

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: STREETWORKS

Report Number: P197294

Luminaire Tested: **NVN-AF-02-LED-U-T3R-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197294
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: NVN-AF-02-LED-U-T3R-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10109 lumens
Efficiency: N/A
Efficacy: 89.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B1 - U0 - G2

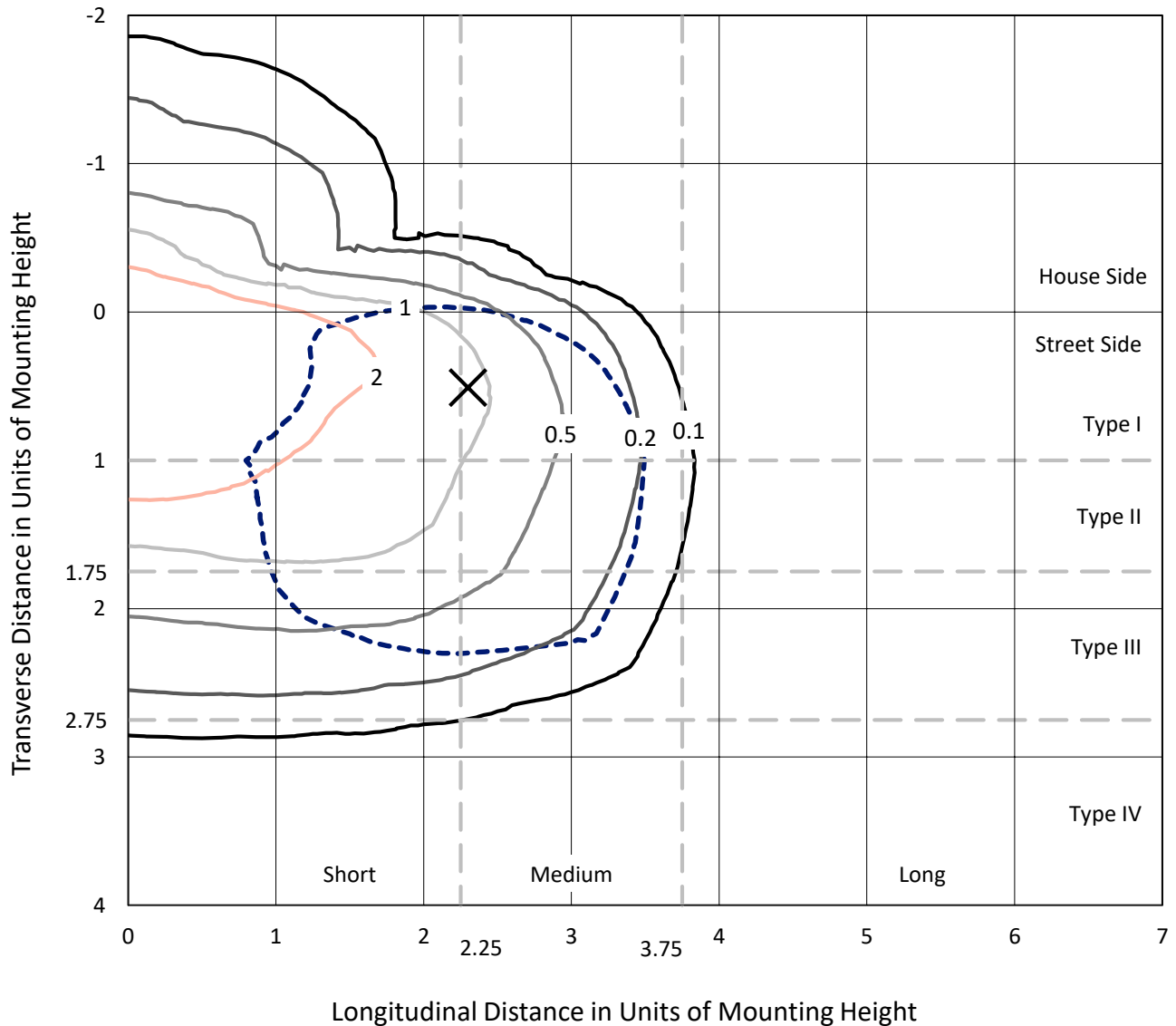
Input Watts (W): 113
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P197294
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Iso-Footcandle Lines of Horizontal Illumination

