

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: P195737

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195737
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
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 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: 26558 lumens
Efficiency: N/A
Efficacy: 95.2 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 - G4

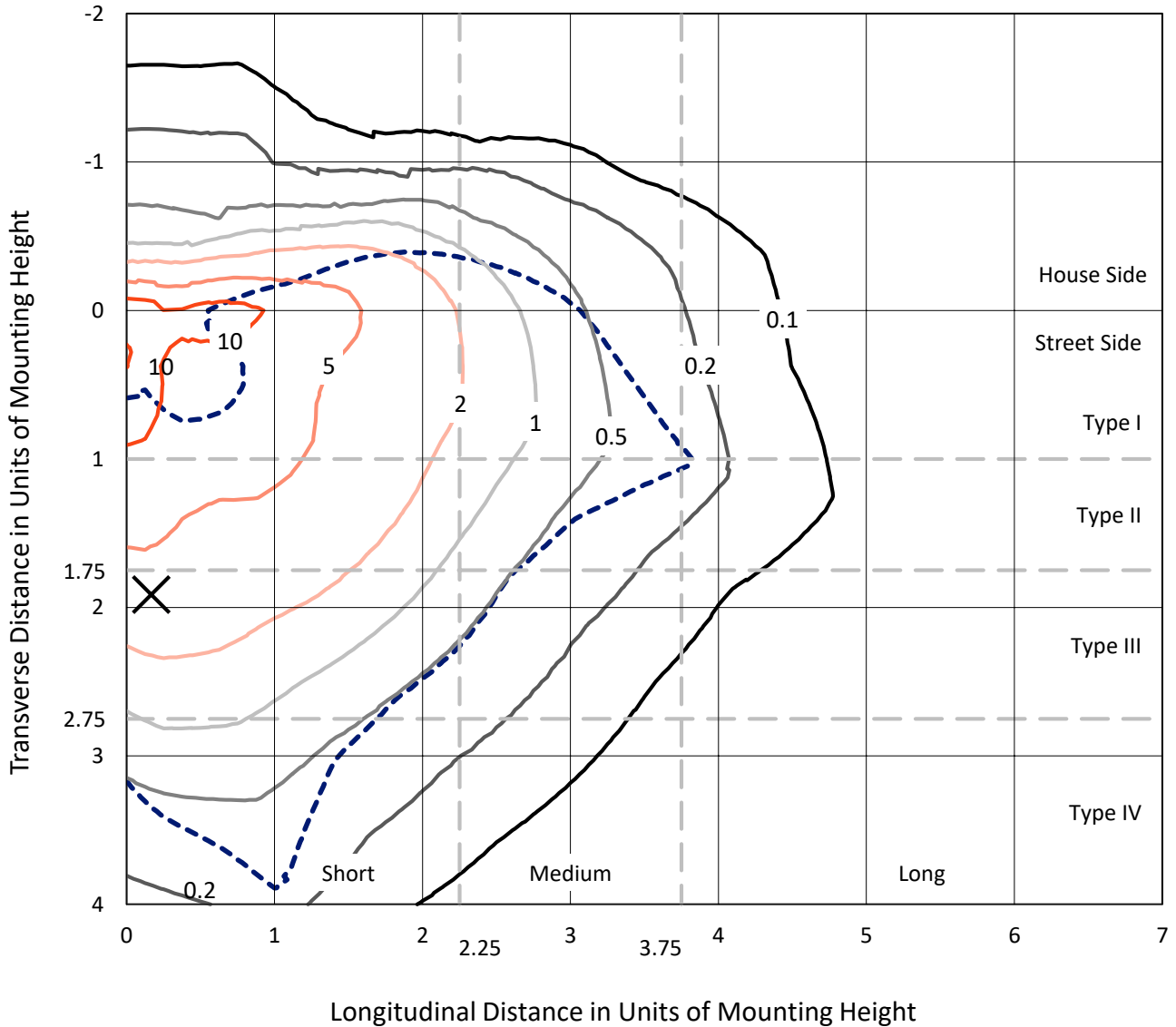
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

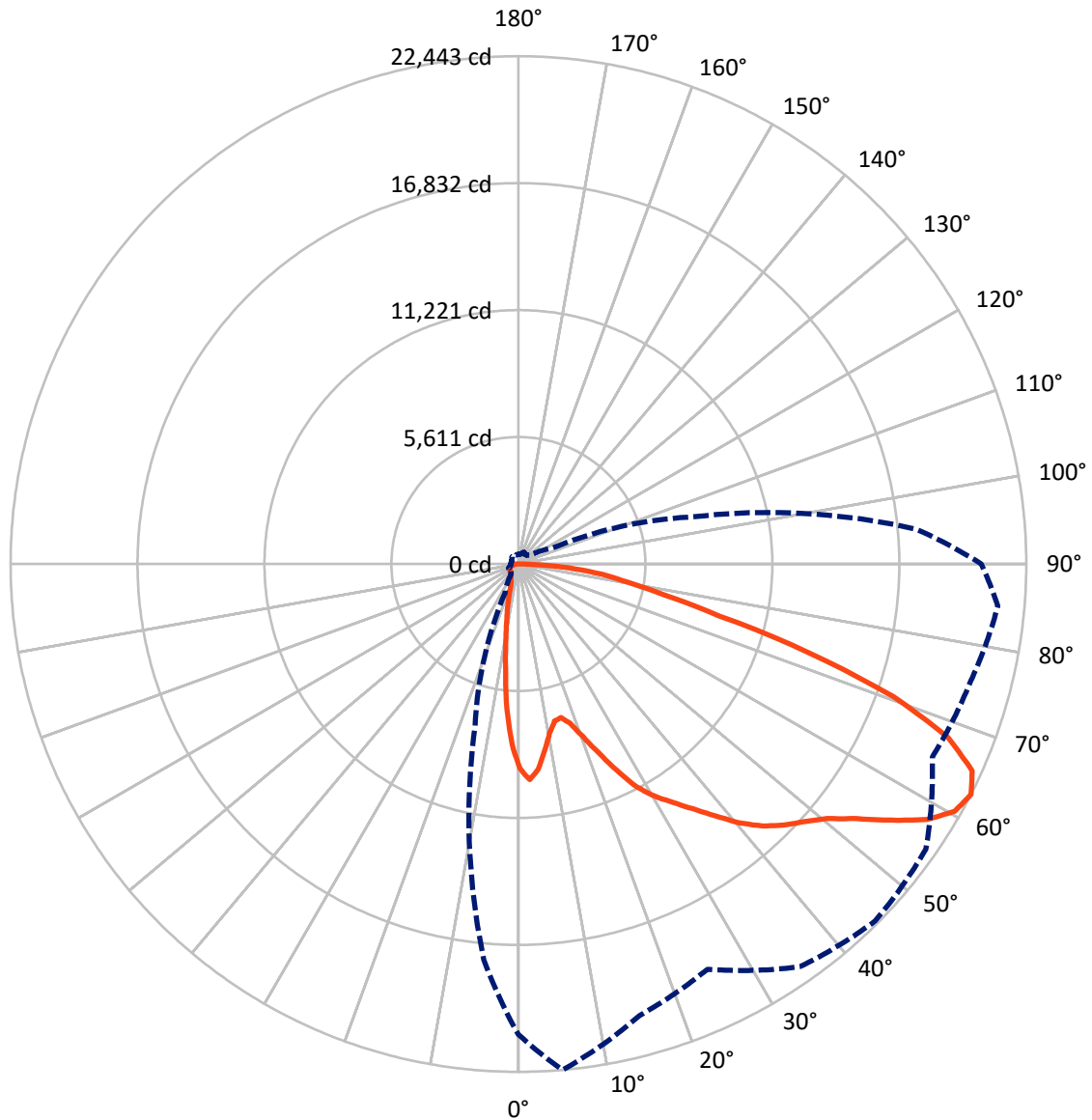
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 16.6 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	4704.8	0.0	4704.8
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	21853.2	0.0	21853.2
	% Fixture	82.3	0.0	82.3
Total	Lumens	26558.0	0.0	26558.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	658.5	2.5
10°-20°	1202.7	4.5
20°-30°	1729.8	6.5
30°-40°	2649.3	10.0
40°-50°	3873.4	14.6
50°-60°	5635.8	21.2
60°-70°	6529.8	24.6
70°-80°	3403.9	12.8
80°-90°	875.0	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°	26558.0	100.0
0°-180°	26558.0	100.0



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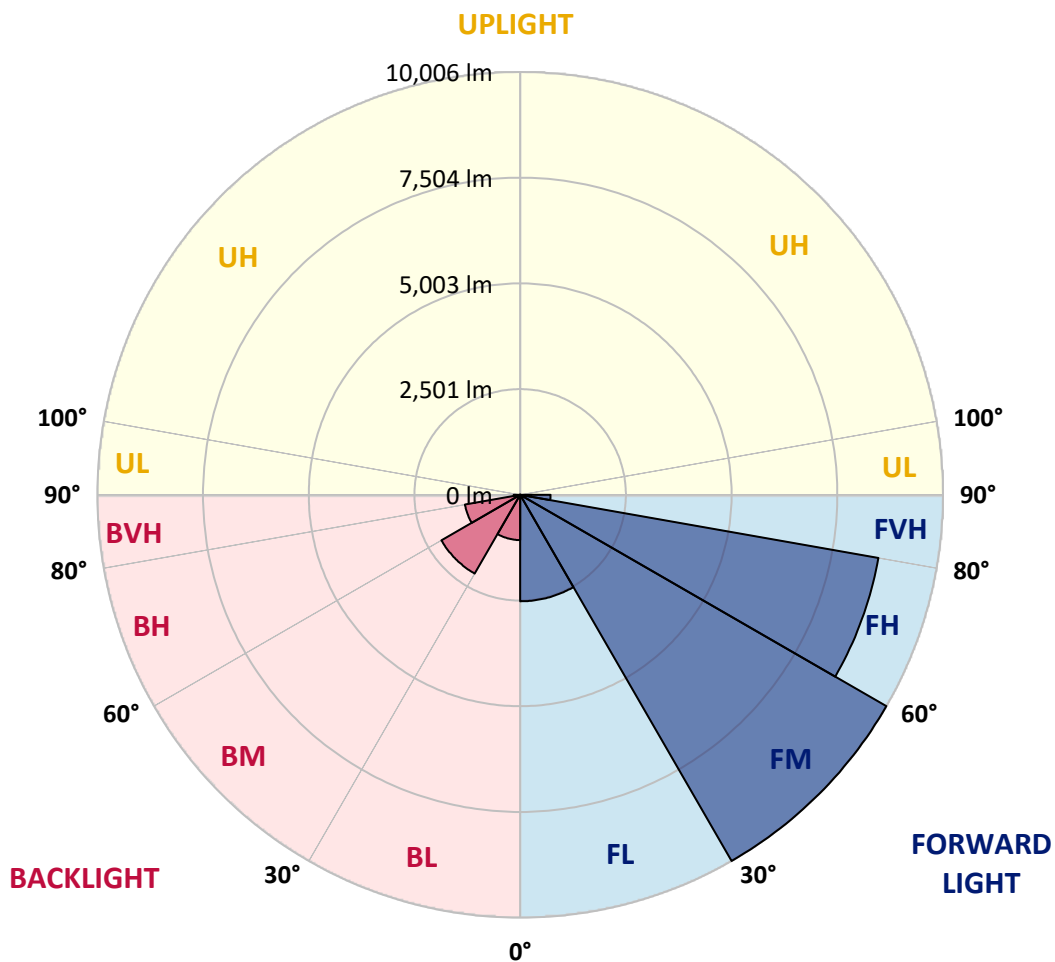
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2520.5	9.5			
FM	(30°-60°)	10005.8	37.7			
FH	(60°-80°)	8607.1	32.4			G4/12000
FVH	(80°-90°)	719.8	2.7			G4/750
BL	(0°-30°)	1070.4	4.0	B3/2500		
BM	(30°-60°)	2152.6	8.1	B2/2500		
BH	(60°-80°)	1326.6	5.0	B3/2500		G3/2500
BVH	(80°-90°)	155.2	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-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2
2.5°	9346.8	9545.2	9772.4	10068.9	10271.1	10352.0	10419.4	10305.8	10196.0	9990.0	9916.8
5°	8730.7	9111.9	9737.7	10332.7	10856.5	11156.9	11249.3	11039.4	10665.9	10126.7	9841.7
