

# OAL-301-LED

LED Large Area Light

up to 350 Wattage / up to 50000 Lumens

Catalog Number:

Project Name:

Note:

Type:



## SPECIFICATIONS:

|                        |                              |
|------------------------|------------------------------|
| LUMENS                 | 32000 / 40000 / 50000 lumens |
| WATTAGE                | 250W / 300W / 350W           |
| CCT                    | 40K, 50K                     |
| CRI                    | 70                           |
| LIGHT EFFICIENCY       | 146 lumens/watt              |
| VOLTAGE                | 120-277 VAC / 347V / 480V    |
| POWER FREQUENCY        | 50/60 Hz                     |
| FINISH                 | Bronze                       |
| APPLICABLE ENVIRONMENT | Dry/Damp/Wet location        |
| WORKING TEMPERATURE    | -40°C to 45°C                |



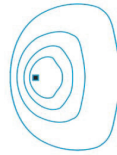
## APPLICATIONS:

The Oracle LED Large Area Light is designed with wide spread distribution for even illumination of parking lots, walkways, hardscapes, roadways, and public spaces. The optimal fixture where low mounting heights are required either on a building wall or pole mounted.

## FEATURES:

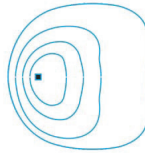
- The one piece die-cast aluminum housing with UV resistant polycarbonate optical lens, outstanding corrosion protection
- Lumen output 32000-50000lm with efficacy to 146lm/W
- Optical Distribution Options: Type III, Type IV, Type V
- Suitable for mounting heights ranging from 26'-40' in area lighting applications
- Mounting Options: square pole, round pole, wall mount, and slipfitter
- Optional photocell and motion sensor
- LED Driver options: MVOLT 120-277V / 347V / 480V
- Dimmable 0-10V
- Fixtures are IP66 rated and suitable for use in ambients from -40°C to 45°C (-40°F to 113°F)
- UL Wet location

## DISTRIBUTION:



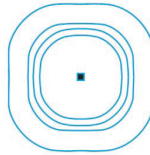
### Type III

Type 3 optics produce an asymmetrical pattern that directs the majority of the light forward and equally on both sides of the luminaire.



### Type IV

Type 4 is suitable for applications where light is primarily required forward, and minimal backlight is needed.



### Type V

Type 5 optics produce a symmetrical square pattern that distributes light equally on all sides of the luminaire.

Ordering Guide > Example: **OAL-301-LED-50000L-DIM10-MVOLT-40K-T4D-BZ-PHC-OAL-301-ACC-PM**

| OAL-301-LED |                                                                         |                       |                                                |                            |                                                 |                                                        |                                       |                                                                                                                          |
|-------------|-------------------------------------------------------------------------|-----------------------|------------------------------------------------|----------------------------|-------------------------------------------------|--------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| SERIES      | PERFORMANCE                                                             | DIMMING               | VOLTAGE                                        | CCT                        | DISTRIBUTION                                    | FINISH                                                 | ACCESSORIES                           | MOUNTING                                                                                                                 |
| OAL-301-LED | 32000L - 32000 lumens<br>40000L - 40000 lumens<br>50000L - 50000 lumens | DIM10 - 0-10V Dimming | MVOLT - 120-277V<br>347V - 347V<br>480V - 480V | 40K - 4000K<br>50K - 5000K | T3D - Type III<br>T4D - Type IV<br>T5D - Type V | BZ - Bronze<br>BK - Black<br>WH - White<br>SI - Silver | PHC - Photocell<br>MS - Motion Sensor | OAL-101/201/301-ACC-PM - Pole mount<br>OAL-101/201/301-ACC-WM - Wall mount<br>OAL-101/201/301-ACC-SFM - Slipfitter mount |
|             | * For more lumen package option, consult factory                        |                       | * Support 0-10V dimming, consult factory       |                            |                                                 | * Other colors, consult factory                        |                                       | * For more mounting options, please see additional mounting accessories page                                             |

# OAL-301-LED

LED Large Area Light

up to 350 Wattage / up to 50000 Lumens

Catalog Number:

Project Name:

Note:

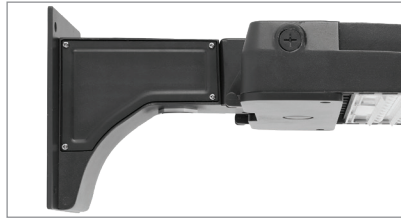
Type:

## MOUNTING:



**OAL-101/201/301-ACC-PM**  
**Pole Mount**

Standard versatile mounting arm is simple to install and can be used with existing poles for retrofit installations.



