

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: P393436

Luminaire Tested: **24EN-LD2-30-UNV-L93050-W2A-1-U (3500K)**

Issue Date: 3/28/2020

Test Information

Test Method: LM-79-08
Report Number: P393436
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-563-31)
Test Lab: INNOVATION CENTER
Issue Date: 3/28/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24EN-LD2-30-UNV-L93050-W2A-1-U (3500K)
Description: 2X4 ENCOUNTER, 3000 LUMENS, VIVIDTUNE TUNABLE WHITE
Light Source: 2700K/6500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2569.1 lumens
Efficiency: N/A
Efficacy: 123.5 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.27 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

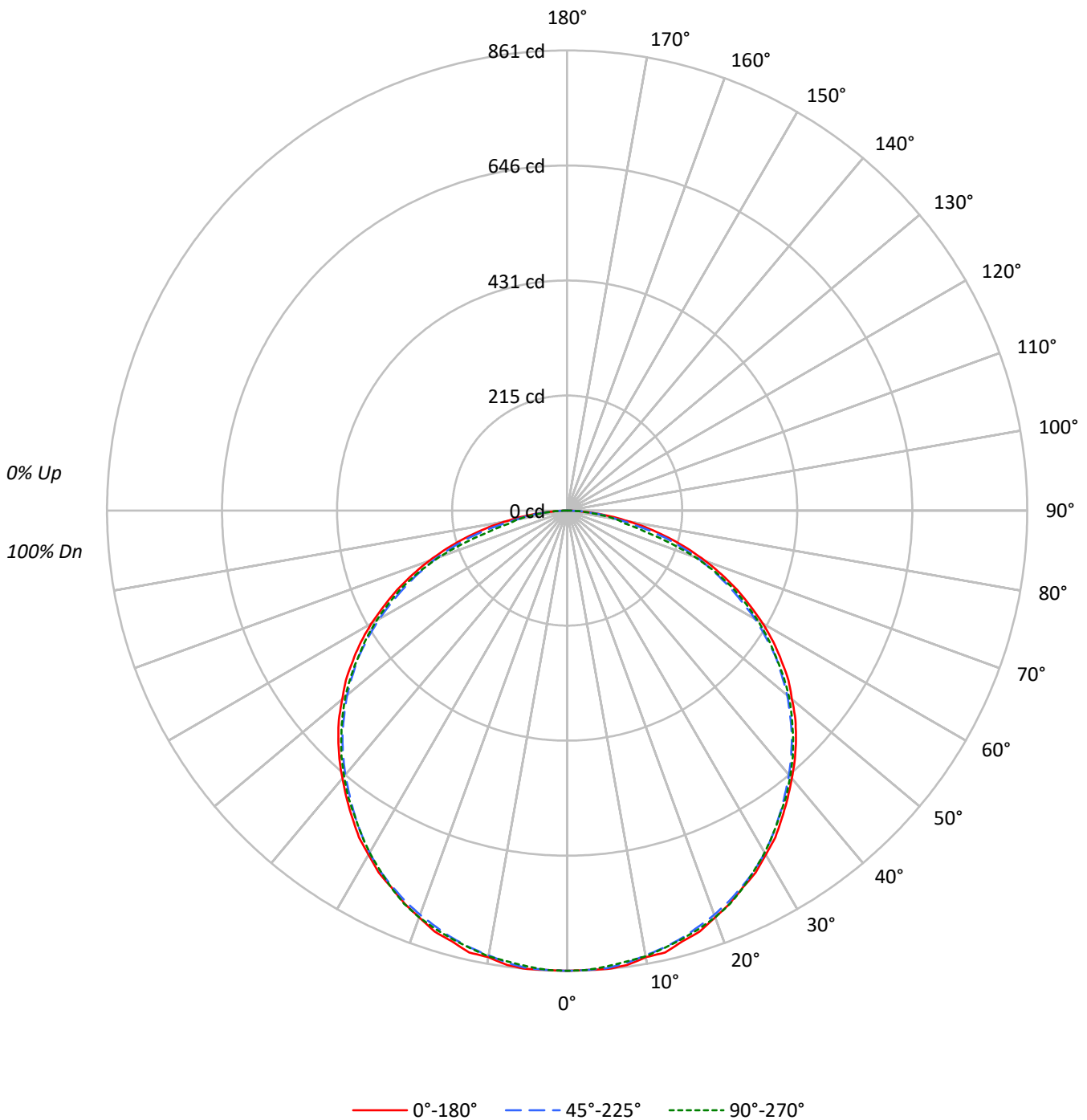
Input Watts (W): 20.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 99 | 95 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | 93 | 90 | 88 | 90 | 87 | 85 | 83 |
| 2 | 98 | 90 | 83 | 77 | 96 | 88 | 82 | 76 | 85 | 79 | 74 | 81 | 77 | 73 | 78 | 74 | 71 | 69 |
| 3 | 90 | 79 | 70 | 64 | 87 | 77 | 69 | 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 | 42 | 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 | 26 | 51 | 38 | 31 | 25 | 37 | 30 | 25 | 36 | 30 | 25 | 36 | 29 | 25 | 23 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1159 | 1159 | 1159 |
| 5° | 1163 | 1161 | 1156 |
| 10° | 1159 | 1155 | 1157 |
| 15° | 1162 | 1154 | 1156 |
| 20° | 1160 | 1152 | 1160 |
| 25° | 1155 | 1151 | 1156 |
| 30° | 1155 | 1148 | 1148 |
| 35° | 1152 | 1140 | 1141 |
| 40° | 1149 | 1134 | 1140 |
| 45° | 1152 | 1131 | 1138 |
| 50° | 1149 | 1125 | 1134 |
| 55° | 1148 | 1117 | 1118 |
| 60° | 1138 | 1093 | 1109 |
| 65° | 1117 | 1058 | 1084 |
| 70° | 1082 | 1026 | 1002 |
| 75° | 1018 | 944 | 774 |
| 80° | 906 | 736 | 717 |
| 85° | 739 | 662 | 597 |



