

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: P270611

Luminaire Tested: **NAV-AF-05-D-UNV-SLL-7027-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270611
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-7027-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 800mA 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: 18642.3 lumens
Efficiency: N/A
Efficacy: 88.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

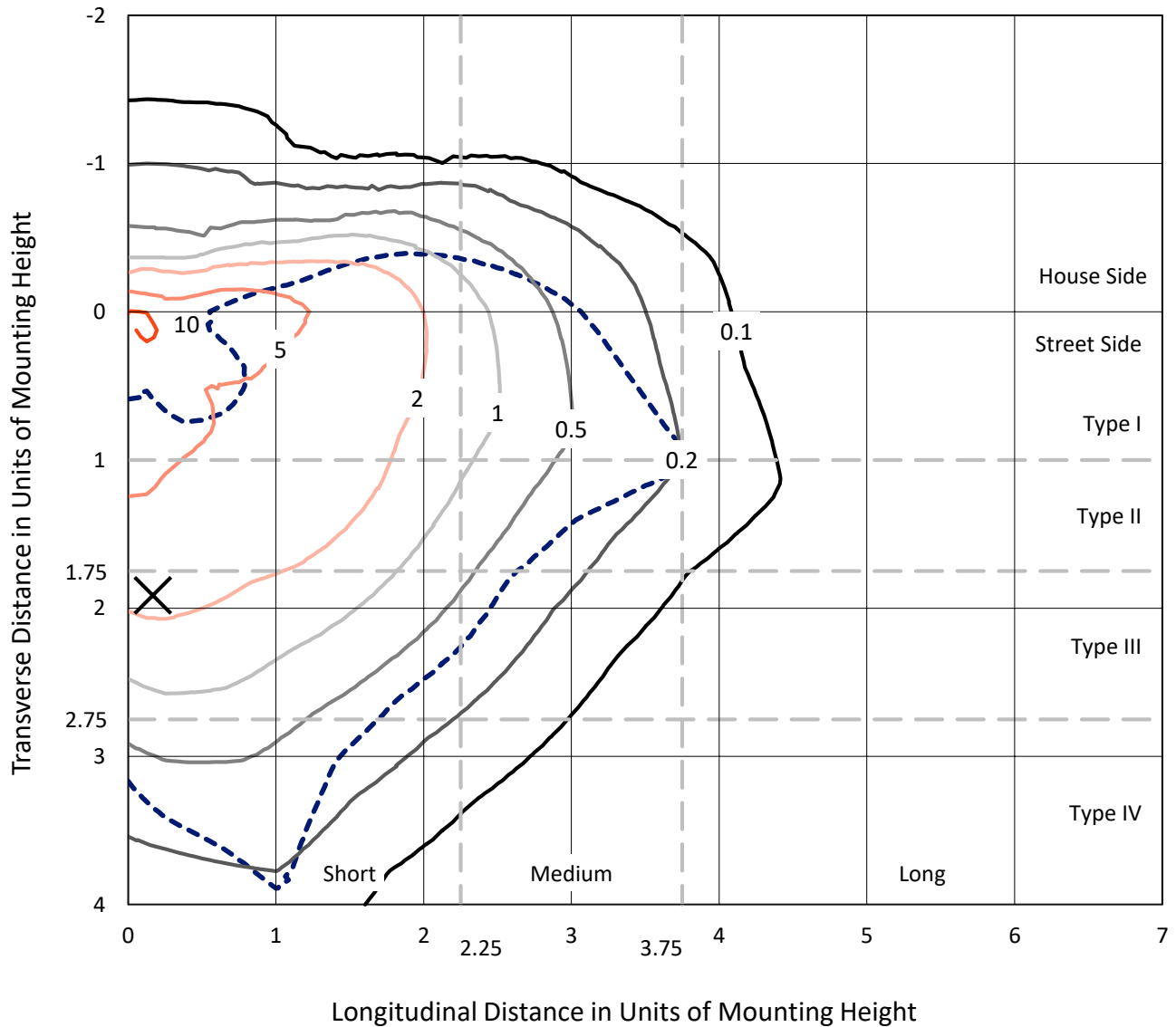
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

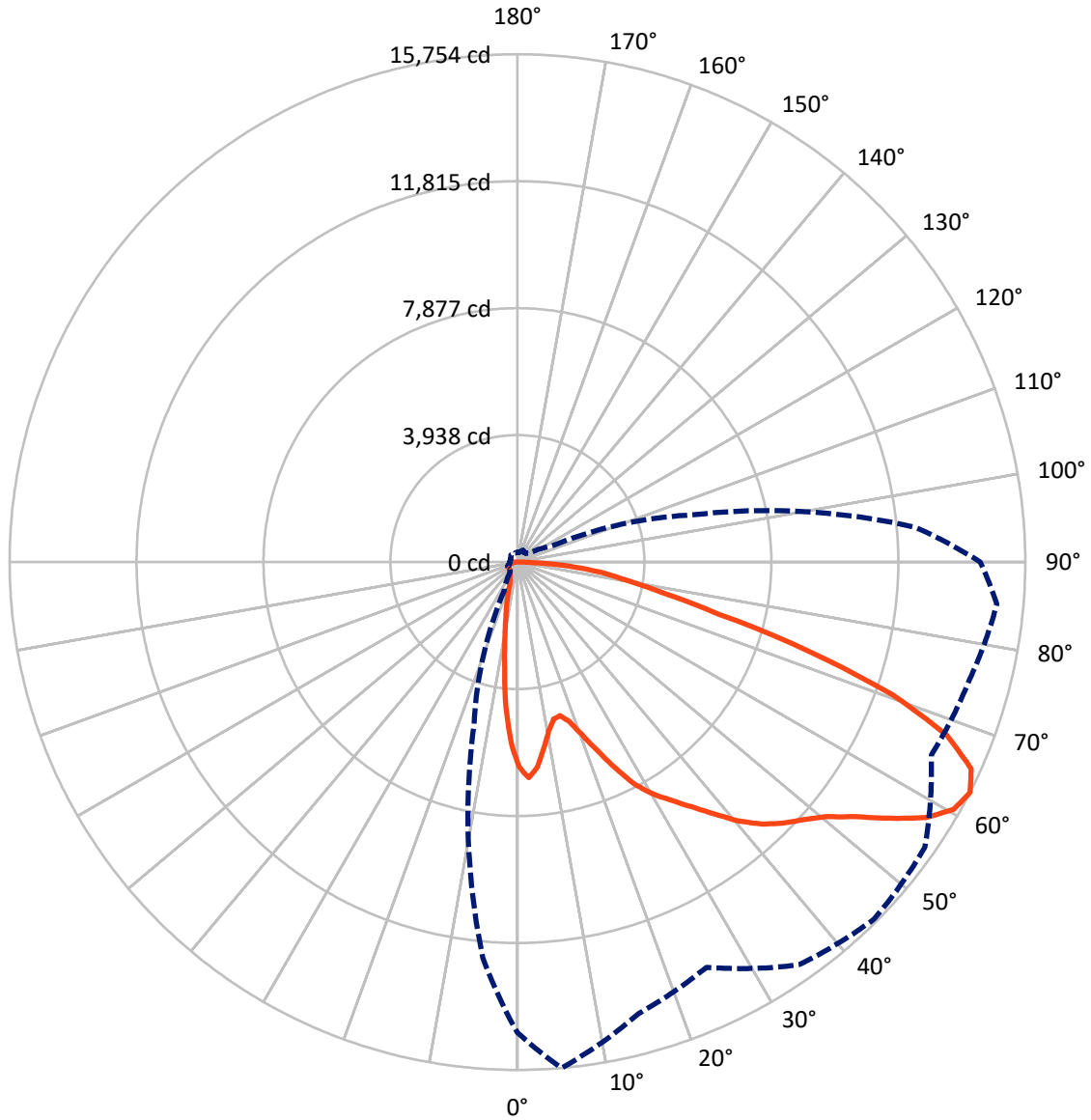
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11.7 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	3302.5	0.0	3302.5
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	15339.8	0.0	15339.8
	% Fixture	82.3	0.0	82.3
Total	Lumens	18642.3	0.0	18642.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	462.2	2.5
10°-20°	844.2	4.5
20°-30°	1214.2	6.5
30°-40°	1859.7	10.0
40°-50°	2718.9	14.6
50°-60°	3956.0	21.2
60°-70°	4583.6	24.6
70°-80°	2389.3	12.8
80°-90°	614.2	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°	18642.3	100.0
0°-180°	18642.3	100.0



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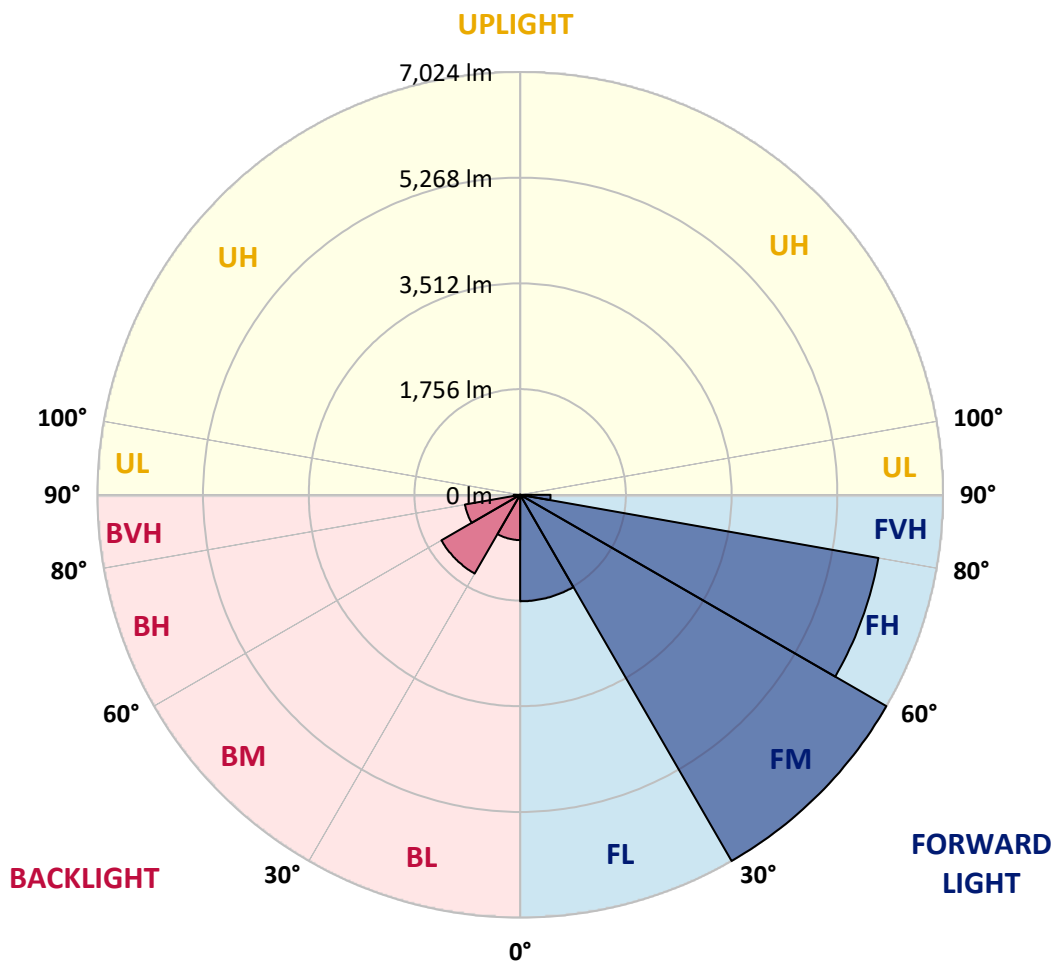
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1769.2	9.5			
FM	(30°-60°)	7023.5	37.7			
FH	(60°-80°)	6041.7	32.4			G3/7500
FVH	(80°-90°)	505.3	2.7			G4/750
BL	(0°-30°)	751.4	4.0	B2/1000		
BM	(30°-60°)	1511.0	8.1	B2/2500		
BH	(60°-80°)	931.2	5.0	B2/1000		G2/1000
BVH	(80°-90°)	108.9	0.6			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5
2.5°	6561.0	6700.2	6859.6	7067.9	7209.7	7266.5	7313.8	7234.1	7157.1	7012.3	6961.1
5°	6128.4	6396.0	6835.4	7253.1	7620.7	7831.6	7896.5	7749.0	7486.8	7108.4	6908.3
