

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: BALLABS TEST NO. 12384.0

Luminaire Tested: **7A/2T5HO-648-STG-1EB**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: BALLABS TEST NO. 12384.0
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: 7A/2T5HO-648-STG-1EB
Description: 2/54W T5HO OFFSET LAMPS 4'RECESSED MNT LUMINAIRE
Light Source: -
FP54T5HO/835
Ballast/Driver: UNIVERSAL BALLAST #B254PUNV-D

Summary

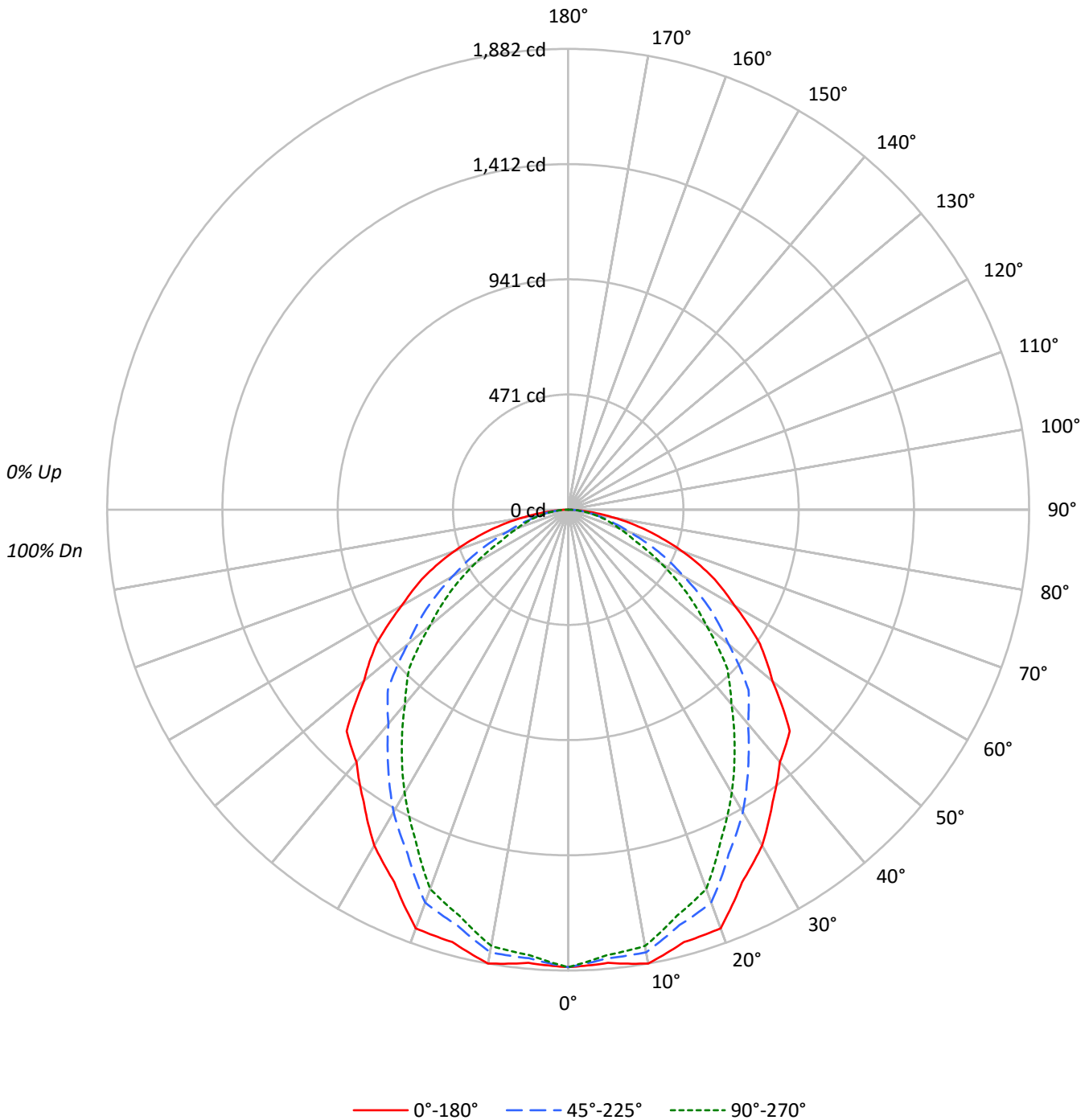
Lumens per Lamp: 5000 (2 lamps)
Luminaire Lumens: 4385.7 lumens
Efficiency: 43.9%
Efficacy: 46.2 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.09 / 1.25
Luminous Opening: Rectangular (W 0.43' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 95
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 | 50 | 30 | 10 | 0 | |
| RCR | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 52 | 52 | 52 | 52 | 51 | 51 | 51 | 51 | 49 | 49 | 49 | 47 | 47 | 47 | 45 | 45 | 45 | 44 | | | | 44 |
| 1 | 48 | 46 | 44 | 43 | 47 | 45 | 44 | 42 | 43 | 42 | 41 | 42 | 41 | 40 | 40 | 39 | 38 | 38 | | | | 38 |
| 2 | 44 | 41 | 38 | 35 | 43 | 40 | 37 | 35 | 38 | 36 | 34 | 37 | 35 | 33 | 36 | 34 | 33 | 32 | | | | 32 |
| 3 | 40 | 36 | 33 | 30 | 39 | 35 | 32 | 30 | 34 | 31 | 29 | 33 | 31 | 29 | 32 | 30 | 28 | 27 | | | | 27 |
| 4 | 37 | 32 | 28 | 26 | 36 | 32 | 28 | 25 | 30 | 27 | 25 | 29 | 27 | 25 | 29 | 26 | 24 | 24 | | | | 24 |
| 5 | 34 | 29 | 25 | 22 | 33 | 28 | 25 | 22 | 27 | 24 | 22 | 27 | 24 | 22 | 26 | 23 | 21 | 21 | | | | 21 |
| 6 | 32 | 26 | 22 | 20 | 31 | 26 | 22 | 20 | 25 | 22 | 19 | 24 | 21 | 19 | 24 | 21 | 19 | 18 | | | | 18 |
| 7 | 29 | 24 | 20 | 17 | 29 | 23 | 20 | 17 | 23 | 20 | 17 | 22 | 19 | 17 | 22 | 19 | 17 | 16 | | | | 16 |
| 8 | 28 | 22 | 18 | 16 | 27 | 21 | 18 | 16 | 21 | 18 | 16 | 20 | 18 | 15 | 20 | 17 | 15 | 15 | | | | 15 |
| 9 | 26 | 20 | 17 | 14 | 25 | 20 | 16 | 14 | 19 | 16 | 14 | 19 | 16 | 14 | 18 | 16 | 14 | 13 | | | | 13 |
| 10 | 24 | 19 | 15 | 13 | 24 | 18 | 15 | 13 | 18 | 15 | 13 | 17 | 15 | 13 | 17 | 15 | 13 | 12 | | | | 12 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 12006 | 12006 | 12006 |
| 5° | 11988 | 11865 | 11781 |
| 10° | 12283 | 11976 | 11807 |
| 15° | 12164 | 11685 | 11425 |
| 20° | 12442 | 11683 | 11272 |
| 25° | 11907 | 10999 | 10496 |
| 30° | 11749 | 10583 | 9915 |
| 35° | 11424 | 10051 | 9290 |
| 40° | 11285 | 9582 | 8692 |
