

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: P270714

Luminaire Tested: **NAV-AF-06-D-UNV-T4FT-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270714
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-06-D-UNV-T4FT-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 2700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20782.9 lumens
Efficiency: N/A
Efficacy: 107.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 193
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

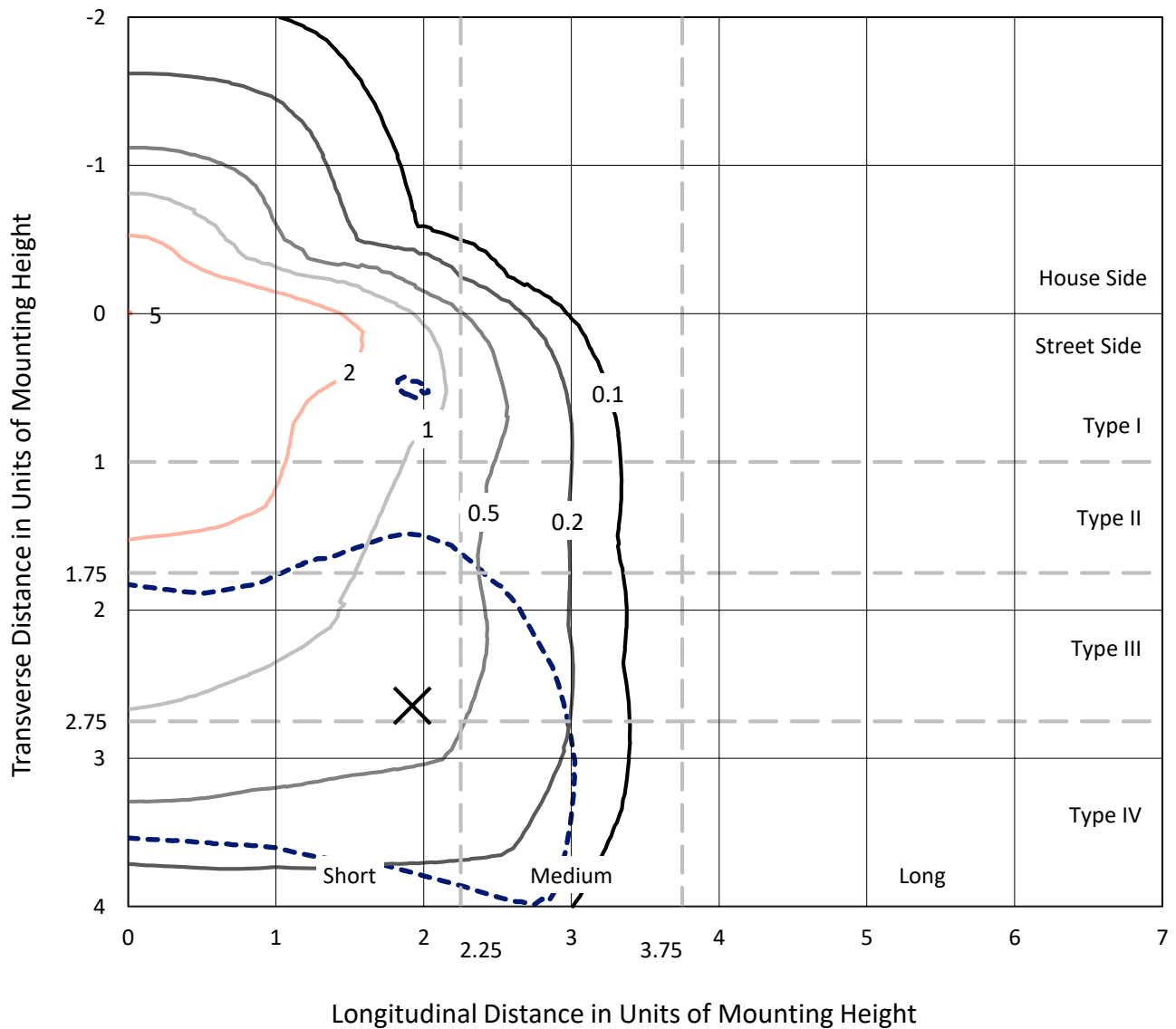


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Iso-Footcandle Lines of Horizontal Illumination

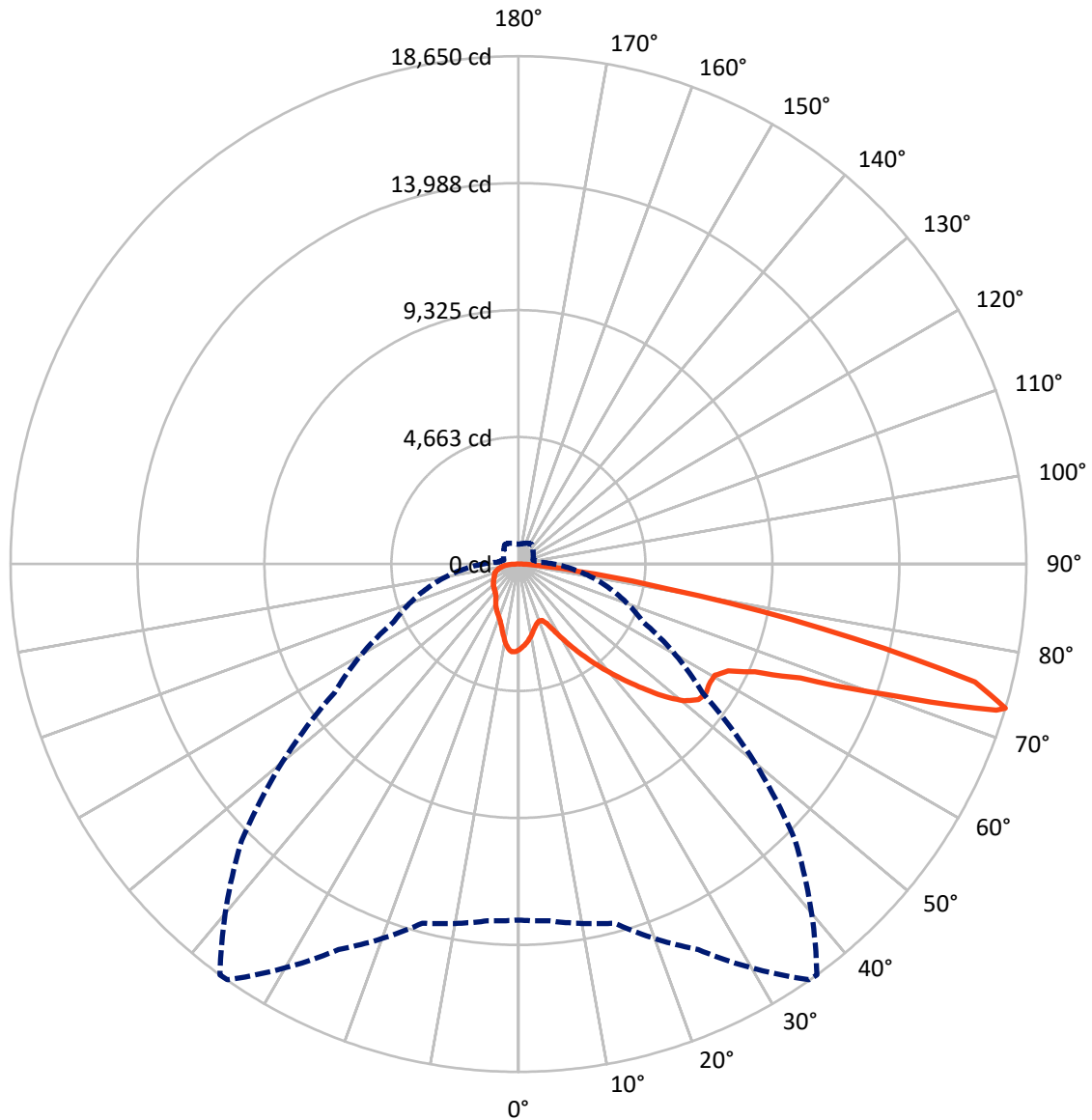
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 4007.6 | 0.0 | 4007.6 |
| | % Fixture | 19.3 | 0.0 | 19.3 |
| Street Side | Lumens | 16775.3 | 0.0 | 16775.3 |
| | % Fixture | 80.7 | 0.0 | 80.7 |
| Total | Lumens | 20782.9 | 0.0 | 20782.9 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 285.9 | 1.4 |
| 10°-20° | 718.1 | 3.5 |
| 20°-30° | 1151.3 | 5.5 |
| 30°-40° | 1904.4 | 9.2 |
| 40°-50° | 2946.9 | 14.2 |
| 50°-60° | 3944.9 | 19.0 |
| 60°-70° | 5153.4 | 24.8 |
| 70°-80° | 4209.4 | 20.3 |
| 80°-90° | 468.5 | 2.3 |
| 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° | 20782.9 | 100.0 |
| 0°-180° | 20782.9 | 100.0 |



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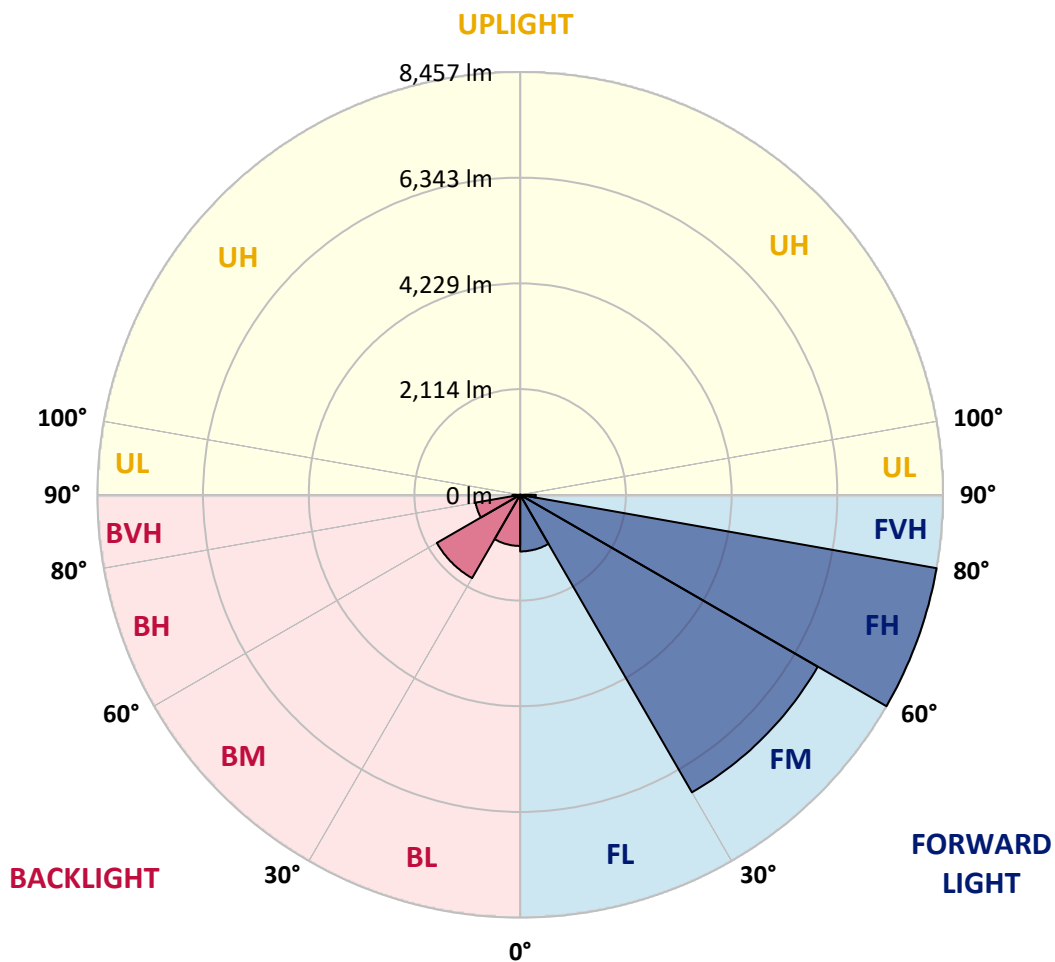