7.5°	5486.4	5839.3	6456.8	7071.8	7599.0	7950.4	7976.2	7684.2	7167.8	6547.4	6223.1
10°	4925.4	5324.3	6039.2	6727.2	7285.4	7644.9	7574.7	7165.2	6542.0	5836.5	5470.1
12.5°	4599.7	4998.4	5727.1	6425.8	6951.7	7088.2	6944.8	6600.1	6009.5	5302.5	4933.6
15°	4530.8	4941.7	5616.2	6205.5	6531.2	6443.4	6301.4	6127.1	5706.8	5128.2	4771.3
17.5°	4738.9	5198.5	5763.4	6086.6	6073.0	5862.2	5743.3	5777.0	5705.3	5317.4	4944.5
20°	5167.4	5710.7	6137.8	6054.0	5708.1	5412.1	5343.1	5608.1	5939.2	5791.9	5382.4
22.5°	5731.0	6350.1	6648.9	6147.3	5517.5	5198.5	5184.9	5598.5	6365.0	6509.6	6010.9
25°	6367.6	7089.5	7163.9	6312.3	5497.2	5179.5	5167.4	5744.7	6877.2	7220.5	6715.1
27.5°	7146.2	7835.6	7593.6	6532.6	5586.4	5235.1	5243.0	5993.3	7411.1	7923.4	7508.6
30°	7732.9	8365.5	7858.6	6748.8	5729.7	5332.2	5352.6	6262.3	7699.1	8411.4	8142.3
32.5°	8281.7	8818.2	8112.7	6962.5	5939.2	5477.0	5547.3	6597.4	8045.1	8830.3	8741.1
35°	8888.5	9325.1	8395.2	7190.8	6239.3	5731.0	5832.4	6916.5	8388.5	9249.4	9334.6
37.5°	9576.6	9905.0	8702.1	7514.0	6671.8	6201.4	6258.2	7242.2	8627.6	9713.1	9971.2
40°	10292.9	10555.2	9037.2	7945.1	7300.3	6836.7	6863.7	7659.8	8815.5	10192.9	10589.0
42.5°	10907.8	11112.0	9373.8	8480.3	8022.1	7484.1	7507.1	8110.0	8995.3	10606.5	11083.6
45°	11399.9	11550.0	9691.5	9044.0	8792.6	8292.4	8287.0	8568.3	9236.0	10955.2	11463.5
47.5°	11858.2	11937.8	10045.6	9592.7	9591.5	9333.2	9140.0	9108.9	9556.3	11248.5	11794.6
50°	12382.5	12412.3	10513.3	10147.0	10567.3	10526.8	10169.9	9795.5	9971.2	11578.3	12142.0
52.5°	13112.5	13113.8	11093.1	10687.6	11644.5	11772.9	11358.0	10572.7	10584.9	12220.5	12742.1
55°	13970.8	14030.3	11848.6	11335.1	12771.8	12990.7	12600.2	11495.9	11466.1	13255.7	13715.3
