

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: P196696

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196696
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
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 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: 20840.1 lumens
Efficiency: N/A
Efficacy: 92.6 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

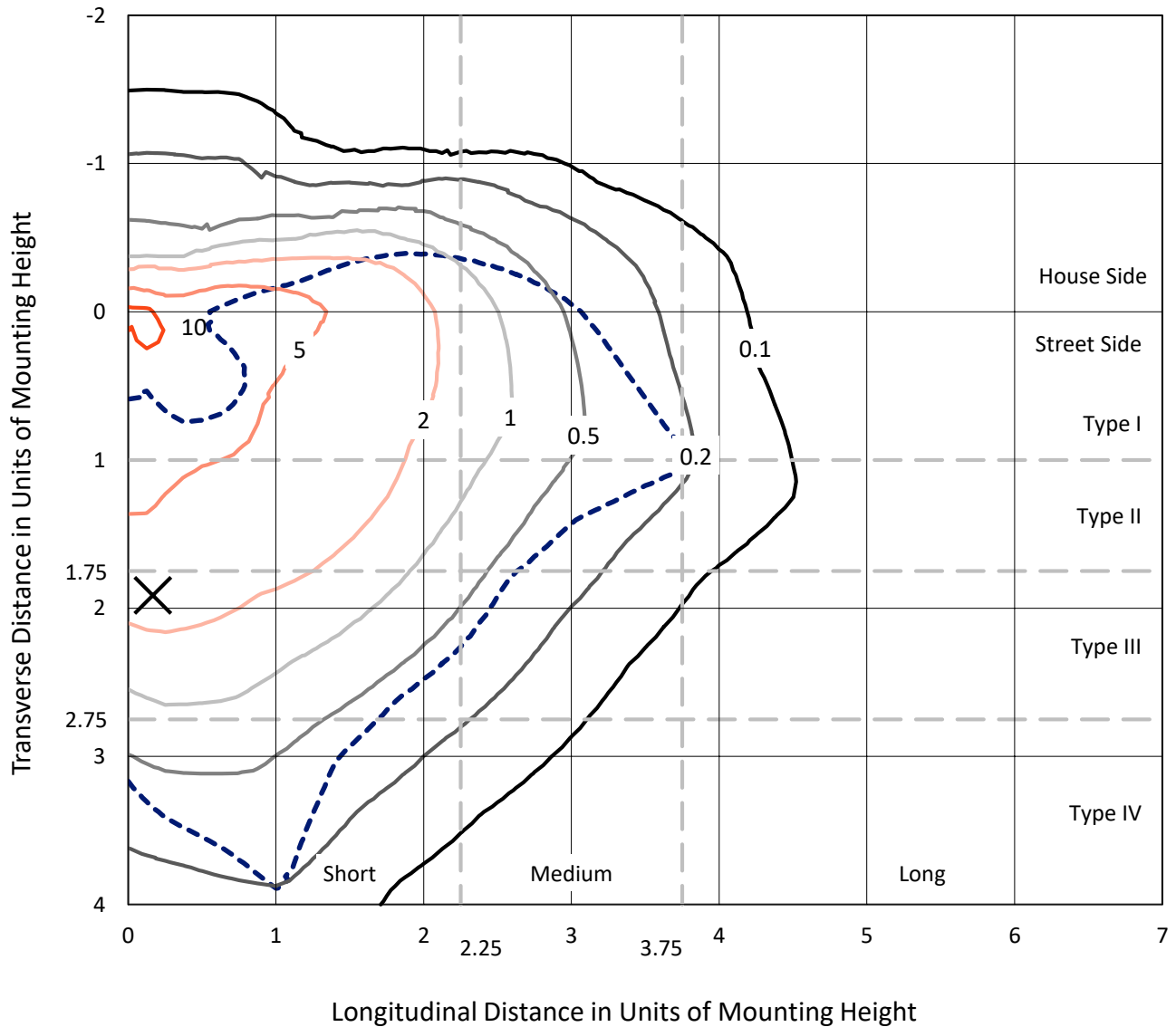
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196696
 CATALOG NUMBER: NAV-AF-04-D-UNV-SLL-7030

