

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: ITL44165

Luminaire Tested: **IAF-296HO**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: ITL44165
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: IAF-296HO
Description: IAF SERIES, METAL STRIP BALLAST HOUSING, WHITE PAINTED FABRICATED METAL REFLECTOR WITH UP-LIGHT APPERTURES, OPEN ENDS AND BOTTOM.
Light Source: TWO 95-WATT F96T12/CW/HO/WM FLUORESCENTS.
Ballast/Driver: ONE MAGNETEK UNIVERSAL 480-XLH-TC-P (BALLAST FACTOR 83.9 %)

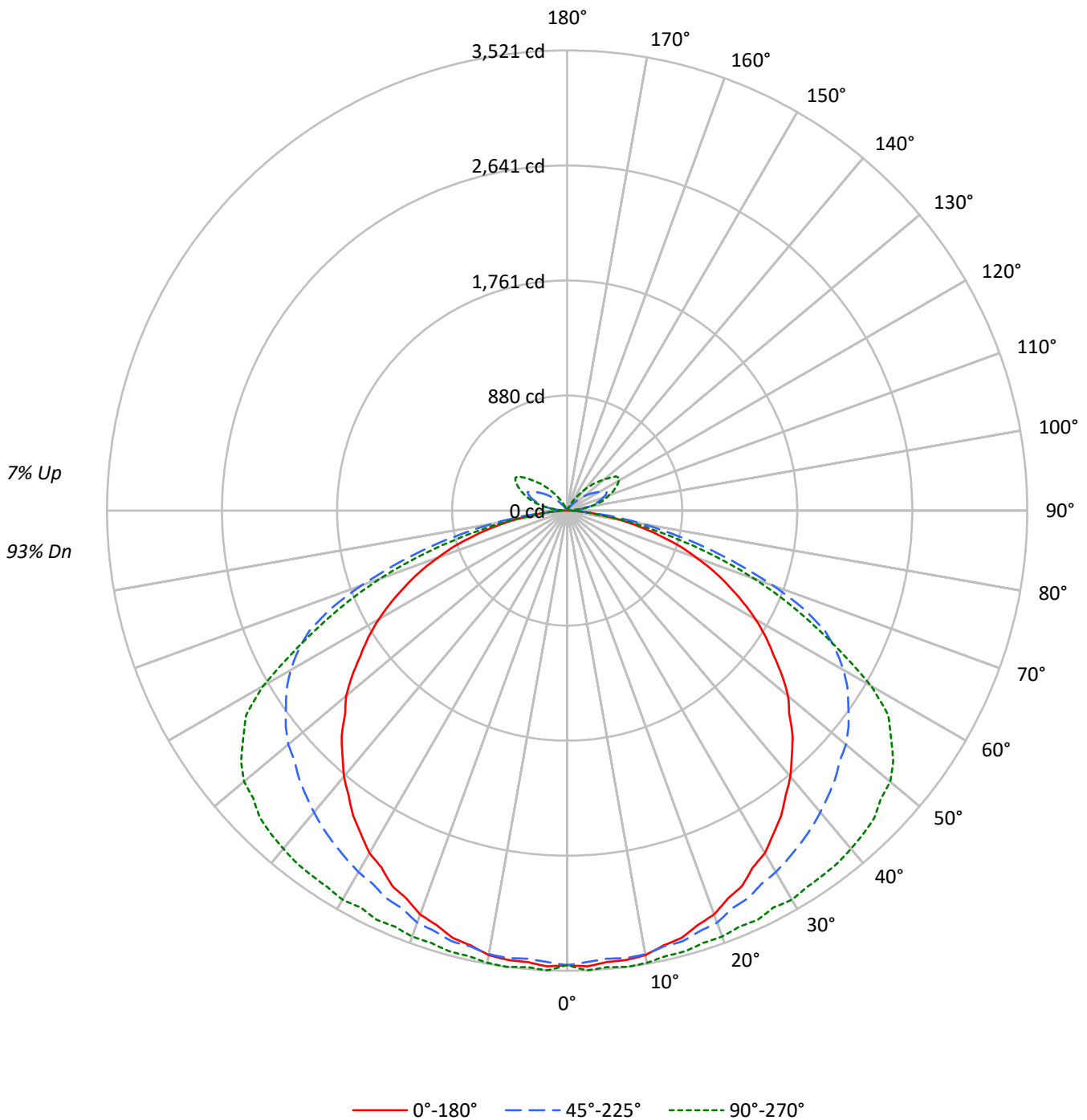
Summary

Lumens per Lamp: 8000 (2 lamps)
Luminaire Lumens: 13458.7 lumens
Efficiency: 84.1%
Efficacy: 64.7 lumens/watt
Spacing Criteria (0/90/45): 1.29 / 1.5 / 1.56
Luminous Opening: Rectangular (W 1' x L: 8' x H: 0')
CIE Type: Direct