**OAL-101/201/301-ACC-WM**  
**Wall Mount**

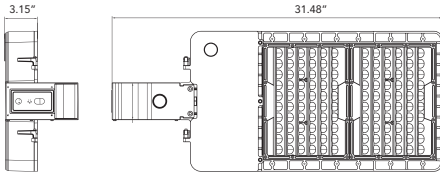
Wall Mount is easy to install for direct wall mounting with 1/2" conduit wiring or standard J-box mounting.



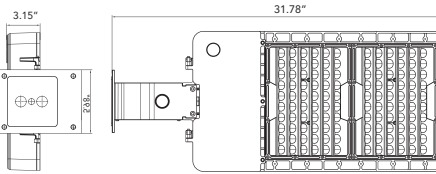
**OAL-101/201/301-ACC-SFM**  
**Slipfitter Mount**

An optional cast aluminum mast arm adapter secures fixture head to nominal 2"(2-3/8" O.D. pipe size) horizontal steel tenon arm.

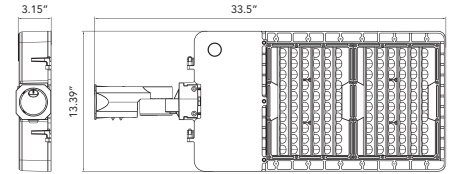
## DIMENSION:



Weight: 22.686 lb (250W)  
24.097 lb (300W)  
24.097 lb (350W)

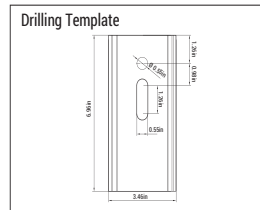
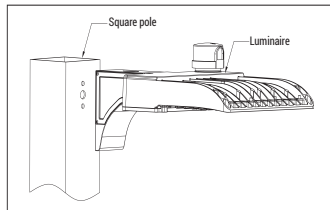
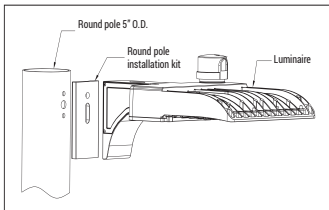


Weight: 25.552 lb (250W)  
26.963 lb (300W)  
26.963 lb (350W)



Weight: 23.104 lb (250W)  
24.515 lb (300W)  
24.515 lb (350W)

## MOUNTING DIMENSION:



## INSTALLATION KIT:



### Round Pole Installation Kit

Standard versatile mounting arm for area light application, with K/O to install photocell or sensor. Furnished with two 5/16" hex head stainless-steel bolts and two 1/2" hex head stainless-steel screw. Suitable for 4" and 5" round poles.

## ACCESSORIES:



PHC - Photocell



MS - Motion Sensor

## EPA OF AREA LIGHT:

| Item | 1      | 1<br>2<br>@ 90° | 1<br>2<br>@ 120° | 1<br>2<br>@ 180° | 1<br>2<br>3<br>@ 90° | 1<br>2<br>3<br>@ 120° | 1<br>2<br>3<br>4<br>@ 90° |
|------|--------|-----------------|------------------|------------------|----------------------|-----------------------|---------------------------|
| 250W |        |                 |                  |                  |                      |                       |                           |
| 300W | 0.5614 | 0.8471          | 1.105            | 1.1228           | 1.294                | 1.2503                | 1.294                     |
| 350W |        |                 |                  |                  |                      |                       |                           |

# OAL-301-LED

LED Large Area Light

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## PERFORMANCE DATA:

|       |        | 4000K (70CRI) |          |   |   |   | 5000K (70CRI) |          |   |   |   |
|-------|--------|---------------|----------|---|---|---|---------------|----------|---|---|---|
| WATTS | TYPE   | LUMENS        | LPW      | B | U | G | LUMENS        | LPW      | B | U | G |
| 250W  | Type 3 | 32000lm       | 128 lm/w | 4 | 2 | 3 | 32500lm       | 130 lm/w | 4 | 2 | 3 |
|       | Type 4 | 30000lm       | 120 lm/w | 4 | 2 | 4 | 30500lm       | 122 lm/w | 4 | 2 | 4 |
|       | Type 5 | 33500lm       | 134 lm/w | 5 | 2 | 2 | 34000lm       | 136 lm/w | 5 | 2 | 2 |
| WATTS | TYPE   | LUMENS        | LPW      | B | U | G | LUMENS        | LPW      | B | U | G |
| 300W  | Type 3 | 38000lm       | 127 lm/w | 4 | 2 | 3 | 39000lm       | 130 lm/w | 4 | 2 | 3 |
|       | Type 4 | 36000lm       | 120 lm/w | 4 | 2 | 4 | 37000lm       | 123 lm/w | 4 | 2 | 4 |
|       | Type 5 | 41000lm       | 137 lm/w | 5 | 2 | 2 | 41500lm       | 138 lm/w | 5 | 2 | 2 |
| WATTS | TYPE   | LUMENS        | LPW      | B | U | G | LUMENS        | LPW      | B | U | G |
| 350W  | Type 3 | 50000lm       | 143 lm/w | 4 | 2 | 3 | 50000lm       | 143 lm/w | 4 | 2 | 3 |
|       | Type 4 | 49000lm       | 140 lm/w | 4 | 2 | 4 | 49000lm       | 140 lm/w | 4 | 2 | 4 |
|       | Type 5 | 51000lm       | 146 lm/w | 5 | 2 | 2 | 51000lm       | 146 lm/w | 5 | 2 | 2 |

