

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: P195742

Luminaire Tested: **NAV-AF-04-D-UNV-SLL-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195742
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-04-D-UNV-SLL-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 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: 23638 lumens
Efficiency: N/A
Efficacy: 91.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 258
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

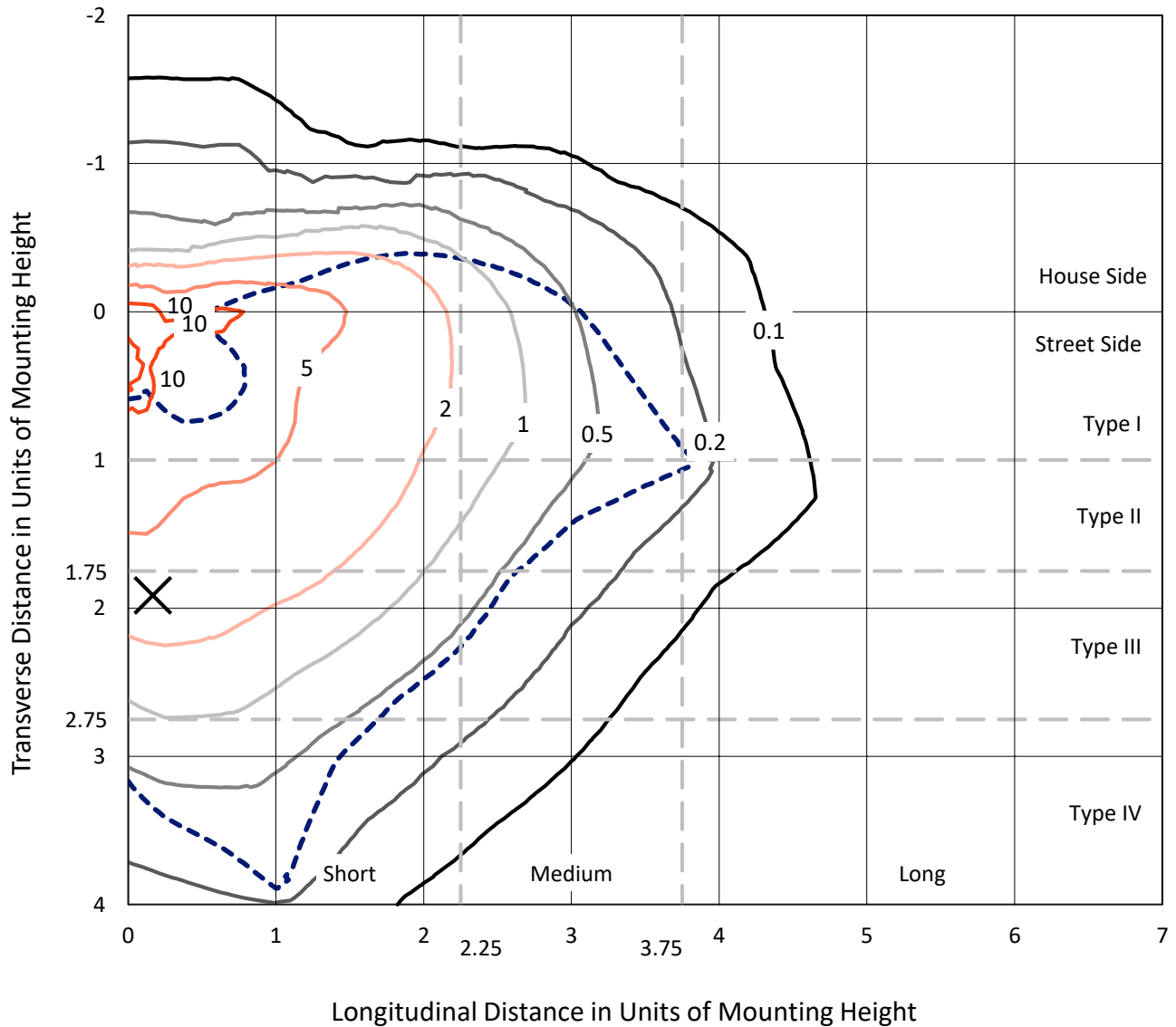


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Iso-Footcandle Lines of Horizontal Illumination

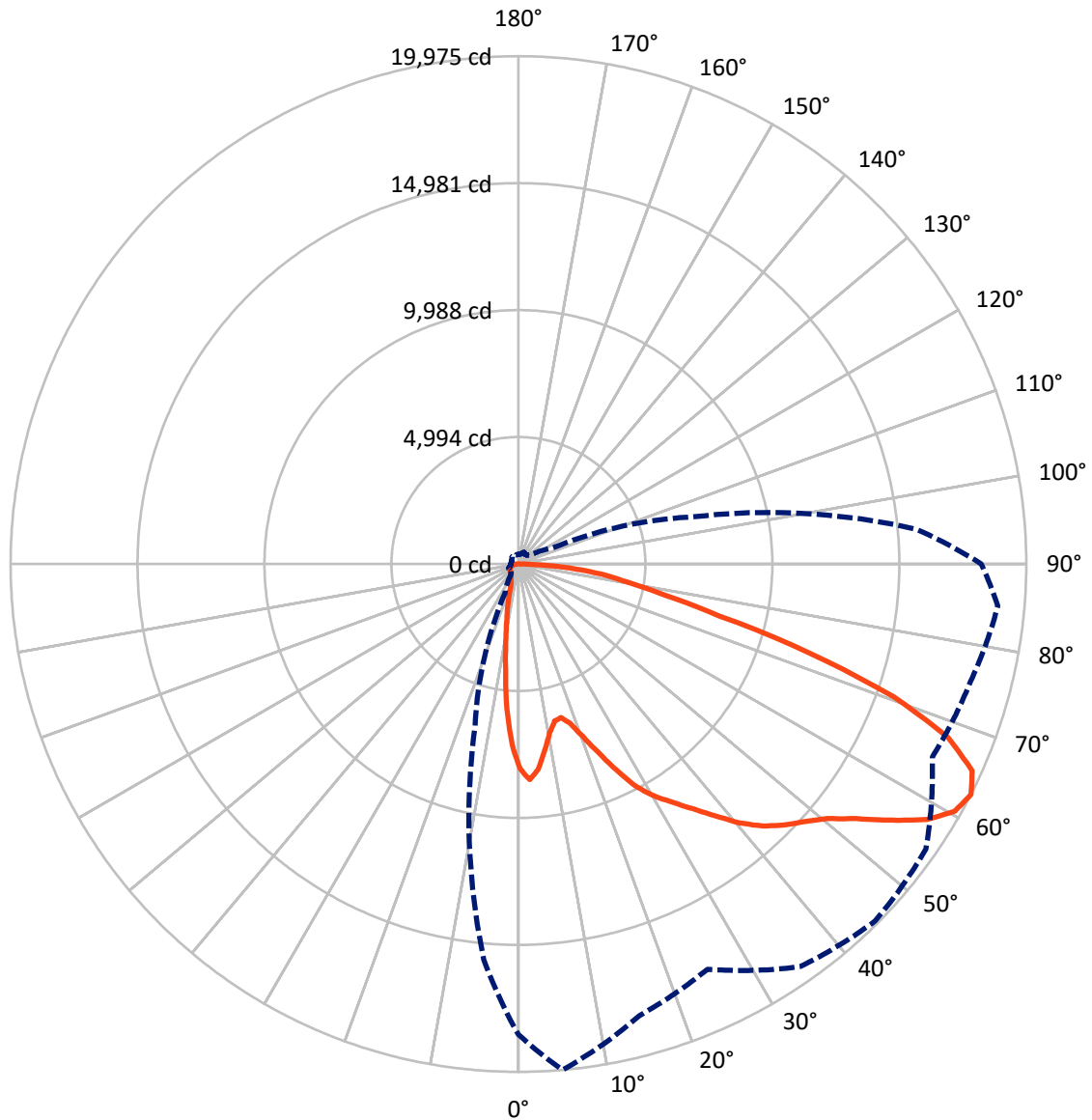
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 14.8 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
House Side	Lumens	4187.5	0.0	4187.5
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	19450.5	0.0	19450.5
	% Fixture	82.3	0.0	82.3
Total	Lumens	23638.0	0.0	23638.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	586.1	2.5
10°-20°	1070.4	4.5
20°-30°	1539.6	6.5
30°-40°	2358.0	10.0
40°-50°	3447.5	14.6
50°-60°	5016.1	21.2
60°-70°	5811.9	24.6
70°-80°	3029.6	12.8
80°-90°	778.8	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°	23638.0	100.0
0°-180°	23638.0	100.0



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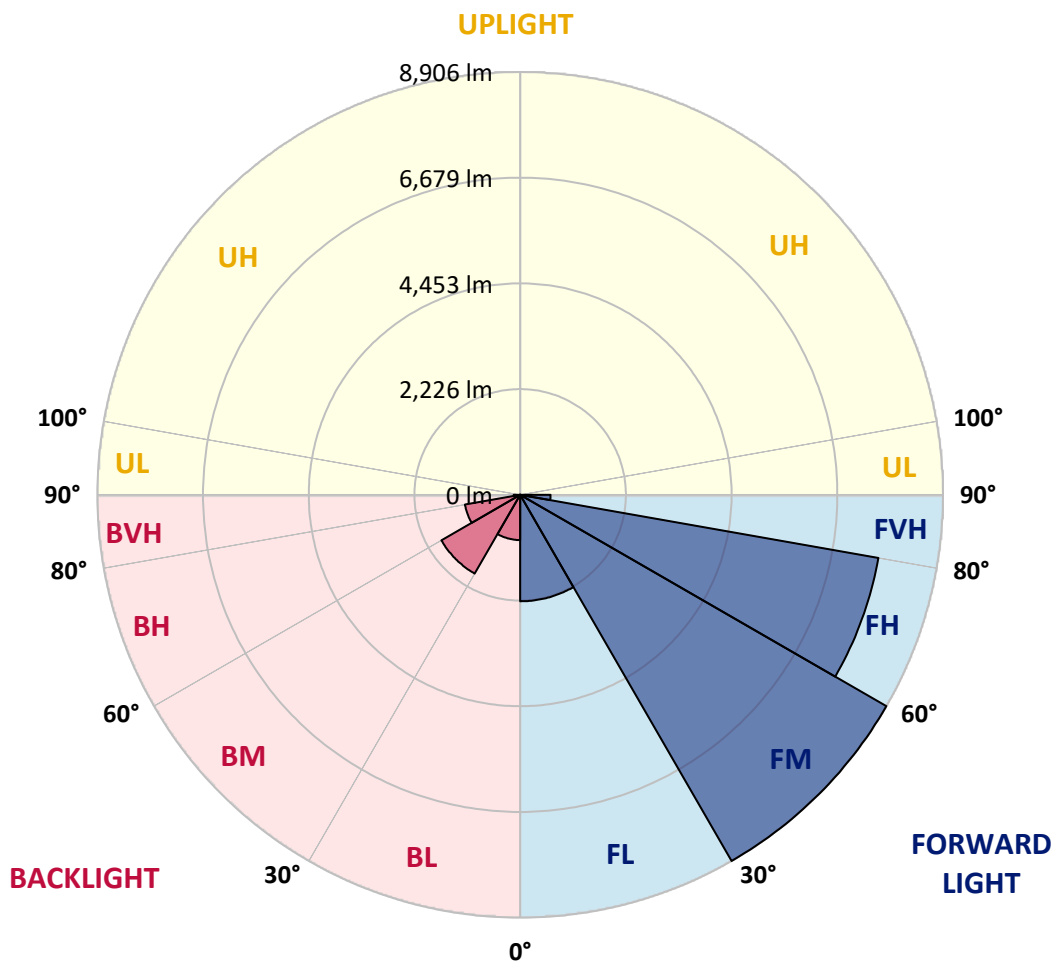
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2243.4	9.5			
FM (30°-60°)	8905.7	37.7			
FH (60°-80°)	7660.7	32.4			G4/12000
FVH (80°-90°)	640.7	2.7			G4/750
BL (0°-30°)	952.7	4.0	B2/1000		
BM (30°-60°)	1915.9	8.1	B2/2500		
BH (60°-80°)	1180.8	5.0	B3/2500		G3/2500
BVH (80°-90°)	138.1	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°	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7
