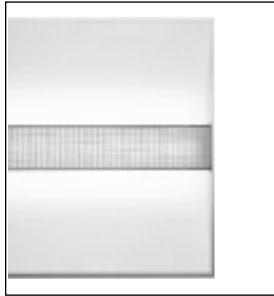


# ML™

## Compact Fluorescent One or Two Lamp Twin Tube (T5TT) Two Lamp T5 HO

# Recessed 2' x 2'



**Applications:** Pleasantly bright but unobtrusive, ML (Mellow Light) illuminates the room with just enough contrast and shadow detail. An innovative lighting chamber concept gives the ML its graceful look, making it ideally suited to the requirements of contemporary architecture. The MicroGrid diffuser shields the lamp from view. Ideal for offices, retail and healthcare facilities. Optional blue, green and yellow acrylic color inserts are easily installed between lamps and light chamber, giving the diffusers a uniform, softly-tinted glow.

**Type:** \_\_\_\_\_  
**Project:** \_\_\_\_\_

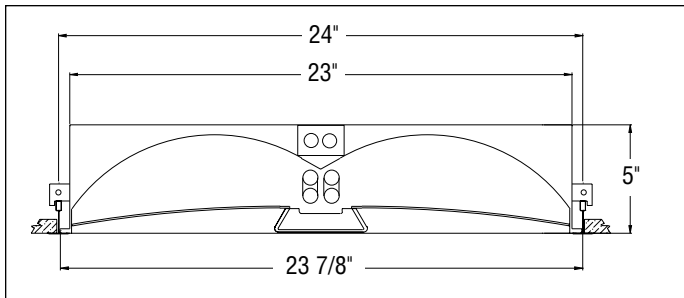
ORDERING NOTE: Specify fixture/ceiling type, lamping, voltage/ballast and options.

▼ Fixture/Ceiling Type	▼ Length	▼ Lamping	▼ Optic	▼ Voltage/Ballast	▼ Options
<b>ML4</b> _____	<b>22</b> _____	_____	<b>MD</b> _____	_____	_____
<b>ML4I</b> 2' x 2' Recessed, Lay-In Ceiling <b>ML4S</b> 2' x 2' Recessed, Slot-Grid Ceiling <b>ML4E</b> 2' x 2' Recessed, Concealed Ceiling <b>ML4O</b> 2' x 2' Recessed, Armstrong Optima Vector	<b>22</b> 2' x 2'	<b>2245</b> (2) 24W T5 HO <b>1405</b> (1) 40W T5TT <b>2405</b> (2) 40W T5TT <b>1505</b> (1) 50W T5TT <b>2505</b> (2) 50W T5TT <b>1805</b> (1) 80W T5TT	<b>MD</b> MicroGrid Diffuser, Titan	<b>UNV</b> 120/277V Universal Voltage Ballast** <b>347</b> 347V (Consult Factory) <b>DE1</b> Lutron ECO-10 Dimming, 120V* <b>DE2</b> Lutron ECO-10 Dimming, 277V*	<b>WF</b> Whip Flex 3/8" x 6' 14/3 AWG <b>WN1</b> Whip Flex 3/8" x 6' 14/3 AWG (NYC, 120V) <b>WN2</b> Whip Flex 3/8" x 6' 14/3 AWG (NYC, 277V) <b>EM11</b> Stand-by Battery Pack/120V* <b>EM21</b> Stand-by Battery Pack/277V* <b>SS</b> Separate Switching (2-lamp fixtures only) <b>AR</b> Air Return <b>CP</b> Chicago Plenum <b>CB2</b> Color inlay, blue (order 1 or 2) <b>CG2</b> Color inlay, green (order 1 or 2) <b>CY2</b> Color inlay, yellow (order 1 or 2)

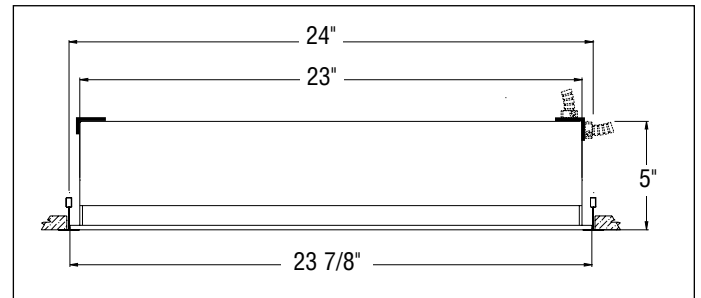
\*Not available for 80W lamp

\*\*For 80W, specify voltage

Cross Section, Lay-In Ceiling



Side View, Lay-In Ceiling



Suitable for damp locations  
NYC Approved

IBEW Union Made

US patent pending PCT/EP01/01269  
US patent pending PCT/EP01/01270  
US Patent D 477,891

Optima Vector is a registered trademark of Armstrong.

