

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: P197180

Luminaire Tested: **NAV-AF-02-D-UNV-SLL-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197180
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-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 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: 9630 lumens
Efficiency: N/A
Efficacy: 74.7 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

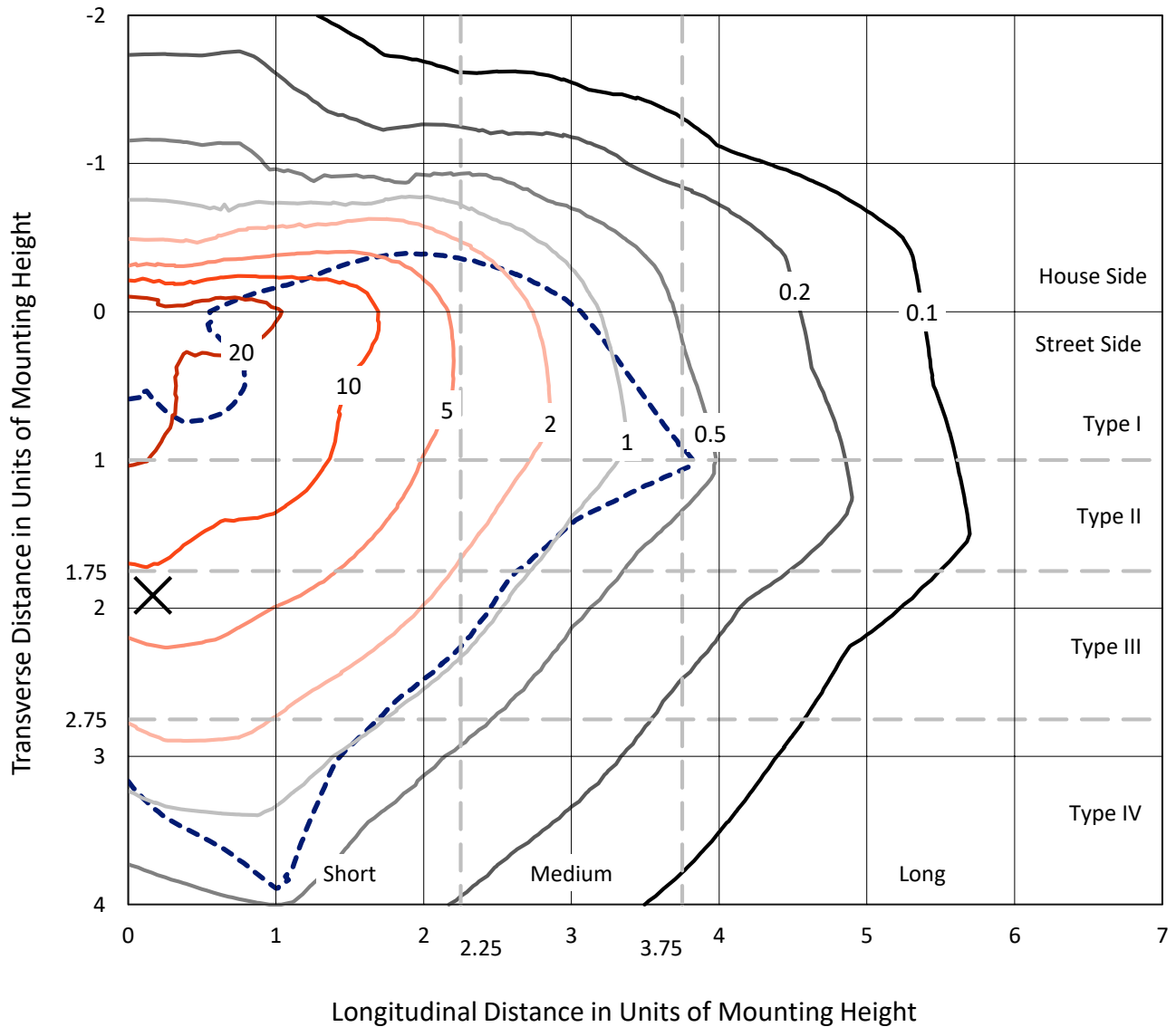
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P197180
 CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-8030-1200

