

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: P242556

Luminaire Tested: **S123RDR-S775D940-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242556
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-25)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDR-S775D940-X4F0-XX-UDD-F-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2483.9 lumens
Efficiency: N/A
Efficacy: 94.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.07 / 1.22
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

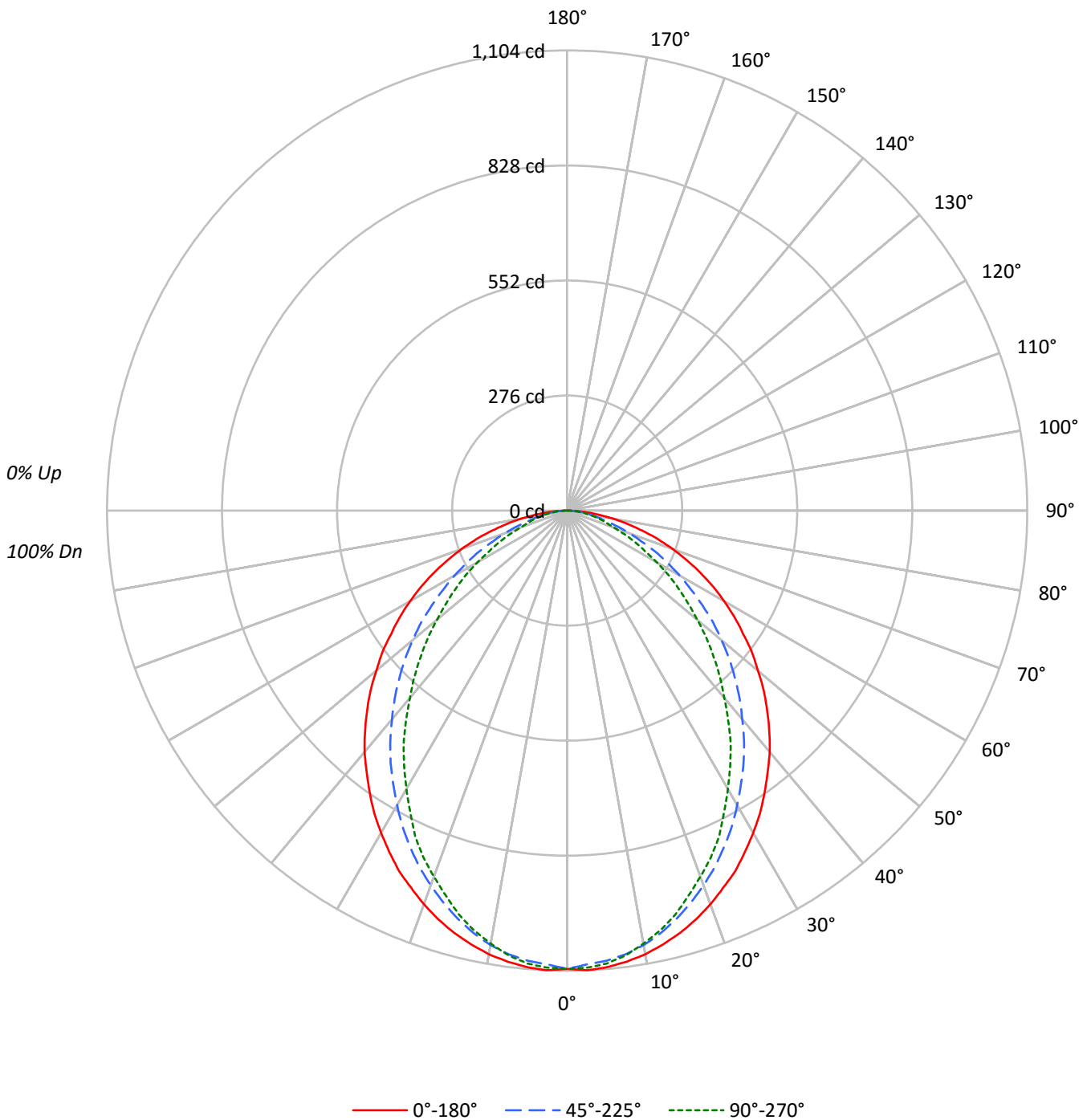
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 50 | 30 | 10 | 0 | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | | 100 | | | |
| 1 | 110 | 105 | 101 | 98 | 107 | 103 | 99 | 96 | 99 | 96 | 93 | 95 | 93 | 90 | 91 | 89 | 88 | | | | | 86 | | | | |
| 2 | 100 | 93 | 86 | 81 | 98 | 91 | 85 | 80 | 87 | 83 | 78 | 84 | 80 | 77 | 81 | 78 | 75 | | | | | 73 | | | | |
| 3 | 92 | 82 | 75 | 68 | 90 | 81 | 74 | 68 | 78 | 72 | 67 | 75 | 70 | 66 | 73 | 68 | 64 | | | | | 62 | | | | |
| 4 | 85 | 73 | 65 | 59 | 83 | 72 | 64 | 58 | 70 | 63 | 58 | 67 | 62 | 57 | 65 | 60 | 56 | | | | | 54 | | | | |
| 5 | 78 | 66 | 57 | 51 | 76 | 65 | 57 | 51 | 63 | 56 | 50 | 61 | 55 | 50 | 59 | 54 | 49 | | | | | 47 | | | | |
| 6 | 73 | 60 | 51 | 45 | 71 | 59 | 51 | 45 | 57 | 50 | 45 | 55 | 49 | 44 | 54 | 48 | 44 | | | | | 42 | | | | |
| 7 | 67 | 54 | 46 | 40 | 66 | 54 | 46 | 40 | 52 | 45 | 40 | 51 | 44 | 39 | 49 | 44 | 39 | | | | | 37 | | | | |
| 8 | 63 | 50 | 42 | 36 | 61 | 49 | 41 | 36 | 48 | 41 | 36 | 47 | 40 | 36 | 46 | 40 | 35 | | | | | 34 | | | | |
| 9 | 59 | 46 | 38 | 33 | 58 | 45 | 38 | 33 | 44 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 32 | | | | | 30 | | | | |
