

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: P271017

Luminaire Tested: **NVN-AF-04-LED-U-T2-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P271017
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24136)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: NVN-AF-04-LED-U-T2-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20747.5 lumens
Efficiency: N/A
Efficacy: 92.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B3 - U0 - G3

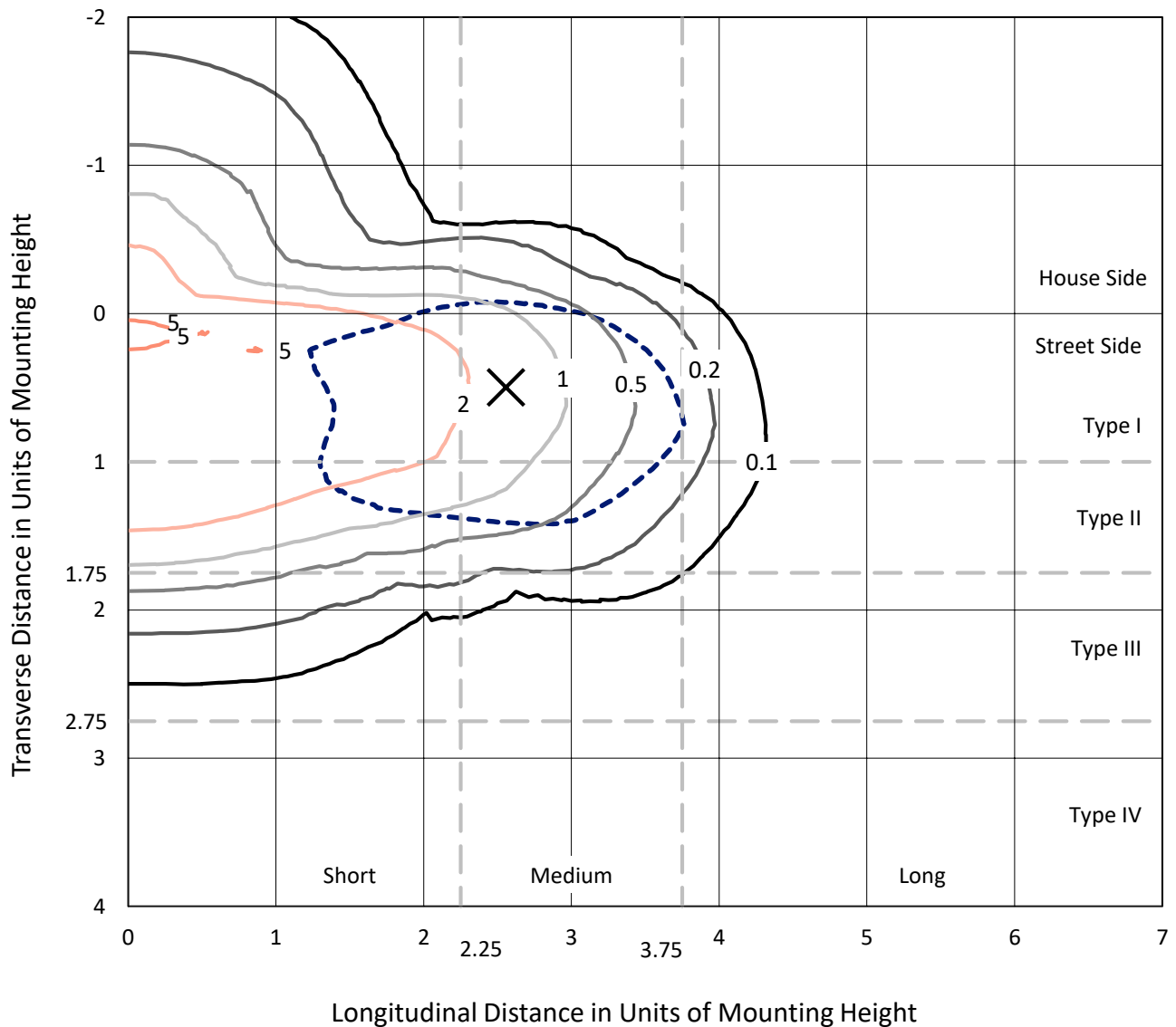
Input Watts (W): 225
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

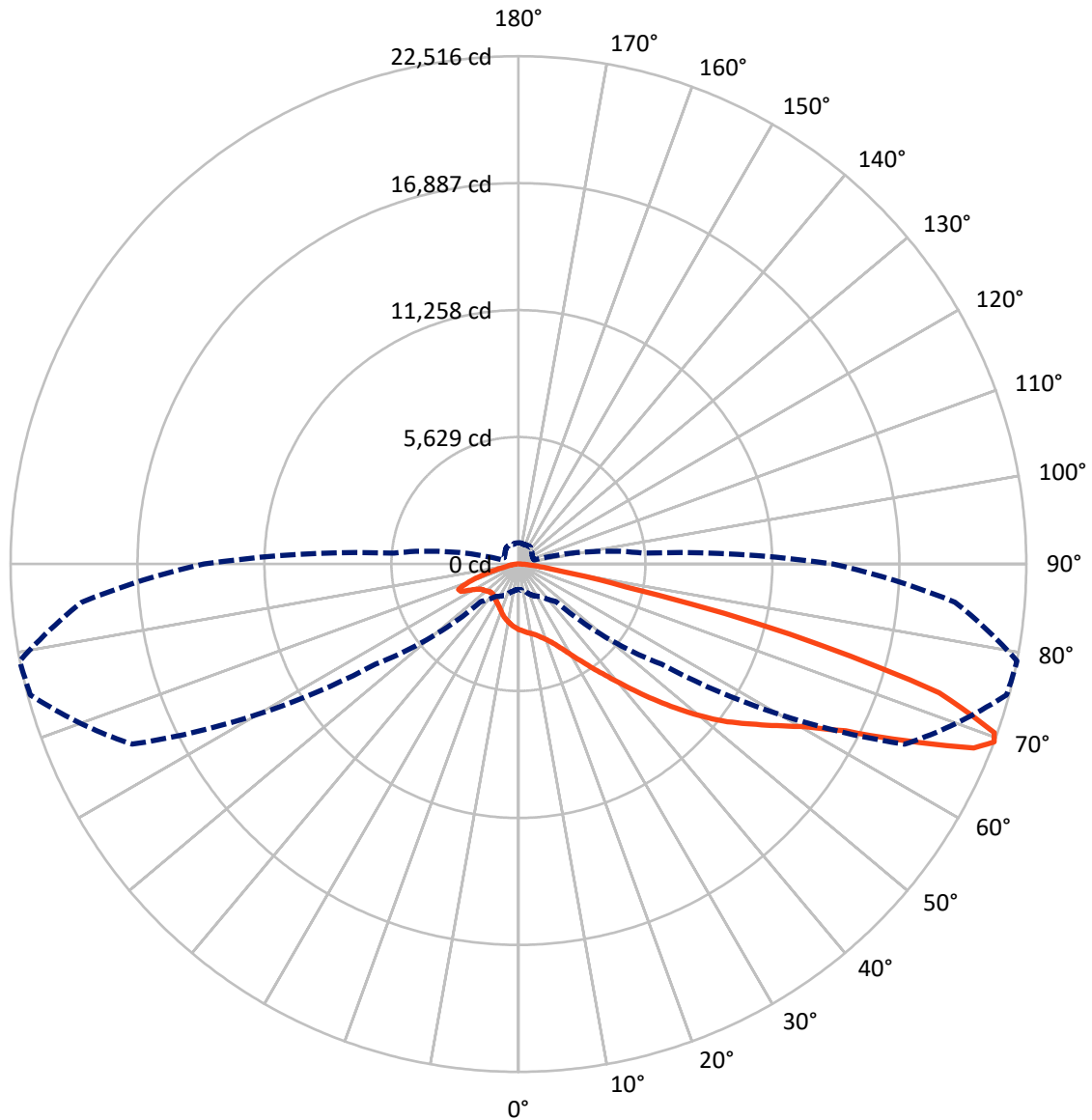
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.6 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 3903.0 | 0.0 | 3903.0 |
| | % Fixture | 18.8 | 0.0 | 18.8 |
| Street Side | Lumens | 16844.5 | 0.0 | 16844.5 |
| | % Fixture | 81.2 | 0.0 | 81.2 |
| Total | Lumens | 20747.5 | 0.0 | 20747.5 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 269.9 | 1.3 |
| 10°-20° | 773.8 | 3.7 |
| 20°-30° | 1278.7 | 6.2 |
| 30°-40° | 2070.5 | 10.0 |
| 40°-50° | 3307.7 | 15.9 |
| 50°-60° | 4737.0 | 22.8 |
| 60°-70° | 5277.7 | 25.4 |
| 70°-80° | 2640.4 | 12.7 |
| 80°-90° | 391.8 | 1.9 |
| 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° | 20747.5 | 100.0 |
| 0°-180° | 20747.5 | 100.0 |

Coefficient of Utilization



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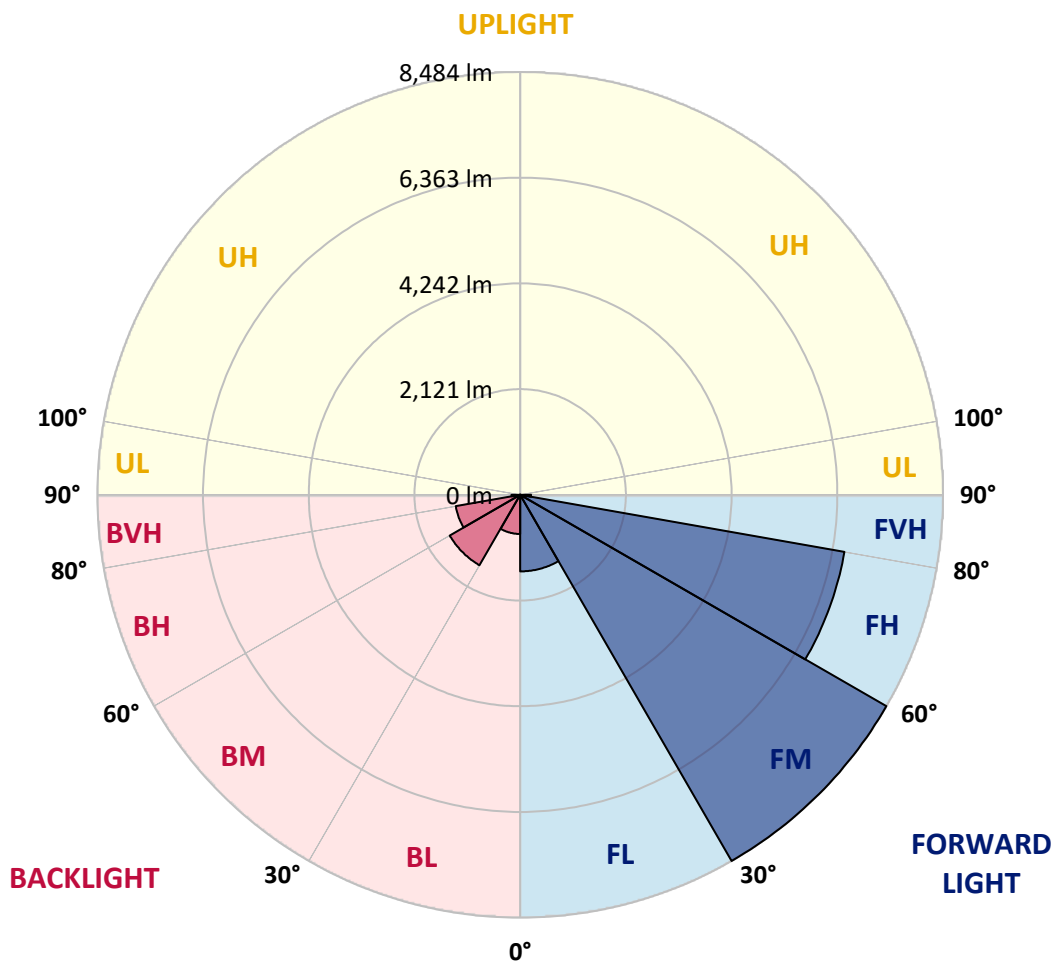
