

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: P242099

Luminaire Tested: **S121DR-S685D930-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242099
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-9)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-S685D930-X4F0-XX-UDD-F-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2242.4 lumens
Efficiency: N/A
Efficacy: 85.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 0.09' x L: 3.88' x H: 0')
CIE Type: Direct

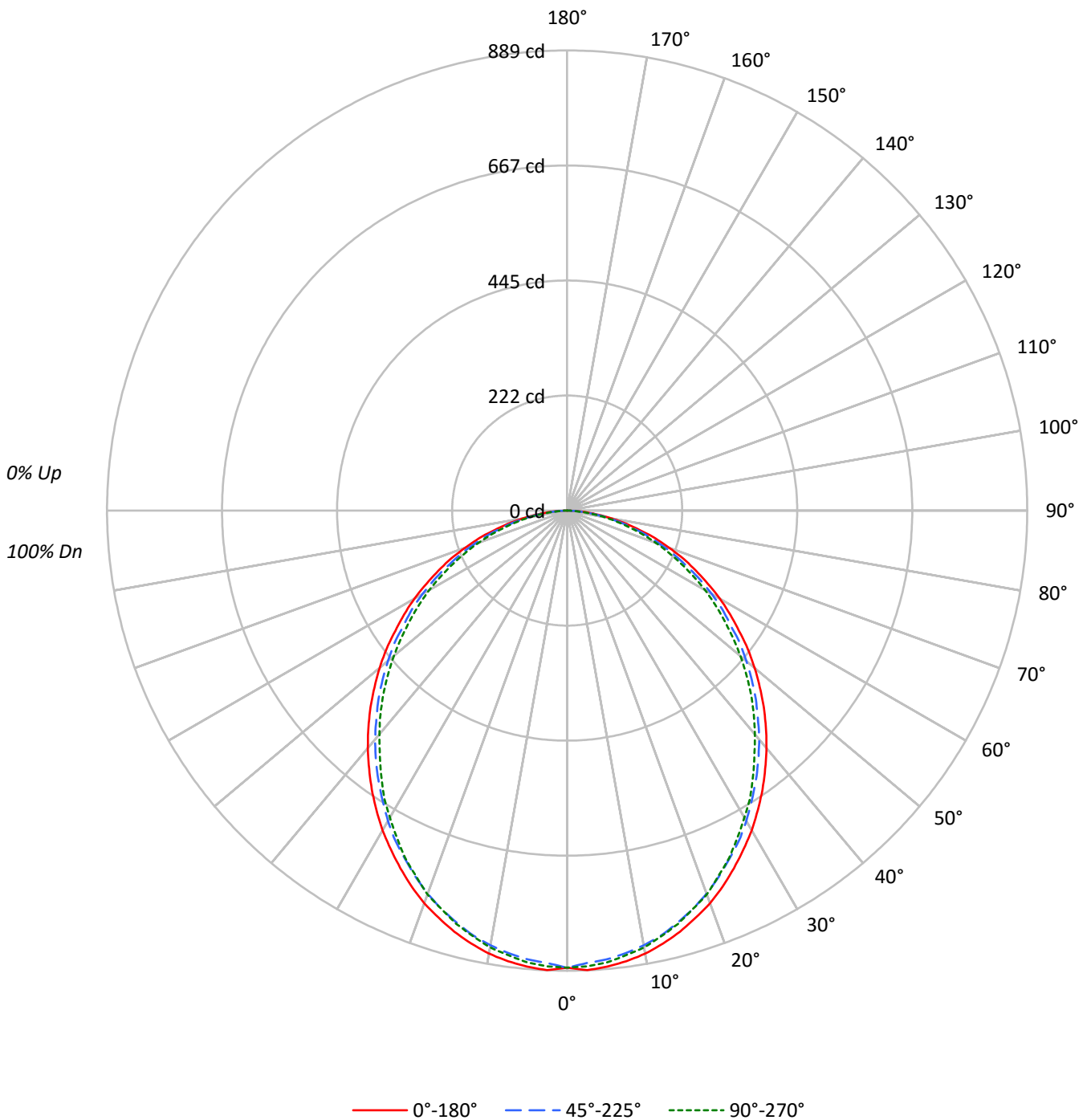
Input Watts (W): 26.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 109 | 104 | 100 | 96 | 106 | 102 | 98 | 95 | 98 | 95 | 92 | 94 | 91 | 89 | 90 | 88 | 86 | 84 |
| 2 | 99 | 91 | 85 | 79 | 97 | 89 | 83 | 78 | 86 | 81 | 76 | 83 | 78 | 75 | 80 | 76 | 73 | 71 |
| 3 | 91 | 80 | 72 | 66 | 88 | 79 | 71 | 66 | 76 | 70 | 64 | 73 | 68 | 63 | 71 | 66 | 62 | 60 |
| 4 | 83 | 72 | 63 | 56 | 81 | 70 | 62 | 56 | 68 | 61 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 |
| 5 | 77 | 64 | 55 | 49 | 75 | 63 | 55 | 48 | 61 | 54 | 48 | 59 | 52 | 47 | 57 | 51 | 47 | 45 |
| 6 | 71 | 58 | 49 | 43 | 69 | 57 | 49 | 42 | 55 | 48 | 42 | 53 | 47 | 42 | 52 | 46 | 41 | 39 |
| 7 | 66 | 53 | 44 | 38 | 64 | 52 | 44 | 38 | 50 | 43 | 37 | 49 | 42 | 37 | 47 | 41 | 37 | 35 |
| 8 | 61 | 48 | 40 | 34 | 60 | 47 | 39 | 34 | 46 | 39 | 34 | 45 | 38 | 33 | 44 | 38 | 33 | 31 |
| 9 | 57 | 44 | 36 | 31 | 56 | 44 | 36 | 30 | 42 | 35 | 30 | 41 | 35 | 30 | 40 | 34 | 30 | 28 |
| 10 | 54 | 41 | 33 | 28 | 53 | 40 | 33 | 28 | 39 | 32 | 28 | 38 | 32 | 27 | 37 | 32 | 27 | 26 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 26163 | 26163 | 26163 |
| 5° | 26311 | 25897 | 26067 |
