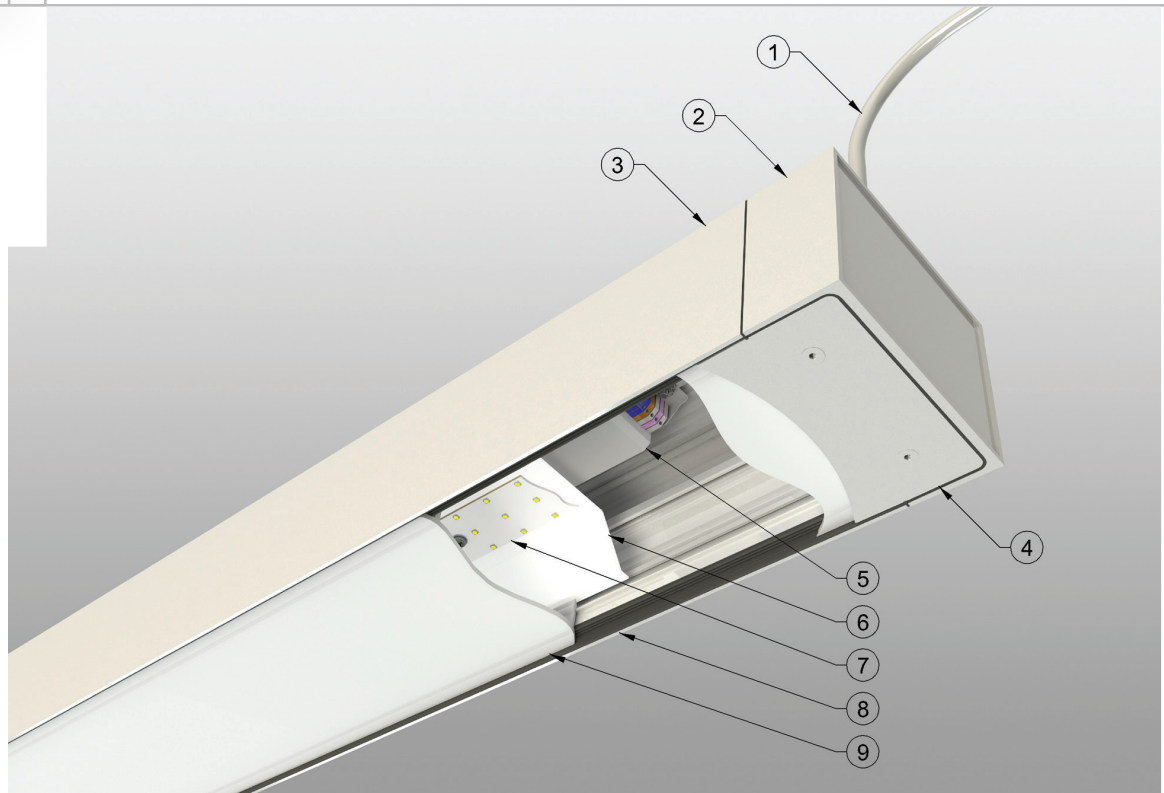


Precision
Architectural
Lighting

THE NEW MICROLINEA SERIES 5 WET LOCATION
LED DIRECT FIXTURE EXTENDS THE SHAPE OF THE CLASSIC PAL
MICROLINEA SERIES 5 INTO THE OUTDOORS

