

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: P276812

Luminaire Tested: **24CZ2-35HE-RDP-UNV-L93050-W2A1-U-3000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P276812
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: 24CZ2-35HE-RDP-UNV-L93050-W2A1-U-3000K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH RDP LENS
Light Source: (336) 90 CRI LEDS TUNED TO 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1741.9 lumens
Efficiency: N/A
Efficacy: 70.4 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

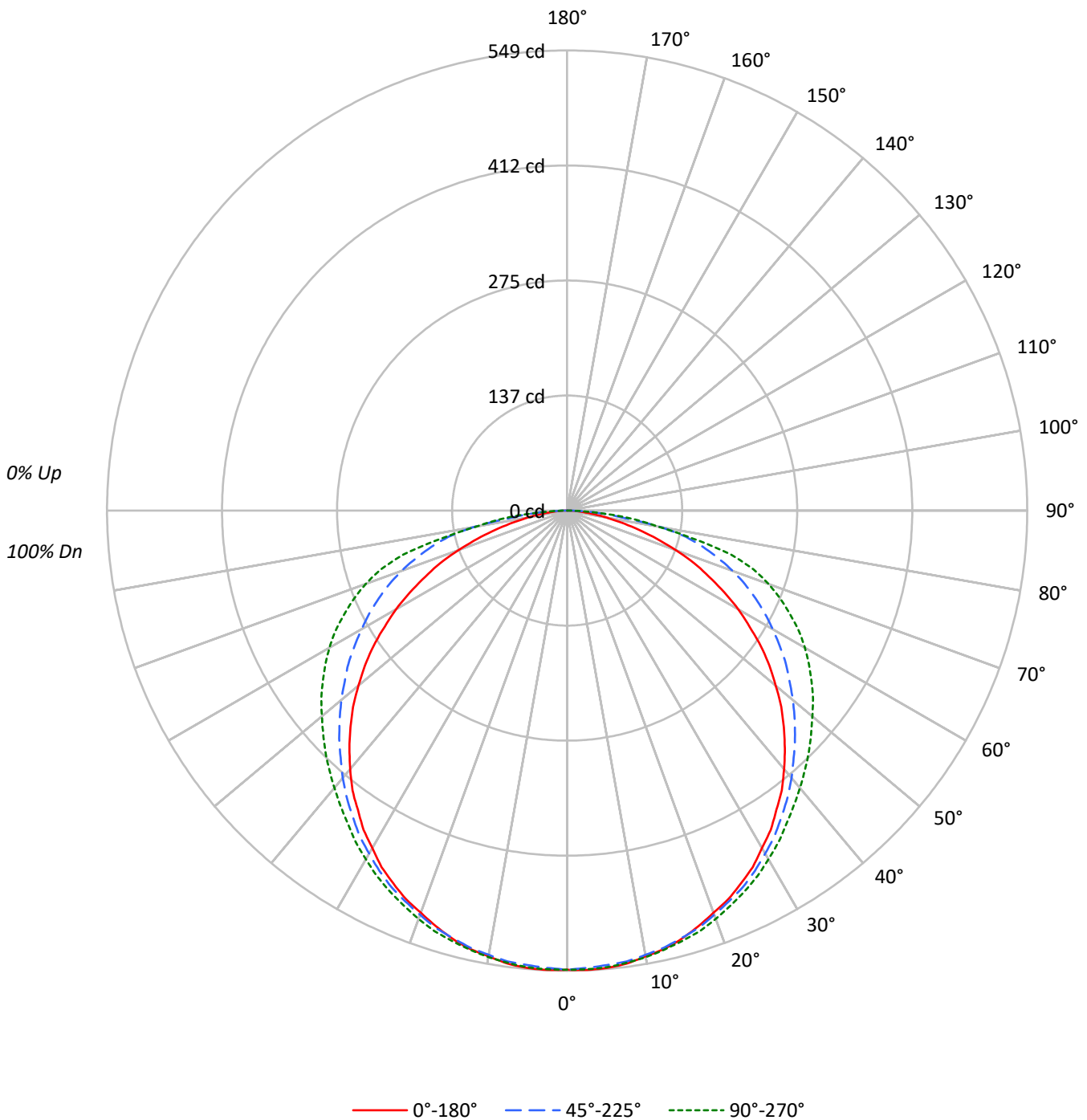
Input Watts (W): 24.73614
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 737 | 737 | 737 |
| 5° | 740 | 735 | 739 |
| 10° | 738 | 735 | 739 |
| 15° | 737 | 735 | 740 |
| 20° | 731 | 735 | 742 |
| 25° | 729 | 736 | 744 |
| 30° | 722 | 734 | 746 |
| 35° | 715 | 732 | 749 |
| 40° | 707 | 731 | 759 |
| 45° | 695 | 732 | 776 |
| 50° | 680 | 736 | 799 |
| 55° | 663 | 748 | 835 |
| 60° | 635 | 763 | 881 |
| 65° | 594 | 790 | 935 |
| 70° | 541 | 826 | 1006 |
| 75° | 458 | 871 | 1051 |
| 80° | 362 | 877 | 850 |
| 85° | 267 | 667 | 747 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 52.0 | 3.0 |
| 10°-20° | 149.5 | 8.6 |
| 20°-30° | 228.7 | 13.1 |
| 30°-40° | 279.6 | 16.0 |
| 40°-50° | 298.0 | 17.1 |
| 50°-60° | 284.9 | 16.4 |
| 60°-70° | 241.3 | 13.9 |
| 70°-80° | 162.2 | 9.3 |
| 80°-90° | 45.8 | 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° | 430.2 | 24.7 |
| 0°-40° | 709.8 | 40.7 |
| 0°-60° | 1292.6 | 74.2 |
| 0°-90° | 1741.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1741.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 548 | 548 | 548 | 548 | 548 | |
| 5° | 548 | 547 | 544 | 547 | 547 | 52 |
| 15° | 529 | 529 | 528 | 532 | 531 | 149 |
| 25° | 491 | 492 | 496 | 500 | 501 | 226 |
| 35° | 436 | 439 | 446 | 454 | 456 | 273 |
| 45° | 366 | 372 | 384 | 401 | 408 | 282 |
| 55° | 282 | 293 | 319 | 344 | 356 | 252 |
