

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: P334133

Luminaire Tested: **S124DS-S1020D835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P334133
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-16)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DS-S1020D835-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT LED LUMINAIRE, DROP SATIN WHITE DIFFUSER
PENDANT/SURFACE/WALL MOUNT, 1020 LUMENS PER FOOT
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

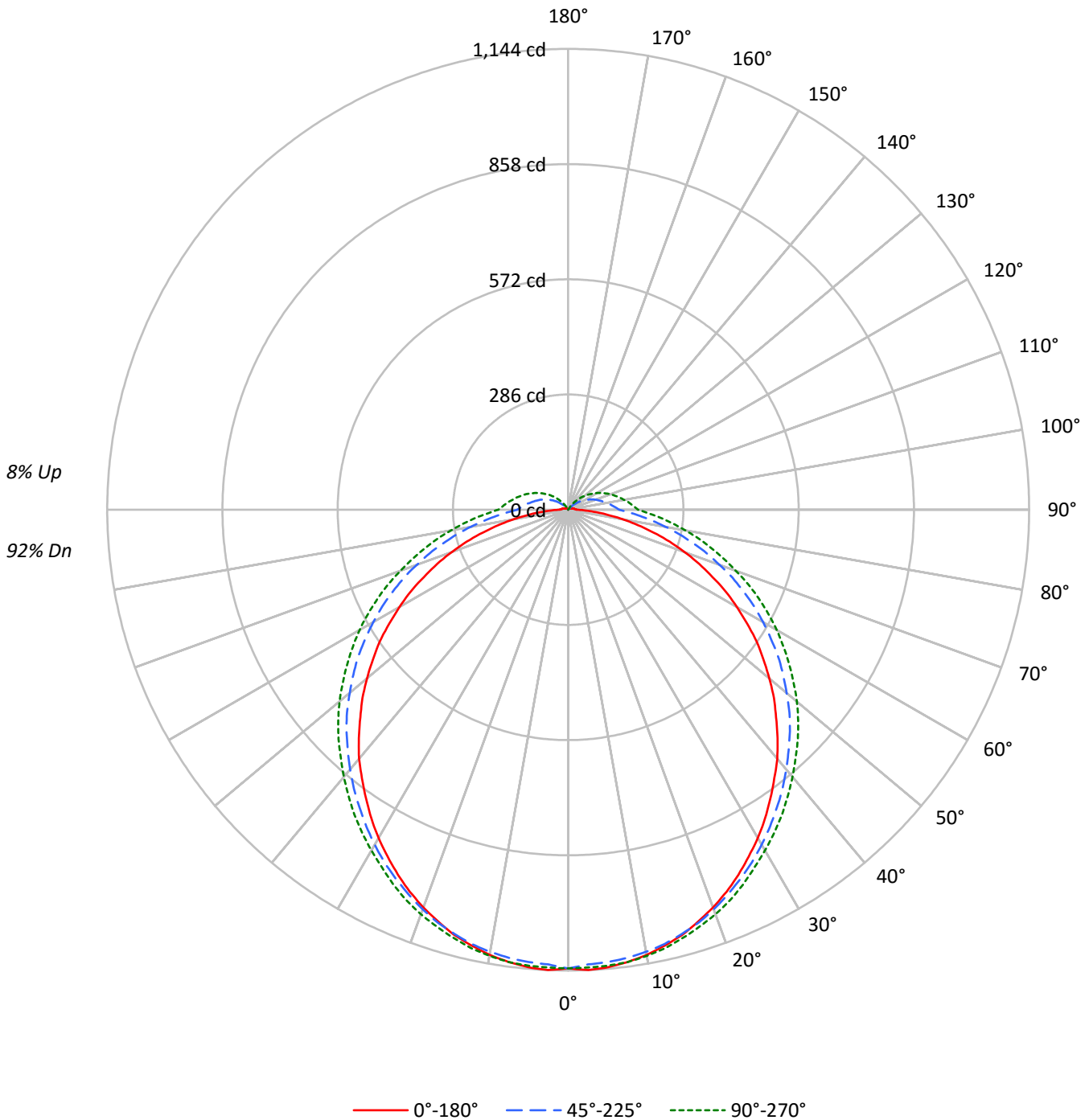
Lumens per Lamp: N/A
Luminaire Lumens: 3882.6 lumens
Efficiency: N/A
Efficacy: 111.6 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 34.8
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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Luminous Intensity Polar Plot