Iso-Footcandle Lines of Horizontal Illumination

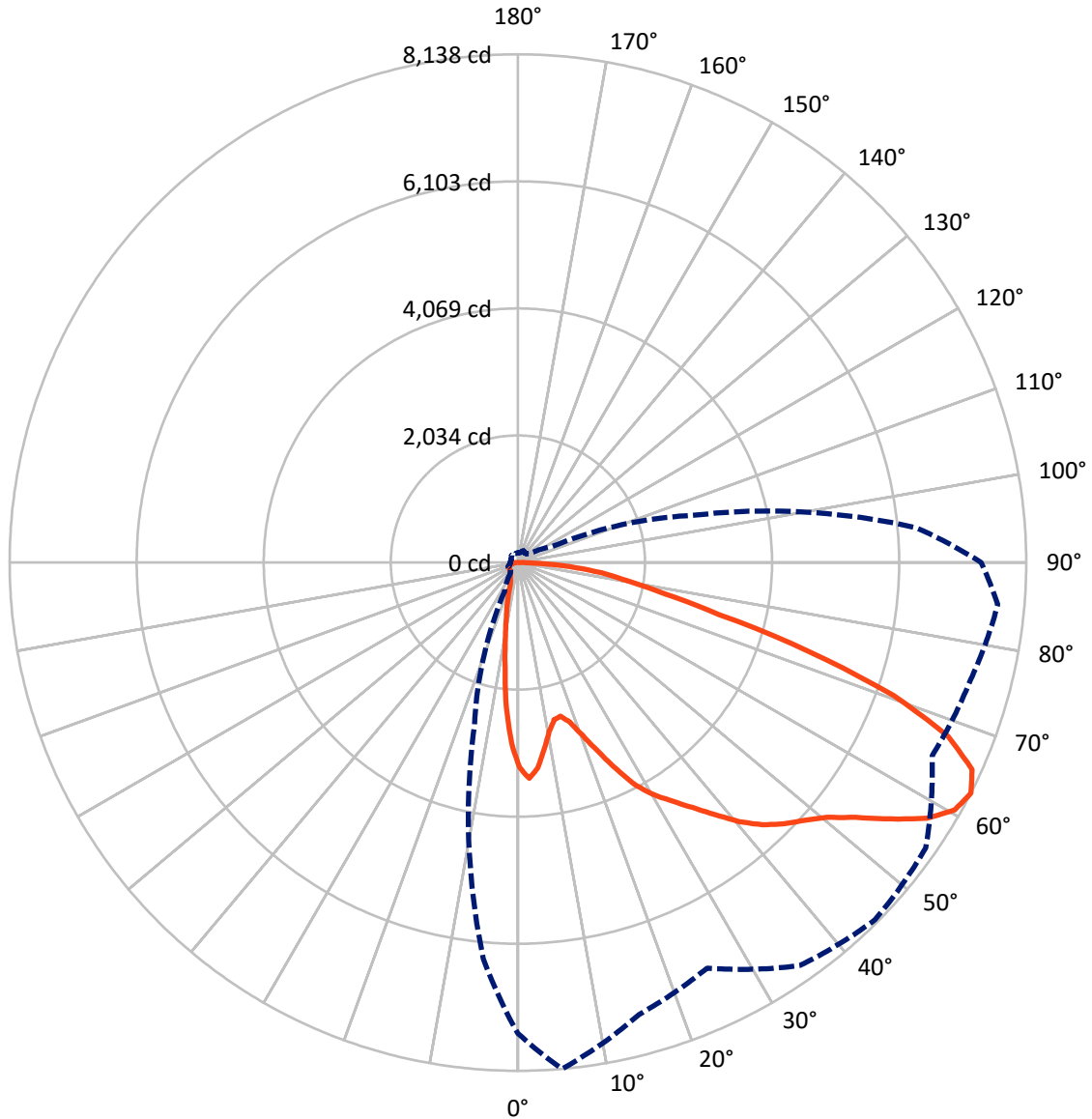
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 37.7 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P197180
CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-8030-1200

Luminous Intensity Polar Plot



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

REPORT NUMBER: P197180

CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-8030-1200

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1706.0	0.0	1706.0
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	7924.0	0.0	7924.0
	% Fixture	82.3	0.0	82.3
Total	Lumens	9630.0	0.0	9630.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	238.8	2.5
10°-20°	436.1	4.5
20°-30°	627.2	6.5
30°-40°	960.6	10.0
40°-50°	1404.5	14.6
50°-60°	2043.6	21.2
60°-70°	2367.7	24.6
70°-80°	1234.3	12.8
80°-90°	317.3	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°	9630.0	100.0
0°-180°	9630.0	100.0



