

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: P730698

Luminaire Tested: **HBLED-LD5-24HE-W-CL-UNV-L840**

Issue Date: 11/13/2023

**Test Information**

Test Method: LM-79-08  
Report Number: P730698  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P23762)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/13/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: HBLED-LD5-24HE-W-CL-UNV-L840  
Description: 24000 LUMEN, HE HBLED WITH WIDE DISTRIBUTION AND CLEAR ACRYLIC LENS  
& DOOR FRAME  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 22166.0 lumens  
Efficiency: N/A  
Efficacy: 155.0 lumens/watt  
Spacing Criteria (0/90/45): 1.28 / 1.29 / 1.41  
Luminous Opening: Rectangular (W 1.67' x L: 4' x H: 0')  
CIE Type: Direct

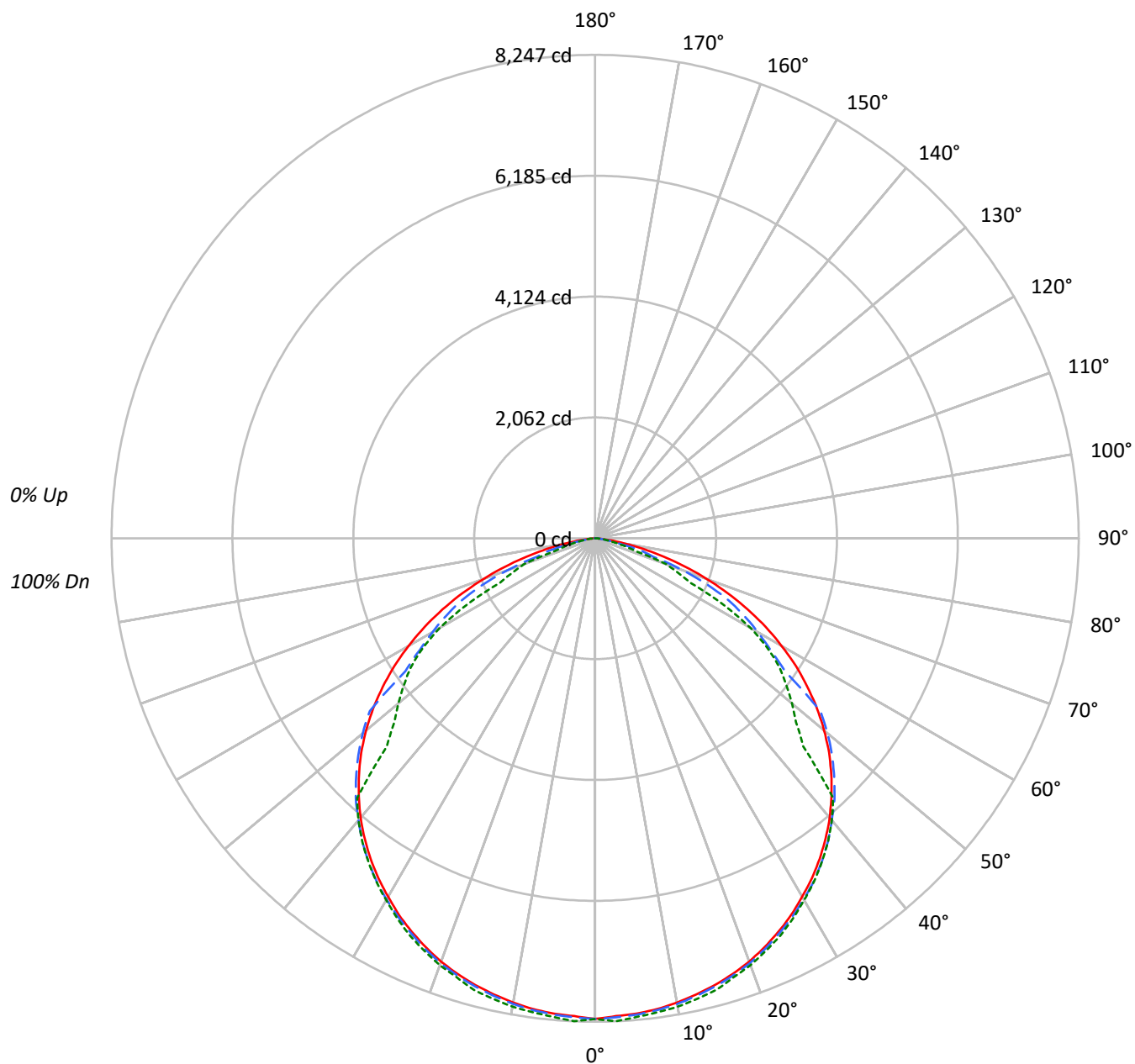
Input Watts (W): 143  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |
| RCR |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 |  | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 | 102 | 102 |
| 1   | 110 | 106 | 102 | 98  | 107 | 103 | 100 | 97  |  | 99  | 96  | 94  |  | 95  | 93  | 91  |  | 92  | 90  | 88  |
| 2   | 100 | 93  | 86  | 81  | 98  | 91  | 85  | 80  |  | 87  | 82  | 78  |  | 84  | 80  | 76  |  | 81  | 78  | 75  |
| 3   | 92  | 82  | 74  | 68  | 89  | 80  | 73  | 67  |  | 77  | 71  | 66  |  | 75  | 69  | 65  |  | 72  | 68  | 64  |
