

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: P270384

Luminaire Tested: **NAV-AF-02-D-UNV-T2R-7027-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270384  
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-7027-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12165.5 lumens  
Efficiency: N/A  
Efficacy: 94.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type II - Short - Semi-Cutoff  
BUG Rating: B2 - U0 - G2

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

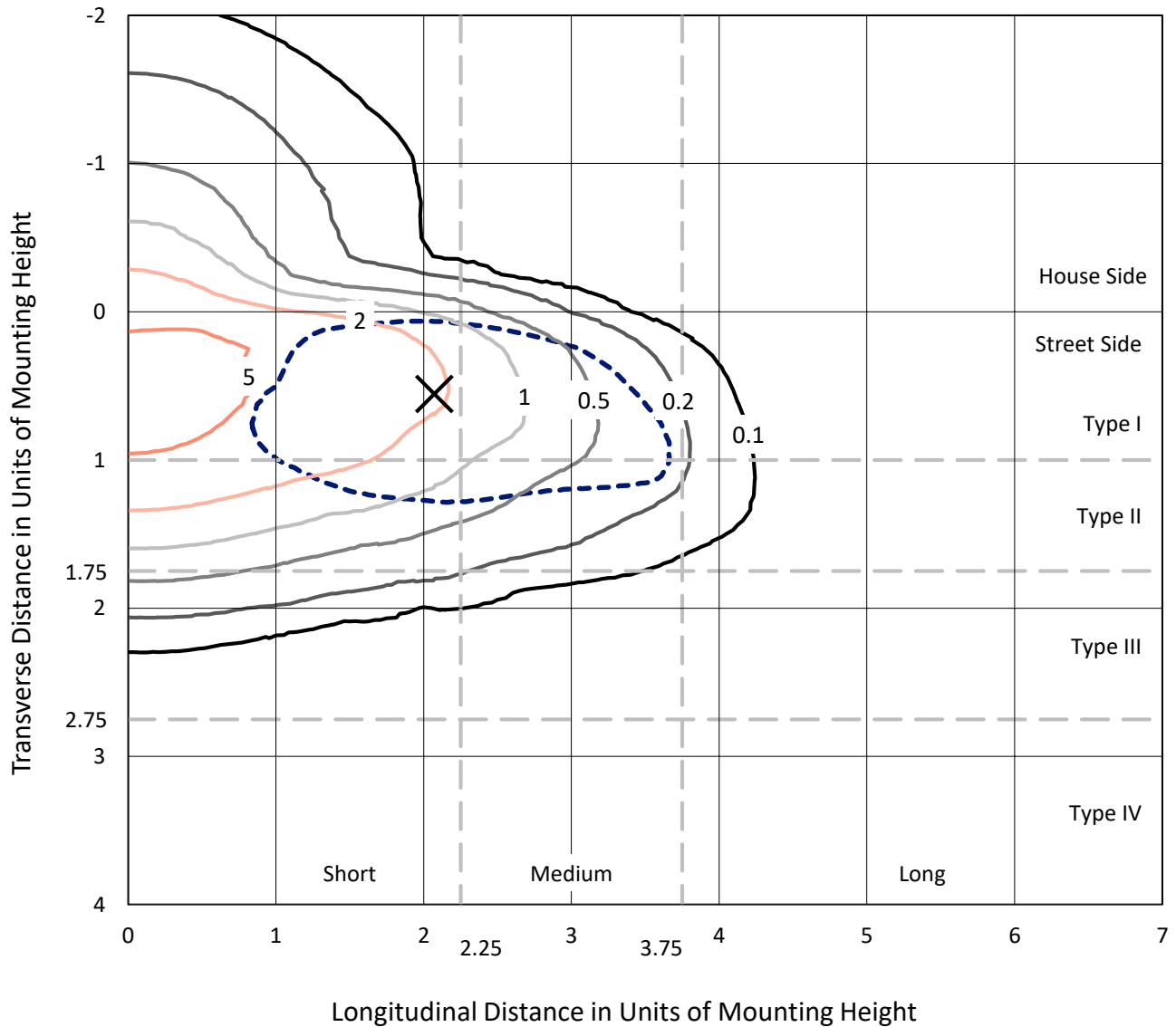


REPORT NUMBER: P270384

CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-7027-1200

### Iso-Footcandle Lines of Horizontal Illumination

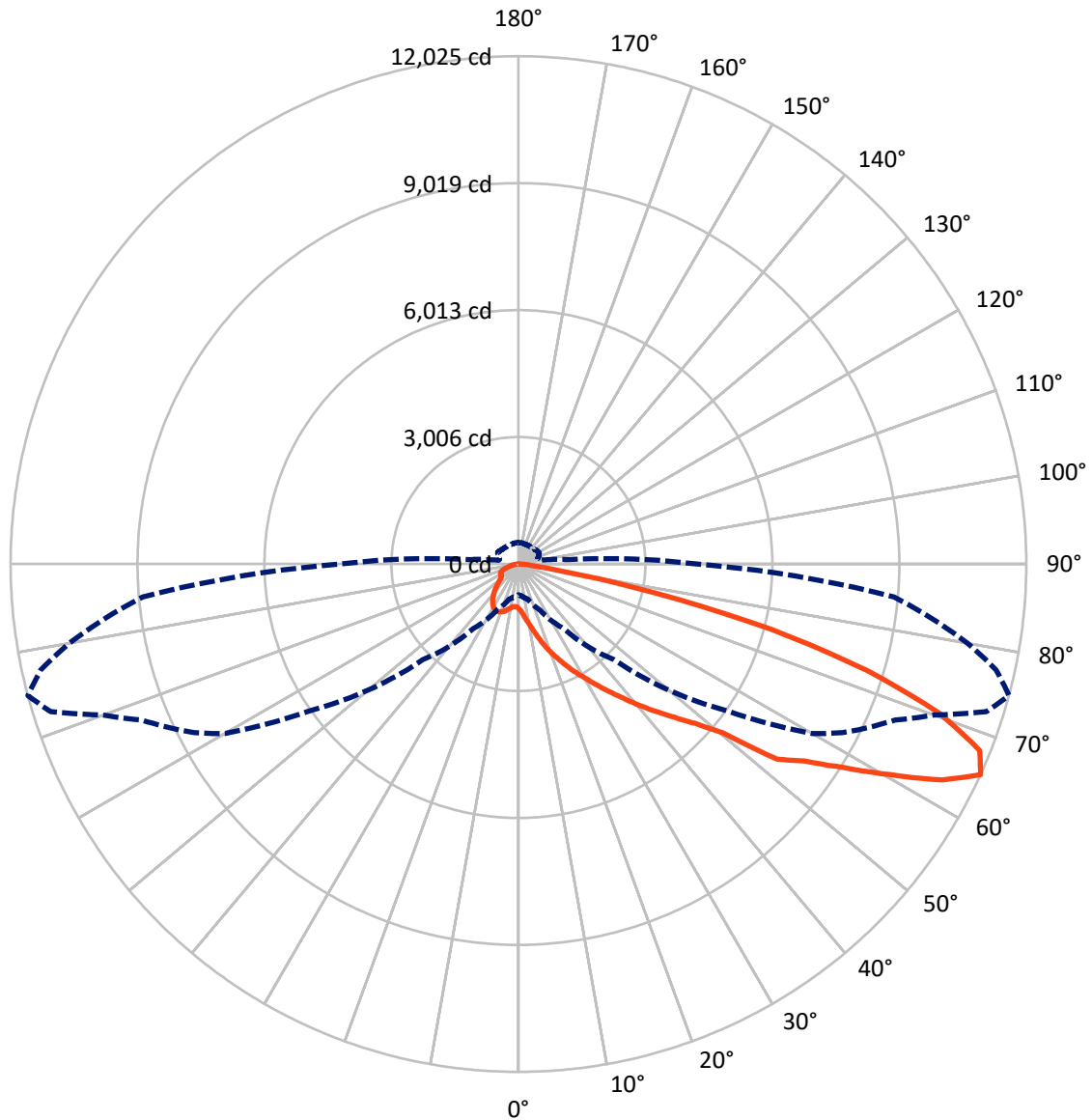
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.6 fc  
 Type II - Short - Semi-Cutoff

REPORT NUMBER: P270384  
CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-7027-1200

