

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: P197241

Luminaire Tested: **NAV-AF-03-D-UNV-T2R-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197241
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-03-D-UNV-T2R-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12515 lumens
Efficiency: N/A
Efficacy: 100.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

Input Watts (W): 124
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

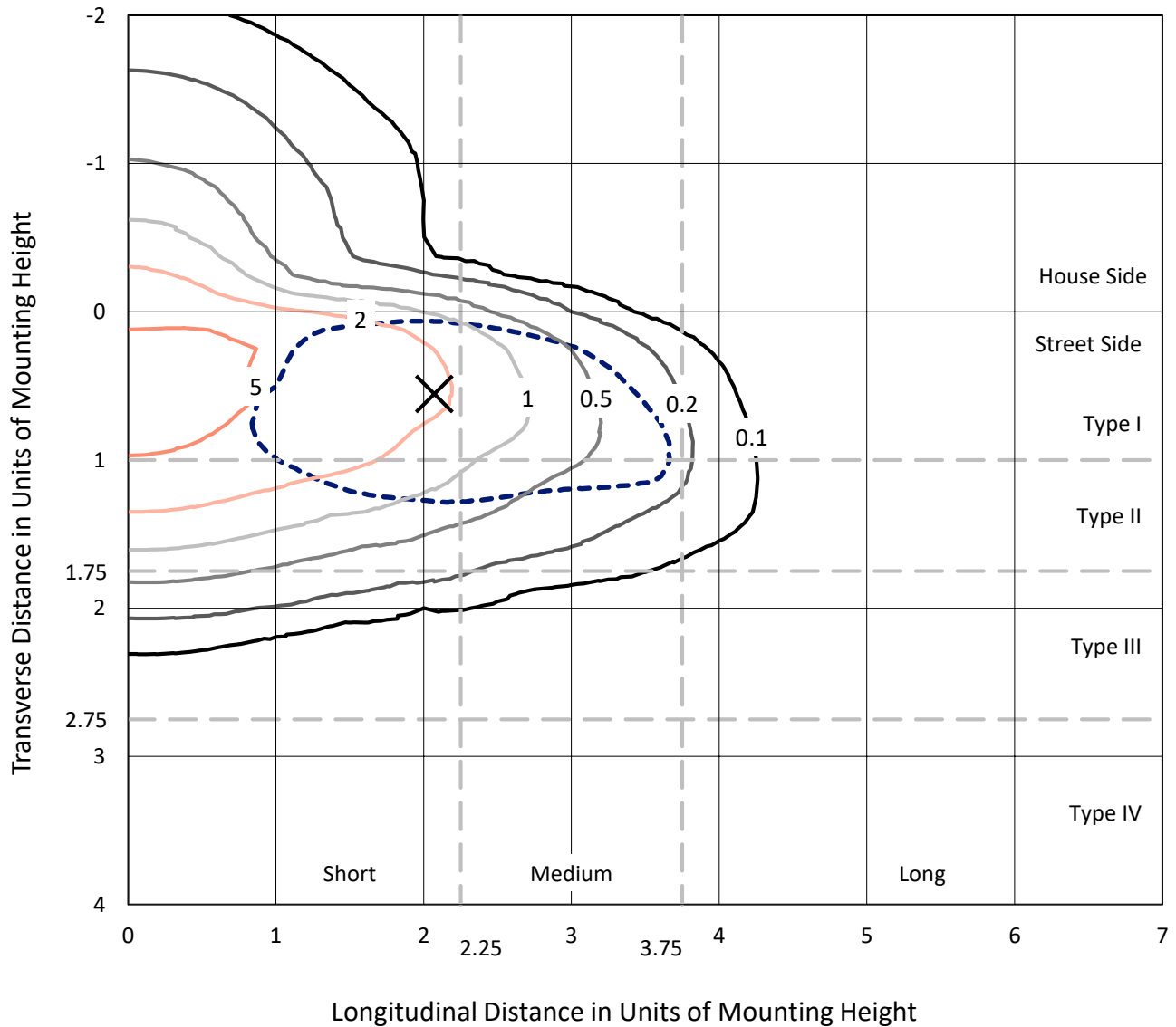


REPORT NUMBER: P197241

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-8030-800

Iso-Footcandle Lines of Horizontal Illumination

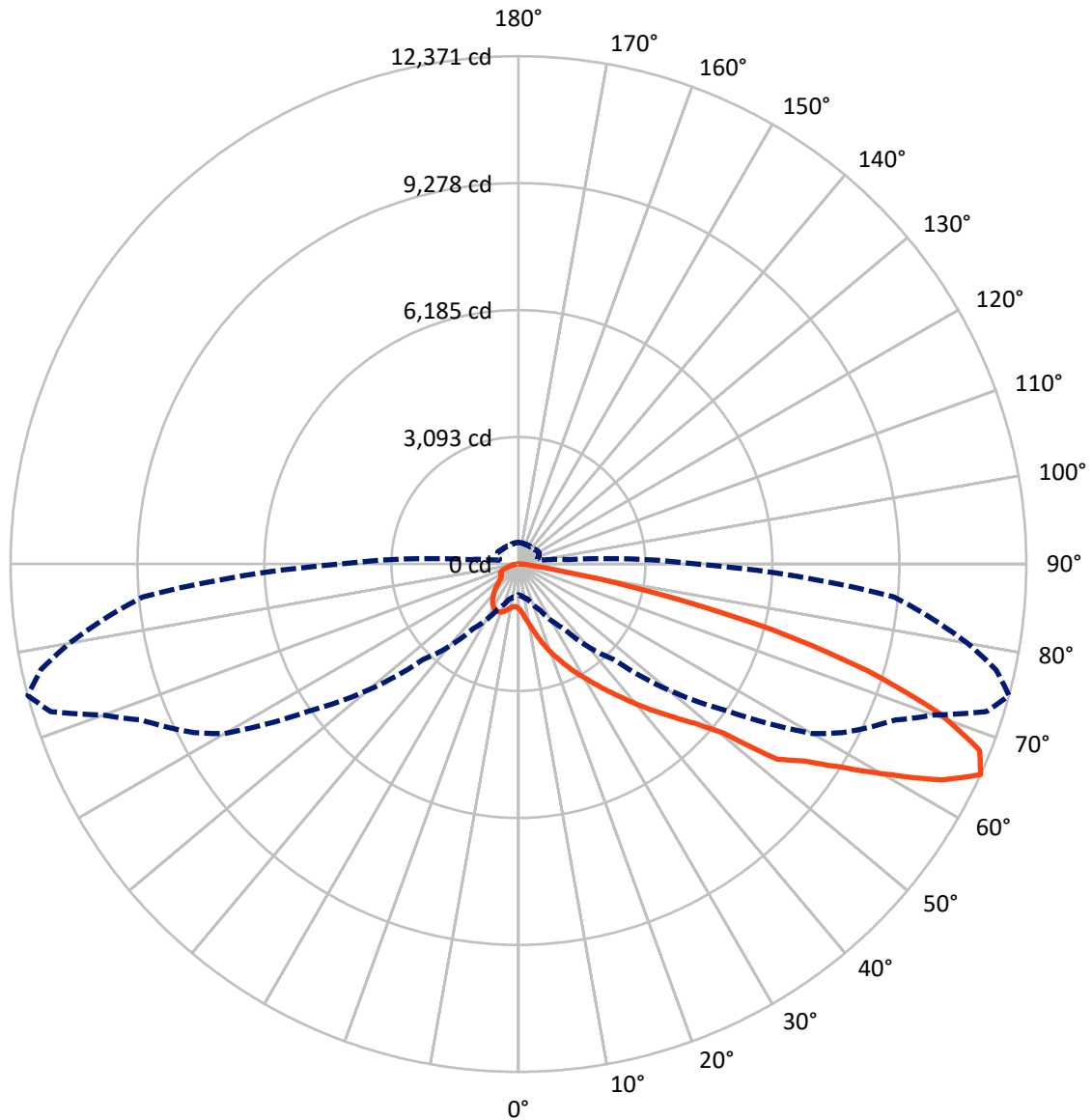
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.8 fc
 Type II - Short - Semi-Cutoff

REPORT NUMBER: P197241
CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-8030-800

Luminous Intensity Polar Plot



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

REPORT NUMBER: P197241

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-8030-800

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1880.6	0.0	1880.6
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	10634.4	0.0	10634.4
	% Fixture	85.0	0.0	85.0
Total	Lumens	12515.0	0.0	12515.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.0	1.0
10°-20°	489.0	3.9
20°-30°	986.8	7.9
30°-40°	1675.8	13.4
40°-50°	2337.3	18.7
50°-60°	2864.7	22.9
60°-70°	2695.3	21.5
70°-80°	1181.9	9.4
80°-90°	156.4	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°	12515.0	100.0
0°-180°	12515.0	100.0