7.5°	7816.0	8318.6	9198.6	10074.7	10825.7	11326.4	11362.9	10947.0	10211.4	9327.6	8865.4
10°	7016.9	7584.9	8603.6	9583.7	10379.0	10891.2	10791.0	10207.6	9319.9	8314.7	7792.9
12.5°	6552.8	7120.9	8158.7	9154.3	9903.3	10097.8	9893.7	9402.7	8561.2	7554.1	7028.4
15°	6454.6	7040.0	8000.9	8840.4	9304.5	9179.3	8977.1	8728.7	8129.9	7305.7	6797.4
17.5°	6751.1	7405.8	8210.7	8671.0	8651.7	8351.3	8181.9	8230.0	8127.9	7575.3	7043.8
20°	7361.6	8135.6	8744.1	8624.7	8131.8	7710.1	7611.9	7989.3	8461.1	8251.2	7667.7
22.5°	8164.5	9046.4	9472.0	8757.6	7860.3	7405.8	7386.6	7975.8	9067.6	9273.7	8563.1
25°	9071.5	10099.7	10205.7	8992.5	7831.4	7378.9	7361.6	8183.8	9797.4	10286.5	9566.4
27.5°	10180.6	11162.7	10818.0	9306.4	7958.5	7457.8	7469.4	8538.1	10558.0	11287.8	10696.7
30°	11016.3	11917.5	11195.4	9614.5	8162.6	7596.5	7625.4	8921.3	10968.2	11983.0	11599.8
32.5°	11798.1	12562.6	11557.4	9918.7	8461.1	7802.5	7902.6	9398.8	11461.1	12579.9	12452.8
35°	12662.7	13284.7	11959.9	10244.2	8888.5	8164.5	8308.9	9853.3	11950.2	13176.9	13298.2
37.5°	13642.8	14110.8	12397.0	10704.4	9504.7	8834.6	8915.5	10317.3	12291.1	13837.3	14205.1
40°	14663.4	15037.0	12874.5	11318.7	10400.1	9739.7	9778.2	10912.4	12558.7	14520.9	15085.1
42.5°	15539.6	15830.3	13354.0	12081.2	11428.4	10662.0	10694.8	11553.6	12814.8	15110.1	15789.9
45°	16240.5	16454.2	13806.5	12884.2	12526.0	11813.5	11805.8	12206.4	13157.6	15607.0	16331.0
47.5°	16893.3	17006.9	14311.0	13666.0	13664.0	13296.2	13020.9	12976.6	13614.0	16024.8	16802.7
50°	17640.4	17682.7	14977.3	14455.4	15054.3	14996.5	14488.2	13954.8	14205.1	16494.7	17297.6
52.5°	18680.2	18682.1	15803.4	15225.7	16589.0	16771.9	16180.8	15062.0	15079.3	17409.3	18152.6
55°	19903.0	19987.7	16879.8	16148.0	18195.0	18506.9	17950.4	16377.2	16334.8	18884.3	19539.0