Iso-Footcandle Lines of Horizontal Illumination

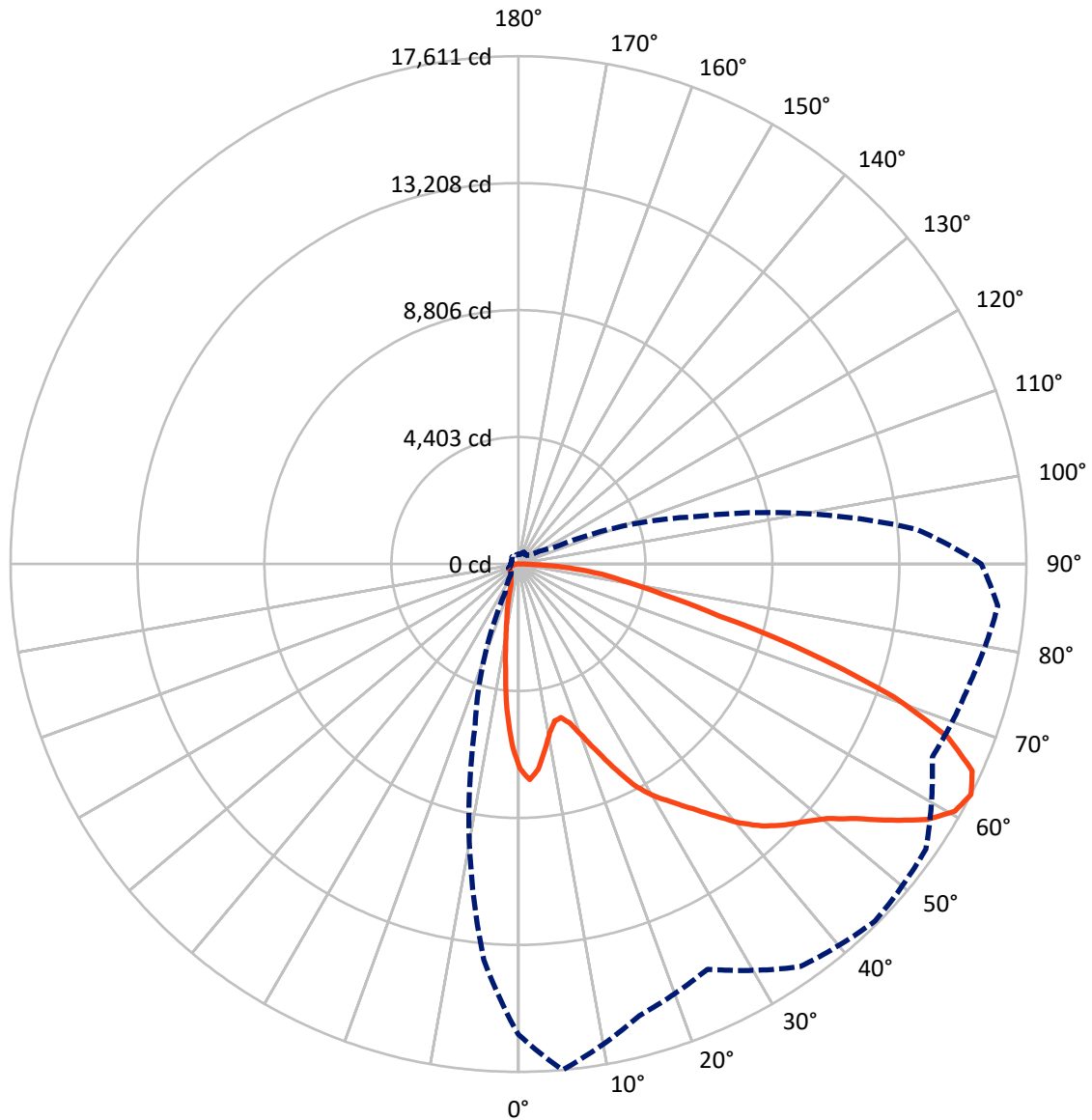
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 13 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P196696
CATALOG NUMBER: NAV-AF-04-D-UNV-SLL-7030

Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

REPORT NUMBER: P196696

CATALOG NUMBER: NAV-AF-04-D-UNV-SLL-7030

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3691.9	0.0	3691.9
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	17148.3	0.0	17148.3
	% Fixture	82.3	0.0	82.3
Total	Lumens	20840.1	0.0	20840.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	516.7	2.5
10°-20°	943.7	4.5
20°-30°	1357.3	6.5
30°-40°	2078.9	10.0
40°-50°	3039.4	14.6
50°-60°	4422.4	21.2
60°-70°	5123.9	24.6
70°-80°	2671.0	12.8
80°-90°	686.6	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°	20840.1	100.0
0°-180°	20840.1	100.0



REPORT NUMBER: P196696

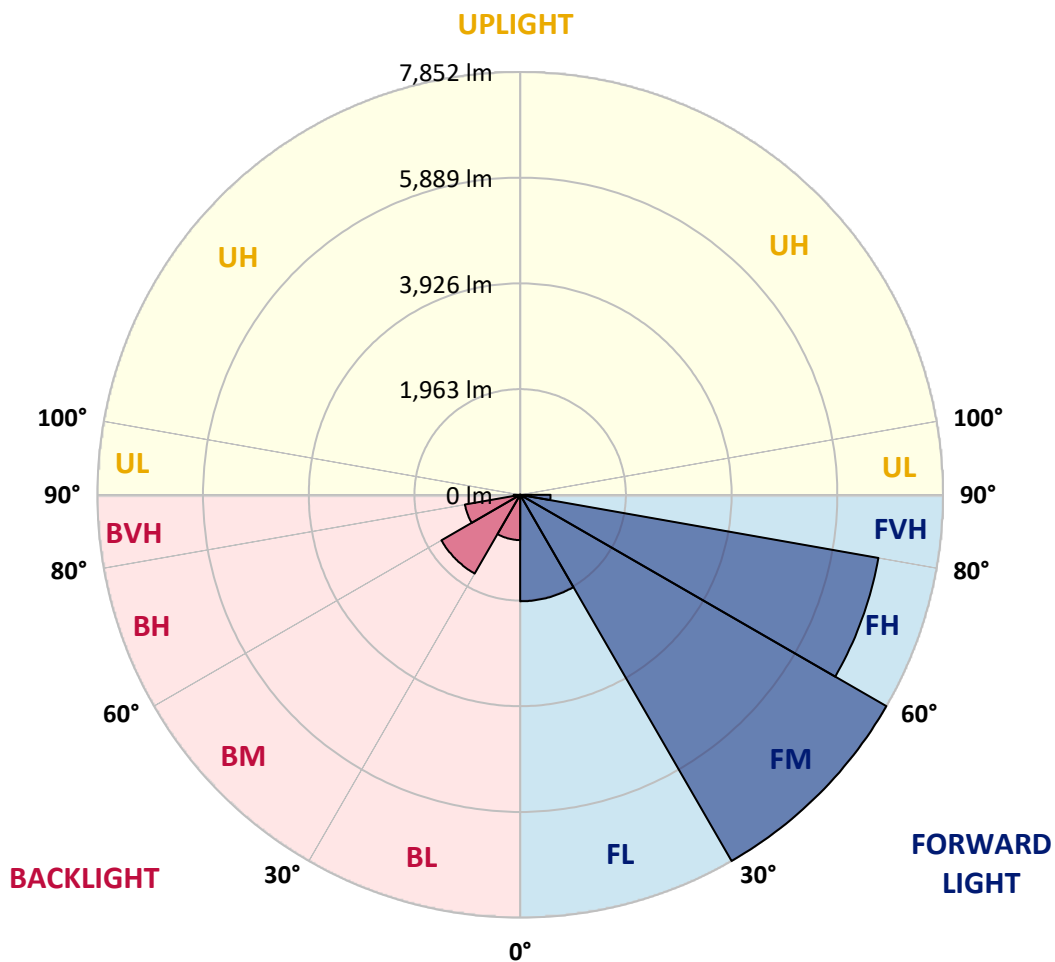
CATALOG NUMBER: NAV-AF-04-D-UNV-SLL-7030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1977.8	9.5			
FM	(30°-60°)	7851.6	37.7			
FH	(60°-80°)	6754.0	32.4			G3/7500
FVH	(80°-90°)	564.9	2.7			G4/750
BL	(0°-30°)	840.0	4.0	B2/1000		
BM	(30°-60°)	1689.2	8.1	B2/2500		
BH	(60°-80°)	1041.0	5.0	B3/2500		G3/2500
BVH	(80°-90°)	121.7	0.6			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type IV Short