REPORT NUMBER: P197241

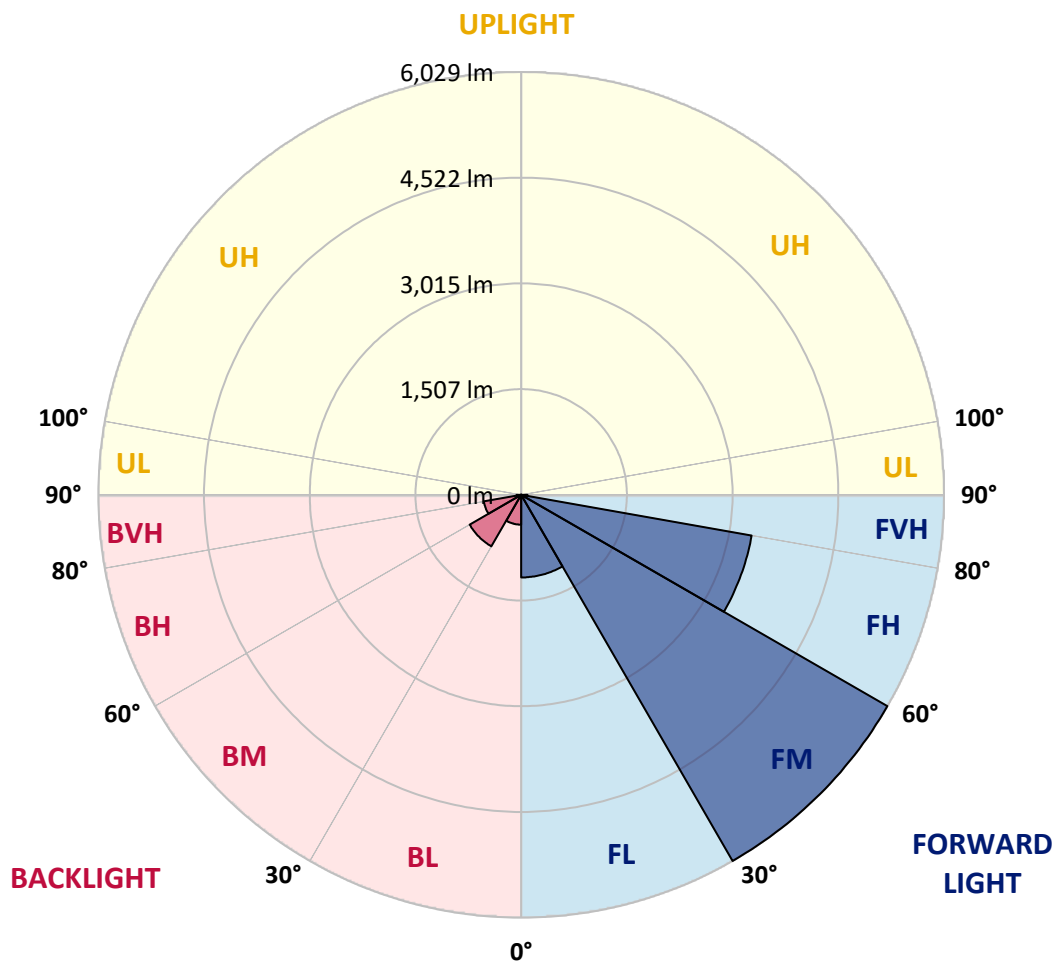
CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-8030-800

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1178.0	9.4			
FM	(30°-60°)	6029.2	48.2			
FH	(60°-80°)	3336.6	26.7			G2/5000
FVH	(80°-90°)	90.7	0.7			G1/100
BL	(0°-30°)	425.7	3.4	B1/500		
BM	(30°-60°)	848.6	6.8	B1/1000		
BH	(60°-80°)	540.5	4.3	B2/1000		G2/1000
BVH	(80°-90°)	65.7	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: P197241

