

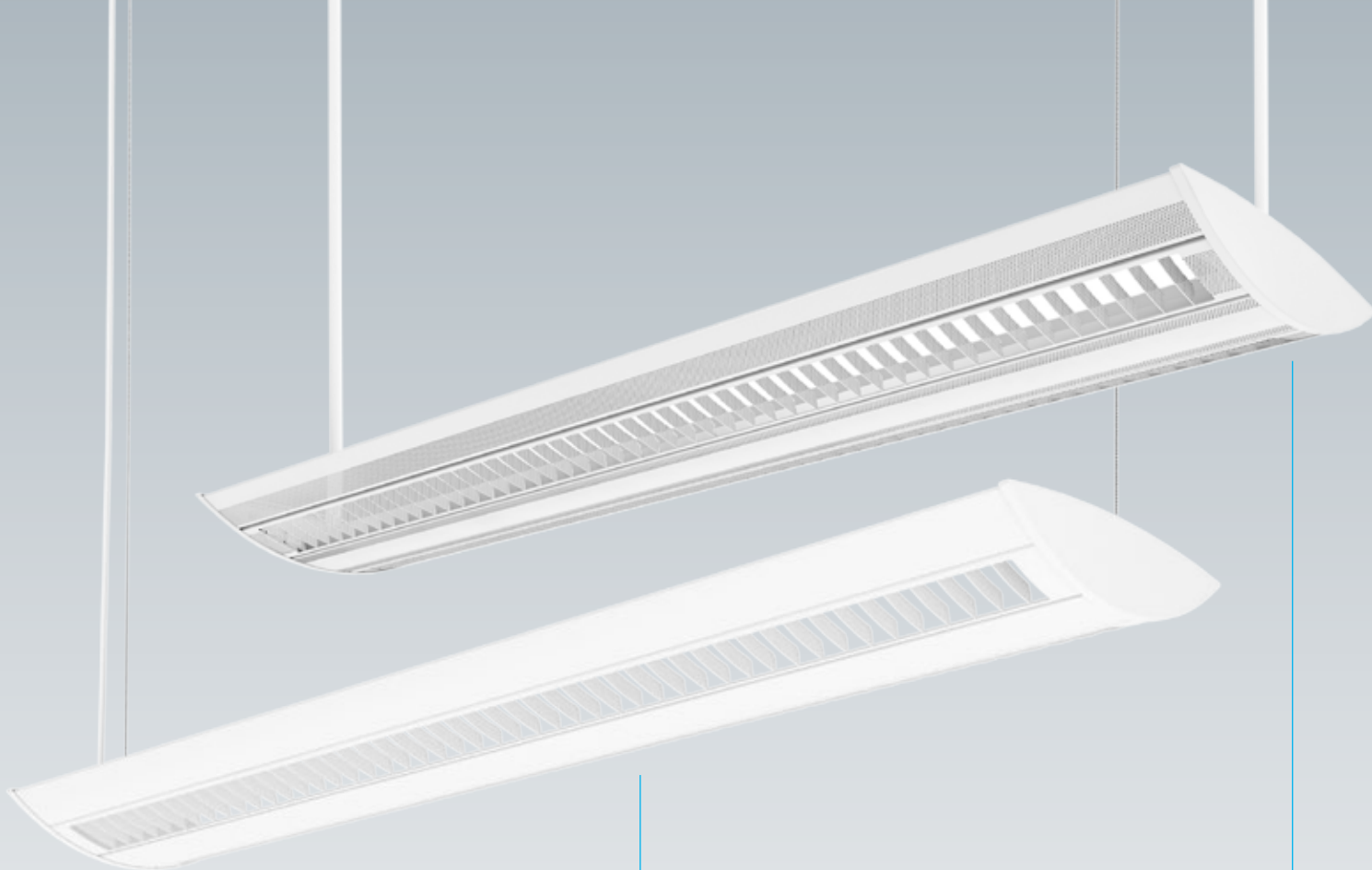
HORIZON II

05B & 05K Series

 Metalumen

META
LED





05B

The 05B solid body is constructed of 22 gauge steel with solid steel cross blade baffles. Light distribution is approximately 75% indirect / 25% direct depending on lamping options specified. Die cast end caps and the integrated Metalumen tongue and groove Electro-Mechanical Interlock continue to be included in the pricing. Available section lengths include 4', 8' and 12'. The Horizon II 05B is the ideal choice for those competitive projects where budgets dictate an economical linear solution.