2.5°	8319.2	8495.7	8697.9	8961.9	9141.8	9213.8	9273.8	9172.7	9075.0	8891.6	8826.5
5°	7770.7	8110.1	8667.1	9196.7	9662.9	9930.2	10012.5	9825.7	9493.2	9013.3	8759.6
7.5°	6956.6	7404.0	8187.2	8967.0	9635.4	10081.0	10113.6	9743.4	9088.7	8302.0	7890.7
10°	6245.4	6751.0	7657.6	8530.0	9237.8	9693.7	9604.6	9085.3	8295.2	7400.5	6936.1
12.5°	5832.3	6337.9	7261.7	8147.8	8814.5	8987.6	8805.9	8368.9	7619.9	6723.6	6255.7
15°	5744.9	6265.9	7121.2	7868.4	8281.5	8170.1	7990.1	7769.0	7236.0	6502.5	6050.0
17.5°	6008.9	6591.6	7308.0	7717.6	7700.5	7433.1	7282.3	7325.1	7234.3	6742.4	6269.4
20°	6552.2	7241.1	7782.7	7676.5	7237.7	6862.4	6775.0	7110.9	7530.8	7344.0	6824.7
22.5°	7266.9	8051.8	8430.6	7794.7	6996.1	6591.6	6574.4	7098.9	8070.7	8254.0	7621.6
25°	8074.1	8989.3	9083.6	8003.8	6970.4	6567.6	6552.2	7284.0	8720.2	9155.5	8514.6
27.5°	9061.3	9935.4	9628.6	8283.2	7083.5	6637.9	6648.1	7599.3	9397.2	10046.8	9520.6
30°	9805.1	10607.2	9964.5	8557.4	7265.1	6761.3	6787.0	7940.4	9762.3	10665.5	10324.4
32.5°	10500.9	11181.4	10286.7	8828.2	7530.8	6944.6	7033.8	8365.4	10201.0	11196.8	11083.7
35°	11270.5	11824.1	10644.9	9117.8	7911.3	7266.9	7395.4	8769.9	10636.3	11728.1	11836.1
37.5°	12142.8	12559.3	11034.0	9527.5	8459.7	7863.3	7935.3	9183.0	10939.7	12315.9	12643.3
40°	13051.2	13383.7	11459.0	10074.2	9256.7	8668.8	8703.1	9712.6	11177.9	12924.4	13426.5
42.5°	13831.0	14089.8	11885.8	10752.9	10171.9	9489.8	9518.9	10283.3	11405.9	13448.8	14053.8
45°	14454.9	14645.1	12288.5	11467.6	11148.8	10514.7	10507.8	10864.3	11710.9	13891.0	14535.4
47.5°	15035.9	15137.0	12737.6	12163.4	12161.7	11834.3	11589.3	11549.8	12117.1	14262.9	14955.3
50°	15700.9	15738.6	13330.6	12866.1	13399.1	13347.7	12895.2	12420.5	12643.3	14681.1	15395.8
52.5°	16626.4	16628.1	14065.8	13551.7	14765.1	14927.9	14401.7	13406.0	13421.4	15495.2	16156.7
