



**PICASSO LIGHTING INDUSTRIES, LLC**  
320 West Commerical Ave., Moonachie, NJ 07074  
201.246.8188

## **Indoor Distribution Test Report**

### **Picasso Lighting Industries, LLC**

320 West Commerical Ave.  
Moonachie, NJ 07074

#### **Photopia Photometric Analysis & Optical Design**

##### **Catalog Number**

MON-PR-4-D7-I5-30-80-FW-CL-W  
MONARCH - 4' Down-Uplight - White Housing, Frosted White-Clear Lenses

##### **Test Number**

IES-P00360

##### **Test Date**

Fri Sep 24 13:17:04 2021

The results contained in this report pertain only to the tested sample.  
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MON-PR-4-D7-I5-30-80-FW-CL-W  
MONARCH - 4' Down-Uplight - White Housing, Frosted White-Clear Lenses  
LED (3000K 80+ CRI)

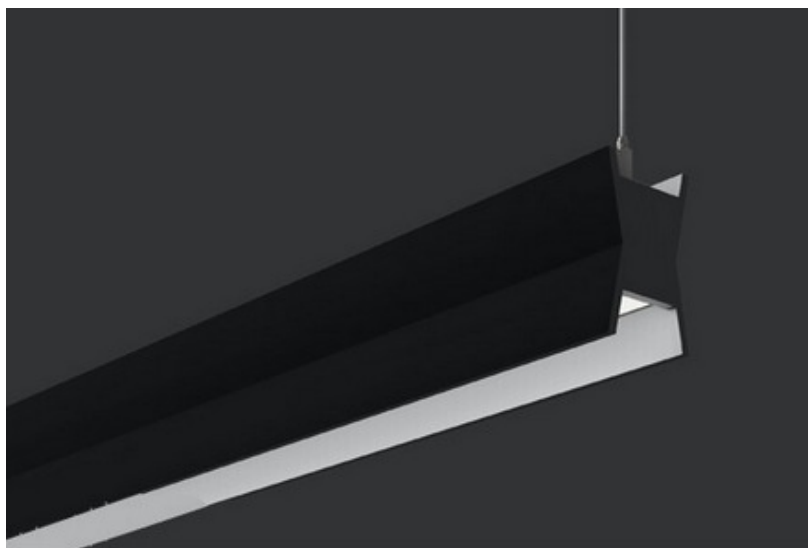


Image may differ slightly from actual unit.

### Summary of Results

#### Output:

|                    |             |
|--------------------|-------------|
| <b>Watts:</b>      | 47.44 W     |
| <b>Lumens:</b>     | 5,109.29 lm |
| <b>Efficiency:</b> | N/A         |
| <b>Efficacy:</b>   | 105.59 lm/W |

#### Spacing Criterion

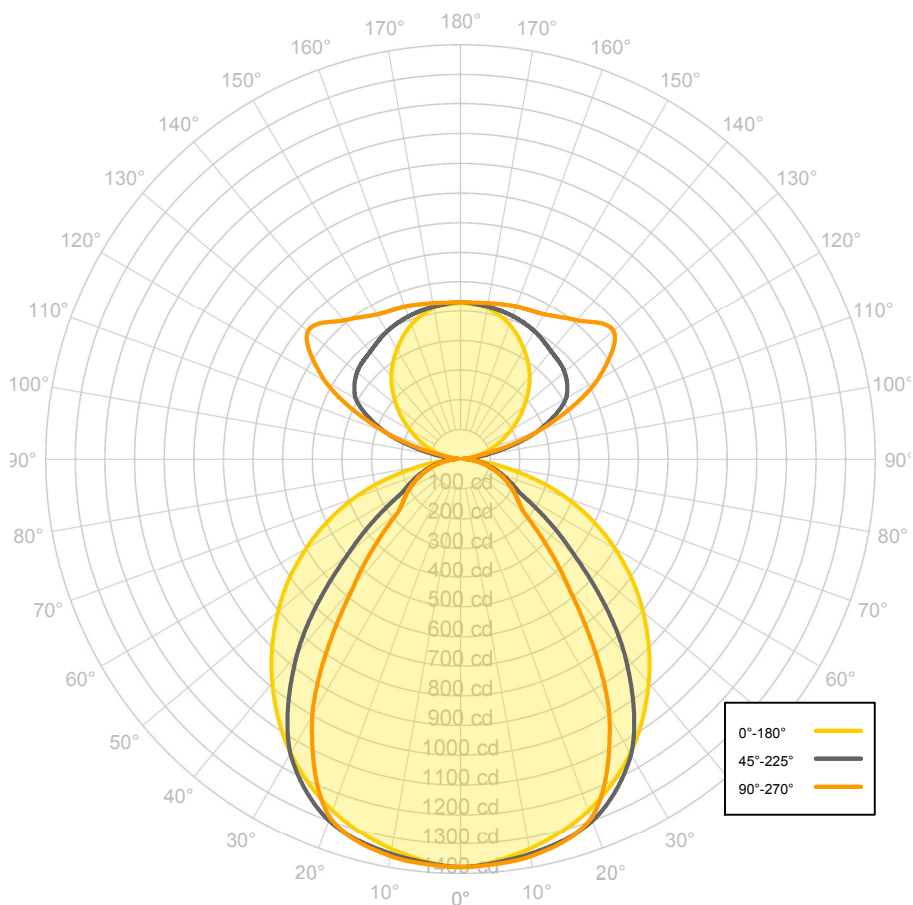
|                                  |      |
|----------------------------------|------|
| <b>Two luminaires, plane 0°</b>  | 1.23 |
| <b>Two luminaires, plane 90°</b> | 1.11 |
| <b>Four luminaires</b>           | 1.24 |

