

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: P196688

Luminaire Tested: **NAV-AF-02-D-UNV-SLL-7030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196688
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-02-D-UNV-SLL-7030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 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: 8406.4 lumens
Efficiency: N/A
Efficacy: 98.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

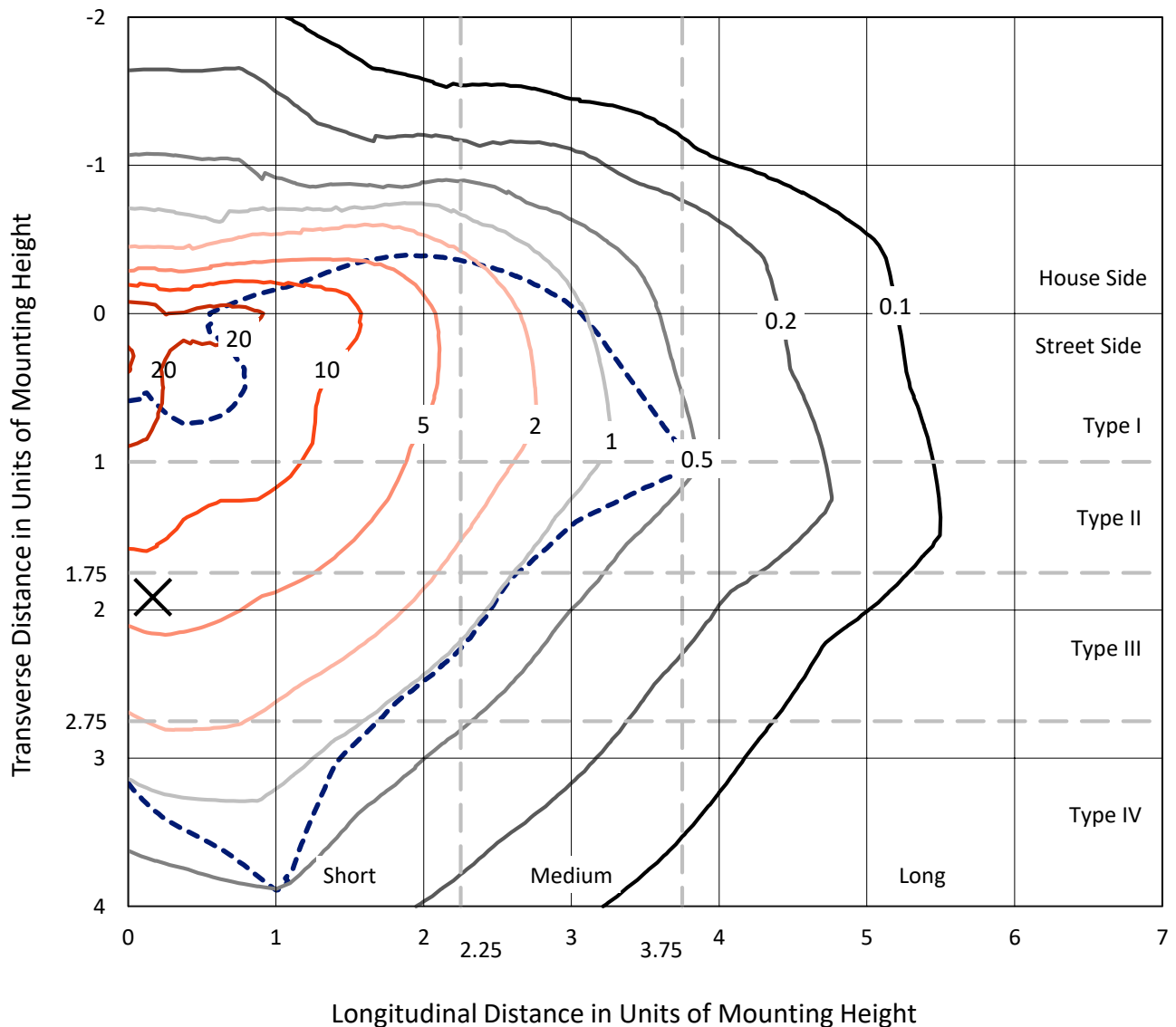
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196688
 CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-7030-800

