

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: H20057

Luminaire Tested: **L3218EP-LVR3218SC**

Issue Date: 3/3/2020



Test Information

Test Method: LM-46-04
Report Number: H20057
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: L3218EP-LVR3218SC
Description: HALO 14" RECTANGULAR TRACK FIXTURE
SPECULAR REFLECTOR AND LOUVER
Light Source: (2) 18W TT 18 WATTS 1250 LUMENS EACH
TWIN TUBE COMPACT FLUORESCENT
Ballast/Driver: -

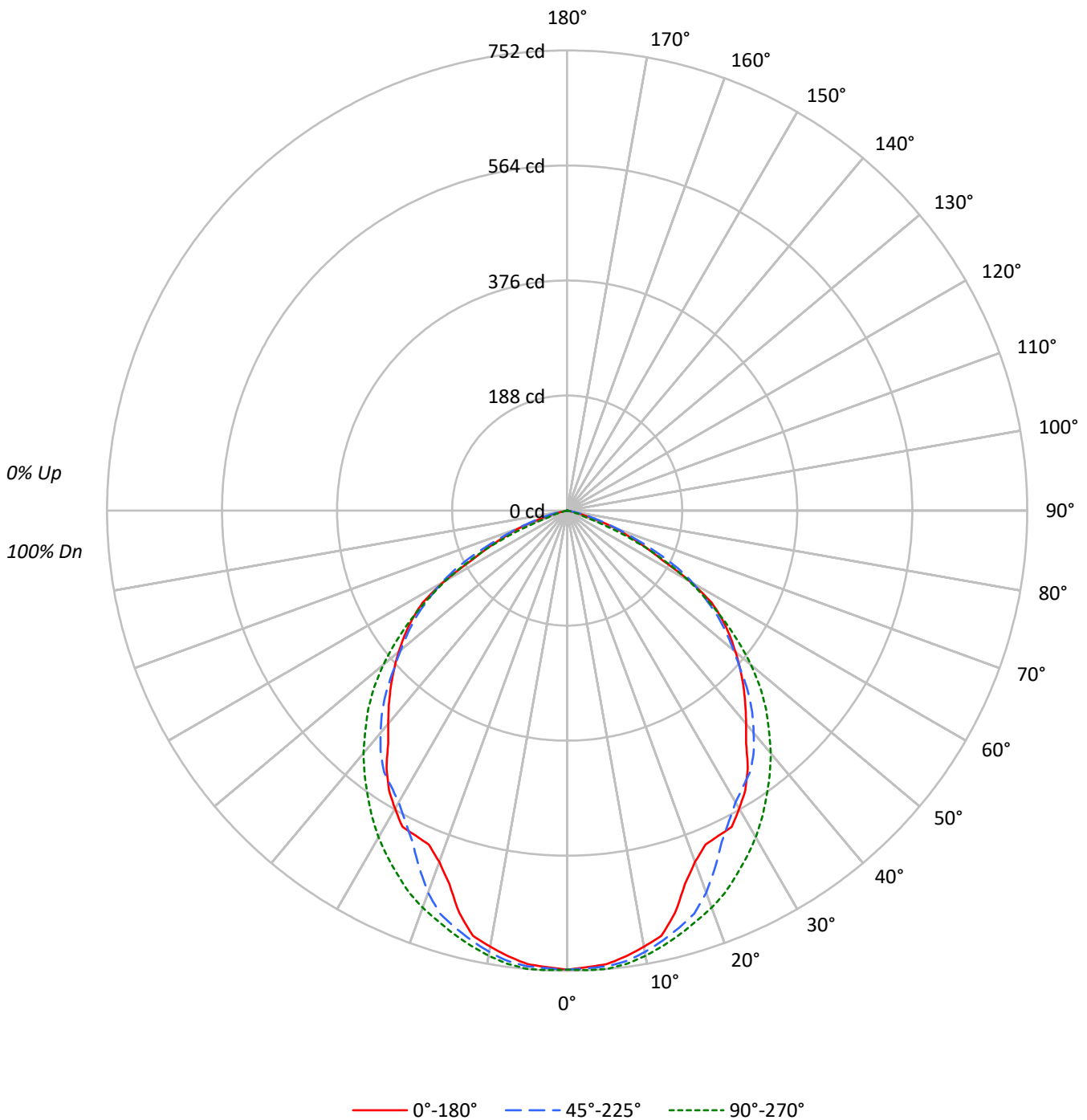
Summary

Lumens per Lamp: 1250 (2 lamps)
Luminaire Lumens: 1662.4 lumens
Efficiency: 66.5%
Efficacy: 53.6 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 1.22 / 1.27
Luminous Opening: Rectangular (W 1.2' x L: 0.47' x H: 0')
CIE Type: Direct