55°	17714.7	17790.1	15023.9	14372.6	16194.5	16472.1	15976.8	14576.6	14538.8	16808.0	17390.7
57.5°	18556.2	18955.5	16139.6	15399.2	17529.6	17891.2	17491.9	15790.0	15911.7	18162.0	18408.8
60°	18792.7	19726.8	17251.9	16550.9	18659.0	19202.3	18796.1	17101.1	17255.3	19041.2	18701.9
62.5°	18509.9	19975.3	18384.8	17582.7	19329.1	19850.2	19558.8	17959.8	18350.5	18928.1	18206.6
65°	17671.8	19615.4	19368.6	18021.5	18943.5	19128.6	19051.5	18004.3	18945.2	17858.6	16837.2
67.5°	15714.6	18227.1	18929.8	17084.0	17142.2	16943.4	16842.3	16780.6	18276.8	16132.8	14677.7
70°	12780.4	15661.4	16837.2	14297.2	13865.3	13673.3	13340.8	14163.5	16427.5	13745.3	12079.4
72.5°	9844.5	11981.7	13810.4	10838.6	9940.5	10005.6	9628.6	10830.0	13608.2	10626.1	9222.4
75°	6990.9	8170.1	11023.7	7787.9	6598.4	6595.0	6565.9	7794.7	10737.5	7626.8	6747.5
77.5°	5038.8	5882.0	8636.2	5211.9	4682.3	4742.3	4646.3	5297.6	8370.6	5486.1	4999.4
80°	4019.0	4355.0	5582.1	3475.7	3486.0	3626.6	3606.0	3623.1	5506.7	3972.8	3738.0
82.5°	2887.9	3306.1	4267.6	2663.4	2305.2	2454.3	2483.4	2687.4	3885.4	2809.0	2464.6
85°	1480.8	2015.5	3926.5	2306.9	1441.4	1194.6	1374.5	2120.1	3374.6	1683.0	1201.4
87.5°	287.9	558.7	2877.6	1282.0	647.8	327.4	539.9	898.1	1962.4	305.1	149.1
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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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7
2.5°	8715.1	8495.7	8290.0	8077.5	7913.0	7712.5	7515.4	7344.0	7177.7	7068.0	7102.3
5°	8502.6	7967.8	7487.9	7042.3	6781.8	6468.2	6188.8	5954.0	5772.3	5655.8	5726.1
7.5°	7534.2	6811.0	6178.5	5590.7	5220.5	4814.3	4488.7	4259.0	4118.5	4039.6	4154.4
10°	6543.6	5731.2	5021.7	4409.8	4044.8	3700.3	3405.5	3162.1	2973.6	2884.5	2930.7
12.5°	5834.0	4930.8	4187.0	3775.7	3462.0	3153.5	2848.5	2564.0	2324.0	2214.3	2192.1
