# STAIL

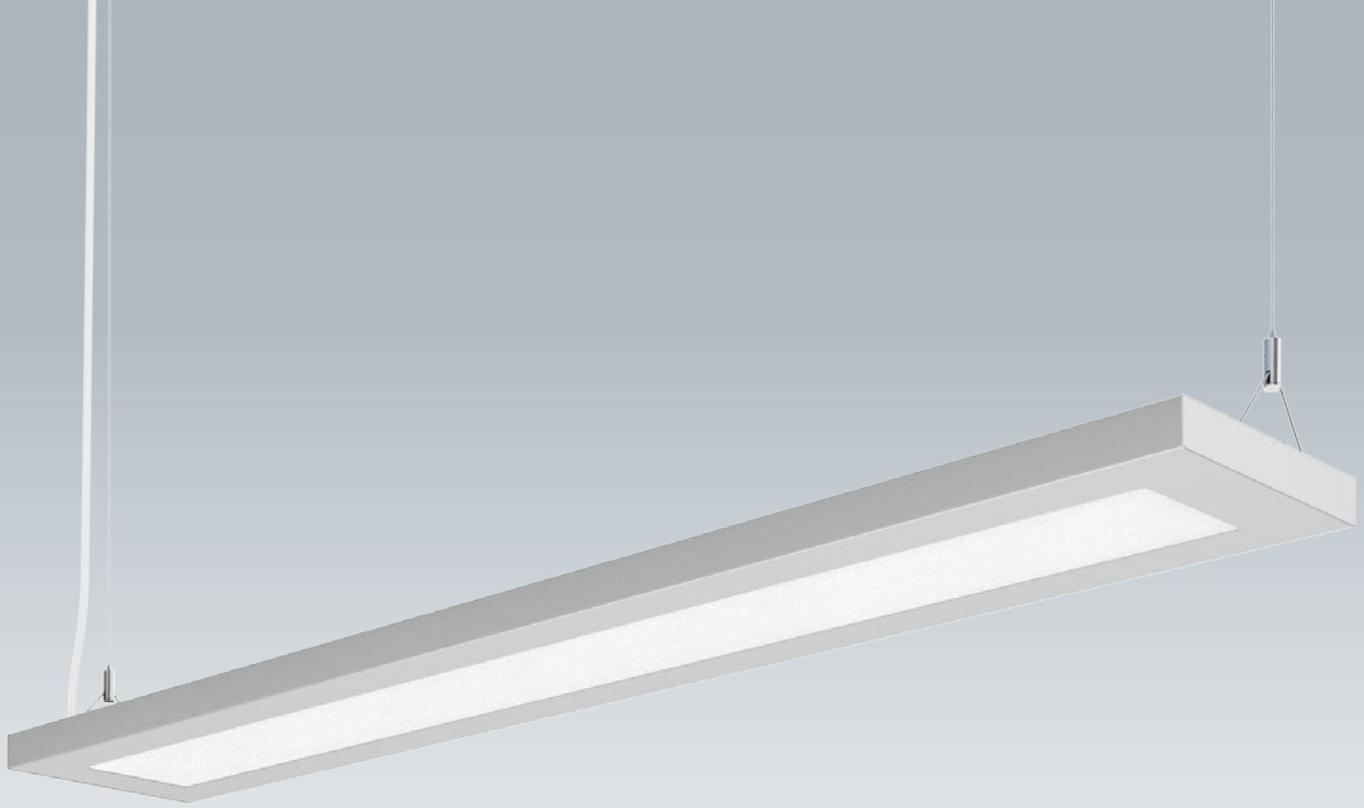## RMEP Series

**Metalumen**

META LED

With its angular, simplified design, Stail blends harmoniously in a wide range of architectural environments.

Stail's optimized configurations support superior energy efficiencies and luminous performance. Stail has been designed to provide "best" light performance with a minimal intrusion within the architectural environment.

As a single luminaire or in continuous runs, ceiling or pendant mount, Stail emphasizes contemporary design with highly efficient optical engineering.

Stail – designed to add subtle elegance to any installation.

