

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: P196589

Luminaire Tested: **NAV-AF-05-D-UNV-SL3-7030-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196589
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-05-D-UNV-SL3-7030-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16265.4 lumens
Efficiency: N/A
Efficacy: 100.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G3

Input Watts (W): 162
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

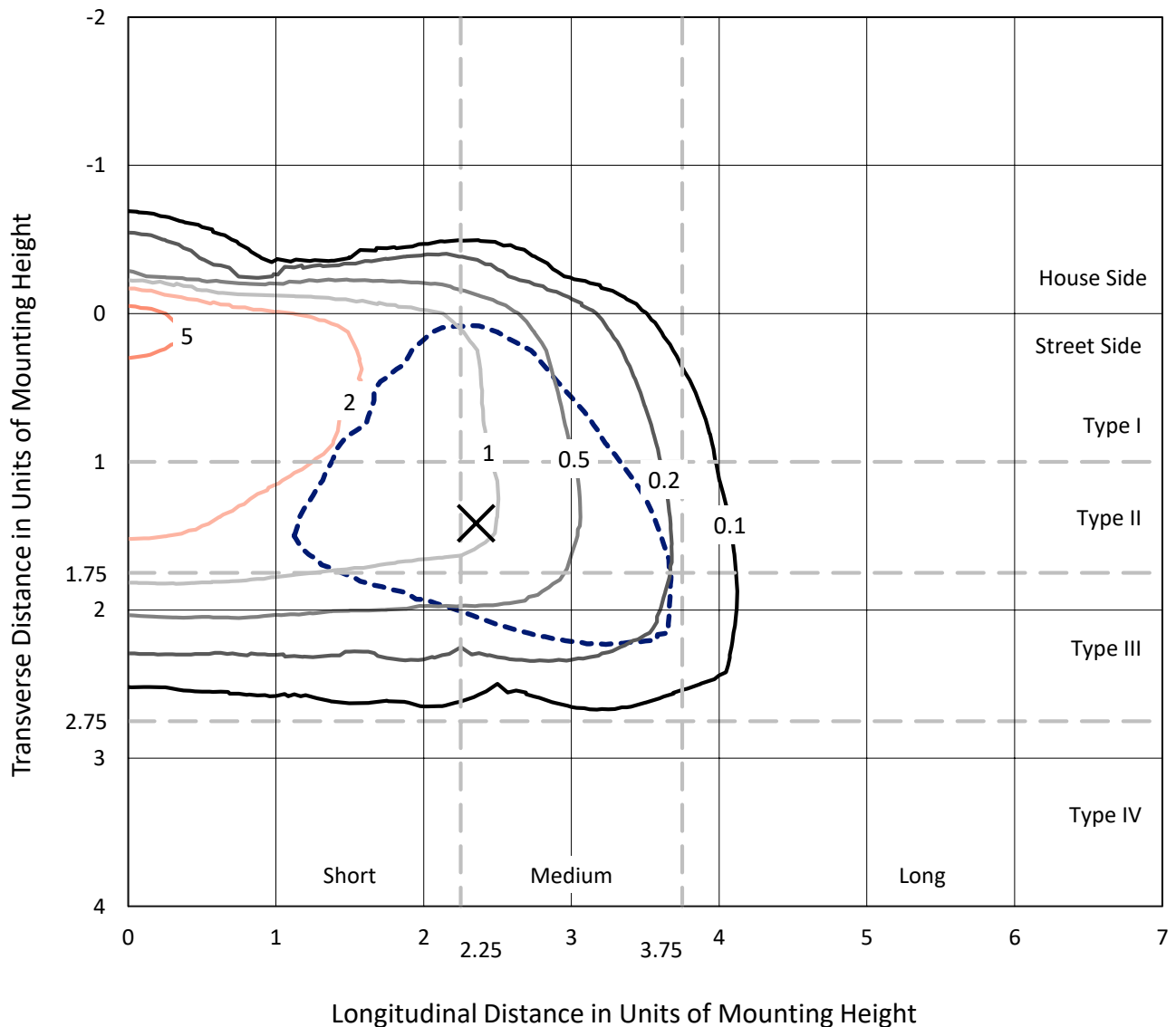


REPORT NUMBER: P196589

CATALOG NUMBER: NAV-AF-05-D-UNV-SL3-7030-600-HSS

Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

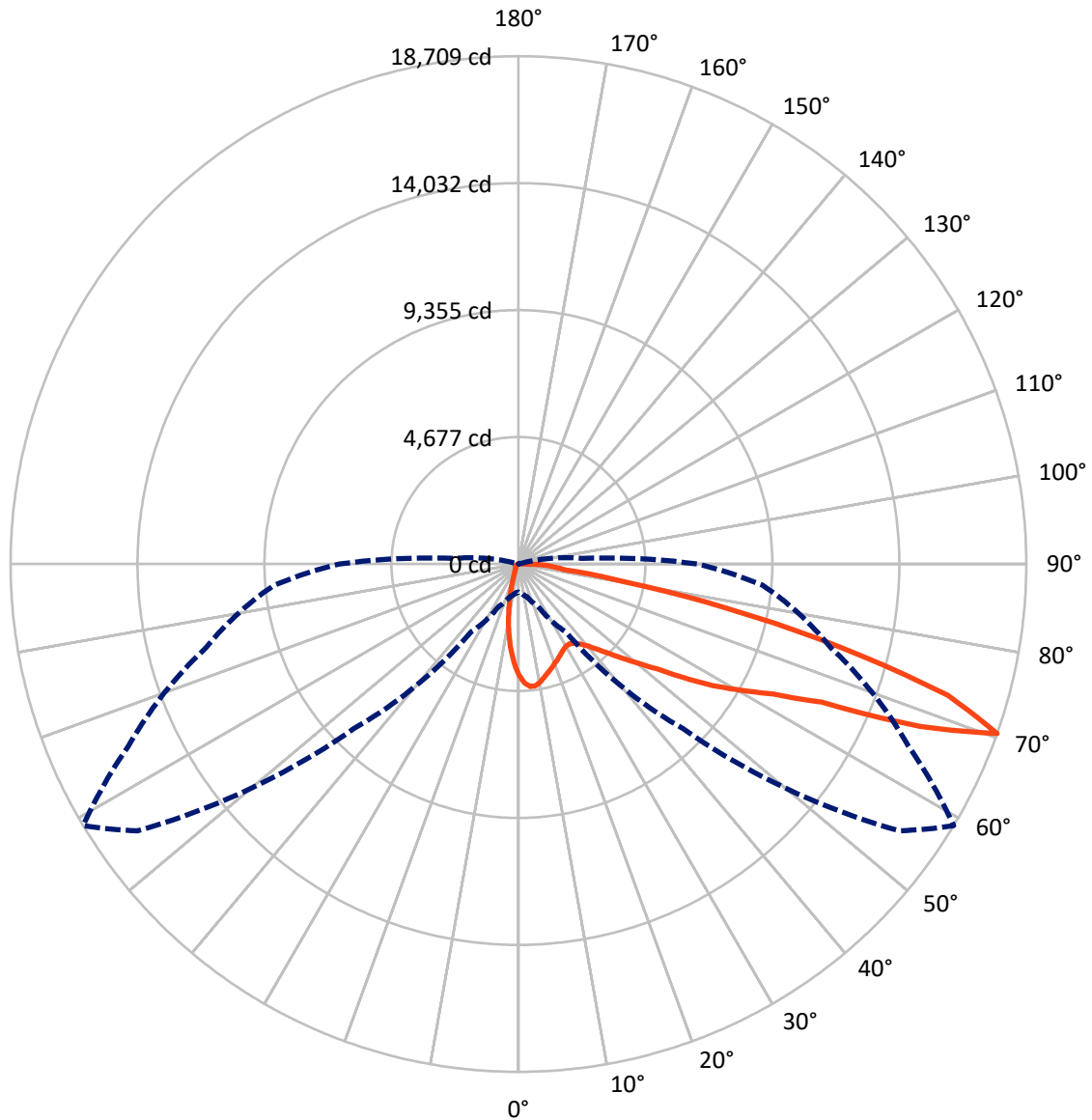


Based on 25 foot mounting height. Maximum calculated value = 7 fc
 Type III - Medium - Non-Cutoff

