

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: P475413

Luminaire Tested: **14CZ2-20-RDP-UNV-L830-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P475413
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 14CZ2-20-RDP-UNV-L830-CD1-U
Description: 1'X4' TROFFER LED MODULE, SMOOTH LENS W/ RDP INSERT
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

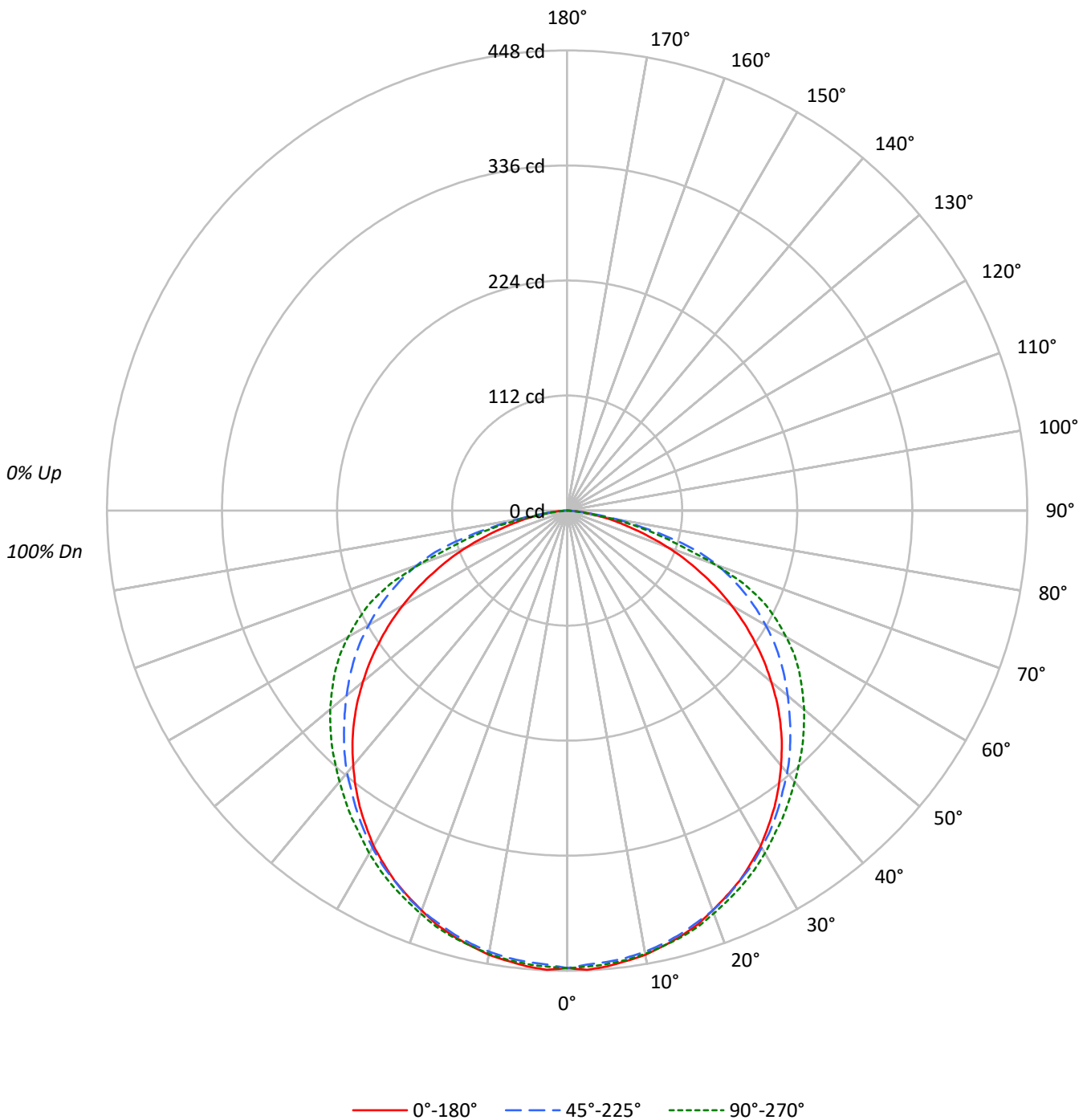
Lumens per Lamp: N/A
Luminaire Lumens: 1329.8 lumens
Efficiency: N/A
Efficacy: 85.2 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.28 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 15.6
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 | 97 | 94 | 91 | 93 | 91 | 88 | 90 | 88 | 86 | 84 |
| 2 | 99 | 90 | 83 | 77 | 96 | 88 | 82 | 76 | 85 | 79 | 75 | 81 | 77 | 73 | 78 | 75 | 71 | 69 |
| 3 | 90 | 79 | 71 | 64 | 87 | 77 | 70 | 63 | 74 | 68 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 68 | 60 | 53 | 66 | 58 | 53 | 63 | 57 | 52 | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 59 | 51 | 45 | 57 | 50 | 45 | 55 | 49 | 44 | 42 |
| 6 | 69 | 56 | 47 | 40 | 67 | 55 | 46 | 40 | 53 | 45 | 40 | 51 | 44 | 39 | 50 | 44 | 39 | 37 |
| 7 | 64 | 50 | 42 | 35 | 62 | 50 | 41 | 35 | 48 | 40 | 35 | 47 | 40 | 35 | 45 | 39 | 34 | 32 |
| 8 | 60 | 46 | 37 | 31 | 58 | 45 | 37 | 31 | 44 | 36 | 31 | 43 | 36 | 31 | 41 | 35 | 31 | 29 |
| 9 | 56 | 42 | 34 | 28 | 54 | 42 | 34 | 28 | 40 | 33 | 28 | 39 | 33 | 28 | 38 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 25 | 51 | 38 | 31 | 25 | 37 | 30 | 25 | 36 | 30 | 25 | 35 | 29 | 25 | 23 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1199 | 1199 | 1199 |
| 5° | 1203 | 1192 | 1197 |