#### Full Beam Angle

|                   |         |
|-------------------|---------|
| <b>0° - 180°</b>  | 111.25° |
| <b>90° - 270°</b> | 74.31°  |

Calculated results may not be representative of field performance.  
Ballast factors have not been applied.

### Candela Polar Plot



### Zonal Lumen Summary

| Zone      | Lumens   | % Fixture | Zone        | Lumens   | % Fixture |
|-----------|----------|-----------|-------------|----------|-----------|
| 0° - 10°  | 234.49   | 4.59%     | 90° - 100°  | 46.58    | 0.91%     |
| 10° - 20° | 370.48   | 7.25%     | 100° - 110° | 162.67   | 3.18%     |
| 20° - 30° | 546.93   | 10.70%    | 100° - 120° | 468.48   | 9.17%     |
| 30° - 40° | 594.94   | 11.64%    | 120° - 130° | 379.82   | 7.43%     |
| 40° - 50° | 512.16   | 10.02%    | 130° - 140° | 364.77   | 7.14%     |
| 50° - 60° | 379.45   | 7.43%     | 140° - 150° | 304.00   | 5.95%     |
| 60° - 70° | 253.81   | 4.97%     | 150° - 160° | 231.44   | 4.53%     |
| 70° - 80° | 138.37   | 2.71%     | 160° - 170° | 145.78   | 2.85%     |
| 80° - 90° | 47.53    | 0.93%     | 170° - 180° | 90.27    | 1.77%     |
| 0° - 90°  | 3,078.16 | 60.25%    | 0° - 180°   | 5,109.29 | 100.00%   |



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### Candela Distribution

|         | 0.00°    | 22.50°   | 45.00°   | 67.50°   | 90.00°   |
|---------|----------|----------|----------|----------|----------|
| 0.00°   | 1,380.14 | 1,380.14 | 1,380.14 | 1,380.14 | 1,380.14 |
| 10.00°  | 1,338.46 | 1,344.77 | 1,356.24 | 1,369.05 | 1,364.79 |
| 20.00°  | 1,262.99 | 1,278.29 | 1,302.73 | 1,300.74 | 1,292.45 |
| 30.00°  | 1,146.31 | 1,174.22 | 1,152.47 | 1,058.25 | 1,005.30 |
| 40.00°  | 987.88   | 1,010.99 | 861.03   | 642.60   | 564.58   |
| 50.00°  | 803.66   | 782.68   | 492.35   | 308.70   | 273.23   |
| 60.00°  | 601.78   | 496.53   | 229.40   | 197.09   | 198.66   |
| 70.00°  | 381.11   | 224.12   | 140.57   | 133.40   | 129.49   |
| 80.00°  | 143.56   | 76.20    | 66.59    | 62.52    | 60.66    |
| 90.00°  | 13.63    | 14.81    | 11.04    | 8.33     | 6.92     |
| 100.00° | 46.95    | 78.13    | 98.34    | 71.71    | 57.37    |
| 110.00° | 116.99   | 167.41   | 280.28   | 300.45   | 286.14   |
| 120.00° | 195.72   | 251.38   | 411.58   | 520.77   | 534.40   |
| 130.00° | 281.30   | 326.61   | 457.45   | 609.22   | 673.53   |
| 140.00° | 363.22   | 390.43   | 474.78   | 563.22   | 611.40   |
| 150.00° | 427.96   | 443.32   | 498.04   | 540.65   | 564.36   |
| 160.00° | 483.23   | 488.33   | 513.46   | 533.59   | 547.91   |
| 170.00° | 517.98   | 516.53   | 522.68   | 527.22   | 534.23   |
| 180.00° | 529.67   | 529.67   | 529.67   | 529.67   | 529.67   |

