

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: P474999

Luminaire Tested: **22CZ2-24HE-RDP-UNV-L830-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P474999
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22CZ2-24HE-RDP-UNV-L830-CD1-U
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY,SMOOTH LENS W/ RDP INSERT
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1599.6 lumens
Efficiency: N/A
Efficacy: 88.4 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

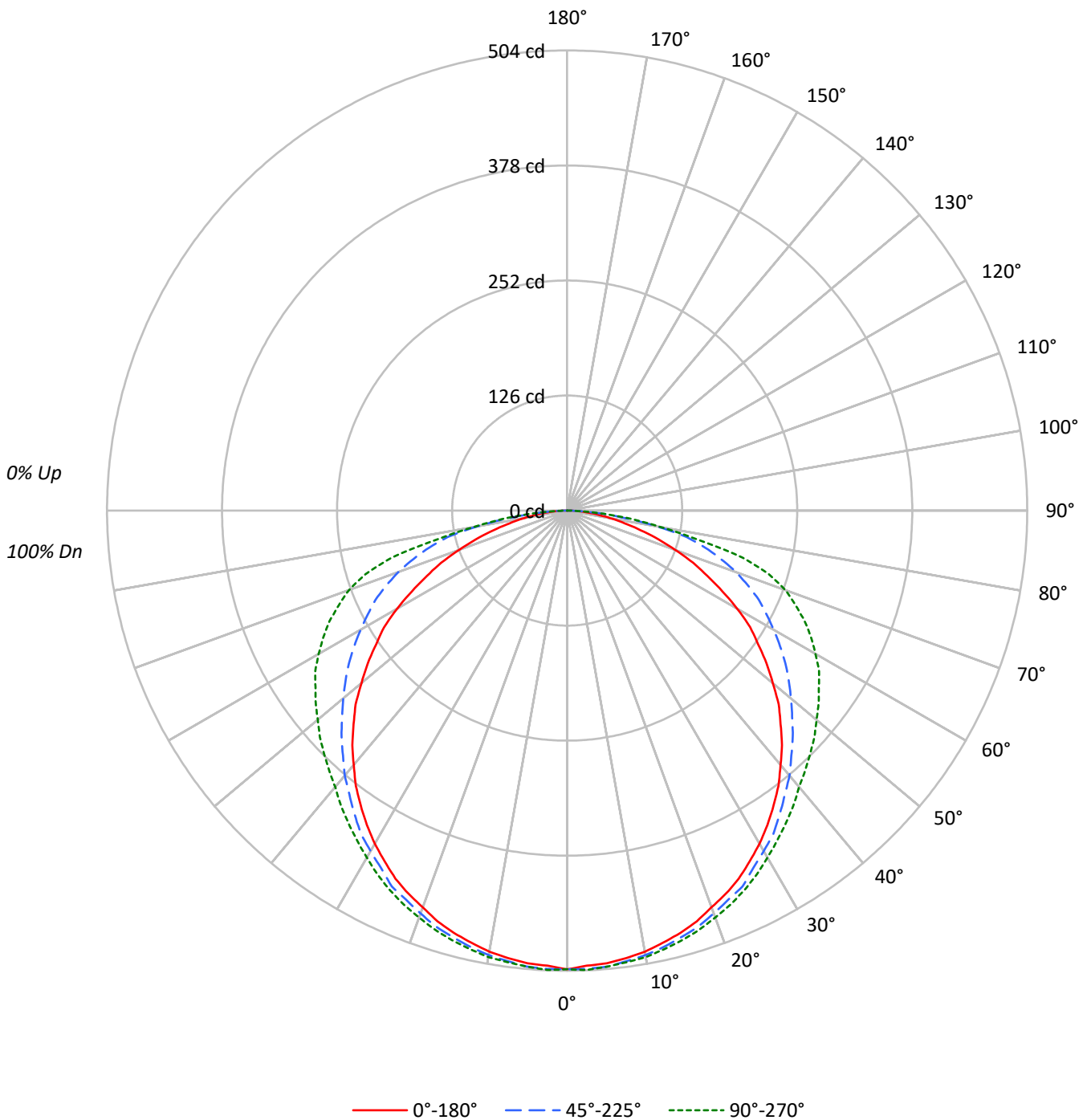
Input Watts (W): 18.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 92 | 89 | 92 | 89 | 86 | 88 | 86 | 84 | 82 |
| 2 | 97 | 88 | 81 | 75 | 95 | 86 | 80 | 74 | 83 | 77 | 72 | 80 | 75 | 71 | 76 | 72 | 69 | 67 |
| 3 | 88 | 77 | 68 | 61 | 86 | 75 | 67 | 61 | 72 | 65 | 60 | 70 | 64 | 59 | 67 | 62 | 58 | 55 |
| 4 | 80 | 68 | 59 | 51 | 78 | 66 | 58 | 51 | 64 | 56 | 50 | 61 | 55 | 50 | 59 | 54 | 49 | 47 |
| 5 | 74 | 60 | 51 | 44 | 72 | 59 | 50 | 44 | 57 | 49 | 43 | 55 | 48 | 43 | 53 | 47 | 42 | 40 |
| 6 | 68 | 54 | 45 | 38 | 66 | 53 | 44 | 38 | 51 | 43 | 38 | 50 | 43 | 37 | 48 | 42 | 37 | 35 |
| 7 | 63 | 49 | 40 | 33 | 61 | 48 | 39 | 33 | 47 | 39 | 33 | 45 | 38 | 33 | 44 | 37 | 33 | 31 |
| 8 | 59 | 45 | 36 | 30 | 57 | 44 | 35 | 30 | 43 | 35 | 29 | 41 | 34 | 29 | 40 | 34 | 29 | 27 |
| 9 | 55 | 41 | 32 | 27 | 53 | 40 | 32 | 27 | 39 | 32 | 26 | 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° | 1352 | 1352 | 1352 |
| 5° | 1345 | 1354 | 1354 |
| 10° | 1341 | 1351 | 1357 |
| 15° | 1334 | 1347 | 1357 |
| 20° | 1324 | 1344 | 1358 |
| 25° | 1321 | 1349 | 1363 |
