

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: P197183

Luminaire Tested: **NAV-AF-05-D-UNV-SLL-8030-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197183  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24264)  
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-SLL-8030-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT  
ELIMINATOR LEFT OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 23773 lumens  
Efficiency: N/A  
Efficacy: 74.3 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

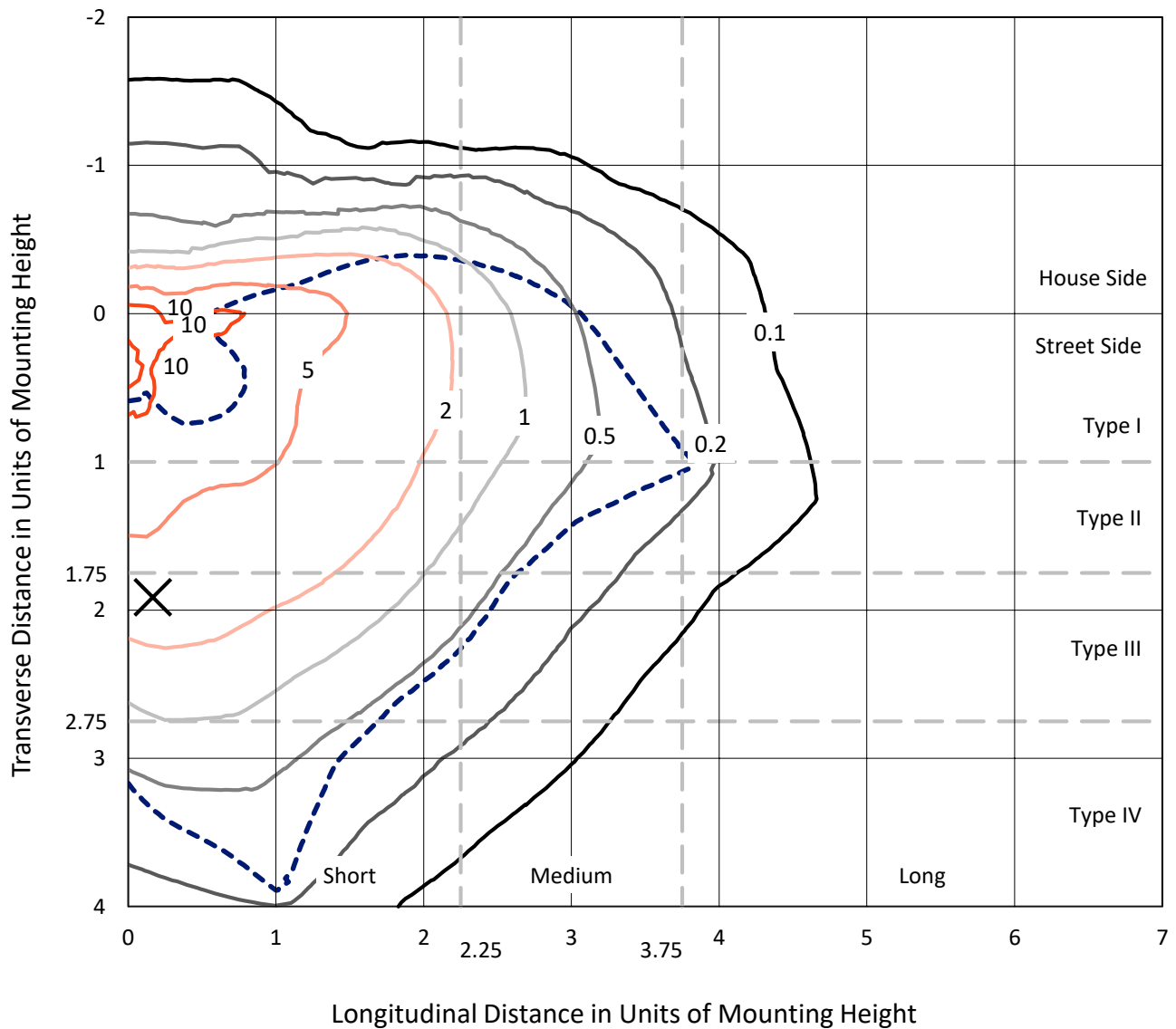
Input Watts (W): 320  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

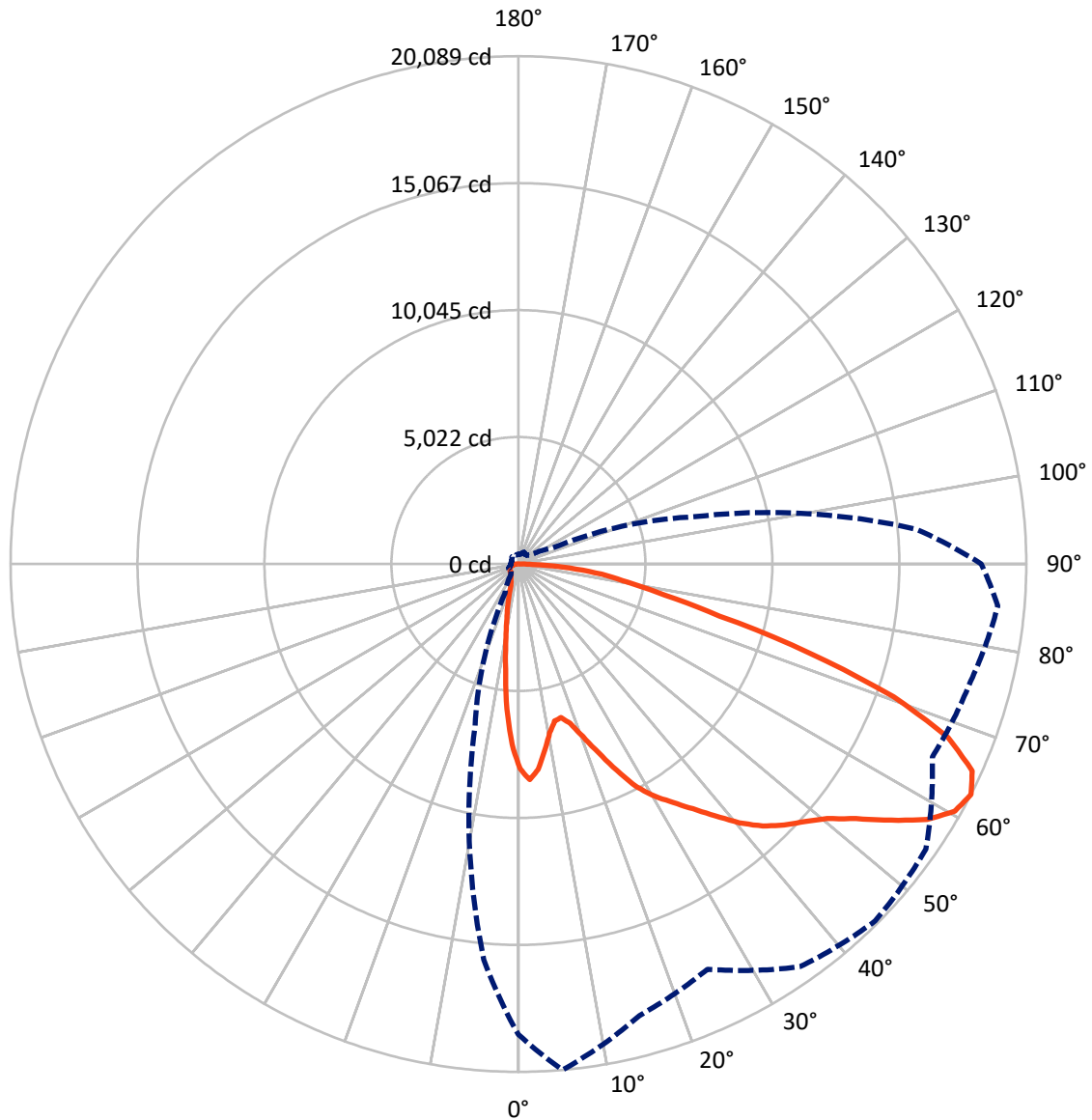
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 14.9 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral      - - - Horizontal Cone Through 62.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4211.4	0.0	4211.4
	% Fixture	17.7	0.0	17.7
<b>Street Side</b>	Lumens	19561.6	0.0	19561.6
	% Fixture	82.3	0.0	82.3
<b>Total</b>	Lumens	23773.0	0.0	23773.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	589.4	2.5
10°-20°	1076.6	4.5
20°-30°	1548.4	6.5
30°-40°	2371.5	10.0
40°-50°	3467.2	14.6
50°-60°	5044.8	21.2
60°-70°	5845.1	24.6
70°-80°	3046.9	12.8
80°-90°	783.2	3.3
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°	23773.0	100.0
0°-180°	23773.0	100.0



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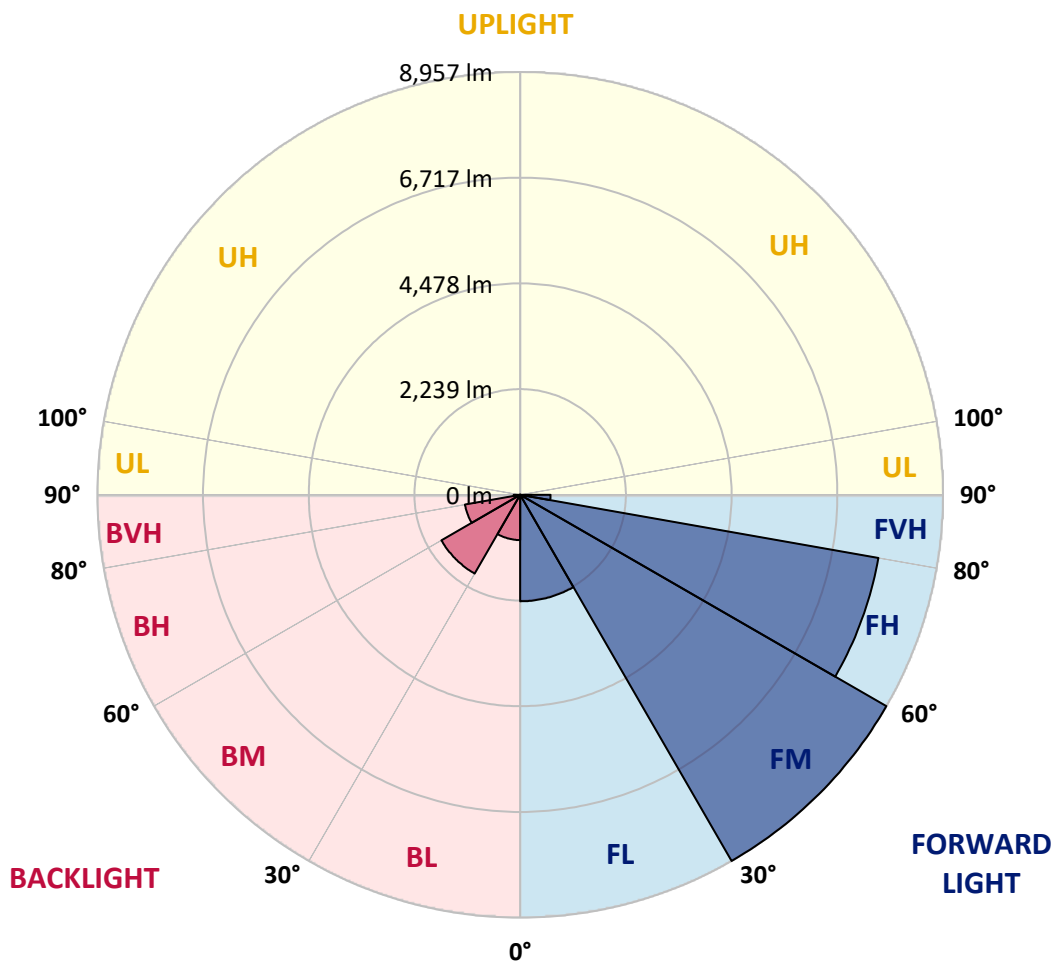
CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-8030-1200

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2256.2	9.5			
FM	(30°-60°)	8956.6	37.7			