57.5°	14634.5	14949.5	12728.7	12144.6	13824.8	14109.9	13795.1	12452.8	12548.9	14323.6	14518.1
60°	14821.0	15557.7	13605.8	13053.0	14715.6	15144.0	14823.7	13487.0	13608.6	15017.0	14749.4
62.5°	14597.9	15753.7	14499.4	13866.6	15244.1	15654.9	15425.2	14164.0	14472.2	14927.8	14358.7
65°	13937.1	15469.8	15275.0	14212.8	14939.9	15085.9	15025.1	14199.1	14941.2	14084.3	13278.7
67.5°	12393.3	14374.9	14929.1	13473.4	13519.3	13362.6	13282.8	13234.1	14414.2	12723.2	11575.6
70°	10079.3	12351.4	13278.7	11275.5	10935.0	10783.6	10521.4	11170.2	12955.6	10840.3	9526.5
72.5°	7764.0	9449.5	10891.7	8547.9	7839.7	7891.0	7593.6	8541.2	10732.2	8380.3	7273.2
75°	5513.4	6443.4	8693.8	6141.9	5203.9	5201.1	5178.2	6147.3	8468.1	6015.0	5321.5
77.5°	3973.9	4638.8	6810.9	4110.5	3692.8	3740.1	3664.4	4177.9	6601.6	4326.6	3942.8
80°	3169.7	3434.6	4402.4	2741.2	2749.4	2860.2	2843.9	2857.4	4342.9	3133.2	2948.0
82.5°	2277.6	2607.4	3365.6	2100.4	1818.0	1935.6	1958.6	2119.5	3064.2	2215.4	1943.8
85°	1167.8	1589.6	3096.6	1819.3	1136.7	942.1	1084.1	1672.0	2661.4	1327.3	947.5
87.5°	227.1	440.7	2269.5	1011.0	511.0	258.2	425.7	708.3	1547.7	240.6	117.6
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5
2.5°	6873.2	6700.2	6538.0	6370.4	6240.6	6082.5	5927.0	5791.9	5660.8	5574.3	5601.3
5°	6705.6	6283.9	5905.4	5554.0	5348.5	5101.1	4880.9	4695.7	4552.4	4460.4	4515.9
7.5°	5941.8	5371.5	4872.8	4409.2	4117.1	3796.9	3540.0	3358.9	3248.0	3185.8	3276.4
10°	5160.7	4519.9	3960.4	3477.8	3189.9	2918.2	2685.8	2493.9	2345.1	2274.9	2311.3
12.5°	4601.1	3888.8	3302.1	2977.7	2730.4	2487.0	2246.4	2022.1	1832.8	1746.3	1728.8
15°	4391.5	3549.5	2950.8	2588.5	2342.4	2077.5	1818.0	1577.5	1397.7	1323.3	1307.0
17.5°	4483.5	3476.5	2742.5	2314.0	1957.1	1635.5	1343.5	1116.5	984.1	942.1	946.2
