

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: RSA

Report Number: P22189-R2

Luminaire Tested: **CSWRM40SML11**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P22189-R2
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: RSA
Catalog Number: CSWRM40SML11
Description: ***THIS IS A REVISION OF P22189 TO UPDATE CATALOG
NUMBER***COMBOLIGHT ONE 8W LED HEAD, 3 LED UNIT NARROW
FLOOD DISTRIBUTION, 4000K
Light Source: (3) 4000K SMT LEDS
XPG
Ballast/Driver: (1) MAGTECH HIGH PERFECTION ELECTRONIC DRIVER
LP1020-12-C700

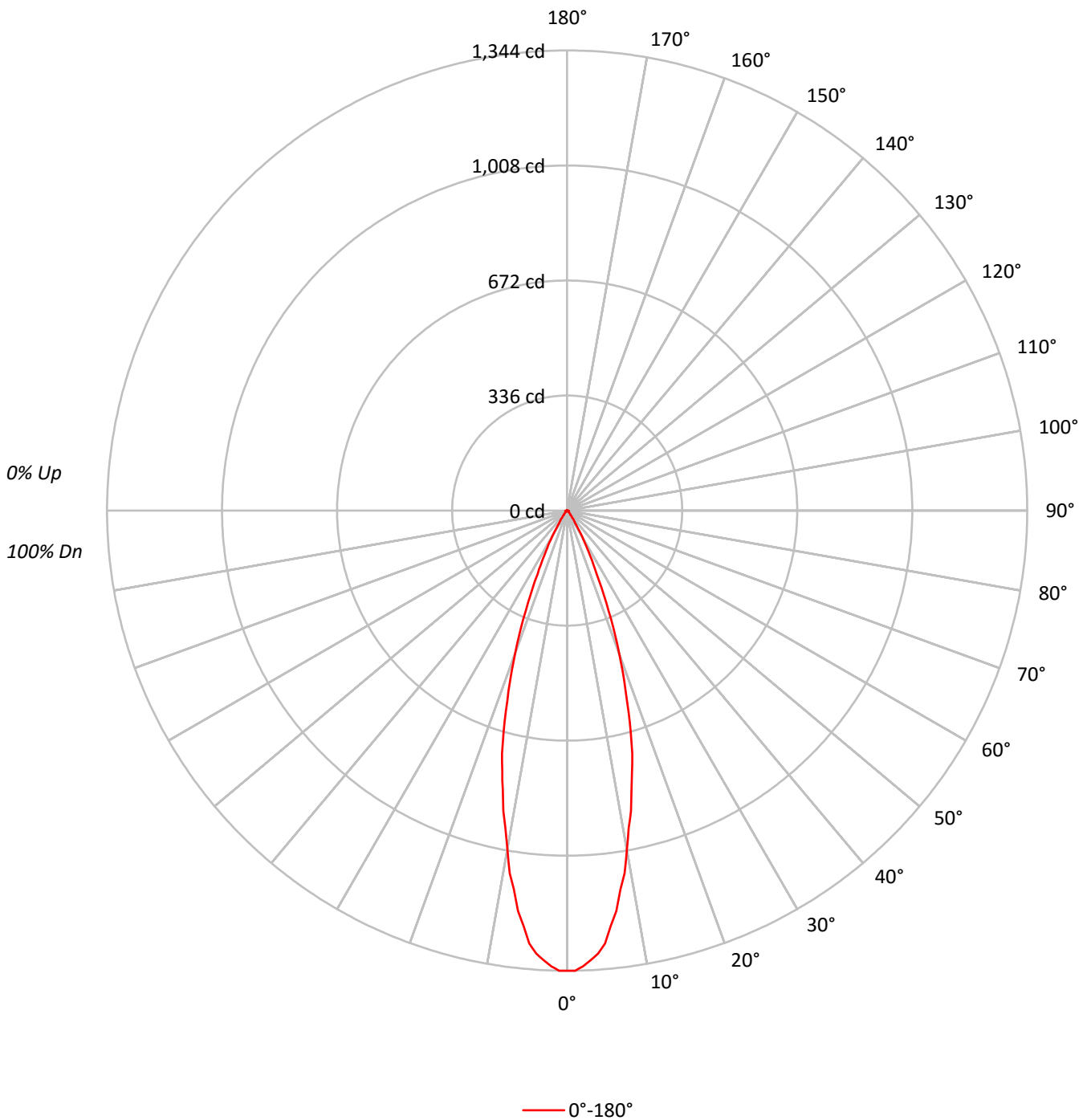
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 445.8 lumens
Efficiency: N/A
Efficacy: 57.2 lumens/watt
Spacing Criteria (0/90/45): 0.53 / 0.53 / 0.53
Luminous Opening: Circular (Dia: 0.25' x H: 0')
CIE Type: Direct

