

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: P261050

Luminaire Tested: **24CZ-LD5-30-S-UNV-L93050-W2A1-U-4500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P261050
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25694)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ-LD5-30-S-UNV-L93050-W2A1-U-4500K
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS
Light Source: (336) 90 CRI LEDS TUNED AT 4500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2924.7 lumens
Efficiency: N/A
Efficacy: 143.0 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

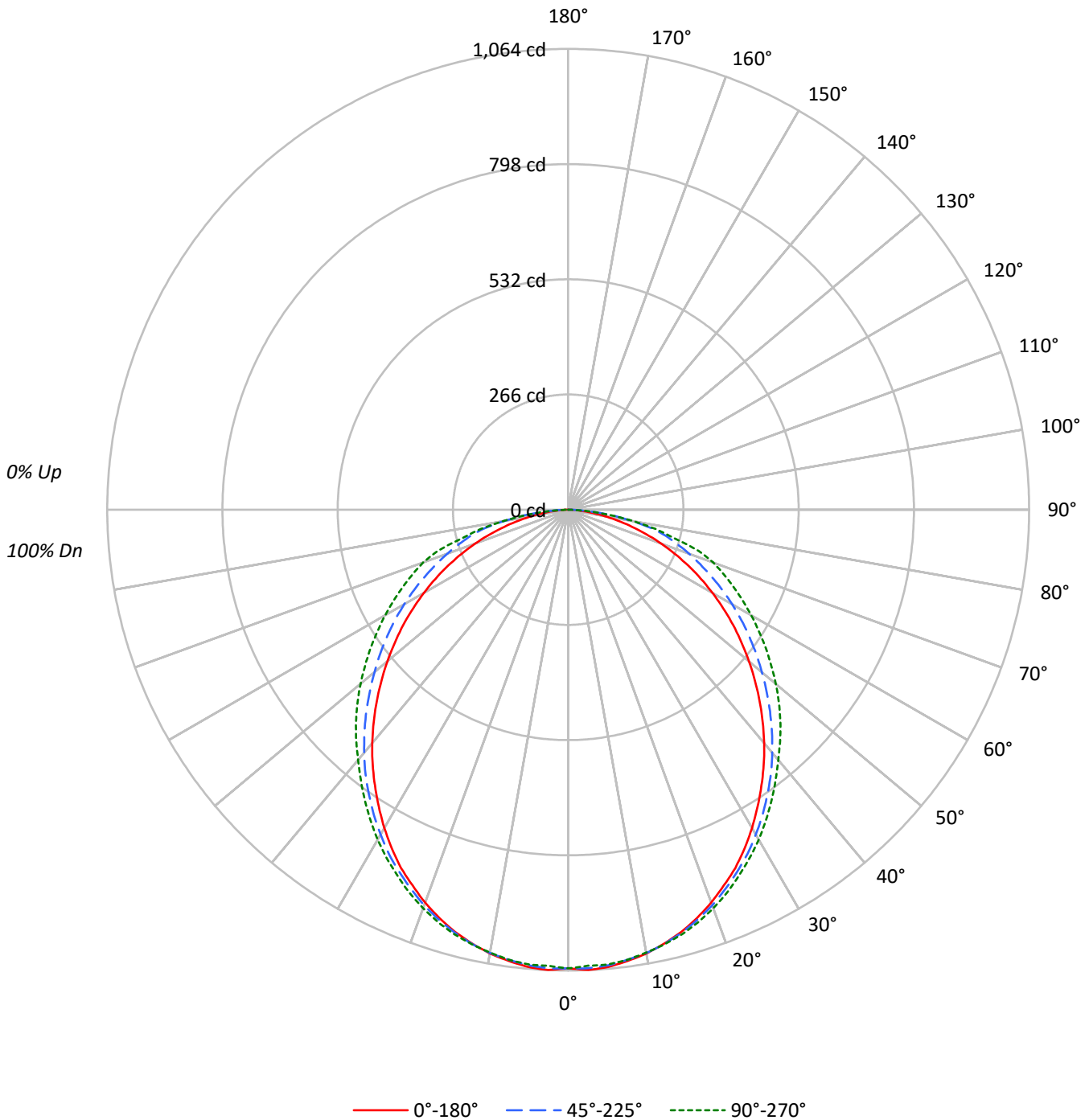
Input Watts (W): 20.447166
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 108 | 104 | 99 | 95 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | 93 | 90 | 88 | 89 | 87 | 85 | 83 |
| 2 | 99 | 90 | 83 | 77 | 96 | 88 | 82 | 76 | 85 | 79 | 75 | 81 | 77 | 73 | 78 | 75 | 71 | 69 |
| 3 | 90 | 79 | 71 | 64 | 87 | 77 | 70 | 64 | 74 | 68 | 62 | 72 | 66 | 61 | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 69 | 60 | 54 | 66 | 59 | 53 | 64 | 58 | 52 | 62 | 56 | 52 | 50 |
| 5 | 76 | 63 | 53 | 47 | 73 | 61 | 53 | 47 | 59 | 52 | 46 | 57 | 51 | 45 | 55 | 50 | 45 | 43 |
| 6 | 70 | 56 | 47 | 41 | 68 | 55 | 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 | 32 | 30 |
| 9 | 56 | 43 | 35 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 29 | 39 | 33 | 29 | 27 |
| 10 | 53 | 40 | 32 | 26 | 52 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 31 | 26 | 36 | 30 | 26 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1425 | 1425 | 1425 |
| 5° | 1431 | 1426 | 1423 |
| 10° | 1421 | 1420 | 1419 |
| 15° | 1406 | 1408 | 1414 |
| 20° | 1382 | 1392 | 1402 |
| 25° | 1355 | 1370 | 1384 |
| 30° | 1318 | 1346 | 1367 |
| 35° | 1277 | 1317 | 1344 |
| 40° | 1236 | 1287 | 1325 |
| 45° | 1189 | 1254 | 1318 |
| 50° | 1141 | 1222 | 1310 |
| 55° | 1091 | 1196 | 1306 |
| 60° | 1034 | 1176 | 1312 |
| 65° | 973 | 1162 | 1338 |
| 70° | 896 | 1168 | 1401 |
| 75° | 794 | 1209 | 1305 |
| 80° | 663 | 1146 | 1176 |
| 85° | 496 | 917 | 841 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 100.1 | 3.4 |
| 10°-20° | 284.7 | 9.7 |
| 20°-30° | 424.3 | 14.5 |
| 30°-40° | 499.4 | 17.1 |
| 40°-50° | 507.6 | 17.4 |
| 50°-60° | 456.3 | 15.6 |
| 60°-70° | 360.5 | 12.3 |
| 70°-80° | 228.7 | 7.8 |
| 80°-90° | 63.1 | 2.2 |
| 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° | 809.1 | 27.7 |
| 0°-40° | 1308.5 | 44.7 |