CATALOG NUMBER: NVN-AF-04-LED-U-T2-7027

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 1536.2 | 7.4 | | | |
| FM | (30°-60°) | 8483.7 | 40.9 | | | |
| FH | (60°-80°) | 6605.7 | 31.8 | | | G3/7500 |
| FVH | (80°-90°) | 218.9 | 1.1 | | | G2/225 |
| BL | (0°-30°) | 786.3 | 3.8 | B2/1000 | | |
| BM | (30°-60°) | 1631.5 | 7.9 | B2/2500 | | |
| BH | (60°-80°) | 1312.3 | 6.3 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 172.9 | 0.8 | | | G2/225 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 79° | 85° |
|-------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|
| 0° | 2911.5 | 2911.5 | 2911.5 | 2911.5 | 2911.5 | 2911.5 | 2911.5 | 2911.5 | 2911.5 | 2911.5 | 2911.5 |
| 2.5° | 3196.6 | 3189.8 | 3188.4 | 3168.1 | 3157.3 | 3134.1 | 3079.8 | 3024.2 | 2972.6 | 2945.5 | 2916.9 |
| 5° | 3464.0 | 3450.4 | 3443.7 | 3409.6 | 3379.9 | 3328.2 | 3242.7 | 3154.5 | 3062.2 | 3014.7 | 2957.7 |
| 7.5° | 3625.5 | 3626.8 | 3626.8 | 3599.7 | 3569.9 | 3507.4 | 3398.8 | 3278.1 | 3141.0 | 3078.5 | 2988.9 |
| 10° | 3639.0 | 3640.4 | 3660.9 | 3667.6 | 3674.3 | 3641.8 | 3541.4 | 3389.3 | 3212.9 | 3131.4 | 3014.7 |
| 12.5° | 3504.6 | 3514.2 | 3548.1 | 3597.1 | 3666.3 | 3701.6 | 3658.1 | 3508.8 | 3305.1 | 3206.1 | 3063.6 |
| 15° | 3324.2 | 3333.7 | 3377.1 | 3451.7 | 3563.0 | 3681.2 | 3742.2 | 3646.0 | 3426.0 | 3309.3 | 3135.5 |
| 17.5° | 3236.0 | 3246.8 | 3276.7 | 3336.3 | 3445.0 | 3603.8 | 3787.1 | 3792.5 | 3568.4 | 3434.1 | 3221.1 |
