



# ORBIT II

O2DS Series



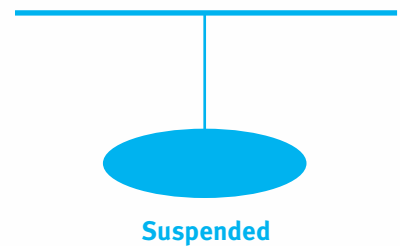
 Metalumen

META  
LED





The Orbit II O2DS Series is offered in a steel housing with clean symmetrical lines forming a graceful and pure ellipse. This elegant profile is a result of a creative manufacturing technique that incorporates die-cast end caps to capture the formed steel body, ensuring that the luminaire does not lose its pure form.





Up to 50%  
Energy  
Savings

**4' Orbit II Suspended and Surface LED Light Level Outputs**

Light Level	Wattage	Lumens Delivered	Efficacy (LPW)	Fluorescent Equivalent	Energy Savings *
L1	27.3	3123	114	1T8/T5	48%
L2	34.8	3983	114	2T8/T5HO	36%
L3	47.8	5704	119	3T8/2T5/T5HO	50%
L4	95.6	10932	114	3T5HO	46%

\*Energy Savings based upon standard lamp/ballast combination using an equivalent O2M 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.

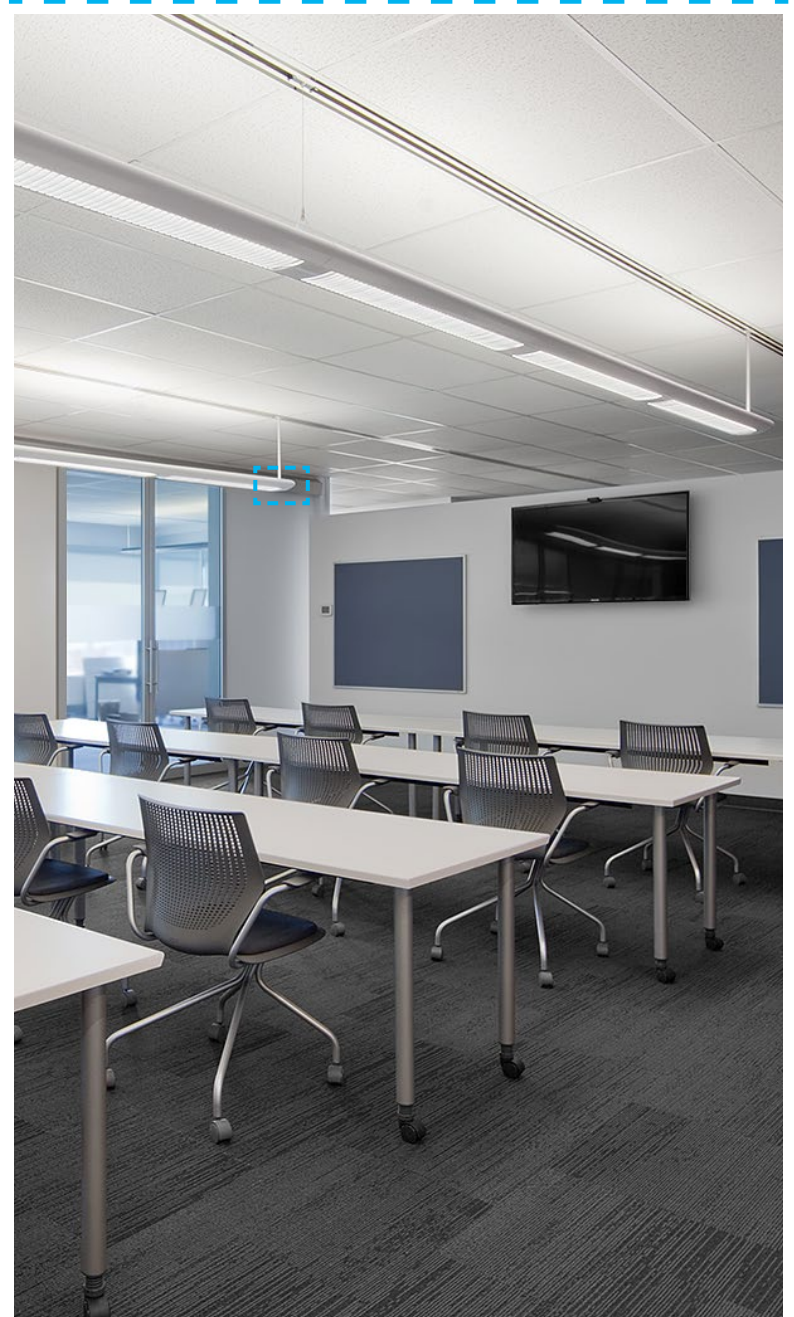
Sensors are internally connected to 0-10V dimming



