

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: P731137

Luminaire Tested: **HBLED-LD5-60HE-N-UNV-L850**

Issue Date: 11/13/2023

**Test Information**

Test Method: LM-79-08  
Report Number: P731137  
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-LD5-60HE-N-UNV-L850  
Description: 60000 LUMEN, HE HBLED WITH NARROW DISTRIBUTION  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 61071.0 lumens  
Efficiency: N/A  
Efficacy: 172.0 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

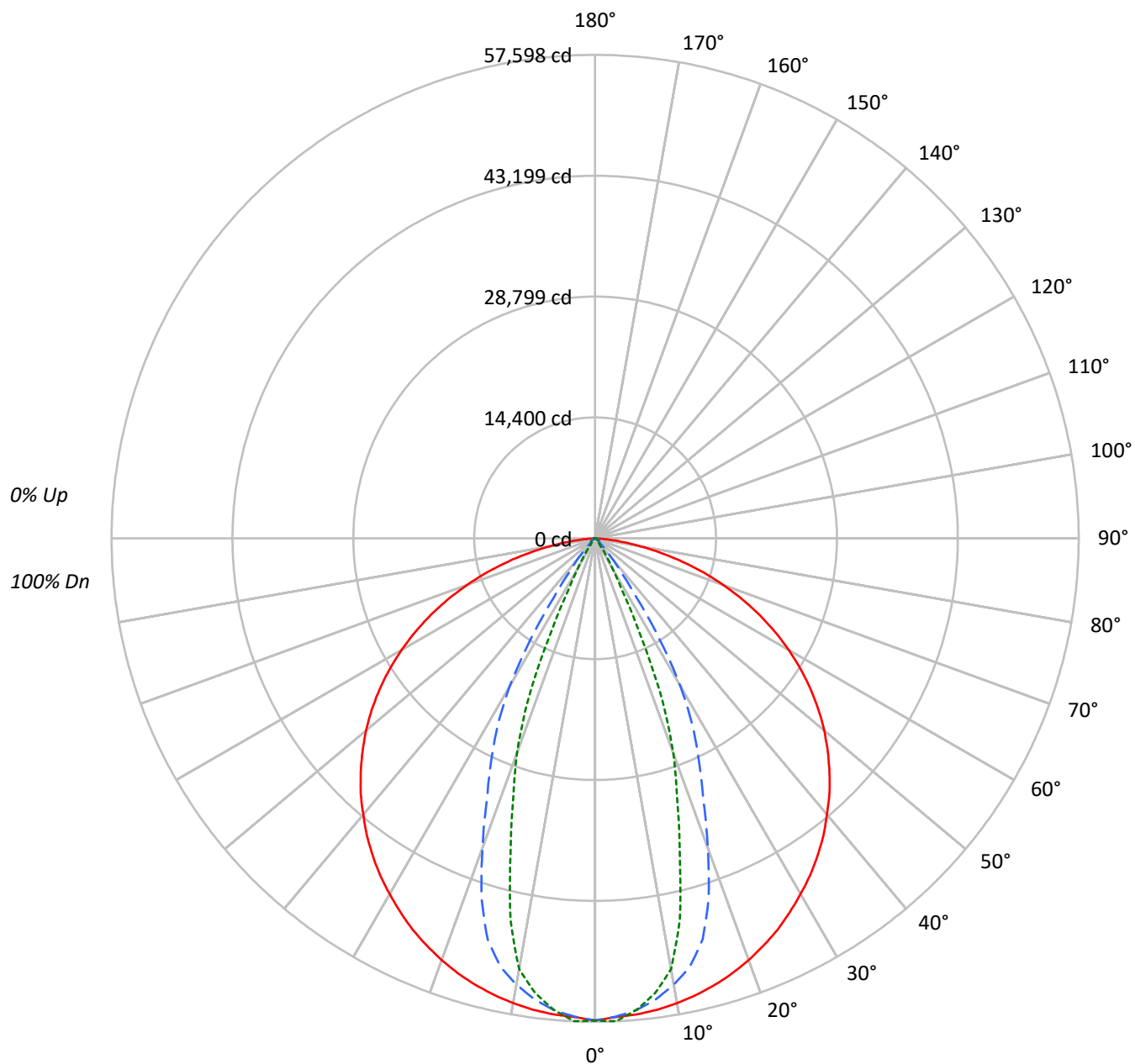
Input Watts (W): 355  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |     |     |     |    | 10 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 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 | 100 |    |    |
| 1   | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 101 | 102 | 100 | 98  | 98  | 96  | 95  | 95  | 93  | 92  | 90  |    |    |
| 2   | 105 | 98  | 93  | 89  | 102 | 97  | 92  | 88  | 93  | 89  | 86  | 90  | 87  | 84  | 87  | 85  | 82  | 81  |    |    |
| 3   | 98  | 90  | 84  | 79  | 96  | 88  | 83  | 78  | 86  | 81  | 77  | 83  | 79  | 76  | 81  | 77  | 74  | 73  |    |    |
| 4   | 92  | 82  | 76  | 70  | 90  | 81  | 75  | 70  | 79  | 73  | 69  | 77  | 72  | 68  | 75  | 71  | 67  | 66  |    |    |
