

# Modul-Aim™

NWMOD

Project

Notes

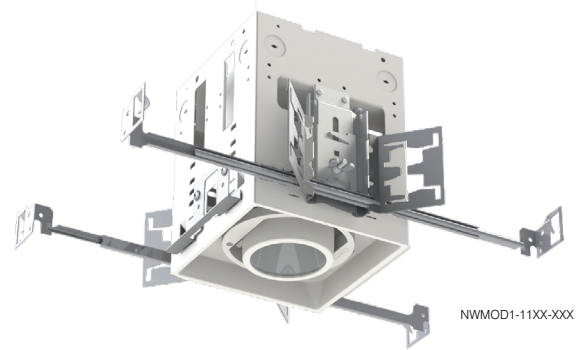
Fixture Type

Date

## Assembled New Construction Housings (Patent Pending)

### DESCRIPTION

Assembled Modul-Aim units for new construction installations offered in 1, 2, 3, "L" or 4 "square" head configurations.



### SPECIFICATIONS

#### HOUSING DETAILS

Powder coated, 22 gauge 0.036" (0.91 mm) galvanized steel housing.  
Configured with butterfly brackets (Patent Pending) with mounting bars for fixed or suspended ceilings (included).  
Perfect fit into ceiling. No light leakage.  
Each part of the housing should be at LEAST 3" (76 mm) from insulation (non-IC configuration).  
Can fit in ceilings up to 1" (25 mm) thick.  
Junction box is also accessible from below the ceiling for ease of maintenance.

#### LIGHT ENGINE

##### Standard:

Lumileds LUXEON CoB 1205 GEN3, delivers a lumen maintenance greater than 70% after 50,000 hours of operation ( $L_{70}$ ). Provides a high quality true color and a clean white light without hot spots. Color binning within 3 steps on MacAdam ellipse which surpasses ANSI binning requirements.

Offered in 2,700K, 3,000K, 3,500K and 4,000K. 90+ CRI.

Several driver models available offering 3 dimming options:

ELV: 120V to 277V (20W and 40W)

0-10V: 120V to 277V (20W and 40W)

Lutron Ecosystem addressable: 120V to 277V (20W)

##### CrispWhite:

Lumileds LUXEON CoB 1205 GEN2 with CrispWhite Technology delivers the warm saturated colors of high 90 + CRI solutions while creating the natural crisp whiteness required for merchandising. Offered in 3,000K only.

Several driver models available offering 3 dimming options:

ELV: 120V to 277V (20W and 40W)

0-10V: 120V to 277V (20W and 40W)

Lutron Ecosystem addressable: 120V to 277V (20W)

##### Lumenetix Warm Dimming:

Lumenetix Araya DDM1 Dynamic Dimming Module delivers dimmable white light that warms as it dims reproducing dimming conditions of a halogen lamp. It allows the user to change the color temperature from 3,050K at full intensity to 1,800K at minimum intensity all this while ensuring a 90+ CRI over the full dimming range.

Lumenetix: 100V to 240V (20W)

##### Lumenetix Color Tuning:

Lumenetix Araya CTM1 Color Tuning Module allows the user to program millions of color combinations using a user friendly Bluetooth application available on iOS mobile devices. The application allows programming of different scenes, colors, and color temperatures while the day-to-day control is ensured by standard 0-10V wall mounted dimmers. 90+ CRI.

Lumenetix: 100V to 240V (20W)

#### DELIVERED LUMENS

**Performance 1 (20W) Standard:** 1,267 lumens @ 3,000K, 63 lm/W

**Performance 2 (40W) Standard:** 2,180 lumens @ 3,000K, 55 lm/W

**Performance 1 (20W) "CrispWhite":** 1,195 lumens @ 3,000K, 56 lm/W

**Performance 2 (40W) "CrispWhite":** 2,075 lumens @ 3,000K, 52 lm/W

**Warm Dimming (20W):** 936 lumens @ 3,000K, 47 lm/W

**Color Tuning (20W):** 936 lumens @ 4,000K, 47 lm/W

**\* Average lumens output shown. Consult ies files on our Website for more details.**



# CONTRASTE

2019-01  
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# Modul-Aim™

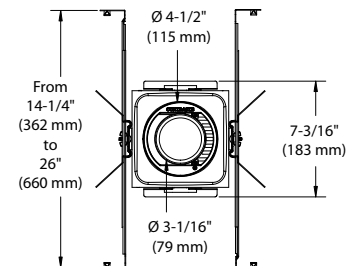
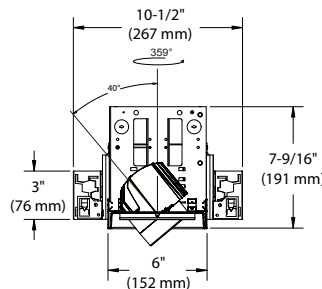
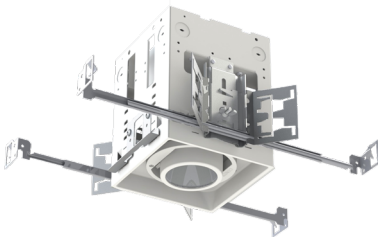
NWMOD

## SPECIFICATIONS (CONT'D)

|                |   |
|----------------|---|
| UNIT FINISH    | Powder coated: Matte White (-11) or Matte Black (-22)   |
| OPTIC SYSTEM   | Interchangeable optional optical reflectors and lenses available to customize your lighting.<br><br><b>Choice of available lenses (also sold separately):</b><br><b>Standard:</b> Clear<br><b>Clear (C)</b><br><b>Frosted (F)</b><br><b>Honeycomb (H):</b> the hexagonal louver reduces glare<br><b>Linear (L):</b> the linear lens directs the lamp beam to create a strip of light<br><b>Prismatic (P):</b> the prismatic lens diffuses and spreads the light in an even overall pattern<br><br><b>Optical reflectors available: (Standard and CrispWhite)</b><br><b>S:</b> Spot → 15°<br><b>MS:</b> Medium Spot → 19°<br><b>M:</b> Narrow Flood → 32°<br><b>W:</b> Flood → 45°<br><br><b>* Average beams shown. Consult ies files on our Website for more details.</b> |
| ADJUSTABILITY  | Swivel: 359°<br>Tilt: 40°<br>Locking device: Only one screw to lock both axis into position.  |
| HEAT SINK      | High quality aluminum injected heat sink ensuring maximum heat dissipation.   |
| CEILING CUTOUT | <b>For a simple unit:</b><br><b>6-1/4" x 6-1/4" (159 mm x 159 mm)</b><br><br>Refer to installation guide for other configurations.  |
| CERTIFICATION  | <ul style="list-style-type: none"> <li>cULus for <b>damp locations</b></li> <li>Energy Star® certified</li> </ul>   |
| WARRANTY       | 1 year on components against manufacturing defects.<br>5 years on LED modules and drivers.  |

