

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: P195738

Luminaire Tested: **NAV-AF-06-D-UNV-SLL-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195738
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-06-D-UNV-SLL-7050
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 5000K, 1050mA 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: 31815 lumens
Efficiency: N/A
Efficacy: 95.5 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

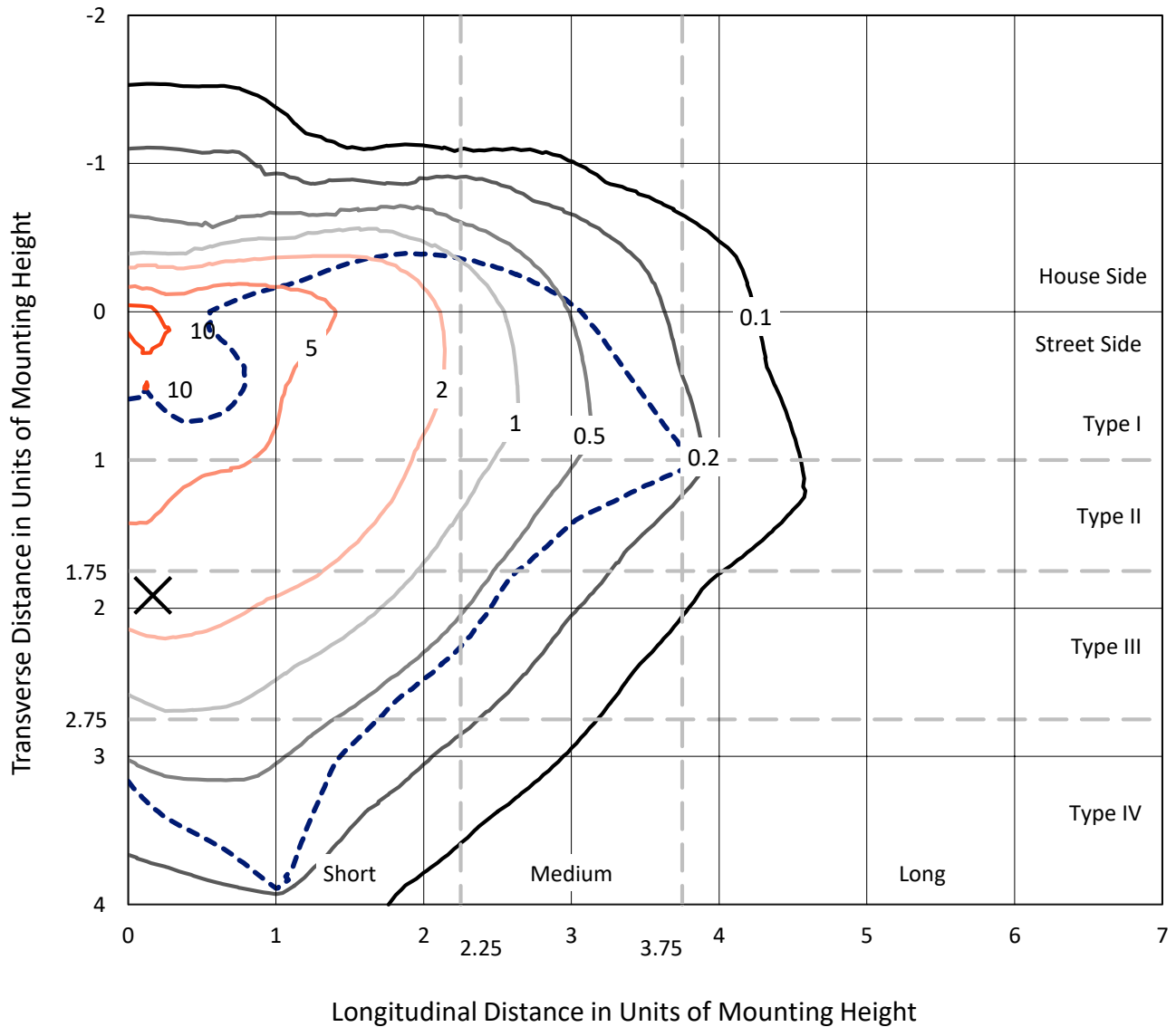
Input Watts (W): 333
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

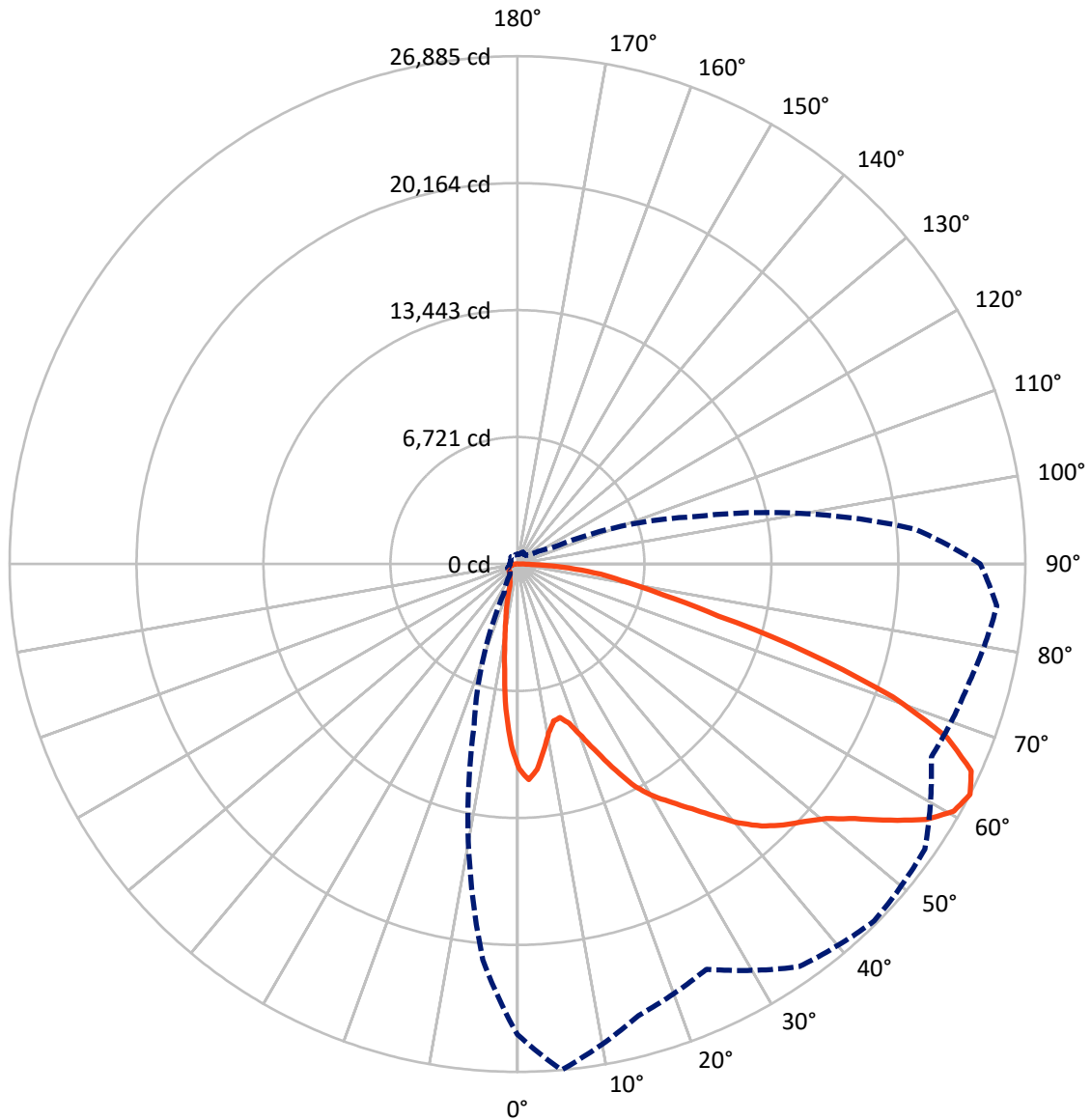
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 13.8 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	5636.1	0.0	5636.1
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	26178.9	0.0	26178.9
	% Fixture	82.3	0.0	82.3
Total	Lumens	31815.0	0.0	31815.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	788.8	2.5
10°-20°	1440.7	4.5
20°-30°	2072.2	6.5
30°-40°	3173.7	10.0
40°-50°	4640.1	14.6
50°-60°	6751.4	21.2
60°-70°	7822.3	24.6
70°-80°	4077.7	12.8
80°-90°	1048.2	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°	31815.0	100.0
0°-180°	31815.0	100.0



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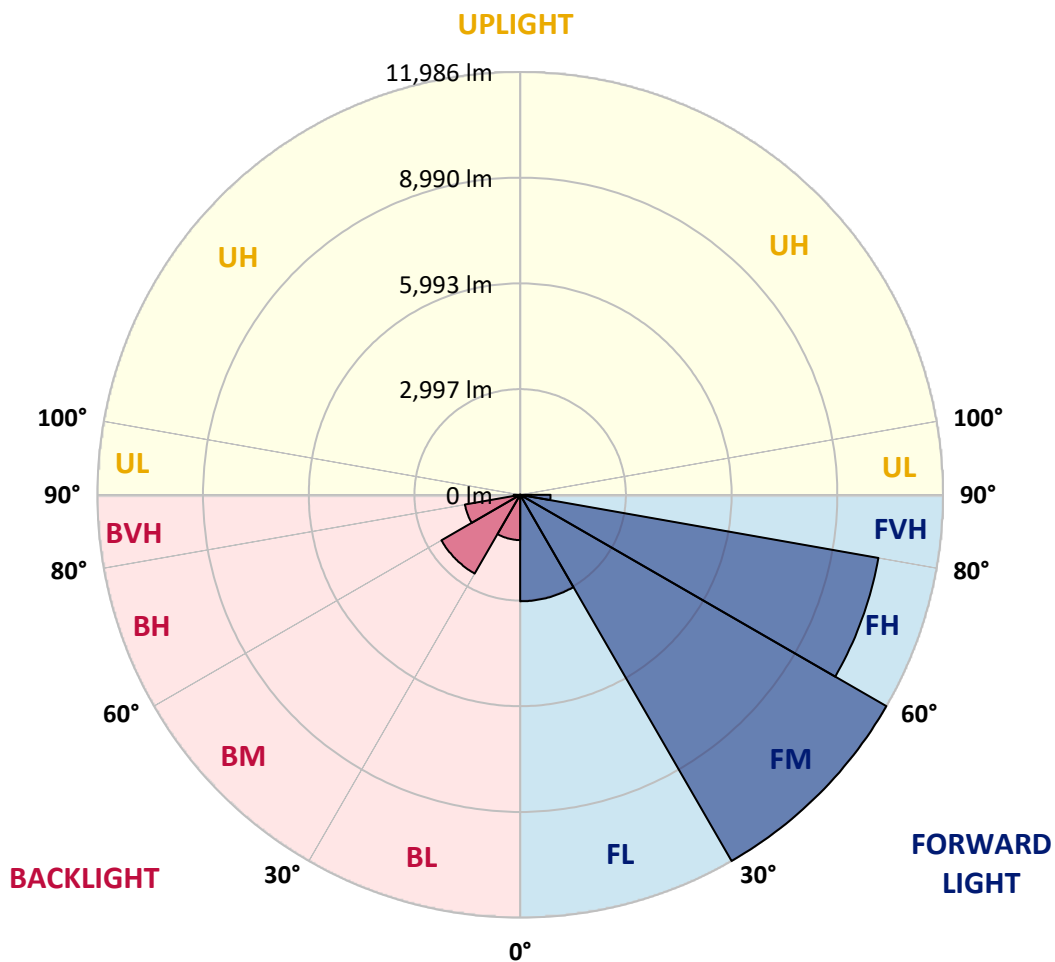
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3019.4	9.5			
FM	(30°-60°)	11986.4	37.7			
FH	(60°-80°)	10310.8	32.4			G4/12000
FVH	(80°-90°)	862.3	2.7			G5
BL	(0°-30°)	1282.3	4.0	B3/2500		
BM	(30°-60°)	2578.7	8.1	B3/5000		
BH	(60°-80°)	1589.2	5.0	B3/2500		G3/2500
BVH	(80°-90°)	185.9	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-G5

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4
2.5°	11197.0	11434.6	11706.8	12062.0	12304.2	12401.1	12481.9	12345.8	12214.3	11967.5	11879.8
