

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: iO LED

Report Number: P592109

Luminaire Tested: **GRZ-15L-935-50x60-X-UNV-STD-4F**

Issue Date: 2/2/2022

Test Information

Test Method: LM-79-2019
Report Number: P592109
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2111-457-22)
Test Lab: INNOVATION CENTER
Issue Date: 2/2/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: iO LED
Catalog Number: GRZ-15L-935-50x60-X-UNV-STD-4F
Description: iO LED GRAZER WITH 50x60 OPTIC
1500 LUMENS PER FOOT, 4 FOOT FIXTURE
SUMULATED RESULTS
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

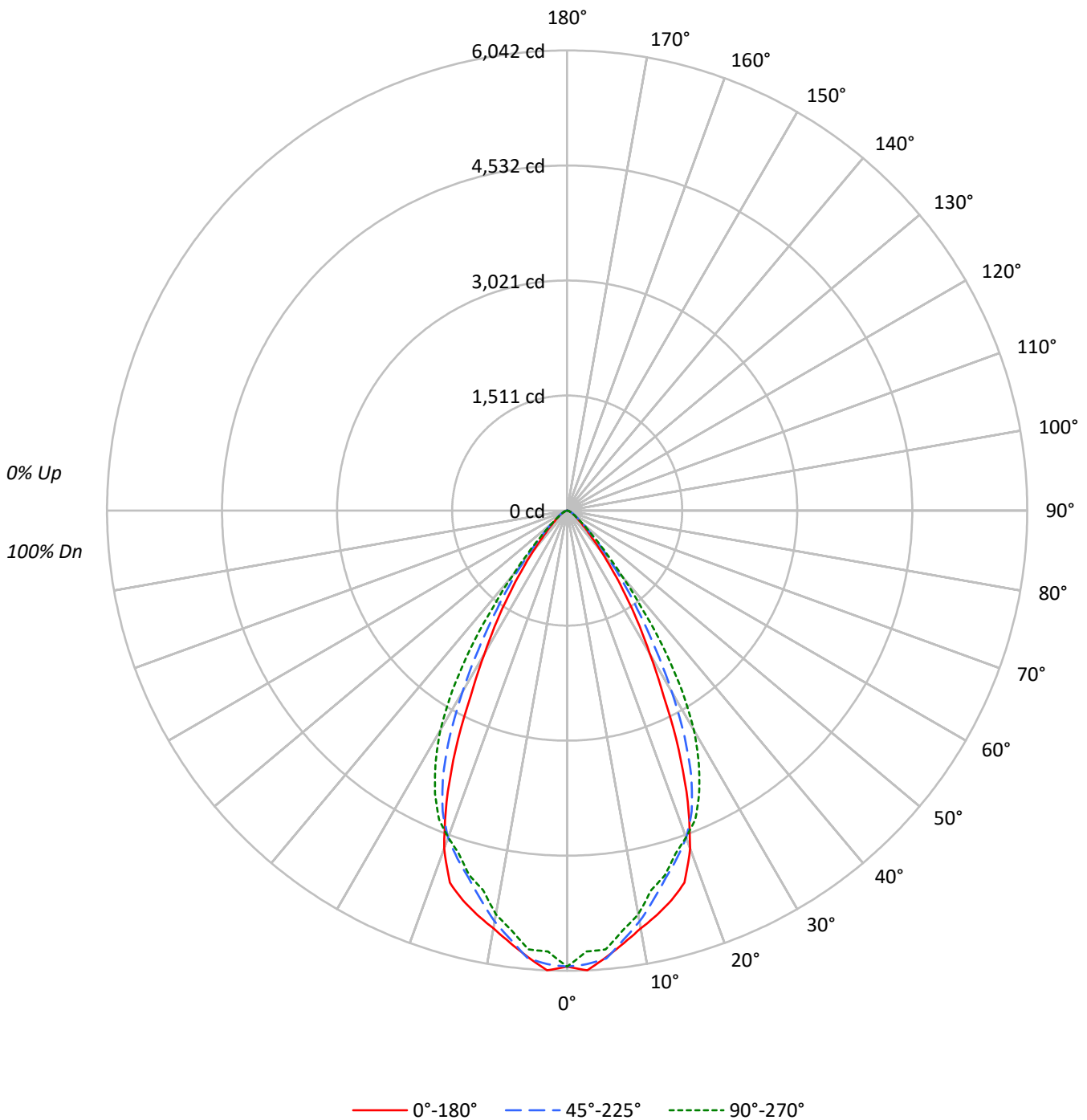
Lumens per Lamp: N/A
Luminaire Lumens: 5524.0 lumens
Efficiency: N/A
Efficacy: 98.6 lumens/watt
Spacing Criteria (0/90/45): 0.87 / 0.95 / 0.87
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')
CIE Type: Direct