| 20° | 3193.8 | 3202.0 | 3239.9 | 3288.9 | 3371.7 | 3523.7 | 3791.0 | 3947.2 | 3738.1 | 3582.1 | 3325.5 |
| 22.5° | 3290.2 | 3292.9 | 3312.0 | 3339.1 | 3394.8 | 3511.5 | 3788.4 | 4107.4 | 3949.8 | 3768.0 | 3459.9 |
| 25° | 3572.6 | 3555.0 | 3541.4 | 3507.4 | 3520.9 | 3603.8 | 3831.8 | 4278.4 | 4221.3 | 4012.4 | 3639.0 |
| 27.5° | 3906.5 | 3903.8 | 3868.6 | 3789.8 | 3739.6 | 3792.5 | 3955.3 | 4469.7 | 4554.0 | 4323.3 | 3873.9 |
| 30° | 4278.4 | 4279.7 | 4243.1 | 4146.8 | 4044.9 | 4050.4 | 4152.1 | 4690.9 | 4951.6 | 4697.9 | 4163.0 |
| 32.5° | 4668.0 | 4692.3 | 4624.6 | 4528.1 | 4404.6 | 4365.3 | 4434.6 | 4958.5 | 5411.7 | 5140.3 | 4498.4 |
| 35° | 5133.5 | 5137.5 | 5062.9 | 4921.8 | 4798.2 | 4735.9 | 4799.6 | 5292.4 | 5942.5 | 5660.2 | 4906.8 |
| 37.5° | 5616.7 | 5619.4 | 5542.2 | 5361.5 | 5205.5 | 5164.7 | 5235.3 | 5698.2 | 6504.4 | 6252.1 | 5387.3 |
| 40° | 6011.7 | 6040.3 | 5979.2 | 5809.5 | 5652.0 | 5627.6 | 5729.4 | 6184.1 | 7222.6 | 6952.4 | 5958.7 |
| 42.5° | 6459.7 | 6492.2 | 6419.0 | 6242.5 | 6117.5 | 6109.5 | 6268.4 | 6737.9 | 7936.4 | 7762.8 | 6606.2 |
| 45° | 6964.6 | 7010.7 | 6909.0 | 6710.8 | 6604.9 | 6784.1 | 6793.6 | 7351.5 | 8759.1 | 8669.5 | 7335.2 |
| 47.5° | 7515.7 | 7553.7 | 7470.9 | 7257.8 | 7142.5 | 7401.7 | 7308.0 | 8015.1 | 9648.1 | 9641.2 | 8123.8 |
| 50° | 7940.6 | 7982.6 | 7990.8 | 7897.1 | 7776.3 | 7808.8 | 7872.7 | 8712.9 | 10534.5 | 10640.3 | 8939.6 |
