

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: P592122

Luminaire Tested: **GRZ-15L-940-30x60-X-UNV-STD-2F**

Issue Date: 2/2/2022

Test Information

Test Method: LM-79-2019
Report Number: P592122
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2111-457-21)
Test Lab: INNOVATION CENTER
Issue Date: 2/2/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: iO LED
Catalog Number: GRZ-15L-940-30x60-X-UNV-STD-2F
Description: iO LED GRAZER WITH 30x60 OPTIC
1500 LUMENS PER FOOT, 2 FOOT FIXTURE
SUMULATED RESULTS
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

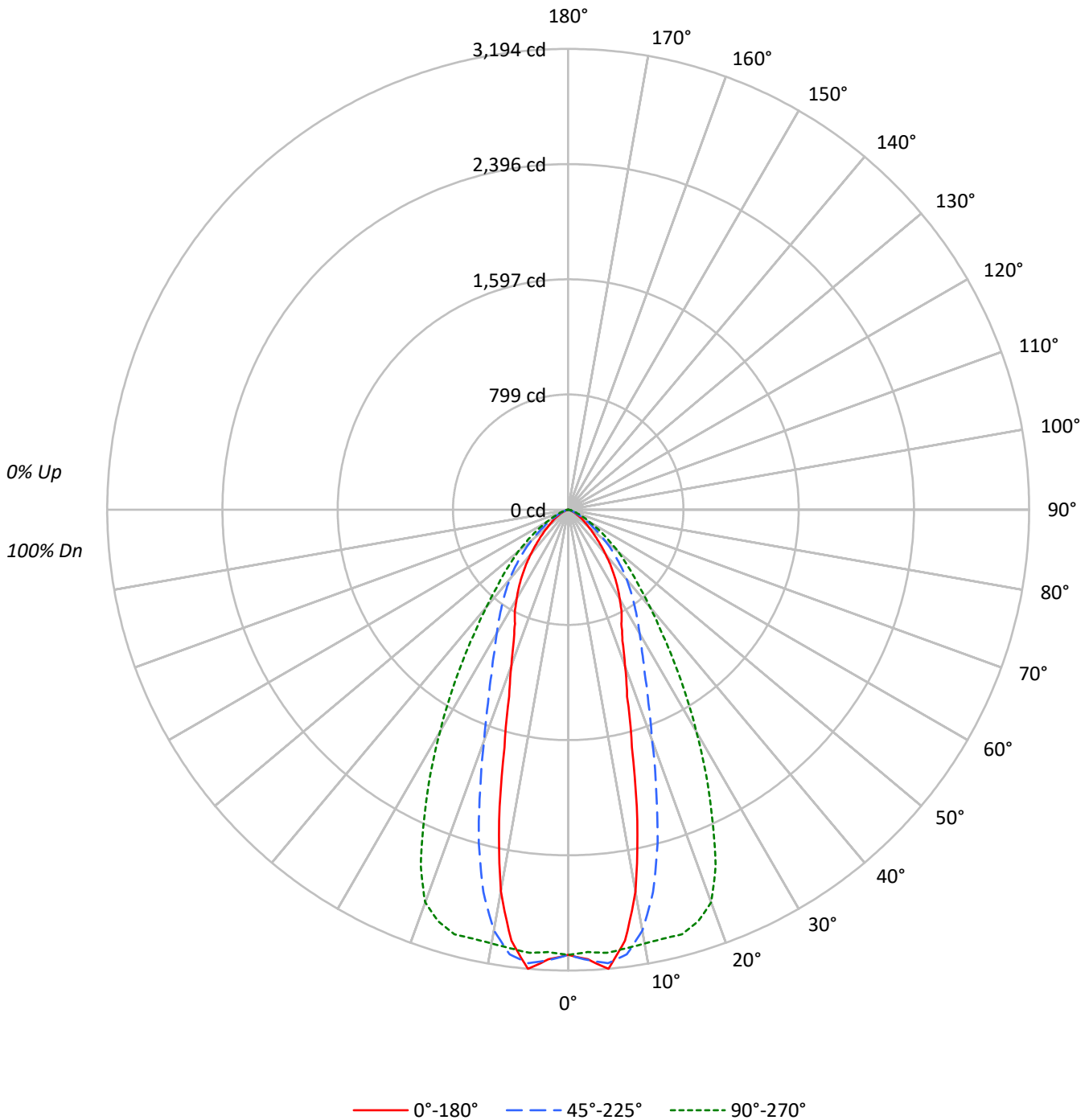
Lumens per Lamp: N/A
Luminaire Lumens: 2832.0 lumens
Efficiency: N/A
Efficacy: 97.7 lumens/watt
Spacing Criteria (0/90/45): 0.53 / 1.01 / 0.76
Luminous Opening: Rectangular (W 2' x L: 0.17' x H: 0')
CIE Type: Direct

