

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: PORTFOLIO

Report Number: P495920

Luminaire Tested: **LDA2B109030R20D010 2LBDLC1MMS-30DEG TILT**

Issue Date: 3/8/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P495920
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-037-2)
Test Lab: INNOVATION CENTER
Issue Date: 3/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LDA2B109030R20D010 2LBDLC1MMS-30DEG TILT
Description: 1000 LUMEN 2IN ADJUSTABLE LED LUMINAIRE WITH 90 CRI LEDS AND 3000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

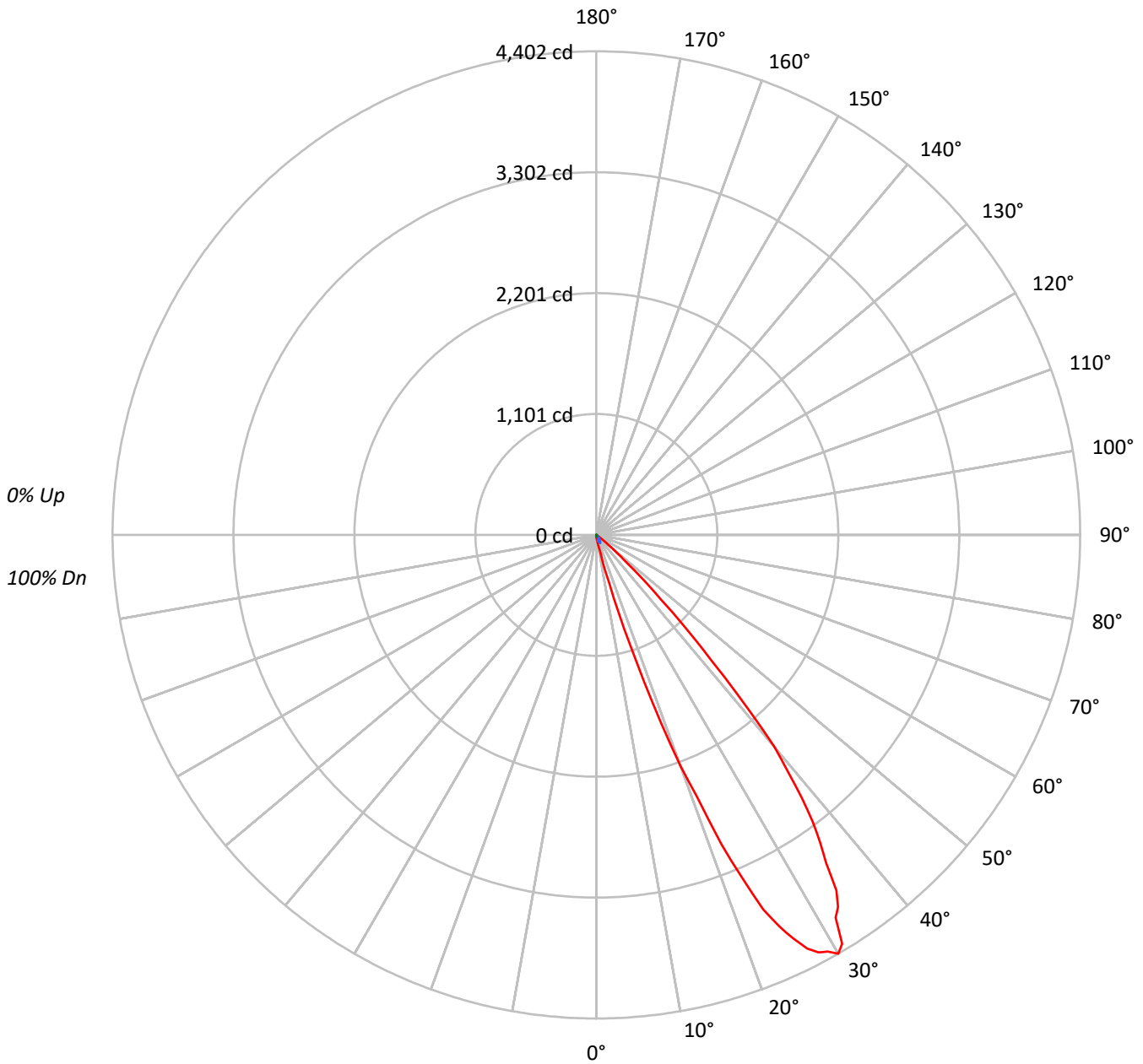
Lumens per Lamp: N/A
Luminaire Lumens: 555.9 lumens
Efficiency: N/A
Efficacy: 55.6 lumens/watt
Spacing Criteria (0/90/45): 2.56 / 0.56 / 1.2
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): 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

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Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - - - 90°-270°



