

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: P563844

Luminaire Tested: **LD4C45D010 EX4C459030 4LBSQLI**

Issue Date: 2/9/2022

Test Information

Test Method: LM-79-08
Report Number: P563844
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P209151)
Test Lab: INNOVATION CENTER
Issue Date: 2/9/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C45D010 EX4C459030 4LBSQLI
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3000K, 90CRI LEDS
AND 4LBSQ TRIM WITH LI FINISH, DIM TO WARM
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4417.0 lumens
Efficiency: N/A
Efficacy: 89.1 lumens/watt
Spacing Criteria (0/90/45): 0.91 / 0.9 / 0.94
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 49.6
Input Voltage (V):
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



TEST NUMBER: P563844

CATALOG NUMBER: LD4C45D010 EX4C459030 4LBSQLI

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 | 113 | 111 | 108 | 106 | 111 | 108 | 106 | 104 | 104 | 103 | 101 | 101 | 99 | 98 | 97 | 96 | 95 | 93 | | | | | | | | | | | | | | | | | | | |
| 2 | 108 | 103 | 99 | 95 | 105 | 101 | 97 | 94 | 98 | 95 | 92 | 95 | 92 | 90 | 92 | 90 | 88 | 87 | | | | | | | | | | | | | | | | | | | |
| 3 | 102 | 96 | 91 | 87 | 100 | 94 | 90 | 86 | 92 | 88 | 84 | 89 | 86 | 83 | 87 | 84 | 82 | 80 | | | | | | | | | | | | | | | | | | | |
| 4 | 97 | 89 | 84 | 79 | 95 | 88 | 83 | 79 | 86 | 81 | 78 | 84 | 80 | 77 | 82 | 79 | 76 | 75 | | | | | | | | | | | | | | | | | | | |
| 5 | 92 | 83 | 77 | 73 | 90 | 82 | 77 | 73 | 81 | 76 | 72 | 79 | 75 | 71 | 77 | 74 | 71 | 69 | | | | | | | | | | | | | | | | | | | |
| 6 | 87 | 78 | 72 | 68 | 86 | 77 | 71 | 67 | 76 | 71 | 67 | 74 | 70 | 66 | 73 | 69 | 66 | 64 | | | | | | | | | | | | | | | | | | | |
| 7 | 83 | 73 | 67 | 63 | 81 | 73 | 67 | 63 | 71 | 66 | 62 | 70 | 65 | 62 | 69 | 65 | 62 | 60 | | | | | | | | | | | | | | | | | | | |
| 8 | 79 | 69 | 63 | 59 | 77 | 68 | 62 | 58 | 67 | 62 | 58 | 66 | 61 | 58 | 65 | 61 | 58 | 56 | | | | | | | | | | | | | | | | | | | |
| 9 | 75 | 65 | 59 | 55 | 74 | 64 | 59 | 55 | 63 | 58 | 55 | 63 | 58 | 54 | 62 | 57 | 54 | 53 | | | | | | | | | | | | | | | | | | | |
| 10 | 71 | 61 | 55 | 51 | 70 | 61 | 55 | 51 | 60 | 55 | 51 | 59 | 54 | 51 | 58 | 54 | 51 | 50 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 461632 | 461632 | 461632 |
| 5° | 456334 | 456915 | 456334 |
| 10° | 438077 | 440761 | 440173 |
| 15° | 414155 | 417192 | 412027 |
| 20° | 377970 | 380773 | 379839 |
| 25° | 329111 | 339460 | 326844 |
| 30° | 250262 | 287854 | 246541 |
| 35° | 157534 | 223780 | 158959 |
| 40° | 84996 | 147786 | 83459 |
| 45° | 40227 | 73004 | 39804 |
| 50° | 15056 | 27365 | 15056 |
| 55° | 7149 | 8697 | 6662 |
| 60° | 4689 | 4110 | 4689 |
| 65° | 2785 | 2785 | 2785 |
| 70° | 1721 | 2595 | 1721 |
| 75° | 1156 | 1156 | 1156 |
| 80° | 1723 | 1723 | 1723 |
| 85° | 0 | 0 | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 443.6 | 10.0 |
| 10°-20° | 1162.5 | 26.3 |
| 20°-30° | 1420.2 | 32.2 |
| 30°-40° | 993.3 | 22.5 |
| 40°-50° | 325.5 | 7.4 |
| 50°-60° | 51.8 | 1.2 |
| 60°-70° | 14.1 | 0.3 |
| 70°-80° | 4.7 | 0.1 |
| 80°-90° | 1.3 | 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° | 3026.3 | 68.5 |
| 0°-40° | 4019.6 | 91.0 |
| 0°-60° | 4396.8 | 99.5 |
| 0°-90° | 4417.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4417.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 4784 | 4784 | 4784 | 4784 | 4784 | |
| 5° | 4711 | 4713 | 4717 | 4689 | 4711 | 442 |
| 15° | 4146 | 4163 | 4176 | 4149 | 4125 | 1156 |
| 25° | 3091 | 3138 | 3188 | 3131 | 3070 | 1389 |
| 35° | 1337 | 1579 | 1900 | 1555 | 1350 | 853 |
| 45° | 295 | 363 | 535 | 359 | 292 | 247 |
| 55° | 42 | 46 | 52 | 46 | 40 | 42 |
| 65° | 12 | 15 | 12 | 15 | 12 | 13 |
| 75° | 3 | 3 | 3 | 3 | 3 | 4 |
| 85° | 0 | 0 | 0 | 0 | 0 | 1 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P563844

