



PLANAR

S2E Series

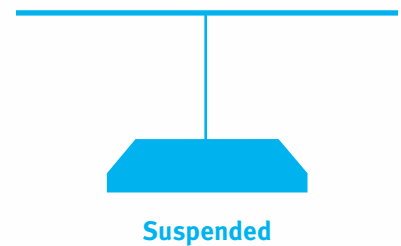
 Metalumen

META
LED





The uniquely designed Planar from Metalumen features a slim sleek profile. While the over all body height is 2.2 inches [55mm] the actual edge viewed thickness is approximately 3/4 inches [20mm] making this luminaire less obtrusive when suspended. The luminaire's low visible profile, center-lamp optics and integrated one piece cross blade baffle brings a clean, contemporary aesthetic to architectural interiors. Planar is available can be continuous row mounted or individually suspended.





Up to 50%
Energy
Savings

4' Planar Suspended and Surface LED Light Level Outputs

Light Level	Wattage	Lumens Delivered	Efficacy (LPW)	Fluorescent Equivalent	Energy Savings *
L1	27	2967	109	1T8/T5	48%
L2	35	3780	109	2T8/T5HO	36%
L3	48	5419	113	3T8/2T5/T5HO	50%
L4	96	10386	109	3T5HO	46%

* Energy Savings based upon standard lamp/ballast combination using an equivalent S2E series with Opal Inlay

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.

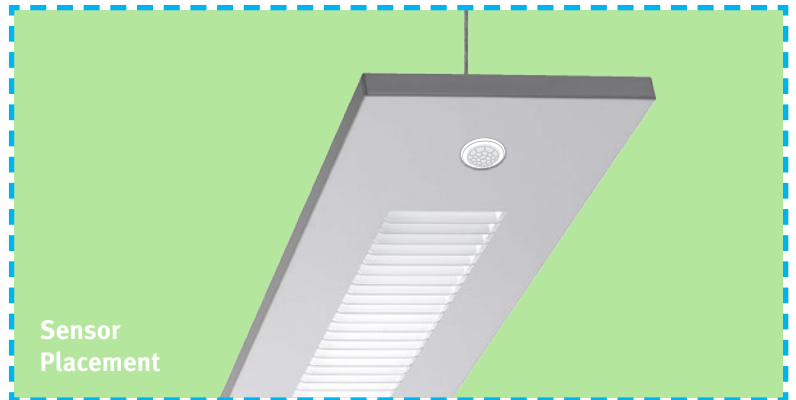
Sensors are internally connected to 0-10V dimming



OCCUPANCY

Up to 20% lighting energy savings

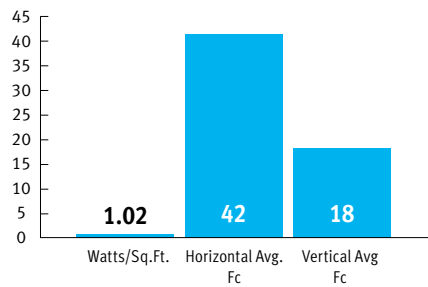
Optional low-profile integrated Occupancy Sensors automatically turn fixture ON or OFF depending on activity within the sensor area.



Planar S2E LED/Fluorescent Comparison

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

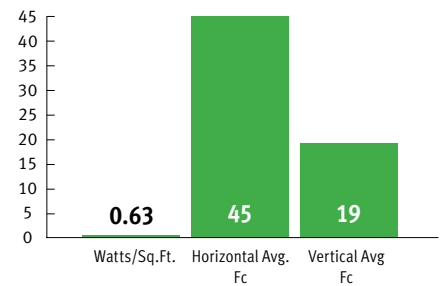
S2E-2T8-4-SB
 (2) 32W F32T8/TL841 lamps
 15 Fixtures
 Electronic Ballast
 78 watts per fixture



5125	Delivered Lumens	5416
78	Input Power (Watts)	48
66	Delivered lms/W	113
1.02	Watts/Sq.Ft.	0.63
42	Horizontal Avg. Fc	45
59	Horizontal Max Fc	62
17	Horizontal Min Fc	18
3	Max/Min	3
18	Vertical Avg. Fc	19
80	CRI	83

**38%
Energy
Savings**

Planar S2E LED
 S2E-L35K-4-CSB0-L3
 15 Fixtures
 Dimming Driver
 48 watts per fixture



All calculations are based on 4' fixtures.