15°	5568.4	4500.6	3741.4	3282.1	2970.2	2634.2	2305.2	2000.1	1772.2	1677.9	1657.3
17.5°	5684.9	4408.1	3477.5	2934.2	2481.7	2073.8	1703.6	1415.7	1247.7	1194.6	1199.7
20°	6094.6	4442.4	3264.9	2576.0	2017.2	1533.9	1163.7	964.9	892.9	880.9	894.6
22.5°	6656.7	4582.9	3110.7	2267.5	1607.6	1115.7	865.5	771.2	752.4	750.7	764.4
25°	7398.8	4857.1	3007.9	1993.2	1270.0	884.4	754.1	701.0	685.6	689.0	702.7
27.5°	8272.9	5205.1	2941.0	1756.7	1043.8	788.4	704.4	658.1	642.7	646.1	656.4
30°	9071.6	5510.1	2841.6	1578.5	937.5	754.1	677.0	630.7	610.1	610.1	617.0
32.5°	9786.3	5774.1	2725.1	1444.8	839.8	677.0	613.6	577.6	562.2	567.3	570.7
35°	10420.4	5912.9	2634.2	1366.0	761.0	623.9	560.4	522.7	502.2	505.6	510.7
37.5°	11044.2	5966.0	2574.2	1323.1	704.4	591.3	533.0	502.2	479.9	476.5	474.7
40°	11637.2	5954.0	2517.7	1311.1	666.7	567.3	515.9	488.5	466.2	461.0	459.3
42.5°	12149.7	5914.6	2464.6	1278.6	641.0	550.2	502.2	478.2	455.9	449.0	445.6
45°	12617.6	5890.6	2406.3	1218.6	654.7	543.3	495.3	469.6	449.0	440.5	437.0
47.5°	13136.9	5976.3	2341.2	1153.4	651.3	545.0	495.3	466.2	445.6	437.0	433.6
50°	13755.6	6265.9	2260.6	1064.3	620.4	582.7	493.6	461.0	442.2	437.0	430.2
52.5°	14629.7	6735.5	2149.2	949.5	596.4	622.1	491.9	452.5	437.0	428.5	419.9
55°	15827.7	7205.2	2005.2	827.8	558.7	594.7	495.3	442.2	425.0	416.5	406.2
57.5°	16809.7	7561.6	1823.6	726.7	524.4	562.2	490.2	430.2	411.3	402.8	394.2
60°	16746.3	7595.9	1650.5	661.6	503.9	505.6	502.2	421.6	399.3	392.5	385.6
62.5°	15709.4	7172.6	1489.4	629.0	488.5	461.0	512.5	411.3	387.3	380.5	375.3
65°	13983.5	6187.1	1403.7	629.0	474.7	437.0	447.3	397.6	375.3	368.5	365.1
67.5°	11794.9	4972.0	1323.1	642.7	455.9	419.9	406.2	383.9	363.3	356.5	353.1
70°	9453.8	3912.8	1266.6	635.8	438.8	401.0	383.9	365.1	344.5	342.8	339.3