Input Watts (W): 31
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 | 79 | 79 | 79 | 79 | 77 | 77 | 77 | 77 | 74 | 74 | 74 | | 71 | 71 | 71 | | 68 | 68 | 68 | 66 |
| 1 | 74 | 71 | 69 | 67 | 72 | 70 | 67 | 65 | 67 | 65 | 63 | | 64 | 63 | 61 | | 62 | 61 | 60 | 58 |
| 2 | 68 | 63 | 59 | 56 | 66 | 62 | 58 | 55 | 59 | 56 | 54 | | 57 | 55 | 53 | | 55 | 53 | 52 | 50 |
| 3 | 62 | 56 | 51 | 47 | 61 | 55 | 51 | 47 | 53 | 49 | 46 | | 51 | 48 | 45 | | 50 | 47 | 45 | 43 |
| 4 | 57 | 50 | 45 | 41 | 56 | 49 | 44 | 40 | 48 | 43 | 40 | | 46 | 42 | 39 | | 45 | 42 | 39 | 38 |
| 5 | 53 | 45 | 40 | 35 | 52 | 44 | 39 | 35 | 43 | 38 | 35 | | 42 | 38 | 35 | | 41 | 37 | 34 | 33 |
| 6 | 49 | 41 | 35 | 31 | 48 | 40 | 35 | 31 | 39 | 34 | 31 | | 38 | 34 | 31 | | 37 | 33 | 30 | 29 |
| 7 | 46 | 37 | 32 | 28 | 44 | 37 | 31 | 28 | 36 | 31 | 27 | | 35 | 30 | 27 | | 34 | 30 | 27 | 26 |
| 8 | 42 | 34 | 29 | 25 | 41 | 34 | 28 | 25 | 33 | 28 | 25 | | 32 | 28 | 25 | | 31 | 27 | 24 | 23 |
| 9 | 40 | 31 | 26 | 23 | 39 | 31 | 26 | 22 | 30 | 26 | 22 | | 29 | 25 | 22 | | 29 | 25 | 22 | 21 |
| 10 | 37 | 29 | 24 | 21 | 36 | 29 | 24 | 20 | 28 | 23 | 20 | | 27 | 23 | 20 | | 27 | 23 | 20 | 19 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 14318 | 14318 | 14318 |
| 5° | 14253 | 14320 | 14407 |
| 10° | 14021 | 14195 | 14316 |
| 15° | 13453 | 13945 | 14149 |
| 20° | 12407 | 13492 | 14024 |
| 25° | 12342 | 12582 | 13816 |
| 30° | 12396 | 12129 | 13584 |
| 35° | 11987 | 12148 | 13240 |
| 40° | 11328 | 11809 | 12900 |
| 45° | 10999 | 11279 | 12410 |
| 50° | 10662 | 10537 | 11648 |
| 55° | 10275 | 9982 | 10411 |
| 60° | 8894 | 9062 | 8756 |
| 65° | 6363 | 7239 | 6155 |
| 70° | 4609 | 4821 | 1920 |
| 75° | 1733 | 2773 | 863 |
| 80° | 165 | 561 | 55 |
| 85° | 44 | 44 | 22 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture | % Lamp |
|-----------|--------|-----------|--------|
| 0°-10° | 70.8 | 4.3 | 2.8 |
| 10°-20° | 197.0 | 11.9 | 7.9 |
| 20°-30° | 283.6 | 17.1 | 11.3 |
| 30°-40° | 331.8 | 20.0 | 13.3 |
| 40°-50° | 323.8 | 19.5 | 13.0 |
| 50°-60° | 271.8 | 16.3 | 10.9 |
| 60°-70° | 149.6 | 9.0 | 6.0 |
| 70°-80° | 33.0 | 2.0 | 1.3 |
| 80°-90° | 0.7 | 0.0 | 0.0 |
| 90°-100° | 0.1 | 0.0 | 0.0 |
| 100°-110° | 0.1 | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 | 0.0 |
| 120°-130° | 0.1 | 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° | 551.5 | 33.2 | 22.1 |
| 0°-40° | 883.3 | 53.1 | 35.3 |
| 0°-60° | 1478.8 | 89.0 | 59.2 |
| 0°-90° | 1662.2 | 100.0 | 66.5 |
| 90°-120° | 0.1 | 0.0 | 0.0 |
| 90°-150° | 0.2 | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 | 0.0 |
| 0°-180° | 1662.4 | 100.0 | 66.5 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0° | 750 | 750 | 750 | 750 | 750 | |
| 5° | 744 | 745 | 748 | 748 | 752 | 70 |
| 15° | 681 | 696 | 706 | 711 | 716 | 190 |
| 25° | 586 | 581 | 598 | 651 | 656 | 271 |
| 35° | 514 | 521 | 521 | 548 | 568 | 320 |
| 45° | 408 | 412 | 418 | 417 | 460 | 314 |
| 55° | 309 | 313 | 300 | 303 | 313 | 273 |
| 65° | 141 | 150 | 160 | 147 | 136 | 143 |
| 75° | 24 | 32 | 38 | 19 | 12 | 32 |
| 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° | 750.2 | 750.2 | 750.2 | 750.2 | 750.2 |
| 2.5° | 746.9 | 747.2 | 748.7 | 750.4 | 751.7 |
| 5° | 744.0 | 745.3 | 747.5 | 748.5 | 752.0 |
| 7.5° | 734.8 | 737.5 | 742.6 | 744.0 | 746.9 |
| 10° | 723.5 | 727.9 | 732.5 | 736.4 | 738.7 |