Input

Output

Lighting System Energy Analysis

Customer Information

Project Name:

Company:

Facility Information

Cost Per kWh

\$ 0.120

Annual Operating Hours

3,650

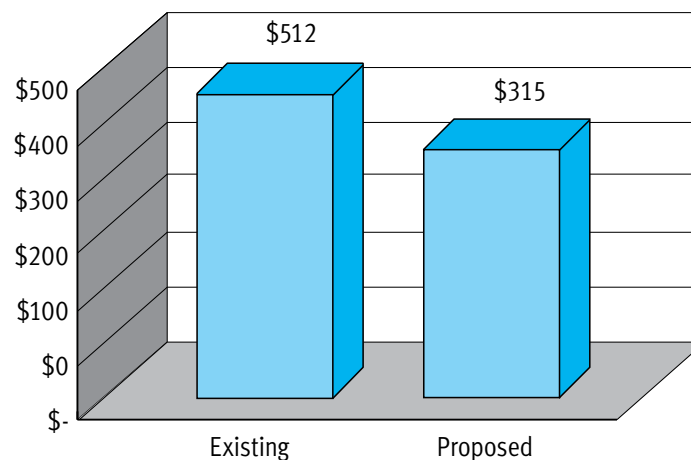
System Information

Existing

Proposed

Luminaire Description	(2) F32 T8	S2EL35K-4-L2
Input Watts Per Luminaire	78	48
Quantity	15	15
System Watts	1,170	720
System kW	1.17	0.72
Annual kWh	4,271	2,628
Annual Energy Costs	\$ 512	\$ 315
Monthly Costs	\$ 43	\$ 26
Annual Energy Sales (\$)		\$ 197
Annual Energy Savings (%)		38%
Cost of Waiting (Monthly)		\$ 16

Annual Energy Costs per Lighting Systems



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

Project Name:

Company:

Facility Information

Annual Operating Hours 3,650

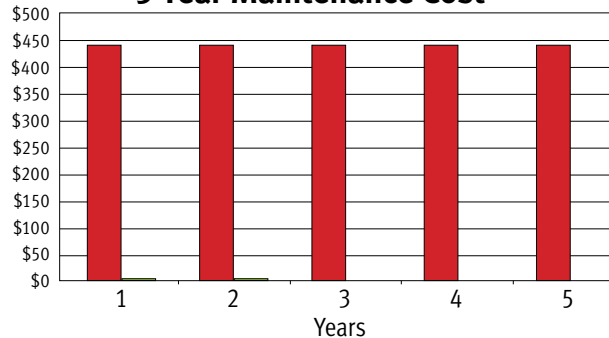
System Information

Existing System

Proposed System

Description of System	(2) 32W T8	S2EL35K-4-L3
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

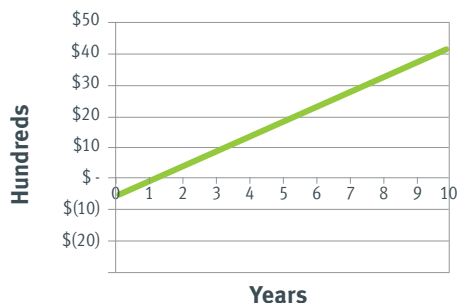
5 Year Maintenance Cost



**Annual
Maintenance
Savings of
100%**

Existing Maintenance
Proposed Maintenance

LED PAYBACK (YEARS)



Payback = 1.14 Years

SYSTEM ENERGY & MAINTENANCE COST SUMMARY

	LED	Traditional
Total Initial Fixture/Installation Cost	\$4,275	\$3,750
Total System kW	0.72	1.17
Annual kWh	2,628	4,271
Cost of Energy per kWh	\$0.120	\$0.120
kWh Inflation Rate (%/yr)	0.00%	0.00%
Average Annual Energy Cost	\$315	\$512
Average Annual Maintenance Cost	\$0	\$263
Average Annual Energy + Maintenance Costs	\$315	\$775
Average Annual Energy & Maintenance Savings	\$460	

	Savings		Cost/Year	
	Annual	Cumulative	LED	Traditional
1st Year	\$197	\$197	\$315	\$512
5th Year	\$372	\$1,337	\$315	\$688
10th Year	\$460	\$4,074	\$315	\$775