| 5   | 86  | 76  | 69  | 64  | 84  | 75  | 68  | 63  | 73  | 67  | 63  | 71  | 66  | 62  | 70  | 65  | 62  | 60  |    |    |
| 6   | 81  | 70  | 63  | 58  | 79  | 70  | 63  | 58  | 68  | 62  | 58  | 66  | 61  | 57  | 65  | 60  | 57  | 55  |    |    |
| 7   | 76  | 66  | 58  | 54  | 75  | 65  | 58  | 53  | 63  | 57  | 53  | 62  | 57  | 53  | 61  | 56  | 52  | 51  |    |    |
| 8   | 72  | 61  | 54  | 49  | 71  | 61  | 54  | 49  | 59  | 53  | 49  | 58  | 53  | 49  | 57  | 52  | 49  | 47  |    |    |
| 9   | 68  | 57  | 51  | 46  | 67  | 57  | 50  | 46  | 56  | 50  | 46  | 55  | 49  | 46  | 54  | 49  | 45  | 44  |    |    |
| 10  | 65  | 54  | 47  | 43  | 64  | 53  | 47  | 43  | 53  | 47  | 43  | 52  | 46  | 43  | 51  | 46  | 42  | 41  |    |    |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 92771 | 92771 | 92771 |
| 5°  | 92275 | 91460 | 91420 |
| 10° | 92218 | 88529 | 85424 |
| 15° | 92088 | 82707 | 65012 |
| 20° | 91873 | 67423 | 46796 |
| 25° | 91639 | 52133 | 23052 |
| 30° | 91234 | 37889 | 7476  |
| 35° | 91019 | 16809 | 1924  |
| 40° | 90542 | 6827  | 1296  |
| 45° | 90137 | 1916  | 1379  |
| 50° | 89435 | 1359  | 1531  |
| 55° | 88146 | 1615  | 654   |
| 60° | 85970 | 1801  | 398   |
| 65° | 82434 | 1148  | 470   |
| 70° | 76583 | 1020  | 581   |
| 75° | 66995 | 768   | 801   |
| 80° | 50092 | 941   | 1145  |
| 85° | 24813 | 1213  | 1517  |



