

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: P196702

Luminaire Tested: **NAV-AF-04-D-UNV-SLL-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196702
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-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 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: 22861.4 lumens
Efficiency: N/A
Efficacy: 88.6 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

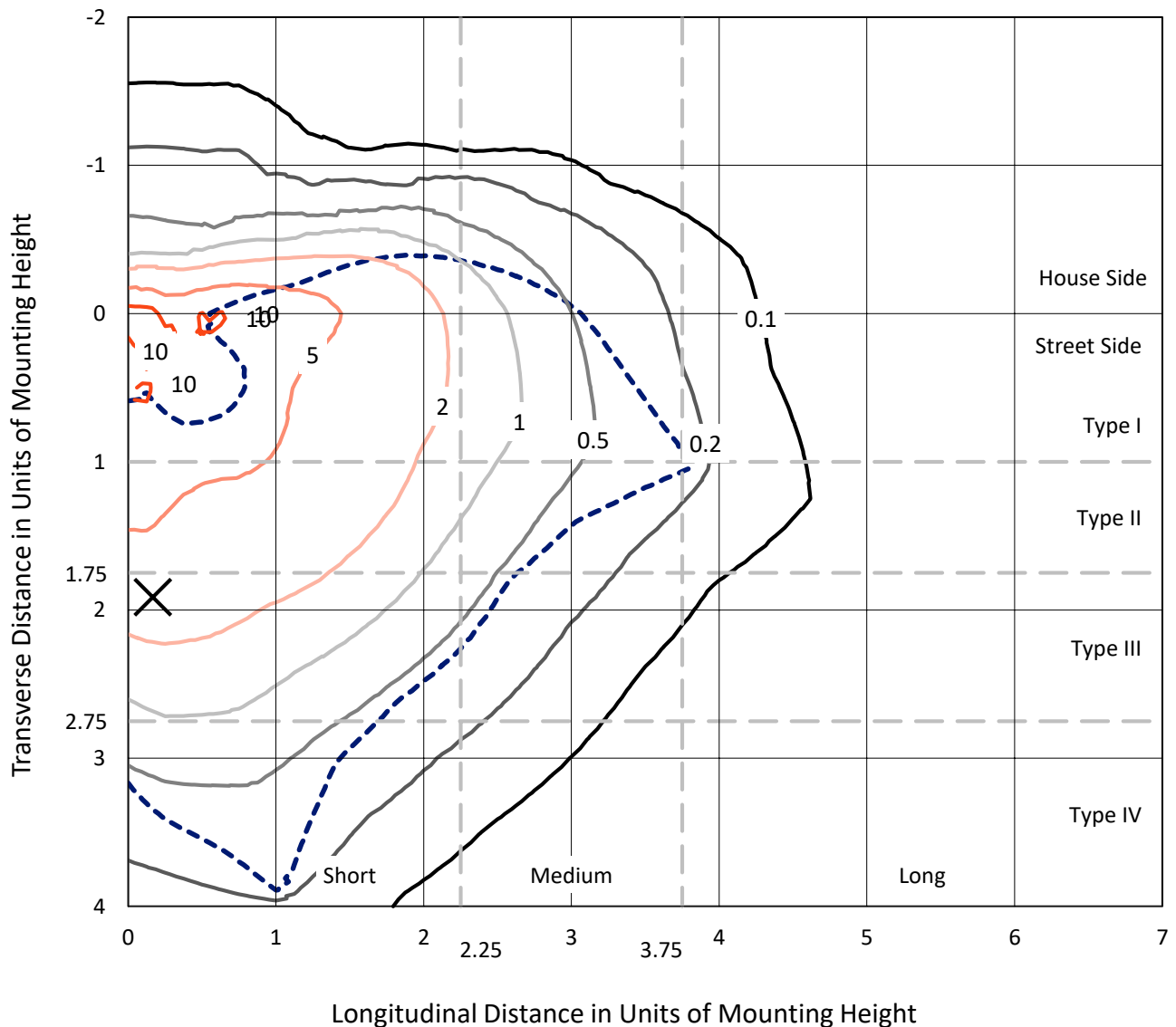


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Iso-Footcandle Lines of Horizontal Illumination

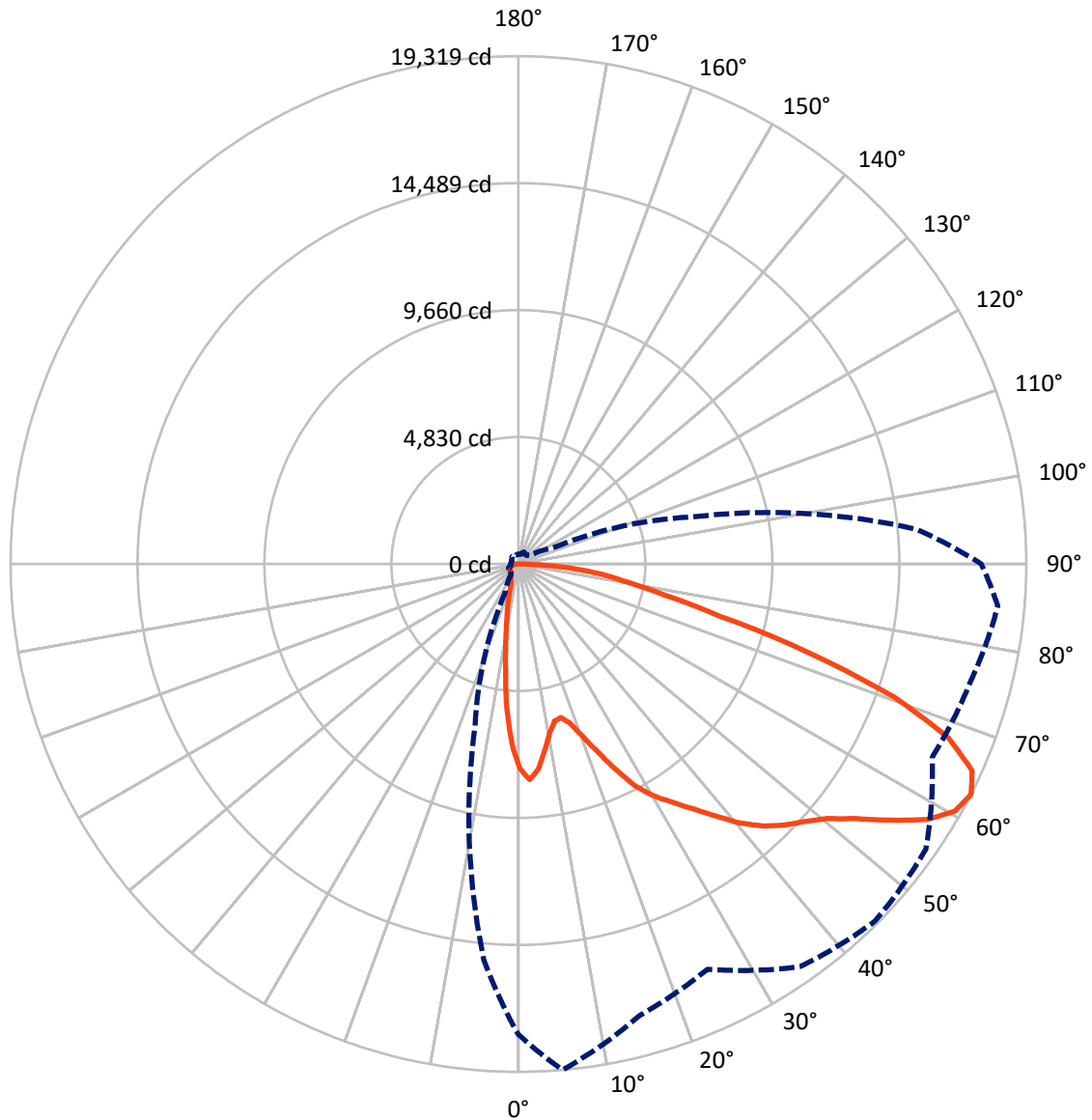
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 14.3 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	4049.9	0.0	4049.9
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	18811.5	0.0	18811.5
	% Fixture	82.3	0.0	82.3
Total	Lumens	22861.4	0.0	22861.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	566.8	2.5
10°-20°	1035.3	4.5
20°-30°	1489.0	6.5
30°-40°	2280.6	10.0
40°-50°	3334.2	14.6
50°-60°	4851.3	21.2
60°-70°	5620.9	24.6
70°-80°	2930.1	12.8
80°-90°	753.2	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°	22861.4	100.0
0°-180°	22861.4	100.0



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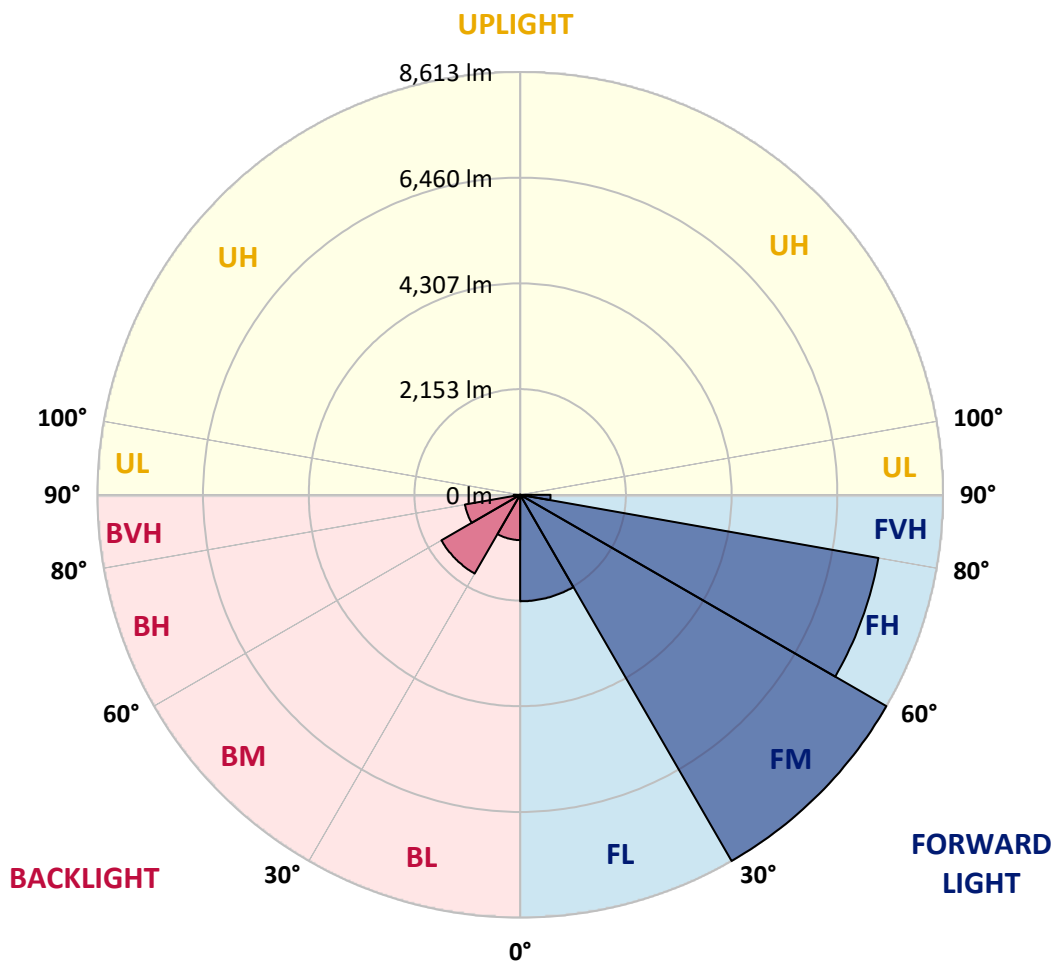
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2169.7	9.5			
FM (30°-60°)	8613.1	37.7			
FH (60°-80°)	7409.1	32.4			G3/7500
FVH (80°-90°)	619.6	2.7			G4/750
BL (0°-30°)	921.4	4.0	B2/1000		
BM (30°-60°)	1853.0	8.1	B2/2500		
BH (60°-80°)	1142.0	5.0	B3/2500		G3/2500
BVH (80°-90°)	133.6	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°	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9
2.5°	8045.9	8216.7	8412.2	8667.4	8841.5	8911.0	8969.1	8871.3	8776.8	8599.5	8536.5