10 Year Total Savings = \$4,599

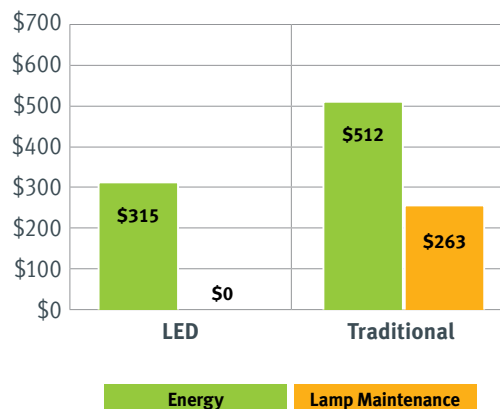
	Cost	
	LED	Traditional
10 Year Total Savings	\$3,154	\$7,753

+54%
Savings including
Energy & Maintenance
over 5 years

PAYBACK ANALYSIS Average Annualized Savings Per Year

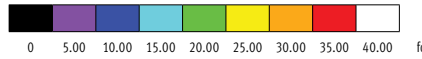
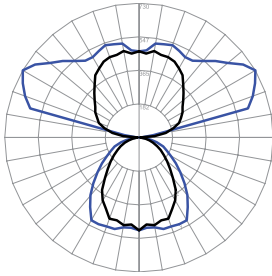
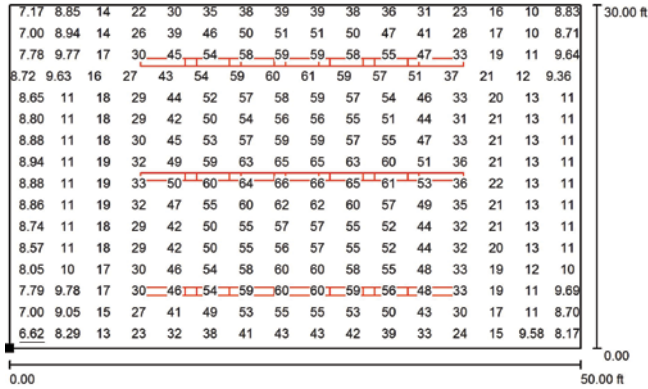
Annual Energy Savings	\$197
Annual Lamp Maintenance Savings	\$263
Annual Combined Savings	\$460
Cost of Waiting (Monthly)	\$38
Simple Payback (years)	1.14
IRR (%)	87%
10 Year Cash Flow (Energy & Lamp Main)	\$4,074

Annual Operation Cost: Energy & Lamp Maintenance



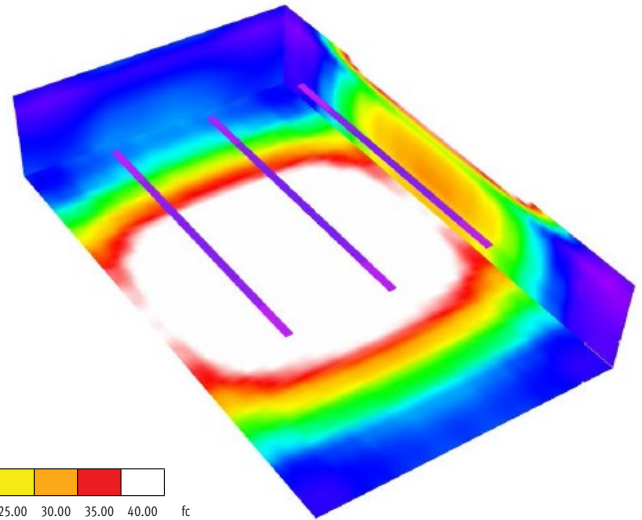
Calculation is based on actual LED fixture used in comparison to a 2-T8 FL fixture. Assumptions are \$0.12 per KWh and 10 operating Hours/day (10h @ full power). These are estimated savings only. Annual and monthly savings are based on a number of variables and assumptions that could change over time. 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