## ASSEMBLED MODELS

### NWMOD1

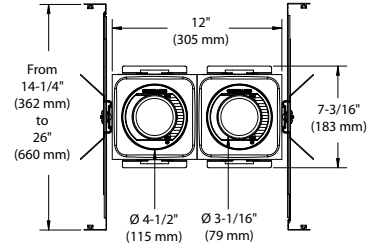
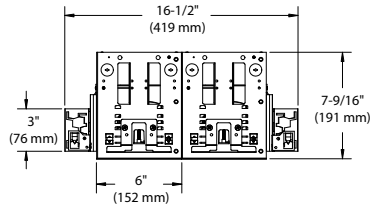
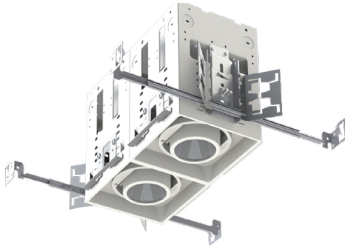


# Modul-Aim™

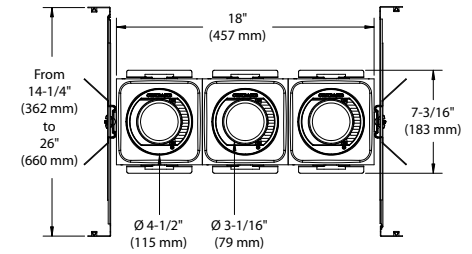
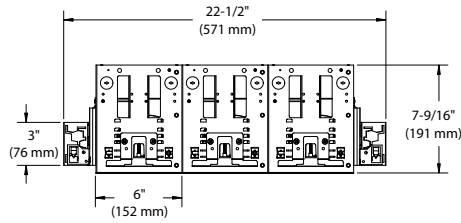
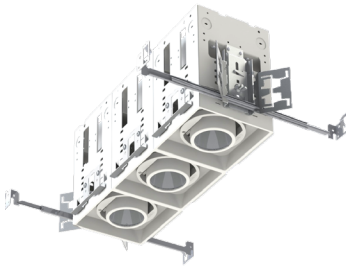
NWMOD

## ASSEMBLED MODELS (CONT'D)

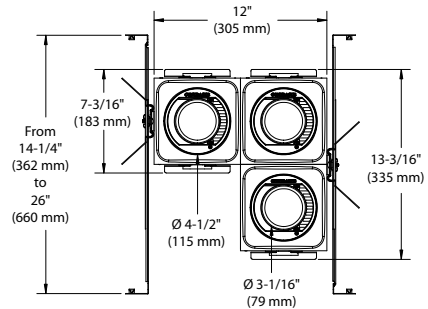
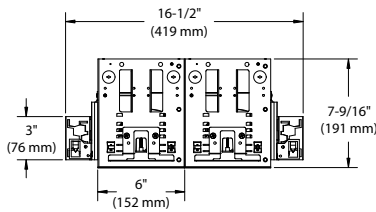
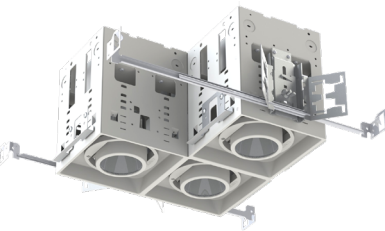
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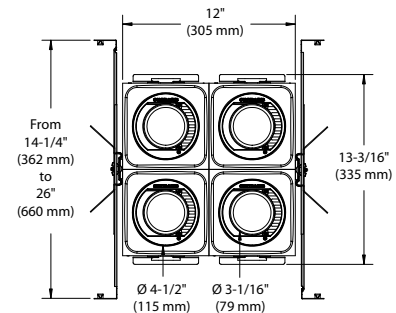
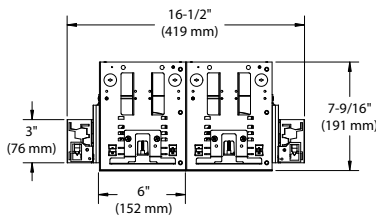
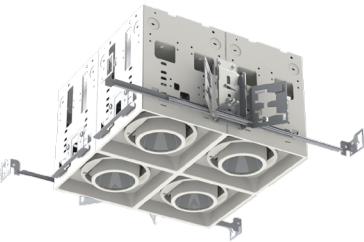
### NWMOD3



### NWMODL



### NWMODS



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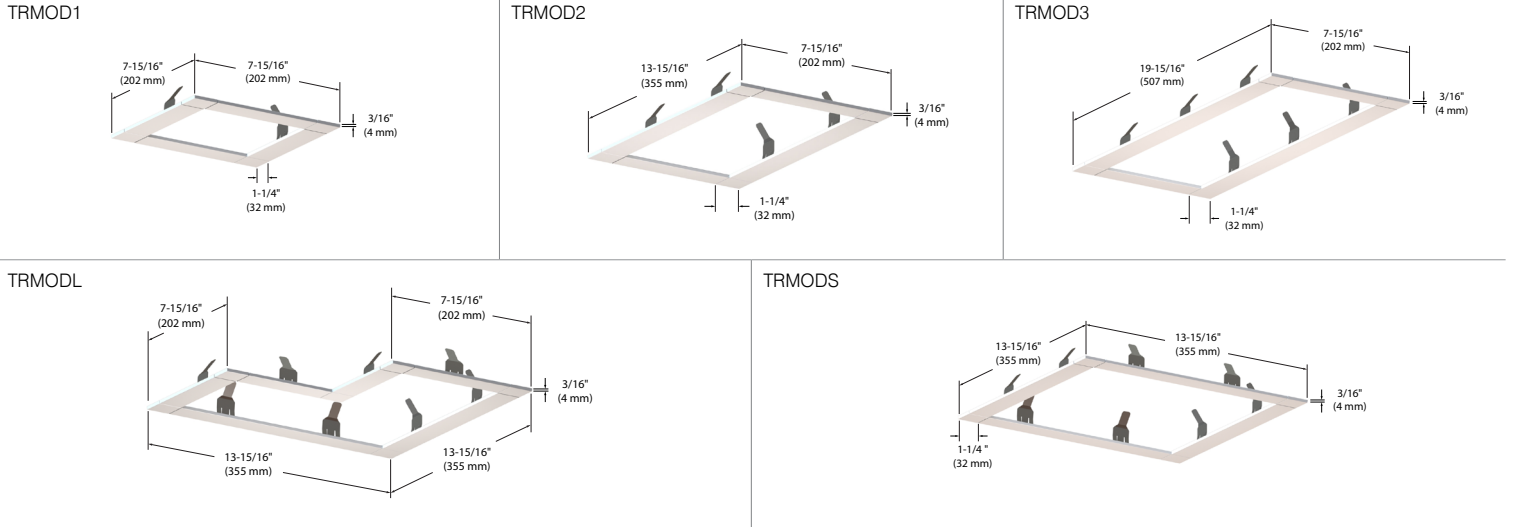
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# Modul-Aim™

