

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: P195189

Luminaire Tested: **NAV-AF-03-D-UNV-SL3-7060-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195189
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
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-SL3-7060-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19845 lumens
Efficiency: N/A
Efficacy: 103.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G4

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

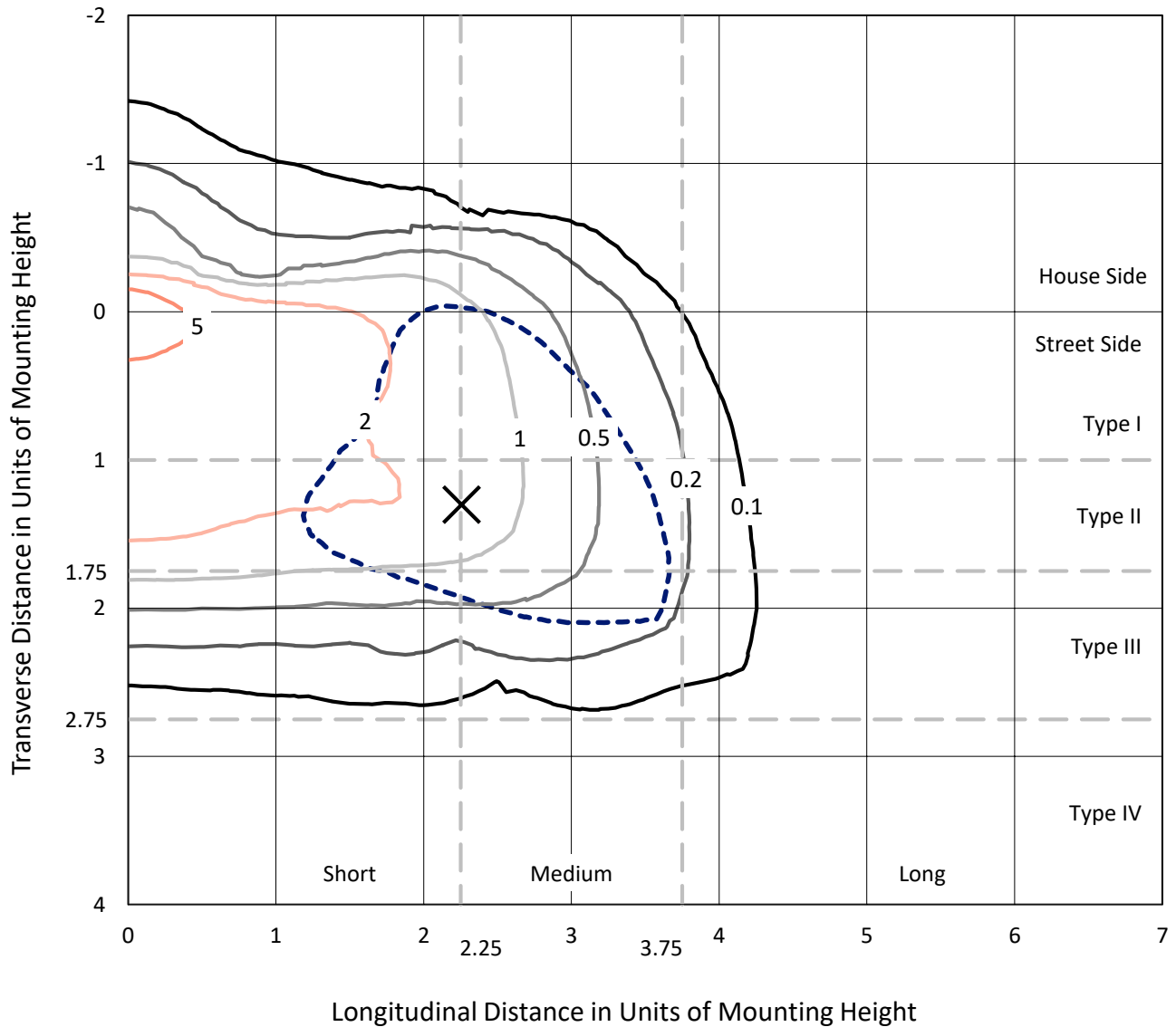


REPORT NUMBER: P195189

CATALOG NUMBER: NAV-AF-03-D-UNV-SL3-7060-1200

Iso-Footcandle Lines of Horizontal Illumination

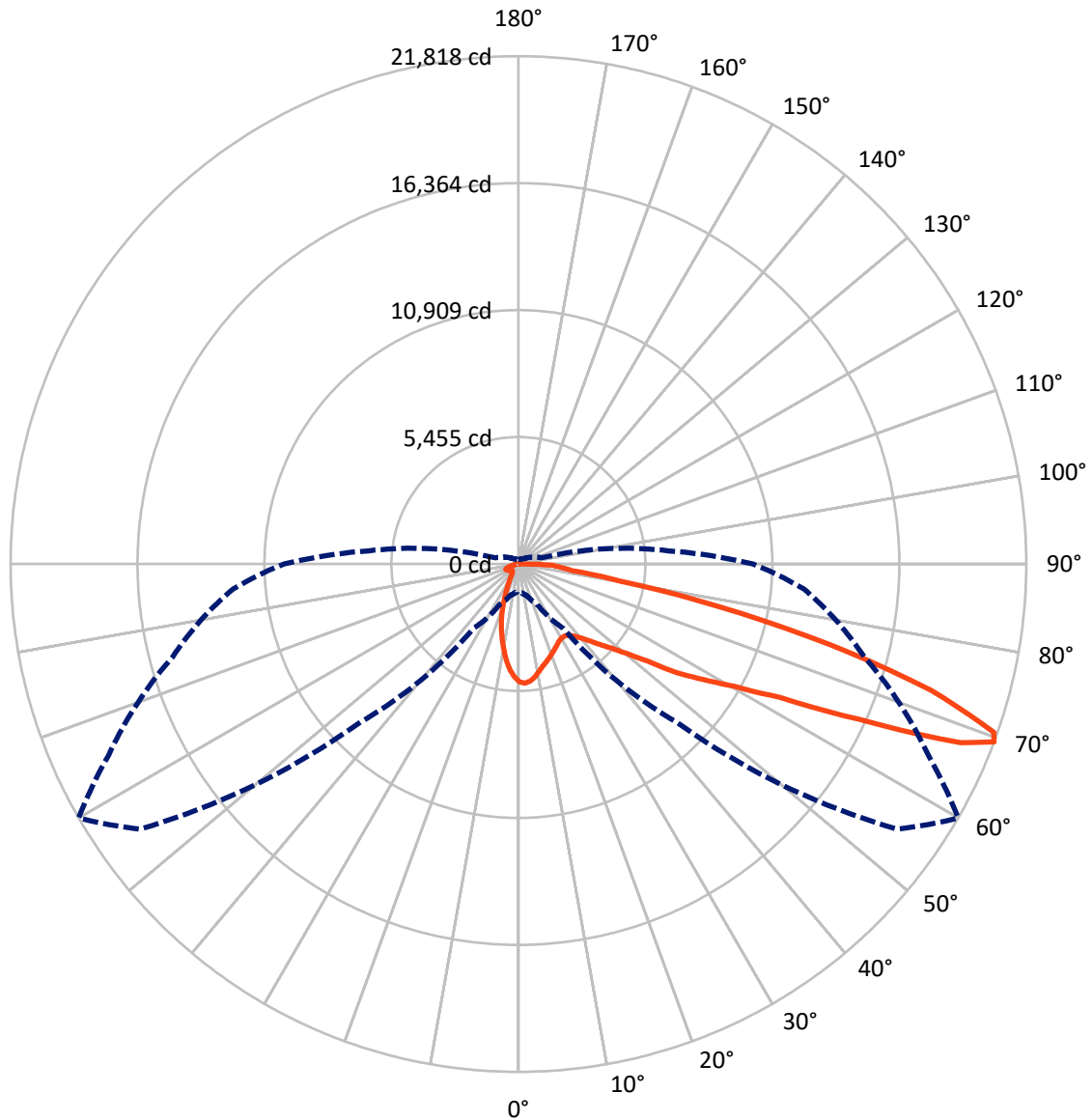
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.1 fc
 Type III - Medium - Non-Cutoff