| 65° | 187 | 206 | 248 | 281 | 294 | 185 |
| 75° | 88 | 120 | 168 | 196 | 202 | 94 |
| 85° | 17 | 35 | 43 | 47 | 48 | 21 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 547.8 | 547.8 | 547.8 | 547.8 | 547.8 |
| 2.5° | 548.6 | 548.6 | 546.0 | 547.8 | 547.8 |
| 5° | 547.8 | 546.9 | 544.3 | 546.9 | 546.9 |
| 7.5° | 545.2 | 544.3 | 542.6 | 545.2 | 544.3 |
| 10° | 540.0 | 540.0 | 538.3 | 540.9 | 540.9 |
| 12.5° | 535.7 | 534.8 | 534.0 | 537.4 | 536.5 |
| 15° | 528.8 | 528.8 | 527.9 | 532.2 | 531.4 |
| 17.5° | 520.1 | 521.0 | 521.9 | 525.3 | 526.2 |
| 20° | 510.6 | 512.4 | 513.2 | 518.4 | 518.4 |
| 22.5° | 502.0 | 502.8 | 504.6 | 509.8 | 509.8 |
| 25° | 490.8 | 492.5 | 495.9 | 500.3 | 501.1 |
| 27.5° | 479.5 | 480.4 | 484.7 | 490.8 | 491.6 |
| 30° | 464.8 | 467.4 | 472.6 | 479.5 | 480.4 |
| 32.5° | 451.9 | 454.5 | 460.5 | 467.4 | 469.2 |
| 35° | 435.5 | 438.9 | 445.8 | 454.5 | 456.2 |
| 37.5° | 420.8 | 423.4 | 432.0 | 441.5 | 444.1 |
| 40° | 402.6 | 407.8 | 416.4 | 427.7 | 432.0 |
| 42.5° | 384.5 | 389.7 | 400.0 | 414.7 | 419.9 |
| 45° | 365.5 | 371.5 | 384.5 | 400.9 | 407.8 |
| 47.5° | 346.5 | 353.4 | 368.1 | 387.1 | 394.8 |
| 50° | 324.9 | 333.5 | 351.6 | 373.2 | 381.9 |
| 52.5° | 304.1 | 314.5 | 334.4 | 358.6 | 369.8 |
| 55° | 282.5 | 292.9 | 318.8 | 343.9 | 356.0 |
| 57.5° | 258.3 | 272.2 | 300.7 | 329.2 | 342.1 |
| 60° | 235.9 | 248.8 | 283.4 | 314.5 | 327.5 |
| 62.5° | 211.7 | 229.0 | 266.1 | 298.9 | 311.9 |
| 65° | 186.6 | 205.6 | 248.0 | 280.8 | 293.8 |
| 67.5° | 164.2 | 184.9 | 229.8 | 262.7 | 275.6 |
| 70° | 137.4 | 163.3 | 210.0 | 242.8 | 255.7 |
| 72.5° | 112.3 | 140.8 | 189.2 | 221.2 | 233.3 |
| 75° | 88.1 | 120.1 | 167.6 | 196.1 | 202.2 |
| 77.5° | 65.7 | 99.4 | 145.2 | 157.2 | 152.9 |
| 80° | 46.7 | 79.5 | 113.2 | 107.1 | 109.7 |
| 82.5° | 30.2 | 60.5 | 70.0 | 79.5 | 82.1 |
| 85° | 17.3 | 35.4 | 43.2 | 46.7 | 48.4 |
| 87.5° | 7.8 | 13.0 | 17.3 | 17.3 | 16.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)