

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: H35035

Luminaire Tested: **H800-810C**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-46-04  
Report Number: H35035  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: H800-810C  
Description: HALO PL RECESSED DOWNLIGHT  
SPECULAR REFLECTOR #810-C  
HORIZONTAL LAMP SETTING  
Light Source: (2) 13W/TT 13 WATTS 900 LUMENS EACH  
10mm TWIN TUBE COMPACT FLUORESCENT  
GX23 D-2 BASE  
Ballast/Driver: -

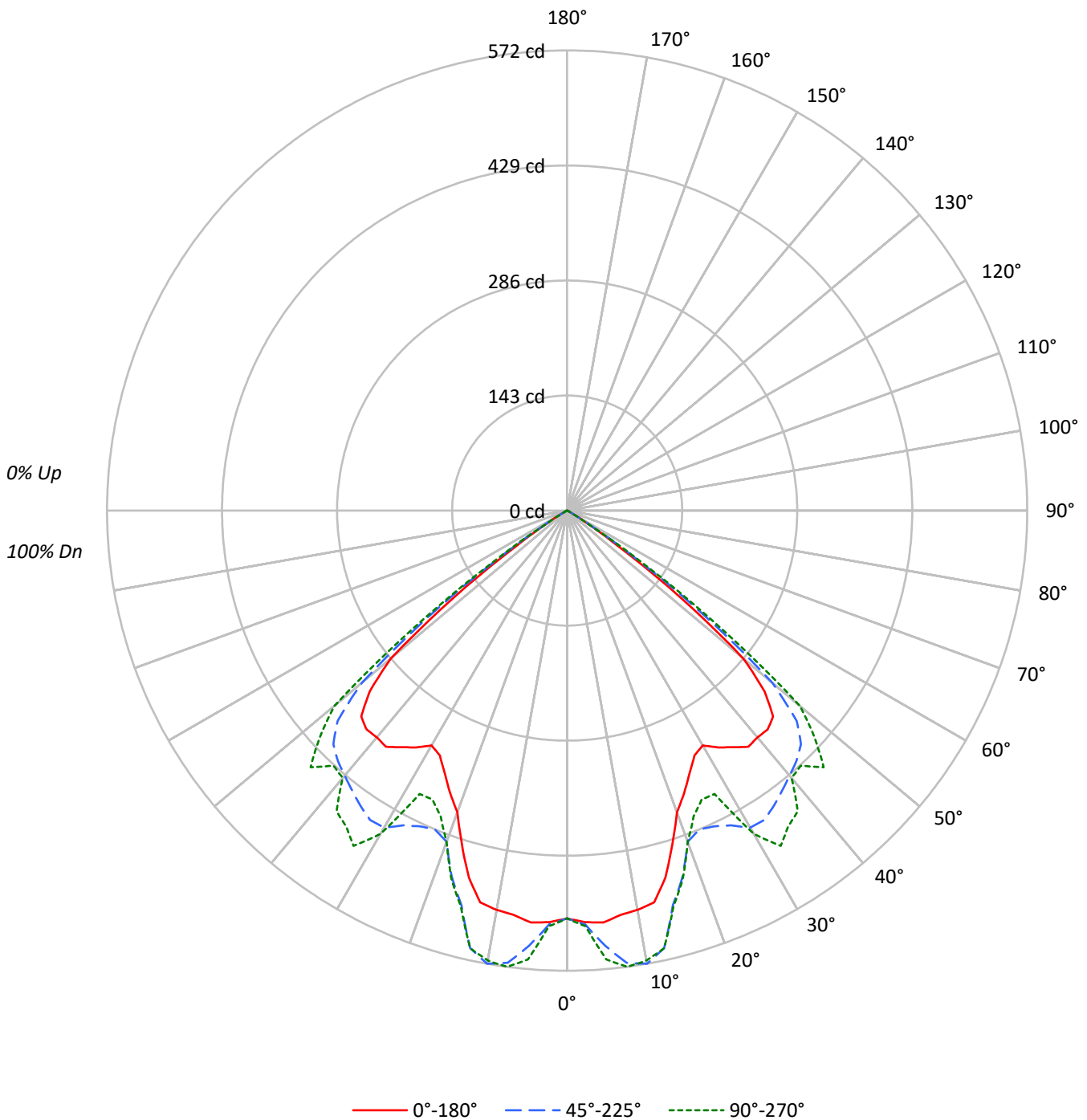
**Summary**

Lumens per Lamp: 900 (2 lamps)  
Luminaire Lumens: 1077.8 lumens  
Efficiency: 59.9%  
Efficacy: 29.9 lumens/watt  
Spacing Criteria (0/90/45): 0.99 / 1.45 / 1.51  
Luminous Opening: (L: 0 ' x W: -0.58 ' x H: 0 '  
CIE Type: Direct

