

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: P475044

Luminaire Tested: **22CZ2-80VHE-RDP-UNV-L835-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P475044
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22CZ2-80VHE-RDP-UNV-L835-CD1-U
Description: 2'X2' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ RDP
INSERT
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5371.5 lumens
Efficiency: N/A
Efficacy: 91.5 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

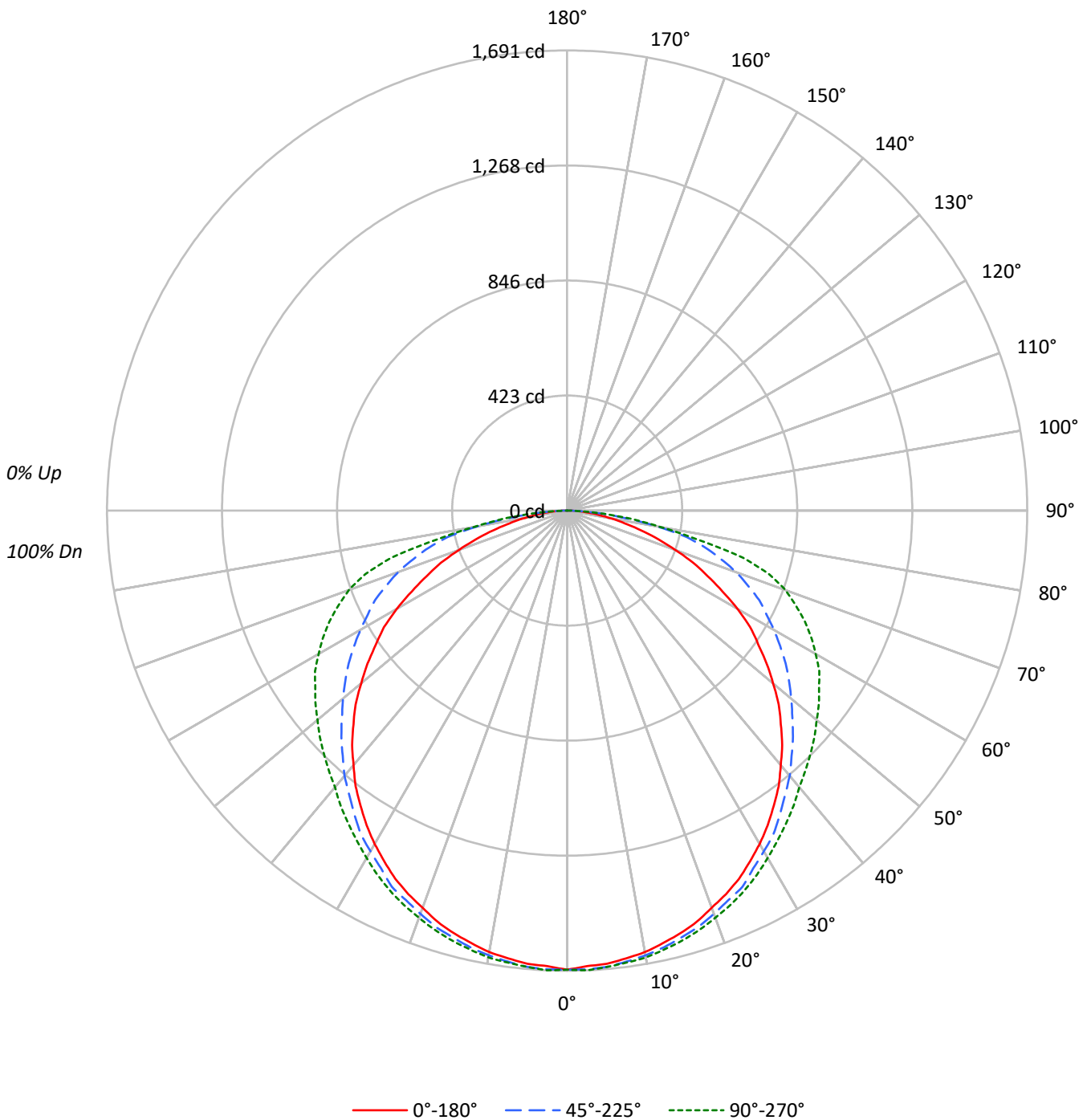
Input Watts (W): 58.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 4540 | 4540 | 4540 |
| 5° | 4515 | 4547 | 4547 |
| 10° | 4502 | 4535 | 4557 |
| 15° | 4481 | 4524 | 4557 |
| 20° | 4447 | 4515 | 4561 |
| 25° | 4435 | 4529 | 4576 |
| 30° | 4396 | 4493 | 4580 |
| 35° | 4348 | 4479 | 4609 |
| 40° | 4290 | 4469 | 4663 |
| 45° | 4226 | 4466 | 4811 |
| 50° | 4136 | 4499 | 5012 |
| 55° | 4023 | 4598 | 5301 |
| 60° | 3893 | 4721 | 5678 |
| 65° | 3622 | 4958 | 6140 |
| 70° | 3327 | 5193 | 6716 |
| 75° | 2918 | 5463 | 6944 |
| 80° | 2514 | 5202 | 5452 |
| 85° | 2195 | 3782 | 4147 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 159.6 | 3.0 |
| 10°-20° | 458.3 | 8.5 |
| 20°-30° | 699.2 | 13.0 |
| 30°-40° | 853.7 | 15.9 |
| 40°-50° | 912.8 | 17.0 |
| 50°-60° | 881.0 | 16.4 |
| 60°-70° | 758.4 | 14.1 |
| 70°-80° | 513.2 | 9.6 |
| 80°-90° | 135.4 | 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° | 1317.0 | 24.5 |
| 0°-40° | 2170.7 | 40.4 |
| 0°-60° | 3964.5 | 73.8 |
| 0°-90° | 5371.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5371.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1687 | 1687 | 1687 | 1687 | 1687 | |
| 5° | 1672 | 1675 | 1683 | 1683 | 1683 | 159 |
| 15° | 1608 | 1612 | 1624 | 1632 | 1636 | 454 |
| 25° | 1494 | 1502 | 1525 | 1533 | 1541 | 687 |
| 35° | 1324 | 1335 | 1363 | 1391 | 1403 | 828 |
| 45° | 1110 | 1130 | 1174 | 1233 | 1264 | 857 |
| 55° | 858 | 885 | 980 | 1079 | 1130 | 768 |
| 65° | 569 | 624 | 779 | 901 | 964 | 566 |
| 75° | 281 | 371 | 525 | 632 | 668 | 301 |
| 85° | 71 | 99 | 122 | 126 | 134 | 80 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P475044