## ELECTRICAL DATA:

| NUMBER OF DRIVERS | DRIVER CURRENT (Amps) | Nominal Power (W) | Input Voltage (V) | Current (Amps) |
|-------------------|-----------------------|-------------------|-------------------|----------------|
| 1                 | 6400                  | 250               | 120               | 1.25           |
|                   |                       | 250               | 208               | 0.72           |
|                   |                       | 250               | 240               | 0.63           |
|                   |                       | 250               | 277               | 0.54           |
|                   |                       | 250               | 347               | 0.43           |
|                   |                       | 250               | 480               | 0.31           |
| 1                 | 6000                  | 300               | 120               | 1.25           |
|                   |                       | 300               | 208               | 0.72           |
|                   |                       | 300               | 240               | 0.63           |
|                   |                       | 300               | 277               | 0.54           |
|                   |                       | 300               | 347               | 0.43           |
|                   |                       | 300               | 480               | 0.31           |
| 1                 | 6200                  | 350               | 120               | 1.25           |
|                   |                       | 350               | 208               | 0.72           |
|                   |                       | 350               | 240               | 0.63           |
|                   |                       | 350               | 277               | 0.54           |
|                   |                       | 350               | 347               | 0.43           |
|                   |                       | 350               | 480               | 0.31           |

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## POLE BRACKET (For mounting one fixture on an existing pole)



PART no: OAL-ACC-4-SQPM  
4" Square Pole Mount with 2-3/8" O.D. Tenon

For use with square, non-tapered steel and aluminum poles. Furnished with four 5/16" hex head stainless-steel bolts. Vertical tenon measures 2-3/8" O.D., and is made of steel tubing. Fixtures mounted to this bracket can be adjusted both vertically and horizontally.



PART no: OAL-ACC-5-SQPM  
5" Square Pole Mount with 2-3/8" O.D. Tenon

For use with square, non-tapered steel and aluminum poles. Furnished with four 5/16" hex head stainless-steel bolts. Vertical tenon measures 2-3/8" O.D., and is made of steel tubing. Fixtures mounted to this bracket can be adjusted both vertically and horizontally.



PART no: OAL-ACC-4-RQPM  
4" Round Pole Mount with 2-3/8" O.D. Tenon

For use with square, non-tapered steel and aluminum poles. Furnished with four 3/8" hex head stainless-steel bolts. Vertical tenon measures 2-3/8" O.D., and is made of steel tubing. Fixtures mounted to this bracket can be adjusted both vertically and horizontally.



PART no: OAL-ACC-5-RQPM  
5" Round Pole Mount with 2-3/8" O.D. Tenon

For use with square, non-tapered steel and aluminum poles. Furnished with four 3/8" hex head stainless-steel bolts. Vertical tenon measures 2-3/8" O.D., and is made of steel tubing. Fixtures mounted to this bracket can be adjusted both vertically and horizontally.



PART no: OAL-ACC-TMA  
2-3/8" O.D. Tenon Mount Adapter for Yoke Fixtures

The 2-3/8" OD Tenon Mount Adapter for Yoke Fixture is designed to mount light fixtures that are equipped with a yoke mount onto a 2-3/8" OD tenon.

## ROUND EXTERNAL MOUNT HORIZONTAL TENON (To mount 2-3/4 fixtures on a existing pole)



PART no: OAL-ACC-2-90-HOR-TA  
Double 90° Horizontal Tenon Adapter

The Bracket is designed to mount over 2-3/8" (60mm) O.D. vertical tenon. Two fixtures can be mounted to the Round External Mount Horizontal Tenon and adjusted horizontally.



PART no: OAL-ACC-2-180-HOR-TA  
Double 180° Horizontal Tenon Adapter

The Bracket is designed to mount over 2-3/8" (60mm) O.D. vertical tenon. Two fixtures can be mounted to the Round External Mount Horizontal Tenon and adjusted horizontally.



PART no: OAL-ACC-3-90-HOR-TA  
Triple 90° Horizontal Tenon Adapter

The Bracket is designed to mount over 2-3/8" (60mm) O.D. vertical tenon. Three fixtures can be mounted to the Round External Mount Horizontal Tenon and adjusted horizontally.



