

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: P475064

Luminaire Tested: **22CZ2-29VHE-RDP-UNV-L840-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P475064
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22CZ2-29VHE-RDP-UNV-L840-CD1-U
Description: 2'X2' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ RDP
INSERT
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1996.4 lumens
Efficiency: N/A
Efficacy: 100.3 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

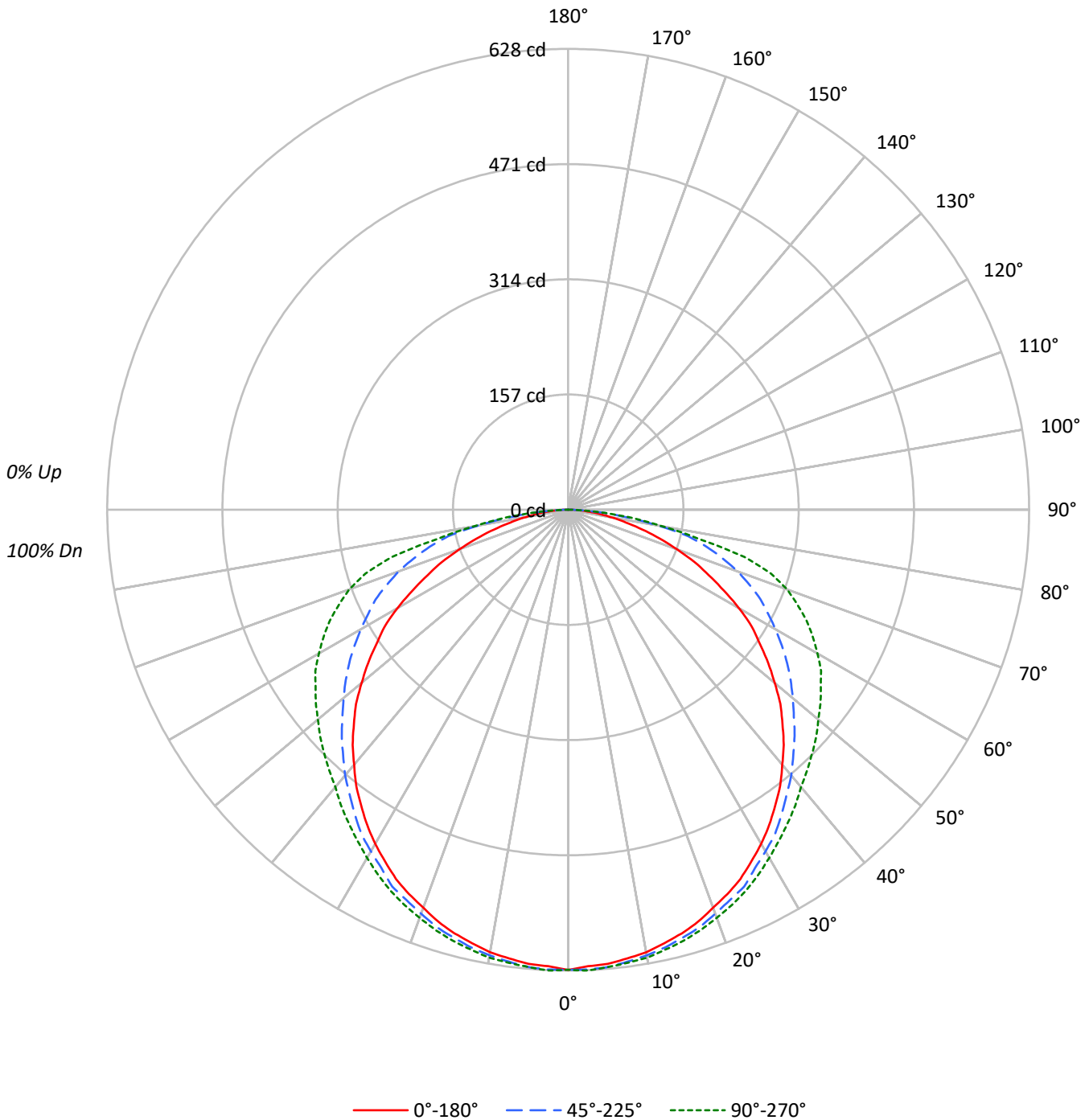
Input Watts (W): 19.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P475064

CATALOG NUMBER: 22CZ2-29VHE-RDP-UNV-L840-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P475064

CATALOG NUMBER: 22CZ2-29VHE-RDP-UNV-L840-CD1-U

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° | 1688 | 1688 | 1688 |
| 5° | 1678 | 1690 | 1690 |
| 10° | 1673 | 1685 | 1694 |
| 15° | 1665 | 1682 | 1694 |
| 20° | 1653 | 1678 | 1695 |
| 25° | 1648 | 1683 | 1701 |
| 30° | 1634 | 1670 | 1702 |
| 35° | 1616 | 1665 | 1713 |
| 40° | 1594 | 1661 | 1733 |
| 45° | 1571 | 1660 | 1788 |
| 50° | 1537 | 1672 | 1863 |
| 55° | 1495 | 1709 | 1970 |
| 60° | 1447 | 1755 | 2110 |
| 65° | 1347 | 1843 | 2282 |
| 70° | 1237 | 1930 | 2496 |
| 75° | 1084 | 2031 | 2581 |
| 80° | 934 | 1934 | 2027 |
| 85° | 815 | 1405 | 1541 |