W/L

RUGGEDLY STYLISH



WATERPROOF,
DUSTPROOF AND
INSECT-PROOF
(IP65-RATED)
FOR LONG LIFE IN
DEMANDING CONDITIONS

- ① FEED CORD: Type "SJTOW" suitable for wet locations; secured w/watertight strain relief
 - ② END CAP: Die-cast aluminum secured with no visible fasteners; end cap/housing joint sealed with molded silicone rubber gasket
 - ③ HOUSING: 1/8-in. thick extruded aluminum with durable baked polyester powder coat
 - ④ END CAP COVER: Die-cast aluminum sealed with molded silicone rubber gasket
 - ⑤ LED DRIVER: UL/CUL recognized w/0-10V dimming option; driver suitable for ambient temperatures of -30°C to 40°C
 - ⑥ ALUMINUM REFLECTOR/HEAT SINK: 0.060-in. thick aluminum finished with low gloss, high-reflectance baked powder coat finish
 - ⑦ LED MODULE: Osram/Sylvania 3-row distributed array; available in 3000, 3500 or 4000K
 - ⑧ LENS GASKET: Extruded expanded silicone rubber
 - ⑨ LENS: 1/8-in. thick extruded translucent white acrylic formulated to eliminate LED pixelation
- ADDITIONAL FEATURES:
- All internal brackets, hardware and mounting components are aluminum or stainless steel to ensure durability
 - Vandal-resistant hardware/lens optional

PRECISION ARCHITECTURAL LIGHTING

LED lighting facts
A Program of the U.S. DOE

Light Output (Lumens)	3226
Watts	40.98
Lumens per Watt (Efficacy)	78.7

Color Accuracy Color Rendering Index (CRI)	83
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Light Color Correlated Color Temperature (CCT)	3994 (Bright White)
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Warm White	Bright White	Daylight
2700K	3000K	4500K
		6500K

Warranty** Yes

All results, except LED Lumen Maintenance, are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

** See www.lightingfacts.com/products for details.

Registration Number: INRP-878442 (7/17/2015)
Model Number: ML5P65-D-HO-K40-4'W-LOH-FXXX-EF-UNIV
Type: Luminaire - Linear

A CONTEMPORARY EXTERIOR SOLUTION

THE ML SERIES 5 WET LOCATION FIXTURE
OFFERS A STYLISH EXTERIOR SOLUTION AVAILABLE WITH
SUSPENDED, CEILING, WALL OR RECESSED MOUNTING OPTIONS



- Targeted light output is delivered via programmable drivers
- Extruded aluminum construction and precision die castings provide crisp lines while ensuring the high level of quality that you and your customers expect
- Durable extruded acrylic lens provides maximum diffusion of the LED source for a smooth, pleasing illuminated appearance
- Suitable for challenging environments such as natatoriums, building facades, and transit stations



**Precision
Architectural
Lighting**

4830 Timber Creek Drive,
Houston, TX 77017

P: 713.946.4343

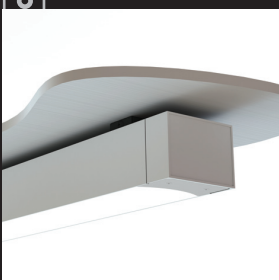
F: 713.946.4441

www.pal-lighting.com

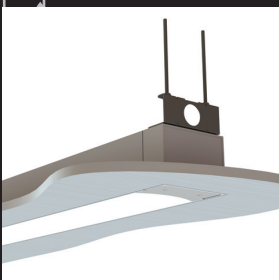
A premier manufacturer
of architectural grade
lighting systems,
Precision Architectural
Lighting combines
quality craftsmanship,
outstanding product
performance and
personalized customer
support, partnering with
you to ensure your
complete satisfaction.