The 05K offers a unique alternative to the various high performance extruded aluminum products in the Horizon Series. Through creative manufacturing, this product is constructed of formed aluminum rather than extrusion, thus offering a more cost-effective alternative when indirect/direct lighting is required for projects with a minimal design budget. Its sleek profile measures a mere 2.9 inches high. The fully perforated body is exquisitely detailed with a screen that incorporates an integral, twin, perforated blade louver when a significant downlighting

05K

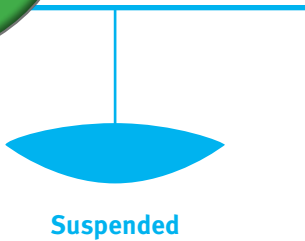
component is required for higher footcandle levels. The fixture's formed ballast channel, in conjunction with the die cast end caps, offers strength for sections as long as a nominal 12'-0" with only two (2) hanger assemblies. As a result, straight alignment for continuous row installations, with a minimal amount of supports can be maintained.

The low profile, perforated body and louver provides the designer with the option of providing an indirect/direct component for areas that require higher horizontal footcandle levels such as offices with high furniture partitions, libraries, school classrooms, research labs and conference rooms. The soft illumination that emanates from the perforated screen and louvers have low brightness and "glow" with a similar illumination level as the indirectly illuminated ceiling 18"-24" above it. As a result of this design, the brightness of the fixture and ceiling become harmonious with each other, an ideal design approach for reducing glare on computer terminals.



Up to 50%
Energy
Savings

4' Horizon II Suspended and Surface LED Light Level Outputs							
Light Level	Wattage	Lumens Delivered		Efficacy (LPW)		Fluorescent Equivalent	Energy Savings *
		05K	05B	05K	05B		
L1	27	3079	3230	113	118	2T8/T5	48%
L2	35	3924	4119	113	118	2T8/T5HO	36%
L3	48	5621	5898	118	123	3T8/2T5/T5HO	50%
L4	96	10775	11304	113	118	3T5HO	46%
* Energy Savings based upon standard lamp/ballast combination using an equivalent 05K & 05B 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.



Horizon II Fluorescent / LED Comparison

1

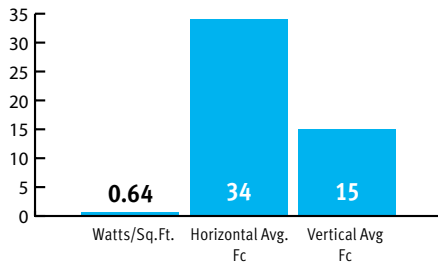
Room Size: 100 x 100'
Ceiling Height: 9'
Plane: 2.5'
Reflectance: 80/50/20
Layout: 10x12 Centers
Suspension Height: 18"

2

Room Size: 100 x 100'
Ceiling Height: 18'
Plane: 2.5'
Reflectance: 80/50/20
Layout: 10x12 Centers
Suspension Height: 18"

1

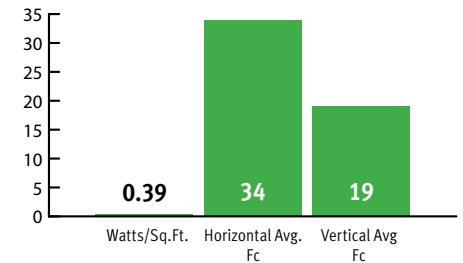
2 Lamp T8
(2) 32W T8 lamps
120 Fixtures
Electronic Ballast
53 watts per fixture



