

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: P243041

Luminaire Tested: **S121RDR-H305D927-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243041
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-62)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121RDR-H305D927-X4F0-XX-UDD-F-W
Description: DEFINE 1 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 727.8 lumens
Efficiency: N/A
Efficacy: 65.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 0.92 / 1.09
Luminous Opening: Rectangular (W 0.09' x L: 3.88' x H: 0')
CIE Type: Direct

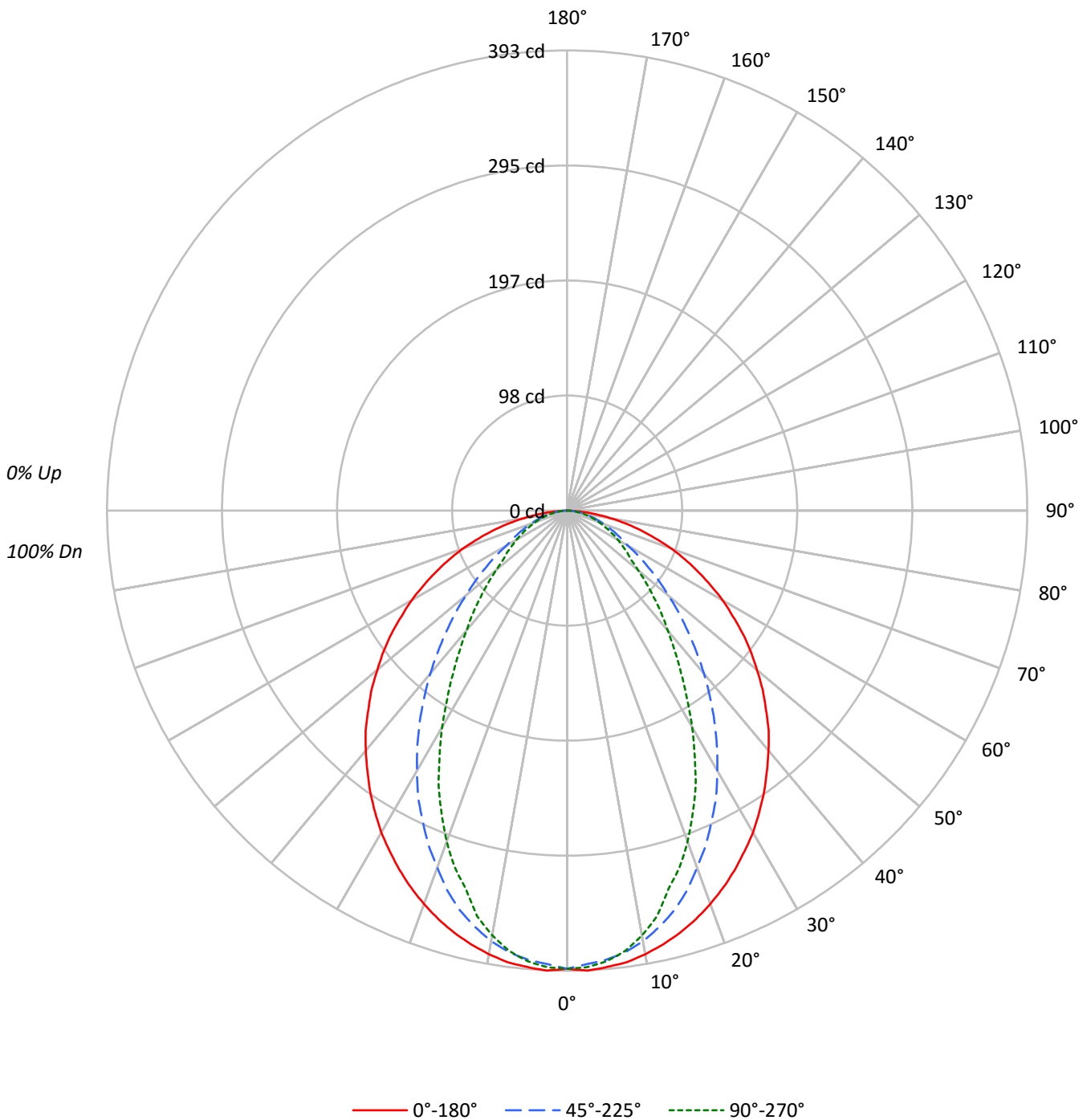
Input Watts (W): 11.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 106 | 102 | 99 | 108 | 104 | 100 | 97 | 100 | 97 | 94 | 96 | 94 | 91 | 92 | 90 | 89 | 87 | | | | | 87 | | | |
| 2 | 102 | 94 | 88 | 83 | 99 | 92 | 87 | 82 | 89 | 84 | 80 | 86 | 82 | 79 | 83 | 80 | 77 | 75 | | | | | 75 | | | |
| 3 | 94 | 84 | 77 | 71 | 91 | 83 | 76 | 71 | 80 | 74 | 69 | 77 | 72 | 68 | 75 | 71 | 67 | 65 | | | | | 65 | | | |
| 4 | 87 | 76 | 68 | 62 | 84 | 74 | 67 | 61 | 72 | 66 | 61 | 70 | 64 | 60 | 68 | 63 | 59 | 57 | | | | | 57 | | | |
| 5 | 80 | 69 | 60 | 54 | 78 | 67 | 60 | 54 | 65 | 59 | 54 | 64 | 58 | 53 | 62 | 57 | 52 | 50 | | | | | 50 | | | |
| 6 | 75 | 62 | 54 | 48 | 73 | 62 | 54 | 48 | 60 | 53 | 48 | 58 | 52 | 47 | 57 | 51 | 47 | 45 | | | | | 45 | | | |
| 7 | 70 | 57 | 49 | 43 | 68 | 56 | 49 | 43 | 55 | 48 | 43 | 54 | 47 | 43 | 52 | 47 | 42 | 41 | | | | | 41 | | | |
| 8 | 65 | 53 | 45 | 39 | 64 | 52 | 44 | 39 | 51 | 44 | 39 | 50 | 43 | 39 | 48 | 43 | 39 | 37 | | | | | 37 | | | |
| 9 | 61 | 49 | 41 | 36 | 60 | 48 | 41 | 36 | 47 | 40 | 36 | 46 | 40 | 35 | 45 | 39 | 35 | 34 | | | | | 34 | | | |