Input Watts (W): 208
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 | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 99 | 99 | 99 | 99 | 96 | 96 | 96 | 96 | 90 | 90 | 90 | 85 | 85 | 85 | 81 | 81 | 81 | 79 |
| 1 | 90 | 85 | 81 | 78 | 87 | 83 | 79 | 76 | 78 | 75 | 73 | 74 | 72 | 70 | 70 | 68 | 67 | 64 |
| 2 | 81 | 73 | 67 | 62 | 78 | 71 | 66 | 61 | 67 | 63 | 59 | 64 | 60 | 57 | 60 | 57 | 54 | 52 |
| 3 | 73 | 64 | 56 | 51 | 70 | 62 | 55 | 50 | 59 | 53 | 48 | 55 | 51 | 47 | 53 | 49 | 45 | 43 |
| 4 | 66 | 56 | 48 | 42 | 64 | 54 | 47 | 42 | 51 | 45 | 40 | 49 | 44 | 39 | 46 | 42 | 38 | 36 |
| 5 | 61 | 49 | 42 | 36 | 59 | 48 | 41 | 35 | 46 | 39 | 34 | 43 | 38 | 33 | 41 | 36 | 33 | 31 |
| 6 | 56 | 44 | 36 | 31 | 54 | 43 | 36 | 30 | 41 | 35 | 30 | 39 | 33 | 29 | 37 | 32 | 28 | 26 |
| 7 | 52 | 40 | 32 | 27 | 50 | 39 | 32 | 27 | 37 | 31 | 26 | 35 | 30 | 25 | 34 | 29 | 25 | 23 |
| 8 | 48 | 36 | 29 | 24 | 46 | 35 | 28 | 23 | 34 | 27 | 23 | 32 | 27 | 22 | 31 | 26 | 22 | 20 |
| 9 | 45 | 33 | 26 | 21 | 43 | 32 | 26 | 21 | 31 | 25 | 20 | 30 | 24 | 20 | 28 | 23 | 20 | 18 |
| 10 | 42 | 30 | 24 | 19 | 40 | 30 | 23 | 19 | 28 | 23 | 18 | 27 | 22 | 18 | 26 | 21 | 18 | 16 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 4680 | 4680 | 4680 |
| 5° | 4684 | 4649 | 4735 |
| 10° | 4718 | 4708 | 4800 |
| 15° | 4715 | 4753 | 4863 |
| 20° | 4708 | 4804 | 4966 |
| 25° | 4703 | 4859 | 5126 |
| 30° | 4700 | 4962 | 5341 |
| 35° | 4686 | 5110 | 5598 |
| 40° | 4667 | 5294 | 5933 |
| 45° | 4643 | 5520 | 6327 |
| 50° | 4620 | 5830 | 6757 |
| 55° | 4525 | 6162 | 7096 |
| 60° | 4483 | 6574 | 7231 |
| 65° | 4349 | 6931 | 6644 |
| 70° | 4135 | 6585 | 5995 |
| 75° | 3785 | 5755 | 4840 |
| 80° | 3200 | 4541 | 3487 |
| 85° | 2208 | 2377 | 2316 |



