

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: P276819

Luminaire Tested: **24CZ2-40HE-RDP-UNV-L93050-W2A1-U-4000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P276819
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-40HE-RDP-UNV-L93050-W2A1-U-4000K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH RDP LENS
Light Source: (336) 90 CRI LEDS TUNED TO 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2378.9 lumens
Efficiency: N/A
Efficacy: 82.0 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

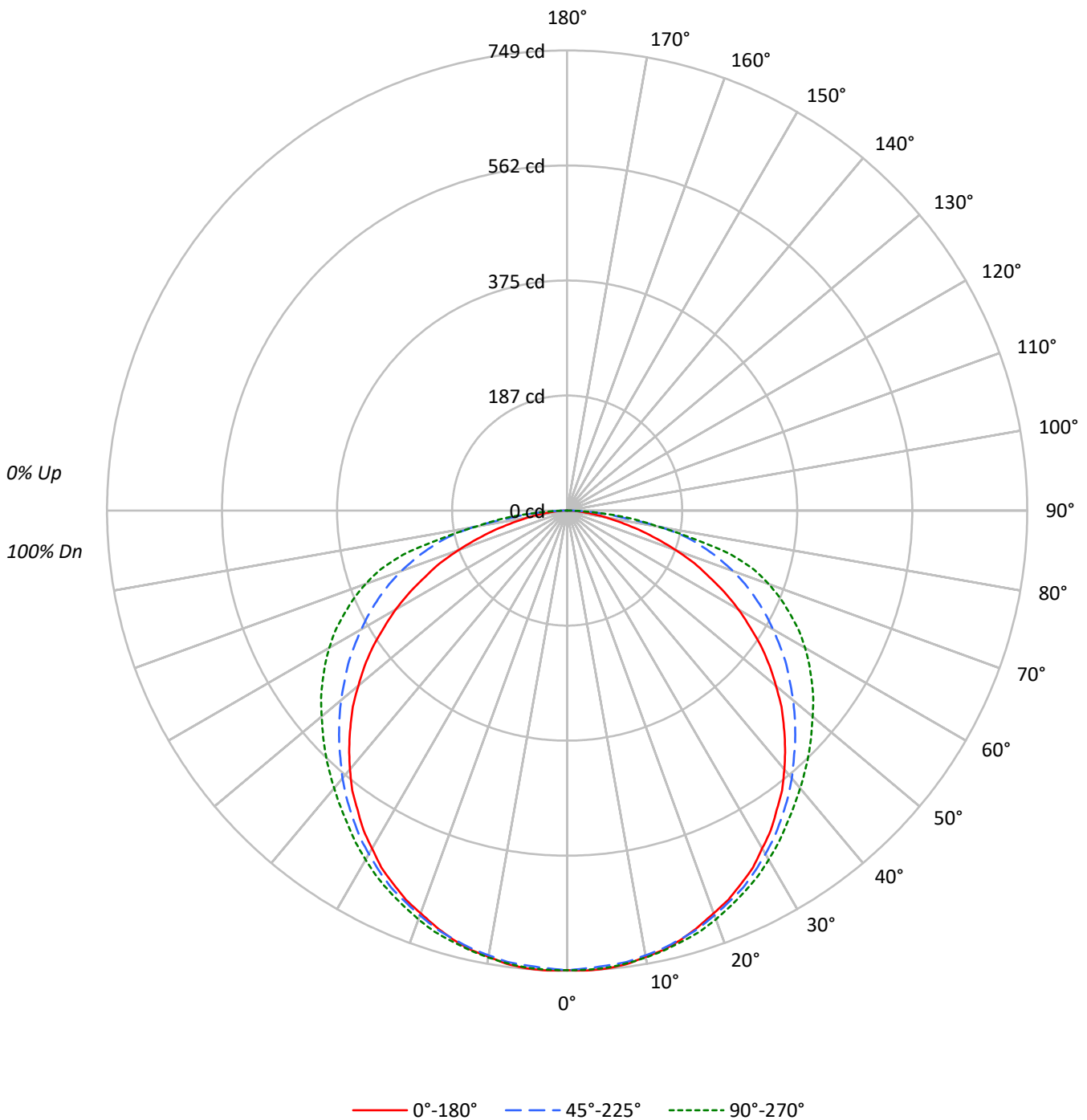
Input Watts (W): 29.007072
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 103 | 98 | 94 | 105 | 100 | 96 | 92 | 96 | 93 | 89 | 92 | 89 | 87 | 88 | 86 | 84 | 82 |
| 2 | 97 | 89 | 81 | 75 | 95 | 87 | 80 | 74 | 83 | 77 | 72 | 80 | 75 | 71 | 77 | 73 | 69 | 67 |
| 3 | 88 | 77 | 68 | 62 | 86 | 76 | 67 | 61 | 72 | 66 | 60 | 70 | 64 | 59 | 67 | 62 | 58 | 56 |
| 4 | 81 | 68 | 59 | 52 | 78 | 67 | 58 | 51 | 64 | 57 | 51 | 62 | 55 | 50 | 59 | 54 | 49 | 47 |
| 5 | 74 | 60 | 51 | 44 | 72 | 59 | 51 | 44 | 57 | 49 | 43 | 55 | 48 | 43 | 53 | 47 | 42 | 40 |
| 6 | 68 | 54 | 45 | 38 | 66 | 53 | 45 | 38 | 51 | 44 | 38 | 50 | 43 | 37 | 48 | 42 | 37 | 35 |
| 7 | 63 | 49 | 40 | 34 | 61 | 48 | 40 | 34 | 47 | 39 | 33 | 45 | 38 | 33 | 44 | 38 | 33 | 31 |
| 8 | 59 | 45 | 36 | 30 | 57 | 44 | 36 | 30 | 43 | 35 | 30 | 41 | 34 | 29 | 40 | 34 | 29 | 27 |
| 9 | 55 | 41 | 33 | 27 | 53 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 31 | 26 | 37 | 31 | 26 | 24 |
| 10 | 51 | 38 | 30 | 24 | 50 | 37 | 29 | 24 | 36 | 29 | 24 | 35 | 29 | 24 | 34 | 28 | 24 | 22 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1007 | 1007 | 1007 |
