

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: P195743

Luminaire Tested: **NAV-AF-05-D-UNV-SLL-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195743
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-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 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: 29134 lumens
Efficiency: N/A
Efficacy: 91.0 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 - G5

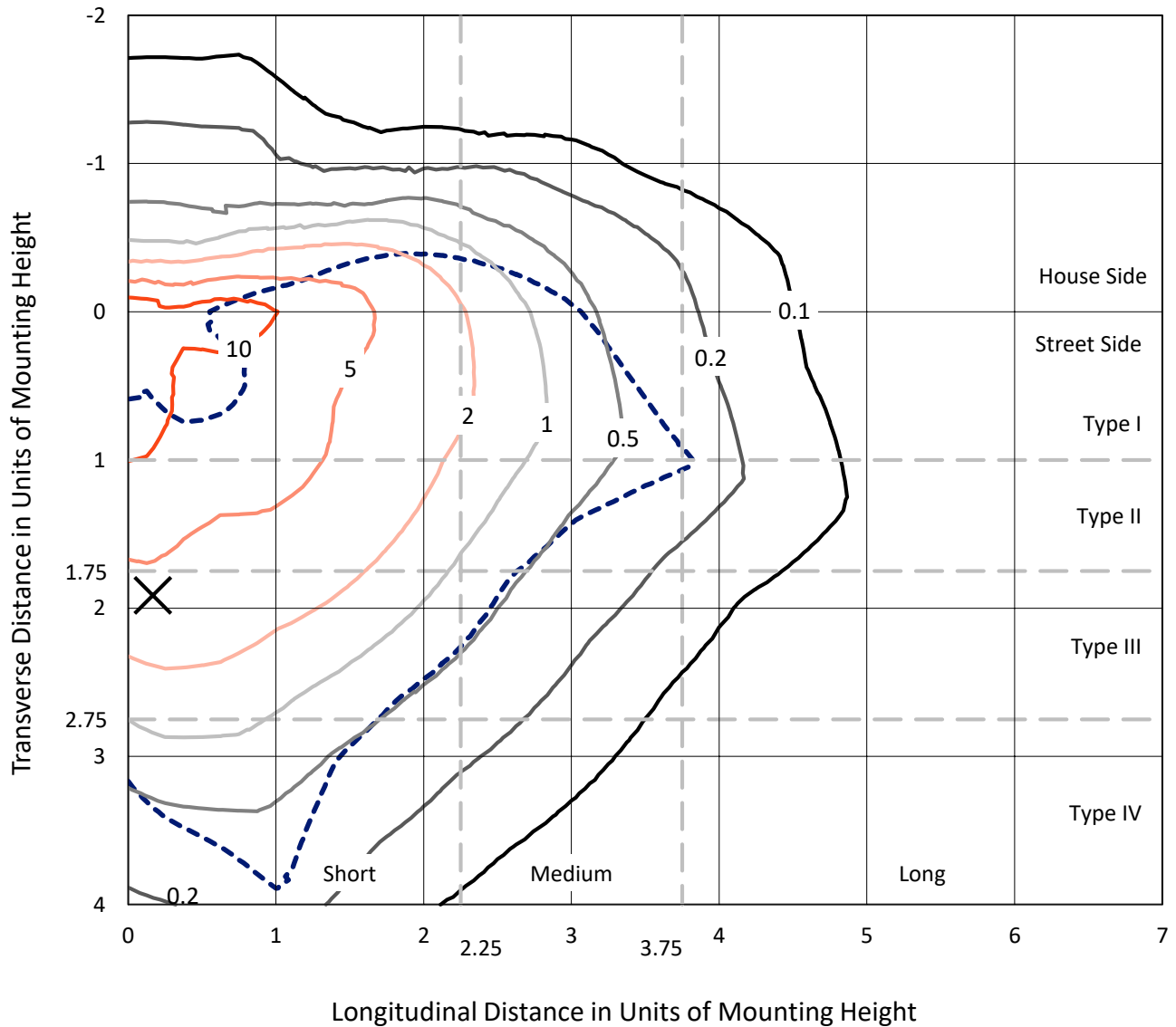
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

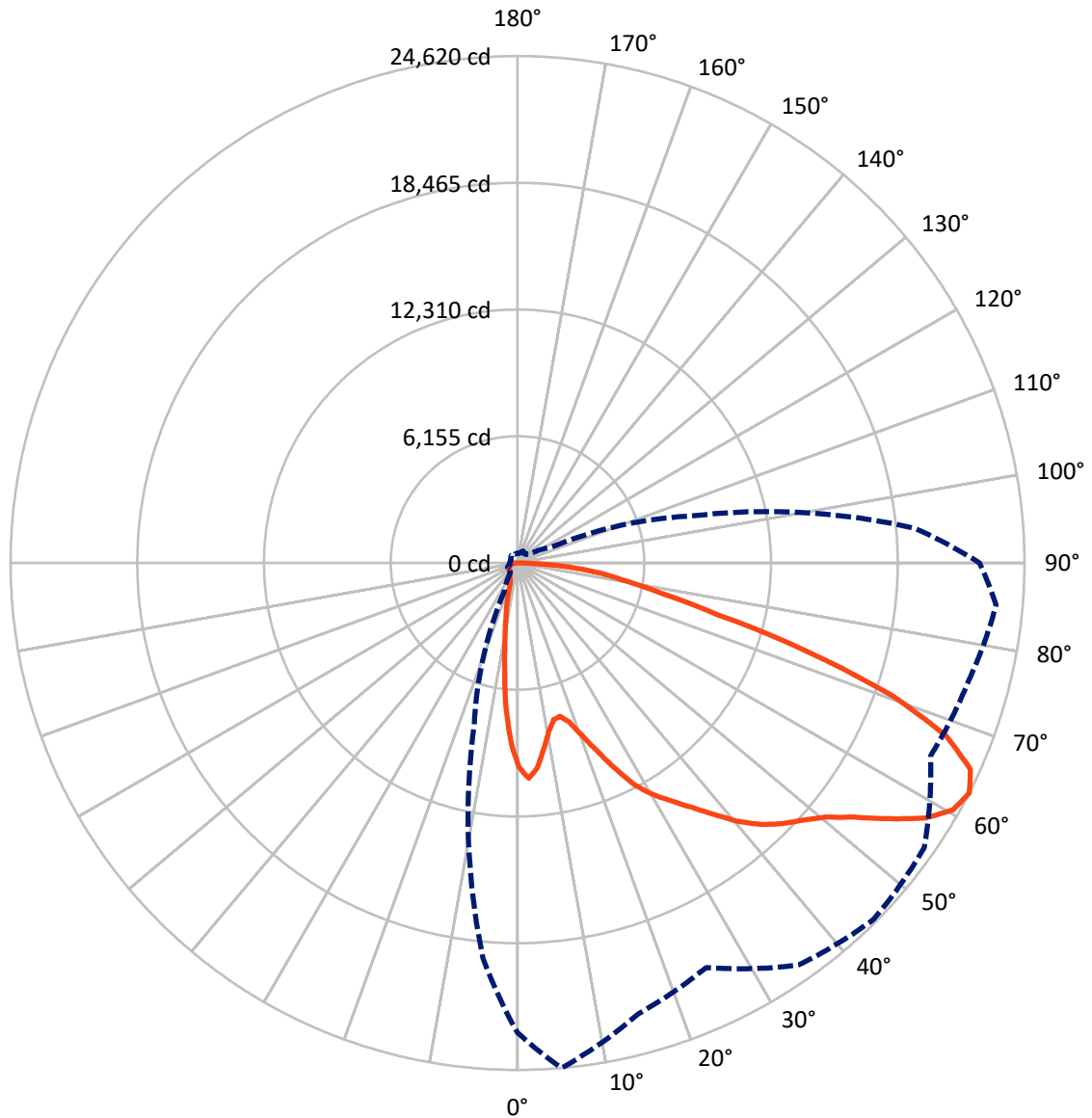
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 18.2 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	5161.1	0.0	5161.1
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	23972.9	0.0	23972.9
	% Fixture	82.3	0.0	82.3
Total	Lumens	29134.0	0.0	29134.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	722.3	2.5
10°-20°	1319.3	4.5
20°-30°	1897.5	6.5
30°-40°	2906.3	10.0
40°-50°	4249.1	14.6
50°-60°	6182.4	21.2
60°-70°	7163.2	24.6
70°-80°	3734.0	12.8
80°-90°	959.8	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°	29134.0	100.0
0°-180°	29134.0	100.0



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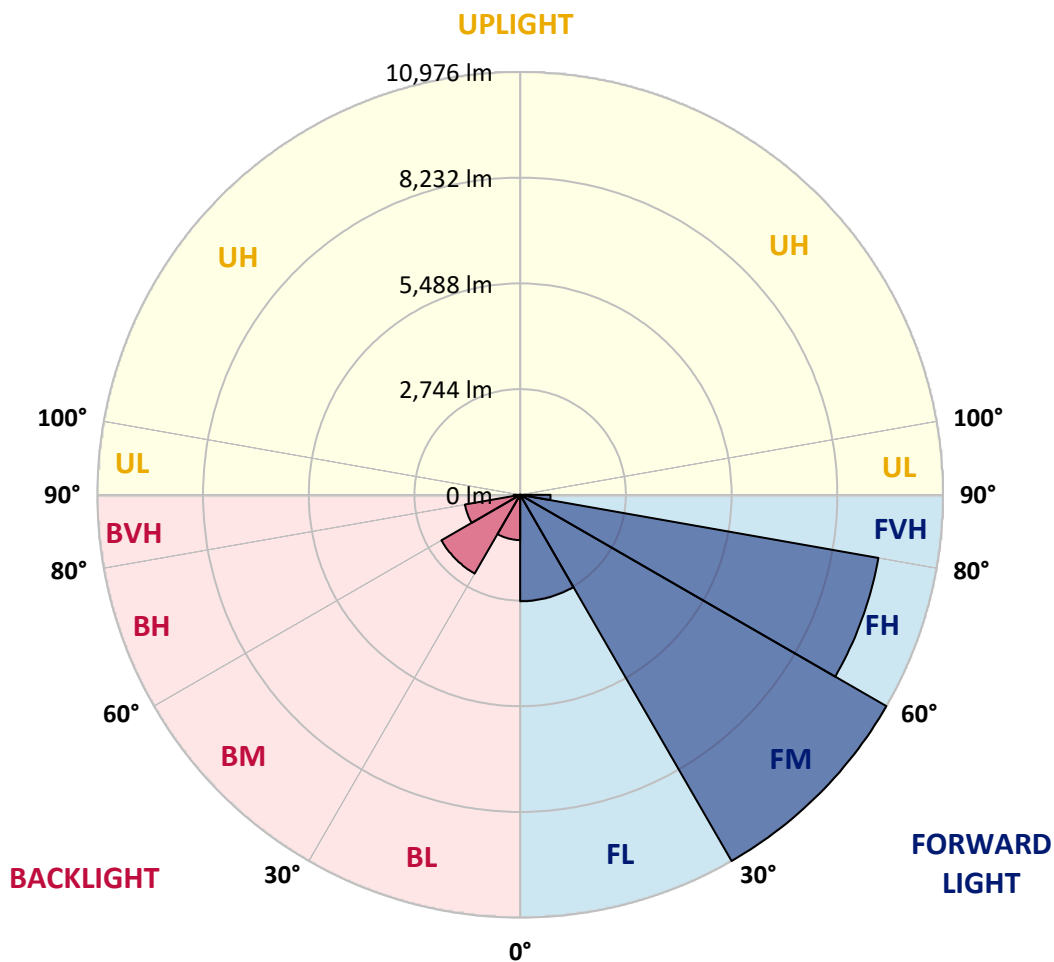
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2764.9	9.5			
FM	(30°-60°)	10976.3	37.7			
FH	(60°-80°)	9441.9	32.4			G4/12000
FVH	(80°-90°)	789.7	2.7			G5
BL	(0°-30°)	1174.2	4.0	B3/2500		
BM	(30°-60°)	2361.4	8.1	B2/2500		
BH	(60°-80°)	1455.3	5.0	B3/2500		G3/2500
BVH	(80°-90°)	170.2	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-G5

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4
2.5°	10253.4	10471.0	10720.3	11045.6	11267.4	11356.1	11430.0	11305.4	11185.0	10959.0	10878.7
5°	9577.5	9995.7	10682.3	11335.0	11909.5	12239.1	12340.5	12110.2	11700.4	11109.0	10796.3
