

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: LUMARK

Report Number: P270412

Luminaire Tested: **NAV-AF-03-D-UNV-5WQ-7027-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270412  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24131)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-03-D-UNV-5WQ-7027-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 17961.1 lumens  
Efficiency: N/A  
Efficacy: 94.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type V - Short - Semi-Cutoff  
BUG Rating: B5 - U0 - G3

Input Watts (W): 191  
Input Voltage (V): NR  
Input Current (Ain): 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

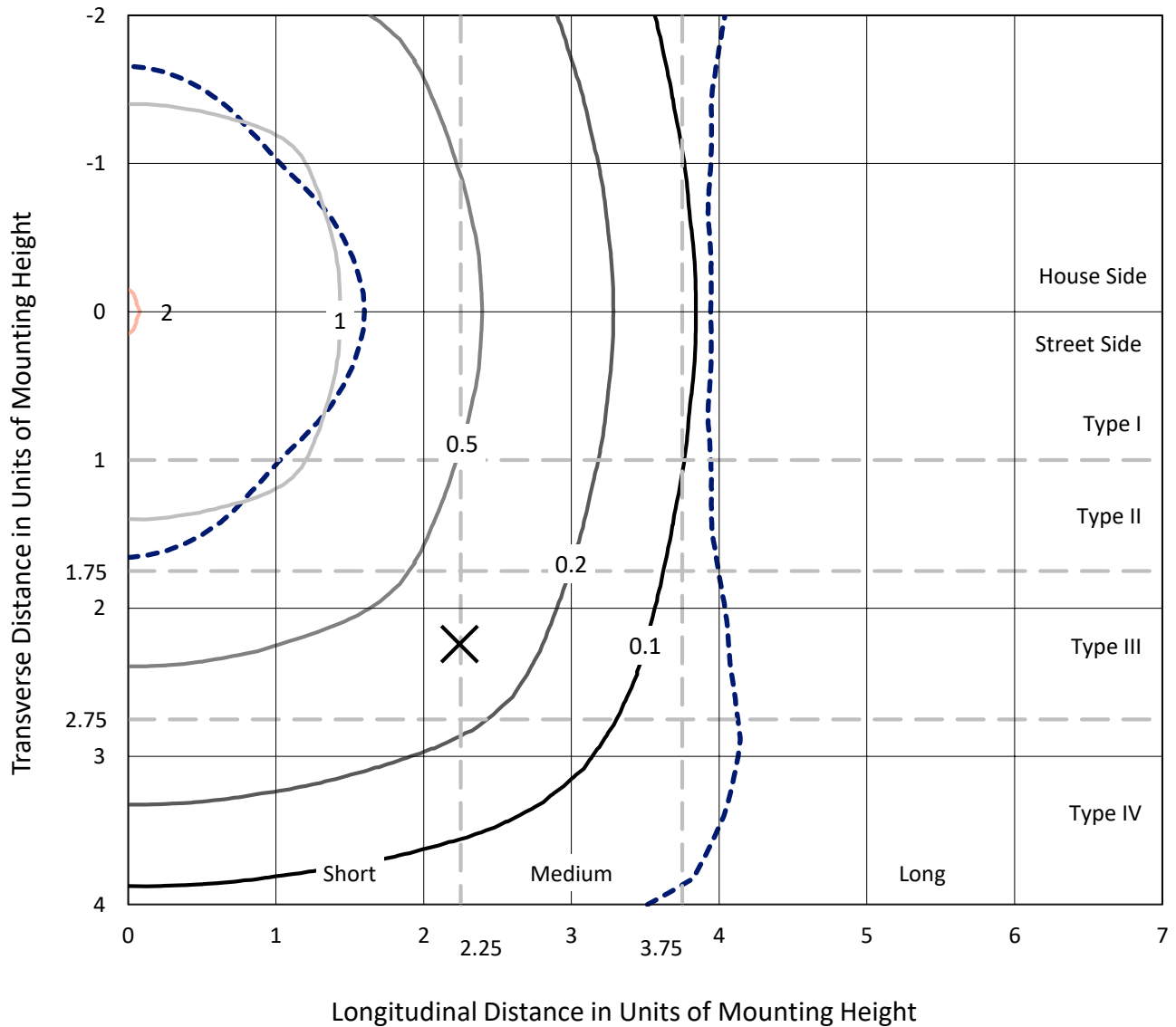


REPORT NUMBER: P270412

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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