TEST NUMBER: P475064

CATALOG NUMBER: 22CZ2-29VHE-RDP-UNV-L840-CD1-U

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 59.3 | 3.0 |
| 10°-20° | 170.3 | 8.5 |
| 20°-30° | 259.8 | 13.0 |
| 30°-40° | 317.3 | 15.9 |
| 40°-50° | 339.2 | 17.0 |
| 50°-60° | 327.4 | 16.4 |
| 60°-70° | 281.9 | 14.1 |
| 70°-80° | 190.7 | 9.6 |
| 80°-90° | 50.3 | 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° | 489.5 | 24.5 |
| 0°-40° | 806.8 | 40.4 |
| 0°-60° | 1473.4 | 73.8 |
| 0°-90° | 1996.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1996.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 627 | 627 | 627 | 627 | 627 | |
| 5° | 621 | 623 | 626 | 626 | 626 | 59 |
| 15° | 598 | 599 | 604 | 606 | 608 | 169 |
| 25° | 555 | 558 | 567 | 570 | 573 | 255 |
| 35° | 492 | 496 | 507 | 517 | 521 | 308 |
| 45° | 413 | 420 | 436 | 458 | 470 | 319 |
| 55° | 319 | 329 | 364 | 401 | 420 | 286 |
| 65° | 212 | 232 | 289 | 335 | 358 | 210 |
| 75° | 104 | 138 | 195 | 235 | 248 | 112 |
| 85° | 26 | 37 | 46 | 47 | 50 | 30 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P475064

CATALOG NUMBER: 22CZ2-29VHE-RDP-UNV-L840-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 627.1 | 627.1 | 627.1 | 627.1 | 627.1 |
| 2.5° | 622.7 | 624.1 | 627.1 | 627.1 | 628.5 |
| 5° | 621.2 | 622.7 | 625.6 | 625.6 | 625.6 |
| 7.5° | 616.8 | 618.3 | 621.2 | 622.7 | 622.7 |
| 10° | 612.3 | 613.9 | 616.8 | 618.3 | 619.8 |
| 12.5° | 605.0 | 606.5 | 610.9 | 613.9 | 613.9 |
| 15° | 597.7 | 599.2 | 603.6 | 606.5 | 607.9 |
| 17.5° | 588.8 | 591.9 | 596.3 | 599.2 | 600.6 |
| 20° | 577.1 | 580.1 | 585.9 | 590.4 | 591.9 |
| 22.5° | 566.9 | 569.9 | 575.7 | 580.1 | 583.0 |
| 25° | 555.1 | 558.0 | 566.9 | 569.9 | 572.8 |
| 27.5° | 540.4 | 543.4 | 550.7 | 556.6 | 560.9 |
| 30° | 525.8 | 528.7 | 537.5 | 544.9 | 547.8 |
| 32.5° | 509.6 | 514.0 | 524.3 | 530.2 | 534.5 |
| 35° | 491.9 | 496.3 | 506.7 | 516.9 | 521.4 |
| 37.5° | 474.4 | 478.8 | 489.0 | 502.3 | 508.1 |
| 40° | 453.8 | 459.7 | 472.8 | 490.5 | 493.4 |
| 42.5° | 434.7 | 442.0 | 453.8 | 474.4 | 481.7 |
| 45° | 412.7 | 420.0 | 436.2 | 458.2 | 469.9 |
| 47.5° | 392.1 | 399.4 | 417.1 | 443.5 | 458.2 |
| 50° | 367.2 | 377.4 | 399.4 | 430.3 | 444.9 |
| 52.5° | 343.7 | 352.4 | 381.9 | 415.6 | 433.3 |
| 55° | 318.7 | 328.9 | 364.2 | 400.9 | 420.0 |
| 57.5° | 296.7 | 305.4 | 345.1 | 386.3 | 408.3 |
| 60° | 268.8 | 280.5 | 326.0 | 370.1 | 392.1 |
| 62.5° | 239.3 | 257.0 | 306.9 | 352.4 | 375.9 |
| 65° | 211.5 | 232.0 | 289.4 | 334.8 | 358.4 |
| 67.5° | 186.5 | 208.5 | 267.3 | 315.8 | 337.8 |
| 70° | 157.2 | 185.0 | 245.3 | 292.3 | 317.2 |
| 72.5° | 130.8 | 161.5 | 220.4 | 267.3 | 289.4 |
| 75° | 104.3 | 138.0 | 195.3 | 234.9 | 248.2 |
| 77.5° | 80.7 | 113.1 | 167.4 | 179.2 | 180.7 |
| 80° | 60.3 | 89.6 | 124.8 | 126.2 | 130.8 |
| 82.5° | 41.2 | 63.2 | 80.7 | 88.1 | 89.6 |
| 85° | 26.4 | 36.8 | 45.5 | 47.0 | 49.9 |
| 87.5° | 11.8 | 13.3 | 16.2 | 14.7 | 14.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)