5°	7515.4	7843.6	8382.4	8894.6	9345.4	9604.0	9683.5	9502.9	9181.3	8717.1	8471.9
7.5°	6728.0	7160.8	7918.2	8672.5	9318.8	9749.9	9781.3	9423.3	8790.1	8029.3	7631.4
10°	6040.2	6529.3	7406.0	8249.7	8934.3	9375.2	9289.0	8786.8	8022.7	7157.3	6708.2
12.5°	5640.7	6129.7	7023.1	7880.1	8524.9	8692.3	8516.6	8093.9	7369.5	6502.7	6050.1
15°	5556.2	6060.1	6887.2	7609.9	8009.4	7901.6	7727.6	7513.8	6998.3	6288.9	5851.3
17.5°	5811.5	6375.1	7067.9	7464.0	7447.4	7188.9	7043.1	7084.5	6996.6	6520.9	6063.5
20°	6336.9	7003.3	7527.1	7424.2	6999.9	6637.0	6552.4	6877.4	7283.3	7102.7	6600.5
22.5°	7028.1	7787.2	8153.6	7538.7	6766.2	6375.1	6358.5	6865.7	7805.5	7982.9	7371.1
25°	7808.9	8694.0	8785.1	7740.9	6741.3	6351.8	6336.9	7044.7	8433.7	8854.8	8234.9
27.5°	8763.5	9609.0	9312.2	8011.0	6850.8	6419.7	6429.7	7349.7	9088.5	9716.7	9207.9
30°	9482.9	10258.7	9637.1	8276.3	7026.5	6539.1	6564.0	7679.5	9441.5	10315.0	9985.2
32.5°	10155.9	10814.1	9948.7	8538.2	7283.3	6716.5	6802.7	8090.6	9865.9	10828.9	10719.5
35°	10900.2	11435.6	10295.2	8818.4	7651.3	7028.1	7152.4	8481.8	10286.9	11342.8	11447.2
37.5°	11743.9	12146.7	10671.5	9214.5	8181.8	7605.0	7674.6	8881.2	10580.3	11911.3	12228.0
40°	12622.4	12944.0	11082.5	9743.2	8952.6	8384.0	8417.2	9393.4	10810.6	12499.8	12985.5
42.5°	13376.6	13627.0	11495.2	10399.7	9837.7	9178.0	9206.1	9945.5	11031.2	13007.0	13592.1
45°	13979.9	14164.0	11884.7	11090.8	10782.5	10169.2	10162.5	10507.4	11326.3	13434.6	14057.9
47.5°	14541.9	14639.6	12319.1	11763.8	11762.1	11445.6	11208.5	11170.3	11719.0	13794.3	14464.0
50°	15185.1	15221.5	12892.6	12443.4	12958.9	12909.2	12471.6	12012.4	12228.0	14198.8	14890.0
52.5°	16080.1	16081.8	13603.7	13106.4	14279.9	14437.4	13928.6	12965.6	12980.4	14986.1	15625.9
55°	17132.7	17205.6	14530.3	13900.4	15662.5	15931.0	15451.9	14097.6	14061.2	16255.8	16819.4
