

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: P20144

Luminaire Tested: **ML712835TUNVD010-492PS06**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P20144
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML712835TUNVD010-492PS06
Description: HALO 6" RECESSED LED DOWNLIGHT WITH WHITE BAFFLED DESIGN
LOWER TRIM REFLECTOR, AND FROSTED GLASS LENS WITH MODULE
ML712835TUNVD010
Light Source: (1)SURFACE MOUNT LED ON HEAT SINK MODULE
(1)24 WATTS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: 997 (1 lamp)
Luminaire Lumens: 996.8 lumens
Efficiency: 100.0%
Efficacy: 36.8 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.15 / 1.24
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

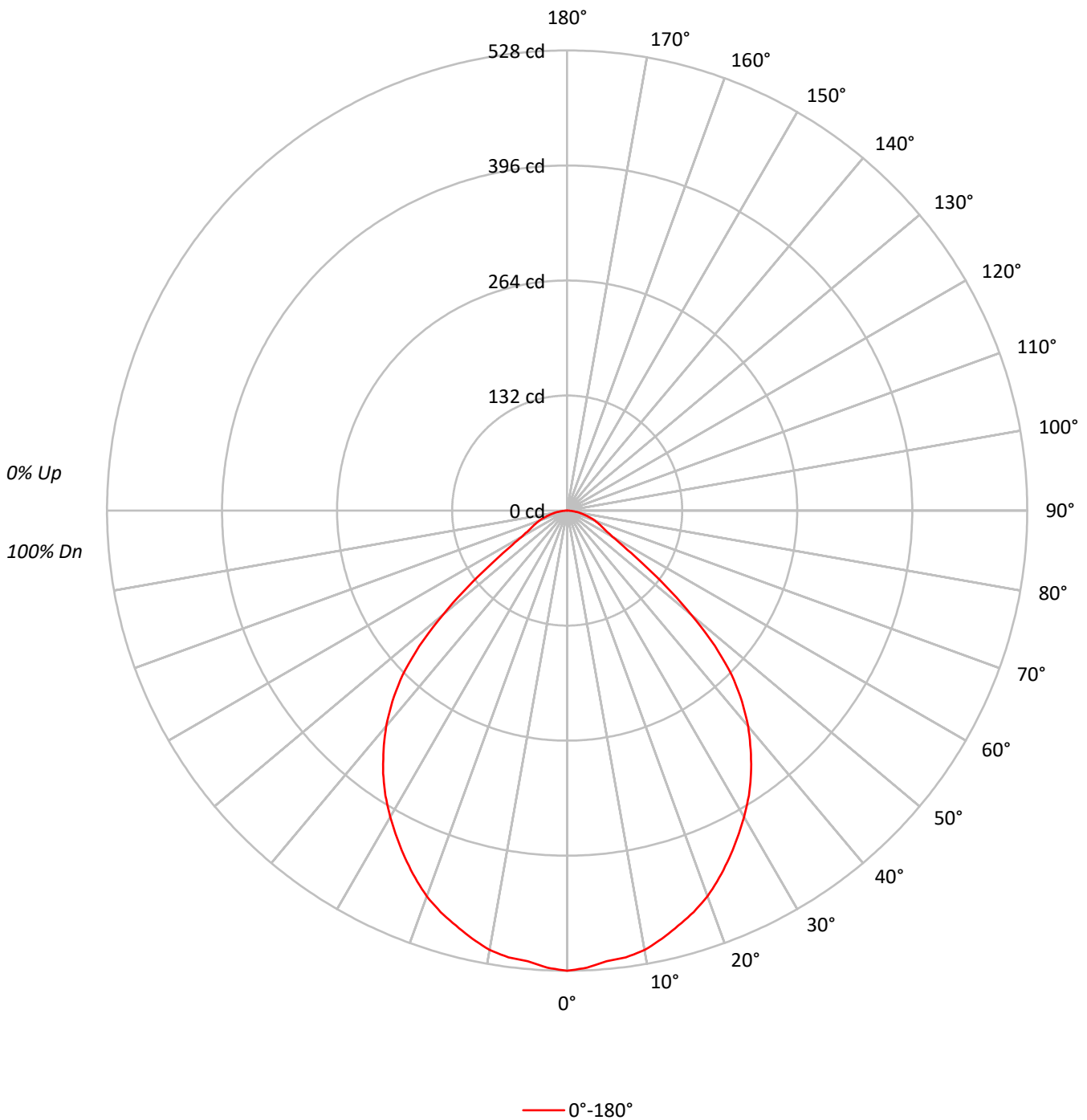
Input Watts (W): 27.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 111 | 107 | 104 | 101 | 109 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 94 | 92 | 91 | 89 |
| 2 | 103 | 96 | 91 | 86 | 101 | 95 | 90 | 85 | 91 | 87 | 83 | 88 | 85 | 82 | 85 | 82 | 80 | 78 |
| 3 | 96 | 87 | 80 | 75 | 93 | 85 | 79 | 74 | 83 | 77 | 73 | 80 | 75 | 72 | 78 | 74 | 70 | 69 |
| 4 | 89 | 79 | 71 | 65 | 87 | 77 | 70 | 65 | 75 | 69 | 64 | 73 | 68 | 63 | 71 | 66 | 63 | 61 |
| 5 | 82 | 71 | 64 | 58 | 81 | 70 | 63 | 58 | 68 | 62 | 57 | 66 | 61 | 56 | 65 | 60 | 56 | 54 |
| 6 | 77 | 65 | 57 | 52 | 75 | 64 | 57 | 51 | 63 | 56 | 51 | 61 | 55 | 51 | 59 | 54 | 50 | 48 |
| 7 | 72 | 60 | 52 | 46 | 70 | 59 | 52 | 46 | 57 | 51 | 46 | 56 | 50 | 46 | 55 | 50 | 45 | 44 |
| 8 | 67 | 55 | 47 | 42 | 66 | 54 | 47 | 42 | 53 | 46 | 42 | 52 | 46 | 41 | 51 | 45 | 41 | 40 |
| 9 | 63 | 51 | 43 | 38 | 62 | 50 | 43 | 38 | 49 | 43 | 38 | 48 | 42 | 38 | 47 | 42 | 38 | 36 |
| 10 | 59 | 47 | 40 | 35 | 58 | 47 | 40 | 35 | 46 | 39 | 35 | 45 | 39 | 35 | 44 | 39 | 35 | 33 |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|-------|