REPORT NUMBER: P196696
 CATALOG NUMBER: NAV-AF-04-D-UNV-SLL-7030

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8
2.5°	7334.5	7490.2	7668.5	7901.1	8059.7	8123.2	8176.1	8087.0	8000.8	7839.2	7781.8
5°	6851.0	7150.2	7641.3	8108.1	8519.2	8754.8	8827.4	8662.6	8369.5	7946.4	7722.8
7.5°	6133.3	6527.5	7218.1	7905.7	8494.9	8887.8	8916.5	8590.2	8013.0	7319.4	6956.7
10°	5506.1	5951.9	6751.2	7520.4	8144.4	8546.4	8467.7	8009.9	7313.4	6524.5	6115.1
12.5°	5142.0	5587.7	6402.1	7183.4	7771.2	7923.8	7763.6	7378.3	6718.1	5927.8	5515.2
15°	5064.9	5524.2	6278.2	6937.1	7301.2	7203.0	7044.4	6849.5	6379.5	5732.9	5333.9
17.5°	5297.7	5811.4	6443.0	6804.1	6789.1	6553.3	6420.3	6458.1	6378.0	5944.4	5527.3
20°	5776.6	6384.0	6861.5	6767.8	6381.1	6050.1	5973.1	6269.2	6639.4	6474.7	6016.9
22.5°	6406.8	7098.8	7432.7	6872.1	6168.0	5811.4	5796.3	6258.6	7115.4	7277.1	6719.6
25°	7118.5	7925.3	8008.3	7056.5	6145.3	5790.2	5776.6	6421.8	7688.0	8071.8	7506.7
27.5°	7988.7	8759.5	8488.9	7302.8	6245.0	5852.2	5861.2	6699.9	8284.9	8857.5	8393.8
30°	8644.5	9351.7	8785.1	7544.5	6405.3	5960.9	5983.6	7000.6	8606.8	9403.1	9102.4
32.5°	9258.0	9857.9	9069.2	7783.3	6639.4	6122.7	6201.2	7375.3	8993.5	9871.5	9771.7
35°	9936.5	10424.5	9385.0	8038.6	6974.9	6406.8	6520.0	7731.8	9377.4	10339.9	10435.2
37.5°	10705.6	11072.8	9727.9	8399.8	7458.4	6932.5	6996.0	8096.0	9644.9	10858.1	11146.7
40°	11506.4	11799.6	10102.6	8881.8	8161.0	7642.6	7672.9	8562.9	9854.8	11394.5	11837.3
42.5°	12193.9	12422.1	10478.9	9480.1	8967.9	8366.5	8392.2	9066.2	10055.7	11857.0	12390.3
45°	12743.9	12911.6	10834.0	10110.2	9829.2	9270.1	9264.1	9578.3	10324.8	12246.8	12814.9
