

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: P230864

Luminaire Tested: **22CZ-LD5-20SE-RDP-UNV-L930-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P230864
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25714)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22CZ-LD5-20SE-RDP-UNV-L930-CD1-U
Description: CRUZE 2x2 LED TROFFER
WITH RDP LENS
Light Source: (56) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1129.0 lumens
Efficiency: N/A
Efficacy: 65.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.28 / 1.36
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

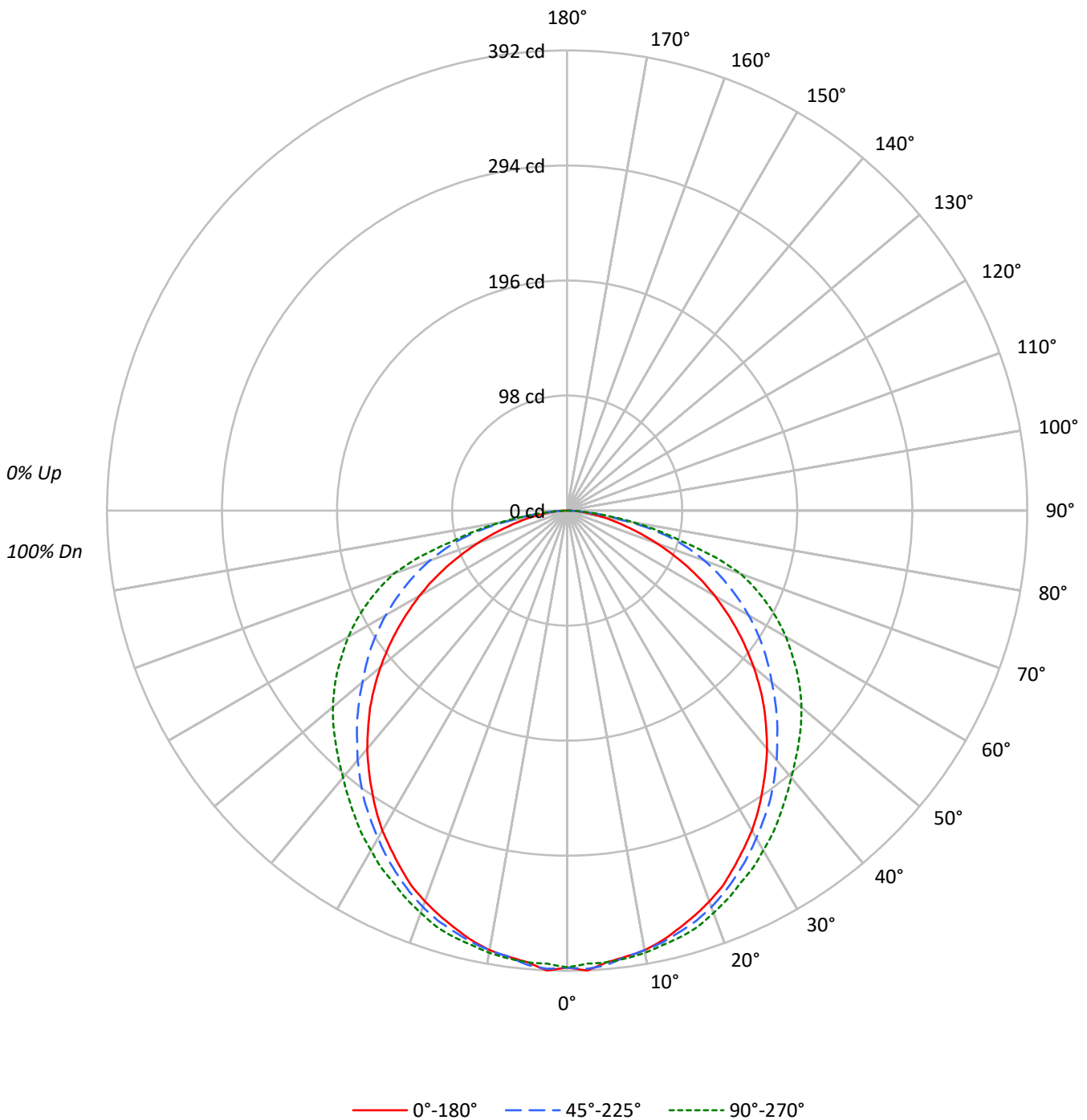
Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 |
| RCR | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 |
| 1 | 108 | 104 | 99 | 95 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | 93 | 90 | 88 | 89 | 87 | 85 |
| 2 | 98 | 90 | 83 | 77 | 96 | 88 | 81 | 76 | 84 | 79 | 74 | 81 | 77 | 73 | 78 | 74 | 71 |
| 3 | 89 | 79 | 70 | 64 | 87 | 77 | 69 | 63 | 74 | 67 | 62 | 71 | 66 | 61 | 69 | 64 | 60 |
| 4 | 82 | 69 | 60 | 54 | 79 | 68 | 60 | 53 | 66 | 58 | 52 | 63 | 57 | 52 | 61 | 56 | 51 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 59 | 51 | 45 | 57 | 50 | 45 | 55 | 49 | 44 |
| 6 | 69 | 56 | 47 | 40 | 67 | 55 | 46 | 40 | 53 | 45 | 40 | 51 | 44 | 39 | 50 | 44 | 39 |
| 7 | 64 | 50 | 42 | 35 | 62 | 50 | 41 | 35 | 48 | 40 | 35 | 47 | 40 | 35 | 45 | 39 | 34 |
| 8 | 60 | 46 | 37 | 31 | 58 | 45 | 37 | 31 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 35 | 31 |
| 9 | 56 | 42 | 34 | 28 | 54 | 42 | 34 | 28 | 40 | 33 | 28 | 39 | 33 | 28 | 38 | 32 | 28 |
| 10 | 52 | 39 | 31 | 26 | 51 | 38 | 31 | 26 | 37 | 30 | 25 | 36 | 30 | 25 | 36 | 30 | 25 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1047 | 1047 | 1047 |