Iso-Footcandle Lines of Horizontal Illumination

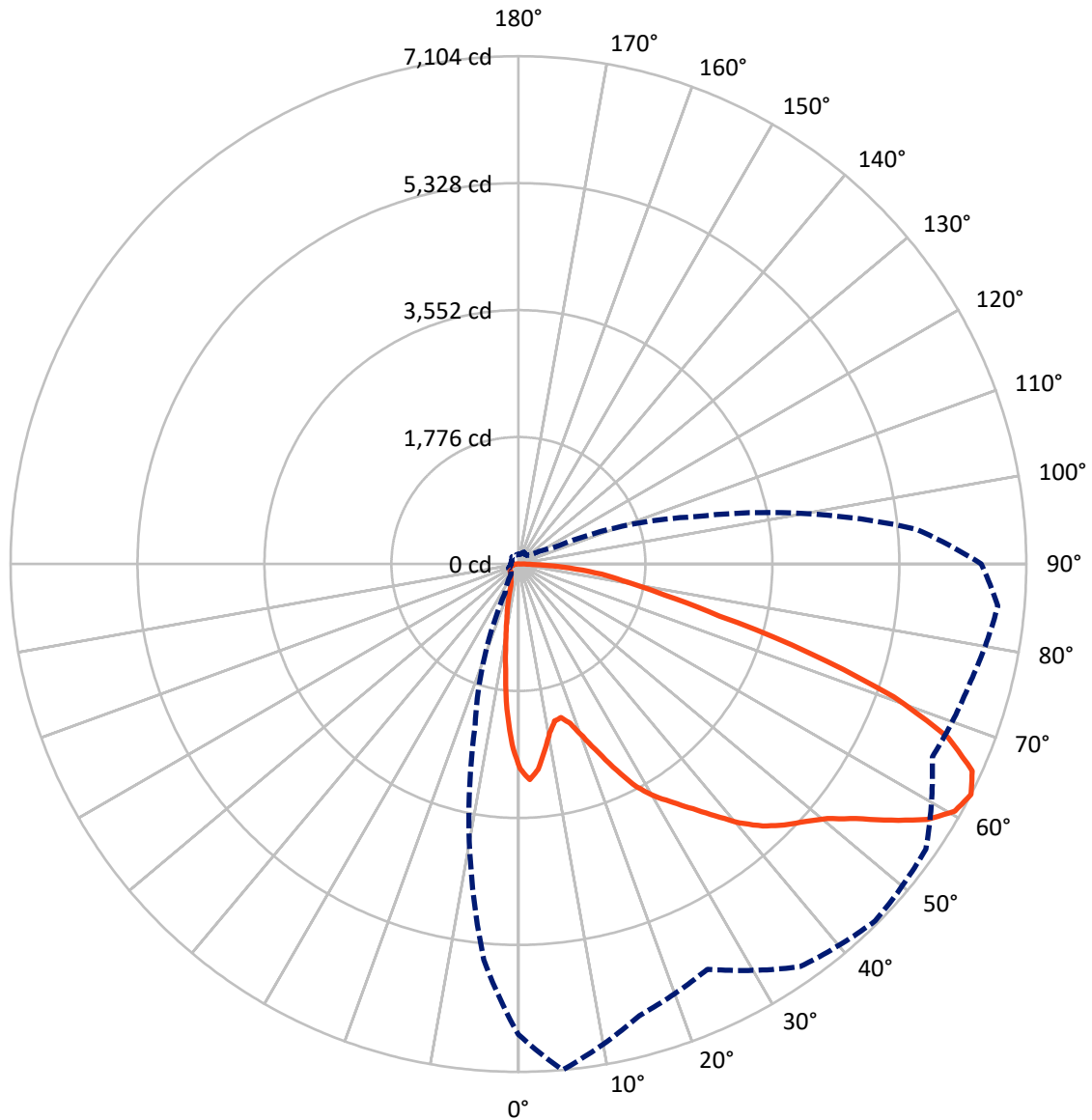
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 32.9 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P196688
CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-7030-800

Luminous Intensity Polar Plot



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

REPORT NUMBER: P196688

CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-7030-800

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1489.2	0.0	1489.2
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	6917.2	0.0	6917.2
	% Fixture	82.3	0.0	82.3
Total	Lumens	8406.4	0.0	8406.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	208.4	2.5
10°-20°	380.7	4.5
20°-30°	547.5	6.5
30°-40°	838.6	10.0
40°-50°	1226.0	14.6
50°-60°	1783.9	21.2
60°-70°	2066.9	24.6
70°-80°	1077.4	12.8
80°-90°	277.0	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°	8406.4	100.0
0°-180°	8406.4	100.0



