

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: P475380

Luminaire Tested: **14CZ2-35-S-UNV-L830-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P475380
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 14CZ2-35-S-UNV-L830-CD1-U
Description: 1'X4' TROFFER LED MODULE, SMOOTH LENS
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

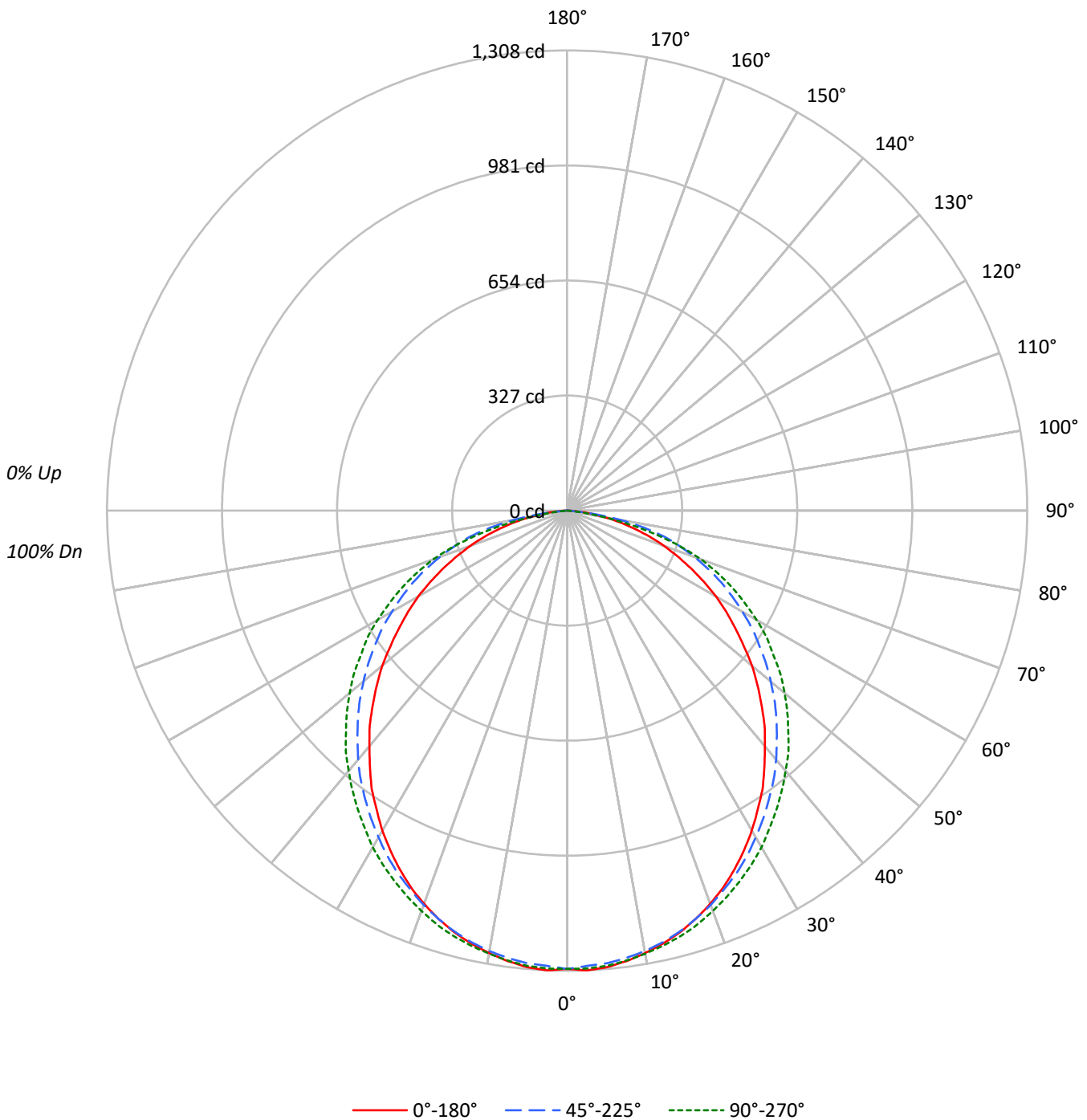
Lumens per Lamp: N/A
Luminaire Lumens: 3641.3 lumens
Efficiency: N/A
Efficacy: 127.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.36
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 28.5
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 | 109 | 104 | 100 | 96 | 106 | 102 | 98 | 94 | 98 | 94 | 91 | | 94 | 91 | 89 | | 90 | 88 | 86 | 84 |
| 2 | 99 | 91 | 84 | 78 | 96 | 89 | 82 | 77 | 85 | 80 | 75 | | 82 | 77 | 74 | | 79 | 75 | 72 | 70 |
| 3 | 90 | 79 | 71 | 65 | 88 | 78 | 70 | 64 | 75 | 68 | 63 | | 72 | 67 | 62 | | 70 | 65 | 61 | 59 |
| 4 | 82 | 70 | 61 | 55 | 80 | 69 | 61 | 54 | 66 | 59 | 54 | | 64 | 58 | 53 | | 62 | 57 | 52 | 50 |
| 5 | 76 | 63 | 54 | 47 | 74 | 62 | 53 | 47 | 60 | 52 | 46 | | 58 | 51 | 46 | | 56 | 50 | 45 | 43 |
| 6 | 70 | 57 | 48 | 41 | 68 | 56 | 47 | 41 | 54 | 46 | 40 | | 52 | 45 | 40 | | 50 | 44 | 40 | 38 |
| 7 | 65 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 49 | 41 | 36 | | 47 | 41 | 36 | | 46 | 40 | 35 | 33 |
| 8 | 60 | 47 | 38 | 32 | 59 | 46 | 38 | 32 | 45 | 37 | 32 | | 43 | 37 | 32 | | 42 | 36 | 32 | 30 |
| 9 | 56 | 43 | 35 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 29 | | 40 | 33 | 29 | | 39 | 33 | 29 | 27 |
| 10 | 53 | 40 | 32 | 26 | 52 | 39 | 31 | 26 | 38 | 31 | 26 | | 37 | 31 | 26 | | 36 | 30 | 26 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 3506 | 3506 | 3506 |