| | 0° |
| 0° | 28945 |
| 5° | 28560 |
| 10° | 28501 |
| 15° | 27980 |
| 20° | 27477 |
| 25° | 26614 |
| 30° | 25700 |
| 35° | 24628 |
| 40° | 23115 |
| 45° | 20700 |
| 50° | 15863 |
| 55° | 10035 |
| 60° | 6578 |
| 65° | 5707 |
| 70° | 5450 |
| 75° | 4872 |
| 80° | 4420 |
| 85° | 3145 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture | % Lamp |
|-----------|--------|-----------|--------|
| 0°-10° | 49.4 | 5.0 | 5.0 |
| 10°-20° | 139.1 | 14.0 | 13.9 |
| 20°-30° | 202.5 | 20.3 | 20.3 |
| 30°-40° | 229.3 | 23.0 | 23.0 |
| 40°-50° | 201.6 | 20.2 | 20.2 |
| 50°-60° | 99.4 | 10.0 | 10.0 |
| 60°-70° | 44.5 | 4.5 | 4.5 |
| 70°-80° | 24.8 | 2.5 | 2.5 |
| 80°-90° | 6.3 | 0.6 | 0.6 |
| 90°-100° | 0.0 | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 | 0.0 |
| 0°-30° | 391.0 | 39.2 | 39.2 |
| 0°-40° | 620.3 | 62.2 | 62.2 |
| 0°-60° | 921.2 | 92.4 | 92.4 |
| 0°-90° | 996.8 | 100.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 | 0.0 |
| 0°-180° | 996.8 | 100.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|-----|------|
| 0° | 528 | |
| 5° | 519 | 49 |
| 15° | 493 | 139 |
| 25° | 440 | 202 |
| 35° | 368 | 229 |
| 45° | 267 | 202 |
| 55° | 105 | 99 |
| 65° | 44 | 45 |
| 75° | 23 | 25 |
| 85° | 5 | 6 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|-----|
| 0° | 528 |
| 2.5° | 525 |
| 5° | 519 |
| 7.5° | 517 |
| 10° | 512 |
| 12.5° | 503 |
| 15° | 493 |
| 17.5° | 483 |
| 20° | 471 |
| 22.5° | 456 |
| 25° | 440 |
| 27.5° | 423 |
| 30° | 406 |
| 32.5° | 388 |
| 35° | 368 |
| 37.5° | 346 |
| 40° | 323 |
| 42.5° | 297 |
| 45° | 267 |
| 47.5° | 230 |
| 50° | 186 |
| 52.5° | 143 |
| 55° | 105 |
| 57.5° | 77 |
| 60° | 60 |
| 62.5° | 50 |
| 65° | 44 |
| 67.5° | 39 |
| 70° | 34 |
| 72.5° | 29 |
| 75° | 23 |
| 77.5° | 18 |
| 80° | 14 |
| 82.5° | 9 |
| 85° | 5 |
| 87.5° | 2 |
| 90° | 0 |

(END OF REPORT)