

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: P196697

Luminaire Tested: **NAV-AF-05-D-UNV-SLL-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196697
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-7030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 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: 25685.8 lumens
Efficiency: N/A
Efficacy: 92.1 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

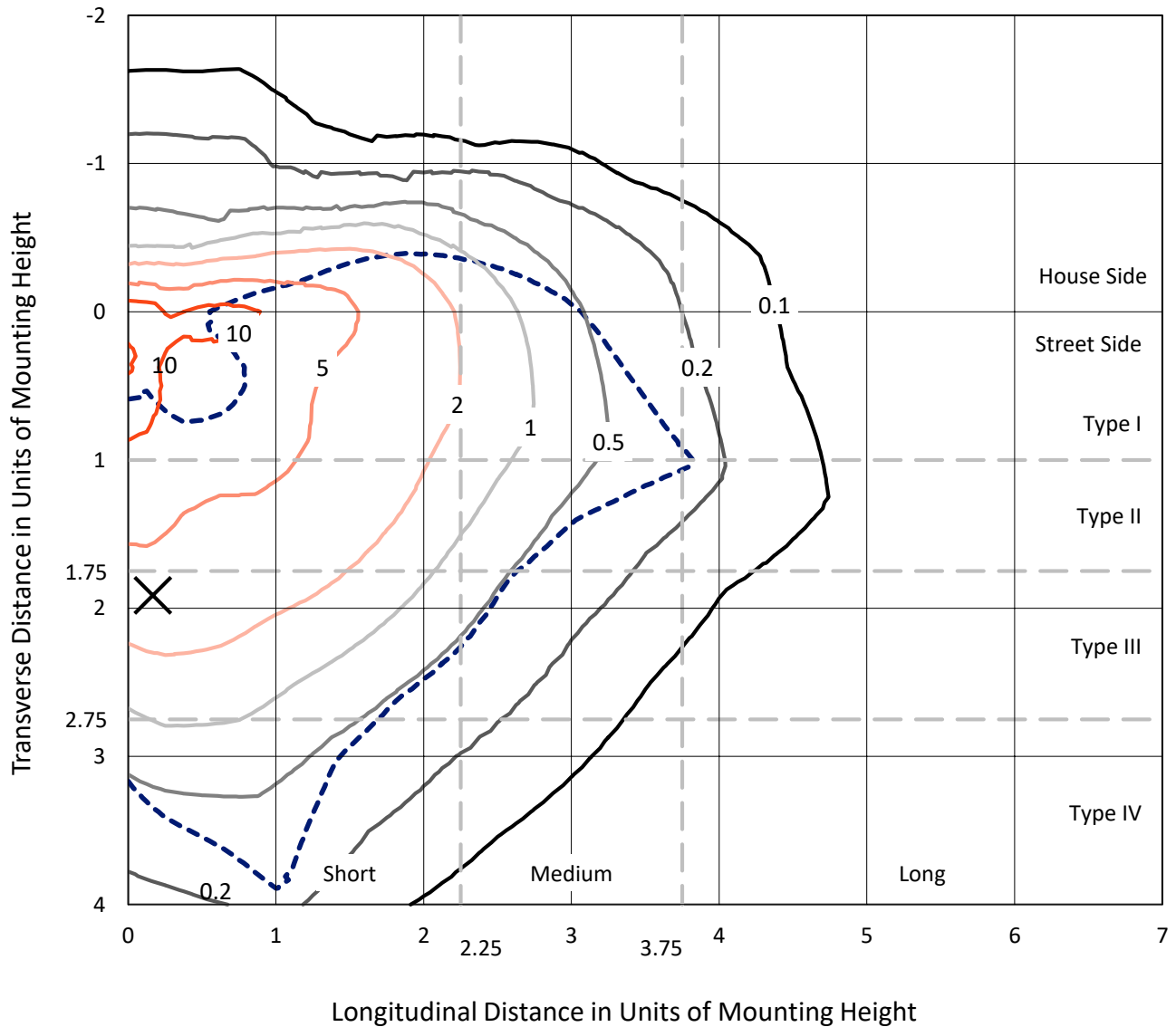
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196697
 CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-7030

