

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: P197182

Luminaire Tested: **NAV-AF-04-D-UNV-SLL-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197182
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-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 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: 19289 lumens
Efficiency: N/A
Efficacy: 74.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

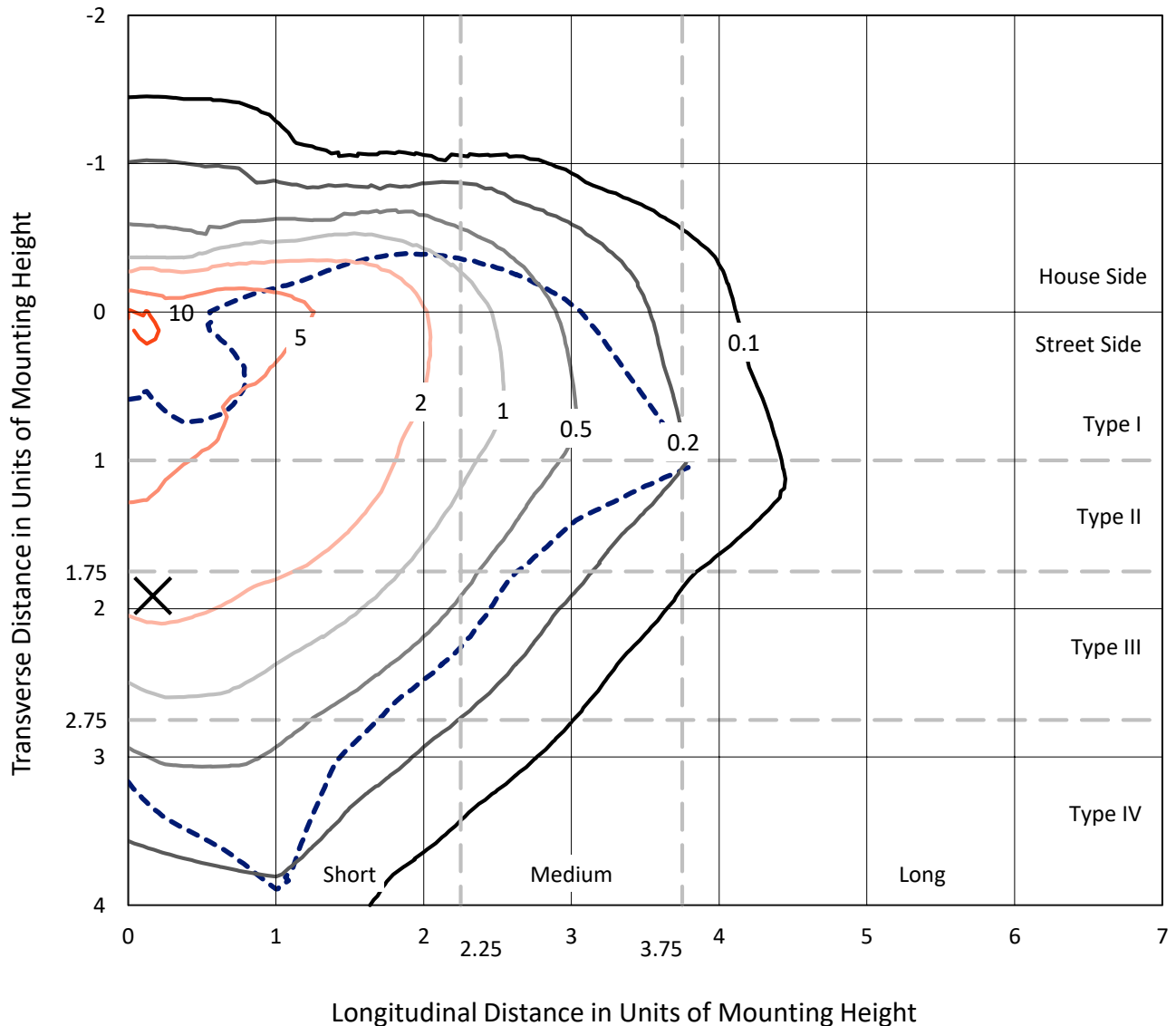
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

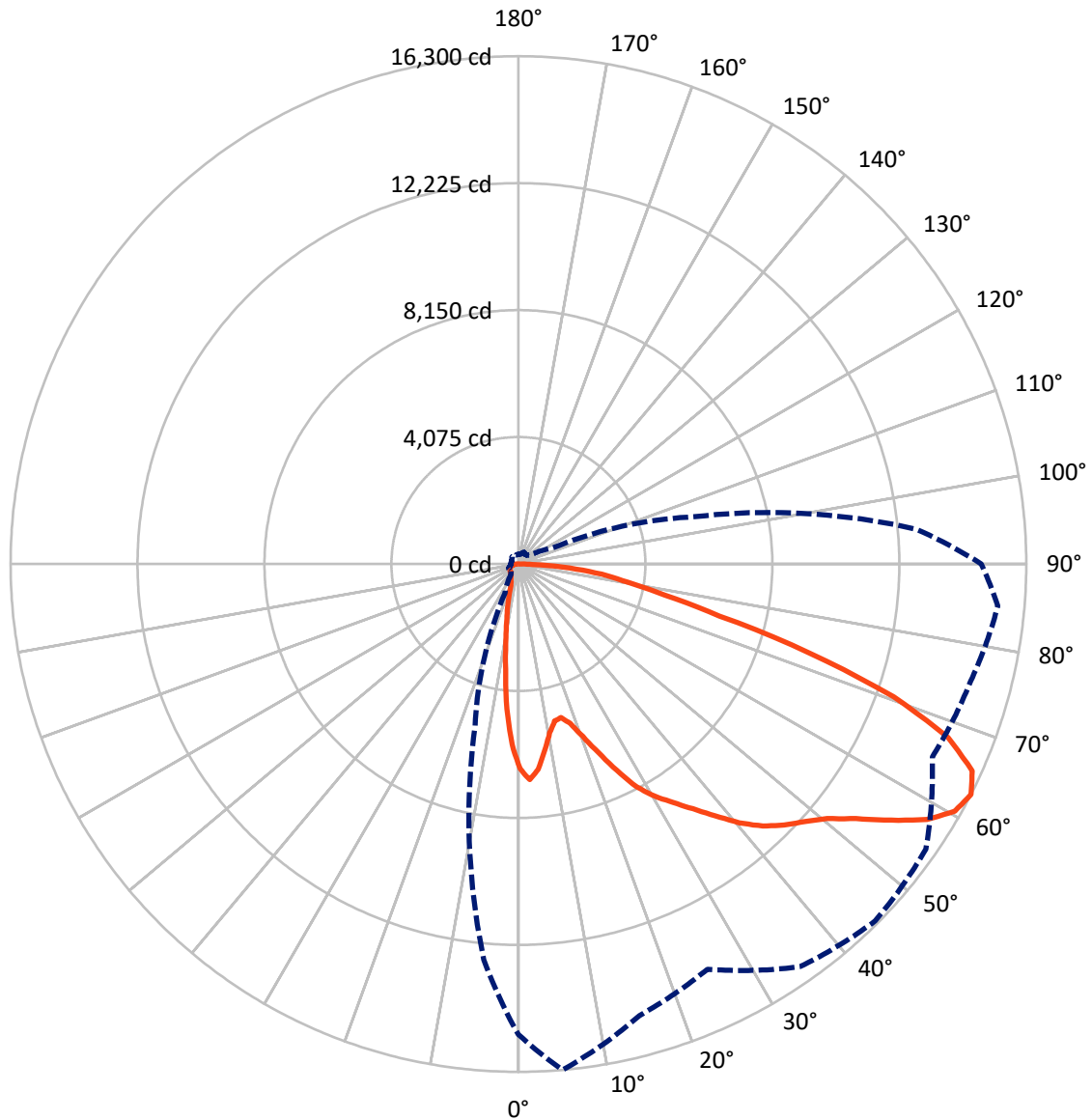
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 12.1 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	3417.1	0.0	3417.1
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	15871.9	0.0	15871.9
	% Fixture	82.3	0.0	82.3
Total	Lumens	19289.0	0.0	19289.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	478.2	2.5
10°-20°	873.5	4.5
20°-30°	1256.3	6.5
30°-40°	1924.2	10.0
40°-50°	2813.2	14.6
50°-60°	4093.3	21.2
60°-70°	4742.6	24.6
70°-80°	2472.2	12.8
80°-90°	635.5	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°	19289.0	100.0
0°-180°	19289.0	100.0



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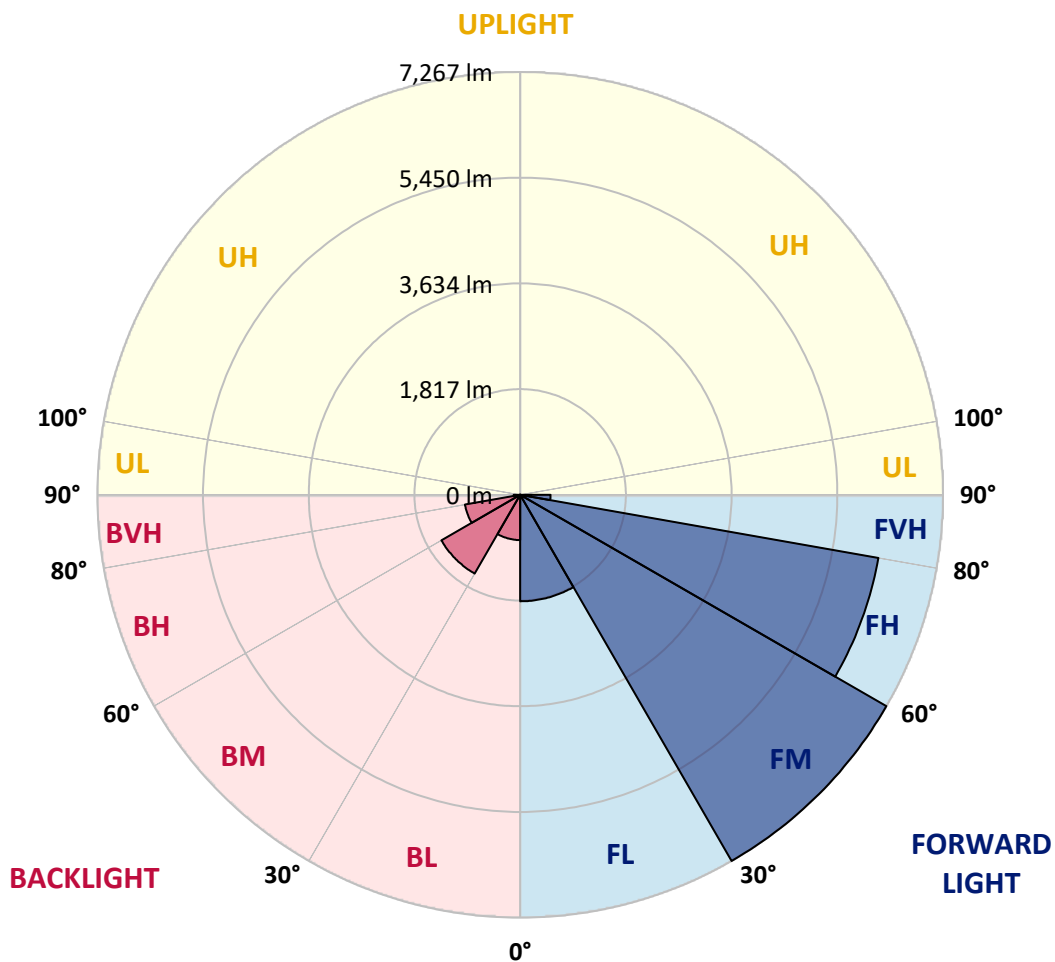
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1830.6	9.5			
FM	(30°-60°)	7267.2	37.7			
FH	(60°-80°)	6251.3	32.4			G3/7500
FVH	(80°-90°)	522.8	2.7			G4/750
BL	(0°-30°)	777.4	4.0	B2/1000		
BM	(30°-60°)	1563.4	8.1	B2/2500		
BH	(60°-80°)	963.5	5.0	B2/1000		G2/1000
BVH	(80°-90°)	112.7	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°	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0
2.5°	6788.6	6932.6	7097.7	7313.0	7459.9	7518.6	7567.6	7485.1	7405.3	7255.7	7202.6
5°	6341.0	6618.0	7072.5	7504.6	7885.1	8103.2	8170.4	8017.9	7746.6	7355.0	7148.0