Input Watts (W): 56
Input Voltage (V): 120
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: 24 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 | 50 | 30 | 10 | 0 | |
| RCR | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | 100 |
| 1 | 113 | 110 | 108 | 105 | 111 | 108 | 106 | 104 | 104 | 102 | 100 | 100 | 99 | 97 | 97 | 96 | 95 | | | | 93 | |
| 2 | 107 | 102 | 98 | 94 | 105 | 100 | 96 | 93 | 97 | 94 | 91 | 94 | 91 | 89 | 91 | 89 | 87 | | | | 86 | |
| 3 | 101 | 95 | 89 | 85 | 99 | 93 | 88 | 85 | 91 | 87 | 83 | 88 | 85 | 82 | 86 | 83 | 81 | | | | 79 | |
| 4 | 96 | 88 | 82 | 78 | 94 | 87 | 81 | 77 | 85 | 80 | 76 | 83 | 79 | 75 | 81 | 77 | 75 | | | | 73 | |
| 5 | 91 | 82 | 76 | 71 | 89 | 81 | 75 | 71 | 79 | 74 | 70 | 78 | 73 | 70 | 76 | 72 | 69 | | | | 68 | |
| 6 | 86 | 77 | 70 | 66 | 84 | 76 | 70 | 66 | 74 | 69 | 65 | 73 | 68 | 65 | 72 | 68 | 64 | | | | 63 | |
| 7 | 82 | 72 | 66 | 61 | 80 | 71 | 65 | 61 | 70 | 65 | 61 | 69 | 64 | 60 | 67 | 63 | 60 | | | | 59 | |
| 8 | 77 | 67 | 61 | 57 | 76 | 67 | 61 | 57 | 66 | 60 | 57 | 65 | 60 | 56 | 64 | 59 | 56 | | | | 55 | |
| 9 | 74 | 64 | 57 | 53 | 72 | 63 | 57 | 53 | 62 | 57 | 53 | 61 | 56 | 53 | 60 | 56 | 53 | | | | 51 | |
| 10 | 70 | 60 | 54 | 50 | 69 | 60 | 54 | 50 | 59 | 53 | 50 | 58 | 53 | 50 | 57 | 53 | 49 | | | | 48 | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 96683 | 96683 | 96683 |
| 5° | 95399 | 95660 | 93744 |
| 10° | 91307 | 89810 | 88224 |
| 15° | 88513 | 83487 | 82858 |
| 20° | 81111 | 78527 | 78434 |
| 25° | 61805 | 68791 | 73097 |
| 30° | 40451 | 51264 | 62078 |
| 35° | 25300 | 32816 | 43718 |
| 40° | 14377 | 19469 | 23545 |
| 45° | 7971 | 11159 | 11650 |
| 50° | 5127 | 6476 | 6340 |
| 55° | 3780 | 4383 | 3930 |
| 60° | 2774 | 3123 | 2774 |
| 65° | 2258 | 2460 | 2052 |
| 70° | 1520 | 1775 | 1775 |
| 75° | 1004 | 1341 | 1341 |
| 80° | 995 | 995 | 995 |
| 85° | 1000 | 1000 | 1000 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 545.2 | 9.9 |
| 10°-20° | 1411.8 | 25.6 |
| 20°-30° | 1702.6 | 30.8 |
| 30°-40° | 1162.2 | 21.0 |
| 40°-50° | 463.3 | 8.4 |
| 50°-60° | 150.3 | 2.7 |
| 60°-70° | 60.7 | 1.1 |
| 70°-80° | 23.2 | 0.4 |
| 80°-90° | 4.8 | 0.1 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 3659.5 | 66.2 |
| 0°-40° | 4821.8 | 87.3 |
| 0°-60° | 5435.3 | 98.4 |
| 0°-90° | 5524.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5524.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 5988 | 5988 | 5988 | 5988 | 5988 | |
| 5° | 5886 | 5881 | 5902 | 5800 | 5784 | 552 |
| 15° | 5295 | 5113 | 4995 | 4919 | 4957 | 1477 |
| 25° | 3469 | 3448 | 3861 | 3985 | 4103 | 1561 |
| 35° | 1284 | 1616 | 1665 | 2374 | 2218 | 823 |
| 45° | 349 | 671 | 489 | 661 | 510 | 293 |
| 55° | 134 | 183 | 156 | 150 | 140 | 123 |
| 65° | 59 | 59 | 64 | 59 | 54 | 57 |
| 75° | 16 | 22 | 22 | 22 | 22 | 20 |
| 85° | 5 | 5 | 5 | 5 | 5 | 4 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P592109

