

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: P270381

Luminaire Tested: **NAV-AF-02-D-UNV-T2R-7027**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270381  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24459)  
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-T2R-7027  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II  
ROADWAY OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11090.7 lumens  
Efficiency: N/A  
Efficacy: 98.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type II - Short - Semi-Cutoff  
BUG Rating: B1 - U0 - G2

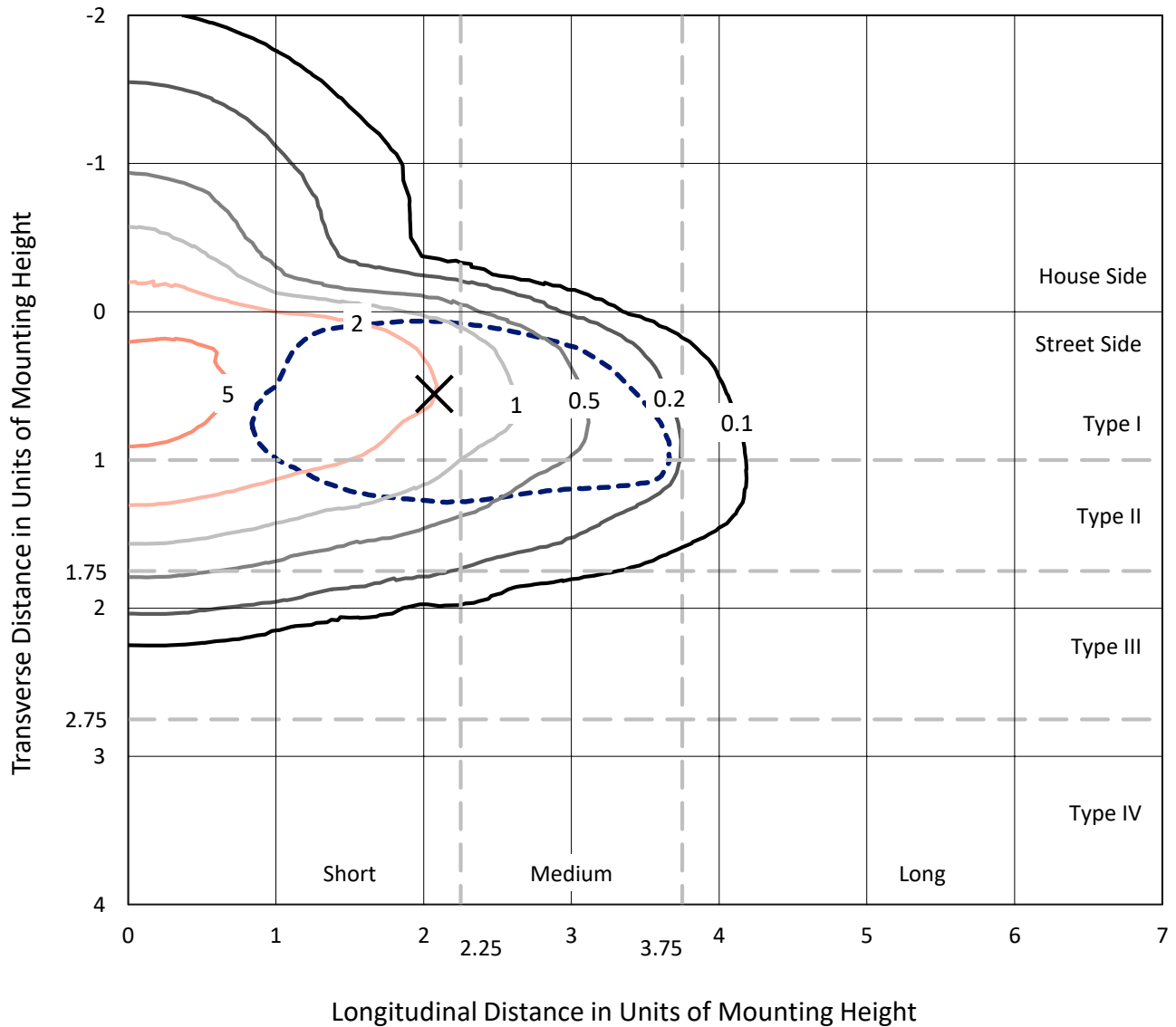
Input Watts (W): 113  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P270381  
 CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-7027

