

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: P731132

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

Issue Date: 11/13/2023

**Test Information**

Test Method: LM-79-08  
Report Number: P731132  
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-L735  
Description: 60000 LUMEN, HE HBLED WITH NARROW DISTRIBUTION  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 60903.0 lumens  
Efficiency: N/A  
Efficacy: 171.6 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

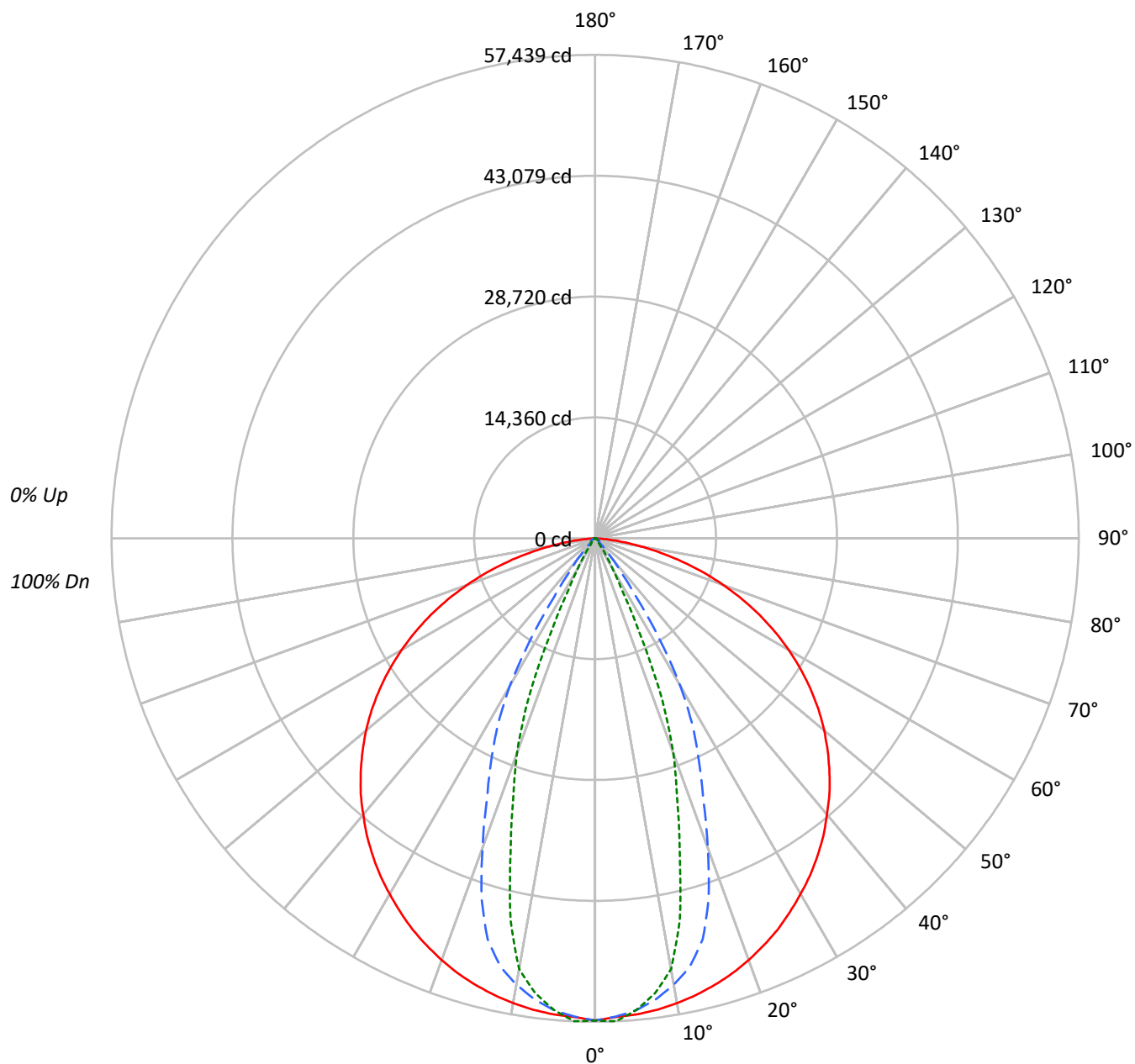
Input Watts (W): 355  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |     |  |     |     | 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°  | 92516 | 92516 | 92516 |
| 5°  | 92021 | 91209 | 91169 |
| 10° | 91964 | 88286 | 85189 |
| 15° | 91834 | 82480 | 64833 |
| 20° | 91620 | 67238 | 46668 |
| 25° | 91387 | 51990 | 22989 |
| 30° | 90983 | 37785 | 7455  |
| 35° | 90768 | 16763 | 1918  |
| 40° | 90293 | 6808  | 1292  |
| 45° | 89889 | 1911  | 1376  |
| 50° | 89189 | 1356  | 1527  |
| 55° | 87904 | 1611  | 653   |
| 60° | 85734 | 1795  | 396   |
| 65° | 82207 | 1145  | 469   |
| 70° | 76372 | 1017  | 579   |
| 75° | 66811 | 765   | 799   |
| 80° | 49954 | 938   | 1141  |
| 85° | 24744 | 1210  | 1514  |



