

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: P243184

Luminaire Tested: **S122DR-H290D830-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243184
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-53)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DR-H290D830-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1087.2 lumens
Efficiency: N/A
Efficacy: 97.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

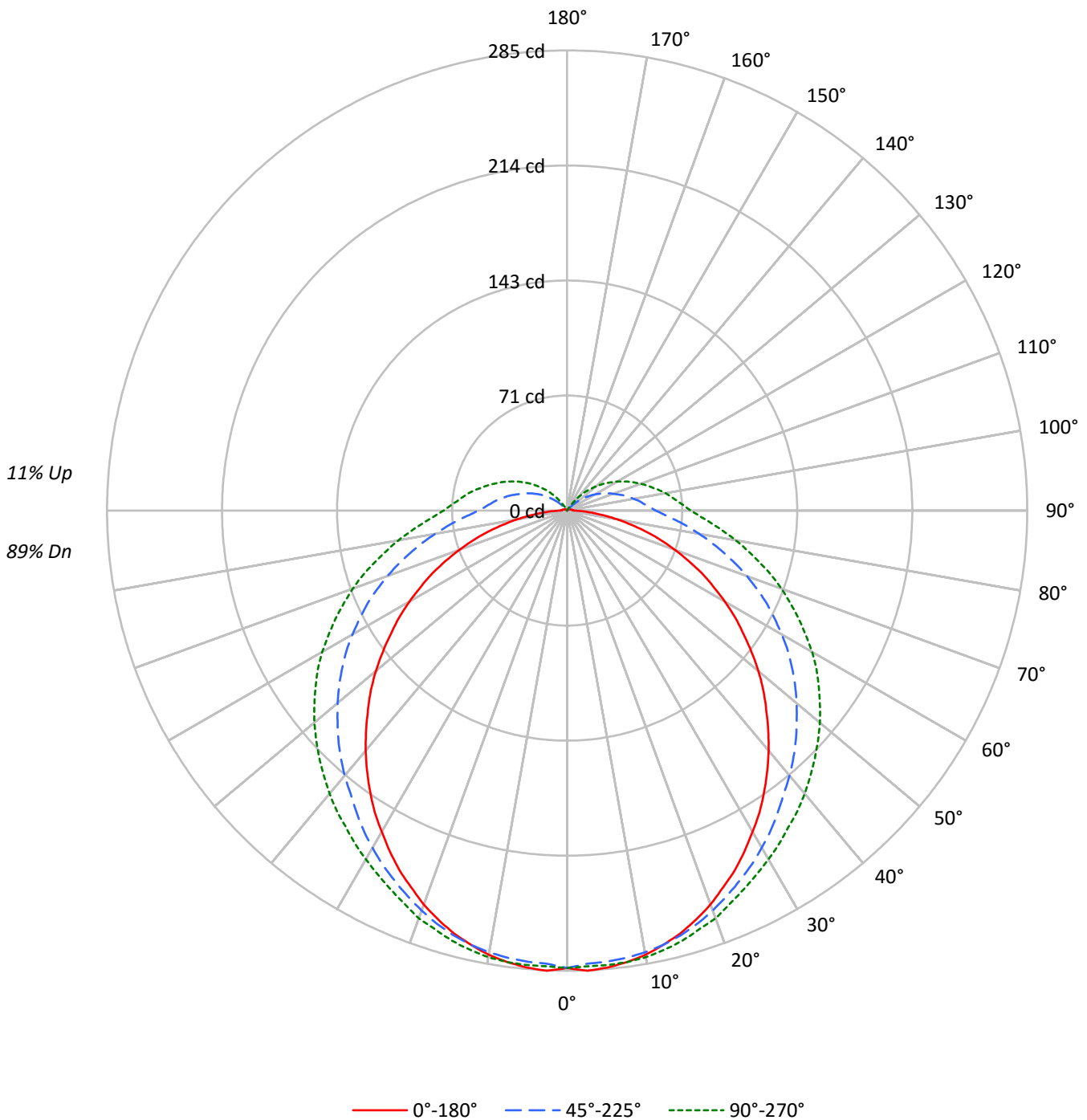
Input Watts (W): 11.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 116 | 116 | 116 | 116 | 112 | 112 | 112 | 112 | 105 | 105 | 105 | 98 | 98 | 98 | 92 | 92 | 92 | 89 |
| 1 | 104 | 98 | 93 | 88 | 100 | 95 | 90 | 86 | 88 | 84 | 81 | 82 | 79 | 76 | 77 | 74 | 72 | 69 |
| 2 | 93 | 84 | 77 | 70 | 90 | 81 | 74 | 68 | 76 | 70 | 65 | 71 | 66 | 62 | 66 | 62 | 59 | 56 |
| 3 | 85 | 73 | 64 | 57 | 81 | 71 | 63 | 56 | 66 | 59 | 54 | 62 | 56 | 51 | 58 | 53 | 49 | 46 |
| 4 | 77 | 64 | 55 | 48 | 74 | 62 | 54 | 47 | 58 | 51 | 45 | 55 | 48 | 43 | 51 | 46 | 41 | 39 |
| 5 | 71 | 57 | 48 | 41 | 68 | 55 | 47 | 40 | 52 | 44 | 39 | 49 | 42 | 37 | 46 | 40 | 36 | 33 |
| 6 | 65 | 51 | 42 | 35 | 63 | 50 | 41 | 35 | 47 | 39 | 34 | 44 | 37 | 32 | 41 | 36 | 31 | 29 |
| 7 | 60 | 46 | 37 | 31 | 58 | 45 | 37 | 30 | 42 | 35 | 29 | 40 | 33 | 28 | 38 | 32 | 28 | 25 |
| 8 | 56 | 42 | 33 | 27 | 54 | 41 | 33 | 27 | 39 | 31 | 26 | 37 | 30 | 25 | 35 | 29 | 25 | 22 |
| 9 | 52 | 39 | 30 | 25 | 50 | 38 | 30 | 24 | 36 | 28 | 24 | 34 | 27 | 23 | 32 | 26 | 22 | 20 |
| 10 | 49 | 36 | 28 | 22 | 47 | 35 | 27 | 22 | 33 | 26 | 21 | 31 | 25 | 21 | 30 | 24 | 20 | 18 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 5396 | 5396 | 5396 |
| 5° | 5422 | 5174 | 5144 |
| 10° | 5384 | 5003 | 4936 |
| 15° | 5315 | 4827 | 4717 |
| 20° | 5221 | 4636 | 4509 |
| 25° | 5115 | 4446 | 4295 |
| 30° | 4988 | 4269 | 4125 |
| 35° | 4873 | 4093 | 3971 |
| 40° | 4741 | 3942 | 3847 |
| 45° | 4599 | 3804 | 3720 |
| 50° | 4470 | 3665 | 3603 |
| 55° | 4298 | 3533 | 3478 |
| 60° | 4143 | 3388 | 3354 |
| 65° | 3977 | 3240 | 3204 |
| 70° | 3734 | 3064 | 3062 |
| 75° | 3468 | 2875 | 2892 |
| 80° | 3089 | 2692 | 2744 |
| 85° | 2702 | 2547 | 2600 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 26.9 | 2.5 |
| 10°-20° | 77.1 | 7.1 |
| 20°-30° | 116.8 | 10.7 |
| 30°-40° | 142.5 | 13.1 |
| 40°-50° | 153.3 | 14.1 |
| 50°-60° | 149.1 | 13.7 |
| 60°-70° | 130.3 | 12.0 |
| 70°-80° | 100.3 | 9.2 |
| 80°-90° | 67.4 | 6.2 |
| 90°-100° | 46.7 | 4.3 |
| 100°-110° | 34.3 | 3.2 |
| 110°-120° | 22.8 | 2.1 |
| 120°-130° | 12.9 | 1.2 |
| 130°-140° | 5.6 | 0.5 |
| 140°-150° | 1.0 | 0.1 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 220.8 | 20.3 |
| 0°-40° | 363.3 | 33.4 |
| 0°-60° | 665.7 | 61.2 |
| 0°-90° | 963.8 | 88.7 |
| 90°-120° | 103.8 | 9.5 |
| 90°-150° | 123.3 | 11.3 |
| 90°-180° | 123.0 | 11.3 |
| 0°-180° | 1087.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0° | 283 | 283 | 283 | 283 | 283 | |
| 5° | 284 | 283 | 280 | 283 | 282 | 27 |
| 15° | 271 | 272 | 272 | 276 | 276 | 76 |
| 25° | 246 | 250 | 253 | 258 | 259 | 113 |
| 35° | 213 | 220 | 228 | 236 | 239 | 133 |
| 45° | 174 | 185 | 200 | 213 | 217 | 135 |
| 55° | 133 | 149 | 170 | 186 | 190 | 120 |
| 65° | 92 | 112 | 136 | 153 | 158 | 91 |
| 75° | 51 | 74 | 100 | 118 | 123 | 54 |
| 85° | 15 | 41 | 68 | 84 | 90 | 16 |
| 90° | 4 | 28 | 55 | 71 | 76 | 3 |
| 95° | 3 | 23 | 48 | 64 | 68 | 3 |
| 105° | 2 | 14 | 36 | 50 | 55 | 3 |
| 115° | 2 | 7 | 25 | 38 | 42 | 2 |
| 125° | 1 | 1 | 15 | 26 | 30 | 1 |
| 135° | 0 | 0 | 5 | 14 | 17 | 0 |
| 145° | 0 | 0 | 0 | 3 | 5 | 0 |
| 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: P243184