| 5° | 1010 | 1004 | 1009 |
| 10° | 1008 | 1004 | 1009 |
| 15° | 1006 | 1004 | 1011 |
| 20° | 999 | 1004 | 1014 |
| 25° | 995 | 1006 | 1016 |
| 30° | 986 | 1003 | 1019 |
| 35° | 977 | 1000 | 1023 |
| 40° | 966 | 999 | 1036 |
| 45° | 950 | 999 | 1060 |
| 50° | 929 | 1005 | 1092 |
| 55° | 905 | 1021 | 1141 |
| 60° | 867 | 1041 | 1203 |
| 65° | 812 | 1078 | 1277 |
| 70° | 738 | 1128 | 1374 |
| 75° | 626 | 1190 | 1435 |
| 80° | 494 | 1198 | 1161 |
| 85° | 364 | 911 | 1020 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 71.0 | 3.0 |
| 10°-20° | 204.2 | 8.6 |
| 20°-30° | 312.3 | 13.1 |
| 30°-40° | 381.8 | 16.0 |
| 40°-50° | 406.9 | 17.1 |
| 50°-60° | 389.1 | 16.4 |
| 60°-70° | 329.6 | 13.9 |
| 70°-80° | 221.5 | 9.3 |
| 80°-90° | 62.5 | 2.6 |
| 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° | 587.5 | 24.7 |
| 0°-40° | 969.3 | 40.7 |
| 0°-60° | 1765.3 | 74.2 |
| 0°-90° | 2378.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2378.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 748 | 748 | 748 | 748 | 748 | |
| 5° | 748 | 747 | 743 | 747 | 747 | 71 |
| 15° | 722 | 722 | 721 | 727 | 726 | 204 |
| 25° | 670 | 673 | 677 | 683 | 684 | 309 |
| 35° | 595 | 599 | 609 | 621 | 623 | 373 |
| 45° | 499 | 507 | 525 | 548 | 557 | 385 |
| 55° | 386 | 400 | 435 | 470 | 486 | 344 |
| 65° | 255 | 281 | 339 | 384 | 401 | 253 |
| 75° | 120 | 164 | 229 | 268 | 276 | 129 |
| 85° | 24 | 48 | 59 | 64 | 66 | 29 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P276819

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 748.1 | 748.1 | 748.1 | 748.1 | 748.1 |
| 2.5° | 749.3 | 749.3 | 745.7 | 748.1 | 748.1 |
| 5° | 748.1 | 746.9 | 743.4 | 746.9 | 746.9 |