72.5°	7416.0	3143.3	1240.8	635.8	413.0	378.8	361.6	347.9	327.4	325.6	320.5
75°	5942.0	2360.0	1134.6	623.9	387.3	349.6	334.2	322.2	301.6	303.4	299.9
77.5°	4601.8	1669.3	947.8	562.2	354.8	317.1	305.1	296.5	272.5	274.2	274.2
80°	3599.1	1086.6	735.3	466.2	317.1	279.4	270.8	263.9	238.2	241.7	241.7
82.5°	2466.3	646.1	533.0	375.3	272.5	238.2	236.5	226.2	198.8	200.5	204.0
85°	1347.1	425.0	354.8	277.6	214.2	193.7	190.2	185.1	159.4	159.4	161.1
87.5°	248.5	227.9	209.1	183.4	144.0	138.8	133.7	138.8	120.0	116.5	116.5
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°	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7
2.5°	7021.8	6903.5	6821.2	6749.3	6576.2	6588.2	6612.2	6646.4	6538.5	6595.0	6665.3
5°	5655.8	5558.1	5484.4	5369.6	5127.9	5042.2	4987.4	4963.4	4802.3	4836.6	4912.0
7.5°	4169.9	4168.2	4142.4	4013.9	3722.5	3546.0	3429.5	3393.5	3294.1	3331.8	3446.6
10°	2935.9	2966.7	2954.7	2839.9	2579.4	2452.6	2426.9	2498.8	2500.6	2574.2	2771.3
12.5°	2121.8	2104.6	2089.2	1995.0	1799.6	1779.0	1837.3	1936.7	1960.7	2039.5	2245.2
15°	1583.6	1542.5	1533.9	1460.2	1331.7	1350.5	1393.4	1444.8	1446.5	1501.4	1671.0
17.5°	1187.7	1187.7	1201.4	1153.4	1060.9	1052.3	1030.0	1016.3	995.8	1018.0	1110.6
20°	922.1	964.9	999.2	971.8	887.8	846.7	803.8	776.4	761.0	762.7	790.1
22.5°	790.1	824.4	868.9	855.2	785.0	731.8	704.4	685.6	673.6	673.6	689.0
25°	723.3	745.5	786.7	779.8	719.8	677.0	654.7	635.8	622.1	620.4	635.8
27.5°	670.1	683.8	711.3	707.8	646.1	618.7	605.0	593.0	584.4	582.7	598.1
30°	622.1	629.0	642.7	637.6	591.3	563.9	558.7	553.6	548.4	550.2	572.4
32.5°	579.3	584.4	593.0	586.1	541.6	517.6	509.0	502.2	497.0	502.2	527.9
35°	531.3	546.7	557.0	553.6	505.6	476.5	457.6	440.5	433.6	438.8	467.9
37.5°	490.2	515.9	529.6	526.2	476.5	442.2	418.2	414.8	414.8	421.6	450.8
40°	474.7	493.6	505.6	500.5	450.8	416.5	402.8	397.6	399.3	406.2	437.0