Input Watts (W): 29
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 | 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 | 109 | 107 | 104 | 110 | 107 | 105 | 102 | 103 | 101 | 99 | 99 | 98 | 96 | 96 | 95 | 93 | 92 | | | | | 92 | | | |
| 2 | 106 | 100 | 96 | 92 | 104 | 99 | 94 | 91 | 95 | 92 | 89 | 92 | 89 | 87 | 89 | 87 | 85 | 83 | | | | | 83 | | | |
| 3 | 100 | 92 | 87 | 82 | 98 | 91 | 86 | 81 | 88 | 84 | 80 | 86 | 82 | 79 | 83 | 80 | 78 | 76 | | | | | 76 | | | |
| 4 | 94 | 85 | 79 | 74 | 92 | 84 | 78 | 74 | 82 | 77 | 73 | 80 | 75 | 72 | 78 | 74 | 71 | 69 | | | | | 69 | | | |
| 5 | 88 | 79 | 72 | 67 | 87 | 78 | 72 | 67 | 76 | 71 | 66 | 74 | 70 | 66 | 73 | 69 | 65 | 64 | | | | | 64 | | | |
| 6 | 83 | 73 | 67 | 62 | 82 | 73 | 66 | 62 | 71 | 65 | 61 | 69 | 65 | 61 | 68 | 64 | 60 | 59 | | | | | 59 | | | |
| 7 | 79 | 68 | 62 | 57 | 77 | 68 | 61 | 57 | 66 | 61 | 57 | 65 | 60 | 56 | 64 | 59 | 56 | 54 | | | | | 54 | | | |
| 8 | 75 | 64 | 57 | 53 | 73 | 63 | 57 | 53 | 62 | 57 | 53 | 61 | 56 | 52 | 60 | 56 | 52 | 51 | | | | | 51 | | | |
| 9 | 71 | 60 | 54 | 49 | 70 | 60 | 53 | 49 | 59 | 53 | 49 | 58 | 53 | 49 | 57 | 52 | 49 | 47 | | | | | 47 | | | |
| 10 | 67 | 57 | 50 | 46 | 66 | 56 | 50 | 46 | 55 | 50 | 46 | 55 | 49 | 46 | 54 | 49 | 46 | 44 | | | | | 44 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 99646 | 99646 | 99646 |
| 5° | 103540 | 102279 | 99939 |
| 10° | 88070 | 97087 | 100091 |
| 15° | 57013 | 79950 | 101864 |
| 20° | 39515 | 58416 | 99553 |
| 25° | 31073 | 44730 | 84119 |
| 30° | 26616 | 36870 | 66177 |
| 35° | 21898 | 31316 | 49930 |
| 40° | 16975 | 26578 | 37234 |
| 45° | 12559 | 21436 | 28793 |
| 50° | 9208 | 16463 | 22883 |
| 55° | 6880 | 11727 | 16732 |
| 60° | 4844 | 7892 | 11302 |
| 65° | 3393 | 5096 | 7641 |
| 70° | 2360 | 3408 | 4985 |
| 75° | 1734 | 2084 | 3468 |
| 80° | 1041 | 1543 | 2585 |
| 85° | 1037 | 1037 | 1037 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 291.8 | 10.3 |
| 10°-20° | 664.9 | 23.5 |
| 20°-30° | 679.5 | 24.0 |
| 30°-40° | 543.7 | 19.2 |
| 40°-50° | 363.5 | 12.8 |
| 50°-60° | 191.6 | 6.8 |
| 60°-70° | 72.4 | 2.6 |
| 70°-80° | 21.3 | 0.8 |
| 80°-90° | 3.3 | 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° | 1636.2 | 57.8 |
| 0°-40° | 2180.0 | 77.0 |
| 0°-60° | 2735.1 | 96.6 |
| 0°-90° | 2832.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2832.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 3086 | 3086 | 3086 | 3086 | 3086 | |
| 5° | 3194 | 3148 | 3155 | 3107 | 3083 | 287 |
| 15° | 1705 | 1882 | 2392 | 2903 | 3047 | 487 |
| 25° | 872 | 942 | 1255 | 2064 | 2361 | 410 |
| 35° | 556 | 604 | 794 | 1150 | 1267 | 346 |
| 45° | 275 | 319 | 469 | 621 | 630 | 216 |
| 55° | 122 | 138 | 208 | 285 | 297 | 111 |
| 65° | 44 | 49 | 67 | 90 | 100 | 46 |
| 75° | 14 | 14 | 17 | 23 | 28 | 16 |
| 85° | 3 | 3 | 3 | 3 | 3 | 2 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P592122