| 10° | 1200 | 1192 | 1197 |
| 15° | 1195 | 1189 | 1197 |
| 20° | 1186 | 1186 | 1195 |
| 25° | 1181 | 1181 | 1196 |
| 30° | 1171 | 1177 | 1197 |
| 35° | 1156 | 1173 | 1201 |
| 40° | 1138 | 1171 | 1211 |
| 45° | 1118 | 1169 | 1233 |
| 50° | 1087 | 1173 | 1261 |
| 55° | 1047 | 1188 | 1296 |
| 60° | 995 | 1201 | 1324 |
| 65° | 919 | 1216 | 1342 |
| 70° | 817 | 1225 | 1201 |
| 75° | 658 | 1101 | 961 |
| 80° | 514 | 772 | 628 |
| 85° | 352 | 225 | 161 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 42.2 | 3.2 |
| 10°-20° | 120.9 | 9.1 |
| 20°-30° | 184.2 | 13.8 |
| 30°-40° | 224.3 | 16.9 |
| 40°-50° | 238.0 | 17.9 |
| 50°-60° | 224.6 | 16.9 |
| 60°-70° | 181.3 | 13.6 |
| 70°-80° | 98.4 | 7.4 |
| 80°-90° | 15.9 | 1.2 |
| 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° | 347.3 | 26.1 |
| 0°-40° | 571.6 | 43.0 |
| 0°-60° | 1034.2 | 77.8 |
| 0°-90° | 1329.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1329.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 445 | 445 | 445 | 445 | 445 | |
| 5° | 445 | 444 | 441 | 444 | 443 | 42 |
| 15° | 429 | 428 | 427 | 430 | 430 | 121 |
| 25° | 398 | 397 | 398 | 402 | 403 | 183 |
| 35° | 352 | 354 | 357 | 364 | 366 | 220 |
| 45° | 294 | 298 | 307 | 319 | 324 | 226 |
| 55° | 223 | 233 | 253 | 270 | 276 | 199 |
| 65° | 144 | 162 | 191 | 207 | 211 | 143 |
| 75° | 63 | 92 | 106 | 96 | 92 | 69 |
| 85° | 11 | 12 | 7 | 6 | 5 | 15 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P475413

CATALOG NUMBER: 14CZ2-20-RDP-UNV-L830-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 445.4 | 445.4 | 445.4 | 445.4 | 445.4 |
| 2.5° | 447.5 | 445.4 | 442.3 | 445.4 | 444.4 |