## OCCUPANCY

**Up to 20% lighting energy savings**

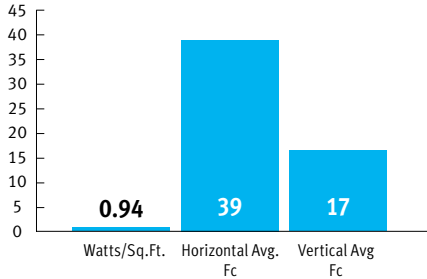
Optional low-profile integrated Occupancy Sensors automatically turn fixture ON or OFF depending on activity within the sensor area.



# Orbit Fluorescent / Orbit II LED Comparison

Room Size: 26 x 44'  
 Ceiling Height: 9'  
 Work Plane: 2.5'  
 Reflectance: 80/50/20  
 # of fixtures: 12

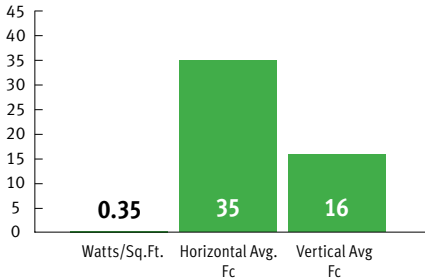
**Orbit O2M**  
 (3) 32W F32T8/TL841 lamps  
 12 Fixtures  
 Electronic Ballast  
 89 watts per fixture



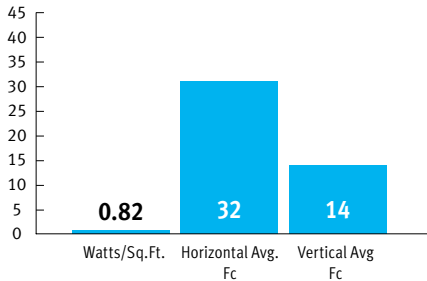
5844	Delivered Lumens	3983
89.4	Input Power (Watts)	35
65	Delivered lms/W	114
<b>0.94</b>	<b>Watts/Sq.Ft.</b>	<b>0.37</b>
<b>39</b>	<b>Horizontal Avg. Fc</b>	<b>35</b>
67	Horizontal Max Fc	57
19	Horizontal Min Fc	16
3.59	Max/Min	3.47
<b>17</b>	<b>Vertical Avg. Fc</b>	<b>16</b>
80	CRI	83

**61% Energy Savings**

**Orbit II O2DS LED**  
 O2DSL35K-4-CSB0-L2  
 12 Fixtures  
 Dimming Driver  
 33 watts per fixture



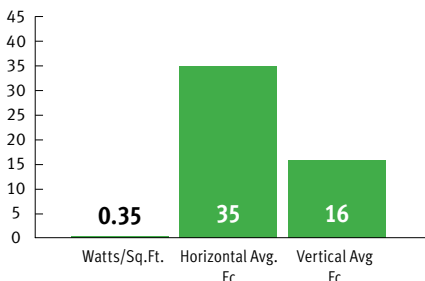
**Orbit O2D 2 Lamp T8**  
 O2D2T8-4-W-E1-PA-1  
 12 Fixtures  
 Electronic Ballast  
 78 watts per fixture