| 5° | 1043 | 1049 | 1043 |
| 10° | 1039 | 1039 | 1045 |
| 15° | 1026 | 1035 | 1047 |
| 20° | 1015 | 1029 | 1044 |
| 25° | 997 | 1016 | 1039 |
| 30° | 978 | 1001 | 1038 |
| 35° | 954 | 990 | 1039 |
| 40° | 931 | 975 | 1043 |
| 45° | 903 | 963 | 1062 |
| 50° | 869 | 953 | 1091 |
| 55° | 828 | 957 | 1121 |
| 60° | 781 | 961 | 1158 |
| 65° | 720 | 967 | 1199 |
| 70° | 638 | 978 | 1235 |
| 75° | 542 | 975 | 1052 |
| 80° | 449 | 784 | 877 |
| 85° | 392 | 528 | 506 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 36.8 | 3.3 |
| 10°-20° | 104.9 | 9.3 |
| 20°-30° | 157.8 | 14.0 |
| 30°-40° | 189.1 | 16.8 |
| 40°-50° | 197.2 | 17.5 |
| 50°-60° | 183.6 | 16.3 |
| 60°-70° | 149.1 | 13.2 |
| 70°-80° | 89.8 | 8.0 |
| 80°-90° | 20.6 | 1.8 |
| 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° | 299.5 | 26.5 |
| 0°-40° | 488.6 | 43.3 |
| 0°-60° | 869.4 | 77.0 |
| 0°-90° | 1129.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1129.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 389 | 389 | 389 | 389 | 389 | |
| 5° | 386 | 386 | 388 | 389 | 386 | 37 |
| 15° | 368 | 370 | 371 | 374 | 376 | 104 |
| 25° | 336 | 338 | 342 | 347 | 350 | 155 |
| 35° | 290 | 294 | 301 | 310 | 316 | 182 |
| 45° | 237 | 242 | 253 | 269 | 279 | 183 |
| 55° | 176 | 184 | 204 | 226 | 239 | 158 |
| 65° | 113 | 125 | 152 | 176 | 188 | 112 |
| 75° | 52 | 69 | 94 | 100 | 101 | 56 |
| 85° | 13 | 16 | 17 | 16 | 16 | 15 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P230864

CATALOG NUMBER: 22CZ-LD5-20SE-RDP-UNV-L930-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 389.2 | 389.2 | 389.2 | 389.2 | 389.2 |
