

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: P592091

Luminaire Tested: **GRZ-15L-930-30x60-X-UNV-STD-4F**

Issue Date: 2/2/2022

Test Information

Test Method: LM-79-2019
Report Number: P592091
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-930-30x60-X-UNV-STD-4F
Description: iO LED GRAZER WITH 30x60 OPTIC
1500 LUMENS PER FOOT, 4 FOOT FIXTURE
SUMULATED RESULTS
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

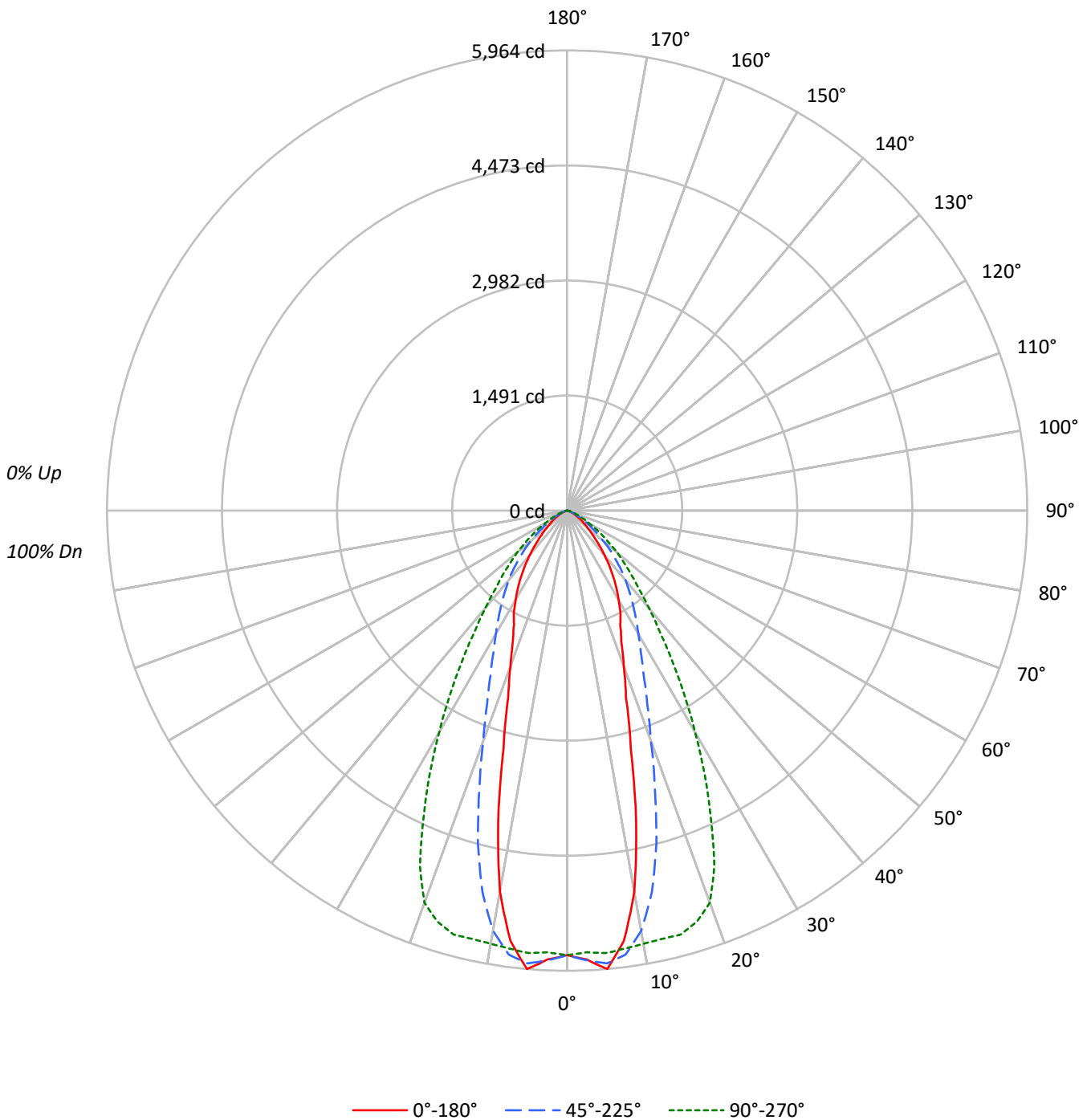
Lumens per Lamp: N/A
Luminaire Lumens: 5288.0 lumens
Efficiency: N/A
Efficacy: 94.4 lumens/watt
Spacing Criteria (0/90/45): 0.53 / 1.01 / 0.76
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')
CIE Type: Direct