### Iso-Footcandle Lines of Horizontal Illumination

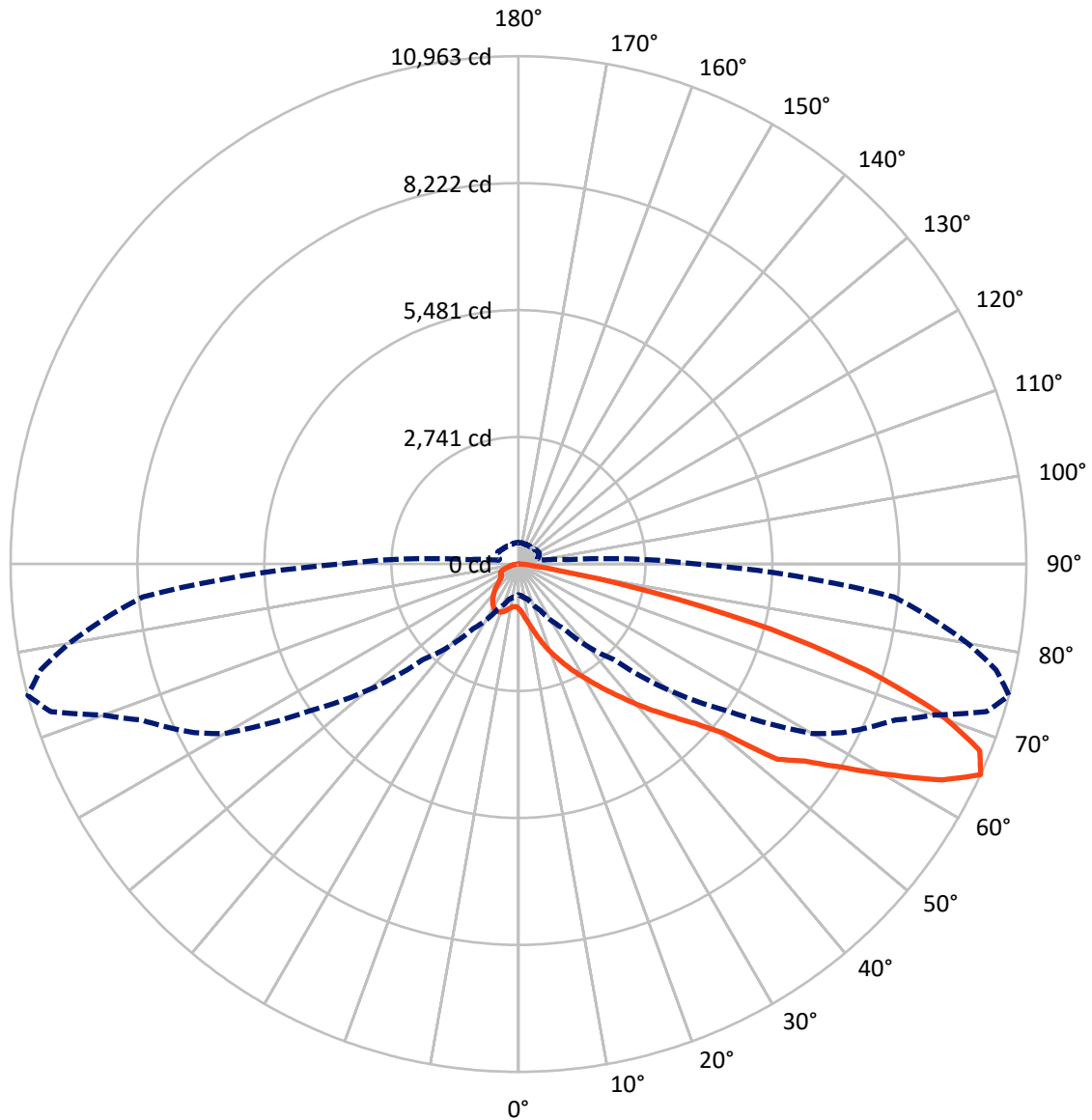
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.9 fc  
 Type II - Short - Semi-Cutoff

REPORT NUMBER: P270381  
CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-7027

### Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral    - - - Horizontal Cone Through 65-Deg Vertical