7.5°	5676.7	6041.8	6680.9	7317.2	7862.7	8226.3	8252.9	7950.8	7416.5	6774.6	6438.9
10°	5096.3	5508.9	6248.7	6960.6	7538.2	7910.2	7837.5	7413.7	6769.0	6039.0	5660.0
12.5°	4759.3	5171.9	5925.7	6648.7	7192.8	7334.0	7185.8	6829.1	6218.0	5486.5	5104.7
15°	4688.0	5113.1	5811.0	6420.8	6757.8	6666.9	6520.1	6339.6	5904.7	5306.1	4936.9
17.5°	4903.3	5378.8	5963.4	6297.7	6283.7	6065.5	5942.5	5977.4	5903.3	5501.9	5115.9
20°	5346.7	5908.9	6350.8	6264.1	5906.1	5599.8	5528.5	5802.6	6145.2	5992.8	5569.0
22.5°	5929.9	6570.4	6879.5	6360.6	5708.9	5378.8	5364.9	5792.8	6585.8	6735.4	6219.4
25°	6588.6	7335.4	7412.3	6531.3	5687.9	5359.3	5346.7	5943.9	7115.8	7471.1	6948.0
27.5°	7394.2	8107.4	7857.1	6759.2	5780.2	5416.6	5425.0	6201.2	7668.3	8198.3	7769.0
30°	8001.1	8655.7	8131.2	6983.0	5928.5	5517.3	5538.3	6479.5	7966.2	8703.2	8424.9
32.5°	8568.9	9124.2	8394.1	7204.0	6145.2	5666.9	5739.7	6826.3	8324.2	9136.8	9044.5
35°	9196.9	9648.6	8686.4	7440.3	6455.7	5929.9	6034.8	7156.4	8679.4	9570.3	9658.4
37.5°	9908.8	10248.6	9003.9	7774.6	6903.3	6416.6	6475.3	7493.5	8927.0	10050.0	10317.1
40°	10650.0	10921.3	9350.7	8220.7	7553.6	7073.9	7101.9	7925.6	9121.4	10546.5	10956.3
42.5°	11286.3	11497.5	9699.0	8774.5	8300.4	7743.8	7767.6	8391.3	9307.4	10974.5	11468.1
45°	11795.4	11950.7	10027.6	9357.7	9097.6	8580.1	8574.5	8865.4	9556.3	11335.3	11861.1
47.5°	12269.5	12352.0	10394.1	9925.5	9924.1	9657.0	9457.0	9424.9	9887.8	11638.8	12203.8
50°	12812.2	12842.9	10878.0	10499.0	10933.9	10891.9	10522.7	10135.3	10317.1	11980.0	12563.2
52.5°	13567.4	13568.8	11477.9	11058.4	12048.5	12181.4	11752.1	10939.5	10952.1	12644.3	13184.2
55°	14455.5	14517.0	12259.7	11728.3	13214.9	13441.5	13037.3	11894.7	11863.9	13715.6	14191.1