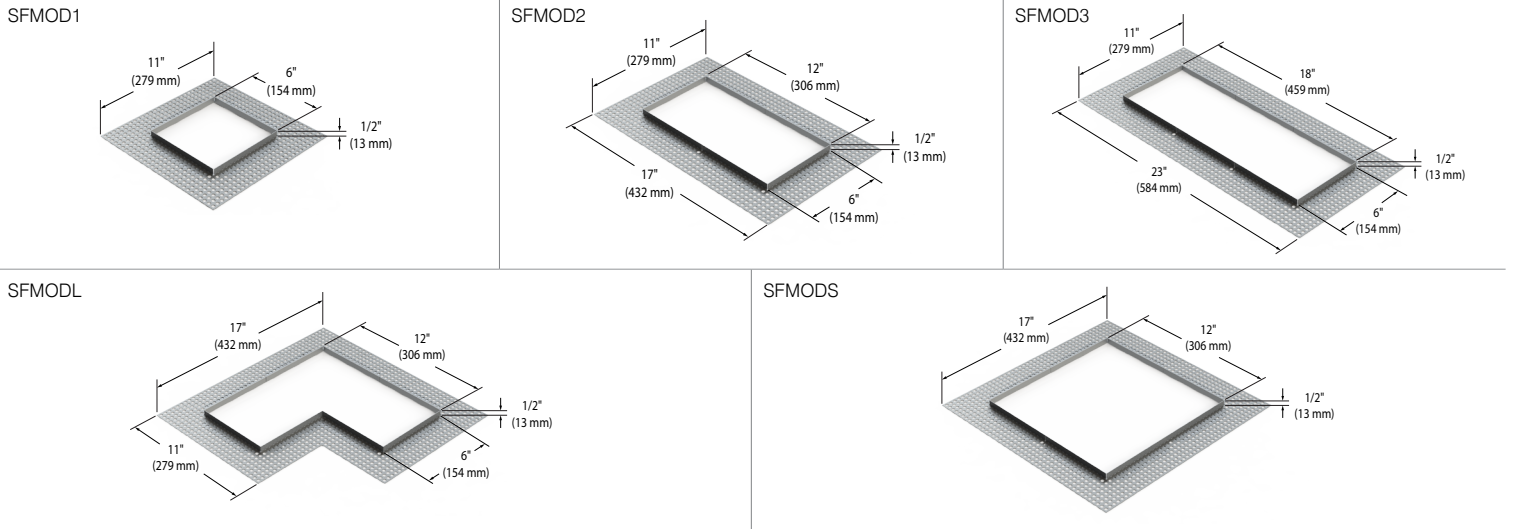
## NWMOD

### TRIMS

Available finishes: Matte White (-11), Metallic Grey (-15) and Matte Black (-22)

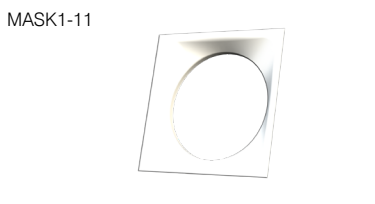


### MESH PLATE (Trimless)



### MASK

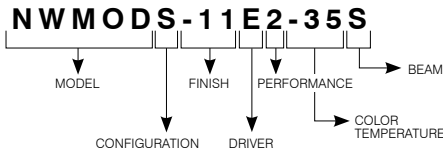
Available finishes: Matte White (-11) and Matte Black (-22)



# Modul-Aim™

## NWMOD

### NEW CONSTRUCTION UNIT WITH STANDARD LIGHT ENGINE CODIFICATION EXAMPLE

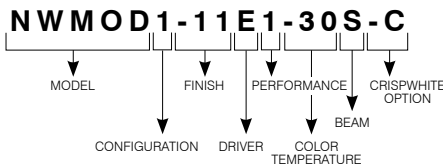


### ORDERING CODES for New Construction Unit with Standard Light Engine

| MODEL                               | CONFIGURATIONS                | FINISHES               | DRIVER                                | PERFORMANCE                           | COLOR TEMPERATURES | BEAMS                       |
|-------------------------------------|-------------------------------|------------------------|---------------------------------------|---------------------------------------|--------------------|-----------------------------|
| <b>NWMOD</b>                        |                               |                        |                                       |                                       |                    |                             |
| <b>NWMOD</b> New Construction       | <b>1</b> 1 unit               | <b>-11</b> Matte White | <b>E</b> ELV                          | <b>1</b> 20W (1,426 Lumens delivered) | <b>-27</b> 2,700K  | <b>S</b> Spot (15°)         |
|                                     | <b>2</b> 2 units              | <b>-22</b> Matte Black | <b>D</b> 0-10V                        | <b>2</b> 40W (2,361 Lumens delivered) | <b>-30</b> 3,000K  | <b>MS</b> Medium Spot (19°) |
|                                     | <b>3</b> 3 units              |                        | <b>A</b> Lutron Ecosystem Addressable |                                       | <b>-35</b> 3,500K  | <b>M</b> Narrow Flood (32°) |
|                                     | <b>L</b> 3 units "L" shape    |                        |                                       |                                       | <b>-40</b> 4,000K  | <b>W</b> Flood (45°)        |
|                                     | <b>S</b> 4 units square shape |                        |                                       |                                       |                    |                             |
| (Available with Performance 1 only) |                               |                        |                                       |                                       |                    |                             |

Trim, mask and trimless mesh plate to be ordered separately based on your configuration.

### NEW CONSTRUCTION UNIT WITH CRISPWHITE TECHNOLOGY CODIFICATION EXAMPLE



### ORDERING CODES for New Construction Unit with CrispWhite Technology

| MODEL                               | CONFIGURATIONS                | FINISHES               | DRIVER                                | PERFORMANCE                           | COLOR TEMPERATURE | BEAMS                       | CRISPWHITE OPTION               |
|-------------------------------------|-------------------------------|------------------------|---------------------------------------|---------------------------------------|-------------------|-----------------------------|---------------------------------|
| <b>NWMOD</b>                        |                               |                        |                                       |                                       | <b>-30</b>        |                             | <b>-C</b>                       |
| <b>NWMOD</b> New Construction       | <b>1</b> 1 unit               | <b>-11</b> Matte White | <b>E</b> ELV                          | <b>1</b> 20W (1,195 Lumens delivered) | <b>-30</b> 3,000K | <b>S</b> Spot (15°)         | <b>-C</b> CrispWhite Technology |
|                                     | <b>2</b> 2 units              |                        | <b>D</b> 0-10V                        | <b>2</b> 40W (2,075 Lumens delivered) |                   | <b>MS</b> Medium Spot (19°) |                                 |
|                                     | <b>3</b> 3 units              | <b>-22</b> Matte Black | <b>A</b> Lutron Ecosystem Addressable |                                       |                   | <b>M</b> Narrow Flood (32°) |                                 |
|                                     | <b>L</b> 3 units "L" shape    |                        |                                       |                                       |                   | <b>W</b> Flood (45°)        |                                 |
|                                     | <b>S</b> 4 units square shape |                        |                                       |                                       |                   |                             |                                 |
| (Available with Performance 1 only) |                               |                        |                                       |                                       |                   |                             |                                 |

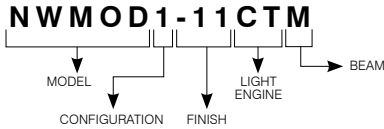
Trim, mask and trimless mesh plate to be ordered separately based on your configuration.