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|----------|
| | | | | B | U | G |
| FL | (0°-30°) | 1132.4 | 5.4 | | | |
| FM | (30°-60°) | 6871.5 | 33.1 | | | |
| FH | (60°-80°) | 8457.1 | 40.7 | | | G4/12000 |
| FVH | (80°-90°) | 314.2 | 1.5 | | | G3/500 |
| BL | (0°-30°) | 1023.0 | 4.9 | B3/2500 | | |
| BM | (30°-60°) | 1924.7 | 9.3 | B2/2500 | | |
| BH | (60°-80°) | 905.6 | 4.4 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 154.3 | 0.7 | | | G2/225 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 36° | 45° | 55° | 65° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------|--------|
| 0° | 3148.0 | 3148.0 | 3148.0 | 3148.0 | 3148.0 | 3148.0 | 3148.0 | 3148.0 | 3148.0 | 3148.0 | 3148.0 |
| 2.5° | 3027.8 | 3035.7 | 3037.1 | 3046.3 | 3046.3 | 3045.1 | 3048.9 | 3064.7 | 3072.7 | 3091.2 | 3107.1 |
| 5° | 2878.6 | 2888.0 | 2891.9 | 2907.6 | 2927.4 | 2928.8 | 2943.3 | 2973.7 | 3002.8 | 3043.6 | 3078.0 |
| 7.5° | 2710.9 | 2721.4 | 2732.0 | 2765.1 | 2794.1 | 2796.8 | 2824.5 | 2873.4 | 2911.6 | 2961.8 | 3023.9 |
| 10° | 2548.5 | 2551.1 | 2561.6 | 2603.9 | 2642.3 | 2646.2 | 2685.8 | 2741.3 | 2792.8 | 2862.8 | 2932.7 |
| 12.5° | 2415.2 | 2423.1 | 2420.5 | 2452.2 | 2485.2 | 2487.8 | 2540.5 | 2610.6 | 2685.8 | 2765.1 | 2848.3 |
| 15° | 2368.9 | 2367.7 | 2339.8 | 2338.6 | 2353.1 | 2355.7 | 2407.2 | 2489.1 | 2573.6 | 2671.3 | 2778.3 |
| 17.5° | 2400.6 | 2390.0 | 2317.4 | 2272.5 | 2263.3 | 2266.0 | 2304.2 | 2394.1 | 2483.9 | 2596.0 | 2724.1 |