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

| Zone | Lumens | % Fixture | % Lamp | | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----------|---------|-----------|--------|------|------|-------|------|-------|------|------|
| 0°-10° | 330.7 | 2.5 | 2.1 | 0° | 3478 | 3478 | 3478 | 3478 | 3478 | |
| 10°-20° | 965.1 | 7.2 | 6.0 | 5° | 3468 | 3434 | 3442 | 3468 | 3506 | 331 |
| 20°-30° | 1517.2 | 11.3 | 9.5 | 15° | 3385 | 3374 | 3412 | 3461 | 3491 | 953 |
| 30°-40° | 1955.1 | 14.5 | 12.2 | 25° | 3168 | 3202 | 3273 | 3378 | 3453 | 1456 |
| 40°-50° | 2227.5 | 16.6 | 13.9 | 35° | 2853 | 2924 | 3111 | 3310 | 3408 | 1782 |
| 50°-60° | 2284.5 | 17.0 | 14.3 | 45° | 2440 | 2564 | 2901 | 3209 | 3325 | 1877 |
| 60°-70° | 1927.6 | 14.3 | 12.0 | 55° | 1929 | 2147 | 2627 | 2954 | 3025 | 1731 |
| 70°-80° | 1111.4 | 8.3 | 6.9 | 65° | 1366 | 1730 | 2177 | 2218 | 2087 | 1350 |
| 80°-90° | 258.0 | 1.9 | 1.6 | 75° | 728 | 1235 | 1107 | 1047 | 931 | 771 |
| 90°-100° | 84.7 | 0.6 | 0.5 | 85° | 143 | 304 | 154 | 158 | 150 | 173 |
| 100°-110° | 208.9 | 1.6 | 1.3 | 90° | 10 | 53 | 32 | 26 | 23 | 10 |
| 110°-120° | 248.3 | 1.8 | 1.6 | 95° | 5 | 99 | 76 | 83 | 63 | 4 |
| 120°-130° | 193.6 | 1.4 | 1.2 | 105° | 5 | 156 | 239 | 274 | 276 | 5 |
| 130°-140° | 99.0 | 0.7 | 0.6 | 115° | 6 | 84 | 334 | 398 | 407 | 6 |
| 140°-150° | 34.9 | 0.3 | 0.2 | 125° | 8 | 29 | 228 | 382 | 456 | 7 |
| 150°-160° | 8.0 | 0.1 | 0.0 | 135° | 11 | 12 | 110 | 228 | 291 | 8 |
| 160°-170° | 3.1 | 0.0 | 0.0 | 145° | 14 | 13 | 32 | 93 | 134 | 9 |
| 170°-180° | 0.9 | 0.0 | 0.0 | 155° | 12 | 11 | 13 | 16 | 28 | 6 |
| 0°-30° | 2813.1 | 20.9 | 17.6 | 165° | 12 | 9 | 11 | 11 | 13 | 3 |
| 0°-40° | 4768.2 | 35.4 | 29.8 | 175° | 11 | 9 | 9 | 9 | 11 | 1 |
| 0°-60° | 9280.2 | 69.0 | 58.0 | 180° | 10 | 10 | 10 | 10 | 10 | |
| 0°-90° | 12577.2 | 93.5 | 78.6 | | | | | | | |
| 90°-120° | 541.9 | 4.0 | 3.4 | | | | | | | |
| 90°-150° | 869.5 | 6.5 | 5.4 | | | | | | | |
| 90°-180° | 881.0 | 6.5 | 5.5 | | | | | | | |
| 0°-180° | 13458.7 | 100.0 | 84.1 | | | | | | | |