3112	Delivered Lumens	3983
78	Input Power (Watts)	35
40	Delivered lms/W	114
<b>0.82</b>	<b>Watts/Sq.Ft.</b>	<b>0.37</b>
<b>32</b>	<b>Horizontal Avg. Fc</b>	<b>35</b>
52	Horizontal Max Fc	57
16	Horizontal Min Fc	16
3.14	Max/Min	3.47
<b>14</b>	<b>Vertical Avg. Fc</b>	<b>16</b>
80	CRI	83

**55% Energy Savings**

**Orbit II O2DS LED**  
 O2DSL35K-4-CSB0-L2  
 12 Fixtures  
 Dimming Driver  
 33 watts per fixture



All calculations are based on 4' fixtures.

Input  
Output

### Lighting System Energy Analysis

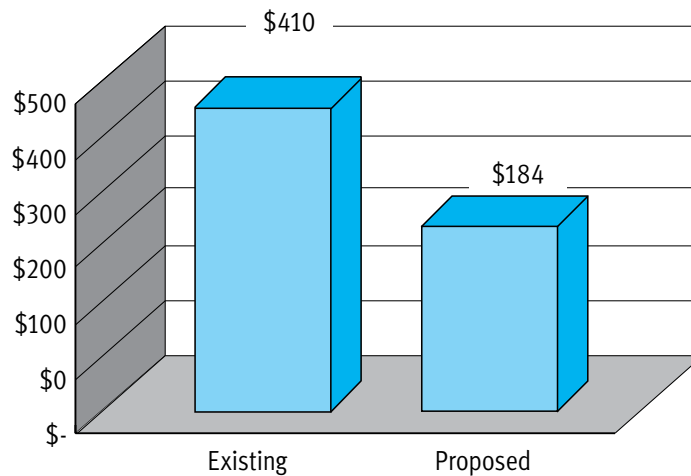
**Customer Information** **Facility Information**

Project Name: \_\_\_\_\_ Cost Per kWh \$ 0.120  
 Annual Operating Hours 3,650  
 Company: \_\_\_\_\_

**System Information** *Existing* *Proposed*

Luminaire Description	O2D2T8 2x F32T8	Orbit II LED O2DSL35K-4-L2
Input Watts Per Luminaire	78	35
Quantity	12	12
System Watts	936	420
System kW	0.936	0.42
Annual kWh	3,416	1,533
Annual Energy Costs	\$ 410	\$ 184
Monthly Costs	\$ 34	\$ 15
Annual Energy Sales (\$)		\$ 226
Annual Energy Savings (%)		55%
Cost of Waiting (Monthly)		\$ 19

**Annual Energy Costs per Lighting Systems**



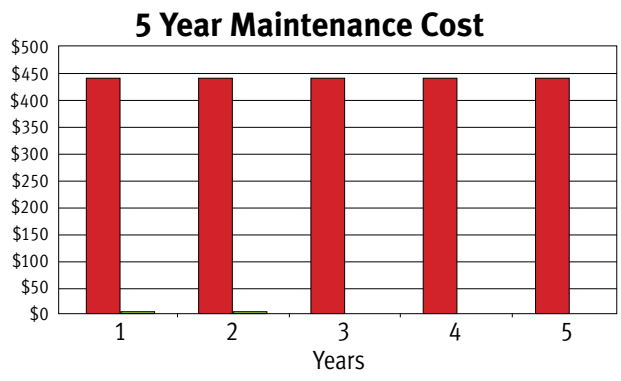
Note: These are estimated savings only. These annual and monthly savings are based on a number of variables and assumptions that could change over time. The actual savings derived by your firm may be higher or lower.

