

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: P197177

Luminaire Tested: **NAV-AF-05-D-UNV-SLL-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197177
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-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 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: 21671 lumens
Efficiency: N/A
Efficacy: 77.7 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

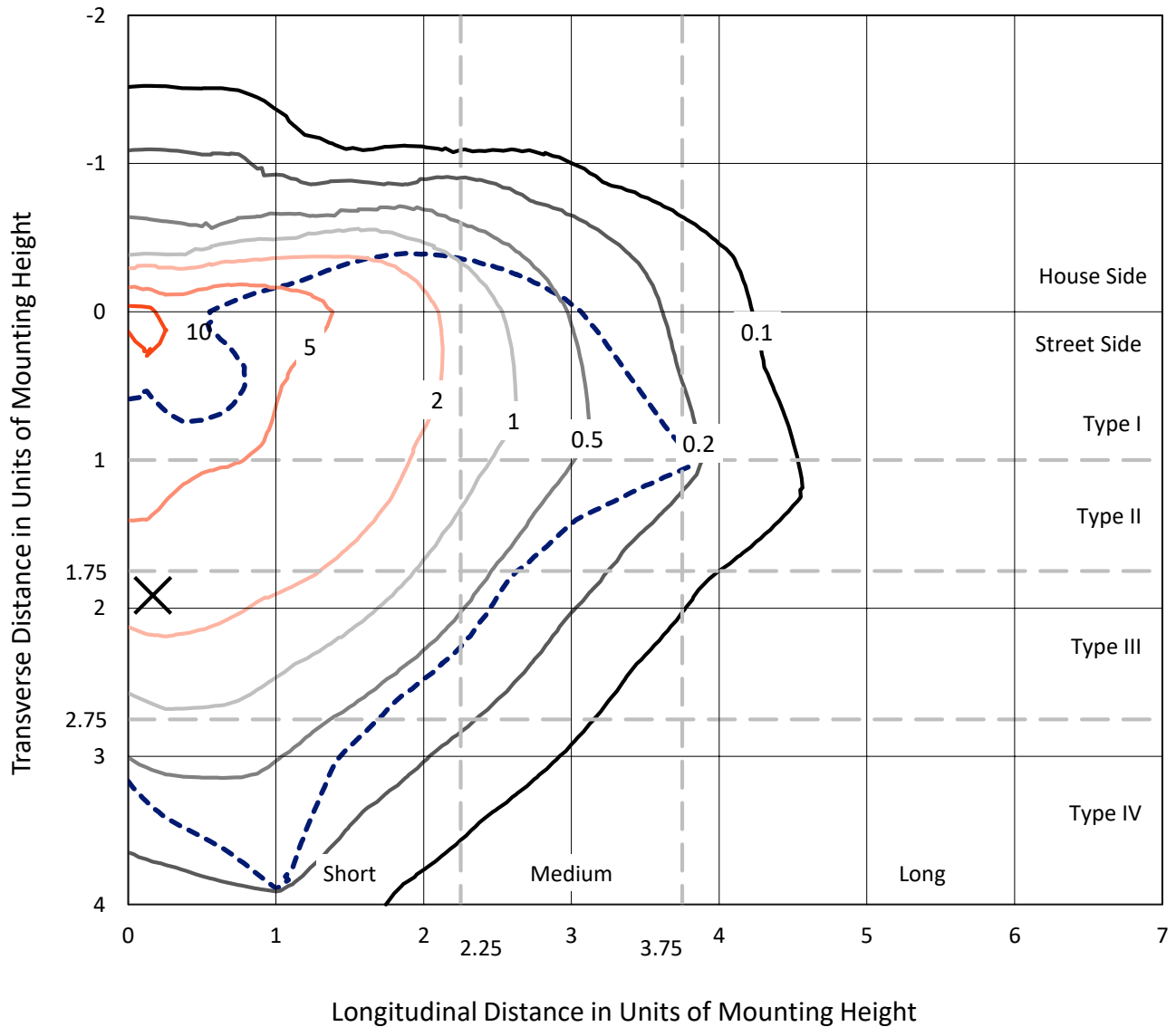
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P197177
 CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-8030