57.5°	20848.4	21297.1	18133.3	17301.5	19695.0	20101.3	19652.6	17740.5	17877.2	20405.5	20682.8
60°	21114.2	22163.6	19383.0	18595.5	20964.0	21574.4	21118.0	19213.6	19386.9	21393.4	21012.1
62.5°	20796.4	22442.8	20655.9	19754.7	21716.9	22302.2	21974.9	20178.3	20617.4	21266.3	20455.6
65°	19854.8	22038.4	21761.2	20247.6	21283.6	21491.6	21404.9	20228.4	21285.5	20064.7	18917.1
67.5°	17655.8	20478.7	21268.2	19194.3	19259.8	19036.4	18922.8	18853.5	20534.6	18125.6	16490.8
70°	14359.2	17596.1	18917.1	16063.3	15578.1	15362.4	14988.8	15913.1	18456.8	15443.3	13571.6
72.5°	11060.6	13461.8	15516.5	12177.5	11168.5	11241.6	10818.0	12167.8	15289.2	11938.7	10361.6
75°	7854.5	9179.3	12385.4	8749.9	7413.5	7409.7	7377.0	8757.6	12063.9	8568.9	7581.1
77.5°	5661.3	6608.6	9703.1	5855.7	5260.7	5328.1	5220.3	5952.0	9404.6	6163.8	5617.0
80°	4515.5	4892.9	6271.7	3905.1	3916.7	4074.6	4051.5	4070.7	6186.9	4463.5	4199.7
82.5°	3244.6	3714.5	4794.7	2992.4	2589.9	2757.5	2790.2	3019.3	4365.3	3156.1	2769.0
85°	1663.7	2264.5	4411.5	2591.9	1619.4	1342.1	1544.3	2382.0	3791.5	1890.9	1349.8
87.5°	323.5	627.7	3233.1	1440.3	727.9	367.8	606.6	1009.0	2204.8	342.8	167.5
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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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2
2.5°	9791.7	9545.2	9314.1	9075.3	8890.5	8665.2	8443.7	8251.2	8064.4	7941.2	7979.7
5°	9552.9	8952.1	8412.9	7912.3	7619.6	7267.2	6953.3	6689.5	6485.4	6354.5	6433.4
7.5°	8464.9	7652.3	6941.8	6281.3	5865.4	5409.0	5043.1	4785.1	4627.2	4538.6	4667.6
10°	7351.9	6439.2	5642.0	4954.6	4544.4	4157.4	3826.2	3552.7	3340.9	3240.8	3292.8
12.5°	6554.7	5539.9	4704.2	4242.1	3889.7	3543.1	3200.3	2880.7	2611.1	2487.9	2462.8
15°	6256.3	5056.6	4203.6	3687.5	3337.1	2959.6	2589.9	2247.2	1991.1	1885.2	1862.1