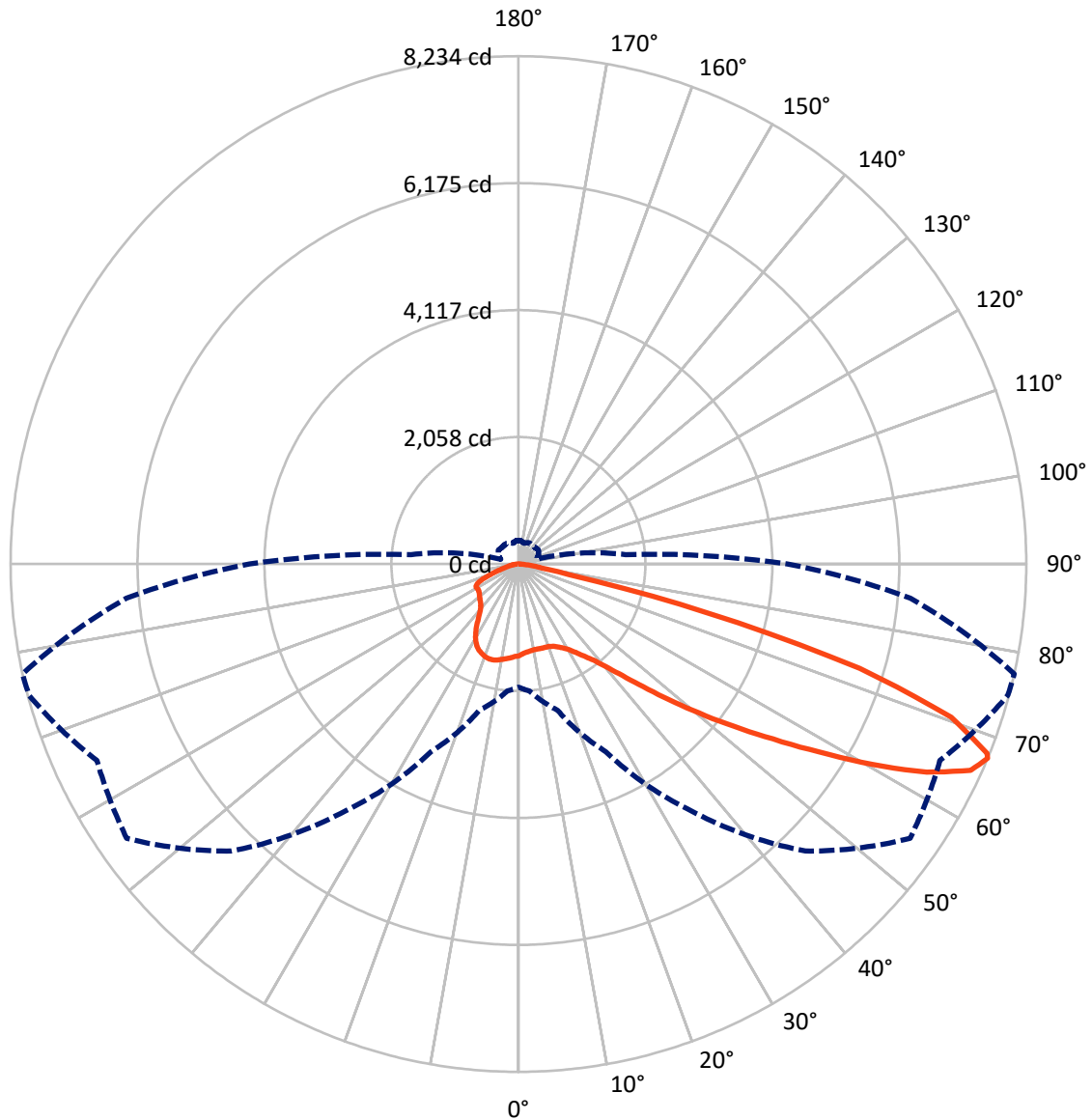
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.5 fc
 Type III - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 1737.2 | 0.0 | 1737.2 |
| | % Fixture | 17.2 | 0.0 | 17.2 |
| Street Side | Lumens | 8371.8 | 0.0 | 8371.8 |
| | % Fixture | 82.8 | 0.0 | 82.8 |
| Total | Lumens | 10109.0 | 0.0 | 10109.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 132.5 | 1.3 |
| 10°-20° | 367.0 | 3.6 |
| 20°-30° | 623.5 | 6.2 |
| 30°-40° | 997.5 | 9.9 |
| 40°-50° | 1535.6 | 15.2 |
| 50°-60° | 2130.5 | 21.1 |
| 60°-70° | 2841.9 | 28.1 |
| 70°-80° | 1352.5 | 13.4 |
| 80°-90° | 128.1 | 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°-90° | 10109.0 | 100.0 |
| 0°-180° | 10109.0 | 100.0 |