PART no: OAL-ACC-3-120-HOR-TA  
Triple 120° Horizontal Tenon Adapter

The Bracket is designed to mount over 2-3/8" (60mm) O.D. vertical tenon. Three fixtures can be mounted to the Round External Mount Horizontal Tenon and adjusted horizontally.



PART no: OAL-ACC-4-90-HOR-TA  
Quad 90° Horizontal Tenon Adapter

The Bracket is designed to mount over 2-3/8" (60mm) O.D. vertical tenon. Four fixtures can be mounted to the Round External Mount Horizontal Tenon and adjusted horizontally.

## WALL BRACKET



PART no: OAL-ACC-90-WMB  
90° Wall Mount Bracket with 2-3/8" O.D. Tenon

The 90° wall mount bracket with 2-3/8" tenon attaches a floodlight to almost any surface: wall, roof, or wood pole. Provides wiring access and a built-in 2-3/8" O.D. tenon to mount a fixture with our adjustable slipfitter. Suggested 3/8" diameter bolts for mounting. Mounting holes are spaced 3-1/4" apart.

## MID-POLE TENON BRACKET

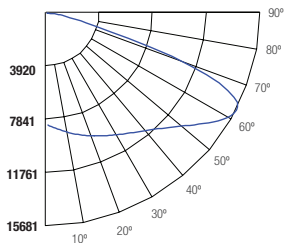


PART no: OAL-ACC-HOR-TMB  
2-3/8" OD Horizontal Tenon Mid-Pole Bracket

2-3/8" OD Horizontal Tenon Mid-Pole Bracket is designed to mount light fixture that is equipped with an adjustable slipfitter onto a 2-3/8" OD horizontal tenon.

**OAL-301-LED-32000L-MVOLT-40K-T3D-BZ**INPUT WATTS: **252**

LUMENS:32883

CRI: **85**EFFICACY: **130**CCT: **4000K**TEST NO.: **EL031801**SPACING CRITERIA: **1.72****Candle Power Distribution (Candelas)****Zonal Lumens Summary**

| Zone | Lumens   | %Lamp | %Fixt |
|------|----------|-------|-------|
| 0-20 | 3114.74  | 9.5   | 9.5   |
| 0-30 | 6856.56  | 20.9  | 20.9  |
| 0-40 | 11866.71 | 36.1  | 36.1  |
| 0-60 | 24544.63 | 74.6  | 74.6  |
| 0-80 | 32413.66 | 98.6  | 98.6  |
| 0-90 | 32880.77 | 100   | 100   |

**Luminance (Average candela/M<sup>2</sup>)**

| Angle in Degrees | Average 0° | Average 45° | Average 90° |
|------------------|------------|-------------|-------------|
| 45               | 146008     | 140552      | 103096      |
| 55               | 165742     | 204697      | 111105      |
| 65               | 119113     | 305255      | 99979       |
| 75               | 55575      | 119331      | 48782       |
| 85               | 36598      | 60827       | 22581       |

**Lumens Per Zone**

| Zone  | Lumens  |
|-------|---------|
| 0-10  | 785.31  |
| 10-20 | 2329.43 |
| 20-30 | 3741.82 |
| 30-40 | 5010.15 |
| 40-50 | 6033    |
| 50-60 | 6644.91 |
| 60-70 | 5743.9  |
| 70-80 | 2125.12 |
| 80-90 | 467.12  |

**Candela Tabulation**

| Q  |          |
|----|----------|
| 0  | 5504.584 |
| 5  | 5575.32  |
| 15 | 5975.1   |
| 25 | 6897.45  |
| 35 | 8504.96  |
| 45 | 9996.09  |
| 55 | 9667.8   |
| 65 | 3713.03  |
| 75 | 590.2    |
| 85 | 78.26    |
| 90 | 0.11     |