REPORT NUMBER: P196589

CATALOG NUMBER: NAV-AF-05-D-UNV-SL3-7030-600-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

REPORT NUMBER: P196589

CATALOG NUMBER: NAV-AF-05-D-UNV-SL3-7030-600-HSS

FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 1250.4 | 0.0 | 1250.4 |
| | % Fixture | 7.7 | 0.0 | 7.7 |
| Street Side | Lumens | 15015.1 | 0.0 | 15015.1 |
| | % Fixture | 92.3 | 0.0 | 92.3 |
| Total | Lumens | 16265.4 | 0.0 | 16265.4 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 338.2 | 2.1 |
| 10°-20° | 709.4 | 4.4 |
| 20°-30° | 960.3 | 5.9 |
| 30°-40° | 1385.8 | 8.5 |
| 40°-50° | 2301.5 | 14.1 |
| 50°-60° | 3520.4 | 21.6 |
| 60°-70° | 4378.5 | 26.9 |
| 70°-80° | 2420.4 | 14.9 |
| 80°-90° | 251.0 | 1.5 |
| 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° | 16265.4 | 100.0 |
| 0°-180° | 16265.4 | 100.0 |



REPORT NUMBER: P196589

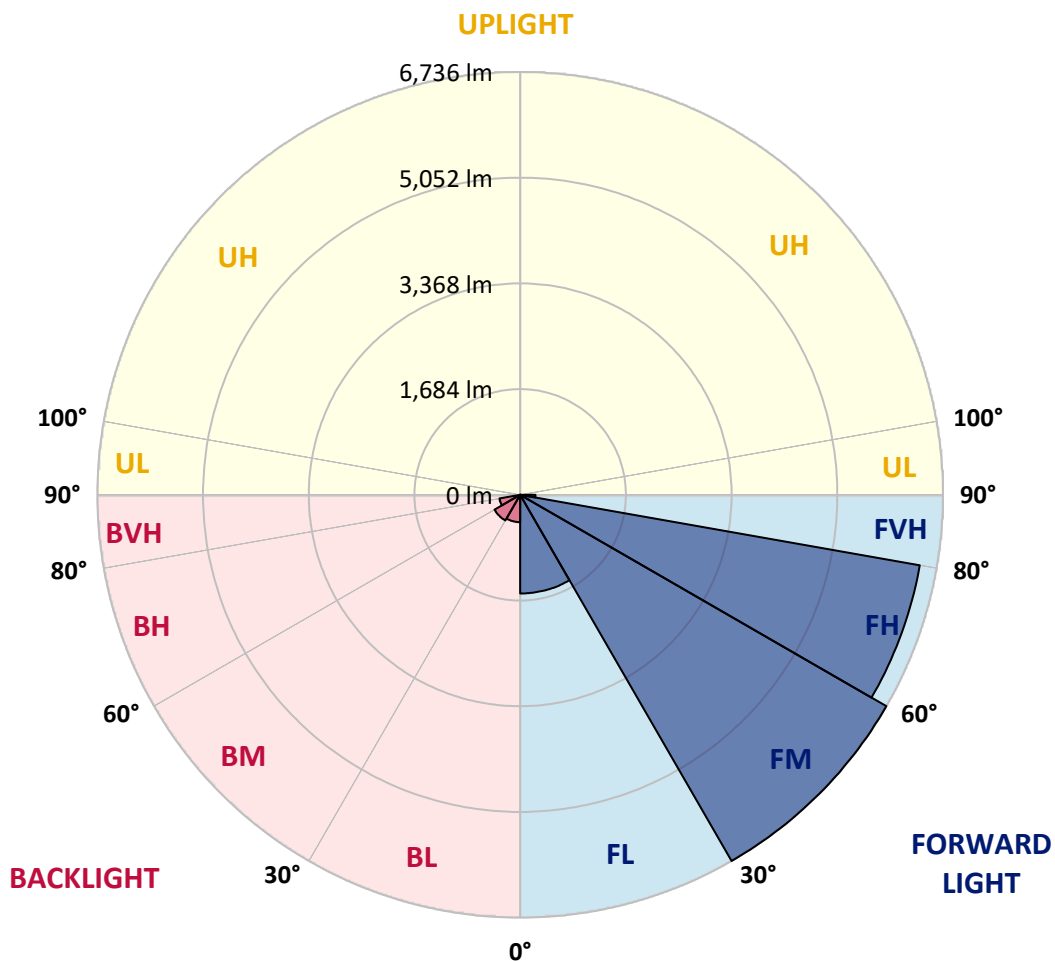
CATALOG NUMBER: NAV-AF-05-D-UNV-SL3-7030-600-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 1572.1 | 9.7 | | | |
| FM | (30°-60°) | 6735.7 | 41.4 | | | |
| FH | (60°-80°) | 6463.5 | 39.7 | | | G3/7500 |
| FVH | (80°-90°) | 243.7 | 1.5 | | | G3/500 |
| BL | (0°-30°) | 435.7 | 2.7 | B1/500 | | |
| BM | (30°-60°) | 472.0 | 2.9 | B1/1000 | | |
| BH | (60°-80°) | 335.4 | 2.1 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 7.2 | 0.0 | | | G0/10 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G3