CATALOG NUMBER: S122DR-H290D830-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|-------|-------|
| 0° | 283.3 | 283.3 | 283.3 | 283.3 | 283.3 |
| 2.5° | 285.3 | 284.1 | 280.9 | 283.3 | 282.5 |
| 5° | 284.1 | 282.9 | 280.5 | 282.9 | 282.5 |
| 7.5° | 282.1 | 281.3 | 279.4 | 282.5 | 282.1 |
| 10° | 279.4 | 279.0 | 277.8 | 280.9 | 280.9 |
| 12.5° | 275.4 | 275.8 | 275.4 | 279.0 | 278.6 |
| 15° | 271.1 | 272.3 | 272.3 | 275.8 | 275.8 |
| 17.5° | 265.6 | 267.5 | 268.3 | 272.3 | 271.9 |
| 20° | 259.6 | 262.0 | 263.6 | 267.9 | 268.7 |
| 22.5° | 252.5 | 256.1 | 258.4 | 263.2 | 263.6 |
| 25° | 245.8 | 249.8 | 252.9 | 258.4 | 258.8 |
| 27.5° | 237.9 | 242.7 | 247.4 | 252.9 | 254.1 |
| 30° | 229.6 | 235.6 | 241.1 | 247.8 | 249.4 |
| 32.5° | 221.8 | 227.7 | 234.8 | 241.9 | 244.6 |
| 35° | 212.7 | 219.8 | 227.7 | 236.4 | 239.1 |
| 37.5° | 203.6 | 211.1 | 220.6 | 230.8 | 234.4 |
| 40° | 194.1 | 202.8 | 214.3 | 225.3 | 228.9 |
| 42.5° | 184.3 | 193.7 | 207.5 | 219.0 | 222.9 |
| 45° | 174.4 | 185.1 | 200.4 | 212.7 | 217.0 |
| 47.5° | 164.9 | 176.4 | 192.9 | 206.8 | 210.7 |
| 50° | 154.7 | 167.3 | 185.5 | 199.7 | 204.4 |
| 52.5° | 144.0 | 158.2 | 178.0 | 192.6 | 197.3 |
| 55° | 133.4 | 149.2 | 170.1 | 185.5 | 190.2 |
| 57.5° | 123.5 | 140.1 | 162.2 | 177.6 | 183.1 |
| 60° | 112.8 | 130.6 | 153.5 | 169.7 | 175.2 |
| 62.5° | 102.2 | 121.5 | 144.8 | 161.4 | 166.5 |
| 65° | 92.3 | 112.1 | 136.5 | 153.1 | 158.2 |
| 67.5° | 81.3 | 102.2 | 127.4 | 144.8 | 149.5 |
| 70° | 71.0 | 93.1 | 118.4 | 135.7 | 141.3 |
| 72.5° | 60.8 | 83.3 | 109.3 | 126.7 | 132.6 |
| 75° | 50.9 | 74.2 | 100.2 | 118.0 | 123.1 |
| 77.5° | 40.6 | 65.1 | 91.5 | 109.3 | 114.4 |
| 80° | 31.6 | 56.0 | 82.9 | 100.6 | 106.1 |
| 82.5° | 22.5 | 47.7 | 75.0 | 92.3 | 97.5 |
| 85° | 15.4 | 40.6 | 67.5 | 84.4 | 89.6 |
| 87.5° | 9.1 | 33.9 | 60.4 | 77.3 | 82.5 |
| 90° | 4.3 | 28.4 | 54.8 | 71.4 | 76.5 |
| 92.5° | 3.6 | 25.6 | 50.9 | 67.1 | 72.2 |
| 95° | 3.2 | 22.9 | 47.7 | 63.5 | 68.3 |
| 97.5° | 3.2 | 20.9 | 45.0 | 60.4 | 65.1 |
| 100° | 2.8 | 18.5 | 41.8 | 56.8 | 61.9 |
| 102.5° | 2.8 | 16.2 | 39.1 | 53.7 | 58.4 |
| 105° | 2.4 | 14.2 | 36.3 | 50.5 | 54.8 |
| 107.5° | 2.0 | 12.2 | 33.1 | 47.3 | 51.7 |
| 110° | 2.0 | 10.3 | 30.4 | 44.2 | 48.5 |