TEST NUMBER: P334133

CATALOG NUMBER: S124DS-S1020D835-4F0-1E-UDD-D

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 | 117 | 117 | 117 | 117 | 114 | 114 | 114 | 114 | 107 | 107 | 107 | 101 | 101 | 101 | 95 | 95 | 95 | 92 |
| 1 | 105 | 100 | 95 | 91 | 102 | 97 | 93 | 89 | 91 | 88 | 84 | 86 | 83 | 80 | 81 | 79 | 77 | 74 |
| 2 | 95 | 86 | 79 | 73 | 92 | 84 | 77 | 71 | 79 | 73 | 68 | 74 | 70 | 66 | 70 | 67 | 63 | 60 |
| 3 | 87 | 75 | 67 | 60 | 83 | 73 | 65 | 59 | 69 | 62 | 57 | 65 | 60 | 55 | 62 | 57 | 53 | 50 |
| 4 | 79 | 66 | 57 | 50 | 76 | 65 | 56 | 49 | 61 | 54 | 48 | 58 | 52 | 47 | 55 | 49 | 45 | 43 |
| 5 | 73 | 59 | 50 | 43 | 70 | 58 | 49 | 42 | 55 | 47 | 41 | 52 | 45 | 40 | 49 | 44 | 39 | 37 |
| 6 | 67 | 53 | 44 | 37 | 64 | 52 | 43 | 37 | 49 | 42 | 36 | 47 | 40 | 35 | 45 | 39 | 34 | 32 |
| 7 | 62 | 48 | 39 | 33 | 60 | 47 | 38 | 32 | 45 | 37 | 32 | 43 | 36 | 31 | 41 | 35 | 30 | 28 |
| 8 | 58 | 44 | 35 | 29 | 56 | 43 | 35 | 29 | 41 | 33 | 28 | 39 | 32 | 28 | 37 | 31 | 27 | 25 |
| 9 | 54 | 40 | 32 | 26 | 52 | 39 | 31 | 26 | 38 | 30 | 25 | 36 | 29 | 25 | 34 | 29 | 24 | 22 |
| 10 | 50 | 37 | 29 | 24 | 49 | 36 | 29 | 23 | 35 | 28 | 23 | 33 | 27 | 23 | 32 | 26 | 22 | 20 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|-------|-------|
| 0° | 9193 | 9193 | 9193 |
| 5° | 9239 | 9135 | 9208 |
| 10° | 9199 | 9137 | 9221 |
| 15° | 9134 | 9112 | 9198 |
| 20° | 9027 | 9071 | 9181 |
| 25° | 8906 | 9008 | 9144 |
| 30° | 8773 | 8952 | 9106 |
| 35° | 8621 | 8898 | 9112 |
| 40° | 8507 | 8870 | 9125 |
| 45° | 8327 | 8881 | 9202 |
| 50° | 8185 | 8889 | 9305 |
| 55° | 8041 | 8956 | 9423 |
| 60° | 7803 | 9019 | 9657 |
| 65° | 7551 | 9160 | 9964 |
| 70° | 7253 | 9423 | 10445 |
| 75° | 6840 | 9984 | 11457 |
| 80° | 6462 | 11441 | 13696 |
| 85° | 6262 | 16534 | 21258 |



