

## **Indoor Distribution Test Report**

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

46 Sellers St.  
Kearny, NJ 07032

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

**Catalog Number**  
**CV5-L-4'-I5-30K-80-OPL-10°**  
(White Housing – Indirect – Opal Lens)

Test Number

**IES-P00047**

Test Date

2017-02-23

The results contained in this report pertain only to the tested sample.  
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|                               |                                                               |
|-------------------------------|---------------------------------------------------------------|
| <b>Luminaire Description:</b> | White enamel steel housing / reflector, Indirect w/ Opal Lens |
| <b>Lamp:</b>                  | LED (3000K, 80+ CRI)                                          |
| <b>Installation:</b>          | Cove Mounted                                                  |
| <b>Luminous Length:</b>       | 48.00 in                                                      |
| <b>Luminous Width:</b>        | 3.63 in                                                       |
| <b>Luminous Height:</b>       | 0.88 in                                                       |



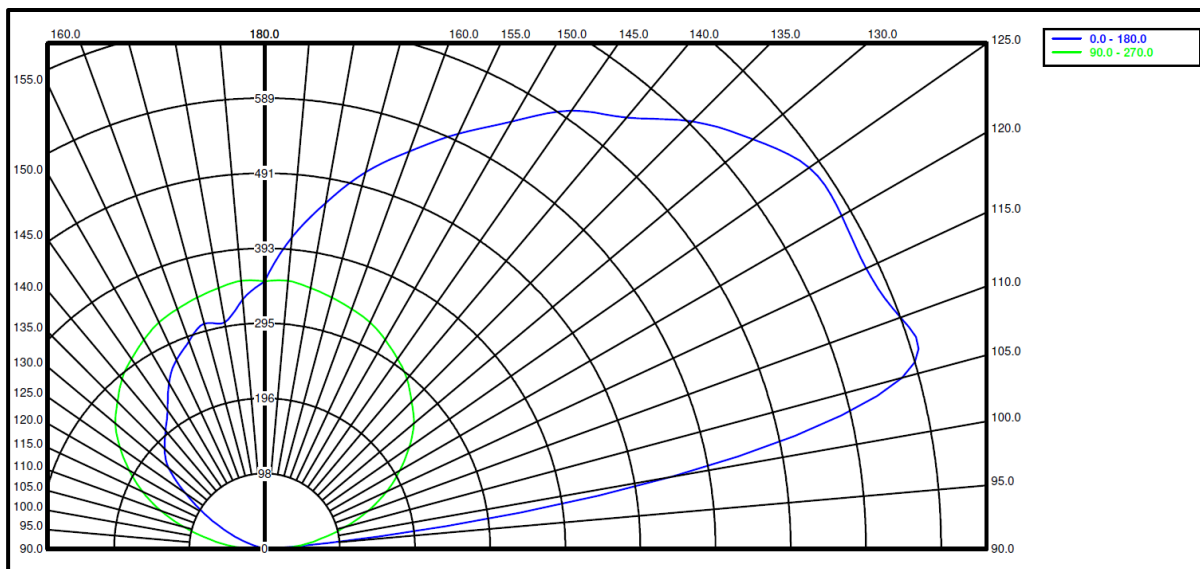
Image may differ slightly from actual unit

#### **Summary of Results**

|                                |                |
|--------------------------------|----------------|
| <b>System Power:</b>           | 20.2W          |
| <b>Total Luminaire Output:</b> | 1965 Lumens    |
| <b>Luminaire Efficacy:</b>     | 97 lm/W        |
| <b>Max Candela:</b>            | 883.86 Candela |

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

### Polar Plot



### Zonal Lumen Summary

| Zone  | Lumens | % Fixture | Zone    | Lumens  | % Fixture |
|-------|--------|-----------|---------|---------|-----------|
| 0-10  | 0      | 0.0%      | 90-100  | 105.77  | 5.4%      |
| 10-20 | 0      | 0.0%      | 100-110 | 296.42  | 15.1%     |
| 20-30 | 0      | 0.0%      | 110-120 | 335.79  | 17.1%     |
| 30-40 | 0.04   | 0.0%      | 120-130 | 336.08  | 17.1%     |
| 40-50 | 0.22   | 0.0%      | 130-140 | 300.88  | 15.3%     |
| 50-60 | 0.75   | 0.0%      | 140-150 | 246.64  | 12.5%     |
| 60-70 | 2.08   | 0.1%      | 150-160 | 180.3   | 9.2%      |
| 70-80 | 5.26   | 0.3%      | 160-170 | 106.87  | 5.4%      |
| 80-90 | 13.93  | 0.7%      | 170-180 | 34.25   | 1.7%      |
| 0-90  | 22.28  | 1.1%      | 0-180   | 1965.28 | 100.0%    |