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|-----|---|--|---|
| RF | 20 | | | | | 20 | | | | | 20 | | | | | 20 | | | | | 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 | 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 | | | | | 100 | | | |
| 1 | 112 | 109 | 106 | 104 | 110 | 107 | 104 | 102 | 103 | 101 | 99 | 99 | 97 | 96 | 96 | 94 | 93 | 91 | | | | | 91 | | | |
| 2 | 105 | 100 | 95 | 91 | 103 | 98 | 93 | 90 | 95 | 91 | 88 | 91 | 88 | 86 | 89 | 86 | 84 | 82 | | | | | 82 | | | |
| 3 | 99 | 91 | 85 | 80 | 96 | 89 | 84 | 79 | 87 | 82 | 78 | 84 | 80 | 77 | 82 | 78 | 76 | 74 | | | | | 74 | | | |
| 4 | 92 | 83 | 76 | 71 | 90 | 82 | 75 | 70 | 79 | 74 | 70 | 77 | 73 | 69 | 75 | 71 | 68 | 66 | | | | | 66 | | | |
| 5 | 86 | 75 | 68 | 63 | 84 | 74 | 68 | 63 | 73 | 67 | 62 | 71 | 66 | 62 | 69 | 65 | 61 | 59 | | | | | 59 | | | |
| 6 | 80 | 69 | 62 | 56 | 78 | 68 | 61 | 56 | 66 | 60 | 56 | 65 | 59 | 55 | 63 | 59 | 55 | 53 | | | | | 53 | | | |
| 7 | 74 | 63 | 55 | 50 | 73 | 62 | 55 | 50 | 61 | 54 | 50 | 59 | 54 | 50 | 58 | 53 | 49 | 48 | | | | | 48 | | | |
| 8 | 69 | 57 | 50 | 45 | 68 | 57 | 50 | 45 | 56 | 49 | 45 | 54 | 49 | 44 | 53 | 48 | 44 | 43 | | | | | 43 | | | |
| 9 | 64 | 53 | 45 | 40 | 63 | 52 | 45 | 40 | 51 | 45 | 40 | 50 | 44 | 40 | 49 | 44 | 40 | 38 | | | | | 38 | | | |
| 10 | 60 | 48 | 41 | 36 | 59 | 48 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 45 | 40 | 36 | 34 | | | | | 34 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|---------|------|------|
| 0° | 8831 | 8831 | 8831 |
| 5° | 16888 | 7825 | 5695 |
| 10° | 40328 | 6813 | 3857 |
| 15° | 235054 | 5465 | 1532 |
| 20° | 1172538 | 3360 | 473 |
| 25° | 2137992 | 1143 | 0 |
| 30° | 2507640 | 0 | 0 |
| 35° | 2194842 | 0 | 0 |
| 40° | 1620851 | 0 | 0 |
| 45° | 584200 | 0 | 0 |
| 50° | 121654 | 0 | 0 |
| 55° | 27869 | 344 | 0 |
| 60° | 8782 | 395 | 0 |
| 65° | 1985 | 1051 | 0 |
| 70° | 0 | 1298 | 577 |
| 75° | 0 | 1716 | 0 |
| 80° | 0 | 2557 | 0 |
| 85° | 0 | 5095 | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 2.0 | 0.4 |
| 10°-20° | 30.5 | 5.5 |
| 20°-30° | 205.8 | 37.0 |
| 30°-40° | 240.5 | 43.3 |
| 40°-50° | 70.1 | 12.6 |
| 50°-60° | 4.7 | 0.8 |
| 60°-70° | 0.9 | 0.2 |
| 70°-80° | 0.7 | 0.1 |
| 80°-90° | 0.6 | 0.1 |
| 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° | 238.4 | 42.9 |
| 0°-40° | 478.8 | 86.1 |
| 0°-60° | 553.6 | 99.6 |
| 0°-90° | 555.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 555.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|-----|-----|------|------|------|
| 0° | 18 | 18 | 18 | 18 | 18 | |
| 5° | 34 | 25 | 16 | 13 | 12 | 5 |
| 15° | 460 | 52 | 11 | 6 | 3 | 240 |
| 25° | 3928 | 80 | 2 | 0 | 0 | 1739 |
| 35° | 3644 | 44 | 0 | 0 | 0 | 2239 |
| 45° | 837 | 9 | 0 | 0 | 0 | 772 |
| 55° | 32 | 2 | 0 | 0 | 0 | 41 |
| 65° | 2 | 1 | 1 | 1 | 0 | 3 |
| 75° | 0 | 1 | 1 | 1 | 0 | 0 |
| 85° | 0 | 1 | 1 | 1 | 0 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|-------|--------|--------|------|-------|------|--------|------|--------|------|
| 0° | 17.9 | 17.9 | 17.9 | 17.9 | 17.9 | 17.9 | 17.9 | 17.9 | 17.9 |
| 2.5° | 23.0 | 23.0 | 20.5 | 18.3 | 16.6 | 15.8 | 15.3 | 14.5 | 14.1 |
| 5° | 34.1 | 29.8 | 24.7 | 19.2 | 15.8 | 14.5 | 13.2 | 11.9 | 11.5 |
| 7.5° | 49.9 | 43.5 | 29.8 | 19.6 | 14.9 | 12.8 | 11.5 | 10.2 | 9.4 |
| 10° | 80.5 | 62.6 | 36.6 | 19.6 | 13.6 | 11.1 | 9.4 | 8.1 | 7.7 |
| 12.5° | 148.7 | 95.9 | 43.9 | 19.2 | 12.4 | 9.4 | 7.2 | 6.4 | 5.1 |