P=STEM



J=CEILING



R=RECESSED



W=WALL

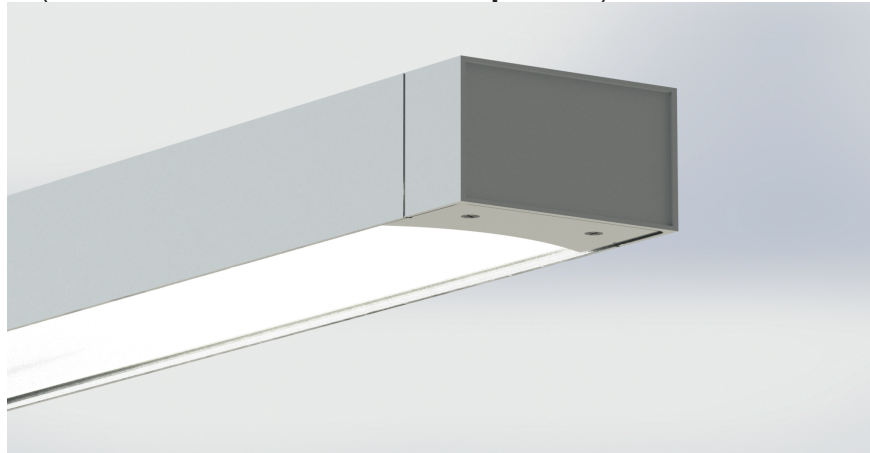
MICROLINEA™ SERIES 5 WET LOCATION LED

SPECIFICATIONS

SERIES	ML5WL-D	ML5WL-D
MICROLINEA SERIES 5 WET LOCATION-DIRECT	ML5WL-D	
LUMEN OUTPUT		
Lumen ratings per 4' section (3500 K)		
HIGH OUTPUT	HO	
3226 Total Lumens-79 Lm/W		
MEDIUM OUTPUT	MO	
1949 Total Lumens-87 Lm/W		
CCT		
3000 K	K30	
3500 K	K35	
4000 K	K40	
STANDARD LENGTHS		
2', 3', 4', 6' AND 8'	2, 3, 4, 6, or 8	
MOUNTING (STAINLESS STEEL)		
RIGID STEM ASSY.	P	
(Up to 24" standard)		
CEILING MOUNT BRKT. ASSY.	J	
RECESS MOUNT BRKT. ASSY.	R	
WALL MOUNT BRKT. ASSY.	W	
OPTICAL CONTROL		LOH
LED OPTIMIZED HIGH TRANSMITTANCE LENS	LOH	
FINISHES		
Standard Finishes		
MATTE WHITE	F01M	
BRONZED	F10	
TEXTURED MATTE BLACK	F11T	
ULTRASONIC CLEAR	F12	
CUSTOM COLOR	FCC	
FEED CORD LOCATION		
END FEED	EF	
TOP FEED	TF	
VOLTAGE		
120, 277	120V or 277V	
OPTIONS		
EMERGENCY CIRCUIT	EMCKT	
EMERGENCY BATTERY PACK (10 Watt, Self-testing)	EBPHST	
DIMMING	DIM	
FUSED DRIVERS	FS	
COLD WEATHER DRIVER (-40°C Ambient Temp. Rating)	CWD	
VANDAL-RESISTANT FEATURE (Tamper-proof hardware, polycarbonate lens)	VR	

Microlinea™ Series 5 Direct Wet Location - LED

(Nominal 5-3/16" Luminous Aperture)



S P E C I F I C A T I O N S

Housing

One piece .125" thick extruded aluminum. Die-cast aluminum end caps are fully gasketed and secured with no visible fasteners. Standard lengths are nominal 2', 3', 4', 6' and 8'. Provisions may be made for continuous rows of virtually any length.

Internal Construction

All internal mechanical components, including fasteners, are aluminum or stainless steel.

Finish

Standard and premium finishes are baked powder coat electrostatically applied (2.0 mil minimum thickness) to assure aesthetics and durability.

Optical Control

(LOH) .125" thick high transmittance extruded acrylic snap-in lens, formulated for maximum diffusion of the LED light source. Lens is continuously gasketed against dust and water intrusion.

VR: Vandal Resistant Option

.125" thick polycarbonate integral lens combined with tamper-resistant screws.

Reflector/Heat Sink

.060" thick formed aluminum finished with a high reflectance white baked powder coat.

Driver

Osram-Sylvania "Optotronic" power supply is UL/CUL recognized, 0-10V dimming available, 120-277 universal voltage

Light Engine

Osram-Sylvania LED modules available for 3000K, 3500K and 4000K CCT:

HO - High Output

*3226 Total Delivered Lms. at 41 System Watts (Values per 4' using 3500K LED modules)

MO - Medium Output

*1949 Total Delivered Lms. at 22 System Watts (Values per 4' using 3500K LED modules)

*Due to continued advancement in LED technology, lumen performance is subject to change. Please visit our website for the most up-to-date information.

Circuitry

All fixtures are factory pre-wired for a single circuit. Provision for multiple switching/circuiting is optional.

Wiring

All fixtures intended for continuous rows are provided with factory installed quick-connect wiring.

Mounting

All mounting components are aluminum or stainless steel. Standard finish for wall, recessed, and ceiling assemblies is matte black. Stem/Canopy assemblies are painted to match fixture housing.