### Candela Distribution

Horizontal Angle (Degrees)

|     | 0   | 22.5 | 45  | 67.5 | 90  | 112.5 | 135 | 157.5 | 180 | 202.5 | 225 | 247.5 | 270 | 292.5 | 315 | 337.5 |
|-----|-----|------|-----|------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 0   | 0   | 0    | 0   | 0    | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     |
| 5   | 0   | 0    | 0   | 0    | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     |
| 10  | 0   | 0    | 0   | 0    | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     |
| 15  | 0   | 0    | 0   | 0    | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     |
| 20  | 0   | 0    | 0   | 0    | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     |
| 25  | 0   | 0    | 0   | 0    | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     |
| 30  | 0   | 0    | 0   | 0    | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     |
| 35  | 0   | 0    | 0   | 0    | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     |
| 40  | 0   | 0    | 1   | 0    | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 1   | 0     |
| 45  | 0   | 0    | 1   | 0    | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 1   | 0     |
| 50  | 0   | 1    | 2   | 1    | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 1     | 2   | 1     |
| 55  | 0   | 2    | 3   | 2    | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 2     | 3   | 2     |
| 60  | 0   | 3    | 5   | 3    | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 3     | 5   | 3     |
| 65  | 0   | 4    | 7   | 4    | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 4     | 7   | 4     |
| 70  | 0   | 6    | 11  | 7    | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 0     | 0   | 7     | 11  | 6     |
| 75  | 0   | 8    | 16  | 11   | 1   | 0     | 1   | 1     | 0   | 1     | 1   | 0     | 1   | 11    | 16  | 8     |
| 80  | 4   | 12   | 21  | 19   | 2   | 1     | 2   | 1     | 0   | 1     | 2   | 1     | 2   | 19    | 21  | 12    |
| 85  | 11  | 20   | 31  | 29   | 6   | 2     | 3   | 1     | 0   | 1     | 3   | 2     | 6   | 29    | 31  | 20    |
| 90  | 16  | 28   | 42  | 48   | 21  | 5     | 3   | 1     | 0   | 1     | 3   | 5     | 21  | 48    | 42  | 28    |
| 95  | 84  | 108  | 179 | 202  | 48  | 10    | 4   | 1     | 0   | 1     | 4   | 10    | 48  | 202   | 179 | 108   |
| 100 | 540 | 570  | 520 | 288  | 76  | 29    | 9   | 2     | 0   | 2     | 9   | 29    | 76  | 288   | 520 | 570   |
| 105 | 862 | 790  | 578 | 324  | 109 | 58    | 30  | 14    | 8   | 14    | 30  | 58    | 109 | 324   | 578 | 790   |
| 110 | 884 | 798  | 597 | 351  | 144 | 89    | 59  | 38    | 31  | 38    | 59  | 89    | 144 | 351   | 597 | 798   |
| 115 | 867 | 798  | 624 | 368  | 176 | 119   | 93  | 67    | 59  | 67    | 93  | 119   | 176 | 368   | 624 | 798   |
| 120 | 871 | 813  | 633 | 384  | 204 | 145   | 126 | 100   | 90  | 100   | 126 | 145   | 204 | 384   | 633 | 813   |
| 125 | 869 | 804  | 619 | 400  | 230 | 172   | 153 | 136   | 126 | 136   | 153 | 172   | 230 | 400   | 619 | 804   |
| 130 | 833 | 773  | 604 | 413  | 254 | 199   | 175 | 168   | 163 | 168   | 175 | 199   | 254 | 413   | 604 | 773   |
| 135 | 790 | 731  | 590 | 422  | 271 | 223   | 198 | 186   | 184 | 186   | 198 | 223   | 271 | 422   | 590 | 731   |
| 140 | 736 | 695  | 576 | 431  | 289 | 244   | 223 | 208   | 201 | 208   | 223 | 244   | 289 | 431   | 576 | 695   |
| 145 | 699 | 659  | 557 | 433  | 303 | 260   | 246 | 229   | 221 | 229   | 246 | 260   | 303 | 433   | 557 | 659   |
| 150 | 645 | 617  | 535 | 429  | 315 | 275   | 265 | 254   | 250 | 254   | 265 | 275   | 315 | 429   | 535 | 617   |
| 155 | 599 | 576  | 513 | 425  | 326 | 287   | 284 | 274   | 272 | 274   | 284 | 287   | 326 | 425   | 513 | 576   |
| 160 | 553 | 538  | 489 | 416  | 333 | 297   | 296 | 292   | 288 | 292   | 296 | 297   | 333 | 416   | 489 | 538   |
| 165 | 510 | 492  | 460 | 402  | 340 | 308   | 304 | 302   | 304 | 302   | 304 | 308   | 340 | 402   | 460 | 492   |
| 170 | 459 | 454  | 426 | 387  | 346 | 315   | 312 | 311   | 300 | 311   | 312 | 315   | 346 | 387   | 426 | 454   |
| 175 | 409 | 406  | 394 | 367  | 352 | 324   | 316 | 317   | 327 | 317   | 316 | 324   | 352 | 367   | 394 | 406   |
| 180 | 349 | 349  | 349 | 349  | 349 | 349   | 349 | 349   | 349 | 349   | 349 | 349   | 349 | 349   | 349 | 349   |

