

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 COMMERCIAL

Report Number: P580059

Luminaire Tested: **HC420D010-HM40525930-41MDH**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580059
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-5)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC420D010-HM40525930-41MDH
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" MEDIUM DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1692.1 lumens
Efficiency: N/A
Efficacy: 84.6 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 0.9 / 0.91
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

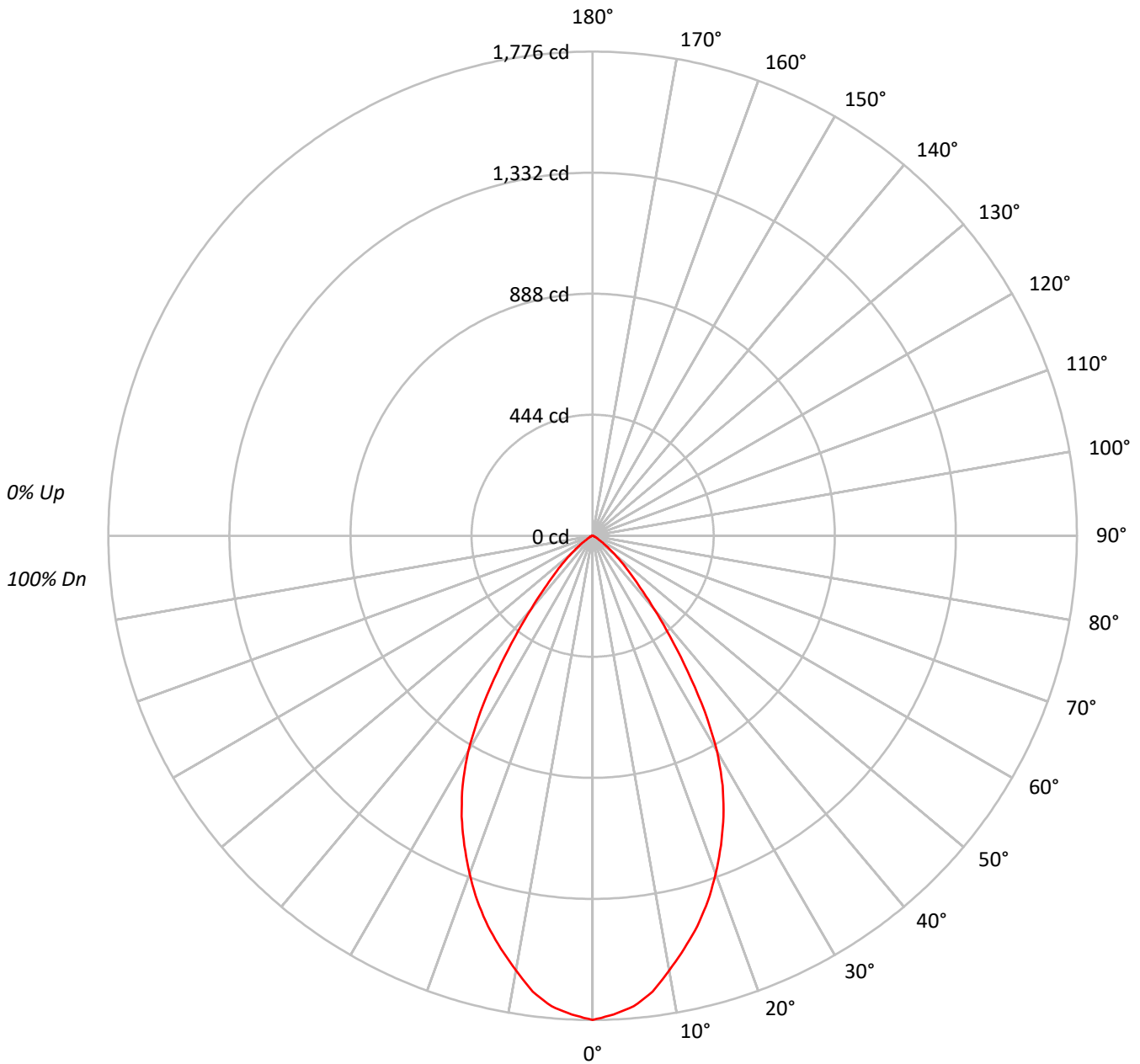
Input Watts (W): 20
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | 100 | 100 | 100 |
| 1 | 113 | 110 | 108 | 105 | 111 | 108 | 106 | 104 | 104 | 102 | 100 | 100 | 99 | 97 | 97 | 96 | 95 | 93 | 93 | 93 | 93 |
| 2 | 107 | 102 | 98 | 94 | 105 | 100 | 96 | 93 | 97 | 94 | 91 | 94 | 91 | 89 | 91 | 89 | 87 | 86 | 86 | 86 | 86 |
| 3 | 101 | 95 | 89 | 85 | 99 | 93 | 88 | 84 | 91 | 86 | 83 | 88 | 85 | 82 | 86 | 83 | 81 | 79 | 79 | 79 | 79 |
| 4 | 96 | 88 | 82 | 78 | 94 | 87 | 81 | 77 | 85 | 80 | 76 | 83 | 79 | 75 | 81 | 77 | 74 | 73 | 73 | 73 | 73 |
| 5 | 91 | 82 | 76 | 71 | 89 | 81 | 75 | 71 | 79 | 74 | 70 | 77 | 73 | 70 | 76 | 72 | 69 | 67 | 67 | 67 | 67 |
| 6 | 86 | 76 | 70 | 66 | 84 | 76 | 70 | 65 | 74 | 69 | 65 | 73 | 68 | 64 | 71 | 67 | 64 | 62 | 62 | 62 | 62 |
| 7 | 81 | 71 | 65 | 61 | 80 | 71 | 65 | 61 | 69 | 64 | 60 | 68 | 63 | 60 | 67 | 63 | 60 | 58 | 58 | 58 | 58 |
| 8 | 77 | 67 | 61 | 56 | 76 | 66 | 60 | 56 | 65 | 60 | 56 | 64 | 59 | 56 | 63 | 59 | 56 | 54 | 54 | 54 | 54 |
| 9 | 73 | 63 | 57 | 53 | 72 | 63 | 57 | 53 | 62 | 56 | 52 | 61 | 56 | 52 | 60 | 55 | 52 | 51 | 51 | 51 | 51 |
