

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: METALUX

Report Number: P731168

Luminaire Tested: **HBLED-LD5-60SE-N-UNV-L735**

Issue Date: 11/13/2023

**Test Information**

Test Method: LM-79-08  
Report Number: P731168  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P23767)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/13/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: HBLED-LD5-60SE-N-UNV-L735  
Description: 60000 LUMEN, SE HBLED WITH NARROW DISTRIBUTION  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 58203.0 lumens  
Efficiency: N/A  
Efficacy: 158.6 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 0.62 / 0.77  
Luminous Opening: Rectangular (W 1.67' x L: 4' x H: 0')  
CIE Type: Direct

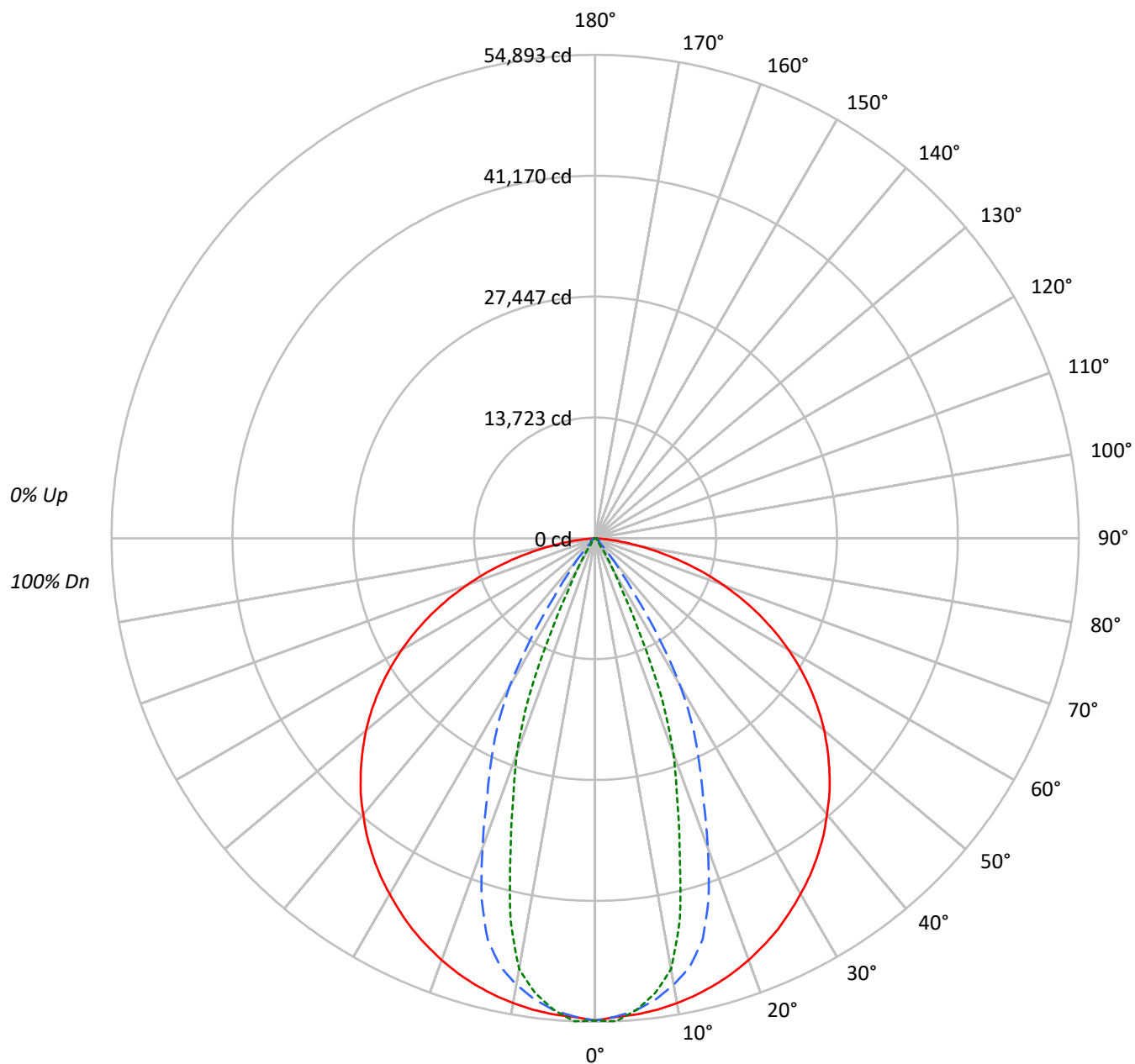
Input Watts (W): 367  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