Input  
Output

## Annual Maintenance Cost Estimator: 5 Year Breakdown

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

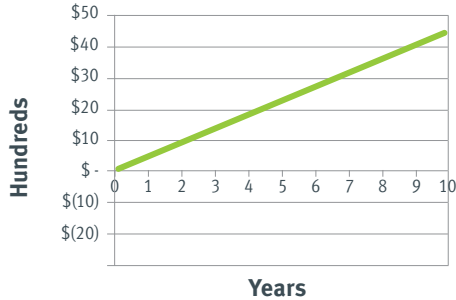
System Information	Existing System	Proposed System
Description of System	O2D2T8 2x F32T8	Orbit II LED O2DSL35K-4-L2
Quantity	12	12
Type of Lamp	Fluorescent, T8	LED
Lamp Life (hrs)	20,000	60,000
Cost of Lamp	\$ 6.00	\$ -
Number of Lamps Per Fixture	2	8
Labor Cost to Spot Relamp per Lamp	\$ 10.00	\$ -
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	0
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%**

Existing Maintenance  
Proposed Maintenance

## LED PAYBACK (YEARS)



**Payback = 0.9 Years**

## SYSTEM ENERGY & MAINTENANCE COST SUMMARY

	LED	Traditional
Total Initial Fixture/Installation Cost	\$3,259	\$3,300
Total System kW	0.42	0.94
Annual kWh	1,533	3,416
Cost of Energy per kWh	\$0.120	\$0.120
kWh Inflation Rate (%/yr)	0.00%	0.00%
Average Annual Energy Cost	\$184	\$410
Average Annual Maintenance Cost	\$0	\$210
Average Annual Energy + Maintenance Costs	\$184	\$620
<b>Average Annual Energy &amp; Maintenance Savings</b>	<b>\$436</b>	

	Savings		Cost/Year	
	Annual	Cumulative	LED	Traditional
1st Year	\$226	\$226	\$184	\$410
5th Year	\$366	\$1,872	\$184	\$550
10th Year	\$436	\$4,403	\$184	\$620

10 Year Total Savings = \$4,362	Cost	
	LED	Traditional
	\$1,840	\$6,202

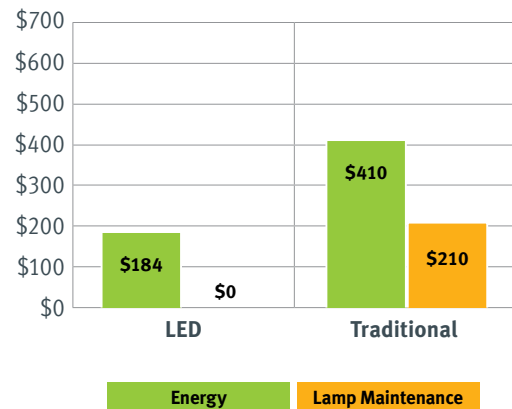
**+65%**  
Savings including  
Energy & Maintenance  
over 5 years

## PAYBACK ANALYSIS

### Average Annualized Savings Per Year

Annual Energy Savings	\$226
Annual Lamp Maintenance Savings	\$210
Annual Combined Savings	\$436
Cost of Waiting (Monthly)	\$36
Simple Payback (years)	(0.09)
IRR (%)	N/A
10 Year Cash Flow (Energy & Lamp Main)	\$4,403