# Modul-Aim™

## NWMOD

### NEW CONSTRUCTION UNIT WITH LUMENETIX ENGINE CODIFICATION EXAMPLE

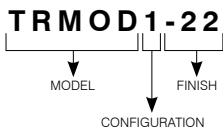


### ORDERING CODES for New Construction Unit with Lumenetix Engine

| MODEL                         | CONFIGURATIONS   | FINISHES   | LIGHT ENGINE                                     | BEAMS   |
|-------------------------------|--|--|--|---|
| <b>NWMOD</b>                  |  |  |  |   |
| <b>NWMOD</b> New Construction | <b>1</b> 1 unit<br><b>2</b> 2 units<br><b>3</b> 3 units<br><b>L</b> 3 units "L" shape<br><b>S</b> 4 units square shape | <b>-11</b> Matte White<br><b>-22</b> Matte Black | <b>CT</b> Color Tuning<br><b>WD</b> Warm Dimming | <b>M</b> Narrow Flood (26°)<br><b>W</b> Flood (41°) |

Trim, mask and trimless mesh plate to be ordered separately based on your configuration.

### TRIM CODIFICATION EXAMPLE



### ORDERING CODES for Trim

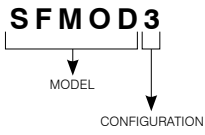
| MODEL        | CONFIGURATIONS   | FINISHES   |
|--------------|--|--|
| <b>TRMOD</b> |  |  |
| <b>TRMOD</b> | <b>1</b> 1 unit<br><b>2</b> 2 units<br><b>3</b> 3 units<br><b>L</b> 3 units "L" shape<br><b>S</b> 4 units square shape | <b>-11</b> Matte White<br><b>-15</b> Metallic Grey<br><b>-22</b> Matte Black |



# Modul-Aim™

## NWMOD

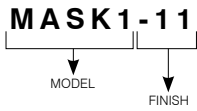
### MESH PLATE (TRIMLESS) CODIFICATION EXAMPLE



### ORDERING CODES for Mesh Plate (Trimless)

| MODEL        | CONFIGURATIONS                |
|--------------|-------------------------------|
| <b>SFMOD</b> |                               |
| <b>SFMOD</b> | <b>1</b> 1 unit               |
|              | <b>2</b> 2 units              |
|              | <b>3</b> 3 units              |
|              | <b>L</b> 3 units "L" shape    |
|              | <b>S</b> 4 units square shape |

### MASK CODIFICATION EXAMPLE



### ORDERING CODES for Mask

| MODEL        | FINISHES               |
|--------------|------------------------|
| <b>MASK1</b> |                        |
| <b>MASK1</b> | <b>-11</b> Matte White |
|              | <b>-22</b> Matte Black |

### ORDERING CODES for replacement lenses and reflectors

For future on site modifications of the light distribution.

#### Lenses (to modify light diffusion)

- Clear: **103105**
- Frosted: **103189**
- Honeycombs: **103822**
- Linear: **103823**
- Prismatic: **103824**

#### Reflectors (to modify the beam angle)

\* Only with standard engine and CrispWhite technology

- For a Spot: **103737**
- For a Medium Spot: **103738**
- For a Narrow Flood: **103739**
- For a Flood: **316545**



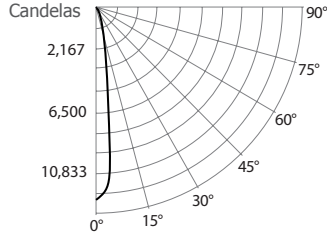
# Modul-Aim™

## NWMOD

### PHOTOMETRIC DATA

#### 3,000K, 90 + of CRI, Spot, Performance 1

##### CANDLEPOWER DISTRIBUTION



##### LIGHT CONE

| Distance | FC    | DIA  |
|----------|-------|------|
| 06'      | 334.8 | 1.5' |
| 08'      | 188.3 | 2.0' |
| 10'      | 120.5 | 2.5' |
| 12'      | 83.7  | 3.0' |
| 14'      | 61.5  | 3.5' |
| 16'      | 47.1  | 4.0' |

Beam: 14.2"  
Beam Edge defined as 50% of Maximum Nadir Candlepower.

##### LUMINAIRE

|                             |                  |           |
|-----------------------------|------------------|-----------|
| Modul-Aim Performance 1 LED | 3,000K Spot      |           |
| CBCP / Lumens               | 12,052           | / 1,425.5 |
| Watts                       | 120V             | 277V      |
|                             | 20.42W           | 21.92W    |
| Operating AMPS              | 0.17A            | 0.07A     |
| Lumen Maintenance           | L70 @ 50,000 Hrs |           |
| CRI                         | 90+              |           |
| Lumens/Watt                 | 69.8             |           |
| Spacing Criteria            | 0.25             |           |

##### COEFFICIENT OF UTILIZATION - %

| RCC % | 80 |     |     | 50  |     |     | 30  |     |  |
|-------|----|-----|-----|-----|-----|-----|-----|-----|--|
| RWC % | 50 | 30  | 50  | 30  | 50  | 30  | 50  | 30  |  |
| RCR   | 0  | 119 | 119 | 111 | 111 | 106 | 106 | 106 |  |
|       | 2  | 108 | 105 | 103 | 101 | 100 | 98  |     |  |
|       | 4  | 99  | 95  | 96  | 93  | 94  | 92  |     |  |
|       | 6  | 92  | 88  | 90  | 87  | 89  | 86  |     |  |
|       | 8  | 87  | 82  | 85  | 82  | 84  | 81  |     |  |
|       | 10 | 82  | 78  | 81  | 77  | 80  | 77  |     |  |

Zonal Cavity Method  
Effective Floor Cavity Reflectance 20%

##### ZONAL LUMEN SUMMARY

| ZONE  | LUMENS  | %LUMINAIRE |
|-------|---------|------------|
| 0-30  | 1,288.4 | 90.4%      |
| 0-40  | 1,414.5 | 99.2%      |
| 0-60  | 1,425.5 | 100%       |
| 60-90 | 0       | 0%         |
| 0-90  | 1,425.5 | 100%       |

##### MULTIPLE UNIT DATA - (RCR 2)

| SPACING ON CENTER | INITIAL FOOTCANDLES | WATTS/SQ. FT. |
|-------------------|---------------------|---------------|
| 5'                | 72                  | 0.90          |
| 6'                | 40                  | 0.51          |
| 7'                | 28                  | 0.35          |
| 8'                | 28                  | 0.35          |
| 9'                | 18                  | 0.23          |

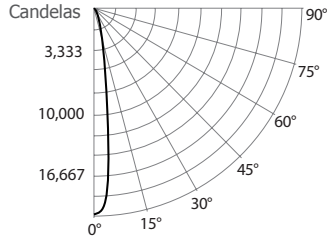
38' x 38' x 10' Room. Workplan located 2-1/2' (30").  
Reflection factor of 80%/50%/30%.

