

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: FAIL-SAFE

Report Number: P239290

Luminaire Tested: **HDF-2-LD4-UNV-1-LO-35-EDC-1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P239290
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-18)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: HDF-2-LD4-UNV-1-LO-35-EDC-1
Description: FAILSAFE HDF LED FIXTURE
2FT, 1-ROW LED BOARDS, NON-OVERLAY
Light Source: (42) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

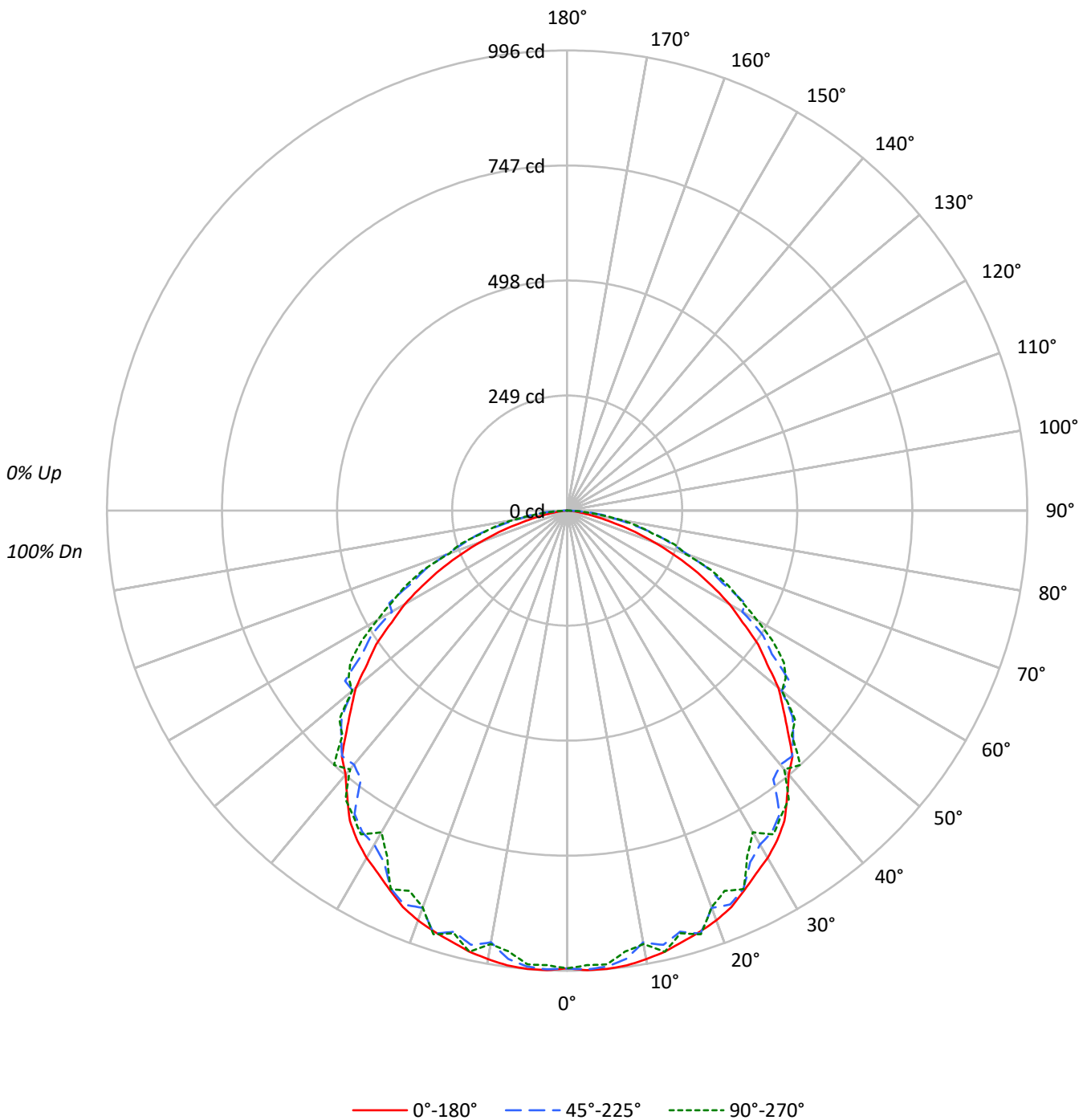
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2862.0 lumens
Efficiency: N/A
Efficacy: 115.9 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 1.28 / 1.41
Luminous Opening: Rectangular (W 0.58' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 24.7
Input Voltage (V): 120
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 | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 109 | 104 | 100 | 96 | 106 | 102 | 98 | 94 | 98 | 94 | 91 | 94 | 91 | 89 | 90 | 88 | 86 | 84 |
| 2 | 99 | 91 | 84 | 78 | 96 | 89 | 82 | 77 | 85 | 80 | 75 | 82 | 78 | 74 | 79 | 75 | 72 | 70 |
| 3 | 90 | 80 | 71 | 65 | 88 | 78 | 70 | 64 | 75 | 68 | 63 | 72 | 67 | 62 | 70 | 65 | 61 | 59 |
| 4 | 82 | 70 | 62 | 55 | 80 | 69 | 61 | 54 | 67 | 59 | 54 | 64 | 58 | 53 | 62 | 57 | 52 | 50 |
| 5 | 76 | 63 | 54 | 47 | 74 | 62 | 53 | 47 | 60 | 52 | 46 | 58 | 51 | 46 | 56 | 50 | 45 | 43 |
| 6 | 70 | 56 | 47 | 41 | 68 | 56 | 47 | 41 | 54 | 46 | 40 | 52 | 45 | 40 | 50 | 44 | 40 | 38 |
| 7 | 65 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 49 | 41 | 36 | 47 | 41 | 35 | 46 | 40 | 35 | 33 |
| 8 | 60 | 47 | 38 | 32 | 59 | 46 | 38 | 32 | 45 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 31 | 30 |