47.5°	13256.2	13345.4	11229.8	10723.7	10722.1	10433.6	10217.5	10182.8	10683.0	12574.6	13185.2
50°	13842.5	13875.7	11752.7	11343.2	11813.1	11767.8	11368.9	10950.4	11146.7	12943.4	13573.5
52.5°	14658.4	14659.9	12400.9	11947.6	13017.4	13161.0	12697.1	11819.2	11832.8	13661.1	14244.3
55°	15617.8	15684.3	13245.6	12671.5	14277.6	14522.4	14085.7	12851.2	12818.0	14818.5	15332.4
57.5°	16359.8	16711.9	14229.3	13576.5	15454.7	15773.5	15421.5	13921.0	14028.4	16012.3	16229.8
60°	16568.3	17391.8	15209.9	14591.9	16450.5	16929.5	16571.4	15076.9	15212.9	16787.4	16488.2
62.5°	16319.0	17611.0	16208.7	15501.4	17041.2	17500.6	17243.8	15834.0	16178.4	16687.7	16051.5
65°	15580.2	17293.5	17076.0	15888.4	16701.3	16864.5	16796.5	15873.3	16702.8	15744.8	14844.3
67.5°	13854.5	16069.7	16689.3	15061.8	15113.2	14937.9	14848.8	14794.4	16113.5	14223.3	12940.3
70°	11267.7	13807.6	14844.3	12604.9	12224.2	12054.9	11761.8	12487.0	14483.1	12118.4	10649.6
72.5°	8679.3	10563.5	12175.8	9555.7	8763.9	8821.4	8488.9	9548.1	11997.5	9368.3	8130.7
75°	6163.5	7203.0	9718.8	6866.1	5817.4	5814.4	5788.7	6872.1	9466.6	6724.1	5948.8
77.5°	4442.4	5185.8	7614.1	4595.0	4128.2	4181.1	4096.3	4670.5	7379.8	4836.8	4407.6
80°	3543.4	3839.5	4921.4	3064.4	3073.5	3197.4	3179.2	3194.3	4854.9	3502.6	3295.5
82.5°	2546.1	2914.7	3762.5	2348.1	2032.3	2163.8	2189.4	2369.3	3425.5	2476.6	2172.8
85°	1305.5	1777.0	3461.8	2033.9	1270.8	1053.1	1211.8	1869.1	2975.2	1483.8	1059.3
87.5°	253.8	492.5	2537.0	1130.3	571.2	288.6	476.0	791.8	1730.1	269.0	131.4
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: P196696