##### CANDELAS DISTRIBUTION

| DEGREES/VERTICAL | CANDELAS | DEGREES/VERTICAL | CANDELAS |
|------------------|----------|------------------|----------|
| 0                | 12,052   | 40               | 20       |
| 5                | 9,111    | 50               | 3        |
| 10               | 3,082    | 60               | 0        |
| 15               | 1,168    | 70               | 0        |
| 20               | 704      | 80               | 0        |
| 25               | 613      | 90               | 0        |
| 30               | 526      |                  |          |

#### 3,000K, 90 + of CRI, Spot, Performance 2

##### CANDLEPOWER DISTRIBUTION



##### LIGHT CONE

| Distance | FC    | DIA  |
|----------|-------|------|
| 06'      | 554.3 | 1.5' |
| 08'      | 311.8 | 2.0' |
| 10'      | 199.5 | 2.5' |
| 12'      | 138.6 | 3.0' |
| 14'      | 101.8 | 3.5' |
| 16'      | 77.9  | 4.0' |

Beam: 14.2"  
Beam Edge defined as 50% of Maximum Nadir Candlepower.

##### LUMINAIRE

|                             |                  |           |
|-----------------------------|------------------|-----------|
| Modul-Aim Performance 2 LED | 3,000K Spot      |           |
| CBCP / Lumens               | 19,954           | / 2,360.1 |
| Watts                       | 120V             | 277V      |
|                             | 38.7W            | 39.2W     |
| Operating AMPS              | 0.32A            | 0.14A     |
| Lumen Maintenance           | L70 @ 50,000 Hrs |           |
| CRI                         | 90+              |           |
| Lumens/Watt                 | 60.9             |           |
| Spacing Criteria            | 0.25             |           |

##### COEFFICIENT OF UTILIZATION - %

| RCC % | 80 |     |     | 50  |     |     | 30  |     |  |
|-------|----|-----|-----|-----|-----|-----|-----|-----|--|
| RWC % | 50 | 30  | 50  | 30  | 50  | 30  | 50  | 30  |  |
| RCR   | 0  | 119 | 119 | 111 | 111 | 106 | 106 | 106 |  |
|       | 2  | 108 | 105 | 103 | 101 | 100 | 98  |     |  |
|       | 4  | 99  | 95  | 96  | 93  | 94  | 92  |     |  |
|       | 6  | 92  | 88  | 90  | 87  | 89  | 86  |     |  |
|       | 8  | 87  | 82  | 85  | 82  | 84  | 81  |     |  |
|       | 10 | 82  | 78  | 81  | 77  | 80  | 77  |     |  |

Zonal Cavity Method  
Effective Floor Cavity Reflectance 20%

##### ZONAL LUMEN SUMMARY

| ZONE  | LUMENS  | %LUMINAIRE |
|-------|---------|------------|
| 0-30  | 2,133.1 | 90.4%      |
| 0-40  | 2,341.9 | 99.2%      |
| 0-60  | 2,360.1 | 100%       |
| 60-90 | 0       | 0%         |
| 0-90  | 2,360.1 | 100%       |

##### MULTIPLE UNIT DATA - (RCR 2)

| SPACING ON CENTER | INITIAL FOOTCANDLES | WATTS/SQ. FT. |
|-------------------|---------------------|---------------|
| 5'                | 119                 | 1.72          |
| 6'                | 67                  | 0.96          |
| 7'                | 46                  | 0.67          |
| 8'                | 46                  | 0.67          |
| 9'                | 30                  | 0.43          |

38' x 38' x 10' Room. Workplan located 2-1/2' (30").  
Reflection factor of 80%/50%/30%.

##### CANDELAS DISTRIBUTION

| DEGREES/VERTICAL | CANDELAS | DEGREES/VERTICAL | CANDELAS |
|------------------|----------|------------------|----------|
| 0                | 19,954   | 40               | 33       |
| 5                | 15,084   | 50               | 5        |
| 10               | 5,103    | 60               | 0        |
| 15               | 1,934    | 70               | 0        |
| 20               | 1,165    | 80               | 0        |
| 25               | 1,016    | 90               | 0        |
| 30               | 871      |                  |          |





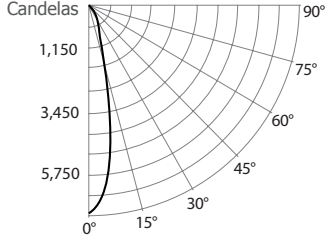
# Modul-Aim™

NWMOD

## PHOTOMETRIC DATA

### 3,000K, 90 + of CRI, Medium Spot, Performance 1

#### CANDLEPOWER DISTRIBUTION



#### LIGHT CONE

| Distance | FC    | DIA  |
|----------|-------|------|
| 06'      | 189.0 | 2.1' |
| 08'      | 106.3 | 2.8' |
| 10'      | 68.0  | 3.6' |
| 12'      | 47.3  | 4.3' |
| 14'      | 34.7  | 5.0' |
| 16'      | 26.6  | 5.7' |

Beam: 20.2"  
Beam Edge defined as 50% of Maximum Nadir Candlepower.

#### LUMINAIRE

|                                    |                    |             |
|------------------------------------|--------------------|-------------|
| <b>Modul-Aim Performance 1 LED</b> | 3,000K Medium Spot |             |
| <b>CBCP / Lumens</b>               | 6,804              | / 1,371.5   |
| <b>Watts</b>                       | <b>120V</b>        | <b>277V</b> |
|                                    | 20.42W             | 20.92W      |
| <b>Operating AMPS</b>              | 0.17A              | 0.07A       |
| <b>Lumen Maintenance</b>           | L70 @ 50,000 Hrs   |             |
| <b>CRI</b>                         | 90+                |             |
| <b>Lumens/Watt</b>                 | 67.2               |             |
| <b>Spacing Criteria</b>            | 0.35               |             |

#### COEFFICIENT OF UTILIZATION - %

| RCC %      | 80 |     |     | 50  |     |     | 30  |     |  |
|------------|----|-----|-----|-----|-----|-----|-----|-----|--|
| RWC %      | 50 | 30  | 50  | 30  | 50  | 30  | 50  | 30  |  |
| <b>RCR</b> | 0  | 119 | 119 | 111 | 111 | 106 | 106 | 106 |  |
|            | 2  | 107 | 104 | 102 | 100 | 99  | 97  |     |  |
|            | 4  | 98  | 93  | 94  | 91  | 93  | 90  |     |  |
|            | 6  | 90  | 86  | 88  | 84  | 87  | 83  |     |  |
|            | 8  | 84  | 79  | 82  | 79  | 81  | 78  |     |  |
|            | 10 | 78  | 74  | 77  | 74  | 77  | 73  |     |  |

#### Zonal Cavity Method

Effective Floor Cavity Reflectance 20%

#### ZONAL LUMEN SUMMARY

| ZONE  | LUMENS  | %LUMINAIRE |
|-------|---------|------------|
| 0-30  | 1,226.6 | 89.4%      |
| 0-40  | 1,357.5 | 99%        |
| 0-60  | 1,371.5 | 100%       |
| 60-90 | 0       | 0%         |
| 0-90  | 1,371.5 | 100%       |

#### MULTIPLE UNIT DATA - (RCR 2)

| SPACING ON CENTER | INITIAL FOOTCANDLES | WATTS/SQ. FT. |
|-------------------|---------------------|---------------|
| 5'                | 68                  | 0.90          |
| 6'                | 38                  | 0.51          |
| 7'                | 27                  | 0.35          |
| 8'                | 27                  | 0.35          |
| 9'                | 17                  | 0.23          |

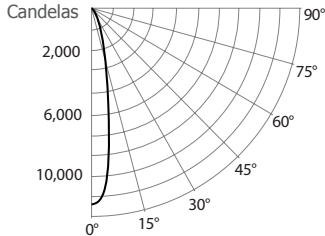
38' x 38' x 10' Room. Workplan located 2-1/2' (30").  
Reflection factor of 80%/50%/30%.