Iso-Footcandle Lines of Horizontal Illumination

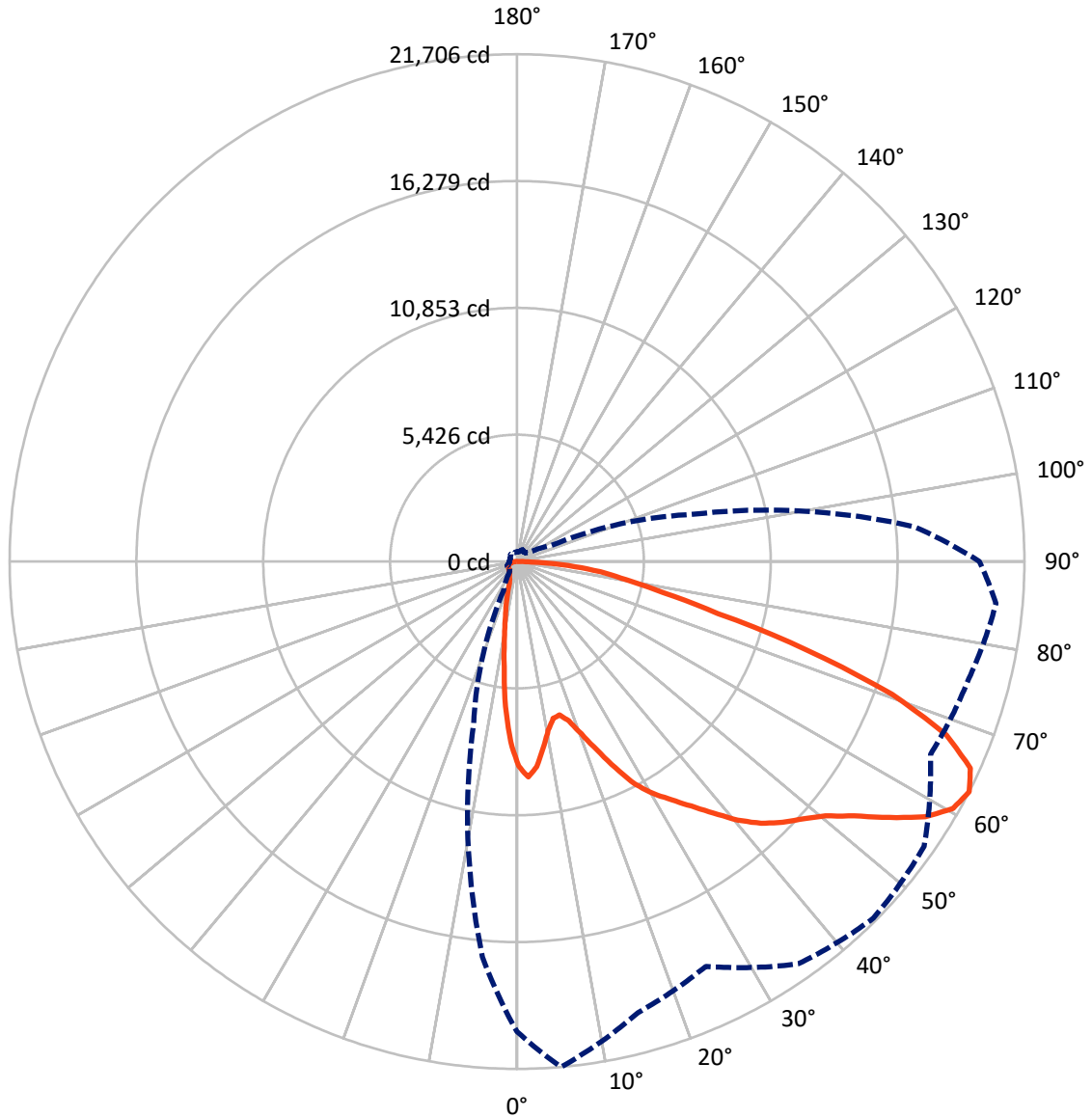
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 16.1 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P196697
CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-7030

Luminous Intensity Polar Plot



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

REPORT NUMBER: P196697

CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-7030

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4550.3	0.0	4550.3
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	21135.5	0.0	21135.5
	% Fixture	82.3	0.0	82.3
Total	Lumens	25685.8	0.0	25685.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	636.8	2.5
10°-20°	1163.2	4.5
20°-30°	1673.0	6.5
30°-40°	2562.3	10.0
40°-50°	3746.1	14.6
50°-60°	5450.7	21.2
60°-70°	6315.3	24.6
70°-80°	3292.1	12.8
80°-90°	846.2	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°	25685.8	100.0
0°-180°	25685.8	100.0



