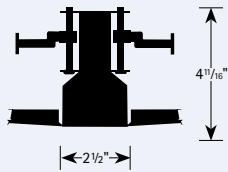


### FEATURES

- Recessed sliver of light with 2 1/2" aperture
- Plaster Flange mount allows product to "float" in drywall or plaster ceiling
- T5 or T5HO lamp options
- Symmetric distribution with lens, cross baffle or louver
- Asymmetric distribution uses louver system which provides continuous rows and stays above ceiling plane
- Single or continuous row mounting in symmetric or asymmetric
- Extensive shielding selections provide aesthetic continuity across entire Microlyne® Rectilinear family of products
- Family includes cable, surface and wall mount in Microlyne (3 1/2" x 3 1/2") and Direct-Indirect (3 1/2" x 5")
- Available with exclusive wiHUBB technology preinstalled (WIH option)
  - Peer to peer, self-healing wireless mesh network
  - Integrated control system for 0-10VDC or step dimming, or On/Off

### SHAPE AND DIMENSIONS



### PROJECT INFORMATION

Project Name	Type
Catalog No.	Date

### CONSTRUCTION

Rigid steel housing includes typical recycled content of 40%.

### CONNECTIONS

Secure, simple housing connections provide continuous rows where desired.

### MOUNTING

Plaster Flange (P) mounting as described in Housing and Trim section. Microlyne® Mini Recessed is also available in Grid (G) or T-bar applications or Flange (F) for drywall applications where housing trim is desired to complete the finished appearance as a complementary visible framing mechanism. See separate specification sheets.

### REFLECTOR

High reflectance formed white reflector.

### SHIELDING

Shielding is provided for single or continuous row. Options match across entire Microlyne® family.

**OA** - Opal Acrylic lens emphasizes the narrow rectilinear shape by creating a pleasant glow of white along the underside of the housing. Symmetric distribution.

**WCB** - White Cross Baffle emphasizes linearity with a crisp, clean bladed appearance. Symmetric distribution.

**MA** - Matte anodized louvers incorporate an attractive but subtle grain pattern which minimizes the visibility of fingerprints and construction dust without sacrifice to aesthetic qualities. Symmetric or asymmetric distribution.

**M4R** - 95% Specular Reflectance Aluminum louver combines glare control and performance with a high tech appearance. For use with symmetric or asymmetric distribution.

**HEP** - High efficiency parabolic specular louver maximizes downlight for enhanced efficiency where maximum light output is the primary concern. For use with symmetric or asymmetric distribution.

### DISTRIBUTION

Symmetric or asymmetric distribution available. Asymmetric uses louver system which remains above ceiling plane, allows continuous rows and appears to be the same as symmetric visually.

### ELECTRICAL

Fixtures are pre-wired with electronic ballasts in 120V, 277V or 120V-277V (U). 347V available on some models; contact factory. Tandem and row configurations use quick-connect single or multi-circuit wiring between luminaires. Power feed locations as indicated on Technical Installation Data pages or project specific layouts. Night light, emergency circuits or factory installed battery packs must be specified as option.

### FINISH

Recessed housing and any visible flange trim is standard white. Zet Silver and additional colors and finishes optional. For shielding finishes, see Shielding.

### CERTIFICATION

All fixtures bear appropriate UL or C UL US labels.

### PLASTER FLANGE HOUSING & TRIM

Fine detail corrosion resistant feathering mud wings extend a full 1 1/2" on all sides of the housing to allow consistent, attractive ceiling finish all the way around housing. Maximized feathering edge trims reduce plaster gaps, sags and bumps and depressions associated with inconsistent mud drying time. Wing hangers snug firmly to ceiling structure elements such as C-channel or permanent frame box (both by others) using simple twist. Design provides ease of installation and unparallelled finished appearance.