| 10 | 55 | 43 | 35 | 30 | 54 | 42 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 29 | 39 | 34 | 29 | | | | | 28 | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 13327 | 13327 | 13327 |
| 5° | 13378 | 13193 | 13270 |
| 10° | 13303 | 13028 | 12984 |
| 15° | 13160 | 12723 | 12589 |
| 20° | 12964 | 12342 | 12054 |
| 25° | 12760 | 11914 | 11533 |
| 30° | 12493 | 11420 | 10795 |
| 35° | 12218 | 10925 | 10120 |
| 40° | 11965 | 10342 | 9283 |
| 45° | 11633 | 9768 | 8530 |
| 50° | 11265 | 9114 | 7684 |
| 55° | 10892 | 8366 | 6898 |
| 60° | 10550 | 7566 | 6032 |
| 65° | 10102 | 6700 | 5165 |
| 70° | 9544 | 5624 | 4171 |
| 75° | 8730 | 4426 | 3925 |
| 80° | 7783 | 3923 | 3609 |
| 85° | 6578 | 3477 | 3227 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 103.4 | 4.2 |
| 10°-20° | 287.5 | 11.6 |
| 20°-30° | 414.0 | 16.7 |
| 30°-40° | 466.2 | 18.8 |
| 40°-50° | 446.0 | 18.0 |
| 50°-60° | 365.0 | 14.7 |
| 60°-70° | 246.1 | 9.9 |
| 70°-80° | 123.4 | 5.0 |
| 80°-90° | 32.3 | 1.3 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 804.9 | 32.4 |
| 0°-40° | 1271.1 | 51.2 |
| 0°-60° | 2082.1 | 83.8 |
| 0°-90° | 2483.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2483.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1100 | 1100 | 1100 | 1100 | 1100 | |
| 5° | 1100 | 1095 | 1084 | 1092 | 1091 | 104 |
| 15° | 1049 | 1039 | 1014 | 1009 | 1003 | 296 |
| 25° | 954 | 932 | 891 | 872 | 862 | 439 |
| 35° | 826 | 794 | 738 | 700 | 684 | 517 |
| 45° | 679 | 638 | 570 | 519 | 498 | 524 |
| 55° | 515 | 472 | 396 | 344 | 326 | 462 |
| 65° | 352 | 303 | 234 | 190 | 180 | 349 |
| 75° | 186 | 144 | 94 | 86 | 84 | 199 |
| 85° | 47 | 28 | 25 | 23 | 23 | 55 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1099.5 | 1099.5 | 1099.5 | 1099.5 | 1099.5 |