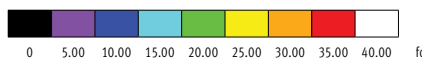
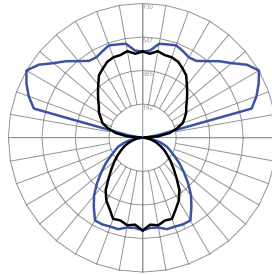
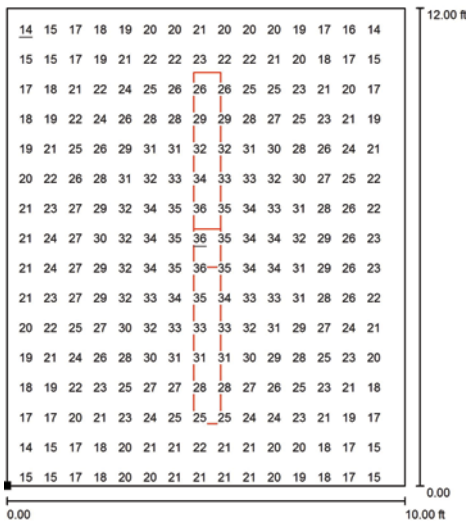


Typical Classroom Calculation Summary

Catalog Number	S2EL35K-4-L2
Number of 4' Luminaires	21
Watts/4' Luminaires	35W
Lumens/4' Luminaires	3778
Horizontal Light Level	34 Fc
Vertical Light Level	15 Fc
Spacing	28' Runs / 10' Spacing
Lighting Power Density	0.49 W/SF
% Better Than IECC 2012	51%

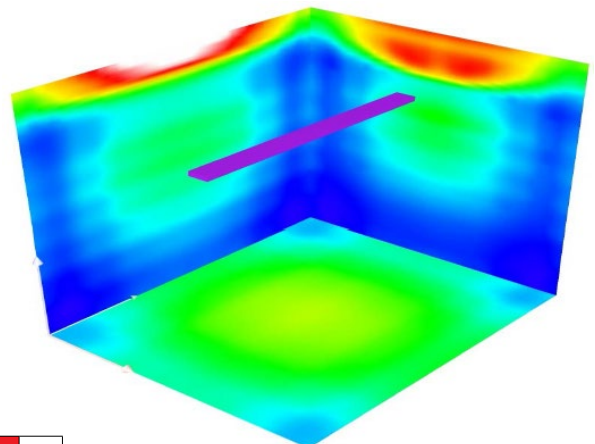


OFFICE • 10'L x 12'W x 10'H



Typical Office Calculation Summary

Catalog Number	S2EL35K-4-L2
Number of 4' Luminaires	2
Watts/4' Luminaires	35W
Lumens/4' Luminaires	3778
Horizontal Light Level	24 Fc
Vertical Light Level	9 Fc
Spacing	8' Runs Centered
Lighting Power Density	0.58 W/SF
% Better Than IECC 2012	42%





SPECIFICATIONS

HOUSING

Planar housings are precision manufactured of die formed, post painted 20-gauge steel.

FINISH

White textured polyester powder coated paint finish with 91% reflectance is the standard finish.

OPTICAL SYSTEM

Computer modeled, formed steel white ballast covers double as reflector system providing wide, horizontal indirect distribution. Precision reflectors allow for superior efficiencies of luminous performance.

MOUNTING

Solid stem 13mm (0.5 in) OD or steel aircraft cable complete with a Quick-Grip field adjustable suspension system provides for quick and easy on site alignment.

INTEGRATED CONTROLS

Daylight, Occupancy or Daylight/Occupancy Sensors.

ENVIRONMENT

Suitable for dry locations.

FLUORESCENT

LAMPING

T8, T5 and T5HO

BALLAST

Electronic Instant Start (T8) , Programmed Rapid Start, (T5/T5HO), 0-10V Dimming, DALI

ELECTRICAL

Integral, electronic ballast for T5 and T8 lamps at 120, 277 and 347 volts.

Pre-wired for quick connection of individual sections and continuous runs to minimize installation time. No disassembly of the product is required. This product can accommodate up to three (3) T5 or (2)T8 lamps, provided by others. For multiple circuit, battery pack and emergency circuit wiring - consult factory.

APPROVALS

Certified to NRTL and IES testing standards. cULus certified.

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

83 (3500K)

LUMEN MAINTENANCE

At an ambient operating temperature of 35°C the LED lifetime expectancy =>60 000hrs at L85.

LUMEN PACKAGES

Four Lumen Packages are available.

DRIVERS

Dimming drivers are standard on our entire LED product offering at 0-10V. Dimming is 10-100% range. Power factor is >90% with a Class 2 rating.