## 4' Stail RMEP Suspended and Surface LED Light Level Outputs

| Light Level | Wattage | Lumens Delivered | | Efficacy (LPW) | | Fluorescent Equivalent | Energy Savings * |
|---|---|---|---|---|---|---|---|
| | | RMEP6 | RMEP8 | RMEP6 | RMEP8 | | |
| L1 | 27 | 3064 | 3172 | 112 | 116 | 2T8/T5 | 48% |
| L2 | 35 | 3904 | 4047 | 112 | 116 | 2T8/T5HO | 36% |
| L3 | 48 | 5596 | 5801 | 117 | 121 | 3T8/2T5/T5HO | 50% |
| L4 | 96 | 10727 | 11120 | 112 | 116 | 3T5HO | 46% |

*\* Energy Savings based upon standard lamp/ballast combination using an equivalent RMEP series*

**Suspended**

# CONTROLS

### DIMMING
**Dimming lights by 50% = up to 40% lighting savings**
(uses only 60% of the energy required)

A wide range of dimming options are available depending on sensor requirements or facility lighting control method.

0-10V control is standard.
DALI, Lutron Eco-System and others are optional.

### DAYLIGHT/OCCUPANCY SENSOR
**Up to 20% lighting energy savings**

Combination sensor for automatic ON/OFF control with ambient light sensing. If occupancy is detected within the sensor's coverage area, and if there is insufficient ambient light, the fixture will turn on. When occupancy is no longer detected and the time delay has elapsed, lighting automatically turns off. Time delay and light sensor are user adjustable.

### DAYLIGHT SENSOR
**Up to 20% lighting energy savings**

Optional low-profile user-adjustable integrated Daylight Sensors automatically adjust lumen output as ambient light levels change.

Sensors are internally connected to 0-10V dimming

### OCCUPANCY
**Up to 20% lighting energy savings**

Optional low-profile integrated Occupancy Sensors automatically turn fixture ON or OFF depending on activity within the sensor area.
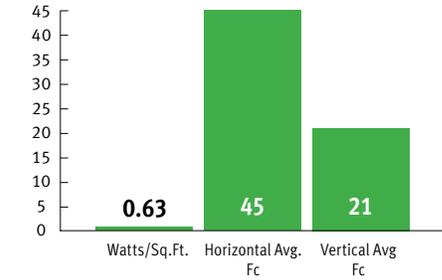
# Stail LED / Fluorescent Comparison

Room Size: 26 x 44'
Ceiling Height: 10'
Work Plane: 2.5'
Reflectance: 80/50/20
# of fixtures: 15

## Panel 1

2 T5 FL
(2) 28W F28T5 lamps
15 fixtures
Electronic Ballast
66 watts per fixture

Stail RMEP8 LED
RMEP8L35K-4-CSBO-L3
15 Fixtures
Dimming Driver
48 watts per fixture

**27% Energy Savings**
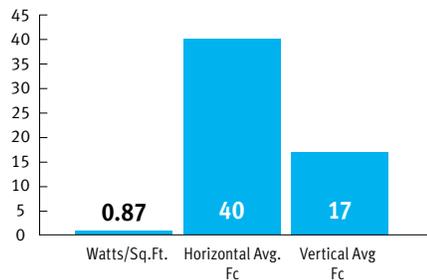
| Fluorescent | | LED |
|---|---|---|
| 4782 | Delivered Lumens | 5799 |
| 66 | Input Power (Watts) | 48 |
| 72 | Delivered lms/W | 121 |
| 0.87 | **Watts/Sq.Ft.** | 0.63 |
| 40 | **Horizontal Avg. Fc** | 45 |
| 53 | Horizontal Max Fc | 61 |
| 16 | Horizontal Min Fc | 20 |
| 3.31 | Max/Min | 3.05 |
| 17 | **Vertical Avg. Fc** | 21 |
| 80 | CRI | 83 |

Fluorescent chart values: Watts/Sq.Ft. 0.87, Horizontal Avg. Fc 40, Vertical Avg Fc 17

LED chart values: Watts/Sq.Ft. 0.63, Horizontal Avg. Fc 45, Vertical Avg Fc 21

## Panel 2

1 T5HO FL
(1) 54W F54T5HO lamps
15 Fixtures
Electronic Ballast
59 watts per fixture

Stail RMEP6 LED
RMEP6L35K-4-CSBO-L2
15 Fixtures
Dimming Driver
35 watts per fixture

