

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: 134p144

Luminaire Tested: **WN-217A-UNV-EB81-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-41-14  
Report Number: 134p144  
Test Lab: METALUX RESEARCH LABS  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: WN-217A-UNV-EB81-U  
Description: WRAPAROUND SERIES, 2 LAMP T8, WITH PRISMATIC WRAP LENS  
Light Source: TWO LINEAR FLUORESCENT LAMPS, F17T8 17W - 1310 LUMENS EA  
Ballast/Driver: -

**Summary**

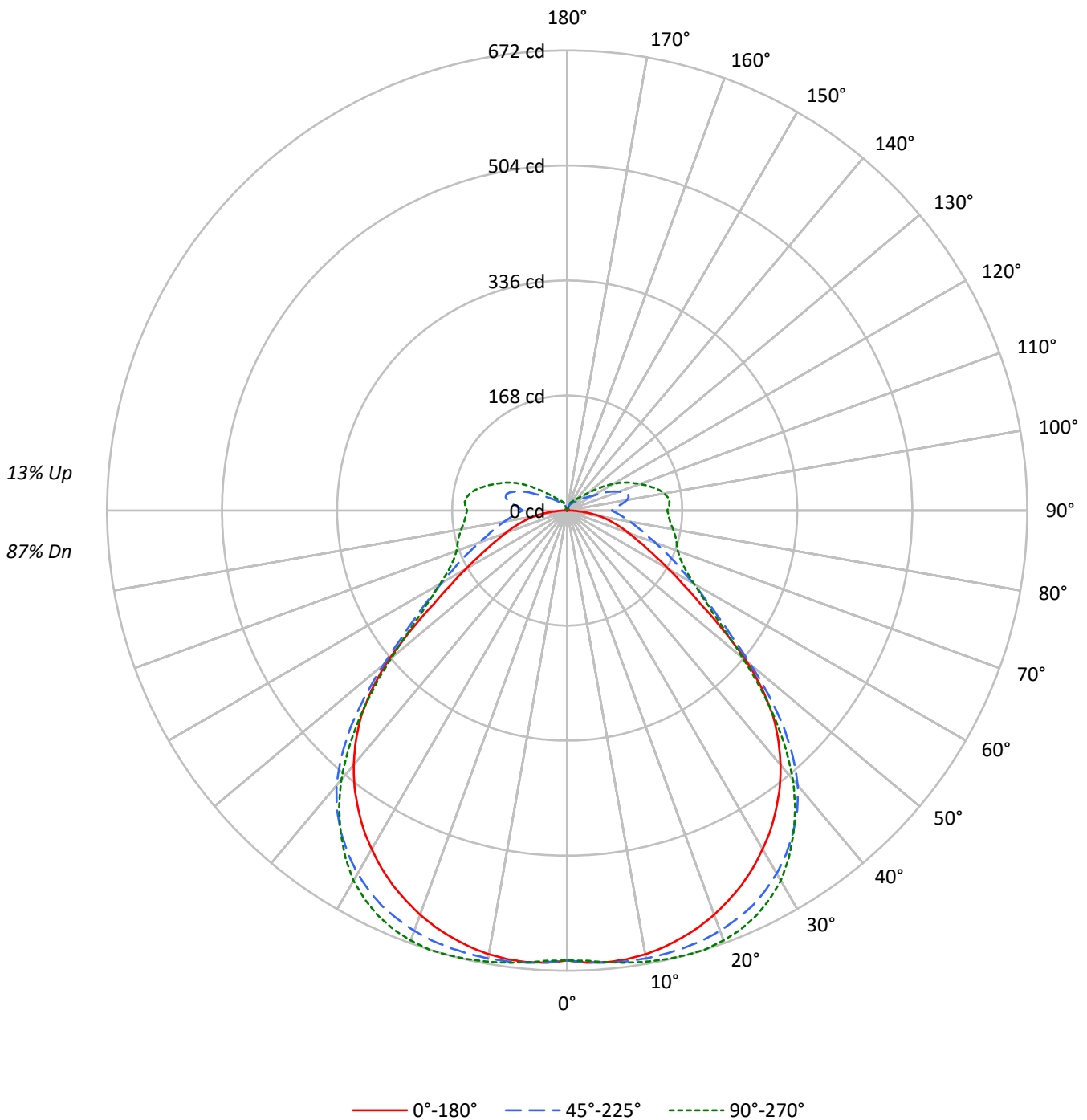
Lumens per Lamp: 1310 (2 lamps)  
Luminaire Lumens: 2116.5 lumens  
Efficiency: 80.8%  
Efficacy: 73.0 lumens/watt  
Spacing Criteria (0/90/45): 1.28 / 1.37 / 1.39  
Luminous Opening: Rectangular (W 0.62' x L: 2' x H: 0')  
CIE Type: Semi-Direct