REPORT NUMBER: P196697

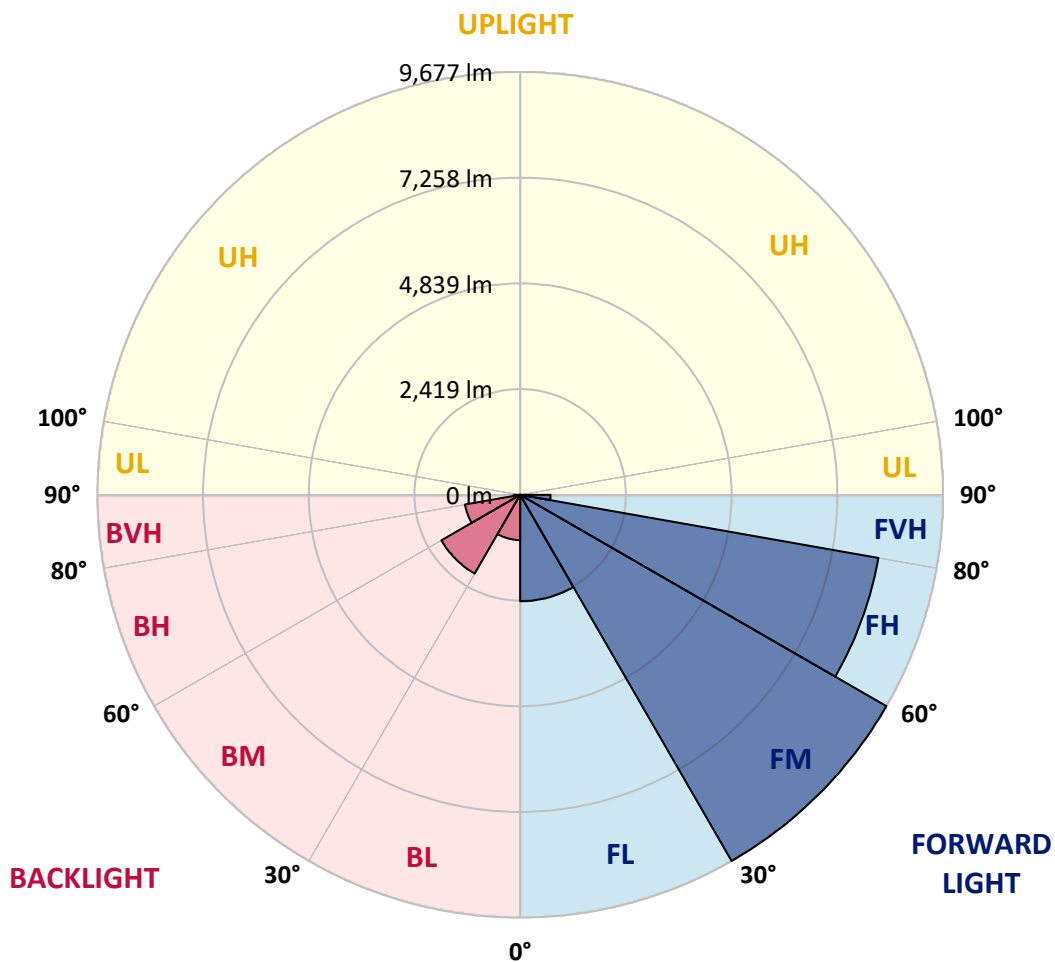
CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-7030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2437.7	9.5			
FM	(30°-60°)	9677.2	37.7			
FH	(60°-80°)	8324.4	32.4			G4/12000
FVH	(80°-90°)	696.2	2.7			G4/750
BL	(0°-30°)	1035.3	4.0	B3/2500		
BM	(30°-60°)	2081.9	8.1	B2/2500		
BH	(60°-80°)	1283.0	5.0	B3/2500		G3/2500
BVH	(80°-90°)	150.1	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: P196697

CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-7030

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8
2.5°	9039.9	9231.7	9451.5	9738.3	9933.8	10012.0	10077.2	9967.2	9861.2	9661.9	9591.1
5°	8443.9	8812.7	9417.9	9993.4	10500.0	10790.5	10879.8	10677.0	10315.6	9794.1	9518.4
7.5°	7559.3	8045.5	8896.4	9743.8	10470.2	10954.4	10989.8	10587.4	9876.1	9021.2	8574.2
10°	6786.4	7335.7	8320.9	9268.9	10038.0	10533.4	10436.7	9872.3	9013.8	8041.6	7536.9
12.5°	6337.6	6886.9	7890.8	8853.6	9578.1	9766.1	9568.8	9093.8	8280.0	7306.0	6797.6
15°	6242.6	6808.8	7738.1	8550.1	8998.9	8877.9	8682.3	8442.0	7862.9	7065.8	6574.1
17.5°	6529.5	7162.6	7941.1	8386.2	8367.5	8077.0	7913.1	7959.6	7860.9	7326.5	6812.6
20°	7119.8	7868.5	8457.0	8341.5	7864.7	7456.8	7361.9	7727.0	8183.2	7980.2	7415.9
22.5°	7896.3	8749.4	9161.0	8470.0	7602.2	7162.6	7144.0	7713.9	8769.8	8969.1	8281.9
25°	8773.5	9768.0	9870.5	8697.1	7574.2	7136.5	7119.8	7915.0	9475.6	9948.7	9252.2
27.5°	9846.2	10796.0	10462.6	9000.8	7697.1	7212.9	7224.1	8257.7	10211.3	10917.0	10345.3
30°	10654.5	11526.1	10827.7	9298.7	7894.5	7347.0	7374.9	8628.3	10608.0	11589.4	11218.8
32.5°	11410.6	12149.9	11177.9	9593.0	8183.2	7546.2	7643.1	9090.2	11084.7	12166.8	12043.8
35°	12246.9	12848.4	11567.1	9907.7	8596.6	7896.3	8036.0	9529.7	11557.8	12744.1	12861.5
37.5°	13194.8	13647.3	11989.8	10352.9	9192.5	8544.5	8622.7	9978.5	11887.4	13382.8	13738.6
40°	14181.9	14543.2	12451.7	10946.9	10058.6	9419.8	9457.1	10554.0	12146.3	14043.9	14589.7
42.5°	15029.1	15310.4	12915.4	11684.4	11053.1	10311.9	10343.5	11174.2	12394.0	14613.9	15271.2
45°	15707.1	15913.8	13353.1	12461.0	12114.5	11425.6	11418.1	11805.5	12725.4	15094.3	15794.6
47.5°	16338.4	16448.3	13841.0	13217.1	13215.2	12859.6	12593.2	12550.4	13166.9	15498.5	16250.9
50°	17061.1	17102.1	14485.4	13980.7	14559.9	14504.0	14012.4	13496.5	13738.6	15953.0	16729.6
52.5°	18066.7	18068.5	15284.4	14725.6	16044.1	16221.0	15649.3	14567.3	14584.2	16837.5	17556.5
55°	19249.3	19331.2	16325.4	15617.7	17597.4	17899.1	17360.9	15839.4	15798.4	18264.1	18897.3
57.5°	20163.7	20597.7	17537.8	16733.3	19048.1	19441.1	19007.2	17157.8	17290.1	19735.4	20003.5
60°	20420.7	21435.7	18746.4	17984.7	20275.5	20865.8	20424.4	18582.6	18750.2	20690.8	20322.0
62.5°	20113.4	21705.8	19977.5	19105.8	21003.7	21569.8	21253.2	19515.6	19940.3	20567.8	19783.8
65°	19202.8	21314.7	21046.5	19582.6	20584.6	20785.7	20701.9	19564.1	20586.4	19405.7	18295.8
67.5°	17075.9	19806.1	20569.7	18563.9	18627.3	18411.3	18301.4	18234.3	19860.2	17530.3	15949.2
70°	13887.6	17018.2	18295.8	15535.8	15066.5	14857.8	14496.5	15390.5	17850.7	14936.1	13125.9
72.5°	10697.3	13019.7	15006.9	11777.5	10801.7	10872.4	10462.6	11768.2	14787.0	11546.6	10021.4
75°	7596.6	8877.9	11978.6	8462.5	7170.0	7166.4	7134.6	8470.0	11667.7	8287.5	7332.1
77.5°	5475.3	6391.5	9384.4	5663.5	5087.9	5153.1	5048.9	5756.6	9095.8	5961.4	5432.5
80°	4367.2	4732.2	6065.6	3776.9	3788.0	3940.8	3918.4	3937.0	5983.7	4317.0	4061.8
82.5°	3138.0	3592.5	4637.3	2894.1	2504.9	2666.9	2698.6	2920.2	4222.0	3052.3	2678.1
85°	1609.1	2190.1	4266.7	2506.7	1566.2	1298.1	1493.6	2303.7	3667.0	1828.8	1305.5
87.5°	312.9	607.2	3126.9	1393.0	703.9	355.7	586.6	975.9	2132.4	331.5	162.0
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: P196697

CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-7030

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8
2.5°	9470.0	9231.7	9008.2	8777.3	8598.4	8380.6	8166.5	7980.2	7799.6	7680.4	7717.6
5°	9239.2	8658.0	8136.6	7652.4	7369.3	7028.5	6724.9	6469.8	6272.3	6145.8	6222.1
7.5°	8186.9	7401.0	6713.8	6075.1	5672.7	5231.4	4877.6	4627.9	4475.3	4389.6	4514.4
10°	7110.5	6227.7	5456.7	4791.8	4395.2	4020.8	3700.5	3436.1	3231.3	3134.3	3184.6
12.5°	6339.4	5358.0	4549.8	4102.8	3761.9	3426.7	3095.2	2786.1	2525.3	2406.1	2382.0
15°	6050.8	4890.6	4065.5	3566.4	3227.4	2862.5	2504.9	2173.3	1925.7	1823.2	1800.9
17.5°	6177.4	4789.9	3778.7	3188.4	2696.7	2253.5	1851.2	1538.3	1355.8	1298.1	1303.7
20°	6622.5	4827.2	3547.7	2799.1	2192.0	1666.9	1264.5	1048.5	970.3	957.2	972.2
22.5°	7233.4	4979.9	3380.2	2463.9	1746.8	1212.3	940.5	838.0	817.6	815.7	830.6
25°	8039.8	5277.9	3268.4	2165.9	1380.1	960.9	819.5	761.7	744.9	748.7	763.6
27.5°	8989.7	5656.0	3195.9	1908.9	1134.2	856.7	765.5	715.1	698.3	702.1	713.3
30°	9857.5	5987.5	3087.7	1715.3	1018.8	819.5	735.7	685.4	662.9	662.9	670.5
32.5°	10633.9	6274.3	2961.2	1569.9	912.6	735.7	666.7	627.5	610.9	616.4	620.1
35°	11323.1	6425.1	2862.5	1484.3	826.9	677.9	609.0	568.0	545.6	549.3	554.9
37.5°	12001.0	6482.9	2797.2	1437.8	765.5	642.6	579.2	545.6	521.5	517.8	515.9
40°	12645.3	6469.8	2735.9	1424.7	724.5	616.4	560.6	530.8	506.5	501.0	499.1
42.5°	13202.3	6426.9	2678.1	1389.3	696.5	597.8	545.6	519.6	495.4	488.0	484.2
45°	13710.6	6401.0	2614.8	1324.1	711.4	590.3	538.2	510.2	488.0	478.7	474.9
47.5°	14274.9	6494.1	2544.0	1253.3	707.7	592.1	538.2	506.5	484.2	474.9	471.1
50°	14947.2	6808.8	2456.4	1156.5	674.1	633.1	536.4	501.0	480.5	474.9	467.4
52.5°	15897.0	7319.1	2335.4	1031.7	648.1	676.0	534.5	491.6	474.9	465.6	456.2
55°	17198.8	7829.3	2178.9	899.5	607.2	646.3	538.2	480.5	461.8	452.6	441.4
57.5°	18266.0	8216.8	1981.5	789.6	569.9	610.9	532.6	467.4	447.0	437.7	428.3
60°	18197.0	8254.0	1793.5	718.8	547.5	549.3	545.6	458.2	434.0	426.4	419.0
62.5°	17070.3	7793.9	1618.3	683.5	530.8	501.0	556.9	447.0	420.8	413.4	407.9
65°	15194.9	6723.0	1525.3	683.5	515.9	474.9	486.1	432.1	407.9	400.4	396.7
67.5°	12816.7	5402.7	1437.8	698.3	495.4	456.2	441.4	417.2	394.9	387.4	383.6
70°	10272.8	4251.8	1376.2	690.9	476.8	435.8	417.2	396.7	374.3	372.5	368.8
72.5°	8058.4	3415.6	1348.4	690.9	448.8	411.6	393.0	378.0	355.7	353.9	348.2
75°	6456.7	2564.5	1232.9	677.9	420.8	379.9	363.2	350.1	327.8	329.6	325.9
77.5°	5000.5	1813.9	1029.9	610.9	385.4	344.5	331.5	322.2	296.1	297.9	297.9
80°	3910.9	1180.8	798.9	506.5	344.5	303.5	294.2	286.8	258.8	262.6	262.6
82.5°	2679.9	702.1	579.2	407.9	296.1	258.8	257.0	245.9	216.0	217.9	221.6
85°	1463.8	461.8	385.4	301.7	232.8	210.5	206.7	201.1	173.1	173.1	175.1
87.5°	270.1	247.7	227.3	199.3	156.5	150.9	145.4	150.9	130.3	126.6	126.6
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: P196697

CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-7030

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8
2.5°	7630.0	7501.5	7412.1	7333.9	7145.9	7158.8	7185.0	7222.2	7104.9	7166.4	7242.7
5°	6145.8	6039.7	5959.5	5834.8	5572.1	5479.1	5419.5	5393.4	5218.3	5255.6	5337.6
7.5°	4531.1	4529.3	4501.3	4361.6	4045.0	3853.2	3726.7	3687.5	3579.5	3620.5	3745.2
10°	3190.3	3223.7	3210.7	3085.9	2802.8	2665.1	2637.1	2715.3	2717.2	2797.2	3011.4
12.5°	2305.6	2287.1	2270.2	2167.8	1955.5	1933.2	1996.5	2104.5	2130.5	2216.3	2439.6
15°	1720.9	1676.1	1666.9	1586.8	1447.0	1467.6	1514.2	1569.9	1571.8	1631.5	1815.8
17.5°	1290.6	1290.6	1305.5	1253.3	1152.8	1143.5	1119.3	1104.4	1082.0	1106.2	1206.8
20°	1001.9	1048.5	1085.7	1056.0	964.6	920.0	873.4	843.7	826.9	828.7	858.6
22.5°	858.6	895.8	944.2	929.4	853.0	795.2	765.5	744.9	731.9	731.9	748.7
25°	785.9	810.1	854.9	847.5	782.2	735.7	711.4	690.9	676.0	674.1	690.9
27.5°	728.2	743.1	772.9	769.1	702.1	672.3	657.4	644.4	635.1	633.1	650.0
30°	676.0	683.5	698.3	692.8	642.6	612.7	607.2	601.6	595.9	597.8	622.0
32.5°	629.5	635.1	644.4	636.9	588.5	562.4	553.1	545.6	540.1	545.6	573.6
35°	577.3	594.1	605.3	601.6	549.3	517.8	497.2	478.7	471.1	476.8	508.4
37.5°	532.6	560.6	575.5	571.8	517.8	480.5	454.4	450.7	450.7	458.2	489.8
40°	515.9	536.4	549.3	543.8	489.8	452.6	437.7	432.1	434.0	441.4	474.9
42.5°	501.0	519.6	523.4	512.1	458.2	434.0	424.6	417.2	420.8	430.2	463.7
45°	488.0	502.8	501.0	484.2	432.1	415.3	415.3	409.7	411.6	419.0	454.4
47.5°	478.7	486.1	482.4	465.6	413.4	400.4	406.0	406.0	409.7	415.3	450.7
50°	463.7	469.3	465.6	450.7	398.6	387.4	393.0	400.4	404.2	409.7	441.4
52.5°	448.8	452.6	450.7	435.8	383.6	376.2	376.2	383.6	391.1	398.6	426.4
55°	434.0	437.7	439.6	428.3	372.5	365.0	363.2	363.2	370.6	381.8	411.6
57.5°	422.8	422.8	426.4	419.0	361.3	352.1	342.6	344.5	353.9	363.2	393.0
60°	409.7	411.6	417.2	409.7	346.4	331.5	324.1	333.3	337.1	346.4	378.0
62.5°	398.6	398.6	402.3	396.7	333.3	318.5	312.9	322.2	322.2	331.5	363.2
65°	389.2	387.4	387.4	385.4	320.3	305.4	301.7	305.4	307.2	316.7	348.2
67.5°	381.8	372.5	372.5	376.2	307.2	292.4	290.5	290.5	292.4	303.5	331.5
70°	365.0	357.6	355.7	368.8	294.2	275.7	275.7	271.9	275.7	281.3	311.1
72.5°	346.4	340.8	338.9	357.6	281.3	257.0	253.3	251.4	253.3	258.8	286.8
75°	322.2	318.5	322.2	350.1	268.2	236.5	231.0	229.1	229.1	231.0	260.7
77.5°	294.2	290.5	318.5	325.9	260.7	212.3	206.7	203.0	199.3	199.3	232.8
80°	260.7	258.8	307.2	275.7	249.5	186.3	176.9	171.3	167.6	165.7	199.3
82.5°	227.3	223.4	262.6	216.0	206.7	152.8	139.7	128.5	122.9	122.9	152.8
85°	186.3	184.3	206.7	158.3	143.3	111.8	93.1	83.8	76.4	76.4	98.7
87.5°	135.9	132.2	128.5	94.9	72.6	50.3	35.4	33.6	29.8	28.0	41.0
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: P196697

