

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: P260795

Luminaire Tested: **24CZ-LD5-30SE-UNV-L82765-W2A1-U-4000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P260795
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25697)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ-LD5-30SE-UNV-L82765-W2A1-U-4000K
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER
WITH RIBBED LENS
Light Source: (168) 80 CRI LEDS TUNED AT 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3028.0 lumens
Efficiency: N/A
Efficacy: 137.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

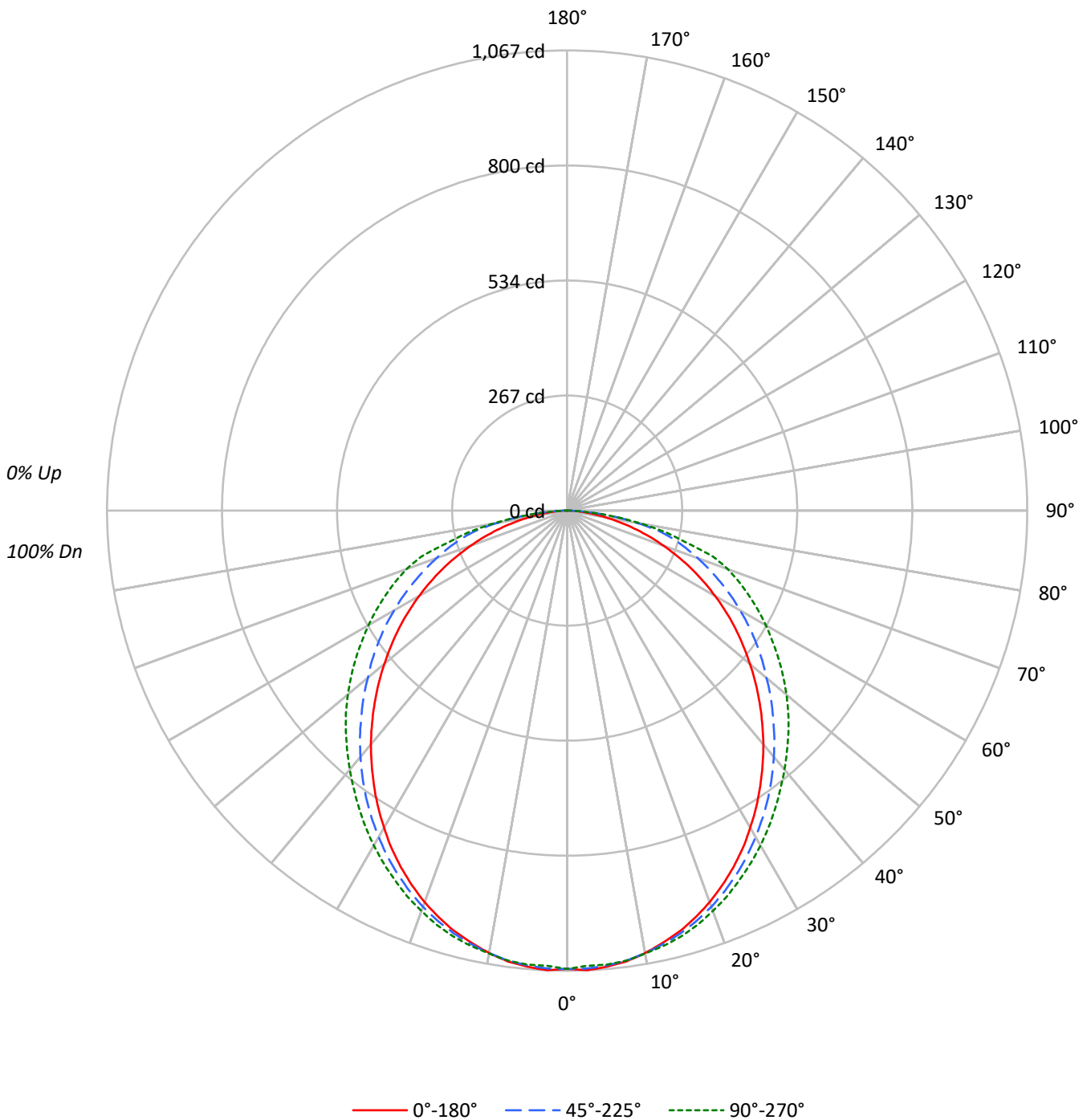
Input Watts (W): 22.041
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 99 | 95 | 106 | 101 | 97 | 93 | 97 | 93 | 90 | 93 | 90 | 88 | 89 | 87 | 85 | 83 |
| 2 | 98 | 90 | 83 | 77 | 95 | 88 | 81 | 76 | 84 | 79 | 74 | 81 | 76 | 72 | 78 | 74 | 71 | 68 |
| 3 | 89 | 78 | 70 | 63 | 87 | 77 | 69 | 63 | 74 | 67 | 62 | 71 | 65 | 61 | 68 | 64 | 60 | 57 |
| 4 | 82 | 69 | 60 | 54 | 79 | 68 | 60 | 53 | 66 | 58 | 52 | 63 | 57 | 52 | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 59 | 51 | 45 | 57 | 50 | 45 | 55 | 49 | 44 | 42 |
| 6 | 69 | 56 | 47 | 40 | 67 | 55 | 46 | 40 | 53 | 45 | 40 | 51 | 44 | 39 | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 35 | 63 | 50 | 41 | 35 | 48 | 41 | 35 | 47 | 40 | 35 | 45 | 39 | 35 | 32 |
| 8 | 60 | 46 | 38 | 32 | 58 | 45 | 37 | 32 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 36 | 31 | 29 |
| 9 | 56 | 42 | 34 | 28 | 54 | 42 | 34 | 28 | 41 | 33 | 28 | 40 | 33 | 28 | 38 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 25 | 36 | 30 | 25 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1430 | 1430 | 1430 |
| 5° | 1434 | 1430 | 1427 |
| 10° | 1423 | 1423 | 1425 |
| 15° | 1407 | 1414 | 1424 |
| 20° | 1384 | 1400 | 1415 |
| 25° | 1354 | 1381 | 1404 |
| 30° | 1319 | 1358 | 1393 |
| 35° | 1282 | 1335 | 1383 |
| 40° | 1244 | 1309 | 1377 |
| 45° | 1201 | 1284 | 1381 |
| 50° | 1159 | 1263 | 1389 |
| 55° | 1116 | 1255 | 1403 |
| 60° | 1066 | 1247 | 1431 |
| 65° | 1010 | 1248 | 1479 |
| 70° | 934 | 1268 | 1558 |
| 75° | 835 | 1326 | 1482 |
| 80° | 699 | 1269 | 1358 |
| 85° | 528 | 976 | 928 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 100.4 | 3.3 |
| 10°-20° | 285.8 | 9.4 |
| 20°-30° | 427.3 | 14.1 |
| 30°-40° | 506.9 | 16.7 |
| 40°-50° | 521.7 | 17.2 |
| 50°-60° | 478.6 | 15.8 |
| 60°-70° | 387.0 | 12.8 |
| 70°-80° | 251.1 | 8.3 |
| 80°-90° | 69.3 | 2.3 |
| 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° | 813.5 | 26.9 |