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-8030-800

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3
2.5°	1365.4	1349.5	1351.1	1328.8	1296.1	1260.3	1230.8	1214.9	1201.4	1197.4	1175.1
5°	1785.8	1765.8	1758.7	1707.7	1631.3	1540.5	1450.6	1415.5	1386.9	1369.4	1326.4
7.5°	2129.7	2119.3	2109.8	2062.8	1987.2	1870.9	1726.0	1674.3	1626.5	1574.0	1522.2
10°	2363.8	2359.8	2355.8	2323.1	2260.3	2159.1	2003.1	1946.6	1886.9	1820.0	1752.3
12.5°	2540.5	2540.5	2543.7	2516.6	2478.4	2400.4	2258.7	2206.1	2145.6	2075.5	1998.3
15°	2659.1	2662.3	2679.0	2687.0	2667.1	2616.9	2492.7	2446.6	2389.2	2320.0	2243.5
17.5°	2737.9	2744.3	2769.0	2795.3	2820.7	2803.2	2710.9	2667.9	2616.1	2552.4	2480.8
20°	2921.1	2913.1	2913.9	2905.9	2943.3	2956.9	2905.9	2870.1	2828.7	2770.6	2705.3
22.5°	3305.6	3290.5	3251.5	3151.9	3106.6	3101.8	3071.5	3052.4	3020.6	2983.9	2918.7
25°	3807.2	3789.6	3712.4	3548.4	3413.1	3288.1	3232.3	3220.4	3199.7	3175.0	3128.0
27.5°	4325.5	4306.3	4206.8	3999.8	3823.1	3570.7	3397.1	3381.2	3362.1	3351.8	3329.5
30°	4781.6	4760.9	4663.0	4452.8	4239.5	3938.5	3619.3	3563.5	3530.9	3534.1	3521.3
32.5°	5182.1	5163.8	5053.9	4839.8	4623.2	4331.0	3907.5	3820.7	3747.5	3720.4	3729.9
35°	5518.1	5501.4	5381.1	5165.4	4947.2	4704.4	4278.5	4147.9	4028.5	3953.7	3944.9
37.5°	5715.5	5706.0	5621.6	5438.5	5221.9	5043.6	4694.1	4549.2	4373.2	4264.1	4216.4
40°	5704.4	5714.7	5700.4	5617.6	5449.6	5319.8	5127.2	4983.9	4811.9	4649.5	4552.4
42.5°	5542.0	5556.3	5620.8	5663.8	5618.4	5539.6	5505.3	5398.7	5244.2	5072.2	4937.7
45°	5319.0	5331.8	5415.4	5570.6	5700.4	5722.7	5836.5	5783.2	5652.6	5506.1	5358.0
47.5°	4977.5	5002.2	5099.3	5346.1	5655.0	5870.0	6114.4	6139.1	6063.4	5942.4	5803.9
50°	4483.1	4515.7	4651.9	5003.0	5483.0	6021.2	6527.6	6621.5	6591.3	6468.7	6328.5
52.5°	3976.7	4009.4	4190.9	4564.3	5206.0	6083.3	6934.4	7174.9	7348.4	7475.0	7499.7
55°	3449.7	3486.3	3685.4	4115.3	4836.6	6004.5	7225.0	7498.1	7674.0	7806.2	7859.5
57.5°	2855.0	2896.4	3089.0	3523.7	4314.3	5687.7	7548.2	7935.2	8197.1	8400.9	8515.6
60°	2172.7	2224.4	2424.3	2862.1	3628.0	5081.0	7692.3	8264.8	8681.2	8986.9	9168.4
62.5°	1377.3	1429.9	1637.7	2092.3	2847.0	4252.2	7284.7	8119.9	8830.0	9282.2	9615.0
65°	751.6	774.6	890.1	1232.4	1919.5	3299.2	6251.3	7236.2	8259.2	8900.1	9411.2
67.5°	563.7	566.9	578.8	662.4	1022.2	2227.6	4887.5	5789.6	6925.7	7750.5	8361.1
70°	493.6	493.6	495.2	496.0	554.9	1207.0	3311.2	4141.5	5182.9	6017.3	6776.0
72.5°	442.7	437.9	436.3	426.7	434.7	618.6	1802.5	2548.5	3426.6	4362.9	5070.6
75°	382.1	381.4	381.4	371.8	376.6	435.5	781.8	1222.9	1903.6	2775.4	3472.0
77.5°	330.4	324.8	325.6	320.0	335.2	333.6	371.0	504.0	828.8	1457.7	2035.7
80°	272.3	268.3	270.7	267.5	291.4	246.8	250.0	308.1	411.6	639.3	901.2
82.5°	201.4	203.0	218.1	216.6	245.2	166.4	183.1	230.1	277.1	318.5	346.3
85°	117.8	120.2	156.8	164.8	179.9	87.6	112.3	136.9	154.5	171.2	178.3
87.5°	12.7	16.7	87.6	90.0	80.4	26.3	45.4	57.3	61.3	65.3	57.3
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: P197241