CATALOG NUMBER: LD4C45D010 EX4C459030 4LBSQLI

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 4784.3 | 4784.3 | 4784.3 | 4784.3 | 4784.3 | 4784.3 | 4784.3 | 4784.3 | 4784.3 | 4784.3 | 4784.3 |
| 2.5° | 4747.8 | 4781.3 | 4772.1 | 4793.5 | 4793.5 | 4769.2 | 4775.2 | 4784.3 | 4796.5 | 4805.6 | 4732.6 |
| 5° | 4711.4 | 4741.8 | 4714.3 | 4744.7 | 4726.5 | 4699.2 | 4744.7 | 4720.4 | 4735.7 | 4717.4 | 4729.6 |
| 7.5° | 4614.1 | 4662.7 | 4608.0 | 4644.5 | 4632.4 | 4617.1 | 4635.3 | 4629.3 | 4638.4 | 4623.2 | 4589.8 |
| 10° | 4471.2 | 4510.8 | 4474.3 | 4525.9 | 4501.6 | 4486.5 | 4501.6 | 4516.9 | 4513.8 | 4498.6 | 4516.9 |
| 12.5° | 4307.1 | 4352.6 | 4334.4 | 4364.8 | 4337.5 | 4337.5 | 4374.0 | 4364.8 | 4367.9 | 4355.7 | 4377.0 |
| 15° | 4146.0 | 4179.5 | 4152.1 | 4191.6 | 4179.5 | 4146.0 | 4161.1 | 4161.1 | 4185.6 | 4176.4 | 4152.1 |
| 17.5° | 3945.4 | 3972.7 | 3942.3 | 3951.5 | 3939.3 | 3933.3 | 3997.0 | 3954.5 | 3978.8 | 3960.6 | 3963.7 |
| 20° | 3681.0 | 3693.1 | 3684.0 | 3708.3 | 3693.1 | 3711.4 | 3705.3 | 3699.2 | 3699.2 | 3708.3 | 3687.1 |
| 22.5° | 3413.4 | 3413.4 | 3422.6 | 3428.7 | 3440.8 | 3422.6 | 3459.1 | 3428.7 | 3431.7 | 3453.0 | 3446.9 |
| 25° | 3091.3 | 3082.1 | 3103.4 | 3133.8 | 3146.0 | 3130.7 | 3179.4 | 3155.1 | 3173.3 | 3188.5 | 3155.1 |
| 27.5° | 2699.2 | 2699.2 | 2720.4 | 2772.1 | 2781.2 | 2799.4 | 2866.3 | 2866.3 | 2890.6 | 2869.4 | 2893.7 |
| 30° | 2246.2 | 2279.7 | 2307.0 | 2373.9 | 2395.2 | 2434.8 | 2504.6 | 2538.1 | 2592.8 | 2583.6 | 2571.4 |
| 32.5° | 1781.2 | 1826.8 | 1829.8 | 1899.8 | 1957.5 | 2024.3 | 2118.6 | 2197.6 | 2237.2 | 2264.5 | 2234.1 |
| 35° | 1337.4 | 1364.8 | 1389.1 | 1437.7 | 1535.0 | 1623.2 | 1708.3 | 1811.6 | 1881.5 | 1899.8 | 1872.4 |
