

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: P475052

Luminaire Tested: **22CZ2-24-RDP-UNV-L840-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P475052
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22CZ2-24-RDP-UNV-L840-CD1-U
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS W/ RDP INSERT
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

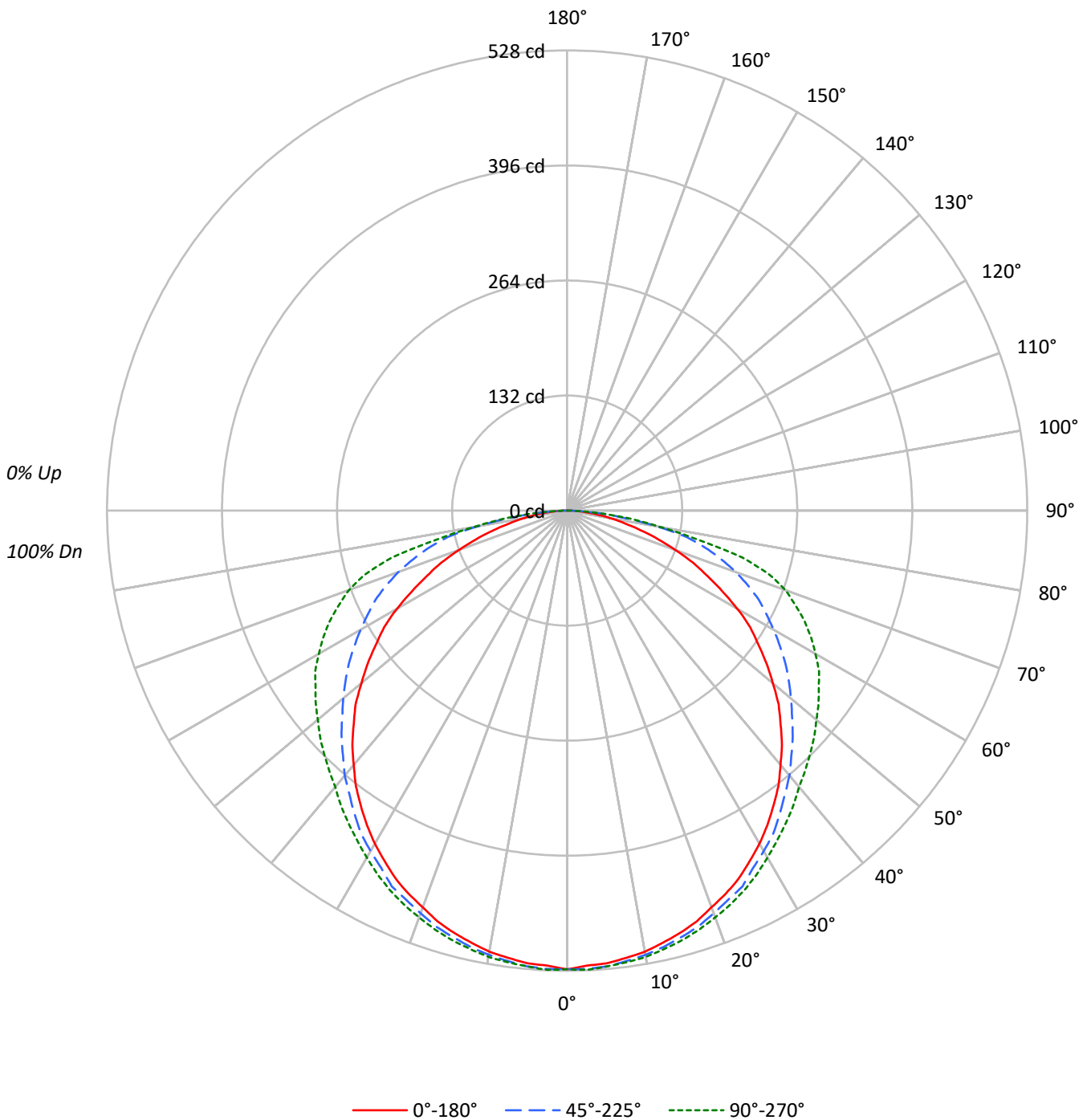
Lumens per Lamp: N/A
Luminaire Lumens: 1675.5 lumens
Efficiency: N/A
Efficacy: 90.6 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 18.5
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° | 1416 | 1416 | 1416 |
| 5° | 1408 | 1418 | 1418 |
| 10° | 1404 | 1415 | 1421 |
| 15° | 1397 | 1411 | 1421 |
| 20° | 1387 | 1408 | 1422 |
| 25° | 1383 | 1413 | 1427 |
| 30° | 1371 | 1402 | 1429 |
| 35° | 1356 | 1397 | 1438 |
| 40° | 1338 | 1394 | 1455 |
| 45° | 1318 | 1393 | 1501 |
| 50° | 1290 | 1403 | 1563 |
| 55° | 1255 | 1434 | 1654 |
| 60° | 1214 | 1473 | 1771 |
| 65° | 1130 | 1547 | 1915 |
| 70° | 1038 | 1620 | 2095 |
| 75° | 911 | 1704 | 2166 |
| 80° | 784 | 1623 | 1700 |
| 85° | 685 | 1179 | 1294 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 49.8 | 3.0 |
| 10°-20° | 142.9 | 8.5 |
| 20°-30° | 218.1 | 13.0 |
| 30°-40° | 266.3 | 15.9 |
| 40°-50° | 284.7 | 17.0 |
| 50°-60° | 274.8 | 16.4 |
| 60°-70° | 236.6 | 14.1 |
| 70°-80° | 160.1 | 9.6 |
| 80°-90° | 42.2 | 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° | 410.8 | 24.5 |
| 0°-40° | 677.1 | 40.4 |
| 0°-60° | 1236.6 | 73.8 |
| 0°-90° | 1675.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1675.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 526 | 526 | 526 | 526 | 526 | |
| 5° | 521 | 523 | 525 | 525 | 525 | 50 |
| 15° | 502 | 503 | 506 | 509 | 510 | 142 |
| 25° | 466 | 468 | 476 | 478 | 481 | 214 |
| 35° | 413 | 416 | 425 | 434 | 438 | 258 |
| 45° | 346 | 352 | 366 | 385 | 394 | 267 |
| 55° | 268 | 276 | 306 | 336 | 352 | 240 |
| 65° | 178 | 195 | 243 | 281 | 301 | 177 |
| 75° | 88 | 116 | 164 | 197 | 208 | 94 |
| 85° | 22 | 31 | 38 | 39 | 42 | 25 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P475052