|     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|-----|-----|--|-----|-----|-----|--|-----|-----|-----|
| RF  | 20  |     |     |     | 20  |     |     |     |  | 20  |     |     |  |     | 20  |     |  |     |     | 20  |
| RC  | 80  |     |     |     | 70  |     |     |     |  | 50  |     |     |  |     | 30  |     |  |     |     | 0   |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  | 30  | 10  |
| RCR |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 |  | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 | 102 | 102 |
| 1   | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 101 |  | 102 | 100 | 98  |  | 98  | 96  | 95  |  | 95  | 93  | 92  |
| 2   | 105 | 98  | 93  | 89  | 102 | 97  | 92  | 88  |  | 93  | 89  | 86  |  | 90  | 87  | 84  |  | 87  | 85  | 82  |
| 3   | 98  | 90  | 84  | 79  | 96  | 88  | 83  | 78  |  | 86  | 81  | 77  |  | 83  | 79  | 76  |  | 81  | 77  | 74  |
| 4   | 92  | 82  | 76  | 70  | 90  | 81  | 75  | 70  |  | 79  | 73  | 69  |  | 77  | 72  | 68  |  | 75  | 71  | 67  |
| 5   | 86  | 76  | 69  | 64  | 84  | 75  | 68  | 63  |  | 73  | 67  | 63  |  | 71  | 66  | 62  |  | 70  | 65  | 62  |
| 6   | 81  | 70  | 63  | 58  | 79  | 70  | 63  | 58  |  | 68  | 62  | 58  |  | 66  | 61  | 57  |  | 65  | 60  | 57  |
| 7   | 76  | 66  | 58  | 54  | 75  | 65  | 58  | 53  |  | 63  | 57  | 53  |  | 62  | 57  | 53  |  | 61  | 56  | 52  |
| 8   | 72  | 61  | 54  | 49  | 71  | 61  | 54  | 49  |  | 59  | 53  | 49  |  | 58  | 53  | 49  |  | 57  | 52  | 49  |
| 9   | 68  | 57  | 51  | 46  | 67  | 57  | 50  | 46  |  | 56  | 50  | 46  |  | 55  | 49  | 46  |  | 54  | 49  | 45  |
| 10  | 65  | 54  | 47  | 43  | 64  | 53  | 47  | 43  |  | 53  | 47  | 43  |  | 52  | 46  | 43  |  | 51  | 46  | 42  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 88415 | 88415 | 88415 |
| 5°  | 87942 | 87165 | 87127 |
| 10° | 87887 | 84372 | 81412 |
| 15° | 87763 | 78823 | 61959 |
| 20° | 87559 | 64257 | 44599 |
| 25° | 87336 | 49685 | 21970 |
| 30° | 86950 | 36109 | 7125  |
| 35° | 86744 | 16020 | 1833  |
| 40° | 86290 | 6506  | 1235  |
| 45° | 85904 | 1826  | 1315  |
| 50° | 85235 | 1296  | 1459  |
| 55° | 84007 | 1540  | 624   |
| 60° | 81933 | 1716  | 379   |
| 65° | 78563 | 1095  | 448   |
| 70° | 72986 | 972   | 554   |
| 75° | 63849 | 732   | 763   |
| 80° | 47740 | 896   | 1091  |
| 85° | 23648 | 1156  | 1445  |



