

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: HALO

Report Number: P123736

Luminaire Tested: **EL406940-TL422PS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P123736  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P13992)  
Test Lab: INNOVATION CENTER-P1  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: EL406940-TL422PS  
Description: HALO 4-INCH RECESSED LED DOWNLIGHT  
WHITE BAFFLE, POLYMER LENSED SHOWER TRIM AND WHITE TRIM RING  
Light Source: (1)SURFACE MOUNT LED, 4000K CCT, 90CRI  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

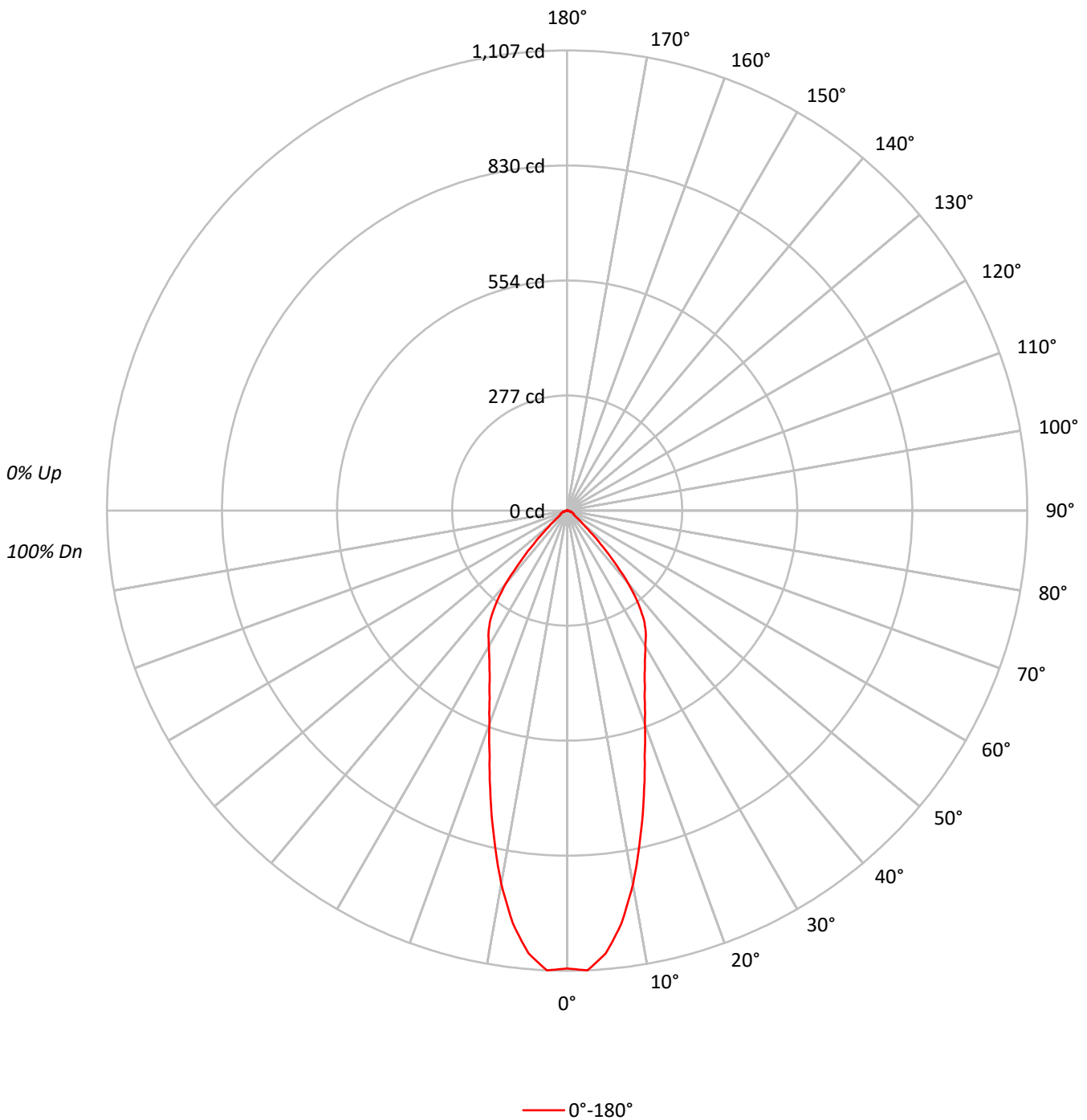
Lumens per Lamp: N/A  
Luminaire Lumens: 840.0 lumens  
Efficiency: N/A  
Efficacy: 64.6 lumens/watt  
Spacing Criteria (0/90/45): 0.62 / 0.62 / 0.75  
Luminous Opening: Circular (Dia: 0.29' x H: 0')  
CIE Type: Direct