57.5°	17946.6	18332.7	15609.4	14893.3	16953.6	17303.4	16917.1	15271.2	15388.9	17565.3	17804.1
60°	18175.3	19078.7	16685.1	16007.1	18046.1	18571.5	18178.5	16539.2	16688.5	18415.6	18087.5
62.5°	17901.8	19319.0	17780.8	17005.0	18694.1	19198.1	18916.3	17369.7	17747.6	18306.3	17608.4
65°	17091.2	18970.9	18732.3	17429.4	18321.1	18500.3	18425.6	17412.7	18322.8	17271.9	16284.0
67.5°	15198.3	17628.3	18307.9	16522.7	16579.0	16386.8	16289.0	16229.3	17676.4	15602.8	14195.5
70°	12360.5	15146.9	16284.0	13827.6	13409.7	13224.0	12902.5	13698.2	15887.8	13293.7	11682.5
72.5°	9521.1	11588.1	13356.7	10482.5	9613.9	9676.9	9312.2	10474.2	13161.2	10276.9	8919.4
75°	6761.3	7901.6	10661.5	7532.0	6381.7	6378.3	6350.1	7538.7	10384.6	7376.2	6525.8
77.5°	4873.3	5688.8	8352.6	5040.6	4528.5	4586.4	4493.8	5123.6	8095.6	5305.8	4835.2
80°	3887.0	4212.0	5398.7	3361.6	3371.5	3507.4	3487.5	3504.2	5325.8	3842.2	3615.2
82.5°	2793.0	3197.5	4127.4	2575.9	2229.4	2373.6	2401.8	2599.1	3757.8	2716.7	2383.6
85°	1432.2	1949.3	3797.6	2231.1	1394.0	1155.3	1329.3	2050.5	3263.8	1627.8	1162.0
87.5°	278.5	540.4	2783.1	1239.9	626.6	316.7	522.1	868.6	1898.0	295.0	144.2
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9
2.5°	8428.8	8216.7	8017.7	7812.1	7653.1	7459.1	7268.5	7102.7	6941.9	6835.8	6869.0
5°	8223.2	7706.0	7241.9	6811.0	6559.1	6255.6	5985.6	5758.4	5582.7	5469.9	5538.0
7.5°	7286.7	6587.2	5975.5	5407.0	5049.0	4656.1	4341.2	4119.1	3983.1	3906.9	4018.0
10°	6328.7	5542.9	4856.7	4264.9	3911.9	3578.7	3293.6	3058.2	2875.9	2789.7	2834.4
12.5°	5642.3	4768.8	4049.4	3651.7	3348.2	3050.0	2754.9	2479.7	2247.7	2141.6	2120.0
15°	5385.5	4352.8	3618.4	3174.2	2872.5	2547.7	2229.4	1934.4	1714.0	1622.7	1602.9