| 30° | 1309 | 1338 | 1364 |
| 35° | 1295 | 1334 | 1373 |
| 40° | 1277 | 1331 | 1389 |
| 45° | 1259 | 1330 | 1433 |
| 50° | 1232 | 1340 | 1492 |
| 55° | 1198 | 1369 | 1579 |
| 60° | 1159 | 1406 | 1691 |
| 65° | 1079 | 1477 | 1829 |
| 70° | 991 | 1547 | 2000 |
| 75° | 869 | 1626 | 2068 |
| 80° | 748 | 1550 | 1624 |
| 85° | 655 | 1127 | 1235 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 47.5 | 3.0 |
| 10°-20° | 136.5 | 8.5 |
| 20°-30° | 208.2 | 13.0 |
| 30°-40° | 254.2 | 15.9 |
| 40°-50° | 271.8 | 17.0 |
| 50°-60° | 262.4 | 16.4 |
| 60°-70° | 225.9 | 14.1 |
| 70°-80° | 152.8 | 9.6 |
| 80°-90° | 40.3 | 2.5 |
| 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° | 392.2 | 24.5 |
| 0°-40° | 646.4 | 40.4 |
| 0°-60° | 1180.6 | 73.8 |
| 0°-90° | 1599.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1599.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 502 | 502 | 502 | 502 | 502 | |
| 5° | 498 | 499 | 501 | 501 | 501 | 47 |
| 15° | 479 | 480 | 484 | 486 | 487 | 135 |
| 25° | 445 | 447 | 454 | 457 | 459 | 205 |
| 35° | 394 | 398 | 406 | 414 | 418 | 247 |
| 45° | 331 | 336 | 350 | 367 | 376 | 255 |
| 55° | 255 | 264 | 292 | 321 | 336 | 229 |
| 65° | 169 | 186 | 232 | 268 | 287 | 169 |
| 75° | 84 | 111 | 156 | 188 | 199 | 90 |
| 85° | 21 | 30 | 36 | 38 | 40 | 24 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P474999

CATALOG NUMBER: 22CZ2-24HE-RDP-UNV-L830-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 502.4 | 502.4 | 502.4 | 502.4 | 502.4 |
| 2.5° | 498.9 | 500.1 | 502.4 | 502.4 | 503.6 |
| 5° | 497.8 | 498.9 | 501.3 | 501.3 | 501.3 |
| 7.5° | 494.3 | 495.4 | 497.8 | 498.9 | 498.9 |
