

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: 19376A

Luminaire Tested: **233-14-SH-CF2/32**

Issue Date: 3/3/2020

Test Information

Test Method: LM-66-11
Report Number: 19376A
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: SHAPER
Catalog Number: 233-14-SH-CF2/32
Description: INTERIOR CEILING MOUNT LUMINAIRE WITH WHITE GLASS LENS

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

Ballast/Driver: -

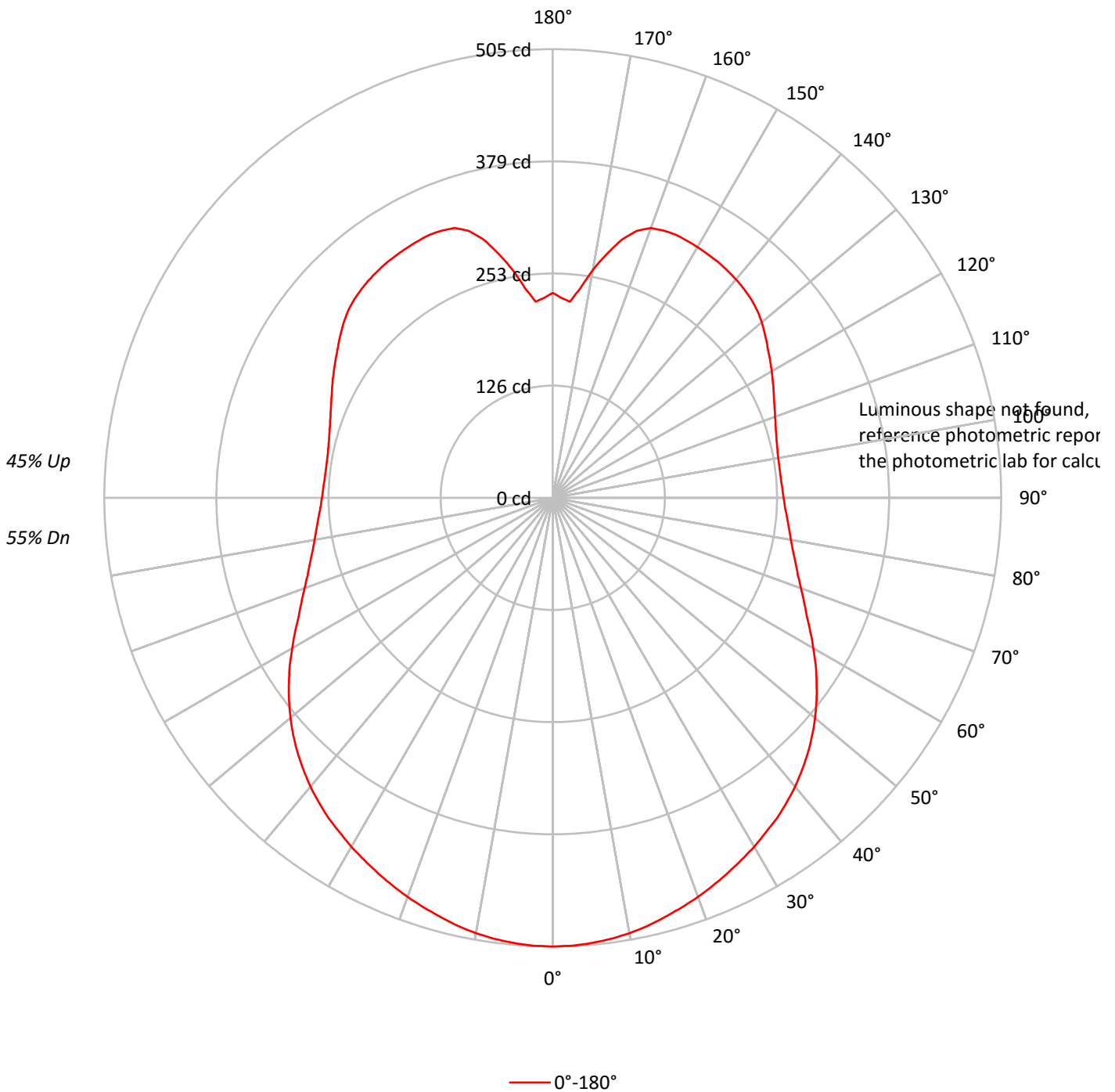
Summary

Lumens per Lamp: 4800 (1 lamp)
Luminaire Lumens: 4021.1 lumens
Efficiency: 83.8%
Efficacy: -
Spacing Criteria (0/90/45): 1.35 / 1.35 / 1.52
Luminous Opening: (L: 0 ' x W: -0.08 ' x H: 0.46 '
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