CATALOG NUMBER: GRZ-15L-940-30x60-X-UNV-STD-2F

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 3085.8 | 3085.8 | 3085.8 | 3085.8 | 3085.8 | 3085.8 | 3085.8 | 3085.8 | 3085.8 | 3085.8 | 3085.8 |
| 2.5° | 3119.2 | 3116.4 | 3147.0 | 3124.7 | 3133.1 | 3124.7 | 3099.7 | 3085.8 | 3083.1 | 3055.3 | 3069.2 |
| 5° | 3194.2 | 3149.7 | 3158.1 | 3144.2 | 3158.1 | 3155.3 | 3127.5 | 3110.8 | 3097.0 | 3080.3 | 3083.1 |
| 7.5° | 3013.6 | 3019.2 | 3044.2 | 3055.3 | 3094.2 | 3108.1 | 3094.2 | 3083.1 | 3072.0 | 3063.6 | 3066.4 |
| 10° | 2685.9 | 2705.3 | 2741.4 | 2813.7 | 2894.2 | 2960.9 | 2988.6 | 3019.2 | 3044.2 | 3047.0 | 3052.5 |
| 12.5° | 2210.9 | 2238.7 | 2297.0 | 2374.8 | 2552.6 | 2713.7 | 2849.8 | 2955.3 | 3016.4 | 3049.7 | 3044.2 |
| 15° | 1705.4 | 1713.7 | 1786.0 | 1913.7 | 2108.2 | 2391.5 | 2660.9 | 2874.8 | 2985.9 | 3063.6 | 3047.0 |
| 17.5° | 1358.2 | 1369.3 | 1427.7 | 1524.9 | 1711.0 | 2024.8 | 2427.6 | 2747.0 | 2949.7 | 3005.3 | 2991.4 |
| 20° | 1149.9 | 1141.6 | 1186.0 | 1266.6 | 1422.1 | 1699.9 | 2119.3 | 2547.0 | 2802.5 | 2880.3 | 2897.0 |
| 22.5° | 983.2 | 991.6 | 1019.4 | 1083.2 | 1219.3 | 1449.9 | 1833.2 | 2285.9 | 2569.2 | 2655.3 | 2669.2 |
| 25° | 872.1 | 880.5 | 908.3 | 952.7 | 1063.8 | 1255.4 | 1586.0 | 1994.3 | 2272.0 | 2355.4 | 2360.9 |
| 27.5° | 799.9 | 794.4 | 813.8 | 847.2 | 944.4 | 1108.2 | 1380.4 | 1719.3 | 1977.6 | 2060.9 | 2066.5 |
| 30° | 713.8 | 711.1 | 730.5 | 766.6 | 844.4 | 988.8 | 1219.3 | 1494.3 | 1677.6 | 1758.2 | 1774.8 |
| 32.5° | 636.1 | 633.3 | 655.5 | 686.1 | 763.8 | 888.8 | 1088.8 | 1302.7 | 1427.7 | 1494.3 | 1511.0 |
| 35° | 555.5 | 558.3 | 575.0 | 613.8 | 683.3 | 794.4 | 977.7 | 1127.7 | 1216.6 | 1249.9 | 1266.6 |
| 37.5° | 477.7 | 480.5 | 502.7 | 541.6 | 611.1 | 711.1 | 858.3 | 974.9 | 1027.7 | 1052.7 | 1049.9 |