57.5°	15142.2	15468.0	13170.2	12566.0	14304.4	14599.5	14273.6	12884.9	12984.2	14820.5	15021.9
60°	15335.2	16097.4	14077.9	13505.8	15226.1	15669.4	15337.9	13954.8	14080.6	15537.9	15261.0
62.5°	15104.4	16300.2	15002.3	14347.8	15772.9	16198.1	15960.3	14655.5	14974.3	15445.6	14856.8
65°	14420.5	16006.5	15805.1	14705.8	15458.2	15609.3	15546.3	14691.8	15459.6	14572.9	13739.4
67.5°	12823.3	14873.6	15447.0	13940.8	13988.3	13826.1	13743.6	13693.2	14914.2	13164.6	11977.2
70°	10429.0	12780.0	13739.4	11666.7	11314.3	11157.7	10886.3	11557.7	13405.1	11216.4	9857.0
72.5°	8033.3	9777.3	11269.6	8844.5	8111.6	8164.8	7857.1	8837.5	11104.5	8671.0	7525.6
75°	5704.7	6666.9	8995.5	6355.0	5384.4	5381.6	5357.9	6360.6	8761.9	6223.6	5506.1
77.5°	4111.8	4799.8	7047.3	4253.0	3820.9	3869.8	3791.5	4322.9	6830.5	4476.8	4079.6
80°	3279.6	3553.7	4555.1	2836.3	2844.7	2959.3	2942.6	2956.5	4493.6	3241.8	3050.2
82.5°	2356.6	2697.8	3482.4	2173.4	1881.1	2002.7	2026.5	2192.9	3170.5	2292.2	2011.1
85°	1208.4	1644.7	3204.1	1882.5	1176.2	974.8	1121.6	1730.0	2753.8	1373.4	980.4
87.5°	235.0	455.9	2348.2	1046.1	528.7	267.1	440.5	732.8	1601.3	248.9	121.7
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°	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0
2.5°	7111.7	6932.6	6764.8	6591.4	6457.1	6293.5	6132.7	5992.8	5857.1	5767.6	5795.6
5°	6938.2	6501.9	6110.3	5746.7	5534.1	5278.1	5050.2	4858.6	4710.3	4615.2	4672.6
7.5°	6148.0	5557.9	5041.8	4562.1	4260.0	3928.5	3662.8	3475.4	3360.7	3296.4	3390.1
10°	5339.7	4676.8	4097.8	3598.5	3300.6	3019.5	2778.9	2580.3	2426.5	2353.8	2391.5
12.5°	4760.7	4023.6	3416.7	3081.0	2825.1	2573.3	2324.4	2092.2	1896.4	1806.9	1788.8
15°	4543.9	3672.6	3053.0	2678.2	2423.7	2149.6	1881.1	1632.1	1446.1	1369.2	1352.4
17.5°	4639.0	3597.1	2837.7	2394.3	2025.1	1692.3	1390.2	1155.2	1018.1	974.8	979.0