| 0°-40° | 1320.3 | 43.6 |
| 0°-60° | 2320.6 | 76.6 |
| 0°-90° | 3028.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3028.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1063 | 1063 | 1063 | 1063 | 1063 | |
| 5° | 1062 | 1054 | 1058 | 1058 | 1056 | 101 |
| 15° | 1010 | 1006 | 1015 | 1019 | 1022 | 284 |
| 25° | 912 | 913 | 930 | 938 | 946 | 420 |
| 35° | 781 | 787 | 813 | 830 | 842 | 488 |
| 45° | 631 | 642 | 675 | 707 | 726 | 487 |
| 55° | 476 | 490 | 535 | 578 | 598 | 425 |
| 65° | 317 | 336 | 392 | 444 | 464 | 313 |
| 75° | 161 | 191 | 255 | 285 | 285 | 171 |
| 85° | 34 | 58 | 63 | 61 | 60 | 42 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1062.7 | 1062.7 | 1062.7 | 1062.7 | 1062.7 |
| 2.5° | 1066.8 | 1058.5 | 1062.7 | 1061.6 | 1056.5 |
| 5° | 1061.6 | 1054.4 | 1058.5 | 1057.5 | 1056.5 |
| 7.5° | 1054.4 | 1047.1 | 1052.3 | 1051.3 | 1052.3 |
| 10° | 1041.9 | 1035.7 | 1041.9 | 1043.0 | 1043.0 |
| 12.5° | 1026.4 | 1021.2 | 1029.5 | 1031.6 | 1033.6 |
| 15° | 1009.8 | 1005.6 | 1015.0 | 1019.1 | 1022.2 |
| 17.5° | 989.1 | 986.0 | 997.4 | 1002.5 | 1006.7 |
| 20° | 966.3 | 965.2 | 977.7 | 982.8 | 988.0 |
| 22.5° | 940.3 | 940.3 | 954.8 | 961.1 | 968.3 |
| 25° | 912.3 | 913.4 | 930.0 | 938.3 | 945.5 |
| 27.5° | 882.3 | 883.3 | 903.0 | 913.4 | 921.7 |
| 30° | 849.1 | 853.2 | 874.0 | 887.5 | 896.8 |
| 32.5° | 815.9 | 821.1 | 843.9 | 859.5 | 869.8 |
| 35° | 780.7 | 786.9 | 812.8 | 830.4 | 841.8 |
| 37.5° | 744.4 | 751.6 | 779.6 | 799.3 | 812.8 |
| 40° | 708.1 | 716.4 | 745.4 | 768.2 | 783.8 |
| 42.5° | 669.7 | 679.1 | 711.2 | 738.2 | 754.8 |
| 45° | 631.4 | 641.7 | 674.9 | 707.1 | 725.7 |
| 47.5° | 593.0 | 605.5 | 640.7 | 676.0 | 695.7 |
| 50° | 553.6 | 566.1 | 603.4 | 643.8 | 663.5 |
| 52.5° | 514.2 | 528.7 | 570.2 | 611.7 | 631.4 |
| 55° | 475.9 | 490.4 | 535.0 | 578.5 | 598.2 |
| 57.5° | 436.5 | 451.0 | 499.7 | 545.3 | 565.0 |
| 60° | 396.0 | 412.6 | 463.4 | 510.1 | 531.9 |
| 62.5° | 356.6 | 374.3 | 428.2 | 477.9 | 498.7 |
| 65° | 317.2 | 335.9 | 391.9 | 443.7 | 464.5 |
| 67.5° | 276.8 | 298.6 | 356.6 | 409.5 | 431.3 |
| 70° | 237.4 | 261.3 | 322.4 | 375.3 | 396.0 |
| 72.5° | 199.1 | 225.0 | 288.2 | 342.1 | 354.6 |
| 75° | 160.7 | 190.8 | 255.0 | 285.1 | 285.1 |
| 77.5° | 124.4 | 157.6 | 217.7 | 229.1 | 235.3 |
| 80° | 90.2 | 126.5 | 163.8 | 177.3 | 175.2 |
| 82.5° | 60.1 | 96.4 | 117.2 | 117.2 | 114.0 |
| 85° | 34.2 | 58.1 | 63.2 | 61.2 | 60.1 |
| 87.5° | 14.5 | 21.8 | 19.7 | 15.6 | 13.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)