| 10° | 26148 | 25658 | 25781 |
| 15° | 25834 | 25285 | 25359 |
| 20° | 25449 | 24834 | 24884 |
| 25° | 24922 | 24255 | 24202 |
| 30° | 24408 | 23683 | 23433 |
| 35° | 23797 | 23001 | 22647 |
| 40° | 23176 | 22325 | 21823 |
| 45° | 22514 | 21592 | 21044 |
| 50° | 21799 | 20821 | 20144 |
| 55° | 20932 | 19878 | 19165 |
| 60° | 20196 | 19135 | 18264 |
| 65° | 19203 | 17948 | 17037 |
| 70° | 18080 | 16737 | 15819 |
| 75° | 16611 | 15214 | 14184 |
| 80° | 14742 | 13360 | 12388 |
| 85° | 12205 | 9995 | 8873 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 83.2 | 3.7 |
| 10°-20° | 234.1 | 10.4 |
| 20°-30° | 344.3 | 15.4 |
| 30°-40° | 399.8 | 17.8 |
| 40°-50° | 398.9 | 17.8 |
| 50°-60° | 347.2 | 15.5 |
| 60°-70° | 255.7 | 11.4 |
| 70°-80° | 142.4 | 6.4 |
| 80°-90° | 36.7 | 1.6 |
| 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° | 661.6 | 29.5 |
| 0°-40° | 1061.4 | 47.3 |
| 0°-60° | 1807.5 | 80.6 |
| 0°-90° | 2242.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2242.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 883 | 883 | 883 | 883 | 883 | |
| 5° | 885 | 880 | 871 | 878 | 876 | 84 |
| 15° | 842 | 836 | 824 | 830 | 827 | 237 |
| 25° | 762 | 754 | 742 | 744 | 740 | 351 |
| 35° | 658 | 650 | 636 | 629 | 626 | 411 |
| 45° | 537 | 528 | 515 | 506 | 502 | 414 |
| 55° | 405 | 400 | 385 | 378 | 371 | 364 |
| 65° | 274 | 268 | 256 | 248 | 243 | 272 |
| 75° | 145 | 141 | 133 | 127 | 124 | 155 |
| 85° | 36 | 34 | 29 | 28 | 26 | 43 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CATALOG NUMBER: S121DR-S685D930-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 883.0 | 883.0 | 883.0 | 883.0 | 883.0 |
| 2.5° | 888.7 | 883.8 | 874.8 | 882.2 | 881.3 |