Type III Medium





REPORT NUMBER: P196589

CATALOG NUMBER: NAV-AF-05-D-UNV-SL3-7030-600-HSS

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 59° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|
| 0° | 4112.9 | 4112.9 | 4112.9 | 4112.9 | 4112.9 | 4112.9 | 4112.9 | 4112.9 | 4112.9 | 4112.9 | 4112.9 |
| 2.5° | 4649.1 | 4641.8 | 4611.1 | 4604.9 | 4570.7 | 4501.9 | 4422.2 | 4390.2 | 4325.2 | 4222.1 | 4108.0 |
| 5° | 4726.4 | 4730.2 | 4732.6 | 4719.1 | 4714.2 | 4657.7 | 4569.4 | 4531.3 | 4444.2 | 4274.9 | 4066.3 |
| 7.5° | 4436.9 | 4446.7 | 4477.3 | 4490.9 | 4549.8 | 4571.9 | 4553.5 | 4528.9 | 4460.2 | 4260.1 | 3966.8 |
| 10° | 4131.3 | 4149.7 | 4182.9 | 4205.0 | 4277.4 | 4336.3 | 4411.2 | 4417.3 | 4402.5 | 4211.1 | 3855.3 |
| 12.5° | 3868.8 | 3886.0 | 3922.7 | 3966.8 | 4040.5 | 4116.7 | 4228.4 | 4267.5 | 4316.7 | 4179.1 | 3775.6 |
| 15° | 3643.0 | 3647.9 | 3683.4 | 3738.8 | 3835.6 | 3939.9 | 4072.4 | 4130.1 | 4225.8 | 4166.9 | 3714.2 |
| 17.5° | 3445.5 | 3446.7 | 3470.0 | 3520.4 | 3638.2 | 3775.6 | 3930.2 | 4006.2 | 4127.7 | 4149.7 | 3660.1 |
| 20° | 3315.4 | 3314.2 | 3315.4 | 3342.3 | 3446.7 | 3609.8 | 3797.7 | 3877.4 | 4033.2 | 4128.9 | 3605.0 |
| 22.5° | 3271.2 | 3265.1 | 3236.8 | 3227.1 | 3293.3 | 3436.9 | 3661.4 | 3765.7 | 3948.5 | 4122.8 | 3564.5 |
| 25° | 3325.2 | 3321.5 | 3261.4 | 3204.9 | 3211.1 | 3300.6 | 3522.7 | 3650.4 | 3882.3 | 4144.9 | 3554.6 |
| 27.5° | 3499.5 | 3492.0 | 3400.0 | 3289.6 | 3219.7 | 3235.6 | 3419.7 | 3553.4 | 3829.5 | 4198.9 | 3568.2 |
| 30° | 3727.7 | 3728.9 | 3630.6 | 3497.0 | 3332.5 | 3241.7 | 3364.4 | 3490.9 | 3793.9 | 4279.8 | 3597.6 |
| 32.5° | 3981.6 | 3980.5 | 3910.5 | 3755.9 | 3546.0 | 3354.7 | 3389.0 | 3495.7 | 3798.8 | 4398.9 | 3654.0 |
| 35° | 4244.2 | 4230.7 | 4207.5 | 4071.2 | 3825.8 | 3552.2 | 3500.6 | 3579.3 | 3850.4 | 4555.9 | 3749.8 |
| 37.5° | 4547.3 | 4542.4 | 4565.7 | 4422.2 | 4171.8 | 3842.9 | 3697.0 | 3749.8 | 3980.5 | 4787.8 | 3904.4 |
| 40° | 5029.5 | 5002.6 | 5013.6 | 4818.5 | 4562.0 | 4234.5 | 3971.8 | 3985.3 | 4187.8 | 5094.5 | 4148.6 |
