

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: P277030

Luminaire Tested: **24CZ2-35HE-RDP-UNV-L92765-W2A1-U-4500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P277030  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-35HE-RDP-UNV-L92765-W2A1-U-4500K  
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH RDP LENS  
Light Source: (336) 90 CRI LEDS TUNED TO 4500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2028.3 lumens  
Efficiency: N/A  
Efficacy: 82.3 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

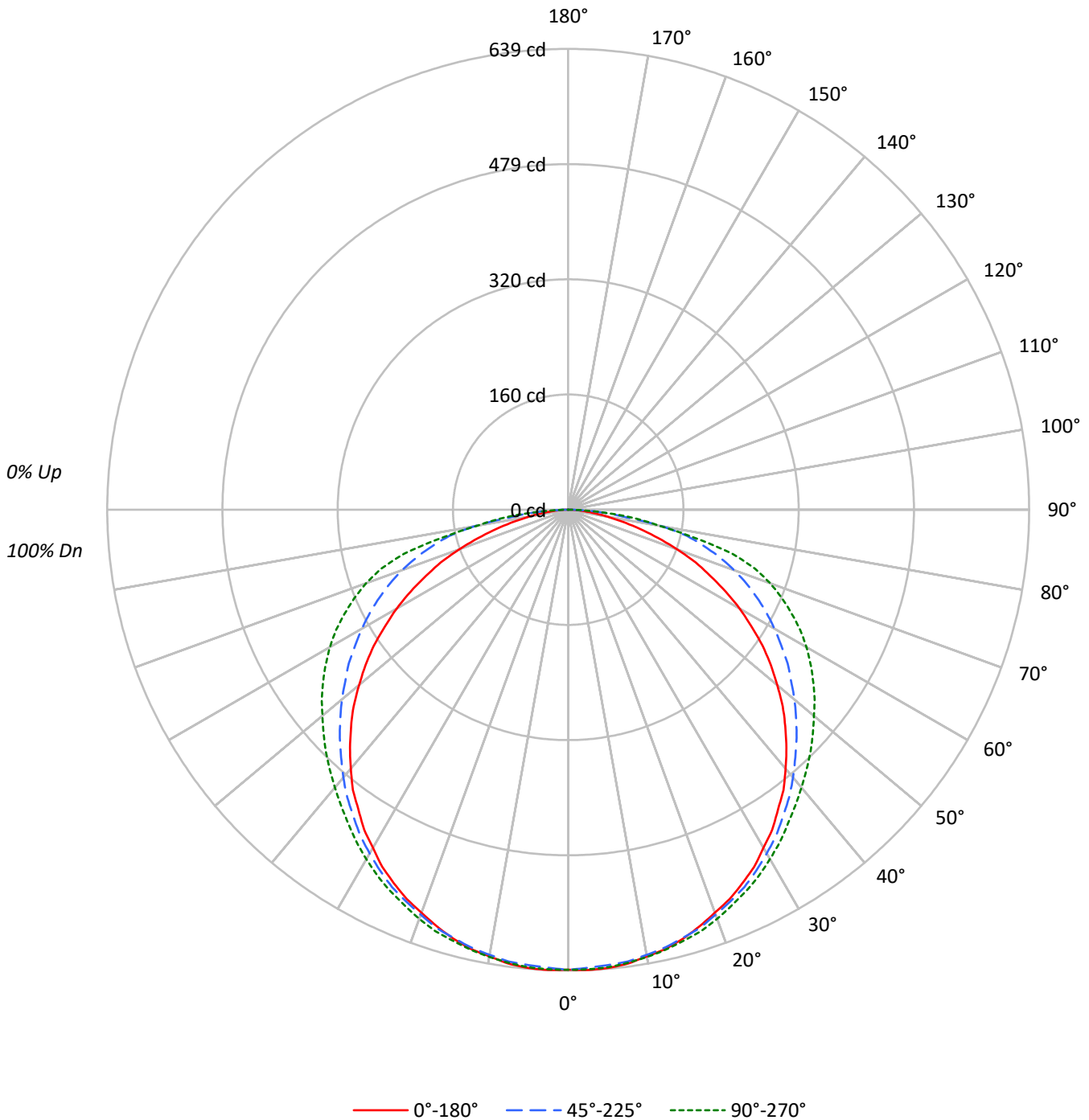
Input Watts (W): 24.645  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P277030