CATALOG NUMBER: NAV-AF-04-D-UNV-SLL-7030

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8
2.5°	7683.5	7490.2	7308.8	7121.4	6976.4	6799.5	6625.8	6474.7	6328.2	6231.5	6261.6
5°	7496.2	7024.8	6601.7	6208.7	5979.1	5702.6	5456.3	5249.3	5089.1	4986.4	5048.4
7.5°	6642.4	6004.8	5447.2	4928.9	4602.5	4244.5	3957.4	3754.9	3631.0	3561.6	3662.7
10°	5769.1	5052.8	4427.3	3887.9	3566.0	3262.3	3002.5	2787.9	2621.5	2543.0	2583.9
12.5°	5143.5	4347.2	3691.5	3328.8	3052.2	2780.3	2511.4	2260.5	2048.9	1952.3	1932.6
15°	4909.3	3968.0	3298.5	2893.6	2618.6	2322.5	2032.3	1763.3	1562.4	1479.3	1461.2
17.5°	5012.0	3886.4	3065.9	2586.8	2187.9	1828.4	1502.0	1248.1	1100.0	1053.1	1057.7
20°	5373.2	3916.5	2878.6	2271.1	1778.5	1352.4	1026.0	850.7	787.2	776.7	788.8
22.5°	5868.8	4040.5	2742.5	1999.1	1417.3	983.7	763.0	679.9	663.3	661.8	673.9
25°	6523.1	4282.2	2651.8	1757.3	1119.7	779.7	664.9	618.0	604.4	607.5	619.5
27.5°	7293.7	4589.0	2592.9	1548.7	920.2	695.1	621.0	580.2	566.6	569.7	578.7
30°	7997.8	4857.8	2505.4	1391.6	826.5	664.9	596.9	556.0	537.9	537.9	544.0
32.5°	8627.8	5090.6	2402.5	1273.8	740.4	596.9	541.0	509.2	495.6	500.2	503.1
35°	9186.9	5213.0	2322.5	1204.2	670.9	550.0	494.1	460.8	442.7	445.8	450.2
37.5°	9736.9	5259.8	2269.6	1166.5	621.0	521.2	470.0	442.7	423.1	420.1	418.6
40°	10259.8	5249.3	2219.7	1156.0	587.9	500.2	454.8	430.6	411.1	406.5	405.0
42.5°	10711.6	5214.5	2172.8	1127.2	565.1	485.0	442.7	421.5	402.0	395.8	392.9
45°	11124.1	5193.4	2121.5	1074.3	577.2	479.0	436.7	414.0	395.8	388.3	385.3
47.5°	11581.9	5268.9	2064.0	1016.8	574.1	480.5	436.7	411.1	392.9	385.3	382.3
50°	12127.4	5524.2	1993.0	938.3	547.0	513.7	435.2	406.5	389.8	385.3	379.2
52.5°	12898.0	5938.3	1894.8	837.2	525.9	548.5	433.6	398.9	385.3	377.7	370.2
55°	13954.3	6352.4	1768.0	729.9	492.5	524.3	436.7	389.8	374.8	367.2	358.2
57.5°	14820.0	6666.6	1607.7	640.7	462.3	495.6	432.1	379.2	362.6	355.1	347.6
60°	14764.2	6696.8	1455.2	583.2	444.2	445.8	442.7	371.7	352.1	346.1	340.1
62.5°	13850.0	6323.6	1313.1	554.5	430.6	406.5	451.8	362.6	341.6	335.4	330.9
65°	12328.4	5454.8	1237.5	554.5	418.6	385.3	394.4	350.5	330.9	324.8	321.9
67.5°	10398.9	4383.5	1166.5	566.6	402.0	370.2	358.2	338.4	320.3	314.3	311.3
70°	8334.8	3449.7	1116.6	560.6	386.8	353.6	338.4	321.9	303.7	302.2	299.2
72.5°	6538.2	2771.3	1094.0	560.6	364.2	333.9	318.8	306.7	288.6	287.2	282.6
75°	5238.7	2080.7	1000.3	550.0	341.6	308.2	294.7	284.1	265.9	267.4	264.4
77.5°	4057.2	1471.7	835.7	495.6	312.8	279.4	269.0	261.4	240.3	241.8	241.8
80°	3173.1	957.9	648.2	411.1	279.4	246.3	238.7	232.7	210.0	213.0	213.0
82.5°	2174.4	569.7	470.0	330.9	240.3	210.0	208.4	199.5	175.3	176.8	179.8
85°	1187.6	374.8	312.8	244.7	188.9	170.8	167.7	163.3	140.5	140.5	142.0
87.5°	219.1	200.9	184.3	161.7	127.0	122.4	117.9	122.4	105.8	102.7	102.7
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: P196696