| 20° | 2574.9 | 2533.9 | 2363.6 | 2255.4 | 2225.0 | 2225.0 | 2247.4 | 2320.1 | 2419.0 | 2549.7 | 2710.9 |
| 22.5° | 2988.2 | 2924.8 | 2561.6 | 2368.9 | 2261.9 | 2251.4 | 2234.3 | 2289.7 | 2399.4 | 2556.4 | 2765.1 |
| 25° | 3508.5 | 3478.1 | 2924.8 | 2671.3 | 2450.8 | 2416.5 | 2303.0 | 2322.7 | 2440.2 | 2627.7 | 2912.9 |
| 27.5° | 3990.5 | 3937.6 | 3401.5 | 3111.0 | 2799.4 | 2746.6 | 2506.2 | 2425.8 | 2537.9 | 2759.9 | 3126.9 |
| 30° | 4271.7 | 4236.0 | 3891.4 | 3614.2 | 3243.2 | 3175.7 | 2831.1 | 2629.1 | 2712.3 | 2977.6 | 3430.5 |
| 32.5° | 4578.0 | 4556.9 | 4382.7 | 4130.4 | 3723.7 | 3645.9 | 3251.0 | 2960.5 | 2979.0 | 3266.9 | 3796.3 |
| 35° | 4875.2 | 4902.9 | 4803.9 | 4619.1 | 4241.3 | 4168.8 | 3814.8 | 3393.5 | 3307.7 | 3591.7 | 4187.2 |
| 37.5° | 5231.6 | 5238.2 | 5176.3 | 5056.1 | 4785.5 | 4726.0 | 4434.2 | 3855.7 | 3665.7 | 3937.6 | 4564.8 |
| 40° | 5943.5 | 5839.2 | 5596.1 | 5501.1 | 5340.0 | 5303.1 | 4970.2 | 4279.6 | 3998.4 | 4292.8 | 4921.4 |
| 42.5° | 6713.3 | 6550.9 | 6170.5 | 6014.7 | 5950.1 | 5915.7 | 5416.6 | 4562.2 | 4310.0 | 4648.1 | 5271.3 |
| 45° | 7333.9 | 7201.8 | 6829.5 | 6636.7 | 6644.7 | 6589.2 | 5806.1 | 4814.5 | 4648.1 | 5004.5 | 5662.1 |
| 47.5° | 7945.2 | 7724.7 | 7307.5 | 7279.8 | 7372.2 | 7290.4 | 6178.5 | 5066.6 | 5000.7 | 5392.9 | 6053.0 |
| 50° | 7984.9 | 7784.2 | 7615.1 | 7837.1 | 7995.5 | 7893.8 | 6516.6 | 5396.7 | 5366.4 | 5862.9 | 6557.4 |
