

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: PORTFOLIO

Report Number: P402079

Luminaire Tested: **LA1MR022D010 EA1M22309035SB1MW**

Issue Date: 6/3/2020



**Test Information**

Test Method: LM-41-14  
Report Number: P402079  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2005-766-2)  
Test Lab: INNOVATION CENTER (G2)  
Issue Date: 6/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LA1MR022D010 EA1M22309035SB1MW  
Description: 1 INCH 30° OPTIC WITH SPECULAR BLACK BAFFLE  
Light Source: HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

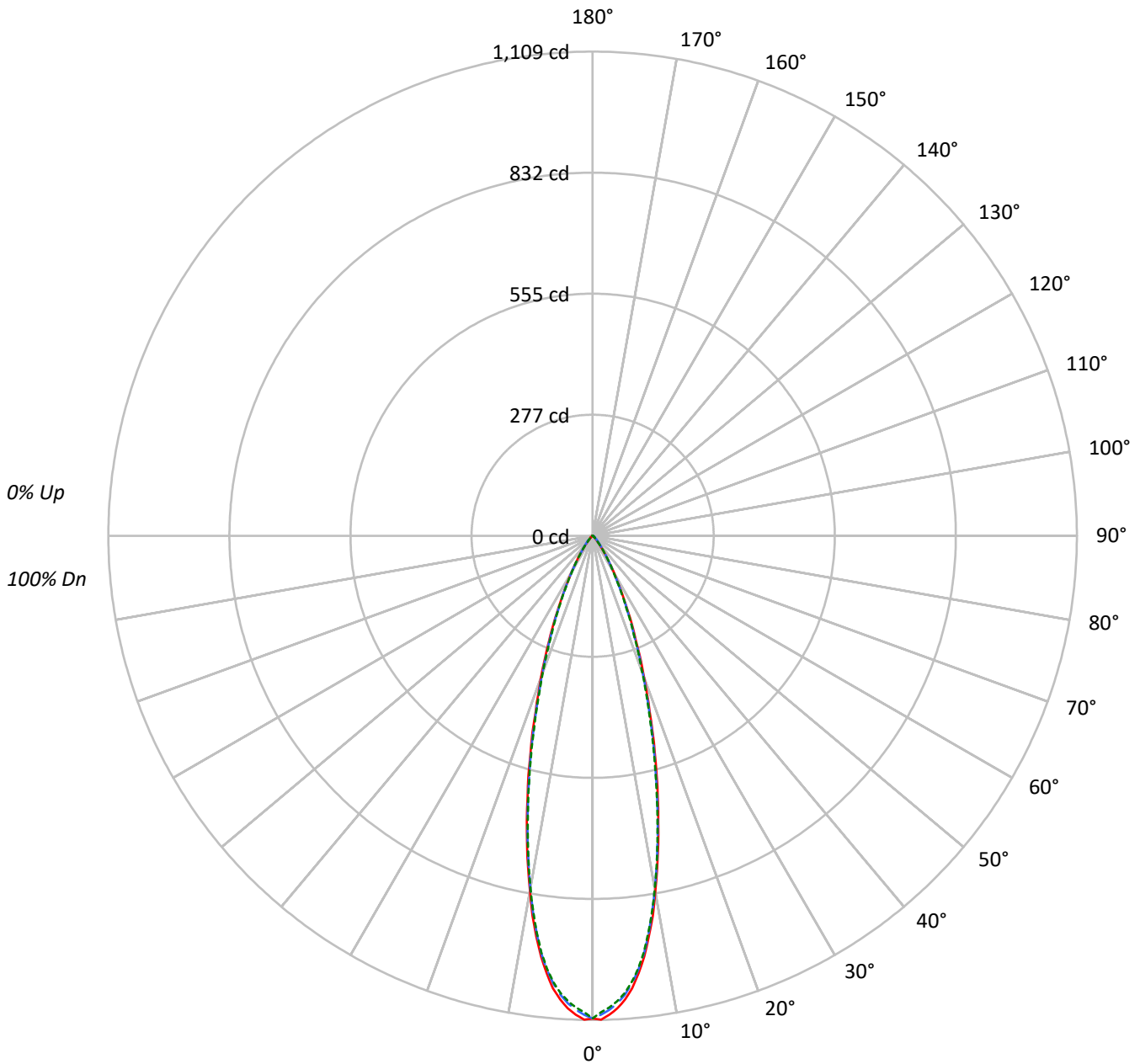
Lumens per Lamp: N/A  
Luminaire Lumens: 376.9 lumens  
Efficiency: N/A  
Efficacy: 66.1 lumens/watt  
Spacing Criteria (0/90/45): 0.51 / 0.5 / 0.52  
Luminous Opening: Rectangular (W 0.08' x L: 0.42' x H: 0')  
CIE Type: Direct