20°	4973.3	3625.1	2664.2	2102.0	1646.1	1251.7	949.6	787.4	728.6	718.9	730.0
22.5°	5432.0	3739.7	2538.4	1850.3	1311.8	910.5	706.3	629.3	614.0	612.6	623.8
25°	6037.6	3963.5	2454.5	1626.5	1036.3	721.7	615.4	572.0	559.4	562.2	573.4
27.5°	6750.8	4247.4	2399.9	1433.5	851.7	643.3	574.8	537.0	524.5	527.3	535.6
30°	7402.6	4496.4	2318.8	1288.1	765.0	615.4	552.4	514.7	497.9	497.9	503.5
32.5°	7985.7	4711.7	2223.7	1179.0	685.3	552.4	500.7	471.3	458.7	462.9	465.7
35°	8503.2	4825.0	2149.6	1114.6	621.0	509.1	457.3	426.6	409.8	412.6	416.8
37.5°	9012.3	4868.4	2100.6	1079.7	574.8	482.5	435.0	409.8	391.6	388.8	387.4
40°	9496.2	4858.6	2054.5	1069.9	544.0	462.9	421.0	398.6	380.4	376.2	374.8
42.5°	9914.4	4826.4	2011.1	1043.3	523.1	448.9	409.8	390.2	372.0	366.4	363.6
45°	10296.2	4806.8	1963.6	994.4	534.2	443.3	404.2	383.2	366.4	359.4	356.6
47.5°	10719.9	4876.8	1910.4	941.2	531.5	444.7	404.2	380.4	363.6	356.6	353.8
50°	11224.8	5113.1	1844.7	868.5	506.3	475.5	402.8	376.2	360.8	356.6	351.0
52.5°	11938.1	5496.3	1753.8	774.8	486.7	507.7	401.4	369.2	356.6	349.6	342.6
55°	12915.7	5879.5	1636.3	675.5	455.9	485.3	404.2	360.8	346.8	339.8	331.5
57.5°	13717.0	6170.4	1488.1	593.0	428.0	458.7	400.0	351.0	335.7	328.7	321.7
60°	13665.3	6198.4	1346.8	539.8	411.2	412.6	409.8	344.0	325.9	320.3	314.7
62.5°	12819.2	5853.0	1215.3	513.3	398.6	376.2	418.2	335.7	316.1	310.5	306.3
65°	11410.8	5048.8	1145.4	513.3	387.4	356.6	365.0	324.5	306.3	300.7	297.9
67.5°	9624.9	4057.2	1079.7	524.5	372.0	342.6	331.5	313.3	296.5	290.9	288.1
70°	7714.4	3192.9	1033.5	518.9	358.0	327.3	313.3	297.9	281.1	279.7	276.9
72.5°	6051.5	2564.9	1012.6	518.9	337.1	309.1	295.1	283.9	267.1	265.7	261.5
75°	4848.8	1925.8	925.8	509.1	316.1	285.3	272.7	262.9	246.1	247.5	244.7