CATALOG NUMBER: NAV-AF-04-D-UNV-SLL-7030

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8
2.5°	6190.6	6086.4	6013.8	5950.4	5797.8	5808.3	5829.5	5859.7	5764.5	5814.4	5876.4
5°	4986.4	4900.3	4835.3	4733.9	4520.9	4445.4	4397.0	4376.0	4233.9	4264.1	4330.6
7.5°	3676.3	3674.8	3652.1	3538.8	3281.9	3126.4	3023.5	2991.8	2904.2	2937.4	3038.6
10°	2588.4	2615.5	2605.0	2503.7	2274.1	2162.2	2139.7	2203.1	2204.6	2269.6	2443.4
12.5°	1870.6	1855.5	1841.9	1758.8	1586.6	1568.4	1619.8	1707.5	1728.6	1798.1	1979.4
15°	1396.3	1360.0	1352.4	1287.4	1174.1	1190.7	1228.5	1273.8	1275.3	1323.6	1473.3
17.5°	1047.1	1047.1	1059.3	1016.8	935.4	927.7	908.2	896.0	877.9	897.6	979.2
20°	812.9	850.7	880.9	856.7	782.8	746.5	708.6	684.5	670.9	672.4	696.5
22.5°	696.5	726.8	766.1	754.0	692.0	645.1	621.0	604.4	593.9	593.9	607.5
25°	637.6	657.3	693.6	687.5	634.6	596.9	577.2	560.6	548.5	547.0	560.6
27.5°	590.8	602.9	627.0	624.1	569.7	545.5	533.4	522.8	515.2	513.7	527.4
30°	548.5	554.5	566.6	562.1	521.2	497.1	492.5	488.1	483.5	485.0	504.7
32.5°	510.7	515.2	522.8	516.8	477.5	456.3	448.7	442.7	438.2	442.7	465.5
35°	468.4	482.1	491.1	488.1	445.8	420.1	403.5	388.3	382.3	386.8	412.5
37.5°	432.1	454.8	466.9	464.0	420.1	389.8	368.6	365.7	365.7	371.7	397.3
40°	418.6	435.2	445.8	441.2	397.3	367.2	355.1	350.5	352.1	358.2	385.3
42.5°	406.5	421.5	424.6	415.5	371.7	352.1	344.5	338.4	341.6	349.1	376.3
45°	395.8	408.0	406.5	392.9	350.5	336.9	336.9	332.4	333.9	340.1	368.6
47.5°	388.3	394.4	391.3	377.7	335.4	324.8	329.4	329.4	332.4	336.9	365.7
50°	376.3	380.8	377.7	365.7	323.4	314.3	318.8	324.8	327.9	332.4	358.2
52.5°	364.2	367.2	365.7	353.6	311.3	305.3	305.3	311.3	317.3	323.4	346.1
55°	352.1	355.1	356.6	347.6	302.2	296.2	294.7	294.7	300.7	309.8	333.9
57.5°	343.0	343.0	346.1	340.1	293.2	285.6	278.1	279.4	287.2	294.7	318.8
60°	332.4	333.9	338.4	332.4	281.1	269.0	262.9	270.5	273.4	281.1	306.7
62.5°	323.4	323.4	326.3	321.9	270.5	258.4	253.8	261.4	261.4	269.0	294.7
65°	315.8	314.3	314.3	312.8	259.9	247.8	244.7	247.8	249.3	256.9	282.6
67.5°	309.8	302.2	302.2	305.3	249.3	237.2	235.7	235.7	237.2	246.3	269.0
70°	296.2	290.1	288.6	299.2	238.7	223.7	223.7	220.6	223.7	228.2	252.4
72.5°	281.1	276.5	275.0	290.1	228.2	208.4	205.5	204.0	205.5	210.0	232.7
75°	261.4	258.4	261.4	284.1	217.5	191.9	187.4	185.8	185.8	187.4	211.5
77.5°	238.7	235.7	258.4	264.4	211.5	172.3	167.7	164.7	161.7	161.7	188.9
80°	211.5	210.0	249.3	223.7	202.4	151.1	143.5	139.0	136.0	134.5	161.7
82.5°	184.3	181.4	213.0	175.3	167.7	123.9	113.3	104.3	99.8	99.8	123.9
85°	151.1	149.5	167.7	128.5	116.4	90.6	75.5	68.0	62.0	62.0	80.1
87.5°	110.4	107.3	104.3	77.0	58.9	40.8	28.7	27.2	24.1	22.6	33.3
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: P196696