20°	4806.6	3503.5	2574.9	2031.5	1590.9	1209.7	917.8	761.0	704.2	694.7	705.6
22.5°	5249.9	3614.3	2453.4	1788.3	1267.9	879.9	682.6	608.2	593.4	592.1	602.9
25°	5835.1	3830.6	2372.2	1571.9	1001.6	697.4	594.8	552.8	540.7	543.4	554.2
27.5°	6524.5	4105.1	2319.5	1385.5	823.1	621.7	555.5	519.0	506.9	509.6	517.8
30°	7154.3	4345.6	2241.0	1245.0	739.3	594.8	534.0	497.4	481.2	481.2	486.6
32.5°	7718.0	4553.8	2149.1	1139.5	662.3	534.0	483.8	455.5	443.4	447.4	450.1
35°	8218.1	4663.2	2077.5	1077.2	600.2	492.0	442.0	412.2	396.1	398.8	402.8
37.5°	8710.1	4705.1	2030.2	1043.6	555.5	466.3	420.3	396.1	378.5	375.9	374.5
40°	9177.9	4695.7	1985.7	1033.9	525.8	447.4	406.8	385.3	367.6	363.6	362.2
42.5°	9582.0	4664.5	1943.8	1008.3	505.6	433.9	396.1	377.1	359.5	354.1	351.4
45°	9951.0	4645.7	1897.7	961.0	516.3	428.5	390.7	370.3	354.1	347.4	344.7
47.5°	10360.5	4713.2	1846.3	909.7	513.7	429.7	390.7	367.6	351.4	344.7	342.0
50°	10848.4	4941.7	1782.9	839.3	489.2	459.6	389.2	363.6	348.7	344.7	339.3
52.5°	11537.8	5312.0	1695.0	748.7	470.4	490.7	387.9	356.8	344.7	337.9	331.1
55°	12482.6	5682.4	1581.5	652.9	440.7	469.0	390.7	348.7	335.2	328.5	320.3
57.5°	13257.0	5963.6	1438.1	573.1	413.6	443.4	386.6	339.3	324.4	317.6	310.9
60°	13207.2	5990.5	1301.6	521.7	397.4	398.8	396.1	332.6	314.9	309.6	304.2
62.5°	12389.3	5656.6	1174.7	496.0	385.3	363.6	404.1	324.4	305.5	300.0	296.0
65°	11028.2	4879.6	1107.0	496.0	374.5	344.7	352.8	313.6	296.0	290.6	287.8
67.5°	9302.2	3921.2	1043.6	506.9	359.5	331.1	320.3	302.8	286.6	281.2	278.5
70°	7455.8	3085.9	998.8	501.4	346.0	316.4	302.8	287.8	271.6	270.3	267.6
72.5°	5848.7	2479.0	978.7	501.4	325.7	298.7	285.2	274.4	258.2	256.8	252.8
75°	4686.2	1861.3	894.8	492.0	305.5	275.7	263.6	254.1	238.0	239.3	236.6