Input Watts (W): 29  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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   | 94 | 94 | 94 | 94 | 90 | 90 | 90 | 90 | 84 | 84 | 84 | 78 | 78 | 78 | 73 | 73 | 73 | 70 |
| 1   | 85 | 81 | 77 | 74 | 82 | 78 | 75 | 72 | 73 | 70 | 68 | 68 | 66 | 64 | 63 | 62 | 60 | 58 |
| 2   | 78 | 71 | 66 | 61 | 75 | 69 | 64 | 59 | 64 | 60 | 56 | 60 | 57 | 54 | 56 | 53 | 51 | 49 |
| 3   | 71 | 63 | 56 | 51 | 68 | 61 | 55 | 50 | 57 | 52 | 48 | 53 | 49 | 46 | 50 | 47 | 44 | 42 |
| 4   | 65 | 56 | 49 | 44 | 63 | 54 | 48 | 43 | 51 | 45 | 41 | 48 | 43 | 40 | 45 | 41 | 38 | 36 |
| 5   | 60 | 50 | 43 | 38 | 58 | 49 | 42 | 37 | 46 | 40 | 36 | 43 | 38 | 35 | 41 | 37 | 33 | 31 |
| 6   | 56 | 45 | 38 | 33 | 53 | 44 | 37 | 33 | 41 | 36 | 32 | 39 | 34 | 31 | 37 | 33 | 29 | 28 |
| 7   | 52 | 41 | 34 | 29 | 50 | 40 | 34 | 29 | 38 | 32 | 28 | 36 | 31 | 27 | 34 | 30 | 26 | 25 |
| 8   | 48 | 38 | 31 | 26 | 46 | 37 | 30 | 26 | 35 | 29 | 25 | 33 | 28 | 24 | 31 | 27 | 24 | 22 |
| 9   | 45 | 34 | 28 | 24 | 43 | 34 | 27 | 23 | 32 | 26 | 23 | 30 | 25 | 22 | 29 | 25 | 21 | 20 |
| 10  | 42 | 32 | 26 | 21 | 41 | 31 | 25 | 21 | 29 | 24 | 21 | 28 | 23 | 20 | 27 | 23 | 19 | 18 |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 45°  | 90°   |
|-----|------|------|-------|
| 0°  | 5658 | 5658 | 5658  |
| 5°  | 5722 | 5731 | 5722  |
| 10° | 5754 | 5806 | 5850  |
| 15° | 5759 | 5893 | 5991  |
| 20° | 5755 | 5984 | 6121  |
| 25° | 5729 | 6062 | 6204  |
| 30° | 5678 | 6085 | 6205  |
| 35° | 5593 | 6045 | 6055  |
| 40° | 5452 | 5890 | 5767  |
| 45° | 5188 | 5444 | 5224  |
| 50° | 4582 | 4689 | 4488  |
| 55° | 3573 | 4023 | 3888  |
| 60° | 2945 | 3651 | 3686  |
| 65° | 2567 | 3464 | 3790  |
| 70° | 2392 | 3449 | 4330  |
| 75° | 2362 | 3726 | 5490  |
| 80° | 2430 | 4612 | 7786  |
| 85° | 2371 | 7707 | 14820 |