| 52.5° | 7503.0 | 7473.9 | 7731.4 | 8105.0 | 8367.8 | 8276.8 | 6792.5 | 5736.1 | 5740.1 | 6450.5 | 7171.4 |
| 55° | 7327.2 | 7290.4 | 7599.3 | 8058.9 | 8414.1 | 8359.8 | 6998.4 | 6119.1 | 6154.6 | 7163.5 | 7830.3 |
| 57.5° | 7623.0 | 7530.6 | 7591.3 | 7971.6 | 8305.8 | 8274.1 | 7212.4 | 6544.2 | 6608.9 | 7984.9 | 8439.1 |
| 60° | 8540.7 | 8352.0 | 8029.8 | 8101.0 | 8309.7 | 8291.3 | 7518.8 | 7018.3 | 7126.6 | 8840.5 | 8824.7 |
| 62.5° | 9915.4 | 9701.4 | 9045.3 | 8728.3 | 8682.1 | 8646.5 | 8024.5 | 7600.6 | 7654.7 | 9458.6 | 8600.3 |
| 65° | 11423.3 | 11193.6 | 10413.2 | 9894.3 | 9622.3 | 9545.7 | 8840.5 | 8303.2 | 7963.7 | 9457.1 | 7726.1 |
| 67.5° | 13116.2 | 12873.3 | 12095.5 | 11600.4 | 11305.9 | 11175.2 | 10165.0 | 8870.9 | 7863.5 | 8657.0 | 6182.5 |
| 70° | 14850.1 | 14618.9 | 14262.4 | 14435.4 | 14564.8 | 14365.3 | 12251.4 | 9059.8 | 7142.5 | 6787.2 | 4151.5 |
| 72.5° | 13929.7 | 13911.2 | 14181.8 | 15821.8 | 18316.3 | 18355.8 | 14335.1 | 8526.3 | 5518.3 | 4034.0 | 2213.2 |
| 73° | 13075.3 | 13153.3 | 13655.0 | 15617.3 | 18637.1 | 18650.3 | 14375.9 | 8250.4 | 5066.6 | 3475.5 | 1943.8 |
| 75° | 6773.9 | 7302.2 | 9164.1 | 12663.2 | 17257.2 | 17319.3 | 12672.6 | 6245.8 | 3019.9 | 1930.5 | 1309.9 |
| 77.5° | 1814.3 | 1790.5 | 2952.5 | 6169.2 | 11505.2 | 11423.3 | 8007.3 | 3023.9 | 1447.2 | 1210.8 | 919.1 |
| 80° | 621.9 | 629.8 | 1004.8 | 2256.7 | 5370.3 | 5561.9 | 3475.5 | 1319.2 | 952.1 | 843.8 | 651.0 |
| 82.5° | 316.9 | 327.5 | 525.6 | 960.0 | 2246.1 | 2198.6 | 1118.4 | 776.5 | 637.7 | 512.4 | 364.4 |