**1. Housing** - 20 gauge cold-rolled steel. Finish is powder-coated white. Right-angle access plate (two per fixture) allows feed from top or side of unit.

**2. Light Chamber** - Curved white interior reflector and shaped extruded acrylic diffusers. Optional acrylic color inlays available in blue, green or yellow. Inlays are shipped separately and must be installed by contractor.

**3. MicroGrid Diffuser** - Metal grid in Titan finish, backed with a translucent opal acrylic extruded lens. Diffuser assembly pulls down for access to lamps.

**4. Lamps/sockets** - One 80W compact fluorescent lamp or one or two 40W or 50W compact fluorescent lamps, with 2G11 four-pin lamp sockets. Two T5 HO fluorescent lamps with miniature bi-pin sockets. Lamps supplied by others.

**5. Ballast** - Multivoltage electronic 120/277V ballast (dedicated voltage for 80W T5TT). Consult factory for 347V. Ballasts are mounted in luminaire. Accessible from below. Dimming ballast is Lutron ECO-10. Consult factory for DALI compatible dimming ballast.

**6. Mounting** - Integral bend-out tabs are provided in the lay-in (**ML4I**) and slot-grid (**ML4S**) ceiling fixture

types. Adjustable mounting brackets provided for concealed tee or gypsum board (**ML4E**), or Optima Vector (**ML4O**) ceiling installations.

**7. Stand-by Battery Pack** - Integral stand-by battery pack with integral test switch.

**8. Weight** - 22.0 lbs.

In a continuing effort to offer the best product possible we reserve the right to change, without notice, specifications or materials that in our opinion will not alter the function of the product. Technical specification sheets that appear on [www.zumtobelstaffusa.com](http://www.zumtobelstaffusa.com) are the most recent version and supersede all other versions that exist in any other printed or electronic form.

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Part # 05331863 1/04

ML4-1

ZUMTOBEL STAFF

# Photometric Data

## ML4 22 2405 MD (2) 40W CFL

RECESSED, MICROGRID DIFFUSER

LTL 06849

Total Luminaire Efficiency 59%

0% Uplight 100% Downlight

Spacing Criteria

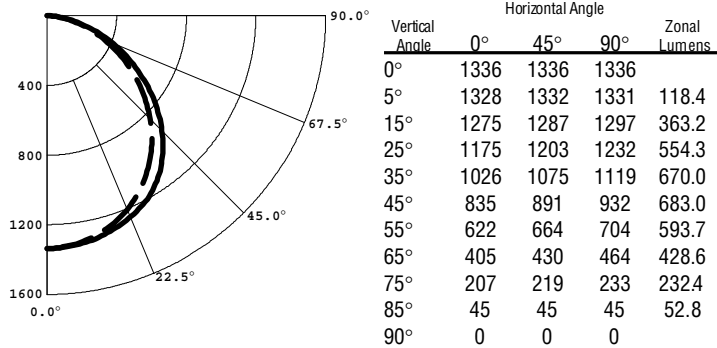
Lateral Plane 0° 90°

1.2 1.3

TOTAL LAMP LUMENS = 6300

INPUT WATTS = 84

### Candela Distribution



### Luminance Data in Candela / Sq. Meter

Angle in Vertical°	Average 0°	Average 45°	Average 90°
45°	3559	3797	3972
55°	3268	3489	3699
65°	2888	3066	3309
75°	2410	2550	2713
85°	1556	1556	1556

### Coefficients of Utilization

Effective Floor Cavity Reflectance = 20%

pcc pw	0.8				0.7				0.5				0.3			
	0.7	0.5	0.3	0.1	0.7	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1		
0	70	70	70	70	69	69	69	69	66	66	66	63	63	63		
1	64	62	59	57	63	60	58	56	58	56	54	55	54	53		
2	59	54	50	47	57	53	49	46	51	48	45	49	46	44		
3	53	47	43	39	52	46	42	39	45	41	38	43	40	37		
4	49	42	37	33	48	41	36	33	40	36	32	38	35	32		
5	45	38	32	28	44	37	32	28	36	31	28	35	31	28		
6	42	34	29	25	41	33	28	25	32	28	25	31	27	24		
7	39	31	26	22	38	30	25	22	29	25	22	28	25	22		
8	36	28	23	20	35	28	23	20	27	23	19	26	22	19		
9	34	26	21	18	33	25	21	18	25	20	17	24	20	17		

### ML mounting with common ceiling types