| 15° | 460.2 | 198.6 | 52.0 | 18.3 | 10.7 | 7.2 | 5.5 | 3.4 | 3.0 |
| 17.5° | 1190.1 | 463.6 | 58.0 | 16.2 | 8.5 | 5.1 | 2.6 | 2.1 | 2.1 |
| 20° | 2233.3 | 840.7 | 66.5 | 14.1 | 6.4 | 3.4 | 1.7 | 1.3 | 0.9 |
| 21° | 2547.8 | 1028.6 | 70.7 | 13.2 | 5.5 | 2.1 | 1.3 | 0.4 | 0.4 |
| 22° | 3036.5 | 1233.6 | 74.1 | 12.4 | 4.7 | 1.3 | 0.9 | 0.4 | 0.0 |
| 23° | 3384.7 | 1364.4 | 77.6 | 11.1 | 3.4 | 1.3 | 0.4 | 0.0 | 0.0 |
| 24° | 3732.8 | 1531.0 | 79.7 | 10.2 | 3.0 | 0.9 | 0.4 | 0.0 | 0.0 |
| 25° | 3927.5 | 1670.0 | 80.5 | 9.4 | 2.1 | 0.4 | 0.0 | 0.0 | 0.0 |
| 26° | 4087.8 | 1762.9 | 81.0 | 8.5 | 1.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 27° | 4225.0 | 1870.7 | 80.1 | 7.7 | 1.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 28° | 4302.9 | 1888.6 | 78.8 | 6.8 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 29° | 4336.6 | 1866.8 | 75.0 | 6.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30° | 4401.8 | 1846.4 | 71.2 | 5.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 31° | 4341.7 | 1778.6 | 66.5 | 4.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 32° | 4106.5 | 1721.5 | 60.9 | 3.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 33° | 4036.2 | 1604.3 | 55.0 | 3.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 34° | 3903.7 | 1430.1 | 49.9 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 35° | 3644.2 | 1286.0 | 43.5 | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 36° | 3463.1 | 1121.5 | 37.9 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 37° | 3273.4 | 977.9 | 33.7 | 1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 38° | 3037.8 | 827.1 | 28.5 | 1.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 39° | 2763.4 | 683.5 | 24.3 | 1.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40° | 2516.7 | 551.0 | 20.9 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 42.5° | 1553.2 | 314.5 | 12.4 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 45° | 837.3 | 190.9 | 8.9 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 47.5° | 385.6 | 89.1 | 6.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50° | 158.5 | 39.6 | 4.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52.5° | 57.1 | 22.2 | 3.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 |
| 55° | 32.4 | 12.8 | 1.7 | 0.4 | 0.4 | 0.4 | 0.4 | 0.0 | 0.0 |
| 57.5° | 15.3 | 7.2 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.0 | 0.0 |
| 60° | 8.9 | 3.8 | 0.4 | 0.4 | 0.4 | 0.9 | 0.4 | 0.0 | 0.0 |
| 62.5° | 4.3 | 1.3 | 0.4 | 0.9 | 0.9 | 0.9 | 0.9 | 0.4 | 0.0 |
| 65° | 1.7 | 0.4 | 0.9 | 0.9 | 0.9 | 1.3 | 0.9 | 0.4 | 0.0 |
| 67.5° | 0.4 | 0.4 | 0.9 | 0.9 | 0.9 | 1.3 | 0.9 | 0.4 | 0.4 |
| 70° | 0.0 | 0.4 | 0.9 | 0.9 | 0.9 | 1.3 | 0.9 | 0.4 | 0.4 |
| 72.5° | 0.0 | 0.4 | 0.9 | 0.9 | 0.9 | 1.3 | 0.9 | 0.4 | 0.4 |
| 75° | 0.0 | 0.4 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.4 | 0.0 |
| 77.5° | 0.0 | 0.4 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.4 | 0.0 |
| 80° | 0.0 | 0.4 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.4 | 0.0 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|-------|-----|-------|-----|-------|-----|--------|------|--------|------|
| 82.5° | 0.0 | 0.4 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.4 | 0.0 |
| 85° | 0.0 | 0.4 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.4 | 0.0 |
| 87.5° | 0.0 | 0.4 | 0.9 | 0.9 | 0.9 | 0.9 | 0.4 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)