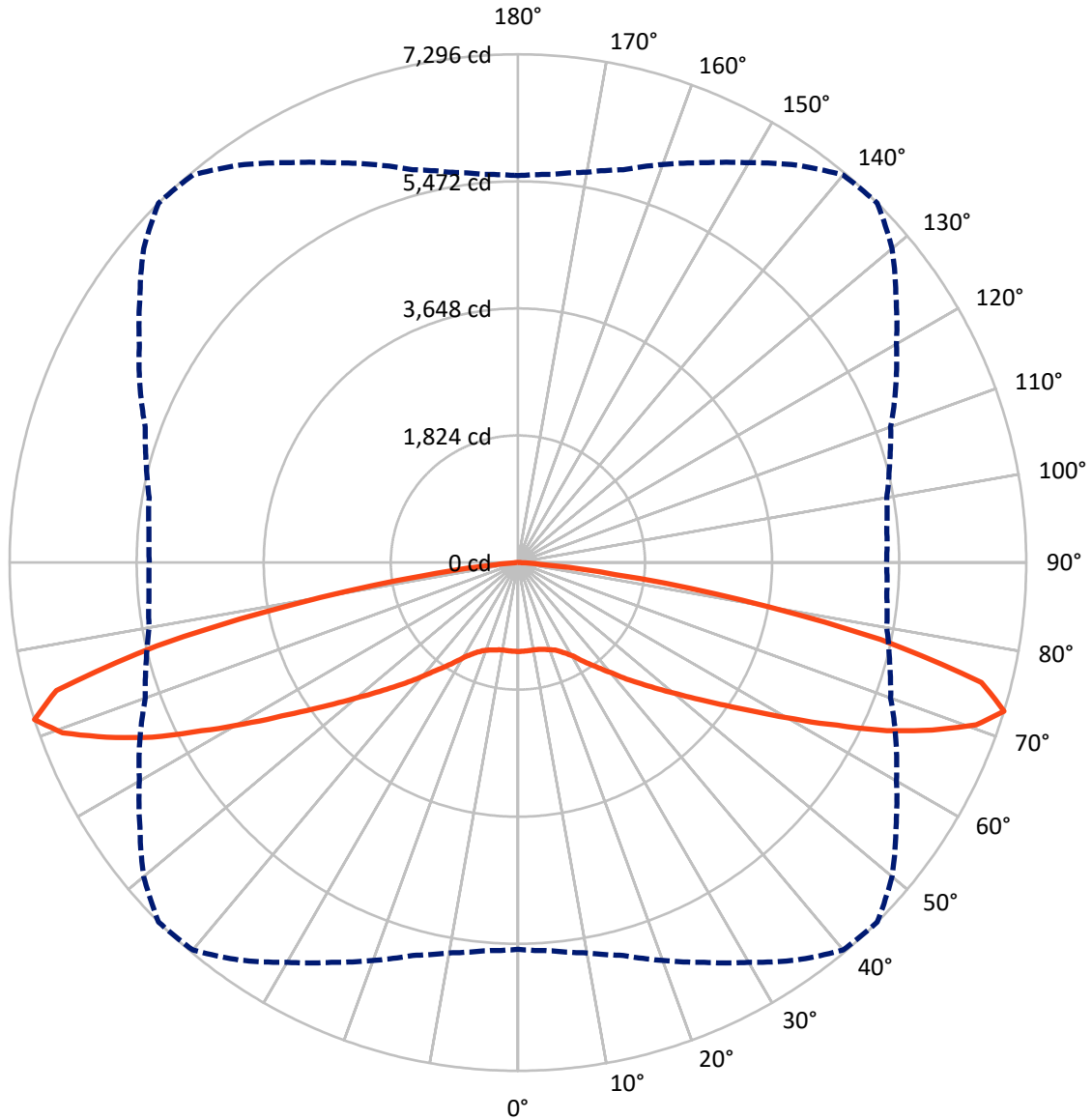


Based on 25 foot mounting height. Maximum calculated value = 2 fc  
 Type V - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 8980.6   | 0.0    | 8980.6  |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Street Side</b> | Lumens    | 8980.6   | 0.0    | 8980.6  |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Total</b>       | Lumens    | 17961.1  | 0.0    | 17961.1 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 121.9   | 0.7       |
| 10°-20°   | 368.9   | 2.1       |
| 20°-30°   | 665.9   | 3.7       |
| 30°-40°   | 1135.8  | 6.3       |
| 40°-50°   | 1933.8  | 10.8      |
| 50°-60°   | 3112.1  | 17.3      |
| 60°-70°   | 5175.5  | 28.8      |
| 70°-80°   | 5006.7  | 27.9      |
| 80°-90°   | 440.6   | 2.5       |
| 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°    | 17961.1 | 100.0     |
| 0°-180°   | 17961.1 | 100.0     |



