

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: P230392

Luminaire Tested: **24CZ-LD5-35-SQP-UNV-L930-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P230392
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25695)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ-LD5-35-SQP-UNV-L930-CD1-U
Description: CRUZE 2x4 LED TROFFER
WITH SQP LENS
Light Source: (168) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1999.2 lumens
Efficiency: N/A
Efficacy: 79.0 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.31 / 1.42
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

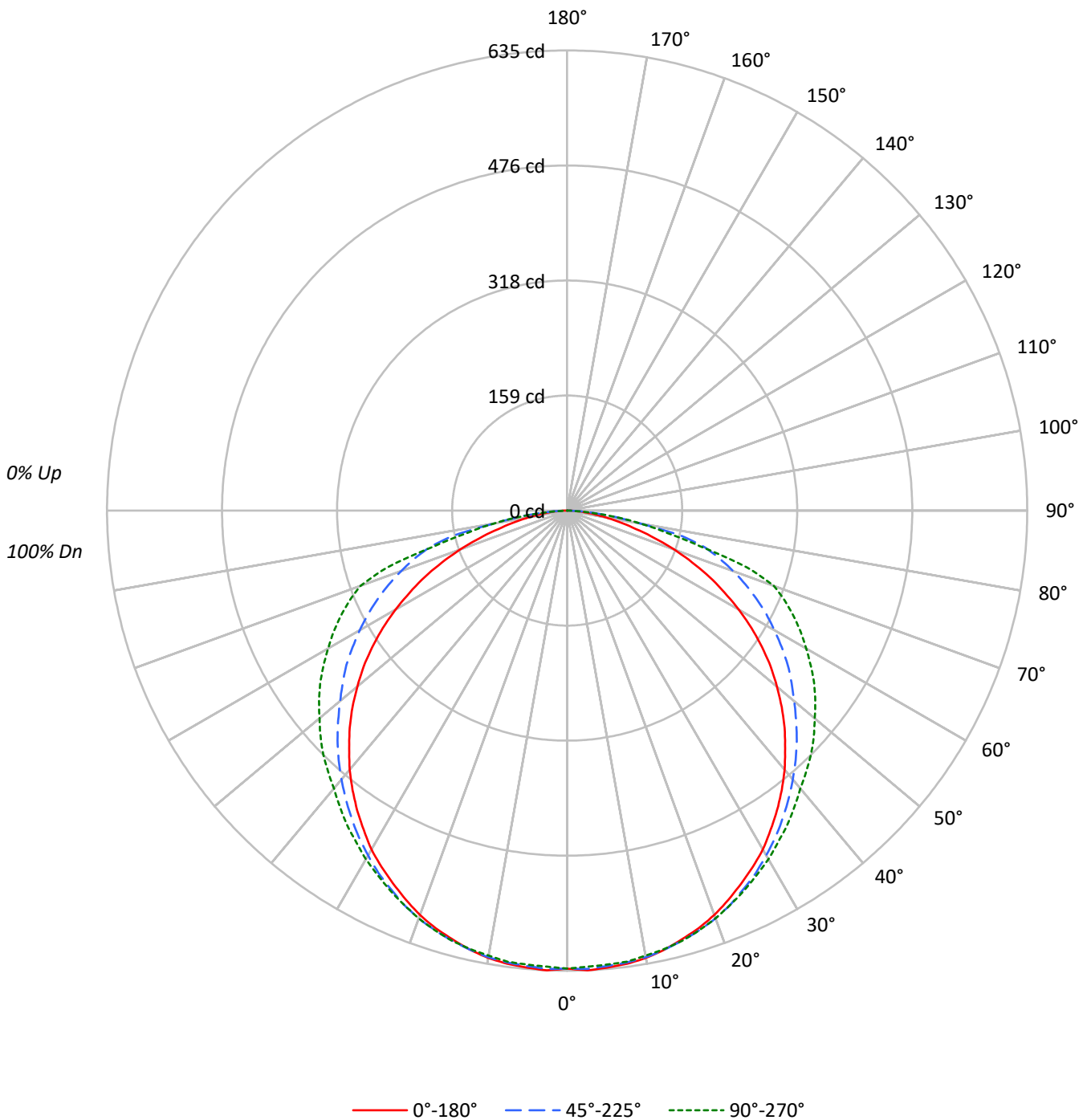
Input Watts (W): 25.32
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 101 | 97 | 93 | 96 | 93 | 90 | | 92 | 90 | 87 | | 89 | 87 | 84 | 82 |
| 2 | 98 | 89 | 82 | 76 | 95 | 87 | 80 | 75 | 83 | 78 | 73 | | 80 | 75 | 71 | | 77 | 73 | 70 | 67 |
| 3 | 89 | 78 | 69 | 62 | 86 | 76 | 68 | 62 | 73 | 66 | 60 | | 70 | 64 | 59 | | 67 | 63 | 58 | 56 |
| 4 | 81 | 68 | 59 | 52 | 79 | 67 | 58 | 52 | 64 | 57 | 51 | | 62 | 56 | 50 | | 60 | 54 | 50 | 47 |
| 5 | 74 | 61 | 51 | 45 | 72 | 60 | 51 | 44 | 57 | 50 | 44 | | 55 | 49 | 43 | | 54 | 48 | 43 | 41 |
| 6 | 68 | 55 | 45 | 39 | 66 | 54 | 45 | 38 | 52 | 44 | 38 | | 50 | 43 | 38 | | 48 | 42 | 37 | 35 |
| 7 | 63 | 49 | 40 | 34 | 62 | 49 | 40 | 34 | 47 | 39 | 34 | | 45 | 39 | 33 | | 44 | 38 | 33 | 31 |
| 8 | 59 | 45 | 36 | 30 | 57 | 44 | 36 | 30 | 43 | 35 | 30 | | 42 | 35 | 30 | | 40 | 34 | 29 | 28 |
| 9 | 55 | 41 | 33 | 27 | 54 | 41 | 33 | 27 | 39 | 32 | 27 | | 38 | 32 | 27 | | 37 | 31 | 27 | 25 |
| 10 | 51 | 38 | 30 | 24 | 50 | 37 | 30 | 24 | 36 | 29 | 24 | | 35 | 29 | 24 | | 35 | 28 | 24 | 22 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-----|------|------|