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P270384

CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-7027-1200

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1828.1	0.0	1828.1
	% Fixture	15.0	0.0	15.0
<b>Street Side</b>	Lumens	10337.4	0.0	10337.4
	% Fixture	85.0	0.0	85.0
<b>Total</b>	Lumens	12165.5	0.0	12165.5
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	124.4	1.0
10°-20°	475.3	3.9
20°-30°	959.2	7.9
30°-40°	1629.0	13.4
40°-50°	2272.0	18.7
50°-60°	2784.7	22.9
60°-70°	2620.0	21.5
70°-80°	1148.8	9.4
80°-90°	152.0	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°	12165.5	100.0
0°-180°	12165.5	100.0

**Coefficient of Utilization**



REPORT NUMBER: P270384

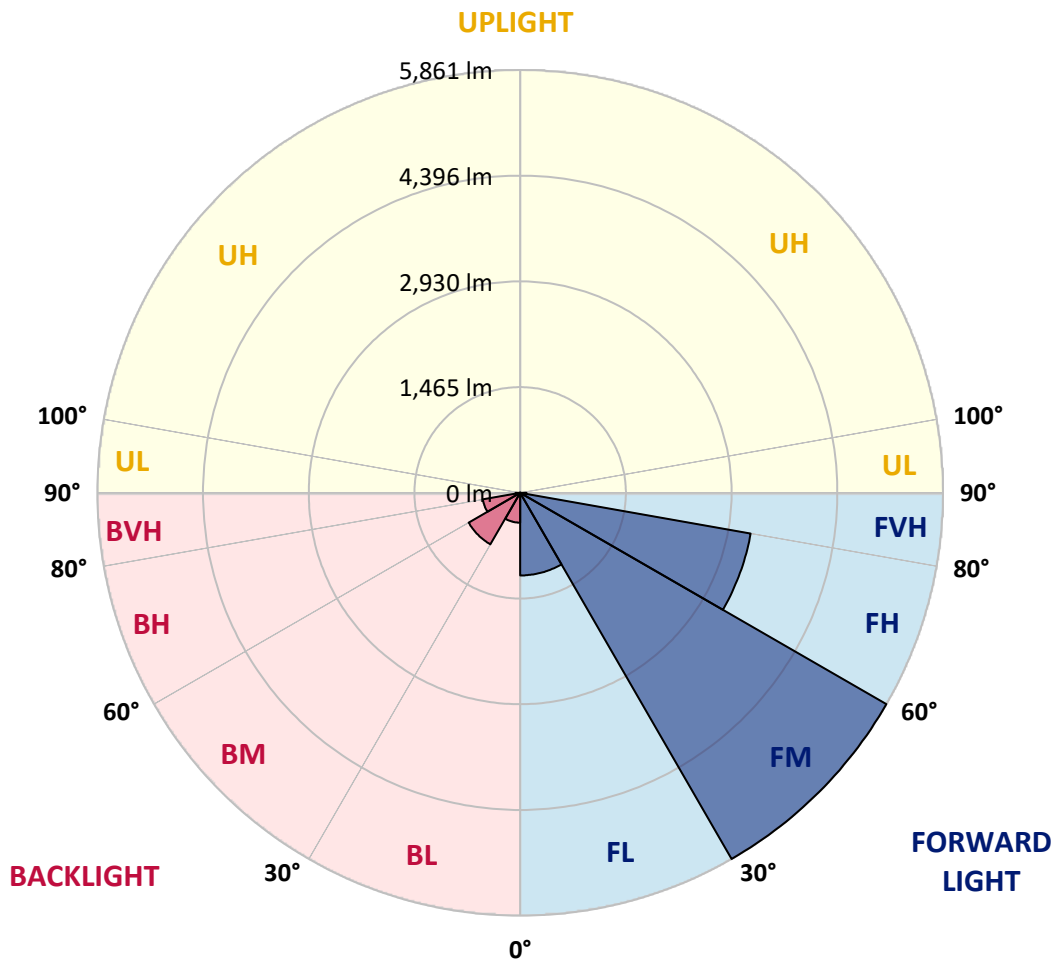
CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-7027-1200

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1145.1	9.4			
FM	(30°-60°)	5860.8	48.2			
FH	(60°-80°)	3243.4	26.7			G2/5000
FVH	(80°-90°)	88.1	0.7			G1/100
BL	(0°-30°)	413.8	3.4	B1/500		
BM	(30°-60°)	824.9	6.8	B1/1000		
BH	(60°-80°)	525.4	4.3	B2/1000		G2/1000
BVH	(80°-90°)	63.9	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type II Short