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

| Zone      | Lumens | % Fixture | % Lamp |      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----------|--------|-----------|--------|------|-----|-------|-----|-------|-----|------|
| 0°-10°    | 63.3   | 3.0       | 2.4    | 0°   | 657 | 657   | 657 | 657   | 657 |      |
| 10°-20°   | 186.7  | 8.8       | 7.1    | 5°   | 662 | 663   | 663 | 663   | 662 | 63   |
| 20°-30°   | 291.6  | 13.8      | 11.1   | 15°  | 646 | 651   | 661 | 670   | 672 | 182  |
| 30°-40°   | 352.4  | 16.6      | 13.5   | 25°  | 603 | 616   | 638 | 651   | 653 | 278  |
| 40°-50°   | 334.7  | 15.8      | 12.8   | 35°  | 532 | 552   | 575 | 580   | 576 | 332  |
| 50°-60°   | 238.0  | 11.2      | 9.1    | 45°  | 426 | 442   | 447 | 436   | 429 | 324  |
| 60°-70°   | 162.4  | 7.7       | 6.2    | 55°  | 238 | 263   | 268 | 267   | 259 | 219  |
| 70°-80°   | 120.7  | 5.7       | 4.6    | 65°  | 126 | 141   | 170 | 180   | 186 | 127  |
| 80°-90°   | 90.5   | 4.3       | 3.5    | 75°  | 71  | 80    | 112 | 144   | 165 | 75   |
| 90°-100°  | 83.2   | 3.9       | 3.2    | 85°  | 24  | 40    | 78  | 124   | 150 | 25   |
| 100°-110° | 80.8   | 3.8       | 3.1    | 90°  | 1   | 23    | 65  | 123   | 146 | 2    |
| 110°-120° | 56.1   | 2.7       | 2.1    | 95°  | 0   | 24    | 75  | 133   | 150 | 0    |
| 120°-130° | 29.3   | 1.4       | 1.1    | 105° | 1   | 30    | 92  | 122   | 130 | 1    |
| 130°-140° | 14.3   | 0.7       | 0.5    | 115° | 2   | 25    | 64  | 89    | 97  | 2    |
| 140°-150° | 8.0    | 0.4       | 0.3    | 125° | 2   | 15    | 33  | 50    | 57  | 2    |
| 150°-160° | 4.2    | 0.2       | 0.2    | 135° | 3   | 10    | 19  | 26    | 29  | 2    |
| 160°-170° | 0.3    | 0.0       | 0.0    | 145° | 3   | 8     | 14  | 18    | 19  | 2    |
| 170°-180° | 0.0    | 0.0       | 0.0    | 155° | 3   | 6     | 10  | 12    | 13  | 1    |
| 0°-30°    | 541.6  | 25.6      | 20.7   | 165° | 0   | 0     | 0   | 0     | 0   | 0    |
| 0°-40°    | 894.0  | 42.2      | 34.1   | 175° | 0   | 0     | 0   | 0     | 0   | 0    |
| 0°-60°    | 1466.7 | 69.3      | 56.0   | 180° | 0   | 0     | 0   | 0     | 0   |      |
| 0°-90°    | 1840.3 | 87.0      | 70.2   |      |     |       |     |       |     |      |
| 90°-120°  | 220.1  | 10.4      | 8.4    |      |     |       |     |       |     |      |
| 90°-150°  | 271.6  | 12.8      | 10.4   |      |     |       |     |       |     |      |
| 90°-180°  | 276.0  | 13.0      | 10.5   |      |     |       |     |       |     |      |
| 0°-180°   | 2116.5 | 100.0     | 80.8   |      |     |       |     |       |     |      |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°  | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 0°     | 657 | 657   | 657 | 657   | 657 |
| 2.5°   | 661 | 661   | 660 | 660   | 658 |
| 5°     | 662 | 663   | 663 | 663   | 662 |
| 7.5°   | 661 | 662   | 664 | 666   | 666 |
| 10°    | 658 | 660   | 664 | 669   | 669 |
| 12.5°  | 653 | 656   | 663 | 670   | 671 |
| 15°    | 646 | 651   | 661 | 670   | 672 |
| 17.5°  | 638 | 644   | 658 | 669   | 672 |
| 20°    | 628 | 637   | 653 | 666   | 668 |
| 22.5°  | 616 | 627   | 646 | 660   | 662 |
| 25°    | 603 | 616   | 638 | 651   | 653 |
| 27.5°  | 588 | 604   | 626 | 639   | 640 |
| 30°    | 571 | 589   | 612 | 623   | 624 |
| 32.5°  | 553 | 572   | 595 | 604   | 602 |
| 35°    | 532 | 552   | 575 | 580   | 576 |
| 37.5°  | 510 | 530   | 552 | 551   | 547 |
| 40°    | 485 | 505   | 524 | 518   | 513 |
| 42.5°  | 457 | 476   | 488 | 479   | 473 |
| 45°    | 426 | 442   | 447 | 436   | 429 |
| 47.5°  | 387 | 401   | 399 | 390   | 382 |
| 50°    | 342 | 355   | 350 | 344   | 335 |
| 52.5°  | 288 | 307   | 304 | 302   | 293 |
| 55°    | 238 | 263   | 268 | 267   | 259 |
| 57.5°  | 201 | 224   | 238 | 238   | 234 |
| 60°    | 171 | 191   | 212 | 215   | 214 |
| 62.5°  | 146 | 164   | 189 | 196   | 198 |
| 65°    | 126 | 141   | 170 | 180   | 186 |
| 67.5°  | 109 | 122   | 152 | 168   | 178 |
| 70°    | 95  | 105   | 137 | 158   | 172 |
| 72.5°  | 83  | 92    | 123 | 151   | 168 |
| 75°    | 71  | 80    | 112 | 144   | 165 |
| 77.5°  | 60  | 70    | 102 | 138   | 161 |
| 80°    | 49  | 60    | 93  | 133   | 157 |
| 82.5°  | 37  | 50    | 85  | 128   | 153 |
| 85°    | 24  | 40    | 78  | 124   | 150 |
| 87.5°  | 12  | 31    | 71  | 122   | 148 |
| 90°    | 1   | 23    | 65  | 123   | 146 |
| 92.5°  | 0   | 22    | 69  | 129   | 149 |
| 95°    | 0   | 24    | 75  | 133   | 150 |
| 97.5°  | 0   | 25    | 82  | 135   | 148 |
| 100°   | 1   | 27    | 89  | 134   | 144 |
| 102.5° | 1   | 29    | 92  | 129   | 138 |
| 105°   | 1   | 30    | 92  | 122   | 130 |
| 107.5° | 1   | 30    | 88  | 114   | 122 |
| 110°   | 1   | 29    | 81  | 107   | 113 |