**Coefficients of Utilization - Zonal Cavity Method**

Effective Floor Cavity Reflectance 0.20

|                   | RC | 80% |     |     |     | 70% |     |     |     | 50% |     |     |     | 30% |     |     |     | 10% |     |  |  | 0% |
|-------------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|----|
|                   | RW | 70% | 50% | 30% | 10% | 70% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0%  |  |  |    |
| ROOM CAVITY RATIO | 0  | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |  |  |    |
|                   | 1  | 108 | 103 | 99  | 95  | 105 | 101 | 97  | 93  | 97  | 93  | 90  | 93  | 90  | 87  | 89  | 87  | 85  | 83  |  |  |    |
|                   | 2  | 98  | 89  | 81  | 75  | 95  | 87  | 80  | 74  | 83  | 78  | 73  | 80  | 75  | 71  | 77  | 73  | 69  | 67  |  |  |    |
|                   | 3  | 88  | 77  | 68  | 61  | 85  | 75  | 67  | 61  | 72  | 65  | 59  | 69  | 63  | 58  | 67  | 62  | 57  | 55  |  |  |    |
|                   | 4  | 80  | 67  | 58  | 50  | 77  | 66  | 57  | 50  | 63  | 55  | 49  | 61  | 54  | 49  | 58  | 53  | 48  | 46  |  |  |    |
|                   | 5  | 73  | 59  | 50  | 42  | 71  | 58  | 49  | 42  | 56  | 48  | 42  | 54  | 47  | 41  | 52  | 46  | 41  | 38  |  |  |    |
|                   | 6  | 67  | 53  | 43  | 36  | 65  | 52  | 43  | 36  | 50  | 42  | 36  | 48  | 41  | 35  | 46  | 40  | 35  | 33  |  |  |    |
|                   | 7  | 62  | 47  | 38  | 32  | 60  | 46  | 38  | 31  | 45  | 37  | 31  | 43  | 36  | 31  | 42  | 36  | 31  | 29  |  |  |    |
|                   | 8  | 57  | 43  | 34  | 28  | 55  | 42  | 34  | 28  | 41  | 33  | 27  | 39  | 32  | 27  | 38  | 32  | 27  | 25  |  |  |    |
|                   | 9  | 53  | 39  | 30  | 25  | 52  | 38  | 30  | 24  | 37  | 30  | 24  | 36  | 29  | 24  | 35  | 29  | 24  | 22  |  |  |    |
| 10                | 50 | 36  | 28  | 22  | 48  | 35  | 27  | 22  | 34  | 27  | 22  | 33  | 27  | 22  | 32  | 26  | 22  | 20  |     |  |  |    |

RC - Ceiling Cavity Reflectance

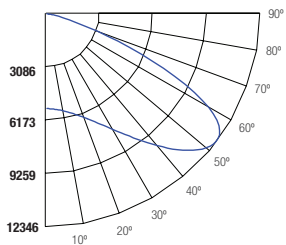
RW - Wall Reflectance

| Cone of Light           |                                   |                         |                          |
|-------------------------|-----------------------------------|-------------------------|--------------------------|
| 2                       | 2.835                             | 2.4                     | 4.9                      |
| 3                       | 752                               | 4.7                     | 9.5                      |
| 5                       | 328                               | 7.2                     | 14.5                     |
| 7                       | 183                               | 9.6                     | 19.4                     |
| 8                       | 119                               | 11.9                    | 24.0                     |
| 10                      | 81.9                              | 14.4                    | 28.9                     |
| (FT.) Distance to Plane | (FC.) Initial Footcandle at Nadir | (FT.) Beam Vert. Spread | (FT.) Beam Horiz. Spread |

BEAM DIA. MEASURED AT 50% OF NADIR F.C.

**OAL-301-LED-32000L-MVOLT-40K-T5D-BZ**INPUT WATTS: **252**

LUMENS:34623

CRI: **85**EFFICACY: **137**CCT: **4000K**TEST NO.: **EL031801**SPACING CRITERIA: **2.44****Candle Power Distribution (Candelas)****Zonal Lumens Summary**

| Zone | Lumens   | %Lamp | %Fixt |
|------|----------|-------|-------|
| 0-20 | 2232.36  | 6.4   | 6.4   |
| 0-30 | 5421.84  | 15.7  | 15.7  |
| 0-40 | 10758.42 | 31.1  | 31.1  |
| 0-60 | 27958.57 | 80.8  | 80.8  |
| 0-80 | 34434.77 | 99.5  | 99.5  |
| 0-90 | 34622.03 | 100   | 100   |

**Luminance (Average candela/M<sup>2</sup>)**

| Angle in Degrees | Average 0° | Average 45° | Average 90° |
|------------------|------------|-------------|-------------|
| 45               | 117755     | 132097      | 118584      |
| 55               | 140401     | 178155      | 144465      |
| 65               | 73184      | 147920      | 70278       |
| 75               | 18995      | 43425       | 20969       |
| 85               | 7480       | 13145       | 13106       |

**Lumens Per Zone**

| Zone  | Lumens  |
|-------|---------|
| 0-10  | 534.53  |
| 10-20 | 1697.83 |
| 20-30 | 3189.48 |
| 30-40 | 5336.58 |
| 40-50 | 7988.74 |
| 50-60 | 9211.41 |
| 60-70 | 5275.5  |
| 70-80 | 1200.72 |
| 80-90 | 187.24  |

**Candela Tabulation**

| Q  |          |
|----|----------|
| 0  | 5504.584 |
| 5  | 5575.32  |
| 15 | 5975.1   |
| 25 | 6897.45  |
| 35 | 8504.96  |
| 45 | 9996.09  |
| 55 | 9667.8   |
| 65 | 3713.03  |
| 75 | 590.2    |
| 85 | 78.26    |
| 90 | 0.11     |

