

Scaled data based on original data using  
LM-46-04 Photometric Testing of Indoor Luminaires Using High Intensity Discharge or  
Incandescent Filament Lamps (Reaffirmed 2012)

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: P10198

Luminaire Tested: **LZR51051070EMBFL**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-46-04  
Report Number: P10198  
Test Lab: PEACHTREE CITY  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: LZR51051070EMBFL  
Description: HALO LAZER 4.5" HID TRACK FIXTURE  
WITH SPECULAR CLEAR REFLECTOR, SHADE, AND MEDIA HOLDER.  
PRISMATIC SPREAD LENS  
Light Source: MEDIUM BASE, ED17 CLEAR METAL HALIDE  
MH70W/U 70 WATTS  
Ballast/Driver: -

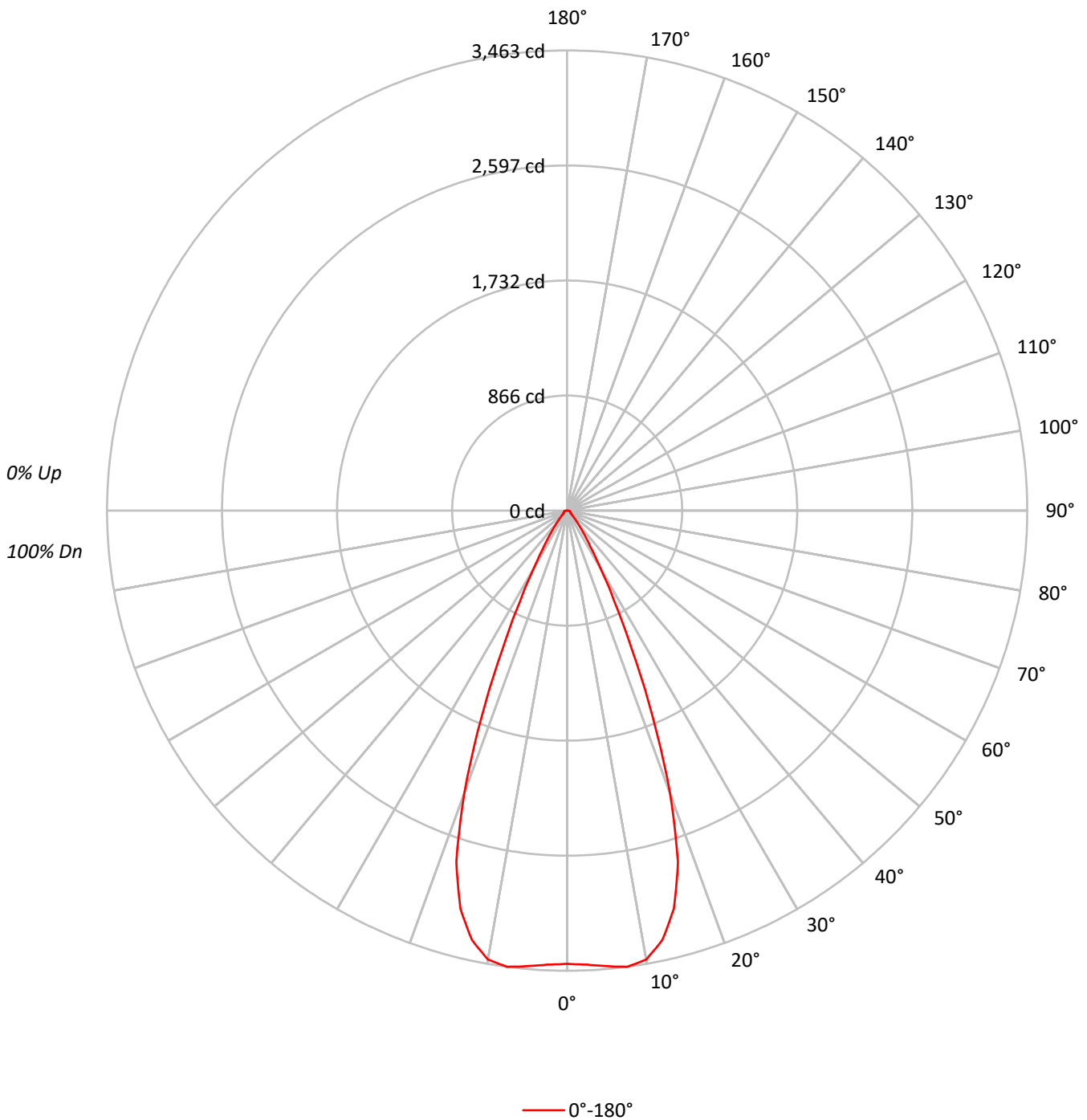
**Summary**

Lumens per Lamp: 5600 (1 lamp)  
Luminaire Lumens: 2025.0 lumens  
Efficiency: 36.2%  
Efficacy: 28.9 lumens/watt  
Spacing Criteria (0/90/45): 0.76 / 0.76 / 0.66  
Luminous Opening: Circular (Dia: 0.38' x H: 0')  
CIE Type: Direct