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**CANDELA DISTRIBUTION (continued):**

|        | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|----|-------|-----|-------|-----|
| 112.5° | 2  | 27    | 73  | 98    | 105 |
| 115°   | 2  | 25    | 64  | 89    | 97  |
| 117.5° | 2  | 22    | 52  | 80    | 88  |
| 120°   | 2  | 20    | 43  | 70    | 78  |
| 122.5° | 2  | 17    | 38  | 60    | 68  |
| 125°   | 2  | 15    | 33  | 50    | 57  |
| 127.5° | 2  | 13    | 28  | 42    | 48  |
| 130°   | 2  | 12    | 25  | 36    | 40  |
| 132.5° | 3  | 11    | 22  | 31    | 34  |
| 135°   | 3  | 10    | 19  | 26    | 29  |
| 137.5° | 3  | 9     | 17  | 23    | 25  |
| 140°   | 3  | 9     | 16  | 21    | 22  |
| 142.5° | 3  | 8     | 15  | 20    | 20  |
| 145°   | 3  | 8     | 14  | 18    | 19  |
| 147.5° | 3  | 7     | 13  | 16    | 17  |
| 150°   | 3  | 7     | 12  | 15    | 16  |
| 152.5° | 3  | 6     | 11  | 14    | 14  |
| 155°   | 3  | 6     | 10  | 12    | 13  |
| 157.5° | 3  | 5     | 9   | 11    | 12  |
| 160°   | 3  | 5     | 8   | 10    | 10  |
| 162.5° | 0  | 0     | 0   | 0     | 0   |
| 165°   | 0  | 0     | 0   | 0     | 0   |
| 167.5° | 0  | 0     | 0   | 0     | 0   |
| 170°   | 0  | 0     | 0   | 0     | 0   |
| 172.5° | 0  | 0     | 0   | 0     | 0   |
| 175°   | 0  | 0     | 0   | 0     | 0   |
| 177.5° | 0  | 0     | 0   | 0     | 0   |
| 180°   | 0  | 0     | 0   | 0     | 0   |

(END OF REPORT)