**Coefficients of Utilization - Zonal Cavity Method**

Effective Floor Cavity Reflectance 0.20

|                   | RC | 80% |     |     |     | 70% |     |     |     | 50% |     |     |     | 30% |     |     |     | 10% |     |  |  | 0% |
|-------------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|----|
|                   | RW | 70% | 50% | 30% | 10% | 70% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0%  |  |  |    |
| ROOM CAVITY RATIO | 0  | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |  |  |    |
|                   | 1  | 109 | 104 | 100 | 96  | 106 | 102 | 98  | 94  | 98  | 94  | 91  | 94  | 91  | 89  | 90  | 88  | 86  | 84  |  |  |    |
|                   | 2  | 98  | 90  | 83  | 77  | 95  | 88  | 81  | 76  | 84  | 79  | 74  | 81  | 76  | 72  | 78  | 74  | 71  | 68  |  |  |    |
|                   | 3  | 88  | 77  | 69  | 62  | 86  | 76  | 68  | 61  | 73  | 66  | 60  | 70  | 64  | 59  | 67  | 62  | 58  | 56  |  |  |    |
|                   | 4  | 80  | 67  | 58  | 50  | 77  | 66  | 57  | 50  | 63  | 55  | 49  | 61  | 54  | 49  | 58  | 53  | 48  | 46  |  |  |    |
|                   | 5  | 72  | 59  | 49  | 42  | 70  | 57  | 48  | 41  | 55  | 47  | 41  | 53  | 46  | 40  | 51  | 45  | 40  | 38  |  |  |    |
|                   | 6  | 66  | 52  | 42  | 35  | 64  | 51  | 41  | 35  | 49  | 41  | 35  | 47  | 40  | 34  | 45  | 39  | 34  | 32  |  |  |    |
|                   | 7  | 60  | 46  | 36  | 30  | 59  | 45  | 36  | 30  | 43  | 35  | 29  | 42  | 35  | 29  | 40  | 34  | 29  | 27  |  |  |    |
|                   | 8  | 56  | 41  | 32  | 26  | 54  | 40  | 32  | 26  | 39  | 31  | 25  | 38  | 30  | 25  | 36  | 30  | 25  | 23  |  |  |    |
|                   | 9  | 52  | 37  | 28  | 22  | 50  | 37  | 28  | 22  | 35  | 28  | 22  | 34  | 27  | 22  | 33  | 27  | 22  | 20  |  |  |    |
| 10                | 48 | 34  | 25  | 20  | 47  | 33  | 25  | 20  | 32  | 25  | 19  | 31  | 24  | 19  | 30  | 24  | 19  | 17  |     |  |  |    |

RC - Ceiling Cavity Reflectance

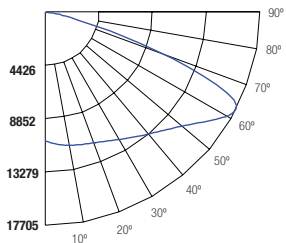
RW - Wall Reflectance

| Cone of Light           |                                   |                         |                          |
|-------------------------|-----------------------------------|-------------------------|--------------------------|
| 2                       | 1905                              | 5.9                     | 4.7                      |
| 3                       | 505                               | 11.5                    | 9.1                      |
| 5                       | 220                               | 17.4                    | 13.8                     |
| 7                       | 123                               | 23.3                    | 18.5                     |
| 8                       | 79.9                              | 28.9                    | 22.9                     |
| 10                      | 55.0                              | 34.8                    | 27.6                     |
| (FT.) Distance to Plane | (FC.) Initial Footcandle at Nadir | (FT.) Beam Vert. Spread | (FT.) Beam Horiz. Spread |

BEAM DIA. MEASURED AT 50% OF NADIR F.C.

**OAL-301-LED-4000L-MVOLT-40K-T3D-BZ**INPUT WATTS: **301**

LUMENS: 39495

CRI: **85**EFFICACY: **131**CCT: **4000K**TEST NO.: **EL031801**SPACING CRITERIA: **1.60****Candle Power Distribution (Candelas)****Zonal Lumens Summary**

| Zone | Lumens   | %Lamp | %Fixt |
|------|----------|-------|-------|
| 0-20 | 3925.9   | 9.9   | 9.9   |
| 0-30 | 8478.41  | 21.5  | 21.5  |
| 0-40 | 14510.86 | 36.7  | 36.7  |
| 0-60 | 29689.69 | 75.2  | 75.2  |
| 0-80 | 38918.07 | 98.5  | 98.5  |
| 0-90 | 39491.48 | 100   | 100   |