| 5° | 3519 | 3489 | 3509 |
| 10° | 3490 | 3475 | 3495 |
| 15° | 3456 | 3451 | 3487 |
| 20° | 3405 | 3416 | 3468 |
| 25° | 3341 | 3379 | 3450 |
| 30° | 3263 | 3332 | 3434 |
| 35° | 3180 | 3288 | 3408 |
| 40° | 3072 | 3246 | 3393 |
| 45° | 2973 | 3203 | 3384 |
| 50° | 2872 | 3163 | 3378 |
| 55° | 2738 | 3125 | 3356 |
| 60° | 2629 | 3092 | 3348 |
| 65° | 2470 | 3075 | 3297 |
| 70° | 2303 | 3023 | 3181 |
| 75° | 2036 | 2967 | 2682 |
| 80° | 1644 | 2410 | 1588 |
| 85° | 1186 | 679 | 170 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 123.2 | 3.4 |
| 10°-20° | 350.8 | 9.6 |
| 20°-30° | 526.2 | 14.5 |
| 30°-40° | 627.3 | 17.2 |
| 40°-50° | 647.8 | 17.8 |
| 50°-60° | 590.0 | 16.2 |
| 60°-70° | 462.2 | 12.7 |
| 70°-80° | 267.4 | 7.3 |
| 80°-90° | 46.5 | 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° | 1000.2 | 27.5 |
| 0°-40° | 1627.5 | 44.7 |
| 0°-60° | 2865.2 | 78.7 |
| 0°-90° | 3641.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3641.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1303 | 1303 | 1303 | 1303 | 1303 | |
| 5° | 1303 | 1299 | 1292 | 1301 | 1299 | 123 |
| 15° | 1240 | 1239 | 1239 | 1252 | 1252 | 350 |
| 25° | 1125 | 1129 | 1138 | 1160 | 1162 | 518 |
| 35° | 968 | 977 | 1001 | 1032 | 1037 | 604 |
| 45° | 781 | 801 | 842 | 880 | 889 | 603 |
| 55° | 584 | 613 | 666 | 708 | 715 | 523 |
| 65° | 388 | 423 | 483 | 514 | 518 | 384 |
| 75° | 196 | 238 | 285 | 276 | 258 | 209 |
| 85° | 38 | 51 | 22 | 7 | 6 | 47 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P475380

CATALOG NUMBER: 14CZ2-35-S-UNV-L830-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1302.7 | 1302.7 | 1302.7 | 1302.7 | 1302.7 |
| 2.5° | 1308.2 | 1302.7 | 1295.4 | 1302.7 | 1302.7 |