42.5°	461.0	478.2	481.6	471.3	421.6	399.3	390.8	383.9	387.3	395.9	426.8
45°	449.0	462.7	461.0	445.6	397.6	382.2	382.2	377.1	378.8	385.6	418.2
47.5°	440.5	447.3	443.9	428.5	380.5	368.5	373.6	373.6	377.1	382.2	414.8
50°	426.8	431.9	428.5	414.8	366.8	356.5	361.6	368.5	371.9	377.1	406.2
52.5°	413.0	416.5	414.8	401.0	353.1	346.2	346.2	353.1	359.9	366.8	392.5
55°	399.3	402.8	404.5	394.2	342.8	335.9	334.2	334.2	341.1	351.3	378.8
57.5°	389.1	389.1	392.5	385.6	332.5	323.9	315.4	317.1	325.6	334.2	361.6
60°	377.1	378.8	383.9	377.1	318.8	305.1	298.2	306.8	310.2	318.8	347.9
62.5°	366.8	366.8	370.2	365.1	306.8	293.1	287.9	296.5	296.5	305.1	334.2
65°	358.2	356.5	356.5	354.8	294.8	281.1	277.6	281.1	282.8	291.4	320.5
67.5°	351.3	342.8	342.8	346.2	282.8	269.1	267.4	267.4	269.1	279.4	305.1
70°	335.9	329.1	327.4	339.3	270.8	253.7	253.7	250.2	253.7	258.8	286.2
72.5°	318.8	313.6	311.9	329.1	258.8	236.5	233.1	231.4	233.1	238.2	263.9
75°	296.5	293.1	296.5	322.2	246.8	217.7	212.5	210.8	210.8	212.5	239.9
77.5°	270.8	267.4	293.1	299.9	239.9	195.4	190.2	186.8	183.4	183.4	214.2
80°	239.9	238.2	282.8	253.7	229.7	171.4	162.8	157.7	154.2	152.5	183.4
82.5°	209.1	205.7	241.7	198.8	190.2	140.5	128.5	118.3	113.1	113.1	140.5
85°	171.4	169.7	190.2	145.7	132.0	102.8	85.7	77.1	70.3	70.3	90.8
87.5°	125.1	121.7	118.3	87.4	66.8	46.3	32.6	30.8	27.4	25.7	37.7
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-04-D-UNV-SLL-7050-1200

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7
2.5°	6769.8	6912.1	7181.2	7402.2	7697.0	7933.6	8202.6	8319.2
5°	5050.8	5275.3	5686.7	6038.0	6524.7	6975.5	7489.7	7770.7
7.5°	3623.1	3955.6	4267.6	4706.3	5314.7	5919.7	6584.7	6956.6
10°	2997.6	3302.6	3570.0	3881.9	4351.5	5032.0	5825.5	6245.4
12.5°	2483.4	2812.5	3095.3	3429.5	3823.7	4438.9	5343.9	5832.3
