

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: P475483

Luminaire Tested: **14CZ2-48HE-HRP-UNV-L850-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P475483
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 14CZ2-48HE-HRP-UNV-L850-CD1-U
Description: 1'X4' TROFFER LED MODULE, HIGH EFFICIENCY,SMOOTH LENS W/ HRP INSERT
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4027.6 lumens
Efficiency: N/A
Efficacy: 112.8 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.29 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

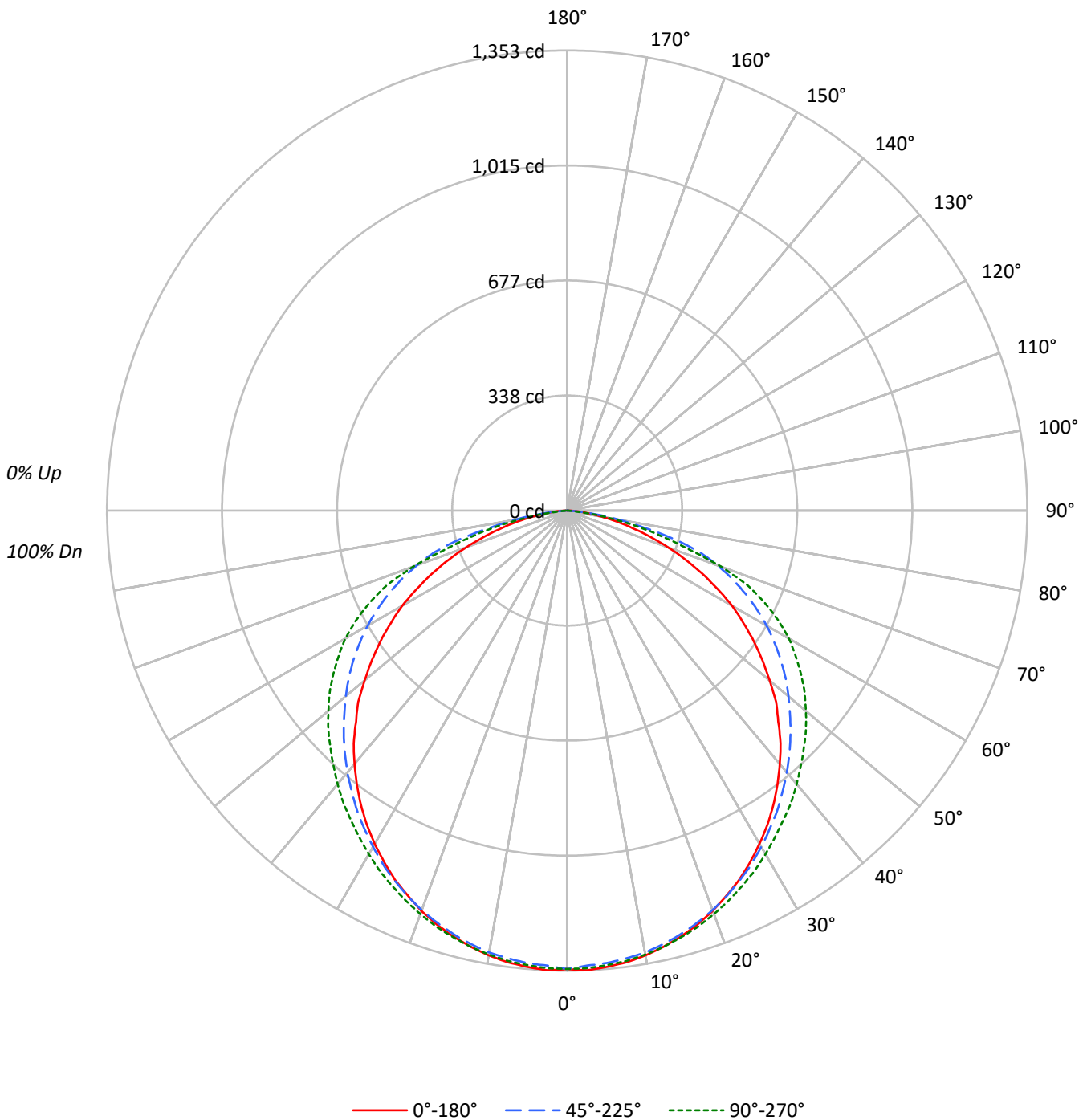
Input Watts (W): 35.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P475483