17.5°	5498.2	4263.3	3363.2	2837.8	2400.2	2005.7	1647.6	1369.1	1206.7	1155.3	1160.4
20°	5894.3	4296.4	3157.7	2491.3	1951.0	1483.5	1125.5	933.2	863.5	852.0	865.3
22.5°	6438.0	4432.3	3008.5	2193.0	1554.8	1079.1	837.0	745.9	727.6	726.0	739.2
25°	7155.7	4697.6	2909.0	1927.8	1228.3	855.3	729.3	678.0	662.9	666.4	679.6
27.5°	8001.0	5034.0	2844.3	1699.0	1009.4	762.5	681.2	636.6	621.5	624.9	634.8
30°	8773.5	5329.1	2748.3	1526.6	906.8	729.3	654.8	610.0	590.1	590.1	596.8
32.5°	9464.7	5584.3	2635.6	1397.3	812.3	654.8	593.4	558.7	543.7	548.7	552.0
35°	10078.1	5718.6	2547.7	1321.1	736.0	603.3	542.0	505.6	485.6	488.9	494.0
37.5°	10681.4	5770.0	2489.7	1279.7	681.2	571.9	515.4	485.6	464.2	460.8	459.1
40°	11254.9	5758.4	2435.0	1268.1	644.8	548.7	498.9	472.4	450.9	445.9	444.2
42.5°	11750.5	5720.3	2383.6	1236.6	619.9	532.1	485.6	462.5	440.9	434.3	430.9
45°	12203.0	5697.1	2327.2	1178.6	633.1	525.4	479.0	454.2	434.3	426.0	422.8
47.5°	12705.3	5780.0	2264.3	1115.5	629.9	527.0	479.0	450.9	430.9	422.8	419.3
50°	13303.7	6060.1	2186.4	1029.3	600.1	563.6	477.4	445.9	427.6	422.8	416.1
52.5°	14149.1	6514.2	2078.5	918.4	576.9	601.7	475.8	437.6	422.8	414.4	406.1
55°	15307.7	6968.4	1939.4	800.7	540.4	575.1	479.0	427.6	411.1	402.8	392.9
57.5°	16257.4	7313.2	1763.7	702.9	507.2	543.7	474.0	416.1	397.8	389.5	381.2
60°	16196.1	7346.4	1596.3	639.8	487.3	488.9	485.6	407.7	386.2	379.5	372.9
62.5°	15193.3	6937.0	1440.5	608.3	472.4	445.9	495.6	397.8	374.6	367.9	363.0
65°	13524.1	5983.8	1357.5	608.3	459.1	422.8	432.6	384.6	363.0	356.4	353.0
67.5°	11407.4	4808.6	1279.7	621.5	440.9	406.1	392.9	371.3	351.4	344.8	341.4
70°	9143.2	3784.2	1224.9	614.9	424.4	387.9	371.3	353.0	333.1	331.5	328.3
72.5°	7172.4	3040.0	1200.1	614.9	399.5	366.3	349.7	336.5	316.7	314.8	310.0
75°	5746.8	2282.4	1097.3	603.3	374.6	338.1	323.2	311.6	291.7	293.4	290.1