| 52.5° | 7863.1 | 7903.8 | 8087.1 | 8332.9 | 8526.9 | 8442.8 | 8520.2 | 9454.0 | 11391.0 | 11614.9 | 9714.6 |
| 55° | 7238.8 | 7260.6 | 7604.0 | 8187.6 | 9014.2 | 9416.0 | 9421.5 | 10260.4 | 12205.5 | 12518.9 | 10450.3 |
| 57.5° | 6113.5 | 6116.3 | 6562.8 | 7423.5 | 8730.5 | 10047.2 | 10843.9 | 11272.9 | 13055.1 | 13518.0 | 11362.4 |
| 60° | 4325.9 | 4336.7 | 4856.6 | 5981.9 | 7713.8 | 9971.1 | 12373.8 | 13084.9 | 14039.3 | 14640.4 | 12538.0 |
| 62.5° | 2568.2 | 2592.6 | 2984.9 | 3887.4 | 5729.4 | 8993.9 | 13277.7 | 16308.6 | 15488.8 | 16287.0 | 14419.2 |
| 65° | 1670.8 | 1691.2 | 1926.1 | 2379.4 | 3385.3 | 6543.9 | 12980.4 | 19430.6 | 18232.0 | 18876.9 | 17123.1 |
| 67.5° | 1286.8 | 1303.1 | 1487.7 | 1761.8 | 2076.7 | 3537.3 | 10378.4 | 20084.8 | 21571.2 | 21772.0 | 19404.7 |
| 69° | 1130.6 | 1144.3 | 1279.9 | 1543.3 | 1748.3 | 2341.4 | 7734.2 | 18897.1 | 22406.0 | 22515.8 | 19433.4 |
| 70° | 1048.0 | 1058.7 | 1186.3 | 1414.4 | 1605.8 | 1869.1 | 5919.4 | 17518.0 | 22100.6 | 22381.5 | 18872.8 |
| 72.5° | 863.4 | 872.8 | 963.7 | 1138.8 | 1312.6 | 1331.6 | 2622.4 | 12791.8 | 18609.4 | 19508.0 | 15970.6 |
| 75° | 720.8 | 726.2 | 785.8 | 913.4 | 1062.9 | 1060.1 | 1339.7 | 7245.5 | 11355.7 | 12426.7 | 9861.2 |
| 77.5° | 601.3 | 605.4 | 644.8 | 723.5 | 838.8 | 834.7 | 943.4 | 3127.4 | 5014.1 | 4837.6 | 3394.8 |
| 80° | 530.7 | 533.5 | 553.9 | 574.1 | 647.5 | 643.4 | 699.1 | 1436.1 | 2040.1 | 1885.4 | 1284.0 |