REPORT NUMBER: P195189
CATALOG NUMBER: NAV-AF-03-D-UNV-SL3-7060-1200

Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

REPORT NUMBER: P195189

CATALOG NUMBER: NAV-AF-03-D-UNV-SL3-7060-1200

FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 2830.6 | 0.0 | 2830.6 |
| | % Fixture | 14.3 | 0.0 | 14.3 |
| Street Side | Lumens | 17014.4 | 0.0 | 17014.4 |
| | % Fixture | 85.7 | 0.0 | 85.7 |
| Total | Lumens | 19845.0 | 0.0 | 19845.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 429.6 | 2.2 |
| 10°-20° | 919.7 | 4.6 |
| 20°-30° | 1173.3 | 5.9 |
| 30°-40° | 1614.6 | 8.1 |
| 40°-50° | 2615.3 | 13.2 |
| 50°-60° | 4104.6 | 20.7 |
| 60°-70° | 5472.1 | 27.6 |
| 70°-80° | 3043.8 | 15.3 |
| 80°-90° | 472.1 | 2.4 |
| 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° | 19845.0 | 100.0 |
| 0°-180° | 19845.0 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P195189

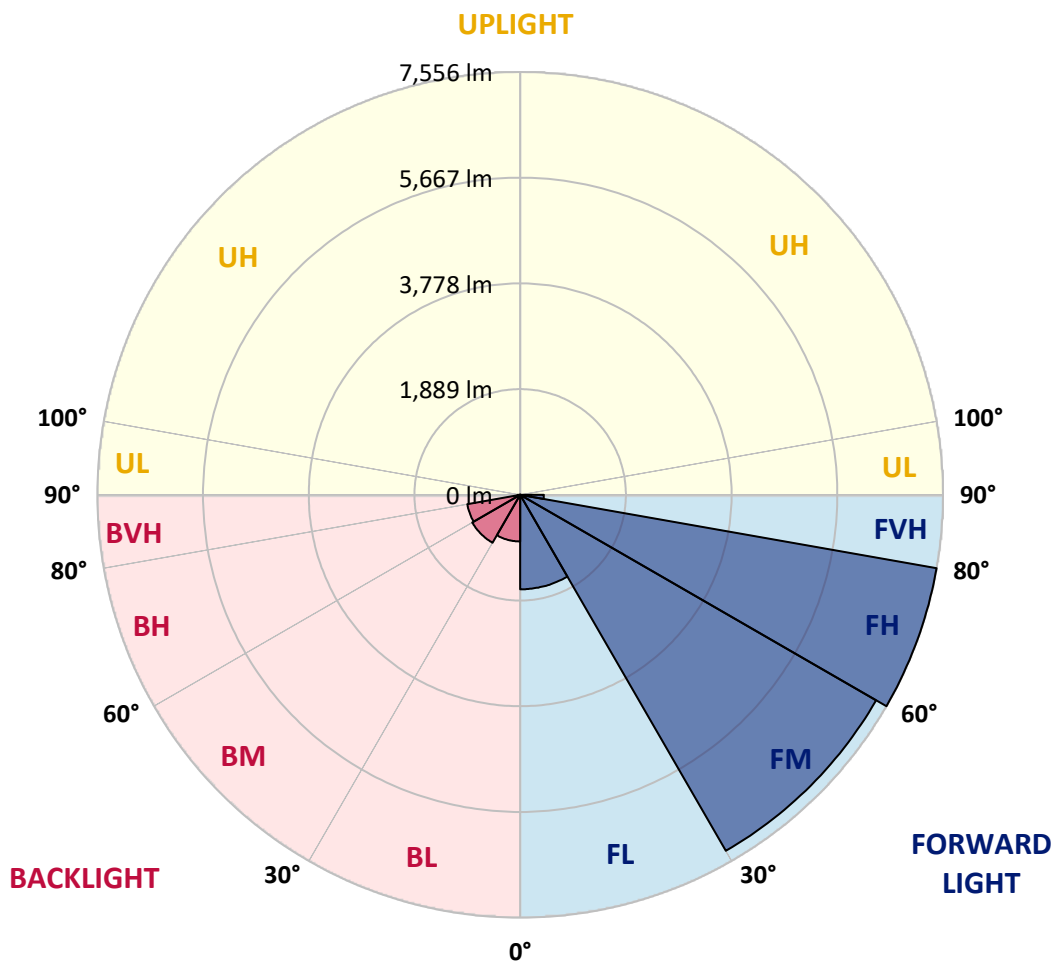
CATALOG NUMBER: NAV-AF-03-D-UNV-SL3-7060-1200