7.5°	8574.1	9125.4	10090.8	11051.9	11875.7	12425.0	12465.1	12008.8	11201.9	10232.3	9725.3
10°	7697.5	8320.6	9438.1	10513.3	11385.7	11947.6	11837.7	11197.7	10223.9	9121.2	8548.8
12.5°	7188.4	7811.5	8950.1	10042.2	10863.9	11077.3	10853.4	10314.7	9391.6	8286.8	7710.1
15°	7080.7	7722.8	8776.9	9697.9	10207.0	10069.7	9847.9	9575.4	8918.4	8014.3	7456.7
17.5°	7406.0	8124.2	9007.1	9512.0	9490.9	9161.3	8975.5	9028.3	8916.3	8310.1	7727.0
20°	8075.6	8924.8	9592.3	9461.3	8920.5	8457.9	8350.2	8764.2	9281.8	9051.5	8411.5
22.5°	8956.4	9923.9	10390.7	9607.1	8622.7	8124.2	8103.0	8749.4	9947.1	10173.2	9393.7
25°	9951.4	11079.4	11195.6	9864.8	8591.0	8094.6	8075.6	8977.6	10747.7	11284.3	10494.3
27.5°	11168.1	12245.4	11867.3	10209.1	8730.4	8181.2	8193.9	9366.2	11582.1	12382.7	11734.2
30°	12084.9	13073.5	12281.3	10547.1	8954.3	8333.3	8365.0	9786.6	12032.1	13145.3	12724.9
32.5°	12942.5	13781.1	12678.4	10880.8	9281.8	8559.3	8669.2	10310.5	12572.8	13800.1	13660.7
35°	13890.9	14573.2	13119.9	11237.8	9750.7	8956.4	9114.9	10809.0	13109.4	14454.9	14588.0
37.5°	14966.1	15479.4	13599.4	11742.7	10426.7	9691.6	9780.3	11318.1	13483.3	15179.5	15582.9
40°	16085.7	16495.5	14123.3	12416.5	11408.9	10684.4	10726.6	11970.8	13776.9	15929.4	16548.3
42.5°	17046.8	17365.8	14649.3	13253.0	12536.9	11696.2	11732.1	12674.2	14057.8	16575.8	17321.4
45°	17815.7	18050.2	15145.7	14133.9	13741.0	12959.4	12950.9	13390.3	14433.8	17120.8	17915.0
47.5°	18531.8	18656.4	15699.1	14991.5	14989.4	14585.9	14283.8	14235.3	14934.5	17579.1	18432.5
50°	19351.4	19397.9	16430.0	15857.6	16514.5	16451.1	15893.5	15308.3	15582.9	18094.6	18975.4
52.5°	20492.1	20494.2	17336.2	16702.5	18198.1	18398.7	17750.2	16523.0	16542.0	19097.9	19913.3
55°	21833.5	21926.4	18517.0	17714.3	19959.8	20302.0	19691.5	17965.7	17919.2	20716.0	21434.2