REPORT NUMBER: P197294

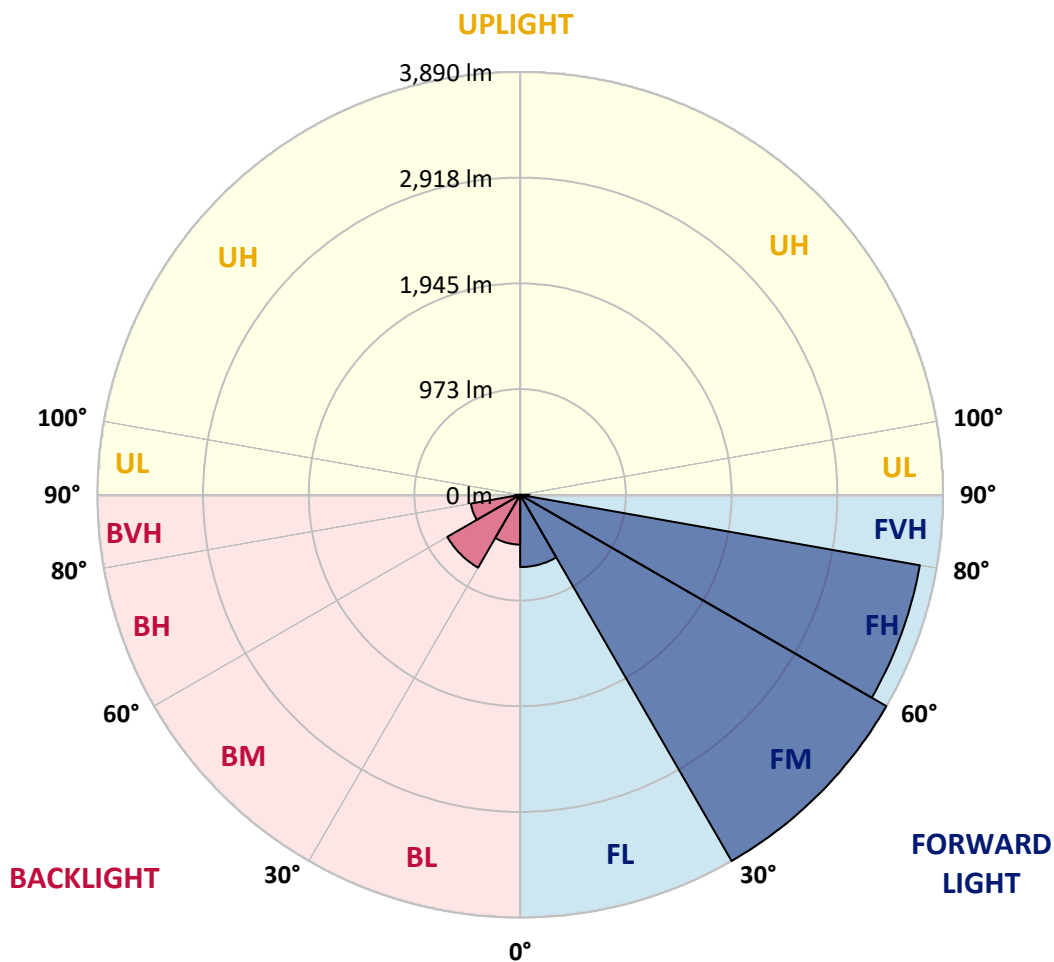
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 664.8 | 6.6 | | | |
| FM | (30°-60°) | 3890.0 | 38.5 | | | |
| FH | (60°-80°) | 3733.8 | 36.9 | | | G2/5000 |
| FVH | (80°-90°) | 83.2 | 0.8 | | | G1/100 |
| BL | (0°-30°) | 458.2 | 4.5 | B1/500 | | |
| BM | (30°-60°) | 773.5 | 7.7 | B1/1000 | | |
| BH | (60°-80°) | 460.6 | 4.6 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 44.9 | 0.4 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G2