| 10 | 58 | 45 | 38 | 33 | 56 | 45 | 38 | 33 | 44 | 37 | 33 | 43 | 37 | 33 | 42 | 36 | 32 | 31 | | | | | 31 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 11594 | 11594 | 11594 |
| 5° | 11638 | 11451 | 11493 |
| 10° | 11574 | 11234 | 11084 |
| 15° | 11445 | 10844 | 10255 |
| 20° | 11272 | 10226 | 9485 |
| 25° | 11070 | 9553 | 8490 |
| 30° | 10859 | 8772 | 7308 |
| 35° | 10605 | 7929 | 6142 |
| 40° | 10350 | 7028 | 5167 |
| 45° | 10061 | 6101 | 4379 |
| 50° | 9754 | 5200 | 3637 |
| 55° | 9459 | 4386 | 3239 |
| 60° | 9096 | 3556 | 2969 |
| 65° | 8652 | 3183 | 2720 |
| 70° | 8187 | 2876 | 2504 |
| 75° | 7476 | 2587 | 2278 |
| 80° | 6399 | 2269 | 2031 |
| 85° | 4963 | 1904 | 1700 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 36.6 | 5.0 |
| 10°-20° | 99.6 | 13.7 |
| 20°-30° | 135.9 | 18.7 |
| 30°-40° | 140.9 | 19.4 |
| 40°-50° | 122.9 | 16.9 |
| 50°-60° | 92.5 | 12.7 |
| 60°-70° | 60.6 | 8.3 |
| 70°-80° | 30.9 | 4.2 |
| 80°-90° | 7.8 | 1.1 |
| 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° | 272.1 | 37.4 |
| 0°-40° | 413.0 | 56.7 |
| 0°-60° | 628.3 | 86.3 |
| 0°-90° | 727.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 727.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 391 | 391 | 391 | 391 | 391 | |
| 5° | 391 | 389 | 385 | 387 | 386 | 37 |
| 15° | 373 | 368 | 354 | 344 | 334 | 105 |
| 25° | 339 | 325 | 292 | 268 | 260 | 156 |
| 35° | 293 | 268 | 219 | 182 | 170 | 183 |
| 45° | 240 | 205 | 146 | 113 | 104 | 185 |
| 55° | 183 | 139 | 85 | 64 | 63 | 163 |
| 65° | 123 | 77 | 45 | 40 | 39 | 122 |
| 75° | 65 | 30 | 23 | 21 | 20 | 69 |
| 85° | 15 | 6 | 6 | 5 | 5 | 18 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P243041

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 391.3 | 391.3 | 391.3 | 391.3 | 391.3 |