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**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 5332.2  | 8.7       |
| 10°-20°   | 13333.2 | 21.8      |
| 20°-30°   | 14441.9 | 23.6      |
| 30°-40°   | 10694.8 | 17.5      |
| 40°-50°   | 7703.1  | 12.6      |
| 50°-60°   | 4769.6  | 7.8       |
| 60°-70°   | 2933.3  | 4.8       |
| 70°-80°   | 1546.3  | 2.5       |
| 80°-90°   | 316.5   | 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°    | 33107.3 | 54.2      |
| 0°-40°    | 43802.2 | 71.7      |
| 0°-60°    | 56274.9 | 92.1      |
| 0°-90°    | 61071.0 | 100.0     |
| 90°-120°  | 0.0     | 0.0       |
| 90°-150°  | 0.0     | 0.0       |
| 90°-180°  | 0.0     | 0.0       |
| 0°-180°   | 61071.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | 22.5° | 45°   | 67.5° | 90°   | Flux  |
|-----|-------|-------|-------|-------|-------|-------|
| 0°  | 57458 | 57458 | 57458 | 57458 | 57458 |       |
| 5°  | 56934 | 57144 | 56431 | 56472 | 56406 | ###   |
| 15° | 55091 | 53812 | 49480 | 42078 | 38893 | 15552 |
| 25° | 51440 | 47118 | 29264 | 18409 | 12940 | 23702 |
| 35° | 46178 | 32554 | 8528  | 2006  | 976   | 28890 |
| 45° | 39475 | 18341 | 839   | 607   | 604   | 30444 |
| 55° | 31314 | 3778  | 574   | 519   | 232   | 27954 |
| 65° | 21577 | 399   | 301   | 191   | 123   | 21289 |
| 75° | 10739 | 93    | 123   | 161   | 128   | 11343 |
| 85° | 1339  | 36    | 66    | 98    | 82    | ###   |
| 90° | 0     | 0     | 0     | 0     | 0     |       |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 22.5°   | 45°     | 67.5°   | 90°     |
|-------|---------|---------|---------|---------|---------|
| 0°    | 57458.3 | 57458.3 | 57458.3 | 57458.3 | 57458.3 |
| 2.5°  | 57089.4 | 57453.1 | 57023.9 | 57343.7 | 57597.8 |
| 5°    | 56933.5 | 57144.0 | 56430.6 | 56471.6 | 56406.1 |
| 7.5°  | 56660.2 | 56611.0 | 55411.1 | 54886.3 | 54656.8 |
| 10°   | 56247.6 | 55922.2 | 53998.0 | 52901.9 | 52103.7 |
| 12.5° | 55714.6 | 54987.5 | 52235.0 | 48749.9 | 46585.1 |
| 15°   | 55091.3 | 53812.1 | 49479.6 | 42077.8 | 38893.2 |
| 17.5° | 54347.7 | 52535.6 | 44975.0 | 35266.0 | 32423.5 |
| 20°   | 53470.3 | 51111.4 | 39240.3 | 30004.4 | 27235.5 |
| 22.5° | 52491.7 | 49378.5 | 33669.9 | 24936.6 | 20986.9 |
| 25°   | 51439.5 | 47118.1 | 29263.5 | 18409.3 | 12939.8 |
| 27.5° | 50223.2 | 44212.5 | 25130.7 | 10843.4 | 6603.9  |
| 30°   | 48935.8 | 40713.6 | 20322.6 | 5832.9  | 4010.0  |
| 32.5° | 47637.4 | 36747.5 | 14380.3 | 3643.6  | 2274.1  |
| 35°   | 46177.8 | 32554.5 | 8528.1  | 2006.3  | 975.9   |
| 37.5° | 44655.1 | 28711.5 | 5040.3  | 913.1   | 626.0   |
| 40°   | 42957.9 | 25199.1 | 3239.0  | 606.7   | 614.9   |
| 42.5° | 41317.9 | 21924.5 | 1823.3  | 598.5   | 609.6   |
| 45°   | 39475.4 | 18340.9 | 839.1   | 606.7   | 604.1   |
| 47.5° | 37570.2 | 14626.2 | 543.8   | 612.2   | 612.2   |
| 50°   | 35605.1 | 10458.0 | 541.2   | 626.0   | 609.6   |
| 52.5° | 33530.4 | 6524.7  | 563.1   | 623.3   | 500.3   |
| 55°   | 31313.6 | 3777.5  | 573.9   | 519.3   | 232.4   |
| 57.5° | 29017.6 | 2227.6  | 579.5   | 297.9   | 131.3   |
| 60°   | 26623.0 | 1232.7  | 557.6   | 221.3   | 123.1   |
| 62.5° | 24154.8 | 587.7   | 440.0   | 207.9   | 120.2   |
| 65°   | 21577.2 | 399.1   | 300.6   | 191.2   | 123.1   |
| 67.5° | 18901.3 | 308.8   | 237.7   | 180.4   | 125.7   |
| 70°   | 16222.6 | 229.5   | 216.1   | 180.4   | 123.1   |
| 72.5° | 13500.2 | 155.8   | 180.4   | 183.0   | 123.1   |
| 75°   | 10739.3 | 93.0    | 123.1   | 161.4   | 128.4   |
| 77.5° | 8003.3  | 57.3    | 95.6    | 166.7   | 155.8   |
| 80°   | 5387.4  | 49.1    | 101.2   | 155.8   | 123.1   |
| 82.5° | 3162.6  | 43.8    | 98.5    | 120.2   | 98.5    |
| 85°   | 1339.4  | 35.7    | 65.5    | 98.5    | 81.9    |
| 87.5° | 251.4   | 30.1    | 52.0    | 79.2    | 71.0    |
| 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)