77.5°	4450.5	1614.6	916.6	543.7	343.1	306.7	295.0	286.8	263.6	265.2	265.2
80°	3480.9	1050.8	711.1	450.9	306.7	270.2	261.9	255.2	230.4	233.7	233.7
82.5°	2385.2	624.9	515.4	363.0	263.6	230.4	228.8	218.8	192.3	193.9	197.2
85°	1302.8	411.1	343.1	268.6	207.1	187.3	184.0	178.9	154.2	154.2	155.8
87.5°	240.4	220.4	202.2	177.3	139.2	134.3	129.3	134.3	116.1	112.7	112.7
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9
2.5°	6791.1	6676.8	6597.2	6527.4	6360.1	6371.7	6395.0	6428.0	6323.6	6378.3	6446.3
5°	5469.9	5375.5	5304.2	5193.2	4959.5	4876.6	4823.6	4800.3	4644.5	4677.7	4750.6
7.5°	4032.9	4031.2	4006.3	3882.1	3600.2	3429.5	3316.8	3282.0	3185.9	3222.3	3333.4
10°	2839.4	2869.2	2857.6	2746.6	2494.6	2372.0	2347.1	2416.7	2418.5	2489.7	2680.3
12.5°	2052.1	2035.5	2020.5	1929.4	1740.5	1720.7	1776.9	1873.0	1896.3	1972.5	2171.4
15°	1531.6	1491.8	1483.5	1412.2	1287.9	1306.2	1347.6	1397.3	1398.9	1452.0	1616.2
17.5°	1148.8	1148.8	1162.0	1115.5	1026.1	1017.7	996.2	982.9	963.0	984.7	1074.1
20°	891.8	933.2	966.4	939.8	858.7	818.8	777.4	750.8	736.0	737.6	764.2
22.5°	764.2	797.3	840.4	827.1	759.2	707.8	681.2	662.9	651.4	651.4	666.4
25°	699.5	721.0	760.8	754.2	696.2	654.8	633.1	614.9	601.7	600.1	614.9
27.5°	648.1	661.3	687.9	684.6	624.9	598.4	585.1	573.5	565.2	563.6	578.5
30°	601.7	608.3	621.5	616.7	571.9	545.3	540.4	535.4	530.5	532.1	553.6
32.5°	560.3	565.2	573.5	566.8	523.8	500.6	492.3	485.6	480.7	485.6	510.6
35°	513.8	528.9	538.7	535.4	488.9	460.8	442.6	426.0	419.3	424.4	452.6
37.5°	474.0	498.9	512.2	508.8	460.8	427.6	404.5	401.1	401.1	407.7	436.0
40°	459.1	477.4	488.9	484.0	436.0	402.8	389.5	384.6	386.2	392.9	422.8
42.5°	445.9	462.5	465.8	455.8	407.7	386.2	377.9	371.3	374.6	383.0	412.8
45°	434.3	447.5	445.9	430.9	384.6	369.7	369.7	364.7	366.3	372.9	404.5