3112	Delivered Lumens	3230
53	Input Power (Watts)	27
59	Delivered lms/W	118
0.64	Watts/Sq.Ft.	0.33
34	Horizontal Avg. Fc	34
45	Horizontal Max Fc	40
11	Horizontal Min Fc	19
4	Max/Min	2.11
15	Vertical Avg. Fc	19
80	CRI	83

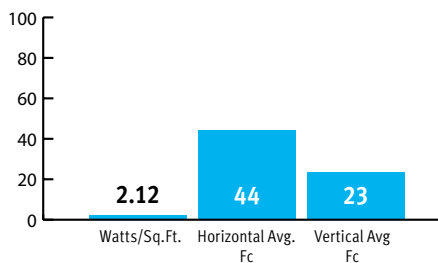
Horizon II LED
120 Fixtures
Dimming Driver
27 watts per fixture

48% Energy Savings



2

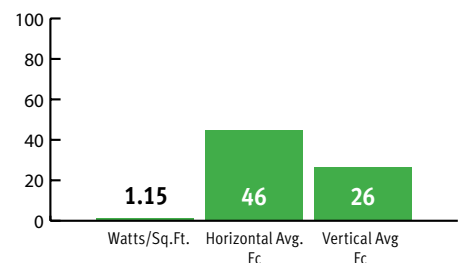
3 Lamp T5HO
(3) 54W T5HO lamps
120 Fixtures
Electronic Ballast
177 watts per fixture



11367	Delivered Lumens	10775
177	Input Power (Watts)	96
64	Delivered lms/W	113
2.12	Watts/Sq.Ft.	1.15
43.5	Horizontal Avg. Fc	45.5
55.5	Horizontal Max Fc	56
26	Horizontal Min Fc	26
2.13	Max/Min	2.16
22.5	Vertical Avg. Fc	25.5
80	CRI	83

Horizon II LED
120 Fixtures
Dimming Driver
96 watts per fixture

46% Energy Savings



All calculations are based on 4' fixtures.

Lighting System Energy Analysis

Input

Output

Customer Information

Facility Information

Project Name:

Cost Per kWh

\$ 0.120

Annual Operating Hours

3,650

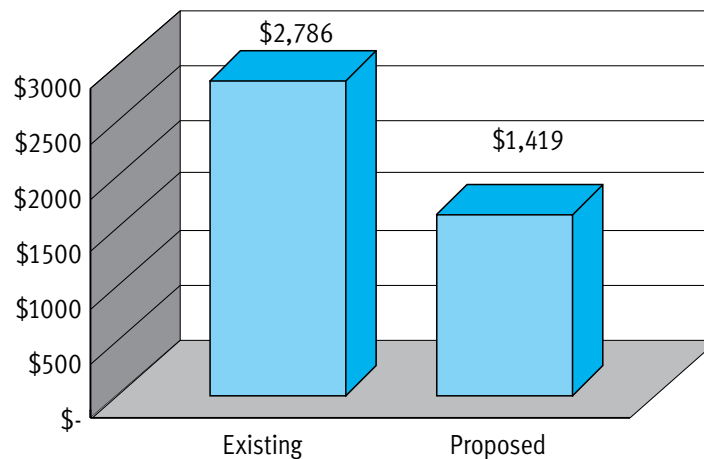
Company:

System Information

Existing

Proposed

Luminaire Description	(2) 32W T8	HORIZON II LED L1
Input Watts Per Luminaire	53	27
Quantity	120	120
System Watts	6,360	3,240
System kW	6.36	3.24
Annual kWh	23,214	11,826
Annual Energy Costs	\$ 2,786	\$ 1,419
Monthly Costs	\$ 232	\$ 118
Annual Energy Sales (\$)		\$ 1,367
Annual Energy Savings (%)		49%
Cost of Waiting (Monthly)		\$ 114