| 82.5° | 403.1 | 408.5 | 511.8 | 521.2 | 502.2 | 484.5 | 487.3 | 836.1 | 1045.2 | 951.6 | 689.4 |
| 85° | 228.0 | 229.3 | 328.5 | 384.1 | 437.0 | 328.5 | 316.3 | 431.6 | 515.7 | 451.9 | 301.3 |
| 87.5° | 101.8 | 105.9 | 157.5 | 181.8 | 236.2 | 192.7 | 180.5 | 183.3 | 222.6 | 184.6 | 119.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2911.5 | 2911.5 | 2911.5 | 2911.5 | 2911.5 | 2911.5 | 2911.5 | 2911.5 | 2911.5 | 2911.5 | 2911.5 |
| 2.5° | 2889.8 | 2866.8 | 2812.5 | 2756.8 | 2701.2 | 2665.9 | 2629.2 | 2595.3 | 2581.6 | 2580.3 | 2554.5 |
| 5° | 2902.1 | 2847.7 | 2724.2 | 2588.5 | 2459.5 | 2359.0 | 2275.0 | 2220.6 | 2167.7 | 2158.2 | 2135.1 |
| 7.5° | 2906.0 | 2817.9 | 2617.0 | 2399.8 | 2203.1 | 2064.6 | 1980.5 | 1943.8 | 1917.9 | 1911.1 | 1903.0 |
| 10° | 2904.8 | 2779.8 | 2497.6 | 2200.3 | 1976.4 | 1871.8 | 1840.5 | 1848.7 | 1859.6 | 1865.1 | 1865.1 |
| 12.5° | 2926.5 | 2762.2 | 2378.2 | 2012.9 | 1829.7 | 1779.5 | 1803.9 | 1845.9 | 1878.5 | 1892.2 | 1894.9 |
| 15° | 2965.8 | 2751.4 | 2246.4 | 1850.1 | 1726.5 | 1738.8 | 1798.4 | 1859.6 | 1905.8 | 1926.1 | 1931.5 |
| 17.5° | 3014.7 | 2736.4 | 2094.4 | 1715.8 | 1666.8 | 1708.9 | 1786.3 | 1863.7 | 1919.3 | 1945.1 | 1949.1 |
| 20° | 3069.0 | 2714.7 | 1936.9 | 1615.2 | 1614.0 | 1666.8 | 1744.1 | 1831.0 | 1890.8 | 1919.3 | 1917.9 |
| 22.5° | 3142.4 | 2694.3 | 1790.3 | 1542.0 | 1555.5 | 1604.5 | 1668.2 | 1746.9 | 1802.5 | 1828.4 | 1822.9 |