5°	10458.8	10915.6	11665.3	12378.1	13005.5	13365.3	13476.1	13224.6	12777.1	12131.2	11789.8
7.5°	9363.1	9965.2	11019.4	12068.9	12968.6	13568.3	13612.2	13113.9	12232.7	11173.9	10620.3
10°	8405.8	9086.3	10306.6	11480.7	12433.4	13047.0	12927.1	12228.1	11164.7	9960.6	9335.4
12.5°	7849.9	8530.4	9773.7	10966.3	11863.6	12096.6	11852.1	11263.9	10255.8	9049.4	8419.7
15°	7732.2	8433.5	9584.6	10590.3	11146.2	10996.3	10754.1	10456.5	9739.1	8751.8	8142.8
17.5°	8087.5	8871.8	9836.0	10387.3	10364.3	10004.4	9801.4	9859.1	9736.8	9074.8	8438.1
20°	8818.7	9746.0	10475.0	10332.0	9741.4	9236.3	9118.6	9570.7	10135.9	9884.4	9185.5
22.5°	9780.6	10837.1	11346.9	10491.1	9416.2	8871.8	8848.7	9554.6	10862.5	11109.3	10258.1
25°	10867.1	12098.9	12225.8	10772.6	9381.6	8839.5	8818.7	9803.7	11736.8	12322.7	11460.0
27.5°	12195.8	13372.3	12959.4	11148.6	9533.8	8934.1	8947.9	10228.2	12647.9	13522.2	12814.0
30°	13197.0	14276.5	13411.5	11517.6	9778.3	9100.2	9134.8	10687.2	13139.3	14354.9	13895.9
32.5°	14133.5	15049.3	13845.2	11882.1	10135.9	9347.0	9466.9	11259.3	13729.8	15070.0	14917.8
35°	15169.2	15914.3	14327.3	12271.9	10648.0	9780.6	9953.7	11803.7	14315.7	15785.1	15930.5
37.5°	16343.4	16903.9	14850.9	12823.3	11386.1	10583.4	10680.3	12359.6	14724.0	16576.3	17016.9
40°	17565.9	18013.5	15423.0	13559.1	12458.8	11667.6	11713.7	13072.4	15044.7	17395.2	18071.1
42.5°	18615.5	18963.8	15997.4	14472.6	13690.6	12772.5	12811.7	13840.5	15351.5	18101.1	18915.4
45°	19455.2	19711.2	16539.4	15434.5	15005.4	14151.9	14142.7	14622.5	15762.1	18696.3	19563.6
47.5°	20237.2	20373.3	17143.8	16371.0	16368.7	15928.2	15598.3	15545.2	16308.8	19196.8	20128.8
50°	21132.2	21182.9	17941.9	17316.8	18034.2	17965.0	17356.0	16717.1	17016.9	19759.7	20721.6
52.5°	22377.8	22380.1	18931.5	18239.5	19872.7	20091.8	19383.7	18043.4	18064.2	20855.4	21745.8