**41% Energy Savings**
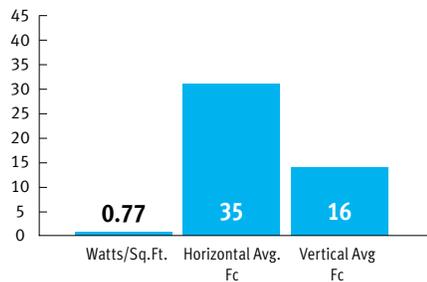
| Fluorescent | | LED |
|---|---|---|
| 4144 | Delivered Lumens | 3905 |
| 59 | Input Power (Watts) | 35 |
| 70 | Delivered lms/W | 112 |
| 0.77 | **Watts/Sq.Ft.** | 0.46 |
| 35 | **Horizontal Avg. Fc** | 32 |
| 47 | Horizontal Max Fc | 43 |
| 15 | Horizontal Min Fc | 14 |
| 3.13 | Max/Min | 3.07 |
| 16 | **Vertical Avg. Fc** | 15 |
| 80 | CRI | 83 |

Fluorescent chart values: Watts/Sq.Ft. 0.77, Horizontal Avg. Fc 35, Vertical Avg Fc 16

LED chart values: Watts/Sq.Ft. 0.46, Horizontal Avg. Fc 32, Vertical Avg Fc 15

**All calculations are based on 4' fixtures.**

| Input |
|---|
| Output |

# Lighting System Energy Analysis

| Customer Information | Facility Information | |
|---|---|---|
| Project Name: | Cost Per kWh | $ 0.120 |
| | Annual Operating Hours | 3,650 |
| Company: | | |

| System Information | Existing | Proposed |
|---|---|---|
| Luminaire Description | (1) 54W T5HO | RMEP8L35K-4-L2 |
| Input Watts Per Luminaire | 59 | 35 |
| Quantity | 15 | 15 |
| System Watts | 885 | 525 |
| System kW | 0.885 | 0.525 |
| Annual kWh | 3,230 | 1,916 |
| Annual Energy Costs | $ 388 | $ 230 |
| Monthly Costs | $ 32 | $ 19 |
| Annual Energy Sales ($) | | $ 158 |
| Annual Energy Savings (%) | | 41% |
| Cost of Waiting (Monthly) | | $ 13 |

**Annual Energy Costs per Lighting Systems**

$388

$230

| | |
|---|---|
| $500 | |
| $400 | |
| $300 | |
| $200 | |
| $100 | |
| $0 | |
| $- | |

Existing     Proposed
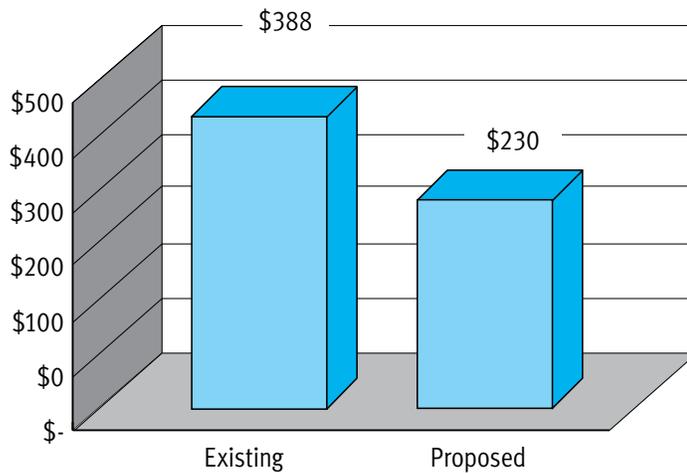
Note: These are estimated savings only. These annual and monthly savings are based on a number of variables and assumptions that could change over time. The actual savings derived by your firm may be higher or lower.

| Input |
|---|
| Output |

# Annual Maintenance Cost Estimator: 5 Year Breakdown

| Customer Information | Facility Information | |
|---|---|---|
| Project Name: | Annual Operating Hours | 3,650 |
| Company: | | |

| System Information | *Existing System* | *Proposed System* |
|---|---|---|
| Description of System | (1) 54W T5HO | RMEP8L35K-4-L2 |
| Quantity | 15 | 15 |
| | | |
| Type of Lamp | Fluorescent, T8 | LED |
| Lamp Life (hrs) | 20,000 | 60,000 |
| Cost of Lamp | $ 6.00 | $ - |
| Number of Lamps Per Fixture | 2 | 8 |
| Labor Cost to Spot Relamp per Lamp | $ 10.00 | $ - |
| | | |
| Annual Lamp Maintenance Cost | $ 112.00 | $ - |
| Quantity of Lamps Replaced Annually | 7 | 0 |
| | | |
| Ballast Type | High Reactance | High Reactance |
| Ballast Life (hrs) | 60,000 | 100,000 |
| Cost of Ballast | $ 45.00 | $ 30.00 |
| Number of Ballasts Per Fixture | 1 | 1 |
| Labor Cost to Change a Ballast | $ 10.00 | $ 10.00 |
| | | |
| Annual Ballast Maintenance Cost | $ 330.00 | $ - |
| Quantity of Ballasts Replaced Annually | 6 | |
| | | |
| Annual Maintenance Cost of System at Maturity | $ 442.00 | $ - |
| Summarized 5 Year Cost | $ 2,210.00 | $ - |
| | | |
| 5 Year Savings Summary | | $ 2,210.00 |
| 5 Year Average Annual Savings | | $ 442.00 |