77.5°	3629.2	1316.6	747.5	443.4	279.8	250.1	240.6	233.7	215.0	216.2	216.2
80°	2838.5	857.0	579.9	367.6	250.1	220.4	213.5	208.1	187.8	190.6	190.6
82.5°	1945.0	509.6	420.3	296.0	215.0	187.8	186.5	178.5	156.8	158.1	160.8
85°	1062.4	335.2	279.8	218.9	168.9	152.7	150.0	146.0	125.8	125.8	127.1
87.5°	196.0	179.8	164.8	144.6	113.5	109.6	105.5	109.6	94.6	91.8	91.8
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5
2.5°	5537.7	5444.4	5379.6	5322.8	5186.4	5195.7	5214.8	5241.7	5156.6	5201.1	5256.6
5°	4460.4	4383.4	4325.2	4234.8	4044.2	3976.5	3933.4	3914.5	3787.3	3814.5	3873.9
7.5°	3288.5	3287.3	3267.0	3165.5	2935.8	2796.7	2704.6	2676.3	2597.9	2627.6	2718.2
10°	2315.4	2339.7	2330.3	2239.7	2034.2	1934.2	1914.0	1970.7	1972.0	2030.2	2185.7
12.5°	1673.4	1659.9	1647.8	1573.3	1419.2	1403.1	1449.0	1527.4	1546.3	1608.4	1770.6
15°	1249.0	1216.5	1209.7	1151.5	1050.3	1065.1	1098.8	1139.5	1140.8	1184.1	1317.9
17.5°	936.8	936.8	947.5	909.7	836.7	829.9	812.3	801.6	785.3	802.8	875.8
20°	727.2	761.0	788.1	766.4	700.1	667.7	633.9	612.4	600.2	601.4	623.2
22.5°	623.2	650.2	685.2	674.4	619.0	577.2	555.5	540.7	531.2	531.2	543.4
25°	570.5	588.0	620.4	615.0	567.6	534.0	516.3	501.4	490.7	489.2	501.4
27.5°	528.6	539.3	560.9	558.2	509.6	488.0	477.1	467.7	460.9	459.6	471.7
30°	490.7	496.0	506.9	502.8	466.3	444.8	440.7	436.5	432.5	433.9	451.5
32.5°	456.9	460.9	467.7	462.3	427.1	408.2	401.5	396.1	392.0	396.1	416.4
35°	419.0	431.1	439.4	436.5	398.8	375.9	360.8	347.4	342.0	346.0	369.1
37.5°	386.6	406.8	417.6	414.9	375.9	348.7	329.8	327.2	327.2	332.6	355.5
40°	374.5	389.2	398.8	394.6	355.5	328.5	317.6	313.6	314.9	320.3	344.7
42.5°	363.6	377.1	379.9	371.7	332.6	314.9	308.2	302.8	305.5	312.3	336.5