| 25° | 3239.9 | 2675.3 | 1658.7 | 1476.9 | 1489.0 | 1521.5 | 1566.4 | 1626.1 | 1665.5 | 1679.0 | 1669.6 |
| 27.5° | 3371.7 | 2660.4 | 1555.5 | 1417.0 | 1415.6 | 1430.6 | 1457.8 | 1490.4 | 1509.4 | 1505.3 | 1490.4 |
| 30° | 3533.3 | 2645.5 | 1479.5 | 1364.2 | 1345.1 | 1343.8 | 1356.0 | 1374.9 | 1387.3 | 1362.8 | 1350.6 |
| 32.5° | 3713.8 | 2619.6 | 1411.6 | 1318.1 | 1284.0 | 1271.8 | 1277.3 | 1303.1 | 1353.2 | 1328.9 | 1319.3 |
| 35° | 3926.9 | 2589.9 | 1343.8 | 1267.8 | 1241.9 | 1218.9 | 1223.0 | 1278.6 | 1430.6 | 1413.0 | 1403.5 |
| 37.5° | 4183.3 | 2562.7 | 1281.3 | 1213.5 | 1212.2 | 1183.5 | 1180.9 | 1247.3 | 1451.0 | 1413.0 | 1404.9 |
| 40° | 4491.4 | 2557.3 | 1225.6 | 1153.8 | 1175.5 | 1164.7 | 1155.1 | 1195.9 | 1338.4 | 1261.0 | 1246.0 |
| 42.5° | 4863.5 | 2581.6 | 1185.0 | 1096.7 | 1133.4 | 1159.3 | 1141.6 | 1151.1 | 1209.4 | 1140.2 | 1127.9 |
| 45° | 5297.8 | 2648.3 | 1155.1 | 1046.5 | 1088.6 | 1155.1 | 1134.7 | 1126.7 | 1136.0 | 1098.1 | 1090.0 |
| 47.5° | 5804.0 | 2766.3 | 1134.7 | 1004.5 | 1046.5 | 1144.3 | 1132.0 | 1115.8 | 1111.7 | 1090.0 | 1084.6 |
| 50° | 6345.6 | 2925.2 | 1121.2 | 966.4 | 1008.4 | 1125.2 | 1130.6 | 1107.6 | 1100.9 | 1091.4 | 1088.6 |
| 52.5° | 6883.2 | 3097.4 | 1104.8 | 933.9 | 977.3 | 1102.2 | 1132.0 | 1099.4 | 1090.0 | 1084.6 | 1081.7 |
| 55° | 7417.9 | 3276.7 | 1075.0 | 905.3 | 954.2 | 1075.0 | 1130.6 | 1088.6 | 1077.7 | 1077.7 | 1077.7 |