| 7.5° | 744.6 | 743.4 | 741.0 | 744.6 | 743.4 |
| 10° | 737.5 | 737.5 | 735.1 | 738.7 | 738.7 |
| 12.5° | 731.6 | 730.4 | 729.2 | 733.9 | 732.8 |
| 15° | 722.1 | 722.1 | 721.0 | 726.9 | 725.7 |
| 17.5° | 710.3 | 711.5 | 712.7 | 717.4 | 718.6 |
| 20° | 697.4 | 699.7 | 700.9 | 708.0 | 708.0 |
| 22.5° | 685.6 | 686.7 | 689.1 | 696.2 | 696.2 |
| 25° | 670.2 | 672.6 | 677.3 | 683.2 | 684.4 |
| 27.5° | 654.9 | 656.1 | 662.0 | 670.2 | 671.4 |
| 30° | 634.8 | 638.4 | 645.4 | 654.9 | 656.1 |
| 32.5° | 617.1 | 620.7 | 628.9 | 638.4 | 640.7 |
| 35° | 594.7 | 599.4 | 608.9 | 620.7 | 623.0 |
| 37.5° | 574.6 | 578.2 | 590.0 | 603.0 | 606.5 |
| 40° | 549.9 | 556.9 | 568.7 | 584.1 | 590.0 |
| 42.5° | 525.1 | 532.2 | 546.3 | 566.4 | 573.5 |
| 45° | 499.1 | 507.4 | 525.1 | 547.5 | 556.9 |
| 47.5° | 473.2 | 482.6 | 502.7 | 528.6 | 539.2 |
| 50° | 443.7 | 455.5 | 480.3 | 509.7 | 521.5 |
| 52.5° | 415.4 | 429.5 | 456.7 | 489.7 | 505.0 |
| 55° | 385.9 | 400.0 | 435.4 | 469.6 | 486.2 |
| 57.5° | 352.8 | 371.7 | 410.6 | 449.6 | 467.3 |
| 60° | 322.1 | 339.8 | 387.0 | 429.5 | 447.2 |
| 62.5° | 289.1 | 312.7 | 363.4 | 408.3 | 426.0 |
| 65° | 254.9 | 280.8 | 338.7 | 383.5 | 401.2 |
| 67.5° | 224.2 | 252.5 | 313.9 | 358.7 | 376.4 |
| 70° | 187.6 | 223.0 | 286.7 | 331.6 | 349.3 |
| 72.5° | 153.4 | 192.3 | 258.4 | 302.1 | 318.6 |
| 75° | 120.4 | 164.0 | 228.9 | 267.9 | 276.1 |
| 77.5° | 89.7 | 135.7 | 198.2 | 214.8 | 208.9 |
| 80° | 63.7 | 108.6 | 154.6 | 146.3 | 149.9 |
| 82.5° | 41.3 | 82.6 | 95.6 | 108.6 | 112.1 |
| 85° | 23.6 | 48.4 | 59.0 | 63.7 | 66.1 |
| 87.5° | 10.6 | 17.7 | 23.6 | 23.6 | 22.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)