

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: P731101

Luminaire Tested: **HBLED-LD5-48SE-N-UNV-L850**

Issue Date: 11/13/2023

**Test Information**

Test Method: LM-79-08  
Report Number: P731101  
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-LD5-48SE-N-UNV-L850  
Description: 48000 LUMEN, SE HBLED WITH NARROW DISTRIBUTION  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 46417.0 lumens  
Efficiency: N/A  
Efficacy: 162.6 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

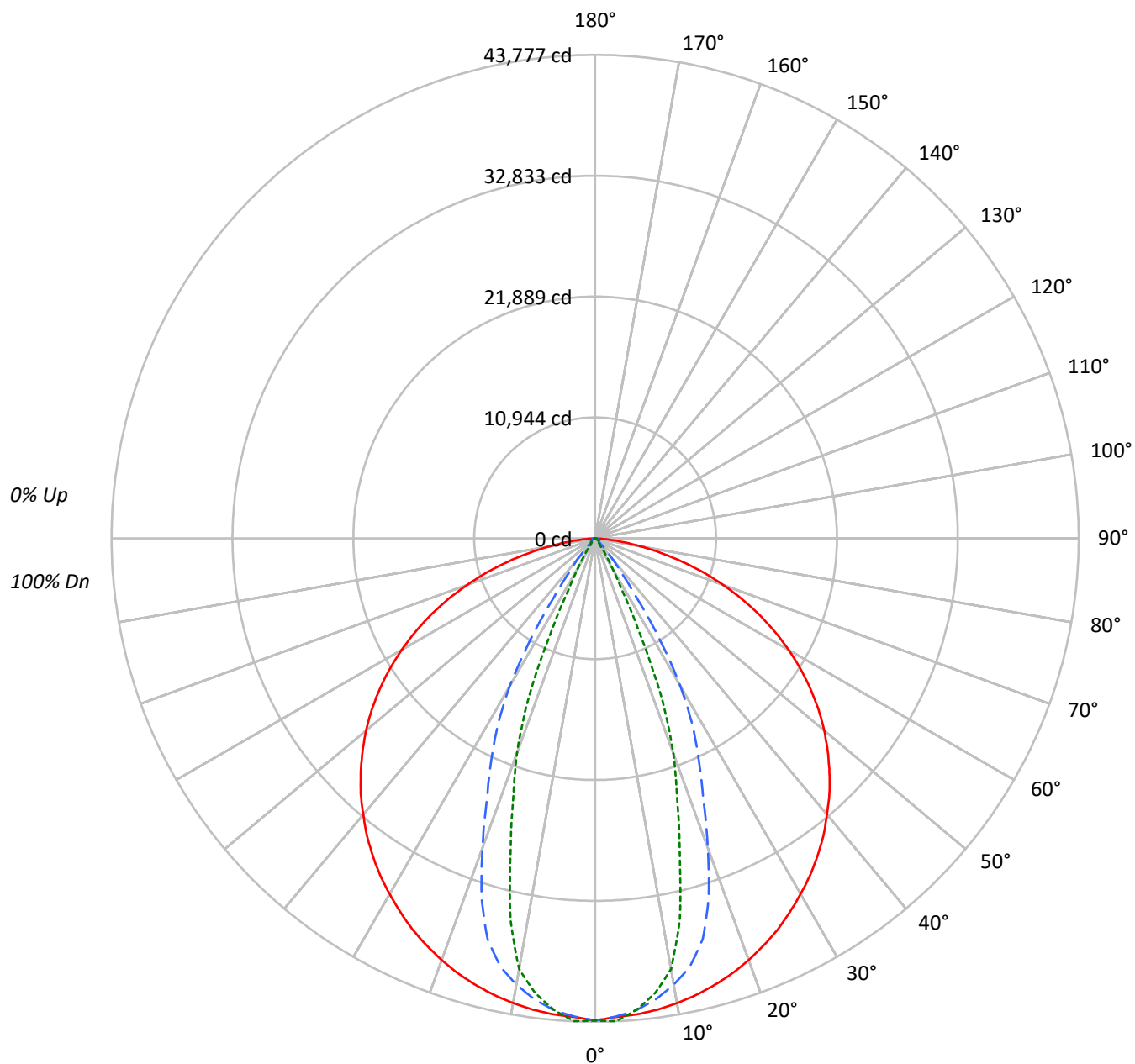
Input Watts (W): 285.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 70511 | 70511 | 70511 |
| 5°  | 70134 | 69514 | 69484 |
| 10° | 70090 | 67287 | 64926 |
| 15° | 69991 | 62862 | 49412 |
| 20° | 69828 | 51245 | 35568 |
| 25° | 69650 | 39624 | 17521 |
| 30° | 69343 | 28797 | 5682  |
| 35° | 69179 | 12776 | 1462  |
| 40° | 68816 | 5189  | 985   |
| 45° | 68508 | 1456  | 1048  |
| 50° | 67975 | 1033  | 1164  |
| 55° | 66995 | 1228  | 497   |
| 60° | 65342 | 1369  | 302   |
| 65° | 62654 | 873   | 357   |
| 70° | 58207 | 775   | 441   |
| 75° | 50919 | 583   | 609   |
| 80° | 38073 | 715   | 869   |
| 85° | 18859 | 923   | 1152  |