TEST NUMBER: P334133

CATALOG NUMBER: S124DS-S1020D835-4F0-1E-UDD-D

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 107.9 | 2.8 |
| 10°-20° | 309.2 | 8.0 |
| 20°-30° | 467.5 | 12.0 |
| 30°-40° | 565.5 | 14.6 |
| 40°-50° | 597.9 | 15.4 |
| 50°-60° | 562.7 | 14.5 |
| 60°-70° | 466.9 | 12.0 |
| 70°-80° | 327.7 | 8.4 |
| 80°-90° | 184.7 | 4.8 |
| 90°-100° | 110.0 | 2.8 |
| 100°-110° | 81.4 | 2.1 |
| 110°-120° | 54.6 | 1.4 |
| 120°-130° | 30.8 | 0.8 |
| 130°-140° | 13.3 | 0.3 |
| 140°-150° | 2.6 | 0.1 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 884.5 | 22.8 |
| 0°-40° | 1450.0 | 37.3 |
| 0°-60° | 2610.6 | 67.2 |
| 0°-90° | 3589.8 | 92.5 |
| 90°-120° | 246.1 | 6.3 |
| 90°-150° | 292.8 | 7.5 |
| 90°-180° | 293.0 | 7.5 |
| 0°-180° | 3882.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 1139 | 1139 | 1139 | 1139 | 1139 | |
| 5° | 1140 | 1136 | 1127 | 1138 | 1136 | 108 |
| 15° | 1093 | 1094 | 1090 | 1102 | 1100 | 308 |
| 25° | 1000 | 1007 | 1011 | 1025 | 1027 | 461 |
| 35° | 875 | 890 | 903 | 921 | 925 | 548 |
| 45° | 729 | 754 | 778 | 800 | 806 | 564 |
| 55° | 571 | 598 | 636 | 662 | 670 | 509 |
| 65° | 395 | 436 | 480 | 511 | 522 | 392 |
| 75° | 219 | 266 | 320 | 356 | 367 | 233 |
| 85° | 68 | 121 | 178 | 217 | 230 | 70 |
| 90° | 20 | 71 | 126 | 163 | 173 | 14 |
| 95° | 17 | 59 | 111 | 145 | 157 | 13 |
| 105° | 12 | 37 | 84 | 116 | 126 | 13 |
| 115° | 8 | 19 | 60 | 88 | 97 | 8 |
| 125° | 5 | 4 | 36 | 60 | 68 | 5 |
| 135° | 3 | 3 | 12 | 32 | 40 | 2 |
| 145° | 1 | 0 | 0 | 8 | 13 | 1 |
| 155° | 0 | 0 | 0 | 0 | 0 | 0 |
| 165° | 0 | 0 | 0 | 0 | 0 | 0 |
| 175° | 0 | 0 | 0 | 0 | 0 | 0 |
| 180° | 0 | 0 | 0 | 0 | 0 | 0 |