REPORT NUMBER: P270412

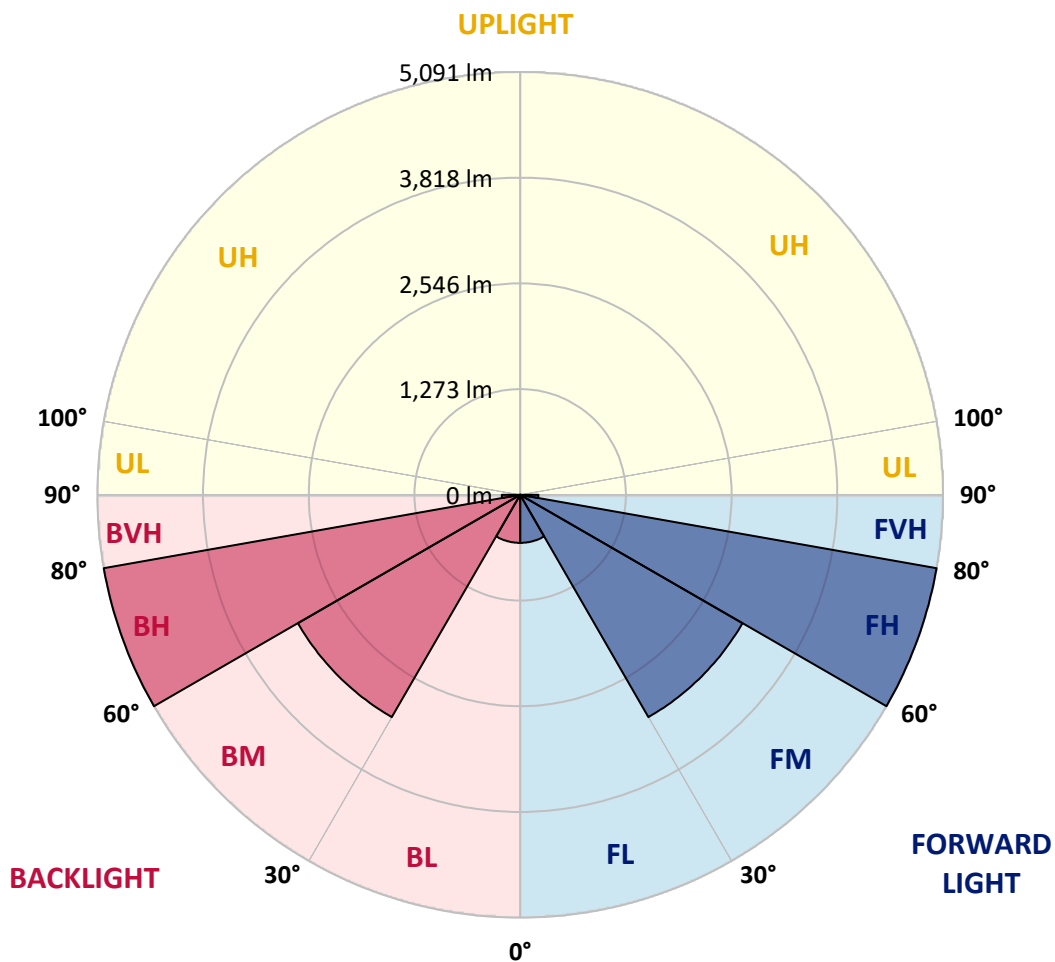
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 578.3  | 3.2       |                         |      |         |
| FM   | (30°-60°)   | 3090.8 | 17.2      |                         |      |         |
| FH   | (60°-80°)   | 5091.1 | 28.3      |                         |      | G3/7500 |
| FVH  | (80°-90°)   | 220.3  | 1.2       |                         |      | G2/225  |
| BL   | (0°-30°)    | 578.3  | 3.2       | B2/1000                 |      |         |
| BM   | (30°-60°)   | 3090.8 | 17.2      | B3/5000                 |      |         |
| BH   | (60°-80°)   | 5091.1 | 28.3      | B5                      |      | G3/7500 |
| BVH  | (80°-90°)   | 220.3  | 1.2       |                         |      | G2/225  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B5-U0-G3**