**Annual Maintenance Savings of 100%**

## 5 Year Maintenance Cost



Legend: ■ Existing Maintenance  ■ Proposed Maintenance

Years: 1, 2, 3, 4, 5

## LED PAYBACK (YEARS)
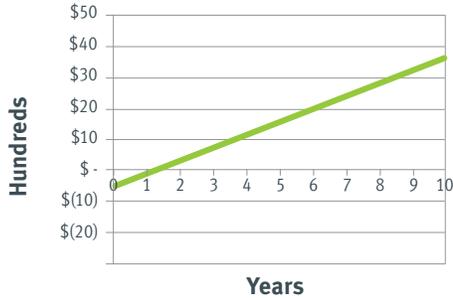


**Payback = 1.18 Years**

## SYSTEM ENERGY & MAINTENANCE COST SUMMARY

| | LED | Traditional |
|---|---|---|
| Total Initial Fixture/ Installation Cost | $4,320 | $3,825 |
| Total System kW | 0.53 | 0.89 |
| Annual kWh | 1,916 | 3,230 |
| Cost of Energy per kWh | $0.120 | $0.120 |
| kWh Inflation Rate (%/yr) | 0.00% | 0.00% |
| Average Annual Energy Cost | $230 | $388 |
| Average Annual Maintenance Cost | $0 | $263 |
| Average Annual Energy + Maintenance Costs | $230 | $650 |
| **Average Annual Energy & Maintenace Savings** | **$420** | |

| | Savings | | Cost/Year | |
|---|---|---|---|---|
| | Annual | Cumulative | LED | Traditional |
| 1st Year | $158 | $158 | $230 | $388 |
| 5th Year | $333 | $1,169 | $230 | $563 |
| 10th Year | $420 | $3,710 | $230 | $650 |

| Cost | |
|---|---|
| LED | Traditional |
| $2,300 | $6,504 |

**10 Year Total Savings = $4,205**

**+59%** Savings including Energy & Maintenance over 5 years

## PAYBACK ANALYSIS
### Average Annualized Savings Per Year

| | |
|---|---|
| Annual Energy Savings | $158 |
| Annual Lamp Maintenance Savings | $263 |
| Annual Combined Savings | $420 |
| Cost of Waiting (Monthly) | $35 |
| Simple Paybakc (years) | 1.18 |
| IRR (%) | 85% |
| 10 Year Cash Flow (Energy & Lamp Main) | $3,710 |

## Annual Operation Cost: Energy & Lamp Maintenance



*** Calculation is based on actual LED fixture used in comparison to a 1-T5HO FL fixture. Assumptions are $0.12 per KWh and 10 operating Hours/day (10h @ full power). These are estimated savings only. Annual and monthly savings are based on a number of variables and assumptions that could change over time. The actual savings derived by our firm may be higher or lower. Metalumen's business does not imply a warranty of performance or savings as calculated and shown within this document.