TEST NUMBER: P334133

CATALOG NUMBER: S124DS-S1020D835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 1138.8 | 1138.8 | 1138.8 | 1138.8 | 1138.8 |
| 2.5° | 1143.9 | 1140.1 | 1129.9 | 1138.8 | 1137.5 |
| 5° | 1140.1 | 1136.2 | 1127.3 | 1137.5 | 1136.2 |
| 7.5° | 1132.4 | 1129.9 | 1122.2 | 1133.7 | 1132.4 |
| 10° | 1122.2 | 1120.9 | 1114.6 | 1126.0 | 1124.8 |
| 12.5° | 1108.2 | 1108.2 | 1104.4 | 1114.6 | 1114.6 |
| 15° | 1092.9 | 1094.2 | 1090.3 | 1101.8 | 1100.5 |
| 17.5° | 1072.5 | 1076.3 | 1075.0 | 1086.5 | 1085.2 |
| 20° | 1050.8 | 1054.6 | 1055.9 | 1068.7 | 1068.7 |
| 22.5° | 1026.6 | 1031.7 | 1034.2 | 1047.0 | 1049.5 |
| 25° | 999.8 | 1007.4 | 1011.3 | 1025.3 | 1026.6 |
| 27.5° | 970.5 | 981.9 | 987.0 | 999.8 | 1001.1 |
| 30° | 941.1 | 951.3 | 960.3 | 974.3 | 976.8 |
| 32.5° | 909.2 | 922.0 | 932.2 | 948.8 | 951.3 |
| 35° | 874.8 | 890.1 | 902.9 | 920.7 | 924.6 |
| 37.5° | 840.4 | 858.2 | 873.5 | 891.4 | 895.2 |
| 40° | 807.2 | 823.8 | 841.7 | 860.8 | 865.9 |
| 42.5° | 769.0 | 788.1 | 809.8 | 831.5 | 835.3 |
| 45° | 729.4 | 753.7 | 777.9 | 799.6 | 806.0 |
| 47.5° | 692.5 | 716.7 | 744.7 | 766.4 | 774.1 |
| 50° | 651.7 | 679.7 | 707.8 | 733.3 | 740.9 |
| 52.5° | 610.8 | 638.9 | 672.1 | 697.6 | 705.2 |
| 55° | 571.3 | 598.1 | 636.3 | 661.9 | 669.5 |
| 57.5° | 526.7 | 559.8 | 596.8 | 627.4 | 633.8 |
| 60° | 483.3 | 516.5 | 558.6 | 587.9 | 598.1 |
| 62.5° | 441.2 | 478.2 | 520.3 | 549.6 | 559.8 |
| 65° | 395.3 | 436.1 | 479.5 | 511.4 | 521.6 |
| 67.5° | 352.0 | 395.3 | 441.2 | 473.1 | 483.3 |
| 70° | 307.3 | 350.7 | 399.2 | 433.6 | 442.5 |
| 72.5° | 264.0 | 308.6 | 360.9 | 394.1 | 404.3 |
| 75° | 219.3 | 266.5 | 320.1 | 355.8 | 367.3 |
| 77.5° | 177.3 | 227.0 | 283.1 | 318.8 | 331.6 |
| 80° | 139.0 | 190.0 | 246.1 | 284.4 | 294.6 |
| 82.5° | 100.7 | 154.3 | 210.4 | 249.9 | 261.4 |
| 85° | 67.6 | 121.1 | 178.5 | 216.8 | 229.5 |
| 87.5° | 42.1 | 94.4 | 150.5 | 187.5 | 198.9 |
| 90° | 20.4 | 71.4 | 126.2 | 163.2 | 173.4 |
| 92.5° | 19.1 | 63.8 | 118.6 | 154.3 | 164.5 |
| 95° | 16.6 | 58.7 | 110.9 | 145.4 | 156.9 |
| 97.5° | 15.3 | 52.3 | 104.6 | 137.7 | 149.2 |
| 100° | 14.0 | 47.2 | 96.9 | 131.4 | 140.3 |
| 102.5° | 14.0 | 42.1 | 90.5 | 123.7 | 133.9 |
| 105° | 11.5 | 37.0 | 84.2 | 116.0 | 126.2 |
| 107.5° | 11.5 | 33.2 | 77.8 | 109.7 | 118.6 |
| 110° | 10.2 | 28.1 | 72.7 | 102.0 | 112.2 |



TEST NUMBER: P334133

CATALOG NUMBER: S124DS-S1020D835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|------|-------|-------|
| 112.5° | 8.9 | 24.2 | 66.3 | 94.4 | 104.6 |
| 115° | 7.7 | 19.1 | 59.9 | 88.0 | 96.9 |
| 117.5° | 7.7 | 15.3 | 53.6 | 80.3 | 90.5 |
| 120° | 6.4 | 10.2 | 47.2 | 72.7 | 82.9 |
| 122.5° | 6.4 | 6.4 | 40.8 | 66.3 | 75.2 |
| 125° | 5.1 | 3.8 | 35.7 | 59.9 | 67.6 |
| 127.5° | 5.1 | 3.8 | 29.3 | 52.3 | 61.2 |
| 130° | 3.8 | 2.6 | 23.0 | 45.9 | 53.6 |
| 132.5° | 3.8 | 2.6 | 17.9 | 39.5 | 47.2 |
| 135° | 2.6 | 2.6 | 11.5 | 31.9 | 39.5 |
| 137.5° | 2.6 | 1.3 | 6.4 | 25.5 | 31.9 |
| 140° | 2.6 | 1.3 | 2.6 | 19.1 | 25.5 |
| 142.5° | 1.3 | 1.3 | 0.0 | 14.0 | 19.1 |
| 145° | 1.3 | 0.0 | 0.0 | 7.7 | 12.8 |
| 147.5° | 1.3 | 0.0 | 0.0 | 1.3 | 6.4 |
| 150° | 1.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 152.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 155° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 157.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 162.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 165° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 167.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 172.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 175° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 177.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)