Type V Short





REPORT NUMBER: P270412

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°    | 25°    | 30°    | 35°    | 40°    | 45°    | 50°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1276.9 | 1276.9 | 1276.9 | 1276.9 | 1276.9 | 1276.9 | 1276.9 | 1276.9 | 1276.9 | 1276.9 | 1276.9 |
| 2.5°  | 1286.8 | 1286.8 | 1288.0 | 1286.8 | 1284.7 | 1283.6 | 1280.3 | 1278.0 | 1275.9 | 1274.7 | 1272.4 |
| 5°    | 1288.0 | 1288.0 | 1289.1 | 1288.0 | 1285.7 | 1283.6 | 1281.3 | 1278.0 | 1275.9 | 1273.5 | 1272.4 |
| 7.5°  | 1292.4 | 1293.5 | 1294.5 | 1293.5 | 1289.1 | 1286.8 | 1283.6 | 1280.3 | 1275.9 | 1273.5 | 1271.5 |
| 10°   | 1301.3 | 1301.3 | 1301.3 | 1300.0 | 1296.9 | 1292.4 | 1288.0 | 1284.7 | 1279.0 | 1273.5 | 1270.3 |
| 12.5° | 1307.8 | 1309.0 | 1309.0 | 1306.8 | 1302.4 | 1296.9 | 1292.4 | 1289.1 | 1284.7 | 1280.3 | 1276.9 |
| 15°   | 1317.9 | 1317.9 | 1316.6 | 1312.2 | 1305.6 | 1301.3 | 1298.9 | 1298.0 | 1296.9 | 1294.5 | 1291.3 |
| 17.5° | 1337.7 | 1336.6 | 1333.3 | 1326.6 | 1318.9 | 1315.6 | 1313.4 | 1313.4 | 1313.4 | 1312.2 | 1310.1 |
| 20°   | 1366.4 | 1366.4 | 1362.0 | 1351.1 | 1344.4 | 1341.0 | 1337.7 | 1337.7 | 1337.7 | 1334.4 | 1331.1 |
| 22.5° | 1412.9 | 1414.0 | 1407.4 | 1394.1 | 1385.2 | 1378.5 | 1374.1 | 1370.9 | 1367.6 | 1365.3 | 1359.9 |
| 25°   | 1475.8 | 1474.7 | 1467.0 | 1450.5 | 1443.8 | 1437.2 | 1428.3 | 1422.8 | 1418.5 | 1415.1 | 1408.5 |
| 27.5° | 1542.2 | 1541.1 | 1532.2 | 1517.9 | 1513.5 | 1503.6 | 1496.8 | 1489.2 | 1483.6 | 1478.2 | 1471.5 |
| 30°   | 1627.4 | 1621.8 | 1615.2 | 1604.2 | 1601.9 | 1594.2 | 1585.4 | 1574.3 | 1565.4 | 1556.7 | 1548.9 |
| 32.5° | 1703.6 | 1703.6 | 1693.7 | 1688.2 | 1692.5 | 1689.3 | 1690.4 | 1683.8 | 1678.3 | 1674.9 | 1667.2 |
| 35°   | 1809.7 | 1809.7 | 1805.4 | 1798.8 | 1799.8 | 1792.1 | 1791.0 | 1792.1 | 1796.5 | 1796.5 | 1787.6 |
| 37.5° | 1951.3 | 1953.5 | 1939.1 | 1936.9 | 1931.4 | 1920.3 | 1914.7 | 1917.1 | 1927.0 | 1932.4 | 1920.3 |
| 40°   | 2127.0 | 2131.5 | 2127.0 | 2112.8 | 2106.0 | 2087.2 | 2076.3 | 2076.3 | 2084.0 | 2089.5 | 2085.1 |