| 10° | 490.6 | 491.9 | 494.3 | 495.4 | 496.6 |
| 12.5° | 484.8 | 485.9 | 489.5 | 491.9 | 491.9 |
| 15° | 478.9 | 480.1 | 483.6 | 485.9 | 487.1 |
| 17.5° | 471.8 | 474.3 | 477.8 | 480.1 | 481.3 |
| 20° | 462.4 | 464.8 | 469.5 | 473.1 | 474.3 |
| 22.5° | 454.3 | 456.6 | 461.3 | 464.8 | 467.1 |
| 25° | 444.8 | 447.1 | 454.3 | 456.6 | 458.9 |
| 27.5° | 433.0 | 435.4 | 441.3 | 446.0 | 449.5 |
| 30° | 421.3 | 423.6 | 430.6 | 436.6 | 438.9 |
| 32.5° | 408.3 | 411.8 | 420.1 | 424.8 | 428.3 |
| 35° | 394.2 | 397.7 | 406.0 | 414.2 | 417.8 |
| 37.5° | 380.1 | 383.6 | 391.8 | 402.5 | 407.1 |
| 40° | 363.6 | 368.3 | 378.8 | 393.0 | 395.3 |
| 42.5° | 348.3 | 354.2 | 363.6 | 380.1 | 386.0 |
| 45° | 330.7 | 336.5 | 349.5 | 367.2 | 376.5 |
| 47.5° | 314.2 | 320.0 | 334.2 | 355.3 | 367.2 |
| 50° | 294.2 | 302.4 | 320.0 | 344.8 | 356.5 |
| 52.5° | 275.4 | 282.4 | 306.0 | 333.0 | 347.2 |
| 55° | 255.4 | 263.6 | 291.9 | 321.2 | 336.5 |
| 57.5° | 237.7 | 244.7 | 276.5 | 309.5 | 327.2 |
| 60° | 215.4 | 224.7 | 261.2 | 296.5 | 314.2 |
| 62.5° | 191.8 | 205.9 | 245.9 | 282.4 | 301.2 |
| 65° | 169.4 | 185.9 | 231.9 | 268.2 | 287.2 |
| 67.5° | 149.4 | 167.1 | 214.2 | 253.0 | 270.7 |
| 70° | 125.9 | 148.3 | 196.6 | 234.2 | 254.2 |
| 72.5° | 104.8 | 129.4 | 176.6 | 214.2 | 231.9 |
| 75° | 83.6 | 110.6 | 156.4 | 188.3 | 198.9 |
| 77.5° | 64.7 | 90.6 | 134.1 | 143.6 | 144.8 |
| 80° | 48.3 | 71.8 | 100.0 | 101.1 | 104.8 |
| 82.5° | 33.0 | 50.6 | 64.7 | 70.6 | 71.8 |
| 85° | 21.2 | 29.5 | 36.5 | 37.7 | 40.0 |
| 87.5° | 9.5 | 10.6 | 13.0 | 11.8 | 11.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)