REPORT NUMBER: P197180

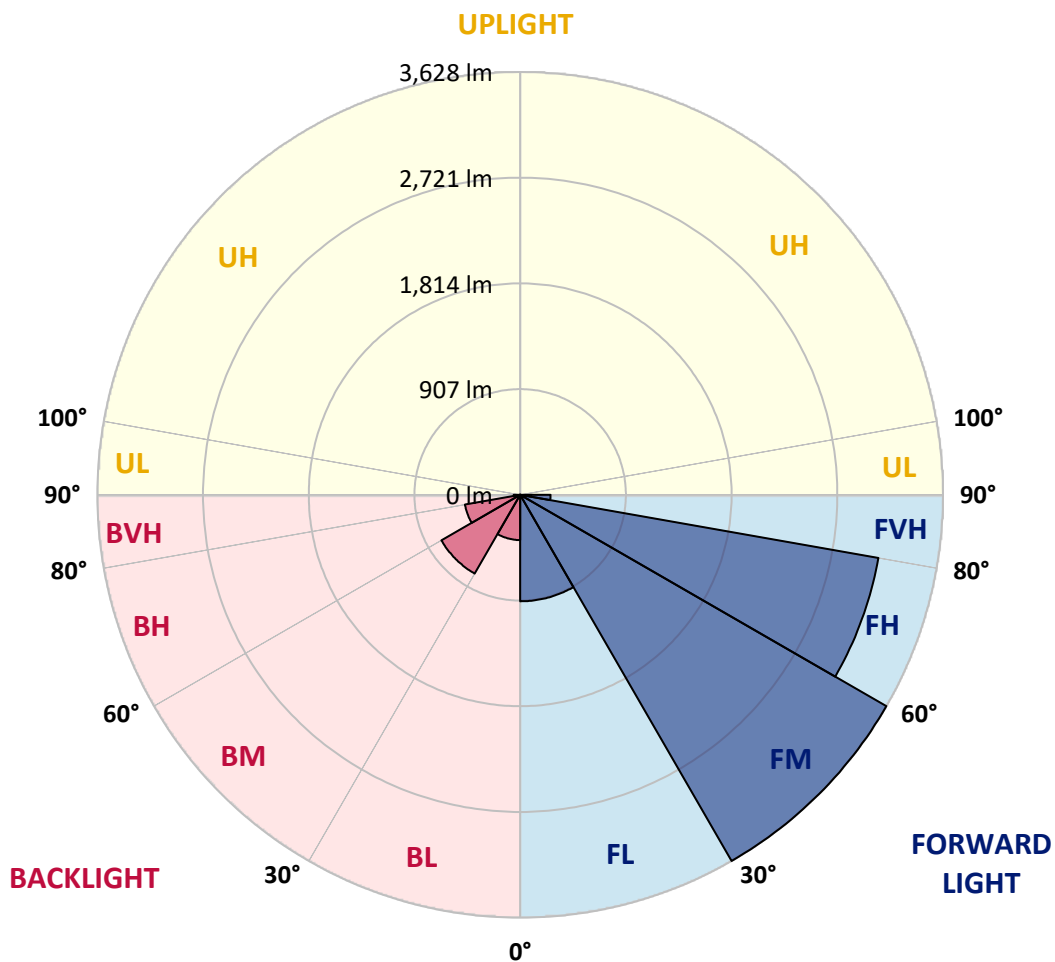
CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-8030-1200

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	913.9	9.5			
FM	(30°-60°)	3628.1	37.7			
FH	(60°-80°)	3120.9	32.4			G2/5000
FVH	(80°-90°)	261.0	2.7			G3/500
BL	(0°-30°)	388.1	4.0	B1/500		
BM	(30°-60°)	780.5	8.1	B1/1000		
BH	(60°-80°)	481.0	5.0	B1/500		G1/500
BVH	(80°-90°)	56.3	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: P197180

CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-8030-1200

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1
2.5°	3389.2	3461.1	3543.5	3651.0	3724.3	3753.7	3778.1	3736.9	3697.1	3622.4	3595.9
5°	3165.8	3304.0	3530.9	3746.7	3936.6	4045.5	4079.0	4002.9	3867.5	3672.0	3568.6
7.5°	2834.1	3016.3	3335.4	3653.1	3925.4	4107.0	4120.2	3969.4	3702.7	3382.2	3214.6
10°	2544.3	2750.3	3119.7	3475.1	3763.4	3949.2	3912.9	3701.3	3379.4	3014.9	2825.7
12.5°	2376.1	2582.0	2958.4	3319.4	3591.0	3661.5	3587.5	3409.4	3104.3	2739.1	2548.5
15°	2340.5	2552.7	2901.1	3205.6	3373.8	3328.4	3255.1	3165.1	2947.9	2649.1	2464.7
17.5°	2448.0	2685.4	2977.2	3144.1	3137.1	3028.2	2966.8	2984.2	2947.2	2746.8	2554.1
20°	2669.3	2950.0	3170.6	3127.4	2948.6	2795.7	2760.1	2896.9	3068.0	2991.9	2780.3
22.5°	2960.5	3280.3	3434.6	3175.5	2850.2	2685.4	2678.4	2892.1	3287.9	3362.7	3105.0
25°	3289.3	3662.2	3700.6	3260.7	2839.7	2675.6	2669.3	2967.5	3552.6	3729.9	3468.8
27.5°	3691.5	4047.6	3922.6	3374.5	2885.8	2704.2	2708.4	3095.9	3828.4	4093.0	3878.6
30°	3994.6	4321.3	4059.5	3486.2	2959.8	2754.5	2765.0	3234.9	3977.1	4345.1	4206.1
32.5°	4278.0	4555.2	4190.8	3596.6	3068.0	2829.2	2865.5	3408.0	4155.8	4561.5	4515.4
35°	4591.5	4817.1	4336.7	3714.6	3223.0	2960.5	3012.8	3572.8	4333.2	4778.0	4821.9
37.5°	4946.9	5116.6	4495.2	3881.4	3446.4	3203.5	3232.8	3741.1	4456.8	5017.5	5150.8
40°	5317.0	5452.4	4668.3	4104.2	3771.1	3531.6	3545.6	3956.8	4553.8	5265.3	5469.9
42.5°	5634.7	5740.1	4842.2	4380.7	4144.0	3866.1	3877.9	4189.4	4646.7	5479.0	5725.5
45°	5888.8	5966.3	5006.3	4671.8	4542.0	4283.6	4280.8	4426.1	4771.0	5659.1	5921.7
47.5°	6125.5	6166.7	5189.2	4955.3	4954.6	4821.3	4721.4	4705.3	4936.5	5810.6	6092.7
50°	6396.4	6411.8	5430.8	5241.6	5458.7	5437.8	5253.5	5060.0	5150.8	5981.0	6272.2
52.5°	6773.5	6774.2	5730.3	5520.9	6015.2	6081.5	5867.2	5461.5	5467.8	6312.7	6582.2
55°	7216.9	7247.6	6120.6	5855.3	6597.5	6710.7	6508.9	5938.4	5923.1	6847.5	7084.9
57.5°	7559.7	7722.4	6575.2	6273.6	7141.5	7288.8	7126.1	6432.8	6482.3	7399.1	7499.6
60°	7656.0	8036.6	7028.3	6742.8	7601.6	7822.9	7657.4	6966.9	7029.7	7757.3	7619.0
62.5°	7540.8	8137.8	7489.9	7163.1	7874.6	8086.9	7968.2	7316.7	7475.9	7711.2	7417.3
65°	7199.4	7991.2	7890.7	7341.8	7717.5	7792.9	7761.5	7334.9	7718.2	7275.5	6859.4
67.5°	6402.0	7425.6	7711.9	6959.9	6983.7	6902.7	6861.5	6836.3	7445.9	6572.4	5979.6
70°	5206.7	6380.4	6859.4	5824.6	5648.6	5570.4	5435.0	5770.1	6692.5	5599.8	4921.1
72.5°	4010.6	4881.3	5626.3	4415.6	4049.7	4076.2	3922.6	4412.1	5543.9	4329.0	3757.2
75°	2848.1	3328.4	4491.0	3172.7	2688.2	2686.8	2674.9	3175.5	4374.4	3107.1	2748.9
77.5°	2052.8	2396.3	3518.4	2123.3	1907.6	1932.0	1892.9	2158.2	3410.1	2235.0	2036.7
80°	1637.3	1774.2	2274.1	1416.0	1420.2	1477.4	1469.1	1476.0	2243.4	1618.5	1522.8
82.5°	1176.5	1346.9	1738.6	1085.0	939.1	999.9	1011.7	1094.8	1582.9	1144.4	1004.0
85°	603.3	821.1	1599.6	939.8	587.2	486.7	560.0	863.7	1374.8	685.7	489.5
87.5°	117.3	227.6	1172.3	522.3	263.9	133.4	219.9	365.9	799.5	124.3	60.7
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: P197180

CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-8030-1200

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1
2.5°	3550.5	3461.1	3377.3	3290.7	3223.7	3142.0	3061.7	2991.9	2924.2	2879.5	2893.4
5°	3463.9	3246.1	3050.5	2869.0	2762.9	2635.1	2521.3	2425.6	2351.6	2304.1	2332.8
7.5°	3069.4	2774.8	2517.1	2277.6	2126.8	1961.3	1828.7	1735.1	1677.8	1645.7	1692.5
10°	2665.8	2334.9	2045.8	1796.5	1647.8	1507.5	1387.4	1288.2	1211.4	1175.1	1194.0
12.5°	2376.8	2008.8	1705.8	1538.2	1410.4	1284.7	1160.5	1044.5	946.8	902.1	893.0
15°	2268.5	1833.5	1524.2	1337.1	1210.0	1073.2	939.1	814.8	722.0	683.6	675.2
17.5°	2316.0	1795.8	1416.7	1195.4	1011.0	844.9	694.0	576.7	508.3	486.7	488.8
20°	2482.9	1809.8	1330.1	1049.4	821.8	624.9	474.1	393.1	363.8	358.9	364.5
22.5°	2711.9	1867.1	1267.3	923.8	654.9	454.5	352.6	314.2	306.5	305.8	311.4
25°	3014.2	1978.8	1225.4	812.0	517.4	360.3	307.2	285.6	279.3	280.7	286.3
27.5°	3370.3	2120.5	1198.2	715.7	425.2	321.2	287.0	268.1	261.8	263.2	267.4
30°	3695.7	2244.8	1157.7	643.1	381.9	307.2	275.8	256.9	248.6	248.6	251.4
32.5°	3986.9	2352.3	1110.2	588.6	342.1	275.8	250.0	235.3	229.0	231.1	232.5
35°	4245.2	2408.9	1073.2	556.5	310.0	254.2	228.3	213.0	204.6	206.0	208.1
37.5°	4499.4	2430.5	1048.7	539.0	287.0	240.9	217.1	204.6	195.5	194.1	193.4
40°	4741.0	2425.6	1025.7	534.1	271.6	231.1	210.2	199.0	189.9	187.8	187.1
42.5°	4949.7	2409.6	1004.0	520.9	261.1	224.1	204.6	194.8	185.7	182.9	181.5
45°	5140.3	2399.8	980.3	496.4	266.7	221.3	201.8	191.3	182.9	179.4	178.0
47.5°	5351.9	2434.7	953.8	469.9	265.3	222.0	201.8	189.9	181.5	178.0	176.7
50°	5604.0	2552.7	921.0	433.6	252.8	237.4	201.1	187.8	180.1	178.0	175.3
52.5°	5960.1	2744.0	875.6	386.8	243.0	253.5	200.4	184.3	178.0	174.6	171.1
55°	6448.1	2935.3	816.9	337.2	227.6	242.3	201.8	180.1	173.2	169.7	165.5
57.5°	6848.2	3080.6	742.9	296.0	213.7	229.0	199.7	175.3	167.6	164.1	160.6
60°	6822.4	3094.5	672.4	269.5	205.3	206.0	204.6	171.8	162.7	159.9	157.1
62.5°	6399.9	2922.1	606.8	256.2	199.0	187.8	208.8	167.6	157.8	155.0	152.9
65°	5696.8	2520.6	571.8	256.2	193.4	178.0	182.2	162.0	152.9	150.1	148.7
67.5°	4805.2	2025.6	539.0	261.8	185.7	171.1	165.5	156.4	148.0	145.2	143.8
70°	3851.4	1594.1	516.0	259.0	178.7	163.4	156.4	148.7	140.3	139.6	138.2
72.5°	3021.2	1280.5	505.5	259.0	168.3	154.3	147.3	141.7	133.4	132.7	130.6
75°	2420.7	961.5	462.2	254.2	157.8	142.4	136.2	131.3	122.9	123.6	122.2
77.5°	1874.7	680.1	386.1	229.0	144.5	129.2	124.3	120.8	111.0	111.7	111.7
80°	1466.3	442.7	299.5	189.9	129.2	113.8	110.3	107.5	97.1	98.4	98.4
82.5°	1004.7	263.2	217.1	152.9	111.0	97.1	96.4	92.2	81.0	81.7	83.1
85°	548.8	173.2	144.5	113.1	87.3	78.9	77.5	75.4	64.9	64.9	65.6
87.5°	101.2	92.9	85.2	74.7	58.7	56.6	54.5	56.6	48.9	47.5	47.5
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: P197180

CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-8030-1200

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1
2.5°	2860.6	2812.5	2778.9	2749.6	2679.1	2684.0	2693.8	2707.7	2663.7	2686.8	2715.4
5°	2304.1	2264.3	2234.3	2187.5	2089.1	2054.2	2031.8	2022.1	1956.4	1970.4	2001.1
7.5°	1698.8	1698.1	1687.6	1635.2	1516.5	1444.6	1397.2	1382.5	1342.0	1357.4	1404.1
10°	1196.1	1208.6	1203.7	1157.0	1050.8	999.2	988.7	1018.0	1018.7	1048.7	1129.0
12.5°	864.4	857.4	851.1	812.7	733.1	724.8	748.5	789.0	798.8	830.9	914.7
15°	645.2	628.4	624.9	594.9	542.5	550.2	567.7	588.6	589.3	611.6	680.8
17.5°	483.9	483.9	489.5	469.9	432.2	428.7	419.6	414.0	405.7	414.7	452.5
20°	375.6	393.1	407.1	395.9	361.7	344.9	327.5	316.3	310.0	310.7	321.9
22.5°	321.9	335.8	354.0	348.4	319.8	298.1	287.0	279.3	274.4	274.4	280.7
25°	294.7	303.7	320.5	317.7	293.3	275.8	266.7	259.0	253.5	252.8	259.0
27.5°	273.0	278.6	289.8	288.4	263.2	252.1	246.5	241.6	238.1	237.4	243.7
30°	253.5	256.2	261.8	259.7	240.9	229.7	227.6	225.5	223.4	224.1	233.2
32.5°	236.0	238.1	241.6	238.8	220.6	210.9	207.4	204.6	202.5	204.6	215.1
35°	216.5	222.7	226.9	225.5	206.0	194.1	186.4	179.4	176.7	178.7	190.6
37.5°	199.7	210.2	215.8	214.4	194.1	180.1	170.4	169.0	169.0	171.8	183.6
40°	193.4	201.1	206.0	203.9	183.6	169.7	164.1	162.0	162.7	165.5	178.0
42.5°	187.8	194.8	196.2	192.0	171.8	162.7	159.2	156.4	157.8	161.3	173.9
45°	182.9	188.5	187.8	181.5	162.0	155.7	155.7	153.6	154.3	157.1	170.4
47.5°	179.4	182.2	180.8	174.6	155.0	150.1	152.2	152.2	153.6	155.7	169.0
50°	173.9	176.0	174.6	169.0	149.4	145.2	147.3	150.1	151.5	153.6	165.5
52.5°	168.3	169.7	169.0	163.4	143.8	141.0	141.0	143.8	146.6	149.4	159.9
55°	162.7	164.1	164.8	160.6	139.6	136.9	136.2	136.2	138.9	143.1	154.3
57.5°	158.5	158.5	159.9	157.1	135.5	132.0	128.5	129.2	132.7	136.2	147.3
60°	153.6	154.3	156.4	153.6	129.9	124.3	121.5	125.0	126.4	129.9	141.7
62.5°	149.4	149.4	150.8	148.7	125.0	119.4	117.3	120.8	120.8	124.3	136.2
65°	145.9	145.2	145.2	144.5	120.1	114.5	113.1	114.5	115.2	118.7	130.6
67.5°	143.1	139.6	139.6	141.0	115.2	109.6	108.9	108.9	109.6	113.8	124.3
70°	136.9	134.1	133.4	138.2	110.3	103.3	103.3	101.9	103.3	105.4	116.6
72.5°	129.9	127.8	127.1	134.1	105.4	96.4	95.0	94.3	95.0	97.1	107.5
75°	120.8	119.4	120.8	131.3	100.5	88.7	86.6	85.9	85.9	86.6	97.8
77.5°	110.3	108.9	119.4	122.2	97.8	79.6	77.5	76.1	74.7	74.7	87.3
80°	97.8	97.1	115.2	103.3	93.6	69.8	66.3	64.2	62.8	62.1	74.7
82.5°	85.2	83.8	98.4	81.0	77.5	57.3	52.4	48.2	46.1	46.1	57.3
85°	69.8	69.1	77.5	59.3	53.8	41.9	34.9	31.4	28.6	28.6	37.0
87.5°	51.0	49.6	48.2	35.6	27.2	18.9	13.3	12.6	11.2	10.5	15.4
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: P197180

CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-8030-1200

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1	3283.1
2.5°	2758.0	2815.9	2925.6	3015.6	3135.7	3232.1	3341.7	3389.2
5°	2057.7	2149.1	2316.7	2459.9	2658.1	2841.8	3051.2	3165.8
7.5°	1476.0	1611.5	1738.6	1917.3	2165.2	2411.7	2682.6	2834.1
10°	1221.2	1345.5	1454.4	1581.5	1772.8	2050.0	2373.3	2544.3
12.5°	1011.7	1145.8	1261.0	1397.2	1557.7	1808.4	2177.1	2376.1
15°	775.7	921.7	1059.9	1224.0	1420.9	1707.2	2118.4	2340.5
17.5°	531.4	687.8	858.1	1058.5	1295.9	1664.6	2174.3	2448.0
20°	361.0	475.5	660.5	897.9	1183.5	1644.3	2297.2	2669.3
22.5°	296.7	348.4	487.4	747.1	1091.3	1666.7	2496.9	2960.5
25°	272.3	300.2	379.1	614.4	1020.8	1726.0	2767.1	3289.3
27.5°	256.9	280.7	332.4	519.5	955.9	1807.0	3095.9	3691.5
30°	247.9	270.2	313.5	470.6	896.5	1876.8	3378.7	3994.6
32.5°	227.6	244.4	280.0	442.7	853.9	1933.4	3628.0	4278.0
35°	203.2	223.4	252.8	424.5	852.5	1959.9	3862.6	4591.5
37.5°	194.1	213.7	235.3	414.7	860.9	1982.3	4149.6	4946.9
40°	188.5	206.0	223.4	413.3	867.9	1999.7	4430.2	5317.0
42.5°	183.6	201.1	221.3	403.6	865.1	2023.5	4678.8	5634.7
45°	182.2	199.7	226.2	388.9	864.4	2060.5	4876.4	5888.8
47.5°	180.8	207.4	224.8	372.9	861.6	2138.7	5099.1	6125.5
50°	179.4	221.3	215.1	350.5	840.7	2272.0	5398.7	6396.4
52.5°	178.7	223.4	204.6	319.8	803.0	2469.6	5837.2	6773.5
55°	176.0	212.3	186.4	279.3	748.5	2682.6	6307.1	7216.9
57.5°	169.7	189.2	176.0	239.5	670.3	2831.3	6654.1	7559.7
60°	185.0	162.7	169.0	219.2	576.7	2857.8	6669.5	7656.0
62.5°	176.7	148.0	162.0	212.3	511.1	2684.7	6364.3	7540.8
65°	141.0	140.3	155.7	219.2	501.3	2297.2	5849.0	7199.4
67.5°	128.5	134.8	149.4	227.6	507.6	1809.8	5090.8	6402.0
70°	120.1	127.8	141.0	235.3	518.8	1425.8	4098.6	5206.7
72.5°	111.7	118.0	132.7	243.0	511.1	1124.8	3280.3	4010.6
75°	101.2	106.8	120.8	222.7	438.5	826.7	2606.5	2848.1
77.5°	89.4	94.3	106.1	176.0	329.6	575.3	1952.2	2052.8
80°	76.8	78.9	88.0	128.5	215.1	344.2	1485.8	1637.3
82.5°	60.7	61.4	67.0	94.3	134.1	219.9	1030.6	1176.5
85°	39.1	40.5	43.3	66.3	90.1	141.0	526.5	603.3
87.5°	13.3	15.4	15.4	32.1	44.0	78.2	161.3	117.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)