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|----------|
| | | | | B | U | G |
| FL | (0°-30°) | 1688.4 | 8.5 | | | |
| FM | (30°-60°) | 7345.6 | 37.0 | | | |
| FH | (60°-80°) | 7556.2 | 38.1 | | | G4/12000 |
| FVH | (80°-90°) | 424.2 | 2.1 | | | G3/500 |
| BL | (0°-30°) | 834.2 | 4.2 | B2/1000 | | |
| BM | (30°-60°) | 988.8 | 5.0 | B1/1000 | | |
| BH | (60°-80°) | 959.7 | 4.8 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 47.8 | 0.2 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G4

Type III Medium





REPORT NUMBER: P195189

CATALOG NUMBER: NAV-AF-03-D-UNV-SL3-7060-1200

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 60° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|
| 0° | 5063.5 | 5063.5 | 5063.5 | 5063.5 | 5063.5 | 5063.5 | 5063.5 | 5063.5 | 5063.5 | 5063.5 | 5063.5 |
| 2.5° | 5198.4 | 5212.4 | 5212.4 | 5201.0 | 5194.6 | 5157.7 | 5136.1 | 5120.8 | 5094.1 | 5044.4 | 4999.9 |
| 5° | 5012.6 | 5039.3 | 5050.8 | 5055.9 | 5089.0 | 5077.5 | 5078.8 | 5068.6 | 5045.7 | 4992.3 | 4919.7 |
| 7.5° | 4671.6 | 4676.7 | 4697.0 | 4731.4 | 4811.5 | 4867.5 | 4913.4 | 4922.3 | 4917.2 | 4877.7 | 4775.9 |
| 10° | 4335.6 | 4344.5 | 4368.7 | 4427.2 | 4503.6 | 4583.8 | 4683.0 | 4723.7 | 4754.3 | 4741.6 | 4613.0 |
| 12.5° | 4056.9 | 4058.2 | 4084.9 | 4152.4 | 4237.6 | 4338.2 | 4473.0 | 4536.7 | 4609.2 | 4638.5 | 4494.7 |
| 15° | 3788.4 | 3806.2 | 3831.7 | 3913.1 | 4018.7 | 4146.0 | 4301.3 | 4389.1 | 4484.5 | 4568.5 | 4403.1 |
| 17.5° | 3584.8 | 3598.8 | 3614.1 | 3681.5 | 3803.7 | 3962.8 | 4154.9 | 4249.1 | 4375.1 | 4503.6 | 4308.9 |
| 20° | 3472.8 | 3477.9 | 3466.5 | 3499.5 | 3602.6 | 3774.4 | 3997.1 | 4110.4 | 4260.5 | 4441.2 | 4212.2 |
| 22.5° | 3449.9 | 3449.9 | 3407.9 | 3401.6 | 3447.4 | 3592.4 | 3834.2 | 3972.9 | 4156.2 | 4398.0 | 4125.6 |
| 25° | 3556.8 | 3549.2 | 3470.3 | 3397.7 | 3381.2 | 3455.0 | 3679.0 | 3849.5 | 4067.1 | 4396.7 | 4060.7 |
| 27.5° | 3759.1 | 3749.0 | 3651.0 | 3528.8 | 3423.2 | 3391.4 | 3559.3 | 3733.7 | 3997.1 | 4440.0 | 4027.7 |
| 30° | 4011.1 | 4007.3 | 3908.0 | 3755.3 | 3581.0 | 3416.8 | 3512.3 | 3673.9 | 3950.0 | 4520.1 | 4026.4 |
| 32.5° | 4287.3 | 4269.4 | 4208.4 | 4055.6 | 3829.1 | 3558.1 | 3540.3 | 3676.4 | 3937.3 | 4637.2 | 4055.6 |
| 35° | 4581.2 | 4568.5 | 4553.2 | 4399.2 | 4144.7 | 3807.5 | 3663.7 | 3764.2 | 3999.7 | 4800.1 | 4138.4 |
| 37.5° | 4955.3 | 4941.3 | 4966.8 | 4798.8 | 4520.1 | 4134.5 | 3872.4 | 3939.8 | 4126.9 | 5036.8 | 4292.3 |
