

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: P22186-R2

Luminaire Tested: **CSHRN30SML11**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P22186-R2
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: RSA
Catalog Number: CSHRN30SML11
Description: ***THIS IS A REVISION OF P22186 TO UPDATE CATALOG
NUMBER***COMBOLIGHT ONE 8W LED HEAD, 3 LED UNIT SPOT
DISTRIBUTION,3000K
Light Source: (3) 3000K SMT LEDS
XPG
Ballast/Driver: (1) MAGTECH HIGH PERFECTION ELECTRONIC DRIVER
LP1020-12-C700

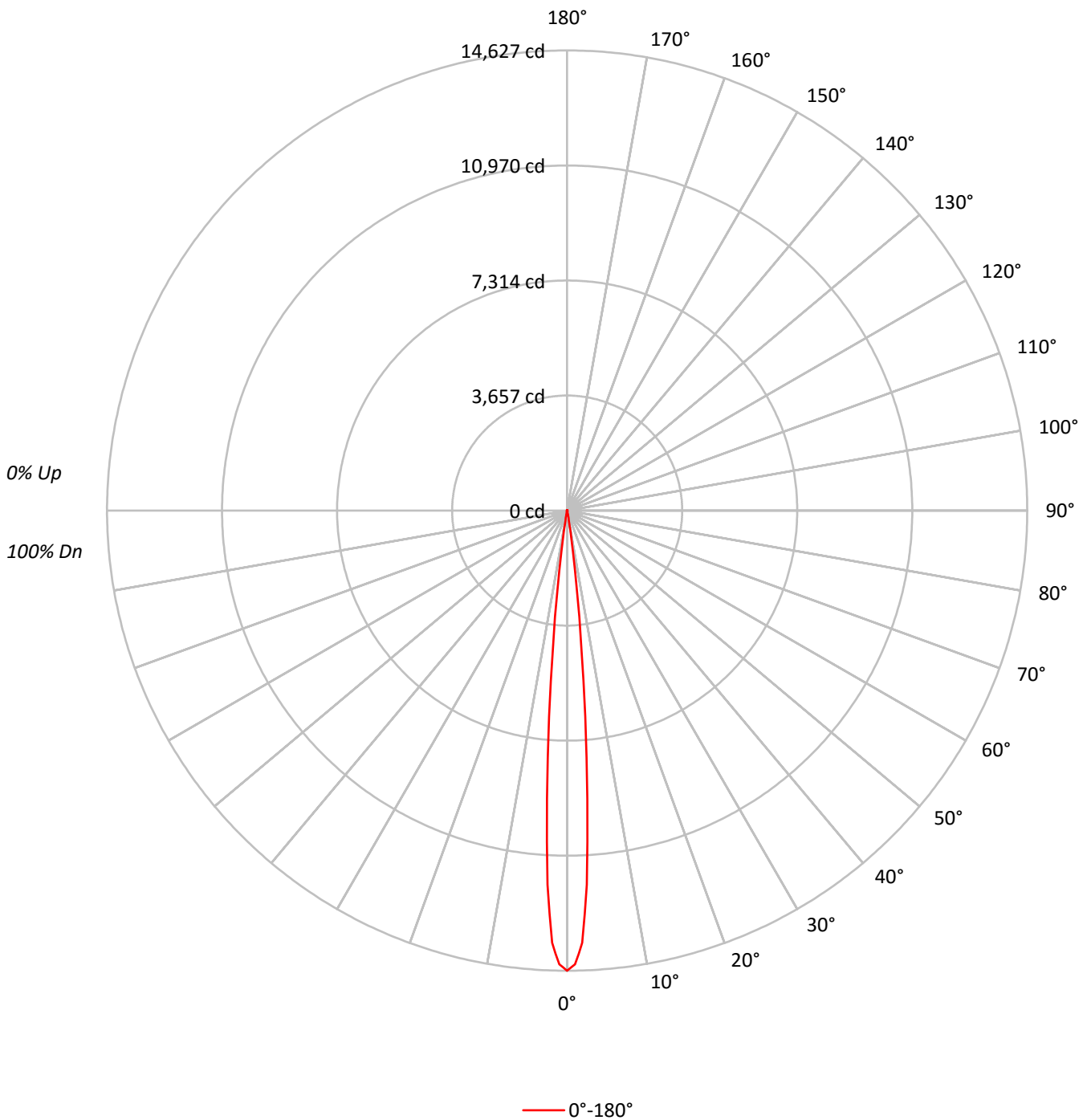
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 436.4 lumens
Efficiency: N/A
Efficacy: 55.2 lumens/watt
Spacing Criteria (0/90/45): 0.16 / 0.16 / 0.16
Luminous Opening: Circular (Dia: 0.25' x H: 0')
CIE Type: Direct

Input Watts (W): 7.9
Input Voltage (V): NR
Input Current (Ain): 0.06792
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