FH	(60°-80°)	7704.5	32.4			G4/12000
FVH	(80°-90°)	644.3	2.7			G4/750
BL	(0°-30°)	958.2	4.0	B2/1000		
BM	(30°-60°)	1926.9	8.1	B2/2500		
BH	(60°-80°)	1187.5	5.0	B3/2500		G3/2500
BVH	(80°-90°)	138.9	0.6			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°	45°	55°	65°	75°	85°	90°
0°	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7
2.5°	8366.7	8544.2	8747.6	9013.1	9194.0	9266.4	9326.8	9225.1	9126.8	8942.4	8876.9
5°	7815.1	8156.4	8716.6	9249.2	9718.0	9986.9	10069.7	9881.8	9547.4	9064.8	8809.7
7.5°	6996.4	7446.2	8234.0	9018.2	9690.5	10138.6	10171.4	9799.1	9140.6	8349.5	7935.8
10°	6281.0	6789.5	7701.4	8578.7	9290.6	9749.1	9659.4	9137.2	8342.6	7442.8	6975.7
12.5°	5865.6	6374.1	7303.2	8194.3	8864.8	9038.9	8856.2	8416.7	7663.4	6762.0	6291.4
15°	5777.7	6301.7	7161.8	7913.4	8328.8	8216.7	8035.7	7813.4	7277.3	6539.6	6084.5
17.5°	6043.2	6629.2	7349.7	7761.7	7744.4	7475.6	7323.9	7367.0	7275.6	6780.9	6305.2
20°	6589.6	7282.5	7827.2	7720.3	7279.1	6901.6	6813.7	7151.5	7573.8	7385.9	6863.6
22.5°	7308.4	8097.8	8478.7	7839.2	7036.0	6629.2	6612.0	7139.4	8116.8	8301.2	7665.2
25°	8120.2	9040.6	9135.4	8049.5	7010.2	6605.1	6589.6	7325.6	8770.0	9207.8	8563.2
27.5°	9113.0	9992.1	9683.6	8330.5	7123.9	6675.8	6686.1	7642.7	9450.9	10104.1	9575.0
30°	9861.1	10667.8	10021.4	8606.3	7306.6	6799.9	6825.7	7985.8	9818.0	10726.4	10383.4
32.5°	10560.9	11245.2	10345.5	8878.6	7573.8	6984.3	7073.9	8413.2	10259.3	11260.7	11147.0
35°	11334.8	11891.6	10705.7	9169.9	7956.5	7308.4	7437.6	8820.0	10697.1	11795.1	11903.7
37.5°	12212.2	12631.0	11097.0	9581.9	8508.0	7908.2	7980.6	9235.4	11002.2	12386.3	12715.5