| 5° | 1302.7 | 1299.0 | 1291.7 | 1300.9 | 1299.0 |
| 7.5° | 1291.7 | 1288.0 | 1282.6 | 1291.7 | 1289.9 |
| 10° | 1277.1 | 1275.2 | 1271.6 | 1282.6 | 1278.9 |
| 12.5° | 1260.6 | 1258.8 | 1256.9 | 1267.9 | 1266.1 |
| 15° | 1240.5 | 1238.6 | 1238.6 | 1251.5 | 1251.5 |
| 17.5° | 1216.7 | 1216.7 | 1216.7 | 1233.2 | 1233.2 |
| 20° | 1189.2 | 1189.2 | 1192.9 | 1211.2 | 1211.2 |
| 22.5° | 1160.0 | 1160.0 | 1165.5 | 1185.6 | 1187.4 |
| 25° | 1125.2 | 1128.9 | 1138.0 | 1160.0 | 1161.8 |
| 27.5° | 1088.6 | 1094.1 | 1106.9 | 1130.7 | 1134.4 |
| 30° | 1050.2 | 1055.7 | 1072.2 | 1099.6 | 1105.1 |
| 32.5° | 1008.1 | 1017.3 | 1037.4 | 1064.8 | 1070.3 |
| 35° | 967.9 | 977.0 | 1000.8 | 1031.9 | 1037.4 |
| 37.5° | 920.3 | 934.9 | 964.2 | 993.5 | 1002.6 |
| 40° | 874.6 | 891.0 | 924.0 | 958.7 | 966.0 |
| 42.5° | 830.6 | 845.3 | 881.9 | 920.3 | 931.3 |
| 45° | 781.2 | 801.4 | 841.6 | 880.0 | 889.2 |
| 47.5° | 733.7 | 753.8 | 799.5 | 839.8 | 848.9 |
| 50° | 686.1 | 706.2 | 755.6 | 795.9 | 806.9 |
| 52.5° | 633.0 | 662.3 | 711.7 | 752.0 | 764.8 |
| 55° | 583.6 | 612.9 | 666.0 | 708.1 | 715.4 |
| 57.5° | 536.1 | 565.3 | 623.9 | 662.3 | 673.3 |
| 60° | 488.5 | 517.8 | 574.5 | 612.9 | 622.1 |
| 62.5° | 437.3 | 470.2 | 528.8 | 561.7 | 569.0 |
| 65° | 387.9 | 422.6 | 483.0 | 514.1 | 517.8 |
| 67.5° | 338.5 | 375.1 | 433.6 | 459.2 | 462.9 |
| 70° | 292.7 | 329.3 | 384.2 | 408.0 | 404.3 |
| 72.5° | 245.2 | 281.8 | 334.8 | 347.6 | 336.6 |
| 75° | 195.8 | 237.8 | 285.4 | 276.3 | 258.0 |
| 77.5° | 151.9 | 192.1 | 223.2 | 195.8 | 181.1 |
| 80° | 106.1 | 148.2 | 155.5 | 120.8 | 102.5 |
| 82.5° | 69.5 | 104.3 | 84.2 | 51.2 | 45.7 |
| 85° | 38.4 | 51.2 | 22.0 | 7.3 | 5.5 |
| 87.5° | 12.8 | 7.3 | 3.7 | 1.8 | 1.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)