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-8030-800

CANDELA DISTRIBUTION (continued):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3
2.5°	1167.9	1157.6	1146.4	1140.1	1128.9	1119.4	1101.9	1087.5	1071.6	1060.5	1055.7
5°	1304.9	1280.2	1253.9	1234.8	1210.9	1190.2	1150.4	1102.7	1087.5	1055.7	1047.7
7.5°	1483.2	1438.6	1394.0	1357.4	1316.0	1281.8	1214.9	1128.9	1117.8	1066.8	1055.7
10°	1692.6	1627.3	1561.2	1504.7	1444.2	1391.7	1292.9	1171.9	1160.0	1094.7	1083.6
12.5°	1926.7	1847.1	1761.9	1677.5	1605.8	1531.8	1397.2	1238.8	1219.7	1142.5	1127.3
15°	2167.9	2081.9	1983.2	1881.3	1792.9	1695.0	1525.4	1326.4	1291.3	1200.6	1179.9
17.5°	2405.9	2312.8	2209.3	2095.5	1992.0	1874.9	1663.9	1424.3	1363.8	1257.9	1231.6
20°	2636.0	2541.3	2432.2	2320.8	2191.8	2058.0	1805.7	1520.6	1428.3	1305.7	1271.4
22.5°	2845.4	2764.2	2655.1	2527.0	2396.4	2245.9	1949.8	1617.0	1484.8	1342.3	1298.5
25°	3066.0	2991.9	2883.6	2760.2	2608.2	2441.0	2098.6	1708.5	1530.2	1362.2	1308.1
27.5°	3288.9	3225.2	3123.3	2993.5	2830.3	2644.8	2249.9	1792.9	1566.8	1368.6	1303.3
30°	3526.9	3477.6	3383.6	3238.7	3073.9	2868.5	2414.7	1875.7	1589.9	1359.8	1281.8
32.5°	3752.2	3750.6	3667.0	3516.6	3339.0	3112.9	2588.3	1959.3	1601.8	1335.1	1244.4
35°	3986.3	4018.9	3956.0	3812.7	3625.6	3374.9	2780.1	2048.5	1602.6	1291.3	1195.8
37.5°	4252.2	4310.3	4282.5	4146.3	3949.7	3673.4	3005.4	2148.8	1597.9	1230.8	1125.0
40°	4554.7	4634.4	4633.6	4518.9	4308.7	4007.8	3267.4	2261.0	1586.7	1155.2	1041.4
42.5°	4901.1	4995.8	5022.1	4909.0	4696.5	4373.2	3567.5	2384.5	1569.2	1080.4	953.0
45°	5297.5	5381.1	5430.5	5325.4	5112.0	4771.3	3912.3	2524.6	1547.7	984.0	851.9
47.5°	5721.9	5819.0	5893.1	5803.1	5575.4	5225.1	4320.7	2705.3	1539.7	874.2	742.8
50°	6248.1	6348.5	6508.5	6467.9	6342.9	6061.0	5184.5	3132.0	1542.9	769.9	651.2
52.5°	7553.8	7783.9	7986.1	7896.2	7599.2	7115.9	5886.7	3369.3	1476.1	684.7	587.6
55°	7947.9	8209.0	8507.6	8470.2	8185.2	7697.9	6441.6	3567.5	1411.6	622.6	546.2
57.5°	8637.4	8945.5	9362.7	9354.7	9005.2	8456.6	7155.7	3804.8	1383.7	586.8	525.5
60°	9367.4	9759.9	10336.3	10426.3	10046.5	9475.7	7999.7	4096.2	1387.7	566.9	513.5
62.5°	9900.8	10476.5	11314.8	11583.9	11136.5	10507.5	8875.4	4387.5	1363.8	543.8	499.2
65°	9933.5	10762.3	11951.7	12370.5	11917.5	11109.4	9184.3	4330.2	1220.5	512.7	476.1
67.5°	9137.3	10216.9	11661.9	12121.3	11657.9	10738.4	8642.9	3785.7	992.0	458.6	436.3
70°	7610.3	8863.5	10363.4	10875.3	10492.4	9561.7	7522.0	3023.8	741.2	386.9	376.6
72.5°	5881.1	7049.9	8412.1	8885.8	8592.8	7774.3	5932.9	2203.7	529.4	313.7	305.7
75°	4204.4	5199.6	6188.4	6369.2	6080.2	5328.6	3849.4	1376.5	371.0	257.2	246.0
77.5°	2603.4	3250.7	3605.7	3373.3	3004.6	2497.5	1566.8	679.9	246.8	209.4	198.2
80°	1155.2	1355.8	1265.9	1128.1	890.9	732.5	478.5	301.7	159.2	161.6	155.2
82.5°	388.5	410.8	399.7	397.3	358.3	313.7	203.0	130.6	89.2	103.5	101.1
85°	189.5	198.2	199.0	206.2	179.1	139.3	54.9	51.7	38.2	55.7	58.1
87.5°	57.3	58.1	52.5	57.3	46.2	31.8	10.3	14.3	7.2	13.5	13.5
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: P197241

