

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: P195448

Luminaire Tested: **NAV-AF-04-D-UNV-5MQ-7050**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195448  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24129)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-04-D-UNV-5MQ-7050  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 5000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V  
MEDIUM OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 25982 lumens  
Efficiency: N/A  
Efficacy: 115.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type V - Short - Full Cutoff  
BUG Rating: B5 - U0 - G3

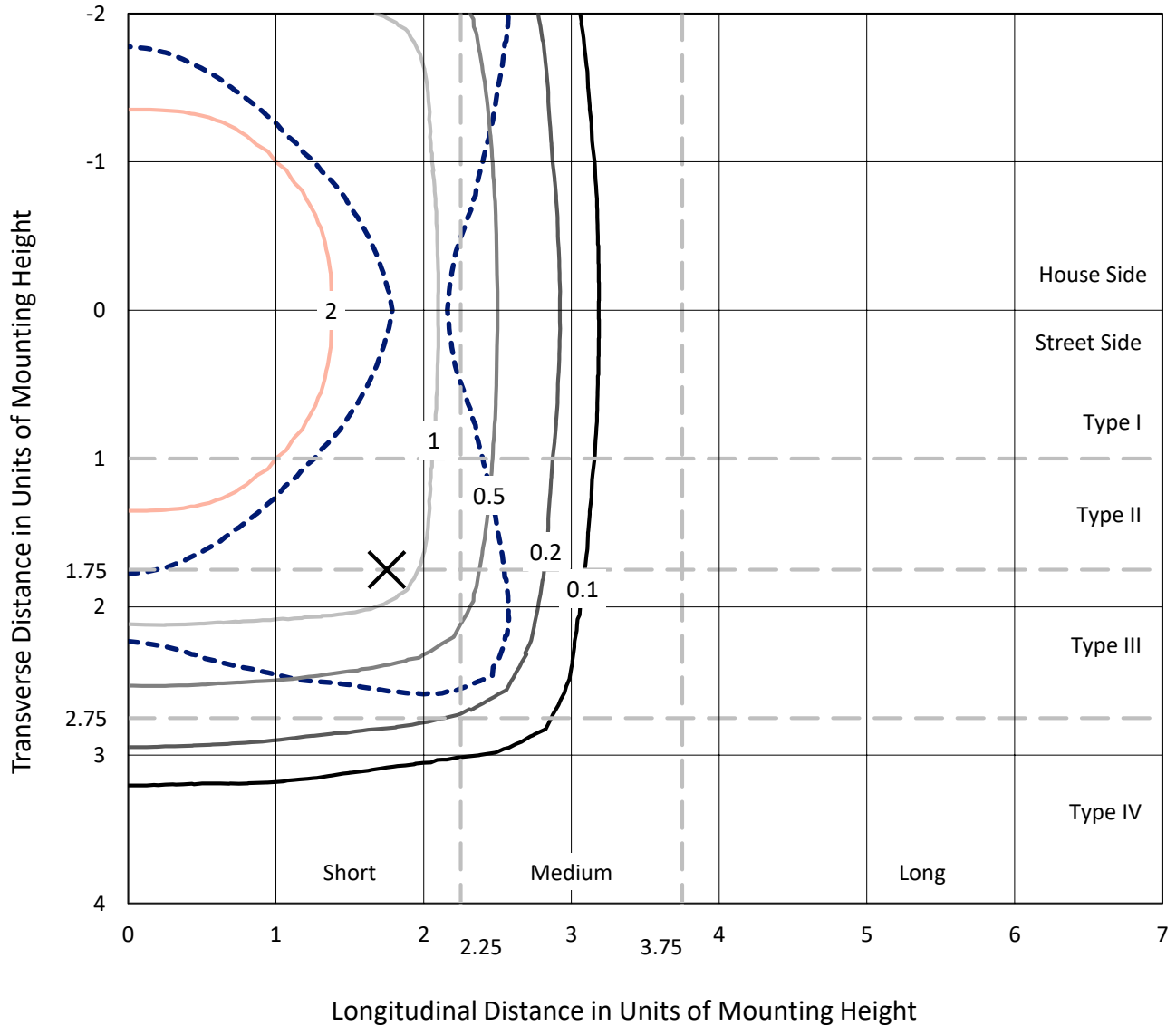
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P195448  
 CATALOG NUMBER: NAV-AF-04-D-UNV-5MQ-7050

### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

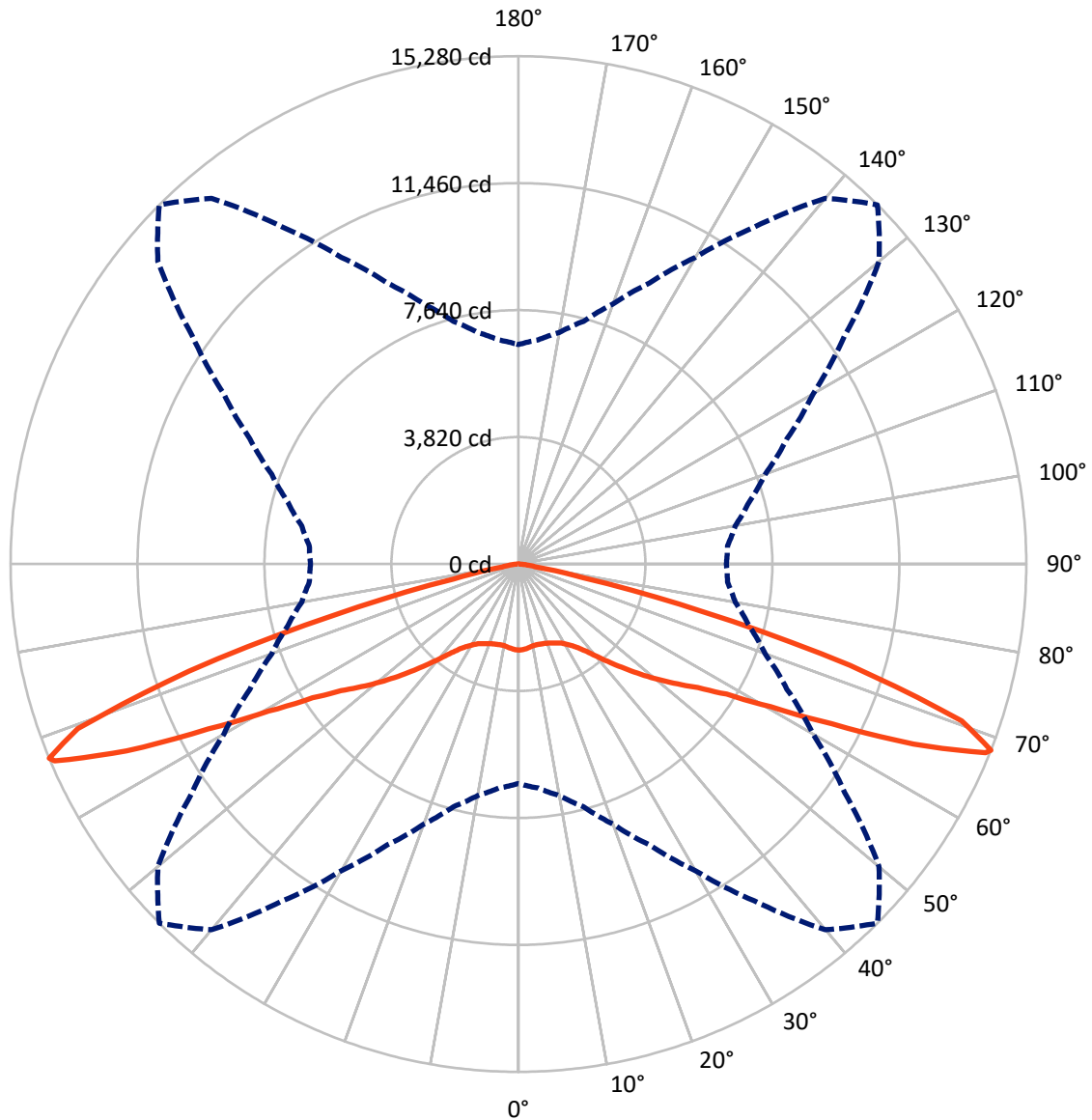


Based on 25 foot mounting height. Maximum calculated value = 4.1 fc  
 Type V - Short - Full Cutoff