| 42.5° | 5948.5 | 5839.4 | 5634.4 | 5268.8 | 4991.5 | 4668.7 | 4331.4 | 4308.0 | 4481.0 | 5466.3 | 4470.1 |
| 45° | 7046.6 | 6921.6 | 6405.0 | 5765.7 | 5420.9 | 5135.0 | 4775.5 | 4712.9 | 4841.9 | 5909.3 | 4884.8 |
| 47.5° | 7963.3 | 7828.3 | 7143.7 | 6284.7 | 5857.7 | 5616.0 | 5267.6 | 5193.9 | 5273.7 | 6423.4 | 5382.8 |
| 50° | 8276.2 | 8201.3 | 7600.1 | 6716.6 | 6298.2 | 6155.8 | 5884.7 | 5762.0 | 5781.7 | 6978.1 | 5964.5 |
| 52.5° | 8132.6 | 8106.8 | 7704.4 | 7012.4 | 6705.6 | 6752.2 | 6560.8 | 6432.0 | 6409.9 | 7584.1 | 6607.5 |
| 55° | 7829.5 | 7817.3 | 7621.0 | 7176.8 | 7065.1 | 7298.3 | 7509.3 | 7397.6 | 7189.0 | 8228.4 | 7138.8 |
| 57.5° | 7396.5 | 7443.1 | 7584.1 | 7493.3 | 7506.8 | 7875.0 | 8390.3 | 8447.9 | 8136.3 | 8741.2 | 7532.7 |
| 60° | 6239.4 | 6364.5 | 7011.1 | 7833.3 | 8462.6 | 8834.4 | 9333.9 | 9441.8 | 8938.8 | 9092.1 | 7987.8 |
| 62.5° | 4612.4 | 4791.4 | 5712.9 | 7223.4 | 8989.1 | 10659.0 | 10589.1 | 10541.3 | 9704.4 | 9562.1 | 8816.0 |
| 65° | 2709.2 | 2919.1 | 3698.2 | 5644.3 | 8195.2 | 11832.0 | 12932.7 | 12270.2 | 10871.3 | 10538.8 | 10135.1 |
| 67.5° | 1349.7 | 1351.0 | 1703.2 | 2979.2 | 6056.6 | 11013.7 | 16353.6 | 15970.8 | 13352.3 | 11978.1 | 10655.4 |
| 70° | 1038.1 | 1066.3 | 1260.1 | 1731.3 | 3062.6 | 8578.1 | 17137.7 | 18709.4 | 15845.7 | 11914.2 | 9040.6 |
| 72.5° | 879.7 | 898.2 | 1121.4 | 1506.8 | 2289.6 | 4709.3 | 14835.8 | 16537.7 | 15120.5 | 10066.4 | 6663.9 |
| 75° | 633.1 | 647.9 | 992.6 | 1367.0 | 2108.0 | 2336.2 | 10176.9 | 12265.2 | 11344.9 | 7081.1 | 3667.5 |
| 77.5° | 157.0 | 155.8 | 346.1 | 1109.2 | 1886.0 | 1946.0 | 5839.4 | 7865.1 | 6509.3 | 2899.4 | 942.4 |
| 80° | 69.9 | 67.5 | 78.5 | 233.2 | 1754.6 | 1836.8 | 2568.1 | 3971.8 | 2497.0 | 470.0 | 288.3 |
| 82.5° | 49.0 | 46.7 | 49.0 | 85.9 | 586.5 | 1704.3 | 1552.1 | 1721.5 | 914.2 | 160.7 | 122.7 |
| 85° | 16.0 | 14.7 | 27.0 | 72.4 | 164.4 | 982.8 | 1514.2 | 1285.9 | 679.8 | 68.8 | 82.2 |
| 87.5° | 2.4 | 2.4 | 9.9 | 39.3 | 47.8 | 327.6 | 888.4 | 890.8 | 305.5 | 40.5 | 36.8 |
| 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: P196589