Type III Medium





REPORT NUMBER: P197294

CATALOG NUMBER: NVN-AF-02-LED-U-T3R-8030

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 77.5° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1487.8 | 1487.8 | 1487.8 | 1487.8 | 1487.8 | 1487.8 | 1487.8 | 1487.8 | 1487.8 | 1487.8 | 1487.8 |
| 2.5° | 1334.1 | 1340.3 | 1340.9 | 1359.1 | 1367.2 | 1387.8 | 1410.3 | 1430.3 | 1447.8 | 1454.0 | 1465.3 |
| 5° | 1200.3 | 1200.3 | 1202.2 | 1214.1 | 1237.2 | 1270.3 | 1317.2 | 1368.4 | 1422.2 | 1435.3 | 1468.4 |
| 7.5° | 1130.4 | 1131.6 | 1132.9 | 1144.7 | 1162.9 | 1192.2 | 1239.1 | 1309.1 | 1398.4 | 1420.3 | 1478.4 |
| 10° | 1136.6 | 1134.7 | 1128.5 | 1126.0 | 1133.5 | 1152.2 | 1192.8 | 1264.7 | 1378.4 | 1412.2 | 1496.5 |
| 12.5° | 1234.7 | 1231.0 | 1210.3 | 1180.4 | 1152.9 | 1146.0 | 1174.1 | 1242.2 | 1369.1 | 1412.2 | 1527.1 |
| 15° | 1402.8 | 1405.3 | 1364.7 | 1302.2 | 1230.3 | 1181.6 | 1177.9 | 1234.1 | 1365.9 | 1415.9 | 1562.8 |
| 17.5° | 1621.5 | 1622.7 | 1566.5 | 1475.9 | 1356.6 | 1256.0 | 1203.5 | 1234.1 | 1365.9 | 1419.7 | 1597.1 |
| 20° | 1853.9 | 1845.2 | 1781.5 | 1667.7 | 1512.8 | 1359.1 | 1250.3 | 1241.6 | 1369.7 | 1425.3 | 1629.6 |
| 22.5° | 2053.3 | 2045.1 | 1978.3 | 1858.9 | 1681.5 | 1480.9 | 1313.4 | 1266.6 | 1390.3 | 1448.4 | 1675.2 |
| 25° | 2227.6 | 2232.6 | 2167.6 | 2033.3 | 1849.6 | 1618.4 | 1407.8 | 1324.1 | 1433.4 | 1490.3 | 1731.5 |
| 27.5° | 2439.4 | 2430.1 | 2355.1 | 2227.0 | 2022.7 | 1760.8 | 1525.9 | 1396.6 | 1484.7 | 1540.9 | 1800.2 |
| 30° | 2684.4 | 2680.0 | 2578.8 | 2446.9 | 2213.2 | 1920.2 | 1642.7 | 1474.7 | 1551.5 | 1610.3 | 1886.4 |
| 32.5° | 2981.8 | 2981.2 | 2872.5 | 2710.6 | 2427.6 | 2100.1 | 1780.8 | 1581.5 | 1649.0 | 1708.4 | 2000.8 |
| 35° | 3318.6 | 3318.0 | 3205.5 | 2991.8 | 2674.4 | 2299.5 | 1943.3 | 1711.5 | 1769.6 | 1832.1 | 2137.0 |
| 37.5° | 3552.3 | 3548.6 | 3489.8 | 3282.4 | 2947.4 | 2531.3 | 2146.4 | 1886.4 | 1906.4 | 1976.4 | 2301.3 |
| 40° | 3597.3 | 3619.8 | 3670.4 | 3547.9 | 3245.5 | 2788.7 | 2350.1 | 2074.5 | 2093.3 | 2183.2 | 2508.2 |
| 42.5° | 3548.6 | 3577.9 | 3746.0 | 3780.4 | 3543.6 | 3100.5 | 2605.0 | 2335.1 | 2358.8 | 2470.7 | 2751.2 |
