

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: P261351

Luminaire Tested: **24CZ-LD5-30SE-S-UNV-L92765-W2A1-U-4500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P261351
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-LD5-30SE-S-UNV-L92765-W2A1-U-4500K
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER
WITH SMOOTH LENS
Light Source: (168) 90 CRI LEDS TUNED AT 4500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2803.0 lumens
Efficiency: N/A
Efficacy: 126.6 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

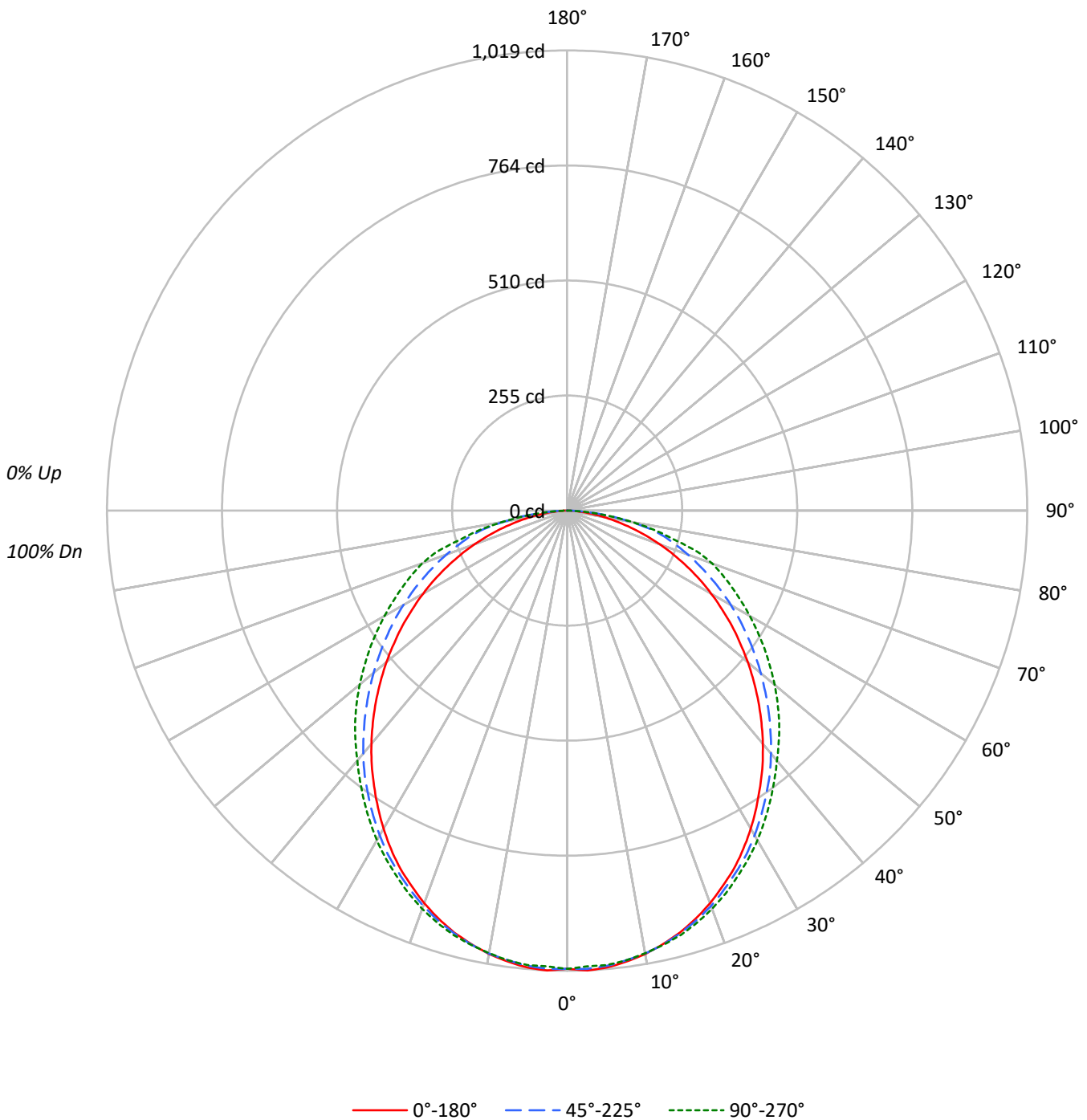
Input Watts (W): 22.134
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 1365 | 1365 | 1365 |
| 5° | 1372 | 1367 | 1364 |
| 10° | 1362 | 1361 | 1360 |
| 15° | 1347 | 1350 | 1355 |
| 20° | 1325 | 1334 | 1343 |
| 25° | 1299 | 1313 | 1326 |
| 30° | 1264 | 1290 | 1310 |
| 35° | 1224 | 1262 | 1288 |
| 40° | 1184 | 1234 | 1270 |
| 45° | 1139 | 1201 | 1264 |
| 50° | 1093 | 1171 | 1255 |
| 55° | 1046 | 1146 | 1251 |
| 60° | 991 | 1127 | 1257 |
| 65° | 933 | 1113 | 1283 |
| 70° | 858 | 1119 | 1343 |
| 75° | 761 | 1159 | 1251 |
| 80° | 636 | 1099 | 1127 |
| 85° | 475 | 878 | 806 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 95.9 | 3.4 |
| 10°-20° | 272.9 | 9.7 |
| 20°-30° | 406.6 | 14.5 |
| 30°-40° | 478.7 | 17.1 |
| 40°-50° | 486.4 | 17.4 |
| 50°-60° | 437.3 | 15.6 |
| 60°-70° | 345.5 | 12.3 |
| 70°-80° | 219.2 | 7.8 |
| 80°-90° | 60.5 | 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° | 775.4 | 27.7 |
| 0°-40° | 1254.1 | 44.7 |
| 0°-60° | 2177.8 | 77.7 |
| 0°-90° | 2803.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2803.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1015 | 1015 | 1015 | 1015 | 1015 | |
| 5° | 1016 | 1007 | 1012 | 1010 | 1010 | 96 |
| 15° | 967 | 962 | 969 | 972 | 973 | 272 |
| 25° | 875 | 874 | 884 | 890 | 894 | 402 |
| 35° | 745 | 750 | 768 | 777 | 784 | 466 |
| 45° | 599 | 607 | 631 | 650 | 664 | 462 |
| 55° | 446 | 457 | 489 | 520 | 534 | 398 |