CATALOG NUMBER: NAV-AF-05-D-UNV-SL3-7030-600-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 4112.9 | 4112.9 | 4112.9 | 4112.9 | 4112.9 | 4112.9 | 4112.9 | 4112.9 | 4112.9 | 4112.9 | 4112.9 |
| 2.5° | 4050.3 | 3978.0 | 3876.1 | 3774.3 | 3682.2 | 3587.7 | 3511.7 | 3476.1 | 3460.1 | 3438.1 | 3390.2 |
| 5° | 3957.2 | 3825.8 | 3602.5 | 3382.8 | 3178.0 | 2981.6 | 2813.5 | 2717.9 | 2614.8 | 2609.8 | 2559.5 |
| 7.5° | 3807.4 | 3621.0 | 3268.7 | 2927.6 | 2614.8 | 2315.4 | 2057.7 | 1890.8 | 1776.7 | 1705.5 | 1656.5 |
| 10° | 3640.5 | 3401.2 | 2935.0 | 2455.3 | 2029.5 | 1629.5 | 1298.2 | 1082.2 | 950.9 | 884.7 | 846.6 |
| 12.5° | 3508.0 | 3207.5 | 2606.2 | 2002.5 | 1468.8 | 1009.9 | 701.9 | 544.7 | 474.8 | 447.9 | 435.6 |
| 15° | 3393.9 | 3029.5 | 2298.2 | 1597.6 | 980.4 | 580.3 | 406.1 | 354.6 | 343.5 | 343.5 | 342.3 |
| 17.5° | 3278.6 | 2857.6 | 1998.8 | 1200.0 | 617.2 | 380.3 | 320.2 | 312.9 | 314.1 | 317.8 | 317.8 |
| 20° | 3169.4 | 2694.6 | 1710.5 | 855.2 | 405.0 | 304.3 | 290.8 | 288.3 | 292.0 | 296.9 | 295.6 |
| 22.5° | 3081.0 | 2550.9 | 1440.5 | 587.7 | 311.6 | 276.1 | 267.4 | 263.9 | 266.3 | 270.0 | 268.7 |
| 25° | 3018.4 | 2428.3 | 1192.7 | 409.8 | 271.2 | 251.6 | 241.7 | 236.8 | 234.4 | 236.8 | 235.6 |
| 27.5° | 2980.4 | 2325.1 | 959.6 | 308.0 | 243.0 | 227.0 | 214.7 | 204.9 | 198.8 | 198.8 | 196.3 |
| 30° | 2955.9 | 2228.3 | 752.1 | 255.2 | 219.6 | 202.4 | 185.3 | 171.7 | 161.9 | 159.5 | 158.3 |
| 32.5° | 2954.6 | 2144.9 | 561.9 | 225.7 | 197.5 | 177.9 | 157.0 | 139.9 | 128.8 | 126.4 | 125.1 |
| 35° | 2985.3 | 2077.3 | 413.5 | 203.7 | 177.9 | 154.6 | 131.3 | 112.9 | 103.0 | 103.0 | 101.8 |
| 37.5° | 3065.0 | 2038.0 | 312.9 | 186.5 | 161.9 | 134.9 | 110.5 | 93.3 | 84.6 | 87.1 | 87.1 |
| 40° | 3213.6 | 2030.7 | 255.2 | 172.9 | 148.5 | 117.8 | 89.6 | 76.1 | 72.4 | 76.1 | 76.1 |