77.5°	3755.1	1362.2	773.4	458.7	289.5	258.7	248.9	241.9	222.4	223.8	223.8
80°	2937.0	886.7	600.0	380.4	258.7	228.0	221.0	215.4	194.4	197.2	197.2
82.5°	2012.5	527.3	435.0	306.3	222.4	194.4	193.0	184.6	162.2	163.6	166.4
85°	1099.3	346.8	289.5	226.6	174.8	158.0	155.2	151.0	130.1	130.1	131.5
87.5°	202.8	186.0	170.6	149.6	117.5	113.3	109.1	113.3	97.9	95.1	95.1
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0
2.5°	5729.9	5633.4	5566.2	5507.5	5366.3	5376.0	5395.6	5423.6	5335.5	5381.6	5439.0
5°	4615.2	4535.5	4475.4	4381.7	4184.5	4114.5	4069.8	4050.2	3918.8	3946.7	4008.3
7.5°	3402.7	3401.3	3380.3	3275.4	3037.7	2893.6	2798.5	2769.1	2688.0	2718.8	2812.5
10°	2395.7	2420.9	2411.1	2317.4	2104.8	2001.3	1980.4	2039.1	2040.5	2100.6	2261.5
12.5°	1731.4	1717.4	1704.8	1627.9	1468.5	1451.7	1499.3	1580.4	1599.9	1664.3	1832.1
15°	1292.3	1258.7	1251.7	1191.6	1086.7	1102.1	1137.0	1179.0	1180.4	1225.1	1363.6
17.5°	969.2	969.2	980.4	941.2	865.7	858.7	840.5	829.3	812.6	830.7	906.3
20°	752.4	787.4	815.4	793.0	724.5	690.9	655.9	633.5	621.0	622.4	644.7
22.5°	644.7	672.7	709.1	697.9	640.5	597.2	574.8	559.4	549.6	549.6	562.2
25°	590.2	608.4	641.9	636.3	587.4	552.4	534.2	518.9	507.7	506.3	518.9
27.5°	546.8	558.0	580.4	577.6	527.3	504.9	493.7	483.9	476.9	475.5	488.1
30°	507.7	513.3	524.5	520.3	482.5	460.1	455.9	451.7	447.5	448.9	467.1
32.5°	472.7	476.9	483.9	478.3	441.9	422.4	415.4	409.8	405.6	409.8	430.8
35°	433.6	446.1	454.5	451.7	412.6	388.8	373.4	359.4	353.8	358.0	381.8
37.5°	400.0	421.0	432.2	429.4	388.8	360.8	341.2	338.5	338.5	344.0	367.8
40°	387.4	402.8	412.6	408.4	367.8	339.8	328.7	324.5	325.9	331.5	356.6
42.5°	376.2	390.2	393.0	384.6	344.0	325.9	318.9	313.3	316.1	323.1	348.2
45°	366.4	377.6	376.2	363.6	324.5	311.9	311.9	307.7	309.1	314.7	341.2