REPORT NUMBER: P195448

CATALOG NUMBER: NAV-AF-04-D-UNV-5MQ-7050

### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 68-Deg Vertical

REPORT NUMBER: P195448

CATALOG NUMBER: NAV-AF-04-D-UNV-5MQ-7050

**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 12991.0  | 0.0    | 12991.0 |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Street Side</b> | Lumens    | 12991.0  | 0.0    | 12991.0 |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Total</b>       | Lumens    | 25982.0  | 0.0    | 25982.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 242.5   | 0.9       |
| 10°-20°   | 703.4   | 2.7       |
| 20°-30°   | 1195.8  | 4.6       |
| 30°-40°   | 1956.9  | 7.5       |
| 40°-50°   | 3497.2  | 13.5      |
| 50°-60°   | 5906.2  | 22.7      |
| 60°-70°   | 9158.3  | 35.2      |
| 70°-80°   | 3148.8  | 12.1      |
| 80°-90°   | 173.0   | 0.7       |
| 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°    | 25982.0 | 100.0     |
| 0°-180°   | 25982.0 | 100.0     |



REPORT NUMBER: P195448

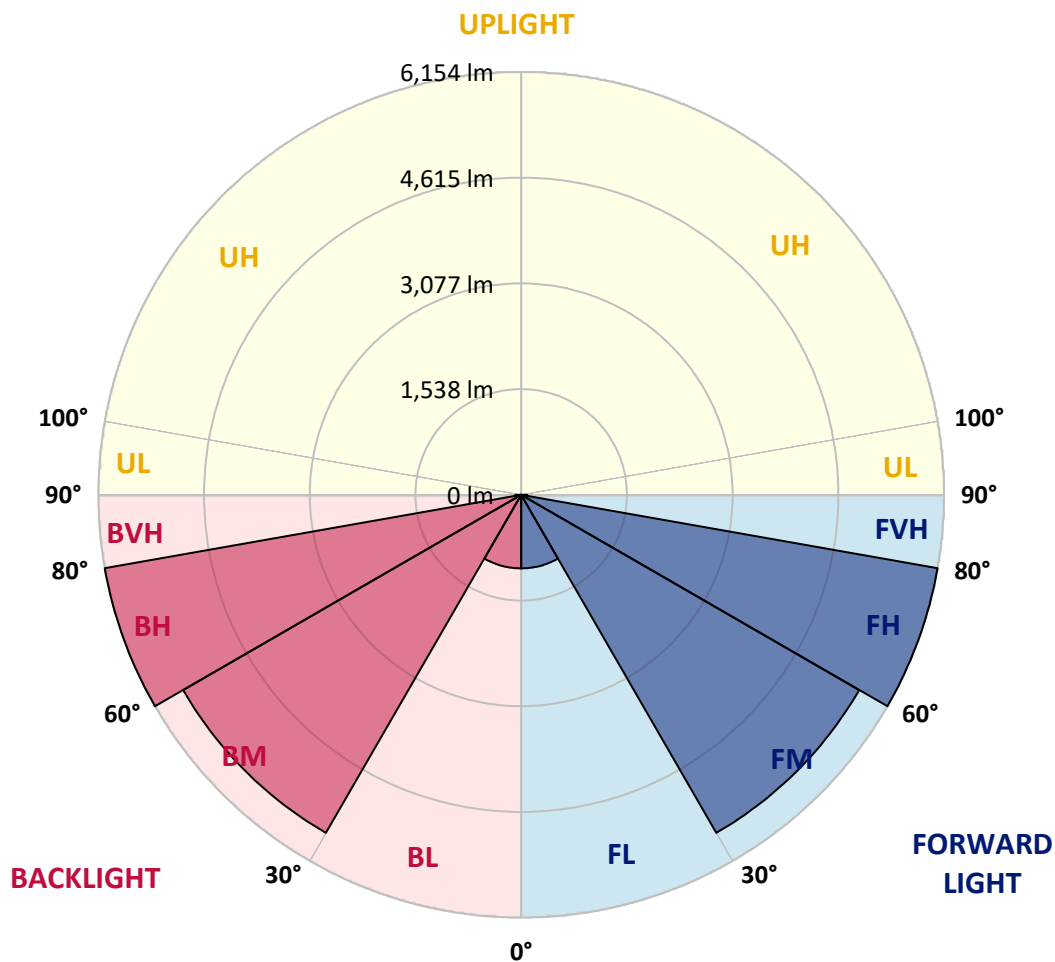
CATALOG NUMBER: NAV-AF-04-D-UNV-5MQ-7050