Input Watts (W): 7.8
Input Voltage (V): NR
Input Current (Ain): 0.06786
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: HR
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 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 114 | 112 | 110 | 108 | 112 | 110 | 108 | 106 | 106 | 104 | 103 | 102 | 101 | 100 | 99 | 98 | 97 | 95 |
| 2 | 110 | 106 | 102 | 100 | 108 | 104 | 101 | 98 | 101 | 99 | 96 | 98 | 96 | 94 | 95 | 94 | 92 | 91 |
| 3 | 106 | 101 | 97 | 93 | 104 | 99 | 96 | 93 | 97 | 94 | 91 | 94 | 92 | 90 | 92 | 90 | 88 | 87 |
| 4 | 102 | 96 | 92 | 88 | 100 | 95 | 91 | 88 | 93 | 89 | 87 | 91 | 88 | 86 | 89 | 87 | 85 | 83 |
| 5 | 99 | 92 | 87 | 84 | 97 | 91 | 87 | 83 | 89 | 86 | 83 | 88 | 85 | 82 | 86 | 84 | 81 | 80 |
| 6 | 95 | 88 | 83 | 80 | 94 | 87 | 83 | 80 | 86 | 82 | 79 | 85 | 81 | 79 | 84 | 81 | 78 | 77 |
| 7 | 92 | 85 | 80 | 77 | 91 | 84 | 80 | 77 | 83 | 79 | 76 | 82 | 78 | 76 | 81 | 78 | 75 | 74 |
| 8 | 89 | 82 | 77 | 74 | 88 | 81 | 77 | 74 | 80 | 76 | 73 | 79 | 76 | 73 | 78 | 75 | 73 | 72 |
| 9 | 86 | 79 | 74 | 71 | 85 | 78 | 74 | 71 | 77 | 73 | 71 | 77 | 73 | 70 | 76 | 73 | 70 | 69 |
| 10 | 84 | 76 | 72 | 69 | 83 | 76 | 71 | 68 | 75 | 71 | 68 | 74 | 71 | 68 | 74 | 70 | 68 | 67 |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|--------|
| | 0° |
| 0° | 294713 |
| 5° | 279330 |
| 10° | 223777 |
| 15° | 166857 |
| 20° | 103609 |
| 25° | 49358 |
| 30° | 21776 |
| 35° | 8834 |
| 40° | 4008 |
| 45° | 1240 |
| 50° | 341 |
| 55° | 765 |
| 60° | 439 |
| 65° | 2075 |
| 70° | 0 |
| 75° | 4236 |
| 80° | 6314 |
| 85° | 5032 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 112.2 | 25.2 |
| 10°-20° | 197.4 | 44.3 |
| 20°-30° | 101.4 | 22.7 |
| 30°-40° | 22.0 | 4.9 |
| 40°-50° | 3.8 | 0.9 |
| 50°-60° | 1.6 | 0.4 |
| 60°-70° | 1.4 | 0.3 |
| 70°-80° | 4.1 | 0.9 |
| 80°-90° | 2.0 | 0.5 |
| 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° | 410.9 | 92.2 |
| 0°-40° | 432.9 | 97.1 |
| 0°-60° | 438.3 | 98.3 |
| 0°-90° | 445.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 445.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 1344 | |
| 5° | 1269 | 112 |
| 15° | 735 | 197 |
| 25° | 204 | 101 |
| 35° | 33 | 22 |
| 45° | 4 | 4 |
| 55° | 2 | 2 |
| 65° | 4 | 1 |
| 75° | 5 | 4 |
| 85° | 2 | 2 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| 0° | |
|-------|------|
| 0° | 1344 |
| 1° | 1344 |
| 2° | 1332 |
| 3° | 1315 |
| 4° | 1297 |
| 5° | 1269 |
| 6° | 1220 |
| 7° | 1178 |
| 8° | 1117 |
| 9° | 1073 |
| 10° | 1005 |
| 11° | 944 |
| 12° | 897 |
| 13° | 836 |
| 14° | 784 |
| 15° | 735 |
| 17.5° | 581 |
| 20° | 444 |
| 22.5° | 315 |
| 25° | 204 |
| 27.5° | 134 |
| 30° | 86 |
| 32.5° | 45 |
| 35° | 33 |
| 37.5° | 17 |
| 40° | 14 |
| 42.5° | 8 |
| 45° | 4 |
| 47.5° | 1 |
| 50° | 1 |
| 52.5° | 2 |
| 55° | 2 |
| 57.5° | 2 |
| 60° | 1 |
| 62.5° | 1 |
| 65° | 4 |
| 67.5° | 0 |
| 70° | 0 |
| 72.5° | 2 |
| 75° | 5 |
| 77.5° | 6 |
| 80° | 5 |
| 82.5° | 3 |
| 85° | 2 |
| 87.5° | 0 |



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CANDELA DISTRIBUTION (continued):

90° | $\frac{0^\circ}{0}$

(END OF REPORT)