47.5°	359.4	365.0	362.2	349.6	310.5	300.7	304.9	304.9	307.7	311.9	338.5
50°	348.2	352.4	349.6	338.5	299.3	290.9	295.1	300.7	303.5	307.7	331.5
52.5°	337.1	339.8	338.5	327.3	288.1	282.5	282.5	288.1	293.7	299.3	320.3
55°	325.9	328.7	330.1	321.7	279.7	274.1	272.7	272.7	278.3	286.7	309.1
57.5°	317.5	317.5	320.3	314.7	271.3	264.3	257.3	258.7	265.7	272.7	295.1
60°	307.7	309.1	313.3	307.7	260.1	248.9	243.3	250.3	253.1	260.1	283.9
62.5°	299.3	299.3	302.1	297.9	250.3	239.2	235.0	241.9	241.9	248.9	272.7
65°	292.3	290.9	290.9	289.5	240.6	229.4	226.6	229.4	230.8	237.8	261.5
67.5°	286.7	279.7	279.7	282.5	230.8	219.6	218.2	218.2	219.6	228.0	248.9
70°	274.1	268.5	267.1	276.9	221.0	207.0	207.0	204.2	207.0	211.2	233.6
72.5°	260.1	255.9	254.5	268.5	211.2	193.0	190.2	188.8	190.2	194.4	215.4
75°	241.9	239.2	241.9	262.9	201.4	177.6	173.4	172.0	172.0	173.4	195.8
77.5°	221.0	218.2	239.2	244.7	195.8	159.4	155.2	152.4	149.6	149.6	174.8
80°	195.8	194.4	230.8	207.0	187.4	139.9	132.9	128.7	125.9	124.5	149.6
82.5°	170.6	167.8	197.2	162.2	155.2	114.7	104.9	96.5	92.3	92.3	114.7
85°	139.9	138.5	155.2	118.9	107.7	83.9	69.9	62.9	57.3	57.3	74.1
87.5°	102.1	99.3	96.5	71.3	54.5	37.8	26.6	25.2	22.4	21.0	30.8
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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CATALOG NUMBER: NAV-AF-04-D-UNV-SLL-8030-1200

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0	6576.0
2.5°	5524.3	5640.4	5859.9	6040.4	6280.9	6473.9	6693.5	6788.6
5°	4121.5	4304.8	4640.4	4927.1	5324.3	5692.1	6111.7	6341.0
7.5°	2956.5	3227.9	3482.4	3840.4	4336.9	4830.6	5373.2	5676.7
10°	2446.1	2695.0	2913.2	3167.7	3550.9	4106.2	4753.7	5096.3
12.5°	2026.5	2295.0	2525.8	2798.5	3120.2	3622.3	4360.7	4759.3