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 1070.8 | 4.1       |                         |      |         |
| FM   | (30°-60°)   | 5680.1 | 21.9      |                         |      |         |
| FH   | (60°-80°)   | 6153.6 | 23.7      |                         |      | G3/7500 |
| FVH  | (80°-90°)   | 86.5   | 0.3       |                         |      | G1/100  |
| BL   | (0°-30°)    | 1070.8 | 4.1       | B3/2500                 |      |         |
| BM   | (30°-60°)   | 5680.1 | 21.9      | B4/8500                 |      |         |
| BH   | (60°-80°)   | 6153.6 | 23.7      | B5                      |      | G3/7500 |
| BVH  | (80°-90°)   | 86.5   | 0.3       |                         |      | G1/100  |
| 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: P195448

CATALOG NUMBER: NAV-AF-04-D-UNV-5MQ-7050

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°    | 25°     | 30°     | 35°     | 40°     | 45°     | 50°     |
|-------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|
| 0°    | 2591.8 | 2591.8 | 2591.8 | 2591.8 | 2591.8 | 2591.8  | 2591.8  | 2591.8  | 2591.8  | 2591.8  | 2591.8  |
| 2.5°  | 2602.9 | 2602.9 | 2606.1 | 2604.5 | 2599.7 | 2595.0  | 2590.2  | 2585.4  | 2582.2  | 2579.1  | 2575.9  |
| 5°    | 2575.9 | 2575.9 | 2580.6 | 2577.5 | 2574.3 | 2569.5  | 2566.3  | 2561.6  | 2558.4  | 2555.2  | 2556.8  |
| 7.5°  | 2540.9 | 2544.1 | 2547.2 | 2545.6 | 2539.3 | 2537.7  | 2532.9  | 2531.3  | 2528.1  | 2523.4  | 2525.0  |
| 10°   | 2510.6 | 2512.2 | 2515.4 | 2513.8 | 2512.2 | 2507.5  | 2505.9  | 2504.3  | 2502.7  | 2496.3  | 2494.7  |
| 12.5° | 2480.4 | 2483.6 | 2486.8 | 2488.4 | 2486.8 | 2488.4  | 2490.0  | 2491.5  | 2490.0  | 2486.8  | 2486.8  |
| 15°   | 2456.5 | 2459.7 | 2464.5 | 2469.3 | 2470.9 | 2480.4  | 2486.8  | 2493.1  | 2497.9  | 2499.5  | 2494.7  |
| 17.5° | 2443.8 | 2448.6 | 2455.0 | 2464.5 | 2472.5 | 2483.6  | 2494.7  | 2504.3  | 2512.2  | 2513.8  | 2509.0  |
| 20°   | 2442.2 | 2447.0 | 2456.5 | 2467.7 | 2482.0 | 2496.3  | 2513.8  | 2528.1  | 2536.1  | 2540.9  | 2536.1  |
| 22.5° | 2453.4 | 2459.7 | 2472.5 | 2486.8 | 2504.3 | 2523.4  | 2545.6  | 2561.6  | 2577.5  | 2583.8  | 2579.1  |
| 25°   | 2485.2 | 2491.5 | 2505.9 | 2523.4 | 2542.5 | 2566.3  | 2588.6  | 2609.3  | 2625.2  | 2633.1  | 2626.8  |
| 27.5° | 2552.0 | 2553.6 | 2569.5 | 2588.6 | 2610.9 | 2631.6  | 2660.2  | 2669.7  | 2682.5  | 2690.4  | 2682.5  |
| 30°   | 2645.9 | 2649.1 | 2663.4 | 2693.6 | 2714.3 | 2741.3  | 2757.2  | 2766.8  | 2781.1  | 2789.1  | 2779.5  |
| 32.5° | 2789.1 | 2792.3 | 2805.0 | 2833.6 | 2852.7 | 2873.4  | 2892.5  | 2898.8  | 2913.2  | 2922.7  | 2911.6  |