| 9 | 56 | 43 | 35 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 29 | 39 | 33 | 28 | 27 |
| 10 | 53 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 26 | 36 | 30 | 26 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 9141 | 9141 | 9141 |
| 5° | 9223 | 9176 | 9130 |
| 10° | 9236 | 8889 | 8926 |
| 15° | 9225 | 9015 | 9044 |
| 20° | 9267 | 8982 | 8972 |
| 25° | 9231 | 9191 | 9201 |
| 30° | 9246 | 8895 | 8564 |
| 35° | 9235 | 9032 | 9088 |
| 40° | 8984 | 8646 | 8803 |
| 45° | 8806 | 9028 | 8976 |
| 50° | 8568 | 8697 | 8711 |
| 55° | 8122 | 8701 | 9215 |
| 60° | 7490 | 8080 | 8763 |
| 65° | 6613 | 8097 | 8403 |
| 70° | 5422 | 7472 | 7310 |
| 75° | 3814 | 7094 | 6809 |
| 80° | 2178 | 5844 | 6429 |
| 85° | 1059 | 5081 | 4129 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 93.5 | 3.3 |
| 10°-20° | 269.5 | 9.4 |
| 20°-30° | 409.5 | 14.3 |
| 30°-40° | 499.5 | 17.5 |
| 40°-50° | 526.1 | 18.4 |
| 50°-60° | 474.9 | 16.6 |
| 60°-70° | 353.9 | 12.4 |
| 70°-80° | 188.1 | 6.6 |
| 80°-90° | 47.2 | 1.6 |
| 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° | 772.4 | 27.0 |
| 0°-40° | 1271.9 | 44.4 |
| 0°-60° | 2272.9 | 79.4 |
| 0°-90° | 2862.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2862.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 991 | 991 | 991 | 991 | 991 | |
| 5° | 996 | 997 | 991 | 989 | 986 | 95 |
| 15° | 966 | 943 | 944 | 945 | 947 | 273 |
| 25° | 907 | 881 | 903 | 871 | 904 | 419 |
| 35° | 820 | 800 | 802 | 804 | 807 | 510 |
| 45° | 675 | 663 | 692 | 719 | 688 | 521 |
| 55° | 505 | 484 | 541 | 571 | 573 | 447 |
| 65° | 303 | 323 | 371 | 383 | 385 | 299 |
| 75° | 107 | 159 | 199 | 198 | 191 | 119 |
| 85° | 10 | 37 | 48 | 46 | 39 | 16 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P239290