17.5°	6387.2	4952.6	3907.0	3296.6	2788.3	2330.0	1914.0	1590.5	1401.8	1342.1	1347.9
20°	6847.4	4991.1	3668.3	2894.2	2266.4	1723.4	1307.5	1084.1	1003.2	989.8	1005.2
22.5°	7479.0	5149.0	3495.0	2547.6	1806.2	1253.6	972.4	866.5	845.3	843.4	858.8
25°	8312.8	5457.1	3379.4	2239.5	1426.9	993.6	847.3	787.6	770.2	774.1	789.5
27.5°	9294.9	5848.0	3304.3	1973.7	1172.7	885.8	791.4	739.4	722.1	725.9	737.5
30°	10192.2	6190.8	3192.6	1773.5	1053.3	847.3	760.6	708.6	685.5	685.5	693.2
32.5°	10995.2	6487.3	3061.7	1623.3	943.5	760.6	689.4	648.9	631.6	637.4	641.2
35°	11707.6	6643.3	2959.6	1534.7	855.0	700.9	629.7	587.3	564.2	568.1	573.8
37.5°	12408.5	6703.0	2892.2	1486.6	791.4	664.3	598.9	564.2	539.2	535.3	533.4
40°	13074.8	6689.5	2828.7	1473.1	749.1	637.4	579.6	548.8	523.8	518.0	516.1
42.5°	13650.5	6645.2	2769.0	1436.5	720.2	618.1	564.2	537.2	512.2	504.5	500.7
45°	14176.2	6618.3	2703.5	1369.1	735.6	610.4	556.5	527.6	504.5	494.9	491.0
47.5°	14759.7	6714.6	2630.4	1295.9	731.7	612.3	556.5	523.8	500.7	491.0	487.2
50°	15454.8	7040.0	2539.9	1195.8	697.1	654.7	554.6	518.0	496.8	491.0	483.3
52.5°	16436.9	7567.6	2414.7	1066.8	670.1	699.0	552.6	508.4	491.0	481.4	471.8
55°	17782.9	8095.2	2252.9	930.1	627.7	668.2	556.5	496.8	477.5	467.9	456.4
57.5°	18886.2	8495.7	2048.8	816.5	589.2	631.6	550.7	483.3	462.1	452.5	442.9
60°	18815.0	8534.2	1854.3	743.3	566.1	568.1	564.2	473.7	448.7	441.0	433.3
62.5°	17650.0	8058.6	1673.3	706.7	548.8	518.0	575.8	462.1	435.2	427.5	421.7
65°	15710.9	6951.4	1577.1	706.7	533.4	491.0	502.6	446.7	421.7	414.0	410.2
67.5°	13251.9	5586.2	1486.6	722.1	512.2	471.8	456.4	431.3	408.2	400.5	396.7
70°	10621.6	4396.1	1423.0	714.4	493.0	450.6	431.3	410.2	387.0	385.1	381.3
72.5°	8332.1	3531.5	1394.1	714.4	464.1	425.6	406.3	390.9	367.8	365.9	360.1