| 35°   | 2991.1 | 2997.5 | 3008.6 | 3027.7 | 3043.6 | 3059.5  | 3073.9  | 3069.1  | 3078.6  | 3091.4  | 3080.2  |
| 37.5° | 3268.0 | 3266.4 | 3269.6 | 3283.9 | 3299.8 | 3309.3  | 3331.6  | 3320.5  | 3330.0  | 3341.2  | 3334.8  |
| 40°   | 3590.9 | 3590.9 | 3589.4 | 3614.8 | 3621.2 | 3630.7  | 3654.6  | 3640.3  | 3653.0  | 3665.7  | 3654.6  |
| 42.5° | 3958.5 | 3964.8 | 3972.8 | 3993.5 | 4011.0 | 4014.2  | 4025.3  | 4018.9  | 4034.8  | 4046.0  | 4034.8  |
| 45°   | 4381.7 | 4391.2 | 4400.8 | 4448.5 | 4456.5 | 4462.8  | 4470.8  | 4450.1  | 4467.6  | 4477.1  | 4474.0  |
| 47.5° | 4820.8 | 4838.3 | 4859.0 | 4908.3 | 4940.1 | 4954.5  | 4960.8  | 4937.0  | 4938.5  | 4952.9  | 4954.5  |
| 50°   | 5317.2 | 5336.3 | 5357.0 | 5412.7 | 5442.9 | 5468.4  | 5476.3  | 5449.3  | 5452.4  | 5463.6  | 5466.8  |
| 52.5° | 5775.4 | 5797.7 | 5842.2 | 5917.0 | 5960.0 | 6004.5  | 6007.7  | 5974.3  | 5988.6  | 5996.6  | 5990.2  |
| 55°   | 6206.6 | 6235.2 | 6294.1 | 6394.3 | 6472.3 | 6559.8  | 6599.6  | 6563.0  | 6563.0  | 6556.6  | 6553.4  |
| 57.5° | 6709.4 | 6741.2 | 6801.6 | 6917.8 | 7026.0 | 7151.7  | 7259.9  | 7296.4  | 7363.3  | 7385.5  | 7350.5  |
| 60°   | 7466.7 | 7500.1 | 7562.1 | 7714.9 | 7851.7 | 8034.7  | 8212.9  | 8357.7  | 8593.1  | 8720.4  | 8605.9  |
| 62.5° | 8158.8 | 8209.7 | 8356.1 | 8623.4 | 8919.3 | 9258.2  | 9651.2  | 9931.2  | 10359.2 | 10572.4 | 10284.4 |
| 65°   | 8001.3 | 8104.7 | 8391.1 | 8811.1 | 9422.1 | 10157.1 | 10957.4 | 11725.9 | 12610.5 | 13063.9 | 12478.4 |
| 67.5° | 6989.4 | 7076.9 | 7385.5 | 7874.0 | 8636.1 | 9649.6  | 10893.8 | 12484.8 | 14309.7 | 15159.3 | 14123.5 |
| 68°   | 6602.8 | 6766.6 | 7073.7 | 7559.0 | 8327.4 | 9323.4  | 10651.9 | 12370.2 | 14362.2 | 15280.2 | 14161.7 |
| 70°   | 5062.6 | 5121.5 | 5415.9 | 5851.8 | 6680.7 | 7657.6  | 8998.8  | 10957.4 | 13208.7 | 14153.8 | 13003.5 |
| 72.5° | 2405.6 | 2440.6 | 2631.6 | 3061.1 | 3587.8 | 4383.3  | 5567.0  | 7414.2  | 9442.7  | 10426.0 | 9278.9  |
| 75°   | 881.4  | 889.4  | 933.9  | 1035.8 | 1233.0 | 1532.2  | 2100.2  | 3248.9  | 4809.7  | 5735.6  | 4828.8  |
| 77.5° | 475.7  | 477.3  | 494.8  | 520.3  | 555.3  | 595.0   | 681.0   | 913.2   | 1473.3  | 2004.7  | 1556.0  |
| 80°   | 299.1  | 297.5  | 315.0  | 335.7  | 359.6  | 378.7   | 386.6   | 413.7   | 466.2   | 545.7   | 501.2   |
| 82.5° | 152.7  | 167.1  | 206.8  | 229.1  | 264.1  | 270.5   | 262.5   | 260.9   | 276.8   | 299.1   | 308.7   |
| 85°   | 84.3   | 74.8   | 109.8  | 146.4  | 159.1  | 163.9   | 165.5   | 155.9   | 152.7   | 149.6   | 157.5   |
| 87.5° | 43.0   | 39.8   | 47.7   | 73.2   | 78.0   | 63.6    | 65.2    | 55.7    | 38.2    | 38.2    | 39.8    |
| 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: P195448