Input Watts (W): 70  
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   | 43 | 43 | 43 | 43 | 42 | 42 | 42 | 42 | 40 | 40 | 40 | 38 | 38 | 38 | 37 | 37 | 37 | 36 |
| 1   | 41 | 40 | 39 | 38 | 40 | 39 | 39 | 38 | 38 | 37 | 37 | 37 | 36 | 36 | 35 | 35 | 35 | 34 |
| 2   | 39 | 38 | 36 | 35 | 38 | 37 | 36 | 35 | 36 | 35 | 34 | 35 | 34 | 33 | 34 | 33 | 32 | 32 |
| 3   | 38 | 35 | 34 | 32 | 37 | 35 | 33 | 32 | 34 | 33 | 32 | 33 | 32 | 31 | 32 | 31 | 31 | 30 |
| 4   | 36 | 33 | 32 | 30 | 35 | 33 | 31 | 30 | 32 | 31 | 30 | 32 | 30 | 29 | 31 | 30 | 29 | 29 |
| 5   | 34 | 32 | 30 | 28 | 34 | 31 | 30 | 28 | 31 | 29 | 28 | 30 | 29 | 28 | 30 | 28 | 28 | 27 |
| 6   | 33 | 30 | 28 | 27 | 33 | 30 | 28 | 27 | 29 | 28 | 27 | 29 | 27 | 26 | 28 | 27 | 26 | 26 |
| 7   | 32 | 29 | 27 | 25 | 31 | 28 | 27 | 25 | 28 | 26 | 25 | 28 | 26 | 25 | 27 | 26 | 25 | 24 |
| 8   | 30 | 27 | 25 | 24 | 30 | 27 | 25 | 24 | 27 | 25 | 24 | 26 | 25 | 24 | 26 | 25 | 24 | 23 |
| 9   | 29 | 26 | 24 | 23 | 29 | 26 | 24 | 23 | 26 | 24 | 23 | 25 | 24 | 23 | 25 | 24 | 23 | 22 |
| 10  | 28 | 25 | 23 | 22 | 28 | 25 | 23 | 22 | 25 | 23 | 22 | 24 | 23 | 22 | 24 | 23 | 22 | 21 |

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

|     |        |
|-----|--------|
|     | 0°     |
| 0°  | 332430 |
| 5°  | 336732 |
| 10° | 339438 |
| 15° | 312879 |
| 20° | 235013 |
| 25° | 123556 |
| 30° | 56830  |
| 35° | 28197  |
| 40° | 15521  |
| 45° | 9510   |
| 50° | 6823   |
| 55° | 5607   |
| 60° | 5458   |
| 65° | 5996   |
| 70° | 6839   |
| 75° | 8284   |
| 80° | 9541   |
| 85° | 10064  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture | % Lamp |
|-----------|--------|-----------|--------|
| 0°-10°    | 328.7  | 16.2      | 5.9    |
| 10°-20°   | 836.4  | 41.3      | 14.9   |
| 20°-30°   | 552.5  | 27.3      | 9.9    |
| 30°-40°   | 161.9  | 8.0       | 2.9    |
| 40°-50°   | 56.8   | 2.8       | 1.0    |
| 50°-60°   | 30.7   | 1.5       | 0.5    |
| 60°-70°   | 25.8   | 1.3       | 0.5    |
| 70°-80°   | 22.6   | 1.1       | 0.4    |
| 80°-90°   | 9.7    | 0.5       | 0.2    |
| 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°    | 1717.6 | 84.8      | 30.7   |
| 0°-40°    | 1879.5 | 92.8      | 33.6   |
| 0°-60°    | 1967.0 | 97.1      | 35.1   |
| 0°-90°    | 2025.0 | 100.0     | 36.2   |
| 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°   | 2025.0 | 100.0     | 36.2   |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 3411 |      |
| 5°  | 3442 | 329  |
| 15° | 3101 | 836  |
| 25° | 1149 | 552  |
| 35° | 237  | 162  |
| 45° | 69   | 57   |
| 55° | 33   | 31   |
| 65° | 26   | 26   |
| 75° | 22   | 23   |
| 85° | 9    | 10   |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°   |
|-------|------|
| 0°    | 3411 |
| 2.5°  | 3420 |
| 5°    | 3442 |
| 7.5°  | 3463 |
| 10°   | 3430 |
| 12.5° | 3310 |
| 15°   | 3101 |
| 17.5° | 2773 |
| 20°   | 2266 |
| 22.5° | 1685 |
| 25°   | 1149 |
| 27.5° | 765  |
| 30°   | 505  |
| 32.5° | 340  |
| 35°   | 237  |
| 37.5° | 169  |
| 40°   | 122  |
| 42.5° | 90   |
| 45°   | 69   |
| 47.5° | 55   |
| 50°   | 45   |
| 52.5° | 38   |
| 55°   | 33   |
| 57.5° | 30   |
| 60°   | 28   |
| 62.5° | 27   |
| 65°   | 26   |
| 67.5° | 25   |
| 70°   | 24   |
| 72.5° | 23   |
| 75°   | 22   |
| 77.5° | 20   |
| 80°   | 17   |
| 82.5° | 13   |
| 85°   | 9    |
| 87.5° | 5    |
| 90°   | 0    |

(END OF REPORT)