| 42.5° | 3440.6 | 2069.9 | 227.0 | 163.3 | 136.2 | 100.6 | 74.9 | 65.0 | 63.8 | 67.5 | 67.5 |
| 45° | 3736.2 | 2147.3 | 211.1 | 154.6 | 122.7 | 83.5 | 62.6 | 56.5 | 55.1 | 60.1 | 60.1 |
| 47.5° | 4094.5 | 2251.7 | 196.3 | 144.8 | 109.2 | 68.8 | 52.8 | 47.8 | 47.8 | 52.8 | 54.0 |
| 50° | 4519.1 | 2392.7 | 181.6 | 134.9 | 98.2 | 57.7 | 44.1 | 40.5 | 41.7 | 46.7 | 47.8 |
| 52.5° | 5007.5 | 2565.6 | 168.2 | 126.4 | 85.9 | 46.7 | 36.8 | 34.3 | 35.6 | 40.5 | 41.7 |
| 55° | 5428.3 | 2716.6 | 152.2 | 117.8 | 69.9 | 38.0 | 30.7 | 29.5 | 30.7 | 36.8 | 36.8 |
| 57.5° | 5795.2 | 2861.4 | 137.4 | 104.4 | 55.1 | 30.7 | 24.6 | 24.6 | 27.0 | 33.1 | 34.3 |
| 60° | 6282.3 | 3089.7 | 125.1 | 88.4 | 41.7 | 23.3 | 19.6 | 20.9 | 24.6 | 29.5 | 30.7 |
| 62.5° | 7144.9 | 3477.4 | 109.2 | 73.6 | 30.7 | 18.3 | 16.0 | 17.2 | 22.1 | 28.2 | 29.5 |
| 65° | 8224.7 | 3844.2 | 90.8 | 61.4 | 23.3 | 13.5 | 12.2 | 16.0 | 22.1 | 28.2 | 29.5 |
| 67.5° | 8114.2 | 3343.6 | 71.1 | 49.0 | 17.2 | 11.0 | 9.9 | 14.7 | 20.9 | 28.2 | 29.5 |
| 70° | 6580.4 | 2343.6 | 52.8 | 33.1 | 13.5 | 9.9 | 9.9 | 14.7 | 20.9 | 27.0 | 28.2 |
| 72.5° | 4564.6 | 1304.3 | 40.5 | 22.1 | 12.2 | 9.9 | 8.6 | 13.5 | 19.6 | 27.0 | 28.2 |
| 75° | 2171.8 | 400.0 | 31.9 | 16.0 | 11.0 | 8.6 | 7.3 | 13.5 | 19.6 | 27.0 | 28.2 |
| 77.5° | 417.2 | 101.8 | 25.7 | 13.5 | 9.9 | 8.6 | 7.3 | 12.2 | 19.6 | 25.7 | 27.0 |
| 80° | 141.1 | 45.5 | 20.9 | 12.2 | 9.9 | 8.6 | 7.3 | 12.2 | 18.3 | 24.6 | 25.7 |
| 82.5° | 77.3 | 25.7 | 18.3 | 11.0 | 9.9 | 7.3 | 6.1 | 11.0 | 17.2 | 24.6 | 25.7 |
| 85° | 60.1 | 18.3 | 14.7 | 11.0 | 9.9 | 7.3 | 6.1 | 11.0 | 17.2 | 23.3 | 24.6 |
| 87.5° | 30.7 | 13.5 | 12.2 | 11.0 | 9.9 | 7.3 | 6.1 | 9.9 | 16.0 | 22.1 | 24.6 |
| 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)