

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

IF03RMx IC DWDD1010 DLWFGPMW

Nom 3" diam Infinium, dim to warm 10L emitter - Wide flood optic, No lens

### **Test Number**

SP-00947\_M-10L

### **Test Date**

5/1/2019

The results contained in this report pertain only to this IES file.

### Summary of Results

#### Power

|             |       |
|-------------|-------|
| Input Watts | 9.3 W |
|-------------|-------|

#### Lumen Output

|               |            |
|---------------|------------|
| Output Lumens | 581        |
| Efficacy      | 62.49 lm/W |

#### Luminous Dimensions

|                 |       |
|-----------------|-------|
| 0° - 180° Size  | -0.22 |
| 90° - 270° Size | -0.22 |
| Height          | 0     |

#### Spacing Criterion

|                           |      |
|---------------------------|------|
| Two luminaires, plane 0°  | 0.9  |
| Two luminaires, plane 90° | 0.9  |
| Four luminaires           | 0.83 |

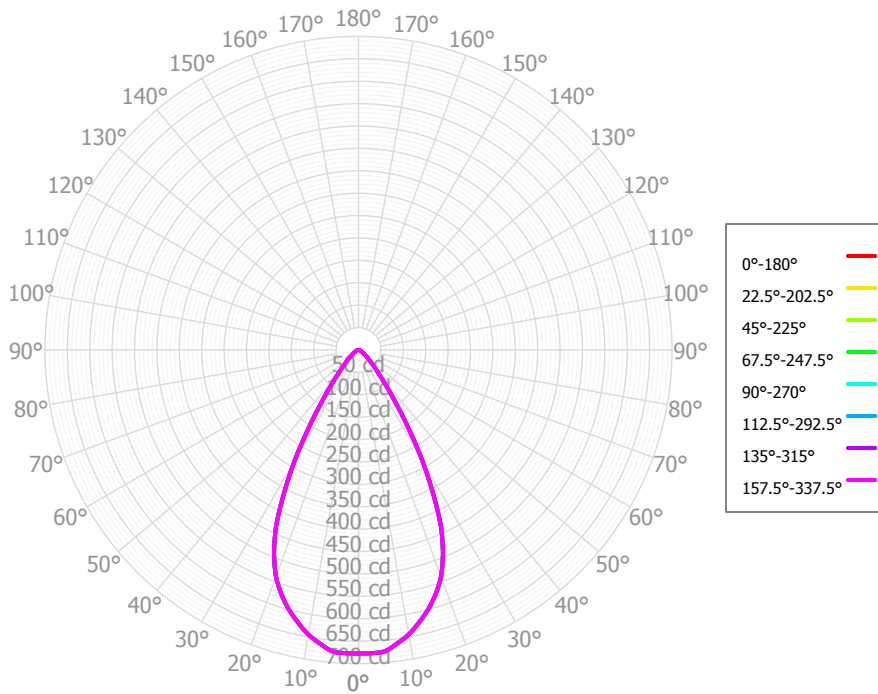
#### Full Beam Angle

|            |     |
|------------|-----|
| 0° - 180°  | 56° |
| 90° - 270° | 56° |

### IES File Header Contents

| Keyword   | Value   |
|-----------|---|
| TEST      | SP-00947_M-10L  |
| TESTLAB   | Spectrum Lighting Photometric Lab, VLS-245-981                            |
| MANUFAC   | Spectrum Lighting   |
| TESTDATE  | 5/1/2019  |
| ISSUEDATE | 11/15/2019  |
| LUMCAT    | IF03RMx IC DWDD1010 DLWFGPMW  |
| LUMINAIRE | Nom 3" diam Infinium, dim to warm 10L emitter - Wide flood optic, No lens |
| OTHER     | Beam Angle: 56.4 degrees  |
| OTHER     | Shallow IC  |
| LAMPCAT   | N/A   |
| LAMP      | N/A   |
| OTHER     | CCT Output Multipliers: N/A - dim to warm                                 |
| OTHER     | Total luminaire wattage is approximate                                    |
| OTHER     | This report prepared by Spectrum Lighting                                 |

### Candela Polar Plot



### Zonal Lumen Summary

| Zone            | Lumens | % Fixture | Zone              | Lumens | % Fixture |
|-----------------|--------|-----------|-------------------|--------|-----------|
| 0.00° - 10.00°  | 64.26  | 11.06%    | 90.00° - 100.00°  | 0.09   | 0.02%     |
| 10.00° - 20.00° | 167.33 | 28.79%    | 100.00° - 110.00° | 0.00   | 0.00%     |
| 20.00° - 30.00° | 192.48 | 33.12%    | 100.00° - 120.00° | 0.00   | 0.00%     |
| 30.00° - 40.00° | 97.50  | 16.78%    | 120.00° - 130.00° | 0.00   | 0.00%     |
| 40.00° - 50.00° | 33.97  | 5.84%     | 130.00° - 140.00° | 0.00   | 0.00%     |
| 50.00° - 60.00° | 14.81  | 2.55%     | 140.00° - 150.00° | 0.00   | 0.00%     |
| 60.00° - 70.00° | 6.80   | 1.17%     | 150.00° - 160.00° | 0.00   | 0.00%     |
| 70.00° - 80.00° | 3.02   | 0.52%     | 160.00° - 170.00° | 0.00   | 0.00%     |
| 80.00° - 90.00° | 0.89   | 0.15%     | 170.00° - 180.00° | 0.00   | 0.00%     |
| 0.00° - 90.00°  | 581.06 | 99.98%    | 0.00° - 180.00°   | 581.15 | 100.00%   |



### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

|            |            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <b>RCR</b> | <b>pfc</b> | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 0%  |
|            | <b>pcc</b> | 80% | 80% | 80% | 80% | 70% | 70% | 70% | 70% | 50% | 50% | 50% | 30% | 30% | 30% | 10% | 10% | 0%  |
|            | <b>pw</b>  | 70% | 50% | 30% | 10% | 70% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 30% |
|            | <b>0</b>   | 692 | 692 | 692 | 692 | 676 | 676 | 676 | 676 | 646 | 646 | 646 | 618 | 618 | 618 | 593 | 593 | 581 |
|            | <b>1</b>   | 659 | 642 | 627 | 614 | 644 | 629 | 616 | 604 | 606 | 595 | 585 | 584 | 576 | 568 | 564 | 558 | 547 |
|            | <b>2</b>   | 625 | 596 | 572 | 552 | 612 | 586 | 565 | 546 | 567 | 550 | 534 | 550 | 535 | 523 | 534 | 522 | 512 |
|            | <b>3</b>   | 593 | 555 | 526 | 503 | 582 | 547 | 520 | 499 | 532 | 509 | 491 | 518 | 499 | 483 | 505 | 489 | 479 |
|            | <b>4</b>   | 563 | 519 | 486 | 461 | 553 | 512 | 482 | 459 | 500 | 474 | 453 | 488 | 466 | 448 | 477 | 458 | 450 |
|            | <b>5</b>   | 535 | 486 | 452 | 426 | 525 | 480 | 448 | 425 | 470 | 442 | 421 | 460 | 436 | 417 | 451 | 430 | 422 |
|            | <b>6</b>   | 508 | 456 | 421 | 396 | 500 | 452 | 419 | 395 | 443 | 414 | 392 | 435 | 409 | 390 | 427 | 405 | 397 |
|            | <b>7</b>   | 484 | 430 | 394 | 370 | 476 | 426 | 392 | 369 | 418 | 389 | 367 | 411 | 385 | 365 | 405 | 381 | 375 |
|            | <b>8</b>   | 461 | 405 | 370 | 347 | 454 | 402 | 369 | 346 | 396 | 366 | 344 | 390 | 363 | 343 | 384 | 360 | 354 |
|            | <b>9</b>   | 439 | 383 | 349 | 326 | 433 | 380 | 348 | 325 | 375 | 345 | 324 | 370 | 342 | 323 | 365 | 340 | 335 |
|            | <b>10</b>  | 419 | 363 | 329 | 307 | 413 | 361 | 328 | 307 | 356 | 326 | 306 | 351 | 324 | 305 | 347 | 322 | 317 |

### Cone of Light

| Mtg Height | Light Level | Beam Diameter |
|------------|-------------|---------------|
| 5.5 ft     | 22.4 fc     | 5.9 ft        |
| 6.5 ft     | 16.0 fc     | 7.0 ft        |
| 7.5 ft     | 12.0 fc     | 8.0 ft        |
| 8.0 ft     | 10.6 fc     | 8.6 ft        |
| 10.0 ft    | 6.8 fc      | 10.7 ft       |
| 12.0 ft    | 4.7 fc      | 12.9 ft       |
| 14.0 ft    | 3.5 fc      | 15.0 ft       |
| 16.0 ft    | 2.6 fc      | 17.2 ft       |
| 20.0 ft    | 1.7 fc      | 21.4 ft       |
| 24.0 ft    | 1.2 fc      | 25.7 ft       |
| 28.0 ft    | 0.9 fc      | 30.0 ft       |

### Average Luminaire Luminance [cd/m²]

|               | 0.00°   | 45.00°  | 90.00°  |
|---------------|---------|---------|---------|
| <b>0.00°</b>  | 191,853 | 191,853 | 191,853 |
| <b>45.00°</b> | 16,651  | 16,651  | 16,651  |
| <b>55.00°</b> | 7,925   | 7,925   | 7,925   |
| <b>65.00°</b> | 4,450   | 4,450   | 4,450   |
| <b>75.00°</b> | 3,080   | 3,080   | 3,080   |
| <b>85.00°</b> | 2,375   | 2,375   | 2,375   |