40°	13125.7	13460.1	11524.4	10131.7	9309.5	8718.3	8752.8	9768.0	11241.8	12998.2	13503.2
42.5°	13910.0	14170.3	11953.6	10814.3	10230.0	9544.0	9573.3	10342.0	11471.0	13525.6	14134.1
45°	14537.4	14728.7	12358.7	11533.1	11212.5	10574.7	10567.8	10926.3	11777.8	13970.3	14618.4
47.5°	15121.7	15223.4	12810.3	12232.9	12231.2	11901.9	11655.4	11615.8	12186.3	14344.4	15040.7
50°	15790.5	15828.4	13406.7	12939.6	13475.6	13423.9	12968.9	12491.4	12715.5	14764.9	15483.7
52.5°	16721.3	16723.0	14146.1	13629.0	14849.4	15013.2	14484.0	13482.5	13498.0	15583.7	16249.0
55°	17815.8	17891.7	15109.7	14454.7	16286.9	16566.2	16068.0	14659.8	14621.9	16904.0	17490.1
57.5°	18662.2	19063.8	16231.8	15487.2	17629.7	17993.4	17591.8	15880.2	16002.5	18265.7	18513.9
60°	18900.0	19839.4	17350.4	16645.5	18765.6	19312.0	18903.5	17198.8	17353.9	19150.0	18808.7
62.5°	18615.6	20089.4	18489.8	17683.1	19439.5	19963.5	19670.5	18062.3	18455.3	19036.2	18310.5
65°	17772.7	19727.4	19479.2	18124.4	19051.7	19237.9	19160.3	18107.1	19053.4	17960.6	16933.3
67.5°	15804.3	18331.2	19037.9	17181.5	17240.1	17040.2	16938.5	16876.4	18381.2	16224.9	14761.5
70°	12853.4	15750.9	16933.3	14378.8	13944.5	13751.4	13417.0	14244.4	16521.4	13823.8	12148.4
72.5°	9900.8	12050.2	13889.3	10900.5	9997.3	10062.8	9683.6	10891.9	13685.9	10686.7	9275.1
75°	7030.8	8216.7	11086.6	7832.3	6636.1	6632.7	6603.4	7839.2	10798.8	7670.3	6786.1
77.5°	5067.6	5915.6	8685.6	5241.7	4709.1	4769.4	4672.9	5327.9	8418.4	5517.5	5027.9
80°	4042.0	4379.8	5614.0	3495.6	3505.9	3647.3	3626.6	3643.8	5538.1	3995.5	3759.3
82.5°	2904.4	3325.0	4291.9	2678.6	2318.3	2468.3	2497.6	2702.7	3907.6	2825.1	2478.6