| 45° | 3506.1 | 3531.7 | 3742.3 | 3909.1 | 3837.9 | 3440.5 | 2923.1 | 2653.1 | 2698.1 | 2836.8 | 3028.7 |
| 47.5° | 3433.6 | 3457.3 | 3668.5 | 3932.2 | 4005.9 | 3767.9 | 3306.1 | 3035.5 | 3113.0 | 3281.1 | 3344.8 |
| 50° | 3429.8 | 3440.5 | 3567.9 | 3854.7 | 4064.1 | 4016.6 | 3730.4 | 3482.9 | 3601.7 | 3795.4 | 3694.8 |
| 52.5° | 3334.8 | 3409.2 | 3524.8 | 3731.0 | 4065.3 | 4161.5 | 4148.4 | 3973.5 | 4156.5 | 4370.9 | 4078.4 |
| 55° | 2753.7 | 2839.3 | 3381.1 | 3670.4 | 4057.8 | 4285.9 | 4530.2 | 4495.2 | 4781.4 | 5007.0 | 4508.3 |
| 57.5° | 2571.3 | 2607.5 | 2966.2 | 3688.5 | 4120.3 | 4491.5 | 4912.0 | 5055.7 | 5496.2 | 5742.4 | 5023.8 |
| 60° | 2521.3 | 2559.4 | 2883.1 | 3697.3 | 4289.6 | 4865.7 | 5430.0 | 5688.7 | 6336.7 | 6597.8 | 5609.3 |
| 62.5° | 2465.7 | 2515.0 | 2889.3 | 3705.4 | 4587.1 | 5419.4 | 6117.3 | 6375.4 | 7199.6 | 7432.6 | 6157.9 |
| 65° | 2303.2 | 2368.8 | 2773.7 | 3654.2 | 4912.6 | 6114.2 | 7025.9 | 7091.5 | 7912.5 | 8060.6 | 6489.1 |
| 67° | 1995.2 | 2067.0 | 2456.3 | 3358.0 | 4882.6 | 6582.2 | 7752.6 | 7539.5 | 8215.6 | 8233.7 | 6381.6 |
| 67.5° | 1897.7 | 1972.0 | 2348.8 | 3234.9 | 4797.0 | 6643.5 | 7881.3 | 7601.4 | 8213.1 | 8193.1 | 6281.7 |
| 70° | 1277.8 | 1361.6 | 1663.4 | 2375.1 | 3847.9 | 6182.9 | 7850.1 | 7410.8 | 7674.5 | 7445.1 | 5396.9 |
| 72.5° | 634.2 | 636.7 | 829.8 | 1300.9 | 2331.3 | 4434.6 | 6548.5 | 6339.8 | 6221.1 | 5788.0 | 3960.3 |
| 75° | 305.6 | 311.2 | 391.8 | 574.9 | 982.9 | 2289.5 | 4465.8 | 4277.8 | 3642.3 | 3153.6 | 1982.0 |
| 77.5° | 233.1 | 238.7 | 304.3 | 374.3 | 409.9 | 746.7 | 2212.0 | 1787.7 | 1055.4 | 842.9 | 558.6 |
| 80° | 180.0 | 190.6 | 256.8 | 287.4 | 271.2 | 299.3 | 695.5 | 547.4 | 410.5 | 376.8 | 276.8 |
| 82.5° | 140.6 | 146.8 | 218.1 | 218.1 | 187.5 | 200.6 | 323.7 | 316.2 | 254.9 | 229.9 | 148.7 |
| 85° | 99.4 | 111.8 | 175.6 | 162.5 | 123.1 | 124.3 | 193.7 | 185.6 | 131.2 | 105.6 | 58.1 |
| 87.5° | 44.4 | 56.9 | 125.0 | 106.2 | 65.6 | 50.6 | 79.4 | 68.1 | 51.9 | 40.0 | 26.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P197294