**Luminance (Average candela/M<sup>2</sup>)**

| Angle in Degrees | Average 0° | Average 45° | Average 90° |
|------------------|------------|-------------|-------------|
| 45               | 177320     | 163210      | 125946      |
| 55               | 201012     | 230460      | 135633      |
| 65               | 135631     | 339167      | 113806      |
| 75               | 67715      | 138707      | 56246       |
| 85               | 47370      | 71561       | 33156       |

**Lumens Per Zone**

| Zone  | Lumens  |
|-------|---------|
| 0-10  | 1012.3  |
| 10-20 | 2913.6  |
| 20-30 | 4552.51 |
| 30-40 | 6032.45 |
| 40-50 | 7246.08 |
| 50-60 | 7932.75 |
| 60-70 | 6678.33 |
| 70-80 | 2550.11 |
| 80-90 | 573.36  |

**Candela Tabulation**

| Q  |           |
|----|-----------|
| 0  | 10678.100 |
| 5  | 11154.280 |
| 15 | 12150.830 |
| 25 | 13311.240 |
| 35 | 14524.290 |
| 45 | 15052.47  |
| 55 | 13841.380 |
| 65 | 6881.32   |
| 75 | 2104.01   |
| 85 | 495.64    |
| 90 | 18.39     |

**Coefficients of Utilization - Zonal Cavity Method**

Effective Floor Cavity Reflectance 0.20

|                   | RC | 80% |     |     |     | 70% |     |     |     | 50% |     |     |     | 30% |     |     |     | 10% |     |  |  | 0% |
|-------------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|----|
|                   | RW | 70% | 50% | 30% | 10% | 70% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0%  |  |  |    |
| ROOM CAVITY RATIO | 0  | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |  |  |    |
|                   | 1  | 108 | 103 | 99  | 95  | 106 | 101 | 97  | 93  | 97  | 93  | 90  | 93  | 90  | 88  | 89  | 87  | 85  | 83  |  |  |    |
|                   | 2  | 98  | 89  | 82  | 76  | 95  | 87  | 80  | 75  | 83  | 78  | 73  | 80  | 75  | 71  | 77  | 73  | 70  | 67  |  |  |    |
|                   | 3  | 88  | 77  | 68  | 61  | 86  | 75  | 67  | 61  | 72  | 65  | 60  | 70  | 64  | 59  | 67  | 62  | 58  | 55  |  |  |    |
|                   | 4  | 80  | 67  | 58  | 51  | 78  | 66  | 57  | 51  | 63  | 56  | 50  | 61  | 54  | 49  | 59  | 53  | 48  | 46  |  |  |    |
|                   | 5  | 73  | 60  | 49  | 43  | 71  | 58  | 49  | 43  | 56  | 48  | 42  | 56  | 47  | 42  | 52  | 46  | 41  | 39  |  |  |    |
|                   | 6  | 67  | 53  | 44  | 37  | 65  | 52  | 43  | 37  | 50  | 42  | 36  | 48  | 41  | 36  | 47  | 40  | 36  | 33  |  |  |    |
|                   | 7  | 62  | 48  | 38  | 32  | 60  | 47  | 38  | 32  | 45  | 37  | 32  | 44  | 37  | 31  | 42  | 36  | 31  | 29  |  |  |    |
|                   | 8  | 57  | 43  | 34  | 28  | 56  | 42  | 34  | 28  | 41  | 33  | 28  | 40  | 33  | 28  | 39  | 32  | 27  | 25  |  |  |    |
|                   | 9  | 53  | 39  | 31  | 25  | 52  | 39  | 31  | 25  | 38  | 30  | 25  | 37  | 30  | 25  | 35  | 29  | 24  | 23  |  |  |    |
| 10                | 50 | 36  | 28  | 22  | 49  | 36  | 28  | 22  | 35  | 27  | 22  | 34  | 27  | 22  | 33  | 27  | 22  | 20  |     |  |  |    |

**OAL-301-LED-4000L-MVOLT-40K-T5D-BZ**

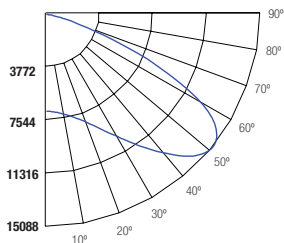
INPUT WATTS: **303**

LUMENS:42998

CRI: **85**

EFFICACY: **141**

CCT: **4000K**
**TEST NO.: EL031801**

SPACING CRITERIA: **240**
**Candle Power Distribution (Candelas)**

**Zonal Lumens Summary**

| Zone | Lumens   | %Lamp | %Fixt |
|------|----------|-------|-------|
| 0-20 | 2800.39  | 6.5   | 6.5   |
| 0-30 | 6857.17  | 15.9  | 15.9  |
| 0-40 | 13669    | 31.8  | 31.8  |
| 0-60 | 34862.53 | 81.1  | 81.1  |
| 0-80 | 42756.18 | 99.4  | 99.4  |
| 0-90 | 42996.07 | 100   | 100   |