| 40° | 5620.9 | 5580.2 | 5508.9 | 5250.6 | 4957.9 | 4535.4 | 4174.0 | 4184.2 | 4344.5 | 5353.7 | 4539.2 |
| 42.5° | 6714.0 | 6583.0 | 6230.5 | 5755.8 | 5419.8 | 5001.2 | 4567.2 | 4518.9 | 4644.8 | 5772.3 | 4898.1 |
| 45° | 7809.7 | 7662.1 | 7066.5 | 6306.8 | 5898.3 | 5501.3 | 5053.3 | 4937.5 | 5019.0 | 6259.7 | 5360.0 |
| 47.5° | 8517.2 | 8444.7 | 7772.8 | 6857.8 | 6399.7 | 6045.9 | 5609.4 | 5418.6 | 5477.1 | 6812.0 | 5930.1 |
| 50° | 8724.7 | 8662.3 | 8134.2 | 7289.2 | 6873.1 | 6703.8 | 6297.9 | 6044.7 | 6054.8 | 7457.2 | 6613.5 |
| 52.5° | 8569.4 | 8544.0 | 8194.0 | 7556.5 | 7308.3 | 7397.4 | 7251.0 | 6898.5 | 6814.6 | 8164.7 | 7354.1 |
| 55° | 8362.0 | 8370.9 | 8236.0 | 7825.0 | 7751.2 | 8043.8 | 8498.2 | 8214.4 | 7858.1 | 8901.6 | 8125.3 |
| 57.5° | 7709.2 | 7715.5 | 8069.3 | 8336.5 | 8596.1 | 8949.9 | 9469.1 | 9349.5 | 8934.6 | 9696.9 | 8989.4 |
| 60° | 6207.5 | 6257.2 | 7044.9 | 8230.9 | 9562.0 | 10735.3 | 10862.6 | 10656.4 | 10079.9 | 10613.1 | 10113.0 |
| 62.5° | 4434.9 | 4479.4 | 5391.8 | 7145.4 | 9448.8 | 12756.1 | 13435.7 | 12616.2 | 11633.7 | 11983.7 | 11693.6 |
| 65° | 2330.1 | 2322.4 | 3028.7 | 4937.5 | 7958.6 | 13224.4 | 17490.1 | 16095.3 | 14251.4 | 13868.4 | 13220.6 |
| 67.5° | 1301.8 | 1343.8 | 1617.4 | 2490.4 | 5187.0 | 11638.8 | 20079.7 | 20490.8 | 17890.9 | 15363.6 | 13154.4 |
| 69° | 1203.8 | 1217.8 | 1401.1 | 1925.4 | 3381.2 | 9602.7 | 19857.0 | 21818.0 | 19425.6 | 15370.0 | 12306.9 |
| 70° | 1169.5 | 1184.8 | 1351.5 | 1773.9 | 2840.4 | 7868.2 | 19046.4 | 21662.8 | 19798.5 | 15028.9 | 11535.8 |
| 72.5° | 1048.6 | 1069.0 | 1230.6 | 1594.5 | 2393.7 | 4055.6 | 15342.0 | 18541.2 | 17934.2 | 13135.4 | 8944.8 |
| 75° | 894.6 | 929.0 | 1173.3 | 1583.1 | 2267.7 | 2578.2 | 10231.4 | 13813.6 | 13347.9 | 9394.0 | 5075.0 |
| 77.5° | 370.3 | 374.1 | 512.8 | 1159.3 | 2379.7 | 2467.5 | 5498.7 | 8750.1 | 7746.1 | 4119.3 | 1528.3 |
| 80° | 258.3 | 253.2 | 255.8 | 338.5 | 1920.3 | 2484.0 | 2821.3 | 4450.1 | 3458.8 | 1086.8 | 715.2 |
| 82.5° | 217.6 | 215.1 | 225.2 | 212.5 | 650.3 | 2818.7 | 2359.3 | 2319.9 | 1628.9 | 585.4 | 341.0 |
| 85° | 143.8 | 140.0 | 184.5 | 193.4 | 309.2 | 2238.4 | 2537.5 | 1823.6 | 1214.0 | 313.0 | 145.1 |
| 87.5° | 70.0 | 71.3 | 105.6 | 131.1 | 164.2 | 708.8 | 2430.6 | 1441.8 | 937.9 | 136.2 | 58.5 |
| 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: P195189