CATALOG NUMBER: HDF-2-LD4-UNV-1-LO-35-EDC-1

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 990.8 | 990.8 | 990.8 | 990.8 | 990.8 |
| 2.5° | 995.8 | 989.8 | 993.8 | 986.8 | 984.8 |
| 5° | 995.8 | 996.8 | 990.8 | 988.8 | 985.8 |
| 7.5° | 992.8 | 996.8 | 978.8 | 945.8 | 962.8 |
| 10° | 985.8 | 987.8 | 948.8 | 959.8 | 952.8 |
| 12.5° | 977.8 | 979.8 | 962.8 | 960.8 | 977.8 |
| 15° | 965.8 | 942.8 | 943.8 | 944.8 | 946.8 |
| 17.5° | 955.8 | 915.8 | 959.8 | 955.8 | 961.8 |
| 20° | 943.8 | 926.8 | 914.8 | 932.8 | 913.8 |
| 22.5° | 928.8 | 911.8 | 922.8 | 892.8 | 890.8 |
| 25° | 906.8 | 880.9 | 902.8 | 870.9 | 903.8 |
| 27.5° | 885.8 | 866.9 | 857.9 | 882.8 | 843.9 |
| 30° | 867.9 | 864.9 | 834.9 | 811.9 | 803.9 |
| 32.5° | 845.9 | 827.9 | 824.9 | 793.9 | 830.9 |
| 35° | 819.9 | 799.9 | 801.9 | 803.9 | 806.9 |
| 37.5° | 781.9 | 793.9 | 732.9 | 776.9 | 787.9 |
| 40° | 745.9 | 756.9 | 717.9 | 756.9 | 730.9 |
| 42.5° | 721.9 | 696.9 | 720.9 | 708.9 | 746.9 |
| 45° | 674.9 | 662.9 | 691.9 | 718.9 | 687.9 |
| 47.5° | 633.9 | 616.9 | 661.9 | 655.9 | 668.9 |
| 50° | 596.9 | 585.9 | 605.9 | 629.9 | 606.9 |
| 52.5° | 544.9 | 549.9 | 605.9 | 570.9 | 595.9 |
| 55° | 504.9 | 483.9 | 540.9 | 570.9 | 572.9 |
| 57.5° | 449.9 | 439.9 | 502.9 | 521.9 | 528.9 |
| 60° | 405.9 | 425.9 | 437.9 | 487.9 | 474.9 |
| 62.5° | 353.9 | 373.9 | 433.9 | 430.9 | 425.9 |
| 65° | 302.9 | 322.9 | 370.9 | 382.9 | 384.9 |
| 67.5° | 250.0 | 291.0 | 331.9 | 333.9 | 337.9 |
| 70° | 201.0 | 249.0 | 277.0 | 292.0 | 271.0 |
| 72.5° | 154.0 | 191.0 | 234.0 | 251.0 | 244.0 |
| 75° | 107.0 | 159.0 | 199.0 | 198.0 | 191.0 |
| 77.5° | 70.0 | 123.0 | 149.0 | 159.0 | 159.0 |
| 80° | 41.0 | 88.0 | 110.0 | 124.0 | 121.0 |
| 82.5° | 22.0 | 58.0 | 82.0 | 81.0 | 73.0 |
| 85° | 10.0 | 37.0 | 48.0 | 46.0 | 39.0 |
| 87.5° | 5.0 | 21.0 | 22.0 | 17.0 | 12.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)