57.5°	22870.6	23362.8	19892.2	18979.6	21605.3	22051.0	21558.8	19461.3	19611.2	22384.8	22689.0
60°	23162.1	24313.4	21263.1	20399.2	22997.4	23667.0	23166.4	21077.2	21267.3	23468.4	23050.2
62.5°	22813.6	24619.7	22659.4	21670.8	23823.3	24465.5	24106.4	22135.5	22617.1	23329.0	22439.7
65°	21780.6	24176.1	23871.9	22211.6	23348.0	23576.2	23481.1	22190.4	23350.1	22010.9	20751.9
67.5°	19368.3	22465.0	23331.1	21056.1	21127.9	20882.9	20758.3	20682.2	22526.3	19883.7	18090.3
70°	15751.9	19302.8	20751.9	17621.4	17089.1	16852.5	16442.7	17456.6	20247.1	16941.2	14888.0
72.5°	12133.4	14767.6	17021.5	13358.6	12251.7	12332.0	11867.3	13348.1	16772.2	13096.7	11366.7
75°	8616.4	10069.7	13586.8	9598.6	8132.6	8128.4	8092.5	9607.1	13234.0	9400.0	8316.4
77.5°	6210.4	7249.7	10644.2	6423.7	5771.0	5844.9	5726.6	6529.3	10316.8	6761.7	6161.8
80°	4953.5	5367.5	6880.0	4283.9	4296.6	4469.8	4444.4	4465.5	6787.0	4896.5	4607.1
82.5°	3559.3	4074.8	5259.8	3282.6	2841.1	3024.9	3060.8	3312.2	4788.7	3462.2	3037.6
85°	1825.1	2484.1	4839.4	2843.2	1776.5	1472.3	1694.1	2613.0	4159.3	2074.3	1480.8
87.5°	354.9	688.6	3546.7	1580.1	798.5	403.5	665.4	1106.9	2418.7	376.0	183.8
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°	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4
2.5°	10741.4	10471.0	10217.5	9955.6	9752.8	9505.7	9262.7	9051.5	8846.6	8711.4	8753.7
5°	10479.5	9820.4	9228.9	8679.7	8358.6	7972.1	7627.8	7338.4	7114.5	6970.8	7057.4
7.5°	9286.0	8394.6	7615.1	6890.5	6434.3	5933.6	5532.3	5249.2	5076.0	4978.9	5120.4
10°	8065.0	7063.8	6189.2	5435.1	4985.2	4560.6	4197.3	3897.3	3665.0	3555.1	3612.2
12.5°	7190.5	6077.3	5160.5	4653.5	4267.0	3886.8	3510.8	3160.1	2864.4	2729.2	2701.7
15°	6863.1	5547.1	4611.3	4045.2	3660.7	3246.7	2841.1	2465.1	2184.2	2068.0	2042.7