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-8030-800

CANDELA DISTRIBUTION (continued):

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3
2.5°	1046.9	1043.7	1038.2	1031.8	1030.2	1022.2	1019.9	1015.9	1013.5	1009.5	1006.3
5°	1037.4	1031.8	1025.4	1018.3	1018.3	1007.1	1002.3	997.6	997.6	990.4	987.2
7.5°	1046.9	1039.8	1032.6	1026.2	1028.6	1015.9	1011.1	1006.3	1005.5	998.4	995.2
10°	1074.0	1066.8	1058.1	1051.7	1049.3	1039.0	1033.4	1026.2	1021.5	1016.7	1011.9
12.5°	1115.4	1105.8	1094.7	1081.2	1075.6	1066.8	1058.1	1048.5	1037.4	1032.6	1025.4
15°	1164.8	1148.8	1133.7	1117.0	1101.9	1093.1	1081.2	1066.0	1050.9	1044.5	1035.0
17.5°	1205.4	1188.6	1167.1	1147.2	1120.2	1113.0	1096.3	1078.0	1053.3	1050.9	1036.6
20°	1239.6	1214.1	1187.8	1164.0	1122.6	1118.6	1097.9	1076.4	1041.4	1041.4	1023.8
22.5°	1258.7	1223.7	1192.6	1160.8	1109.0	1105.8	1082.0	1056.5	1013.5	1015.1	993.6
25°	1261.9	1219.7	1180.7	1142.5	1082.8	1077.2	1046.9	1019.1	972.1	968.9	946.6
27.5°	1249.2	1199.8	1154.4	1108.2	1043.7	1031.8	998.4	964.9	918.8	910.8	886.9
30°	1219.7	1161.6	1110.6	1057.3	989.6	970.5	935.5	901.2	854.3	843.9	821.6
32.5°	1172.7	1106.6	1050.1	996.8	921.9	898.1	863.0	828.8	783.4	775.4	754.7
35°	1110.6	1036.6	976.9	920.3	845.5	820.8	787.4	757.1	715.7	712.5	698.2
37.5°	1032.6	955.4	891.7	837.5	766.7	753.9	719.7	697.4	663.2	666.4	659.2
40°	944.2	865.4	804.9	757.1	695.8	684.7	664.0	647.3	617.8	626.6	627.4
42.5°	855.1	776.2	721.3	678.3	625.8	618.6	604.3	594.7	572.4	589.9	597.1
45°	753.9	680.7	633.7	601.1	562.1	562.1	554.9	554.1	539.0	563.7	570.8
47.5°	656.0	598.7	566.1	546.2	519.1	531.8	529.4	535.8	524.7	550.1	556.5
50°	582.0	542.2	522.3	512.7	493.6	513.5	518.3	527.0	517.5	539.8	544.6
52.5°	535.0	508.7	497.6	495.2	481.7	506.3	514.3	522.3	511.1	531.8	531.0
55°	508.7	491.2	487.2	492.0	481.7	505.6	513.5	519.1	509.5	523.9	523.1
57.5°	499.2	489.6	492.0	499.2	492.0	511.9	515.9	522.3	512.7	519.1	522.3
60°	498.4	498.4	507.9	517.5	512.7	527.0	529.4	528.6	519.9	520.7	522.3
62.5°	493.6	505.6	521.5	536.6	535.0	552.5	554.1	543.8	536.6	528.6	526.3
65°	478.5	498.4	521.5	542.2	545.4	572.4	575.6	565.3	560.5	547.0	536.6
67.5°	445.0	470.5	497.6	523.1	528.6	565.3	572.4	576.4	578.8	570.0	556.5
70°	388.5	414.8	442.7	472.1	480.1	520.7	535.8	554.1	568.4	581.2	576.4
72.5°	316.1	340.0	363.8	390.9	402.8	445.0	464.9	496.8	519.1	551.7	565.3
75°	250.8	265.1	279.4	296.2	305.7	347.1	371.8	410.0	440.3	485.6	515.9
77.5°	197.4	204.6	211.8	218.9	222.9	246.0	265.9	304.1	339.2	396.5	441.1
80°	152.1	156.0	156.8	159.2	157.6	168.8	175.9	199.0	229.3	285.8	338.4
82.5°	97.9	101.1	102.7	106.7	98.7	113.1	117.8	120.2	136.1	177.5	215.0
85°	54.9	55.7	56.5	58.1	47.0	61.3	62.1	58.1	56.5	73.2	82.8
87.5°	13.5	12.7	13.5	13.5	5.6	12.7	12.7	8.8	6.4	11.9	9.6
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: P197241