### ORDERING INFORMATION

### EXAMPLE: MMRA-8-1T5-P-M4R-EPU

SYM / ASYM		ROW LENGTH	LAMP TYPE AND PROFILE	MOUNTING	BALLAST	VOLTAGE	OPTIONS
Blank	Sym-metric	4 4' Single	1T5 One T5 Lamp <sup>3</sup>	P Plaster Flange	EP Electronic, Programmed Start (Std. for T5 Et T5HO)	U 120V-277V	EL One Emergency Battery Pack Per Row <sup>4,5,7</sup>
A	Asym-metric Louver <sup>1</sup>	8 8' Single	1T5HO One T5HO Lamp <sup>3</sup>	Also available in Overlap Flange. See separate specification sheets.	ED Electronic, Dimming (Must Specify) <sup>4</sup>	120 120V	EMC One Emergency Circuit <sup>4,5,6,7</sup>
		--- Indicate row length in 4' increments. <sup>2</sup>			ESD Electronic, Step Dimming (Contact factory) <sup>4</sup>	277 277V	NL Night Light Circuit <sup>4,5,6,7</sup>
						347 347V	GLR Fast Blow Fuse
							GMF Slow Blow Fuse
							CSA UL listed or CSA certified for Canada
							WIH wiHUBB Enabled <sup>8</sup>
MODEL	ROW PATTERN		DOWNLIGHT SHIELDING				
MMR Microlyne® Mini Recessed	Blank	Straight	OA	Opal Acrylic Lens			
	P	Pattern (specify)	WCB	White Cross Baffle			
		Pattern layouts require factory approval drawings	MA	Matte Anodized Low Iridescent Semi-Specular Aluminum Louver (24 Cell) <sup>1</sup>			
			M4R	95% Specular Reflectance Aluminum Louver (24 Cell) <sup>1</sup>			
			HEP	High Efficiency Parabolic Specular Louver (15 Cell) <sup>1</sup>			

<sup>1</sup> Asymmetric options are limited to M4R, HEP, and MA only.

<sup>2</sup> Rows over 8' will be configured by Alera. Example: 16' will be (2) 8'.

<sup>3</sup> For alternate configurations, contact factory.

<sup>4</sup> T5/T5HO lamps may cause visible socket shadow in downlight component.

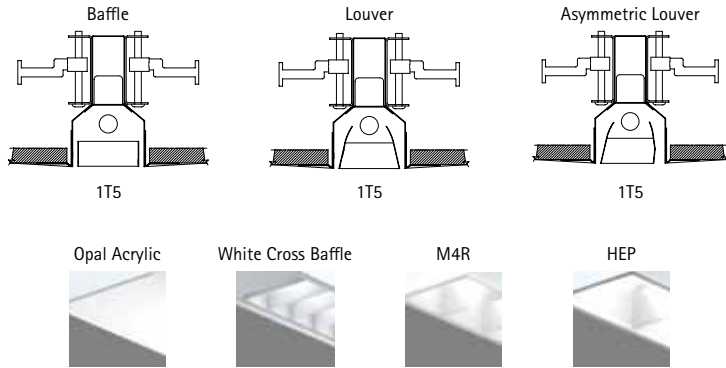
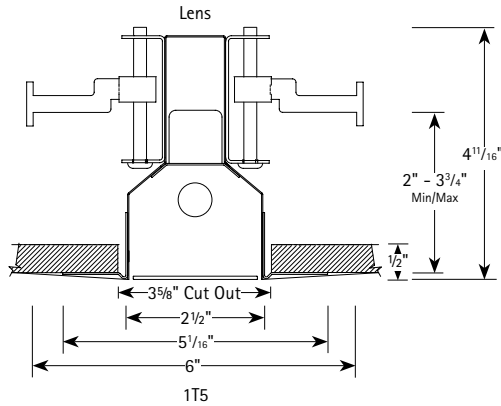
<sup>5</sup> Specify dedicated voltage.

<sup>6</sup> Not available with all configurations; some limitations apply. Contact factory for details.

<sup>7</sup> One extra feed drop per row with through wiring. (Standard is one 4ft lamp per circuit.)