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

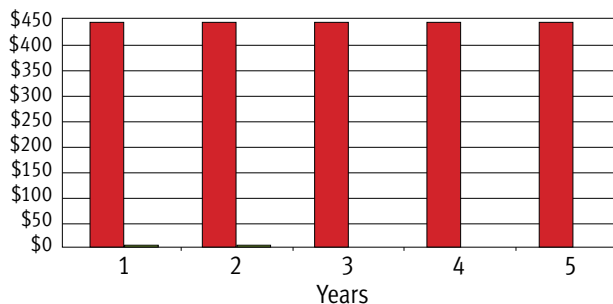
System Information

Existing System

Proposed System

Description of System	(2) 32W T8	HORIZON II LED L1
Quantity	120	120
Type of Lamp	Fluorescent T8 Lamp	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

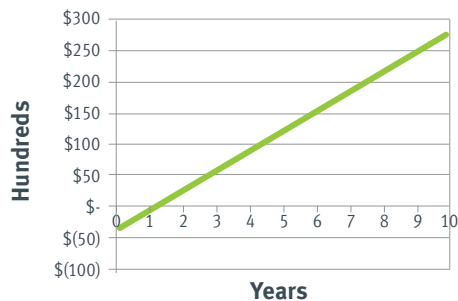
5 Year Maintenance Cost



**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	\$36,695	\$33,000
Total System kW	3.24	6.36
Annual kWh	11,826	23,214
Cost of Energy per kWh	\$0.120	\$0.120
kWh Inflation Rate (%/yr)	0.00%	0.00%
Average Annual Energy Cost	\$1,419	\$2,786
Average Annual Maintenance Cost	\$0	\$1,886
Average Annual Energy + Maintenance Costs	\$1,419	\$4,672

Average Annual Energy & Maintenance Savings \$3,253

	Savings		Cost/Year	
	Annual	Cumulative	LED	Traditional
1st Year	\$1,367	\$1,367	\$1,419	\$2,786
5th Year	\$2,624	\$9,426	\$1,419	\$4,043
10th Year	\$3,253	\$28,835	\$1,419	\$4,672

10 Year Total Savings = \$32,530

	Cost	
	LED	Traditional
10 Year Total	\$14,191	\$46,721

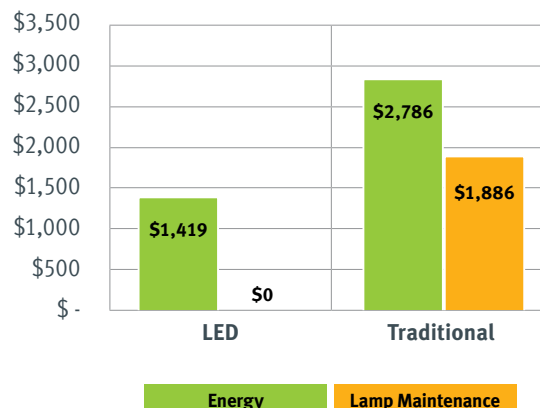
At least 65% Savings including Energy & Maintenance over 5 years