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 CATALOG NUMBER: IAF-296HO

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|------|-------|------|-------|------|
| 0° | 3478 | 3478 | 3478 | 3478 | 3478 |
| 2.5° | 3491 | 3449 | 3457 | 3483 | 3521 |
| 5° | 3468 | 3434 | 3442 | 3468 | 3506 |
| 7.5° | 3468 | 3442 | 3453 | 3483 | 3521 |
| 10° | 3453 | 3427 | 3446 | 3483 | 3513 |
| 12.5° | 3408 | 3389 | 3416 | 3453 | 3491 |
| 15° | 3385 | 3374 | 3412 | 3461 | 3491 |
| 17.5° | 3325 | 3329 | 3374 | 3419 | 3468 |
| 20° | 3288 | 3299 | 3355 | 3416 | 3468 |
| 22.5° | 3213 | 3239 | 3295 | 3385 | 3446 |
| 25° | 3168 | 3202 | 3273 | 3378 | 3453 |
| 27.5° | 3078 | 3127 | 3220 | 3355 | 3423 |
| 30° | 3025 | 3078 | 3194 | 3352 | 3438 |
| 32.5° | 2935 | 3006 | 3153 | 3329 | 3416 |
| 35° | 2853 | 2924 | 3111 | 3310 | 3408 |
| 37.5° | 2747 | 2841 | 3066 | 3288 | 3400 |
| 40° | 2657 | 2751 | 3014 | 3265 | 3378 |
| 42.5° | 2545 | 2654 | 2958 | 3239 | 3355 |
| 45° | 2440 | 2564 | 2901 | 3209 | 3325 |
| 47.5° | 2305 | 2447 | 2830 | 3149 | 3258 |
| 50° | 2207 | 2365 | 2785 | 3115 | 3228 |
| 52.5° | 2072 | 2267 | 2714 | 3044 | 3145 |
| 55° | 1929 | 2147 | 2627 | 2954 | 3025 |
| 57.5° | 1802 | 2061 | 2545 | 2868 | 2913 |
| 60° | 1666 | 1952 | 2443 | 2717 | 2687 |
| 62.5° | 1516 | 1839 | 2320 | 2496 | 2380 |
| 65° | 1366 | 1730 | 2177 | 2218 | 2087 |
| 67.5° | 1216 | 1621 | 1952 | 1922 | 1809 |
| 70° | 1051 | 1501 | 1674 | 1629 | 1524 |
| 72.5° | 901 | 1385 | 1381 | 1351 | 1224 |
| 75° | 728 | 1235 | 1107 | 1047 | 931 |
| 77.5° | 563 | 1055 | 822 | 773 | 661 |
| 80° | 413 | 777 | 586 | 522 | 450 |
| 82.5° | 263 | 544 | 353 | 297 | 225 |
| 85° | 143 | 304 | 154 | 158 | 150 |
| 87.5° | 45 | 128 | 90 | 94 | 75 |
| 90° | 10 | 53 | 32 | 26 | 23 |
| 92.5° | 5 | 65 | 31 | 26 | 24 |
| 95° | 5 | 99 | 76 | 83 | 63 |
| 97.5° | 4 | 119 | 129 | 140 | 125 |
| 100° | 5 | 140 | 176 | 190 | 182 |
| 102.5° | 5 | 156 | 208 | 238 | 232 |
| 105° | 5 | 156 | 239 | 274 | 276 |
| 107.5° | 5 | 137 | 268 | 307 | 309 |
| 110° | 6 | 120 | 298 | 340 | 342 |



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 CATALOG NUMBER: IAF-296HO

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|----|-------|-----|-------|-----|
| 112.5° | 5 | 102 | 321 | 370 | 377 |
| 115° | 6 | 84 | 334 | 398 | 407 |
| 117.5° | 8 | 68 | 316 | 423 | 434 |
| 120° | 8 | 53 | 285 | 437 | 458 |
| 122.5° | 6 | 38 | 256 | 419 | 470 |
| 125° | 8 | 29 | 228 | 382 | 456 |
| 127.5° | 9 | 21 | 199 | 342 | 412 |
| 130° | 9 | 16 | 170 | 305 | 371 |
| 132.5° | 9 | 13 | 142 | 266 | 330 |
| 135° | 11 | 12 | 110 | 228 | 291 |
| 137.5° | 12 | 13 | 86 | 194 | 250 |
| 140° | 13 | 13 | 63 | 157 | 209 |
| 142.5° | 14 | 13 | 44 | 123 | 169 |
| 145° | 14 | 13 | 32 | 93 | 134 |
| 147.5° | 14 | 13 | 23 | 65 | 101 |
| 150° | 14 | 13 | 18 | 42 | 70 |
| 152.5° | 12 | 11 | 14 | 25 | 43 |
| 155° | 12 | 11 | 13 | 16 | 28 |
| 157.5° | 12 | 10 | 12 | 13 | 18 |
| 160° | 12 | 10 | 12 | 12 | 14 |
| 162.5° | 12 | 10 | 11 | 11 | 14 |
| 165° | 12 | 9 | 11 | 11 | 13 |
| 167.5° | 11 | 9 | 11 | 9 | 13 |
| 170° | 11 | 9 | 11 | 10 | 11 |
| 172.5° | 11 | 9 | 10 | 9 | 12 |
| 175° | 11 | 9 | 9 | 9 | 11 |
| 177.5° | 11 | 9 | 9 | 9 | 10 |
| 180° | 10 | 10 | 10 | 10 | 10 |

(END OF REPORT)