<sup>8</sup> For additional, specify quantity before nomenclature (Example: 2EL120, EMC277)

## CROSS SECTION



## PHOTOMETRIC DATA

### LUMINAIRE DATA Test 14936

Luminaire	MM-1T5-HEP-EP Microlyne® Beams 2.5" x 48" 1-Lamp with 15 Cell Louver
Ballast	ICN-2S28
Ballast Factor	1.04
Lamp	F28T5
Lumens per Lamp	2600
Watts	33
Shielding Angle	0° = 19 90° = 36

### ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	558	21.5	25.7
0-40	1022	39.3	47.0
0-60	1984	76.3	91.4
0-90	2172	83.5	100.0
0-180	2172	83.5	100.0

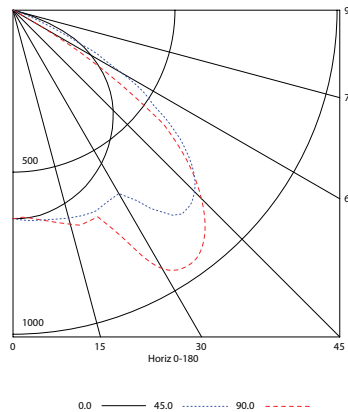
### ENERGY DATA

Total Luminaire Efficiency	83.5%
Luminaire Efficacy Rating (LER)	68
IESNA RP-1-1993 Compliance	Noncompliant
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$3.53 based on 3000 hrs. and \$0.08 per KWH

### COEFFICIENTS OF UTILIZATION (%)

RCR	RC 80				RC 70				RC 50				RC 0
	RW 70	50	30	10	70	50	30	10	50	30	10	0	
1	92	89	86	83	90	87	84	82	84	82	79	73	
2	85	79	74	70	83	77	73	69	74	70	67	62	
3	78	70	63	58	76	68	63	58	66	61	57	53	
4	71	62	55	50	69	61	54	49	59	53	49	46	
5	65	55	48	42	64	54	47	42	52	46	42	39	
6	60	49	42	37	58	48	42	37	47	41	36	34	
7	55	44	37	32	54	44	37	32	42	36	32	30	
8	51	40	33	28	50	40	33	28	39	33	28	26	
9	48	37	30	25	47	36	30	25	35	29	25	23	
10	45	34	27	23	44	33	27	23	32	27	23	21	

### INDOOR CANDELA PLOT



### AVERAGE LUMINANCE (Candela/Sq. M.)

Angle	0.0	22.5	45.0	67.5	90.0
0	9107	9107	9107	9107	9107
30	8929	9714	10679	14015	15046
40	8819	10169	15105	16621	17009
45	8753	10435	15863	16464	16464
50	8637	11590	15732	15225	15049
55	8371	13062	14050	12544	10964
60	7875	12633	11047	5609	3541
65	7004	10590	5731	972	235
70	4845	6626	1491	124	83
75	1532	1532	109	0	0
80	82	82	0	0	0
85	0	0	0	0	0

RCR = Room Cavity Ratio  
RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

Test Date 3/19/08

MICROLYNE® FAMILY QUICK REFERENCE PAGE FINDER																				
	MR	MRA	MMR	MMRA	M	MA	MM	MMA	MDI	MDIA										
<b>SYMMETRIC</b>	X		X		X		X		X		X		X		X		X		X	
<b>ASYMMETRIC</b>		X		X		X		X		X		X		X		X		X		X
GRID / SLOT GRID GRID FLANGE / SLOT GRID FLANGE	MRG	MRA G	MMR, MMRA G																	
FLANGE	MRF	MRAF	MMR, MMRAF																	
PLASTER	MRP	MRAP	MMR, MMRAP																	
CABLE					MCM MSTG CM	MACM MA STG CM	MM, MMA CM		MDICM MDI STG CM		MDIA CM MDIA STG CM									
SURFACE					MSM MSTG SM	MASM MA STG SM	MM, MMASM													
WALL					MWM MSTG WM	MAWM MA STG WM	MM, MMA WM		MDIWM MDI STG WM		MDIAWM MDIA STG WM									