

Scaled data based on original data using
LM-66-11 Electrical and Photometric Measurements of Single-Ended Compact
Fluorescent Lamps

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: SHAPER

Report Number: 19361A

Luminaire Tested: **233-12-SP-CF2/32**

Issue Date: 3/3/2020

Test Information

Test Method: LM-66-11
Report Number: 19361A
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: SHAPER
Catalog Number: 233-12-SP-CF2/32
Description: INTERIOR CEILING MOUNT LUMINAIRE WITH WHITE GLASS LENS

Light Source: TWO 32 WATT CPFL LAMPS. LUMEN RATING = 4800 LMS.

Ballast/Driver: -

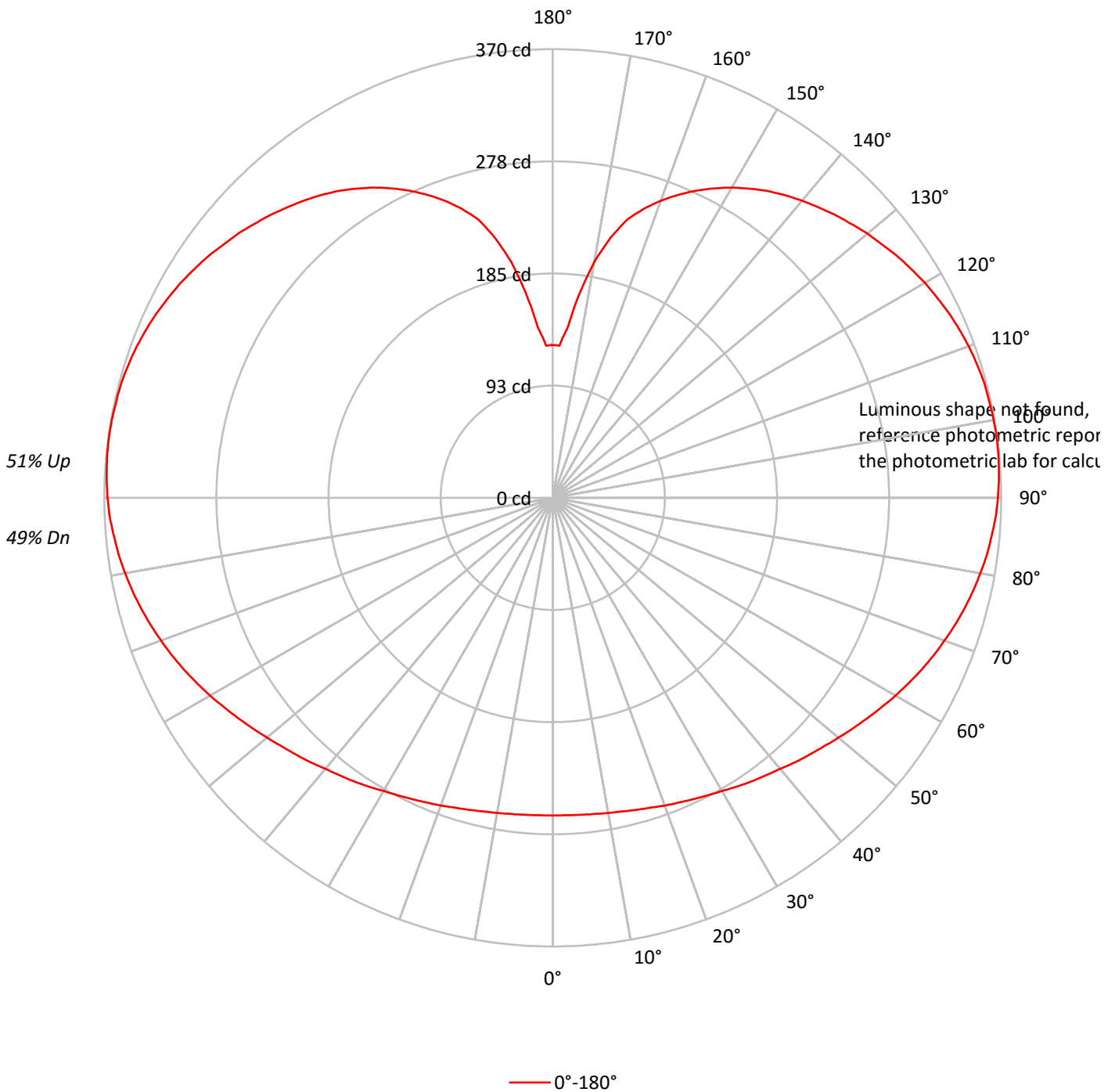
Summary

Lumens per Lamp: 4800 (1 lamp)
Luminaire Lumens: 4147.7 lumens
Efficiency: 86.4%
Efficacy: -
Spacing Criteria (0/90/45): 1.68 / 1.68 / 1.92
Luminous Opening: (L: 0 ' x W: -0.08 ' x H: 0.5 '
CIE Type: General Diffuse