REPORT NUMBER: P270381

CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-7027

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1666.5	0.0	1666.5
	% Fixture	15.0	0.0	15.0
<b>Street Side</b>	Lumens	9424.2	0.0	9424.2
	% Fixture	85.0	0.0	85.0
<b>Total</b>	Lumens	11090.7	0.0	11090.7
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	113.4	1.0
10°-20°	433.3	3.9
20°-30°	874.5	7.9
30°-40°	1485.1	13.4
40°-50°	2071.3	18.7
50°-60°	2538.7	22.9
60°-70°	2388.5	21.5
70°-80°	1047.3	9.4
80°-90°	138.6	1.2
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°	11090.7	100.0
0°-180°	11090.7	100.0

**Coefficient of Utilization**



REPORT NUMBER: P270381

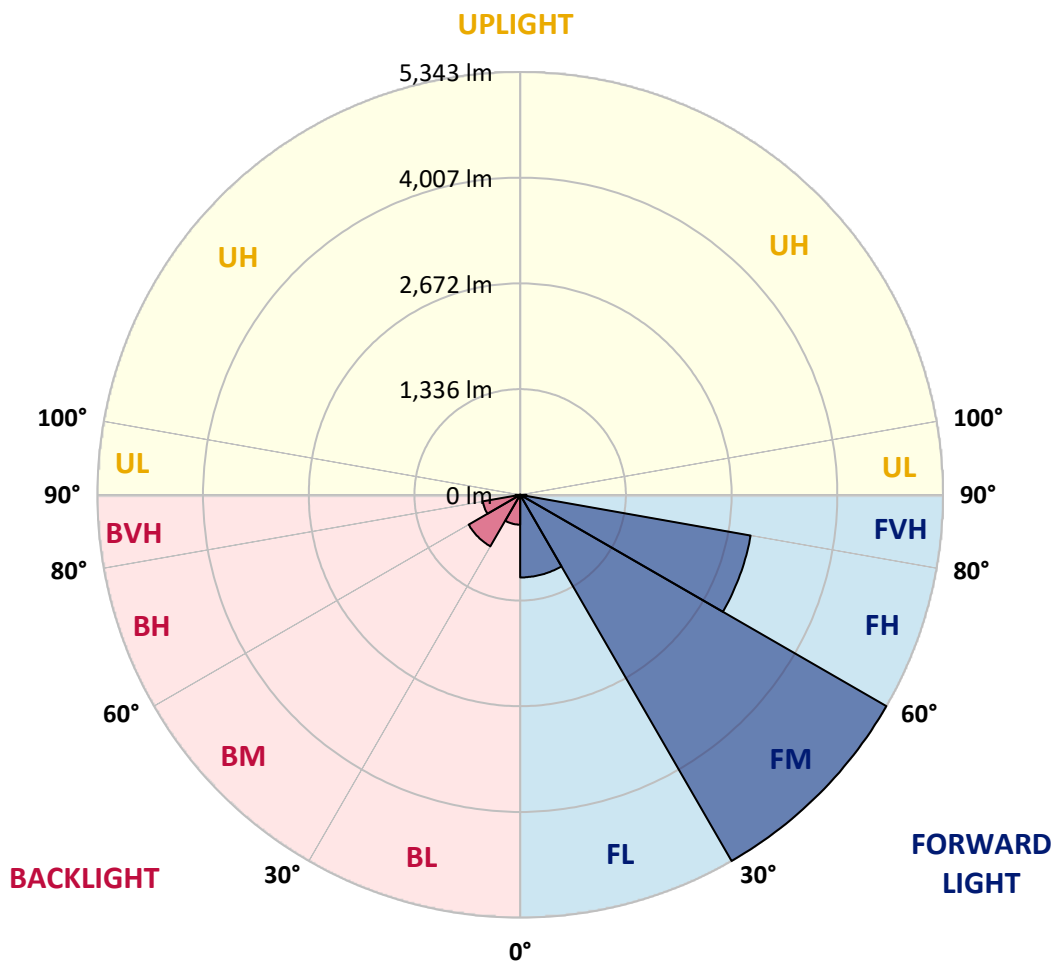
CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-7027

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1043.9	9.4			
FM	(30°-60°)	5343.0	48.2			
FH	(60°-80°)	2956.9	26.7			G2/5000
FVH	(80°-90°)	80.3	0.7			G1/100
BL	(0°-30°)	377.3	3.4	B1/500		
BM	(30°-60°)	752.0	6.8	B1/1000		
BH	(60°-80°)	479.0	4.3	B1/500		G1/500
BVH	(80°-90°)	58.2	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type II Short