55°	23842.6	23944.1	20221.0	19344.5	21796.5	22170.2	21503.6	19619.0	19568.2	22622.4	23406.7
57.5°	24975.2	25512.7	21722.7	20726.2	23593.5	24080.2	23542.8	21252.1	21415.9	24444.7	24776.9
60°	25293.6	26550.8	23219.8	22276.3	25113.7	25844.9	25298.2	23016.8	23224.4	25628.1	25171.3
62.5°	24913.0	26885.2	24744.6	23665.0	26015.6	26716.8	26324.7	24172.5	24698.4	25475.8	24504.7
65°	23785.0	26400.8	26068.7	24255.5	25496.6	25745.7	25641.9	24232.5	25498.9	24036.4	22661.6
67.5°	21150.6	24532.4	25478.1	22993.7	23072.2	22804.6	22668.5	22585.4	24599.2	21713.5	19755.1
70°	17201.5	21079.1	22661.6	19243.0	18661.7	18403.3	17955.8	19063.0	22110.3	18500.2	16258.0
72.5°	13250.0	16126.5	18587.8	14587.9	13379.2	13466.8	12959.4	14576.4	18315.6	14301.9	12412.7
75°	9409.3	10996.3	14837.1	10481.9	8881.0	8876.4	8837.2	10491.1	14451.8	10265.1	9081.7
77.5°	6781.9	7916.8	11623.7	7014.8	6302.1	6382.8	6253.6	7130.2	11266.2	7383.9	6728.8
80°	5409.3	5861.5	7513.1	4678.1	4691.9	4881.1	4853.4	4876.5	7411.6	5347.1	5031.0
82.5°	3886.9	4449.7	5743.8	3584.7	3102.6	3303.3	3342.5	3617.0	5229.4	3780.8	3317.1
85°	1993.0	2712.7	5284.8	3104.9	1940.0	1607.8	1850.0	2853.5	4542.0	2265.2	1617.0
87.5°	387.5	752.0	3873.0	1725.5	872.0	440.6	726.6	1208.7	2641.2	410.6	200.7
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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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4
2.5°	11729.9	11434.6	11157.8	10871.7	10650.3	10380.4	10115.1	9884.4	9660.7	9513.1	9559.2
5°	11443.8	10724.1	10078.2	9478.5	9127.8	8705.7	8329.7	8013.7	7769.2	7612.3	7706.9
7.5°	10140.5	9167.0	8315.9	7524.6	7026.4	6479.7	6041.4	5732.3	5543.1	5437.0	5591.6
10°	8807.2	7713.8	6758.8	5935.3	5443.9	4980.3	4583.5	4256.0	4002.2	3882.3	3944.6
12.5°	7852.2	6636.5	5635.4	5081.8	4659.6	4244.4	3833.8	3450.9	3128.0	2980.3	2950.3