CATALOG NUMBER: 14CZ2-48HE-HRP-UNV-L850-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P475483

CATALOG NUMBER: 14CZ2-48HE-HRP-UNV-L850-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 | 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 | | | | | 100 | | | |
| 1 | 109 | 104 | 100 | 96 | 106 | 102 | 98 | 94 | 97 | 94 | 91 | 93 | 91 | 88 | 90 | 88 | 86 | 84 | | | | | 84 | | | |
| 2 | 99 | 90 | 83 | 77 | 96 | 88 | 82 | 76 | 85 | 79 | 75 | 81 | 77 | 73 | 78 | 75 | 71 | 69 | | | | | 69 | | | |
| 3 | 90 | 79 | 70 | 64 | 87 | 77 | 69 | 63 | 74 | 68 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 | | | | | 58 | | | |
| 4 | 82 | 70 | 61 | 54 | 79 | 68 | 60 | 53 | 66 | 58 | 53 | 63 | 57 | 52 | 61 | 56 | 51 | 49 | | | | | 49 | | | |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 59 | 51 | 45 | 57 | 50 | 45 | 55 | 49 | 44 | 42 | | | | | 42 | | | |
| 6 | 69 | 56 | 47 | 40 | 67 | 55 | 46 | 40 | 53 | 45 | 39 | 51 | 44 | 39 | 50 | 43 | 39 | 37 | | | | | 37 | | | |
| 7 | 64 | 50 | 41 | 35 | 62 | 50 | 41 | 35 | 48 | 40 | 35 | 47 | 40 | 35 | 45 | 39 | 34 | 32 | | | | | 32 | | | |
| 8 | 60 | 46 | 37 | 31 | 58 | 45 | 37 | 31 | 44 | 36 | 31 | 43 | 36 | 31 | 41 | 35 | 31 | 29 | | | | | 29 | | | |
| 9 | 56 | 42 | 34 | 28 | 54 | 41 | 33 | 28 | 40 | 33 | 28 | 39 | 33 | 28 | 38 | 32 | 28 | 26 | | | | | 26 | | | |
| 10 | 52 | 39 | 31 | 25 | 51 | 38 | 31 | 25 | 37 | 30 | 25 | 36 | 30 | 25 | 35 | 29 | 25 | 23 | | | | | 23 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 3627 | 3627 | 3627 |
| 5° | 3638 | 3608 | 3625 |
| 10° | 3629 | 3605 | 3622 |
| 15° | 3610 | 3593 | 3617 |
| 20° | 3586 | 3579 | 3615 |
| 25° | 3556 | 3563 | 3615 |
| 30° | 3516 | 3547 | 3625 |
| 35° | 3472 | 3538 | 3644 |
| 40° | 3416 | 3530 | 3687 |
| 45° | 3341 | 3535 | 3748 |
| 50° | 3254 | 3556 | 3837 |
| 55° | 3145 | 3600 | 3938 |
| 60° | 3018 | 3647 | 4056 |
| 65° | 2787 | 3682 | 4078 |
| 70° | 2485 | 3699 | 3777 |
| 75° | 2082 | 3426 | 2935 |
| 80° | 1581 | 2408 | 1928 |
| 85° | 1115 | 846 | 269 |



TEST NUMBER: P475483

CATALOG NUMBER: 14CZ2-48HE-HRP-UNV-L850-CD1-U

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 127.6 | 3.2 |
| 10°-20° | 365.6 | 9.1 |
| 20°-30° | 555.7 | 13.8 |
| 30°-40° | 676.6 | 16.8 |
| 40°-50° | 718.8 | 17.8 |
| 50°-60° | 679.9 | 16.9 |
| 60°-70° | 550.9 | 13.7 |
| 70°-80° | 302.0 | 7.5 |
| 80°-90° | 50.5 | 1.3 |
| 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° | 1048.9 | 26.0 |
| 0°-40° | 1725.5 | 42.8 |
| 0°-60° | 3124.2 | 77.6 |
| 0°-90° | 4027.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4027.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1348 | 1348 | 1348 | 1348 | 1348 | |
| 5° | 1347 | 1344 | 1336 | 1344 | 1342 | 128 |
| 15° | 1296 | 1293 | 1290 | 1300 | 1298 | 366 |
| 25° | 1198 | 1198 | 1200 | 1216 | 1217 | 551 |
| 35° | 1057 | 1061 | 1077 | 1103 | 1109 | 661 |
| 45° | 878 | 892 | 929 | 971 | 985 | 678 |
| 55° | 670 | 700 | 767 | 823 | 839 | 599 |
| 65° | 438 | 488 | 578 | 629 | 640 | 433 |
| 75° | 200 | 276 | 330 | 291 | 282 | 214 |
| 85° | 36 | 47 | 27 | 14 | 9 | 45 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P475483