Input Watts (W): 36  
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   | 71 | 71 | 71 | 71 | 70 | 70 | 70 | 70 | 67 | 67 | 67 |  | 64 | 64 | 64 |  | 61 | 61 | 61 | 60 |
| 1   | 67 | 65 | 63 | 62 | 66 | 64 | 62 | 61 | 61 | 60 | 59 |  | 59 | 58 | 57 |  | 57 | 56 | 55 | 54 |
| 2   | 62 | 59 | 56 | 53 | 61 | 58 | 55 | 53 | 56 | 53 | 51 |  | 54 | 52 | 50 |  | 52 | 51 | 49 | 48 |
| 3   | 58 | 53 | 49 | 46 | 57 | 52 | 49 | 46 | 51 | 48 | 45 |  | 49 | 46 | 44 |  | 48 | 45 | 44 | 42 |
| 4   | 54 | 48 | 44 | 40 | 53 | 47 | 43 | 40 | 46 | 42 | 40 |  | 45 | 42 | 39 |  | 43 | 41 | 39 | 38 |
| 5   | 50 | 44 | 39 | 36 | 49 | 43 | 39 | 35 | 42 | 38 | 35 |  | 41 | 37 | 35 |  | 40 | 37 | 34 | 33 |
| 6   | 46 | 40 | 35 | 32 | 45 | 39 | 35 | 32 | 38 | 34 | 31 |  | 37 | 34 | 31 |  | 36 | 33 | 31 | 30 |
| 7   | 43 | 36 | 31 | 28 | 42 | 36 | 31 | 28 | 35 | 31 | 28 |  | 34 | 30 | 28 |  | 33 | 30 | 28 | 27 |
| 8   | 40 | 33 | 29 | 25 | 39 | 33 | 28 | 25 | 32 | 28 | 25 |  | 31 | 28 | 25 |  | 31 | 27 | 25 | 24 |
| 9   | 38 | 30 | 26 | 23 | 37 | 30 | 26 | 23 | 29 | 26 | 23 |  | 29 | 25 | 23 |  | 28 | 25 | 23 | 22 |
| 10  | 35 | 28 | 24 | 21 | 35 | 28 | 24 | 21 | 27 | 23 | 21 |  | 27 | 23 | 21 |  | 26 | 23 | 21 | 20 |