| 85° | 169.1 | 174.4 | 289.2 | 497.8 | 823.9 | 833.2 | 393.5 | 414.7 | 405.3 | 290.5 | 179.7 |
| 87.5° | 83.3 | 85.8 | 138.7 | 219.1 | 305.1 | 294.5 | 137.4 | 179.7 | 199.5 | 163.8 | 99.1 |
| 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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CATALOG NUMBER: NAV-AF-06-D-UNV-T4FT-7027-600

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 3148.0 | 3148.0 | 3148.0 | 3148.0 | 3148.0 | 3148.0 | 3148.0 | 3148.0 | 3148.0 | 3148.0 | 3148.0 |
| 2.5° | 3126.9 | 3126.9 | 3144.1 | 3173.2 | 3194.3 | 3214.0 | 3227.3 | 3248.4 | 3260.3 | 3259.0 | 3257.7 |
| 5° | 3105.7 | 3118.9 | 3153.3 | 3189.0 | 3212.7 | 3228.6 | 3228.6 | 3237.9 | 3237.9 | 3233.8 | 3228.6 |
| 7.5° | 3056.9 | 3079.3 | 3129.5 | 3161.2 | 3167.9 | 3150.6 | 3116.3 | 3089.9 | 3056.9 | 3039.8 | 3033.0 |
| 10° | 2979.0 | 3008.1 | 3071.5 | 3085.9 | 3051.6 | 2990.8 | 2907.6 | 2836.4 | 2773.0 | 2744.0 | 2734.7 |
| 12.5° | 2902.5 | 2940.7 | 3000.1 | 2977.6 | 2895.7 | 2776.9 | 2648.8 | 2551.1 | 2479.9 | 2452.2 | 2442.9 |
| 15° | 2839.1 | 2885.3 | 2931.4 | 2861.5 | 2718.8 | 2553.8 | 2412.5 | 2321.4 | 2267.2 | 2246.1 | 2240.8 |
| 17.5° | 2796.8 | 2851.0 | 2866.8 | 2736.0 | 2537.9 | 2353.1 | 2227.6 | 2168.1 | 2144.4 | 2135.2 | 2132.5 |
| 20° | 2799.4 | 2860.2 | 2821.8 | 2614.5 | 2363.6 | 2177.4 | 2094.3 | 2077.2 | 2077.2 | 2077.2 | 2075.8 |