CATALOG NUMBER: 14CZ2-48HE-HRP-UNV-L850-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1348.0 | 1348.0 | 1348.0 | 1348.0 | 1348.0 |
| 2.5° | 1353.0 | 1348.0 | 1339.3 | 1348.0 | 1346.8 |
| 5° | 1346.8 | 1344.3 | 1335.6 | 1344.3 | 1341.8 |
| 7.5° | 1339.3 | 1336.8 | 1328.1 | 1338.1 | 1335.6 |
| 10° | 1328.1 | 1325.6 | 1319.4 | 1328.1 | 1325.6 |
| 12.5° | 1313.2 | 1312.0 | 1305.7 | 1315.7 | 1313.2 |
| 15° | 1295.8 | 1293.3 | 1289.6 | 1299.5 | 1298.3 |
| 17.5° | 1275.9 | 1273.4 | 1270.9 | 1283.4 | 1282.1 |
| 20° | 1252.3 | 1251.0 | 1249.8 | 1263.5 | 1262.2 |
| 22.5° | 1224.9 | 1224.9 | 1226.2 | 1241.1 | 1241.1 |
| 25° | 1197.6 | 1197.6 | 1200.0 | 1216.2 | 1217.4 |
| 27.5° | 1165.2 | 1167.7 | 1172.7 | 1190.1 | 1193.8 |
| 30° | 1131.6 | 1134.1 | 1141.6 | 1161.5 | 1166.5 |
| 32.5° | 1095.6 | 1099.3 | 1109.3 | 1132.9 | 1137.9 |
| 35° | 1057.0 | 1060.8 | 1076.9 | 1103.0 | 1109.3 |
| 37.5° | 1016.0 | 1022.2 | 1040.9 | 1070.7 | 1081.9 |
| 40° | 972.5 | 982.4 | 1004.8 | 1037.1 | 1049.6 |
| 42.5° | 928.9 | 937.6 | 967.5 | 1004.8 | 1017.2 |
| 45° | 878.0 | 891.6 | 928.9 | 971.2 | 984.9 |
| 47.5° | 833.2 | 845.6 | 889.1 | 936.4 | 952.6 |
| 50° | 777.2 | 795.9 | 849.4 | 901.6 | 916.5 |
| 52.5° | 723.8 | 748.6 | 809.6 | 863.0 | 880.4 |
| 55° | 670.3 | 700.1 | 767.3 | 823.2 | 839.4 |
| 57.5° | 614.3 | 646.7 | 722.5 | 779.7 | 797.1 |
| 60° | 560.8 | 595.7 | 677.7 | 736.2 | 753.6 |
| 62.5° | 497.4 | 541.0 | 629.2 | 685.2 | 700.1 |
| 65° | 437.7 | 487.5 | 578.3 | 629.2 | 640.4 |
| 67.5° | 376.8 | 435.2 | 526.0 | 570.8 | 574.5 |
| 70° | 315.9 | 381.8 | 470.1 | 497.4 | 480.0 |
| 72.5° | 256.2 | 329.5 | 410.4 | 388.0 | 368.1 |
| 75° | 200.2 | 276.1 | 329.5 | 291.0 | 282.3 |
| 77.5° | 148.0 | 226.3 | 230.1 | 211.4 | 205.2 |
| 80° | 102.0 | 175.3 | 155.4 | 134.3 | 124.4 |
| 82.5° | 65.9 | 108.2 | 85.8 | 63.4 | 57.2 |
| 85° | 36.1 | 47.3 | 27.4 | 13.7 | 8.7 |
| 87.5° | 13.7 | 8.7 | 3.7 | 3.7 | 2.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)