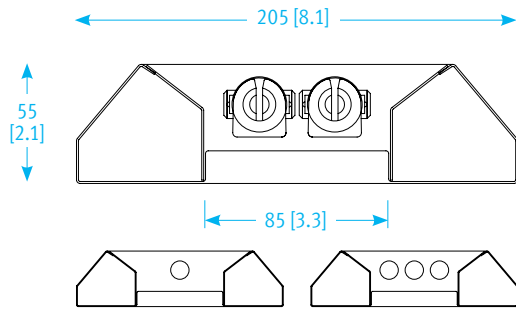
APPROVALS

Certified to NRTL and IES testing standards. All components are UL Registered or Listed. 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



MODEL _____

S2E

SOURCE _____

T8 / T5 / T5HO

OF LAMPS _____

- 1 1 Lamp
- 2 2 Lamps
- 3 3 Lamps (T5 / T5HO only)

LENGTH _____

- 4/8 4ft / 8ft
- R Continuous Rows

OPTICS UP _____

- C Clear Dust Cover
- Blank Open Top

OPTICS DOWN _____

- SB Solid Cross Blade Baffle
- SBO Solid Cross Blade Baffle w/ Opal Overlay

FINISH _____

- WT White Textured
- C Custom - Specify RAL#

BALLAST _____

- E Electronic Instant Start (T8)
- R Programmed Rapid Start (T5 / T5HO)
- D1 0-10V Dimming
- D2 DALI

CIRCUITRY _____

- 1 1 Circuit
- LR Left-Right Switching (2 Lamps)
- AS Alternate Switching
- IO In/Out Switching (3 Lamps)
- EM Emergency / Night Light
- B Battery Pack

MOUNTING _____

- PA Aircraft Cable
- PT Aircraft Cable for T-Bar
- SS Solid Stem

VOLTAGE _____

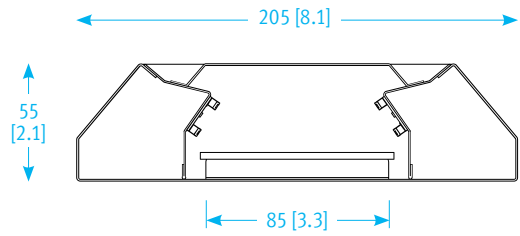
- 1 120
- 2 277
- 3 347
- 4 Universal (120-277)

INTEGRATED CONTROLS _____

- Blank None
- D Daylight Sensor
- O Occupancy Sensor
- DO Daylight/Occupancy Sensor

ORDER GUIDES

LED



MODEL _____

S2E

COLOR TEMP _____

- L30K LED 3000K
- L35K LED 3500K
- L40K LED 4000K

LENGTH _____

- 4/8 4ft / 8ft
- R Continuous Rows

OPTICS UP _____

- C Clear Dust Cover
- Blank Open Top

OPTICS DOWN _____

- SB Solid Cross Blade Baffle
- SBO Solid Cross Blade Baffle w/ Opal Overlay

FINISH _____

- WT White Textured
- C Custom - Specify RAL#

LIGHT LEVEL _____

- L1 2967
- L2 3780
- L3 5419
- L4 10386

CIRCUITRY _____

- 1 1 Circuit
- EM Emergency / Night Light
- B Battery Pack

MOUNTING _____

- PA Aircraft Cable
- PT Aircraft Cable for T-Bar
- SS Solid Stem

VOLTAGE _____

- 1 120
- 2 277
- 3 347
- 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

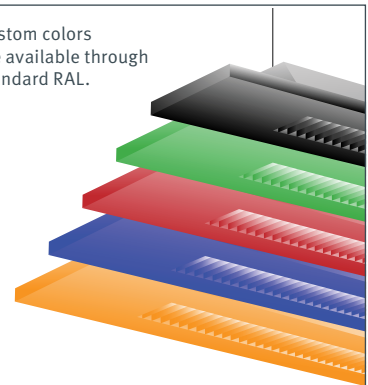


CONTINUOUS ROWS



Consult factory for other configurations.

Custom colors
are available through
standard RAL.





Planar S2E Series

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installed appearance, function or performance. These
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the items illustrated herein. Some combinations may not
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 **Metalumen**

Ideas brought to light