| 0° | 850 | 850 | 850 |
| 5° | 855 | 852 | 849 |
| 10° | 856 | 855 | 852 |
| 15° | 853 | 856 | 856 |
| 20° | 850 | 858 | 858 |
| 25° | 843 | 855 | 859 |
| 30° | 839 | 854 | 863 |
| 35° | 829 | 851 | 870 |
| 40° | 820 | 851 | 880 |
| 45° | 808 | 853 | 906 |
| 50° | 791 | 856 | 934 |
| 55° | 770 | 872 | 976 |
| 60° | 737 | 889 | 1025 |
| 65° | 691 | 917 | 1098 |
| 70° | 618 | 959 | 1194 |
| 75° | 510 | 1025 | 988 |
| 80° | 416 | 792 | 800 |
| 85° | 335 | 526 | 494 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 60.0 | 3.0 |
| 10°-20° | 173.2 | 8.7 |
| 20°-30° | 264.7 | 13.2 |
| 30°-40° | 323.8 | 16.2 |
| 40°-50° | 346.4 | 17.3 |
| 50°-60° | 331.7 | 16.6 |
| 60°-70° | 280.6 | 14.0 |
| 70°-80° | 177.9 | 8.9 |
| 80°-90° | 40.9 | 2.0 |
| 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° | 497.9 | 24.9 |
| 0°-40° | 821.7 | 41.1 |
| 0°-60° | 1499.8 | 75.0 |
| 0°-90° | 1999.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1999.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 632 | 632 | 632 | 632 | 632 | |
| 5° | 633 | 630 | 631 | 630 | 629 | 60 |
| 15° | 612 | 611 | 614 | 614 | 614 | 173 |
| 25° | 568 | 568 | 576 | 578 | 578 | 262 |
| 35° | 505 | 508 | 518 | 526 | 530 | 316 |
| 45° | 424 | 432 | 448 | 467 | 476 | 327 |
| 55° | 328 | 339 | 372 | 403 | 416 | 293 |
| 65° | 217 | 238 | 288 | 327 | 345 | 214 |
| 75° | 98 | 138 | 197 | 196 | 190 | 107 |
| 85° | 22 | 33 | 34 | 31 | 32 | 26 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P230392

CATALOG NUMBER: 24CZ-LD5-35-SQP-UNV-L930-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 632.0 | 632.0 | 632.0 | 632.0 | 632.0 |
| 2.5° | 635.1 | 632.0 | 633.0 | 632.0 | 629.9 |