#### CANDELAS DISTRIBUTION

| DEGREES/VERTICAL | CANDELAS | DEGREES/VERTICAL | CANDELAS |
|------------------|----------|------------------|----------|
| 0                | 6,804    | 40               | 31       |
| 5                | 5,901    | 50               | 4        |
| 10               | 3,448    | 60               | 0        |
| 15               | 1,477    | 70               | 0        |
| 20               | 851      | 80               | 0        |
| 25               | 626      | 90               | 0        |
| 30               | 520      |                  |          |

### 3,000K, 90 + of CRI, Medium Spot, Performance 2

#### CANDLEPOWER DISTRIBUTION



#### LIGHT CONE

| Distance | FC    | DIA  |
|----------|-------|------|
| 06'      | 313.0 | 2.1' |
| 08'      | 176.1 | 2.8' |
| 10'      | 112.7 | 3.6' |
| 12'      | 78.3  | 4.3' |
| 14'      | 57.5  | 5.0' |
| 16'      | 44.0  | 5.7' |

Beam: 20.2"  
Beam Edge defined as 50% of Maximum Nadir Candlepower.

#### LUMINAIRE

|                                    |                    |             |
|------------------------------------|--------------------|-------------|
| <b>Modul-Aim Performance 2 LED</b> | 3,000K Medium Spot |             |
| <b>CBCP / Lumens</b>               | 11,268             | / 2,271.3   |
| <b>Watts</b>                       | <b>120V</b>        | <b>277V</b> |
|                                    | 38.8W              | 39.3W       |
| <b>Operating AMPS</b>              | 0.32A              | 0.14A       |
| <b>Lumen Maintenance</b>           | L70 @ 50,000 Hrs   |             |
| <b>CRI</b>                         | 90+                |             |
| <b>Lumens/Watt</b>                 | 58.5               |             |
| <b>Spacing Criteria</b>            | 0.35               |             |

#### COEFFICIENT OF UTILIZATION - %

| RCC %      | 80 |     |     | 50  |     |     | 30  |     |  |
|------------|----|-----|-----|-----|-----|-----|-----|-----|--|
| RWC %      | 50 | 30  | 50  | 30  | 50  | 30  | 50  | 30  |  |
| <b>RCR</b> | 0  | 119 | 119 | 111 | 111 | 106 | 106 | 106 |  |
|            | 2  | 107 | 104 | 102 | 100 | 99  | 97  |     |  |
|            | 4  | 98  | 93  | 94  | 91  | 93  | 90  |     |  |
|            | 6  | 90  | 86  | 88  | 84  | 87  | 83  |     |  |
|            | 8  | 84  | 79  | 82  | 79  | 81  | 78  |     |  |
|            | 10 | 78  | 74  | 77  | 74  | 77  | 73  |     |  |

#### Zonal Cavity Method

Effective Floor Cavity Reflectance 20%

#### ZONAL LUMEN SUMMARY

| ZONE  | LUMENS  | %LUMINAIRE |
|-------|---------|------------|
| 0-30  | 2,031.4 | 89.4%      |
| 0-40  | 2,248.2 | 99%        |
| 0-60  | 2,271.3 | 100%       |
| 60-90 | 0       | 0%         |
| 0-90  | 2,271.3 | 100%       |

#### MULTIPLE UNIT DATA - (RCR 2)

| SPACING ON CENTER | INITIAL FOOTCANDLES | WATTS/SQ. FT. |
|-------------------|---------------------|---------------|
| 5'                | 113                 | 1.72          |
| 6'                | 64                  | 0.97          |
| 7'                | 44                  | 0.67          |
| 8'                | 44                  | 0.67          |
| 9'                | 28                  | 0.43          |

38' x 38' x 10' Room. Workplan located 2-1/2' (30").  
Reflection factor of 80%/50%/30%.

#### CANDELAS DISTRIBUTION

| DEGREES/VERTICAL | CANDELAS | DEGREES/VERTICAL | CANDELAS |
|------------------|----------|------------------|----------|
| 0                | 11,268   | 40               | 52       |
| 5                | 9,772    | 50               | 6        |
| 10               | 5,710    | 60               | 0        |
| 15               | 2,447    | 70               | 0        |
| 20               | 1,410    | 80               | 0        |
| 25               | 1,037    | 90               | 0        |
| 30               | 861      |                  |          |



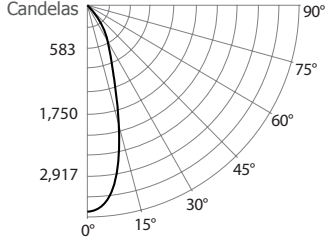
# Modul-Aim™

## NWMOD

### PHOTOMETRIC DATA

#### 3,000K, 90 + of CRI, Narrow Flood, Performance 1

##### CANDLEPOWER DISTRIBUTION



##### LIGHT CONE

| Distance | FC   | DIA  |
|----------|------|------|
| 06'      | 94.5 | 3.6' |
| 08'      | 53.2 | 4.8' |
| 10'      | 34.0 | 6.0' |
| 12'      | 23.6 | 7.2' |
| 14'      | 17.4 | 8.4' |
| 16'      | 13.3 | 9.6' |

Beam: 33.5°  
Beam Edge defined as 50% of Maximum Nadir Candlepower.