Certifications

All fixtures are UL/CUL listed for use in 'Wet Locations'. Ambient temperature rated up to 40°C, or 35°C with battery back-up. IP-65 rated*.

Catalog Number

Type

Project Name

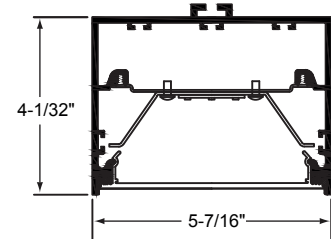
ML5WL-D

Suspended, Ceiling, Recessed or Wall Mount - Wet Location/IP-65 Rated

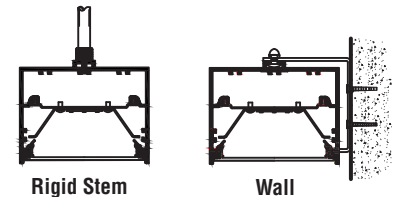
5-7/16" x 4-1/32" Direct (LED)

5 Year

Limited Warranty LED Boards & Drivers

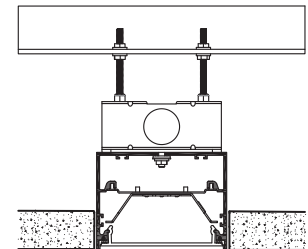


ML5WL-D-HO
ML5WL-D-MO

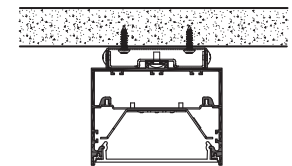


Rigid Stem

Wall



Recessed



Ceiling

*The IP (or Ingress Protection) rating defines the degree of protection for a luminaire from outside elements. The ML5WL fixture is dust proof and provides protection from water intrusion.

Series

ML5WL-D

Nominal Lengths:

2', 3', 4', 6', & 8'

Mounting

P = Rigid Stem (Up to 24' Standard)

W = Wall

R = Recessed

J = Ceiling

Power Feed Location

EF = End Feed

TF = Top Feed

ML5WL-D-HO-K40-4'-P-LOH-F01M-EF-120-[]

Lumen Output

HO - High Output
*3226 Total Lumens - 79 Lm/W

MO - Medium Output
*1949 Total Lumens - 87 Lm/W

*Lumen ratings per 4' section (3500K)

CCT

K30
3000 Kelvin

K35
3500 Kelvin

K40
4000 Kelvin

Optical Control

LOH
LED Optimized High Transmittance Lens

VR
.125" thick polycarbonate lens with tamper-resistant screws

Standard Finishes

F01M Matte White

F10 Bronzed

F11T Textured Black

F12 Ultrasonic Clear

FCC Custom Color

Voltage

120

277

347

Options

EMCKT
Emergency Circuit (Separate Hot & Neutral)

EBPHST
Self-Testing Emergency Battery Pack (10 Watt)

FS
Fused Drivers

Dim 10
100 - 10% Dimming

Dim 1
100 - 1% Dimming

Dim 0
100 - 0% Dimming

CWD
Cold Weather Driver
-40°C Ambient Temp Rating (Available for High Output Only - 3' or Longer Fixtures)



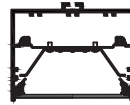
Precision Architectural Lighting 4830 Timber Creek Drive Houston, Texas 77017
Tel 713.946.4343 Fax 713.946.4441 www.pal-lighting.com



Made in America

Suspended/Ceiling/Recessed/Wall

ML5WL-D-HO-K40-LOH



Wet Location Direct-High Output

LED Optimized High Transmittance Lens

Catalog Number: ML5WL-D-HO-K40-4'-X-LOH-120

Report Number: UL#1094335.ies

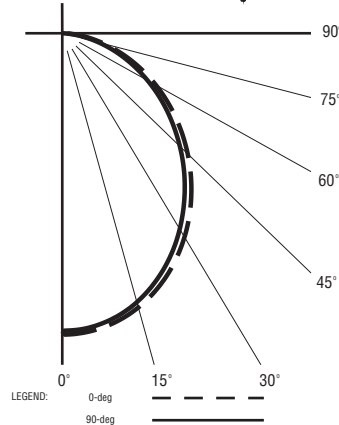
Luminaire Description: Extruded Aluminum Housing with White Aluminum Reflector and LED Optimized Acrylic Lens

LED Module: Multiple White Low-Power Light Emitting Diodes (LEDs) in a precise layout.