TEST NUMBER: 19376A
CATALOG NUMBER: 233-14-SH-CF2/32

Luminous Intensity Polar Plot





TEST NUMBER: 19376A

CATALOG NUMBER: 233-14-SH-CF2/32

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 | 91 | 91 | 91 | 91 | 84 | 84 | 84 | 84 | 72 | 72 | 72 | | 61 | 61 | 61 | | 51 | 51 | 51 | 46 |
| 1 | 80 | 75 | 71 | 67 | 74 | 70 | 66 | 62 | 59 | 56 | 54 | | 50 | 47 | 45 | | 41 | 39 | 38 | 33 |
| 2 | 72 | 64 | 58 | 53 | 66 | 60 | 54 | 49 | 50 | 46 | 42 | | 42 | 39 | 36 | | 34 | 32 | 30 | 26 |
| 3 | 65 | 56 | 49 | 43 | 60 | 52 | 45 | 40 | 44 | 39 | 35 | | 36 | 33 | 29 | | 30 | 27 | 24 | 21 |
| 4 | 59 | 49 | 41 | 36 | 54 | 45 | 39 | 33 | 38 | 33 | 29 | | 32 | 28 | 25 | | 26 | 23 | 20 | 17 |
| 5 | 54 | 43 | 36 | 30 | 50 | 40 | 33 | 28 | 34 | 29 | 25 | | 29 | 24 | 21 | | 23 | 20 | 17 | 15 |
| 6 | 50 | 39 | 31 | 26 | 46 | 36 | 29 | 24 | 31 | 25 | 21 | | 26 | 21 | 18 | | 21 | 18 | 15 | 13 |
| 7 | 46 | 35 | 27 | 22 | 42 | 32 | 26 | 21 | 28 | 22 | 18 | | 23 | 19 | 16 | | 19 | 16 | 13 | 11 |
| 8 | 43 | 31 | 24 | 20 | 39 | 29 | 23 | 18 | 25 | 20 | 16 | | 21 | 17 | 14 | | 18 | 14 | 12 | 10 |
| 9 | 40 | 29 | 22 | 17 | 36 | 27 | 21 | 16 | 23 | 18 | 14 | | 19 | 15 | 12 | | 16 | 13 | 10 | 9 |
| 10 | 37 | 26 | 20 | 15 | 34 | 24 | 19 | 15 | 21 | 16 | 13 | | 18 | 14 | 11 | | 15 | 12 | 9 | 8 |

AVERAGE LUMINANCE (cd/sqm):





TEST NUMBER: 19376A

CATALOG NUMBER: 233-14-SH-CF2/32

ZONAL LUMENS:

| Zone | Lumens | % Fixture | % Lamp |
|-----------|--------|-----------|--------|
| 0°-10° | 47.8 | 1.2 | 1.0 |
| 10°-20° | 138.1 | 3.4 | 2.9 |
| 20°-30° | 215.3 | 5.4 | 4.5 |
| 30°-40° | 275.8 | 6.9 | 5.7 |
| 40°-50° | 313.8 | 7.8 | 6.5 |
| 50°-60° | 324.9 | 8.1 | 6.8 |
| 60°-70° | 314.2 | 7.8 | 6.5 |
| 70°-80° | 299.9 | 7.5 | 6.2 |
| 80°-90° | 289.5 | 7.2 | 6.0 |
| 90°-100° | 281.6 | 7.0 | 5.9 |
| 100°-110° | 276.3 | 6.9 | 5.8 |
| 110°-120° | 272.9 | 6.8 | 5.7 |
| 120°-130° | 265.0 | 6.6 | 5.5 |
| 130°-140° | 244.1 | 6.1 | 5.1 |
| 140°-150° | 203.4 | 5.1 | 4.2 |
| 150°-160° | 150.9 | 3.8 | 3.1 |
| 160°-170° | 85.2 | 2.1 | 1.8 |
| 170°-180° | 22.6 | 0.6 | 0.5 |
| 0°-30° | 401.3 | 10.0 | 8.4 |
| 0°-40° | 677.0 | 16.8 | 14.1 |
| 0°-60° | 1315.7 | 32.7 | 27.4 |
| 0°-90° | 2219.3 | 55.2 | 46.2 |
| 90°-120° | 830.7 | 20.7 | 17.3 |
| 90°-150° | 1543.2 | 38.4 | 32.1 |
| 90°-180° | 1802.0 | 44.8 | 37.5 |
| 0°-180° | 4021.1 | 100.0 | 83.8 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|------|-----|------|
| 0° | 505 | |
| 5° | 503 | 48 |
| 15° | 488 | 138 |
| 25° | 466 | 215 |
| 35° | 440 | 276 |
| 45° | 406 | 314 |
| 55° | 363 | 325 |
| 65° | 316 | 314 |
| 75° | 283 | 300 |
| 85° | 265 | 218 |
| 90° | 260 | 143 |
| 95° | 258 | 211 |
| 105° | 261 | 276 |
| 115° | 275 | 273 |
| 125° | 295 | 265 |
| 135° | 316 | 244 |
| 145° | 324 | 203 |
| 155° | 327 | 151 |
| 165° | 301 | 85 |
| 175° | 222 | 23 |
| 180° | 231 | |



TEST NUMBER: 19376A

CATALOG NUMBER: 233-14-SH-CF2/32

CANDELA DISTRIBUTION (FULL):

| 0° | |
|--------|-------|
| 0° | 505.1 |
| 2.5° | 504.5 |
| 5° | 503.1 |
| 7.5° | 500.8 |
| 10° | 497.5 |
| 12.5° | 493.6 |
| 15° | 488.4 |
| 17.5° | 483.3 |
| 20° | 478.1 |
| 22.5° | 472.2 |
| 25° | 465.9 |
| 27.5° | 459.7 |
| 30° | 453.5 |
| 32.5° | 446.5 |
| 35° | 440.1 |
| 37.5° | 432.5 |
| 40° | 424.5 |
| 42.5° | 415.4 |
| 45° | 406.2 |
| 47.5° | 396.2 |
| 50° | 385.5 |
| 52.5° | 374.4 |
| 55° | 362.7 |
| 57.5° | 351.1 |
| 60° | 338.8 |
| 62.5° | 327.1 |
| 65° | 315.7 |
| 67.5° | 306.2 |
| 70° | 297.4 |
| 72.5° | 289.4 |
| 75° | 282.9 |
| 77.5° | 277.1 |
| 80° | 272.3 |
| 82.5° | 268.3 |
| 85° | 265.0 |
| 87.5° | 261.9 |
| 90° | 259.9 |
| 92.5° | 258.6 |
| 95° | 257.6 |
| 97.5° | 257.4 |
| 100° | 257.7 |
| 102.5° | 258.8 |
| 105° | 260.7 |
| 107.5° | 263.2 |
| 110° | 266.4 |

TEST NUMBER: 19376A

CATALOG NUMBER: 233-14-SH-CF2/32

CANDELA DISTRIBUTION (continued):

| | 0° |
|--------|-------|
| 112.5° | 270.2 |
| 115° | 274.6 |
| 117.5° | 279.7 |
| 120° | 284.7 |
| 122.5° | 289.9 |
| 125° | 295.3 |
| 127.5° | 301.3 |
| 130° | 307.3 |
| 132.5° | 312.3 |
| 135° | 316.0 |
| 137.5° | 318.8 |
| 140° | 321.0 |
| 142.5° | 322.7 |
| 145° | 324.2 |
| 147.5° | 325.0 |
| 150° | 325.8 |
| 152.5° | 326.6 |
| 155° | 326.9 |
| 157.5° | 325.6 |
| 160° | 323.2 |
| 162.5° | 315.1 |
| 165° | 301.0 |
| 167.5° | 281.0 |
| 170° | 260.5 |
| 172.5° | 237.6 |
| 175° | 221.5 |
| 177.5° | 225.3 |
| 180° | 230.6 |

(END OF REPORT)