CATALOG NUMBER: NVN-AF-02-LED-U-T3R-8030

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1487.8 | 1487.8 | 1487.8 | 1487.8 | 1487.8 | 1487.8 | 1487.8 | 1487.8 | 1487.8 | 1487.8 | 1487.8 |
| 2.5° | 1477.8 | 1487.8 | 1503.4 | 1512.8 | 1525.3 | 1530.3 | 1535.3 | 1544.0 | 1550.9 | 1549.0 | 1545.9 |
| 5° | 1491.5 | 1508.4 | 1527.8 | 1534.0 | 1534.0 | 1527.8 | 1524.0 | 1524.6 | 1522.8 | 1521.5 | 1517.8 |
| 7.5° | 1511.5 | 1534.6 | 1548.4 | 1542.1 | 1522.8 | 1498.4 | 1475.3 | 1461.5 | 1448.4 | 1440.3 | 1442.8 |
| 10° | 1539.6 | 1565.3 | 1565.9 | 1538.4 | 1492.2 | 1439.0 | 1393.4 | 1364.1 | 1335.9 | 1323.4 | 1327.2 |
| 12.5° | 1580.3 | 1605.9 | 1584.0 | 1524.6 | 1443.4 | 1360.3 | 1276.6 | 1216.0 | 1161.6 | 1148.5 | 1144.7 |
| 15° | 1624.0 | 1644.0 | 1595.3 | 1495.3 | 1373.4 | 1236.6 | 1096.0 | 1005.4 | 944.8 | 934.2 | 930.4 |
| 17.5° | 1662.1 | 1673.4 | 1589.6 | 1442.8 | 1262.8 | 1047.3 | 883.5 | 822.3 | 809.8 | 816.1 | 816.1 |
| 20° | 1695.9 | 1692.1 | 1565.3 | 1361.6 | 1088.5 | 837.3 | 742.3 | 741.7 | 758.6 | 774.2 | 775.4 |
| 22.5° | 1738.3 | 1709.0 | 1526.5 | 1241.0 | 880.4 | 698.6 | 682.3 | 698.6 | 717.3 | 734.8 | 736.7 |
| 25° | 1789.0 | 1727.7 | 1474.7 | 1069.1 | 708.0 | 634.2 | 641.1 | 654.8 | 666.7 | 680.5 | 681.1 |
| 27.5° | 1839.6 | 1742.1 | 1401.5 | 867.3 | 614.2 | 593.0 | 600.5 | 606.1 | 609.2 | 618.0 | 618.0 |
| 30° | 1898.3 | 1753.3 | 1295.9 | 694.8 | 571.1 | 556.7 | 552.4 | 549.9 | 552.4 | 564.2 | 564.9 |
| 32.5° | 1972.0 | 1773.3 | 1151.6 | 596.1 | 551.1 | 531.1 | 508.6 | 496.1 | 504.9 | 526.1 | 529.9 |
| 35° | 2055.8 | 1797.1 | 978.5 | 556.7 | 544.2 | 518.6 | 477.4 | 458.0 | 461.1 | 480.5 | 483.6 |
| 37.5° | 2160.7 | 1827.7 | 807.9 | 547.4 | 551.1 | 517.4 | 463.0 | 435.5 | 421.8 | 422.4 | 421.8 |
| 40° | 2295.1 | 1858.3 | 673.0 | 549.9 | 566.1 | 520.5 | 456.1 | 413.0 | 384.3 | 385.5 | 388.0 |
| 42.5° | 2435.7 | 1878.3 | 587.4 | 557.4 | 584.2 | 524.9 | 453.6 | 391.2 | 366.2 | 387.4 | 406.8 |