CATALOG NUMBER: NAV-AF-04-D-UNV-5MQ-7050

**CANDELA DISTRIBUTION (continued):**

|       | 55°     | 60°     | 65°    | 70°    | 75°    | 80°    | 85°    | 90°    |
|-------|---------|---------|--------|--------|--------|--------|--------|--------|
| 0°    | 2591.8  | 2591.8  | 2591.8 | 2591.8 | 2591.8 | 2591.8 | 2591.8 | 2591.8 |
| 2.5°  | 2572.7  | 2574.3  | 2571.1 | 2571.1 | 2571.1 | 2572.7 | 2571.1 | 2569.5 |
| 5°    | 2552.0  | 2555.2  | 2555.2 | 2556.8 | 2558.4 | 2558.4 | 2558.4 | 2558.4 |
| 7.5°  | 2521.8  | 2523.4  | 2526.5 | 2526.5 | 2526.5 | 2526.5 | 2526.5 | 2526.5 |
| 10°   | 2493.1  | 2490.0  | 2488.4 | 2485.2 | 2485.2 | 2480.4 | 2482.0 | 2483.6 |
| 12.5° | 2478.8  | 2472.5  | 2469.3 | 2464.5 | 2461.3 | 2456.5 | 2456.5 | 2458.1 |
| 15°   | 2485.2  | 2475.6  | 2466.1 | 2462.9 | 2459.7 | 2456.5 | 2453.4 | 2455.0 |
| 17.5° | 2497.9  | 2486.8  | 2475.6 | 2469.3 | 2462.9 | 2458.1 | 2456.5 | 2458.1 |
| 20°   | 2525.0  | 2509.0  | 2491.5 | 2480.4 | 2467.7 | 2464.5 | 2459.7 | 2464.5 |
| 22.5° | 2561.6  | 2542.5  | 2520.2 | 2499.5 | 2485.2 | 2478.8 | 2472.5 | 2477.2 |
| 25°   | 2606.1  | 2585.4  | 2563.1 | 2539.3 | 2523.4 | 2518.6 | 2510.6 | 2510.6 |
| 27.5° | 2668.2  | 2650.6  | 2631.6 | 2609.3 | 2593.4 | 2588.6 | 2575.9 | 2575.9 |
| 30°   | 2766.8  | 2749.3  | 2731.8 | 2712.7 | 2696.8 | 2692.0 | 2676.1 | 2676.1 |
| 32.5° | 2897.3  | 2878.2  | 2867.0 | 2851.1 | 2838.4 | 2830.4 | 2811.3 | 2809.8 |
| 35°   | 3072.3  | 3054.8  | 3053.2 | 3042.0 | 3029.3 | 3030.9 | 3011.8 | 3008.6 |
| 37.5° | 3323.7  | 3309.3  | 3314.1 | 3304.6 | 3293.4 | 3303.0 | 3291.8 | 3291.8 |
| 40°   | 3645.0  | 3640.3  | 3645.0 | 3638.7 | 3640.3 | 3641.9 | 3632.3 | 3635.5 |