| 2.5° | 1103.9 | 1100.4 | 1089.7 | 1099.5 | 1097.7 |
| 5° | 1099.5 | 1095.0 | 1084.3 | 1092.3 | 1090.6 |
| 7.5° | 1091.5 | 1087.0 | 1073.6 | 1079.0 | 1076.3 |
| 10° | 1080.8 | 1074.5 | 1058.5 | 1059.4 | 1054.9 |
| 12.5° | 1065.6 | 1058.5 | 1038.0 | 1037.1 | 1031.7 |
| 15° | 1048.7 | 1038.8 | 1013.9 | 1009.4 | 1003.2 |
| 17.5° | 1028.1 | 1017.4 | 986.2 | 977.3 | 968.4 |
| 20° | 1005.0 | 990.7 | 956.8 | 945.2 | 934.5 |
| 22.5° | 979.1 | 962.2 | 925.6 | 910.4 | 900.6 |
| 25° | 954.1 | 931.8 | 890.8 | 872.1 | 862.3 |
| 27.5° | 923.8 | 899.7 | 855.2 | 830.2 | 815.0 |
| 30° | 892.6 | 865.9 | 815.9 | 785.6 | 771.3 |
| 32.5° | 861.4 | 830.2 | 776.7 | 742.8 | 727.6 |
| 35° | 825.7 | 793.6 | 738.3 | 700.0 | 683.9 |
| 37.5° | 790.1 | 755.3 | 697.3 | 654.5 | 634.9 |
| 40° | 756.2 | 716.9 | 653.6 | 607.3 | 586.7 |
| 42.5° | 717.8 | 678.6 | 612.6 | 560.9 | 543.1 |
| 45° | 678.6 | 638.5 | 569.8 | 519.0 | 497.6 |
| 47.5° | 640.2 | 595.7 | 527.9 | 472.6 | 453.9 |
| 50° | 597.4 | 555.5 | 483.3 | 428.0 | 407.5 |
| 52.5° | 559.1 | 512.7 | 441.4 | 383.4 | 365.6 |
| 55° | 515.4 | 471.7 | 395.9 | 344.2 | 326.4 |
| 57.5° | 476.2 | 428.9 | 352.2 | 303.2 | 288.0 |
| 60° | 435.2 | 386.1 | 312.1 | 263.9 | 248.8 |
| 62.5° | 394.1 | 345.1 | 271.1 | 226.5 | 210.4 |
| 65° | 352.2 | 303.2 | 233.6 | 189.9 | 180.1 |
| 67.5° | 310.3 | 260.4 | 192.6 | 159.6 | 148.9 |
| 70° | 269.3 | 221.1 | 158.7 | 127.5 | 117.7 |
| 72.5° | 228.3 | 181.0 | 125.7 | 101.7 | 99.0 |
| 75° | 186.4 | 143.6 | 94.5 | 85.6 | 83.8 |
| 77.5° | 148.0 | 108.8 | 74.0 | 68.7 | 66.9 |
| 80° | 111.5 | 74.9 | 56.2 | 53.5 | 51.7 |
| 82.5° | 76.7 | 46.4 | 40.1 | 37.5 | 37.5 |
| 85° | 47.3 | 27.6 | 25.0 | 23.2 | 23.2 |
| 87.5° | 21.4 | 11.6 | 11.6 | 10.7 | 9.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)