PAYBACK ANALYSIS

Average Annualized Savings Per Year

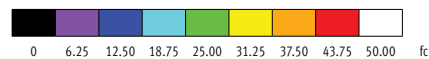
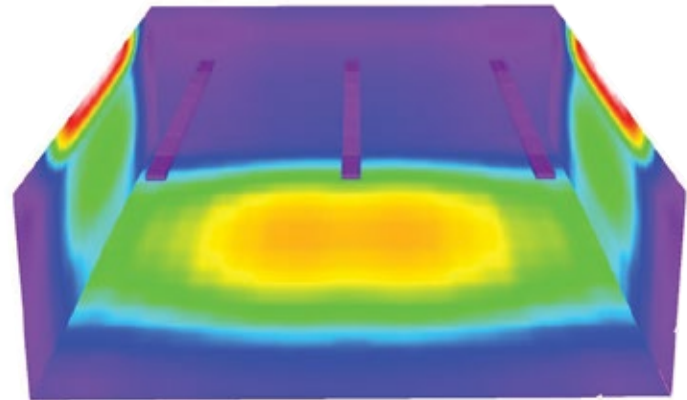
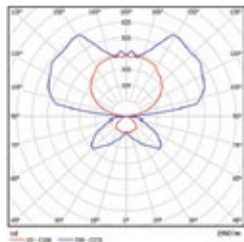
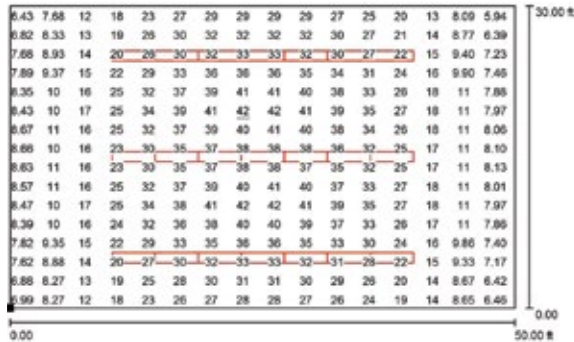
Annual Energy Savings	\$1,367
Annual Lamp Maintenance Savings	\$1,886
Annual Combined Savings	\$3,253
Cost of Waiting (Monthly)	\$271
Simple Payback (years)	1.14
IRR (%)	88%
10 Year Cash Flow (Energy & Lamp Main)	\$28,835

Annual Operation Cost: Energy & Lamp Maintenance



Calculation is based on actual Horizon II LED fixture used in comparison to a 2-T8 FL Horizon II fixture. Assumptions are \$0.12 per KWh and 10 operating Hours/day @ full power (dimming will result in more savings). 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.

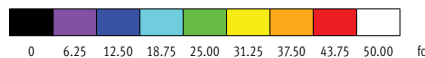
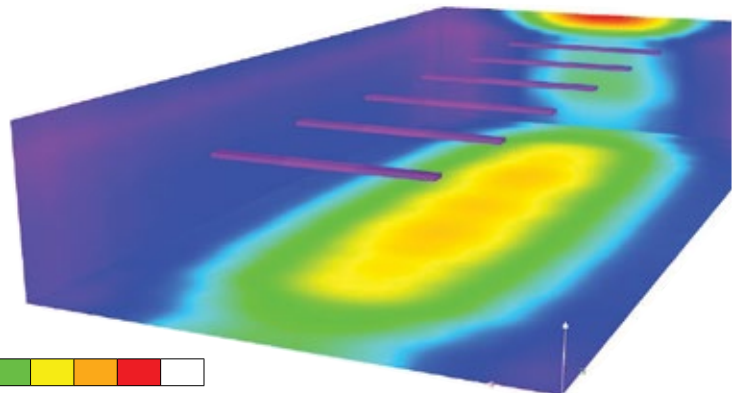
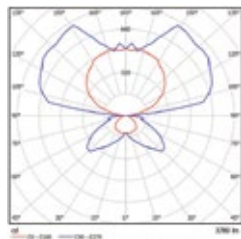
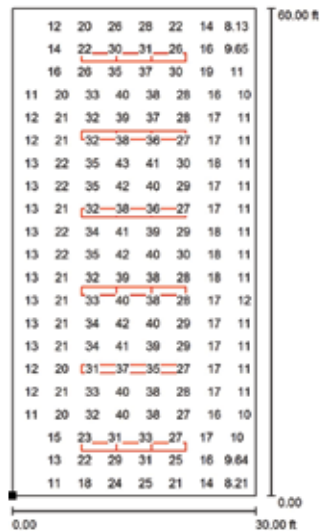
CLASSROOM • 50'L x 30'W x 10'H



Typical Classroom Calculation Summary

Catalog Number	05K-L35K-4-L1
Number of 4' Luminaires	21
Watts/4' Luminaires	27W
Lumens/4' Luminaires	3079
Horizontal Light Level	24 Fc
Vertical Light Level	11 Fc
Spacing	28' Runs / 10' Spacing
Lighting Power Density	0.38 W/SF
% Better Than IECC 2012	62%