45°	354.1	364.9	363.6	351.4	313.6	301.4	301.4	297.3	298.7	304.2	329.8
47.5°	347.4	352.8	350.1	337.9	300.0	290.6	294.6	294.6	297.3	301.4	327.2
50°	336.5	340.5	337.9	327.2	289.3	281.2	285.2	290.6	293.2	297.3	320.3
52.5°	325.7	328.5	327.2	316.4	278.5	273.1	273.1	278.5	283.9	289.3	309.6
55°	314.9	317.6	319.0	310.9	270.3	264.9	263.6	263.6	269.0	277.0	298.7
57.5°	306.9	306.9	309.6	304.2	262.2	255.5	248.7	250.1	256.8	263.6	285.2
60°	297.3	298.7	302.8	297.3	251.4	240.6	235.1	242.0	244.7	251.4	274.4
62.5°	289.3	289.3	291.9	287.8	242.0	231.1	227.1	233.7	233.7	240.6	263.6
65°	282.4	281.2	281.2	279.8	232.5	221.7	218.9	221.7	223.0	229.7	252.8
67.5°	277.0	270.3	270.3	273.1	223.0	212.2	210.8	210.8	212.2	220.4	240.6
70°	264.9	259.5	258.2	267.6	213.5	200.1	200.1	197.4	200.1	204.2	225.7
72.5°	251.4	247.4	246.0	259.5	204.2	186.5	183.9	182.4	183.9	187.8	208.1
75°	233.7	231.1	233.7	254.1	194.7	171.7	167.7	166.2	166.2	167.7	189.3
77.5°	213.5	210.8	231.1	236.6	189.3	154.1	150.0	147.3	144.6	144.6	168.9
80°	189.3	187.8	223.0	200.1	181.1	135.1	128.4	124.3	121.6	120.4	144.6
82.5°	164.8	162.2	190.6	156.8	150.0	110.9	101.4	93.2	89.2	89.2	110.9
85°	135.1	133.8	150.0	115.0	104.1	81.0	67.6	60.8	55.4	55.4	71.7
87.5°	98.6	95.9	93.2	68.9	52.7	36.6	25.7	24.3	21.6	20.3	29.7
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-05-D-UNV-SLL-7027-800

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5
2.5°	5339.0	5451.3	5663.5	5837.8	6070.3	6256.9	6469.1	6561.0
5°	3983.4	4160.4	4484.8	4761.9	5145.9	5501.3	5906.7	6128.4
7.5°	2857.4	3119.6	3365.6	3711.6	4191.5	4668.6	5193.1	5486.4
10°	2364.1	2604.6	2815.5	3061.6	3431.9	3968.5	4594.3	4925.4
12.5°	1958.6	2218.1	2441.1	2704.6	3015.6	3500.9	4214.5	4599.7
15°	1501.6	1784.3	2051.8	2369.5	2750.6	3304.9	4100.9	4530.8