##### LUMINAIRE

|                                    |                  |              |
|------------------------------------|------------------|--------------|
| <b>Modul-Aim Performance 1 LED</b> | 3,000K           | Narrow Flood |
| <b>CBCP / Lumens</b>               | 3,404            | / 1,365.5    |
| <b>Watts</b>                       | <b>120V</b>      | <b>277V</b>  |
|                                    | 20.42W           | 20.92W       |
| <b>Operating AMPS</b>              | 0.17A            | 0.07A        |
| <b>Lumen Maintenance</b>           | L70 @ 50,000 Hrs |              |
| <b>CRI</b>                         | 90 +             |              |
| <b>Lumens/Watt</b>                 | 66.8             |              |
| <b>Spacing Criteria</b>            | 0.58             |              |

##### COEFFICIENT OF UTILIZATION - %

| RCC %      | 80 |     |     | 50  |     |     | 30  |     |  |
|------------|----|-----|-----|-----|-----|-----|-----|-----|--|
| RWC %      | 50 | 30  | 50  | 30  | 50  | 30  | 50  | 30  |  |
| <b>RCR</b> | 0  | 119 | 119 | 111 | 111 | 106 | 106 | 106 |  |
|            | 2  | 106 | 102 | 101 | 98  | 98  | 96  | 96  |  |
|            | 4  | 95  | 91  | 92  | 88  | 90  | 87  | 87  |  |
|            | 6  | 86  | 82  | 84  | 80  | 83  | 79  | 79  |  |
|            | 8  | 79  | 74  | 78  | 73  | 77  | 73  | 73  |  |
|            | 10 | 73  | 68  | 72  | 68  | 71  | 67  | 67  |  |

**Zonal Cavity Method**  
Effective Floor Cavity Reflectance 20%

##### ZONAL LUMEN SUMMARY

| ZONE  | LUMENS  | %LUMINAIRE |
|-------|---------|------------|
| 0-30  | 1,209.3 | 88.6%      |
| 0-40  | 1,347.5 | 98.7%      |
| 0-60  | 1,361.3 | 99.7%      |
| 60-90 | 4.2     | 0.3%       |
| 0-90  | 1,365.5 | 100%       |

##### MULTIPLE UNIT DATA - (RCR 2)

| SPACING ON CENTER | INITIAL FOOTCANDLES | WATTS/SQ. FT. |
|-------------------|---------------------|---------------|
| 5'                | 67                  | 0.90          |
| 6'                | 38                  | 0.51          |
| 7'                | 26                  | 0.35          |
| 8'                | 26                  | 0.35          |
| 9'                | 17                  | 0.23          |

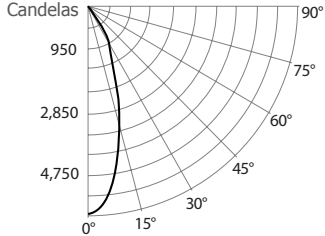
38' x 38' x 10' Room. Workplan located 2-1/2' (30").  
Reflection factor of 80%/50%/30%.

##### CANDELAS DISTRIBUTION

| DEGREES/VERTICAL | CANDELAS | DEGREES/VERTICAL | CANDELAS |
|------------------|----------|------------------|----------|
| 0                | 3,404    | 40               | 27       |
| 5                | 3,226    | 50               | 5        |
| 10               | 2,696    | 60               | 3        |
| 15               | 1,977    | 70               | 2        |
| 20               | 1,223    | 80               | 1        |
| 25               | 821      | 90               | 0        |
| 30               | 576      |                  |          |

#### 3,000K, 90 + of CRI, Narrow Flood, Performance 2

##### CANDLEPOWER DISTRIBUTION



##### LIGHT CONE

| Distance | FC    | DIA  |
|----------|-------|------|
| 06'      | 156.6 | 3.6' |
| 08'      | 88.1  | 4.8' |
| 10'      | 56.4  | 6.0' |
| 12'      | 39.2  | 7.2' |
| 14'      | 28.8  | 8.4' |
| 16'      | 22.0  | 9.6' |

Beam: 33.5°  
Beam Edge defined as 50% of Maximum Nadir Candlepower.

##### LUMINAIRE

|                                    |                  |              |
|------------------------------------|------------------|--------------|
| <b>Modul-Aim Performance 2 LED</b> | 3,000K           | Narrow Flood |
| <b>CBCP / Lumens</b>               | 5,637            | / 2,261.7    |
| <b>Watts</b>                       | <b>120V</b>      | <b>277V</b>  |
|                                    | 38.8W            | 39.3W        |
| <b>Operating AMPS</b>              | 0.32A            | 0.14A        |
| <b>Lumen Maintenance</b>           | L70 @ 50,000 Hrs |              |
| <b>CRI</b>                         | 90 +             |              |
| <b>Lumens/Watt</b>                 | 58.3             |              |
| <b>Spacing Criteria</b>            | 0.58             |              |

##### COEFFICIENT OF UTILIZATION - %

| RCC %      | 80 |     |     | 50  |     |     | 30  |     |  |
|------------|----|-----|-----|-----|-----|-----|-----|-----|--|
| RWC %      | 50 | 30  | 50  | 30  | 50  | 30  | 50  | 30  |  |
| <b>RCR</b> | 0  | 119 | 119 | 111 | 111 | 106 | 106 | 106 |  |
|            | 2  | 106 | 102 | 101 | 98  | 98  | 96  | 96  |  |
|            | 4  | 95  | 91  | 92  | 88  | 90  | 87  | 87  |  |
|            | 6  | 86  | 82  | 84  | 80  | 83  | 79  | 79  |  |
|            | 8  | 79  | 74  | 78  | 73  | 77  | 73  | 73  |  |
|            | 10 | 73  | 68  | 72  | 68  | 71  | 67  | 67  |  |

**Zonal Cavity Method**  
Effective Floor Cavity Reflectance 20%

##### ZONAL LUMEN SUMMARY

| ZONE  | LUMENS  | %LUMINAIRE |
|-------|---------|------------|
| 0-30  | 2,003.0 | 88.6%      |
| 0-40  | 2,232.0 | 98.7%      |
| 0-60  | 2,254.7 | 99.7%      |
| 60-90 | 7.0     | 0.3%       |
| 0-90  | 2,261.7 | 100%       |

##### MULTIPLE UNIT DATA - (RCR 2)

| SPACING ON CENTER | INITIAL FOOTCANDLES | WATTS/SQ. FT. |
|-------------------|---------------------|---------------|
| 5'                | 112                 | 1.72          |
| 6'                | 63                  | 0.97          |
| 7'                | 44                  | 0.67          |
| 8'                | 44                  | 0.67          |
| 9'                | 28                  | 0.43          |

38' x 38' x 10' Room. Workplan located 2-1/2' (30").  
Reflection factor of 80%/50%/30%.

##### CANDELAS DISTRIBUTION

| DEGREES/VERTICAL | CANDELAS | DEGREES/VERTICAL | CANDELAS |
|------------------|----------|------------------|----------|
| 0                | 5,637    | 40               | 45       |
| 5                | 5,344    | 50               | 8        |
| 10               | 4,466    | 60               | 4        |
| 15               | 3,275    | 70               | 3        |
| 20               | 2,025    | 80               | 2        |
| 25               | 1,360    | 90               | 0        |
| 30               | 955      |                  |          |



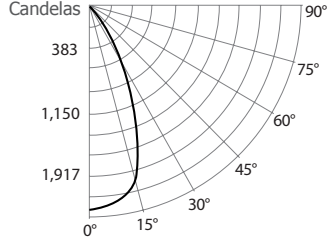
# Modul-Aim™

NWMOD

## PHOTOMETRIC DATA

### 3,000K, 90 + of CRI, Flood, Performance 1

#### CANDLEPOWER DISTRIBUTION



#### LIGHT CONE

| Distance | FC   | DIA   |
|----------|------|-------|
| 06'      | 62.4 | 5.3'  |
| 08'      | 35.1 | 7.1'  |
| 10'      | 22.5 | 8.9'  |
| 12'      | 15.6 | 10.6' |
| 14'      | 11.5 | 12.4' |
| 16'      | 8.8  | 14.2' |

Beam: 47.8°  
Beam Edge defined as 50% of Maximum Nadir Candle-power.