TEST NUMBER: P22186-R2
CATALOG NUMBER: CSHRN30SML11

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 | | | | | | | |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | | | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 111 | 106 | 106 | 106 | 106 | 102 | 102 | 102 | 102 | 100 | 100 | 100 | 100 |
| 1 | 116 | 114 | 113 | 111 | 114 | 112 | 111 | 110 | 108 | 107 | 106 | 106 | 105 | 104 | 103 | 103 | 101 | 101 | 100 | 100 | 99 | 99 | 99 | 99 |
| 2 | 114 | 111 | 109 | 107 | 112 | 109 | 107 | 106 | 106 | 105 | 104 | 104 | 104 | 102 | 101 | 101 | 101 | 100 | 99 | 99 | 98 | 98 | 98 | 98 |
| 3 | 112 | 109 | 106 | 104 | 110 | 107 | 105 | 103 | 105 | 103 | 102 | 102 | 103 | 101 | 100 | 100 | 101 | 100 | 99 | 99 | 98 | 98 | 98 | 98 |
| 4 | 110 | 107 | 104 | 102 | 109 | 106 | 103 | 101 | 104 | 102 | 100 | 100 | 102 | 101 | 99 | 99 | 101 | 99 | 98 | 98 | 97 | 97 | 97 | 97 |
| 5 | 109 | 105 | 102 | 101 | 108 | 104 | 102 | 100 | 103 | 101 | 99 | 99 | 102 | 100 | 99 | 99 | 100 | 99 | 98 | 98 | 97 | 97 | 97 | 97 |
| 6 | 108 | 104 | 101 | 99 | 107 | 103 | 101 | 99 | 102 | 100 | 99 | 99 | 101 | 99 | 98 | 98 | 100 | 99 | 97 | 97 | 97 | 97 | 97 | 97 |
| 7 | 107 | 103 | 100 | 99 | 106 | 102 | 100 | 98 | 101 | 99 | 98 | 98 | 101 | 99 | 98 | 98 | 100 | 98 | 97 | 97 | 96 | 96 | 96 | 96 |
| 8 | 106 | 102 | 100 | 98 | 105 | 102 | 99 | 98 | 101 | 99 | 97 | 97 | 100 | 98 | 97 | 97 | 99 | 98 | 97 | 97 | 96 | 96 | 96 | 96 |
| 9 | 105 | 101 | 99 | 97 | 104 | 101 | 99 | 97 | 100 | 98 | 97 | 97 | 100 | 98 | 97 | 97 | 99 | 98 | 97 | 97 | 96 | 96 | 96 | 96 |
| 10 | 104 | 101 | 99 | 97 | 104 | 100 | 98 | 97 | 100 | 98 | 97 | 97 | 99 | 98 | 97 | 97 | 99 | 97 | 96 | 96 | 96 | 96 | 96 | 96 |

AVERAGE LUMINANCE (cd/sqm):

| 0° | |
|-----|---------|
| 0° | 3207418 |
| 5° | 1447718 |
| 10° | 71252 |
| 15° | 6356 |
| 20° | 1867 |
| 25° | 3871 |
| 30° | 4304 |
| 35° | 1071 |
| 40° | 859 |
| 45° | 0 |
| 50° | 1023 |
| 55° | 0 |
| 60° | 0 |
| 65° | 0 |
| 70° | 1282 |
| 75° | 847 |
| 80° | 2526 |
| 85° | 22644 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 405.5 | 92.9 |
| 10°-20° | 14.5 | 3.3 |
| 20°-30° | 4.3 | 1.0 |
| 30°-40° | 3.0 | 0.7 |
| 40°-50° | 2.3 | 0.5 |
| 50°-60° | 0.3 | 0.1 |
| 60°-70° | 0.7 | 0.2 |
| 70°-80° | 1.6 | 0.4 |
| 80°-90° | 4.1 | 0.9 |
| 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° | 424.3 | 97.2 |
| 0°-40° | 427.3 | 97.9 |
| 0°-60° | 429.9 | 98.5 |
| 0°-90° | 436.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 436.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|-------|------|
| 0° | 14627 | |
| 5° | 6577 | 406 |
| 15° | 28 | 15 |
| 25° | 16 | 4 |
| 35° | 4 | 3 |
| 45° | 0 | 2 |
| 55° | 0 | 0 |
| 65° | 0 | 1 |
| 75° | 1 | 2 |
| 85° | 9 | 4 |
| 90° | 0 | |



TEST NUMBER: P22186-R2
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CANDELA DISTRIBUTION (FULL):

| 0° | |
|-------|-------|
| 0° | 14627 |
| 1° | 14421 |
| 2° | 13745 |
| 3° | 11905 |
| 4° | 9184 |
| 5° | 6577 |
| 6° | 4292 |
| 7° | 2519 |
| 8° | 1321 |
| 9° | 640 |
| 10° | 320 |
| 11° | 154 |
| 12° | 99 |
| 13° | 50 |
| 14° | 43 |
| 15° | 28 |
| 17.5° | 20 |
| 20° | 8 |
| 22.5° | 4 |
| 25° | 16 |
| 27.5° | 4 |
| 30° | 17 |
| 32.5° | 5 |
| 35° | 4 |
| 37.5° | 1 |
| 40° | 3 |
| 42.5° | 7 |
| 45° | 0 |
| 47.5° | 2 |
| 50° | 3 |
| 52.5° | 0 |
| 55° | 0 |
| 57.5° | 0 |
| 60° | 0 |
| 62.5° | 2 |
| 65° | 0 |
| 67.5° | 0 |
| 70° | 2 |
| 72.5° | 2 |
| 75° | 1 |
| 77.5° | 1 |
| 80° | 2 |
| 82.5° | 1 |
| 85° | 9 |
| 87.5° | 4 |



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CANDELA DISTRIBUTION (continued):

90° | $\frac{0^\circ}{0}$

(END OF REPORT)