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**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 5081.8  | 8.7       |
| 10°-20°   | 12707.1 | 21.8      |
| 20°-30°   | 13763.7 | 23.6      |
| 30°-40°   | 10192.6 | 17.5      |
| 40°-50°   | 7341.3  | 12.6      |
| 50°-60°   | 4545.7  | 7.8       |
| 60°-70°   | 2795.5  | 4.8       |
| 70°-80°   | 1473.7  | 2.5       |
| 80°-90°   | 301.6   | 0.5       |
| 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°    | 31552.6 | 54.2      |
| 0°-40°    | 41745.2 | 71.7      |
| 0°-60°    | 53632.1 | 92.1      |
| 0°-90°    | 58203.0 | 100.0     |
| 90°-120°  | 0.0     | 0.0       |
| 90°-150°  | 0.0     | 0.0       |
| 90°-180°  | 0.0     | 0.0       |
| 0°-180°   | 58203.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | 22.5° | 45°   | 67.5° | 90°   | Flux  |
|-----|-------|-------|-------|-------|-------|-------|
| 0°  | 54760 | 54760 | 54760 | 54760 | 54760 |       |
| 5°  | 54260 | 54460 | 53781 | 53820 | 53757 | ###   |
| 15° | 52504 | 51285 | 47156 | 40102 | 37067 | 14821 |
| 25° | 49024 | 44905 | 27889 | 17545 | 12332 | 22589 |
| 35° | 44009 | 31026 | 8128  | 1912  | 930   | 27533 |
| 45° | 37622 | 17480 | 800   | 578   | 576   | 29014 |
| 55° | 29843 | 3600  | 547   | 495   | 222   | 26641 |
| 65° | 20564 | 380   | 286   | 182   | 117   | 20289 |
| 75° | 10235 | 89    | 117   | 154   | 122   | 10810 |
| 85° | 1276  | 34    | 62    | 94    | 78    | ###   |
| 90° | 0     | 0     | 0     | 0     | 0     |       |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 22.5°   | 45°     | 67.5°   | 90°     |
|-------|---------|---------|---------|---------|---------|
| 0°    | 54760.0 | 54760.0 | 54760.0 | 54760.0 | 54760.0 |
| 2.5°  | 54408.3 | 54755.0 | 54345.9 | 54650.8 | 54892.9 |
| 5°    | 54259.8 | 54460.5 | 53780.6 | 53819.6 | 53757.1 |
| 7.5°  | 53999.3 | 53952.5 | 52808.9 | 52308.7 | 52090.0 |
| 10°   | 53606.1 | 53296.0 | 51462.2 | 50417.6 | 49656.8 |
| 12.5° | 53098.1 | 52405.1 | 49782.0 | 46460.5 | 44397.4 |
| 15°   | 52504.1 | 51285.0 | 47156.0 | 40101.8 | 37066.7 |
| 17.5° | 51795.5 | 50068.4 | 42862.9 | 33609.9 | 30900.8 |
| 20°   | 50959.3 | 48711.1 | 37397.5 | 28595.3 | 25956.5 |
| 22.5° | 50026.6 | 47059.6 | 32088.7 | 23765.5 | 20001.3 |
| 25°   | 49023.8 | 44905.4 | 27889.2 | 17544.7 | 12332.1 |
| 27.5° | 47864.6 | 42136.2 | 23950.5 | 10334.2 | 6293.8  |
| 30°   | 46637.7 | 38801.6 | 19368.2 | 5559.0  | 3821.6  |
| 32.5° | 45400.2 | 35021.8 | 13705.0 | 3472.5  | 2167.3  |
| 35°   | 44009.2 | 31025.7 | 8127.6  | 1912.1  | 930.1   |
| 37.5° | 42558.1 | 27363.1 | 4803.6  | 870.2   | 596.6   |
| 40°   | 40940.5 | 24015.7 | 3086.9  | 578.2   | 586.0   |
| 42.5° | 39377.6 | 20894.9 | 1737.6  | 570.4   | 581.0   |
| 45°   | 37621.5 | 17479.5 | 799.7   | 578.2   | 575.7   |
| 47.5° | 35805.9 | 13939.3 | 518.3   | 583.5   | 583.5   |
| 50°   | 33933.1 | 9966.9  | 515.8   | 596.6   | 581.0   |
| 52.5° | 31955.8 | 6218.3  | 536.7   | 594.1   | 476.8   |
| 55°   | 29843.1 | 3600.1  | 547.0   | 494.9   | 221.5   |
| 57.5° | 27654.9 | 2123.0  | 552.3   | 283.9   | 125.1   |
| 60°   | 25372.8 | 1174.8  | 531.4   | 210.9   | 117.3   |
| 62.5° | 23020.4 | 560.1   | 419.4   | 198.1   | 114.5   |
| 65°   | 20563.9 | 380.4   | 286.5   | 182.2   | 117.3   |
| 67.5° | 18013.7 | 294.3   | 226.5   | 171.9   | 119.8   |
| 70°   | 15460.7 | 218.7   | 205.9   | 171.9   | 117.3   |
| 72.5° | 12866.2 | 148.5   | 171.9   | 174.4   | 117.3   |
| 75°   | 10235.0 | 88.6    | 117.3   | 153.8   | 122.3   |
| 77.5° | 7627.4  | 54.6    | 91.1    | 158.8   | 148.5   |
| 80°   | 5134.4  | 46.8    | 96.4    | 148.5   | 117.3   |
| 82.5° | 3014.1  | 41.8    | 93.9    | 114.5   | 93.9    |
| 85°   | 1276.5  | 34.0    | 62.4    | 93.9    | 78.0    |
| 87.5° | 239.6   | 28.7    | 49.6    | 75.5    | 67.7    |
| 90°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |



Report Generated By 670246072 / DESKTOP-MV3F9LC





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







(END OF REPORT)