17.5°	7006.7	5433.0	4286.0	3616.4	3058.7	2556.0	2099.7	1744.8	1537.8	1472.3	1478.7
20°	7511.6	5475.3	4024.1	3174.9	2486.3	1890.6	1434.3	1189.3	1100.5	1085.8	1102.7
22.5°	8204.4	5648.5	3834.0	2794.7	1981.4	1375.2	1066.7	950.6	927.3	925.2	942.1
25°	9119.1	5986.5	3707.2	2456.7	1565.3	1090.0	929.4	864.0	844.9	849.2	866.1
27.5°	10196.4	6415.3	3624.8	2165.2	1286.4	971.7	868.2	811.1	792.1	796.4	809.0
30°	11180.8	6791.3	3502.3	1945.5	1155.5	929.4	834.4	777.4	752.0	752.0	760.5
32.5°	12061.6	7116.6	3358.7	1780.7	1035.1	834.4	756.2	711.9	692.9	699.2	703.4
35°	12843.2	7287.7	3246.7	1683.6	937.9	768.9	690.7	644.3	618.9	623.1	629.5
37.5°	13612.1	7353.2	3172.8	1630.7	868.2	728.8	656.9	618.9	591.5	587.2	585.1
40°	14343.0	7338.4	3103.1	1616.0	821.7	699.2	635.8	602.0	574.6	568.2	566.1
42.5°	14974.6	7289.8	3037.6	1575.8	790.0	678.1	618.9	589.4	561.9	553.4	549.2
45°	15551.3	7260.2	2965.8	1501.9	806.9	669.6	610.5	578.8	553.4	542.9	538.7
47.5°	16191.3	7365.8	2885.5	1421.6	802.7	671.7	610.5	574.6	549.2	538.7	534.4
50°	16953.9	7722.8	2786.2	1311.8	764.7	718.2	608.4	568.2	545.0	538.7	530.2
52.5°	18031.2	8301.6	2648.9	1170.3	735.1	766.8	606.3	557.7	538.7	528.1	517.5
55°	19507.7	8880.4	2471.5	1020.3	688.6	733.0	610.5	545.0	523.9	513.3	500.6
57.5°	20718.1	9319.8	2247.6	895.6	646.4	692.9	604.1	530.2	507.0	496.4	485.8
60°	20640.0	9362.0	2034.2	815.4	621.0	623.1	618.9	519.6	492.2	483.7	475.3
62.5°	19362.0	8840.3	1835.6	775.2	602.0	568.2	631.6	507.0	477.4	468.9	462.6
65°	17234.8	7625.7	1730.0	775.2	585.1	538.7	551.3	490.1	462.6	454.2	449.9
67.5°	14537.3	6128.0	1630.7	792.1	561.9	517.5	500.6	473.2	447.8	439.4	435.1
70°	11651.8	4822.5	1561.0	783.7	540.8	494.3	473.2	449.9	424.6	422.5	418.2
72.5°	9140.2	3874.1	1529.4	783.7	509.1	466.8	445.7	428.8	403.5	401.4	395.0
75°	7323.6	2908.7	1398.4	768.9	477.4	430.9	411.9	397.1	371.8	373.9	369.7