| 45° | 11626 | 9462 | 8353 |
| 50° | 10889 | 8549 | 7369 |
| 55° | 10713 | 7923 | 6600 |
| 60° | 10091 | 7006 | 5618 |
| 65° | 9870 | 6175 | 4578 |
| 70° | 9283 | 5018 | 4134 |
| 75° | 8419 | 4197 | 3949 |
| 80° | 7218 | 3886 | 3590 |
| 85° | 4793 | 3540 | 3392 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture | % Lamp |
|-----------|--------|-----------|--------|
| 0°-10° | 176.0 | 4.0 | 1.8 |
| 10°-20° | 500.6 | 11.4 | 5.0 |
| 20°-30° | 724.1 | 16.5 | 7.2 |
| 30°-40° | 813.0 | 18.5 | 8.1 |
| 40°-50° | 805.1 | 18.4 | 8.1 |
| 50°-60° | 653.0 | 14.9 | 6.5 |
| 60°-70° | 433.9 | 9.9 | 4.3 |
| 70°-80° | 220.4 | 5.0 | 2.2 |
| 80°-90° | 59.7 | 1.4 | 0.6 |
| 90°-100° | 0.0 | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 | 0.0 |
| 0°-30° | 1400.7 | 31.9 | 14.0 |
| 0°-40° | 2213.7 | 50.5 | 22.1 |
| 0°-60° | 3671.8 | 83.7 | 36.7 |
| 0°-90° | 4385.7 | 100.0 | 43.9 |
| 90°-120° | 0.0 | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 | 0.0 |
| 0°-180° | 4385.7 | 100.0 | 43.9 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1868 | 1868 | 1868 | 1868 | 1868 | |
| 5° | 1858 | 1851 | 1839 | 1831 | 1826 | 178 |
| 15° | 1828 | 1794 | 1756 | 1728 | 1717 | 521 |
| 25° | 1679 | 1622 | 1551 | 1500 | 1480 | 780 |
| 35° | 1456 | 1376 | 1281 | 1209 | 1184 | 915 |
| 45° | 1279 | 1168 | 1041 | 952 | 919 | 964 |
| 55° | 956 | 840 | 707 | 618 | 589 | 847 |
| 65° | 649 | 535 | 406 | 329 | 301 | 638 |
| 75° | 339 | 242 | 169 | 159 | 159 | 361 |
| 85° | 65 | 51 | 48 | 48 | 46 | 88 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-----|------|-------|------|-------|------|
| 0° | 1868 | 1868 | 1868 | 1868 | 1868 |
| 5° | 1858 | 1851 | 1839 | 1831 | 1826 |
| 10° | 1882 | 1861 | 1835 | 1816 | 1809 |
| 15° | 1828 | 1794 | 1756 | 1728 | 1717 |
| 20° | 1819 | 1768 | 1708 | 1665 | 1648 |
| 25° | 1679 | 1622 | 1551 | 1500 | 1480 |
| 30° | 1583 | 1510 | 1426 | 1361 | 1336 |
| 35° | 1456 | 1376 | 1281 | 1209 | 1184 |
| 40° | 1345 | 1251 | 1142 | 1064 | 1036 |
| 45° | 1279 | 1168 | 1041 | 952 | 919 |
| 50° | 1089 | 981 | 855 | 766 | 737 |
| 55° | 956 | 840 | 707 | 618 | 589 |
| 60° | 785 | 674 | 545 | 463 | 437 |
| 65° | 649 | 535 | 406 | 329 | 301 |
| 70° | 494 | 383 | 267 | 225 | 220 |
| 75° | 339 | 242 | 169 | 159 | 159 |
| 80° | 195 | 121 | 105 | 100 | 97 |
| 85° | 65 | 51 | 48 | 48 | 46 |
| 90° | 0 | 0 | 0 | 0 | 0 |

(END OF REPORT)