

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: NEO-RAY

Report Number: P334828

Luminaire Tested: **S124IP-S1035U830-4F0-1E-UDD-1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P334828  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124IP-S1035U830-4F0-1E-UDD-1  
Description: DEFINE 4 INDIRECT LED LUMINAIRE, FLUSH SATIN WHITE DIFFUSER  
PENDANT MOUNT, 1035 LUMENS PER FOOT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3377.7 lumens  
Efficiency: N/A  
Efficacy: 96.2 lumens/watt  
Spacing Criteria (0/90/45): - / - / -  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Indirect

Input Watts (W): 35.1  
Input Voltage (V): 120  
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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**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   | 95 | 95 | 95 | 95 | 81 | 81 | 81 | 81 | 56 | 56 | 56 | 32 | 32 | 32 | 10 | 10 | 10 | 0 |
| 1   | 87 | 83 | 79 | 76 | 74 | 71 | 68 | 65 | 48 | 47 | 45 | 28 | 27 | 26 | 9  | 9  | 8  | 0 |
| 2   | 79 | 72 | 66 | 62 | 67 | 62 | 57 | 53 | 42 | 40 | 37 | 24 | 23 | 22 | 8  | 7  | 7  | 0 |
| 3   | 72 | 63 | 56 | 51 | 61 | 54 | 49 | 44 | 37 | 34 | 31 | 21 | 20 | 18 | 7  | 6  | 6  | 0 |
| 4   | 65 | 56 | 48 | 43 | 56 | 48 | 42 | 37 | 33 | 29 | 26 | 19 | 17 | 16 | 6  | 6  | 5  | 0 |
| 5   | 60 | 49 | 42 | 36 | 51 | 42 | 36 | 32 | 29 | 25 | 22 | 17 | 15 | 13 | 5  | 5  | 4  | 0 |
| 6   | 55 | 44 | 36 | 31 | 47 | 38 | 32 | 27 | 26 | 22 | 19 | 15 | 13 | 11 | 5  | 4  | 4  | 0 |
| 7   | 50 | 39 | 32 | 27 | 43 | 34 | 28 | 23 | 23 | 19 | 17 | 14 | 11 | 10 | 4  | 4  | 3  | 0 |
| 8   | 47 | 35 | 28 | 23 | 40 | 30 | 24 | 20 | 21 | 17 | 14 | 12 | 10 | 9  | 4  | 3  | 3  | 0 |
| 9   | 43 | 32 | 25 | 20 | 37 | 27 | 22 | 18 | 19 | 15 | 13 | 11 | 9  | 8  | 4  | 3  | 3  | 0 |
| 10  | 40 | 29 | 22 | 18 | 34 | 25 | 19 | 16 | 17 | 14 | 11 | 10 | 8  | 7  | 3  | 3  | 2  | 0 |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0° | 45° | 90° |
|-----|----|-----|-----|
| 0°  | 0  | 0   | 0   |
| 5°  | 0  | 0   | 0   |
| 10° | 0  | 0   | 0   |
| 15° | 0  | 0   | 0   |
| 20° | 0  | 0   | 0   |
| 25° | 0  | 0   | 0   |
| 30° | 0  | 0   | 0   |
| 35° | 0  | 0   | 0   |
| 40° | 0  | 0   | 0   |
| 45° | 0  | 0   | 0   |
| 50° | 0  | 0   | 0   |
| 55° | 0  | 0   | 0   |
| 60° | 0  | 0   | 0   |
| 65° | 0  | 0   | 0   |
| 70° | 0  | 0   | 0   |
| 75° | 0  | 0   | 0   |
| 80° | 0  | 0   | 0   |
| 85° | 0  | 0   | 0   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 0.0    | 0.0       |
| 10°-20°   | 0.0    | 0.0       |
| 20°-30°   | 0.0    | 0.0       |
| 30°-40°   | 0.0    | 0.0       |
| 40°-50°   | 0.0    | 0.0       |
| 50°-60°   | 0.0    | 0.0       |
| 60°-70°   | 0.0    | 0.0       |
| 70°-80°   | 0.0    | 0.0       |
| 80°-90°   | 2.6    | 0.1       |
| 90°-100°  | 79.3   | 2.3       |
| 100°-110° | 237.5  | 7.0       |
| 110°-120° | 403.5  | 11.9      |
| 120°-130° | 532.1  | 15.8      |
| 130°-140° | 597.6  | 17.7      |
| 140°-150° | 587.4  | 17.4      |
| 150°-160° | 494.0  | 14.6      |
| 160°-170° | 328.7  | 9.7       |
| 170°-180° | 115.1  | 3.4       |
| 0°-30°    | 0.0    | 0.0       |
| 0°-40°    | 0.0    | 0.0       |
| 0°-60°    | 0.0    | 0.0       |
| 0°-90°    | 2.6    | 0.1       |
| 90°-120°  | 720.2  | 21.3      |
| 90°-150°  | 2437.3 | 72.2      |
| 90°-180°  | 3375.0 | 99.9      |
| 0°-180°   | 3377.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 0    | 0     | 0    | 0     | 0    |      |
| 5°   | 0    | 0     | 0    | 0     | 0    | 0    |
| 15°  | 0    | 0     | 0    | 0     | 0    | 0    |
| 25°  | 0    | 0     | 0    | 0     | 0    | 0    |
| 35°  | 0    | 0     | 0    | 0     | 0    | 0    |
| 45°  | 0    | 0     | 0    | 0     | 0    | 0    |
| 55°  | 0    | 0     | 0    | 0     | 0    | 0    |
| 65°  | 0    | 0     | 0    | 0     | 0    | 0    |
| 75°  | 0    | 0     | 0    | 0     | 0    | 0    |
| 85°  | 0    | 0     | 0    | 0     | 0    | 0    |
| 90°  | 3    | 13    | 21   | 26    | 28   | 4    |
| 95°  | 56   | 65    | 72   | 74    | 74   | 61   |
| 105° | 219  | 220   | 224  | 227   | 230  | 232  |
| 115° | 410  | 410   | 408  | 407   | 406  | 405  |
| 125° | 597  | 597   | 596  | 595   | 593  | 533  |
| 135° | 770  | 776   | 776  | 774   | 771  | 596  |
| 145° | 936  | 940   | 941  | 940   | 937  | 586  |