| 4   | 84  | 73  | 64  | 58  | 82  | 71  | 64  | 57  |  | 69  | 62  | 57  |  | 67  | 61  | 56  |  | 64  | 59  | 55  |
| 5   | 77  | 65  | 56  | 50  | 75  | 64  | 56  | 50  |  | 62  | 55  | 49  |  | 60  | 54  | 49  |  | 58  | 53  | 48  |
| 6   | 72  | 59  | 50  | 44  | 70  | 58  | 49  | 43  |  | 56  | 49  | 43  |  | 54  | 48  | 43  |  | 53  | 47  | 42  |
| 7   | 66  | 53  | 45  | 39  | 65  | 52  | 44  | 38  |  | 51  | 43  | 38  |  | 49  | 43  | 38  |  | 48  | 42  | 38  |
| 8   | 62  | 48  | 40  | 34  | 60  | 48  | 40  | 34  |  | 46  | 39  | 34  |  | 45  | 39  | 34  |  | 44  | 38  | 34  |
| 9   | 58  | 44  | 36  | 31  | 56  | 44  | 36  | 31  |  | 43  | 36  | 31  |  | 42  | 35  | 31  |  | 41  | 35  | 30  |
| 10  | 54  | 41  | 33  | 28  | 53  | 40  | 33  | 28  |  | 40  | 33  | 28  |  | 39  | 32  | 28  |  | 38  | 32  | 28  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 13238 | 13238 | 13238 |
| 5°  | 13190 | 13219 | 13284 |
| 10° | 13189 | 13226 | 13303 |
| 15° | 13188 | 13228 | 13335 |
| 20° | 13204 | 13254 | 13316 |
| 25° | 13189 | 13239 | 13319 |
| 30° | 13164 | 13261 | 13291 |
| 35° | 13158 | 13278 | 13288 |
| 40° | 13117 | 13233 | 13233 |
| 45° | 13004 | 13162 | 11468 |
| 50° | 12804 | 12997 | 11003 |
| 55° | 12441 | 11126 | 10808 |
| 60° | 11857 | 10342 | 9874  |
| 65° | 10965 | 9600  | 6838  |
| 70° | 9548  | 7470  | 6094  |
| 75° | 7542  | 5014  | 3276  |
| 80° | 4855  | 2394  | 2042  |
| 85° | 1997  | 1462  | 1608  |