77.5°	5671.7	2057.4	1168.1	692.9	437.3	390.8	376.0	365.4	335.9	338.0	338.0
80°	4436.0	1339.2	906.2	574.6	390.8	344.3	333.8	325.3	293.6	297.8	297.8
82.5°	3039.7	796.4	656.9	462.6	335.9	293.6	291.5	278.8	245.0	247.1	251.4
85°	1660.3	523.9	437.3	342.2	264.0	238.7	234.5	228.1	196.5	196.5	198.6
87.5°	306.3	280.9	257.7	226.0	177.4	171.1	164.8	171.1	147.9	143.6	143.6
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°	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4
2.5°	8654.4	8508.6	8407.2	8318.5	8105.2	8119.9	8149.5	8191.8	8058.7	8128.4	8215.0
5°	6970.8	6850.4	6759.6	6618.1	6320.2	6214.6	6147.0	6117.4	5918.9	5961.1	6054.1
7.5°	5139.4	5137.3	5105.6	4947.2	4588.1	4370.5	4226.9	4182.5	4060.0	4106.4	4248.0
10°	3618.5	3656.5	3641.7	3500.2	3179.1	3022.8	2991.1	3079.8	3081.9	3172.8	3415.7
12.5°	2615.1	2594.0	2575.0	2458.8	2218.0	2192.6	2264.5	2387.0	2416.6	2513.7	2767.2
15°	1951.8	1901.1	1890.6	1799.7	1641.3	1664.5	1717.4	1780.7	1782.8	1850.4	2059.6
17.5°	1463.9	1463.9	1480.8	1421.6	1307.6	1297.0	1269.5	1252.6	1227.3	1254.7	1368.8
20°	1136.5	1189.3	1231.5	1197.7	1094.2	1043.5	990.7	956.9	937.9	940.0	973.8
22.5°	973.8	1016.0	1071.0	1054.1	967.5	902.0	868.2	844.9	830.2	830.2	849.2
25°	891.4	918.9	969.6	961.1	887.2	834.4	806.9	783.7	766.8	764.7	783.7
27.5°	825.9	842.8	876.6	872.4	796.4	762.6	745.7	730.9	720.3	718.2	737.2
30°	766.8	775.2	792.1	785.8	728.8	695.0	688.6	682.3	676.0	678.1	705.5
32.5°	714.0	720.3	730.9	722.4	667.5	637.9	627.4	618.9	612.6	618.9	650.6
35°	654.8	673.8	686.5	682.3	623.1	587.2	564.0	542.9	534.4	540.8	576.7
37.5°	604.1	635.8	652.7	648.5	587.2	545.0	515.4	511.2	511.2	519.6	555.6
40°	585.1	608.4	623.1	616.8	555.6	513.3	496.4	490.1	492.2	500.6	538.7
42.5°	568.2	589.4	593.6	580.9	519.6	492.2	481.6	473.2	477.4	488.0	526.0