| 42.5° | 2300.6 | 2308.4 | 2300.6 | 2289.6 | 2284.0 | 2269.7 | 2264.2 | 2268.6 | 2278.6 | 2285.2 | 2278.6 |
| 45°   | 2494.1 | 2499.7 | 2489.7 | 2476.4 | 2469.8 | 2462.1 | 2458.8 | 2462.1 | 2473.2 | 2479.7 | 2477.5 |
| 47.5° | 2684.2 | 2692.0 | 2679.9 | 2674.3 | 2674.3 | 2666.6 | 2675.4 | 2684.2 | 2694.1 | 2709.6 | 2703.0 |
| 50°   | 2869.9 | 2880.0 | 2872.2 | 2873.3 | 2882.1 | 2896.6 | 2913.2 | 2930.8 | 2948.4 | 2965.0 | 2967.3 |
| 52.5° | 3035.8 | 3051.4 | 3052.4 | 3072.4 | 3100.0 | 3122.1 | 3168.5 | 3207.2 | 3249.2 | 3263.5 | 3257.0 |
| 55°   | 3210.5 | 3231.6 | 3259.1 | 3290.1 | 3334.2 | 3379.7 | 3458.1 | 3527.7 | 3583.1 | 3617.4 | 3611.8 |
| 57.5° | 3460.4 | 3481.3 | 3510.0 | 3560.9 | 3627.3 | 3689.2 | 3796.4 | 3904.8 | 3988.8 | 4040.8 | 4015.3 |
| 60°   | 3784.3 | 3806.4 | 3843.9 | 3898.1 | 3984.3 | 4068.5 | 4215.4 | 4371.3 | 4501.8 | 4561.5 | 4515.1 |
| 62.5° | 4213.2 | 4234.3 | 4258.5 | 4330.4 | 4426.6 | 4535.0 | 4719.5 | 4919.7 | 5085.5 | 5142.9 | 5077.8 |
| 65°   | 4824.5 | 4849.9 | 4857.8 | 4916.3 | 5010.2 | 5110.8 | 5309.9 | 5535.4 | 5724.4 | 5818.4 | 5688.0 |
| 67.5° | 5513.3 | 5523.3 | 5554.2 | 5622.9 | 5719.0 | 5809.6 | 5966.6 | 6180.0 | 6361.3 | 6413.2 | 6273.9 |
| 70°   | 5916.9 | 5936.8 | 5990.9 | 6085.9 | 6201.0 | 6343.7 | 6515.0 | 6745.0 | 6950.5 | 6974.9 | 6798.0 |
| 72.5° | 5552.1 | 5592.9 | 5689.1 | 5837.2 | 6078.3 | 6331.4 | 6626.5 | 6965.9 | 7261.2 | 7295.5 | 7011.4 |
| 75°   | 4453.1 | 4499.6 | 4614.6 | 4777.0 | 5062.3 | 5438.2 | 5864.9 | 6374.6 | 6816.8 | 6873.1 | 6497.4 |
| 77.5° | 2373.6 | 2431.2 | 2598.0 | 2816.9 | 3223.7 | 3721.3 | 4235.2 | 4816.8 | 5192.7 | 5319.9 | 5049.1 |
| 80°   | 598.1  | 629.1  | 709.8  | 837.9  | 1113.3 | 1514.6 | 1957.9 | 2583.6 | 3050.1 | 3248.1 | 3050.1 |
| 82.5° | 232.1  | 255.4  | 277.4  | 292.9  | 319.4  | 374.8  | 517.5  | 843.5  | 1136.4 | 1399.6 | 1211.6 |
| 85°   | 89.6   | 95.1   | 137.1  | 155.9  | 155.9  | 171.3  | 196.8  | 232.1  | 287.5  | 314.0  | 263.2  |
| 87.5° | 35.4   | 38.6   | 47.5   | 72.9   | 75.2   | 66.4   | 70.7   | 79.6   | 60.8   | 50.8   | 57.5   |
| 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: P270412