| 22.5° | 2872.1 | 2924.8 | 2803.4 | 2501.1 | 2195.9 | 2029.6 | 1993.9 | 2008.4 | 2019.0 | 2019.0 | 2017.7 |
| 25° | 3022.5 | 3051.6 | 2816.5 | 2391.4 | 2038.9 | 1901.5 | 1902.8 | 1930.5 | 1939.8 | 1939.8 | 1937.1 |
| 27.5° | 3252.4 | 3228.6 | 2840.4 | 2269.8 | 1884.4 | 1785.3 | 1803.7 | 1828.9 | 1835.4 | 1831.5 | 1830.1 |
| 30° | 3540.2 | 3445.1 | 2860.2 | 2127.2 | 1739.1 | 1677.0 | 1692.9 | 1707.4 | 1702.1 | 1692.9 | 1691.5 |
| 32.5° | 3862.4 | 3665.7 | 2848.3 | 1967.5 | 1611.0 | 1564.8 | 1574.0 | 1581.9 | 1574.0 | 1551.6 | 1551.6 |
| 35° | 4181.9 | 3865.0 | 2783.6 | 1793.1 | 1509.3 | 1456.5 | 1455.2 | 1480.2 | 1478.9 | 1452.5 | 1453.8 |
| 37.5° | 4461.9 | 4022.2 | 2658.2 | 1633.4 | 1422.1 | 1377.2 | 1382.5 | 1398.4 | 1406.2 | 1370.6 | 1366.7 |
| 40° | 4706.2 | 4130.4 | 2481.2 | 1497.5 | 1352.2 | 1354.9 | 1340.4 | 1315.2 | 1306.0 | 1290.1 | 1287.5 |
| 42.5° | 4935.8 | 4205.7 | 2293.6 | 1383.8 | 1316.5 | 1346.9 | 1298.1 | 1238.7 | 1213.5 | 1228.1 | 1237.2 |
| 45° | 5161.8 | 4290.2 | 2112.8 | 1290.1 | 1271.6 | 1323.2 | 1255.8 | 1189.7 | 1160.7 | 1167.3 | 1176.5 |
| 47.5° | 5437.7 | 4407.8 | 1894.9 | 1189.7 | 1202.9 | 1279.5 | 1229.4 | 1158.0 | 1114.4 | 1088.0 | 1080.1 |
| 50° | 5800.9 | 4578.0 | 1612.3 | 1081.5 | 1130.2 | 1231.9 | 1207.0 | 1111.8 | 1064.3 | 1011.5 | 998.2 |
| 52.5° | 6255.1 | 4739.2 | 1327.1 | 994.3 | 1070.9 | 1191.1 | 1170.0 | 1072.2 | 1014.1 | 950.8 | 940.2 |
| 55° | 6708.1 | 4761.6 | 1081.5 | 919.1 | 1003.5 | 1135.5 | 1125.0 | 1040.5 | 958.6 | 907.2 | 896.6 |