## CLASSROOM • 50'L x 30'W x 10'H

30.00 ft

| 8.38 | 9.25 | 15 | 22 | 32 | 40 | 44 | 46 | 47 | 46 | 43 | 38 | 29 | 19 | 11 | 8.66 |
| 8.71 | 9.82 | 15 | 24 | 36 | 45 | 50 | 52 | 53 | 51 | 49 | 41 | 32 | 21 | 13 | 9.22 |
| 9.57 | 11 | 17 | 26 | 37 | 47 | 52 | 54 | 54 | 53 | 50 | 44 | 33 | 22 | 14 | 10 |
| 9.84 | 11 | 18 | 27 | 40 | 50 | 56 | 58 | 59 | 57 | 54 | 48 | 36 | 23 | 14 | 11 |
| 10 | 12 | 19 | 29 | 42 | 53 | 59 | 62 | 62 | 61 | 57 | 50 | 38 | 25 | 15 | 11 |
| 11 | 12 | 20 | 30 | 43 | 54 | 60 | 63 | 63 | 62 | 58 | 51 | 38 | 25 | 16 | 11 |
| 11 | 12 | 20 | 30 | 44 | 54 | 60 | 63 | 64 | 62 | 59 | 51 | 39 | 25 | 16 | 12 |
| 11 | 12 | 19 | 29 | 42 | 54 | 60 | 63 | 64 | 62 | 59 | 50 | 38 | 25 | 16 | 12 |
| 11 | 12 | 19 | 30 | 43 | 54 | 60 | 62 | 63 | 61 | 58 | 51 | 39 | 25 | 16 | 12 |
| 11 | 12 | 20 | 30 | 44 | 54 | 60 | 63 | 64 | 62 | 59 | 51 | 39 | 25 | 16 | 11 |
| 11 | 12 | 20 | 30 | 44 | 54 | 60 | 63 | 64 | 62 | 58 | 51 | 38 | 25 | 16 | 11 |
| 10 | 12 | 19 | 29 | 42 | 53 | 59 | 62 | 62 | 60 | 57 | 50 | 38 | 25 | 15 | 11 |
| 9.73 | 11 | 17 | 27 | 40 | 50 | 55 | 58 | 58 | 57 | 54 | 47 | 36 | 23 | 14 | 11 |
| 9.51 | 10 | 17 | 25 | 37 | 46 | 50 | 53 | 53 | 52 | 49 | 43 | 33 | 22 | 13 | 10 |
| 8.63 | 9.74 | 15 | 24 | 35 | 44 | 49 | 51 | 51 | 50 | 47 | 41 | 31 | 20 | 12 | 9.14 |
| 9.09 | 9.92 | 16 | 23 | 30 | 37 | 41 | 43 | 44 | 43 | 40 | 36 | 29 | 20 | 12 | 9.43 |

0.00

0.00      50.00 ft

| Typical Classroom Calculation Summary | |
|---|---|
| Catalog Number | RMEP8L35K-4-L2 |
| Number of 4' Luminaires | 21 |
| Watts/4' Luminaires | 35W |
| Lumens/4' Luminaires | 4046 |
| Horizontal Light Level | 35 Fc |
| Vertical Light Level | 16 Fc |
| Spacing | 28' Runs / 10' Spacing |
| Lighting Power Density | 0.49 W/SF |
| % Better Than IECC 2012 | 51% |
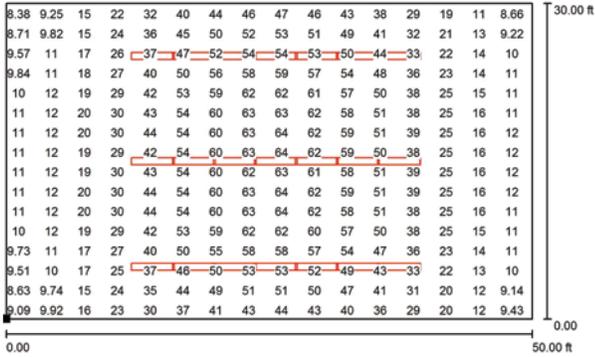
0   5.00   10.00   15.00   20.00   25.00   30.00   35.00   40.00   fc
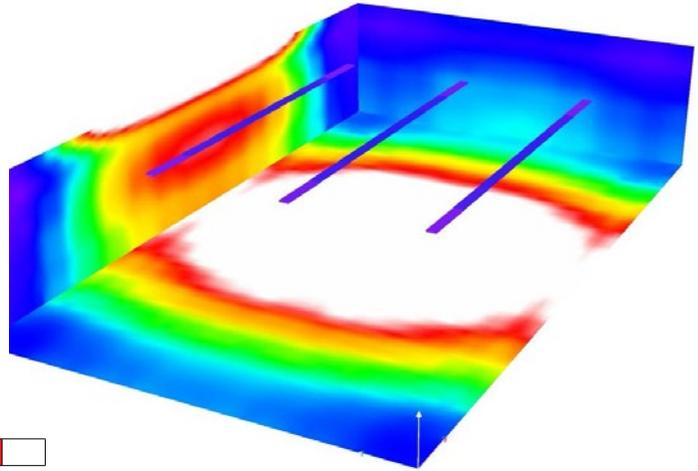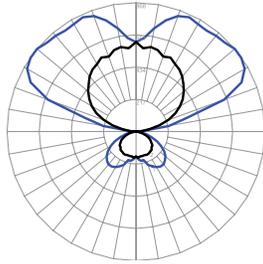
## OPEN OFFICE • 30'L x 60'W x 10'H