REPORT NUMBER: P270384

CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-7027-1200

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2
2.5°	1327.2	1311.7	1313.3	1291.7	1260.0	1225.1	1196.5	1181.0	1167.8	1163.9	1142.3
5°	1735.9	1716.5	1709.6	1660.1	1585.8	1497.6	1410.1	1376.1	1348.1	1331.1	1289.3
7.5°	2070.2	2060.2	2050.9	2005.1	1931.6	1818.7	1677.9	1627.5	1581.0	1530.1	1479.7
10°	2297.8	2293.8	2290.0	2258.2	2197.2	2098.8	1947.2	1892.2	1834.2	1769.1	1703.4
12.5°	2469.5	2469.5	2472.7	2446.4	2409.2	2333.3	2195.5	2144.6	2085.7	2017.6	1942.6
15°	2584.9	2587.9	2604.1	2611.9	2592.6	2543.8	2423.1	2378.3	2322.5	2255.1	2180.8
17.5°	2661.5	2667.6	2691.6	2717.3	2741.9	2724.9	2635.2	2593.3	2543.0	2481.2	2411.5
20°	2839.5	2831.7	2832.4	2824.8	2861.1	2874.2	2824.8	2790.0	2749.7	2693.2	2629.8
22.5°	3213.2	3198.5	3160.6	3063.8	3019.8	3015.2	2985.7	2967.1	2936.2	2900.5	2837.1
25°	3700.8	3683.8	3608.8	3449.3	3317.7	3196.2	3142.1	3130.5	3110.3	3086.3	3040.8
27.5°	4204.6	4186.1	4089.4	3888.1	3716.3	3471.1	3302.3	3286.8	3268.3	3258.2	3236.5
30°	4648.1	4628.0	4532.8	4328.5	4121.1	3828.5	3518.2	3464.0	3432.2	3435.4	3423.0
32.5°	5037.3	5019.5	4912.8	4704.7	4494.1	4210.0	3798.4	3714.0	3642.7	3616.4	3625.7
35°	5364.0	5347.7	5230.8	5021.2	4809.0	4573.0	4159.1	4032.0	3916.0	3843.2	3834.8
37.5°	5555.8	5546.7	5464.6	5286.5	5076.1	4902.7	4563.0	4422.0	4251.0	4145.0	4098.6
40°	5545.1	5555.1	5541.1	5460.6	5297.5	5171.3	4983.9	4844.6	4677.6	4519.6	4425.2
42.5°	5387.1	5401.1	5463.9	5505.6	5461.4	5384.9	5351.6	5247.9	5097.7	4930.5	4799.7
45°	5170.5	5183.0	5264.1	5415.1	5541.1	5562.8	5673.5	5621.7	5494.8	5352.3	5208.5
47.5°	4838.5	4862.4	4956.8	5196.8	5497.1	5706.0	5943.6	5967.6	5894.0	5776.5	5641.7
50°	4357.9	4389.6	4522.0	4863.2	5330.0	5853.0	6345.3	6436.5	6407.3	6288.0	6151.9
52.5°	3865.6	3897.3	4073.9	4436.8	5060.6	5913.5	6740.7	6974.5	7143.1	7266.2	7290.3
55°	3353.4	3388.9	3582.4	4000.3	4701.5	5836.7	7023.2	7288.7	7459.7	7588.2	7640.1
57.5°	2775.3	2815.5	3002.8	3425.2	4193.7	5528.8	7337.4	7713.6	7968.1	8166.3	8277.7
60°	2111.9	2162.3	2356.6	2782.2	3526.7	4939.2	7477.5	8033.9	8438.7	8735.8	8912.4
62.5°	1338.8	1389.9	1591.9	2033.9	2767.5	4133.5	7081.2	7893.0	8583.5	9022.9	9346.4
65°	730.6	753.0	865.2	1198.0	1865.9	3207.0	6076.8	7034.1	8028.5	8651.5	9148.3
67.5°	548.0	551.0	562.6	643.8	993.6	2165.5	4751.0	5627.8	6732.3	7533.9	8127.5
70°	479.9	479.9	481.4	482.1	539.4	1173.2	3218.6	4025.8	5038.1	5849.3	6586.7
72.5°	430.3	425.6	424.1	414.7	422.6	601.3	1752.1	2477.3	3330.8	4241.0	4929.0
75°	371.4	370.7	370.7	361.4	366.1	423.3	760.0	1188.7	1850.4	2697.8	3375.0
77.5°	321.1	315.8	316.6	311.2	325.8	324.3	360.6	489.8	805.6	1417.0	1978.8
80°	264.7	260.8	263.2	260.0	283.2	239.8	243.0	299.6	400.1	621.4	876.0
82.5°	195.8	197.4	212.1	210.6	238.4	161.8	178.0	223.7	269.3	309.6	336.7
85°	114.5	116.9	152.4	160.2	174.9	85.1	109.1	133.0	150.1	166.4	173.4
87.5°	12.3	16.3	85.1	87.5	78.2	25.5	44.0	55.8	59.6	63.5	55.8
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: P270384

CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-7027-1200

**CANDELA DISTRIBUTION (continued):**

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2
2.5°	1135.3	1125.2	1114.4	1108.1	1097.4	1088.0	1071.0	1057.1	1041.7	1030.8	1026.3
5°	1268.4	1244.4	1218.9	1200.3	1177.0	1156.9	1118.3	1071.9	1057.1	1026.3	1018.5
7.5°	1441.8	1398.4	1355.2	1319.5	1279.2	1245.9	1181.0	1097.4	1086.6	1037.1	1026.3
10°	1645.3	1581.8	1517.6	1462.7	1404.0	1352.8	1256.8	1139.2	1127.6	1064.1	1053.4
12.5°	1872.8	1795.4	1712.7	1630.7	1561.0	1489.0	1358.1	1204.2	1185.7	1110.6	1095.8
15°	2107.3	2023.8	1927.9	1828.7	1742.8	1647.6	1482.8	1289.3	1255.3	1167.1	1147.0
17.5°	2338.7	2248.2	2147.6	2036.9	1936.3	1822.5	1617.5	1384.5	1325.7	1222.8	1197.3
20°	2562.4	2470.2	2364.2	2256.0	2130.6	2000.5	1755.2	1478.3	1388.4	1269.2	1236.0
22.5°	2765.9	2687.0	2581.0	2456.3	2329.5	2183.2	1895.3	1571.9	1443.3	1304.8	1262.3
25°	2980.3	2908.4	2803.2	2683.1	2535.3	2372.9	2040.1	1660.7	1487.5	1324.1	1271.6
27.5°	3197.0	3135.2	3036.0	2909.9	2751.2	2570.9	2187.1	1742.8	1523.0	1330.3	1266.9
30°	3428.4	3380.4	3289.1	3148.3	2988.0	2788.3	2347.4	1823.3	1545.5	1321.9	1245.9
32.5°	3647.4	3646.0	3564.7	3418.3	3245.8	3026.0	2516.0	1904.5	1557.1	1297.8	1209.6
35°	3875.0	3906.6	3845.6	3706.2	3524.4	3280.6	2702.6	1991.3	1557.9	1255.3	1162.3
37.5°	4133.5	4190.0	4162.8	4030.5	3839.4	3570.9	2921.5	2088.7	1553.2	1196.5	1093.5
40°	4427.6	4504.9	4504.1	4392.7	4188.3	3895.9	3176.0	2198.0	1542.4	1122.9	1012.3
42.5°	4764.3	4856.2	4881.7	4771.9	4565.2	4251.0	3467.8	2317.8	1525.4	1050.2	926.3
45°	5149.5	5230.8	5278.8	5176.7	4969.2	4637.9	3803.0	2454.1	1504.5	956.5	828.1
47.5°	5562.0	5656.4	5728.5	5641.0	5419.7	5079.1	4199.9	2629.8	1496.8	849.7	722.1
50°	6073.6	6171.1	6326.8	6287.2	6165.7	5891.8	5039.8	3044.5	1499.8	748.4	633.0
52.5°	7342.8	7566.6	7763.1	7675.6	7386.9	6917.2	5722.3	3275.2	1434.9	665.6	571.1
55°	7726.0	7979.7	8269.9	8233.7	7956.6	7482.9	6261.6	3467.8	1372.2	605.2	530.9
57.5°	8396.1	8695.7	9101.2	9093.5	8753.7	8220.5	6955.8	3698.5	1345.0	570.3	510.7
60°	9105.8	9487.3	10047.6	10135.0	9766.0	9211.0	7776.3	3981.7	1349.0	551.0	499.2
62.5°	9624.4	10183.8	10998.8	11260.3	10825.5	10214.1	8627.5	4265.1	1325.7	528.7	485.3
65°	9656.1	10461.8	11617.9	12025.0	11584.6	10799.2	8927.9	4209.3	1186.4	498.4	462.7
67.5°	8882.1	9931.7	11336.3	11782.8	11332.4	10438.5	8401.6	3679.9	964.3	445.7	424.1
70°	7397.8	8616.0	10074.0	10571.6	10199.4	9294.7	7311.8	2939.3	720.5	376.1	366.1
72.5°	5716.9	6853.0	8177.1	8637.7	8352.8	7557.3	5767.2	2142.2	514.6	305.0	297.2
75°	4087.0	5054.5	6015.6	6191.3	5910.4	5179.7	3741.8	1338.0	360.6	250.0	239.0
77.5°	2530.6	3159.9	3505.0	3279.1	2920.7	2427.8	1523.0	661.0	239.8	203.6	192.6
80°	1122.9	1318.0	1230.5	1096.7	866.0	711.9	465.1	293.2	154.8	157.2	150.9
82.5°	377.6	399.3	388.4	386.2	348.3	305.0	197.4	126.9	86.6	100.6	98.3
85°	184.2	192.6	193.4	200.4	174.1	135.5	53.4	50.3	37.1	54.2	56.6
87.5°	55.8	56.6	51.1	55.8	44.8	30.9	10.2	14.0	6.9	13.1	13.1
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: P270384

CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-7027-1200

**CANDELA DISTRIBUTION (continued):**

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2
2.5°	1017.7	1014.5	1009.2	1003.0	1001.4	993.6	991.4	987.4	985.3	981.3	978.3
5°	1008.3	1003.0	996.8	989.8	989.8	979.1	974.3	969.7	969.7	962.8	959.7
7.5°	1017.7	1010.8	1003.8	997.6	1000.0	987.4	982.8	978.3	977.4	970.4	967.4
10°	1044.0	1037.1	1028.5	1022.4	1020.0	1010.0	1004.6	997.6	992.9	988.2	983.6
12.5°	1084.3	1074.9	1064.1	1050.9	1045.5	1037.1	1028.5	1019.2	1008.3	1003.8	996.8
15°	1132.3	1116.8	1102.0	1085.8	1071.0	1062.5	1050.9	1036.3	1021.6	1015.4	1006.1
17.5°	1171.7	1155.4	1134.6	1115.2	1088.8	1081.9	1065.7	1047.9	1023.9	1021.6	1007.5
20°	1204.9	1180.3	1154.7	1131.4	1091.3	1087.4	1067.2	1046.3	1012.3	1012.3	995.2
22.5°	1223.5	1189.4	1159.4	1128.4	1078.1	1074.9	1051.7	1027.0	985.3	986.8	965.9
25°	1226.6	1185.7	1147.8	1110.6	1052.5	1047.2	1017.7	990.7	944.9	941.9	920.1
27.5°	1214.2	1166.3	1122.2	1077.2	1014.5	1003.0	970.4	938.0	893.0	885.4	862.2
30°	1185.7	1129.1	1079.7	1027.8	961.9	943.4	909.4	876.0	830.5	820.3	798.7
32.5°	1139.9	1075.7	1020.7	968.9	896.1	873.0	838.8	805.6	761.6	753.8	733.6
35°	1079.7	1007.5	949.6	894.6	821.9	798.0	765.4	736.0	695.7	692.7	678.7
37.5°	1003.8	928.7	866.8	814.1	745.2	732.8	699.6	678.0	644.7	647.8	640.9
40°	917.9	841.3	782.5	736.0	676.5	665.6	645.4	629.3	600.5	609.1	609.8
42.5°	831.2	754.5	701.1	659.4	608.3	601.3	587.4	578.1	556.4	573.5	580.5
45°	732.8	661.7	616.1	584.3	546.3	546.3	539.4	538.7	523.9	548.0	555.0
47.5°	637.6	582.0	550.2	530.9	504.6	517.0	514.6	520.8	510.0	534.9	541.0
50°	565.8	527.0	507.7	498.4	479.9	499.2	503.8	512.4	503.1	524.7	529.3
52.5°	520.1	494.5	483.6	481.4	468.1	492.2	499.9	507.7	496.9	517.0	516.2
55°	494.5	477.4	473.6	478.3	468.1	491.5	499.2	504.6	495.2	509.2	508.5
57.5°	485.3	475.9	478.3	485.3	478.3	497.7	501.6	507.7	498.4	504.6	507.7
60°	484.5	484.5	493.8	503.1	498.4	512.4	514.6	513.9	505.3	506.1	507.7
62.5°	479.9	491.5	507.0	521.6	520.1	537.0	538.7	528.7	521.6	513.9	511.6
65°	465.1	484.5	507.0	527.0	530.1	556.4	559.6	549.5	544.8	531.6	521.6
67.5°	432.7	457.3	483.6	508.5	513.9	549.5	556.4	560.4	562.6	554.2	541.0
70°	377.6	403.2	430.3	458.9	466.7	506.1	520.8	538.7	552.5	564.9	560.4
72.5°	307.2	330.4	353.7	380.1	391.7	432.7	451.9	482.8	504.6	536.3	549.5
75°	243.8	257.8	271.6	287.8	297.2	337.5	361.4	398.6	428.0	472.1	501.6
77.5°	192.0	198.9	205.8	212.8	216.8	239.0	258.5	295.6	329.7	385.5	428.8
80°	147.9	151.6	152.4	154.8	153.3	164.1	171.0	193.4	222.9	277.8	328.9
82.5°	95.2	98.3	99.8	103.8	95.9	110.0	114.5	116.9	132.3	172.6	208.9
85°	53.4	54.2	54.9	56.6	45.6	59.6	60.4	56.6	54.9	71.1	80.5
87.5°	13.1	12.3	13.1	13.1	5.4	12.3	12.3	8.5	6.2	11.6	9.3
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: P270384

CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-7027-1200

**CANDELA DISTRIBUTION (continued):**

	135°	145°	155°	165°	175°	180°
0°	1054.2	1054.2	1054.2	1054.2	1054.2	1054.2
2.5°	971.2	969.7	970.4	966.5	965.0	965.9
5°	955.7	952.7	952.7	950.3	947.3	947.3
7.5°	962.8	956.5	954.2	949.6	944.9	945.7
10°	973.6	962.8	955.0	948.0	942.6	942.6
12.5°	980.5	961.1	949.6	940.3	934.1	934.1
15°	982.0	952.7	935.7	925.7	919.4	919.4
17.5°	972.9	935.7	913.9	900.8	893.9	895.4
20°	949.6	904.0	878.5	864.4	857.5	858.3
22.5°	913.1	860.5	831.2	814.9	807.9	807.9
25°	863.7	806.4	774.7	761.6	755.4	755.4
27.5°	807.1	748.4	720.5	710.5	706.5	706.5
30°	743.7	695.0	674.8	667.9	661.7	661.7
32.5°	690.3	655.6	648.5	639.2	623.1	622.3
35°	647.8	643.8	638.4	610.6	587.4	584.3
37.5°	624.5	647.8	613.7	565.8	547.2	546.3
40°	612.1	633.8	575.0	551.7	549.5	549.5
42.5°	582.7	598.2	572.7	559.6	559.6	560.4
45°	551.7	564.9	578.1	566.6	570.3	571.1
47.5°	530.1	556.4	578.1	568.1	575.9	580.5
50°	510.0	548.8	566.6	566.6	575.0	575.9
52.5°	505.3	537.8	555.7	564.1	564.9	561.1
55°	506.1	529.3	547.2	557.9	553.4	553.4
57.5°	505.3	524.7	540.2	544.1	546.3	546.3
60°	506.1	518.5	530.9	529.3	537.0	537.0
62.5°	508.5	510.0	516.2	514.6	526.2	526.2
65°	513.9	499.2	495.2	496.9	510.7	510.0
67.5°	523.9	484.5	472.1	472.9	493.0	489.8
70°	538.7	464.3	445.7	441.2	475.2	469.8
72.5°	543.3	441.2	411.8	407.1	427.2	411.8
75°	521.6	422.6	375.3	360.0	351.3	346.7
77.5°	465.1	411.0	337.5	305.0	291.8	288.6
80°	385.5	387.0	287.8	249.2	289.4	288.6
82.5°	291.1	334.3	230.7	216.0	209.8	174.9
85°	140.9	251.5	177.2	148.6	89.0	84.4
87.5°	12.3	105.2	102.1	66.6	30.3	28.7
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)