75°	6676.0	2651.5	1274.7	700.9	435.2	392.8	375.5	362.0	338.9	340.8	337.0
77.5°	5170.2	1875.5	1064.9	631.6	398.6	356.2	342.8	333.1	306.2	308.1	308.1
80°	4043.8	1220.8	826.1	523.8	356.2	313.9	304.2	296.5	267.7	271.5	271.5
82.5°	2770.9	725.9	598.9	421.7	306.2	267.7	265.7	254.2	223.4	225.3	229.1
85°	1513.5	477.5	398.6	311.9	240.7	217.6	213.7	208.0	179.1	179.1	181.0
87.5°	279.2	256.1	234.9	206.0	161.8	156.0	150.2	156.0	134.8	130.9	130.9
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°	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2
2.5°	7889.2	7756.3	7663.9	7583.0	7388.5	7402.0	7428.9	7467.5	7346.1	7409.7	7488.6
5°	6354.5	6244.7	6161.9	6032.9	5761.4	5665.1	5603.5	5576.5	5395.5	5434.0	5518.8
7.5°	4685.0	4683.0	4654.2	4509.7	4182.4	3984.1	3853.1	3812.7	3701.0	3743.4	3872.4
10°	3298.5	3333.2	3319.7	3190.7	2898.0	2755.5	2726.6	2807.5	2809.4	2892.2	3113.7
12.5°	2383.9	2364.6	2347.3	2241.4	2021.9	1998.8	2064.2	2175.9	2202.9	2291.5	2522.5
15°	1779.3	1733.0	1723.4	1640.6	1496.2	1517.4	1565.5	1623.3	1625.2	1686.8	1877.5
17.5°	1334.4	1334.4	1349.8	1295.9	1191.9	1182.3	1157.3	1141.9	1118.8	1143.8	1247.8
20°	1036.0	1084.1	1122.6	1091.8	997.5	951.2	903.1	872.3	855.0	856.9	887.7
22.5°	887.7	926.2	976.3	960.9	881.9	822.2	791.4	770.2	756.8	756.8	774.1
25°	812.6	837.6	883.8	876.1	808.8	760.6	735.6	714.4	699.0	697.1	714.4
27.5°	752.9	768.3	799.1	795.3	725.9	695.1	679.7	666.3	656.6	654.7	672.0
30°	699.0	706.7	722.1	716.3	664.3	633.5	627.7	622.0	616.2	618.1	643.1
32.5°	650.9	656.6	666.3	658.6	608.5	581.5	571.9	564.2	558.4	564.2	593.1
35°	596.9	614.3	625.8	622.0	568.1	535.3	514.1	494.9	487.2	493.0	525.7
37.5°	550.7	579.6	595.0	591.2	535.3	496.8	469.8	466.0	466.0	473.7	506.4
40°	533.4	554.6	568.1	562.3	506.4	467.9	452.5	446.7	448.7	456.4	491.0