Input Watts (W): 0
Input Voltage (V): NR
Input Current (Ain): 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: 25 FT

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Luminous Intensity Polar Plot





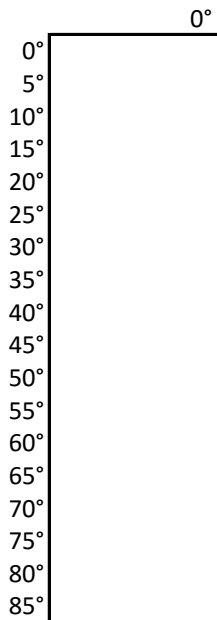
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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | |
|-----|----|----|----|----|----|----|----|----|----|----|----|--|----|----|----|--|----|----|----|----|
| 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 | 92 | 92 | 92 | 92 | 85 | 85 | 85 | 85 | 71 | 71 | 71 | | 59 | 59 | 59 | | 48 | 48 | 48 | 42 |
| 1 | 80 | 75 | 70 | 65 | 73 | 68 | 64 | 60 | 57 | 53 | 50 | | 46 | 43 | 41 | | 36 | 34 | 32 | 27 |
| 2 | 72 | 63 | 56 | 50 | 65 | 58 | 52 | 46 | 47 | 43 | 39 | | 38 | 34 | 31 | | 29 | 27 | 24 | 20 |
| 3 | 64 | 54 | 47 | 40 | 58 | 50 | 43 | 37 | 41 | 35 | 31 | | 32 | 28 | 25 | | 25 | 22 | 19 | 15 |
| 4 | 58 | 47 | 39 | 33 | 53 | 43 | 36 | 30 | 35 | 30 | 25 | | 28 | 24 | 20 | | 21 | 18 | 15 | 12 |
| 5 | 53 | 42 | 34 | 28 | 48 | 38 | 31 | 25 | 31 | 26 | 21 | | 25 | 20 | 17 | | 19 | 16 | 13 | 10 |
| 6 | 49 | 37 | 29 | 23 | 44 | 34 | 27 | 22 | 28 | 22 | 18 | | 22 | 18 | 14 | | 17 | 14 | 11 | 8 |
| 7 | 45 | 33 | 26 | 20 | 41 | 30 | 24 | 19 | 25 | 20 | 16 | | 20 | 16 | 12 | | 15 | 12 | 9 | 7 |
| 8 | 42 | 30 | 23 | 18 | 38 | 27 | 21 | 16 | 23 | 17 | 14 | | 18 | 14 | 11 | | 14 | 11 | 8 | 6 |
| 9 | 39 | 27 | 20 | 15 | 35 | 25 | 19 | 14 | 21 | 16 | 12 | | 17 | 13 | 10 | | 13 | 10 | 7 | 5 |
| 10 | 36 | 25 | 18 | 14 | 33 | 23 | 17 | 13 | 19 | 14 | 11 | | 15 | 11 | 9 | | 12 | 9 | 7 | 5 |

AVERAGE LUMINANCE (cd/sqm):





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ZONAL LUMENS:

| Zone | Lumens | % Fixture | % Lamp |
|-----------|--------|-----------|--------|
| 0°-10° | 25.1 | 0.6 | 0.5 |
| 10°-20° | 75.6 | 1.8 | 1.6 |
| 20°-30° | 127.1 | 3.1 | 2.6 |
| 30°-40° | 179.5 | 4.3 | 3.7 |
| 40°-50° | 232.2 | 5.6 | 4.8 |
| 50°-60° | 284.5 | 6.9 | 5.9 |
| 60°-70° | 333.1 | 8.0 | 6.9 |
| 70°-80° | 371.9 | 9.0 | 7.7 |
| 80°-90° | 396.4 | 9.6 | 8.3 |
| 90°-100° | 402.5 | 9.7 | 8.4 |
| 100°-110° | 389.1 | 9.4 | 8.1 |
| 110°-120° | 357.6 | 8.6 | 7.5 |
| 120°-130° | 311.3 | 7.5 | 6.5 |
| 130°-140° | 255.4 | 6.2 | 5.3 |
| 140°-150° | 194.0 | 4.7 | 4.0 |
| 150°-160° | 129.6 | 3.1 | 2.7 |
| 160°-170° | 67.2 | 1.6 | 1.4 |
| 170°-180° | 15.5 | 0.4 | 0.3 |
| 0°-30° | 227.9 | 5.5 | 4.7 |
| 0°-40° | 407.4 | 9.8 | 8.5 |
| 0°-60° | 924.1 | 22.3 | 19.3 |
| 0°-90° | 2025.4 | 48.8 | 42.2 |
| 90°-120° | 1149.2 | 27.7 | 23.9 |
| 90°-150° | 1910.0 | 46.0 | 39.8 |
| 90°-180° | 2122.0 | 51.2 | 44.2 |
| 0°-180° | 4147.7 | 100.0 | 86.4 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|------|-----|------|
| 0° | 262 | |
| 5° | 262 | 25 |
| 15° | 266 | 76 |
| 25° | 274 | 127 |
| 35° | 286 | 180 |
| 45° | 300 | 232 |
| 55° | 317 | 284 |
| 65° | 336 | 333 |
| 75° | 352 | 372 |
| 85° | 363 | 296 |
| 90° | 367 | 201 |
| 95° | 369 | 302 |
| 105° | 368 | 389 |
| 115° | 360 | 358 |
| 125° | 347 | 311 |
| 135° | 330 | 255 |
| 145° | 309 | 194 |
| 155° | 279 | 130 |
| 165° | 238 | 67 |
| 175° | 141 | 15 |
| 180° | 126 | |



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CANDELA DISTRIBUTION (FULL):

| 0° | |
|--------|-------|
| 0° | 262.0 |
| 2.5° | 262.0 |
| 5° | 262.4 |
| 7.5° | 263.0 |
| 10° | 263.8 |
| 12.5° | 264.9 |
| 15° | 266.4 |
| 17.5° | 267.9 |
| 20° | 270.1 |
| 22.5° | 272.0 |
| 25° | 274.2 |
| 27.5° | 276.6 |
| 30° | 279.2 |
| 32.5° | 282.4 |
| 35° | 285.6 |
| 37.5° | 288.6 |
| 40° | 291.8 |
| 42.5° | 295.9 |
| 45° | 299.5 |
| 47.5° | 303.4 |
| 50° | 307.7 |
| 52.5° | 312.3 |
| 55° | 316.8 |
| 57.5° | 321.5 |
| 60° | 326.5 |
| 62.5° | 331.0 |
| 65° | 335.6 |
| 67.5° | 339.9 |
| 70° | 344.0 |
| 72.5° | 348.0 |
| 75° | 351.7 |
| 77.5° | 355.2 |
| 80° | 358.2 |
| 82.5° | 361.2 |
| 85° | 363.4 |
| 87.5° | 365.8 |
| 90° | 367.3 |
| 92.5° | 368.4 |
| 95° | 369.2 |
| 97.5° | 369.6 |
| 100° | 369.4 |
| 102.5° | 368.8 |
| 105° | 368.3 |
| 107.5° | 366.9 |
| 110° | 365.2 |



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CANDELA DISTRIBUTION (continued):

| | 0° |
|--------|-------|
| 112.5° | 363.0 |
| 115° | 360.5 |
| 117.5° | 357.5 |
| 120° | 354.5 |
| 122.5° | 350.8 |
| 125° | 347.2 |
| 127.5° | 342.8 |
| 130° | 338.9 |
| 132.5° | 334.2 |
| 135° | 329.7 |
| 137.5° | 324.8 |
| 140° | 319.8 |
| 142.5° | 314.6 |
| 145° | 308.8 |
| 147.5° | 302.3 |
| 150° | 295.4 |
| 152.5° | 287.7 |
| 155° | 279.4 |
| 157.5° | 270.4 |
| 160° | 260.8 |
| 162.5° | 249.9 |
| 165° | 237.6 |
| 167.5° | 219.5 |
| 170° | 197.4 |
| 172.5° | 170.2 |
| 175° | 141.1 |
| 177.5° | 125.6 |
| 180° | 126.0 |

(END OF REPORT)