### Average Luminaire Luminance [cd/m²]

|        | 0.00°  | 45.00° | 90.00° |
|--------|--------|--------|--------|
| 0.00°  | 22,506 | 22,506 | 22,506 |
| 45.00° | 19,076 | 6,256  | 3,188  |
| 55.00° | 17,863 | 3,273  | 1,720  |
| 65.00° | 16,100 | 1,698  | 1,182  |
| 75.00° | 12,623 | 992    | 698    |
| 85.00° | 7,550  | 402    | 261    |



### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

|     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| RCR | pfc   | 20%   | 20%   | 20%   | 20%   | 20%   | 20%   | 20%   | 20%   | 20%   | 20%   | 20%   | 20%   | 20%   | 20%   | 20%   | 20%   | 20%   | 20%   |
|     | pcc   | 80%   | 80%   | 80%   | 80%   | 70%   | 70%   | 70%   | 70%   | 50%   | 50%   | 50%   | 30%   | 30%   | 30%   | 10%   | 10%   | 10%   | 0%    |
|     | pw    | 70%   | 50%   | 30%   | 10%   | 70%   | 50%   | 30%   | 10%   | 50%   | 30%   | 10%   | 50%   | 30%   | 10%   | 50%   | 30%   | 10%   | 0%    |
|     | 0     | 5,599 | 5,599 | 5,599 | 5,599 | 5,232 | 5,232 | 5,232 | 5,232 | 4,549 | 4,549 | 4,549 | 3,923 | 3,923 | 3,923 | 3,348 | 3,348 | 3,348 | 3,078 |
|     | 1     | 5,148 | 4,937 | 4,749 | 4,578 | 4,807 | 4,626 | 4,463 | 4,315 | 4,043 | 3,923 | 3,812 | 3,508 | 3,421 | 3,341 | 3,014 | 2,954 | 2,897 | 2,663 |
|     | 2     | 4,723 | 4,362 | 4,064 | 3,814 | 4,408 | 4,096 | 3,835 | 3,613 | 3,594 | 3,397 | 3,227 | 3,132 | 2,986 | 2,858 | 2,705 | 2,599 | 2,506 | 2,299 |
|     | 3     | 4,340 | 3,877 | 3,518 | 3,233 | 4,050 | 3,647 | 3,330 | 3,075 | 3,213 | 2,969 | 2,768 | 2,812 | 2,627 | 2,472 | 2,439 | 2,303 | 2,186 | 2,002 |
|     | 4     | 3,997 | 3,467 | 3,079 | 2,782 | 3,731 | 3,267 | 2,922 | 2,655 | 2,890 | 2,620 | 2,406 | 2,540 | 2,332 | 2,163 | 2,214 | 2,057 | 1,927 | 1,762 |
|     | 5     | 3,693 | 3,120 | 2,720 | 2,425 | 3,449 | 2,946 | 2,588 | 2,320 | 2,616 | 2,332 | 2,114 | 2,309 | 2,087 | 1,912 | 2,022 | 1,852 | 1,715 | 1,566 |
|     | 6     | 3,422 | 2,825 | 2,424 | 2,137 | 3,199 | 2,672 | 2,311 | 2,049 | 2,382 | 2,092 | 1,876 | 2,111 | 1,882 | 1,706 | 1,858 | 1,679 | 1,540 | 1,405 |
|     | 7     | 3,181 | 2,572 | 2,178 | 1,901 | 2,978 | 2,438 | 2,080 | 1,827 | 2,181 | 1,891 | 1,680 | 1,941 | 1,708 | 1,535 | 1,715 | 1,532 | 1,393 | 1,270 |
|     | 8     | 2,967 | 2,355 | 1,970 | 1,706 | 2,781 | 2,236 | 1,886 | 1,642 | 2,007 | 1,721 | 1,516 | 1,793 | 1,561 | 1,392 | 1,591 | 1,407 | 1,269 | 1,157 |
|     | 9     | 2,777 | 2,168 | 1,794 | 1,542 | 2,606 | 2,061 | 1,720 | 1,487 | 1,857 | 1,575 | 1,378 | 1,664 | 1,435 | 1,270 | 1,483 | 1,299 | 1,164 | 1,061 |
| 10  | 2,606 | 2,005 | 1,644 | 1,404 | 2,449 | 1,909 | 1,579 | 1,356 | 1,725 | 1,450 | 1,261 | 1,551 | 1,326 | 1,167 | 1,388 | 1,205 | 1,074 | 979   |       |

### Cone of Light

| Mtg Height | Light Level | 0°-180° Beam Diameter | 90°-270° Beam Diameter |
|------------|-------------|-----------------------|------------------------|
| 6 ft       | 38 fc       | 18 ft                 | 9 ft                   |
| 8 ft       | 22 fc       | 23 ft                 | 12 ft                  |
| 10 ft      | 14 fc       | 29 ft                 | 15 ft                  |
| 12 ft      | 10 fc       | 35 ft                 | 18 ft                  |
| 15 ft      | 6 fc        | 44 ft                 | 23 ft                  |