CATALOG NUMBER: 24CZ2-35HE-RDP-UNV-L92765-W2A1-U-4500K

### Luminous Intensity Polar Plot





TEST NUMBER: P277030

CATALOG NUMBER: 24CZ2-35HE-RDP-UNV-L92765-W2A1-U-4500K

**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  | 93  | 89  | 92  | 89  | 87  | 88  | 86  | 84  | 82  |
| 2   | 97  | 89  | 81  | 75  | 95  | 87  | 80  | 74  | 83  | 77  | 72  | 80  | 75  | 71  | 77  | 73  | 69  | 67  |
| 3   | 88  | 77  | 68  | 62  | 86  | 76  | 68  | 61  | 72  | 66  | 60  | 70  | 64  | 59  | 67  | 62  | 58  | 56  |
| 4   | 81  | 68  | 59  | 52  | 78  | 67  | 58  | 51  | 64  | 57  | 51  | 62  | 55  | 50  | 59  | 54  | 49  | 47  |
| 5   | 74  | 60  | 51  | 44  | 72  | 59  | 51  | 44  | 57  | 49  | 43  | 55  | 48  | 43  | 53  | 47  | 42  | 40  |
| 6   | 68  | 54  | 45  | 38  | 66  | 53  | 45  | 38  | 51  | 44  | 38  | 50  | 43  | 37  | 48  | 42  | 37  | 35  |
| 7   | 63  | 49  | 40  | 34  | 61  | 48  | 40  | 34  | 47  | 39  | 33  | 45  | 38  | 33  | 44  | 38  | 33  | 31  |
| 8   | 59  | 45  | 36  | 30  | 57  | 44  | 36  | 30  | 43  | 35  | 30  | 41  | 34  | 29  | 40  | 34  | 29  | 27  |
| 9   | 55  | 41  | 33  | 27  | 53  | 40  | 32  | 27  | 39  | 32  | 27  | 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°  | 858 | 858  | 858  |
| 5°  | 862 | 856  | 860  |
| 10° | 859 | 856  | 860  |
| 15° | 858 | 856  | 862  |
| 20° | 851 | 856  | 864  |
| 25° | 848 | 857  | 866  |
| 30° | 841 | 855  | 869  |
| 35° | 833 | 853  | 873  |
| 40° | 823 | 852  | 883  |
| 45° | 810 | 852  | 904  |
| 50° | 792 | 857  | 931  |
| 55° | 772 | 871  | 972  |
| 60° | 739 | 888  | 1026 |
| 65° | 692 | 919  | 1089 |
| 70° | 629 | 962  | 1172 |
| 75° | 533 | 1015 | 1224 |
| 80° | 421 | 1021 | 990  |
| 85° | 310 | 777  | 869  |



TEST NUMBER: P277030

CATALOG NUMBER: 24CZ2-35HE-RDP-UNV-L92765-W2A1-U-4500K

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 60.5   | 3.0       |
| 10°-20°   | 174.1  | 8.6       |
| 20°-30°   | 266.3  | 13.1      |
| 30°-40°   | 325.5  | 16.0      |
| 40°-50°   | 347.0  | 17.1      |
| 50°-60°   | 331.7  | 16.4      |
| 60°-70°   | 281.0  | 13.9      |
| 70°-80°   | 188.9  | 9.3       |
| 80°-90°   | 53.3   | 2.6       |
| 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°    | 500.9  | 24.7      |
| 0°-40°    | 826.5  | 40.7      |
| 0°-60°    | 1505.2 | 74.2      |
| 0°-90°    | 2028.3 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2028.3 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 638 | 638   | 638 | 638   | 638 |      |
| 5°  | 638 | 637   | 634 | 637   | 637 | 61   |
| 15° | 616 | 616   | 615 | 620   | 619 | 174  |
| 25° | 572 | 574   | 578 | 582   | 584 | 263  |
| 35° | 507 | 511   | 519 | 529   | 531 | 318  |
| 45° | 426 | 433   | 448 | 467   | 475 | 328  |
| 55° | 329 | 341   | 371 | 400   | 414 | 293  |
| 65° | 217 | 239   | 289 | 327   | 342 | 216  |
| 75° | 103 | 140   | 195 | 228   | 235 | 110  |
| 85° | 20  | 41    | 50  | 54    | 56  | 25   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