| 5° | 884.6 | 880.5 | 870.7 | 878.1 | 876.4 |
| 7.5° | 878.1 | 873.2 | 862.6 | 869.1 | 866.7 |
| 10° | 869.1 | 864.2 | 852.8 | 857.7 | 856.9 |
| 12.5° | 856.9 | 851.2 | 840.6 | 844.6 | 842.2 |
| 15° | 842.2 | 835.7 | 824.3 | 830.0 | 826.7 |
| 17.5° | 825.1 | 817.7 | 807.1 | 810.4 | 807.1 |
| 20° | 807.1 | 799.0 | 787.6 | 790.8 | 789.2 |
| 22.5° | 785.9 | 778.6 | 765.6 | 767.2 | 763.9 |
| 25° | 762.3 | 754.2 | 741.9 | 743.6 | 740.3 |
| 27.5° | 737.8 | 730.5 | 719.1 | 716.6 | 712.6 |
| 30° | 713.4 | 704.4 | 692.2 | 688.9 | 684.9 |
| 32.5° | 685.7 | 677.5 | 663.7 | 660.4 | 657.9 |
| 35° | 657.9 | 649.8 | 635.9 | 629.4 | 626.1 |
| 37.5° | 628.6 | 620.4 | 606.6 | 599.2 | 594.4 |
| 40° | 599.2 | 590.3 | 577.2 | 569.9 | 564.2 |
| 42.5° | 568.3 | 560.1 | 545.4 | 538.1 | 534.0 |
| 45° | 537.3 | 528.3 | 515.3 | 505.5 | 502.2 |
| 47.5° | 504.7 | 496.5 | 483.5 | 472.9 | 469.6 |
| 50° | 472.9 | 463.9 | 451.7 | 441.1 | 437.0 |
| 52.5° | 440.3 | 432.1 | 420.7 | 410.1 | 403.6 |
| 55° | 405.2 | 400.3 | 384.8 | 377.5 | 371.0 |
| 57.5° | 373.4 | 367.7 | 355.5 | 343.2 | 339.2 |
| 60° | 340.8 | 334.3 | 322.9 | 312.3 | 308.2 |
| 62.5° | 306.6 | 301.7 | 290.2 | 280.5 | 274.8 |
| 65° | 273.9 | 268.2 | 256.0 | 247.9 | 243.0 |
| 67.5° | 243.8 | 236.4 | 224.2 | 216.1 | 212.0 |
| 70° | 208.7 | 203.0 | 193.2 | 186.7 | 182.6 |
| 72.5° | 178.6 | 172.0 | 163.1 | 156.5 | 152.5 |
| 75° | 145.1 | 141.0 | 132.9 | 127.2 | 123.9 |
| 77.5° | 115.8 | 110.1 | 104.4 | 100.3 | 97.8 |
| 80° | 86.4 | 82.3 | 78.3 | 74.2 | 72.6 |
| 82.5° | 60.3 | 57.1 | 53.0 | 50.5 | 48.1 |
| 85° | 35.9 | 34.2 | 29.4 | 27.7 | 26.1 |
| 87.5° | 17.1 | 14.7 | 9.8 | 9.0 | 8.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)