

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: P731130

Luminaire Tested: **HBLED-LD5-60HE-N-CLI-UNV-L840**

Issue Date: 11/13/2023

**Test Information**

Test Method: LM-79-08  
Report Number: P731130  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P23769)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/13/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: HBLED-LD5-60HE-N-CLI-UNV-L840  
Description: 60000 LUMEN, HE HBLED WITH NARROW DISTRIBUTION AND CLEAR ACRYLIC LENS INSERT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 55418.0 lumens  
Efficiency: N/A  
Efficacy: 156.1 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 0.64 / 0.78  
Luminous Opening: Rectangular (W 1.67' x L: 4' x H: 0')  
CIE Type: Direct

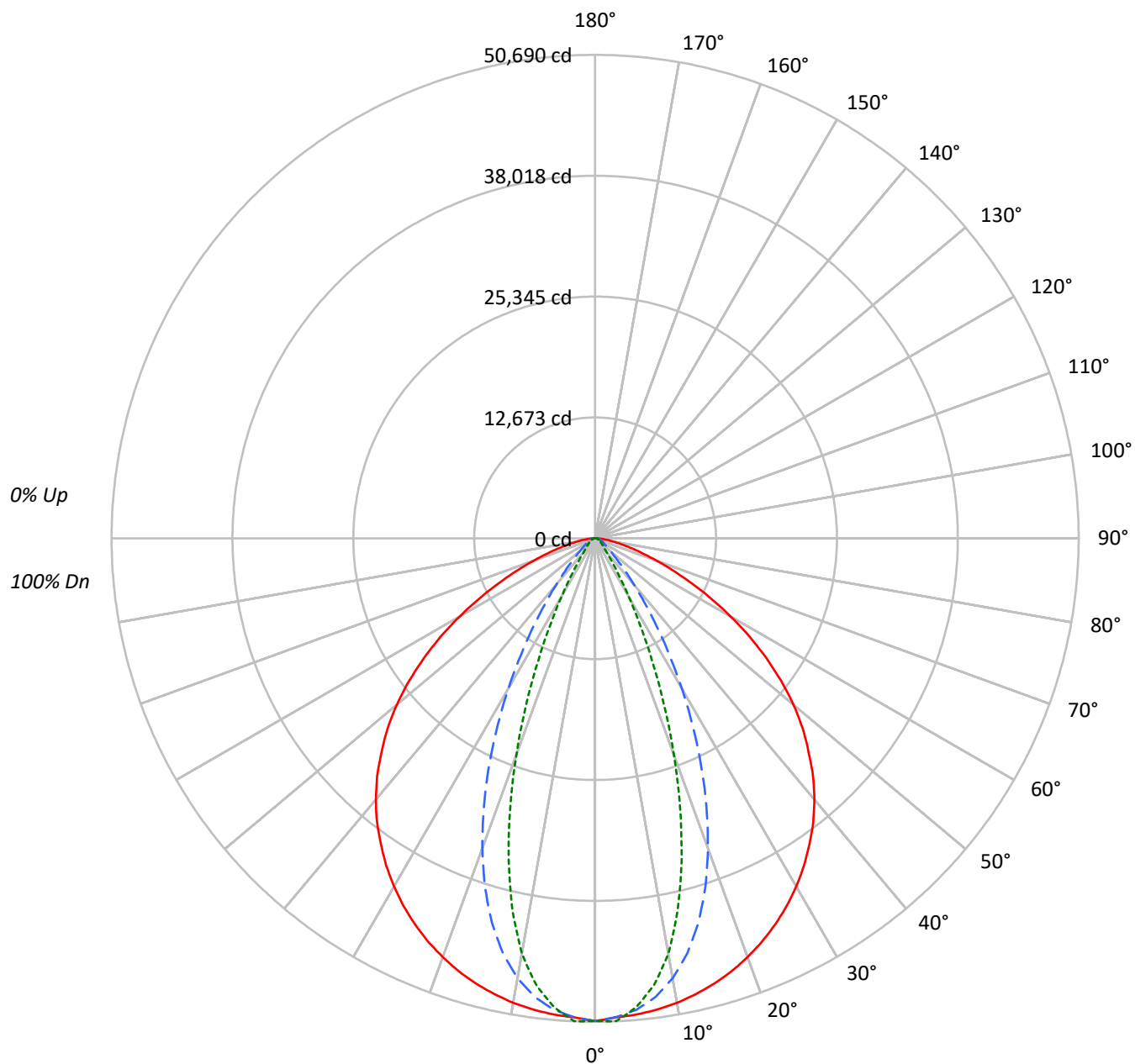
Input Watts (W): 355  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 |
| 1   | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 101 | 102 | 100 | 98  |  | 98  | 96  | 95  |  | 95  |
| 2   | 105 | 98  | 93  | 89  | 102 | 97  | 92  | 88  | 93  | 89  | 86  |  | 90  | 87  | 84  |  | 87  |
| 3   | 98  | 90  | 84  | 79  | 96  | 88  | 83  | 78  | 86  | 81  | 77  |  | 83  | 79  | 75  |  | 81  |
| 4   | 92  | 82  | 75  | 70  | 90  | 81  | 75  | 70  | 79  | 73  | 69  |  | 77  | 72  | 68  |  | 75  |