Iso-Footcandle Lines of Horizontal Illumination

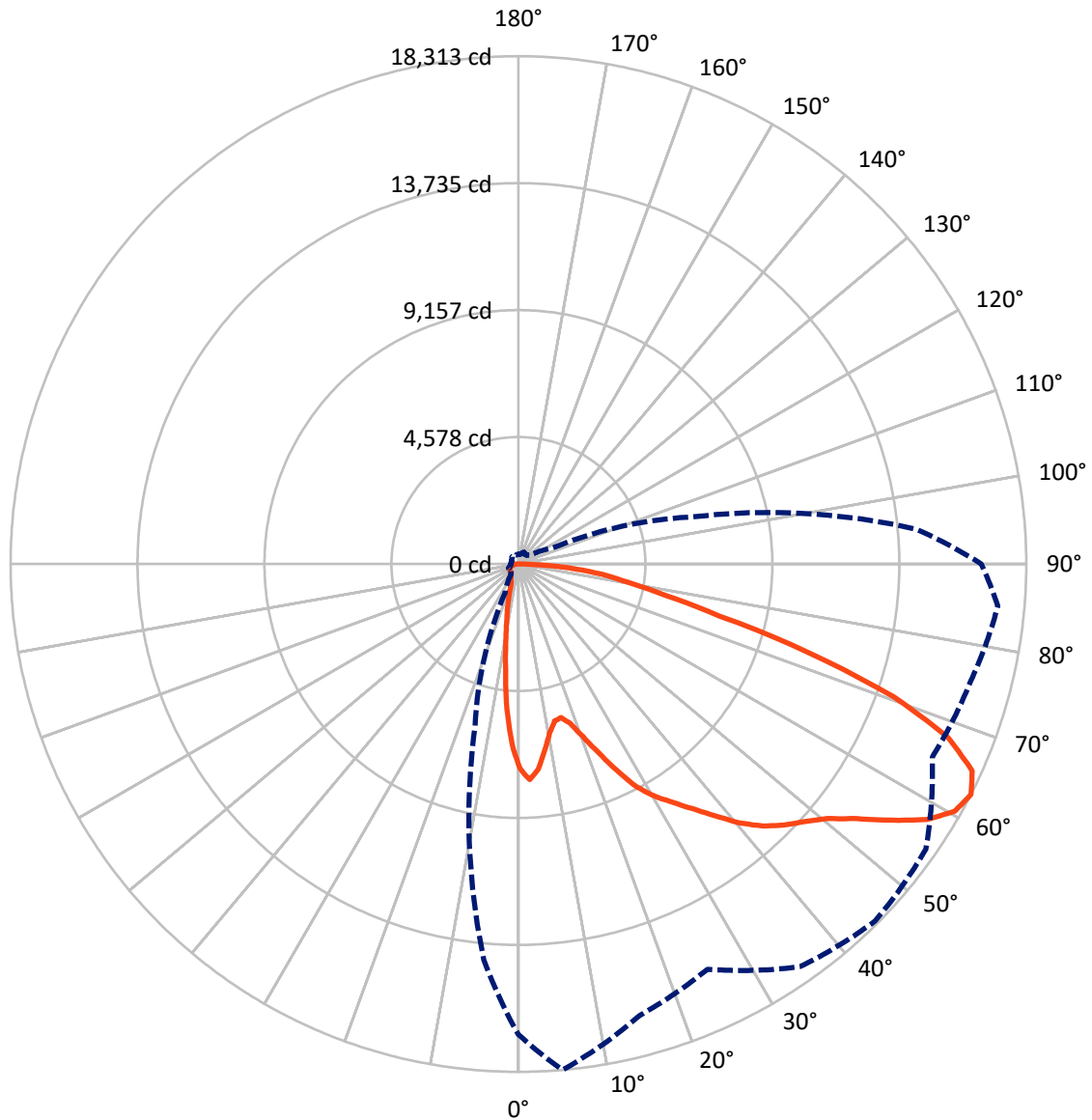
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 13.6 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P197177
CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-8030