17.5°	1028.6	1331.4	1661.1	2049.2	2508.6	3222.4	4209.1	4738.9
20°	698.8	920.5	1278.6	1738.2	2291.0	3183.1	4447.0	5167.4
22.5°	574.5	674.4	943.5	1446.4	2112.6	3226.4	4833.5	5731.0
25°	527.1	581.3	733.9	1189.4	1976.1	3341.3	5356.7	6367.6
27.5°	497.4	543.4	643.4	1005.7	1850.4	3498.1	5993.3	7146.2
30°	479.9	523.2	606.9	911.1	1735.5	3633.3	6540.6	7732.9
32.5°	440.7	473.0	541.9	857.0	1653.2	3742.8	7023.3	8281.7
35°	393.4	432.5	489.2	821.8	1650.4	3794.1	7477.4	8888.5
37.5°	375.9	413.6	455.5	802.8	1666.5	3837.4	8033.0	9576.6
40°	364.9	398.8	432.5	800.2	1680.1	3871.2	8576.3	10292.9
42.5°	355.5	389.2	428.5	781.3	1674.7	3917.1	9057.5	10907.8
45°	352.8	386.6	438.0	752.9	1673.4	3988.7	9440.0	11399.9
47.5°	350.1	401.5	435.1	721.8	1668.0	4140.2	9871.1	11858.2
50°	347.4	428.5	416.4	678.5	1627.4	4398.3	10451.1	12382.5
52.5°	346.0	432.5	396.1	619.0	1554.3	4780.8	11299.9	13112.5
55°	340.5	411.0	360.8	540.7	1449.0	5193.1	12209.6	13970.8
57.5°	328.5	366.2	340.5	463.6	1297.6	5481.0	12881.3	14634.5
60°	358.2	314.9	327.2	424.4	1116.5	5532.3	12911.1	14821.0
62.5°	342.0	286.6	313.6	411.0	989.5	5197.1	12320.4	14597.9
65°	273.1	271.6	301.4	424.4	970.4	4447.0	11322.9	13937.1
67.5°	248.7	260.9	289.3	440.7	982.7	3503.5	9854.9	12393.3
70°	232.5	247.4	273.1	455.5	1004.2	2760.1	7934.3	10079.3
72.5°	216.2	228.3	256.8	470.4	989.5	2177.5	6350.1	7764.0
75°	196.0	206.8	233.7	431.1	848.9	1600.4	5045.8	5513.4
77.5°	173.1	182.4	205.4	340.5	637.9	1113.8	3779.3	3973.9
80°	148.7	152.7	170.3	248.7	416.4	666.4	2876.4	3169.7
82.5°	117.6	118.9	129.7	182.4	259.5	425.7	1995.0	2277.6
85°	75.6	78.4	83.8	128.4	174.5	273.1	1019.1	1167.8
87.5°	25.7	29.7	29.7	62.2	85.2	151.4	312.3	227.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)