CATALOG NUMBER: NAV-AF-03-D-UNV-5WQ-7027-1200

**CANDELA DISTRIBUTION (continued):**

|       | 55°    | 60°    | 65°    | 70°    | 75°    | 80°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1276.9 | 1276.9 | 1276.9 | 1276.9 | 1276.9 | 1276.9 | 1276.9 | 1276.9 |
| 2.5°  | 1271.5 | 1270.3 | 1268.0 | 1269.1 | 1268.0 | 1268.0 | 1268.0 | 1268.0 |
| 5°    | 1270.3 | 1270.3 | 1268.0 | 1268.0 | 1268.0 | 1269.1 | 1268.0 | 1268.0 |
| 7.5°  | 1269.1 | 1268.0 | 1265.8 | 1264.8 | 1264.8 | 1263.6 | 1263.6 | 1263.6 |
| 10°   | 1267.0 | 1264.8 | 1262.5 | 1261.4 | 1261.4 | 1259.2 | 1259.2 | 1259.2 |
| 12.5° | 1272.4 | 1269.1 | 1267.0 | 1265.8 | 1265.8 | 1265.8 | 1267.0 | 1267.0 |
| 15°   | 1288.0 | 1281.3 | 1278.0 | 1276.9 | 1278.0 | 1280.3 | 1281.3 | 1282.4 |
| 17.5° | 1304.6 | 1298.0 | 1292.4 | 1290.1 | 1291.3 | 1294.5 | 1298.0 | 1300.0 |
| 20°   | 1325.5 | 1320.0 | 1313.4 | 1311.2 | 1311.2 | 1315.6 | 1317.9 | 1321.0 |
| 22.5° | 1355.5 | 1351.1 | 1345.4 | 1342.2 | 1339.9 | 1345.4 | 1348.7 | 1351.1 |
| 25°   | 1403.0 | 1398.5 | 1394.1 | 1390.8 | 1389.7 | 1395.2 | 1397.5 | 1398.5 |
| 27.5° | 1465.9 | 1461.5 | 1459.2 | 1458.2 | 1454.8 | 1457.1 | 1460.5 | 1459.2 |
| 30°   | 1547.8 | 1551.1 | 1547.8 | 1547.8 | 1542.2 | 1544.5 | 1542.2 | 1540.1 |
| 32.5° | 1657.3 | 1653.9 | 1644.0 | 1637.3 | 1629.5 | 1629.5 | 1626.2 | 1623.0 |
| 35°   | 1766.6 | 1755.6 | 1750.1 | 1753.4 | 1750.1 | 1752.2 | 1746.8 | 1741.3 |
| 37.5° | 1896.1 | 1889.3 | 1888.2 | 1898.2 | 1896.1 | 1898.2 | 1898.2 | 1890.5 |
| 40°   | 2067.4 | 2063.0 | 2070.7 | 2087.2 | 2093.9 | 2092.8 | 2094.9 | 2085.1 |
| 42.5° | 2264.2 | 2256.5 | 2259.7 | 2274.1 | 2281.9 | 2284.0 | 2283.0 | 2274.1 |
| 45°   | 2460.9 | 2463.2 | 2463.2 | 2478.7 | 2486.4 | 2490.8 | 2483.1 | 2479.7 |
| 47.5° | 2683.1 | 2686.6 | 2678.7 | 2688.6 | 2691.0 | 2698.6 | 2692.0 | 2686.6 |
| 50°   | 2939.7 | 2927.4 | 2909.8 | 2913.2 | 2913.2 | 2910.9 | 2903.1 | 2896.6 |
| 52.5° | 3226.0 | 3198.3 | 3165.2 | 3154.0 | 3141.9 | 3129.8 | 3114.3 | 3102.1 |
| 55°   | 3552.1 | 3504.6 | 3444.9 | 3417.2 | 3393.9 | 3366.4 | 3330.9 | 3318.9 |
| 57.5° | 3930.3 | 3848.3 | 3768.7 | 3719.1 | 3659.3 | 3622.9 | 3577.5 | 3575.3 |
| 60°   | 4379.1 | 4268.4 | 4128.2 | 4054.1 | 3994.4 | 3951.3 | 3916.9 | 3903.7 |
| 62.5° | 4897.6 | 4707.4 | 4555.9 | 4476.3 | 4406.6 | 4380.1 | 4337.0 | 4342.5 |
| 65°   | 5429.4 | 5235.9 | 5088.8 | 5024.7 | 4959.5 | 4941.8 | 4902.1 | 4916.3 |
| 67.5° | 6005.3 | 5846.1 | 5684.7 | 5624.9 | 5565.3 | 5547.7 | 5506.7 | 5518.8 |
| 70°   | 6521.5 | 6319.2 | 6135.8 | 6018.6 | 5916.9 | 5835.0 | 5783.1 | 5762.1 |
| 72.5° | 6624.5 | 6273.9 | 5985.3 | 5692.4 | 5523.3 | 5375.2 | 5314.4 | 5291.1 |
| 75°   | 5952.2 | 5408.3 | 4997.0 | 4653.2 | 4463.0 | 4247.5 | 4224.3 | 4192.2 |
| 77.5° | 4630.0 | 4010.9 | 3513.5 | 3071.1 | 2815.7 | 2552.8 | 2462.1 | 2393.5 |
| 80°   | 2761.6 | 2122.7 | 1645.1 | 1153.1 | 940.9  | 757.4  | 711.9  | 664.4  |
| 82.5° | 988.3  | 633.5  | 426.8  | 332.7  | 297.3  | 274.2  | 256.5  | 233.3  |
| 85°   | 238.8  | 201.2  | 190.1  | 172.5  | 170.3  | 144.8  | 102.9  | 91.7   |
| 87.5° | 76.3   | 69.7   | 70.7   | 67.5   | 70.7   | 53.1   | 43.1   | 38.6   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)