60.00 ft

| 13 | 18 | 30 | 37 | 44 | 47 | 44 | 37 | 30 | 22 | 13 | 12 |
| 16 | 22 | 36 | 45 | 54 | 58 | 53 | 46 | 35 | 26 | 15 | 14 |
| 16 | 23 | 37 | 47 | 55 | 59 | 55 | 47 | 36 | 27 | 16 | 14 |
| 18 | 25 | 41 | 52 | 62 | 66 | 62 | 53 | 40 | 30 | 18 | 16 |
| 19 | 26 | 42 | 53 | 63 | 66 | 62 | 54 | 42 | 31 | 19 | 17 |
| 19 | 26 | 42 | 53 | 62 | 66 | 62 | 53 | 41 | 31 | 19 | 17 |
| 19 | 27 | 43 | 54 | 63 | 67 | 63 | 55 | 43 | 32 | 19 | 17 |
| 21 | 28 | 45 | 56 | 67 | 71 | 66 | 57 | 45 | 33 | 20 | 17 |
| 20 | 27 | 44 | 55 | 65 | 69 | 64 | 56 | 44 | 33 | 20 | 18 |
| 20 | 28 | 43 | 54 | 63 | 67 | 63 | 54 | 42 | 33 | 20 | 18 |
| 20 | 28 | 44 | 54 | 64 | 68 | 63 | 55 | 43 | 33 | 20 | 18 |
| 20 | 28 | 44 | 55 | 65 | 69 | 65 | 56 | 43 | 33 | 20 | 18 |
| 20 | 28 | 45 | 56 | 66 | 70 | 65 | 57 | 44 | 33 | 20 | 18 |
| 20 | 28 | 43 | 53 | 62 | 66 | 62 | 54 | 42 | 32 | 20 | 18 |
| 21 | 27 | 43 | 53 | 62 | 66 | 62 | 54 | 42 | 33 | 20 | 17 |
| 21 | 28 | 45 | 56 | 65 | 70 | 65 | 57 | 44 | 33 | 20 | 17 |
| 21 | 28 | 45 | 56 | 66 | 71 | 65 | 57 | 44 | 33 | 20 | 18 |
| 20 | 28 | 43 | 55 | 64 | 68 | 63 | 55 | 43 | 33 | 19 | 17 |
| 20 | 27 | 42 | 52 | 61 | 65 | 61 | 53 | 41 | 32 | 19 | 17 |
| 19 | 26 | 42 | 52 | 62 | 66 | 62 | 53 | 41 | 31 | 19 | 17 |
| 18 | 25 | 41 | 51 | 62 | 65 | 61 | 52 | 40 | 30 | 18 | 16 |
| 18 | 24 | 40 | 50 | 59 | 63 | 59 | 51 | 39 | 29 | 17 | 15 |
| 16 | 23 | 36 | 44 | 52 | 55 | 52 | 46 | 35 | 27 | 16 | 14 |
| 14 | 19 | 31 | 39 | 47 | 50 | 46 | 40 | 31 | 22 | 13 | 12 |
| 13 | 18 | 27 | 33 | 39 | 41 | 39 | 33 | 27 | 21 | 13 | 12 |