47.5°	426.0	432.6	429.3	414.4	367.9	356.4	361.3	361.3	364.7	369.7	401.1
50°	412.8	417.7	414.4	401.1	354.8	344.8	349.7	356.4	359.7	364.7	392.9
52.5°	399.5	402.8	401.1	387.9	341.4	334.9	334.9	341.4	348.1	354.8	379.5
55°	386.2	389.5	391.1	381.2	331.5	324.9	323.2	323.2	329.9	339.8	366.3
57.5°	376.3	376.3	379.5	372.9	321.6	313.2	305.0	306.7	314.8	323.2	349.7
60°	364.7	366.3	371.3	364.7	308.3	295.0	288.5	296.7	300.0	308.3	336.5
62.5°	354.8	354.8	358.1	353.0	296.7	283.4	278.5	286.8	286.8	295.0	323.2
65°	346.5	344.8	344.8	343.1	285.0	271.8	268.6	271.8	273.4	281.8	310.0
67.5°	339.8	331.5	331.5	334.9	273.4	260.2	258.6	258.6	260.2	270.2	295.0
70°	324.9	318.3	316.7	328.3	261.9	245.3	245.3	242.0	245.3	250.3	276.9
72.5°	308.3	303.3	301.7	318.3	250.3	228.8	225.4	223.8	225.4	230.4	255.2
75°	286.8	283.4	286.8	311.6	238.7	210.6	205.5	203.9	203.9	205.5	232.0
77.5°	261.9	258.6	283.4	290.1	232.0	188.9	184.0	180.8	177.3	177.3	207.1
80°	232.0	230.4	273.4	245.3	222.2	165.7	157.5	152.5	149.1	147.5	177.3
82.5°	202.2	199.0	233.7	192.3	184.0	135.9	124.3	114.4	109.4	109.4	135.9
85°	165.7	164.1	184.0	141.0	127.7	99.4	82.9	74.7	68.0	68.0	87.9
87.5°	121.0	117.7	114.4	84.5	64.7	44.8	31.4	29.8	26.6	24.9	36.5
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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CATALOG NUMBER: NAV-AF-04-D-UNV-SLL-7030-1200

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9	7793.9
2.5°	6547.4	6685.0	6945.3	7159.1	7444.2	7672.9	7933.1	8045.9
5°	4884.9	5102.0	5499.8	5839.6	6310.4	6746.3	7243.6	7515.4
7.5°	3504.2	3825.7	4127.4	4551.7	5140.1	5725.3	6368.4	6728.0
10°	2899.0	3194.2	3452.7	3754.3	4208.5	4866.6	5634.1	6040.2
12.5°	2401.8	2720.1	2993.6	3316.8	3698.1	4293.2	5168.3	5640.7