REPORT NUMBER: P196688

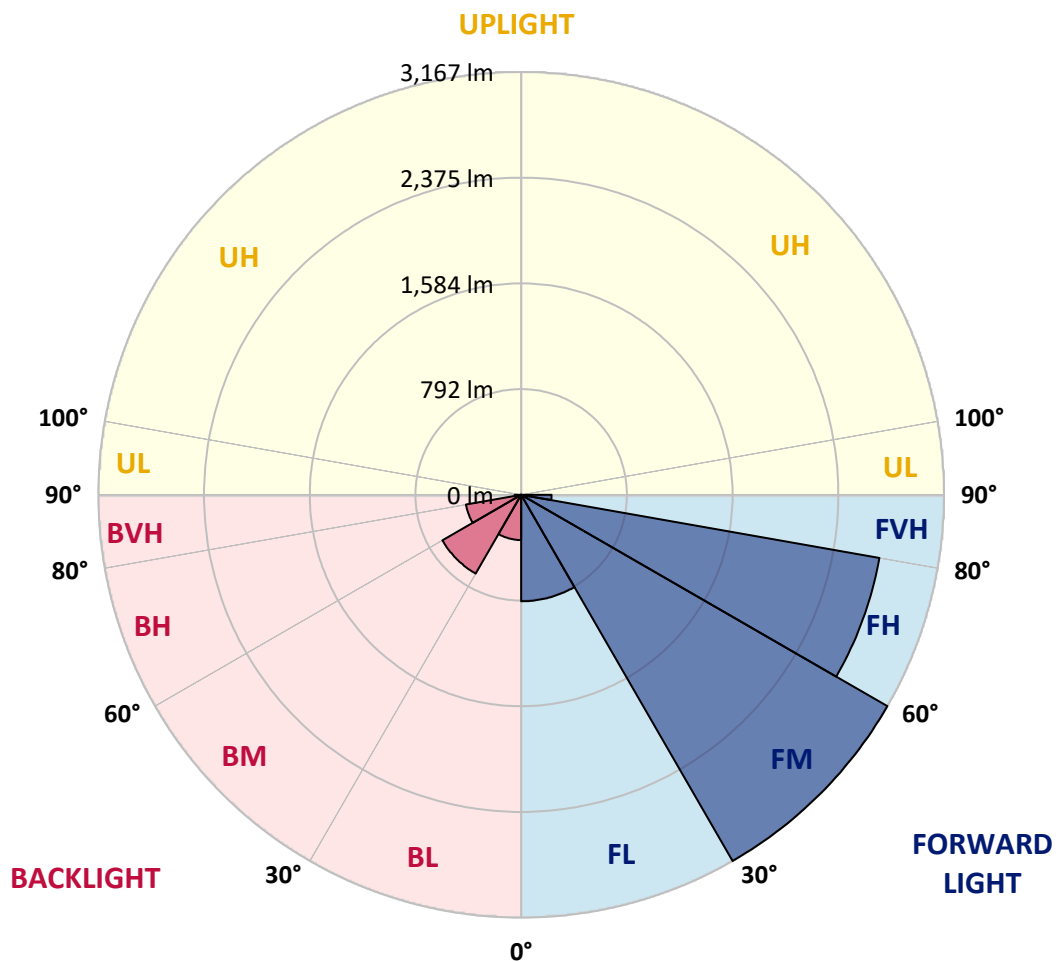
CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-7030-800

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	797.8	9.5			
FM	(30°-60°)	3167.1	37.7			
FH	(60°-80°)	2724.4	32.4			G2/5000
FVH	(80°-90°)	227.8	2.7			G3/500
BL	(0°-30°)	338.8	4.0	B1/500		
BM	(30°-60°)	681.4	8.1	B1/1000		
BH	(60°-80°)	419.9	5.0	B1/500		G1/500
BVH	(80°-90°)	49.1	0.6			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