42.5°	518.0	537.2	541.1	529.5	473.7	448.7	439.0	431.3	435.2	444.8	479.5
45°	504.5	519.9	518.0	500.7	446.7	429.4	429.4	423.6	425.6	433.3	469.8
47.5°	494.9	502.6	498.7	481.4	427.5	414.0	419.8	419.8	423.6	429.4	466.0
50°	479.5	485.3	481.4	466.0	412.1	400.5	406.3	414.0	417.9	423.6	456.4
52.5°	464.1	467.9	466.0	450.6	396.7	389.0	389.0	396.7	404.4	412.1	441.0
55°	448.7	452.5	454.4	442.9	385.1	377.4	375.5	375.5	383.2	394.7	425.6
57.5°	437.1	437.1	441.0	433.3	373.6	363.9	354.3	356.2	365.9	375.5	406.3
60°	423.6	425.6	431.3	423.6	358.2	342.8	335.1	344.7	348.5	358.2	390.9
62.5°	412.1	412.1	415.9	410.2	344.7	329.3	323.5	333.1	333.1	342.8	375.5
65°	402.4	400.5	400.5	398.6	331.2	315.8	311.9	315.8	317.7	327.4	360.1
67.5°	394.7	385.1	385.1	389.0	317.7	302.3	300.4	300.4	302.3	313.9	342.8
70°	377.4	369.7	367.8	381.3	304.2	285.0	285.0	281.1	285.0	290.8	321.6
72.5°	358.2	352.4	350.5	369.7	290.8	265.7	261.9	260.0	261.9	267.7	296.5
75°	333.1	329.3	333.1	362.0	277.3	244.6	238.8	236.8	236.8	238.8	269.6
77.5°	304.2	300.4	329.3	337.0	269.6	219.5	213.7	209.9	206.0	206.0	240.7
80°	269.6	267.7	317.7	285.0	258.0	192.6	182.9	177.2	173.3	171.4	206.0
82.5°	234.9	231.1	271.5	223.4	213.7	157.9	144.4	132.9	127.1	127.1	157.9
85°	192.6	190.6	213.7	163.7	148.3	115.5	96.3	86.7	78.9	78.9	102.1
87.5°	140.6	136.7	132.9	98.2	75.1	52.0	36.6	34.7	30.8	28.9	42.4
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-7050

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2	9054.2
2.5°	7606.1	7765.9	8068.2	8316.6	8647.9	8913.6	9215.9	9346.8
5°	5674.7	5927.0	6389.1	6783.9	7330.7	7837.2	8414.9	8730.7
7.5°	4070.7	4444.3	4794.7	5287.7	5971.3	6651.0	7398.1	7816.0
10°	3367.9	3710.6	4011.0	4361.5	4889.1	5653.5	6545.1	7016.9
12.5°	2790.2	3159.9	3477.6	3853.1	4296.0	4987.3	6004.0	6552.8
15°	2139.3	2541.8	2923.1	3375.6	3918.6	4708.1	5842.3	6454.6