| 0°-60° | 2272.4 | 77.7 |
| 0°-90° | 2924.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2924.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1059 | 1059 | 1059 | 1059 | 1059 | |
| 5° | 1060 | 1051 | 1056 | 1054 | 1054 | 100 |
| 15° | 1009 | 1004 | 1011 | 1014 | 1015 | 284 |
| 25° | 913 | 912 | 923 | 928 | 932 | 420 |
| 35° | 778 | 782 | 802 | 811 | 818 | 486 |
| 45° | 625 | 634 | 659 | 678 | 693 | 482 |
| 55° | 465 | 477 | 510 | 543 | 557 | 415 |
| 65° | 306 | 321 | 365 | 405 | 420 | 303 |
| 75° | 153 | 179 | 233 | 253 | 251 | 163 |
| 85° | 32 | 56 | 59 | 54 | 54 | 39 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1058.8 | 1058.8 | 1058.8 | 1058.8 | 1058.8 |
| 2.5° | 1063.7 | 1055.9 | 1059.8 | 1057.8 | 1053.9 |
| 5° | 1059.8 | 1051.0 | 1055.9 | 1053.9 | 1053.9 |
| 7.5° | 1051.0 | 1044.2 | 1048.1 | 1047.1 | 1048.1 |
| 10° | 1040.3 | 1033.5 | 1039.3 | 1039.3 | 1038.4 |
| 12.5° | 1025.7 | 1019.9 | 1026.7 | 1026.7 | 1027.7 |
| 15° | 1009.2 | 1004.3 | 1011.1 | 1014.0 | 1015.0 |
| 17.5° | 988.7 | 983.9 | 992.6 | 995.5 | 998.5 |
| 20° | 965.4 | 963.4 | 972.2 | 975.1 | 979.0 |
| 22.5° | 939.1 | 939.1 | 947.9 | 951.8 | 957.6 |
| 25° | 912.8 | 911.9 | 922.6 | 928.4 | 932.3 |
| 27.5° | 881.7 | 882.7 | 896.3 | 902.1 | 907.0 |
| 30° | 848.6 | 850.5 | 866.1 | 872.9 | 879.7 |
| 32.5° | 813.6 | 817.5 | 835.0 | 842.8 | 849.6 |
| 35° | 777.6 | 782.4 | 801.9 | 810.6 | 818.4 |
| 37.5° | 741.6 | 748.4 | 768.8 | 777.6 | 786.3 |
| 40° | 703.6 | 709.4 | 732.8 | 743.5 | 754.2 |
| 42.5° | 664.7 | 672.5 | 695.8 | 711.4 | 724.0 |
| 45° | 624.8 | 633.5 | 658.8 | 678.3 | 692.9 |
| 47.5° | 584.9 | 596.6 | 620.9 | 647.2 | 659.8 |
| 50° | 545.0 | 556.7 | 583.9 | 613.1 | 625.7 |
| 52.5° | 504.1 | 515.8 | 546.9 | 577.1 | 590.7 |
| 55° | 465.2 | 476.9 | 509.9 | 543.0 | 556.7 |
| 57.5° | 424.3 | 437.0 | 473.9 | 508.0 | 521.6 |
| 60° | 384.4 | 397.1 | 437.0 | 473.0 | 487.6 |
| 62.5° | 345.5 | 359.1 | 400.9 | 438.9 | 453.5 |
| 65° | 305.6 | 321.1 | 364.9 | 404.8 | 420.4 |
| 67.5° | 266.6 | 284.2 | 329.9 | 371.7 | 388.3 |
| 70° | 227.7 | 248.2 | 296.8 | 339.6 | 356.2 |
| 72.5° | 189.8 | 212.2 | 263.7 | 306.5 | 315.3 |
| 75° | 152.8 | 179.1 | 232.6 | 253.0 | 251.1 |
| 77.5° | 117.8 | 146.9 | 197.6 | 201.4 | 207.3 |
| 80° | 85.6 | 117.8 | 147.9 | 155.7 | 151.8 |
| 82.5° | 56.4 | 88.6 | 106.1 | 102.2 | 101.2 |
| 85° | 32.1 | 55.5 | 59.4 | 54.5 | 54.5 |
| 87.5° | 13.6 | 22.4 | 19.5 | 14.6 | 13.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)