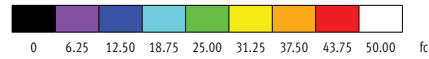
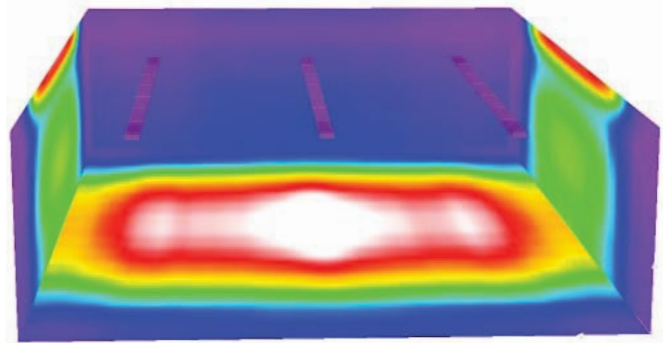
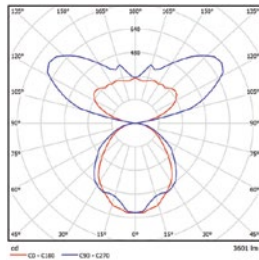
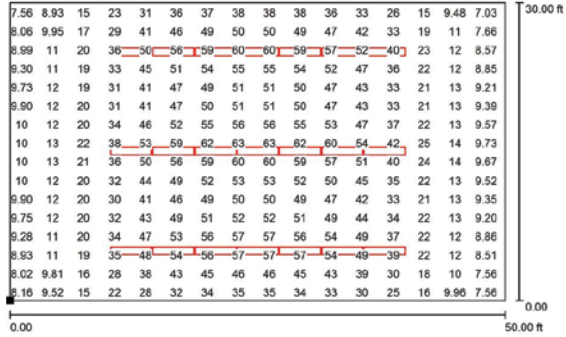
## Annual Operation Cost: Energy & Lamp Maintenance



\*\*\* 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.



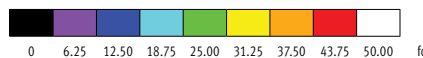
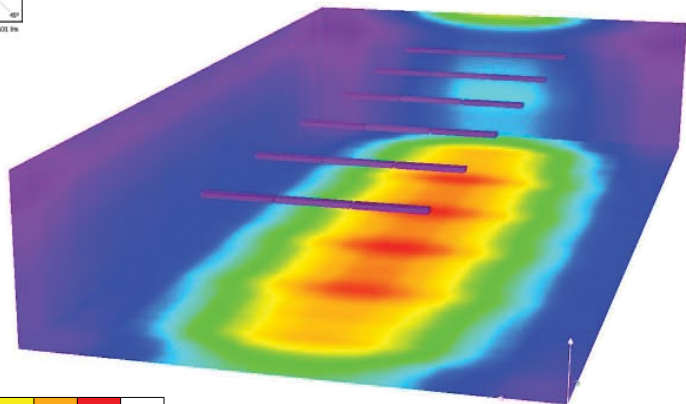
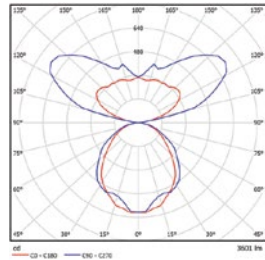
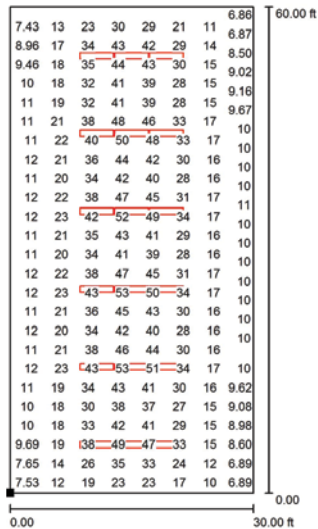
## CLASSROOM • 50'L x 30'W x 10'H



### Typical Classroom Calculation Summary

Catalog Number	O2DS-L35K-4-L2
Number of 4' Luminaires	21
Watts/4' Luminaires	35W
Lumens/4' Luminaires	3983
Horizontal Light Level	34 Fc
Vertical Light Level	14 Fc
Spacing	28' Runs / 10' Spacing
Lighting Power Density	0.49 W/SF
% Better Than IECC 2012	51%

## OPEN OFFICE • 30'L x 60'W x 10'H



### Typical Open Office Calculation Summary

Catalog Number	O2DS-L35K-4-L2
Number of 4' Luminaires	18
Watts/4' Luminaires	35W
Lumens/4' Luminaires	3983
Horizontal Light Level	25 Fc
Vertical Light Level	11 Fc
Spacing	12' Runs / 8' Spacing
Lighting Power Density	0.35 W/SF
% Better Than IECC 2012	65%



## SPECIFICATIONS

### HOUSING

Precision-formed 22 gauge steel bodies with die cast end-caps allow optimal performance dust covers keeps fixtures and lamps clean.