85°	1489.2	2027.0	3948.9	2320.1	1449.6	1201.4	1382.4	2132.2	3393.9	1692.6	1208.3
87.5°	289.6	561.9	2894.0	1289.3	651.5	329.2	543.0	903.2	1973.6	306.8	150.0
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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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7
2.5°	8764.9	8544.2	8337.4	8123.6	7958.2	7756.5	7558.3	7385.9	7218.7	7108.4	7142.9
5°	8551.1	8013.3	7530.7	7082.6	6820.6	6505.1	6224.2	5988.0	5805.3	5688.1	5758.8
7.5°	7577.2	6849.9	6213.8	5622.6	5250.3	4841.8	4514.3	4283.3	4142.0	4062.7	4178.2
10°	6581.0	5763.9	5050.3	4435.0	4067.9	3721.4	3424.9	3180.2	2990.6	2900.9	2947.5
12.5°	5867.4	4959.0	4210.9	3797.2	3481.8	3171.6	2864.7	2578.6	2337.3	2227.0	2204.6
15°	5600.2	4526.4	3762.8	3300.8	2987.1	2649.3	2318.3	2011.5	1782.3	1687.5	1666.8
17.5°	5717.4	4433.3	3497.3	2950.9	2495.9	2085.6	1713.3	1423.8	1254.8	1201.4	1206.6
20°	6129.4	4467.7	3283.6	2590.7	2028.8	1542.7	1170.4	970.4	898.0	886.0	899.8
22.5°	6694.7	4609.1	3128.5	2280.4	1616.8	1122.1	870.5	775.7	756.7	755.0	768.8
25°	7441.1	4884.9	3025.0	2004.6	1277.2	889.4	758.4	705.0	689.5	692.9	706.7
27.5°	8320.1	5234.8	2957.8	1766.8	1049.7	792.9	708.4	661.9	646.4	649.8	660.2
30°	9123.4	5541.6	2857.8	1587.5	942.8	758.4	680.8	634.3	613.6	613.6	620.5
32.5°	9842.1	5807.0	2740.6	1453.1	844.6	680.8	617.1	580.9	565.4	570.5	574.0
35°	10479.9	5946.7	2649.3	1373.8	765.3	627.4	563.6	525.7	505.0	508.5	513.7
37.5°	11107.3	6000.1	2589.0	1330.7	708.4	594.7	536.1	505.0	482.6	479.2	477.5
40°	11703.7	5988.0	2532.1	1318.6	670.5	570.5	518.8	491.2	468.8	463.7	461.9
42.5°	12219.1	5948.4	2478.6	1285.9	644.7	553.3	505.0	480.9	458.5	451.6	448.2