15°	1904.1	2262.3	2601.7	3004.4	3487.7	4190.4	5199.9	5744.9
17.5°	1304.3	1688.2	2106.4	2598.2	3181.0	4085.9	5337.0	6008.9
20°	886.1	1167.2	1621.3	2204.1	2905.0	4036.2	5638.7	6552.2
22.5°	728.4	855.2	1196.3	1833.9	2678.8	4091.0	6128.8	7266.9
25°	668.4	737.0	930.6	1508.2	2505.7	4236.7	6792.1	8074.1
27.5°	630.7	689.0	815.8	1275.1	2346.3	4435.5	7599.3	9061.3
30°	608.4	663.3	769.5	1155.2	2200.6	4606.9	8293.5	9805.1
32.5°	558.7	599.9	687.3	1086.6	2096.1	4745.7	8905.3	10500.9
35°	498.7	548.4	620.4	1042.0	2092.6	4810.9	9481.2	11270.5
37.5°	476.5	524.4	577.6	1018.0	2113.2	4865.7	10185.6	12142.8
40°	462.7	505.6	548.4	1014.6	2130.4	4908.6	10874.6	13051.2
42.5°	450.8	493.6	543.3	990.6	2123.5	4966.8	11484.7	13831.0
45°	447.3	490.2	555.3	954.6	2121.8	5057.7	11969.7	14454.9
47.5°	443.9	509.0	551.9	915.2	2114.9	5249.6	12516.5	15035.9
50°	440.5	543.3	527.9	860.4	2063.5	5577.0	13251.7	15700.9
52.5°	438.8	548.4	502.2	785.0	1971.0	6062.0	14328.0	16626.4
55°	431.9	521.0	457.6	685.6	1837.3	6584.7	15481.5	17714.7
57.5°	416.5	464.5	431.9	587.9	1645.3	6949.8	16333.3	18556.2
60°	454.2	399.3	414.8	538.2	1415.7	7014.9	16371.0	18792.7
62.5°	433.6	363.3	397.6	521.0	1254.6	6589.9	15622.0	18509.9
65°	346.2	344.5	382.2	538.2	1230.6	5638.7	14357.2	17671.8
67.5°	315.4	330.8	366.8	558.7	1246.0	4442.4	12495.9	15714.6
70°	294.8	313.6	346.2	577.6	1273.4	3499.7	10060.5	12780.4
72.5°	274.2	289.6	325.6	596.4	1254.6	2761.1	8051.8	9844.5
75°	248.5	262.2	296.5	546.7	1076.3	2029.2	6397.9	6990.9
77.5°	219.4	231.4	260.5	431.9	809.0	1412.2	4792.0	5038.8
80°	188.5	193.7	215.9	315.4	527.9	844.9	3647.1	4019.0
82.5°	149.1	150.8	164.5	231.4	329.1	539.9	2529.7	2887.9
85°	96.0	99.4	106.3	162.8	221.1	346.2	1292.3	1480.8
87.5°	32.6	37.7	37.7	78.8	108.0	192.0	395.9	287.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)