17.5°	1465.4	1896.7	2366.6	2919.2	3573.9	4590.6	5996.3	6751.1
20°	995.5	1311.3	1821.6	2476.3	3263.9	4534.8	6335.2	7361.6
22.5°	818.4	960.9	1344.1	2060.4	3009.7	4596.4	6885.9	8164.5
25°	751.0	828.0	1045.6	1694.5	2815.2	4760.1	7631.1	9071.5
27.5°	708.6	774.1	916.6	1432.6	2636.1	4983.4	8538.1	10180.6
30°	683.6	745.2	864.6	1297.9	2472.5	5176.0	9318.0	11016.3
32.5°	627.7	674.0	772.2	1220.8	2355.0	5332.0	10005.4	11798.1
35°	560.3	616.2	697.1	1170.8	2351.2	5405.1	10652.4	12662.7
37.5°	535.3	589.2	648.9	1143.8	2374.3	5466.8	11443.8	13642.8
40°	519.9	568.1	616.2	1140.0	2393.5	5514.9	12217.9	14663.4
42.5°	506.4	554.6	610.4	1113.0	2385.8	5580.4	12903.4	15539.6
45°	502.6	550.7	623.9	1072.6	2383.9	5682.4	13448.4	16240.5
47.5°	498.7	571.9	620.0	1028.3	2376.2	5898.1	14062.6	16893.3
50°	494.9	610.4	593.1	966.6	2318.4	6265.9	14888.7	17640.4
52.5°	493.0	616.2	564.2	881.9	2214.4	6810.8	16098.0	18680.2
55°	485.3	585.4	514.1	770.2	2064.2	7398.1	17393.9	19903.0
57.5°	467.9	521.8	485.3	660.5	1848.6	7808.3	18350.9	20848.4
60°	510.3	448.7	466.0	604.6	1590.5	7881.5	18393.3	21114.2
62.5°	487.2	408.2	446.7	585.4	1409.5	7403.9	17551.8	20796.4
65°	389.0	387.0	429.4	604.6	1382.6	6335.2	16130.7	19854.8
67.5°	354.3	371.6	412.1	627.7	1399.9	4991.1	14039.5	17655.8
70°	331.2	352.4	389.0	648.9	1430.7	3932.1	11303.2	14359.2
72.5°	308.1	325.4	365.9	670.1	1409.5	3102.1	9046.4	11060.6
75°	279.2	294.6	333.1	614.3	1209.3	2279.9	7188.2	7854.5
77.5°	246.5	260.0	292.7	485.3	908.9	1586.7	5384.0	5661.3
80°	211.8	217.6	242.6	354.3	593.1	949.3	4097.7	4515.5
82.5°	167.5	169.5	184.9	260.0	369.7	606.6	2842.2	3244.6
85°	107.8	111.7	119.4	182.9	248.4	389.0	1451.9	1663.7
87.5°	36.6	42.4	42.4	88.6	121.3	215.7	444.8	323.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)