| 37.5° | 978.8 | 984.9 | 1009.2 | 1054.7 | 1127.6 | 1212.8 | 1316.2 | 1428.6 | 1501.6 | 1528.9 | 1498.5 |
| 40° | 674.8 | 680.8 | 693.0 | 732.6 | 793.4 | 854.1 | 936.2 | 1051.7 | 1118.6 | 1173.3 | 1133.7 |
| 42.5° | 452.9 | 458.9 | 471.1 | 501.5 | 535.0 | 592.7 | 656.5 | 729.5 | 793.4 | 817.7 | 796.3 |
| 45° | 294.8 | 294.8 | 300.9 | 322.3 | 340.5 | 386.0 | 431.7 | 477.2 | 519.7 | 535.0 | 519.7 |
| 47.5° | 173.3 | 176.3 | 182.3 | 197.6 | 218.8 | 237.0 | 270.5 | 300.9 | 313.1 | 325.2 | 319.2 |
| 50° | 100.3 | 100.3 | 109.4 | 118.6 | 133.7 | 145.9 | 158.0 | 170.2 | 176.3 | 182.3 | 176.3 |
| 52.5° | 54.7 | 57.8 | 60.8 | 63.9 | 70.0 | 82.1 | 91.2 | 91.2 | 94.3 | 97.2 | 94.3 |
| 55° | 42.5 | 42.5 | 42.5 | 42.5 | 45.6 | 45.6 | 45.6 | 48.6 | 48.6 | 51.7 | 48.6 |
| 57.5° | 30.4 | 30.4 | 30.4 | 33.5 | 33.5 | 33.5 | 30.4 | 30.4 | 30.4 | 30.4 | 30.4 |
| 60° | 24.3 | 24.3 | 24.3 | 24.3 | 24.3 | 24.3 | 24.3 | 21.3 | 21.3 | 21.3 | 21.3 |
| 62.5° | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 |
| 65° | 12.2 | 12.2 | 15.3 | 15.3 | 15.3 | 15.3 | 15.3 | 12.2 | 12.2 | 12.2 | 12.2 |
| 67.5° | 9.2 | 9.2 | 9.2 | 9.2 | 12.2 | 12.2 | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 |
| 70° | 6.1 | 6.1 | 6.1 | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 |
| 72.5° | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 |
| 75° | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| 77.5° | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| 80° | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.1 | 0.0 | 0.0 | 0.0 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P563844