CATALOG NUMBER: NAV-AF-03-D-UNV-SL3-7060-1200

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 5063.5 | 5063.5 | 5063.5 | 5063.5 | 5063.5 | 5063.5 | 5063.5 | 5063.5 | 5063.5 | 5063.5 | 5063.5 |
| 2.5° | 4982.1 | 4943.9 | 4909.5 | 4866.3 | 4833.2 | 4805.2 | 4767.0 | 4765.7 | 4759.4 | 4768.3 | 4770.8 |
| 5° | 4871.4 | 4807.7 | 4711.0 | 4602.8 | 4526.5 | 4426.0 | 4328.0 | 4294.9 | 4258.0 | 4254.2 | 4265.6 |
| 7.5° | 4704.7 | 4605.4 | 4440.0 | 4274.5 | 4109.1 | 3939.8 | 3779.5 | 3698.1 | 3619.2 | 3595.0 | 3606.4 |
| 10° | 4518.9 | 4392.9 | 4139.6 | 3869.9 | 3637.0 | 3385.0 | 3140.7 | 2982.9 | 2839.1 | 2778.0 | 2793.3 |
| 12.5° | 4373.8 | 4213.4 | 3857.1 | 3507.2 | 3158.5 | 2797.1 | 2475.1 | 2163.4 | 1927.9 | 1822.3 | 1828.7 |
| 15° | 4249.1 | 4044.2 | 3592.4 | 3126.7 | 2690.2 | 2195.2 | 1748.5 | 1387.1 | 1180.9 | 1104.6 | 1102.0 |
| 17.5° | 4114.2 | 3866.0 | 3316.3 | 2772.9 | 2206.6 | 1594.5 | 1170.8 | 957.0 | 875.5 | 850.1 | 850.1 |
| 20° | 3970.4 | 3682.8 | 3027.4 | 2387.3 | 1697.6 | 1113.5 | 880.6 | 797.9 | 767.4 | 759.7 | 758.4 |
| 22.5° | 3836.8 | 3503.4 | 2737.3 | 1976.3 | 1228.0 | 845.0 | 749.5 | 717.7 | 712.6 | 719.0 | 719.0 |
| 25° | 3731.1 | 3345.6 | 2443.3 | 1543.6 | 893.3 | 707.5 | 666.8 | 663.0 | 682.1 | 705.0 | 708.8 |
| 27.5° | 3652.2 | 3204.3 | 2153.2 | 1127.5 | 702.5 | 615.9 | 601.9 | 618.5 | 663.0 | 708.8 | 717.7 |
| 30° | 3597.5 | 3083.4 | 1805.8 | 810.6 | 585.4 | 539.6 | 545.9 | 575.2 | 642.6 | 712.6 | 731.7 |
| 32.5° | 3573.3 | 2985.4 | 1455.8 | 622.3 | 500.1 | 474.7 | 491.2 | 529.4 | 599.4 | 669.4 | 692.3 |
| 35° | 3596.3 | 2914.2 | 1132.6 | 516.7 | 437.8 | 418.7 | 437.8 | 477.2 | 523.0 | 557.4 | 571.4 |
| 37.5° | 3679.0 | 2888.7 | 852.6 | 458.1 | 397.0 | 378.0 | 393.2 | 419.9 | 440.3 | 453.0 | 459.4 |
| 40° | 3853.3 | 2915.4 | 668.1 | 427.6 | 374.1 | 352.5 | 356.3 | 369.0 | 383.0 | 393.2 | 394.5 |
| 42.5° | 4130.7 | 3003.2 | 594.3 | 416.1 | 360.1 | 332.1 | 325.8 | 334.7 | 350.0 | 364.0 | 366.5 |