Input Watts (W): 13  
Input Voltage (V): NR  
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   | 113 | 110 | 107 | 105 | 110 | 108 | 105 | 103 | 103 | 101 | 100 |  | 100 | 98  | 97  |  | 96  | 95  | 94  | 92  |
| 2   | 107 | 101 | 97  | 93  | 104 | 99  | 95  | 92  | 96  | 93  | 90  |  | 93  | 90  | 88  |  | 90  | 88  | 86  | 84  |
| 3   | 101 | 93  | 88  | 84  | 98  | 92  | 87  | 83  | 89  | 85  | 82  |  | 87  | 83  | 80  |  | 85  | 82  | 79  | 77  |
| 4   | 95  | 87  | 81  | 76  | 93  | 86  | 80  | 76  | 83  | 78  | 75  |  | 81  | 77  | 74  |  | 79  | 76  | 73  | 71  |
| 5   | 90  | 81  | 74  | 70  | 88  | 80  | 74  | 69  | 78  | 73  | 69  |  | 76  | 72  | 68  |  | 74  | 71  | 67  | 66  |
| 6   | 85  | 75  | 69  | 64  | 83  | 74  | 68  | 64  | 73  | 67  | 63  |  | 71  | 67  | 63  |  | 70  | 66  | 63  | 61  |
| 7   | 80  | 70  | 64  | 59  | 79  | 70  | 64  | 59  | 68  | 63  | 59  |  | 67  | 62  | 59  |  | 66  | 62  | 58  | 57  |
| 8   | 76  | 66  | 60  | 55  | 75  | 65  | 59  | 55  | 64  | 59  | 55  |  | 63  | 58  | 55  |  | 62  | 58  | 54  | 53  |
| 9   | 72  | 62  | 56  | 52  | 71  | 62  | 56  | 52  | 61  | 55  | 51  |  | 60  | 55  | 51  |  | 59  | 54  | 51  | 50  |
| 10  | 69  | 59  | 53  | 48  | 68  | 58  | 52  | 48  | 57  | 52  | 48  |  | 57  | 52  | 48  |  | 56  | 51  | 48  | 47  |

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

|     |        |
|-----|--------|
|     | 0°     |
| 0°  | 177424 |
| 5°  | 172910 |
| 10° | 149193 |
| 15° | 118752 |
| 20° | 93694  |
| 25° | 78303  |
| 30° | 69983  |
| 35° | 63466  |
| 40° | 48328  |
| 45° | 26042  |
| 50° | 11930  |
| 55° | 6685   |
| 60° | 5768   |
| 65° | 6366   |
| 70° | 3910   |
| 75° | 2988   |
| 80° | 4453   |
| 85° | 2218   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 96.9   | 11.5      |
| 10°-20°   | 198.2  | 23.6      |
| 20°-30°   | 205.3  | 24.4      |
| 30°-40°   | 196.0  | 23.3      |
| 40°-50°   | 93.6   | 11.1      |
| 50°-60°   | 24.7   | 2.9       |
| 60°-70°   | 14.7   | 1.8       |
| 70°-80°   | 8.0    | 1.0       |
| 80°-90°   | 2.6    | 0.3       |
| 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°    | 500.4  | 59.6      |
| 0°-40°    | 696.3  | 82.9      |
| 0°-60°    | 814.6  | 97.0      |
| 0°-90°    | 840.0  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 840.0  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 1101 |      |
| 5°  | 1069 | 97   |
| 15° | 712  | 198  |
| 25° | 440  | 205  |
| 35° | 323  | 196  |
| 45° | 114  | 94   |
| 55° | 24   | 25   |
| 65° | 17   | 15   |
| 75° | 5    | 8    |
| 85° | 1    | 3    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

| 0°    |        |
|-------|--------|
| 0°    | 1101.3 |
| 2.5°  | 1107.3 |
| 5°    | 1069.2 |
| 7.5°  | 1001.3 |
| 10°   | 912.0  |
| 12.5° | 810.8  |
| 15°   | 712.0  |
| 17.5° | 620.3  |
| 20°   | 546.5  |
| 22.5° | 487.0  |
| 25°   | 440.5  |
| 27.5° | 404.8  |
| 30°   | 376.2  |
| 32.5° | 352.4  |
| 35°   | 322.7  |
| 37.5° | 281.0  |
| 40°   | 229.8  |
| 42.5° | 166.7  |
| 45°   | 114.3  |
| 47.5° | 73.8   |
| 50°   | 47.6   |
| 52.5° | 34.5   |
| 55°   | 23.8   |
| 57.5° | 20.2   |
| 60°   | 17.9   |
| 62.5° | 16.7   |
| 65°   | 16.7   |
| 67.5° | 13.1   |
| 70°   | 8.3    |
| 72.5° | 11.9   |
| 75°   | 4.8    |
| 77.5° | 7.1    |
| 80°   | 4.8    |
| 82.5° | 3.6    |
| 85°   | 1.2    |
| 87.5° | 2.4    |
| 90°   | 0.0    |

(END OF REPORT)