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



TEST NUMBER: P592091
CATALOG NUMBER: GRZ-15L-930-30x60-X-UNV-STD-4F

Luminous Intensity Polar Plot





TEST NUMBER: P592091

CATALOG NUMBER: GRZ-15L-930-30x60-X-UNV-STD-4F

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° | 93032 | 93032 | 93032 |
| 5° | 96666 | 95490 | 93303 |
| 10° | 82224 | 90641 | 93448 |
| 15° | 53229 | 74641 | 95101 |
| 20° | 36892 | 54536 | 92943 |
| 25° | 29012 | 41762 | 78535 |
| 30° | 24850 | 34422 | 61787 |
| 35° | 20446 | 29236 | 46615 |
| 40° | 15850 | 24814 | 34760 |
| 45° | 11723 | 20014 | 26882 |
| 50° | 8598 | 15373 | 21366 |
| 55° | 6424 | 10950 | 15620 |
| 60° | 4521 | 7369 | 10550 |
| 65° | 3171 | 4756 | 7133 |
| 70° | 2205 | 3182 | 4650 |
| 75° | 1616 | 1940 | 3238 |
| 80° | 967 | 1450 | 2408 |
| 85° | 963 | 963 | 963 |



TEST NUMBER: P592091

CATALOG NUMBER: GRZ-15L-930-30x60-X-UNV-STD-4F

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 544.8 | 10.3 |
| 10°-20° | 1241.6 | 23.5 |
| 20°-30° | 1268.8 | 24.0 |
| 30°-40° | 1015.3 | 19.2 |
| 40°-50° | 678.7 | 12.8 |
| 50°-60° | 357.8 | 6.8 |
| 60°-70° | 135.2 | 2.6 |
| 70°-80° | 39.7 | 0.8 |
| 80°-90° | 6.1 | 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° | 3055.2 | 57.8 |
| 0°-40° | 4070.5 | 77.0 |
| 0°-60° | 5107.0 | 96.6 |
| 0°-90° | 5288.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5288.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 5762 | 5762 | 5762 | 5762 | 5762 | |
| 5° | 5964 | 5877 | 5892 | 5802 | 5757 | 535 |
| 15° | 3184 | 3514 | 4465 | 5420 | 5689 | 908 |
| 25° | 1628 | 1758 | 2344 | 3853 | 4408 | 765 |
| 35° | 1037 | 1128 | 1483 | 2147 | 2365 | 646 |
| 45° | 513 | 595 | 876 | 1159 | 1177 | 404 |
| 55° | 228 | 258 | 389 | 533 | 555 | 207 |
| 65° | 83 | 92 | 124 | 169 | 187 | 86 |
| 75° | 26 | 26 | 31 | 43 | 52 | 29 |
| 85° | 5 | 5 | 5 | 5 | 5 | 4 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P592091