TEST NUMBER: P277030

CATALOG NUMBER: 24CZ2-35HE-RDP-UNV-L92765-W2A1-U-4500K

**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 637.9 | 637.9 | 637.9 | 637.9 | 637.9 |
| 2.5°  | 638.9 | 638.9 | 635.8 | 637.9 | 637.9 |
| 5°    | 637.9 | 636.9 | 633.8 | 636.9 | 636.9 |
| 7.5°  | 634.8 | 633.8 | 631.8 | 634.8 | 633.8 |
| 10°   | 628.8 | 628.8 | 626.8 | 629.8 | 629.8 |
| 12.5° | 623.8 | 622.8 | 621.8 | 625.8 | 624.8 |
| 15°   | 615.7 | 615.7 | 614.7 | 619.7 | 618.7 |
| 17.5° | 605.7 | 606.7 | 607.7 | 611.7 | 612.7 |
| 20°   | 594.6 | 596.6 | 597.6 | 603.7 | 603.7 |
| 22.5° | 584.5 | 585.5 | 587.6 | 593.6 | 593.6 |
| 25°   | 571.5 | 573.5 | 577.5 | 582.5 | 583.5 |
| 27.5° | 558.4 | 559.4 | 564.4 | 571.5 | 572.5 |
| 30°   | 541.3 | 544.3 | 550.3 | 558.4 | 559.4 |
| 32.5° | 526.2 | 529.2 | 536.2 | 544.3 | 546.3 |
| 35°   | 507.1 | 511.1 | 519.1 | 529.2 | 531.2 |
| 37.5° | 490.0 | 493.0 | 503.0 | 514.1 | 517.1 |
| 40°   | 468.8 | 474.9 | 484.9 | 498.0 | 503.0 |
| 42.5° | 447.7 | 453.7 | 465.8 | 482.9 | 489.0 |
| 45°   | 425.6 | 432.6 | 447.7 | 466.8 | 474.9 |
| 47.5° | 403.4 | 411.5 | 428.6 | 450.7 | 459.8 |
| 50°   | 378.3 | 388.3 | 409.5 | 434.6 | 444.7 |
| 52.5° | 354.1 | 366.2 | 389.4 | 417.5 | 430.6 |
| 55°   | 329.0 | 341.1 | 371.2 | 400.4 | 414.5 |
| 57.5° | 300.8 | 316.9 | 350.1 | 383.3 | 398.4 |
| 60°   | 274.7 | 289.8 | 330.0 | 366.2 | 381.3 |
| 62.5° | 246.5 | 266.6 | 309.9 | 348.1 | 363.2 |
| 65°   | 217.3 | 239.4 | 288.7 | 327.0 | 342.1 |
| 67.5° | 191.2 | 215.3 | 267.6 | 305.8 | 320.9 |
| 70°   | 160.0 | 190.1 | 244.5 | 282.7 | 297.8 |
| 72.5° | 130.8 | 164.0 | 220.3 | 257.6 | 271.6 |
| 75°   | 102.6 | 139.8 | 195.2 | 228.4 | 235.4 |
| 77.5° | 76.5  | 115.7 | 169.0 | 183.1 | 178.1 |
| 80°   | 54.3  | 92.6  | 131.8 | 124.8 | 127.8 |
| 82.5° | 35.2  | 70.4  | 81.5  | 92.6  | 95.6  |
| 85°   | 20.1  | 41.2  | 50.3  | 54.3  | 56.3  |
| 87.5° | 9.1   | 15.1  | 20.1  | 20.1  | 19.1  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)