45°	553.4	570.3	568.2	549.2	490.1	471.1	471.1	464.7	466.8	475.3	515.4
47.5°	542.9	551.3	547.1	528.1	468.9	454.2	460.5	460.5	464.7	471.1	511.2
50°	526.0	532.3	528.1	511.2	452.0	439.4	445.7	454.2	458.4	464.7	500.6
52.5°	509.1	513.3	511.2	494.3	435.1	426.7	426.7	435.1	443.6	452.0	483.7
55°	492.2	496.4	498.5	485.8	422.5	414.0	411.9	411.9	420.4	433.0	466.8
57.5°	479.5	479.5	483.7	475.3	409.8	399.2	388.7	390.8	401.4	411.9	445.7
60°	464.7	466.8	473.2	464.7	392.9	376.0	367.6	378.1	382.3	392.9	428.8
62.5°	452.0	452.0	456.3	449.9	378.1	361.2	354.9	365.4	365.4	376.0	411.9
65°	441.5	439.4	439.4	437.3	363.3	346.4	342.2	346.4	348.5	359.1	395.0
67.5°	433.0	422.5	422.5	426.7	348.5	331.6	329.5	329.5	331.6	344.3	376.0
70°	414.0	405.6	403.5	418.2	333.8	312.6	312.6	308.4	312.6	319.0	352.8
72.5°	392.9	386.6	384.5	405.6	319.0	291.5	287.3	285.2	287.3	293.6	325.3
75°	365.4	361.2	365.4	397.1	304.2	268.3	261.9	259.8	259.8	261.9	295.7
77.5°	333.8	329.5	361.2	369.7	295.7	240.8	234.5	230.2	226.0	226.0	264.0
80°	295.7	293.6	348.5	312.6	283.1	211.2	200.7	194.3	190.1	188.0	226.0
82.5°	257.7	253.5	297.8	245.0	234.5	173.2	158.4	145.8	139.4	139.4	173.2
85°	211.2	209.1	234.5	179.6	162.7	126.7	105.6	95.1	86.6	86.6	112.0
87.5°	154.2	150.0	145.8	107.7	82.4	57.0	40.1	38.0	33.8	31.7	46.5
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: P195743

CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-7050-1200

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4	9932.4
2.5°	8343.9	8519.2	8850.8	9123.3	9486.7	9778.2	10109.8	10253.4
5°	6225.2	6501.9	7008.8	7441.9	8041.8	8597.3	9231.1	9577.5
7.5°	4465.5	4875.3	5259.8	5800.6	6550.5	7296.1	8115.7	8574.1
10°	3694.5	4070.5	4400.1	4784.5	5363.3	6201.9	7179.9	7697.5
12.5°	3060.8	3466.4	3814.9	4226.9	4712.7	5471.0	6586.4	7188.4