| 5   | 86  | 76  | 69  | 63  | 84  | 75  | 68  | 63  | 73  | 67  | 62  |  | 71  | 66  | 62  |  | 69  |
| 6   | 81  | 70  | 63  | 58  | 79  | 69  | 62  | 57  | 68  | 62  | 57  |  | 66  | 61  | 57  |  | 65  |
| 7   | 76  | 65  | 58  | 53  | 75  | 64  | 58  | 53  | 63  | 57  | 52  |  | 62  | 56  | 52  |  | 60  |
| 8   | 72  | 61  | 54  | 49  | 70  | 60  | 53  | 49  | 59  | 53  | 48  |  | 58  | 52  | 48  |  | 57  |
| 9   | 68  | 57  | 50  | 45  | 67  | 56  | 50  | 45  | 55  | 49  | 45  |  | 54  | 49  | 45  |  | 53  |
| 10  | 64  | 53  | 47  | 42  | 63  | 53  | 46  | 42  | 52  | 46  | 42  |  | 51  | 46  | 42  |  | 50  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 81731 | 81731 | 81731 |
| 5°  | 81239 | 80431 | 80008 |
| 10° | 81103 | 76789 | 72462 |
| 15° | 80777 | 69800 | 58520 |
| 20° | 80292 | 59394 | 41477 |
| 25° | 79574 | 46833 | 25060 |
| 30° | 78607 | 33801 | 12879 |
| 35° | 77188 | 22098 | 6432  |
| 40° | 75358 | 13273 | 3754  |
| 45° | 72227 | 7927  | 2807  |
| 50° | 68123 | 5183  | 2357  |
| 55° | 61655 | 3932  | 2057  |
| 60° | 52984 | 3349  | 1876  |
| 65° | 42619 | 3056  | 1772  |
| 70° | 32107 | 3273  | 1762  |
| 75° | 23618 | 3110  | 1813  |
| 80° | 17279 | 3098  | 1984  |
| 85° | 12942 | 3757  | 2566  |