| 2.5° | 393.3 | 391.7 | 387.7 | 391.0 | 390.3 |
| 5° | 391.3 | 389.3 | 385.0 | 387.3 | 386.4 |
| 7.5° | 389.0 | 386.4 | 380.4 | 381.4 | 379.4 |
| 10° | 384.7 | 381.4 | 373.4 | 371.4 | 368.4 |
| 12.5° | 379.4 | 375.7 | 364.1 | 359.5 | 354.8 |
| 15° | 373.1 | 367.8 | 353.5 | 343.6 | 334.3 |
| 17.5° | 365.8 | 359.2 | 340.3 | 326.3 | 319.4 |
| 20° | 357.5 | 348.9 | 324.3 | 308.1 | 300.8 |
| 22.5° | 348.5 | 337.6 | 309.4 | 288.9 | 280.2 |
| 25° | 338.6 | 324.7 | 292.2 | 267.6 | 259.7 |
| 27.5° | 328.0 | 312.1 | 275.6 | 247.4 | 235.8 |
| 30° | 317.4 | 297.5 | 256.4 | 224.8 | 213.6 |
| 32.5° | 305.4 | 282.9 | 238.1 | 203.3 | 190.7 |
| 35° | 293.2 | 268.0 | 219.2 | 182.4 | 169.8 |
| 37.5° | 280.2 | 253.0 | 200.3 | 163.2 | 150.9 |
| 40° | 267.6 | 236.8 | 181.7 | 144.6 | 133.6 |
| 42.5° | 254.7 | 220.5 | 163.2 | 128.3 | 119.1 |
| 45° | 240.1 | 205.3 | 145.6 | 113.1 | 104.5 |
| 47.5° | 226.5 | 188.7 | 129.7 | 99.5 | 91.5 |
| 50° | 211.6 | 172.4 | 112.8 | 86.9 | 78.9 |
| 52.5° | 197.7 | 155.9 | 98.8 | 73.6 | 68.6 |
| 55° | 183.1 | 139.3 | 84.9 | 64.3 | 62.7 |
| 57.5° | 167.5 | 123.0 | 72.6 | 57.7 | 55.7 |
| 60° | 153.5 | 107.4 | 60.0 | 51.7 | 50.1 |
| 62.5° | 138.0 | 91.9 | 52.1 | 46.1 | 44.4 |
| 65° | 123.4 | 76.9 | 45.4 | 40.1 | 38.8 |
| 67.5° | 108.8 | 63.3 | 39.1 | 34.8 | 33.5 |
| 70° | 94.5 | 50.4 | 33.2 | 29.8 | 28.9 |
| 72.5° | 78.9 | 38.1 | 27.9 | 25.2 | 24.5 |
| 75° | 65.3 | 29.8 | 22.6 | 20.6 | 19.9 |
| 77.5° | 51.1 | 22.6 | 17.6 | 16.2 | 15.9 |
| 80° | 37.5 | 16.2 | 13.3 | 12.3 | 11.9 |
| 82.5° | 25.5 | 10.9 | 9.3 | 8.6 | 8.3 |
| 85° | 14.6 | 6.0 | 5.6 | 5.0 | 5.0 |
| 87.5° | 5.6 | 2.3 | 2.0 | 2.0 | 2.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)