| 40° | 402.7 | 408.3 | 422.2 | 466.6 | 536.1 | 630.5 | 749.9 | 836.0 | 872.1 | 874.9 | 883.3 |
| 42.5° | 336.1 | 336.1 | 358.3 | 394.4 | 461.1 | 550.0 | 655.5 | 716.6 | 744.4 | 741.6 | 736.0 |
| 45° | 275.0 | 277.8 | 291.6 | 327.7 | 388.9 | 469.4 | 561.1 | 616.6 | 633.3 | 622.2 | 630.5 |
| 47.5° | 225.0 | 227.8 | 238.9 | 272.2 | 325.0 | 402.7 | 475.0 | 527.7 | 541.6 | 533.3 | 533.3 |
| 50° | 183.3 | 186.1 | 194.4 | 219.4 | 263.9 | 327.7 | 394.4 | 438.9 | 452.7 | 450.0 | 455.5 |
| 52.5° | 150.0 | 150.0 | 158.3 | 177.8 | 213.9 | 266.6 | 319.4 | 358.3 | 369.4 | 366.6 | 363.9 |
| 55° | 122.2 | 122.2 | 127.8 | 141.7 | 169.4 | 208.3 | 252.8 | 283.3 | 291.6 | 294.4 | 297.2 |
| 57.5° | 97.2 | 97.2 | 100.0 | 111.1 | 130.5 | 161.1 | 194.4 | 216.6 | 225.0 | 227.8 | 230.5 |
| 60° | 75.0 | 75.0 | 80.5 | 86.1 | 102.8 | 122.2 | 144.4 | 161.1 | 172.2 | 172.2 | 175.0 |
| 62.5° | 58.3 | 58.3 | 61.1 | 66.7 | 77.8 | 91.7 | 105.5 | 119.4 | 125.0 | 130.5 | 133.3 |
| 65° | 44.4 | 44.4 | 47.2 | 50.0 | 58.3 | 66.7 | 77.8 | 88.9 | 94.4 | 97.2 | 100.0 |
| 67.5° | 33.3 | 33.3 | 33.3 | 38.9 | 44.4 | 50.0 | 55.6 | 63.9 | 66.7 | 72.2 | 75.0 |
| 70° | 25.0 | 25.0 | 25.0 | 27.8 | 30.6 | 36.1 | 38.9 | 44.4 | 50.0 | 52.8 | 52.8 |
| 72.5° | 19.4 | 19.4 | 19.4 | 19.4 | 22.2 | 25.0 | 27.8 | 30.6 | 36.1 | 38.9 | 38.9 |
| 75° | 13.9 | 13.9 | 13.9 | 13.9 | 16.7 | 16.7 | 19.4 | 22.2 | 25.0 | 27.8 | 27.8 |
| 77.5° | 11.1 | 11.1 | 8.3 | 11.1 | 11.1 | 11.1 | 13.9 | 13.9 | 16.7 | 19.4 | 19.4 |
| 80° | 5.6 | 5.6 | 5.6 | 5.6 | 8.3 | 8.3 | 8.3 | 11.1 | 11.1 | 11.1 | 13.9 |
| 82.5° | 2.8 | 2.8 | 2.8 | 2.8 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 8.3 | 8.3 |
| 85° | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)