| 5° | 445.4 | 444.4 | 441.2 | 444.4 | 443.3 |
| 7.5° | 442.3 | 442.3 | 439.2 | 441.2 | 441.2 |
| 10° | 439.2 | 438.1 | 436.1 | 439.2 | 438.1 |
| 12.5° | 434.0 | 432.9 | 431.9 | 435.0 | 434.0 |
| 15° | 428.8 | 427.7 | 426.7 | 429.8 | 429.8 |
| 17.5° | 422.6 | 421.5 | 420.5 | 424.6 | 424.6 |
| 20° | 414.2 | 414.2 | 414.2 | 418.4 | 417.4 |
| 22.5° | 405.9 | 405.9 | 407.0 | 411.1 | 410.1 |
| 25° | 397.6 | 396.6 | 397.6 | 401.8 | 402.8 |
| 27.5° | 387.3 | 388.3 | 389.3 | 393.5 | 394.5 |
| 30° | 376.9 | 377.9 | 378.9 | 384.1 | 385.2 |
| 32.5° | 364.4 | 366.5 | 368.6 | 374.8 | 374.8 |
| 35° | 352.0 | 354.0 | 357.1 | 364.4 | 365.5 |
| 37.5° | 338.5 | 340.5 | 344.7 | 353.0 | 355.1 |
| 40° | 323.9 | 327.0 | 333.3 | 341.6 | 344.7 |
| 42.5° | 309.4 | 313.5 | 320.8 | 330.2 | 334.3 |
| 45° | 293.8 | 298.0 | 307.3 | 318.7 | 323.9 |
| 47.5° | 277.2 | 282.4 | 293.8 | 308.3 | 312.5 |
| 50° | 259.6 | 266.8 | 280.3 | 295.9 | 301.1 |
| 52.5° | 241.9 | 250.2 | 266.8 | 283.4 | 288.6 |
| 55° | 223.2 | 232.6 | 253.3 | 269.9 | 276.2 |
| 57.5° | 204.5 | 214.9 | 238.8 | 256.4 | 262.7 |
| 60° | 184.8 | 197.3 | 223.2 | 240.9 | 246.1 |
| 62.5° | 165.1 | 179.6 | 207.6 | 225.3 | 229.4 |
| 65° | 144.3 | 162.0 | 191.0 | 206.6 | 210.8 |
| 67.5° | 124.6 | 145.4 | 174.4 | 185.8 | 185.8 |
| 70° | 103.8 | 126.7 | 155.7 | 158.8 | 152.6 |
| 72.5° | 83.1 | 109.0 | 135.0 | 123.5 | 118.4 |
| 75° | 63.3 | 92.4 | 105.9 | 95.5 | 92.4 |
| 77.5° | 47.8 | 74.8 | 74.8 | 68.5 | 66.4 |
| 80° | 33.2 | 57.1 | 49.8 | 43.6 | 40.5 |
| 82.5° | 21.8 | 32.2 | 26.0 | 20.8 | 17.6 |
| 85° | 11.4 | 12.5 | 7.3 | 6.2 | 5.2 |
| 87.5° | 4.2 | 2.1 | 1.0 | 2.1 | 1.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)