Luminous Intensity Polar Plot



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

REPORT NUMBER: P197177

CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-8030

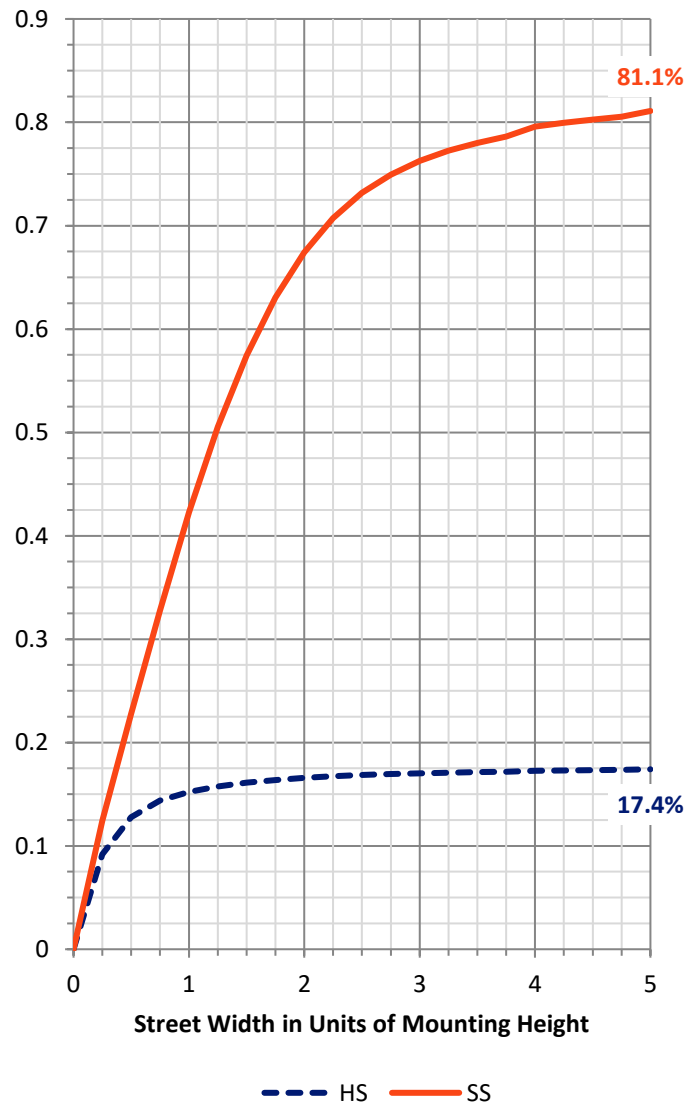
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3839.1	0.0	3839.1
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	17831.9	0.0	17831.9
	% Fixture	82.3	0.0	82.3
Total	Lumens	21671.0	0.0	21671.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	537.3	2.5
10°-20°	981.4	4.5
20°-30°	1411.5	6.5
30°-40°	2161.8	10.0
40°-50°	3160.6	14.6
50°-60°	4598.7	21.2
60°-70°	5328.2	24.6
70°-80°	2777.5	12.8
80°-90°	714.0	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°	21671.0	100.0
0°-180°	21671.0	100.0