| 65° | 293 | 308 | 350 | 388 | 403 | 290 |
| 75° | 146 | 172 | 223 | 242 | 241 | 156 |
| 85° | 31 | 53 | 57 | 52 | 52 | 38 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1014.7 | 1014.7 | 1014.7 | 1014.7 | 1014.7 |
| 2.5° | 1019.4 | 1011.9 | 1015.7 | 1013.8 | 1010.1 |
| 5° | 1015.7 | 1007.3 | 1011.9 | 1010.1 | 1010.1 |
| 7.5° | 1007.3 | 1000.7 | 1004.5 | 1003.5 | 1004.5 |
| 10° | 997.0 | 990.5 | 996.1 | 996.1 | 995.2 |
| 12.5° | 983.0 | 977.4 | 984.0 | 984.0 | 984.9 |
| 15° | 967.2 | 962.5 | 969.0 | 971.8 | 972.8 |
| 17.5° | 947.6 | 942.9 | 951.3 | 954.1 | 956.9 |
| 20° | 925.2 | 923.3 | 931.7 | 934.5 | 938.3 |
| 22.5° | 900.0 | 900.0 | 908.4 | 912.1 | 917.7 |
| 25° | 874.8 | 873.9 | 884.2 | 889.8 | 893.5 |
| 27.5° | 845.0 | 845.9 | 859.0 | 864.6 | 869.2 |
| 30° | 813.3 | 815.1 | 830.1 | 836.6 | 843.1 |
| 32.5° | 779.7 | 783.4 | 800.2 | 807.7 | 814.2 |
| 35° | 745.2 | 749.9 | 768.5 | 776.9 | 784.4 |
| 37.5° | 710.7 | 717.2 | 736.8 | 745.2 | 753.6 |
| 40° | 674.3 | 679.9 | 702.3 | 712.6 | 722.8 |
| 42.5° | 637.0 | 644.5 | 666.9 | 681.8 | 693.9 |
| 45° | 598.8 | 607.2 | 631.4 | 650.1 | 664.1 |
| 47.5° | 560.5 | 571.7 | 595.0 | 620.2 | 632.3 |
| 50° | 522.3 | 533.5 | 559.6 | 587.6 | 599.7 |
| 52.5° | 483.1 | 494.3 | 524.2 | 553.1 | 566.1 |
| 55° | 445.8 | 457.0 | 488.7 | 520.4 | 533.5 |
| 57.5° | 406.6 | 418.8 | 454.2 | 486.9 | 499.9 |
| 60° | 368.4 | 380.5 | 418.8 | 453.3 | 467.3 |
| 62.5° | 331.1 | 344.2 | 384.3 | 420.6 | 434.6 |
| 65° | 292.9 | 307.8 | 349.7 | 388.0 | 402.9 |
| 67.5° | 255.5 | 272.3 | 316.2 | 356.3 | 372.1 |
| 70° | 218.2 | 237.8 | 284.5 | 325.5 | 341.4 |
| 72.5° | 181.9 | 203.3 | 252.8 | 293.8 | 302.2 |
| 75° | 146.4 | 171.6 | 222.9 | 242.5 | 240.6 |
| 77.5° | 112.9 | 140.8 | 189.3 | 193.1 | 198.7 |
| 80° | 82.1 | 112.9 | 141.8 | 149.2 | 145.5 |
| 82.5° | 54.1 | 84.9 | 101.7 | 97.9 | 97.0 |
| 85° | 30.8 | 53.2 | 56.9 | 52.2 | 52.2 |
| 87.5° | 13.1 | 21.5 | 18.7 | 14.0 | 13.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)