

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P31427

Luminaire Tested: **PD8H142E-82HWWC\_42TTT**

Issue Date: 03/03/2020



**Test Information**

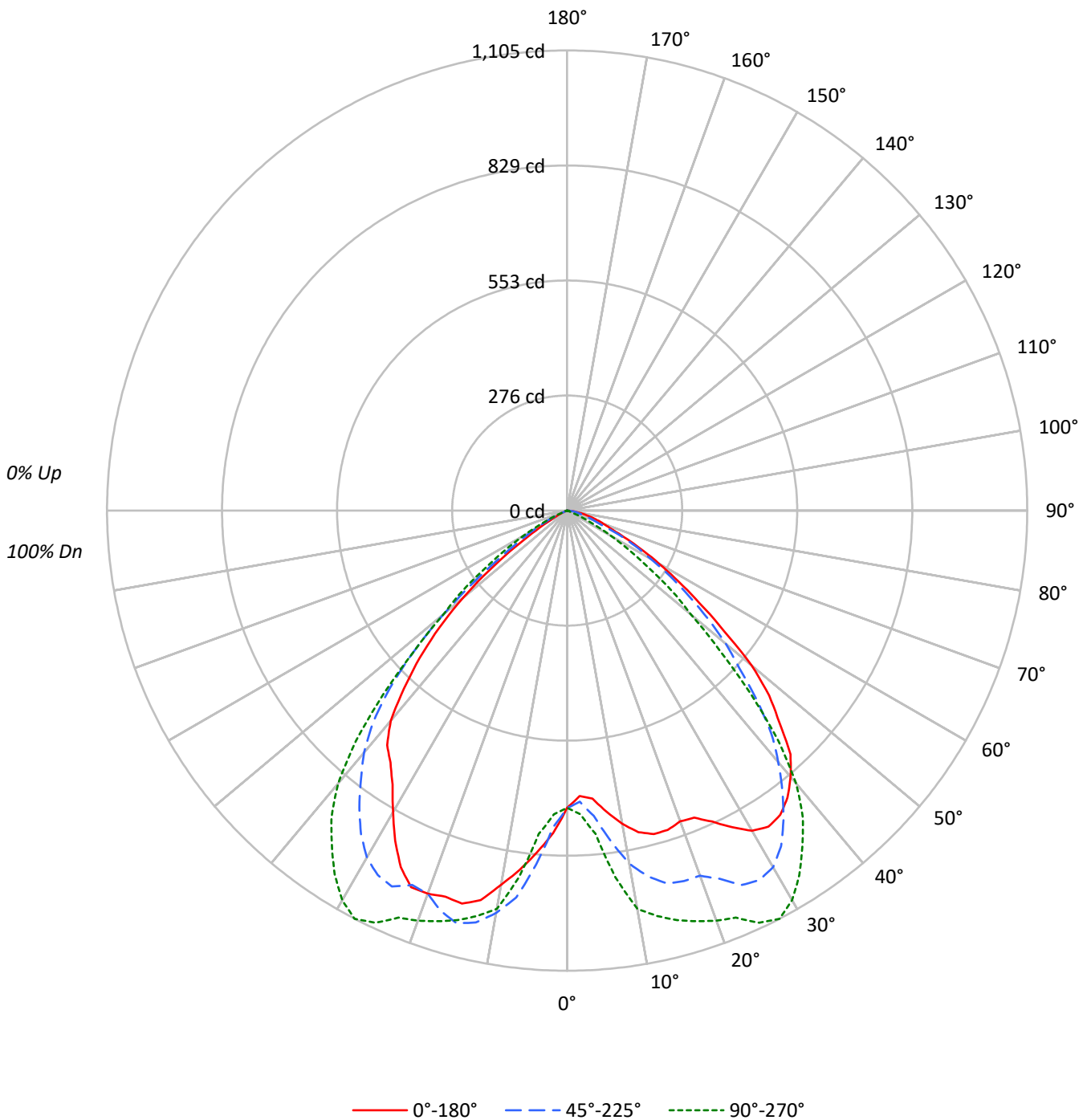
Test Method: LM-79-08  
Report Number: P31427  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 03/03/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: PD8H142E-82HWWC\_42TTT  
Description: HALO 8-INCH APERTURE OPEN WALL WASH DOWNLIGHT, HORIZONTAL  
LAMP, SPECULAR CLEAR TRIM WITH SPECULAR KICKER.  
Light Source: (1) SYLVANIA GX24Q-3 SINGLE END FOUR PIN BASE TTT CFL LAMP  
3500K  
CF42DT/E/IN/835 42 WATTS  
Ballast/Driver: (1) SYLVANIA ELECTRONIC BALLAST  
SYLVANIA QTP2x26CF/UNV DM

**Summary**

Lumens per Lamp: 3200 (1 lamp)  
Luminaire Lumens: 2180.6 lumens  
Efficiency: 68.1%  
Efficacy: 47.9 lumens/watt  
Spacing Criteria (0/90/45): 1.62 / 1.73 / 1.51  
Luminous Opening: Vertical Cylinder (Dia: 0.7' x H: 0.1')  
CIE Type: Direct  
  