15°	2346.8	2788.3	3206.6	3703.0	4298.7	5164.7	6408.9	7080.7
17.5°	1607.5	2080.7	2596.1	3202.4	3920.6	5035.9	6577.9	7406.0
20°	1092.1	1438.5	1998.3	2716.5	3580.5	4974.6	6949.7	8075.6
22.5°	897.8	1054.1	1474.4	2260.2	3301.6	5042.2	7553.8	8956.4
25°	823.8	908.3	1147.0	1858.9	3088.3	5221.8	8371.3	9951.4
27.5°	777.4	849.2	1005.5	1571.6	2891.8	5466.8	9366.2	11168.1
30°	749.9	817.5	948.5	1423.7	2712.3	5678.0	10221.8	12084.9
32.5°	688.6	739.3	847.1	1339.2	2583.4	5849.2	10975.9	12942.5
35°	614.7	676.0	764.7	1284.3	2579.2	5929.4	11685.6	13890.9
37.5°	587.2	646.4	711.9	1254.7	2604.6	5997.0	12553.8	14966.1
40°	570.3	623.1	676.0	1250.5	2625.7	6049.8	13403.0	16085.7
42.5°	555.6	608.4	669.6	1220.9	2617.2	6121.6	14155.0	17046.8
45°	551.3	604.1	684.4	1176.6	2615.1	6233.6	14752.8	17815.7
47.5°	547.1	627.4	680.2	1128.0	2606.7	6470.2	15426.6	18531.8
50°	542.9	669.6	650.6	1060.4	2543.3	6873.7	16332.8	19351.4
52.5°	540.8	676.0	618.9	967.5	2429.2	7471.5	17659.4	20492.1
55°	532.3	642.2	564.0	844.9	2264.5	8115.7	19081.0	21833.5
57.5°	513.3	572.5	532.3	724.5	2027.9	8565.7	20130.9	22870.6
60°	559.8	492.2	511.2	663.3	1744.8	8645.9	20177.4	23162.1
62.5°	534.4	447.8	490.1	642.2	1546.3	8122.1	19254.2	22813.6
65°	426.7	424.6	471.1	663.3	1516.7	6949.7	17695.3	21780.6
67.5°	388.7	407.7	452.0	688.6	1535.7	5475.3	15401.3	19368.3
70°	363.3	386.6	426.7	711.9	1569.5	4313.5	12399.6	15751.9
72.5°	338.0	357.0	401.4	735.1	1546.3	3403.0	9923.9	12133.4
75°	306.3	323.2	365.4	673.8	1326.6	2501.0	7885.5	8616.4
77.5°	270.4	285.2	321.1	532.3	997.0	1740.6	5906.2	6210.4
80°	232.4	238.7	266.2	388.7	650.6	1041.4	4495.1	4953.5
82.5°	183.8	185.9	202.8	285.2	405.6	665.4	3117.9	3559.3
85°	118.3	122.5	131.0	200.7	272.5	426.7	1592.7	1825.1
87.5°	40.1	46.5	46.5	97.2	133.1	236.6	488.0	354.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)