### FINISH

White, baked, powder coated polyester finish. 91% reflectance. For custom finish, consult factory.

### 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.

### WEIGHT

2.1 kg/300mm [ 4.6 lb/ft ]

### MOUNTING

Pendant: Aircraft cable field adjustable is standard with Easy Adjust Quick Connect Cable Grips that are self-locking tamper resistant (contact factory for custom lengths). Solid Stem: Solid stem 13mm (1/2") OD. Factory prewired with easy wire quick connect sections.

### 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.

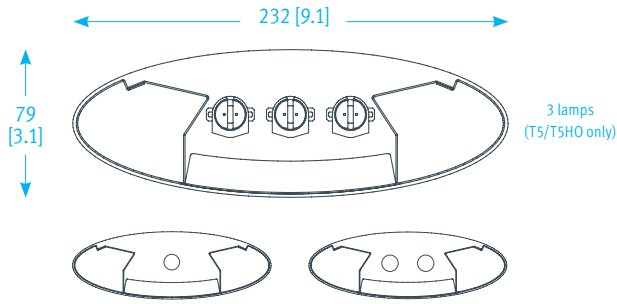
### APPROVALS

Certified to NRTL and IES testing standards. LM79/LM80 compliant.

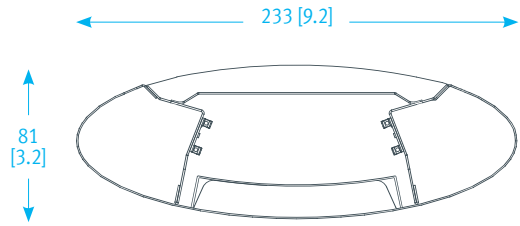
### WARRANTY

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



## LED



## ORDER GUIDES

**MODEL** \_\_\_\_\_  
O2DS

**SOURCE** \_\_\_\_\_  
T8 / T5 / T5HO

**# OF LAMPS** \_\_\_\_\_  
1 1 Lamp  
2 2 Lamps  
3 3 Lamps (T5 / T5HO only)

**LENGTH** \_\_\_\_\_  
4/8/12 4ft / 8ft / 12ft  
R Continuous Rows

**OPTICS UP** \_\_\_\_\_  
P Perforated  
C Clear Dust Cover  
Blank None

**OPTICS DOWN** \_\_\_\_\_  
SB Solid Cross Blade Baffle  
SBO Solid Cross Blade Baffle w/ Opal Overlay

**FINISH** \_\_\_\_\_  
W White  
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  
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

**MODEL** \_\_\_\_\_  
O2DS

**SOURCE** \_\_\_\_\_  
LED

**COLOR TEMP** \_\_\_\_\_  
L30K 3000K  
L35K 3500K  
L40K 4000K

**LENGTH** \_\_\_\_\_  
4/8/12 4ft / 8ft / 12ft  
R Continuous Rows

**OPTICS UP** \_\_\_\_\_  
P Perforated  
C Clear Dust Cover  
Blank None

**OPTICS DOWN** \_\_\_\_\_  
SB Solid Cross Blade Baffle  
SBO Solid Cross Blade Baffle w/ Opal Overlay

**FINISH** \_\_\_\_\_  
W White  
C Custom - Specify RAL#

**LIGHT LEVEL** \_\_\_\_\_  
L1 2740  
L2 3497  
L3 4737  
L4 9552

**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



### SECTIONS IN A CONTINUOUS RUN



*Consult factory for other configurations.*



Custom colors are available through standard RAL.



### Orbit II O2DS Series

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