Total Luminaire Efficacy = 78.7 Lm/W

0% Up 100% Down

Color Rendering Index (CRI) = 83



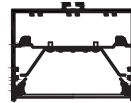
ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixture
0- 30	994	30.8
0- 40	1580	49.0
0- 60	2363	81.7
0- 90	3226	100.0
90- 180	0	0.0
0- 180	3226	100.0

CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0	1339	1339	1339	1339	1339
5	1345	1328	1323	1330	1328
15	1278	1258	1250	1252	1248
25	1145	1126	1113	1108	1102
35	971	951	933	922	914
45	774	756	737	722	713
55	574	557	540	524	517
65	379	367	352	338	332
75	197	192	182	170	166
85	54	50	41	33	31
90	0	0	0	0	0

ML5WL-D-MO-K40-LOH



Wet Location Direct-Medium Output

LED Optimized High Transmittance Lens

Catalog Number: ML5WL-D-MO-K40-4'-X-LOH-120

Report Number: UL#1094336.ies

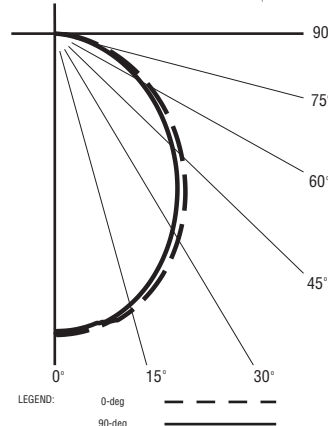
Luminaire Description: Extruded Aluminum Housing with White Aluminum Reflector and LED Optimized Acrylic Lens

LED Module: Multiple White Low-Power Light Emitting Diodes (LEDs) in a precise layout.

Total Luminaire Efficacy = 86.9 Lm/W

0% Up 100% Down

Color Rendering Index (CRI) = 83



ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixture
0- 30	602	30.8
0- 40	955	49.0
0- 60	1428	81.7
0- 90	1949	100.0
90- 180	0	0.0
0- 180	1949	100.0

CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0	803	803	803	803	803
5	806	796	793	797	796
15	772	761	756	758	756
25	693	682	673	671	667
35	588	576	565	558	553
45	468	457	446	436	431
55	347	337	326	317	312
65	229	221	213	204	200
75	119	116	110	102	99
85	33	30	25	20	18
90	0	0	0	0	0

PRECISION ARCHITECTURAL LIGHTING

LED lighting facts®
A Program of the U.S. DOE

Light Output (Lumens) 3226
Watts 40.98
Lumens per Watt (Efficacy) 78.7

Color Accuracy 83
Color Rendering Index (CRI)

Light Color 3994 (Bright White)
Correlated Color Temperature (CCT)

Warranty** Yes

All results, except LED Lumen Maintenance, are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

** See www.lightingfacts.com/products for details.

Registration Number: 1NRP-878A4Z (7/17/2015)
Model Number: ML5IP65-D-HO-K40-4'-W-LOH-FXXX-EF-UNIV
Type: Luminaire - Linear

PRECISION ARCHITECTURAL LIGHTING

LED lighting facts®
A Program of the U.S. DOE

Light Output (Lumens) 1949
Watts 22.42
Lumens per Watt (Efficacy) 86.9

Color Accuracy 83
Color Rendering Index (CRI)

Light Color 3980 (Bright White)
Correlated Color Temperature (CCT)

Warranty** Yes

All results, except LED Lumen Maintenance, are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

** See www.lightingfacts.com/products for details.

Registration Number: 1NRP-V2H32P (7/17/2015)
Model Number: ML5IP65-D-MO-K40-4'-W-LOH-FXXX-EF-UNIV
Type: Luminaire - Linear

For more information, visit our website at www.pal-lighting.com



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