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-8030-800

CANDELA DISTRIBUTION (continued):

	135°	145°	155°	165°	175°	180°
0°	1084.3	1084.3	1084.3	1084.3	1084.3	1084.3
2.5°	999.2	997.6	998.4	994.4	992.8	993.6
5°	983.2	980.1	980.1	977.7	974.5	974.5
7.5°	990.4	984.0	981.6	976.9	972.1	972.9
10°	1001.5	990.4	982.4	975.3	969.7	969.7
12.5°	1008.7	988.8	976.9	967.3	960.9	960.9
15°	1010.3	980.1	962.5	952.2	945.8	945.8
17.5°	1000.8	962.5	940.2	926.7	919.5	921.1
20°	976.9	929.9	903.6	889.3	882.1	882.9
22.5°	939.4	885.3	855.1	838.3	831.2	831.2
25°	888.5	829.6	796.9	783.4	777.0	777.0
27.5°	830.4	769.9	741.2	730.9	726.9	726.9
30°	765.1	714.9	694.2	687.1	680.7	680.7
32.5°	710.2	674.3	667.2	657.6	640.9	640.1
35°	666.4	662.4	656.8	628.2	604.3	601.1
37.5°	642.5	666.4	631.3	582.0	562.9	562.1
40°	629.7	652.0	591.5	567.7	565.3	565.3
42.5°	599.5	615.4	589.1	575.6	575.6	576.4
45°	567.7	581.2	594.7	582.8	586.8	587.6
47.5°	545.4	572.4	594.7	584.4	592.3	597.1
50°	524.7	564.5	582.8	582.8	591.5	592.3
52.5°	519.9	553.3	571.6	580.4	581.2	577.2
55°	520.7	544.6	562.9	574.0	569.2	569.2
57.5°	519.9	539.8	555.7	559.7	562.1	562.1
60°	520.7	533.4	546.2	544.6	552.5	552.5
62.5°	523.1	524.7	531.0	529.4	541.4	541.4
65°	528.6	513.5	509.5	511.1	525.5	524.7
67.5°	539.0	498.4	485.6	486.4	507.1	504.0
70°	554.1	477.7	458.6	453.8	488.8	483.3
72.5°	558.9	453.8	423.5	418.8	439.5	423.5
75°	536.6	434.7	386.1	370.2	361.4	356.7
77.5°	478.5	422.8	347.1	313.7	300.1	297.0
80°	396.5	398.1	296.2	256.4	297.8	297.0
82.5°	299.4	343.9	237.3	222.1	215.8	179.9
85°	144.9	258.7	182.3	152.9	91.6	86.8
87.5°	12.7	108.3	105.1	68.5	31.0	29.5
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)