**Luminance (Average candela/M<sup>2</sup>)**

| Angle in Degrees | Average 0° | Average 45° | Average 90° |
|------------------|------------|-------------|-------------|
| 45               | 142905     | 166988      | 143586      |
| 55               | 164345     | 211141      | 170089      |
| 65               | 82037      | 165693      | 81752       |
| 75               | 22766      | 52748       | 26536       |
| 85               | 8972       | 16289       | 15835       |

**Lumens Per Zone**

| Zone  | Lumens   |
|-------|----------|
| 0-10  | 667.34   |
| 10-20 | 2133.05  |
| 20-30 | 4056.78  |
| 30-40 | 6811.83  |
| 40-50 | 9949.01  |
| 50-60 | 11244.52 |
| 60-70 | 6391.73  |
| 70-80 | 1501.89  |
| 80-90 | 239.93   |

**Candela Tabulation**

| Q  | Q        |
|----|----------|
| 0  | 6856.488 |
| 5  | 6959.19  |
| 15 | 7505.88  |
| 25 | 8724.27  |
| 35 | 8504.96  |
| 45 | 9996.09  |
| 55 | 9667.8   |
| 65 | 4162.21  |
| 75 | 707.36   |
| 85 | 93.87    |
| 90 | 0.68     |

**Coefficients of Utilization - Zonal Cavity Method**

Effective Floor Cavity Reflectance 0.20

|                   | RC | 80% |     |     |     | 70% |     |     |     | 50% |     |     |     | 30% |     |     |     | 10% |     |     |  | 0% |
|-------------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|----|
|                   | RW | 70% | 50% | 30% | 10% | 70% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0%  |     |  |    |
| ROOM CAVITY RATIO | 0  | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 102 | 100 |  |    |
|                   | 1  | 109 | 104 | 100 | 96  | 106 | 102 | 98  | 95  | 98  | 94  | 92  | 84  | 81  | 89  | 90  | 88  | 86  | 84  | 84  |  |    |
|                   | 2  | 98  | 90  | 83  | 77  | 96  | 88  | 81  | 76  | 84  | 79  | 74  | 81  | 76  | 72  | 78  | 74  | 71  | 69  |     |  |    |
|                   | 3  | 89  | 77  | 69  | 62  | 86  | 76  | 68  | 61  | 73  | 66  | 60  | 70  | 64  | 59  | 67  | 62  | 58  | 56  |     |  |    |
|                   | 4  | 80  | 67  | 58  | 51  | 78  | 66  | 57  | 50  | 63  | 56  | 50  | 61  | 54  | 49  | 59  | 53  | 48  | 46  |     |  |    |
|                   | 5  | 73  | 59  | 49  | 42  | 70  | 58  | 49  | 42  | 55  | 47  | 41  | 53  | 46  | 41  | 51  | 45  | 40  | 38  |     |  |    |
|                   | 6  | 66  | 52  | 42  | 35  | 64  | 51  | 42  | 35  | 49  | 41  | 35  | 47  | 40  | 34  | 46  | 39  | 34  | 32  |     |  |    |
|                   | 7  | 61  | 46  | 37  | 30  | 59  | 45  | 36  | 30  | 44  | 36  | 30  | 42  | 35  | 29  | 41  | 34  | 29  | 27  |     |  |    |
|                   | 8  | 56  | 41  | 32  | 26  | 54  | 41  | 32  | 26  | 39  | 31  | 26  | 38  | 31  | 25  | 37  | 30  | 25  | 23  |     |  |    |
|                   | 9  | 52  | 37  | 29  | 23  | 50  | 37  | 28  | 23  | 36  | 28  | 22  | 34  | 27  | 22  | 33  | 27  | 22  | 20  |     |  |    |
| 10                | 48 | 34  | 26  | 20  | 47  | 33  | 25  | 20  | 32  | 25  | 20  | 31  | 25  | 20  | 31  | 24  | 20  | 18  |     |     |  |    |

RC - Ceiling Cavity Reflectance

RW - Wall Reflectance

| Cone of Light          |                                  |                        |                         |
|------------------------|----------------------------------|------------------------|-------------------------|
| 2                      | 2372                             | 6.1                    | 4.8                     |
| 3                      | 630                              | 11.8                   | 9.4                     |
| 5                      | 274                              | 17.9                   | 14.3                    |
| 7                      | 153                              | 23.9                   | 19.1                    |
| 8                      | 99.5                             | 29.6                   | 23.7                    |
| 10                     | 68.6                             | 35.7                   | 28.5                    |
| (FT) Distance to Plane | (FO) Initial Footcandle at Nadir | (FT) Beam Vert. Spread | (FT) Beam Horiz. Spread |

BEAM DIA. MEASURED AT 50% OF NADIR F.C.