### UGR CIE 190:2010

|                            |            |                         |            |            |            |            |                       |            |            |            |            |
|----------------------------|------------|-------------------------|------------|------------|------------|------------|-----------------------|------------|------------|------------|------------|
| <b>Ceiling reflectance</b> |            | <b>0.7</b>              | <b>0.7</b> | <b>0.5</b> | <b>0.5</b> | <b>0.3</b> | <b>0.7</b>            | <b>0.7</b> | <b>0.5</b> | <b>0.5</b> | <b>0.3</b> |
| <b>Wall reflectance</b>    |            | <b>0.5</b>              | <b>0.3</b> | <b>0.5</b> | <b>0.3</b> | <b>0.3</b> | <b>0.5</b>            | <b>0.3</b> | <b>0.5</b> | <b>0.3</b> | <b>0.3</b> |
| <b>Plane reflectance</b>   |            | <b>0.2</b>              | <b>0.2</b> | <b>0.2</b> | <b>0.2</b> | <b>0.2</b> | <b>0.2</b>            | <b>0.2</b> | <b>0.2</b> | <b>0.2</b> | <b>0.2</b> |
| <b>Room dimensions</b>     |            | <b>Viewed crosswise</b> |            |            |            |            | <b>Viewed endwise</b> |            |            |            |            |
| <b>2H</b>                  | <b>2H</b>  | 11.7                    | 12.7       | 12.1       | 13.1       | 13.4       | 11.7                  | 12.7       | 12.1       | 13.1       | 13.4       |
|                            | <b>3H</b>  | 12.4                    | 13.3       | 12.8       | 13.7       | 14.0       | 12.4                  | 13.3       | 12.8       | 13.7       | 14.0       |
|                            | <b>4H</b>  | 12.7                    | 13.5       | 13.1       | 13.9       | 14.2       | 12.7                  | 13.5       | 13.1       | 13.9       | 14.2       |
|                            | <b>6H</b>  | 12.8                    | 13.5       | 13.2       | 13.9       | 14.3       | 12.8                  | 13.5       | 13.2       | 13.9       | 14.3       |
|                            | <b>8H</b>  | 12.8                    | 13.5       | 13.2       | 13.9       | 14.3       | 12.8                  | 13.5       | 13.2       | 13.9       | 14.3       |
|                            | <b>12H</b> | 12.8                    | 13.5       | 13.2       | 13.9       | 14.3       | 12.8                  | 13.5       | 13.2       | 13.9       | 14.3       |
| <b>4H</b>                  | <b>2H</b>  | 11.9                    | 12.7       | 12.3       | 13.0       | 13.4       | 11.9                  | 12.7       | 12.3       | 13.0       | 13.4       |
|                            | <b>3H</b>  | 12.8                    | 13.4       | 13.2       | 13.8       | 14.3       | 12.8                  | 13.4       | 13.2       | 13.8       | 14.3       |
|                            | <b>4H</b>  | 13.1                    | 13.7       | 13.5       | 14.1       | 14.6       | 13.1                  | 13.7       | 13.5       | 14.1       | 14.6       |
|                            | <b>6H</b>  | 13.3                    | 13.8       | 13.7       | 14.2       | 14.7       | 13.3                  | 13.8       | 13.7       | 14.2       | 14.7       |
|                            | <b>8H</b>  | 13.3                    | 13.8       | 13.8       | 14.2       | 14.7       | 13.3                  | 13.8       | 13.8       | 14.2       | 14.7       |
|                            | <b>12H</b> | 13.3                    | 13.7       | 13.8       | 14.2       | 14.7       | 13.3                  | 13.7       | 13.8       | 14.2       | 14.7       |
| <b>8H</b>                  | <b>4H</b>  | 13.1                    | 13.6       | 13.6       | 14.0       | 14.5       | 13.1                  | 13.6       | 13.6       | 14.0       | 14.5       |
|                            | <b>6H</b>  | 13.4                    | 13.8       | 13.9       | 14.3       | 14.7       | 13.4                  | 13.8       | 13.9       | 14.3       | 14.7       |
|                            | <b>8H</b>  | 13.4                    | 13.8       | 13.9       | 14.3       | 14.8       | 13.4                  | 13.8       | 13.9       | 14.3       | 14.8       |
|                            | <b>12H</b> | 13.5                    | 13.8       | 14.0       | 14.3       | 14.9       | 13.5                  | 13.8       | 14.0       | 14.3       | 14.9       |
| <b>12H</b>                 | <b>4H</b>  | 13.1                    | 13.5       | 13.6       | 14.0       | 14.5       | 13.1                  | 13.5       | 13.6       | 14.0       | 14.5       |
|                            | <b>6H</b>  | 13.3                    | 13.7       | 13.9       | 14.2       | 14.7       | 13.3                  | 13.7       | 13.9       | 14.2       | 14.7       |
|                            | <b>8H</b>  | 13.4                    | 13.7       | 13.9       | 14.2       | 14.8       | 13.4                  | 13.7       | 13.9       | 14.2       | 14.8       |

Corrected UGR values based on total output lumens

SHR = 1.0