| 12.5° | 711.8 | 717.3 | 719.8 | 724.6 | 728.2 |
| 15° | 680.9 | 696.4 | 705.8 | 711.0 | 716.1 |
| 17.5° | 639.7 | 660.4 | 690.6 | 696.4 | 703.1 |
| 20° | 610.9 | 622.5 | 664.3 | 681.5 | 690.5 |
| 22.5° | 590.7 | 599.2 | 631.5 | 667.3 | 675.5 |
| 25° | 586.1 | 580.7 | 597.5 | 651.2 | 656.1 |
| 27.5° | 582.7 | 577.0 | 572.4 | 631.4 | 636.9 |
| 30° | 562.5 | 566.1 | 550.4 | 607.5 | 616.4 |
| 32.5° | 541.9 | 543.7 | 534.8 | 578.9 | 593.5 |
| 35° | 514.5 | 521.4 | 521.4 | 547.6 | 568.3 |
| 37.5° | 480.2 | 493.1 | 500.5 | 513.4 | 543.7 |
| 40° | 454.7 | 461.0 | 474.0 | 478.6 | 517.8 |
| 42.5° | 431.3 | 436.0 | 447.8 | 446.8 | 488.0 |
| 45° | 407.5 | 412.2 | 417.9 | 416.9 | 459.8 |
| 47.5° | 383.8 | 388.1 | 384.2 | 387.2 | 427.8 |
| 50° | 359.1 | 363.3 | 354.9 | 362.3 | 392.3 |
| 52.5° | 334.8 | 339.9 | 327.9 | 335.8 | 353.3 |
| 55° | 308.8 | 313.2 | 300.0 | 302.9 | 312.9 |
| 57.5° | 280.1 | 282.4 | 267.9 | 267.1 | 271.2 |
| 60° | 233.0 | 242.9 | 237.4 | 230.1 | 229.4 |
| 62.5° | 175.6 | 194.6 | 203.6 | 188.8 | 183.6 |
| 65° | 140.9 | 150.3 | 160.3 | 147.1 | 136.3 |
| 67.5° | 107.6 | 118.0 | 118.7 | 107.6 | 87.0 |
| 70° | 82.6 | 86.8 | 86.4 | 73.6 | 34.4 |
| 72.5° | 52.7 | 59.8 | 58.7 | 42.7 | 22.6 |
| 75° | 23.5 | 31.9 | 37.6 | 19.2 | 11.7 |
| 77.5° | 3.8 | 9.5 | 18.2 | 9.0 | 2.2 |
| 80° | 1.5 | 2.2 | 5.1 | 4.0 | 0.5 |
| 82.5° | 0.6 | 1.0 | 0.8 | 0.8 | 0.3 |
| 85° | 0.2 | 0.3 | 0.2 | 0.1 | 0.1 |
| 87.5° | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 |
| 90° | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 |
| 92.5° | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 |
| 95° | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 |
| 97.5° | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 |
| 100° | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 |
| 102.5° | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 |
| 105° | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 |
| 107.5° | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 |
| 110° | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 112.5° | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 115° | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 117.5° | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 |
| 120° | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 |
| 122.5° | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 |
| 125° | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 |
| 127.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 132.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 135° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 137.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 142.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 145° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 147.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 152.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 155° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 157.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 162.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 165° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 167.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 172.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 175° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 177.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)