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CATALOG NUMBER: 24EN-LD2-30-UNV-L93050-W2A-1-U (3500K)

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 81.6 | 3.2 |
| 10°-20° | 234.2 | 9.1 |
| 20°-30° | 357.8 | 13.9 |
| 30°-40° | 436.1 | 17.0 |
| 40°-50° | 460.3 | 17.9 |
| 50°-60° | 427.4 | 16.6 |
| 60°-70° | 334.7 | 13.0 |
| 70°-80° | 187.1 | 7.3 |
| 80°-90° | 49.8 | 1.9 |
| 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° | 673.6 | 26.2 |
| 0°-40° | 1109.7 | 43.2 |
| 0°-60° | 1997.4 | 77.7 |
| 0°-90° | 2569.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2569.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 861 | 861 | 861 | 861 | 861 | |
| 5° | 861 | 860 | 859 | 859 | 856 | 82 |
| 15° | 834 | 829 | 828 | 828 | 830 | 236 |
| 25° | 778 | 777 | 775 | 773 | 779 | 359 |
| 35° | 701 | 699 | 694 | 696 | 695 | 439 |
| 45° | 606 | 599 | 594 | 591 | 598 | 467 |
| 55° | 489 | 483 | 476 | 473 | 477 | 437 |
| 65° | 351 | 343 | 332 | 336 | 341 | 346 |
| 75° | 196 | 190 | 182 | 156 | 149 | 207 |
| 85° | 48 | 43 | 43 | 40 | 39 | 55 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P393436

CATALOG NUMBER: 24EN-LD2-30-UNV-L93050-W2A-1-U (3500K)

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 861.1 | 861.1 | 861.1 | 861.1 | 861.1 |
| 2.5° | 860.3 | 862.0 | 860.3 | 858.6 | 860.3 |
| 5° | 861.1 | 860.3 | 859.4 | 859.4 | 856.1 |
| 7.5° | 857.7 | 856.1 | 853.5 | 854.4 | 851.0 |
| 10° | 848.5 | 848.5 | 845.1 | 847.7 | 846.8 |
| 12.5° | 846.8 | 838.4 | 837.6 | 838.4 | 838.4 |
| 15° | 834.2 | 829.2 | 828.3 | 827.5 | 830.0 |
| 17.5° | 825.8 | 817.4 | 816.5 | 814.9 | 820.7 |
| 20° | 809.8 | 804.8 | 804.8 | 802.2 | 809.8 |
| 22.5° | 795.5 | 790.5 | 791.3 | 788.0 | 796.4 |
| 25° | 777.9 | 777.0 | 775.3 | 772.8 | 778.7 |
| 27.5° | 763.6 | 760.2 | 759.4 | 756.8 | 758.5 |
| 30° | 743.4 | 742.5 | 739.2 | 738.3 | 739.2 |
| 32.5° | 724.9 | 722.4 | 717.3 | 718.2 | 717.3 |
| 35° | 701.3 | 698.8 | 693.8 | 696.3 | 694.6 |
| 37.5° | 677.8 | 675.3 | 669.4 | 671.9 | 673.6 |
| 40° | 654.2 | 650.9 | 645.8 | 648.4 | 649.2 |
| 42.5° | 630.7 | 624.8 | 620.6 | 618.9 | 624.8 |
| 45° | 605.5 | 598.7 | 594.5 | 591.2 | 597.9 |
| 47.5° | 579.4 | 571.8 | 565.9 | 564.3 | 570.1 |
| 50° | 549.1 | 543.2 | 537.4 | 534.8 | 541.6 |
| 52.5° | 522.2 | 513.0 | 506.2 | 504.6 | 510.4 |
| 55° | 489.4 | 482.7 | 476.0 | 473.4 | 476.8 |
| 57.5° | 457.5 | 449.9 | 440.6 | 440.6 | 445.7 |
| 60° | 423.0 | 415.4 | 406.2 | 407.0 | 412.1 |
| 62.5° | 386.0 | 380.9 | 368.3 | 371.7 | 376.7 |
| 65° | 350.7 | 343.1 | 332.2 | 335.5 | 340.6 |
| 67.5° | 312.8 | 306.1 | 296.0 | 296.8 | 299.4 |
| 70° | 275.0 | 266.6 | 260.7 | 254.8 | 254.8 |
| 72.5° | 235.5 | 228.7 | 222.0 | 206.0 | 202.7 |
| 75° | 195.9 | 190.0 | 181.6 | 155.6 | 148.8 |
| 77.5° | 157.3 | 153.0 | 137.1 | 112.7 | 110.2 |
| 80° | 116.9 | 116.0 | 95.0 | 92.5 | 92.5 |
| 82.5° | 80.7 | 77.4 | 72.3 | 67.3 | 64.8 |
| 85° | 47.9 | 42.9 | 42.9 | 40.4 | 38.7 |
| 87.5° | 15.1 | 17.7 | 17.7 | 17.7 | 17.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)