45°	12689.6	5924.2	2420.0	1225.5	658.4	546.4	498.1	472.3	451.6	443.0	439.5
47.5°	13211.9	6010.4	2354.5	1160.0	655.0	548.1	498.1	468.8	448.2	439.5	436.1
50°	13834.2	6301.7	2273.5	1070.4	624.0	586.0	496.4	463.7	444.7	439.5	432.6
52.5°	14713.2	6774.0	2161.5	954.9	599.8	625.7	494.7	455.0	439.5	430.9	422.3
55°	15918.1	7246.3	2016.7	832.5	561.9	598.1	498.1	444.7	427.5	418.9	408.5
57.5°	16905.7	7604.8	1834.0	730.8	527.4	565.4	493.0	432.6	413.7	405.1	396.4
60°	16842.0	7639.3	1659.9	665.3	506.8	508.5	505.0	424.0	401.6	394.7	387.8
62.5°	15799.1	7213.6	1497.9	632.6	491.2	463.7	515.4	413.7	389.5	382.7	377.5
65°	14063.4	6222.4	1411.7	632.6	477.5	439.5	449.9	399.9	377.5	370.6	367.1
67.5°	11862.3	5000.4	1330.7	646.4	458.5	422.3	408.5	386.1	365.4	358.5	355.1
70°	9507.8	3935.1	1273.8	639.5	441.3	403.3	386.1	367.1	346.5	344.7	341.3
72.5°	7458.3	3161.2	1247.9	639.5	415.4	380.9	363.7	349.9	329.2	327.5	322.3
75°	5976.0	2373.5	1141.1	627.4	389.5	351.6	336.1	324.0	303.4	305.1	301.6
77.5°	4628.0	1678.9	953.2	565.4	356.8	318.9	306.8	298.2	274.1	275.8	275.8
80°	3619.7	1092.8	739.5	468.8	318.9	281.0	272.3	265.4	239.6	243.0	243.0
82.5°	2480.4	649.8	536.1	377.5	274.1	239.6	237.9	227.5	199.9	201.7	205.1
85°	1354.8	427.5	356.8	279.2	215.5	194.8	191.3	186.2	160.3	160.3	162.0
87.5°	249.9	229.2	210.3	184.4	144.8	139.6	134.4	139.6	120.7	117.2	117.2
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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**CANDELA DISTRIBUTION (continued):**

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7
2.5°	7061.9	6942.9	6860.2	6787.8	6613.7	6625.8	6649.9	6684.4	6575.8	6632.7	6703.3