15°	1553.8	1846.1	2123.0	2451.7	2846.1	3419.5	4243.2	4688.0
17.5°	1064.3	1377.6	1718.8	2120.2	2595.7	3334.2	4355.1	4903.3
20°	723.1	952.4	1323.0	1798.5	2370.6	3293.6	4601.2	5346.7
22.5°	594.4	697.9	976.2	1496.5	2185.9	3338.4	5001.2	5929.9
25°	545.4	601.4	759.4	1230.7	2044.7	3457.2	5542.5	6588.6
27.5°	514.7	562.2	665.7	1040.5	1914.6	3619.5	6201.2	7394.2
30°	496.5	541.2	628.0	942.6	1795.7	3759.3	6767.6	8001.1
32.5°	455.9	489.5	560.8	886.7	1710.4	3872.6	7266.9	8568.9
35°	407.0	447.5	506.3	850.3	1707.6	3925.7	7736.8	9196.9
37.5°	388.8	428.0	471.3	830.7	1724.4	3970.5	8311.6	9908.8
40°	377.6	412.6	447.5	827.9	1738.4	4005.5	8873.8	10650.0
42.5°	367.8	402.8	443.3	808.4	1732.8	4053.0	9371.7	11286.3
45°	365.0	400.0	453.1	779.0	1731.4	4127.1	9767.5	11795.4
47.5°	362.2	415.4	450.3	746.8	1725.8	4283.8	10213.6	12269.5
50°	359.4	443.3	430.8	702.1	1683.9	4550.9	10813.6	12812.2
52.5°	358.0	447.5	409.8	640.5	1608.3	4946.7	11691.9	13567.4
55°	352.4	425.2	373.4	559.4	1499.3	5373.2	12633.1	14455.5
57.5°	339.8	379.0	352.4	479.7	1342.6	5671.1	13328.2	15142.2
60°	370.6	325.9	338.5	439.1	1155.2	5724.3	13359.0	15335.2
62.5°	353.8	296.5	324.5	425.2	1023.7	5377.4	12747.8	15104.4
65°	282.5	281.1	311.9	439.1	1004.2	4601.2	11715.7	14420.5
67.5°	257.3	269.9	299.3	455.9	1016.7	3625.1	10196.9	12823.3
70°	240.6	255.9	282.5	471.3	1039.1	2855.8	8209.5	10429.0
72.5°	223.8	236.4	265.7	486.7	1023.7	2253.1	6570.4	8033.3
75°	202.8	214.0	241.9	446.1	878.3	1655.9	5220.8	5704.7
77.5°	179.0	188.8	212.6	352.4	660.1	1152.4	3910.4	4111.8
80°	153.8	158.0	176.2	257.3	430.8	689.5	2976.1	3279.6
82.5°	121.7	123.1	134.3	188.8	268.5	440.5	2064.3	2356.6
85°	78.3	81.1	86.7	132.9	180.4	282.5	1054.5	1208.4
87.5°	26.6	30.8	30.8	64.3	88.1	156.6	323.1	235.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)