Input Watts (W): 45.5  
Input Voltage (V): 120.04  
Input Current (A<sub>in</sub>): 0.3796  
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   | 81 | 81 | 81 | 81 | 79 | 79 | 79 | 79 | 76 | 76 | 76 |  | 72 | 72 | 72 |  | 70 | 70 | 70 | 68 |
| 1   | 76 | 74 | 71 | 69 | 74 | 72 | 70 | 68 | 69 | 68 | 66 |  | 67 | 65 | 64 |  | 64 | 63 | 62 | 61 |
| 2   | 71 | 66 | 63 | 59 | 69 | 65 | 62 | 59 | 63 | 60 | 57 |  | 61 | 58 | 56 |  | 59 | 57 | 55 | 54 |
| 3   | 65 | 60 | 55 | 51 | 64 | 59 | 54 | 51 | 57 | 53 | 50 |  | 55 | 52 | 49 |  | 53 | 51 | 49 | 47 |
| 4   | 61 | 54 | 49 | 45 | 59 | 53 | 48 | 45 | 51 | 47 | 44 |  | 50 | 46 | 43 |  | 48 | 45 | 43 | 42 |
| 5   | 56 | 49 | 43 | 40 | 55 | 48 | 43 | 39 | 47 | 42 | 39 |  | 45 | 42 | 39 |  | 44 | 41 | 38 | 37 |
| 6   | 52 | 44 | 39 | 35 | 51 | 44 | 39 | 35 | 42 | 38 | 35 |  | 41 | 37 | 34 |  | 40 | 37 | 34 | 33 |
| 7   | 49 | 40 | 35 | 31 | 48 | 40 | 35 | 31 | 39 | 34 | 31 |  | 38 | 34 | 31 |  | 37 | 33 | 31 | 29 |
| 8   | 45 | 37 | 32 | 28 | 44 | 37 | 32 | 28 | 36 | 31 | 28 |  | 35 | 31 | 28 |  | 34 | 30 | 28 | 26 |
| 9   | 42 | 34 | 29 | 25 | 42 | 34 | 29 | 25 | 33 | 28 | 25 |  | 32 | 28 | 25 |  | 32 | 28 | 25 | 24 |
| 10  | 40 | 31 | 26 | 23 | 39 | 31 | 26 | 23 | 30 | 26 | 23 |  | 30 | 26 | 23 |  | 29 | 26 | 23 | 22 |

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

|     | 0°    | 90°   | 180°  |
|-----|-------|-------|-------|
| 0°  | 20090 | 20090 | 20090 |
| 5°  | 19294 | 21657 | 22880 |
| 10° | 21148 | 26878 | 25244 |
| 15° | 22328 | 28272 | 27133 |
| 20° | 22294 | 29426 | 27488 |
| 25° | 23576 | 31244 | 27038 |
| 30° | 26101 | 31745 | 24573 |
| 35° | 27168 | 30001 | 22508 |
| 40° | 26598 | 27267 | 20992 |
| 45° | 24263 | 21032 | 16860 |
| 50° | 20782 | 13951 | 11757 |
| 55° | 15138 | 9184  | 5915  |
| 60° | 10904 | 5217  | 1967  |
| 65° | 7178  | 1914  | 622   |
| 70° | 5096  | 329   | 164   |
| 75° | 3816  | 194   | 129   |
| 80° | 2469  | 80    | 0     |
| 85° | 628   | 0     | 0     |