REPORT NUMBER: P270381

CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-7027

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	960.9	960.9	960.9	960.9	960.9	960.9	960.9	960.9	960.9	960.9	960.9
2.5°	1209.9	1196.0	1197.4	1177.6	1148.7	1116.9	1090.7	1076.7	1064.6	1061.2	1041.3
5°	1582.5	1564.8	1558.5	1513.4	1445.6	1365.2	1285.5	1254.5	1229.1	1213.5	1175.4
7.5°	1887.2	1878.1	1869.7	1828.1	1761.0	1658.0	1529.6	1483.7	1441.4	1394.9	1349.0
10°	2094.8	2091.3	2087.8	2058.7	2003.0	1913.4	1775.1	1725.0	1672.1	1612.8	1552.9
12.5°	2251.4	2251.4	2254.1	2230.2	2196.4	2127.1	2001.7	1955.0	1901.4	1839.3	1770.9
15°	2356.6	2359.3	2374.1	2381.1	2363.6	2319.2	2209.0	2168.1	2117.3	2056.0	1988.2
17.5°	2426.3	2432.0	2453.9	2477.2	2499.8	2484.3	2402.3	2364.2	2318.3	2261.9	2198.4
20°	2588.6	2581.5	2582.3	2575.3	2608.4	2620.4	2575.3	2543.6	2506.8	2455.2	2397.4
22.5°	2929.5	2916.0	2881.5	2793.2	2753.0	2748.8	2722.0	2705.1	2676.8	2644.4	2586.5
25°	3373.9	3358.4	3290.0	3144.5	3024.7	2913.9	2864.4	2853.9	2835.6	2813.8	2772.1
27.5°	3833.2	3816.3	3728.1	3544.6	3388.0	3164.3	3010.5	2996.4	2979.5	2970.3	2950.6
30°	4237.5	4219.1	4132.4	3946.1	3757.0	3490.4	3207.4	3158.0	3129.1	3131.9	3120.6
32.5°	4592.3	4576.1	4478.8	4289.0	4097.1	3838.2	3462.7	3385.9	3320.9	3297.0	3305.5
35°	4890.2	4875.3	4768.7	4577.6	4384.2	4169.0	3791.6	3675.9	3570.0	3503.7	3495.9
37.5°	5065.1	5056.6	4981.8	4819.5	4627.6	4469.5	4159.8	4031.5	3875.6	3778.9	3736.5
40°	5055.2	5064.4	5051.7	4978.2	4829.4	4714.5	4543.6	4416.6	4264.3	4120.3	4034.3
42.5°	4911.3	4924.0	4981.1	5019.2	4978.9	4909.1	4878.9	4784.3	4647.4	4494.9	4375.7
45°	4713.6	4724.9	4799.0	4936.6	5051.7	5071.4	5172.4	5125.0	5009.3	4879.6	4748.4
47.5°	4411.0	4432.9	4519.0	4737.8	5011.5	5201.9	5418.5	5440.4	5373.4	5266.1	5143.3
50°	3972.9	4001.8	4122.4	4433.7	4859.0	5336.0	5784.7	5868.0	5841.1	5732.5	5608.4
52.5°	3524.2	3553.1	3714.0	4044.9	4613.5	5391.0	6145.2	6358.4	6512.2	6624.3	6646.2
55°	3057.1	3089.6	3266.0	3646.8	4286.2	5321.2	6402.8	6644.8	6800.7	6917.8	6965.1
57.5°	2530.0	2566.7	2737.4	3122.7	3823.4	5040.4	6689.1	7032.1	7264.2	7444.9	7546.4
60°	1925.3	1971.3	2148.3	2536.5	3215.2	4502.8	6816.9	7324.2	7693.3	7964.2	8125.0
62.5°	1220.5	1267.1	1451.3	1854.1	2523.0	3768.3	6455.7	7195.9	7825.1	8225.9	8520.9
65°	666.1	686.5	788.8	1092.2	1701.1	2923.8	5539.8	6412.6	7319.3	7887.2	8340.1
67.5°	499.5	502.3	512.9	587.0	905.9	1974.0	4331.3	5130.7	6137.5	6868.4	7409.6
70°	437.5	437.5	438.8	439.5	491.7	1069.6	2934.4	3670.2	4593.0	5332.5	6004.8
72.5°	392.3	388.1	386.6	378.1	385.3	548.1	1597.4	2258.3	3036.6	3866.3	4493.6
75°	338.7	337.9	337.9	329.5	333.7	385.9	692.9	1083.7	1686.9	2459.5	3076.9
77.5°	292.8	287.8	288.5	283.7	297.0	295.6	328.8	446.5	734.5	1291.9	1804.1
80°	241.3	237.8	239.8	237.1	258.3	218.6	221.5	273.1	364.7	566.6	798.7
82.5°	178.6	179.9	193.3	191.9	217.3	147.4	162.2	203.8	245.5	282.2	307.0
85°	104.5	106.4	139.0	146.1	159.4	77.7	99.5	121.4	136.9	151.8	158.0
87.5°	11.3	14.8	77.7	79.7	71.2	23.3	40.2	50.8	54.3	57.9	50.8
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: P270381

CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-7027

**CANDELA DISTRIBUTION (continued):**

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	960.9	960.9	960.9	960.9	960.9	960.9	960.9	960.9	960.9	960.9	960.9
2.5°	1035.0	1025.9	1016.0	1010.4	1000.4	992.0	976.5	963.8	949.7	939.7	935.6
5°	1156.4	1134.5	1111.3	1094.2	1073.1	1054.8	1019.4	977.1	963.8	935.6	928.5
7.5°	1314.4	1275.0	1235.3	1202.9	1166.3	1135.9	1076.7	1000.4	990.7	945.5	935.6
10°	1500.0	1442.0	1383.6	1333.4	1279.8	1233.4	1145.8	1038.5	1028.0	970.1	960.3
12.5°	1707.4	1636.8	1561.3	1486.5	1423.0	1357.5	1238.3	1097.8	1080.9	1012.5	999.0
15°	1921.1	1844.9	1757.5	1667.2	1588.9	1502.1	1351.8	1175.4	1144.4	1064.0	1045.5
17.5°	2132.1	2049.7	1957.9	1856.9	1765.3	1661.5	1474.6	1262.2	1208.6	1114.7	1091.5
20°	2336.0	2252.1	2155.5	2056.7	1942.3	1823.7	1600.2	1347.5	1265.7	1157.0	1126.7
22.5°	2521.6	2449.7	2353.0	2239.4	2123.7	1990.4	1727.9	1432.9	1315.8	1189.5	1150.6
25°	2717.1	2651.3	2555.5	2446.2	2311.3	2163.2	1859.9	1514.2	1356.0	1207.2	1159.3
27.5°	2914.6	2858.1	2767.9	2652.9	2508.2	2343.8	1993.9	1588.9	1388.5	1212.8	1155.0
30°	3125.6	3081.7	2998.5	2870.2	2724.1	2542.1	2139.9	1662.3	1408.9	1205.0	1135.9
32.5°	3325.2	3323.8	3249.7	3116.4	2959.0	2758.7	2293.7	1736.3	1419.5	1183.2	1102.8
35°	3532.7	3561.6	3505.8	3378.9	3213.1	2990.7	2463.7	1815.4	1420.2	1144.4	1059.7
37.5°	3768.3	3819.9	3795.1	3674.4	3500.2	3255.4	2663.5	1904.2	1416.0	1090.7	996.8
40°	4036.4	4107.0	4106.2	4004.6	3818.3	3551.7	2895.5	2003.7	1406.1	1023.8	922.9
42.5°	4343.3	4427.2	4450.6	4350.3	4161.9	3875.6	3161.6	2113.2	1390.7	957.5	844.5
45°	4694.6	4768.7	4812.5	4719.3	4530.2	4228.3	3467.0	2237.3	1371.5	872.1	754.9
47.5°	5070.8	5156.8	5222.3	5142.6	4940.9	4630.5	3828.9	2397.4	1364.5	774.7	658.3
50°	5537.1	5625.9	5767.7	5731.8	5621.1	5371.2	4594.6	2775.7	1367.3	682.3	577.2
52.5°	6694.2	6898.1	7077.2	6997.5	6734.4	6306.1	5216.7	2985.8	1308.1	606.7	520.7
55°	7043.4	7274.8	7539.4	7506.2	7253.6	6821.9	5708.5	3161.6	1250.9	551.6	483.9
57.5°	7654.4	7927.5	8297.1	8290.1	7980.4	7494.2	6341.3	3371.8	1226.2	519.9	465.6
60°	8301.3	8649.2	9160.0	9239.7	8903.2	8397.4	7089.2	3630.1	1229.8	502.3	455.1
62.5°	8774.0	9284.3	10027.2	10265.7	9869.0	9311.7	7865.4	3888.3	1208.6	481.9	442.3
65°	8803.0	9537.5	10591.6	10962.6	10561.3	9845.2	8139.2	3837.4	1081.6	454.4	421.9
67.5°	8097.5	9054.1	10334.7	10741.8	10331.1	9516.4	7659.4	3354.8	879.1	406.5	386.6
70°	6744.2	7854.8	9184.0	9637.6	9298.3	8473.5	6666.0	2679.6	656.9	343.0	333.7
72.5°	5211.8	6247.5	7454.8	7874.5	7614.9	6889.6	5257.7	1952.9	469.2	277.9	270.8
75°	3726.0	4607.9	5484.2	5644.3	5388.3	4722.2	3411.3	1219.9	328.8	227.9	218.0
77.5°	2307.0	2880.8	3195.5	2989.4	2662.7	2213.2	1388.5	602.6	218.6	185.6	175.7
80°	1023.8	1201.6	1121.9	999.8	789.5	649.0	424.0	267.3	141.2	143.2	137.6
82.5°	344.3	364.1	354.2	352.0	317.6	277.9	179.9	115.7	79.1	91.7	89.7
85°	168.0	175.7	176.3	182.7	158.7	123.4	48.7	45.9	33.9	49.3	51.6
87.5°	50.8	51.6	46.5	50.8	41.0	28.2	9.2	12.7	6.4	11.9	11.9
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: P270381

CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-7027

**CANDELA DISTRIBUTION (continued):**

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	960.9	960.9	960.9	960.9	960.9	960.9	960.9	960.9	960.9	960.9	960.9
2.5°	927.8	925.0	920.0	914.4	912.9	905.9	903.8	900.3	898.1	894.6	891.7
5°	919.3	914.4	908.7	902.3	902.3	892.5	888.2	884.0	884.0	877.7	874.9
7.5°	927.8	921.4	915.2	909.4	911.6	900.3	896.0	891.7	891.1	884.7	882.0
10°	951.8	945.5	937.7	932.0	929.8	920.8	915.8	909.4	905.2	901.0	896.8
12.5°	988.5	980.1	970.1	958.1	953.2	945.5	937.7	929.1	919.3	915.2	908.7
15°	1032.2	1018.0	1004.7	989.8	976.5	968.7	958.1	944.7	931.4	925.7	917.2
17.5°	1068.2	1053.4	1034.3	1016.7	992.6	986.3	971.5	955.3	933.3	931.4	918.5
20°	1098.5	1075.9	1052.6	1031.6	994.9	991.3	973.0	953.9	922.9	922.9	907.3
22.5°	1115.4	1084.4	1056.9	1028.6	982.8	980.1	958.9	936.3	898.1	899.6	880.5
25°	1118.3	1080.9	1046.3	1012.5	959.5	954.5	927.8	903.1	861.5	858.6	838.8
27.5°	1107.0	1063.2	1023.0	982.0	925.0	914.4	884.7	855.0	814.3	807.1	785.9
30°	1080.9	1029.4	984.3	936.9	876.9	860.0	829.0	798.7	757.0	747.8	728.2
32.5°	1039.2	980.7	930.6	883.4	817.0	795.9	764.7	734.5	694.2	687.3	668.9
35°	984.3	918.5	865.6	815.7	749.2	727.4	697.8	670.9	634.3	631.5	618.8
37.5°	915.2	846.7	790.1	742.2	679.5	668.2	637.7	618.0	587.8	590.5	584.2
40°	836.9	767.0	713.3	670.9	616.6	606.7	588.4	573.6	547.4	555.2	556.1
42.5°	757.7	687.9	639.2	601.1	554.6	548.1	535.5	527.0	507.4	522.9	529.1
45°	668.2	603.2	561.6	532.6	498.1	498.1	491.7	491.1	477.7	499.5	505.8
47.5°	581.4	530.5	501.7	483.9	460.0	471.3	469.2	474.8	465.0	487.5	493.2
50°	515.7	480.5	462.8	454.4	437.5	455.1	459.4	467.1	458.7	478.3	482.6
52.5°	474.1	450.8	441.0	438.8	426.9	448.8	455.8	462.8	452.9	471.3	470.6
55°	450.8	435.3	431.7	436.0	426.9	448.1	455.1	460.0	451.6	464.2	463.5
57.5°	442.3	433.9	436.0	442.3	436.0	453.6	457.1	462.8	454.4	460.0	462.8
60°	441.6	441.6	450.1	458.7	454.4	467.1	469.2	468.5	460.7	461.4	462.8
62.5°	437.5	448.1	462.1	475.6	474.1	489.7	491.1	481.9	475.6	468.5	466.4
65°	424.0	441.6	462.1	480.5	483.3	507.4	510.1	501.0	496.8	484.7	475.6
67.5°	394.4	417.0	441.0	463.5	468.5	501.0	507.4	510.7	512.9	505.1	493.2
70°	344.3	367.5	392.3	418.4	425.4	461.4	474.8	491.1	503.8	515.1	510.7
72.5°	280.1	301.2	322.4	346.4	356.9	394.4	412.1	440.3	460.0	488.9	501.0
75°	222.2	234.9	247.7	262.5	270.8	307.6	329.5	363.4	390.1	430.4	457.1
77.5°	175.0	181.3	187.7	194.0	197.5	218.0	235.6	269.5	300.6	351.3	390.9
80°	134.7	138.2	139.0	141.2	139.6	149.6	155.9	176.3	203.1	253.3	299.9
82.5°	86.7	89.7	91.0	94.5	87.5	100.3	104.5	106.4	120.6	157.4	190.5
85°	48.7	49.3	50.0	51.6	41.6	54.3	55.1	51.6	50.0	64.9	73.4
87.5°	11.9	11.3	11.9	11.9	4.9	11.3	11.3	7.7	5.7	10.6	8.4
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: P270381

CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-7027

**CANDELA DISTRIBUTION (continued):**

	135°	145°	155°	165°	175°	180°
0°	960.9	960.9	960.9	960.9	960.9	960.9
2.5°	885.5	884.0	884.7	881.1	879.8	880.5
5°	871.4	868.5	868.5	866.3	863.6	863.6
7.5°	877.7	872.1	869.9	865.6	861.5	862.2
10°	887.5	877.7	870.6	864.3	859.4	859.4
12.5°	894.0	876.2	865.6	857.3	851.7	851.7
15°	895.3	868.5	853.0	843.8	838.2	838.2
17.5°	886.8	853.0	833.3	821.2	814.9	816.3
20°	865.6	824.0	800.7	788.2	781.7	782.5
22.5°	832.5	784.6	757.7	743.0	736.6	736.6
25°	787.4	735.2	706.2	694.2	688.6	688.6
27.5°	735.9	682.3	656.9	647.7	644.2	644.2
30°	678.0	633.6	615.2	609.0	603.2	603.2
32.5°	629.4	597.6	591.3	582.8	568.0	567.3
35°	590.5	587.0	582.1	556.7	535.5	532.6
37.5°	569.3	590.5	559.5	515.7	498.7	498.1
40°	558.0	577.8	524.3	503.1	501.0	501.0
42.5°	531.3	545.5	522.2	510.1	510.1	510.7
45°	503.1	515.1	527.0	516.4	519.9	520.7
47.5°	483.3	507.4	527.0	517.9	524.9	529.1
50°	465.0	500.3	516.4	516.4	524.3	524.9
52.5°	460.7	490.4	506.6	514.3	515.1	511.6
55°	461.4	482.6	498.7	508.7	504.5	504.5
57.5°	460.7	478.3	492.5	496.0	498.1	498.1
60°	461.4	472.7	483.9	482.6	489.7	489.7
62.5°	463.5	465.0	470.6	469.2	479.8	479.8
65°	468.5	455.1	451.6	452.9	465.6	465.0
67.5°	477.7	441.6	430.4	431.0	449.4	446.5
70°	491.1	423.3	406.5	402.1	433.3	428.2
72.5°	495.2	402.1	375.3	371.1	389.4	375.3
75°	475.6	385.3	342.2	328.2	320.3	316.1
77.5°	424.0	374.7	307.6	277.9	266.0	263.2
80°	351.3	352.8	262.5	227.2	263.9	263.2
82.5°	265.3	304.7	210.3	196.9	191.2	159.4
85°	128.4	229.2	161.5	135.5	81.1	77.0
87.5°	11.3	95.9	93.2	60.6	27.5	26.1
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)