OPEN OFFICE • 30'L x 60'W x 10'H



Typical Open Office Calculation Summary

Catalog Number	05K-L35K-4-L2
Number of 4' Luminaires	18
Watts/4' Luminaires	35W
Lumens/4' Luminaires	3924
Horizontal Light Level	23 Fc
Vertical Light Level	10 Fc
Spacing	12' Runs / 8' Spacing
Lighting Power Density	0.33 W/SF
% Better Than IECC 2012	65%



SPECIFICATIONS

HOUSING

O5K - Formed aluminum 18 gauge, one piece, perforated aluminum screen, 16 gauge steel internal support brackets and ballast cover and die cast end caps.

O5B - 22 gauge steel with solid steel cross blade baffles and die cast end caps.

FINISH

White matte paint with a 15% low gloss finish.
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

O5K - 2.78 kg/300mm [6.14 lb/ft]
O5B (Steel) - 3.5 kg/300mm [6.8 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 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.

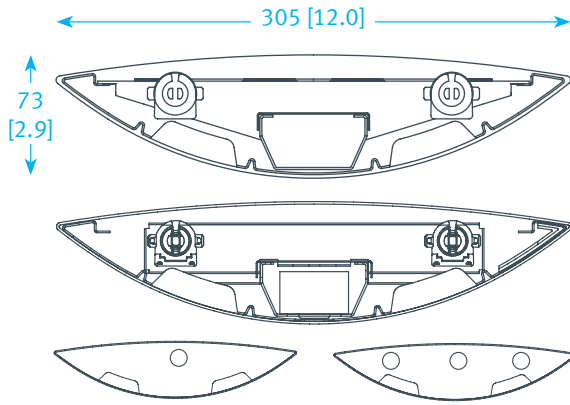
APPROVALS

Certified to NRTL and IES testing standards. cULus certified. 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

O5B
O5K

SOURCE

T8 / T5 / T5HO

OF LAMPS

1 1 Lamp
2 2 Lamps
3 3 Lamps

LENGTH

4/8/12 4ft / 8ft / 12ft
R Continuous Rows

OPTICS UP

Blank None
C Clear Dust Cover

OPTICS DOWN

SB Solid Cross Blade Baffle (O5B)
SBO Solid Cross Blade Baffle w/ Opal Overlay (O5B)
PB Perforated Cross Blade Baffle (O5K)
PBO Perforated Cross Blade Baffle w/ Opal Overlay (O5K)

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

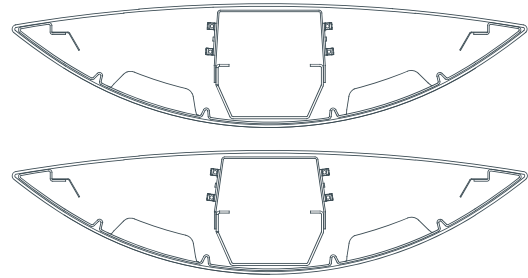
VOLTAGE

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

INTEGRATED CONTROLS

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

LED



O5B

O5K

MODEL

O5B
O5K

SOURCE

LED

COLOR TEMP

L30K 3000K
L35K 3500K
L40K 4000K

LENGTH

4/8/12 4ft / 8ft / 12ft
R Continuous Rows

OPTICS UP

Blank None
C Clear Dust Cover

OPTICS DOWN

SB Solid Cross Blade Baffle (O5B)
SBO Solid Cross Blade Baffle w/ Opal Overlay (O5B)
PB Perforated Cross Blade Baffle (O5K)
PBO Perforated Cross Blade Baffle w/ Opal Overlay (O5K)

FINISH

W White
C Custom - Specify RAL#

LIGHT LEVEL

	O5K	O5B
L1	3079	3230
L2	3924	4119
L3	5621	5898
L4	10775	11304

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

ORDER GUIDES

INDIVIDUAL SECTIONS



SECTIONS IN A CONTINUOUS RUN



Consult factory for other configurations.

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



Custom colors are available through standard RAL.



Ideas brought to light



Horizon II O5K & O5B Series

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