| 42.5° | 4033.3  | 4020.5  | 4049.2 | 4046.0 | 4041.2 | 4053.9 | 4031.7 | 4015.8 |
| 45°   | 4480.3  | 4475.6  | 4504.2 | 4509.0 | 4499.4 | 4507.4 | 4467.6 | 4466.0 |
| 47.5° | 4965.6  | 4965.6  | 4991.0 | 4987.9 | 4978.3 | 4979.9 | 4932.2 | 4902.0 |
| 50°   | 5471.5  | 5468.4  | 5493.8 | 5487.4 | 5474.7 | 5473.1 | 5423.8 | 5393.6 |
| 52.5° | 5998.2  | 5998.2  | 6034.8 | 6017.3 | 5987.0 | 5972.7 | 5912.3 | 5872.5 |
| 55°   | 6580.5  | 6572.5  | 6583.7 | 6526.4 | 6467.5 | 6424.6 | 6349.8 | 6319.6 |
| 57.5° | 7317.1  | 7224.9  | 7145.3 | 7072.1 | 6989.4 | 6938.5 | 6851.0 | 6819.1 |
| 60°   | 8362.4  | 8115.8  | 8009.2 | 7862.9 | 7726.0 | 7657.6 | 7541.5 | 7479.4 |
| 62.5° | 9810.3  | 9401.4  | 9111.8 | 8788.8 | 8477.0 | 8257.4 | 8080.8 | 8002.9 |
| 65°   | 11484.0 | 10593.1 | 9856.4 | 9164.3 | 8577.2 | 8111.1 | 7851.7 | 7770.6 |
| 67.5° | 12120.4 | 10484.9 | 9213.6 | 8220.8 | 7508.1 | 6952.8 | 6642.5 | 6577.3 |
| 68°   | 11985.2 | 10236.7 | 8916.1 | 7899.4 | 7183.5 | 6623.4 | 6314.8 | 6255.9 |
| 70°   | 10572.4 | 8636.1  | 7242.4 | 6230.5 | 5562.2 | 5029.2 | 4811.3 | 4717.4 |
| 72.5° | 7207.3  | 5546.3  | 4254.4 | 3403.2 | 2903.6 | 2566.3 | 2365.9 | 2297.4 |
| 75°   | 3317.3  | 2241.8  | 1497.2 | 1118.5 | 949.8  | 868.7  | 806.7  | 790.7  |
| 77.5° | 967.3   | 703.2   | 604.6  | 560.0  | 526.6  | 498.0  | 477.3  | 475.7  |
| 80°   | 459.8   | 431.2   | 418.4  | 389.8  | 359.6  | 332.5  | 313.4  | 316.6  |
| 82.5° | 308.7   | 300.7   | 300.7  | 272.1  | 224.3  | 192.5  | 159.1  | 143.2  |
| 85°   | 163.9   | 170.2   | 179.8  | 170.2  | 148.0  | 109.8  | 71.6   | 78.0   |
| 87.5° | 55.7    | 63.6    | 66.8   | 65.2   | 58.9   | 44.5   | 33.4   | 33.4   |
| 90°   | 0.0     | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)