REPORT NUMBER: P196688

CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-7030-800

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9
2.5°	2958.5	3021.3	3093.2	3187.1	3251.1	3276.6	3298.1	3262.1	3227.3	3162.2	3139.0
5°	2763.5	2884.2	3082.3	3270.6	3436.4	3531.5	3560.8	3494.3	3376.1	3205.4	3115.2
7.5°	2473.9	2633.0	2911.6	3189.0	3426.7	3585.2	3596.7	3465.0	3232.2	2952.5	2806.3
10°	2221.0	2400.9	2723.3	3033.5	3285.2	3447.3	3415.7	3231.1	2950.0	2631.8	2466.6
12.5°	2074.2	2254.0	2582.5	2897.5	3134.7	3196.3	3131.7	2976.2	2709.8	2391.1	2224.7
15°	2043.0	2228.4	2532.5	2798.2	2945.2	2905.5	2841.5	2762.9	2573.4	2312.5	2151.6
17.5°	2136.9	2344.1	2599.0	2744.6	2738.5	2643.4	2589.8	2605.1	2572.7	2397.8	2229.6
20°	2330.2	2575.1	2767.7	2730.0	2573.9	2440.6	2409.3	2528.8	2678.2	2611.8	2427.0
22.5°	2584.3	2863.4	2998.2	2772.0	2488.1	2344.1	2338.0	2524.6	2870.1	2935.4	2710.5
25°	2871.5	3196.9	3230.4	2846.4	2478.9	2335.6	2330.2	2590.4	3101.3	3256.0	3028.0
27.5°	3222.5	3533.3	3424.1	2945.7	2519.1	2360.6	2364.3	2702.5	3341.9	3573.0	3385.8
30°	3487.0	3772.2	3543.8	3043.3	2583.8	2404.5	2413.6	2823.8	3471.7	3792.9	3671.6
32.5°	3734.5	3976.5	3658.3	3139.6	2678.2	2469.7	2501.4	2975.0	3627.9	3982.0	3941.7
35°	4008.1	4205.0	3785.7	3242.6	2813.5	2584.3	2630.0	3118.8	3782.7	4170.9	4209.3
37.5°	4318.4	4466.5	3924.0	3388.2	3008.6	2796.4	2822.0	3265.8	3890.5	4379.9	4496.3
40°	4641.5	4759.7	4075.2	3582.7	3292.0	3082.9	3095.1	3454.1	3975.2	4596.3	4774.8
42.5°	4918.8	5010.7	4226.9	3824.1	3617.5	3374.8	3385.2	3657.0	4056.2	4782.9	4997.9
45°	5140.6	5208.3	4370.2	4078.2	3964.9	3739.3	3736.8	3863.6	4164.8	4940.0	5169.3
47.5°	5347.2	5383.2	4529.9	4325.7	4325.0	4208.6	4121.5	4107.5	4309.1	5072.4	5318.5
50°	5583.7	5597.2	4740.8	4575.6	4765.2	4746.9	4585.9	4417.2	4496.3	5221.1	5475.2
52.5°	5912.9	5913.4	5002.2	4819.4	5250.9	5308.8	5121.7	4767.5	4773.1	5510.6	5745.8
55°	6299.9	6326.6	5343.0	5111.3	5759.3	5858.1	5681.8	5184.0	5170.4	5977.5	6184.7
57.5°	6599.2	6741.2	5739.7	5476.4	6234.0	6362.7	6220.6	5615.4	5658.6	6459.0	6546.7
60°	6683.3	7015.4	6135.4	5886.1	6635.8	6828.9	6684.5	6081.7	6136.5	6771.7	6650.9
62.5°	6582.7	7103.8	6538.2	6252.9	6874.0	7059.4	6955.8	6387.1	6526.0	6731.5	6474.8
65°	6284.7	6975.8	6888.0	6409.0	6736.9	6802.7	6775.2	6402.9	6737.5	6351.1	5987.9
67.5°	5588.6	6482.2	6732.0	6075.6	6096.3	6025.6	5989.6	5967.7	6499.9	5737.3	5219.9
70°	4545.0	5569.7	5987.9	5084.5	4931.0	4862.7	4744.4	5037.0	5842.1	4888.3	4295.8
72.5°	3501.0	4261.1	4911.4	3854.5	3535.2	3558.3	3424.1	3851.5	4839.5	3779.0	3279.8
75°	2486.2	2905.5	3920.3	2769.6	2346.6	2345.4	2335.0	2772.0	3818.6	2712.4	2399.7
77.5°	1792.0	2091.9	3071.3	1853.5	1665.2	1686.5	1652.3	1883.9	2976.9	1951.1	1777.9
80°	1429.3	1548.7	1985.1	1236.0	1239.8	1289.7	1282.3	1288.5	1958.4	1412.8	1329.3
82.5°	1027.0	1175.7	1517.7	947.2	819.8	872.8	883.2	955.7	1381.8	998.9	876.5
85°	526.6	716.7	1396.4	820.4	512.7	424.8	488.8	754.0	1200.1	598.5	427.3
87.5°	102.3	198.8	1023.3	455.9	230.4	116.5	192.0	319.4	697.8	108.5	53.0
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: P196688

CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-7030-800

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9
2.5°	3099.3	3021.3	2948.2	2872.7	2814.1	2742.9	2672.7	2611.8	2552.7	2513.6	2525.8
5°	3023.7	2833.6	2662.9	2504.4	2411.8	2300.2	2200.9	2117.5	2052.9	2011.4	2036.4
7.5°	2679.4	2422.2	2197.3	1988.2	1856.6	1712.1	1596.3	1514.7	1464.6	1436.6	1477.4
10°	2327.1	2038.2	1785.9	1568.3	1438.4	1315.9	1211.1	1124.5	1057.5	1025.8	1042.3
12.5°	2074.8	1753.6	1488.9	1342.8	1231.3	1121.5	1013.1	911.9	826.5	787.4	779.6
15°	1980.4	1600.5	1330.6	1167.2	1056.3	936.8	819.8	711.3	630.2	596.7	589.4
17.5°	2021.8	1567.7	1236.7	1043.4	882.6	737.5	605.9	503.4	443.7	424.8	426.6
20°	2167.3	1579.9	1161.1	916.1	717.4	545.5	413.9	343.2	317.5	313.2	318.2
22.5°	2367.3	1629.8	1106.2	806.4	571.8	396.8	307.8	274.2	267.5	266.9	271.8
25°	2631.3	1727.4	1069.6	708.9	451.7	314.5	268.2	249.3	243.7	245.1	249.8
27.5°	2942.2	1851.1	1045.9	624.8	371.2	280.4	250.5	234.1	228.6	229.8	233.5
30°	3226.1	1959.6	1010.5	561.4	333.3	268.2	240.8	224.3	217.0	217.0	219.4
32.5°	3480.4	2053.4	969.1	513.8	298.6	240.8	218.2	205.4	200.0	201.8	203.0
35°	3705.8	2102.8	936.8	485.7	270.6	221.9	199.3	185.8	178.6	179.8	181.6
37.5°	3927.7	2121.7	915.5	470.6	250.5	210.4	189.6	178.6	170.7	169.5	168.8
40°	4138.5	2117.5	895.4	466.3	237.1	201.8	183.4	173.7	165.7	164.0	163.4
42.5°	4320.7	2103.5	876.5	454.7	228.0	195.7	178.6	170.0	162.1	159.7	158.4
45°	4487.2	2094.9	855.7	433.3	232.8	193.2	176.1	167.0	159.7	156.7	155.4
47.5°	4671.9	2125.3	832.5	410.2	231.6	193.8	176.1	165.7	158.4	155.4	154.2
50°	4892.0	2228.4	803.9	378.5	220.6	207.3	175.6	164.0	157.3	155.4	153.0
52.5°	5202.8	2395.4	764.4	337.7	212.1	221.2	175.0	160.9	155.4	152.4	149.3
55°	5628.8	2562.3	713.1	294.4	198.8	211.5	176.1	157.3	151.1	148.1	144.4
57.5°	5978.0	2689.2	648.6	258.4	186.5	200.0	174.3	153.0	146.3	143.2	140.2
60°	5955.5	2701.3	586.9	235.2	179.1	179.8	178.6	149.9	142.0	139.6	137.1
62.5°	5586.8	2550.7	529.7	223.7	173.7	164.0	182.3	146.3	137.7	135.3	133.6
65°	4972.9	2200.4	499.2	223.7	168.8	155.4	159.1	141.4	133.6	131.0	129.8
67.5°	4194.7	1768.2	470.6	228.6	162.1	149.3	144.4	136.6	129.3	126.7	125.5
70°	3362.0	1391.5	450.4	226.1	156.0	142.6	136.6	129.8	122.5	122.0	120.7
72.5°	2637.3	1117.8	441.3	226.1	146.9	134.7	128.6	123.7	116.5	115.9	113.9
75°	2113.2	839.3	403.5	221.9	137.7	124.3	118.9	114.6	107.3	107.8	106.6
77.5°	1636.4	593.8	337.1	200.0	126.2	112.7	108.5	105.4	96.9	97.6	97.6
80°	1280.0	386.4	261.4	165.7	112.7	99.3	96.2	93.9	84.6	86.0	86.0
82.5°	877.2	229.8	189.6	133.6	96.9	84.6	84.1	80.5	70.7	71.3	72.5
85°	479.1	151.1	126.2	98.8	76.2	68.9	67.6	65.8	56.7	56.7	57.3
87.5°	88.4	81.1	74.4	65.2	51.3	49.3	47.5	49.3	42.6	41.4	41.4
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: P196688

CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-7030-800

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9
2.5°	2497.1	2455.0	2425.9	2400.2	2338.7	2342.9	2351.5	2363.8	2325.2	2345.4	2370.4
5°	2011.4	1976.6	1950.4	1909.7	1823.6	1793.2	1773.8	1765.2	1707.8	1720.1	1746.8
7.5°	1482.9	1482.3	1473.2	1427.5	1323.9	1261.1	1219.7	1206.9	1171.5	1184.9	1225.7
10°	1044.1	1055.0	1050.7	1010.0	917.3	872.2	863.0	888.8	889.3	915.5	985.6
12.5°	754.6	748.4	743.0	709.4	639.9	632.7	653.4	688.8	697.3	725.3	798.4
15°	563.2	548.6	545.5	519.3	473.6	480.3	495.5	513.8	514.4	533.9	594.3
17.5°	422.4	422.4	427.3	410.2	377.3	374.2	366.3	361.4	354.1	362.0	395.0
20°	327.9	343.2	355.3	345.6	315.8	301.1	285.8	276.1	270.6	271.2	281.1
22.5°	281.1	293.2	308.9	304.2	279.1	260.2	250.5	243.7	239.5	239.5	245.1
25°	257.2	265.2	279.8	277.3	256.0	240.8	232.8	226.1	221.2	220.6	226.1
27.5°	238.3	243.2	252.9	251.8	229.8	220.0	215.1	210.9	207.8	207.3	212.7
30°	221.2	223.7	228.6	226.7	210.4	200.5	198.8	196.8	195.0	195.7	203.5
32.5°	206.1	207.8	210.9	208.4	192.7	184.1	181.1	178.6	176.8	178.6	187.7
35°	188.9	194.5	198.1	196.8	179.8	169.5	162.7	156.7	154.2	156.0	166.4
37.5°	174.3	183.4	188.4	187.2	169.5	157.3	148.7	147.5	147.5	149.9	160.3
40°	168.8	175.6	179.8	178.0	160.3	148.1	143.2	141.4	142.0	144.4	155.4
42.5°	164.0	170.0	171.3	167.6	149.9	142.0	139.0	136.6	137.7	140.8	151.8
45°	159.7	164.6	164.0	158.4	141.4	135.9	135.9	134.1	134.7	137.1	148.7
47.5°	156.7	159.1	157.9	152.4	135.3	131.0	132.9	132.9	134.1	135.9	147.5
50°	151.8	153.6	152.4	147.5	130.4	126.7	128.6	131.0	132.3	134.1	144.4
52.5°	146.9	148.1	147.5	142.6	125.5	123.1	123.1	125.5	128.0	130.4	139.6
55°	142.0	143.2	143.9	140.2	122.0	119.4	118.9	118.9	121.3	125.0	134.7
57.5°	138.3	138.3	139.6	137.1	118.2	115.2	112.1	112.7	115.9	118.9	128.6
60°	134.1	134.7	136.6	134.1	113.4	108.5	106.1	109.2	110.4	113.4	123.7
62.5°	130.4	130.4	131.6	129.8	109.2	104.3	102.3	105.4	105.4	108.5	118.9
65°	127.4	126.7	126.7	126.2	104.9	100.0	98.8	100.0	100.5	103.6	113.9
67.5°	125.0	122.0	122.0	123.1	100.5	95.7	95.0	95.0	95.7	99.3	108.5
70°	119.4	117.0	116.5	120.7	96.2	90.2	90.2	88.9	90.2	92.0	101.8
72.5°	113.4	111.6	110.9	117.0	92.0	84.1	82.9	82.3	82.9	84.6	93.9
75°	105.4	104.3	105.4	114.6	87.7	77.3	75.6	75.0	75.0	75.6	85.3
77.5°	96.2	95.0	104.3	106.6	85.3	69.5	67.6	66.4	65.2	65.2	76.2
80°	85.3	84.6	100.5	90.2	81.7	60.9	57.9	56.0	54.8	54.2	65.2
82.5°	74.4	73.1	86.0	70.7	67.6	49.9	45.7	42.1	40.2	40.2	49.9
85°	60.9	60.3	67.6	51.8	47.0	36.6	30.5	27.5	25.0	25.0	32.3
87.5°	44.5	43.2	42.1	31.1	23.8	16.5	11.6	10.9	9.8	9.2	13.4
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: P196688

CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-7030-800

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9	2865.9
2.5°	2407.5	2458.2	2553.8	2632.5	2737.3	2821.4	2917.1	2958.5
5°	1796.2	1876.1	2022.4	2147.3	2320.4	2480.7	2663.5	2763.5
7.5°	1288.5	1406.7	1517.7	1673.8	1890.0	2105.2	2341.8	2473.9
10°	1066.1	1174.5	1269.6	1380.5	1547.5	1789.5	2071.8	2221.0
12.5°	883.2	1000.2	1100.8	1219.7	1359.8	1578.6	1900.4	2074.2
15°	677.2	804.5	925.2	1068.4	1240.3	1490.3	1849.2	2043.0
17.5°	463.8	600.4	749.1	924.0	1131.3	1453.0	1898.1	2136.9
20°	315.1	415.0	576.6	783.8	1033.1	1435.4	2005.2	2330.2
22.5°	259.1	304.2	425.4	652.2	952.6	1454.9	2179.6	2584.3
25°	237.7	262.1	330.9	536.4	891.1	1506.6	2415.5	2871.5
27.5°	224.3	245.1	290.1	453.4	834.4	1577.3	2702.5	3222.5
30°	216.4	235.9	273.7	410.9	782.7	1638.4	2949.5	3487.0
32.5°	198.8	213.3	244.4	386.4	745.4	1687.7	3167.0	3734.5
35°	177.3	195.0	220.6	370.6	744.2	1710.9	3371.8	4008.1
37.5°	169.5	186.5	205.4	362.0	751.4	1730.4	3622.3	4318.4
40°	164.6	179.8	195.0	360.9	757.6	1745.6	3867.3	4641.5
42.5°	160.3	175.6	193.2	352.3	755.2	1766.4	4084.3	4918.8
45°	159.1	174.3	197.4	339.5	754.6	1798.6	4256.8	5140.6
47.5°	157.9	181.1	196.2	325.5	752.1	1866.9	4451.2	5347.2
50°	156.7	193.2	187.7	305.9	733.9	1983.4	4712.7	5583.7
52.5°	156.0	195.0	178.6	279.1	700.9	2155.8	5095.6	5912.9
55°	153.6	185.3	162.7	243.7	653.4	2341.8	5505.7	6299.9
57.5°	148.1	165.2	153.6	209.0	585.1	2471.6	5808.7	6599.2
60°	161.4	142.0	147.5	191.4	503.4	2494.7	5822.0	6683.3
62.5°	154.2	129.3	141.4	185.3	446.3	2343.6	5555.8	6582.7
65°	123.1	122.5	135.9	191.4	437.6	2005.2	5105.9	6284.7
67.5°	112.1	117.7	130.4	198.8	443.1	1579.9	4443.9	5588.6
70°	104.9	111.6	123.1	205.4	452.9	1244.6	3577.8	4545.0
72.5°	97.6	103.0	115.9	212.1	446.3	981.9	2863.4	3501.0
75°	88.4	93.3	105.4	194.5	382.7	721.6	2275.4	2486.2
77.5°	78.0	82.3	92.7	153.6	287.7	502.3	1704.2	1792.0
80°	67.0	68.9	76.8	112.1	187.7	300.5	1297.0	1429.3
82.5°	53.0	53.6	58.6	82.3	117.0	192.0	899.6	1027.0
85°	34.1	35.4	37.8	57.9	78.6	123.1	459.6	526.6
87.5°	11.6	13.4	13.4	28.1	38.4	68.3	140.8	102.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)