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

| Zone      | Lumens | % Fixture | % Lamp |     | 0°  | 45° | 90°  | 135° | 180° | Flux |
|-----------|--------|-----------|--------|-----|-----|-----|------|------|------|------|
| 0°-10°    | 79.3   | 3.6       | 2.5    | 0°  | 714 | 714 | 714  | 714  | 714  |      |
| 10°-20°   | 271.9  | 12.5      | 8.5    | 5°  | 694 | 736 | 779  | 853  | 823  | 69   |
| 20°-30°   | 456.7  | 20.9      | 14.3   | 15° | 804 | 927 | 1018 | 1026 | 977  | 226  |
| 30°-40°   | 557.0  | 25.5      | 17.4   | 25° | 824 | 992 | 1092 | 996  | 945  | 386  |
| 40°-50°   | 471.8  | 21.6      | 14.7   | 35° | 892 | 906 | 985  | 870  | 739  | 553  |
| 50°-60°   | 245.5  | 11.3      | 7.7    | 45° | 721 | 644 | 625  | 602  | 501  | 555  |
| 60°-70°   | 75.7   | 3.5       | 2.4    | 55° | 389 | 355 | 236  | 191  | 152  | 356  |
| 70°-80°   | 19.3   | 0.9       | 0.6    | 65° | 150 | 135 | 40   | 32   | 13   | 157  |
| 80°-90°   | 3.5    | 0.2       | 0.1    | 75° | 59  | 36  | 3    | 1    | 2    | 63   |
| 90°-100°  | 0.0    | 0.0       | 0.0    | 85° | 6   | 5   | 0    | 0    | 0    | 11   |
| 100°-110° | 0.0    | 0.0       | 0.0    | 90° | 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°    | 807.8  | 37.0      | 25.2   |     |     |     |      |      |      |      |
| 0°-40°    | 1364.9 | 62.6      | 42.7   |     |     |     |      |      |      |      |
| 0°-60°    | 2082.1 | 95.5      | 65.1   |     |     |     |      |      |      |      |
| 0°-90°    | 2180.6 | 100.0     | 68.1   |     |     |     |      |      |      |      |
| 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°   | 2180.6 | 100.0     | 68.1   |     |     |     |      |      |      |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°  | 22.5° | 45°  | 67.5° | 90°  | 112.5° | 135° | 157.5° | 180° |
|-------|-----|-------|------|-------|------|--------|------|--------|------|
| 0°    | 714 | 714   | 714  | 714   | 714  | 714    | 714  | 714    | 714  |
| 2.5°  | 686 | 691   | 700  | 711   | 730  | 748    | 760  | 776    | 775  |
| 5°    | 694 | 709   | 736  | 755   | 779  | 834    | 853  | 841    | 823  |
| 7.5°  | 730 | 755   | 800  | 851   | 888  | 937    | 937  | 891    | 870  |
| 10°   | 764 | 805   | 861  | 922   | 971  | 994    | 981  | 933    | 912  |
| 12.5° | 791 | 835   | 900  | 949   | 997  | 1017   | 1013 | 984    | 958  |
| 15°   | 804 | 860   | 927  | 974   | 1018 | 1038   | 1026 | 1008   | 977  |
| 17.5° | 804 | 870   | 933  | 993   | 1034 | 1049   | 1008 | 997    | 972  |
| 20°   | 794 | 872   | 933  | 999   | 1048 | 1045   | 979  | 977    | 979  |
| 22.5° | 798 | 885   | 957  | 1015  | 1058 | 1041   | 973  | 971    | 979  |
| 25°   | 824 | 924   | 992  | 1059  | 1092 | 1062   | 996  | 950    | 945  |
| 27.5° | 857 | 956   | 1000 | 1091  | 1105 | 1074   | 986  | 917    | 894  |
| 30°   | 888 | 963   | 989  | 1056  | 1080 | 1046   | 962  | 885    | 836  |
| 32.5° | 900 | 944   | 956  | 1004  | 1038 | 993    | 921  | 834    | 780  |
| 35°   | 892 | 906   | 906  | 945   | 985  | 943    | 870  | 778    | 739  |
| 37.5° | 869 | 853   | 849  | 888   | 930  | 890    | 813  | 740    | 710  |
| 40°   | 835 | 793   | 789  | 826   | 856  | 832    | 759  | 684    | 659  |
| 42.5° | 794 | 735   | 726  | 732   | 751  | 732    | 690  | 620    | 580  |
| 45°   | 721 | 664   | 644  | 625   | 625  | 624    | 602  | 544    | 501  |
| 47.5° | 658 | 610   | 561  | 515   | 496  | 499    | 497  | 452    | 417  |
| 50°   | 578 | 559   | 497  | 413   | 388  | 400    | 387  | 362    | 327  |
| 52.5° | 475 | 497   | 425  | 336   | 318  | 302    | 282  | 262    | 237  |
| 55°   | 389 | 425   | 355  | 263   | 236  | 223    | 191  | 168    | 152  |
| 57.5° | 317 | 348   | 292  | 204   | 176  | 156    | 131  | 105    | 88   |
| 60°   | 255 | 262   | 232  | 157   | 122  | 105    | 89   | 62     | 46   |
| 62.5° | 198 | 205   | 185  | 116   | 76   | 70     | 57   | 39     | 29   |
| 65°   | 150 | 152   | 135  | 73    | 40   | 35     | 32   | 23     | 13   |
| 67.5° | 113 | 108   | 86   | 40    | 10   | 5      | 6    | 6      | 6    |
| 70°   | 93  | 89    | 68   | 26    | 6    | 3      | 3    | 3      | 3    |
| 72.5° | 75  | 71    | 51   | 16    | 4    | 2      | 2    | 2      | 2    |
| 75°   | 59  | 54    | 36   | 10    | 3    | 1      | 1    | 2      | 2    |
| 77.5° | 43  | 41    | 28   | 7     | 1    | 1      | 1    | 1      | 1    |
| 80°   | 31  | 31    | 22   | 5     | 1    | 0      | 0    | 0      | 0    |
| 82.5° | 19  | 20    | 15   | 3     | 0    | 0      | 0    | 0      | 0    |
| 85°   | 6   | 6     | 5    | 1     | 0    | 0      | 0    | 0      | 0    |
| 87.5° | 1   | 1     | 1    | 0     | 0    | 0      | 0    | 0      | 0    |
| 90°   | 0   | 0     | 0    | 0     | 0    | 0      | 0    | 0      | 0    |

(END OF REPORT)