0.00

0.00      30.00 ft

| Typical Open Office Calculation Summary | |
|---|---|
| Catalog Number | RMEP8L35K-4-L3 |
| Number of 4' Luminaires | 18 |
| Watts/4' Luminaires | 48W |
| Lumens/4' Luminaires | 5799 |
| Horizontal Light Level | 38 Fc |
| Vertical Light Level | 17 Fc |
| Spacing | 12' Runs / 8' Spacing |
| Lighting Power Density | 0.48 W/SF |
| % Better Than IECC 2012 | 52% |
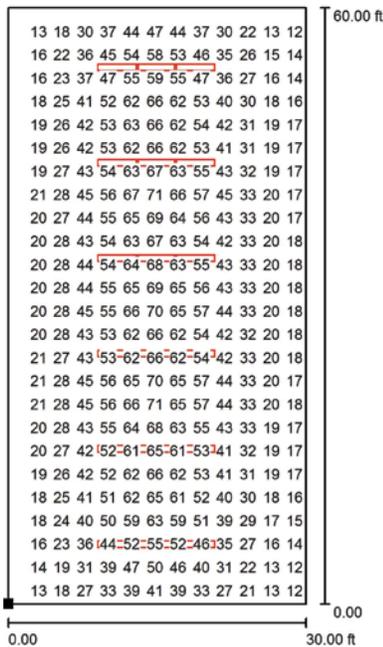
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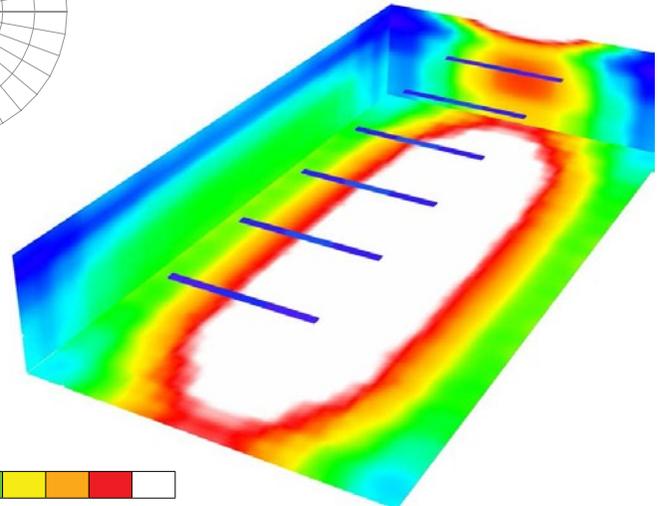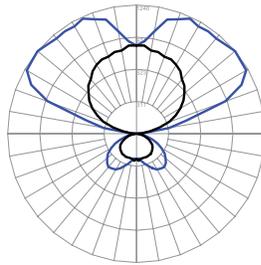
# SPECIFICATIONS

**HOUSING**
Cold rolled steel body fabrication, 0.91mm (20 Ga.) wall thickness.

**FINISH**
Silver/grey textured powder-coat paint. For custom finish, consult factory.

**MOUNTING**
Aircraft cable with Quick- Grip field adjustable suspension system provides for quick and easy onsite alignment.

**ELECTRICAL**
Pre-wired for quick connection of individual sections and continuous runs to minimize installation time. No disassembly of the product is required.

**INTEGRATED CONTROLS**
Daylight, Occupancy or Daylight/ Occupancy Sensors.

**ENVIRONMENT**
Suitable for dry locations.

## FLUORESCENT

**LAMPING**
T5 and T5HO

**BALLAST**
Programmed Rapid Start, (T5/T5HO), 0-10V Dimming, DALI

**ELECTRICAL**
Integral, electronic ballast for T5 lamps at 120 and 277 volts. This product can accommodate up to two (2) T5 lamps, provided by others. For multiple circuit, battery pack and emergency circuit wiring, consult factory.

**APPROVALS**
Certified to NRTL and IES testing standards. This product is cULus listed. RoHS compliant.

**WARRANTY**
Metalumen will warrant a one year parts and labour warranty. Warranty is valid if luminaire is installed and used according to specification. The Ballast will carry a standard 5 year warranty by the manufacturer.

## LED

**CRI**
Minimum 83 CRI at 3500K

**LUMEN MAINTENANCE**
At an ambient operating temperature of 35ºC the LED lifetime expectancy =‹60 000hrs at L70.

**LUMEN PACKAGES**
Four Lumen Packages are available.

**DRIVERS**
Metalumen offers dimming drivers as a standard on our entire LED product offering at 0-10V. Dimming is 10%-100% range Power factor is ›90% with a Class 2 rating.

**APPROVALS**
Certified to NRTL and IES testing standards. All components are UL and CUL listed. RoHS compliant.LM79/LM80 compliant.

**WARRANTY**
Metalumen will warrant defective luminaires for 5 years from date of purchase. Warranty is valid if luminaire is installed and used according to specification. If defective, Metalumen will send replacement boards or drivers at no cost along with detailed replacement instructions and instructions on how to return defective components to Metalumen.