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**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 4052.7  | 8.7       |
| 10°-20°   | 10133.9 | 21.8      |
| 20°-30°   | 10976.6 | 23.6      |
| 30°-40°   | 8128.6  | 17.5      |
| 40°-50°   | 5854.7  | 12.6      |
| 50°-60°   | 3625.2  | 7.8       |
| 60°-70°   | 2229.4  | 4.8       |
| 70°-80°   | 1175.3  | 2.5       |
| 80°-90°   | 240.6   | 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°    | 25163.2 | 54.2      |
| 0°-40°    | 33291.8 | 71.7      |
| 0°-60°    | 42771.7 | 92.1      |
| 0°-90°    | 46417.0 | 100.0     |
| 90°-120°  | 0.0     | 0.0       |
| 90°-150°  | 0.0     | 0.0       |
| 90°-180°  | 0.0     | 0.0       |
| 0°-180°   | 46417.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | 22.5° | 45°   | 67.5° | 90°   | Flux  |
|-----|-------|-------|-------|-------|-------|-------|
| 0°  | 43671 | 43671 | 43671 | 43671 | 43671 |       |
| 5°  | 43272 | 43432 | 42890 | 42921 | 42871 | ###   |
| 15° | 41872 | 40900 | 37607 | 31981 | 29561 | 11820 |
| 25° | 39096 | 35812 | 22242 | 13992 | 9835  | 18015 |
| 35° | 35097 | 24743 | 6482  | 1525  | 742   | 21958 |
| 45° | 30003 | 13940 | 638   | 461   | 459   | 23139 |
| 55° | 23800 | 2871  | 436   | 395   | 177   | 21246 |
| 65° | 16400 | 303   | 228   | 145   | 94    | 16181 |
| 75° | 8162  | 71    | 94    | 123   | 98    | 8621  |
| 85° | 1018  | 27    | 50    | 75    | 62    | ###   |
| 90° | 0     | 0     | 0     | 0     | 0     |       |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 22.5°   | 45°     | 67.5°   | 90°     |
|-------|---------|---------|---------|---------|---------|
| 0°    | 43671.2 | 43671.2 | 43671.2 | 43671.2 | 43671.2 |
| 2.5°  | 43390.8 | 43667.2 | 43341.0 | 43584.1 | 43777.2 |
| 5°    | 43272.3 | 43432.3 | 42890.1 | 42921.2 | 42871.4 |
| 7.5°  | 43064.5 | 43027.2 | 42115.2 | 41716.3 | 41541.9 |
| 10°   | 42751.0 | 42503.6 | 41041.2 | 40208.1 | 39601.4 |
| 12.5° | 42345.9 | 41793.2 | 39701.2 | 37052.3 | 35407.0 |
| 15°   | 41872.1 | 40899.9 | 37607.0 | 31981.2 | 29560.8 |
| 17.5° | 41307.0 | 39929.7 | 34183.2 | 26803.9 | 24643.5 |
| 20°   | 40640.1 | 38847.2 | 29824.6 | 22804.8 | 20700.4 |
| 22.5° | 39896.3 | 37530.1 | 25590.8 | 18953.1 | 15951.1 |
| 25°   | 39096.5 | 35812.1 | 22241.7 | 13992.0 | 9834.9  |
| 27.5° | 38172.1 | 33603.7 | 19100.6 | 8241.5  | 5019.3  |
| 30°   | 37193.7 | 30944.4 | 15446.2 | 4433.3  | 3047.8  |
| 32.5° | 36206.8 | 27929.9 | 10929.7 | 2769.3  | 1728.4  |
| 35°   | 35097.4 | 24743.0 | 6481.8  | 1524.9  | 741.8   |
| 37.5° | 33940.1 | 21822.2 | 3830.9  | 694.0   | 475.8   |
| 40°   | 32650.1 | 19152.6 | 2461.8  | 461.1   | 467.3   |
| 42.5° | 31403.7 | 16663.7 | 1385.8  | 454.9   | 463.3   |
| 45°   | 30003.2 | 13940.0 | 637.8   | 461.1   | 459.1   |
| 47.5° | 28555.3 | 11116.6 | 413.3   | 465.3   | 465.3   |
| 50°   | 27061.7 | 7948.6  | 411.3   | 475.8   | 463.3   |
| 52.5° | 25484.8 | 4959.1  | 428.0   | 473.8   | 380.2   |
| 55°   | 23799.9 | 2871.1  | 436.2   | 394.7   | 176.7   |
| 57.5° | 22054.8 | 1693.1  | 440.4   | 226.4   | 99.8    |
| 60°   | 20234.8 | 936.9   | 423.8   | 168.2   | 93.5    |
| 62.5° | 18358.8 | 446.7   | 334.4   | 158.0   | 91.3    |
| 65°   | 16399.7 | 303.3   | 228.5   | 145.3   | 93.5    |
| 67.5° | 14366.0 | 234.7   | 180.7   | 137.1   | 95.6    |
| 70°   | 12330.0 | 174.5   | 164.2   | 137.1   | 93.5    |
| 72.5° | 10260.9 | 118.4   | 137.1   | 139.1   | 93.5    |
| 75°   | 8162.4  | 70.7    | 93.5    | 122.7   | 97.6    |
| 77.5° | 6082.9  | 43.6    | 72.7    | 126.7   | 118.4   |
| 80°   | 4094.7  | 37.3    | 76.9    | 118.4   | 93.5    |
| 82.5° | 2403.8  | 33.3    | 74.9    | 91.3    | 74.9    |
| 85°   | 1018.0  | 27.1    | 49.8    | 74.9    | 62.2    |
| 87.5° | 191.1   | 22.9    | 39.5    | 60.2    | 54.0    |
| 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)