5°	5688.1	5589.9	5515.7	5400.3	5157.2	5071.0	5015.9	4991.7	4829.7	4864.2	4940.0
7.5°	4193.7	4192.0	4166.1	4036.8	3743.8	3566.3	3449.1	3412.9	3312.9	3350.8	3466.3
10°	2952.6	2983.7	2971.6	2856.1	2594.1	2466.6	2440.7	2513.1	2514.8	2589.0	2787.2
12.5°	2133.9	2116.7	2101.2	2006.4	1809.9	1789.2	1847.8	1947.7	1971.9	2051.2	2258.0
15°	1592.7	1551.3	1542.7	1468.6	1339.3	1358.3	1401.3	1453.1	1454.8	1509.9	1680.6
17.5°	1194.5	1194.5	1208.3	1160.0	1067.0	1058.3	1035.9	1022.1	1001.5	1023.9	1116.9
20°	927.3	970.4	1004.9	977.3	892.9	851.5	808.4	780.8	765.3	767.0	794.6
22.5°	794.6	829.1	873.9	860.1	789.4	736.0	708.4	689.5	677.4	677.4	692.9
25°	727.4	749.8	791.2	784.3	723.9	680.8	658.4	639.5	625.7	624.0	639.5
27.5°	674.0	687.7	715.3	711.9	649.8	622.2	608.5	596.4	587.8	586.0	601.6
30°	625.7	632.6	646.4	641.2	594.7	567.1	561.9	556.7	551.6	553.3	575.7
32.5°	582.6	587.8	596.4	589.5	544.7	520.5	511.9	505.0	499.9	505.0	530.9
35°	534.3	549.9	560.2	556.7	508.5	479.2	460.2	443.0	436.1	441.3	470.6
37.5°	493.0	518.8	532.6	529.2	479.2	444.7	420.6	417.1	417.1	424.0	453.3
40°	477.5	496.4	508.5	503.3	453.3	418.9	405.1	399.9	401.6	408.5	439.5
42.5°	463.7	480.9	484.4	474.0	424.0	401.6	393.0	386.1	389.5	398.2	429.2
45°	451.6	465.4	463.7	448.2	399.9	384.4	384.4	379.2	380.9	387.8	420.6
47.5°	443.0	449.9	446.4	430.9	382.7	370.6	375.8	375.8	379.2	384.4	417.1
50°	429.2	434.4	430.9	417.1	368.9	358.5	363.7	370.6	374.0	379.2	408.5
52.5°	415.4	418.9	417.1	403.3	355.1	348.2	348.2	355.1	362.0	368.9	394.7
55°	401.6	405.1	406.8	396.4	344.7	337.8	336.1	336.1	343.0	353.4	380.9
57.5°	391.3	391.3	394.7	387.8	334.4	325.8	317.2	318.9	327.5	336.1	363.7