CATALOG NUMBER: 22CZ2-24-RDP-UNV-L840-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 526.3 | 526.3 | 526.3 | 526.3 | 526.3 |
| 2.5° | 522.6 | 523.8 | 526.3 | 526.3 | 527.5 |
| 5° | 521.4 | 522.6 | 525.0 | 525.0 | 525.0 |
| 7.5° | 517.7 | 518.9 | 521.4 | 522.6 | 522.6 |
| 10° | 513.9 | 515.2 | 517.7 | 518.9 | 520.1 |
| 12.5° | 507.8 | 509.0 | 512.7 | 515.2 | 515.2 |
| 15° | 501.6 | 502.9 | 506.5 | 509.0 | 510.2 |
| 17.5° | 494.2 | 496.7 | 500.4 | 502.9 | 504.1 |
| 20° | 484.4 | 486.8 | 491.7 | 495.5 | 496.7 |
| 22.5° | 475.8 | 478.3 | 483.2 | 486.8 | 489.3 |
| 25° | 465.9 | 468.3 | 475.8 | 478.3 | 480.7 |
| 27.5° | 453.5 | 456.1 | 462.2 | 467.1 | 470.8 |
| 30° | 441.3 | 443.7 | 451.1 | 457.3 | 459.8 |
| 32.5° | 427.7 | 431.3 | 440.0 | 444.9 | 448.6 |
| 35° | 412.9 | 416.5 | 425.2 | 433.8 | 437.6 |
| 37.5° | 398.2 | 401.8 | 410.4 | 421.5 | 426.4 |
| 40° | 380.9 | 385.8 | 396.8 | 411.6 | 414.1 |
| 42.5° | 364.8 | 371.0 | 380.9 | 398.2 | 404.3 |
| 45° | 346.4 | 352.5 | 366.1 | 384.6 | 394.4 |
| 47.5° | 329.1 | 335.2 | 350.0 | 372.2 | 384.6 |
| 50° | 308.1 | 316.7 | 335.2 | 361.2 | 373.4 |
| 52.5° | 288.4 | 295.8 | 320.5 | 348.8 | 363.6 |
| 55° | 267.5 | 276.1 | 305.7 | 336.4 | 352.5 |
| 57.5° | 249.0 | 256.3 | 289.6 | 324.2 | 342.7 |
| 60° | 225.6 | 235.4 | 273.6 | 310.6 | 329.1 |
| 62.5° | 200.9 | 215.7 | 257.6 | 295.8 | 315.5 |
| 65° | 177.5 | 194.7 | 242.9 | 281.0 | 300.8 |
| 67.5° | 156.5 | 175.0 | 224.4 | 265.0 | 283.5 |
| 70° | 131.9 | 155.3 | 205.9 | 245.3 | 266.3 |
| 72.5° | 109.7 | 135.6 | 184.9 | 224.4 | 242.9 |
| 75° | 87.6 | 115.9 | 163.9 | 197.2 | 208.3 |
| 77.5° | 67.7 | 94.9 | 140.5 | 150.4 | 151.6 |
| 80° | 50.6 | 75.2 | 104.7 | 105.9 | 109.7 |
| 82.5° | 34.5 | 53.0 | 67.7 | 74.0 | 75.2 |
| 85° | 22.2 | 30.9 | 38.2 | 39.4 | 41.9 |
| 87.5° | 9.9 | 11.1 | 13.6 | 12.4 | 12.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)