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

|     | 0°                                       | 45° | 90° |
|-----|--|-----|-----|
| 0°  | Luminous shape not found,                |     |     |
| 5°  | reference photometric report, or contact |     |     |
| 10° | the photometric lab for calculations.    |     |     |
| 15° |  |     |     |
| 20° |  |     |     |
| 25° |  |     |     |
| 30° |  |     |     |
| 35° |  |     |     |
| 40° |  |     |     |
| 45° |  |     |     |
| 50° |  |     |     |
| 55° |  |     |     |
| 60° |  |     |     |
| 65° |  |     |     |
| 70° |  |     |     |
| 75° |  |     |     |
| 80° |  |     |     |
| 85° |  |     |     |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture | % Lamp |
|-----------|--------|-----------|--------|
| 0°-10°    | 51.9   | 4.8       | 2.9    |
| 10°-20°   | 140.2  | 13.0      | 7.8    |
| 20°-30°   | 191.4  | 17.8      | 10.6   |
| 30°-40°   | 272.2  | 25.3      | 15.1   |
| 40°-50°   | 304.8  | 28.3      | 16.9   |
| 50°-60°   | 113.7  | 10.6      | 6.3    |
| 60°-70°   | 2.8    | 0.3       | 0.2    |
| 70°-80°   | 0.7    | 0.1       | 0.0    |
| 80°-90°   | 0.0    | 0.0       | 0.0    |
| 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°    | 383.6  | 35.6      | 21.3   |
| 0°-40°    | 655.8  | 60.8      | 36.4   |
| 0°-60°    | 1074.3 | 99.7      | 59.7   |
| 0°-90°    | 1077.8 | 100.0     | 59.9   |
| 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°   | 1077.8 | 100.0     | 59.9   |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 507 | 507   | 507 | 507   | 507 |      |
| 5°   | 514 | 521   | 543 | 557   | 560 | 49   |
| 15°  | 472 | 499   | 508 | 517   | 510 | 130  |
| 25°  | 360 | 409   | 433 | 397   | 396 | 167  |
| 35°  | 359 | 407   | 448 | 474   | 479 | 225  |
| 45°  | 362 | 378   | 411 | 440   | 451 | 268  |
| 55°  | 78  | 90    | 108 | 111   | 122 | 94   |
| 65°  | 2   | 2     | 2   | 2     | 2   | 3    |
| 75°  | 1   | 1     | 1   | 1     | 1   | 1    |
| 85°  | 0   | 0     | 0   | 0     | 0   | 0    |
| 90°  | 0   | 0     | 0   | 0     | 0   | 0    |
| 95°  | 0   | 0     | 0   | 0     | 0   | 0    |
| 105° | 0   | 0     | 0   | 0     | 0   | 0    |
| 115° | 0   | 0     | 0   | 0     | 0   | 0    |
| 125° | 0   | 0     | 0   | 0     | 0   | 0    |
| 135° | 0   | 0     | 0   | 0     | 0   | 0    |
| 145° | 0   | 0     | 0   | 0     | 0   | 0    |
| 155° | 0   | 0     | 0   | 0     | 0   | 0    |
| 165° | 0   | 0     | 0   | 0     | 0   | 0    |
| 175° | 0   | 0     | 0   | 0     | 0   | 0    |
| 180° | 0   | 0     | 0   | 0     | 0   | 0    |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°  | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 0°     | 507 | 507   | 507 | 507   | 507 |
| 2.5°   | 512 | 512   | 515 | 516   | 517 |
| 5°     | 514 | 521   | 543 | 557   | 560 |
| 7.5°   | 507 | 534   | 567 | 572   | 572 |
| 10°    | 504 | 543   | 572 | 575   | 568 |
| 12.5°  | 499 | 525   | 557 | 559   | 557 |
| 15°    | 472 | 499   | 508 | 517   | 510 |
| 17.5°  | 435 | 456   | 477 | 485   | 479 |
| 20°    | 399 | 417   | 438 | 436   | 438 |
| 22.5°  | 380 | 405   | 429 | 415   | 411 |
| 25°    | 360 | 409   | 433 | 397   | 396 |
| 27.5°  | 343 | 417   | 441 | 409   | 397 |
| 30°    | 337 | 426   | 455 | 443   | 464 |
| 32.5°  | 349 | 417   | 456 | 474   | 494 |
| 35°    | 359 | 407   | 448 | 474   | 479 |
| 37.5°  | 370 | 406   | 439 | 460   | 471 |
| 40°    | 368 | 403   | 430 | 434   | 434 |
| 42.5°  | 369 | 392   | 422 | 425   | 430 |
| 45°    | 362 | 378   | 411 | 440   | 451 |
| 47.5°  | 333 | 358   | 387 | 415   | 417 |
| 50°    | 286 | 305   | 333 | 368   | 378 |
| 52.5°  | 177 | 196   | 219 | 231   | 244 |
| 55°    | 78  | 90    | 108 | 111   | 122 |
| 57.5°  | 29  | 34    | 36  | 30    | 31  |
| 60°    | 10  | 12    | 8   | 5     | 5   |
| 62.5°  | 4   | 4     | 3   | 3     | 3   |
| 65°    | 2   | 2     | 2   | 2     | 2   |
| 67.5°  | 2   | 2     | 2   | 1     | 1   |
| 70°    | 1   | 1     | 1   | 1     | 1   |
| 72.5°  | 1   | 1     | 1   | 1     | 1   |
| 75°    | 1   | 1     | 1   | 1     | 1   |
| 77.5°  | 0   | 0     | 0   | 0     | 0   |
| 80°    | 0   | 0     | 0   | 0     | 0   |
| 82.5°  | 0   | 0     | 0   | 0     | 0   |
| 85°    | 0   | 0     | 0   | 0     | 0   |
| 87.5°  | 0   | 0     | 0   | 0     | 0   |
| 90°    | 0   | 0     | 0   | 0     | 0   |
| 92.5°  | 0   | 0     | 0   | 0     | 0   |
| 95°    | 0   | 0     | 0   | 0     | 0   |
| 97.5°  | 0   | 0     | 0   | 0     | 0   |
| 100°   | 0   | 0     | 0   | 0     | 0   |
| 102.5° | 0   | 0     | 0   | 0     | 0   |
| 105°   | 0   | 0     | 0   | 0     | 0   |
| 107.5° | 0   | 0     | 0   | 0     | 0   |
| 110°   | 0   | 0     | 0   | 0     | 0   |



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**CANDELA DISTRIBUTION (continued):**

|        | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|----|-------|-----|-------|-----|
| 112.5° | 0  | 0     | 0   | 0     | 0   |
| 115°   | 0  | 0     | 0   | 0     | 0   |
| 117.5° | 0  | 0     | 0   | 0     | 0   |
| 120°   | 0  | 0     | 0   | 0     | 0   |
| 122.5° | 0  | 0     | 0   | 0     | 0   |
| 125°   | 0  | 0     | 0   | 0     | 0   |
| 127.5° | 0  | 0     | 0   | 0     | 0   |
| 130°   | 0  | 0     | 0   | 0     | 0   |
| 132.5° | 0  | 0     | 0   | 0     | 0   |
| 135°   | 0  | 0     | 0   | 0     | 0   |
| 137.5° | 0  | 0     | 0   | 0     | 0   |
| 140°   | 0  | 0     | 0   | 0     | 0   |
| 142.5° | 0  | 0     | 0   | 0     | 0   |
| 145°   | 0  | 0     | 0   | 0     | 0   |
| 147.5° | 0  | 0     | 0   | 0     | 0   |
| 150°   | 0  | 0     | 0   | 0     | 0   |
| 152.5° | 0  | 0     | 0   | 0     | 0   |
| 155°   | 0  | 0     | 0   | 0     | 0   |
| 157.5° | 0  | 0     | 0   | 0     | 0   |
| 160°   | 0  | 0     | 0   | 0     | 0   |
| 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)