CATALOG NUMBER: NAV-AF-05-D-UNV-SLL-7030

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8	8756.8
2.5°	7356.3	7510.9	7803.3	8043.5	8363.8	8620.9	8913.3	9039.9
5°	5488.3	5732.3	6179.2	6561.0	7090.0	7579.8	8138.5	8443.9
7.5°	3937.0	4298.3	4637.3	5114.0	5775.1	6432.5	7155.2	7559.3
10°	3257.2	3588.7	3879.2	4218.3	4728.5	5467.9	6330.2	6786.4
12.5°	2698.6	3056.1	3363.4	3726.7	4154.9	4823.5	5806.8	6337.6
15°	2069.1	2458.4	2827.1	3264.6	3789.8	4553.5	5650.4	6242.6
17.5°	1417.2	1834.5	2288.9	2823.4	3456.5	4439.9	5799.4	6529.5
20°	962.8	1268.3	1761.8	2395.0	3156.7	4385.8	6127.2	7119.8
22.5°	791.5	929.4	1299.9	1992.7	2910.8	4445.4	6659.8	7896.3
25°	726.3	800.8	1011.3	1638.9	2722.7	4603.7	7380.5	8773.5
27.5°	685.4	748.7	886.5	1385.6	2549.6	4819.8	8257.7	9846.2
30°	661.1	720.8	836.2	1255.3	2391.2	5006.0	9011.9	10654.5
32.5°	607.2	651.8	746.8	1180.8	2277.6	5156.8	9676.8	11410.6
35°	541.9	595.9	674.1	1132.4	2273.9	5227.6	10302.5	12246.9
37.5°	517.8	569.9	627.5	1106.2	2296.3	5287.3	11068.0	13194.8
40°	502.8	549.3	595.9	1102.5	2314.8	5333.8	11816.6	14181.9
42.5°	489.8	536.4	590.3	1076.4	2307.4	5397.1	12479.6	15029.1
45°	486.1	532.6	603.4	1037.3	2305.6	5495.8	13006.7	15707.1
47.5°	482.4	553.1	599.8	994.5	2298.2	5704.4	13600.8	16338.4
50°	478.7	590.3	573.6	934.9	2242.3	6060.1	14399.8	17061.1
52.5°	476.8	595.9	545.6	853.0	2141.7	6587.1	15569.2	18066.7
55°	469.3	566.2	497.2	744.9	1996.5	7155.2	16822.6	19249.3
57.5°	452.6	504.7	469.3	638.8	1787.8	7551.9	17748.2	20163.7
60°	493.6	434.0	450.7	584.7	1538.3	7622.6	17789.1	20420.7
62.5°	471.1	394.9	432.1	566.2	1363.2	7160.8	16975.4	20113.4
65°	376.2	374.3	415.3	584.7	1337.3	6127.2	15600.9	19202.8
67.5°	342.6	359.5	398.6	607.2	1353.9	4827.2	13578.4	17075.9
70°	320.3	340.8	376.2	627.5	1383.8	3802.9	10932.1	13887.6
72.5°	297.9	314.7	353.9	648.1	1363.2	3000.3	8749.4	10697.3
75°	270.1	284.9	322.2	594.1	1169.5	2205.1	6952.1	7596.6
77.5°	238.4	251.4	283.1	469.3	879.0	1534.5	5207.2	5475.3
80°	204.9	210.5	234.7	342.6	573.6	918.1	3963.1	4367.2
82.5°	162.0	163.9	178.7	251.4	357.6	586.6	2748.9	3138.0
85°	104.4	108.0	115.5	176.9	240.3	376.2	1404.2	1609.1
87.5°	35.4	41.0	41.0	85.7	117.4	208.5	430.2	312.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)