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**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 777.8   | 3.5       |
| 10°-20°   | 2241.8  | 10.1      |
| 20°-30°   | 3437.0  | 15.5      |
| 30°-40°   | 4212.5  | 19.0      |
| 40°-50°   | 4330.8  | 19.5      |
| 50°-60°   | 3696.1  | 16.7      |
| 60°-70°   | 2443.6  | 11.0      |
| 70°-80°   | 905.3   | 4.1       |
| 80°-90°   | 121.1   | 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°    | 6456.5  | 29.1      |
| 0°-40°    | 10669.0 | 48.1      |
| 0°-60°    | 18696.0 | 84.3      |
| 0°-90°    | 22166.0 | 100.0     |
| 90°-120°  | 0.0     | 0.0       |
| 90°-150°  | 0.0     | 0.0       |
| 90°-180°  | 0.0     | 0.0       |
| 0°-180°   | 22166.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 8199 | 8199  | 8199 | 8199  | 8199 |      |
| 5°  | 8138 | 8195  | 8156 | 8188  | 8196 | 774  |
| 15° | 7890 | 7938  | 7914 | 7974  | 7978 | 2229 |
| 25° | 7404 | 7442  | 7431 | 7498  | 7476 | 3414 |
| 35° | 6676 | 6722  | 6737 | 6779  | 6742 | 4176 |
| 45° | 5695 | 5752  | 5764 | 5755  | 5022 | 4389 |
| 55° | 4420 | 4500  | 3952 | 3838  | 3840 | 3943 |
| 65° | 2870 | 2894  | 2513 | 2066  | 1790 | 2830 |
| 75° | 1209 | 1059  | 804  | 540   | 525  | 1297 |
| 85° | 108  | 77    | 79   | 86    | 87   | 178  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 8199.1 | 8199.1 | 8199.1 | 8199.1 | 8199.1 |
| 2.5°  | 8159.2 | 8210.1 | 8180.1 | 8218.0 | 8247.0 |
| 5°    | 8138.2 | 8195.1 | 8156.2 | 8188.1 | 8196.1 |
| 7.5°  | 8102.3 | 8155.2 | 8119.2 | 8161.2 | 8155.2 |
| 10°   | 8044.4 | 8092.3 | 8067.3 | 8111.3 | 8114.2 |
| 12.5° | 7970.5 | 8018.4 | 7995.5 | 8049.3 | 8048.3 |
| 15°   | 7889.6 | 7937.6 | 7913.5 | 7973.5 | 7977.5 |
| 17.5° | 7794.8 | 7838.7 | 7820.7 | 7875.7 | 7853.7 |
| 20°   | 7684.9 | 7722.9 | 7713.9 | 7765.9 | 7749.8 |
| 22.5° | 7550.2 | 7589.1 | 7580.2 | 7640.1 | 7616.1 |
| 25°   | 7403.5 | 7442.4 | 7431.4 | 7498.3 | 7476.4 |
| 27.5° | 7244.8 | 7281.6 | 7280.6 | 7343.6 | 7309.7 |
| 30°   | 7061.0 | 7110.0 | 7113.0 | 7168.9 | 7128.9 |
| 32.5° | 6879.4 | 6925.3 | 6938.3 | 6979.2 | 6945.3 |
| 35°   | 6675.7 | 6721.6 | 6736.6 | 6778.6 | 6741.6 |
| 37.5° | 6456.0 | 6495.0 | 6521.9 | 6552.9 | 6523.9 |
| 40°   | 6223.4 | 6258.4 | 6278.4 | 6316.3 | 6278.4 |
| 42.5° | 5963.9 | 6013.9 | 6041.8 | 6068.7 | 6006.9 |
| 45°   | 5695.3 | 5752.2 | 5764.2 | 5755.2 | 5022.5 |
| 47.5° | 5410.9 | 5472.8 | 5479.8 | 4778.9 | 4644.2 |
| 50°   | 5097.4 | 5175.3 | 5174.3 | 4416.5 | 4380.6 |
| 52.5° | 4770.9 | 4845.8 | 4842.8 | 4133.0 | 4109.1 |
| 55°   | 4419.5 | 4500.4 | 3952.3 | 3837.5 | 3839.5 |
| 57.5° | 4061.1 | 4119.0 | 3546.0 | 3550.9 | 3485.1 |
| 60°   | 3671.8 | 3726.7 | 3202.6 | 3171.6 | 3057.8 |
| 62.5° | 3281.5 | 3304.4 | 2870.2 | 2719.4 | 2502.8 |
| 65°   | 2870.2 | 2894.1 | 2512.8 | 2066.5 | 1789.9 |
| 67.5° | 2447.9 | 2471.8 | 2085.4 | 1537.4 | 1516.4 |
| 70°   | 2022.5 | 1826.9 | 1582.4 | 1280.9 | 1290.8 |
| 72.5° | 1603.3 | 1403.6 | 1034.3 | 992.3  | 716.7  |
| 75°   | 1209.0 | 1059.2 | 803.7  | 540.1  | 525.1  |
| 77.5° | 841.6  | 729.8  | 430.3  | 368.4  | 344.5  |
| 80°   | 522.1  | 366.4  | 257.5  | 228.6  | 219.6  |
| 82.5° | 264.5  | 210.7  | 139.8  | 139.8  | 139.8  |
| 85°   | 107.8  | 76.9   | 78.9   | 85.8   | 86.8   |
| 87.5° | 22.9   | 30.9   | 37.9   | 39.0   | 37.9   |
| 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)