15°	7494.7	6057.5	5035.6	4417.4	3997.6	3545.5	3102.6	2692.0	2385.2	2258.3	2230.6
17.5°	7651.5	5933.0	4680.4	3949.2	3340.2	2791.2	2292.9	1905.4	1679.3	1607.8	1614.7
20°	8202.8	5979.1	4394.4	3467.1	2715.1	2064.5	1566.3	1298.7	1201.8	1185.7	1204.1
22.5°	8959.4	6168.3	4186.8	3051.8	2163.7	1501.7	1164.9	1038.0	1012.7	1010.4	1028.8
25°	9958.3	6537.3	4048.4	2682.8	1709.3	1190.3	1015.0	943.5	922.7	927.3	945.8
27.5°	11134.7	7005.6	3958.4	2364.4	1404.8	1061.1	948.1	885.8	865.0	869.6	883.5
30°	12209.7	7416.2	3824.6	2124.5	1261.8	1015.0	911.2	848.9	821.2	821.2	830.4
32.5°	13171.6	7771.5	3667.7	1944.6	1130.3	911.2	825.8	777.4	756.6	763.5	768.1
35°	14025.1	7958.3	3545.5	1838.5	1024.2	839.7	754.3	703.6	675.9	680.5	687.4
37.5°	14864.7	8029.8	3464.7	1780.8	948.1	795.8	717.4	675.9	645.9	641.3	639.0
40°	15662.9	8013.7	3388.6	1764.7	897.3	763.5	694.3	657.4	627.4	620.5	618.2
42.5°	16352.6	7960.6	3317.1	1720.8	862.7	740.5	675.9	643.6	613.6	604.4	599.8
45°	16982.3	7928.3	3238.7	1640.1	881.2	731.2	666.7	632.1	604.4	592.8	588.2
47.5°	17681.3	8043.7	3151.0	1552.4	876.6	733.5	666.7	627.4	599.8	588.2	583.6
50°	18514.0	8433.5	3042.6	1432.5	835.0	784.3	664.3	620.5	595.1	588.2	579.0
52.5°	19690.5	9065.6	2892.7	1277.9	802.8	837.4	662.0	609.0	588.2	576.7	565.2
55°	21302.9	9697.6	2698.9	1114.2	752.0	800.4	666.7	595.1	572.1	560.5	546.7
57.5°	22624.7	10177.4	2454.4	978.1	705.9	756.6	659.7	579.0	553.6	542.1	530.6
60°	22539.3	10223.5	2221.4	890.4	678.2	680.5	675.9	567.5	537.5	528.2	519.0
62.5°	21143.7	9653.8	2004.6	846.6	657.4	620.5	689.7	553.6	521.3	512.1	505.2
65°	18820.8	8327.4	1889.2	846.6	639.0	588.2	602.1	535.2	505.2	496.0	491.3
67.5°	15875.1	6691.9	1780.8	865.0	613.6	565.2	546.7	516.7	489.0	479.8	475.2
70°	12724.1	5266.3	1704.7	855.8	590.5	539.8	516.7	491.3	463.7	461.4	456.7
72.5°	9981.3	4230.6	1670.1	855.8	555.9	509.8	486.7	468.3	440.6	438.3	431.4