| 45° | 4499.8 | 3149.6 | 586.6 | 419.9 | 353.8 | 315.6 | 302.9 | 311.8 | 332.1 | 355.0 | 358.9 |
| 47.5° | 4977.0 | 3381.2 | 622.3 | 440.3 | 357.6 | 306.7 | 287.6 | 296.5 | 323.2 | 353.8 | 358.9 |
| 50° | 5542.0 | 3701.9 | 688.5 | 470.8 | 375.4 | 306.7 | 281.2 | 288.9 | 316.9 | 351.2 | 356.3 |
| 52.5° | 6207.5 | 4148.5 | 757.2 | 501.4 | 400.9 | 318.1 | 283.8 | 282.5 | 308.0 | 339.8 | 346.1 |
| 55° | 6941.8 | 4703.4 | 823.3 | 528.1 | 414.9 | 333.4 | 290.1 | 274.9 | 295.2 | 320.7 | 325.8 |
| 57.5° | 7805.9 | 5463.1 | 939.1 | 553.6 | 422.5 | 344.9 | 297.8 | 267.2 | 278.7 | 296.5 | 300.3 |
| 60° | 8977.9 | 6579.1 | 1164.4 | 596.8 | 436.5 | 350.0 | 299.1 | 259.6 | 258.3 | 271.1 | 272.3 |
| 62.5° | 10506.3 | 7886.1 | 1379.5 | 647.7 | 464.5 | 351.2 | 294.0 | 254.5 | 241.8 | 245.6 | 245.6 |
| 65° | 11593.0 | 8367.1 | 1317.1 | 691.0 | 489.9 | 350.0 | 288.9 | 250.7 | 229.1 | 222.7 | 222.7 |
| 67.5° | 10974.6 | 7391.0 | 1118.6 | 702.5 | 492.5 | 336.0 | 277.4 | 241.8 | 217.6 | 202.3 | 202.3 |
| 69° | 10065.9 | 6478.6 | 1027.0 | 682.1 | 472.1 | 319.4 | 264.7 | 232.9 | 210.0 | 192.2 | 192.2 |
| 70° | 9325.3 | 5787.6 | 971.0 | 657.9 | 447.9 | 305.4 | 253.2 | 224.0 | 202.3 | 187.1 | 185.8 |
| 72.5° | 6962.2 | 3862.2 | 829.7 | 567.6 | 367.8 | 258.3 | 221.4 | 199.8 | 182.0 | 171.8 | 171.8 |
| 75° | 3673.9 | 1935.6 | 679.5 | 463.2 | 283.8 | 206.2 | 182.0 | 168.0 | 157.8 | 156.5 | 155.3 |
| 77.5° | 1203.8 | 875.5 | 488.7 | 348.7 | 208.7 | 160.3 | 145.1 | 136.2 | 134.9 | 140.0 | 140.0 |
| 80° | 650.3 | 523.0 | 314.3 | 235.4 | 145.1 | 119.6 | 112.0 | 110.7 | 114.5 | 122.2 | 122.2 |
| 82.5° | 315.6 | 258.3 | 187.1 | 145.1 | 99.3 | 87.8 | 87.8 | 89.1 | 94.2 | 103.1 | 103.1 |
| 85° | 136.2 | 122.2 | 108.2 | 81.4 | 61.1 | 54.7 | 62.4 | 68.7 | 72.5 | 78.9 | 81.4 |
| 87.5° | 64.9 | 57.3 | 49.6 | 31.8 | 26.7 | 28.0 | 33.1 | 40.7 | 48.4 | 53.4 | 54.7 |
| 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)