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CATALOG NUMBER: S122DR-H290D830-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|------|-------|------|
| 112.5° | 1.6 | 8.7 | 28.0 | 41.0 | 45.4 |
| 115° | 1.6 | 6.7 | 25.3 | 37.9 | 42.2 |
| 117.5° | 1.6 | 4.7 | 22.5 | 34.7 | 39.1 |
| 120° | 1.2 | 3.2 | 20.1 | 32.0 | 35.9 |
| 122.5° | 1.2 | 2.0 | 17.4 | 28.8 | 32.7 |
| 125° | 1.2 | 0.8 | 15.0 | 25.6 | 29.6 |
| 127.5° | 0.8 | 0.8 | 12.2 | 22.9 | 26.4 |
| 130° | 0.8 | 0.4 | 9.9 | 19.7 | 23.3 |
| 132.5° | 0.8 | 0.4 | 7.5 | 17.0 | 20.1 |
| 135° | 0.4 | 0.4 | 5.1 | 13.8 | 17.4 |
| 137.5° | 0.4 | 0.4 | 2.8 | 11.0 | 13.8 |
| 140° | 0.4 | 0.0 | 1.2 | 8.3 | 10.7 |
| 142.5° | 0.4 | 0.0 | 0.0 | 5.5 | 7.9 |
| 145° | 0.4 | 0.0 | 0.0 | 3.2 | 4.7 |
| 147.5° | 0.0 | 0.0 | 0.0 | 0.8 | 2.4 |
| 150° | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 |
| 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)