75°	7997.5	3176.4	1527.1	839.7	521.3	470.6	449.8	433.7	406.0	408.3	403.7
77.5°	6193.6	2246.8	1275.6	756.6	477.5	426.7	410.6	399.1	366.8	369.1	369.1
80°	4844.2	1462.5	989.6	627.4	426.7	376.0	364.5	355.2	320.6	325.3	325.3
82.5°	3319.4	869.6	717.4	505.2	366.8	320.6	318.3	304.5	267.6	269.9	274.5
85°	1813.1	572.1	477.5	373.7	288.3	260.7	256.0	249.1	214.5	214.5	216.8
87.5°	334.5	306.8	281.4	246.8	193.8	186.8	179.9	186.8	161.5	156.9	156.9
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°	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4
2.5°	9450.8	9291.6	9180.9	9084.0	8851.0	8867.2	8899.5	8945.6	8800.3	8876.4	8971.0
5°	7612.3	7480.8	7381.6	7227.1	6901.8	6786.5	6712.7	6680.4	6463.5	6509.7	6611.2
7.5°	5612.3	5610.0	5575.4	5402.4	5010.3	4772.7	4615.8	4567.4	4433.6	4484.3	4638.9
10°	3951.5	3993.0	3976.8	3822.3	3471.7	3301.0	3266.4	3363.3	3365.6	3464.7	3730.0
12.5°	2855.8	2832.7	2811.9	2685.1	2422.1	2394.4	2472.8	2606.6	2638.9	2745.0	3021.9
15°	2131.4	2076.1	2064.5	1965.4	1792.3	1817.7	1875.4	1944.6	1946.9	2020.7	2249.1
17.5°	1598.6	1598.6	1617.0	1552.4	1427.9	1416.3	1386.4	1367.9	1340.2	1370.2	1494.8
20°	1241.0	1298.7	1344.8	1307.9	1194.9	1139.5	1081.9	1045.0	1024.2	1026.5	1063.4
22.5°	1063.4	1109.5	1169.5	1151.1	1056.5	985.0	948.1	922.7	906.6	906.6	927.3
25°	973.5	1003.4	1058.8	1049.6	968.8	911.2	881.2	855.8	837.4	835.0	855.8
27.5°	901.9	920.4	957.3	952.7	869.6	832.7	814.3	798.1	786.6	784.3	805.1
30°	837.4	846.6	865.0	858.1	795.8	758.9	752.0	745.1	738.2	740.5	770.5
32.5°	779.7	786.6	798.1	788.9	728.9	696.6	685.1	675.9	669.0	675.9	710.5
35°	715.1	735.9	749.7	745.1	680.5	641.3	615.9	592.8	583.6	590.5	629.7
37.5°	659.7	694.3	712.8	708.2	641.3	595.1	562.8	558.2	558.2	567.5	606.7
40°	639.0	664.3	680.5	673.6	606.7	560.5	542.1	535.2	537.5	546.7	588.2