60°	379.2	380.9	386.1	379.2	320.6	306.8	299.9	308.5	312.0	320.6	349.9
62.5°	368.9	368.9	372.3	367.1	308.5	294.7	289.6	298.2	298.2	306.8	336.1
65°	360.2	358.5	358.5	356.8	296.5	282.7	279.2	282.7	284.4	293.0	322.3
67.5°	353.4	344.7	344.7	348.2	284.4	270.6	268.9	268.9	270.6	281.0	306.8
70°	337.8	330.9	329.2	341.3	272.3	255.1	255.1	251.7	255.1	260.3	287.9
72.5°	320.6	315.4	313.7	330.9	260.3	237.9	234.4	232.7	234.4	239.6	265.4
75°	298.2	294.7	298.2	324.0	248.2	218.9	213.7	212.0	212.0	213.7	241.3
77.5°	272.3	268.9	294.7	301.6	241.3	196.5	191.3	187.9	184.4	184.4	215.5
80°	241.3	239.6	284.4	255.1	231.0	172.4	163.7	158.6	155.1	153.4	184.4
82.5°	210.3	206.8	243.0	199.9	191.3	141.3	129.3	118.9	113.8	113.8	141.3
85°	172.4	170.6	191.3	146.5	132.7	103.4	86.2	77.6	70.7	70.7	91.4
87.5°	125.8	122.4	118.9	87.9	67.2	46.5	32.7	31.0	27.6	25.9	37.9
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: P197183

CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-8030-1200

**CANDELA DISTRIBUTION (continued):**

	295°	305°	315°	325°	335°	345°	355°	360°
0°	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7	8104.7
2.5°	6808.5	6951.6	7222.2	7444.5	7741.0	7978.9	8249.5	8366.7
5°	5079.7	5305.5	5719.1	6072.5	6562.0	7015.3	7532.4	7815.1
7.5°	3643.8	3978.2	4291.9	4733.2	5345.1	5953.6	6622.3	6996.4
10°	3014.7	3321.5	3590.4	3904.1	4376.4	5060.7	5858.7	6281.0
12.5°	2497.6	2828.5	3112.9	3449.1	3845.5	4464.3	5374.4	5865.6
15°	1915.0	2275.2	2616.5	3021.6	3507.7	4214.4	5229.6	5777.7
17.5°	1311.7	1697.8	2118.4	2613.1	3199.1	4109.2	5367.5	6043.2
20°	891.1	1173.8	1630.6	2216.6	2921.6	4059.2	5670.9	6589.6