| 2.5° | 392.2 | 391.5 | 390.7 | 388.5 | 386.3 |
| 5° | 386.3 | 386.3 | 388.5 | 389.2 | 386.3 |
| 7.5° | 383.3 | 383.3 | 383.3 | 386.3 | 384.8 |
| 10° | 380.3 | 380.3 | 380.3 | 382.5 | 382.5 |
| 12.5° | 375.1 | 375.8 | 376.6 | 377.3 | 378.8 |
| 15° | 368.4 | 369.9 | 371.4 | 373.6 | 375.8 |
| 17.5° | 361.7 | 363.2 | 366.2 | 368.4 | 371.4 |
| 20° | 354.3 | 355.7 | 359.5 | 361.7 | 364.7 |
| 22.5° | 346.1 | 346.8 | 351.3 | 354.3 | 358.0 |
| 25° | 335.7 | 337.9 | 342.3 | 346.8 | 349.8 |
| 27.5° | 325.2 | 327.5 | 332.7 | 338.6 | 343.1 |
| 30° | 314.8 | 317.0 | 322.3 | 329.7 | 334.2 |
| 32.5° | 302.9 | 305.9 | 311.8 | 320.8 | 326.0 |
| 35° | 290.3 | 294.0 | 301.4 | 310.3 | 316.3 |
| 37.5° | 277.6 | 281.3 | 289.5 | 300.7 | 306.6 |
| 40° | 264.9 | 268.7 | 277.6 | 289.5 | 297.0 |
| 42.5° | 250.8 | 255.3 | 264.9 | 279.1 | 288.0 |
| 45° | 237.4 | 241.9 | 253.0 | 269.4 | 279.1 |
| 47.5° | 222.5 | 227.7 | 240.4 | 259.0 | 270.2 |
| 50° | 207.6 | 213.6 | 227.7 | 248.6 | 260.5 |
| 52.5° | 192.0 | 198.7 | 215.8 | 237.4 | 250.1 |
| 55° | 176.4 | 183.8 | 203.9 | 226.2 | 238.9 |
| 57.5° | 160.8 | 168.9 | 191.3 | 214.3 | 227.0 |
| 60° | 145.1 | 154.1 | 178.6 | 202.4 | 215.1 |
| 62.5° | 129.5 | 139.2 | 165.2 | 189.0 | 202.4 |
| 65° | 113.1 | 125.0 | 151.8 | 175.6 | 188.3 |
| 67.5° | 96.8 | 110.9 | 138.4 | 161.5 | 173.4 |
| 70° | 81.1 | 96.8 | 124.3 | 145.9 | 157.0 |
| 72.5° | 66.2 | 82.6 | 109.4 | 128.0 | 132.5 |
| 75° | 52.1 | 69.2 | 93.8 | 99.7 | 101.2 |
| 77.5° | 40.2 | 55.8 | 74.4 | 75.9 | 79.6 |
| 80° | 29.0 | 42.4 | 50.6 | 55.1 | 56.6 |
| 82.5° | 20.1 | 29.0 | 33.5 | 34.2 | 35.0 |
| 85° | 12.7 | 15.6 | 17.1 | 16.4 | 16.4 |
| 87.5° | 6.7 | 6.0 | 5.2 | 3.7 | 3.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)