CATALOG NUMBER: GRZ-15L-930-30x60-X-UNV-STD-4F

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 5762.0 | 5762.0 | 5762.0 | 5762.0 | 5762.0 | 5762.0 | 5762.0 | 5762.0 | 5762.0 | 5762.0 | 5762.0 |
| 2.5° | 5824.2 | 5819.0 | 5876.1 | 5834.6 | 5850.2 | 5834.6 | 5787.9 | 5762.0 | 5756.8 | 5704.9 | 5730.9 |
| 5° | 5964.3 | 5881.3 | 5896.8 | 5870.9 | 5896.8 | 5891.7 | 5839.8 | 5808.7 | 5782.7 | 5751.6 | 5756.8 |
| 7.5° | 5627.2 | 5637.5 | 5684.2 | 5704.9 | 5777.6 | 5803.5 | 5777.6 | 5756.8 | 5736.1 | 5720.5 | 5725.7 |
| 10° | 5015.2 | 5051.5 | 5118.9 | 5253.7 | 5404.1 | 5528.6 | 5580.5 | 5637.5 | 5684.2 | 5689.4 | 5699.8 |
| 12.5° | 4128.3 | 4180.2 | 4289.1 | 4434.3 | 4766.2 | 5067.0 | 5321.2 | 5518.2 | 5632.3 | 5694.6 | 5684.2 |
| 15° | 3184.4 | 3200.0 | 3334.8 | 3573.4 | 3936.4 | 4465.4 | 4968.5 | 5367.8 | 5575.3 | 5720.5 | 5689.4 |
| 17.5° | 2536.1 | 2556.9 | 2665.8 | 2847.3 | 3194.8 | 3780.8 | 4532.8 | 5129.3 | 5507.9 | 5611.6 | 5585.7 |
| 20° | 2147.1 | 2131.6 | 2214.6 | 2365.0 | 2655.4 | 3174.0 | 3957.2 | 4755.9 | 5233.0 | 5378.2 | 5409.3 |
| 22.5° | 1836.0 | 1851.5 | 1903.4 | 2022.7 | 2276.8 | 2707.3 | 3423.0 | 4268.3 | 4797.3 | 4958.1 | 4984.0 |
| 25° | 1628.5 | 1644.1 | 1695.9 | 1778.9 | 1986.4 | 2344.2 | 2961.4 | 3723.8 | 4242.4 | 4398.0 | 4408.4 |
| 27.5° | 1493.7 | 1483.3 | 1519.6 | 1581.8 | 1763.3 | 2069.3 | 2577.6 | 3210.3 | 3692.7 | 3848.2 | 3858.6 |
| 30° | 1332.9 | 1327.7 | 1364.0 | 1431.4 | 1576.6 | 1846.3 | 2276.8 | 2790.2 | 3132.5 | 3282.9 | 3314.1 |
| 32.5° | 1187.7 | 1182.5 | 1224.0 | 1281.0 | 1426.2 | 1659.6 | 2033.0 | 2432.4 | 2665.8 | 2790.2 | 2821.4 |
| 35° | 1037.3 | 1042.4 | 1073.6 | 1146.2 | 1275.8 | 1483.3 | 1825.6 | 2105.6 | 2271.6 | 2333.8 | 2365.0 |
| 37.5° | 892.0 | 897.2 | 938.7 | 1011.3 | 1141.0 | 1327.7 | 1602.6 | 1820.4 | 1918.9 | 1965.6 | 1960.4 |
| 40° | 752.0 | 762.4 | 788.3 | 871.3 | 1001.0 | 1177.3 | 1400.3 | 1561.1 | 1628.5 | 1633.7 | 1649.2 |
| 42.5° | 627.5 | 627.5 | 669.0 | 736.5 | 860.9 | 1026.9 | 1224.0 | 1338.1 | 1389.9 | 1384.7 | 1374.4 |
| 45° | 513.4 | 518.6 | 544.6 | 612.0 | 726.1 | 876.5 | 1047.6 | 1151.4 | 1182.5 | 1161.7 | 1177.3 |
| 47.5° | 420.1 | 425.3 | 446.0 | 508.3 | 606.8 | 752.0 | 886.9 | 985.4 | 1011.3 | 995.8 | 995.8 |
| 50° | 342.3 | 347.5 | 363.0 | 409.7 | 492.7 | 612.0 | 736.5 | 819.4 | 845.4 | 840.2 | 850.6 |
| 52.5° | 280.1 | 280.1 | 295.6 | 331.9 | 399.3 | 497.9 | 596.4 | 669.0 | 689.8 | 684.6 | 679.4 |
| 55° | 228.2 | 228.2 | 238.6 | 264.5 | 316.4 | 389.0 | 472.0 | 529.0 | 544.6 | 549.7 | 554.9 |
| 57.5° | 181.5 | 181.5 | 186.7 | 207.5 | 243.8 | 300.8 | 363.0 | 404.5 | 420.1 | 425.3 | 430.5 |
| 60° | 140.0 | 140.0 | 150.4 | 160.8 | 191.9 | 228.2 | 269.7 | 300.8 | 321.6 | 321.6 | 326.7 |
| 62.5° | 108.9 | 108.9 | 114.1 | 124.5 | 145.2 | 171.1 | 197.1 | 223.0 | 233.4 | 243.8 | 248.9 |
| 65° | 83.0 | 83.0 | 88.2 | 93.4 | 108.9 | 124.5 | 145.2 | 166.0 | 176.3 | 181.5 | 186.7 |
| 67.5° | 62.2 | 62.2 | 62.2 | 72.6 | 83.0 | 93.4 | 103.7 | 119.3 | 124.5 | 134.8 | 140.0 |
| 70° | 46.7 | 46.7 | 46.7 | 51.9 | 57.0 | 67.4 | 72.6 | 83.0 | 93.4 | 98.5 | 98.5 |
| 72.5° | 36.3 | 36.3 | 36.3 | 36.3 | 41.5 | 46.7 | 51.9 | 57.0 | 67.4 | 72.6 | 72.6 |
| 75° | 25.9 | 25.9 | 25.9 | 25.9 | 31.1 | 31.1 | 36.3 | 41.5 | 46.7 | 51.9 | 51.9 |
| 77.5° | 20.7 | 20.7 | 15.6 | 20.7 | 20.7 | 20.7 | 25.9 | 25.9 | 31.1 | 36.3 | 36.3 |
| 80° | 10.4 | 10.4 | 10.4 | 10.4 | 15.6 | 15.6 | 15.6 | 20.7 | 20.7 | 20.7 | 25.9 |
| 82.5° | 5.2 | 5.2 | 5.2 | 5.2 | 10.4 | 10.4 | 10.4 | 10.4 | 10.4 | 15.6 | 15.6 |
| 85° | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| 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)