22.5°	732.6	860.1	1203.1	1844.3	2694.1	4114.4	6163.8	7308.4
25°	672.2	741.2	936.0	1516.8	2520.0	4260.9	6830.9	8120.2
27.5°	634.3	692.9	820.5	1282.4	2359.7	4460.9	7642.7	9113.0
30°	611.9	667.1	773.9	1161.8	2213.2	4633.2	8340.8	9861.1
32.5°	561.9	603.3	691.2	1092.8	2108.0	4772.8	8956.2	10560.9
35°	501.6	551.6	624.0	1048.0	2104.6	4838.3	9535.3	11334.8
37.5°	479.2	527.4	580.9	1023.9	2125.3	4893.5	10243.8	12212.2
40°	465.4	508.5	551.6	1020.4	2142.5	4936.6	10936.7	13125.7
42.5°	453.3	496.4	546.4	996.3	2135.6	4995.2	11550.3	13910.0
45°	449.9	493.0	558.5	960.1	2133.9	5086.5	12038.1	14537.4
47.5°	446.4	511.9	555.0	920.4	2127.0	5279.6	12588.0	15121.7
50°	443.0	546.4	530.9	865.3	2075.3	5608.8	13327.4	15790.5
52.5°	441.3	551.6	505.0	789.4	1982.2	6096.6	14409.9	16721.3
55°	434.4	524.0	460.2	689.5	1847.8	6622.3	15569.9	17815.8
57.5°	418.9	467.1	434.4	591.2	1654.7	6989.5	16426.6	18662.2
60°	456.8	401.6	417.1	541.2	1423.8	7055.0	16464.5	18900.0
62.5°	436.1	365.4	399.9	524.0	1261.7	6627.5	15711.2	18615.6
65°	348.2	346.5	384.4	541.2	1237.6	5670.9	14439.2	17772.7
67.5°	317.2	332.7	368.9	561.9	1253.1	4467.7	12567.3	15804.3
70°	296.5	315.4	348.2	580.9	1280.7	3519.7	10117.9	12853.4
72.5°	275.8	291.3	327.5	599.8	1261.7	2776.8	8097.8	9900.8
75°	249.9	263.7	298.2	549.9	1082.5	2040.8	6434.5	7030.8
77.5°	220.6	232.7	262.0	434.4	813.6	1420.3	4819.4	5067.6
80°	189.6	194.8	217.2	317.2	530.9	849.8	3668.0	4042.0
82.5°	150.0	151.7	165.5	232.7	330.9	543.0	2544.1	2904.4
85°	96.5	100.0	106.9	163.7	222.4	348.2	1299.6	1489.2
87.5°	32.7	37.9	37.9	79.3	108.6	193.1	398.2	289.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)