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**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 5317.5  | 8.7       |
| 10°-20°   | 13296.5 | 21.8      |
| 20°-30°   | 14402.2 | 23.6      |
| 30°-40°   | 10665.4 | 17.5      |
| 40°-50°   | 7681.9  | 12.6      |
| 50°-60°   | 4756.5  | 7.8       |
| 60°-70°   | 2925.2  | 4.8       |
| 70°-80°   | 1542.1  | 2.5       |
| 80°-90°   | 315.6   | 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°    | 33016.3 | 54.2      |
| 0°-40°    | 43681.7 | 71.7      |
| 0°-60°    | 56120.1 | 92.1      |
| 0°-90°    | 60903.0 | 100.0     |
| 90°-120°  | 0.0     | 0.0       |
| 90°-150°  | 0.0     | 0.0       |
| 90°-180°  | 0.0     | 0.0       |
| 0°-180°   | 60903.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | 22.5° | 45°   | 67.5° | 90°   | Flux  |
|-----|-------|-------|-------|-------|-------|-------|
| 0°  | 57300 | 57300 | 57300 | 57300 | 57300 |       |
| 5°  | 56777 | 56987 | 56275 | 56316 | 56251 | ###   |
| 15° | 54940 | 53664 | 49344 | 41962 | 38786 | 15509 |
| 25° | 51298 | 46988 | 29183 | 18359 | 12904 | 23637 |
| 35° | 46051 | 32465 | 8505  | 2001  | 973   | 28810 |
| 45° | 39367 | 18290 | 837   | 605   | 602   | 30360 |
| 55° | 31228 | 3767  | 572   | 518   | 232   | 27877 |
| 65° | 21518 | 398   | 300   | 191   | 123   | 21231 |
| 75° | 10710 | 93    | 123   | 161   | 128   | 11312 |
| 85° | 1336  | 36    | 65    | 98    | 82    | ###   |
| 90° | 0     | 0     | 0     | 0     | 0     |       |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 22.5°   | 45°     | 67.5°   | 90°     |
|-------|---------|---------|---------|---------|---------|
| 0°    | 57300.3 | 57300.3 | 57300.3 | 57300.3 | 57300.3 |
| 2.5°  | 56932.3 | 57295.0 | 56867.0 | 57186.0 | 57439.4 |
| 5°    | 56776.9 | 56986.8 | 56275.4 | 56316.2 | 56250.9 |
| 7.5°  | 56504.3 | 56455.3 | 55258.7 | 54735.3 | 54506.4 |
| 10°   | 56092.9 | 55768.4 | 53849.5 | 52756.4 | 51960.4 |
| 12.5° | 55561.3 | 54836.2 | 52091.3 | 48615.8 | 46456.9 |
| 15°   | 54939.7 | 53664.1 | 49343.5 | 41962.0 | 38786.2 |
| 17.5° | 54198.2 | 52391.1 | 44851.3 | 35169.0 | 32334.3 |
| 20°   | 53323.2 | 50970.8 | 39132.4 | 29921.8 | 27160.6 |
| 22.5° | 52347.3 | 49242.7 | 33577.3 | 24868.0 | 20929.1 |
| 25°   | 51298.0 | 46988.5 | 29183.0 | 18358.6 | 12904.2 |
| 27.5° | 50085.0 | 44090.8 | 25061.6 | 10813.6 | 6585.8  |
| 30°   | 48801.2 | 40601.6 | 20266.7 | 5816.9  | 3998.9  |
| 32.5° | 47506.3 | 36646.4 | 14340.7 | 3633.6  | 2267.9  |
| 35°   | 46050.8 | 32464.9 | 8504.6  | 2000.8  | 973.3   |
| 37.5° | 44532.3 | 28632.5 | 5026.4  | 910.6   | 624.3   |
| 40°   | 42839.7 | 25129.8 | 3230.1  | 605.0   | 613.2   |
| 42.5° | 41204.2 | 21864.2 | 1818.2  | 596.9   | 607.9   |
| 45°   | 39366.8 | 18290.4 | 836.8   | 605.0   | 602.4   |
| 47.5° | 37466.9 | 14586.0 | 542.3   | 610.6   | 610.6   |
| 50°   | 35507.2 | 10429.3 | 539.7   | 624.3   | 607.9   |
| 52.5° | 33438.2 | 6506.7  | 561.6   | 621.6   | 498.9   |
| 55°   | 31227.5 | 3767.1  | 572.4   | 517.8   | 231.8   |
| 57.5° | 28937.8 | 2221.5  | 577.9   | 297.1   | 130.9   |
| 60°   | 26549.8 | 1229.3  | 556.0   | 220.7   | 122.7   |
| 62.5° | 24088.3 | 586.1   | 438.8   | 207.3   | 119.8   |
| 65°   | 21517.8 | 398.0   | 299.7   | 190.7   | 122.7   |
| 67.5° | 18849.3 | 307.9   | 237.1   | 179.9   | 125.4   |
| 70°   | 16177.9 | 228.9   | 215.5   | 179.9   | 122.7   |
| 72.5° | 13463.1 | 155.4   | 179.9   | 182.5   | 122.7   |
| 75°   | 10709.8 | 92.7    | 122.7   | 160.9   | 128.0   |
| 77.5° | 7981.2  | 57.2    | 95.4    | 166.2   | 155.4   |
| 80°   | 5372.5  | 49.0    | 100.9   | 155.4   | 122.7   |
| 82.5° | 3153.9  | 43.7    | 98.2    | 119.8   | 98.2    |
| 85°   | 1335.7  | 35.6    | 65.3    | 98.2    | 81.7    |
| 87.5° | 250.8   | 30.0    | 51.9    | 79.0    | 70.9    |
| 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)