| 5° | 633.0 | 629.9 | 630.9 | 629.9 | 628.9 |
| 7.5° | 630.9 | 627.8 | 628.9 | 627.8 | 627.8 |
| 10° | 626.8 | 623.7 | 625.8 | 624.7 | 623.7 |
| 12.5° | 620.6 | 618.6 | 620.6 | 619.6 | 619.6 |
| 15° | 612.4 | 611.3 | 614.4 | 614.4 | 614.4 |
| 17.5° | 604.1 | 603.1 | 607.2 | 607.2 | 607.2 |
| 20° | 593.8 | 592.7 | 598.9 | 598.9 | 598.9 |
| 22.5° | 581.4 | 580.3 | 588.6 | 588.6 | 588.6 |
| 25° | 568.0 | 568.0 | 576.2 | 578.3 | 578.3 |
| 27.5° | 554.5 | 554.5 | 563.8 | 566.9 | 566.9 |
| 30° | 540.1 | 540.1 | 549.4 | 553.5 | 555.6 |
| 32.5° | 522.5 | 524.6 | 534.9 | 540.1 | 542.1 |
| 35° | 505.0 | 508.1 | 518.4 | 525.6 | 529.7 |
| 37.5° | 486.4 | 489.5 | 501.9 | 510.1 | 515.3 |
| 40° | 466.8 | 470.9 | 484.3 | 494.6 | 500.8 |
| 42.5° | 445.1 | 451.3 | 466.8 | 480.2 | 488.4 |
| 45° | 424.4 | 431.6 | 448.2 | 466.8 | 476.0 |
| 47.5° | 401.7 | 410.0 | 428.5 | 452.3 | 461.6 |
| 50° | 377.9 | 386.2 | 408.9 | 435.8 | 446.1 |
| 52.5° | 354.2 | 363.5 | 390.3 | 419.3 | 431.6 |
| 55° | 328.4 | 338.7 | 371.8 | 402.7 | 416.2 |
| 57.5° | 301.5 | 313.9 | 351.1 | 384.1 | 398.6 |
| 60° | 273.7 | 289.1 | 330.4 | 365.6 | 381.0 |
| 62.5° | 244.7 | 263.3 | 309.8 | 347.0 | 363.5 |
| 65° | 216.9 | 237.5 | 288.1 | 327.3 | 344.9 |
| 67.5° | 186.9 | 212.7 | 266.4 | 308.8 | 325.3 |
| 70° | 157.0 | 186.9 | 243.7 | 287.1 | 303.6 |
| 72.5° | 127.0 | 163.2 | 221.0 | 260.2 | 260.2 |
| 75° | 98.1 | 138.4 | 197.2 | 196.2 | 190.0 |
| 77.5° | 74.4 | 115.7 | 162.1 | 138.4 | 139.4 |
| 80° | 53.7 | 92.9 | 102.2 | 102.2 | 103.3 |
| 82.5° | 36.1 | 71.3 | 66.1 | 65.1 | 67.1 |
| 85° | 21.7 | 33.0 | 34.1 | 31.0 | 32.0 |
| 87.5° | 10.3 | 11.4 | 9.3 | 6.2 | 6.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)