| 10 | 70 | 59 | 53 | 49 | 69 | 59 | 53 | 49 | 58 | 53 | 49 | 57 | 52 | 49 | 57 | 52 | 49 | 47 | 47 | 47 | 47 |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|--------|
| | 0° |
| 0° | 219074 |
| 5° | 214488 |
| 10° | 202702 |
| 15° | 189323 |
| 20° | 173134 |
| 25° | 154620 |
| 30° | 129837 |
| 35° | 91340 |
| 40° | 56340 |
| 45° | 33736 |
| 50° | 19880 |
| 55° | 9892 |
| 60° | 5131 |
| 65° | 3356 |
| 70° | 2056 |
| 75° | 1620 |
| 80° | 781 |
| 85° | 1557 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 161.8 | 9.6 |
| 10°-20° | 414.4 | 24.5 |
| 20°-30° | 516.8 | 30.5 |
| 30°-40° | 380.7 | 22.5 |
| 40°-50° | 156.6 | 9.3 |
| 50°-60° | 45.7 | 2.7 |
| 60°-70° | 11.7 | 0.7 |
| 70°-80° | 3.6 | 0.2 |
| 80°-90° | 0.7 | 0.0 |
| 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° | 1093.0 | 64.6 |
| 0°-40° | 1473.7 | 87.1 |
| 0°-60° | 1676.0 | 99.0 |
| 0°-90° | 1692.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1692.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 1776 | |
| 5° | 1732 | 162 |
| 15° | 1483 | 414 |
| 25° | 1136 | 517 |
| 35° | 607 | 381 |
| 45° | 193 | 157 |
| 55° | 46 | 46 |
| 65° | 12 | 12 |
| 75° | 3 | 4 |
| 85° | 1 | 1 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|--------|
| 0° | 1776.1 |
| 2.5° | 1757.7 |
| 5° | 1732.3 |
| 7.5° | 1686.3 |
| 10° | 1618.4 |
| 12.5° | 1551.7 |
| 15° | 1482.6 |
| 17.5° | 1405.4 |
| 20° | 1319.0 |
| 22.5° | 1229.4 |
| 25° | 1136.1 |
| 27.5° | 1032.5 |
| 30° | 911.6 |
| 32.5° | 765.4 |
| 35° | 606.6 |
| 37.5° | 466.1 |
| 40° | 349.9 |
| 42.5° | 259.0 |
| 45° | 193.4 |
| 47.5° | 142.7 |
| 50° | 103.6 |
| 52.5° | 71.3 |
| 55° | 46.0 |
| 57.5° | 27.6 |
| 60° | 20.8 |
| 62.5° | 14.9 |
| 65° | 11.5 |
| 67.5° | 8.0 |
| 70° | 5.7 |
| 72.5° | 4.6 |
| 75° | 3.4 |
| 77.5° | 2.3 |
| 80° | 1.1 |
| 82.5° | 1.1 |
| 85° | 1.1 |
| 87.5° | 0.0 |
| 90° | 0.0 |



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— 0°-180°







(END OF REPORT)