REPORT NUMBER: P197177

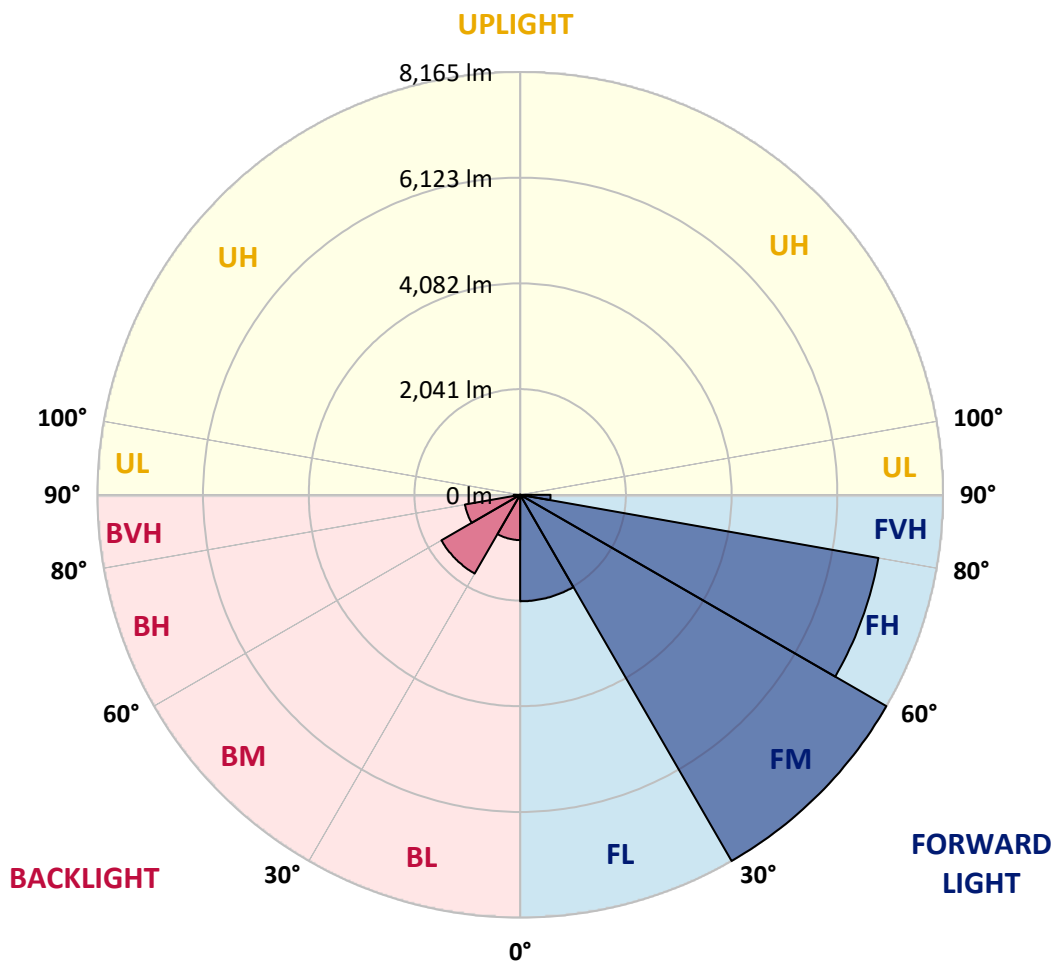
CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-8030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2056.7	9.5			
FM	(30°-60°)	8164.6	37.7			
FH	(60°-80°)	7023.3	32.4			G3/7500
FVH	(80°-90°)	587.4	2.7			G4/750
BL	(0°-30°)	873.4	4.0	B2/1000		
BM	(30°-60°)	1756.5	8.1	B2/2500		
BH	(60°-80°)	1082.5	5.0	B3/2500		G3/2500
BVH	(80°-90°)	126.6	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: P197177

CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-8030

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1
2.5°	7626.9	7788.7	7974.2	8216.1	8381.1	8447.1	8502.1	8409.4	8319.8	8151.7	8092.0
5°	7124.1	7435.2	7945.9	8431.4	8858.8	9103.9	9179.3	9008.0	8703.2	8263.3	8030.7
7.5°	6377.8	6787.9	7505.9	8220.8	8833.6	9242.2	9272.0	8932.6	8332.4	7611.2	7234.1
10°	5725.7	6189.2	7020.4	7820.2	8469.1	8887.1	8805.4	8329.3	7604.9	6784.7	6358.9
12.5°	5347.0	5810.5	6657.4	7469.8	8081.0	8239.7	8073.1	7672.5	6985.8	6164.1	5735.1
15°	5266.9	5744.5	6528.6	7213.7	7592.3	7490.2	7325.2	7122.5	6633.9	5961.4	5546.6
17.5°	5508.8	6043.1	6699.9	7075.4	7059.7	6814.6	6676.3	6715.6	6632.3	6181.3	5747.7
20°	6006.9	6638.6	7135.1	7037.7	6635.4	6291.3	6211.2	6519.2	6904.1	6732.9	6256.8
22.5°	6662.2	7381.8	7729.0	7146.1	6413.9	6043.1	6027.4	6508.2	7399.1	7567.2	6987.4
25°	7402.2	8241.3	8327.7	7337.8	6390.3	6021.1	6006.9	6677.9	7994.6	8393.7	7806.0
27.5°	8307.3	9108.6	8827.4	7593.9	6494.0	6085.5	6094.9	6967.0	8615.2	9210.7	8728.4
30°	8989.2	9724.5	9135.3	7845.3	6660.6	6198.6	6222.2	7279.7	8949.9	9778.0	9465.3
32.5°	9627.1	10250.9	9430.7	8093.6	6904.1	6366.8	6448.5	7669.3	9352.2	10265.1	10161.4
35°	10332.6	10840.1	9759.1	8359.1	7252.9	6662.2	6780.0	8040.1	9751.3	10752.1	10851.1
37.5°	11132.4	11514.2	10115.8	8734.6	7755.8	7209.0	7274.9	8418.8	10029.4	11291.1	11591.2
40°	11965.2	12270.0	10505.5	9235.9	8486.4	7947.4	7978.9	8904.3	10247.8	11848.9	12309.3
42.5°	12680.1	12917.3	10896.7	9858.1	9325.4	8700.1	8726.8	9427.6	10456.8	12329.7	12884.4
45°	13252.0	13426.4	11266.0	10513.3	10221.1	9639.7	9633.4	9960.2	10736.4	12735.1	13325.9
47.5°	13784.7	13877.4	11677.6	11151.2	11149.7	10849.6	10624.9	10588.7	11108.8	13076.0	13710.8
50°	14394.3	14428.9	12221.3	11795.5	12284.1	12237.0	11822.2	11386.9	11591.2	13459.4	14114.6
52.5°	15242.8	15244.4	12895.4	12424.0	13536.4	13685.7	13203.3	12290.4	12304.6	14205.8	14812.3
55°	16240.6	16309.7	13773.7	13176.6	14846.9	15101.4	14647.3	13363.6	13329.0	15409.4	15943.6
57.5°	17012.1	17378.2	14796.6	14117.8	16070.9	16402.4	16036.3	14476.0	14587.6	16650.7	16876.9
60°	17228.9	18085.2	15816.3	15173.7	17106.3	17604.4	17232.0	15678.1	15819.5	17456.7	17145.6
62.5°	16969.6	18313.1	16854.9	16119.6	17720.7	18198.4	17931.2	16465.3	16823.5	17353.0	16691.5
65°	16201.3	17983.1	17756.8	16521.8	17367.2	17536.9	17466.2	16506.1	17368.7	16372.6	15436.1
67.5°	14406.9	16710.4	17354.6	15662.3	15715.8	15533.5	15440.8	15384.2	16755.9	14790.3	13456.3
70°	11716.9	14358.2	15436.1	13107.5	12711.5	12535.5	12230.7	12984.9	15060.5	12601.5	11074.3
72.5°	9025.3	10984.7	12661.2	9936.7	9113.3	9173.0	8827.4	9928.8	12475.8	9741.8	8455.0
75°	6409.2	7490.2	10106.4	7139.8	6049.4	6046.2	6019.5	7146.1	9844.0	6992.1	6186.1
77.5°	4619.5	5392.6	7917.6	4778.2	4292.7	4347.7	4259.7	4856.8	7674.0	5029.6	4583.4
80°	3684.6	3992.6	5117.6	3186.5	3195.9	3324.8	3305.9	3321.6	5048.5	3642.2	3426.9
82.5°	2647.6	3031.0	3912.4	2441.7	2113.3	2250.0	2276.8	2463.7	3562.1	2575.3	2259.5
85°	1357.6	1847.8	3599.8	2114.9	1321.4	1095.2	1260.2	1943.7	3093.8	1543.0	1101.5
87.5°	264.0	512.2	2638.1	1175.3	593.9	300.1	494.9	823.3	1799.1	279.7	136.7
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: P197177

CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-8030

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1
2.5°	7989.9	7788.7	7600.2	7405.4	7254.5	7070.7	6890.0	6732.9	6580.4	6479.9	6511.3
5°	7795.0	7304.8	6864.8	6456.3	6217.5	5929.9	5673.8	5458.6	5292.0	5185.2	5249.6
7.5°	6907.3	6244.2	5664.4	5125.5	4786.1	4413.7	4115.1	3904.6	3775.7	3703.5	3808.7
10°	5999.1	5254.3	4603.8	4042.9	3708.2	3392.4	3122.1	2899.0	2726.1	2644.4	2686.9
12.5°	5348.6	4520.5	3838.6	3461.5	3173.9	2891.1	2611.4	2350.6	2130.6	2030.1	2009.6
15°	5105.0	4126.1	3430.1	3009.0	2723.0	2415.0	2113.3	1833.7	1624.7	1538.3	1519.4
17.5°	5211.9	4041.3	3188.1	2690.0	2275.2	1901.2	1561.8	1297.9	1143.9	1095.2	1099.9
20°	5587.4	4072.7	2993.3	2361.6	1849.4	1406.3	1066.9	884.6	818.6	807.6	820.2
22.5°	6102.8	4201.6	2851.8	2078.8	1473.8	1022.9	793.5	707.1	689.8	688.2	700.8
25°	6783.1	4453.0	2757.6	1827.4	1164.3	810.8	691.4	642.6	628.5	631.6	644.2
27.5°	7584.5	4771.9	2696.3	1610.5	956.9	722.8	645.8	603.4	589.2	592.4	601.8
30°	8316.7	5051.6	2605.2	1447.1	859.5	691.4	620.6	578.2	559.4	559.4	565.7
32.5°	8971.9	5293.6	2498.3	1324.6	769.9	620.6	562.5	529.5	515.4	520.1	523.2
35°	9553.3	5420.9	2415.0	1252.3	697.6	571.9	513.8	479.2	460.4	463.5	468.2
37.5°	10125.2	5469.6	2360.0	1213.0	645.8	542.1	488.7	460.4	440.0	436.8	435.2
40°	10668.9	5458.6	2308.2	1202.0	611.2	520.1	472.9	447.8	427.4	422.7	421.1
42.5°	11138.7	5422.4	2259.5	1172.2	587.7	504.4	460.4	438.4	418.0	411.7	408.5
45°	11567.6	5400.4	2206.1	1117.2	600.2	498.1	454.1	430.5	411.7	403.8	400.7
47.5°	12043.7	5479.0	2146.3	1057.5	597.1	499.7	454.1	427.4	408.5	400.7	397.5
50°	12611.0	5744.5	2072.5	975.8	568.8	534.2	452.5	422.7	405.4	400.7	394.4
52.5°	13412.3	6175.1	1970.4	870.5	546.8	570.4	451.0	414.8	400.7	392.8	385.0
55°	14510.6	6605.6	1838.4	758.9	512.2	545.2	454.1	405.4	389.7	381.8	372.4
57.5°	15410.9	6932.4	1671.8	666.2	480.8	515.4	449.4	394.4	377.1	369.2	361.4
60°	15352.8	6963.8	1513.1	606.5	462.0	463.5	460.4	386.5	366.1	359.8	353.5
62.5°	14402.2	6575.7	1365.4	576.7	447.8	422.7	469.8	377.1	355.1	348.8	344.1
65°	12819.9	5672.3	1286.9	576.7	435.2	400.7	410.1	364.5	344.1	337.8	334.7
67.5°	10813.4	4558.2	1213.0	589.2	418.0	385.0	372.4	352.0	333.1	326.8	323.7
70°	8667.1	3587.2	1161.2	582.9	402.2	367.7	352.0	334.7	315.8	314.3	311.1
72.5°	6798.9	2881.7	1137.6	582.9	378.7	347.2	331.5	319.0	300.1	298.5	293.8
75°	5447.6	2163.6	1040.2	571.9	355.1	320.5	306.4	295.4	276.5	278.1	275.0
77.5°	4218.8	1530.4	868.9	515.4	325.3	290.7	279.7	271.8	249.8	251.4	251.4
80°	3299.7	996.2	674.1	427.4	290.7	256.1	248.3	242.0	218.4	221.5	221.5
82.5°	2261.0	592.4	488.7	344.1	249.8	218.4	216.8	207.4	182.3	183.8	187.0
85°	1235.0	389.7	325.3	254.5	196.4	177.6	174.4	169.7	146.1	146.1	147.7
87.5°	227.8	209.0	191.7	168.1	132.0	127.3	122.6	127.3	110.0	106.8	106.8
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: P197177
 CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-8030