#### LUMINAIRE

|                             |                            |
|-----------------------------|----------------------------|
| Modul-Aim Performance 1 LED | 3,000K Flood               |
| CBCP / Lumens               | 2,247 / 1,392.2            |
| Watts                       | 120V 277V<br>20.42W 20.92W |
| Operating AMPS              | 0.17A 0.07A                |
| Lumen Maintenance           | L70 @ 50,000 Hrs           |
| CRI                         | 90+                        |
| Lumens/Watt                 | 68.2                       |
| Spacing Criteria            | 0.81                       |

#### COEFFICIENT OF UTILIZATION - %

| RCC % | 80  |     |     | 50  |     |     | 30  |     |  |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|--|
| RWC % | 50  | 30  | 50  | 30  | 50  | 30  | 50  | 30  |  |
| RCR 0 | 119 | 119 | 111 | 111 | 106 | 106 | 106 | 106 |  |
| 2     | 105 | 101 | 100 | 98  | 97  | 95  |     |     |  |
| 4     | 94  | 89  | 91  | 87  | 89  | 85  |     |     |  |
| 6     | 84  | 79  | 82  | 78  | 81  | 77  |     |     |  |
| 8     | 76  | 71  | 75  | 70  | 74  | 70  |     |     |  |
| 10    | 70  | 64  | 68  | 64  | 68  | 64  |     |     |  |

Zonal Cavity Method  
Effective Floor Cavity Reflectance 20%

#### FLUX LUMINEUX ZONAL

| ZONE  | LUMENS  | %LUMINAIRE |
|-------|---------|------------|
| 0-30  | 1,207.2 | 86.7%      |
| 0-40  | 1,378.9 | 99%        |
| 0-60  | 1,391.6 | 100%       |
| 60-90 | 0.6     | 0%         |
| 0-90  | 1,392.2 | 100%       |

#### MULTIPLE UNIT DATA - (RCR 2)

| SPACING ON CENTER | INITIAL FOOTCANDLES | WATTS/SQ. FT. |
|-------------------|---------------------|---------------|
| 5'                | 68                  | 0.90          |
| 6'                | 38                  | 0.51          |
| 7'                | 27                  | 0.35          |
| 8'                | 27                  | 0.35          |
| 9'                | 17                  | 0.23          |

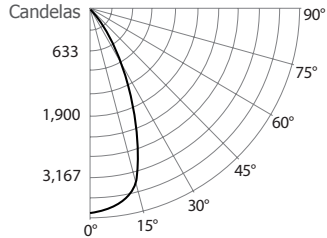
38' x 38' x 10' Room. Workplan located 2-1/2' (30").  
Reflection factor of 80%/50%/30%.

#### CANDELAS DISTRIBUTION

| DEGREES/VERTICAL | CANDELAS | DEGREES/VERTICAL | CANDELAS |
|------------------|----------|------------------|----------|
| 0                | 2,247    | 40               | 38       |
| 5                | 2,189    | 50               | 4        |
| 10               | 2,107    | 60               | 1        |
| 15               | 1,936    | 70               | 0        |
| 20               | 1,493    | 80               | 0        |
| 25               | 1,029    | 90               | 0        |
| 30               | 684      |                  |          |

### 3,000K, 90 + of CRI, Flood, Performance 2

#### CANDLEPOWER DISTRIBUTION



#### LIGHT CONE

| Distance | FC    | DIA   |
|----------|-------|-------|
| 06'      | 103.3 | 5.3'  |
| 08'      | 58.1  | 7.1'  |
| 10'      | 37.2  | 8.9'  |
| 12'      | 25.8  | 10.6' |
| 14'      | 18.9  | 12.4' |
| 16'      | 14.5  | 14.2' |

Beam: 47.8°  
Beam Edge defined as 50% of Maximum Nadir Candle-power.

#### LUMINAIRE

|                             |                          |
|-----------------------------|--------------------------|
| Modul-Aim Performance 2 LED | 3,000K Flood             |
| CBCP / Lumens               | 3,719 / 2,304            |
| Watts                       | 120V 277V<br>37.7W 38.2W |
| Operating AMPS              | 0.31A 0.14A              |
| Lumen Maintenance           | L70 @ 50,000 Hrs         |
| CRI                         | 90+                      |
| Lumens/Watt                 | 61.1                     |
| Spacing Criteria            | 0.81                     |

#### COEFFICIENT OF UTILIZATION - %

| RCC % | 80  |     |     | 50  |     |     | 30  |     |  |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|--|
| RWC % | 50  | 30  | 50  | 30  | 50  | 30  | 50  | 30  |  |
| RCR 0 | 119 | 119 | 111 | 111 | 106 | 106 | 106 | 106 |  |
| 2     | 105 | 101 | 100 | 98  | 97  | 95  |     |     |  |
| 4     | 94  | 89  | 91  | 87  | 89  | 85  |     |     |  |
| 6     | 84  | 79  | 82  | 78  | 81  | 77  |     |     |  |
| 8     | 76  | 71  | 75  | 70  | 74  | 70  |     |     |  |
| 10    | 70  | 64  | 68  | 64  | 68  | 64  |     |     |  |

Zonal Cavity Method  
Effective Floor Cavity Reflectance 20%

#### FLUX LUMINEUX ZONAL

| ZONE  | LUMENS  | %LUMINAIRE |
|-------|---------|------------|
| 0-30  | 1,997.9 | 86.7%      |
| 0-40  | 2,282   | 99%        |
| 0-60  | 2,303   | 100%       |
| 60-90 | 1.0     | 0%         |
| 0-90  | 2,304   | 100%       |

#### MULTIPLE UNIT DATA - (RCR 2)

| SPACING ON CENTER | INITIAL FOOTCANDLES | WATTS/SQ. FT. |
|-------------------|---------------------|---------------|
| 5'                | 113                 | 1.67          |
| 6'                | 64                  | 0.94          |
| 7'                | 44                  | 0.65          |
| 8'                | 44                  | 0.65          |
| 9'                | 28                  | 0.42          |

38' x 38' x 10' Room. Workplan located 2-1/2' (30").  
Reflection factor of 80%/50%/30%.

#### CANDELAS DISTRIBUTION

| DEGREES/VERTICAL | CANDELAS | DEGREES/VERTICAL | CANDELAS |
|------------------|----------|------------------|----------|
| 0                | 3,719    | 40               | 62       |
| 5                | 3,622    | 50               | 7        |
| 10               | 3,488    | 60               | 2        |
| 15               | 3,203    | 70               | 0        |
| 20               | 2,472    | 80               | 0        |
| 25               | 1,703    | 90               | 0        |
| 30               | 1,131    |                  |          |