| 45° | 2600.0 | 1872.7 | 543.0 | 564.2 | 598.0 | 526.8 | 444.3 | 388.7 | 368.0 | 431.8 | 468.0 |
| 47.5° | 2788.7 | 1848.3 | 518.0 | 567.4 | 601.7 | 526.1 | 437.4 | 396.8 | 383.7 | 494.3 | 535.5 |
| 50° | 2993.7 | 1810.2 | 498.0 | 562.4 | 599.9 | 523.6 | 444.9 | 406.8 | 389.9 | 508.0 | 539.9 |
| 52.5° | 3218.0 | 1775.2 | 477.4 | 551.1 | 590.5 | 516.1 | 454.3 | 402.4 | 372.4 | 468.0 | 492.4 |
| 55° | 3483.6 | 1767.1 | 454.3 | 531.8 | 574.9 | 508.0 | 449.3 | 388.7 | 353.0 | 414.9 | 429.9 |
| 57.5° | 3787.2 | 1817.7 | 424.3 | 508.0 | 553.6 | 491.8 | 437.4 | 381.2 | 346.2 | 377.4 | 385.5 |
| 60° | 4172.8 | 1929.6 | 392.4 | 483.0 | 527.4 | 467.4 | 426.8 | 383.0 | 348.0 | 371.8 | 373.7 |
| 62.5° | 4474.0 | 2030.2 | 363.7 | 452.4 | 492.4 | 438.0 | 415.5 | 384.9 | 353.7 | 379.3 | 376.2 |
| 65° | 4583.3 | 1980.8 | 328.0 | 406.8 | 443.0 | 405.5 | 399.9 | 386.2 | 353.7 | 383.7 | 376.8 |
| 67° | 4359.0 | 1745.2 | 294.3 | 361.2 | 396.2 | 376.8 | 384.9 | 381.2 | 347.4 | 383.0 | 371.2 |
| 67.5° | 4252.1 | 1662.1 | 285.6 | 353.7 | 383.7 | 368.0 | 381.2 | 378.7 | 345.5 | 381.8 | 368.0 |
| 70° | 3506.7 | 1192.2 | 241.2 | 296.8 | 321.2 | 324.3 | 358.0 | 362.4 | 330.5 | 358.7 | 333.7 |
| 72.5° | 2495.0 | 746.1 | 208.1 | 229.9 | 259.3 | 277.4 | 326.8 | 340.5 | 310.6 | 311.8 | 291.2 |
| 75° | 1234.7 | 400.5 | 185.6 | 177.5 | 201.8 | 231.2 | 284.9 | 310.6 | 281.2 | 259.9 | 253.1 |
| 77.5° | 416.8 | 226.8 | 156.8 | 143.1 | 156.8 | 185.6 | 236.2 | 271.2 | 248.1 | 219.9 | 215.6 |
| 80° | 215.6 | 165.0 | 122.5 | 115.0 | 123.7 | 143.7 | 185.0 | 225.6 | 211.8 | 213.1 | 175.6 |
| 82.5° | 134.3 | 100.6 | 88.1 | 87.5 | 93.7 | 110.0 | 136.2 | 183.1 | 181.8 | 155.6 | 113.1 |
| 85° | 62.5 | 58.1 | 56.2 | 58.1 | 60.0 | 62.5 | 88.7 | 130.6 | 138.1 | 83.7 | 74.4 |
| 87.5° | 26.2 | 25.6 | 22.5 | 24.4 | 26.9 | 26.2 | 35.6 | 55.6 | 77.5 | 52.5 | 48.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)