### Average Luminance (cd/m<sup>2</sup>)

Horizontal Angle (Degrees)

| ANGLES | 0-Deg | 45-Deg | 90-Deg |
|--------|-------|--------|--------|
| 0      | 0     | 0      | 0      |
| 45     | 0     | 15     | 0      |
| 55     | 0     | 38     | 1      |
| 65     | 0     | 112    | 3      |
| 75     | 2     | 328    | 27     |
| 85     | 298   | 1014   | 467    |

### Coefficients of Utilization – Zonal Cavity Method

| Effective Floor Cavity Reflectance 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  |
| RCR                                    | Values are in Lumens delivered to the Task Plane |      |      |      |      |      |      |      |      |      |      |     |     |     |     |     |     |    |
| 0                                      | 1887                                             | 1887 | 1887 | 1887 | 1612 | 1612 | 1612 | 1612 | 1101 | 1101 | 1101 | 649 | 649 | 649 | 216 | 216 | 216 | 20 |
| 1                                      | 1710                                             | 1612 | 1553 | 1474 | 1454 | 1395 | 1336 | 1277 | 943  | 924  | 884  | 550 | 531 | 511 | 177 | 177 | 177 | 0  |
| 2                                      | 1553                                             | 1415 | 1297 | 1199 | 1317 | 1218 | 1120 | 1042 | 825  | 766  | 727  | 491 | 452 | 432 | 157 | 157 | 138 | 0  |
| 3                                      | 1415                                             | 1238 | 1101 | 1002 | 1199 | 1061 | 943  | 865  | 727  | 668  | 609  | 432 | 393 | 354 | 138 | 138 | 118 | 0  |
| 4                                      | 1277                                             | 1081 | 943  | 845  | 1101 | 943  | 825  | 727  | 649  | 570  | 511  | 373 | 334 | 295 | 118 | 118 | 98  | 0  |
| 5                                      | 1179                                             | 963  | 825  | 708  | 1002 | 825  | 708  | 609  | 570  | 491  | 432  | 334 | 295 | 255 | 118 | 98  | 79  | 0  |
| 6                                      | 1081                                             | 865  | 708  | 609  | 924  | 747  | 609  | 531  | 511  | 432  | 373  | 295 | 255 | 216 | 98  | 79  | 79  | 0  |
| 7                                      | 983                                              | 766  | 629  | 531  | 845  | 668  | 550  | 452  | 452  | 373  | 314  | 275 | 216 | 197 | 98  | 79  | 59  | 0  |
| 8                                      | 904                                              | 688  | 550  | 452  | 786  | 590  | 472  | 393  | 413  | 334  | 275  | 236 | 197 | 177 | 79  | 59  | 59  | 0  |
| 9                                      | 845                                              | 629  | 491  | 393  | 727  | 531  | 432  | 354  | 373  | 295  | 255  | 216 | 177 | 157 | 79  | 59  | 59  | 0  |
| 10                                     | 786                                              | 570  | 432  | 354  | 668  | 491  | 373  | 314  | 334  | 275  | 216  | 197 | 157 | 138 | 59  | 59  | 39  | 0  |