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**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 4661.8  | 8.4       |
| 10°-20°   | 11597.7 | 20.9      |
| 20°-30°   | 12846.2 | 23.2      |
| 30°-40°   | 10292.1 | 18.6      |
| 40°-50°   | 7347.2  | 13.3      |
| 50°-60°   | 4719.2  | 8.5       |
| 60°-70°   | 2557.5  | 4.6       |
| 70°-80°   | 1093.1  | 2.0       |
| 80°-90°   | 303.2   | 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°    | 29105.7 | 52.5      |
| 0°-40°    | 39397.8 | 71.1      |
| 0°-60°    | 51464.2 | 92.9      |
| 0°-90°    | 55418.0 | 100.0     |
| 90°-120°  | 0.0     | 0.0       |
| 90°-150°  | 0.0     | 0.0       |
| 90°-180°  | 0.0     | 0.0       |
| 0°-180°   | 55418.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | 22.5° | 45°   | 67.5° | 90°   | Flux  |
|-----|-------|-------|-------|-------|-------|-------|
| 0°  | 50620 | 50620 | 50620 | 50620 | 50620 |       |
| 5°  | 50124 | 50311 | 49626 | 49468 | 49365 | ###   |
| 15° | 48325 | 46813 | 41758 | 36903 | 35010 | 13635 |
| 25° | 44667 | 39385 | 26289 | 17128 | 14067 | 20577 |
| 35° | 39161 | 28326 | 11211 | 4522  | 3263  | 24485 |
| 45° | 31632 | 16352 | 3472  | 1477  | 1229  | 24381 |
| 55° | 21903 | 7311  | 1397  | 858   | 731   | 19519 |
| 65° | 11155 | 3002  | 800   | 552   | 464   | 11171 |
| 75° | 3786  | 1098  | 499   | 347   | 291   | 4207  |
| 85° | 699   | 291   | 203   | 168   | 138   | 853   |
| 90° | 0     | 0     | 0     | 0     | 0     |       |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 22.5°   | 45°     | 67.5°   | 90°     |
|-------|---------|---------|---------|---------|---------|
| 0°    | 50620.2 | 50620.2 | 50620.2 | 50620.2 | 50620.2 |
| 2.5°  | 50287.0 | 50601.7 | 50262.9 | 50473.6 | 50689.5 |
| 5°    | 50124.4 | 50311.2 | 49625.7 | 49468.4 | 49364.6 |
| 7.5°  | 49841.7 | 49788.4 | 48500.8 | 47666.2 | 47263.5 |
| 10°   | 49468.4 | 49036.5 | 46836.9 | 45002.7 | 44197.5 |
| 12.5° | 48935.3 | 48044.8 | 44584.0 | 41363.2 | 39998.3 |
| 15°   | 48324.7 | 46813.0 | 41757.8 | 36902.9 | 35009.8 |
| 17.5° | 47594.1 | 45373.2 | 38379.8 | 32119.7 | 29621.4 |
| 20°   | 46730.3 | 43634.9 | 34567.2 | 27037.9 | 24139.6 |
| 22.5° | 45765.3 | 41630.0 | 30485.2 | 21972.0 | 18863.4 |
| 25°   | 44666.7 | 39384.9 | 26288.8 | 17127.7 | 14066.8 |
| 27.5° | 43480.4 | 36892.2 | 22116.1 | 12797.7 | 10006.1 |
| 30°   | 42163.1 | 34194.0 | 18130.0 | 9227.8  | 6908.2  |
| 32.5° | 40726.0 | 31325.2 | 14426.9 | 6489.5  | 4724.6  |
| 35°   | 39161.1 | 28325.7 | 11211.2 | 4521.8  | 3263.4  |
| 37.5° | 37558.6 | 25264.8 | 8467.8  | 3196.6  | 2341.0  |
| 40°   | 35753.6 | 22214.6 | 6297.6  | 2341.0  | 1780.9  |
| 42.5° | 33815.3 | 19223.3 | 4660.6  | 1802.2  | 1442.4  |
| 45°   | 31631.7 | 16351.7 | 3471.5  | 1477.2  | 1229.2  |
| 47.5° | 29514.8 | 13675.0 | 2636.8  | 1258.4  | 1069.1  |
| 50°   | 27120.6 | 11259.4 | 2063.6  | 1098.5  | 938.4   |
| 52.5° | 24579.7 | 9134.4  | 1674.3  | 967.9   | 826.5   |
| 55°   | 21902.7 | 7310.6  | 1396.9  | 858.5   | 730.6   |
| 57.5° | 19191.3 | 5790.8  | 1194.5  | 765.1   | 650.7   |
| 60°   | 16407.8 | 4631.2  | 1037.1  | 685.2   | 581.1   |
| 62.5° | 13691.0 | 3703.4  | 906.4   | 615.9   | 520.0   |
| 65°   | 11155.4 | 3002.0  | 799.9   | 551.9   | 463.9   |
| 67.5° | 8811.6  | 2372.9  | 746.6   | 495.8   | 418.7   |
| 70°   | 6801.3  | 1847.6  | 693.3   | 442.6   | 373.3   |
| 72.5° | 5153.6  | 1418.5  | 613.4   | 394.6   | 330.7   |
| 75°   | 3785.9  | 1098.5  | 498.6   | 346.6   | 290.6   |
| 77.5° | 2708.9  | 845.3   | 405.3   | 301.2   | 250.7   |
| 80°   | 1858.3  | 629.3   | 333.2   | 258.6   | 213.4   |
| 82.5° | 1207.9  | 445.4   | 269.2   | 213.4   | 175.8   |
| 85°   | 698.6   | 290.6   | 202.8   | 168.0   | 138.5   |
| 87.5° | 301.2   | 159.9   | 138.5   | 125.4   | 106.6   |
| 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)