15°	1841.6	2188.0	2516.2	2905.8	3373.2	4052.8	5029.1	5556.2
17.5°	1261.4	1632.7	2037.1	2512.9	3076.4	3951.7	5161.7	5811.5
20°	856.9	1128.7	1568.1	2131.6	2809.6	3903.7	5453.4	6336.9
22.5°	704.5	827.1	1156.9	1773.6	2590.7	3956.6	5927.6	7028.1
25°	646.5	712.8	900.1	1458.6	2423.4	4097.5	6569.0	7808.9
27.5°	610.0	666.4	789.0	1233.2	2269.2	4289.8	7349.7	8763.5
30°	588.5	641.5	744.3	1117.1	2128.4	4455.6	8021.0	9482.9
32.5°	540.4	580.1	664.8	1050.8	2027.2	4589.9	8612.8	10155.9
35°	482.4	530.5	600.1	1007.8	2023.9	4652.8	9169.7	10900.2
37.5°	460.8	507.2	558.7	984.7	2043.8	4705.8	9851.0	11743.9
40°	447.5	488.9	530.5	981.2	2060.4	4747.4	10517.3	12622.4
42.5°	436.0	477.4	525.4	958.1	2053.7	4803.7	11107.4	13376.6
45°	432.6	474.0	537.0	923.2	2052.1	4891.5	11576.4	13979.9
47.5°	429.3	492.3	533.7	885.1	2045.5	5077.2	12105.3	14541.9
50°	426.0	525.4	510.6	832.1	1995.7	5393.7	12816.3	15185.1
52.5°	424.4	530.5	485.6	759.2	1906.2	5862.9	13857.4	16080.1
55°	417.7	503.9	442.6	662.9	1776.9	6368.4	14972.9	17132.7
57.5°	402.8	449.2	417.7	568.5	1591.3	6721.4	15796.7	17946.6
60°	439.2	386.2	401.1	520.5	1369.1	6784.5	15833.1	18175.3
62.5°	419.3	351.4	384.6	503.9	1213.4	6373.4	15108.8	17901.8
65°	334.9	333.1	369.7	520.5	1190.2	5453.4	13885.5	17091.2
67.5°	305.0	319.9	354.8	540.4	1205.0	4296.4	12085.3	15198.3
70°	285.0	303.3	334.9	558.7	1231.6	3384.8	9730.0	12360.5
72.5°	265.2	280.1	314.8	576.9	1213.4	2670.3	7787.2	9521.1
75°	240.4	253.6	286.8	528.9	1040.9	1962.6	6187.7	6761.3
77.5°	212.2	223.8	252.0	417.7	782.4	1365.8	4634.6	4873.3
80°	182.4	187.3	208.9	305.0	510.6	817.1	3527.3	3887.0
82.5°	144.2	145.9	159.1	223.8	318.3	522.1	2446.6	2793.0
85°	92.9	96.1	102.8	157.5	213.8	334.9	1249.8	1432.2
87.5°	31.4	36.5	36.5	76.3	104.5	185.6	383.0	278.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)