42.5°	620.5	643.6	648.2	634.4	567.5	537.5	525.9	516.7	521.3	532.9	574.4
45°	604.4	622.8	620.5	599.8	535.2	514.4	514.4	507.5	509.8	519.0	562.8
47.5°	592.8	602.1	597.4	576.7	512.1	496.0	502.9	502.9	507.5	514.4	558.2
50°	574.4	581.3	576.7	558.2	493.6	479.8	486.7	496.0	500.6	507.5	546.7
52.5°	555.9	560.5	558.2	539.8	475.2	466.0	466.0	475.2	484.4	493.6	528.2
55°	537.5	542.1	544.4	530.6	461.4	452.1	449.8	449.8	459.0	472.9	509.8
57.5°	523.6	523.6	528.2	519.0	447.5	436.0	424.4	426.7	438.3	449.8	486.7
60°	507.5	509.8	516.7	507.5	429.1	410.6	401.4	412.9	417.5	429.1	468.3
62.5°	493.6	493.6	498.3	491.3	412.9	394.5	387.5	399.1	399.1	410.6	449.8
65°	482.1	479.8	479.8	477.5	396.8	378.3	373.7	378.3	380.6	392.1	431.4
67.5°	472.9	461.4	461.4	466.0	380.6	362.2	359.9	359.9	362.2	376.0	410.6
70°	452.1	442.9	440.6	456.7	364.5	341.4	341.4	336.8	341.4	348.3	385.2
72.5°	429.1	422.1	419.8	442.9	348.3	318.3	313.7	311.4	313.7	320.6	355.2
75°	399.1	394.5	399.1	433.7	332.2	293.0	286.0	283.7	283.7	286.0	322.9
77.5°	364.5	359.9	394.5	403.7	322.9	263.0	256.0	251.4	246.8	246.8	288.3
80°	322.9	320.6	380.6	341.4	309.1	230.7	219.1	212.2	207.6	205.3	246.8
82.5°	281.4	276.8	325.3	267.6	256.0	189.2	173.0	159.2	152.2	152.2	189.2
85°	230.7	228.4	256.0	196.1	177.6	138.4	115.3	103.8	94.6	94.6	122.3
87.5°	168.4	163.8	159.2	117.6	90.0	62.3	43.8	41.5	36.9	34.6	50.7
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: P195738

CATALOG NUMBER: NAV-AF-06-D-UNV-SLL-7050

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4	10846.4
2.5°	9111.7	9303.1	9665.3	9962.9	10359.6	10678.0	11040.1	11197.0
5°	6798.0	7100.2	7653.8	8126.7	8781.8	9388.5	10080.5	10458.8
7.5°	4876.5	5324.0	5743.8	6334.4	7153.3	7967.5	8862.6	9363.1
10°	4034.5	4445.1	4805.0	5224.8	5856.9	6772.6	7840.7	8405.8
12.5°	3342.5	3785.4	4166.0	4615.8	5146.4	5974.5	7192.5	7849.9