| 57.5° | 7024.8 | 4548.9 | 916.5 | 855.6 | 938.9 | 1066.9 | 1084.2 | 1002.1 | 912.5 | 872.9 | 866.2 |
| 60° | 7030.1 | 4040.7 | 816.0 | 813.4 | 890.0 | 1007.4 | 1041.9 | 957.4 | 883.5 | 857.1 | 851.8 |
| 62.5° | 6471.6 | 3256.3 | 751.3 | 781.7 | 854.4 | 958.6 | 1010.1 | 932.3 | 876.7 | 866.2 | 860.9 |
| 65° | 5424.4 | 2405.9 | 699.9 | 752.7 | 821.3 | 917.7 | 983.7 | 924.4 | 874.1 | 870.2 | 866.2 |
| 67.5° | 4005.1 | 1649.3 | 656.3 | 715.7 | 784.4 | 875.5 | 958.6 | 912.5 | 858.3 | 874.1 | 868.9 |
| 70° | 2519.4 | 1101.3 | 615.2 | 673.4 | 735.5 | 826.6 | 925.7 | 891.3 | 838.5 | 829.2 | 812.1 |
| 72.5° | 1422.1 | 796.3 | 566.6 | 619.3 | 672.1 | 761.9 | 880.8 | 855.6 | 793.7 | 756.6 | 739.5 |
| 73° | 1284.8 | 753.9 | 554.7 | 606.0 | 657.6 | 748.6 | 870.2 | 845.0 | 780.4 | 739.5 | 723.7 |
| 75° | 940.2 | 616.6 | 500.4 | 552.0 | 596.8 | 687.9 | 820.1 | 792.2 | 722.2 | 673.4 | 662.9 |
| 77.5° | 681.4 | 475.4 | 430.5 | 476.7 | 516.3 | 603.4 | 744.8 | 713.1 | 644.4 | 617.9 | 607.4 |
| 80° | 491.3 | 360.5 | 356.5 | 401.5 | 435.8 | 524.3 | 664.1 | 631.1 | 565.2 | 643.0 | 625.8 |
| 82.5° | 293.1 | 231.0 | 261.4 | 311.6 | 347.3 | 439.7 | 577.0 | 538.8 | 475.4 | 480.7 | 409.4 |
| 85° | 140.0 | 130.8 | 162.5 | 204.6 | 229.7 | 301.0 | 480.7 | 450.3 | 380.3 | 311.6 | 305.1 |
| 87.5° | 62.1 | 59.4 | 78.0 | 91.1 | 122.8 | 180.9 | 328.8 | 291.8 | 276.0 | 165.1 | 129.4 |
| 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)