CATALOG NUMBER: LD4C45D010 EX4C459030 4LBSQLI

CANDELA DISTRIBUTION (continued):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 4784.3 | 4784.3 | 4784.3 | 4784.3 | 4784.3 | 4784.3 | 4784.3 | 4784.3 |
| 2.5° | 4784.3 | 4732.6 | 4738.7 | 4766.1 | 4750.8 | 4766.1 | 4763.1 | 4763.1 |
| 5° | 4732.6 | 4717.4 | 4693.1 | 4684.0 | 4702.2 | 4741.8 | 4735.7 | 4711.4 |
| 7.5° | 4635.3 | 4595.9 | 4623.2 | 4635.3 | 4620.2 | 4644.5 | 4656.7 | 4604.9 |
| 10° | 4519.8 | 4504.7 | 4498.6 | 4504.7 | 4498.6 | 4522.9 | 4492.6 | 4492.6 |
| 12.5° | 4355.7 | 4331.4 | 4331.4 | 4367.9 | 4346.6 | 4328.3 | 4352.6 | 4349.7 |
| 15° | 4191.6 | 4142.9 | 4142.9 | 4155.1 | 4164.2 | 4152.1 | 4155.1 | 4124.7 |
| 17.5° | 3948.4 | 3933.3 | 3911.9 | 3945.4 | 3954.5 | 3942.3 | 3951.5 | 3936.2 |
| 20° | 3720.4 | 3720.4 | 3681.0 | 3696.1 | 3708.3 | 3717.4 | 3723.5 | 3699.2 |
| 22.5° | 3428.7 | 3434.8 | 3407.3 | 3437.7 | 3446.9 | 3416.5 | 3422.6 | 3416.5 |
| 25° | 3161.1 | 3158.1 | 3136.8 | 3124.7 | 3130.7 | 3118.6 | 3115.6 | 3070.0 |
| 27.5° | 2866.3 | 2835.9 | 2790.4 | 2802.5 | 2750.8 | 2708.3 | 2708.3 | 2638.3 |
| 30° | 2547.1 | 2495.5 | 2434.8 | 2373.9 | 2328.3 | 2279.7 | 2252.3 | 2212.8 |
| 32.5° | 2173.3 | 2103.4 | 2027.4 | 1945.3 | 1893.7 | 1820.8 | 1781.2 | 1802.5 |
| 35° | 1802.5 | 1699.1 | 1595.8 | 1513.8 | 1434.6 | 1392.1 | 1343.5 | 1349.5 |
| 37.5° | 1443.8 | 1297.9 | 1206.8 | 1118.6 | 1051.7 | 997.0 | 975.7 | 969.6 |
| 40° | 1054.7 | 939.2 | 848.1 | 784.2 | 738.6 | 696.1 | 671.8 | 662.6 |
| 42.5° | 729.5 | 647.5 | 574.4 | 522.8 | 492.4 | 465.0 | 452.9 | 449.9 |
| 45° | 474.2 | 425.6 | 377.0 | 340.5 | 316.2 | 297.9 | 294.8 | 291.7 |
| 47.5° | 297.9 | 273.5 | 243.1 | 215.8 | 194.5 | 182.3 | 173.3 | 173.3 |
| 50° | 170.2 | 161.1 | 145.9 | 130.7 | 118.6 | 112.5 | 103.3 | 100.3 |
| 52.5° | 91.2 | 91.2 | 85.1 | 72.9 | 63.9 | 57.8 | 57.8 | 54.7 |
| 55° | 48.6 | 48.6 | 45.6 | 45.6 | 42.5 | 42.5 | 42.5 | 39.6 |
| 57.5° | 30.4 | 30.4 | 33.5 | 33.5 | 30.4 | 30.4 | 30.4 | 30.4 |
| 60° | 21.3 | 24.3 | 24.3 | 24.3 | 24.3 | 24.3 | 24.3 | 24.3 |
| 62.5° | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 |
| 65° | 12.2 | 15.3 | 15.3 | 15.3 | 15.3 | 12.2 | 12.2 | 12.2 |
| 67.5° | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 |
| 70° | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 | 6.1 | 6.1 | 6.1 |
| 72.5° | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 |
| 75° | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| 77.5° | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| 80° | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



Report Generated By 670246072 / DESKTOP-50001EG





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









(END OF REPORT)