CATALOG NUMBER: 22CZ2-80VHE-RDP-UNV-L835-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1687.2 | 1687.2 | 1687.2 | 1687.2 | 1687.2 |
| 2.5° | 1675.4 | 1679.3 | 1687.2 | 1687.2 | 1691.1 |
| 5° | 1671.5 | 1675.4 | 1683.3 | 1683.3 | 1683.3 |
| 7.5° | 1659.7 | 1663.6 | 1671.5 | 1675.4 | 1675.4 |
| 10° | 1647.5 | 1651.9 | 1659.7 | 1663.6 | 1667.6 |
| 12.5° | 1627.9 | 1631.8 | 1643.6 | 1651.9 | 1651.9 |
| 15° | 1608.3 | 1612.2 | 1624.0 | 1631.8 | 1635.8 |
| 17.5° | 1584.3 | 1592.6 | 1604.3 | 1612.2 | 1616.1 |
| 20° | 1552.9 | 1560.8 | 1576.5 | 1588.6 | 1592.6 |
| 22.5° | 1525.4 | 1533.3 | 1549.0 | 1560.8 | 1568.6 |
| 25° | 1493.6 | 1501.5 | 1525.4 | 1533.3 | 1541.1 |
| 27.5° | 1454.0 | 1462.2 | 1481.8 | 1497.5 | 1509.3 |
| 30° | 1414.7 | 1422.6 | 1446.1 | 1466.1 | 1474.0 |
| 32.5° | 1371.1 | 1382.9 | 1410.8 | 1426.5 | 1438.3 |
| 35° | 1323.6 | 1335.4 | 1363.3 | 1390.8 | 1402.9 |
| 37.5° | 1276.5 | 1288.3 | 1315.8 | 1351.5 | 1367.2 |
| 40° | 1221.1 | 1236.8 | 1272.2 | 1319.7 | 1327.5 |
| 42.5° | 1169.7 | 1189.3 | 1221.1 | 1276.5 | 1296.1 |
| 45° | 1110.4 | 1130.0 | 1173.6 | 1232.9 | 1264.3 |
| 47.5° | 1055.0 | 1074.7 | 1122.2 | 1193.2 | 1232.9 |
| 50° | 987.9 | 1015.4 | 1074.7 | 1157.9 | 1197.2 |
| 52.5° | 924.7 | 948.2 | 1027.6 | 1118.3 | 1165.8 |
| 55° | 857.5 | 885.0 | 980.0 | 1078.6 | 1130.0 |
| 57.5° | 798.2 | 821.8 | 928.6 | 1039.3 | 1098.6 |
| 60° | 723.3 | 754.7 | 877.2 | 995.7 | 1055.0 |
| 62.5° | 643.9 | 691.4 | 825.7 | 948.2 | 1011.5 |
| 65° | 568.9 | 624.3 | 778.6 | 900.7 | 964.3 |
| 67.5° | 501.8 | 561.1 | 719.3 | 849.7 | 909.0 |
| 70° | 422.9 | 497.9 | 660.0 | 786.5 | 853.6 |
| 72.5° | 351.8 | 434.7 | 592.9 | 719.3 | 778.6 |
| 75° | 280.7 | 371.4 | 525.4 | 632.2 | 667.9 |
| 77.5° | 217.1 | 304.3 | 450.4 | 482.2 | 486.1 |
| 80° | 162.2 | 241.1 | 335.7 | 339.6 | 351.8 |
| 82.5° | 110.7 | 170.0 | 217.1 | 237.2 | 241.1 |
| 85° | 71.1 | 98.9 | 122.5 | 126.4 | 134.3 |
| 87.5° | 31.8 | 35.7 | 43.6 | 39.7 | 39.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)