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1
2.5°	6437.5	6329.0	6253.6	6187.6	6028.9	6039.9	6061.9	6093.4	5994.4	6046.2	6110.6
5°	5185.2	5095.6	5028.0	4922.8	4701.2	4622.7	4572.4	4550.4	4402.7	4434.1	4503.2
7.5°	3822.9	3821.3	3797.7	3679.9	3412.8	3250.9	3144.1	3111.1	3020.0	3054.5	3159.8
10°	2691.6	2719.9	2708.9	2603.6	2364.7	2248.5	2224.9	2290.9	2292.5	2360.0	2540.7
12.5°	1945.2	1929.5	1915.4	1828.9	1649.8	1631.0	1684.4	1775.5	1797.5	1869.8	2058.4
15°	1451.8	1414.1	1406.3	1338.7	1220.9	1238.2	1277.4	1324.6	1326.1	1376.4	1532.0
17.5°	1088.9	1088.9	1101.5	1057.5	972.6	964.8	944.3	931.8	912.9	933.3	1018.2
20°	845.3	884.6	916.0	890.9	813.9	776.2	736.9	711.8	697.6	699.2	724.4
22.5°	724.4	755.8	796.6	784.1	719.6	670.9	645.8	628.5	617.5	617.5	631.6
25°	663.1	683.5	721.2	714.9	659.9	620.6	600.2	582.9	570.4	568.8	582.9
27.5°	614.4	626.9	652.1	648.9	592.4	567.2	554.7	543.7	535.8	534.2	548.4
30°	570.4	576.7	589.2	584.5	542.1	516.9	512.2	507.5	502.8	504.4	524.8
32.5°	531.1	535.8	543.7	537.4	496.5	474.5	466.7	460.4	455.7	460.4	483.9
35°	487.1	501.2	510.7	507.5	463.5	436.8	419.5	403.8	397.5	402.2	429.0
37.5°	449.4	472.9	485.5	482.4	436.8	405.4	383.4	380.2	380.2	386.5	413.2
40°	435.2	452.5	463.5	458.8	413.2	381.8	369.2	364.5	366.1	372.4	400.7
42.5°	422.7	438.4	441.5	432.1	386.5	366.1	358.2	352.0	355.1	363.0	391.2
45°	411.7	424.2	422.7	408.5	364.5	350.4	350.4	345.7	347.2	353.5	383.4
47.5°	403.8	410.1	407.0	392.8	348.8	337.8	342.5	342.5	345.7	350.4	380.2
50°	391.2	396.0	392.8	380.2	336.3	326.8	331.5	337.8	341.0	345.7	372.4
52.5°	378.7	381.8	380.2	367.7	323.7	317.4	317.4	323.7	330.0	336.3	359.8
55°	366.1	369.2	370.8	361.4	314.3	308.0	306.4	306.4	312.7	322.1	347.2
57.5°	356.7	356.7	359.8	353.5	304.8	297.0	289.1	290.7	298.5	306.4	331.5
60°	345.7	347.2	352.0	345.7	292.3	279.7	273.4	281.3	284.4	292.3	319.0
62.5°	336.3	336.3	339.4	334.7	281.3	268.7	264.0	271.8	271.8	279.7	306.4
65°	328.4	326.8	326.8	325.3	270.3	257.7	254.5	257.7	259.3	267.1	293.8
67.5°	322.1	314.3	314.3	317.4	259.3	246.7	245.1	245.1	246.7	256.1	279.7
70°	308.0	301.7	300.1	311.1	248.3	232.5	232.5	229.4	232.5	237.3	262.4
72.5°	292.3	287.5	286.0	301.7	237.3	216.8	213.7	212.1	213.7	218.4	242.0
75°	271.8	268.7	271.8	295.4	226.3	199.6	194.8	193.3	193.3	194.8	220.0
77.5°	248.3	245.1	268.7	275.0	220.0	179.1	174.4	171.3	168.1	168.1	196.4
80°	220.0	218.4	259.3	232.5	210.5	157.1	149.3	144.6	141.4	139.8	168.1
82.5°	191.7	188.6	221.5	182.3	174.4	128.8	117.8	108.4	103.7	103.7	128.8
85°	157.1	155.6	174.4	133.6	121.0	94.3	78.6	70.7	64.4	64.4	83.3
87.5°	114.7	111.6	108.4	80.1	61.3	42.4	29.9	28.3	25.1	23.6	34.6
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: P197177

CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-8030

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1
2.5°	6206.5	6336.9	6583.6	6786.3	7056.5	7273.4	7520.1	7626.9
5°	4630.5	4836.3	5213.4	5535.6	5981.8	6395.0	6866.4	7124.1
7.5°	3321.6	3626.5	3912.4	4314.7	4872.5	5427.1	6036.8	6377.8
10°	2748.1	3027.8	3272.9	3558.9	3989.4	4613.2	5340.7	5725.7
12.5°	2276.8	2578.4	2837.7	3144.1	3505.5	4069.6	4899.2	5347.0
15°	1745.7	2074.1	2385.2	2754.4	3197.5	3841.7	4767.2	5266.9
17.5°	1195.7	1547.7	1931.1	2382.0	2916.3	3745.9	4892.9	5508.8
20°	812.3	1070.0	1486.4	2020.6	2663.3	3700.3	5169.5	6006.9
22.5°	667.8	784.1	1096.7	1681.3	2455.9	3750.6	5618.8	6662.2
25°	612.8	675.6	853.2	1382.7	2297.2	3884.2	6226.9	7402.2
27.5°	578.2	631.6	747.9	1169.0	2151.1	4066.4	6967.0	8307.3
30°	557.8	608.1	705.5	1059.0	2017.5	4223.6	7603.3	8989.2
32.5°	512.2	549.9	630.1	996.2	1921.7	4350.8	8164.3	9627.1
35°	457.2	502.8	568.8	955.3	1918.5	4410.5	8692.2	10332.6
37.5°	436.8	480.8	529.5	933.3	1937.4	4460.8	9338.0	11132.4
40°	424.2	463.5	502.8	930.2	1953.1	4500.1	9969.7	11965.2
42.5°	413.2	452.5	498.1	908.2	1946.8	4553.5	10529.0	12680.1
45°	410.1	449.4	509.1	875.2	1945.2	4636.8	10973.7	13252.0
47.5°	407.0	466.7	505.9	839.1	1938.9	4812.8	11474.9	13784.7
50°	403.8	498.1	483.9	788.8	1891.8	5112.9	12149.0	14394.3
52.5°	402.2	502.8	460.4	719.6	1807.0	5557.6	13135.8	15242.8
55°	396.0	477.7	419.5	628.5	1684.4	6036.8	14193.2	16240.6
57.5°	381.8	425.8	396.0	538.9	1508.4	6371.5	14974.1	17012.1
60°	416.4	366.1	380.2	493.4	1297.9	6431.2	15008.7	17228.9
62.5°	397.5	333.1	364.5	477.7	1150.2	6041.5	14322.1	16969.6
65°	317.4	315.8	350.4	493.4	1128.2	5169.5	13162.5	16201.3
67.5°	289.1	303.3	336.3	512.2	1142.3	4072.7	11456.1	14406.9
70°	270.3	287.5	317.4	529.5	1167.4	3208.5	9223.3	11716.9
72.5°	251.4	265.5	298.5	546.8	1150.2	2531.3	7381.8	9025.3
75°	227.8	240.4	271.8	501.2	986.8	1860.4	5865.5	6409.2
77.5°	201.1	212.1	238.8	396.0	741.6	1294.7	4393.2	4619.5
80°	172.8	177.6	198.0	289.1	483.9	774.6	3343.6	3684.6
82.5°	136.7	138.3	150.8	212.1	301.7	494.9	2319.2	2647.6
85°	88.0	91.1	97.4	149.3	202.7	317.4	1184.7	1357.6
87.5°	29.9	34.6	34.6	72.3	99.0	176.0	363.0	264.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)