| 57.5° | 8111.5 | 3549.6 | 1035.7 | 882.2 | 924.4 | 1039.8 | 1113.0 | 1076.3 | 1061.4 | 1062.9 | 1064.1 |
| 60° | 9113.3 | 4006.9 | 992.3 | 856.5 | 885.0 | 999.0 | 1086.0 | 1054.7 | 1037.1 | 1042.5 | 1043.8 |
| 62.5° | 10786.9 | 4806.4 | 932.5 | 819.9 | 844.2 | 955.5 | 1050.6 | 1024.7 | 1008.4 | 1018.0 | 1019.3 |
| 65° | 13018.4 | 5774.2 | 853.7 | 773.7 | 802.1 | 906.7 | 1005.8 | 989.6 | 971.8 | 995.0 | 993.5 |
| 67.5° | 14379.9 | 6057.9 | 770.9 | 724.8 | 761.5 | 855.1 | 950.1 | 943.4 | 931.2 | 971.8 | 969.1 |
| 69° | 13933.3 | 5544.8 | 723.5 | 693.6 | 732.9 | 819.9 | 914.8 | 912.1 | 902.6 | 942.1 | 939.3 |
| 70° | 13239.7 | 5065.6 | 693.6 | 673.3 | 718.0 | 798.1 | 891.7 | 891.7 | 882.2 | 916.2 | 909.4 |
| 72.5° | 10634.9 | 3757.3 | 624.4 | 621.6 | 666.5 | 738.3 | 829.3 | 836.1 | 830.8 | 842.9 | 836.1 |
| 75° | 6243.8 | 2264.1 | 556.5 | 564.7 | 604.0 | 674.5 | 760.1 | 765.5 | 760.1 | 758.8 | 760.1 |
| 77.5° | 2164.9 | 1015.4 | 491.4 | 503.6 | 537.5 | 609.5 | 684.1 | 695.0 | 686.8 | 677.3 | 680.0 |
| 80° | 847.0 | 590.5 | 420.8 | 438.5 | 466.8 | 536.2 | 608.2 | 614.9 | 602.7 | 601.3 | 590.5 |
| 82.5° | 509.0 | 359.7 | 327.2 | 355.5 | 390.9 | 465.6 | 525.2 | 522.5 | 513.1 | 568.7 | 498.1 |
| 85° | 221.3 | 199.6 | 238.9 | 267.3 | 285.0 | 348.8 | 443.9 | 431.6 | 408.5 | 359.7 | 351.5 |
| 87.5° | 89.7 | 103.1 | 131.6 | 158.8 | 171.0 | 225.4 | 304.0 | 293.1 | 297.2 | 244.2 | 243.0 |
| 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)