CATALOG NUMBER: GRZ-15L-935-50x60-X-UNV-STD-4F

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 5988.1 | 5988.1 | 5988.1 | 5988.1 | 5988.1 |
| 2.5° | 6041.8 | 5982.7 | 5961.3 | 5934.4 | 5794.8 |
| 5° | 5886.1 | 5880.7 | 5902.2 | 5800.1 | 5784.0 |
| 7.5° | 5725.0 | 5698.1 | 5682.0 | 5612.2 | 5563.8 |
| 10° | 5569.2 | 5510.1 | 5477.9 | 5381.2 | 5381.2 |
| 12.5° | 5440.3 | 5343.7 | 5236.2 | 5139.6 | 5102.0 |
| 15° | 5295.3 | 5112.7 | 4994.6 | 4919.4 | 4957.0 |
| 17.5° | 5123.5 | 4838.8 | 4790.5 | 4688.5 | 4726.0 |
| 20° | 4720.7 | 4527.3 | 4570.3 | 4473.6 | 4564.9 |
| 22.5° | 4140.7 | 4033.3 | 4274.9 | 4253.4 | 4393.1 |
| 25° | 3469.3 | 3447.9 | 3861.4 | 3984.9 | 4103.1 |
| 27.5° | 2744.3 | 2857.1 | 3335.1 | 3673.4 | 3743.2 |
| 30° | 2169.7 | 2346.9 | 2749.7 | 3297.5 | 3329.7 |
| 32.5° | 1702.5 | 1954.9 | 2169.7 | 2857.1 | 2808.8 |
| 35° | 1283.6 | 1616.5 | 1664.9 | 2373.8 | 2218.0 |
| 37.5° | 945.2 | 1358.7 | 1267.4 | 1868.9 | 1595.0 |
| 40° | 682.1 | 1111.7 | 923.7 | 1380.2 | 1117.1 |
| 42.5° | 483.3 | 886.1 | 671.3 | 998.9 | 757.2 |
| 45° | 349.1 | 671.3 | 488.7 | 660.6 | 510.2 |
| 47.5° | 263.2 | 494.1 | 354.5 | 435.0 | 359.8 |
| 50° | 204.1 | 349.1 | 257.8 | 295.4 | 252.4 |
| 52.5° | 166.5 | 252.4 | 198.7 | 209.4 | 188.0 |
| 55° | 134.3 | 182.6 | 155.7 | 150.4 | 139.6 |
| 57.5° | 107.4 | 139.6 | 123.5 | 118.2 | 112.8 |
| 60° | 85.9 | 102.0 | 96.7 | 91.3 | 85.9 |
| 62.5° | 69.8 | 80.6 | 80.6 | 69.8 | 69.8 |
| 65° | 59.1 | 59.1 | 64.4 | 59.1 | 53.7 |
| 67.5° | 43.0 | 48.3 | 48.3 | 43.0 | 43.0 |
| 70° | 32.2 | 37.6 | 37.6 | 37.6 | 37.6 |
| 72.5° | 26.9 | 26.9 | 32.2 | 26.9 | 26.9 |
| 75° | 16.1 | 21.5 | 21.5 | 21.5 | 21.5 |
| 77.5° | 10.7 | 16.1 | 16.1 | 16.1 | 16.1 |
| 80° | 10.7 | 10.7 | 10.7 | 10.7 | 10.7 |
| 82.5° | 5.4 | 5.4 | 10.7 | 5.4 | 5.4 |
| 85° | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)