Input Watts (W): 5.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT

TEST NUMBER: P402079

CATALOG NUMBER: LA1MR022D010 EA1M22309035SB1MW

### Luminous Intensity Polar Plot





TEST NUMBER: P402079

CATALOG NUMBER: LA1MR022D010 EA1M22309035SB1MW

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|---|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF  | 20  |     |     |     |     |     |     |     |     | 20  |     |     |     |     |     |     |     |     | 20 |    |   |  |  |  |  |  |  | 20 |  |  |  |  |  |  |  |  |   |
| RC  | 80  |     |     |     |     |     |     |     |     | 50  |     |     |     |     |     |     |     |     | 30 |    |   |  |  |  |  |  |  | 10 |  |  |  |  |  |  |  |  | 0 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30 | 10 | 0 |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 1   | 114 | 112 | 110 | 108 | 112 | 110 | 108 | 106 | 106 | 105 | 103 | 102 | 101 | 100 | 99  | 98  | 97  | 95  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 110 | 106 | 103 | 100 | 108 | 104 | 101 | 99  | 101 | 99  | 97  | 98  | 96  | 95  | 96  | 94  | 93  | 91  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 106 | 101 | 96  | 93  | 104 | 99  | 95  | 92  | 97  | 94  | 91  | 94  | 92  | 90  | 92  | 90  | 88  | 87  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 102 | 96  | 91  | 88  | 100 | 95  | 90  | 87  | 93  | 89  | 86  | 91  | 88  | 85  | 89  | 86  | 84  | 83  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 98  | 91  | 87  | 83  | 97  | 90  | 86  | 83  | 89  | 85  | 82  | 87  | 84  | 81  | 86  | 83  | 81  | 79  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 94  | 87  | 82  | 79  | 93  | 87  | 82  | 79  | 85  | 81  | 78  | 84  | 80  | 78  | 83  | 80  | 77  | 76  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 91  | 84  | 79  | 75  | 90  | 83  | 78  | 75  | 82  | 78  | 75  | 81  | 77  | 74  | 80  | 77  | 74  | 73  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 88  | 80  | 76  | 72  | 87  | 80  | 75  | 72  | 79  | 75  | 72  | 78  | 74  | 72  | 77  | 74  | 71  | 70  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 85  | 77  | 73  | 69  | 84  | 77  | 72  | 69  | 76  | 72  | 69  | 75  | 71  | 69  | 74  | 71  | 69  | 67  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 82  | 74  | 70  | 67  | 81  | 74  | 70  | 67  | 73  | 69  | 66  | 73  | 69  | 66  | 72  | 69  | 66  | 65  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°     | 45°    | 90°    |
|-----|--------|--------|--------|
| 0°  | 342769 | 342769 | 342769 |
| 5°  | 323820 | 320521 | 319495 |
| 10° | 260389 | 258438 | 258123 |
| 15° | 182132 | 179051 | 178281 |
| 20° | 113650 | 110779 | 109493 |
| 25° | 65742  | 63758  | 62937  |
| 30° | 35008  | 33970  | 33290  |
| 35° | 16765  | 17333  | 16954  |
| 40° | 7001   | 9550   | 7203   |
| 45° | 3595   | 5919   | 3814   |
| 50° | 2315   | 3472   | 2556   |
| 55° | 1567   | 2324   | 1838   |
| 60° | 868    | 1488   | 1178   |
| 65° | 367    | 1027   | 367    |
| 70° | 0      | 453    | 0      |
| 75° | 0      | 0      | 0      |
| 80° | 0      | 0      | 0      |
| 85° | 0      | 0      | 0      |



TEST NUMBER: P402079

CATALOG NUMBER: LA1MR022D010 EA1M22309035SB1MW

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 91.8   | 24.4      |
| 10°-20°   | 153.3  | 40.7      |
| 20°-30°   | 88.2   | 23.4      |
| 30°-40°   | 30.7   | 8.1       |
| 40°-50°   | 8.7    | 2.3       |
| 50°-60°   | 3.3    | 0.9       |
| 60°-70°   | 0.9    | 0.2       |
| 70°-80°   | 0.0    | 0.0       |
| 80°-90°   | 0.0    | 0.0       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 333.2  | 88.4      |
| 0°-40°    | 363.9  | 96.6      |
| 0°-60°    | 375.9  | 99.8      |
| 0°-90°    | 376.9  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 376.9  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1106 | 1106  | 1106 | 1106  | 1106 |      |
| 5°  | 1041 | 1034  | 1030 | 1032  | 1027 | 92   |
| 15° | 568  | 565   | 558  | 556   | 556  | 155  |
| 25° | 192  | 190   | 186  | 186   | 184  | 90   |
| 35° | 44   | 46    | 46   | 46    | 45   | 30   |
| 45° | 8    | 10    | 14   | 10    | 9    | 7    |
| 55° | 3    | 3     | 4    | 3     | 3    | 3    |
| 65° | 0    | 1     | 1    | 1     | 0    | 1    |
| 75° | 0    | 0     | 0    | 0     | 0    | 0    |
| 85° | 0    | 0     | 0    | 0     | 0    | 0    |
| 90° | 0    | 0     | 0    | 0     | 0    | 0    |