| 155° | 1072 | 1072  | 1072 | 1075  | 1072 | 494  |
| 165° | 1168 | 1165  | 1163 | 1168  | 1165 | 329  |
| 175° | 1215 | 1210  | 1209 | 1216  | 1209 | 115  |
| 180° | 1216 | 1216  | 1216 | 1216  | 1216 |      |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 2.5°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 5°     | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 7.5°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 10°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 12.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 15°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 17.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 20°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 22.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 25°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 27.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 30°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 32.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 35°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 37.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 40°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 42.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 45°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 47.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 50°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 52.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 55°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 57.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 60°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 62.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 65°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 67.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 70°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 72.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 75°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 77.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 80°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 82.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 85°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 90°    | 2.8   | 13.2  | 20.7  | 26.3  | 28.2  |
| 92.5°  | 24.5  | 36.7  | 41.4  | 44.2  | 45.2  |
| 95°    | 56.4  | 64.9  | 71.5  | 74.3  | 74.3  |
| 97.5°  | 90.3  | 97.8  | 105.4 | 109.1 | 109.1 |
| 100°   | 131.7 | 135.5 | 143.9 | 145.8 | 145.8 |
| 102.5° | 175.0 | 175.9 | 183.5 | 186.3 | 187.2 |
| 105°   | 219.2 | 220.1 | 223.9 | 226.7 | 229.6 |
| 107.5° | 265.3 | 266.2 | 267.2 | 270.9 | 270.0 |
| 110°   | 312.3 | 314.2 | 313.3 | 311.4 | 314.2 |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 112.5° | 361.3  | 361.3  | 359.4  | 359.4  | 359.4  |
| 115°   | 410.2  | 410.2  | 408.3  | 407.4  | 406.4  |
| 117.5° | 456.3  | 456.3  | 455.3  | 452.5  | 449.7  |
| 120°   | 502.4  | 506.1  | 503.3  | 498.6  | 500.5  |
| 122.5° | 550.4  | 551.3  | 550.4  | 547.5  | 542.8  |
| 125°   | 597.4  | 597.4  | 596.5  | 594.6  | 592.7  |
| 127.5° | 639.7  | 642.6  | 640.7  | 638.8  | 637.9  |
| 130°   | 684.9  | 687.7  | 687.7  | 685.8  | 682.1  |
| 132.5° | 731.0  | 732.9  | 731.9  | 730.1  | 729.1  |
| 135°   | 770.5  | 776.1  | 776.1  | 774.3  | 771.4  |
| 137.5° | 814.7  | 817.5  | 819.4  | 816.6  | 817.5  |
| 140°   | 858.9  | 860.8  | 860.8  | 859.9  | 858.9  |
| 142.5° | 899.4  | 901.3  | 900.3  | 900.3  | 900.3  |
| 145°   | 936.1  | 939.8  | 940.8  | 939.8  | 937.0  |
| 147.5° | 973.7  | 978.4  | 977.5  | 976.5  | 975.6  |
| 150°   | 1007.6 | 1011.3 | 1011.3 | 1011.3 | 1010.4 |
| 152.5° | 1039.6 | 1041.5 | 1042.4 | 1045.2 | 1042.4 |
| 155°   | 1072.5 | 1072.5 | 1071.6 | 1075.3 | 1071.6 |
| 157.5° | 1100.7 | 1098.8 | 1098.8 | 1101.7 | 1098.8 |
| 160°   | 1125.2 | 1124.2 | 1123.3 | 1126.1 | 1121.4 |
| 162.5° | 1147.8 | 1144.9 | 1144.0 | 1149.6 | 1144.9 |
| 165°   | 1167.5 | 1164.7 | 1162.8 | 1168.5 | 1164.7 |
| 167.5° | 1183.5 | 1179.7 | 1179.7 | 1185.4 | 1179.7 |
| 170°   | 1196.7 | 1192.0 | 1192.9 | 1198.6 | 1192.0 |
| 172.5° | 1206.1 | 1202.3 | 1202.3 | 1208.9 | 1202.3 |
| 175°   | 1214.6 | 1209.9 | 1208.9 | 1215.5 | 1208.9 |
| 177.5° | 1218.3 | 1213.6 | 1213.6 | 1220.2 | 1212.7 |
| 180°   | 1216.4 | 1216.4 | 1216.4 | 1216.4 | 1216.4 |

(END OF REPORT)