CATALOG NUMBER: NAV-AF-04-D-UNV-SLL-7030

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8	7104.8
2.5°	5968.5	6093.9	6331.1	6526.0	6786.0	6994.6	7231.8	7334.5
5°	4453.0	4650.9	5013.6	5323.3	5752.5	6149.8	6603.2	6851.0
7.5°	3194.3	3487.4	3762.5	4149.2	4685.7	5219.1	5805.4	6133.3
10°	2642.8	2911.8	3147.4	3422.4	3836.5	4436.4	5135.9	5506.1
12.5°	2189.4	2479.5	2728.9	3023.5	3371.0	3913.5	4711.4	5142.0
15°	1678.8	1994.5	2293.7	2648.8	3074.9	3694.5	4584.4	5064.9
17.5°	1149.9	1488.3	1857.1	2290.7	2804.4	3602.3	4705.4	5297.7
20°	781.2	1029.0	1429.4	1943.1	2561.1	3558.5	4971.3	5776.6
22.5°	642.2	754.0	1054.7	1616.8	2361.7	3606.7	5403.4	6406.8
25°	589.4	649.8	820.5	1329.6	2209.1	3735.2	5988.2	7118.5
27.5°	556.0	607.5	719.3	1124.2	2068.6	3910.5	6699.9	7988.7
30°	536.5	584.7	678.5	1018.4	1940.1	4061.6	7311.8	8644.5
32.5°	492.5	528.9	606.0	957.9	1848.0	4184.0	7851.3	9258.0
35°	439.7	483.5	547.0	918.7	1845.0	4241.5	8359.0	9936.5
37.5°	420.1	462.3	509.2	897.6	1863.1	4289.7	8980.0	10705.6
40°	408.0	445.8	483.5	894.5	1878.1	4327.5	9587.4	11506.4
42.5°	397.3	435.2	479.0	873.4	1872.1	4378.9	10125.4	12193.9
45°	394.4	432.1	489.6	841.7	1870.6	4459.0	10553.0	12743.9
47.5°	391.3	448.7	486.5	806.9	1864.6	4628.2	11034.9	13256.2
50°	388.3	479.0	465.5	758.5	1819.2	4916.8	11683.2	13842.5
52.5°	386.8	483.5	442.7	692.0	1737.7	5344.5	12632.1	14658.4
55°	380.8	459.3	403.5	604.4	1619.8	5805.4	13649.0	15617.8
57.5°	367.2	409.5	380.8	518.3	1450.5	6127.2	14400.1	16359.8
60°	400.4	352.1	365.7	474.5	1248.1	6184.6	14433.2	16568.3
62.5°	382.3	320.3	350.5	459.3	1106.0	5809.9	13772.9	16319.0
65°	305.3	303.7	336.9	474.5	1085.0	4971.3	12657.8	15580.2
67.5°	278.1	291.6	323.4	492.5	1098.5	3916.5	11016.8	13854.5
70°	259.9	276.5	305.3	509.2	1122.6	3085.5	8869.6	11267.7
72.5°	241.8	255.3	287.2	525.9	1106.0	2434.3	7098.8	8679.3
75°	219.1	231.2	261.4	482.1	948.9	1789.0	5640.6	6163.5
77.5°	193.4	204.0	229.7	380.8	713.3	1245.1	4224.8	4442.4
80°	166.2	170.8	190.4	278.1	465.5	744.9	3215.5	3543.4
82.5°	131.4	133.0	145.1	204.0	290.1	476.0	2230.3	2546.1
85°	84.5	87.6	93.6	143.5	194.9	305.3	1139.3	1305.5
87.5°	28.7	33.3	33.3	69.5	95.2	169.3	349.1	253.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)