TEST NUMBER: P402079

CATALOG NUMBER: LA1MR022D010 EA1M22309035SB1MW

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1105.7 | 1105.7 | 1105.7 | 1105.7 | 1105.7 |
| 1°    | 1108.6 | 1103.3 | 1097.5 | 1097.5 | 1091.7 |
| 2°    | 1098.0 | 1093.2 | 1086.9 | 1087.4 | 1081.1 |
| 3°    | 1084.0 | 1079.2 | 1072.9 | 1073.9 | 1068.1 |
| 4°    | 1064.7 | 1058.5 | 1054.1 | 1055.6 | 1050.3 |
| 5°    | 1040.6 | 1034.4 | 1030.0 | 1032.0 | 1026.7 |
| 6°    | 1007.9 | 1003.5 | 999.7  | 1002.1 | 997.3  |
| 7°    | 971.3  | 966.4  | 963.6  | 965.5  | 961.6  |
| 8°    | 926.5  | 923.1  | 919.7  | 921.6  | 917.8  |
| 9°    | 880.7  | 875.4  | 872.0  | 873.5  | 870.6  |
| 10°   | 827.2  | 824.8  | 821.0  | 822.4  | 820.0  |
| 11°   | 775.7  | 775.7  | 768.4  | 766.0  | 767.5  |
| 12°   | 722.7  | 722.2  | 715.4  | 712.6  | 713.5  |
| 13°   | 669.2  | 668.7  | 662.0  | 659.6  | 660.0  |
| 14°   | 616.2  | 616.7  | 609.5  | 607.5  | 607.0  |
| 15°   | 567.5  | 565.1  | 557.9  | 556.5  | 555.5  |
| 16°   | 516.5  | 516.0  | 508.8  | 506.8  | 505.9  |
| 17°   | 470.7  | 468.3  | 461.1  | 459.1  | 457.7  |
| 18°   | 423.0  | 423.5  | 416.3  | 414.8  | 412.4  |
| 19°   | 382.5  | 381.6  | 374.8  | 373.4  | 371.0  |
| 20°   | 344.5  | 340.1  | 335.8  | 334.4  | 331.9  |
| 22.5° | 259.7  | 257.3  | 251.5  | 250.0  | 249.6  |
| 25°   | 192.2  | 189.8  | 186.4  | 185.5  | 184.0  |
| 26°   | 168.1  | 168.6  | 164.3  | 163.3  | 162.4  |
| 27°   | 148.9  | 147.9  | 144.1  | 143.6  | 142.1  |
| 28°   | 128.2  | 129.1  | 124.8  | 124.3  | 123.3  |
| 29°   | 111.8  | 111.8  | 109.4  | 107.9  | 107.0  |
| 30°   | 97.8   | 97.3   | 94.9   | 93.9   | 93.0   |
| 32.5° | 67.4   | 67.0   | 66.0   | 65.5   | 64.6   |
| 35°   | 44.3   | 46.3   | 45.8   | 45.8   | 44.8   |
| 37.5° | 27.5   | 31.3   | 32.8   | 32.3   | 29.4   |
| 40°   | 17.3   | 20.2   | 23.6   | 21.7   | 17.8   |
| 42.5° | 11.6   | 14.0   | 17.3   | 14.5   | 11.6   |
| 45°   | 8.2    | 9.6    | 13.5   | 9.6    | 8.7    |
| 47.5° | 6.3    | 7.2    | 10.1   | 7.2    | 6.3    |
| 50°   | 4.8    | 5.8    | 7.2    | 5.8    | 5.3    |
| 52.5° | 3.9    | 4.3    | 5.8    | 4.3    | 3.9    |
| 55°   | 2.9    | 3.4    | 4.3    | 3.4    | 3.4    |
| 57.5° | 2.4    | 2.9    | 3.4    | 2.9    | 2.4    |
| 60°   | 1.4    | 1.9    | 2.4    | 1.9    | 1.9    |
| 62.5° | 1.0    | 1.4    | 1.9    | 1.4    | 1.0    |
| 65°   | 0.5    | 1.0    | 1.4    | 1.0    | 0.5    |
| 67.5° | 0.0    | 0.5    | 0.5    | 0.0    | 0.0    |



TEST NUMBER: P402079

CATALOG NUMBER: LA1MR022D010 EA1M22309035SB1MW

**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 75°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 77.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 80°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 82.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 85°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 87.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 90°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |



Report Generated By E9808895 / USPTCWHP6082093







— 0°-180°    - - 45°-225°    - - - - 90°-270°







|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| 70°   | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| 72.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



(END OF REPORT)