15°	2562.8	3044.9	3501.7	4043.7	4694.2	5640.0	6998.7	7732.2
17.5°	1755.4	2272.2	2835.0	3497.0	4281.3	5499.3	7183.2	8087.5
20°	1192.6	1570.9	2182.2	2966.5	3910.0	5432.4	7589.2	8818.7
22.5°	980.4	1151.1	1610.1	2468.2	3605.5	5506.2	8249.0	9780.6
25°	899.6	991.9	1252.6	2029.9	3372.5	5702.3	9141.7	10867.1
27.5°	848.9	927.3	1098.0	1716.2	3157.9	5969.9	10228.2	12195.8
30°	818.9	892.7	1035.7	1554.8	2961.9	6200.6	11162.4	13197.0
32.5°	752.0	807.4	925.0	1462.5	2821.2	6387.4	11985.9	14133.5
35°	671.3	738.2	835.0	1402.5	2816.5	6475.1	12761.0	15169.2
37.5°	641.3	705.9	777.4	1370.2	2844.2	6548.9	13709.1	16343.4
40°	622.8	680.5	738.2	1365.6	2867.3	6606.5	14636.4	17565.9
42.5°	606.7	664.3	731.2	1333.3	2858.1	6685.0	15457.6	18615.5
45°	602.1	659.7	747.4	1284.9	2855.8	6807.2	16110.4	19455.2
47.5°	597.4	685.1	742.8	1231.8	2846.5	7065.6	16846.2	20237.2
50°	592.8	731.2	710.5	1158.0	2777.3	7506.2	17835.8	21132.2
52.5°	590.5	738.2	675.9	1056.5	2652.8	8159.0	19284.5	22377.8
55°	581.3	701.3	615.9	922.7	2472.8	8862.6	20836.9	23842.6
57.5°	560.5	625.1	581.3	791.2	2214.5	9353.9	21983.4	24975.2
60°	611.3	537.5	558.2	724.3	1905.4	9441.6	22034.1	25293.6
62.5°	583.6	489.0	535.2	701.3	1688.5	8869.5	21026.1	24913.0
65°	466.0	463.7	514.4	724.3	1656.3	7589.2	19323.7	23785.0
67.5°	424.4	445.2	493.6	752.0	1677.0	5979.1	16818.6	21150.6
70°	396.8	422.1	466.0	777.4	1713.9	4710.4	13540.7	17201.5
72.5°	369.1	389.8	438.3	802.8	1688.5	3716.2	10837.1	13250.0
75°	334.5	352.9	399.1	735.9	1448.6	2731.2	8611.1	9409.3
77.5°	295.3	311.4	350.6	581.3	1088.8	1900.8	6449.7	6781.9
80°	253.7	260.7	290.7	424.4	710.5	1137.2	4908.8	5409.3
82.5°	200.7	203.0	221.4	311.4	442.9	726.6	3404.8	3886.9
85°	129.2	133.8	143.0	219.1	297.6	466.0	1739.3	1993.0
87.5°	43.8	50.7	50.7	106.1	145.3	258.4	532.9	387.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)