# FLUORESCENT

33 [1.3]
153 [6.0]

33 [1.3]
204 [8.0]

# LED

33 [1.3]
153 [6.0]

33 [1.3]
204 [8.0]
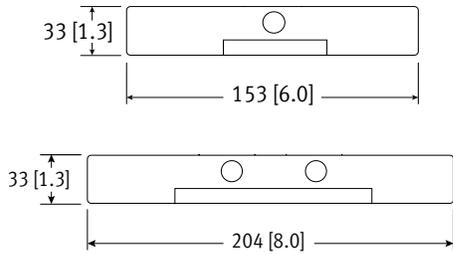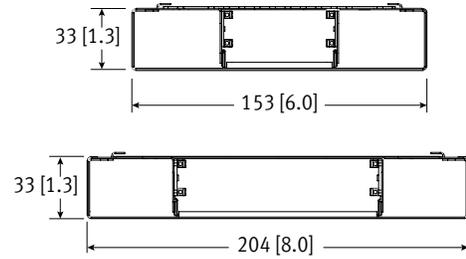
## ORDER GUIDES

**MODEL**
**RMEP6**
**RMEP8**

**SOURCE**
**T5**
**T5HO**

**# OF LAMPS**
**1**        1 Lamp
**2**        2 Lamps

**LENGTH**
**4**        4ft
**8**        8ft
**R**        Continuous Rows

**OPTICS UP**
**N**        None - Open Top

**OPTICS DOWN**
**M**        Meta Ice
**MP**       Micro Prismatic Lens
**SP**       Specular Parabolic Louver
**SSP**      Semi Specular Parabolic Louver

**FINISH**
**SG**       Silver/grey textured coat
**C**        Custom - Specify RAL#

**BALLAST**
**R**        Programmed Rapid Start
**D1**       0-10 V Dimming
**D2**       DALI

**CIRCUITRY**
**1**        1 Circuit
**EM**       Emergency / Night Light
**B**        Battery Pack

**MOUNTING**
**PA**       Pendant Aircraft Cable
**PT**       Pendant Aircraft Cable for T-Bar

**VOLTAGE**
**1**        120
**2**        277
**4**        Universal (120-277)

**INTEGRATED CONTROLS**
**Blank**    None
**D**        Daylight Sensor
**O**        Occupancy Sensor
**DO**       Daylight/Occupancy Sensor

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**MODEL**
**RMEP6**
**RMEP8**

**COLOR TEMP**
**L30K**     LED 3000K
**L35K**     LED 3500K
**L40K**     LED 4000K

**LENGTH**
**4**        4ft
**8**        8ft
**R**        Continuous Rows

**OPTICS UP**
**N**        None - Open Top
**ODC**      Opal Dust Cover - 20% up / 80% down
**C**        Clear Dust Cover

**OPTICS DOWN**
**M**        Meta Ice

**FINISH**
**SG**       Silver/grey textured coat
**C**        Custom - Specify RAL#

**LIGHT LEVEL (LL) / DRIVER**

| | RMEP6 | | RMEP8 |
|---|---|---|---|
| **L1** | 3064 | | 3176 |
| **L2** | 3904 | | 4047 |
| **L3** | 5596 | | 5801 |
| **L4** | 10727 | | 11120 |

**CIRCUITRY**
**1**        1 Circuit
**EM**       Emergency / Night Light
**B**        Battery Pack

**MOUNTING**
**PA**       Pendant Aircraft Cable
**PT**       Pendant Aircraft Cable for T-Bar

**VOLTAGE**
**1**        120
**2**        277
**4**        Universal (120-277)

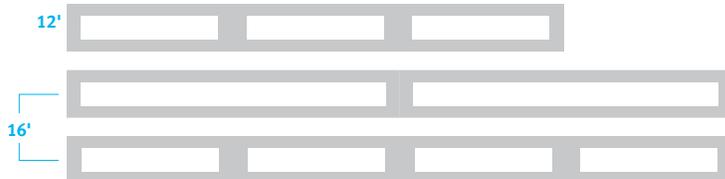**INTEGRATED CONTROLS**
**Blank**    None
**D**        Daylight Sensor
**O**        Occupancy Sensor
**DO**       Daylight/Occupancy Sensor

*Due to the Continuous Improvement Policy at Metalumen, we reserve the right to change our specifications without notice.*

## INDIVIDUAL SECTIONS

**4'**

**8'**

## CONTINUOUS ROWS

**12'**

**16'**
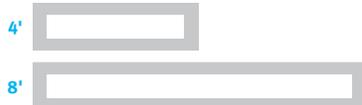
*Consult factory for other configurations.*

Custom colors
are available through
standard RAL.

**META LED**

## Stail RMEP Series

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Guelph, Ontairo, Canada
N1G 4P6

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N1H 6Z9

www.metalumen.com

**Metalumen**

*Ideas brought to light*